

Company Range Oil Company, Inc. Lease & Well No. Voorhis #4  
 Elevation 1115 Kelly Bushing Formation Layton Effective Pay - Ft. Ticket No. 14128  
 Date 2/19/82 Sec. 21 Twp. 34S Range 3W County Cowley State Kansas  
 Test Approved by J. G. McMahon III Western Representative Kenny Kirkendall  
 Formation Test No. 1 Interval Tested from 2592 ft. to 2601 ft. Total Depth 2601 ft.  
 Packer Depth 2592 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.  
 Packer Depth 2587 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.  
 Depth of Selective Zone Set -  
 Top Recorder Depth (Inside) AP 2582 ft. Recorder Number 2605 Cap. 4150  
 Bottom Recorder Depth (Outside) 2596 ft. Recorder Number 10979 Cap. 4100  
 Below Straddle Recorder Depth - ft. Recorder Number - Cap. -  
 Drilling Contractor Rig #3 Drill Collar Length 180 I. D. - in.  
 Mud Type chemical Viscosity 40 Weight Pipe Length - I. D. - in.  
 Weight 9.7 Water Loss 12 cc. Drill Pipe Length - I. D. - in.  
 Chlorides 1,900 P.P.M. Test Tool Length 20 ft. Tool Size 5 1/2 in.  
 Jars: Make - Serial Number - Anchor Length 9 ft. Size 5 1/2 in.  
 Did Well Flow? Gas 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: Strong blow. See attached sheet for gas measurements.

Recovered 2 ft. of mud

Recovered        ft. of       

Recovered        ft. of       

Recovered        ft. of       

Recovered        ft. of       

Remarks:       

Time Set Packer(s)        A.M. P.M. Time Started Off Bottom        A.M. P.M. Maximum Temperature 97°  
 Initial Hydrostatic Pressure        (A) 1310 P.S.I.  
 Initial Flow Period        Minutes 30 (B) 227 P.S.I. to (C) 314 P.S.I.  
 Initial Closed In Period        Minutes 36 (D) 945 P.S.I.  
 Final Flow Period        Minutes 60 (E) 345 P.S.I. to (F) 367 P.S.I.  
 Final Closed In Period        Minutes 96 (G) 937 P.S.I.  
 Final Hydrostatic Pressure        (H) 1290 P.S.I.



## GAS FLOW REPORT

Date 2/19/82 Ticket 14128 Company Range Oil Company, Inc.  
 Well Name and No. Voorhis #4 Dst No. 1 Interval Tested 2592'-2601'  
 County Cowley State Kansas Sec. 21 Twp. 34S Rg. 3W

| Time Gauge Pre-Flow | Time Gauge in Min. | P.S.I. on Merla Orifice Well Tester | P.S.I. on Pitot Tester | P.S.I. on Side Static Tester | P.S.I. on U-Tube Tester | Description of Flow |
|---------------------|--------------------|-------------------------------------|------------------------|------------------------------|-------------------------|---------------------|
|---------------------|--------------------|-------------------------------------|------------------------|------------------------------|-------------------------|---------------------|

### PRE FLOW

|  |         |    |      |  |            |                |
|--|---------|----|------|--|------------|----------------|
|  | 5 min.  | 34 | PSIG |  | 1" orifice | 1,043,000 CFPD |
|  | 10 min. | 44 | PSIG |  | 1" orifice | 1,247,000 CFPD |
|  | 15 min. | 52 | PSIG |  | 1" orifice | 1,422,000 CFPD |
|  | 20 min. | 56 | PSIG |  | 1" orifice | 1,509,000 CFPD |
|  | 25 min. | 58 | PSIG |  | 1" orifice | 1,553,000 CFPD |
|  | 30 min. | 58 | PSIG |  | 1" orifice | 1,553,000 CFPD |

### SECOND FLOW

|  |         |    |      |  |             |                |
|--|---------|----|------|--|-------------|----------------|
|  | 5 min   | 30 | PSIG |  | 1½" orifice | 2,558,000 CFPD |
|  | 10 min. | 35 | PSIG |  | 1½" orifice | 2,858,000 CFPD |
|  | 15 min. | 35 | PSIG |  | 1½" orifice | 2,858,000 CFPD |
|  | 20 min. | 35 | PSIG |  | 1½" orifice | 2,858,000 CFPD |
|  | 25 min. | 35 | PSIG |  | 1½" orifice | 2,858,000 CFPD |
|  | 30 min. | 35 | PSIG |  | 1½" orifice | 2,858,000 CFPD |
|  | 35 min. | 35 | PSIG |  | 1½" orifice | 2,858,000 CFPD |
|  | 40 min. | 35 | PSIG |  | 1½" orifice | 2,858,000 CFPD |
|  | 45 min. | 35 | PSIG |  | 1½" orifice | 2,858,000 CFPD |
|  | 50 min. | 35 | PSIG |  | 1½" orifice | 2,858,000 CFPD |
|  | 55 min. | 35 | PSIG |  | 1½" orifice | 2,858,000 CFPD |
|  | 60 min. | 35 | PSIG |  | 1½" orifice | 2,858,000 CFPD |

### GAS BOTTLE

Serial No. 602 Date Bottle Filled 2/19/82 Date to be Invoiced 2/19/82

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

All charges subject to 1% per month, equal to 12% interest per annum after 30 days from date of invoice. Any expense incurred for collection will be added to the original amount.

COMPANY'S NAME Range Oil Company, Inc.

Authorized by H. G. McMahon III



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

Date 2/19/82 Test Ticket No. 14128  
Recorder No. 2605 Capacity 4150 Location 2582 AP Ft.  
Clock No. - Elevation 1115 Kelly Bushing Well Temperature 97 °F

| Point                          | Pressure    |                            | Time Given | Time Computed |
|--------------------------------|-------------|----------------------------|------------|---------------|
| A Initial Hydrostatic Mud      | 1310 P.S.I. | Open Tool                  | ---        | M             |
| B First Initial Flow Pressure  | 227 P.S.I.  | First Flow Pressure        | 30 Mins.   | 30 Mins.      |
| C First Final Flow Pressure    | 314 P.S.I.  | Initial Closed-in Pressure | 30 Mins.   | 36 Mins.      |
| D Initial Closed-in Pressure   | 945 P.S.I.  | Second Flow Pressure       | 60 Mins.   | 60 Mins.      |
| E Second Initial Flow Pressure | 345 P.S.I.  | Final Closed-in Pressure   | 90 Mins.   | 96 Mins.      |
| F Second Final Flow Pressure   | 367 P.S.I.  |                            |            |               |
| G Final Closed-in Pressure     | 937 P.S.I.  |                            |            |               |
| H Final Hydrostatic Mud        | 1290 P.S.I. |                            |            |               |

**PRESSURE BREAKDOWN**

| First Flow Pressure         |            | Initial Shut-In             |            | Second Flow Pressure        |            | Final Shut-In               |            |
|-----------------------------|------------|-----------------------------|------------|-----------------------------|------------|-----------------------------|------------|
| Breakdown: <u>6</u> Inc.    |            | Breakdown: <u>12</u> Inc.   |            | Breakdown: <u>12</u> Inc.   |            | Breakdown: <u>32</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>227</u> | <u>0</u>                    | <u>314</u> | <u>0</u>                    | <u>345</u> | <u>0</u>                    | <u>367</u> |
| P 2 <u>5</u>                | <u>237</u> | <u>3</u>                    | <u>807</u> | <u>5</u>                    | <u>345</u> | <u>3</u>                    | <u>798</u> |
| P 3 <u>10</u>               | <u>260</u> | <u>6</u>                    | <u>864</u> | <u>10</u>                   | <u>345</u> | <u>6</u>                    | <u>842</u> |
| P 4 <u>15</u>               | <u>275</u> | <u>9</u>                    | <u>890</u> | <u>15</u>                   | <u>346</u> | <u>9</u>                    | <u>866</u> |
| P 5 <u>20</u>               | <u>290</u> | <u>12</u>                   | <u>904</u> | <u>20</u>                   | <u>347</u> | <u>12</u>                   | <u>885</u> |
| P 6 <u>25</u>               | <u>304</u> | <u>15</u>                   | <u>917</u> | <u>25</u>                   | <u>351</u> | <u>15</u>                   | <u>900</u> |
| P 7 <u>30</u>               | <u>314</u> | <u>18</u>                   | <u>927</u> | <u>30</u>                   | <u>355</u> | <u>18</u>                   | <u>908</u> |
| P 8                         |            | <u>21</u>                   | <u>936</u> | <u>35</u>                   | <u>358</u> | <u>21</u>                   | <u>915</u> |
| P 9                         |            | <u>24</u>                   | <u>940</u> | <u>40</u>                   | <u>361</u> | <u>24</u>                   | <u>921</u> |
| P10                         |            | <u>27</u>                   | <u>942</u> | <u>45</u>                   | <u>364</u> | <u>27</u>                   | <u>923</u> |
| P11                         |            | <u>30</u>                   | <u>944</u> | <u>50</u>                   | <u>366</u> | <u>30</u>                   | <u>926</u> |
| P12                         |            | <u>33</u>                   | <u>945</u> | <u>55</u>                   | <u>366</u> | <u>33</u>                   | <u>928</u> |
| P13                         |            | <u>36</u>                   | <u>945</u> | <u>60</u>                   | <u>367</u> | <u>36</u>                   | <u>929</u> |
| P14                         |            |                             |            |                             |            | <u>39</u>                   | <u>930</u> |
| P15                         |            |                             |            |                             |            | <u>42</u>                   | <u>931</u> |
| P16                         |            |                             |            |                             |            | <u>45</u>                   | <u>932</u> |
| P17                         |            |                             |            |                             |            | <u>48</u>                   | <u>932</u> |
| P18                         |            |                             |            |                             |            | <u>51</u>                   | <u>933</u> |
| P19                         |            |                             |            |                             |            | <u>54</u>                   | <u>934</u> |
| P20                         |            |                             |            |                             |            | <u>57</u>                   | <u>934</u> |
|                             |            |                             |            |                             |            | <u>60</u>                   | <u>935</u> |

# WESTERN TESTING CO., INC.

## Pressure Data

Date 2/19/82 Recorder No. 2605 Capacity 4150 Test Ticket No. 14128  
 Location 2582 AP Ft. 97  
 Clock No. - Elevation 1115 Kelly Bushing Well Temperature 97 °F

| Point                          | Pressure    | Time Given | Time Computed |
|--------------------------------|-------------|------------|---------------|
| A Initial Hydrostatic Mud      | 1310 P.S.I. | ---        | M             |
| B First Initial Flow Pressure  | 227 P.S.I.  | 30 Mins.   | 30 Mins.      |
| C First Final Flow Pressure    | 314 P.S.I.  | 30 Mins.   | 36 Mins.      |
| D Initial Closed-in Pressure   | 945 P.S.I.  | 60 Mins.   | 60 Mins.      |
| E Second Initial Flow Pressure | 345 P.S.I.  | 90 Mins.   | 96 Mins.      |
| F Second Final Flow Pressure   | 367 P.S.I.  |            |               |
| G Final Closed-in Pressure     | 937 P.S.I.  |            |               |
| H Final Hydrostatic Mud        | 1290 P.S.I. |            |               |

## PRESSURE BREAKDOWN

| First Flow Pressure         |        | Initial Shut-In             |        | Second Flow Pressure        |        | Final Shut-In               |        |
|-----------------------------|--------|-----------------------------|--------|-----------------------------|--------|-----------------------------|--------|
| Breakdown: <u>6</u> Inc.    |        | Breakdown: <u>12</u> Inc.   |        | Breakdown: <u>12</u> Inc.   |        | Breakdown: <u>32</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                         |        |                             |        |                             |        | 63                          | 935    |
| P 2                         |        |                             |        |                             |        | 66                          | 936    |
| P 3                         |        |                             |        |                             |        | 69                          | 936    |
| P 4                         |        |                             |        |                             |        | 72                          | 937    |
| P 5                         |        |                             |        |                             |        | 75                          | 937    |
| P 6                         |        |                             |        |                             |        | 78                          | 937    |
| P 7                         |        |                             |        |                             |        | 81                          | 937    |
| P 8                         |        |                             |        |                             |        | 84                          | 937    |
| P 9                         |        |                             |        |                             |        | 87                          | 937    |
| P10                         |        |                             |        |                             |        | 90                          | 937    |
| P11                         |        |                             |        |                             |        | 93                          | 937    |
| P12                         |        |                             |        |                             |        | 96                          | 937    |
| P13                         |        |                             |        |                             |        |                             |        |
| P14                         |        |                             |        |                             |        |                             |        |
| P15                         |        |                             |        |                             |        |                             |        |
| P16                         |        |                             |        |                             |        |                             |        |
| P17                         |        |                             |        |                             |        |                             |        |
| P18                         |        |                             |        |                             |        |                             |        |
| P19                         |        |                             |        |                             |        |                             |        |
| P20                         |        |                             |        |                             |        |                             |        |

2605

Job # 14128

I

