

15-065-22772

31-7s-24w

**WELL NAME:** Cummings #3  
**COMPANY:** H & H Investments  
**LOCATION:** 32-7S-24W  
Graham County Kansas  
**DATE:** 07/29/96

TRILOBITE TESTING L.L.C.

OPERATOR : H & H Investments  
 WELL NAME: Cummings #3  
 LOCATION : 32-7S-24W, Graham Cty KS  
 INTERVAL : 3813.00 To 3840.00 ft

DATE 07/28/96  
 KB 2469.00 ft  
 GR 2464.00 ft  
 TD 3840.00 ft

TICKET NO: 9309  
 FORMATION: KC "F"  
 TEST TYPE: CONV

DST #1

RECORDER DATA

Mins		Field	1	2	3	4	TIME DATA-----		
PF	0	Rec.	11086	10994			PF Fr.	to	hr
SI	0	Range(Psi )	4350.0	4200.0	0.0	0.0	IS Fr.	to	hr
SF	0	Clock(hrs)	12	12			SF Fr.	to	hr
FS	0	Depth(ft )	3815.0	3837.0	0.0	0.0	FS Fr.	to	hr

	Field	1	2	3	4			
A.	Init Hydro	0.0	0.0	0.0	0.0	0.0	T STARTED	0700 hr
B.	First Flow	0.0	0.0	0.0	0.0	0.0	T ON BOTM	hr
Bl.	Final Flow	0.0	0.0	0.0	0.0	0.0	T OPEN	hr
C.	In Shut-in	0.0	0.0	0.0	0.0	0.0	T PULLED	hr
D.	Init Flow	0.0	0.0	0.0	0.0	0.0	T OUT	0900 hr
E.	Final Flow	0.0	0.0	0.0	0.0	0.0		
F.	Fl Shut-in	0.0	0.0	0.0	0.0	0.0	TOOL DATA-----	
G.	Final Hydro	0.0	0.0	0.0	0.0	0.0	Tool Wt.	0.00 lbs
	Inside/Outside	I	O				Wt Set On Packer	0.00 lbs
							Wt Pulled Loose	0.00 lbs
							Initial Str Wt	0.00 lbs
							Unseated Str Wt	0.00 lbs
							Bot Choke	0.75 in
							Hole Size	7.88 in
							D Col. ID	2.25 in
							D. Pipe ID	3.80 in
							D.C. Length	0.00 ft
							D.P. Length	3814.00 ft

RECOVERY

Tot Fluid 0.00 ft of 0.00 ft in DC and 0.00 ft in DP

SALINITY 0.00 P.P.M. A.P.I. Gravity 0.00

BLOW DESCRIPTION

\*MISRUN - slid tool for 12 stands, then mud fell away on backside; no return; pulled tool.

MUD DATA-----

Mud Type  
 Weight 0.00 lb/c  
 Vis. 0.00 S/L  
 W.L. 0.00 in3  
 F.C. 0.00 in  
 Mud Drop

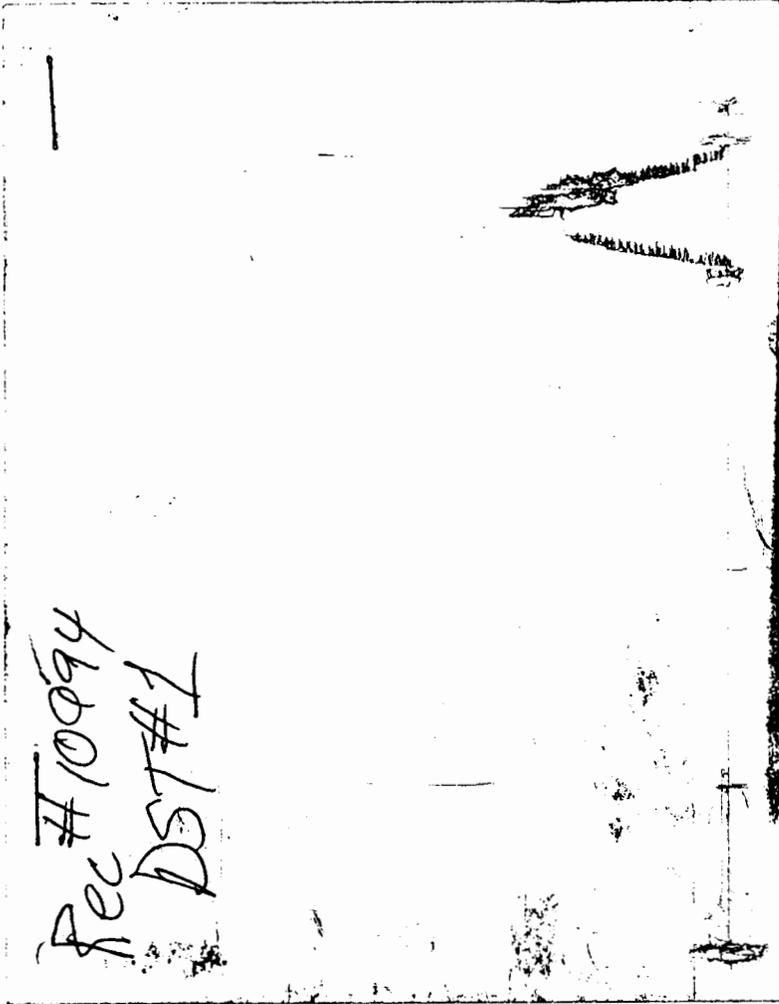
Amt. of fill 0.00 ft  
 Btm. H. Temp. 0.00 F  
 Hole Condition  
 % Porosity 0.00  
 Packer Size 6.75 in  
 No. of Packers 2  
 Cushion Amt. 0.00

SAMPLES:  
 SENT TO:

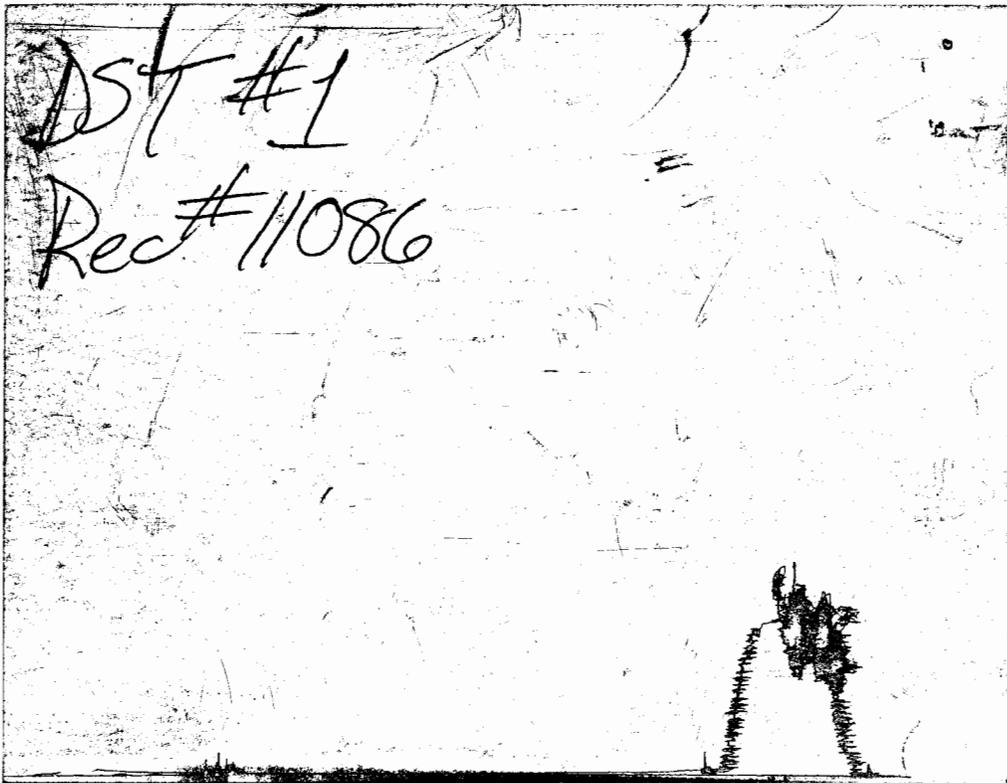
Cushion Type  
 Reversed Out  
 Tool Chased  
 Tester Mike McVey  
 Co. Rep. Burt Hayes  
 Contr. White & Ellis  
 Rig # 9  
 Unit #  
 Pump T.

Test Successful: N

CHART PAGE



This is a photocopy of the actual AK-1 recorder chart



DST #1

Rec #11086

# TRILOBITE TESTING L.L.C.

P.O. Box 362 • Hays, Kansas 67601

## Test Ticket

N<sup>o</sup> 9309

Well Name & No. <u>Cummings #3</u>	Test No. <u>#1</u>	Date <u>7-28-96</u>
Company <u>H+H Investments</u>	Zone Tested <u>K.C. "F"</u>	
Address <u>3115 Hall St. Hays, Ks 67601</u>	Elevation <u>2469</u> KB <u>2464</u> GL	
Co. Rep / Geo. <u>Burt Hayes</u>	Cont. <u>White &amp; Ellis Drilling Rig #9</u>	Est. Ft. of Pay <u>    </u> Por. <u>    </u> %
Location: Sec. <u>32</u> Twp. <u>7s</u> Rge. <u>24w</u>	Co. <u>Graham</u> State <u>Ks</u>	
No. of Copies <u>Normal</u>	Distribution Sheet (Y, N) <u>N</u>	Turnkey (Y, N) <u>N</u> Evaluation (Y, N) <u>N</u>

Interval Tested <u>3813 to 3840</u>	Initial Str Wt./Lbs. <u>    </u>	Unseated Str Wt./Lbs. <u>    </u>
Anchor Length <u>27'</u>	Wt. Set Lbs. <u>    </u>	Wt. Pulled Loose/Lbs. <u>    </u>
Top Packer Depth <u>3808</u>	Hole Size — 7 7/8" <input checked="" type="checkbox"/>	Rubber Size — 6 3/4" <input checked="" type="checkbox"/>
Bottom Packer Depth <u>3813</u>	Wt. Pipe I.D. — 2.7 Ft. Run <u>    </u>	
Total Depth <u>3840</u>	Drill Collar — 2.25 Ft. Run <u>    </u>	
Mud Wt. <u>    </u> LCM <u>    </u> Vis. <u>    </u> WL <u>    </u>	Drill Pipe Size <u>4 1/2" / 3" I.D.</u>	Ft. Run <u>3814</u>

Blow Description (Mist run) (slid tool 1/2 stands, then mud fell away on backside - no return - pull tool)

Recovery — Total Feet	Ft. in DC	Ft. in WP	Ft. in DP	%gas	%oil	%water	%mud
Rec. <u>    </u>	Feet Of <u>    </u>						
Rec. <u>    </u>	Feet Of <u>    </u>						
Rec. <u>    </u>	Feet Of <u>    </u>						
Rec. <u>    </u>	Feet Of <u>    </u>						
Rec. <u>    </u>	Feet Of <u>    </u>						

BHT      °F Gravity      °API D@      °F Corrected Gravity      °API  
RW      @      °F Chlorides      ppm Recovery Chlorides      ppm System

(A) Initial Hydrostatic Mud <u>    </u>	PSI	Recorder No. <u>11086</u>	T-Started <u>0700</u>
(B) First Initial Flow Pressure <u>    </u>	PSI	@ (depth) <u>3815</u>	T-Open <u>    </u>
(C) First Final Flow Pressure <u>    </u>	PSI	Recorder No. <u>10994</u>	T-Pulled <u>    </u>
(D) Initial Shut-in Pressure <u>    </u>	PSI	@ (depth) <u>3837</u>	T-Out <u>0900</u>
(E) Second Initial Flow Pressure <u>    </u>	PSI	Recorder No. <u>    </u>	
(F) Second Final Flow Pressure <u>    </u>	PSI	@ (depth) <u>    </u>	
(G) Final Shut-in Pressure <u>    </u>	PSI	Initial Opening <u>    </u>	Test <u>460</u>
(H) Final Hydrostatic Mud <u>    </u>	PSI	Initial Shut-in <u>    </u>	Jars <u>    </u>

TRILOBITE TESTING L.L.C. SHALL NOT BE LIABLE FOR DAMAGE OF ANY KIND OF THE PROPERTY OR PERSONNEL OF THE ONE FOR WHOM A TEST IS MADE, OR FOR ANY LOSS SUFFERED OR SUSTAINED, DIRECTLY OR INDIRECTLY, THROUGH THE USE OF ITS EQUIPMENT, OR ITS STATEMENTS OR OPINION CONCERNING THE RESULTS OF ANY TEST. TOOLS LOST OR DAMAGED IN THE HOLE SHALL BE PAID FOR AT COST BY THE PARTY FOR WHOM THE TEST IS MADE.

Final Flow <u>    </u>	Safety Joint <u>    </u>
Final Shut-in <u>    </u>	Straddle <u>    </u>
	Circ. Sub <u>    </u>
	Sampler <u>    </u>
	Extra Packer <u>    </u>
	Elect. Rec. <u>    </u>
	Other <u>    </u>
	TOTAL PRICE \$ <u>400</u>

Approved By [Signature]  
Our Representative [Signature]

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TRILOBITE TESTING L.L.C.

OPERATOR : H & H Investments DATE 07/28/96  
 WELL NAME: Cummings #3 KB 2469.00 ft TICKET NO: 9310 DST #2  
 LOCATION : 32-7S-24W, Graham Cty KS GR 2464.00 ft FORMATION: KC "F"  
 INTERVAL : 3813.00 To 3840.00 ft TD 3840.00 ft TEST TYPE: CONV

RECORDER DATA

Mins		Field	1	2	3	4	TIME DATA-----
PF 30	Rec.	10994	10994	11086			PF Fr. 1730 to 1800 hr
SI 30	Range(Psi )	4200.0	4200.0	4350.0	0.0	0.0	IS Fr. 1800 to 1830 hr
SF 18	Clock(hrs)	12	12	12			SF Fr. 1830 to 1848 hr
FS 0	Depth(ft )	3837.0	3837.0	3815.0	0.0	0.0	FS Fr. to hr

	Field	1	2	3	4	
A. Init Hydro	1855.0	1855.0	0.0	0.0	0.0	T STARTED 1600 hr
B. First Flow	63.0	64.0	0.0	0.0	0.0	T ON BOTM 1728 hr
B1. Final Flow	42.0	43.0	0.0	0.0	0.0	T OPEN 1730 hr
C. In Shut-in	202.0	196.0	0.0	0.0	0.0	T PULLED 1848 hr
D. Init Flow	85.0	62.0	0.0	0.0	0.0	T OUT 2000 hr
E. Final Flow	117.0	132.0	0.0	0.0	0.0	
F. Fl Shut-in	0.0	0.0	0.0	0.0	0.0	TOOL DATA-----
G. Final Hydro	1823.0	1811.0	0.0	0.0	0.0	Tool Wt. 0.00 lbs
Inside/Outside	I	I	O			Wt Set On Packer 24000.00 lbs
						Wt Pulled Loose 74000.00 lbs
						Initial Str Wt 41000.00 lbs
						Unseated Str Wt 41000.00 lbs
						Bot Choke 0.75 in
						Hole Size 7.88 in
						D Col. ID 2.25 in
						D. Pipe ID 3.80 in
						D.C. Length 0.00 ft
						D.P. Length 3814.00 ft

RECOVERY

Tot Fluid 35.00 ft of 0.00 ft in DC and 35.00 ft in DP  
 35.00 ft of Mud - 100% mud

SALINITY 0.00 P.P.M. A.P.I. Gravity 0.00

BLOW DESCRIPTION

Initial Flow -  
 Went immediately to 2.25", then  
 backed off slowly to surface blow

Initial Shutin -  
 No blow back

Final Flow -  
 No blow, flushed tool, weak surface  
 blow, pulled tool

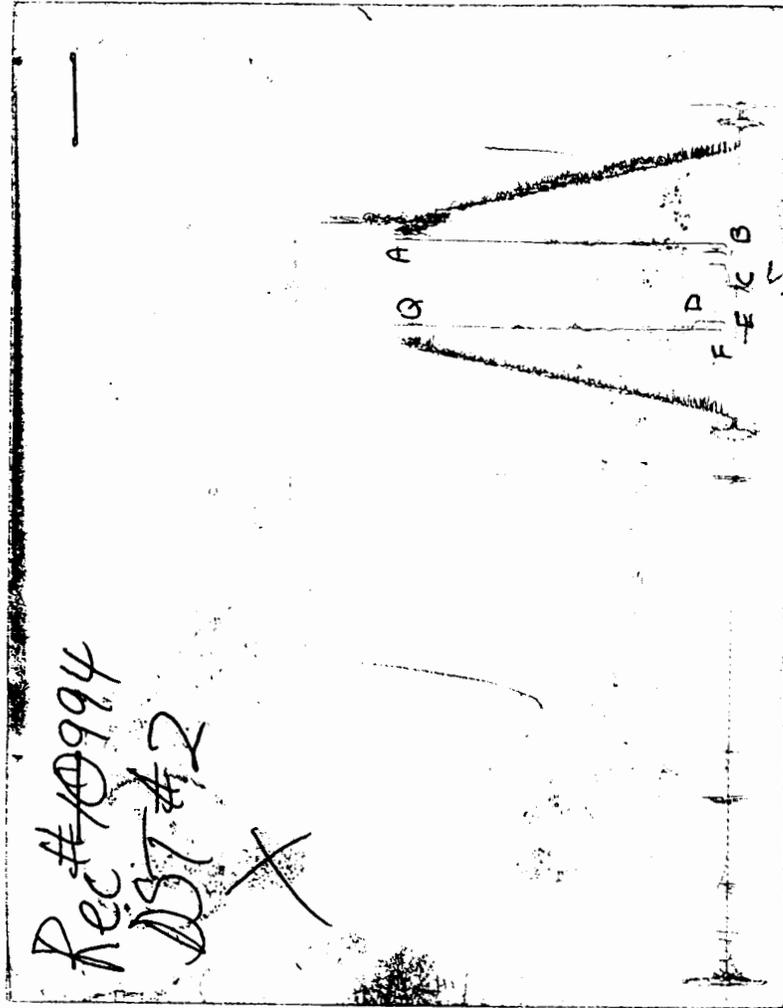
SAMPLES:  
 SENT TO:

MUD DATA-----

Mud Type	Chemical
Weight	9.00 lb/c
Vis.	47.00 S/L
W.L.	10.20 in3
F.C.	0.00 in
Mud Drop	
Amt. of fill	0.00 ft
Btm. H. Temp.	113.00 F
Hole Condition	
% Porosity	0.00
Packer Size	6.75 in
No. of Packers	2
Cushion Amt.	0.00
Cushion Type	
Reversed Out	
Tool Chased	
Tester	Mike McVey
Co. Rep.	Ken Vehige
Contr.	White & Ellis
Rig #	9
Unit #	
Pump T.	

Test Successful: Y

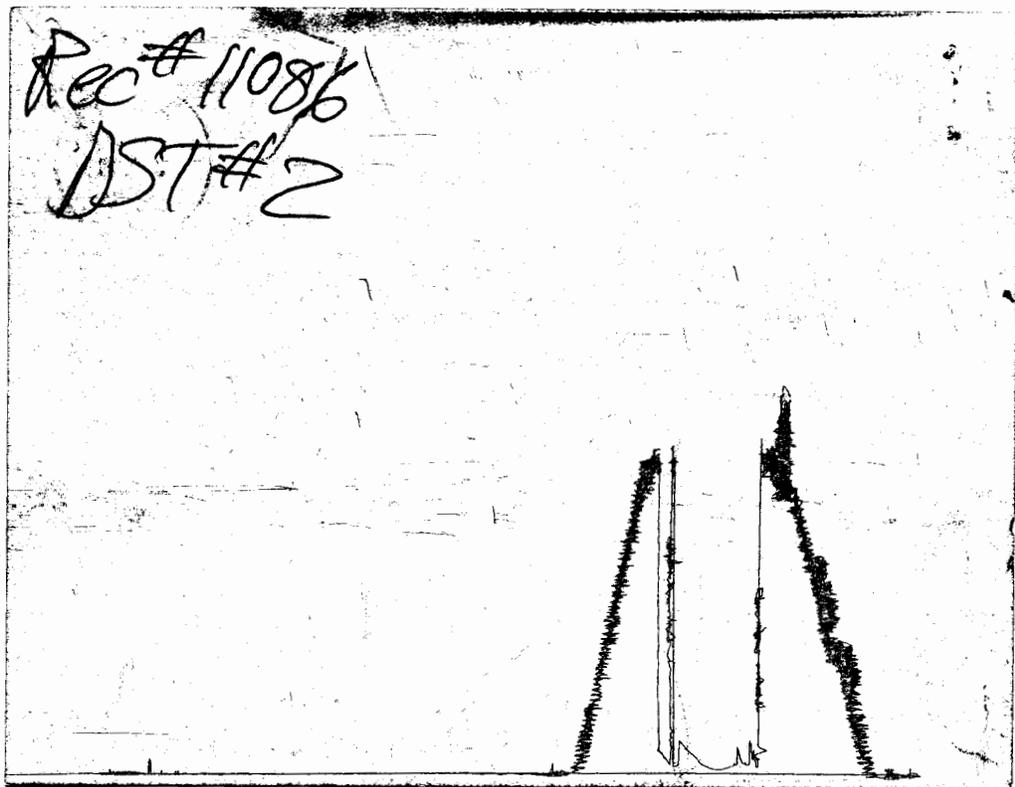
CHART PAGE



This is a photocopy of the actual AK-1 recorder chart

Well name Cummings  
DST # 2  
Recorder # 10994

A		1855	
B		64	
C		43	
D		196	
E		62	
F		132	
G		—	
H		1811	
0			
1			
2			



# TRILOBITE TESTING L.L.C.

P.O. Box 362 • Hays, Kansas 67601

## Test Ticket

Nº 9310

Well Name & No. Cummings #3 Test No. #2 Date 7-28-96  
 Company H+H Investments Zone Tested K.C. "F"  
 Address 3115 Hall St, Hays, Ks 67601 Elevation 2469 KB 2464 GL  
 Co. Rep / Geo. Ken Vehige Cont. White+Ellis Drly Rig #9 Est. Ft. of Pay      Por.      %  
 Location: Sec. 32 Twp. 7s Rge. 24w Co. Graham State Ks  
 No. of Copies Normal Distribution Sheet (Y, N) N Turnkey (Y, N) N Evaluation (Y, N) N

Interval Tested 3813 to 3840 Initial Str Wt./Lbs. 41,000 Unseated Str Wt./Lbs. 41,000  
 Anchor Length 27' Wt. Set Lbs. 24,000 Wt. Pulled Loose/Lbs. 41,000  
 Top Packer Depth 3808 Hole Size — 7 7/8"  Rubber Size — 6 3/4"   
 Bottom Packer Depth 3813 Wt. Pipe I.D. — 2.7 Ft. Run       
 Total Depth 3840 Drill Collar — 2.25 Ft. Run       
 Mud Wt. 9.0 LCM 7# Vis. 47 WL 10.2 Drill Pipe Size 4 1/2 I.D. Ft. Run 3814  
 Blow Description I.F. - Went immediately to 2 1/4"; then backed off slowly to surface blow  
I.S.I. - No blow back  
F.F. - No blow, flush tool, weak surface blow - pull tool

Recovery — Total Feet	Ft. in DC	Ft. in WP	Ft. in DP
<u>35</u>	<u>    </u>	<u>    </u>	<u>35</u>
Rec. <u>35</u> Feet Of <u>Mud</u>	%gas	%oil	%water <u>100%</u> %mud
Rec. <u>    </u> Feet Of <u>    </u>	%gas	%oil	%water <u>    </u> %mud
Rec. <u>    </u> Feet Of <u>    </u>	%gas	%oil	%water <u>    </u> %mud
Rec. <u>    </u> Feet Of <u>    </u>	%gas	%oil	%water <u>    </u> %mud
Rec. <u>    </u> Feet Of <u>    </u>	%gas	%oil	%water <u>    </u> %mud

BHT 113 °F Gravity      °API D@      °F Corrected Gravity      °API  
 RW      @      °F Chlorides      ppm Recovery Chlorides 600 ppm System  
 (A) Initial Hydrostatic Mud 1855 PSI Recorder No. 11086 T-Started 11600  
 (B) First Initial Flow Pressure 63 PSI @ (depth) 3815 T-Open 1730  
 (C) First Final Flow Pressure 42 PSI Recorder No. 10994 T-Pulled 1848  
 (D) Initial Shut-in Pressure 202 PSI @ (depth) 3837 T-Out 2000  
 (E) Second Initial Flow Pressure 85 PSI Recorder No.       
 (F) Second Final Flow Pressure 117 PSI @ (depth)       
 (G) Final Shut-in Pressure      PSI Initial Opening 30 Test 600  
 (H) Final Hydrostatic Mud 1823 PSI Initial Shut-in 30 Jars     

Final Flow 18 Safety Joint       
 Final Shut-in      Straddle       
 Circ. Sub  M/C       
 Sampler       
 Extra Packer       
 Elect. Rec.       
 Other       
 TOTAL PRICE \$ 600

Approved By [Signature]  
 Our Representative [Signature]

TRILOBITE TESTING L.L.C. SHALL NOT BE LIABLE FOR DAMAGE OF ANY KIND OF THE PROPERTY OR PERSONNEL OF THE ONE FOR WHOM A TEST IS MADE, OR FOR ANY LOSS SUFFERED OR SUSTAINED, DIRECTLY OR INDIRECTLY, THROUGH THE USE OF ITS EQUIPMENT, OR ITS STATEMENTS OR OPINION CONCERNING THE RESULTS OF ANY TEST. TOOLS LOST OR DAMAGED IN THE HOLE SHALL BE PAID FOR AT COST BY THE PARTY FOR WHOM THE TEST IS MADE.

TRILOBITE TESTING L.L.C.

OPERATOR : H & H Investments DATE 07/29/96  
 WELL NAME: Cummings #3 KB 2469.00 ft TICKET NO: 9311 DST #3  
 LOCATION : 32-7S-24W, Graham Cty KS GR 2464.00 ft FORMATION: KC "H & J"  
 INTERVAL : 3862.00 To 3925.00 ft TD 3925.00 ft TEST TYPE: CONV

RECORDER DATA

Mins	Field	1	2	3	4	TIME DATA-----
PF 30 Rec.	10994	10994	11086			PF Fr. 0922 to 0952 hr
SI 30 Range(Psi )	4200.0	4200.0	4350.0	0.0	0.0	IS Fr. 0952 to 1022 hr
SF 3 Clock(hrs)	12	12	12			SF Fr. 1022 to 1025 hr
FS 0 Depth(ft )	3922.0	3922.0	3899.0	0.0	0.0	FS Fr. to hr

	Field	1	2	3	4	
A. Init Hydro	1919.0	19113.0	0.0	0.0	0.0	T STARTED 0800 hr
B. First Flow	95.0	82.0	0.0	0.0	0.0	T ON BOTM 0920 hr
B1. Final Flow	74.0	79.0	0.0	0.0	0.0	T OPEN 0922 hr
C. In Shut-in	468.0	453.0	0.0	0.0	0.0	T PULLED 1025 hr
D. Init Flow	127.0	111.0	0.0	0.0	0.0	T OUT 1145 hr
E. Final Flow	0.0	0.0	0.0	0.0	0.0	
F. Fl Shut-in	0.0	0.0	0.0	0.0	0.0	TOOL DATA-----
G. Final Hydro	1876.0	1894.0	0.0	0.0	0.0	Tool Wt. 0.00 lbs
Inside/Outside	0	0	I			Wt Set On Packer 24000.00 lbs
						Wt Pulled Loose 76000.00 lbs
						Initial Str Wt 43000.00 lbs
						Unseated Str Wt 43000.00 lbs
						Bot Choke 0.75 in
						Hole Size 7.88 in
						D Col. ID 2.25 in
						D. Pipe ID 3.80 in
						D.C. Length 0.00 ft
						D.P. Length 3906.00 ft

RECOVERY

Tot Fluid 45.00 ft of 0.00 ft in DC and 45.00 ft in DP  
 45.00 ft of Mud w/ trace of oil - 2% oil, 98% mud

SALINITY 0.00 P.P.M. A.P.I. Gravity 0.00

BLOW DESCRIPTION

Initial Flow -  
 Went immediately to .75" then backed  
 off and died in 17.5 min

Initial Shutin -  
 No blow back

Final Flow -  
 No blow, flushed tool, no blow,  
 pulled tool

SAMPLES:

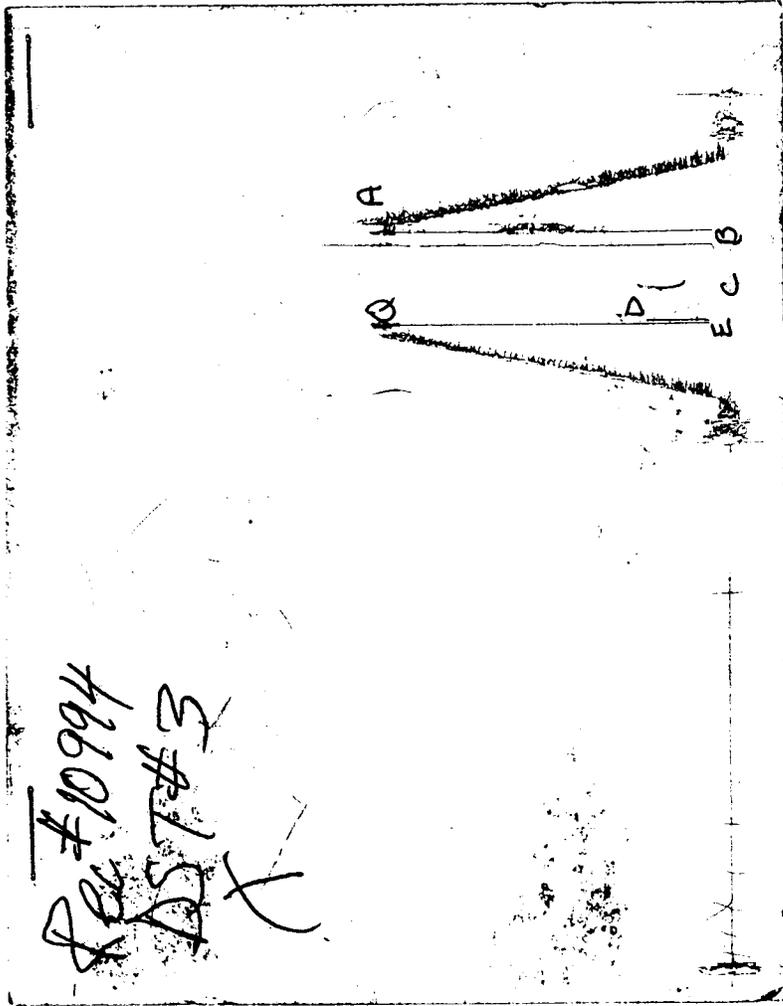
SENT TO:

MUD DATA-----

Mud Type	Chemical
Weight	9.20 lb/c
Vis.	47.00 S/L
W.L.	10.40 in3
F.C.	0.00 in
Mud Drop	
Amt. of fill	0.00 ft
Btm. H. Temp.	115.00 F
Hole Condition	
% Porosity	0.00
Packer Size	6.75 in
No. of Packers	2
Cushion Amt.	0.00
Cushion Type	
Reversed Out	
Tool Chased	
Tester	Mike McVey
Co. Rep.	Ken Vehige
Contr.	White & Ellis
Rig #	9
Unit #	
Pump T.	

Test Successful: Y

CHART PAGE



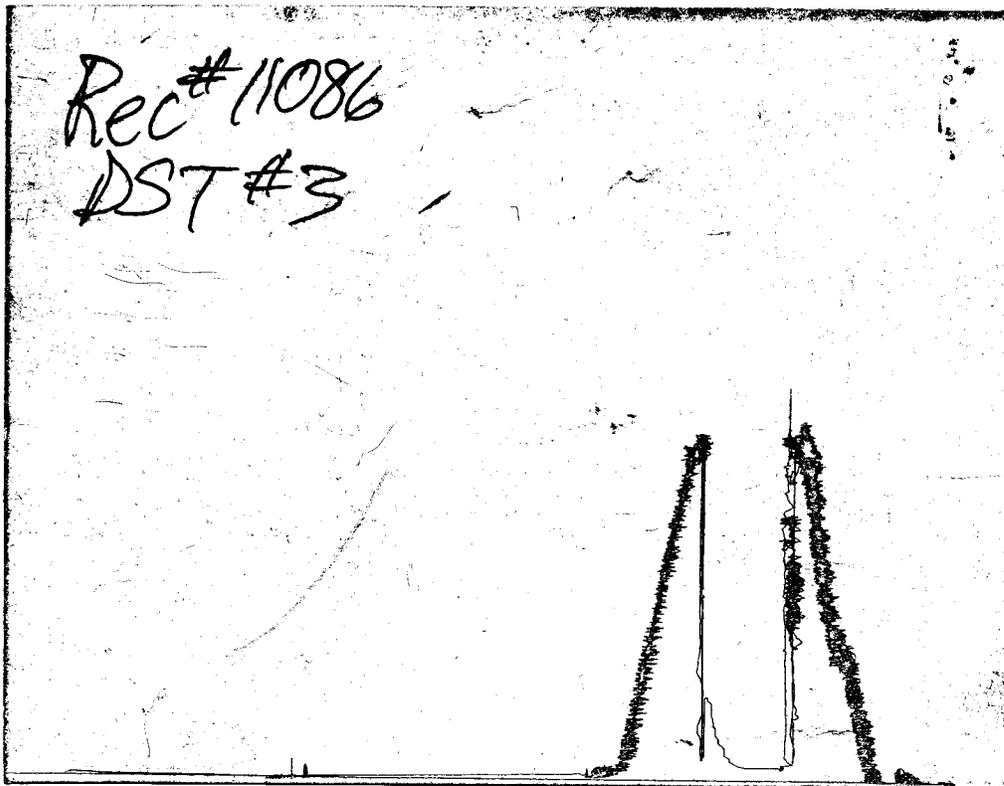
This is a photocopy of the actual AK-1 recorder chart

Well name Cummings

DST # 3

Recorder # 10994

A		1913	
B		82	
C		79	
D		453	
E		111	
F		—	
G		—	
H		1894	



# TRILOBITE TESTING L.L.C.

P.O. Box 362 • Hays, Kansas 67601

## Test Ticket

N<sup>o</sup> 9311

Well Name & No. <u>Cummings #3</u>	Test No. <u>#3</u>	Date <u>7-29-96</u>
Company <u>H+H Investments</u>	Zone Tested <u>K.C. "H+J"</u>	
Address <u>3115 Hall St. Hays, Ks. 67601</u>	Elevation <u>2469</u> KB <u>2469</u> GL	
Co. Rep / Geo. <u>Ken Vehige</u>	Cont. <u>White Ellis Drlg Rig #9</u>	Est. Ft. of Pay <u>    </u> Por. <u>    </u> %
Location: Sec. <u>32</u> Twp. <u>7S</u> Rge. <u>24W</u>	Co. <u>Graham</u> State <u>Ks</u>	
No. of Copies <u>Normal</u> Distribution Sheet (Y, N) <u>N</u>	Turnkey (Y, N) <u>N</u>	Evaluation (Y, N) <u>N</u>

Interval Tested <u>3862 to 3925</u>	Initial Str Wt./Lbs. <u>43000</u>	Unseated Str Wt./Lbs. <u>45000</u>
Anchor Length <u>63'</u>	Wt. Set Lbs. <u>24000</u>	Wt. Pulled Loose/Lbs. <u>76000</u>
Top Packer Depth <u>3857</u>	Hole Size — 7 7/8" <input checked="" type="checkbox"/>	Rubber Size — 6 3/4" <input checked="" type="checkbox"/>
Bottom Packer Depth <u>3862</u>	Wt. Pipe I.D. — 2.7 Ft. Run <u>    </u>	
Total Depth <u>3925</u>	Drill Collar — 2.25 Ft. Run <u>    </u>	
Mud Wt. <u>9.2</u> LCM <u>5#</u> Vis. <u>47</u> WL <u>10.4</u>	Drill Pipe Size <u>4 1/2</u> I.D. Ft. Run <u>3906</u>	
Blow Description <u>I.F. - Went immediately to 3/4", then backed off and died in 1 1/2 min.</u>		
<u>F.S.I. - No blow back</u>		
<u>F.F. - No blow, Flush Tool, No Blow, - Pull Tool -</u>		

Recovery — Total Feet	Ft. in DC	Ft. in WP	Ft. in DP	%gas	%oil	%water	%mud
<u>45</u>	<u>    </u>	<u>    </u>	<u>45</u>	<u>2</u>	<u>    </u>	<u>98</u>	<u>    </u>
Rec. <u>45</u> Feet Of <u>Mud w/ oil trace</u>							
Rec. <u>    </u> Feet Of <u>    </u>							
Rec. <u>    </u> Feet Of <u>    </u>							
Rec. <u>    </u> Feet Of <u>    </u>							
Rec. <u>    </u> Feet Of <u>    </u>							

BHT <u>115</u> °F Gravity <u>    </u>	°API D@ <u>    </u>	°F Corrected Gravity <u>    </u>	°API <u>    </u>
RW <u>    </u> @ <u>    </u> °F Chlorides <u>    </u>	ppm Recovery Chlorides <u>550</u>	ppm System <u>    </u>	
(A) Initial Hydrostatic Mud <u>1919</u> PSI	Recorder No. <u>11086</u>	T-Started <u>0800</u>	
(B) First Initial Flow Pressure <u>95</u> PSI	@ (depth) <u>3899</u>	T-Open <u>0922</u>	
(C) First Final Flow Pressure <u>74</u> PSI	Recorder No. <u>10994</u>	T-Pulled <u>1025</u>	
(D) Initial Shut-in Pressure <u>468</u> PSI	@ (depth) <u>3922</u>	T-Out <u>1145</u>	
(E) Second Initial Flow Pressure <u>127</u> PSI	Recorder No. <u>    </u>		
(F) Second Final Flow Pressure <u>    </u> PSI	@ (depth) <u>    </u>		
(G) Final Shut-in Pressure <u>    </u> PSI	Initial Opening <u>30</u>	Test <u>600</u>	
(H) Final Hydrostatic Mud <u>1876</u> PSI	Initial Shut-in <u>30</u>	Jars <u>    </u>	

Final Flow <u>3</u>	Safety Joint <u>    </u>
Final Shut-in <u>    </u>	Straddle <u>    </u>

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Approved By [Signature]  
 Our Representative [Signature]

Circ. Sub  MC  
 Sampler       
 Extra Packer       
 Elect. Rec.       
 Other       
 TOTAL PRICE \$ 600