



P. O. BOX 1599 PHONE (316) 262-5861
WICHITA, KANSAS 67201

WESTERN TESTING CO., INC.
FORMATION TESTING

TICKET N^o 20134

Elevation 1832 GL Formation Viola Eff. Pay — Ft.
1840 KB

District GREAT Bend Date 11-28-93 Customer Order No. —
COMPANY NAME Raymond Oil Company, Inc.
ADDRESS P.O. Box 48788 Wichita, K. 67201-8788
LEASE AND WELL NO. Rundell #4 "C" COUNTY STAFFORD STATE K Sec. 32 Twp. 25^S Rge. 11^W
Mail Invoice To Same (#4 Rundell C) No. Copies Requested Reg
Co. Name Address
Mail Charts To Same No. Copies Requested Reg
Address

Formation Test No. 1 Interval Tested From 4099 ft. to 4110 ft. Total Depth 4110 ft.
Packer Depth 4099 ft. Size 6 3/8 in. Packer Depth — ft. Size — in.
Packer Depth 4099 ft. Size 6 3/8 in. Packer Depth — ft. Size — in.
Depth of Selective Zone Set —
Top Recorder Depth (Inside) 4102 ft. Recorder Number 10270 Cap. 4150
Bottom Recorder Depth (Outside) 4105 ft. Recorder Number 13550 Cap. 4175
Below Straddle Recorder Depth — ft. Recorder Number — Cap. —
Drilling Contractor Oake Dr Rig 2 Drill Collar Length — I. D. — in.
Mud Type Chemical Viscosity 48 Weight Pipe Length — I. D. — in.
Weight 9.2 Water Loss 6.4 cc. Drill Pipe Length 4072 I. D. 3.8 in.
Chlorides 4000 P.P.M. Test Tool Length 27 ft. Tool Size 5 1/2 in.
Jars: Make WTC Serial Number 422 Anchor Length 11 ft. Size 5 1/2 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 4 1/2 X 4 in.

Blow: IF - WEAK Blow throughout 3/4" decreased to 1/4" Blow
FF - WEAK SURFACE Blow throughout

Recovered 5 ft. of Slightly oil cut mud
Recovered — ft. of 1% oil 99% mud
Recovered — ft. of —
Recovered — ft. of —
Recovered — ft. of —
Chlorides — P.P.M. Sample Jars used 1 Remarks: —

Time On Location 8:05 A.M. Time Pick Up Tool 9:30 P.M. Time Off Location — A.M.
Time Set Packer(s) 11:00 P.M. Time Started Off Bottom 1:30 P.M. Maximum Temperature 120°
Initial Hydrostatic Pressure 2056 P.S.I.
Initial Flow Period 30 Minutes (B) 20 P.S.I. to (C) 20 P.S.I.
Initial Closed In Period 45 Minutes (D) 52 P.S.I.
Final Flow Period 30 Minutes (E) 20 P.S.I. to (F) 20 P.S.I.
Final Closed In Period 45 Minutes (G) 72 P.S.I.
Final Hydrostatic Pressure 2045 P.S.I. (H)

COMPANY TERMS

Western Testing Co., Inc. shall not be liable for damages of any kind to the property or personnel of the one for whom a test is made or for any loss suffered or sustained directly or indirectly through the use of its equipment, of its statements or opinion concerning the results of any test. Tools lost or damaged in the hole shall be paid at cost by the party for whom the test is made.

All charges subject to 12% interest after 60 days from date of invoice. Any expense incurred for collection will be added to the original amount.

Test Approved By Tim HELLMAN
Signature of Customer or his authorized representative

Western Representative Ray Schwager

Thank you

FIELD INVOICE

Open Hole Test ✓
Misrun \$
Straddle Test \$
Jars ✓
Selective Zone \$
Safety Joint ✓
Standby \$
Evaluation \$
Extra Packer \$
Circ. Sub. \$
Mileage \$
Fluid Sampler \$
Extra Charts \$
Insurance \$
Telecopier \$
TOTAL ✓

WESTERN TESTING CO., INC.

Pressure Data

Date 11-28-93

Test Ticket No. 20134

Recorder No. 10270

Capacity _____ Location _____ Ft

Clock No. _____ Elevation _____ Well Temperature _____ °F

Point	Pressure	Time Given	Time Computed
A Initial Hydrostatic Mud	<u>2053</u> P.S.I.		
B First Initial Flow Pressure	<u>27</u> P.S.I.	<u>30</u> Mins	<u>30</u> Min.
C First Final Flow Pressure	<u>27</u> P.S.I.	<u>45</u> Mins	<u>45</u> Min.
D Initial Closed-in Pressure	<u>58</u> P.S.I.	<u>30</u> Mins	<u>30</u> Min.
E Second Initial Flow Pressure	<u>28</u> P.S.I.	<u>45</u> Mins	<u>45</u> Min.
F Second Final Flow Pressure	<u>28</u> P.S.I.		
G Final Closed-in Pressure	<u>77</u> P.S.I.		
H Final Hydrostatic Mud	<u>2034</u> P.S.I.		

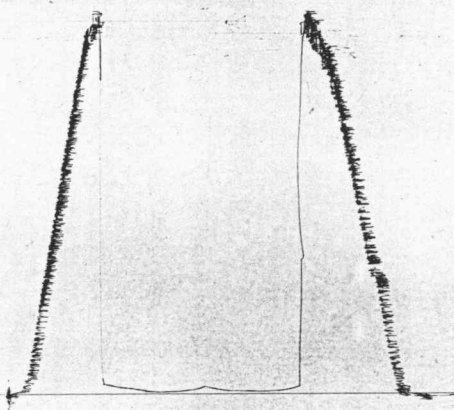
PRESSURE BREAKDOWN

First Flow Pressure		Initial Shut-In		Second Flow Pressure		Final Shut-In	
Breakdown: _____ Inc.		Breakdown: _____ Inc.		Breakdown: _____ Inc.		Breakdown: _____ Inc.	
of <u>5</u> mins. and a		of <u>3</u> mins. and a		of <u>5</u> mins. and a		of <u>3</u> mins. and a	
final inc. of <u>0</u> Min.		final inc. of <u>0</u> Min.		final inc. of <u>0</u> Min.		final inc. of <u>0</u> Min.	
Point Mins.	Press.	Point Minutes	Press.	Point Minutes	Press.	Point Minutes	Press.
B P 1 0	<u>27</u>	C 0	<u>27</u>	E 0	<u>28</u>	F 0	<u>28</u>
P 2 5		3		5	<u>28</u>	3	<u>28</u>
P 3 10		6		10	<u>28</u>	6	<u>29</u>
P 4 15	<u>27</u>	9		15	<u>28</u>	9	<u>31</u>
P 5 20		12	<u>28</u>	20	<u>28</u>	12	<u>33</u>
P 6 25		15	<u>29</u>	25	<u>28</u>	15	<u>36</u>
C P 7 30	<u>27</u>	18	<u>30</u>	F 30	<u>28</u>	18	<u>39</u>
P 8 35	27	21	<u>31</u>	35		21	<u>42</u>
P 9 40		24	<u>33</u>	40		24	<u>46</u>
P10 45		27	<u>36</u>	45		27	<u>51</u>
P11 50		30	<u>40</u>	50		30	<u>55</u>
P12 55		33	<u>44</u>	55		33	<u>60</u>
P13 60		36	<u>47</u>	60		36	<u>65</u>
P14 65		39	<u>51</u>	65		39	<u>69</u>
P15 70		42	<u>54</u>	70		42	<u>73</u>
P16 75		D 45	<u>58</u>	75		G 45	<u>77</u>
P17 80		48		80		48	
P18 85		51		85		51	
P19 90		54		90		54	
P20 95		57		95		57	
100		60		100		60	

TK# 20134

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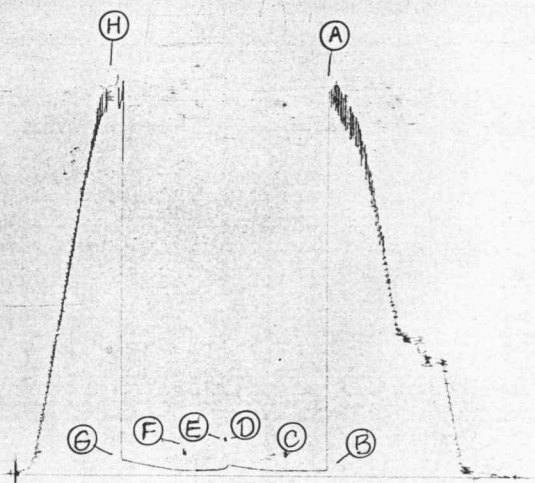
OST#1
13550



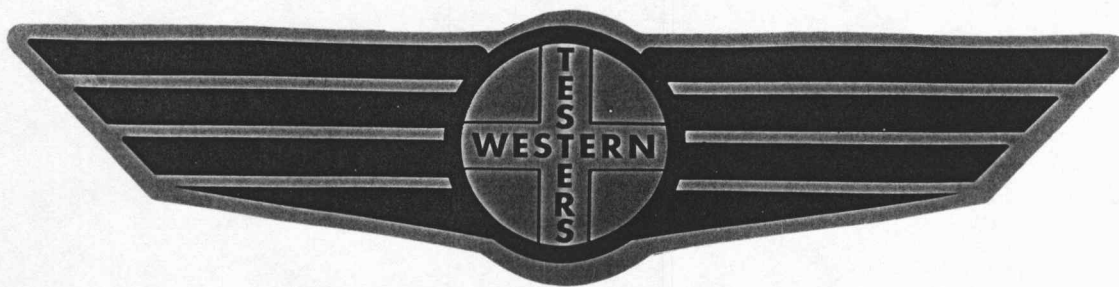
TK# 20134

I.

OST#1
10270



FORMATION TEST REPORT



Home Office:

Wichita, Kansas 67201

P.O. Box 1599

Phone 1-800-688-7021

COMPANY RAYMOND OIL COMPANY, INC. LEASE & WELL NO. #4 RUNDELL C SEC. 32 TWP. 25S RGE. 11W TEST NO. 1 DATE 11/28/93

DST REPORT

GENERAL INFORMATION

DATE	: 11/28/93	TICKET	: 20134
CUSTOMER	: RAYMOND OIL COMPANY INC.	LEASE	: RUNDELL C
WELL	: #4	TEST: 1	GEOLOGIST: HELLMAN
ELEVATION	: 1840 KB	FORMATION	: VIOLA
SECTION	: 32	TOWNSHIP	: 25S
RANGE	: 11W	COUNTY: STAFFORD	STATE : KS
GAUGE SN#	: 10270	RANGE : 4150	CLOCK : 12

WELL INFORMATION

PERFORATION INTERVAL FROM:	4099.00 ft	TO:	4110.00 ft	TVD:	4110.0 ft
DEPTH OF SELECTIVE ZONE:				TEST TYPE:	OIL
DEPTH OF RECORDERS:	4102.0 ft		4105.0 ft		
TEMPERATURE:	120.0				
DRILL COLLAR LENGTH:	0.0 ft	I.D.:		0.000 in	
WEIGHT PIPE LENGTH :	0.0 ft	I.D.:		0.000 in	
DRILL PIPE LENGTH :	4072.0 ft	I.D.:		3.800 in	
TEST TOOL LENGTH :	27.0 ft	TOOL SIZE :		5.500 in	
ANCHOR LENGTH :	11.0 ft	ANCHOR SIZE:		5.500 in	
SURFACE CHOKE SIZE :	0.750 in	BOTTOM CHOKE SIZE:		0.750 in	
MAIN HOLE SIZE :	7.875 in	TOOL JOINT SIZE :		4.5XH	
PACKER DEPTH:	4094.0 ft	SIZE:		6.630 in	
PACKER DEPTH:	4099.0 ft	SIZE:		6.630 in	
PACKER DEPTH:	0.0 ft	SIZE:		0.000 in	
PACKER DEPTH:	0.0 ft	SIZE:		0.000 in	

MUD INFORMATION

DRILLING CON. :	DUKE DRLG RIG 2	VISCOSITY :	48.00 cp
MUD TYPE :	CHEMICAL	WATER LOSS:	6.400 cc
WEIGHT :	9.200 ppg	SERIAL NUMBER:	422
CHLORIDES :	4000 ppm	REVERSED OUT?:	NO
JARS-MAKE :	WTC		
DID WELL FLOW?:	NO		

COMMENTS

Comment

INITIAL FLOW PERIOD WEAK BLOW THROUGHOUT - 3/4
INCHES DECREASED TO 1/4 INCH BLOW.
FINAL FLOW PERIOD WEAK SURFACE BLOW THROUGHOUT.

DST REPORT (CONTINUED)

FLUID RECOVERY

Feet of Fluid	% Oil	% Gas	% Water	% Mud	Comments
5.0	1.0	0.0	0.0	99.0	SLIGHTLY OIL CUT MUD

RATE INFORMATION

OIL VOLUME:	0.0007 STB	TOTAL FLOW TIME:	60.0000 min.
GAS VOLUME:	0.0000 SCF	AVERAGE OIL RATE:	1.6832 STB/D
MUD VOLUME:	0.0694 STB	AVERAGE WATER RATE:	0.0000 STB/D
WATER VOLUME:	0.0000 STB		
TOTAL FLUID :	0.0701 STB		

FIELD TIME & PRESSURE INFORMATION

INITIAL HYDROSTATIC PRESSURE: 2056.00

Description	Duration	p1	p End
INITIAL FLOW	30.00	20.00	20.00
INITIAL SHUT-IN	45.00		52.00
FINAL FLOW	30.00	20.00	20.00
FINAL SHUT-IN	45.00		72.00

FINAL HYDROSTATIC PRESSURE: 2045.00

OFFICE TIME & PRESSURE INFORMATION

INITIAL HYDROSTATIC PRESSURE: 2053.00

Description	Duration	p1	p End
INITIAL FLOW	30.00	27.00	27.00
INITIAL SHUT-IN	45.00		58.00
FINAL FLOW	30.00	28.00	28.00
FINAL SHUT-IN	45.00		77.00

FINAL HYDROSTATIC PRESSURE: 2034.00

PRESSURE TRANSIENT REPORT

GENERAL INFORMATION

DATE : 11/28/93	TICKET : 20134
CUSTOMER : RAYMOND OIL COMPANY INC.	LEASE : RUNDELL C
WELL : #4	GEOLOGIST: HELLMAN
ELEVATION: 1840 KB	FORMATION: VIOLA
SECTION : 32	TOWNSHIP : 25S
RANGE : 11W	STATE : KS
Gauge SN#: 10270	CLOCK : 12
COUNTY: STAFFORD	
RANGE : 4150	

INITIAL FLOW

Time (min)	Pressure	Delta P
0.00	27.00	27.00
5.00	27.00	0.00
10.00	27.00	0.00
15.00	27.00	0.00
20.00	27.00	0.00
25.00	27.00	0.00
30.00	27.00	0.00

INITIAL SHUT IN

Time (min)	Pressure	Delta P	Horner T
3.00	27.00	27.00	11.00
6.00	27.00	0.00	6.00
9.00	27.00	0.00	4.33
12.00	28.00	1.00	3.50
15.00	29.00	1.00	3.00
18.00	30.00	1.00	2.67
21.00	31.00	1.00	2.43
24.00	33.00	2.00	2.25
27.00	36.00	3.00	2.11
30.00	40.00	4.00	2.00
33.00	44.00	4.00	1.91
36.00	47.00	3.00	1.83
39.00	51.00	4.00	1.77
42.00	54.00	3.00	1.71
45.00	58.00	4.00	1.67

PRESSURE TRANSIENT REPORT (CONTINUED)

FINAL FLOW

Time (min)	Pressure	Delta P
0.00	28.00	28.00
5.00	28.00	0.00
10.00	28.00	0.00
15.00	28.00	0.00
20.00	28.00	0.00
25.00	28.00	0.00
30.00	28.00	0.00

FINAL SHUT IN

Time (min)	Pressure	Delta P	Horner T
3.00	28.00	28.00	11.00
6.00	29.00	1.00	6.00
9.00	31.00	2.00	4.33
12.00	33.00	2.00	3.50
15.00	36.00	3.00	3.00
18.00	39.00	3.00	2.67
21.00	42.00	3.00	2.43
24.00	46.00	4.00	2.25
27.00	51.00	5.00	2.11
30.00	55.00	4.00	2.00
33.00	60.00	5.00	1.91
36.00	65.00	5.00	1.83
39.00	69.00	4.00	1.77
42.00	73.00	4.00	1.71
45.00	77.00	4.00	1.67



P. O. BOX 1599 PHONE (316) 262-5861
WICHITA, KANSAS 67201

WESTERN TESTING CO., INC.

FORMATION TESTING

TICKET **Nº 20135**

Elevation 1832 GL
1840 KB Formation M155 Eff. Pay Ft.

District GREAT Bend Date 11-29-93 Customer Order No.

COMPANY NAME Raymond Oil Company, Inc

ADDRESS P.O. Box 48788 Wichita, KS 67201-8788

LEASE AND WELL NO. Rundell #4 "C" COUNTY Stafford STATE Ks Sec. 32 Twp. 25 Rge. 11 W

Mail Invoice To SAME Co. Name Address No. Copies Requested Reg

Mail Charts To SAME Co. Name Address No. Copies Requested Reg

Formation Test No. 2 Interval Tested From 3916 ft. to 3990 ft. Total Depth 4228 ft.

Packer Depth 3911 ft. Size 6 3/8 in. Packer Depth 3990 ft. Size 6 3/8 in.

Packer Depth 3916 ft. Size 6 3/8 in. Packer Depth 3995 ft. Size 6 3/8 in.

Depth of Selective Zone Set

Top Recorder Depth (Inside) 3980 ft. Recorder Number 10270 Cap. 4150

Bottom Recorder Depth (Outside) 3983 ft. Recorder Number 13550 Cap. 4125

Below Straddle Recorder Depth 3998 ft. Recorder Number 13401 Cap. 4000

Drilling Contractor Duke Drilling rig 2 Drill Collar Length 180 I. D. 2.2 in.

Mud Type Chemical Viscosity 46 Weight Pipe Length I. D. in.

Weight 9.2 Water Loss 8.4 cc. Drill Pipe Length 3704 I. D. 3.8 in.

Chlorides 5000 P.P.M. Test Tool Length 32 ft. Tool Size 5 1/2 in.

Jars: Make Serial Number Anchor Length 74 ft. Size 5 1/2 in.

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

Main Hole Size 2 7/8 in. Tool Joint Size 4 1/2 XH in.

Blow: IF -

FF -

Recovered 360 ft. of Mud

Recovered ft. of

Recovered ft. of Packer failure

Recovered ft. of

Recovered ft. of

Chlorides P.P.M. Sample Jars used Remarks: SET TOOL TWICE

Time On Location 6:00 A.M. Time Pick Up Tool 8:15 A.M.

Time Set Packer(s) P.M. Time Started Off Bottom A.M.

Time Off Location P.M. Maximum Temperature

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

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

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

COMPANY TERMS

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All charges subject to 12% interest after 60 days from date of invoice. Any expense incurred for collection will be added to the original amount.

Test Approved By TIM HELLMANN
Signature of Customer or his authorized representative

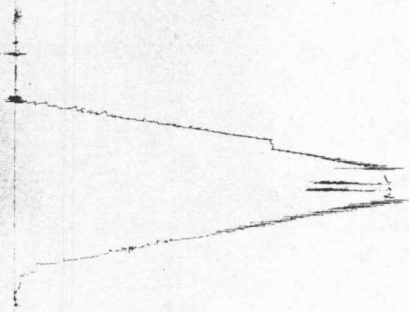
Western Representative Ray Schwager THANK YOU

FIELD INVOICE

Open Hole Test	\$
Misrun	\$
Straddle Test	\$
Jars	\$
Selective Zone	\$
Safety Joint	\$
Standby	\$
Evaluation	\$
Extra Packer	\$
Circ. Sub.	\$
Mileage	\$
Fluid Sampler	\$
Extra Charts	\$
Insurance	\$
Telecopier	\$
TOTAL	\$

TK# 20135
I.

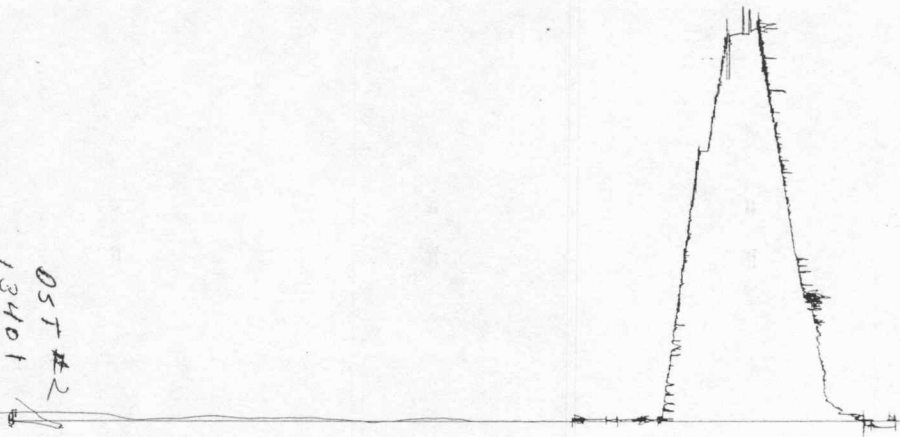
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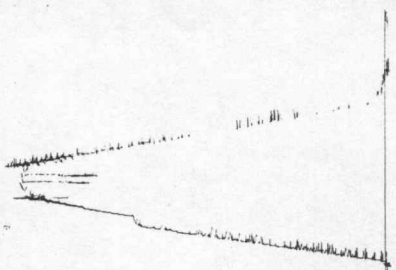
OST# 2
13550

TK# 20135
Below Straddle

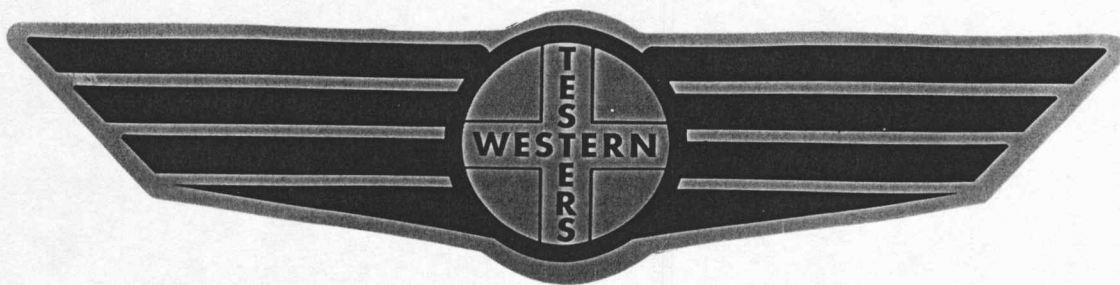
OST# 2
13401



TK# 20135
O.



FORMATION TEST REPORT



Home Office:

Wichita, Kansas 67201

P.O. Box 1599

Phone 1-800-688-7021

DST REPORT

GENERAL INFORMATION

DATE	: 11/29/93	TICKET	: 20135
CUSTOMER	: RAYMOND OIL COMPANY INC.	LEASE	: RUNDELL C
WELL	: #4	TEST: 2	GEOLOGIST: HELLMAN
ELEVATION	: 1840 KB	FORMATION	: MISSISSIPPI
SECTION	: 32	TOWNSHIP	: 25S
RANGE	: 11W	COUNTY: STAFFORD	STATE : KS
GAUGE SN#	: 10270	RANGE : 4150	CLOCK : 12

WELL INFORMATION

PERFORATION INTERVAL FROM:	3916.00 ft	TO:	3990.00 ft	TVD:	4228.0 ft
DEPTH OF SELECTIVE ZONE:				TEST TYPE:	OIL
DEPTH OF RECORDERS:	3980.0 ft		3983.0 ft		
TEMPERATURE:	0.0				
DRILL COLLAR LENGTH:	180.0 ft	I.D.:		2.200 in	
WEIGHT PIPE LENGTH :	0.0 ft	I.D.:		0.000 in	
DRILL PIPE LENGTH :	3704.0 ft	I.D.:		3.800 in	
TEST TOOL LENGTH :	32.0 ft	TOOL SIZE :		5.500 in	
ANCHOR LENGTH :	74.0 ft	ANCHOR SIZE:		5.500 in	
SURFACE CHOKE SIZE :	0.750 in	BOTTOM CHOKE SIZE:		0.750 in	
MAIN HOLE SIZE :	7.875 in	TOOL JOINT SIZE :		4.5XH	
PACKER DEPTH:	3911.0 ft	SIZE:		6.630 in	
PACKER DEPTH:	3916.0 ft	SIZE:		6.630 in	
PACKER DEPTH:	0.0 ft	SIZE:		0.000 in	
PACKER DEPTH:	0.0 ft	SIZE:		0.000 in	

MUD INFORMATION

DRILLING CON. :	DUKE DRLG RIG 2	VISCOSITY :	46.00 cp
MUD TYPE :	CHEMICAL	WATER LOSS:	8.400 cc
WEIGHT :	9.200 ppg	SERIAL NUMBER:	
CHLORIDES :	5000 ppm	REVERSED OUT?:	NO
JARS-MAKE :			
DID WELL FLOW?:	NO		

COMMENTS

Comment

MISRUN. PACKER FAILURE.
SET TOOL TWICE.
NO PRESSURES.

DST REPORT (CONTINUED)

FLUID RECOVERY

Feet of Fluid	% Oil	% Gas	% Water	% Mud	Comments
360.0	0.0	0.0	0.0	100.0	MUD

RATE INFORMATION

OIL VOLUME:	0.0000	STB	TOTAL FLOW TIME: No Events Created AVERAGE OIL RATE: 0.0000 STB/D AVERAGE WATER RATE: 0.0000 STB/D
GAS VOLUME:	0.0000	SCF	
MUD VOLUME:	3.3710	STB	
WATER VOLUME:	0.0000	STB	
TOTAL FLUID :	3.3710	STB	

FIELD TIME & PRESSURE INFORMATION

INITIAL HYDROSTATIC PRESSURE: 0.00

Description	Duration	p1	p End
INITIAL FLOW	0.00	0.00	0.00
INITIAL SHUT-IN	0.00		0.00
FINAL FLOW	0.00	0.00	0.00
FINAL SHUT-IN	0.00		0.00

FINAL HYDROSTATIC PRESSURE: 0.00

OFFICE TIME & PRESSURE INFORMATION

INITIAL HYDROSTATIC PRESSURE: 0.00

Description	Duration	p1	p End
INITIAL FLOW	0.00	0.00	0.00
INITIAL SHUT-IN	0.00		0.00

FINAL HYDROSTATIC PRESSURE: 0.00



P. O. BOX 1599 PHONE (316) 262-5861
WICHITA, KANSAS 67201

WESTERN TESTING CO., INC.

FORMATION TESTING

TICKET **Nº** ^{LAST} 20136

Elevation 1832 GL Formation Miss Eff. Pay Ft.
1840 LB

District GREAT Bend Date 11-30-93 Customer Order No.

COMPANY NAME Raymond Oil Company Inc.

ADDRESS P.O. Box 48788 WICHITA, Ks. 67201-8788

LEASE AND WELL NO. Rundell #4 'C' COUNTY STAFFORD STATE Ks Sec. 32 Twp. 25 Rge. 11 ^W

Mail Invoice To SAME Co. Name Address No. Copies Requested Reg

Mail Charts To SAME Address No. Copies Requested Reg

Formation Test No. 3 Interval Tested From 3845 ft. to 3990 ft. Total Depth 4228 ft.

Packer Depth 3840 ft. Size 6 5/8 in. Packer Depth 3990 ft. Size 6 5/8 in.

Packer Depth 3845 ft. Size 6 5/8 in. Packer Depth 3995 ft. Size 6 5/8 in.

Depth of Selective Zone Set

Top Recorder Depth (Inside) 3980 ft. Recorder Number 10270 Cap. 4150

Bottom Recorder Depth (Outside) 3983 ft. Recorder Number 13550 Cap. 4175

Below Straddle Recorder Depth 3998 ft. Recorder Number 13401 Cap. 4000

Drilling Contractor Duke Drilling 1192 Drill Collar Length 120 I. D. 2.2 in.

Mud Type CHEMICAL Viscosity 46 Weight Pipe Length I. D. in.

Weight 9.2 Water Loss 8.9 cc. Drill Pipe Length 3593 I. D. 3.8 in.

Chlorides 5000 P.P.M. Test Tool Length 32 ft. Tool Size 5 1/2 in.

Jars: Make Serial Number Anchor Length 245-238 Tail Pipe 5 1/2 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 4 1/2 X H in.

Blow: IF - STRONG BLOW GAS TO SURFACE IN 5 MIN

FF - GAS TO SURFACE

Recovered 330 ft. of Muddy WATER

Recovered ft. of 15% mud 85% WATER

Recovered ft. of

Recovered ft. of

Recovered ft. of

Chlorides 54000 P.P.M. Sample Jars used 3 Remarks:

Time On Location A.M. Time Pick Up Tool 12:00 A.M. Time Off Location A.M.

Time Set Packer(s) 1:55 A.M. Time Started Off Bottom 5:10 A.M. Maximum Temperature 118°

Initial Hydrostatic Pressure (A) 1962 P.S.I.

Initial Flow Period 30 Minutes (B) 852 P.S.I. to (C) 873 P.S.I.

Initial Closed In Period 60 Minutes (D) 1018 P.S.I.

Final Flow Period 15 Minutes (E) 894 P.S.I. to (F) 904 P.S.I.

Final Closed In Period 90 Minutes (G) 977 P.S.I.

Final Hydrostatic Pressure (H) 1910 P.S.I.

COMPANY TERMS

Western Testing Co., Inc. shall not be liable for damages of any kind to the property or personnel of the one for whom a test is made or for any loss suffered or sustained directly or indirectly through the use of its equipment, of its statements or opinion concerning the results of any test. Tools lost or damaged in the hole shall be paid at cost by the party for whom the test is made.

All charges subject to 12% interest after 60 days from date of invoice. Any expense incurred for collection will be added to the original amount.

Test Approved By TIM HELLMAN
Signature of Customer or his authorized representative

Western Representative Ray Schwager Thank you

FIELD INVOICE

Open Hole Test	☒
Misrun	☐
Straddle Test	☒
Jars	☐
Selective Zone	☐
Safety Joint	☒
Standby	☐
Evaluation	☒
Extra Packer	<u>Two</u>
Circ. Sub.	☐
Mileage	☐
Fluid Sampler	☐
Extra Charts	☐
Insurance	☐
Telecopier	☐
TOTAL	☒

Phone 316 262-5861



P. O. Box 1599

WICHITA, KANSAS 67201

No 4271

GAS FLOW REPORT

Date 11-30-93 Ticket 20136 Company Raymond Oil Company, Inc.
 Well Name and No. Rundell #4 'C' Dst No. 3 Interval Tested 3845-3990
 County STAFFORD State Ks Sec. 32 Twp. 25 Rg. 11

Time Gauge in Min.	P.S.I. on Merla Orifice Well Tester	Size of Orifice	P.S.I. on Pitot Tester	P.S.I. on Side Static Tester	Description of Flow
PRE FLOW <i>gas surfaced in 5 min.</i>					
10	10 Lb	1 1/2"			1,274,000 CFPD
20	10 Lb	"			1,274,000 "
30	10 Lb	"			1,274,000 "

SECOND FLOW

10	10 Lb	1 1/2"			1,274,000 CFPD
15	35 Lb	"			2,858,000 "
	<i>surging blowing fluid</i>				

GAS BOTTLE

Serial No. _____ Date Bottle Filled _____ Date to be Invoiced _____

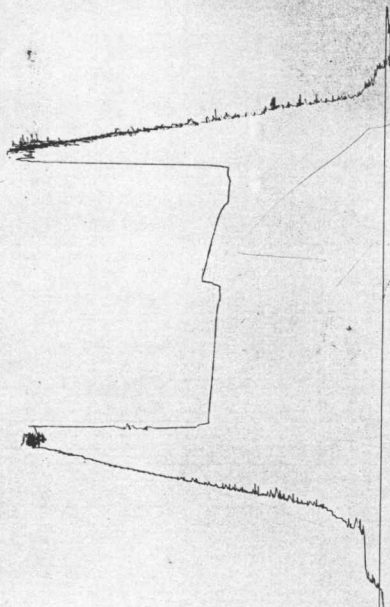
Requisition and Provisions for high pressure stainless steel gas bottles. Western Testing Co., Inc. shall not be liable for damage of any kind to property or personnel of the one whom gas bottle is filled or for any loss suffered or sustained directly or indirectly through the use of these bottles. By 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 1 1/2% 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 _____

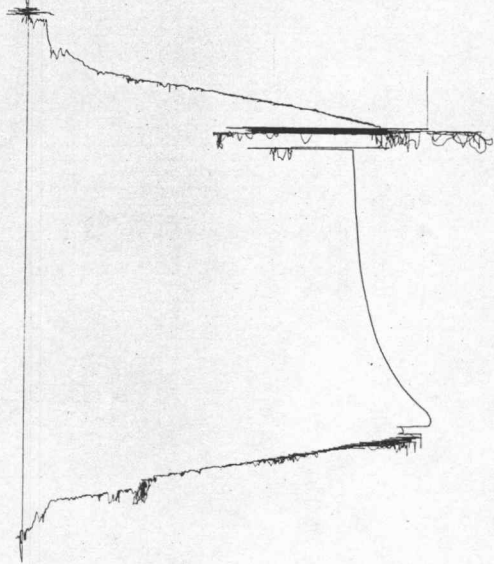
Authorized by _____

TK+20136
0

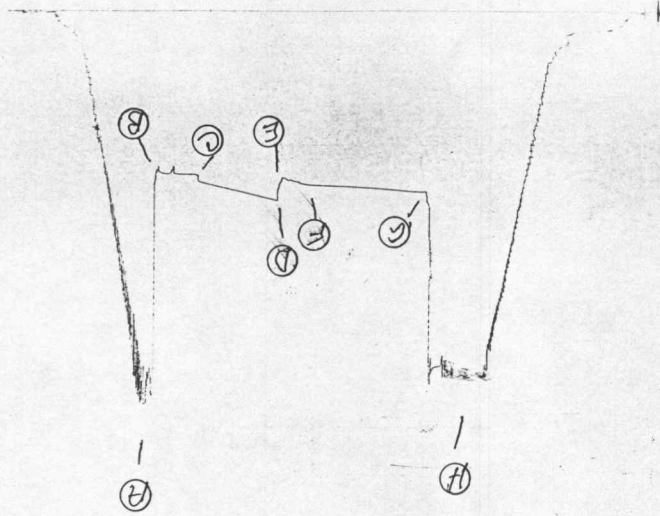


OST #3
13550

OST #3
13401



TK+20136
Below Saddle



OST #3
10270

TK+20136
I

WESTERN TESTING CO., INC.

Pressure Data

Date _____

Test Ticket No. _____

Recorder No. _____ Capacity _____ Location _____ Ft

Clock No. _____ Elevation _____ Well Temperature _____ °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud <u>2014</u>	P.S.I.	Open Tool		M
B First Initial Flow Pressure	P.S.I.	First Flow Pressure	Mins. <u>30</u>	Mins.
C First Final Flow Pressure	P.S.I.	Initial Closed-in Pressure	Mins. <u>60</u>	Mins.
D Initial Closed-in Pressure	P.S.I.	Second Flow Pressure	Mins. <u>15</u>	Mins.
E Second Initial Flow Pressure	P.S.I.	Final Closed-in Pressure	Mins. <u>90</u>	Mins.
F Second Final Flow Pressure	P.S.I.			
G Final Closed-in Pressure	P.S.I.			
H Final Hydrostatic Mud <u>1962</u>	P.S.I.			

PRESSURE BREAKDOWN

First Flow Pressure		Initial Shut-In		Second Flow Pressure		Final Shut-In	
Breakdown: _____ Inc.		Breakdown: _____ Inc.		Breakdown: _____ Inc.		Breakdown: _____ Inc.	
of <u>5</u> mins. and a		of <u>3</u> mins. and a		of <u>5</u> mins. and a		of <u>3</u> mins. and a	
final inc. of <u>0</u> Min.		final inc. of <u>0</u> Min.		final inc. of <u>0</u> Min.		final inc. of <u>0</u> Min.	
Point Mins.	Press.	Point Minutes	Press.	Point Minutes	Press.	Point Minutes	Press.
P 1 0	<u>873 838</u>	0	<u>879</u>	0	<u>883</u>	0	<u>917</u>
P 2 5	<u>873</u>	3	<u>921</u>	5	<u>900</u>	3	<u>927</u>
P 3 10	<u>852</u>	6	<u>927</u>	10	<u>908</u>	6	<u>931</u>
P 4 15	<u>877</u>	9	<u>931</u>	15	<u>917</u>	9	<u>933</u>
P 5 20	<u>877</u>	12	<u>937</u>	20		12	<u>934</u>
P 6 25	<u>878</u>	15	<u>941</u>	25		15	<u>935</u>
P 7 30	<u>879</u>	18	<u>948</u>	30		18	<u>936</u>
P 8 35		21	<u>952</u>	35		21	<u>937</u>
P 9 40		24	<u>957</u>	40		24	<u>938</u>
P10 45		27	<u>962</u>	45		27	<u>939</u>
P11 50		30	<u>966</u>	50		30	<u>940</u>
P12 55		33	<u>970</u>	55		33	<u>941</u>
P13 60		36	<u>977</u>	60		36	<u>942</u>
P14 65		39	<u>983</u>	65		39	<u>943</u>
P15 70		42	<u>989</u>	70		42	<u>944</u>
P16 75		45	<u>993</u>	75		45	<u>945</u>
P17 80		48	<u>1000</u>	80		48	<u>946</u>
P18 85		51	<u>1004</u>	85		51	<u>948</u>
P19 90		54	<u>1008</u>	90		54	<u>950</u>
P20 95		57	<u>1014</u>	95		57	<u>951</u>
100		60	<u>1020</u>	100		60	<u>952</u>

WESTERN TESTING CO., INC.

Pressure Data

Date: _____ Test Ticket No. _____

Recorder No. _____ Capacity _____ Location _____ Ft. _____

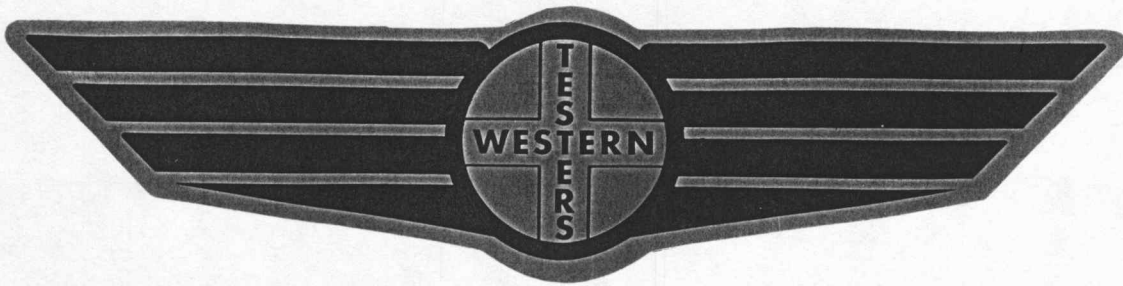
Clock No. _____ Elevation _____ Well Temperature _____ °F _____

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud _____ P.S.I.		Open Tool	_____ M	
B First Initial Flow Pressure _____ P.S.I.		First Flow Pressure	_____ Mins.	_____ Mins.
C First Final Flow Pressure _____ P.S.I.		Initial Closed-in Pressure	_____ Mins.	_____ Mins.
D Initial Closed-in Pressure _____ 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 _____ P.S.I.				

PRESSURE BREAKDOWN

First Flow Pressure		Initial Shut-In		Second Flow Pressure		Final Shut-In	
Breakdown: _____ Inc.		Breakdown: _____ Inc.		Breakdown: _____ Inc.		Breakdown: _____ Inc.	
of _____ mins. and a		of _____ mins. and a		of _____ mins. and a		of _____ mins. and a	
final inc. of _____ Min.		final inc. of _____ Min.		final inc. of _____ Min.		final inc. of _____ Min.	
Point Mins.	Press.	Point Minutes	Press.	Point Minutes	Press.	Point Minutes	Press.
P 1 105		63		105		63	954
P 2 110		66		110		66	956
P 3 115		69		115		69	957
P 4 120		72		120		72	958
P 5 125		75		125		75	960
P 6 130		78		130		78	963
P 7 135		81		135		81	964
P 8 140		84		140		84	966
P 9 145		87		145		87	967
P10 150		90		150		90	968
P11 155		93		155		93	
P12 160		96		160		96	
P13 165		99		165		99	
P14 170		102		170		102	
P15 175		105		175		105	
P16 180		108		180		108	
P17 185		111		185		111	
P18 190		114		190		114	
P19 195		117		195		117	
P20 200		120		200		120	

FORMATION TEST REPORT



Home Office:

Wichita, Kansas 67201

P.O. Box 1599

Phone 1-800-688-7021

DST REPORT

GENERAL INFORMATION

DATE	: 11/30/93	TICKET	: 20136
CUSTOMER	: RAYMOND OIL COMPANY INC.	LEASE	: RUNDELL
WELL	: #4 C	TEST: 3	GEOLOGIST: HELLMAN
ELEVATION	: 1840 KB	FORMATION	: MISSISSIPPI
SECTION	: 32	TOWNSHIP	: 25S
RANGE	: 11W	STATE	: KS
GAUGE SN#	: 10270	CLOCK	: 12
COUNTY	: STAFFORD		
RANGE	: 4150		

WELL INFORMATION

PERFORATION INTERVAL FROM:	3845.00 ft	TO:	3990.00 ft	TVD:	4228.0 ft
DEPTH OF SELECTIVE ZONE:				TEST TYPE:	GAS
DEPTH OF RECORDERS:	3980.0 ft		3983.0 ft		
TEMPERATURE:	118.0				
DRILL COLLAR LENGTH:	120.0 ft	I.D.:	2.200 in		
WEIGHT PIPE LENGTH :	0.0 ft	I.D.:	0.000 in		
DRILL PIPE LENGTH :	3593.0 ft	I.D.:	3.800 in		
TEST TOOL LENGTH :	32.0 ft	TOOL SIZE :	5.500 in		
ANCHOR LENGTH :	245.0 ft	ANCHOR SIZE:	5.500 in		
SURFACE CHOKE SIZE :	0.750 in	BOTTOM CHOKE SIZE:	0.750 in		
MAIN HOLE SIZE :	7.875 in	TOOL JOINT SIZE :	4.5XH		
PACKER DEPTH:	3840.0 ft	SIZE:	6.630 in		
PACKER DEPTH:	3845.0 ft	SIZE:	6.630 in		
PACKER DEPTH:	3990.0 ft	SIZE:	6.630 in		
PACKER DEPTH:	3995.0 ft	SIZE:	6.630 in		

MUD INFORMATION

DRILLING CON. :	DUKE DRLG RIG 2	VISCOSITY :	46.00 cp
MUD TYPE :	CHEMICAL	WATER LOSS:	8.400 cc
WEIGHT :	9.200 ppg	SERIAL NUMBER:	
CHLORIDES :	5000 ppm	REVERSED OUT?:	NO
JARS-MAKE :			
DID WELL FLOW?:	YES		

COMMENTS

Comment

INITIAL FLOW PERIOD STRONG BLOW. GAS TO SURFACE
IN 5 MINUTES. FINAL FLOW PERIOD GAS TO SURFACE.
238 FT OF TAILPIPE

DST REPORT (CONTINUED)

FLUID RECOVERY

Feet of Fluid	% Oil	% Gas	% Water	% Mud	Comments
330.0	0.0	0.0	85.0	15.0	MUDDY WATER
0.0	0.0	0.0	0.0	0.0	CHLORIDES 54000 PPM

RATE INFORMATION

OIL VOLUME:	0.0000	STB	TOTAL FLOW TIME:	45.0000	min.
GAS VOLUME:	0.0000	SCF	AVERAGE OIL RATE:	0.0000	STB/D
MUD VOLUME:	0.5265	STB	AVERAGE WATER RATE:	112.3103	STB/D
WATER VOLUME:	2.9832	STB			
TOTAL FLUID :	3.5097	STB			

FIELD TIME & PRESSURE INFORMATION

INITIAL HYDROSTATIC PRESSURE: 1962.00

Description	Duration	p1	p End
INITIAL FLOW	30.00	852.00	873.00
INITIAL SHUT-IN	60.00		1018.00
FINAL FLOW	15.00	894.00	904.00
FINAL SHUT-IN	90.00		977.00

FINAL HYDROSTATIC PRESSURE: 1910.00

OFFICE TIME & PRESSURE INFORMATION

INITIAL HYDROSTATIC PRESSURE: 2014.00

Description	Duration	p1	p End
INITIAL FLOW	30.00	838.00	879.00
INITIAL SHUT-IN	60.00		1020.00
FINAL FLOW	15.00	883.00	917.00
FINAL SHUT-IN	90.00		968.00

FINAL HYDROSTATIC PRESSURE: 1962.00

GAS FLOW REPORT

GENERAL INFORMATION

DATE : 11/30/93	TICKET : 20136
CUSTOMER : RAYMOND OIL COMPANY INC.	LEASE : RUNDELL
WELL : #4 C TEST: 3	GEOLOGIST: HELLMAN
ELEVATION: 1840 KB	FORMATION: MISSISSIPPI
SECTION : 32	TOWNSHIP : 25S
RANGE : 11W COUNTY: STAFFORD	STATE : KS
GAUGE SN#: 10270 RANGE : 4150	CLOCK : 12

PRE FLOW

Time Guage (min)	Tester Type	Orifice Size	Pressure	Flow Desc.
10 MIN	MERLA	1.500	10 PSIG	1274000 SCF/D
20 MIN	MERLA	1.500	10 PSIG	1274000 SCF/D
30 MIN	MERLA	1.500	10 PSIG	1274000 SCF/D

SECOND FLOW

Time Guage (min)	Tester Type	Orifice Size	Pressure	Flow Desc.
10 MIN	MERLA	1.500	10 PSIG	1274000 SCF/D
15 MIN	MERLA	1.500	35 PSIG	2858000 SCF/D

PRESSURE TRANSIENT REPORT

GENERAL INFORMATION

DATE : 11/30/93	TICKET : 20136
CUSTOMER : RAYMOND OIL COMPANY INC.	LEASE : RUNDELL
WELL : #4 C TEST: 3	GEOLOGIST: HELLMAN
ELEVATION: 1840 KB	FORMATION: MISSISSIPPI
SECTION : 32	TOWNSHIP : 25S
RANGE : 11W COUNTY: STAFFORD	STATE : KS
GAUGE SN#: 10270 RANGE : 4150	CLOCK : 12

INITIAL FLOW

Time (min)	Pressure	Delta P
0.00	838.00	838.00
5.00	873.00	35.00
10.00	852.00	-21.00
15.00	877.00	25.00
20.00	877.00	0.00
25.00	878.00	1.00
30.00	879.00	1.00

INITIAL SHUT IN

Time (min)	Pressure	Delta P	Horner T
3.00	921.00	921.00	11.00
6.00	927.00	6.00	6.00
9.00	931.00	4.00	4.33
12.00	937.00	6.00	3.50
15.00	941.00	4.00	3.00
18.00	948.00	7.00	2.67
21.00	952.00	4.00	2.43
24.00	957.00	5.00	2.25
27.00	962.00	5.00	2.11
30.00	966.00	4.00	2.00
33.00	970.00	4.00	1.91
36.00	977.00	7.00	1.83
39.00	983.00	6.00	1.77
42.00	989.00	6.00	1.71
45.00	993.00	4.00	1.67
48.00	1000.00	7.00	1.63
51.00	1004.00	4.00	1.59
54.00	1008.00	4.00	1.56
57.00	1014.00	6.00	1.53

PRESSURE TRANSIENT REPORT (CONTINUED)

INITIAL SHUT IN (CONTINUED)

<u>Time (min)</u>	<u>Pressure</u>	<u>Delta P</u>	<u>Horner T</u>
60.00	1020.00	6.00	1.50

FINAL FLOW

<u>Time (min)</u>	<u>Pressure</u>	<u>Delta P</u>
0.00	883.00	883.00
5.00	900.00	17.00
10.00	908.00	8.00
15.00	917.00	9.00

FINAL SHUT IN

<u>Time (min)</u>	<u>Pressure</u>	<u>Delta P</u>	<u>Horner T</u>
3.00	927.00	927.00	6.00
6.00	931.00	4.00	3.50
9.00	933.00	2.00	2.67
12.00	934.00	1.00	2.25
15.00	935.00	1.00	2.00
18.00	936.00	1.00	1.83
21.00	937.00	1.00	1.71
24.00	938.00	1.00	1.63
27.00	939.00	1.00	1.56
30.00	940.00	1.00	1.50
33.00	941.00	1.00	1.45
36.00	942.00	1.00	1.42
39.00	943.00	1.00	1.38
42.00	944.00	1.00	1.36
45.00	945.00	1.00	1.33
48.00	946.00	1.00	1.31
51.00	948.00	2.00	1.29
54.00	950.00	2.00	1.28
57.00	951.00	1.00	1.26
60.00	952.00	1.00	1.25
63.00	954.00	2.00	1.24
66.00	956.00	2.00	1.23
69.00	957.00	1.00	1.22
72.00	958.00	1.00	1.21
75.00	960.00	2.00	1.20

PRESSURE TRANSIENT REPORT (CONTINUED)

FINAL SHUT IN (CONTINUED)

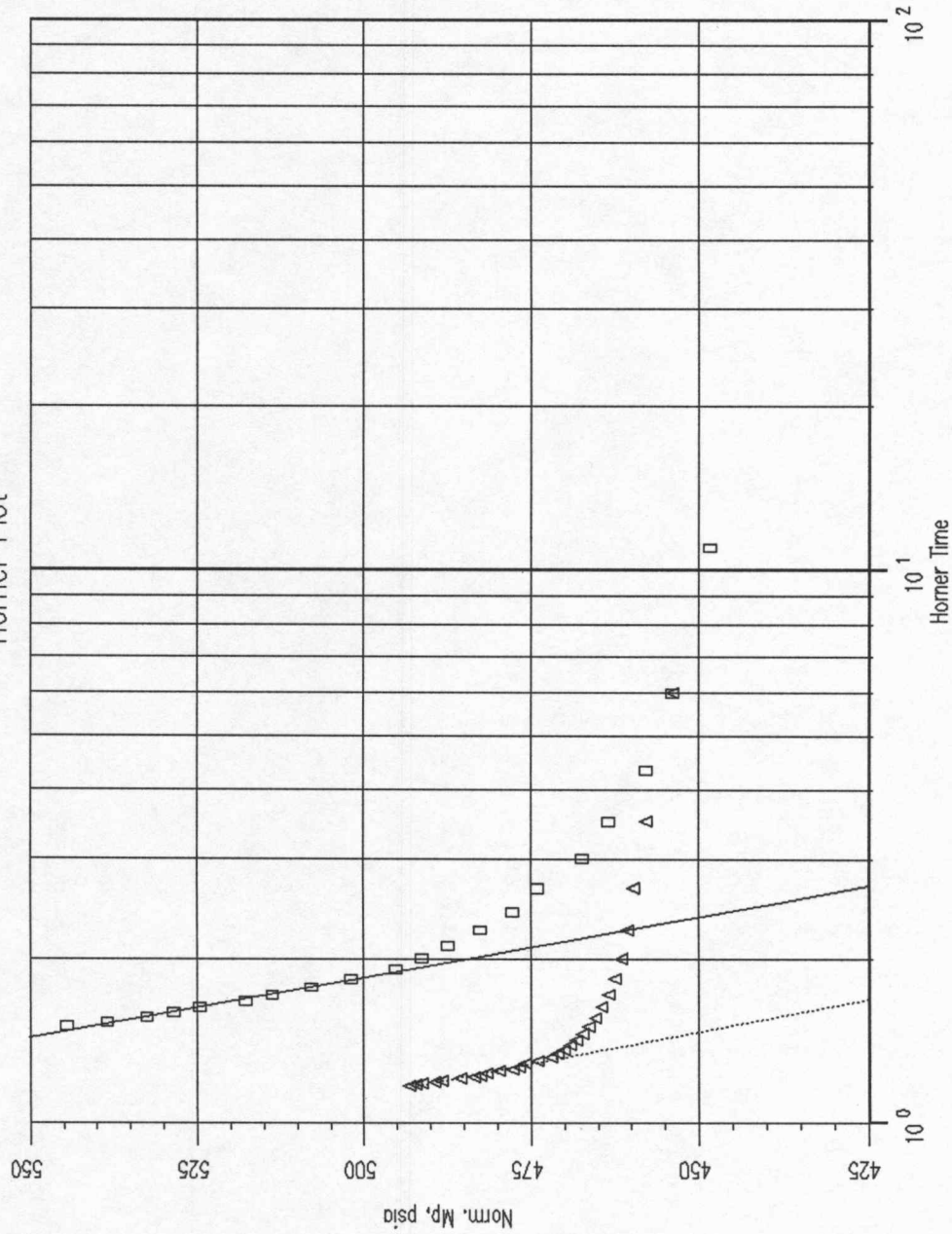
<u>Time (min)</u>	<u>Pressure</u>	<u>Delta P</u>	<u>Horner T</u>
78.00	963.00	3.00	1.19
81.00	964.00	1.00	1.19
84.00	966.00	2.00	1.18
87.00	967.00	1.00	1.17
90.00	968.00	1.00	1.17

DATE 11/30/93
 CUSTOMER RAYMOND OIL COMPANY INC.
 WELL #4 C
 ELEVATION 1840 KB
 SECTION 32
 RANGE 11W
 GAUGE SN# 10270

TEST 3
 COUNTY STAFFORD
 RANGE 4150

TICKET 20136
 LEASE RUNDELL
 GEOLOGIST HELLMAN
 FORMATION MISSISSIPPI
 TOWNSHIP 25S
 STATE KS
 CLOCK 12

Horner Plot



Result

	#1	#2
tp, hrs	0.50	0.25
Slope	-456.40	-420.64
Pstar, psig	1095.67	995.32
P1hr, psig	541.08	479.24
Skin	-3.29	-3.31
k, md	3.58	3.89
kh/u, md-ft/cp	1738.35	1886.12
ri, ft	20.03	14.76
DR, %	0.08	0.02
Drawdown Factor, %	0.051	0.051
Drawdown P*	0.092	0.092

— BUILD 1
 BUILD 2

HORNER ANALYSIS REPORT

GENERAL INFORMATION

DATE : 11/30/93	TICKET : 20136
CUSTOMER : RAYMOND OIL COMPANY INC.	LEASE : RUNDELL
WELL : #4 C TEST: 3	GEOLOGIST: HELLMAN
ELEVATION: 1840 KB	FORMATION: MISSISSIPPI
SECTION : 32	TOWNSHIP : 25S
RANGE : 11W COUNTY: STAFFORD	STATE : KS
GAUGE SN#: 10270 RANGE : 4150	CLOCK : 12

Input Data

Porosity 0.180 Rw: 0.328 ft h: 8.000 ft

qg 2858000.0 STB

Pvt Data

Evalutation Pressure : 1020.0
 Evalutation Temperature: 118.0

Gas Grav 1.20 API
 Bg 0.002 RBL/STB Vis 0.016 cp Ct 1.5862E-003 1/PSI

Horner Results

Inital Shut-In

Final Shut-In

pseudo pressure time	0.50 hrs	0.25 hrs
slope	-456.40	-420.64
pstar	1095.67 psig	995.32 psig
plhr	541.08 psig	479.24 psig
skin	-3.29	-3.31
permeability	3.58 md	3.89 md
transmisability	1738.35 md-ft/cp	1886.12 md-ft/cp
radius of investigation	20.03 ft	14.76 ft
Damage-Ratio	0.08 percent	0.023 percent
Drawdown Factor		0.051 percent
Drawdown P*		0.092 percent