



WESTERN TESTING CO., INC.
FORMATION TESTING

1247

TICKET NO 9637

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

Elevation 1276 Kb Formation Layton Eff. Pay Ft.

COMPANY NAME Range Oil Co Inc
ADDRESS 220 West Douglas Wichita Ks
LEASE AND WELL NO Shields A-1 COUNTY Cowley STATE Ks
Mail Invoice To Same No. Copies Requested 1
Mail Charts To Same #1 Shields 'A' Address No. Copies Requested 5

Formation Test No. 1 Interval Tested From 2345 ft. to 2368 ft. Total Depth 2368 ft.
Packer Depth 2345 ft. Size 6 3/4 in. Packer Depth ft. Size in.
Packer Depth 2340 ft. Size 6 3/4 in. Packer Depth ft. Size in.

Depth of Selective Zone Set
Top Recorder Depth (Inside) 2350 ft. Recorder Number 2605 Cap. 4150
Bottom Recorder Depth (Outside) 2350 ft. Recorder Number 2608 Cap. 4175
Below Straddle Recorder Depth ft. Recorder Number Cap.

Drilling Contractor Rig #2 Drill Collar Length 180 I. D. 2.25 in.
Mud Type Chem Viscosity 42 Weight Pipe Length I. D. in.
Weight 9.6 Water Loss 12 cc. Drill Pipe Length 2145 I. D. 3.8 in.
Chlorides 1600 P.P.M. Test Tool Length 20 ft. Tool Size 5 1/2 in.
Jars: Make 20 Serial Number Anchor Length 23 ft. Size 5 1/2 in.
Did Well Flow? Reversed Out Yes 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 1 1/2 in.

Blow: fair blow throughout test

Recovered 960 ft. of gas in pipe
Recovered 320 ft. of salt water "gassy"
Recovered ft. of
Recovered ft. of
Recovered ft. of
Chlorides P.P.M. Sample Jars used Remarks:

Time On Location 12:30 P.M. Time Pick Up Tool 2:30 P.M. Time Off Location P.M.
Time Set Packer(s) 4:10 P.M. Time Started Off Bottom 7:10 P.M. Maximum Temperature 102
Initial Hydrostatic Pressure (A) 1182 P.S.I.
Initial Flow Period Minutes 30 (B) 95 P.S.I. to (C) 116 P.S.I.
Initial Closed In Period Minutes 30 (D) 570 P.S.I.
Final Flow Period Minutes 60 (E) 158 P.S.I. to (F) 179 P.S.I.
Final Closed In Period Minutes 60 (G) 570 P.S.I.
Final Hydrostatic Pressure (H) 1182 P.S.I.

COMPANY TERMS DEC 23 1985

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, or 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 Robert H. H. Delux
Signature of Customer or his authorized representative

Western Representative Penny K. B. 1127

FIELD INVOICE

Open Hole Test \$ 550
Misrun \$
Straddle Test \$
Jars \$
Selective Zone \$
Safety Joint \$
Standby \$
Evaluation \$
Extra Packer \$
Circ. Sub. \$ 25
Mileage \$
Fluid Sampler \$
Extra Charts \$
Insurance \$
Telecopier \$
TOTAL \$

WESTERN TESTING CO., INC.

Pressure Data

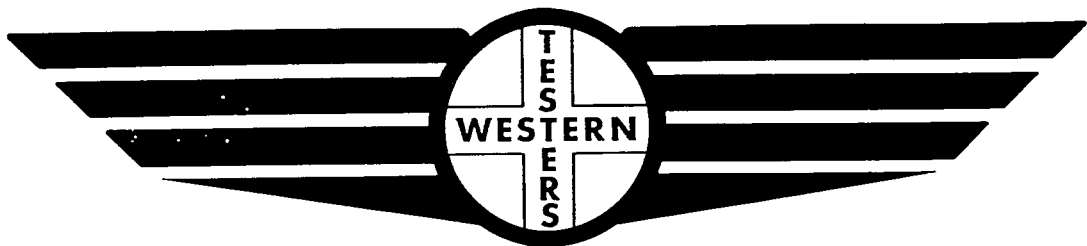
Date 12-20 Test Ticket No. 9637
 Recorder No. 2605 Capacity _____ Location _____ Ft.
 Clock No. _____ Elevation _____ Well Temperature _____ °F

Point	Pressure	Time Given	Time Computed
A Initial Hydrostatic Mud	<u>1168</u> P.S.I.		
B First Initial Flow Pressure	<u>97</u> P.S.I.	<u>30</u> Mins.	<u>30</u> Mins.
C First Final Flow Pressure	<u>124</u> P.S.I.	<u>30</u> Mins.	<u>30</u> Mins.
D Initial Closed-in Pressure	<u>576</u> P.S.I.	<u>60</u> Mins.	<u>60</u> Mins.
E Second Initial Flow Pressure	<u>152</u> P.S.I.	<u>60</u> Mins.	<u>60</u> Mins.
F Second Final Flow Pressure	<u>190</u> P.S.I.		
G Final Closed-in Pressure	<u>579</u> P.S.I.		
H Final Hydrostatic Mud	<u>1114</u> P.S.I.		

PRESSURE BREAKDOWN

First Flow Pressure		Initial Shut-In		Second Flow Pressure		Final Shut-In	
Breakdown: <u>7</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 0	<u>97</u>						
P 2 5	<u>99</u>	3	<u>447</u>	5	<u>152</u>	3	<u>407</u>
P 3 10	<u>103</u>	6	<u>527</u>	10	<u>156</u>	6	<u>508</u>
P 4 15	<u>107</u>	9	<u>545</u>	15	<u>161</u>	9	<u>537</u>
P 5 20	<u>111</u>	12	<u>554</u>	20	<u>164</u>	12	<u>551</u>
P 6 25	<u>116</u>	15	<u>562</u>	25	<u>167</u>	15	<u>558</u>
P 7 30	<u>124</u>	18	<u>567</u>	30	<u>170</u>	18	<u>562</u>
P 8 35		21	<u>571</u>	35	<u>174</u>	21	<u>565</u>
P 9 40		24	<u>574</u>	40	<u>178</u>	24	<u>568</u>
P10 45		27	<u>575</u>	45	<u>182</u>	27	<u>570</u>
P11 50		30	<u>576</u>	50	<u>185</u>	30	<u>572</u>
P12 55		33		55	<u>188</u>	33	<u>573</u>
P13 60		36		60	<u>190</u>	36	<u>574</u>
P14 65		39		65		39	<u>575</u>
P15 70		42		70		42	<u>576</u>
P16 75		45		75		45	<u>576</u>
P17 80		48		80		48	<u>577</u>
P18 85		51		85		51	<u>577</u>
P19 90		54		90		54	<u>578</u>
P20 95		57		95		57	<u>578</u>
100		60		100		60	<u>579</u>

FORMATION TEST REPORT



Home Office:

Wichita, Kansas 67201

P.O. Box 1599

Phone (316) 262-5861

COMPANY RANGE OIL COMPANY, INC. LEASE & WELL NO. #1 SHIELDS "A" SEC. 5 TWP. 32S RGE. 5E TEST NO. 1 DATE 12/20/85

SUBSURFACE PRESSURE SURVEY

DATE : 12-20-85
 CUSTOMER : RANGE OIL COMPANY INC.
 WELL : 1 TEST: 1
 ELEVATION : 1276
 SECTION : 5
 RANGE : 5E COUNTY : COWLEY
 GAUGE SN# : 2605 RANGE : 4150
 TICKET : 9637
 LEASE : SHIELDS "A"
 GEOLOGIST : R. OLSEN
 FORMATION : LAYTON
 TOWNSHIP : 32S
 STATE : KANSAS
 CLOCK : 12

INTERVAL FROM : 2345 TO : 2368 TOTAL DEPTH : 2368
 DEPTH OF SELECTIVE ZONE :
 PACKER DEPTH : 2345 SIZE : 6.75
 PACKER DEPTH : 2340 SIZE : 6.75
 PACKER DEPTH : SIZE :
 PACKER DEPTH : SIZE :

DRILLING CON. : RANGE DRILLING RIG #2
 MUD TYPE : CHEMICAL VISCOSITY : 42
 WEIGHT : 9.6 WATER LOSS (CC) : 12.0
 CHLORIDES (PPM) : 1600
 JARS-MAKE : NO SERIAL NUMBER :
 DID WELL FLOW ? : REVERSED OUT ? : YES

DRILL COLLAR LENGTH : 180 FT I.D. inch : 2.25
 WEIGHT PIPE LENGTH : 0 FT I.D. inch : 0.00
 DRILL PIPE LENGTH : 2145 FT I.D. inch : 3.80
 TEST TOOL LENGTH : 20 FT TOOL SIZE : 5.50
 ANCHOR LENGTH : 23 FT ANCHOR SIZE : 5.50
 SURFACE CHOKE SIZE : .75 IN BOTTOM CHOKE SIZE : .75
 MAIN HOLE SIZE : 7 7/8 IN TOOL JOINT SIZE : 4 1/2

BLOW COMMENT #1 : FAIR BLOW THROUGHOUT TEST.
 BLOW COMMENT #2 :
 BLOW COMMENT #3 :
 BLOW COMMENT #4 :

RECOVERED : 960 FT OF: GAS ABOVE FLUID. 12.2 Barrels
 RECOVERED : 320 FT OF: SALT WATER "GASSY". 4.1 Barrels
 RECOVERED : 0 FT OF: 0.0 Barrels
 RECOVERED : 0 FT OF: 0.0 Barrels
 RECOVERED : 0 FT OF: 0.0 Barrels
 RECOVERED : 0 FT OF: 0.0 Barrels
 RECOVERED : 0 FT OF: 0.0 Barrels
 RECOVERED : 0 FT OF: 0.0 Barrels
 RECOVERED : 0 FT OF: 0.0 Barrels
 RECOVERED : 0 FT OF: 0.0 Barrels
 Total Barrels = 16.3 Total Production = 261.0 Bpd

REMARK 1 :
 REMARK 2 :
 REMARK 3 :
 REMARK 4 :

SET PACKER(S) : 4:10 PM TIME STARTED OFF BOTTOM : 7:10 PM
 WELL TEMPERATURE : 102
 INITIAL HYDROSTATIC PRESSURE (A) 1168
 INITIAL FLOW PERIOD MIN: 30 (B) 97 PSI TO (C) : 124
 INITIAL CLOSED IN PERIOD MIN: 30 (D) 576
 FINAL FLOW PERIOD MIN: 60 (E) 152 PSI TO (F) : 190
 FINAL CLOSED IN PERIOD MIN: 60 (G) 579
 FINAL HYDROSTATIC PRESSURE (H) 1114

Pressure Transient Report

DATA FILE.....

COMPANY.....RANGE OIL COMPANY INC.

DATE OF TEST.....12-20-85

FIELD NAME.....SHIELDS "A"

WELL NAME.....1

LOCATION.....COWLEY-KANSAS

JOB NUMBER.....9637

GAUGE NUMBER.....2605

GAUGE DEPTH.....2368

COMMENTS

START UP TIME	(mo/da/yr)	(hr:min:sec)
	12./20/85.	4.: 10.: 0.

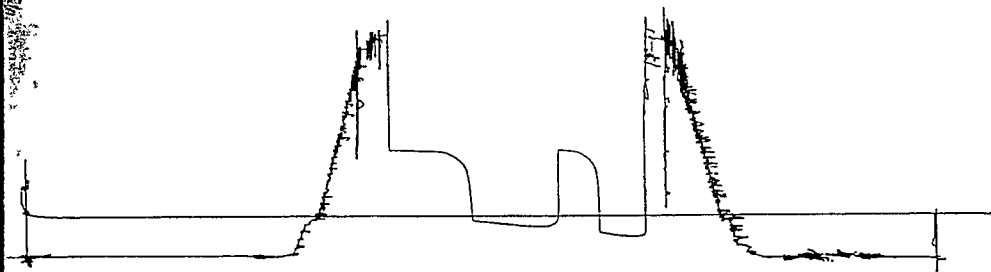
COMPANY : RANGE OIL COMPANY INC. FIELD : SHIELDS "A"
WELL : 1 JOB # : 9637
GAUGE # : 2605 DEPTH : 2368
MON/DAY : 12/20

PAGE 1

REC#	REAL TIME HR:MIN:SEC	ELAPSE TIME MINS HOURS	PRESSURE PSIG	TEMP DEG F	DELTA P (Po-Pi)	DP/DT Psi/hr
1	4:10: 0	0 0.000	97.00	102.0	0.00	-40.16
2	4:15: 0	5 0.083	99.00	102.0	2.00	24.09
3	4:20: 0	10 0.166	103.00	102.0	6.00	48.19
4	4:25: 0	15 0.250	107.00	102.0	10.00	47.63
5	4:30: 0	20 0.333	111.00	102.0	14.00	48.19
6	4:35: 0	25 0.416	116.00	102.0	19.00	60.24
7	4:40: 0	30 0.500	124.00	102.0	27.00	95.26
8	4:43: 0	33 0.550	447.00	102.0	350.00	6485.33
9	4:46: 0	36 0.600	527.00	102.0	430.00	1606.27
10	4:49: 0	39 0.649	545.00	102.0	448.00	361.41
11	4:52: 0	42 0.699	554.00	102.0	457.00	180.71
12	4:55: 0	45 0.750	562.00	102.0	465.00	157.54
13	4:58: 0	48 0.800	567.00	102.0	470.00	100.39
14	5: 1: 0	51 0.850	571.00	102.0	474.00	80.31
15	5: 4: 0	54 0.899	574.00	102.0	477.00	60.24
16	5: 7: 0	57 0.949	575.00	102.0	478.00	20.08
17	5:10: 0	60 1.000	576.00	102.0	479.00	19.69
18	5:15: 0	65 1.083	152.00	102.0	55.00	-5107.95
19	5:20: 0	70 1.166	156.00	102.0	59.00	48.19
20	5:25: 0	75 1.250	161.00	102.0	64.00	59.53
21	5:30: 0	80 1.333	164.00	102.0	67.00	36.14
22	5:35: 0	85 1.416	167.00	102.0	70.00	36.14
23	5:40: 0	90 1.500	170.00	102.0	73.00	35.72
24	5:45: 0	95 1.583	174.00	102.0	77.00	48.19
25	5:50: 0	100 1.666	178.00	102.0	81.00	48.19
26	5:55: 0	105 1.750	182.00	102.0	85.00	47.63
27	6: 0: 0	110 1.833	185.00	102.0	88.00	36.14
28	6: 5: 0	115 1.916	188.00	102.0	91.00	36.14
29	6:10: 0	120 2.000	190.00	102.0	93.00	23.81
30	6:13: 0	123 2.050	407.00	102.0	310.00	4357.02
31	6:16: 0	126 2.100	508.00	102.0	411.00	2027.92
32	6:19: 0	129 2.149	537.00	102.0	440.00	582.27
33	6:22: 0	132 2.199	551.00	102.0	454.00	281.10
34	6:25: 0	135 2.250	558.00	102.0	461.00	137.85
35	6:28: 0	138 2.300	562.00	102.0	465.00	80.31
36	6:31: 0	141 2.350	565.00	102.0	468.00	60.24
37	6:34: 0	144 2.399	568.00	102.0	471.00	60.24
38	6:37: 0	147 2.449	570.00	102.0	473.00	40.16
39	6:40: 0	150 2.500	572.00	102.0	475.00	39.38
40	6:43: 0	153 2.550	573.00	102.0	476.00	20.08
41	6:46: 0	156 2.600	574.00	102.0	477.00	20.08
42	6:49: 0	159 2.649	575.00	102.0	478.00	20.08
43	6:52: 0	162 2.699	576.00	102.0	479.00	20.08
44	6:55: 0	165 2.750	576.00	102.0	479.00	0.00
45	6:58: 0	168 2.800	577.00	102.0	480.00	20.08
46	7: 1: 0	171 2.850	577.00	102.0	480.00	0.00
47	7: 4: 0	174 2.899	578.00	102.0	481.00	20.08
48	7: 7: 0	177 2.949	578.00	102.0	481.00	0.00
49	7:10: 0	180 3.000	579.00	102.0	482.00	19.69

24 # 9637

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2605-
DST#1

Sta #9637

I. →

