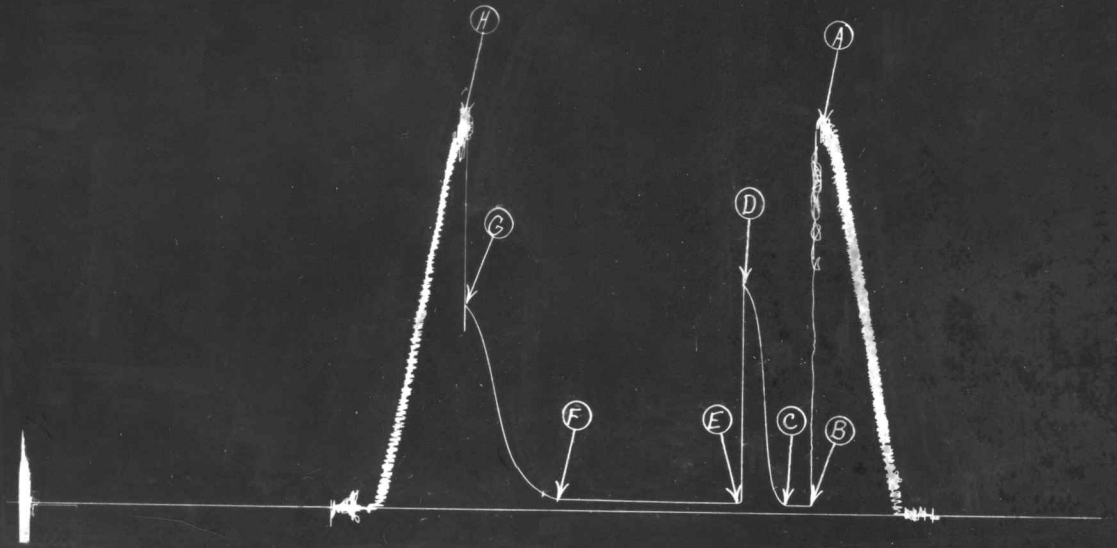
Pickrell Drlg Co.
Keough B #2

TKT # 7712
Test # 1



Home Office: Great Bend, Kansas

P. O. Box 793 SWift 3-7903

Company Pickrell Drilling Company Lease & Well No. Keough #B-2

Elevation 2186 Kelly Bushings Formation Kansas City Ticket Number 7712

Date Dec.3,1966 Sec. 15 Twp. 16s Range 20w County Rush State Kansas

Test Approved by Harold Steincamp Western Representative Dean Blagrave

Formation Test No. 1 O.K. x Misrun ____ Interval Tested From 3561' to 3584' Total Depth 3584'

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

Packer Depth 3556 Ft. Size 6 3/4 Packer Depth 3561 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 23 Ft. Size 5½ OD

RECORDERS Depth 3575 Ft. Clock No. 6892 Depth 3578 Ft. Clock No. 6774

Top Make Amerada Cap. 4150 No. 2606 Inside ~~Outside~~ Bottom Make Amerada Cap. 4300 No. 1567 ~~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 2:28 P M

Tool Open I.F.P. From 2:30 M to 2:45 M Hr. 15 Min. From (B) 44 P.S.I. To (C) 48 P.S.I.

Tool Closed I.C.I.P. From 2:45 M. to 3:15P M. Hr. 30 Min. (D) 1086 P.S.I.

Tool Open F.F.P. From 3:15P M. to 5:15 M. 2 Hr. Min. From (E) 54 P.S.I. To (F) 59 P.S.I.

Tool Closed F.C.I.P. From 5:15P M. to 6:15 M. 1 Hr. Min. (G) 981 P.S.I.

Initial Hydrostatic Pressure (A) 1865 P.S.I. Final Hydrostatic Pressure (H) 1844 P.S.I.

SURFACE INFORMATION	Size Choke 1/4 In.	Max. Press. P.S.I.	Time	Description of Flow
			M.	
			M.	
			M.	

BLOW Weak throughout Bottom Choke Size 3/4 In.

Did Well Flow ____ Yes x No Recovery Total Ft. 70' oil cut mud

Mud

Reversed Out ____ Yes x No Mud Type starch Viscosity 40 Weight 9.5 Maximum Temp. 107 °F

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

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

Length Drill Pipe ____ ft. I.D. Drill Pipe ____ in Length Weight Pipe 915 ft. I.D. Weight Pipe 2.7 in. Length Drill Collars none ft.

I. D. Drill Collars ____ in. Length D.S.T. Tool 41 ft.

Remarks

WESTERN TESTING CO., INC.

Pressure Data

Date: December 3, 1966 | Test Ticket No.: 7712

Recorder No.: 2606 | Capacity: 4150 | Location: 3575 Ft.

Clock No.: 6892 | Elevation: 2186 Kelly Bushings | Well Temperature: 107 °F

Point		Pressure	
A	Initial Hydrostatic Mud	1865	P.S.I.
B	First Initial Flow Pressure	44	P.S.I.
C	First Final Flow Pressure	48	P.S.I.
D	Initial Closed-in Pressure	1086	P.S.I.
E	Second Initial Flow Pressure	54	P.S.I.
F	Second Final Flow Pressure	59	P.S.I.
G	Final Closed-in Pressure	981	P.S.I.
H	Final Hydrostatic Mud	1844	P.S.I.

	Time Given	Time Computed
Opened Tool	2:45 M	
First Flow Pressure	15 Mins.	15 Mins.
Initial Closed-in Pressure	30 Mins.	31 Mins.
Second Flow Pressure	120 Mins.	118 Mins.
Final Closed-in Pressure	60 Mins.	61 Mins.

PRESSURE BREAKDOWN

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

Point Mins.	Press.
P 1 0	44
P 2 5	45
P 3 10	46
P 4 15	48
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.

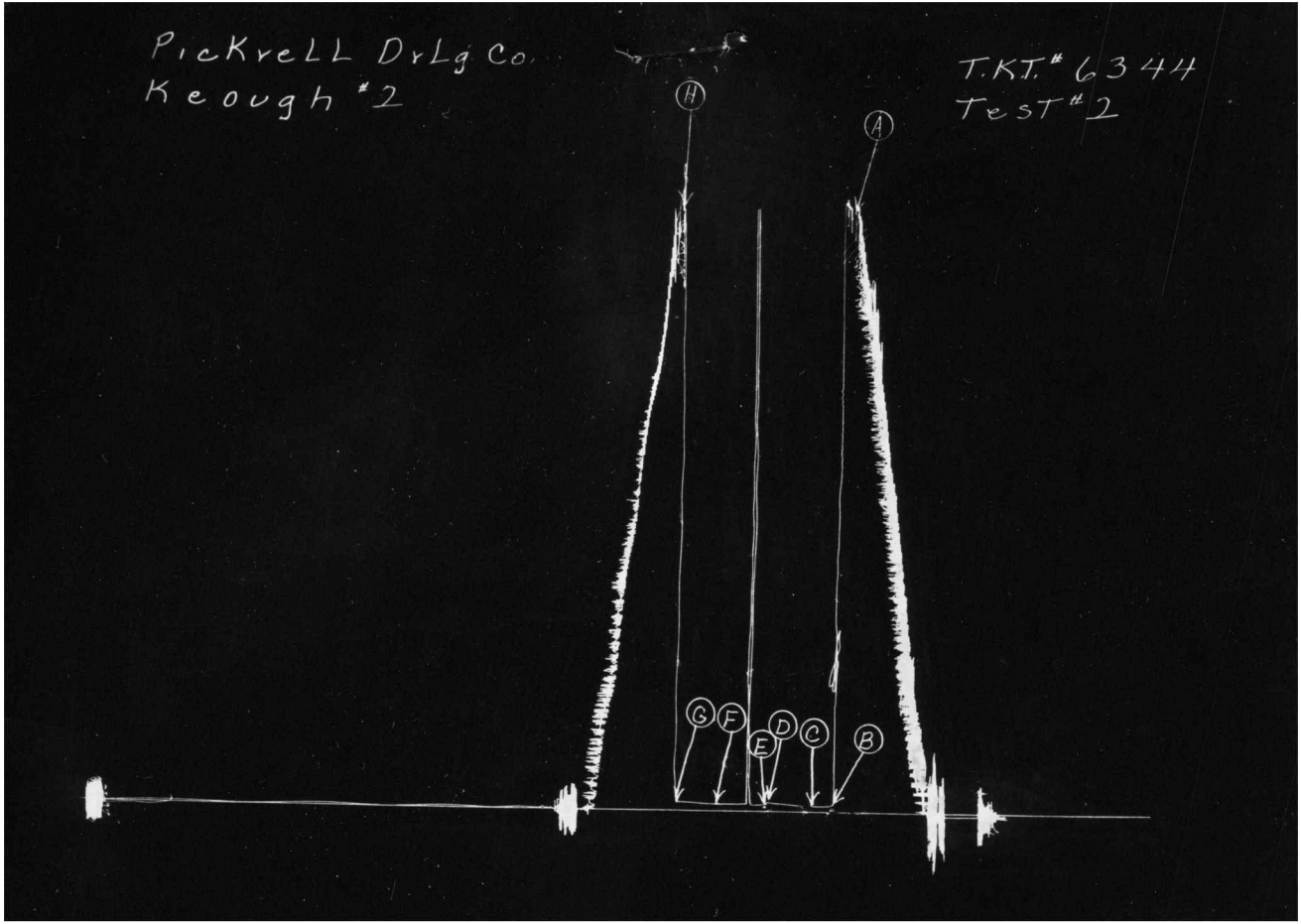
Point Minutes	Press.
0	48
3	52
6	73
9	123
12	241
15	475
18	682
21	846
24	973
27	1031
30	1077
31	1086

Second Flow Pressure
Breakdown: 23 Inc. of 5 mins. and a final inc. of 3 Min.

Point Minutes	Press.
0	54
5	54
10	54
15	54
20	54
25	54
30	54
35	56
40	56
45	56
50	56
55	56
60	56
65	56
70	58
75	58
80	58
85	58
90	58
95	58
100	59
105	59
110	59
115	59
118	59

Final Shut-In
Breakdown: 20 Inc. of 3 mins. and a final inc. of 1 Min.

Point Minutes	Press.
0	59
3	64
6	71
9	77
12	85
15	99
18	116
21	141
24	175
27	203
30	247
33	309
36	372
39	471
42	556
45	667
48	756
51	835
54	902
57	937
60	970
61	981


PicKrell DrLg Co.
Keough #2
T.K.T. # 6344
Test # 2
H
A
G
F
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D
C
B

WESTERN TESTERS

Home Office: Great Bend, Kansas

P. O. Box 793 SWift 3-7903

Company Pickrell Drilling Company Lease & Well No. Keough #2

Elevation 2183 Derrick Floor Formation Cherokee Sand Ticket Number 6344

Date Dec.6,1966 Sec. Twp. Range County Rush State Kansas

Test Approved by Harold Steincamp Western Representative Guy M. Knipe

Formation Test No. 2 O.K. x Misrun Interval Tested From 3914' to 3928' Total Depth 3928'

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

Packer Depth 3909 Ft. Size 6 3/4 Packer Depth 3914 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 14 Ft. Size 5½ OD

RECORDERS Depth 3920 Ft. Clock No. 6806 Depth 3923 Ft. Clock No. 8476

Top Make Kuster Cap. 3150 No. 1562 Inside Outside Bottom Make Kuster Cap. 3150 No. 1563 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 11:29 A M

Tool Open I.F.P. From 11:30 M to 11:45 M Hr. 15 Min. From (B) 21 P.S.I. To (C) 21 P.S.I.

Tool Closed I.C.I.P. From 11:45A M. to 12:15 M. Hr. 30 Min. (D) 32 P.S.I.

Tool Open F.F.P. From 12:15P M. to 12:45 M. Hr. 30 Min. From (E) 23 P.S.I. To (F) 25 P.S.I.

Tool Closed F.C.I.P. From 12:45 M. to 1:15 M. Hr. 30 Min. (G) 31 P.S.I.

Initial Hydrostatic Pressure (A) 2147 P.S.I. Final Hydrostatic Pressure (H) 2114 P.S.I.

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

M.

M.

M.

BLOW Weak or 15 minutes. Open tool for 2nd flow(no blow)Waited 10 minutes./ Flushed few bubbles - died. Bottom Choke Size 3/4 In.

Did Well Flow Yes x No Recovery Total Ft. 20' drilling mud

Reversed Out Yes x No Mud Type starch Viscosity 49 Weight 10 .2 Maximum Temp. 109 °F Mud

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 2964 ft. I.D. Drill Pipe 3.8 in Length Weight Pipe 930 ft. I.D. Weight Pipe 2.7 in. Length Drill Collars ft.

I. D. Drill Collars in. Length D.S.T. Tool 3 4 ft.

Remarks

WESTERN TESTING CO., INC.
Pressure Data

Date: December 6, 1966 | Test Ticket No.: 6344

Recorder No.: 1562 | Capacity: 3150 | Location: 3920 Ft.

Clock No.: 6806 | Elevation: 2183 Derrick Floor | Well Temperature: 1 09 °F

Point		Pressure		Time Given	Time Computed
A	Initial Hydrostatic Mud	2147 P.S.I.	Opened Tool	11:30 A M	
B	First Initial Flow Pressure	21 P.S.I.	First Flow Pressure	15 Mins.	15 Mins.
C	First Final Flow Pressure	21 P.S.I.	Initial Closed-in Pressure	30 Mins.	30 Mins.
D	Initial Closed-in Pressure	32 P.S.I.	Second Flow Pressure	30 Mins.	30 Mins.
E	Second Initial Flow Pressure	23 P.S.I.	Final Closed-in Pressure	30 Mins.	30 Mins.
F	Second Final Flow Pressure	25 P.S.I.			
G	Final Closed-in Pressure	31 P.S.I.			
H	Final Hydrostatic Mud	2114 P.S.I.			

PRESSURE BREAKDOWN

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

Point Mins.	Press.
P 1 0	21
P 2 5	21
P 3 10	21
P 4 15	21
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.

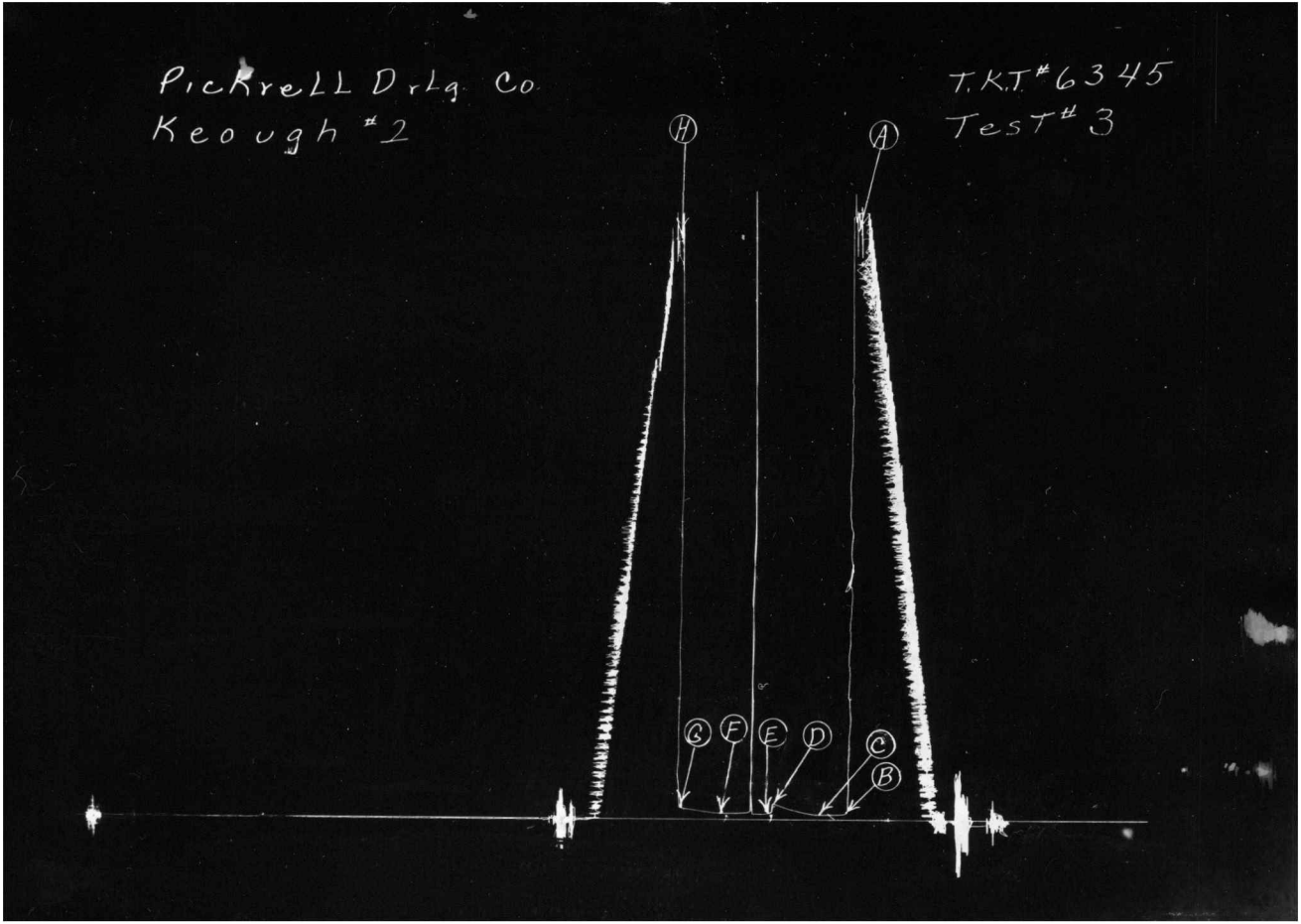
Point Minutes	Press.
0	21
3	21
6	21
9	23
12	23
15	24
18	24
21	25
24	27
27	29
30	32

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

Point Minutes	Press.
0	23
5	23
10	23
15	25
20	25
25	25
30	28

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

Point Minutes	Press.
0	25
3	25
6	25
9	25
12	26
15	26
18	26
21	27
24	27
27	29
30	31


Pickrell Drlg Co
Keough #2
T.K.T. #6345
Test #3
H
A
G
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C
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TIGHT HOLE

Home Office: Great Bend, Kansas

P. O. Box 793 SWift 3-7903

Company Pickrell Drilling Company Lease & Well No. Keough #2

Elevation 2183 Derrick Floor Formation ### Ticket Number 6345

Date Dec.6,1966 Sec. Twp. Range County Rush State Kansas

Test Approved by Harold Steincamp Western Representative Guy M. Knipe

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Formation Test No. 3 O.K. x Misrun Interval Tested From 3914' to 3934' Total Depth 3934'

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

Packer Depth 3909 Ft. Size 6 3/4 Packer Depth 3914 Ft. Size 6 3/4

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

Packer Depth Ft. Size

Tool Size 5¼ OD Tool Jt. Size 4½ FH Anchor Length 20 Ft. Size 5¼ OD

RECORDERS Depth 3926 Ft. Clock No. 6806 Depth 3929 Ft. Clock No. 8476

Top Make Kuster Cap. 3150 No. 1562 Inside Outside ### Bottom Make Kuster Cap. 3150 No. 1563 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 10:40 P M

Tool Open I.F.P. From 10:41 M to 11:01 M Hr. 20 Min. From (B) 18 P.S.I. To (C) 18 P.S.I.

Tool Closed I.C.I.P. From 11:01P M. to 11:31P M. Hr. 30 Min. (D) 56 P.S.I.

Tool Open F.F.P. From 11:31P M. to 12:03 M. Hr. 32 Min. From (E) 20 P.S.I. To (F) 23 P.S.I.

Tool Closed F.C.I.P. From 12:03 M. to 12:33 M. Hr. 30 Min. (G) 43 P.S.I.

Initial Hydrostatic Pressure (A) 2122 P.S.I. Final Hydrostatic Pressure (H) 2114 P.S.I.

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

BLOW Weak for 20 minutes. Flushed tool. Few bubbled . Died. Bottom Choke Size 3/4 In.

Did Well Flow Yes x No Recovery Total Ft. 20' drilling mud

Mud

Reversed Out Yes x No Mud Type starch Viscosity 50 Weight 10.2 Maximum Temp. 111 °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 2964 I.D. Drill Pipe 3.8 in Length Weight Pipe 930 ft. I.D. Weight Pipe 2.7 in. Length Drill Collars ft.

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

Remarks TIGHT HOLE

WESTERN TESTING CO., INC.
Pressure Data

Date December 6, 1966

Test Ticket No. 6345

Recorder No. 1562 Capacity 3150 Location 3926 Ft.

Clock No. 6806 Elevation 2183 Derrick Floor Well Temperature 111 °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	2122 P.S.I.	Opened Tool	10:41 M	
B First Initial Flow Pressure	18 P.S.I.	First Flow Pressure	20 Mins.	20 Mins.
C First Final Flow Pressure	18 P.S.I.	Initial Closed-in Pressure	30 Mins.	30 Mins.
D Initial Closed-in Pressure	56 P.S.I.	Second Flow Pressure	32 Mins.	31 Mins.
E Second Initial Flow Pressure	20 P.S.I.	Final Closed-in Pressure	30 Mins.	30 Mins.
F Second Final Flow Pressure	23 P.S.I.			
G Final Closed-in Pressure	43 P.S.I.			
H Final Hydrostatic Mud	2114 P.S.I.			

PRESSURE BREAKDOWN

First Flow Press.

Breakdown: 4 Inc. of 5 mins. and a final inc. of 0 Min.

Point Mins.	Press.
P 1 5	18
P 2 10	18
P 3 15	18
P 4 20	18
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	18
3	18
6	20
9	22
12	25
15	28
18	34
21	39
24	43
27	49
30	56

Second Flow Pressure

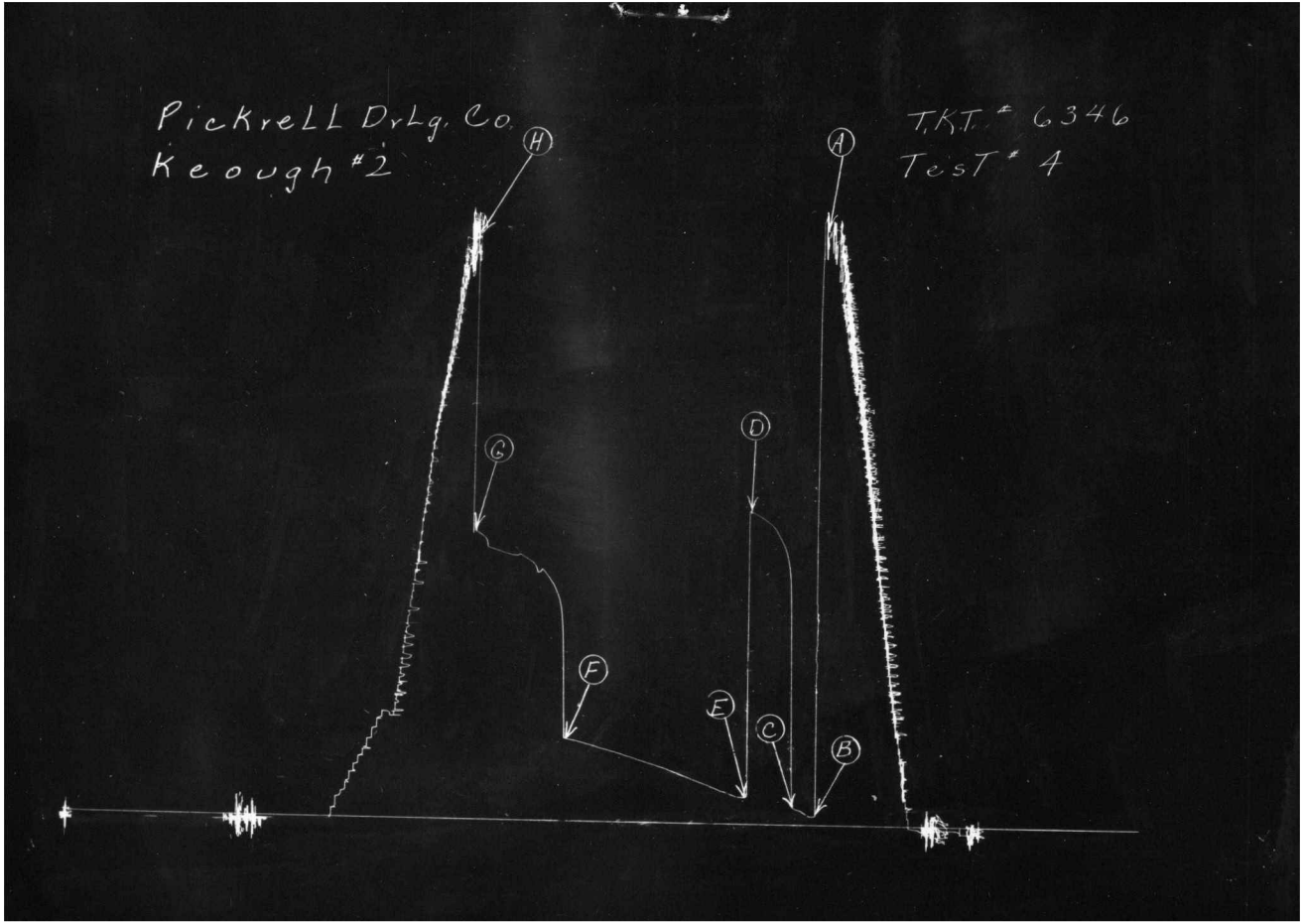
Breakdown: 6 Inc. of 5 mins. and a final inc. of 1 Min.

Point Minutes	Press.
0	20
5	20
10	20
15	20
20	23
23	23
30	23
31	23

Final Shut-In

Breakdown: 10 Inc. of 3 mins. and a final inc. of 0 Min.

Point Minutes	Press.
0	23
3	23
6	23
9	26
12	28
15	31
18	33
21	36
24	38
27	40
30	43


Pickrell Drlg. Co.
Keough #2
T.K.T. # 6346
Test # 4
H
A
G
D
F
E
C
B

Home Office: Great Bend, Kansas
P. O. Box 793 SWift 3-7903

Company Pickrell Drilling Company Lease & Well No. Keough #2

Elevation 2183 Derrick Floor Formation Arbuckle Ticket Number 6346

Date Dec.7,1966 Sec. 15 Twp. 16s Range 20w County Rush State Kansas

Test Approved by Harold Steincamp Western Representative Guy M. Knipe

Formation Test No. 4 O.K. x Misrun Interval Tested From 3914' to 3944' Total Depth 3944'

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

Packer Depth 3909 Ft. Size 6 3/4 Packer Depth 3914 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 30 Ft. Size 5½ OD

RECORDERS Depth 3931 Ft. Clock No. 6806 Depth 3934 Ft. Clock No. 8476

Top Make Kuster Cap. 3150 No. 1562 Inside Outside Bottom Make Kuster Cap. 3150 No. 1563 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 11:59 A M

Tool Open I.F.P. From 12:00P M to 12:15P M Hr. 15 Min. From (B) 34 P.S.I. To (C) 75 P.S.I.

Tool Closed I.C.I.P. From 12:15P M. to 12:45P M.; Hr. 30 Min. (D) 1113 P.S.I.

Tool Open F.F.P. From 12:45P M. to 2:45 M. 2 Hr. Min. From (E) 94 P.S.I. To (F) 315 P.S.I.

Tool Closed F.C.I.P. From 2:45P M. to 3:45P M. 1 Hr. Min. (G) 1031 P.S.I.

Initial Hydrostatic Pressure (A) 2135 P.S.I. Final Hydrostatic Pressure (H) 2104 P.S.I.

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

M.

M.

M.

BLOW Strong blow throughout, flow period. Bottom Choke Size 3/4 In.

Did Well Flow Yes x No Recovery Total Ft. 740' mud cut oil; 20' heavy oil cut mud

Mud

Reversed Out Yes x No Mud Type starch Viscosity 59 Weight 10.1 Maximum Temp. 119 °F

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

Type Circ. Sub. plug Did Tool Plug? Where? Did Packer Hold? yes

Length Drill Pipe 2964 ft. I.D. Drill Pipe 3.8 in Length Weight Pipe 930 ft. I.D. Weight Pipe 2.7 in. Length Drill Collars ft.

I. D. Drill Collars in. Length D.S.T. Tool 50 ft.

Remarks There was tool leak on final shut-in pressure. This causing doubt as to pressure being maximum at final shut-in point.

WESTERN TESTING CO., INC.
Pressure Data

Date December 7, 1966 | Test Ticket No. 6346

Recorder No. 1562 | Capacity 3150 | Location 3931 Ft.

Clock No. | Elevation 2183 Derrick Floor | Well Temperature 119 °F

Point		Pressure		Time Given	Time Computed
A	Initial Hydrostatic Mud	2135	P.S.I.	Opened Tool 12:00 PM M	
B	First Initial Flow Pressure	34	P.S.I.	First Flow Pressure 15 Mins.	15 Mins.
C	First Final Flow Pressure	75	P.S.I.	Initial Closed-in Pressure 30 Mins.	29 Mins.
D	Initial Closed-in Pressure	1113	P.S.I.	Second Flow Pressure 120 Mins.	118 Mins.
E	Second Initial Flow Pressure	94	P.S.I.	Final Closed-in Pressure 60 Mins.	59 Mins.
F	Second Final Flow Pressure	315	P.S.I.		
G	Final Closed-in Pressure	1031	P.S.I.		
H	Final Hydrostatic Mud	2104	P.S.I.		

PRESSURE BREAKDOWN

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

Point Mins.	Press.
P 1 0	34
P 2 5	45
P 3 10	62
P 4 15	75
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 2 Min.

Point Minutes	Press.
0	75
3	535
6	984
9	1028
12	1053
15	1070
18	1083
21	1094
24	1102
27	1109
29	1113

Second Flow Pressure
Breakdown: 23 Inc.
of 5 mins. and a
final inc. of 3 Min.

Point Minutes	Press.
0	94
5	102
10	114
15	127
20	141
25	151
30	161
35	173
40	184
45	194
50	206
55	215
60	225
65	233
70	241
75	249
80	258
85	267
90	274
95	283
100	291
105	299
110	305
115	310
118	315

Final Shut-In
Breakdown: 19 Inc.
of 3 mins. and a
final inc. of 2 Min.

Point Minutes	Press.
0	315
3	756
6	831
9	862
12	888
15	906
18	917
21	932
24	944
27	954
30	956
33	958
36	961
39	965
42	968
45	971
48	975
51	1007
54	1022
57	1029
59	1031