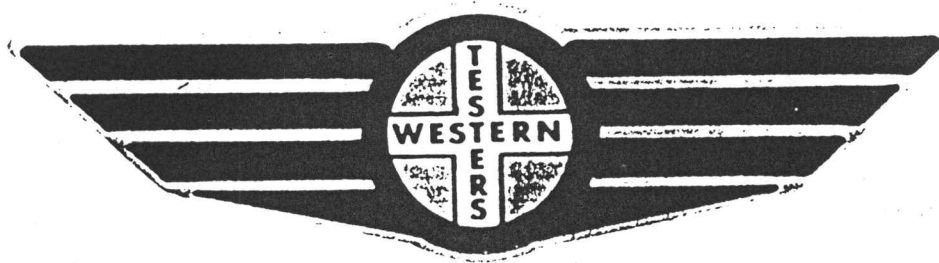


# FORMATION TEST REPORT



Home Office:

Wichita, Kansas 67201

P.O. Box 1599

Phone (316) 262-5861

COMPANY RAYMOND OIL COMPANY, INC. LEASE & WELL NO. ENGELHARDT #1  
& MURFIN DRILLING COMPANY SEC. 25 TWP. 9S RGE. 32W TEST NO. 4 DATE 10/31/87

WESTERN TESTING CO. INC.  
SUBSURFACE PRESSURE SURVEY

DATE : 10-31-87 TICKET : 11795  
CUSTOMER : RAYMOND OIL CO. INC. & MURFIN DRILLING CO.  
WELL : #1 TEST: 4 LEASE : ENGELHARDT  
ELEVATION : 3060 GS GEOLOGIST : C. SANDBERG  
SECTION : 25 FORMATION : L-KANSAS CITY J  
RANGE : 32W COUNTY : THOMAS TOWNSHIP : 9S  
GAUGE SN# : 6233 RANGE : 4000 STATE : KANSAS  
CLOCK : 12

INTERVAL FROM : 4333 TO : 4400 TOTAL DEPTH : 4700  
DEPTH OF SELECTIVE ZONE :  
PACKER DEPTH : 4333 SIZE : 6.75  
PACKER DEPTH : 4440 SIZE : 6.75  
PACKER DEPTH : SIZE :  
PACKER DEPTH : SIZE :

DRILLING CON. : MURFIN RIG #2  
MUD TYPE : CHEMICAL VISCOSITY : 46  
WEIGHT : 10.0 WATER LOSS (CC) : 9.6  
CHLORIDES (PPM) : 4100  
JARS-MAKE : NO SERIAL NUMBER :  
DID WELL FLOW ? : NO REVERSED OUT ? : NO

DRILL COLLAR LENGTH : 486 FT I.D. inch : 2.20  
WEIGHT PIPE LENGTH : 0 FT I.D. inch : 0.00  
DRILL PIPE LENGTH : 3828 FT I.D. inch : 3.80  
TEST TOOL LENGTH : 19 FT TOOL SIZE : 5.50  
ANCHOR LENGTH : 67 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 : INITIAL FLOW-STRONG BLOW-BOTTOM OF BUCKET IN 6 MINUTES.  
BLOW COMMENT #2 : FINAL FLOW-STRONG BLOW-BOTTOM OF BUCKET IN 6 MINUTES.  
BLOW COMMENT #3 :  
BLOW COMMENT #4 :



WESTERN TESTING CO. INC.  
WICHITA - KANSAS

Pressure Transient Report  
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COMPANY : RAYMOND OIL CO. & MURFIN DRILLING CO.  
RIG : THOMAS-KANSAS  
FIELD : ENGELHARDT  
WELL : #1  
DATE : 10-31-87  
GAUGE NO : 6233

OPERATIONAL COMMENTS

848 FT GAS ABOVE FLUID  
CHLORIDES 40000 PPM

WELL : #1

JOB # : 11795

GAUGE # : 6233

DEPTH : 4700

DATE : 31/10/87

TEST :

DATA No.	REAL TIME HR:MN:SS	ELAPSE TIME DELTA HOURS	PRESSURE PSIG	TEMP DEG F	DELTA P Pi-P(i-1)
1	5: 0: 0	0.000	71.000	129.00	0.000
2	5: 4: 59	0.083	130.000	129.00	59.000
3	5:10: 0	0.167	201.000	129.00	71.000
4	5:15: 0	0.250	229.000	129.00	28.000
5	5:19:59	0.333	254.000	129.00	25.000
6	5:25: 0	0.417	283.000	129.00	29.000
7	5:30: 0	0.500	311.000	129.00	28.000
8	5:33: 0	0.550	1118.000	129.00	807.000
9	5:36: 0	0.600	1256.000	129.00	138.000
10	5:39: 0	0.650	1292.000	129.00	36.000
11	5:42: 0	0.700	1309.000	129.00	17.000
12	5:45: 0	0.750	1319.000	129.00	10.000
13	5:48: 0	0.800	1326.000	129.00	7.000
14	5:51: 0	0.850	1333.000	129.00	7.000
15	5:54: 0	0.900	1338.000	129.00	5.000
16	5:57: 0	0.950	1342.000	129.00	4.000
17	6: 0: 0	1.000	1346.000	129.00	4.000
18	6: 2: 59	1.050	1349.000	129.00	3.000
19	6: 6: 0	1.100	1351.000	129.00	2.000
20	6: 9: 0	1.150	1353.000	129.00	2.000
21	6:12: 0	1.200	1356.000	129.00	3.000
22	6:15: 0	1.250	1358.000	129.00	2.000
23	6:18: 0	1.300	1360.000	129.00	2.000
24	6:21: 0	1.350	1362.000	129.00	2.000
25	6:24: 0	1.400	1363.000	129.00	1.000
26	6:27: 0	1.450	1364.000	129.00	1.000
27	6:30: 0	1.500	1365.000	129.00	1.000
28	6:31: 0	1.517	356.000	129.00	-1009.000
29	6:34:59	1.583	356.000	129.00	0.000
30	6:40: 0	1.667	370.000	129.00	14.000
31	6:45: 0	1.750	393.000	129.00	23.000
32	6:49:59	1.833	421.000	129.00	28.000
33	6:55: 0	1.917	444.000	129.00	23.000
34	7: 0: 0	2.000	465.000	129.00	21.000
35	7: 4: 59	2.083	484.000	129.00	19.000
36	7:10: 0	2.167	504.000	129.00	20.000
37	7:15: 0	2.250	530.000	129.00	26.000
38	7:18: 0	2.300	1183.000	129.00	653.000
39	7:21: 0	2.350	1241.000	129.00	58.000
40	7:24: 0	2.400	1274.000	129.00	33.000
41	7:27: 0	2.450	1295.000	129.00	21.000
42	7:30: 0	2.500	1304.000	129.00	9.000
43	7:33: 0	2.550	1312.000	129.00	8.000
44	7:36: 0	2.600	1318.000	129.00	6.000
45	7:39: 0	2.650	1323.000	129.00	5.000
46	7:42: 0	2.700	1327.000	129.00	4.000
47	7:45: 0	2.750	1332.000	129.00	5.000
48	7:48: 0	2.800	1335.000	129.00	3.000
49	7:51: 0	2.850	1338.000	129.00	3.000
50	7:54: 0	2.900	1341.000	129.00	3.000
51	7:57: 0	2.950	1343.000	129.00	2.000
52	8: 0: 0	3.000	1344.000	129.00	1.000

COMPANY : RAYMOND OIL CO. & MURFIN DRILLING CO.

FIELD : ENGELHARDT

WELL : #1

JOB # : 11795

GAUGE # : 6233

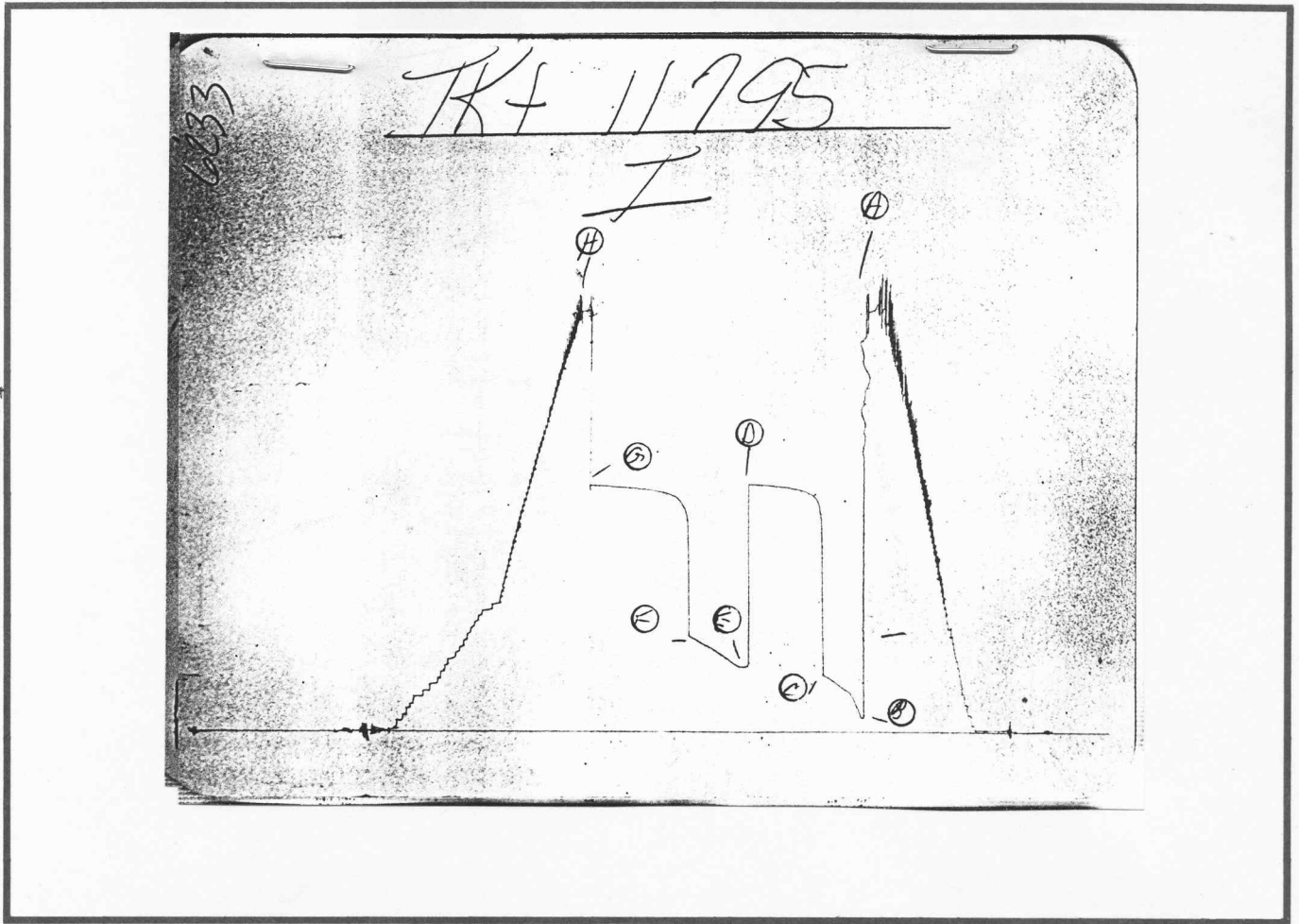
DEPTH : 4700

DATE : 31/10/87

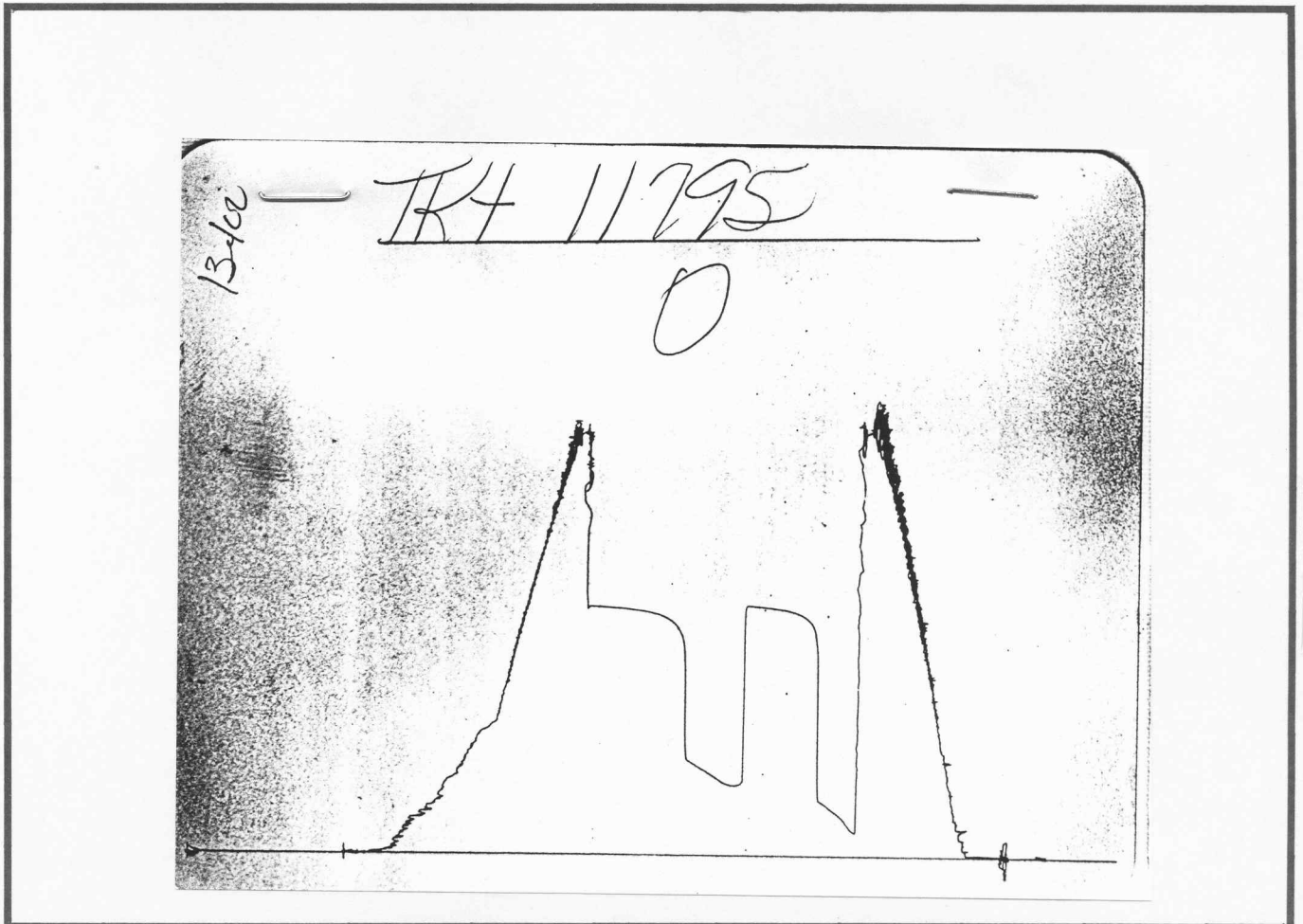
TEST :

DATA No.	REAL TIME HR:MN:SS	ELAPSE TIME DELTA HOURS	PRESSURE PSIG	TEMP DEG F	DELTA P P <sub>i</sub> -P <sub>(i-1)</sub>
53	8: 3: 0	3.050	1345.000	129.00	1.000
54	8: 6: 0	3.100	1346.000	129.00	1.000
55	8: 9: 0	3.150	1347.000	129.00	1.000
56	8:12: 0	3.200	1349.000	129.00	2.000
57	8:15: 0	3.250	1351.000	129.00	2.000
58	8:18: 0	3.300	1355.000	129.00	4.000
59	8:21: 0	3.350	1357.000	129.00	2.000
60	8:24: 0	3.400	1358.000	129.00	1.000
61	8:27: 0	3.450	1359.000	129.00	1.000
62	8:30: 0	3.500	1360.000	129.00	1.000
63	8:33: 0	3.550	1361.000	129.00	1.000

WESTERN TESTING CO. INC.



Inside Recorder



Outside Recorder