

15-101-20903

CHENEY TESTING COMPANY, INC.

P. O. Box 367

HILL CITY, KANSAS 67642

2-16s-29w

DRILL-STEM TEST DATA

Company	A.L. Abercrombie Inc.	Test No.	1
Well Name & Number	Mowery #1	Zone Tested	Kansas City 140'
Company Address	801 Union Center, Wichita Ks.	Date	1/5/84
Company Rep.	Steve Frankamp	Tester	Bill Nichols
Contractor	company tools	Elevation	2638 GL
Location: Sec. 2 Twp. 16s Rge. 29w Co. Lane State Ks.	Est. Feet of Pay		

Recorder No. 11091 Type AK-1 Range 4200 PSI

Recorder Depth 3955 Clock # 26193

(A) Initial Hydrostatic Mud 1997 PSI

(B) First Initial Flow Pressure 20 PSI

(C) First Final Flow Pressure 50 PSI

(D) Initial Shut-in Pressure 1046 PSI

(E) Second Initial Flow Pressure 70 PSI

(F) Second Final Flow Pressure 111 PSI

(G) Final Shut-in Pressure 1006 PSI

(H) Final Hydrostatic Mud 1967 PSI

Temperature

Mud Weight 9.3 Viscosity 48

Fluid Loss 9.8

Interval Tested 3941-3964

Anchor Length 23

Top Packer Depth 3936

Bottom Packer Depth 3941

Total Depth 3964

Drill Pipe Size 4 FH

Wt. Pipe 1-D. COLLARS 2.25 Ft. Run 718

Recovery-Total Feet 240

Recovered 240 Feet Of slightly muddy salt water.

Recovered Feet Of

Recovered Feet Of

Recovered Feet Of

Recovered Feet Of

Recovered Feet Of

Extra Equipment

Recorder No. 13222 Type AK-1 Range 4000 PSI

Recorder Depth 3959 Clock # 23933

Tool Open Before I.S.I. 45 Mins.

Initial Shut-in 45 Mins.

Flow Period 60 Mins.

Final Shut-in 45 Mins.

Top Choke Size 1" Hole Size 7 7/8"

Bottom Choke Size 3/4" Rubber Size 6 3/4"

Tool Open @ 10:02 AM

Blow Remarks 1st open: Fair 3" blow.

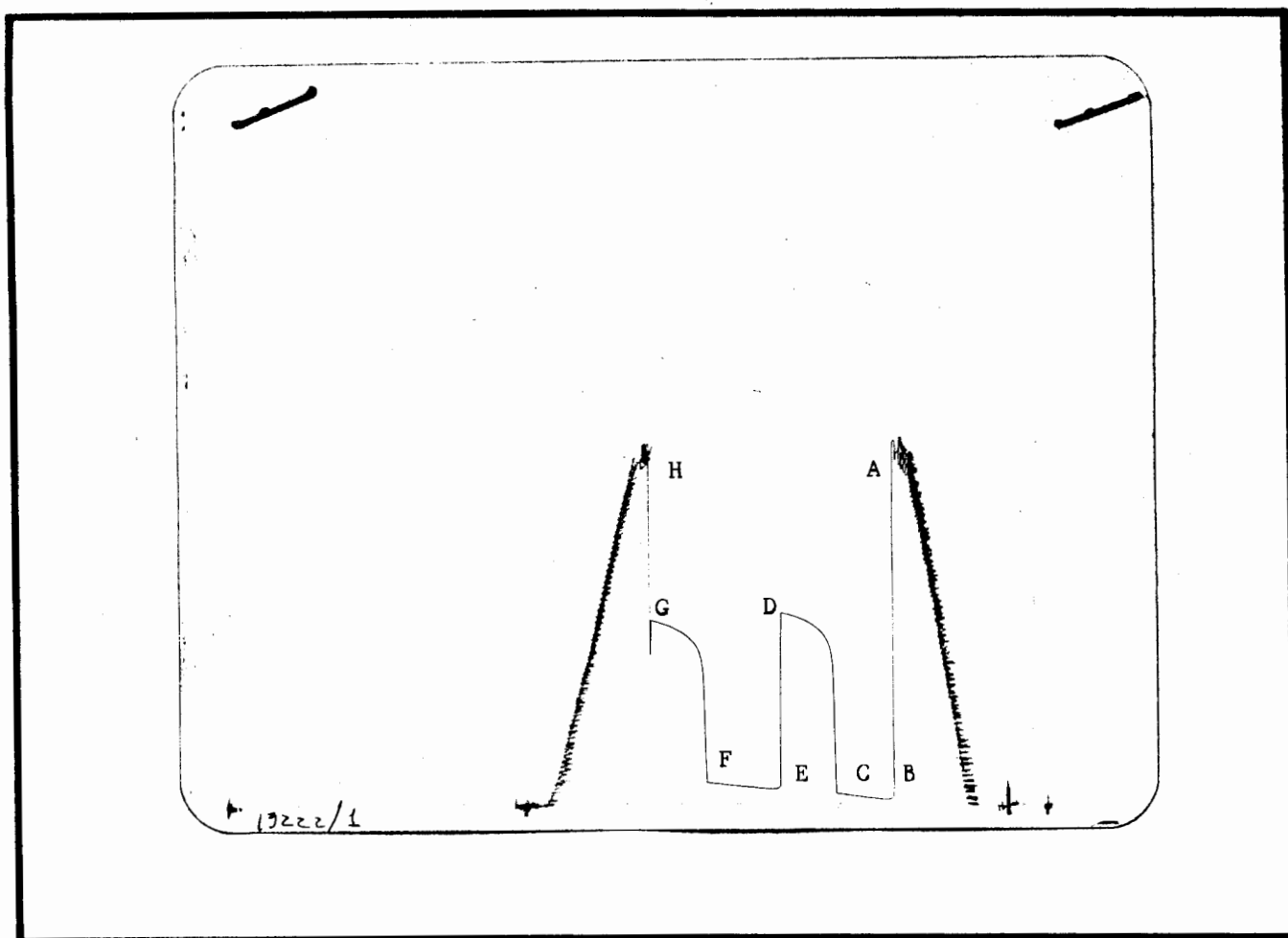
2nd open: Weak 1/2" blow.

Chlorides: Mud Sys - 10,000 ppm

Recovery - 60,000 ppm

Resistivity: 1.0120 ohms @ 71.5° F

Price of Job \$575.00



This is an actual photograph of recorder chart.

POINT	PRESSURE	
	Field Reading	Office Reading
(A) Initial Hydrostatic Mud	1997	PSI
(B) First Initial Flow Pressure	20	PSI
(C) First Final Flow Pressure	50	PSI
(D) Initial Closed-in Pressure	1046	PSI
(E) Second Initial Flow Pressure	70	PSI
(F) Second Final Flow Pressure	111	PSI
(G) Final Closed-in Pressure	1006	PSI
(H) Final Hydrostatic Mud	1967	PSI

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DRILL-STEM TEST DATA

Company	A.L. Abercrombie Inc.	Test No.	2
Well Name & Number	Mowery #1	Zone Tested	Kansas City 160'
Company Address	801 Union Center, Wichita Ks.	Date	1/6/84
Company Rep.	Steve Frankamp	Tester	Bill Nichols
Contractor	company tools	Elevation	2638 GL
Location: Sec. 2 Twp. 16s Rge. 29w Co. Lane	State Ks.	Est. Feet of Pay	

Recorder No. 11091 Type AK-1 Range 4200 PSI

Recorder Depth 3993 Clock # 26193

(A) Initial Hydrostatic Mud 2038 PSI

(B) First Initial Flow Pressure 20 PSI

(C) First Final Flow Pressure 50 PSI

(D) Initial Shut-in Pressure 1076 PSI

(E) Second Initial Flow Pressure 80 PSI

(F) Second Final Flow Pressure 80 PSI

(G) Final Shut-in Pressure 1046 PSI

(H) Final Hydrostatic Mud 2018 PSI

Temperature 110

Mud Weight 9.4 Viscosity 47

Fluid Loss 11.2

Interval Tested 3974-4002

Anchor Length 28

Top Packer Depth 3969

Bottom Packer Depth 3974

Total Depth 4002

Drill Pipe Size 4 FH

COLLARS 2.25 Ft. Run 718

Recovery-Total Feet 150

Recovered 30 Feet Of slightly oily watery mud, 6% oil, 12% water.

Recovered 120 Feet Of watery mud, 20% water.

Recovered Feet Of

Recovered Feet Of

Recovered Feet Of -

Recovered Feet Of

Extra Equipment Price of Job \$620.00

Recorder No. 13222 Type AK-1 Range 4000 PSI

Recorder Depth 3997 Clock # 23938

Tool Open Before I.S.I. 30 Mins.

Initial Shut-in 45 Mins.

Flow Period 30 Mins.

Final Shut-in 45 Mins.

Top Choke Size 1" Hole Size 7 7/8"

Bottom Choke Size 3/4" Rubber Size 6 3/4"

Tool Open @ 1:03 AM

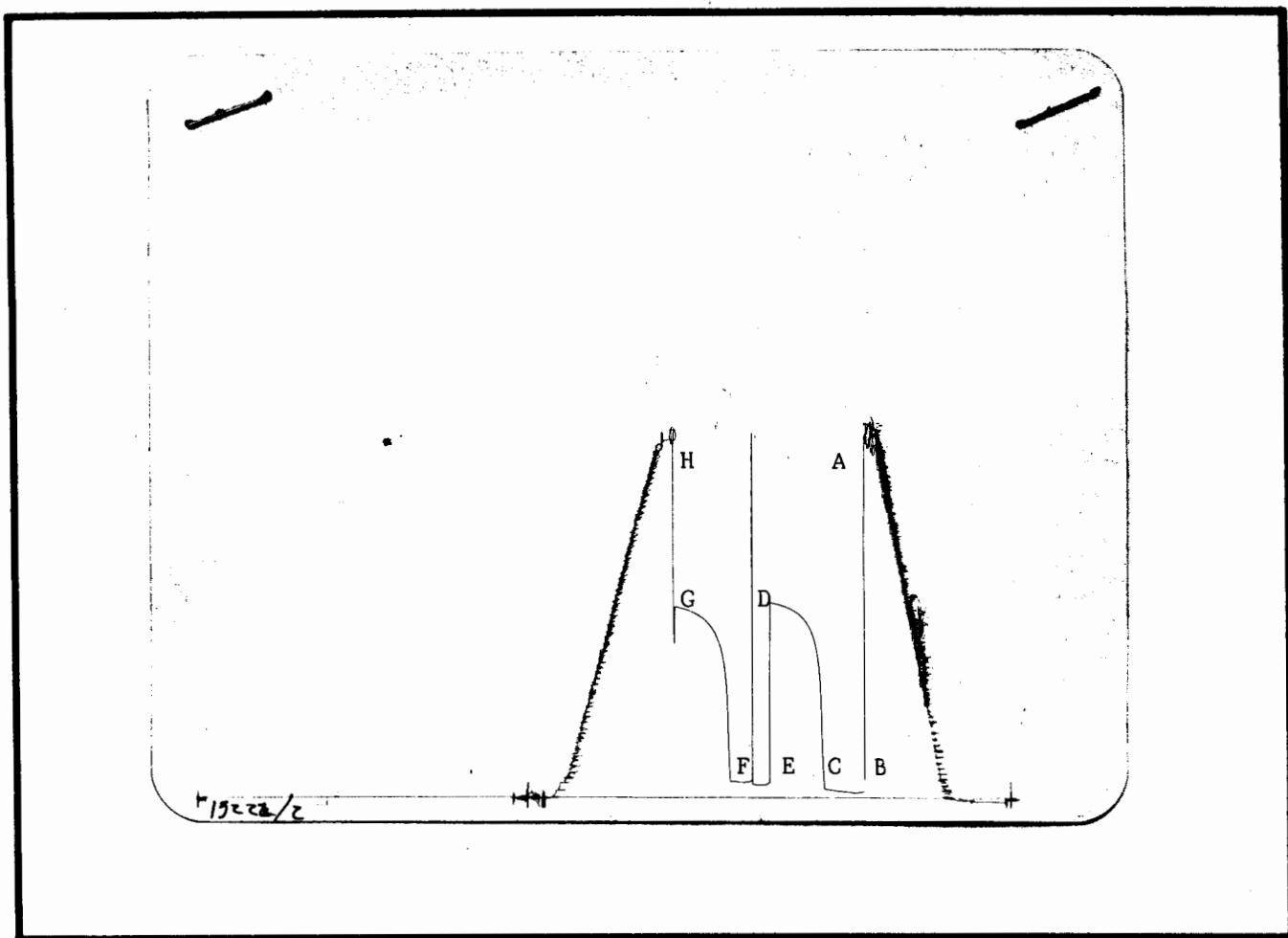
Blow Remarks 1st open: Weak 1" blow.

2nd open: No blow, flushed tool.

Chlorides: Mud Sys - 10,000 ppm

recovery - 56,000 ppm

Resistivity: 0.1324 ohms @ 63.4° F



This is an actual photograph of recorder chart.

POINT	PRESSURE	
	Field Reading	Office Reading
(A) Initial Hydrostatic Mud	2038	PSI
(B) First Initial Flow Pressure	20	PSI
(C) First Final Flow Pressure	50	PSI
(D) Initial Closed-in Pressure	1076	PSI
(E) Second Initial Flow Pressure	80	PSI
(F) Second Final Flow Pressure	80	PSI
(G) Final Closed-in Pressure	1046	PSI
(H) Final Hydrostatic Mud	2018	PSI

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DRILL-STEM TEST DATA

Company	A.L. Abercrombie Inc.	Test No.	3
Well Name & Number	Mowery #1	Zone Tested	Kansas City 180'
Company Address	801 Union Center, Wichita Ks.	Date	1/6/84
Company Rep.	Steve Frankamp	Tester	Bill Nichols
Contractor	company tools	Elevation	2638 GL
Location: Sec. 2	Twp. 16s	Rge. 29w	Co. Lane State Ks.
			Est. Feet of Pay

Recorder No. 11091 Type AK-1 Range 4200 PSI

Recorder Depth 4010 Clock # 26193

(A) Initial Hydrostatic Mud 2008 PSI

(B) First Initial Flow Pressure 20 PSI

(C) First Final Flow Pressure 20 PSI

(D) Initial Shut-in Pressure 1056 PSI

(E) Second Initial Flow Pressure 30 PSI

(F) Second Final Flow Pressure 30 PSI

(G) Final Shut-in Pressure 1026 PSI

(H) Final Hydrostatic Mud 1997 PSI

Temperature 110

Mud Weight 9.1 Viscosity 48

Fluid Loss 16

Interval Tested 3999-4019

Anchor Length 20

Top Packer Depth 3994

Bottom Packer Depth 3999

Total Depth 4019

Drill Pipe Size 4 FH

COLLARS 2.25 Ft. Run 718

Recovery-Total Feet 10

Recovered 10 Feet Of drilling mud.

Recovered Feet Of

Recovered Feet Of

Recovered Feet Of

Recovered Feet Of

Recovered Feet Of

Extra Equipment Price of Job \$620.00

Recorder No. 13222 Type AK-1 Range 4000 PSI

Recorder Depth 4014 Clock # 23938

Tool Open Before I.S.I. 30 Mins.

Initial Shut-in 45 Mins.

Flow Period 30 Mins.

Final Shut-in 45 Mins.

Top Choke Size 1" Hole Size 7 7/8"

Bottom Choke Size 3/4" Rubber Size 6 3/4"

Tool Open @ 2:38 PM

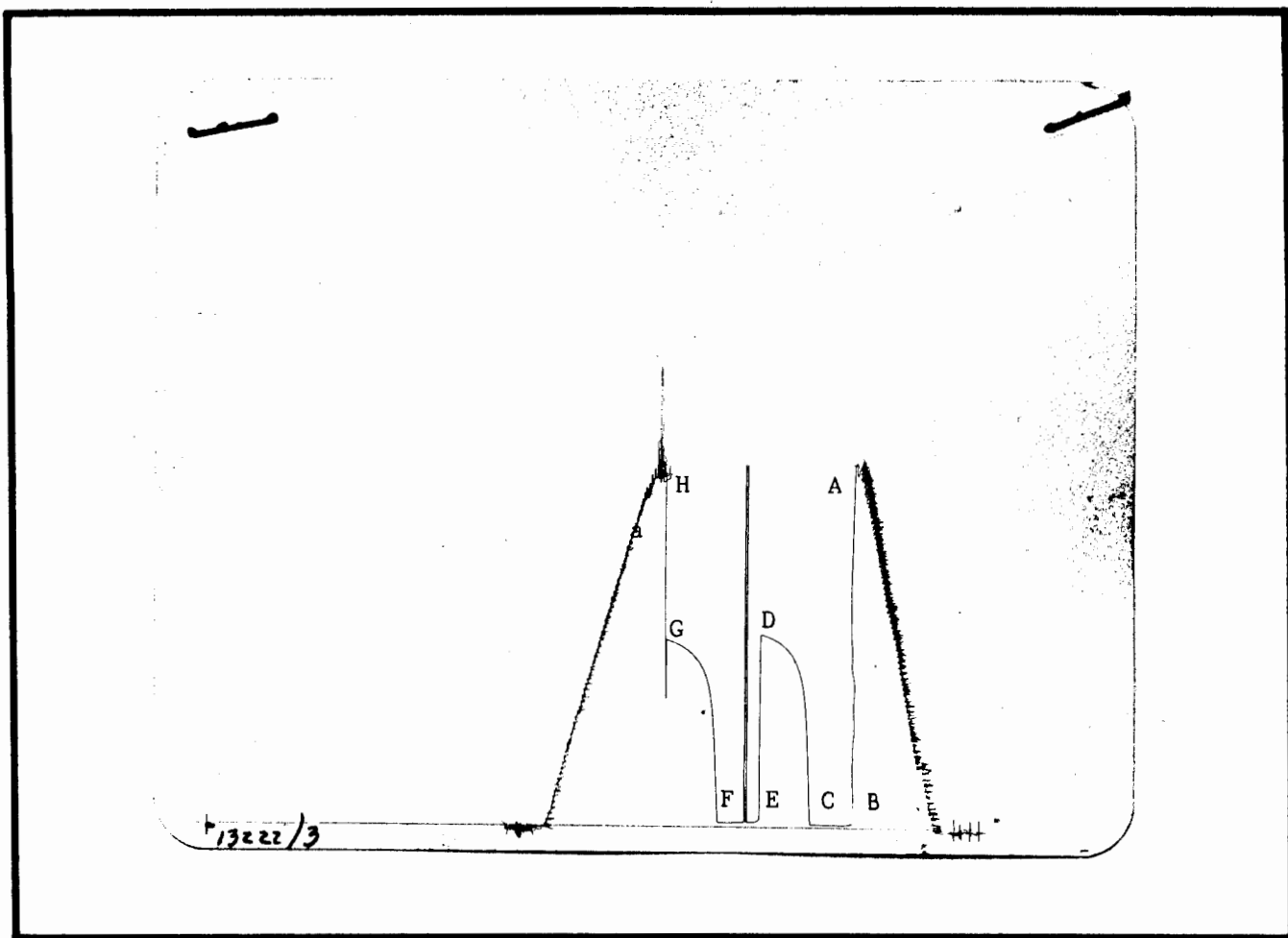
Blow Remarks 1st open: Weak 1/2" blow, died in 8 minutes.

2nd open: No blow, flushed tool. Had to flush twice before receiving surge at surface.

Chlorides: Mud Sys- 13,000 ppm

Recovery - 18,000 ppm

Resistivity: 0.301 ohms @ 65.7° F



This is an actual photograph of recorder chart.

POINT	PRESSURE	
	Field Reading	Office Reading
(A) Initial Hydrostatic Mud	2008	PSI
(B) First Initial Flow Pressure	20	PSI
(C) First Final Flow Pressure	20	PSI
(D) Initial Closed-in Pressure	1056	PSI
(E) Second Initial Flow Pressure	30	PSI
(F) Second Final Flow Pressure	30	PSI
(G) Final Closed-in Pressure	1026	PSI
(H) Final Hydrostatic Mud	1997	PSI

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DRILL-STEM TEST DATA

Company	A.L. Abercrombie Inc.	Test No.	4
Well Name & Number	Mowery #1	Zone Tested	Kansas City 180&200'
Company Address	801 Union Center Wichita Ks.	Date	1/7/84
Company Rep.	Steve Frankamp	Tester	Bill Nichols
Contractor	comapny tools	Elevation	2638 GL
Location: Sec. 2 Twp. 16s Rge. 29w Co. Lane State Ks.	Est. Feet of Pay		

Recorder No. 11091 Type AK-1 Range 4200 PSI

Recorder Depth 4043 Clock # 26193

(A) Initial Hydrostatic Mud 1977 PSI

(B) First Initial Flow Pressure 40 PSI

(C) First Final Flow Pressure 111 PSI

(D) Initial Shut-in Pressure 1076 PSI

(E) Second Initial Flow Pressure 151 PSI

(F) Second Final Flow Pressure 222 PSI

(G) Final Shut-in Pressure 1056 PSI

(H) Final Hydrostatic Mud 1967 PSI

Temperature 112

Mud Weight 9.2 Viscosity 40

Fluid Loss 12.

Interval Tested 4011-4052

Anchor Length 41

Top Packer Depth 4006

Bottom Packer Depth 4011

Total Depth 4052

Drill Pipe Size 4 FH

COLLARS 2.25 Ft. Run 718

Recovery-Total Feet 540

Recovered 120 Feet Of mud cut oil, 60% oi, 40% mud.

Recovered 180 Feet Of heavy oil cut mud, 50% oil, 50% mud.

Recovered 180 Feet Of heavy oil cut watery mud, 25% oil, 6% water, 69% mud.

Recovered 60 Feet Of oil cut watery mud, 5% oil, 15% water, 80% mud.

Recovered Feet Of -

Recovered Feet Of

Extra Equipment Price of Job \$620.00

Recorder No. 13222 Type AK-1 Range 4000 PSI

Recorder Depth 4047 Clock # 23938

Tool Open Before I.S.I. 30 Mins.

Initial Shut-in 45 Mins.

Flow Period 60 Mins.

Final Shut-in 45 Mins.

Top Choke Size 1" Hole Size 7 7/8"

Bottom Choke Size 3/4" Rubber Size 6 3/4"

Tool Open @ 5:04 PM

Blow Remarks 1st open: Strong blow for 15 minutes.

2nd open: Fair 5" blow.

Mud dropped approximately 5' at initial open.

300 ' gas in pipe.

Chlorides: Mud SYS - 13,000 ppm

Recovery - 30,000 ppm

Resistivity: 0.260 ohms @ 62.9° F

RECORDER NO. 13222 DEPTH 4047 FT.

INITIAL SHUT-IN

~~TOTAL~~ FLOW TIME: T = MIN.

DT (MIN)	(T+DT)/DT	PRESSURE (PSIG)

0	-	109
5	19.00	186
10	10.00	716
15	7.00	1006
20	5.50	1036
25	4.60	1050
30	4.00	1061
35	3.57	1066
40	3.25	1071
45	3.00	1076

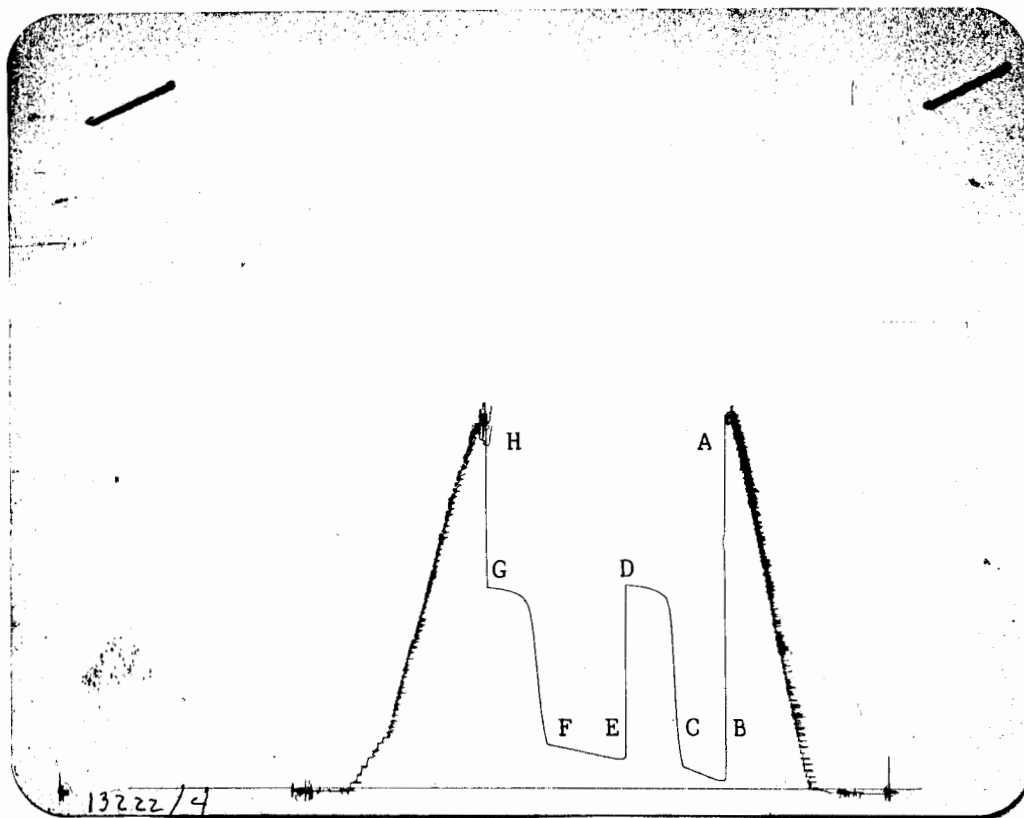
EXTRAPOLATED PRESSURE: 1137 PSI
SLOPE: 128 PSI/LOG CYCLE
POINTS USED: 6

RECORDER NO. 13222 DEPTH 4047 FT.

FINAL SHUT-IN
TOTAL FLOW TIME: T = MIN.

DT (MIN)	T+DT)/DT	PRESSURE (PSIG)
0	--	227
5	19.00	395
10	10.00	770
15	7.00	968
20	5.50	1017
25	4.60	1031
30	4.00	1044
35	3.57	1049
40	3.25	1054
45	3.00	1058

EXTRAPOLATED PRESSURE: 1112 PSI
SLOPE: 114 PSI/LOG CYCLE
POINTS USED: 6



This is an actual photograph of recorder chart.

POINT	PRESSURE	
	Field Reading	Office Reading
(A) Initial Hydrostatic Mud	1977	1972
(B) First Initial Flow Pressure	40	40
(C) First Final Flow Pressure	111	109
(D) Initial Closed-in Pressure	1076	1075
(E) Second Initial Flow Pressure	151	152
(F) Second Final Flow Pressure	222	227
(G) Final Closed-in Pressure	1056	1058
(H) Final Hydrostatic Mud	1967	1051

TEST PARAMETERS

MOWERY #1 TEST #4

DRILLPIPE CAPACITY	.0108	HOLE SIZE	7.875
DRILLCOLLAR CAPACITY	.0049	PAY THICKNESS	4' (EST)
DRILLCOLLAR LENGTH	718	VISCOSITY	8.
BOTTOM HOLE TEMP	112° F	1ST FLOW TIME	30
RECORDER NUMBER	13222	1ST SHUT-IN TIME	45
RECORDER DEPTH	4047	2ND FLOW TIME	60
ELEVATION	2638 GL	2ND SHUT-IN TIME	45
DATUM	-1409		

CALCULATIONS

EXTRAPOLATED INITIAL SHUT-IN PRESSURE (PSI)	1137
NUMBER OF POINTS USED	6
SLOPE (PSI/LOG CYCLE)	128
EXTRAPOLATED FINAL SHUT-IN PRESSURE (PSI)	1112
NUMBER OF POINTS USED	6
SLOPE (PSI/LOG CYCLE)	114
AVERAGE PRODUCTION RATE (BARRELS/DAY)	38.10
TRANSMISSIBILITY (MD.-FT./CP.)	54.35
PERMEABILITY (MD.)	108.7
PRODUCTIVITY INDEX (BARRELS/DAY/PSI)	.0614
DAMAGE RATIO	1.36
APPROXIMATE RADIUS OF INVESTIGATION (FT.)	98.90
DRAWDOWN FACTOR (%)	2.20
POTENTIOMETRIC SURFACE (FT.)	1169.7

MOMERY #1 TEST #4

INITIAL SHUT-IN



RECORDER # 13222

P_{si} = 1137 psi

M_i = 128 psi/log cycle

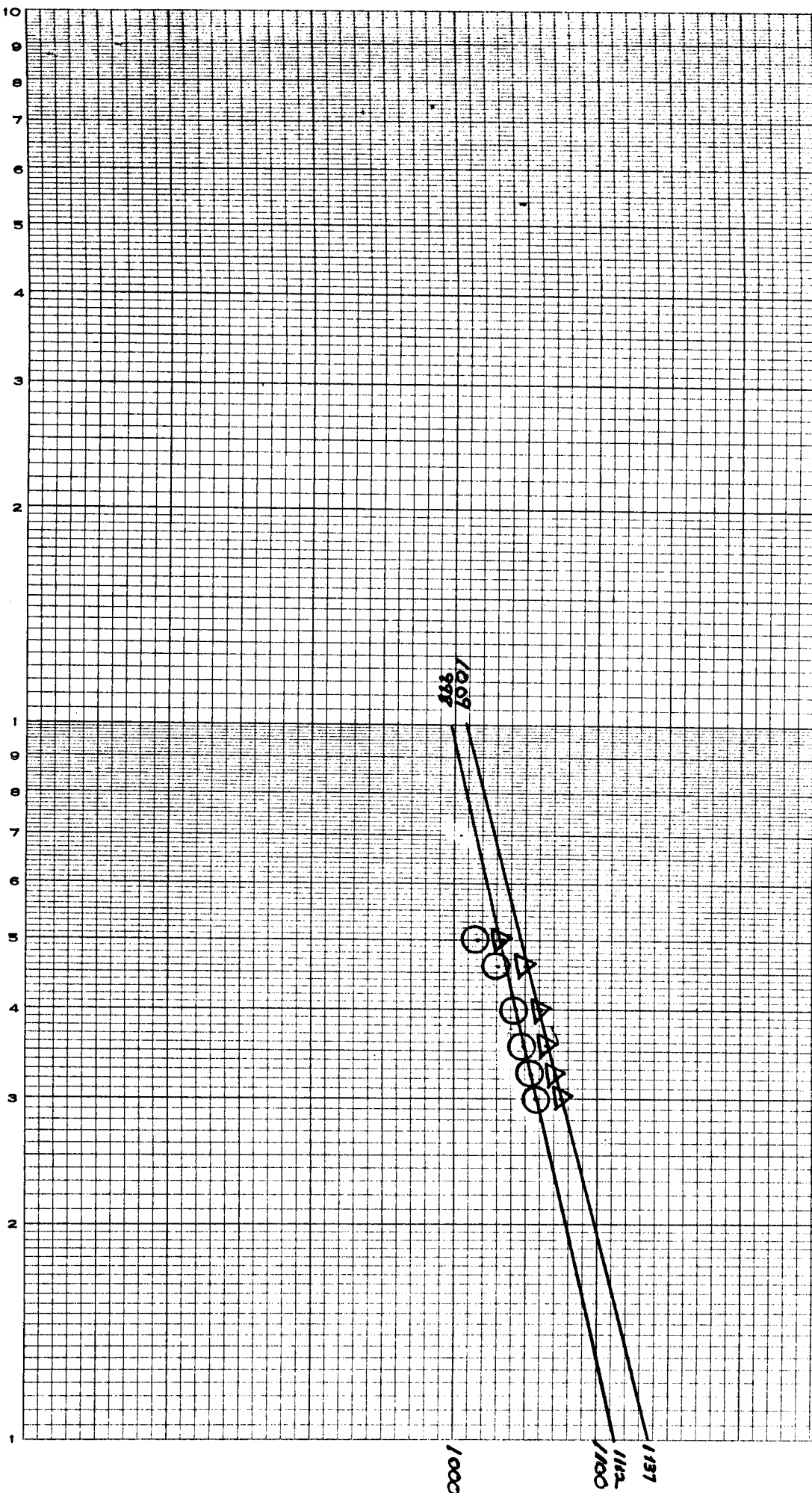
FINAL SHUT-IN



RECORDER # 13222

P_{sf} = 1112 psi

M_f = 114 psi/log cycle



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CHENEY TESTING COMPANY, INC.

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HILL CITY, KANSAS 67642

DRILL-STEM TEST DATA

Company	A.L. Abercrombie Inc.	Test No.	5
Well Name & Number	Mowery #1	Zone Tested	Kansas City 220'
Company Address	801 Union Center , Wichita Ks.	Date	1/7/84
Company Rep.	Steve Frankamp	Tester	Bill Nichols
Contractor	company tools	Elevation	2638 GL
Location: Sec. 2 Twp. 16s Rge. 29w Co. Lane State Ks.	Est. Feet of Pay		

Recorder No. 11091 Type AK-1 Range 4200 PSI

Recorder Depth 4081 Clock # 26193

(A) Initial Hydrostatic Mud 2018 PSI

(B) First Initial Flow Pressure 20 PSI

(C) First Final Flow Pressure 60 PSI

(D) Initial Shut-in Pressure 1096 PSI

(E) Second Initial Flow Pressure 101 PSI

(F) Second Final Flow Pressure 173 PSI

(G) Final Shut-in Pressure 1066 PSI

(H) Final Hydrostatic Mud 2008 PSI

Temperature 114

Mud Weight 9.4 Viscosity 42

Fluid Loss 11.2

Interval Tested 4070-4090

Anchor Length 20

Top Packer Depth 4065

Bottom Packer Depth 4070

Total Depth 4090

Drill Pipe Size 4 FH

COLLARS 2.25 Ft. Run 718

Recovery-Total Feet 330

Recovered 330 Feet Of slightly gassy, muddy water.

Recovered Feet Of

Recovered Feet Of

Recovered Feet Of

Recovered Feet Of

Recovered Feet Of

Recovered Feet Of

Extra Equipment Price of Job \$620.00

Recorder No. 13222 Type AK-1 Range 4000 PSI

Recorder Depth 4085 Clock # 23938

Tool Open Before I.S.I. 30 Mins.

Initial Shut-in 45 Mins.

Flow Period 60 Mins.

Final Shut-in 45 Mins.

Top Choke Size 1" Hole Size 7 7/8"

Bottom Choke Size 3/4" Rubber Size 6 3/4"

Tool Open @ 8:14 PM

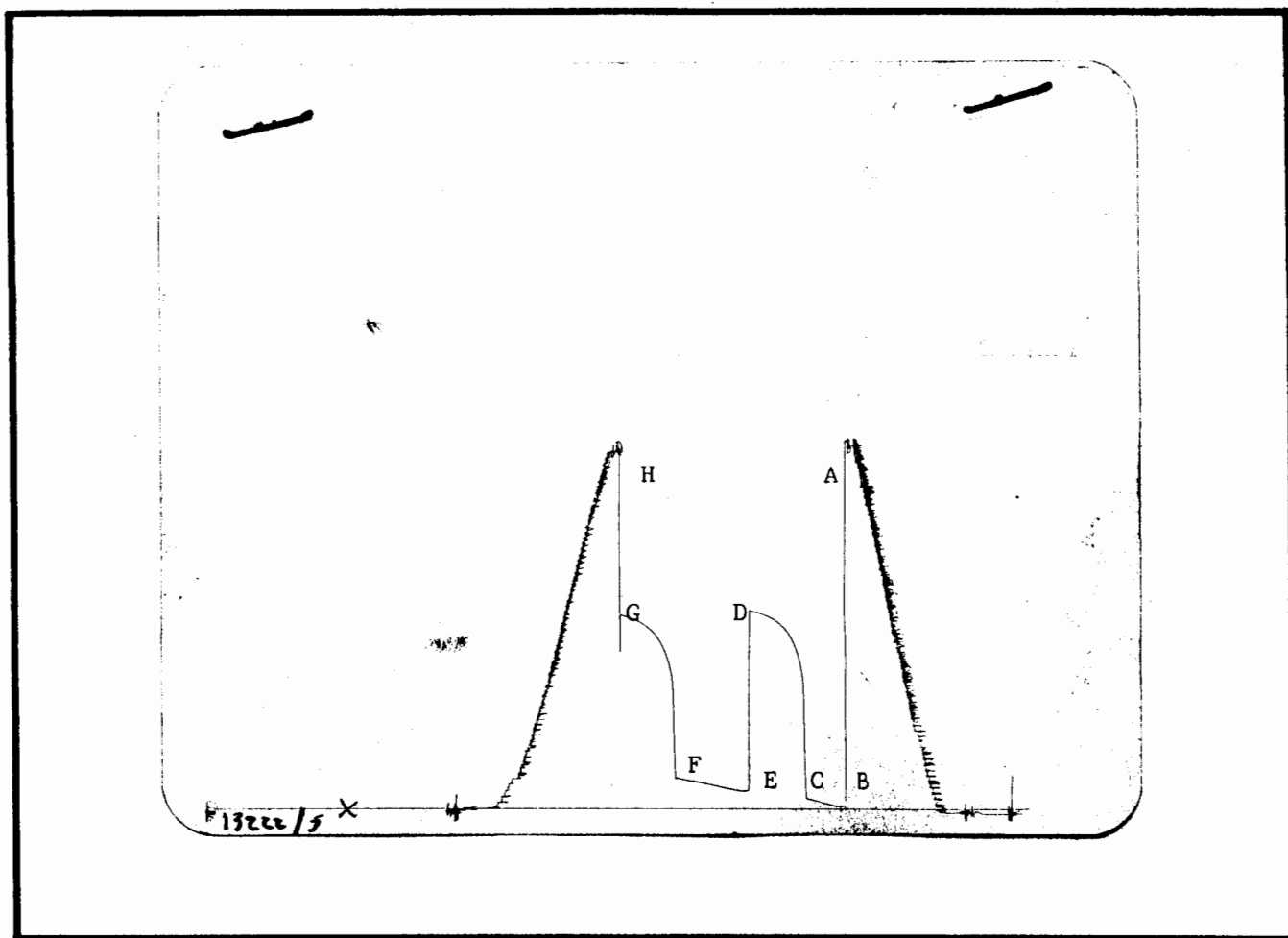
Blow Remarks 1st open: Fair 3" blow.

2nd open: Fair 6" blow.

Chlorides: Mud Sys - 13,000 ppm

Recovery - 78,000 ppm

resistivity: 0.098 ohms @ 55.7° F



This is an actual photograph of recorder chart.

POINT	PRESSURE	
	Field Reading	Office Reading
(A) Initial Hydrostatic Mud	2018	PSI
(B) First Initial Flow Pressure	20	PSI
(C) First Final Flow Pressure	60	PSI
(D) Initial Closed-in Pressure	1096	PSI
(E) Second Initial Flow Pressure	101	PSI
(F) Second Final Flow Pressure	172	PSI
(G) Final Closed-in Pressure	1066	PSI
(H) Final Hydrostatic Mud	2008	PSI

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DRILL-STEM TEST DATA

Company	A.L. Abercrombie Inc.	Test No.	6
Well Name & Number	Mowery #1	Zone Tested	Marmaton
Company Address	801 Union Center, Wichita Ks.	Date	1/8/84
Company Rep.	Steve Frankamp	Tester	Bill Nichols
Contractor	company tools	Elevation	2638 GL
Location: Sec. 2 Twp. 16s Rge. 29w Co. Lane State Ks.	Est. Feet of Pay		

Recorder No. 11091 Type AK-1 Range 4200 PSI
 Recorder Depth 4149 Clock # 26193
 (A) Initial Hydrostatic Mud 2038 PSI
 (B) First Initial Flow Pressure 40 PSI
 (C) First Final Flow Pressure 70 PSI
 (D) Initial Shut-in Pressure 1156 PSI
 (E) Second Initial Flow Pressure 101 PSI
 (F) Second Final Flow Pressure 172 PSI
 (G) Final Shut-in Pressure 1136 PSI
 (H) Final Hydrostatic Mud 2028 PSI
 Temperature 114
 Mud Weight 9.3 Viscosity 41
 Fluid Loss 8.0
 Interval Tested 4125-4158
 Anchor Length 33
 Top Packer Depth 4120
 Bottom Packer Depth 4125
 Total Depth 4158
 Drill Pipe Size 4
 COLLARS 2.25 Ft. Run 718
 Recovery-Total Feet 390

Recorder No. 13222 Type AK-1 Range 4000 PSI
 Recorder Depth 4953 Clock # 23938
 Tool Open Before I.S.I. 30 Mins.
 Initial Shut-in 45 Mins.
 Flow Period 60 Mins.
 Final Shut-in 45 Mins.
 Top Choke Size 1" Hole Size 7 7/8"
 Bottom Choke Size 3/4" Rubber Size 6 3/4"
 Tool Open @ 12:44 PM
 Blow Remarks 1st open: Strong blow for 15
minutes.
2nd open: Same as above.

930 ' gas in pipe above fluid.

Recovered 210 Feet Of gas cut oil, Gravity: 31 API corrected.
 Recovered 60 Feet Of gassy, mud cut oil, 94% oil, 5% mud, 1% water.
 Recovered 60 Feet Of gassy, heavy oil cut mud, 25% oil, 74% mud, 1% water.
 Recovered 60 Feet Of gassy heavy oil cut mud, 18% oil, 81% mud, 1% water.
 Recovered Feet Of -
 Recovered Feet Of
 Extra Equipment Price of Job \$620.00

RECORDER NO. 13222

DEPTH 4953 FT.

INITIAL SHUT-IN

~~FLOW TIME~~ FLOW TIME: T = MIN.

DT (MIN) (T+DT)/DT PRESSURE (PSIG)

0	--	71
5	19.00	344
10	10.00	936
15	7.00	1061
20	5.50	1106
25	4.60	1129
30	4.00	1141
35	3.57	1148
40	3.25	1151
45	3.00	1154

EXTRAPOLATED PRESSURE: 1230 PSI
SLOPE: 150 PSI/LOG CYCLE
POINTS USED: 5

RECORDER NO. 1322

DEPTH 4953 FT.

FINAL SHUT-IN

TOTAL FLOW TIME: T = MIN.

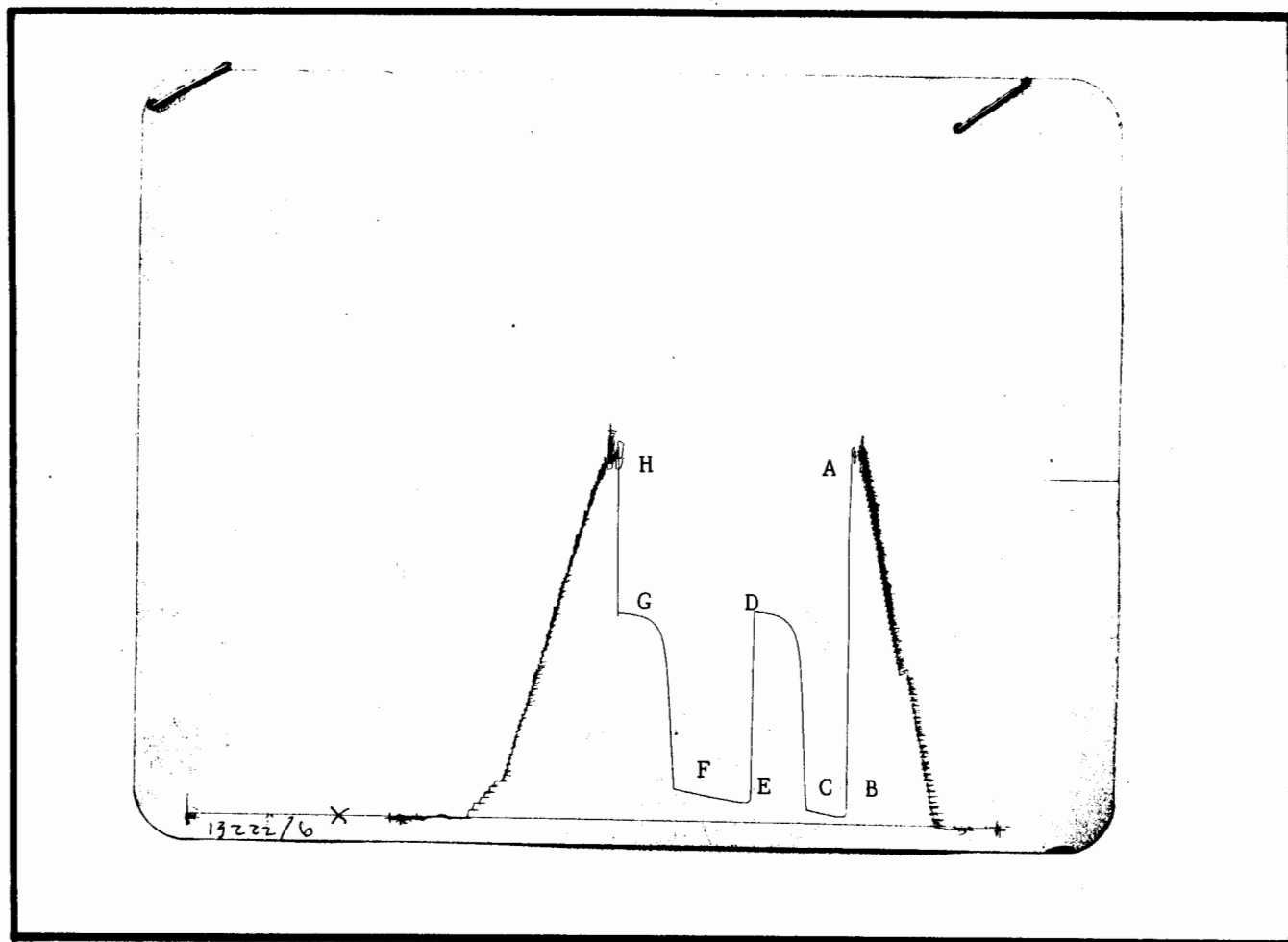
DT (MIN) T+DT)/DT PRESSURE (PSIG)

0	--	172
5	20.00	718
10	10.00	990
15	7.00	1063
20	5.50	1096
25	4.60	1111
30	4.00	1118
35	3.57	1126
40	3.25	1130
45	3.00	1134

EXTRAPOLATED PRESSURE: 1200 PSI

SLOPE: 140 PSI/LOG CYCLE

POINTS USED: 5



This is an actual photograph of recorder chart.

POINT	PRESSURE	
	Field Reading	Office Reading
(A) Initial Hydrostatic Mud	2038	2033
(B) First Initial Flow Pressure	40	39
(C) First Final Flow Pressure	70	71
(D) Initial Closed-in Pressure	1156	1154
(E) Second Initial Flow Pressure	101	106
(F) Second Final Flow Pressure	172	172
(G) Final Closed-in Pressure	1136	1134
(H) Final Hydrostatic Mud	2028	2023

TEST PARAMETERS

MOWERY #1 TEST #6

DRILLPIPE CAPACITY	.0108	HOLE SIZE	7.875
DRILLCOLLAR CAPACITY	.0049	PAY THICKNESS	4' (EST)
DRILLCOLLAR LENGTH	718	VISCOSITY	8.
BOTTOM HOLE TEMP	114° F	1ST FLOW TIME	30
RECORDER NUMBER	13222	1ST SHUT-IN TIME	45
RECORDER DEPTH	4953	2ND FLOW TIME	60
ELEVATION	2638 GL	2ND SHUT-IN TIME	45
DATUM	-2315		

CALCULATIONS

EXTRAPOLATED INITIAL SHUT-IN PRESSURE (PSI)	1230
NUMBER OF POINTS USED	5
SLOPE (PSI/LOG CYCLE)	150
EXTRAPOLATED FINAL SHUT-IN PRESSURE (PSI)	1200
NUMBER OF POINTS USED	5
SLOPE (PSI/LOG CYCLE)	140
AVERAGE PRODUCTION RATE (BARRELS/DAY)	27.52
TRANSMISSIBILITY (MD.-FT./CP.)	31.96
PERMEABILITY (MD.)	63.92
PRODUCTIVITY INDEX (BARRELS/DAY/PSI)	.036
DAMAGE RATIO	1.28
APPROXIMATE RADIUS OF INVESTIGATION (FT.)	75.85
DRAWDOWN FACTOR (%)	
POTENTIOMETRIC SURFACE (FT.)	467.8

MOWERY #1 TEST #6

INITIAL SHUT-IN



RECORDER # 13222

$P_{si} = 1230$ psi

$M_1 = 150$ psi/log cycle

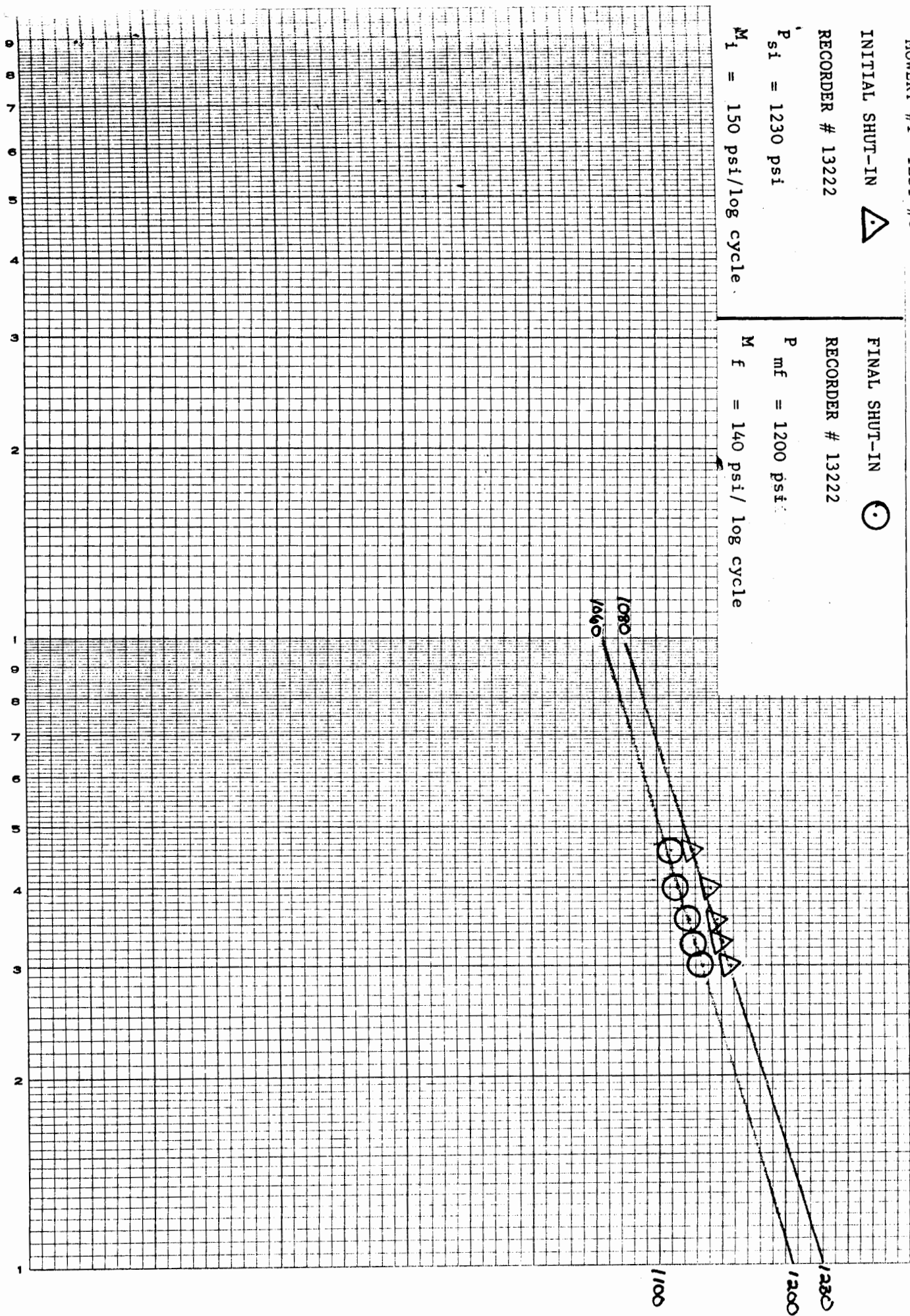
FINAL SHUT-IN



RECORDER # 13222

$P_{mf} = 1200$ psi

$M_f = 140$ psi / log cycle



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DRILL-STEM TEST DATA

Company	A.L. Abercrombie Inc.	Test No.	7
Well Name & Number	Mowery #1	Zone Tested	Marmaton
Company Address	801 Union Center, Wichita Ks.	Date	1/9/84
Company Rep.	Steve Frankamp	Tester	Bill Nichols
Contractor	company tools	Elevation	2638 GL
Location: Sec. 2 Twp. 16s Rge. 29w Co. Lane State Ks.	Est. Feet of Pay		

Recorder No. 11091 Type AK-1 Range 4200 PSI

Recorder Depth 4203 Clock # 26193

(A) Initial Hydrostatic Mud 2118 PSI

(B) First Initial Flow Pressure 50 PSI

(C) First Final Flow Pressure 131 PSI

(D) Initial Shut-in Pressure 1026 PSI

(E) Second Initial Flow Pressure 182 PSI

(F) Second Final Flow Pressure 293 PSI

(G) Final Shut-in Pressure 946 PSI

(H) Final Hydrostatic Mud 2098 PSI

Temperature 114

Mud Weight 9.1 Viscosity 50

Fluid Loss 7.4

Interval Tested 4173-4212

Anchor Length 39

Top Packer Depth 4168

Bottom Packer Depth 4173

Total Depth 4212

Drill Pipe Size 4 FH

Wt. Pipe I. D. 2.25 Ft. Run 718

Recovery-Total Feet 840

Recovered 720 Feet Of clean gassy oil: Gravity: 32 API corrected.

Recovered 60 Feet Of oil cut mud, 21% oil, 79% mud.

Recovered 60 Feet Of oil cut mud, 12% oil, 2% water, 86% mud.

Recovered Feet Of

Recovered Feet Of

Recovered Feet Of

Extra Equipment Price of Job \$620.00

Recorder No. 13222 Type Ak-1 Range 4000 PSI

Recorder Depth 4207 Clock # 23938

Tool Open Before I.S.I. 30 Mins.

Initial Shut-in 45 Mins.

Flow Period 60 Mins.

Final Shut-in 45 Mins.

Top Choke Size 1" Hole Size 7 7/8"

Bottom Choke Size 3/4" Rubber Size 6 3/4"

Tool Open @ 9:42 AM

Blow Remarks 1st open: Strong blow for 15 minutes

2nd open: Same as above.

2100' Gas in pipe above fluid.

RECORDER NO. 13222 DEPTH 4207 FT.

INITIAL SHUT-IN

TOTAL FLOW TIME: T = 90 MIN.

<u>DT (MIN)</u>	<u>T-DT) /DT</u>	<u>PRESSURE (PSIG)</u>
0	--	142
5	19.00	488
10	10.00	714
15	7.00	837
20	5.50	904
25	4.60	948
30	4.00	974
35	3.57	996
40	3.25	1008
45	3.00	1021

EXTRAPOLATED PRESSURE: 1210. PSI

SLOPE: 394.0 PSI/LOG CYCLE

POINTS USED: 5

RECORDER NO. 13222

DEPTH 4207 FT.

FINAL SHUT-IN

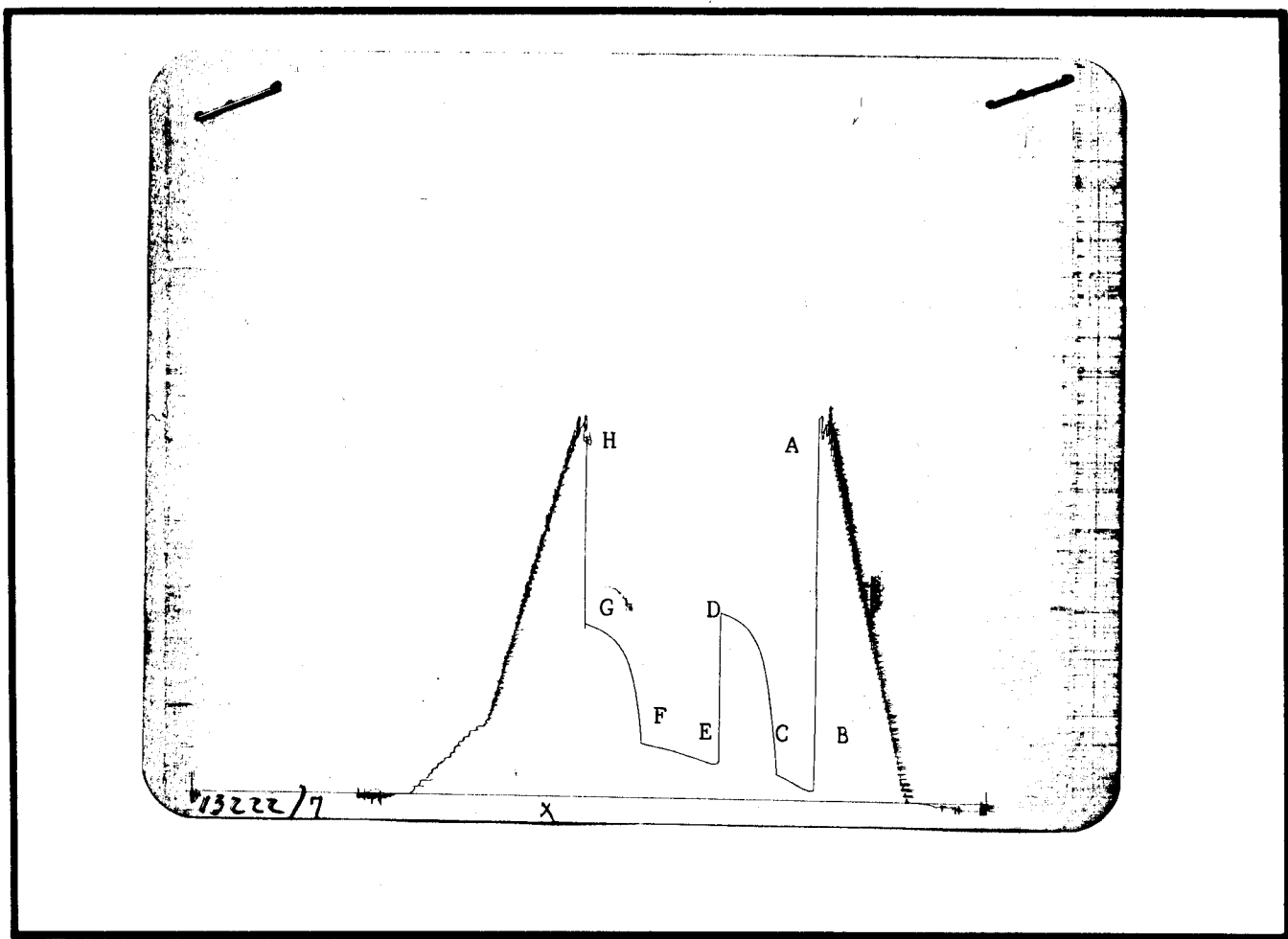
TOTAL FLOW TIME: T = 90 MIN.

DT (MIN)	T+DT)/DT	PRESSURE (PSIG)
0	---	298
5	19.00	579
10	10.00	718
15	7.00	799
20	5.50	848
25	4.60	880
30	4.00	906
35	3.57	924
40	3.25	936
45	3.00	948

EXTRAPOLATED PRESSURE: 1120.0 PSI

SLOPE: 362. PSI/LOG CYCLE

POINTS USED: 5



This is an actual photograph of recorder chart.

POINT	PRESSURE	
	Field Reading	Office Reading
(A) Initial Hydrostatic Mud	2118	2113 PSI
(B) First Initial Flow Pressure	50	55 PSI
(C) First Final Flow Pressure	131	142 PSI
(D) Initial Closed-in Pressure	1026	1021 PSI
(E) Second Initial Flow Pressure	182	190 PSI
(F) Second Final Flow Pressure	293	298 PSI
(G) Final Closed-in Pressure	946	948 PSI
(H) Final Hydrostatic Mud	2098	2093 PSI

TEST PARAMETERS

DRILLPIPE CAPACITY	.0108	HOLE SIZE	7.875"
DRILLCOLLAR CAPACITY	.0049	PAY THICKNESS	4' (EST)
DRILLCOLLAR LENGTH	718'	VISCOSITY	9
BOTTOM HOLE TEMP	114° F	1ST FLOW TIME	30
RECORDER NUMBER	13222	1ST SHUT-IN TIME	45
RECORDER DEPTH	4207	2ND FLOW TIME	60
ELEVATION	2638 GL	2ND SHUT-IN TIME	45
DATUM	-1569		

CALCULATIONS

EXTRAPOLATED INITIAL SHUT-IN PRESSURE (PSI)	1210
NUMBER OF POINTS USED	5
SLOPE (PSI/LOG CYCLE)	394.0
EXTRAPOLATED FINAL SHUT-IN PRESSURE (PSI)	1120
NUMBER OF POINTS USED	5
SLOPE (PSI/LOG CYCLE)	362.0
AVERAGE PRODUCTION RATE (BARRELS/DAY)	62.86
TRANSMISSIBILITY (MD.-FT./CP.)	28.23
PERMEABILITY (MD.)	63.52
PRODUCTIVITY INDEX (BARRELS/DAY/PSI)	.032
DAMAGE RATIO	.366
APPROXIMATE RADIUS OF INVESTIGATION (FT.)	75.60
DRAWDOWN FACTOR (%)	7.44
POTENTIOMETRIC SURFACE (FT.)	1028.28

INITIAL SHUT-IN

RECORDER #13222 @ 4207

$P_{si} = 1210.0$ psi

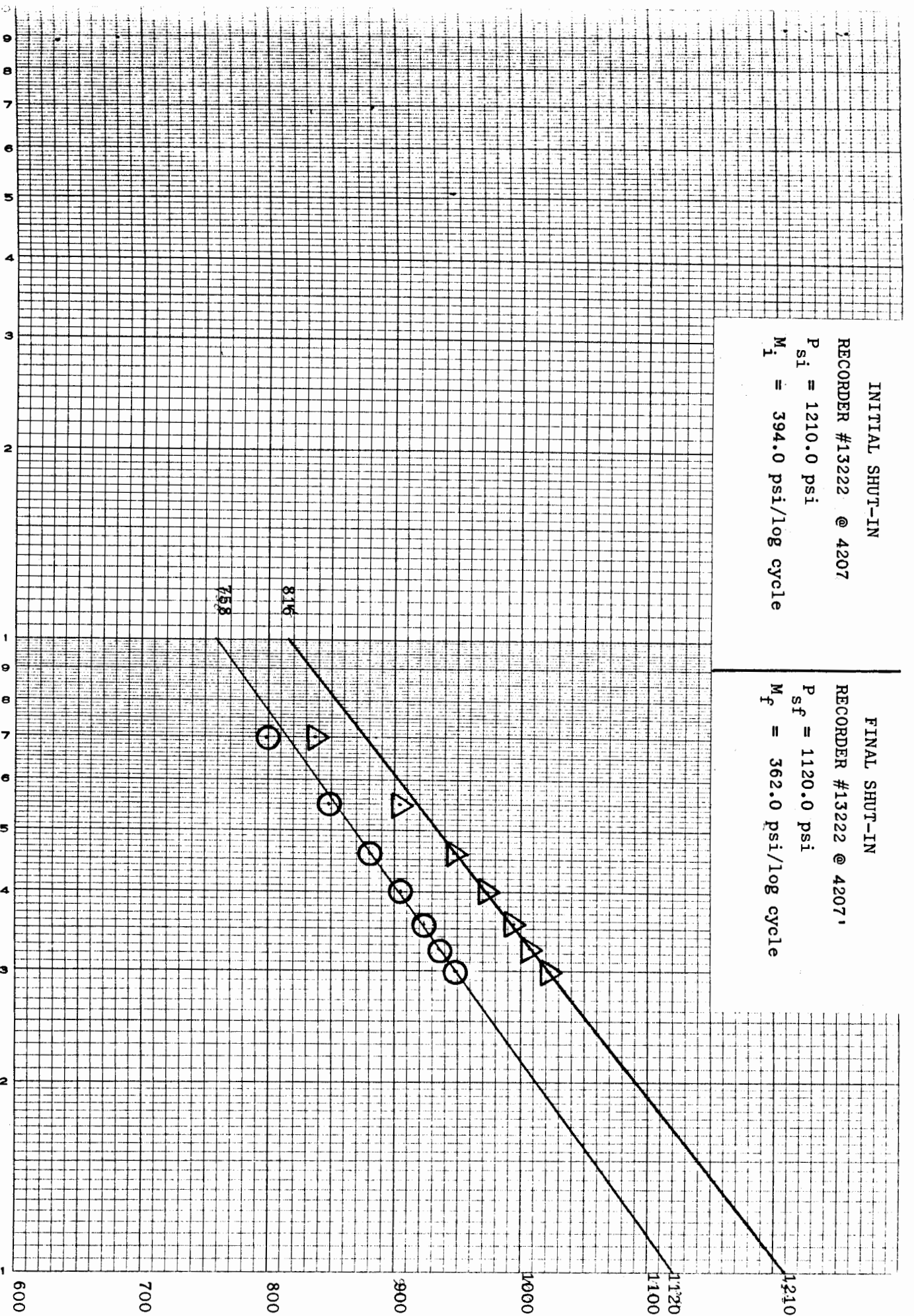
$M_i = 394.0$ psi/log cycle

FINAL SHUT-IN

RECORDER #13222 @ 4207

$P_{sf} = 1120.0$ psi

$M_f = 362.0$ psi/log cycle



CHENEY TESTING COMPANY, INC.

P. O. Box 367

HILL CITY, KANSAS 67642

DRILL-STEM TEST DATA

Company	A. L. Abercrombie Inc.	Test No.	8
Well Name & Number	Mowery #1	Zone Tested	Pawnee
Company Address	801 Union Center, Wichita, Kansas	Date	1-10-84
Company Rep.	Steve Frankamp	Tester	Bill Nichols
Contractor	Co. Tools	Elevation	2638 G.L.
Location: Sec. 2 Twp. 16s Rge. 29w Co. Lane State Ks.	Est. Feet of Pay		

Recorder No. 11091 Type AK-1 Range 4200 PSI

Recorder Depth 4266 Clock # 26193

(A) Initial Hydrostatic Mud 2159 PSI

(B) First Initial Flow Pressure 40 PSI

(C) First Final Flow Pressure 40 PSI

(D) Initial Shut-in Pressure 161 PSI

(E) Second Initial Flow Pressure 60 PSI

(F) Second Final Flow Pressure 80 PSI

(G) Final Shut-in Pressure N/A PSI

(H) Final Hydrostatic Mud 2098 PSI

Temperature 112 °F

Mud Weight 9.3 Viscosity 45

Fluid Loss 10.5

Interval Tested 4220-4275

Anchor Length 55'

Top Packer Depth 4215

Bottom Packer Depth 4220

Total Depth 4275

Drill Pipe Size 4" F.H.

Wt. Pipe I. D. 2.25 Ft. Run 718

Recovery-Total Feet 62

Recovered 62 Feet Of Slightly Oil Specked Mud.

Recovered Feet Of

Recovered Feet Of

Recovered Feet Of

Recovered Feet Of

Recovered Feet Of

Extra Equipment None Price of Job \$620.00

Recorder No. 13222 Type AK-1 Range 4000 PSI

Recorder Depth 4270 Clock # 23938

Tool Open Before I.S.I. 30 Mins.

Initial Shut-in 45 Mins.

Flow Period 30 Mins.

Final Shut-in 45 Mins.

Top Choke Size 1" Hole Size 7 7/8"

Bottom Choke Size 3/4" Rubber Size 6 3/4"

Tool Open @ 4:43 A.M.

Blow Remarks 1st Open- Weak Steady 1/2" Blow.

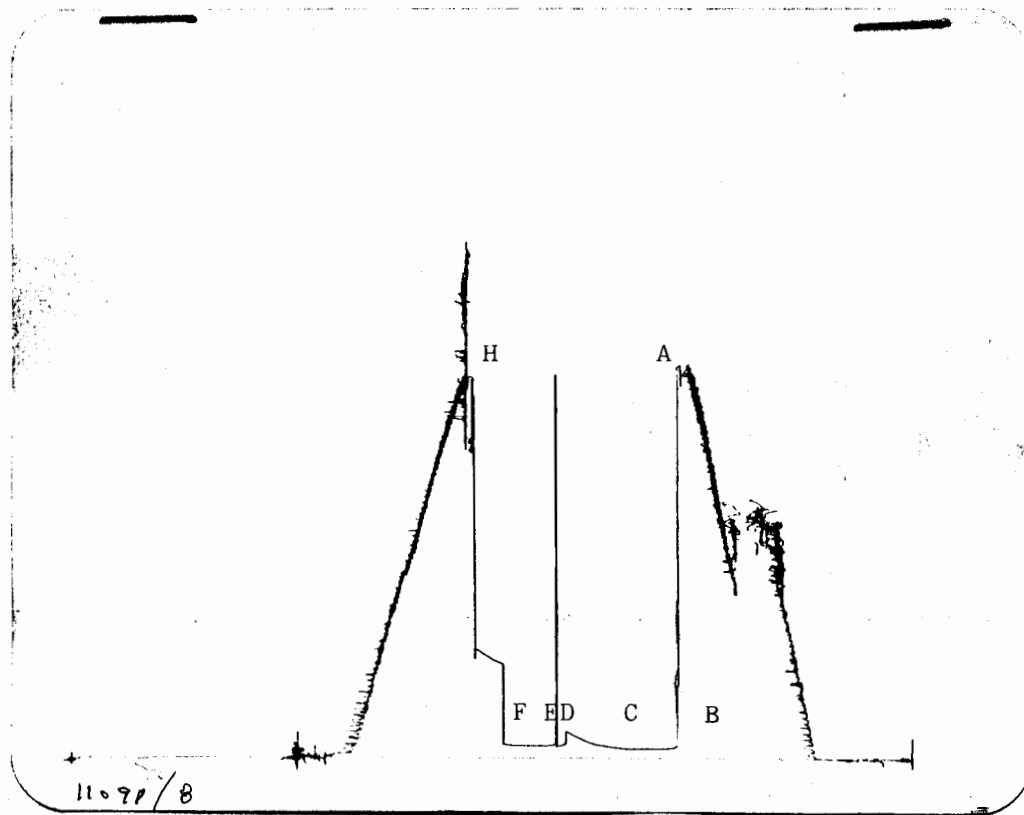
2nd Open- No Blow At Open, Flushed Tool,

Weak 1/4" Blow Returned. Died Within 20 Min.

Final Shut-in Pressure Not Available.

Picked Tool Up To High & Trapped Pressure

Which Leaked By Packers.



This is an actual photograph of recorder chart.

POINT	PRESSURE	
	Field Reading	Office Reading
(A) Initial Hydrostatic Mud	2159	PSI
(B) First Initial Flow Pressure	40	PSI
(C) First Final Flow Pressure	40	PSI
(D) Initial Closed-in Pressure	161	PSI
(E) Second Initial Flow Pressure	60	PSI
(F) Second Final Flow Pressure	80	PSI
(G) Final Closed-in Pressure	N/A	PSI
(H) Final Hydrostatic Mud	2098	PSI

CHENEY TESTING COMPANY, INC.

P. O. Box 367

HILL CITY, KANSAS 67642

DRILL-STEM TEST DATA

Company	A. L. Abercrombie Inc.	Test No.	9
Well Name & Number	Mowery #1	Zone Tested	Ft. Scott & Cherokee
Company Address	801 Union Center Wichita, Kansas	Date	1-10-84
Company Rep.	Steve Frankamp	Tester	Bill Nichols
Contractor	Company Tools	Elevation	2638 G.L.
Location: Sec. 2 Twp. 16s Rge. 29w Co. Lane State Ks.	Est. Feet of Pay		

Recorder No. 11091 Type AK-1 Range 4200 PSI

Recorder Depth 4325 Clock # 26193

(A) Initial Hydrostatic Mud 2189 PSI

(B) First Initial Flow Pressure 40 PSI

(C) First Final Flow Pressure 70 PSI

(D) Initial Shut-in Pressure 283 PSI

(E) Second Initial Flow Pressure 80 PSI

(F) Second Final Flow Pressure 80 PSI

(G) Final Shut-in Pressure 212 PSI

(H) Final Hydrostatic Mud 2179 PSI

Temperature 112 °F

Mud Weight 9.3 Viscosity 45

Fluid Loss 9.0

Interval Tested 4271-4334

Anchor Length 63'

Top Packer Depth 4266

Bottom Packer Depth 4271

Total Depth 4334

Drill Pipe Size 4" F.H.

Wt. Pipe I. D. 2.25 Ft. Run 718

Recovery-Total Feet 120'

Recovered 60' Feet Of Very Slightly Oil Specked Mud.

Recovered 60' Feet Of Gassy Oil Cut Mud- 7% Oil, 93% Mud.

Recovered Feet Of

Recovered Feet Of

Recovered Feet Of

Recovered Feet Of

Extra Equipment None Price of Job \$620.00

Recorder No. 13222 Type AK-1 Range 4000 PSI

Recorder Depth 4329 Clock # 23938

Tool Open Before I.S.I. 30 Mins.

Initial Shut-in 45 Mins.

Flow Period 60 Mins.

Final Shut-in 45 Mins.

Top Choke Size 1" Hole Size 7 7/8"

Bottom Choke Size 3/4" Rubber Size 6 3/4"

Tool Open @ 11:29 P.M.

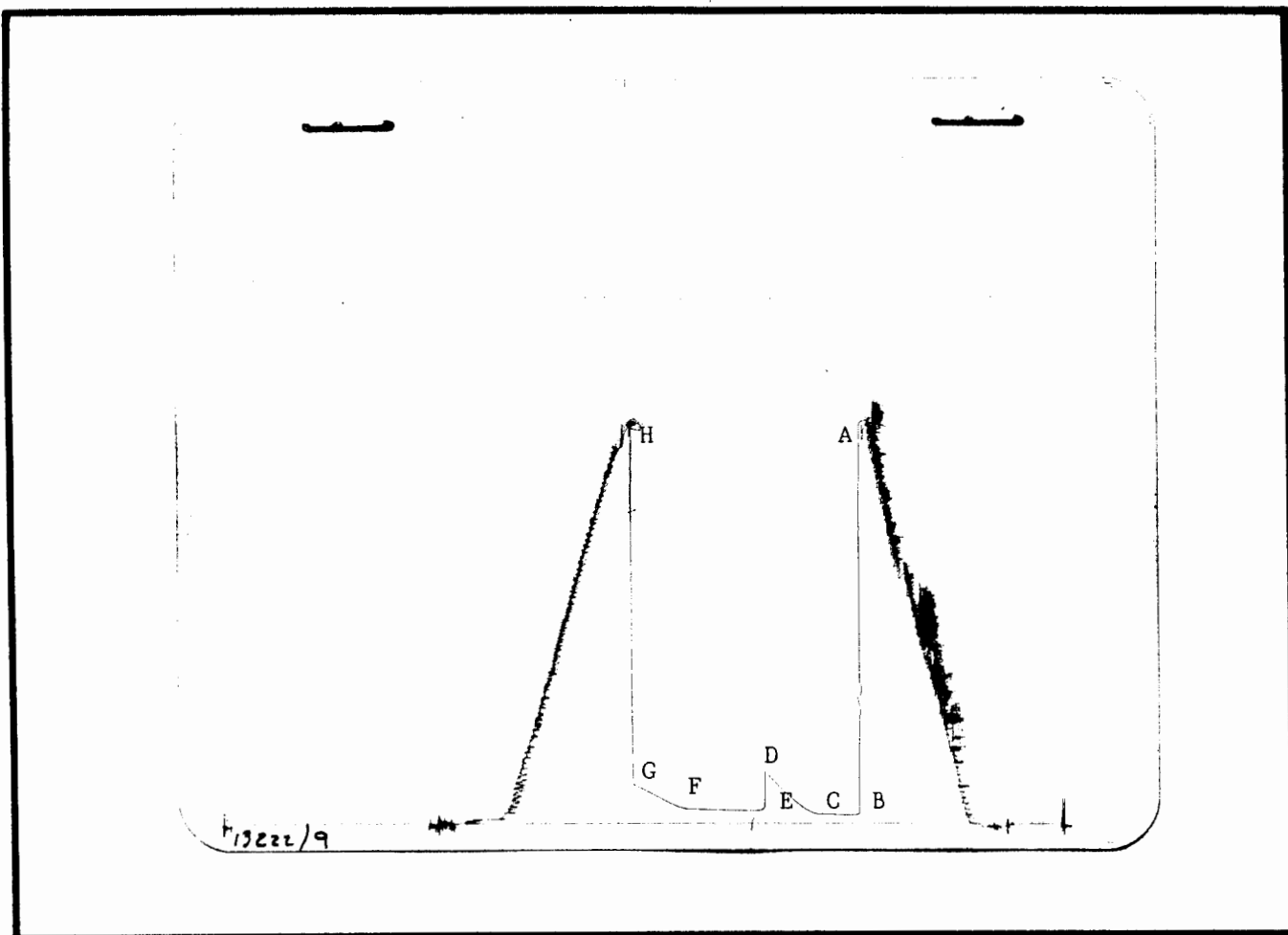
Blow Remarks 1st Open- Fair 5" Blow.

2nd Open- Weak 2" Decreasing To 1/2" Blow.

Chlorides- Mud System- 11,000 PPM

Recovery - 14,000 PPM

Resistivity- 0.516 ohms @ 61.4 °F



This is an actual photograph of recorder chart.

POINT	PRESSURE	
	Field Reading	Office Reading
(A) Initial Hydrostatic Mud	2189	PSI
(B) First Initial Flow Pressure	40	PSI
(C) First Final Flow Pressure	70	PSI
(D) Initial Closed-in Pressure	283	PSI
(E) Second Initial Flow Pressure	80	PSI
(F) Second Final Flow Pressure	80	PSI
(G) Final Closed-in Pressure	212	PSI
(H) Final Hydrostatic Mud	2179	PSI