



DRILL STEM TEST REPORT

Prepared For: **Herman L Loeb LLC**

PO Box 838
Lawrencevill, IL 62439

ATTN: Tom Pronald/Jim Hall

School Trust #20-5

5-35s-12w Barber,KS

Start Date: 2013.11.07 @ 10:19:52

End Date: 2013.11.07 @ 17:39:37

Job Ticket #: 52516 DST #: 1

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.11.14 @ 14:38:16



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Herman L Loeb LLC
 PO Box 838
 Lawrenceville, IL 62439
 ATTN: Tom Pronald/Jim Hall

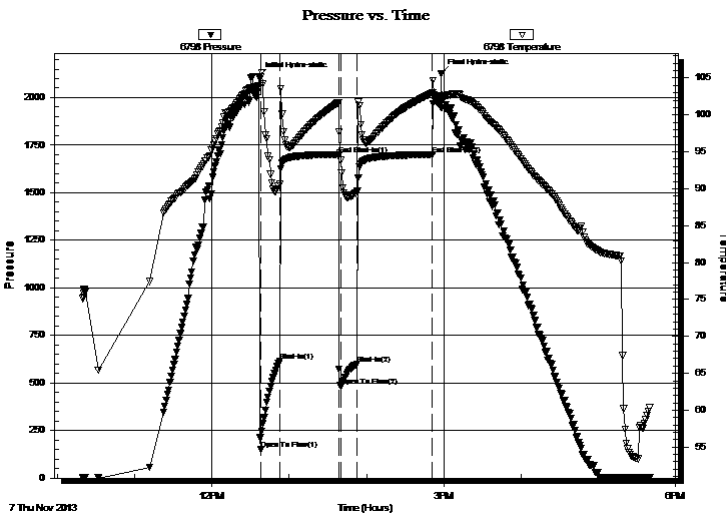
5-35s-12w Barber,KS
School Trust #20-5
 Job Ticket: 52516 **DST#: 1**
 Test Start: 2013.11.07 @ 10:19:52

GENERAL INFORMATION:

Formation: **Stalnaker**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 12:37:52
 Time Test Ended: 17:39:37
 Interval: **4156.00 ft (KB) To 4168.00 ft (KB) (TVD)**
 Total Depth: 4190.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Straddle (Initial)
 Tester: Leal Cason
 Unit No: 45
 Reference Elevations: 1479.00 ft (KB)
 1470.00 ft (CF)
 KB to GR/CF: 9.00 ft

Serial #: 6798 Inside
 Press@RunDepth: 598.54 psig @ 4157.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2013.11.07 End Date: 2013.11.07 Last Calib.: 2013.11.07
 Start Time: 10:19:53 End Time: 17:39:37 Time On Btm: 2013.11.07 @ 12:36:37
 Time Off Btm: 2013.11.07 @ 14:58:07

TEST COMMENT: IF: Strong Blow , BOB in 10 seconds, GTS in 3 minutes, Gauged & Caught Sample
 IS: 1/2 inch Blow Back
 FF: Strong Blow , BOB & GTS immediate, Gauged & Caught Sample
 FS: 1/2 inch Blow Back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2110.45	104.00	Initial Hydro-static
2	149.60	105.16	Open To Flow (1)
16	614.37	90.61	Shut-In(1)
62	1701.22	101.69	End Shut-In(1)
64	483.24	93.89	Open To Flow (2)
77	598.54	89.64	Shut-In(2)
135	1699.85	102.97	End Shut-In(2)
142	2127.72	102.56	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
0.00	GTS	0.00
10.00	GMCW 5%G 40%M 50%W	0.05

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate	0.50	300.00	2120.85
Last Gas Rate	0.75	150.00	2567.90
Max. Gas Rate	0.50	350.00	2458.13



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Herman L Loeb LLC

5-35s-12w Barber,KS

PO Box 838
Lawrenceville, IL 62439

School Trust #20-5

Job Ticket: 52516

DST#: 1

ATTN: Tom Pronald/Jim Hall

Test Start: 2013.11.07 @ 10:19:52

Tool Information

Drill Pipe:	Length: 3945.00 ft	Diameter: 3.80 inches	Volume: 55.34 bbl	Tool Weight: 2100.00 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: 208.00 ft	Diameter: 2.25 inches	Volume: 1.02 bbl	Weight to Pull Loose: 85000.00 lb
			<u>Total Volume: 56.36 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	18.00 ft			String Weight: Initial 80000.00 lb
Depth to Top Packer:	4156.00 ft			Final 80000.00 lb
Depth to Bottom Packer:	4168.00 ft			
Interval between Packers:	12.00 ft			
Tool Length:	55.00 ft			
Number of Packers:	3	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Shut In Tool	5.00			4140.00	
Hydraulic tool	5.00			4145.00	
Safety Joint	2.00			4147.00	
Packer	5.00			4152.00	21.00 Bottom Of Top Packer
Packer	4.00			4156.00	
Stubb	1.00			4157.00	
Recorder	0.00	6798	Inside	4157.00	
Recorder	0.00	8367	Outside	4157.00	
Perforations	10.00			4167.00	
Blank Off Sub	1.00			4168.00	12.00 Tool Interval
Packer	3.00			4171.00	
Perforations	16.00			4187.00	
Recorder	0.00	8358	Below	4187.00	
Bullnose	3.00			4190.00	22.00 Bottom Packers & Anchor

Total Tool Length: 55.00



**TRILOBITE
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DRILL STEM TEST REPORT

FLUID SUMMARY

Herman L Loeb LLC

5-35s-12w Barber,KS

PO Box 838
Lawrenceville, IL 62439

School Trust #20-5

Job Ticket: 52516

DST#: 1

ATTN: Tom Pronald/Jim Hall

Test Start: 2013.11.07 @ 10:19:52

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

8100 ppm

Viscosity: 52.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 10.39 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 4000.00 ppm

Filter Cake: 0.02 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
0.00	GTS	0.000
10.00	GMCW 5%G 40%M 50%W	0.049

Total Length: 10.00 ft Total Volume: 0.049 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW was .81 @ 61 degrees



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

GAS RATES

Herman L Loeb LLC

5-35s-12w Barber,KS

PO Box 838
Lawrenceville, IL 62439

School Trust #20-5

Job Ticket: 52516

DST#: 1

ATTN: Tom Pronald/Jim Hall

Test Start: 2013.11.07 @ 10:19:52

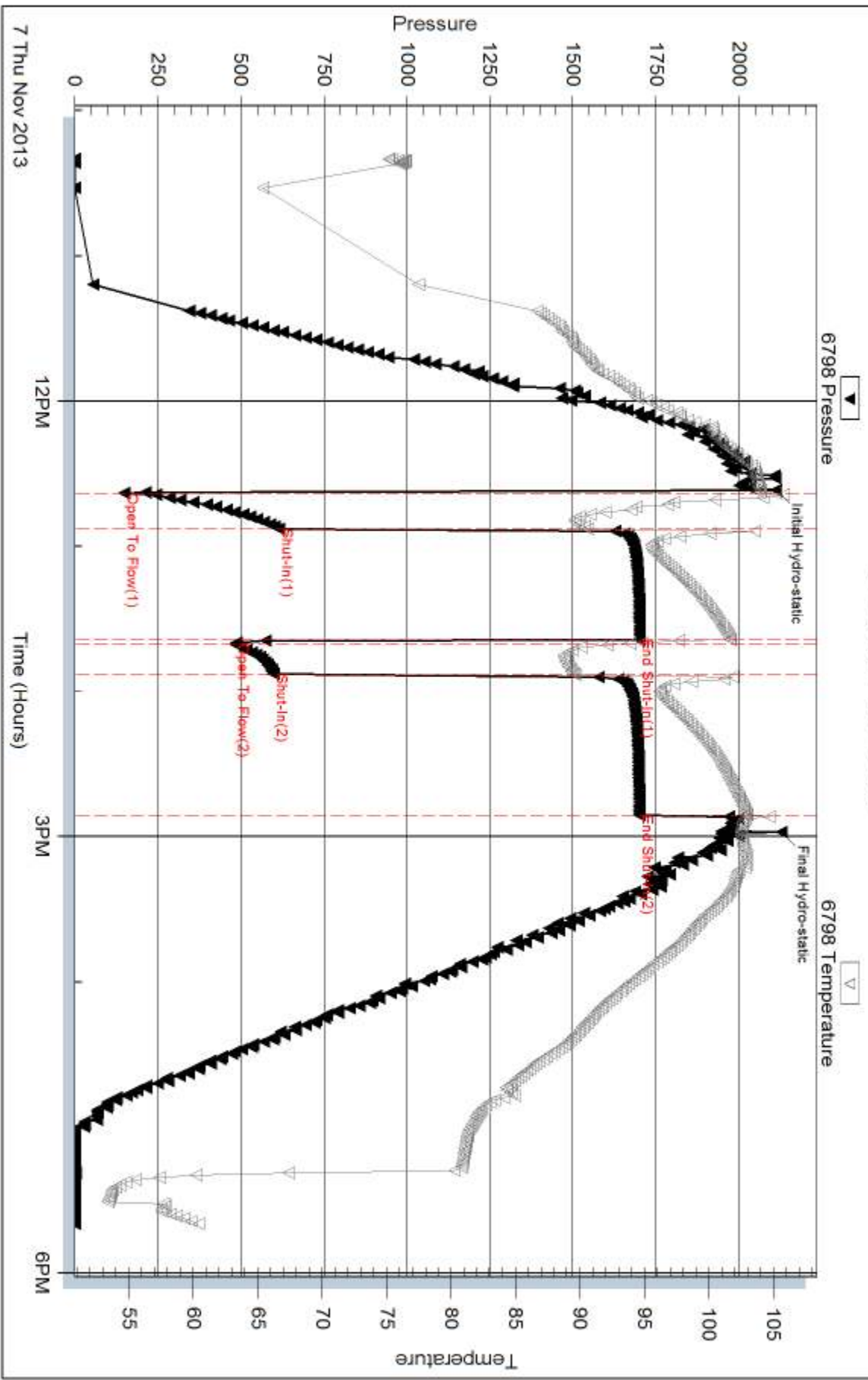
Gas Rates Information

Temperature: 59 (deg F)
Relative Density: 0.65
Z Factor: 0.8

Gas Rates Table

Flow Period	Elapsed Time	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
1	10	0.50	300.00	2120.85
1	15	0.50	350.00	2458.13
2	5	0.75	100.00	1786.91
2	10	0.75	150.00	2567.90
2	15	0.75	150.00	2567.90

Pressure vs. Time

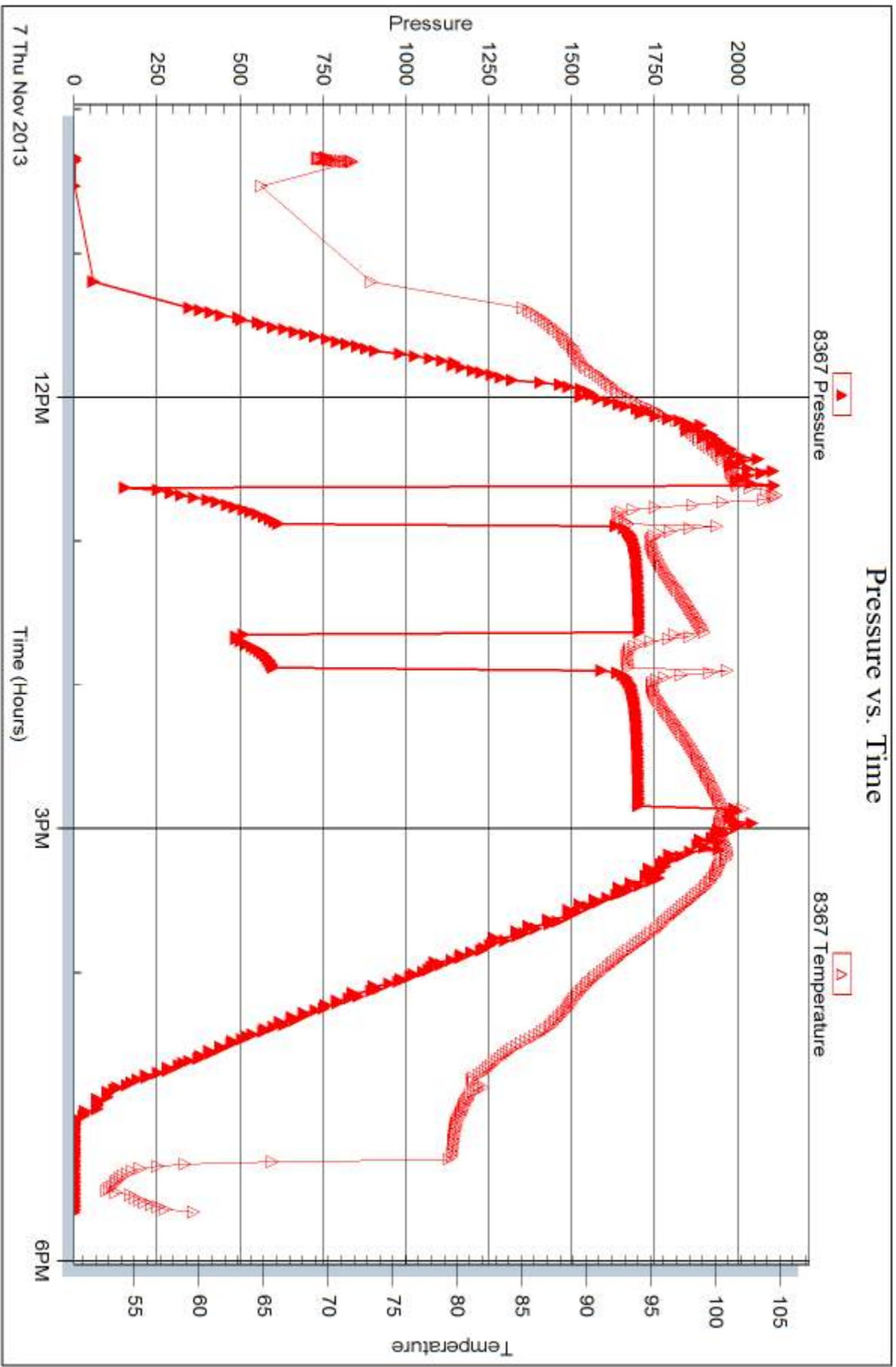


Serial #: 8367

Outside Herman L Loeb LLC

School Trust #20-5

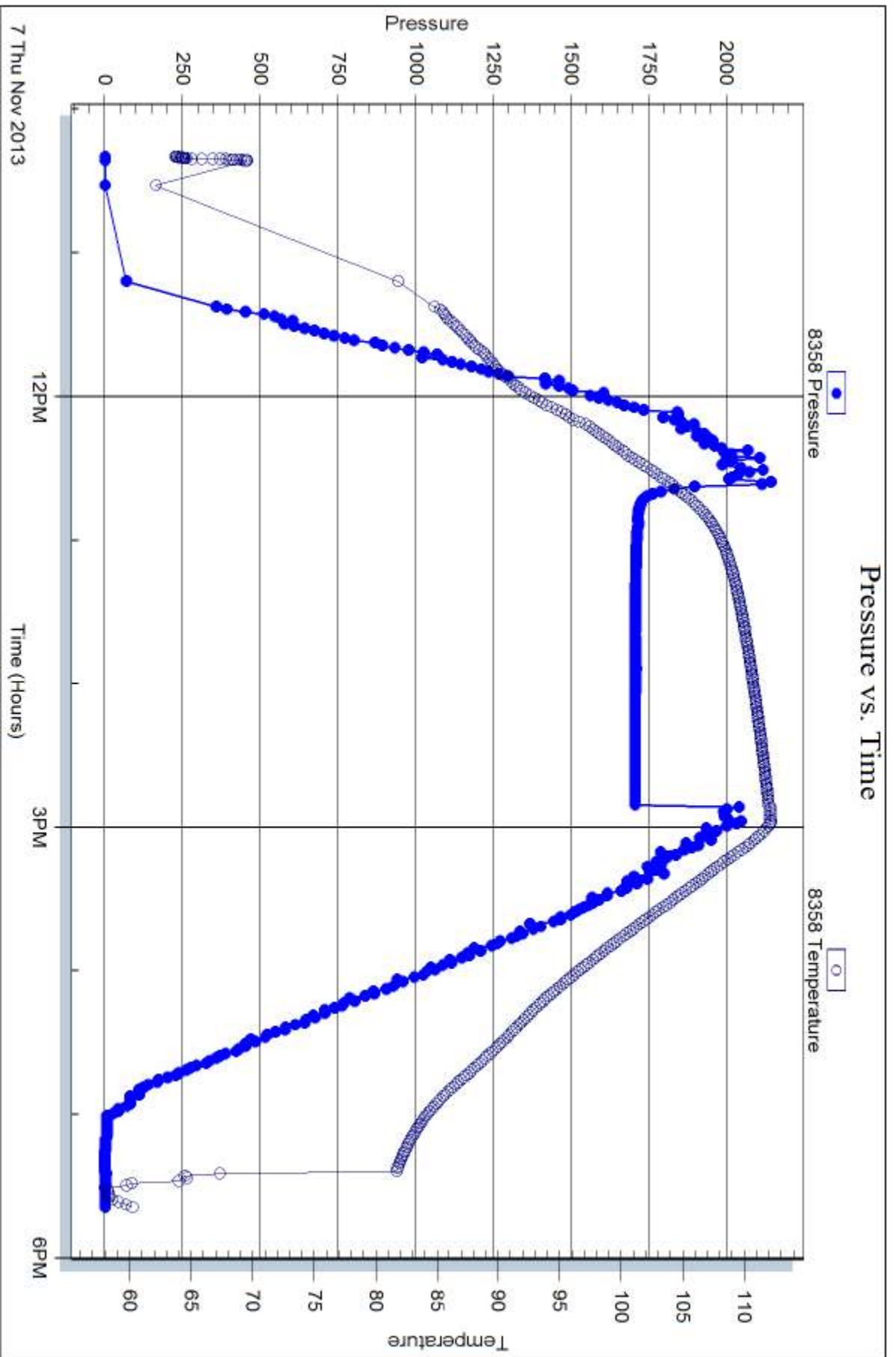
DST Test Number: 1



Triobite Testing, Inc

Ref. No: 52516

Printed: 2013.11.14 @ 14:38:18





DRILL STEM TEST REPORT

Prepared For: **Herman L Loeb LLC**

PO Box 838
Lawrencevill, IL 62439

ATTN: Tom Pronald/Jim Hall

School Trust #20-5

5-35s-12w Barber,KS

Start Date: 2013.11.10 @ 10:05:17

End Date: 2013.11.10 @ 20:45:47

Job Ticket #: 52517 DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.11.14 @ 14:40:28



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Herman L Loeb LLC
 PO Box 838
 Lawrenceville, IL 62439
 ATTN: Tom Pronald/Jim Hall

5-35s-12w Barber,KS
School Trust #20-5
 Job Ticket: 52517 **DST#: 2**
 Test Start: 2013.11.10 @ 10:05:17

GENERAL INFORMATION:

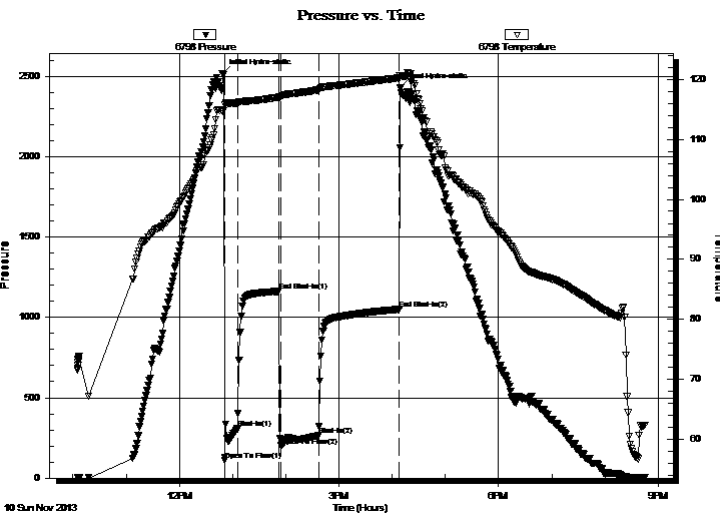
Formation: **Mississippi**
 Deviated: No Whipstock: ft (KB)
 Test Type: Conventional Bottom Hole (Reset)
 Time Tool Opened: 12:51:17 Tester: Leal Cason
 Time Test Ended: 20:45:47 Unit No: 45
 Interval: **4790.00 ft (KB) To 4860.00 ft (KB) (TVD)** Reference Elevations: 1479.00 ft (KB)
 Total Depth: 4860.00 ft (KB) (TVD) 1470.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Good KB to GR/CF: 9.00 ft

Serial #: 6798

Inside

Press@RunDepth: 265.34 psig @ 4791.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2013.11.10 End Date: 2013.11.10 Last Calib.: 2013.11.10
 Start Time: 10:05:18 End Time: 20:45:47 Time On Btm: 2013.11.10 @ 12:48:32
 Time Off Btm: 2013.11.10 @ 16:09:17

TEST COMMENT: IF: Strong Blow , BOB in 15 seconds, GTS in 12 minutes
 IS: BOB Blow Back in 20 minutes
 FF: Strong Blow , BOB & GTS Immediate, Gauged & Caught Sample
 FS: Blow Back Built to 4 inches



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2517.48	114.63	Initial Hydro-static
3	112.92	115.75	Open To Flow (1)
17	307.64	116.08	Shut-In(1)
64	1161.90	117.04	End Shut-In(1)
67	200.99	117.14	Open To Flow (2)
109	265.34	118.25	Shut-In(2)
200	1050.05	120.24	End Shut-In(2)
201	2425.71	120.53	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
0.00	GTS	0.00
62.00	GWMCO 10&G 4%W 16%M 80%O	0.30
934.00	GSY Oil 5%G 95%O	11.77

* Recovery from multiple tests

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate	0.25	92.00	168.79
Last Gas Rate	0.50	28.00	286.02
Max. Gas Rate	0.25	92.00	168.79



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Herman L Loeb LLC

5-35s-12w Barber,KS

PO Box 838
Lawrenceville, IL 62439

School Trust #20-5

Job Ticket: 52517

DST#: 2

ATTN: Tom Pronald/Jim Hall

Test Start: 2013.11.10 @ 10:05:17

Tool Information

Drill Pipe:	Length: 4585.00 ft	Diameter: 3.80 inches	Volume: 64.32 bbl	Tool Weight: 2100.00 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: 208.00 ft	Diameter: 2.25 inches	Volume: 1.02 bbl	Weight to Pull Loose: 100000.0 lb
			<u>Total Volume: 65.34 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	29.00 ft			String Weight: Initial 86000.00 lb
Depth to Top Packer:	4790.00 ft			Final 90000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	70.00 ft			
Tool Length:	96.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Length (ft) Serial No. Position Depth (ft) Accum. Lengths

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			4769.00	
Hydraulic tool	5.00			4774.00	
Jars	5.00			4779.00	
Safety Joint	2.00			4781.00	
Packer	5.00			4786.00	26.00 Bottom Of Top Packer
Packer	4.00			4790.00	
Stubb	1.00			4791.00	
Recorder	0.00	6798	Inside	4791.00	
Recorder	0.00	8367	Outside	4791.00	
Perforations	6.00			4797.00	
Change Over Sub	1.00			4798.00	
Drill Pipe	32.00			4830.00	
Change Over Sub	1.00			4831.00	
Perforations	26.00			4857.00	
Bullnose	3.00			4860.00	70.00 Bottom Packers & Anchor

Total Tool Length: 96.00



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DRILL STEM TEST REPORT

FLUID SUMMARY

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5-35s-12w Barber,KS

PO Box 838
Lawrenceville, IL 62439

School Trust #20-5

Job Ticket: 52517

DST#: 2

ATTN: Tom Pronald/Jim Hall

Test Start: 2013.11.10 @ 10:05:17

Mud and Cushion Information

Mud Type: Gel Chem
Mud Weight: 9.00 lb/gal
Viscosity: 52.00 sec/qt
Water Loss: 10.38 in³
Resistivity: ohm.m
Salinity: 4000.00 ppm
Filter Cake: 0.02 inches

Cushion Type:
Cushion Length: ft
Cushion Volume: bbl
Gas Cushion Type:
Gas Cushion Pressure: psig

Oil API: 19.6 deg API
Water Salinity: ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
0.00	GTS	0.000
62.00	GWMCO 10&G 4%W 16%M 80%O	0.305
934.00	GSY Oil 5%G 95%O	11.772

Total Length: 996.00 ft Total Volume: 12.077 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Gravity was 19.8 @ 62 degrees



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

GAS RATES

Herman L Loeb LLC

5-35s-12w Barber,KS

PO Box 838
Lawrenceville, IL 62439

School Trust #20-5

Job Ticket: 52517

DST#: 2

ATTN: Tom Pronald/Jim Hall

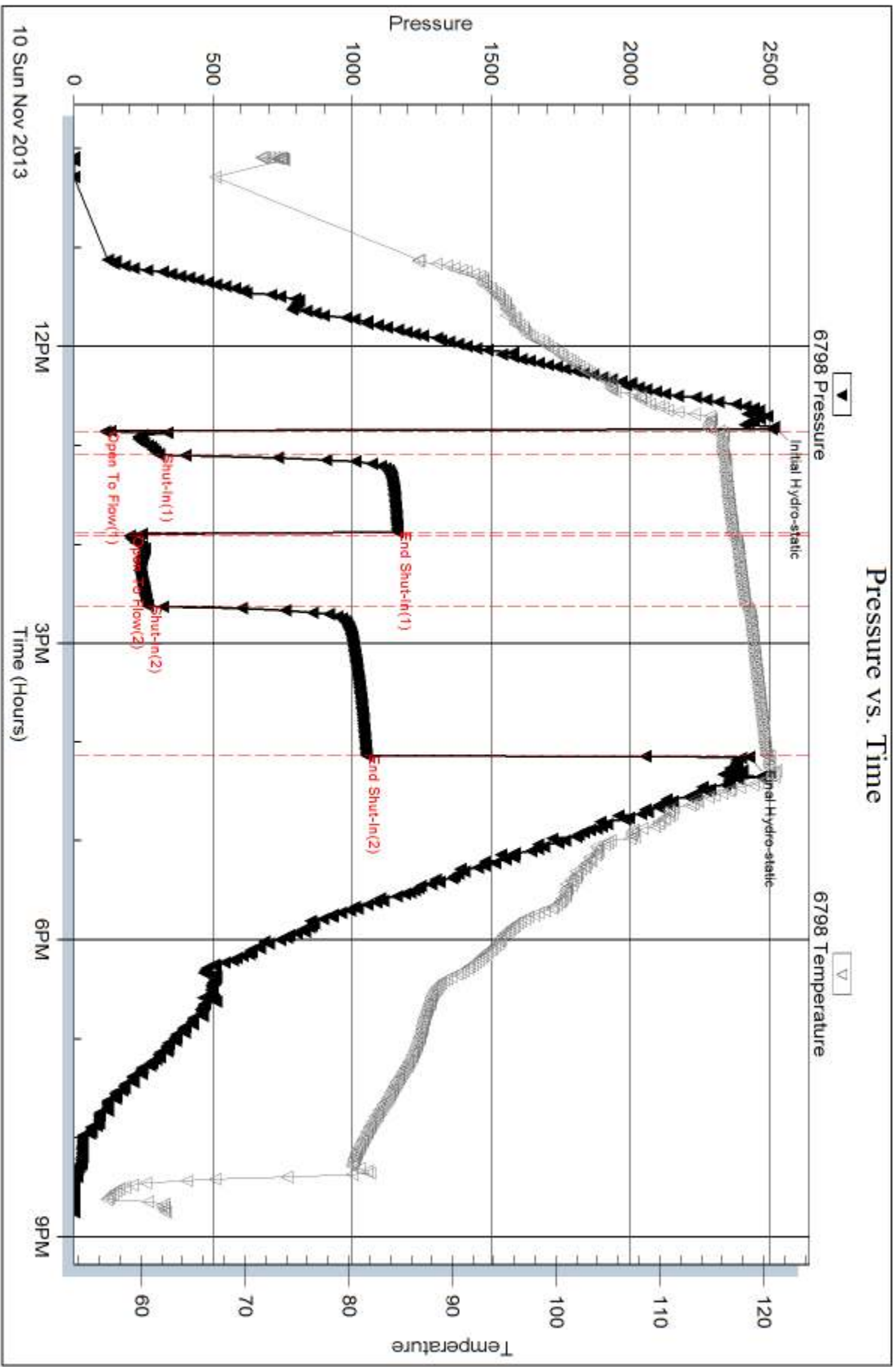
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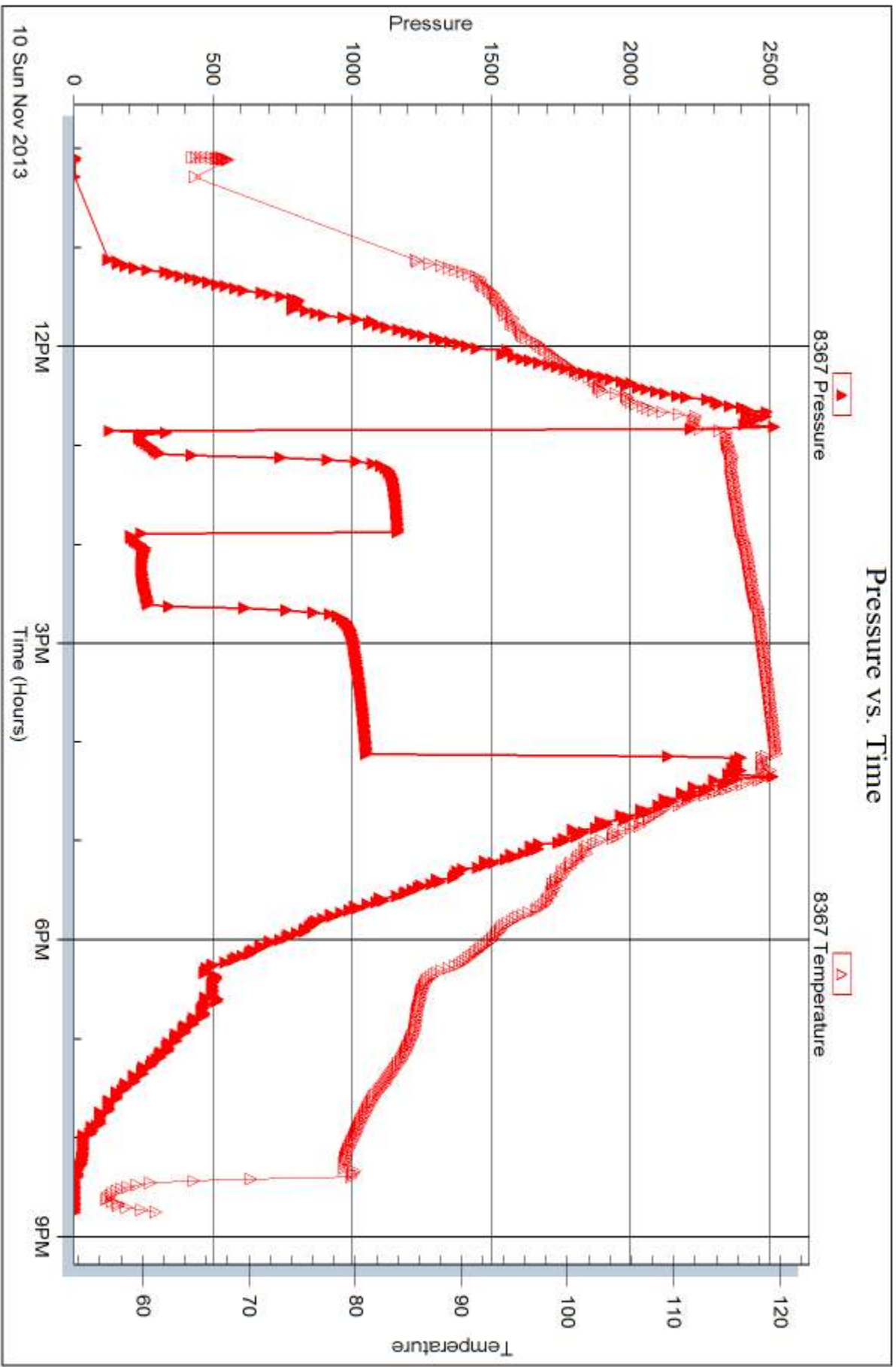
Gas Rates Information

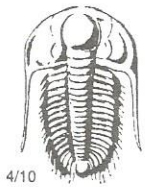
Temperature: 59 (deg F)
Relative Density: 0.65
Z Factor: 0.8

Gas Rates Table

Flow Period	Elapsed Time	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
2	10	0.25	92.00	168.79
2	20	0.50	44.00	393.95
2	30	0.50	32.00	313.00
2	40	0.50	28.00	286.02
2	45	0.50	28.00	286.02







TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 52516

Well Name & No. School Trust 20-5 Test No. 1 Date 11/07/13
 Company Herman L Loeb LLC Elevation 1479 KB 1470 GL
 Address PO Box 838 Lawrenceville, IA 62439
 Co. Rep / Geo. Tom Prond Rig sterling 4
 Location: Sec. 5 Twp. 35S Rge. 12W Co. Barber State KS

Interval Tested 4156 - 4168 Zone Tested Stalnaker
 Anchor Length 12 Drill Pipe Run 3945 Mud Wt. 9.2
 Top Packer Depth 4151 Drill Collars Run 208 Vis 52
 Bottom Packer Depth 4168 Wt. Pipe Run 0 WL 10.4
 Total Depth 4190 Chlorides 4000 ppm System LCM

Blow Description IF: Strong Blow, BOB in 10 seconds, GTs in 3 minutes, Gauged + caught some
ISI: 1/2 inch Blow Back

FF: Strong Blow, BOB + GTs Immediate, Gauged Gas

FST: 1/2 inch Blow Back

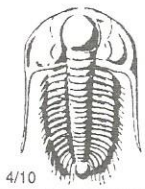
Rec	Feet of	%gas	%oil	%water	%mud
<u>4143</u>	Feet of <u>GTP</u>				
<u>10</u>	Feet of <u>GMCW</u>	<u>5</u>	<u>55</u>	<u>40</u>	
	Feet of	%gas	%oil	%water	%mud
	Feet of	%gas	%oil	%water	%mud
	Feet of	%gas	%oil	%water	%mud

Rec Total 10 BHT 103 Gravity w/c API RW .81 @ 61 °F Chlorides 8100 ppm

(A) Initial Hydrostatic 2110 Test 1250 T-On Location 08:45
 (B) First Initial Flow 150 Jars _____ T-Started 10:19
 (C) First Final Flow 614 Safety Joint 75 T-Open 13:39
 (D) Initial Shut-In 1701 Circ Sub _____ T-Pulled 14:51
 (E) Second Initial Flow 483 Hourly Standby _____ T-Out 17:39
 (F) Second Final Flow 598 Mileage (120^N) 186 Comments Successful
 (G) Final Shut-In 1700 Sampler _____ straddle
 (H) Final Hydrostatic 2128 Straddle 600 Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Extra Packer _____ Extra Copies _____
 Initial Open 15 Extra Recorder _____ Sub Total 0
 Initial Shut-In 45 Day Standby _____ Total 2111
 Final Flow 15 Accessibility _____ MP/DST Disc't _____
 Final Shut-In 60 Sub Total 2111

Approved By TC Prond Our Representative _____

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.



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **52517**

Well Name & No. School Trust 20-5 Test No. 2 Date 11/10/13
 Company Herman L LooB LLC Elevation 1479 KB 1470 GL
 Address PO Box 839 Lawrenceville IL 62439
 Co. Rep / Geo. Jim Hall Rig Sterling 4
 Location: Sec. 5 Twp. 35S Rge. 12W Co. Barber State KS

Interval Tested 4790 - 4860 Zone Tested Mississippi
 Anchor Length 70 Drill Pipe Run 4585 Mud Wt. 9.4
 Top Packer Depth 4785 Drill Collars Run 208 Vis 50
 Bottom Packer Depth 4790 Wt. Pipe Run 0 WL 8.8
 Total Depth 4860 Chlorides 5500 ppm System LCM 1/2

Blow Description IF: Strong Blow, BOB in 15 seconds, BTS in 12 minutes
ISI: BOB Blow Back in 20 minutes

FP: Strong Blow, BOB+GTS Immediate, gauged + caught sample

FST: Blow Back Built to 4 inches

Rec	Feet of	%gas	%oil	%water	%mud
<u>3797</u>	<u>Feet of GIP</u>				
<u>934</u>	<u>Feet of GSY oil</u>	<u>5%</u>	<u>95%</u>		
<u>62</u>	<u>Feet of GWMCO</u>	<u>10%</u>	<u>80%</u>	<u>4%</u>	<u>16%</u>

Rec Total 996 BHT 120 Gravity 19.6 API RW NIC @ NIC °F Chlorides NIC ppm

(A) Initial Hydrostatic <u>2517</u>	<input checked="" type="checkbox"/> Test <u>1250</u>	T-On Location <u>09:15</u>
(B) First Initial Flow <u>113</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>10:05</u>
(C) First Final Flow <u>308</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>12:51</u>
(D) Initial Shut-In <u>1162</u>	<input type="checkbox"/> Circ Sub	T-Pulled <u>16:08</u>
(E) Second Initial Flow <u>201</u>	<input checked="" type="checkbox"/> Hourly Standby <u>1 1/2</u> <u>150</u>	T-Out <u>20:45</u>
(F) Second Final Flow <u>265</u>	<input checked="" type="checkbox"/> Mileage <u>(120)</u> <u>372</u>	Comments <u>still on stand by as</u>
(G) Final Shut-In <u>1050</u>	<input type="checkbox"/> Sampler	<u>of 11/14/13 (additional</u>
(H) Final Hydrostatic <u>2426</u>	<input type="checkbox"/> Straddle	<u>2 days of standby)</u>
	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Shale Packer
	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Ruined Packer
Initial Open <u>15</u>	<input type="checkbox"/> Extra Recorder	<input type="checkbox"/> Extra Copies
Initial Shut-In <u>45</u>	<input checked="" type="checkbox"/> Day Standby <u>1 1/2</u>	Sub Total <u>3716.67</u>
Final Flow <u>45</u>	<input type="checkbox"/> Accessibility <u>1d 39.5 & 1d 65.5h</u>	Total <u>5813.67</u>
Final Shut-In <u>90</u>	Sub Total <u>2097</u>	MP/DST Disc't

Approved By JR Hall Our Representative [Signature]
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