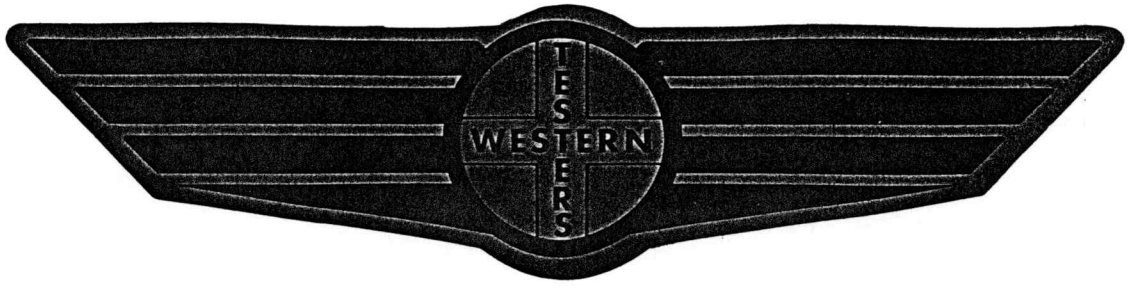
FORMATION TEST REPORT



Home Office: Wichita, Kansas 67201

P.O. Box 1599 Phone **1-800-688-7021**

COMPANY RANGE OIL COMPANY, INC. LEASE & WELL NO. KNOWLES A #1 SEC. 27 TWP. 32S RGE. 9E TEST NO. 1 DATE 12/9/91

WESTERN TESTING CO. INC.
SUBSURFACE PRESSURE SURVEY

DATE	12-9-91			TICKET	18300
CUSTOMER	RANGE OIL COMPANY INC.			LEASE	KNOWLES A
WELL	1 TEST: 1			GEOLOGIST	LAUER
ELEVATION	1189 KB			FORMATION	PAW.-FT.SC.
SECTION	27			TOWNSHIP	32S
RANGE	9E	COUNTY	CHAUTAUQUA	STATE	KANSAS
GAUGE SN#	10979	RANGE	4100	CLOCK	12

INTERVAL FROM	1972	TO	2025	TOTAL DEPTH	2025
DEPTH OF SELECTIVE ZONE					
PACKER DEPTH	1967	SIZE	6.63		
PACKER DEPTH	1972	SIZE	6.63		
PACKER DEPTH		SIZE			
PACKER DEPTH		SIZE			

DRILLING CON.	RED TIGER RIG 3		
MUD TYPE	CHEMICAL	VISCOSITY	55
WEIGHT	9.7	WATER LOSS (CC)	12.0
CHLORIDES (PPM)	1200		
JARS-MAKE		SERIAL NUMBER	
DID WELL FLOW ?	NO	REVERSED OUT ?	NO

DRILL COLLAR LENGTH	0	FT	I.D. inch	0.00	
WEIGHT PIPE LENGTH	600	FT	I.D. inch	2.80	
DRILL PIPE LENGTH	1352	FT	I.D. inch	3.80	
TEST TOOL LENGTH	20	FT	TOOL SIZE	5.50	
ANCHOR LENGTH	53	FT	ANCHOR SIZE	5.50	
SURFACE CHOKE SIZE	.75	IN	BOTTOM CHOKE SIZE	.75	
MAIN HOLE SIZE	7.875	IN	TOOL JOINT SIZE	4.5XH	

BLOW COMMENT #1 : INITIAL FLOW PERIOD STRONG BLOW DIMINISHING TO A
BLOW COMMENT #2 : WEAK BLOW - 3 INCH INTO BUCKET.
BLOW COMMENT #3 : FINAL FLOW PERIOD WEAK BLOW - 3 INCH INTO BUCKET.
BLOW COMMENT #4 :

RECOVERED : 170 FT OF: DRILLING MUD-SLIGHT SHOW

Total Barrels Fluid = 1.29
Total Fluid Prod Rate = 20.71 BFPD
Indicated Wtr Rate = 2.07 BWPD

REMARK 1 :
REMARK 2 : RECOVERED 60 FT. OF GAS ABOVE FLUID
REMARK 3 :
REMARK 4 :

SET PACKER(S) : 3:00 A.M. TIME STARTED OFF BOTTOM : 6:00 A.M.
WELL TEMPERATURE : 98

INITIAL HYDROSTATIC PRESSURE			(A)	1041	
INITIAL FLOW PERIOD	MIN:	30	(B)	73	PSI TO (C) : 87
INITIAL CLOSED IN PERIOD	MIN:	30	(D)	680	
FINAL FLOW PERIOD	MIN:	60	(E)	110	PSI TO (F) : 132
FINAL CLOSED IN PERIOD	MIN:	60	(G)	692	
FINAL HYDROSTATIC PRESSURE			(H)	1035	

WESTERN TESTING CO. INC.
WICHITA-KANSAS

Pressure Transient Report

COMPANY	: RANGE OIL COMPANY INC.
RIG	: CHAUTAUQUA-KANSAS
FIELD	: KNOWLES A
WELL	: 1
DATE	: 12-9-91
GAUGE NO	: 10979

OPERATIONAL COMMENTS

RECOVERED 60 FT. OF GAS ABOVE FLUID

COMPANY : RANGE OIL COMPANY INC.
WELL : 1
GAUGE # : 10979
DATE : 9/12/91

FIELD : KNOWLES A
JOB # : 18300
DEPTH : 2025
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 PERIOD					
2	3: 0: 0	0.000	73.000	98.00	0.000
3	3: 4:59	0.083	73.000	98.00	0.000
4	3:10: 0	0.167	73.000	98.00	0.000
5	3:15: 0	0.250	74.000	98.00	1.000
6	3:19:59	0.333	79.000	98.00	5.000
7	3:25: 0	0.417	83.000	98.00	4.000
8	3:30: 0	0.500	87.000	98.00	4.000
INITIAL SHUT-IN PERIOD					
9	3:33: 0	0.550	121.000	98.00	34.000
10	3:36: 0	0.600	273.000	98.00	152.000
11	3:39: 0	0.650	432.000	98.00	159.000
12	3:42: 0	0.700	526.000	98.00	94.000
13	3:45: 0	0.750	578.000	98.00	52.000
14	3:48: 0	0.800	609.000	98.00	31.000
15	3:51: 0	0.850	634.000	98.00	25.000
16	3:54: 0	0.900	655.000	98.00	21.000
17	3:57: 0	0.950	669.000	98.00	14.000
18	4: 0: 0	1.000	680.000	98.00	11.000
FINAL FLOW PERIOD					
19	4: 1: 0	1.017	110.000	98.00	-570.000
20	4: 4:59	1.083	110.000	98.00	0.000
21	4:10: 0	1.167	110.000	98.00	0.000
22	4:15: 0	1.250	110.000	98.00	0.000
23	4:19:59	1.333	111.000	98.00	1.000
24	4:25: 0	1.417	113.000	98.00	2.000
25	4:30: 0	1.500	115.000	98.00	2.000
26	4:34:59	1.583	119.000	98.00	4.000
27	4:40: 0	1.667	122.000	98.00	3.000
28	4:45: 0	1.750	125.000	98.00	3.000
29	4:49:59	1.833	127.000	98.00	2.000
30	4:55: 0	1.917	129.000	98.00	2.000
31	5: 0: 0	2.000	132.000	98.00	3.000
FINAL SHUT-IN PERIOD					
32	5: 3: 0	2.050	149.000	98.00	17.000
33	5: 5:59	2.100	225.000	98.00	76.000
34	5: 9: 0	2.150	368.000	98.00	143.000
35	5:12: 0	2.200	457.000	98.00	89.000
36	5:15: 0	2.250	515.000	98.00	58.000
37	5:18: 0	2.300	552.000	98.00	37.000
38	5:21: 0	2.350	574.000	98.00	22.000
39	5:24: 0	2.400	593.000	98.00	19.000
40	5:27: 0	2.450	609.000	98.00	16.000
41	5:30: 0	2.500	621.000	98.00	12.000
42	5:33: 0	2.550	633.000	98.00	12.000
43	5:36: 0	2.600	643.000	98.00	10.000
44	5:39: 0	2.650	653.000	98.00	10.000
45	5:42: 0	2.700	662.000	98.00	9.000
46	5:45: 0	2.750	668.000	98.00	6.000
47	5:48: 0	2.800	673.000	98.00	5.000
48	5:51: 0	2.850	678.000	98.00	5.000

COMPANY : RANGE OIL COMPANY INC.
WELL : 1
GAUGE # : 10979
DATE : 9/12/91

FIELD : KNOWLES A
JOB # : 18300
DEPTH : 2025
TEST :

DATA No.	REAL TIME HR:MN:SS	ELAPSE TIME DELTA HOURS	PRESSURE PSIG	TEMP DEG F	DELTA P Pi-P(i-1)
49	5:54: 0	2.900	684.000	98.00	6.000
50	5:57: 0	2.950	688.000	98.00	4.000
51	6: 0: 0	3.000	692.000	98.00	4.000

WESTERN TESTING CO. INC.

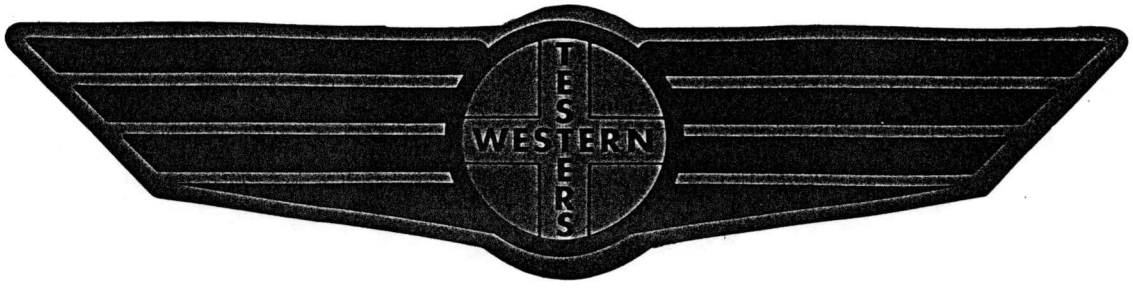
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FORMATION TEST REPORT



Home Office: Wichita, Kansas 67201

P.O. Box 1599 Phone **1-800-688-7021**

COMPANY RANGE OIL COMPANY, INC. LEASE & WELL NO. KNOWLES A #1 SEC. 27 TWP. 32S RGE. 9E TEST NO. 2 DATE 12/10/91

WESTERN TESTING CO. INC.
SUBSURFACE PRESSURE SURVEY

DATE	: 12-10-91			TICKET	: 17751
CUSTOMER	: RANGE OIL COMPANY INC.			LEASE	: KNOWLES A
WELL	: 1 TEST: 2			GEOLOGIST	:
ELEVATION	: 1189 KB			FORMATION	: MISSISSIPPI
SECTION	: 27			TOWNSHIP	: 32S
RANGE	: 9E	COUNTY	: CHAUTAUQUA	STATE	: KANSAS
GAUGE SN#	: 10979	RANGE	: 4100	CLOCK	: 12

INTERVAL FROM	: 2322	TO	: 2340	TOTAL DEPTH	: 2340
DEPTH OF SELECTIVE ZONE	:				
PACKER DEPTH	: 2317	SIZE	: 6.63		
PACKER DEPTH	: 2322	SIZE	: 6.63		
PACKER DEPTH	:	SIZE	:		
PACKER DEPTH	:	SIZE	:		

DRILLING CON.	: RED TIGER RIG 3		
MUD TYPE	: CHEMICAL	VISCOSITY	: 45
WEIGHT	: 9.7	WATER LOSS (CC)	: 11.2
CHLORIDES (PPM)	: 1400		
JARS-MAKE	:	SERIAL NUMBER	:
DID WELL FLOW ?	: NO	REVERSED OUT ?	: NO

DRILL COLLAR LENGTH	: 0	FT	I.D. inch	: 0.00	
WEIGHT PIPE LENGTH	: 600	FT	I.D. inch	: 2.80	
DRILL PIPE LENGTH	: 1702	FT	I.D. inch	: 3.80	
TEST TOOL LENGTH	: 20	FT	TOOL SIZE	: 5.50	
ANCHOR LENGTH	: 18	FT	ANCHOR SIZE	: 5.50	
SURFACE CHOKE SIZE	: .75	IN	BOTTOM CHOKE SIZE	: .75	
MAIN HOLE SIZE	: 7.875	IN	TOOL JOINT SIZE	: 4.5XH	

BLOW COMMENT #1 : INITIAL FLOW PERIOD WEAK BLOW THROUGHOUT.
BLOW COMMENT #2 : FINAL FLOW PERIOD NO BLOW.
BLOW COMMENT #3 :
BLOW COMMENT #4 :

RECOVERED : 5 FT OF: OIL CUT MUD - 1%OIL
RECOVERED : 1 FT OF: FREE OIL IN TOOL
RECOVERED : 0 FT OF: 35 GRAVITY AT 60 DEGREES

Total Barrels Fluid = 0.04
Total Fluid Prod Rate = 1.01 BFPD
Indicated Oil Rate = 0.01 BOPD
Indicated Wtr Rate = 0.09 BWPD
Corrected Oil Rate = 1.99 BOPD
Corrected Wtr Rate = 19.87 BWPD

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

SET PACKER(S) : 5:00 TIME STARTED OFF BOTTOM : 7:00
WELL TEMPERATURE : 104

INITIAL HYDROSTATIC PRESSURE			(A)	1208	
INITIAL FLOW PERIOD	MIN:	30	(B)	36	PSI TO (C) : 36
INITIAL CLOSED IN PERIOD	MIN:	30	(D)	61	
FINAL FLOW PERIOD	MIN:	30	(E)	40	PSI TO (F) : 40
FINAL CLOSED IN PERIOD	MIN:	30	(G)	48	
FINAL HYDROSTATIC PRESSURE			(H)	1187	

WESTERN TESTING CO. INC.
WICHITA-KANSAS

Pressure Transient Report

COMPANY	: RANGE OIL COMPANY INC.
RIG	: CHAUTAUQUA-KANSAS
FIELD	: KNOWLES A
WELL	: 1
DATE	: 12-10-91
GAUGE NO	: 10979

OPERATIONAL COMMENTS

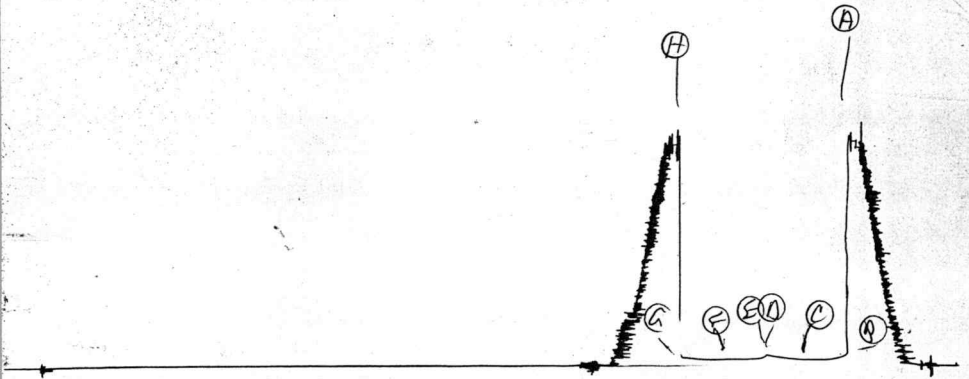
COMPANY : RANGE OIL COMPANY INC.
WELL : 1
GAUGE # : 10979
DATE : 10/12/91

FIELD : KNOWLES A
JOB # : 17751
DEPTH : 2340
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 PERIOD				
2	5: 0: 0	0.000	36.000	104.00	0.000
3	5: 4:59	0.083	36.000	104.00	0.000
4	5:10: 0	0.167	36.000	104.00	0.000
5	5:15: 0	0.250	36.000	104.00	0.000
6	5:19:59	0.333	36.000	104.00	0.000
7	5:25: 0	0.417	36.000	104.00	0.000
8	5:30: 0	0.500	36.000	104.00	0.000
	INITIAL SHUT-IN PERIOD				
9	5:33: 0	0.550	37.000	104.00	1.000
10	5:36: 0	0.600	37.000	104.00	0.000
11	5:39: 0	0.650	39.000	104.00	2.000
12	5:42: 0	0.700	41.000	104.00	2.000
13	5:45: 0	0.750	43.000	104.00	2.000
14	5:48: 0	0.800	45.000	104.00	2.000
15	5:51: 0	0.850	47.000	104.00	2.000
16	5:54: 0	0.900	52.000	104.00	5.000
17	5:57: 0	0.950	55.000	104.00	3.000
18	6: 0: 0	1.000	61.000	104.00	6.000
	FINAL FLOW PERIOD				
19	6: 1: 0	1.017	40.000	104.00	-21.000
20	6: 4:59	1.083	40.000	104.00	0.000
21	6:10: 0	1.167	40.000	104.00	0.000
22	6:15: 0	1.250	40.000	104.00	0.000
23	6:19:59	1.333	40.000	104.00	0.000
24	6:25: 0	1.417	40.000	104.00	0.000
25	6:30: 0	1.500	40.000	104.00	0.000
	FINAL SHUT-IN PERIOD				
26	6:33: 0	1.550	40.000	104.00	0.000
27	6:36: 0	1.600	40.000	104.00	0.000
28	6:39: 0	1.650	40.000	104.00	0.000
29	6:42: 0	1.700	40.000	104.00	0.000
30	6:45: 0	1.750	40.000	104.00	0.000
31	6:48: 0	1.800	40.000	104.00	0.000
32	6:51: 0	1.850	41.000	104.00	1.000
33	6:54: 0	1.900	43.000	104.00	2.000
34	6:57: 0	1.950	45.000	104.00	2.000
35	7: 0: 0	2.000	48.000	104.00	3.000

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