



WESTERN TESTING CO., INC.
FORMATION TESTING

TICKET N^o 19845

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

Elevation 1325' KB Formation Lyston Eff. Pay _____ Ft.

District Augusta Date 7-21-93 Customer Order No. _____

COMPANY NAME Range Oil Co

ADDRESS 125 N Market Suite 1120 Wichita KS 67202

LEASE AND WELL NO. Drummond #1 COUNTY Chautauque STATE KS Sec. 15 Twp. 35 Rge. 8E

Mail Invoice To Same Co. Name #1 Drummond A Address _____ No. Copies Requested 1

Mail Charts To Same Address _____ No. Copies Requested 5

Formation Test No. DS#1 Interval Tested From 1824 ft. to 1841 ft. Total Depth 1841 ft.

Packer Depth 1819 ft. Size 6 3/8 in. Packer Depth _____ ft. Size _____ in.

Packer Depth 1824 ft. Size 6 3/8 in. Packer Depth _____ ft. Size _____ in.

Depth of Selective Zone Set _____

Top Recorder Depth (Inside) 1833 ft. Recorder Number 10979 Cap. 4100

Bottom Recorder Depth (Outside) 1837 ft. Recorder Number 3354 Cap. 4200

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

Drilling Contractor Slack Right Drill Collar Length 300 I. D. 2.25 in.

Mud Type Clay Viscosity 42 Weight Pipe Length _____ I. D. _____ in.

Weight 9.6 Water Loss 12.0 cc. Drill Pipe Length 1504 I. D. 3.8 in.

Chlorides 1300 P.P.M. Test Tool Length 20 ft. Tool Size 5 1/2 in.

Jars: Make _____ Serial Number _____ Anchor Length 17 ft. Size 5100 in.

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

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

Blow: Wash blow 5" into bucket on (LFP) & 3in into bucket on (LFP) Wash blow

Recovered 140 ft. of drilling mud

Recovered 60 ft. of drilling mud

Recovered _____ ft. of _____

Recovered _____ ft. of _____

Recovered _____ ft. of _____

Chlorides 48,000 P.P.M. Sample Jars used 1 Remarks: _____

JUL 26 1993

Time On Location 6:00 A.M. Time Pick Up Tool 7:00 A.M. Time Off Location _____ A.M.

Time Set Packer(s) 8:00 A.M. Time Started Off Bottom 11:00 A.M. Maximum Temperature 99°

Initial Hydrostatic Pressure _____ (A) 935 P.S.I.

Initial Flow Period _____ Minutes 30 (B) 30 P.S.I. to (C) 40 P.S.I.

Initial Closed In Period _____ Minutes 30 (D) 553 P.S.I.

Final Flow Period _____ Minutes 60 (E) 565 P.S.I. to (F) 85 P.S.I.

Final Closed In Period _____ Minutes 60 (G) 565 P.S.I.

Final Hydrostatic Pressure _____ (H) 925 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 _____
Signature of Customer or his authorized representative

Western Representative _____

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 7-21-93

Test Ticket No. 19845

Recorder No. _____ Capacity _____ Location _____ Ft. _____

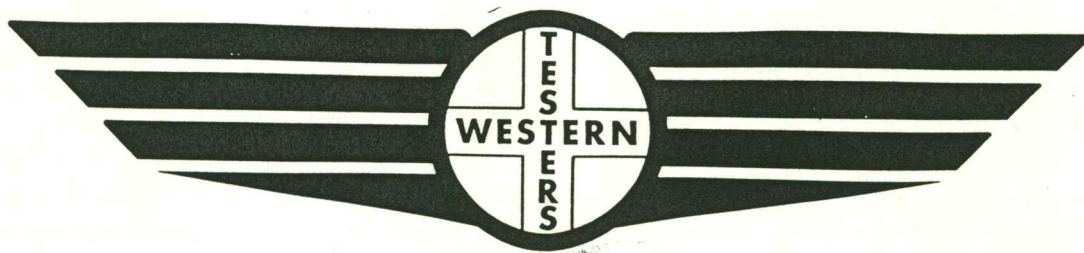
Clock No. _____ Elevation _____ Well Temperature _____ °F

Point	Pressure	Time Given	Time Computed
A Initial Hydrostatic Mud <u>921</u>	P.S.I.	Open Tool	M
B First Initial Flow Pressure	P.S.I.	First Flow Pressure	<u>30</u> Mins. _____ Mins.
C First Final Flow Pressure	P.S.I.	Initial Closed-in Pressure	<u>30</u> Mins. _____ Mins.
D Initial Closed-in Pressure	P.S.I.	Second Flow Pressure	<u>60</u> Mins. _____ Mins.
E Second Initial Flow Pressure	P.S.I.	Final Closed-in Pressure	<u>60</u> Mins. _____ Mins.
F Second Final Flow Pressure	P.S.I.		
G Final Closed-in Pressure	P.S.I.		
H Final Hydrostatic Mud <u>903</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 <u>0</u>	<u>38</u>	<u>0</u>	<u>48</u>	<u>0</u>	<u>67</u>	<u>0</u>	<u>103</u>
P 2 <u>5</u>	<u>38</u>	<u>3</u>	<u>315</u>	<u>5</u>	<u>67</u>	<u>3</u>	<u>284</u>
P 3 <u>10</u>	<u>38</u>	<u>6</u>	<u>424</u>	<u>10</u>	<u>67</u>	<u>6</u>	<u>376</u>
P 4 <u>15</u>	<u>42</u>	<u>9</u>	<u>468</u>	<u>15</u>	<u>67</u>	<u>9</u>	<u>449</u>
P 5 <u>20</u>	<u>44</u>	<u>12</u>	<u>498</u>	<u>20</u>	<u>71</u>	<u>12</u>	<u>472</u>
P 6 <u>25</u>	<u>46</u>	<u>15</u>	<u>518</u>	<u>25</u>	<u>73</u>	<u>15</u>	<u>491</u>
P 7 <u>30</u>	<u>48</u>	<u>18</u>	<u>533</u>	<u>30</u>	<u>75</u>	<u>18</u>	<u>506</u>
P 8 <u>35</u>		<u>21</u>	<u>543</u>	<u>35</u>	<u>82</u>	<u>21</u>	<u>518</u>
P 9 <u>40</u>		<u>24</u>	<u>549</u>	<u>40</u>	<u>87</u>	<u>24</u>	<u>529</u>
P10 <u>45</u>		<u>27</u>	<u>556</u>	<u>45</u>	<u>94</u>	<u>27</u>	<u>533</u>
P11 <u>50</u>		<u>30</u>	<u>564</u>	<u>50</u>	<u>98</u>	<u>30</u>	<u>541</u>
P12 <u>55</u>		<u>33</u>		<u>55</u>	<u>100</u>	<u>33</u>	<u>547</u>
P13 <u>60</u>		<u>36</u>		<u>60</u>	<u>103</u>	<u>36</u>	<u>551</u>
P14 <u>65</u>		<u>39</u>		<u>65</u>		<u>39</u>	<u>553</u>
P15 <u>70</u>		<u>42</u>		<u>70</u>		<u>42</u>	<u>556</u>
P16 <u>75</u>		<u>45</u>		<u>75</u>		<u>45</u>	<u>559</u>
P17 <u>80</u>		<u>48</u>		<u>80</u>		<u>48</u>	<u>561</u>
P18 <u>85</u>		<u>51</u>		<u>85</u>		<u>51</u>	<u>563</u>
P19 <u>90</u>		<u>54</u>		<u>90</u>		<u>54</u>	<u>565</u>
P20 <u>95</u>		<u>57</u>		<u>95</u>		<u>57</u>	<u>567</u>
100		60		100		60	<u>568</u>

FORMATION TEST REPORT



Home Office:

Wichita, Kansas 67201

P.O. Box 1599

Phone 1 - 800-688- 7021

DST REPORT

GENERAL INFORMATION

DATE	: 7/21/93	TICKET	: 19845
CUSTOMER	: RANGE OIL COMPANY, INC.	LEASE	: DRUMMOND A
WELL	: #1	TEST:	1
ELEVATION:	1325 KB	GEOLOGIST:	BLAIR
SECTION	: 15	FORMATION:	LAYTON
RANGE	: 8E	COUNTY:	CHAUTAUQUA
Gauge SN#:	10979	STATE	: KS
		RANGE	: 4100
		CLOCK	: 12

WELL INFORMATION

PERFORATION INTERVAL FROM:	1824.00 ft	TO:	1841.00 ft	TVD:	1841.0 ft
DEPTH OF SELECTIVE ZONE:				TEST TYPE:	OIL
DEPTH OF RECORDERS:	1833.0 ft		1837.0 ft		
TEMPERATURE:	99.0				
DRILL COLLAR LENGTH:	300.0 ft	I.D.:		2.250 in	
WEIGHT PIPE LENGTH :	0.0 ft	I.D.:		0.000 in	
DRILL PIPE LENGTH :	1504.0 ft	I.D.:		3.800 in	
TEST TOOL LENGTH :	20.0 ft	TOOL SIZE :		5.500 in	
ANCHOR LENGTH :	17.0 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 :		4.5FH	
PACKER DEPTH:	1819.0 ft	SIZE:		6.630 in	
PACKER DEPTH:	1824.0 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. :	GLAVES RIG 1	VISCOSITY :	42.00 cp
MUD TYPE :	CHEMICAL	WATER LOSS:	12.000 cc
WEIGHT :	9.600 ppg	SERIAL NUMBER:	
CHLORIDES :	1300 ppm	REVERSED OUT?:	NO
JARS-MAKE :			
DID WELL FLOW?:	NO		

COMMENTS

Comment

INITIAL FLOW PERIOD WEAK BLOW - 5 INCHES INTO
BUCKET. FINAL FLOW PERIOD WEAK BLOW - 3 INCHES
INTO BUCKET.

DST REPORT (CONTINUED)

FLUID RECOVERY

Feet of Fluid	% Oil	% Gas	% Water	% Mud	Comments
140.0	0.0	0.0	0.0	100.0	DRILLING MUD
60.0	0.0	0.0	100.0	0.0	SALTWATER
0.0	0.0	0.0	0.0	0.0	CHLORIDES 48000 PPM

RATE INFORMATION

OIL VOLUME:	0.0000 STB	
GAS VOLUME:	0.0000 SCF	
MUD VOLUME:	0.6884 STB	
WATER VOLUME:	0.2950 STB	
TOTAL FLUID :	0.9835 STB	
		TOTAL FLOW TIME: 90.0000 min.
		AVERAGE OIL RATE: 0.0000 STB/D
		AVERAGE WATER RATE: 4.7208 STB/D

FIELD TIME & PRESSURE INFORMATION

INITIAL HYDROSTATIC PRESSURE: 935.00

Description	Duration	p1	p End
INITIAL FLOW	30.00	30.00	40.00
INITIAL SHUT-IN	30.00		553.00
FINAL FLOW	60.00	65.00	85.00
FINAL SHUT-IN	60.00		565.00

FINAL HYDROSTATIC PRESSURE: 925.00

OFFICE TIME & PRESSURE INFORMATION

INITIAL HYDROSTATIC PRESSURE: 921.00

Description	Duration	p1	p End
INITIAL FLOW	30.00	38.00	48.00
INITIAL SHUT-IN	30.00		564.00
FINAL FLOW	60.00	67.00	103.00
FINAL SHUT-IN	60.00		568.00

FINAL HYDROSTATIC PRESSURE: 903.00

PRESSURE TRANSIENT REPORT

GENERAL INFORMATION

DATE : 7/21/93	TICKET : 19845
CUSTOMER : RANGE OIL COMPANY, INC.	LEASE : DRUMMOND A
WELL : #1	GEOLOGIST: BLAIR
ELEVATION: 1325 KB	FORMATION: LAYTON
SECTION : 15	TOWNSHIP : 35S
RANGE : 8EE	STATE : KS
Gauge SN#: 10979	CLOCK : 12
COUNTY: CHAUTAUQUA	
RANGE : 4100	

INITIAL FLOW

Time (min)	Pressure	Delta P
0.00	38.00	38.00
5.00	38.00	0.00
10.00	38.00	0.00
15.00	42.00	4.00
20.00	44.00	2.00
25.00	46.00	2.00
30.00	48.00	2.00

INITIAL SHUT IN

Time (min)	Pressure	Delta P	Horner T
3.00	315.00	315.00	0.00
6.00	424.00	109.00	0.00
9.00	468.00	44.00	0.00
12.00	498.00	30.00	0.00
15.00	518.00	20.00	0.00
18.00	533.00	15.00	0.00
21.00	543.00	10.00	0.00
24.00	549.00	6.00	0.00
27.00	556.00	7.00	0.00
30.00	564.00	8.00	0.00

FINAL FLOW

Time (min)	Pressure	Delta P
0.00	67.00	67.00

PRESSURE TRANSIENT REPORT (CONTINUED)

FINAL FLOW (CONTINUED)

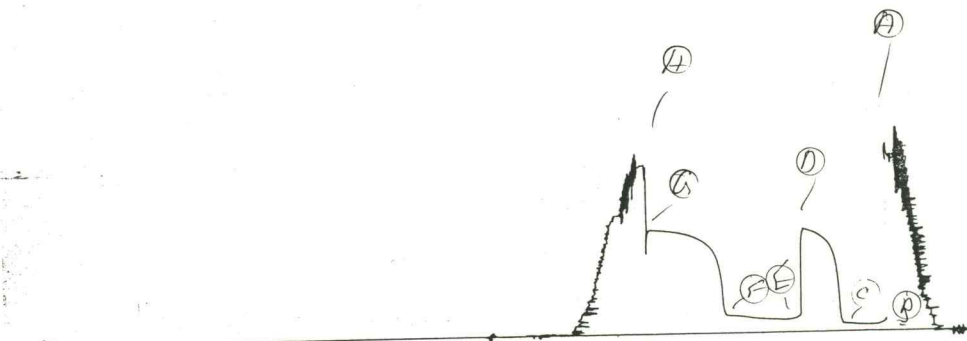
Time (min)	Pressure	Delta P
5.00	67.00	0.00
10.00	67.00	0.00
15.00	67.00	0.00
20.00	71.00	4.00
25.00	73.00	2.00
30.00	75.00	2.00
35.00	82.00	7.00
40.00	87.00	5.00
45.00	94.00	7.00
50.00	98.00	4.00
55.00	100.00	2.00
60.00	103.00	3.00

FINAL SHUT IN

Time (min)	Pressure	Delta P	Horner T
3.00	284.00	284.00	0.00
6.00	376.00	92.00	0.00
9.00	449.00	73.00	0.00
12.00	472.00	23.00	0.00
15.00	491.00	19.00	0.00
18.00	506.00	15.00	0.00
21.00	518.00	12.00	0.00
24.00	529.00	11.00	0.00
27.00	533.00	4.00	0.00
30.00	541.00	8.00	0.00
33.00	547.00	6.00	0.00
36.00	551.00	4.00	0.00
39.00	553.00	2.00	0.00
42.00	556.00	3.00	0.00
45.00	559.00	3.00	0.00
48.00	561.00	2.00	0.00
51.00	563.00	2.00	0.00
54.00	565.00	2.00	0.00
57.00	567.00	2.00	0.00
60.00	568.00	1.00	0.00

10999

KT 19845

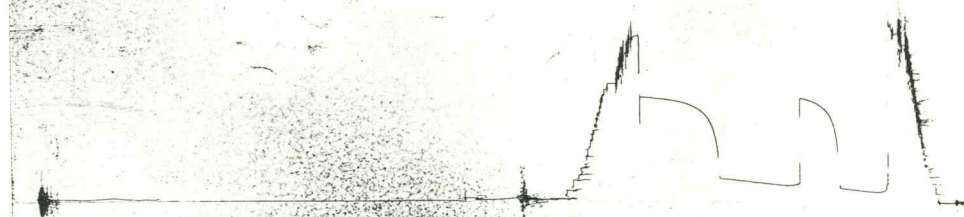


Inside Recorder

3354

KT 19845

O



Outside Recorder



WESTERN TESTING CO., INC.

FORMATION TESTING

TICKET N° 19846

P. O. BOX 1599 PHONE (316) 262-5861
WICHITA, KANSAS 67201Elevation 13254B Formation Miss Eff. Pay _____ Ft.District Augusta Date 7-24-93 Customer Order No. _____COMPANY NAME Range Oil CoADDRESS 125 N Market Suite 1120 Wichita KS 67202LEASE AND WELL NO. Drummond #1 "H" COUNTY Chautauque STATE KS Sec. 15 Twp. 35 Rge. 8EMail Invoice To Same No. Copies Requested 1Co. Name Drummond #1 Address AMail Charts To Same #1 No. Copies Requested 5

Address _____

Formation Test No. DST #2 Interval Tested From 2723 ft. to 2738 ft. Total Depth 2738 ft.Packer Depth 2718 ft. Size 6 5/8 in. Packer Depth _____ ft. Size _____ in.Packer Depth 2723 ft. Size 6 5/8 in. Packer Depth _____ ft. Size _____ in.

Depth of Selective Zone Set _____

Top Recorder Depth (Inside) 2732 ft. Recorder Number 10999 Cap. 4100Bottom Recorder Depth (Outside) 2735 ft. Recorder Number 3354 Cap. 4200

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

Drilling Contractor Glenn Rig 1 Drill Collar Length 360 I. D. 2.25 in.Mud Type Chem Viscosity 45 Weight Pipe Length _____ I. D. _____ in.Weight 9.6 Water Loss 10.8 cc. Drill Pipe Length 2542 I. D. 3.8 in.Chlorides 900 P.P.M. Test Tool Length 20 ft. Tool Size 5/1600 in.Jars: Make _____ Serial Number _____ Anchor Length 15 ft. Size 5/1600 in.Did Well Flow? _____ Reversed Out _____ Surface Choke Size 3/4 in. Bottom Choke Size 3/4 in.Main Hole Size 7/8 in. Tool Joint Size 4 1/2 RH in.Blow: Went to very strong blow on (FFP) bottom of bucket in 7 min. Went to strong blow on (FFP) 12 in into bucketRecovered 410 ft. of 90% gas in pipeRecovered 40 ft. of oil cut mud 5% gas 15% oil 80% mud

Recovered _____ ft. of _____

Recovered _____ ft. of _____

Recovered _____ ft. of _____

Chlorides _____ P.P.M. Sample Jars used _____ Remarks: _____

JUL 26 1993

Time On Location 5:00 A.M. Time Pick Up Tool 10:00 A.M. Time Off Location _____ A.M.Time Set Packer(s) 11:00 P.M. Time Started Off Bottom 2:00 P.M. Maximum Temperature 10 Temp brokenInitial Hydrostatic Pressure _____ (A) 1350 P.S.I.Initial Flow Period _____ Minutes 30 (B) 20 P.S.I. to (C) 20 P.S.I.Initial Closed In Period _____ Minutes 30 (D) 75 P.S.I.Final Flow Period _____ Minutes 60 (E) 20 P.S.I. to (F) 20 P.S.I.Final Closed In Period _____ Minutes 60 (G) 125 P.S.I.Final Hydrostatic Pressure _____ (H) 1340 P.S.I.

FIELD INVOICE

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 _____

Signature of Customer or his authorized representative

Western Representative Jeffrey A. Pittman

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 7-24-93

Test Ticket No. 19846

Recorder No. _____ Capacity _____ Location _____ Ft.

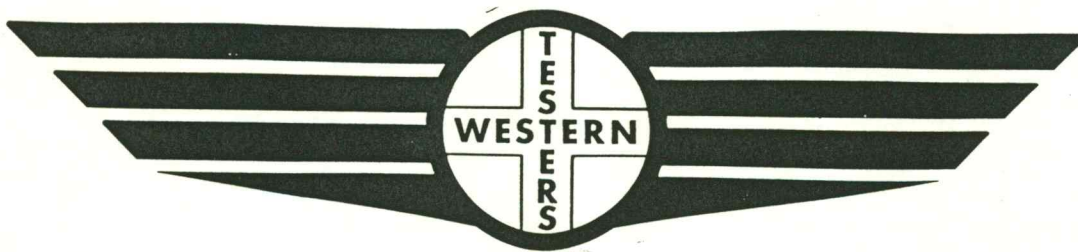
Clock No. _____ Elevation _____ Well Temperature _____ °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud <u>1341</u>	P.S.I.	Open Tool	M	
B First Initial Flow Pressure	P.S.I.	First Flow Pressure	<u>30</u> Mins.	Mins.
C First Final Flow Pressure	P.S.I.	Initial Closed-in Pressure	<u>30</u> Mins.	Mins.
D Initial Closed-in Pressure	P.S.I.	Second Flow Pressure	<u>60</u> Mins.	Mins.
E Second Initial Flow Pressure	P.S.I.	Final Closed-in Pressure	<u>60</u> Mins.	Mins.
F Second Final Flow Pressure	P.S.I.			
G Final Closed-in Pressure	P.S.I.			
H Final Hydrostatic Mud <u>1327</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 <u>0</u>	<u>35</u>	<u>0</u>	<u>25</u>	<u>0</u>	<u>40</u>	<u>0</u>	<u>32</u>
P 2 <u>5</u>	<u>29</u>	<u>3</u>	<u>26</u>	<u>5</u>	<u>36</u>	<u>3</u>	<u>32</u>
P 3 <u>10</u>	<u>25</u>	<u>6</u>	<u>27</u>	<u>10</u>	<u>32</u>	<u>6</u>	<u>32</u>
P 4 <u>15</u>	<u>25</u>	<u>9</u>	<u>29</u>	<u>15</u>		<u>9</u>	<u>33</u>
P 5 <u>20</u>	<u>25</u>	<u>12</u>	<u>36</u>	<u>20</u>		<u>12</u>	<u>38</u>
P 6 <u>25</u>	<u>25</u>	<u>15</u>	<u>46</u>	<u>25</u>		<u>15</u>	<u>46</u>
P 7 <u>30</u>	<u>25</u>	<u>18</u>	<u>54</u>	<u>30</u>		<u>18</u>	<u>52</u>
P 8 <u>35</u>		<u>21</u>	<u>62</u>	<u>35</u>		<u>21</u>	<u>58</u>
P 9 <u>40</u>		<u>24</u>	<u>69</u>	<u>40</u>		<u>24</u>	<u>62</u>
P10 <u>45</u>		<u>27</u>	<u>77</u>	<u>45</u>		<u>27</u>	<u>66</u>
P11 <u>50</u>		<u>30</u>	<u>81</u>	<u>50</u>		<u>30</u>	<u>71</u>
P12 <u>55</u>		<u>33</u>		<u>55</u>		<u>33</u>	<u>75</u>
P13 <u>60</u>		<u>36</u>		<u>60</u>	<u>32</u>	<u>36</u>	<u>82</u>
P14 <u>65</u>		<u>39</u>		<u>65</u>		<u>39</u>	<u>85</u>
P15 <u>70</u>		<u>42</u>		<u>70</u>		<u>42</u>	<u>94</u>
P16 <u>75</u>		<u>45</u>		<u>75</u>		<u>45</u>	<u>100</u>
P17 <u>80</u>		<u>48</u>		<u>80</u>		<u>48</u>	<u>104</u>
P18 <u>85</u>		<u>51</u>		<u>85</u>		<u>51</u>	<u>112</u>
P19 <u>90</u>		<u>54</u>		<u>90</u>		<u>54</u>	<u>119</u>
P20 <u>95</u>		<u>57</u>		<u>95</u>		<u>57</u>	<u>125</u>
<u>100</u>		<u>60</u>		<u>100</u>		<u>60</u>	<u>133</u>

FORMATION TEST REPORT



Home Office:

Wichita, Kansas 67201

P.O. Box 1599

Phone 1 - 800-688-7021

DST REPORT

GENERAL INFORMATION

DATE	: 7/24/93	TICKET	: 19846
CUSTOMER	: RANGE OIL COMPANY, INC.	LEASE	: DRUMMOND A
WELL	: #1	TEST:	2
ELEVATION	: 1325 KB	GEOLOGIST	: BLAIR
SECTION	: 15	FORMATION	: MISSISSIPPI
RANGE	: 8E	TOWNSHIP	: 35S
Gauge SN#	: 10979	STATE	: KS
COUNTY	: CHAUTAUQUA	CLOCK	: 12
RANGE	: 4100		

WELL INFORMATION

PERFORATION INTERVAL FROM:	2723.00 ft	TO:	2738.00 ft	TVD:	2738.0 ft
DEPTH OF SELECTIVE ZONE:				TEST TYPE:	OIL
DEPTH OF RECORDERS:	2732.0 ft		2735.0 ft		
TEMPERATURE:	0.0				
DRILL COLLAR LENGTH:	360.0 ft	I.D.:		2.250 in	
WEIGHT PIPE LENGTH :	0.0 ft	I.D.:		0.000 in	
DRILL PIPE LENGTH :	2343.0 ft	I.D.:		3.800 in	
TEST TOOL LENGTH :	20.0 ft	TOOL SIZE :		5.500 in	
ANCHOR LENGTH :	15.0 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 :		4.5FH	
PACKER DEPTH:	2718.0 ft	SIZE:		6.630 in	
PACKER DEPTH:	2723.0 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. :	GLAVES RIG 1	VISCOSITY :	45.00 cp
MUD TYPE :	CHEMICAL	WATER LOSS:	10.800 cc
WEIGHT :	9.600 ppg	SERIAL NUMBER:	
CHLORIDES :	900 ppm	REVERSED OUT?:	NO
JARS-MAKE :			
DID WELL FLOW?:	NO		

COMMENTS

Comment

INITIAL FLOW PERIOD WEAK TO VERY STRONG BLOW -
BOTTOM OF BUCKET IN 7 MINUTES. FINAL FLOW PERIOD
WEAK TO STRONG BLOW - 12 INCHES INTO BUCKET.

DST REPORT (CONTINUED)

FLUID RECOVERY

Feet of Fluid	% Oil	% Gas	% Water	% Mud	Comments
0.0	0.0	0.0	0.0	0.0	420 FT GAS ABOVE FLUID
40.0	15.0	5.0	0.0	80.0	OIL CUT MUD

RATE INFORMATION

OIL VOLUME:	0.0295	STB	TOTAL FLOW TIME:	90.0000	min.
GAS VOLUME:	0.0552	SCF	AVERAGE OIL RATE:	2.9898	STB/D
MUD VOLUME:	0.1574	STB	AVERAGE WATER RATE:	0.0000	STB/D
WATER VOLUME:	0.0000	STB			
TOTAL FLUID :	0.1869	STB			

FIELD TIME & PRESSURE INFORMATION

INITIAL HYDROSTATIC PRESSURE: 1350.00

Description	Duration	p1	p End
INITIAL FLOW	30.00	20.00	20.00
INITIAL SHUT-IN	30.00		75.00
FINAL FLOW	60.00	20.00	20.00
FINAL SHUT-IN	60.00		125.00

FINAL HYDROSTATIC PRESSURE: 1340.00

OFFICE TIME & PRESSURE INFORMATION

INITIAL HYDROSTATIC PRESSURE: 1341.00

Description	Duration	p1	p End
INITIAL FLOW	30.00	35.00	25.00
INITIAL SHUT-IN	30.00		81.00
FINAL FLOW	60.00	40.00	32.00
FINAL SHUT-IN	60.00		133.00

FINAL HYDROSTATIC PRESSURE: 1327.00

PRESSURE TRANSIENT REPORT

GENERAL INFORMATION

DATE : 7/24/93	TICKET : 19846
CUSTOMER : RANGE OIL COMPANY, INC.	LEASE : DRUMMOND A
WELL : #1 TEST: 2	GEOLOGIST: BLAIR
ELEVATION: 1325 KB	FORMATION: MISSISSIPPI
SECTION : 15	TOWNSHIP : 35S
RANGE : 8E COUNTY: CHAUTAUQUA	STATE : KS
GAUGE SN#: 10979 RANGE : 4100	CLOCK : 12

INITIAL FLOW

Time (min)	Pressure	Delta P
0.00	35.00	35.00
5.00	29.00	-6.00
10.00	25.00	-4.00
15.00	25.00	0.00
20.00	25.00	0.00
25.00	25.00	0.00
30.00	25.00	0.00

INITIAL SHUT IN

Time (min)	Pressure	Delta P	Horner T
3.00	26.00	26.00	0.00
6.00	27.00	1.00	0.00
9.00	29.00	2.00	0.00
12.00	36.00	7.00	0.00
15.00	46.00	10.00	0.00
18.00	54.00	8.00	0.00
21.00	62.00	8.00	0.00
24.00	69.00	7.00	0.00
27.00	77.00	8.00	0.00
30.00	81.00	4.00	0.00

FINAL FLOW

Time (min)	Pressure	Delta P
0.00	40.00	40.00

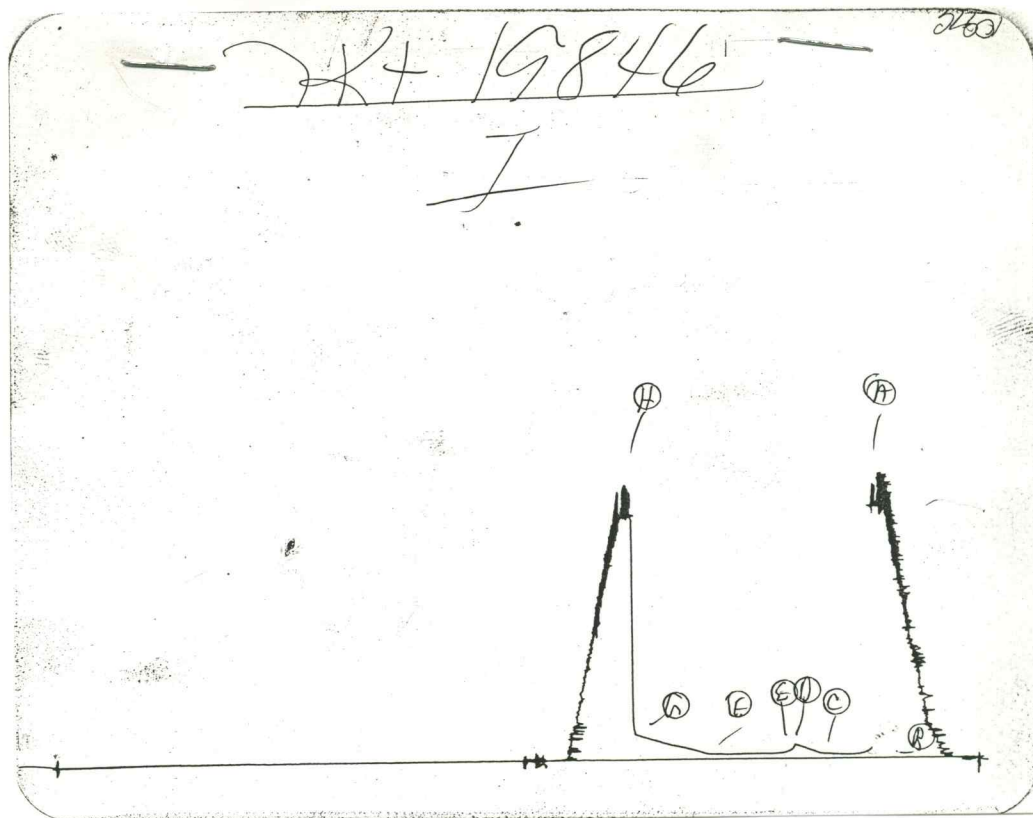
PRESSURE TRANSIENT REPORT (CONTINUED)

FINAL FLOW (CONTINUED)

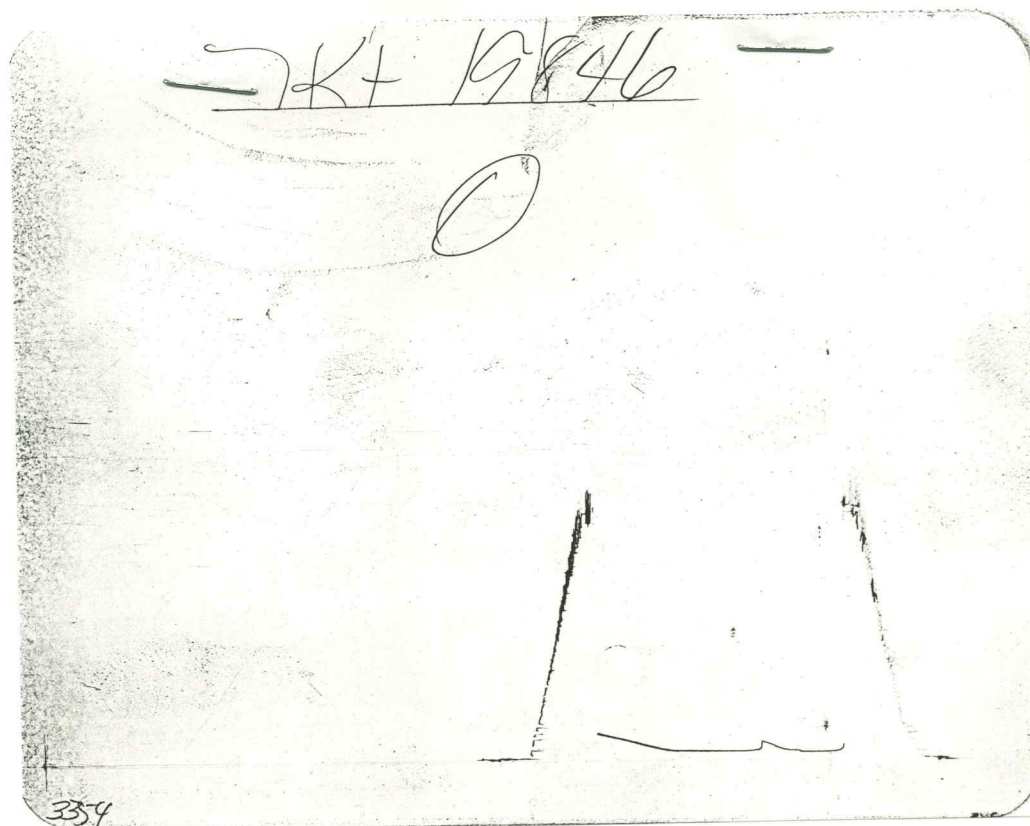
Time (min)	Pressure	Delta P
5.00	36.00	-4.00
10.00	32.00	-4.00
15.00	32.00	0.00
20.00	32.00	0.00
25.00	32.00	0.00
30.00	32.00	0.00
35.00	32.00	0.00
40.00	32.00	0.00
45.00	32.00	0.00
50.00	32.00	0.00
55.00	32.00	0.00
60.00	32.00	0.00

FINAL SHUT IN

Time (min)	Pressure	Delta P	Horner T
3.00	32.00	32.00	0.00
6.00	32.00	0.00	0.00
9.00	33.00	1.00	0.00
12.00	38.00	5.00	0.00
15.00	46.00	8.00	0.00
18.00	52.00	6.00	0.00
21.00	56.00	4.00	0.00
24.00	62.00	6.00	0.00
27.00	66.00	4.00	0.00
30.00	71.00	5.00	0.00
33.00	75.00	4.00	0.00
36.00	82.00	7.00	0.00
39.00	85.00	3.00	0.00
42.00	94.00	9.00	0.00
45.00	100.00	6.00	0.00
48.00	104.00	4.00	0.00
51.00	112.00	8.00	0.00
54.00	119.00	7.00	0.00
57.00	125.00	6.00	0.00
60.00	133.00	8.00	0.00



Inside Recorder



Outside Recorder



WESTERN TESTING CO., INC.
FORMATION TESTING

TICKET N° 19847

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

Elevation 1325 KB Formation Miss Eff. Pay _____ Ft.

District Augusta Date 7-25-93 Customer Order No. _____

COMPANY NAME Ranger Oil Co.

ADDRESS 125 N Market Suite 1120 Wichita KS 67202

LEASE AND WELL NO. Drummond 114" #1 COUNTY Chautauque STATE KS Sec. 15 Twp. 35 Rge. 8E

Mail Invoice To Same No. Copies Requested 1

Co. Name #1 Drummond A Address _____ No. Copies Requested 5

Mail Charts To Same Address _____

Formation Test No. 457#3 Interval Tested From 2738 ft. to 2768 ft. Total Depth 2768 ft.

Packer Depth 2733 ft. Size 658 in. Packer Depth _____ ft. Size _____ in.

Packer Depth 2738 ft. Size 693 in. Packer Depth _____ ft. Size _____ in.

Depth of Selective Zone Set _____

Top Recorder Depth (Inside) 2762 ft. Recorder Number 10979 Cap. 5100

Bottom Recorder Depth (Outside) 2765 ft. Recorder Number 3354 Cap. 4200

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

Drilling Contractor Glaves R & T Drill Collar Length 360 I. D. 225 in.

Mud Type Chem Viscosity 45 Weight Pipe Length _____ I. D. _____ in.

Weight 9.2 Water Loss 10.8 cc. Drill Pipe Length 2358 I. D. 28 in.

Chlorides 900 P.P.M. Test Tool Length 20 ft. Tool Size 51200 in.

Jars: Make _____ Serial Number _____ Anchor Length 30 ft. Size 5600 in.

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

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

Blow: Weak blow then cut test

Recovered 140 ft. of drilling mud

Recovered 120 ft. of salt water

Recovered _____ ft. of _____

Recovered _____ ft. of _____

Recovered _____ ft. of _____

Chlorides 107,000 P.P.M. Sample Jars used _____ Remarks: _____

JUL 26 1993

Time On Location Stand-by A.M. Time Pick Up Tool 10:00 A.M. Time Off Location _____ A.M.

Time Set Packer(s) 11:00 A.M. Time Started Off Bottom 2:00 A.M. Maximum Temperature 1150F P.M.

Initial Hydrostatic Pressure _____ (A) 1340 P.S.I.

Initial Flow Period _____ Minutes 30 (B) 40 P.S.I. to (C) 65 P.S.I.

Initial Closed In Period _____ Minutes 30 (D) 865 P.S.I.

Final Flow Period _____ Minutes 60 (E) 95 P.S.I. to (F) 155 P.S.I.

Final Closed In Period _____ Minutes 60 (G) 875 P.S.I.

Final Hydrostatic Pressure _____ (H) 1330 P.S.I. 10979

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 _____ Signature of Customer or his authorized representative

Western Representative Jeffrey A. Patten

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 7-25-93

Test Ticket No. 19847

Recorder No. _____ Capacity _____ Location _____ Ft.

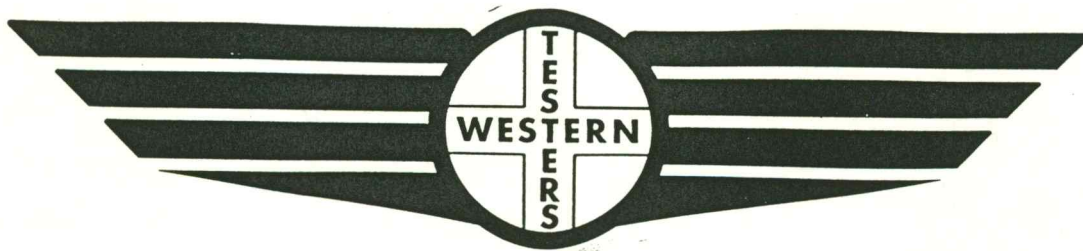
Clock No. _____ Elevation _____ Well Temperature _____ °F

Point	Pressure	Time Given	Time Computed
A Initial Hydrostatic Mud <u>1331</u>	P.S.I.		M
B First Initial Flow Pressure _____	P.S.I.	First Flow Pressure <u>30</u> Mins.	Mins.
C First Final Flow Pressure _____	P.S.I.	Initial Closed-in Pressure <u>30</u> Mins.	Mins.
D Initial Closed-in Pressure _____	P.S.I.	Second Flow Pressure <u>60</u> Mins.	Mins.
E Second Initial Flow Pressure _____	P.S.I.	Final Closed-in Pressure <u>60</u> Mins.	Mins.
F Second Final Flow Pressure _____	P.S.I.		
G Final Closed-in Pressure _____	P.S.I.		
H Final Hydrostatic Mud <u>1322</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>42</u>	0	<u>67</u>	0	<u>100</u>	0	<u>130</u>
P 2 5	<u>42</u>	3	<u>211</u>	5	<u>100</u>	3	<u>248</u>
P 3 10	<u>44</u>	6	<u>483</u>	10	<u>100</u>	6	<u>428</u>
P 4 15	<u>48</u>	9	<u>634</u>	15	<u>104</u>	9	<u>580</u>
P 5 20	<u>54</u>	12	<u>721</u>	20	<u>106</u>	12	<u>661</u>
P 6 25	<u>61</u>	15	<u>775</u>	25	<u>110</u>	15	<u>718</u>
P 7 30	<u>67</u>	18	<u>809</u>	30	<u>117</u>	18	<u>753</u>
P 8 35		21	<u>829</u>	35	<u>123</u>	21	<u>775</u>
P 9 40		24	<u>846</u>	40	<u>129</u>	24	<u>794</u>
P10 45		27	<u>858</u>	45	<u>135</u>	27	<u>811</u>
P11 50		30	<u>869</u>	50	<u>140</u>	30	<u>823</u>
P12 55		33		55	<u>146</u>	33	<u>834</u>
P13 60		36		60	<u>150</u>	36	<u>840</u>
P14 65		39		65		39	<u>848</u>
P15 70		42		70		42	<u>856</u>
P16 75		45		75		45	<u>863</u>
P17 80		48		80		48	<u>869</u>
P18 85		51		85		51	<u>873</u>
P19 90		54		90		54	<u>876</u>
P20 95		57		95		57	<u>879</u>
100		60		100		60	<u>884</u>

FORMATION TEST REPORT



Home Office:

Wichita, Kansas 67201

P.O. Box 1599

Phone 1 - 800-688-7021

DST REPORT

GENERAL INFORMATION

DATE	: 7/25/93	TICKET	: 19847
CUSTOMER	: RANGE OIL COMPANY, INC.	LEASE	: DRUMMOND A
WELL	: #1	TEST:	3
ELEVATION:	1325 KB	GEOLOGIST:	BLAIR
SECTION	: 15	FORMATION:	MISSISSIPPI
RANGE	: 8E	TOWNSHIP	: 35S
GAUGE SN#:	10979	STATE	: KS
		CLOCK	: 12
	COUNTY: CHAUTAUQUA		
	RANGE : 4100		

WELL INFORMATION

PERFORATION INTERVAL FROM:	2738.00 ft	TO:	2768.00 ft	TVD:	2768.0 ft
DEPTH OF SELECTIVE ZONE:				TEST TYPE:	OIL
DEPTH OF RECORDERS:	2762.0 ft		2765.0 ft		
TEMPERATURE:	115.0				
DRILL COLLAR LENGTH:	360.0 ft	I.D.:		2.250 in	
WEIGHT PIPE LENGTH :	0.0 ft	I.D.:		0.000 in	
DRILL PIPE LENGTH :	2358.0 ft	I.D.:		3.800 in	
TEST TOOL LENGTH :	20.0 ft	TOOL SIZE :		5.500 in	
ANCHOR LENGTH :	30.0 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 :		4.5FH	
PACKER DEPTH:	2733.0 ft	SIZE:		6.630 in	
PACKER DEPTH:	2738.0 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. :	GLAVES RIG 1	VISCOSITY :	45.00 cp
MUD TYPE :	CHEMICAL	WATER LOSS:	10.800 cc
WEIGHT :	9.200 ppg	SERIAL NUMBER:	
CHLORIDES :	900 ppm	REVERSED OUT?:	NO
JARS-MAKE :			
DID WELL FLOW?:	NO		

COMMENTS

Comment

WEAK BLOW THROUGHOUT TEST.

DST REPORT (CONTINUED)

FLUID RECOVERY

Feet of Fluid	% Oil	% Gas	% Water	% Mud	Comments
140.0	0.0	0.0	0.0	100.0	DRILLING MUD
120.0	0.0	0.0	100.0	0.0	SALTWATER
0.0	0.0	0.0	0.0	0.0	CHLORIDES 107000 PPM

RATE INFORMATION

OIL VOLUME:	0.0000	STB	TOTAL FLOW TIME:	90.0000	min.
GAS VOLUME:	0.0000	SCF	AVERAGE OIL RATE:	0.0000	STB/D
MUD VOLUME:	0.6884	STB	AVERAGE WATER RATE:	9.4416	STB/D
WATER VOLUME:	0.5901	STB			
TOTAL FLUID :	1.2785	STB			

FIELD TIME & PRESSURE INFORMATION

INITIAL HYDROSTATIC PRESSURE: 1340.00

Description	Duration	p1	p End
INITIAL FLOW	30.00	40.00	65.00
INITIAL SHUT-IN	30.00		865.00
FINAL FLOW	60.00	95.00	155.00
FINAL SHUT-IN	60.00		875.00

FINAL HYDROSTATIC PRESSURE: 1330.00

OFFICE TIME & PRESSURE INFORMATION

INITIAL HYDROSTATIC PRESSURE: 1331.00

Description	Duration	p1	p End
INITIAL FLOW	30.00	42.00	67.00
INITIAL SHUT-IN	30.00		869.00
FINAL FLOW	60.00	100.00	150.00
FINAL SHUT-IN	60.00		884.00

FINAL HYDROSTATIC PRESSURE: 1322.00

PRESSURE TRANSIENT REPORT

GENERAL INFORMATION

DATE : 7/25/93	TICKET : 19847
CUSTOMER : RANGE OIL COMPANY, INC.	LEASE : DRUMMOND A
WELL : #1 TEST: 3	GEOLOGIST: BLAIR
ELEVATION: 1325 KB	FORMATION: MISSISSIPPI
SECTION : 15	TOWNSHIP : 35S
RANGE : 8E COUNTY: CHAUTAUQUA	STATE : KS
GAUGE SN#: 10979 RANGE : 4100	CLOCK : 12

INITIAL FLOW

Time (min)	Pressure	Delta P
0.00	42.00	42.00
5.00	42.00	0.00
10.00	44.00	2.00
15.00	48.00	4.00
20.00	54.00	6.00
25.00	61.00	7.00
30.00	67.00	6.00

INITIAL SHUT IN

Time (min)	Pressure	Delta P	Horner T
3.00	211.00	211.00	0.00
6.00	483.00	272.00	0.00
9.00	634.00	151.00	0.00
12.00	721.00	87.00	0.00
15.00	775.00	54.00	0.00
18.00	809.00	34.00	0.00
21.00	829.00	20.00	0.00
24.00	846.00	17.00	0.00
27.00	858.00	12.00	0.00
30.00	869.00	11.00	0.00

FINAL FLOW

Time (min)	Pressure	Delta P
0.00	100.00	100.00

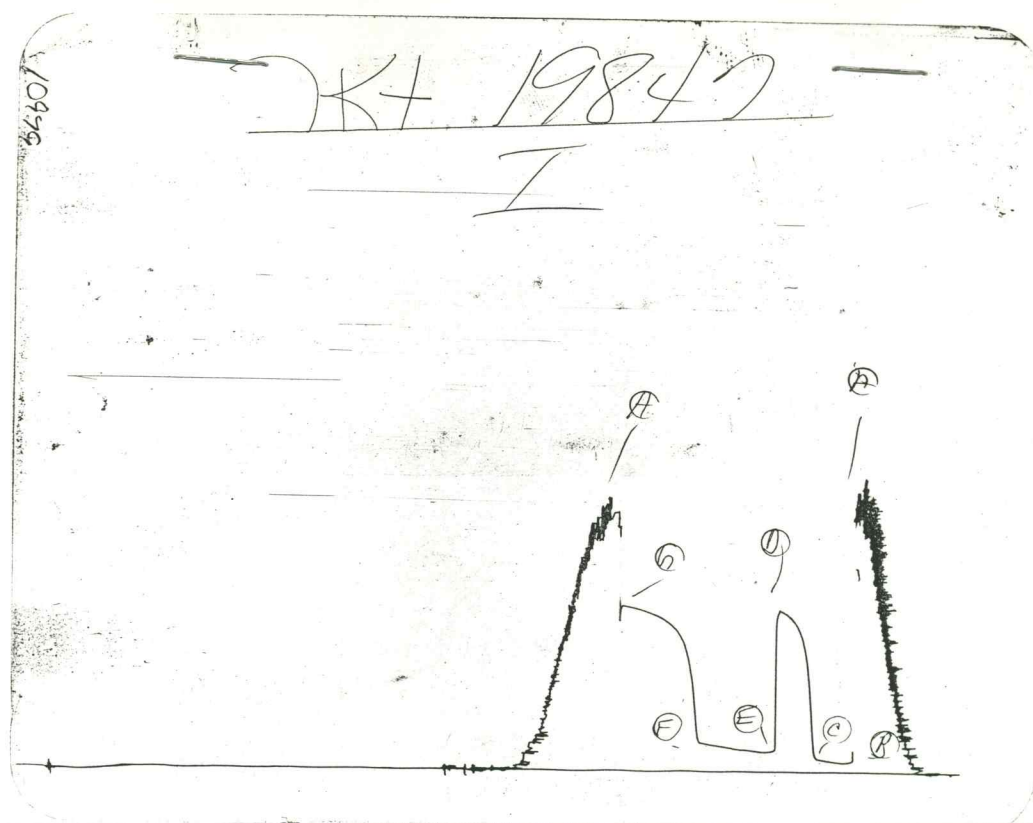
PRESSURE TRANSIENT REPORT (CONTINUED)

FINAL FLOW (CONTINUED)

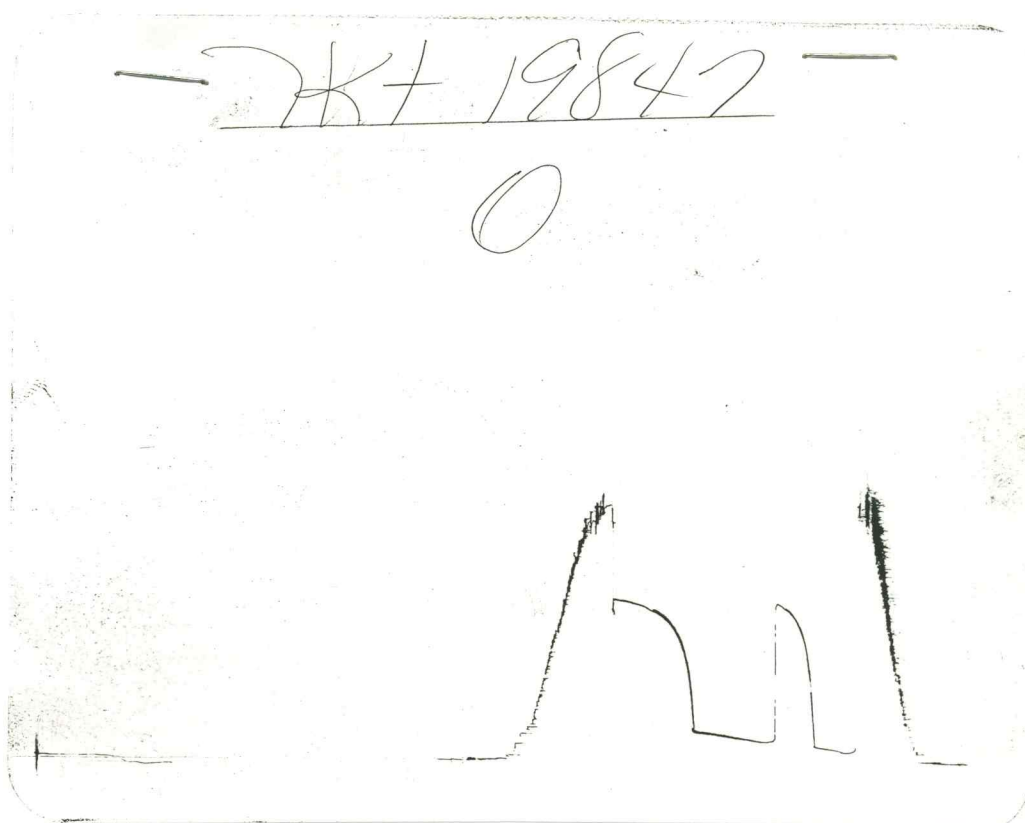
<u>Time (min)</u>	<u>Pressure</u>	<u>Delta P</u>
5.00	100.00	0.00
10.00	100.00	0.00
15.00	104.00	4.00
20.00	106.00	2.00
25.00	110.00	4.00
30.00	117.00	7.00
35.00	123.00	6.00
40.00	129.00	6.00
45.00	135.00	6.00
50.00	140.00	5.00
55.00	146.00	6.00
60.00	150.00	4.00

FINAL SHUT IN

<u>Time (min)</u>	<u>Pressure</u>	<u>Delta P</u>	<u>Horner T</u>
3.00	248.00	248.00	0.00
6.00	428.00	180.00	0.00
9.00	580.00	152.00	0.00
12.00	661.00	81.00	0.00
15.00	718.00	57.00	0.00
18.00	753.00	35.00	0.00
21.00	775.00	22.00	0.00
24.00	794.00	19.00	0.00
27.00	811.00	17.00	0.00
30.00	823.00	12.00	0.00
33.00	834.00	11.00	0.00
36.00	840.00	6.00	0.00
39.00	848.00	8.00	0.00
42.00	856.00	8.00	0.00
45.00	863.00	7.00	0.00
48.00	869.00	6.00	0.00
51.00	873.00	4.00	0.00
54.00	876.00	3.00	0.00
57.00	879.00	3.00	0.00
60.00	884.00	5.00	0.00



Inside Recorder



Outside Recorder