WESTERN TESTERS

Home Office: Great Bend, Kansas
P. O. Box 793 (316) 793-7903

Company Koch Exploration Company Lease & Well No. Hanzlicek #2

Elevation 1758 Kelly Bushings Formation Topeka Effective Pay 5 Ft. Ticket No. 16746

Date 8-11-72 Sec. 15 Twp. 14S Range 10W County Ellsworth State Kansas

Test Approved by Al Stude Western Representative Guy Max Knipe

Formation Test No. 1 O.K. X Misrun Interval Tested From 2486' to 2513' Total Depth 2513'

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

Packer Depth 2481 Ft. Size 6 3/4" Packer Depth 2486 Ft. Size 6 3/4"

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

Packer Depth Ft. Size

Tool Size 5 1/2" O.D. Tool Jt. Size 4 1/2" F.H. Anchor Length 27 Ft. Size 5 1/2" O.D.

RECORDERS Depth 2505 Ft. Clock No. 6800 Depth 2508 Ft. Clock No. 9102

Top Make Kuster Cap 4500 No. 3086 Inside Outside Bottom Make Kuster Cap 4250 No. 1051 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 5:57 PM

Tool Open I.F.P. From 6:00 M. to 6:30P. M. 30 Hr. Min. From (B) 14 P.S.I. To (C) 18 P.S.I.

Tool Closed I.C.I.P. From 6:30 M. to 7:30P. M. 1 Hr. Min. (D) 229 P.S.I.

Tool Open F.F.P. From 7:30 M. to 8:30P. M. 1 Hr. Min. From (E) 28 P.S.I. To (F) 28 P.S.I.

Tool Closed F.C.I.P. From 8:30 M. to 9:30P. M. 1 Hr. Min. (G) 220 P.S.I.

Initial Hydrostatic Pressure (A) 1425 P.S.I. Final Hydrostatic Pressure (H) 1411 P.S.I.

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

M.

M.

M.

BLOW Weak increased to strong Bottom Choke Size 3/4 In.

Did Well Flow Yes X No Recovery Total Ft. 570 feet gas in pipe

40 feet slightly oil cut mud

10% oil 3% water 87% mud

Reversed Out Yes X No Mud Type Starch Viscosity 37 Weight 10.1 Water Loss 18.4 cc. Maximum Temp. 104 °F

Type Circ. Sub Pin Safety Joint No Jars: Size Make Ser. No.

EXTRA EQUIPMENT: Dual Packers Yes Did Packer Hold? Yes Did Tool Plug? No Where?

Length Drill Pipe 1891 ft. I.D. Drill Pipe 3.8 in. Length Weight Pipe 664 ft. I.D. Weight Pipe 2.7 in. Length Drill Collars ft.

I.D. Drill Collars in. Length D.S.T. Tool 48 ft.

Remarks

FORM WTC 3

WESTERN TESTING CO., INC.
Pressure Data

Date 8-11-72 Test Ticket No. 16746

Recorder No. 3086 Capacity 4500 Location 2505 Ft.

Clock No. 6800 Elevation 1758 Kelly Bushings Well Temperature 104 °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	1425 P.S.I.	Open Tool	5:57 P. M	
B First Initial Flow Pressure	14 P.S.I.	First Flow Pressure	30 Mins.	30 Mins.
C First Final Flow Pressure	18 P.S.I.	Initial Closed-in Pressure	60 Mins.	59 Mins.
D Initial Closed-in Pressure	229 P.S.I.	Second Flow Pressure	60 Mins.	60 Mins.
E Second Initial Flow Pressure	28 P.S.I.	Final Closed-in Pressure	60 Mins.	60 Mins.
F Second Final Flow Pressure	28 P.S.I.			
G Final Closed-in Pressure	220 P.S.I.			
H Final Hydrostatic Mud	1411 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	14
P 2 5	15
P 3 10	17
P 4 15	17
P 5 20	18
P 6 25	18
P 7 30	18
P 8	
P 9	
P10	
P11	
P12	
P13	
P14	
P15	
P16	
P17	
P18	
P19	
P20	

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

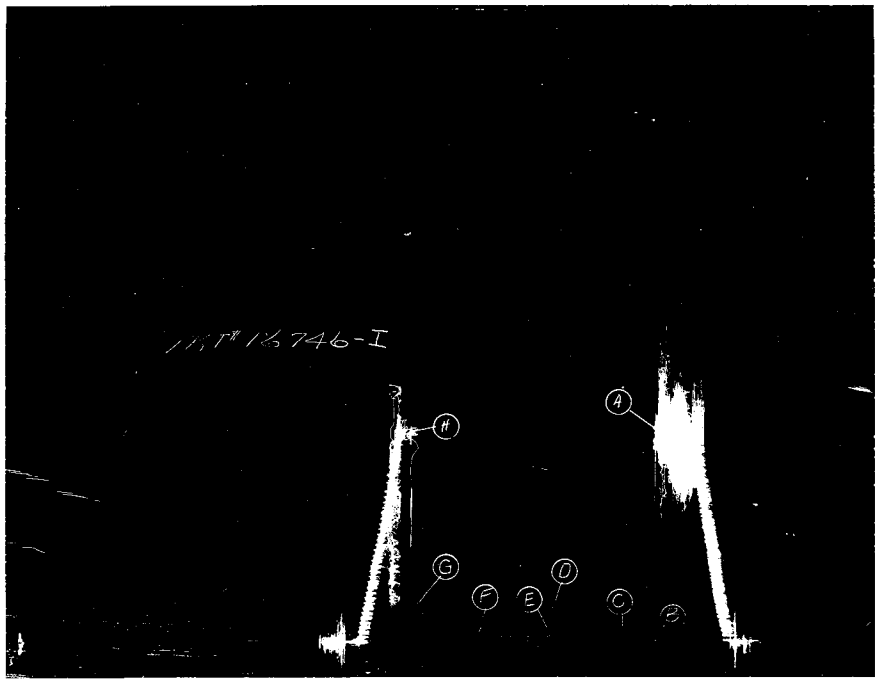
Point Minutes	Press.
0	18
3	19
6	24
9	35
12	47
15	59
18	68
21	78
24	86
27	99
30	109
33	121
36	132
39	146
42	157
45	169
48	180
51	194
54	208
57	220
59	229

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

Point Minutes	Press.
0	28
5	28
10	28
15	28
20	28
25	28
30	28
35	28
40	28
45	28
50	28
55	28
60	28

Final Shut-In
Breakdown: 20 Inc.
of 3 mins. and a
final inc. of 0 Min.

Point Minutes	Press.
0	28
3	30
6	35
9	44
12	54
15	63
18	75
21	85
24	97
27	106
30	117
33	126
36	137
39	146
42	158
45	169
48	180
51	189
54	201
57	210
60	220



This is an actual photograph of recorder chart.

POINT		PRESSURE Field Reading	Office Reading	
(A)	Initial Hydrostatic Mud	1601	1425	PSI
(B)	First Initial Flow Pressure	35	14	PSI
(C)	First Final Flow Pressure	40	18	PSI
(D)	Initial Closed-in Pressure	272	229	PSI
(E)	Second Initial Flow Pressure	42	28	PSI
(F)	Second Final Flow Pressure	44	28	PSI
(G)	Final Closed-in Pressure	236	220	PSI
(H)	Final Hydrostatic Mud	1566	1411	PSI

COMPANY Koch Exploration Company LEASE AND WELL NO. Hanzlicek #2 SEC. 15 TWP. 14S RGE. 16W TEST NO. 1 DATE 3-11-72

WESTERN TESTERS

Home Office: Great Bend, Kansas
P. O. Box 793 (316) 793-7903

Company Koch Exploration Company Lease & Well No. Hanzlicek #2

Elevation 1758 Kelly Bushings Formation Kansas City Effective Pay Ft. Ticket No. 16747

Date 8-13-72 Sec. 15 Twp. 14S Range 10W County Ellsworth State Kansas

Test Approved by Al Stude Western Representative Guy Max Knipe

Formation Test No. 2 O.K. X Misrun Interval Tested From 2879' to 2905' Total Depth 2905'

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

Packer Depth 2874 Ft. Size 6 3/4" Packer Depth 2879 Ft. Size 6 3/4"

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

Packer Depth Ft. Size

Tool Size 5 1/2" O.D. Tool Jt. Size 4 1/2" F.H. Anchor Length 26 Ft. Size 5 1/2" O.D.

RECORDERS Depth 2897 Ft. Clock No. 6800 Depth 2900 Ft. Clock No. 9102

Top Make Kuster Cap 4500 No. 3086 Inside ~~Outside~~ Bottom Make Kuster Cap 4250 No. 1051 ~~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 7:27 A. M

Tool Open I.F.P. From 7:30 M. to 8:00A M. Hr. 30 Min. From (B) 28 P.S.I. To (C) 32 P.S.I.

Tool Closed I.C.I.P. From 8:00 M. to 9:00A M. 1 Hr. Min. (D) 749 P.S.I.

Tool Open F.F.P. From 9:00 M. to 10:00A M. 1 Hr. Min. From (E) 50 P.S.I. To (F) 87 P.S.I.

Tool Closed F.C.I.P. From 10:00 M. to 11:00A M. 1 Hr. Min. (G) 730 P.S.I.

Initial Hydrostatic Pressure (A) 1616 P.S.I. Final Hydrostatic Pressure (H) 1595 P.S.I.

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

BLOW Weak 1/2" Blow through out flow period Bottom Choke Size 3/4 In.

Did Well Flow Yes No Recovery Total Ft. 150 feet muddy water ~~mudgassy~~ with show of oil in top of tool

Reversed Out Yes No Mud Type Starch Viscosity 42 Weight 10.1 Water Loss 16 cc. Maximum Temp. 105 °F

Type Circ. Sub Pin Safety Joint No Jars: Size Make Ser. No.

EXTRA EQUIPMENT: Dual Packers Yes Did Packer Hold? Yes Did Tool Plug? No Where?

Length Drill Pipe 2194 ft. I.D. Drill Pipe 3.8 in. Length Weight Pipe 664 ft. I.D. Weight Pipe 2.7 in. Length Drill Collars ft.

I.D. Drill Collars in. Length D.S.T. Tool 47 ft.

Remarks

FORM WTC 3

WESTERN TESTING CO., INC.
Pressure Data

Date 8-13-72 Test Ticket No. 16747

Recorder No. 3086 Capacity 4500 Location 2897 Ft.

Clock No. 6800 Elevation 1758 Kelly Bushings Well Temperature 105 °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	1616 P.S.I.	Open Tool	7:27 A. M	
B First Initial Flow Pressure	28 P.S.I.	First Flow Pressure	30 Mins.	30 Mins.
C First Final Flow Pressure	32 P.S.I.	Initial Closed-in Pressure	60 Mins.	60 Mins.
D Initial Closed-in Pressure	749 P.S.I.	Second Flow Pressure	60 Mins.	60 Mins.
E Second Initial Flow Pressure	50 P.S.I.	Final Closed-in Pressure	60 Mins.	58 Mins.
F Second Final Flow Pressure	87 P.S.I.			
G Final Closed-in Pressure	730 P.S.I.			
H Final Hydrostatic Mud	1595 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	28
P 2 5	18
P 3 10	18
P 4 15	19
P 5 20	23
P 6 25	28
P 7 30	32
P 8	
P 9	
P10	
P11	
P12	
P13	
P14	
P15	
P16	
P17	
P18	
P19	
P20	

Initial Shut-In
Breakdown: 20 Inc.
of 3 mins. and a
final inc. of 0 Min.

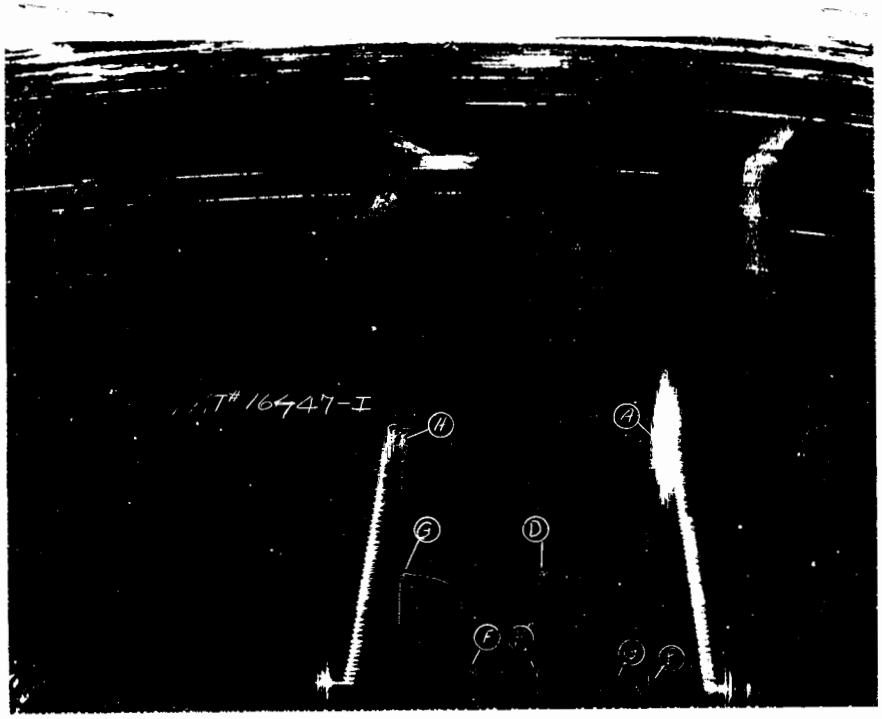
Point Minutes	Press.
0	32
3	206
6	548
9	625
12	656
15	674
18	687
21	698
24	709
27	715
30	721
33	726
36	730
39	734
42	737
45	741
48	743
51	745
54	747
57	748
60	749

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

Point Minutes	Press.
0	50
5	51
10	53
15	56
20	61
25	64
30	68
35	71
40	75
45	78
50	81
55	85
60	87

Final Shut-In
Breakdown: 19 Inc.
of 3 mins. and a
final inc. of 1 Min.

Point Minutes	Press.
0	87
3	289
6	544
9	611
12	637
15	657
18	671
21	680
24	688
27	695
30	701
33	707
36	712
39	714
42	718
45	721
48	724
51	727
54	728
57	729
58	730



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POINT		PRESSURE Field Reading	Office Reading	
(A)	Initial Hydrostatic Mud	1647	1616	PSI
(B)	First Initial Flow Pressure	23	28	PSI
(C)	First Final Flow Pressure	35	32	PSI
(D)	Initial Closed-in Pressure	753	749	PSI
(E)	Second Initial Flow Pressure	59	50	PSI
(F)	Second Final Flow Pressure	82	87	PSI
(G)	Final Closed-in Pressure	741	730	PSI
(H)	Final Hydrostatic Mud	1612	1595	PSI

COMPANY Koch Exploration Co. LEASE AND WELL NO. Hamzlicek #2 SEC. 15 TWP. 14S RGE. 10W TEST NO. 2 DATE 3-13-72

WESTERN

Home Office: Great Bend, Kansas
P. O. Box 793 (316) 793-7903

Company Koch Exploration Company Lease & Well No. Hanzlicek #2

Elevation 1758 Kelly Bushings Formation Kansas City Effective Pay Ft. Ticket No. 16748

Date 8-13-72 Sec. 15 Twp. 14S Range 10W County Ellsworth State Kansas

Test Approved by Al Stude Western Representative Guy Max Knipe

Formation Test No. 3 O.K. X Misrun Interval Tested From 2948' to 2967' Total Depth 2967'

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

Packer Depth 2943 Ft. Size 6 3/4" Packer Depth 2948 Ft. Size 6 3/4"

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

Packer Depth Ft. Size

Tool Size 5 1/2" O.D. Tool Jt. Size 4 1/2" F.H. Anchor Length 19 Ft. Size 5 1/2" O.D.

RECORDERS Depth 2959 Ft. Clock No. 6800 Depth 2962 Ft. Clock No. 9102

Top Make Kuster Cap. 4500 No. 3086 Inside Outside Bottom Make Kuster Cap. 4250 No. 1051 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 9:57 PM

Tool Open I.F.P. From 10:00 M. to 10:30P M. Hr. 30 Min. From (B) 27 P.S.I. To (C) 38 P.S.I.

Tool Closed I.C.I.P. From 10:30 M. to 11:30P M. 1 Hr. Min. (D) 724 P.S.I.

Tool Open F.F.P. From 11:30 M. to 12:30A M. 1 Hr. Min. From (E) 47 P.S.I. To (F) 71 P.S.I.

Tool Closed F.C.I.P. From 12:30 M. to 1:30A M. 1 Hr. Min. (G) 700 P.S.I.

Initial Hydrostatic Pressure (A) 1647 P.S.I. Final Hydrostatic Pressure (H) 1628 P.S.I.

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

BLOW Weak increased to 1 1/2" blow. Opened tool for 2nd flow-weak for 10 min. died Bottom Choke Size 3/4 In.

Did Well Flow Yes X No Recovery Total Ft. 120 feet thin watery mud with scum of oil in top of tool

Reversed Out Yes X No Mud Type Starch Viscosity 41 Weight 10.1 Water Loss 12.4 cc. Maximum Temp. 101 °F

Type Circ. Sub. Pin Safety Joint No Jars: Size Make Ser. No.

EXTRA EQUIPMENT: Dual Packers Yes Did Packer Hold? Yes Did Tool Plug? No Where?

Length Drill Pipe 2263 ft. I.D. Drill Pipe 3.8 in. Length Weight Pipe 664 ft. I.D. Weight Pipe 2.7 in. Length Drill Collars

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

Remarks Flushed tool at 30 min. on 2nd flow few bubbles died.

FORM WTC 3

WESTERN TESTING CO., INC.
Pressure Data

Date 8-13-72 Test Ticket No. 16748

Recorder No. 3086 Capacity 4500 Location 2959 Ft.

Clock No. 6800 Elevation 1758 Kelly Bushings Well Temperature 101 °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	1647 P.S.I.	Open Tool	9:57 P. M	
B First Initial Flow Pressure	27 P.S.I.	First Flow Pressure	30 Mins.	30 Mins.
C First Final Flow Pressure	38 P.S.I.	Initial Closed-in Pressure	60 Mins.	60 Mins.
D Initial Closed-in Pressure	724 P.S.I.	Second Flow Pressure	60 Mins.	60 Mins.
E Second Initial Flow Pressure	47 P.S.I.	Final Closed-in Pressure	60 Mins.	60 Mins.
F Second Final Flow Pressure	71 P.S.I.			
G Final Closed-in Pressure	700 P.S.I.			
H Final Hydrostatic Mud	1628 P.S.I.			

PRESSURE BREAKDOWN

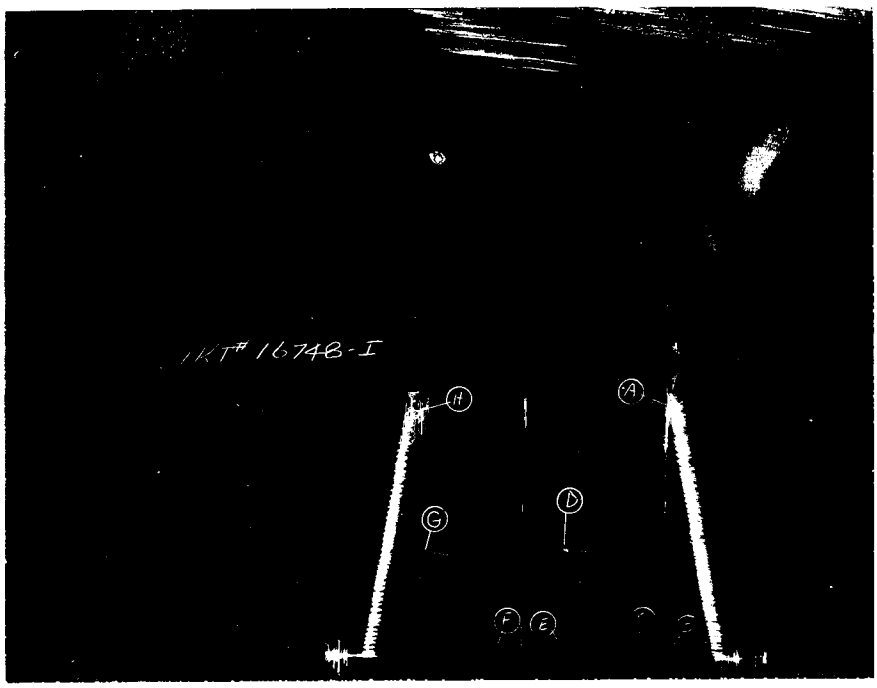
First Flow Pressure
Breakdown: 6 Inc.
of 5 mins. and a
final inc. of 0 Min.

Initial Shut-In
Breakdown: 20 Inc.
of 3 mins. and a
final inc. of 0 Min.

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

Final Shut-In
Breakdown: 20 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	27	0	38	0	47	0	71
P 2 5	28	3	175	5	47	3	319
P 3 10	29	6	419	10	48	6	488
P 4 15	30	9	562	15	50	9	558
P 5 20	33	12	613	20	53	12	595
P 6 25	36	15	639	25	56	15	613
P 7 30	38	18	656	30	59	18	630
P 8		21	669	35	63	21	643
P 9		24	678	40	66	24	653
P10		27	686	45	67	27	660
P11		30	694	50	68	30	667
P12		33	700	55	69	33	674
P13		36	705	60	71	36	678
P14		39	709			39	683
P15		42	713			42	685
P16		45	715			45	687
P17		48	718			48	691
P18		51	720			51	694
P19		54	722			54	697
P20		57	723			57	699
		60	724			60	700



Photographic reproduction of recorder chart

POINT		PRESSURE Field Reading	Office Reading	
(A)	Initial Hydrostatic Mud	1678	1647	PSI
(B)	First Initial Flow Pressure	30	27	PSI
(C)	First Final Flow Pressure	35	38	PSI
(D)	Initial Closed-in Pressure	741	724	PSI
(E)	Second Initial Flow Pressure	47	47	PSI
(F)	Second Final Flow Pressure	71	71	PSI
(G)	Final Closed-in Pressure	706	700	PSI
(H)	Final Hydrostatic Mud	1649	1628	PSI

COMPANY Koch Exploration Co. LEASE AND WELL NO. Hanzlicek #2 SEC. 15 TWP. 14S RGE. 10W TEST NO. 3 DATE 8-13-72