Home Office: Wichita, Kansas 67201
P. O. Box 1599 (316) 838-0601

Company Robinson Oil Co. Lease & Well No. Frieden #2-A

Elevation 1416 Kelly Bushing Formation Mississippi Effective Pay - Ft. Ticket No. 25051

Date 3-1-76 Sec. 2 Twp. 35S Range 12W County Barber State Kansas

Test Approved by Doug McGuinness Western Representative Charles Branstetter

Formation Test No. 1 O.K. X Misrun - Interval Tested From 4782' to 4810' Total Depth 4810'

Size Main Hole 7 7/8 Rat Hole - Conv. X B.T. - Damaged - Yes X No Conv. - B.T. X Damaged - Yes X No

Top Packer ~~Depth~~ 4777 Ft. Size 6 3/4 Bottom Packer Depth 4782 Ft. Size 6 3/4

Straddle - Conv. - B.T. - Damaged - Yes - No Packer Depth - Ft. Size -

Tool Size 5½ OD Tool Joint Size 4½ FH Anchor Length 28 Ft. Size 5½ OD Surface Choke Size ¼ In. Bottom Choke Size 3/4 In.

RECORDERS Depth 4800 Ft. Clock No. 6866 Depth 4803 Ft. Clock No. 6896

Top Make Kuster Cap. 4500 No. 3085 ~~Outside~~ Inside Bottom Make Kuster Cap. 4400 No. 2603 ~~Inside~~ Outside

Below Straddle: Depth - Rec. No. - Clock No. - Inside Outside Depth - Ft. Rec. No. - Clock No. - Inside Outside

Time Set Packer 5:28 P. M

Tool Open I.F.P. From 5:30P M. to 6:30P M. - Hr. 60 Min. From (B) 38 P.S.I. To (C) 50 P.S.I.

Tool Closed I.C.I.P. From 6:30P M. to 7:30P M. - Hr. 60 Min (D) 1434 P.S.I.

Tool Open F.F.P. From 7:30P M. to 9:00P M. - Hr. 90 Min. From (E) 55 P.S.I. To (F) 60 P.S.I.

Tool Closed F.C.I.P. From 9:00P M. to 10:30P M. - Hr. 90 Min. (G) 1407 P.S.I.

Initial Hydrostatic Pressure (A) 2486 P.S.I. Final Hydrostatic Pressure (H) 2442 P.S.I. Maximum Temp. 128

INFORMATION

BLOW Strong blow throughout test. Gas to surface in 86 minutes.

Did Well Flow X Yes - No Recovery Total Ft. 60' gassy drilling mud. 60' oil cut gassy drilling mud.

Reversed Out - Yes X No Mud Type impermix Viscosity 40 Weight 9.4 Water Loss 9. cc. Chlorides 38,000 P.P.M.

EXTRA EQUIPMENT: Type Circ. Sub. pin Safety Joint - Jars: Size - In. Make - Ser. No. -

Dual Packer yes Did Packers Hold? yes Did Tool Plug? no Where? - - -

DRILLING CONTRACTOR Sweetman Drlg. Co. Length Drill Pipe? 4492 Ft. I.D. Drill Pipe 3.8 In. Tool Joint Size 4½ FH In.

Length Weight Pipe - Ft. I.D. Weight Pipe - In. Tool Joint Size - In. Length Drill Collars 270 Ft. I.D. Drill Collars 2.25 In.

Tool Joint Size 4H-90 In. Length D.S.T. Tool 48 Ft.

Remarks: See attached sheet for gas measurements.

Phone 316 262-5861
316 838-0601

WESTERN TESTERS

P. O. Box 1599
WICHITA, KANSAS 67201

GAS FLOW REPORT

Date 3-1-76 Ticket 25051 Company Robinson Oil Co.

Well Name and No. Frieden #2-A Dst No. 1 Interval Tested 4782' to 4810'

County Barber State Kansas Sec. 2 Twp. 35S Rg. 12W

Time Gauge Pre-Flow	Time Gauge in Min.	P.S.I. on Merla Orifice Well Tester	P.S.I. on Pitot Tester	P.S.I. on Side Static Tester	P.S.I. on U-Tube Tester	Description of Flow
PRE FLOW						
8:05 PM	95 min	¼" choke	1½" water			1,990 C.F.P.D.
8:15 PM	105 min	¼" choke	2" water			2,370 C.F.P.D.
8:25 PM	115 min	¼" choke	2" water			2,370 C.F.P.D.
8:45 PM	135 min	¼" choke	1½" water			1,990 C.F.P.D.
8:55 PM	145 min	¼" choke	1½" water			1,990 C.F.P.D.
9:00 PM	150 min	¼" choke	1½" water			1,990 C.F.P.D.
SECOND FLOW						

GAS BOTTLE

Serial No. Date Bottle Filled 3-1-76 Date to be Invoiced 3-1-76

Requisition and Provisions for high pressure stainless steel gas bottles. Western Testing Co., Inc. shall not be liable for damage of any kind to property or personnel of the one whom gas bottle is filled or for any loss suffered or sustained directly or indirectly through the use of these bottles. By signing of this ticket showing receipt of a gas testing bottle, the undersigned agrees for himself and as agent for operator, to return this bottle to Western Testing Co., Inc. within thirty (30) days free of charge, or be invoiced in the amount of $75.00 (total charge). Should valve or seal plug be missing or damaged beyond repair, operator shall be invoiced for repairs at our invoiced price.

All charges subject to 1% per month, equal to 12% interest per annum after 30 days from date of invoice. Any expense incurred for collection will be added to the original amount.

COMPANY'S NAME Robinson Oil Co.

Authorized by Doug McGuinness

FORM WTC 6

WESTERN TESTING CO., INC.
Pressure Data

Date 3-1-76 Test Ticket No. 25051

Recorder No. 3085 Capacity 4500 Location 4800 Ft.

Clock No. 6866 Elevation 1416 Kelly Bushing Well Temperature 128 °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	2486 P.S.I.	Open Tool	5:28 PM	
B First Initial Flow Pressure	38 P.S.I.	First Flow Pressure	60 Mins.	60 Mins.
C First Final Flow Pressure	50 P.S.I.	Initial Closed-in Pressure	60 Mins.	60 Mins.
D Initial Closed-in Pressure	1434 P.S.I.	Second Flow Pressure	90 Mins.	90 Mins.
E Second Initial Flow Pressure	55 P.S.I.	Final Closed-in Pressure	90 Mins.	90 Mins.
F Second Final Flow Pressure	60 P.S.I.			
G Final Closed-in Pressure	1407 P.S.I.			
H Final Hydrostatic Mud	2442 P.S.I.			

PRESSURE BREAKDOWN

First Flow Pressure
Breakdown: 12 Inc.
of 5 mins. and a
final inc. of 0 Min.

Point Mins.	Press.
P 1 0	38
P 2 5	38
P 3 10	41
P 4 15	43
P 5 20	44
P 6 25	44
P 7 30	43
P 8 35	42
P 9 40	43
P10 45	44
P11 50	46
P12 55	49
P13 60	50
P14	
P15	
P16	
P17	
P18	
P19	
P20	

Initial Shut-In
Breakdown: 20 Inc.
of 3 mins. and a
final inc. of 0 Min.

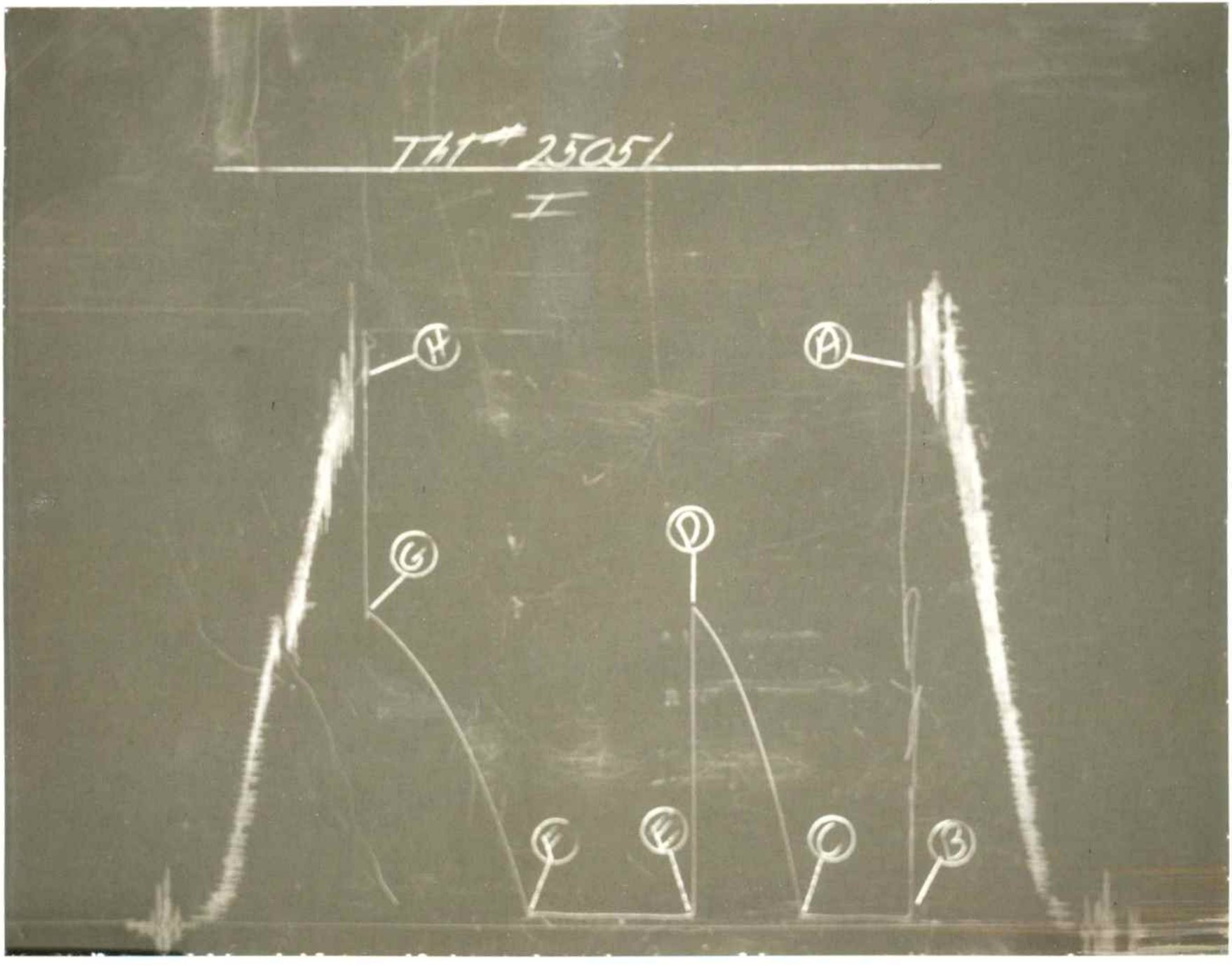
Point Minutes	Press.
0	50
3	146
6	253
9	368
12	374
15	567
18	660
21	746
24	832
27	911
30	993
33	1057
36	1116
39	1171
42	1222
45	1266
48	1306
51	1346
54	1383
57	1414
60	1434

Second Flow Pressure
Breakdown: 18 Inc.
of 5 mins. and a
final inc. of 0 Min.

Point Minutes	Press.
0	55
5	49
10	45
15	47
20	48
25	50
30	50
35	50
40	51
45	52
50	52
55	52
60	52
65	53
70	53
75	56
80	57
85	59
90	60

Final Shut-In
Breakdown: 30 Inc.
of 3 mins. and a
final inc. of 0 Min.

Point Minutes	Press.
0	60
3	119
6	196
9	275
12	344
15	415
18	481
21	544
24	604
27	664
30	723
33	779
36	829
39	881
42	925
45	970
48	1014
51	1054
54	1091
57	1127
60	1158
63	1189
66	1222
69	1252
72	1280
75	1306
78	1331
81	1353
84	1377
87	1396
90	1407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Home Office: Wichita, Kansas 67201
P. O. Box 1599 (316) 838-0601

Company Robinson Oil Co. Lease & Well No. Frieden #2-A

Elevation 1416 Kelly Bushing Formation Misener Effective Pay - Ft. Ticket No. 25052

Date 3-3-76 Sec. 2 Twp. 35S Range 12W County Barber State K sas

Test Approved by Dale M. Robinson Western Representative Charles Branstetter

Formation Test No. 2 O.K. X Misrun - Interval Tested From 5126' to 5140' Total Depth 5140'

Size Main Hole 7 7/8 Rat Hole - Conv. X B.T. - Damaged - Yes X No Conv. - B.T. X Damaged - Yes X No

Top Packer Depth 5121 Ft. Size 6 3/4 Bottom Packer Depth 5126 Ft. Size 6 3/4

Straddle - Conv. - B.T. - Damaged - Yes - No Packer Depth - Ft. Size -

Tool Size 5½OD Tool Joint Size 4½FH Anchor Length 14 Ft. Size 5½OD Surface Choke Size 3/4 In. Bottom Choke Size 3/4 In.

RECORDERS Depth 5131 Ft. Clock No. 6866 Depth 5134 Ft. Clock No. 6896

Top Make Kuster Cap. 4500 No. 3085 Inside Outside Bottom Make Kuster Cap. 4400 No. 2603 Outside

Below Straddle: Depth - Rec. No. - Clock No. - Inside Outside Depth - Ft. Rec. No. - Clock No. - Inside Outside

Time Set Packer 6:28 P.M

Tool Open I.F.P. From 6:30P M. to 7:00P M. - Hr. 30 Min. From (B) 27 P.S.I. To (C) 41 P.S.I.

Tool Closed I.C.I.P. From 7:00P M. to 7:30P M. - Hr. 30 Min (D) 662 P.S.I.

Tool Open F.F.P. From 7:30P M. to 9:00P M. = Hr. 90 Min. From (E) 53 P.S.I. To (F) 71 P.S.I.

Tool Closed F.C.I.P. From 9:00P M. to 9:30P M. - Hr. 30 Min. (G) 543 P.S.I.

Initial Hydrostatic Pressure (A) 2698 P.S.I. Final Hydrostatic Pressure (H) 2698 P.S.I. Maximum Temp. 134

INFORMATION

BLOW Strong blow diminishing throughout test.

Did Well Flow = Yes X No Recovery Total Ft. 125' heavy gassy oily drilling mud.

Reversed Out = Yes X No Mud Type inpermix Viscosity 51 Weight 9.4 Water Loss 8. cc. Chlorides 55,000 P.P.M.

EXTRA EQUIPMENT: Type Circ. Sub. pin Safety Joint - Jars: Size - In. Make - Ser. No. -

Dual Packer yes Did Packers Hold? yes Did Tool Plug? no Where? - - -

DRILLING CONTRACTOR Sweetman Drlg. Co. Length Drill Pipe? 4776 Ft. I.D. Drill Pipe 3.8 In. Tool Joint Size 4½FH In.

Length Weight Pipe - Ft. I.D. Weight Pipe - In. Tool Joint Size - In. Length Drill Collars 330 Ft. I.D. Drill Collars 2.25 In.

Tool Joint Size 4H-90 In. Length D.S.T. Tool 34 Ft.

Remarks:

WESTERN TESTING CO., INC.
Pressure Data

Date 3-3-76 Test Ticket No. 25052

Recorder No. 3085 Capacity 4500 Location 5131 Ft.

Clock No. 6866 Elevation 1416 Kelly Bushing Well Temperature 134 °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	2698 P.S.I.	Open Tool	6:28 P.M	
B First Initial Flow Pressure	27 P.S.I.	First Flow Pressure	30 Mins.	30 Mins.
C First Final Flow Pressure	41 P.S.I.	Initial Closed-in Pressure	30 Mins.	30 Mins.
D Initial Closed-in Pressure	662 P.S.I.	Second Flow Pressure	90 Mins.	90 Mins.
E Second Initial Flow Pressure	53 P.S.I.	Final Closed-in Pressure	30 Mins.	30 Mins.
F Second Final Flow Pressure	71 P.S.I.			
G Final Closed-in Pressure	543 P.S.I.			
H Final Hydrostatic Mud	2698 P.S.I.			

PRESSURE BREAKDOWN

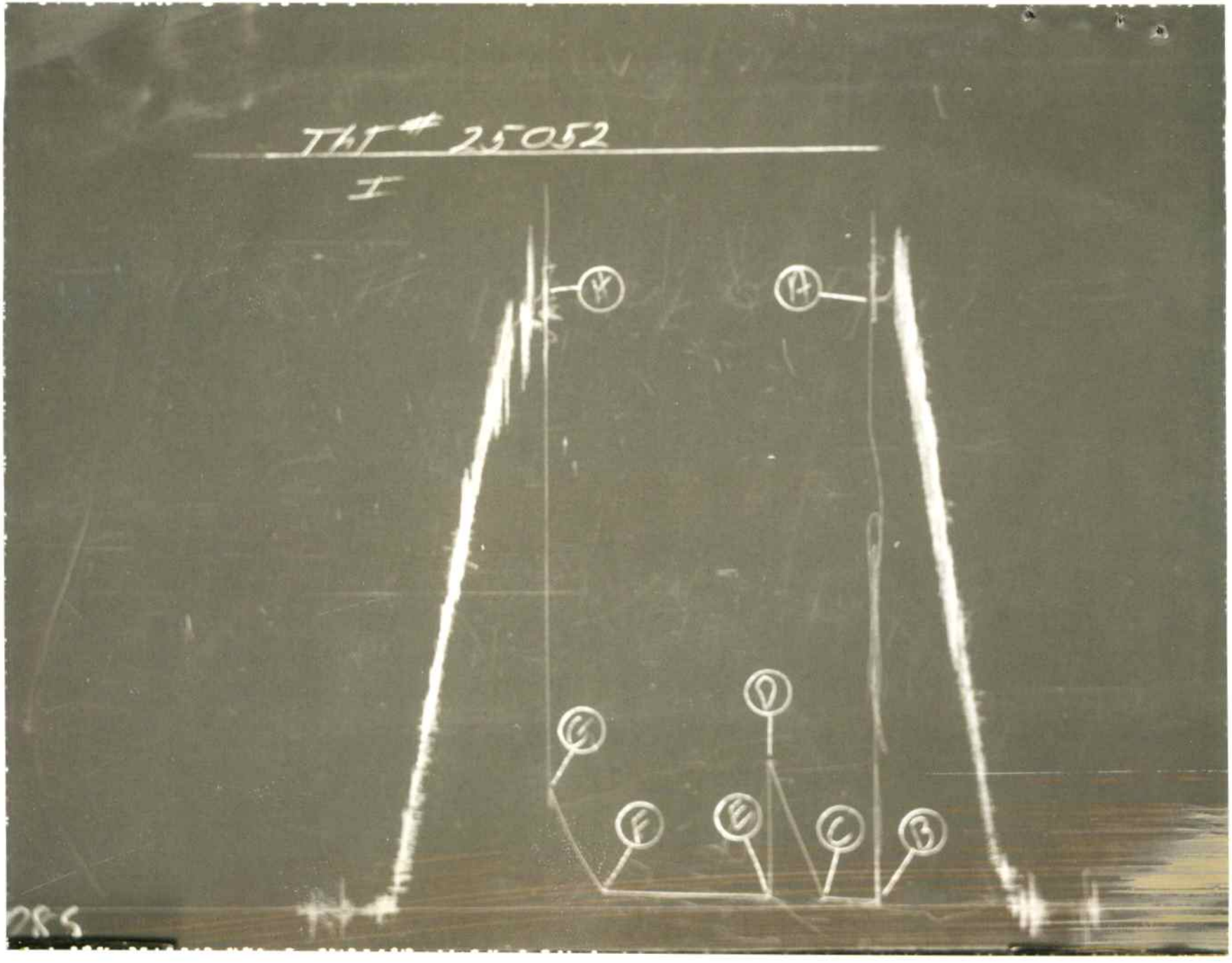
First Flow Pressure
Breakdown: 6 Inc. of 5 mins. and a final inc. of 0 Min.

Initial Shut-In
Breakdown: 10 Inc. of 3 mins. and a final inc. of 0 Min.

Second Flow Pressure
Breakdown: 18 Inc. of 5 mins. and a final inc. of 0 Min.

Final Shut-In
Breakdown: 10 Inc. of 3 mins. and a final inc. of 0 Min.

Point Mins.	Press.	Point Minutes	Press.	Point Minutes	Press.	Point Minutes	Press.
P 1 0	27	0	41	0	53	0	71
P 2 5	26	3	99	5	53	3	99
P 3 10	30	6	170	10	53	6	139
P 4 15	32	9	232	15	55	9	174
P 5 20	34	12	289	20	56	12	216
P 6 25	38	15	351	25	57	15	258
P 7 30	41	18	409	30	57	18	308
P 8		21	478	35	58	21	360
P 9		24	544	40	59	24	420
P10		27	611	45	60	27	483
P11		30	662	50	62	30	543
P12				55	64		
P13				60	65		
P14				65	67		
P15				70	68		
P16				75	69		
P17				80	69		
P18				85	70		
P19				90	71		
P20							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Home Office: Wichita, Kansas 67201
P. O. Box 1599 (316) 838-0601

Company Robinson Oil Co. Lease & Well No. Frieden #2-A

Elevation 1416 Kelly Bushing Formation Misener Effective Pay - Ft. Ticket No. 25053

Date 3-4-76 Sec. 2 Twp. 35S Range 12W County Barber State Kansas

Test Approved by Douglas H. McGuinness Western Representative Charles Branstetter

Formation Test No. 3 O.K. X Misrun - Interval Tested From 5126' to 5149' Total Depth 5149'

Size Main Hole 77/8 Rat Hole - Conv. X B.T. - Damaged - Yes X No Conv. - B.T. X Damaged - Yes X No

Top Packer Depth 5121 Ft. Size 6 3/4 Bottom Packer Depth 5126 Ft. Size 6 3/4

Straddle - Conv. - B.T. - Damaged - Yes - No Packer Depth - Ft. Size -

Tool Size 5½OD Tool Joint Size 4½FH Anchor Length 23 Ft. Size 5½OD Surface Choke Size 3/4 In. Bottom Choke Size 3/4 In.

RECORDERS Depth 5119 Ft. Clock No. 6866 Depth 5123 Ft. Clock No. 6896

Top Make Kuster Cap. 4500 No. 3085 Inside Outside Bottom Make Kuster Cap. 4400 No. 2603 Inside Outside

Below Straddle: Depth - Rec. No. - Clock No. - Inside Outside Depth - Ft. Rec. No. - Clock No. - Inside Outside

Time Set Packer 11:28 A. M

Tool Open I.F.P. From 11:30A M. to 12:00P M. - Hr. 30 Min. From (B) 36 P.S.I. To (C) 51 P.S.I.

Tool Closed I.C.I.P. From 12:00PM. to 1:00PM. - Hr. 60 Min (D) 1069 P.S.I.

Tool Open F.F.P. From 1:00P M. to 2:00PM. - Hr. 60 Min. From (E) 78 P.S.I. To (F) 81 P.S.I.

Tool Closed F.C.I.P. From 2:00PM. to 3:30PM. - Hr. 90 Min. (G) 1304 P.S.I.

Initial Hydrostatic Pressure (A) 2714 P.S.I. Final Hydrostatic Pressure (H) 2707 P.S.I. Maximum Temp. 134

INFORMATION

BLOW Good 10" blow, steady throughout test.

Did Well Flow - Yes X No Recovery Total Ft. 300' gas in pipe. 65' oil and gas cut mud.
60' oil adn gas cut muddy water.

Reversed Out - Yes X No Mud Type impermix Viscosity 51 Weight 10.1 Water Loss 12. cc. Chlorides 44,000 P.P.M.

EXTRA EQUIPMENT: Type Circ. Sub. pin Safety Joint - Jars: Size - In. Make - Ser. No. -

Dual Packer yes Did Packers Hold? yes Did Tool Plug? no Where? - - -

DRILLING CONTRACTOR Sweetman Drlg. Co. Length Drill Pipe? 4746 Ft. I.D. Drill Pipe 3.8 In. Tool Joint Size 4½FH In.

Length Weight Pipe - Ft. I.D. Weight Pipe - In. Tool Joint Size - In. Length Drill Collars 330 Ft. I.D. Drill Collars 2.25 In.

Tool Joint Size 4H-90 In. Length D.S.T. Tool 43 Ft.

Remarks:

WESTERN TESTING CO., INC.
Pressure Data

Date 3-4-76 Test Ticket No. 25053

Recorder No. 3085 Capacity 4500 Location 5119 Ft.

Clock No. 6866 Elevation 1416 Kelly Bushing Well Temperature 134 °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	2714 P.S.I.	Open Tool	11:28 A. M	
B First Initial Flow Pressure	36 P.S.I.	First Flow Pressure	30 Mins.	35 Mins.
C First Final Flow Pressure	51 P.S.I.	Initial Closed-in Pressure	60 Mins.	63 Mins.
D Initial Closed-in Pressure	1069 P.S.I.	Second Flow Pressure	60 Mins.	60 Mins.
E Second Initial Flow Pressure	78 P.S.I.	Final Closed-in Pressure	90 Mins.	87 Mins.
F Second Final Flow Pressure	81 P.S.I.			
G Final Closed-in Pressure	1304 P.S.I.			
H Final Hydrostatic Mud	2707 P.S.I.			

PRESSURE BREAKDOWN

First Flow Pressure
Breakdown: 7 Inc.
of 5 mins. and a
final inc. of 0 Min.

Point Mins.	Press.
P 1 0	36
P 2 5	38
P 3 10	42
P 4 15	45
P 5 20	49
P 6 25	50
P 7 30	50
P 8 35	51
P 9	
P10	
P11	
P12	
P13	
P14	
P15	
P16	
P17	
P18	
P19	
P20	

Initial Shut-In
Breakdown: 21 Inc.
of 3 mins. and a
final inc. of 0 Min.

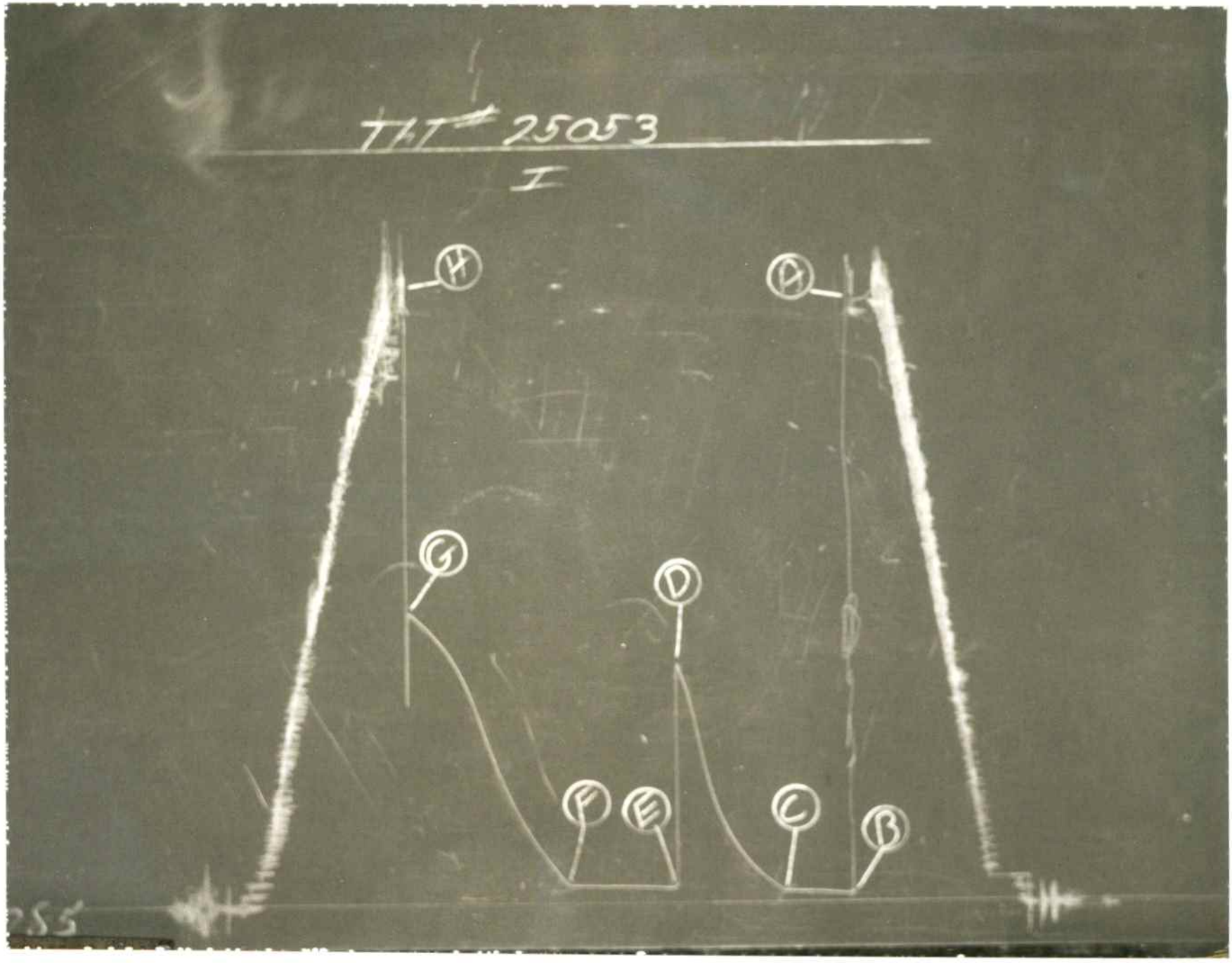
Point Minutes	Press.
0	51
3	55
~~6~~	~~69~~
9	87
12	105
~~15~~	~~127~~
18	152
21	177
~~24~~	~~206~~
27	239
30	277
~~33~~	~~320~~
36	373
39	433
~~42~~	~~513~~
45	601
48	700
~~51~~	~~804~~
54	901
57	979
~~60~~	~~1045~~
63	1069

Second Flow Pressure
Breakdown: 12 Inc.
of 5 mins. and a
final inc. of 0 Min.

Point Minutes	Press.
0	78
5	69
10	72
15	74
20	75
25	76
30	79
35	78
40	77
45	79
50	80
55	80
60	81

Final Shut-In
Breakdown: 29 Inc.
of 3 mins. and a
final inc. of 0 Min.

Point Minutes	Press.
0	81
~~3~~	~~108~~
6	136
9	167
~~12~~	~~201~~
15	234
18	270
~~21~~	~~308~~
24	344
27	387
~~30~~	~~435~~
33	486
36	539
~~39~~	~~600~~
42	657
45	720
~~48~~	~~792~~
51	867
54	930
~~57~~	~~988~~
60	1037
63	1081
~~66~~	~~1119~~
69	1152
72	1184
~~75~~	~~1213~~
78	1238
81	1261
~~84~~	~~1283~~
87	1304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Home Office: Wichita, Kansas 67201
P. O. Box 1599 (316) 838-0601

Company Robinson Oil Company Lease & Well No. Frieden #A-2

Elevation 1416 Kelly Bush. Formation Misener Effective Pay - Ft. Ticket No. 24281

Date 3-20-76 Sec. 2 Twp. 35S Range 12W County Barber State Kansas

Test Approved by Douglas H. McGinness Western Representative Norman Allen

Formation Test No. 4 O.K. X Misrun - Interval Tested From 5148' to 5163' Total Depth 5163'

Size Main Hole 7 7/8 Rat Hole - Conv. - B.T. X Damaged - Yes X No Conv. X B.T. - Damaged - Yes X No

Top Packer Depth 5143 Ft. Size 6 3/4 Bottom Packer Depth 5148 Ft. Size 6 3/4

Straddle - Conv. - B.T. - Damaged - Yes - No Packer Depth - Ft. Size -

Tool Size 5½OD Tool Joint Size 4½FH Anchor Length 15 Ft. Size 5½OD Surface Choke Size 1/2 In. Bottom Choke Size 3/4 In.

RECORDERS Depth 5156 Ft. Clock No. 4964 Depth 5159 Ft. Clock No. 6895

Top Make Kuster Cap. 4200 No. 1559 Inside ~~Outside~~ Bottom Make Kuster Cap. 3200 No. 1561 ~~Inside~~ Outside

Below Straddle: Depth - Rec. No. - Clock No. - Inside Outside Depth - Ft. Rec. No. - Clock No. - Inside Outside

Time Set Packer 4:58P. M

Tool Open I.F.P. From 5:00P M. to 6:00P. M. - Hr. 60 Min. From (B) 42 P.S.I. To (C) 60 P.S.I.

Tool Closed I.C.I.P. From 6:00P M. to 7:00P. M. - Hr. 60 Min (D) 2085 P.S.I.

Tool Open F.F.P. From 7:00P M. to 8:30P. M. - Hr. 90 Min. From (E) 60 P.S.I. To (F) 65 P.S.I.

Tool Closed F.C.I.P. From 8:30P M. to 9:30P. M. - Hr. 60 Min. (G) 2007 P.S.I.

Initial Hydrostatic Pressure (A) 2805 P.S.I. Final Hydrostatic Pressure (H) 2743 P.S.I. Maximum Temp. 125

INFORMATION

BLOW Strong blow throughout test. Gas to surface in 15 minutes, see attached sheet for gas measurements.

Did Well Flow Gas Yes - No Recovery Total Ft. 20' of oil and gas cut mud, 130' of heavy oil and gas cut mud, 50' of slightly muddy oily water.

Reversed Out - Yes X No Mud Type Starch Viscosity 73 Weight 9.5 Water Loss 8.8 cc. Chlorides 27,000 P.P.M.

EXTRA EQUIPMENT: Type Circ. Sub. Pin Safety Joint 4½OD Jars: Size 4½OD In. Make WTC Ser. No. 411

Dual Packer Yes Did Packers Hold? Yes Did Tool Plug? No Where? -

DRILLING CONTRACTOR Sweetman Drlg. Co. Length Drill Pipe? 4941 Ft. I.D. Drill Pipe 3.8 In. Tool Joint Size 4½FH In.

Length Weight Pipe - Ft. I.D. Weight Pipe - In. Tool Joint Size - In. Length Drill Collars 180 Ft. I.D. Drill Collars 2¼ In.

Tool Joint Size 4"H-90 In. Length D.S.T. Tool 42 Ft.

Remarks: Read outside recorder.

Phone 316 262-5861
316 838-0601

P. O. Box 1599
WICHITA, KANSAS 67201

GAS FLOW REPORT

Date 3-20-76 Ticket 24281 Company Robinson Oil Company

Well Name and No. Frieden A #2 Dst No. 4 Interval Tested 5148'-5163'

County Barber State Kansas Sec. 2 Twp. 35S Rg. 12W

Time Gauge Pre-Flow	Time Gauge in Min.	P.S.I. on Merla Orifice Well Tester	P.S.I. on Pitot Tester	P.S.I. on Side Static Tester	P.S.I. on U-Tube Tester	Description of Flow
PRE FLOW						
5:25PM	25 min.	3 PSIG	1/2" Choke			59,200 C.F.P.D.
5:35PM	35 min.	3½ PSIG	1/2" Choke			64,000 C.F.P.D.
5:40PM	40 min.	4 PSIG	1/2" Choke			68,800 C.F.P.D.
5:50PM	50 min.	4½ PSIG	1/2" Choke			73,600 C.F.P.D.
6:00PM	60 min.	5 PSIG	1/2" Choke			78,100 C.F.P.D.
Tool opened in pre-flow at		5:00PM. Gas to surface in 15				minutes.
SECOND FLOW						
7:00PM	60 min.	13½ PSIG	1/2" Choke			138,000 C.F.P.D.
7:10PM	70 min.	10½ PSIG	1/2" Choke			118,000 C.F.P.D.
7:20PM	80 min.	7 PSIG	1/2" Choke			94,000 C.F.P.D.
7:30PM	90 min.	5½ PSIG	1/2" Choke			81,800 C.F.P.D.
7:40PM	100 min.	5½ PSIG	1/2" Choke			81,800 C.F.P.D.
7:50PM	110 min.	5½ PSIG	1/2" Choke			81,800 C.F.P.D.
8:00PM	120 min.	5½ PSIG	1/2" Choke			81,800 C.F.P.D.
8:10PM	130 min.	5½ PSIG	1/2" Choke			81,800 C.F.P.D.
8:20PM	140 min.	5½ PSIG	1/2" Choke			81,800 C.F.P.D.
8:30PM	150 min.	5½ PSIG	1/2" Choke			81,800 C.F.P.D.
All measurements were taken through 1/2" choke with a 2" merla orifice well tester. Sprayed condensate and gas from 7:00PM to 8:30PM during second flow period.						

GAS BOTTLE

Serial No. _____ Date Bottle Filled 3-20-76 Date to be Invoiced 3-20-76

Requisition and Provisions for high pressure stainless steel gas bottles. Western Testing Co., Inc. shall not be liable for damage of any kind to property or personnel of the one whom gas bottle is filled or for any loss suffered or sustained directly or indirectly through the use of these bottles. By signing of this ticket showing receipt of a gas testing bottle, the undersigned agrees for himself and as agent for operator, to return this bottle to Western Testing Co., Inc. within thirty (30) days free of charge, or be invoiced in the amount of $75.00 (total charge). Should valve or seal plug be missing or damaged beyond repair, operator shall be invoiced for repairs at our invoiced price.

All charges subject to 1% per month, equal to 12% interest per annum after 30 days from date of invoice. Any expense incurred for collection will be added to the original amount.

COMPANY'S NAME Robinson Oil Company

Authorized by Dale M. Robinson

FORM WTC 6

WESTERN TESTING CO., INC.
Pressure Data

Date 3-20-76 Test Ticket No. 24281

Recorder No. 1561 Capacity 3200 Location 5159 Ft.

Clock No. 6895 Elevation 1416 Kelly Bushing Well Temperature 125 °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	2805 P.S.I.	Open Tool	4:58 P.M.	
B First Initial Flow Pressure	42 P.S.I.	First Flow Pressure	60 Mins.	60 Mins.
C First Final Flow Pressure	60 P.S.I.	Initial Closed-in Pressure	60 Mins.	60 Mins.
D Initial Closed-in Pressure	2085 P.S.I.	Second Flow Pressure	90 Mins.	90 Mins.
E Second Initial Flow Pressure	60 P.S.I.	Final Closed-in Pressure	60 Mins.	60 Mins.
F Second Final Flow Pressure	65 P.S.I.			
G Final Closed-in Pressure	2007 P.S.I.			
H Final Hydrostatic Mud	2743 P.S.I.			

PRESSURE BREAKDOWN

First Flow Pressure
Breakdown: 12 Inc.
of 5 mins. and a
final inc. of 0 Min.

Point	Mins.	Press.
P 1	0	42
P 2	5	39
P 3	10	41
P 4	15	42
P 5	20	44
P 6	25	46
P 7	30	49
P 8	35	50
P 9	40	52
P10	45	53
P11	50	54
P12	55	55
P13	60	60
P14		
P15		
P16		
P17		
P18		
P19		
P20		

Initial Shut-In
Breakdown: 20 Inc.
of 3 mins. and a
final inc. of 0 Min.

Point Minutes	Press.
0	60
3	736
6	1604
9	1870
12	1946
15	1982
18	2004
21	2020
24	2032
27	2042
30	2049
33	2055
36	2061
39	2065
42	2070
45	2074
48	2077
51	2081
54	2082
57	2084
60	2085

Second Flow Pressure
Breakdown: 18 Inc.
of 5 mins. and a
final inc. of 0 Min.

Point Minutes	Press.
0	60
5	54
10	53
15	53
20	52
25	52
30	52
35	53
40	54
45	55
50	56
55	57
60	58
65	60
70	61
75	63
80	64
85	64
90	65

Final Shut-In
Breakdown: 20 Inc.
of 3 mins. and a
final inc. of 0 Min.

Point Minutes	Press.
0	65
3	611
6	1013
9	1502
12	1686
15	1767
18	1820
21	1858
24	1884
27	1903
30	1921
33	1937
36	1949
39	1960
42	1968
45	1976
48	1985
51	1992
54	1997
57	2002
60	2007

Gas Production

B.T. Gauge Numbers		1561	Ticket Number		24281
		Pressure			
Initial Hydrostatic		2085	Elevation		1416 K.B. ft.
Final Hydrostatic		2743	Production Rate	Intial	594.187 m cu. ft.
	Time			Final	269.273 m cu. ft.
1st Flow Initial	— — — —	42			
1st Flow Final	60	60	Hole Size		7 7/8 in.
Initial Closed In Pressure	60	2085	Footage Tested		15 ft.
2nd Flow Initial	— — — —	60	Mud Weight		9.5 lbs. gal.
2nd Flow Final	90	65	Gas Viscosity		.018 cp
Final Closed In Pressure	60	2007	Gas Gravity		.70 —
Extrapolated Static Pressure	Initial	2140-2040	Gas Compressibility		.82 —
	Final	2171-1829			
Slope Psi²/cycle	Initial	418,000			
	Final	1,368,000			

Remarks: _____

SUMMARY

Product	Equation	BT Gauge Number Depth — Initial	Final	Units
Transmissability	$\frac{Kh}{\mu} = \frac{1637\ Q_g\ ZT}{m}$	154.048	44.774	$\frac{\text{md. ft.}}{\text{cp}}$
Theoretical Flow Capacity	$Kh = \frac{Kh}{\mu}\ \mu$	2.773	.805	md. ft.
Average Effective Permeability	$K = \frac{Kh}{h}$	.924	.268	md.
	$K_1 = \frac{Kh}{h_1}$	.924	.268	md.
Indicated Flow Capacity	$(Kh)_2 = \frac{3200\ Q_g\ \mu\ ZT\ \text{Log}(0.472\ b/r_w)}{P_s^2 - P_f^2}$	.383	.233	md. ft.
Damage Ratio	$DR = \frac{\text{Theo. Flow Cap}}{\text{Indicated Flow Cap}}\ \frac{Kh}{(Kh)_2}$	7.24	3.45	—
Indicated Flow Rate	$OF_1 = \frac{Q_g\ \ P_s^2}{P_s^2 - P_f^2}$	82.07	78.05	MCFD
		82.04	78.02	MCFD
Theoretical Potential Rate	$OF_3 = OF_1\ DR$ Max.	594.187	269.273	MCFD
	$OF_4 = OF_2\ DR$ Min.	593.969	269.169	MCFD
Approx. Radius of Investigation	$b \leftrightarrows \sqrt{Kt}$ or $\sqrt{Kt_0}$	3.33	2.18	ft.
	$b_1 \leftrightarrows \sqrt{K_1 t}$ or $\sqrt{K_1 t_0}$	3.33	2.18	ft.
Potentiometric Surface *	$Pot. = (El - GD) + (2.319\ Ps)$			ft.

NOTICE: These calculations are based upon information furnished by you and taken from Drill Stem Tests pressure charts, and are furnished you for your information. In furnishing such calculations and evaluations based thereon, Western Testing Co., Inc., is merely expressing its opinion. You agree that Western Testing Co., Inc., make no warranty express or implied as to the accuracy of such calculations or opinions, and that Western Testing Co., Inc., shall not be liable for any loss or damage, whether due to negligence or otherwise, in connection with such calculations and opinions.

INTERPRETATIONS AND CALCULATIONS

Gas Production

B.T. Gauge Numbers		1561	**Ticket Number**		24281
		Pressure			
Initial Hydrostatic		2085	Elevation		1416 K.B. ft.
Final Hydrostatic		2743	Production Rate	Intial	594.187 m cu. ft.
	Time				
1st Flow — Initial	— — — —	42		Final	269.273 m cu. ft.
1st Flow — Final	60	60	Hole Size		7 7/8 in.
Initial Closed In Pressure	60	2085	Footage Tested		15 ft.
2nd Flow — Initial	— — — —	60	Mud Weight		9.5 lbs. gal.
2nd Flow — Final	90	65	Gas Viscosity		.018 cp
Final Closed In Pressure	60	2007	Gas Gravity		.70 —
Extrapolated Static Pressure	Initial	2140–2040	Gas Compressibility		.82 —
	Final	2171–1829			
Slope Psi^2/cycle	Initial	418,000			
	Final	1,368,000			

Remarks: _____

SUMMARY

Product	Equation	BT Gauge Number / Depth — Initial	Final	Units
Transmissability	$\frac{Kh}{\mu} = \frac{1637\ Q_g\ ZT}{m}$	154.048	44.774	$\frac{md.\ ft.}{cp}$
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Average Effective	$K = \frac{Kh}{h}$	.924	.268	md.
Permeability	$K_1 = \frac{Kh}{h_1}$	.924	.268	md.
Indicated Flow Capacity	$(Kh)_g = \frac{3200\ Q_g\ \mu\ ZT\ Log(0.472\ b/r_w)}{P_s^2 - P_f^2}$	.383	.233	md. ft.
Damage Ratio	$DR = \frac{\text{Theo. Flow Cap}}{\text{Indicated Flow Cap}} \frac{Kh}{(Kh)_g}$	7.24	3.45	—
Indicated	$OF_1 = \frac{Q_g \quad P_s^2}{P_s^2 - P_f^2}$	82.07	78.05	MCFD
Flow Rate		82.04	78.02	MCFD
Theoretical	$OF_3 = OF_1\ DR$ Max.	594.187	269.273	MCFD
Potential Rate	$OF_4 = OF_2\ DR$ Min.	593.969	269.169	MCFD
Approx. Radius of Investigation	$b \leftrightarrows \sqrt{Kt}$ or $\sqrt{Kt_0}$	3.33	2.18	ft.
	$b_1 \leftrightarrows \sqrt{K_1 t}$ or $\sqrt{K_1 t_0}$	3.33	2.18	ft.
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INTERPRETATIONS AND CALCULATIONS

Gas Production

B.T. Gauge Numbers		1561	**Ticket Number**		24281
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2nd Flow Final	90	65	Gas Viscosity		.018 cp
Final Closed In Pressure	60	2007	Gas Gravity		.70 —
Extrapolated Static Pressure	Initial	2140-2040	Gas Compressibility		.82 —
	Final	2171-1829			
Slope Psi^2/cycle	Initial	418,000			
	Final	1,368,000			

Remarks: _____

SUMMARY

BT Gauge Number Depth

Product	Equation	Initial	Final	Units
Transmissability	$\frac{Kh}{\mu} = \frac{1637\ Q_g\ ZT}{m}$	154.048	44.774	$\frac{md.\ ft.}{cp}$
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Indicated Flow Capacity	$(Kh)_2 = \frac{3200\ Q_g\ \mu\ ZT\ Log(0.472\ b/r_w)}{P_s^2 - P_f^2}$	.383	.233	md. ft.
Damage Ratio	$DR = \frac{\text{Theo. Flow Cap}}{\text{Indicated Flow Cap}} \quad \frac{Kh}{(Kh)_2}$	7.24	3.45	—
Indicated Flow Rate	$OF_1 = \frac{Q_g \quad P_s^2}{P_s^2 - P_f^2}$	82.07	78.05	MCFD
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Potentiometric Surface *	$Pot. = (El - GD) + (2.319\ Ps)$			ft.

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INTERPRETATIONS AND CALCULATIONS

Gas Production

B.T. Gauge Numbers			**Ticket Number**		
Initial Hydrostatic		**Pressure**	Elevation		. ft.
Final Hydrostatic			Production Rate	Intial	m cu. ft.
1st Flow	Initial	**Time** — — — —		Final	m cu. ft.
	Final		Hole Size		in.
Initial Closed In Pressure			Footage Tested		ft.
2nd Flow	Initial	— — — —	Mud Weight		lbs. gal.
	Final		Gas Viscosity		cp
Final Closed In Pressure			Gas Gravity		—
Extrapolated Static Pressure	Initial		Gas Compressibility		—
	Final				
Slope Psi²/cycle	Initial	48,000			
	Final	1,368,000			

Remarks:

SUMMARY

BT Gauge Number Depth

Product	Equation	Initial	Final	Units
Transmissability	$\frac{Kh}{\mu} = \frac{1637\ Q_g\ ZT}{m}$	154.048	44.774	$\frac{\text{md. ft.}}{\text{cp}}$
Theoretical Flow Capacity	$Kh = \frac{Kh}{\mu}\ \mu$	2.773	.805	md. ft.
Average Effective	$K = \frac{Kh}{h}$	.924	.268	md.
Permeability	$K_1 = \frac{Kh}{h_1}$	.924	.268	md.
Indicated Flow Capacity	$(Kh)_a = \frac{3200\ Q_g\ \mu\ ZT\ \text{Log}(0.472\ b/r_w)}{P_s^2 - P_f^2}$	.383	.233	md. ft.
Damage Ratio	$DR = \frac{\text{Theo. Flow Cap}}{\text{Indicated Flow Cap}} \quad \frac{Kh}{(Kh)_a}$	7.24	3.45	—
Indicated Flow Rate	$OF_1 = \frac{Q_g \quad P_s^2}{P_s^2 - P_f^2}$	82.07	78.05	MCFD
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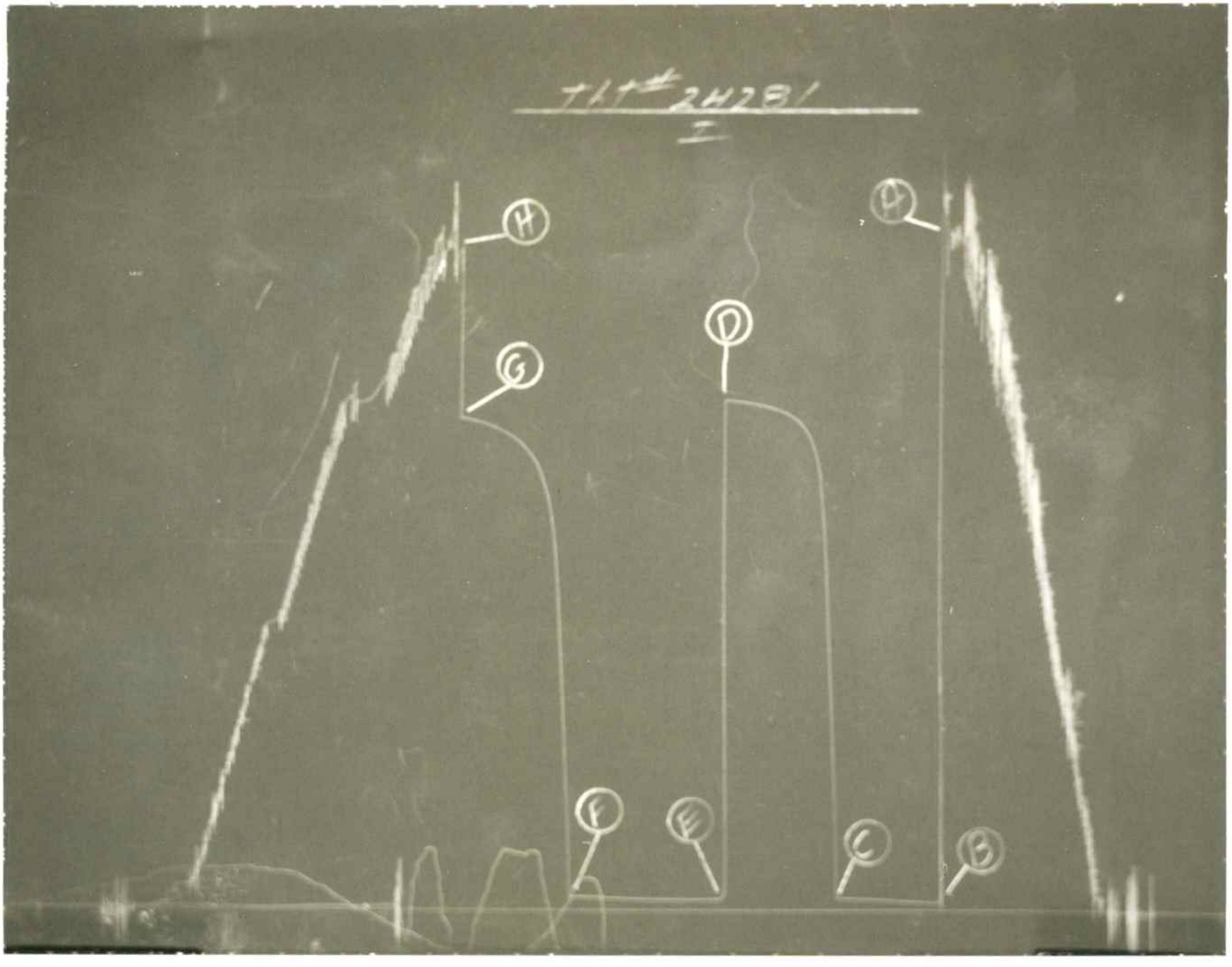
INTERPRETATIONS AND CALCULATIONS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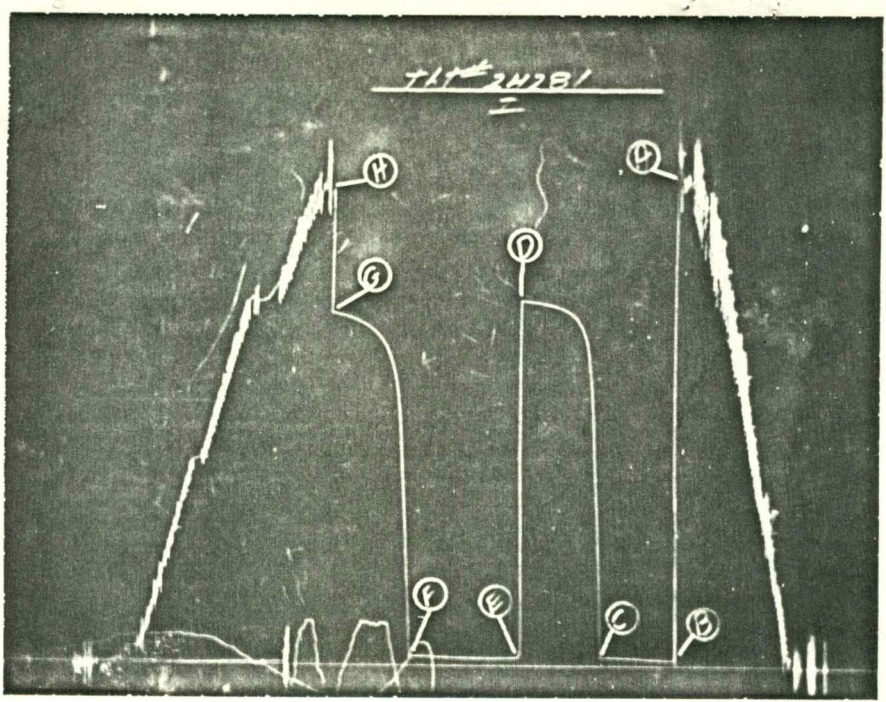
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