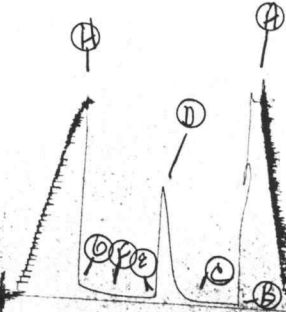


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DST #1

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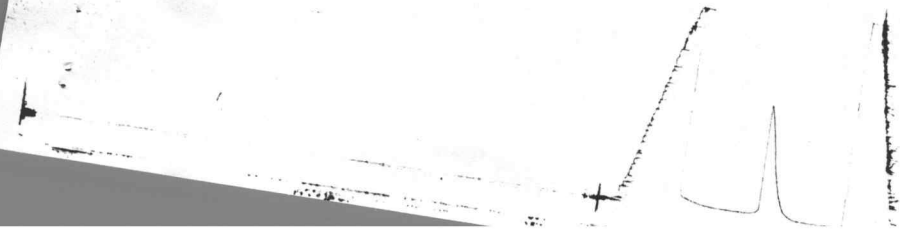
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# FORMATION TEST REPORT



Home Office:

Wichita, Kansas 67201

P.O. Box 1599

Phone (316) 262-5861

COMPANY RANGE OIL COMPANY INC. LEASE & WELL NO. FOULSTON #A-2 SEC. 2 TWP. 26SRGE. 3E TEST NO. 1 DATE 10/16/88

WESTERN TESTING CO. INC.  
SUBSURFACE PRESSURE SURVEY

DATE : 10-16-88  
CUSTOMER : RANGE OIL COMPANY INC.  
WELL : #A-2 TEST: 1  
ELEVATION : 1288 KB  
SECTION : 2  
RANGE : 3E COUNTY : BUTLER  
GAUGE SN# : 10979 RANGE : 4100  
TICKET : 14045  
LEASE : FOULSTON  
GEOLOGIST : R OLSEN  
FORMATION : KANSAS CITY  
TOWNSHIP : 26S  
STATE : KANSAS  
CLOCK : 12

INTERVAL FROM : 2229 TO : 2251 TOTAL DEPTH : 2251  
DEPTH OF SELECTIVE ZONE :  
PACKER DEPTH : 2224 SIZE : 6.63  
PACKER DEPTH : 2229 SIZE : 6.63  
PACKER DEPTH : SIZE :  
PACKER DEPTH : SIZE :

DRILLING CON. : RANGE RIG 1  
MUD TYPE : CHEMICAL VISCOSITY : 41  
WEIGHT : 9.2 WATER LOSS (CC) : -  
CHLORIDES (PPM) : 1800  
JARS-MAKE : - SERIAL NUMBER :  
DID WELL FLOW ? : NO REVERSED OUT ? : NO

DRILL COLLAR LENGTH : 232 FT I.D. inch : 2.25  
WEIGHT PIPE LENGTH : 0 FT I.D. inch : 0.00  
DRILL PIPE LENGTH : 1977 FT I.D. inch : 3.80  
TEST TOOL LENGTH : 20 FT TOOL SIZE : 5.50  
ANCHOR LENGTH : 22 FT ANCHOR SIZE : 5.50  
SURFACE CHOKE SIZE : .75 IN BOTTOM CHOKE SIZE : .75  
MAIN HOLE SIZE : 7.875 IN TOOL JOINT SIZE : 4.5 XH

BLOW COMMENT #1 : WEAK BLOW FOR 15 MINUTES.  
BLOW COMMENT #2 :  
BLOW COMMENT #3 :  
BLOW COMMENT #4 :

RECOVERED : 1 FT OF: FREE OIL 38 GRAVITY

RECOVERED : 15 FT OF: SLIGHTLY OIL CUT MUD

TOP: 10% OIL-90% MUD

BOTTOM: 5% OIL-95% MUD

CHLORIDES: 2000 PPM

Total Barrels Fluid = 0.08  
Total Fluid Prod Rate = 1.89 BFPD  
Indicated Oil Rate = 0.24 BOPD  
Indicated Wtr Rate = 0.17 BWPD  
Corrected Oil Rate = 2.61 BOPD  
Corrected Wtr Rate = 1.83 BWPD

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

SET PACKER(S) : 10:30 AM

TIME STARTED OFF BOTTOM : 12:30 AM

WELL TEMPERATURE : 96

INITIAL HYDROSTATIC PRESSURE

(A) 1131

INITIAL FLOW PERIOD MIN: 30

(B) 23 PSI TO (C) : 23

INITIAL CLOSED IN PERIOD MIN: 33

(D) 643

FINAL FLOW PERIOD MIN: 30

(E) 29 PSI TO (F) : 31

FINAL CLOSED IN PERIOD MIN: 27

(G) 77

FINAL HYDROSTATIC PRESSURE

(H) 1077

WESTERN TESTING CO. INC.  
WICHITA-KANSAS

Pressure Transient Report

COMPANY : RANGE OIL COMPANY INC.  
RIG : BUTLER-KANSAS  
FIELD : FOULSTON  
WELL : #A-2  
DATE : 10-16-88  
GAUGE NO : 10979

OPERATIONAL COMMENTS

COMPANY : RANGE OIL COMPANY INC.

FIELD : FOULSTON

WELL : #A-2

JOB # : 14045

GAUGE # : 10979

DEPTH : 2251

DATE : 16/10/88

TEST :

DATA No.	REAL TIME HR:MN:SS	ELAPSE TIME DELTA HOURS	PRESSURE PSIG	TEMP DEG F	DELTA P Pi-P(i-1)
INITIAL FLOW					
2	10:30:0	0.000	23.000	96.00	0.000
3	10:34:59	0.083	23.000	96.00	0.000
4	10:40:0	0.167	23.000	96.00	0.000
5	10:45:0	0.250	23.000	96.00	0.000
6	10:49:59	0.333	23.000	96.00	0.000
7	10:55:0	0.417	23.000	96.00	0.000
8	11:0:0	0.500	23.000	96.00	0.000
INITIAL SHUT-IN					
9	11:3:0	0.550	25.000	96.00	2.000
10	11:6:0	0.600	28.000	96.00	3.000
11	11:9:0	0.650	37.000	96.00	9.000
12	11:12:0	0.700	54.000	96.00	17.000
13	11:15:0	0.750	79.000	96.00	25.000
14	11:18:0	0.800	129.000	96.00	50.000
15	11:21:0	0.850	205.000	96.00	76.000
16	11:24:0	0.900	311.000	96.00	106.000
17	11:27:0	0.950	437.000	96.00	126.000
18	11:30:0	1.000	550.000	96.00	113.000
19	11:33:0	1.050	643.000	96.00	93.000
FINAL FLOW					
20	11:34:0	1.067	29.000	96.00	-614.000
21	11:37:59	1.133	29.000	96.00	0.000
22	11:43:0	1.217	29.000	96.00	0.000
23	11:48:0	1.300	29.000	96.00	0.000
24	11:52:59	1.383	29.000	96.00	0.000
25	11:58:0	1.467	30.000	96.00	1.000
26	12:3:0	1.550	31.000	96.00	1.000
FINAL SHUT-IN					
27	12:5:59	1.600	33.000	96.00	2.000
28	12:9:0	1.650	35.000	96.00	2.000
29	12:12:0	1.700	39.000	96.00	4.000
30	12:15:0	1.750	43.000	96.00	4.000
31	12:18:0	1.800	46.000	96.00	3.000
32	12:21:0	1.850	52.000	96.00	6.000
33	12:24:0	1.900	60.000	96.00	8.000
34	12:27:0	1.950	68.000	96.00	8.000
35	12:30:0	2.000	77.000	96.00	9.000

WESTERN TESTING CO. INC.

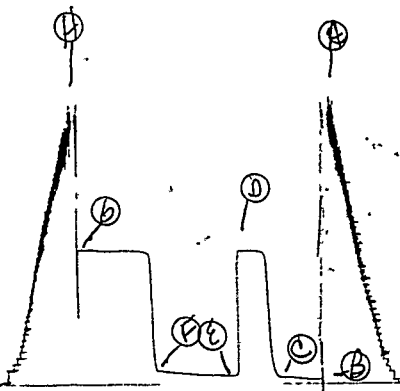
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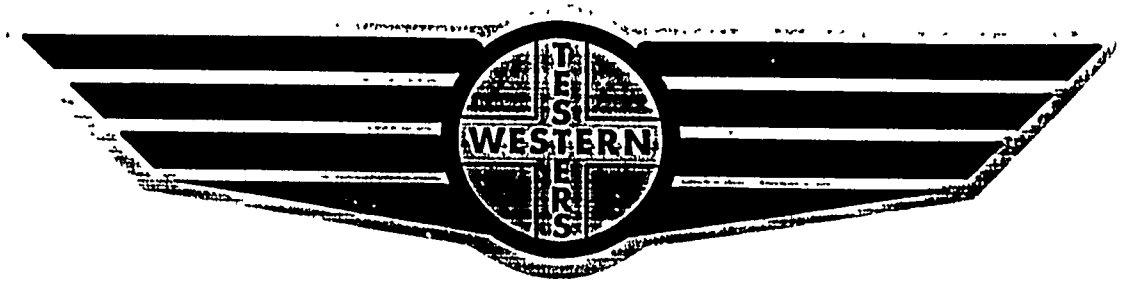


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DST # 2

10979

# FORMATION TEST REPORT



Home Office:

Wichita, Kansas 67201

P O. Box 1599

Phone (316) 262-5861

COMPANY RANGE OIL COMPANY INC. LEASE & WELL NO. FOULSTON #A-2 SEC. 2 TWP. 26SRGE. 3E TEST NO. 2 DATE 10/18/88

WESTERN TESTING CO. INC.  
SUBSURFACE PRESSURE SURVEY

DATE : 10-18-88 TICKET : 14046  
CUSTOMER : RANGE OIL COMPANY INC. LEASE : FOULSTON  
WELL : #A-2 TEST: 2 GEOLOGIST : R OLSEN  
ELEVATION : 1288 KB FORMATION : MISS-OSAGE  
SECTION : 2 TOWNSHIP : 26S  
RANGE : 3E COUNTY : BUTLER STATE : KANSAS  
GAUGE SN# : 10979 RANGE : 4100 CLOCK : 12

INTERVAL FROM : 2693 TO : 2708 TOTAL DEPTH : 2708  
DEPTH OF SELECTIVE ZONE :  
PACKER DEPTH : 2688 SIZE : 6.63  
PACKER DEPTH : 2693 SIZE : 6.63  
PACKER DEPTH : SIZE :  
PACKER DEPTH : SIZE :

DRILLING CON. : RANGE RIG 1  
MUD TYPE : CHEMICAL VISCOSITY : 40  
WEIGHT : 9.9 WATER LOSS (CC) : 12.-  
CHLORIDES (PPM) : 1800  
JARS-MAKE : - SERIAL NUMBER :  
DID WELL FLOW ? : NO REVERSED OUT ? : NO

DRILL COLLAR LENGTH : 232 FT I.D. inch : 2.25  
WEIGHT PIPE LENGTH : 0 FT I.D. inch : 0.00  
DRILL PIPE LENGTH : 2441 FT I.D. inch : 3.80  
TEST TOOL LENGTH : 20 FT TOOL SIZE : 5.50  
ANCHOR LENGTH : 15 FT ANCHOR SIZE : 5.50  
SURFACE CHOKE SIZE : .75 IN BOTTOM CHOKE SIZE : .75  
MAIN HOLE SIZE : 7.875 IN TOOL JOINT SIZE : 4.5 XH

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

RECOVERED : 10 FT OF: FREE OIL 42 GRAVITY  
 RECOVERED : 60 FT OF: OIL & GAS CUT MUD  
 TOP: 40% OIL-60% MUD  
 BOTTOM: 10% OIL-90% MUD  
 RECOVERED : 60 FT OF: SLIGHTLY OIL CUT MUDDY SALT WATER  
 OIL LESS THAN 2%  
 1.8 RESISTIVITY @ 70 DEG.F.  
 CHLORIDES: 60000 PPM

Total Barrels Fluid = 0.64  
 Total Fluid Prod Rate = 10.23 BFPD  
 Indicated Oil Rate = 2.75 BOPD  
 Indicated Wtr Rate = 3.93 BWPD  
 Corrected Oil Rate = 10.69 BOPD  
 Corrected Wtr Rate = 15.28 BWPD

REMARK 1 :  
 REMARK 2 : RECOVERED 110 FEET OF GAS ABOVE FLUID.  
 REMARK 3 :  
 REMARK 4 :

SET PACKER(S) : 5:30 AM                      TIME STARTED OFF BOTTOM : 8:30 AM  
 WELL TEMPERATURE : 108  
 INITIAL HYDROSTATIC PRESSURE (A) 1471  
 INITIAL FLOW PERIOD MIN: 30 (B) 23 PSI TO (C) : 34  
 INITIAL CLOSED IN PERIOD MIN: 33 (D) 726  
 FINAL FLOW PERIOD MIN: 60 (E) 43 PSI TO (F) : 71  
 FINAL CLOSED IN PERIOD MIN: 57 (G) 731  
 FINAL HYDROSTATIC PRESSURE (H) 1471

WESTERN TESTING CO. INC.  
WICHITA-KANSAS

Pressure Transient Report  
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COMPANY : RANGE OIL COMPANY INC.  
RIG : BUTLER-KANSAS  
FIELD : FOULSTON  
WELL : #A-2  
DATE : 10-18-88  
GAUGE NO : 10979

OPERATIONAL COMMENTS

RECOVERED 110 FEET OF GAS ABOVE FLUID.

COMPANY : RANGE OIL COMPANY INC.  
 WELL : #A-2  
 GAUGE # : 10979  
 DATE : 18/10/88

FIELD : FOULSTON  
 JOB # : 14046  
 DEPTH : 2708  
 TEST :

DATA No.	REAL TIME HR:MN:SS	ELAPSE TIME DELTA HOURS	PRESSURE PSIG	TEMP DEG F	DELTA P Pi-P(i-1)
INITIAL FLOW					
2	5:30:0	0.000	23.000	108.00	0.000
3	5:34:59	0.083	23.000	108.00	0.000
4	5:40:0	0.167	23.000	108.00	0.000
5	5:45:0	0.250	26.000	108.00	3.000
6	5:49:59	0.333	30.000	108.00	4.000
7	5:55:0	0.417	34.000	108.00	4.000
8	6:0:0	0.500	34.000	108.00	0.000
INITIAL SHUT-IN					
9	6:3:0	0.550	41.000	108.00	7.000
10	6:6:0	0.600	98.000	108.00	57.000
11	6:9:0	0.650	307.000	108.00	209.000
12	6:12:0	0.700	657.000	108.00	350.000
13	6:15:0	0.750	716.000	108.00	59.000
14	6:18:0	0.800	723.000	108.00	7.000
15	6:21:0	0.850	724.000	108.00	1.000
16	6:24:0	0.900	725.000	108.00	1.000
17	6:27:0	0.950	726.000	108.00	1.000
18	6:30:0	1.000	726.000	108.00	0.000
19	6:33:0	1.050	726.000	108.00	0.000
FINAL FLOW					
20	6:34:0	1.067	43.000	108.00	-683.000
21	6:37:59	1.133	43.000	108.00	0.000
22	6:43:0	1.217	43.000	108.00	0.000
23	6:48:0	1.300	44.000	108.00	1.000
24	6:52:59	1.383	46.000	108.00	2.000
25	6:58:0	1.467	48.000	108.00	2.000
26	7:3:0	1.550	50.000	108.00	2.000
27	7:7:59	1.633	52.000	108.00	2.000
28	7:13:0	1.717	55.000	108.00	3.000
29	7:18:0	1.800	58.000	108.00	3.000
30	7:22:59	1.883	62.000	108.00	4.000
31	7:28:0	1.967	66.000	108.00	4.000
32	7:33:0	2.050	71.000	108.00	5.000
FINAL SHUT-IN					
33	7:36:0	2.100	372.000	108.00	301.000
34	7:38:59	2.150	703.000	108.00	331.000
35	7:42:0	2.200	717.000	108.00	14.000
36	7:45:0	2.250	721.000	108.00	4.000
37	7:48:0	2.300	724.000	108.00	3.000
38	7:51:0	2.350	724.000	108.00	0.000
39	7:53:59	2.400	725.000	108.00	1.000
40	7:57:0	2.450	725.000	108.00	0.000
41	8:0:0	2.500	726.000	108.00	1.000
42	8:3:0	2.550	726.000	108.00	0.000
43	8:6:0	2.600	727.000	108.00	1.000
44	8:9:0	2.650	727.000	108.00	0.000
45	8:11:59	2.700	728.000	108.00	1.000
46	8:15:0	2.750	728.000	108.00	0.000
47	8:18:0	2.800	728.000	108.00	0.000
48	8:21:0	2.850	729.000	108.00	1.000

COMPANY : RANGE OIL COMPANY INC.  
WELL : #A-2  
GAUGE # : 10979  
DATE : 18/10/88

FIELD : FOULSTON  
JOB # : 14046  
DEPTH : 2708  
TEST :

DATA No.	REAL TIME HR:MN:SS	ELAPSE TIME DELTA HOURS	PRESSURE PSIG	TEMP DEG F	DELTA P Pi-P(i-1)
49	8:24: 0	2.900	729.000	108.00	0.000
50	8:26:59	2.950	730.000	108.00	1.000
51	8:30: 0	3.000	731.000	108.00	1.000

WESTERN TESTING CO. INC.