



**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

Prepared For: **Charles N. Griffin**

P.O. Box 347  
Pratt, KS 67124

ATTN: Bruce A. Reed

**31-33s-8w Harper,Ks**

**Diel #2**

Start Date: 2010.08.28 @ 07:21:00

End Date: 2010.08.28 @ 14:39:30

Job Ticket #: 38789                      DST #: 1

# ORIGINAL

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Charles N. Griffin

Diel #2

31-33s-8w Harper,Ks

DST # 1

Mississippian

2010.08.28



**TRILOBITE  
TESTING, INC**

## DRILL STEM TEST REPORT

Charles N. Griffin

Diel #2

P.O. Box 347  
Pratt, KS 67124

**31-33s-8w Harper, Ks**

Job Ticket: 38789

DST#: 1

ATTN: Bruce A. Reed

Test Start: 2010.08.28 @ 07:21:00

### GENERAL INFORMATION:

Formation: **Mississippian**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 10:17:10  
 Time Test Ended: 14:39:30

Test Type: Conventional Bottom Hole  
 Tester: Jake Fahrenbruch  
 Unit No: 43

Interval: **4488.00 ft (KB) To 4500.00 ft (KB) (TVD)**  
 Total Depth: 4500.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 1312.00 ft (KB)  
 1302.00 ft (CF)  
 KB to GR/CF: 10.00 ft

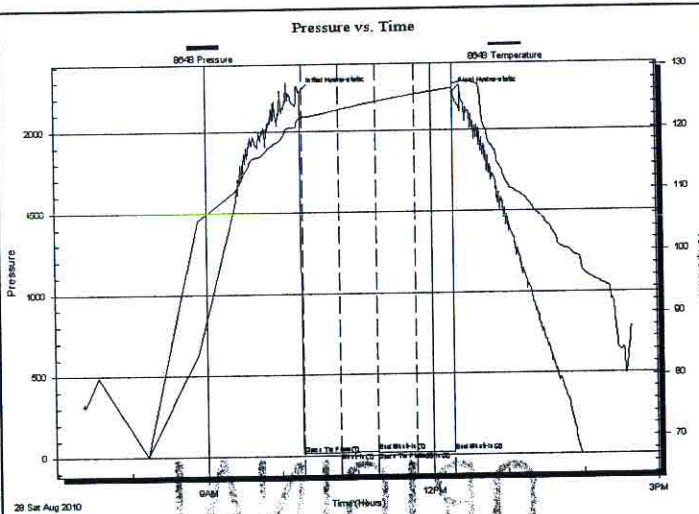
### Serial #: 8648

Inside

Press@RunDepth: 18.78 psig @ 4489.00 ft (KB)  
 Start Date: 2010.08.28 End Date: 2010.08.28  
 Start Time: 07:21:05 End Time: 14:39:29

Capacity: 8000.00 psig  
 Last Calib.: 2010.08.28  
 Time On Btm: 2010.08.28 @ 10:15:40  
 Time Off Btm: 2010.08.28 @ 12:17:39

TEST COMMENT: IF: Weak blow @ .5", blow died in 20 minutes.  
 IS: No blow .  
 FF: No blow .  
 FSI: No blow .



### PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2240.69	121.73	Initial Hydro-static
2	16.71	121.92	Open To Flow (1)
31	19.52	123.06	Shut-In(1)
61	26.04	124.34	End Shut-In(1)
61	17.99	124.35	Open To Flow (2)
92	18.78	125.50	Shut-In(2)
122	20.18	126.45	End Shut-In(2)
122	2229.37	127.01	Final Hydro-static

### Recovery

Length (ft)	Description	Volume (bbl)
5.00	mud 100% mud	0.07

### Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)



**TRILOBITE  
TESTING, INC**

## DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Charles N. Griffin

**Diel #2**

P.O. Box 347  
Pratt, KS 67124

**31-33s-8w Harper, Ks**

Job Ticket: 38789

**DST#: 1**

ATTN: Bruce A. Reed

Test Start: 2010.08.28 @ 07:21:00

### Tool Information

Drill Pipe:	Length: 4478.00 ft	Diameter: 3.80 inches	Volume: 62.81 bbl	Tool Weight: 2500.00 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
			<u>Total Volume: 62.81 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	10.00 ft			String Weight: Initial 70000.00 lb
Depth to Top Packer:	4488.00 ft			Final 70000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	12.00 ft			
Tool Length:	32.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

### Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			4473.00	
Hydraulic tool	5.00			4478.00	
Packer	5.00			4483.00	20.00 Bottom Of Top Packer
Packer	5.00			4488.00	
Stubb	1.00			4489.00	
Recorder	0.00	8648	Inside	4489.00	
Recorder	0.00	6799	Inside	4489.00	
Perforations	6.00			4495.00	
Bullnose	5.00			4500.00	12.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>32.00</b>				



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Charles N. Griffin

Diel #2

P.O. Box 347  
Pratt, KS 67124

31-33s-8w Harper, Ks

Job Ticket: 38789

DST#: 1

ATTN: Bruce A. Reed

Test Start: 2010.08.28 @ 07:21:00

### Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 54.00 sec/qt

Water Loss: 10.38 in<sup>3</sup>

Resistivity: ohm.m

Salinity: 6000.00 ppm

Filter Cake: inches

Cushion Type:

Cushion Length: ft

Cushion Volume: bbl

Gas Cushion Type:

Gas Cushion Pressure: psig

Oil API:

Water Salinity: deg API

ppm

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	mud 100% mud	0.070

Total Length: 5.00 ft      Total Volume: 0.070 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

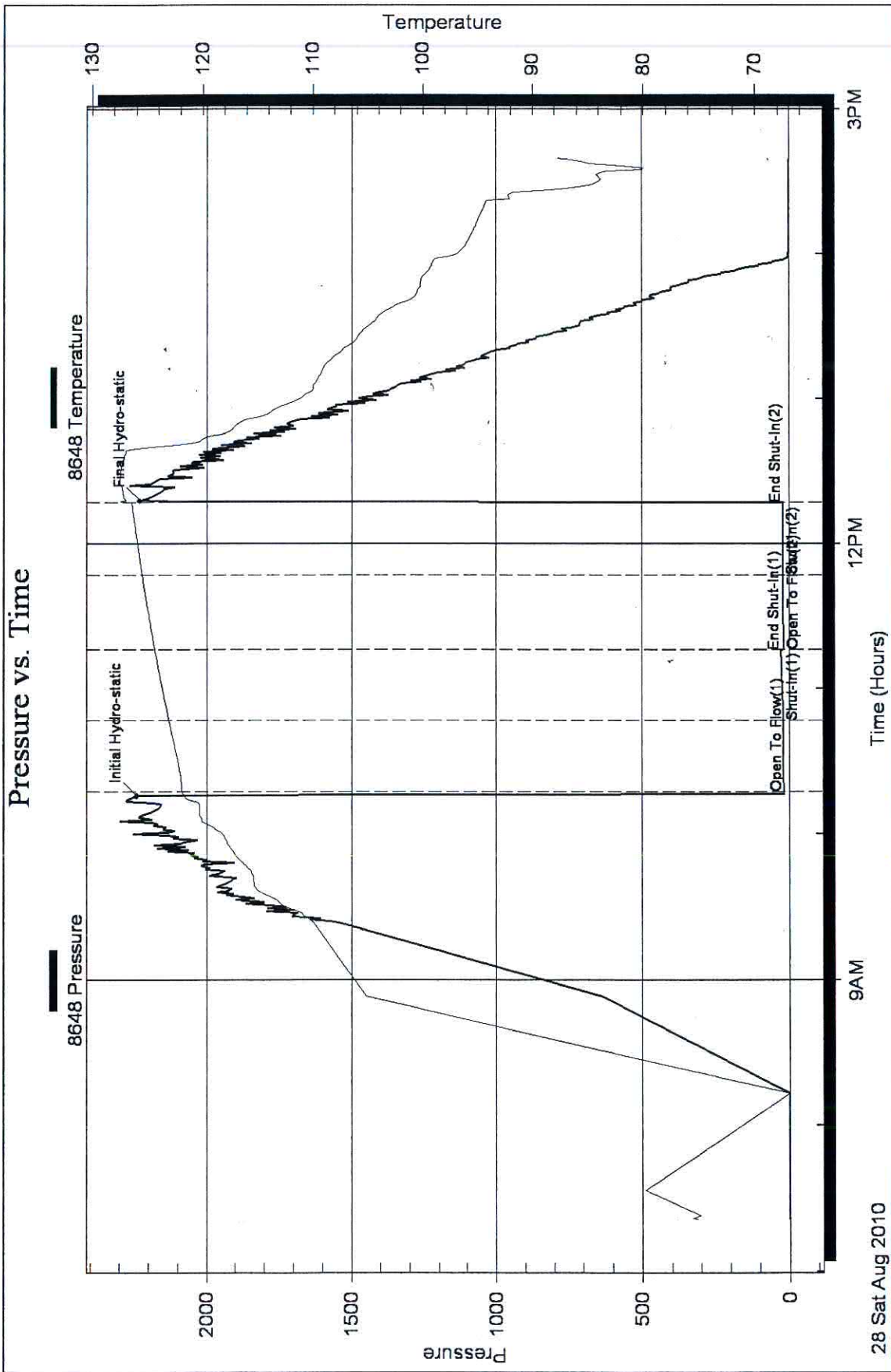
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

### Pressure vs. Time





**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

Prepared For: **Charles N. Griffin**

P.O. Box 347  
Pratt, KS 67124

ATTN: Bruce A. Reed

**31-33s-8w Harper,Ks**

**Diel #2**

Start Date: 2010.08.29 @ 02:55:00

End Date: 2010.08.29 @ 14:27:49

Job Ticket #: 38790                      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

Charles N. Griffin

Diel #2

P.O. Box 347  
Pratt, KS 67124

31-33s-8w Harper, Ks

Job Ticket: 38790

DST#: 2

ATTN: Bruce A. Reed

Test Start: 2010.08.29 @ 02:55:00

### GENERAL INFORMATION:

Formation: **Mississippian**  
Deviated: No Whipstock: ft (KB)  
Time Tool Opened: 08:09:50  
Time Test Ended: 14:27:49

Test Type: Conventional Bottom Hole  
Tester: Jake Fahrenbruch  
Unit No: 43

Interval: **4500.00 ft (KB) To 4516.00 ft (KB) (TVD)**  
Total Depth: 4516.00 ft (KB) (TVD)  
Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 1312.00 ft (KB)  
1302.00 ft (CF)  
KB to GR/CF: 10.00 ft

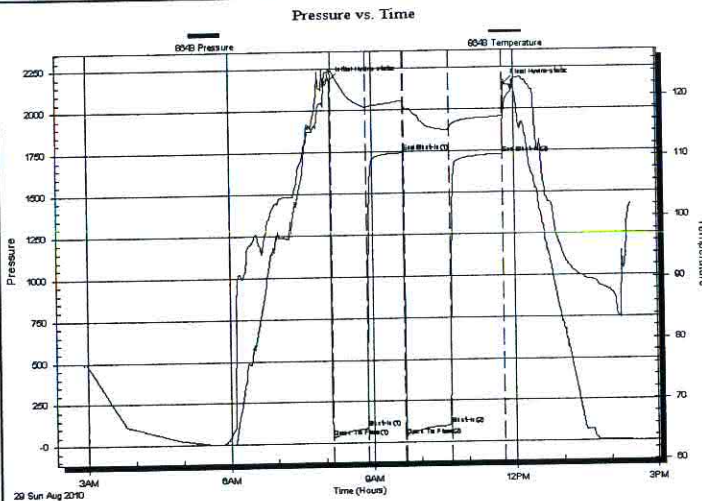
### Serial #: 8648

Inside

Press@RunDepth: 100.70 psig @ 4501.00 ft (KB)  
Start Date: 2010.08.29 End Date: 2010.08.29  
Start Time: 02:55:05 End Time: 14:27:50

Capacity: 8000.00 psig  
Last Calib.: 2010.08.29  
Time On Btm: 2010.08.29 @ 08:07:39  
Time Off Btm: 2010.08.29 @ 11:48:30

TEST COMMENT: IF: Strong blow, BOB immediately, GTS 11 minutes 30 seconds.  
IS: Bled off, weak sporadic blow back at surface of bucket.  
FF: Strong blow, BOB immediately.  
FS: Bled off, no blow back.



### PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2181.65	124.45	Initial Hydro-static
3	34.53	124.30	Open To Flow (1)
46	90.81	118.02	Shut-In(1)
92	1742.06	119.27	End Shut-In(1)
94	39.80	118.22	Open To Flow (2)
151	100.70	114.47	Shut-In(2)
219	1728.33	116.60	End Shut-In(2)
221	2151.88	118.64	Final Hydro-static

### Recovery

Length (ft)	Description	Volume (bbl)
30.00	HGCOWM 35%g15%o20%w 30%m	0.42
60.00	HGCW&MCO 22%g15%w 23%m40%o	0.84
60.00	HGCM&WCO 40%g5%m10%w 45%o	0.84

### Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate	0.25	25.00	62.50
Last Gas Rate	0.25	52.00	105.34
Max. Gas Rate	0.25	52.00	105.34



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Charles N. Griffin

**Diel #2**

P.O. Box 347  
Pratt, KS 67124

**31-33s-8w Harper, Ks**

Job Ticket: 38790

**DST#: 2**

ATTN: Bruce A. Reed

Test Start: 2010.08.29 @ 02:55:00

## Tool Information

Drill Pipe:	Length: 4509.00 ft	Diameter: 3.80 inches	Volume: 63.25 bbl	Tool Weight: 2500.00 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: 85000.00 lb
			<u>Total Volume: 63.25 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	29.00 ft			String Weight: Initial 70000.00 lb
Depth to Top Packer:	4500.00 ft			Final 70000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	16.00 ft			
Tool Length:	36.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
------------------	-------------	------------	----------	------------	----------------

Shut In Tool	5.00			4485.00	
Hydraulic tool	5.00			4490.00	
Packer	5.00			4495.00	20.00 Bottom Of Top Packer
Packer	5.00			4500.00	
Stubb	1.00			4501.00	
Recorder	0.00	8648	Inside	4501.00	
Recorder	0.00	6799	Inside	4501.00	
Perforations	10.00			4511.00	
Bullnose	5.00			4516.00	16.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>36.00</b>				





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

FLUID SUMMARY

Charles N. Griffin

**Diel #2**

P.O. Box 347  
Pratt, KS 67124

**31-33s-8w Harper, Ks**

Job Ticket: 38790

DST#: 2

ATTN: Bruce A. Reed

Test Start: 2010.08.29 @ 02:55:00

## Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 54.00 sec/qt

Water Loss: 10.37 in<sup>3</sup>

Resistivity: ohm.m

Salinity: 6000.00 ppm

Filter Cake: inches

Cushion Type:

Cushion Length: ft

Cushion Volume: bbl

Gas Cushion Type:

Gas Cushion Pressure: psig

Oil API: deg API

Water Salinity: 25000 ppm

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
30.00	HGCOWM 35%g15%o20%w 30%m	0.421
60.00	HGCW&MCO 22%g15%w 23%m40%o	0.842
60.00	HGCM&WCO 40%g5%m10%w 45%o	0.842

Total Length: 150.00 ft

Total Volume: 2.105 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

**GAS RATES**

Charles N. Griffin

**Diel #2**

P.O. Box 347  
Pratt, KS 67124

**31-33s-8w Harper, Ks**

Job Ticket: 38790

**DST#: 2**

ATTN: Bruce A. Reed

Test Start: 2010.08.29 @ 02:55:00

### Gas Rates Information

Temperature: 59 deg C  
Relative Density: 0.65  
Z Factor: 0.8

Gas Rates Table

Flow Period	Elapsed Time	Choke (mm)	Pressure (kPaa)	Gas Rate (m <sup>3</sup> /d)
1	12	0.25	25.00	62.50
1	12	0.25	25.00	62.50
1	15	0.25	29.00	68.85
1	20	0.25	35.00	78.37
1	25	0.25	38.00	83.13
1	30	0.13	42.00	21.11
1	35	0.25	45.00	94.23
1	40	0.25	47.00	97.40
1	45	0.25	48.00	98.99
2	5	0.25	20.00	54.57
2	10	0.25	30.00	70.44
2	15	0.25	36.00	79.96
2	20	0.25	40.00	86.30
2	25	0.25	44.00	92.65
2	30	0.25	47.00	97.40
2	35	0.25	48.00	98.99
2	40	0.25	50.00	102.16
2	45	0.25	51.00	103.75
2	50	0.25	52.00	105.34
2	55	0.25	52.00	105.34



# TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

RECEIVED  
SEP 10 2010

## Test Ticket

NO. 38789

12/09

RY:

Well Name & No. DIEL #2 Test No. 1 Date 28 AUG. 2010  
 Company CHARLES N. GRIFFIN Elevation 1312 KB 1302 GL  
 Address P.O. BOX 347, PRATT, KANSAS, 67124  
 Co. Rep / Geo. BRUCE A. REED Rig MAVERICK DRUG CO., REG #106  
 Location: Sec. 31 Twp. 33S Rge. 8W Co. HARPER State KANSAS

Interval Tested 4488-4500 Zone Tested MISSISSIPPIAN  
 Anchor Length 12 Drill Pipe Run 4478' Mud Wt. 9.4  
 Top Packer Depth 4483 Drill Collars Run NONE Vis 54  
 Bottom Packer Depth 4488 Wt. Pipe Run NONE WL 10.4  
 Total Depth 4500 Chlorides 6,000 ppm System LCM 0

Blow Description IF: WEAK BLOW AT 1/2". BLOW DIED IN 25 MINUTES.  
ISI: NO BLOW.  
FF: NO BLOW.  
FSI: NO BLOW.

Rec	Feet of	%gas	%oil	%water	%mud
<u>5</u>	<u>DRUG. MUD</u>			<u>100</u>	
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

Rec Total 5 BHT 126°F Gravity NA API RW — @ — °F Chlorides NA ppm

(A) Initial Hydrostatic	<u>2241</u>	<input checked="" type="checkbox"/> Test	<u>\$1225.00</u>	T-On Location	<u>0620</u>
(B) First Initial Flow	<u>17</u>	<input type="checkbox"/> Jars		T-Started	<u>0721</u>
(C) First Final Flow	<u>20</u>	<input type="checkbox"/> Safety Joint		T-Open	<u>1017</u>
(D) Initial Shut-In	<u>26</u>	<input checked="" type="checkbox"/> Circ Sub	<u>NO CHARGE</u>	T-Pulled	<u>1217</u>
(E) Second Initial Flow	<u>18</u>	<input type="checkbox"/> Hourly Standby		T-Out	<u>1445</u>
(F) Second Final Flow	<u>19</u>	<input checked="" type="checkbox"/> Mileage	<u>130RT. \$162.50</u>	Comments	
(G) Final Shut-In	<u>20</u>	<input type="checkbox"/> Sampler			
(H) Final Hydrostatic	<u>2229</u>	<input type="checkbox"/> Straddle			

Initial Open	<u>30</u>	<input type="checkbox"/> Shale Packer		<input type="checkbox"/> Ruined Shale Packer	
Initial Shut-In	<u>30</u>	<input type="checkbox"/> Extra Packer		<input type="checkbox"/> Ruined Packer	
Final Flow	<u>30</u>	<input type="checkbox"/> Extra Recorder		<input type="checkbox"/> Extra Copies	
Final Shut-In	<u>30</u>	<input type="checkbox"/> Day Standby		Sub Total	<u>0</u>
		<input type="checkbox"/> Accessibility		Total	<u>1387.50</u>
		Sub Total	<u>\$1,387.50</u>		

Approved By

Bruce A. Reed

Our Representative

[Signature]

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.

Serial #: 8648

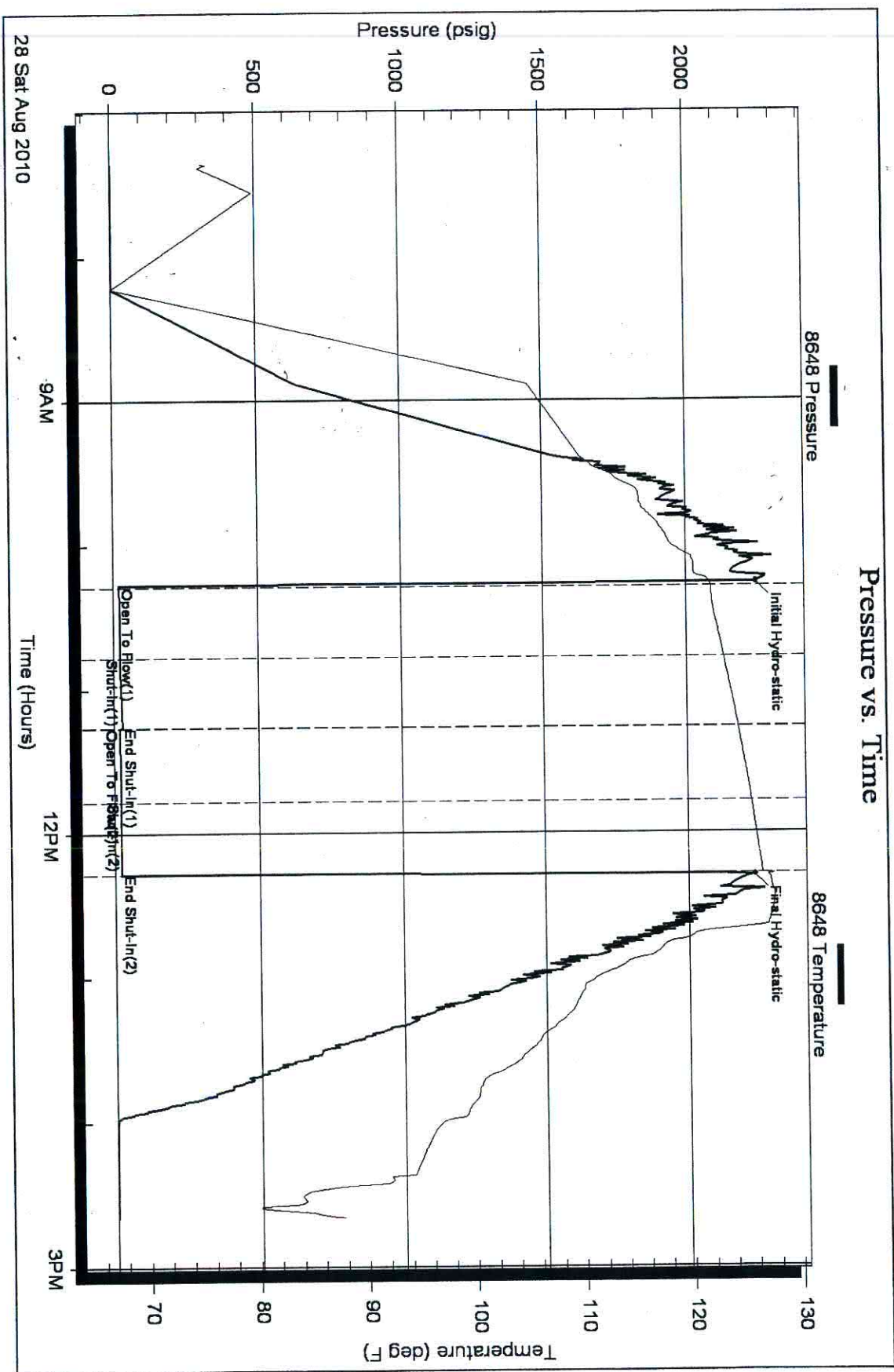
Inside

Charles N. Griffin

31-33s-8w-HARPER-KS

DST Test Number: 1

### Pressure vs. Time



Trilobite Testing, Inc

Ref. No: 38789

Printed: 2010.08.28 @ 15:04:09 Page 1



# TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

RECEIVED  
SEP 10 2010

## Test Ticket

NO. 38790

Well Name & No. DIEL #2 Test No. 2 Date 29. AUGUST. 2010  
 Company CHARLES N. GRIFFIN Elevation 1312 KB 1302 GL  
 Address P.O. BOX 347, PRATT, KANSAS, 67124  
 Co. Rep / Geo. BRUCE A. REED Rig MAVERICK DRUG. CO., RIG #106  
 Location: Sec. 31 Twp. 33s Rge. 8w Co. HARPER State KANSAS

Interval Tested 4500-4516 Zone Tested MISSISSIPPIAN  
 Anchor Length 16 Drill Pipe Run 4509' Mud Wt. 9.4  
 Top Packer Depth 4495 Drill Collars Run NONE Vis 54  
 Bottom Packer Depth 4500 Wt. Pipe Run NONE WL 10.4  
 Total Depth 4516 Chlorides 6,000 ppm System LCM Ø

Blow Description IF: STRONG BLOW, BOB IMMEDIATELY, G.T. 5 11 MINUTES 30 SECONDS.  
IS: BLEED OFF, WEAK SPORADIC BLOWBACK AT SURFACE OF BUCKET.  
FF: STRONG BLOW, BOB IMMEDIATELY.  
FS: BLEED OFF, NO BLOWBACK.

Rec	Feet of	%gas	%oil	%water	%mud
<u>30</u>	<u>HGC OWM</u>	<u>35</u>	<u>15</u>	<u>20</u>	<u>30</u>
<u>60</u>	<u>HGC W/MCO</u>	<u>22</u>	<u>40</u>	<u>15</u>	<u>23</u>
<u>60</u>	<u>HGC M/WCO</u>	<u>40</u>	<u>45</u>	<u>10</u>	<u>5</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 150 BHT 117°F Gravity NA API RW. 2.2 @ 93 °F Chlorides 25,000 ppm

(A) Initial Hydrostatic 2182  Test \$1,225.00 T-On Location 0230  
 (B) First Initial Flow 35  Jars \_\_\_\_\_ T-Started 0255  
 (C) First Final Flow 91  Safety Joint \_\_\_\_\_ T-Open 0810  
 (D) Initial Shut-In 1742  Circ Sub NO CHARGE T-Pulled 1146  
 (E) Second Initial Flow 40  Hourly Standby 1hr 100 T-Out 1415  
 (F) Second Final Flow 101  Mileage 130 RT. \$162.50 Comments \_\_\_\_\_  
 (G) Final Shut-In 1728  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 2152  Straddle \_\_\_\_\_

Initial Open 45  Shale Packer \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Initial Shut-In 45  Extra Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Final Flow 60  Extra Recorder \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Final Shut-In 60  Day Standby \_\_\_\_\_ Sub Total Ø  
 Accessibility \_\_\_\_\_ Total 1487.50  
 Sub Total \$1,487.50

Approved By Bruce A. Reed Our Representative Jacob E. Johnson

Serial #: 8648

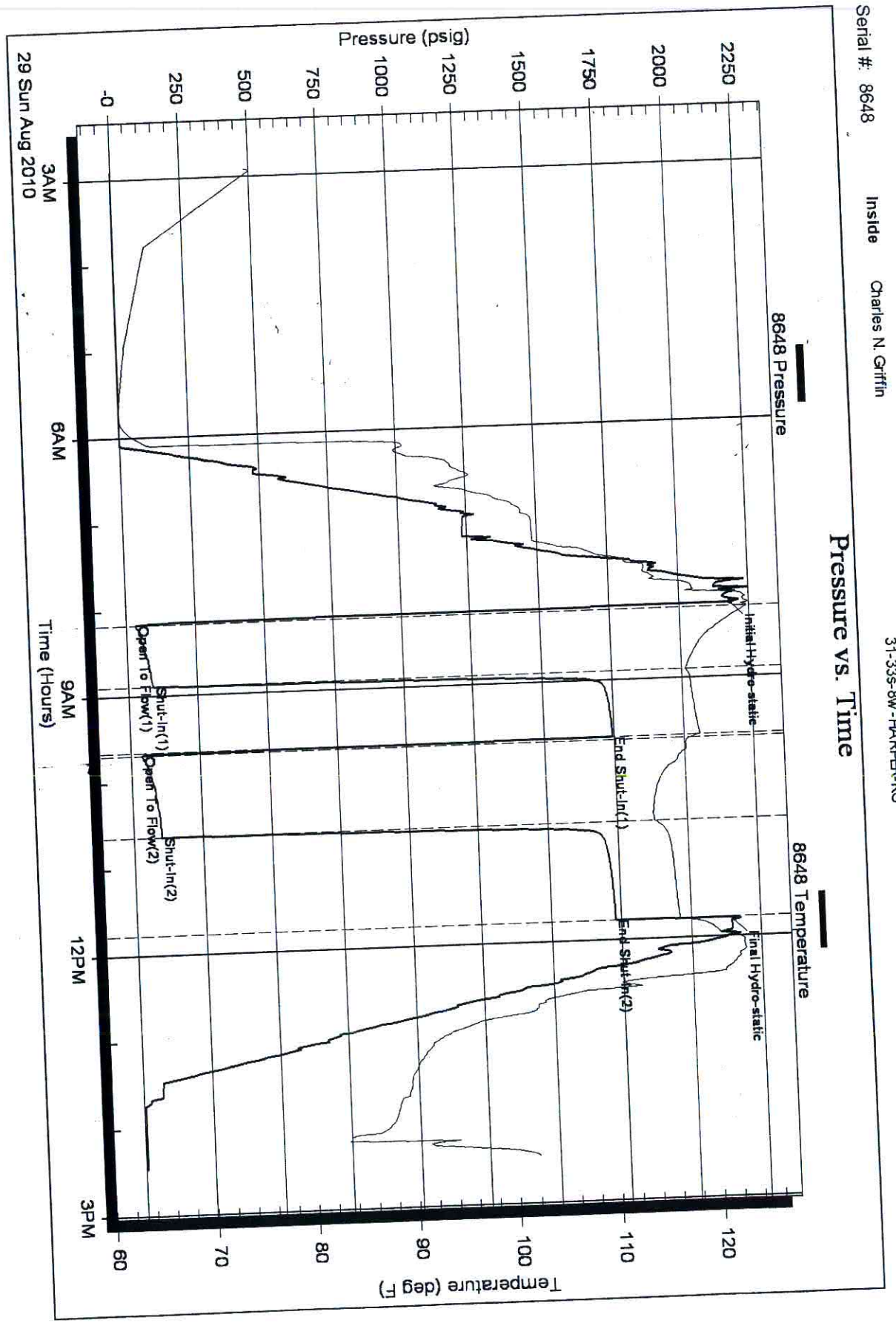
Inside

Charles N. Griffin

31-33s-8w-HARPER-KS

DST Test Number: 2

### Pressure vs. Time



Triobite Testing, Inc

Ref. No: 38790



# TRIOBITE TESTING INC.

P.O. Box 362 • Hays, Kansas 67601 • (785) 625-4778

MISSISSIPPIAN

4520-4576

## GAS VOLUME REPORT

CHARLES N. GRIFFIN

DIEL #2

Z

OPERATOR

WELL NAME AND NO.

DST NO.

### INITIAL FLOW

### FINAL FLOW

Min.	Ins. of Water PSIG	Orifice Size	CF/D	Min.	Ins. of Water PSIG	Orifice Size	CF/D
12	25	1/4"	58,200	5	20	1/4"	50,900
15	29	1/4"	64,100	10	30	1/4"	65,600
20	35	1/4"	72,900	15	36	1/4"	74,400
25	38	1/4"	77,300	20	40	1/4"	80,300
30	42	1/4"	83,200	25	44	1/4"	86,100
35	45	1/4"	87,600	30	47	1/4"	90,600
40	47	1/4"	90,000	35	48	1/4"	92,000
45	48	1/4"	92,000	40	50	1/4"	95,000
				45	51	1/4"	96,400
				50	52	1/4"	97,900
				55	52	1/4"	97,900
				60	52	1/4"	97,900

Remarks: Gas sample taken, will be sent to Caraway Analytical Lab  
in Liberal, KS.

*Handwritten signature*