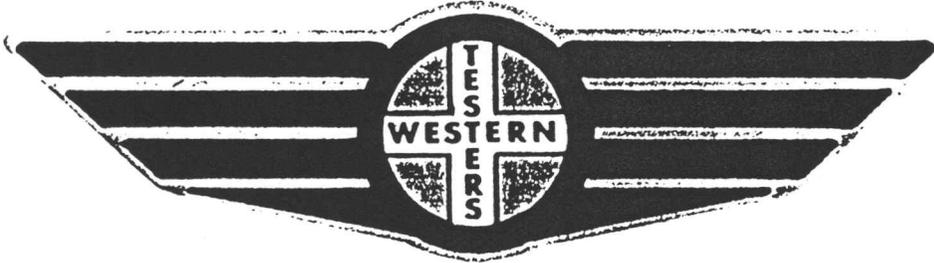


FORMATION TEST REPORT



Home Office:

Wichita, Kansas 67201

P.O. Box 1599

Phone (316) 262-5861

COMPANY MURFIN DRILLING COMPANY LEASE & WELL NO. DICKMAN OWO #1-15 SEC. 15 TWP. 10S RGE. 30W TEST NO. 1 DATE 8/8/87

WESTERN TESTING CO. INC.
SUBSURFACE PRESSURE SURVEY

DATE : 8-8-87 TICKET : 11559
CUSTOMER : MURFIN DRILLING CO. LEASE : DICKMAN OWWO
WELL : #1-15 TEST: 1 GEOLOGIST : C. SCHMALTZ
ELEVATION : NA FORMATION : LANSING L
SECTION : 15 TOWNSHIP : 10S
RANGE : 30W COUNTY : SHERIDAN STATE : KANSAS
GAUGE SN# : 1566 RANGE : 4300 CLOCK : 12

INTERVAL FROM : 4191 TO : 4239 TOTAL DEPTH : 4239
DEPTH OF SELECTIVE ZONE :
PACKER DEPTH : 4186 SIZE : 6.75
PACKER DEPTH : 4191 SIZE : 6.75
PACKER DEPTH : SIZE :
PACKER DEPTH : SIZE :

DRILLING CON. : COMPANY TOOLS RIG #2
MUD TYPE : CHEMICAL VISCOSITY : 43
WEIGHT : 8.9 WATER LOSS (CC) : 12.
CHLORIDES (PPM) : 10000
JARS-MAKE : - SERIAL NUMBER :
DID WELL FLOW ? : NO REVERSED OUT ? : NO

DRILL COLLAR LENGTH : 240 FT I.D. inch : 2.20
WEIGHT PIPE LENGTH : 0 FT I.D. inch : 0.00
DRILL PIPE LENGTH : 3931 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 : 4.5 XH

BLOW COMMENT #1 : INITIAL FLOW-STRONG BLOW-BOTTOM OF BUCKET 10 MINUTES
BLOW COMMENT #2 : FINAL FLOW-STRONG BLOW-BOTTOM OF BUCKET 12 MINUTES
BLOW COMMENT #3 :
BLOW COMMENT #4 :

WESTERN TESTING CO. INC.
WICHITA - KANSAS

Pressure Transient Report

COMPANY : MURFIN DRILLING CO.
RIG : SHERIDAN-KANSAS
FIELD : DICKMAN OWWO
WELL : #1-15
DATE : 8-8-87
GAUGE NO : 1566

OPERATIONAL COMMENTS

RECOVERED 1350 FEET OF GAS ABOVE FLUID.
SLID TOOL 10 FEET TO BOTTOM AS TOOL OPENED.

COMPANY : MURFIN DRILLING CO.
WELL : #1-15
GAUGE # : 1566
DATE : 8/ 8/87

FIELD : DICKMAN OWWO
JOB # : 11559
DEPTH : 4239
TEST :

DATA No.	REAL TIME HR:MN:SS	ELAPSE TIME DELTA HOURS	PRESSURE PSIG	TEMP DEG F	DELTA P Pi-P(i-1)
1	5:40: 0	0.000	118.000	118.00	0.000
2	5:44:59	0.083	120.000	118.00	2.000
3	5:50: 0	0.167	122.000	118.00	2.000
4	5:55: 0	0.250	122.000	118.00	0.000
5	5:59:59	0.333	122.000	118.00	0.000
6	6: 5: 0	0.417	124.000	118.00	2.000
7	6:10: 0	0.500	126.000	118.00	2.000
8	6:13: 0	0.550	364.000	118.00	238.000
9	6:16: 0	0.600	609.000	118.00	245.000
10	6:19: 0	0.650	778.000	118.00	169.000
11	6:22: 0	0.700	873.000	118.00	95.000
12	6:25: 0	0.750	932.000	118.00	59.000
13	6:28: 0	0.800	978.000	118.00	46.000
14	6:31: 0	0.850	1017.000	118.00	39.000
15	6:34: 0	0.900	1044.000	118.00	27.000
16	6:37: 0	0.950	1064.000	118.00	20.000
17	6:40: 0	1.000	1081.000	118.00	17.000
18	6:43: 0	1.050	1094.000	118.00	13.000
19	6:46: 0	1.100	1104.000	118.00	10.000
20	6:49: 0	1.150	1115.000	118.00	11.000
21	6:52: 0	1.200	1123.000	118.00	8.000
22	6:55: 0	1.250	1130.000	118.00	7.000
23	6:58: 0	1.300	1136.000	118.00	6.000
24	7: 1: 0	1.350	1141.000	118.00	5.000
25	7: 4: 0	1.400	1145.000	118.00	4.000
26	7: 7: 0	1.450	1149.000	118.00	4.000
27	7:10: 0	1.500	1153.000	118.00	4.000
28	7:11: 0	1.517	231.000	118.00	-922.000
29	7:14:59	1.583	193.000	118.00	-38.000
30	7:20: 0	1.667	186.000	118.00	-7.000
31	7:25: 0	1.750	186.000	118.00	0.000
32	7:29:59	1.833	190.000	118.00	4.000
33	7:35: 0	1.917	193.000	118.00	3.000
34	7:40: 0	2.000	195.000	118.00	2.000
35	7:43: 0	2.050	427.000	118.00	232.000
36	7:46: 0	2.100	584.000	118.00	157.000
37	7:49: 0	2.150	700.000	118.00	116.000
38	7:52: 0	2.200	774.000	118.00	74.000
39	7:55: 0	2.250	822.000	118.00	48.000
40	7:58: 0	2.300	858.000	118.00	36.000
41	8: 1: 0	2.350	883.000	118.00	25.000
42	8: 4: 0	2.400	907.000	118.00	24.000
43	8: 7: 0	2.450	921.000	118.00	14.000
44	8:10: 0	2.500	936.000	118.00	15.000
45	8:13: 0	2.550	949.000	118.00	13.000
46	8:16: 0	2.600	959.000	118.00	10.000
47	8:19: 0	2.650	970.000	118.00	11.000
48	8:22: 0	2.700	976.000	118.00	6.000
49	8:25: 0	2.750	983.000	118.00	7.000
50	8:28: 0	2.800	989.000	118.00	6.000
51	8:31: 0	2.850	993.000	118.00	4.000
52	8:34: 0	2.900	997.000	118.00	4.000

COMPANY : MURFIN DRILLING CO.
WELL : #1-15
GAUGE # : 1566
DATE : 8/ 8/87

FIELD : DICKMAN OWWO
JOB # : 11559
DEPTH : 4239
TEST :

DATA No.	REAL TIME HR:MN:SS	ELAPSE TIME DELTA HOURS	PRESSURE PSIG	TEMP DEG F	DELTA P $P_i - P_{(i-1)}$
53	8:37: 0	2.950	1000.000	118.00	3.000
54	8:40: 0	3.000	1002.000	118.00	2.000

WESTERN TESTING CO. INC.

WESTERN TESTING CO. INC.
WICHITA - KANSAS

WELL TEST ANALYSIS REPORT
HORNER METHOD
SHUTIN No. 2

COMPANY. MURFIN DRILLING CO.
DATE 8-8-87
FIELD. DICKMAN
WELL 1-15
AREA SHERIDAN-KANSAS
JOB NUMBER 11559
GAUGE NUMBER . . . 1566
GAUGE DEPTH. . . . 4239
ZONE TESTED. . . . 4191 TO 4239

PHASE : OIL FUNCTION : PRESSURE

=====I=N=P=U=T====D=A=T=A====S=U=M=M=A=R=Y=====

THICKNESS.	H	5.0000E+00	Feet
POROSITY	POR	1.5000E-01	Frac
VISCOSITY.	U	2.4000E+00	Cp
FORMATION VOLUME FACTOR.	B	1.0000E+00	Rb/stb
TOTAL COMPRESSIBILITY.	Ct	0.0000E+00	Psi ⁻¹
WELLBORE RADIUS.	Rw	5.2000E-01	Feet
DRAINAGE RADIUS.	Re	1.5000E+03	Feet
RESERVOIR TEMPERATURE.	T	1.1800E+02	Deg F
GRAVITY OF FLUID	G	4.2000E+01	
PVT EVALUATION PRESSURE.	P	0.0000E+00	Psig
PRESSURE AT SHUT-IN.	Pwf	4.2700E+02	Psig
FINAL RECORDED PRESSURE.	Ps	1.0020E+03	Psig
PRODUCTION RATE.	Q	4.1640E+01	Bbl/day
TOTAL FLOW TIME.	T	5.0000E-01	Hours

=====R=E=G=R=E=S=S=I=O=N====R=E=S=U=L=T=S=====

LEAST SQUARE RESULTS OVER THE INTERVAL :
FROM 45 TO 30

SLOPE OF THE LINE. 1.4843E+02 psi/cycle
FALSE PRESSURE, PSTAR. 1.2277E+03 psi
PRESSURE AT 1 HOUR 1.2016E+03 psi

=====A=N=A=L=Y=S=I=S====R=E=S=U=L=T=S=====

TRANSMISSIBILITY.Kh/u	4.5615E+01	md-ft/cp
FLOW CAPACITY.Kh	1.0948E+02	md-ft
PERMEABILITY to PHASE.	K	2.1895E+01	md
DAMAGE RATIODr	9.8724E-01	

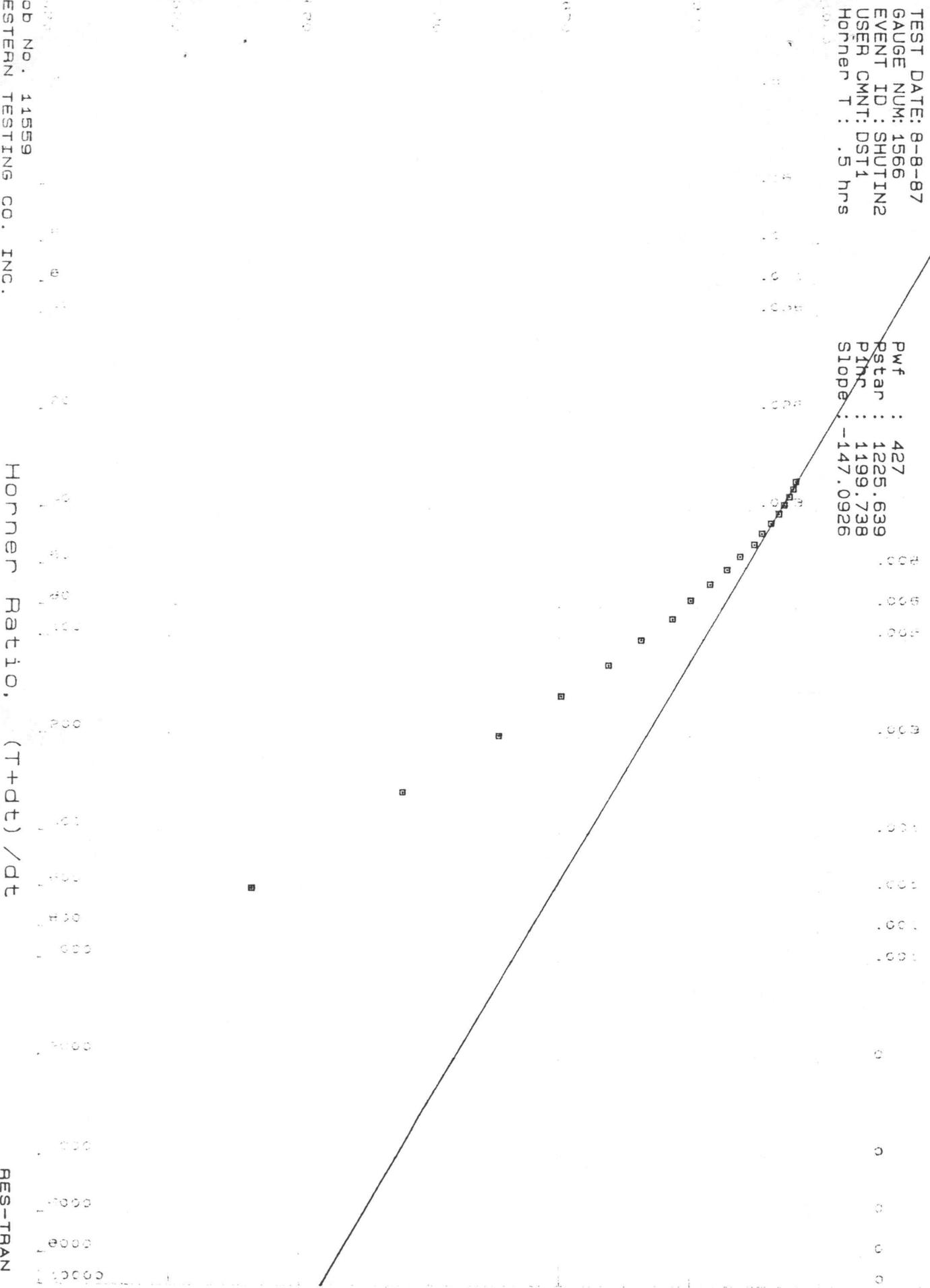
COMPANY: MURFIN DRILLING CO.
WELL: DICKMAN

WELL # : 1-15
LOCATION: SHERIDAN-KANSAS

PROCESSED: 08-08-1987
ENGINEER: LARRY KING

TEST DATE: 8-8-87
GAUGE NUM: 1566
EVENT ID : SHUTIN2
USER CMNT: DST1
Horner T : .5 hrs

Pwf : 427
Rstar : 1225.639
Pinh : 1199.738
Slope : -147.0926



Job No. 11559
EASTERN TESTING CO. INC.

Horner Ratio, (T+dt) / dt

RES-TRAN

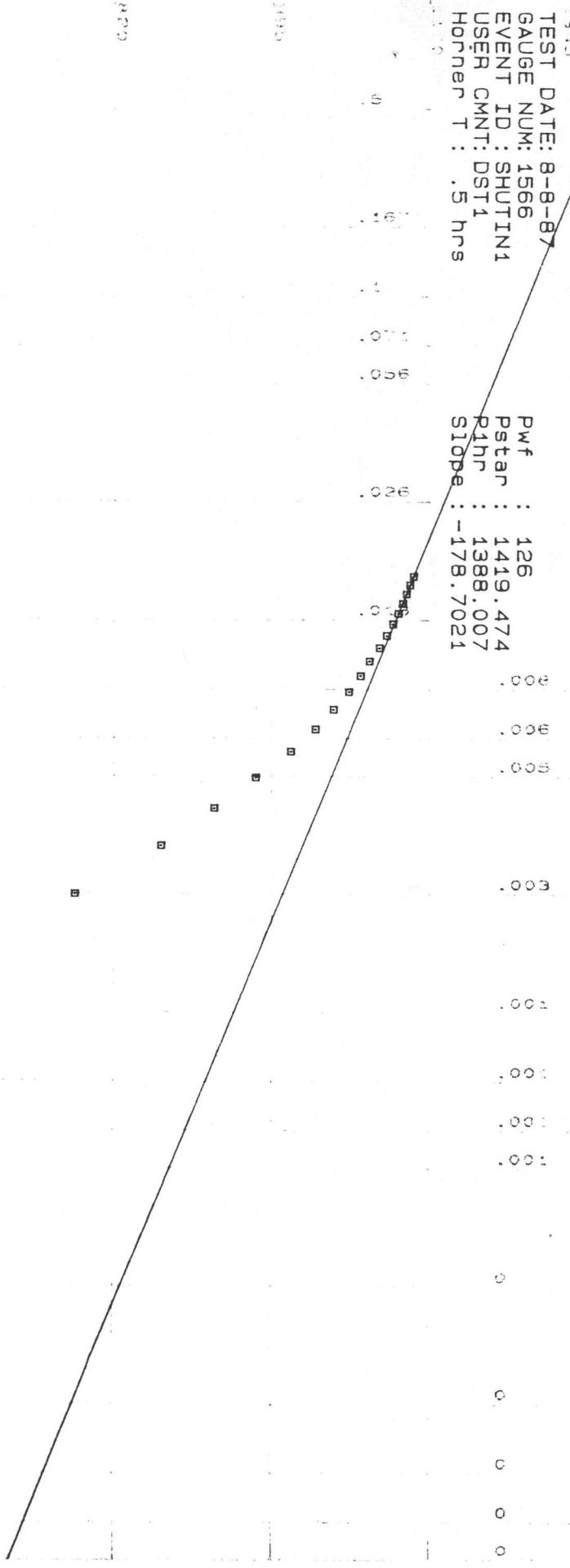
COMPANY: MURFIN DRILLING CO.
FIELD: DECKMAN

WELL #: 1-15
LOCATION: SHERIDAN-KANSAS

PROCESSED: 08-08-1987
ENGINEER: LARRY KING

TEST DATE: 8-8-87
GAUGE NUM: 1566
EVENT ID: SHUTIN1
USER CMNT: DST1
Horner T : .5 hrs

Pwf : 126
Pstar : 1419.474
R1hr : 1388.007
Slope : -178.7021



Job No. 11559
EASTERN TESTING CO. INC.

Horner Ratio, (T+dt) / dt

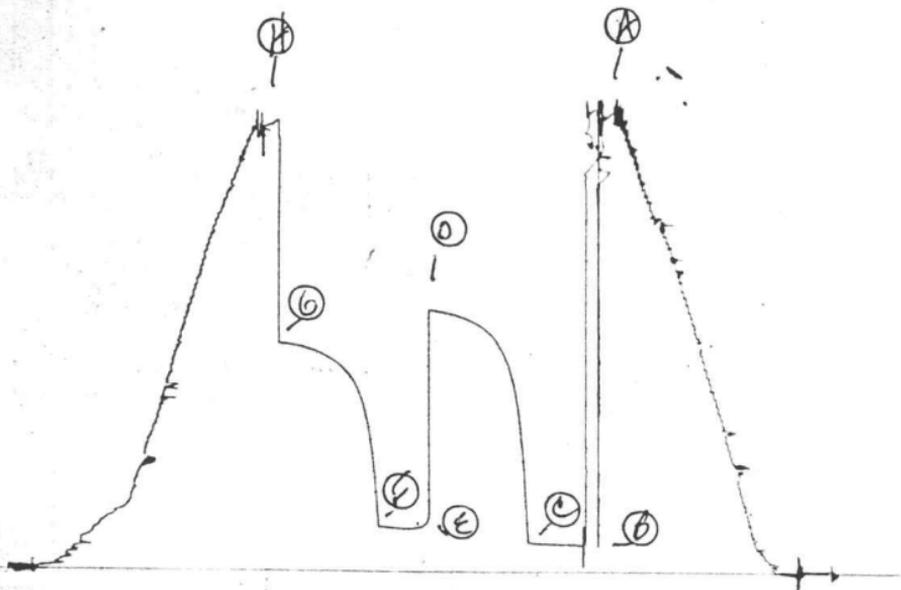
RES-TRAN

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MUNFORD
1881

JK # 11559

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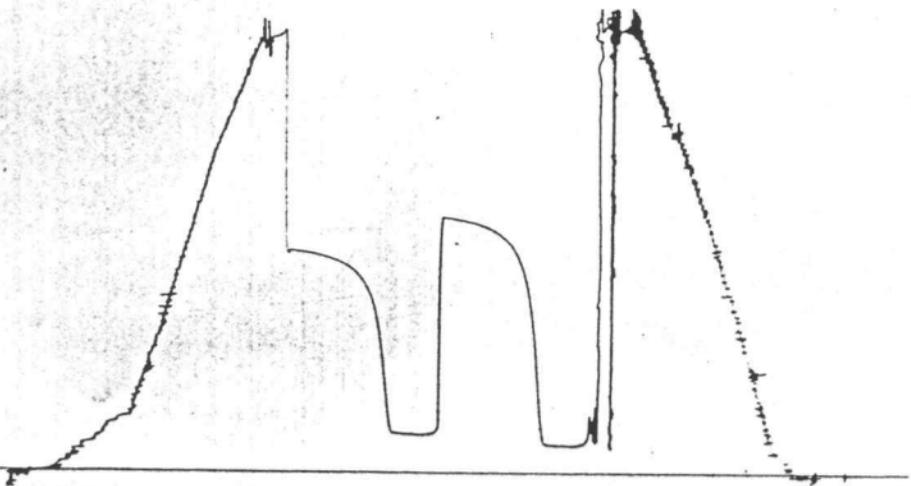


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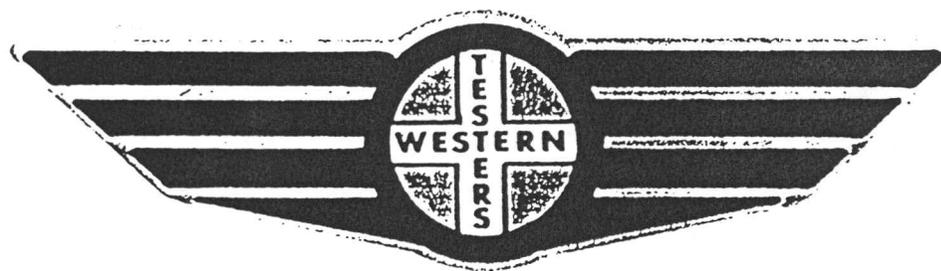
MURFIN
DST 1

11559

0



FORMATION TEST REPORT



Home Office:

Wichita, Kansas 67201

P.O. Box 1599

Phone (316) 262-5861

COMPANY MURFIN DRILLING CO. LEASE & WELL NO. DICKMAN OMO #1-15 SEC. 15 TWP. 10S RGE. 30W TEST NO. 2 DATE 8/8/87

WESTERN TESTING CO. INC.
SUBSURFACE PRESSURE SURVEY

DATE : 8-8-87
CUSTOMER : MURFIN DRILLING CO.
WELL : 1-15 TEST: 2
ELEVATION : NA
SECTION : 15
RANGE : 30W COUNTY : SHERIDAN
GAUGE SN# : 1566 RANGE : 4300
TICKET : 11560
LEASE : DICKMAN OWWO
GEOLOGIST : C.SCHMALTZ
FORMATION : LANSING K
TOWNSHIP : 10S
STATE : KANSAS
CLOCK : 12

INTERVAL FROM : 4159 TO : 4193 TOTAL DEPTH : 4239
DEPTH OF SELECTIVE ZONE :
PACKER DEPTH : 4154 SIZE : 6.75
PACKER DEPTH : 4159 SIZE : 6.75
PACKER DEPTH : 4193 SIZE : 6.75
PACKER DEPTH : SIZE :

DRILLING CON. : COMPANY TOOLS RIG #2
MUD TYPE : CHEMICAL VISCOSITY : 43
WEIGHT : 8.9 WATER LOSS (CC) : 12
CHLORIDES (PPM) : 10000
JARS-MAKE : - SERIAL NUMBER :
DID WELL FLOW ? : NO REVERSED OUT ? : NO

DRILL COLLAR LENGTH : 240 FT I.D. inch : 2.20
WEIGHT PIPE LENGTH : 0 FT I.D. inch : 0.00
DRILL PIPE LENGTH : 3899 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 : 4.5 XH

BLOW COMMENT #1 : INITIAL FLOW-WEAK BUILDING TO FAIR-6" IN BUCKET.
BLOW COMMENT #2 : FINAL FLOW-WEAK DECREASING BLOW-DEAD IN 60 MINUTES.
BLOW COMMENT #3 :
BLOW COMMENT #4 :

RECOVERED : 10 FT OF: HEAVY OIL CUT MUD
60% MUD-40% OIL
RECOVERED : 60 FT OF: OIL CUT MUD
80% MUD-10% OIL-10% GAS

Total Barrels Fluid = 0.33
Total Fluid Prod Rate = 4.51 BFPD
Indicated Oil Rate = 0.64 BOPD
Indicated Wtr Rate = 1.42 BWPD

REMARK 1 : FLUSHED TOOL FINAL FLOW.
REMARK 2 : RECOVERED 340 FEET OF GAS ABOVE FLUID.
REMARK 3 :
REMARK 4 :

SET PACKER(S) : 2:35 PM TIME STARTED OFF BOTTOM : 6:50 PM
WELL TEMPERATURE : 117
INITIAL HYDROSTATIC PRESSURE (A) 2095
INITIAL FLOW PERIOD MIN: 30 (B) 63 PSI TO (C) : 63
INITIAL CLOSED IN PERIOD MIN: 60 (D) 63
FINAL FLOW PERIOD MIN: 75 (E) 64 PSI TO (F) : 72
FINAL CLOSED IN PERIOD MIN: 84 (G) 93
FINAL HYDROSTATIC PRESSURE (H) 2088

WESTERN TESTING CO. INC.
WICHITA - KANSAS

Pressure Transient Report

COMPANY : MURFIN DRILLING CO.
RIG : SHERIDAN-KANSAS
FIELD : DICKMAN OWWO
WELL : 1-15
DATE : 8-8-87
GAUGE NO : 1566

OPERATIONAL COMMENTS

FLUSHED TOOL FINAL FLOW.
RECOVERED 340 FEET OF GAS ABOVE FLUID.

COMPANY : MURFIN DRILLING CO.
 WELL : 1-15
 GAUGE # : 1566
 DATE : 8/ 8/87

FIELD : DICKMAN OWWO
 JOB # : 11560
 DEPTH : 4239
 TEST : FLUSHED TOOL FINAL FLOW.

DATA No.	REAL TIME HR:MN:SS	ELAPSE TIME DELTA HOURS	PRESSURE PSIG	TEMP DEG F	DELTA P Pi-P(i-1)
1	2:35:0	0.000	63.000	117.00	0.000
2	2:39:59	0.083	63.000	117.00	0.000
3	2:45:0	0.167	63.000	117.00	0.000
4	2:50:0	0.250	63.000	117.00	0.000
5	2:54:59	0.333	63.000	117.00	0.000
6	3:0:0	0.417	63.000	117.00	0.000
7	3:5:0	0.500	63.000	117.00	0.000
8	3:8:0	0.550	63.000	117.00	0.000
9	3:11:0	0.600	63.000	117.00	0.000
10	3:14:0	0.650	63.000	117.00	0.000
11	3:17:0	0.700	63.000	117.00	0.000
12	3:20:0	0.750	63.000	117.00	0.000
13	3:23:0	0.800	63.000	117.00	0.000
14	3:26:0	0.850	63.000	117.00	0.000
15	3:29:0	0.900	63.000	117.00	0.000
16	3:32:0	0.950	63.000	117.00	0.000
17	3:35:0	1.000	63.000	117.00	0.000
18	3:38:0	1.050	63.000	117.00	0.000
19	3:41:0	1.100	63.000	117.00	0.000
20	3:44:0	1.150	63.000	117.00	0.000
21	3:47:0	1.200	63.000	117.00	0.000
22	3:50:0	1.250	63.000	117.00	0.000
23	3:53:0	1.300	63.000	117.00	0.000
24	3:56:0	1.350	63.000	117.00	0.000
25	3:59:0	1.400	63.000	117.00	0.000
26	4:2:0	1.450	63.000	117.00	0.000
27	4:5:0	1.500	63.000	117.00	0.000
28	4:6:0	1.517	64.000	117.00	1.000
29	4:9:59	1.583	63.000	117.00	-1.000
30	4:15:0	1.667	62.000	117.00	-1.000
31	4:20:0	1.750	60.000	117.00	-2.000
32	4:24:59	1.833	59.000	117.00	-1.000
33	4:30:0	1.917	59.000	117.00	0.000
34	4:35:0	2.000	59.000	117.00	0.000
35	4:39:59	2.083	58.000	117.00	-1.000
36	4:45:0	2.167	56.000	117.00	-2.000
37	4:50:0	2.250	96.000	117.00	40.000
38	4:54:59	2.333	83.000	117.00	-13.000
39	5:0:0	2.417	76.000	117.00	-7.000
40	5:5:0	2.500	75.000	117.00	-1.000
41	5:9:59	2.583	74.000	117.00	-1.000
42	5:15:0	2.667	73.000	117.00	-1.000
43	5:20:0	2.750	72.000	117.00	-1.000
44	5:23:0	2.800	72.000	117.00	0.000
45	5:26:0	2.850	72.000	117.00	0.000
46	5:29:0	2.900	72.000	117.00	0.000
47	5:32:0	2.950	72.000	117.00	0.000
48	5:35:0	3.000	72.000	117.00	0.000
49	5:38:0	3.050	72.000	117.00	0.000
50	5:41:0	3.100	72.000	117.00	0.000
51	5:44:0	3.150	72.000	117.00	0.000
52	5:47:0	3.200	72.000	117.00	0.000

COMPANY : MURFIN DRILLING CO.
WELL : 1-15
GAUGE # : 1566
DATE : 8/ 8/87

FIELD : DICKMAN QWWD
JOB # : 11560
DEPTH : 4239
TEST : FLUSHED TOOL FINAL FLOW.

DATA No.	REAL TIME HR:MN:SS	ELAPSE TIME DELTA HOURS	PRESSURE PSIG	TEMP DEG F	DELTA P $P_i - P_{(i-1)}$
53	5:50: 0	3.250	72.000	117.00	0.000
54	5:53: 0	3.300	73.000	117.00	1.000
55	5:56: 0	3.350	75.000	117.00	2.000
56	5:59: 0	3.400	78.000	117.00	3.000
57	6: 2: 0	3.450	78.000	117.00	0.000
58	6: 5: 0	3.500	78.000	117.00	0.000
59	6: 8: 0	3.550	80.000	117.00	2.000
60	6:11: 0	3.600	80.000	117.00	0.000
61	6:14: 0	3.650	81.000	117.00	1.000
62	6:17: 0	3.700	81.000	117.00	0.000
63	6:20: 0	3.750	81.000	117.00	0.000
64	6:23: 0	3.800	82.000	117.00	1.000
65	6:26: 0	3.850	84.000	117.00	2.000
66	6:29: 0	3.900	85.000	117.00	1.000
67	6:32: 0	3.950	87.000	117.00	2.000
68	6:35: 0	4.000	89.000	117.00	2.000
69	6:38: 0	4.050	91.000	117.00	2.000
70	6:41: 0	4.100	92.000	117.00	1.000
71	6:44: 0	4.150	93.000	117.00	1.000

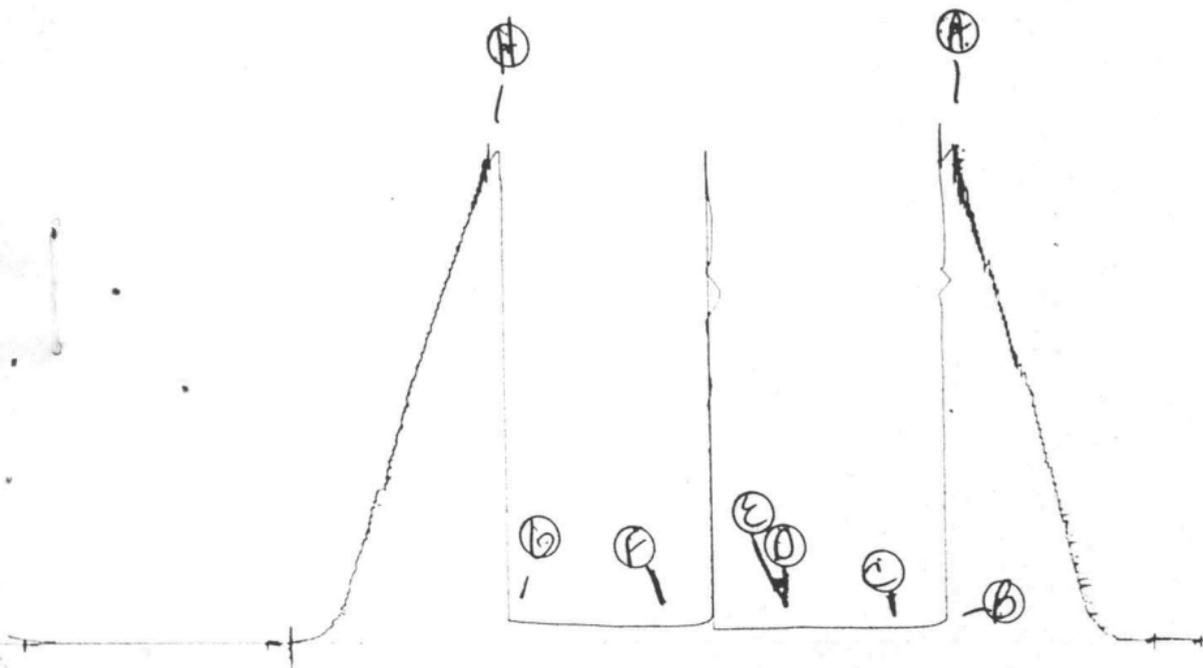
WESTERN TESTING CO. INC.

1566

MURFIN
PSTL

RA # 11560

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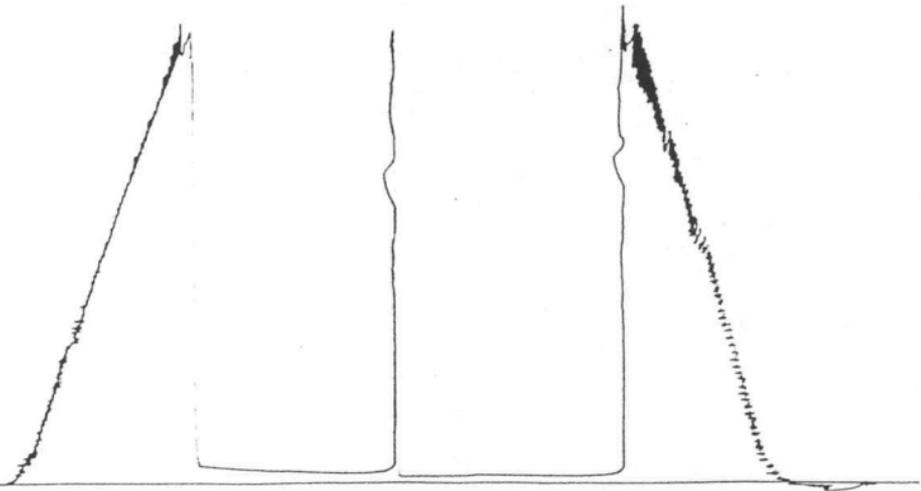
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