

CHENEY TESTING COMPANY

P. O. BOX 3

HILL CITY, KANSAS 67642

DRILL-STEM TEST DATA

Company Abercrombie Drlg. Inc.	Test No. 1
Well Name & Number Shanlin #1	Zone Tested Lansing
Company Address 801 Union Center	Date 5-27-76
Comp. Rep. Benny Singleton	Tester Kirk Cheney
Contractor Company Tools	Elevation 2587 K.B.
Location: Sec. 4 Twp. 16S Rge. 28W Co. Lane State Kan.	Est. Feet of Pay _____

Recorder No. 1760 Type Kuster Range 3500 PSI

Recorder Depth 3787

(A) Initial Hydrostatic Mud 1992 PSI

(B) First Initial Flow Pressure 59 PSI

(C) First Final Flow Pressure 239 PSI

(D) Initial Closed-in Pressure 1152 PSI

(E) Second Initial Flow Pressure 273 PSI

(F) Second Final Flow Pressure 496 PSI

(G) Final Closed-in Pressure 1117 PSI

(H) Final Hydrostatic Mud 1984 PSI

Temperature 109

Mud Weight 9.4 Viscosity 43

Fluid Loss 10.5

Interval Tested 3760-3790

Anchor Length 30'

Top Packer Depth 3755

Bottom Packer Depth 3760

Total Depth 3790

Drill Pipe Size 4 1/2 Ex.H.

Wt. Pipe I. D. 2.7 Ft. Run 305

Recovery—Total Feet 1466

Recovered 1466 Feet Of muddy water

Recovered _____ Feet Of _____

Recovered _____ Feet Of _____

Recovered _____ Feet Of _____

Extra Equipment _____ Price of Job 310.00

Recorder No. 2836 Type Kuster Range 3550 PSI

Recorder Depth 3784

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

Initial Shut-in 45 Mins.

Flow Period 60 Mins.

Final Shut-in 45 Mins.

Surface Choke Size 1"

Bottom Choke Size 1/2"

Main Hole Size 7 7/8"

Rubber Size 6 3/4"

Tool Open @ 2:10 A.M.

Blow strong for 90 minutes.

Remarks _____

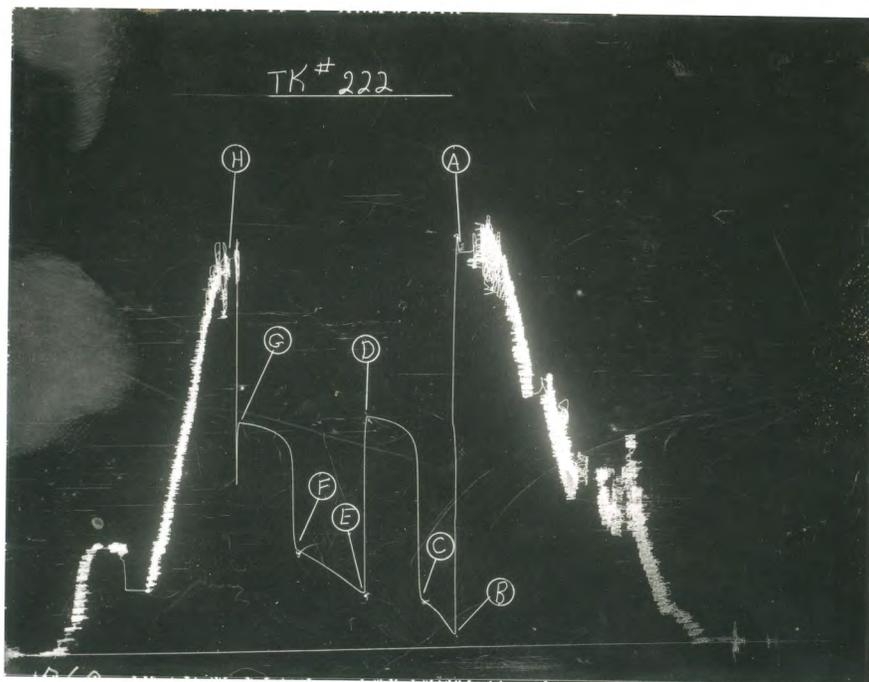
Drill Collar I. D. _____ Ft. Run _____

THIS ORDER MUST BE SIGNED BEFORE WORK IS COMMENCED.

CONDITIONS: It is expressly understood and agreed that the above described work shall be done under the exclusive control, direction and supervision of the owner or contractor. As a part of the consideration for this agreement, it is expressly understood and agreed that Cheney Testing Company shall not be responsible for damages or losses of any kind whatsoever occasioned by or incident to the use of the above described Tools, whether run or operated by customer, or by anyone employed directly or indirectly by Cheney Testing Company, nor whether resulting from

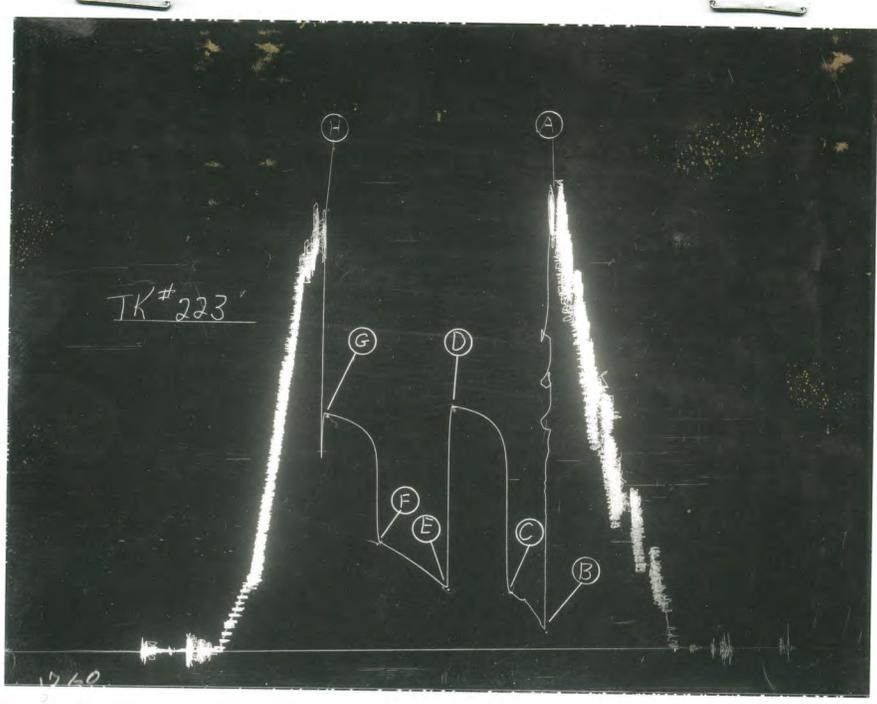
the acts or omissions of Cheney Testing Company, or any of its agents, servants or employees in any way connected with or related to the use of such Tools. It is expressly understood and agreed that Cheney Testing Company, shall not be bound by any agreement, not herein contained, and no agent or representative connected with or employed by Cheney Testing Company has authority to alter or extend the terms of this agreement. I have read and understand the terms of this agreement and represent that I am authorized to sign the same as agent of customer.

By _____
Owner, Operator or bis Agent



This is an actual photograph of recorder chart.

POINT	PRESSURE		PSI
	Field Reading	Office Reading	
(A) Initial Hydrostatic Mud	1992		PSI
(B) First Initial Flow Pressure	59		PSI
(C) First Final Flow Pressure	239		PSI
(D) Initial Closed-in Pressure	1152		PSI
(E) Second Initial Flow Pressure	273		PSI
(F) Second Final Flow Pressure	496		PSI
(G) Final Closed-in Pressure	1117		PSI
(H) Final Hydrostatic Mud	1984		PSI



This is an actual photograph of recorder chart.

POINT	PRESSURE		PSI
	Field Reading	Office Reading	
(A) Initial Hydrostatic Mud	2216		PSI
(B) First Initial Flow Pressure	85		PSI
(C) First Final Flow Pressure	291		PSI
(D) Initial Closed-in Pressure	1204		PSI
(E) Second Initial Flow Pressure	299		PSI
(F) Second Final Flow Pressure	531		PSI
(G) Final Closed-in Pressure	1186		PSI
(H) Final Hydrostatic Mud	2207		PSI

CHENEY TESTING COMPANY

P. O. BOX 3 HILL CITY, KANSAS 67642

DRILL-STEM TEST DATA

Company	Abercrombie Drlg. Inc.	Test No.	3
Well Name & Number	Shanlin # 1	Zone Tested	Kansas City
Company Address	801 Union Center	Date	5-29-76
Comp. Rep.	Benny Singleton	Tester	Kirk Cheney
Contractor	Company Tools	Elevation	2587 K.B.
Location: Sec. 4 Twp. 16S Rge. 28W Co. Lane State Kan		Est. Feet of Pay	

Recorder No. 1760 Type Kuster Range 3500 PSI

Recorder No. 2836 Type Kuster Range 3550 PSI

Recorder Depth 4052

Recorder Depth 4049

(A) Initial Hydrostatic Mud 2172 PSI

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

(B) First Initial Flow Pressure 111 PSI

Initial Shut-in 45 Mins.

(C) First Final Flow Pressure 256 PSI

Flow Period 60 Mins.

(D) Initial Closed-in Pressure 1117 PSI

Final Shut-in 45 Mins.

(E) Second Initial Flow Pressure 282 PSI

Surface Choke Size 1"

(F) Second Final Flow Pressure 436 PSI

Bottom Choke Size 1/2"

(G) Final Closed-in Pressure 1065 PSI

Main Hole Size 7 7/8"

(H) Final Hydrostatic Mud 2163 PSI

Rubber Size 6 3/4"

Temperature 120

Tool Open @ 10:20 A.M.

Mud Weight 9.6 Viscosity 49

Blow strong for 90 minutes

Fluid Loss 10.5

Remarks _____

Interval Tested 3983-4055

Anchor Length 72'

Top Packer Depth 3978

Bottom Packer Depth 3983

Total Depth 4055

Drill Pipe Size 4 1/2 Ex. H.

Wt. Pipe I. D. 3.5 Ft. Run 336

Drill Collar I. D. _____ Ft. Run _____

Recovery—Total Feet 840

Recovered 150 Feet Of Gas & slightly oil cut watery mud

Recovered 300 Feet Of Gas cut muddy water with scum of oil

Recovered 390 Feet Of Gas cut salt water

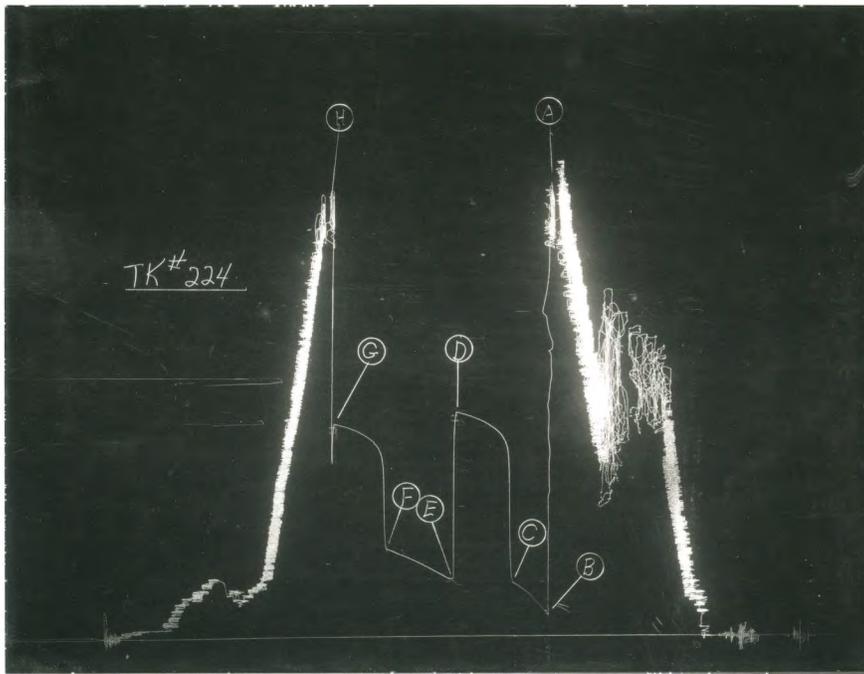
Recovered 60 Feet Of Gas in pipe

Extra Equipment _____ Price of Job 350.00

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POINT	PRESSURE		PSI
	Field Reading	Office Reading	
(A) Initial Hydrostatic Mud	2172		PSI
(B) First Initial Flow Pressure	111		PSI
(C) First Final Flow Pressure	256		PSI
(D) Initial Closed-in Pressure	1117		PSI
(E) Second Initial Flow Pressure	282		PSI
(F) Second Final Flow Pressure	436		PSI
(G) Final Closed-in Pressure	1065		PSI
(H) Final Hydrostatic Mud	2163		PSI

CHENEY TESTING COMPANY

P. O. BOX 3 HILL CITY, KANSAS 67642

DRILL-STEM TEST DATA

Company	Abercrombie Drlg. Inc.	Test No.	4
Well Name & Number	Shanlin # 1	Zone Tested	Fort Scott
Company Address	801 Union Center	Date	5-31-76
Comp. Rep.	Benny Singleton	Tester	Kirk Cheney
Contractor	Company Tools	Elevation	2587 K.B.
Location: Sec. 4 Twp. 16S Rge. 28W Co. Lane	State Kansas	Est. Feet of Pay	

Recorder No. 1760 Type Kuster Range 3500 PSI

Recorder Depth 4297

(A) Initial Hydrostatic Mud 2261 PSI

(B) First Initial Flow Pressure 85 PSI

(C) First Final Flow Pressure 136 PSI

(D) Initial Closed-in Pressure 1204 PSI

(E) Second Initial Flow Pressure 145 PSI

(F) Second Final Flow Pressure 256 PSI

(G) Final Closed-in Pressure 1178 PSI

(H) Final Hydrostatic Mud 2252 PSI

Temperature 122

Mud Weight 9.7 Viscosity 44

Fluid Loss 10

Interval Tested 4271-4300

Anchor Length 29'

Top Packer Depth 4266

Bottom Packer Depth 4271

Total Depth 4300

Drill Pipe Size 4 1/2 Ex.H.

Wt. Pipe I. D. 3.5 Ft. Run 305

Recovery—Total Feet 570

Recovered 330 Feet Of free oil--gasy 35.2° gravity

Recovered 240 Feet Of gas and oil cut mud--gasy

Recovered _____ Feet Of _____

Recovered _____ Feet Of _____

Extra Equipment _____ Price of Job \$350.00

Recorder No. 2836 Type Kuster Range 3550 PSI

Recorder Depth 4294

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

Initial Shut-in 45 Mins.

Flow Period 60 Mins.

Final Shut-in 45 Mins.

Surface Choke Size 1"

Bottom Choke Size 1/2"

Main Hole Size 7 7/8"

Rubber Size 6 3/4"

Tool Open @ 7:00 A.M.

Blow gas to surface in 2 hrs. 40 min.

Remarks _____

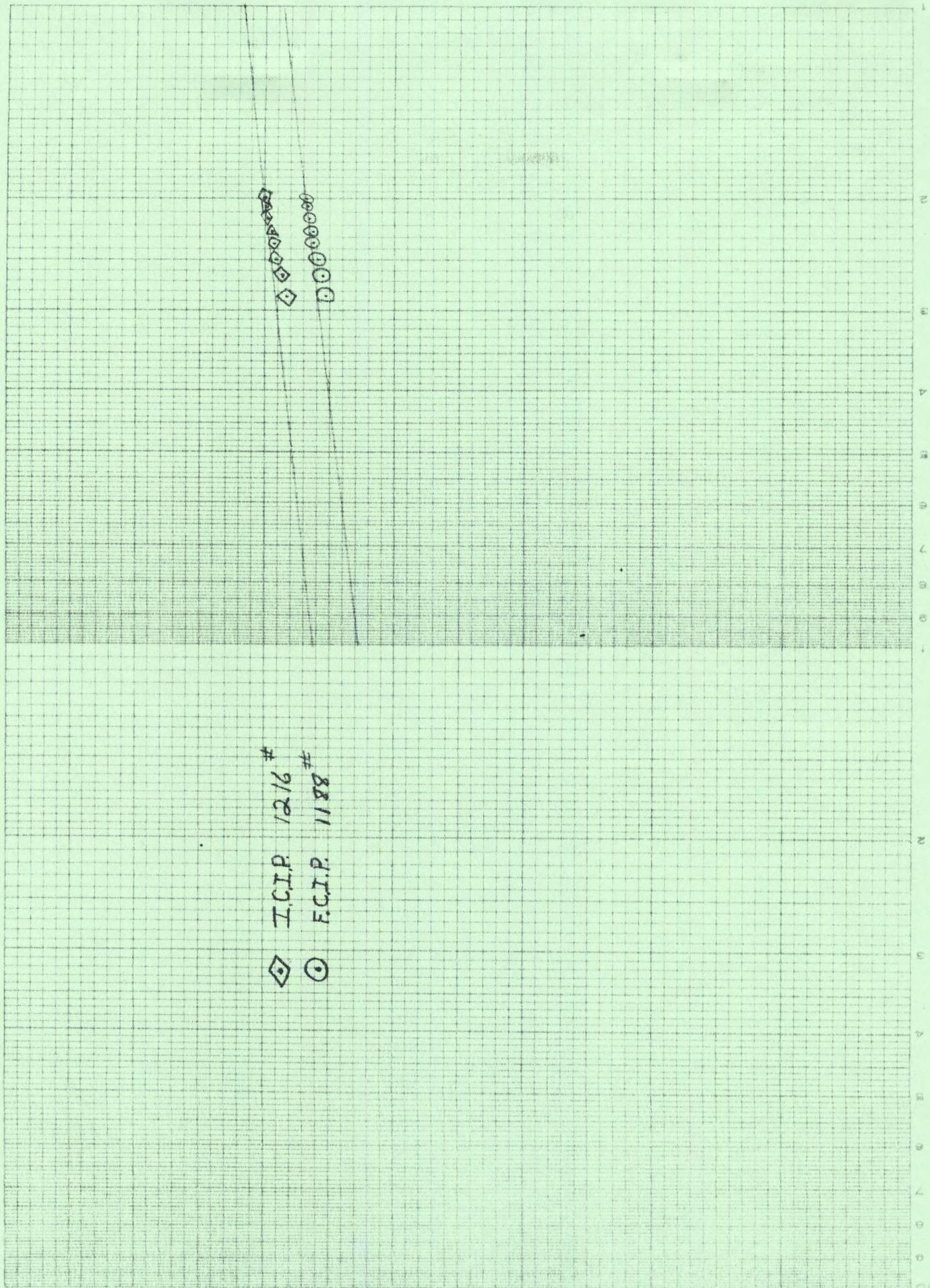
Drill Collar I. D. _____ Ft. Run _____

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◇ I.C.I.P. 1216 #
○ F.C.I.P. 1188 #

CHENEY TESTING CO.

FIELD EVALUATIONS

Ticket No. 225

Date 5-31-76

To Abercrombie Drlg. Inc.
801 Union Center
Wichita, Kansas

These calculations are based upon information furnished by you and taken from drill stem test pressure charts and are furnished for your information. In furnishing such calculations and evaluations, Cheney Testing Co. is merely expressing its opinion. You agree that The Testing Company makes no warranty as to the accuracy of such calculations or opinions and the Testing Company shall not be liable for any loss or damage, whether due to negligence or otherwise in connection with such calculations and opinions.

We Give Below Results of Drill Stem Evaluation

Lease Shanline #1 Sec. 4 Twp. 16S Rge. 28W
County Lane Test Interval 4271-4300

FINAL

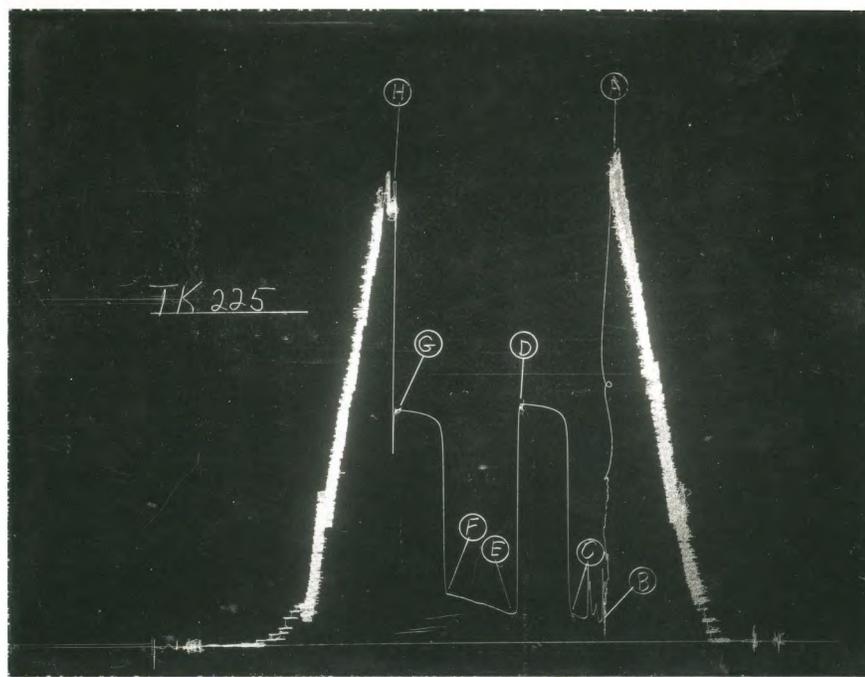
P.S.I. Slope Cycle
$$M = \frac{P_{isi} - P_{fsi}}{\log \frac{T + t}{t}}$$
 54

Damage Ratio
$$DR = .183 \frac{P_s - P_f}{M}$$
 3

Production
$$Q = \frac{1440 R}{t}$$
 5.80 Bbls./Hr.
104.4 Bbls./Day

Effective Pay
$$K_1 = \frac{Kh}{hl}$$
 250 Md. Ft. **Per 3' of pay**

Theoretical Potential
With Damage Removed
$$Q_1 = Q DR$$
 313.2 Bbls./Day



This is an actual photograph of recorder chart.

POINT	PRESSURE		
	Field Reading	Office Reading	
(A) Initial Hydrostatic Mud	2261	2267	PSI
(B) First Initial Flow Pressure	85	30	PSI
(C) First Final Flow Pressure	136	142	PSI
(D) Initial Closed-in Pressure	1204	1200	PSI
(E) Second Initial Flow Pressure	145	140	PSI
(F) Second Final Flow Pressure	256	243	PSI
(G) Final Closed-in Pressure	1178	1169	PSI
(H) Final Hydrostatic Mud	2252	2252	PSI

CHENEY TESTING COMPANY

P. O. BOX 3 HILL CITY, KANSAS 67642

DRILL-STEM TEST DATA

Company <u>Abercrombie Drlg. Inc.</u>	Test No. <u>5 (STRADDLE)</u>
Well Name & Number <u>Shanlin # 1</u>	Zone Tested <u>Kansas City</u>
Company Address <u>801 Union Center</u>	Date <u>6-1-76</u>
Comp. Rep. <u>Benny Singleton</u>	Tester <u>Kenneth Cheney</u>
Contractor <u>Company Tools</u>	Elevation
Location: Sec. <u>4</u> Twp <u>16S</u> Rge. <u>28W</u> Co. <u>Lane</u> State <u>Kan.</u>	Est. Feet of Pay

Recorder No. 1760 Type Kuster Range 4000 PSI

Recorder No. 2836 Type Kuster Range 3550 PSI

Recorder Depth 4040

Recorder Depth 4043

(A) Initial Hydrostatic Mud 2181 PSI

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

(B) First Initial Flow Pressure 25 PSI

Initial Shut-in 45 Mins.

(C) First Final Flow Pressure 128 PSI

Flow Period 60 Mins.

(D) Initial Closed-in Pressure 1083 PSI

Final Shut-in 60 Mins.

(E) Second Initial Flow Pressure 160 PSI

Surface Choke Size 1"

(F) Second Final Flow Pressure 299 PSI

Bottom Choke Size 1/2"

(G) Final Closed-in Pressure 1048 PSI

Main Hole Size 7 7/8"

(H) Final Hydrostatic Mud 2171 PSI

Rubber Size 6 3/4"

Temperature _____

Tool Open @ 6:15 P.M.

Mud Weight 9.7 Viscosity 49

Blow strong

Fluid Loss 10.5

Remarks _____

Interval Tested 4030-4050

Anchor Length 20'

Top Packer Depth 4030

Bottom Packer Depth 4050

Total Depth 4416

Drill Pipe Size 4 1/2 Ex. H.

Wt. Pipe I. D. _____ Ft. Run _____

Drill Collar I. D. _____ Ft. Run _____

Recovery—Total Feet _____

Recovered 330 Feet Of Gas in pipe

Recovered 610 Feet Of Fluid-15' oil; 175' GCMW w/scum of oil;

Recovered _____ Feet Of 240' gas cut water w/scum of oil; 180' water

Recovered _____ Feet Of _____

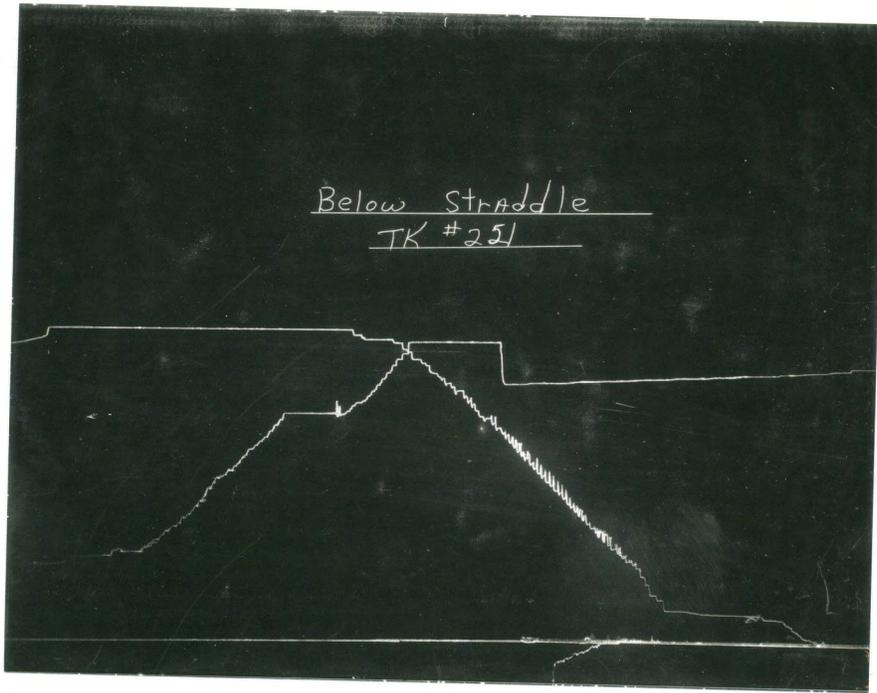
Extra Equipment Straddle \$100.00 Price of Job \$450.00

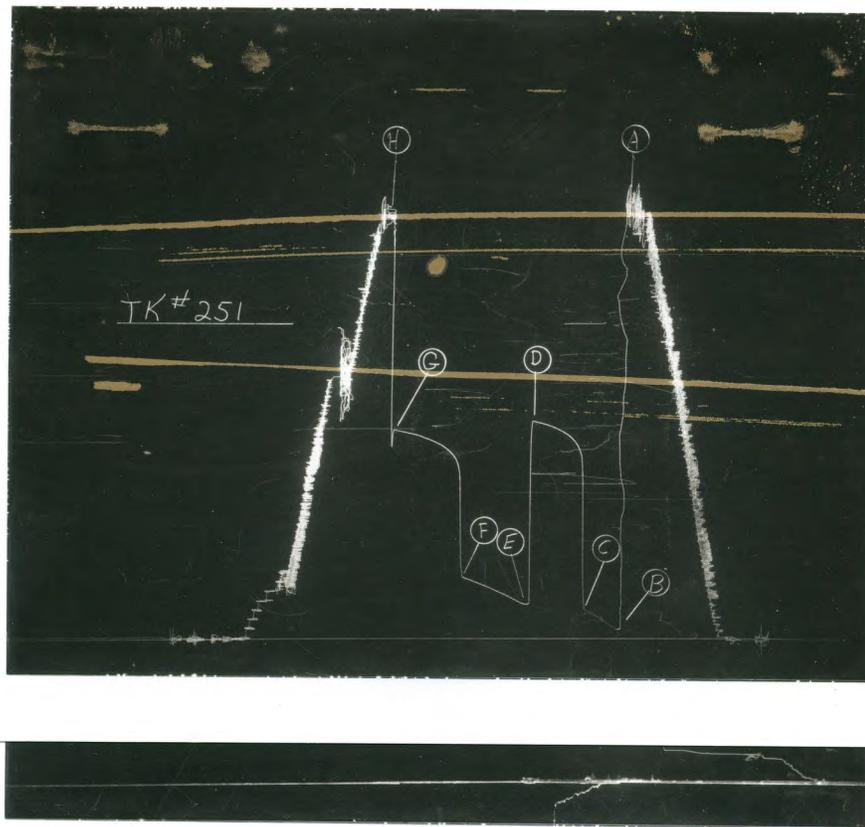
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Below Straddle
TK #251





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POINT	PRESSURE		PSI
	Field Reading	Office Reading	
(A) Initial Hydrostatic Mud	2181		PSI
(B) First Initial Flow Pressure	25		PSI
(C) First Final Flow Pressure	128		PSI
(D) Initial Closed-in Pressure	1083		PSI
(E) Second Initial Flow Pressure	160		PSI
(F) Second Final Flow Pressure	299		PSI
(G) Final Closed-in Pressure	1048		PSI
(H) Final Hydrostatic Mud	2171		PSI