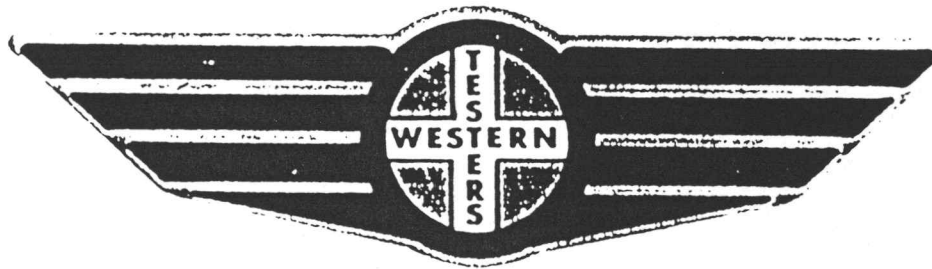


FORMATION TEST REPORT



Home Office:

Wichita, Kansas 67201

P.O. Box 1599

Phone (316) 262-5861

WESTERN TESTING CO. INC.
SUBSURFACE PRESSURE SURVEY

DATE : 8-30-88 TICKET : 14577
CUSTOMER : CASTLE ROCK PRODUCTION INC. LEASE : MILLER
WELL : #A-1 TEST: 1 GEOLOGIST : R SAENZ
ELEVATION : 2169 GS FORMATION : CHEROKEE SD
SECTION : 10 TOWNSHIP : 19S
RANGE : 20W COUNTY : RUSH STATE : KANSAS
GAUGE SN# : 13403 RANGE : 4050 CLOCK : 12

INTERVAL FROM : 4164 TO : 4194 TOTAL DEPTH : 4194
DEPTH OF SELECTIVE ZONE :
PACKER DEPTH : 4159 SIZE : 6.63
PACKER DEPTH : 4164 SIZE : 6.63
PACKER DEPTH : SIZE :
PACKER DEPTH : SIZE :

DRILLING CON. : LOBO RIG 1
MUD TYPE : CHEMICAL VISCOSITY : 51
WEIGHT : 8.6 WATER LOSS (CC) : 9.2
CHLORIDES (PPM) : 6000
JARS-MAKE : WTC SERIAL NUMBER : 407
DID WELL FLOW ? : - REVERSED OUT ? : -

DRILL COLLAR LENGTH : 0 FT I.D. inch : 0.00
WEIGHT PIPE LENGTH : 480 FT I.D. inch : 2.75
DRILL PIPE LENGTH : 3655 FT I.D. inch : 3.80
TEST TOOL LENGTH : 29 FT TOOL SIZE : 5.50
ANCHOR LENGTH : 30 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 FH

BLOW COMMENT #1 : INITIAL FLOW-WEAK BLOW DIED IN 15 MINUTES.
BLOW COMMENT #2 : FINAL FLOW-NO BLOW.
BLOW COMMENT #3 :
BLOW COMMENT #4 :

RECOVERED : 1 FT OF: MUD

Total Barrels Fluid = 0.01
Total Fluid Prod Rate = 0.18 BFPD
Indicated Wtr Rate = 0.02 BWPD

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

SET PACKER(S) : 1:20 PM

TIME STARTED OFF BOTTOM : 3:20 PM

WELL TEMPERATURE : 117

INITIAL HYDROSTATIC PRESSURE

INITIAL FLOW PERIOD MIN: 30

INITIAL CLOSED IN PERIOD MIN: 30

FINAL FLOW PERIOD MIN: 30

FINAL CLOSED IN PERIOD MIN: 36

FINAL HYDROSTATIC PRESSURE

(A) 2097

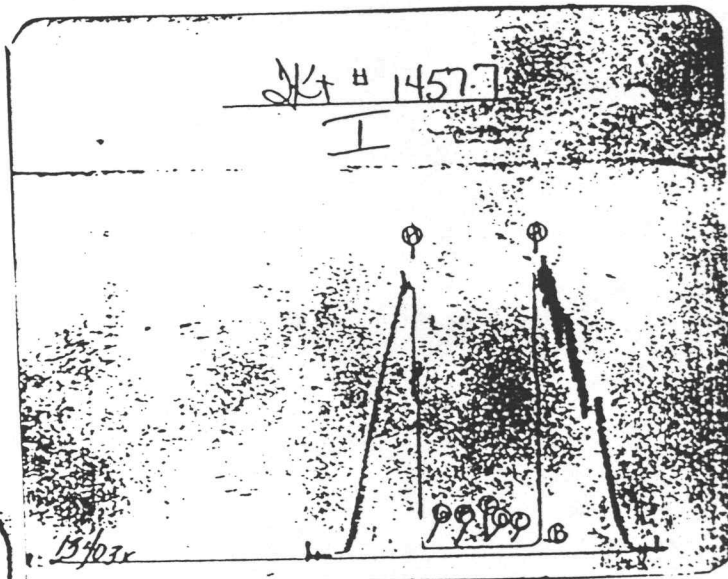
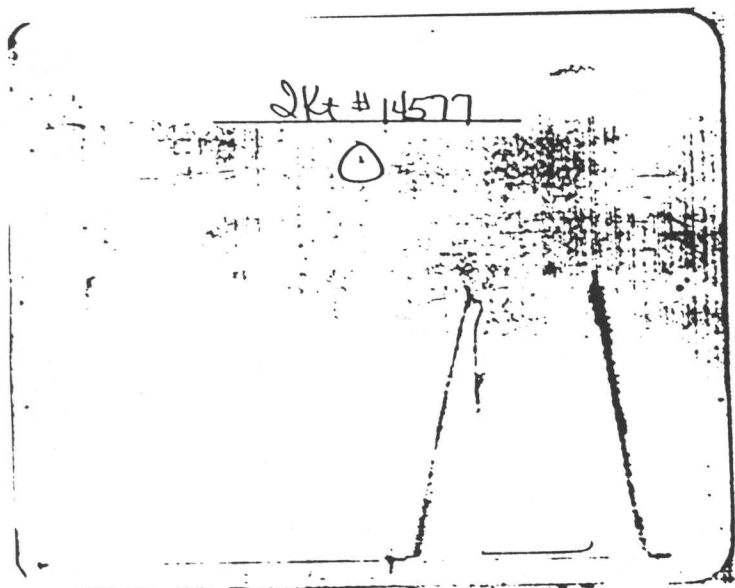
(B) 55 PSI TO (C) : 55

(D) 55

(E) 52 PSI TO (F) : 52

(G) 52

(H) 2057



WESTERN TESTING CO. INC.
WICHITA-KANSAS

Pressure Transient Report

COMPANY : CASTLE ROCK PRODUCTION INC.
RIG : RUSH-KANSAS
FIELD : MILLER
WELL : #A-1
DATE : 8-30-88
GAUGE NO : 13403

OPERATIONAL COMMENTS

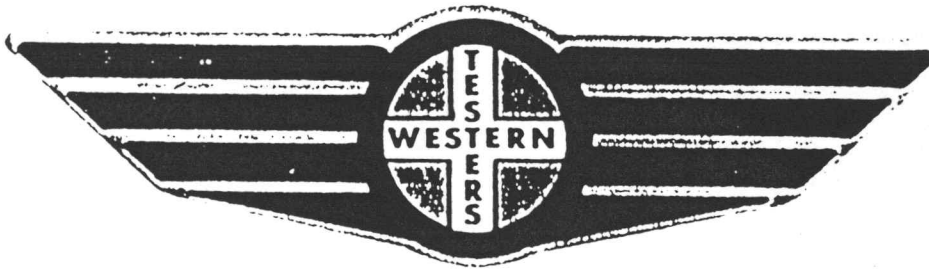
COMPANY : CASTLE ROCK PRODUCTION INC.
 WELL : #A-1
 GAUGE # : 13403
 DATE : 30/ 8/88

FIELD : MILLER
 JOB # : 14577
 DEPTH : 4194
 TEST :

DATA No.	REAL TIME HR:MN:SS	ELAPSE TIME DELTA HOURS	PRESSURE PSIG	TEMP DEG F	DELTA P $P_i - P(i-1)$
INITIAL FLOW					
2	1:20: 0	0.000	55.000	117.00	0.000
3	1:24:59	0.083	55.000	117.00	0.000
4	1:30: 0	0.167	55.000	117.00	0.000
5	1:35: 0	0.250	55.000	117.00	0.000
6	1:39:59	0.333	55.000	117.00	0.000
7	1:45: 0	0.417	55.000	117.00	0.000
8	1:50: 0	0.500	55.000	117.00	0.000
INITIAL SHUT-IN					
9	1:53: 0	0.550	55.000	117.00	0.000
10	1:56: 0	0.600	55.000	117.00	0.000
11	1:59: 0	0.650	55.000	117.00	0.000
12	2: 2: 0	0.700	55.000	117.00	0.000
13	2: 5: 0	0.750	55.000	117.00	0.000
14	2: 8: 0	0.800	55.000	117.00	0.000
15	2:11: 0	0.850	55.000	117.00	0.000
16	2:14: 0	0.900	55.000	117.00	0.000
17	2:17: 0	0.950	55.000	117.00	0.000
18	2:20: 0	1.000	55.000	117.00	0.000
FINAL FLOW					
19	2:21: 0	1.017	52.000	117.00	-3.000
20	2:24:59	1.083	52.000	117.00	0.000
21	2:30: 0	1.167	52.000	117.00	0.000
22	2:35: 0	1.250	52.000	117.00	0.000
23	2:39:59	1.333	52.000	117.00	0.000
24	2:45: 0	1.417	52.000	117.00	0.000
25	2:50: 0	1.500	52.000	117.00	0.000
FINAL SHUT-IN					
26	2:53: 0	1.550	52.000	117.00	0.000
27	2:56: 0	1.600	52.000	117.00	0.000
28	2:59: 0	1.650	52.000	117.00	0.000
29	3: 2: 0	1.700	52.000	117.00	0.000
30	3: 5: 0	1.750	52.000	117.00	0.000
31	3: 8: 0	1.800	52.000	117.00	0.000
32	3:11: 0	1.850	52.000	117.00	0.000
33	3:14: 0	1.900	52.000	117.00	0.000
34	3:17: 0	1.950	52.000	117.00	0.000
35	3:20: 0	2.000	52.000	117.00	0.000
36	3:23: 0	2.050	52.000	117.00	0.000
37	3:26: 0	2.100	52.000	117.00	0.000

WESTERN TESTING CO. INC.

FORMATION TEST REPORT



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WESTERN TESTING CO. INC.
SUBSURFACE PRESSURE SURVEY

DATE : 8-30-88 TICKET : 14578
CUSTOMER : CASTLE ROCK PRODUCTION INC. LEASE : MILLER
WELL : #A-1 TEST: 2 GEOLOGIST : R SAENZ
ELEVATION : 2169 GL FORMATION : CHEROKEE SD
SECTION : 10 TOWNSHIP : 19S
RANGE : 20W COUNTY : RUSH STATE : KANSAS
GAUGE SN# : 13403 RANGE : 4050 CLOCK : 12

INTERVAL FROM : 4166 TO : 4199 TOTAL DEPTH : 4199
DEPTH OF SELECTIVE ZONE :
PACKER DEPTH : 4161 SIZE : 6.63
PACKER DEPTH : 4166 SIZE : 6.63
PACKER DEPTH : SIZE :
PACKER DEPTH : SIZE :

DRILLING CON. : LOBO RIG 1
MUD TYPE : CHEMICAL VISCOSITY : 51
WEIGHT : 8.9 WATER LOSS (CC) : 9.2
CHLORIDES (PPM) : 6000
JARS-MAKE : WTC SERIAL NUMBER : 407
DID WELL FLOW ? : - REVERSED OUT ? : -

DRILL COLLAR LENGTH : 0 FT I.D. inch : 0.00
WEIGHT PIPE LENGTH : 480 FT I.D. inch : 2.75
DRILL PIPE LENGTH : 3657 FT I.D. inch : 3.80
TEST TOOL LENGTH : 29 FT TOOL SIZE : 5.50
ANCHOR LENGTH : 33 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 FH

BLOW COMMENT #1 : INITIAL FLOW-FAIR BLOW-SLOW BUILD TO STRONG BLOW.
BLOW COMMENT #2 :
BLOW COMMENT #3 :
BLOW COMMENT #4 :

RECOVERED : 230 FT OF: MUDDY WATER

CHLORIDES: 35000 PPM

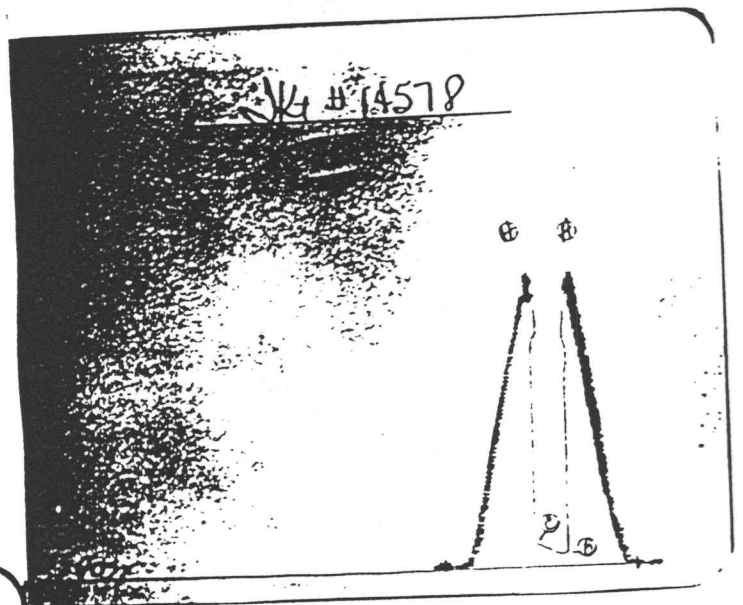
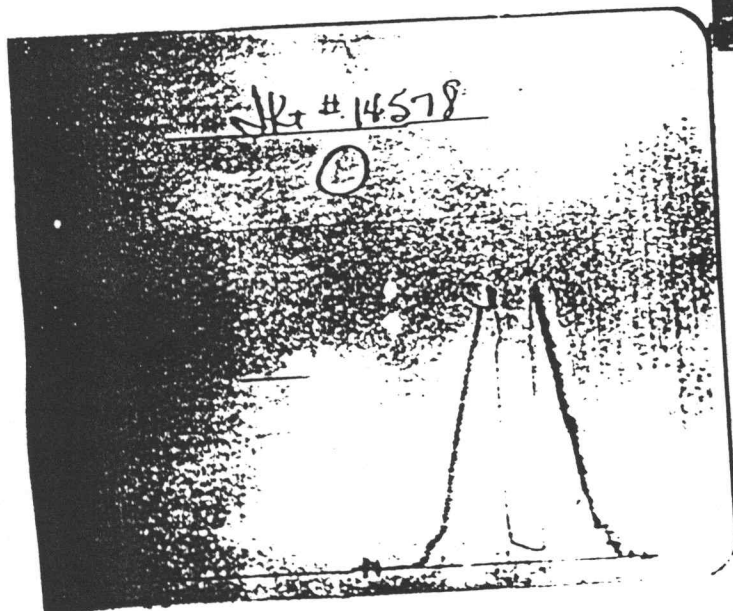
Total Barrels Fluid = 1.69
Total Fluid Prod Rate = 69.51 BFPD
Indicated Wtr Rate = 6.95 BWPD

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

SET PACKER(S) : 11:40 PM
WELL TEMPERATURE : 118
INITIAL HYDROSTATIC PRESSURE : 35
INITIAL FLOW PERIOD MIN: 0
INITIAL CLOSED IN PERIOD MIN: 0
FINAL FLOW PERIOD MIN: 0
FINAL CLOSED IN PERIOD MIN: 0
FINAL HYDROSTATIC PRESSURE

TIME STARTED OFF BOTTOM : 12:15 AM

(A) 2167
(B) 89 PSI TO (C) : 163
(D) 0
(E) 0 PSI TO (F) : 0
(G) 0
(H) 2142



WESTERN TESTING CO. INC.
WICHITA-KANSAS

Pressure Transient Report

COMPANY : CASTLE ROCK PRODUCTION INC.
RIG : RUSH-KANSAS
FIELD : MILLER
WELL : #A-1
DATE : 8-30-88
GAUGE NO : 13403

OPERATIONAL COMMENTS

COMPANY : CASTLE ROCK PRODUCTION INC.
WELL : #A-1
GAUGE # : 13403
DATE : 30/ 8/88

FIELD : MILLER
JOB # : 14578
DEPTH : 4199
TEST :

DATA No.	REAL TIME HR:MN:SS	ELAPSE TIME DELTA HOURS	PRESSURE PSIG	TEMP DEG F	DELTA P Pi-P(i-1)
1	11:40: 0	0.000	89.000	118.00	0.000
2	11:44:59	0.083	89.000	118.00	0.000
3	11:50: 0	0.167	92.000	118.00	3.000
4	11:55: 0	0.250	104.000	118.00	12.000
5	11:59:59	0.333	121.000	118.00	17.000
6	12: 5: 0	0.417	138.000	118.00	17.000
7	12:10: 0	0.500	154.000	118.00	16.000
8	12:14:59	0.583	163.000	118.00	9.000

WESTERN TESTING CO. INC.