



# FORMATION TEST REPORT



Home Office:

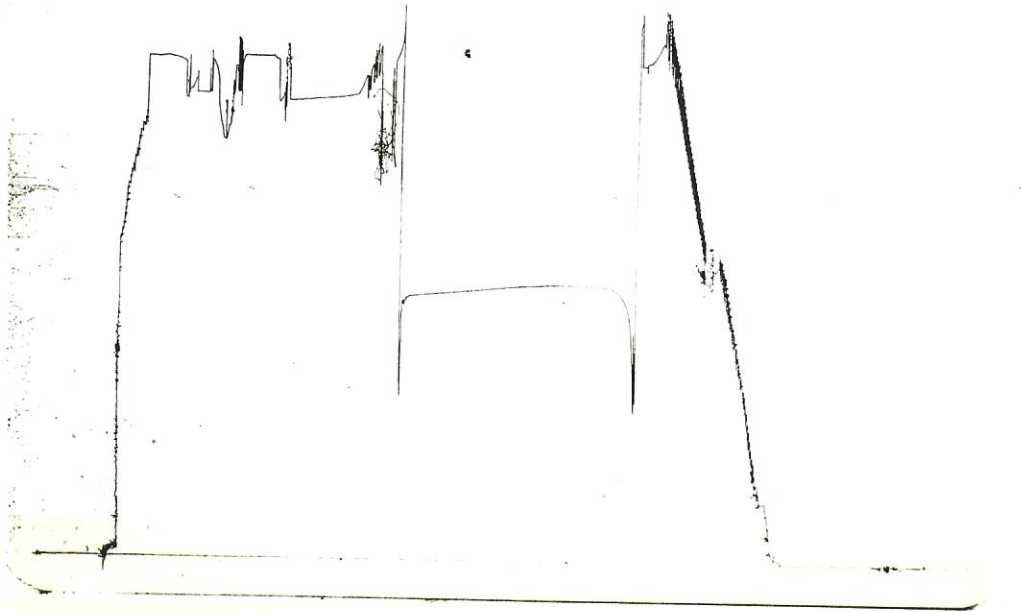
Wichita, Kansas 67201

P.O. Box 1599

Phone (316) 262-5861

Straddle

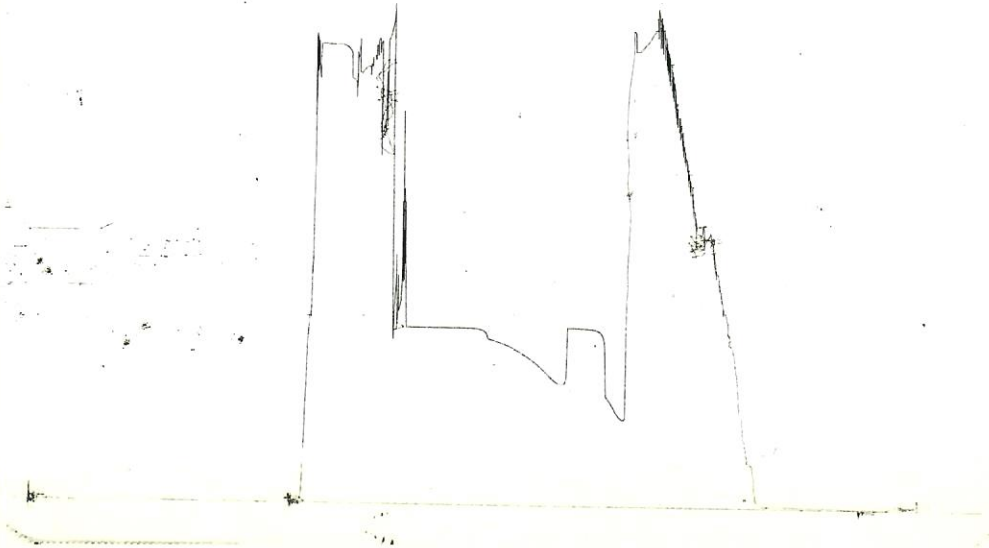
KT 15971 15  
Below Straddle



Inside Recorder

15971

KT 15971 15  
0



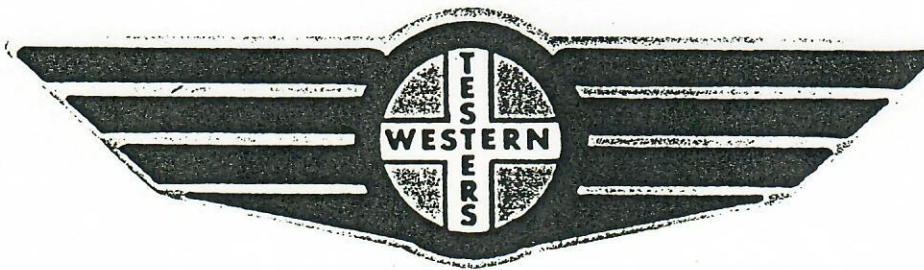
Outside Recorder

# FORMATION TEST REPORT

**RECEIVED**

MAY 2 1990

COLO. OIL & GAS CONS. COMM.



Home Office:

Wichita, Kansas 67201

P.O. Box 1599

Phone (316) 262-5861

WESTERN TESTING CO. INC.  
SUBSURFACE PRESSURE SURVEY

DATE : 4-25-90 TICKET : 15971  
CUSTOMER : UNION PACIFIC RESOURCES COMPANY LEASE : HARKER 12-35  
WELL : #4 TEST: 1 GEOLOGIST : B. COOPER  
ELEVATION : 4093 K.B. FORMATION : MORROW  
SECTION : 35 TOWNSHIP : 12S  
RANGE : 43W COUNTY : CHEYENNE STATE : COLORADO  
GAUGE SN# : 13400 RANGE : 3950 CLOCK : 12

INTERVAL FROM : 5260 TO : 5280 TOTAL DEPTH : 5377  
DEPTH OF SELECTIVE ZONE :  
PACKER DEPTH : 5255 SIZE : 6.75  
PACKER DEPTH : 5260 SIZE : 6.75  
PACKER DEPTH : 5280 SIZE : 6.75  
PACKER DEPTH : SIZE :

DRILLING CON. : EXETER RIG #14  
MUD TYPE : CHEMICAL VISCOSITY : 62  
WEIGHT : 9.2 WATER LOSS (CC) : 9.2  
CHLORIDES (PPM) : 1000  
JARS-MAKE : WTC SERIAL NUMBER : 415  
DID WELL FLOW ? : NO REVERSED OUT ? : YES

DRILL COLLAR LENGTH : 578 FT I.D. inch : 2.20  
WEIGHT PIPE LENGTH : 0 FT I.D. inch : 0.00  
DRILL PIPE LENGTH : 4650 FT I.D. inch : 3.80  
TEST TOOL LENGTH : 32 FT TOOL SIZE : 5.50  
ANCHOR LENGTH : 20 FT ANCHOR SIZE : 5.50  
SURFACE CHOKE SIZE : .75 IN BOTTOM CHOKE SIZE : .75  
MAIN HOLE SIZE : 7.875 IN TOOL JOINT SIZE : 4.5XH

BLOW COMMENT #1 : INITIAL FLOW PERIOD STRONG BLOW-BOTTOM  
BLOW COMMENT #2 : OF BUCKET IN 1 MIN. GAS TO SURFACE ON  
BLOW COMMENT #3 : FIRST SHUT IN.  
BLOW COMMENT #4 : FINAL FLOW PERIOD-60 MIN. GAS GAUGE 12500 CFPD



10570 Kansas 67201 Wichita, Kansas

Home Office

Phone (316) 265-2861

P.O. Box 1299

RECOVERED : 4784 FT OF: VERY GASSY OIL  
RECOVERED : 0 FT OF: 50%OIL 50%GAS  
RECOVERED : 0 FT OF: 39 GRAVITY

Total Barrels Fluid = 61.71  
Total Fluid Prod Rate = 1184.87 BFPD  
Indicated Oil Rate = 592.44 BOPD  
Corrected Oil Rate = 273.66 BOPD

REMARK 1 : AFE #00834  
REMARK 2 :  
REMARK 3 :  
REMARK 4 :

SET PACKER(S) : 8:15 A.M. TIME STARTED OFF BOTTOM : 11:00 A.M.  
WELL TEMPERATURE : 153  
INITIAL HYDROSTATIC PRESSURE (A) 2478  
INITIAL FLOW PERIOD MIN: 15 (B) 458 PSI TO (C) : 575  
INITIAL CLOSED IN PERIOD MIN: 30 (D) 974  
FINAL FLOW PERIOD MIN: 60 (E) 676 PSI TO (F) : 908  
FINAL CLOSED IN PERIOD MIN: 63 (G) 976  
FINAL HYDROSTATIC PRESSURE (H) 2440

OPERATIONAL COMMENTS

AFE #00834

WESTERN TESTING CO. INC.  
WICHITA-KANSAS

Pressure Transient Report

RECOVERED : 1784  
RECOVERED : 0  
RECOVERED : 0

Total Barrels Fluid  
Total Fluid Prod Rate  
Indicated Oil Rate  
Corrected Oil Rate

REMARK 1 : AFE #00834  
REMARK 2 :  
REMARK 3 :  
REMARK 4 :

TIME STARTED OFF BOTTOM : 11:00 A.M.  
SET FACED(S) : 8:5 A.M.  
WELL TEMPERATURE : 133  
INITIAL HYDROSTATIC PRESSURE  
INITIAL FLOW PERIOD  
INITIAL CLOSED IN PERIOD  
FINAL FLOW PERIOD  
FINAL CLOSED IN PERIOD  
FINAL HYDROSTATIC PRESSURE

COMPANY : UNION PACIFIC RESOURCES COMPANY  
RIG : CHEYENNE-COLORADO  
FIELD : HARKER 12-35  
WELL : #4  
DATE : 4-25-90  
GAUGE NO : 13400

OPERATIONAL COMMENTS

AFE #00834

WELL : #4  
 GAUGE # : 13400  
 DATE : 25/ 4/90

FIELD : HARKER 12-35  
 JOB # : 15971  
 DEPTH : 5377  
 TEST :

DATA No.	REAL TIME HR:MN:SS	ELAPSE TIME DELTA HOURS	PRESSURE PSIG	TEMP DEG F	DELTA P Pi-P(i-1)
INITIAL FLOW PERIOD					
2	8:15: 0	0.000	458.000	153.00	0.000
3	8:19:59	0.083	466.000	153.00	8.000
4	8:25: 0	0.167	510.000	153.00	44.000
5	8:30: 0	0.250	575.000	153.00	65.000
INITIAL SHUT-IN PERIOD					
6	8:33: 0	0.300	926.000	153.00	351.000
7	8:36: 0	0.350	950.000	153.00	24.000
8	8:39: 0	0.400	959.000	153.00	9.000
9	8:42: 0	0.450	964.000	153.00	5.000
10	8:45: 0	0.500	967.000	153.00	3.000
11	8:48: 0	0.550	969.000	153.00	2.000
12	8:51: 0	0.600	971.000	153.00	2.000
13	8:54: 0	0.650	972.000	153.00	1.000
14	8:57: 0	0.700	973.000	153.00	1.000
15	9: 0: 0	0.750	974.000	153.00	1.000
FINAL FLOW PERIOD					
16	9: 1: 0	0.767	676.000	153.00	-298.000
17	9: 4:59	0.833	676.000	153.00	0.000
18	9:10: 0	0.917	698.000	153.00	22.000
19	9:15: 0	1.000	729.000	153.00	31.000
20	9:19:59	1.083	763.000	153.00	34.000
21	9:25: 0	1.167	792.000	153.00	29.000
22	9:30: 0	1.250	814.000	153.00	22.000
23	9:34:59	1.333	837.000	153.00	23.000
24	9:40: 0	1.417	856.000	153.00	19.000
25	9:45: 0	1.500	871.000	153.00	15.000
26	9:49:59	1.583	884.000	153.00	13.000
27	9:55: 0	1.667	902.000	153.00	18.000
28	10: 0: 0	1.750	908.000	153.00	6.000
FINAL SHUT-IN PERIOD					
29	10: 3: 0	1.800	943.000	153.00	35.000
30	10: 6: 0	1.850	957.000	153.00	14.000
31	10: 9: 0	1.900	964.000	153.00	7.000
32	10:12: 0	1.950	967.000	153.00	3.000
33	10:15: 0	2.000	969.000	153.00	2.000
34	10:18: 0	2.050	970.000	153.00	1.000
35	10:21: 0	2.100	971.000	153.00	1.000
36	10:24: 0	2.150	971.000	153.00	0.000
37	10:27: 0	2.200	972.000	153.00	1.000
38	10:30: 0	2.250	972.000	153.00	0.000
39	10:33: 0	2.300	973.000	153.00	1.000
40	10:36: 0	2.350	974.000	153.00	1.000
41	10:39: 0	2.400	975.000	153.00	1.000
42	10:42: 0	2.450	976.000	153.00	1.000
43	10:45: 0	2.500	976.000	153.00	0.000
44	10:48: 0	2.550	976.000	153.00	0.000
45	10:51: 0	2.600	976.000	153.00	0.000
46	10:54: 0	2.650	976.000	153.00	0.000
47	10:57: 0	2.700	976.000	153.00	0.000
48	11: 0: 0	2.750	976.000	153.00	0.000

COMPANY : UNION PACIFIC RESOURCES COMPANY

WELL : #4  
GAUGE # : 13400  
DATE : 25/ 4/90

FIELD : HARKER 12-35  
JOB # : 15971  
DEPTH : 5377  
TEST :

DATA No.	REAL TIME HR:MN:SS	ELAPSE TIME DELTA HOURS	PRESSURE PSIG	TEMP DEG F	DELTA P Pi-P(i-1)
49	11: 3: 0	2.800	976.000	153.00	0.000

WESTERN TESTING CO. INC.

DATA No.	REAL TIME HR:MN:SS	ELAPSE TIME DELTA HOURS	PRESSURE PSIG	TEMP DEG F	DELTA P Pi-P(i-1)
50	11: 3: 0	2.800	976.000	153.00	0.000
51	11: 3: 0	2.800	976.000	153.00	0.000
52	11: 3: 0	2.800	976.000	153.00	0.000
53	11: 3: 0	2.800	976.000	153.00	0.000
54	11: 3: 0	2.800	976.000	153.00	0.000
55	11: 3: 0	2.800	976.000	153.00	0.000
56	11: 3: 0	2.800	976.000	153.00	0.000
57	11: 3: 0	2.800	976.000	153.00	0.000
58	11: 3: 0	2.800	976.000	153.00	0.000
59	11: 3: 0	2.800	976.000	153.00	0.000
60	11: 3: 0	2.800	976.000	153.00	0.000
61	11: 3: 0	2.800	976.000	153.00	0.000
62	11: 3: 0	2.800	976.000	153.00	0.000
63	11: 3: 0	2.800	976.000	153.00	0.000
64	11: 3: 0	2.800	976.000	153.00	0.000
65	11: 3: 0	2.800	976.000	153.00	0.000
66	11: 3: 0	2.800	976.000	153.00	0.000
67	11: 3: 0	2.800	976.000	153.00	0.000
68	11: 3: 0	2.800	976.000	153.00	0.000
69	11: 3: 0	2.800	976.000	153.00	0.000
70	11: 3: 0	2.800	976.000	153.00	0.000
71	11: 3: 0	2.800	976.000	153.00	0.000
72	11: 3: 0	2.800	976.000	153.00	0.000
73	11: 3: 0	2.800	976.000	153.00	0.000
74	11: 3: 0	2.800	976.000	153.00	0.000
75	11: 3: 0	2.800	976.000	153.00	0.000
76	11: 3: 0	2.800	976.000	153.00	0.000
77	11: 3: 0	2.800	976.000	153.00	0.000
78	11: 3: 0	2.800	976.000	153.00	0.000
79	11: 3: 0	2.800	976.000	153.00	0.000
80	11: 3: 0	2.800	976.000	153.00	0.000
81	11: 3: 0	2.800	976.000	153.00	0.000
82	11: 3: 0	2.800	976.000	153.00	0.000
83	11: 3: 0	2.800	976.000	153.00	0.000
84	11: 3: 0	2.800	976.000	153.00	0.000
85	11: 3: 0	2.800	976.000	153.00	0.000
86	11: 3: 0	2.800	976.000	153.00	0.000
87	11: 3: 0	2.800	976.000	153.00	0.000
88	11: 3: 0	2.800	976.000	153.00	0.000
89	11: 3: 0	2.800	976.000	153.00	0.000
90	11: 3: 0	2.800	976.000	153.00	0.000
91	11: 3: 0	2.800	976.000	153.00	0.000
92	11: 3: 0	2.800	976.000	153.00	0.000
93	11: 3: 0	2.800	976.000	153.00	0.000
94	11: 3: 0	2.800	976.000	153.00	0.000
95	11: 3: 0	2.800	976.000	153.00	0.000
96	11: 3: 0	2.800	976.000	153.00	0.000
97	11: 3: 0	2.800	976.000	153.00	0.000
98	11: 3: 0	2.800	976.000	153.00	0.000
99	11: 3: 0	2.800	976.000	153.00	0.000
100	11: 3: 0	2.800	976.000	153.00	0.000

FLUID SAMPLE REPORT

Date : 4-25-90 Ticket No. : 15971  
 Company : UNION PACIFIC RESOURCES COMPANY  
 Well Name & No. : #4 HARKER 12-35  
 DST No. 1  
 County : CHEYENNE State : COLORADO  
 Sampler No. : 2 Test Interval : 5260-5280

=====

Pressure in Sampler 150 PSIG BHT 153 Deg F  
 Total Volume of Sampler : 3150 cc  
 Total Volume of Sample : 100 cc  
     Oil: 100 cc  
     Water: cc  
     Mud: cc  
     Gas: 21.5 cu ft  
     Other: cc

=====

RESITIVITY

Drilling Mud @ F Chloride Content ppm  
 Mud Pit Sample @ F Chloride Content ppm  
 Gas/Oil Ratio Gravity API @ Deg F  
 Where was sample drained RIG

Remarks: AFE #00834

Gas Bottle SN #  
 Date Bottle Filled  
 Date to be Invoiced

GAS FLOW REPORT

Date : 4-25-90 Ticket # : 15971  
 Customer : UNION PACIFIC RESOURCES COMPANY Lease : HARKER 12-35  
 Well : #4 Test : 1 Geologist : B. COOPER  
 Elevation (KB) : 4093 K.B. Formation : MORROW  
 Section : 35 Township : 12S  
 Range : 43W County : CHEYENNE State : COLORADO  
 Gauge SN # : 13400 Range : 3950 Clock : 12

TIME GAUGE (MIN)	TESTER TYPE	ORFICE SIZE	PRESSURE (PSI)	FLOW DESCRIPTION
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PRE FLOW

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	MERLA	1/8"		GAS TO SURFACE
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SECOND FLOW

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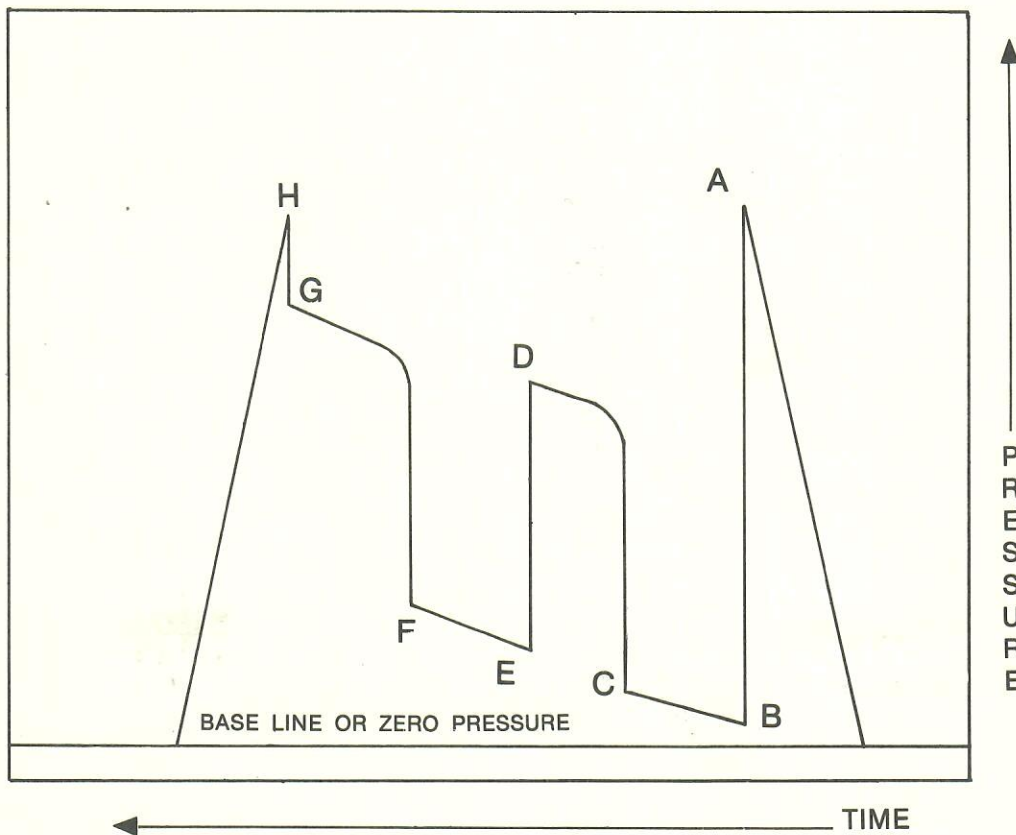
10 MIN.	MERLA	1/8"		NOT ENOUGH TO GUAGE
20 MIN.	MERLA	1/8"	3 PSIG	4840 C.F.P.D.
30 MIN.	MERLA	1/8"	5 PSIG	6390 C.F.P.D.
40 MIN.	MERLA	1/8"	10 PSIG	9450 C.F.P.D.
50 MIN.	MERLA	1/8"	15 PSIG	12100 C.F.P.D.
60 MIN.	MERLA	1/8"	16 PSIG	12500 C.F.P.D.

Gas Bottle SN # : 44  
 Date Bottle Filled : 4-25-90 AFE #00834  
 Date to be Invoiced : 5-25-90

## COMPANY TERMS

Western Testing Co., Inc. shall not be liable for damages of any kind to the property or personnel of the one for whom a test is made or for any loss suffered or sustained directly or indirectly through the use of its equipment, of its statements or opinion concerning the results of any test. Tools lost or damaged in the hole shall be paid at cost by the party for whom the test is made.

## AK-1 Recorders



A - Initial Hydrostatic

B - First Initial Flow

C - First Final Flow

D - Initial Shut-In

E - Second Initial Flow

F - Second Final Flow

G - Final Shut-In

H - Final Hydrostatic