



DRILL STEM TEST REPORT

Prepared For: **Northern lights Oil Co LC**

PO Box 164
Andover KS 67002

ATTN: Seth Evanson

Keenan #2

3-19s-29w Lane,KS

Start Date: 2013.10.06 @ 04:32:01

End Date: 2013.10.06 @ 11:25:00

Job Ticket #: 53632 DST #: 1

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

Printed: 2013.10.14 @ 16:51:38



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Northern lights Oil Co LC

3-19s-29w Lane, KS

PO Box 164
Andover KS 67002

Keenan #2

Job Ticket: 53632

DST#: 1

ATTN: Seth Evanson

Test Start: 2013.10.06 @ 04:32:01

GENERAL INFORMATION:

Formation: **LKC"G"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 06:30:00

Time Test Ended: 11:25:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Andy Carreira

Unit No: 68

Interval: 4144.00 ft (KB) To 4200.00 ft (KB) (TVD)

Reference Elevations: 2820.00 ft (KB)

Total Depth: 4200.00 ft (KB) (TVD)

2815.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 5.00 ft

Serial #: 8372

Inside

Press @ Run Depth: 586.60 psig @ 4150.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.10.06

End Date:

2013.10.06

Last Calib.:

2013.10.06

Start Time: 04:32:01

End Time:

11:25:00

Time On Btm:

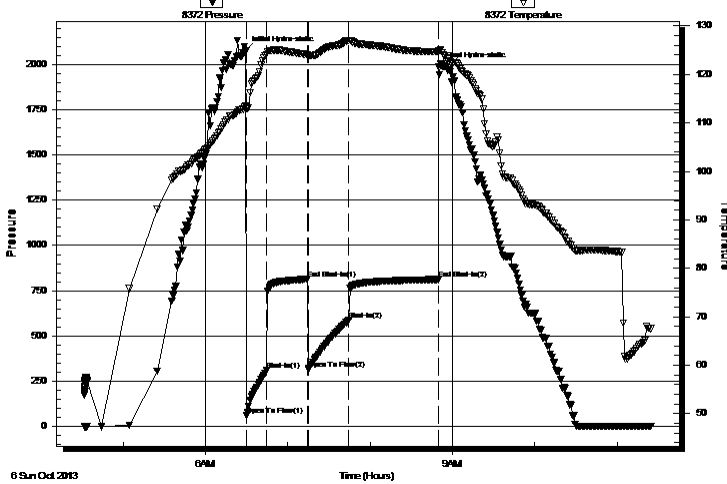
2013.10.06 @ 06:29:30

Time Off Btm:

2013.10.06 @ 08:50:00

TEST COMMENT: IF:(15min) BOB in 4 min.
IS:(30min) No Return
FF:(30min) BOB in 5 min
FS:(60min) No Return

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2073.41	113.54	Initial Hydro-static
1	60.27	113.02	Open To Flow (1)
15	308.90	124.11	Shut-In(1)
45	816.43	124.05	End Shut-In(1)
46	315.60	123.72	Open To Flow (2)
75	586.60	127.00	Shut-In(2)
140	812.54	124.62	End Shut-In(2)
141	1986.54	124.98	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
375.00	MW	3.10
833.00	MW w / trace oil	11.68
2.00	Oil	0.03

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Northern lights Oil Co LC

3-19s-29w Lane, KS

PO Box 164
Andover KS 67002

Keenan #2

Job Ticket: 53632

DST#: 1

ATTN: Seth Evanson

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GENERAL INFORMATION:

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Time Test Ended: 11:25:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Andy Carreira

Unit No: 68

Interval: 4144.00 ft (KB) To 4200.00 ft (KB) (TVD)

Reference Elevations: 2820.00 ft (KB)

Total Depth: 4200.00 ft (KB) (TVD)

2815.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 5.00 ft

Serial #: 8321

Outside

Press @RunDepth: psig @ 4150.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.10.06

End Date:

2013.10.06

Last Calib.:

2013.10.06

Start Time: 04:32:01

End Time:

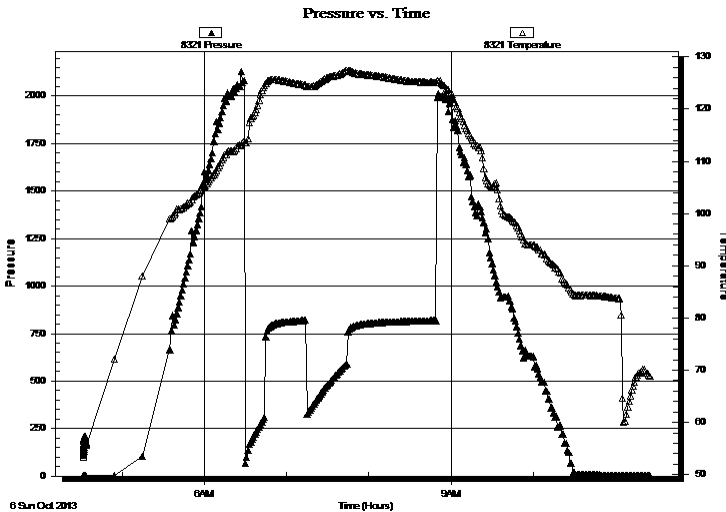
11:25:00

Time On Btm:

Time Off Btm:

TEST COMMENT: IF:(15min) BOB in 4 min.
IS:(30min) No Return
FF:(30min) BOB in 5 min
FS:(60min) No Return

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

Recovery

Length (ft)	Description	Volume (bbl)
375.00	MW	3.10
833.00	MW w / trace oil	11.68
2.00	Oil	0.03

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Northern lights Oil Co LC

3-19s-29w Lane,KS

PO Box 164
Andover KS 67002

Keenan #2

Job Ticket: 53632

DST#: 1

ATTN: Seth Evanson

Test Start: 2013.10.06 @ 04:32:01

Tool Information

Drill Pipe:	Length: 3893.00 ft	Diameter: 3.80 inches	Volume: 54.61 bbl	Tool Weight:	2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer:	20000.00 lb
Drill Collar:	Length: 237.33 ft	Diameter: 2.25 inches	Volume: 1.17 bbl	Weight to Pull Loose:	56000.00 lb
			<u>Total Volume: 55.78 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	6.33 ft			String Weight: Initial	50000.00 lb
Depth to Top Packer:	4144.00 ft			Final	56000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	56.00 ft				
Tool Length:	76.00 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			4125.00	
Shut In Tool	5.00			4130.00	
Hydraulic tool	5.00			4135.00	
Packer	5.00			4140.00	20.00 Bottom Of Top Packer
Packer	4.00			4144.00	
Stubb	1.00			4145.00	
Perforations	4.00			4149.00	
Change Over Sub	1.00			4150.00	
Recorder	0.00	8372	Inside	4150.00	
Recorder	0.00	8321	Outside	4150.00	
Drill Pipe	31.00			4181.00	
Change Over Sub	1.00			4182.00	
Perforations	15.00			4197.00	
Bullnose	3.00			4200.00	56.00 Bottom Packers & Anchor

Total Tool Length: 76.00



**TRILOBITE
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DRILL STEM TEST REPORT

FLUID SUMMARY

Northern lights Oil Co LC

3-19s-29w Lane,KS

PO Box 164
Andover KS 67002

Keenan #2

Job Ticket: 53632

DST#: 1

ATTN: Seth Evanson

Test Start: 2013.10.06 @ 04:32:01

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:

70000 ppm

Viscosity: 50.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.74 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3000.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
375.00	MW	3.098
833.00	MW w / trace oil	11.685
2.00	Oil	0.028

Total Length: 1210.00 ft Total Volume: 14.811 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Resistivity- .125 @ 68 = 70000

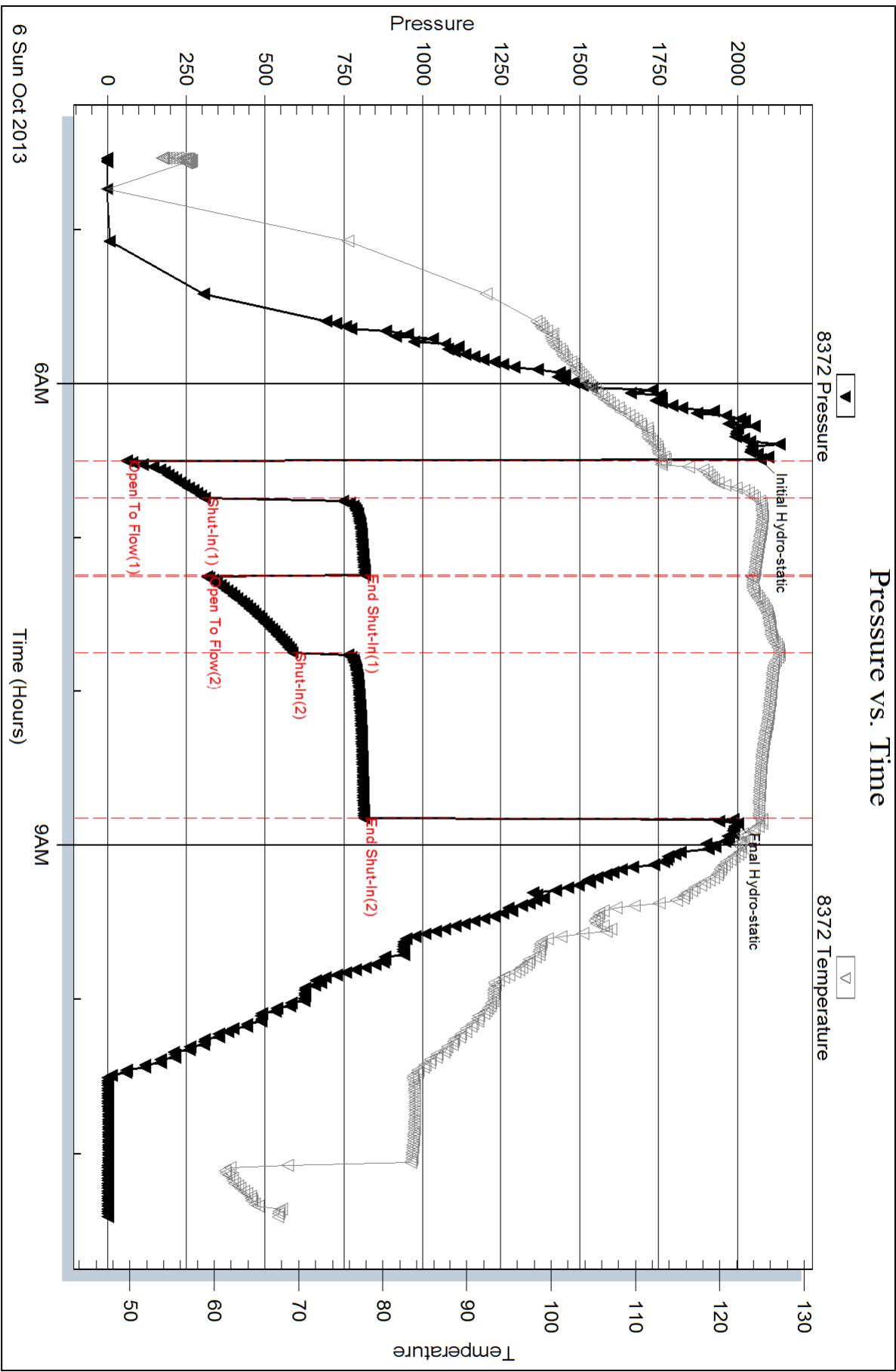
Serial #: 8372

Inside

Northern lights Oil Co LC

Keenan #2

DST Test Number: 1



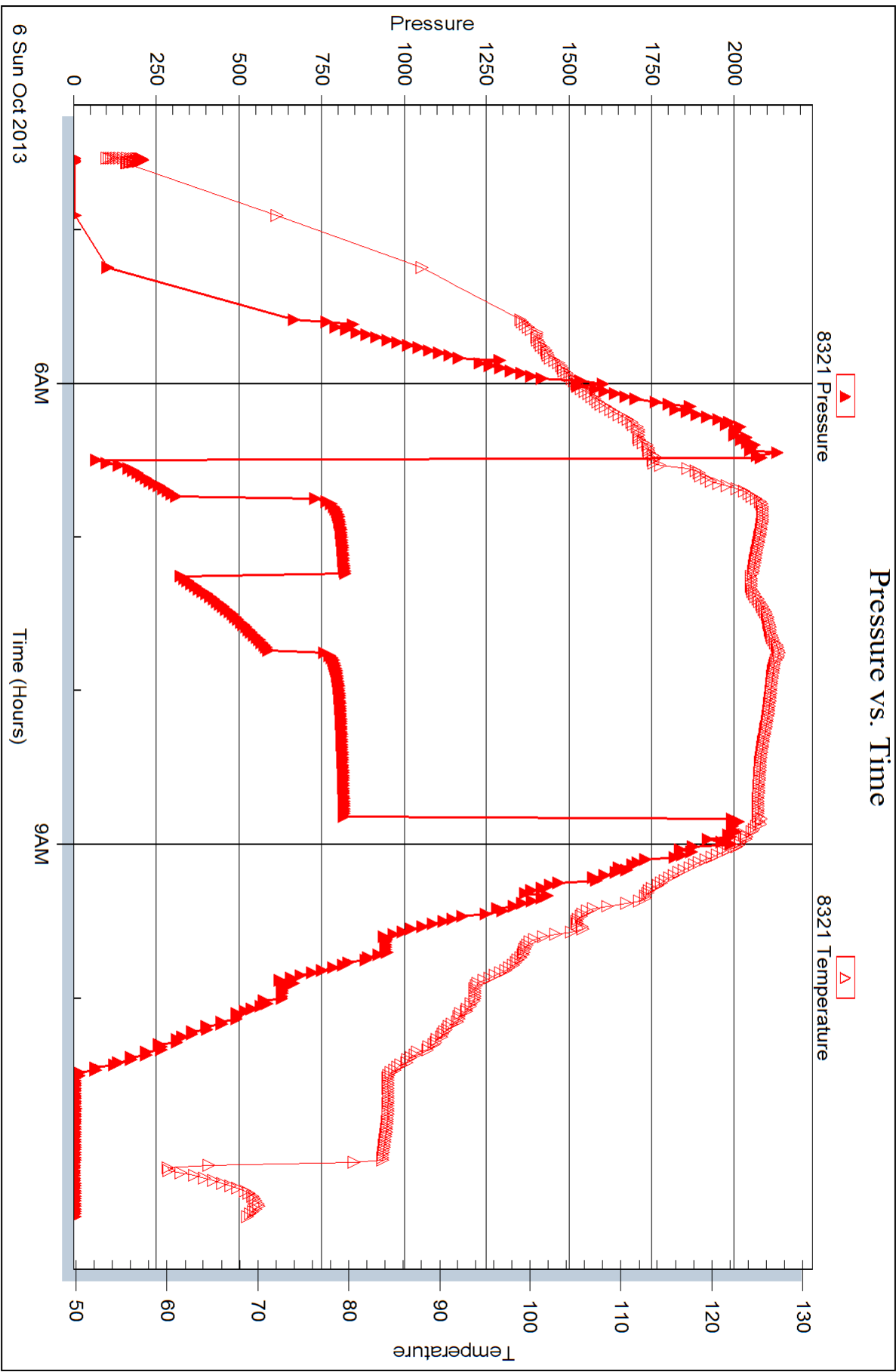
Serial #: 8321

Outside

Northern lights Oil Co LC

Keenan #2

DST Test Number: 1





DRILL STEM TEST REPORT

Prepared For: **Northern lights Oil Co LC**

PO Box 164
Andover KS 67002

ATTN: Seth Evanson

Keenan #2

3-19s-29w Lane,KS

Start Date: 2013.10.06 @ 19:01:01

End Date: 2013.10.07 @ 04:49:00

Job Ticket #: 53633 DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.10.14 @ 16:51:13



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Northern lights Oil Co LC

3-19s-29w Lane, KS

PO Box 164
Andover KS 67002

Keenan #2

Job Ticket: 53633

DST#: 2

ATTN: Seth Evanson

Test Start: 2013.10.06 @ 19:01:01

GENERAL INFORMATION:

Formation: **LKC"H"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 21:42:30

Time Test Ended: 04:49:00

Test Type: Conventional Bottom Hole (Reset)

Tester: Andy Carreira

Unit No: 68

Interval: 4197.00 ft (KB) To 4221.00 ft (KB) (TVD)

Total Depth: 4221.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Poor

Reference Elevations: 2820.00 ft (KB)

2815.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 8372

Inside

Press @ Run Depth: 447.74 psig @ 4198.00 ft (KB)

Start Date: 2013.10.06

End Date: 2013.10.07

Start Time: 19:01:01

End Time: 04:49:00

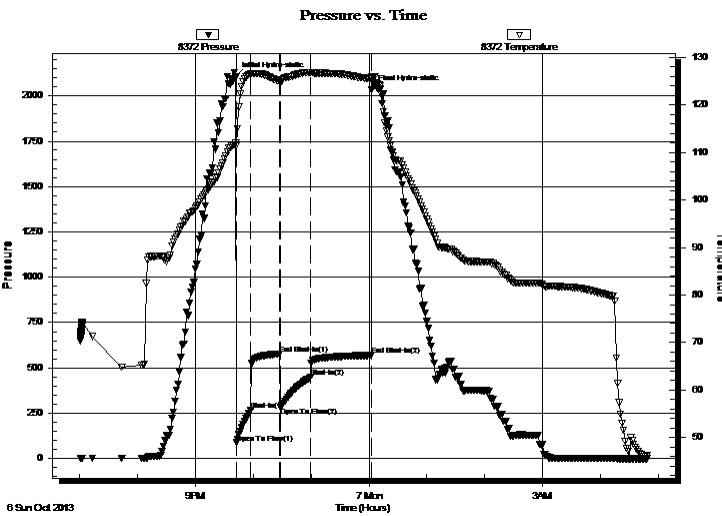
Capacity: 8000.00 psig

Last Calib.: 2013.10.07

Time On Btm: 2013.10.06 @ 21:42:00

Time Off Btm: 2013.10.07 @ 00:03:00

TEST COMMENT: IF:(15min) BOB in 2 min.
 IS:(30min) Return blow immediately after bleed off. Built to 6" in 15 min.
 FF:(30min) BOB in 2 min.
 FS:(60min) No Return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2104.41	112.03	Initial Hydro-static
1	86.32	111.44	Open To Flow (1)
16	267.59	126.57	Shut-In(1)
46	576.63	124.93	End Shut-In(1)
47	280.95	124.60	Open To Flow (2)
78	447.74	126.85	Shut-In(2)
141	569.34	125.53	End Shut-In(2)
141	2033.84	126.02	Final Hydro-static

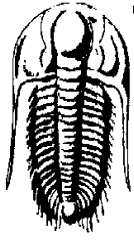
Recovery

Length (ft)	Description	Volume (bbl)
63.00	GOCM g=20% o=20% m=60%	0.31
63.00	MCGO m=20% g=30% o=50%	0.31
1039.00	GO g=15% o=85%	13.56
0.00	GIP= 410ft	0.00

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Northern lights Oil Co LC

3-19s-29w Lane,KS

PO Box 164
Andover KS 67002

Keenan #2

Job Ticket: 53633

DST#: 2

ATTN: Seth Evanson

Test Start: 2013.10.06 @ 19:01:01

GENERAL INFORMATION:

Formation: **LKC"H"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 21:42:30

Time Test Ended: 04:49:00

Test Type: Conventional Bottom Hole (Reset)

Tester: Andy Carreira

Unit No: 68

Interval: 4197.00 ft (KB) To 4221.00 ft (KB) (TVD)

Reference Elevations: 2820.00 ft (KB)

Total Depth: 4221.00 ft (KB) (TVD)

2815.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 5.00 ft

Serial #: 8321 Outside

Press @RunDepth: psig @ 4198.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.10.06

End Date:

2013.10.07

Last Calib.:

2013.10.07

Start Time: 19:01:01

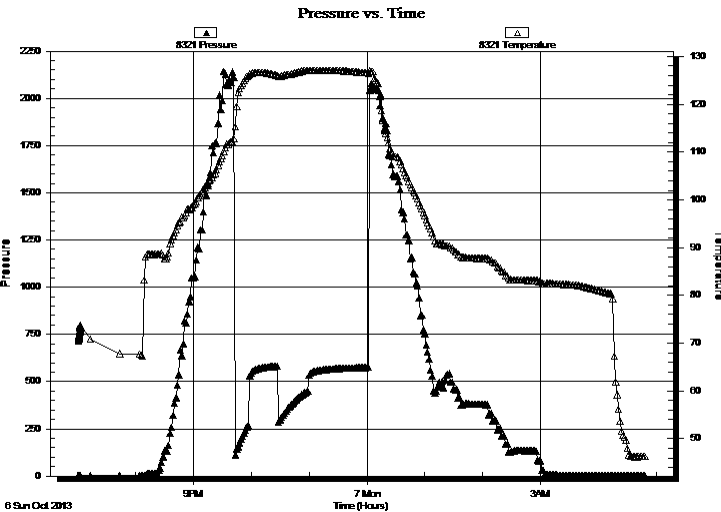
End Time:

04:49:00

Time On Btm:

Time Off Btm:

TEST COMMENT: IF:(15min) BOB in 2 min.
IS:(30min) Return blow immediately after bleed off. Built to 6" in 15 min.
FF:(30min) BOB in 2 min.
FS:(60min) No Return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

Recovery

Length (ft)	Description	Volume (bbl)
63.00	GOCM g=20% o=20% m=60%	0.31
63.00	MCGO m=20% g=30% o=50%	0.31
1039.00	GO g=15% o=85%	13.56
0.00	GIP= 410ft	0.00

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Northern lights Oil Co LC

3-19s-29w Lane,KS

PO Box 164
Andover KS 67002

Keenan #2

Job Ticket: 53633

DST#: 2

ATTN: Seth Evanson

Test Start: 2013.10.06 @ 19:01:01

Tool Information

Drill Pipe:	Length: 3956.00 ft	Diameter: 3.80 inches	Volume: 55.49 bbl	Tool Weight:	2500.00 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: 237.33 ft	Diameter: 2.25 inches	Volume: 1.17 bbl	Weight to Pull Loose:	68000.00 lb
			<u>Total Volume: 56.66 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	16.33 ft			String Weight: Initial	52000.00 lb
Depth to Top Packer:	4197.00 ft			Final	57000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	24.00 ft				
Tool Length:	44.00 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			4178.00	
Shut In Tool	5.00			4183.00	
Hydraulic tool	5.00			4188.00	
Packer	5.00			4193.00	20.00 Bottom Of Top Packer
Packer	4.00			4197.00	
Stubb	1.00			4198.00	
Recorder	0.00	8372	Inside	4198.00	
Recorder	0.00	8321	Outside	4198.00	
Perforations	20.00			4218.00	
Bullnose	3.00			4221.00	24.00 Bottom Packers & Anchor
Total Tool Length:	44.00				



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Northern lights Oil Co LC

3-19s-29w Lane,KS

PO Box 164
Andover KS 67002

Keenan #2

Job Ticket: 53633

DST#: 2

ATTN: Seth Evanson

Test Start: 2013.10.06 @ 19:01:01

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:

ppm

Viscosity: 50.00 sec/qt

Cushion Volume:

bbbl

Water Loss: in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
63.00	GOCM g=20% o=20% m=60%	0.310
63.00	MCGO m=20% g=30% o=50%	0.310
1039.00	GO g=15% o=85%	13.560
0.00	GIP= 410ft	0.000

Total Length: 1165.00 ft

Total Volume: 14.180 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Serial #: 8372

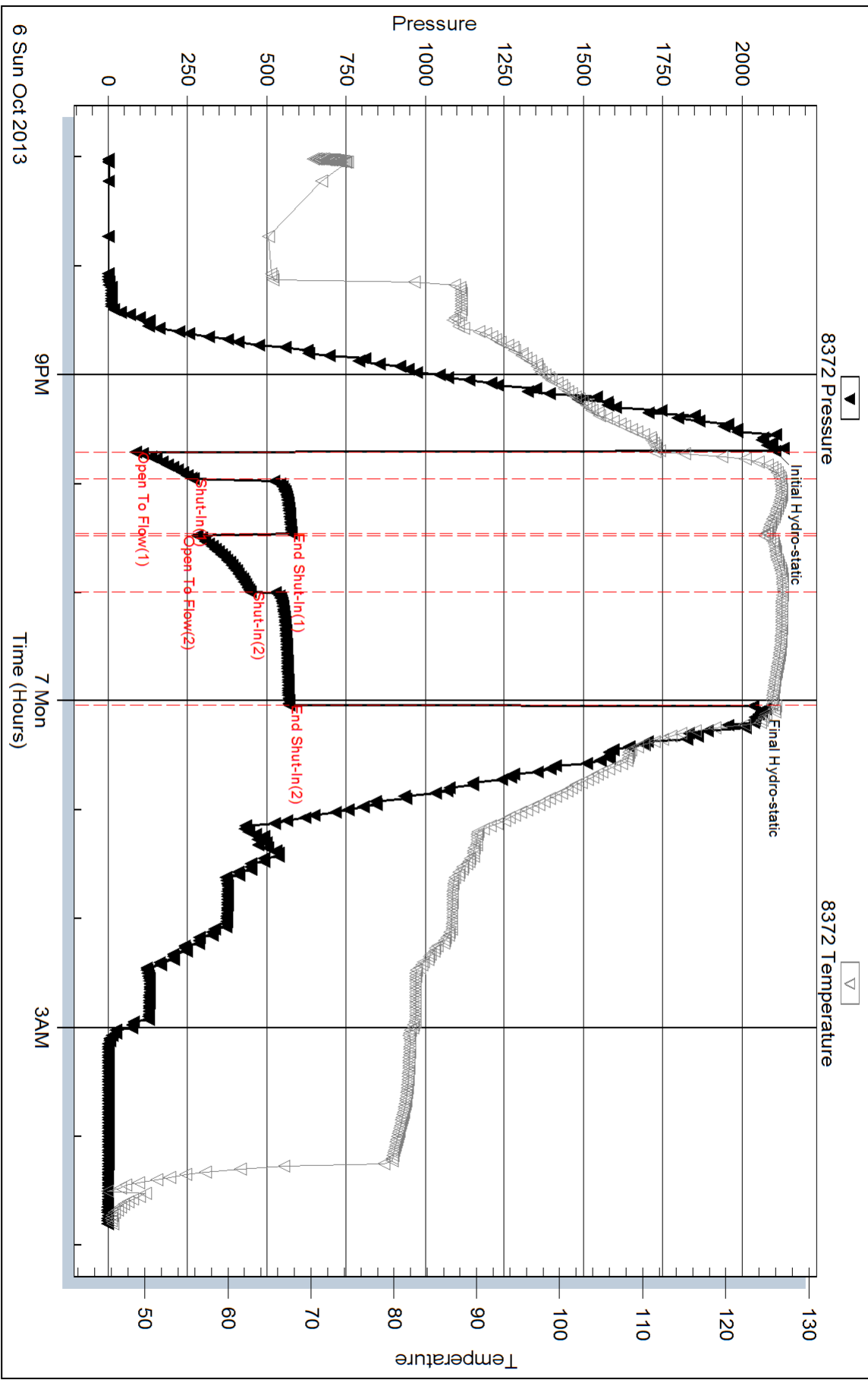
Inside

Northern lights Oil Co LC

Keenan #2

DST Test Number: 2

Pressure vs. Time



Triobite Testing, Inc

Ref. No: 53633

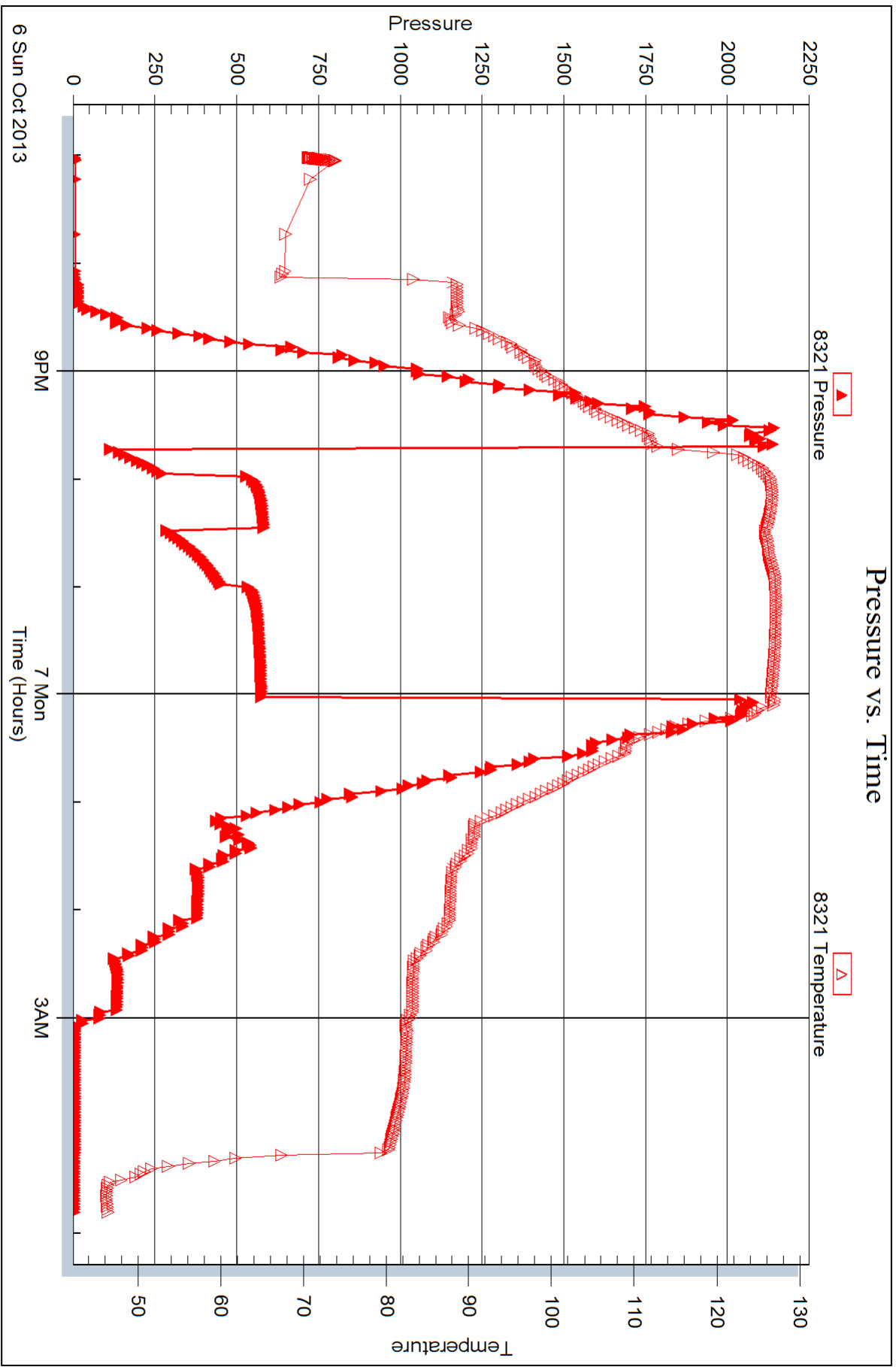
Printed: 2013.10.14 @ 16:51:14

Serial #: 8321

Outside Northern lights Oil Co LC

Keenan #2

DST Test Number: 2





DRILL STEM TEST REPORT

Prepared For: **Northern lights Oil Co LC**

PO Box 164
Andover KS 67002

ATTN: Seth Evanson

Keenan #2

3-19s-29w Lane,KS

Start Date: 2013.10.07 @ 16:26:01

End Date: 2013.10.07 @ 23:27:00

Job Ticket #: 53634 DST #: 3

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

Printed: 2013.10.14 @ 16:42:55



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Northern lights Oil Co LC

3-19s-29w Lane, KS

PO Box 164
Andover KS 67002

Keenan #2

Job Ticket: 53634

DST#: 3

ATTN: Seth Evanson

Test Start: 2013.10.07 @ 16:26:01

GENERAL INFORMATION:

Formation: **LKC"J"**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 18:07:30
 Time Test Ended: 23:27:00
 Interval: **4220.00 ft (KB) To 4255.00 ft (KB) (TVD)**
 Total Depth: 4255.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Poor
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Andy Carreira
 Unit No: 68
 Reference Elevations: 2820.00 ft (KB)
 2815.00 ft (CF)
 KB to GR/CF: 5.00 ft

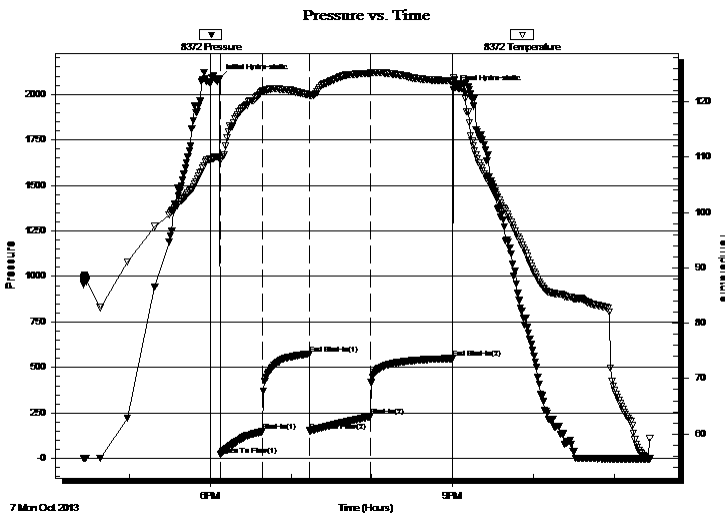
Serial #: 8372

Inside

Press @ Run Depth: 231.28 psig @ 4221.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2013.10.07 End Date: 2013.10.07 Last Calib.: 2013.10.07
 Start Time: 16:26:01 End Time: 23:27:00 Time On Btm: 2013.10.07 @ 18:07:00
 Time Off Btm: 2013.10.07 @ 21:00:30

TEST COMMENT: IF:(30min) 4" blow in 5 min. 8" blow in 11 min. BOB in 20 min.
 ISl:(35min) No Return
 FF:(45min) 4" blow in 10 min. 8" blow in 19 min. BOB in 29 min.
 FSl:(60min) No Return

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2084.29	110.01	Initial Hydro-static
1	20.60	109.31	Open To Flow (1)
32	148.32	121.86	Shut-In(1)
67	573.71	121.31	End Shut-In(1)
67	151.85	121.15	Open To Flow (2)
112	231.28	125.11	Shut-In(2)
173	549.65	123.67	End Shut-In(2)
174	2025.60	124.23	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
470.00	MW	4.43
30.00	Oil	0.42

* Recovery from multiple tests

Gas Rates

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



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Northern lights Oil Co LC

3-19s-29w Lane, KS

PO Box 164
Andover KS 67002

Keenan #2

Job Ticket: 53634

DST#: 3

ATTN: Seth Evanson

Test Start: 2013.10.07 @ 16:26:01

GENERAL INFORMATION:

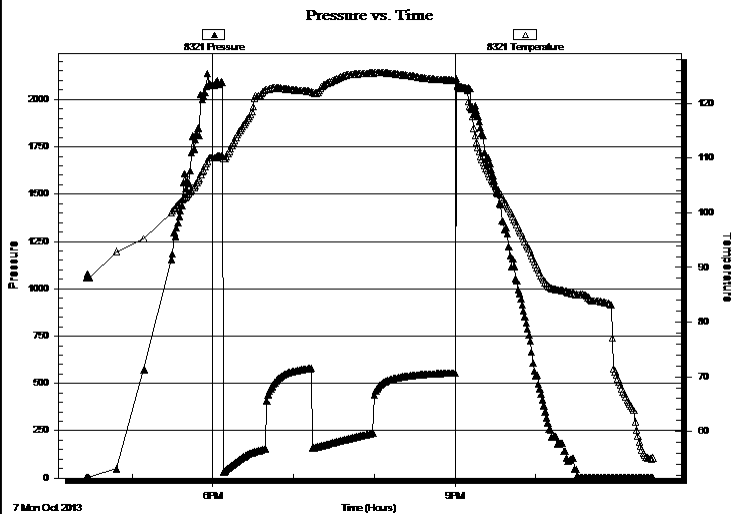
Formation: LKC"J"			Test Type: Conventional Bottom Hole (Reset)
Deviated: No Whipstock: ft (KB)			Tester: Andy Carreira
Time Tool Opened: 18:07:30			Unit No: 68
Time Test Ended: 23:27:00			
Interval: 4220.00 ft (KB) To 4255.00 ft (KB) (TVD)		Reference Elevations: 2820.00 ft (KB)	
Total Depth: 4255.00 ft (KB) (TVD)		2815.00 ft (CF)	
Hole Diameter: 7.88 inches	Hole Condition: Poor	KB to GR/CF: 5.00 ft	

Serial #: 8321

Outside

Press @RunDepth: psig @ 4221.00 ft (KB)	Capacity: 8000.00 psig
Start Date: 2013.10.07	End Date: 2013.10.07
Start Time: 16:26:01	End Time: 23:27:00
	Last Calib.: 2013.10.07
	Time On Btm:
	Time Off Btm:

TEST COMMENT: IF:(30min) 4" blow in 5 min. 8" blow in 11 min. BOB in 20 min.
ISl:(35min) No Return
FF:(45min) 4" blow in 10 min. 8" blow in 19 min. BOB in 29 min.
FSl:(60min) No Return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

Recovery

Length (ft)	Description	Volume (bbl)
470.00	MW	4.43
30.00	Oil	0.42

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Northern lights Oil Co LC

3-19s-29w Lane,KS

PO Box 164
Andover KS 67002

Keenan #2

Job Ticket: 53634

DST#: 3

ATTN: Seth Evanson

Test Start: 2013.10.07 @ 16:26:01

Tool Information

Drill Pipe:	Length: 3988.00 ft	Diameter: 3.80 inches	Volume: 55.94 bbl	Tool Weight:	2500.00 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: 237.33 ft	Diameter: 2.25 inches	Volume: 1.17 bbl	Weight to Pull Loose:	65000.00 lb
			<u>Total Volume: 57.11 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	25.33 ft			String Weight: Initial	57000.00 lb
Depth to Top Packer:	4220.00 ft			Final	60000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	35.00 ft				
Tool Length:	55.00 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			4201.00	
Shut In Tool	5.00			4206.00	
Hydraulic tool	5.00			4211.00	
Packer	5.00			4216.00	20.00 Bottom Of Top Packer
Packer	4.00			4220.00	
Stubb	1.00			4221.00	
Recorder	0.00	8372	Inside	4221.00	
Recorder	0.00	8321	Outside	4221.00	
Perforations	31.00			4252.00	
Bullnose	3.00			4255.00	35.00 Bottom Packers & Anchor
Total Tool Length:	55.00				



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Northern lights Oil Co LC

3-19s-29w Lane,KS

PO Box 164
Andover KS 67002

Keenan #2

Job Ticket: 53634

DST#: 3

ATTN: Seth Evanson

Test Start: 2013.10.07 @ 16:26:01

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:

30000 ppm

Viscosity: 49.00 sec/qt

Cushion Volume:

bbf

Water Loss: in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbf
470.00	MW	4.431
30.00	Oil	0.421

Total Length: 500.00 ft Total Volume: 4.852 bbf

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Resistivity- .293 @ 57deg = 30000

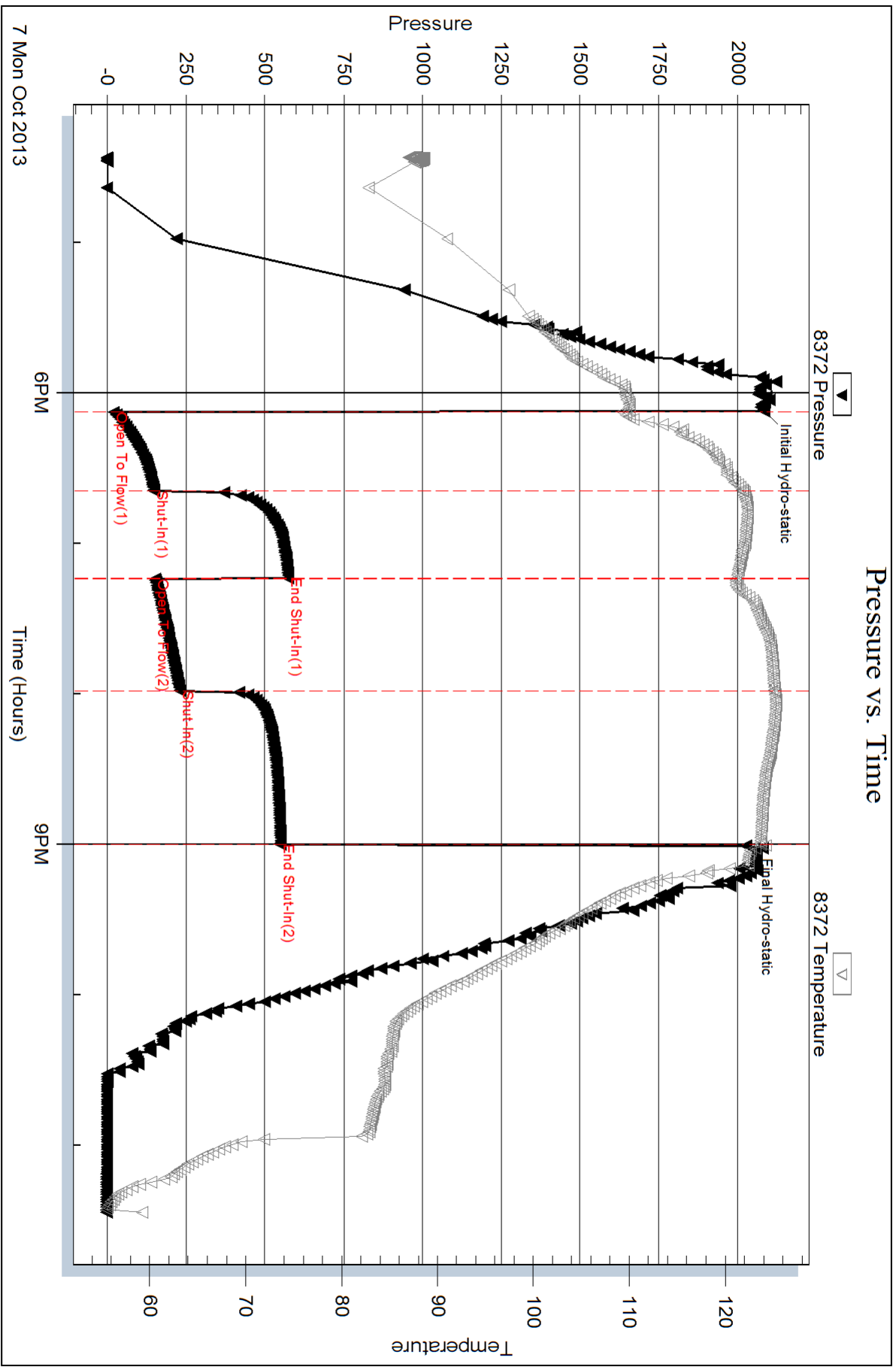
Serial #: 8372

Inside

Northern lights Oil Co LC

Keenan #2

DST Test Number: 3

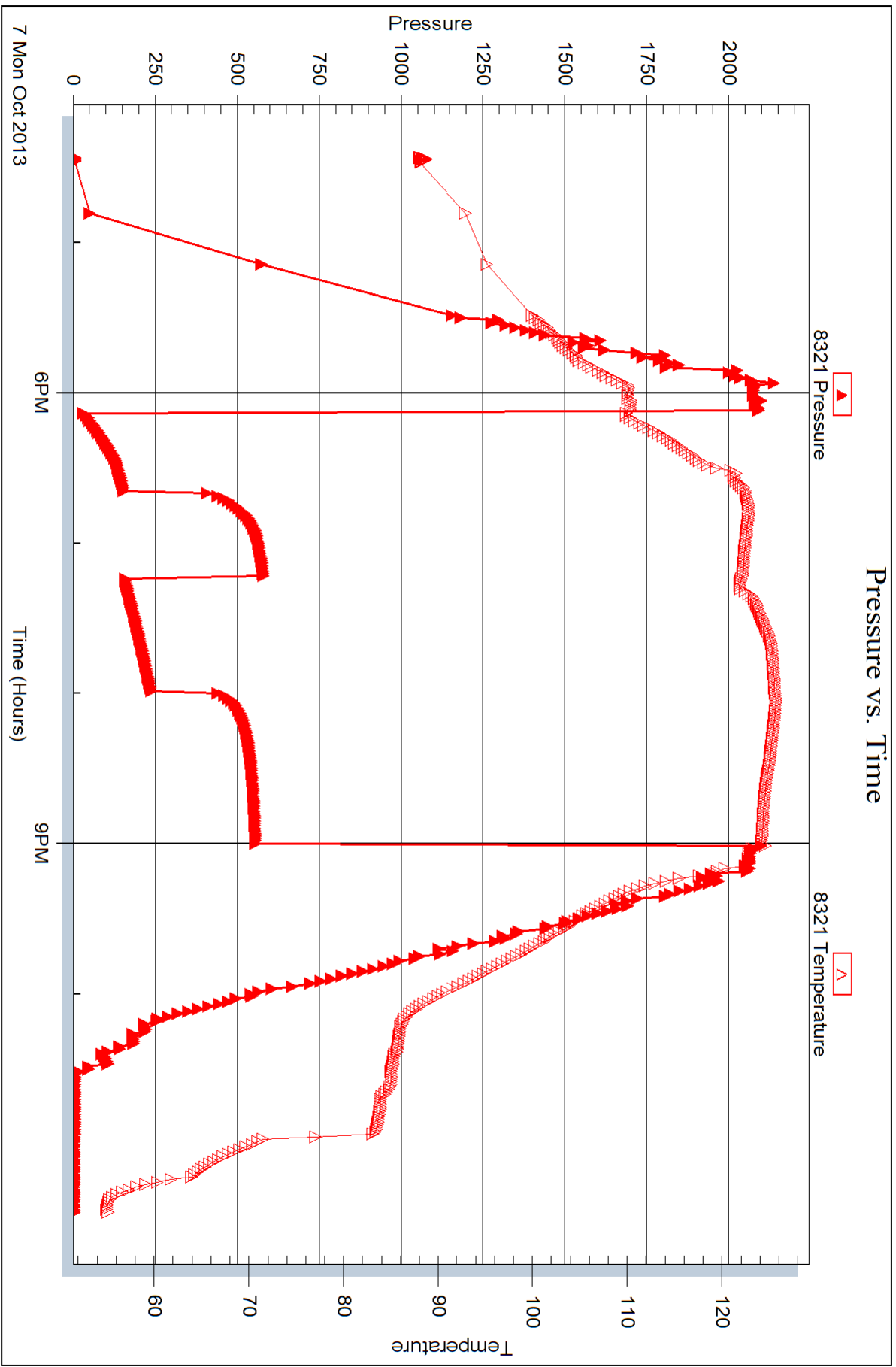


Serial #: 8321

Outside Northern lights Oil Co LC

Keenan #2

DST Test Number: 3





DRILL STEM TEST REPORT

Prepared For: **Northern lights Oil Co LC**

PO Box 164
Andover KS 67002

ATTN: Seth Evanson

Keenan #2

3-19s-29w Lane,KS

Start Date: 2013.10.08 @ 07:09:01

End Date: 2013.10.08 @ 15:04:30

Job Ticket #: 56635 DST #: 4

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

Printed: 2013.10.14 @ 16:42:18



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Northern lights Oil Co LC

3-19s-29w Lane, KS

PO Box 164
Andover KS 67002

Keenan #2

Job Ticket: 56635

DST#: 4

ATTN: Seth Evanson

Test Start: 2013.10.08 @ 07:09:01

GENERAL INFORMATION:

Formation: **LKC"K"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 09:40:00

Time Test Ended: 15:04:30

Test Type: Conventional Bottom Hole (Reset)

Tester: Andy Carreira

Unit No: 68

Interval: 4259.00 ft (KB) To 4277.00 ft (KB) (TVD)

Reference Elevations: 2820.00 ft (KB)

Total Depth: 4277.00 ft (KB) (TVD)

2815.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 5.00 ft

Serial #: 8372

Inside

Press @ Run Depth: 484.97 psig @ 4260.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.10.08

End Date:

2013.10.08

Last Calib.:

2013.10.08

Start Time: 07:09:01

End Time:

15:04:30

Time On Btm:

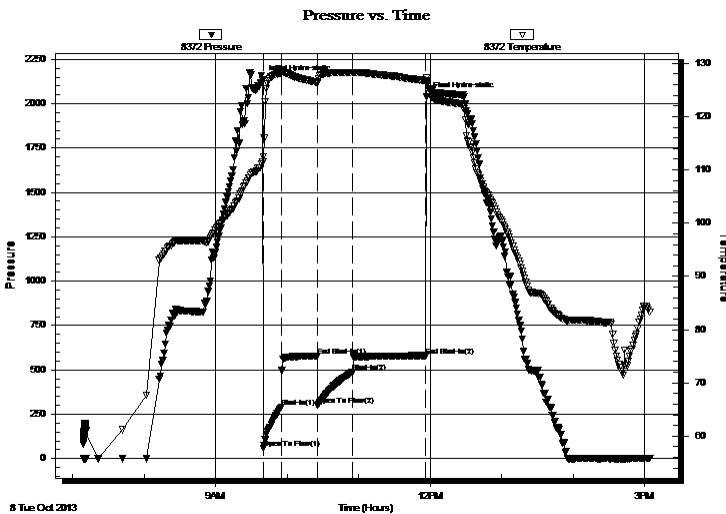
2013.10.08 @ 09:39:30

Time Off Btm:

2013.10.08 @ 11:57:00

TEST COMMENT: IF:(15min) BOB in 3 min.
IS:(30min) No Return
FF:(30min) BOB in 5 min.
FS:(60min) No Return

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2136.39	111.45	Initial Hydro-static
1	59.84	112.46	Open To Flow (1)
16	290.35	128.12	Shut-In(1)
46	578.77	126.41	End Shut-In(1)
46	299.17	126.26	Open To Flow (2)
75	484.97	128.27	Shut-In(2)
137	579.84	126.80	End Shut-In(2)
138	2037.85	127.24	Final Hydro-static

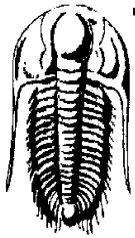
Recovery

Length (ft)	Description	Volume (bbl)
1010.00	MW	12.01
20.00	MW w / trace oil	0.28

* Recovery from multiple tests

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Northern lights Oil Co LC
PO Box 164
Andover KS 67002
ATTN: Seth Evanson

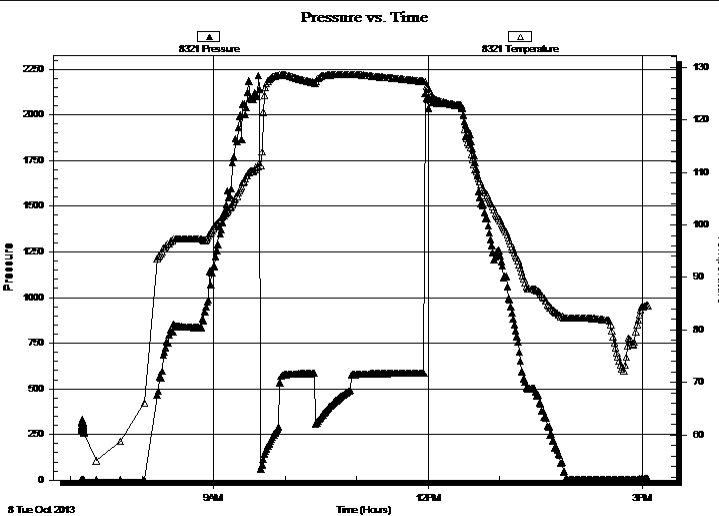
3-19s-29w Lane,KS
Keenan #2
Job Ticket: 56635 **DST#: 4**
Test Start: 2013.10.08 @ 07:09:01

GENERAL INFORMATION:

Formation: **LKC"K"**
Deviated: No Whipstock: ft (KB) Test Type: Conventional Bottom Hole (Reset)
Time Tool Opened: 09:40:00 Tester: Andy Carreira
Time Test Ended: 15:04:30 Unit No: 68
Interval: **4259.00 ft (KB) To 4277.00 ft (KB) (TVD)** Reference Elevations: 2820.00 ft (KB)
Total Depth: 4277.00 ft (KB) (TVD) 2815.00 ft (CF)
Hole Diameter: 7.88 inches Hole Condition: Poor KB to GR/CF: 5.00 ft

Serial #: 8321 **Outside**
Press @ Run Depth: psig @ 4260.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2013.10.08 End Date: 2013.10.08 Last Calib.: 2013.10.08
Start Time: 07:09:01 End Time: 15:04:30 Time On Btm:
Time Off Btm:

TEST COMMENT: IF:(15min) BOB in 3 min.
IS:(30min) No Return
FF:(30min) BOB in 5 min.
FS:(60min) No Return



PRESSURE SUMMARY			
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

Recovery		
Length (ft)	Description	Volume (bbl)
1010.00	MW	12.01
20.00	MW w / trace oil	0.28

* Recovery from multiple tests

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Northern lights Oil Co LC

3-19s-29w Lane,KS

PO Box 164
Andover KS 67002

Keenan #2

Job Ticket: 56635

DST#: 4

ATTN: Seth Evanson

Test Start: 2013.10.08 @ 07:09:01

Tool Information

Drill Pipe:	Length: 4018.00 ft	Diameter: 3.80 inches	Volume: 56.36 bbl	Tool Weight:	2500.00 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: 237.33 ft	Diameter: 2.25 inches	Volume: 1.17 bbl	Weight to Pull Loose:	68000.00 lb
			<u>Total Volume: 57.53 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	16.33 ft			String Weight: Initial	55000.00 lb
Depth to Top Packer:	4259.00 ft			Final	60000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	18.00 ft				
Tool Length:	38.00 ft				
Number of Packers:	2	Diameter:	6.75 inches		
Tool Comments:					

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

Change Over Sub	1.00			4240.00	
Shut In Tool	5.00			4245.00	
Hydraulic tool	5.00			4250.00	
Packer	5.00			4255.00	20.00 Bottom Of Top Packer
Packer	4.00			4259.00	
Stubb	1.00			4260.00	
Recorder	0.00	8372	Inside	4260.00	
Recorder	0.00	8321	Outside	4260.00	
Perforations	14.00			4274.00	
Bullnose	3.00			4277.00	18.00 Bottom Packers & Anchor
Total Tool Length:	38.00				



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Northern lights Oil Co LC

3-19s-29w Lane,KS

PO Box 164
Andover KS 67002

Keenan #2

Job Ticket: 56635

DST#: 4

ATTN: Seth Evanson

Test Start: 2013.10.08 @ 07:09:01

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:

40000 ppm

Viscosity: 50.00 sec/qt

Cushion Volume:

bbf

Water Loss: in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbf
1010.00	MW	12.006
20.00	MW w / trace oil	0.281

Total Length: 1030.00 ft Total Volume: 12.287 bbf

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Resistivity- .153 @ 86 deg = 40000

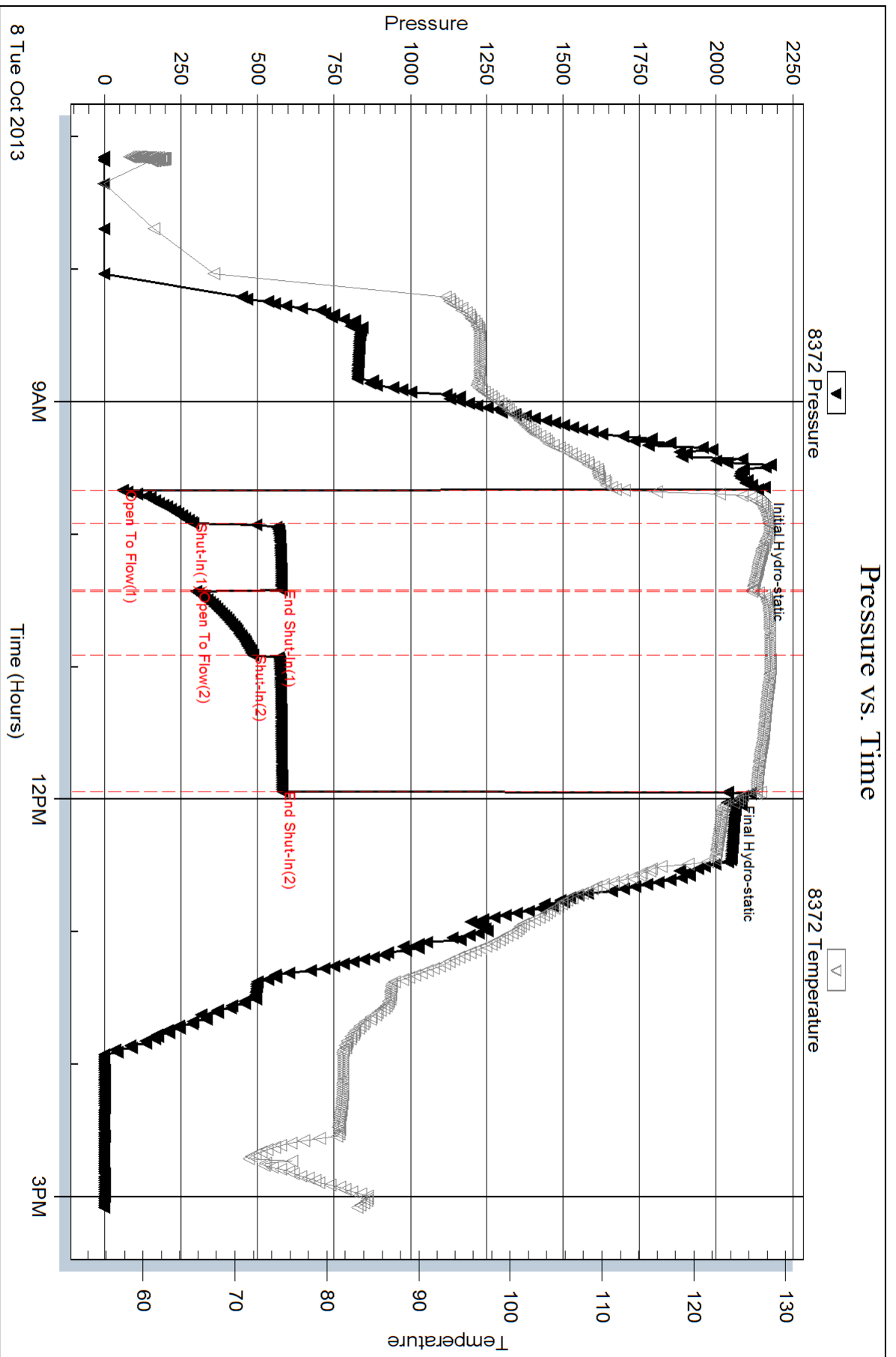
Serial #: 8372

Inside

Northern lights Oil Co LC

Keenan #2

DST Test Number: 4



Triobite Testing, Inc

Ref. No: 56635

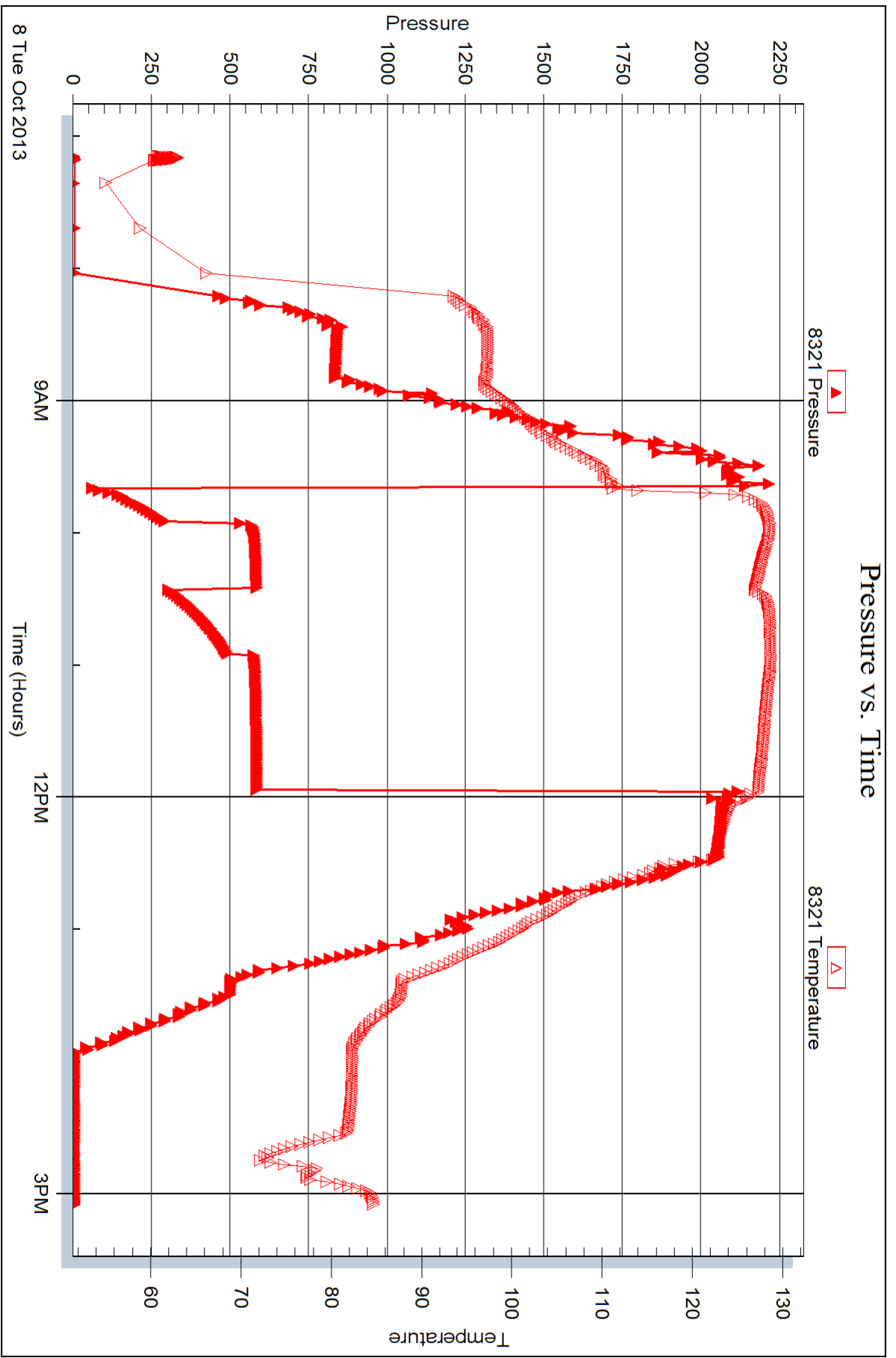
Printed: 2013.10.14 @ 16:42:19

Serial #: 8321

Outside Northern lights Oil Co LC

Keenan #2

DST Test Number: 4



Trilobite Testing, Inc

Ref. No: 56635

Printed: 2013.10.14 @ 16:42:20



DRILL STEM TEST REPORT

Prepared For: **Northern lights Oil Co LC**

PO Box 164
Andover KS 67002

ATTN: Seth Evanson

Keenan #2

3-19s-29w Lane,KS

Start Date: 2013.10.09 @ 10:00:01

End Date: 2013.10.09 @ 15:24:30

Job Ticket #: 53636 DST #: 5

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.10.14 @ 16:41:42



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Northern lights Oil Co LC

3-19s-29w Lane, KS

PO Box 164
Andover KS 67002

Keenan #2

Job Ticket: 53636

DST#: 5

ATTN: Seth Evanson

Test Start: 2013.10.09 @ 10:00:01

GENERAL INFORMATION:

Formation: **Marmaton**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 12:23:30

Time Test Ended: 15:24:30

Test Type: Conventional Bottom Hole (Reset)

Tester: Andy Carreira

Unit No: 68

Interval: 4358.00 ft (KB) To 4386.00 ft (KB) (TVD)

Reference Elevations: 2820.00 ft (KB)

Total Depth: 4386.00 ft (KB) (TVD)

2815.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 5.00 ft

Serial #: 8372 Inside

Press @ Run Depth: 15.65 psig @ 4359.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.10.09

End Date: 2013.10.09

Last Calib.: 2013.10.09

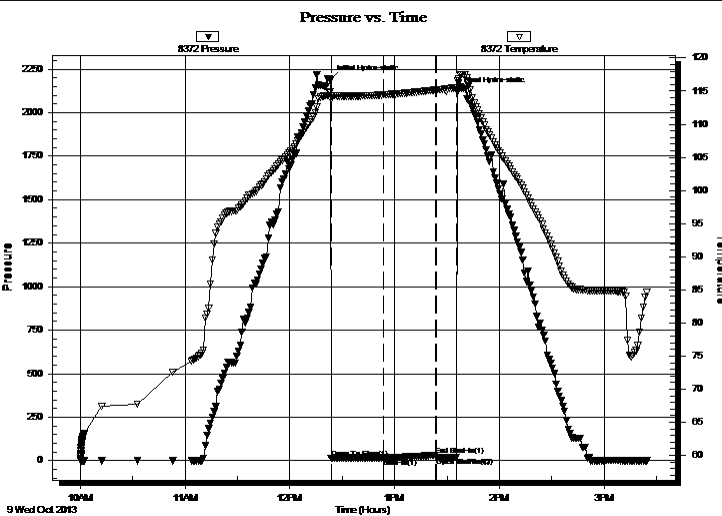
Start Time: 10:00:01

End Time: 15:24:30

Time On Btm: 2013.10.09 @ 12:23:00

Time Off Btm: 2013.10.09 @ 13:36:00

TEST COMMENT: IF:(30min) Intermittent surface blow died in 15 min.
IS:(30min) No Return
FF:(10min) No blow . Flushed, Surged, No blow . Pulled Tool



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2187.85	114.95	Initial Hydro-static
1	14.89	113.74	Open To Flow (1)
31	15.65	114.43	Shut-In(1)
61	31.11	115.17	End Shut-In(1)
61	16.72	115.17	Open To Flow (2)
73	18.67	115.51	Shut-In(2)
73	2118.63	116.57	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	SOSM o=tr m=100%	0.02

Gas Rates

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

* Recovery from multiple tests



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Northern lights Oil Co LC

3-19s-29w Lane, KS

PO Box 164
Andover KS 67002

Keenan #2

ATTN: Seth Evanson

Job Ticket: 53636

DST#: 5

Test Start: 2013.10.09 @ 10:00:01

GENERAL INFORMATION:

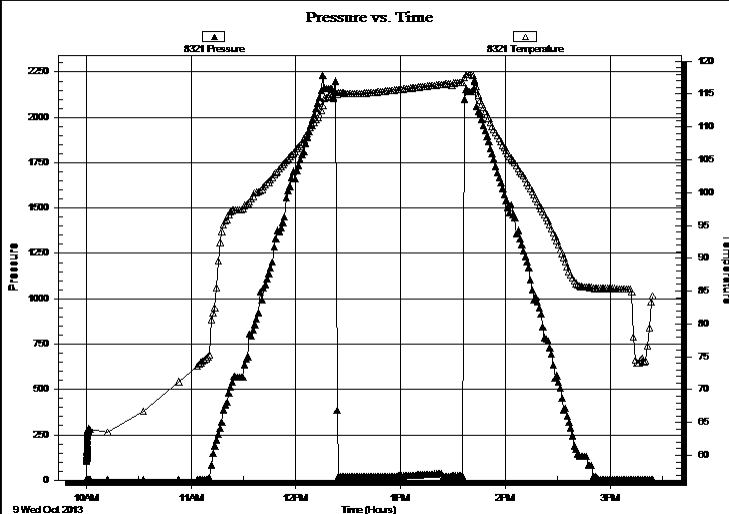
Formation: **Marmaton**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 12:23:30
 Time Test Ended: 15:24:30
 Interval: **4358.00 ft (KB) To 4386.00 ft (KB) (TVD)**
 Total Depth: 4386.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches
 Hole Condition: Poor
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Andy Carreira
 Unit No: 68
 Reference Elevations: 2820.00 ft (KB)
 2815.00 ft (CF)
 KB to GR/CF: 5.00 ft

Serial #: 8321

Outside

Press @ Run Depth: psig @ 4359.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2013.10.09 End Date: 2013.10.09 Last Calib.: 2013.10.09
 Start Time: 10:00:01 End Time: 15:24:30 Time On Btm:
 Time Off Btm:

TEST COMMENT: IF:(30min) Intermittent surface blow died in 15 min.
 IS:(30min) No Return
 FF:(10min) No blow . Flushed, Surged, No blow . Pulled Tool



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

Recovery

Length (ft)	Description	Volume (bbl)
5.00	SOSM o=tr m=100%	0.02

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Northern lights Oil Co LC

3-19s-29w Lane,KS

PO Box 164
Andover KS 67002

Keenan #2

Job Ticket: 53636

DST#: 5

ATTN: Seth Evanson

Test Start: 2013.10.09 @ 10:00:01

Tool Information

Drill Pipe:	Length: 4115.00 ft	Diameter: 3.80 inches	Volume: 57.72 bbl	Tool Weight:	2500.00 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: 237.33 ft	Diameter: 2.25 inches	Volume: 1.17 bbl	Weight to Pull Loose:	64000.00 lb
			<u>Total Volume: 58.89 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	14.33 ft			String Weight: Initial	56000.00 lb
Depth to Top Packer:	4358.00 ft			Final	56000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	28.00 ft				
Tool Length:	48.00 ft				
Number of Packers:	2	Diameter:	6.75 inches		
Tool Comments:					

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

Change Over Sub	1.00			4339.00	
Shut In Tool	5.00			4344.00	
Hydraulic tool	5.00			4349.00	
Packer	5.00			4354.00	20.00 Bottom Of Top Packer
Packer	4.00			4358.00	
Stubb	1.00			4359.00	
Recorder	0.00	8372	Inside	4359.00	
Recorder	0.00	8321	Outside	4359.00	
Perforations	24.00			4383.00	
Bullnose	3.00			4386.00	28.00 Bottom Packers & Anchor
Total Tool Length:	48.00				



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

FLUID SUMMARY

Northern lights Oil Co LC

3-19s-29w Lane,KS

PO Box 164
Andover KS 67002

Keenan #2

Job Ticket: 53636

DST#: 5

ATTN: Seth Evanson

Test Start: 2013.10.09 @ 10:00:01

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:

ppm

Viscosity: 50.00 sec/qt

Cushion Volume:

bbf

Water Loss: in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbf
5.00	SOSM o=tr m=100%	0.025

Total Length: 5.00 ft Total Volume: 0.025 bbf

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Serial #: 8372

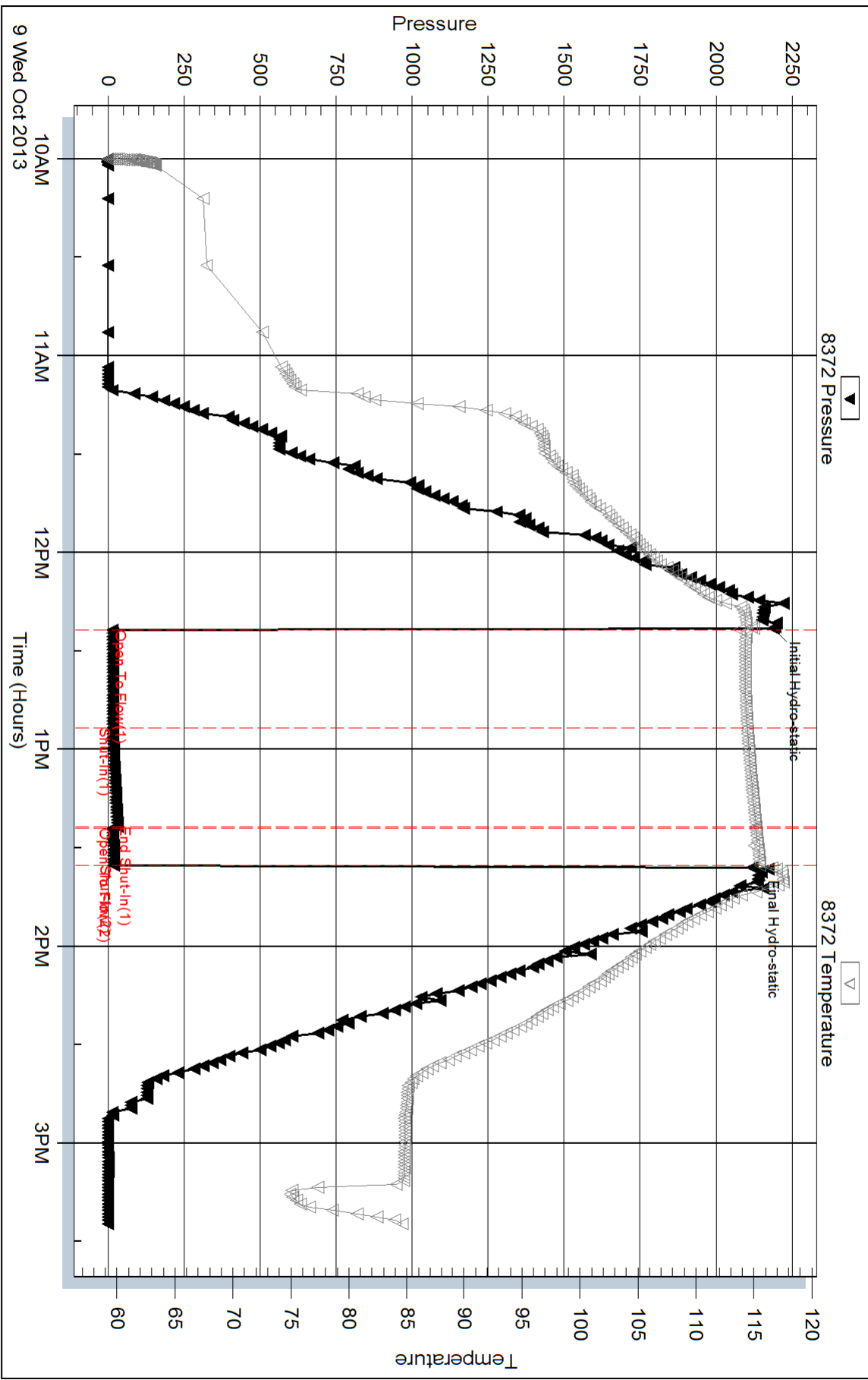
Inside

Northern lights Oil Co LC

Keenan #2

DST Test Number: 5

Pressure vs. Time



Triobite Testing, Inc

Ref. No: 53636

Printed: 2013.10.14 @ 16:41:43

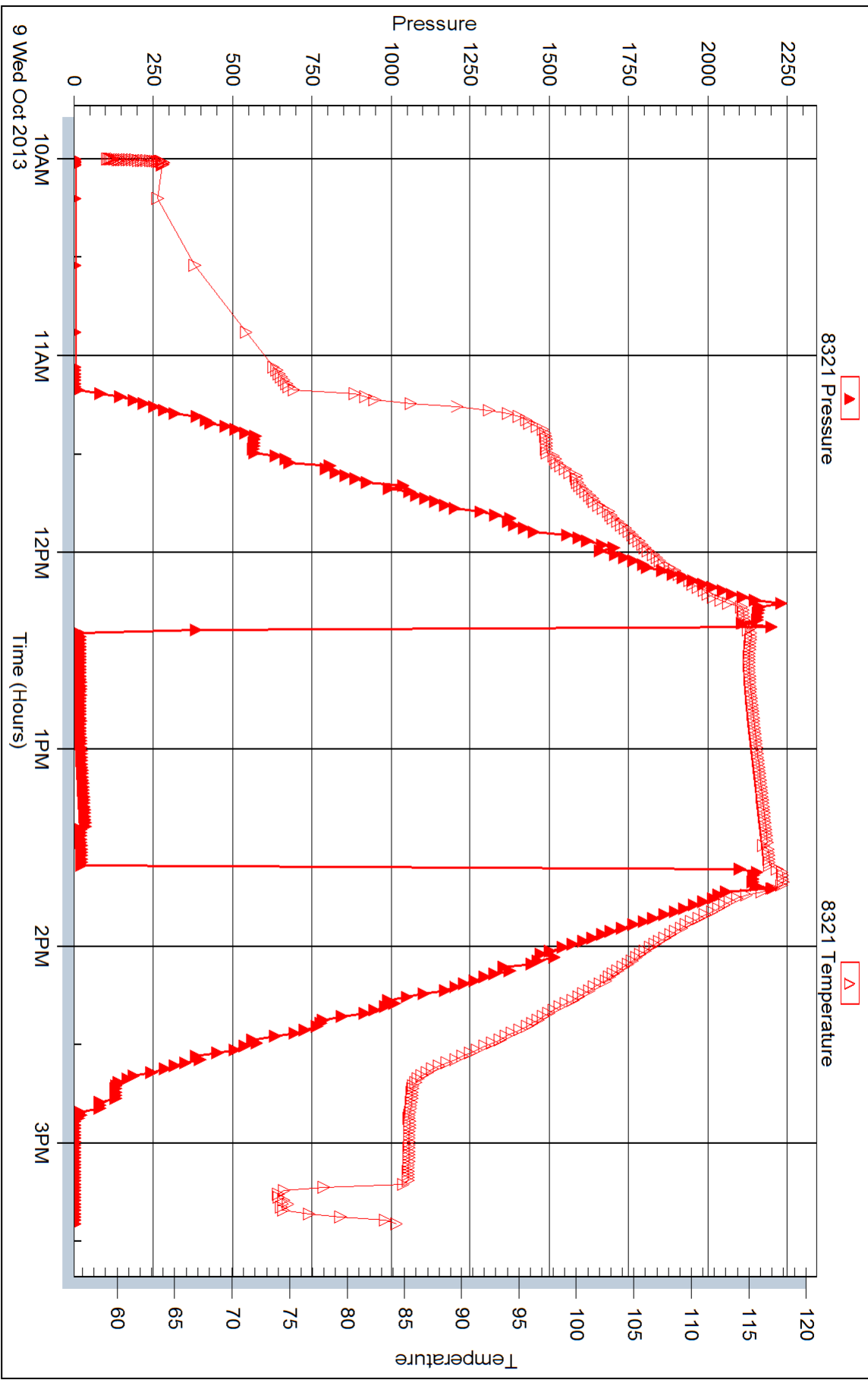
Serial #: 8321

Outside Northern lights Oil Co LC

Keenan #2

DST Test Number: 5

Pressure vs. Time





DRILL STEM TEST REPORT

Prepared For: **Northern lights Oil Co LC**

PO Box 164
Andover KS 67002

ATTN: Seth Evanson

Keenan #2

3-19s-29w Lane,KS

Start Date: 2013.10.10 @ 02:00:01

End Date: 2013.10.10 @ 09:31:30

Job Ticket #: 53637 DST #: 6

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

Printed: 2013.10.14 @ 16:41:16



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Northern lights Oil Co LC

3-19s-29w Lane, KS

PO Box 164
Andover KS 67002

Keenan #2

Job Ticket: 53637

DST#: 6

ATTN: Seth Evanson

Test Start: 2013.10.10 @ 02:00:01

GENERAL INFORMATION:

Formation: **Altamont**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 03:53:00

Time Test Ended: 09:31:30

Test Type: Conventional Bottom Hole (Reset)

Tester: Andy Carreira

Unit No: 68

Interval: 4401.00 ft (KB) To 4435.00 ft (KB) (TVD)

Total Depth: 4435.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Poor

Reference Elevations: 2820.00 ft (KB)

2815.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 8372 Inside

Press @ Run Depth: 408.00 psig @ 4402.00 ft (KB)

Start Date: 2013.10.10

End Date:

2013.10.10

Start Time: 02:00:01

End Time:

09:31:30

Capacity: 8000.00 psig

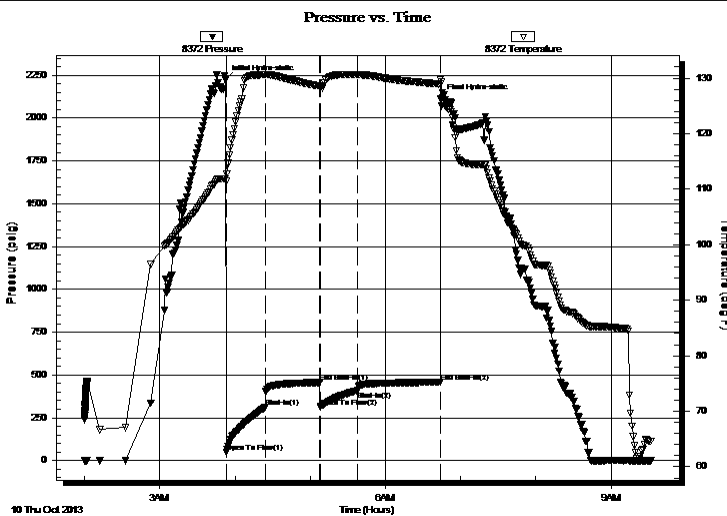
Last Calib.: 2013.10.10

Time On Btm: 2013.10.10 @ 03:52:30

Time Off Btm: 2013.10.10 @ 06:44:00

TEST COMMENT: IF:(30min) BOB in 5 min.
ISl:(45min) No Return
FF:(30min) BOB in 12 min.
FSl:(60min) No Return

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2221.70	111.93	Initial Hydro-static
1	46.93	111.43	Open To Flow (1)
32	310.84	130.65	Shut-In(1)
75	455.98	128.56	End Shut-In(1)
76	313.84	128.48	Open To Flow (2)
105	408.00	130.59	Shut-In(2)
171	456.69	128.94	End Shut-In(2)
172	2111.38	129.81	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
955.00	MW	11.23

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Northern lights Oil Co LC

3-19s-29w Lane,KS

PO Box 164
Andover KS 67002

Keenan #2

Job Ticket: 53637

DST#: 6

ATTN: Seth Evanson

Test Start: 2013.10.10 @ 02:00:01

GENERAL INFORMATION:

Formation: **Altamont**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 03:53:00
 Time Test Ended: 09:31:30
 Interval: **4401.00 ft (KB) To 4435.00 ft (KB) (TVD)**
 Total Depth: 4435.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Poor
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Andy Carreira
 Unit No: 68
 Reference Elevations: 2820.00 ft (KB)
 2815.00 ft (CF)
 KB to GR/CF: 5.00 ft

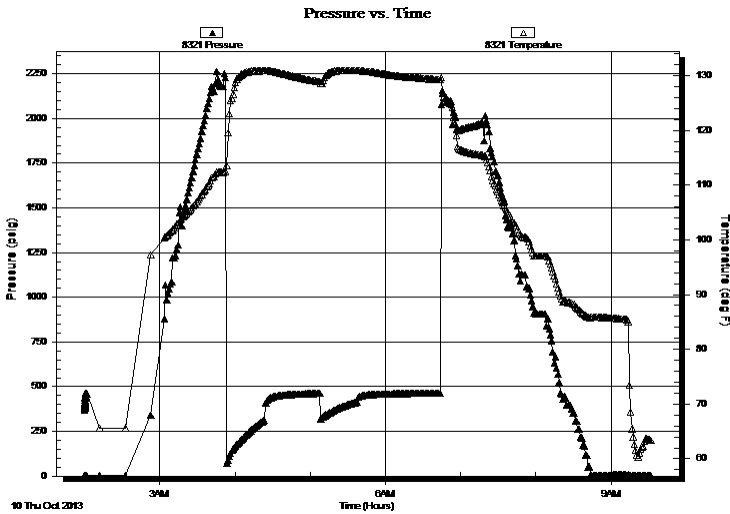
Serial #: 8321

Outside

Press @ Run Depth: psig @ 4402.00 ft (KB)
 Start Date: 2013.10.10 End Date: 2013.10.10
 Start Time: 02:00:01 End Time: 09:31:30
 Capacity: 8000.00 psig
 Last Calib.: 2013.10.10
 Time On Btm:
 Time Off Btm:

TEST COMMENT: IF:(30min) BOB in 5 min.
 ISl:(45min) No Return
 FF:(30min) BOB in 12 min.
 FSl:(60min) No Return

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

Recovery

Length (ft)	Description	Volume (bbl)
955.00	MW	11.23

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Northern lights Oil Co LC

3-19s-29w Lane,KS

PO Box 164
Andover KS 67002

Keenan #2

Job Ticket: 53637

DST#: 6

ATTN: Seth Evanson

Test Start: 2013.10.10 @ 02:00:01

Tool Information

Drill Pipe:	Length: 4174.00 ft	Diameter: 3.80 inches	Volume: 58.55 bbl	Tool Weight:	2500.00 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: 237.33 ft	Diameter: 2.25 inches	Volume: 1.17 bbl	Weight to Pull Loose:	70000.00 lb
			<u>Total Volume: 59.72 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	30.33 ft			String Weight: Initial	56000.00 lb
Depth to Top Packer:	4401.00 ft			Final	61000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	34.00 ft				
Tool Length:	54.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			
Tool Comments:					

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

Change Over Sub	1.00			4382.00	
Shut In Tool	5.00			4387.00	
Hydraulic tool	5.00			4392.00	
Packer	5.00			4397.00	20.00 Bottom Of Top Packer
Packer	4.00			4401.00	
Stubb	1.00			4402.00	
Recorder	0.00	8372	Inside	4402.00	
Recorder	0.00	8321	Outside	4402.00	
Perforations	30.00			4432.00	
Bullnose	3.00			4435.00	34.00 Bottom Packers & Anchor
Total Tool Length:	54.00				



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Northern lights Oil Co LC

3-19s-29w Lane,KS

PO Box 164
Andover KS 67002

Keenan #2

Job Ticket: 53637

DST#: 6

ATTN: Seth Evanson

Test Start: 2013.10.10 @ 02:00:01

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:

40000 ppm

Viscosity: 61.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 0.00 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 0.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
955.00	MW	11.234

Total Length: 955.00 ft Total Volume: 11.234 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Resistivity- .200 @ 67 deg = 40000

Serial #: 8372

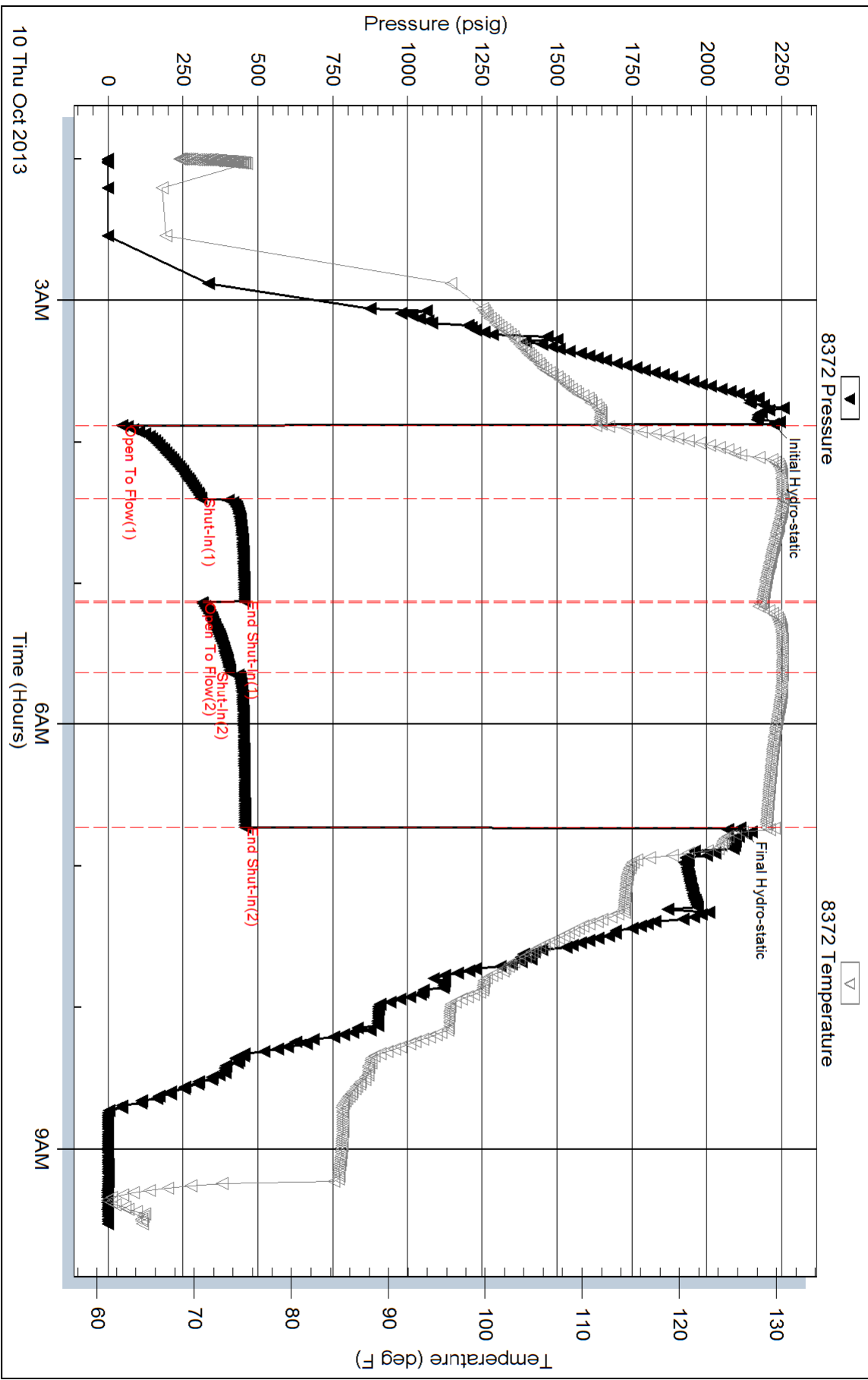
Inside

Northern lights Oil Co LC

Keenan #2

DST Test Number: 6

Pressure vs. Time



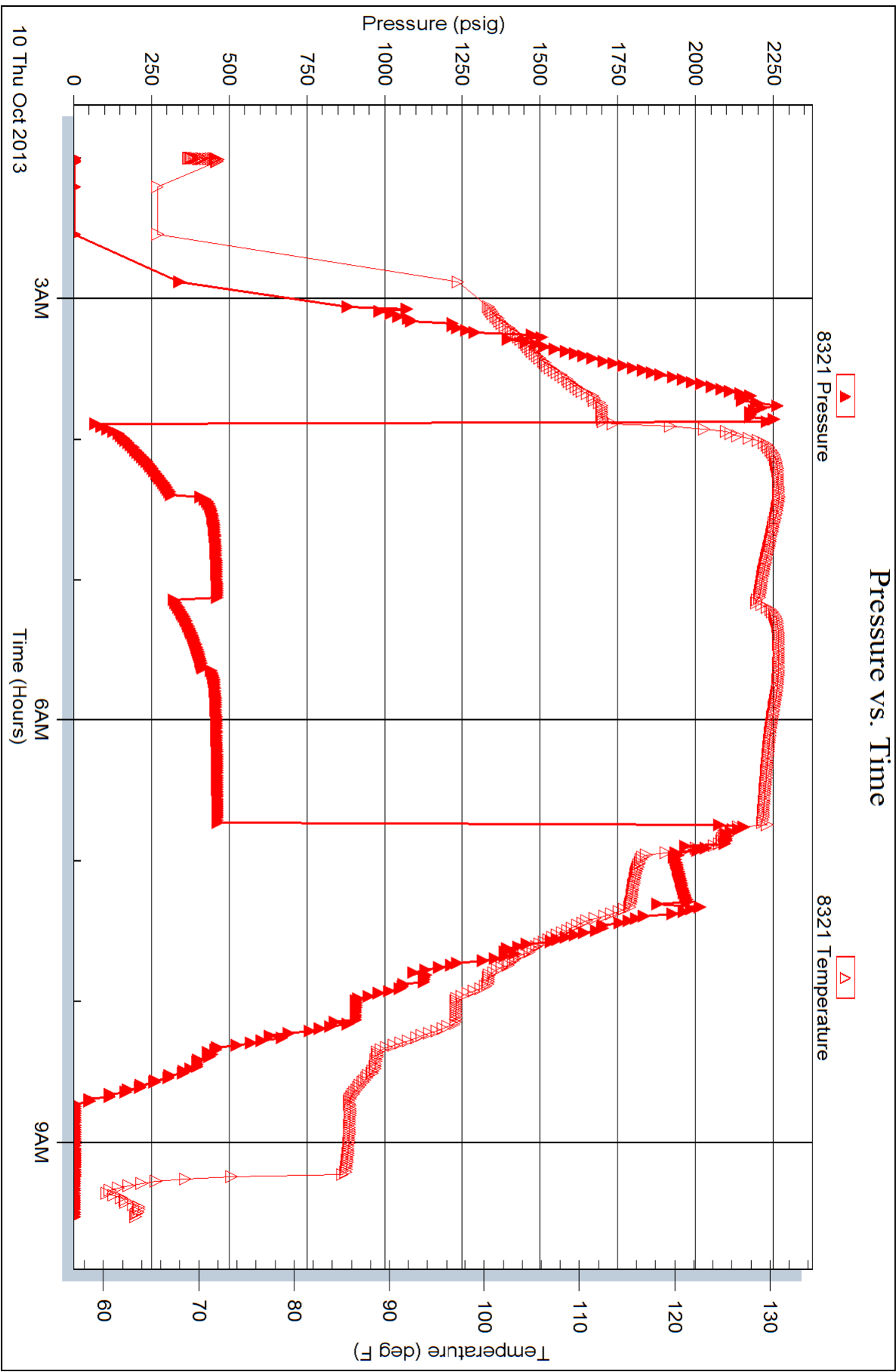
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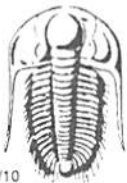
Outside

Northern lights Oil Co LC

Keenan #2

DST Test Number: 6





TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 53632

Well Name & No. KEZMAN #2 Test No. 1 Date 10-6-13
 Company Northern Light Oil Co. LC Elevation 2820 KB 2815 GL
 Address PO BOX 164 ANDOVER, KS. 67002
 Co. Rep / Geo. Seth EVANSON Rig Mallard
 Location: Sec. 3 Twp. 19s Rge. 29w Co. JANE State Ks

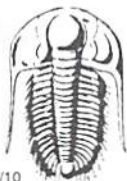
Interval Tested 4144 - 4200 Zone Tested LKC "G"
 Anchor Length 56' Drill Pipe Run 3893 Mud Wt. 9.2
 Top Packer Depth 4139 Drill Collars Run 237.33 Vis 50
 Bottom Packer Depth 4144 Wt. Pipe Run 0 WL 8.8
 Total Depth 4200 Chlorides 3000 ppm System LCM 0

Blow Description IP: BOB IN 4min
ISI: NO RETURN
FF: BOB IN 5min
FSI: NO RETURN

Rec	Feet of	%gas	%oil	%water	%mud
<u>2</u>	<u>oil</u>				
<u>833</u>	<u>MW w/TRACE oil</u>				
<u>375</u>	<u>MW</u>				

Rec Total 1210 BHT 124° Gravity API RW, 125 @ 68° F Chlorides 70,000 ppm
 (A) Initial Hydrostatic 2073 Test 1250 T-On Location 03:32
 (B) First Initial Flow 60 Jars 04:32
 (C) First Final Flow 308 Safety Joint 06:30
 (D) Initial Shut-In 816 Circ Sub 08:45
 (E) Second Initial Flow 315 Hourly Standby 11:26
 (F) Second Final Flow 586 Mileage 192RT 50rt 77.50 Comments _____
 (G) Final Shut-In 812 Sampler _____
 (H) Final Hydrostatic 1986 Straddle _____
 Shale Packer _____
 Shale Packer _____
 Extra Packer _____
 Extra Recorder _____
 Day Standby _____
 Accessibility _____
 Sub Total 1327.50

Initial Open 15
 Initial Shut-In 30
 Final Flow 30
 Final Shut-In 60
 Sub Total 1327.50
 Approved By _____ 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.



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 53633

Well Name & No. KEENAN #2 Test No. 2 Date 10-6-13
 Company NORTHERN Light Oil CO LC Elevation 2820 KB 2815 GL
 Address PO BOX 164 ANDOVER, KS 67002
 Co. Rep / Geo. SETH EVANSON Rig MALLARD
 Location: Sec. 3 Twp. 19S Rge. 29W Co. LANE State Ks.

Interval Tested 4197-4221 Zone Tested LKC "H"
 Anchor Length 24' Drill Pipe Run 3956 Mud Wt. 9.2
 Top Packer Depth 4192 Drill Collars Run 237.33 Vis 50
 Bottom Packer Depth 4197 Wt. Pipe Run 0 WL -
 Total Depth 4221 Chlorides - ppm System LCM -

Blow Description BF: BOBIN 2min
ISI: Return blow immediately after bleedoff Built to 6" in 15min
FF: BOBIN 2min
FSI: NO RETURN

Rec	Feet of	%gas	%oil	%water	%mud
<u>1039</u>	<u>BO</u>	<u>15</u>	<u>85</u>		
<u>63</u>	<u>MCOB</u>	<u>30</u>	<u>50</u>		<u>20</u>
<u>63</u>	<u>GOCM</u>	<u>20</u>	<u>20</u>		<u>60</u>
		%gas	%oil	%water	%mud
	<u>GIP = 410'</u>	%gas	%oil	%water	%mud

Rec Total 1165 BHT _____ Gravity 41 API RW _____ @ _____ °F Chlorides _____ ppm

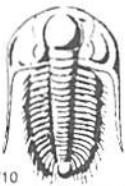
(A) Initial Hydrostatic <u>2104</u>	<input checked="" type="checkbox"/> Test <u>1250</u>	T-On Location <u>18:47</u>
(B) First Initial Flow <u>86</u>	<input type="checkbox"/> Jars _____	T-Started <u>19:01</u>
(C) First Final Flow <u>267</u>	<input type="checkbox"/> Safety Joint _____	T-Open <u>21:43</u>
(D) Initial Shut-In <u>567 576</u>	<input type="checkbox"/> Circ Sub _____	T-Pulled <u>23:58</u>
(E) Second Initial Flow <u>280</u>	<input type="checkbox"/> Hourly Standby _____	T-Out <u>04:50</u>
(F) Second Final Flow <u>447</u>	<input checked="" type="checkbox"/> Mileage <u>192RT</u> 77.50	Comments <u>shut down</u>
(G) Final Shut-In <u>569</u>	<input type="checkbox"/> Sampler _____	<u>2X - H₂S 40ppm</u>
(H) Final Hydrostatic <u>2033</u>	<input type="checkbox"/> Straddle _____	<u>mbfsl</u>

Initial Open 15
 Initial Shut-In 30
 Final Flow 30
 Final Shut-In 60

Ruined Shale Packer
 Ruined Packer
 Extra Copies
 Sub Total 0
 Total 1327.50
 MP/DST Disc't _____
 Sub Total 1327.50

Approved By _____ Our Representative Andy Co

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 53634

Well Name & No. KEENAN #2 Test No. 3 Date 10-7-13
 Company Northern Light Oil Co LC Elevation 2820 KB 2815 GL
 Address PO BOX 164 Andover KS 67002
 Co. Rep / Geo. Seth EVANSON Rig MAILLARD
 Location: Sec. 3 Twp. 19s Rge. 29W Co. LANE State Ks

Interval Tested 4220 - 4255 Zone Tested LKC "J"
 Anchor Length 35 Drill Pipe Run 3988 Mud Wt. 9.2
 Top Packer Depth 4215 Drill Collars Run 237.33 Vis 49
 Bottom Packer Depth 4220 Wt. Pipe Run 0 WL -
 Total Depth 4255 Chlorides - ppm System LCM -

Blow Description IF: 4" blow in 5 min. 8" blow in 11 min. BOB in 20 min
ISI: NO RETURN
FF: 4" blow in 10 min. 8" blow in 19 min. BOB in 29 min
FSI: NO RETURN

Rec	Feet of	%gas	%oil	%water	%mud
<u>30</u>	<u>oil</u>				
<u>470</u>	<u>MW</u>				

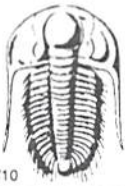
Rec Total 500' BHT 123° Gravity 36 API RW 293 @ 57° F Chlorides 30000 ppm

(A) Initial Hydrostatic 2084 Test 1250 T-On Location 16:04
 (B) First Initial Flow 20 Jars _____ T-Started 16:26
 (C) First Final Flow 148 Safety Joint _____ T-Open 18:09
 (D) Initial Shut-In 573 Circ Sub _____ T-Pulled 20:59
 (E) Second Initial Flow 151 Hourly Standby _____ T-Out 23:28
 (F) Second Final Flow 231 Mileage 192RT 77.50 Comments motel
 (G) Final Shut-In 549 Sampler _____
 (H) Final Hydrostatic 2025 Straddle _____
 Ruined Shale Packer _____

Initial Open 30 Shale Packer _____
 Initial Shut-In 35 Extra Packer _____
 Final Flow 45 Extra Recorder _____
 Final Shut-In 60 Day Standby _____
 Accessibility _____
 Sub Total 1327.50 Sub Total 0
 Total 1327.50 MP/DST Disc't _____

Approved By _____ Our Representative [Signature]

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 53635

Well Name & No. KEENAN #2 Test No. 4 Date 10-8-13
 Company Northern Light oil co LC Elevation 2820 KB 2815 GL
 Address PO BOX 164 ANDOVER KS. 67002
 Co. Rep / Geo. Seth EVANSON Rig Mallard
 Location: Sec. 3 Twp. 19S Rge. 29W Co. LANE State KS

Interval Tested 4259 - 4277 Zone Tested LRC "K"
 Anchor Length 18' Drill Pipe Run 4018 Mud Wt. 9.2
 Top Packer Depth 4254 Drill Collars Run 237.33 Vis 50
 Bottom Packer Depth 4259 Wt. Pipe Run 0 WL -
 Total Depth 4277 Chlorides - ppm System LCM -

Blow Description IF: BOB IN 3min
ISI: NO RETURN
FF: BOB IN 5min
FSL: NO RETURN

Rec	Feet of	%gas	%oil	%water	%mud
<u>20</u>	<u>MW w/TARVE oil</u>				
<u>1010</u>	<u>MW</u>				

Rec Total 1030 BHT 126° Gravity API RW .153 @ 86° F Chlorides 40000 ppm

(A) Initial Hydrostatic 2136 Test 1250 T-On Location 06:50
 (B) First Initial Flow 59 Jars _____ T-Started 07:09
 (C) First Final Flow 290 Safety Joint _____ T-Open 09:40
 (D) Initial Shut-In 578 Circ Sub _____ T-Pulled 11:55
 (E) Second Initial Flow 299 Hourly Standby _____ T-Out 15:05
 (F) Second Final Flow 484 Mileage 192RT 77.50
 (G) Final Shut-In 579 Sampler _____
 (H) Final Hydrostatic 2037 Straddle _____

Initial Open 15 Shale Packer _____ Ruined Shale Packer _____
 Initial Shut-In 30 Shale Packer _____ Ruined Packer _____
 Final Flow 30 Extra Packer _____ Extra Copies _____
 Final Shut-In 60 Extra Recorder _____ Sub Total 0
 Day Standby _____ Total 1327.50
 Accessibility _____ MP/DST Disc't _____
 Sub Total 1327.50

Approved By _____ Our Representative [Signature]

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 53636

4/10

Well Name & No. KEZMAN #2 Test No. 5 Date 10-9-13
 Company Northern Light oil co. LC Elevation 2820 KB 2815 GL
 Address PO BOX 164 ANDOVER KS. 67002
 Co. Rep / Geo. SETH EVANSON Rig MALLARD
 Location: Sec. 3 Twp. 19S Rge. 29W Co. LANE State Ks

Interval Tested 4358-4386 Zone Tested MARM.
 Anchor Length 28 Drill Pipe Run 4115 Mud Wt. 9.2
 Top Packer Depth 4353 Drill Collars Run 237.33 Vis 5.0
 Bottom Packer Depth 4358 Wt. Pipe Run 0 WL -
 Total Depth 4386 Chlorides - ppm System LCM -

Blow Description IF: INTERMITTENT SURFACE BLOW, DIED IN 15 MIN.
ISI: NO RETURN
FF: NO BLOW, FLUSHED, SURGED, NO BLOW, PULLED TOOL
FSL: -

Rec	Feet of	%gas	%oil	%water	%mud
<u>5</u>	<u>505m</u>		<u>TR</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

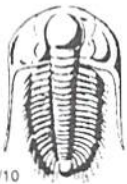
Rec Total 5' BHT 115° Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 2187 Test 1250 T-On Location 09:40
 (B) First Initial Flow 14 Jars _____ T-Started 10:00
 (C) First Final Flow 15 Safety Joint _____ T-Open 12:25
 (D) Initial Shut-In 31 Circ Sub _____ T-Pulled 13:35
 (E) Second Initial Flow 16 Hourly Standby _____ T-Out 15:26
 (F) Second Final Flow 18 Mileage 192RT 77.50 Comments MOTEL
 (G) Final Shut-In _____ Sampler _____
 (H) Final Hydrostatic 2118 Straddle _____

Initial Open 30 Shale Packer _____ Ruined Shale Packer _____
 Initial Shut-In 30 Shale Packer _____ Ruined Packer _____
 Final Flow 10 Extra Packer _____ Extra Copies _____
 Final Shut-In _____ Extra Recorder _____ Sub Total 0
 Day Standby _____ Total 1327.50
 Accessibility _____ MP/DST Disc't _____
 Sub Total 1327.50

Approved By _____ Our Representative [Signature]

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 53637

Well Name & No. KEENAN #2 Test No. 6 Date 10-10-13
 Company NORTHERN Light oil CO. LC Elevation 2820 KB 2815 GL
 Address PO BOX 1641 ANDOVER KS. 67002
 Co. Rep / Geo. Seth EVANSON Rig MALLARD
 Location: Sec. 3 Twp. 19S Rge. 29W Co. LANE State Ks

Interval Tested 4401 - 4435 Zone Tested Altamont
 Anchor Length 34 Drill Pipe Run 4174 Mud Wt. 9.2
 Top Packer Depth 4396 Drill Collars Run 237.33 Vis 41
 Bottom Packer Depth 4401 Wt. Pipe Run 0 WL -
 Total Depth 4435 Chlorides - ppm System LCM -

Blow Description IF: BOB in 6min.
ISI: NO RETURN
FF: BOB in 12min.
FSI: NO RETURN

Rec	Feet of	%gas	%oil	%water	%mud
<u>955</u>	<u>MW</u>				
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 955 BHT 128° Gravity API RW .200 @ 67° F Chlorides 40000 ppm

(A) Initial Hydrostatic 2221 Test 1250 T-On Location 01:30
 (B) First Initial Flow 46 Jars _____ T-Started 02:00
 (C) First Final Flow 310 Safety Joint _____ T-Open 03:53
 (D) Initial Shut-In 455 Circ Sub _____ T-Pulled 06:38
 (E) Second Initial Flow 313 Hourly Standby _____ T-Out 09:32
 (F) Second Final Flow 408 Mileage 192RT 155 Comments motel
 (G) Final Shut-In 456 Sampler _____ 192RT x 2 pick up tools
 (H) Final Hydrostatic 2111 Straddle _____ loaded tools 10/11 11:30

Initial Open 30 Shale Packer _____ Ruined Shale Packer _____
 Initial Shut-In 45 Shale Packer _____ Ruined Packer _____
 Final Flow 30 Extra Packer _____ Extra Copies _____
 Final Shut-In 60 Extra Recorder _____ Sub Total 800
 Day Standby 1d 2hrs Total 2205
 Accessibility _____ MP/DST Disc't _____
 Sub Total 1405

Approved By _____ Our Representative Andy Co

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