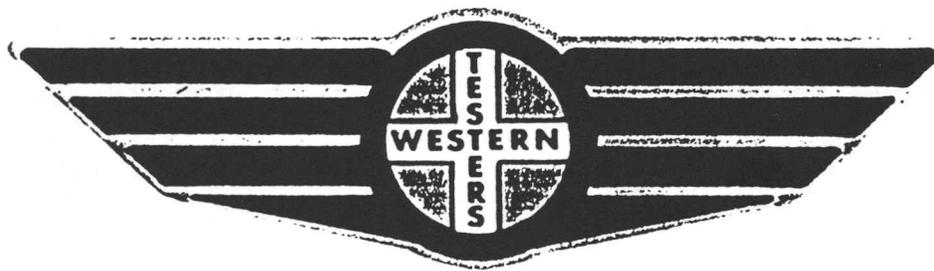


# FORMATION TEST REPORT



Home Office:

Wichita, Kansas 67201

P.O. Box 1599

Phone (316) 262-5861

WESTERN TESTING CO. INC.  
SUBSURFACE PRESSURE SURVEY

DATE : 10-1-87 TICKET : 11877  
CUSTOMER : BEREN CORPORATION LEASE : HAAG ESTATE  
WELL : #3 TEST: 1 GEOLOGIST : K. JOHNSON  
ELEVATION : 2870 GL FORMATION : MORROW  
SECTION : 12 TOWNSHIP : 23S  
RANGE : 32W COUNTY : FINNEY STATE : KANSAS  
GAUGE SN# : 13549 RANGE : 4100 CLOCK : 12

INTERVAL FROM : 4755 TO : 4783 TOTAL DEPTH : 4783  
DEPTH OF SELECTIVE ZONE :  
PACKER DEPTH : 4750 SIZE : 6.63  
PACKER DEPTH : 4755 SIZE : 6.63  
PACKER DEPTH : SIZE :  
PACKER DEPTH : SIZE :

DRILLING CON. : BEREDCO RIG #1  
MUD TYPE : CHEMICAL VISCOSITY : 40  
WEIGHT : 9.0 WATER LOSS (CC) : 7.6  
CHLORIDES (PPM) : 600  
JARS-MAKE : WTC SERIAL NUMBER : 411  
DID WELL FLOW ? : - REVERSED OUT ? : -

DRILL COLLAR LENGTH : 679 FT I.D. inch : 2.25  
WEIGHT PIPE LENGTH : 0 FT I.D. inch : 0.00  
DRILL PIPE LENGTH : 4048 FT I.D. inch : 3.80  
TEST TOOL LENGTH : 28 FT TOOL SIZE : 5.50  
ANCHOR LENGTH : 28 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 BLOW-BUILDING OFF BOTTOM IN 32 MINUTES  
BLOW COMMENT #2 : FINAL FLOW-WEAK BLOW-BUILDING OFF BOTTOM IN 22 MINUTES  
BLOW COMMENT #3 :  
BLOW COMMENT #4 :

RECOVERED : 180 FT OF: GAS CUT MUDDY OIL  
30% GAS-35% MUD-35% OIL

Total Barrels Fluid = 0.89  
Total Fluid Prod Rate = 12.75 BFPD  
Indicated Oil Rate = 4.46 BOPD  
Indicated Wtr Rate = 0.45 BWPD  
Corrected Oil Rate = 8.99 BOPD  
Corrected Wtr Rate = 0.90 BWPD

REMARK 1 :  
REMARK 2 : RECOVERED 810 FEET OF GAS ABOVE FLUID.  
REMARK 3 :  
REMARK 4 :

SET PACKER(S) : 1:00 PM                      TIME STARTED OFF BOTTOM : 5:00 PM  
WELL TEMPERATURE : 124  
INITIAL HYDROSTATIC PRESSURE                      (A) 2222  
INITIAL FLOW PERIOD                      MIN: 45                      (B) 58                      PSI TO (C) : 72  
INITIAL CLOSED IN PERIOD                      MIN: 45                      (D) 638  
FINAL FLOW PERIOD                      MIN: 55                      (E) 84                      PSI TO (F) : 105  
FINAL CLOSED IN PERIOD                      MIN: 90                      (G) 642  
FINAL HYDROSTATIC PRESSURE                      (H) 2184

WESTERN TESTING CO. INC.  
WICHITA - KANSAS

Pressure Transient Report

COMPANY : BEREN CORPORATION  
RIG : FINNEY-KANSAS  
FIELD : HAAG ESTATE  
WELL : #3  
DATE : 10-1-87  
GAUGE NO : 13549

OPERATIONAL COMMENTS

RECOVERED 810 FEET OF GAS ABOVE FLUID.

COMPANY : BEREN CORPORATION  
 WELL : #3  
 GAUGE # : 13549  
 DATE : 1/10/87

FIELD : HAAG ESTATE  
 JOB # : 11877  
 DEPTH : 4783  
 TEST :

DATA No.	REAL TIME HR:MN:SS	ELAPSE TIME DELTA HOURS	PRESSURE PSIG	TEMP DEG F	DELTA P Pi-P(i-1)
1	1: 0: 0	0.000	58.000	124.00	0.000
2	1: 4: 59	0.083	58.000	124.00	0.000
3	1: 10: 0	0.167	58.000	124.00	0.000
4	1: 15: 0	0.250	58.000	124.00	0.000
5	1: 19: 59	0.333	58.000	124.00	0.000
6	1: 25: 0	0.417	63.000	124.00	5.000
7	1: 30: 0	0.500	64.000	124.00	1.000
8	1: 34: 59	0.583	66.000	124.00	2.000
9	1: 40: 0	0.667	68.000	124.00	2.000
10	1: 45: 0	0.750	72.000	124.00	4.000
11	1: 48: 0	0.800	109.000	124.00	37.000
12	1: 51: 0	0.850	179.000	124.00	70.000
13	1: 54: 0	0.900	287.000	124.00	108.000
14	1: 57: 0	0.950	393.000	124.00	106.000
15	2: 0: 0	1.000	487.000	124.00	94.000
16	2: 2: 59	1.050	540.000	124.00	53.000
17	2: 6: 0	1.100	568.000	124.00	28.000
18	2: 9: 0	1.150	589.000	124.00	21.000
19	2: 12: 0	1.200	604.000	124.00	15.000
20	2: 15: 0	1.250	614.000	124.00	10.000
21	2: 18: 0	1.300	619.000	124.00	5.000
22	2: 21: 0	1.350	626.000	124.00	7.000
23	2: 24: 0	1.400	630.000	124.00	4.000
24	2: 27: 0	1.450	633.000	124.00	3.000
25	2: 30: 0	1.500	638.000	124.00	5.000
26	2: 31: 0	1.517	84.000	124.00	-554.000
27	2: 34: 59	1.583	84.000	124.00	0.000
28	2: 40: 0	1.667	84.000	124.00	0.000
29	2: 45: 0	1.750	85.000	124.00	1.000
30	2: 49: 59	1.833	88.000	124.00	3.000
31	2: 55: 0	1.917	90.000	124.00	2.000
32	3: 0: 0	2.000	92.000	124.00	2.000
33	3: 4: 59	2.083	96.000	124.00	4.000
34	3: 10: 0	2.167	98.000	124.00	2.000
35	3: 15: 0	2.250	100.000	124.00	2.000
36	3: 19: 59	2.333	103.000	124.00	3.000
37	3: 25: 0	2.417	105.000	124.00	2.000
38	3: 28: 0	2.467	125.000	124.00	20.000
39	3: 31: 0	2.517	178.000	124.00	53.000
40	3: 34: 0	2.567	249.000	124.00	71.000
41	3: 37: 0	2.617	337.000	124.00	88.000
42	3: 40: 0	2.667	414.000	124.00	77.000
43	3: 43: 0	2.717	484.000	124.00	70.000
44	3: 46: 0	2.767	527.000	124.00	43.000
45	3: 49: 0	2.817	554.000	124.00	27.000
46	3: 52: 0	2.867	573.000	124.00	19.000
47	3: 55: 0	2.917	586.000	124.00	13.000
48	3: 58: 0	2.967	596.000	124.00	10.000
49	4: 1: 0	3.017	605.000	124.00	9.000
50	4: 4: 0	3.067	611.000	124.00	6.000
51	4: 7: 0	3.117	615.000	124.00	4.000
52	4: 10: 0	3.167	618.000	124.00	3.000

COMPANY : BEREN CORPORATION  
WELL : #3  
GAUGE # : 13549  
DATE : 1/10/87

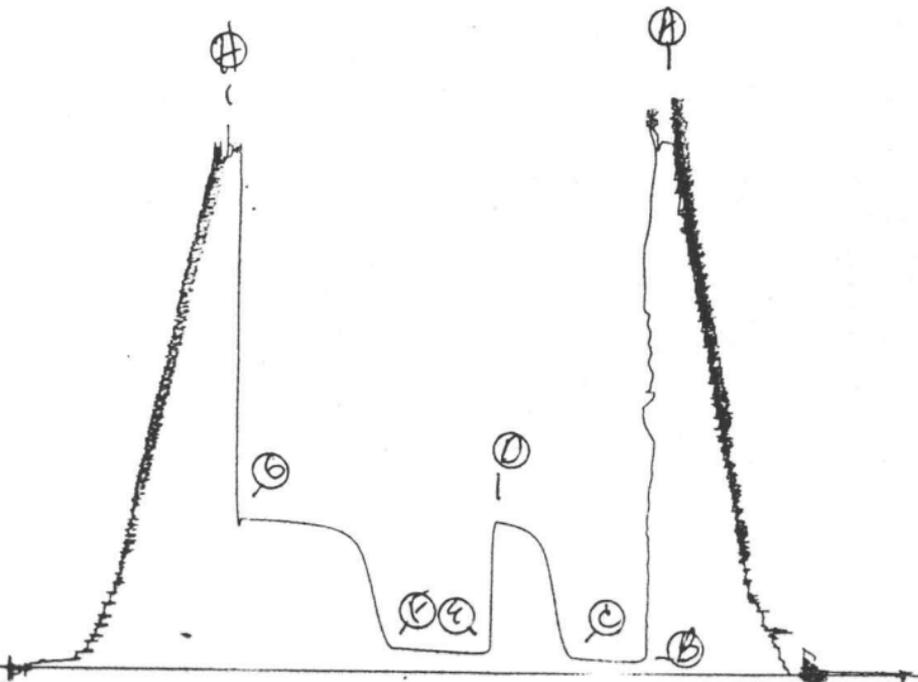
FIELD : HAAG ESTATE  
JOB # : 11877  
DEPTH : 4783  
TEST :

DATA No.	REAL TIME HR:MN:SS	ELAPSE TIME DELTA HOURS	PRESSURE PSIG	TEMP DEG F	DELTA P $P_i - P_{(i-1)}$
53	4:13:0	3.217	621.000	124.00	3.000
54	4:16:0	3.267	624.000	124.00	3.000
55	4:19:0	3.317	627.000	124.00	3.000
56	4:22:0	3.367	629.000	124.00	2.000
57	4:25:0	3.417	631.000	124.00	2.000
58	4:28:0	3.467	633.000	124.00	2.000
59	4:31:0	3.517	634.000	124.00	1.000
60	4:34:0	3.567	635.000	124.00	1.000
61	4:37:0	3.617	636.000	124.00	1.000
62	4:40:0	3.667	637.000	124.00	1.000
63	4:43:0	3.717	638.000	124.00	1.000
64	4:46:0	3.767	639.000	124.00	1.000
65	4:49:0	3.817	640.000	124.00	1.000
66	4:52:0	3.867	641.000	124.00	1.000
67	4:55:0	3.917	642.000	124.00	1.000

WESTERN TESTING CO. INC.

JK # 11877

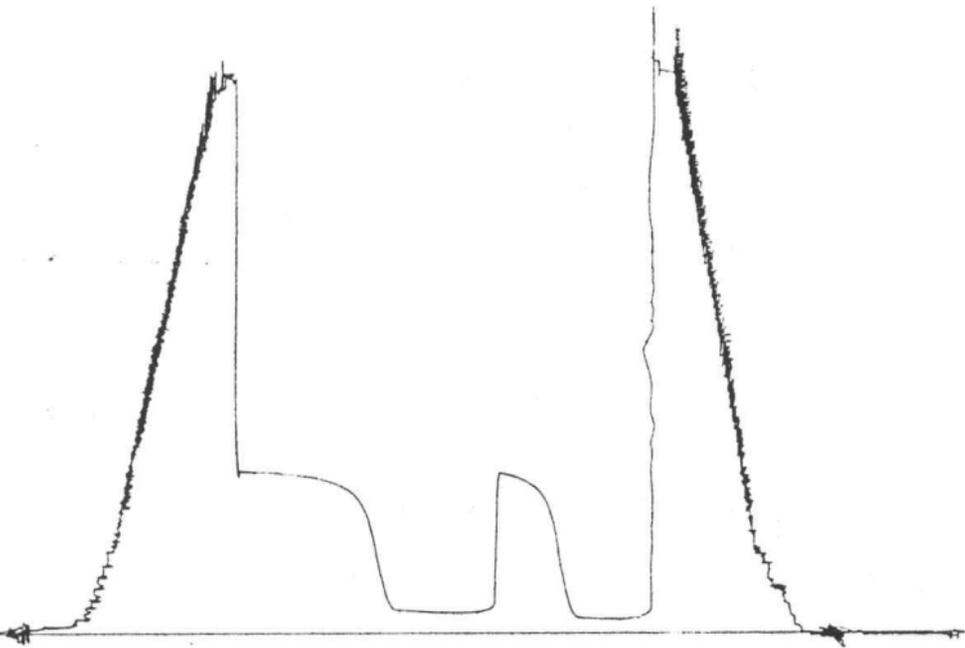
I



135-48

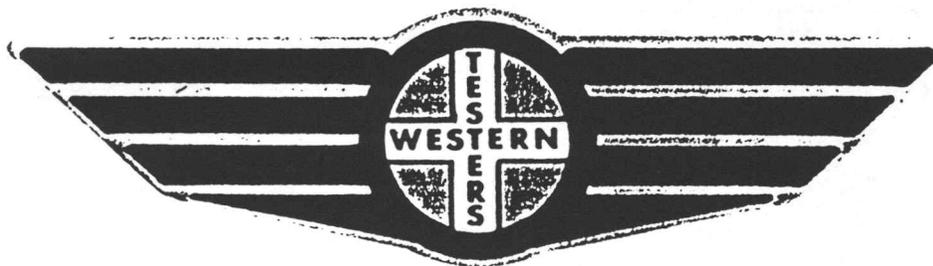
Kit # 11877

0



13553

# FORMATION TEST REPORT



Home Office:

Wichita, Kansas 67201

P.O. Box 1599

Phone (316) 262-5861

COMPANY BEREN CORPORATION

LEASE & WELL NO. HAAG ESTATE #3

SEC. 12 TWP. 23S RGE. 32W

TEST NO. 2

DATE 10-2-87

WESTERN TESTING CO. INC.  
SUBSURFACE PRESSURE SURVEY

DATE : 10-2-87 TICKET : 11878  
CUSTOMER : BEREN CORPORATION LEASE : HAAG ESTATE  
WELL : #3 TEST: 2 GEOLOGIST : K. JOHNSON  
ELEVATION : 2870 GL FORMATION : -  
SECTION : 12 TOWNSHIP : 23S  
RANGE : 32W COUNTY : FINNEY STATE : KANSAS  
GAUGE SN# : 13549 RANGE : 4100 CLOCK : 12

INTERVAL FROM : 4804 TO : 4840 TOTAL DEPTH : 4840  
DEPTH OF SELECTIVE ZONE :  
PACKER DEPTH : 4799 SIZE : 6.63  
PACKER DEPTH : 4804 SIZE : 6.63  
PACKER DEPTH : SIZE :  
PACKER DEPTH : SIZE :

DRILLING CON. : BEREDCO RIG #1  
MUD TYPE : CHEMICAL VISCOSITY : 54  
WEIGHT : 8.9 WATER LOSS (CC) : 6.8  
CHLORIDES (PPM) : 1100  
JARS-MAKE : WTC SERIAL NUMBER : 411  
DID WELL FLOW ? : - REVERSED OUT ? : -

DRILL COLLAR LENGTH : 679 FT I.D. inch : 2.25  
WEIGHT PIPE LENGTH : 0 FT I.D. inch : 0.00  
DRILL PIPE LENGTH : 4097 FT I.D. inch : 3.80  
TEST TOOL LENGTH : 28 FT TOOL SIZE : 5.50  
ANCHOR LENGTH : 36 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 BLOW-BUILDING IN 11".  
BLOW COMMENT #2 : FINAL FLOW-WEAL BLOW-BUILDING IN 10".  
BLOW COMMENT #3 :  
BLOW COMMENT #4 :

RECOVERED : 90 FT OF: HEAVY GAS CUT MUDDY OIL  
40% GAS-30% MUD-30% OIL

Total Barrels Fluid = 0.44  
Total Fluid Prod Rate = 6.37 BFPD  
Indicated Oil Rate = 1.91 BOPD  
Indicated Wtr Rate = 0.19 BWPD  
Corrected Oil Rate = 3.25 BOPD  
Corrected Wtr Rate = 0.33 BWPD

REMARK 1 :  
REMARK 2 : RECOVERED 540 FEET OF GAS ABOVE FLUID.  
REMARK 3 :  
REMARK 4 :

SET PACKER(S) : 8:35 AM TIME STARTED OFF BOTTOM : 12:35 PM  
WELL TEMPERATURE : 124  
INITIAL HYDROSTATIC PRESSURE (A) 2278  
INITIAL FLOW PERIOD MIN: 45 (B) 39 PSI TO (C) : 46  
INITIAL CLOSED IN PERIOD MIN: 45 (D) 332  
FINAL FLOW PERIOD MIN: 55 (E) 56 PSI TO (F) : 56  
FINAL CLOSED IN PERIOD MIN: 90 (G) 381  
FINAL HYDROSTATIC PRESSURE (H) 2211

WESTERN TESTING CO. INC.  
WICHITA - KANSAS

Pressure Transient Report

COMPANY : BEREN CORPORATION  
RIG : FINNEY-KANSAS  
FIELD : HAAG ESTATE  
WELL : #3  
DATE : 10-2-87  
GAUGE NO : 13549

OPERATIONAL COMMENTS

RECOVERED 540 FEET OF GAS ABOVE FLUID.

COMPANY : BEREN CORPORATION  
 WELL : #3  
 GAUGE # : 13549  
 DATE : 2/10/87

FIELD : HAAG ESTATE  
 JOB # : 11878  
 DEPTH : 4840  
 TEST :

DATA No.	REAL TIME HR:MN:SS	ELAPSE TIME DELTA HOURS	PRESSURE PSIG	TEMP DEG F	DELTA P Pi-P(i-1)
1	8:35:0	0.000	39.000	124.00	0.000
2	8:39:59	0.083	39.000	124.00	0.000
3	8:45:0	0.167	39.000	124.00	0.000
4	8:50:0	0.250	39.000	124.00	0.000
5	8:54:59	0.333	39.000	124.00	0.000
6	9:0:0	0.417	40.000	124.00	1.000
7	9:5:0	0.500	41.000	124.00	1.000
8	9:9:59	0.583	42.000	124.00	1.000
9	9:15:0	0.667	44.000	124.00	2.000
10	9:20:0	0.750	46.000	124.00	2.000
11	9:23:0	0.800	51.000	124.00	5.000
12	9:26:0	0.850	62.000	124.00	11.000
13	9:29:0	0.900	75.000	124.00	13.000
14	9:32:0	0.950	93.000	124.00	18.000
15	9:35:0	1.000	113.000	124.00	20.000
16	9:38:0	1.050	130.000	124.00	17.000
17	9:41:0	1.100	153.000	124.00	23.000
18	9:44:0	1.150	178.000	124.00	25.000
19	9:47:0	1.200	201.000	124.00	23.000
20	9:50:0	1.250	226.000	124.00	25.000
21	9:53:0	1.300	249.000	124.00	23.000
22	9:56:0	1.350	271.000	124.00	22.000
23	9:59:0	1.400	295.000	124.00	24.000
24	10:2:0	1.450	313.000	124.00	18.000
25	10:5:0	1.500	332.000	124.00	19.000
26	10:6:0	1.517	56.000	124.00	-276.000
27	10:9:59	1.583	56.000	124.00	0.000
28	10:15:0	1.667	56.000	124.00	0.000
29	10:20:0	1.750	56.000	124.00	0.000
30	10:24:59	1.833	56.000	124.00	0.000
31	10:30:0	1.917	56.000	124.00	0.000
32	10:35:0	2.000	56.000	124.00	0.000
33	10:39:59	2.083	56.000	124.00	0.000
34	10:45:0	2.167	56.000	124.00	0.000
35	10:50:0	2.250	56.000	124.00	0.000
36	10:54:59	2.333	56.000	124.00	0.000
37	11:0:0	2.417	56.000	124.00	0.000
38	11:3:0	2.467	66.000	124.00	10.000
39	11:6:0	2.517	77.000	124.00	11.000
40	11:9:0	2.567	85.000	124.00	8.000
41	11:12:0	2.617	101.000	124.00	16.000
42	11:15:0	2.667	116.000	124.00	15.000
43	11:18:0	2.717	131.000	124.00	15.000
44	11:21:0	2.767	143.000	124.00	12.000
45	11:24:0	2.817	157.000	124.00	14.000
46	11:27:0	2.867	169.000	124.00	12.000
47	11:30:0	2.917	183.000	124.00	14.000
48	11:33:0	2.967	200.000	124.00	17.000
49	11:36:0	3.017	212.000	124.00	12.000
50	11:39:0	3.067	226.000	124.00	14.000
51	11:42:0	3.117	241.000	124.00	15.000
52	11:45:0	3.167	252.000	124.00	11.000

COMPANY : BEREN CORPORATION  
WELL : #3  
GAUGE # : 13549  
DATE : 2/10/87

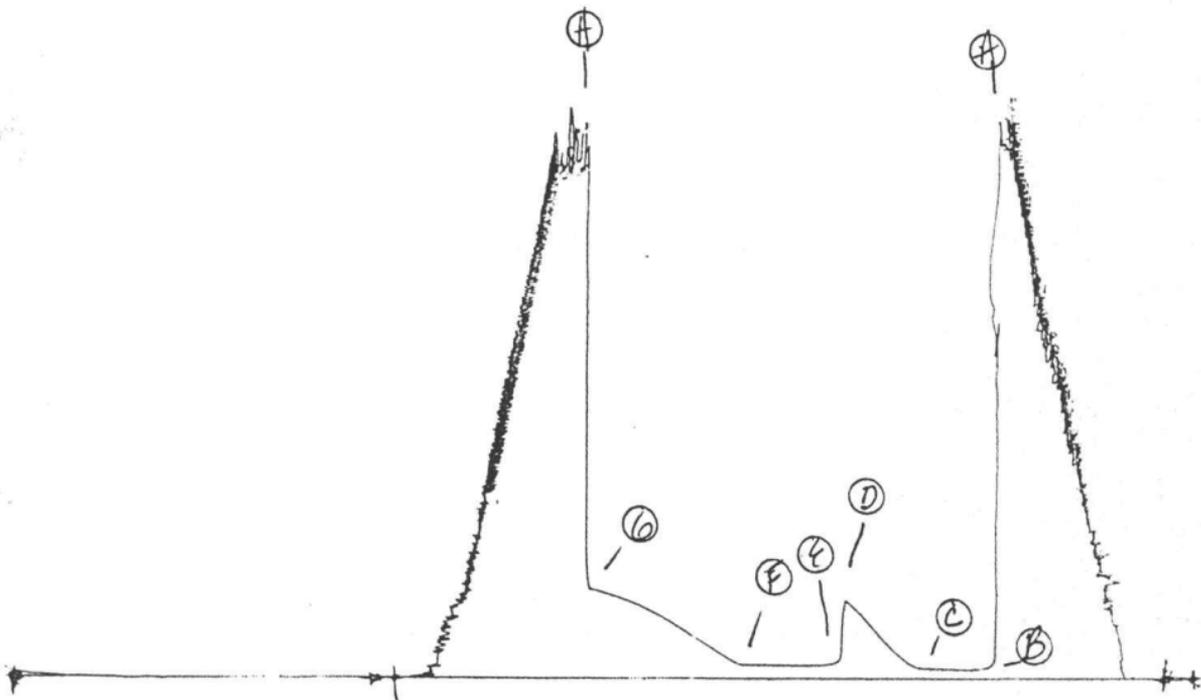
FIELD : HAAG ESTATE  
JOB # : 11878  
DEPTH : 4840  
TEST :

DATA No.	REAL TIME HR:MN:SS	ELAPSE TIME DELTA HOURS	PRESSURE PSIG	TEMP DEG F	DELTA P Pi-P(i-1)
53	11:48: 0	3.217	264.000	124.00	12.000
54	11:51: 0	3.267	276.000	124.00	12.000
55	11:54: 0	3.317	288.000	124.00	12.000
56	11:57: 0	3.367	299.000	124.00	11.000
57	12: 0: 0	3.417	310.000	124.00	11.000
58	12: 3: 0	3.467	320.000	124.00	10.000
59	12: 6: 0	3.517	328.000	124.00	8.000
60	12: 9: 0	3.567	338.000	124.00	10.000
61	12:12: 0	3.617	344.000	124.00	6.000
62	12:15: 0	3.667	350.000	124.00	6.000
63	12:18: 0	3.717	358.000	124.00	8.000
64	12:21: 0	3.767	365.000	124.00	7.000
65	12:24: 0	3.817	372.000	124.00	7.000
66	12:27: 0	3.867	375.000	124.00	3.000
67	12:30: 0	3.917	381.000	124.00	6.000

WESTERN TESTING CO. INC.

OK # 1187P

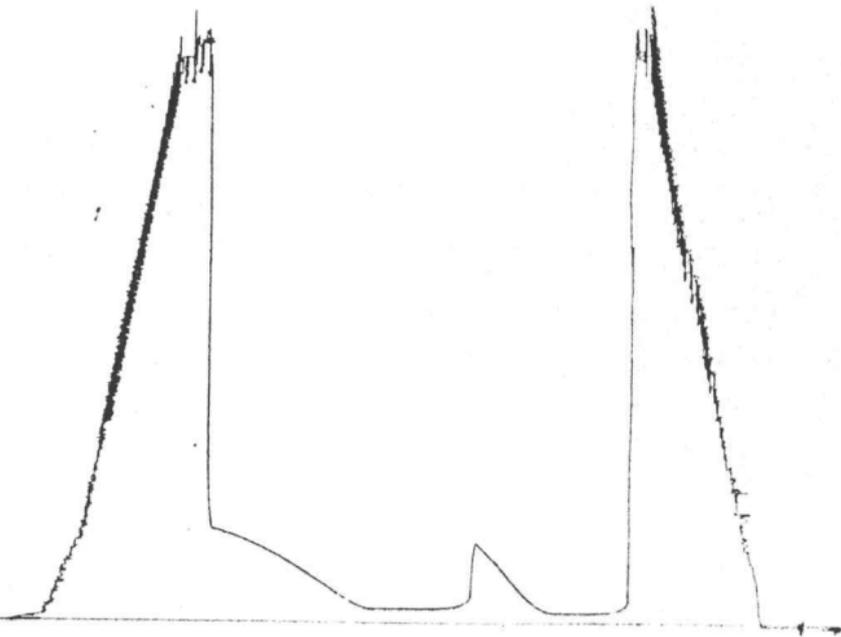
I



13549

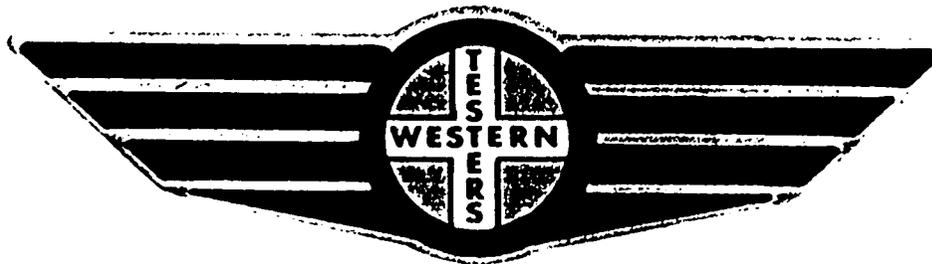
JK # 11878

0



13553

# FORMATION TEST REPORT



Home Office:

Wichita, Kansas 67201

P.O. Box 1599

Phone (316) 262-5861

COMPANY BEREN CORPORATION LEASE & WELL NO. HAAG ESTATE #3 SEC. 12 TWP. 23S RGE. 32W TEST NO. 3 DATE 10-3-87

WESTERN TESTING CO. INC.  
SUBSURFACE PRESSURE SURVEY

DATE : 10-3-87 TICKET : 11879  
CUSTOMER : BEREN CORPORATION LEASE : HAAG ESTATE  
WELL : #3 TEST: 3 GEOLOGIST : K. JOHNSON  
ELEVATION : 2870 GL FORMATION : MISSISSIPPI  
SECTION : 12 TOWNSHIP : 23S  
RANGE : 32W COUNTY : FINNEY STATE : KANSAS  
GAUGE SN# : 13549 RANGE : 4100 CLOCK : 12

INTERVAL FROM : 4863 TO : 4879 TOTAL DEPTH : 4879  
DEPTH OF SELECTIVE ZONE :  
PACKER DEPTH : 4858 SIZE : 6.63  
PACKER DEPTH : 4863 SIZE : 6.63  
PACKER DEPTH : SIZE :  
PACKER DEPTH : SIZE :

DRILLING CON. : BEREDCO RIG #1  
MUD TYPE : CHEMICAL VISCOSITY : 55  
WEIGHT : 8.9 WATER LOSS (CC) : 6.4  
CHLORIDES (PPM) : 1520  
JARS-MAKE : WTC SERIAL NUMBER : 411  
DID WELL FLOW ? : - REVERSED OUT ? : -

DRILL COLLAR LENGTH : 679 FT I.D. inch : 2.25  
WEIGHT PIPE LENGTH : 0 FT I.D. inch : 0.00  
DRILL PIPE LENGTH : 4156 FT I.D. inch : 3.80  
TEST TOOL LENGTH : 28 FT TOOL SIZE : 5.50  
ANCHOR LENGTH : 16 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 BLOW-DIED IN 17 MINUTES.  
BLOW COMMENT #2 : FINAL FLOW-NO BLOW.  
BLOW COMMENT #3 :  
BLOW COMMENT #4 :



WESTERN TESTING CO. INC.  
WICHITA - KANSAS

Pressure Transient Report  
-----

COMPANY : BEREN CORPORATION  
RIG : FINNEY-KANSAS  
FIELD : HAAG ESTATE  
WELL : #3  
DATE : 10-3-87  
GAUGE NO : 13549

OPERATIONAL COMMENTS

PLUGGING ON INITIAL FLOW  
SLID TOOL 20 FEET TO BOTTOM  
RIG BROKE DOWN AT 8:30 AM & STARTED BACK AT 7:30 PM

COMPANY : BEREN CORPORATION  
WELL : #3  
GAUGE # : 13549  
DATE : 3/10/87

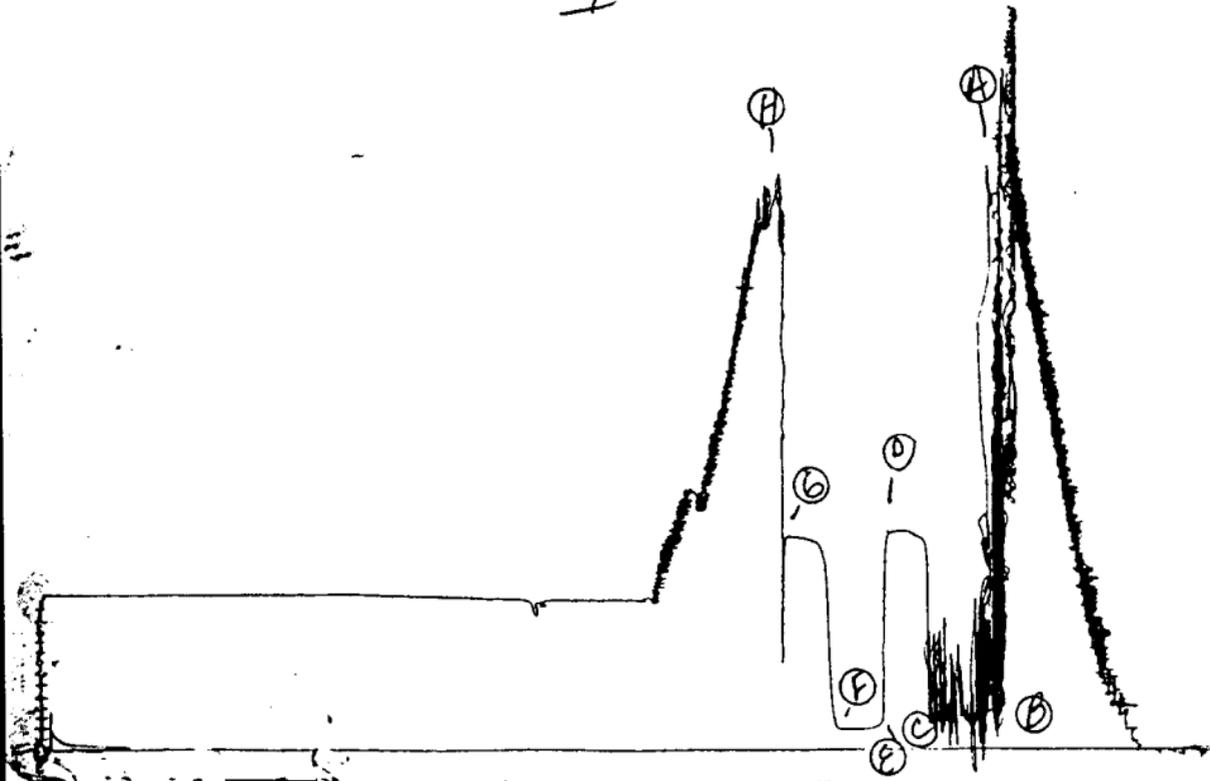
FIELD : HAAG ESTATE  
JOB # : 11879  
DEPTH : 4879  
TEST : PLUGGING ON INITIAL FLOW

DATA No.	REAL TIME HR:MN:SS	ELAPSE TIME DELTA HOURS	PRESSURE PSIG	TEMP DEG F	DELTA P Pi-P(i-1)
1	4:15:0	0.000	129.000	124.00	0.000
2	4:19:59	0.083	129.000	124.00	0.000
3	4:25:0	0.167	129.000	124.00	0.000
4	4:30:0	0.250	129.000	124.00	0.000
5	4:34:59	0.333	129.000	124.00	0.000
6	4:40:0	0.417	129.000	124.00	0.000
7	4:45:0	0.500	129.000	124.00	0.000
8	4:48:0	0.550	833.000	124.00	704.000
9	4:51:0	0.600	900.000	124.00	67.000
10	4:54:0	0.650	910.000	124.00	10.000
11	4:57:0	0.700	923.000	124.00	13.000
12	5:0:0	0.750	929.000	124.00	6.000
13	5:3:0	0.800	932.000	124.00	3.000
14	5:6:0	0.850	930.000	124.00	-2.000
15	5:9:0	0.900	927.000	124.00	-3.000
16	5:12:0	0.950	927.000	124.00	0.000
17	5:13:0	0.967	94.000	124.00	-833.000
18	5:16:59	1.033	94.000	124.00	0.000
19	5:22:0	1.117	94.000	124.00	0.000
20	5:27:0	1.200	94.000	124.00	0.000
21	5:31:59	1.283	94.000	124.00	0.000
22	5:37:0	1.367	94.000	124.00	0.000
23	5:40:0	1.417	206.000	124.00	112.000
24	5:43:0	1.467	577.000	124.00	371.000
25	5:46:0	1.517	803.000	124.00	226.000
26	5:49:0	1.567	871.000	124.00	68.000
27	5:52:0	1.617	885.000	124.00	14.000
28	5:55:0	1.667	892.000	124.00	7.000
29	5:58:0	1.717	899.000	124.00	7.000
30	6:1:0	1.767	903.000	124.00	4.000
31	6:4:0	1.817	906.000	124.00	3.000
32	6:7:0	1.867	908.000	124.00	2.000

WESTERN TESTING CO. INC.

JK # 11879

I



1333  
JK # 11879

0

