



## DRILL STEM TEST REPORT

Prepared For: **Captiva Energy II LLC**

445 Union BLVD. Suite 208  
Lakewood Colorado 80228

ATTN: Bruce Ard

**13/21S/16W Pawnee**

**Fleske #1-13**

Start Date: 2011.02.16 @ 01:16:00

End Date: 2011.02.16 @ 08:09:00

Job Ticket #: 15655                      DST #: 1

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

Printed: 2011.02.16 @ 21:01:03

Captiva Energy II LLC  
Fleske #1-13  
13/21S/16W Pawnee  
DST # 1  
Arbuckle  
2011.02.16



# DRILL STEM TEST REPORT

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 445 Union BLVD. Suite 208  
 Lakewood Colorado 80228  
 ATTN: Bruce Ard

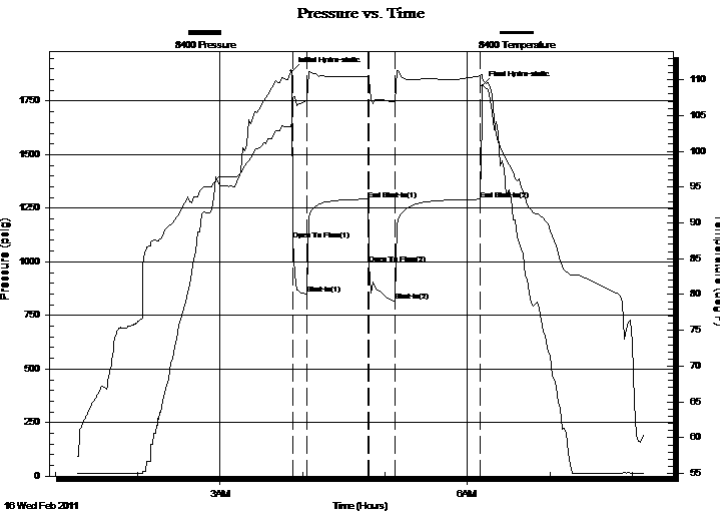
**Fleske #1-13**  
**13/21S/16W Pawnee**  
 Job Ticket: 15655 **DST#: 1**  
 Test Start: 2011.02.16 @ 01:16:00

## GENERAL INFORMATION:

Formation: **Arbuckle**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 03:52:30  
 Time Test Ended: 08:09:00  
 Interval: **3750.00 ft (KB) To 3813.00 ft (KB) (TVD)**  
 Total Depth: 3813.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Poor  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Dylan E Ellis  
 Unit No: 3345/Great Bend/  
 Reference Elevations: 1976.00 ft (KB)  
 1965.00 ft (CF)  
 KB to GR/CF: 11.00 ft

**Serial #: 8400 Outside**  
 Press @ Run Depth: 815.61 psig @ 3809.47 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2011.02.16 End Date: 2011.02.16 Last Calib.: 2011.02.16  
 Start Time: 01:16:00 End Time: 08:09:00 Time On Btm: 2011.02.16 @ 03:52:00  
 Time Off Btm: 2011.02.16 @ 06:11:00

**TEST COMMENT:** 1ST Opening 10 minutes very strong blow /bottom of bucket instantly/gas to surface in 1 minute  
 1ST Shut-In 45 minutes yes blow back  
 2ND Opening 20 minutes very strong blow /bottom of the bucket instantly/gauged gas/yes sample caught  
 2ND Shut-In 60 minutes yes blow back



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1889.68	104.12	Initial Hydro-static
1	1102.85	107.47	Open To Flow (1)
11	848.97	107.02	Shut-In(1)
56	1292.08	110.42	End Shut-In(1)
56	991.76	110.04	Open To Flow (2)
76	815.61	106.87	Shut-In(2)
138	1291.70	110.52	End Shut-In(2)
139	1821.57	110.15	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
180.00	Mud at 100%	0.89
60.00	Slightly Gassy Mud	0.30
0.00	Gas 10% Mud 90%	0.00
0.00	3470 feet of Gas in the pipe	0.00

## Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate	1.00	109.75	3155.18
Last Gas Rate	1.00	136.75	3931.40
Max. Gas Rate	1.00	136.75	3931.40



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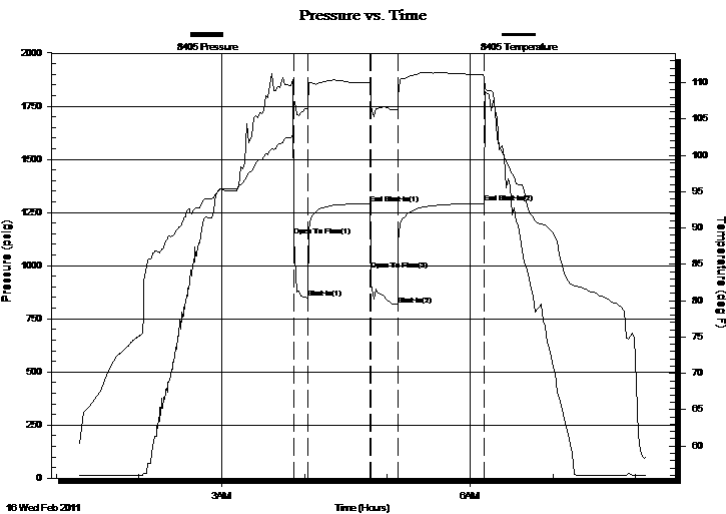
**Fleske #1-13**  
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 Job Ticket: 15655 **DST#: 1**  
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## GENERAL INFORMATION:

Formation: **Arbuckle**  
 Deviated: No Whipstock: ft (KB)  
 Test Type: Conventional Bottom Hole (Initial)  
 Time Tool Opened: 03:52:30 Tester: Dylan E Ellis  
 Time Test Ended: 08:09:00 Unit No: 3345/Great Bend/  
 Interval: **3750.00 ft (KB) To 3813.00 ft (KB) (TVD)** Reference Elevations: 1976.00 ft (KB)  
 Total Depth: 3813.00 ft (KB) (TVD) 1965.00 ft (CF)  
 Hole Diameter: 7.88 inches Hole Condition: Poor KB to GR/CF: 11.00 ft

**Serial #: 8405 Inside**  
 Press @ Run Depth: 1297.59 psig @ 3808.47 ft (KB) Capacity: 5000.00 psig  
 Start Date: 2011.02.16 End Date: 2011.02.16 Last Calib.: 2011.02.16  
 Start Time: 01:16:00 End Time: 08:08:27 Time On Btm:  
 Time Off Btm:

**TEST COMMENT:** 1ST Opening 10 minutes very strong blow /bottom of bucket instantly/gas to surface in 1 minute  
 1ST Shut-In 45 minutes yes blow back  
 2ND Opening 20 minutes very strong blow /bottom of the bucket instantly/gauged gas/yes sample caught  
 2ND Shut-In 60 minutes yes blow back



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1139.81	107.34	Open To Flow (1)
10	847.75	106.53	Shut-In(1)
56	1291.62	110.02	End Shut-In(1)
56	980.16	108.05	Open To Flow (2)
76	814.63	106.24	Shut-In(2)
138	1297.59	110.90	End Shut-In(2)

## Recovery

Length (ft)	Description	Volume (bbl)
180.00	Mud at 100%	0.89
60.00	Slightly Gassy Mud	0.30
0.00	Gas 10% Mud 90%	0.00
0.00	3470 feet of Gas in the pipe	0.00

## Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate	1.00	109.75	3155.18
Last Gas Rate	1.00	136.75	3931.40
Max. Gas Rate	1.00	136.75	3931.40



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**TOOL DIAGRAM**

Captiva Energy II LLC  
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 ATTN: Bruce Ard

**Fleske #1-13**  
**13/21S/16W Pawnee**  
 Job Ticket: 15655 **DST#: 1**  
 Test Start: 2011.02.16 @ 01:16:00

**Tool Information**

Drill Pipe:	Length: 3470.00 ft	Diameter: 3.80 inches	Volume: 48.67 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: 259.04 ft	Diameter: 2.25 inches	Volume: 1.27 bbl	Weight to Pull Loose:	43000.00 lb
			<u>Total Volume: 49.94 bbl</u>	Tool Chased	10.00 ft
Drill Pipe Above KB:	7.04 ft			String Weight: Initial	72000.00 lb
Depth to Top Packer:	3750.00 ft			Final	80000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	62.47 ft				
Tool Length:	90.47 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments: We opened the tool up going into the hole when we hit a bridge but it closed when we feel through the bridge/the bridge was about 1,200.0 foot above bottom of the hole.

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut-In Tool	5.00			3727.00	
Hydraulic Tool	5.00			3732.00	
Jars	6.00			3738.00	
Safety Joint	2.00			3740.00	
Packer	5.00			3745.00	28.00 Bottom Of Top Packer
Packer	5.00			3750.00	
Perforations	5.00			3755.00	
Change Over Sub	0.75			3755.75	
Drill Pipe	31.97			3787.72	
Change Over Sub	0.75			3788.47	
Perforations	19.00			3807.47	
Recorder	1.00	8405	Inside	3808.47	
Recorder	1.00	8400	Outside	3809.47	
Bull Plug	3.00			3812.47	62.47 Bottom Packers & Anchor

**Total Tool Length: 90.47**



# DRILL STEM TEST REPORT

## FLUID SUMMARY

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**Fleske #1-13**  
**13/21S/16W Pawnee**  
Job Ticket: 15655      **DST#: 1**  
Test Start: 2011.02.16 @ 01:16:00

### Mud and Cushion Information

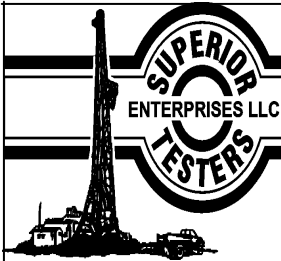
Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 50.00 sec/qt	Cushion Volume: bbl		
Water Loss: 9.19 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 6000.00 ppm			
Filter Cake: 1.00 inches			

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
180.00	Mud at 100%	0.885
60.00	Slightly Gassy Mud	0.295
0.00	Gas 10% Mud 90%	0.000
0.00	3470 feet of Gas in the pipe	0.000

Total Length: 240.00 ft      Total Volume: 1.180 bbl  
Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
Laboratory Name:      Laboratory Location:  
Recovery Comments:



# DRILL STEM TEST REPORT

**GAS RATES**

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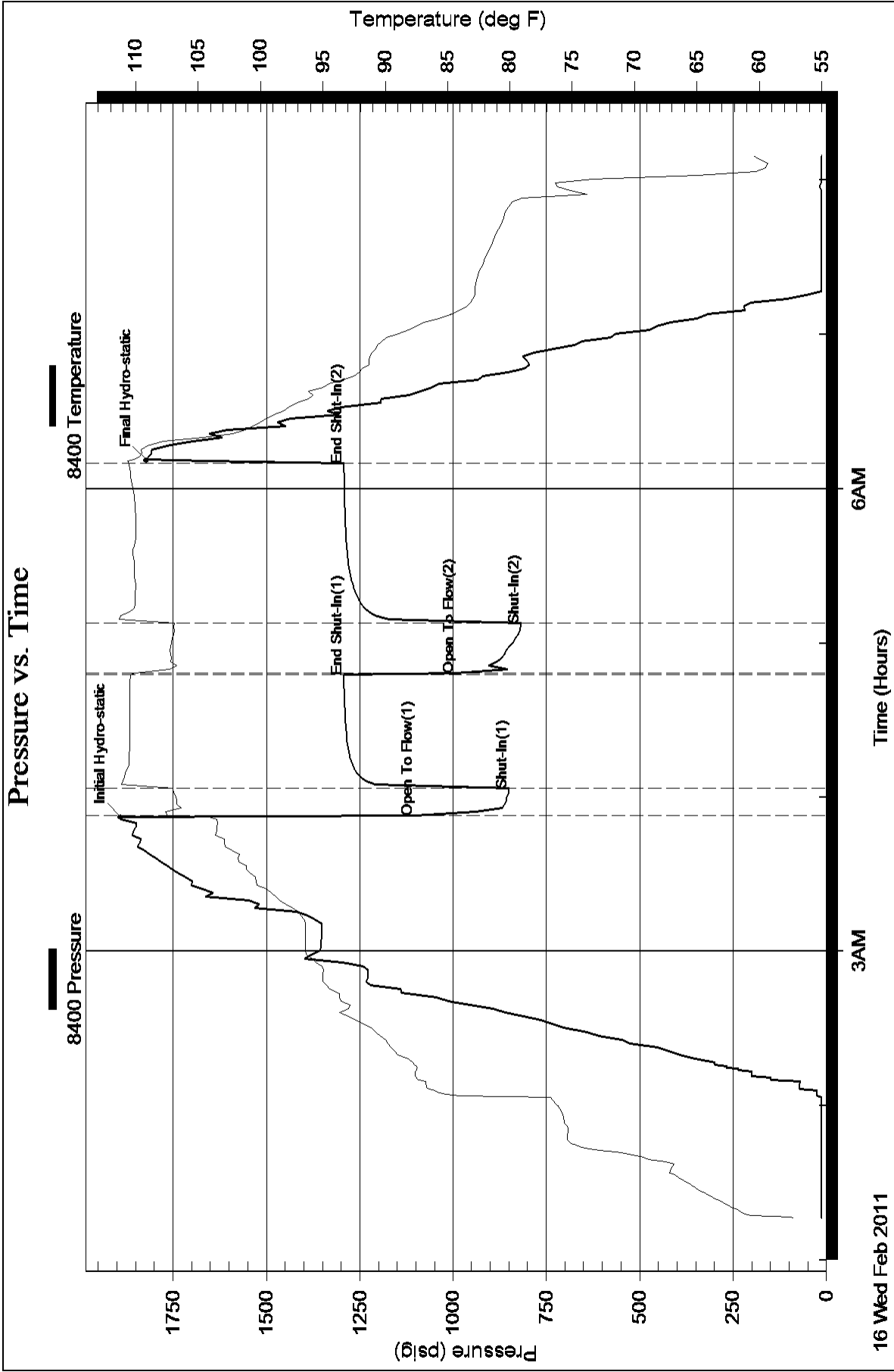
## Gas Rates Information

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	5	1.00	109.75	3155.18
2	5	1.00	109.75	3155.18
2	10	1.00	126.47	3636.01
2	15	1.00	136.75	3931.40

### Pressure vs. Time



Serial #: 8405

Inside

Captiva Energy II LLC

13/21S/16W Paw nee

DST Test Number: 1

