Company Rains & Williamson Oil Company, Inc. Lease & Well No. Love #1

Elevation 1227 Ground Level Formation - Effective Pay - Ft. Ticket No. 7983

Date 1/14/81 Sec. 13 Twp. 32S Range 4W County Sumner State Kansas

Test Approved by John R. Rose Western Representative James Ricketts

Formation Test No. 1 Interval Tested from 1453 ft. to 1483 ft. Total Depth 1483 ft.

Packer Depth 1453 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.

Packer Depth 1448 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.

Depth of Selective Zone Set -

Top Recorder Depth (Inside) 1477 ft. Recorder Number 3354 Cap. 4200

Bottom Recorder Depth (Outside) 1480 ft. Recorder Number 13268 Cap. 4225

Below Straddle Recorder Depth - ft. Recorder Number - Cap. -

Drilling Contractor Silverado Rig #10 Drill Collar Length 280 I. D. 2.25 in.

Mud Type Salt Viscosity 36 Weight Pipe Length - I. D. - in.

Weight 10.2 Water Loss - cc. Drill Pipe Length 1152 I. D. 3.25 in.

Chlorides 103,000 P.P.M. Test Tool Length 21 ft. Tool Size 4½ in.

Jars: Make No Serial Number - Anchor Length 30 ft. Size 4½ in.

Did Well Flow? Yes Reversed Out - Surface Choke Size 3/4 in. Bottom Choke Size 3/4 in.

Main Hole Size 7 7/8 in. Tool Joint Size 4½XH in.

Blow: Strong. Gas to surface in 20 minutes. Mist of salt water on final flow.
See attached sheet for gas measurements.

Recovered 540 ft. of mud & gas cut water

Recovered ft. of

Recovered ft. of

Recovered ft. of

Recovered ft. of

Remarks:

Time Set Packer(s) 2:17 A.M. ~~P.M.~~ Time Started Off Bottom 5:47 A.M. ~~P.M.~~ Maximum Temperature 85

Initial Hydrostatic Pressure			(A)	797	P.S.I.	
Initial Flow Period	Minutes	45	(B)	158	P.S.I. to (C)	153 P.S.I.
Initial Closed In Period	Minutes	60	(D)	713	P.S.I.	
Final Flow Period	Minutes	50	(E)	162	P.S.I. to (F)	198 P.S.I.
Final Closed In Period	Minutes	60	(G)	703	P.S.I.	
Final Hydrostatic Pressure			(H)	759	P.S.I.	

WTC

GAS FLOW REPORT

Date 1/14/81 Ticket 7983 Company Rains & Williamson Oil Company, Inc.

Well Name and No. Love #1 Dst No. 1 Interval Tested 1453-1483

County Sumner State Kansas Sec. 13 Twp. 32S Rg. 4W

Time Gauge Pre-Flow	Time Gauge in Min.	P.S.I. on Merla Orifice Well Tester	P.S.I. on Pitot Tester	P.S.I. on Side Static Tester	P.S.I. on U-Tube Tester	Description of Flow
	Gas to surface 20 minutes		**PRE FLOW**			
	30 Min	11" water	3/4" Orifice			47,200 C.F.P.D.
	40 Min	26" water	3/4" Orifice			72,400 C.F.P.D.
			SECOND FLOW			
	10 Min	3.0 PSIG	3/4" Orifice			133,000 C.F.P.D.
	20 Min	2.0 PSIG	3/4" Orifice			108,000 C.F.P.D.
	30 Min	2.0 PSIG	3/4" Orifice			108,000 Mist of salt water
	40 Min	2.0 PSIG	3/4" Orifice			108,000 Mist of salt water

GAS BOTTLE

Serial No. 88 Date Bottle Filled 1/14/81 Date to be Invoiced 1/14/81

Requisition and Provisions for high pressure stainless steel gas bottles. Western Testing Co., Inc. shall not be liable for damage of any kind to property 'or personnel of the one whom gas bottle is filled or for any loss suffered or sustained directly or indirectly through the use of these bottles. By signing of this ticket showing receipt of a gas testing bottle, the undersigned agrees for himself and as agent for operator, to return this bottle to Western Testing Co., Inc. within thirty (30) days free of charge, or be invoiced in the amount of $75.00 (total charge). Should valve or seal plug be missing or damaged beyond repair, operator shall be invoiced for repairs at our invoiced price.

All charges subject to 1½% per month, equal to 18% interest per annum after 30 days from date of invoice. Any expense incurred for collection will be added to the original amount.

COMPANY'S NAME Rains & Williamson Oil Company, Inc.

Authorized by John R. Rose

FORM WTC 6

WESTERN TESTING CO., INC.
Pressure Data

Date 1/14/81 Test Ticket No. 7983

Recorder No. 3354 Capacity 4200 Location 1477 Ft.

Clock No. - Elevation 1227 Ground Level Well Temperature 85 °F

Point		Pressure	
A	Initial Hydrostatic Mud	797	P.S.I.
B	First Initial Flow Pressure	158	P.S.I.
C	First Final Flow Pressure	153	P.S.I.
D	Initial Closed-in Pressure	713	P.S.I.
E	Second Initial Flow Pressure	162	P.S.I.
F	Second Final Flow Pressure	198	P.S.I.
G	Final Closed-in Pressure	703	P.S.I.
H	Final Hydrostatic Mud	759	P.S.I.

	Time Given	Time Computed
Open Tool	2:17A M	
First Flow Pressure	45 Mins.	45 Mins.
Initial Closed-in Pressure	60 Mins.	60 Mins.
Second Flow Pressure	45 Mins.	50 Mins.
Final Closed-in Pressure	60 Mins.	60 Mins.

PRESSURE BREAKDOWN

First Flow Pressure
Breakdown: 9 Inc. of 5 mins. and a final inc. of 0 Min.

Point Mins.	Press.
P 1 0	158
P 2 5	158
P 3 10	146
P 4 15	146
P 5 20	147
P 6 25	139
P 7 30	140
P 8 35	146
P 9 40	150
P10 45	153
P11	
P12	
P13	
P14	
P15	
P16	
P17	
P18	
P19	
P20	

Initial Shut-In
Breakdown: 20 Inc. of 3 mins. and a final inc. of 0 Min.

Point Minutes	Press.
0	153
3	589
6	673
9	692
12	698
15	703
18	705
21	707
24	709
27	710
30	711
33	712
36	713
39	713
42	713
45	713
48	713
51	713
54	713
57	713
60	713

Second Flow Pressure
Breakdown: 10 Inc. of 5 mins. and a final inc. of 0 Min.

Point Minutes	Press.
0	162
5	165
10	167
15	171
20	174
25	178
30	184
35	190
40	194
45	197
50	198

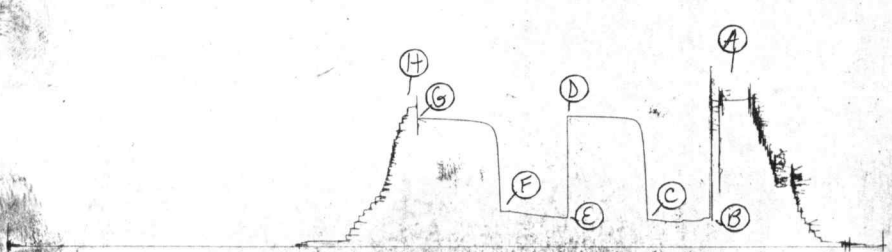
Final Shut-In
Breakdown: 20 Inc. of 3 mins. and a final inc. of 0 Min.

Point Minutes	Press.
0	198
3	601
6	650
9	669
12	677
15	681
18	686
21	689
24	691
27	692
30	693
33	694
36	695
39	696
42	697
45	699
48	700
51	701
54	702
57	702
60	703

TKT # 7983

I

3354



Company Rains & Williamson Oil Company, Inc. Lease & Well No. Love #1

Elevation 1227 Ground Level Formation Indian Cave Effective Pay - Ft. Ticket No. 7984

Date 1/14/81 Sec. 13 Twp. 32S Range 4W County Sumner State Kansas

Test Approved by John R. Rose Western Representative James Ricketts

Formation Test No. 2 Interval Tested from 1617 ft. to 1650 ft. Total Depth 1650 ft.

Packer Depth 1617 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.

Packer Depth 1612 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.

Depth of Selective Zone Set -

Top Recorder Depth (Inside) 1644 ft. Recorder Number 3354 Cap. 4200

Bottom Recorder Depth (Outside) 1647 ft. Recorder Number 13268 Cap. 4225

Below Straddle Recorder Depth - ft. Recorder Number - Cap. -

Drilling Contractor Silverado Rig #10 Drill Collar Length 280 I. D. 2.25 in.

Mud Type Salt Viscosity 33 Weight Pipe Length - I. D. - in.

Weight 10.2 Water Loss - cc. Drill Pipe Length 1314 I. D. 3.25 in.

Chlorides 110,000 P.P.M. Test Tool Length 23 ft. Tool Size 4½ in.

Jars: Make No Serial Number - Anchor Length 33 ft. Size 4½ in.

Did Well Flow? No Reversed Out - Surface Choke Size 3/4 in. Bottom Choke Size 3/4 in.

Main Hole Size 7 7/8 in. Tool Joint Size 4½XH in.

Blow: Strong. Gas to surface in 23 minutes.

See attached sheet for gas measurements.

Recovered 210 ft. of gas cut drilling mud

Recovered ft. of

Recovered ft. of

Recovered ft. of

Recovered ft. of

Remarks:

Time Set Packer(s) 11:35 ~~A.M.~~ P.M. Time Started Off Bottom 2:50 A.M. ~~P.M.~~ Maximum Temperature 86

Initial Hydrostatic Pressure			(A) 907	P.S.I.		
Initial Flow Period	Minutes 45	(B) 68	P.S.I. to	(C) 82	P.S.I.	
Initial Closed In Period	Minutes 45	(D) 719	P.S.I.			
Final Flow Period	Minutes 45	(E) 127	P.S.I. to	(F) 94	P.S.I.	
Final Closed In Period	Minutes 60	(G) 715	P.S.I.			
Final Hydrostatic Pressure			(H) 865	P.S.I.		

GAS FLOW REPORT

Date 1/14/81 Ticket 7984 Company Rains & Williamson Oil Company, Inc.

Well Name and No. Love #1 Dst No. 2 Interval Tested 1617-1650

County Sumner State Kansas Sec. 13 Twp. 32S Rg. 4W

Time Gauge Pre-Flow	Time Gauge in Min.	P.S.I. on Merla Orifice Well Tester	P.S.I. on Pitot Tester	P.S.I. on Side Static Tester	P.S.I. on U-Tube Tester	Description of Flow
	Gas to surface 23 minutes initial flow period		**PRE FLOW**			
	12:05	4.0 PSIG	½" Orifice			68,800 C.F.P.D.
	12:15	10.0 PSIG	½" Orifice			116,000 C.F.P.D.
			SECOND FLOW			
	1:15	4.0 PSIG	1" Orifice			283,000 C.F.P.D.
	1:25	4.0 PSIG	1" Orifice			283,000 C.F.P.D.
	1:35	4.0 PSIG	1" Orifice			283,000 C.F.P.D.
	1:45	4.0 PSIG	1" Orifice			283,000 C.F.P.D.

GAS BOTTLE

Serial No. 111 Date Bottle Filled 1/14/81 Date to be Invoiced 1/14/81

Requisition and Provisions for high pressure stainless steel gas bottles. Western Testing Co., Inc. shall not be liable for damage of any kind to property or personnel of the one whom gas bottle is filled or for any loss suffered or sustained directly or indirectly through the use of these bottles. By signing of this ticket showing receipt of a gas testing bottle, the undersigned agrees for himself and as agent for operator, to return this bottle to Western Testing Co., Inc. within thirty (30) days free of charge, or be invoiced in the amount of $75.00 (total charge). Should valve or seal plug be missing or damaged beyond repair, operator shall be invoiced for repairs at our invoiced price.

All charges subject to 1½% per month, equal to 18% interest per annum after 30 days from date of invoice. Any expense incurred for collection will be added to the original amount.

COMPANY'S NAME Rains & Williamson Oil Company, Inc.

Authorized by John R. Rose

FORM WTC 6

WESTERN TESTING CO., INC.
Pressure Data

Date 1/14/81 Test Ticket No. 7984

Recorder No. 3354 Capacity 4200 Location 1644 Ft.

Clock No. - Elevation 1227 Ground Level Well Temperature 86 °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	907 P.S.I.	Open Tool	11:35P M	
B First Initial Flow Pressure	68 P.S.I.	First Flow Pressure	45 Mins.	45 Mins.
C First Final Flow Pressure	82 P.S.I.	Initial Closed-in Pressure	45 Mins.	45 Mins.
D Initial Closed-in Pressure	719 P.S.I.	Second Flow Pressure	45 Mins.	45 Mins.
E Second Initial Flow Pressure	127 P.S.I.	Final Closed-in Pressure	60 Mins.	60 Mins.
F Second Final Flow Pressure	94 P.S.I.			
G Final Closed-in Pressure	716 P.S.I.			
H Final Hydrostatic Mud	865 P.S.I.			

PRESSURE BREAKDOWN

First Flow Pressure
Breakdown: 9 Inc.
of 5 mins. and a
final inc. of 0 Min.

Point Mins.	Press.
P 1 0	68
P 2 5	65
P 3 10	68
P 4 15	76
P 5 20	82
P 6 25	84
P 7 30	72
P 8 35	76
P 9 40	78
P10 45	82
P11	
P12	
P13	
P14	
P15	
P16	
P17	
P18	
P19	
P20	

Initial Shut-In
Breakdown: 15 Inc.
of 3 mins. and a
final inc. of 0 Min.

Point Minutes	Press.
0	82
3	665
6	700
9	711
12	713
15	715
18	716
21	717
24	718
27	718
30	719
33	719
36	719
39	719
42	719
45	719

Second Flow Pressure
Breakdown: 9 Inc.
of 5 mins. and a
final inc. of 0 Min.

Point Minutes	Press.
0	127
5	108
10	93
15	91
20	91
25	91
30	94
35	94
40	94
45	94

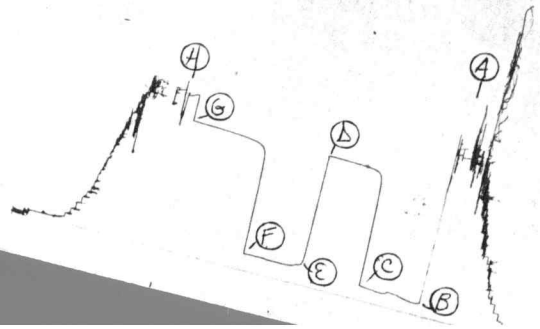
Final Shut-In
Breakdown: 20 Inc.
of 3 mins. and a
final inc. of 0 Min.

Point Minutes	Press.
0	94
3	652
6	679
9	690
12	696
15	698
18	700
21	702
24	704
27	706
30	708
33	709
36	710
39	711
42	712
45	713
48	713
51	714
54	714
57	715
60	715

IKT # 7984

T

3354



Company Rains & Williamson Oil Company, Inc. Lease & Well No. Love #1

Elevation 1227 Ground Level Formation - Effective Pay - Ft. Ticket No. 7985

Date 1/15/81 Sec. 13 Twp. 32S Range 4W County Sumner State Kansas

Test Approved by John R. Rose Western Representative James Ricketts

Formation Test No. 3 Interval Tested from 1666 ft. to 1678 ft. Total Depth 1678 ft.

Packer Depth 1666 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.

Packer Depth 1661 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.

Depth of Selective Zone Set -

Top Recorder Depth (Inside) 1675 ft. Recorder Number 3354 Cap. 4200

Bottom Recorder Depth (Outside) 1672 ft. Recorder Number 13268 Cap. 4225

Below Straddle Recorder Depth - ft. Recorder Number - Cap. -

Drilling Contractor Silverado Rig #10 Drill Collar Length 280 I. D. 2.25 in.

Mud Type Salt Viscosity 33 Weight Pipe Length - I. D. - in.

Weight 10.2 Water Loss N/A cc. Drill Pipe Length 1365 I. D. 3.25 in.

Chlorides 110,000 P.P.M. Test Tool Length 21 ft. Tool Size 4½ in.

Jars: Make No Serial Number - Anchor Length 12 ft. Size 4½ in.

Did Well Flow? No Reversed Out - Surface Choke Size 3/4 in. Bottom Choke Size 3/4 in.

Main Hole Size 7 7/8 in. Tool Joint Size 4½XH in.

Blow: Fair. Died in 25 minutes. Flushed tool. - no help.

Recovered 120 ft. of mud

Recovered ft. of

Recovered ft. of

Recovered ft. of

Recovered ft. of

Remarks:

Time Set Packer(s) 12:05 ~~A.M.~~ P.M. Time Started Off Bottom 2:05 ~~A.M.~~ P.M. Maximum Temperature 86

Initial Hydrostatic Pressure ..... (A) 907 P.S.I.

Initial Flow Period ..... Minutes 30 (B) 78 P.S.I. to (C) 87 P.S.I.

Initial Closed In Period ..... Minutes 30 (D) 124 P.S.I.

Final Flow Period ..... Minutes 30 (E) 95 P.S.I. to (F) 92 P.S.I.

Final Closed In Period ..... Minutes 30 (G) 110 P.S.I.

Final Hydrostatic Pressure ..... (H) 876 P.S.I.

WESTERN TESTING CO., INC.
Pressure Data

Date 1/15/81 Test Ticket No. 7985

Recorder No. 3354 Capacity 4200 Location 1675 Ft.

Clock No. - Elevation 1227 Ground Level Well Temperature 86 °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	907 P.S.I.	Open Tool	12:05P M	
B First Initial Flow Pressure	78 P.S.I.	First Flow Pressure	30 Mins.	30 Mins.
C First Final Flow Pressure	87 P.S.I.	Initial Closed-in Pressure	30 Mins.	30 Mins.
D Initial Closed-in Pressure	124 P.S.I.	Second Flow Pressure	30 Mins.	30 Mins.
E Second Initial Flow Pressure	95 P.S.I.	Final Closed-in Pressure	30 Mins.	30 Mins.
F Second Final Flow Pressure	92 P.S.I.			
G Final Closed-in Pressure	110 P.S.I.			
H Final Hydrostatic Mud	876 P.S.I.			

PRESSURE BREAKDOWN

First Flow Pressure
Breakdown: 6 Inc. of 5 mins. and a final inc. of 0 Min.

Initial Shut-In
Breakdown: 10 Inc. of 3 mins. and a final inc. of 0 Min.

Second Flow Pressure
Breakdown: 6 Inc. of 5 mins. and a final inc. of 0 Min.

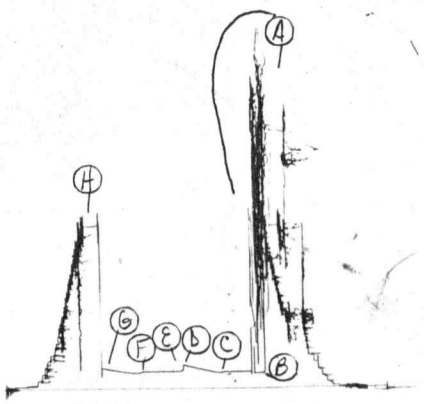
Final Shut-In
Breakdown: 10 Inc. of 3 mins. and a final inc. of 0 Min.

Point	First Flow Pressure Mins.	First Flow Pressure Press.	Initial Shut-In Minutes	Initial Shut-In Press.	Second Flow Pressure Minutes	Second Flow Pressure Press.	Final Shut-In Minutes	Final Shut-In Press.
P 1	0	78	0	87	0	95	0	92
P 2	5	78	3	82	5	92	3	84
P 3	10	Flushed Tool	6	84	10	92	6	84
P 4	15	87	9	87	15	92	9	87
P 5	20	87	12	93	20	92	12	87
P 6	25	87	15	98	25	92	15	92
P 7	30	87	18	105	30	92	18	95
P 8			21	108			21	99
P 9			24	114			24	102
P10			27	121			27	107
P11			30	124			30	110
P12								
P13								
P14								
P15								
P16								
P17								
P18								
P19								
P20								

IKT # 7985

I

3354



Company Rains & Williamson Oil Company, Inc. Lease & Well No. Love #1

Elevation 1227 Ground Level Formation Tarkio Effective Pay - Ft. Ticket No. 7986

Date 1/16/81 Sec. 13 Twp. 32S Range 4W County Sumner State Kansas

Test Approved by John R. Rose Western Representative James Ricketts

Formation Test No. 4 Interval Tested from 1841 ft. to 1875 ft. Total Depth 1875 ft.

Packer Depth 1841 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.

Packer Depth 1836 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.

Depth of Selective Zone Set -

Top Recorder Depth (Inside) 1864 ft. Recorder Number 3354 Cap. 4200

Bottom Recorder Depth (Outside) 1872 ft. Recorder Number 13268 Cap. 4225

Below Straddle Recorder Depth - ft. Recorder Number - Cap. -

Drilling Contractor Silverado Rig #10 Drill Collar Length 370 I. D. 2.25 in.

Mud Type Salt Viscosity 37 Weight Pipe Length - I. D. - in.

Weight 10.2 Water Loss N/A cc. Drill Pipe Length 1448 I. D. 3.25 in.

Chlorides 100,000 P.P.M. Test Tool Length 23 ft. Tool Size 4½ in.

Jars: Make No Serial Number - Anchor Length 34 ft. Size 4½ in.

Did Well Flow? No Reversed Out - Surface Choke Size 3/4 in. Bottom Choke Size 3/4 in.

Main Hole Size 7 7/8 in. Tool Joint Size 4½XH in.

Blow: Strong. Gas to surface 12 minutes final flow period. See attached sheet for gas measurements.

Recovered 120 ft. of gas cut mud

Recovered ft. of

Recovered ft. of

Recovered ft. of

Recovered ft. of

Remarks:

Time Set Packer(s) 11:38 ~~P.M.~~ A.M. Time Started Off Bottom 3:08 P.M. Maximum Temperature 88

Initial Hydrostatic Pressure			(A) 1002	P.S.I.		
Initial Flow Period	Minutes 45	(B) 59	P.S.I. to	(C) 52	P.S.I.	
Initial Closed In Period	Minutes 45	(D) 784	P.S.I.			
Final Flow Period	Minutes 60	(E) 63	P.S.I. to	(F) 72	P.S.I.	
Final Closed In Period	Minutes 60	(G) 783	P.S.I.			
Final Hydrostatic Pressure			(H) 985	P.S.I.		

WTC

GAS FLOW REPORT

Date 1/16/81 Ticket 7986 Company Rains & Williamson Oil Company, Inc.

Well Name and No. Love #1 Dst No. 4 Interval Tested 1841-1875

County Sumner State Kansas Sec. 13 Twp. 32S Rg. 4W

Time Gauge Pre-Flow	Time Gauge in Min.	P.S.I. on Merla Orifice Well Tester	P.S.I. on Pitot Tester	P.S.I. on Side Static Tester	P.S.I. on U-Tube Tester	Description of Flow
PRE FLOW						
SECOND FLOW						
Gas to surface 12 minutes final flow period						
	1:30	22" water ½" Orifice				29,400 C.F.P.D.
	1:40	24" water ½" Orifice				30.700 C.F.P.D.
	1:50	26" water ½" Orifice				31,900 C.F.P.D.
	2:00	28" water ½" Orifice				33,200 C.F.P.D.
	2:08	30" water ½" Orifice				34,300 C.F.P.D.

GAS BOTTLE

Serial No. 110 Date Bottle Filled 1/16/81 Date to be Invoiced 1/16/81

Requisition and Provisions for high pressure stainless steel gas bottles. Western Testing Co., Inc. shall not be liable for damage of any kind to property or personnel of the one whom gas bottle is filled or for any loss suffered or sustained directly or indirectly through the use of these bottles. By signing of this ticket showing receipt of a gas testing bottle, the undersigned agrees for himself and as agent for operator, to return this bottle to Western Testing Co., Inc. within thirty (30) days free of charge, or be invoiced in the amount of $75.00 (total charge). Should valve or seal plug be missing or damaged beyond repair, operator shall be invoiced for repairs at our invoiced price.

All charges subject to 1½% per month, equal to 18% interest per annum after 30 days from date of invoice. Any expense incurred for collection will be added to the original amount.

COMPANY'S NAME Rains & Williamson Oil Company, Inc.

Authorized by John R. Rose

FORM WTC 6

WESTERN TESTING CO., INC.
Pressure Data

Date 1/16/81 Test Ticket No. 7986

Recorder No. 3354 Capacity 4200 Location 1869 Ft.

Clock No. - Elevation 1227 Ground Level Well Temperature 88 °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	1002 P.S.I.	Open Tool	11:38A M	
B First Initial Flow Pressure	59 P.S.I.	First Flow Pressure	45 Mins.	45 Mins.
C First Final Flow Pressure	52 P.S.I.	Initial Closed-in Pressure	45 Mins.	45 Mins.
D Initial Closed-in Pressure	784 P.S.I.	Second Flow Pressure	60 Mins.	60 Mins.
E Second Initial Flow Pressure	63 P.S.I.	Final Closed-in Pressure	60 Mins.	60 Mins.
F Second Final Flow Pressure	72 P.S.I.			
G Final Closed-in Pressure	783 P.S.I.			
H Final Hydrostatic Mud	985 P.S.I.			

PRESSURE BREAKDOWN

First Flow Pressure
Breakdown: 9 Inc.
of 5 mins. and a
final inc. of 0 Min.

Point Mins.	Press.
P 1 0	59
P 2 5	49
P 3 10	49
P 4 15	50
P 5 20	50
P 6 25	50
P 7 30	50
P 8 35	51
P 9 40	51
P10 45	52
P11	
P12	
P13	
P14	
P15	
P16	
P17	
P18	
P19	
P20	

Initial Shut-In
Breakdown: 15 Inc.
of 3 mins. and a
final inc. of 0 Min.

Point Minutes	Press.
0	52
3	95
6	156
9	222
12	285
15	346
18	432
21	513
24	605
27	700
30	749
33	770
36	776
39	781
42	783
45	784
48	
51	

Second Flow Pressure
Breakdown: 12 Inc.
of 5 mins. and a
final inc. of 0 Min.

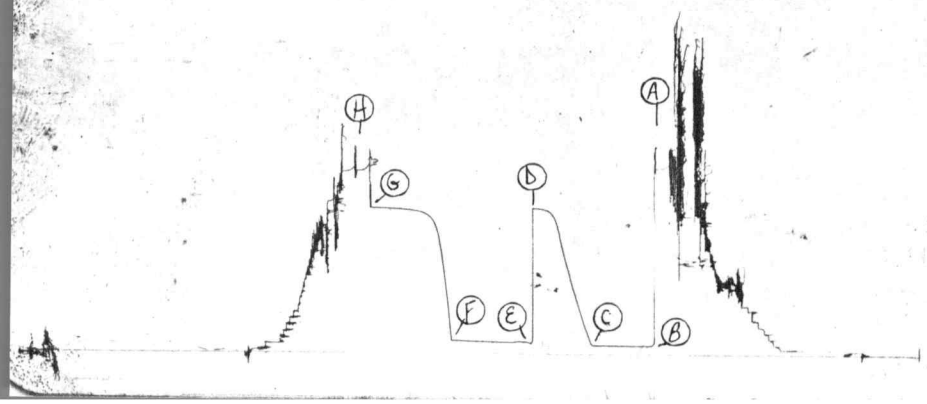
Point Minutes	Press.
0	63
5	65
10	65
15	64
20	64
25	65
30	65
35	66
40	67
45	69
50	70
55	71
60	72

Final Shut-In
Breakdown: 20 Inc.
of 3 mins. and a
final inc. of 0 Min.

Point Minutes	Press.
0	72
3	276
6	451
9	582
12	675
15	719
18	743
21	753
24	759
27	766
30	770
33	772
36	774
39	776
42	777
45	778
48	779
51	780
54	781
57	782
60	783

IKT #7986

I



Company Rains & Williamson Oil Company, Inc. Lease & Well No. Love #1

Elevation 1227 Ground Level Formation Howard Effective Pay - Ft. Ticket No. 7987

Date 1/17/81 Sec. 13 Twp. 32S Range 4W County Sumner State Kansas

Test Approved by John R Rose Western Representative James Ricketts

Formation Test No. 5 Interval Tested from 2107 ft. to 2135 ft. Total Depth 2135 ft.

Packer Depth 2107 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.

Packer Depth 2102 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.

Depth of Selective Zone Set -

Top Recorder Depth (Inside) 2129 ft. Recorder Number 3354 Cap. 4200

Bottom Recorder Depth (Outside) 2132 ft. Recorder Number 13268 Cap. 4225

Below Straddle Recorder Depth - ft. Recorder Number - Cap. -

Drilling Contractor Silverado Rig #10 Drill Collar Length 370 I. D. 2.25 in.

Mud Type Salt Viscosity 40 Weight Pipe Length - I. D. - in.

Weight 10.1 Water Loss N/A cc. Drill Pipe Length 3714 I. D. 3.25 in.

Chlorides 103,000 P.P.M. Test Tool Length 23 ft. Tool Size 4½ in.

Jars: Make No Serial Number - Anchor Length 28 ft. Size 4½ in.

Did Well Flow? No Reversed Out - Surface Choke Size 3/4 in. Bottom Choke Size 3/4 in.

Main Hole Size 7 7/8 in. Tool Joint Size 4½XH in.

Blow: Strong gas to surface start of final flow period. Did not get final shut in tool. Did not turn . See attached sheet for gas measurements.

Recovered 120 ft. of gas cut mud

Recovered 120 ft. of gas & water cut mud - 10% water

Recovered ft. of

Recovered ft. of

Recovered ft. of

Remarks:

Time Set Packer(s) 1:15 ~~A.M.~~ P.M. Time Started Off Bottom 4:30 ~~A.M.~~ P.M. Maximum Temperature 94

Initial Hydrostatic Pressure			(A)	1118	P.S.I.	
Initial Flow Period	Minutes 45		(B)	124* P.S.I. to	(C) 93	P.S.I.
Initial Closed In Period	Minutes 45		(D)	647	P.S.I.	
Final Flow Period	Minutes 45		(E)	82 P.S.I. to	(F) 93	P.S.I.
Final Closed In Period	Minutes -		(G)	-	P.S.I.	
Final Hydrostatic Pressure			(H)	1065	P.S.I.	

GAS FLOW REPORT

Date 1/17/81 Ticket 7987 Company Rains & Williamson Oil Company

Well Name and No. Love #1 Dst No. 5 Interval Tested 2107-2135

County Sumner State Kansas Sec. 13 Twp. 32S Rg. 4W

Time Gauge Pre-Flow	Time Gauge in Min.	P.S.I. on Merla Orifice Well Tester	P.S.I. on Pitot Tester	P.S.I. on Side Static Tester	P.S.I. on U-Tube Tester	Description of Flow
PRE FLOW						
SECOND FLOW						
Gas to surface start of final flow period.						
	2:55	20" water	3/4" Orifice			63,500 C.F.P.D.
	3:05	22" water	3/4" Orifice			66,600 C.F.P.D.
	3:15	26" water	3/4" Orifice			72,400 C.F.P.D.
	3:25	28" water	3/4" Orifice			75,100 C.F.P.D.

GAS BOTTLE

Serial No. - Date Bottle Filled - Date to be Invoiced 1/17/81

Requisition and Provisions for high pressure stainless steel gas bottles. Western Testing Co., Inc. shall not be liable for damage of any kind to property or personnel of the one whom gas bottle is filled or for any loss suffered or sustained directly or indirectly through the use of these bottles. By signing of this ticket showing receipt of a gas testing bottle, the undersigned agrees for himself and as agent for operator, to return this bottle to Western Testing Co., Inc. within thirty (30) days free of charge, or be invoiced in the amount of $75.00 (total charge). Should valve or seal plug be missing or damaged beyond repair, operator shall be invoiced for repairs at our invoiced price.

All charges subject to 1½% per month, equal to 18% interest per annum after 30 days from date of invoice. Any expense incurred for collection will be added to the original amount.

COMPANY'S NAME Rains & Williamson Oil Company

Authorized by John R. Rose

FORM WTC 6

WESTERN TESTING CO., INC.

Pressure Data

Date 1/17/81 Test Ticket No. 7987

Recorder No. 3354 Capacity 4200 Location 2129 Ft.

Clock No. - Elevation 1227 Ground Level Well Temperature 94 °F

Point	Pressure		Time Given		Time Computed	
A Initial Hydrostatic Mud	1118	P.S.I.	Open Tool	1:15P	M	
B First Initial Flow Pressure	124*	P.S.I.	First Flow Pressure	45	Mins.	45 Mins.
C First Final Flow Pressure	93	P.S.I.	Initial Closed-in Pressure	45	Mins.	45 Mins.
D Initial Closed-in Pressure	647	P.S.I.	Second Flow Pressure	45	Mins.	45 Mins.
E Second Initial Flow Pressure	82	P.S.I.	Final Closed-in Pressure	-	Mins.	- Mins.
F Second Final Flow Pressure	93	P.S.I.				
G Final Closed-in Pressure	-	P.S.I.				
H Final Hydrostatic Mud	1065	P.S.I.				

*Plugging Action

PRESSURE BREAKDOWN

First Flow Pressure
Breakdown: 9 Inc. of 5 mins. and a final inc. of 0 Min.

Point Mins.	Press.
P 1 0	124*
P 2 5	65
P 3 10	65
P 4 15	72
P 5 20	74
P 6 25	74
P 7 30	76
P 8 35	80
P 9 40	87
P10 45	93
P11	
P12	
P13	
P14	
P15	
P16	
P17	
P18	
P19	
P20	

Initial Shut-In
Breakdown: 15 Inc. of 3 mins. and a final inc. of 0 Min.

Point Minutes	Press.
0	93
3	395
6	530
9	589
12	614
15	629
18	635
21	637
24	639
27	641
30	643
33	644
36	645
39	646
42	646
45	647

Second Flow Pressure
Breakdown: 9 Inc. of 5 mins. and a final inc. of 0 Min.

Point Minutes	Press.
0	82
5	84
10	91
15	90
20	90
25	91
30	91
35	95
40	93
45	93

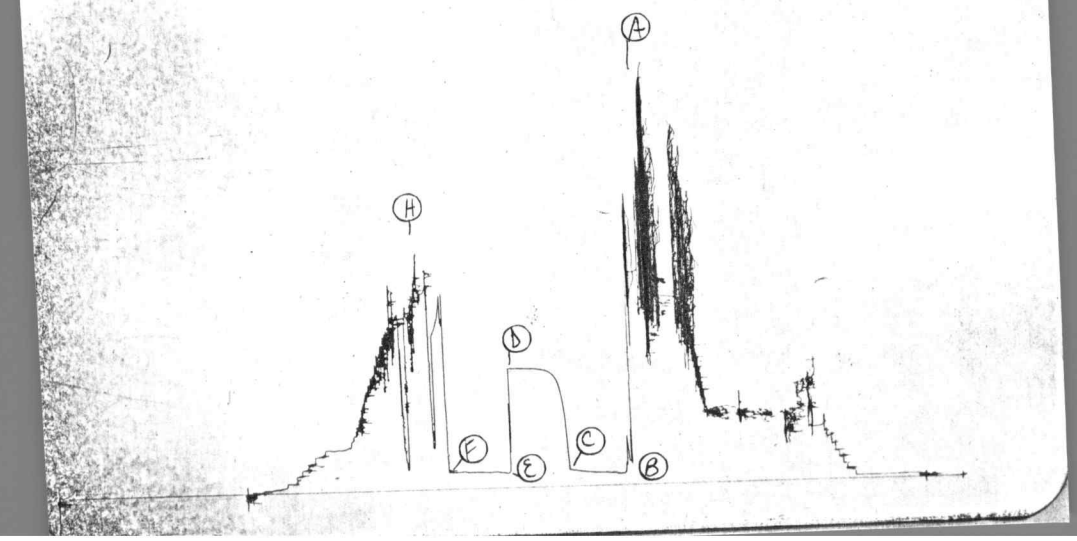
Final Shut-In
Breakdown: 0 Inc. of 3 mins. and a final inc. of 0 Min.

Point Minutes	Press.

WTC - 4

TKT # 7987

I



Company Rains & Williamson Oil Co.,Inc. Lease & Well No. Love #1

Elevation 1227 Ground Level Formation Elgin Effective Pay ---- Ft. Ticket No 7988

Date 1/19/81 Sec. 13 Twp. 32S Range 4W County Sumner State Kansas

Test Approved by Eddie R----- Western Representative James Ricketts

Formation Test No. 6 Interval Tested from 2444 ft. to 2490 ft. Total Depth 2490 ft.

Packer Depth 2444 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.

Packer Depth 2439 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.

Depth of Selective Zone Set -

Top Recorder Depth (Inside) 2484 ft. Recorder Number 3354 Cap. 4200

Bottom Recorder Depth (Outside) 2487 ft. Recorder Number 12368 Cap. 4225

Below Straddle Recorder Depth - ft. Recorder Number - Cap. -

Drilling Contractor Silverado Drlg. Rig #10 Drill Collar Length 370 I. D. 2.25 in.

Mud Type salt Viscosity 52 Weight Pipe Length - I. D. - in.

Weight 10.0 Water Loss N/A cc. Drill Pipe Length 2046 I. D. 3.25 in.

Chlorides 63,000 P.P.M. Test Tool Length 28 ft. Tool Size 4½ in.

Jars: Make WTC Serial Number 402 Anchor Length 46 ft. Size 4½ in.

Did Well Flow? No Reversed Out No Surface Choke Size 3/4 in. Bottom Choke Size 3/4 in.

Main Hole Size 7 7/8 in. Tool Joint Size 4½XH in.

Blow: Weak; unable to turn tool on final flow; cuttings in hole.

Recovered 180 ft. of heavy mud

Recovered ft. of

Recovered ft. of

Recovered ft. of

Recovered ft. of

Remarks:

Time Set Packer(s) 11:45 ~~A.M.~~ P.M. Time Started Off Bottom 2:00 A.M. P.M. Maximum Temperature 94°

Initial Hydrostatic Pressure			(A)	1335	P.S.I.	
Initial Flow Period	Minutes 45		(B)	177	P.S.I. to (C)	177 P.S.I.
Initial Closed In Period	Minutes 45		(D)	816	P.S.I.	
Final Flow Period	Minutes --		(E)	--	P.S.I. to (F)	-- P.S.I.
Final Closed In Period	Minutes --		(G)	--	P.S.I.	
Final Hydrostatic Pressure			(H)	1297	P.S.I.	

WTC

WESTERN TESTING CO., INC.
Pressure Data

Date 1/19/81 Test Ticket No. 7988

Recorder No. 3354 Capacity 4200 Location 2484 Ft.

Clock No. - Elevation 1227 Ground Level Well Temperature 94 °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	1335 P.S.I.	Open Tool	11:45P M.	
B First Initial Flow Pressure	177 P.S.I.	First Flow Pressure	45 Mins.	45 Mins.
C First Final Flow Pressure	177 P.S.I.	Initial Closed-in Pressure	45 Mins.	45 Mins.
D Initial Closed-in Pressure	816 P.S.I.	Second Flow Pressure	-- Mins.	-- Mins.
E Second Initial Flow Pressure	-- P.S.I.	Final Closed-in Pressure	-- Mins.	-- Mins.
F Second Final Flow Pressure	-- P.S.I.			
G Final Closed-in Pressure	-- P.S.I.			
H Final Hydrostatic Mud	1297 P.S.I.			

PRESSURE BREAKDOWN

First Flow Pressure
Breakdown: 9 Inc.
of 5 mins. and a
final inc. of 0 Min.

Initial Shut-In
Breakdown: 15 Inc.
of 3 mins. and a
final inc. of 0 Min.

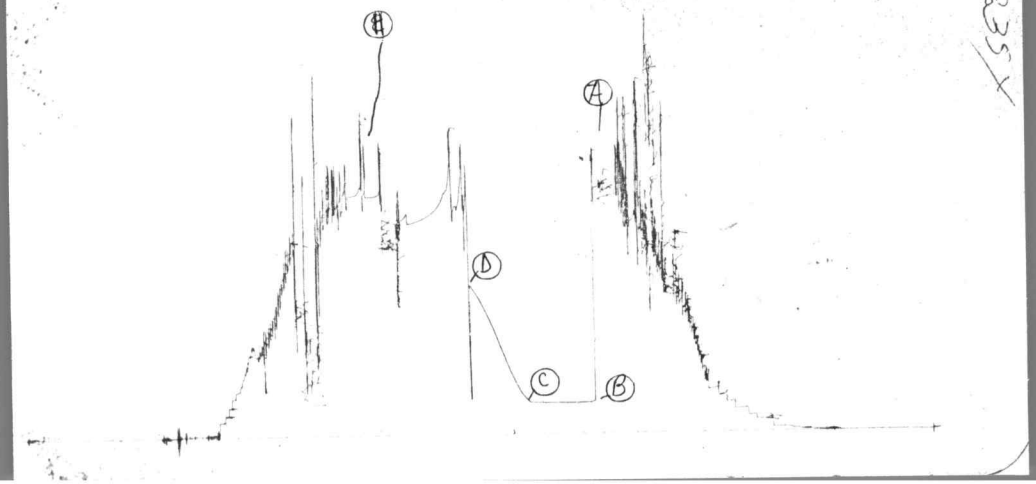
Second Flow Pressure
Breakdown: 0 Inc.
of 5 mins. and a
final inc. of 0 Min.

Final Shut-In
Breakdown: 0 Inc.
of 3 mins. and a
final inc. of 0 Min.

Point	Mins.	Press.	Point	Minutes	Press.	Point	Minutes	Press.	Point	Minutes	Press.
P 1	0	177	P 1	0	177						
P 2	5	175	P 2	3	190						
P 3	10	174	P 3	6	213						
P 4	15	174	P 4	9	245						
P 5	20	174	P 5	12	285						
P 6	25	174	P 6	15	331						
P 7	30	175	P 7	18	382						
P 8	35	176	P 8	21	443						
P 9	40	176	P 9	24	498						
P10	45	177	P10	27	549						
P11			P11	30	601						
P12			P12	33	654						
P13			P13	36	700						
P14			P14	39	743						
P15			P15	42	778						
P16			P16	45	816						
P17			P17								
P18			P18								
P19			P19								
P20			P20								

IKT # 7988

I



335'

Company Rains & Williamson Oil Company, Inc. Lease & Well No. Love #1

Elevation 1227 Ground Level Formation Kansas City Effective Pay - Ft. Ticket No. 7989

Date 1/22/81 Sec. 13 Twp. 32S Range 4W County Sumner State Kansas

Test Approved by John R. Rose Western Representative Jim Ricketts

Formation Test No. 7 Interval Tested from 3272 ft. to 3340 ft. Total Depth 3340 ft.

Packer Depth 3272 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.

Packer Depth 3267 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.

Depth of Selective Zone Set -

Top Recorder Depth (Inside) 3334 ft. Recorder Number 3354 Cap. 4200

Bottom Recorder Depth (Outside) 3337 ft. Recorder Number 13268 Cap. 4225

Below Straddle Recorder Depth - ft. Recorder Number - Cap. -

Drilling Contractor Silverado Drlg. Rig #10 Drill Collar Length 370 I. D. 2.25 in.

Mud Type salt Viscosity 48 Weight Pipe Length - I. D. - in.

Weight 10.0 Water Loss 10.0 cc. Drill Pipe Length 2880 I. D. 3.25 in.

Chlorides 5,300 P.P.M. Test Tool Length 28 ft. Tool Size 4½ in.

Jars: Make WTC Serial Number 402 Anchor Length 68 ft. Size 4½ in.

Did Well Flow? No Reversed Out - Surface Choke Size 3/4 in. Bottom Choke Size 3/4 in.

Main Hole Size 7 7/8 in. Tool Joint Size 4½XH in.

Blow: Strong throughout test.

Recovered 40 ft. of oil and gas cut mud

Recovered 360 ft. of oil and gas cut watery and mud 5-10% oil

Recovered 180 ft. of mud and gas cut salt water - slightly oil cut 3% oil

Recovered 180 ft. of mud cut salt water

Recovered ft. of

Remarks:

Time Set Packer(s) 10:05 ~~A.M.~~ P.M. Time Started Off Bottom 1:20 A.M. ~~P.M.~~ Maximum Temperature 103°

Initial Hydrostatic Pressure			(A)	1714	P.S.I.	
Initial Flow Period	Minutes	45	(B)	118	P.S.I. to (C)	306 P.S.I.
Initial Closed In Period	Minutes	42	(D)	1259	P.S.I.	
Final Flow Period	Minutes	45	(E)	344	P.S.I. to (F)	422 P.S.I.
Final Closed In Period	Minutes	60	(G)	1266	P.S.I.	
Final Hydrostatic Pressure			(H)	1689	P.S.I.	

WESTERN TESTING CO., INC.
Pressure Data

Date 1/22/81 Test Ticket No. 7989

Recorder No. 3354 Capacity 4200 Location 3334 Ft.

Clock No. - Elevation 1227 Ground Level Well Temperature 103 °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	1714 P.S.I.	Open Tool	10:05P M	
B First Initial Flow Pressure	118 P.S.I.	First Flow Pressure	45 Mins.	45 Mins.
C First Final Flow Pressure	306 P.S.I.	Initial Closed-in Pressure	45 Mins.	42 Mins.
D Initial Closed-in Pressure	1259 P.S.I.	Second Flow Pressure	45 Mins.	45 Mins.
E Second Initial Flow Pressure	344 P.S.I.	Final Closed-in Pressure	60 Mins.	60 Mins.
F Second Final Flow Pressure	422 P.S.I.			
G Final Closed-in Pressure	1266 P.S.I.			
H Final Hydrostatic Mud	1689 P.S.I.			

PRESSURE BREAKDOWN

First Flow Pressure
Breakdown: 9 Inc. of 5 mins. and a final inc. of 0 Min.

Point Mins.	Press.
P 1 0	118
P 2 5	158
P 3 10	203
P 4 15	234
P 5 20	243
P 6 25	257
P 7 30	266
P 8 35	278
P 9 40	291
P10 45	306
P11	
P12	
P13	
P14	
P15	
P16	
P17	
P18	
P19	
P20	

Initial Shut-In
Breakdown: 14 Inc. of 3 mins. and a final inc. of 0 Min.

Point Minutes	Press.
0	306
3	821
6	1061
9	1135
12	1171
15	1194
18	1209
21	1222
24	1230
27	1238
30	1245
33	1249
36	1253
39	1257
42	1259
45	

Second Flow Pressure
Breakdown: 9 Inc. of 5 mins. and a final inc. of 0 Min.

Point Minutes	Press.
0	344
5	335
10	340
15	350
20	363
25	373
30	386
35	397
40	409
45	422

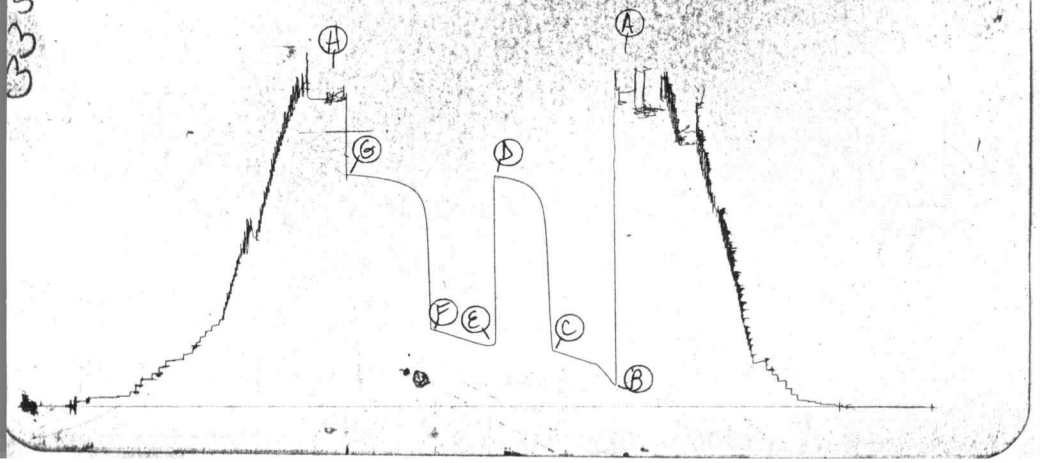
Final Shut-In
Breakdown: 20 Inc. of 3 mins. and a final inc. of 0 Min.

Point Minutes	Press.
0	422
3	1021
6	1114
9	1160
12	1184
15	1198
18	1209
21	1219
24	1226
27	1230
30	1236
33	1241
36	1245
39	1248
42	1252
45	1255
48	1257
51	1261
54	1263
57	1264
60	1266

TKT #7989

I

3354



Company Rains &Williamson Oil Company, Inc. Lease & Well No. Love #1

Elevation 1227 Ground Level Formation Kansas City Effective Pay - Ft. Ticket No. 7990

Date 1/23/81 Sec. 13 Twp. 32S Range 4W County Sumner State Kansas

Test Approved by John R. Rose Western Representative James Ricketts

Formation Test No. 8 Interval Tested from 3370 ft. to 3401 ft. Total Depth 3401 ft.

Packer Depth 3370 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.

Packer Depth 3365 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.

Depth of Selective Zone Set -

Top Recorder Depth (Inside) 3395 ft. Recorder Number 3354 Cap. 4200

Bottom Recorder Depth (Outside) 3398 ft. Recorder Number 12368 Cap. 4225

Below Straddle Recorder Depth - ft. Recorder Number - Cap. -

Drilling Contractor Silverado Drlg. Rig #10 Drill Collar Length 370 I. D. 2.25 in.

Mud Type starch Viscosity 42 Weight Pipe Length - I. D. - in.

Weight 10.0 Water Loss 10.8 cc. Drill Pipe Length 2972 I. D. 3.25 in.

Chlorides 46,000 P.P.M. Test Tool Length 28 ft. Tool Size 4½ in.

Jars: Make WTC Serial Number 402 Anchor Length 31 ft. Size 4½ in.

Did Well Flow? No Reversed Out - Surface Choke Size 3/4 in. Bottom Choke Size 3/4 in.

Main Hole Size 7 7/8 in. Tool Joint Size 4½XH in.

Blow: Strong. Gas to surface twenty-one minutes on initial flow period. Took ten minutes to turn tool to Final Shut-in. See attached sheet for gas measurements.

Recovered 30 ft. of oil cut mud

Recovered 600 ft. of gassy oil Gravity 48°

Recovered 120 ft. of mud and water cut oil 85% oil;12% water;3% mud

Recovered 300 ft. of foamy oil and gas cut water 63% gas;14% oil'20% water;3% mud

Recovered 120 ft. of slightly oil cut water

Remarks: 120 ft. of water Chlorides 119,000 ppm

Time Set Packer(s) 10:15 ~~A.M.~~ P.M. Time Started Off Bottom 1:40 A.M. ~~P.M.~~ Maximum Temperature 109°

Initial Hydrostatic Pressure			(A)	1752	P.S.I.	
Initial Flow Period	Minutes 45	(B)	224	P.S.I. to (C)	361	P.S.I.
Initial Closed In Period	Minutes 45	(D)	1309	P.S.I.		
Final Flow Period	Minutes 45	(E)	422	P.S.I. to (F)	521	P.S.I.
Final Closed In Period	Minutes 60	(G)	1312	P.S.I.		
Final Hydrostatic Pressure			(H)	1752	P.S.I.	

WTC

GAS FLOW REPORT

Date 1/23/81 Ticket 7990 Company Rains &Williamson Oil Company, Inc.

Well Name and No. Love #1 Dst No. 8 Interval Tested 3370'-3401'

County Sumner State Kansas Sec. 13 Twp. 32S Rg. 4W

Time Gauge Pre-Flow	Time Gauge in Min.	P.S.I. on Merla Orifice Well Tester	P.S.I. on Pitot Tester	P.S.I. on Side Static Tester	P.S.I. on U-Tube Tester	Description of Flow
Gas to surface in twenty-one minutes. **PRE FLOW**						
10:46		14" of water		1/4" orifice		6,330 CFPD
10:56		12" of water		1/4" orifice		5,860 CFPD
SECOND FLOW						
12:05		12" of water		1/4" orifice		5,860 CFPD
12:15		12" of water		1/4" orifice		5,860 CFPD
12:25		12" of water		1/4" orifice		5,860 CFPD
12:35		10" of water		1/4" orifice		5,320 CFPD

GAS BOTTLE

Serial No. -- Date Bottle Filled -- Date to be Invoiced 1/23/81

Requisition and Provisions for high pressure stainless steel gas bottles. Western Testing Co., Inc. shall not be liable for damage of any kind to property or personnel of the one whom gas bottle is filled or for any loss suffered or sustained directly or indirectly through the use of these bottles. By signing of this ticket showing receipt of a gas testing bottle, the undersigned agrees for himself and as agent for operator, to return this bottle to Western Testing Co., Inc. within thirty (30) days free of charge, or be invoiced in the amount of $75.00 (total charge). Should valve or seal plug be missing or damaged beyond repair, operator shall be invoiced for repairs at our invoiced price.

All charges subject to 1½% per month, equal to 18% interest per annum after 30 days from date of invoice. Any expense incurred for collection will be added to the original amount.

COMPANY'S NAME Rains & Williamson Oil Co., Inc.

Authorized by John R. Rose

FORM WTC 6

WESTERN TESTING CO., INC.
Pressure Data

Date 1/23/81 Test Ticket No. 7990

Recorder No. 3354 Capacity 4200 Location 3395 Ft.

Clock No. - Elevation 1227 Ground Level Well Temperature 109 °F

Point		Pressure			Time Given	Time Computed
A	Initial Hydrostatic Mud	1752 P.S.I.		Open Tool	10:15P M	
B	First Initial Flow Pressure	224 P.S.I.		First Flow Pressure	45 Mins.	45 Mins.
C	First Final Flow Pressure	361 P.S.I.		Initial Closed-in Pressure	55 Mins.	45 Mins.
D	Initial Closed-in Pressure	1309 P.S.I.		Second Flow Pressure	45 Mins.	45 Mins.
E	Second Initial Flow Pressure	422 P.S.I.		Final Closed-in Pressure	60 Mins.	60 Mins.
F	Second Final Flow Pressure	521 P.S.I.				
G	Final Closed-in Pressure	1312 P.S.I.				
H	Final Hydrostatic Mud	1752 P.S.I.				

PRESSURE BREAKDOWN

First Flow Pressure

Breakdown: 9 Inc. of 5 mins. and a final inc. of 0 Min.

Point Mins.	Press.
P 1 0	224
P 2 5	222
P 3 10	232
P 4 15	251
P 5 20	272
P 6 25	293
P 7 30	310
P 8 35	329
P 9 40	343
P10 45	361
P11	
P12	
P13	
P14	
P15	
P16	
P17	
P18	
P19	
P20	

Initial Shut-In

Breakdown: 15 Inc. of 3 mins. and a final inc. of 0 Min.

Point Minutes	Press.
0	361
3	888
6	1101
9	1186
12	1226
15	1249
18	1264
21	1276
24	1285
27	1291
30	1295
33	1300
36	1302
39	1304
42	1306
45	1309

Second Flow Pressure

Breakdown: 9 Inc. of 5 mins. and a final inc. of 0 Min.

Point Minutes	Press.
0	422
5	422
10	435
15	451
20	464
25	479
30	492
35	502
40	513
45	521

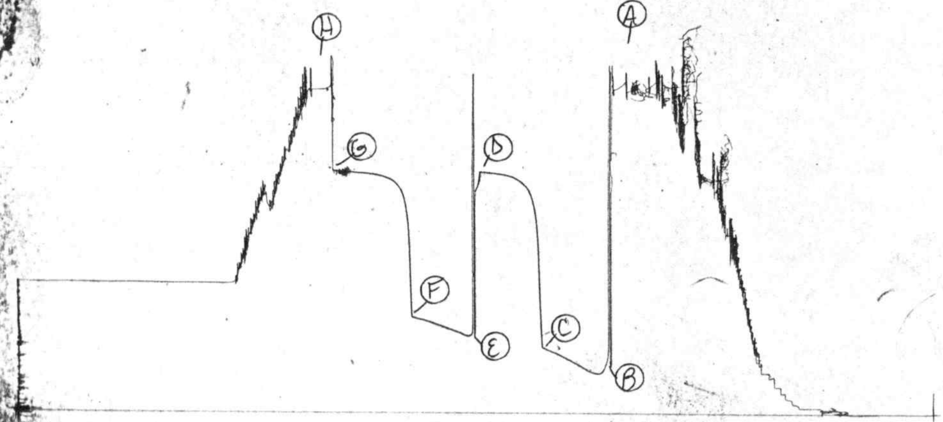
Final Shut-In

Breakdown: 20 Inc. of 3 mins. and a final inc. of 0 Min.

Point Minutes	Press.
0	521
3	1030
6	1162
9	1217
12	1243
15	1264
18	1272
21	1281
24	1286
27	1291
30	1294
33	1297
36	1300
39	1302
42	1303
45	1304
48	1306
51	1308
54	1310
57	1311
60	1312

YKT # 7990

I



335 U

Company: Rains & Williamson Oil Company, Inc. Lease & Well No.: Love #1

Elevation: 1227 Ground Level Formation: Kansas City Effective Pay: --- Ft. Ticket No.: 7991

Date: 1/25/81 Sec.: 13 Twp.: 32S Range: 4W County: Sumner State: Kansas

Test Approved by: John R. Rose Western Representative: James Ricketts

Formation Test No.: 9 Interval Tested from: 3434 ft. to: 3490 ft. Total Depth: 3490 ft.

Packer Depth: 3434 ft. Size: 6 3/4 in. Packer Depth: - ft. Size: - in.

Packer Depth: 3429 ft. Size: 6 3/4 in. Packer Depth: - ft. Size: - in.

Depth of Selective Zone Set: -

Top Recorder Depth (Inside): 3484 ft. Recorder Number: 3354 Cap.: 4200

Bottom Recorder Depth (Outside): 3487 ft. Recorder Number: 12368 Cap.: 4225

Below Straddle Recorder Depth: - ft. Recorder Number: - Cap.: -

Drilling Contractor: Silverado Drilling Rig #10 Drill Collar Length: 370 I. D.: 2.25 in.

Mud Type: starch Viscosity: 45 Weight Pipe Length: - I. D.: - in.

Weight: 10.0 Water Loss: 12.8 cc. Drill Pipe Length: 3036 I. D.: 3.25 in.

Chlorides: 49,000 P.P.M. Test Tool Length: 28 ft. Tool Size: 4½ in.

Jars: Make: WTC Serial Number: 402 Anchor Length: 56 ft. Size: 4½ in.

Did Well Flow?: No Reversed Out: No Surface Choke Size: 3/4 in. Bottom Choke Size: 3/4 in.

Main Hole Size: 7 7/8 in. Tool Joint Size: 4½DH in.

Blow: Fair on initial flow period. Weak on final flow period.

Recovered: 210 ft. of slightly oil and gas cut mud

Recovered: ____ ft. of

Recovered: ____ ft. of

Recovered: ____ ft. of

Recovered: ____ ft. of

Remarks:

Time Set Packer(s): 10:00 A.M. ~~P.M.~~ Time Started Off Bottom: 1:15 ~~A.M.~~ P.M. Maximum Temperature: 105°

Initial Hydrostatic Pressure		(A)	1845	P.S.I.
Initial Flow Period	Minutes 45	(B)	141 P.S.I. to (C)	145 P.S.I.
Initial Closed In Period	Minutes 42	(D)	1127	P.S.I.
Final Flow Period	Minutes 45	(E)	154 P.S.I. to (F)	162 P.S.I.
Final Closed In Period	Minutes 60	(G)	973	P.S.I.
Final Hydrostatic Pressure		(H)	1845	P.S.I.

WESTERN TESTING CO., INC.
Pressure Data

Date 1/25/81 Test Ticket No. 7991

Recorder No. 3354 Capacity 4200 Location 3484 Ft.

Clock No. -- Elevation 1227 Ground Level Well Temperature 105 °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	1845 P.S.I.	Open Tool	10:00A M	
B First Initial Flow Pressure	141 P.S.I.	First Flow Pressure	45 Mins.	45 Mins.
C First Final Flow Pressure	145 P.S.I.	Initial Closed-in Pressure	45 Mins.	42 Mins.
D Initial Closed-in Pressure	1127 P.S.I.	Second Flow Pressure	45 Mins.	45 Mins.
E Second Initial Flow Pressure	154 P.S.I.	Final Closed-in Pressure	60 Mins.	60 Mins.
F Second Final Flow Pressure	162 P.S.I.			
G Final Closed-in Pressure	973 P.S.I.			
H Final Hydrostatic Mud	1845 P.S.I.			

PRESSURE BREAKDOWN

First Flow Pressure
Breakdown: 9 Inc.
of 5 mins. and a
final inc. of 0 Min.

Point Mins.	Press.
P 1 0	141
P 2 5	139
P 3 10	139
P 4 15	139
P 5 20	140
P 6 25	141
P 7 30	142
P 8 35	143
P 9 40	144
P10 45	145
P11	
P12	
P13	
P14	
P15	
P16	
P17	
P18	
P19	
P20	

Initial Shut-In
Breakdown: 14 Inc.
of 3 mins. and a
final inc. of 0 Min.

Point Minutes	Press.
0	145
3	175
6	238
9	335
12	470
15	603
18	728
21	816
24	895
27	949
30	998
33	1040
36	1072
39	1101
42	1127
45	

Second Flow Pressure
Breakdown: 9 Inc.
of 5 mins. and a
final inc. of 0 Min.

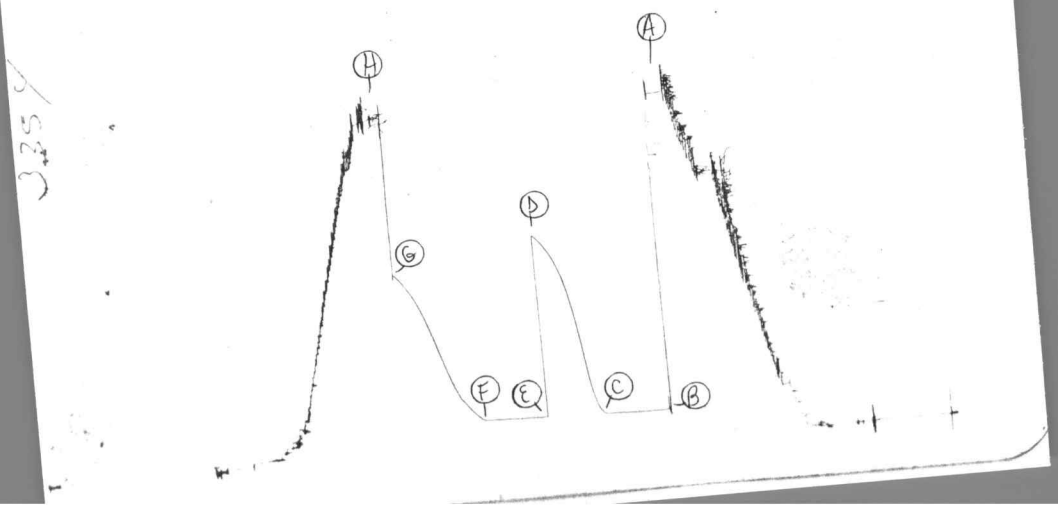
Point Minutes	Press.
0	154
5	154
10	155
15	155
20	156
25	157
30	158
35	159
40	160
45	162

Final Shut-In
Breakdown: 20 Inc.
of 3 mins. and a
final inc. of 0 Min.

Point Minutes	Press.
0	162
3	175
6	194
9	217
12	247
15	272
18	310
21	357
24	418
27	475
30	542
33	612
36	675
39	732
42	789
45	835
48	871
51	907
54	937
57	962
60	973

WTC - 4

IKT # 7991



Company Rains & Williamson Oil Company, Inc. Lease & Well No. Love #1

Elevation 1227 Ground Level Formation Mississippi Effective Pay - Ft. Ticket No. 7992

Date 1/28/81 Sec. 13 Twp. 32S Range 4W County Sumner State Kansas

Test Approved by John R Rose Western Representative James Ricketts-Jeff Beauchamp

Formation Test No. 10 Interval Tested from 3941 ft. to 3958 ft. Total Depth 3958 ft.

Packer Depth 3941 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.

Packer Depth 3936 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.

Depth of Selective Zone Set -

Top Recorder Depth (Inside) 3952 ft. Recorder Number 3354 Cap. 4200

Bottom Recorder Depth (Outside) 3955 ft. Recorder Number 13268 Cap. 4225

Below Straddle Recorder Depth - ft. Recorder Number - Cap. -

Drilling Contractor Silverado Rig #10 Drill Collar Length 370 I. D. 2.25 in.

Mud Type Starch Viscosity 46 Weight Pipe Length - I. D. - in.

Weight 10.1 Water Loss 10.4 cc. Drill Pipe Length 3543 I. D. 3.25 in.

Chlorides 46,000 P.P.M. Test Tool Length 28 ft. Tool Size 4½ in.

Jars: Make WTC Serial Number 410 Anchor Length 17 ft. Size 4½ in.

Did Well Flow? No Reversed Out - Surface Choke Size 3/4 in. Bottom Choke Size 3/4 in.

Main Hole Size 7 7/8 in. Tool Joint Size 4½XH in.

Blow: Strong gas to surface in 25 minutes. See attached sheet for gas measurement.

Recovered 510 ft. of gas cut mud - 23% gas; 2% water; 75% mud

Recovered ft. of

Recovered ft. of

Recovered ft. of

Recovered ft. of

Remarks: Slid tool 10 ft to bottom.

Time Set Packer(s) 9:30 ~~A.M.~~ P.M. Time Started Off Bottom 1:15 ~~A.M.~~ P.M. Maximum Temperature 109

Initial Hydrostatic Pressure		(A) 2218	P.S.I.	
Initial Flow Period	Minutes 45	(B) 152	P.S.I. to (C) 167	P.S.I.
Initial Closed In Period	Minutes 60	(D) 1481	P.S.I.	
Final Flow Period	Minutes 60	(E) 169	P.S.I. to (F) 181	P.S.I.
Final Closed In Period	Minutes 60	(G) 1479	P.S.I.	
Final Hydrostatic Pressure		(H) 2154	P.S.I.	

WTC-1

GAS FLOW REPORT

Date 1/28/81 Ticket 7992 Company Rains & Williamson Oil Company, Inc.

Well Name and No. Love #1 Dst No. 10 Interval Tested 3941-3958

County Sumner State Kansas Sec. 13 Twp. 32S Rg. 4W

Time Gauge Pre-Flow	Time Gauge in Min.	P.S.I. on Merla Orifice Well Tester	P.S.I. on Pitot Tester	P.S.I. on Side Static Tester	P.S.I. on U-Tube Tester	Description of Flow
	Gas to surface 25 minutes.		**PRE FLOW**			
	10:05	4.0 PSIG	½" Orifice			68,800 C.F.P.D.
	10:15	5.0 PSIG	½" Orifice			78,100 C.F.P.D.
			SECOND FLOW			
	11:25	9.0 PSIG	½" Orifice			108,000 C.F.P.D.
	11:35	11.0 PSIG	½" Orifice			121,000 C.F.P.D.
	11:45	12.0 PSIG	½" Orifice			129,000 C.F.P.D.
	11:55	14.0 PSIG	½" Orifice			141,000 C.F.P.D.
	12:05	16.0 PSIG	½" Orifice			153,000 C.F.P.D.
	12:15	17.0 PSIG	½" Orifice			159,000 C.F.P.D.

GAS BOTTLE

Serial No. 102 Date Bottle Filled 1/28/81 Date to be Invoiced 1/28/81

Requisition and Provisions for high pressure stainless steel gas bottles. Western Testing Co., Inc. shall not be liable for damage of any kind to property or personnel of the one whom gas bottle is filled or for any loss suffered or sustained directly or indirectly through the use of these bottles. By signing of this ticket showing receipt of a gas testing bottle, the undersigned agrees for himself and as agent for operator, to return this bottle to Western Testing Co., Inc. within thirty (30) days free of charge, or be invoiced in the amount of $75.00 (total charge). Should valve or seal plug be missing or damaged beyond repair, operator shall be invoiced for repairs at our invoiced price.

All charges subject to 1½% per month, equal to 18% interest per annum after 30 days from date of invoice. Any expense incurred for collection will be added to the original amount.

COMPANY'S NAME Rains & Williamson Oil Company, Inc.

Authorized by John R. Rose

FORM WTC 6

WESTERN TESTING CO., INC.
Pressure Data

Date 1/28/81 Test Ticket No. 7992

Recorder No. 3354 Capacity 4200 Location 3952 Ft.

Clock No. - Elevation 1227 Ground Level Well Temperature 109 °F

Point		Pressure	
A	Initial Hydrostatic Mud	2218	P.S.I.
B	First Initial Flow Pressure	152	P.S.I.
C	First Final Flow Pressure	167	P.S.I.
D	Initial Closed-in Pressure	1481	P.S.I.
E	Second Initial Flow Pressure	169	P.S.I.
F	Second Final Flow Pressure	181	P.S.I.
G	Final Closed-in Pressure	1479	P.S.I.
H	Final Hydrostatic Mud	2154	P.S.I.

	Time Given	Time Computed
Open Tool	9:30A M	
First Flow Pressure	45 Mins.	45 Mins.
Initial Closed-in Pressure	60 Mins.	60 Mins.
Second Flow Pressure	60 Mins.	60 Mins.
Final Closed-in Pressure	60 Mins.	60 Mins.

*Pressures questionable due to run away clock

PRESSURE BREAKDOWN

First Flow Pressure
Breakdown: 9 Inc. of 5 mins. and a final inc. of 0 Min.

Initial Shut-In
Breakdown: 20 Inc. of 3 mins. and a final inc. of 0 Min.

Second Flow Pressure
Breakdown: 12 Inc. of 5 mins. and a final inc. of 0 Min.

Final Shut-In
Breakdown: 20 Inc. of 3 mins. and a final inc. of 0 Min.

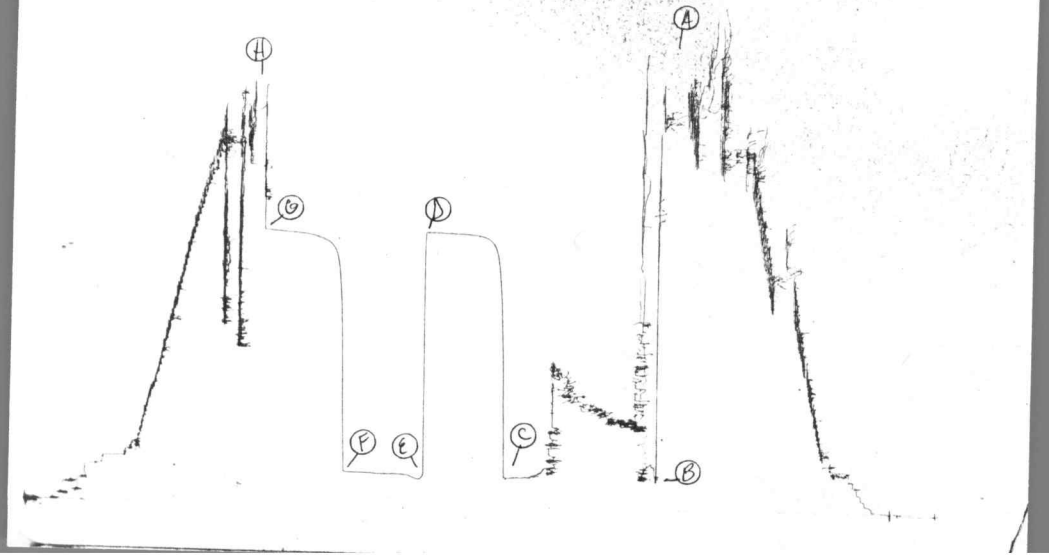
Point Mins.	Press.	Point Minutes	Press.	Point Minutes	Press.	Point Minutes	Press.
P 1 0	152	0	167	0	169	0	181
P 2 5	247*	3	981	5	152	3	1120
P 3 10	200*	6	1281	10	165	6	1325
P 4 15	215*	9	1388	15	174	9	1386
P 5 20	186*	12	1430	20	175	12	1411
P 6 25	171	15	1447	25	175	15	1426
P 7 30	169	18	1456	30	176	18	1437
P 8 35	169	21	1464	35	176	21	1445
P 9 40	167	24	1467	40	179	24	1451
P10 45	167	27	1469	45	180	27	1456
P11		30	1473	50	180	30	1461
P12		33	1474	55	181	33	1464
P13		36	1475	60	181	36	1465
P14		39	1476			39	1467
P15		42	1476			42	1469
P16		45	1477			45	1470
P17		48	1478			48	1472
P18		51	1479			51	1474
P19		54	1480			54	1476
P20		57	1480			57	1478
		60	1481			60	1479

Run Away Clock

IKT # 7992

I

3354



Company Rains & Williamson Oil Company, Inc. Lease & Well No. Love #1

Elevation 1232 Kelly Bushing Formation Simpson Effective Pay --- Ft. Ticket No. 8048

Date 2/1/81 Sec. 13 Twp. 32S Range 4W County Sumner State Kansas

Test Approved by John R. Rose Western Representative Kenny Kirkendall

Formation Test No. 11 Interval Tested from 4341 ft. to 4349 ft. Total Depth 4349 ft.

Packer Depth 4344 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.

Packer Depth 4336 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.

Depth of Selective Zone Set --

Top Recorder Depth (Inside) 4344 ft. Recorder Number 2605 Cap. 4150

Bottom Recorder Depth (Outside) 4348 ft. Recorder Number 1560 Cap. 4500

Below Straddle Recorder Depth - ft. Recorder Number - Cap. -

Drilling Contractor Silverado Drlg. Rig #10 Drill Collar Length 360 I. D. - in.

Mud Type starch Viscosity 44 Weight Pipe Length - I. D. - in.

Weight 10 Water Loss 12.4 cc. Drill Pipe Length 3936 I. D. - in.

Chlorides 33,000 P.P.M. Test Tool Length 25 ft. Tool Size 5½ in.

Jars: Make WTC Serial Number 402 Anchor Length 8 ft. Size 5½ in.

Did Well Flow? - Reversed Out - Surface Choke Size 3/4 in. Bottom Choke Size 3/4 in.

Main Hole Size 7 7/8 in. Tool Joint Size 4½XH in.

Blow: Good blow throughout test ten inches.

Recovered 120 ft. of gassy mud

Recovered 60 ft. of gassy mud slightly oil cut 3% oil;25% gas;72% mud

Recovered 60 ft. of oil and gas cut mud

Recovered 60 ft. of muddy gassy oil with trace of water 67% oil;3% water;15% gas;15% mud

Recovered 60 ft. of muddy gassy oil 60% oil;2% water;21% mud;17% gas

Remarks:

Standy 9:30 PM January 31, 1981 until 7:00A, February 1, 1981

Time Set Packer(s) 9:25 A.M. ~~P.M.~~ Time Started Off Bottom 12:40 ~~A.M.~~ P.M. Maximum Temperature 134°

Initial Hydrostatic Pressure			(A)	2351	P.S.I.	
Initial Flow Period	Minutes	45	(B)	131	P.S.I. to (C)	146 P.S.I.
Initial Closed In Period	Minutes	45	(D)	1769	P.S.I.	
Final Flow Period	Minutes	45	(E)	216	P.S.I. to (F)	163 P.S.I.
Final Closed In Period	Minutes	63	(G)	1738	P.S.I.	
Final Hydrostatic Pressure			(H)	2341	P.S.I.	

WTC-1

WESTERN TESTING CO., INC.
Pressure Data

Date 2/1/81 Test Ticket No. 8048

Recorder No. 2605 Capacity 4150 Location 4344 Ft.

Clock No. - Elevation 1232 Kelly Bushing Well Temperature 134 °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	2351 P.S.I.	Open Tool	9:25A M	
B First Initial Flow Pressure	131 P.S.I.	First Flow Pressure	45 Mins.	45 Mins.
C First Final Flow Pressure	146 P.S.I.	Initial Closed-in Pressure	45 Mins.	45 Mins.
D Initial Closed-in Pressure	1769 P.S.I.	Second Flow Pressure	45 Mins.	45 Mins.
E Second Initial Flow Pressure	216 P.S.I.	Final Closed-in Pressure	60 Mins.	63 Mins.
F Second Final Flow Pressure	163 P.S.I.			
G Final Closed-in Pressure	1738 P.S.I.			
H Final Hydrostatic Mud	2341 P.S.I.			

PRESSURE BREAKDOWN

First Flow Pressure
Breakdown: 9 Inc. of 5 mins. and a final inc. of 0 Min.

Point Mins.	Press.
P 1 0	131
P 2 5	133 Flushed tool
P 3 10	152
P 4 15	151
P 5 20	148
P 6 25	146
P 7 30	146
P 8 35	146
P 9 40	146
P10 45	146
P11	
P12	
P13	
P14	
P15	
P16	
P17	
P18	
P19	
P20	

Initial Shut-In
Breakdown: 15 Inc. of 3 mins. and a final inc. of 0 Min.

Point Minutes	Press.
0	146
3	248
6	428
9	645
12	936
15	1332
18	1573
21	1659
24	1694
27	1713
30	1728
33	1740
36	1749
39	1759
42	1765
45	1769

Second Flow Pressure
Breakdown: 9 Inc. of 5 mins. and a final inc. of 0 Min.

Point Minutes	Press.
0	216
5	199
10	174
15	167
20	164
25	164
30	164
35	163
40	163
45	163

Final Shut-In
Breakdown: 21 Inc. of 3 mins. and a final inc. of 0 Min.

Point Minutes	Press.
0	163
3	216
6	419
9	693
12	1027
15	1369
18	1577
21	1648
24	1678
27	1694
30	1709
33	1719
36	1726
39	1730
42	1734
45	1736
48	1736
51	1736
54	1736
57	1736
60	1737
63	1738

WTC - 4

TRT # 8048

I

2605