



KANSAS CORPORATION COMMISSION 1072968  
OIL & GAS CONSERVATION DIVISION

Form ACO-1

June 2009

Form Must Be Typed  
Form must be Signed  
All blanks must be Filled

**WELL COMPLETION FORM**  
**WELL HISTORY - DESCRIPTION OF WELL & LEASE**

OPERATOR: License # \_\_\_\_\_

Name: \_\_\_\_\_

Address 1: \_\_\_\_\_

Address 2: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_ + \_\_\_\_\_

Contact Person: \_\_\_\_\_

Phone: ( \_\_\_\_\_ ) \_\_\_\_\_

CONTRACTOR: License # \_\_\_\_\_

Name: \_\_\_\_\_

Wellsite Geologist: \_\_\_\_\_

Purchaser: \_\_\_\_\_

Designate Type of Completion:

- New Well       Re-Entry       Workover
- Oil       WSW       SWD       SIOW
- Gas       D&A       ENHR       SIGW
- OG       GSW       Temp. Abd.
- CM (Coal Bed Methane)
- Cathodic       Other (Core, Expl., etc.): \_\_\_\_\_

If Workover/Re-entry: Old Well Info as follows:

Operator: \_\_\_\_\_

Well Name: \_\_\_\_\_

Original Comp. Date: \_\_\_\_\_ Original Total Depth: \_\_\_\_\_

- Deepening       Re-perf.       Conv. to ENHR       Conv. to SWD
- Conv. to GSW
- Plug Back: \_\_\_\_\_ Plug Back Total Depth \_\_\_\_\_
- Commingled      Permit #: \_\_\_\_\_
- Dual Completion      Permit #: \_\_\_\_\_
- SWD      Permit #: \_\_\_\_\_
- ENHR      Permit #: \_\_\_\_\_
- GSW      Permit #: \_\_\_\_\_

Spud Date or Recompletion Date      Date Reached TD      Completion Date or Recompletion Date

API No. 15 - \_\_\_\_\_

Spot Description: \_\_\_\_\_

\_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_ Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West

\_\_\_\_\_ Feet from  North /  South Line of Section

\_\_\_\_\_ Feet from  East /  West Line of Section

Footages Calculated from Nearest Outside Section Corner:

- NE       NW       SE       SW

County: \_\_\_\_\_

Lease Name: \_\_\_\_\_ Well #: \_\_\_\_\_

Field Name: \_\_\_\_\_

Producing Formation: \_\_\_\_\_

Elevation: Ground: \_\_\_\_\_ Kelly Bushing: \_\_\_\_\_

Total Depth: \_\_\_\_\_ Plug Back Total Depth: \_\_\_\_\_

Amount of Surface Pipe Set and Cemented at: \_\_\_\_\_ Feet

Multiple Stage Cementing Collar Used?  Yes  No

If yes, show depth set: \_\_\_\_\_ Feet

If Alternate II completion, cement circulated from: \_\_\_\_\_

feet depth to: \_\_\_\_\_ w/ \_\_\_\_\_ sx cmt.

**Drilling Fluid Management Plan**

(Data must be collected from the Reserve Pit)

Chloride content: \_\_\_\_\_ ppm Fluid volume: \_\_\_\_\_ bbls

Dewatering method used: \_\_\_\_\_

Location of fluid disposal if hauled offsite: \_\_\_\_\_

Operator Name: \_\_\_\_\_

Lease Name: \_\_\_\_\_ License #: \_\_\_\_\_

Quarter \_\_\_\_\_ Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West

County: \_\_\_\_\_ Permit #: \_\_\_\_\_

**AFFIDAVIT**

I am the affiant and I hereby certify that all requirements of the statutes, rules and regulations promulgated to regulate the oil and gas industry have been fully complied with and the statements herein are complete and correct to the best of my knowledge.

Submitted Electronically

**KCC Office Use ONLY**

- Letter of Confidentiality Received  
Date: \_\_\_\_\_
- Confidential Release Date: \_\_\_\_\_
- Wireline Log Received
- Geologist Report Received
- UIC Distribution
- ALT  I  II  III Approved by: \_\_\_\_\_ Date: \_\_\_\_\_



1072968

Operator Name: \_\_\_\_\_ Lease Name: \_\_\_\_\_ Well #: \_\_\_\_\_

Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West County: \_\_\_\_\_

**INSTRUCTIONS:** Show important tops and base of formations penetrated. Detail all cores. Report all final copies of drill stems tests giving interval tested, time tool open and closed, flowing and shut-in pressures, whether shut-in pressure reached static level, hydrostatic pressures, bottom hole temperature, fluid recovery, and flow rates if gas to surface test, along with final chart(s). Attach extra sheet if more space is needed. Attach complete copy of all Electric Wire-line Logs surveyed. Attach final geological well site report.

Drill Stem Tests Taken <input type="checkbox"/> Yes <input type="checkbox"/> No <i>(Attach Additional Sheets)</i>  Samples Sent to Geological Survey <input type="checkbox"/> Yes <input type="checkbox"/> No  Cores Taken <input type="checkbox"/> Yes <input type="checkbox"/> No Electric Log Run <input type="checkbox"/> Yes <input type="checkbox"/> No Electric Log Submitted Electronically <input type="checkbox"/> Yes <input type="checkbox"/> No <i>(If no, Submit Copy)</i>  List All E. Logs Run:	<input type="checkbox"/> Log Formation (Top), Depth and Datum <input type="checkbox"/> Sample  Name Top Datum
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CASING RECORD <input type="checkbox"/> New <input type="checkbox"/> Used							
Report all strings set-conductor, surface, intermediate, production, etc.							
Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives

ADDITIONAL CEMENTING / SQUEEZE RECORD				
Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
_____ Perforate _____ Protect Casing _____ Plug Back TD _____ Plug Off Zone				

Shots Per Foot	PERFORATION RECORD - Bridge Plugs Set/Type Specify Footage of Each Interval Perforated	Acid, Fracture, Shot, Cement Squeeze Record <i>(Amount and Kind of Material Used)</i>	Depth

TUBING RECORD:      Size: \_\_\_\_\_ Set At: \_\_\_\_\_ Packer At: \_\_\_\_\_ Liner Run:  Yes  No

Date of First, Resumed Production, SWD or ENHR. \_\_\_\_\_ Producing Method:  Flowing  Pumping  Gas Lift  Other *(Explain)* \_\_\_\_\_

Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity
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DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <input type="checkbox"/> Other <i>(Specify)</i> _____ <i>(Submit ACO-4)</i>	PRODUCTION INTERVAL: _____ _____
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Form	ACO1 - Well Completion
Operator	Shelby Resources LLC
Well Name	F - F Unit 1-7
Doc ID	1072968

All Electric Logs Run

Dual Induction
Compensated Neutron
Micro
Sonic
Cement Bond



## DRILL STEM TEST REPORT

Prepared For: **Captiva 11**

2717 Canal Blvd Hays  
Ks 67601

ATTN: Charlie Sturdarant

**7-22s-16w Pawnee**

**Charlie Sturdarant**

Start Date: 2011.07.01 @ 09:25:00

End Date: 2011.07.01 @ 18:18:00

Job Ticket #: 16502                      DST #: 1

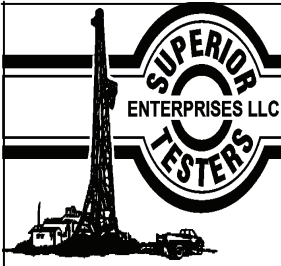
Superior Testers Enterprises LLC  
PO Box 138 Great Bend KS 67530  
1-800-792-6902

Printed: 2011.07.02 @ 07:03:31

Captiva 11  
Charlie Sturdarant  
7-22s-16w Pawnee  
DST # 1  
Arbuckle  
2011.07.01







# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Captiva 11  
 2717 Canal Blvd Hays  
 Ks 67601  
 ATTN: Charlie Sturdarant

**Charlie Sturdarant**  
**7-22s-16w Pawnee**  
 Job Ticket: 16502      **DST#: 1**  
 Test Start: 2011.07.01 @ 09:25:00

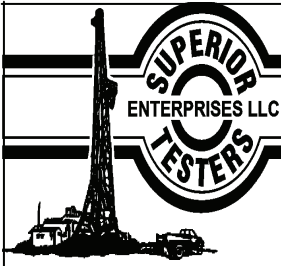
**Tool Information**

Drill Pipe:	Length: 3534.00 ft	Diameter: 3.80 inches	Volume: 49.57 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: 226.69 ft	Diameter: 2.25 inches	Volume: 1.11 bbl	Weight to Pull Loose: lb
			<u>Total Volume: 50.68 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	8.69 ft			String Weight: Initial 68000.00 lb
Depth to Top Packer:	3780.00 ft			Final 68000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	6.50 ft			
Tool Length:	34.50 ft			
Number of Packers:	2	Diameter: 6.25 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
SHut-InTool	5.00		Inside	3757.00	
Hydraulic Tool	5.00			3762.00	
Jars	6.00			3768.00	
Safety Joint	2.00			3770.00	
Packer	5.00			3775.00	28.00 Bottom Of Top Packer
Packer	5.00			3780.00	
Anchor	0.00			3780.00	
Change Over Sub	0.75			3780.75	
Drill Pipe	0.00		Outside	3780.75	
Change Over Sub	0.75		Outside	3781.50	
Anchor	0.00			3781.50	
Recorder	1.00	8524	Inside	3782.50	
Recorder	1.00	8525	Outside	3783.50	
Bullnose	3.00			3786.50	6.50 Bottom Packers & Anchor

**Total Tool Length: 34.50**



# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Captiva 11  
 2717 Canal Blvd Hays  
 Ks 67601  
 ATTN: Charlie Sturdarant

**Charlie Sturdarant**  
**7-22s-16w Pawnee**  
 Job Ticket: 16502      **DST#: 1**  
 Test Start: 2011.07.01 @ 09:25:00

## 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: 69.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.99 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psia		
Salinity: 5000.00 ppm			
Filter Cake: 1.00 inches			

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
60.00	Gassy oily cut mud gas 20% oil 60% mud	0.295
180.00	Gas and oil cut mud	1.006
0.00	Gas 45% oil 35% mud 20%	0.000
420.00	Gas and oil cut mud	5.891
0.00	Gas 25% oil 25% mud 50%	0.000

Total Length: 660.00 ft      Total Volume: 7.192 bbl  
 Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
 Laboratory Name:      Laboratory Location:  
 Recovery Comments:



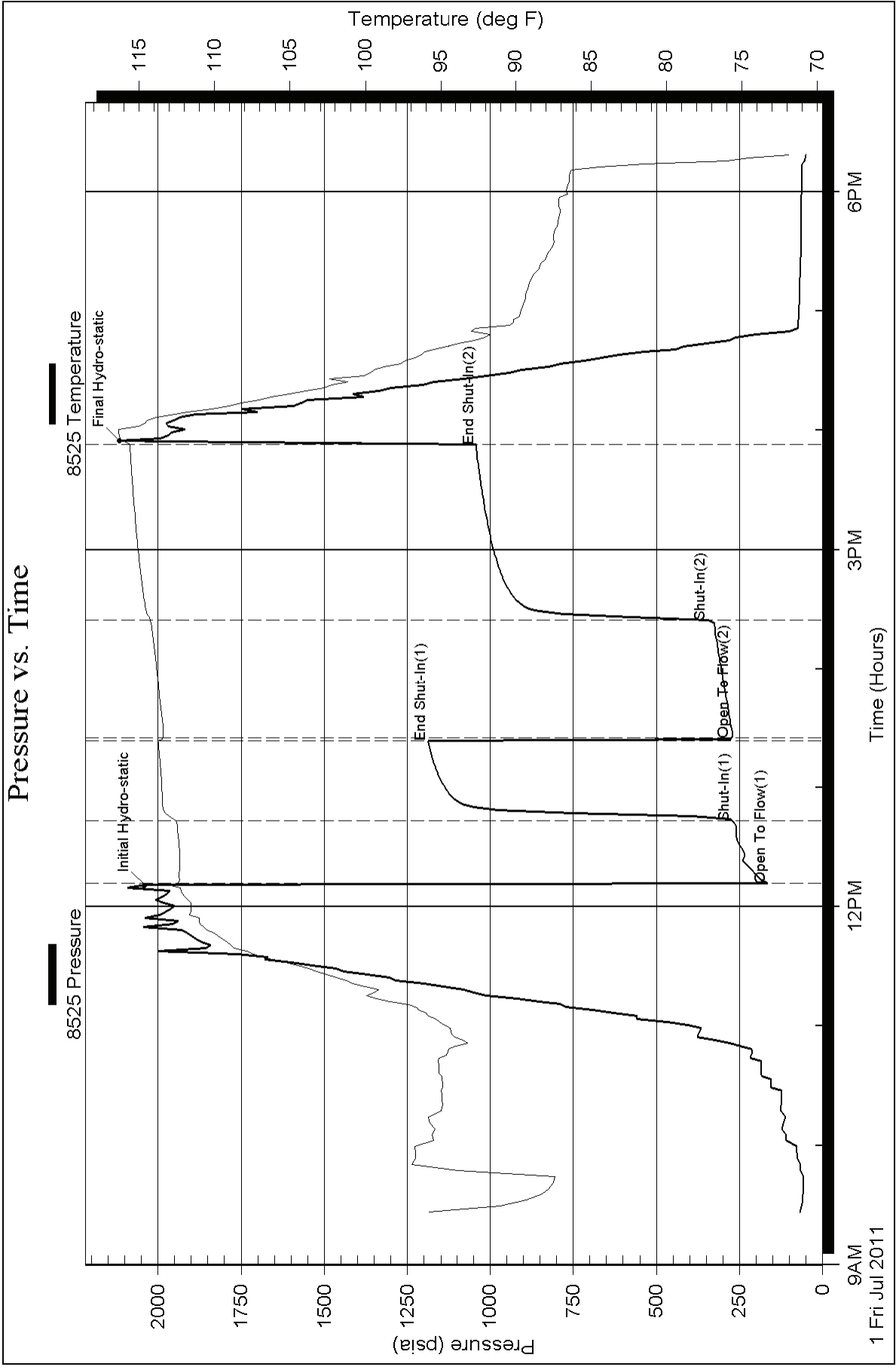
Serial #: 8525

Captiva 11

7-22s-16w Pawnee

DST Test Number: 1

### Pressure vs. Time

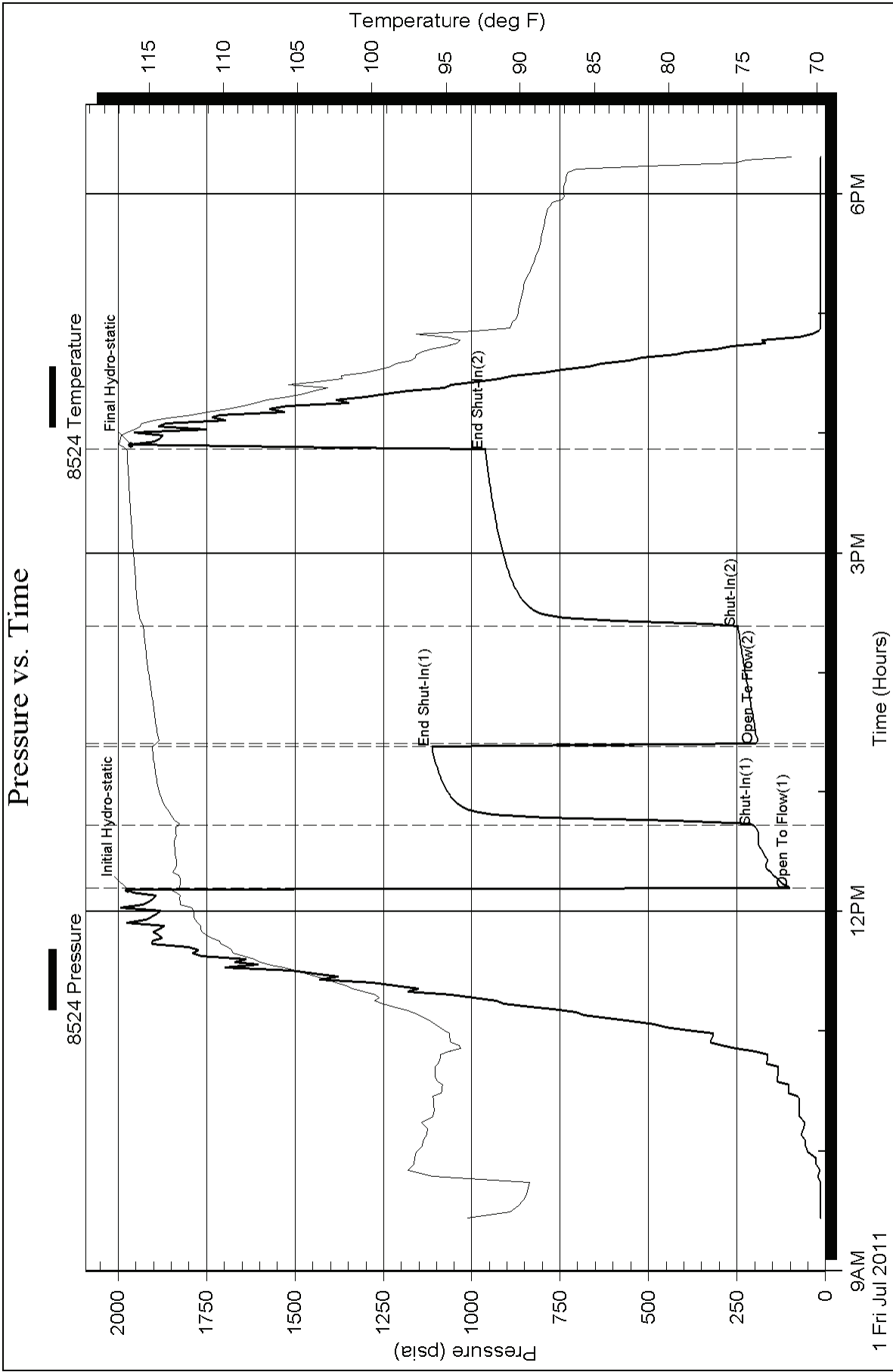


Serial #: 8524

Captiva 11

7-22s-16w Pawnee

DST Test Number: 1





## DRILL STEM TEST REPORT

Prepared For: **Captiva 11**

2717 Canal Blvd Hays  
Ks 67601

ATTN: Charlie Sturdarant

**7-22s-16w Pawnee**

**Charlie Sturdarant**

Start Date: 2011.07.02 @ 13:54:00

End Date: 2011.07.03 @ 01:24:00

Job Ticket #: 16503                      DST #: 2

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

Printed: 2011.07.03 @ 01:59:01

Captiva 11  
Charlie Sturdarant  
7-22s-16w Pawnee  
DST # 2  
Arbuckle  
2011.07.02



# DRILL STEM TEST REPORT

Captiva 11  
 2717 Canal Blvd Hays  
 Ks 67601  
 ATTN: Charlie Sturdarant

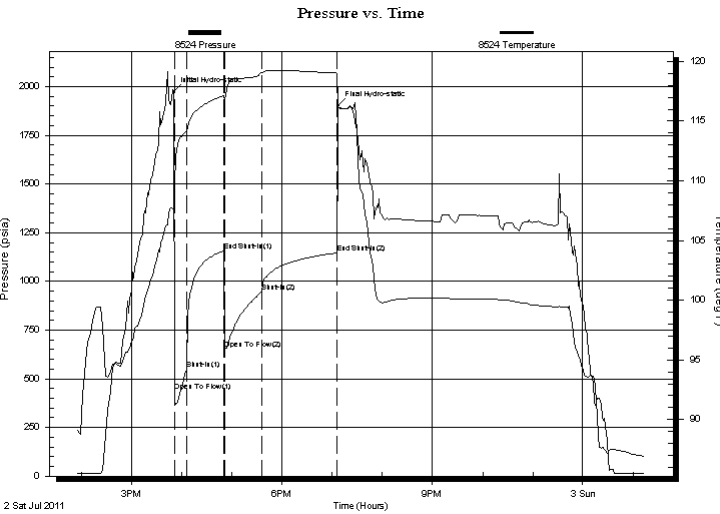
**Charlie Sturdarant**  
**7-22s-16w Pawnee**  
 Job Ticket: 16503 **DST#: 2**  
 Test Start: 2011.07.02 @ 13:54:00

## GENERAL INFORMATION:

Formation: **Arbuckle**  
 Deviated: No Whipstock: ft (KB)  
 Test Type: Conventional Bottom Hole (Initial)  
 Time Tool Opened: 15:51:00 Tester: Dustin Ellis/Jared  
 Time Test Ended: 01:24:00 Unit No: 3332-GB-62  
 Interval: **3890.00 ft (KB) To 3905.00 ft (KB) (TVD)** Reference Elevations: 2021.00 ft (KB)  
 Total Depth: 3905.00 ft (KB) (TVD) 2010.00 ft (CF)  
 Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 11.00 ft

**Serial #: 8524 Inside**  
 Press @ Run Depth: 944.78 psia @ 3901.00 ft (KB) Capacity: 5000.00 psia  
 Start Date: 2011.07.02 End Date: 2011.07.03 Last Calib.: 2011.07.03  
 Start Time: 13:54:00 End Time: 01:24:00 Time On Btm: 2011.07.02 @ 15:50:00  
 Time Off Btm: 2011.07.02 @ 19:07:00

**TEST COMMENT:** 1st Open 15 minutes Blew bottom of bucket in 1 minutes  
 1st Shut in 45 minutes Blow back bottom of bucket gas to surface see gas report  
 2nd Open 45 minutes Blew bottom of bucket in 2 minutes  
 2nd Shut in 90 minutes Blow back bottom of bucket



## PRESSURE SUMMARY

Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1975.64	107.72	Initial Hydro-static
1	436.14	108.85	Open To Flow (1)
16	551.28	114.18	Shut-In(1)
61	1158.49	117.14	End Shut-In(1)
62	651.55	116.83	Open To Flow (2)
106	944.78	119.04	Shut-In(2)
196	1146.43	119.02	End Shut-In(2)
197	1902.89	116.33	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
50.00	Oily cut gas 65% oil 35% gas	0.25
1140.00	Clean gasy oil	14.38
0.00	35% gas 65%oil	0.00
1330.00	Clean oil 100% oil	18.66
0.00	720 Foot gas in pipe	0.00

## Gas Rates

	Choke (inches)	Pressure (psia)	Gas Rate (Mcf/d)
First Gas Rate	0.13	5.50	2.06
Last Gas Rate	0.13	7.00	2.62
Max. Gas Rate	0.13	12.60	4.72



# DRILL STEM TEST REPORT

Captiva 11  
 2717 Canal Blvd Hays  
 Ks 67601  
 ATTN: Charlie Sturdarant

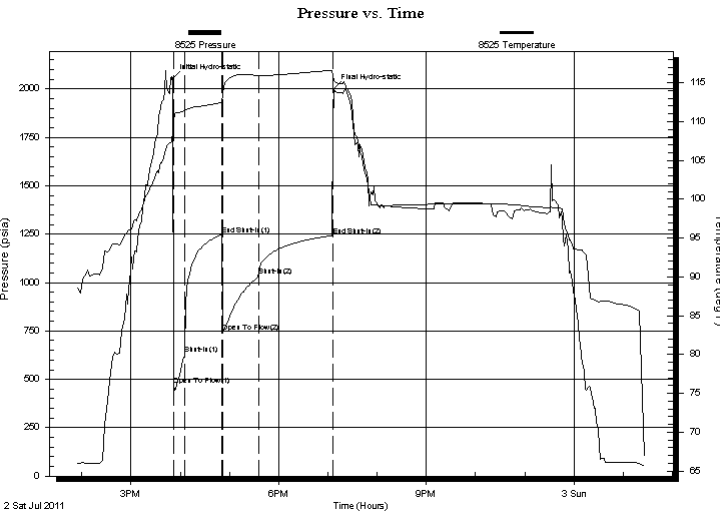
**Charlie Sturdarant**  
**7-22s-16w Pawnee**  
 Job Ticket: 16503 **DST#: 2**  
 Test Start: 2011.07.02 @ 13:54:00

## GENERAL INFORMATION:

Formation: **Arbuckle**  
 Deviated: No Whipstock: ft (KB)  
 Test Type: Conventional Bottom Hole (Initial)  
 Time Tool Opened: 15:51:00 Tester: Dustin Ellis/Jared  
 Time Test Ended: 01:24:00 Unit No: 3332-GB-62  
 Interval: **3890.00 ft (KB) To 3905.00 ft (KB) (TVD)** Reference Elevations: 2021.00 ft (KB)  
 Total Depth: 3905.00 ft (KB) (TVD) 2010.00 ft (CF)  
 Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 11.00 ft

**Serial #: 8525 Outside**  
 Press @ Run Depth: 1243.35 psia @ 3902.00 ft (KB) Capacity: 5000.00 psia  
 Start Date: 2011.07.02 End Date: 2011.07.03 Last Calib.: 2011.07.03  
 Start Time: 13:54:00 End Time: 01:28:00 Time On Btm: 2011.07.02 @ 15:50:30  
 Time Off Btm: 2011.07.02 @ 19:07:00

**TEST COMMENT:** 1st Open 15 minutes Blew bottom of bucket in 1 minutes  
 1st Shut in 45 minutes Blow back bottom of bucket gas to surface see gas report  
 2nd Open 45 minutes Blew bottom of bucket in 2 minutes  
 2nd Shut in 90 minutes Blow back bottom of bucket



## PRESSURE SUMMARY

Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	2053.86	107.39	Initial Hydro-static
1	467.43	110.09	Open To Flow (1)
15	628.14	111.39	Shut-In(1)
60	1247.51	112.49	End Shut-In(1)
61	742.81	113.58	Open To Flow (2)
105	1032.09	115.93	Shut-In(2)
195	1243.35	116.60	End Shut-In(2)
197	2000.43	115.36	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
50.00	Oily cut gas 65% oil 35% gas	0.25
1140.00	Clean gasy oil	14.38
0.00	35% gas 65%oil	0.00
1330.00	Clean oil 100% oil	18.66
0.00	720 Foot gas in pipe	0.00

## Gas Rates

	Choke (inches)	Pressure (psia)	Gas Rate (Mcf/d)
First Gas Rate	0.13	5.50	2.06
Last Gas Rate	0.13	7.00	2.62
Max. Gas Rate	0.13	12.60	4.72



# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Captiva 11  
 2717 Canal Blvd Hays  
 Ks 67601  
 ATTN: Charlie Sturdarant

**Charlie Sturdarant**  
**7-22s-16w Pawnee**  
 Job Ticket: 16503 **DST#: 2**  
 Test Start: 2011.07.02 @ 13:54:00

**Tool Information**

Drill Pipe:	Length: 3665.00 ft	Diameter: 3.80 inches	Volume: 51.41 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: 226.69 ft	Diameter: 2.25 inches	Volume: 1.11 bbl	Weight to Pull Loose: 110000.0 lb
			<u>Total Volume: 52.52 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	29.69 ft			String Weight: Initial 68000.00 lb
Depth to Top Packer:	3890.00 ft			Final 77000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	15.00 ft			
Tool Length:	43.00 ft			
Number of Packers:	2	Diameter: 6.25 inches		

Tool Comments: Gas to surface on initial shut in see gas reports

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
SHut-InTool	5.00		Inside	3867.00	
Hydraulic Tool	5.00			3872.00	
Jars	6.00			3878.00	
Safety Joint	2.00			3880.00	
Packer	5.00			3885.00	28.00 Bottom Of Top Packer
Packer	5.00			3890.00	
Anchor	10.00			3900.00	
Recorder	1.00	8524	Inside	3901.00	
Recorder	1.00	8525	Outside	3902.00	
Bullnose	3.00			3905.00	15.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>43.00</b>				



# DRILL STEM TEST REPORT

## FLUID SUMMARY

Captiva 11  
 2717 Canal Blvd Hays  
 Ks 67601  
 ATTN: Charlie Sturdarant

**Charlie Sturdarant**  
**7-22s-16w Pawnee**  
 Job Ticket: 16503      **DST#: 2**  
 Test Start: 2011.07.02 @ 13:54:00

### Mud and Cushion Information

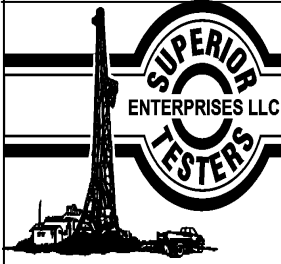
Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 69.00 sec/qt	Cushion Volume: bbl		
Water Loss: 8.00 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psia		
Salinity: 5000.00 ppm			
Filter Cake: 1.00 inches			

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
50.00	Oily cut gas 65% oil 35% gas	0.246
1140.00	Clean gasy oil	14.382
0.00	35% gas 65%oil	0.000
1330.00	Clean oil 100% oil	18.656
0.00	720 Foot gas in pipe	0.000

Total Length: 2520.00 ft      Total Volume: 33.284 bbl  
 Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
 Laboratory Name:      Laboratory Location:  
 Recovery Comments: Gas to surface initial shutin see gas reports  
 Gravity of oil 46 corrected  
 Broke circulating sub



# DRILL STEM TEST REPORT

**GAS RATES**

Captiva 11  
2717 Canal Blvd Hays  
Ks 67601  
ATTN: Charlie Sturdarant

**Charlie Sturdarant**  
**7-22s-16w Pawnee**  
Job Ticket: 16503      **DST#: 2**  
Test Start: 2011.07.02 @ 13:54:00

## 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 (psia)	Gas Rate (Mcf/d)
1	5	0.13	5.50	2.06
2	10	0.13	10.20	3.82
3	20	0.13	12.60	4.72
4	30	0.13	12.60	4.72
5	40	0.13	10.90	4.08
-	45	0.13	7.00	2.62



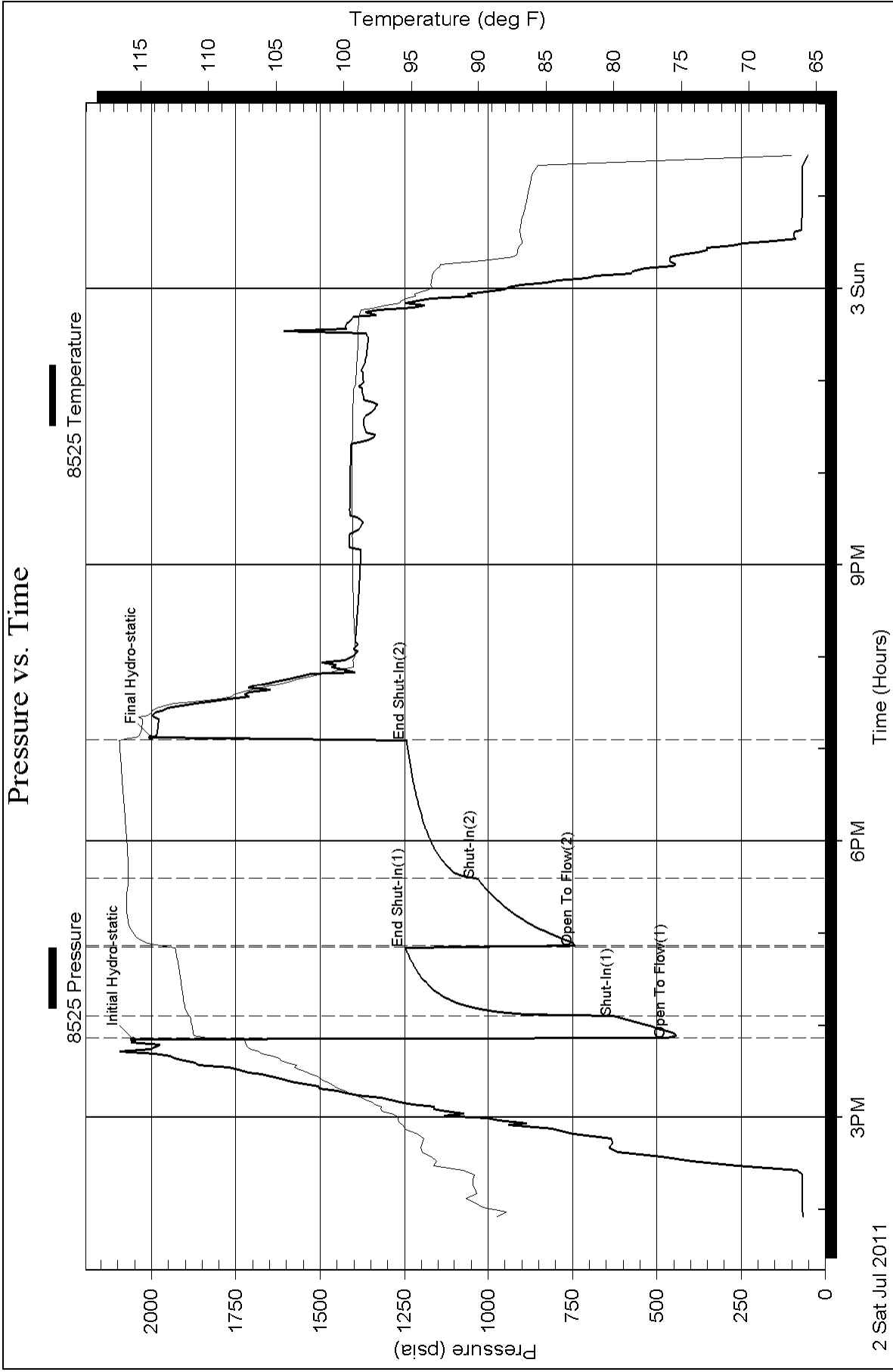


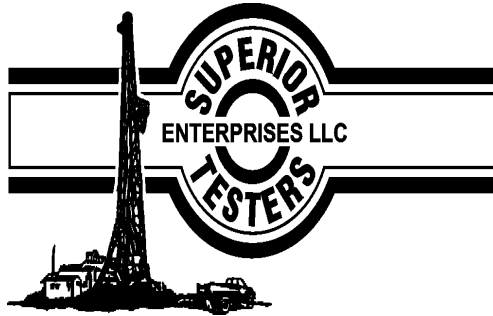
Serial #: 8525

Outside Captiva 11

7-22s-16w Pawnee

DST Test Number: 2





## DRILL STEM TEST REPORT

Prepared For: **Captiva 11**

2717 Canal Blvd Hays  
Ks 67601

ATTN: Charlie Sturdarant

**7-22s-16w Pawnee**

**Charlie Sturdarant**

Start Date: 2011.07.03 @ 09:35:00

End Date: 2011.07.03 @ 17:20:00

Job Ticket #: 16504                      DST #: 3

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

Printed: 2011.07.03 @ 18:02:39

Captiva 11  
Charlie Sturdarant  
7-22s-16w Pawnee  
DST # 3  
Arbuckle  
2011.07.03



# DRILL STEM TEST REPORT

Captiva 11  
 2717 Canal Blvd Hays  
 Ks 67601  
 ATTN: Charlie Sturdarant

**Charlie Sturdarant**  
**7-22s-16w Pawnee**  
 Job Ticket: 16504 **DST#: 3**  
 Test Start: 2011.07.03 @ 09:35:00

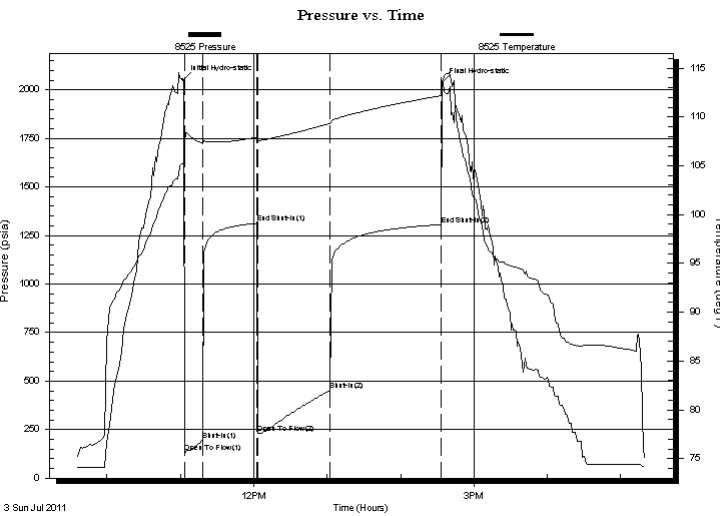
## GENERAL INFORMATION:

Formation: **Arbuckle**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 11:03:30  
 Time Test Ended: 17:20:00  
 Interval: **3906.00 ft (KB) To 3917.00 ft (KB) (TVD)**  
 Total Depth: 3917.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Bottom Hole (Initial)  
 Tester: Dustin Ellis/Jared  
 Unit No: 3332 GB-62  
 Reference Elevations: 2021.00 ft (KB)  
 2010.00 ft (CF)  
 KB to GR/CF: 11.00 ft

## Serial #: 8525

Press @ Run Depth: 452.20 psia @ ft (KB) Capacity: 5000.00 psia  
 Start Date: 2011.07.03 End Date: 2011.07.03 Last Calib.: 2011.07.03  
 Start Time: 09:35:00 End Time: 17:20:00 Time On Btm: 2011.07.03 @ 11:02:30  
 Time Off Btm: 2011.07.03 @ 14:34:00

**TEST COMMENT:** 1st open 15 minutes Strong blow bottom bucket 2 minutes  
 1st shut in 45 minutes Blow back  
 2nd open 60 minutes Strong blow bottom bucket 3 minutes  
 2nd shut in 90 minutes Blow back



## PRESSURE SUMMARY

Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	2052.76	105.23	Initial Hydro-static
1	130.95	107.36	Open To Flow (1)
16	197.93	107.30	Shut-In(1)
60	1312.78	107.92	End Shut-In(1)
61	229.42	107.61	Open To Flow (2)
120	452.20	109.34	Shut-In(2)
211	1305.93	112.18	End Shut-In(2)
212	2035.05	113.58	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
280.00	oily cut gas gas 40% oil 60%	1.86
220.00	oily cut gas and mud	3.09
0.00	gas 20% oil 70% mud 10%	0.00
500.00	oil 100%	7.01
0.00	2760 gas in pipe	0.00

## Gas Rates

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



# DRILL STEM TEST REPORT

Captiva 11  
 2717 Canal Blvd Hays  
 Ks 67601  
 ATTN: Charlie Sturdarant

**Charlie Sturdarant**  
**7-22s-16w Pawnee**  
 Job Ticket: 16504 **DST#: 3**  
 Test Start: 2011.07.03 @ 09:35:00

## GENERAL INFORMATION:

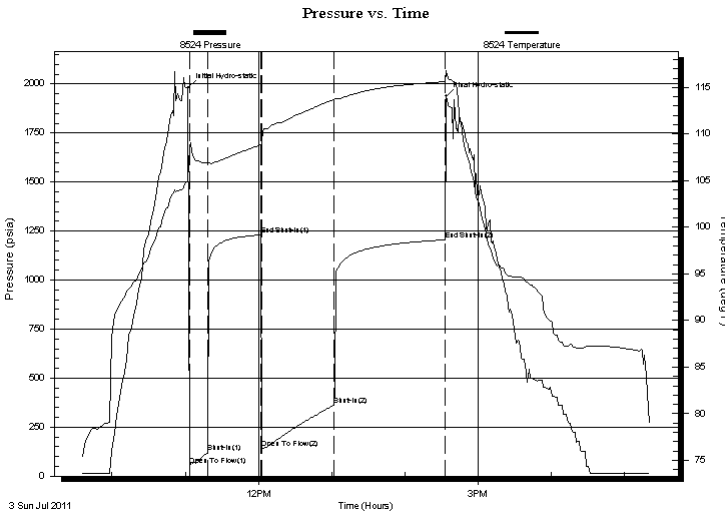
Formation: **Arbuckle**  
 Deviated: No Whipstock: ft (KB)  
 Test Type: Bottom Hole (Initial)  
 Time Tool Opened: 11:03:30 Tester: Dustin Ellis/Jared  
 Time Test Ended: 17:20:00 Unit No: 3332 GB-62  
 Interval: **3906.00 ft (KB) To 3917.00 ft (KB) (TVD)** Reference Elevations: 2021.00 ft (KB)  
 Total Depth: 3917.00 ft (KB) (TVD) 2010.00 ft (CF)  
 Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 11.00 ft

## Serial #: 8524

Press @ Run Depth: 1205.02 psia @ ft (KB) Capacity: 5000.00 psia  
 Start Date: 2011.07.03 End Date: 2011.07.03 Last Calib.: 2011.07.03  
 Start Time: 09:35:00 End Time: 17:20:30 Time On Btm: 2011.07.03 @ 11:02:30  
 Time Off Btm: 2011.07.03 @ 14:34:00

**TEST COMMENT:** 1st open 15 minutes Strong blow bottom bucket 2 minutes  
 1st shut in 45 minutes Blow back  
 2nd open 60 minutes Strong blow bottom bucket 3 minutes  
 2nd shut in 90 minutes Blow back

## PRESSURE SUMMARY



Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1979.20	104.99	Initial Hydro-static
1	53.82	108.68	Open To Flow (1)
16	122.67	106.86	Shut-In(1)
60	1230.48	108.84	End Shut-In(1)
61	144.26	109.44	Open To Flow (2)
120	362.37	113.71	Shut-In(2)
211	1205.02	115.63	End Shut-In(2)
212	1936.04	116.83	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
280.00	oily cut gas gas 40% oil 60%	1.86
220.00	oily cut gas and mud	3.09
0.00	gas 20% oil 70% mud 10%	0.00
500.00	oil 100%	7.01
0.00	2760 gas in pipe	0.00

## Gas Rates

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



# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Captiva 11  
 2717 Canal Blvd Hays  
 Ks 67601  
 ATTN: Charlie Sturdarant

**Charlie Sturdarant**  
**7-22s-16w Pawnee**  
 Job Ticket: 16504      **DST#: 3**  
 Test Start: 2011.07.03 @ 09:35:00

**Tool Information**

Drill Pipe:	Length: 3660.00 ft	Diameter: 3.80 inches	Volume: 51.34 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: 226.69 ft	Diameter: 2.25 inches	Volume: 1.11 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 52.45 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	8.69 ft			String Weight: Initial 68000.00 lb
Depth to Top Packer:	3906.00 ft			Final 70000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	11.00 ft			
Tool Length:	39.00 ft			
Number of Packers:	2	Diameter: 6.25 inches		

Tool Comments: Gas to surface gravity oil 46

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
SHut-InTool	5.00		Inside	3883.00	
Hydraulic Tool	5.00			3888.00	
Jars	6.00			3894.00	
Safety Joint	2.00			3896.00	
Packer	5.00			3901.00	28.00      Bottom Of Top Packer
Packer	5.00			3906.00	
Anchor	6.00			3912.00	
Recorder	1.00	8524	Inside	3913.00	
Recorder	1.00	8525	Outside	3914.00	
Bullnose	3.00			3917.00	11.00      Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>39.00</b>				



# DRILL STEM TEST REPORT

## FLUID SUMMARY

Captiva 11  
 2717 Canal Blvd Hays  
 Ks 67601  
 ATTN: Charlie Sturdarant

**Charlie Sturdarant**  
**7-22s-16w Pawnee**  
 Job Ticket: 16504      **DST#: 3**  
 Test Start: 2011.07.03 @ 09:35:00

### 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: 68.00 sec/qt	Cushion Volume: bbl		
Water Loss: 8.00 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psia		
Salinity: 6800.00 ppm			
Filter Cake: 1.00 inches			

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
280.00	oily cut gas gas 40% oil 60%	1.863
220.00	oily cut gas and mud	3.086
0.00	gas20%oil70%mud10%	0.000
500.00	oil 100%	7.014
0.00	2760 gas in pipe	0.000

Total Length: 1000.00 ft      Total Volume: 11.963 bbl

Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:

Laboratory Name:      Laboratory Location:

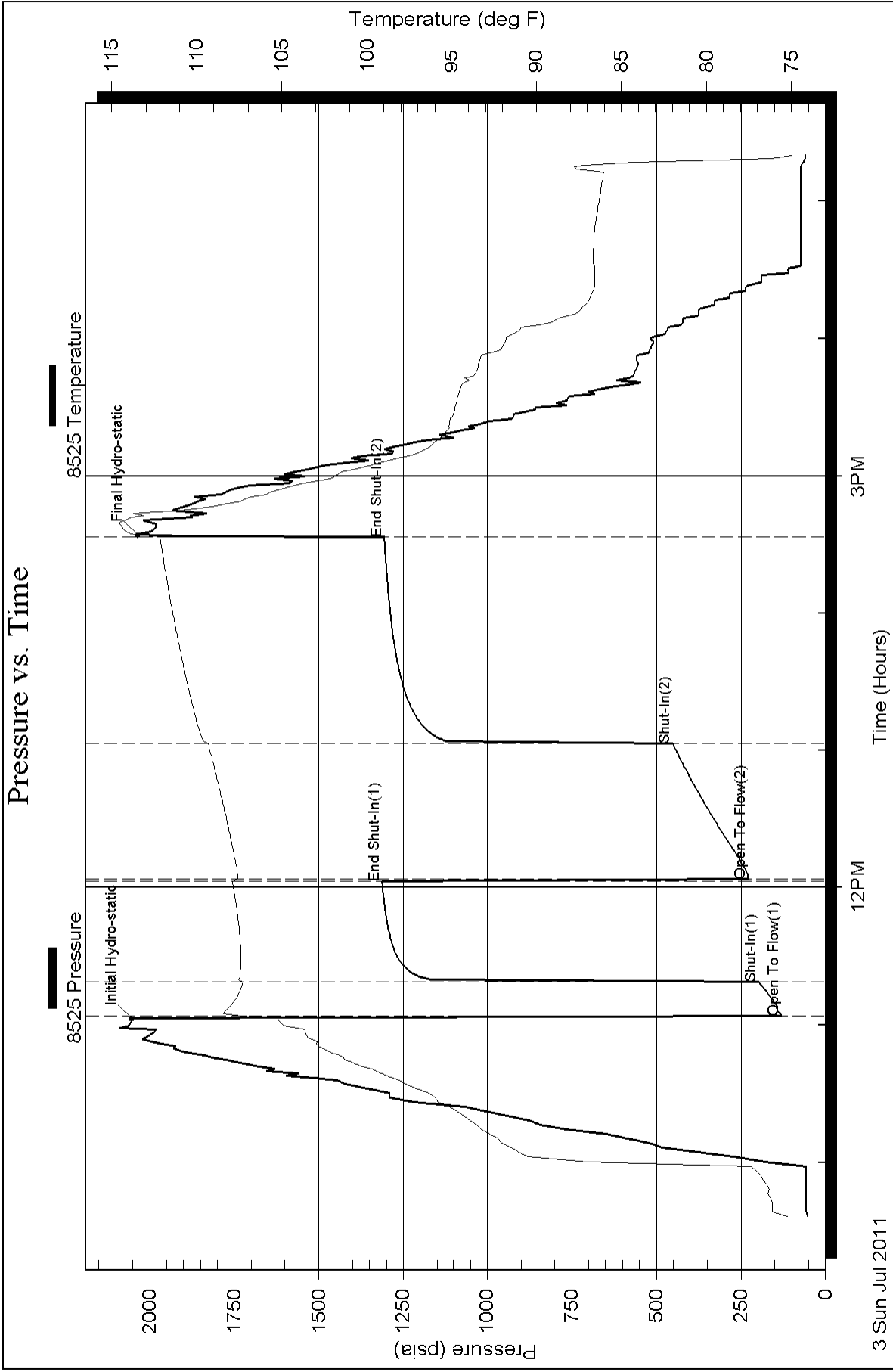
Recovery Comments: Gas to surface gravity oil 46

Serial #: 8525

Captiva 11

7-22s-16w Pawnee

DST Test Number: 3



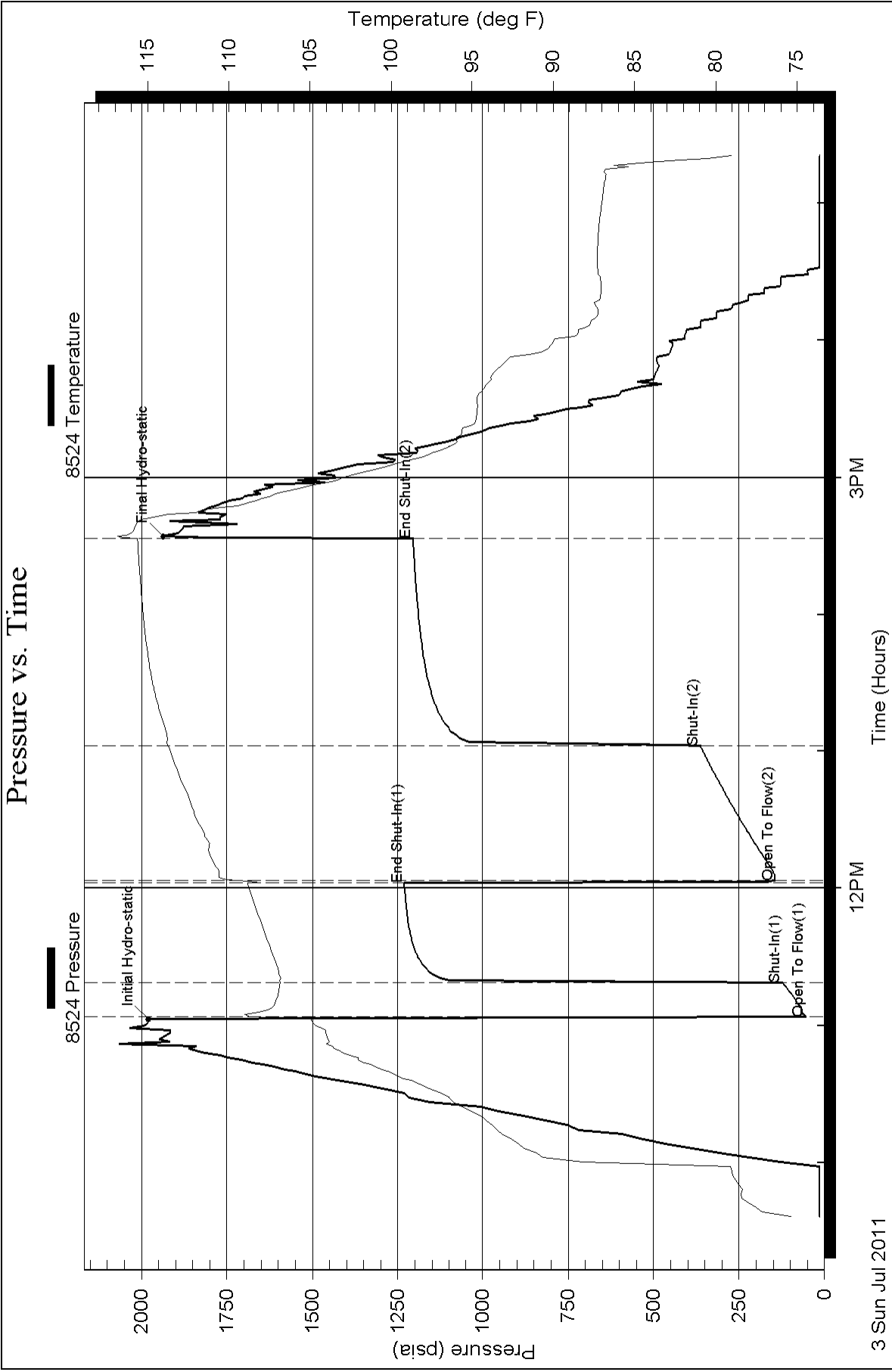


Serial #: 8524

Captiva 11

7-22s-16w Pawnee

DST Test Number: 3



Scale 1:240 Imperial

Well Name: # 1-7 F-F Unit  
Surface Location: 254' FNL, 350' FWL, Sec 7, T22S, R16W  
Bottom Location:  
API: 15-145-21645-00-00  
License Number:  
Spud Date: 6/25/2011 Time: 9:00 PM  
Region: Pawnee County  
Drilling Completed: 7/4/2011 Time: 1:34 AM  
Surface Coordinates: 544044 & 1818786  
Bottom Hole Coordinates:  
Ground Elevation: 2010.00ft  
K.B. Elevation: 2021.00ft  
Logged Interval: 2800.00ft To: 3985.00ft  
Total Depth: 3985.00ft  
Formation: Arbuckle  
Drilling Fluid Type: Chemical/Fresh Water Gel

#### OPERATOR

Company: Captiva II, LLC  
Address: 445 Union Blvd., Suite 208  
Lakewood, CO 80228  
Contact Geologist: Janine Sturdavant  
Contact Phone Nbr: 303-907-2209  
Well Name: # 1-7 F-F Unit  
Location: 254' FNL, 350' FWL, Sec 7, T22S, R16W API: 15-145-21645-00-00  
Pool: Wildcat Field:  
State: Kansas Country: USA

#### LOGGED BY



**Charlie Sturdavant Consulting**

Company: Charlie Sturdavant Consulting  
Address: 920 12th Street  
Golden, CO 80401  
Phone Nbr: 303-907-2295----303-384-9481  
Logged By: Geologist Name: Charlie Sturdavant

#### NOTES

The Captiva #1-7 F-F Unit well was drilled to a LTD of 3983', bottoming in the Arbuckle. A TookeDAQ gas detector was employed during the drilling of all prospective formations. Gas was noted in the Lansing D and J zones as well as the Arbuckle. Oil shows were encountered in the samples in the Lansing D, the Conglomerate immediately above the Arbuckle, and in the Arbuckle. Three successively deeper DST's were conducted from the top of the Arbuckle. The Arbuckle interval covered by the DST's was from 3876'-3917'. Oil and gas was recovered on all three tests with no water.

After considerable thought and agonizing, for a few seconds, over the logs and very favorable DST charts and recoveries, it was determined by all parties involved, that production casing should be run through the Arbuckle and that the Arbuckle should be further tested through perforations.

The dry samples were saved and will be available for review at the Kansas Geological Survey well sample library, located in Wichita, Kansas

Respectfully submitted,  
Charlie Sturdavant  
Consulting Geologist

# Charlie Sturdavant Consulting

## WELL COMPARISON SHEET

DRILLING WELL					COMPARISON WELL				COMPARISON WELL			
Captiva II F-F Unit # 1 254' FNL & 350' FWL Sec. 7, T22S R16W					Captiva II #1-7 Eakin Unit 2676' FNL & 423' FEL Sec. 7, T22S R16W				Captiva II #3-7 Eakin Unit 1238' FNL & 1780' FEL Sec. 7, T22S R16W			
2021 KB					2018 KB		Structural Relationship		2017 KB		Structural Relationship	
Formation	Sample	Sub-Sea	Log	Sub-Sea	Log	Sub-Sea	Sample	Log	Log	Sub-Sea	Sample	Log
Anhydrite	1019	1002	1018	1003	1015	1003	-1	0	1006	1011	-9	-8
Topeka	3141	-1120	3138	-1117	3140	-1122	2	5	3140	-1123	3	6
Queen Hill	3314	-1293	3314	-1293	3315	-1297	4	4	3318	-1301	8	8
Heebner	3424	-1403	3420	-1399	3428	-1410	7	11	3426	-1409	6	10
Toronto	3437	-1416	3437	-1416	3442	-1424	8	8	3442	-1425	9	9
Douglas	3462	-1441	3451	-1430	3464	-1446	5	16	3461	-1444	3	14
Brown Lime	3523	-1502	3518	-1497	3527	-1509	7	12	3526	-1509	7	12
Lansing	3532	-1511	3527	-1506	3536	-1518	7	12	3534	-1517	6	11
Muncie Creek	3656	-1635	3648	-1627	3664	-1646	11	19	3659	-1642	7	15
Stark Shale	3725	-1704	3726	-1705	3729	-1711	7	6	3731	-1714	10	9
Base KC	3785	-1764	3786	-1765	3792	-1774	10	9	3786	-1769	5	4
Marmaton	3800	-1779	3796	-1775	3804	-1786	7	11	3800	-1783	4	8
Conglomerate	3844	-1823	3808	-1787	3822	-1804	-19	17	3820	-1803	-20	16
Arbuckle	3882	-1861	3876	-1855	3883	-1865	4	10	3866	-1849	-12	-6
Total Depth	3985	-1964	3983	-1962	4000	-1982	18	20	4000	-1983	19	21

## Daily Drilling Report

# Charlie Sturdavant Consulting

## DAILY DRILLING REPORT

Company: Charlie Sturdavant Consulting  
920 12th Street  
Golden, CO 80401

Well: #1-7 F-F Unit  
Location: 254' FNL & 350' FEL  
Sec. 7 T22S R16W  
Pawnee County, KS

Captiva II Office: 303-274-4682  
Jim Waechter Cell: 303-478-3388  
Wellsite Geologist: Charlie Sturdavant  
Cell: (303) 907-2295  
Office: (303) 384-9481

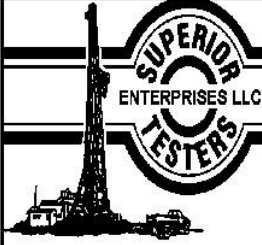
Elevation: 2021' KB 2010' GL  
Field: Wildcat  
API No.: 15-145-21645-0000  
Surface Casing: 8 5/8" set @ 1077' KB

Drilling Contractor: Sterling Drilling Rig #2 620-388-5651, Tool Pusher: Shane Downs, cell: 620-388-3474

DATE	7:00 AM DEPTH	REMARKS
6/25/2011	0 ft.	Moving off Eakin #2-7 OWWO and onto the F-F Unit. Spud @ 2100 hrs.
6/26/2011	500 ft.	Drilling ahead with 12 1/4" bit

6/26/2011	580 ft.	Drilling ahead with 12-1/4" bit.
6/27/2011	1082 ft.	To run 23 joints of new 23# 8-5/8" casing, set @ 1077'.
6/28/2011	1590 ft.	Drilling ahead with new 7-7/8" JZ QX20J bit.
6/29/2011	2545 ft.	Drilling ahead.
6/30/2011	3358 ft.	Drilling ahead.
7/1/2011	3825 ft.	Drilling ahead.
7/2/2011	3890 ft.	Waiting on DST #1 results. Recovered 660 ft. of mud and gas cut oil.
7/3/2011	3917 ft.	CFS and will be conducting DST #3. DST #2 recovered 2520' of oil and gas cut oil. GTS gauged 2.06 - 4.72mcf/d.
7/4/2011	3985 ft.	TOH for logging. Pulled tight and short tripped. Loggers are on location. DST #3 recovered 2760' GIP, 500' oil, 220' G&MCO, 280' GCO. Electrical logging completed @ 1300 hrs. Geologist off location @ 1400 hrs.

### Drill Stem Test # 1

	<b>DRILL STEM TEST REPORT</b>	
	Captiva 11  2717 Canal Blvd Hays Ks 67601  ATTN: Charlie Sturdarant	<b>Charlie Sturdarant</b>  <b>7-22s-16w Pawnee</b> Job Ticket: 16502 <b>DST#: 1</b> Test Start: 2011.07.01 @ 09:25:00

**GENERAL INFORMATION:**

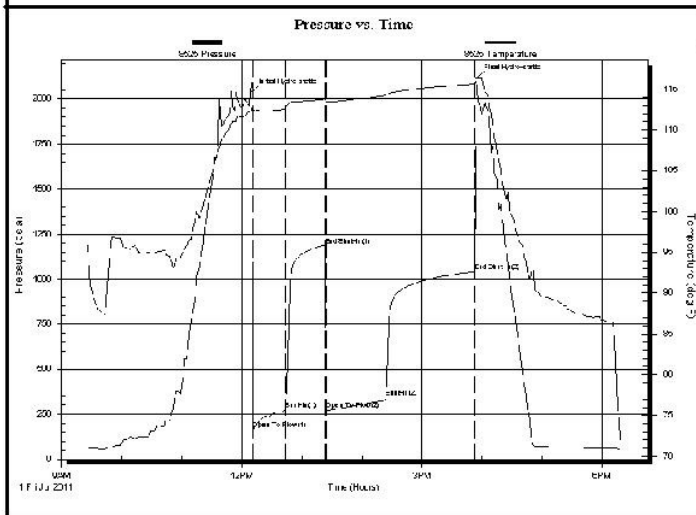
Formation:	<b>Arbuckle</b>		
Deviated:	No Whipstock:	ft (KB)	Test Type: Conventional Bottom Hole (Initial)
Time Tool Opened:	12:11:30		Tester: Dustin Ellis/Jared
Time Test Ended:	18:18:00		Unit No: 3332 GB 65
Interval:	<b>3780.00 ft (KB) To 3890.00 ft (KB) (TVD)</b>		Reference Elevations: 2021.00 ft (KB)
Total Depth:	3890.00 ft (KB) (TVD)		2010.00 ft (CF)
Hole Diameter:	7.88 inches	Hole Condition: Fair	KB to GR/CF: 11.00 ft

**Serial #: 8525**

Press@RunDepth:	345.51 psia @	ft (KB)	Capacity:	5000.00 psia
Start Date:	2011.07.01	End Date:	2011.07.01	Last Calib.:
Start Time:	09:25:00	End Time:	18:18:00	Time On Btm:
				2011.07.01 @ 12:10:30
				Time Off Btm:
				2011.07.01 @ 15:54:30

TEST COMMENT: 1st open 30minutes Strong blow bottom of bucket in 14minutes

1st shutin 45minutes no blow back  
 2nd open 60minutes Strong blow bottom of bucket in 7minutes  
 2nd shutin 90minutes yes blow back



PRESSURE SUMMARY			
Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	2040.00	113.09	Initial Hydro-static
1	165.77	112.43	Open To Flow (1)
33	273.64	112.58	Shut-In(1)
73	1188.20	113.74	End Shut-In(1)
74	275.32	113.43	Open To Flow (2)
134	345.51	114.24	Shut-In(2)
222	1042.29	115.62	End Shut-In(2)
224	2115.17	116.34	Final Hydro-static

Recovery		
Length (ft)	Description	Volume (bbl)
60.00	Gassy oily cut mud gas 20% oil 60% mud	0.30
180.00	Gas and oil cut mud	1.01
0.00	Gas 45% oil 35% mud 20%	0.00
420.00	Gas and oil cut mud	5.89
0.00	Gas 25% oil 25% mud 50%	0.00

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

Superior Testers Enterprises LLC

Ref. No: 16502

Printed: 2011.07.02 @ 07:03:31

### Drill Stem Test # 2

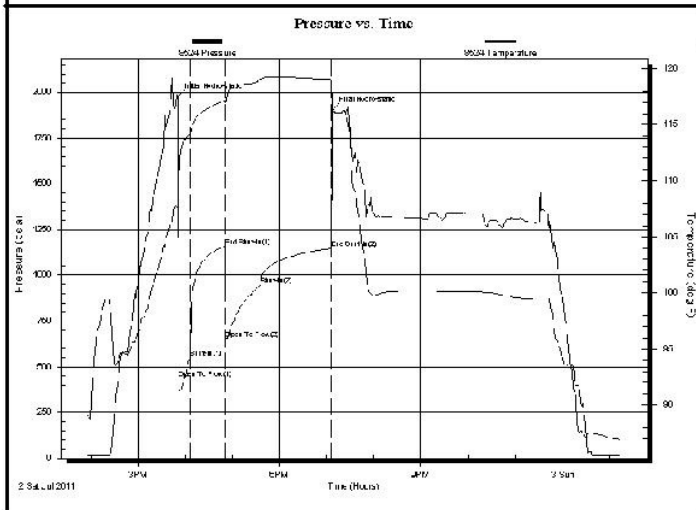
	<b>DRILL STEM TEST REPORT</b>	
	Captiva 11  2717 Canal Blvd Hays Ks 67601  ATTN: Charlie Sturdarant	<b>Charlie Sturdarant</b>  <b>7-22s-16w Pawnee</b> Job Ticket: 16503 <b>DST#: 2</b> Test Start: 2011.07.02 @ 13:54:00

GENERAL INFORMATION:			
Formation:	<b>Arbuckle</b>		
Deviated:	No Whipstock:	ft (KB)	Test Type: Conventional Bottom Hole (Initial)
Time Tool Opened:	15:51:00		Tester: Dustin Ellis/Jared
Time Test Ended:	01:24:00		Unit No: 3332-GB-62
Interval:	<b>3890.00 ft (KB) To 3905.00 ft (KB) (TVD)</b>		Reference Elevations: 2021.00 ft (KB)
Total Depth:	3905.00 ft (KB) (TVD)		2010.00 ft (CF)
Hole Diameter:	7.88 inches	Hole Condition: Fair	KB to GR/CF: 11.00 ft

Serial #: 8524 Inside			
Press@RunDepth:	944.78 psia @	3901.00 ft (KB)	Capacity: 5000.00 psia
Start Date:	2011.07.02	End Date: 2011.07.03	Last Calib.: 2011.07.03
Start Time:	13:54:00	End Time: 01:24:00	Time On Btm: 2011.07.02 @ 15:50:00
			Time Off Btm: 2011.07.02 @ 19:07:00

**TEST COMMENT:** 1st Open 15 minutes Blew bottom of bucket in 1 minutes  
 1st Shut in 45 minutes Blow back bottom of bucket gas to surface see gas report  
 2nd Open 15 minutes Blow bottom of bucket in 2 minutes

2nd Open 45 minutes Blow bottom of bucket in 2 minutes  
 2nd Shut in 90 minutes Blow back bottom of bucket



PRESSURE SUMMARY			
Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1975.64	107.72	Initial Hydro-static
1	436.14	108.85	Open To Flow (1)
16	551.28	114.18	Shut-In(1)
61	1158.49	117.14	End Shut-In(1)
62	651.55	116.83	Open To Flow (2)
106	944.78	119.04	Shut-In(2)
196	1146.43	119.02	End Shut-In(2)
197	1902.89	116.33	Final Hydro-static

Recovery		
Length (ft)	Description	Volume (bbl)
50.00	Oily cut gas 65% oil 35% gas	0.25
1140.00	Clean gasy oil	14.38
0.00	35% gas 65%oil	0.00
1330.00	Clean oil 100% oil	18.66
0.00	720 Foot gas in pipe	0.00

Gas Rates			
	Choke (inches)	Pressure (psia)	Gas Rate (Mcf/d)
First Gas Rate	0.13	5.50	2.06
Last Gas Rate	0.13	7.00	2.62
Max. Gas Rate	0.13	12.60	4.72

Superior Testers Enterprises LLC

Ref. No: 16503

Printed: 2011.07.03 @ 01:59:01

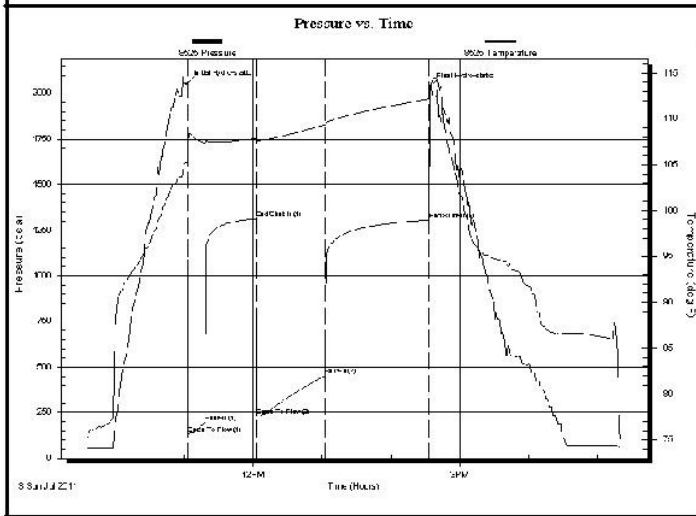
### Drill Stem Test # 3

	<b>DRILL STEM TEST REPORT</b>	
	Captiva 11  2717 Canal Blvd Hays Ks 67601  ATTN: Charlie Sturdarant	<b>Charlie Sturdarant</b>  <b>7-22s-16w Pawnee</b> Job Ticket: 16504 <b>DST#: 3</b> Test Start: 2011.07.03 @ 09:35:00

GENERAL INFORMATION:			
Formation:	<b>Arbuckle</b>		
Deviated:	No	Whipstock:	ft (KB)
Time Tool Opened:	11:03:30		
Time Test Ended:	17:20:00		
Interval:	<b>3906.00 ft (KB) To</b>	<b>3917.00 ft (KB) (TVD)</b>	
Total Depth:	3917.00 ft (KB) (TVD)		
Hole Diameter:	7.88 inches	Hole Condition:	Fair
	Reference Elevations:	2021.00 ft (KB)	
		2010.00 ft (CF)	
	KB to GR/CF:	11.00 ft	

Serial #: 8525			
Press@RunDepth:	452.20 psia @	ft (KB)	Capacity: 5000.00 psia
Start Date:	2011.07.03	End Date:	2011.07.03
Start Time:	09:35:00	End Time:	17:20:00
		Time On Btm:	2011.07.03 @ 11:02:30
		Time Off Btm:	2011.07.03 @ 14:34:00

**TEST COMMENT:** 1st open 15 minutes Strong blow bottom bucket 2 minutes  
 1st shut in 45 minutes Blow back  
 2nd open 60 minutes Strong blow bottom bucket 3 minutes  
 2nd shut in 90 minutes Blow back



PRESSURE SUMMARY			
Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	2052.76	105.23	Initial Hydro-static
1	130.95	107.36	Open To Flow (1)
16	197.93	107.30	Shut-In(1)
60	1312.78	107.92	End Shut-In(1)
61	229.42	107.61	Open To Flow (2)
120	452.20	109.34	Shut-In(2)
211	1305.93	112.18	End Shut-In(2)
212	2035.05	113.58	Final Hydro-static

Recovery		
Length (ft)	Description	Volume (bbl)
280.00	oily cut gas gas 40% oil 60%	1.86
220.00	oily cut gas and mud	3.09
0.00	gas20%oil70%mud10%	0.00
500.00	oil 100%	7.01
0.00	2760 gas in pipe	0.00

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

Superior Testers Enterprises LLC

Ref. No: 16504

Printed: 2011.07.03 @ 18:02:39

### SURFACE CO-ORDINATES

Well Type: Vertical  
 Longitude: Latitude:  
 N/S Co-ord: 544044  
 E/W Co-ord: 1818786

### CONTRACTOR

Contractor: Sterling Drilling Company  
 Rig #: 2  
 Rig Type: mud rotary  
 Spud Date: 6/25/2011  
 TD Date: 7/4/2011  
 Rig Release:  
 Time: 9:00 PM  
 Time: 1:34 AM  
 Time:

### ELEVATIONS

K.B. Elevation: 2021.00ft  
 K.B. to Ground: 11.00ft  
 Ground Elevation: 2010.00ft

### ROCK TYPES

Cht	Dolsec	shale, grn	Carbon Sh	Slst
Congl	Lmst fw<7	Shgy	shale, red	
Chtcong1	Lmst fw>7	shale, gry	Shcol	

### ACCESSORIES

<b>MINERAL</b>	<b>FOSSIL</b>	<b>STRAT./SED. STRUCTS</b>	<b>STRINGER</b>	<b>TEXTURE</b>
⊥ Calcareous	∩ Bioclastic or Fragmental	Stylolite	Chert	CX Cryptocrystalline
△ Chert White	◇ Brachiopod		Siltstone	L Lithogr
▲ Chert, dark	∩ Bryozoa		Shale	
∠ Dolomitic	○ Crinoids		green shale	
∩ Glauconite	F Fossils < 20%			
P Pyrite	⊕ Fossiliferous			
∠ Euhed rhombs of dol or	⊕ Gastropods			

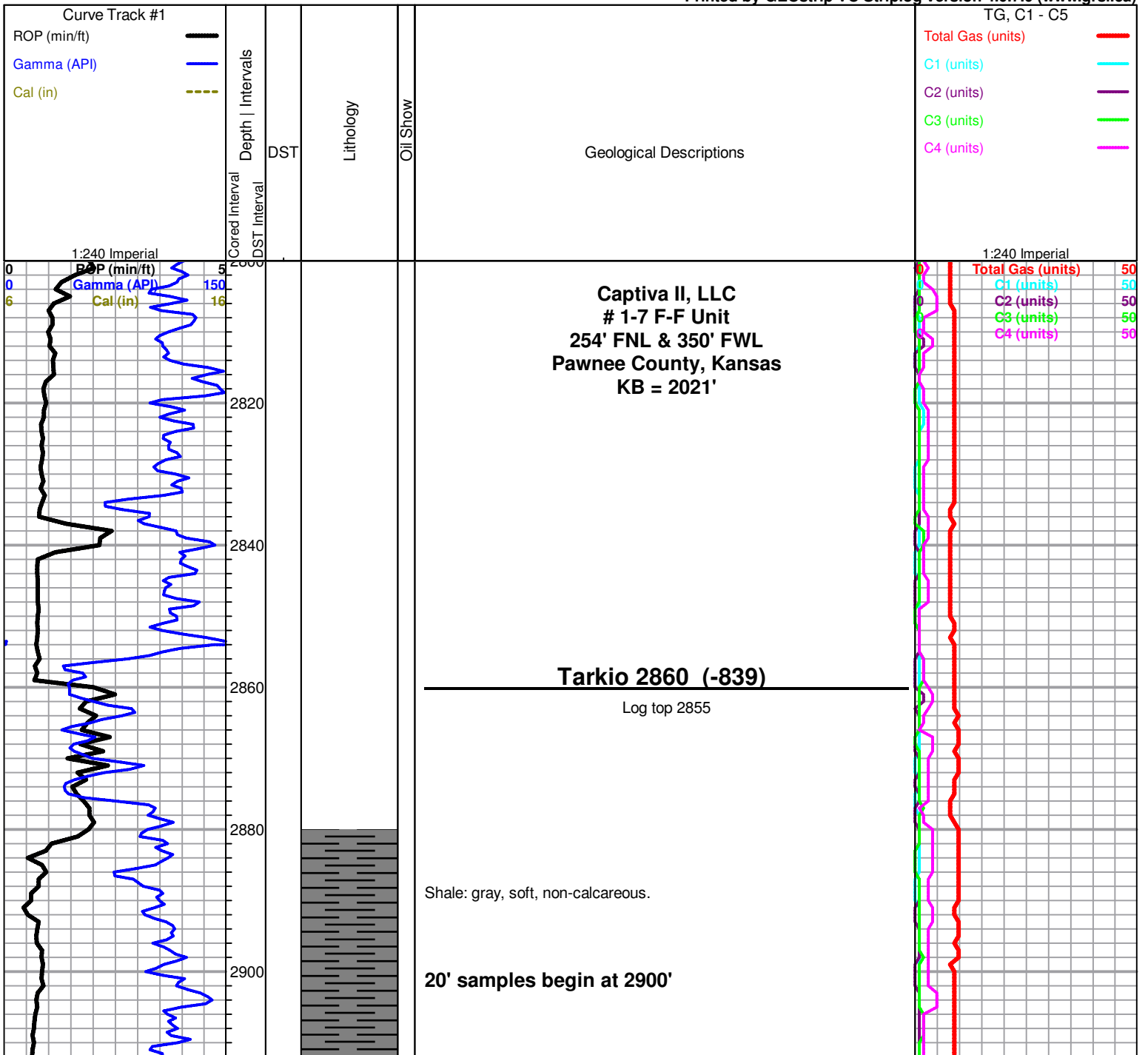
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- Oolites
- ⊗ Oomoldic
- ⊗ Pellets
- △ Spicules

### OTHER SYMBOLS

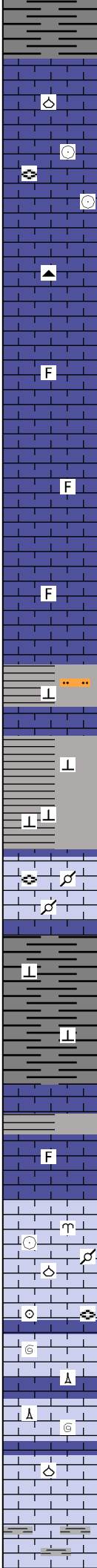
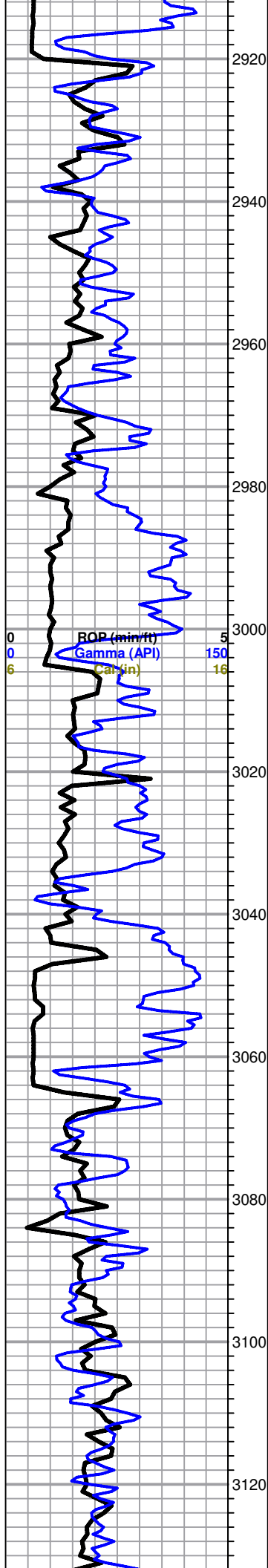
- MISC**
- Daily Report
  - Digital Photo
  - Document
  - Folder
  - Link
  - Vertical Log File
  - Horizontal Log File
  - Core Log File
  - Drill Cuttings Rpt

- DST**
- DST Int
  - DST alt

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## Elmont 2920 (-899)

Log top 2916

Limestone: cream to brown micrite, Lt brown to brown, sli fossiliferous wackestone, vf-xln, crinoids, brachiopods, fussulinids.

Limestone: lt gray to grayish-brown, micrite/mudstone to micro-xln wackestone w/ tr fossil debris. Tr mottled gray & brown, mottled, vitreous chert.

Shale: gray, calc, tr lt gray siltstone.

Limestone: gray to lt gray, fossiliferous, fuss., wackestone, tr oolites, tr pellets.

Gray, calcareous shale.

Limestone, brown to tan, mottled, pelletal packstone to fossiliferous (fussulinids) wackestone, f-xln, no shows.

Shale: gray to dark gray, calcareous.

## Howard 3064 (-1043)

Log top 3060

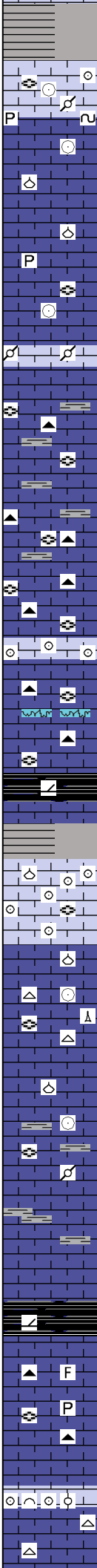
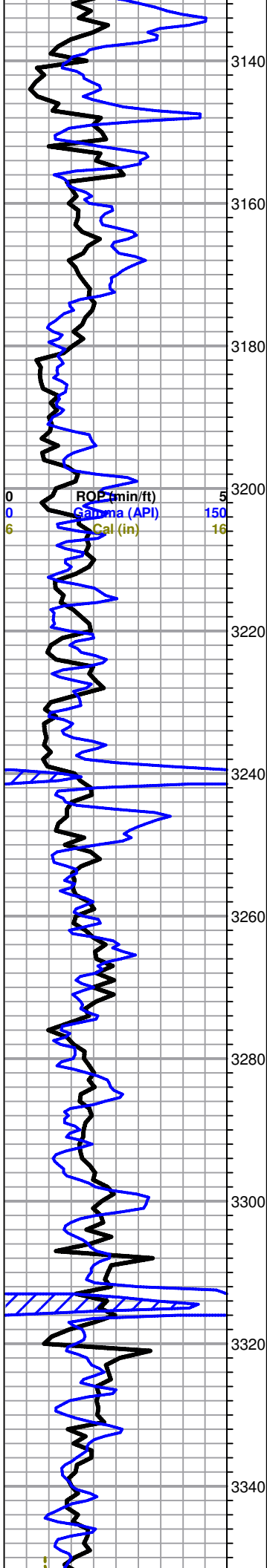
Limestone: tan to brown to dark brown, fossil debris, fuss., dark brown ls has white spots from broken fossils, argillaceous component, wackestone.

Limestone: cream to tan, fossiliferous, tr pellets, tr oolites, broken fossils, crinoids, fuss., brach., bryozoans, clean, packstone to wackestone, tr med-xln w/ fair inter-xln porosity. Also, gray, micro-xln lime mudstone.

Packstone as above w/ gastropods and spicules. Also more mudstone as above.

Limestone as above w/ tr shale laminations.

Total Gas (units)	50
C1 (units)	50
C2 (units)	50
C3 (units)	50
C4 (units)	50



### Topeka 3141 (-1120)

Log top 3138

Limestone: lt gray, fossil debris, crin, fuss, grainstone w/ tr pyrite, tr glauconite. Grades downward into tan micrite.

Limestone: lt gray to tan, fossiliferous, grainstone to wackestone, crinoids, fussulinids, brachiopods, tr pyrite in some mudstone. Tr pelletal grainstone.

Limestone: mottled gray and tan to lt gray, wackestone to mudstone, vf- to micro-xln matrix, fossils, fussulinids, tr gray mottled chert. Thin, brown shale laminations.

Limestone as above w/ more dark gray to gray vitreous fossiliferous chert. Free fussulinids.

Limestone: cream to lt gray, fossiliferous to oolitic grainstone/packstone, to stylolitic mudstone, fussulinid rich wackestone. Still carrying chert.

### King Hill Shale 3240 (-1219)

Log top 3238

Shale: black, carbonaceous, dolomitic.

Limestone: lt gray to lt tan, fossiliferous, fuss, brach, broken fossils, oolitic grainstone to packstone, f- to med-xln matrix, fair inter-xln porosity, no shows.

Limestone: lt tan to lt gray, sli fossiliferous, crin., fuss, brach., spicules, wackestone w/ micro-xln matrix, to cream to lt tan, crypto-xln mudstone to micrite. Tr lt gray to tan to white, vitreous, spicular, fossiliferous chert.

Thin brown shale laminations.

Limestone: lt gray to tan, vf-xln, tr fossiliferous, wackestone to mudstone. Thin gray shale laminations.

### Queen Hill Shale 3314 (-1293)

Shale: black, carbonaceous, dolomitic.

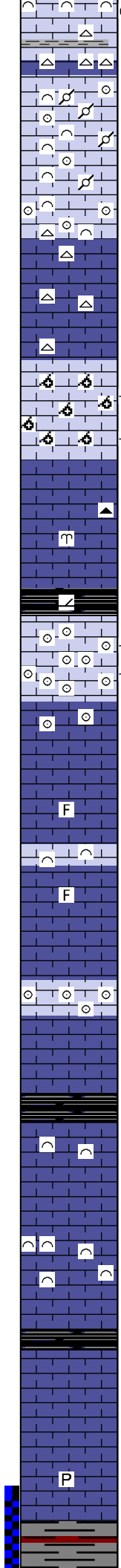
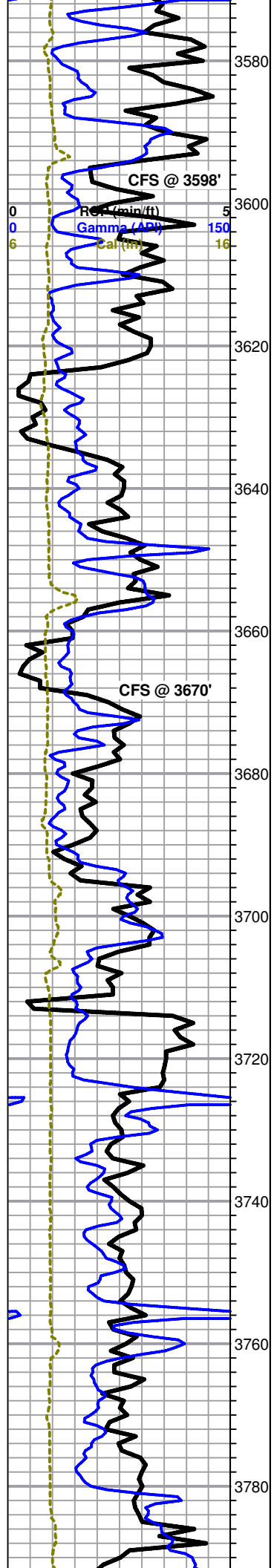
Limestone: lt gray to lt tan, tr fossil, spicules, fuss., f- to med-xln, wackestone to mudstone, lithographic micrite frags, fossiliferous chert as above. Tr pyrite, pyritized brach.

Limestone: cream to lt gray, tr oolitic, pelletal fossiliferous grainstone, but mostly f-xln to micro-xln, sli fossiliferous wackestone to stylolitic mudstone. Tr lt gray vitreous chert.

Total Gas (units)	50
C1 (units)	50
C2 (units)	50
C3 (units)	50
C4 (units)	50

Mud-Co Mud check  
3368 ft. @ 0730 hrs  
6/30/2011  
Vis: 49, Wt: 8.85  
PV: 16, YP: 15





oil staining. Weak fluor, but instant streaming cut w/ bright yellow fluor. Fair inter-xln porosity. Faint aroma in sample cup.

Limestone: brown, bioclastic, pelletal, oolitic, sli arg, packstone to wackestone, no shows. Some thin shale laminations. Tan to orange vitreous chert.

30 min sample: Limestone, lt gray, bioclastic, oolitic, peletal grainstone to packstone, fair inter-xln porosity, no shows.

60 min sample: cream to tan limestone, bioclastic, oolitic, pelletal as above w/ weak inter-xln porosity. No aroma, no shows.

Limestone: white to cream, oolitic, fossiliferous grainstone, very little porosity, well-cemented. Also micrite w/ tr sparry patches. No shows. Tr oolitic, lt gray to cream, vitreous chert.

Limestone: cream to white to lt tan, lithographic mudstone, micro-xln. Chert as above.

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**Lansing "G" Zone Porosity 3622**

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Limestone: cream to lt tan, oolitic grainstone w/ excellent oomoldic porosity. No shows of oil. Weak gas kick.

Limestone: tan to lt brown, micro-xln mudstone.

Tr dark gray bryozoan vitreous chert.

**Sudden influx of gray, lt gray, and maroon shale. Appears to be Douglas cavings, and it masks other rock types.**

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**Muncie Creek 3654 (-1633)**

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Shale: black, carbonaceous, dolomitic.

Limestone: cream to tan, oolitic grainstone with excellent oomoldic and inter-oolite porosity. Mineral fluor, but no aroma or oil show. Slight rise in gas.

Limestone: lt tan to lt gray, slightly oolitic to micritic, wackestone to mudstone. Tight, no shows.

Limestone: lt gray to tan, micro- to crypto-xln, mudstone. Tr fossil frags. Tight, no shows.

Limestone: cream, fossil frags, set in a micro-xln matrix, packstone to wackestone, tight, no shows.

Limestone: cream, oolitic grainstone w/ excellent inter-oolitic and oomoldic porosity, no shows. Oolites become well-cemented w/ depth, and then disappear into micrite.

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**Stark Shale 3725 (-1764)**

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Mix of oolitic grainstone, micrite, bioclastic packstone, and a trace of black shale.

Cream to tan, well-cemented bioclastic packstone to wackestone. No shows, no porosity.

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**Hushpuckney 3758 (-1737)**

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Limestone: cream to lt gray, micro-xln, mudstone, dense, no shows, tr fossil frags. Tr black shale.

Limestone: gray to lt gray, micritic to micro-xln, mudstone. Tr sparry calcite w/ intr-xln porosity. No shows. Tr pyrite.

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**Base Kansas City 3785 (-1764)**

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Chalk: gray, maroon, lt green calcareous

Total Gas (units)	50
C1 (units)	50
C2 (units)	50
C3 (units)	50
C4 (units)	50

Vis was diluted to 45.

Shale: gray, maroon, lt green calcareous.

### Marmaton 3800 (-1779)

Limestone: cream to lt gray, dense, crypto-xln, micrite.

Increase in shales: gray, dark gray, greenish-gray, tr maroon. Tr orange chert. Pyritized rhombopora and crinoids.

Limestone: cream to tan, fossiliferous packstone to non-fossiliferous mudstone.

Shale: vari-colored, gray, lt gray, greenish-gray, aqua green, brown, maroon, yellowish-green, calcareous, Chert: orange, vitreous.

30 & 60 min samples @ 3870': Spotty oil Show in ls fragments. Spotty, dull yellow fluor, good streaming cut. Still in the conglomerate section.

Conglomerate: as above w/ spotty oil shows in limestone fragments. Shale: vari-colored: green, aqua, gray-green, gray, mottled gray and red, maroon. Sample from 3880'-90' washes red.

### Arbuckle 3882 (-1861)

Dolomite: stained brown due to complete oil saturation. Oolitic w/ excellent oomoldic porosity, succrosic w/ good inter-xln porosity, and micro-vugular porosity. Bleeds oil before adding cutting fluid, bright yellow fluor, instant streaming cut. Porosity is so high that water add to a fragment soaks through and disappears. Gas bubbles emanate from pores. Some fragments are not totally saturated because they have spots of micrite. Succrosic grain size ranges from 0.05mm to 0.5mm. Tr pyrite. 3905': Most succrosic frags are totally saturated & brown, with spots of live black oil. Some frags have streaks of unstained micrite. Some oomoldic frags have absolutely no staining. Tr aqua-green shale. Gas bubbles, Py.

F-F Unit #1-1.pdf

F-F Unit #1-2.pdf

F-F Unit #1-3.pdf

3917': Dolomite, brown, stained with oil. Finely succrosic frags are totally saturated w/ lt brown oil, some frags have a dark brown to black oil staining in the porosity. Also white dolomite, med to f-xln succrosic w/ black, heavy oil staining in good inter-xln porosity, bleeds gas bubbles, mineral fluor, but no oil fluor, slow cut. Tr pyrite, tr aqua-green shale laminations. Some micritic streaks w/o staining. Chert: white, lt gray, tan, mostly vitreous, some have qtz crystal cores. Some of the white is tripolitic.

3920-30': Cherty dolomite, mostly crypto-xln micrite, only shows are along fracture surfaces or in sparry patches. Chert has similar shows along fractures and in qtz centers. Black, dead oil, no fluor, no cut. Chert is dominantly opaque white, minor amounts of honey to lt tan, translucent. Tr aqua-green shale laminations. Aroma in cup

3930-40': dolomite as above. Shows are spotty and dead. Chert as above.  
**(Lagged sample depths)**

3940-50': Tan dolomite, micrite to micro-xln succrosic to clear, euhedral, coarsely-xln calcite. Spotty oil staining is less frequent. Tr aqua-green shale, tr pyrite.

3950-60': Dolomite, cream to tan, mostly f- to med-xln succrosic w/ good inter-xln porosity, infrequent, black, dead oil spots, tr micrite, tr aqua-green shale, tr pyrite. Chert as above, but less frequent.

3960-85': Dolomite, tan to cream, mostly succrosic, f- to med-xln w/ good inter-xln porosity, no shows. Tr pyrite, tr aqua-green shale. White chert: vitreous to weathered, some is oolitic.

Mud-Co Mud check  
3829 ft. @ 0705 hrs  
To: 7/1/2011  
Vis: 69, Wt: 9.3  
PV: 24, YP: 24  
WL: 8.0, Cake: 1/32  
pH: 10.5, Ca: 20ppm  
CHL: 5000ppm,  
Sol: 6.8, LCM: 1  
DMC: \$1,752.60  
CMC: \$11,280.40

#### Gas check

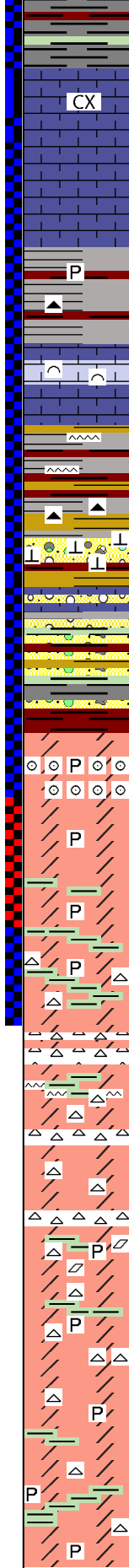
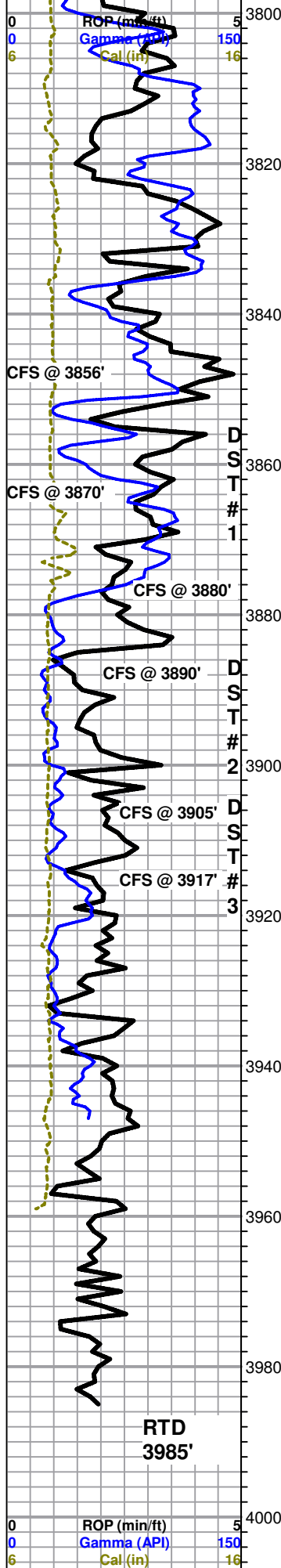
Mud-Co Mud check  
3905 ft. @ 1310 hrs  
7/2/2011  
Vis: 68, Wt: 9.1  
PV: 20, YP: 19  
WL: 8.8, Cake: 1/32  
pH: 10.0, Ca:  
20ppm  
CHL: 6200ppm,  
Sol: 5.4, LCM: 0.5  
DMC: \$000.00  
CMC: \$11,280.40

Strap 1.45' short to board.  
Deviation 0.75.

#### Scale change

	Total Gas (units)	
Mud-Co	C1 (units)	550
Mud check	C2 (units)	550
1310 hrs	C3 (units)	550
7/3/2011	C4 (units)	550
Vis: 68, Wt: 9.1		
PV: 21, YP: 16		
WL: 8.0,		
Cake: 1/32		
pH: 9.5, Ca: 40ppm		
CHL: 6800ppm,		
Sol: 5.3,		
LCM: Tr		
DMC: \$000.00		
CMC: \$11,280.40		

	Total Gas (units)	
0	C1 (units)	550
0	C2 (units)	550
0	C3 (units)	550
0	C4 (units)	550



4020

4040

**Rotary TD 3985' @ 0134 hrs, 7/4/2011  
Superior Well Services Logging TD 3983'  
Completed logging operations 1300 hrs, 7/4/2011**

**Geologist: Charlie Sturdavant off location  
@ 1400 hrs. 7/4/2011**

**F-F Unit #1-1.pdf.pdf**

**F-F Unit #1-2.pdf**

**F-F Unit #1-3.pdf**





# F & F Unit #1-7

NE-NW-NW-NW  
254' FNL & 350' FWL  
Sec.7 T22s & R16w  
Pawnee County, Kansas

CAPTIVA ENERGY, LLC

API # 15-145-21645-0000

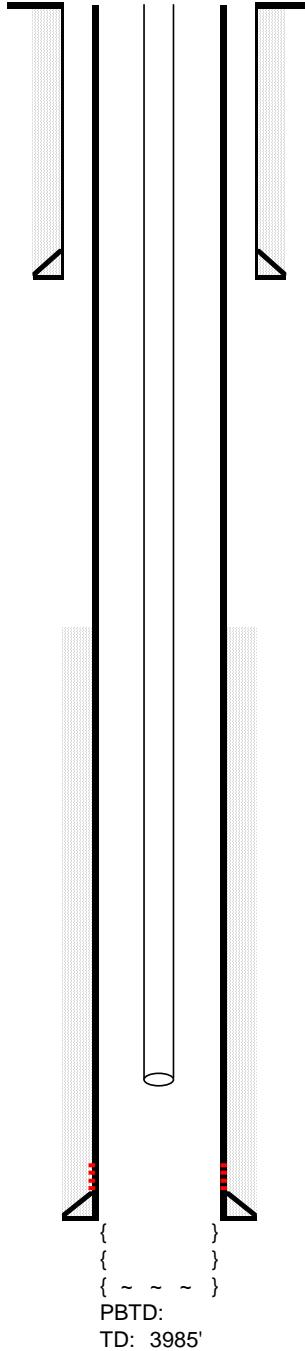
Spud Date: 6/26/2011  
Completed: 7/26/2011

Field: Wildcat

GL: 2010'  
KB: 2021'

**Surface Casing :**  
8-5/8" 23# set @ 1077'  
Cemented with 500 sx  
60/40 PozMix

**Production Casing:**  
5-1/2", 15.5# set @ 3964'  
Cemented with 250 sx  
50 sx scavenger  
200 sx AA2



TOC: Surface

**Tubing:**  
120 jts of 2.3/8" tbg, MA & SN set @ 3914'

**Rods:**  
157 x 3/4" rods  
6'-4" x 3/4" rod subs  
1 1/4 x 18' PR w/ 6' liner

**Pump:**  
2' x 1 1/2" x 12' RWT precision pump

TOC: 2434'

**Arbuckle Perfs:**  
3908-10' (8) 7/20/11

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{ ~ ~ ~ }  
}  
PBSD:  
TD: 3985'



## *CAPTIVA II, LLC*

### **F-F Unit #1-7/Casing Report**

**API# 15-145-21645-0000**

NE-NW-NW-NW

254' FNL & 350' FWL

Sec. 7, T22s-R16w

Pawnee County, Kansas

**GL: 2010'**

**KB: 2021'**

#### 6/27/2011 **Surface Casing**

Spud at 8:15 p.m. on 6/26/11. Drill 12¼" hole to 1082'. Ran 25 joints of new 8.5/8"-23# casing, tallied 1064' and set at 1077' KB with landing sub. Cemented by Quality Cementing (ticket #038765) with 500 sx 60/40 Poz 2% gel, 3% CC. Plug down at 8:30 p.m. Welded straps on the bottom 3 joints, welded collars on the next two and welded straps on the top 5 joints. Cement did circulate. Job complete at 11:00 a.m. on 6/27/11

#### 7/05/2011 **Production Casing**

On location @ 7:00 p.m. RIH with drill pipe and condition the hole. Laying down drill pipe and collars, Begin running 95 joints 5 ½" (15.5#) S-55 new casing. Shoe joint was 21.10'. Insert @ 3943.64'. Marker joint was 5 joints off bottom and measured 21.14'. Set casing @ 3963.74' KB. Landed casing 21' off RTD 3985' and LTD, 3983'. Ran a basket and insert on top of #1 and centralizers on #3, #5, #7, #9, and #11. Landed casing @ 12:15 a.m. (7/5/11) Circulate hole for 60 minutes to lower viscosity in mud. RU Basic Services, plug RH with 30 sx. and MH with 20 sx. Mix and pump 50 sx 60/40 Poz-Mix as scavenger flush, followed by 200 sx AA-2 cement down casing. Had good circulation throughout the job. Plug down @ 3:00 a.m. and held 1500#. Release pressure and float held. Release Sterling Rig #2 @ 5:00 a.m.