

CHENEY TESTING CO.

DRILL STEM TEST REPORT

COMPANY

RITCHIE EXPLORATION

LEASE AND WELL NO.

BUSS #1

SEC. 35

TWP. 8

RGE.

22W

TEST NO. 1

DATE

4-25-89

CHENEY TESTING COMPANY, INC.

P. O. Box 367

HILL CITY, KANSAS 67642

DRILL-STEM TEST DATA

Company	Ritchie Exploration	Test No.	1
Well Name & Number	Buss #1	Zone Tested	Topeka - Lansing
Company Address	125 N. Market #1000, Wichita, Kan.	Date	4-25-89
Company Rep.	Rocky Milford	Tester	Gary Pevoteaux
Contractor	Murfin #8	Elevation	2200 K.B. Est.
Location: Sec. 35	Twp. 8	Rge. 22W	Co. Graham State Kan
			Est. Feet of Pay

Recorder No. 13636 Type AK-1 Range 6075 PSI

Recorder Depth 3457 Clock # 22992

(A) Initial Hydrostatic Mud 1713 PSI

(B) First Initial Flow Pressure 193 PSI

(C) First Final Flow Pressure 200 PSI

(D) Initial Shut-in Pressure 1098 PSI

(E) Second Initial Flow Pressure 184 PSI

(F) Second Final Flow Pressure 184 PSI

(G) Final Shut-in Pressure 1086 PSI

(H) Final Hydrostatic Mud 1655 PSI

Temperature 109

Mud Weight 9.9 Viscosity 41

Fluid Loss 10.8 c.c.

Interval Tested 3434-3460

Anchor Length 26'

Top Packer Depth 3429

Bottom Packer Depth 3434

Total Depth 3460

Drill Pipe Size 4½ EX.H.

Wt. Pipe I. D. Collars 2.25 Ft. Run 30

Recovery-Total Feet 65

Recovered 4 Feet Of Clean Oil

Recovered 61 Feet Of S.O.C.M. (8% Oil 92% Mud)

Recovered Feet Of Gravity 36@ 60° F

Recovered Feet Of

Recovered Feet Of

Recovered Feet Of

Extra Equipment

Recorder No. 13638 Type AK-1 Range 4675 PSI

Recorder Depth 3452 Clock # 25825

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 @ 11:51 A.M.

Blow Remarks 1st open; WEak blow. Slow increase to 1½" in Wtr.

2nd open; Weak blow. Slow increase to 1½"

Well Chlorides; 12,000 P.P.M.

Rec. Chlorides; 12,000 P.P.M.

Price of Job

CHENEY TESTING CO, INC.
CALCULATION OF FORMATION CHARACTERISTICS
FROM DST DATA

FOR: RITCHIE EXPLORATION
BUSS #1
35-8S-22W
GRAHAM CO., KS.

DST # 1
FORMATION: TOPEKA-LANS.
ELEVATION: 2200 KB

TEST PARAMETERS

TEST INTERVAL: 3434 - 3460	EST PAY: 8
TIME INTERVAL: 30 - 45 - 30 - 45	VISCOSITY OF FLUID: 4
INITIAL FLOW PRESS: 239.3- 250.7	HOLE SIZE: 7.875
FINAL FLOW PRESS: 250.7- 250.7	D.C. CAPACITY:0.00492
SHUT-IN PRESS(I-F):1132.6-1107.5	W.P. CAPACITY:0.00000
BOTTOM HOLE TEMPERATURE: 109	D.P. CAPACITY:0.01402
TOTAL FEET OF RECOVERY: 65	TOTAL BARRELS RECOVERY: 0.6382

EXTRAPOLATED INITIAL SHUT-IN PRESSURE (PSI): 1278
SLOPE (PSI-CYCLE): 688 POINTS USED: 4

EXTRAPOLATED FINAL SHUT-IN PRESSURE (SI): 1240
SLOPE (PSI-CYCLE): 363 POINTS USED: 4

CALCULATIONS

PRODUCTION POTENTIAL (B/D)	: 15.32
TRANSMISSIBILITY (MD-FT/CP)	: 6.86
EFFECTIVE PERMEABILITY (MD)	: 3.43
PRODUCTIVITY INDEX (B/D/PSI)	: 0.0078
DAMAGE RATIO	: 0.499
APPROXIMATE RADIUS OF INVESTIGATION (FT)	: 14.3
DRAWDOWN FACTOR (%)	: 2.973
POTENTIOMETRIC SURFACE (FT)	:1615.56

INITIAL SHUT-IN

=====

RECORDER NO: 13638 DEPTH: 3460 FT.
INITIAL FLOW TIME (T): 30 MIN.

DT(MIN)	LOG((T+DT)/DT)	PRESSURE(P SIG)
0	0.000	250.7
5	0.845	578.8
10	0.602	922.9
15	0.477	993.6
20	0.398	1022.1
25	0.342	1059.7
30	0.301	1077.9
35	0.269	1102.9
40	0.243	1114.3
45	0.222	1132.6

FINAL SHUT-IN

=====

RECORDER NO: 13638 DEPTH: 3460 FT.
TOTAL FLOW TIME: 60 MIN.

DT(MIN)	LOG((T+DT)/DT)	PRESSURE(P SIG)
0	0.000	250.7
5	1.114	433.0
10	0.845	861.4
15	0.699	982.2
20	0.602	1027.7
25	0.531	1047.1
30	0.477	1067.6
35	0.434	1082.4
40	0.398	1097.3
45	0.368	1107.5

HORNER PLOT
RITCHIE EXPLORATION

BUSS #1

DST # 1 DEPTH: 3460

RECORDER NO. 13638

INITIAL SHUT-IN: $\diamond$

FINAL SHUT-IN: $\square$

1278 = I
1240 = F

1200

1000

800

600

400

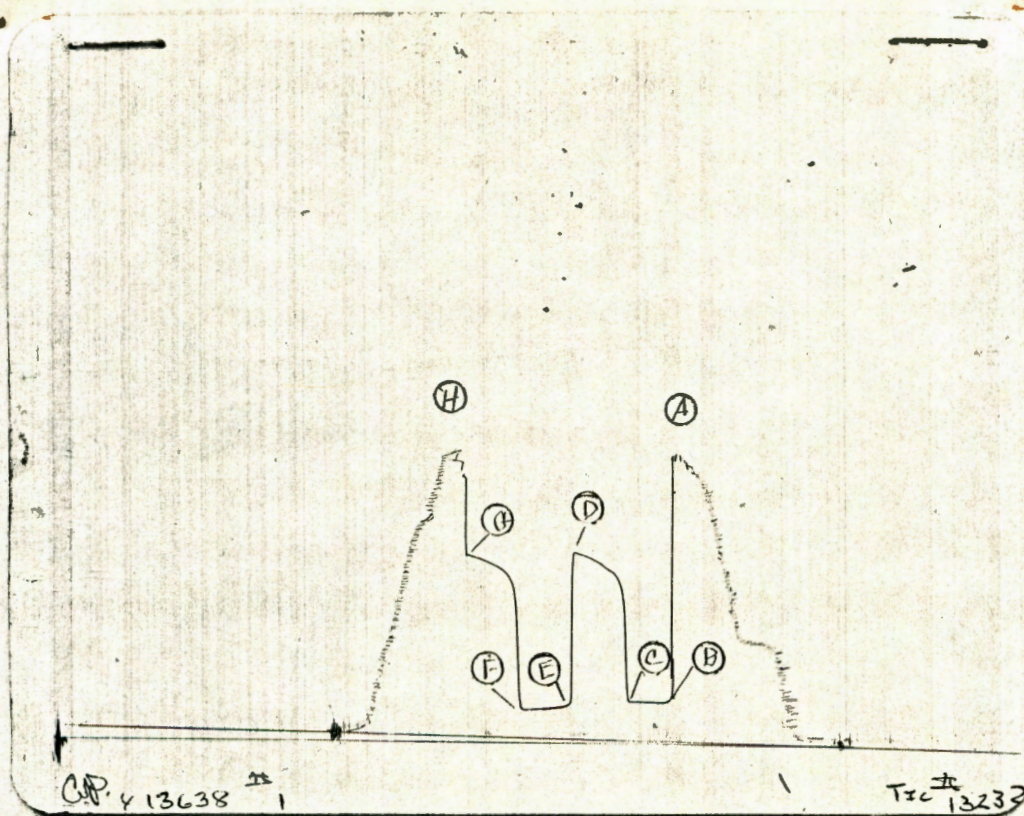
200

1278

1240

1005 (11+10) 1010

1.0 0.9 0.8 0.7 0.6 0.5 0.4 0.3 0.2 0.1 0.0



POINT	PRESSURE		
	Field Reading	Office Reading	
(A) Initial Hydrostatic Mud	1713	1742	PSI
(B) First Initial Flow Pressure	193	239.3	PSI
(C) First Final Flow Pressure	200	250.7	PSI
(D) Initial Closed-in Pressure	1098	1132.6	PSI
(E) Second Initial Flow Pressure	184	250.7	PSI
(F) Second Final Flow Pressure	184	250.7	PSI
(G) Final Closed-in Pressure	1086	1107.5	PSI
(H) Final Hydrostatic Mud	1655	1737.21	PSI

CHENEY TESTING COMPANY, INC.

P. O. Box 367

HILL CITY, KANSAS 67642

DRILL-STEM TEST DATA

Company	Ritchie Exploration	Test No.	2
Well Name & Number	Buss #1	Zone Tested	Lansing
Company Address	125 N. Market #1000, Wichita, Kan.	Date	4-26-89
Company Rep.	Rocky Milford	Tester	Gary Pevoteaux
Contractor	Murfin #8	Elevation	2200 K.B. Est.
Location: Sec. 35 Twp. 8 Rge. 22W CoGraham State Kan.	Est. Feet of Pay		

Recorder No. 13636 Type AK-1 Range 6075 PSI

Recorder Depth 3485 Clock # 22992

(A) Initial Hydrostatic Mud 1750 PSI

(B) First Initial Flow Pressure 36 PSI

(C) First Final Flow Pressure 48 PSI

(D) Initial Shut-in Pressure 1024 PSI

(E) Second Initial Flow Pressure 121 PSI

(F) Second Final Flow Pressure 148 PSI

(G) Final Shut-in Pressure 960 PSI

(H) Final Hydrostatic Mud 1708 PSI

Temperature 112°

Mud Weight 9.6 Viscosity 42

Fluid Loss 10.8 c.c.

Interval Tested 3460-3488

Anchor Length 28'

Top Packer Depth 3455

Bottom Packer Depth 3460

Total Depth 3488

Drill Pipe Size 4½ EX.H.

Wt. Pipe I. D. Collars 2.25 Ft. Run 30

Recovery-Total Feet 370 Fluid

Recovered 60 Feet Of G.I.P.

Recovered 30 Feet Of Clean Oil (Gravity 31 @ 60°F)

Recovered 30 Feet Of S.O.C.W.M. (5% Oil 25% Wtr. 70% Mud)

Recovered 310 Feet Of Saltwater (Mud 3%)

Recovered Feet Of

Recovered Feet Of

Extra Equipment

Recorder No. 13224 Type AK-1 Range 4350 PSI

Recorder Depth 3480 Clock # 27719

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 @ 12:01 A.M.

Blow Remarks 1st open; Fair to strong blow.

Bottom of bucket in 18 min.

2nd open; Fair to strong blow. Bottom of

bucket in 24 min.

Well Chlorides; 12,000 P.P.M.

Rec. Chlorides; 70,000 P.P.M.

Price of Job

CHENEY TESTING CO, INC.
CALCULATION OF FORMATION CHARACTERISTICS
FROM DST DATA

FOR: RITCHIE EXPLORATION
BUSS #1
35-8S-22W
GRAHAM CO., KS.

DST # 2
FORMATION: LANSING
ELEVATION: 2200 KB

TEST PARAMETERS

TEST INTERVAL: 3460 - 3488	EST PAY: 4
TIME INTERVAL: 30 - 30 - 30 - 30	VISCOSITY OF FLUID: 4
INITIAL FLOW PRESS: 81.9- 95.6	HOLE SIZE: 7.875
FINAL FLOW PRESS: 172.9- 185.1	D.C. CAPACITY: 0.00492
SHUT-IN PRESS(I-F): 1052.7- 992.0	W.P. CAPACITY: 0.00000
BOTTOM HOLE TEMPERATURE: 112	D.P. CAPACITY: 0.01402
TOTAL FEET OF RECOVERY: 370	TOTAL BARRELS RECOVERY: 4.9143

EXTRAPOLATED INITIAL SHUT-IN PRESSURE (PSI): 1210
SLOPE (PSI-CYCLE): 517 POINTS USED: 3

EXTRAPOLATED FINAL SHUT-IN PRESSURE (PSI): 1160
SLOPE (PSI-CYCLE): 347 POINTS USED: 5

CALCULATIONS

PRODUCTION POTENTIAL (B/D)	: 117.94
TRANSMISSIBILITY (MD-FT/CP)	: 55.27
EFFECTIVE PERMEABILITY (MD)	: 55.27
PRODUCTIVITY INDEX (B/D/PSI)	: 0.0625
DAMAGE RATIO	: 0.514
APPROXIMATE RADIUS OF INVESTIGATION (FT)	: 57.6
DRAWDOWN FACTOR (%)	: 4.132
POTENTIOMETRIC SURFACE (FT)	: 1402.04

INITIAL SHUT-IN

=====

RECORDER NO: 13636 DEPTH: 3488 FT.
INITIAL FLOW TIME (T): 30 MIN.

DT(MIN)	LOG((T+DT)/DT)	PRESSURE(PSIG)
0	0.000	95.6
5	0.845	637.1
10	0.602	907.1
15	0.477	970.8
20	0.398	1004.1
25	0.342	1033.0
30	0.301	1052.7

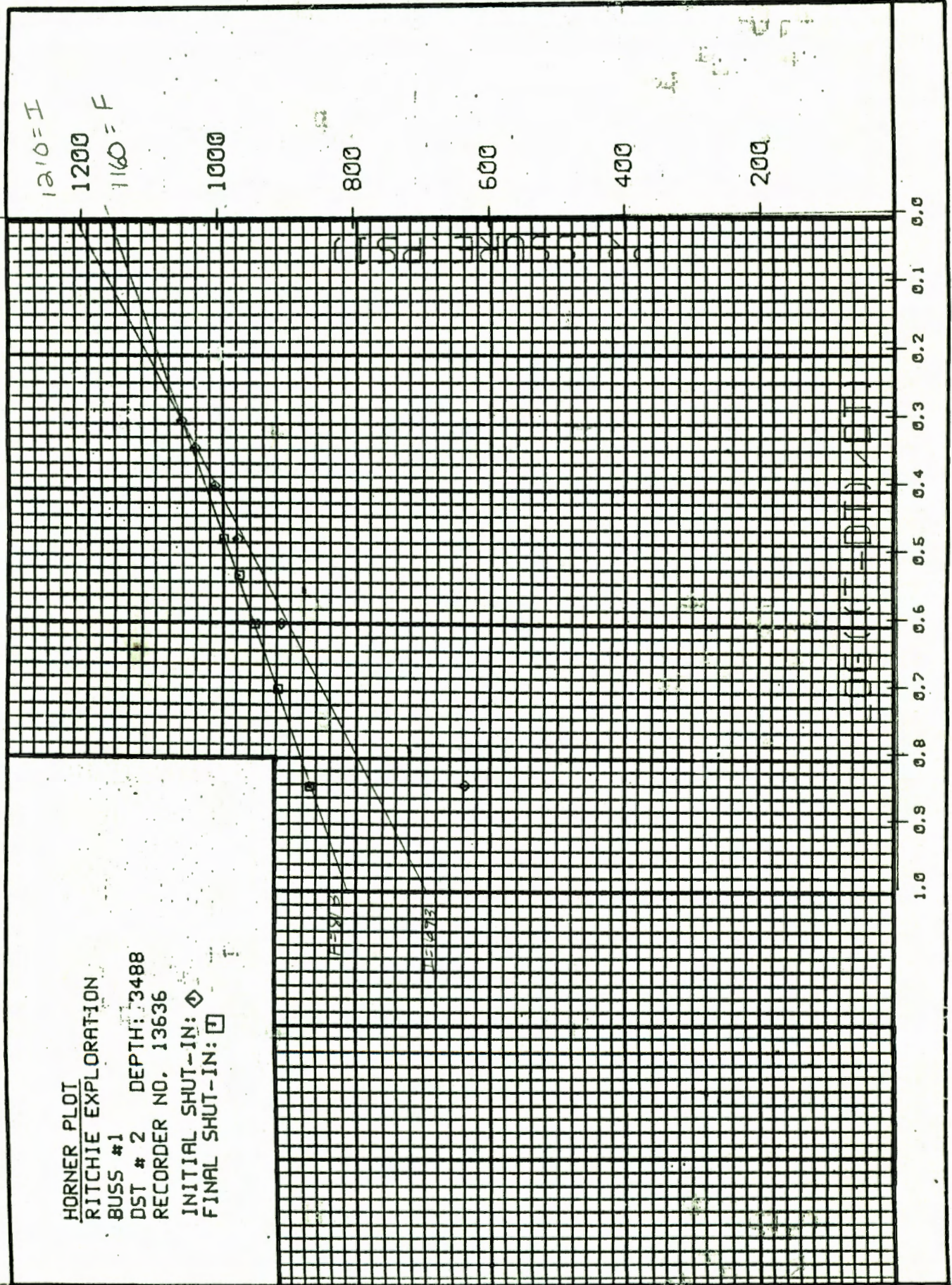
FINAL SHUT-IN

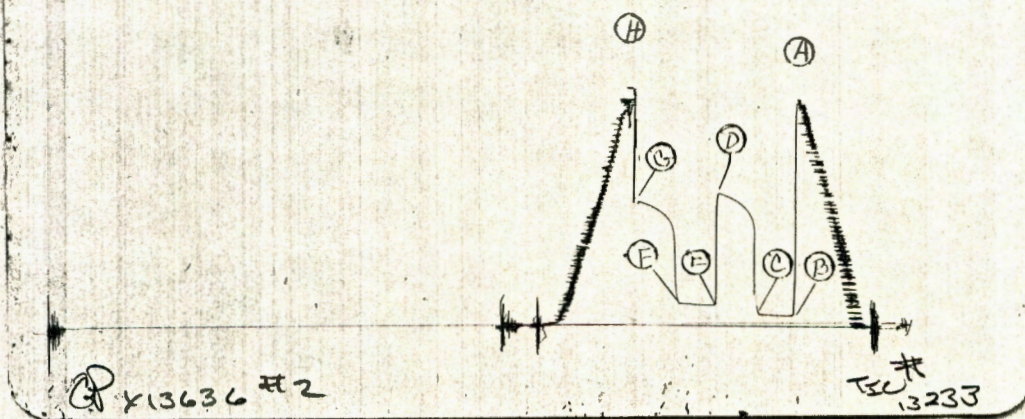
=====

RECORDER NO: 13636 DEPTH: 3488 FT.
TOTAL FLOW TIME: 60 MIN.

DT(MIN)	LOG((T+DT)/DT)	PRESSURE(PSIG)
0	0.000	185.1
5	1.114	725.0
10	0.845	864.6
15	0.699	913.1
20	0.602	946.5
25	0.531	969.2
30	0.477	992.0

HORNER PLOT
 RITCHIE EXPLORATION
 BUSS #1
 DST # 2 DEPTH: 3488
 RECORDER NO. 13636
 INITIAL SHUT-IN: $\diamond$
 FINAL SHUT-IN: $\square$





POINT	PRESSURE		
	Field Reading	Office Reading	
(A) Initial Hydrostatic Mud	1750	1815	PSI
(B) First Initial Flow Pressure	36	81.9	PSI
(C) First Final Flow Pressure	48	95.6	PSI
(D) Initial Closed-in Pressure	1024	1052.7	PSI
(E) Second Initial Flow Pressure	121	172.9	PSI
(F) Second Final Flow Pressure	148	185.1	PSI
(G) Final Closed-in Pressure	960	992.0	PSI
(H) Final Hydrostatic Mud	1708	1808.51	PSI

CHENEY TESTING COMPANY, INC.

P. O. Box 367

HILL CITY, KANSAS 67642

DRILL-STEM TEST DATA

Company	Ritchie Exploration	Test No.	3
Well Name & Number	Buss #1	Zone Tested	Lansing
Company Address	125 N. Market #1000, Wichita, Kan.	Date	4-26-89
Company Rep.	Rocky Milford	Tester	Gary Pevoteaux
Contractor	Murfin #8	Elevation	2200 K.B. Est.
Location: Sec. 35 Twp. 8 Rge. 22W CoGraham State Kan.	Est. Feet of Pay		

Recorder No. 13636 Type AK-1 Range 6075 PSI

Recorder Depth 3525 Clock # 22992

(A) Initial Hydrostatic Mud 1765 PSI

(B) First Initial Flow Pressure 45 PSI

(C) First Final Flow Pressure 75 PSI

(D) Initial Shut-in Pressure 1091 PSI

(E) Second Initial Flow Pressure 115 PSI

(F) Second Final Flow Pressure 145 PSI

(G) Final Shut-in Pressure 1063 PSI

(H) Final Hydrostatic Mud 1753 PSI

Temperature 115°

Mud Weight 9.9 Viscosity 39

Fluid Loss 10.8 c.c.

Interval Tested 3503-3528

Anchor Length 25'

Top Packer Depth 3498

Bottom Packer Depth 3503

Total Depth 3528

Drill Pipe Size 4½ EX.H.

Wt. Pipe I. D. 2.25 Ft. Run 30

Recovery-Total Feet 327

Recovered 372 Feet Of G.I.P.

Recovered 140 Feet Of Clean oil (gravity 33 @ 60° F)

Recovered 62 Feet Of H.O.C.W.M. (33% Oil 10% Wtr. 57% Mud)

Recovered 125 Feet Of S.O.C.M.W. (2% Oil 18% Mud 80% Wtr.)

Recovered Feet Of

Recovered Feet Of

Extra Equipment

Recorder No. 13224 Type AK-1 Range 4350 PSI

Recorder Depth 3520 Clock # 27719

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

Initial Shut-in 60 Mins.

Flow Period 45 Mins.

Final Shut-in 60 Mins.

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

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

Tool Open @ 3:35 P.M.

Blow Remarks 1st open; Fair to strong blow.

Bottom of bucket in 17 minutes.

2nd open; Fair to strong blow, bottom of

bucket in 24 minutes.

Well chlorides; 7,000 P.P.M.

Rec Chlorides; 64,000 P.P.M.

Price of Job

CHENEY TESTING CO, INC.
CALCULATION OF FORMATION CHARACTERISTICS
FROM DST DATA

FOR: RITCHIE EXPLORATION
BUSS #1
35-8S-22W
GRAHAM CO., KANSAS

DST # 3
FORMATION: LANSING
ELEVATION: 2200 KB

TEST PARAMETERS

TEST INTERVAL: 3503 - 3528
TIME INTERVAL: 45 - 60 - 45 - 60
INITIAL FLOW PRESS: 69.8- 83.4
FINAL FLOW PRESS: 139.5- 154.7
SHUT-IN PRESS(I-F):1093.6-1052.7
BOTTOM HOLE TEMPERATURE: 115
TOTAL FEET OF RECOVERY: 327

EST PAY: 4
VISCOSITY OF FLUID: 8
HOLE SIZE: 7.875
D.C. CAPACITY:0.00492
W.P. CAPACITY:0.00000
D.P. CAPACITY:0.01402
TOTAL BARRELS RECOVERY: 4.3115

EXTRAPOLATED INITIAL SHUT-IN PRESSURE (PSI): 1210
SLOPE (PSI-CYCLE): 480 POINTS USED: 7

EXTRAPOLATED FINAL SHUT-IN PRESSURE (PSI): 1182
SLOPE (PSI-CYCLE): 332 POINTS USED: 8

CALCULATIONS

PRODUCTION POTENTIAL (B/D)	:	68.98
TRANSMISSIBILITY (MD-FT/CP)	:	33.79
EFFECTIVE PERMEABILITY (MD)	:	67.57
PRODUCTIVITY INDEX (B/D/PSI)	:	0.0382
DAMAGE RATIO	:	0.566
APPROXIMATE RADIUS OF INVESTIGATION (FT)	:	78.0
DRAWDOWN FACTOR (%)	:	2.314
POTENTIOMETRIC SURFACE (FT)	:	1413.06

INITIAL SHUT-IN

=====

RECORDER NO: 13636 DEPTH: 3528 FT.
INITIAL FLOW TIME (T): 45 MIN.

DT(MIN)	LOG((T+DT)/DT)	PRESSURE(PSIG)
0	0.000	83.4
5	1.000	644.6
10	0.740	887.3
15	0.602	938.9
20	0.512	976.8
25	0.447	1001.1
30	0.398	1020.8
35	0.359	1037.5
40	0.327	1052.7
45	0.301	1064.8
50	0.279	1076.9
55	0.260	1086.0
60	0.243	1093.6

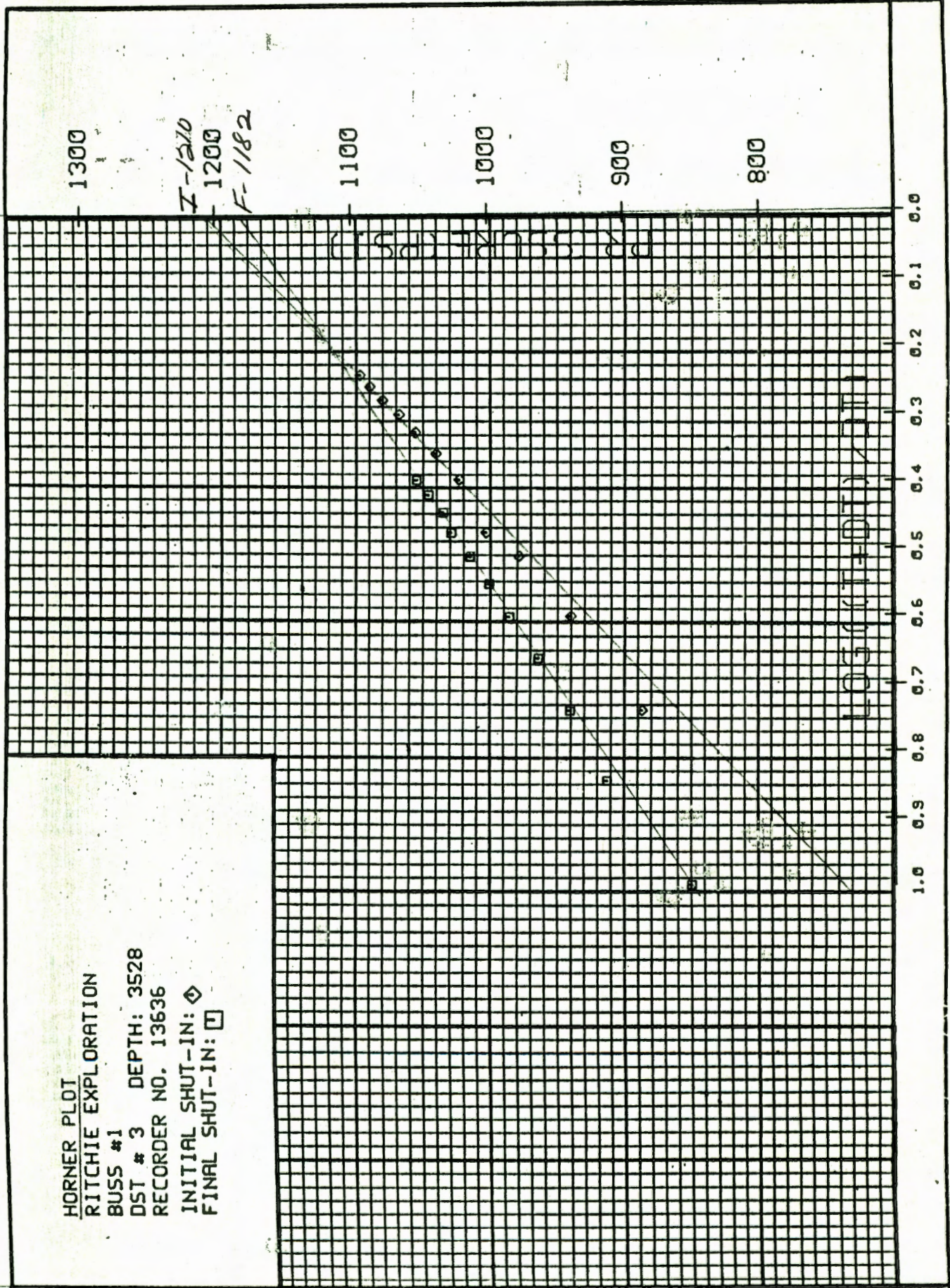
FINAL SHUT-IN

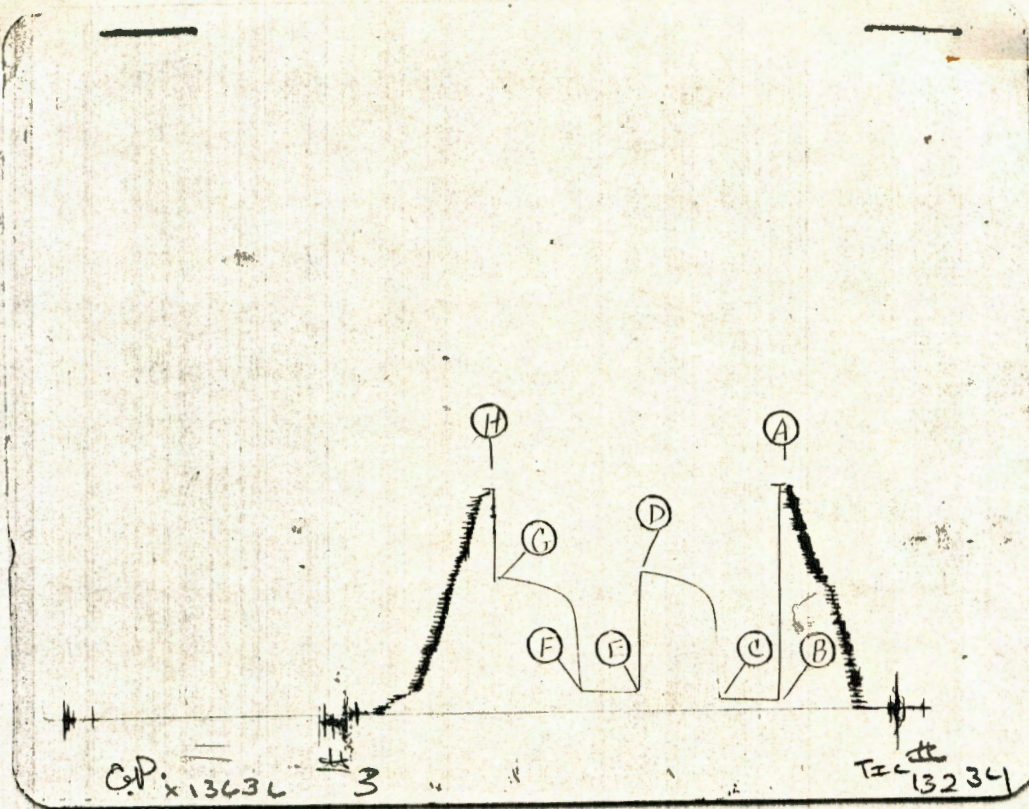
=====

RECORDER NO: 13636 DEPTH: 3528 FT.
TOTAL FLOW TIME: 90 MIN.

DT(MIN)	LOG((T+DT)/DT)	PRESSURE(PSIG)
0	0.000	139.5
5	1.279	652.2
10	1.000	850.9
15	0.845	913.1
20	0.740	940.4
25	0.663	963.2
30	0.602	984.4
35	0.553	999.6
40	0.512	1013.2
45	0.477	1026.9
50	0.447	1033.0
55	0.421	1043.6
60	0.398	1052.7

HORNER PLOT
 RITCHIE EXPLORATION
 BUSS #1
 DST # 3 DEPTH: 3528
 RECORDER NO. 13636
 INITIAL SHUT-IN: $\diamond$
 FINAL SHUT-IN: $\square$





POINT	PRESSURE		
	Field Reading	Office Reading	
(A) Initial Hydrostatic Mud	1765	1757	PSI
(B) First Initial Flow Pressure	45	69.8	PSI
(C) First Final Flow Pressure	75	83.4	PSI
(D) Initial Closed-in Pressure	1091	1193.6	PSI
(E) Second Initial Flow Pressure	115	139.5	PSI
(F) Second Final Flow Pressure	145	154.7	PSI
(G) Final Closed-in Pressure	1063	1052.7	PSI
(H) Final Hydrostatic Mud	1753	1741.64	PSI

CHENEY TESTING COMPANY, INC.

P. O. Box 367

HILL CITY, KANSAS 67542

DRILL-STEM TEST DATA

Company	Ritchie Exploration	Test No.	4
Well Name & Number	Buss #1	Zone Tested	Lansing
Company Address	125 N. Market #1000, Wichita, Kan.	Date	4-27-89
Company Rep.	Rocky Milford	Tester	Gary Pevoteaux
Contractor	Murfin #8	Elevation	2200 K.B. Est.
Location: Sec. 35 Twp. 8 Rge. 22W CoGraham State Kan.		Est. Feet of Pay	

Recorder No. 13636 Type AK-1 Range 6075 PSI

Recorder Depth 3617 Clock # 22992

(A) Initial Hydrostatic Mud 1916 PSI

(B) First Initial Flow Pressure 100 PSI

(C) First Final Flow Pressure 135 PSI

(D) Initial Shut-in Pressure 1471 PSI

(E) Second Initial Flow Pressure 152 PSI

(F) Second Final Flow Pressure 176 PSI

(G) Final Shut-in Pressure 1430 PSI

(H) Final Hydrostatic Mud 1855 PSI

Temperature 116

Mud Weight 9.8 Viscosity 40

Fluid Loss 10.8 c.c.

Interval Tested 3554-3620

Anchor Length 66'

Top Packer Depth 3549

Bottom Packer Depth 3554

Total Depth 3620

Drill Pipe Size 4½ EX.H.

Wt. Pipe I. D. 2.25 Ft. Run 30

Recovery-Total Feet 236 Fluid

Recovered 240 Feet Of G.I.P.

Recovered 50 Feet Of H.O.C.M. (42% Oil 58% Mud)

Recovered 186 Feet Of G.O.C.M. (15% Gas 25% Oil 60% Mud)

Recovered Feet Of Clean oil at top of tool.

Recovered Feet Of

Recovered Feet Of

Extra Equipment

Recorder No. 13224 Type AK-1 Range 4350 PSI

Recorder Depth 3612 Clock # 27719

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 @ 12:01 P.M.

Blow Remarks 1st open; Fair to strong blow.

Bottom of bucket in 18 min.

2nd open; Strong blow. Bottom of bucket

in 15 min.

Well Chlorides; 8,000 P.P.M.

Rec. Chlorides; N.A.

Price of Job

CHENEY TESTING CO, INC.
CALCULATION OF FORMATION CHARACTERISTICS
FROM DST DATA

FOR: RITCHIE EXPLORATION
BUSS #1
35-8S-22W
GRAHAM CO., KANSAS

DST # 4
FORMATION: LANSING
ELEVATION: 2200 KB

TEST PARAMETERS

TEST INTERVAL: 3554 - 3620	EST PAY: 4
TIME INTERVAL: 30 - 30 - 30 - 30	VISCOSITY OF FLUID: 8
INITIAL FLOW PRESS: 114.5- 141.8	HOLE SIZE: 7.875
FINAL FLOW PRESS: 158.1- 181.0	D.C. CAPACITY: 0.00492
SHUT-IN PRESS(I-F): 1479.8-1412.2	W.P. CAPACITY: 0.00000
BOTTOM HOLE TEMPERATURE: 116	D.P. CAPACITY: 0.01402
TOTAL FEET OF RECOVERY: 236	TOTAL BARRELS RECOVERY: 3.0356

EXTRAPOLATED INITIAL SHUT-IN PRESSURE (PSI): 1670
SLOPE (PSI-CYCLE): 670 POINTS USED: 4

EXTRAPOLATED FINAL SHUT-IN PRESSURE (PSI): 1650
SLOPE (PSI-CYCLE): 500 POINTS USED: 3

CALCULATIONS

PRODUCTION POTENTIAL (B/D)	: 72.86
TRANSMISSIBILITY (MD-FT/CP)	: 23.69
EFFECTIVE PERMEABILITY (MD)	: 47.38
PRODUCTIVITY INDEX (B/D/PSI)	: 0.0268
DAMAGE RATIO	: 0.538
APPROXIMATE RADIUS OF INVESTIGATION (FT)	: 53.3
DRAWDOWN FACTOR (%)	: 1.198
POTENTIOMETRIC SURFACE (FT)	: 2406.35

INITIAL SHUT-IN

=====

RECORDER NO: 13224 DEPTH: 3620 FT.
 INITIAL FLOW TIME (T): 30 MIN.

DT(MIN)	LOG((T+DT)/DT)	PRESSURE(P SIG)
=====		
0	0.000	141.8
5	0.845	436.2
10	0.602	1263.9
15	0.477	1357.7
20	0.398	1415.5
25	0.342	1450.4
30	0.301	1479.8

FINAL SHUT-IN

=====

RECORDER NO: 13224 DEPTH: 3620 FT.
 TOTAL FLOW TIME: 60 MIN.

DT(MIN)	LOG((T+DT)/DT)	PRESSURE(P SIG)
=====		
0	0.000	181.0
5	1.114	523.4
10	0.845	1155.9
15	0.699	1289.0
20	0.602	1346.8
25	0.531	1382.8
30	0.477	1412.2

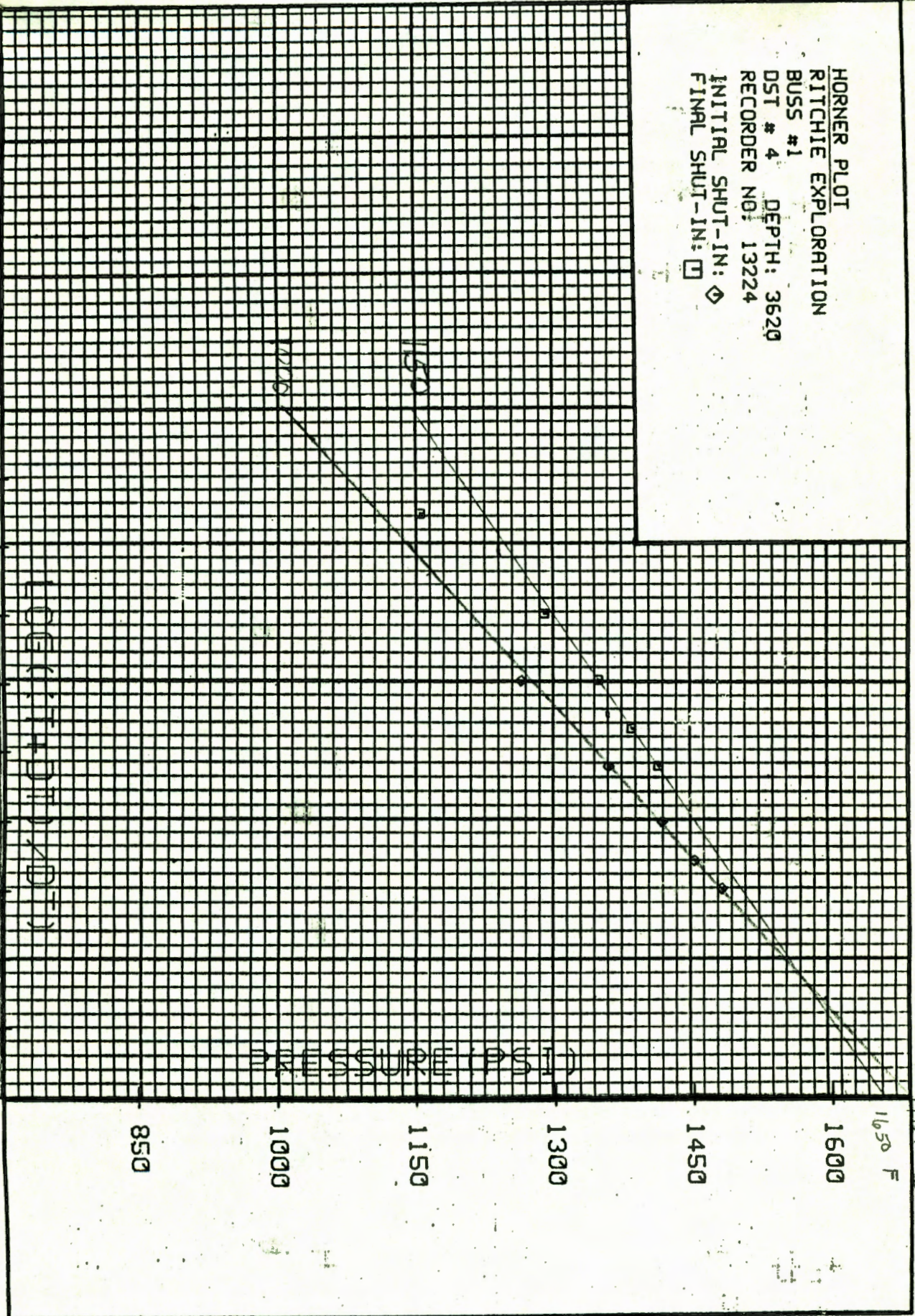
HORNER PLOT
 RITCHIE EXPLORATION
 BUSS #1
 DST # 4 DEPTH: 3620
 RECORDER NO. 13224
 INITIAL SHUT-IN: $\diamond$
 FINAL SHUT-IN: $\square$

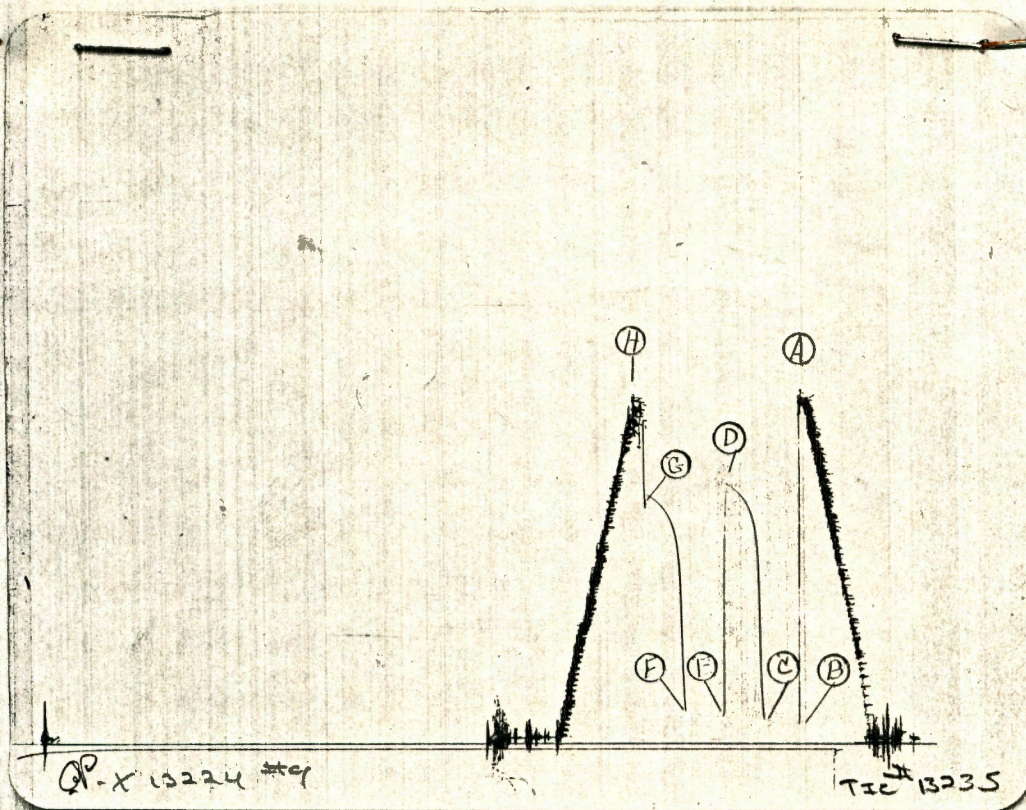
1.0 0.9 0.8 0.7 0.6 0.5 0.4 0.3 0.2 0.1 0.0

$\log((t+D^2)/D^2)$

PRESSURE (PSI)

1620 F
1650 F
1600
1450
1300
1150
1000
850





POINT	PRESSURE		PSI
	Field Reading	Office Reading	
(A) Initial Hydrostatic Mud	1916	1977	PSI
(B) First Initial Flow Pressure	100	114.5	PSI
(C) First Final Flow Pressure	135	141.8	PSI
(D) Initial Closed-in Pressure	1471	1479.8	PSI
(E) Second Initial Flow Pressure	152	158.1	PSI
(F) Second Final Flow Pressure	176	181.0	PSI
(G) Final Closed-in Pressure	1430	1412.2	PSI
(H) Final Hydrostatic Mud	1855	1952	PSI

CHENEY TESTING COMPANY, INC.

P. O. Box 367

HILL CITY, KANSAS 67642

DRILL-STEM TEST DATA

Company <u>Ritchie Exploration</u>	Test No. <u>6</u>
Well Name & Number <u>Buss #1</u>	Zone Tested <u>Arbuckle</u>
Company Address <u>125 N. Market #1000, Wichita, Kan.</u>	Date <u>4-28-89</u>
Company Rep. <u>Rocky Milford</u>	Tester <u>Gary Pevoteaux</u>
Contractor <u>Murfin #8</u>	Elevation <u>2200 K.B. Est.</u>
Location: Sec. <u>35</u> Twp. <u>8</u> Rge. <u>22W</u> Co <u>Graham</u> State <u>Kan.</u>	Est. Feet of Pay _____

Recorder No. 13636 Type AK-1 Range 6075 PSI

Recorder Depth 3792 Clock # 22992

(A) Initial Hydrostatic Mud 1930 PSI

(B) First Initial Flow Pressure 60 PSI

(C) First Final Flow Pressure 60 PSI

(D) Initial Shut-in Pressure 249 PSI

(E) Second Initial Flow Pressure 60 PSI

(F) Second Final Flow Pressure 60 PSI

(G) Final Shut-in Pressure 1121 PSI

(H) Final Hydrostatic Mud 1927 PSI

Temperature 116

Mud Weight 9.9 Viscosity 47

Fluid Loss 11.6 c.c.

Interval Tested 3722-3795

Anchor Length 73

Top Packer Depth 3717

Bottom Packer Depth 3722

Total Depth 3795

Drill Pipe Size 4½ EX.H.

Wt. Pipe I. D. 2.25 Ft. Run 30

Recovery-Total Feet 20

Recovered 20 Feet Of Mud w/a few dead tar like oil specs.

Recovered _____ Feet Of _____

Recovered _____ Feet Of _____

Recovered _____ Feet Of _____

Recovered _____ Feet Of _____

Recovered _____ Feet Of _____

Extra Equipment _____

Price of Job _____

Recorder No. 13224 Type AK-1 Range 4350 PSI

Recorder Depth 3787 Clock # 27719

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"

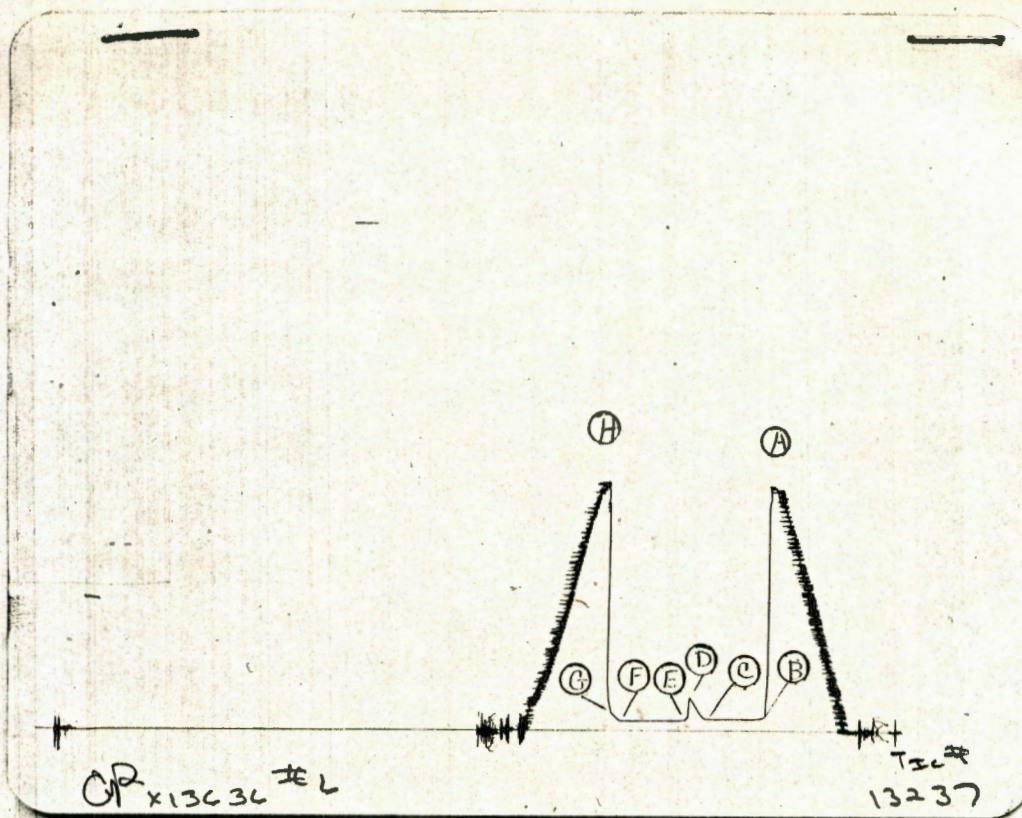
Tool Open @ 9:46 P.M.

Blow Remarks 1st open; Weak blow. ½" de-
creasing to surface blow.

2nd open: No blow.

Well Chlorides; 6,000 P.P.M.

Rec. Chlorides; 10,000 P.P.M.



POINT	PRESSURE	
	Field Reading	Office Reading
(A) Initial Hydrostatic Mud	1930	PSI
(B) First Initial Flow Pressure	60	PSI
(C) First Final Flow Pressure	60	PSI
(D) Initial Closed-in Pressure	249	PSI
(E) Second Initial Flow Pressure	60	PSI
(F) Second Final Flow Pressure	60	PSI
(G) Final Closed-in Pressure	121	PSI
(H) Final Hydrostatic Mud	1927	PSI

CHENEY TESTING COMPANY, INC.

P. O. Box 367

HILL CITY, KANSAS 67642

DRILL-STEM TEST DATA

Company	Ritchie Exploration	Test No.	5
Well Name & Number	Buss #1	Zone Tested	Lansing 200"
Company Address	125 N. Market #1000, Wichita, Kan.	Date	4-28-89
Company Rep.	Rocky Milford	Tester	Gary Pevoteaux
Contractor	Murfin #8	Elevation	2200 K.B. Est.
Location: Sec. 35 Twp. 8 Rge. 22W CoGraham State Kan.		Est. Feet of Pay	

Recorder No. 13636 Type AK-1 Range 6075 PSI

Recorder Depth 3634 Clock # 22992

(A) Initial Hydrostatic Mud 1884 PSI

(B) First Initial Flow Pressure 97 PSI

(C) First Final Flow Pressure 115 PSI

(D) Initial Shut-in Pressure 1033 PSI

(E) Second Initial Flow Pressure 115 PSI

(F) Second Final Flow Pressure 118 PSI

(G) Final Shut-in Pressure 945 PSI

(H) Final Hydrostatic Mud 1802 PSI

Temperature 112

Mud Weight 9.8 Viscosity 40

Fluid Loss 10.8 c.c.

Interval Tested 3616-3637

Anchor Length 21'

Top Packer Depth -

Bottom Packer Depth 3616

Total Depth 3637

Drill Pipe Size 4 1/2 EX.H.

Wt. Pipe I. D. 2.25 Ft. Run 30

Recovery-Total Feet 195

Recovered 70 Feet Of Heavy Drlg. Mud

Recovered 125 Feet Of M.W. w/a few oil specs (40% Mud 60% Wtr.)

Recovered Feet Of

Recovered Feet Of

Recovered Feet Of

Recovered Feet Of

Recovered Feet Of

Extra Equipment Price of Job

Recorder No. 13224 Type AK-1 Range 4350 PSI

Recorder Depth 3629 Clock # 27719

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"

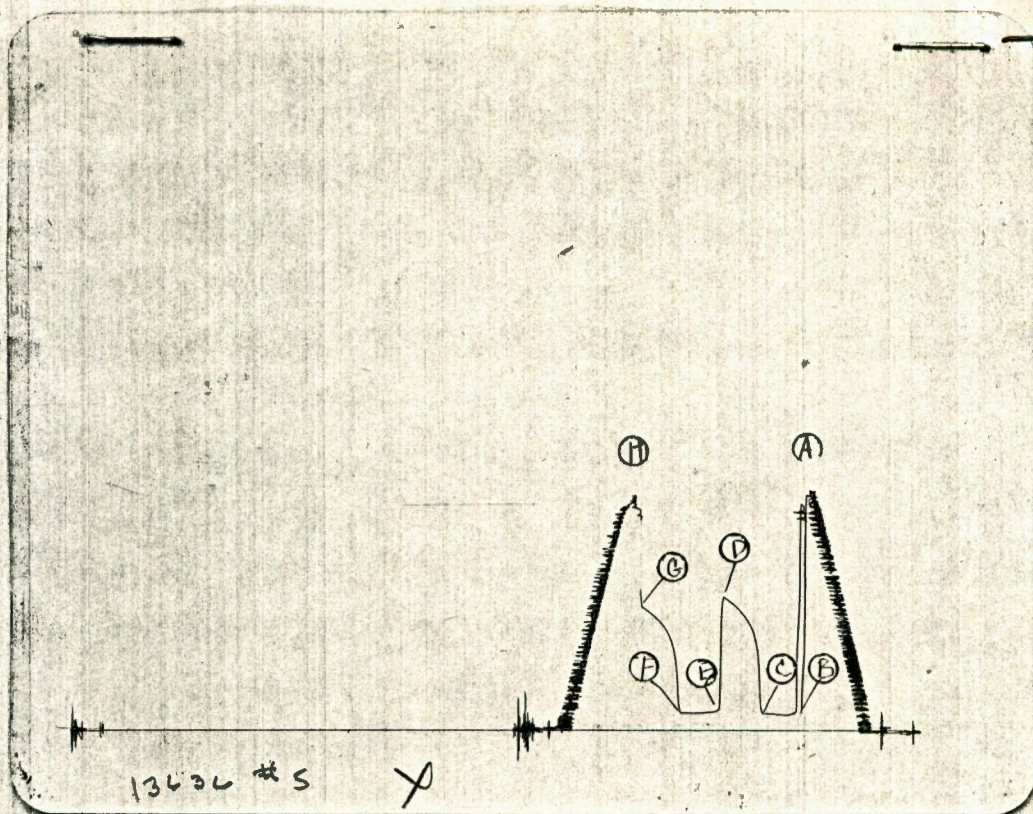
Tool Open @ 12:16 A.M.

Blow Remarks 1st open; Fair blow. Packer failed when first on bottom. Lost 20' of mud on backside. Picked up and re-set tool. Lost 10-15' of mud, and packer seated. Fair blow, slow increase to 5" in wtr.

2nd open; Fair blow, as above.

Well Chlorides; 8,000 P.P.M.

Rec Chloride; 48,000 P.P.M.



POINT	PRESSURE	
	Field Reading	Office Reading
(A) Initial Hydrostatic Mud	1884	PSI
(B) First Initial Flow Pressure	97	PSI
(C) First Final Flow Pressure	115	PSI
(D) Initial Closed-in Pressure	1033	PSI
(E) Second Initial Flow Pressure	115	PSI
(F) Second Final Flow Pressure	118	PSI
(G) Final Closed-in Pressure	945	PSI
(H) Final Hydrostatic Mud	1802	PSI