WESTERN TESTERS

Home Office: Great Bend, Kansas

P. O. Box 793 SWift 3-7903

Company Bowers Drilling Company Lease & Well No. Ayres #1

Elevation === Formation Arbuckle Ticket Number 6787

Date Feb.16,1967 Sec. 2 Twp. 30s Range 14w County Barber State Kansas

Test Approved by Robert E. McCann Western Representative George Tew

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Formation Test No. 2 O.K. X Misrun Interval Tested From 4450' to 4500' Total Depth 4567'

Size Main Hole 7 7/8 Rat Hole none Conv. B.T. XX Damaged Yes X No Conv. X B.T. Damaged Yes No

Packer Depth 4450 Ft. Size 6 3/4 Packer Depth Ft. Size 6 3/4

Straddle X Yes No Conv. B.T. X Damaged Yes X No

Packer Depth 4500 Ft. Size 6 3/4 20' 5½ anchor

Tool Size 5½ OD Tool Jt. Size 4½ FH Anchor Length 50 Ft. Size 30' 4½ D.P.

RECORDERS Depth 4460 Ft. Clock No. 6866 Depth 4463 Ft. Clock No. 6896

Top Make Kuster Cap. 4150 No. 2605 Inside ~~Outside~~ Bottom Make Kuster Cap. 4200 No. 1559 ~~Inside~~ Outside

Below Straddle: Depth 4562 Clock No. 155 Inside Outside Depth 4564 Ft. Clock No. 112 Inside Outside

Top Make Western Cap. 4000 No. 4 Inside ~~Outside~~ Bottom Make Western Cap. 4000 No. 44 Inside ~~Outside~~

Time Set Packer 10:43 P M

Tool Open I.F.P. From 10:45PM to 10:55M Hr. 10 Min. From (B) 80 P.S.I. To (C) 95 P.S.I.

Tool Closed I.C.I.P. From 10:55PM. to 11:25 M. Hr. 30 Min. (D) 1231 P.S.I.

Tool Open F.F.P. From 11:25PM. to 12:25PM. 1 Hr. Min. From (E) 117 P.S.I. To (F) 167 P.S.I.

Tool Closed F.C.I.P. From 12:25AM to 12:55AM. Hr. 30 Min. (G) 904 P.S.I.

Initial Hydrostatic Pressure (A) 2328 P.S.I. Final Hydrostatic Pressure (H) 2314 P.S.I.

SURFACE INFORMATION	Size Choke	Max. Press. P.S.I.	Time	Description of Flow
	1/2 In.		M.	
			M.	
			M.	

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

Did Well Flow Yes X No Recovery Total Ft. 270' total: 150' drilling mud;60' thin mud;

60' muddy water. Mud

Reversed Out Yes X No Mud Type starch Viscosity 49 Weight 9.7 Maximum Temp. 115 °F

EXTRA EQUIPMENT: Dual Packers yes Safety Joint yes Jars: Size 4½ Make Bowen Ser. No. 591

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

Length Drill Pipe 3981 ft. I.D. Drill Pipe 3.8 in Length Weight Pipe 360 ft. I.D. Weight Pipe 2.7 in. Length Drill Collars 120 ft.

I. D. Drill Collars 2.25 in. Length D.S.T. Tool 139 ft.

Remarks DST#1 - 4480' - 4500' Top packer failure.

WESTERN TESTING CO., INC.

Pressure Data

Date February 16,1967 Test Ticket No. 6787

Recorder No. 2605 Capacity 4150 Location 4460 Ft.

Clock No. 6866 Elevation None Well Temperature 115 °F

Point		Pressure	
A	Initial Hydrostatic Mud	2328	P.S.I.
B	First Initial Flow Pressure	80	P.S.I.
C	First Final Flow Pressure	95	P.S.I.
D	Initial Closed-in Pressure	1231	P.S.I.
E	Second Initial Flow Pressure	117	P.S.I.
F	Second Final Flow Pressure	167	P.S.I.
G	Final Closed-in Pressure	904	P.S.I.
H	Final Hydrostatic Mud	2314	P.S.I.

	Time Given	Time Computed
Opened Tool	10:43P M	
First Flow Pressure	10 Mins.	10 Mins.
Initial Closed-in Pressure	30 Mins.	31 Mins.
Second Flow Pressure	60 Mins.	59 Mins.
Final Closed-in Pressure	30 Mins.	30 Mins.

PRESSURE BREAKDOWN

First Flow Press.
Breakdown: 2 Inc. of 5 mins. and a final inc. of = Min.

Point	Mins.	Press.
P 1	0	80
P 2	5	67
P 3	10	95
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: 10 Inc. of 3 mins. and a final inc. of 1 Min.

Point	Minutes	Press.
	0	95
	3	345
	6	636
	9	858
	12	1028
	15	1103
	18	1149
	21	1178
	24	1198
	27	1215
	30	1229
	31	1231

Second Flow Pressure
Breakdown: 11 Inc. of 5 mins. and a final inc. of 4 Min.

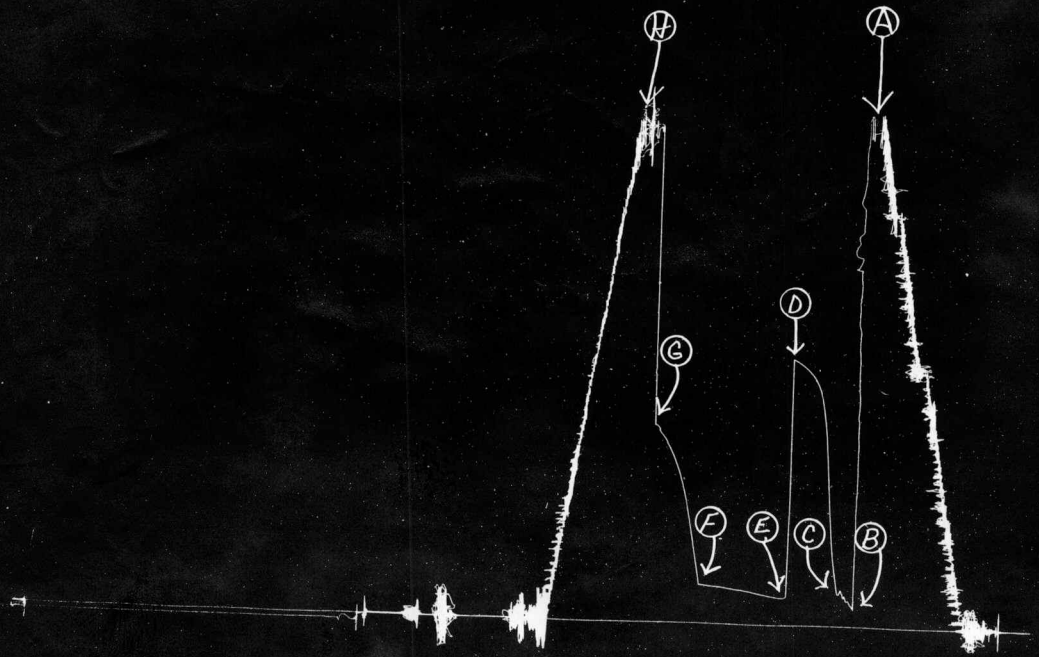
Point	Minutes	Press.
	0	117
	5	120
	10	122
	15	123
	20	131
	25	137
	30	143
	35	149
	40	154
	45	157
	50	161
	55	164
	59	167

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

Point	Minutes	Press.
	0	167
	3	279
	6	400
	9	501
	12	594
	15	667
	18	729
	21	777
	24	823
	27	860
	30	904

Bowers Drlg Co.
Ayers #1

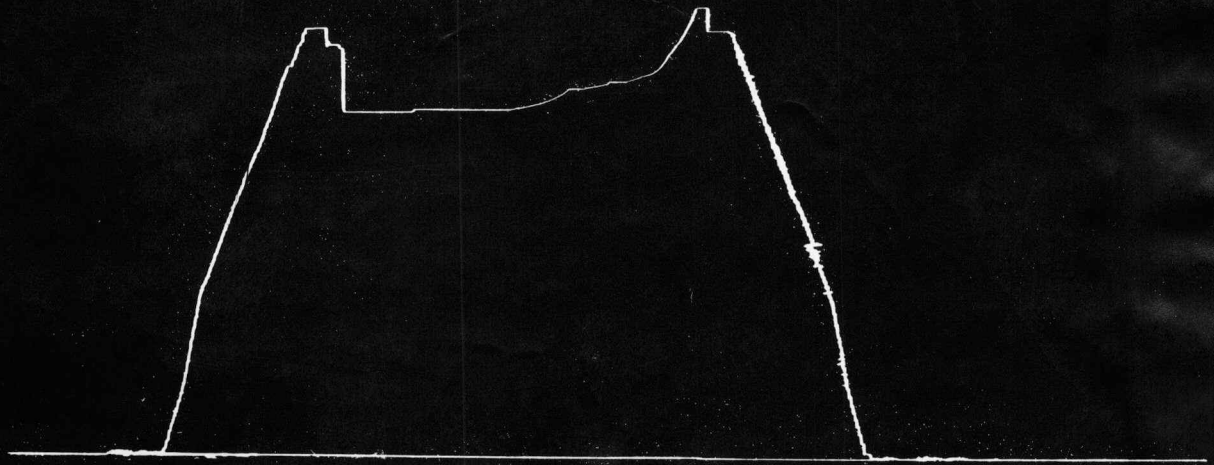
TKT-6787
Test #2



Bowers Drlg Co.
Ayers #1

TKT-C787
Test #2

Blank O.F.F.



Home Office: Great Bend, Kansas

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Company Bowers Drilling Company Lease & Well No. Ayres #1

Elevation == Formation Marmaton Ticket Number 6788

Date Feb.16,1967 Sec. 2 Twp. 30s Range 14w County Barber State Kansas

Test Approved by Robert E. McCann Western Representative George Tew

Formation Test No. 3 O.K. x Misrun Interval Tested From 4378' to 4400' Total Depth 4567'

Size Main Hole 7 7/8 Rat Hole none Conv. B.T. x Damaged Yes x No Conv. B.T. Damaged Yes No

Packer Depth 4378 Ft. Size 6 3/4 Packer Depth Ft. Size

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

Packer Depth 4400 Ft. Size 6 3/4

Tool Size 5½ OD Tool Jt. Size 4½ FH Anchor Length 22 Ft. Size 5½ OD

RECORDERS Depth 4385 Ft. Clock No. 6866 Depth 4388 Ft. Clock No. 6896

Top Make Kuster Cap. 4150 No. 2105 Inside ~~Outside~~ Bottom Make Kuster Cap. 4200 No. 1559 ~~Inside~~ Outside

Below Straddle: Depth 4562 Clock No. 155 Inside Outside Depth 4564 Ft. Clock No. 112 Inside Outside

Top Make Western Cap. 4000 No. 4 Inside Outside Bottom Make Western Cap. 4000 No. 44 Inside Outside

Time Set Packer 6:02A M

Tool Open I.F.P. From 6:05 M to 6:15 M Hr. 10 Min. From (B) 42 P.S.I. To (C) 42 P.S.I.

Tool Closed I.C.I.P. From 6:15 M. to 6:45 M. Hr. 30 Min. (D) 1000 P.S.I.

Tool Open F.F.P. From 6:45 M. to 8:15A M. 1 Hr. 30 Min. From (E) 73 P.S.I. To (F) 169 P.S.I.

Tool Closed F.C.I.P. From 8:15 M. to 8:45 M. Hr. 30 Min. (G) 983 P.S.I.

Initial Hydrostatic Pressure (A) 2298 P.S.I. Final Hydrostatic Pressure (H) 2298 P.S.I.

SURFACE INFORMATION	Size Choke 1/2 In.	Max. Press. P.S.I.	Time	Description of Flow
			M.	
			M.	
			M.	

BLOW Good throughout. Bottom Choke Size 3/4 In.

Did Well Flow Yes x No Recovery Total Ft. 390': 30' mud;60' watery mud;300' water;

2893' Gas in pipe. Mud

Reversed Out Yes x No Mud Type starch Viscosity 49 Weight 9.7 Maximum Temp. 119 °F

EXTRA EQUIPMENT: Dual Packers yes Safety Joint yes Jars: Size 4½OD Make Bowen Ser. No. 591

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

Length Drill Pipe 3819 ft. I.D. Drill Pipe 3.8 in Length Weight Pipe 360 ft. I.D. Weight Pipe 2.7 in. Length Drill Collars 180 ft.

I. D. Drill Collars 2.25 in. Length D.S.T. Tool 208 ft.

Remarks

WESTERN TESTING CO., INC.
Pressure Data

Date February 16,1967 Test Ticket No. 6788

Recorder No. 2605 Capacity 4150 Location 4385 Ft.

Clock No. 6866 Elevation None Well Temperature 119 °F

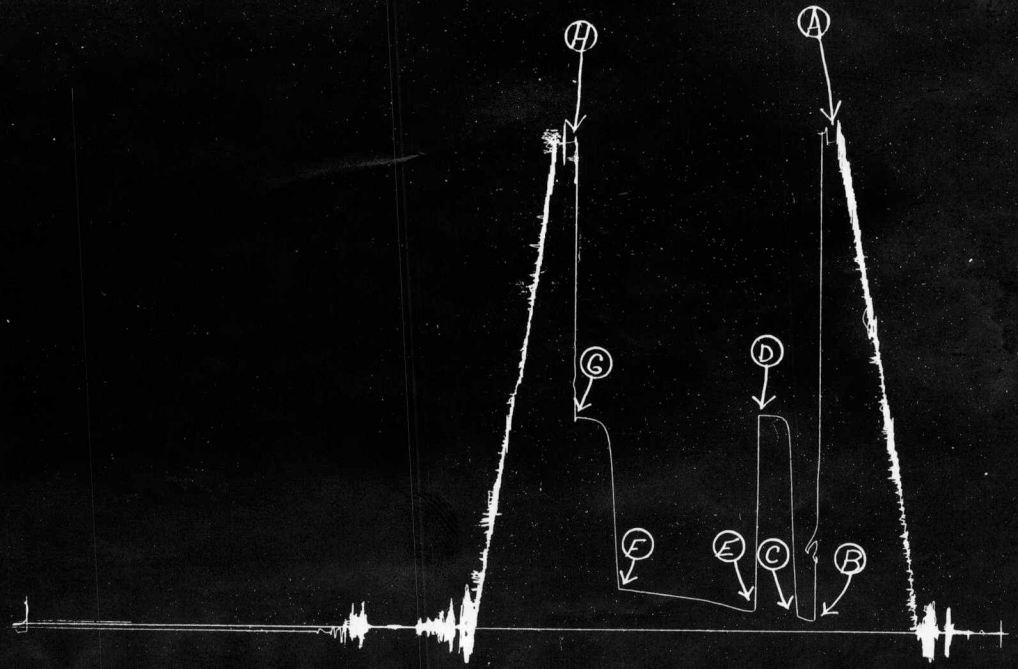
Point		Pressure			Time Given	Time Computed
A	Initial Hydrostatic Mud	2298	P.S.I.	Opened Tool	6:02 A M	
B	First Initial Flow Pressure	42	P.S.I.	First Flow Pressure	10 Mins.	11 Mins.
C	First Final Flow Pressure	42	P.S.I.	Initial Closed-in Pressure	30 Mins.	29 Mins.
D	Initial Closed-in Pressure	1000	P.S.I.	Second Flow Pressure	90 Mins.	90 Mins.
E	Second Initial Flow Pressure	73	P.S.I.	Final Closed-in Pressure	30 Mins.	29 Mins.
F	Second Final Flow Pressure	169	P.S.I.			
G	Final Closed-in Pressure	983	P.S.I.			
H	Final Hydrostatic Mud	2298	P.S.I.			

PRESSURE BREAKDOWN

First Flow Press.		Initial Shut-In		Second Flow Pressure		Final Shut-In	
Breakdown: 2 Inc.		Breakdown: 9 Inc.		Breakdown: 18 Inc.		Breakdown: 9 Inc.	
of 5 mins. and a		of 3 mins. and a		of 5 mins. and a		of 3 mins. and a	
final inc. of 1 Min.		final inc. of 2 Min.		final inc. of = Min.		final inc. of 2 Min.	
Point Mins.	**Press.**	**Point Minutes**	**Press.**	**Point Minutes**	**Press.**	**Point Minutes**	**Press.**
P 1 0	42	0	42	0	73	0	169
P 2 5	35	3	226	5	74	3	474
P 3 10	37	6	634	10	76	6	767
P 4 11	42	9	920	15	84	9	896
P 5		12	979	20	95	12	943
P 6		15	991	25	105	15	960
P 7.		18	997	30	114	18	970
P 8		21	1000	35	120	21	977
P 9		24	1000	40	124	24	980
P10		27	1000	45	129	27	982
P11		29	1000	50	133	29	983
P12				55	138		
P13				60	143		
P14				65	148		
P15				70	154		
P16				75	158		
P17				80	162		
P18				85	165		
P19				90	169		
P20							

Bowers Drlg Co.
Ayers #1

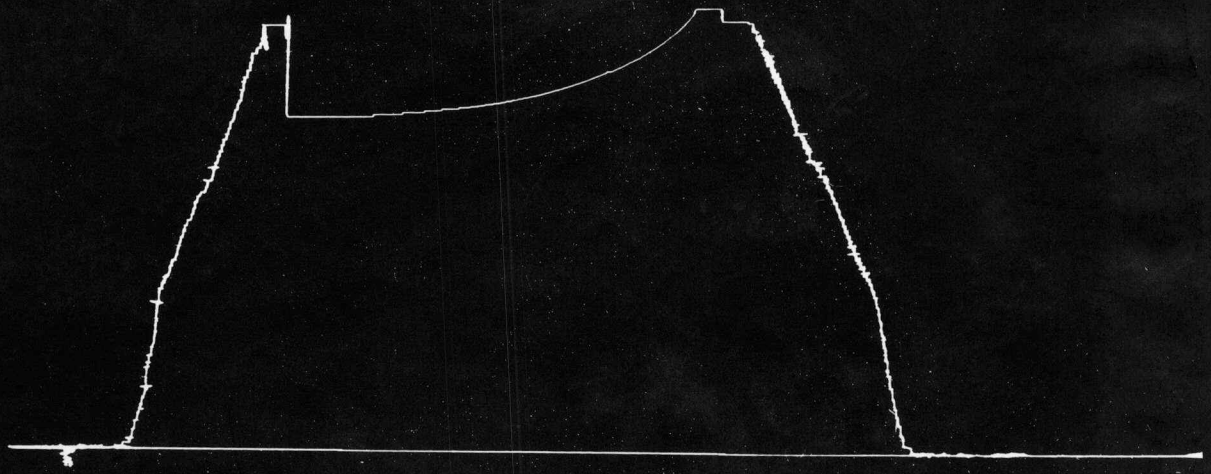
TKT-6788
Test #3



Bowers Drlg Co.
Ayers #1

TKT6788
Test #3

Blank Off



Home Office: Great Bend, Kansas

P. O. Box 793 SWift 3-7903

Company Bowers Drilling Company Lease & Well No. Ayres #1

Elevation === Formation Kansas City Ticket Number 6789

Date Feb.16,1967 Sec. 2 Twp. 30s Range 14w County Barber State Kansas

Test Approved by Robert E. McCann Western Representative George Tew

Formation Test No. 4 & 5 O.K. x Misrun Interval Tested From 4242' to 4272' Total Depth 4567'

Size Main Hole 7 7/8 Rat Hole none Conv. x B.T. Damaged Yes x No Conv. B.T. x Damaged Yes x No

Packer Depth 4244 Ft. Size 6 3/4 Packer Depth 4239 Ft. Size 6 3/4

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

Packer Depth 4272 Ft. Size 6 3/4

Tool Size 5½ OD Tool Jt. Size 4½ FH Anchor Length 28 Ft. Size 5½ OD

RECORDERS Depth 4256 Ft. Clock No. 6866 Depth 4259 Ft. Clock No. 6896

Top Make Kuster Cap. 4150 No. 2605 Inside ~~Outside~~ Bottom Make Kuster Cap. 4200 No. 1559 ~~Inside~~ Outside

Below Straddle: Depth 4562 Clock No. 155 Inside Outside Depth 4564 Ft. Clock No. 112 Inside Outside

Top Make Western Cap. 4000 No. 4 Inside Outside Bottom Make Western Cap. 4000 No. 44 Inside Outside

Time Set Packer 6:24 P M

Tool Open I.F.P. From 6:25P M to 6:40 M Hr. 15 Min. From (B) 59 P.S.I. To (C) 63 P.S.I.

Tool Closed I.C.I.P. From 6:40P M. to 7:10 M. Hr. 30 Min. (D) 1178 P.S.I.

Tool Open F.F.P. From 7:10P M. to 9:10 M. 2 Hr. Min. From (E) 105 P.S.I. To (F) 151 P.S.I.

Tool Closed F.C.I.P. From 9:10P M. to 9:55 M. Hr. 45 Min. (G) 929 P.S.I.

Initial Hydrostatic Pressure (A) 2227 P.S.I. Final Hydrostatic Pressure (H) 2227 P.S.I.

SURFACE INFORMATION	Size Choke	Max. Press. P.S.I.	Time	Description of Flow
	1/2 In.		M.	
			M.	
			M.	

BLOW Weak steady blow. Bottom Choke Size In.

Did Well Flow Yes x No Recovery Total Ft. 310' total: 70' slightly oil cut mud;60' very slightly oil cut mud;120' watery mud;60' muddy water. Mud

Reversed Out Yes x No Mud Type starch Viscosity 49 Weight 9.7 Maximum Temp. 116 °F

EXTRA EQUIPMENT: Dual Packers yes Safety Joint yes Jars: Size 4½OD Make Bowen Ser. No. 591

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

Length Drill Pipe 3918 ft. I.D. Drill Pipe 3.8 in Length Weight Pipe 120 ft. I.D. Weight Pipe 2.7 in. Length Drill Collars 180 ft.

I. D. Drill Collars 2.25 in. Length D.S.T. Tool 349 ft.

Remarks DST#4 was 4244' to4272'. Packer failed.

WESTERN TESTING CO., INC.

Pressure Data

Date February 16, 1967 — Test Ticket No. 6789

Recorder No. 1565 — Capacity 4150 — Location 4256 Ft.

Clock No. 6866 — Elevation None — Well Temperature 116 °F

Point		Pressure		Time Given	Time Computed
A	Initial Hydrostatic Mud	2227 P.S.I.	Opened Tool	6:24 PM	
B	First Initial Flow Pressure	59 P.S.I.	First Flow Pressure	15 Mins.	15 Mins.
C	First Final Flow Pressure	63 P.S.I.	Initial Closed-in Pressure	30 Mins.	30 Mins.
D	Initial Closed-in Pressure	1178 P.S.I.	Second Flow Pressure	120 Mins.	118 Mins.
E	Second Initial Flow Pressure	105 P.S.I.	Final Closed-in Pressure	45 Mins.	45 Mins.
F	Second Final Flow Pressure	151 P.S.I.			
G	Final Closed-in Pressure	929 P.S.I.			
H	Final Hydrostatic Mud	2227 P.S.I.			

PRESSURE BREAKDOWN

First Flow Press. Breakdown: 3 Inc. of 5 mins. and a final inc. of = Min.

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

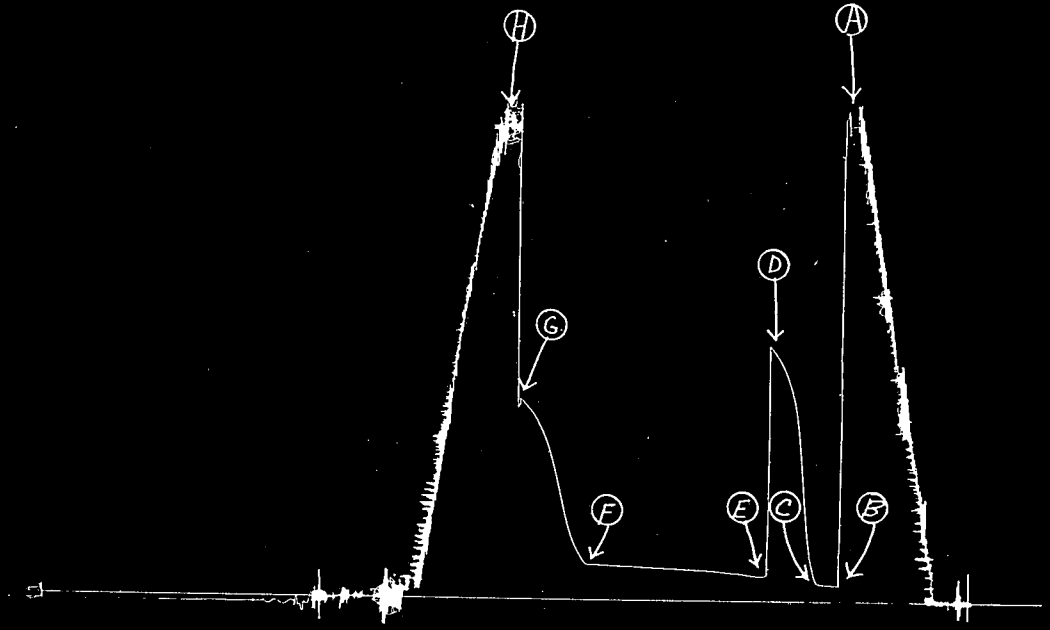
Second Flow Pressure Breakdown: 2 3 Inc. of 5 mins. and a final inc. of 3 Min.

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

Point Mins.	Press.	Point Minutes	Press.	Point Minutes	Press.	Point Minutes	Press.
P 1 0	59	0	63	0	105	0	151
P 2 5	60	3	190	5	105	3	179
P 3 10	61	6	360	10	105	6	211
P 4 15	63	9	640	15	107	9	256
P 5		12	835	20	112	12	315
P 6		15	950	25	118	15	392
P 7		~~18~~	~~1018~~	~~30~~	~~120~~	~~18~~	~~480~~
P 8		21	1071	35	123	21	576
P 9		24	1111	40	126	24	657
P10		~~27~~	~~1144~~	~~45~~	~~129~~	~~27~~	~~723~~
P11		30	1178	50	131	30	771
P12				55	133	33	816
P13				~~60~~	~~135~~	~~36~~	~~854~~
P14				65	137	39	885
P15				70	139	42	911
P16				~~75~~	~~141~~	~~45~~	~~929~~
P17				80	141		
P18				85	141		
P19				~~90~~	~~143~~		
P20				95	144		
				100	146		
				~~105~~	~~148~~		
				110	149		
				115	150		
				~~118~~	~~151~~		

Bowers Drlg Co.
Ayers #1

TKT-6789
Test #5



Bowers Drlg Co
Ayres #1

TKT-6789
Test #4+5

Blank Off