

5

TRILOBITE TESTING, L.L.C.

P.O. Box 362 • Hays, Kansas 67601

Drill-Stem Test Data

Well Name TITUS #1 Test No. 1 Date 8/2/94
 Company ABERCROMBIE DRILLING INC Zone MARMATON
 Address 150 N MAIN #801 WICHITA KS 67202 Elevation 3160
 Co. Rep./Geo. TOM FUNK Cont. ABERCROMBIE DRLG RIG #4 Est. Ft. of Pay 8
 Location: Sec. 26 Twp. 20S Rge. 35W Co. SCOTT State KS

Interval Tested <u>4509-4528</u>	Drill Pipe Size <u>4.5" XH</u>
Anchor Length <u>19</u>	Wt. Pipe I.D. - 2.7 Ft. Run <u>319</u>
Top Packer Depth <u>4504</u>	Drill Collar - 2.25 Ft. Run <u>9.3</u>
Bottom Packer Depth <u>4509</u>	Mud Wt. <u>46</u> lb/Gal.
Total Depth <u>4528</u>	Viscosity <u>46</u> Filtrate <u>9.6</u>

Tool Open @ 5:35 A.M. Initial Blow FAIR BLOW BUILD TO BOTTOM IN 4 MIN

Final Blow FAIR BLOW BUILD TO BOTTOM IN 5 MIN

Recovery - Total Feet 1610 Flush Tool? NO

Rec. <u>25</u>	Feet of <u>SLIGHT GAS CUT OIL 4%GAS/96%OIL</u>
Rec. <u>240</u>	Feet of <u>OIL CUT WATERY MUD 10%OIL/50%WATER/40%MUD</u>
Rec. <u>1345</u>	Feet of <u>SALT WATER</u>
Rec. _____	Feet of _____
Rec. _____	Feet of _____

BHT 115 °F Gravity 34 °API @ 80 °F Corrected Gravity 32.7 °API
 RW 0.275 @ 81 °F Chlorides 55000 ppm Recovery Chlorides 5000 ppm System

(A) Initial Hydrostatic Mud 2181.7 PSI AK1 Recorder No. 13337 Range 3975

(B) First Initial Flow Pressure 129.4 PSI @ (depth) 4512 w / Clock No. 26191

(C) First Final Flow Pressure 368.5 PSI AK1 Recorder No. 10333 Range 4050

(D) Initial Shut-in Pressure 1064.8 PSI @ (depth) 4525 w / Clock No. 14389

(E) Second Initial Flow Pressure 451.6 PSI AK1 Recorder No. _____ Range _____

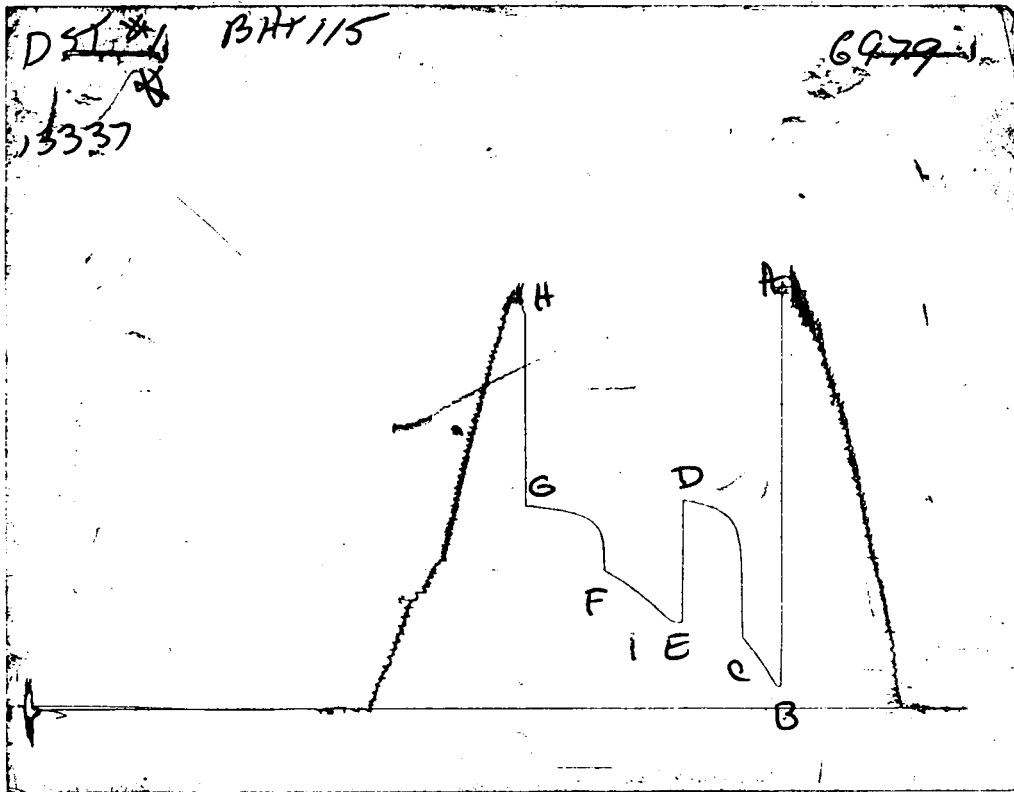
(F) Second Final Flow Pressure 714.1 PSI @ (depth) _____ w / Clock No. _____

(G) Final Shut-in Pressure 1039.0 PSI Initial Opening 30 Final Flow 60

(H) Final Hydrostatic Mud 2167.9 PSI Initial Shut-in 45 Final Shut-in 60

Our Representative ROBERT COLLINS

CHART PAGE



This is an actual photograph of recorder chart

13337

FIELD
READING

OFFICE
READING

(A) INITIAL HYDROSTATIC MUD	2189	2181.7
(B) FIRST INITIAL FLOW PRESSURE	108	129.4
(C) FIRST FINAL FLOW PRESSURE	355	368.5
(D) INITIAL CLOSED-IN PRESSURE	1054	1064.8
(E) SECOND INITIAL FLOW PRESSURE	434	451.6
(F) SECOND FINAL FLOW PRESSURE	700	714.1
(G) FINAL CLOSED-IN PRESSURE	1024	1039
(H) FINAL HYDROSTATIC MUD	2169	2167.9

TRILOBITE TESTING L.L.C.

P.O. Box 362 • Hays, Kansas 67601

Test Ticket

No 6979

Well Name & No. <u>titus #1</u>	Test No. <u>1</u>	Date <u>8-28-94</u>
Company <u>Abercrombie</u>	Zone Tested <u>Marginal</u>	
Address _____	Elevation <u>3160 KB</u>	
Co. Rep./Geo. <u>Tom Funk</u>	Cont. <u>Abercrombie</u>	Est. Ft. of Pay <u>8</u>
Location: Sec. <u>26</u> Twp. <u>20S</u> Rge. <u>35W</u> Co. <u>Scott</u> State <u>KS</u>		
No. of Copies _____	Distribution Sheet _____	Yes <u>X</u> No _____ Turnkey _____ Yes <u>X</u> No _____ Evaluation _____

Interval Tested <u>4509-4528</u>	Drill Pipe Size <u>4-1/2" H</u>
Anchor Length <u>19</u>	Top Choke — 1" _____ Bottom Choke — 3/4" _____
Top Packer Depth <u>4504</u>	Hole Size — 7 7/8" _____ Rubber Size — 6 3/4" _____
Bottom Packer Depth <u>4509</u>	Wt. Pipe I.D. — 2.7 Ft. Run <u>319TH</u>
Total Depth <u>4528</u>	Drill Collar — 2.25 Ft. Run _____
Mud Wt. <u>9.3</u> lb/gal.	Viscosity <u>16</u> Filtrate <u>9.6</u>
Tool Open @ <u>5:35 AM</u>	Initial Blow <u>Fair blow build to bottom in 4 min</u>

Final Blow Fair blow build to bottom in 5 min

Recovery — Total Feet <u>1610</u>	Feet of Gas in Pipe _____	Flush Tool? <u>NO</u>
Rec. <u>25</u> Feet Of <u>sl. gas cut oil</u>	4 % gas 96 % oil	% water % mud
Rec. _____ Feet Of _____	% gas % oil	% water % mud
Rec. <u>240</u> Feet Of <u>oil cut w/ dry mud</u>	% gas 10 % oil 50 % water 40 % mud	
Rec. _____ Feet Of _____	% gas % oil	% water % mud
Rec. <u>1345</u> Feet Of <u>salt water</u>	% gas % oil	% water % mud
BHT <u>115</u> °F Gravity <u>34</u> °API @ <u>80</u>	°F Corrected Gravity <u>32.7</u> °API	
RW <u>275</u> @ <u>81</u> °F Chlorides <u>55,000</u> ppm Recovery	Chlorides <u>5000</u> ppm System	
(A) Initial Hydrostatic Mud <u>2189</u> PSI	AK1 Recorder No. <u>13337</u> Range <u>3975</u>	
(B) First Initial Flow Pressure <u>108</u> PSI	@ (depth) <u>4512</u> w/Clock No. <u>26191</u>	
(C) First Final Flow Pressure <u>355</u> PSI	AK1 Recorder No. <u>10333</u> Range <u>4050</u>	
(D) Initial Shut-In Pressure <u>1054</u> PSI	@ (depth) <u>4528</u> w/Clock No. <u>14389</u>	
(E) Second Initial Flow Pressure <u>434</u> PSI	AK1 Recorder No. _____ Range _____	
(F) Second Final Flow Pressure <u>700</u> PSI	@ (depth) _____ w/Clock No. _____	
(G) Final Shut-In Pressure <u>1024</u> PSI	Initial Opening <u>50</u> Test <u>600</u>	
(H) Final Hydrostatic Mud <u>2169</u> PSI	Initial Shut-In <u>45</u> Jars <u>X</u> <u>200</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.

Approved By Thomas Funk
Our Representative R. Callis

Final Flow 60 Safety Joint X 50
Final Shut-In 60 Straddle _____
Circ. Sub 7-1/2"
Sampler _____
Extra Packer _____
Other _____
TOTAL PRICE \$ 850

TRILOBITE TESTING, L.L.C.

P.O. Box 362 • Hays, Kansas 67601

Drill-Stem Test Data

Well Name TITUS #1 Test No. 2 Date 8/29/94
Company ABERCROMBIE DRILLING INC Zone BEYMER-JOHNS
Address 150 N MAIN #801 WICHITA KS 67202 Elevation 3160
Co. Rep./Geo. TOM FUNK Cont. ABERCROMBIE DRLG RIG #4 Est. Ft. of Pay 6
Location: Sec. 26 Twp. 20S Rge. 35W Co. SCOTT State KS

Interval Tested <u>4586-4640</u>	Drill Pipe Size <u>4.5" XH</u>
Anchor Length <u>54</u>	Wt. Pipe I.D. - 2.7 Ft. Run <u>319</u>
Top Packer Depth <u>4581</u>	Drill Collar - 2.25 Ft. Run <u>9.3</u>
Bottom Packer Depth <u>4586</u>	Mud Wt. <u>9.3</u> lb/Gal.
Total Depth <u>4640</u>	Viscosity <u>52</u> Filtrate <u>10.4</u>

Tool Open @ 4:50 A.M. Initial Blow VERY WEAK SURFACE BLOW 1/4"

Final Blow VERY VERY WEAK SURFACE BLOW DIED IN 10 MIN

Recovery - Total Feet 30 Flush Tool? NO

Rec. <u>30</u>	Feet of <u>DRILLING MUD 100% MUD</u>
Rec. _____	Feet of _____
Rec. _____	Feet of _____
Rec. _____	Feet of _____
Rec. _____	Feet of _____

BHT 115 °F Gravity _____ °API @ _____ °F Corrected Gravity _____ °API
RW _____ @ _____ °F Chlorides _____ ppm Recovery Chlorides 5000 ppm System

(A) Initial Hydrostatic Mud 2299.6 PSI AK1 Recorder No. 10337 Range 3975

(B) First Initial Flow Pressure 20.3 PSI @ (depth) 4589 w / Clock No. 26191

(C) First Final Flow Pressure 20.3 PSI AK1 Recorder No. 10333 Range 4050

(D) Initial Shut-in Pressure 961.4 PSI @ (depth) 4607 w / Clock No. 14389

(E) Second Initial Flow Pressure 28.4 PSI AK1 Recorder No. 13255 Range 6300

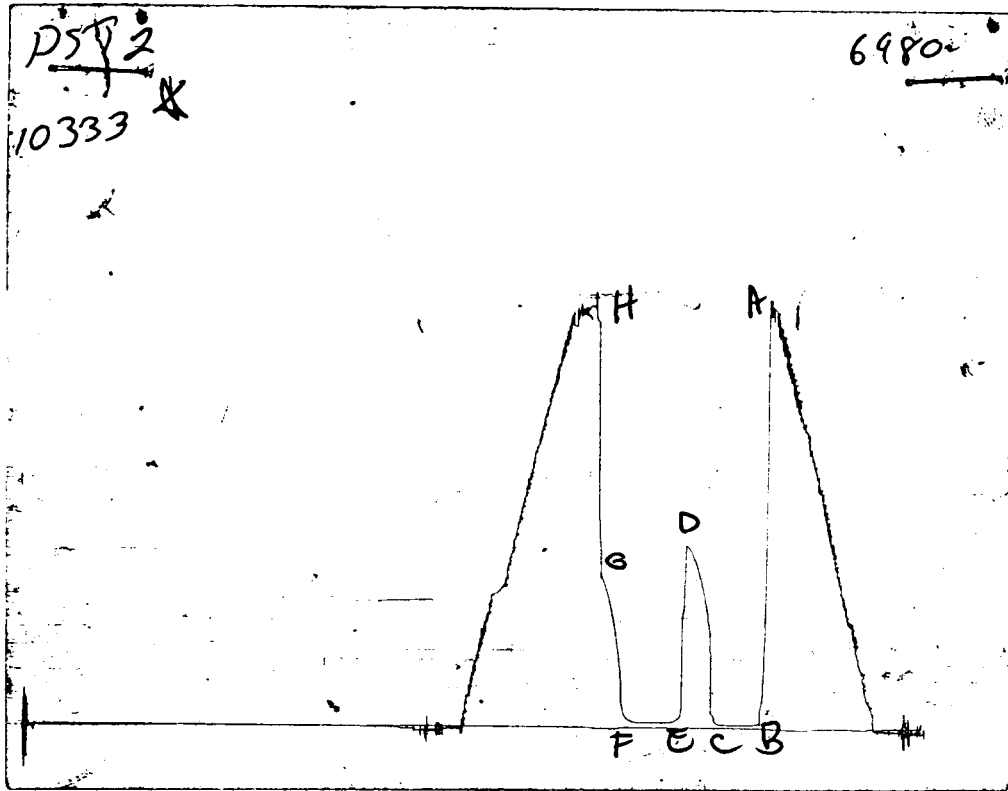
(F) Second Final Flow Pressure 28.4 PSI @ (depth) 4637 w / Clock No. 8698

(G) Final Shut-in Pressure 801.8 PSI Initial Opening 30 Final Flow 30

(H) Final Hydrostatic Mud 2255.0 PSI Initial Shut-in 30 Final Shut-in 30

Our Representative ROBERT COLLINS

CHART PAGE



This is an actual photograph of recorder chart 10333

	FIELD READING	OFFICE READING
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(A) INITIAL HYDROSTATIC MUD	2295	2299.6
(B) FIRST INITIAL FLOW PRESSURE	10	20.3
(C) FIRST FINAL FLOW PRESSURE	10	20.3
(D) INITIAL CLOSED-IN PRESSURE	965	961.4
(E) SECOND INITIAL FLOW PRESSURE	10	28.4
(F) SECOND FINAL FLOW PRESSURE	10	28.4
(G) FINAL CLOSED-IN PRESSURE	802	801.8
(H) FINAL HYDROSTATIC MUD	2224	2255

TRILOBITE TESTING L.L.C.

P.O. Box 362 • Hays, Kansas 67601

Test Ticket

No 6980

Well Name & No. <u>Citus #1</u>	Test No. <u>2</u>	Date <u>8-29-94</u>
Company <u>Abercrombie</u>	Zone Tested <u>Reynolds-Hanson</u>	
Address <u>W. Whitaker</u>	Elevation <u>3160 KB</u>	
Co. Rep./Geo. <u>Tom Funk</u>	Cont. <u>Abercrombie #4</u>	Est. Ft. of Pay <u>6</u>
Location: Sec. <u>26</u>	Twp. <u>20S</u>	Rge. <u>33W</u>
	Co. <u>Scott</u>	State <u>KS</u>
No. of Copies _____	Distribution Sheet _____	Yes ☒ No ☐ Turnkey _____
		Yes ☒ No ☐ Evaluation _____

Interval Tested <u>4586-4640</u>	Drill Pipe Size <u>4 1/2 in</u>
Anchor Length <u>54</u>	Top Choke — 1" _____ Bottom Choke — 3/4" _____
Top Packer Depth <u>4581</u>	Hole Size — 7 7/8" _____ Rubber Size — 6 3/4" _____
Bottom Packer Depth <u>4586</u>	Wt. Pipe I.D. — 2.7 Ft. Run <u>319 lb</u>
Total Depth <u>4640</u>	Drill Collar — 2.25 Ft. Run _____
Mud Wt. <u>9.3</u> lb / gal.	Viscosity <u>52</u> Filtrate <u>10.4</u>
Tool Open @ <u>4:50 AM</u>	Initial Blow <u>Very weak surface blow 1/4 in</u>
Final Blow <u>Very very weak surface blow died in 10 min</u>	

Recovery — Total Feet <u>30</u>	Feet of Gas in Pipe _____	Flush Tool? <u>NO</u>
Rec. <u>30</u> Feet Of <u>DR's mud</u>	% gas _____ % oil _____ % water <u>100</u> % mud _____	
Rec. _____ Feet Of _____	% gas _____ % oil _____ % water _____ % mud _____	
Rec. _____ Feet Of _____	% gas _____ % oil _____ % water _____ % mud _____	
Rec. _____ Feet Of _____	% gas _____ % oil _____ % water _____ % mud _____	
Rec. _____ Feet Of _____	% gas _____ % oil _____ % water _____ % mud _____	
BHT <u>115</u> °F Gravity _____ °API _____	°F Corrected Gravity _____ °API _____	
RW _____ @ _____ °F Chlorides _____ ppm Recovery _____	Chlorides <u>5,000</u> ppm System _____	
(A) Initial Hydrostatic Mud <u>2295</u> PSI	AK1 Recorder No. <u>10337</u> Range <u>3975</u>	
(B) First Initial Flow Pressure <u>10</u> PSI	@ (depth) <u>4589</u> w/Clock No. <u>26191</u>	
(C) First Final Flow Pressure <u>10</u> PSI	AK1 Recorder No. <u>10333</u> Range <u>405</u>	
(D) Initial Shut-In Pressure <u>965</u> PSI	@ (depth) <u>4607</u> w/Clock No. <u>14389</u>	
(E) Second Initial Flow Pressure <u>10</u> PSI	AK1 Recorder No. <u>13255</u> Range <u>6300</u>	
(F) Second Final Flow Pressure <u>10</u> PSI	@ (depth) <u>4637</u> w/Clock No. <u>8698</u>	
(G) Final Shut-In Pressure <u>802</u> PSI	Initial Opening <u>30</u> Test <u>600</u>	
(H) Final Hydrostatic Mud <u>2224</u> PSI	Initial Shut-In <u>30</u> Jars ☒ <u>200</u>	

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Approved BY Thomas Funk
Our Representative R. Calhoun

Final Flow 30 Safety Joint ☒ 50
Final Shut-In 30 Straddle _____
Circ. Sub Take
Sampler _____
Extra Packer _____
Other _____
TOTAL PRICE \$ 850

TRILOBITE TESTING, L.L.C.

P.O. Box 362 • Hays, Kansas 67601

Drill-Stem Test Data

Well Name TITUS #1 Test No. 3 Date 8/30/94
Company ABERCROMBIE DRILLING INC Zone KC 'L'
Address 150 N MAIN #801 WICHITA KS 67202 Elevation 3160
Co. Rep./Geo. TOM FUNK Cont. ABERCROMBIE DRLG RIG #4 Est. Ft. of Pay 5
Location: Sec. 26 Twp. 20S Rge. 35W Co. WICHITA State KS

Interval Tested	<u>4400-4434</u>	Drill Pipe Size	<u>4.5" XH</u>
Anchor Length	<u>34</u>	Wt. Pipe I.D. - 2.7 Ft. Run	<u> </u>
Top Packer Depth	<u>4395-4400</u>	Drill Collar - 2.25 Ft. Run	<u> </u>
Bottom Packer Depth	<u>4434</u>	Mud Wt.	<u>9.3</u> lb/Gal.
Total Depth	<u>5080</u>	Viscosity	<u>53</u>
		Filtrate	<u>8.8</u>

Tool Open @ 9:15 P.M. Initial Blow SURFACE BLOW OFF BOTTOM IN 11 MIN ISI: BLED OFF BLOW
NO RETURN

Final Blow WEAK SURFACE RETURN SLOWLY BUILT TO BOTTOM IN 16 MIN FSI: BLED OFF
BLOW-NO RETURN

Recovery - Total Feet 1020 Flush Tool? NO

Rec. <u>40</u>	Feet of	<u>CUT GAS OIL 40%GAS/60%OIL</u>
Rec. <u>120</u>	Feet of	<u>GAS MUD CUT OIL 10%GAS/70%OIL/20%MUD</u>
Rec. <u>860</u>	Feet of	<u>GAS MUD CUT OIL 10%GAS/80%OIL/10%MUD</u>
Rec. <u> </u>	Feet of	<u> </u>
Rec. <u> </u>	Feet of	<u> </u>

BHT 118 °F Gravity °API @ °F Corrected Gravity °API
RW @ °F Chlorides ppm Recovery Chlorides 7000 ppm System

(A) Initial Hydrostatic Mud 2209.3 PSI AK1 Recorder No. 13276 Range 4000

(B) First Initial Flow Pressure 133.0 PSI @ (depth) 4410 w / Clock No. 23832

(C) First Final Flow Pressure 225.5 PSI AK1 Recorder No. 13339 Range 4025

(D) Initial Shut-in Pressure 1158.5 PSI @ (depth) 4415 w / Clock No. 23934

(E) Second Initial Flow Pressure 326.4 PSI AK1 Recorder No. 13309 Range 4700

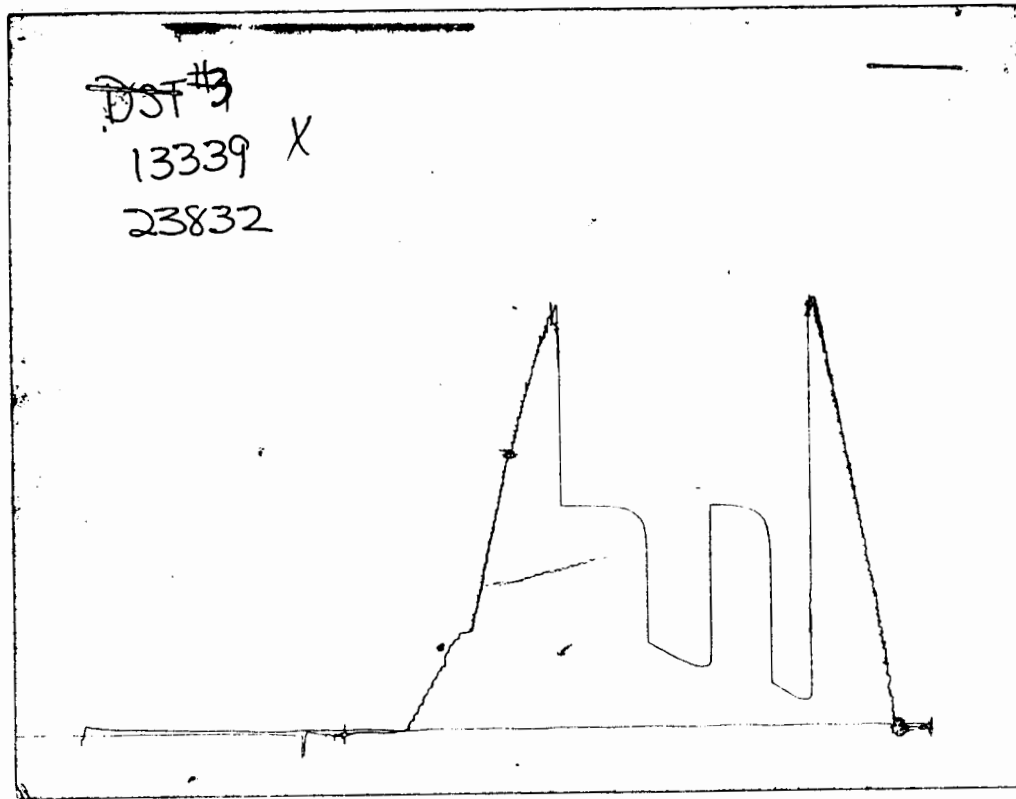
(F) Second Final Flow Pressure 460.2 PSI @ (depth) 5075 w / Clock No. 17640

(G) Final Shut-in Pressure 1166.6 PSI Initial Opening 30 Final Flow 45

(H) Final Hydrostatic Mud 2187.3 PSI Initial Shut-in 45 Final Shut-in 60

Our Representative ROD STEINBRINK

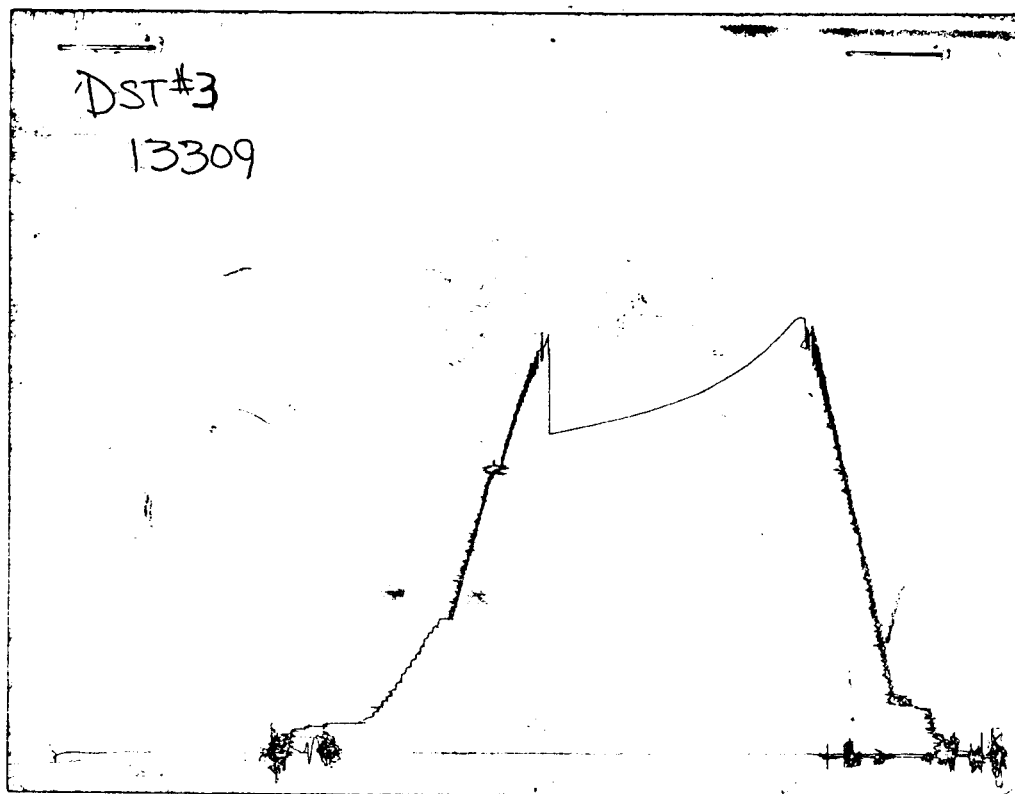
CHART PAGE



This is an actual photograph of recorder chart 13339

	FIELD READING	OFFICE READING
(A) INITIAL HYDROSTATIC MUD	2203	2209.3
(B) FIRST INITIAL FLOW PRESSURE	124	133
(C) FIRST FINAL FLOW PRESSURE	228	225.5
(D) INITIAL CLOSED-IN PRESSURE	1140	1158.5
(E) SECOND INITIAL FLOW PRESSURE	332	326.4
(F) SECOND FINAL FLOW PRESSURE	436	460.2
(G) FINAL CLOSED-IN PRESSURE	1150	1166.6
(H) FINAL HYDROSTATIC MUD	2183	2187.3

CHART PAGE



FIELD
READING

OFFICE
READING

- (A) INITIAL HYDROSTATIC MUD
- (B) FIRST INITIAL FLOW PRESSURE
- (C) FIRST FINAL FLOW PRESSURE
- (D) INITIAL CLOSED-IN PRESSURE
- (E) SECOND INITIAL FLOW PRESSURE
- (F) SECOND FINAL FLOW PRESSURE
- (G) FINAL CLOSED-IN PRESSURE
- (H) FINAL HYDROSTATIC MUD

Test Ticket

No 7265

Well Name & No.	Titus #1	Test No.	3	Date	8-30-94
Company	Abercrombie Drilling, Inc.	Zone Tested	KC	'L'	
Address	150 N. Main Ste. 801	Wichita, KS 67202	Elevation	3160	(KB)
Co. Rep./Geo.	Tom Funk	Cont.	Abercrombie #4	Est. Ft. of Pay	5
Location: Sec.	26	Twp.	20 ^S	Rge.	35 ^W
co.	Wichita	state	KS		
No. of Copies	Normal	Distribution Sheet	Yes	X	No
Turnkey	Yes	X	No		Evaluation

Interval Tested	4400 - 4434	Drill Pipe Size	4 1/2" XH
Anchor Length	34'	Top Choke — 1"	Bottom Choke — 3/4"
Top Packer Depth	4395 - 4400	Hole Size — 7 7/8"	Rubber Size — 6 3/4"
Bottom Packer Depth	4434	Wt. Pipe I.D. — 2.7 Ft. Run	—
Total Depth	(RTD) 5080	Drill Collar — 2.25 Ft. Run	—
Mud Wt.	9.3	lb/gal.	Viscosity 5.3
Tool Open @	9:15 pm	Initial Blow	Surface blow off bottom in 11 mins.
ISI:	Bled off blow - no return.		
Final Blow	Weak surface return slowly built to bottom in 16 mins.		
FSI:	Bled off blow - no return.		
Recovery — Total Feet	1020'	Feet of Gas in Pipe	—
Flush Tool?	No		
Rec. 40'	Feet Of CGO	40 %gas	60 %oil
Rec. —	Feet Of	%gas	%oil
Rec. 120'	Feet Of GMCO	10 %gas	70 %oil
Rec. —	Feet Of	%gas	%oil
Rec. 860'	Feet Of GMCO	10 %gas	80 %oil
Rec. —	Feet Of	%gas	%oil
BHT 118°	°F Gravity	°API @	°F Corrected Gravity
RW —	@	°F Chlorides	ppm Recovery
(A) Initial Hydrostatic Mud	220.3	PSI	AK1 Recorder No. 13276
(B) First Initial Flow Pressure	124	PSI	@ (depth) 4410
(C) First Final Flow Pressure	228	PSI	AK1 Recorder No. 13339
(D) Initial Shut-In Pressure	1140	PSI	@ (depth) 4415
(E) Second Initial Flow Pressure	332	PSI	AK1 Recorder No. 13309
(F) Second Final Flow Pressure	436	PSI	@ (depth) 5075
(G) Final Shut-In Pressure	1150	PSI	Initial Opening 30
(H) Final Hydrostatic Mud	2183	PSI	Initial Shut-In 45

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Approved By Tom Funk
 Our Representative Rod Steinbrink

Final Flow 45
 Final Shut-In 60
 Safety Joint X 50
 Straddle X 250
 Circ. Sub X N/C
 Sampler
 Extra Packer X 150
 Other
 TOTAL PRICE \$ 1250