WESTERN TESTERS

Home Office: Great Bend, Kansas

P. O. Box 793 GLadstone 3-7903

Company Abercrombie Drilling, Inc. Lease & Well No. Rankin #1

Elevation == Formation; K.C. Ticket Number 8211

Date Nov.29,1964 Sec. 33 Twp. 13s Range 20w County Ellis State Kansas

Test Approved by Jack K. Wharton Western Representative Bill Hager

Formation Test No. 1 O.K. x Misrun ____ Interval Tested From 3604' to 3660' Total Depth 3660'

Size Main Hole 6 3/4 Rat Hole none Conv. x B.T. ____ Damaged ____ Yes x No Conv. x B.T. ____ Damaged ____ Yes x No

Packer Depth 3599 Ft. Size 5½ Packer Depth 3604 Ft. Size 5½

Straddle ____ Yes x No ____ Conv. ____ B.T. ____ Damaged ____ Yes ____ No

Packer Depth ____ Ft Size ____

Tool Size 4½ OD Tool Jt. Size 3½ IF Anchor Length 56 Ft. Size 30' 3½ IF DP 26' 4½ OD

RECORDERS Depth 3608 Ft Clock No. 6893 Depth 3611 Ft. Clock No. 156

Top Make Kuster Cap. 4300 No. 1566 Inside ~~Outside~~ Bottom Make Western Cap. 4000 No. 21 ~~Inside~~ Outside

Below Straddle: Depth ____ Clock No. ____ Inside Outside Depth ____ Ft. Clock No. ____ Inside Outside

Top Make ____ Cap. ____ No. ____ Inside Outside Bottom Make ____ Cap. ____ No. ____ Inside Outside

Time Set Packer 1:16 A/ M

Tool Open I.F.P. From 1:17 M to 1:22 M Hr. 5 Min. From (B) 49 P.S.I. To (C) 112 P.S.I.

Tool Closed I.C.I.P. From 1:23 M. to 1:53 M. Hr. 30 Min. (D) 952 P.S.I.

Tool Open F.F.P. From 1:43 M. to 2:54 M. 1 Hr. ____ Min. From (E) 153 P.S.I. To (F) 611 P.S.I.

Tool Closed F.C.I.P. From 2:55 M. to 3:25 M. Hr. 30 Min. (G) 931 P.S.I.

Inital Hydrostatic Pressure (A) 1867 P.S.I. Final Hydrostatic Pressure (H) 1852 P.S.I.

SURFACE INFORMATION	Size Choke	Max. Press. P.S.I.	Time	Description of Flow
	3/8 In.		M.	
			M.	
			M.	

BLOW Strong blow throughout test. Bottom Choke Size 3/4 in.

Did Well Flow ____ Yes x No Recovery Total Ft. 1320' muddy salt water with few oil spots.

Mud

Reversed Out x Yes ____ No Mud Type starch Viscosity 41 Weight 9.9 Maximum Temp. 112 °F

EXTRA EQUIPMENT: Dual Packers yes Safety Joint ____ Jars: Size ____ Make ____ Ser. No. ____

Type Circ. Sub plug Did Tool Plug? no Where? ____ Did Packer Hold? yes

Length Drill Pipe 2942 ft. I.D. Drill Pipe 2.7 in. Length Weight Pipe 780 ft. I.D. Weight Pipe 2.4 in. Length Drill Collars 60 ft.

I. D. Drill Collars 2 in. Length D. S. T. Tool 78 ft.

Remarks

WHELAN PRINTERS

WESTERN TESTING CO., INC.
Pressure Data

Date November 29, 1964 — Test Ticket No. 8211

Recorder No. 1566 — Capacity 4300 — Location 3608 Ft.

Clock No. 6893 — Elevation Not available — Well Temperature 112 °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	1867	P.S.I.	Opened Tool	1:16 A M
B First Initial Flow Pressure	49	P.S.I.	First Flow Pressure	5 Mins. 5 Mins.
C First Final Flow Pressure	112	P.S.I.	Initial Closed-in Pressure	30 Mins. 32 Mins.
D Initial Closed-in Pressure	952	P.S.I.	Second Flow Pressure	60 Mins. 57 Mins.
E Second Initial Flow Pressure	153	P.S.I.	Final Closed-in Pressure	30 Mins. 30 Mins.
F Second Final Flow Pressure	611	P.S.I.		
G Final Closed-in Pressure	931	P.S.I.		
H Final Hydrostatic Mud	1852	P.S.I.		

PRESSURE BREAKDOWN

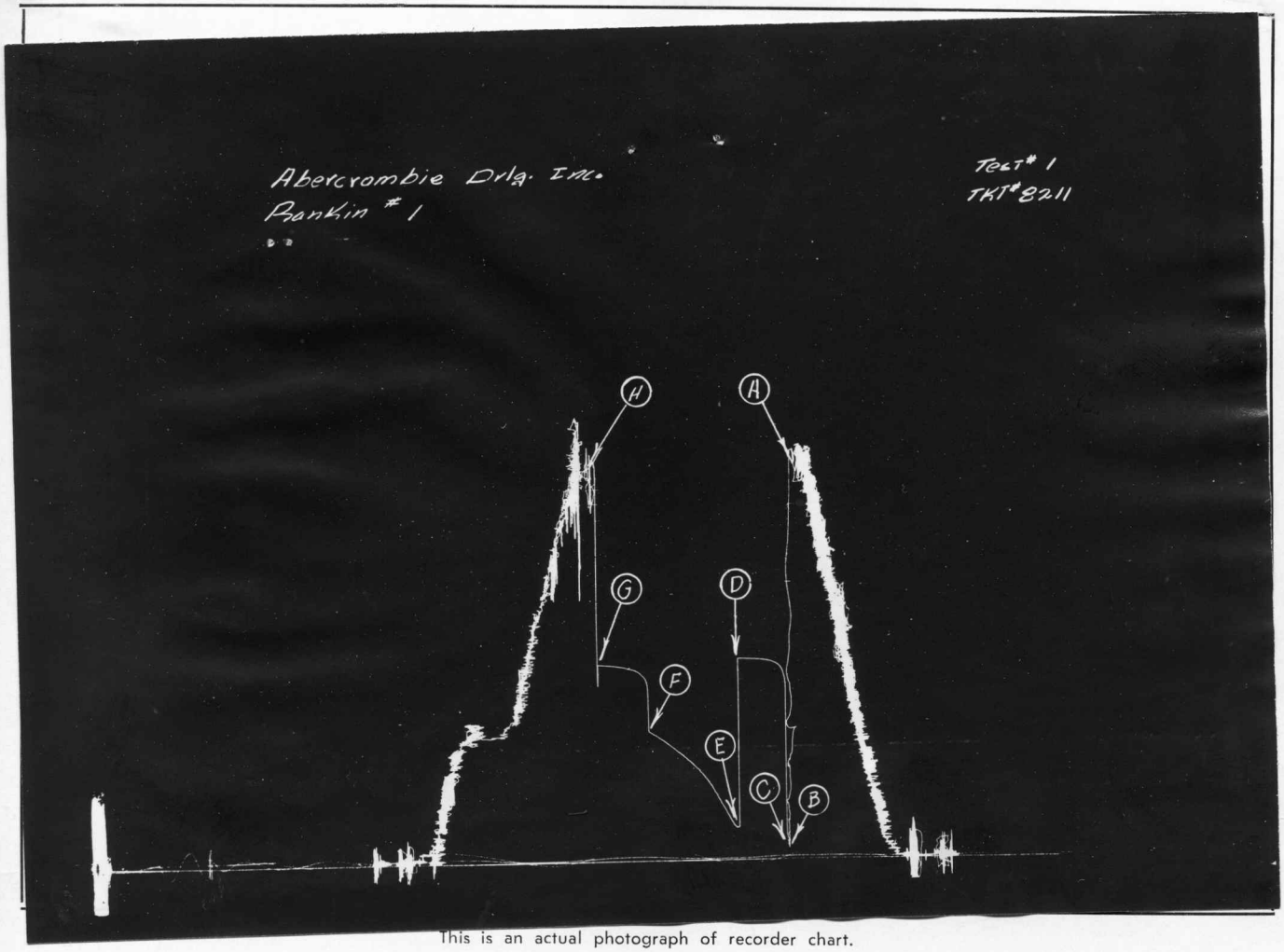
First Flow Press.
Breakdown: 1 Inc.
of 5 mins. and a
final inc. of 0 Min.

Initial Shut-In
Breakdown: 10 Inc.
of 3 mins. and a
final inc. of 2 Min.

Second Flow Pressure
Breakdown: 11 Inc.
of 5 mins. and a
final inc. of 2 Min.

Final Shut-In
Breakdown: 10 Inc.
of 3 mins. and a
final inc. of 2 Min.

Point Mins.	Press.	Point Minutes	Press.	Point Minutes	Press.	Point Minutes	Press.
P 1 0	49	0	112	0	153	0	611
P 2 5	112	3	868	5	179	3	866
P 3		6	922	10	250	6	890
P 4		9	935	15	322	9	905
P 5		12	941	20	376	12	911
P 6		15	946	25	426	15	918
P 7		18	948	30	458	18	920
P 8		21	950	35	493	21	924
P 9		24	952	40	527	24	926
P10		27	952	45	557	27	929
P11		30	952	50	583	30	930
P12		32	952	55	604	32	931
P13				57	611		
P14							
P15							
P16							
P17							
P18							
P19							
P20							



This is an actual photograph of recorder chart.

POINT		PRESSURE	
(A)	Initial Hydrostatic Mud	1867	PSI
(B)	First Initial Flow Pressure	49	PSI
(C)	First Final Flow Pressure	112	PSI
(D)	Initial Closed-in Pressure	952	PSI
(E)	Second Initial Flow Pressure	153	PSI
(F)	Second Final Flow Pressure	611	PSI
(G)	Final Closed-in Pressure	931	PSI
(H)	Final Hydrostatic Mud	1852	PSI

COMPANY Abercrombie Drilling Co., Inc. LEASE AND WELL NO. Rankin #1 SEC. 33 TWP. 13S RGE. 20W TEST NO. 1 DATE 11-29-64

Home Office: Great Bend, Kansas

P. O. Box 793 GLadstone 3-7903

Company Abercrombie Drilling, Inc. Lease & Well No. Rankin #1

Elevation 2261 Kelly Bushings :Formation=K.C. Ticket Number 8212

Date November 29, 1964 Sec. 33 Twp. 13 Range 20 County Ellis State Kansas

Test Approved by Jack K. Wharton Western Representative Bill Hager

Formation Test No. 2 O.K. x Misrun ____ Interval Tested From 3690' to 3730' Total Depth 3730'

Size Main Hole 6 3/4 Rat Hole None Conv. x B.T. ____ Damaged ____ Yes x No Conv. ____ B.T. ____ Damaged ____ Yes x No

Packer Depth 3685 Ft. Size 5½ Packer Depth 3690 Ft. Size 5½

Straddle ____ Yes x No ____ Conv. ____ B.T. ____ Damaged ____ Yes ____ No

Packer Depth ____ Ft Size ____

Tool Size 4½ OD Tool Jt. Size 3½ IF Anchor Length 40 Ft. Size 4½ OD

RECORDERS Depth 3717 Ft Clock No. 6893 Depth 3720 Ft. Clock No. 156

Top Make Kuster Cap. 4300 No. 1566 Inside ~~Outside~~ Bottom Make Western Cap. 4000 No. 21 ~~Inside~~ Outside

Below Straddle: Depth ____ Clock No. ____ Inside Outside Depth ____ Ft. Clock No. ____ Inside Outside

Top Make ____ Cap. ____ No. ____ Inside Outside Bottom Make ____ Cap. ____ No. ____ Inside Outside

Time Set Packer 7:17 P M

Tool Open I.F.P. From 7:18 M to 7:23 M Hr. 5 Min. From (B) 41 P.S.I. To (C) 41 P.S.I.

Tool Closed I.C.I.P. From 7:24 M. to 7:54 M. Hr. 30 Min. (D) 1228 P.S.I.

Tool Open F.F.P. From 7:55 M. to 8:55 M. 1 Hr. Min. From (E) 34 P.S.I. To (F) 41 P.S.I.

Tool Closed F.C.I.P. From 8:56 M. to 9:26 M. Hr. 30 Min. (G) 73 P.S.I.

Inital Hydrostatic Pressure (A) 1986 P.S.I. Final Hydrostatic Pressure (H) 1969 P.S.I.

SURFACE INFORMATION	Size Choke	Max. Press. P.S.I.	Time	Description of Flow
	3/8 In.		M.	
			M.	
			M.	

BLOW Weak blow for 7 minutes - Flushed tool. Bottom Choke Size 3/4 in.

Did Well Flow ____ Yes x No Recovery Total Ft. 10' mud with oil spots

Mud

Reversed Out ____ Yes x No Mud Type Starch Viscosity 41 Weight 9.9 Maximum Temp. 113 °F

EXTRA EQUIPMENT: Dual Packers yes Safety Joint ____ Jars: Size ____ Make ____ Ser. No. ____

Type Circ. Sub. plug Did Tool Plug? no Where? ____ Did Packer Hold? yes

Length Drill Pipe 2828 ft. I.D. Drill Pipe 2,7 in. Length Weight Pipe 780 ft. I.D. Weight Pipe 2.4 in. Length Drill Collars 60 ft.

I. D. Drill Collars 2 in. Length D. S. T. Tool 62 ft.

Remarks

WHELAN PRINTERS

WESTERN TESTING CO., INC.
Pressure Data

Date November 29, 1964 — Test Ticket No. 8212

Recorder No. 1566 — Capacity 4300 — Location 3717 Ft.

Clock No. 6893 — Elevation 2261 Kelly Bushings — Well Temperature 113 °F

Point		Pressure	
A	Initial Hydrostatic Mud	1986	P.S.I.
B	First Initial Flow Pressure	41	P.S.I.
C	First Final Flow Pressure	41	P.S.I.
D	Initial Closed-in Pressure	1228	P.S.I.
E	Second Initial Flow Pressure	34	P.S.I.
F	Second Final Flow Pressure	41	P.S.I.
G	Final Closed-in Pressure	73	P.S.I.
H	Final Hydrostatic Mud	1969	P.S.I.

	Time Given	Time Computed
Opened Tool	7:17PM	
First Flow Pressure	5 Mins.	2 Mins.
Initial Closed-in Pressure	30 Mins.	27 Mins.
Second Flow Pressure	60 Mins.	60 Mins.
Final Closed-in Pressure	30 Mins.	27 Mins.

PRESSURE BREAKDOWN

First Flow Press.
Breakdown: 1 Inc. of 2 mins. and a final inc. of 0 Min.

Point Mins.	Press.
P 1 0	41
P 2 2	41
P 3	
P 4	
P 5	
P 6	
P 7	
P 8	
P 9	
P10	
P11	
P12	
P13	
P14	
P15	
P16	
P17	
P18	
P19	
P20	

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

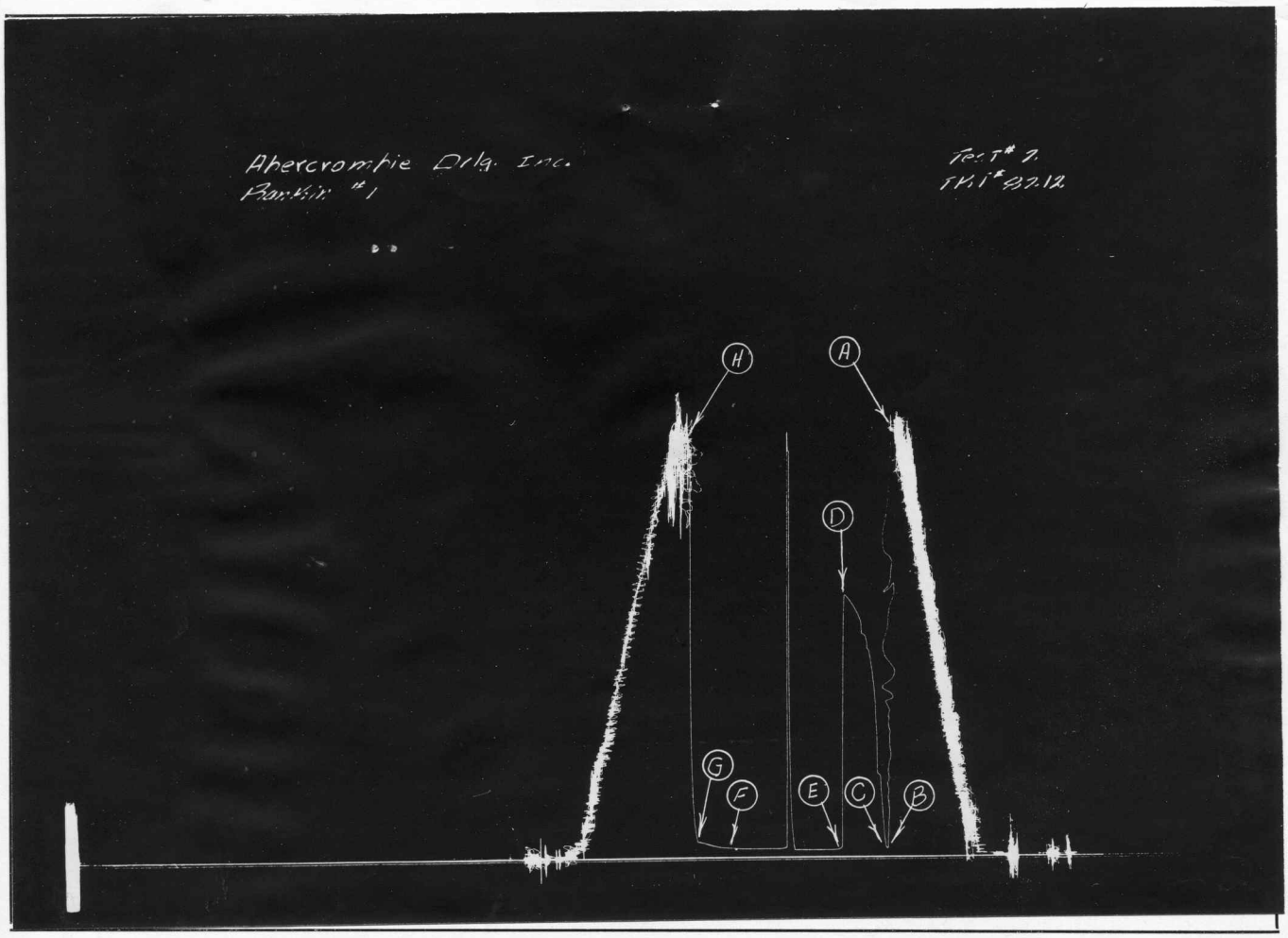
Point Minutes	Press.
0	41
3	389
6	675
9	905
12	1027
15	1098
18	1160
21	1186
24	1205
27	1228

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

Point Minutes	Press.
0	34
5	34
10	34
15	34
20	34
25	34
30	34
35	41
40	41
45	41
50	41
55	41
60	41

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

Point Minutes	Press.
0	41
3	41
6	42
9	43
12	45
15	48
18	56
21	60
24	69
27	73



This is an actual photograph of recorder chart.

POINT		PRESSURE	
(A)	Initial Hydrostatic Mud	1986	PSI
(B)	First Initial Flow Pressure	41	PSI
(C)	First Final Flow Pressure	41	PSI
(D)	Initial Closed-in Pressure	1228	PSI
(E)	Second Initial Flow Pressure	34	PSI
(F)	Second Final Flow Pressure	41	PSI
(G)	Final Closed-in Pressure	73	PSI
(H)	Final Hydrostatic Mud	1969	PSI

COMPANY Abercrombie Drilling Inc. LEASE AND WELL NO. Rankin #1 SEC. 33 TWP. 13 RGE. 20 TEST NO. 2 DATE 11-29-64

Home Office: Great Bend, Kansas

P. O. Box 793 GLadstone 3-7903

Company Abercrombie Drilling Co.,Inc. Lease & Well No. Rankin #1

Elevation 2261 Kelly Bushings;Formation=Arb. Ticket Number 8213

Date Dec. 1,1964 Sec. 33 Twp. 13s Range 20w County Ellis State Kansas

Test Approved by Jack K. Wharton Western Representative Bill Hager

Formation Test No. 3 O.K. x Misrun ____ Interval Tested From 3897' to 3903' Total Depth 3903'

Size Main Hole 6 3/4 Rat Hole None Conv. x B.T. ____ Damaged ____ Yes x No Conv. x B.T. ____ Damaged x Yes ____ No

Packer Depth 3892 Ft. Size 5½ Packer Depth 3897 Ft. Size 5½

Straddle ____ Yes x No ____ Conv. ____ B.T. ____ Damaged ____ Yes ____ No

Packer Depth ____ Ft Size ____

Tool Size 4½ OD Tool Jt. Size 3½ IF Anchor Length 6 Ft. Size 4½ OD

RECORDERS Depth 3889 Ft Clock No. 6893 Depth 3899 Ft. Clock No. 156

Top Make Kuster Cap. 4300 No. 1566 Inside ~~Outside~~ Bottom Make Western Cap. 4000 No. 21 ~~Inside~~ Outside

Below Straddle: Depth ____ Clock No. ____ Inside Outside Depth ____ Ft. Clock No. ____ Inside Outside

Top Make ____ Cap. ____ No. ____ Inside Outside Bottom Make ____ Cap. ____ No. ____ Inside Outside

Time Set Packer 8:13 A M

Tool Open I.F.P. From 8:14 M to 8:19 M Hr. 5 Min. From (B) 28 P.S.I. To (C) 28 P.S.I.

Tool Closed I.C.I.P. From 8:20 M. to 8:50 M. Hr. 30 Min. (D) 1029 P.S.I.

Tool Open F.F.P. From 8:51 M. to 9:51 M. 1 Hr. ____ Min. From (E) 56 P.S.I. To (F) 114 P.S.I.

Tool Closed F.C.I.P. From 9:52 M. to 10:22 M. Hr. 30 Min. (G) 639 P.S.I.

Inital Hydrostatic Pressure (A) 2054 P.S.I. Final Hydrostatic Pressure (H) 2046 P.S.I.

SURFACE INFORMATION	Size Choke 3/8 In.	Max. Press. P.S.I.	Time	Description of Flow
			M.	
			M.	
			M.	

BLOW Good blow throughout test. Bottom Choke Size 3/4 in.

Did Well Flow ____ Yes x No Recovery Total Ft. 250' fluid = 60' gas in pipe = 130' Clean oil=120' water

Reversed Out ____ Yes x No Mud Type starch Viscosity 43 Weight 10.1 Maximum Temp. 120 °F

EXTRA EQUIPMENT: Dual Packers yes Safety Joint ____ Jars: Size ____ Make ____ Ser. No. ____

Type Circ. Sub. plug Did Tool Plug? no Where? ____ Did Packer Hold? yes

Length Drill Pipe 2932 ft. I.D. Drill Pipe 2.7 in. Length Weight Pipe 780 ft. I.D. Weight Pipe 2.7 in. Length Drill Collars 60 ft.

I. D. Drill Collars 2 in. Length D. S. T. Tool 31 ft.

Remarks

WHELAN PRINTERS

WESTERN TESTING CO., INC.
Pressure Data

Date December 1, 1964 — Test Ticket No. 8213

Recorder No. 1566 — Capacity 4300 — Location 3889 Ft.

Clock No. 6893 — Elevation 2261 Kelly Bushings — Well Temperature 120 °F

Point		Pressure		Time Given	Time Computed
A	Initial Hydrostatic Mud	2054 P.S.I.	Opened Tool	8:13 A M	
B	First Initial Flow Pressure	28 P.S.I.	First Flow Pressure	5 Mins.	5 Mins.
C	First Final Flow Pressure	28 P.S.I.	Initial Closed-in Pressure	30 Mins.	30 Mins.
D	Initial Closed-in Pressure	1029 P.S.I.	Second Flow Pressure	60 Mins.	55 Mins.
E	Second Initial Flow Pressure	56 P.S.I.	Final Closed-in Pressure	30 Mins.	27 Mins.
F	Second Final Flow Pressure	114 P.S.I.			
G	Final Closed-in Pressure	639 P.S.I.			
H	Final Hydrostatic Mud	2046 P.S.I.			

PRESSURE BREAKDOWN

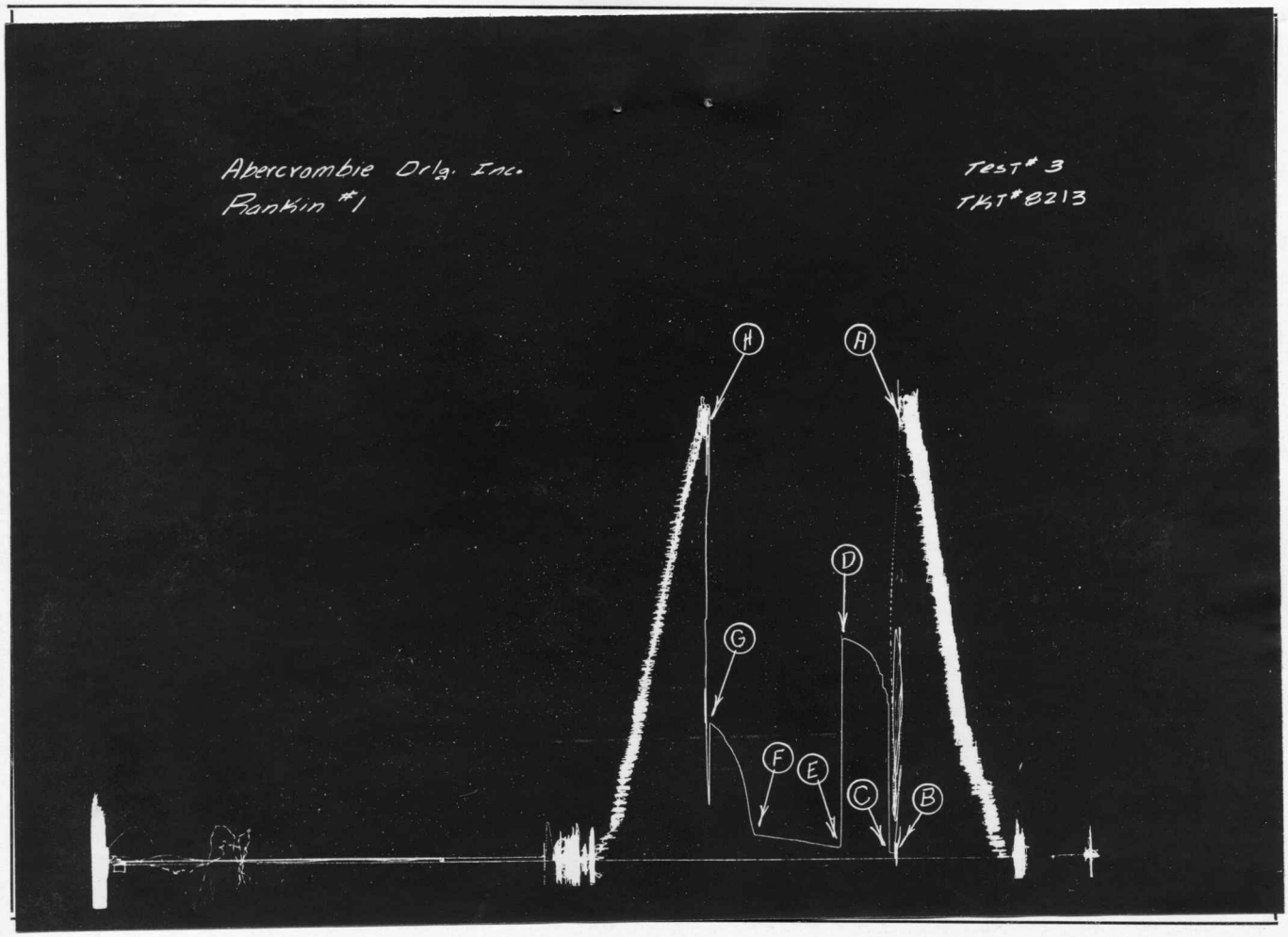
First Flow Press.
Breakdown: 1 Inc.
of 5 mins. and a
final inc. of 0 Min.

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

Second Flow Pressure
Breakdown: 11 Inc.
of 5 mins. and a
final inc. of 0 Min.

Final Shut-In
Breakdown: 9 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	23		0	28		0	56		0	114
P 2	5	28		3	750		5	58		3	220
P 3				6	851		10	64		6	341
P 4				9	886		15	69		9	430
P 5				12	937		20	77		12	484
P 6				15	972		25	84		15	523
P 7				18	989		30	90		18	559
P 8				21	1006		35	97		21	598
P 9				24	1017		40	101		24	619
P10				27	1023		45	105		27	639
P11				30	1029		50	110			
P12							55	114			
P13											
P14											
P15											
P16											
P17											
P18											
P19											
P20											



This is an actual photograph of recorder chart.

POINT		PRESSURE	
(A)	Initial Hydrostatic Mud	2054	PSI
(B)	First Initial Flow Pressure	28	PSI
(C)	First Final Flow Pressure	28	PSI
(D)	Initial Closed-in Pressure	1029	PSI
(E)	Second Initial Flow Pressure	56	PSI
(F)	Second Final Flow Pressure	114	PSI
(G)	Final Closed-in Pressure	639	PSI
(H)	Final Hydrostatic Mud	2046	PSI

COMPANY Abercrombie Drilling Co. LEASE AND WELL NO. Rankin #1 SEC. 33 TWP. 13s RGE. 20w TEST NO. 3 DATE 12-1-64