

CHENEY TESTING COMPANY, INC.

P. O. Box 367

HILL CITY, KANSAS 67642

DRILL-STEM TEST DATA

Company Viking Resources Inc.	Test No. 1
Well Name & Number Borger #1	Zone Tested Cherokee & Mississippi
Company Address 120 S. Market #518, Wichita, Kan.67202	Date 9-17-89
Company Rep. Rob Patton	Tester Huck Smith
Contractor Mallard J.V.	Elevation 2312 K.B.
Location: Sec. 10 Twp. 19S Rge. 24W Co. Ness State Kan	Est. Feet of Pay

Recorder No. 13364 Type AK-1 Range 3825 PSI

Recorder Depth 4350 Clock # 22345

(A) Initial Hydrostatic Mud 2197 PSI

(B) First Initial Flow Pressure 52 PSI

(C) First Final Flow Pressure 74 PSI

(D) Initial Shut-in Pressure 1267 PSI

(E) Second Initial Flow Pressure 105 PSI

(F) Second Final Flow Pressure 127 PSI

(G) Final Shut-in Pressure 1246 PSI

(H) Final Hydrostatic Mud 2133 PSI

Temperature 119°

Mud Weight 9.4 Viscosity 43

Fluid Loss 12.4 c.c.

Interval Tested 4315-4358

Anchor Length 43'

Top Packer Depth 4310

Bottom Packer Depth 4315

Total Depth 4358

Drill Pipe Size 4½ EX.H.

Wt. Pipe I. D. 2.25 Ft. Run 310

Recovery-Total Feet 260

Recovered 140 Feet Of F.O. (35 Gravity)

Recovered 120 Feet Of O.C.M. (25% Oil 75% Mud)

Recovered _____ Feet Of _____

Recovered _____ Feet Of _____

Recovered _____ Feet Of _____

Recovered _____ Feet Of _____

Extra Equipment Safety Joint

Recorder No. 13770 Type AK-1 Range 4200 PSI

Recorder Depth 4353 Clock # 25825

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

Initial Shut-in 45 Mins.

Flow Period 45 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 @ 10:55 A.M.

Blow Remarks 1st open; Weak to fair 4½"
blow.

2nd open; 3" blow

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

FOR: VIKING RESOURCES
BORGER #1
10-19S-24W
NESS CO., KS.

DST # 1
FORMATION: CHEROKEE/MISSISSIPPI
ELEVATION: 2312 KB

TEST PARAMETERS

TEST INTERVAL: 4315 - 4358	EST PAY: 10
TIME INTERVAL: 45 - 45 - 45 - 45	VISCOSITY OF FLUID: 4
INITIAL FLOW PRESS: 50.8- 72.0	HOLE SIZE: 7.875
FINAL FLOW PRESS: 102.6- 118.5	D.C. CAPACITY:0.00492
SHUT-IN PRESS(I-F):1266.1-1246.2	W.P. CAPACITY:0.00000
BOTTOM HOLE TEMPERATURE: 119	D.P. CAPACITY:0.01402
TOTAL FEET OF RECOVERY: 260	TOTAL BARRELS RECOVERY: 1.2780

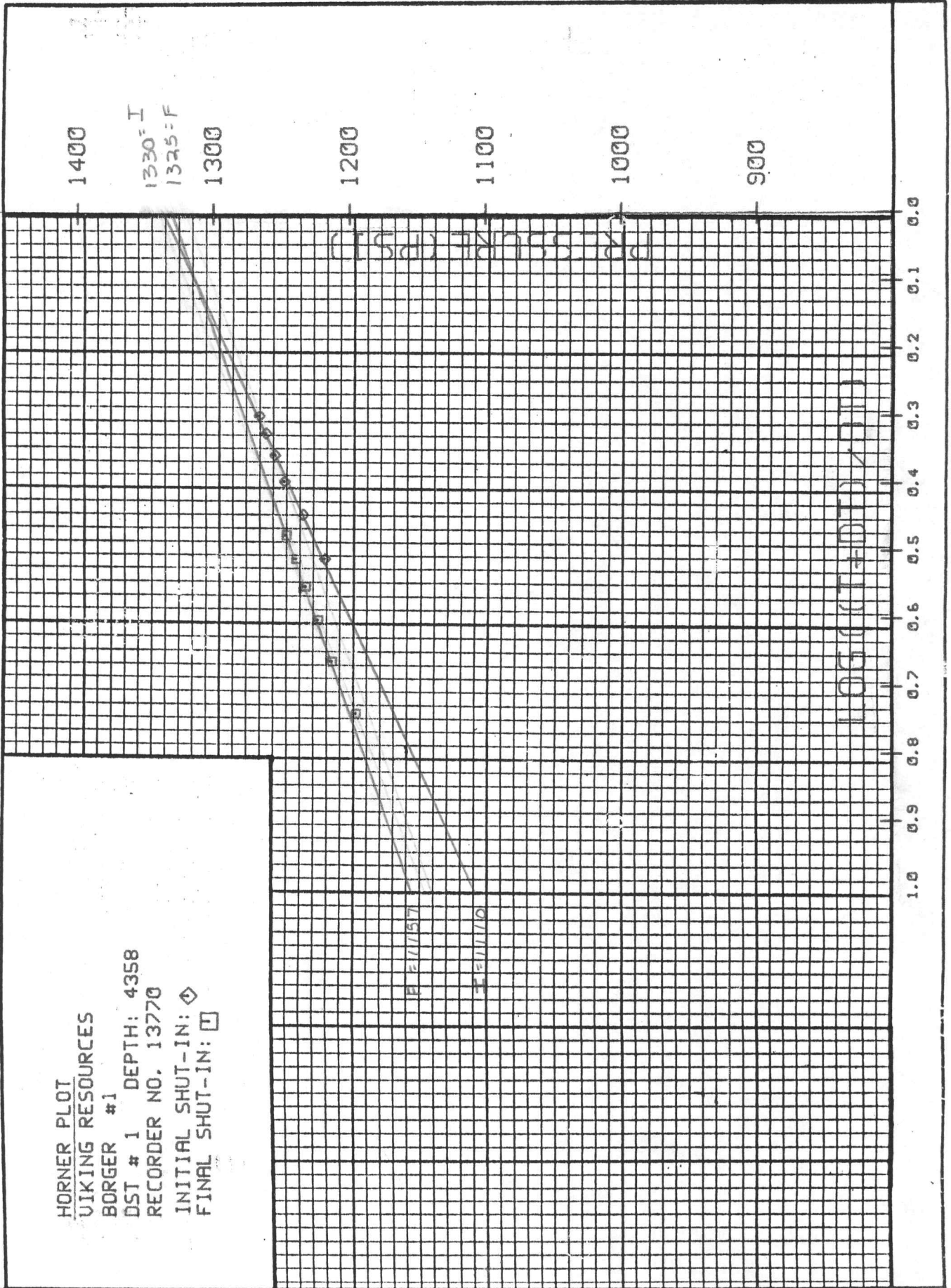
EXTRAPOLATED INITIAL SHUT-IN PRESSURE (PSI): 1330
SLOPE (PSI-CYCLE): 220 POINTS USED: 6

EXTRAPOLATED FINAL SHUT-IN PRESSURE (PSI): 1325
SLOPE (PSI-CYCLE): 168 POINTS USED: 6

CALCULATIONS

PRODUCTION POTENTIAL (B/D)	: 20.45
TRANSMISSIBILITY (MD-FT/CP)	: 19.79
EFFECTIVE PERMEABILITY (MD)	: 7.92
PRODUCTIVITY INDEX (B/D/PSI)	: 0.0224
DAMAGE RATIO	: 1.314
APPROXIMATE RADIUS OF INVESTIGATION (FT)	: 26.7
DRAWDOWN FACTOR (%)	: 0.376
POTENTIOMETRIC SURFACE (FT)	:1026.68

HORNER PLOT
 VIKING RESOURCES
 BORGER #1
 DST # 1 DEPTH: 4358
 RECORDER NO. 13770
 INITIAL SHUT-IN: \diamond
 FINAL SHUT-IN: \square



INITIAL SHUT-IN

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RECORDER NO: 13770 DEPTH: 4358 FT.
 INITIAL FLOW TIME (T): 45 MIN.

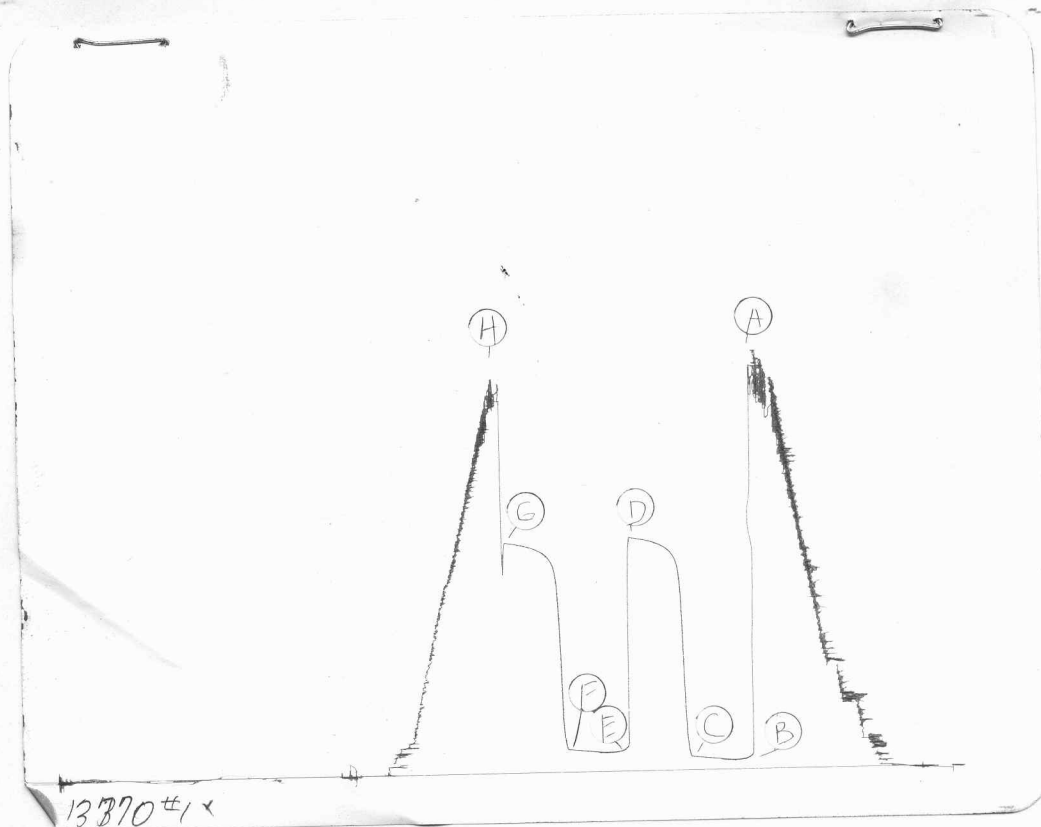
DT(MIN)	LOG((T+DT)/DT)	PRESSURE(P SIG)
0	0.000	50.8
5	1.000	601.6
10	0.740	1119.4
15	0.602	1189.6
20	0.512	1217.9
25	0.447	1233.6
30	0.398	1247.3
35	0.359	1254.6
40	0.327	1260.9
45	0.301	1266.1

FINAL SHUT-IN

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RECORDER NO: 13770 DEPTH: 4358 FT.
 TOTAL FLOW TIME: 90 MIN.

DT(MIN)	LOG((T+DT)/DT)	PRESSURE(P SIG)
0	0.000	118.5
5	1.279	576.5
10	1.000	1077.5
15	0.845	1162.4
20	0.740	1194.9
25	0.663	1212.7
30	0.602	1223.2
35	0.553	1231.5
40	0.512	1238.9
45	0.477	1246.2



POINT	PRESSURE		
	FIELD READING	OFFICE READING	
(A) Initial Hydrostatic Mud	2197	2284	PSI
(B) First Initial Flow Pressure	52	50.8	PSI
(C) First Final Flow Pressure	74	72	PSI
(D) Initial Closed-in Pressure	1267	1266.1	PSI
(E) Second Initial Flow Pressure	105	102.6	PSI
(F) Second Final Flow Pressure	127	118.5	PSI
(G) Final Closed-in Pressure	1246	1246.2	PSI
(H) Final Hydrostatic Mud	2133	2154.66	PSI