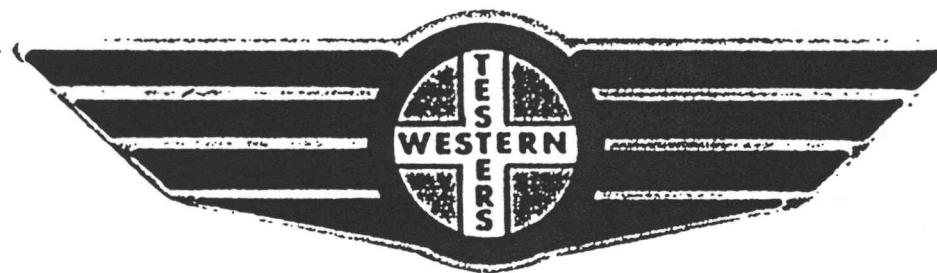


FORMATION TEST REPORT



Home Office:

Wichita, Kansas 67201

P.O. Box 1599

Phone (316) 262-5861

COMPANY

RANGE OIL COMPANY, INC.

LEASE & WELL NO.

COLLINSO A-1

SEC. 20 TWP. 34S

RGE. 3E

TEST NO. 1

DATE

8/21/88

WESTERN TESTING CO. INC.
SUBSURFACE PRESSURE SURVEY

DATE	:	8/21/88	TICKET	:	14073
CUSTOMER	:	RANGE OIL COMPANY INC.	LEASE	:	COLLINSON
WELL	:	A-1 TEST: 1	GEOLOGIST	:	OLSEN
ELEVATION	:	1151 KB	FORMATION	:	SEVERY
SECTION	:	20	TOWNSHIP	:	34S
RANGE	:	3E	STATE	:	KANSAS
GAUGE SN#	:	10979	CLOCK	:	12
		COUNTY :	COWLEY		
		RANGE :	4100		

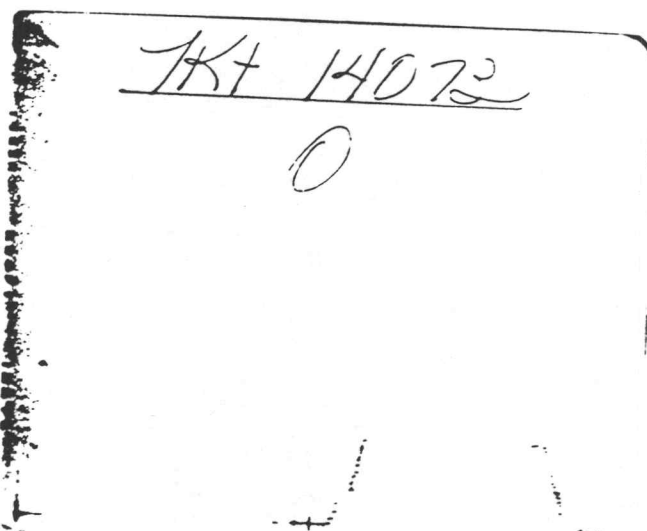
INTERVAL FROM	:	1435	TO	:	1469	TOTAL DEPTH	:	1469
DEPTH OF SELECTIVE ZONE	:							
PACKER DEPTH	:	1430	SIZE	:	6.63			
PACKER DEPTH	:	1435	SIZE	:	6.63			
PACKER DEPTH	:		SIZE	:				
PACKER DEPTH	:		SIZE	:				

DRILLING CON.	:	RANGE RIG 1			
MUD TYPE	:	CHEMICAL	VISCOSITY	:	37
WEIGHT	:	9.0	WATER LOSS (CC)	:	-
CHLORIDES (PPM)	:	-			
JARS-MAKE	:		SERIAL NUMBER	:	
DID WELL FLOW ?	:	GAS	REVERSED OUT ?	:	NO

DRILL COLLAR LENGTH	:	295	FT	I.D. inch	:	2.25
WEIGHT PIPE LENGTH	:	0	FT	I.D. inch	:	0.00
DRILL PIPE LENGTH	:	1120	FT	I.D. inch	:	3.80
TEST TOOL LENGTH	:	20	FT	TOOL SIZE	:	5.50
ANCHOR LENGTH	:	34	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 THROUGHOUT.
BLOW COMMENT #2 : GAS TO SURFACE IN 20 MINUTES.
BLOW COMMENT #3 : FINAL FLOW PERIOD STRONG TO WEAK BLOW.
BLOW COMMENT #4 :

(C)	728
(H)	714



GAS FLOW REPORT

Date : 8/21/88 Ticket # : 14073
 Customer : RANGE OIL COMPANY INC. Lease : COLLINSON
 Well : A-1 Test : 1 Geologist : OLSEN
 Elevation (KB) : 1151 KB Formation : SEVERY
 Section : 20 Township : 34S
 Range : 3E County : COWLEY State : KANSAS
 Gauge SN # : 10979 Range : 4100 Clock : 12

TIME GAUGE (MIN)	TESTER TYPE	ORFICE SIZE	PRESSURE (PSI)	FLOW DESCRIPTION
---------------------	-------------	----------------	-------------------	------------------

PRE FLOW

=====

20	MERLA			GAS TO SURFACE
25		1/4	5"WTR	3710 CFPD
30		1/4	5"WTR	3710 CFPD

SECOND FLOW

=====

40	MERLA	1/4	5"WTR	3710 CFPD
50		1/4	4"WTR	3370 CFPD
60		1/4	3"WTR	2920 CFPD
70		1/4	1"WTR	1680 CFPD
80				TOO WEAK TO GUAGE
90				TOO WEAK TO GUAGE

Gas Bottle SN # :
 Date Bottle Filled : 8/21/88
 Date to be Invoiced : 8/21/88

WESTERN TESTING CO. INC.
WICHITA-KANSAS

Pressure Transient Report

COMPANY : RANGE OIL COMPANY INC.
RIG : COWLEY-KANSAS
FIELD : COLLINSON
WELL : A-1
DATE : 8/21/88
GAUGE NO : 10979

OPERATIONAL COMMENTS

CHLORIDES 160000 PPM

COMPANY : RANGE OIL COMPANY INC.
WELL : A-1
GAUGE # : 10979
DATE : 21/ 8/88

FIELD : COLLINSON
JOB # : 14073
DEPTH : 1469
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	7:30: 0	0.000	67.000	89.00	0.000
3	7:34:59	0.083	83.000	89.00	16.000
4	7:40: 0	0.167	106.000	89.00	23.000
5	7:45: 0	0.250	122.000	89.00	16.000
6	7:49:59	0.333	129.000	89.00	7.000
7	7:55: 0	0.417	143.000	89.00	14.000
8	8: 0: 0	0.500	148.000	89.00	5.000
INITIAL SHUT-IN PERIOD					
9	8: 3: 0	0.550	291.000	89.00	143.000
10	8: 6: 0	0.600	363.000	89.00	72.000
11	8: 9: 0	0.650	383.000	89.00	20.000
12	8:12: 0	0.700	397.000	89.00	14.000
13	8:15: 0	0.750	408.000	89.00	11.000
14	8:18: 0	0.800	414.000	89.00	6.000
15	8:21: 0	0.850	420.000	89.00	6.000
16	8:24: 0	0.900	423.000	89.00	3.000
17	8:27: 0	0.950	425.000	89.00	2.000
18	8:30: 0	1.000	426.000	89.00	1.000
FINAL FLOW PERIOD					
19	8:31: 0	1.017	167.000	89.00	-259.000
20	8:34:59	1.083	171.000	89.00	4.000
21	8:40: 0	1.167	183.000	89.00	12.000
22	8:45: 0	1.250	197.000	89.00	14.000
23	8:49:59	1.333	204.000	89.00	7.000
24	8:55: 0	1.417	209.000	89.00	5.000
25	9: 0: 0	1.500	225.000	89.00	16.000
26	9: 4:59	1.583	231.000	89.00	6.000
27	9:10: 0	1.667	240.000	89.00	9.000
28	9:15: 0	1.750	248.000	89.00	8.000
29	9:19:59	1.833	254.000	89.00	6.000
30	9:25: 0	1.917	258.000	89.00	4.000
31	9:30: 0	2.000	266.000	89.00	8.000
FINAL SHUT-IN PERIOD					
32	9:33: 0	2.050	353.000	89.00	87.000
33	9:36: 0	2.100	380.000	89.00	27.000
34	9:39: 0	2.150	391.000	89.00	11.000
35	9:42: 0	2.200	401.000	89.00	10.000
36	9:45: 0	2.250	407.000	89.00	6.000
37	9:48: 0	2.300	411.000	89.00	4.000
38	9:51: 0	2.350	415.000	89.00	4.000
39	9:54: 0	2.400	417.000	89.00	2.000
40	9:57: 0	2.450	420.000	89.00	3.000
41	10: 0: 0	2.500	421.000	89.00	1.000
42	10: 3: 0	2.550	422.000	89.00	1.000
43	10: 6: 0	2.600	423.000	89.00	1.000
44	10: 9: 0	2.650	424.000	89.00	1.000
45	10:12: 0	2.700	424.000	89.00	0.000
46	10:15: 0	2.750	424.000	89.00	0.000
47	10:18: 0	2.800	425.000	89.00	1.000
48	10:21: 0	2.850	426.000	89.00	1.000

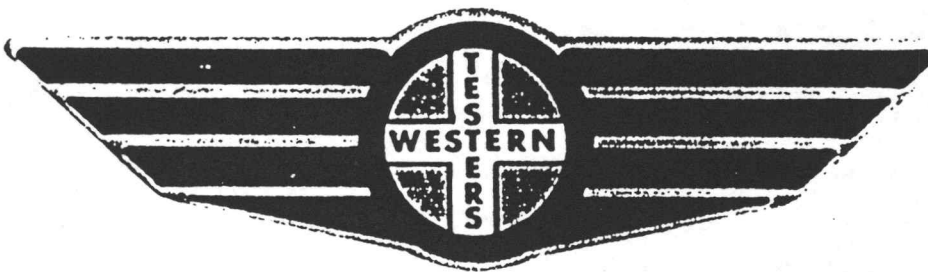
COMPANY : RANGE OIL COMPANY INC.
WELL : A-1
GAUGE # : 10979
DATE : 21/ 8/88

FIELD : COLLINSON
JOB # : 14073
DEPTH : 1469
TEST :

DATA No.	REAL TIME HR:MN:SS	ELAPSE TIME DELTA HOURS	PRESSURE PSIG	TEMP DEG F	DELTA P Pi-P(i-1)
49	10:24: 0	2.900	427.000	89.00	1.000
50	10:27: 0	2.950	428.000	89.00	1.000
51	10:30: 0	3.000	428.000	89.00	0.000

WESTERN TESTING CO. INC.

FORMATION TEST REPORT



Home Office:

Wichita, Kansas 67201

P.O. Box 1599

Phone (316) 262-5861

WESTERN TESTING CO. INC.
SUBSURFACE PRESSURE SURVEY

DATE	:	08-22-88	TICKET	:	14074
CUSTOMER	:	RANGE OIL CO. INC.	LEASE	:	COLLINSON
WELL	:	A-1 TEST: 2	GEOLOGIST	:	R. OLSEN
ELEVATION	:	1151	FORMATION	:	LOWER PEACOCK
SECTION	:	20	TOWNSHIP	:	34S
RANGE	:	3E	STATE	:	KANSAS
GAUGE SN#	:	10979	CLOCK	:	12
		COUNTY :	COWLEY		
		RANGE :	4100		

INTERVAL FROM	:	1900	TO	:	1962	TOTAL DEPTH	:	1962
DEPTH OF SELECTIVE ZONE	:							
PACKER DEPTH	:	1895	SIZE	:	6.63			
PACKER DEPTH	:	1900	SIZE	:	6.63			
PACKER DEPTH	:		SIZE	:				
PACKER DEPTH	:		SIZE	:				

DRILLING CON.	:	RANGE DRLG. #1			
MUD TYPE	:	CHEMICAL	VISCOSITY	:	36
WEIGHT	:	9.4	WATER LOSS (CC)	:	14
CHLORIDES (PPM)	:	2800			
JARS-MAKE	:		SERIAL NUMBER	:	
DID WELL FLOW ?	:	NO	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	:	1700	FT	I.D. inch	:	3.80
TEST TOOL LENGTH	:	20	FT	TOOL SIZE	:	5.50
ANCHOR LENGTH	:	62	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	:	STRONG BLOW DIMINISHING TO FAIR
BLOW COMMENT #2	:	AT END OF TEST.
BLOW COMMENT #3	:	
BLOW COMMENT #4	:	

RECOVERED : 1200 FT OF: SALT WATER
RECOVERED : 0 FT OF: .24 RESISTIVITY AT 90 DEGREES F.

Total Barrels Fluid = 15.19
Total Fluid Prod Rate = 243.07 BFPD
Indicated Wtr Rate = 243.07 BWPD

REMARK 1 :
REMARK 2 : CHLORIDES 122000 PPM
REMARK 3 :
REMARK 4 :

SET PACKER(S) : 12:00 AM

TIME STARTED OFF BOTTOM : 3:00 PM

WELL TEMPERATURE : 99

INITIAL HYDROSTATIC PRESSURE

INITIAL FLOW PERIOD MIN: 30

INITIAL CLOSED IN PERIOD MIN: 36

FINAL FLOW PERIOD MIN: 60

FINAL CLOSED IN PERIOD MIN: 60

FINAL HYDROSTATIC PRESSURE

(A) 973

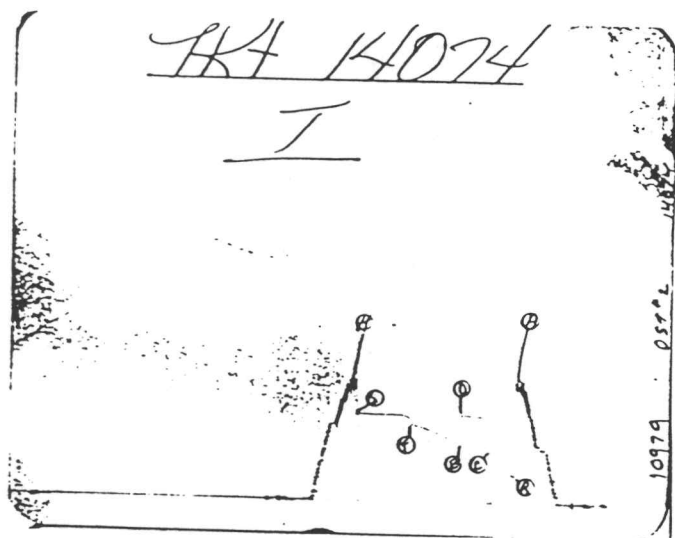
(B) 225 PSI TO (C) : 440

(D) 724

(E) 496 PSI TO (F) : 644

(G) 730

(H) 963



WESTERN TESTING CO. INC.
WICHITA-KANSAS

Pressure Transient Report

COMPANY : RANGE OIL CO. INC.
RIG : COWLEY-KANSAS
FIELD : COLLINSON
WELL : A-1
DATE : 08-22-88
GAUGE NO : 10979

OPERATIONAL COMMENTS

CHLORIDES 122000 PPM

COMPANY : RANGE OIL CO. INC.
WELL : A-1
GAUGE # : 10979
DATE : 22/ 8/88

FIELD : COLLINSON
JOB # : 14074
DEPTH : 1962
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	12: 0: 0	0.000	225.000	99.00	0.000
3	12: 4:59	0.083	234.000	99.00	9.000
4	12:10: 0	0.167	278.000	99.00	44.000
5	12:15: 0	0.250	323.000	99.00	45.000
6	12:19:59	0.333	367.000	99.00	44.000
7	12:25: 0	0.417	411.000	99.00	44.000
8	12:30: 0	0.500	440.000	99.00	29.000
INITIAL SHUT IN					
9	12:33: 0	0.550	676.000	99.00	236.000
10	12:36: 0	0.600	698.000	99.00	22.000
11	12:39: 0	0.650	709.000	99.00	11.000
12	12:42: 0	0.700	713.000	99.00	4.000
13	12:45: 0	0.750	717.000	99.00	4.000
14	12:48: 0	0.800	720.000	99.00	3.000
15	12:51: 0	0.850	721.000	99.00	1.000
16	12:54: 0	0.900	722.000	99.00	1.000
17	12:57: 0	0.950	723.000	99.00	1.000
18	13: 0: 0	1.000	724.000	99.00	1.000
19	13: 2:59	1.050	724.000	99.00	0.000
20	13: 6: 0	1.100	724.000	99.00	0.000
FINAL FLOW PERIOD					
21	13: 7: 0	1.117	496.000	99.00	-228.000
22	13:10:59	1.183	497.000	99.00	1.000
23	13:16: 0	1.267	516.000	99.00	19.000
24	13:21: 0	1.350	536.000	99.00	20.000
25	13:25:59	1.433	555.000	99.00	19.000
26	13:31: 0	1.517	572.000	99.00	17.000
27	13:36: 0	1.600	587.000	99.00	15.000
28	13:40:59	1.683	603.000	99.00	16.000
29	13:46: 0	1.767	614.000	99.00	11.000
30	13:51: 0	1.850	623.000	99.00	9.000
31	13:55:59	1.933	632.000	99.00	9.000
32	14: 1: 0	2.017	641.000	99.00	9.000
33	14: 5:59	2.100	644.000	99.00	3.000
FINAL SHUT IN					
34	14: 8:59	2.150	704.000	99.00	60.000
35	14:11:59	2.200	715.000	99.00	11.000
36	14:15: 0	2.250	720.000	99.00	5.000
37	14:18: 0	2.300	723.000	99.00	3.000
38	14:21: 0	2.350	724.000	99.00	1.000
39	14:23:59	2.400	725.000	99.00	1.000
40	14:26:59	2.450	725.000	99.00	0.000
41	14:30: 0	2.500	725.000	99.00	0.000
42	14:33: 0	2.550	725.000	99.00	0.000
43	14:36: 0	2.600	725.000	99.00	0.000
44	14:38:59	2.650	725.000	99.00	0.000
45	14:41:59	2.700	725.000	99.00	0.000
46	14:45: 0	2.750	725.000	99.00	0.000
47	14:48: 0	2.800	725.000	99.00	0.000
48	14:51: 0	2.850	725.000	99.00	0.000

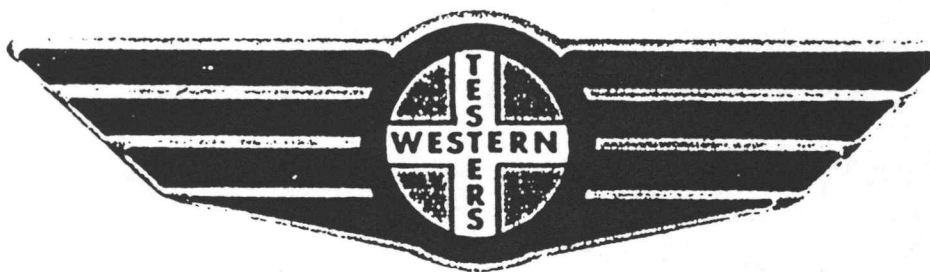
COMPANY : RANGE OIL CO. INC.
WELL : A-1
GAUGE # : 10979
DATE : 22/ 8/88

FIELD : COLLINSON
JOB # : 14074
DEPTH : 1962
TEST :

DATA No.	REAL TIME HR:MN:SS	ELAPSE TIME DELTA HOURS	PRESSURE PSIG	TEMP DEG F	DELTA P $P_i - P(i-1)$
49	14:53:59	2.900	726.000	99.00	1.000
50	14:56:59	2.950	727.000	99.00	1.000
51	15: 0: 0	3.000	728.000	99.00	1.000
52	15: 3: 0	3.050	729.000	99.00	1.000
53	15: 6: 0	3.100	730.000	99.00	1.000

WESTERN TESTING CO. INC.

FORMATION TEST REPORT



Home Office:

Wichita, Kansas 67201

P.O. Box 1599

Phone (316) 262-5861

COMPANY RANGE OIL COMPANY, INC.

LEASE & WELL NO.

COLLINSON A-1

SEC. 20 TWP. 34S

RGE. 3E

TEST NO. 3

DATE

8/25/88

WESTERN TESTING CO. INC.
SUBSURFACE PRESSURE SURVEY

DATE	:	8/25/88	TICKET	:	14075
CUSTOMER	:	RANGE OIL COMPANY INC.	LEASE	:	COLLINSON
WELL	:	A-1	TEST:	:	3
ELEVATION	:	1151 KB	GEOLOGIST	:	OLSEN
SECTION	:	20	FORMATION	:	CLEVELAND
RANGE	:	3E	TOWNSHIP	:	34S
GAUGE SN#	:	10979	STATE	:	KANSAS
		COUNTY :	CLOCK	:	12
		RANGE :			
		4100			

INTERVAL FROM	:	2974	TO	:	3022	TOTAL DEPTH	:	3022
DEPTH OF SELECTIVE ZONE	:							
PACKER DEPTH	:	2969	SIZE	:	6.63			
PACKER DEPTH	:	2974	SIZE	:	6.63			
PACKER DEPTH	:		SIZE	:				
PACKER DEPTH	:		SIZE	:				

DRILLING CON.	:	RANGE DRLG RIG 1			
MUD TYPE	:	CHEMICAL	VISCOSITY	:	44
WEIGHT	:	9.8	WATER LOSS (CC)	:	14.
CHLORIDES (PPM)	:	4600			
JARS-MAKE	:		SERIAL NUMBER	:	
DID WELL FLOW ?	:		REVERSED OUT ?	:	

DRILL COLLAR LENGTH	:	120	FT	I.D. inch	:	2.25
WEIGHT PIPE LENGTH	:	0	FT	I.D. inch	:	0.00
DRILL PIPE LENGTH	:	2834	FT	I.D. inch	:	3.80
TEST TOOL LENGTH	:	20	FT	TOOL SIZE	:	5.50
ANCHOR LENGTH	:	48	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	:	FAIR BLOW THROUGHOUT TEST.
BLOW COMMENT #2	:	
BLOW COMMENT #3	:	
BLOW COMMENT #4	:	

RECOVERED : 280 FT OF: SLIGHTLY MUDDY SALTWATER
RECOVERED : 0 FT OF: .75 RESISTIVITY @ 70 DEGREES F
RECOVERED : 0 FT OF: CHLORIDES 82000 PPM

Total Barrels Fluid = 2.83
Total Fluid Prod Rate = 45.35 BFPD
Indicated Wtr Rate = 43.08 BWPD

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

SET PACKER(S) : 3:30 AM

TIME STARTED OFF BOTTOM : 6:30 AM

WELL TEMPERATURE : 113

INITIAL HYDROSTATIC PRESSURE

(A) 1622

INITIAL FLOW PERIOD MIN: 30

(B) 51 PSI TO (C) : 82

INITIAL CLOSED IN PERIOD MIN: 33

(D) 975

FINAL FLOW PERIOD MIN: 60

(E) 103 PSI TO (F) : 127

FINAL CLOSED IN PERIOD MIN: 63

(G) 996

FINAL HYDROSTATIC PRESSURE

(H) 1590

WESTERN TESTING CO. INC.
WICHITA-KANSAS

Pressure Transient Report

COMPANY : RANGE OIL COMPANY INC.
RIG : COWLEY-KANSAS
FIELD : COLLINSON
WELL : A-1
DATE : 8/25/88
GAUGE NO : 10979

OPERATIONAL COMMENTS

COMPANY : RANGE OIL COMPANY INC.
WELL : A-1
GAUGE # : 10979
DATE : 25/ 8/88

FIELD : COLLINSON
JOB # : 14075
DEPTH : 3022
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	3:30: 0	0.000	51.000	113.00	0.000
3	3:34:59	0.083	51.000	113.00	0.000
4	3:40: 0	0.167	52.000	113.00	1.000
5	3:45: 0	0.250	62.000	113.00	10.000
6	3:49:59	0.333	72.000	113.00	10.000
7	4: 0: 0	0.500	79.000	113.00	7.000
8	4: 0: 0	0.500	82.000	113.00	3.000
INITIAL SHUT-IN PERIOD					
9	4: 3: 0	0.550	125.000	113.00	43.000
10	4: 6: 0	0.600	359.000	113.00	234.000
11	4: 9: 0	0.650	593.000	113.00	234.000
12	4:12: 0	0.700	725.000	113.00	132.000
13	4:15: 0	0.750	812.000	113.00	87.000
14	4:18: 0	0.800	861.000	113.00	49.000
15	4:21: 0	0.850	895.000	113.00	34.000
16	4:24: 0	0.900	925.000	113.00	30.000
17	4:27: 0	0.950	945.000	113.00	20.000
18	4:30: 0	1.000	962.000	113.00	17.000
19	4:33: 0	1.050	975.000	113.00	13.000
FINAL FLOW PERIOD					
20	4:34: 0	1.067	103.000	113.00	-872.000
21	4:37:59	1.133	103.000	113.00	0.000
22	4:43: 0	1.217	103.000	113.00	0.000
23	4:48: 0	1.300	105.000	113.00	2.000
24	4:52:59	1.383	107.000	113.00	2.000
25	4:58: 0	1.467	110.000	113.00	3.000
26	5: 3: 0	1.550	113.000	113.00	3.000
27	5: 7:59	1.633	115.000	113.00	2.000
28	5:13: 0	1.717	118.000	113.00	3.000
29	5:18: 0	1.800	120.000	113.00	2.000
30	5:22:59	1.883	122.000	113.00	2.000
31	5:28: 0	1.967	125.000	113.00	3.000
32	5:33: 0	2.050	127.000	113.00	2.000
FINAL SHUT-IN PERIOD					
33	5:36: 0	2.100	231.000	113.00	104.000
34	5:38:59	2.150	478.000	113.00	247.000
35	5:42: 0	2.200	649.000	113.00	171.000
36	5:45: 0	2.250	737.000	113.00	88.000
37	5:48: 0	2.300	786.000	113.00	49.000
38	5:51: 0	2.350	828.000	113.00	42.000
39	5:53:59	2.400	856.000	113.00	28.000
40	5:57: 0	2.450	881.000	113.00	25.000
41	6: 0: 0	2.500	897.000	113.00	16.000
42	6: 3: 0	2.550	915.000	113.00	18.000
43	6: 6: 0	2.600	929.000	113.00	14.000
44	6: 9: 0	2.650	942.000	113.00	13.000
45	6:11:59	2.700	952.000	113.00	10.000
46	6:15: 0	2.750	963.000	113.00	11.000
47	6:18: 0	2.800	969.000	113.00	6.000
48	6:21: 0	2.850	976.000	113.00	7.000

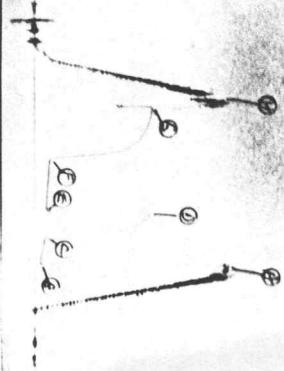
COMPANY : RANGE OIL COMPANY INC.
WELL : A-1
GAUGE # : 10979
DATE : 25/ 8/88

FIELD : COLLINSON
JOB # : 14075
DEPTH : 3022
TEST :

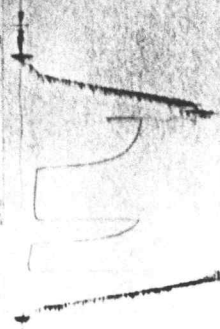
DATA No.	REAL TIME HR:MN:SS	ELAPSE TIME DELTA HOURS	PRESSURE PSIG	TEMP DEG F	DELTA P Pi-P(i-1)
49	6:24: 0	2.900	980.000	113.00	4.000
50	6:26:59	2.950	985.000	113.00	5.000
51	6:30: 0	3.000	992.000	113.00	7.000
52	6:33: 0	3.050	994.000	113.00	2.000
53	6:36: 0	3.100	996.000	113.00	2.000

WESTERN TESTING CO. INC.

KT 1403



KT 1403



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