

**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Prepared For: **DS Langston**

310 W. Central
STE 202
Wichita KS 67202+1004

ATTN: Dave Williams

Doll #30

36-18s-11w Barton,KS

Start Date: 2011.11.01 @ 00:30:05

End Date: 2011.11.01 @ 06:57:39

Job Ticket #: 44267 DST #: 1

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

CONFIDENTIAL
FEB 16 2013
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Printed: 2011.11.11 @ 09:28:00

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**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

DS Langston

310 W. Central
STE 202
Wichita KS 67202+1004
ATTN: Dave Williams

36-18s-11w Barton, KS

Doll #30

Job Ticket: 44267

DST#: 1

Test Start: 2011.11.01 @ 00:30:05

GENERAL INFORMATION:

Formation: LKC

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 02:19:10

Time Test Ended: 06:57:39

Test Type: Conventional Bottom Hole (Initial)

Tester: Andy Carreira

Unit No: 39

Interval: 3029.00 ft (KB) To 3047.00 ft (KB) (TVD)

Total Depth: 3047.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Poor

Reference Elevations: 1758.00 ft (KB)

1751.00 ft (CF)

KB to GR/CF: 7.00 ft

Serial #: 8352

Outside

Press@RunDepth: 260.18 psig @ 3030.00 ft (KB)

Start Date: 2011.11.01

End Date:

2011.11.01

Capacity: 8000.00 psig

Last Calib.: 2011.11.01

Start Time: 00:30:05

End Time:

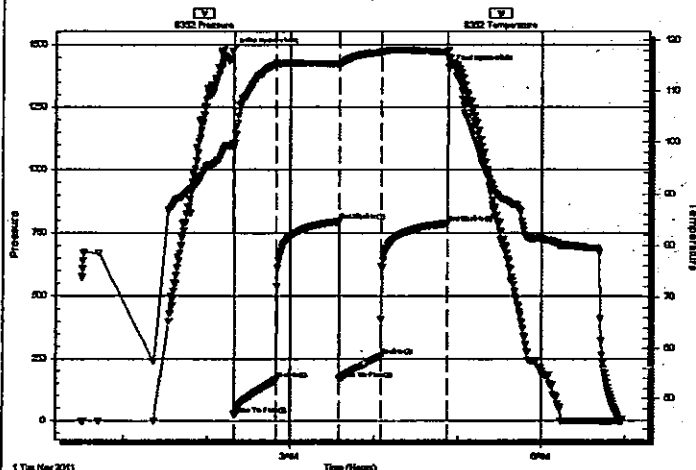
06:57:40

Time On Btmr 2011.11.01 @ 02:18:00

Time Off Btmr 2011.11.01 @ 04:52:59

TEST COMMENT: IF:(30min) BOB, 8 min
IS:(45min) No Return
FF:(30min) BOB, 10 min
FS:(45min) No Return

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1474.87	99.70	Initial Hydro-static
2	23.38	98.95	Open To Flow (1)
32	164.94	115.37	Shut-In(1)
77	795.93	115.32	End Shut-In(1)
77	167.72	115.06	Open To Flow (2)
107	260.18	117.63	Shut-In(2)
155	789.14	117.72	End Shut-In(2)
155	1404.50	116.43	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
500.00	SOSW	5.92

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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Trilobite Testing, Inc

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**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

DS Langston

36-18s-11w Barton, KS

310 W. Central
STE 202
Wichita KS 67202+1004
ATTN: Dave Williams

Doll #30

Job Ticket: 44267

DST#: 1

Test Start: 2011.11.01 @ 00:30:05

Tool Information

Drill Pipe:	Length: 2897.00 ft	Diameter: 3.80 inches	Volume: 40.64 bbl	Tool Weight:	3000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer:	24000.00 lb
Drill Collar:	Length: 120.00 ft	Diameter: 2.25 inches	Volume: 0.59 bbl	Weight to Pull Loose:	48000.00 lb
		Total Volume:	41.23 bbl	Tool Chased	0.00 ft
Drill Pipe Above KB:	16.00 ft			String Weight: Initial	39000.00 lb
Depth to Top Packer:	3029.00 ft			Final	41000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	18.00 ft				
Tool Length:	46.00 ft				
Number of Packers:	2	Diameter:	6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3002.00	
Shut In Tool	5.00			3007.00	
Hydraulic tool	5.00			3012.00	
Jars	5.00			3017.00	
Safety Joint	3.00			3020.00	
Packer	5.00			3025.00	28.00 Bottom Of Top Packer
Packer	4.00			3029.00	
Stubb	1.00			3030.00	
Recorder	0.00	8017	Inside	3030.00	
Recorder	0.00	8352	Outside	3030.00	
Perforations	14.00			3044.00	
Bullnose	3.00			3047.00	18.00 Bottom Packers & Anchor

Total Tool Length: 46.00

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TRILOBITE
TESTING, INC

DRILL STEM TEST REPORT

FLUID SUMMARY

DS Langston

36-18s-11w Barton,KS

310 W. Central
STE 202
Wichita KS 67202+1004
ATTN: Dave Williams

Doll #30

Job Ticket: 44267

DST#: 1

Test Start: 2011.11.01 @ 00:30:05

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 68.00 sec/qt

Water Loss: 7.58 in³

Resistivity: ohm.m

Salinity: 4500.00 ppm

Filter Cake: inches

Cushion Type:

Cushion Length:

Cushion Volume:

Gas Cushion Type:

Gas Cushion Pressure:

ft

bbl

psig

Oil API:

deg API

Water Salinity:

29000 ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
500.00	SOSW	5.921

Total Length: 500.00 ft

Total Volume: 5.921 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Resistivity- .31 @ 50deg = 29000

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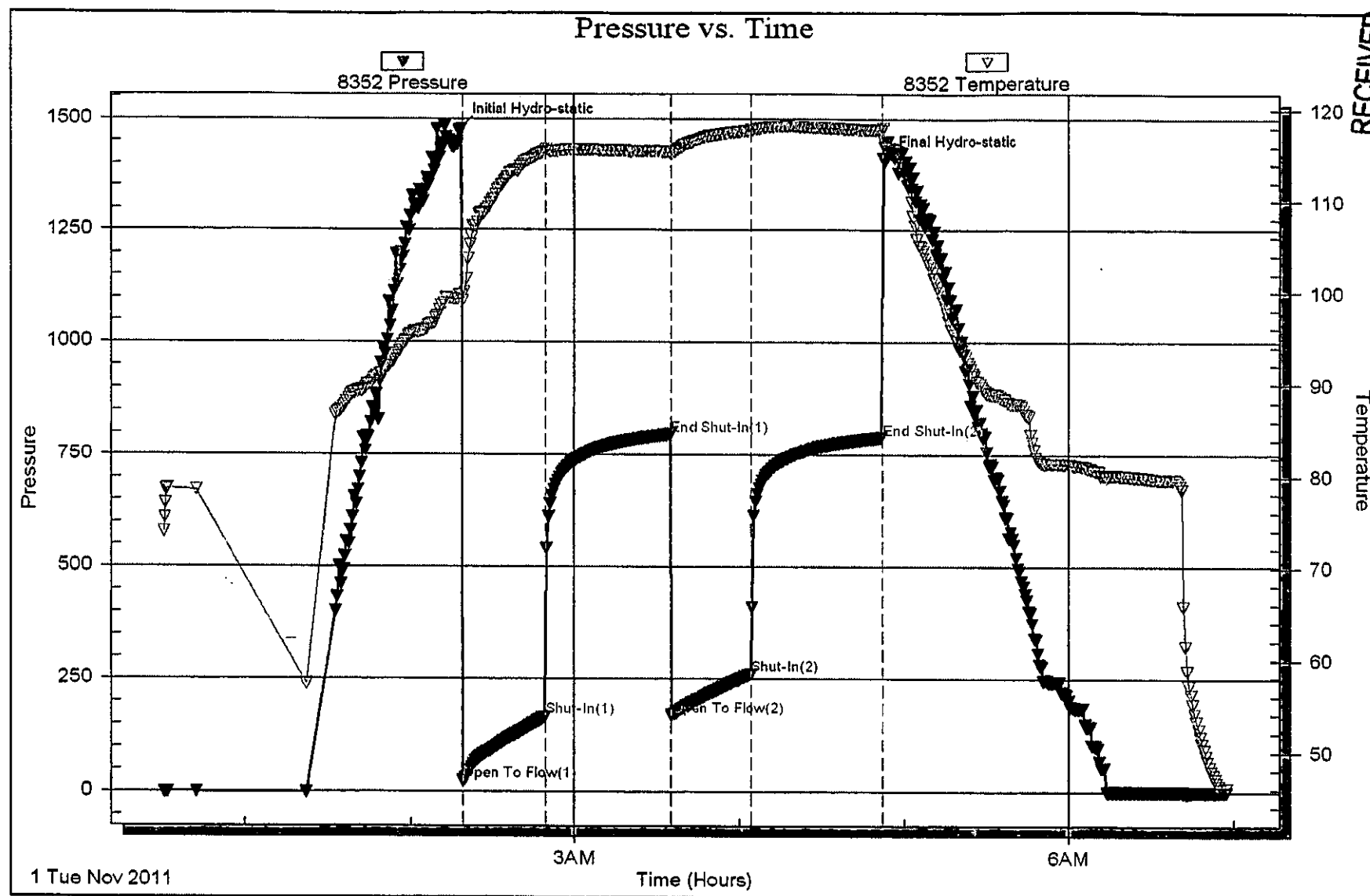
Serial #: 8352

Outside DS Langston

Doll #30

DST Test Number: 1

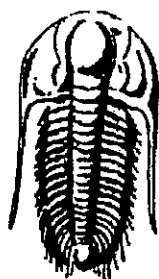
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Ref. No: 44267

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TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Prepared For: **DS Langston**

310 W. Central
STE 202
Wichita KS 67202+1004

ATTN: Dave Williams

Doll #30

36-18s-11w Barton,KS

Start Date: 2011.11.03 @ 08:52:05

End Date: 2011.11.03 @ 14:51:59

Job Ticket #: 44268 DST #: 2

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

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DS Langston

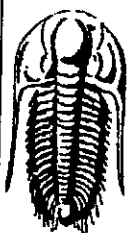
36-18s-11w Barton,KS

Doll #30

DST # 2

LKC"H-LJ"

2011.11.03



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

DS Langston

310 W. Central
STE 202
Wichita KS 67202+1004
ATTN: Dave Williams

36-18s-11w Barton, KS

Doll #30

Job Ticket: 44268

DST#: 2

Test Start: 2011.11.03 @ 08:52:05

GENERAL INFORMATION:

Formation: LKC "H-I-J"

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 10:35:40

Time Test Ended: 14:51:59

Test Type: Conventional Bottom Hole (Reset)

Tester: Andy Carreira

Unit No: 39

Interval: 3070.00 ft (KB) To 3116.00 ft (KB) (TVD)

Total Depth: 3116.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 1758.00 ft (KB)

1751.00 ft (CF)

KB to GR/CF: 7.00 ft

Serial #: 8352

Outside

Press@RunDepth: 101.09 psig @ 3076.00 ft (KB)

Start Date: 2011.11.03

End Date:

2011.11.03

Start Time: 08:52:05

End Time:

14:51:59

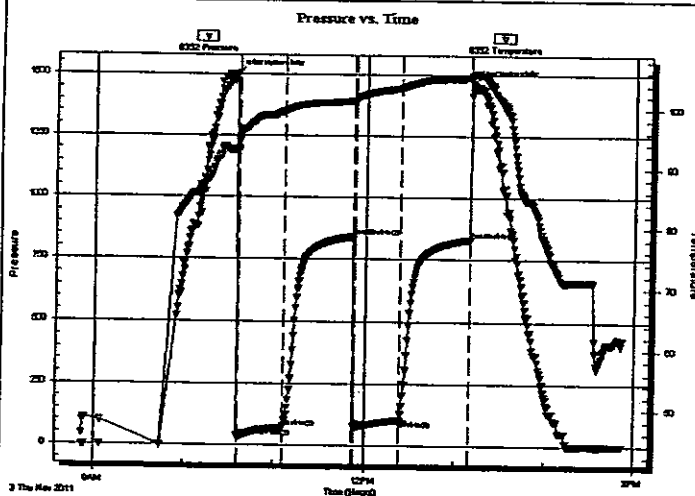
Capacity: 8000.00 psig

Last Calib.: 2011.11.03

Time On Btmr 2011.11.03 @ 10:33:50

Time Off Btmr 2011.11.03 @ 13:10:50

TEST COMMENT: IF:(30min) BOB, 2 min.
IS:(45min) Intermittent surface blow back.
FF:(30min) BOB, 1.5 min.
FS:(45min) Return Blow, BOB, 30 min.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1501.02	93.14	Initial Hydro-static
2	32.14	94.30	Open To Flow (1)
33	72.03	99.52	Shut-In (1)
78	839.97	101.32	End Shut-In (1)
79	73.82	101.09	Open To Flow (2)
110	101.09	103.54	Shut-In (2)
156	829.25	105.22	End Shut-In (2)
157	1465.49	105.41	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
65.00	GOCVM g=45% o=10% w=5% m=40%	0.32
120.00	HOCGM g=50% o=20% m=30%	1.18
30.00	HOCGM g=30% o=20% m=50%	0.42
0.00	GIP= 1425 ft	0.00

* Recovery from multiple tests

Gas Rates

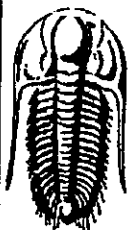
	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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Trilobite Testing, Inc

Ref. No: 44268

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TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

TOOL DIAGRAM

DS Langston

36-18s-11w Barton, KS

310 W. Central
STE 202
Wichita KS 67202+1004
ATTN: Dave Williams

Doll #30

Job Ticket: 44268

DST#: 2

Test Start: 2011.11.03 @ 08:52:05

Tool Information

Drill Pipe:	Length: 2932.00 ft	Diameter: 3.80 inches	Volume: 41.13 bbl	Tool Weight:	3000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer:	24000.00 lb
Drill Collar:	Length: 120.00 ft	Diameter: 2.25 inches	Volume: 0.59 bbl	Weight to Pull Loose:	52000.00 lb
		Total Volume:	41.72 bbl	Tool Chased	0.00 ft
Drill Pipe Above KB:	10.00 ft			String Weight: Initial	40000.00 lb
Depth to Top Packer:	3070.00 ft			Final	42000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	46.00 ft				
Tool Length:	74.00 ft				
Number of Packers:	2	Diameter:	6.75 inches		
Tool Comments:					

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3043.00	
Shut In Tool	5.00			3048.00	
Hydraulic tool	5.00			3053.00	
Jars	5.00			3058.00	
Safety Joint	3.00			3061.00	
Packer	5.00			3066.00	28.00 Bottom Of Top Packer
Packer	4.00			3070.00	
Stubb	1.00			3071.00	
Perforations	4.00			3075.00	
Change Over Sub	1.00			3076.00	
Recorder	0.00	8017	Inside	3076.00	
Recorder	0.00	8352	Outside	3076.00	
Drill Pipe	31.00			3107.00	
Change Over Sub	1.00			3108.00	
Perforations	5.00			3113.00	
Bullnose	3.00			3116.00	46.00 Bottom Packers & Anchor
Total Tool Length:	74.00				

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DRILL STEM TEST REPORT

FLUID SUMMARY

DS Langston

36-18s-11w Barton, KS

310 W. Central
STE 202
Wichita KS 67202+1004
ATTN: Dave Williams

Doll #30

Job Ticket: 44268

DST#: 2

Test Start: 2011.11.03 @ 08:52:05

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 57.00 sec/qt

Water Loss: 8.77 in³

Resistivity: ohm.m

Salinity: 9300.00 ppm

Filter Cake: inches

Cushion Type:

Cushion Length:

Cushion Volume:

Gas Cushion Type:

Gas Cushion Pressure:

Oil API:

ft

bbl

psig

Water Salinity:

deg API

ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
65.00	GOCWM g=45% o=10% w=5% m=40%	0.320
120.00	HOCGM g=50% o=20% m=30%	1.182
30.00	HOCGM g=30% o=20% m=50%	0.421
0.00	GIP= 1425 ft	0.000

Total Length: 215.00 ft

Total Volume: 1.923 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

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Serial #: 8352

Outside DS Langston

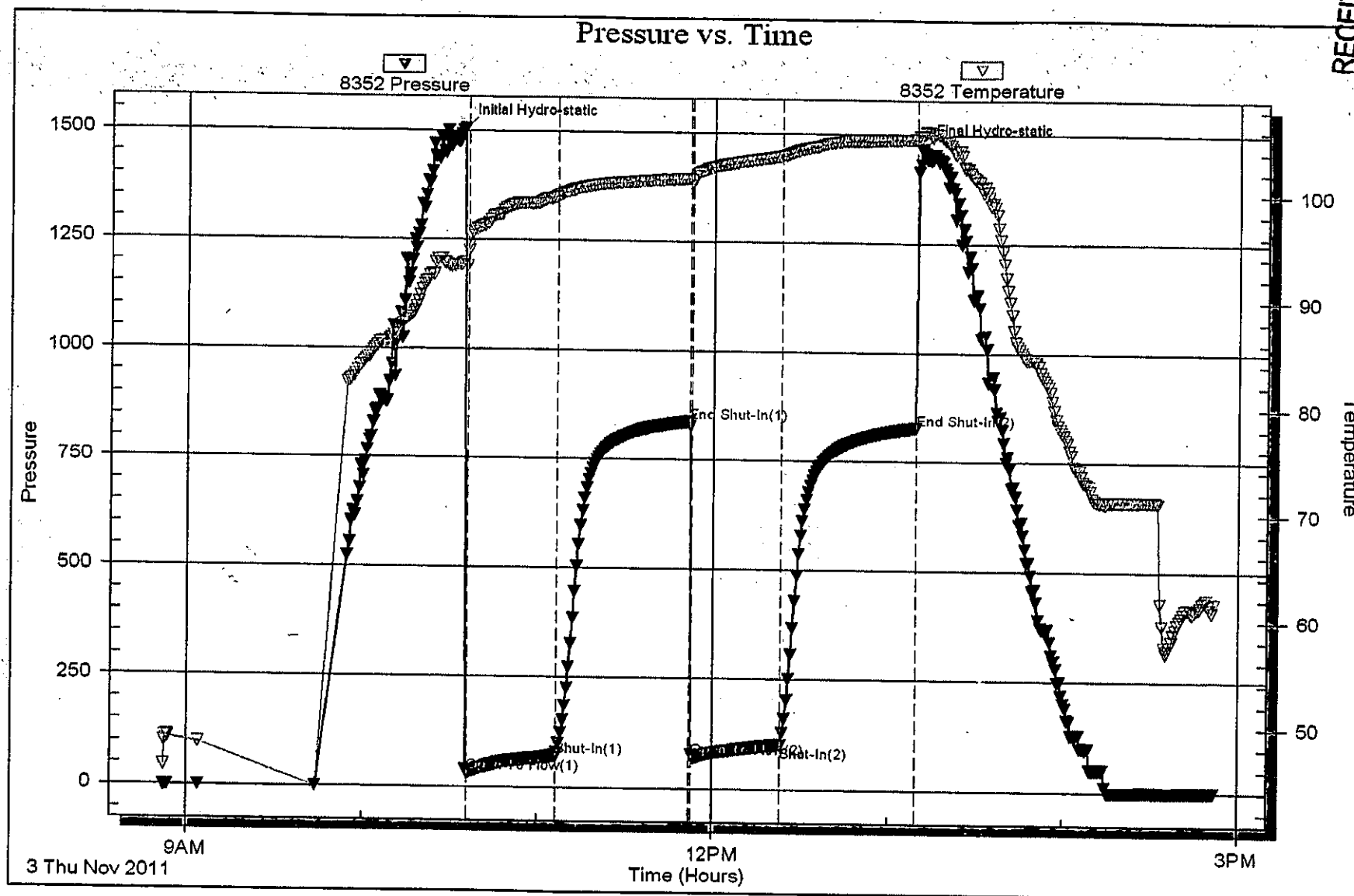
Doll #30

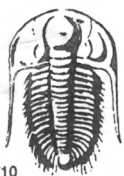
DST Test Number: 2

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TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

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NOV 07 2011

Test Ticket

NO. 44267 16562

Well Name & No. Doll #30 Test No. 1 Date 10-31-11
 Company DS Langston Elevation 1758 KB 1751 GL
 Address 310 W. Central, STE 202 Wichita Ks. 67202+1004
 Co. Rep / Geo. Dave Williams Rig Southwind 4
 Location: Sec. 36 Twp. 18S Rge. 11W Co. Barton State Ks

Interval Tested 3029-3047 Zone Tested LKC "B"
 Anchor Length 18' Drill Pipe Run 2897 Mud Wt. 8.7
 Top Packer Depth 3024 Drill Collars Run 120 Vis 68
 Bottom Packer Depth 3029 Wt. Pipe Run 0 WL 7.6
 Total Depth 3047 Chlorides 4500 ppm System LCM 1

Blow Description IF: BOB, 8min

IS: No Return

FP: BOB, 10min

FS: No Return

Rec	Feet of	%gas	%oil	%water	%mud
<u>500</u>	<u>Feet of 505W</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 500' BHT Gravity API RW .31 @ 50° F Chlorides 29000 ppm

(A) Initial Hydrostatic 1474
 (B) First Initial Flow 23
 (C) First Final Flow 164
 (D) Initial Shut-In 795
 (E) Second Initial Flow 167
 (F) Second Final Flow 260
 (G) Final Shut-In 789
 (H) Final Hydrostatic 1401

☒ Test 1125'
☒ Jars 250'
☒ Safety Joint 75'

☐ Circ Sub
☐ Hourly Standby
☐ Mileage ← 158RT 22120

☐ Sampler
☐ Straddle
☐ Shale Packer

☐ Extra Packer
☐ Extra Recorder
☐ Day Standby

☐ Accessibility
 Sub Total 1671.20

T-On Location 23:02
 T-Started 0030
 T-Open 02:20
 T-Pulled 04:50
 T-Out 06:58

Comments

☐ Ruined Shale Packer
☐ Ruined Packer
☐ Extra Copies

Sub Total 0
 Total 1671.20

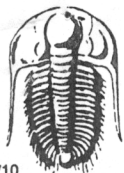
MP/DST Disc't

Initial Open 30
 Initial Shut-In 45
 Final Flow 30
 Final Shut-In 45

Approved By

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.

P.O. Box 1733 • Hays, Kansas 67601

RECEIVED
NOV 07 2011

Test Ticket

NO. 44268

Well Name & No. Doll #30 Test No. 2 Date 11-3-11
 Company DS Langston Elevation 1758 KB 1751 GL
 Address 310 W Central STE 202 Wichita KS 67202+1004
 Co. Rep / Geo. Dave Williams Rig Southwin #4
 Location: Sec. 36 Twp. 18S Rge. 11W Co. Barber State KS

Interval Tested 3070-3116 Zone Tested LKC H-I
 Anchor Length 46' Drill Pipe Run 2932 Mud Wt. 9.1
 Top Packer Depth 3065 Drill Collars Run 120 Vis 57
 Bottom Packer Depth 3070 Wt. Pipe Run 0 WL 8.8
 Total Depth 3116 Chlorides 9300 ppm System LCM 1/2

Blow Description FF: BOB, 1 min.
IS: intermittent surface blow back
FF: BOB, 1 1/2 min
FS: Return Blow, BOB, 30 min.

Rec	Feet of	%gas	%oil	%water	%mud
1425	GIP				
30	HOCBM	30	20	50	50
120	HOCBM	50	20	30	30
65	BOCBM BOCBM BOCBM	45	10	5	40
		%gas	%oil	%water	%mud

Rec Total 215' BHT _____ Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 1501 ☒ Test 1125' T-On Location 08:32
 (B) First Initial Flow 32 ☒ Jars 250' T-Started 08:52
 (C) First Final Flow 72 ☒ Safety Joint 75' T-Open 10:36
 (D) Initial Shut-In 839 ☐ Circ Sub _____ T-Pulled 13:06
 (E) Second Initial Flow 73 ☐ Hourly Standby _____ T-Out 14:52
 (F) Second Final Flow 101 ☒ Mileage 158 RT 221.20 Comments 2 Day stand by
 (G) Final Shut-In 829 ☐ Sampler _____ (Rotary table broke
 (H) Final Hydrostatic 1465 ☐ Straddle _____ down)
☐ Ruined Shale Packer _____
☐ Ruined Packer _____
☐ Extra Copies _____

Initial Open 30
 Initial Shut-In 45'
 Final Flow 30
 Final Shut-In 45'

☐ Extra Recorder _____
☒ Day Standby 1 Day 25.5 hrs
☐ Accessibility _____
 Sub Total 11671.20

Sub Total 850.17
 Total 2521.37
 MP/DST Disc't _____

Approved By _____

Our Representative [Signature]

Trilobite Testing Inc. shall not be liable for damaged or 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.