

# CHENEY TESTING COMPANY, INC.

P. O. Box 367

HILL CITY, KANSAS 67642

## DRILL-STEM TEST DATA

Company <u>L.G. Stephenson &amp; Company Inc.</u>	Test No. <u>3</u>
Well Name & Number <u>Stadelman #2</u>	Zone Tested <u>Lower Kansas City</u>
Company Address <u>7701 E. Kellogg #670 Wichita Ks.</u>	Date <u>9/21/84</u>
Company Rep. <u>John Japp</u>	Tester <u>Dave Hunt</u>
Contractor <u>Woodman-Iannitti Drilling</u>	Elevation <u>2221 KB</u>
Location: Sec. <u>11</u> Twp. <u>14s</u> Rge. <u>19w</u> Co. <u>Ellis</u> State <u>Ks.</u>	Est. Feet of Pay _____

Recorder No. 13364 Type Ak-1 Range 3825 PSI  
 Recorder Depth 3722 Clock # 21123  
 (A) Initial Hydrostatic Mud 2017 PSI  
 (B) First Initial Flow Pressure 105 PSI  
 (C) First Final Flow Pressure 105 PSI  
 (D) Initial Shut-in Pressure 500 PSI  
 (E) Second Initial Flow Pressure 105 PSI  
 (F) Second Final Flow Pressure 105 PSI  
 (G) Final Shut-in Pressure 221 PSI  
 (H) Final Hydrostatic Mud 2007 PSI  
 Temperature 107  
 Mud Weight 9.7 Viscosity 40  
 Fluid Loss 12.8  
 Interval Tested 3631-3725  
 Anchor Length 94  
 Top Packer Depth 3626  
 Bottom Packer Depth 3631  
 Total Depth 3725  
 Drill Pipe Size 4½ XH  
 Wt. Pipe I. D. 2.7 Ft. Run 380  
 Recovery-Total Feet 30

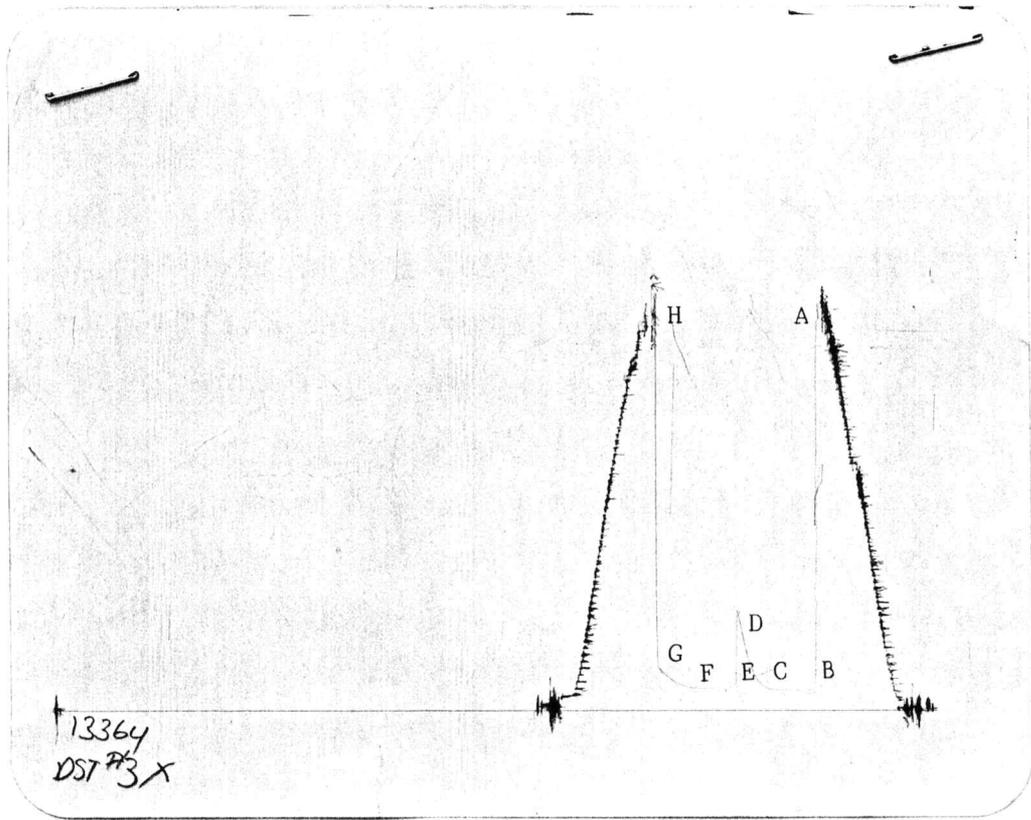
Recorder No. 13223 Type AK-1 Range 4150 PSI  
 Recorder Depth 3719 Clock # 30891  
 Tool Open Before I.S.I. 30 Mins.  
 Initial Shut-in 30 Mins.  
 Flow Period 30 Mins.  
 Final Shut-in 30 Mins.  
 Top Choke Size 1" Hole Size 7 7/8"  
 Bottom Choke Size 3/4" Rubber Size 6 3/4"  
 Tool Open @ 6:50 AM  
 Blow Remarks 1st open: WEak 1/8" blow.  
2nd open: Weak surface blow.

Well Chlorides: 58,000 ppm

Recovery Chlorides: 58,000 ppm

Recovered 30 Feet Of very slightly oil specked mud.  
 Recovered \_\_\_\_\_ Feet Of \_\_\_\_\_  
 Recovered \_\_\_\_\_ Feet Of \_\_\_\_\_

Extra Equipment \_\_\_\_\_ Price of Job \$625.00



This is an actual photograph of recorder chart.

	PRESSURE		
	Field Reading		Office Reading
(A) Initial Hydrostatic Mud	<u>2017</u>		PSI
(B) First Initial Flow Pressure	<u>105</u>		PSI
(C) First Final Flow Pressure	<u>105</u>		PSI
(D) Initial Closed-In Pressure	<u>500</u>		PSI
(E) Second Initial Flow Pressure	<u>105</u>		PSI
(F) Second Final Flow Pressure	<u>105</u>		PSI
(G) Final Closed-In Pressure	<u>221</u>		PSI
(H) Final Hydrostatic Mud	<u>2007</u>		PSI

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## DRILL-STEM TEST DATA

Company	L.G. Stephenson & Company Inc.	Test No.	4
Well Name & Number	Stadelman #2	Zone Tested	Cong. Sand
Company Address	7701 E. Kellogg #670 Wichita Ks.	Date	9/22/84
Company Rep.	John Japp	Tester	Dave Hunt
Contractor	Woodman-Iannitti Drilling	Elevation	2221
Location: Sec. 11 Twp. 14s Rge. 19w Co. Ellis State Ks.		Est. Feet of Pay	

Recorder No. 13364 Type Ak-1 Range 3825 PSI

Recorder No. 13223 Type AK-1 Range 4150 PSI

Recorder Depth 3839 Clock # 21123

Recorder Depth 3836 Clock # 30891

(A) Initial Hydrostatic Mud 2142 PSI

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

(B) First Initial Flow Pressure 76 PSI

Initial Shut-in 30 Mins.

(C) First Final Flow Pressure 76 PSI

Flow Period 30 Mins.

(D) Initial Shut-in Pressure 125 PSI

Final Shut-in 30 Mins.

(E) Second Initial Flow Pressure 76 PSI

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

(F) Second Final Flow Pressure 76 PSI

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

(G) Final Shut-in Pressure 105 PSI

Tool Open @ 1:55 AM

(H) Final Hydrostatic Mud 2123 PSI

Blow Remarks 1st open: WEak decreasing

Temperature 108

blow, blow died in 20 minutes.

Mud Weight 9.9 Viscosity 50

2nd open: No blow, flushed tool, good surge,

Fluid Loss 12.8

no blow.

Interval Tested 3816-3842

Anchor Length 26

Top Packer Depth 3811

Bottom Packer Depth 3816

Total Depth 3842

Drill Pipe Size 4 1/2 Xh

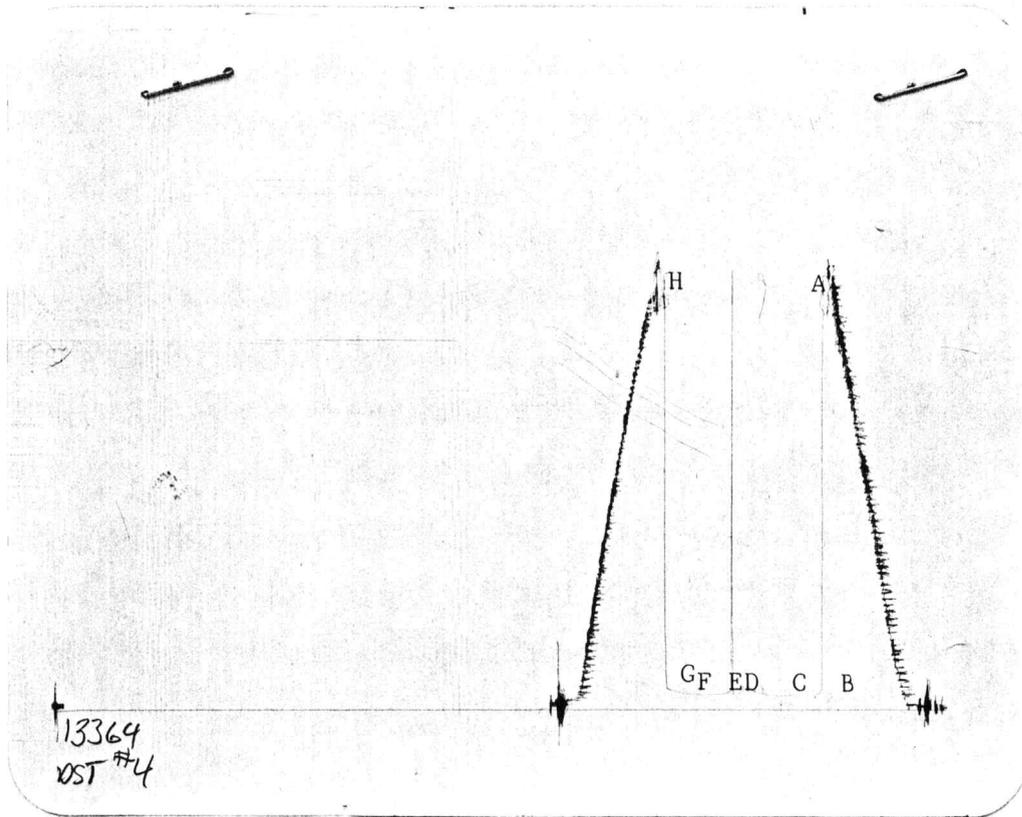
Wt. Pipe I. D. 2.7 Ft. Run 380

Recovery-Total Feet 15

Recovered 15 Feet Of very slightly oil specked mud.

Recovered \_\_\_\_\_ Feet Of \_\_\_\_\_

Extra Equipment \_\_\_\_\_ Down Hole Ins. \_\_\_\_\_ Price of Job \$665.00



This is an actual photograph of recorder chart.

	PRESSURE		
	Field Reading		Office Reading
(A) Initial Hydrostatic Mud	<u>2142</u>		PSI
(B) First Initial Flow Pressure	<u>76</u>		PSI
(C) First Final Flow Pressure	<u>76</u>		PSI
(D) Initial Closed-In Pressure	<u>125</u>		PSI
(E) Second Initial Flow Pressure	<u>76</u>		PSI
(F) Second Final Flow Pressure	<u>76</u>		PSI
(G) Final Closed-In Pressure	<u>105</u>		PSI
(H) Final Hydrostatic Mud	<u>2123</u>		PSI

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## DRILL-STEM TEST DATA

Company	L.G. Stephenson & Company Inc.	Test No.	5
Well Name & Number	Stadleman #2	Zone Tested	Arbuckle
Company Address	7701 E. Kellogg Wichita Ks.	Date	9/22/84
Company Rep.	John Japp	Tester	Larry Hunt
Contractor	Woodman-Iannitti Drilling	Elevation	2221
Location: Sec.	11 Twp. 14s Rge. 19w Co. Ellis State Ks.	Est. Feet of Pay	

Recorder No. 13364 Type AK-1 Range 3825 PSI  
 Recorder Depth 3855 Clock # 30891  
 (A) Initial Hydrostatic Mud 2142 PSI  
 (B) First Initial Flow Pressure 67 PSI  
 (C) First Final Flow Pressure 96 PSI  
 (D) Initial Shut-in Pressure 750 PSI  
 (E) Second Initial Flow Pressure 115 PSI  
 (F) Second Final Flow Pressure 125 PSI  
 (G) Final Shut-in Pressure 636 PSI  
 (H) Final Hydrostatic Mud 2084 PSI  
 Temperature 109  
 Mud Weight 9.8 Viscosity 47  
 Fluid Loss 12.0  
 Interval Tested 3815-3858  
 Anchor Length 43  
 Top Packer Depth 3810  
 Bottom Packer Depth 3815  
 Total Depth 3858  
 Drill Pipe Size 4½ XH  
 Wt. Pipe I. D. 2.7 Ft. Run 380  
 Recovery-Total Feet 180

Recorder No. 13223 Type AK-1 Range 4150 PSI  
 Recorder Depth 3852 Clock # 21123  
 Tool Open Before I.S.I. 60 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 @ 1:57 PM

Blow Remarks 1st open: Weak to fair building blow, 9" in bucket.  
2nd open: Weak to fair building blow, 5" in bucket.

Well chlorides: 52,000 ppm  
 Recovery Chlorides: 51,000 ppm

Recovered 180 Feet Of heavy oil cut mud.  
 Recovered \_\_\_\_\_ Feet Of ( Bottom - 63% oil, 37% mud- Top- 70% oil, 30% mud.)  
 Recovered \_\_\_\_\_ Feet Of \_\_\_\_\_  
 Recovered \_\_\_\_\_ Feet Of \_\_\_\_\_  
 Recovered \_\_\_\_\_ Feet Of \_\_\_\_\_  
 Recovered \_\_\_\_\_ Feet Of \_\_\_\_\_

Extra Equipment \_\_\_\_\_ Price of Job \$625.00

INITIAL SHUT-IN

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RECORDER NO: 13364 DEPTH: 3858 FT.  
INITIAL FLOW TIME (T): 60 MIN.

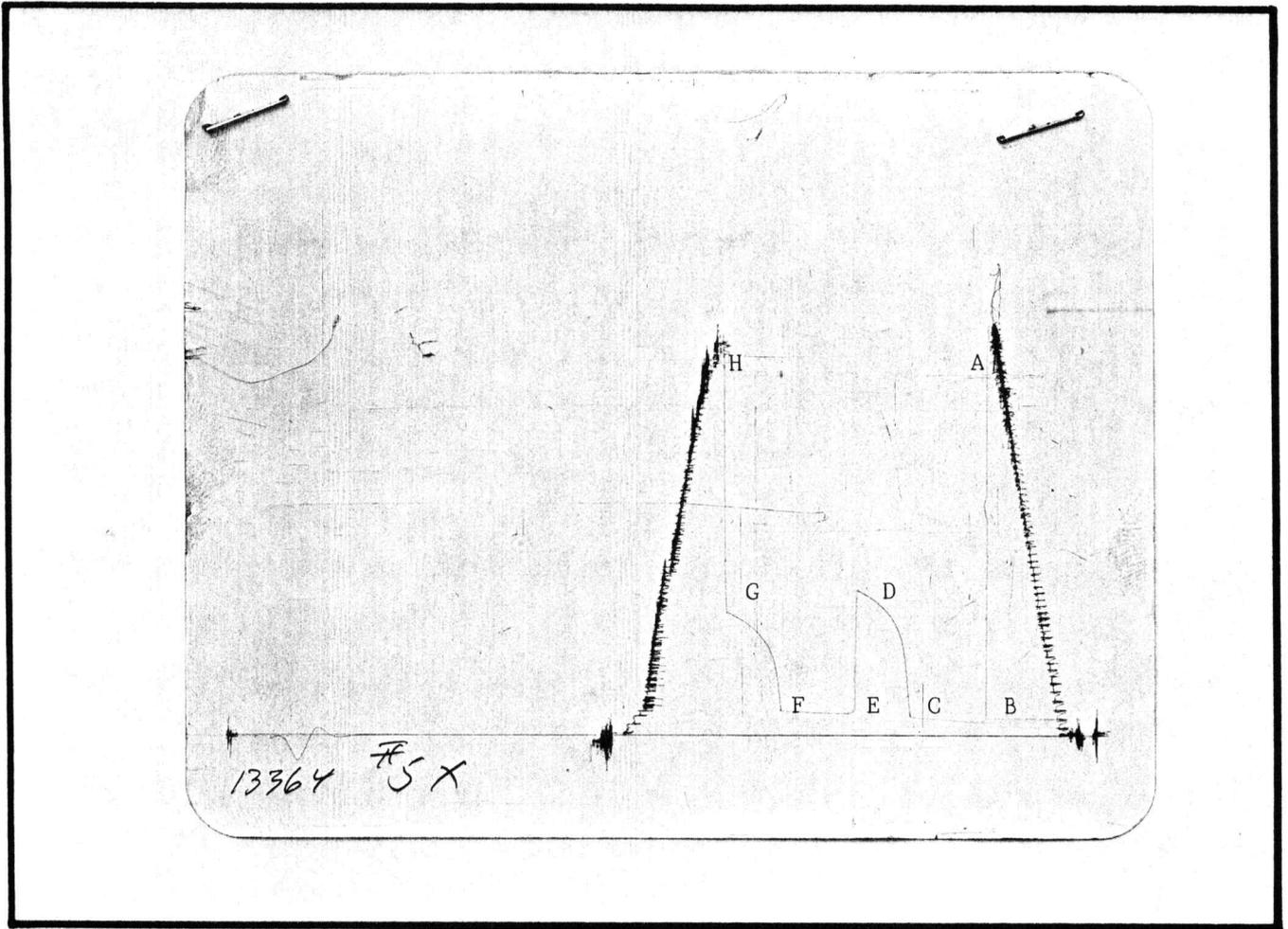
DT(MIN)	LOG((T+DT)/DT)	PRESSURE(P SIG)
0	0.000	190.2
5	1.114	312.1
10	0.845	520.6
15	0.699	596.4
20	0.602	639.6
25	0.531	674.2
30	0.477	705.9
35	0.434	728.0
40	0.398	747.2
45	0.368	764.5

FINAL SHUT-IN

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RECORDER NO: 13364 DEPTH: 3858 FT.  
TOTAL FLOW TIME: 120 MIN.

DT(MIN)	LOG((T+DT)/DT)	PRESSURE(P SIG)
0	0.000	125.8
5	1.398	313.1
10	1.114	436.0
15	0.954	499.4
20	0.845	535.9
25	0.763	566.7
30	0.699	591.6
35	0.646	611.8
40	0.602	631.0
45	0.564	646.4



This is an actual photograph of recorder chart.

POINT	PRESSURE		
	Field Reading	Office Reading	
(A) Initial Hydrostatic Mud .....	2142	2137	PSI
(B) First Initial Flow Pressure .....	67	68.2	PSI
(C) First Final Flow Pressure .....	96	190.2	PSI
(D) Initial Closed-in Pressure .....	750	764.5	PSI
(E) Second Initial Flow Pressure .....	115	113.3	PSI
(F) Second Final Flow Pressure .....	125	125.8	PSI
(G) Final Closed-in Pressure .....	636	646.4	PSI
(H) Final Hydrostatic Mud .....	2084	2079	PSI

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

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FOR: L.G. STEVENSON & CO. INC.  
STADLEMAN #2 DST # 5  
11-14S-19W FORMATION: ARBUCKLE  
ELLIS COUNTY, KANSAS ELEVATION: 2221 KB

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TEST PARAMETERS

TEST INTERVAL: 3815 - 3858	EST PAY: 5
TIME INTERVAL: 60 - 45 - 60 - 45	VISCOSITY OF FLUID: 8
INITIAL FLOW PRESS: 68.2- 190.2	HOLE SIZE: 7.875
FINAL FLOW PRESS: 113.3- 125.8	D.C. CAPACITY: 0.00000
SHUT-IN PRESS(I-F): 764.5- 646.4	W.P. CAPACITY: 0.00708
BOTTOM HOLE TEMPERATURE: 109	D.P. CAPACITY: 0.01402
TOTAL FEET OF RECOVERY: 180	TOTAL BARRELS RECOVERY: 2.5049

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EXTRAPOLATED INITIAL SHUT-IN PRESSURE (PSI): 960  
SLOPE (PSI-CYCLE): 540 POINTS USED: 6

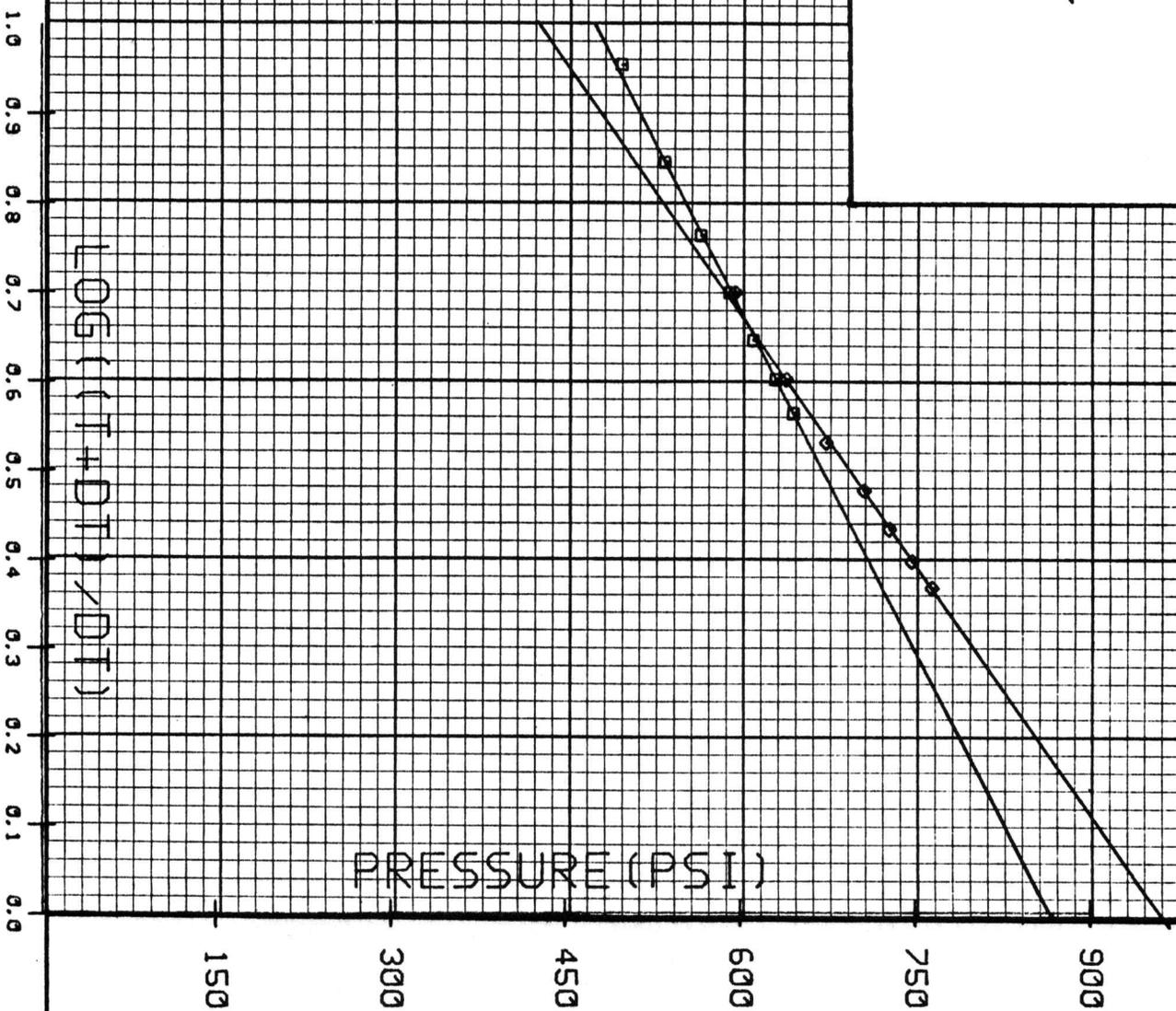
EXTRAPOLATED FINAL SHUT-IN PRESSURE (PSI): 865  
SLOPE (PSI-CYCLE): 392 POINTS USED: 6

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CALCULATIONS

AVERAGE PRODUCTION RATE (B/D)	: 30.06
TRANSMISSIBILITY (MD-FT/CP)	: 12.47
PERMEABILITY (MD)	: 19.95
PRODUCTIVITY INDEX (B/D/PSI)	: 0.0348
DAMAGE RATIO	: 0.345
APPROXIMATE RADIUS OF INVESTIGATION (FT)	: 48.9
DRAWDOWN FACTOR (%)	: 9.896
POTENTIOMETRIC SURFACE (FT)	: 368.94

HORNER PLOT  
L.G. STEVENSON & CO. INC.  
STADLEMAN #2  
DST # 5 DEPTH: 3858  
RECORDER NO. 13364  
INITIAL SHUT-IN:  $\diamond$   
FINAL SHUT-IN:  $\square$



# CHENEY TESTING COMPANY, INC.

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## DRILL-STEM TEST DATA

Company L.G. Stephenson & Company Inc.	Test No. 6
Well Name & Number Stadleman #2	Zone Tested Arbuckle
Company Address 7701 E. Kellogg Wichita Ks.	Date 9/23/84
Company Rep. John Japp	Tester Larry Hunt
Contractor Woodman - Iannitti Drilling	Elevation 2221 KB
Location: Sec. 11 Twp. 14s Rge. 19w Co. Ellis State Ks.	Est. Feet of Pay

Recorder No. 13364 Type Ak-1 Range 3825 PSI  
 Recorder Depth 3860 Clock # 30891  
 (A) Initial Hydrostatic Mud 2161 PSI  
 (B) First Initial Flow Pressure 67 PSI  
 (C) First Final Flow Pressure 96 PSI  
 (D) Initial Shut-in Pressure 807 PSI  
 (E) Second Initial Flow Pressure 115 PSI  
 (F) Second Final Flow Pressure 125 PSI  
 (G) Final Shut-in Pressure 730 PSI  
 (H) Final Hydrostatic Mud 2132 PSI  
 Temperature 110  
 Mud Weight 9.8 Viscosity 41  
 Fluid Loss 12.0  
 Interval Tested 3815-3863  
 Anchor Length 48  
 Top Packer Depth 3810  
 Bottom Packer Depth 3815  
 Total Depth 3863  
 Drill Pipe Size 4 1/2 XH  
 Wt. Pipe I. D. 2.7 Ft. Run 380  
 Recovery-Total Feet 165

Recorder No. 13223 Type AK-1 Range 4150 PSI  
 Recorder Depth 3857 Clock # 21123  
 Tool Open Before I.S.I. 60 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 @ 1:51 AM

Blow Remarks 1st open: Weak to fair building blow, 9" in bucket.  
2nd open: Weak to fair building blow, 5" in bucket.

Well Chlorides: 52,000 ppm  
 Recovery Chlorides: 52,000 ppm

Recovered 165 Feet Of heavy oil cut mud.  
 Recovered \_\_\_\_\_ Feet Of ( TOP - 65% oil, 5% water, 30% mud, BOTTOM- 10% oil, 90% mud.)  
 Recovered \_\_\_\_\_ Feet Of \_\_\_\_\_  
 Extra Equipment \_\_\_\_\_ Down Hole Ins. \_\_\_\_\_ Price of Job \$665.00

INITIAL SHUT-IN

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RECORDER NO: 13364    DEPTH: 3863 FT.  
 INITIAL FLOW TIME (T): 60 MIN.

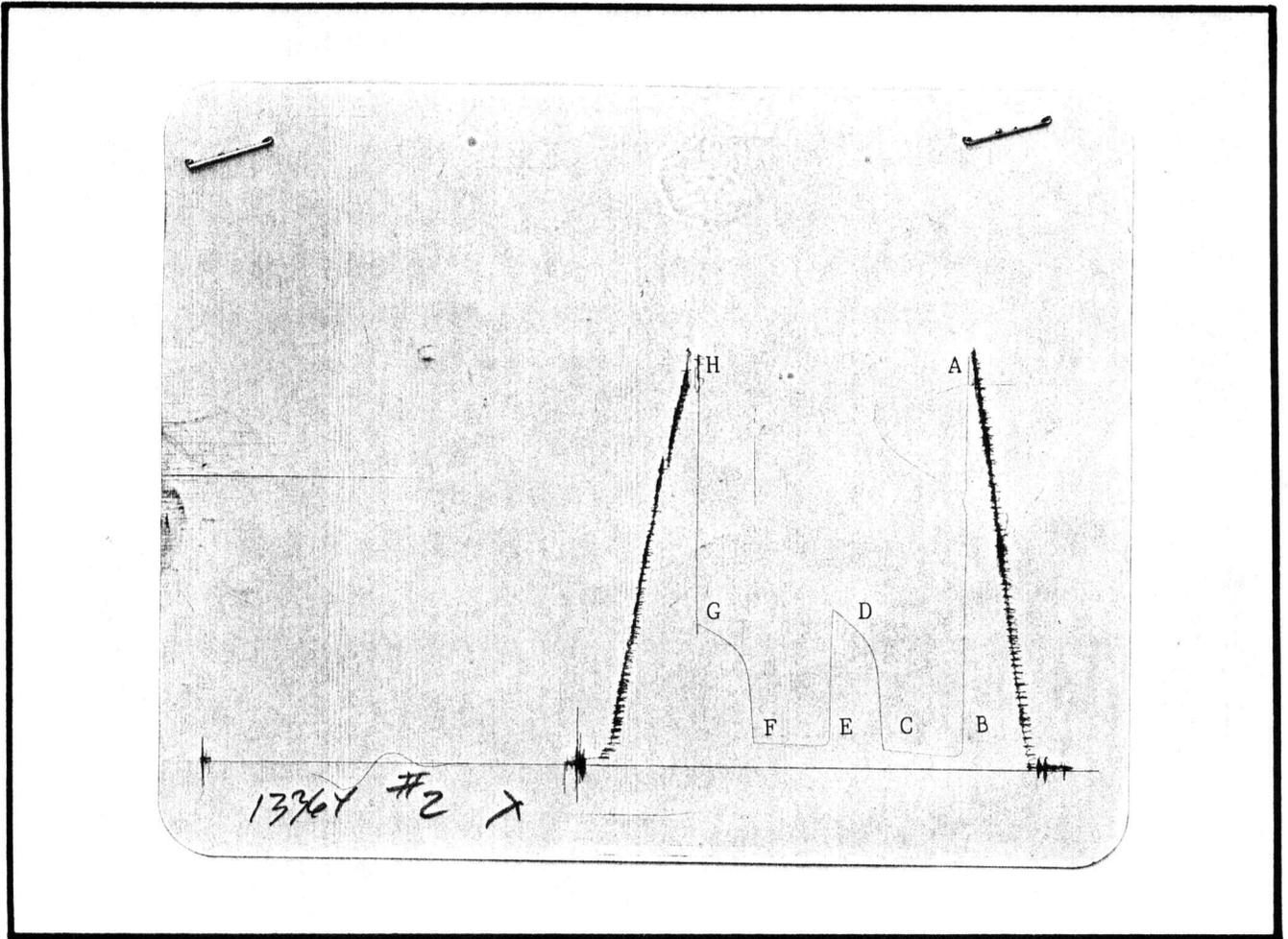
DT(MIN)	LOG((T+DT)/DT)	PRESSURE(P SIG)
0	0.000	101.8
5	1.114	288.1
10	0.845	545.5
15	0.699	635.8
20	0.602	681.9
25	0.531	716.5
30	0.477	747.2
35	0.434	777.0
40	0.398	806.8
45	0.368	830.8

FINAL SHUT-IN

=====

RECORDER NO: 13364    DEPTH: 3863 FT.  
 TOTAL FLOW TIME: 120 MIN.

DT(MIN)	LOG((T+DT)/DT)	PRESSURE(P SIG)
0	0.000	128.7
5	1.398	484.1
10	1.114	572.4
15	0.954	617.6
20	0.845	643.5
25	0.763	668.5
30	0.699	690.5
35	0.646	711.7
40	0.602	729.0
45	0.564	742.4



This is an actual photograph of recorder chart.

POINT	PRESSURE		
	Field Reading	Office Reading	
(A) Initial Hydrostatic Mud .....	2161	2156	PSI
(B) First Initial Flow Pressure .....	67	74.9	PSI
(C) First Final Flow Pressure .....	96	101.8	PSI
(D) Initial Closed-in Pressure .....	807	830.8	PSI
(E) Second Initial Flow Pressure .....	115	119.1	PSI
(F) Second Final Flow Pressure .....	125	128.7	PSI
(G) Final Closed-in Pressure .....	730	742.4	PSI
(H) Final Hydrostatic Mud .....	2132	2127	PSI

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

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FOR: L.G. STEPHENSON & COMPANY INC.  
STADLEMAN #2 DST # 6  
SEC 11-24S-19W FORMATION: ARBUCKLE  
ELLIS COUNTY, KANSAS ELEVATION: 2221 KB

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TEST PARAMETERS

TEST INTERVAL: 3815 - 3863	EST PAY: 10
TIME INTERVAL: 60 - 45 - 60 - 45	VISCOSITY OF FLUID: 5
INITIAL FLOW PRESS: 74.9- 101.8	HOLE SIZE: 7.875
FINAL FLOW PRESS: 119.1- 128.7	D.C. CAPACITY: 0.00492
SHUT-IN PRESS(I-F): 830.8- 742.4	W.P. CAPACITY: 0.00708
BOTTOM HOLE TEMPERATURE: 110	D.P. CAPACITY: 0.01402
TOTAL FEET OF RECOVERY: 165	TOTAL BARRELS RECOVERY: 1.1679

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EXTRAPOLATED INITIAL SHUT-IN PRESSURE (PSI): 1112  
SLOPE (PSI-CYCLE): 774 POINTS USED: 4

EXTRAPOLATED FINAL SHUT-IN PRESSURE (PSI): 949  
SLOPE (PSI-CYCLE): 371 POINTS USED: 5

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CALCULATIONS

AVERAGE PRODUCTION RATE (B/D)	: 14.01
TRANSMISSIBILITY (MD-FT/CP)	: 6.14
PERMEABILITY (MD)	: 3.07
PRODUCTIVITY INDEX (B/D/PSI)	: 0.0148
DAMAGE RATIO	: 0.405
APPROXIMATE RADIUS OF INVESTIGATION (FT)	: 19.2
DRAWDOWN FACTOR (%)	: 14.658
POTENTIOMETRIC SURFACE (FT)	: 558.73

HORNER PLOT  
 L. G. STEPHENSON & COMPANY INC.  
 STADLEMAN #2  
 DST # 6 DEPTH: 3863  
 RECORDER NO. 13364  
 INITIAL SHUT-IN:  $\diamond$   
 FINAL SHUT-IN:  $\square$

