



DRILL STEM TEST REPORT

Prepared For: **Cimarex Energy Co.**

348 Rd. DD
Santana Ks, 67870

ATTN: Kevin Martin

Hammer #19-6

19/30s/31w/Haskell

Start Date: 2013.09.16 @ 20:35:00

End Date: 2013.09.17 @ 08:07:00

Job Ticket #: 18494 DST #: 1

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

Printed: 2013.09.16 @ 08:30:18



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Job Ticket: 18494

DST#: 1

ATTN: Kevin Martin

Test Start: 2013.09.16 @ 20:35:00

GENERAL INFORMATION:

Formation: **swope limestone**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 00:58:00
 Time Test Ended: 08:07:00
 Interval: **4655.00 ft (KB) To 4698.00 ft (KB) (TVD)**
 Total Depth: 4698.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Poor
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Shane Konem
 Unit No: 3330/388/Great Bend
 Reference Elevations: 2859.00 ft (KB)
 2850.00 ft (CF)
 KB to GR/CF: 9.00 ft

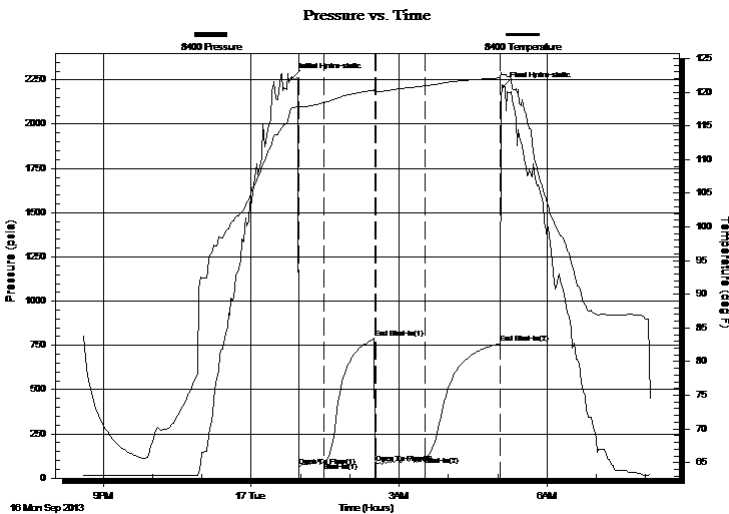
Serial #: 8400

Inside

Press @ RunDepth: 120.74 psia @ 4694.00 ft (KB) Capacity: 5000.00 psia
 Start Date: 2013.09.16 End Date: 2013.09.17 Last Calib.: 2013.09.16
 Start Time: 20:35:00 End Time: 08:07:00 Time On Btm: 2013.09.17 @ 00:50:30
 Time Off Btm: 2013.09.17 @ 05:07:00

TEST COMMENT: 1st Open/ 30 Minutes. Weak blow built to 1/4 inch in bucket of water.
 1st Shut In/ 60 Minutes. No blow back.
 2nd Open/ 60 Minutes. No blow. Did not flush tool per K. Martin.
 2nd Shut In/ 90 Minutes. No blow back.

PRESSURE SUMMARY



Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	2261.12	117.71	Initial Hydro-static
8	66.17	117.68	Open To Flow (1)
38	86.77	118.44	Shut-In(1)
100	790.43	120.33	End Shut-In(1)
101	84.92	120.08	Open To Flow (2)
161	120.74	120.94	Shut-In(2)
253	761.50	122.11	End Shut-In(2)
257	2212.12	122.66	Final Hydro-static

Recovery

Gas Rates

Length (ft)	Description	Volume (bbl)
0.00	No gas	0.00
59.00	100% mud	0.29

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



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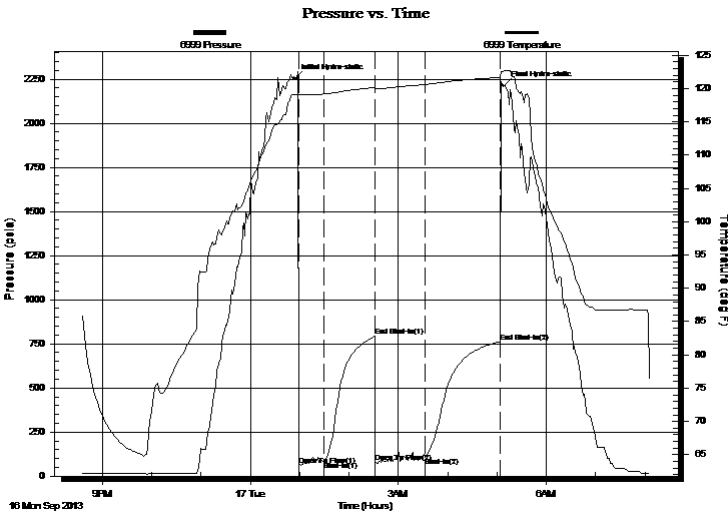
Serial #: 6999

Outside

Press @ Run Depth: 762.46 psia @ 4695.00 ft (KB) Capacity: 5000.00 psia
 Start Date: 2013.09.16 End Date: 2013.09.17 Last Calib.: 2013.09.16
 Start Time: 20:35:00 End Time: 08:06:30 Time On Btm: 2013.09.17 @ 00:53:30
 Time Off Btm: 2013.09.17 @ 05:08:00

TEST COMMENT: 1st Open/ 30 Minutes. Weak blow built to 1/4 inch in bucket of water.
 1st Shut In/ 60 Minutes. No blow back.
 2nd Open/ 60 Minutes. No blow. Did not flush tool per K. Martin.
 2nd Shut In/ 90 Minutes. No blow back.

PRESSURE SUMMARY



Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	2253.49	119.10	Initial Hydro-static
6	60.98	119.14	Open To Flow (1)
36	86.33	119.19	Shut-In(1)
98	792.55	120.17	End Shut-In(1)
99	78.81	120.02	Open To Flow (2)
159	108.43	120.63	Shut-In(2)
251	762.46	121.69	End Shut-In(2)
255	2212.67	122.66	Final Hydro-static

Recovery

Gas Rates

Length (ft)	Description	Volume (bbl)
0.00	No gas	0.00
59.00	100% mud	0.29

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



DRILL STEM TEST REPORT

TOOL DIAGRAM

Cimarex Energy Co.

19/30s/31w/Haskell

348 Rd. DD
Santana Ks, 67870

Hammer #19-6

Job Ticket: 18494

DST#: 1

ATTN: Kevin Martin

Test Start: 2013.09.16 @ 20:35:00

Tool Information

Drill Pipe:	Length: 4403.00 ft	Diameter: 3.80 inches	Volume: 61.76 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: 244.00 ft	Diameter: 2.25 inches	Volume: 1.20 bbl	Weight to Pull Loose: 76000.00 lb
			<u>Total Volume: 62.96 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	21.00 ft			String Weight: Initial 67000.00 lb
Depth to Top Packer:	4655.00 ft			Final 67000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	43.00 ft			
Tool Length:	72.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Change Over Sub	1.00			4627.00	
Shut-In Tool	5.00			4632.00	
Hydroic Tool	5.00			4637.00	
Jars	6.00			4643.00	
Safety Joint	2.00			4645.00	
Packer	5.00			4650.00	29.00 Bottom Of Top Packer
Packer	5.00			4655.00	
Perforations	38.00			4693.00	
Recorder	1.00	8400	Inside	4694.00	
Recorder	1.00	6999	Outside	4695.00	
Bullnose	3.00			4698.00	43.00 Bottom Packers & Anchor

Total Tool Length: 72.00



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FLUID SUMMARY

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Mud and Cushion Information

Mud Type: Gel Chem
Mud Weight: 9.00 lb/gal
Viscosity: 47.00 sec/qt
Water Loss: 8.00 in³
Resistivity: ohm.m
Salinity: 1500.00 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
59.00	100% mud	0.290

Total Length: 59.00 ft Total Volume: 0.290 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

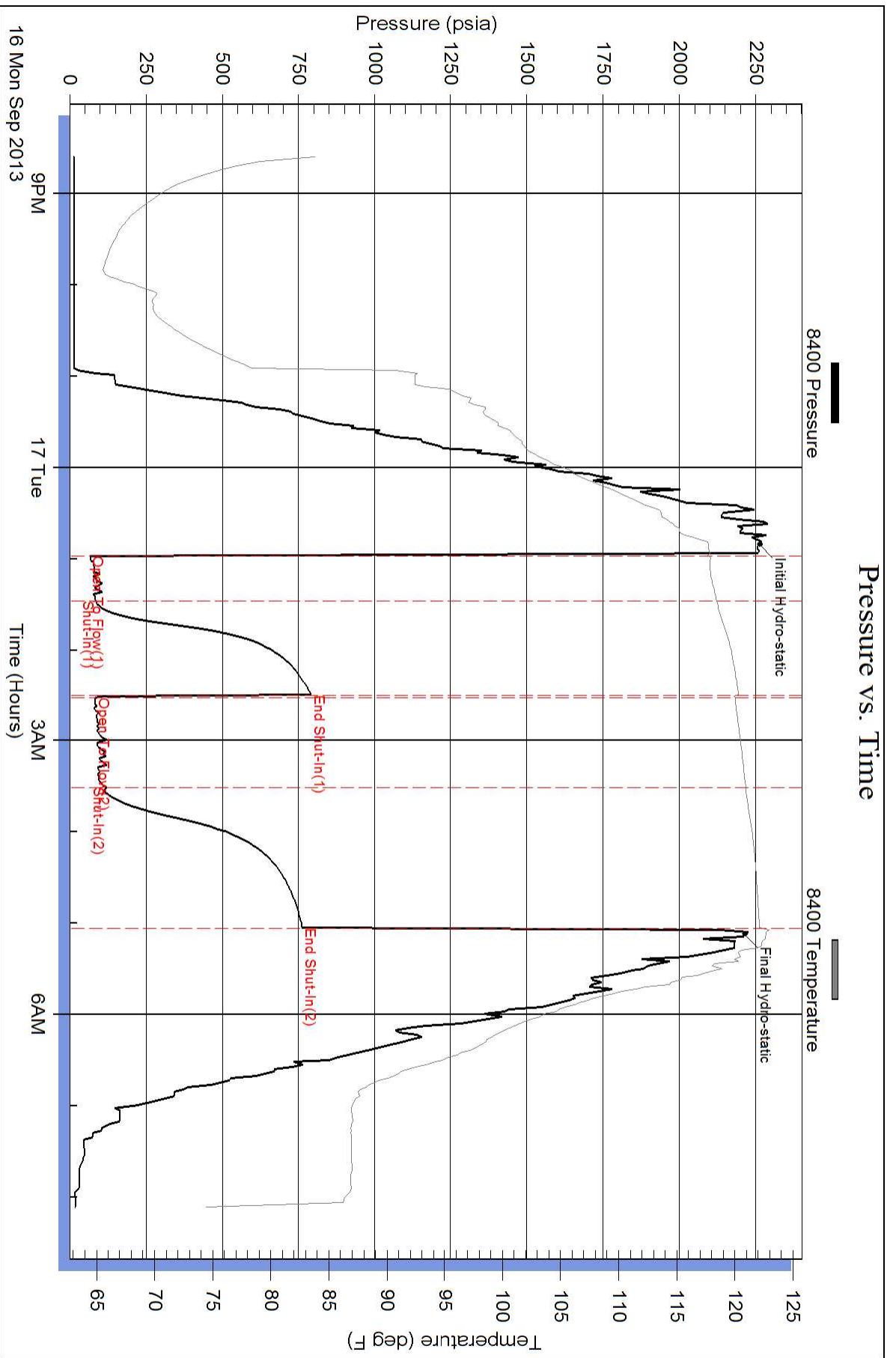
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Pressure vs. Time



Pressure vs. Time

