WESTERN TESTERS INC.

P. O. Box 1599
Wichita, Kansas 67201

Company Mid Continent Energy Lease & Well No. Frieden #1

Elevation 1340 Kelly Bushing Formation Mississippi Effective Pay - Ft. Ticket No. 25613

Date 9-7-76 Sec. 6 Twp. 34S Range 9W County Harper State Kansas

Test Approved by Innes Phillips Western Representative Guy Max Knipe

Formation Test No. 2 O.K. X Misrun - Interval Tested From 4535' to 4590' Total Depth 4590'

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

Top Packer Depth 4535 Ft. Size 6 3/4 Bottom Packer Depth - Ft. Size -

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

Tool Size 5½ OD Tool Joint Size 4½ FH Anchor Length 55 Ft. Size 31 DP 24 perf Surface Choke Size 3/4 In. Bottom Choke Size 3/4 In.

RECORDERS Depth 4544 Ft. Clock No. 6899 Depth 4547 Ft. Clock No. 10163

Top Make Kuster Cap. 4250 No. 1051 Inside ~~Outside~~ Bottom Make Kuster Cap. 4000 No. 3659 ~~Inside~~ Outside

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

Time Set Packer 12:22 AM

Tool Open I.F.P. From 12:25A M. to 12:55 M. - Hr. 30 Min. From (B) 90 P.S.I. To (C) 97 P.S.I.

Tool Closed I.C.I.P. From 12:55 M. to 1:40A M. - Hr. 45 Min (D) 1630 P.S.I.

Tool Open F.F.P. From 1:40 AM. to 2:40A M. 1 Hr. - Min. From (E) 139 P.S.I. To (F) 172 P.S.I.

Tool Closed F.C.I.P. From 2:40 M. to 3:40 M. 1 Hr. - Min. (G) 1617 P.S.I.

Initial Hydrostatic Pressure (A) 2504 P.S.I. Final Hydrostatic Pressure (H) 2369 P.S.I. Maximum Temp. 128

INFORMATION

BLOW Strong blow throughout test.

Did Well Flow X Yes - No Recovery Total Ft. 278' gas cut mud, 124' gas cut mud slightly oil cut, 62' oil & gas cut thin watery mud, 62' oil & gas cut muddy water.

Reversed Out - Yes X No Mud Type starch Viscosity 60 Weight 9.7 Water Loss 12.0 cc. Chlorides 38,000 P.P.M.

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

Dual Packer 1 Did Packers Hold? Yes Did Tool Plug? No Where? -

DRILLING CONTRACTOR Search Drlg.Co. Length Drill Pipe? 4520 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 - Ft. I.D. Drill Collars - In.

Tool Joint Size - In. Length D.S.T. Tool 70 Ft.

Remarks:

WESTERN TESTING CO., INC.
Pressure Data

Date 9-7-76 Test Ticket No. 25613

Recorder No. 1051 Capacity 4250 Location 4544 Ft.

Clock No. 6899 Elevation 1340 Kelly Bushing Well Temperature 128 °F

Point		Pressure			Time Given	Time Computed
A	Initial Hydrostatic Mud	2504	P.S.I.	Open Tool	12:22 A M	
B	First Initial Flow Pressure	90	P.S.I.	First Flow Pressure	30 Mins.	30 Mins.
C	First Final Flow Pressure	97	P.S.I.	Initial Closed-in Pressure	45 Mins.	45 Mins.
D	Initial Closed-in Pressure	1630	P.S.I.	Second Flow Pressure	60 Mins.	60 Mins.
E	Second Initial Flow Pressure	139	P.S.I.	Final Closed-in Pressure	60 Mins.	66 Mins.
F	Second Final Flow Pressure	172	P.S.I.			
G	Final Closed-in Pressure	1617	P.S.I.			
H	Final Hydrostatic Mud	2369	P.S.I.			

PRESSURE BREAKDOWN

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

Point Mins.	Press.
P 1 0	90
P 2 5	77
P 3 10	80
P 4 15	84
P 5 20	86
P 6 25	90
P 7 30	97
P 8	
P 9	
P10	
P11	
P12	
P13	
P14	
P15	
P16	
P17	
P18	
P19	
P20	

Initial Shut-In
Breakdown: 15 Inc. of 3 mins. and a final inc. of 0 Min.

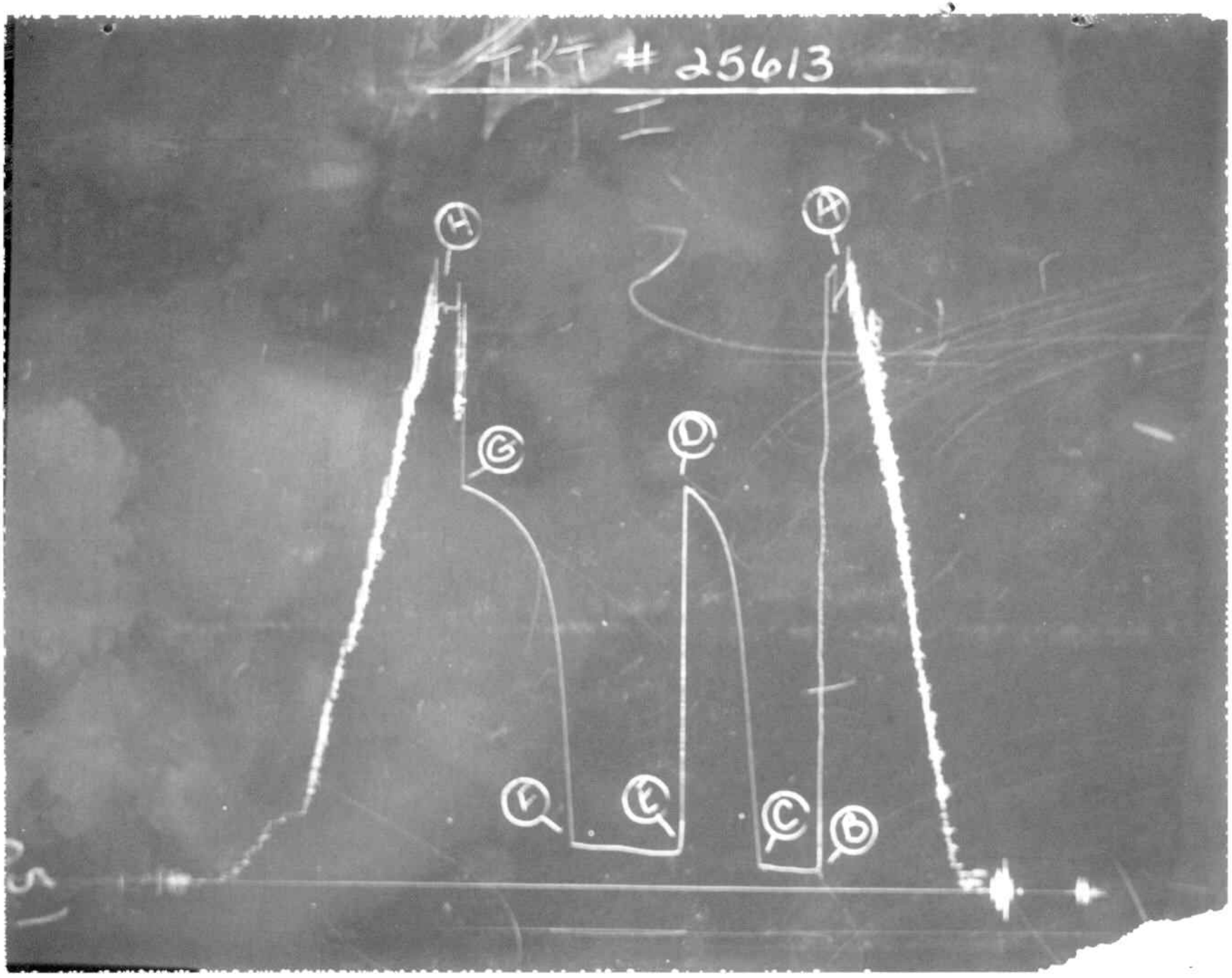
Point Minutes	Press.
0	97
3	338
6	549
9	798
12	1015
15	1176
18	1296
21	1373
24	1436
27	1483
30	1519
33	1547
36	1575
39	1596
42	1615
45	1630

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

Point Minutes	Press.
0	139
5	143
10	142
15	142
20	144
25	151
30	157
35	161
40	161
45	161
50	163
55	168
60	172

Final Shut-In
Breakdown: 22 Inc. of 3 mins. and a final inc. of 0 Min.

Point Minutes	Press.
0	172
3	431
6	685
9	906
12	1057
15	1171
18	1250
21	1313
24	1362
27	1398
30	1436
33	1462
36	1489
39	1504
42	1529
45	1543
48	1558
51	1570
54	1583
57	1594
60	1604
63	1612
66	1617


TKT # 25613
H
A
G
D
F
E
C
B

WESTERN TESTERS INC.

P. O. Box 1599
Wichita, Kansas 67201

Company Mid Continent Energy Lease & Well No. Frieden #1

Elevation 1340 Kelly Bushing Formation Elgin Effective Pay - Ft. Ticket No. 25614

Date 9-8-76 Sec. 6 Twp. 34S Range 9W County Harper State Kansas

Test Approved by Innes Phillips Western Representative Guy M. Knipe

Formation Test No. 3 O.K. X Misrun - Interval Tested From 3362' to 3420' Total Depth 4590'

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

Top Packer Depth 3362 Ft. Size 6 3/4 Bottom Packer Depth 3420 Ft. Size 6 3/4

Straddle X Conv. - B.T. X Damaged - Yes - No Packer Depth 3420 Ft. Size 6 3/4

Tool Size 5½ OD Tool Joint Size 4½ FH Anchor Length 58 Ft. Size 4½DP & 5½ perf. Surface Choke Size 3/4 In. Bottom Choke Size 3/4 In.

RECORDERS Depth 3374 Ft. Clock No. 6899 Depth 3377 Ft. Clock No. 10163

Top Make Kuster Cap. 4250 No. 1051 ~~Inside~~ Outside Bottom Make Kuster Cap. 4000 No. 3659 ~~Inside~~ Outside

Below Straddle: Depth 3430 Rec. No. 3354 Clock No. 9102 ~~Inside~~ Outside Depth - Ft. Rec. No. - Clock No. - Inside Outside

Time Set Packer 9:50 A M

Tool Open I.F.P. From 9:50 A M. to 10:05 A M. - Hr. 15 Min. From (B) 73 P.S.I. To (C) 269 P.S.I.

Tool Closed I.C.I.P. From 10:05 M. to 10:35 M. - Hr. 30 Min (D) 1458 P.S.I.

Tool Open F.F.P. From 10:35 M. to 10:55 M. - Hr. 20 Min. From (E) 312 P.S.I. To (F) 608 P.S.I.

Tool Closed F.C.I.P. From 10:55 M. to 11:05 M. - Hr. 30 Min. (G) 1456 P.S.I.

Initial Hydrostatic Pressure (A) 1903 P.S.I. Final Hydrostatic Pressure (H) 1882 P.S.I. Maximum Temp. 112

INFORMATION

BLOW Strong blow throughout test.

Did Well Flow - Yes X No Recovery Total Ft. 1200' muddy salt water.

Reversed Out X Yes - No Mud Type starch Viscosity 60 Weight 9.7 Water Loss 12.0 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 Search Drlg. Co. Length Drill Pipe? 3346 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 - Ft. I.D. Drill Collars - In.

Tool Joint Size - In. Length D.S.T. Tool 154 Ft.

Remarks:

WESTERN TESTING CO., INC.
Pressure Data

Date 9-8-76 Test Ticket No. 25614

Recorder No. 1051 Capacity 4250 Location 3374 Ft.

Clock No. 6899 Elevation 1340 Kelly Bushing Well Temperature 112 °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	1903 P.S.I.	Open Tool	9:50 A M	
B First Initial Flow Pressure	73 P.S.I.	First Flow Pressure	15 Mins.	15 Mins.
C First Final Flow Pressure	269 P.S.I.	Initial Closed-in Pressure	30 Mins.	27 Mins.
D Initial Closed-in Pressure	1458 P.S.I.	Second Flow Pressure	20 Mins.	30 Mins.
E Second Initial Flow Pressure	312 P.S.I.	Final Closed-in Pressure	30 Mins.	39 Mins.
F Second Final Flow Pressure	608 P.S.I.			
G Final Closed-in Pressure	1456 P.S.I.			
H Final Hydrostatic Mud	1882 P.S.I.			

PRESSURE BREAKDOWN

First Flow Pressure
Breakdown: 3 Inc.
of 5 mins. and a
final inc. of 0 Min.

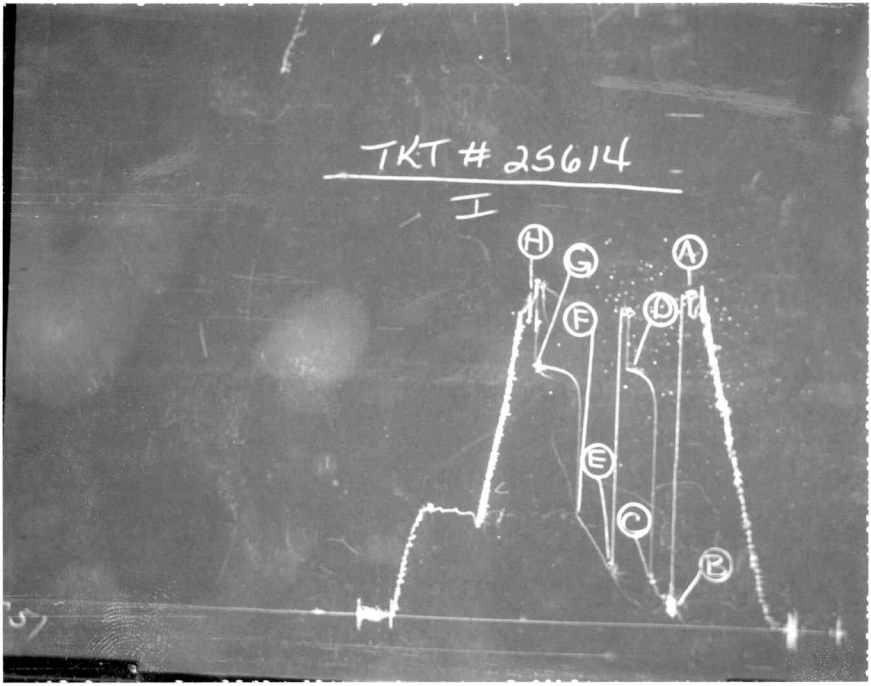
Initial Shut-In
Breakdown: 9 Inc.
of 3 mins. and a
final inc. of 0 Min.

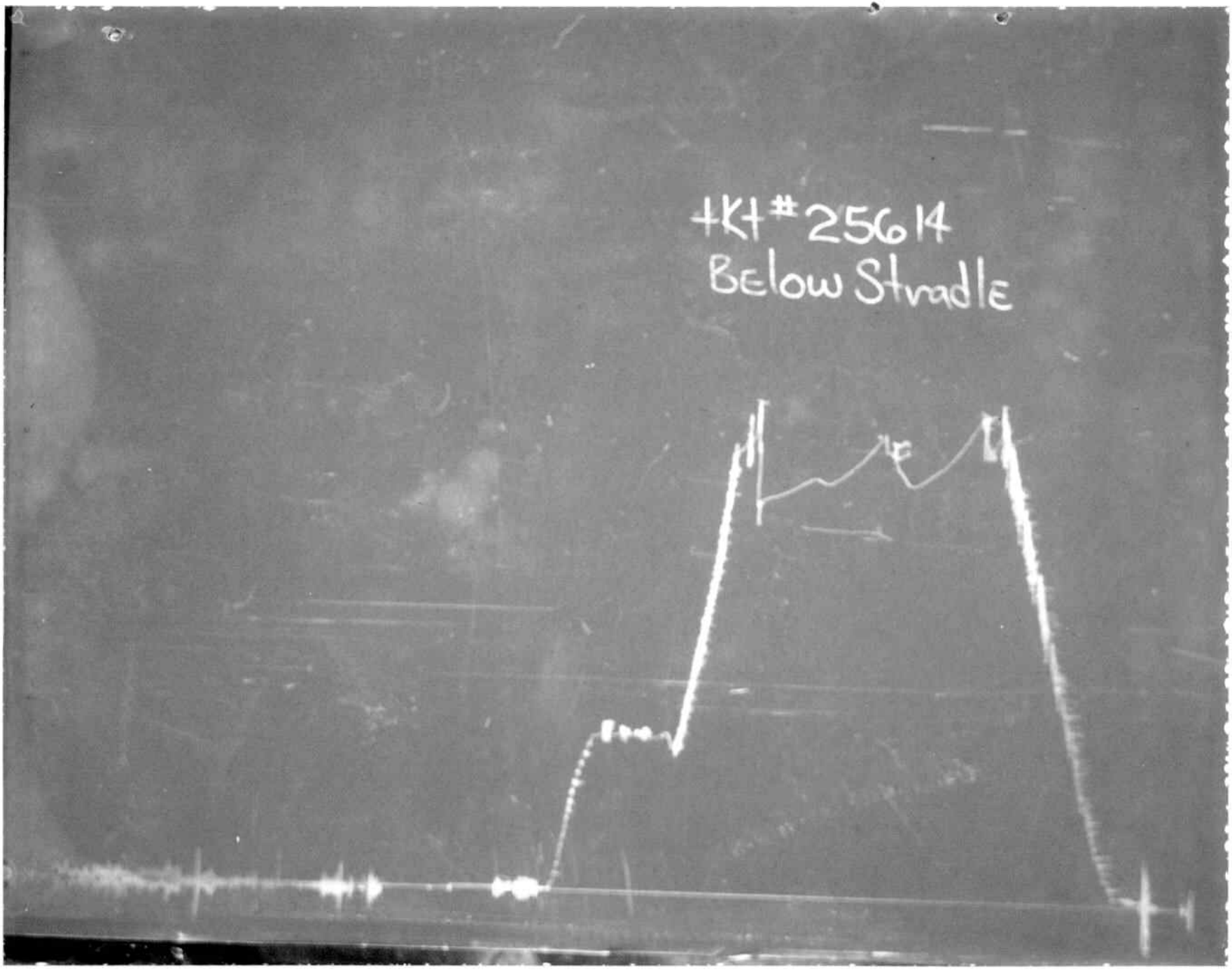
Second Flow Pressure
Breakdown: 6 Inc.
of 5 mins. and a
final inc. of 0 Min.

Final Shut-In
Breakdown: 13 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	73		0	269		0	312		0	608
P 2	5	161		3	970		5	340		3	1258
P 3	10	176		6	1307		10	405		6	1360
P 4	15	269		9	1373		15	459		9	1394
P 5				12	1405		20	513		12	1415
P 6				15	1422		25	561		15	1428
P 7				18	1439		30	608		18	1434
P 8				21	1447					21	1441
P 9				24	1453					24	1445
P10				27	1458					27	1447
P11										30	1451
P12										33	1453
P13										36	1455
P14										39	1456
P15											
P16											
P17											
P18											
P19											
P20											

WTC - 4


TKT # 25614
I
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G
F
E
D
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+KT #25614
Below Straddle