

CHENEY TESTING COMPANY, INC.

P. O. Box 367

HILL CITY, KANSAS 67642

DRILL-STEM TEST DATA

Company	Abercrombie Drilling Inc.	Test No.	1
Well Name & Number	Flemming D #1	Zone Tested	Lansing Top 2
Company Address	801 Union Center, Wichita Ks.	Date	1/15/84
Company Rep.	Bill Darrow	Tester	Dave Hunt
Contractor	company tools	Elevation	3372 KB
Location: Sec. 3 Twp. 5s Rge. 37w Co. Chey. State Ks.		Est. Feet of Pay	

Recorder No. 13275 Type AK-1 Range 3950 PSI

Recorder Depth 4255 Clock # 25829

(A) Initial Hydrostatic Mud 2117 PSI

(B) First Initial Flow Pressure 80 PSI

(C) First Final Flow Pressure 120 PSI

(D) Initial Shut-in Pressure 1284 PSI

(E) Second Initial Flow Pressure 130 PSI

(F) Second Final Flow Pressure 190 PSI

(G) Final Shut-in Pressure 1225 PSI

(H) Final Hydrostatic Mud 2088 PSI

Temperature 112

Mud Weight 9.5 Viscosity 39

Fluid Loss 8.8

Interval Tested 4180-4260

Anchor Length 80

Top Packer Depth 4175

Bottom Packer Depth 4180

Total Depth 4260

Drill Pipe Size 4 1/2 XH

Wt. Pipe I. D. 2.70 Ft. Run 675

Recovery-Total Feet 450

Recovered 315 Feet Of oil, 98% oil. Gravity: 22 API corrected.

Recovered 45 Feet Of oil cut muddy water, 10% oil, 30% mud, 60% water.

Recovered 90 Feet Of muddy water, 80% water, 20% mud.

Recovered Feet Of

Recovered Feet Of

Recovered Feet Of

Extra Equipment Price of Job \$620.00

Recorder No. 13369 Type AK-1 Range 3900 PSI

Recorder Depth 4252 Clock # 7062

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 @ 3:20 PM

Blow Remarks: Fair blow, building to good blow, had 4" blow throughout test.

Chlorides: Well 17,000 ppm

Recovery - 18,500 ppm @ 66° F

RECORDER NO. 13275 DEPTH 4255 FT.

INITIAL SHUT-IN

TOTAL FLOW TIME: T = 90 MIN.

DT (MIN)	T-DT) /DT	PRESSURE (PSIG)
0	--	109
5	19.00	821
10	10.00	1057
15	7.00	1142
20	5.50	1188
25	4.60	1216
30	4.00	1243
35	3.57	1260
40	3.25	1270
45	3.00	1280

EXTRAPOLATED PRESSURE: 1386. PSI

SLOPE: 223. PSI/LOG CYCLE

POINTS USED: 3

RECORDER NO. 13275

DEPTH 4255 FT.

FINAL SHUT-IN

TOTAL FLOW TIME: T = 90 MIN.

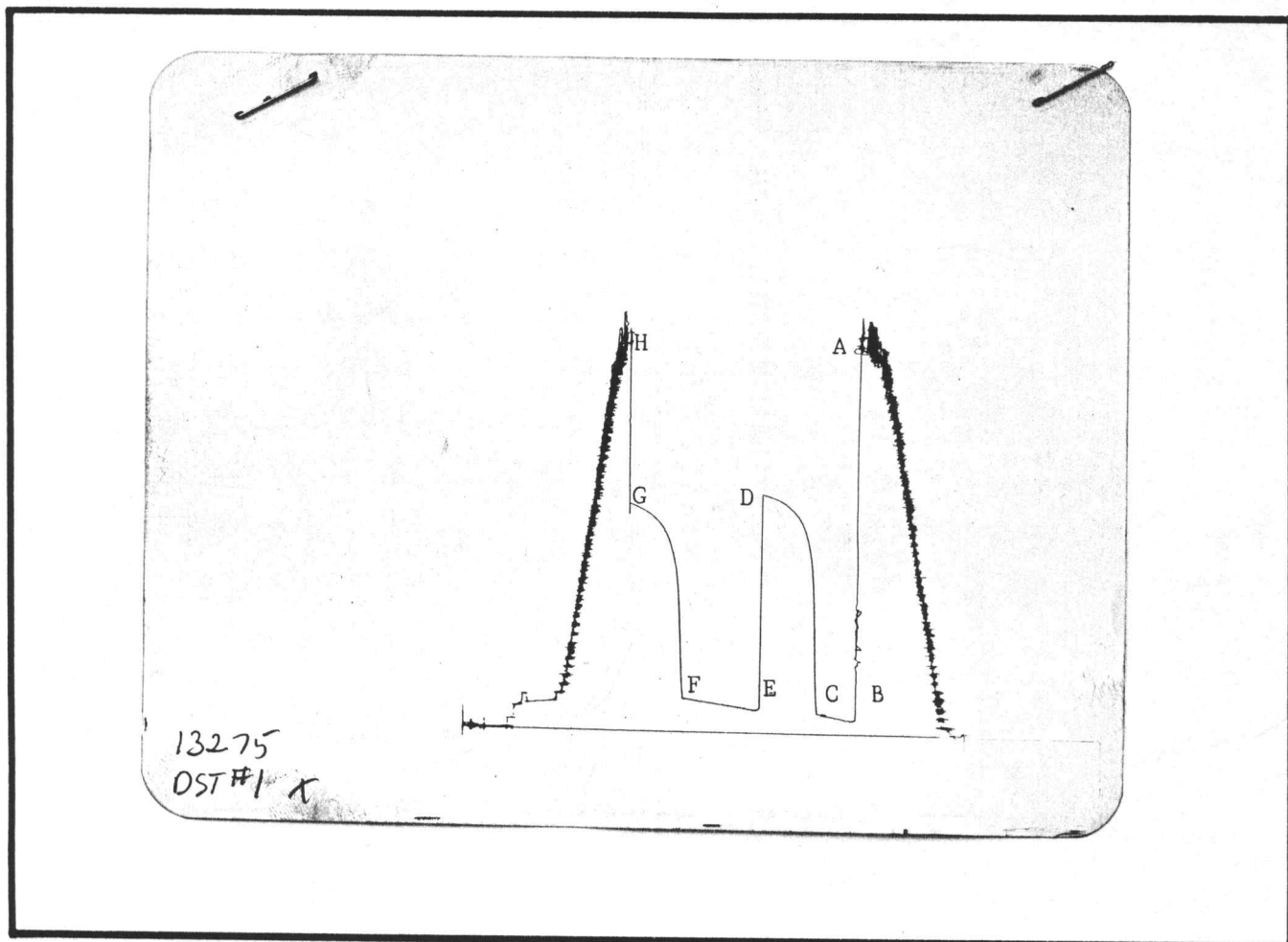
DT (MIN)	T+DT)/DT	PRESSURE (PSIG)
0	--	181
5	19.00	510
10	10.00	930
15	7.00	1046
20	5.50	1100
25	4.60	1145
30	4.00	1171
35	3.57	1190
40	3.25	1208
45	3.00	1220

EXTRAPOLATED PRESSURE: 1351.

PSI

SLOPE: 275. PSI/LOG CYCLE

POINTS USED: 2



This is an actual photograph of recorder chart.

POINT	PRESSURE	
	Field Reading	Office Reading
(A) Initial Hydrostatic Mud	2117	2112
(B) First Initial Flow Pressure	80	77
(C) First Final Flow Pressure	120	109
(D) Initial Closed-in Pressure	1284	1280
(E) Second Initial Flow Pressure	130	121
(F) Second Final Flow Pressure	190	181
(G) Final Closed-in Pressure	1225	1220
(H) Final Hydrostatic Mud	2088	2083

TEST PARAMETERS

DRILLPIPE CAPACITY _____	HOLE SIZE _____
.0142	7.875"
DRILLCOLLAR CAPACITY _____	PAY THICKNESS _____
.0074	4.
DRILLCOLLAR LENGTH _____	VISCOSITY _____
675	36
BOTTOM HOLE TEMP _____	1ST FLOW TIME _____
112° F	30
RECORDER NUMBER _____	1ST SHUT-IN TIME _____
13275	45
RECORDER DEPTH _____	2ND FLOW TIME _____
4255	60
ELEVATION _____	2ND SHUT-IN TIME _____
3372 KB	45
DATUM _____	
-883	

CALCULATIONS

EXTRAPOLATED INITIAL SHUT-IN PRESSURE (PSI)	1386
NUMBER OF POINTS USED	3
SLOPE (PSI/LOG CYCLE)	223
EXTRAPOLATED FINAL SHUT-IN PRESSURE (PSI)	1351
NUMBER OF POINTS USED	2
SLOPE (PSI/LOG CYCLE)	275
 AVERAGE PRODUCTION RATE (BARRELS/DAY)	 47.95
TRANSMISSIBILITY (MD.-FT./CP.)	28.35
PERMEABILITY (MD.)	255.15
PRODUCTIVITY INDEX (BARRELS/DAY/PSI)	.032
DAMAGE RATIO	.731
APPROXIMATE RADIUS OF INVESTIGATION (FT.)	151.54
DRAWDOWN FACTOR (%)	2.53
POTENTIOMETRIC SURFACE (FT.)	2249.97

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DRILL-STEM TEST DATA

Company	Abercrombie Drilling Inc.	Test No.	2
Well Name & Number	Flemming D #1	Zone Tested	Lansing 160'
Company Address	801 Union Center, Wichita Ks.	Date	1/16/84
Company Rep.	Bill Darrow	Tester	Dave Hunt
Contractor	company tools	Elevation	3372 KB
Location: Sec. 3 Twp. 5s Rge. 37w Co. Chey. State Ks.	Est. Feet of Pay		

Recorder No. 13275 Type AK-1 Range 3950 PSI

Recorder Depth 4385 Clock # 25829

(A) Initial Hydrostatic Mud 2383 PSI

(B) First Initial Flow Pressure 60 PSI

(C) First Final Flow Pressure 60 PSI

(D) Initial Shut-in Pressure 80 PSI

(E) Second Initial Flow Pressure 60 PSI

(F) Second Final Flow Pressure 60 PSI

(G) Final Shut-in Pressure 80 PSI

(H) Final Hydrostatic Mud 2344 PSI

Temperature 113

Mud Weight 9.8 Viscosity 39

Fluid Loss 8.8

Interval Tested 4349-4390

Anchor Length 41

Top Packer Depth 4344

Bottom Packer Depth 4349

Total Depth 4390

Drill Pipe Size 4 1/2 XH

Wt. Pipe I. D. 2.70 Ft. Run 675

Recovery-Total Feet 20

Recovered 20 Feet Of mud with a scum of oil.

Recovered Feet Of

Recovered Feet Of

Recovered Feet Of

Recovered Feet Of

Recovered Feet Of

Extra Equipment

Recorder No. 13364 Type AK-1 Range 3900 PSI

Recorder Depth 4382 Clock # 7062

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

Initial Shut-in 30 Mins.

Flow Period 30 Mins.

Final Shut-in 30 Mins.

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

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

Tool Open @ 11:15 AM

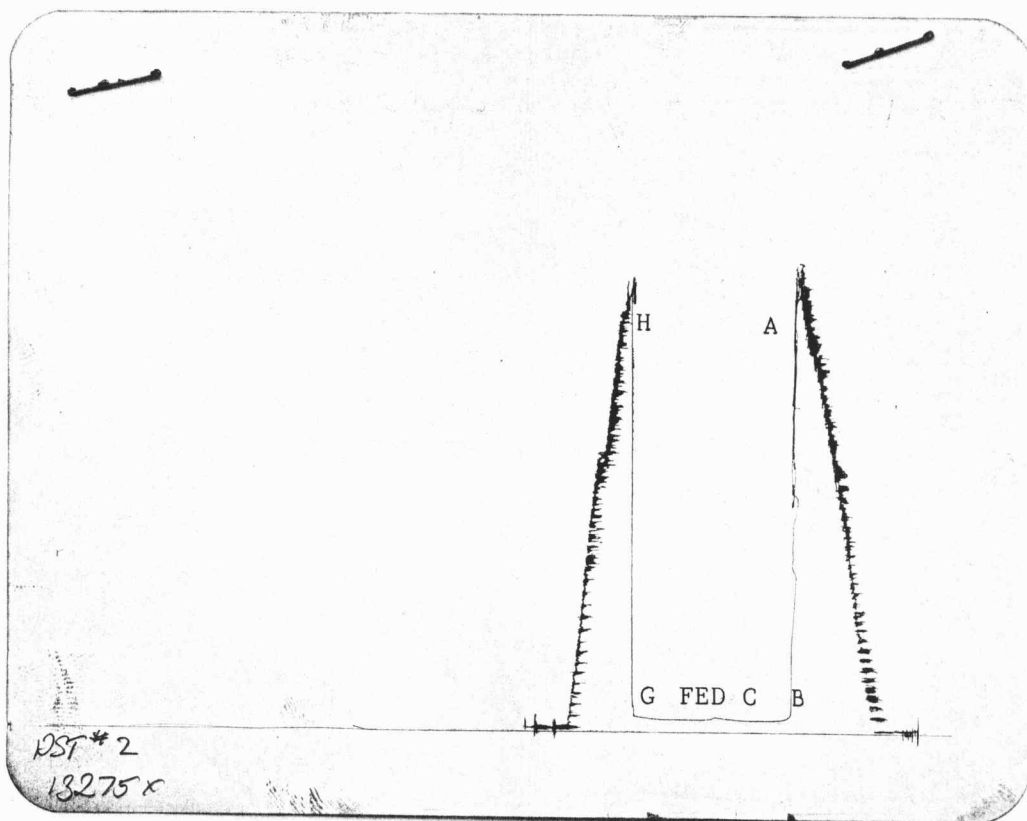
Blow Remarks 1st open: Weak decreasing blow, died in 28 minutes.

2nd open: No blow.

Chlorides: Well 17,000 ppm

Recovery - 19,000 ppm @ 62° F

Price of Job \$620.00



This is an actual photograph of recorder chart.

POINT	PRESSURE	
	Field Reading	Office Reading
(A) Initial Hydrostatic Mud	2383	PSI
(B) First Initial Flow Pressure	60	PSI
(C) First Final Flow Pressure	60	PSI
(D) Initial Closed-in Pressure	80	PSI
(E) Second Initial Flow Pressure	60	PSI
(F) Second Final Flow Pressure	60	PSI
(G) Final Closed-in Pressure	80	PSI
(H) Final Hydrostatic Mud	2344	PSI

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DRILL-STEM TEST DATA

Company	Abercrombie Drilling Inc.	Test No.	3
Well Name & Number	Flemming D #1	Zone Tested	Lansing 180'
Company Address	801 Union Center, Wichita Ks.	Date	1/16/84
Company Rep.	Bill Darrow	Tester	Dave Hunt
Contractor	company tools	Elevation	3372 KB
Location: Sec. 3 Twp. 5s Rge. 37w Co. Chey. State Ks.		Est. Feet of Pay	

Recorder No. 13275 Type AK-1 Range 3950 PSI

Recorder Depth 4427 Clock # 7062

(A) Initial Hydrostatic Mud 2265 PSI

(B) First Initial Flow Pressure 60 PSI

(C) First Final Flow Pressure 60 PSI

(D) Initial Shut-in Pressure 1108 PSI

(E) Second Initial Flow Pressure 80 PSI

(F) Second Final Flow Pressure 80 PSI

(G) Final Shut-in Pressure 1049 PSI

(H) Final Hydrostatic Mud 2245 PSI

Temperature 114

Mud Weight 9.6 Viscosity 42

Fluid Loss 8.0

Interval Tested 4387-4432

Anchor Length 45

Top Packer Depth 4382

Bottom Packer Depth 4387

Total Depth 4432

Drill Pipe Size 4 1/2 XH

Wt. Pipe I. D. 2.70 Ft. Run 675

Recovery-Total Feet 95

Recovered 95 Feet Of slightly oil & gas cut mud, 15% oil, 85% mud.

Recovered 270 Feet Of gas in pipe.

Recovered Feet Of

Recovered Feet Of

Recovered Feet Of

Recovered Feet Of

Extra Equipment Price of Job \$620.00

Recorder No. 13364 Type AK-1 Range 3900 PSI

Recorder Depth 4424 Clock # 25829

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"

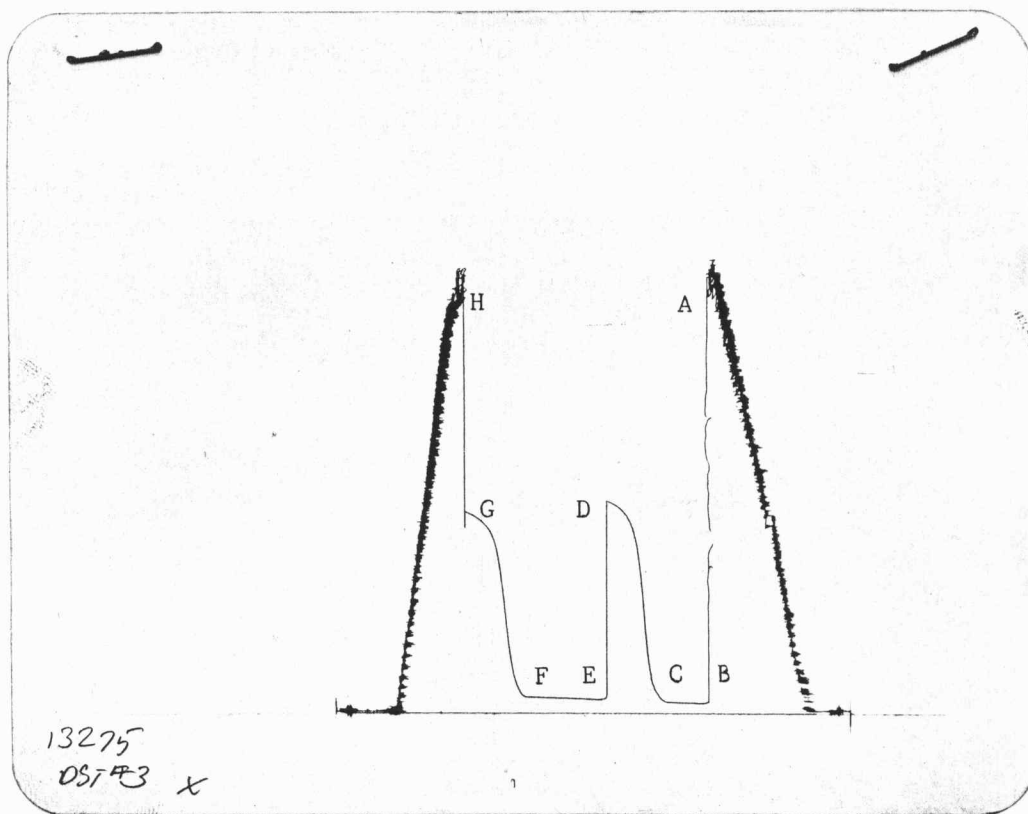
Tool Open @ 11:42 PM

Blow Remarks 1st open: Weak blow, building to fair blow, 2" blow.

2nd open: Good 5" blow throughout.

Chlorides: Well- 10,000 ppm

Recovery- 12,500 ppm @ 64° F



This is an actual photograph of recorder chart.

POINT	PRESSURE	
	Field Reading	Office Reading
(A) Initial Hydrostatic Mud	2265	PSI
(B) First Initial Flow Pressure	60	PSI
(C) First Final Flow Pressure	60	PSI
(D) Initial Closed-in Pressure	1108	PSI
(E) Second Initial Flow Pressure	80	PSI
(F) Second Final Flow Pressure	80	PSI
(G) Final Closed-in Pressure	1049	PSI
(H) Final Hydrostatic Mud	2245	PSI

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DRILL-STEM TEST DATA

Company	Abercrombie Drilling Inc.	Test No.	4
Well Name & Number	Flemming D #1	Zone Tested	Pawnee
Company Address	801 Union Center, Wichita Ks.	Date	1/17/84
Company Rep.	Bill Darrow	Tester	Dave Hunt
Contractor	company tools	Elevation	3372 KB
Location: Sec. 3	Twp. 5s Rge. 37w Co. Chey. State Ks.	Est. Feet of Pay	

Recorder No. 13275 Type AK-1 Range 3950 PSI

Recorder Depth 4635 Clock # 7062

(A) Initial Hydrostatic Mud 2413 PSI

(B) First Initial Flow Pressure 60 PSI

(C) First Final Flow Pressure 80 PSI

(D) Initial Shut-in Pressure 340 PSI

(E) Second Initial Flow Pressure 110 PSI

(F) Second Final Flow Pressure 130 PSI

(G) Final Shut-in Pressure 330 PSI

(H) Final Hydrostatic Mud 2265 PSI

Temperature 116

Mud Weight 9.5 Viscosity 44

Fluid Loss 8.8

Interval Tested 4600-4640

Anchor Length 40

Top Packer Depth 4595

Bottom Packer Depth 4600

Total Depth 4640

Drill Pipe Size 4 1/2 XH

Wt. Pipe I. D. 2.70 Ft. Run 675

Recovery-Total Feet 195

Recovered 435 Feet Of gas in pipe.

Recovered 30 Feet Of oil. Gravity: 39 API corrected.

Recovered 165 Feet Of slightly oil cut mud, 20% oil, 80% mud.

Recovered Feet Of

Recovered Feet Of

Recovered Feet Of

Extra Equipment

Recorder No. 13364 Type AK-1 Range 3900 PSI

Recorder Depth 4632 Clock # 25829

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 @ 12:23 AM

Blow Remarks 1st open: Weak blow building to strong 9" blow.

2nd open: 9" blow throughout test.

Price of Job \$620.00

RECORDER NO. 13275 DEPTH 4635 FT.

INITIAL SHUT-IN

TOTAL FLOW TIME: T = 90 MIN.

DT (MIN)	T-DT) /DT	PRESSURE (PSIG)
0	--	75
5	19.00	255
10	10.00	301
15	7.00	315
20	5.50	321
25	4.60	325
30	4.00	328
35	3.50	330
40	3.25	333
45	3.00	335

EXTRAPOLATED PRESSURE: 366 PSI

SLOPE: 57.00 PSI/LOG CYCLE

POINTS USED: 2

RECORDER NO. 13275

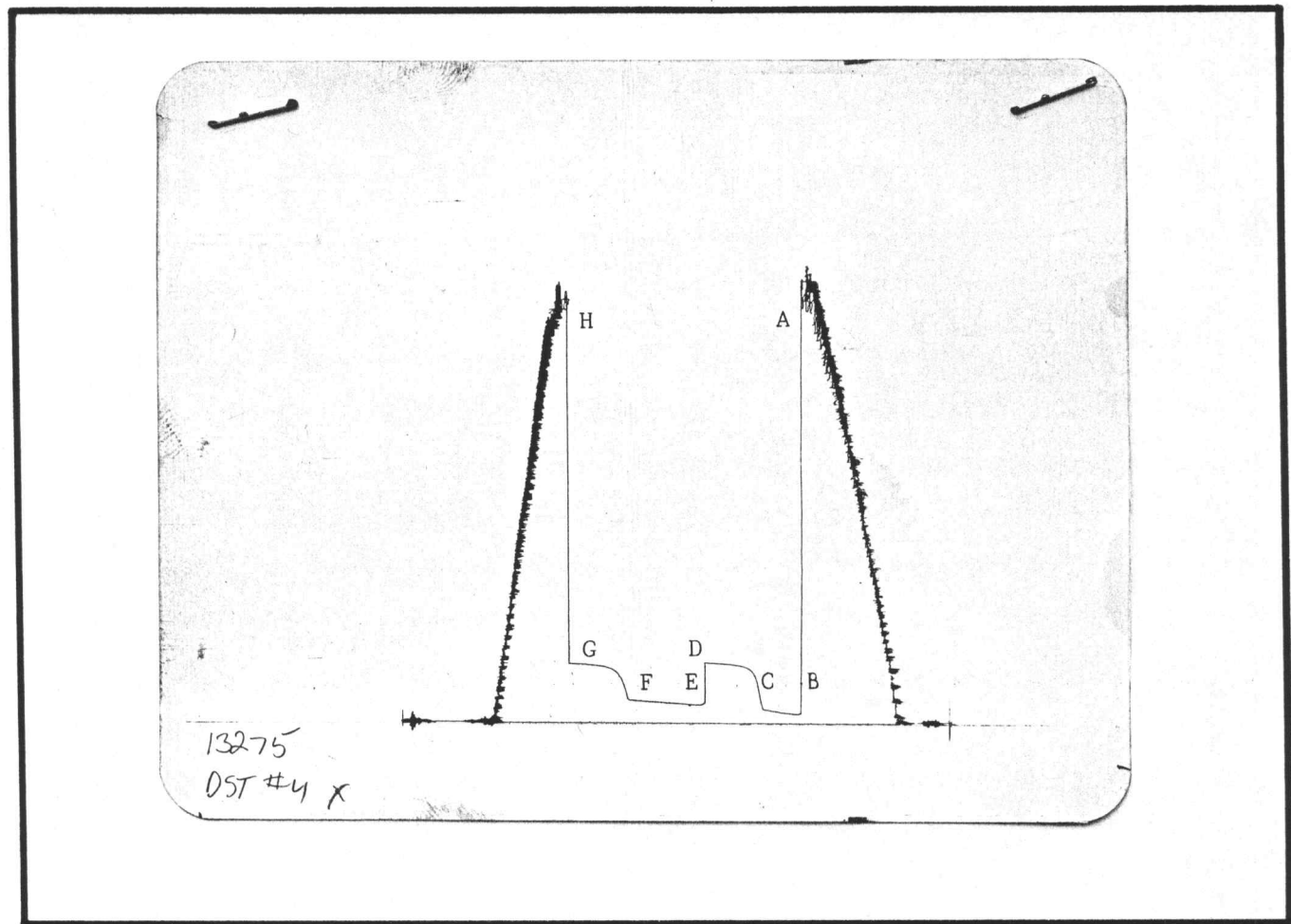
DEPTH 4635 FT.

FINAL SHUT-IN

TOTAL FLOW TIME: T = 90 MIN.

DT (MIN)	T+DT)/DT	PRESSURE (PSIG)
0	--	129
5	19.00	257
10	10.00	295
15	7.00	308
20	5.50	316
25	4.60	320
30	4.00	325
35	3.50	326
40	3.25	328
45	3.00	330

EXTRAPOLATED PRESSURE: 364. PSI
SLOPE: 73. PSI/LOG CYCLE
POINTS USED: 3



This is an actual photograph of recorder chart.

POINT	PRESSURE		
	Field Reading	Office Reading	
(A) Initial Hydrostatic Mud	2413	2408	PSI
(B) First Initial Flow Pressure	60	51	PSI
(C) First Final Flow Pressure	80	75	PSI
(D) Initial Closed-in Pressure	340	335	PSI
(E) Second Initial Flow Pressure	110	101	PSI
(F) Second Final Flow Pressure	130	129	PSI
(G) Final Closed-in Pressure	330	330	PSI
(H) Final Hydrostatic Mud	2265	2260	PSI

TEST PARAMETERS

DRILLPIPE CAPACITY	.0142	HOLE SIZE	7.875
DRILLCOLLAR CAPACITY	.0074	PAY THICKNESS	4' (EST)
DRILLCOLLAR LENGTH	675	VISCOSITY	3.5
BOTTOM HOLE TEMP	1160 F	1ST FLOW TIME	30
RECORDER NUMBER	13275	1ST SHUT-IN TIME	45
RECORDER DEPTH	4635	2ND FLOW TIME	60
ELEVATION	3372 KB	2ND SHUT-IN TIME	45
DATUM	-1263		

CALCULATIONS

EXTRAPOLATED INITIAL SHUT-IN PRESSURE (PSI)	366
NUMBER OF POINTS USED	2
SLOPE (PSI/LOG CYCLE)	57
EXTRAPOLATED FINAL SHUT-IN PRESSURE (PSI)	364
NUMBER OF POINTS USED	3
SLOPE (PSI/LOG CYCLE)	73
AVERAGE PRODUCTION RATE (BARRELS/DAY)	20.84
TRANSMISSIBILITY (MD.-FT./CP.)	46.42
PERMEABILITY (MD.)	40.62
PRODUCTIVITY INDEX (BARRELS/DAY/PSI)	.053
DAMAGE RATIO	.52
APPROXIMATE RADIUS OF INVESTIGATION (FT.)	60.46
DRAWDOWN FACTOR (%)	.55
POTENTIOMETRIC SURFACE (FT.)	-418.9

INITIAL SHUT-IN 

RECORDER # 13275 @ 4635

P_{si} = 366. psi

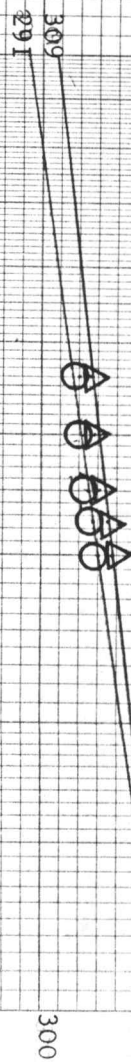
M_{si} = 57.00 psi/log cycle

FINAL SHUT-IN 

RECORDER #13275 @ 4635

P_{sf} = 364. psi

M_{sf} = 73.00 psi/log cycle



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DRILL-STEM TEST DATA

Company	Abercrombie Drilling Inc.	Test No.	5
Well Name & Number	Flemming D #1	Zone Tested	Fort Scott
Company Address	801 Union Center, Wichita Ks.	Date	1/18/84
Company Rep.	Bill Darrow	Tester	Dave Hunt
Contractor	company tools	Elevation	3372 KB
Location: Sec.	3	Twp.	5s
Rge.	37w	Co.	Chey.
State	Ks.	Est. Feet of Pay	

Recorder No. 13275 Type AK-1 Range 3950 PSI

Recorder Depth 4655 Clock # 7062

(A) Initial Hydrostatic Mud 2708 PSI

(B) First Initial Flow Pressure 40 PSI

(C) First Final Flow Pressure 40 PSI

(D) Initial Shut-in Pressure 1332 PSI

(E) Second Initial Flow Pressure 70 PSI

(F) Second Final Flow Pressure 70 PSI

(G) Final Shut-in Pressure 1176 PSI

(H) Final Hydrostatic Mud 2561 PSI

Temperature 117

Mud Weight 9.5 Viscosity 45

Fluid Loss 12.0

Interval Tested 4640-4660

Anchor Length 20

Top Packer Depth 4635

Bottom Packer Depth 4640

Total Depth 4660

Drill Pipe Size 4 1/2 XH

Wt. Pipe I. D. 2.70 Ft. Run 675

Recovery-Total Feet 100

Recovered 100 Feet Of drilling mud.

Recovered Feet Of

Recovered Feet Of

Recovered Feet Of

Recovered Feet Of

Recovered Feet Of

Extra Equipment

Recorder No. 13364 Type AK-1 Range 3900 PSI

Recorder Depth 4652 Clock # 25829

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

Initial Shut-in 45 Mins.

Flow Period 30 Mins.

Final Shut-in 30 Mins.

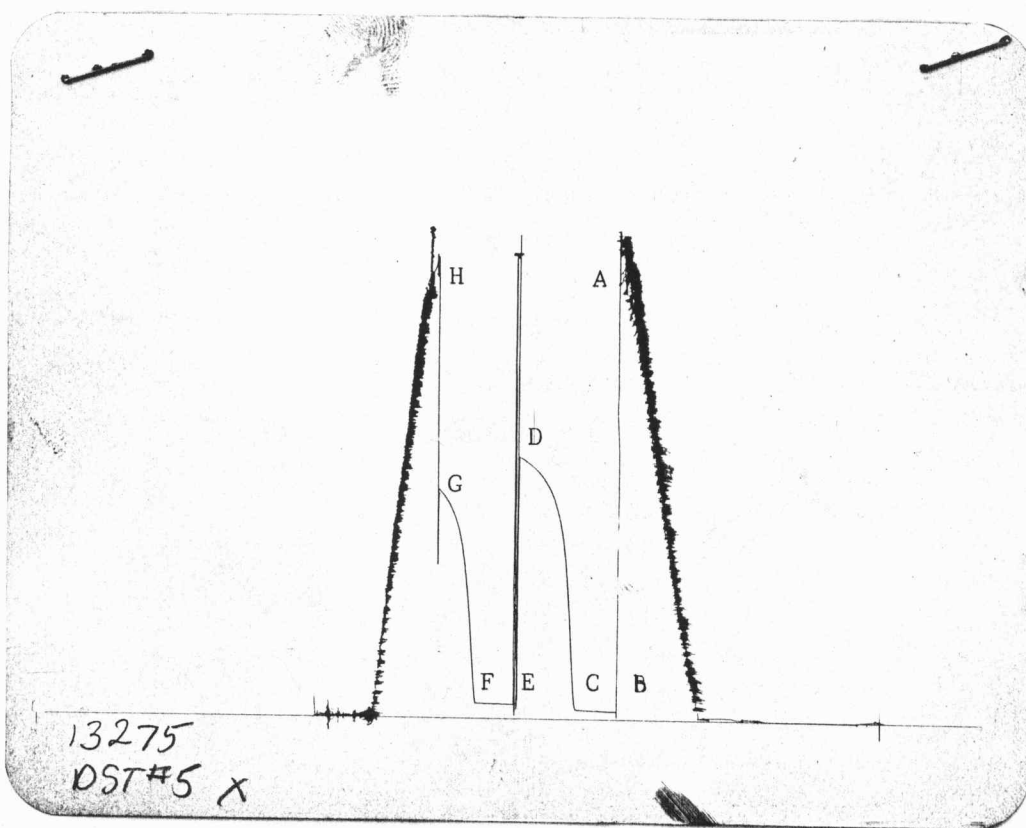
Top Choke Size 1" Hole Size 7 7/8"

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

Tool Open @ 4:12 PM

Blow Remarks 1st open: Weak decreasing blow,
died in 18 minutes.

2nd open: Flushed tool, good surge, no blow
died in 5 minutes.



This is an actual photograph of recorder chart.

POINT	PRESSURE	
	Field Reading	Office Reading
(A) Initial Hydrostatic Mud	2708	PSI
(B) First Initial Flow Pressure	40	PSI
(C) First Final Flow Pressure	40	PSI
(D) Initial Closed-in Pressure	1332	PSI
(E) Second Initial Flow Pressure	70	PSI
(F) Second Final Flow Pressure	70	PSI
(G) Final Closed-in Pressure	1176	PSI
(H) Final Hydrostatic Mud	2561	PSI