

KCC

AUG 25 2000

CONFIDENTIAL

WELL NAME:

1-4 Lonnie T

COMPANY:

Mull Drilling Co Inc.

LOCATION:

4-17s-28w

Lane co Kansas

DATE:

7/21/00

ORIGINAL **CONFIDENTIAL**

RECEIVED

STATE CORPORATION COMMISSION

AUG 28 2000

CONSERVATION DIVISION

Wichita, Kansas

RELEASED

NOV 8 2000

FROM CONFIDENTIAL

CONFIDENTIAL

ORIGINAL


TRILOBITE
TESTING, L.L.C.

DRILL STEM TEST REPORT

 Mull Drilling Co. Inc
 Box 2758
 Wichita, Ks 67202-2758
 ATTN: Mark Shreve

1-4 Lonnie T

RELEASED

22w Lane KS

Job Ticket: 13157

DST#: 1

 NOV 05 2000
 Test Start: 2000.07.20 @ 04:00:00

GENERAL INFORMATION:

 Formation: **Lansing H**
 Deviated: **No** Whipstock: **ft (CF)**
 Time Tool Opened: 06:36:46
 Time Test Ended: 09:59:00

FROM CONFIDENTIAL

KCC

AUG 25 2000

CONFIDENTIAL

 Interval: **4146.00 ft (CF) To 4176.00 ft (CF) (TVD)**
 Total Depth: **4176.00 ft (CF)**
 Hole Diameter: **7.88 inches** Hole Condition: **Fair**
Test Type: **Conventional Bottom Hole**Tester: **Paul Simpson**

Unit No:

Reference Elevations: **29912.91 ft (KB)****2771.00 ft (CF)**KB to GR/CF: **27141.91 ft**Serial #: **3227** InsidePress@RunDepth: **676.86 psig @ 4148.00 ft (CF)**Start Date: **2000.07.20**

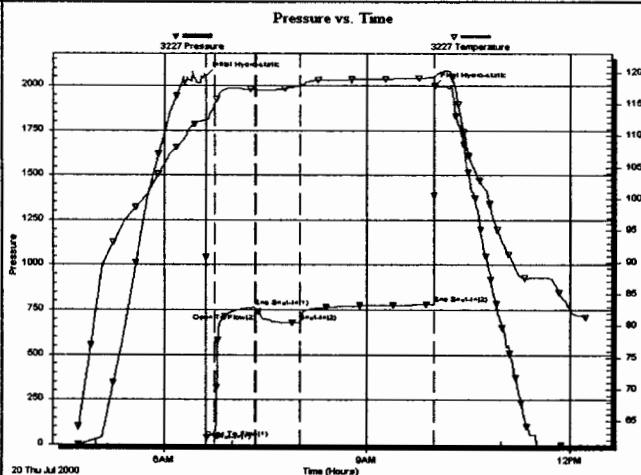
End Date:

2000.07.20Start Time: **04:43:48**

End Time:

12:14:16Capacity: **5000.00 psig**Last Calib.: **1999.08.20**Time On Btm: **2000.07.20 @ 06:36:16**Time Off Btm: **2000.07.20 @ 10:00:16**
 TEST COMMENT: **IF- 1" blow building to bottom of bucket in 7 minutes**
ISI- weak surface blow

tool mostly plugged during final flow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
113	2054.42	112.50	Initial Hydro-static
113	32.49	112.36	Open To Flow (1)
121	59.81	115.09	Shut-In(1)
157	762.84	117.22	End Shut-In(1)
157	725.31	117.22	Open To Flow (2)
196	676.86	117.82	Shut-In(2)
316	779.96	119.19	End Shut-In(2)
317	1996.62	119.29	Final Hydro-static

Recovery

Length (m)	Description	Volume (m³)
0.00	375 gas in pipe	0.00
45.00	mud cut oil 65% oil 35% mud	0.36
120.00	gassy mud cut oil 5% gas 80% oil 15% mud	1.68

Gas Rates

	Choke (mm)	Pressure (kPa)	Gas Rate (m³/d)
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CONFIDENTIAL

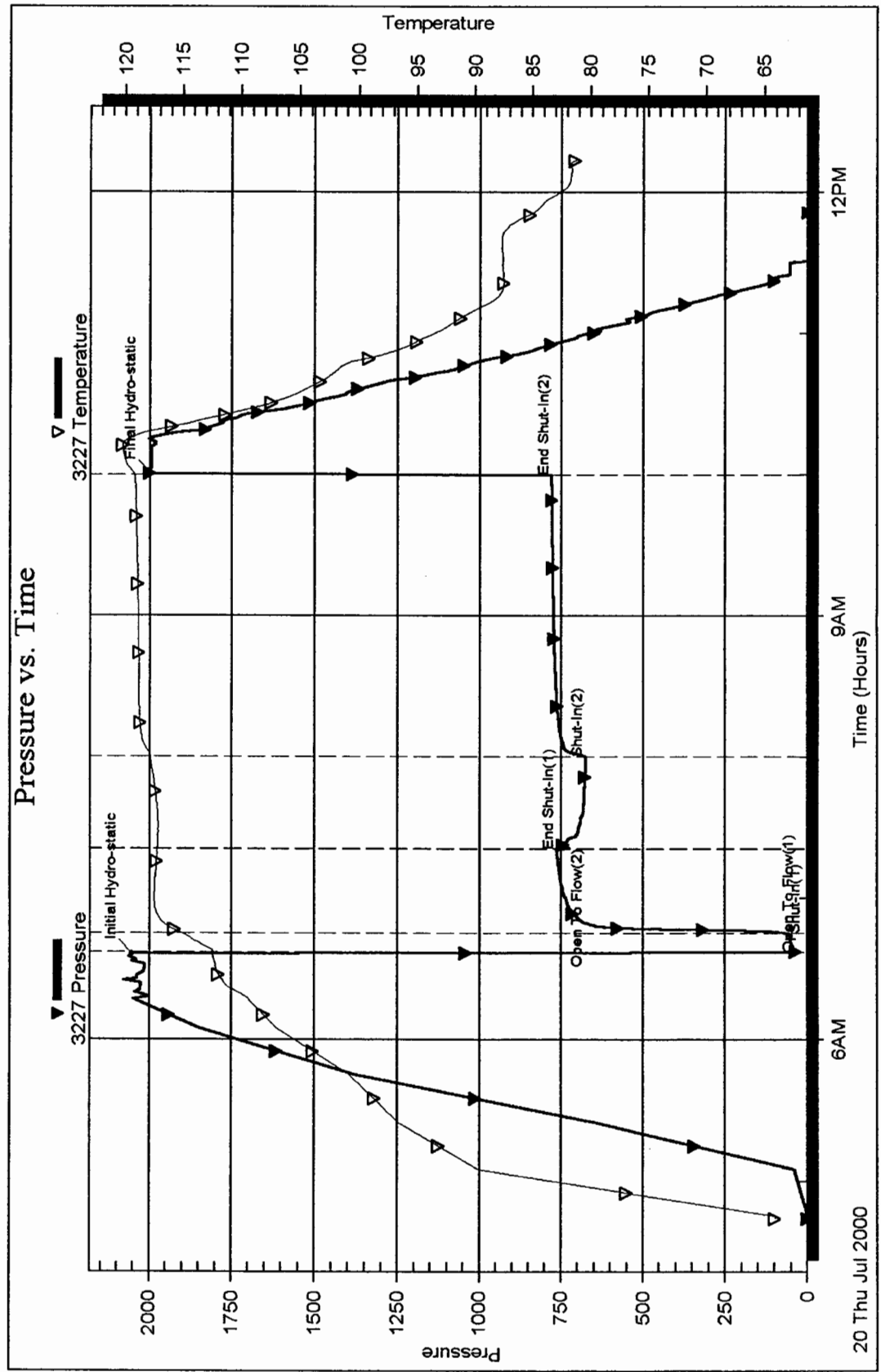
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4-17s-28w Lane KS

Inside Mull Drilling Co. In

Serial #: 3227



		DRILL STEM TESTING - DATA LISTING												
		Mull Drilling Co. In					1-4 Lonnie T							
		Box 2758 Wichita, Ks 67202-2758					4-17s-28w Lane KS							
		ATTN: Mark Shreve					Job Ticket: 13157 DST#: 1							
					Test Start: 2000.07.20 @ 04:00:00									
Serial #	3227	Inside					Serial #	3227	Inside					
Comments	Time	Delta P	Pressure	Abscissa	Temp.	Comments	Time	Delta P	Pressure	Abscissa	Temp.			
	(Min.)	(psig)	(psig)	(T+dt)/dt	(deg F)		(Min.)	(psig)	(psig)	(T+dt)/dt	(deg F)			
	0.0		0.48		64.1		315.0	103.00	779.86	1.39	119.2			
	94.0		2005.25		109.6		315.5	103.06	779.92	1.39	119.2			
	111.5		2058.92		112.4	End Shut-In(2)	316.0		779.96		119.2			
	112.0		2056.54		112.5	Final Hydro-static	316.5		1996.62		119.3			
Initial Hydro-static	112.5		2054.42		112.5		317.0		2007.67		119.4			
Open To Flow (1)	113.0		32.49		112.4		317.5		1984.44		119.4			
	113.5		40.42		112.4		338.5		1800.49		114.0			
	114.0		42.04		112.5		359.5		1154.21		102.1			
	120.0		56.16		114.7		380.5		581.72		92.0			
	120.5		58.44		114.9		401.5		54.82		87.6			
Shut-In(1)	121.0	0.00	59.81		115.1		422.5		0.00		86.8			
	121.5	7.37	67.18	17.00	115.3		443.5		0.00		81.7			
	122.0	63.23	123.03	9.00	115.5		450.5		0.00		80.5			
	122.5	188.94	248.74	6.33	115.7									
	143.5	692.90	752.71	1.36	117.4									
	155.5	703.98	763.78	1.23	117.2									
	156.0	704.32	764.12	1.23	117.2									
End Shut-In(1)	156.5		762.84		117.2									
Open To Flow (2)	157.0		725.31		117.2									
	157.5		753.29		117.2									
	158.0		744.94		117.2									
	179.0		680.69		117.3									
	195.0		676.98		117.8									
	195.5		676.94		117.8									
Shut-In(2)	196.0	0.00	676.86		117.8									
	196.5	-284.99	391.88	95.00	117.8									
	197.0	18.38	695.25	48.00	117.9									
	197.5	43.88	720.74	32.33	117.9									
	218.5	86.90	763.76	3.09	118.8									
	239.5	93.83	770.69	2.08	118.8									
	260.5	97.71	774.58	1.73	118.9									
	281.5	100.26	777.12	1.55	119.0									
	302.5	102.10	778.96	1.44	119.1									

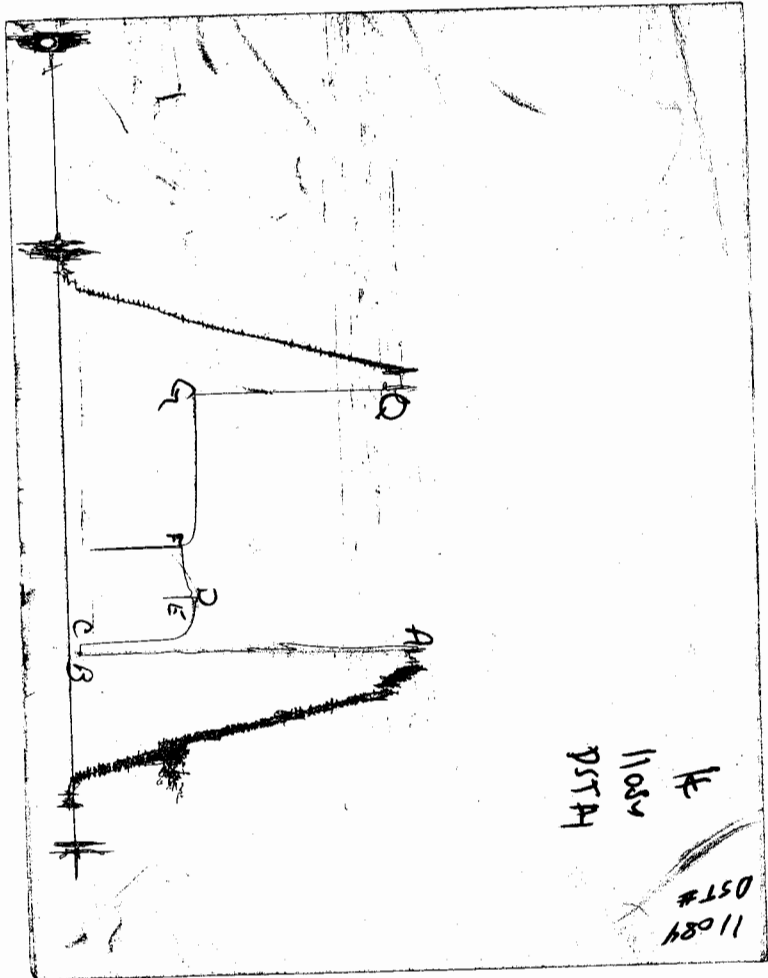
Printing every 42 samples

Trilobite Testing, L.L.C.

Ref. No: 13157

Printed: 2000.07.31 @ 15:24:41 Page 4

CHART PAGE



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

TRILOBITE TESTING L.L.C.

P.O. Box 362 • Hays, Kansas 67601

N^o 13157**Test Ticket**

Well Name & No.	1-4 Lomie T	Test No.	2	Date	7-20-2000
Company	Mull Drilling Co, Inc	Zone Tested	LKC H		
Address	Box 2758 Wichita, KS 67201-2758	Elevation	2779	KB	2771 GL
Co. Rep / Geo.	Kim Shoemaker	Cont.	Discovery #2	Est. Ft. of Pay	Por. %
Location: Sec.	4	Twp.	17s	Rge.	28w Co. Lane State KS
No. of Copies		Distribution Sheet (Y, N)		Turnkey (Y, N)	Evaluation (Y, N)

Interval Tested	4146 - 4176	Initial Str Wt./Lbs.	40,000	Unseated Str Wt./Lbs.	
Anchor Length	30	Wt. Set Lbs.	20,000	Wt. Pulled Loose/Lbs.	
Top Packer Depth	4141	Tool Weight	2200		
Bottom Packer Depth	4146	Hole Size — 7 7/8"		Rubber Size — 6 3/4"	
Total Depth	4176	Wt. Pipe Run		Drill Collar Run	30
Mud Wt.	9.1	Drill Pipe Size	4 1/2" XH	Ft. Run	4100 24
LCM	12				
Vis.	41				
WL	8.8				
Blow Description	1" blow building to bottom of bucket in 7 minutes				
	ISI surface blow				
	FF - no blow for 5 minutes then surface blow building to				
	8" PSI w/ surface blow				

Recovery — Total Feet	165	GIP	325	Ft. in DC	30	Ft. in DP	135
Rec.	45	Feet Of	MCO	%gas	65	%oil	%water 35 %mud
Rec.	120	Feet Of	gassy MO	%gas	80	%oil	%water 15 %mud
Rec.		Feet Of		%gas		%oil	%water %mud
Rec.		Feet Of		%gas		%oil	%water %mud
Rec.		Feet Of		%gas		%oil	%water %mud
BHT	10	°F Gravity		°API D@		°F Corrected Gravity	°API
RW		@		°F Chlorides		ppm Recovery	Chlorides ppm System

(A) Initial Hydrostatic Mud	2080	AK-1	2	Alpine	PSI Recorder No.	3227	T-On Location	0365 2
(B) First Initial Flow Pressure	77				PSI (depth)	4148	T-Started	0505
(C) First Final Flow Pressure	77				PSI Recorder No.	11084	T-Open	0639
(D) Initial Shut-In Pressure	764				PSI (depth)	4174	T-Pulled	0959
(E) Second Initial Flow Pressure	732				PSI Recorder No.		T-Out	1150
(F) Second Final Flow Pressure	696				PSI (depth)		T-Off Location	
(G) Final Shut-in Pressure	796				PSI Initial Opening	10	Test	760
(Q) Final Hydrostatic Mud	2047				PSI Initial Shut-in	30	Jars	
					Final Flow	40	Safety Joint	
					Final Shut-in	120	Straddle	

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 _____

Our Representative _____

67 Starty

Circ. Sub _____

Sampler _____

Extra Packer _____

Elec. Rec. ☒ 150

Mileage _____

Other _____

TOTAL PRICE \$ 850



TRILOBITE
TESTING, L.L.C.

DRILL STEM TEST REPORT

Mull Drilling Co. Inc

Box 2758
Wichita, Ks 67202-2758

ATTN: Mark Shreve

1-4 Lonnie T

4-17s-28w Lane KS

Job Ticket: 13158

DST#: 2

Test Start: 2000.07.21 @ 08:18:00

GENERAL INFORMATION:

Formation: **Lansing K**

Deviated: No Whipstock: ft (CF)

Time Tool Opened: 09:32:30

Time Test Ended: 12:52:00

Interval: **4235.00 ft (CF) To 4260.00 ft (CF) (TVD)**

Total Depth: 4260.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

Test Type: Conventional Bottom Hole

Tester: Paul Simpson

Unit No:

Reference Elevations: 29912.91 ft (KB)

2771.00 ft (CF)

KB to GR/CF: 27141.91 ft

Serial #: **3227** Inside

Press@RunDepth: 16.21 psig @ 4237.00 ft (CF)

Start Date: 2000.07.21

End Date:

2000.07.21

Start Time: 07:43:02

End Time:

14:37:30

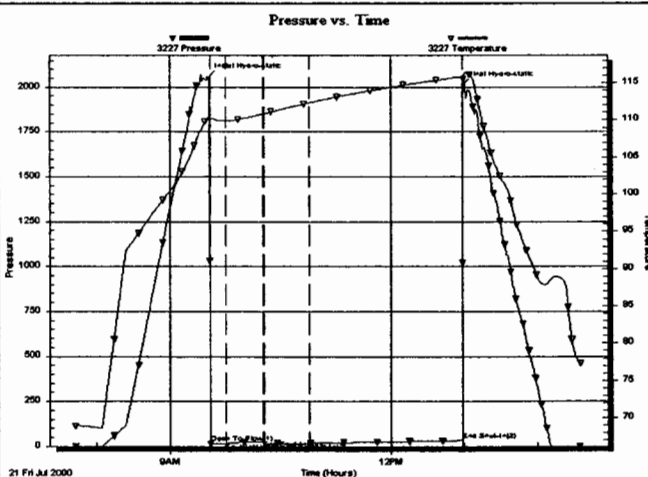
Capacity: 5000.00 psig

Last Calib.: 1999.08.20

Time On Btm: 2000.07.21 @ 09:31:00

Time Off Btm: 2000.07.21 @ 12:59:00

TEST COMMENT: Initial Flow - weak surface blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
108	2053.34	110.31	Initial Hydro-static
110	13.96	110.32	Open To Flow (1)
122	15.73	109.88	Shut-In(1)
153	27.64	110.80	End Shut-In(1)
154	16.23	110.84	Open To Flow (2)
191	16.21	112.30	Shut-In(2)
316	32.49	115.84	End Shut-In(2)
316	2010.02	116.00	Final Hydro-static

Recovery

Length (m)	Description	Volume (m³)
2.00	mud with oil specks	0.01

Gas Rates

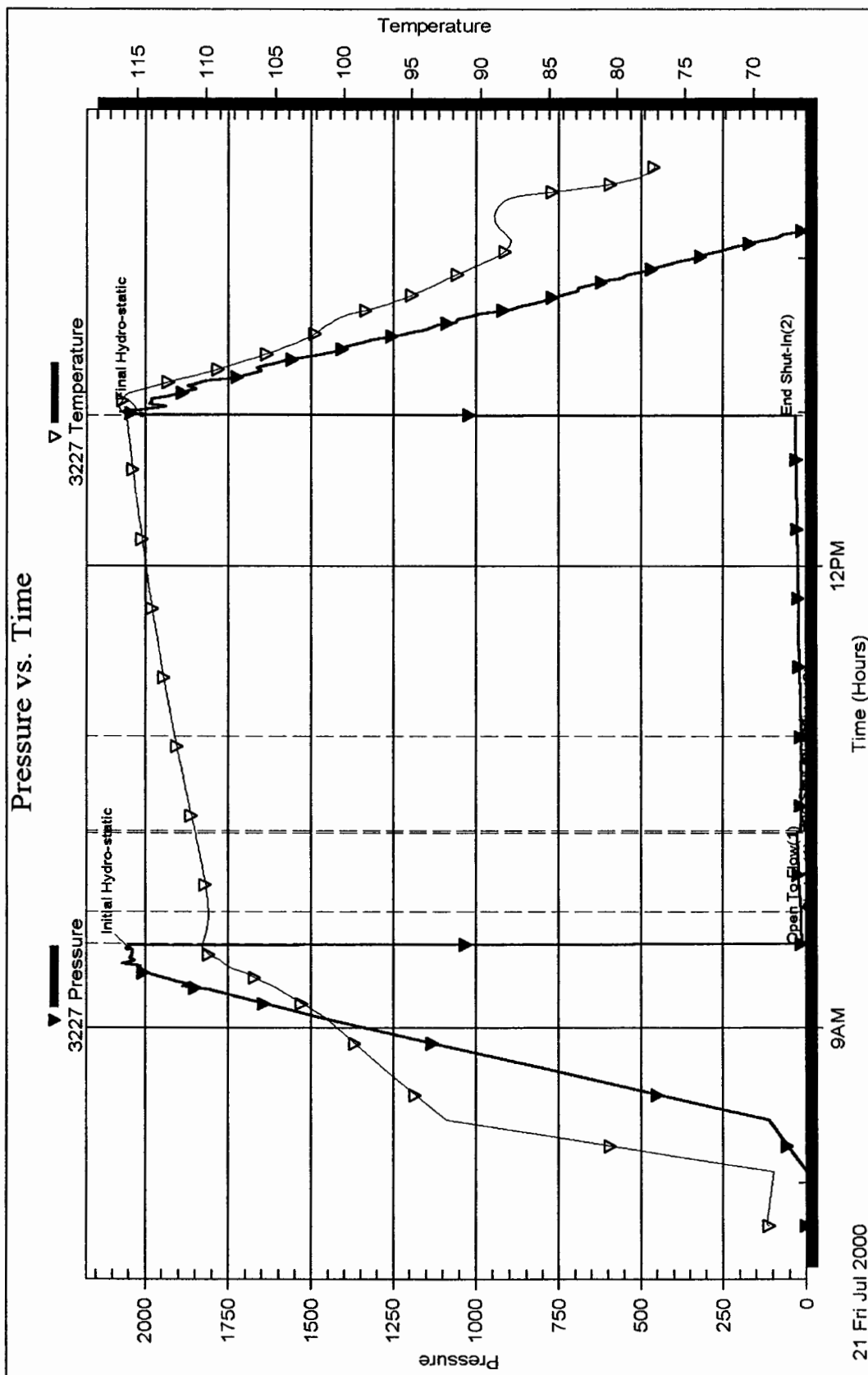
	Choke (mm)	Pressure (kPa)	Gas Rate (m³/d)
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4-17s-28w Lane KS

Inside Mull Drilling Co. In

Serial #: 3227



**TRILOBITE
TESTING, L.L.C.**

Mull Drilling Co. Inc.

**Box 2758
Wichita, Ks 67202-2758**

ATTN: Mark Shreve

1-4 Lonnie T

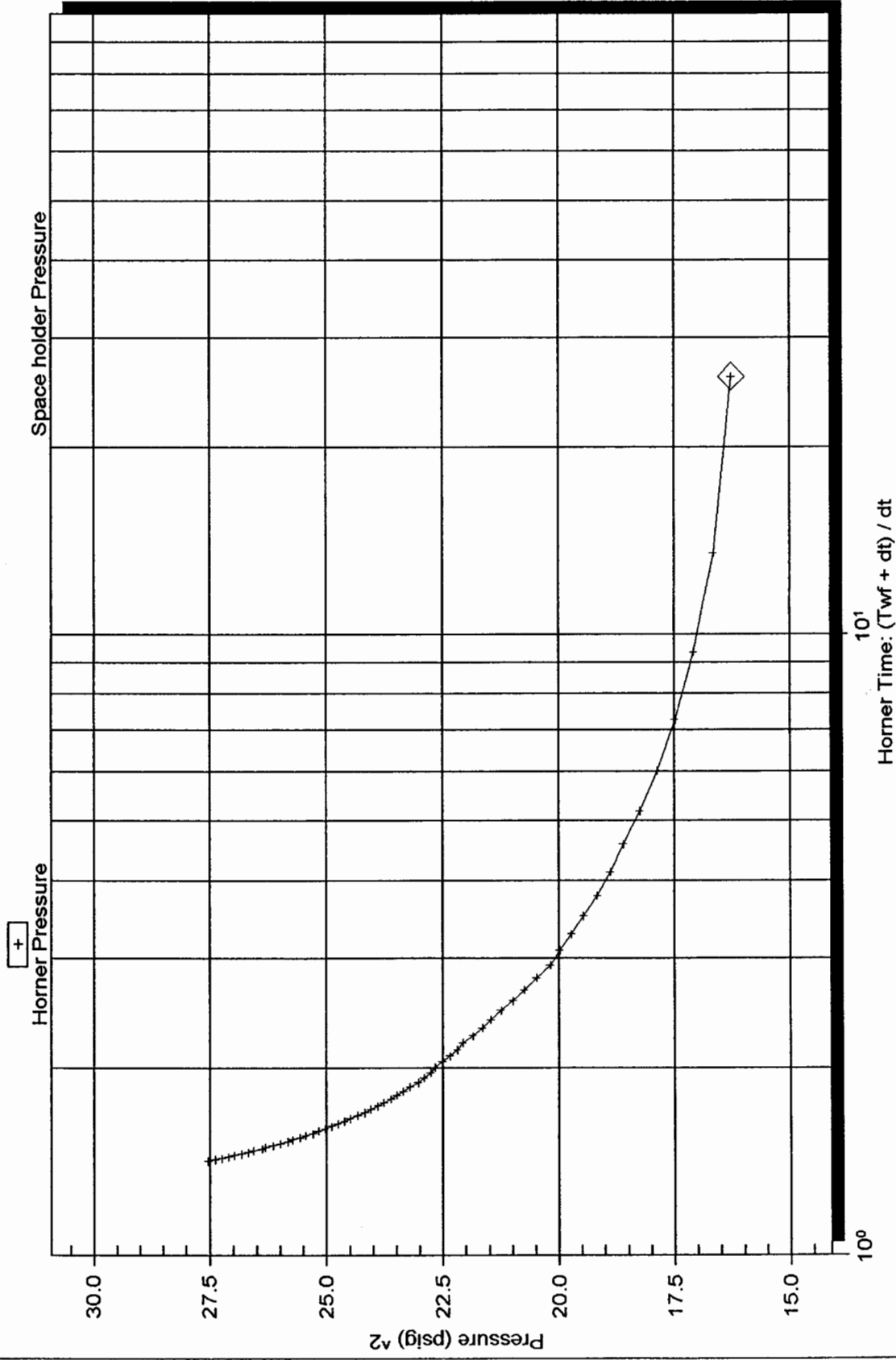
4-17s-28w Lane KS

Job Ticket: 13158 DST#:2

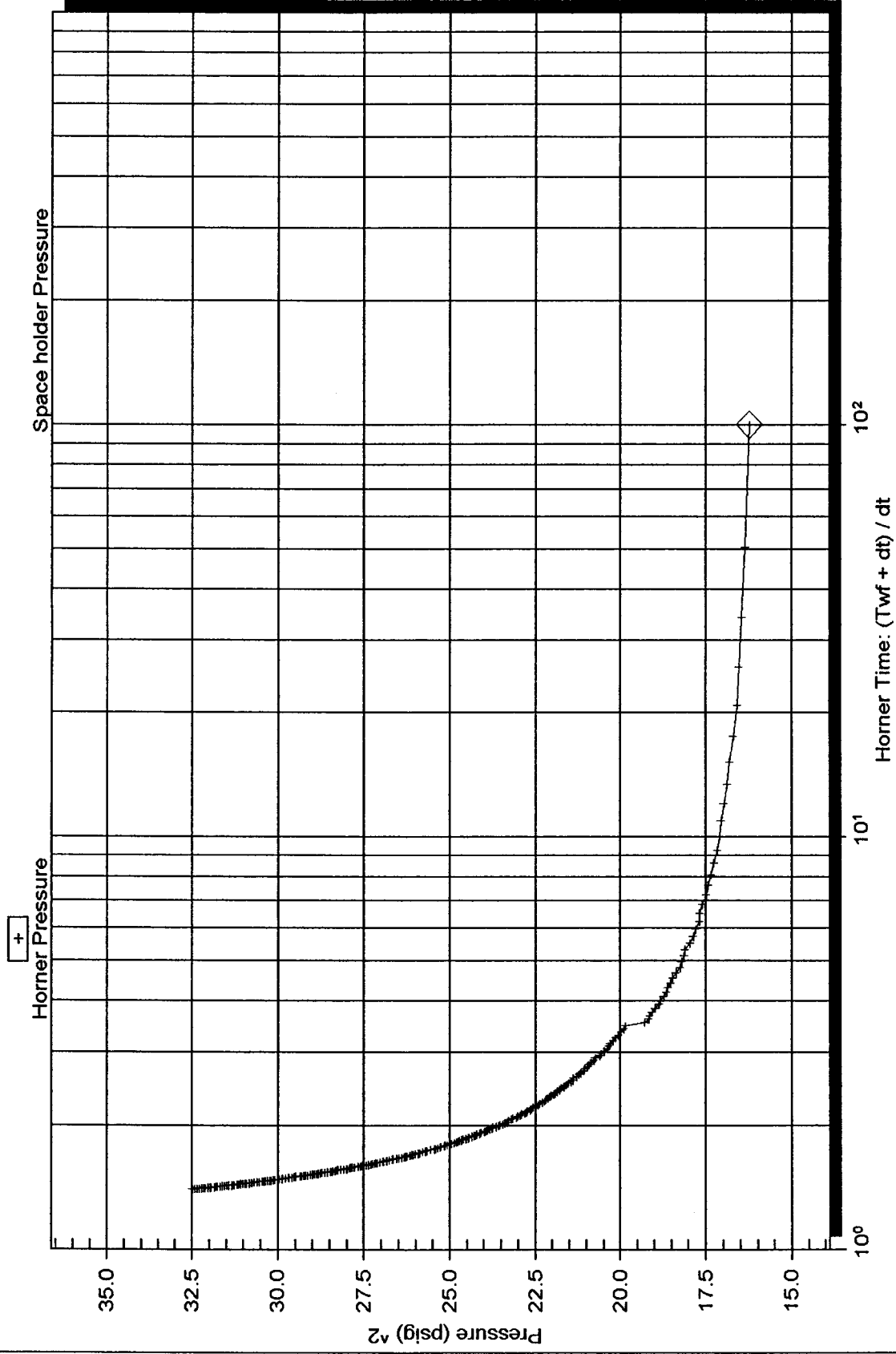
Test Start: 2000.07.21 @ 08:18:00

Printing every 38 samples

Horner Plot



Homer Plot

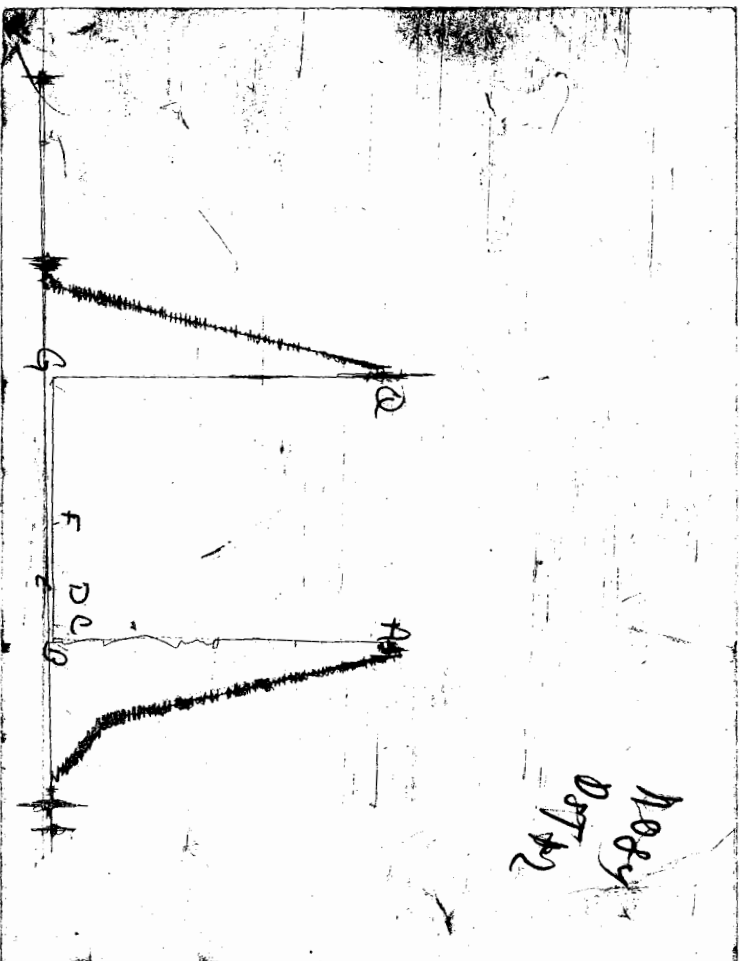


Serial Number: 3227 (Inside)

Flow Cycle: 2

163207

CHART PAGE



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

103207

TRILOBITE TESTING L.L.C.

P.O. Box 362 • Hays, Kansas 67601

Nº 13158

Test Ticket

Well Name & No. <u>1-4 Lonnie T</u>	Test No. <u>2</u>	Date <u>7-21-2000</u>
Company <u>Mull Drilling Co Inc</u>	Zone Tested <u>LKC JK</u>	
Address _____	Elevation <u>2779</u>	KB <u>2771</u> GL
Co. Rep / Geo. <u>Kim Shoemaker</u>	Cont. <u>Discovery</u>	Est. Ft. of Pay _____ Por. _____ %
Location: Sec. <u>4</u>	Twp. <u>17</u>	Rge. <u>28W</u> Co. <u>Law</u> State <u>Ks</u>
No. of Copies _____	Distribution Sheet (Y, N) _____	Turnkey (Y, N) _____ Evaluation (Y, N) _____

Interval Tested <u>4235-4260</u>	Initial Str Wt./Lbs. <u>42,000</u>	Unseated Str Wt./Lbs. <u>42,000</u>
Anchor Length <u>25</u>	Wt. Set Lbs. <u>20,000</u>	Wt. Pulled Loose/Lbs. <u>44,000</u>
Top Packer Depth <u>4230</u>	Tool Weight <u>2200</u>	
Bottom Packer Depth <u>4260 35</u>	Hole Size — 7 7/8" _____	Rubber Size — 6 3/4" _____
Total Depth <u>4260</u>	Wt. Pipe Run _____	Drill Collar Run <u>30</u>
Mud Wt. <u>8.8</u> LCM _____ Vis. <u>48</u> WL _____	Drill Pipe Size <u>4 1/2 XH</u>	Ft. Run <u>4216</u>
Blow Description <u>weak surface blow throughout</u>		
<u>FS- no blow</u>		

Recovery — Total Feet <u>2</u>	GIP _____	Ft. in DC <u>2</u>	Ft. in DP _____
Rec. <u>2</u> Feet Of <u>Mud w/ oil spots</u>	%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 _____
Rec. _____ Feet Of _____	%gas _____	%oil _____	%water _____ %mud _____
BHT <u>116</u> °F Gravity _____	°API D@ _____	°F Corrected Gravity _____	°API _____
RW _____ @ _____ °F	Chlorides _____ ppm Recovery	Chlorides _____ ppm System	

(A) Initial Hydrostatic Mud <u>2058</u>	AK-1 <u>2053</u>	Alpine _____	PSI Recorder No. <u>2337</u>	T-On Location <u>0735</u>
(B) First Initial Flow Pressure <u>22</u>	<u>14</u>	PSI (depth) <u>4237</u>	T-Started <u>0819</u>	
(C) First Final Flow Pressure <u>22</u>	<u>16</u>	PSI Recorder No. <u>11684</u>	T-Open <u>0932</u>	
(D) Initial Shut-In Pressure <u>22</u>	<u>28</u>	PSI (depth) <u>4258</u>	T-Pulled <u>12:52</u>	
(E) Second Initial Flow Pressure <u>22</u>	<u>16</u>	PSI Recorder No. _____	T-Out <u>14 20</u>	
(F) Second Final Flow Pressure <u>22</u>	<u>16</u>	PSI (depth) _____	T-Off Location <u>1500</u>	
(G) Final Shut-in Pressure <u>44</u>	<u>32</u>	PSI Initial Opening <u>10</u>	Test <u>780</u>	
(Q) Final Hydrostatic Mud <u>2036</u>	<u>2000</u>	PSI Initial Shut-in <u>30</u>	Jars _____	
		Final Flow <u>40</u>	Safety Joint _____	
		Final Shut-in <u>120</u>	Straddle _____	

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 [Signature]
 Our Representative Paul Simpson

Extra Packer _____
 Elec. Rec. A 150
 Mileage _____
 Other _____
 TOTAL PRICE \$ 850



TRILOBITE
TESTING, L.L.C.

DRILL STEM TEST REPORT

Mull Drilling Co. In
Box 2758
Wichita, Ks 67202-2758
ATTN: Mark Shreve

1-4 Lonnie T
4-17s-28w Lane KS
Job Ticket: 13159 DST#: 3
Test Start: 2000.07.22 @ 01:35:00

GENERAL INFORMATION:

Formation: **Lansing L**
Deviated: **No** Whipstock: **ft (CF)**
Time Tool Opened: 03:04:10
Time Test Ended: 06:24:00

Test Type: **Conventional Bottom Hole**
Tester: **Paul Simpson**
Unit No:

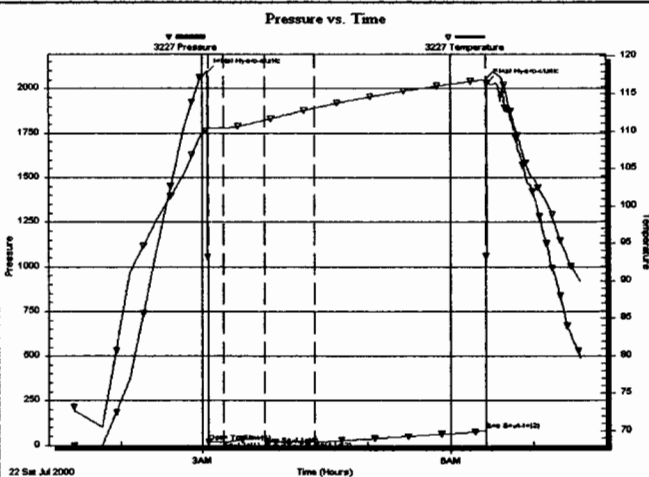
Interval: **4275.00 ft (CF) To 4315.00 ft (CF) (TVD)**
Total Depth: **4176.00 ft (CF)**
Hole Diameter: **7.88 inches** Hole Condition: **Fair**

Reference Elevations: **29912.91 ft (KB)**
2771.00 ft (CF)
KB to GR/CF: **27141.91 ft**

Serial #: **3227** Inside
Press@RunDepth: **17.31 psig @ 4282.00 ft (CF)**
Start Date: **2000.07.22** End Date: **2000.07.22**
Start Time: **01:25:42** End Time: **07:34:10**

Capacity: **5000.00 psig**
Last Calib.: **1999.08.20**
Time On Btm: **2000.07.22 @ 03:03:40**
Time Off Btm: **2000.07.22 @ 06:26:40**

TEST COMMENT: **IF- 1/4" blow FF- 1/4" blow**



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
98	2091.41	110.42	Initial Hydro-static
99	16.71	110.33	Open To Flow (1)
110	17.37	110.41	Shut-In(1)
140	45.55	111.46	End Shut-In(1)
140	15.91	111.48	Open To Flow (2)
176	17.31	113.07	Shut-In(2)
300	82.38	116.92	End Shut-In(2)
301	2034.33	117.25	Final Hydro-static

Recovery

Length (m)	Description	Volume (m³)
15.00	slightly oil out mud 5% oil 95% mud	0.07

Gas Rates

	Choke (mm)	Pressure (kPa)	Gas Rate (m³/d)
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 TRILOBITE TESTING, L.L.C.	DRILL STEM TEST REPORT		TOOL DIAGRAM																																																																																				
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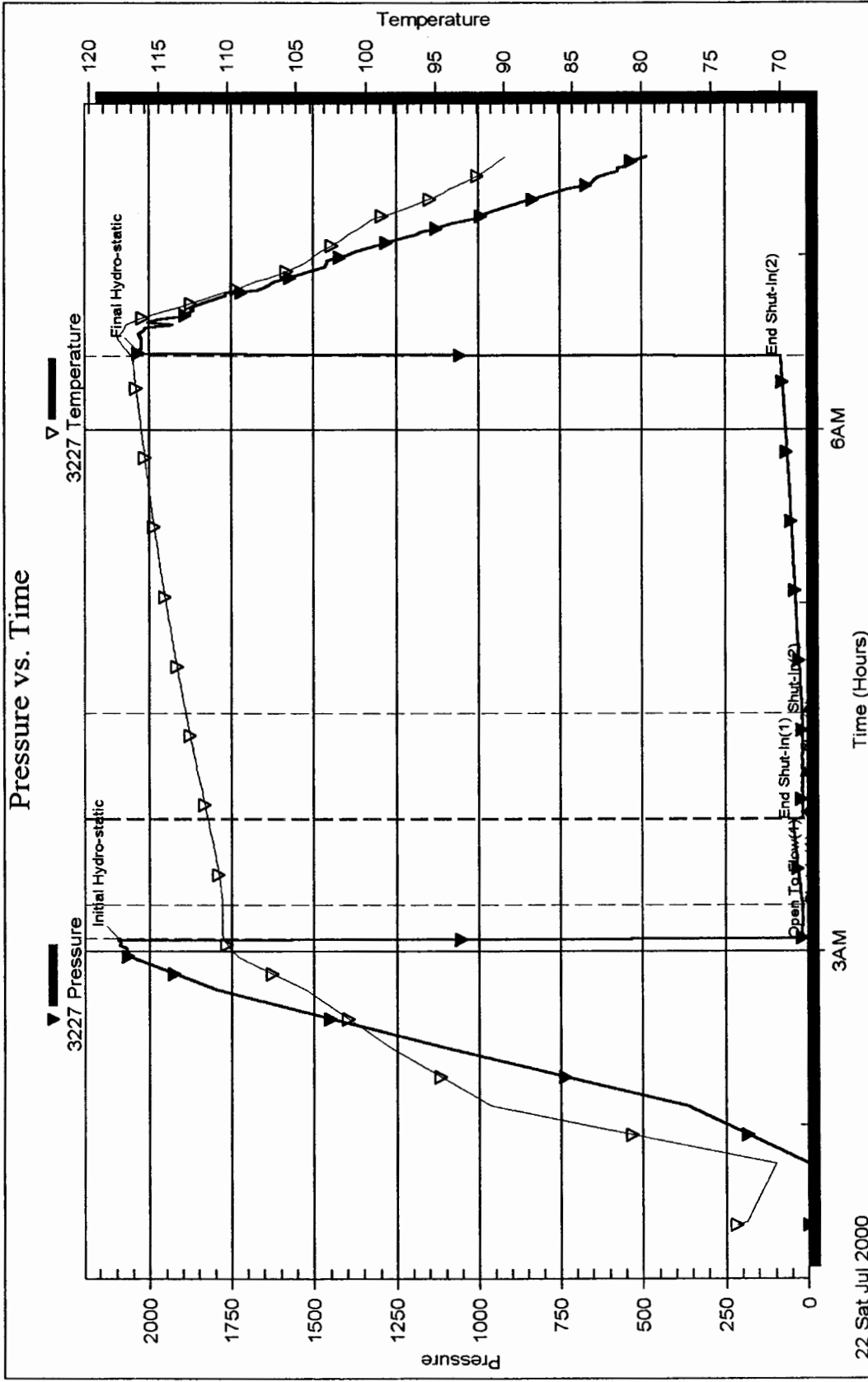
4-17s-28w Lane KS

Mull Drilling Co. In

Inside

Serial #: 3227

Pressure vs. Time



Ref. No: 13159

Trilobite Testing, L.L.C.

Printed: 2000.07.31 @ 15:33:11 Page 3

		DRILL STEM TESTING - DATA LISTING											
		Mull Drilling Co. In Box 2758 Wichita, Ks 67202-2758 ATTN: Mark Shreve					1-4 Lonnie T 4-17s-28w Lane KS Job Ticket: 13159 DST#: 3 Test Start: 2000.07.22 @ 01:35:00						
Serial #	3227	Inside					Serial #	3227	Inside				
Comments	Time	Delta P	Pressure	Abscissa	Temp.	Comments	Time	Delta P	Pressure	Abscissa	Temp.		
	(Min.)	(psig)	(psig)	(T+dt)/dt	(deg F)		(Min.)	(psig)	(psig)	(T+dt)/dt	(deg F)		
	0.0		0.00		73.3		260.0	41.68	58.98	1.57	115.9		
	51.0		736.55		95.8		276.5	50.93	68.24	1.47	116.4		
	97.0		2089.11		110.2		293.0	60.88	78.19	1.41	116.8		
	97.5		2086.02		110.3		298.5	64.43	81.74	1.39	116.9		
Initial Hydro-static	98.0		2091.41		110.4		299.0	64.75	82.06	1.39	116.9		
Open To Flow (1)	98.5		16.71		110.3	End Shut-In(2)	299.5		82.38		116.9		
	99.0		16.99		110.4		300.0		2032.73		117.2		
	99.5		17.57		110.4		300.5		2008.64		117.2		
	109.0		17.93		110.4	Final Hydro-static	301.0		2034.33		117.3		
	109.5		17.25		110.4		301.5		2035.77		117.3		
Shut-In(1)	110.0	0.00	17.37		110.4		302.0		2026.06		117.5		
	110.5	0.60	17.97	24.00	110.4		302.5		2024.90		117.5		
	111.0	1.22	18.59	12.50	110.4		319.0		1799.61		111.7		
	111.5	1.82	19.19	8.67	110.4		335.5		1356.99		103.2		
	128.0	18.67	36.03	1.64	110.9		352.0		878.70		96.2		
	138.5	27.66	45.03	1.40	111.4		368.5		474.71		89.7		
	139.0	28.08	45.45	1.40	111.4								
End Shut-In(1)	139.5		45.55		111.5								
Open To Flow (2)	140.0		15.91		111.5								
	140.5		17.71		111.5								
	141.0		15.57		111.5								
	157.5		18.15		112.3								
	174.0		17.99		113.0								
	175.0		19.01		113.0								
	175.5		19.19		113.1								
Shut-In(2)	176.0	0.00	17.31		113.1								
	176.5	0.56	17.87	96.00	113.1								
	177.0	0.90	18.21	48.50	113.1								
	177.5	1.22	18.53	32.67	113.1								
	194.0	9.01	26.32	3.64	113.8								
	210.5	16.90	34.21	2.38	114.4								
	227.0	24.95	42.26	1.93	114.9								
	243.5	33.09	50.39	1.70	115.4								

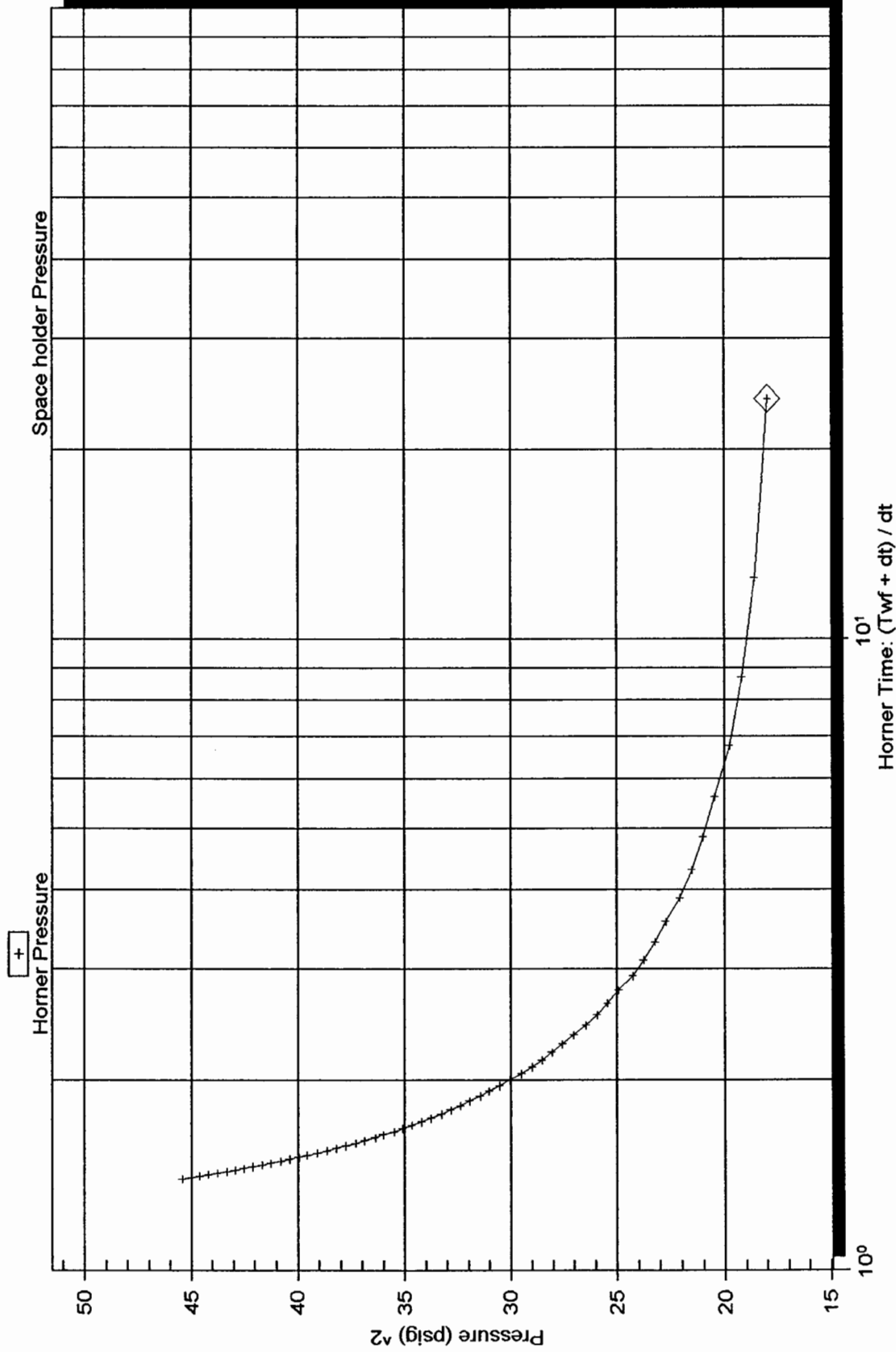
Printing every 33 samples

Triobite Testing, L.L.C.

Ref. No: 13159

Printed: 2000.07.31 @ 15:33:34 Page 4

Horner Plot



Horner Plot

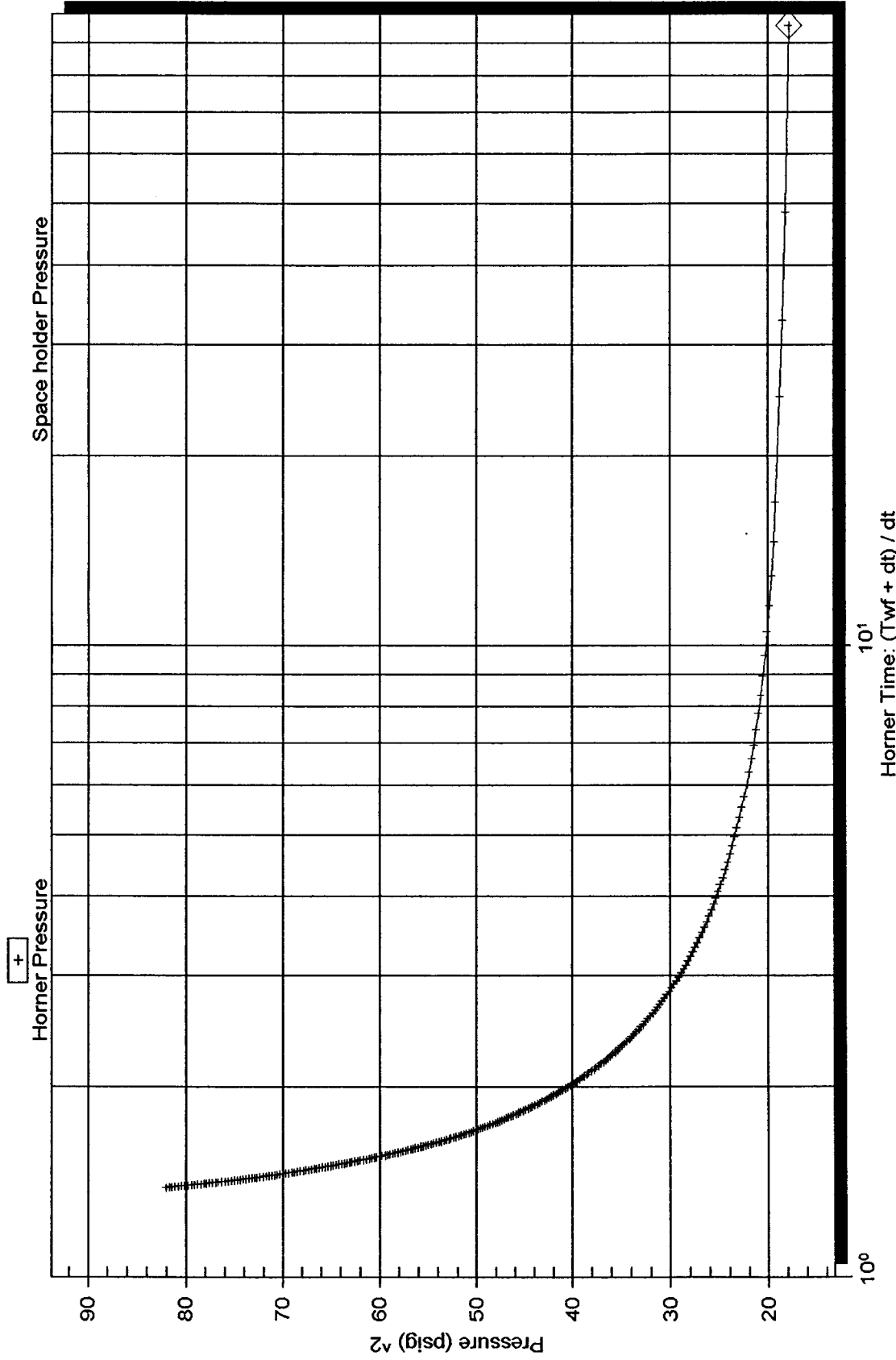
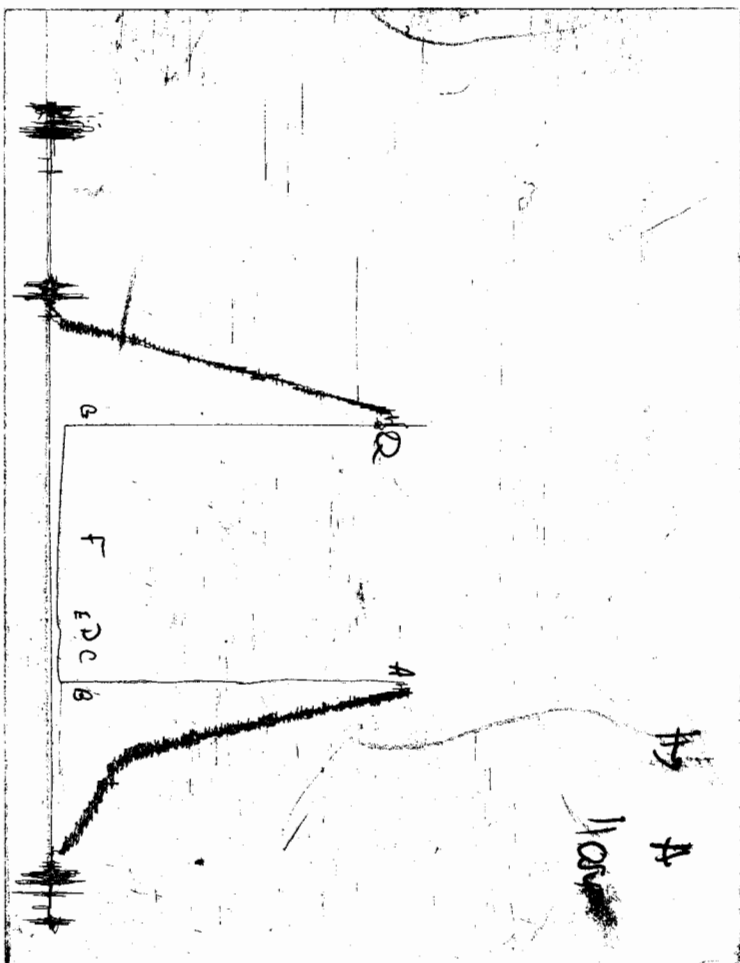


CHART PAGE



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

TRILOBITE TESTING L.L.C.

P.O. Box 362 • Hays, Kansas 67601

N^o 13159**Test Ticket**

Well Name & No.	<u>1-4 Louie T</u>	Test No.	<u>3</u>	Date	<u>7-22-2000</u>
Company	<u>Mull Drilling Co. Inc</u>	Zone Tested	<u>LKC L</u>		
Address		Elevation	<u>2779</u>	KB	<u>2771</u> GL
Co. Rep / Geo.	<u>Kim Shomaker</u>	Cont.	<u>Discovery #2</u>	Est. Ft. of Pay	Por. %
Location: Sec.	<u>4</u>	Twp.	<u>17S</u>	Rge.	<u>28W</u>
		Co.	<u>Lane</u>	State	<u>K</u>
No. of Copies		Distribution Sheet (Y, N)		Turnkey (Y, N)	
		Evaluation (Y, N)			

Interval Tested	<u>4275 - 4315</u>	Initial Str Wt./Lbs.	<u>42,000</u>	Unseated Str Wt./Lbs.	
Anchor Length	<u>40</u>	Wt. Set Lbs.	<u>20,000</u>	Wt. Pulled Loose/Lbs.	
Top Packer Depth	<u>4270</u>	Tool Weight	<u>2400</u>		
Bottom Packer Depth	<u>4275</u>	Hole Size — 7 7/8"		Rubber Size — 6 3/4"	
Total Depth	<u>4315</u>	Wt. Pipe Run		Drill Collar Run	<u>30</u>
Mud Wt. <u>9.0</u> LCM <u>10</u> Vis. <u>46</u> WL <u>68</u>		Drill Pipe Size	<u>4 3/4</u>	Ft. Run	<u>4248</u>
Blow Description	<u>weak hu" blow</u>				

88 - hu" blow

Recovery — Total Feet	<u>15</u>	GIP		Ft. in DC	<u>15</u>	Ft. in DP	
Rec.	<u>15</u>	Feet Of	<u>sl oil & packed mud</u>	%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
Rec.		Feet Of		%gas	%oil	%water	%mud
BHT		°F Gravity		°API D@		°F Corrected Gravity	°API
RW		@		ppm Recovery		Chlorides	ppm System

	AK-1	Alpine			
(A) Initial Hydrostatic Mud		<u>2091</u>	PSI Recorder No.	<u>2333</u>	T-On Location
(B) First Initial Flow Pressure		<u>17</u>	PSI (depth)	<u>4277</u>	T-Started
(C) First Final Flow Pressure		<u>17</u>	PSI Recorder No.	<u>11084</u>	T-Open
(D) Initial Shut-In Pressure		<u>45</u>	PSI (depth)	<u>4312</u>	T-Pulled
(E) Second Initial Flow Pressure		<u>16</u>	PSI Recorder No.		T-Out
(F) Second Final Flow Pressure		<u>17</u>	PSI (depth)		T-Off Location
(G) Final Shut-in Pressure		<u>82</u>	PSI Initial Opening	<u>10</u>	Test
(Q) Final Hydrostatic Mud		<u>2034</u>	PSI Initial Shut-in	<u>30</u>	Jars
			Final Flow	<u>40</u>	Safety Joint
			Final Shut-in	<u>120</u>	Straddle

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 [Signature]
 Our Representative Paul Simpson

Extra Packer
 Elec. Rec. X 150
 Mileage
 Other
 TOTAL PRICE \$ 850



**TRILOBITE
TESTING, L.L.C.**

DRILL STEM TEST REPORT

Mull Drilling Co. Inc
Box 2758
Wichita, Ks 67202-2758
ATTN: Mark Shreve

1-4 Lonnie T
4-17s-28w Lane KS
Job Ticket: 13160 DST#: 4
Test Start: 2000.07.23 @ 02:43:00

GENERAL INFORMATION:

Formation: **Altamont**
Deviated: **No** Whipstock: **ft (CF)**
Time Tool Opened: 03:52:43
Time Test Ended: 09:05:00

Test Type: **Conventional**
Tester: **Paul Simpson**
Unit No:

Interval: **4375.00 ft (CF) To 4425.00 ft (CF) (TVD)**
Total Depth: **4425.00 ft (CF)**
Hole Diameter: **7.88 inches** Hole Condition: **Fair**

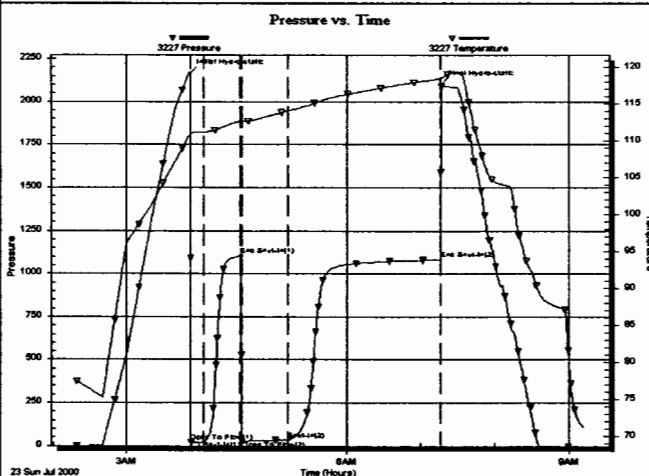
Reference Elevations: **29912.91 ft (KB)**
2771.00 ft (CF)
KB to GR/CF: **27141.91 ft**

Serial #: **3227** Inside

Press@RunDepth: **32.83 psig @ 4381.00 ft (CF)**
Start Date: **2000.07.23** End Date:
Start Time: **02:19:15** End Time:

Capacity: **5000.00 psig**
Last Calib.: **1899.12.30**
Time On Btm: **2000.07.23 @ 03:52:13**
Time Off Btm: **2000.07.23 @ 07:16:43**

TEST COMMENT: **IF 1/4" blow FF Surface blow**



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
93	2164.93	110.96	Initial Hydro-static
94	18.37	110.93	Open To Flow (1)
105	23.22	111.20	Shut-In(1)
134	1101.22	112.69	End Shut-In(1)
136	26.28	112.65	Open To Flow (2)
173	32.83	114.07	Shut-In(2)
297	1081.23	118.48	End Shut-In(2)
298	2102.76	118.60	Final Hydro-static

Recovery

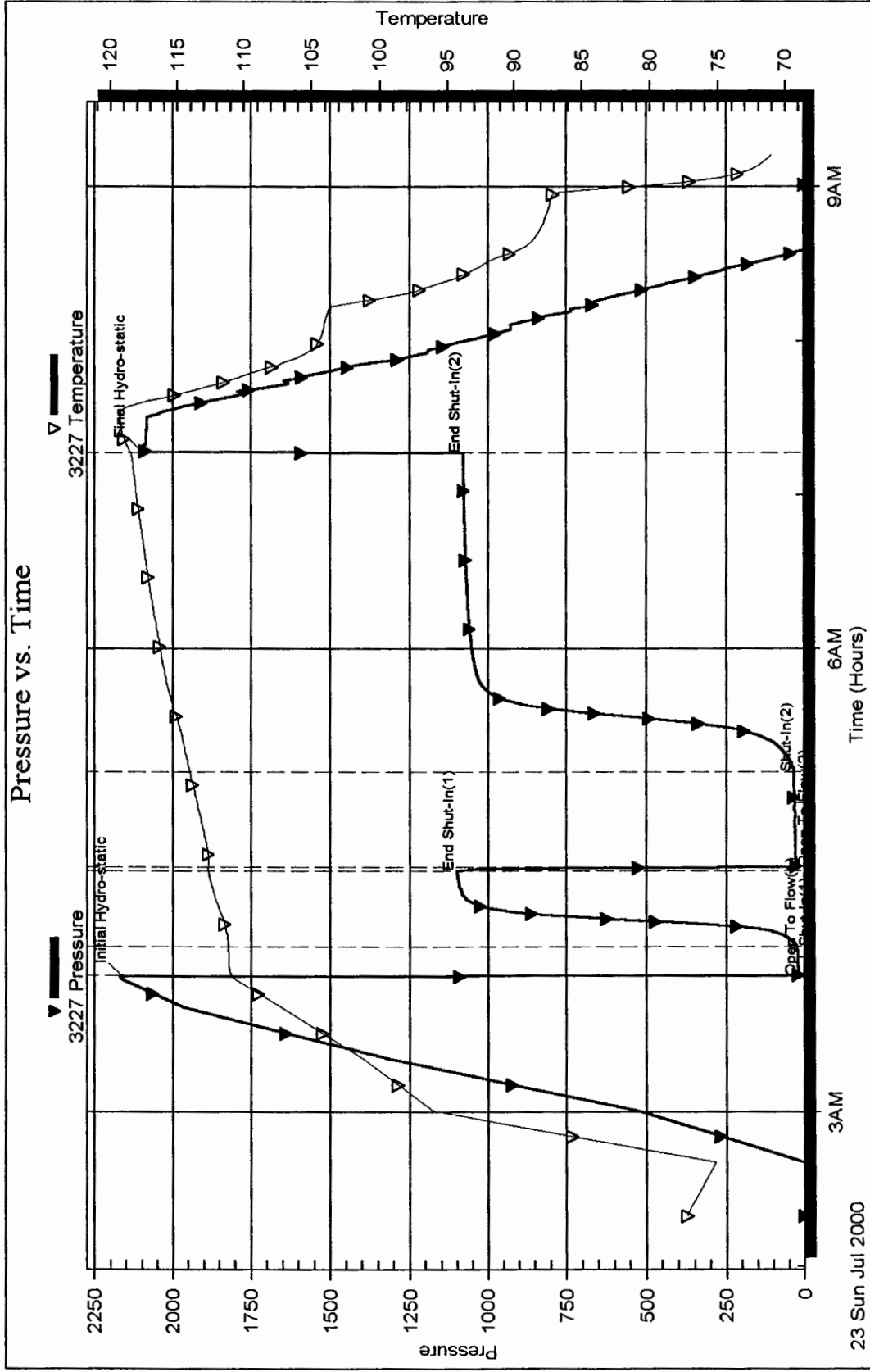
Length (m)	Description	Volume (m³)
30.00	mud with oil show in tool	0.15

Gas Rates

	Choke (mm)	Pressure (kPaa)	Gas Rate (m³/d)
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 TRILOBITE TESTING, L.L.C.		DRILL STEM TEST REPORT		TOOL DIAGRAM																																																																																																	
Mull Drilling Co. In Box 2758 Wichita, Ks 67202-2758 ATTN: Mark Shreve		1-4 Lonnie T 4-17s-28w Lane KS Job Ticket: 13160 DST#: 4 Test Start: 2000.07.23 @ 02:43:00																																																																																																			
Tool Information																																																																																																					
Drill Pipe:	Length: 4341.00 ft	Diameter: 3.80 inches	Volume: 60.89 bbl	Tool Weight:	2600.00 lb																																																																																																
Drill Collar:	Length: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight set on Packer:	20000.00 lb																																																																																																
Heavy Wt. Pipe:	Length: ft	Diameter: inches	Volume: - bbl	Weight to Pull Loose:	50000.00 lb																																																																																																
Drill Pipe Above KB:	16.00 ft			Tool Chased	ft																																																																																																
Depth to Top Packer:	4370.00 ft			String Weight: Initial	44000.00 lb																																																																																																
Depth to Bottom Packer:	ft			Final	44000.00 lb																																																																																																
Interval between Packers:	ft																																																																																																				
Tool Length:	70.00 ft																																																																																																				
Number of Packers:	2	Diameter: 6.75 inches																																																																																																			
Tool Comments																																																																																																					
<table border="1"> <thead> <tr> <th>Tool Description</th> <th>Length (ft)</th> <th>Serial No.</th> <th>Position</th> <th>Depth (ft)</th> <th>Accum. Lengths</th> </tr> </thead> <tbody> <tr> <td>C.O. Sub</td> <td>1.00</td> <td></td> <td></td> <td>4356.00</td> <td></td> </tr> <tr> <td>S.I. Tool</td> <td>5.00</td> <td></td> <td></td> <td>4361.00</td> <td></td> </tr> <tr> <td>HMV</td> <td>5.00</td> <td></td> <td></td> <td>4366.00</td> <td></td> </tr> <tr> <td>Packer</td> <td>4.00</td> <td></td> <td></td> <td>4370.00</td> <td>15.00 Bottom Of Top Packer</td> </tr> <tr> <td>Packer</td> <td>5.00</td> <td></td> <td></td> <td>4375.00</td> <td></td> </tr> <tr> <td>Stubb</td> <td>1.00</td> <td></td> <td></td> <td>4376.00</td> <td></td> </tr> <tr> <td>Anchor</td> <td>5.00</td> <td></td> <td></td> <td>4381.00</td> <td></td> </tr> <tr> <td>Recorder</td> <td>0.00</td> <td>3227</td> <td>Inside</td> <td>4381.00</td> <td></td> </tr> <tr> <td>C.O. Sub</td> <td>1.00</td> <td></td> <td></td> <td>4382.00</td> <td></td> </tr> <tr> <td>Blank Spacing</td> <td>32.00</td> <td></td> <td></td> <td>4414.00</td> <td></td> </tr> <tr> <td>C.O. Sub</td> <td>1.00</td> <td></td> <td></td> <td>4415.00</td> <td></td> </tr> <tr> <td>Anchor</td> <td>7.00</td> <td></td> <td></td> <td>4422.00</td> <td></td> </tr> <tr> <td>Recorder</td> <td>0.00</td> <td>11084</td> <td>Outside</td> <td>4422.00</td> <td></td> </tr> <tr> <td>Bullnose</td> <td>3.00</td> <td></td> <td></td> <td>4425.00</td> <td>55.00 Bottom Packers & Anchor</td> </tr> <tr> <td colspan="2">Total Tool Length:</td> <td colspan="4">70.00</td> </tr> </tbody> </table>						Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths	C.O. Sub	1.00			4356.00		S.I. Tool	5.00			4361.00		HMV	5.00			4366.00		Packer	4.00			4370.00	15.00 Bottom Of Top Packer	Packer	5.00			4375.00		Stubb	1.00			4376.00		Anchor	5.00			4381.00		Recorder	0.00	3227	Inside	4381.00		C.O. Sub	1.00			4382.00		Blank Spacing	32.00			4414.00		C.O. Sub	1.00			4415.00		Anchor	7.00			4422.00		Recorder	0.00	11084	Outside	4422.00		Bullnose	3.00			4425.00	55.00 Bottom Packers & Anchor	Total Tool Length:		70.00			
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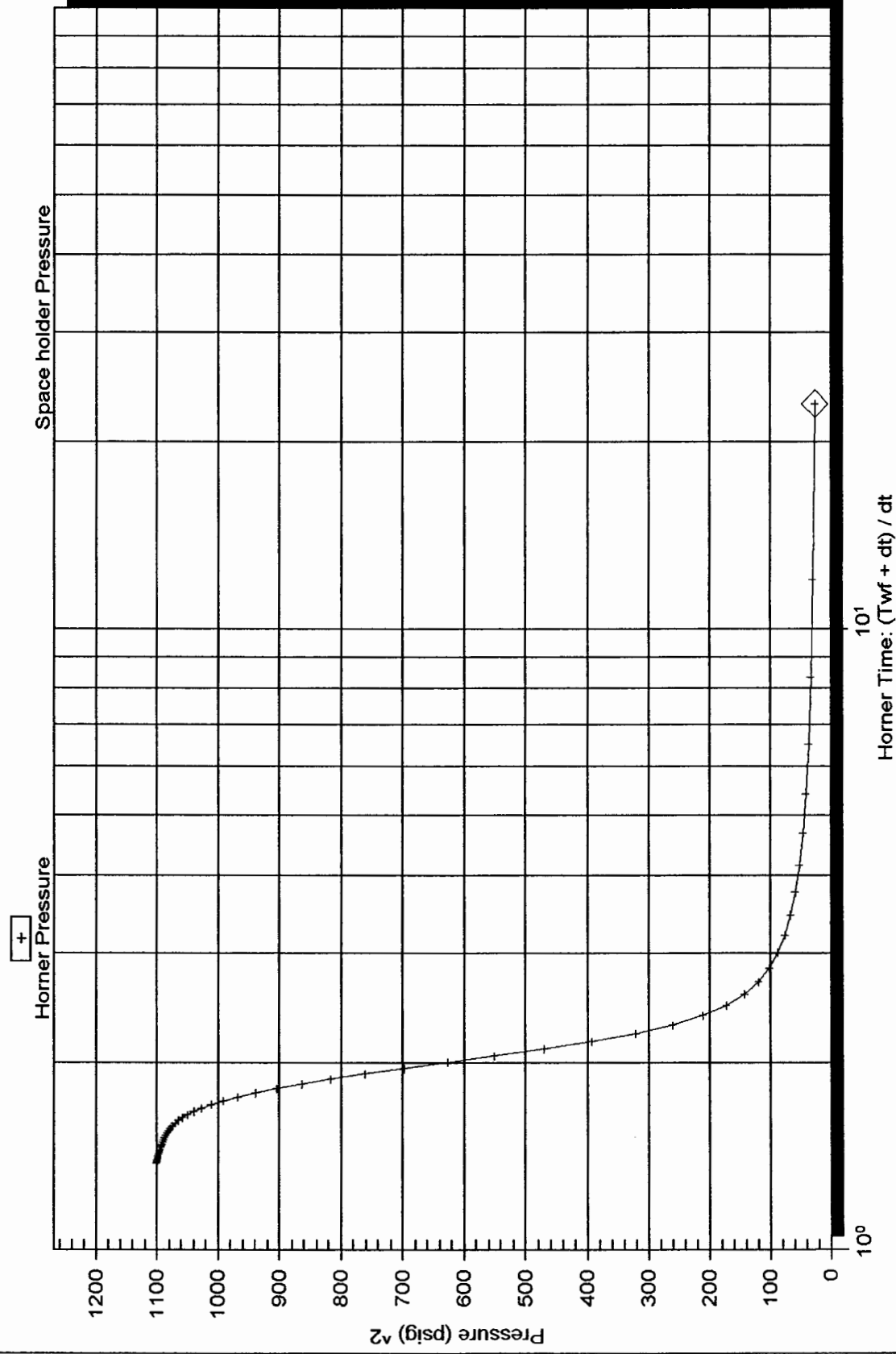
Serial #: 3227 Inside Mull Drilling Co. In 4-17s-28w Lane KS



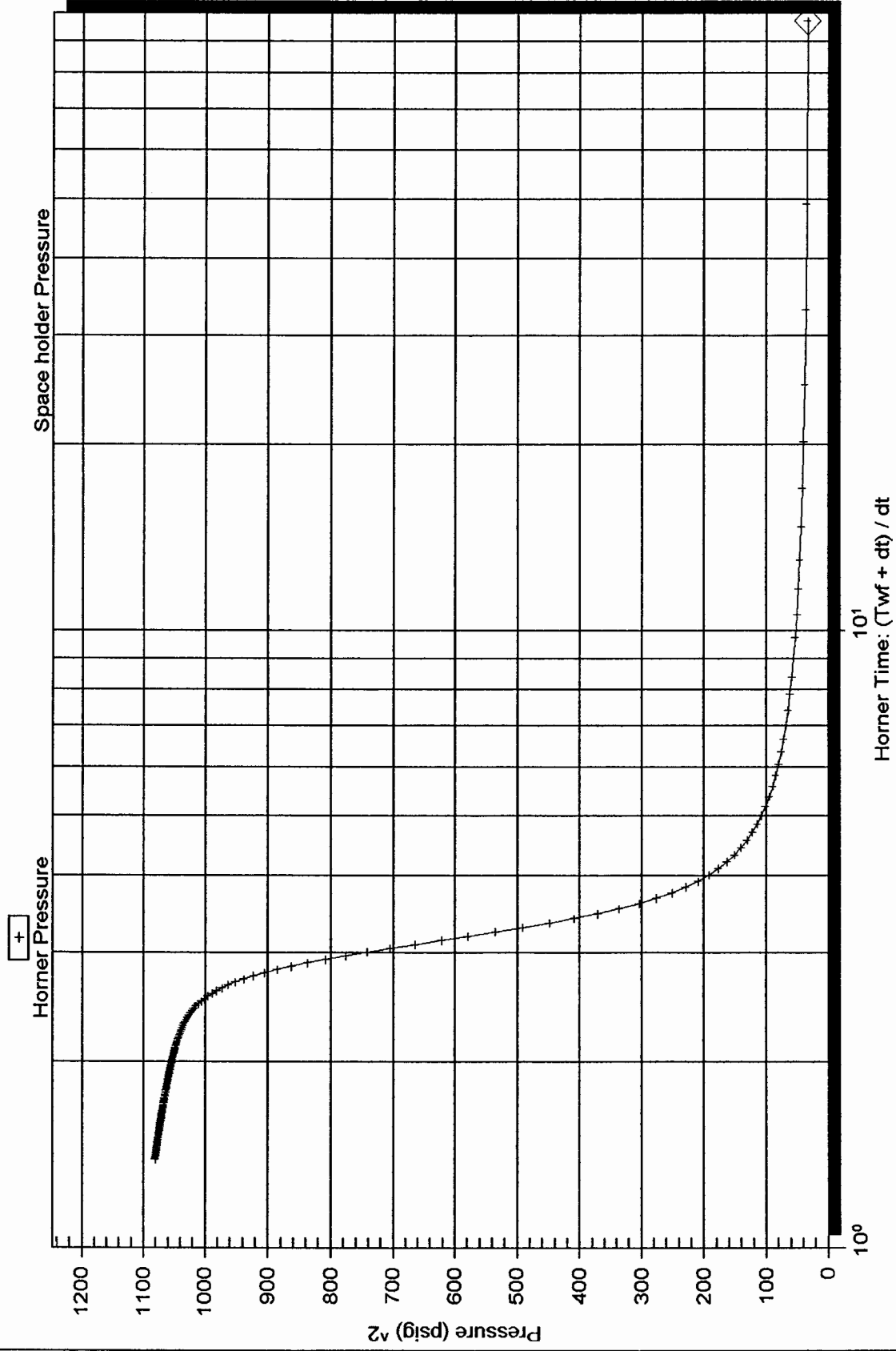
 TRILOBITE TESTING, L.L.C.		DRILL STEM TESTING - DATA LISTING									
		Mull Drilling Co. In					1-4 Lonnie T				
		Box 2758 Wichita, Ks 67202-2758					4-17s-28w Lane KS				
		ATTN: Mark Shreve					Job Ticket: 13160 DST#: 4				
							Test Start: 2000.07.23 @ 02:43:00				
Serial # 3227 Inside						Serial # 3227 Inside					
Comments	Time	Delta P	Pressure	Abscissa	Temp.	Comments	Time	Delta P	Pressure	Abscissa	Temp.
	(Min.)	(psig)	(psig)	(T+dt)/dt	(deg F)		(Min.)	(psig)	(psig)	(T+dt)/dt	(deg F)
	0.0		0.26		77.3		250.0	1038.37	1071.20	1.62	117.3
	92.0		2166.05		110.7		269.0	1043.66	1076.49	1.50	117.8
	92.5		2164.57		110.8		288.0	1047.08	1079.91	1.42	118.3
Initial Hydro-static	93.0		2164.93		111.0		296.0	1048.25	1081.07	1.39	118.5
Open To Flow (1)	93.5		18.37		110.9		296.5	1048.33	1081.15	1.39	118.5
	94.0		18.95		111.0	End Shut-In(2)	297.0		1081.23		118.5
	94.5		19.21		111.0	Final Hydro-static	297.5		2102.76		118.6
	103.5		22.96		111.2		298.0		2076.05		118.6
	104.0		23.07		111.2		298.5		2100.02		118.6
Shut-In(1)	104.5	0.00	23.22		111.2		317.5		1934.78		116.9
	105.0	2.72	25.94	23.00	111.2		336.5		1225.59		105.2
	105.5	5.93	29.14	12.00	111.2		355.5		664.31		102.1
	106.0	9.43	32.65	8.33	111.2		374.5		25.32		90.3
	125.0	1060.70	1083.92	1.54	112.2		393.5		0.00		87.4
	133.0	1077.06	1100.28	1.39	112.6		412.5		0.00		71.1
	133.5	1077.53	1100.74	1.38	112.7		413.5		0.00		70.9
End Shut-In(1)	134.0		1101.22		112.7						
	134.5		1077.69		112.7						
	135.0		1026.12		112.7						
Open To Flow (2)	135.5		26.28		112.7						
	136.0		26.16		112.7						
	136.5		26.56		112.7						
	137.0		26.86		112.7						
	156.0		29.38		113.3						
	171.5		31.99		114.0						
	172.0		32.63		114.0						
Shut-In(2)	172.5	0.00	32.83		114.1						
	173.0	0.68	33.51	97.00	114.1						
	173.5	1.44	34.27	49.00	114.1						
	174.0	3.06	35.89	33.00	114.1						
	193.0	416.47	449.30	3.34	115.0						
	212.0	1008.27	1041.10	2.22	116.0						
	231.0	1029.46	1062.29	1.82	116.7						

Printing every 38 samples

Horner Plot



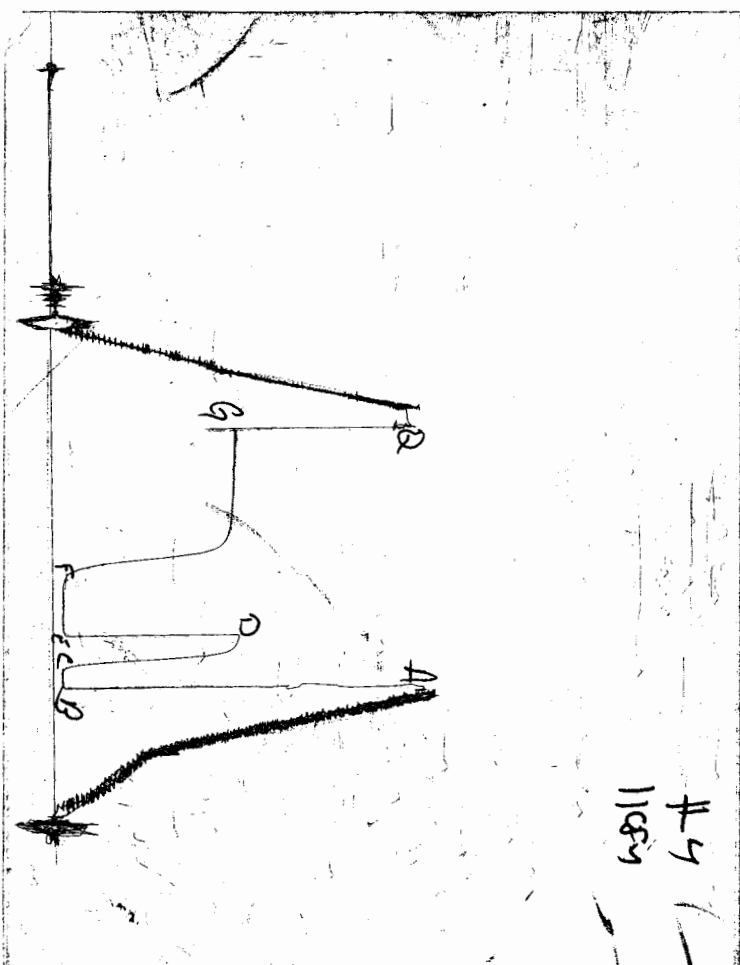
Horner Plot



103207

CHART PAGE

11-4
11-5



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

103207

TRILOBITE TESTING L.L.C.

P.O. Box 362 • Hays, Kansas 67601

Nº 13160

Test Ticket

Well Name & No. <u>1-4- Connie T</u>	Test No. <u>4</u>	Date <u>7-23-00</u>
Company <u>Mull Drilling Co Inc</u>	Zone Tested <u>ATTENTION</u>	
Address _____	Elevation <u>2779</u>	KB <u>2771</u> GL
Co. Rep / Geo. <u>Kim Shoemaker</u>	Cont. <u>Discovery #2</u>	Est. Ft. of Pay _____ Por. _____ %
Location: Sec. _____ Twp. _____	Rge. _____ Co. _____	State _____
No. of Copies _____	Distribution Sheet (Y, N) _____	Turnkey (Y, N) _____ Evaluation (Y, N) _____

Interval Tested <u>4375 - 4425</u>	Initial Str Wt./Lbs. <u>44,000</u>	Unseated Str Wt./Lbs. _____
Anchor Length <u>50</u>	Wt. Set Lbs. <u>20,000</u>	Wt. Pulled Loose/Lbs. _____
Top Packer Depth <u>4370</u>	Tool Weight <u>2600</u>	
Bottom Packer Depth <u>4375</u>	Hole Size — 7 7/8" _____	Rubber Size — 6 3/4" _____
Total Depth <u>4425</u>	Wt. Pipe Run _____	Drill Collar Run <u>30</u>
Mud Wt. <u>9.2</u> LCM <u>9</u> Vis. <u>47</u> WL <u>8.8</u>	Drill Pipe Size <u>4 1/2 x 11</u>	Ft. Run <u>4341</u>
Blow Description <u>weak 1/8" blow building to 1/2"</u>		

FF, surface blow

Recovery — Total Feet <u>30</u>	GIP _____	Ft. in DC <u>30</u>	Ft. in DP _____
Rec. <u>30</u> Feet Of <u>mud w/ oil interval</u>	%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 _____
Rec. _____ Feet Of _____	%gas _____	%oil _____	%water _____ %mud _____
BHT _____ °F Gravity _____	°API D@ _____	°F Corrected Gravity _____	°API _____
RW _____ @ _____ °F	Chlorides _____ ppm Recovery	Chlorides _____ ppm System	

(A) Initial Hydrostatic Mud	AK-1 <u>2165</u>	Alpine PSI Recorder No. <u>2337</u>	T-On Location <u>0210</u>
(B) First Initial Flow Pressure	<u>18</u>	PSI (depth) <u>4381</u>	T-Started <u>0240</u>
(C) First Final Flow Pressure	<u>23</u>	PSI Recorder No. <u>11084</u>	T-Open <u>0352</u>
(D) Initial Shut-In Pressure	<u>1101</u>	PSI (depth) <u>4422</u>	T-Pulled <u>0712</u>
(E) Second Initial Flow Pressure	<u>25</u>	PSI Recorder No. _____	T-Out <u>0905</u>
(F) Second Final Flow Pressure	<u>33</u>	PSI (depth) _____	T-Off Location _____
(G) Final Shut-in Pressure	<u>1081</u>	PSI Initial Opening <u>16</u>	Test <u>760</u>
(Q) Final Hydrostatic Mud	<u>2165</u>	PSI Initial Shut-in <u>30</u>	Jars _____

Final Flow <u>40</u>	Safety Joint _____
Final Shut-in <u>120</u>	Straddle _____
	Circ. Sub _____
	Sampler _____

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 [Signature]Our Representative Paul Simpson

Extra Packer _____
Elec. Rec. <u>X</u> <u>150</u>
Mileage _____
Other _____
TOTAL PRICE \$ <u>850</u>



TRILOBITE
TESTING, L.L.C.

DRILL STEM TEST REPORT

Mull Drilling Co. In
Box 2758
Wichita, Ks 67202-2758
ATTN: Mark Shreve

1-4 Lonnie T
4-17s-28w Lane KS
Job Ticket: 13161 DST#: 5
Test Start: 2000.07.23 @ 21:43:00

GENERAL INFORMATION:

Formation: **Pawnee/Fort Scott**

Deviated: No Whipstock: ft (CF)

Time Tool Opened: 23:29:32

Time Test Ended: 04:53:00

Interval: **4423.00 ft (CF) To 4523.00 ft (CF) (TVD)**

Total Depth: 4523.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

Test Type: Conventional

Tester: Paul Simpson

Unit No:

Reference Elevations: 29912.91 ft (KB)

2771.00 ft (CF)

KB to GR/CF: 27141.91 ft

Serial #: **3227** Inside

Press@RunDepth: 58.68 psig @ 4429.00 ft (CF)

Start Date: 2000.07.23

End Date:

2000.07.24

Start Time: 21:46:34

End Time:

04:53:02

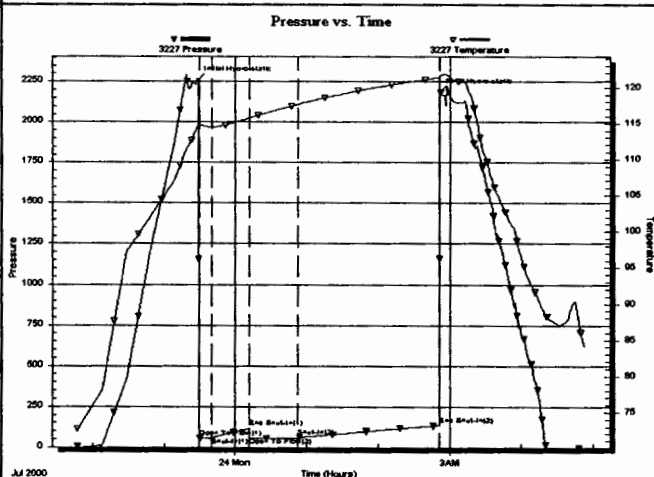
Capacity: 5000.00 psig

Last Calib.: 2000.07.23

Time On Btm: 2000.07.23 @ 23:28:02

Time Off Btm: 2000.07.24 @ 02:51:32

TEST COMMENT: IF- .25 to .5 FF- surface



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
102	2259.18	114.60	Initial Hydro-static
103	54.22	114.68	Open To Flow (1)
114	57.41	114.49	Shut-In(1)
145	115.34	115.75	End Shut-In(1)
146	54.18	115.76	Open To Flow (2)
186	58.68	117.65	Shut-In(2)
305	135.01	121.42	End Shut-In(2)
305	2183.33	121.68	Final Hydro-static

Recovery

Length (m)	Description	Volume (m³)
20.00	oil specked mud	0.10

Gas Rates

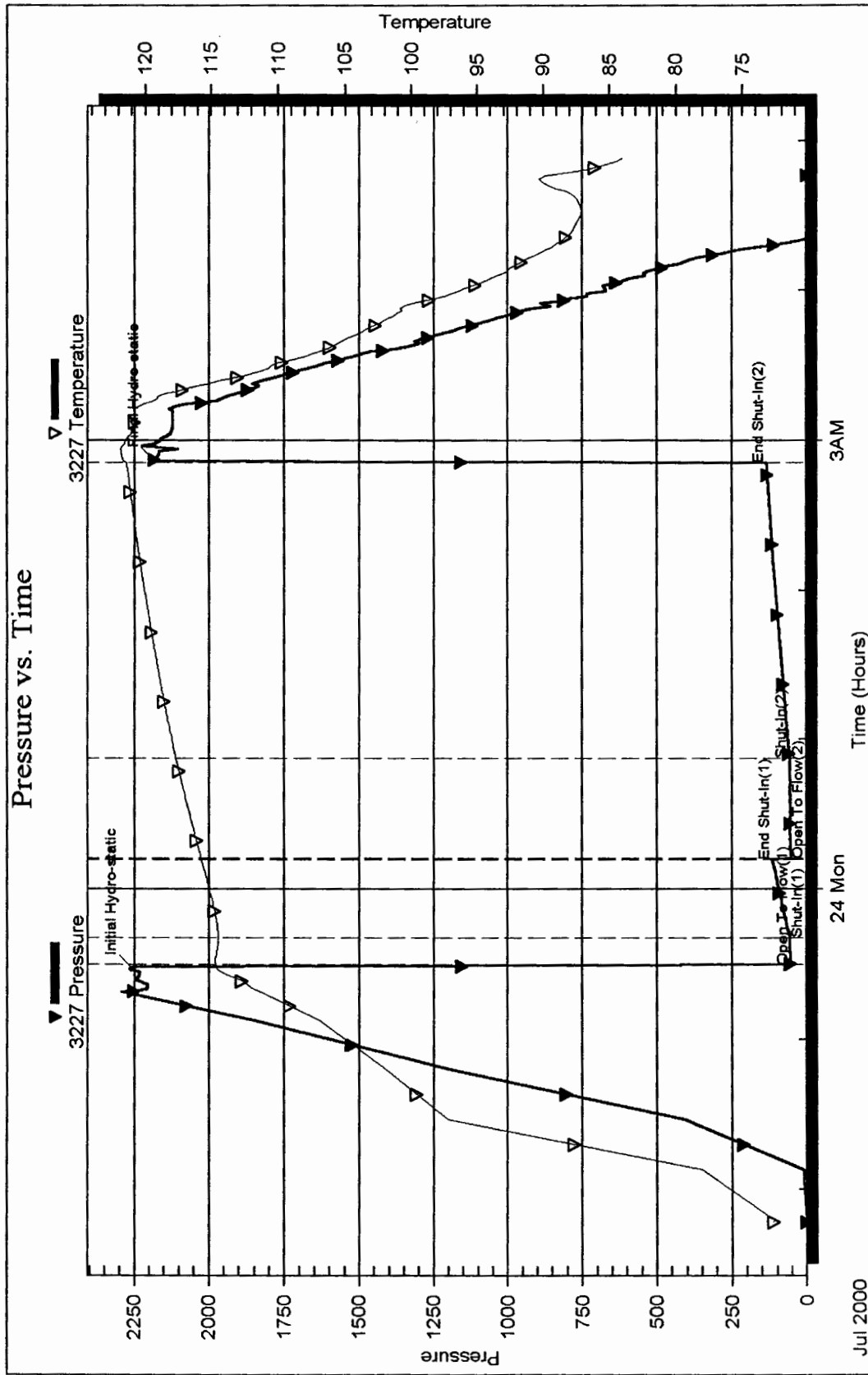
	Choke (mm)	Pressure (kPaa)	Gas Rate (m³/d)
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 TRILOBITE TESTING, L.L.C.	DRILL STEM TEST REPORT		TOOL DIAGRAM
	Mull Drilling Co. In Box 2758 Wichita, Ks 67202-2758 ATTN: Mark Shreve	1-4 Lonnie T 4-17s-28w Lane KS Job Ticket: 13161 DST#: 5 Test Start: 2000.07.23 @ 21:43:00	

Tool Information			
Drill Pipe:	Length: 4404.00 ft	Diameter: 3.80 inches	Volume: 61.78 bbl
Drill Collar:	Length: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl
Heavy Wt. Pipe:	Length: ft	Diameter: inches	Volume: - bbl
Drill Pipe Above KB:	31.00 ft		
Depth to Top Packer:	4418.00 ft		
Depth to Bottom Packer:	ft		
Interval between Packers:	ft		
Tool Length:	120.00 ft		
Number of Packers:	2	Diameter: 6.75 inches	
Tool Weight: 3900.00 lb Weight set on Packer: 20000.00 lb Weight to Pull Loose: 50000.00 lb Tool Chased ft String Weight: Initial 44000.00 lb Final 44000.00 lb			
Tool Comments			

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
C.O. Sub	1.00			4404.00	
S.I. Tool	5.00			4409.00	
HMV	5.00			4414.00	
Packer	4.00			4418.00	15.00 Bottom Of Top Packer
Packer	5.00			4423.00	
Stubb	1.00			4424.00	
Anchor	5.00			4429.00	
Recorder	0.00	3227	Inside	4429.00	
C.O. Sub	1.00			4430.00	
Blank Spacing	62.00			4492.00	
C.O. Sub	1.00			4493.00	
Recorder	0.00	11084	Outside	4493.00	
Anchor	27.00			4520.00	
Bullnose	3.00			4523.00	105.00 Bottom Packers & Anchor
Total Tool Length:		120.00			

Serial #: 3227 Inside Mull Drilling Co. In 4-17s-28w Lane KS





TRILOBITE
TESTING, L.L.C.

DRILL STEM TESTING - DATA LISTING

Mull Drilling Co. In

Box 2758
Wichita, Ks 67202-2758

ATTN: Mark Shreve

1-4 Lonnie T

4-17s-28w Lane KS

Job Ticket: 13161 DST#: 5

Test Start: 2000.07.23 @ 21:43:00

Serial # 3227	Inside					Serial # 3227	Inside				
Comments	Time (Min.)	Delta P (psig)	Pressure (psig)	Abscissa (T+dt)/dt	Temp. (deg F)	Comments	Time (Min.)	Delta P (psig)	Pressure (psig)	Abscissa (T+dt)/dt	Temp. (deg F)
	0.0		0.91		72.7		247.0	41.38	100.06	1.82	119.9
	93.0		2213.69		111.8		267.0	55.46	114.14	1.62	120.5
	100.5		2230.04		114.4		287.0	66.41	125.09	1.50	121.0
	101.0		2264.96		114.5		303.5	75.98	134.67	1.43	121.4
Initial Hydro-static	101.5		2259.18		114.6		304.0	76.34	135.03	1.43	121.4
	102.0		2256.65		114.7	End Shut-In(2)	304.5		135.01		121.4
	102.5		2253.81		114.8	Final Hydro-static	305.0		2183.33		121.7
Open To Flow (1)	103.0		54.22		114.7		305.5		2196.59		121.7
	103.5		54.38		114.7		306.0		2185.42		121.7
	104.0		54.64		114.7		326.0		2133.31		120.8
	104.5		54.92		114.7		346.0		1556.90		108.6
	112.5		57.39		114.5		366.0		923.18		100.8
	113.0		57.41		114.5		386.0		375.51		91.2
Shut-In(1)	113.5	0.00	57.41		114.5		406.0		0.00		87.2
	114.0	0.97	58.38	22.00	114.5		426.0		0.00		84.0
	114.5	2.07	59.48	11.50	114.5		426.5		0.00		83.7
	115.0	3.15	60.57	8.00	114.5						
	135.0	40.69	98.10	1.49	115.2						
	144.0	57.49	114.90	1.34	115.7						
	144.5	58.47	115.88	1.34	115.7						
End Shut-In(1)	145.0		115.34		115.7						
Open To Flow (2)	145.5		54.18		115.8						
	146.0		53.60		115.8						
	146.5		54.98		115.8						
	166.5		55.44		116.8						
	184.5		57.96		117.6						
	185.0		58.32		117.6						
Shut-In(2)	185.5	0.00	58.68		117.7						
	186.0	0.38	59.06	102.00	117.7						
	186.5	0.80	59.48	51.50	117.7						
	187.0	1.20	59.89	34.67	117.7						
	207.0	14.44	73.12	3.35	118.5						
	227.0	27.76	86.44	2.22	119.2						

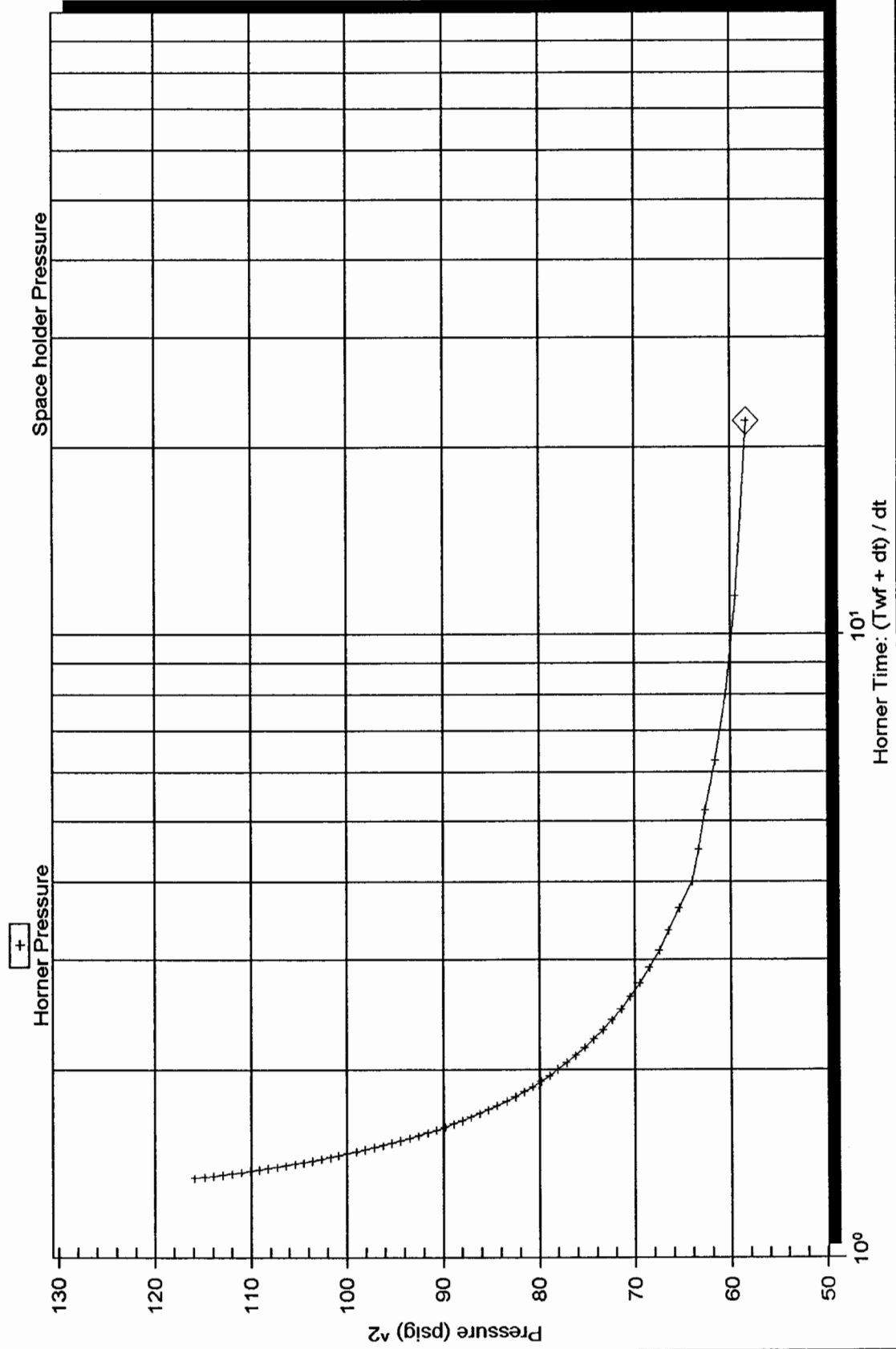
Printing every 40 samples

Triobite Testing, L.L.C.

Ref. No: 13161

Printed: 2000.07.31 @ 15:41:40 Page 4

Horner Plot



Horner Plot

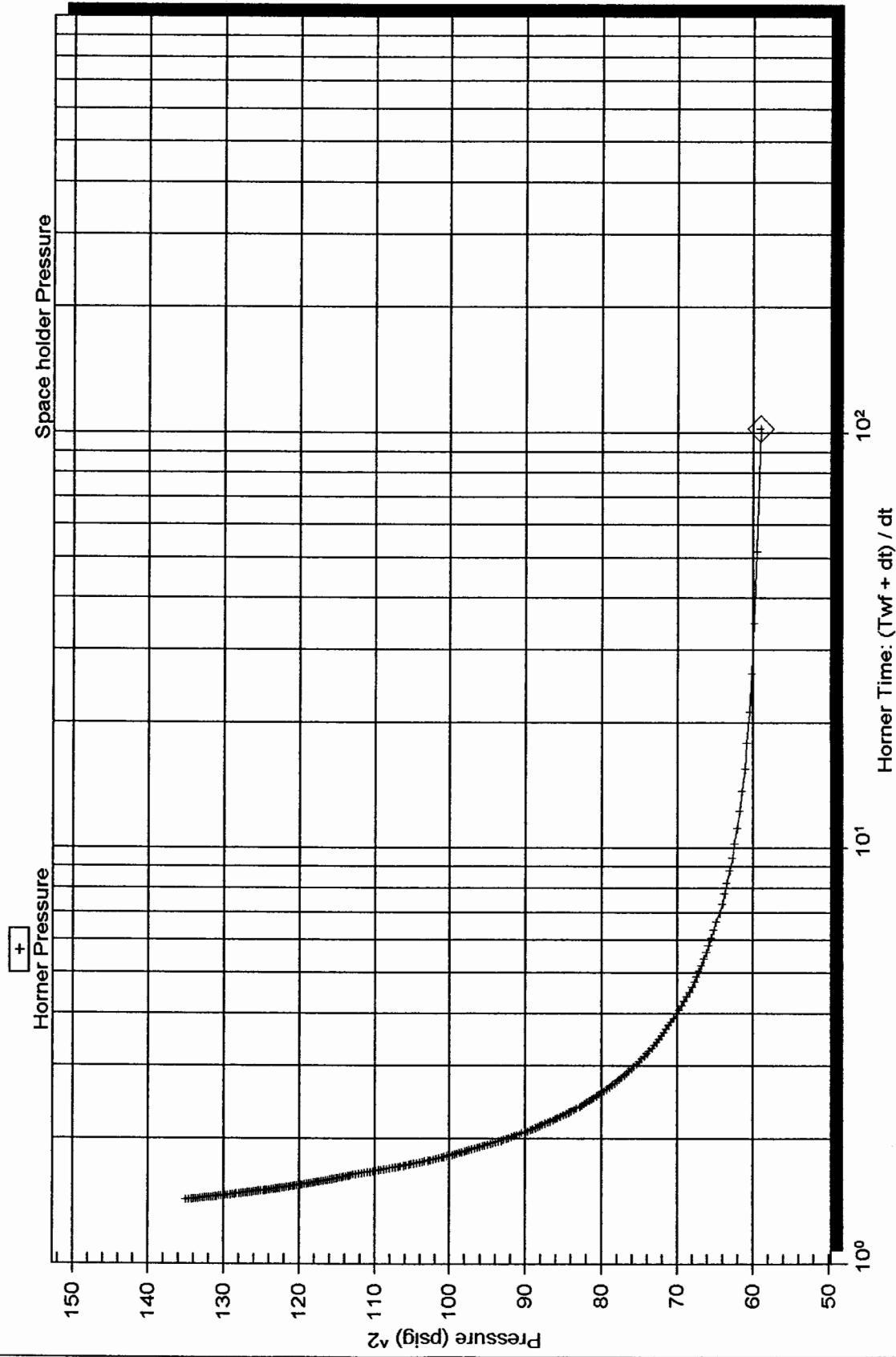
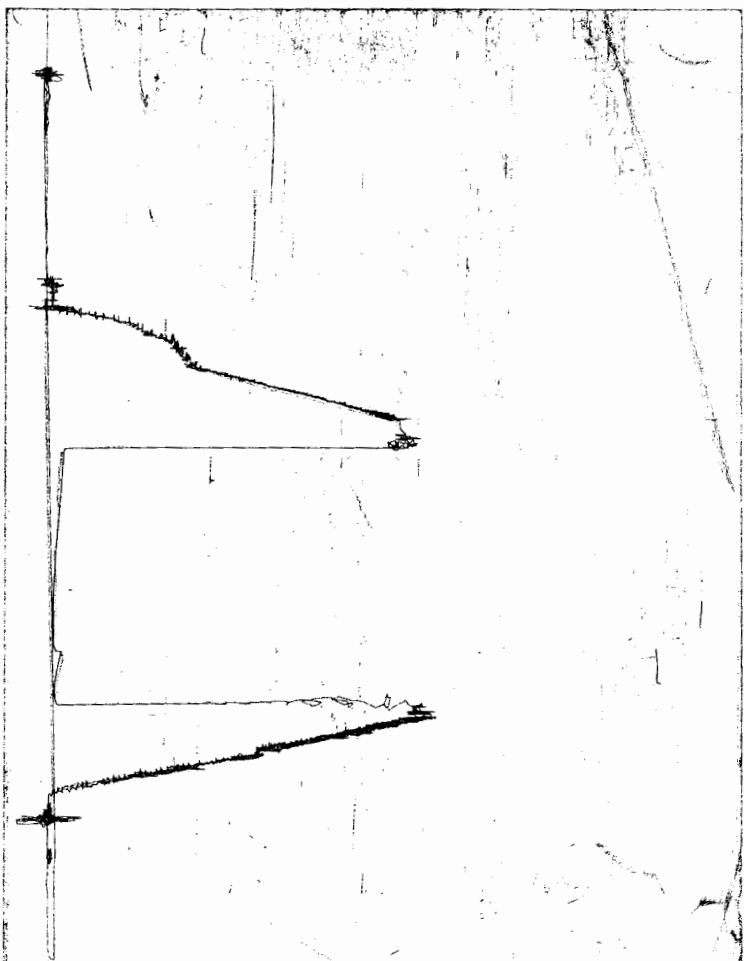


CHART PAGE



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

TRILOBITE TESTING L.L.C.

P.O. Box 362 • Hays, Kansas 67601

Nº 13161

Test Ticket

Well Name & No. <u>1-4- Lomic T</u>	Test No. <u>5</u>	Date <u>7-23-2000</u>
Company <u>Mull Drilling Co, Inc</u>	Zone Tested <u>Packer / ft Scott</u>	
Address _____	Elevation <u>2775</u>	KB <u>2771</u> GL
Co. Rep / Geo. <u>Lin Sheemaker</u>	Cont. <u>Discovery #2</u>	Est. Ft. of Pay _____ Por. _____ %
Location: Sec. _____ Twp. _____	Rge. _____	Co. _____ State <u>KS</u>
No. of Copies _____	Distribution Sheet (Y, N) <u>Yes</u>	Turnkey (Y, N) _____ Evaluation (Y, N) _____

Interval Tested <u>4423-4523</u>	Initial Str Wt./Lbs. <u>44,000</u>	Unseated Str Wt./Lbs. <u>44,000</u>
Anchor Length <u>100</u>	Wt. Set Lbs. <u>20,000</u>	Wt. Pulled Loose/Lbs. <u>50,000</u>
Top Packer Depth <u>4418</u>	Tool Weight <u>3900</u>	
Bottom Packer Depth <u>4423</u>	Hole Size — 7 7/8" _____	Rubber Size — 6 3/4" _____
Total Depth <u>4523</u>	Wt. Pipe Run _____	Drill Collar Run <u>30</u>
Mud Wt. <u>9.2</u> LCM <u>7</u> Vis. <u>54</u> WL <u>8.4</u>	Drill Pipe Size <u>4 1/2 x H</u>	Ft. Run <u>4404</u>
Blow Description <u>1/4 building to 1/2"</u> <u>PS - surface blow</u>		

Recovery — Total Feet <u>20</u>	GIP _____	Ft. in DC <u>20</u>	Ft. in DP _____
Rec. <u>20</u>	Feet Of <u>sl oil speckled mud</u>	%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 _____
Rec. _____	Feet Of _____	%gas _____	%oil _____ %water _____ %mud _____
BHT <u>121</u>	°F Gravity _____	°API D@ _____	°F Corrected Gravity _____ °API _____
RW _____ @ _____	°F Chlorides _____	ppm Recovery _____	Chlorides _____ ppm System _____

(A) Initial Hydrostatic Mud	AK-1 <u>2259</u>	Alpine	PSI Recorder No. <u>3227</u>	T-On Location <u>2050</u>
(B) First Initial Flow Pressure	<u>54</u>	PSI (depth)	<u>4429</u>	T-Started <u>2145</u>
(C) First Final Flow Pressure	<u>57</u>	PSI Recorder No.	<u>11084</u>	T-Open <u>2329</u>
(D) Initial Shut-In Pressure	<u>115</u>	PSI (depth)	<u>4493</u>	T-Pulled <u>0249</u>
(E) Second Initial Flow Pressure	<u>54</u>	PSI Recorder No.	_____	T-Out <u>0455</u>
(F) Second Final Flow Pressure	<u>59</u>	PSI (depth)	_____	T-Off Location <u>0515</u>
(G) Final Shut-in Pressure	<u>135</u>	PSI Initial Opening	<u>10</u>	Test <u>700</u>
(Q) Final Hydrostatic Mud	<u>2183</u>	PSI Initial Shut-in	<u>30</u>	Jars _____
		Final Flow	<u>40</u>	Safety Joint _____
		Final Shut-in	<u>120</u>	Straddle _____
				Circ. Sub _____
				Sampler _____
				Extra Packer _____
				Elec. Rec. <u>X</u> <u>150</u>
				Mileage _____
				Other _____
				TOTAL PRICE \$ <u>750</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 [Signature]
Our Representative Paul Simpson



**TRILOBITE
TESTING, L.L.C.**

DRILL STEM TEST REPORT

Mull Drilling Co. Inc
Box 2758
Wichita, Ks 67202-2758
ATTN: Mark Shreve

1-4 Lonnie T
4-17s-28w Lane KS
Job Ticket: 13162 DST#: 6
Test Start: 2000.07.24 @ 02:43:00

GENERAL INFORMATION:

Formation: **Lansing H**
Deviated: **No** Whipstock: **ft (CF)**
Time Tool Opened: **22:15:35**
Time Test Ended: **00:00:00**

Test Type: **Conventional Straddle**
Tester: **Paul Simpson**
Unit No: **18**

Interval: **4155.00 ft (CF) To 4175.00 ft (CF) (TVD)**
Total Depth: **4622.00 ft (CF)**
Hole Diameter: **7.88 inches** Hole Condition: **Fair**

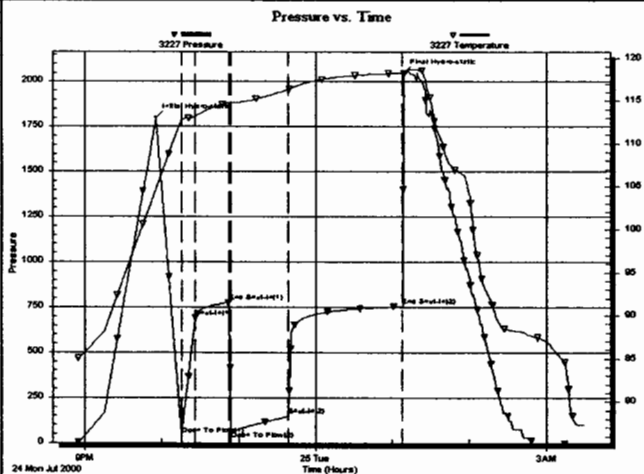
Reference Elevations: **3465762.95 ft (KB)**
2771.00 ft (CF)
KB to GR/CF: **3462991.95 ft**

Serial #: **3227** Inside
Press@RunDepth: **146.20 psig @ 4161.00 ft (CF)**
Start Date: **2000.07.24** End Date: **2000.07.25**
Start Time: **20:54:37** End Time: **03:29:35**

Capacity: **5000.00 psig**
Last Calib.: **1899.12.30**
Time On Btm: **2000.07.24 @ 21:55:35**
Time Off Btm: **2000.07.25 @ 01:09:05**

TEST COMMENT: **IF- Bottom bucket 8 min ISI 1/4" blow**
FF- bottom of bucket in 8 minutes

open10-shutin-30 open-45 shutin-90



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
61	1799.19	104.69	Initial Hydro-static
81	41.68	112.89	Open To Flow (1)
92	688.90	113.14	Shut-in(1)
118	776.04	114.81	End Shut-in(1)
119	60.89	114.78	Open To Flow (2)
164	146.20	116.32	Shut-in(2)
254	755.17	118.26	End Shut-in(2)
255	2047.89	118.42	Final Hydro-static

Recovery

Length (m)	Description	Volume (m³)
270.00	clean gassy oil 15% gas 85% oil	3.51
60.00	gsy m&wco 40%gas45%oil3%sh2012%rmud	0.84
0.00	1230' gas in pipe	0.00

Gas Rates

	Choke (mm)	Pressure (kPaa)	Gas Rate (m³/d)
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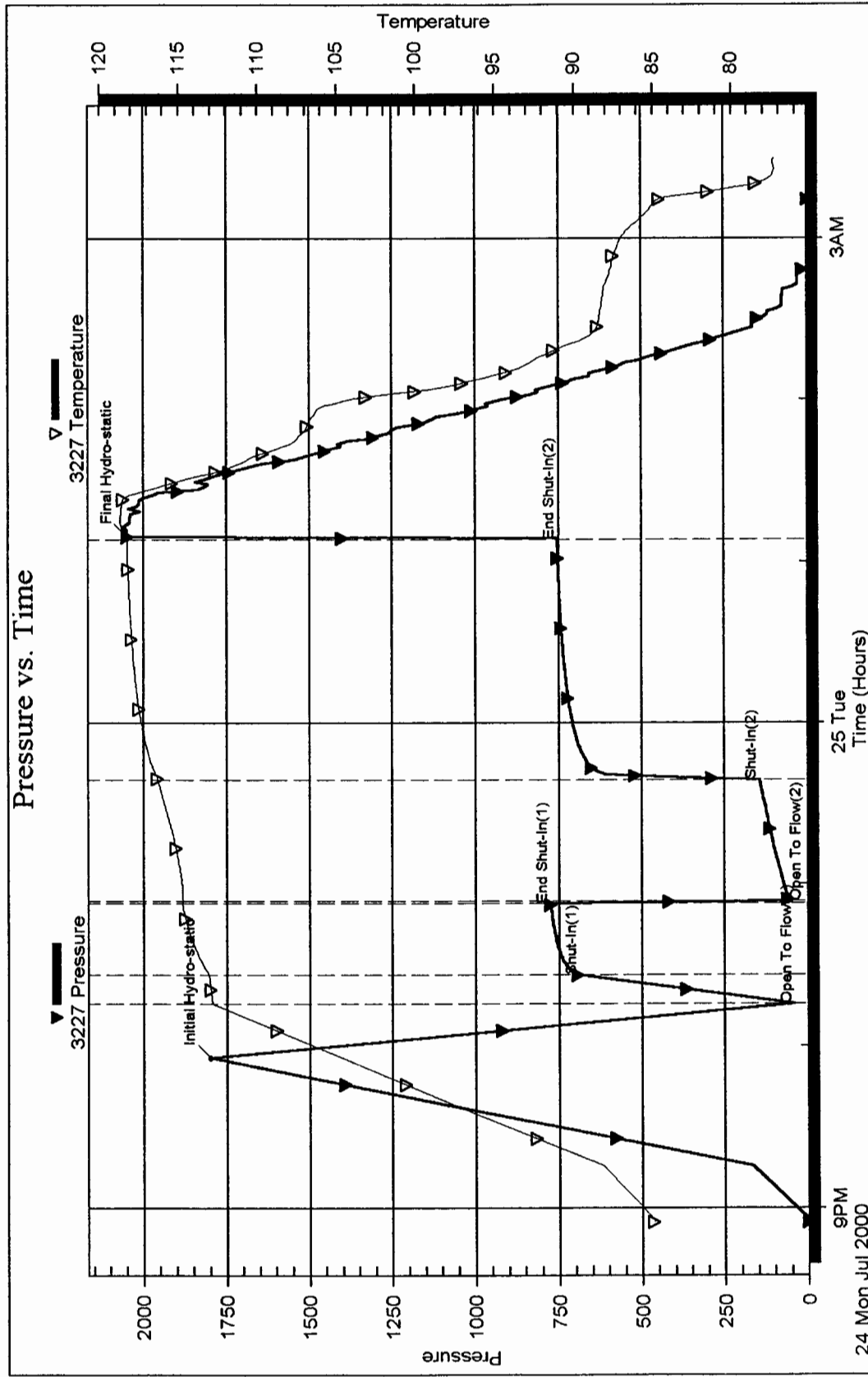
 TRILOBITE TESTING, L.L.C.		DRILL STEM TEST REPORT		TOOL DIAGRAM																																																																																																																			
Mull Drilling Co. In Box 2758 Wichita, Ks 67202-2758 ATTN: Mark Shreve		1-4 Lonnie T 4-17s-28w Lane KS Job Ticket: 13162 DST#: 6 Test Start: 2000.07.24 @ 02:43:00																																																																																																																					
Tool Information																																																																																																																							
Drill Pipe:	Length: 4125.00 ft	Diameter: 3.80 inches	Volume: 57.86 bbl	Tool Weight:	9500.00 lb																																																																																																																		
Drill Collar:	Length: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight set on Packer:	20000.00 lb																																																																																																																		
Heavy Wt. Pipe:	Length: ft	Diameter: inches	Volume: - bbl	Weight to Pull Loose:	70000.00 lb																																																																																																																		
Drill Pipe Above KB:	20.00 ft			Tool Chased	12.00 ft																																																																																																																		
Depth to Top Packer:	4150.00 ft			String Weight: Initial	46000.00 lb																																																																																																																		
Depth to Bottom Packer:	4175.00 ft			Final	47000.00 lb																																																																																																																		
Interval between Packers:	25.00 ft																																																																																																																						
Tool Length:	491.00 ft																																																																																																																						
Number of Packers:	3	Diameter:	6.75 inches																																																																																																																				
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4-17s-28w Lane KS

Inside Mull Drilling Co. h

Serial #: 3227

Pressure vs. Time



 TRILOBITE TESTING, L.L.C.		DRILL STEM TESTING - DATA LISTING			
		Mull Drilling Co. In		1-4 Lonnie T	
		Box 2758 Wichita, Ks 67202-2758		4-17s-28w Lane KS	
		ATTN: Mark Shreve		Job Ticket: 13162	DST#: 6
		Test Start: 2000.07.24 @ 02:43:00			
Serial # 3227	Inside	Serial # 3227			
Comments	Time	Delta P	Pressure	Abscissa	Temp.
	(Min.)	(psig)	(psig)	(T+dt)/dt	(deg F)
	0.0		0.97		85.0
	41.0		985.99		96.6
	51.0		1465.72		99.4
Initial Hydro-static	61.0		1799.19		104.7
	71.0		2127.08		110.8
Open To Flow (1)	81.0		41.68		112.9
Shut-In(1)	91.5	0.00	688.90		113.1
	92.0	10.61	699.52	22.00	113.2
	92.5	18.16	707.07	11.50	113.2
	93.0	24.03	712.93	8.00	113.3
	111.0	79.85	768.75	1.54	114.5
	117.0	86.26	775.16	1.41	114.8
	117.5	86.68	775.58	1.40	114.8
End Shut-In(1)	118.0		776.04		114.8
	118.5		757.89		114.8
Open To Flow (2)	119.0		60.89		114.8
	119.5		61.09		114.8
	137.5		100.34		115.2
	155.5		132.06		115.9
	163.0		144.58		116.3
	163.5		145.18		116.3
Shut-In(2)	164.0	0.00	146.20		116.3
	164.5	90.92	237.13	112.00	116.3
	165.0	286.67	432.87	56.50	116.4
	165.5	418.87	565.07	38.00	116.4
	183.5	561.24	707.45	3.85	117.3
	201.5	583.85	730.06	2.48	117.8
	219.5	596.05	742.25	2.00	118.0
	237.5	603.92	750.12	1.76	118.2
	252.5	608.67	754.87	1.63	118.3
	253.0	608.83	755.03	1.62	118.3
End Shut-In(2)	253.5		755.17		118.3
	254.0		754.67		118.3

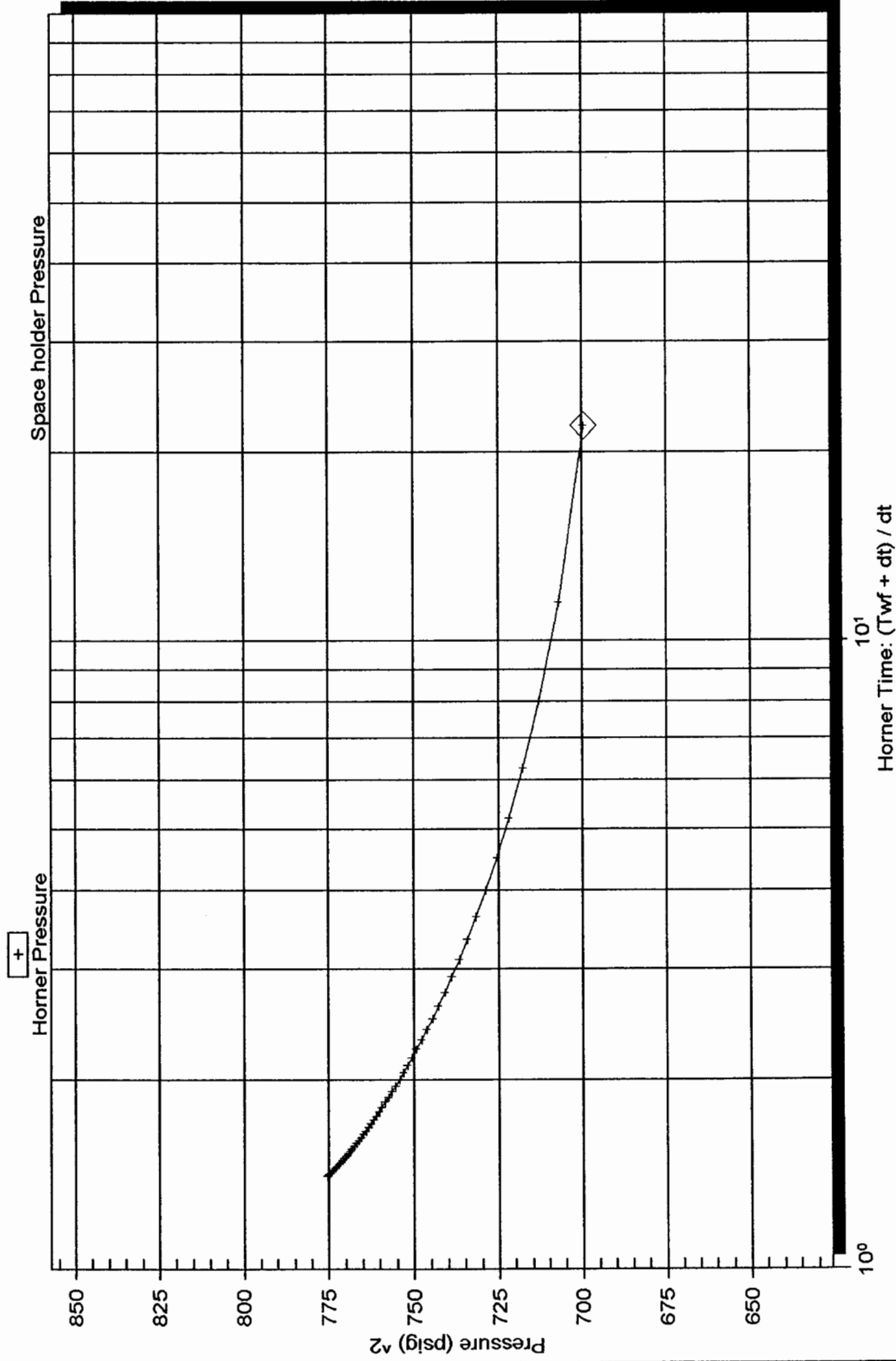
Printing every 36 samples

Trilobite Testing, L.L.C.

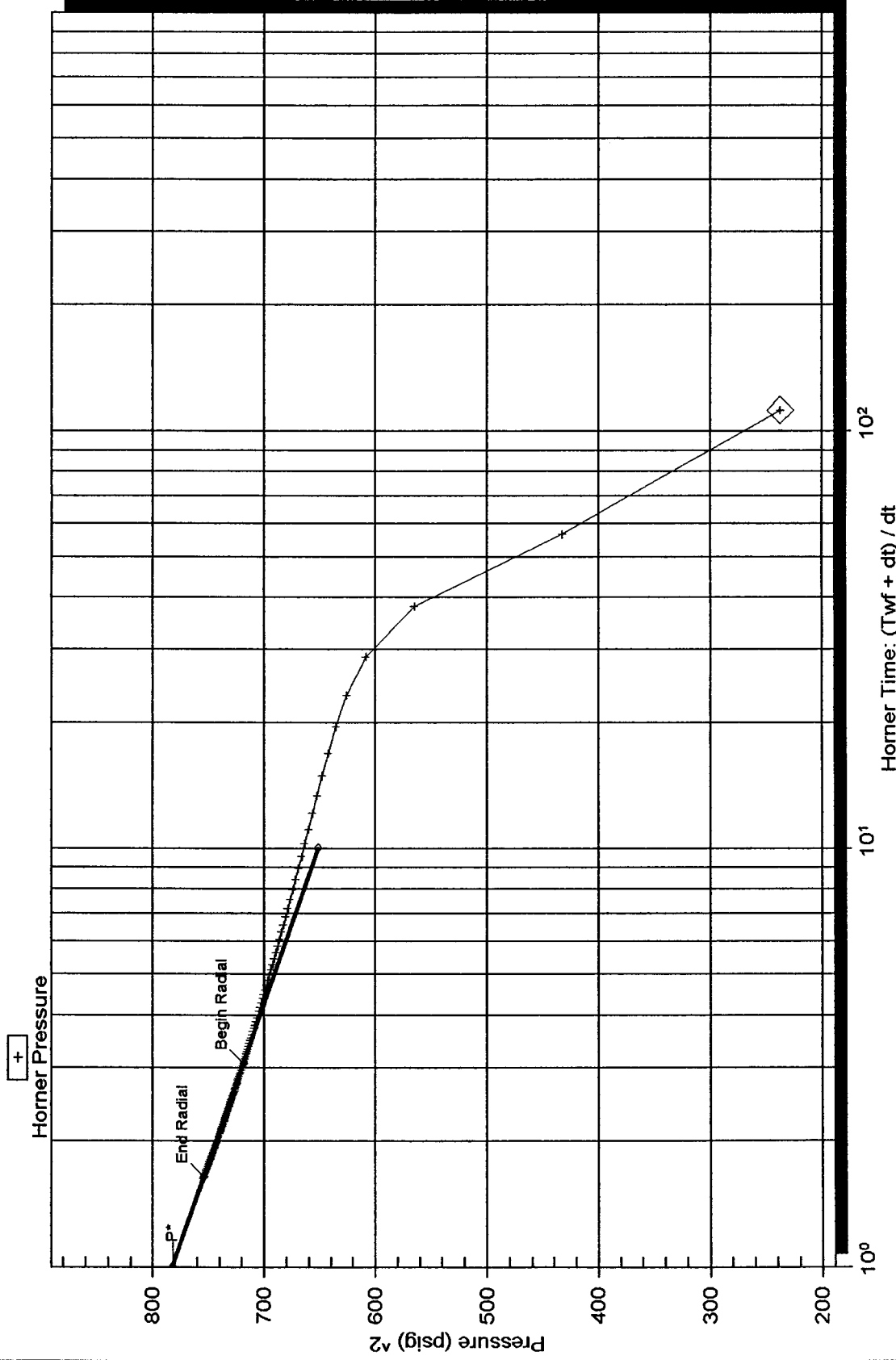
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Horner Plot



Horner Plot



Serial Number: 3227 (Inside)

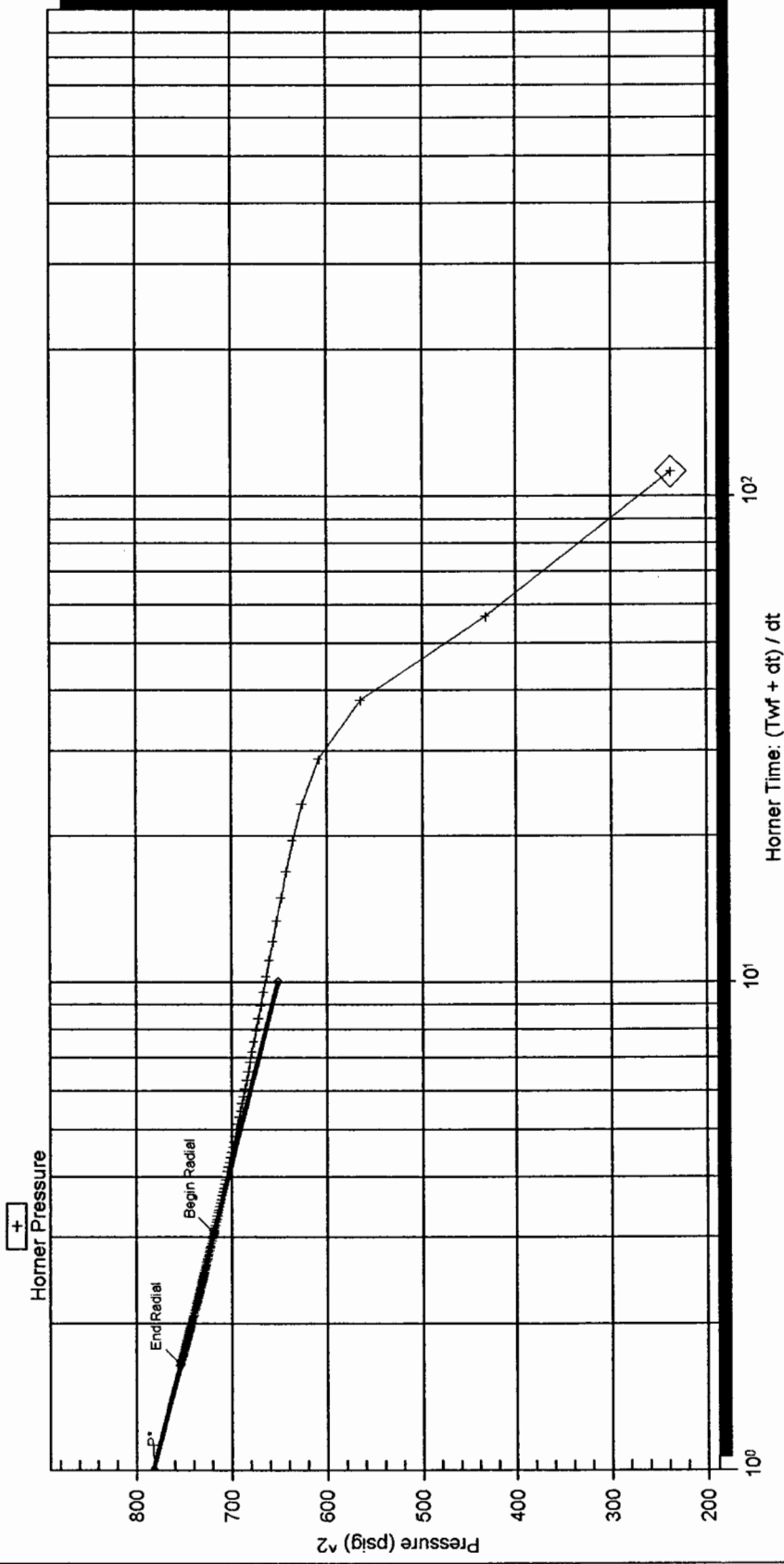
P* : 782.47

Slope (m) : 130.83 kpa/log cycle

Flow Cycle: 2

103207

Horner Plot



Serial Number: 3227 (Inside)

Flow Cycle: 1

Analysis (Fluid)

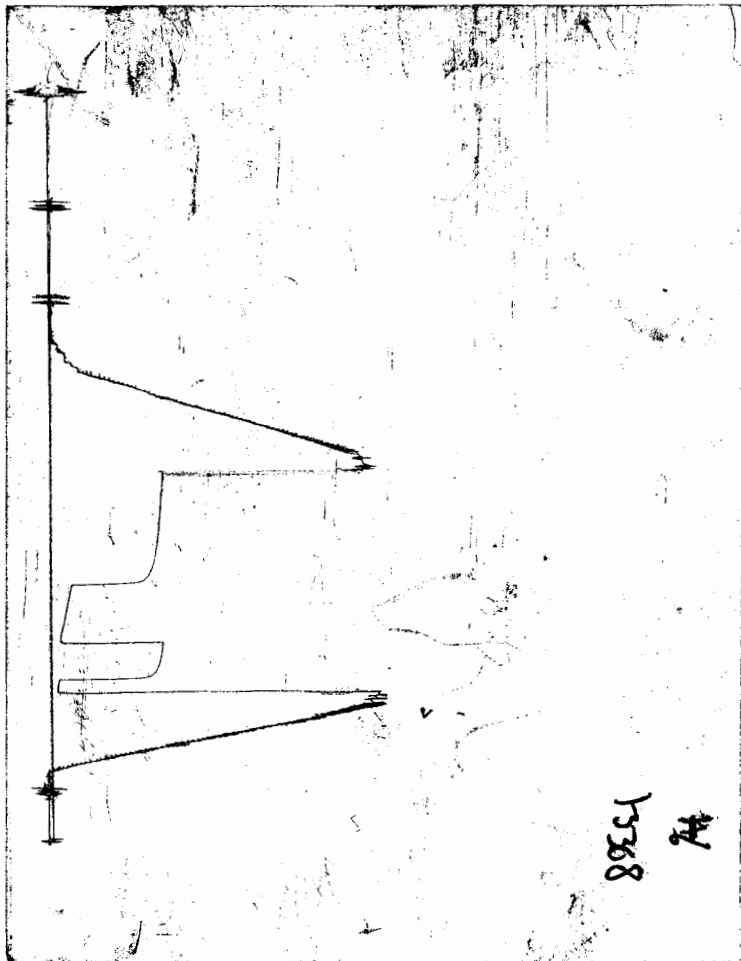
Inputs

Average Fluid Viscosity: 1.2	Net Pay Thickness: 5.0	Initial Static Reservoir Pressure: 782.47	Volume of Recovered Fluid: 4.35
Total System Compress: 0.0	Formation Porosity: 0.11	Flowing Bottom Hole Pressure: 146.2	Total Flowing Time: 0.92
Formation Volume Factor: 1.2	Water Saturation: 0.4	Wellbore Radius: 3.94	

Outputs

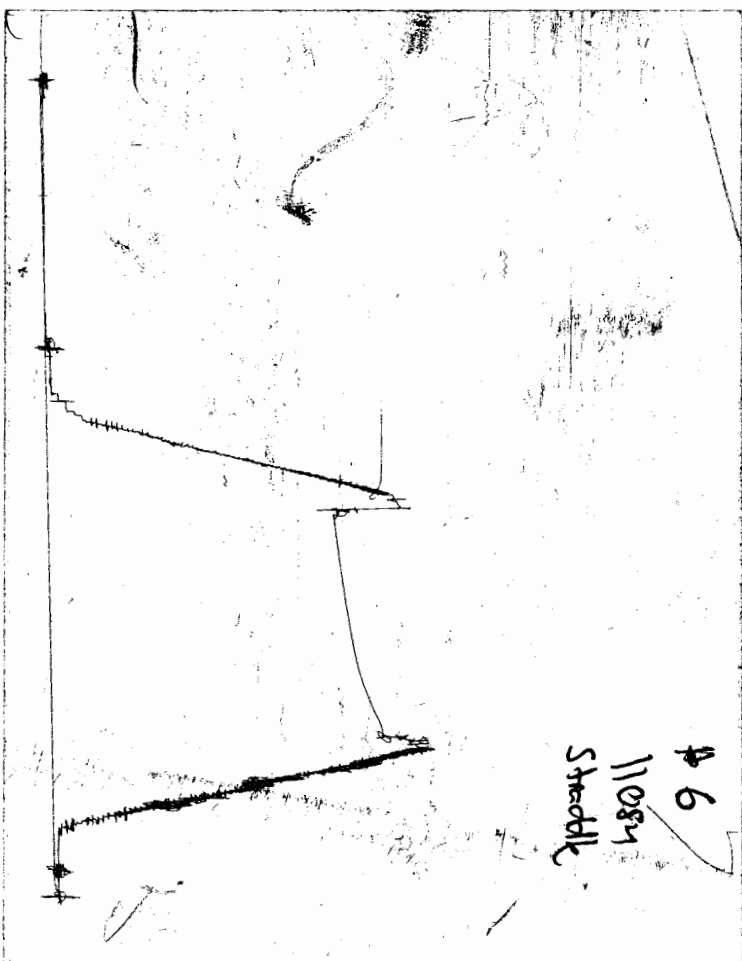
Horner Slope (m): 130.83	Effective Permeability: 1636.06
Radius of Investigation: 336.93	Apparent Skin Factor: 29.83
Fluid Flow Rate: 112.86	kh: 2493.36

CHART PAGE



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

CHART PAGE



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

TRILOBITE TESTING L.L.C.

P.O. Box 362 • Hays, Kansas 67601

No 13162

Test Ticket

Well Name & No. <u>F 4 Connie T</u>	Test No. <u>6</u>	Date <u>5-24-2000</u>
Company <u>Mull Drilling Co. Inc</u>	Zone Tested <u>LKC H</u>	
Address _____	Elevation _____	KB _____ GL _____
Co. Rep / Geo. <u>Kim Shormate</u>	Cont. <u>Discovery #2</u>	Est. Ft. of Pay <u>5</u> Por. <u>10</u> % <u>40</u>
Location: Sec. _____	Twp. _____	Rge. _____ Co. _____ State _____
No. of Copies _____	Distribution Sheet (Y, N) _____	Turnkey (Y, N) _____ Evaluation (Y, N) _____

Interval Tested <u>4155-4175</u>	Initial Str Wt./Lbs. <u>46,000</u>	Unseated Str Wt./Lbs. <u>47,000</u>
Anchor Length <u>20</u>	Wt. Set Lbs. <u>20,000</u>	Wt. Pulled Loose/Lbs. <u>70,000</u>
Top Packer Depth <u>4150-4155</u>	Tool Weight <u>9500</u>	
Bottom Packer Depth <u>4175</u>	Hole Size — 7 7/8" _____	Rubber Size — 6 3/4" _____
Total Depth <u>4622 LTP</u>	Wt. Pipe Run _____	Drill Collar Run <u>30</u>
Mud Wt. <u>9.2</u> LCM <u>4</u> Vis. <u>70</u> Wt./lb. <u>10.8</u>	Drill Pipe Size <u>4 3/4"</u>	Ft. Run <u>412.5</u>
Blow Description <u>FS - 1/2" blow building to bottom of bucket in 8 min</u>		
<u>FS - surface blow</u>		
<u>FS - 2" blow building to bottom of bucket in 6 minutes</u>		

Recovery — Total Feet <u>330</u>	GIP <u>1230</u>	Ft. in DC <u>30</u>	Ft. in DP <u>300</u>
Rec. <u>270</u>	Feet Of <u>clean gassy oil</u>	<u>15</u> %gas <u>85</u> %oil	%water _____ %mud _____
Rec. <u>60</u>	Feet Of <u>gassy m + w/o</u>	<u>40</u> %gas <u>45</u> %oil	<u>3</u> %water <u>12</u> %mud
Rec. _____	Feet Of _____	%gas _____ %oil _____	%water _____ %mud _____
Rec. _____	Feet Of _____	%gas _____ %oil _____	%water _____ %mud _____
Rec. _____	Feet Of _____	%gas _____ %oil _____	%water _____ %mud _____
BHT _____	°F Gravity <u>40</u>	°API D@ <u>80</u>	°F Corrected Gravity <u>38</u> °API _____
RW _____ @ _____	°F Chlorides _____	ppm Recovery _____	Chlorides _____ ppm System _____

(A) Initial Hydrostatic Mud	AK-1 <u>1775</u> Alpine	PSI Recorder No. <u>3225</u>	T-On Location <u>1945</u>
(B) First Initial Flow Pressure	<u>42</u> PSI	(depth) <u>4161</u>	T-Started <u>2143</u>
(C) First Final Flow Pressure	<u>605</u> PSI	Recorder No. <u>13308</u>	T-Open <u>2213</u>
(D) Initial Shut-In Pressure	<u>776</u> PSI	(depth) _____	T-Pulled <u>0108</u>
(E) Second Initial Flow Pressure	<u>61</u> PSI	Recorder No. <u>11084</u>	T-Out <u>4.53</u>
(F) Second Final Flow Pressure	<u>146</u> PSI	(depth) _____	T-Off Location _____
(G) Final Shut-in Pressure	<u>755</u> PSI	Initial Opening <u>10</u>	Test <u>700</u>
(Q) Final Hydrostatic Mud	<u>208</u> PSI	Initial Shut-in <u>30</u>	Jars _____

Final Flow <u>45</u>	Safety Joint _____
Final Shut-in <u>90</u>	Straddle <u>250</u>

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Approved By [Signature]
Our Representative Paul Simpson

Circ. Sub _____
Sampler _____
Extra Packer <u>150</u>
Elec. Rec. <u>150</u>
Mileage _____
Other _____
TOTAL PRICE \$ <u>1250</u>