

DRILL STEM TEST REPORT

Prepared For: **Toto Energy LLC**

2515 Oakridge Drive
Spring, Tx 77380

ATTN: Terry Madden

Werner #27-1

27/24s/19w/Edwards

Start Date: 2013.10.09 @ 17:10:00

End Date: 2013.10.10 @ 01:36:00

Job Ticket #: 18504 DST #: 1

Superior Testers Enterprises LLC
PO Box 138 Great Bend KS 67530
1-800-792-6902

Printed: 2013.10.09 @ 01:49:46

Toto Energy LLC
27/24s/19w/Edwards
Werner #27-1
DST # 1
Mississippi
2013.10.09



DRILL STEM TEST REPORT

Toto Energy LLC

27/24s/19w/Edwards

2515 Oakridge Drive
Spring, Tx 77380

Werner #27-1

Job Ticket: 18504

DST#: 1

ATTN: Terry Madden

Test Start: 2013.10.09 @ 17:10:00

GENERAL INFORMATION:

Formation: **Mississippi**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 19:46:30

Time Test Ended: 01:36:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Shane Konzem

Unit No: 3330/97/Great Bend

Interval: **4550.00 ft (KB) To 4575.00 ft (KB) (TVD)**

Reference Elevations: 2167.00 ft (KB)

Total Depth: 4575.00 ft (KB) (TVD)

2156.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 11.00 ft

Serial #: **8400**

Inside

Press @ Run Depth: 666.48 psia @ 4571.00 ft (KB)

Capacity: 5000.00 psia

Start Date: 2013.10.09

End Date:

2013.10.10

Last Calib.:

2013.10.09

Start Time: 17:10:00

End Time:

01:36:00

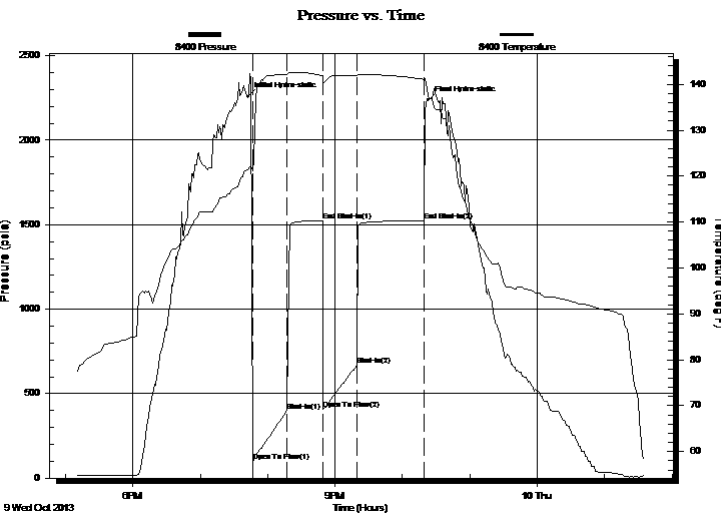
Time On Btm:

2013.10.09 @ 19:42:30

Time Off Btm:

2013.10.09 @ 22:23:00

TEST COMMENT: 1st Open/ 30 Minutes. Good blow built to bottom of 5 gallon bucket in 5 minutes.
1st Shut In/ 30 Minutes. Fair blow back built to inches in 5 gallon bucket.
2nd Open/ 30 Minutes. Good blow built to bottom of 5 gallon bucket in 7 minutes and 10 seconds.
2nd Shut In/ 60 Minutes. Weak surface blow.



PRESSURE SUMMARY

Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	2258.09	121.34	Initial Hydro-static
4	101.82	121.09	Open To Flow (1)
35	399.06	142.11	Shut-In(1)
67	1524.10	141.88	End Shut-In(1)
67	407.96	140.86	Open To Flow (2)
97	666.48	141.82	Shut-In(2)
157	1523.72	141.09	End Shut-In(2)
161	2236.44	137.28	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
0.00	No gas	0.00
126.00	2.5% gas, 50% mud, 47.5% water	1.77
126.00	2.5% gas, 37.5% Mud, 60% water	1.77
945.00	2.5% gas, 97.5% water	13.26
0.00	Chloride recov, 39000 ppm	0.00
0.00	resist recov, .21 at 40 degrees.	0.00

Gas Rates

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



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Werner #27-1

Job Ticket: 18504

DST#: 1

ATTN: Terry Madden

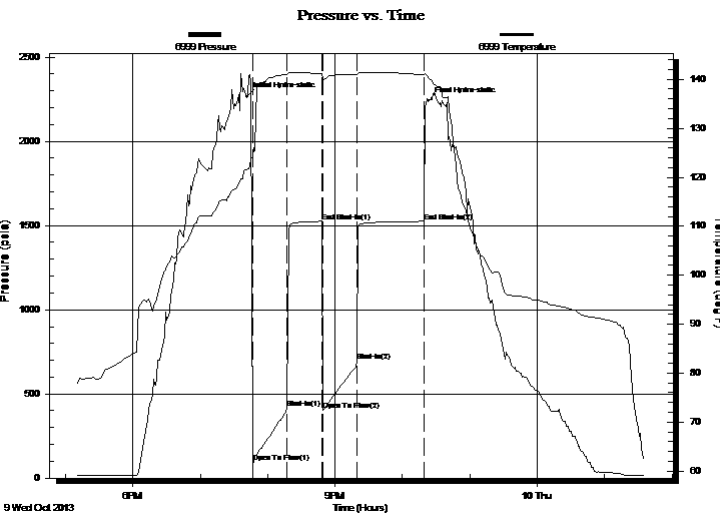
Test Start: 2013.10.09 @ 17:10:00

GENERAL INFORMATION:

Formation: **Mississippi**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 19:46:30
 Time Test Ended: 01:36:00
 Interval: **4550.00 ft (KB) To 4575.00 ft (KB) (TVD)**
 Total Depth: 4575.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Poor
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Shane Konzem
 Unit No: 3330/97/Great Bend
 Reference Elevations: 2167.00 ft (KB)
 2156.00 ft (CF)
 KB to GR/CF: 11.00 ft

Serial #: 6999 Outside
 Press @ RunDepth: 1524.96 psia @ 4572.00 ft (KB) Capacity: 5000.00 psia
 Start Date: 2013.10.09 End Date: 2013.10.10 Last Calib.: 2013.10.09
 Start Time: 17:10:00 End Time: 01:35:30 Time On Btm: 2013.10.09 @ 19:41:30
 Time Off Btm: 2013.10.09 @ 22:23:00

TEST COMMENT: 1st Open/ 30 Minutes. Good blow built to bottom of 5 gallon bucket in 5 minutes.
 1st Shut In/ 30 Minutes. Fair blow back built to inches in 5 gallon bucket.
 2nd Open/ 30 Minutes. Good blow built to bottom of 5 gallon bucket in 7 minutes and 10 seconds.
 2nd Shut In/ 60 Minutes. Weak surface blow.



PRESSURE SUMMARY

Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	2264.51	121.61	Initial Hydro-static
5	91.79	123.90	Open To Flow (1)
36	414.12	141.01	Shut-In(1)
67	1525.26	141.11	End Shut-In(1)
68	402.94	140.37	Open To Flow (2)
98	694.28	140.94	Shut-In(2)
158	1524.96	140.94	End Shut-In(2)
162	2239.02	140.31	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
0.00	No gas	0.00
126.00	2.5% gas, 50% mud, 47.5% w ater	1.77
126.00	2.5% gas, 37.5% Mud, 60% w ater	1.77
945.00	2.5% gas, 97.5% w ater	13.26
0.00	Chloride recov, 39000 ppm	0.00
0.00	resist recov, .21 at 40 degrees.	0.00

Gas Rates

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



DRILL STEM TEST REPORT

TOOL DIAGRAM

Toto Energy LLC

27/24s/19w/Edwards

2515 Oakridge Drive
Spring, Tx 77380

Werner #27-1

Job Ticket: 18504

DST#: 1

ATTN: Terry Madden

Test Start: 2013.10.09 @ 17:10:00

Tool Information

Drill Pipe:	Length: 4529.00 ft	Diameter: 3.80 inches	Volume: 63.53 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 88000.00 lb
			<u>Total Volume: 63.53 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	8.00 ft			String Weight: Initial 78000.00 lb
Depth to Top Packer:	4550.00 ft			Final 82000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	25.00 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			4522.00	
Shut-In Tool	5.00			4527.00	
Hydroic Tool	5.00			4532.00	
Jars	6.00			4538.00	
Safety Joint	2.00			4540.00	
Packer	5.00			4545.00	29.00 Bottom Of Top Packer
Packer	5.00			4550.00	
Perforations	20.00			4570.00	
Recorder	1.00	8400	Inside	4571.00	
Recorder	1.00	6999	Outside	4572.00	
Bullnose	3.00			4575.00	25.00 Bottom Packers & Anchor

Total Tool Length: 54.00



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FLUID SUMMARY

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DST#: 1

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Test Start: 2013.10.09 @ 17:10:00

Mud and Cushion Information

Mud Type: Gel Chem
Mud Weight: 9.00 lb/gal
Viscosity: 64.00 sec/qt
Water Loss: 8.80 in³
Resistivity: ohm.m
Salinity: 8600.00 ppm
Filter Cake: 1.00 inches

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

Oil API: deg API
Water Salinity: ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
0.00	No gas	0.000
126.00	2.5% gas, 50% mud, 47.5% w ater	1.767
126.00	2.5% gas, 37.5% Mud, 60% w ater	1.767
945.00	2.5% gas, 97.5% w ater	13.256
0.00	Chloride recov, 39000 ppm	0.000
0.00	resist recov, .21 at 40 degrees.	0.000

Total Length: 1197.00 ft Total Volume: 16.790 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

