Home Office: Great Bend, Kansas

P. O. Box 793 SWift 3-7903

Company Bowers Drilling Company Lease & Well No. Elsea #A-1

Elevation 1735 Kelly Bushings Formation Mississippi Ticket Number 6606

Date April 29, 1966 Sec. 15 Twp. 32 Range 14 County Barber State Kansas

Test Approved by Robert E. McCann Western Representative Leon Elmore

Formation Test No. 1 O.K. X Misrun Interval Tested From 4413' to 4420' Total Depth 4420'

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

Packer Depth 4408 Ft. Size 6 3/4 Packer Depth 4413 Ft. Size 6 3/4

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

Packer Depth Ft. Size

Tool Size 5½ OD Tool Jt. Size 4½ FH Anchor Length 7 Ft. Size 5½ OD

RECORDERS Depth 4398 Ft. Clock No. 5665 Depth 4415 Ft. Clock No. 8378

Top Make Kuster Cap. 4400 No. 2603 Inside Outside Bottom Make Kuster Cap. 4300 No. 1566 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 2:15 P M

Tool Open I.F.P. From 2:18 M to 2:28 M Hr. 10 Min. From (B) 34 P.S.I. To (C) 29 P.S.I.

Tool Closed I.C.I.P. From 2:28 M. to 2:58 M. Hr. 30 Min. (D) 1705 P.S.I.

Tool Open F.F.P. From 2:58 M. to 3:33 M. Hr. 35 Min. From (E) 19 P.S.I. To (F) 9 P.S.I.

Tool Closed F.C.I.P. From 3:33 M. to 4:03 M. Hr. 30 Min. (G) 1701 P.S.I.

Initial Hydrostatic Pressure (A) 2436 P.S.I. Final Hydrostatic Pressure (H) 2362 P.S.I.

SURFACE INFORMATION	Size Choke 3/4 In.	Max. Press. P.S.I.	Time	Description of Flow
			M.	
	SEE ATTACHED SHEET		M.	
			M.	

BLOW STRONG Bottom Choke Size 3/4 In.

Did Well Flow Yes X No Recovery Total Ft. 10' mud

Mud

Reversed Out Yes X No Mud Type starch Viscosity 53 Weight 10 Maximum Temp. 113 °F

EXTRA EQUIPMENT: Dual Packers yes Safety Joint yes Jars: Size 3½ OD Make Bowen Ser. No. 2953

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

Length Drill Pipe 3262 ft. I.D. Drill Pipe 3.8 in Length Weight Pipe 812 ft. I.D. Weight Pipe 2.7 in. Length Drill Collars 228 ft.

I. D. Drill Collars 2¼ in. Length D.S.T. Tool 40 ft.

Remarks Hit bridge going in hole.

WESTERN TESTERS

P. O. Box 793
GREAT BEND, KANSAS

Company Bowers Drilling Co. Lease & Well No. Elsea A-1

Test No. 1 Interval Tested From 4413' To 4420'

Time	Ins. of water ~~Max. Pressure~~	Description of Flow
10 min. F.P.	6	84,910
10 min. F.F.	6.5	85,700
20	6.8	90,480
30	6.8	90,480

Size Choke Surface 3/4 In. Bottom 3/4 In.

Remarks Gas to surface in six minutes.

WHELAN PRINTERS, GREAT BEND, KS.

WESTERN TESTING CO., INC.
Pressure Data

Date April 29, 1966 — Test Ticket No. 6606

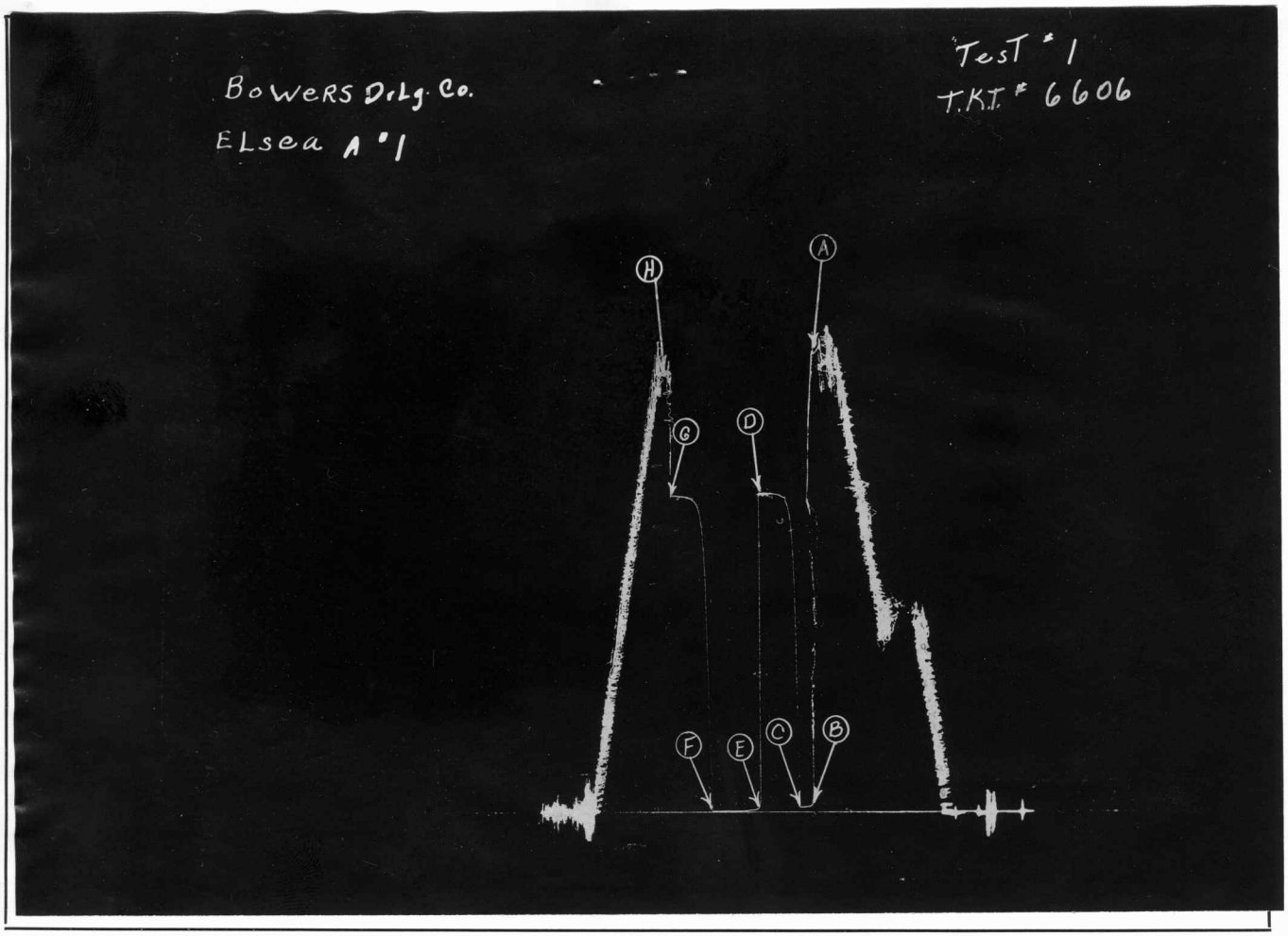
Recorder No. 2603 — Capacity 4400 — Location 4398 Ft.

Clock No. 5665 — Elevation 1735 Kelly Bushings — Well Temperature 113 °F

Point		Pressure			Time Given	Time Computed
A	Initial Hydrostatic Mud	2436	P.S.I.	Opened Tool	2:18 PM M	2:18
B	First Initial Flow Pressure	34	P.S.I.	First Flow Pressure	10 Mins.	10 Mins.
C	First Final Flow Pressure	29	P.S.I.	Initial Closed-in Pressure	30 Mins.	30 Mins.
D	Initial Closed-in Pressure	1705	P.S.I.	Second Flow Pressure	35 Mins.	35 Mins.
E	Second Initial Flow Pressure	19	P.S.I.	Final Closed-in Pressure	30 Mins.	30 Mins.
F	Second Final Flow Pressure	9	P.S.I.			
G	Final Closed-in Pressure	1701	P.S.I.			
H	Final Hydrostatic Mud	2362	P.S.I.			

PRESSURE BREAKDOWN

First Flow Press.		Initial Shut-In		Second Flow Pressure		Final Shut-In	
Breakdown: 2 Inc.		Breakdown: 10 Inc.		Breakdown: 7 Inc.		Breakdown: 10 Inc.	
of 5 mins. and a		of 3 mins. and a		of 5 mins. and a		of 3 mins. and a	
final inc. of 0 Min.		final inc. of 0 Min.		final inc. of 0 Min.		final inc. of 0 Min.	
Point Mins.	**Press.**	**Point Minutes**	**Press.**	**Point Minutes**	**Press.**	**Point Minutes**	**Press.**
P 1 0	34	0	29	0	19	0	9
P 2 5	31	3	744	5	12	3	587
P 3 10	29	6	1495	10	9	6	1431
P 4		9	1640	15	9	9	1614
P 5		12	1677	20	9	12	1664
P 6		15	1687	25	9	15	1683
P 7		18	1694	30	9	18	1692
P 8		21	1698	35	9	21	1698
P 9		24	1703			24	1699
P10		27	1705			27	1700
P11		30	1705			30	1701
P12							
P13							
P14							
P15							
P16							
P17							
P18							
P19							
P20							



This is an actual photograph of recorder chart.

POINT		PRESSURE	
(A)	Initial Hydrostatic Mud	2436	PSI
(B)	First Initial Flow Pressure	34	PSI
(C)	First Final Flow Pressure	29	PSI
(D)	Initial Closed-in Pressure	1705	PSI
(E)	Second Initial Flow Pressure	19	PSI
(F)	Second Final Flow Pressure	9	PSI
(G)	Final Closed-in Pressure	1701	PSI
(H)	Final Hydrostatic Mud	2362	PSI

COMPANY BOWERS DRILLING COMPANY LEASE AND WELL NO. ELSEA #A-1 SEC. 15 TWP. 32 RGE. 14 TEST NO. 1 DATE 4-29-66

WESTERN TESTERS

Home Office: Great Bend, Kansas

P. O. Box 793 SWift 3-7903

Company Bowers Drilling Company Lease & Well No. Elsea #A-1

Elevation 1735 Kelly Bushings Formation Mississippi Ticket Number 6607

Date April 30,1966 Sec. 15 Twp. 32 Range 14 County Barber State Kansas

Test Approved by Robert McCann Western Representative Leon Elmore

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Formation Test No. 2 O.K. X Misrun Interval Tested From 4417' to 4424' Total Depth 4424'

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

Packer Depth 4412 Ft. Size 6 3/4 Packer Depth 4417 Ft. Size 6 3/4

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

Packer Depth Ft. Size

Tool Size 5½ OD Tool Jt. Size 4½ FH Anchor Length 7 Ft. Size 5½ OD

RECORDERS Depth 4402 Ft. Clock No. 5665 Depth 4420 Ft. Clock No. 8378

Top Make Kuster Cap. 4400 No. 2603 Inside Outside Bottom Make Kuster Cap. 4300 No. 1566 ~~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

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Time Set Packer 1:26 A M

Tool Open I.F.P. From 1:29 M to 1:39 M Hr. 10 Min. From (B) 42 P.S.I. To (C) 46 P.S.I.

Tool Closed I.C.I.P. From 1:39 M. to 2:09 M. Hr. 30 Min. (D) 1706 P.S.I.

Tool Open F.F.P. From 2:09 M. to 3:09 M. 1 Hr. Min. From (E) 36 P.S.I. To (F) 36 P.S.I.

Tool Closed F.C.I.P. From 3:09 M. to 3:39 M. Hr. 30 Min. (G) 1691 P.S.I.

Initial Hydrostatic Pressure (A) 2487 P.S.I. Final Hydrostatic Pressure (H) 2479 P.S.I.

SURFACE INFORMATION Size Choke 3/4 In. Max. Press. P.S.I. Time Description of Flow

SEE ATTACHED SHEET

M.

M.

M.

BLOW STRONG Bottom Choke Size 3/4 In.

Did Well Flow Yes X No Recovery Total Ft. 10' mud

Mud

Reversed Out Yes X No Mud Type starch Viscosity 53 Weight 10 Maximum Temp. 116 °F

EXTRA EQUIPMENT: Dual Packers yes Safety Joint yes Jars: Size 3½OD Make Bowen Ser. No. 2953

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

Length Drill Pipe 3269 ft. I.D. Drill Pipe 3.8 in Length Weight Pipe 812 ft. I.D. Weight Pipe 2.7 in. Length Drill Collars 228 ft.

I. D. Drill Collars 2¼ in. Length D.S.T. Tool 40 ft.

Remarks Gas to surface in seven minutes.

WESTERN TESTERS

P. O. Box 793
GREAT BEND, KANSAS

Company Bowers Drilling Co. Lease & Well No. Elsea #A-1

Test No. 2 Interval Tested From 4417' To 4424'

Time	Ins. of water ~~Max Press. P.S.I.~~	Description of Flow
10 min. P.F.	5	77,570
10 min. F.F.	5	77,570
20	6	84,910
30	6	84,910
40	6.8	90,480
50	6.8	90,480
60	6.8	90,480

Size Choke Surface 3/4 In. Bottom 3/4 In.

Remarks Gas to surface in seven minutes.

WHELAN PRINTERS, GREAT BEND, KS.

WESTERN TESTING CO., INC.

Pressure Data

Date April 30, 1966 Test Ticket No. 6607

Recorder No. 2603 Capacity 4400 Location 4402 Ft.

Clock No. 5665 Elevation 1735 Kelly Bushings Well Temperature 116 °F

Point		Pressure	
A	Initial Hydrostatic Mud	2487	P.S.I.
B	First Initial Flow Pressure	42	P.S.I.
C	First Final Flow Pressure	46	P.S.I.
D	Initial Closed-in Pressure	1706	P.S.I.
E	Second Initial Flow Pressure	36	P.S.I.
F	Second Final Flow Pressure	36	P.S.I.
G	Final Closed-in Pressure	1691	P.S.I.
H	Final Hydrostatic Mud	2479	P.S.I.

	Time Given	Time Computed
Opened Tool	1:29 A M	1:29
First Flow Pressure	10 Mins.	10 Mins.
Initial Closed-in Pressure	30 Mins.	30 Mins.
Second Flow Pressure	60 Mins.	57 Mins.
Final Closed-in Pressure	30 Mins.	28 Mins.

PRESSURE BREAKDOWN

First Flow Press.
Breakdown: 2 Inc.
of 5 mins. and a
final inc. of 0 Min.

Point Mins.	Press.
P 1 0	42
P 2 5	44
P 3 10	46
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 0 Min.

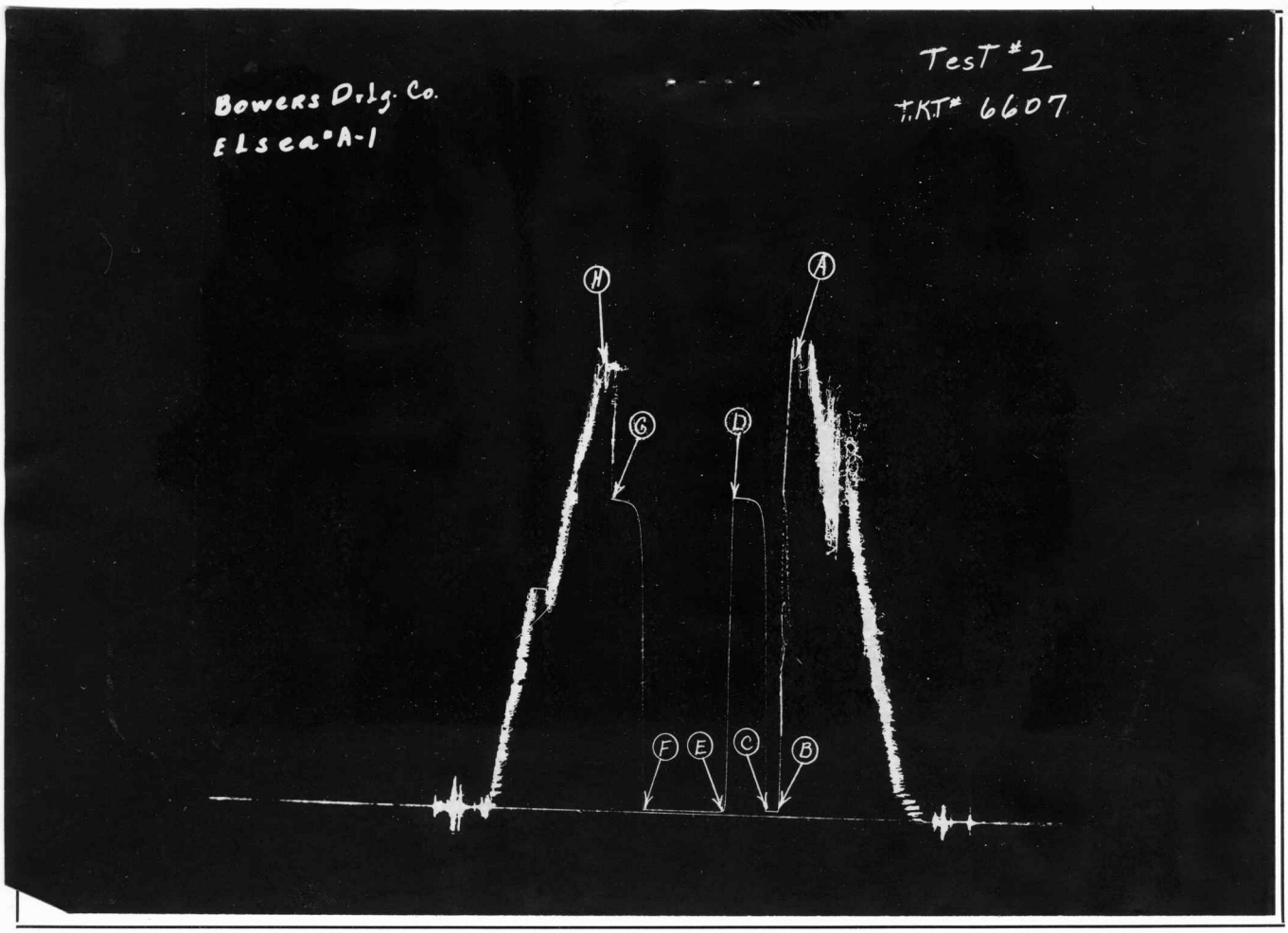
Point Minutes	Press.
0	46
3	590
6	1424
9	1599
12	1666
15	1688
18	1697
21	1702
24	1704
27	1705
30	1706

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

Point Minutes	Press.
0	36
5	36
10	36
15	36
20	36
25	36
30	36
35	36
40	36
45	36
50	36
55	36
57	36

Final Shut-In
Breakdown: 9 Inc.
of 3 mins. and a
final inc. of 1 Min.

Point Minutes	Press.
0	36
3	734
6	1448
9	1487
12	1651
15	1667
18	1677
21	1684
24	1688
27	1690
28	1691



This is an actual photograph of recorder chart.

POINT		PRESSURE
(A)	Initial Hydrostatic Mud	2487 PSI
(B)	First Initial Flow Pressure	42 PSI
(C)	First Final Flow Pressure	46 PSI
(D)	Initial Closed-in Pressure	1706 PSI
(E)	Second Initial Flow Pressure	36 PSI
(F)	Second Final Flow Pressure	36 PSI
(G)	Final Closed-in Pressure	1691 PSI
(H)	Final Hydrostatic Mud	2479 PSI

COMPANY BOWERS DRILLING CO. LEASE AND WELL NO. ELSEA #A-1 SEC. 15 TWP. 32 RGE. 14 TEST NO. 2 DATE 4-30-66

WESTERN TESTERS

Home Office: Great Bend, Kansas

P. O. Box 793 SWift 3-7903

Company Bowers Drilling Company Lease & Well No. Elsea #A-1

Elevation 1735 Kelly Bushings Formation Mississippi Ticket Number 6608

Date April 30, 1966 Sec. 15 Twp. 32 Range 14 County Barber State Kansas

Test Approved by E. P Chance Western Representative Leon Elmore

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Formation Test No. 3 O.K. X Misrun ____ Interval Tested From 4425' to 4439' Total Depth 4474'

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

Packer Depth 4425 Ft. Size 6 3/4 Packer Depth 4439 Ft. Size 6 3/4

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

Packer Depth ____ Ft. Size ____

Tool Size 5½ OD Tool Jt. Size 4½ FH Anchor Length 14 Ft. Size 5½ OD

RECORDERS Depth 4432 Ft. Clock No. 5665 Depth 4435 Ft. Clock No. 8378

Top Make Kuster Cap. 4400 No. 2603 Inside ~~Outside~~ Bottom Make Kuster Cap. 4300 No. 1566 ~~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

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Time Set Packer 9:45 P M

Tool Open I.F.P. From 9:48 M to 9:58 M Hr. 10 Min. From (B) 49 P.S.I. To (C) 57 P.S.I.

Tool Closed I.C.I.P. From 9:58 M. to 10:28 M. Hr. 30 Min. (D) 1682 P.S.I.

Tool Open F.F.P. From 10:28 M. to 11:58 M. 1 Hr. 30 Min. From (E) 69 P.S.I. To (F) 201 P.S.I.

Tool Closed F.C.I.P. From 11:58 M. to 12:28 M. Hr. 30 Min. (G) 1682 P.S.I.

Initial Hydrostatic Pressure (A) 2467 P.S.I. Final Hydrostatic Pressure (H) 2449 P.S.I.

SURFACE INFORMATION	Size Choke	Max. Press. P.S.I.	Time	Description of Flow
	3/4 In.		M.	
			M.	
			M.	

BLOW STRONG Bottom Choke Size 3/4 In.

Did Well Flow ____ Yes X No Recovery Total Ft. 10' heavy oil cut mud;120' slightly oil cut mud; 120' slightly oil and water cut mud;120' slightly muddy water;180' water. Mud

Reversed Out ____ Yes X No Mud Type starch Viscosity 53 Weight 10 Maximum Temp. 130 °F

EXTRA EQUIPMENT: Dual Packers yes Safety Joint yes Jars: Size 3½OD Make Bowen Ser. No. 2953

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

Length Drill Pipe 3310 ft. I.D. Drill Pipe 3.8 in Length Weight Pipe 812 ft. I.D. Weight Pipe 2.7 in. Length Drill Collars 228 ft.

I. D. Drill Collars 2¼ in. Length D.S.T. Tool 43 ft.

Remarks Gas to surface in 12 minutes. Too small to measure.

WESTERN TESTING CO., INC.
Pressure Data

Date April 30, 1966 Test Ticket No. 6608

Recorder No. 2603 Capacity 4400 Location 4432 Ft.

Clock No. 5665 Elevation 1735 Kelly Bushings Well Temperature 130 °F

Point		Pressure			Time Given		Time Computed	
A	Initial Hydrostatic Mud	2467	P.S.I.	Opened Tool	9:48 PM	M	9:48	
B	First Initial Flow Pressure	49	P.S.I.	First Flow Pressure	10	Mins.	10	Mins.
C	First Final Flow Pressure	57	P.S.I.	Initial Closed-in Pressure	30	Mins.	30	Mins.
D	Initial Closed-in Pressure	1682	P.S.I.	Second Flow Pressure	90	Mins.	87	Mins.
E	Second Initial Flow Pressure	69	P.S.I.	Final Closed-in Pressure	30	Mins.	30	Mins.
F	Second Final Flow Pressure	201	P.S.I.					
G	Final Closed-in Pressure	1682	P.S.I.					
H	Final Hydrostatic Mud	2449	P.S.I.					

PRESSURE BREAKDOWN

First Flow Press.
Breakdown: 2 Inc.
of 5 mins. and a
final inc. of 0 Min.

Point Mins.	Press.
P 1 0	49
P 2 5	52
P 3 10	57
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 0 Min.

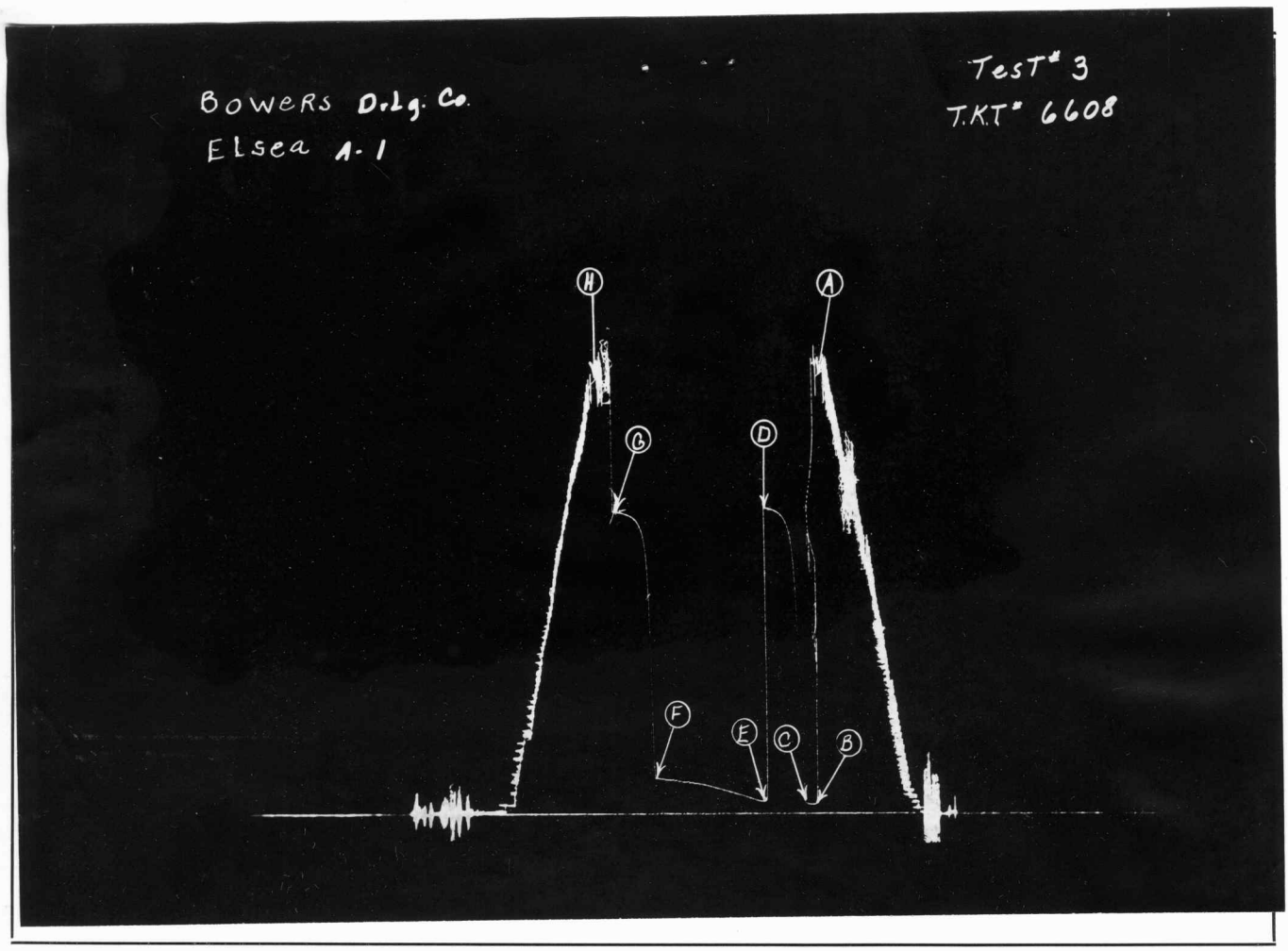
Point Minutes	Press.
0	57
3	506
6	1077
9	1334
12	1577
15	1622
18	1651
21	1664
24	1673
27	1679
30	1682

Second Flow Pressure
Breakdown: 17 Inc.
of 5 mins. and a
final inc. of 2 Min.

Point Minutes	Press.
0	69
5	72
10	78
15	93
20	102
25	116
30	125
35	138
40	147
45	158
50	165
55	169
60	174
65	179
70	186
75	191
80	195
85	199
87	201

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

Point Minutes	Press.
0	201
3	761
6	1310
9	1551
12	1613
15	1642
18	1653
21	1666
24	1673
27	1678
30	1682



This is an actual photograph of recorder chart.

POINT		PRESSURE	
(A)	Initial Hydrostatic Mud	2467	PSI
(B)	First Initial Flow Pressure	49	PSI
(C)	First Final Flow Pressure	57	PSI
(D)	Initial Closed-in Pressure	1682	PSI
(E)	Second Initial Flow Pressure	69	PSI
(F)	Second Final Flow Pressure	201	PSI
(G)	Final Closed-in Pressure	1682	PSI
(H)	Final Hydrostatic Mud	2449	PSI

COMPANY BOWERS DRILLING CO. LEASE AND WELL NO. ELSEA #A-1 SEC. 15 TWP. 32 RGE. 14 TEST NO. 3 DATE 4-30-66

Bowers Drlg. Co.
Elsea A #1

(Straddle) Test #3
T.K.T. # 6608

Bottom Hole
Chart