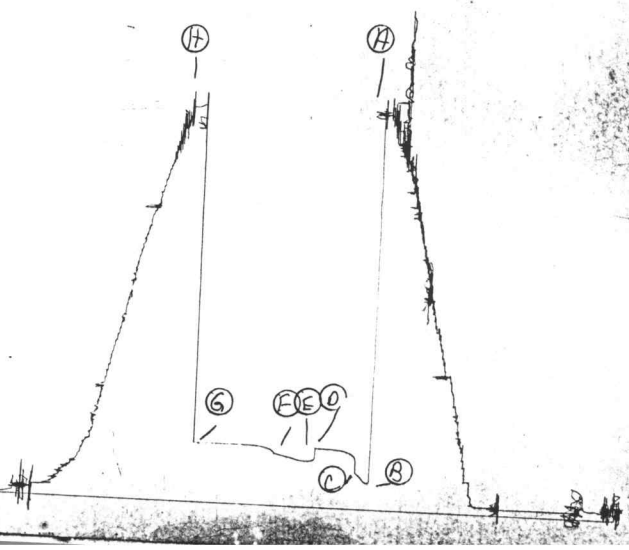


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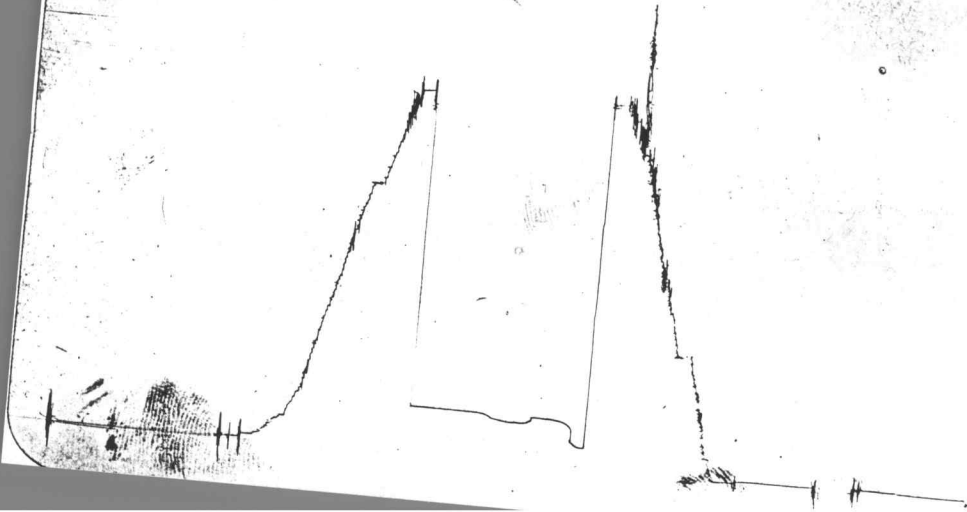
13759



KT 7020

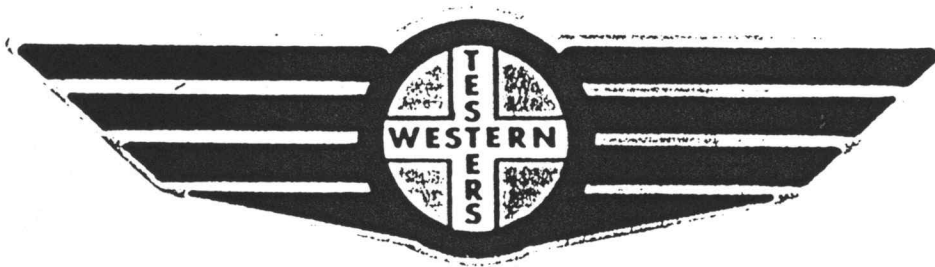
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D57#

# FORMATION TEST REPORT



Home Office:

Wichita, Kansas 67201

P.O. Box 1599

Phone (316) 262-5861

WESTERN TESTING CO. INC.  
SUBSURFACE PRESSURE SURVEY

DATE : 6-7-87 TICKET : 7020  
CUSTOMER : NCRA LEASE : THOMPSON 'B'  
WELL : #1 TEST: 1 GEOLOGIST : E. BAKER  
ELEVATION : 2222 KB FORMATION : CHEROKEE  
SECTION : 3 TOWNSHIP : 17S  
RANGE : 21W COUNTY : NESS STATE : KANSAS  
GAUGE SN# : 13759 RANGE : 3900 CLOCK : 12

INTERVAL FROM : 4108 TO : 4125 TOTAL DEPTH : 4125  
DEPTH OF SELECTIVE ZONE :  
PACKER DEPTH : 4103 SIZE : 6.63  
PACKER DEPTH : 4108 SIZE : 6.63  
PACKER DEPTH : SIZE :  
PACKER DEPTH : SIZE :

DRILLING CON. : RAINS & WILLIAMSON RIG #2  
MUD TYPE : CHEMICAL VISCOSITY : 42  
WEIGHT : 9.3 WATER LOSS (CC) : 8.8  
CHLORIDES (PPM) : 8600  
JARS-MAKE : WTC SERIAL NUMBER : 402  
DID WELL FLOW ? : NO REVERSED OUT ? : NO

DRILL COLLAR LENGTH : 240 FT I.D. inch : 2.25  
WEIGHT PIPE LENGTH : 0 FT I.D. inch : 0.00  
DRILL PIPE LENGTH : 3836 FT I.D. inch : 3.80  
TEST TOOL LENGTH : 32 FT TOOL SIZE : 5.50  
ANCHOR LENGTH : 17 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 : STRONG BLOW ON BOTTOM OF BUCKET IN 7 MINUTES.  
BLOW COMMENT #2 :  
BLOW COMMENT #3 :  
BLOW COMMENT #4 :



FLUID SAMPLE REPORT

Date : 6-7-87

Ticket No. : 7020

Company : NCRA

Well Name & No. : THOMPSON 'B' #1

DST No. 1

County : NESS

State : KANSAS

Sampler No. : 31

Test Interval : 4108-4125

=====  
Pressure in Sampler 257 PSIG      BHT 120      Deg F

Total Volume of Sampler : 3150      cc

Total Volume of Sample : 3150      cc

Oil: -      cc

Water: 3150      cc

Mud: -      cc

Gas: -      cu ft

Other: -      cc  
=====

RESITIVITY

Drilling Mud .12 @ 82 F Chloride Content 37000 ppm

Mud Pit Sample .44 @ 82 F Chloride Content 8600 ppm

Gas/Oil Ratio      Gravity      API @      Deg F

Where was sample drained

Remarks:

WESTERN TESTING CO. INC.  
WICHITA - KANSAS

Pressure Transient Report  
-----

COMPANY : NCRA  
RIG : NESS-KANSAS  
FIELD : THOMPSON 'B'  
WELL : #1  
DATE : 6-7-87  
GAUGE NO : 13759

OPERATIONAL COMMENTS

COMPANY : NCRA  
 WELL : #1  
 GAUGE # : 13759  
 DATE : 7/ 6/87

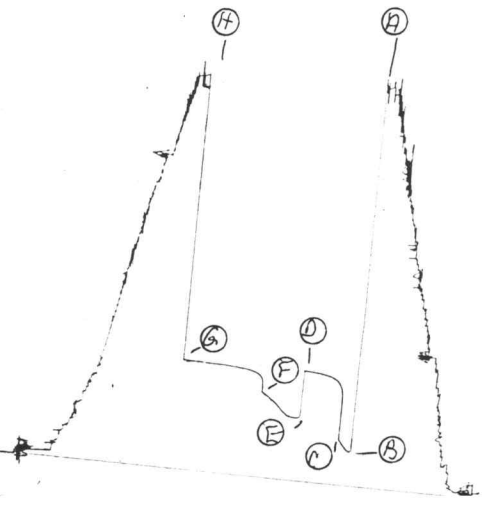
FIELD : THOMPSON 'B'  
 JOB # : 7020  
 DEPTH : 4125  
 TEST :

DATA No.	REAL TIME HR:MN:SS	ELAPSE TIME DELTA HOURS	PRESSURE PSIG	TEMP DEG F	DELTA P Pi-P(i-1)
1	1:30: 0	0.000	100.000	120.00	0.000
2	1:34:59	0.083	114.000	120.00	14.000
3	1:40: 0	0.167	148.000	120.00	34.000
4	1:43: 0	0.217	243.000	120.00	95.000
5	1:46: 0	0.267	252.000	120.00	9.000
6	1:49: 0	0.317	259.000	120.00	7.000
7	1:52: 0	0.367	262.000	120.00	3.000
8	1:55: 0	0.417	264.000	120.00	2.000
9	1:58: 0	0.467	266.000	120.00	2.000
10	2: 1: 0	0.517	266.000	120.00	0.000
11	2: 4: 0	0.567	266.000	120.00	0.000
12	2: 7: 0	0.617	266.000	120.00	0.000
13	2:10: 0	0.667	266.000	120.00	0.000
14	2:11: 0	0.683	200.000	120.00	-66.000
15	2:15: 0	0.750	200.000	120.00	0.000
16	2:20: 0	0.833	200.000	120.00	0.000
17	2:25: 0	0.917	210.000	120.00	10.000
18	2:30: 0	1.000	219.000	120.00	9.000
19	2:35: 0	1.083	226.000	120.00	7.000
20	2:40: 0	1.167	232.000	120.00	6.000
21	2:43: 0	1.217	253.000	120.00	21.000
22	2:46: 0	1.267	259.000	120.00	6.000
23	2:49: 0	1.317	264.000	120.00	5.000
24	2:52: 0	1.367	267.000	120.00	3.000
25	2:55: 0	1.417	269.000	120.00	2.000
26	2:58: 0	1.467	270.000	120.00	1.000
27	3: 1: 0	1.517	271.000	120.00	1.000
28	3: 4: 0	1.567	271.000	120.00	0.000
29	3: 7: 0	1.617	271.000	120.00	0.000
30	3:10: 0	1.667	271.000	120.00	0.000
31	3:13: 0	1.717	271.000	120.00	0.000
32	3:16: 0	1.767	271.000	120.00	0.000
33	3:19: 0	1.817	271.000	120.00	0.000
34	3:22: 0	1.867	271.000	120.00	0.000
35	3:25: 0	1.917	271.000	120.00	0.000
36	3:28: 0	1.967	271.000	120.00	0.000
37	3:31: 0	2.017	271.000	120.00	0.000
38	3:34: 0	2.067	271.000	120.00	0.000
39	3:37: 0	2.117	271.000	120.00	0.000
40	3:40: 0	2.167	271.000	120.00	0.000

WESTERN TESTING CO. INC.

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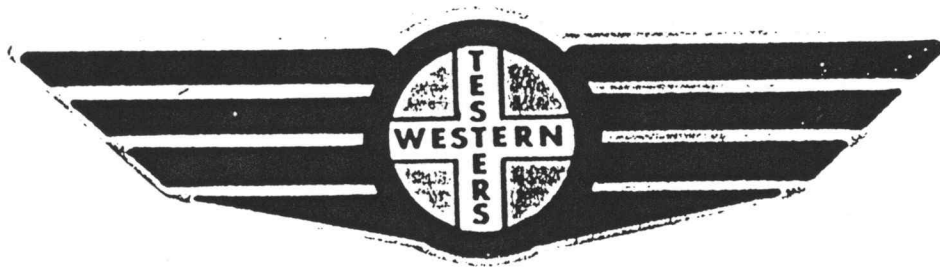
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# FORMATION TEST REPORT



Home Office:

Wichita, Kansas 67201

P.O. Box 1599

Phone (316) 262-5861

COMPANY NATIONAL COOPERATIVE REFINERY ASSOC & WELL NO. THOMPSON B-1 SEC. 3 TWP. 17S RGE. 21WEST NO. 2 DATE 6/8/87

WESTERN TESTING CO. INC.  
SUBSURFACE PRESSURE SURVEY

DATE : 6-8-87  
CUSTOMER : NCRA  
WELL : #1 TEST: 2  
ELEVATION : 2222 KB  
SECTION : 3  
RANGE : 21W COUNTY : NESS  
GAUGE SN# : 13759 RANGE : 3900  
TICKET : 7021  
LEASE : THOMPSON 'B'  
GEOLOGIST : E. BAKER  
FORMATION : CHEROKEE  
TOWNSHIP : 17S  
STATE : KANSAS  
CLOCK : 12

INTERVAL FROM : 4134 TO : 4147 TOTAL DEPTH : 4147  
DEPTH OF SELECTIVE ZONE :  
PACKER DEPTH : 4129 SIZE : 6.63  
PACKER DEPTH : 4134 SIZE : 6.63  
PACKER DEPTH : SIZE :  
PACKER DEPTH : SIZE :

DRILLING CON. : RAINS & WILLISMSON RIG #2  
MUD TYPE : CHEMICAL VISCOSITY : 42  
WEIGHT : 9.3 WATER LOSS (CC) : 8.8  
CHLORIDES (PPM) : 8600  
JARS-MAKE : WTC SERIAL NUMBER : 402  
DID WELL FLOW ? : NO REVERSED OUT ? :

DRILL COLLAR LENGTH : 240 FT I.D. inch : 2.25  
WEIGHT PIPE LENGTH : 0 FT I.D. inch : 0.00  
DRILL PIPE LENGTH : 3862 FT I.D. inch : 3.80  
TEST TOOL LENGTH : 32 FT TOOL SIZE : 5.50  
ANCHOR LENGTH : 13 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  
4 MINUTES.  
BLOW COMMENT #2 : FINAL FLOW-STRONG BLOW.  
BLOW COMMENT #3 :  
BLOW COMMENT #4 :



FLUID SAMPLE REPORT

Date : 6-8-87

Ticket No. : 7021

Company : NCRA

Well Name & No. : THOMPSON 'B' #1

DST No. 2

County : NESS

State : KANSAS

Sampler No. : 31

Test Interval : 4134-4147

=====  
Pressure in Sampler 419 PSIG      BHT 118      Deg F

Total Volume of Sampler : 3150      cc

Total Volume of Sample : 3150      cc

Oil: -      cc

Water: 3150      cc

Mud: -      cc

Gas: -      cu ft

Other: -      cc  
=====

RESITIVITY

Drilling Mud .14 @ 74 F Chloride Content 32000 ppm

Mud Pit Sample .4 @ 72 F Chloride Content 8600 ppm

Gas/Oil Ratio      Gravity      API @      Deg F

Where was sample drained RIG FLOOR

Remarks:

WESTERN TESTING CO. INC.  
WICHITA - KANSAS

Pressure Transient Report  
-----

COMPANY : NCRA  
RIG : NESS-KANSAS  
FIELD : THOMPSON 'B'  
WELL : #1  
DATE : 6-8-87  
GAUGE NO : 13759

OPERATIONAL COMMENTS

COMPANY : NCRA  
WELL : #1  
GAUGE # : 13759  
DATE : 8/ 6/87

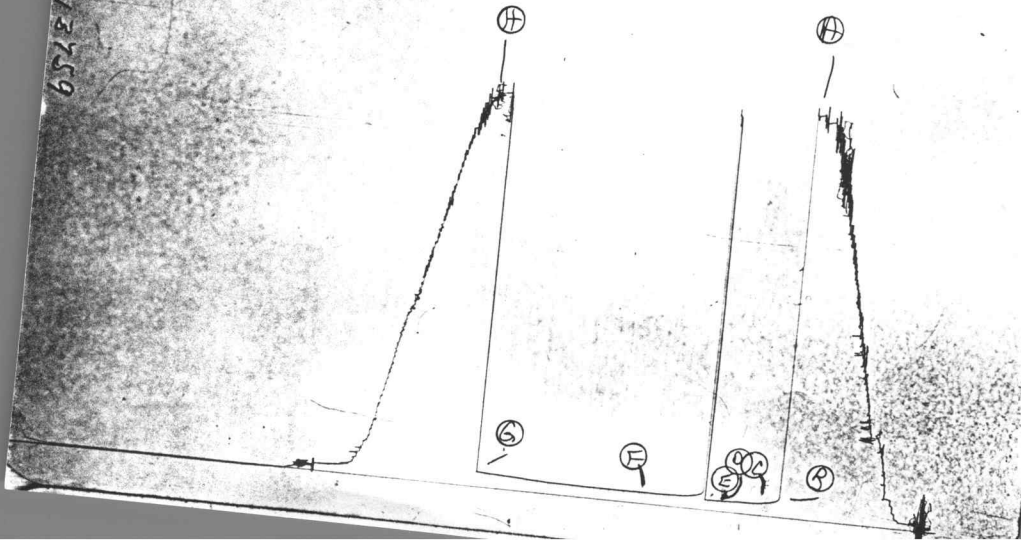
FIELD : THOMPSON 'B'  
JOB # : 7021  
DEPTH : 4147  
TEST :

DATA No.	REAL TIME HR:MN:SS	ELAPSE TIME DELTA HOURS	PRESSURE PSIG	TEMP DEG F	DELTA P Pi-P(i-1)
1	3:45: 0	0.000	152.000	118.00	0.000
2	3:49:59	0.083	168.000	118.00	16.000
3	3:55: 0	0.167	207.000	118.00	39.000
4	3:58: 0	0.217	487.000	118.00	280.000
5	4: 1: 0	0.267	506.000	118.00	19.000
6	4: 4: 0	0.317	514.000	118.00	8.000
7	4: 7: 0	0.367	520.000	118.00	6.000
8	4:10: 0	0.417	525.000	118.00	5.000
9	4:13: 0	0.467	528.000	118.00	3.000
10	4:16: 0	0.517	531.000	118.00	3.000
11	4:19: 0	0.567	532.000	118.00	1.000
12	4:22: 0	0.617	534.000	118.00	2.000
13	4:25: 0	0.667	536.000	118.00	2.000
14	4:26: 0	0.683	298.000	118.00	-238.000
15	4:30: 0	0.750	298.000	118.00	0.000
16	4:35: 0	0.833	305.000	118.00	7.000
17	4:40: 0	0.917	331.000	118.00	26.000
18	4:45: 0	1.000	365.000	118.00	34.000
19	4:50: 0	1.083	388.000	118.00	23.000
20	4:55: 0	1.167	408.000	118.00	20.000
21	4:58: 0	1.217	493.000	118.00	85.000
22	5: 1: 0	1.267	505.000	118.00	12.000
23	5: 4: 0	1.317	511.000	118.00	6.000
24	5: 7: 0	1.367	513.000	118.00	2.000
25	5:10: 0	1.417	517.000	118.00	4.000
26	5:13: 0	1.467	519.000	118.00	2.000
27	5:16: 0	1.517	521.000	118.00	2.000
28	5:19: 0	1.567	523.000	118.00	2.000
29	5:22: 0	1.617	525.000	118.00	2.000
30	5:25: 0	1.667	527.000	118.00	2.000
31	5:28: 0	1.717	528.000	118.00	1.000
32	5:31: 0	1.767	528.000	118.00	0.000
33	5:34: 0	1.817	528.000	118.00	0.000
34	5:37: 0	1.867	528.000	118.00	0.000
35	5:40: 0	1.917	528.000	118.00	0.000
36	5:43: 0	1.967	529.000	118.00	1.000
37	5:46: 0	2.017	530.000	118.00	1.000
38	5:49: 0	2.067	531.000	118.00	1.000
39	5:52: 0	2.117	531.000	118.00	0.000
40	5:55: 0	2.167	531.000	118.00	0.000

WESTERN TESTING CO. INC.

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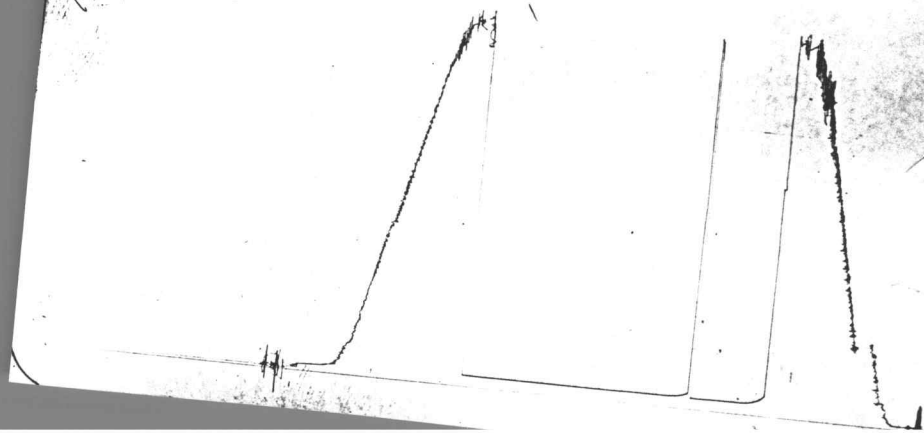


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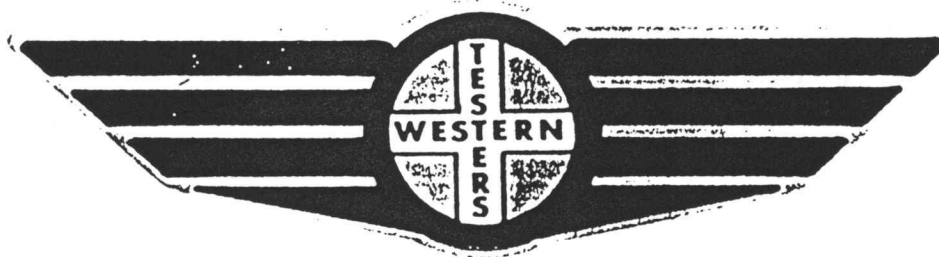
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# FORMATION TEST REPORT



Home Office:

Wichita, Kansas 67201

P.O. Box 1599

Phone (316) 262-5861

COMPANY NATIONAL COOPERATIVE REFINERY ASSOC. & WELL NO. THOMPSON B-1 SEC. 3 TWP. 17S RGE. 21W TEST NO. 3 DATE 6/8/87

WESTERN TESTING CO. INC.  
SUBSURFACE PRESSURE SURVEY

DATE : 6-8-87 TICKET : 7022  
CUSTOMER : NCRA LEASE : THOMPSON 'B'  
WELL : #1 TEST: 3 GEOLOGIST : E. BAKER  
ELEVATION : 2222 KB FORMATION : CHEROKEE  
SECTION : 3 TOWNSHIP : 17S  
RANGE : 21W COUNTY : NESS STATE : KANSAS  
GAUGE SN# : 13759 RANGE : 3900 CLOCK : 12

INTERVAL FROM : 4152 TO : 4170 TOTAL DEPTH : 4170  
DEPTH OF SELECTIVE ZONE :  
PACKER DEPTH : 4147 SIZE : 6.63  
PACKER DEPTH : 4152 SIZE : 6.63  
PACKER DEPTH : SIZE :  
PACKER DEPTH : SIZE :

DRILLING CON. : RAINS & WILLIAMSON RIG #2  
MUD TYPE : CHEMICAL VISCOSITY : 44  
WEIGHT : 9.1 WATER LOSS (CC) : 10.4  
CHLORIDES (PPM) : 14500  
JARS-MAKE : WTC SERIAL NUMBER : 402  
DID WELL FLOW ? : REVERSED OUT ? :

DRILL COLLAR LENGTH : 240 FT I.D. inch : 2.25  
WEIGHT PIPE LENGTH : 0 FT I.D. inch : 0.00  
DRILL PIPE LENGTH : 3880 FT I.D. inch : 3.80  
TEST TOOL LENGTH : 32 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 : 4.5 XH

BLOW COMMENT #1 : INITIAL FLOW-WEAK BLOW DIED IN 8 MINUTES.  
BLOW COMMENT #2 : FINAL FLOW-NO BLOW-FLUSHED TOOL AT 15 MINUTES-  
FEW BUBBLES-DIED.  
BLOW COMMENT #3 :  
BLOW COMMENT #4 :

RECOVERED : 2 FT OF: MUD

Total Barrels Fluid = 0.01  
Total Fluid Prod Rate = 0.20 BFPD  
Indicated Wtr Rate = 0.02 BWPD

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

SET PACKER(S) : 6:00 PM

TIME STARTED OFF BOTTOM : 9:40 PM

WELL TEMPERATURE : 120

INITIAL HYDROSTATIC PRESSURE

(A) 2006

INITIAL FLOW PERIOD MIN: 10

(B) 36 PSI TO (C) : 36

INITIAL CLOSED IN PERIOD MIN: 30

(D) 24

FINAL FLOW PERIOD MIN: 60

(E) 24 PSI TO (F) : 30

FINAL CLOSED IN PERIOD MIN: 120

(G) 46

FINAL HYDROSTATIC PRESSURE

(H) 1998

FLUID SAMPLE REPORT

Date : 6-8-87

Ticket No. : 7022

Company : NCRA

Well Name & No. : THOMPSON 'B' #1

DST No. 3

County : NESS

State : KANSAS

Sampler No. : 31

Test Interval : 4152-4170

=====  
Pressure in Sampler 51 PSIG BHT 120 Deg F

Total Volume of Sampler : 3150 cc

Total Volume of Sample : 3150 cc

Oil: - cc

Water: - cc

Mud: 3150 cc

Gas: - cu ft

Other: - cc  
=====

RESITIVITY

Drilling Mud @ F Chloride Content ppm

Mud Pit Sample .75 @ 90 F Chloride Content 14500 ppm

Gas/Oil Ratio Gravity API @ Deg F

Where was sample drained

Remarks:

WESTERN TESTING CO. INC.  
WICHITA - KANSAS

Pressure Transient Report  
-----

COMPANY : NCRA  
RIG : NESS-KANSAS  
FIELD : THOMPSON 'B'  
WELL : #1  
DATE : 6-8-87  
GAUGE NO : 13759

OPERATIONAL COMMENTS

FLUSHED TOOL FINAL FLOW.

COMPANY : NCRA  
 WELL : #1  
 GAUGE # : 13759  
 DATE : 8/ 6/87

FIELD : THOMPSON 'B'  
 JOB # : 7022  
 DEPTH : 4170  
 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	6: 0: 0	0.000	36.000	120.00	0.000
2	6: 4: 59	0.083	36.000	120.00	0.000
3	6:10: 0	0.167	36.000	120.00	0.000
4	6:13: 0	0.217	31.000	120.00	-5.000
5	6:16: 0	0.267	30.000	120.00	-1.000
6	6:19: 0	0.317	29.000	120.00	-1.000
7	6:22: 0	0.367	28.000	120.00	-1.000
8	6:25: 0	0.417	28.000	120.00	0.000
9	6:28: 0	0.467	27.000	120.00	-1.000
10	6:31: 0	0.517	26.000	120.00	-1.000
11	6:34: 0	0.567	25.000	120.00	-1.000
12	6:37: 0	0.617	24.000	120.00	-1.000
13	6:40: 0	0.667	24.000	120.00	0.000
14	6:41: 0	0.683	24.000	120.00	0.000
15	6:45: 0	0.750	24.000	120.00	0.000
16	6:50: 0	0.833	24.000	120.00	0.000
17	6:55: 0	0.917	24.000	120.00	0.000
18	7: 0: 0	1.000	41.000	120.00	17.000
19	7: 5: 0	1.083	35.000	120.00	-6.000
20	7:10: 0	1.167	31.000	120.00	-4.000
21	7:15: 0	1.250	31.000	120.00	0.000
22	7:20: 0	1.333	31.000	120.00	0.000
23	7:25: 0	1.417	30.000	120.00	-1.000
24	7:30: 0	1.500	30.000	120.00	0.000
25	7:35: 0	1.583	30.000	120.00	0.000
26	7:40: 0	1.667	30.000	120.00	0.000
27	7:43: 0	1.717	30.000	120.00	0.000
28	7:46: 0	1.767	30.000	120.00	0.000
29	7:49: 0	1.817	30.000	120.00	0.000
30	7:52: 0	1.867	30.000	120.00	0.000
31	7:55: 0	1.917	30.000	120.00	0.000
32	7:58: 0	1.967	30.000	120.00	0.000
33	8: 1: 0	2.017	30.000	120.00	0.000
34	8: 4: 0	2.067	30.000	120.00	0.000
35	8: 7: 0	2.117	30.000	120.00	0.000
36	8:10: 0	2.167	30.000	120.00	0.000
37	8:13: 0	2.217	30.000	120.00	0.000
38	8:16: 0	2.267	30.000	120.00	0.000
39	8:19: 0	2.317	30.000	120.00	0.000
40	8:22: 0	2.367	30.000	120.00	0.000
41	8:25: 0	2.417	30.000	120.00	0.000
42	8:28: 0	2.467	30.000	120.00	0.000
43	8:31: 0	2.517	30.000	120.00	0.000
44	8:34: 0	2.567	30.000	120.00	0.000
45	8:37: 0	2.617	30.000	120.00	0.000
46	8:40: 0	2.667	30.000	120.00	0.000
47	8:43: 0	2.717	30.000	120.00	0.000
48	8:46: 0	2.767	30.000	120.00	0.000
49	8:49: 0	2.817	30.000	120.00	0.000
50	8:52: 0	2.867	30.000	120.00	0.000
51	8:55: 0	2.917	31.000	120.00	1.000
52	8:58: 0	2.967	32.000	120.00	1.000

COMPANY : NCRA  
WELL : #1  
GAUGE # : 13759  
DATE : 8/ 6/87

FIELD : THOMPSON 'B'  
JOB # : 7022  
DEPTH : 4170  
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)
53	9: 1: 0	3.017	33.000	120.00	1.000
54	9: 4: 0	3.067	34.000	120.00	1.000
55	9: 7: 0	3.117	35.000	120.00	1.000
56	9:10: 0	3.167	36.000	120.00	1.000
57	9:13: 0	3.217	37.000	120.00	1.000
58	9:16: 0	3.267	38.000	120.00	1.000
59	9:19: 0	3.317	39.000	120.00	1.000
60	9:22: 0	3.367	40.000	120.00	1.000
61	9:25: 0	3.417	41.000	120.00	1.000
62	9:28: 0	3.467	42.000	120.00	1.000
63	9:31: 0	3.517	43.000	120.00	1.000
64	9:34: 0	3.567	44.000	120.00	1.000
65	9:37: 0	3.617	45.000	120.00	1.000
66	9:40: 0	3.667	46.000	120.00	1.000

WESTERN TESTING CO. INC.