CHENEY TESTING COMPANY, INC.

P. O. Box 367 HILL CITY, KANSAS 67642

DRILL-STEM TEST DATA

Company	Viking Resources	Test No.	1
Well Name & Number	Wieland #2	Zone Tested	Marmaton
Company Address	217 E. Williams St., Wichita, Ks.	Date	9-10-85
Company Rep.	Jim Maloney	Tester	Paul Simpson
Contractor	White & Ellis Drilling, Inc.	Elevation	2986
Location: Sec. 21 Twp. 11s Rge. 31w Co. Gove State Ks.		Est. Feet of Pay	

Recorder No. 13364 Type AK-1 Range 3825 PSI
Recorder Depth 4344 Clock # 25562

(A) Initial Hydrostatic Mud 2514 PSI
(B) First Initial Flow Pressure 73 PSI
(C) First Final Flow Pressure 93 PSI
(D) Initial Shut-in Pressure 1298 PSI
(E) Second Initial Flow Pressure 114 PSI
(F) Second Final Flow Pressure 145 PSI
(G) Final Shut-in Pressure 1331 PSI
(H) Final Hydrostatic Mud 2441 PSI

Temperature 115° F
Mud Weight 9.6 Viscosity 41
Fluid Loss 9.4
Interval Tested 4292-4350
Anchor Length 58
Top Packer Depth 4287
Bottom Packer Depth 4292
Total Depth 4350
Drill Pipe Size 4½" XH
Wt. Pipe I. D. 2.25 Ft. Run 418
Recovery-Total Feet 200

Recorder No. 13223 Type AK-1 Range 4150 PSI
Recorder Depth 4349 Clock # 25830

Tool Open Before I.S.I. 30 Mins.
Initial Shut-in 30 Mins.
Flow Period 60 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 @ 1:22 A.M.

Blow Remarks
1st Open: Surface Blow Building to 2".
2nd Open: 1/8" Building to ½".

Recovered 5 Feet Of Free Oil
Recovered 75 Feet Of Muddy Cut Oil (50% Oil/ 50% Mud)
Recovered 60 Feet Of Gassy Slightly Oil Cut Mud (10% oil/15% Gas/75% Mud)
Recovered 60 Feet Of Oil Specked Mud (5% Oil/10% Gas/ 85% Mud)
Recovered Feet Of
Recovered Feet Of

Extra Equipment Price of Job 675.00

MILLER PRINTERS, INC.
Great Bend, Kansas

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

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FOR: VIKING RESOURCES
WIELAND #2
21-11S-31W
GOVE COUNTY KANSAS

DST # 3
FORMATION: MARMATON
ELEVATION: 2986 KB

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TEST PARAMETERS

TEST INTERVAL: 4292 - 4350
TIME INTERVAL: 30 - 30 - 60 - 60
INITIAL FLOW PRESS: 77.9- 87.2
FINAL FLOW PRESS: 114.2- 139.2
SHUT-IN PRESS(I-F):1299.2-1332.4
BOTTOM HOLE TEMPERATURE: 115
TOTAL FEET OF RECOVERY: 200

EST PAY: 8
VISCOSITY OF FLUID: 2
HOLE SIZE: 7.875
D.C. CAPACITY:0.00492
W.P. CAPACITY:0.00000
D.P. CAPACITY:0.01402
TOTAL BARRELS RECOVERY: 0.9831

****

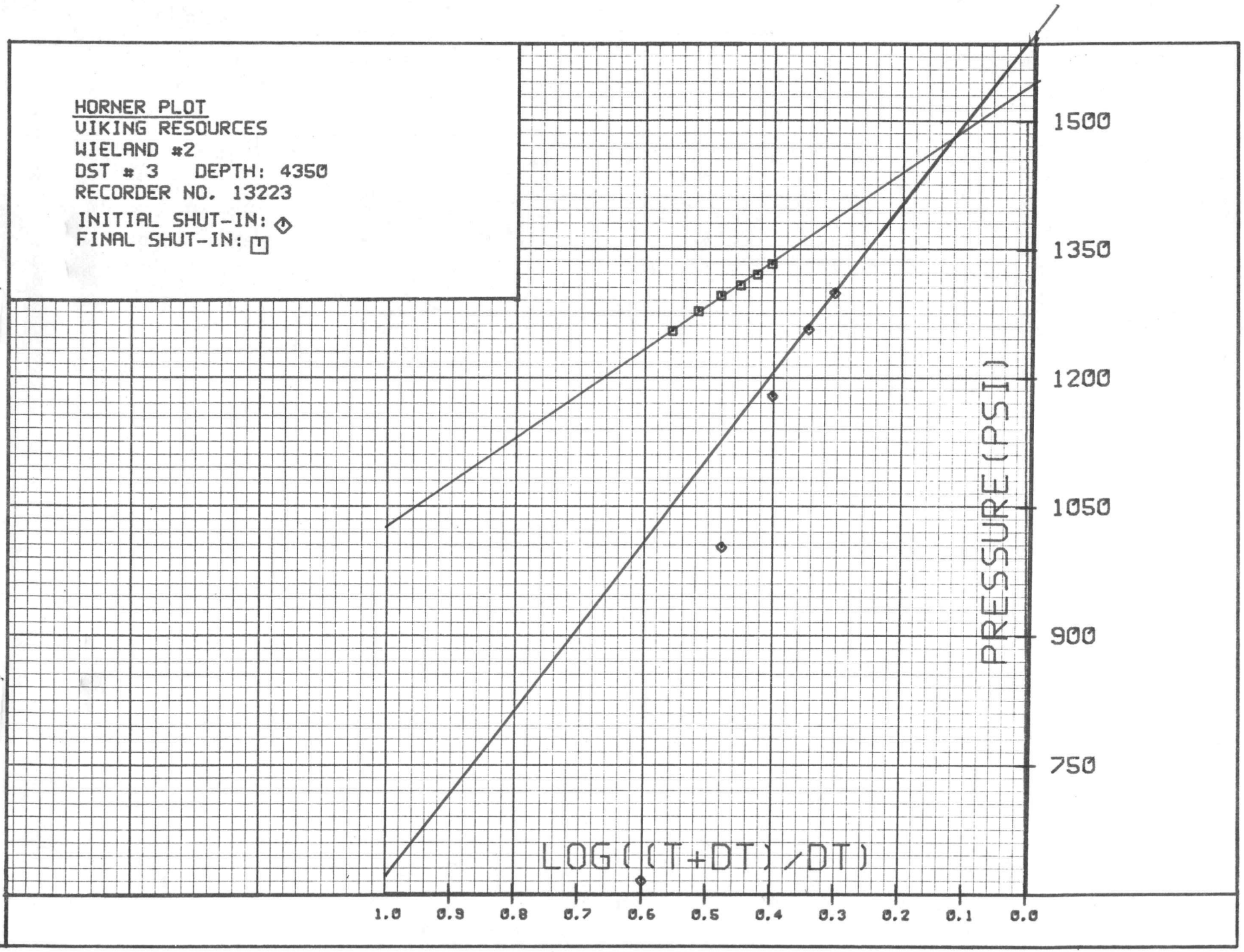
EXTRAPOLATED INITIAL SHUT-IN PRESSURE (PSI): 1605
SLOPE (PSI-CYCLE): 982 POINTS USED: 2

EXTRAPOLATED FINAL SHUT-IN PRESSURE (PSI): 1545
SLOPE (PSI-CYCLE): 518 POINTS USED: 6

****

CALCULATIONS

AVERAGE PRODUCTION RATE (B/D)	: 15.73
TRANSMISSIBILITY (MD-FT/CP)	: 4.94
PERMEABILITY (MD)	: 1.23
PRODUCTIVITY INDEX (B/D/PSI)	: 0.0056
DAMAGE RATIO	: 0.442
APPROXIMATE RADIUS OF INVESTIGATION (FT)	: 10.5
DRAWDOWN FACTOR (%)	: 3.738
POTENTIOMETRIC SURFACE (FT)	:2218.86


HORNER PLOT
VIKING RESOURCES
WIELAND #2
DST # 3 DEPTH: 4350
RECORDER NO. 13223
INITIAL SHUT-IN:
FINAL SHUT-IN:
1500
1350
1200
1050
900
750
PRESSURE (PSI)
LOG((T+DT)/DT)
1.0
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0

INITIAL SHUT-IN

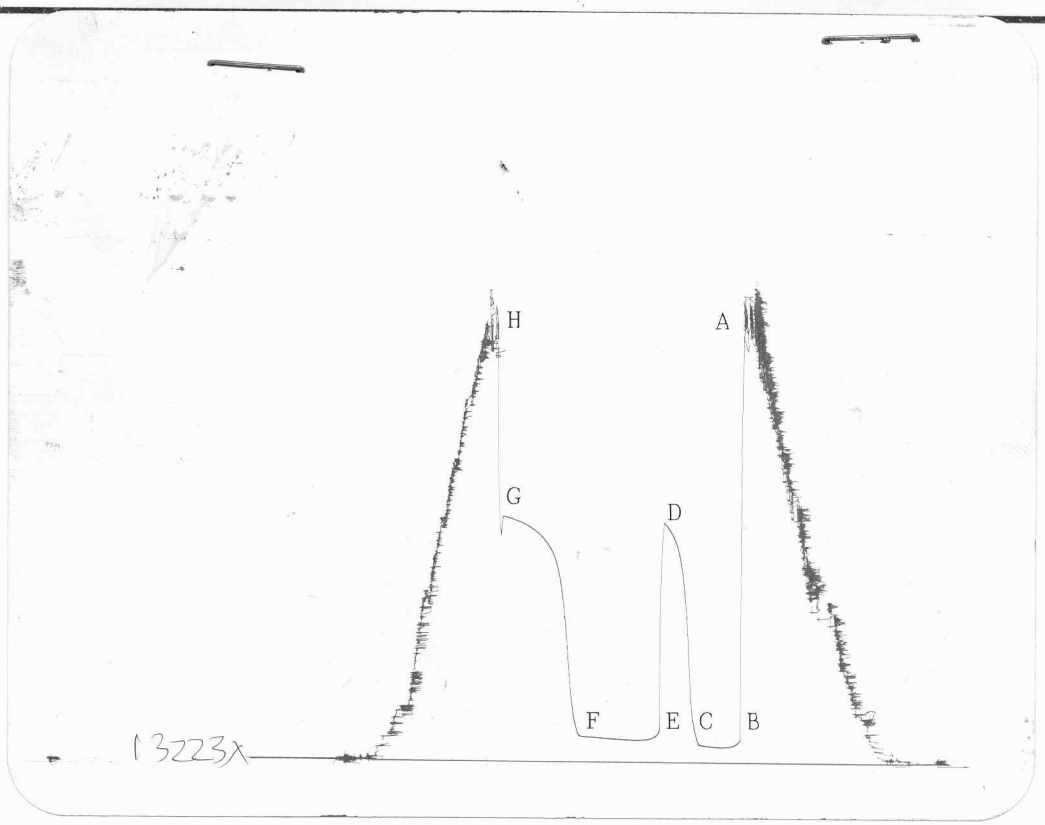
RECORDER NO: 13223 DEPTH: 4350 FT.
INITIAL FLOW TIME (T): 30 MIN.

DT(MIN)	LOG((T+DT)/DT)	PRESSURE(PSIG)
0	0.000	87.2
5	0.845	176.6
10	0.602	614.8
15	0.477	1002.2
20	0.398	1178.7
25	0.342	1256.6
30	0.301	1299.2

FINAL SHUT-IN

RECORDER NO: 13223 DEPTH: 4350 FT.
TOTAL FLOW TIME: 90 MIN.

DT(MIN)	LOG((T+DT)/DT)	PRESSURE(PSIG)
0	0.000	139.2
5	1.279	259.6
10	1.000	636.6
15	0.845	950.3
20	0.740	1098.8
25	0.663	1176.7
30	0.602	1220.3
35	0.553	1254.6
40	0.512	1277.4
45	0.477	1295.1
50	0.447	1307.5
55	0.421	1320.0
60	0.398	1332.4



This is an actual photograph of recorder chart.

POINT		PRESSURE Field Reading	Office Reading	
(A)	Initial Hydrostatic Mud	2514	2509	PSI
(B)	First Initial Flow Pressure	73	77.9	PSI
(C)	First Final Flow Pressure	93	87.2	PSI
(D)	Initial Closed-in Pressure	1298	1299.2	PSI
(E)	Second Initial Flow Pressure	114	114.2	PSI
(F)	Second Final Flow Pressure	145	139.2	PSI
(G)	Final Closed-in Pressure	1331	1332.4	PSI
(H)	Final Hydrostatic Mud	2441	2436	PSI

CHENEY TESTING COMPANY, INC.

P. O. Box 367 HILL CITY, KANSAS 67642

DRILL-STEM TEST DATA

Company	Viking Resources	Test No.	4
Well Name & Number	Wieland #2	Zone Tested	Lower Pawnee
Company Address	217 E. William St., Wichita, Ks.	Date	9-11-85
Company Rep.	Jim Maloney	Tester	Paul Simpson
Contractor	White & Ellis Drilling, Inc.	Elevation	2986
Location: Sec. 21 Twp. 11s Rge. 31w Co. Gove State Ks.		Est. Feet of Pay	5'

Recorder No. 13364 Type AK-1 Range 3825 PSI

Recorder Depth 4474 Clock # 25562

(A) Initial Hydrostatic Mud 2257 PSI

(B) First Initial Flow Pressure 135 PSI

(C) First Final Flow Pressure 240 PSI

(D) Initial Shut-in Pressure 1009 PSI

(E) Second Initial Flow Pressure 336 PSI

(F) Second Final Flow Pressure 413 PSI

(G) Final Shut-in Pressure 1000 PSI

(H) Final Hydrostatic Mud 2210 PSI

Temperature 116°

Mud Weight 9.6 Viscosity 48

Fluid Loss 8.0

Interval Tested 4448-4475

Anchor Length 27

Top Packer Depth 4443

Bottom Packer Depth 4448

Total Depth 4475

Drill Pipe Size 4½" XH

Wt. Pipe I. D. ____ Ft. Run ____

Recovery-Total Feet 1230

Recovered 3245 Feet Of Gas In Pipe

Recovered 750 Feet Of Gassy Clean Oil

Recovered 180 Feet Of Gassy Muddy Oil (60% Gas/ 30% oil/ 10% Mud)

Recovered 180 Feet Of Gassy Muddy Cut Oil (20% Gas/ 50% Oil/ 30% Mud)

Recovered 120 Feet Of Muddy Salt Water

Recovered ____ Feet Of ____

Extra Equipment ____ Price of Job 675.00

Recorder No. 13323 Type AK-1 Range 4150 PSI

Recorder Depth 4469 Clock # 25830

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 @ 10:45 P.M.

Blow Remarks

1st Open: ½" Blow, Building to Bottom of Bucket in 2 Minutes.

2nd Open: 2" Building to Bottom of Bucket in 4 Minutes.

Gas to Surface 7 Minutes into ISI.

Gravity: 41° @ 70°

Mud Chlorides: 2,000 PPM

Recovery Chlorides: 36,000 PPM

Resistivity: 18 OHM Meters @ 72.2°

Drill Collars: I.D. 2.25, Ft. Run 418

MILLER PRINTERS, INC.
Great Bend, Kansas

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

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FOR: VIKING RESOURCES
WIELAND #2
21-11S-31S
GOVE COUNTY KANSAS

DST # 4
FORMATION: PAWNEE
ELEVATION: 2986 KB

****

TEST PARAMETERS

TEST INTERVAL: 4448 - 4475
TIME INTERVAL: 30 - 45 - 30 - 45
INITIAL FLOW PRESS: 144.1- 259.3
FINAL FLOW PRESS: 350.6- 417.8
SHUT-IN PRESS(I-F):1008.4- 996.0
BOTTOM HOLE TEMPERATURE: 116
TOTAL FEET OF RECOVERY: 1230

EST PAY: 5
VISCOSITY OF FLUID: 2.5
HOLE SIZE: 7.875
D.C. CAPACITY:0.00492
W.P. CAPACITY:0.00000
D.P. CAPACITY:0.01402
TOTAL BARRELS RECOVERY:13.4390

****

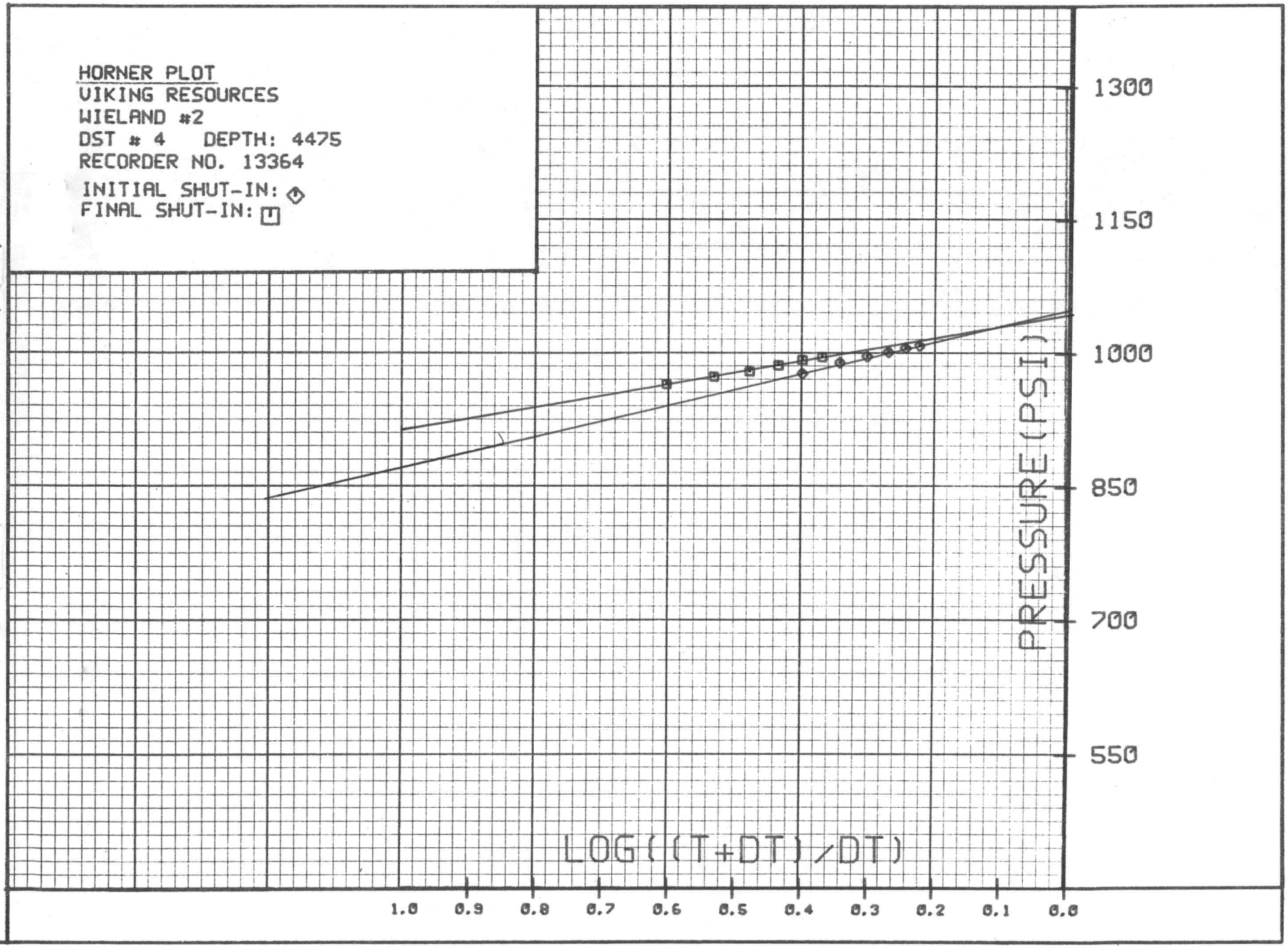
EXTRAPOLATED INITIAL SHUT-IN PRESSURE (PSI): 1045
SLOPE (PSI-CYCLE): 200 POINTS USED: 6

EXTRAPOLATED FINAL SHUT-IN PRESSURE (PSI): 1042
SLOPE (PSI-CYCLE): 130 POINTS USED: 6

****

CALCULATIONS

AVERAGE PRODUCTION RATE (B/D)	: 322.54
TRANSMISSIBILITY (MD-FT/CP)	: 403.42
PERMEABILITY (MD)	: 201.71
PRODUCTIVITY INDEX (B/D/PSI)	: 0.4559
DAMAGE RATIO	: 0.783
APPROXIMATE RADIUS OF INVESTIGATION (FT)	: 110.0
DRAWDOWN FACTOR (%)	: 0.287
POTENTIOMETRIC SURFACE (FT)	: 927.40


HORNER PLOT
VIKING RESOURCES
WIELAND #2
DST # 4 DEPTH: 4475
RECORDER NO. 13364
INITIAL SHUT-IN:
FINAL SHUT-IN:
1300
1150
1000
850
700
550
PRESSURE (PSI)
LOG ((T+DT)/DT)
1.0
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0

INITIAL SHUT-IN

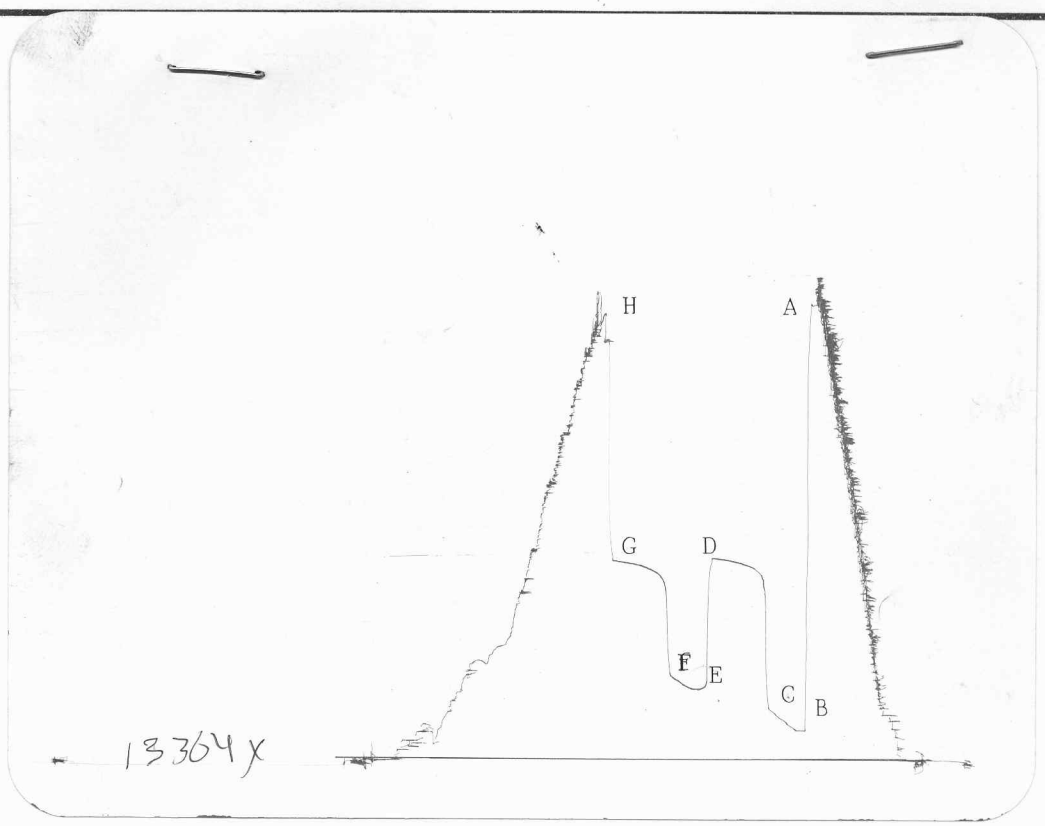
RECORDER NO: 13364 DEPTH: 4475 FT.
INITIAL FLOW TIME (T): 30 MIN.

DT(MIN)	LOG((T+DT)/DT)	PRESSURE(PSIG)
0	0.000	259.3
5	0.845	787.5
10	0.602	934.5
15	0.477	963.3
20	0.398	976.8
25	0.342	989.2
30	0.301	996.0
35	0.269	1001.7
40	0.243	1005.6
45	0.222	1008.4

FINAL SHUT-IN

RECORDER NO: 13364 DEPTH: 4475 FT.
TOTAL FLOW TIME: 60 MIN.

DT(MIN)	LOG((T+DT)/DT)	PRESSURE(PSIG)
0	0.000	417.8
5	1.114	840.4
10	0.845	925.8
15	0.699	945.1
20	0.602	965.2
25	0.531	972.9
30	0.477	979.6
35	0.434	986.4
40	0.398	992.1
45	0.368	996.0



This is an actual photograph of recorder chart.

POINT		PRESSURE Field Reading	Office Reading	
(A)	Initial Hydrostatic Mud	2257	2252	PSI
(B)	First Initial Flow Pressure	135	144.1	PSI
(C)	First Final Flow Pressure	240	259.3	PSI
(D)	Initial Closed-in Pressure	1009	1008.4	PSI
(E)	Second Initial Flow Pressure	336	350.6	PSI
(F)	Second Final Flow Pressure	413	417.8	PSI
(G)	Final Closed-in Pressure	1000	996.0	PSI
(H)	Final Hydrostatic Mud	2210	2205	PSI

CHENEY TESTING COMPANY, INC.

P. O. Box 367 HILL CITY, KANSAS 67642

DRILL-STEM TEST DATA

Company Viking Resources	Test No. 5
Well Name & Number Wieland #2	Zone Tested Johnson
Company Address 217 E. Williams St., Wichita, Ks.	Date 9-12-85
Company Rep. Jim Maloney	Tester Paul Simpson
Contractor White & Ellis Drilling, Inc.	Elevation 2986 K.B.
Location: Sec. 21 Twp. 11s Rge. 31w Co. Gove State Ks.	Est. Feet of Pay 3

Recorder No. 13364 Type AK-1 Range 3825 PSI

Recorder Depth 4569 Clock # 25562

(A) Initial Hydrostatic Mud 2389 PSI

(B) First Initial Flow Pressure 41 PSI

(C) First Final Flow Pressure 52 PSI

(D) Initial Shut-in Pressure 249 PSI

(E) Second Initial Flow Pressure 52 PSI

(F) Second Final Flow Pressure 62 PSI

(G) Final Shut-in Pressure 311 PSI

(H) Final Hydrostatic Mud 2369 PSI

Temperature 117°

Mud Weight 9.6 Viscosity 50

Fluid Loss 8.4

Interval Tested 4530-4570

Anchor Length 40

Top Packer Depth 4525

Bottom Packer Depth 4530

Total Depth 4570

Drill Pipe Size 4½" XH

Wt. Pipe I. D. Ft. Run

Recovery-Total Feet 90

Recovered 90 Feet Of Gassy Heavy Oil Cut Mud (10% Gas/ 40% Oil/ 50% Mud)

Recovered Feet Of

Recovered Feet Of

Recovered Feet Of

Recovered Feet Of

Recovered Feet Of

Extra Equipment

Recorder No. 13223 Type AK-1 Range 4150 PSI

Recorder Depth 4564 Clock # 25830

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

Initial Shut-in 45 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 @ 10:03 P.M.

Blow Remarks

1st Open: ½" Blow, Building to 5"

2nd Open: Surface Blow, Building to 7"

Drill Collars: I.D. 2.25, Ft. Run 418

Price of Job 675.00

MILLER PRINTERS, INC.
Great Bend, Kansas

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

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FOR: VIKING RESOURCES
WIELAND #2
21-11S-31W
GOVE COUNTY KANSAS

DST # 5
FORMATION: JOHNSON
ELEVATION: 2986 KB

****

TEST PARAMETERS

TEST INTERVAL: 4530 - 4570
TIME INTERVAL: 30 - 45 - 45 - 60
INITIAL FLOW PRESS: 41.5- 45.7
FINAL FLOW PRESS: 51.9- 56.1
SHUT-IN PRESS(I-F): 258.6- 317.8
BOTTOM HOLE TEMPERATURE: 117
TOTAL FEET OF RECOVERY: 90

EST PAY: 3
VISCOSITY OF FLUID: 2
HOLE SIZE: 7.875
D.C. CAPACITY:0.00492
W.P. CAPACITY:0.00000
D.P. CAPACITY:0.01402
TOTAL BARRELS RECOVERY: 0.4424

****

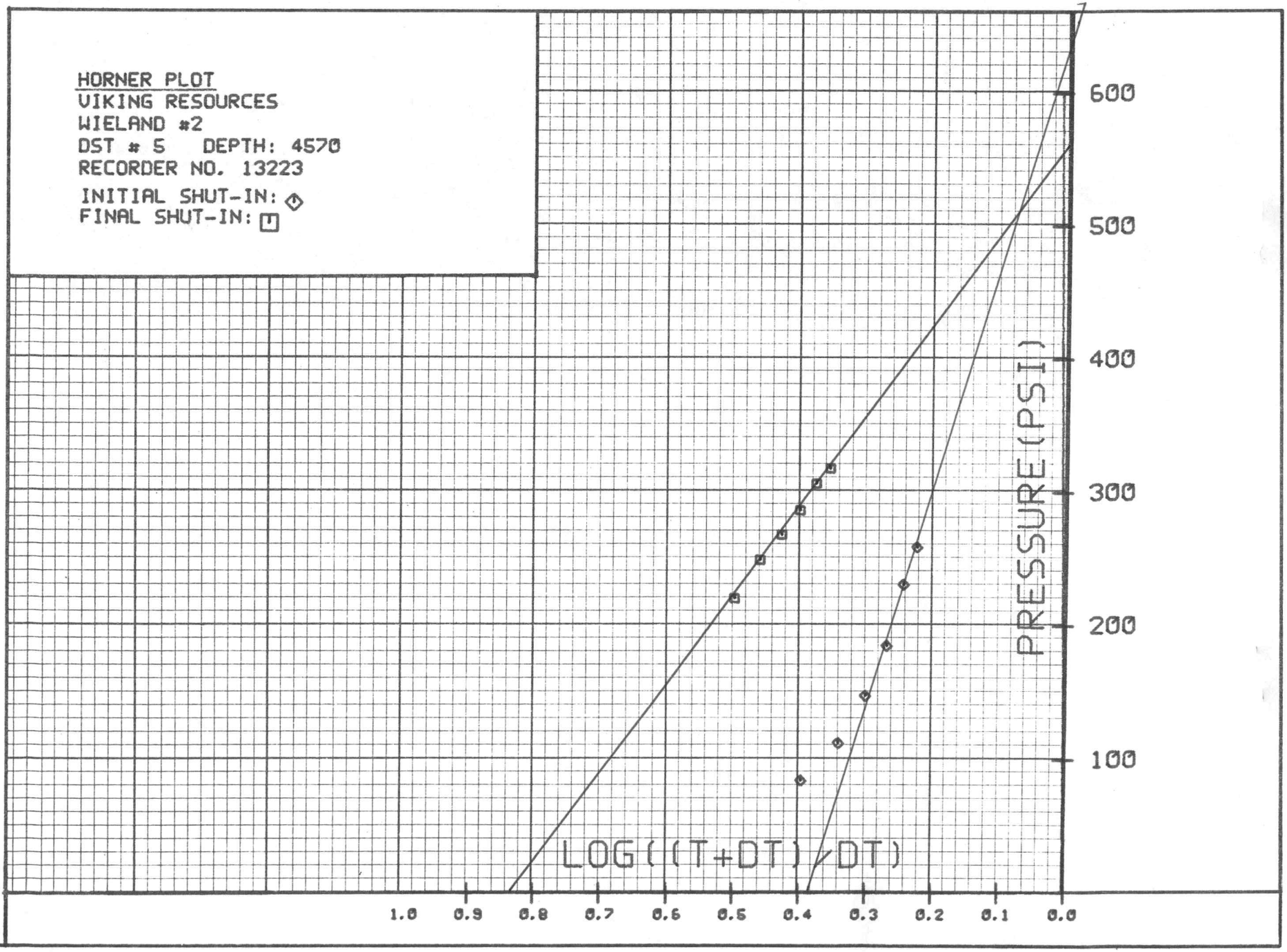
EXTRAPOLATED INITIAL SHUT-IN PRESSURE (PSI): 0
SLOPE (PSI-CYCLE): 1 POINTS USED: 0

EXTRAPOLATED FINAL SHUT-IN PRESSURE (PSI): 585
SLOPE (PSI-CYCLE): 730 POINTS USED: 6

****

CALCULATIONS

AVERAGE PRODUCTION RATE (B/D)	: 8.49
TRANSMISSIBILITY (MD-FT/CP)	: 1.89
PERMEABILITY (MD)	: 1.26
PRODUCTIVITY INDEX (B/D/PSI)	: 0.0021
DAMAGE RATIO	: 0.118
APPROXIMATE RADIUS OF INVESTIGATION (FT)	: 9.7
DRAWDOWN FACTOR (%)	:
POTENTIOMETRIC SURFACE (FT)	:-227.39


HORNER PLOT
VIKING RESOURCES
WIELAND #2
DST # 5 DEPTH: 4570
RECORDER NO. 13223
INITIAL SHUT-IN:
FINAL SHUT-IN:
600
500
400
300
200
100
PRESSURE (PSI)
LOG ((T+DT) / DT)
1.0
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0

INITIAL SHUT-IN

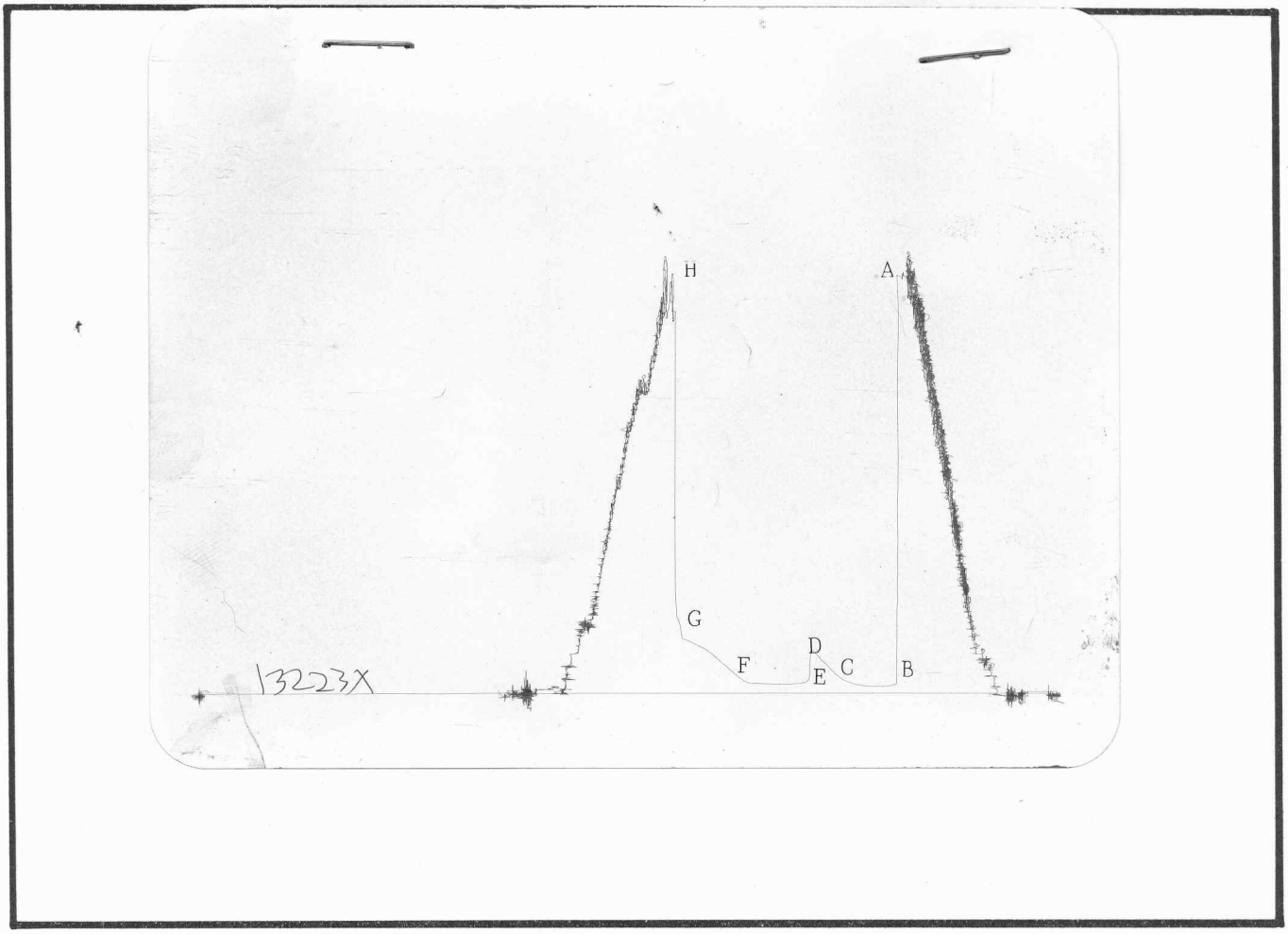
RECORDER NO: 13223 DEPTH: 4570 FT.
INITIAL FLOW TIME (T): 30 MIN.

DT(MIN)	LOG((T+DT)/DT)	PRESSURE(PSIG)
0	0.000	45.7
5	0.845	45.7
10	0.602	55.0
15	0.477	70.6
20	0.398	84.1
25	0.342	112.2
30	0.301	147.5
35	0.269	184.9
40	0.243	230.6
45	0.222	258.6

FINAL SHUT-IN

RECORDER NO: 13223 DEPTH: 4570 FT.
TOTAL FLOW TIME: 75 MIN.

DT(MIN)	LOG((T+DT)/DT)	PRESSURE(PSIG)
0	0.000	56.1
5	1.204	56.1
10	0.929	67.5
15	0.778	97.6
20	0.677	128.8
25	0.602	158.9
30	0.544	191.1
35	0.497	220.2
40	0.459	249.2
45	0.426	267.9
50	0.398	286.6
55	0.374	306.4
60	0.352	317.8



This is an actual photograph of recorder chart.

POINT		PRESSURE Field Reading	Office Reading	
(A)	Initial Hydrostatic Mud	2389	2384	PSI
(B)	First Initial Flow Pressure	41	41.5	PSI
(C)	First Final Flow Pressure	52	45.7	PSI
(D)	Initial Closed-in Pressure	249	258.6	PSI
(E)	Second Initial Flow Pressure	52	51.9	PSI
(F)	Second Final Flow Pressure	62	56.1	PSI
(G)	Final Closed-in Pressure	311	317.8	PSI
(H)	Final Hydrostatic Mud	2369	2364	PSI