



WESTERN TESTING CO., INC.
FORMATION TESTING

TICKET No. 4873

P. O. BOX 1599 WICHITA, KANSAS 67201
PHONE (316) 838-0601

Elevation 1457 KB Formation Cattleman Eff. Pay Ft.

District Augusta Date 12-24-80 Customer Order No.

COMPANY NAME Range Oil Co Inc

ADDRESS 240 page ct 220 Douglas Wichita, Kans. 67202

LEASE AND WELL NO. More A-1 COUNTY Butler STATE Kans. Sec. 26 Twp. 26s Rge. 7E

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

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

Formation Test No. 2 Interval Tested from 2627 ft. to 2638 ft. Total Depth 2638 ft.

Packer Depth 2622 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.

Packer Depth 2627 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.

Depth of Selective Zone Set

Top Recorder Depth (Inside) 2631 ft. Recorder Number 3354 Cap. 4200

Bottom Recorder Depth (Outside) 2634 ft. Recorder Number 10980 Cap. 4200

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

Drilling Contractor Co. tools #1 Drill Collar Length 150 I. D. 2 1/4 in.

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

Weight 9.8 Water Loss 12 cc. Drill Pipe Length 2573 I. D. 3.8 in.

Chlorides 1600 P.P.M. Test Tool Length 20 ft. Tool Size OD 4 1/2 in.

Jars: Make NO Serial Number - Anchor Length 11 ft. Size OD 4 1/2 in.

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

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

Blow: Weak thru out Test

Recovered 55 ft. of DRILL mud slight Rainbo Few oil spec.

Recovered ft. of

Recovered ft. of

Recovered ft. of

Recovered ft. of

Remarks:

ON LOC 12-23-80 8:30pm Pick up tool 12:00 AM 12-24-80 Job complete 9:00 AM 12-24

Time Set Packer(s) 2:30 A.M. P.M. Time Started Off Bottom 6:00 A.M. P.M. Maximum Temperature 107

Initial Hydrostatic Pressure (A) 1350 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) 864 P.S.I.

Final Flow Period Minutes 90 (E) 31 P.S.I. to (F) 31 P.S.I.

Final Closed In Period Minutes 60 (G) 854 P.S.I.

Final Hydrostatic Pressure (H) 1339 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] Signature of Customer or his authorized representative

Western Representative Allen Edgington

FIELD INVOICE

Table with 2 columns: Item, Amount. Includes Open Hole Test (\$500.00), Misc. (\$0), Straddle Test (\$0), Jars (\$0), Selective Zone (\$0), Safety Joint (\$0), Standby (\$0), Evaluation (\$0), Extra Packer (\$0), Circ. Sub. (\$0), Mileage (39) (\$26.25), Fluid Sampler (\$0), Extra Charts (\$0), TOTAL (\$576.25).

**WESTERN TESTING CO., INC.**  
**Pressure Data**

Date 12-24

Test Ticket No. 4873

Recorder No. 3354

Capacity 4200

Location 2631 Ft.

Clock No. \_\_\_\_\_ Elevation 1457 KB

Well Temperature 107 °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	<u>1356</u> P.S.I.	Open Tool	<u>2:30</u> AM	
B First Initial Flow Pressure	<u>23</u> P.S.I.	First Flow Pressure	<u>30</u> Mins.	<u>30</u> Mins.
C First Final Flow Pressure	<u>26</u> P.S.I.	Initial Closed-in Pressure	<u>30</u> Mins.	<u>30</u> Mins.
D Initial Closed-in Pressure	<u>886</u> P.S.I.	Second Flow Pressure	<u>90</u> Mins.	<u>90</u> Mins.
E Second Initial Flow Pressure	<u>50</u> P.S.I.	Final Closed-in Pressure	<u>60</u> Mins.	<u>60</u> Mins.
F Second Final Flow Pressure	<u>44</u> P.S.I.			
G Final Closed-in Pressure	<u>848</u> P.S.I.			
H Final Hydrostatic Mud	<u>1341</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: 18 Inc.  
of 5 mins. and a  
final inc. of 0 Min.

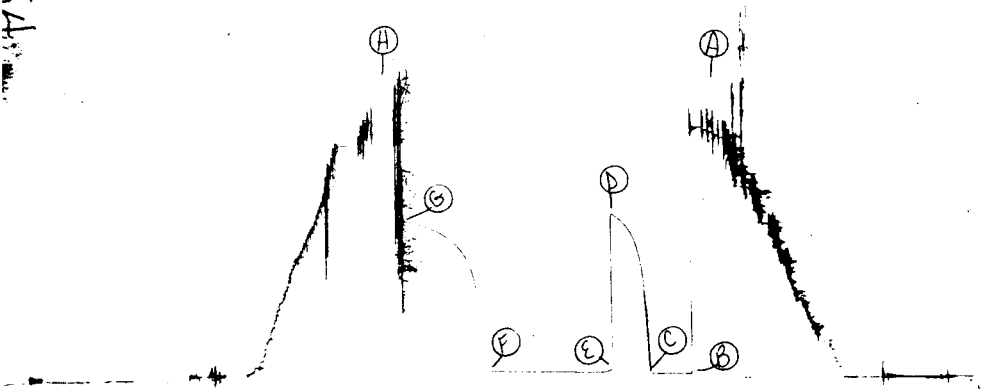
**Final Shut-In**  
Breakdown: 20 Inc.  
of 3 mins. and a  
final inc. of 0 Min.

Point Mins.	Press.	Point Minutes	Press.	Point Minutes	Press.	Point Minutes	Press.
P 1	<u>0</u> <u>23</u>	<u>0</u> <u>26</u>	<u>0</u> <u>50</u>	<u>0</u> <u>44</u>			
P 2	<u>5</u> <u>23</u>	<u>3</u> <u>295</u>	<u>5</u> <u>38</u>	<u>3</u> <u>167</u>			
P 3	<u>10</u> <u>24</u>	<u>6</u> <u>570</u>	<u>10</u> <u>37</u>	<u>6</u> <u>340</u>			
P 4	<u>15</u> <u>24</u>	<u>9</u> <u>681</u>	<u>15</u> <u>35</u>	<u>9</u> <u>479</u>			
P 5	<u>20</u> <u>25</u>	<u>12</u> <u>747</u>	<u>20</u> <u>36</u>	<u>12</u> <u>574</u>			
P 6	<u>25</u> <u>25</u>	<u>15</u> <u>790</u>	<u>25</u> <u>37</u>	<u>15</u> <u>636</u>			
P 7	<u>30</u> <u>26</u>	<u>18</u> <u>823</u>	<u>30</u> <u>38</u>	<u>18</u> <u>673</u>			
P 8	<u>35</u> _____	<u>21</u> <u>846</u>	<u>35</u> (	<u>21</u> <u>705</u>			
P 9	<u>40</u> _____	<u>24</u> <u>864</u>	<u>40</u> )	<u>24</u> <u>726</u>			
P 10	<u>45</u> _____	<u>27</u> <u>878</u>	<u>45</u> <u>38</u>	<u>27</u> <u>746</u>			
P 11	<u>50</u> _____	<u>30</u> <u>886</u>	<u>50</u> <u>39</u>	<u>30</u> <u>763</u>			
P 12	<u>55</u> _____	<u>33</u> _____	<u>55</u> <u>39</u>	<u>33</u> <u>777</u>			
P 13	<u>60</u> _____	<u>36</u> _____	<u>60</u> <u>39</u>	<u>36</u> <u>789</u>			
P 14	_____	<u>39</u> _____	<u>65</u> <u>40</u>	<u>39</u> <u>800</u>			
P 15	_____	<u>42</u> _____	<u>70</u> <u>41</u>	<u>42</u> <u>810</u>			
P 16	_____	<u>45</u> _____	<u>75</u> <u>42</u>	<u>45</u> <u>819</u>			
P 17	_____	<u>48</u> _____	<u>80</u> <u>43</u>	<u>48</u> <u>826</u>			
P 18	_____	<u>51</u> _____	<u>85</u> <u>43</u>	<u>51</u> <u>831</u>			
P 19	_____	<u>54</u> _____	<u>90</u> <u>44</u>	<u>54</u> <u>838</u>			
P 20	_____	<u>57</u> _____	_____	<u>57</u> <u>843</u>			
		<u>60</u> _____		<u>60</u> <u>848</u>			

TKT # 4873

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2254



Company Range Oil Company, Inc. Lease & Well No. Moore "A" #1  
 Elevation 1457 Kly Bushing Formation Cattleman Effective Pay ---- Ft. Ticket No. 4873  
 Date 12/24/80 Sec. 26 Twp 26S Range 7E County Butler State Kansas  
 Test Approved by H. G. McGavitt III Western Representative Allen Edgington

Formation Test No. 2 Interval Tested from 2627 ft. to 2638 ft. Total Depth 2638 ft.  
 Packer Depth 2622 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.  
 Packer Depth 2627 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.  
 Depth of Selective Zone Set -

Top Recorder Depth (Inside) 2631 ft. Recorder Number 3354 Cap. 4200  
 Bottom Recorder Depth (Outside) 2634 ft. Recorder Number 10980 Cap. 4200  
 Below Straddle Recorder Depth - ft. Recorder Number - Cap. -

Drilling Contractor Range Drilling Rig #1 Drill Collar Length 150 I. D. 2 1/4 in.  
 Mud Type chemical Viscosity 44 Weight Pipe Length - I. D. - in.  
 Weight 9.8 Water Loss 12 cc. Drill Pipe Length 2573 I. D. 3.8 in.  
 Chlorides 1,600 P.P.M. Test Tool Length 20 ft. Tool Size 4 1/2 OD in.  
 Jars: Make No Serial Number - Anchor Length 11 ft. Size 4 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: Weak throughout test.

Recovered 55 ft. of drilling mud slight rainbow; few oil specks  
 Recovered \_\_\_\_\_ ft. of \_\_\_\_\_  
 Recovered \_\_\_\_\_ ft. of \_\_\_\_\_  
 Recovered \_\_\_\_\_ ft. of \_\_\_\_\_  
 Recovered \_\_\_\_\_ ft. of \_\_\_\_\_

Remarks: \_\_\_\_\_

Time Set Packer(s) 2:30 ~~P.M.~~ <sup>A.M.</sup> Time Started Off Bottom 6:00 ~~P.M.~~ <sup>A.M.</sup> Maximum Temperature 107°  
 Initial Hydrostatic Pressure (A) 1356 P.S.I.  
 Initial Flow Period Minutes 30 (B) 23 P.S.I. to (C) 26 P.S.I.  
 Initial Closed In Period Minutes 30 (D) 886 P.S.I.  
 Final Flow Period Minutes 90 (E) 50 P.S.I. to (F) 44 P.S.I.  
 Final Closed In Period Minutes 60 (G) 848 P.S.I.  
 Final Hydrostatic Pressure (H) 1341 P.S.I.

**WESTERN TESTING CO., INC.**

**Pressure Data**

Date 12-24-80 Recorder No. 3354 Capacity 4200 Test Ticket No. 4873  
 Clock No. - Elevation 1457 Kelly Bushing Location 2631 Ft.  
 Well Temperature 107 °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	<u>1536</u>	P.S.I.	<u>2:30A</u>	<u>M</u>
B First Initial Flow Pressure	<u>23</u>	P.S.I.	<u>30</u>	<u>Mins.</u>
C First Final Flow Pressure	<u>26</u>	P.S.I.	<u>30</u>	<u>Mins.</u>
D Initial Closed-in Pressure	<u>886</u>	P.S.I.	<u>90</u>	<u>Mins.</u>
E Second Initial Flow Pressure	<u>50</u>	P.S.I.	<u>60</u>	<u>Mins.</u>
F Second Final Flow Pressure	<u>44</u>	P.S.I.		
G Final Closed-in Pressure	<u>848</u>	P.S.I.		
H Final Hydrostatic Mud	<u>1341</u>	P.S.I.		

**PRESSURE BREAKDOWN**

<b>First Flow Pressure</b> Breakdown: <u>6</u> Inc. of <u>5</u> mins. and a final inc. of <u>0</u> Min.	<b>Initial Shut-In</b> Breakdown: <u>10</u> Inc. of <u>3</u> mins. and a final inc. of <u>0</u> Min.	<b>Second Flow Pressure</b> Breakdown: <u>18</u> Inc. of <u>5</u> mins. and a final inc. of <u>0</u> Min.	<b>Final Shut-In</b> 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>23</u>	<u>0</u>	<u>26</u>	<u>0</u>	<u>50</u>	<u>0</u>	<u>44</u>
P 2	<u>5</u>	<u>23</u>	<u>3</u>	<u>295</u>	<u>5</u>	<u>38</u>	<u>3</u>	<u>167</u>
P 3	<u>10</u>	<u>24</u>	<u>6</u>	<u>570</u>	<u>10</u>	<u>37</u>	<u>6</u>	<u>340</u>
P 4	<u>15</u>	<u>24</u>	<u>9</u>	<u>681</u>	<u>15</u>	<u>35</u>	<u>9</u>	<u>479</u>
P 5	<u>20</u>	<u>25</u>	<u>12</u>	<u>747</u>	<u>20</u>	<u>36</u>	<u>12</u>	<u>574</u>
P 6	<u>25</u>	<u>25</u>	<u>15</u>	<u>790</u>	<u>25</u>	<u>37</u>	<u>15</u>	<u>636</u>
P 7	<u>30</u>	<u>26</u>	<u>18</u>	<u>823</u>	<u>30</u>	<u>38</u>	<u>18</u>	<u>673</u>
P 8			<u>21</u>	<u>846</u>	<u>35</u>	<u>38</u>	<u>21</u>	<u>705</u>
P 9			<u>24</u>	<u>864</u>	<u>40</u>	<u>38</u>	<u>24</u>	<u>726</u>
P10			<u>27</u>	<u>878</u>	<u>45</u>	<u>38</u>	<u>27</u>	<u>746</u>
P11			<u>30</u>	<u>886</u>	<u>50</u>	<u>39</u>	<u>30</u>	<u>763</u>
P12					<u>55</u>	<u>39</u>	<u>33</u>	<u>777</u>
P13					<u>60</u>	<u>39</u>	<u>36</u>	<u>789</u>
P14					<u>65</u>	<u>40</u>	<u>39</u>	<u>800</u>
P15					<u>70</u>	<u>41</u>	<u>42</u>	<u>810</u>
P16					<u>75</u>	<u>42</u>	<u>45</u>	<u>819</u>
P17					<u>80</u>	<u>43</u>	<u>48</u>	<u>826</u>
P18					<u>85</u>	<u>43</u>	<u>51</u>	<u>831</u>
P19					<u>90</u>	<u>44</u>	<u>54</u>	<u>838</u>
P20							<u>57</u>	<u>843</u>
							<u>60</u>	<u>848</u>



WESTERN TESTING CO., INC.

FORMATION TESTING

TICKET No 7967

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

Elevation 1457 KB Formation Mess (Dolomite) Eff. Pay - Ft.

District Augusta Date 12-27-80 Customer Order No. -

COMPANY NAME Range Oil Co. Inc.

ADDRESS 240 Page Court 220 W Douglas Wichita, Ks 67202

LEASE AND WELL NO. Moore A#1 COUNTY Butler STATE Ks Sec. 26 Twp 26S Rge 7E

Mail Invoice To Same No. Copies Requested 1

Mail Charts To Same No. Copies Requested 5

Formation Test No. 3 Interval Tested from 2722 ft. to 2730 ft. Total Depth 2730 ft.

Packer Depth 2722 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.

Packer Depth 2717 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.

Depth of Selective Zone Set -

Top Recorder Depth (Inside) 2710 AP ft. Recorder Number 2605 Cap. 4150

Bottom Recorder Depth (Outside) 2726 ft. Recorder Number 1560 Cap. 4500

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

Drilling Contractor Range Oil Co #1 Drill Collar Length 90 I. D. 2 1/4 in.

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

Weight 9.8 Water Loss 12.8 cc. Drill Pipe Length 2607 I. D. 3.8 in.

Chlorides 1500 P.P.M. Test Tool Length 33 ft. Tool Size 5 1/2 00 in.

Jars: Make - Serial Number - Anchor Length 8 ft. Size 5 1/2 00 in.

Did Well Flow? No Reversed Out No. 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 X H in.

Blow: 26 ash 21 minutes

Recovered 1 ft. of free oil

Recovered 20 ft. of slightly oil cut mud. 5% oil 95% mud

Recovered - ft. of

Recovered - ft. of

Remarks:

Time On Location 10:00 12:26 A.M. P.M. Time Pick Up Tool 10:45 12:26 A.M. P.M. Time Off Location 6:15 A.M. P.M.

Time Set Packer(s) 1:10 A.M. P.M. Time Started Off Bottom 3:40 A.M. P.M. Maximum Temperature 99

Initial Hydrostatic Pressure (A) 1430 P.S.I.

Initial Flow Period Minutes 30 (B) 20 P.S.I. to (C) 25 P.S.I.

Initial Closed In Period Minutes 30 (D) 510 P.S.I.

Final Flow Period Minutes 30 (E) 50 P.S.I. to (F) 30 P.S.I.

Final Closed In Period Minutes 60 (G) 530 P.S.I.

Final Hydrostatic Pressure (H) 1416 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] Signature of Customer or his authorized representative

Western Representative Norman Allen

FIELD INVOICE

Open Hole Test \$ 550.00

Misrun \$

Straddle Test \$

Jars \$

Selective Zone \$

Safety Joint \$

Standby \$

Evaluation \$

Extra Packer \$

Circ. Sub. \$

35 Mileage \$ 26.25

Fluid Sampler \$

Extra Charts \$

Insurance \$

TOTAL \$ 576.25

**WESTERN TESTING CO., INC.**  
**Pressure Data**

Date 12-27 Test Ticket No. 7967  
 Recorder No. 2605 Capacity 4150 Location 2710 Ft.  
 Clock No. \_\_\_\_\_ Elevation 1457 KB Well Temperature 99 °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	<u>1429</u> P.S.I.	Open Tool	<u>1:10 A</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>18</u> P.S.I.	Initial Closed-in Pressure	<u>30</u> Mins.	<u>30</u> Mins.
D Initial Closed-in Pressure	<u>509</u> P.S.I.	Second Flow Pressure	<u>30</u> Mins.	<u>30</u> Mins.
E Second Initial Flow Pressure	<u>78</u> P.S.I.	Final Closed-in Pressure	<u>60</u> Mins.	<u>60</u> Mins.
F Second Final Flow Pressure	<u>34</u> P.S.I.			
G Final Closed-in Pressure	<u>531</u> P.S.I.			
H Final Hydrostatic Mud	<u>1410</u> P.S.I.			

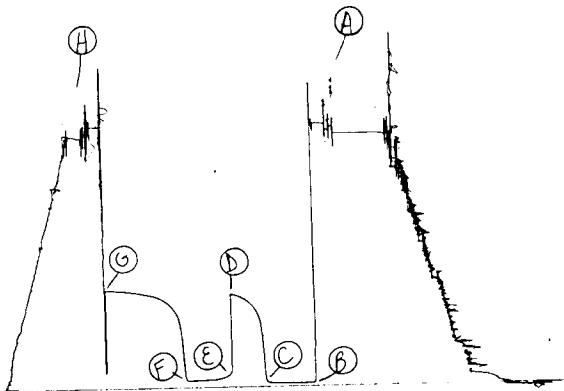
**PRESSURE BREAKDOWN**

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>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>18</u>	<u>0</u>	<u>78</u>	<u>0</u>	<u>34</u>
P 2	<u>5</u>	<u>3</u>	<u>18</u>	<u>5</u>	<u>49</u>	<u>3</u>	<u>35</u>
P 3	<u>10</u>	<u>6</u>	<u>35</u>	<u>10</u>	<u>40</u>	<u>6</u>	<u>258</u>
P 4	<u>15</u>	<u>9</u>	<u>275</u>	<u>15</u>	<u>36</u>	<u>9</u>	<u>379</u>
P 5	<u>20</u>	<u>12</u>	<u>387</u>	<u>20</u>	<u>36</u>	<u>12</u>	<u>417</u>
P 6	<u>25</u>	<u>15</u>	<u>431</u>	<u>25</u>	<u>35</u>	<u>15</u>	<u>446</u>
P 7	<u>30</u>	<u>18</u>	<u>455</u>	<u>30</u>	<u>34</u>	<u>18</u>	<u>465</u>
P 8	<u>35</u>	<u>21</u>	<u>475</u>	<u>35</u>		<u>21</u>	<u>480</u>
P 9	<u>40</u>	<u>24</u>	<u>489</u>	<u>40</u>		<u>24</u>	<u>491</u>
P10	<u>45</u>	<u>27</u>	<u>498</u>	<u>45</u>		<u>27</u>	<u>500</u>
P11	<u>50</u>	<u>30</u>	<u>509</u>	<u>50</u>		<u>30</u>	<u>504</u>
P12	<u>55</u>	<u>33</u>		<u>55</u>		<u>33</u>	<u>508</u>
P13	<u>60</u>	<u>36</u>		<u>60</u>		<u>36</u>	<u>512</u>
P14		<u>39</u>		<u>65</u>		<u>39</u>	<u>516</u>
P15		<u>42</u>		<u>70</u>		<u>42</u>	<u>520</u>
P16		<u>45</u>		<u>75</u>		<u>45</u>	<u>525</u>
P17		<u>48</u>		<u>80</u>		<u>48</u>	<u>527</u>
P18		<u>51</u>		<u>85</u>		<u>51</u>	<u>528</u>
P19		<u>54</u>		<u>90</u>		<u>54</u>	<u>529</u>
P20		<u>57</u>				<u>57</u>	<u>530</u>
		<u>60</u>				<u>60</u>	<u>531</u>

TKT # 7967

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Company Range Oil Company, Inc. Lease & Well No. Moore "A" #1  
 Elevation 1457 Kelly Bushing Formation Mississippi (Dolomite) Effective Pay --- Ft. Ticket No. 7967  
 Date 12/27/80 Sec. 26 Twp. 26S Range 7E County Butler State Kansas  
 Test Approved by H. G. McGavitti III Western Representative Norman Allen

Formation Test No. 3 Interval Tested from 2722 ft. to 2730 ft. Total Depth 2730 ft.  
 Packer Depth 2722 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.  
 Packer Depth 2717 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.

Depth of Selective Zone Set -  
 Top Recorder Depth (Inside) 2710 AP ft. Recorder Number 2605 Cap. 4150  
 Bottom Recorder Depth (Outside) 2726 AP ft. Recorder Number 1560 Cap. 4500  
 Below Straddle Recorder Depth - ft. Recorder Number - Cap. -

Drilling Contractor Range Drlg. Rig #1 Drill Collar Length 90 I. D. 2 1/4 in.  
 Mud Type chemical Viscosity 40 Weight Pipe Length - I. D. - in.  
 Weight 9.8 Water Loss 12.8 cc. Drill Pipe Length 2607 I. D. 3.8 in.  
 Chlorides 1,500 P.P.M. Test Tool Length 33 ft. Tool Size 5 1/2 OD in.  
 Jars: Make - Serial Number - Anchor Length 8 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: Weak twenty-one minutes.

Recovered 1 ft. of free oil  
 Recovered 20 ft. of slightly oil cut mud 5% oil; 95% mud  
 Recovered     ft. of      
 Recovered     ft. of      
 Recovered     ft. of    

Remarks:    

Time Set Packer(s) 1:10 ~~P.M.~~ A.M. Time Started Off Bottom 3:40 ~~P.M.~~ A.M. Maximum Temperature 99°  
 Initial Hydrostatic Pressure (A) 1429 P.S.I.  
 Initial Flow Period Minutes 30 (B) 21 P.S.I. to (C) 18 P.S.I.  
 Initial Closed In Period Minutes 30 (D) 509 P.S.I.  
 Final Flow Period Minutes 30 (E) 78 P.S.I. to (F) 34 P.S.I.  
 Final Closed In Period Minutes 60 (G) 531 P.S.I.  
 Final Hydrostatic Pressure (H) 1410 P.S.I.

# WESTERN TESTING CO., INC.

## Pressure Data

Date 12-27-80 Test Ticket No. 7967  
 Recorder No. 2605 Capacity 4150 Location 2710 Ft.  
 Clock No. - Elevation 1457 Kelly Bushing Well Temperature 99 °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	<u>1429</u>	P.S.I.	<u>1:10A</u>	<u>M</u>
B First Initial Flow Pressure	<u>21</u>	P.S.I.	<u>30</u>	<u>30</u>
C First Final Flow Pressure	<u>18</u>	P.S.I.	<u>30</u>	<u>30</u>
D Initial Closed-in Pressure	<u>509</u>	P.S.I.	<u>30</u>	<u>30</u>
E Second Initial Flow Pressure	<u>78</u>	P.S.I.	<u>60</u>	<u>60</u>
F Second Final Flow Pressure	<u>34</u>	P.S.I.		
G Final Closed-in Pressure	<u>531</u>	P.S.I.		
H Final Hydrostatic Mud	<u>1410</u>	P.S.I.		

### PRESSURE BREAKDOWN

<b>First Flow Pressure</b> Breakdown: <u>6</u> Inc. of <u>5</u> mins. and a final inc. of <u>0</u> Min.	<b>Initial Shut-In</b> Breakdown: <u>10</u> Inc. of <u>3</u> mins. and a final inc. of <u>0</u> Min.	<b>Second Flow Pressure</b> Breakdown: <u>6</u> Inc. of <u>5</u> mins. and a final inc. of <u>0</u> Min.	<b>Final Shut-In</b> 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>0</u>	<u>18</u>	<u>0</u>	<u>78</u>	<u>0</u>	<u>34</u>
P 2	<u>5</u>	<u>3</u>	<u>18</u>	<u>5</u>	<u>49</u>	<u>3</u>	<u>35</u>
P 3	<u>10</u>	<u>6</u>	<u>35</u>	<u>10</u>	<u>40</u>	<u>6</u>	<u>258</u>
P 4	<u>15</u>	<u>9</u>	<u>275</u>	<u>15</u>	<u>36</u>	<u>9</u>	<u>379</u>
P 5	<u>20</u>	<u>12</u>	<u>387</u>	<u>20</u>	<u>36</u>	<u>12</u>	<u>417</u>
P 6	<u>25</u>	<u>15</u>	<u>431</u>	<u>25</u>	<u>35</u>	<u>15</u>	<u>446</u>
P 7	<u>30</u>	<u>18</u>	<u>455</u>	<u>30</u>	<u>34</u>	<u>18</u>	<u>465</u>
P 8		<u>21</u>	<u>475</u>			<u>21</u>	<u>480</u>
P 9		<u>24</u>	<u>489</u>			<u>24</u>	<u>491</u>
P10		<u>27</u>	<u>498</u>			<u>27</u>	<u>500</u>
P11		<u>30</u>	<u>509</u>			<u>30</u>	<u>504</u>
P12						<u>33</u>	<u>508</u>
P13						<u>36</u>	<u>512</u>
P14						<u>39</u>	<u>516</u>
P15						<u>42</u>	<u>520</u>
P16						<u>45</u>	<u>525</u>
P17						<u>48</u>	<u>527</u>
P18						<u>51</u>	<u>528</u>
P19						<u>54</u>	<u>529</u>
P20						<u>57</u>	<u>530</u>
						<u>60</u>	<u>531</u>



WESTERN TESTING CO., INC.

FORMATION TESTING

TICKET No

7968

Kelly Bushung

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

Elevation 1457 KB Formation miss Eff. Pay Ft.

District Augusta Date 12-27-80 Customer Order No.

COMPANY NAME Range Oil Co Inc.

ADDRESS 240 Page Court 22021 Douglas Wichita, Ks 67202

LEASE AND WELL NO. Moore A #1 COUNTY Butler STATE Ks Sec. 26 Twp 26s Rge 7E

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 2730 ft. to 2740 ft. Total Depth 2740 ft.

Packer Depth 2730 ft. Size 6 3/4 in. Packer Depth 2725 ft. Size 6 3/4 in.

Depth of Selective Zone Set Top Recorder Depth (Inside) 2733 ft.

Bottom Recorder Depth (Outside) 2736 ft. Recorder Number 2605 Cap. 4150

Below Straddle Recorder Depth Recorder Number 1560 Cap. 4500

Drilling Contractor Range Oil Co #1 Drill Collar Length 90 I. D. 2 1/4 in.

Mud Type Chem Viscosity 40 Weight Pipe Length 2620 I. D. 3.8 in.

Weight 9.8 Water Loss 12.5 cc. Drill Pipe Length 30 I. D. 3.8 in.

Chlorides 1500 P.P.M. Test Tool Length 30 ft. Tool Size 5 1/2 in.

Jars: Make Serial Number Anchor Length 10 ft. Size 5 1/2 in.

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

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

Blow: Break thru test

Recovered 175 ft. of slightly muddy salt water .5 Resistivity @ 55°F

Recovered ft. of 37,000 PPM Chlorides

Recovered ft. of

Recovered ft. of

Recovered ft. of

Remarks:

Time On Location 11:45 12-27 A.M. P.M. Time Pick Up Tool 12:30 12-27 A.M. P.M.

Time Set Packer(s) 2:00 A.M. P.M. Time Started Off Bottom 5:30 A.M. P.M. Maximum Temperature 101

Initial Hydrostatic Pressure (A) 1430 P.S.I. Initial Flow Period Minutes 30 (B) 45 P.S.I. to (C) 30 P.S.I.

Initial Closed In Period Minutes 30 (D) 550 P.S.I. Final Flow Period Minutes 90 (E) 70 P.S.I. to (F) 70 P.S.I.

Final Closed In Period Minutes 60 (G) 510 P.S.I. Final Hydrostatic Pressure (H) 1390 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.

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 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.

**WESTERN TESTING CO., INC.**  
**Pressure Data**

Date 12-27 Test Ticket No. 7968  
 Recorder No. 2605 Capacity 4150 Location 2733 Ft.  
 Clock No. \_\_\_\_\_ Elevation 1457 KB Well Temperature 101 °F

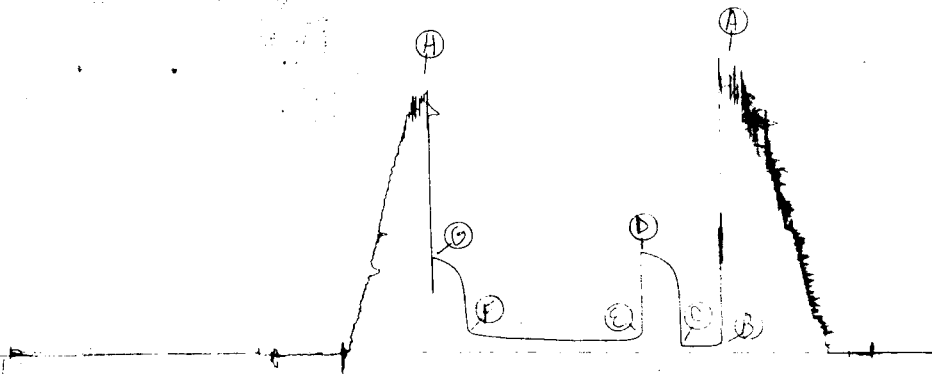
Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	<u>1431</u> P.S.I.	Open Tool	<u>2:00</u> P M	
B First Initial Flow Pressure	<u>54</u> P.S.I.	First Flow Pressure	<u>30</u> Mins.	<u>30</u> Mins.
C First Final Flow Pressure	<u>38</u> P.S.I.	Initial Closed-in Pressure	<u>30</u> Mins.	<u>30</u> Mins.
D Initial Closed-in Pressure	<u>551</u> P.S.I.	Second Flow Pressure	<u>90</u> Mins.	<u>90</u> Mins.
E Second Initial Flow Pressure	<u>106</u> P.S.I.	Final Closed-in Pressure	<u>60</u> Mins.	<u>63</u> Mins.
F Second Final Flow Pressure	<u>77</u> P.S.I.			
G Final Closed-in Pressure	<u>522</u> P.S.I.			
H Final Hydrostatic Mud	<u>1387</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>18</u> Inc.		Breakdown: <u>21</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>38</u>	<u>0</u>	<u>106</u>	<u>0</u>	<u>77</u>
P 2	<u>5</u>	<u>3</u>	<u>402</u>	<u>5</u>	<u>79</u>	<u>3</u>	<u>78</u>
P 3	<u>10</u>	<u>6</u>	<u>453</u>	<u>10</u>	<u>69</u>	<u>6</u>	<u>79</u>
P 4	<u>15</u>	<u>9</u>	<u>483</u>	<u>15</u>	<u>67</u>	<u>9</u>	<u>80</u>
P 5	<u>20</u>	<u>12</u>	<u>500</u>	<u>20</u>	<u>67</u>	<u>12</u>	<u>82</u>
P 6	<u>25</u>	<u>15</u>	<u>514</u>	<u>25</u>	<u>66</u>	<u>15</u>	<u>84</u>
P 7	<u>30</u>	<u>18</u>	<u>525</u>	<u>30</u>	<u>65</u>	<u>18</u>	<u>86</u>
P 8	<u>35</u>	<u>21</u>	<u>533</u>	<u>35</u>	<u>  </u>	<u>21</u>	<u>88</u>
P 9	<u>40</u>	<u>24</u>	<u>541</u>	<u>40</u>	<u>  </u>	<u>24</u>	<u>90</u>
P10	<u>45</u>	<u>27</u>	<u>546</u>	<u>45</u>	<u>65</u>	<u>27</u>	<u>93</u>
P11	<u>50</u>	<u>30</u>	<u>551</u>	<u>50</u>	<u>66</u>	<u>30</u>	<u>96</u>
P12	<u>55</u>	<u>33</u>	<u>  </u>	<u>55</u>	<u>67</u>	<u>33</u>	<u>100</u>
P13	<u>60</u>	<u>36</u>	<u>  </u>	<u>60</u>	<u>68</u>	<u>36</u>	<u>109</u>
P14	<u>  </u>	<u>39</u>	<u>  </u>	<u>65</u>	<u>70</u>	<u>39</u>	<u>171</u>
P15	<u>  </u>	<u>42</u>	<u>  </u>	<u>70</u>	<u>72</u>	<u>42</u>	<u>360</u>
P16	<u>  </u>	<u>45</u>	<u>  </u>	<u>75</u>	<u>74</u>	<u>45</u>	<u>430</u>
P17	<u>  </u>	<u>48</u>	<u>  </u>	<u>80</u>	<u>75</u>	<u>48</u>	<u>461</u>
P18	<u>  </u>	<u>51</u>	<u>  </u>	<u>85</u>	<u>76</u>	<u>51</u>	<u>479</u>
P19	<u>  </u>	<u>54</u>	<u>  </u>	<u>90</u>	<u>77</u>	<u>54</u>	<u>493</u>
P20	<u>  </u>	<u>57</u>	<u>  </u>	<u>  </u>	<u>  </u>	<u>57</u>	<u>503</u>
		<u>60</u>	<u>  </u>			<u>60</u>	<u>512</u>
						<u>63</u>	<u>522</u>

TKT # 7968

I



Company Range Oil Company, Inc. Lease & Well No. Moore "A" #1  
 Elevation 1457 Kelly Bushing Mississippi Formation Effective Pay - Ft. Ticket No. 7968  
 Date 12/27/80 Sec. 26 Twp. 26S Range 7E County Butler State Kansas  
 Test Approved by H. G. McGavitt III Western Representative Norman Allen

Formation Test No. 4 Interval Tested from 2730 ft. to 2740 ft. Total Depth 2740 ft.  
 Packer Depth 2730 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.  
 Packer Depth 2725 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.  
 Depth of Selective Zone Set -

Top Recorder Depth (Inside) 2733 ft. Recorder Number 2605 Cap. 4150  
 Bottom Recorder Depth (Outside) 2736 ft. Recorder Number 1560 Cap. 4500  
 Below Straddle Recorder Depth - ft. Recorder Number - Cap. -

Drilling Contractor Range Drilling Rig #1 Drill Collar Length 90 I. D. 2 1/4 in.  
 Mud Type chemical Viscosity 40 Weight Pipe Length - I. D. - in.  
 Weight 9.8 Water Loss 12.5 cc. Drill Pipe Length 2620 I. D. 3.8 in.  
 Chlorides 1,500 P.P.M. Test Tool Length 30 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.

Blow: Weak throughout test.

Recovered 175 ft. of slightly muddy salt water .5 resistivity @ 55° F  
 Recovered ft. of 37,000 ppm chlorides  
 Recovered ft. of  
 Recovered ft. of  
 Recovered ft. of

Remarks:

Time Set Packer(s) 2:00 A.M. Time Started Off Bottom 5:30 A.M. Maximum Temperature 101°  
P.M. P.M.  
 Initial Hydrostatic Pressure (A) 1431 P.S.I.  
 Initial Flow Period Minutes 30 (B) 54 P.S.I. to (C) 38 P.S.I.  
 Initial Closed In Period Minutes 30 (D) 551 P.S.I.  
 Final Flow Period Minutes 90 (E) 106 P.S.I. to (F) 77 P.S.I.  
 Final Closed In Period Minutes 63 (G) 522 P.S.I.  
 Final Hydrostatic Pressure (H) 1387 P.S.I.

**WESTERN TESTING CO., INC.**

**Pressure Data**

Date 12-27-80 Test Ticket No. 7968  
 Recorder No. 2605 Capacity 4150 Location 2733 Ft.  
 Clock No. - Elevation 1457 Kelly Bushing Well Temperature 101 °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	<u>1431</u> P.S.I.	Open Tool	<u>2:00P</u>	<u>M</u>
B First Initial Flow Pressure	<u>54</u> P.S.I.	First Flow Pressure	<u>30</u> Mins.	<u>30</u> Mins.
C First Final Flow Pressure	<u>38</u> P.S.I.	Initial Closed-in Pressure	<u>30</u> Mins.	<u>30</u> Mins.
D Initial Closed-in Pressure	<u>551</u> P.S.I.	Second Flow Pressure	<u>90</u> Mins.	<u>90</u> Mins.
E Second Initial Flow Pressure	<u>106</u> P.S.I.	Final Closed-in Pressure	<u>60</u> Mins.	<u>63</u> Mins.
F Second Final Flow Pressure	<u>77</u> P.S.I.			
G Final Closed-in Pressure	<u>522</u> P.S.I.			
H Final Hydrostatic Mud	<u>1387</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: 18 Inc.  
 of 5 mins. and a  
 final inc. of 0 Min.

**Final Shut-In**  
 Breakdown: 21 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 <u>0</u>	<u>54</u>	<u>0</u>	<u>38</u>	<u>0</u>	<u>106</u>	<u>0</u>	<u>77</u>
P 2 <u>5</u>	<u>41</u>	<u>3</u>	<u>402</u>	<u>5</u>	<u>79</u>	<u>3</u>	<u>78</u>
P 3 <u>10</u>	<u>39</u>	<u>6</u>	<u>453</u>	<u>10</u>	<u>69</u>	<u>6</u>	<u>79</u>
P 4 <u>15</u>	<u>36</u>	<u>9</u>	<u>483</u>	<u>15</u>	<u>67</u>	<u>9</u>	<u>80</u>
P 5 <u>20</u>	<u>37</u>	<u>12</u>	<u>500</u>	<u>20</u>	<u>67</u>	<u>12</u>	<u>82</u>
P 6 <u>25</u>	<u>37</u>	<u>15</u>	<u>514</u>	<u>25</u>	<u>66</u>	<u>15</u>	<u>84</u>
P 7 <u>30</u>	<u>38</u>	<u>18</u>	<u>525</u>	<u>30</u>	<u>65</u>	<u>18</u>	<u>86</u>
P 8 _____		<u>21</u>	<u>533</u>	<u>35</u>	<u>65</u>	<u>21</u>	<u>88</u>
P 9 _____		<u>24</u>	<u>541</u>	<u>40</u>	<u>65</u>	<u>24</u>	<u>90</u>
P10 _____		<u>27</u>	<u>546</u>	<u>45</u>	<u>65</u>	<u>27</u>	<u>93</u>
P11 _____		<u>30</u>	<u>551</u>	<u>50</u>	<u>66</u>	<u>30</u>	<u>96</u>
P12 _____				<u>55</u>	<u>67</u>	<u>33</u>	<u>100</u>
P13 _____				<u>60</u>	<u>68</u>	<u>36</u>	<u>109</u>
P14 _____				<u>65</u>	<u>70</u>	<u>39</u>	<u>171</u>
P15 _____				<u>70</u>	<u>72</u>	<u>42</u>	<u>360</u>
P16 _____				<u>75</u>	<u>74</u>	<u>45</u>	<u>430</u>
P17 _____				<u>80</u>	<u>75</u>	<u>48</u>	<u>461</u>
P18 _____				<u>85</u>	<u>76</u>	<u>51</u>	<u>479</u>
P19 _____				<u>90</u>	<u>77</u>	<u>54</u>	<u>493</u>
P20 _____						<u>57</u>	<u>503</u>
						<u>60</u>	<u>512</u>
						<u>63</u>	<u>522</u>