

15-165-21787

9-19-20w



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Prepared For: **Grady Bolding Corporation**

P.O. Box 486
Ellinwood, Ks 67526

ATTN: Jim Musgrove

9-19-20 Rush

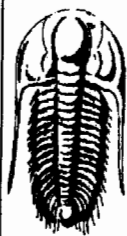
Frick 1

Start Date: 2005.08.21 @ 08:50:44

End Date: 2005.08.21 @ 17:08:53

Job Ticket #: 21354 DST #: 1

Trilobite Testing, Inc
PO Box 362 Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Grady Bolding Corporation

Frick 1

P.O. Box 486
Ellinwood, Ks 67526

9-19-20 Rush

Job Ticket: 21354

DST#: 1

ATTN: Jim Musgrove

Test Start: 2005.08.21 @ 08:50:44

GENERAL INFORMATION:

Formation: **Cherokee**

Deviated: **No Whipstock:** ft (KB)

Time Tool Opened: 11:07:39

Time Test Ended: 17:08:53

Test Type: **Conventional Bottom Hole**

Tester: **Brandon Turley**

Unit No: **18**

Interval: **4187.00 ft (KB) To 4218.00 ft (KB) (TVD)**

Total Depth: **4218.00 ft (KB) (TVD)**

Hole Diameter: **7.88 inches** Hole Condition: **Good**

Reference Elevations: **2200.00 ft (KB)**

2195.00 ft (CF)

KB to GR/CF: **5.00 ft**

Serial #: **6772**

Inside

Press@RunDepth: **38.89 psig @ 4192.00 ft (KB)**

Start Date: **2005.08.21**

End Date: **2005.08.21**

2005.08.21

Start Time: **08:50:44**

End Time: **17:08:53**

17:08:53

Capacity: **7000.00 psig**

Last Calib.: **1899.12.30**

Time On Btm: **2005.08.21 @ 11:04:24**

Time Off Btm: **2005.08.21 @ 14:38:53**

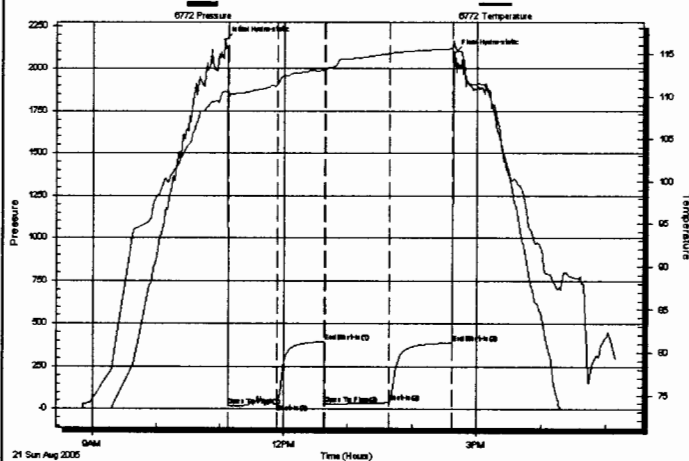
TEST COMMENT: **IF: Surface blow built to 2 1/2 in 45 min.**

IS: No return.

FF: Surface blow built to 1 in 60 min.

FS: No return.

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2164.98	110.62	Initial Hydro-static
4	17.39	109.37	Open To Flow (1)
49	27.90	111.38	Shut-In (1)
94	396.21	113.08	End Shut-In (1)
94	28.11	112.98	Open To Flow (2)
154	38.89	115.12	Shut-In (2)
214	389.97	115.66	End Shut-In (2)
215	2093.35	116.14	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
50.00	w cm some oil spots 20%w 80%m	0.70

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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TRILOBITE
TESTING, INC

DRILL STEM TEST REPORT

TOOL DIAGRAM

Grady Bolding Corporation

Frick 1

P.O. Box 486
Ellinwood, Ks 67526

9-19-20 Rush

Job Ticket: 21354

DST#: 1

ATTN: Jim Musgrove

Test Start: 2005.08.21 @ 08:50:44

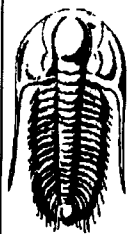
Tool Information

Drill Pipe:	Length:	4170.00 ft	Diameter:	3.80 inches	Volume:	58.49 bbl	Tool Weight:	1500.00 lb	
Heavy Wt. Pipe:	Length:	0.00 ft	Diameter:	0.00 inches	Volume:	0.00 bbl	Weight set on Packer:	25000.00 lb	
Drill Collar:	Length:	0.00 ft	Diameter:	0.00 inches	Volume:	0.00 bbl	Weight to Pull Loose:	45000.00 lb	
						Total Volume:	58.49 bbl	Tool Chased	0.00 ft
Drill Pipe Above KB:	7.00 ft							String Weight: Initial	40000.00 lb
Depth to Top Packer:	4187.00 ft							Final	40000.00 lb
Depth to Bottom Packer:	ft								
Interval between Packers:	35.00 ft								
Tool Length:	59.00 ft								
Number of Packers:	2	Diameter:	6.75 inches						

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Stubb	1.00			4164.00	
Shut In Tool	5.00			4169.00	
Hydraulic tool	5.00			4174.00	
Jars	5.00			4179.00	
Safety Joint	3.00			4182.00	
Packer	5.00		Fluid	4187.00	24.00 Bottom Of Top Packer
Packer - Shale	4.00			4191.00	
Stubb	1.00			4192.00	
Recorder	0.00	6772	Inside	4192.00	
Perforations	25.00			4217.00	
Recorder	0.00	7437	Inside	4217.00	
Bullnose	5.00			4222.00	35.00 Anchor Tool

Total Tool Length: 59.00



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

FLUID SUMMARY

Grady Bolding Corporation

Frick 1

P.O. Box 486
Ellinwood, Ks 67526

9-19-20 Rush

Job Ticket: 21354

DST#: 1

ATTN: Jim Musgrove

Test Start: 2005.08.21 @ 08:50:44

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 10.00 lb/gal

Cushion Length:

ft

Water Salinity:

25000 ppm

Viscosity: 57.00 sec/qt

Cushion Volume:

bbl

Water Loss: 13.15 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 5700.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
50.00	w cm some oil spots 20%w 80%m	0.701

Total Length: 50.00 ft

Total Volume: 0.701 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Serial #: 6772

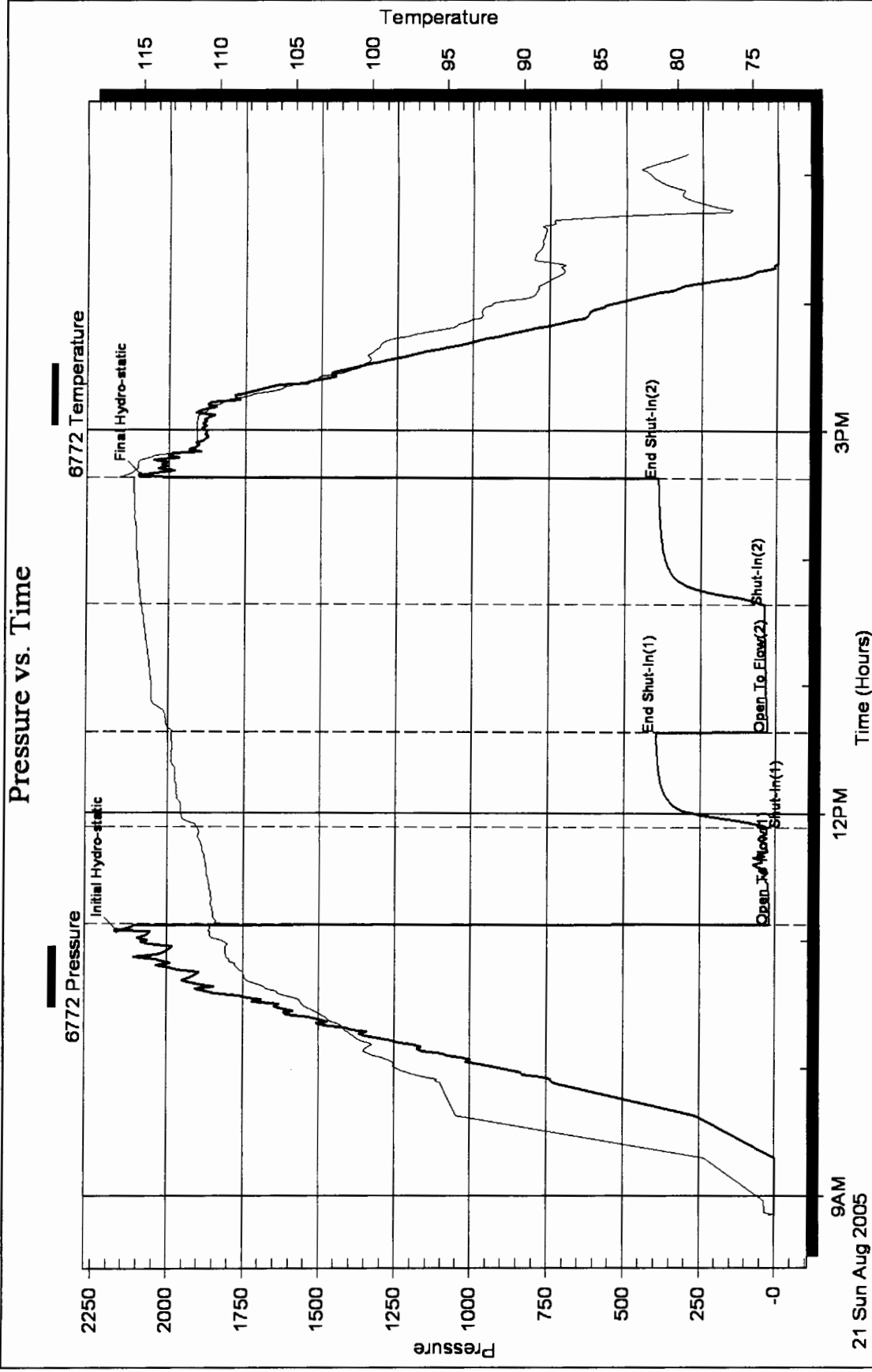
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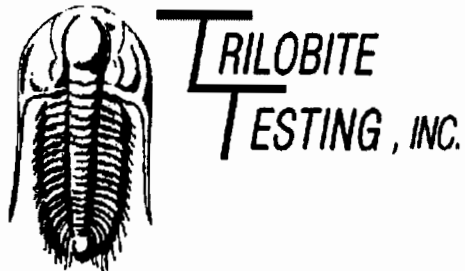
Grady Bolding Corporation

9-19-20 Rush

DST Test Number: 1

Pressure vs. Time





DRILL STEM TEST REPORT

Prepared For: **Grady Bolding Corporation**

P.O. Box 486
Ellinwood, Ks 67526

ATTN: Jim Musgrove

9-19-20 Rush

Frick 1

Start Date: 2005.08.22 @ 02:10:12

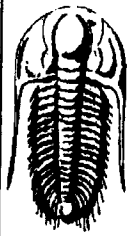
End Date: 2005.08.22 @ 12:18:07

Job Ticket #: 21355 DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Grady Bolding Corporation

Frick 1

P.O. Box 486
Ellinwood, Ks 67526

9-19-20 Rush

Job Ticket: 21355

DST#: 2

ATTN: Jim Musgrove

Test Start: 2005.08.22 @ 02:10:12

GENERAL INFORMATION:

Formation: **Cherokee**

Deviated: **No** Whipstock: **ft (KB)**

Time Tool Opened: 06:31:07

Time Test Ended: 12:18:07

Test Type: **Conventional Bottom Hole**

Tester: **Brandon Turley**

Unit No: **18**

Interval: **4187.00 ft (KB) To 4228.00 ft (KB) (TVD)**

Total Depth: **4228.00 ft (KB) (TVD)**

Hole Diameter: **7.88 inches** Hole Condition: **Good**

Reference Elevations: **2200.00 ft (KB)**

2195.00 ft (CF)

KB to GR/CF: **5.00 ft**

Serial #: **6772**

Inside

Press@RunDepth: **68.39 psig @ 4192.00 ft (KB)**

Start Date: **2005.08.22**

End Date:

2005.08.22

Capacity: **7000.00 psig**

Last Calib.: **1899.12.30**

Start Time: **02:10:12**

End Time:

12:18:07

Time On Btm: **2005.08.22 @ 06:22:37**

Time Off Btm: **2005.08.22 @ 10:01:51**

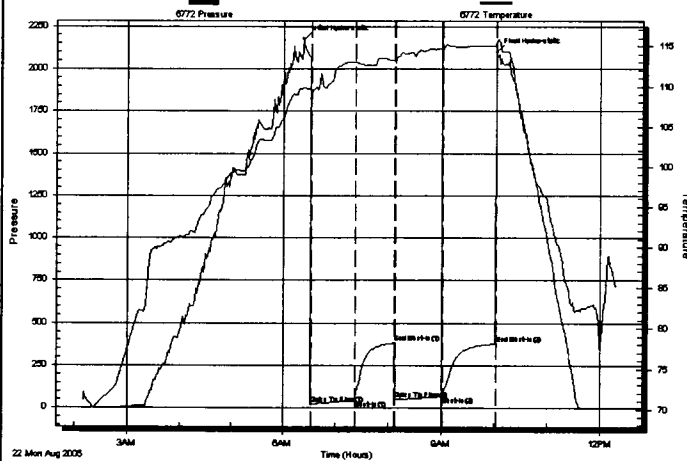
TEST COMMENT: **IF: 1/4 blow built to 5 1/2 in 45 min.**

IS: No return.

FF: Surface blow built to 3 in 60 min.

FS: No return.

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2175.41	109.80	Initial Hydro-static
9	24.46	109.34	Open To Flow (1)
59	45.84	113.01	Shut-In(1)
104	383.58	113.21	End Shut-In(1)
105	52.50	113.02	Open To Flow (2)
159	68.39	114.64	Shut-In(2)
219	379.70	115.11	End Shut-In(2)
220	2100.78	115.56	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
62.00	w cm 10%w 90%m	0.87
45.00	mud 100%m	0.63

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

TOOL DIAGRAM

Grady Bolding Corporation

Frick 1

P.O. Box 486
Ellinwood, Ks 67526

9-19-20 Rush

Job Ticket: 21355

DST#: 2

ATTN: Jim Musgrove

Test Start: 2005.08.22 @ 02:10:12

Tool Information

Drill Pipe:	Length:	4169.00 ft	Diameter:	3.80 inches	Volume:	58.48 bbl	Tool Weight:	1500.00 lb
Heavy Wt. Pipe:	Length:	0.00 ft	Diameter:	0.00 inches	Volume:	0.00 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length:	0.00 ft	Diameter:	0.00 inches	Volume:	0.00 bbl	Weight to Pull Loose:	80000.00 lb
					Total Volume:	58.48 bbl	Tool Chased	0.00 ft
Drill Pipe Above KB:		6.00 ft					String Weight: Initial	40000.00 lb
Depth to Top Packer:		4187.00 ft					Final	40000.00 lb
Depth to Bottom Packer:		ft						
Interval between Packers:		45.00 ft						
Tool Length:		69.00 ft						
Number of Packers:		2	Diameter:	6.75 inches				

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Stubb	1.00			4164.00	
Shut In Tool	5.00			4169.00	
Hydraulic tool	5.00			4174.00	
Jars	5.00			4179.00	
Safety Joint	3.00			4182.00	
Packer	5.00		Fluid	4187.00	24.00 Bottom Of Top Packer
Packer - Shale	4.00			4191.00	
Stubb	1.00			4192.00	
Recorder	0.00	6772	Inside	4192.00	
Perforations	35.00			4227.00	
Recorder	0.00	7437	Inside	4227.00	
Bullnose	5.00			4232.00	45.00 Anchor Tool

Total Tool Length: 69.00



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

FLUID SUMMARY

Grady Bolding Corporation

Frick 1

P.O. Box 486
Ellinwood, Ks 67526

9-19-20 Rush

Job Ticket: 21355

DST#: 2

ATTN: Jim Musgrove

Test Start: 2005.08.22 @ 02:10:12

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 10.00 lb/gal

Cushion Length:

ft

Water Salinity:

25000 ppm

Viscosity: 57.00 sec/qt

Cushion Volume:

bbl

Water Loss: 13.15 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 5700.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
62.00	w cm 10%w 90%m	0.870
45.00	mud 100%m	0.631

Total Length: 107.00 ft

Total Volume: 1.501 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Serial #: 6772

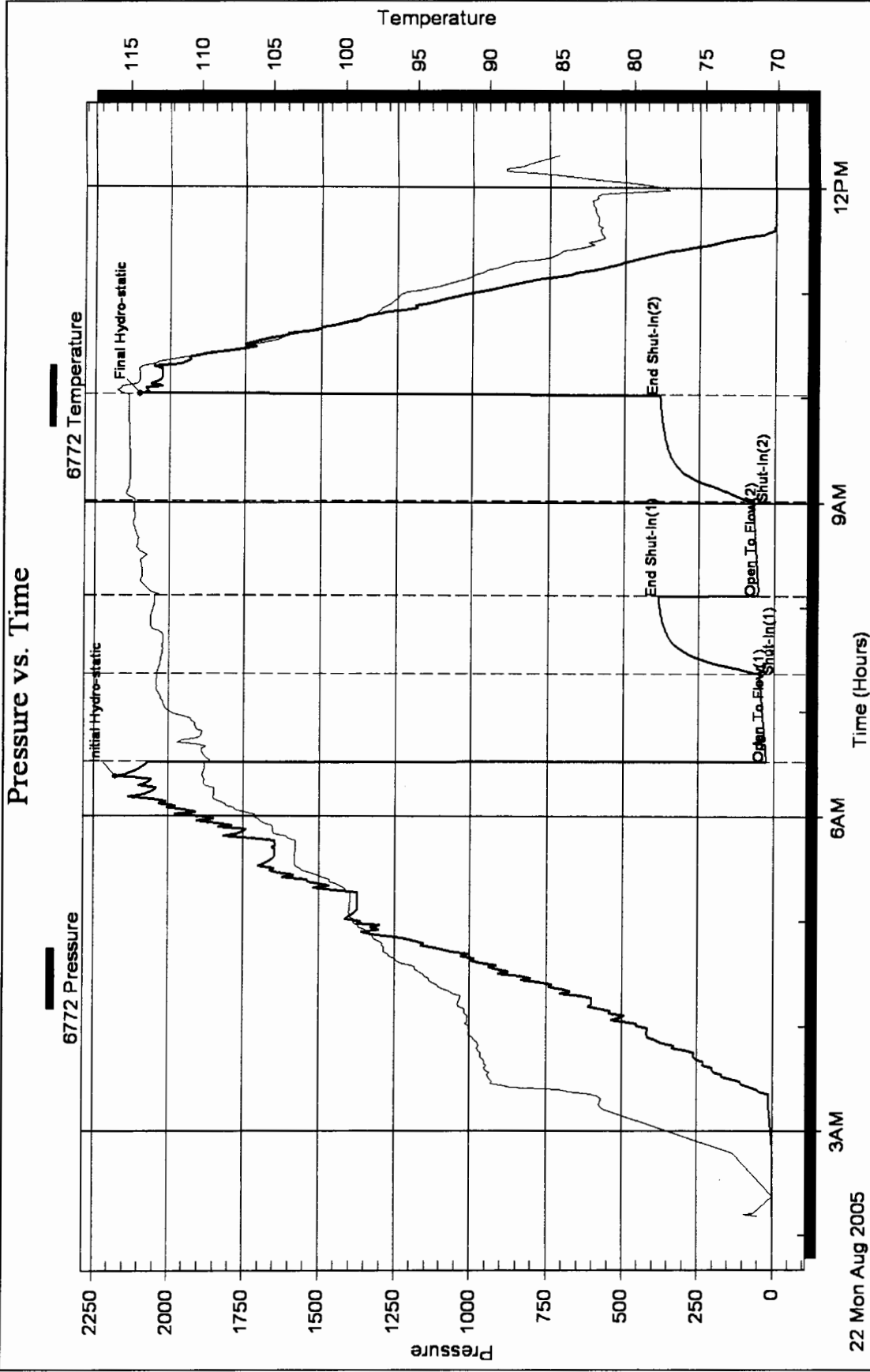
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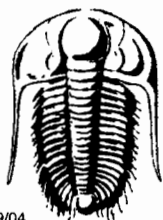
Grady Bolding Corporation

9-19-20 Rush

DST Test Number: 2

Pressure vs. Time





TRILOBITE TESTING INC.

P.O. Box 362 • Hays, Kansas 67601

JWV
7838

No 21354

9/04

Test Ticket

Well Name & No.	<u>Frick #1</u>	Test No.	<u>1</u>	Date	<u>8-21-05</u>
Company	<u>Grady Bolding corporation</u>	Zone Tested	<u>Cherokee</u>		
Address	<u>P.O. Box 486 Ellinwood, KS 67526</u>	Elevation	<u>2200</u>	KB	<u>2195</u> GL
Co. Rep / Geo.	<u>Jim Maysgrove</u>	Cont.	<u>Petromark #1</u>	Est. Ft. of Pay	____ Por. ____ %
Location: Sec.	<u>9</u>	Twp.	<u>19</u>	Rge.	<u>20</u> Co. <u>Rush</u> State <u>KS</u>
No. of Copies	<u>Norm</u>	Disbtribution Sheet (Y, N)	____	Turnkey (Y, N)	____ Evaluation (Y, N) ____

Interval Tested	<u>4187</u>	<u>4218</u>	Initial Str Wt./Lbs.	<u>40,000</u>	Unseated Str Wt./Lbs.	<u>40,000</u>
Anchor Length		<u>31</u>	Wt. Set Lbs.	<u>25,000</u>	Wt. Pulled Loose/Lbs.	<u>45,000</u>
Top Packer Depth		<u>4182</u>	Tool Weight	<u>1500</u>		
Bottom Packer Depth		<u>4187</u>	Hole Size 7 7/8"	<u>✓</u>	Rubber Size 6 3/4"	<u>✓</u>
Total Depth		<u>4218</u>	Wt. Pipe Run	<u>—</u>	Drill Collar Run	<u>—</u>
Mud Wt.	<u>9.5</u>	LCM <u>0</u>	Vis. <u>57</u>	WL <u>13.2</u>	Drill Pipe Size <u>4 1/2 X H</u>	Ft. Run <u>4170</u>
Blow Description	<u>IF: Surface blow built to 2 1/2 in 45 min.</u>					
	<u>IS: No return.</u>					
	<u>FF: Surface blow built to 1 in 60 min.</u>					
	<u>FS: No return.</u>					

Recovery - Total Feet	<u>50</u>	GIP	<u>—</u>	Ft. in DC	<u>—</u>	Ft. in DP	<u>50</u>
Rec.	<u>50</u>	Feet of	<u>Wcm</u>	<u>some oil spots</u>	%gas	%oil	<u>20</u> %water <u>80</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 D @		°F Corrected Gravity	°API
RW	<u>.27</u>	@	<u>86</u>	°F	Chlorides <u>25,000</u> ppm	Recovery <u>25,000</u> Chlorides <u>5700</u> ppm	System

	AK-1	Alpine				
(A) Initial Hydrostatic Mud	<u>2164</u>	PSI	Recorder No.	<u>6772</u>	Test x	<u>1050.00</u>
(B) First Initial Flow Pressure	<u>17</u>	PSI	(depth)	<u>4188</u>	Jars x	<u>200.00</u>
(C) First Final Flow Pressure	<u>27</u>	PSI	Recorder No.	<u>7437</u>	Safety Jt. x	<u>50.00</u>
(D) Initial Shut-In Pressure	<u>396</u>	PSI	(depth)	<u>4217</u>	Circ Sub x	<u>N/C</u>
(E) Second Initial Flow Pressure	<u>28</u>	PSI	Recorder No.		Sampler	
(F) Second Final Flow Pressure	<u>38</u>	PSI	(depth)		Straddle	
(G) Final Shut-In Pressure	<u>389</u>	PSI	Initial Opening	<u>45</u>	Ext. Packer	
(Q) Final Hydrostatic Mud	<u>2093</u>	PSI	Initial Shut-In	<u>45</u>	Shale Packer	

TRILOBITE TESTING INC. SHALL NOT BE LIABLE FOR DAMAGED 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

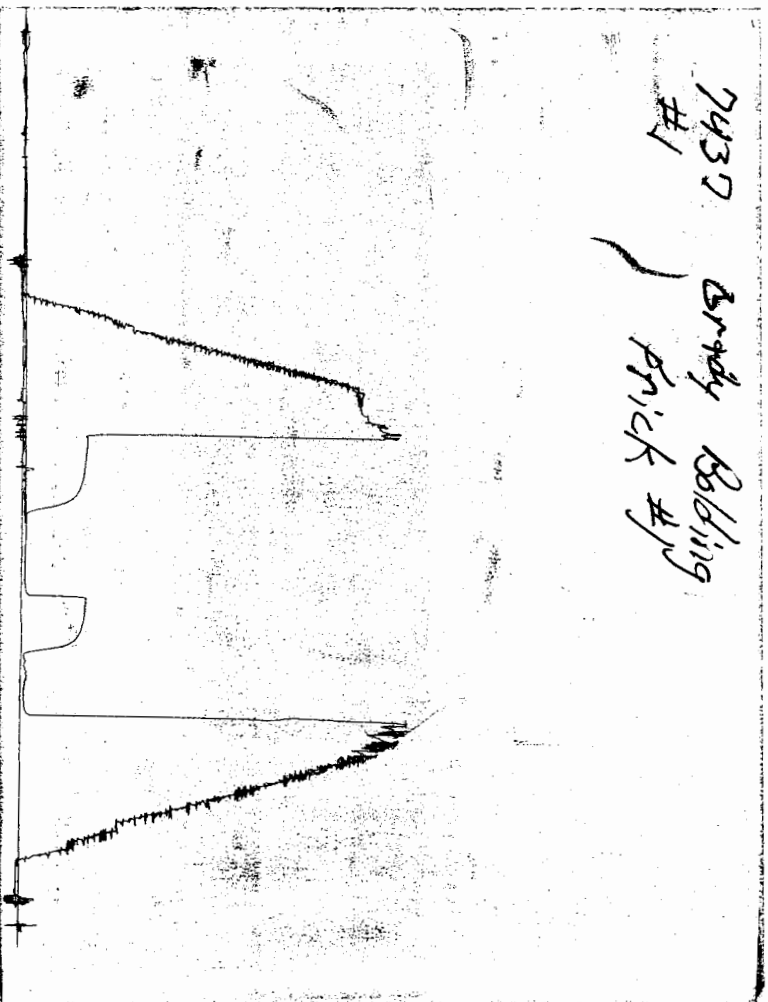
Our Representative

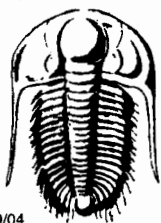
Final Flow	<u>60</u>
Final Shut-In	<u>60</u>
T-On Location	<u>06:30</u>
T-Started	<u>08:50</u>
T-Open	<u>11:07</u>
T-Pulled	<u>14:37</u>
T-Out	<u>17:16</u>

Ruined Packer	
Mileage	<u>190.00</u>
Sub Total:	<u>1346</u>
Std. By x <u>1.74</u>	<u>52.50</u>
Other	
Total:	<u>\$1398.50</u>

CHART PAGE

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





TRILOBITE TESTING INC.

P.O. Box 362 • Hays, Kansas 67601

No 21355

9/04

Test Ticket

Well Name & No.	<u>Frick #1</u>	Test No.	<u>2</u>	Date	<u>8-22-05</u>
Company	<u>Grady Bolding Corporation</u>	Zone Tested	<u>Cherokee</u>		
Address	<u>P.O. Box 486 Ellinwood, KS 67526</u>	Elevation	<u>2200</u>	KB	<u>2195</u> GL
Co. Rep / Geo.	<u>Jim Musgrove</u>	Cont.	<u>Petromark #1</u>	Est. Ft. of Pay	Por. %
Location: Sec.	<u>9</u>	Twp.	<u>19</u>	Rge.	<u>20</u> Co. <u>Rush</u> State <u>KS</u>
No. of Copies		Distribution Sheet (Y, N)		Turnkey (Y, N)	Evaluation (Y, N)

Interval Tested 4187 4228 Initial Str Wt./Lbs. 40,000 Unseated Str Wt./Lbs. 40,000
 Anchor Length 41 Wt. Set Lbs. 25,000 Wt. Pulled Loose/Lbs. 80,000
 Top Packer Depth 4182 Tool Weight 1500
 Bottom Packer Depth 4187 Hole Size 7 7/8" ✓ Rubber Size 6 3/4" ✓
 Total Depth 4228 Wt. Pipe Run — Drill Collar Run —
 Mud Wt. 9.5 LCM Ø Vis. 57 WL 132 Drill Pipe Size 4 1/2 X H Ft. Run 4169
 Blow Description IF: 1/4 blow built to 5 1/2 in 45 min.

IS: No return.

FF: Surface blow built to 3 in 60 min.

FS: No return.

Recovery - Total Feet 107 GIP — Ft. in DC — Ft. in DP 107
 Rec. 45 Feet of mud %gas %oil %water 100%mud
 Rec. 62 Feet of WLM %gas %oil 10 %water 90%mud
 Rec. Feet of %gas %oil %water %mud
 Rec. Feet of %gas %oil %water %mud
 Rec. Feet of %gas %oil %water %mud
 BHT 115 °F Gravity °API D @ °F Corrected Gravity °API
 RW .25 @ 83° °F Chlorides 25000 ppm Recovery 25000 Chlorides 5700 ppm System

AK-1	Alpine		
(A) Initial Hydrostatic Mud	<u>2175</u> PSI	Recorder No.	<u>6772</u>
(B) First Initial Flow Pressure	<u>24</u> PSI	(depth)	<u>4188</u>
(C) First Final Flow Pressure	<u>45</u> PSI	Recorder No.	<u>7437</u>
(D) Initial Shut-In Pressure	<u>383</u> PSI	(depth)	<u>4227</u>
(E) Second Initial Flow Pressure	<u>52</u> PSI	Recorder No.	
(F) Second Final Flow Pressure	<u>68</u> PSI	(depth)	
(G) Final Shut-In Pressure	<u>379</u> PSI	Initial Opening	<u>45</u>
(Q) Final Hydrostatic Mud	<u>2106</u> PSI	Initial Shut-In	<u>45</u>

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Approved By [Signature]

Our Representative [Signature]

Test x 1050.00
 Jars x 200.00
 Safety Jt. x 50.00
 Circ Sub x N/C
 Sampler —
 Straddle —
 Ext. Packer —
 Shale Packer —
 Ruined Packer —
 Mileage 46.00
 Sub Total: 1346
 Std. By X3 1/4 112.50
 Other —
 Total: \$ 1458.50

CHART PAGE

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

