



WESTERN TESTING CO., INC.
FORMATION TESTING

TICKET No 7946

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

Elevation 1210 KB Formation Layton Eff. Pay - Ft.

District Augusta Date 7-14-81 Customer Order No. -

COMPANY NAME Range Oil Co. Inc

ADDRESS 240 Page Court 220 W Douglas Wichita, Ks 67202

LEASE AND WELL NO. Jarvis F #1 COUNTY Cowley STATE Ks Sec 17 Twp 31S Rge 5E

Mail Invoice To Same No. Copies Requested 1

Mail Charts To Same No. Copies Requested 5

Formation Test No. 1 Interval Tested from 2199 ft. to 2209 ft. Total Depth 2209 ft.

Packer Depth 2199 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.

Packer Depth 2194 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.

Depth of Selective Zone Set

Top Recorder Depth (Inside) 2202 ft. Recorder Number 1559 Cap. 4200

Bottom Recorder Depth (Outside) 2205 ft. Recorder Number 13268 Cap. 4225

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

Drilling Contractor Range Oil Co #2 Drill Collar Length 270 I. D. 2 1/4 in.

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

Weight 9.6 Water Loss 14.4 cc. Drill Pipe Length 1909 I. D. 3.8 in.

Chlorides 1800 P.P.M. Test Tool Length 20 ft. Tool Size 5200 in.

Jars: Make - Serial Number - Anchor Length 10 ft. Size 5200 in.

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

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

Blow: Fair thruout test

Recovered 790 ft. of Salt water 50,000 PPM Chlorides

Recovered - ft. of 1.6 Resistivity @ 90°F

Recovered - ft. of

Recovered - ft. of

Recovered - ft. of

Remarks:

Time On Location 8:15 7-14 A.M. Time Pick Up Tool 1:00 P.M. Time Off Location 8:30 P.M.

Time Set Packer(s) 2:15 A.M. Time Started Off Bottom 5:15 P.M. Maximum Temperature 103

Initial Hydrostatic Pressure (A) 1085 P.S.I.

Initial Flow Period Minutes 30 (B) 30 P.S.I. to (C) 210 P.S.I.

Initial Closed In Period Minutes 30 (D) 730 P.S.I.

Final Flow Period Minutes 60 (E) 240 P.S.I. to (F) 375 P.S.I.

Final Closed In Period Minutes 60 (G) 730 P.S.I.

Final Hydrostatic Pressure (H) 1075 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 H.G. McManis III Signature of Customer or his authorized representative

Western Representative Norman Allen

FIELD INVOICE

Table with 2 columns: Item and Amount. Items include Open Hole Test, Misrun, Straddle Test, Jars, Selective Zone, Safety Joint, Standby, Evaluation, Extra Packer, Circ. Sub., Mileage, Fluid Sampler, Extra Charts, Insurance, and TOTAL. Amounts are listed in dollars.

WESTERN TESTING CO., INC.

Pressure Data

Date 7-14 Test Ticket No. 7946
 Recorder No. 1559 Capacity 4200 Location 2202 F
 Clock No. _____ Elevation 1210 KB Well Temperature 103

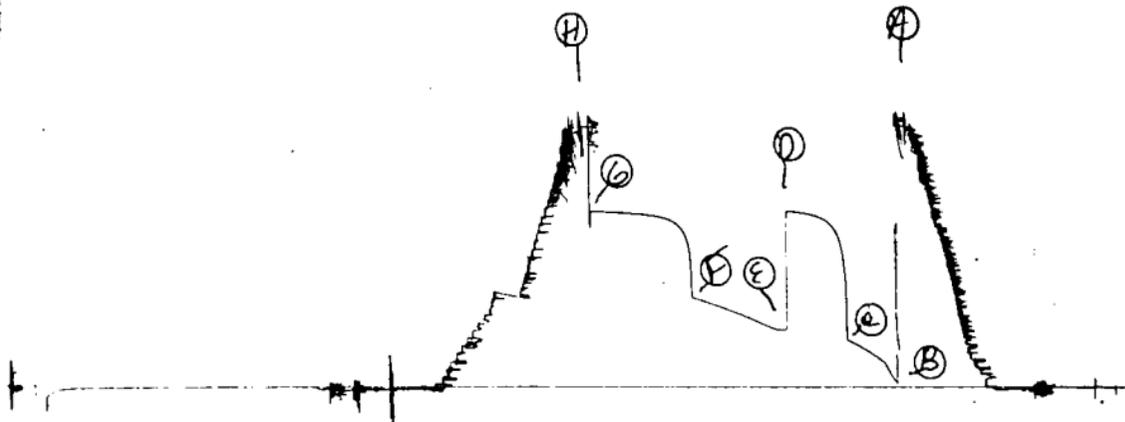
Point	Pressure	Time Given	Time Computed
A Initial Hydrostatic Mud	<u>1084</u> P.S.I.	<u>2:15 P</u>	
B First Initial Flow Pressure	<u>21</u> P.S.I.	<u>30</u> Mins.	<u>30</u> Min
C First Final Flow Pressure	<u>194</u> P.S.I.	<u>30</u> Mins.	<u>33</u> Min
D Initial Closed-in Pressure	<u>737</u> P.S.I.	<u>60</u> Mins.	<u>55</u> Min
E Second Initial Flow Pressure	<u>238</u> P.S.I.	<u>60</u> Mins.	<u>60</u> Min
F Second Final Flow Pressure	<u>372</u> P.S.I.		
G Final Closed-in Pressure	<u>737</u> P.S.I.		
H Final Hydrostatic Mud	<u>1084</u> P.S.I.		

PRESSURE BREAKDOWN

First Flow Pressure		Initial Shut-In		Second Flow Pressure		Final Shut-In	
Breakdown: <u>6</u> Inc.		Breakdown: <u>11</u> Inc.		Breakdown: <u>11</u> Inc.		Breakdown: <u>20</u> 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>21</u>	0	<u>194</u>	0	<u>238</u>	0	<u>372</u>
P 2 5	<u>75</u>	3	<u>577</u>	5	<u>238</u>	3	<u>616</u>
P 3 10	<u>117</u>	6	<u>644</u>	10	<u>249</u>	6	<u>660</u>
P 4 15	<u>142</u>	9	<u>675</u>	15	<u>265</u>	9	<u>683</u>
P 5 20	<u>163</u>	12	<u>696</u>	20	<u>284</u>	12	<u>698</u>
P 6 25	<u>182</u>	15	<u>706</u>	25	<u>299</u>	15	<u>706</u>
P 7 30	<u>194</u>	18	<u>716</u>	30	<u>311</u>	18	<u>712</u>
P 8 35		21	<u>723</u>	35	<u>324</u>	21	<u>716</u>
P 9 40		24	<u>727</u>	40	<u>339</u>	24	<u>720</u>
P10 45		27	<u>731</u>	45	<u>351</u>	27	<u>724</u>
P11 50		30	<u>734</u>	50	<u>362</u>	30	<u>727</u>
P12 55		33	<u>737</u>	55	<u>372</u>	33	<u>729</u>
P13 60		36		60		36	<u>730</u>
P14		39		65		39	<u>731</u>
P15		42		70		42	<u>732</u>
P16		45		75		45	<u>733</u>
P17		48		80		48	<u>734</u>
P18		51		85		51	<u>735</u>
P19		54		90		54	<u>736</u>
P20		57				57	<u>736</u>
		60				60	<u>737</u>

TKT # 7946

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Company Range Oil Company, Inc. Lease & Well No. Jarvis 'E' #1
 Elevation 1210 Kelly Bushing Formation Layton Effective Pay - Ft. Ticket No. 7946
 Date 7/14/81 Sec. 17 Twp. 31S Range 5E County Cowley State Kansas
 Test Approved by H. G. McMahon III Western Representative Norman Allen

Formation Test No. 1 Interval Tested from 2199 ft. to 2209 ft. Total Depth 2209 ft.
 Packer Depth 2199 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.
 Packer Depth 2194 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.

Depth of Selective Zone Set -
 Top Recorder Depth (Inside) 2202 ft. Recorder Number 1559 Cap. 4200
 Bottom Recorder Depth (Outside) 2205 ft. Recorder Number 13268 Cap. 4225
 Below Straddle Recorder Depth - ft. Recorder Number - Cap. -

Drilling Contractor Range Drilling Co. Rig #2 Drill Collar Length 270 I. D. 2 1/4 in.
 Mud Type chemical Viscosity 36 Weight Pipe Length - I. D. - in.
 Weight 9.6 Water Loss 14.4 cc. Drill Pipe Length 1909 I. D. 3.8 in.
 Chlorides 1,800 P.P.M. Test Tool Length 20 ft. Tool Size 5 1/2 OD in.
 Jars: Make - Serial Number - Anchor Length 10 ft. Size 5 1/2 OD 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 4 1/2 XH in.

Fair throughout test.

Blow:
 Recovered 790 ft. of salt water 50,000 ppm chlorides
 Recovered - ft. of - 1.6 Resistivity @ 90°F
 Recovered - ft. of -
 Recovered - ft. of -
 Recovered - ft. of -

Remarks:

Time Set Packer(s) 2:15 ^{A.M.}/_{P.M.} Time Started Off Bottom 5:15 ^{A.M.}/_{P.M.} Maximum Temperature 103°
 Initial Hydrostatic Pressure (A) 1084 P.S.I.
 Initial Flow Period Minutes 30 (B) 21 P.S.I. to (C) 194 P.S.I.
 Initial Closed In Period Minutes 33 (D) 737 P.S.I.
 Final Flow Period Minutes 55 (E) 238 P.S.I. to (F) 372 P.S.I.
 Final Closed In Period Minutes 60 (G) 737 P.S.I.
 Final Hydrostatic Pressure (H) 1084 P.S.I.

WESTERN TESTING CO., INC.

Pressure Data

Date 7/14/81 Recorder No. 1559 Capacity 4200 Test Ticket No. 7946
 Clock No. -- Elevation 1210 Kelly Bushing Location 2202 Ft.
 Well Temperature 103 °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	<u>1084</u>	P.S.I.	<u>2:15P</u>	<u>M</u>
B First Initial Flow Pressure	<u>21</u>	P.S.I.	<u>30</u>	<u>30</u> Mins.
C First Final Flow Pressure	<u>194</u>	P.S.I.	<u>30</u>	<u>33</u> Mins.
D Initial Closed-in Pressure	<u>737</u>	P.S.I.	<u>60</u>	<u>55</u> Mins.
E Second Initial Flow Pressure	<u>238</u>	P.S.I.	<u>60</u>	<u>60</u> Mins.
F Second Final Flow Pressure	<u>372</u>	P.S.I.		
G Final Closed-in Pressure	<u>737</u>	P.S.I.		
H Final Hydrostatic Mud	<u>1084</u>	P.S.I.		

PRESSURE BREAKDOWN

First Flow Pressure Breakdown: <u>6</u> Inc. of <u>5</u> mins. and a final inc. of <u>0</u> Min.	Initial Shut-In Breakdown: <u>11</u> Inc. of <u>3</u> mins. and a final inc. of <u>0</u> Min.	Second Flow Pressure Breakdown: <u>11</u> Inc. of <u>5</u> mins. and a final inc. of <u>0</u> Min.	Final Shut-In Breakdown: <u>20</u> Inc. of <u>3</u> mins. and a final inc. of <u>0</u> Min.
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Point Mins.	Press.	Point Minutes	Press.	Point Minutes	Press.	Point Minutes	Press.
P 1 <u>0</u>	<u>21</u>	<u>0</u>	<u>194</u>	<u>0</u>	<u>238</u>	<u>0</u>	<u>372</u>
P 2 <u>5</u>	<u>75</u>	<u>3</u>	<u>577</u>	<u>5</u>	<u>238</u>	<u>3</u>	<u>616</u>
P 3 <u>10</u>	<u>117</u>	<u>6</u>	<u>644</u>	<u>10</u>	<u>249</u>	<u>6</u>	<u>660</u>
P 4 <u>15</u>	<u>142</u>	<u>9</u>	<u>675</u>	<u>15</u>	<u>265</u>	<u>9</u>	<u>683</u>
P 5 <u>20</u>	<u>163</u>	<u>12</u>	<u>696</u>	<u>20</u>	<u>284</u>	<u>12</u>	<u>698</u>
P 6 <u>25</u>	<u>182</u>	<u>15</u>	<u>706</u>	<u>25</u>	<u>299</u>	<u>15</u>	<u>706</u>
P 7 <u>30</u>	<u>194</u>	<u>18</u>	<u>716</u>	<u>30</u>	<u>311</u>	<u>18</u>	<u>712</u>
P 8		<u>21</u>	<u>723</u>	<u>35</u>	<u>324</u>	<u>21</u>	<u>716</u>
P 9		<u>24</u>	<u>727</u>	<u>40</u>	<u>339</u>	<u>24</u>	<u>720</u>
P10		<u>27</u>	<u>731</u>	<u>45</u>	<u>351</u>	<u>27</u>	<u>724</u>
P11		<u>30</u>	<u>734</u>	<u>50</u>	<u>362</u>	<u>30</u>	<u>727</u>
P12		<u>33</u>	<u>737</u>	<u>55</u>	<u>372</u>	<u>33</u>	<u>729</u>
P13						<u>36</u>	<u>730</u>
P14						<u>39</u>	<u>731</u>
P15						<u>42</u>	<u>732</u>
P16						<u>45</u>	<u>733</u>
P17						<u>48</u>	<u>734</u>
P18						<u>51</u>	<u>735</u>
P19						<u>54</u>	<u>736</u>
P20						<u>57</u>	<u>736</u>
						<u>60</u>	<u>737</u>



WESTERN TESTING CO., INC.

FORMATION TESTING

TICKET NO:

7830 OK

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

Elevation 1210 KB Formation MISS Eff. Pay _____ Ft.

District Augusta Date 7-16-81 Customer Order No. _____

COMPANY NAME OK Range Oil Co. INC.

ADDRESS RR 3 Box 122 Winfield KS 240 Page Court 2010 Douglas Wichita 67201

LEASE AND WELL NO. Jarvis "E" #1 COUNTY _____ STATE _____ Sec. 17 Twp. 31S Rge. 5E

Mail Invoice To Same Address _____ No. Copies Requested 1

Mail Charts To Same Address _____ No. Copies Requested 5

Formation Test No. #2 Interval Tested from 2878 ft. to 2887 ft. Total Depth 2887 ft.

Packer Depth 2878 ft. Size 6 3/4 in. Packer Depth _____ ft. Size _____ in.

Packer Depth 2873 ft. Size 6 3/4 in. Packer Depth _____ ft. Size _____ in.

Depth of Selective Zone Set _____

Top Recorder Depth (Inside) 2866 ft. Recorder Number 2774 Cap. 4500

Bottom Recorder Depth (Outside) 2882 ft. Recorder Number 11018 Cap. 4425

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

Drilling Contractor Range Drilling Co #2 Drill Collar Length 152 I. D. _____ in.

Mud Type Chem Viscosity 45 Weight Pipe Length 0 I. D. _____ in.

Weight 10.0 Water Loss 12.0 cc. Drill Pipe Length 2868 I. D. _____ in.

Chlorides 2000 P.P.M. Test Tool Length 27 ft. Tool Size 5 1/2 in.

Jars: Make None Serial Number _____ Anchor Length 9 ft. Size 5 1/2 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 4 1/2 X H in.

Blow: Weak throughout 2 1/2" flow period, No blow 2 1/2" flow period

Recovered 5 ft. of Drill Mud

Recovered _____ ft. of _____

Remarks: Misrun - plugged anchor.

Time On Location 2:00 7-16 P.M. Time Pick Up Tool 3:15 P.M. Time Off Location 11 7/16 P.M.

Time Set Packer(s) 5:00 P.M. Time Started Off Bottom 7:30 P.M. Maximum Temperature _____

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

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

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

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

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

Final Hydrostatic Pressure _____ (H) _____ 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 NG McPherson III
Signature of Customer or his authorized representative

Western Representative Robert Davis

FIELD INVOICE

Open Hole Test	\$	
Misrun	\$	400.00
Straddle Test	\$	
Jars	\$	
Selective Zone	\$	
Safety Joint	\$	
Standby	\$	
Evaluation	\$	
Extra Packer	\$	
Circ. Sub.	\$	
Mileage	\$	22.50
Fluid Sampler	\$	
Extra Charts	\$	
Insurance	\$	
TOTAL	\$	422.50

30

WESTERN TESTING CO., INC.

Pressure Data

Date 7-16 Test Ticket No. 7830
 Recorder No. 2774 Capacity 4500 Location 2866
 Clock No. _____ Elevation 1210 KB Well Temperature _____

Point	Pressure	Open Tool	Time Given	Time Computed
A Initial Hydrostatic Mud	<u>1482</u> P.S.I.		<u>5:00 P</u>	
B First Initial Flow Pressure	<u>21</u> P.S.I.	First Flow Pressure	<u>30</u> Mins.	<u>30</u> Min.
C First Final Flow Pressure	<u>21</u> P.S.I.	Initial Closed-in Pressure	<u>30</u> Mins.	<u>30</u> Min.
D Initial Closed-in Pressure	<u>25</u> P.S.I.	Second Flow Pressure	<u>30</u> Mins.	<u>30</u> Min.
E Second Initial Flow Pressure	<u>25</u> P.S.I.	Final Closed-in Pressure	<u>60</u> Mins.	<u>60</u> Min.
F Second Final Flow Pressure	<u>25</u> P.S.I.			
G Final Closed-in Pressure	<u>25</u> P.S.I.			
H Final Hydrostatic Mud	<u>1458</u> P.S.I.			

PRESSURE BREAKDOWN

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

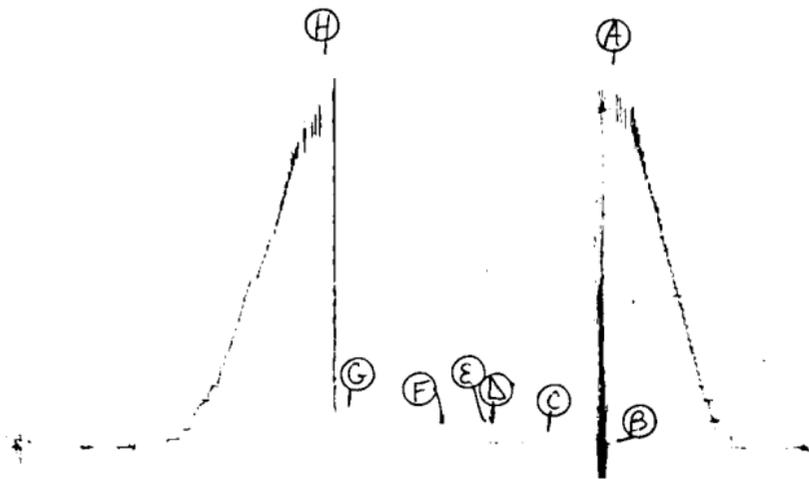
Initial Shut-In
 Breakdown: 10 Inc.
 of 3 mins. and a
 final inc. of 0 Min.

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

Final Shut-In
 Breakdown: 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	<u>21</u>	0	<u>21</u>	0	<u>25</u>	0	<u>25</u>
P 2 5		3		5		3	
P 3 10		6		10		6	
P 4 15		9		15		9	
P 5 20		12		20		12	
P 6 25		15	<u>21</u>	25		15	
P 7 30	<u>21</u>	18	<u>22</u>	30	<u>25</u>	18	
P 8 35		21	<u>22</u>	35		21	
P 9 40		24	<u>23</u>	40		24	
P10 45		27	<u>24</u>	45		27	
P11 50		30	<u>25</u>	50		30	
P12 55		33		55		33	
P13 60		36		60		36	
P14		39		65		39	
P15		42		70		42	
P16		45		75		45	
P17		48		80		48	
P18		51		85		51	
P19		54		90		54	
P20		57				57	
		60				60	<u>25</u>

TRT # 7830
I



AST 1114

Company Range Oil Company, Inc. Lease & Well No. Jarvis 'E' #1
 Elevation 1210 Kelly Bush. Formation Mississippi Effective Pay - Ft. Ticket No. 7830
 Date 7-16-81 Sec. 17 Twp. 31S Range 5E County Cowley State Kansas
 Test Approved by H.G. McMahon III Western Representative Robert Davis

Formation Test No. 2 Interval Tested from 2878 ft. to 2887 ft. Total Depth 2887 ft.
 Packer Depth 2878 ft. Size 6 3/4 in. Packer Depth 2873 ft. Size 6 3/4 in.
 Packer Depth - ft. Size - in. Packer Depth - ft. Size - in.

Depth of Selective Zone Set -
 Top Recorder Depth (Inside) 2866 ft. Recorder Number 2774 Cap. 4500
 Bottom Recorder Depth (Outside) 2882 ft. Recorder Number 11018 Cap. 4425
 Below Straddle Recorder Depth - ft. Recorder Number - Cap. -

Drilling Contractor Range Drilling Co. #2 Drill Collar Length 152 I. D. - in.
 Mud Type Chemical Viscosity _____ Weight Pipe Length - I. D. - in.
 Weight _____ Water Loss _____ cc. Drill Pipe Length 2868 I. D. - in.
 Chlorides 2,000 P.P.M. Test Tool Length 27 ft. Tool Size 5 1/2 OD in.
 Jars: Make - Serial Number - Anchor Length 9 ft. Size 5 1/2 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 4 1/2 XH in.

Blow: Weak blow throughout initial flow period. No blow on final flow period.

Recovered 5 ft. of drilling mud
 Recovered _____ ft. of _____
 Remarks: Misrun, plugged anchor

Time Set Packer(s) 5:00 ~~A.M.~~ P.M. Time Started Off Bottom 7:30 ~~A.M.~~ P.M. Maximum Temperature _____
 Initial Hydrostatic Pressure (A) 1482 P.S.I.
 Initial Flow Period Minutes 30 (B) 21 P.S.I. to (C) 21 P.S.I.
 Initial Closed In Period Minutes 30 (D) 25 P.S.I.
 Final Flow Period Minutes 30 (E) 25 P.S.I. to (F) 25 P.S.I.
 Final Closed In Period Minutes 60 (G) 25 P.S.I.
 Final Hydrostatic Pressure (H) 1458 P.S.I.

WESTERN TESTING CO., INC.

Pressure Data

Date 7/16/81 Recorder No. 2774 Capacity 4500 Test Ticket No. 7830
 Location 2866 Ft. Clock No. - Elevation 1210 Kelly Bushing Well Temperature - °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	<u>1482</u> P.S.I.	Open Tool	<u>5:00P</u> M	
B First Initial Flow Pressure	<u>21</u> P.S.I.	First Flow Pressure	<u>30</u> Mins.	<u>30</u> Mins.
C First Final Flow Pressure	<u>21</u> P.S.I.	Initial Closed-in Pressure	<u>30</u> Mins.	<u>30</u> Mins.
D Initial Closed-in Pressure	<u>25</u> P.S.I.	Second Flow Pressure	<u>30</u> Mins.	<u>30</u> Mins.
E Second Initial Flow Pressure	<u>25</u> P.S.I.	Final Closed-in Pressure	<u>60</u> Mins.	<u>60</u> Mins.
F Second Final Flow Pressure	<u>25</u> P.S.I.			
G Final Closed-in Pressure	<u>25</u> P.S.I.			
H Final Hydrostatic Mud	<u>1458</u> P.S.I.			

PRESSURE BREAKDOWN

First Flow Pressure Breakdown: <u>6</u> Inc. of <u>5</u> mins. and a final inc. of <u>0</u> Min.	Initial Shut-In Breakdown: <u>10</u> Inc. of <u>3</u> mins. and a final inc. of <u>0</u> Min.	Second Flow Pressure Breakdown: <u>6</u> Inc. of <u>5</u> mins. and a final inc. of <u>0</u> Min.	Final Shut-In Breakdown: <u>20</u> Inc. of <u>3</u> mins. and a final inc. of <u>0</u> Min.
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Point Mins.	Press.	Point Minutes	Press.	Point Minutes	Press.	Point Minutes	Press.
P 1 <u>0</u>	<u>21</u>	<u>0</u>	<u>21</u>	<u>0</u>	<u>25</u>	<u>0</u>	<u>25</u>
P 2 <u>5</u>	<u>21</u>	<u>3</u>	<u>21</u>	<u>5</u>	<u>25</u>	<u>3</u>	<u>25</u>
P 3 <u>10</u>	<u>21</u>	<u>6</u>	<u>21</u>	<u>10</u>	<u>25</u>	<u>6</u>	<u>25</u>
P 4 <u>15</u>	<u>21</u>	<u>9</u>	<u>21</u>	<u>15</u>	<u>25</u>	<u>9</u>	<u>25</u>
P 5 <u>20</u>	<u>21</u>	<u>12</u>	<u>21</u>	<u>20</u>	<u>25</u>	<u>12</u>	<u>25</u>
P 6 <u>25</u>	<u>21</u>	<u>15</u>	<u>21</u>	<u>25</u>	<u>25</u>	<u>15</u>	<u>25</u>
P 7 <u>30</u>	<u>21</u>	<u>18</u>	<u>22</u>	<u>30</u>	<u>25</u>	<u>18</u>	<u>25</u>
P 8 _____		<u>21</u>	<u>22</u>			<u>21</u>	<u>25</u>
P 9 _____		<u>24</u>	<u>23</u>			<u>24</u>	<u>25</u>
P10 _____		<u>27</u>	<u>24</u>			<u>27</u>	<u>25</u>
P11 _____		<u>30</u>	<u>25</u>			<u>30</u>	<u>25</u>
P12 _____						<u>33</u>	<u>25</u>
P13 _____						<u>36</u>	<u>25</u>
P14 _____						<u>39</u>	<u>25</u>
P15 _____						<u>42</u>	<u>25</u>
P16 _____						<u>45</u>	<u>25</u>
P17 _____						<u>48</u>	<u>25</u>
P18 _____						<u>51</u>	<u>25</u>
P19 _____						<u>54</u>	<u>25</u>
P20 _____						<u>57</u>	<u>25</u>
						<u>60</u>	<u>25</u>



WESTERN TESTING CO., INC.
FORMATION TESTING

TICKET NO 7831

OK

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

Elevation 1210 KB Formation Miss Eff. Pay Ft.

District Augusta Date 7-17-81 Customer Order No.

COMPANY NAME Range Oil Co., Inc.

ADDRESS 240 Page Court, 220 West Douglas, Wichita, Ks. 67202

LEASE AND WELL NO. Jarvis E #1 COUNTY Cowley STATE Ks. Sec. 17 Twp. 31S Rge. 5E

Mail Invoice To Same Co. Name Address No. Copies Requested 1

Mail Charts To Same Address No. Copies Requested 5

Formation Test No. 3 Interval Tested from 2878 ft. to 2887 ft. Total Depth 2887 ft.

Packer Depth 2878 ft. Size 6 3/4 in. Packer Depth ft. Size in.

Packer Depth 2873 ft. Size 6 3/4 in. Packer Depth ft. Size in.

Depth of Selective Zone Set

Top Recorder Depth (Inside) 2877 ft. Recorder Number 2605 Cap. 4150

Bottom Recorder Depth (Outside) 2882 ft. Recorder Number 10979 Cap. 4100

Below Straddle Recorder Depth ft. Recorder Number Cap.

Drilling Contractor Range Drilling Co. #2 Drill Collar Length 272 I. D. in.

Mud Type Chem Viscosity 43 Weight Pipe Length I. D. in.

Weight 9.7 Water Loss 120 cc. Drill Pipe Length 2599 I. D. in.

Chlorides 2,000 P.P.M. Test Tool Length 19 ft. Tool Size 5 1/2 in.

Jars: Make None Serial Number Anchor Length 9 ft. Size 5 1/2 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 4 1/2 XH in.

Blow: Fair blow (3 to 4) on initial flow period. Weak to very weak died 22 min.

into 2nd opening into final flow period.

Recovered 255 ft. of Drilling Mud

Recovered ft. of

Recovered ft. of

Recovered ft. of

Recovered ft. of

Remarks:

Time On Location 1:30 7-17 A.M. Time Pick Up Tool 5:30 A.M. Time Off Location 1:00 P.M.

Time Set Packer(s) 7:15 A.M. Time Started Off Bottom 9:45 A.M. Maximum Temperature 109 degrees

Initial Hydrostatic Pressure (A) 1462 P.S.I.

Initial Flow Period Minutes 30 (B) 31 P.S.I. to (C) 137 P.S.I.

Initial Closed In Period Minutes 30 (D) 423 P.S.I.

Final Flow Period Minutes 30 (E) 158 P.S.I. to (F) 158 P.S.I.

Final Closed In Period Minutes 60 (G) 413 P.S.I.

Final Hydrostatic Pressure (H) 1462 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 AG McManis Signature of Customer or his authorized representative

Western Representative Robert Davis

FIELD INVOICE

Table with 2 columns: Item and Amount. Items include Open Hole Test (\$625.00), Mileage (30) (\$22.50), and TOTAL (\$647.50).

WESTERN TESTING CO., INC.

Pressure Data

Date: 7-17 Test Ticket No. 7831
 Recorder No. 2605 Capacity 4150 Location 2877 Ft
 Clock No. _____ Elevation 1210 KB Well Temperature 109 °F

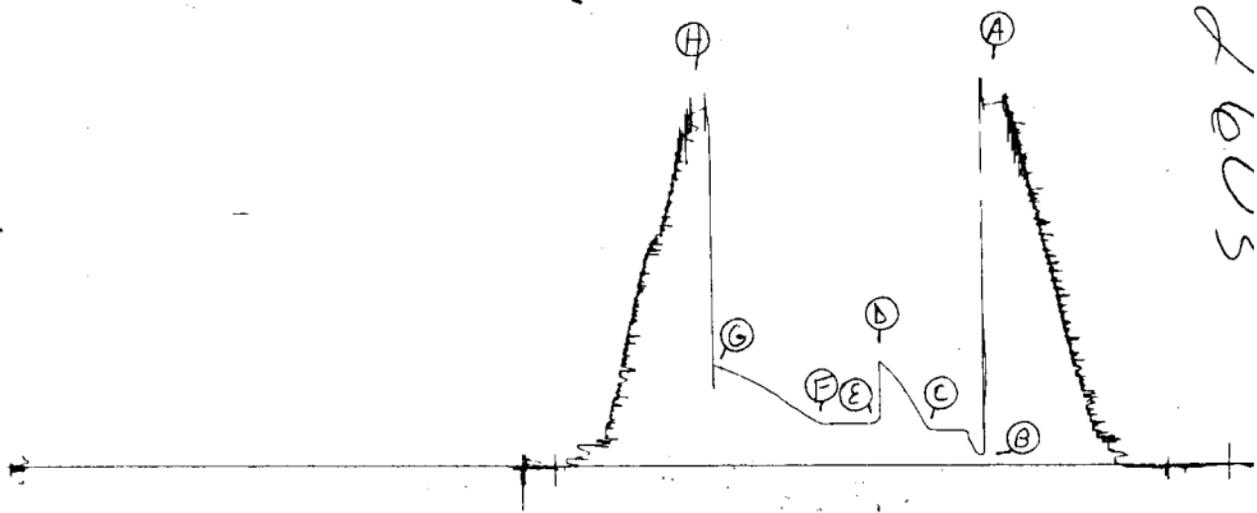
Point	Pressure	Open Tool	Time Given	Time Computed
A Initial Hydrostatic Mud	<u>1469</u> P.S.I.		<u>7:15 A</u>	
B First Initial Flow Pressure	<u>40</u> P.S.I.	First Flow Pressure	<u>30</u> Mins.	<u>30</u> Mins.
C First Final Flow Pressure	<u>146</u> P.S.I.	Initial Closed-in Pressure	<u>30</u> Mins.	<u>30</u> Mins.
D Initial Closed-in Pressure	<u>430</u> P.S.I.	Second Flow Pressure	<u>30</u> Mins.	<u>30</u> Mins.
E Second Initial Flow Pressure	<u>174</u> P.S.I.	Final Closed-in Pressure	<u>60</u> Mins.	<u>66</u> Mins.
F Second Final Flow Pressure	<u>174</u> P.S.I.			
G Final Closed-in Pressure	<u>415</u> P.S.I.			
H Final Hydrostatic Mud	<u>1462</u> P.S.I.			

PRESSURE BREAKDOWN

First Flow Pressure		Initial Shut-In		Second Flow Pressure		Final Shut-In	
Breakdown: <u>6</u> Inc.		Breakdown: <u>10</u> Inc.		Breakdown: <u>6</u> Inc.		Breakdown: <u>22</u> 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>40</u>	0	<u>146</u>	0	<u>174</u>	0	<u>174</u>
P 2	<u>53</u>	3	<u>159</u>	5		3	<u>171</u>
P 3	<u>137</u>	6	<u>197</u>	10		6	<u>178</u>
P 4	<u>144</u>	9	<u>237</u>	15		9	<u>190</u>
P 5	<u>145</u>	12	<u>273</u>	20		12	<u>203</u>
P 6	<u>145</u>	15	<u>305</u>	25		15	<u>218</u>
P 7	<u>146</u>	18	<u>339</u>	30	<u>174</u>	18	<u>233</u>
P 8		21	<u>364</u>	35		21	<u>243</u>
P 9		24	<u>390</u>	40		24	<u>260</u>
P 10		27	<u>411</u>	45		27	<u>277</u>
P 11		30	<u>430</u>	50		30	<u>294</u>
P 12		33		55		33	<u>305</u>
P 13		36		60		36	<u>320</u>
P 14		39		65		39	<u>333</u>
P 15		42		70		42	<u>345</u>
P 16		45		75		45	<u>356</u>
P 17		48		80		48	<u>366</u>
P 18		51		85		51	<u>375</u>
P 19		54		90		54	<u>383</u>
P 20		57				57	<u>394</u>
		60				60	<u>402</u>
						63	<u>411</u>
						66	<u>415</u>

TKT # 7831

I



1519 & 6005

Company Range Oil Company, Inc. Lease & Well No. Jarvis "E" #1
 Elevation 1210 Kelly Bush. Formation Mississippi Effective Pay - Ft. Ticket No. 7831
 Date 7-17-81 Sec. 17 Twp. 31S Range 5E County Cowley State Kansas
 Test Approved by H.G. McMahon III Western Representative Robert Davis

Formation Test No. 3 Interval Tested from 2878 ft. to 2887 ft. Total Depth 2887 ft.
 Packer Depth 2878 ft. Size 6 3/4 in. Packer Depth 2873 ft. Size 6 3/4 in.
 Packer Depth - ft. Size - in. Packer Depth - ft. Size - in.
 Depth of Selective Zone Set -

Top Recorder Depth (Inside) 2877 ft. Recorder Number 2605 Cap. 4150
 Bottom Recorder Depth (Outside) 2882 ft. Recorder Number 10979 Cap. 4100
 Below Straddle Recorder Depth - ft. Recorder Number - Cap. -

Drilling Contractor Range Drilling Co. #2 Drill Collar Length 272 I. D. - in.
 Mud Type Chemical Viscosity 43 Weight Pipe Length - I. D. - in.
 Weight 9.7 Water Loss 12.0 cc. Drill Pipe Length 2599 I. D. - in.
 Chlorides 2,000 P.P.M. Test Tool Length 19 ft. Tool Size 5 1/2 in.
 Jars: Make - Serial Number - Anchor Length 9 ft. Size 5 1/2 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 4 1/2 XH in.

Blow: Fair blow (3" to 4") throughout initial flow period. Weak to very weak blow died in 22 minutes on final flow period.

Recovered 255 ft. of drilling mud
 Recovered ft. of
 Recovered ft. of
 Recovered ft. of
 Recovered ft. of

Remarks:

Time Set Packer(s)	<u>7:15</u>	A.M. P.M.	Time Started Off Bottom	<u>9:45</u>	A.M. P.M.	Maximum Temperature	<u>109</u>
Initial Hydrostatic Pressure	(A)	<u>1469</u>			P.S.I.		
Initial Flow Period	Minutes	<u>30</u>	(B)	<u>40</u>	P.S.I. to (C)	<u>146</u>	P.S.I.
Initial Closed In Period	Minutes	<u>30</u>	(D)	<u>430</u>	P.S.I.		
Final Flow Period	Minutes	<u>30</u>	(E)	<u>174</u>	P.S.I. to (F)	<u>174</u>	P.S.I.
Final Closed In Period	Minutes	<u>60</u>	(G)	<u>415</u>	P.S.I.		
Final Hydrostatic Pressure	(H)	<u>1462</u>			P.S.I.		

WESTERN TESTING CO., INC.

Pressure Data

Date 7/17/81 Test Ticket No. 7831
 Recorder No. 2605 Capacity 4150 Location 2877 Ft.
 Clock No. - Elevation 1210 Kelly Bushing Well Temperature 109 °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	1469	P.S.I.	7:15A	M
B First Initial Flow Pressure	40	P.S.I.	30	Mins. 30 Mins.
C First Final Flow Pressure	146	P.S.I.	30	Mins. 30 Mins.
D Initial Closed-in Pressure	430	P.S.I.	30	Mins. 30 Mins.
E Second Initial Flow Pressure	174	P.S.I.	60	Mins. 66 Mins.
F Second Final Flow Pressure	174	P.S.I.		
G Final Closed-in Pressure	415	P.S.I.		
H Final Hydrostatic Mud	1462	P.S.I.		

PRESSURE BREAKDOWN

First Flow Pressure Breakdown: <u>6</u> Inc. of <u>5</u> mins. and a final inc. of <u>0</u> Min.	Initial Shut-In Breakdown: <u>10</u> Inc. of <u>3</u> mins. and a final inc. of <u>0</u> Min.	Second Flow Pressure Breakdown: <u>6</u> Inc. of <u>5</u> mins. and a final inc. of <u>0</u> Min.	Final Shut-In Breakdown: <u>22</u> Inc. of <u>3</u> mins. and a final inc. of <u>0</u> Min.
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Point Mins.	Press.	Point Minutes	Press.	Point Minutes	Press.	Point Minutes	Press.
P 1 0	40	0	146	0	174	0	174
P 2 5	53	3	159	5	174	3	171
P 3 10	137	6	197	10	174	6	178
P 4 15	144	9	237	15	174	9	190
P 5 20	145	12	273	20	174	12	203
P 6 25	145	15	305	25	174	15	218
P 7 30	146	18	339	30	174	18	233
P 8		21	364			21	243
P 9		24	390			24	260
P10		27	411			27	277
P11		30	430			30	294
P12						33	305
P13						36	320
P14						39	333
P15						42	345
P16						45	356
P17						48	366
P18						51	375
P19						54	383
P20						57	394
						60	402
						63	411
						66	415



WESTERN TESTING CO., INC.
FORMATION TESTING

TICKET NO: 7865 OK

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

Elevation 1210 KB Formation Miss. Eff. Pay Ft.

District Augusta Date 7-17-81 Customer Order No.

COMPANY NAME Range Oil Co. Inc.

ADDRESS 240 PINE CROWLEY WEST DOUGLAS WICHITA 67202

LEASE AND WELL NO. Jarvis "E" #1 COUNTY Cowley STATE KS Sec 17 Twp 31S Rge 5E

Mail Invoice To Same Co. Name Address No. Copies Requested 1

Mail Charts To Same Co. Name Address No. Copies Requested 5

Formation Test No. 4 Interval Tested from 2887 ft. to 2895 ft. Total Depth 2895 ft.

Packer Depth 2887 ft. Size 6 3/4 in. Packer Depth ft. Size in.

Packer Depth 2882 ft. Size 6 3/4 in. Packer Depth ft. Size in.

Depth of Selective Zone Set

Top Recorder Depth (Inside) A.P. 2872 ft. Recorder Number 2605 Cap 4150

Bottom Recorder Depth (Outside) 2890 ft. Recorder Number 10979 Cap 4100

Below Straddle Recorder Depth ft. Recorder Number Cap

Drilling Contractor Range Drilling Co. Drill Collar Length 151 I. D. in.

Mud Type Chem Viscosity 40 Weight Pipe Length I. D. in.

Weight 98 Water Loss 16.8 cc. Drill Pipe Length 2711 I. D. in.

Chlorides 2000 P.P.M. Test Tool Length 25 ft. Tool Size 5 1/2 in.

Jars: Make None Serial Number Anchor Length 8 ft. Size 5 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 4 1/2 XH in.

Blow: Fair blow (2100), Good blow (8" + 9")

Recovered 480 ft. of gas in pipe

Recovered ft. of

Recovered ft. of

Recovered 124 ft. of Gas Oil cut Drilling mud 15% oil 85% Drilling Mud

Recovered ft. of

Remarks:

Time On Location 7:00 AM P.M. Time Pick Up Tool 8:15 AM P.M. Time Off Location 7:18 AM P.M.

Time Set Packer(s) 10:15 P.M. Time Started Off Bottom 11:55 AM P.M. Maximum Temperature 110 degrees

Initial Hydrostatic Pressure (A) 1440 P.S.I.

Initial Flow Period Minutes 30 (B) 31 P.S.I. to (C) 31 P.S.I.

Initial Closed In Period Minutes 30 (D) 460 P.S.I.

Final Flow Period Minutes 60 (E) 41 P.S.I. to (F) 41 P.S.I.

Final Closed In Period Minutes 60 (G) 512 P.S.I.

Final Hydrostatic Pressure (H) 1440 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 A.C. McFARLAN III Signature of Customer or his authorized representative

Western Representative Robert Davis

FIELD INVOICE

Table with 2 columns: Item and Amount. Items include Open Hole Test (\$625.00), Mileage (\$22.50), and TOTAL (\$647.50).

WESTERN TESTING CO., INC.

Pressure Data

Date 7-17 Test Ticket No. 7865
 Recorder No. 2605 Capacity 4150 Location 2872 F
 Clock No. _____ Elevation 1210 KB Well Temperature 110

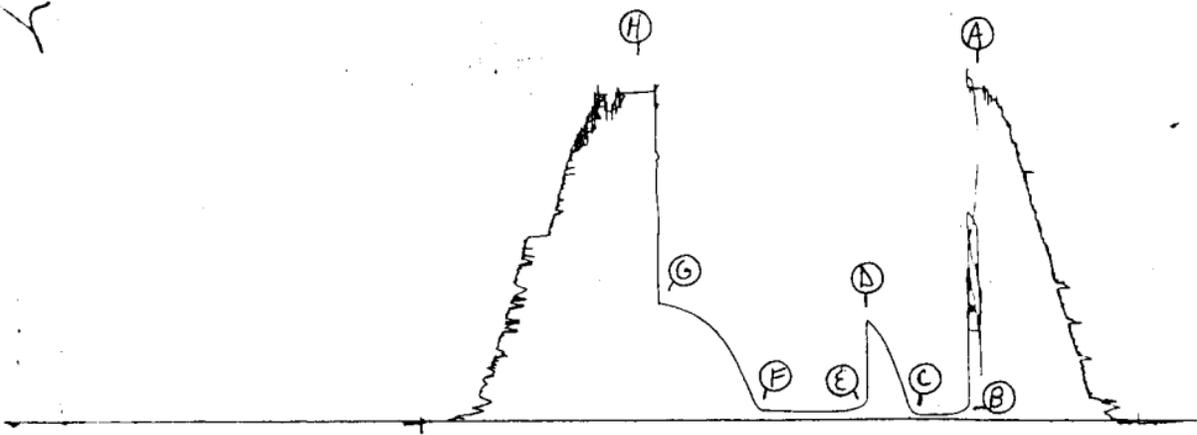
Point	Pressure	Open Tool	Time Given	Time Computed
A Initial Hydrostatic Mud	<u>1433</u> P.S.I.		<u>10:15</u> P.M.	
B First Initial Flow Pressure	<u>27</u> P.S.I.	First Flow Pressure	<u>30</u> Mins.	<u>30</u> Min
C First Final Flow Pressure	<u>27</u> P.S.I.	Initial Closed-in Pressure	<u>30</u> Mins.	<u>30</u> Min
D Initial Closed-in Pressure	<u>441</u> P.S.I.	Second Flow Pressure	<u>60</u> Mins.	<u>60</u> Min
E Second Initial Flow Pressure	<u>43</u> P.S.I.	Final Closed-in Pressure	<u>60</u> Mins.	<u>60</u> Min
F Second Final Flow Pressure	<u>49</u> P.S.I.			
G Final Closed-in Pressure	<u>514</u> P.S.I.			
H Final Hydrostatic Mud	<u>1421</u> P.S.I.			

PRESSURE BREAKDOWN

First Flow Pressure		Initial Shut-In		Second Flow Pressure		Final Shut-In	
Breakdown: <u>6</u> Inc.		Breakdown: <u>10</u> Inc.		Breakdown: <u>12</u> Inc.		Breakdown: <u>20</u> 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>0</u>	<u>27</u>	<u>0</u>	<u>43</u>	<u>0</u>	<u>49</u>
P 2	<u>5</u>	<u>3</u>	<u>38</u>	<u>5</u>		<u>3</u>	<u>70</u>
P 3	<u>10</u>	<u>6</u>	<u>74</u>	<u>10</u>		<u>6</u>	<u>110</u>
P 4	<u>15</u>	<u>9</u>	<u>137</u>	<u>15</u>		<u>9</u>	<u>159</u>
P 5	<u>20</u>	<u>12</u>	<u>197</u>	<u>20</u>		<u>12</u>	<u>203</u>
P 6	<u>25</u>	<u>15</u>	<u>265</u>	<u>25</u>		<u>15</u>	<u>254</u>
P 7	<u>30</u>	<u>18</u>	<u>316</u>	<u>30</u>		<u>18</u>	<u>292</u>
P 8	<u>35</u>	<u>21</u>	<u>360</u>	<u>35</u>		<u>21</u>	<u>328</u>
P 9	<u>40</u>	<u>24</u>	<u>392</u>	<u>40</u>		<u>24</u>	<u>358</u>
P10	<u>45</u>	<u>27</u>	<u>419</u>	<u>45</u>	<u>43</u>	<u>27</u>	<u>388</u>
P11	<u>50</u>	<u>30</u>	<u>441</u>	<u>50</u>	<u>45</u>	<u>30</u>	<u>411</u>
P12	<u>55</u>	<u>33</u>		<u>55</u>	<u>47</u>	<u>33</u>	<u>430</u>
P13	<u>60</u>	<u>36</u>		<u>60</u>	<u>49</u>	<u>36</u>	<u>445</u>
P14		<u>39</u>		<u>65</u>		<u>39</u>	<u>460</u>
P15		<u>42</u>		<u>70</u>		<u>42</u>	<u>470</u>
P16		<u>45</u>		<u>75</u>		<u>45</u>	<u>481</u>
P17		<u>48</u>		<u>80</u>		<u>48</u>	<u>489</u>
P18		<u>51</u>		<u>85</u>		<u>51</u>	<u>498</u>
P19		<u>54</u>		<u>90</u>		<u>54</u>	<u>506</u>
P20		<u>57</u>				<u>57</u>	<u>510</u>
		<u>60</u>				<u>60</u>	<u>514</u>

4. 157
500
4

TRT # 7865
I



Company Range Oil Co., Inc. Lease & Well No. Jarvis 'E' #1
 Elevation 1210 Kelly Bush. Formation Mississippi Effective Pay - Ft. Ticket No. 7865
 Date 7-17-81 Sec. 17 Twp. 31S Range 5E County Cowley State Kansas
 Test Approved by H.G. McMahon III Western Representative Robert Davis
 Formation Test No. 4 Interval Tested from 2887 ft. to 2895 ft. Total Depth 2895 ft.
 Packer Depth 2887 ft. Size 6 3/4 in. Packer Depth 2882 ft. Size 6 3/4 in.
 Packer Depth - ft. Size - in. Packer Depth - ft. Size - in.
 Depth of Selective Zone Set -
 Top Recorder Depth (Inside) A.P. 2872 ft. Recorder Number 2065 Cap. 4150
 Bottom Recorder Depth (Outside) 2890 ft. Recorder Number 10979 Cap. 4100
 Below Straddle Recorder Depth - ft. Recorder Number - Cap. -
 Drilling Contractor Range Drilling Co. Drill Collar Length 7.57 I. D. - in.
 Mud Type Chemical Viscosity 40 Weight Pipe Length - I. D. - in.
 Weight 98 Water Loss 16.8 cc. Drill Pipe Length 2711 I. D. - in.
 Chlorides 2,000 P.P.M. Test Tool Length 85 ft. Tool Size 5 1/2 in.
 Jars: Make - Serial Number - Anchor Length 8 ft. Size 5 1/2 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 4 1/2 XH in.

Blow: Fair blow on initial flow period. Good blow on final flow period.

Recovered 480 ft. of gas in ipie
 Recovered 124 ft. of gas and oil cut drilling mud (15% oil, 85% drilling mud)
 Recovered _____ ft. of _____
 Recovered _____ ft. of _____
 Recovered _____ ft. of _____

Remarks: _____

Time Set Packer(s) 10:15 ~~A.M.~~ P.M. Time Started Off Bottom 1:15 ~~A.M.~~ P.M. Maximum Temperature 110
 Initial Hydrostatic Pressure (A) 1433 P.S.I.
 Initial Flow Period Minutes 30 (B) 27 P.S.I. to (C) 27 P.S.I.
 Initial Closed In Period Minutes 30 (D) 441 P.S.I.
 Final Flow Period Minutes 60 (E) 43 P.S.I. to (F) 49 P.S.I.
 Final Closed In Period Minutes 60 (G) 514 P.S.I.
 Final Hydrostatic Pressure (H) 1421 P.S.I.

WESTERN TESTING CO., INC.

Pressure Data

Date 7/17/81 Recorder No. 2605 Capacity 4150 Test Ticket No. 7865
 Location 2872 Ft. Elevation 1210 Kelly Bushing Well Temperature 110 °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	<u>1433</u>	P.S.I.	<u>10:15P</u>	<u>M</u>
B First Initial Flow Pressure	<u>27</u>	P.S.I.	<u>30</u>	<u>30</u>
C First Final Flow Pressure	<u>27</u>	P.S.I.	<u>30</u>	<u>30</u>
D Initial Closed-in Pressure	<u>441</u>	P.S.I.	<u>60</u>	<u>60</u>
E Second Initial Flow Pressure	<u>43</u>	P.S.I.	<u>60</u>	<u>60</u>
F Second Final Flow Pressure	<u>49</u>	P.S.I.		
G Final Closed-in Pressure	<u>514</u>	P.S.I.		
H Final Hydrostatic Mud	<u>1421</u>	P.S.I.		

PRESSURE BREAKDOWN

Point Mins.	First Flow Pressure	Initial Shut-In	Second Flow Pressure	Final Shut-In			
	Breakdown: <u>6</u> Inc. of <u>5</u> mins. and a final inc. of <u>0</u> Min.	Breakdown: <u>10</u> Inc. of <u>3</u> mins. and a final inc. of <u>0</u> Min.	Breakdown: <u>12</u> Inc. of <u>5</u> mins. and a final inc. of <u>0</u> Min.	Breakdown: <u>20</u> Inc. of <u>3</u> mins. and a final inc. of <u>0</u> Min.			
	Press.	Point Minutes	Press.	Point Minutes	Press.	Point Minutes	Press.
P 1	<u>27</u>	<u>0</u>	<u>27</u>	<u>0</u>	<u>43</u>	<u>0</u>	<u>49</u>
P 2	<u>27</u>	<u>3</u>	<u>38</u>	<u>5</u>	<u>43</u>	<u>3</u>	<u>70</u>
P 3	<u>27</u>	<u>6</u>	<u>74</u>	<u>10</u>	<u>43</u>	<u>6</u>	<u>110</u>
P 4	<u>27</u>	<u>9</u>	<u>137</u>	<u>15</u>	<u>43</u>	<u>9</u>	<u>159</u>
P 5	<u>27</u>	<u>12</u>	<u>197</u>	<u>20</u>	<u>43</u>	<u>12</u>	<u>203</u>
P 6	<u>27</u>	<u>15</u>	<u>265</u>	<u>25</u>	<u>43</u>	<u>15</u>	<u>254</u>
P 7	<u>27</u>	<u>18</u>	<u>316</u>	<u>30</u>	<u>43</u>	<u>18</u>	<u>292</u>
P 8		<u>21</u>	<u>360</u>	<u>35</u>	<u>43</u>	<u>21</u>	<u>328</u>
P 9		<u>24</u>	<u>392</u>	<u>40</u>	<u>43</u>	<u>24</u>	<u>358</u>
P10		<u>27</u>	<u>419</u>	<u>45</u>	<u>43</u>	<u>27</u>	<u>388</u>
P11		<u>30</u>	<u>441</u>	<u>50</u>	<u>45</u>	<u>30</u>	<u>411</u>
P12				<u>55</u>	<u>47</u>	<u>33</u>	<u>430</u>
P13				<u>60</u>	<u>49</u>	<u>36</u>	<u>445</u>
P14						<u>39</u>	<u>460</u>
P15						<u>42</u>	<u>470</u>
P16						<u>45</u>	<u>481</u>
P17						<u>48</u>	<u>489</u>
P18						<u>51</u>	<u>498</u>
P19						<u>54</u>	<u>506</u>
P20						<u>57</u>	<u>510</u>
						<u>60</u>	<u>514</u>



WESTERN TESTING CO., INC.

FORMATION TESTING

TICKET No 7866

OK

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

Elevation 12,000' Formation Miss Eff. Pay Ft.

District Augusta Date 7-18-51 Customer Order No.

COMPANY NAME Range Oil Co Inc

ADDRESS 240 Page Court 230 West Douglas, Wichita Ks 67202

LEASE AND WELL NO Jarvis "E" #1 COUNTY Cowley STATE Ks Sec. 17 Twp 31S Rge 5E

Mail Invoice To Same Co. Name Address No. Copies Requested 1

Mail Charts To Same Address No. Copies Requested 5

Formation Test No. 5 Interval Tested from 2895 ft. to 2905 ft. Total Depth 2905 ft.

Packer Depth 2895 ft. Size 6 3/4 in. Packer Depth ft. Size in.

Packer Depth 2890 ft. Size 6 3/4 in. Packer Depth ft. Size in.

Depth of Selective Zone Set

Top Recorder Depth (Inside) 2896 ft. Recorder Number 2605 Cap. 4150

Bottom Recorder Depth (Outside) 2900 ft. Recorder Number 10979 Cap. 4100

Below Straddle Recorder Depth ft. Recorder Number Cap.

Drilling Contractor Range Drilling Co #2 Drill Collar Length 149 I. D. in.

Mud Type Chew Viscosity 41 Weight Pipe Length I. D. in.

Weight 9.5 Water Loss 16.8 cc Drill Pipe Length 2752 I. D. in.

Chlorides 2,000 P.P.M. Test Tool Length 19 ft. Tool Size 5 1/2 in.

Jars: Make None Serial Number Anchor Length 10 ft. Size 5 1/2 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 4 1/2 X H in.

Blow: Fair 2" on 1st opening Good 2nd (8" to 9")

Recovered 30 ft. of Drilling mud slight rainier of oil

Recovered 60 ft. of Oil + gas cut salty drilling mud 10% oil 2% water 88% mud

Recovered 60 ft. of Oil + gas cut salty drilling mud 20% oil 6% water 74% mud

Recovered ft. of

Recovered ft. of

Remarks:

Time On Location 10:30 AM Time Pick Up Tool 0:45 AM Time Off Location 6:00 PM

Time Set Packer(s) 12:15 PM Time Started Off Bottom 3:15 PM Maximum Temperature 112°

Initial Hydrostatic Pressure (A) 1452 P.S.I.

Initial Flow Period Minutes 30 (B) 42 P.S.I. to (C) 42 P.S.I.

Initial Closed In Period Minutes 30 (D) 457 P.S.I.

Final Flow Period Minutes 60 (E) 52 P.S.I. to (F) 52 P.S.I.

Final Closed In Period Minutes 60 (G) 528 P.S.I.

Final Hydrostatic Pressure (H) 1452 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 H.C. M... Signature of Customer or his authorized representative

Western Representative Robert Davis

FIELD INVOICE

Table with 2 columns: Item and Amount. Includes Open Hole Test (\$625.00), Mileage (\$22.50), and TOTAL (\$647.50).

WESTERN TESTING CO., INC.
Pressure Data

Date: 7-18-81 Test Ticket No. 7866
 Recorder No. 2605 Capacity 4150 Location 2896 F
 Clock No. _____ Elevation 1210 KB Well Temperature 112 °

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	<u>1458</u>	P.S.I.	<u>12:15 P</u>	<u>M</u>
B First Initial Flow Pressure	<u>52</u>	P.S.I.	<u>30</u>	<u>30</u> Mins.
C First Final Flow Pressure	<u>52</u>	P.S.I.	<u>30</u>	<u>30</u> Mins.
D Initial Closed-in Pressure	<u>460</u>	P.S.I.	<u>60</u>	<u>60</u> Mins.
E Second Initial Flow Pressure	<u>59</u>	P.S.I.	<u>60</u>	<u>60</u> Mins.
F Second Final Flow Pressure	<u>59</u>	P.S.I.		
G Final Closed-in Pressure	<u>527</u>	P.S.I.		
H Final Hydrostatic Mud	<u>1458</u>	P.S.I.		

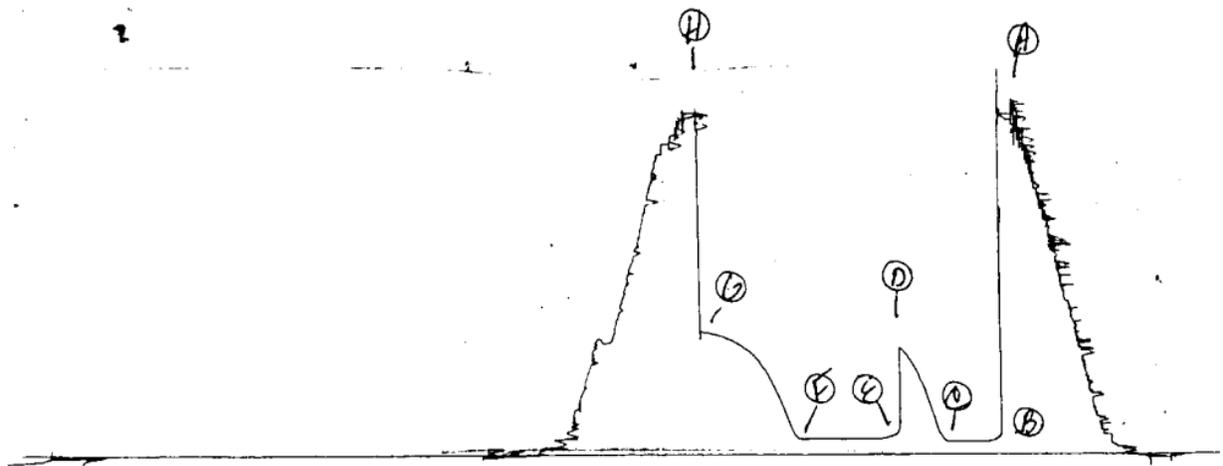
PRESSURE BREAKDOWN

Point Mins.	First Flow Pressure	Initial Shut-In	Second Flow Pressure	Final Shut-In	
	Breakdown: <u>4</u> Inc. of <u>5</u> mins. and a final inc. of <u>0</u> Min.	Breakdown: <u>10</u> Inc. of <u>3</u> mins. and a final inc. of <u>0</u> Min.	Breakdown: <u>12</u> Inc. of <u>5</u> mins. and a final inc. of <u>0</u> Min.	Breakdown: <u>20</u> Inc. of <u>3</u> mins. and a final inc. of <u>0</u> Min.	
	Press.	Point Minutes	Press.	Point Minutes	Press.
P 1	<u>52</u>	<u>0</u>	<u>52</u>	<u>0</u>	<u>59</u>
P 2		<u>3</u>	<u>53</u>	<u>5</u>	
P 3		<u>6</u>	<u>82</u>	<u>10</u>	
P 4		<u>9</u>	<u>133</u>	<u>15</u>	
P 5		<u>12</u>	<u>197</u>	<u>20</u>	
P 6		<u>15</u>	<u>258</u>	<u>25</u>	
P 7	<u>52</u>	<u>18</u>	<u>311</u>	<u>30</u>	
P 8		<u>21</u>	<u>358</u>	<u>35</u>	
P 9		<u>24</u>	<u>396</u>	<u>40</u>	
P10		<u>27</u>	<u>430</u>	<u>45</u>	
P11		<u>30</u>	<u>460</u>	<u>50</u>	
P12		<u>33</u>		<u>55</u>	
P13		<u>36</u>		<u>60</u>	<u>59</u>
P14		<u>39</u>		<u>65</u>	
P15		<u>42</u>		<u>70</u>	
P16		<u>45</u>		<u>75</u>	
P17		<u>48</u>		<u>80</u>	
P18		<u>51</u>		<u>85</u>	
P19		<u>54</u>		<u>90</u>	
P20		<u>57</u>			
		<u>60</u>			

2605 B7.5

TKT # 7866

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Company Range Oil Co., Inc. Lease & Well No. Jarvis'E' #1
 Elevation 1210 Kelly Bush Formation Mississippi Effective Pay - Ft. Ticket No. 7866
 Date 7-18-81 Sec. 17 Twp. 31S Range 5E County Cowley State Kansas
 Test Approved by H. G. McMahon III Western Representative Robert Davis

Formation Test No. 5 Interval Tested from 2895 ft. to 2905 ft. Total Depth 2905 ft.
 Packer Depth 2895 ft. Size 6 3/4 in. Packer Depth 2890 ft. Size 6 3/4 in.
 Packer Depth - ft. Size - in. Packer Depth - ft. Size - in.
 Depth of Selective Zone Set -

Top Recorder Depth (Inside) 2895 ft. Recorder Number 2605 Cap. 4150
 Bottom Recorder Depth (Outside) 2900 ft. Recorder Number 10979 Cap. 4100
 Below Straddle Recorder Depth - ft. Recorder Number - Cap. -

Drilling Contractor Range Drilling Co., (#2) Drill Collar Length 149 I. D. 2.25 in.
 Mud Type Chem. Viscosity 41 Weight Pipe Length - I. D. - in.
 Weight 9.5 Water Loss 16.8 cc. Drill Pipe Length 2752 I. D. 3.8 in.
 Chlorides 2,000 P.P.M. Test Tool Length 19 ft. Tool Size 5 1/2 OD in.
 Jars: Make No Serial Number - Anchor Length 10 ft. Size 5 1/2 OD 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 4 1/2 XH in.

Blow: Fair 2" blow throughout initial flow period. Good (8" to 9") blow throughout final flow period.

Recovered 30 ft. of drilling mud with slight rainbow show of oil
 Recovered 60 ft. of oil and gas cut salty drilling mud 10% oil, 2% water, 88% mud
 Recovered 60 ft. of oil and gas cut salty drilling mud 20% oil, 6% water, 74% mud
 Recovered ft. of
 Recovered ft. of

Remarks:

Time Set Packer(s) 12:15 ~~AM~~ P.M. Time Started Off Bottom 3:15 ~~AM~~ P.M. Maximum Temperature 112°F
 Initial Hydrostatic Pressure (A) 1458 P.S.I.
 Initial Flow Period Minutes 30 (B) 52 P.S.I. to (C) 52 P.S.I.
 Initial Closed In Period Minutes 30 (D) 460 P.S.I.
 Final Flow Period Minutes 60 (E) 59 P.S.I. to (F) 59 P.S.I.
 Final Closed In Period Minutes 60 (G) 527 P.S.I.
 Final Hydrostatic Pressure (H) 1458 P.S.I.

WESTERN TESTING CO., INC.

Pressure Data

Date 7-18-81

Test Ticket No. 7866

Recorder No. 2605 Capacity 4150

Location 2896 Ft.

Clock No. ----- Elevation 1210 Kelly Bushing

Well Temperature 112 °F

Point	Pressure	Open Tool	Time Given	Time Computed
A Initial Hydrostatic Mud	<u>1458</u> P.S.I.		<u>12:15</u> P M	
B First Initial Flow Pressure	<u>52</u> P.S.I.	First Flow Pressure	<u>30</u> Mins.	<u>30</u> Mins.
C First Final Flow Pressure	<u>52</u> P.S.I.	Initial Closed-in Pressure	<u>30</u> Mins.	<u>30</u> Mins.
D Initial Closed-in Pressure	<u>460</u> P.S.I.	Second Flow Pressure	<u>60</u> Mins.	<u>60</u> Mins.
E Second Initial Flow Pressure	<u>59</u> P.S.I.	Final Closed-in Pressure	<u>60</u> Mins.	<u>60</u> Mins.
F Second Final Flow Pressure	<u>59</u> P.S.I.			
G Final Closed-in Pressure	<u>527</u> P.S.I.			
H Final Hydrostatic Mud	<u>1458</u> 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: 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.	First Flow Pressure		Initial Shut-In		Second Flow Pressure		Final Shut-In	
	Press.	Point Minutes	Press.	Point Minutes	Press.	Point Minutes	Press.	Point Minutes
P 1 <u>0</u>	<u>52</u>	<u>0</u>	<u>52</u>	<u>0</u>	<u>59</u>	<u>0</u>	<u>59</u>	<u>0</u>
P 2 <u>5</u>	<u>52</u>	<u>3</u>	<u>53</u>	<u>5</u>	<u>59</u>	<u>3</u>	<u>82</u>	<u>3</u>
P 3 <u>10</u>	<u>52</u>	<u>6</u>	<u>82</u>	<u>10</u>	<u>59</u>	<u>6</u>	<u>135</u>	<u>6</u>
P 4 <u>15</u>	<u>52</u>	<u>9</u>	<u>133</u>	<u>15</u>	<u>59</u>	<u>9</u>	<u>184</u>	<u>9</u>
P 5 <u>20</u>	<u>52</u>	<u>12</u>	<u>197</u>	<u>20</u>	<u>59</u>	<u>12</u>	<u>233</u>	<u>12</u>
P 6 <u>25</u>	<u>52</u>	<u>15</u>	<u>258</u>	<u>25</u>	<u>59</u>	<u>15</u>	<u>282</u>	<u>15</u>
P 7 <u>30</u>	<u>52</u>	<u>18</u>	<u>311</u>	<u>30</u>	<u>59</u>	<u>18</u>	<u>322</u>	<u>18</u>
P 8		<u>21</u>	<u>358</u>	<u>35</u>	<u>59</u>	<u>21</u>	<u>358</u>	<u>21</u>
P 9		<u>24</u>	<u>396</u>	<u>40</u>	<u>59</u>	<u>24</u>	<u>390</u>	<u>24</u>
P10		<u>27</u>	<u>430</u>	<u>45</u>	<u>59</u>	<u>27</u>	<u>417</u>	<u>27</u>
P11		<u>30</u>	<u>460</u>	<u>50</u>	<u>59</u>	<u>30</u>	<u>439</u>	<u>30</u>
P12				<u>55</u>	<u>59</u>	<u>33</u>	<u>453</u>	<u>33</u>
P13				<u>60</u>	<u>59</u>	<u>36</u>	<u>470</u>	<u>36</u>
P14						<u>39</u>	<u>483</u>	<u>39</u>
P15						<u>42</u>	<u>494</u>	<u>42</u>
P16						<u>45</u>	<u>502</u>	<u>45</u>
P17						<u>48</u>	<u>510</u>	<u>48</u>
P18						<u>51</u>	<u>517</u>	<u>51</u>
P19						<u>54</u>	<u>521</u>	<u>54</u>
P20						<u>57</u>	<u>525</u>	<u>57</u>
						<u>60</u>	<u>527</u>	<u>60</u>