



WESTERN TESTING CO., INC.

FORMATION TESTING

TICKET N^o 11895

P. O. BOX 1599 PHONE (316) 262-5861

Elevation 2130 G.L. Formation MISS. Eff. Pay - Ft.

WICHITA, KANSAS 67201

District G.T. BEND Date 10-28-87 Customer Order No. -

COMPANY NAME F.G. HOLL COMPANY Estate

ADDRESS P.O. BOX 780167 WICHITA KS. 67278-0167

LEASE AND WELL NO. CROSS "A" #1-18 COUNTY EDWARDS STATE KS Sec. 18 Twp. 24 Rge. 17

Mail Invoice To SAME No. Copies Requested 5

Mail Charts To Co. Name SAME CROSS #1-18 No. Copies Requested 5

Address 10 Box 158 Supt. Co. 67259

Formation Test No. 1 Interval Tested From 4395 ft. to 4498 ft. Total Depth 4498 ft.

Packer Depth 4390 ft. Size 6 5/8 in. Packer Depth - ft. Size - in.

Packer Depth 4395 ft. Size 6 5/8 in. Packer Depth - ft. Size - in.

Depth of Selective Zone Set -

Top Recorder Depth (Inside) 4493 ft. Recorder Number 13549 Cap. 4100

Bottom Recorder Depth (Outside) 4496 ft. Recorder Number 13553 Cap. 4025

Below Straddle Recorder Depth - ft. Recorder Number - Cap. -

Drilling Contractor STERLING DRILL #1 Drill Collar Length 390 I. D. 2.25 in.

Mud Type CHEM. Viscosity 956 Weight Pipe Length - I. D. - in.

Weight 9.3 Water Loss 10.4 cc. Drill Pipe Length 3983 I. D. 3.80 in.

Chlorides 12,000 P.P.M. Test Tool Length 22 ft. Tool Size 5/8 in.

Jars: Make - Serial Number - Anchor Length 103 ft. Size 5/8 in.

Did Well Flow? - Reversed Out - Surface Choke Size 3/4 in. Bottom Choke Size 3/4 in.

Main Hole Size 7/8 in. Tool Joint Size 4 1/2 XH in.

Blow: EP - FAIR BLOW - OFF BOTTOM IN 8 MEN

FF - FAIR BLOW - OFF BOTTOM IN 12 MEN

Recovered 120 ft. of SLIGHTLY OIL CUT MUD 10% OIL 90% MUD

Recovered 780 ft. of MUDDY WATER 10% MUD 90% WATER 88,000 PPM

Recovered - ft. of

Recovered - ft. of

Recovered - ft. of

Chlorides 88,000 P.P.M. Sample Jars used 2 Remarks:

Time On Location 12:45 A.M. P.M. Time Pick Up Tool 2:45 A.M. P.M. Time Off Location 12:00 A.M. P.M.

Time Set Packer(s) 4:55 A.M. P.M. Time Started Off Bottom 7:35 A.M. P.M. Maximum Temperature 128°

Initial Hydrostatic Pressure (A) 2141 P.S.I.

Initial Flow Period (B) 30 Minutes (C) 281 P.S.I. to (D) 229 P.S.I.

Initial Closed In Period (E) 30 Minutes (F) 1186 P.S.I.

Final Flow Period (G) 60 Minutes (H) 343 P.S.I. to (I) 468 P.S.I.

Final Closed In Period (J) 60 Minutes (K) 1165 P.S.I.

Final Hydrostatic Pressure (L) 2110 P.S.I.

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.

All charges subject to 12% interest after 60 days from date of invoice. Any expense incurred for collection will be added to the original amount.

Test Approved By W. B. Bidlar Signature of Customer or his authorized representative

Western Representative Len Schwarz Thank You

1986

FIELD INVOICE

Table with 2 columns: Item Name and Amount. Items include Open Hole Test, Misrun, Straddle Test, Jars, Selective Zone, Safety Joint, Standby, Evaluation, Extra Packer, Circ. Sub., Mileage, Fluid Sampler, Extra Charts, Insurance, Telecopier, and TOTAL.

WESTERN TESTING CO., INC.

Pressure Data

Date 10-28-87 Test Ticket No. 11895
 Recorder No. 13549 Capacity 4100 Location _____ Ft. _____
 Clock No. _____ Elevation _____ Well Temperature 128 °F

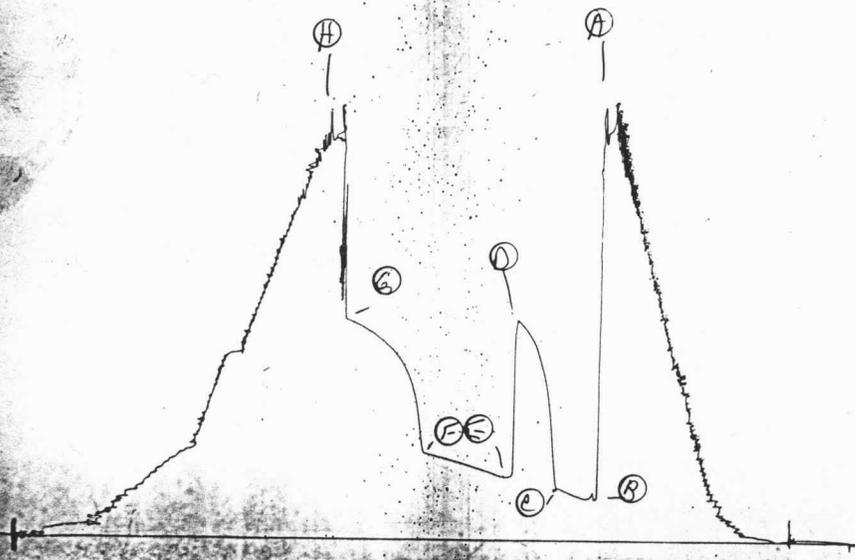
Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	<u>2193</u>	P.S.I.	<u>4:55</u>	M
B First Initial Flow Pressure	<u>227</u>	P.S.I.	<u>30</u>	Mins. <u>30</u> Mins.
C First Final Flow Pressure	<u>284</u>	P.S.I.	<u>30</u>	Mins. <u>30</u> Mins.
D Initial Closed-in Pressure	<u>1186</u>	P.S.I.	<u>60</u>	Mins. <u>65</u> Mins.
E Second Initial Flow Pressure	<u>344</u>	P.S.I.	<u>60</u>	Mins. <u>60</u> Mins.
F Second Final Flow Pressure	<u>468</u>	P.S.I.		
G Final Closed-in Pressure	<u>1184</u>	P.S.I.		
H Final Hydrostatic Mud	<u>2174</u>	P.S.I.		

PRESSURE BREAKDOWN

Point Mins.	First Flow Pressure		Initial Shut-In		Second Flow Pressure		Final Shut-In	
	Breakdown: _____ Inc.	of _____ mins. and a final inc. of _____ Min.	Breakdown: _____ Inc.	of _____ mins. and a final inc. of _____ Min.	Breakdown: _____ Inc.	of _____ mins. and a final inc. of _____ Min.	Breakdown: _____ Inc.	of _____ mins. and a final inc. of _____ Min.
P 1 0	<u>227</u>	0	<u>284</u>	0	<u>344</u>	0	<u>468</u>	0
P 2 5	<u>227</u>	3	<u>339</u>	3	<u>344</u>	3	<u>624</u>	3
P 3 10	<u>233</u>	6	<u>735</u>	6	<u>351</u>	6	<u>748</u>	6
P 4 15	<u>246</u>	9	<u>871</u>	9	<u>364</u>	9	<u>836</u>	9
P 5 20	<u>258</u>	12	<u>952</u>	12	<u>377</u>	12	<u>892</u>	12
P 6 25	<u>275</u>	15	<u>1014</u>	15	<u>389</u>	15	<u>935</u>	15
P 7 30	<u>284</u>	18	<u>1090</u>	18	<u>400</u>	18	<u>967</u>	18
P 8 35		21	<u>1122</u>	21	<u>412</u>	21	<u>997</u>	21
P 9 40		24	<u>1142</u>	24	<u>422</u>	24	<u>1022</u>	24
P 10 45		27	<u>1168</u>	27	<u>432</u>	27	<u>1043</u>	27
P 11 50		30	<u>1186</u>	30	<u>444</u>	30	<u>1060</u>	30
P 12 55		33		33	<u>451</u>	33	<u>1077</u>	33
P 13 60		36		36	<u>462</u>	36	<u>1097</u>	36
P 14 65		39		39	<u>468</u>	39	<u>1112</u>	39
P 15 70		42		42		42	<u>1124</u>	42
P 16 75		45		45		45	<u>1137</u>	45
P 17 80		48		48		48	<u>1150</u>	48
P 18 85		51		51		51	<u>1159</u>	51
P 19 90		54		54		54	<u>1168</u>	54
P 20 95		57		57		57	<u>1180</u>	57
100		60		60		60	<u>1184</u>	60

TK4 11895

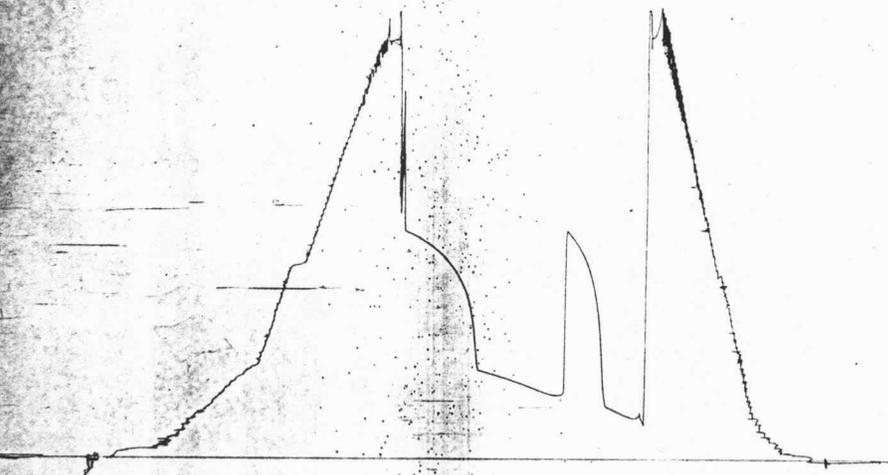
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13548

TK4 11895

O



15555

FORMATION TEST REPORT



Home Office:

Wichita, Kansas 67201

P.O. Box 1599

Phone (316) 262-5861

COMPANY F G HOLL ESTATE

LEASE & WELL NO. CROSS A #1-18

SEC. 18 TWP. 24S RGE. 17W TEST NO. 1 DATE 10/28/87

WESTERN TESTING CO. INC.
SUBSURFACE PRESSURE SURVEY

DATE : 10-28-87
CUSTOMER : F. G. HOLL ESTATE
WELL : #1-18 TEST: 1
ELEVATION : 2130 GL
SECTION : 18
RANGE : 17W COUNTY : EDWARDS
GAUGE SN# : 13549 RANGE : 4100
TICKET : 11895
LEASE : CROSS "A"
GEOLOGIST : B. BRIDLEMAN
FORMATION : MISSISSIPPI
TOWNSHIP : 24S
STATE : KANSAS
CLOCK : 12

INTERVAL FROM : 4395 TO : 4498 TOTAL DEPTH : 4498
DEPTH OF SELECTIVE ZONE :
PACKER DEPTH : 4390 SIZE : 6.63
PACKER DEPTH : 4395 SIZE : 6.63
PACKER DEPTH : SIZE :
PACKER DEPTH : SIZE :

DRILLING CON. : STERLING RIG #1
MUD TYPE : CHEMICAL VISCOSITY : 56
WEIGHT : 9.3 WATER LOSS (CC) : 10.4
CHLORIDES (PPM) : 12000
JARS-MAKE : - SERIAL NUMBER : -
DID WELL FLOW ? : - REVERSED OUT ? : -

DRILL COLLAR LENGTH : 390 FT I.D. inch : 2.25
WEIGHT PIPE LENGTH : 0 FT I.D. inch : 0.00
DRILL PIPE LENGTH : 3983 FT I.D. inch : 3.80
TEST TOOL LENGTH : 22 FT TOOL SIZE : 5.50
ANCHOR LENGTH : 103 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-FAIR BLOW-OFF BOTTOM IN 8 MINUTES.
BLOW COMMENT #2 : FINAL FLOW-FAIR BLOW-OFF BOTTOM IN 12 MINUTES.
BLOW COMMENT #3 :
BLOW COMMENT #4 :

RECOVERED : 120 FT OF: SLIGHTLY OIL CUT MUD
10% OIL-90% MUD
RECOVERED : 780 FT OF: MUDDY WATER
10% MUD-90% WATER

CHLORIDES: 88000 PPM

Total Barrels Fluid = 9.07
Total Fluid Prod Rate = 137.50 BFPD
Indicated Oil Rate = 1.83 BOPD
Indicated Wtr Rate = 114.89 BWPD

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

SET PACKER(S) : 4:55 PM
WELL TEMPERATURE : 128
INITIAL HYDROSTATIC PRESSURE (A) 2193
INITIAL FLOW PERIOD MIN: 30 (B) 227 PSI TO (C) : 284
INITIAL CLOSED IN PERIOD MIN: 30 (D) 1186
FINAL FLOW PERIOD MIN: 65 (E) 344 PSI TO (F) : 468
FINAL CLOSED IN PERIOD MIN: 60 (G) 1184
FINAL HYDROSTATIC PRESSURE (H) 2174

TIME STARTED OFF BOTTOM : 7:55 PM

WESTERN TESTING CO. INC.
WICHITA - KANSAS

Pressure Transient Report

COMPANY : F. G. HOLL ESTATE
RIG : EDWARDS-KANSAS
FIELD : CROSS "A"
WELL : #1-18
DATE : 10-28-87
GAUGE NO : 13549

OPERATIONAL COMMENTS

COMPANY : F. G. HOLL ESTATE
 WELL : #1-18
 GAUGE # : 13549
 DATE : 28/10/87

FIELD : CROSS "A"
 JOB # : 11895
 DEPTH : 4498
 TEST :

DATA No.	REAL TIME HR:MN:SS	ELAPSE TIME DELTA HOURS	PRESSURE PSIG	TEMP DEG F	DELTA P $P_i - P_{(i-1)}$
1	4:55:0	0.000	227.000	128.00	0.000
2	4:59:59	0.083	227.000	128.00	0.000
3	5:05:0	0.167	233.000	128.00	6.000
4	5:10:0	0.250	246.000	128.00	13.000
5	5:14:59	0.333	258.000	128.00	12.000
6	5:20:0	0.417	275.000	128.00	17.000
7	5:25:0	0.500	284.000	128.00	9.000
8	5:28:0	0.550	539.000	128.00	255.000
9	5:31:0	0.600	735.000	128.00	196.000
10	5:34:0	0.650	871.000	128.00	136.000
11	5:37:0	0.700	952.000	128.00	81.000
12	5:40:0	0.750	1014.000	128.00	62.000
13	5:43:0	0.800	1090.000	128.00	76.000
14	5:46:0	0.850	1123.000	128.00	33.000
15	5:49:0	0.900	1142.000	128.00	19.000
16	5:52:0	0.950	1168.000	128.00	26.000
17	5:55:0	1.000	1186.000	128.00	18.000
18	5:56:0	1.017	344.000	128.00	-842.000
19	5:59:59	1.083	344.000	128.00	0.000
20	6:05:0	1.167	351.000	128.00	7.000
21	6:10:0	1.250	364.000	128.00	13.000
22	6:14:59	1.333	377.000	128.00	13.000
23	6:20:0	1.417	389.000	128.00	12.000
24	6:25:0	1.500	400.000	128.00	11.000
25	6:29:59	1.583	412.000	128.00	12.000
26	6:35:0	1.667	422.000	128.00	10.000
27	6:40:0	1.750	433.000	128.00	11.000
28	6:44:59	1.833	444.000	128.00	11.000
29	6:50:0	1.917	451.000	128.00	7.000
30	6:55:0	2.000	462.000	128.00	11.000
31	6:59:59	2.083	468.000	128.00	6.000
32	7:02:59	2.133	624.000	128.00	156.000
33	7:05:59	2.183	748.000	128.00	124.000
34	7:08:59	2.233	836.000	128.00	88.000
35	7:11:59	2.283	892.000	128.00	56.000
36	7:14:59	2.333	935.000	128.00	43.000
37	7:17:59	2.383	967.000	128.00	32.000
38	7:20:59	2.433	997.000	128.00	30.000
39	7:23:59	2.483	1022.000	128.00	25.000
40	7:26:59	2.533	1043.000	128.00	21.000
41	7:29:59	2.583	1060.000	128.00	17.000
42	7:32:59	2.633	1077.000	128.00	17.000
43	7:35:59	2.683	1097.000	128.00	20.000
44	7:38:59	2.733	1112.000	128.00	15.000
45	7:41:59	2.783	1124.000	128.00	12.000
46	7:44:59	2.833	1137.000	128.00	13.000
47	7:47:59	2.883	1150.000	128.00	13.000
48	7:50:59	2.933	1159.000	128.00	9.000
49	7:53:59	2.983	1168.000	128.00	9.000
50	7:56:59	3.033	1180.000	128.00	12.000
51	7:59:59	3.083	1184.000	128.00	4.000