



KANSAS CORPORATION COMMISSION 1078785  
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 # 31725  
Name: Shelby Resources LLC  
Address 1: 2717 Canal Blvd  
Address 2: Suite C  
City: HAYS State: KS Zip: 67601 + \_\_\_\_\_  
Contact Person: Chris Gottschalk  
Phone: ( 785 ) 623-1524  
CONTRACTOR: License # 5142  
Name: Sterling Drilling Company  
Wellsite Geologist: Charles Sturdavant  
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 #: \_\_\_\_\_

<u>10/20/2011</u>	<u>10/28/2011</u>	<u>01/11/2012</u>
Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date

API No. 15 - 15-145-21655-00-00

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

SE NW SE SE Sec. 7 Twp. 22 S. R. 16  East  West  
900 Feet from  North /  South Line of Section  
941 Feet from  East /  West Line of Section

Footages Calculated from Nearest Outside Section Corner:

- NE     NW     SE     SW

County: Pawnee

Lease Name: Eakin Well #: 5-7

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

Producing Formation: Basil Penn

Elevation: Ground: 2010 Kelly Bushing: 2021

Total Depth: 4050 Plug Back Total Depth: \_\_\_\_\_

Amount of Surface Pipe Set and Cemented at: 1026 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: Doanna Gerriso Date: 04/16/2012



1078785

Operator Name: Shelby Resources LLC Lease Name: Eakin Well #: 5-7  
 Sec. 7 Twp. 22 S. R. 16  East  West County: Pawnee

**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 checked="" type="checkbox"/> Yes <input type="checkbox"/> No <i>(Attach Additional Sheets)</i>  Samples Sent to Geological Survey <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Cores Taken <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Electric Log Run <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Electric Log Submitted Electronically <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <i>(If no, Submit Copy)</i>  List All E. Logs Run: <b>Attached</b>	<input type="checkbox"/> Log Formation (Top), Depth and Datum <input type="checkbox"/> Sample  <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:60%;">Name</td> <td style="width:20%;">Top</td> <td style="width:20%;">Datum</td> </tr> <tr> <td>Topeka</td> <td>3174</td> <td>-1153</td> </tr> <tr> <td>Heebner</td> <td>3464</td> <td>-1343</td> </tr> <tr> <td>Lansing</td> <td>3572</td> <td>-1551</td> </tr> <tr> <td>Base KC</td> <td>3822</td> <td>-1801</td> </tr> <tr> <td>Marmaton</td> <td>3836</td> <td>-1815</td> </tr> <tr> <td>Arbuckle</td> <td>3986</td> <td>-1965</td> </tr> <tr> <td>TD</td> <td>4050</td> <td>-2029</td> </tr> </table>	Name	Top	Datum	Topeka	3174	-1153	Heebner	3464	-1343	Lansing	3572	-1551	Base KC	3822	-1801	Marmaton	3836	-1815	Arbuckle	3986	-1965	TD	4050	-2029
Name	Top	Datum																							
Topeka	3174	-1153																							
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Base KC	3822	-1801																							
Marmaton	3836	-1815																							
Arbuckle	3986	-1965																							
TD	4050	-2029																							

CASING RECORD <input checked="" 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
Surface	12.25	8.625	23	1026	60/40 Poz	400	2%gel, 3% cc
Production	7.875	5.5	15.5	3971	AA-2	150	2% gel, 3% cc

ADDITIONAL CEMENTING / SQUEEZE RECORD				
Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
<input type="checkbox"/> Perforate <input type="checkbox"/> Protect Casing <input type="checkbox"/> Plug Back TD <input type="checkbox"/> Plug Off Zone	3887-			
	-			

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
4	3887-91'	TCP Gun	

TUBING RECORD: Size: <u>2.375</u> Set At: <u>3891</u> Packer At: <u> </u> Liner Run: <input type="checkbox"/> Yes <input type="checkbox"/> No	
Date of First, Resumed Production, SWD or ENHR: <u>01/12/2012</u>	Producing Method: <input checked="" type="checkbox"/> Flowing <input type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other (Explain) <u> </u>
Estimated Production Per 24 Hours	Oil Bbls. <u> </u> Gas Mcf <u>152</u> Water Bbls. <u> </u> Gas-Oil Ratio <u> </u> Gravity <u> </u>

DISPOSITION OF GAS: <input type="checkbox"/> Vented <input checked="" 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 checked="" type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <i>(Submit ACO-4)</i> <input type="checkbox"/> Other (Specify) <u> </u>	PRODUCTION INTERVAL: <u>3887-91'</u>
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Form	ACO1 - Well Completion
Operator	Shelby Resources LLC
Well Name	Eakin 5-7
Doc ID	1078785

All Electric Logs Run

Dual Induction
Compensated Neutron
Micro
Sonic
Cement Bond



**BASIC**  
ENERGY SERVICES  
PRESSURE PUMPING & WIRELINE

10244 NE Hwy. 61  
P.O. Box 8613  
Pratt, Kansas 67124  
Phone 620-672-1201

FIELD SERVICE TICKET  
1718 04982 A

DATE \_\_\_\_\_ TICKET NO. \_\_\_\_\_

JOB NO. 10-29-2011 DISTRICT PRATT, KS.		NEW WELL <input checked="" type="checkbox"/> OLD WELL <input type="checkbox"/> PROD <input type="checkbox"/> INJ <input type="checkbox"/> WDW <input type="checkbox"/> CUSTOMER ORDER NO.:							
CUSTOMER SHELBY RESOURCES		LEASE FAKIN WELL NO. 5-7							
ADDRESS		COUNTY PAWNEE STATE KS.							
CITY STATE		SERVICE CREW LESLEY, LAURENCE, PHYE							
AUTHORIZED BY		JOB TYPE: CNW - 5 1/2" L.S.							
EQUIPMENT#	HRS	EQUIPMENT#	HRS	EQUIPMENT#	HRS	TRUCK CALLED 10-28-11	DATE	AM	TIME
37586	2								8:00
19889-19812	2					ARRIVED AT JOB		AM	9:00
19960-19918	2					START OPERATION	10-29-11	AM	1:00
						FINISH OPERATION		AM	2:45
						RELEASED		AM	3:30
						MILES FROM STATION TO WELL			6.5

CONTRACT CONDITIONS: (This contract must be signed before the job is commenced or merchandise is delivered).

The undersigned is authorized to execute this contract as an agent of the customer. As such, the undersigned agrees and acknowledges that this contract for services, materials, products, and/or supplies includes all of and only those terms and conditions appearing on the front and back of this document. No additional or substitute terms and/or conditions shall become a part of this contract without the written consent of an officer of Basic Energy Services LP.

SIGNED: \_\_\_\_\_  
(WELL OWNER, OPERATOR, CONTRACTOR OR AGENT)

ITEM/PRICE REF. NO.	MATERIAL, EQUIPMENT AND SERVICES USED	UNIT	QUANTITY	UNIT PRICE	\$ AMOUNT
CP 105	AA-2 CEMENT	SK	150		2,550.00
CP 103	60/40 POZ	SK	100		1,200.00
CC 102	CELL-FLAKE	lb	38		140.60
CC 105	DE-FOAMER	lb	36		144.00
CC 111	SALT	lb	683		341.50
CC 115	GAS-BLOK	lb	141		726.15
CC 129	FLA-322	lb	71		532.50
CC 201	GILSONITE	lb	750		502.50
CF 607	LATCH DOWN PLUG & BAFFLE 5 1/2"	EA	1		400.00
CF 1251	AUTO FILL FLOAT SHOE 5 1/2"	EA	1		310.00
CF 1651	TURBOLIZER, 5 1/2"	EA	4		440.00
CF 1901	BASKET, 5 1/2"	EA	1		290.00
E 100	PICKUP MILEAGE	MI	6.5		276.25
E 101	HEAVY EQUIPMENT MILEAGE	MI	130		910.00
E 113	BULK DELIVERY CHARGE	TM	738		1,180.40
CE 204	DEPTH CHARGE; 3001-4000'	HR	1-4		3,160.00
CE 240	BLENDING SERVICE CHARGE	SK	250		350.00
CE 504	PLUG CONTAINER CHARGE	VPB	1		250.00
S 003	SERVICE SUPERVISOR	EA	1		175.00

CHEMICAL / ACID DATA:			

SUB TOTAL	10,213.33
SERVICE & EQUIPMENT	%TAX ON \$
MATERIALS	%TAX ON \$
TOTAL	

SERVICE REPRESENTATIVE: *Devon Lesley*  
THE ABOVE MATERIAL AND SERVICE ORDERED BY CUSTOMER AND RECEIVED BY: \_\_\_\_\_  
FIELD SERVICE ORDER NO. \_\_\_\_\_ (WELL OWNER OPERATOR CONTRACTOR OR AGENT)

Scale 1:240 Imperial

Well Name: # 5-7 Eakin  
Surface Location: 883'FSL, 921'FEL Sec. 7-T22S-R16W  
Bottom Location:  
API: 15-145-21655-0000  
License Number:  
Spud Date: 10/20/2011 Time: 1:00 AM  
Region: Pawnee County  
Drilling Completed: 10/28/2011 Time: 2:30 PM  
Surface Coordinates: 539887 & 18222629  
Bottom Hole Coordinates:  
Ground Elevation: 2010.00ft  
K.B. Elevation: 2021.00ft  
Logged Interval: 2800.00ft To: 4050.00ft  
Total Depth: 4050.00ft  
Formation: Simpson  
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 / 720-274-4682  
Well Name: # 5-7 Eakin  
Location: 883'FSL, 921'FEL Sec. 7-T22S-R16W API: 15-145-21655-0000  
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 II #5-7 Eakin Unit well was drilled to a LTD of 4050', bottoming in the Arbuckle. A TookeDAQ gas detector was employed during the drilling of all prospective formations. Gas was detected in the Pennsylvanian Basal Conglomerate Chert zone. Subsequent DST's both flowed measurable quantities of gas. Although the Simpson was the main objective, only thin sands were encountered.

After log analysis and evaluation of drill cuttings, it was determined by all parties involved, that production casing should be run and that the Pennsylvanian Basal Conglomerate Chert zone should be further evaluated through perforations.

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

Respectfully submitted,  
Charlie Sturdavant  
Consulting Geologist

Well Completion Sheet

# Charlie Sturdavant Consulting

## WELL COMPARISON SHEET

DRILLING WELL					COMPARISON WELL				COMPARISON WELL				
Captiva II #5-7 Eakin Unit 883' FSL & 921' FEL Sec. 7, T22S R16W					Captiva II #2-7 Eakin Unit 2051' FSL & 1500' 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	1028	993	1010	1011	1020	998	-5	13		1006	1011	-18	0
Topeka	3174	-1153	3173	-1152	3156	-1138	-15	-14		3060	-1043	-110	-109
Queen Hill	3350	-1329	3348	-1327	3332	-1314	-15	-13					
Heebner	3464	-1443	3458	-1437	3443	-1425	-18	-12		3426	-1409	-34	-28
Toronto	3481	-1460	3478	-1457	3462	-1444	-16	-13		3442	-1425	-35	-32
Douglas	3496	-1475	3495	-1474	3478	-1460	-15	-14		3461	-1444	-31	-30
Brown Lime	3562	-1541	3561	-1540	3543	-1525	-16	-15		3526	-1509	-32	-31
Lansing	3572	-1551	3570	-1549	3552	-1534	-17	-15		3534	-1517	-34	-32
Muncie Creek	3701	-1680	3700	-1679	3676	-1658	-22	-21		3659	-1642	-38	-37
Stark Shale	3765	-1744	3766	-1745	3748	-1730	-14	-15		3731	-1714	-30	-31
Base KC	3822	-1801	3821	-1800	3801	-1783	-18	-17		3786	-1769	-32	-31
Marmaton	3836	-1815	3834	-1813	3816	-1798	-17	-15		3800	-1783	-32	-30
Simpson Shale	3914	-1893	3919	-1898	3856	-1838	-55	-60		3820	-1803	-90	-95
Arbuckle	3986	-1965	3983	-1962	3916	-1898	-67	-64		3866	-1849	-116	-113
Total Depth	4050	-2029	4050	-2029	4025	-2007	-22	-22		4000	-1983	-46	-46

### Daily Drilling Report

# Charlie Sturdavant Consulting

## DAILY DRILLING REPORT

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

Well: #5-7 Eakin Unit  
Location: 883' FSL & 921' 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

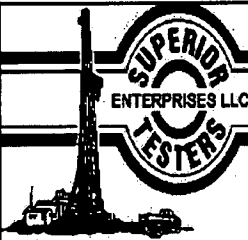
Elevation: 2021' KB 2010' GL  
Field: Wildcat  
API No.: 15-145-21655-0000  
Surface Casing: 8 5/8" set @ 1031' KB

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

DATE	7:00 AM DEPTH	REMARKS
10/20/2011	346 ft.	Spud @ 0100hrs. Set 20" conductor @ 42'. Drilling ahead w/ 12-1/4" bit.
10/21/2011	1031 ft.	Circulating to clean hole prior to wiper trip.

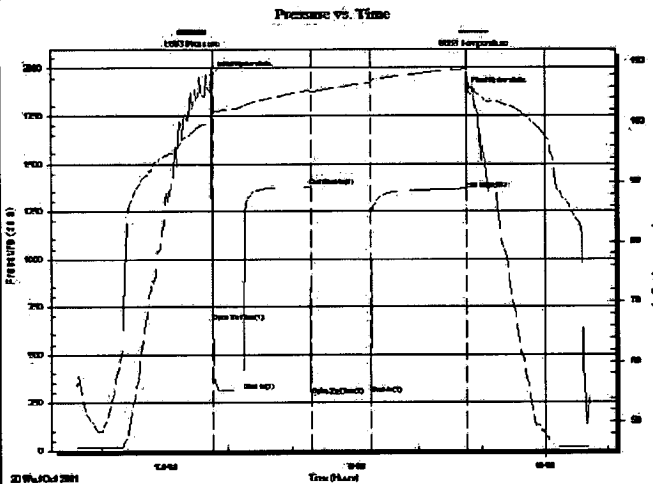
10/22/2011	1075 ft.	Drilling ahead. Ran 24 joints of new 2 3/4" surface casing to 1031'.
10/23/2011	2250 ft.	Drilling ahead.
10/24/2011	3041 ft.	Drilling ahead.
10/25/2011	3602 ft.	Drilling ahead.
10/26/2011	3894 ft.	Preparing for DST #1, 3860'-3894'. Test 749 to 653 MCFD.
10/27/2011	3903 ft.	Conducting DST #2, 3894'-3903', strong blow w/ GTS in 25 min.
10/28/2011	4050 ft.	Tripping out of hole after short trip. Preparing to log. Logging operations completed 1315 hrs. Geologist off location @ 1400 hrs.

### DST # 1

	<h2 style="margin: 0;">DRILL STEM TEST REPORT</h2>				
<p>Captiva 2</p> <p>2717 Canal Blvd. Hays Kansas 67601</p> <p>ATTN: Charlie Sturdavant</p>	<p><b>Eakin Unit 5-7</b></p> <p><b>7-22s-16w Pawnee</b></p> <p>Job Ticket: 17228      DST#: 1</p> <p>Test Start: 2011.10.26 @ 10:36:00</p>				
<p><b>GENERAL INFORMATION:</b></p> <table border="0" style="width: 100%;"> <tr> <td style="width: 50%;"> <p>Formation: <b>Conglomerate</b></p> <p>Deviated: No    Whipstock:            ft (KB)</p> <p>Time Tool Opened: 12:45:30</p> <p>Time Test Ended: 18:43:00</p> </td> <td style="width: 50%;"> <p>Test Type: Conventional Bottom Hole (Initial)</p> <p>Tester: Dustin Ellis</p> <p>Unit No: 3315-GB-55 miles</p> </td> </tr> <tr> <td> <p>Interval: <b>3860.00 ft (KB) To 3894.00 ft (KB) (TVD)</b></p> <p>Total Depth: 3894.00 ft (KB) (TVD)</p> <p>Hole Diameter: 7.88 inches    Hole Condition: Fair</p> </td> <td> <p>Reference Elevations: 2021.00 ft (KB)</p> <p>2010.00 ft (CF)</p> <p>KB to GR/CF: 11.00 ft</p> </td> </tr> </table>		<p>Formation: <b>Conglomerate</b></p> <p>Deviated: No    Whipstock:            ft (KB)</p> <p>Time Tool Opened: 12:45:30</p> <p>Time Test Ended: 18:43:00</p>	<p>Test Type: Conventional Bottom Hole (Initial)</p> <p>Tester: Dustin Ellis</p> <p>Unit No: 3315-GB-55 miles</p>	<p>Interval: <b>3860.00 ft (KB) To 3894.00 ft (KB) (TVD)</b></p> <p>Total Depth: 3894.00 ft (KB) (TVD)</p> <p>Hole Diameter: 7.88 inches    Hole Condition: Fair</p>	<p>Reference Elevations: 2021.00 ft (KB)</p> <p>2010.00 ft (CF)</p> <p>KB to GR/CF: 11.00 ft</p>
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<table border="0" style="width: 100%;"> <tr> <td style="width: 25%;"> <p><b>Serial #: 6663</b></p> <p>Press@RunDepth: 288.75 psia @ 3891.00 ft (KB)</p> <p>Start Date: 2011.10.26    End Date: 2011.10.26</p> <p>Start Time: 10:36:00    End Time: 18:43:00</p> </td> <td style="width: 25%;"> <p>Capacity: 5000.00 psia</p> <p>Last Calib.: 2011.10.26</p> <p>Time On Btm: 2011.10.26 @ 12:45:00</p> <p>Time Off Btm: 2011.10.26 @ 16:46:00</p> </td> </tr> </table>		<p><b>Serial #: 6663</b></p> <p>Press@RunDepth: 288.75 psia @ 3891.00 ft (KB)</p> <p>Start Date: 2011.10.26    End Date: 2011.10.26</p> <p>Start Time: 10:36:00    End Time: 18:43:00</p>	<p>Capacity: 5000.00 psia</p> <p>Last Calib.: 2011.10.26</p> <p>Time On Btm: 2011.10.26 @ 12:45:00</p> <p>Time Off Btm: 2011.10.26 @ 16:46:00</p>		
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<p><b>TEST COMMENT:</b> 1st Open 30 minutes Strong blow built to bottom of bucket instantly          1st Shut in 60 minutes No blow back          2nd Open 60 minutes Strong blow built to bottom of bucket instantly          2nd Shut in 60 minutes No blow back</p>					



2nd Shut in 90 minutes NO BLOW BACK



**PRESSURE SUMMARY**

Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1966.14	101.05	Initial Hydro-static
1	671.03	101.38	Open To Flow (1)
30	311.15	102.65	Shut-in(1)
93	1377.14	105.40	End Shut-in(1)
95	285.47	105.14	Open To Flow (2)
150	288.75	106.69	Shut-in(2)
241	1366.89	108.94	End Shut-in(2)
241	1876.43	109.13	Final Hydro-static

**Recovery**

Length (ft)	Description	Volume (bbl)
125.00	Drilling mud	0.61

**Gas Rates**

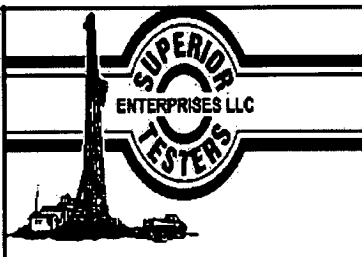
	Choke (inches)	Pressure (psia)	Gas Rate (Mcf/d)
First Gas Rate	1.00	749.00	21532.86
Last Gas Rate	0.13	653.00	244.41
Max. Gas Rate	1.00	749.00	21532.86

Superior Testers Enterprises LLC

Ref. No: 17228

Printed: 2011.10.26 @ 19:06:02

**DST # 2**



**DRILL STEM TEST REPORT**

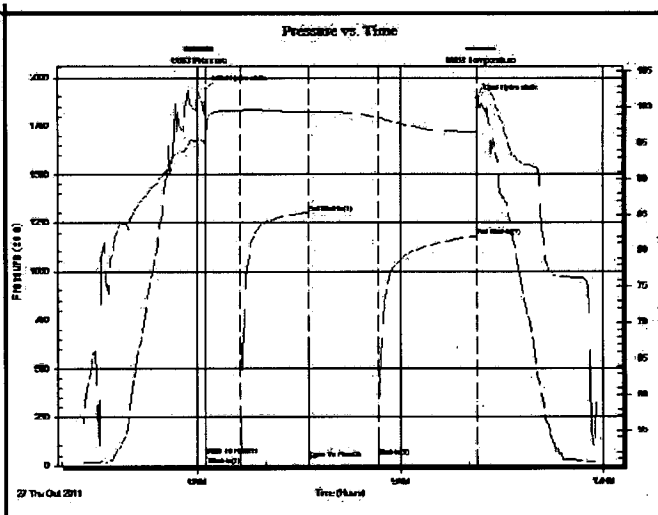
Captiva 2 **Eakin Unit 5-7**  
 2717 Canal Blvd. Hays Kansas 67601 **7-22s-16w -Pawnee**  
 Job Ticket: 17229 **DST#: 2**  
 ATTN: Charlie Sturdavant Test Start: 2011.10.27 @ 04:18:00

**GENERAL INFORMATION:**

Formation: **Conglomerate**  
 Deviated: No Whipstock: ft.(KB)  
 Time Tool Opened: 06:07:30  
 Time Test Ended: 11:53:30  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Dustin Ellis  
 Unit No: 3315-GB-55  
 Interval: **3694.00 ft (KB) To 3903.00 ft (KB) (TVD)**  
 Total Depth: 3903.00 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 #: 6663** **Outside**  
 Press@RunDepth: 42.50 psia @ 3900.00 ft (KB) Capacity: 5000.00 psia  
 Start Date: 2011.10.27 End Date: 2011.10.27 Last Calib.: 2011.10.27  
 Start Time: 04:18:00 End Time: 11:53:30 Time On Btm: 2011.10.27 @ 06:07:00  
 Time Off Btm: 2011.10.27 @ 10:08:00

**TEST COMMENT:** 1st open 30 minutes Strong blow blew bottom of bucket instantly  
 1st shut in 60 minutes No blow  
 2nd open 60 minutes Strong blow blew bottom of bucket instantly  
 2nd shut in 90 minutes No blow



PRESSURE SUMMARY			
Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1942.26	94.12	Initial Hydro-static
1	53.39	95.79	Open To Flow (1)
31	43.69	99.47	Shut-In(1)
91	1299.21	99.39	End Shut-In(1)
92	33.95	99.67	Open To Flow (2)
153	42.50	98.54	Shut-In(2)
240	1180.08	96.56	End Shut-In(2)
241	1893.13	101.33	Final Hydro-static

Recovery		
Length (ft)	Description	Volume (bbl)
56.00	Mud 100%	0.28

Gas Rates			
	Choke (inches)	Pressure (psia)	Gas Rate (Mcf/d)
First Gas Rate	1.00	3.00	86.25
Last Gas Rate	0.75	3.00	46.86
Max. Gas Rate	0.75	4.00	62.48

Superior Testers Enterprises LLC      Ref. No: 17229      Printed: 2011.10.27 @ 12:09:36

**SURFACE CO-ORDINATES**

Well Type: Vertical  
 Longitude:      Latitude:  
 N/S Co-ord: 539887  
 E/W Co-ord: 18222629

**CONTRACTOR**

Contractor: Sterling Drilling Co.  
 Rig #: 2  
 Rig Type: mud rotary  
 Spud Date: 10/20/2011  
 TD Date: 10/28/2011  
 Rig Release:  
 Time: 1:00 AM  
 Time: 2:30 PM  
 Time:

**ELEVATIONS**

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

**ROCK TYPES**

Congl	Lmst fw<7	Shgy	shale, red
Chtcongl	Lmst fw7>	shale, gry	Shcol
Dolsec	shale, grn	Carbon Sh	

**ACCESSORIES**

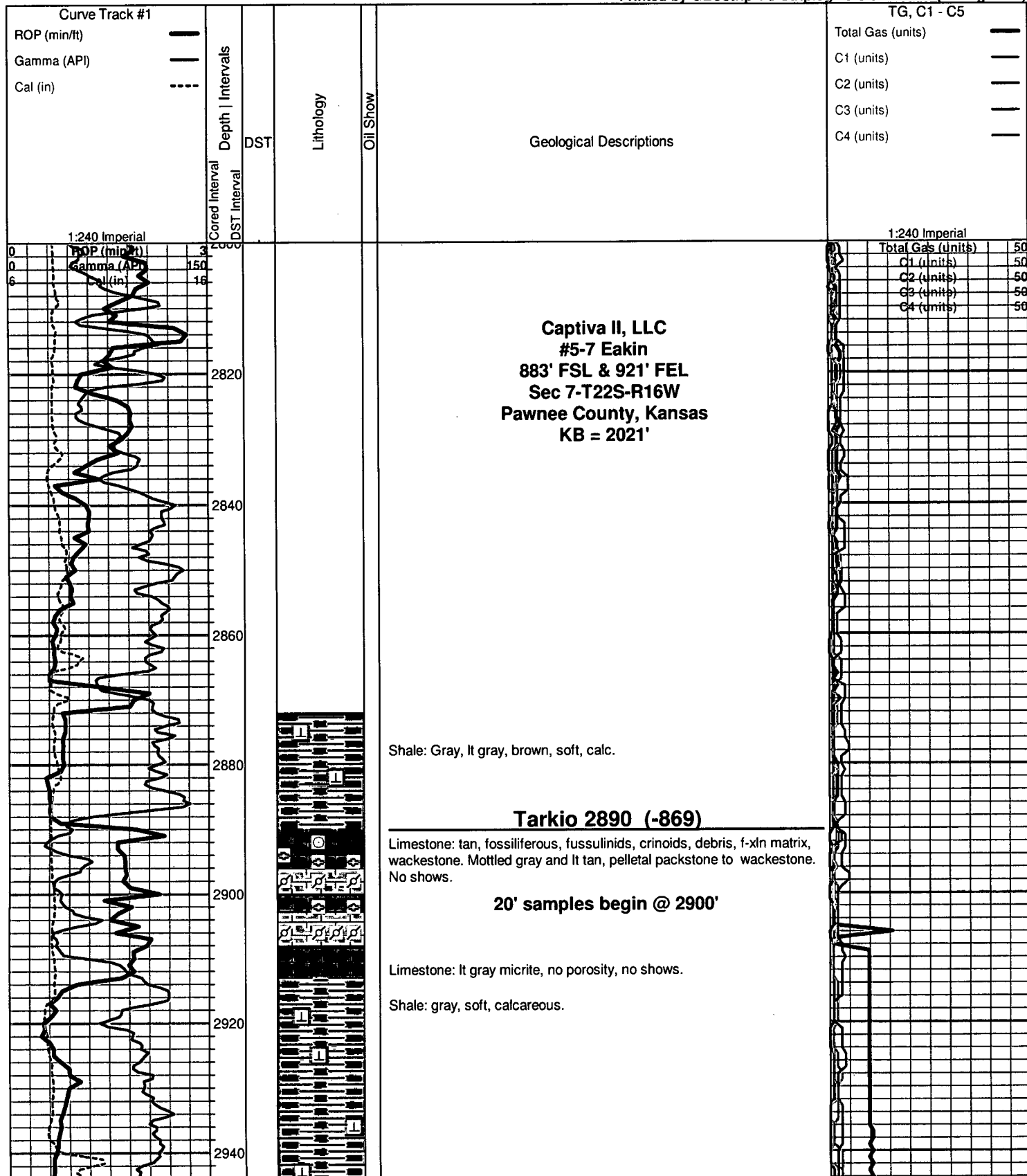
<b>MINERAL</b>	<b>FOSSIL</b>	<b>STRAT./SED. STRUCTS</b>	<b>STRINGER</b>	<b>TEXTURE</b>
- Argillaceous	^ Bioclastic or Fragmental	Stylolite	Limestone	L Lithogr
⊥ Calcareous	◇ Brachiopod		Sandstone	
△ Chert White	∩ Bryozoa		Shale	
▲ Chert, dark	○ Crinoids		green shale	
↘ Dolomitic	∩ Echinoid			
P Pyrite	F Fossils < 20%			
	◇ Fossilinid			
	⊗ Gastropods			

- Oolite
- Oolites
- ⊕ Pellets
- Pelloids
- ▲ Spicules
- ⊕ Coated Grains
- ⌒ Algae

**OTHER SYMBOLS**

**DST**  
 ■ DST Int  
 ■ DST alt

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## Elmont 2950 (-929)

Limestone: brown, fossiliferous, fussionids and foss debris, f-xln matrix, packstone, tight, no shows.

Limestone: tan to mottled brown and tan, fossiliferous, fussionids, brachiopods, tr pellets, packstone to wackestone, tight, no shows.

Limestone: as above w/ gray barren to sli fossiliferous mudstone. Crinoids, tight no shows.

Shale: med gray w/ black organic flecks, some crinoid fragments, calcareous.

Limestone: tan, f-xln, fossiliferous, clean wackestone.

Shale: gray, fossil frags, calcareous.

Limestone: cream to tan to lt brown, sli fossiliferous, micro-xln mudstone, tight, no shows.

Shale: med gray w/ organic specks and mica laminations, tr fossils, soft, calc.

Limestone: tan to brown, bioclastic packstone, set in a vf-xln matrix. No shows.

Shale: med gray, thinly laminated, organic streaks, micaceous, calcareous. Tr pyrite laminations.

## Howard 3096 (-1075)

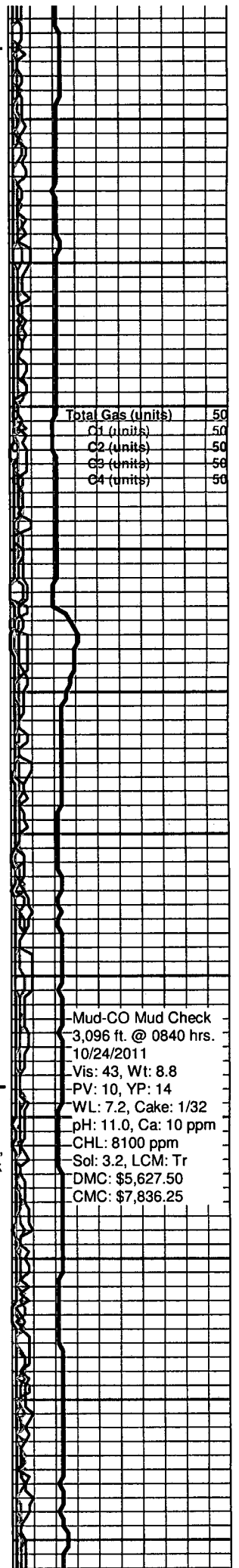
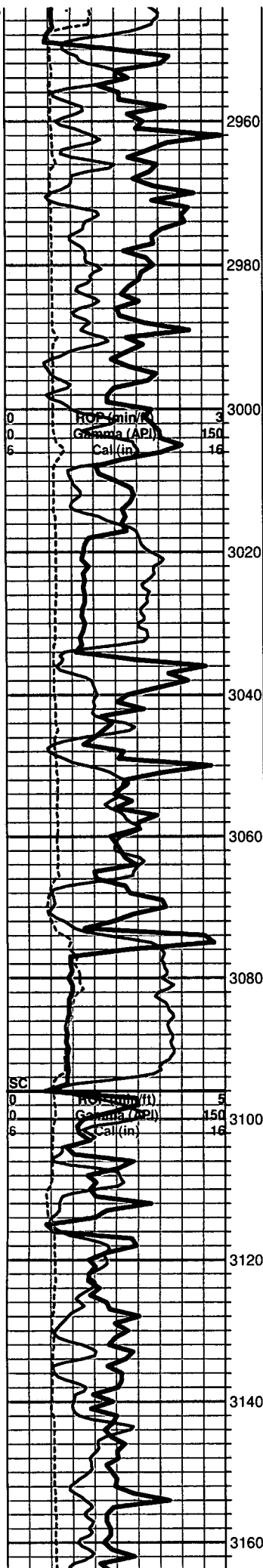
Limestone: gray and tan mottled, pelletal, fragmental fossils, fuss., brach., wackestone to packstone, generally tight w/o shows. Also tan ls, fossiliferous as above w/ crinoids and echinoid spines, packstone. Dark brown to gray, argillaceous, fossiliferous wackestone. Tr tan oolitic grainstone.

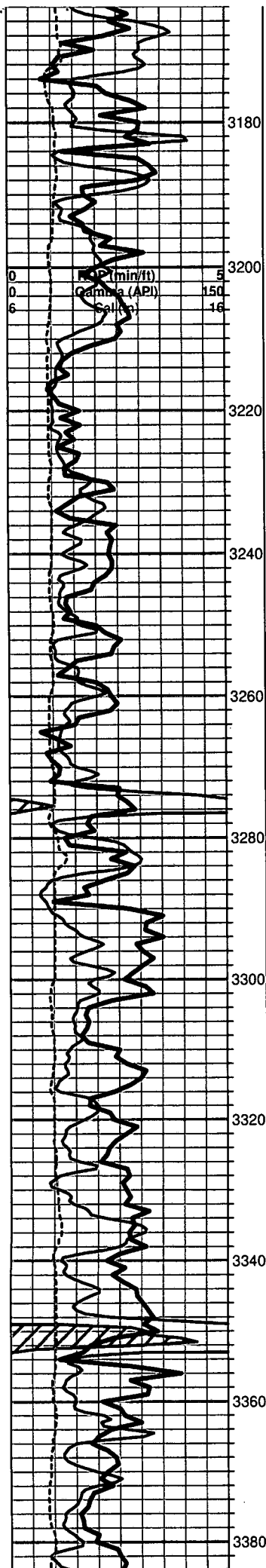
Limestone: cream to lt gray to tan, micro- to crypto-xln mudstone to micrite, tr fossiliferous, brach, fuss., tight, no shows. Tr sparry calcite.

Limestone as above w/ streaks of tan to lt brown bioclastic, f-xln packstone. No shows.

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

Mud-CO Mud Check  
 3,096 ft. @ 0840 hrs.  
 10/24/2011  
 Vis: 43, Wt: 8.8  
 PV: 10, YP: 14  
 WL: 7.2, Cake: 1/32  
 pH: 11.0, Ca: 10 ppm  
 CHL: 8100 ppm  
 Sol: 3.2, LCM: Tr  
 DMC: \$5,627.50  
 CMC: \$7,836.25





Shale, gray, calcareous.

**Topeka 3174 (-1153)**

Limestone: mottled tan and gray, mottled brown and tan, fossiliferous-fragmental, f-xln matrix, wackestone.  
 Ls: lt gray to tan to lt brown, micro- to crypto-xln, mudstone to micrite, rare fossil frags, tight, no shows.

Limestone: tan, bioclastic, fussulinids, brach, spicules, algal-coated pellets and fossil frags, pellets, few oolites, set in a f- to med-xln matrix w/ fair porosity, packstone, no shows. Tr gray, vitreous chert.

Limestone as above, some with dark, thin shale laminations, tr crinoids. Some lt gray mudstone.

Limestone: tan to lt brown, bioclastic, fussulinids, brach, spicules, tr oolites, f-xln matrix, poor porosity, packstone. Tr chert: lt gray to dark gray, vitreous, some frags are highly fossiliferous. No shows.

Limestone: tan to brown, bioclastic, f-xln matrix, wackestone to micro-xln mudstone, no shows.

**King Hill Shale 3274 (-1253)**

Shale: black, carbonaceous, dolomitic.

Limestone: cream to lt gray, micro- to crypto-xln mudstone, tr lithographic, stylolitic, pyritic, tr fossils. Also f- to med-xln, brown bioclastic, fussulinids, wackestone. Chert: dark gray to gray, some are fossil-bearing, vitreous.

Limestone: tan to lt brown, f-xln, sub-succrosic, sli fossil debris, wackestone, no shows. Chert as above.

**10' samples begin at 3320'**

Some gray chert is very fossiliferous, with fussulinids and pellets.

Limestone: cream to tan to lt brown, fussulinid-rich packstone w/ f-xln matrix, fossil frags, brach. Chert: lt gray with white fussulinids, vitreous.

Limestone: as above, but fossils are more mud-supported, wackestone.

**Queen Hill Shale 3350 (-1329)**

Shale: black, carbonaceous, dolomitic.

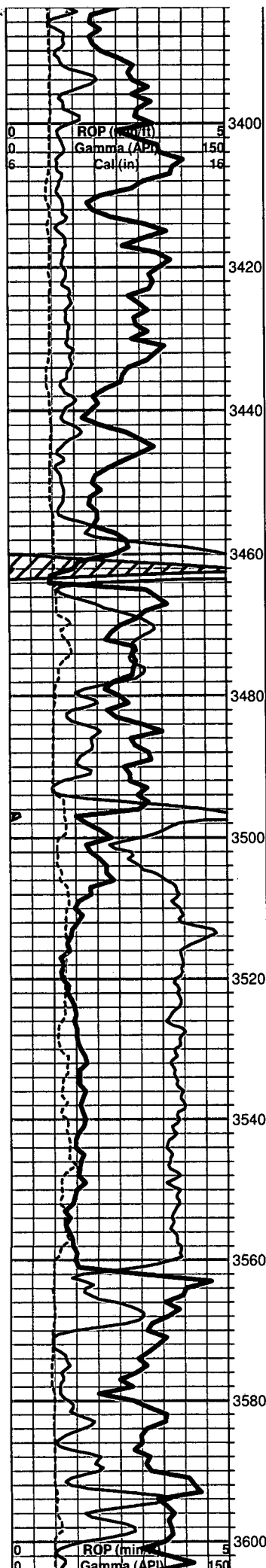
Limestone: tan, fossil debris, few identifiable fussulinids, set in a f- to med-gr matrix, packstone, no shows.

Limestone: tan, f- to micro-xln matrix, fossiliferous, gastropods, spicules, crinoids, free-floating oolites, fossil fraoments, wackestone.

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

3290' mud check:  
 Vis: 51, Wt: 9.0

Butane test.



...planes, shales, fine grained calc., fossil fragments, micrite, weak porosity, no shows.

Limestone: tan to lt gray, f- to med-xln matrix, fossil debris, fussulinids, brach frags, wackestone. No shows. Some lt gray mudstone.

Limestone: tan to brown, micro- to crypto-xln, random unidentifiable fossil frags, mudstone to micrite.

Tr shale stringers and stylolites.

Limestone: tan, fossiliferous, brach, fuss., crin., fenestrate bryozoans, set in f-xln matrix, packstone. No shows. Also micrite/mudstone as above.

Limestone: lt tan micrite.

Limestone: tan mudstone w/ very few fossil frags, stylolitic.

**Heebner Shale 3464 (-1443)**

Shale: black, organic, dolomitic.

Shale: lt gray to med gray, blocky to fissile, micaceous, calc., soft.

**Toronto 3481 (-1460)**

Limestone, cream to lt tan to tan, micro- to crypto-xln, random fragmented fossil debris, tr sparry calcite. No shows.

**Douglas 3496 (-1475)**

Shale: mixed colors, gray, lt gray, brown, maroon, calc to non-calc.

**Brown Lime 3562 (-1541)**

Limestone: tan to brown, crypto-xln micrite.

**Lansing 3572 (-1551)**

Limestone: cream to lt tan, vf-xln to med-xln, fossil fragments, fair porosity in the coarser frags, packstone to wackestone

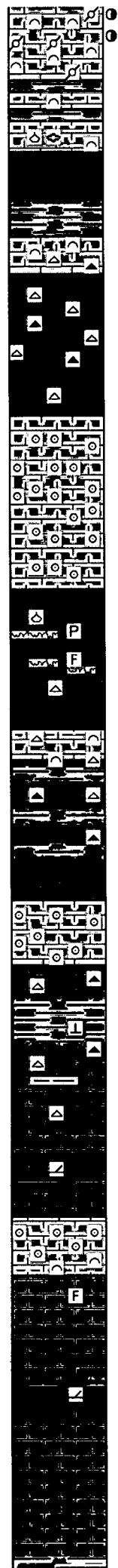
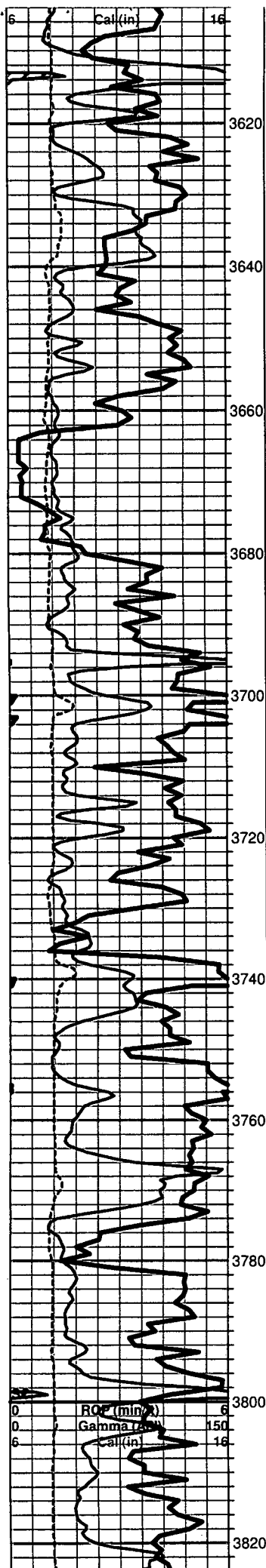
Limestone: cream to white, crypto-xln, pyritic micrite. Tight, no shows.

Limestone: micrite as above. Thin stringers of shale w/ pyritized bryozoans, brach.

Limestone: cream to lt tan, pelletal, fragmented fossils, f- to med-xln

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

Total Gas (units)	50
C1 (units)	50



matrix, packstone, weak porosity. One fragment had a spotty oil show in inter-xln porosity, disguised by mineral fluor, and cut slowly with a bright yellow color.

Limestone: Cream to tan, fragmented fossils, fussulinids, brach, packstone. One frag w/ spotty oil staining, dull yellow fluor, weak, slow cut, but live. Probably from above. Stringers of dark gray shale.

Shale: dark gray, calcareous, fissile.

Limestone: brown, pelletal, fossil debris, f-xln matrix, packstone. Tr black, fossiliferous, vitreous chert.

Limestone: lt gray to tan to cream, micro- to crypto-xln, sli fossiliferous, wackestone to mudstone. Tr lt gray to honey-colored vitreous chert, no shows.

Tr black chert.

Limestone: tan, oolitic grainstone w/ excellent oomoldic porosity, but no shows. Oolites are 0.3 - 0.5mm in diameter.

Limestone: oolitic grainstone w/ micritic matrix. Fewer oolites relative to matrix with depth, possibly even becoming entirely micrite w/ depth.

Limestone: cream to lt tan, sli fossiliferous, brach, fossil frags., vf- to micro-xln matrix, wackestone to mudstone. Tr pyrite. Styolitic mudstone. Chert: lt gray to honey-colored, vitreous, tr spicules.

Black shale, carbonaceous, dolomitic. **Muncie Creek.**

Limestone: tan, bioclastic packstone to wackestone to lithographic, styolitic mudstone.

Interlayered gray shale and white to lt tan mudstone. Chert: white to black, vitreous.

Limestone: cream to lt tan micrite.

Limestone: lt tan, oolitic grainstone, f- to med-xln matrix w/ fair inter-oolite porosity, no shows.

Limestone: cream to lt brown, generally micro- to crypto-xln, mudstone to lithographic micrite. Some fossil fragments yield wackestone. Chert: translucent white to tan to dark gray, vitreous.

Shale: gray, calcareous.

Limestone: cream to tan, crypto-xln micrite w/ some thin greenish-gray shale laminations. Some cream, micro-xln, sli fossiliferous mudstone, Chert as above.

### Stark Shale 3765 (-1744)

Shale: black, carbonaceous, dolomitic.

Limestone: cream to tan, oolitic grainstone w/ oomoldic porosity. Also med-xln, bioclastic grainstone w/ good inter-xln porosity, no shows.

Limestone: lt tan to lt gray, vf- to micro-xln matrix w/ a few fossil fragments, wackestone, tight, no shows.

Shale: black, carbonaceous, dolomitic.

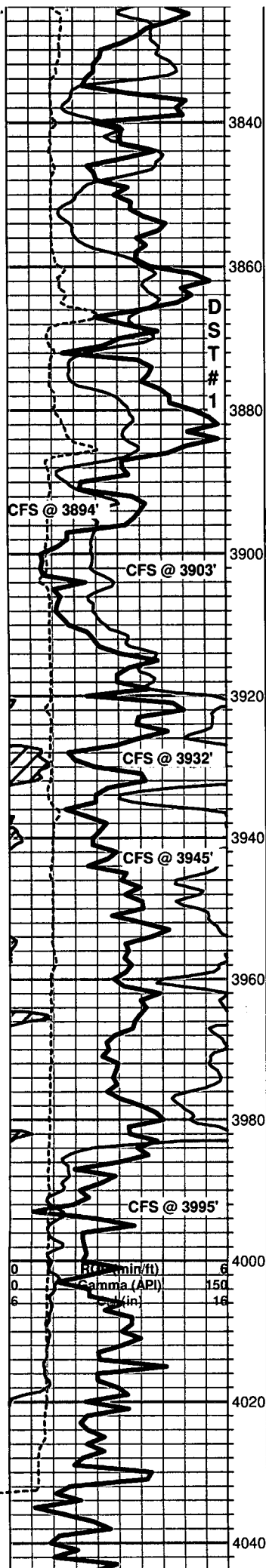
Limestone: cream to tan to lt gray, micro- to crypto-xln, rare fossil frags, mudstone to micrite.

C2 (units) 50  
C3 (units) 50  
C4 (units) 50

Mud-CO Mud Check  
3,634ft. @ 1010 hrs.  
10/25/2011  
Vis: 47, Wt: 9.2  
PV: 12, YP: 16  
WL: 10.8, Cake: 1/32  
pH: 10.5, Ca: 20 ppm  
CHL: 8600 ppm  
Sol: 6.0, LCM: Tr  
DMC: \$1,829.25  
CMC: \$9,665.50

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

### Base KC 3822 (-1801)



Shale: lt gray, greenish-gray w/ brown spots, occasional fossil frags., calc.

### Marmaton 3836 (-1815)

Limestone: white to cream, micro- to crypto-xln, mudstone to micrite.

Limestone: lt tan to lt gray, bioclastic, bryozoans, oolites, fossil frags., grainstone to packstone, fair inter-xln porosity, no shows.

Limestone: lt greenish-gray, vf-xln, mudstone, tight, no shows.

Shale: gray, calc, soft.

Limestone: tan to brown, f-xln, fossiliferous, fenestrate bryozoans, fussionilids, fossil debris, oolite layers laminated on micrite, packstone, no shows.

Limestone: tan, med-xln w/ good inter-xln porosity. A few fragments have live oil staining, good fluor, and good cut. Probably part of the Penn conglomerate.

Conglomerate: white, detrital chert fragments with dead to live oil staining on fractured surfaces and in secondary porosity. Also a few fragments of limestone w/ oil staining and weak cut. Vari-colored shale.

Conglomerate: mostly white to lt tan, detrital chert, parts of individual fragments are vitreous and parts are tripolitic and stained w/ black oil, seems dead, but has a slow cut.

Sample from 3925-3930' washes reddish-brown, but is filled w/ chert as above, as well as unstained, vitreous, tan-colored chert. This may indicate shaley conglomerate.

Shaley conglomerate, vari-colored shale: greenish-gray, brown, maroon, dark gray w/ rhombopora limbs, hematite oolites, green chert.

Free, individual sand grains in the bottom of the sample tray, sub-rounded, med- to crs-gr. Tr red, dirty immature, f-gr sandstone. Tr black sandstone (dead oil?)

60 min sample washes red: shaley conglomerate.

Shaley conglomerate w/ aqua green, soft shale.

Shaley conglomerate as above w/ f-gr sandstone: black to brown, well-sorted, gassy (seeping gas bubbles), quartzose, lt green clay inclusions/cement and laminations.

Vari-colored shaley conglomerate w/ sandstone as above. Some yellow ochre-colored shale.

Mud-CO Mud Check 3894ft. @ 0915 hrs. 10/26/2011  
 Vis: 49, Wt: 9.3  
 PV: 11, YP: 18  
 WL: 7.6, Cake: 1/32  
 pH: 10.0, Ca: 10 ppm  
 CHL: 8,600 ppm  
 Sol: 6.7, LCM: 0  
 DMC: \$2,314.65  
 CMC: \$11,980.15

Mud-CO Mud Check 3903ft. @ 0800 hrs. 10/27/2011  
 Vis: 53, Wt: 9.3  
 PV: 15, YP: 15  
 WL: 6.4, Cake: 1/32  
 pH: 10.0, Ca: 20 ppm  
 CHL: 7,800 ppm  
 Sol: 6.7, LCM: 0  
 DMC: \$1,335.30  
 CMC: \$13,315.45

### Arbuckle 3986 (-1965)

Dolomite: cream to lt tan, succrosic, 0.1-0.2mm rhombs, fair inter-xln porosity. No shows.

Dolomite: as above w/ tr pyrite.

Dolomite: as above w/ vuggular porosity, tr pyrite.

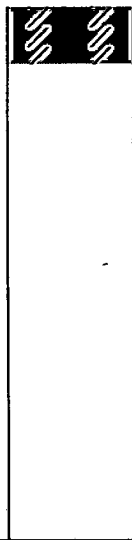
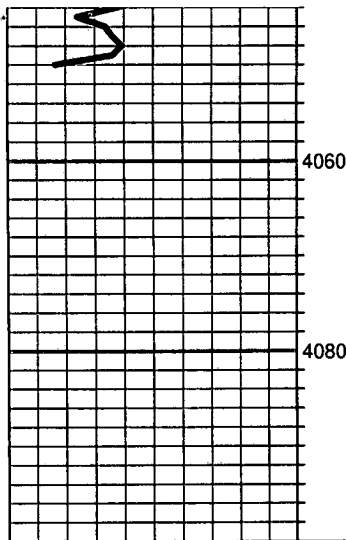
Dolomite as above w/ increasing porosity.

Vis 53, Wt 9.3

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

Deviation survey:

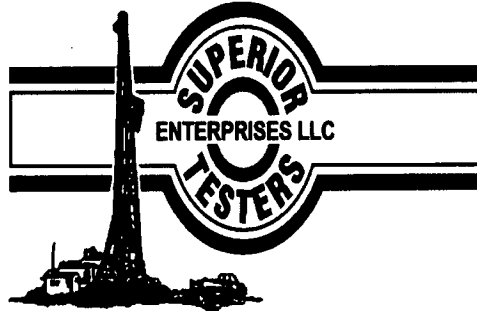




**RTD 4050**

**Rotary TD 4050', 0230 hrs, 10/28/2011  
Superior Well Services LTD 4050'  
Complete logging operations hrs. 10/28/2011  
Geologist Charlie Sturdavant off location  
@ hrs, 10/28/2011**

1-1/2 degrees	
	Mud-CO Mud Check
	4050ft. @ 0800 hrs.
	10/28/2011
	Vis: 68, Wt: 9.3
	PV: 18, YP: 25
	WL: 6.0, Cake: 1/32
	pH: 11.0, Ca: 20 ppm
	CHL: 7,200 ppm
	Sol: 6.7, LCM: 0
	DMC: \$931.65
	CMC: \$14,247.10



## DRILL STEM TEST REPORT

Prepared For: **Captiva 2**

2717 Canal Blvd. Hays  
Kansas 67601

ATTN: Charlie Sturdavant

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

**Eakin Unit 5-7**

Start Date: 2011.10.26 @ 10:36:00

End Date: 2011.10.26 @ 18:43:00

Job Ticket #: 17228                      DST #: 1

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

Printed: 2011.10.26 @ 20:30:07

Captiva 2    Eakin Unit 5-7    7-22s-16w -Pawnee    DST # 1    Conglomerate    2011.10.26



# DRILL STEM TEST REPORT

Captiva 2  
 2717 Canal Blvd. Hays  
 Kansas 67601  
 ATTN: Charlie Sturdavant

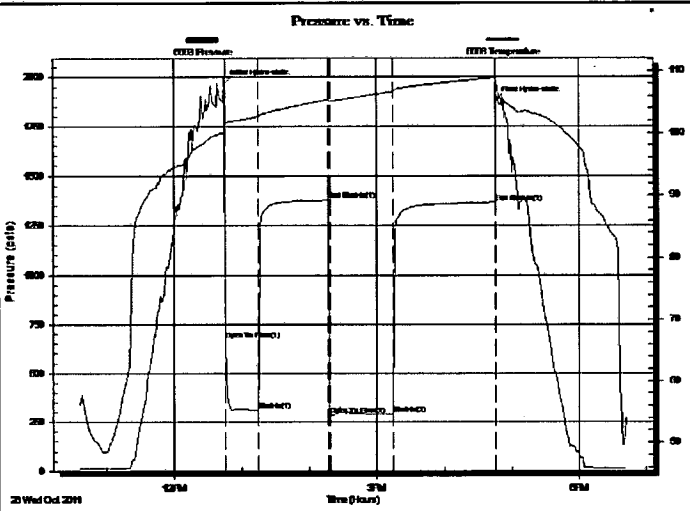
**Eakin Unit 5-7**  
**7-22s-16w -Pawnee**  
 Job Ticket: 17228      **DST#: 1**  
 Test Start: 2011.10.26 @ 10:36:00

## GENERAL INFORMATION:

Formation: **Conglomerate**  
 Deviated: No Whipstock: ft (KB)  
 Test Type: Conventional Bottom Hole (Initial)  
 Time Tool Opened: 12:45:30  
 Tester: Dustin Ellis  
 Time Test Ended: 18:43:00  
 Unit No: 3315-GB-55 miles  
 Interval: **3860.00 ft (KB) To 3894.00 ft (KB) (TVD)**  
 Reference Elevations: 2021.00 ft (KB)  
 Total Depth: 3894.00 ft (KB) (TVD)  
 2010.00 ft (CF)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 KB to GR/CF: 11.00 ft

**Serial #: 6663      Outside**  
 Press@RunDepth: 288.75 psia @ 3891.00 ft (KB)      Capacity: 5000.00 psia  
 Start Date: 2011.10.26      End Date: 2011.10.26      Last Calib.: 2011.10.26  
 Start Time: 10:37:00      End Time: 18:43:00      Time On Btm: 2011.10.26 @ 12:45:00  
 Time Off Btm: 2011.10.26 @ 16:46:00

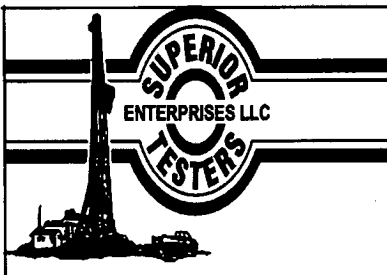
**TEST COMMENT:** 1st Open 30 minutes Strong blow built to bottom of bucket instantly  
 1st Shut in 60 minutes No blow back  
 2nd Open 60 minutes Strong blow built to bottom of bucket instantly  
 2nd Shut in 90 minutes No blow back



PRESSURE SUMMARY			
Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1966.14	101.05	Initial Hydro-static
1	671.03	101.38	Open To Flow (1)
30	311.15	102.65	Shut-in(1)
93	1377.14	105.40	End Shut-in(1)
95	285.47	105.14	Open To Flow (2)
150	288.75	106.69	Shut-in(2)
241	1366.89	108.94	End Shut-in(2)
241	1876.43	109.13	Final Hydro-static

Recovery		
Length (ft)	Description	Volume (bbl)
125.00	Drilling mud	0.61

Gas Rates			
	Choke (inches)	Pressure (psia)	Gas Rate (Mcf/d)
First Gas Rate	1.00	26.00	747.47
Last Gas Rate	1.00	23.00	661.22
Max. Gas Rate	1.00	26.00	747.47



# DRILL STEM TEST REPORT

Captiva 2  
 2717 Canal Blvd. Hays  
 Kansas 67601  
 ATTN: Charlie Sturdavant

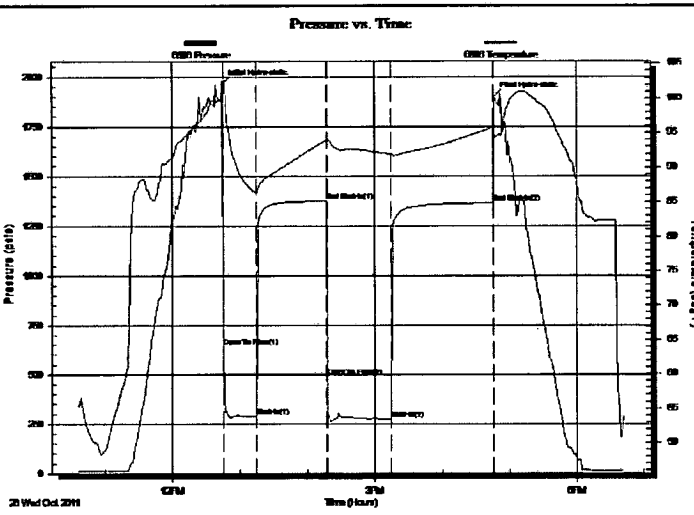
**Eakin Unit 5-7**  
**7-22s-16w -Pawnee**  
 Job Ticket: 17228 **DST#: 1**  
 Test Start: 2011.10.26 @ 10:36:00

## GENERAL INFORMATION:

Formation: **Conglomerate**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 12:45:30  
 Time Test Ended: 18:43:00  
 Interval: **3860.00 ft (KB) To 3894.00 ft (KB) (TVD)**  
 Total Depth: 3894.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Dustin Ellis  
 Unit No: 3315-GB-55 miles  
 Reference Elevations: 2021.00 ft (KB)  
 2010.00 ft (CF)  
 KB to GR/CF: 11.00 ft

**Serial #: 6806** **Inside**  
 Press@RunDepth: 1365.67 psia @ 3890.00 ft (KB) Capacity: 5000.00 psia  
 Start Date: 2011.10.26 End Date: 2011.10.26 Last Calib.: 2011.10.26  
 Start Time: 10:37:00 End Time: 18:43:00 Time On Btm: 2011.10.26 @ 12:45:00  
 Time Off Btm: 2011.10.26 @ 16:46:30

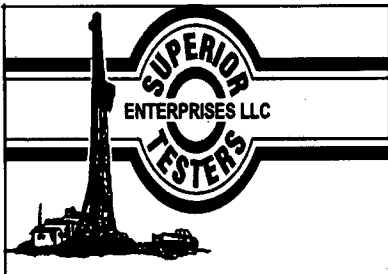
**TEST COMMENT:** 1st Open 30 minutes Strong blow built to bottom of bucket instantly  
 1st Shut in 60 minutes No blow back  
 2nd Open 60 minutes Strong blow built to bottom of bucket instantly  
 2nd Shut in 90 minutes No blow back



PRESSURE SUMMARY			
Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1963.45	99.82	Initial Hydro-static
1	641.39	99.84	Open To Flow (1)
30	287.63	86.31	Shut-in(1)
93	1375.89	93.99	End Shut-in(1)
93	488.09	93.78	Open To Flow (2)
150	273.32	91.89	Shut-in(2)
241	1365.67	95.81	End Shut-in(2)
242	1897.73	94.75	Final Hydro-static

Recovery		
Length (ft)	Description	Volume (bbl)
125.00	Drilling mud	0.61

Gas Rates			
	Choke (inches)	Pressure (psia)	Gas Rate (Mcf/d)
First Gas Rate	1.00	26.00	747.47
Last Gas Rate	1.00	23.00	661.22
Max. Gas Rate	1.00	26.00	747.47



# DRILL STEM TEST REPORT

TOOL DIAGRAM

Captiva 2  
 2717 Canal Blvd. Hays  
 Kansas 67601  
 ATTN: Charlie Sturdavant

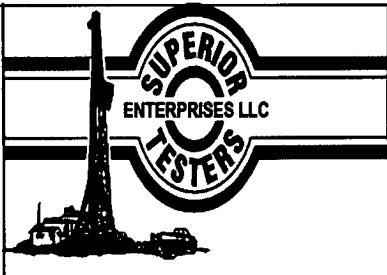
Eakin Unit 5-7  
 7-22s-16w -Pawnee  
 Job Ticket: 17228      DST#: 1  
 Test Start: 2011.10.26 @ 10:36:00

**Tool Information**

Drill Pipe:	Length: 3643.00 ft	Diameter: 3.80 inches	Volume: 51.10 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: 213.00 ft	Diameter: 2.25 inches	Volume: 1.05 bbl	Weight to Pull Loose: 72000.00 lb
			<u>Total Volume: 52.15 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	24.00 ft			String Weight: Initial 70000.00 lb
Depth to Top Packer:	3860.00 ft			Final 70000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	34.00 ft			
Tool Length:	62.00 ft			
Number of Packers:	2	Diameter: 6.25 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut-In Tool	5.00			3837.00	
Hydraulic Tool	5.00			3842.00	
Jars	6.00			3848.00	
Safety Joint	2.00			3850.00	
Packer	5.00			3855.00	28.00      Bottom Of Top Packer
Packer	5.00			3860.00	
Perforations	29.00			3889.00	
Recorder	1.00	6806	Inside	3890.00	
Recorder	1.00	6663	Outside	3891.00	
Bull Plug	3.00			3894.00	34.00      Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>62.00</b>				



# DRILL STEM TEST REPORT

## FLUID SUMMARY

<b>Captiva 2</b>	<b>Eakin Unit 5-7</b>
2717 Canal Blvd. Hays Kansas 67601	<b>7-22s-16w -Pawnee</b>
ATTN: Charlie Sturdavant	Job Ticket: 17228 <b>DST#: 1</b>
	Test Start: 2011.10.26 @ 10:36:00

### 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: 49.00 sec/qt	Cushion Volume: bbl		
Water Loss: 10.78 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psia		
Salinity: 8600.00 ppm			
Filter Cake: 1.00 inches			

### Recovery Information

Recovery Table

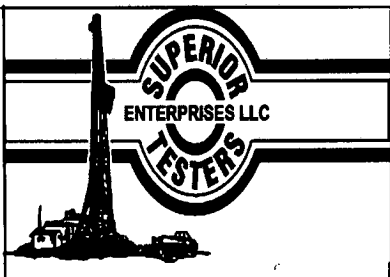
Length ft	Description	Volume bbl
125.00	Drilling mud	0.615

Total Length: 125.00 ft      Total Volume: 0.615 bbl

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

Laboratory Name:      Laboratory Location:

Recovery Comments:



# DRILL STEM TEST REPORT

**GAS RATES**

Captiva 2  
2717 Canal Blvd. Hays  
Kansas 67601  
  
ATTN: Charlie Sturdavant

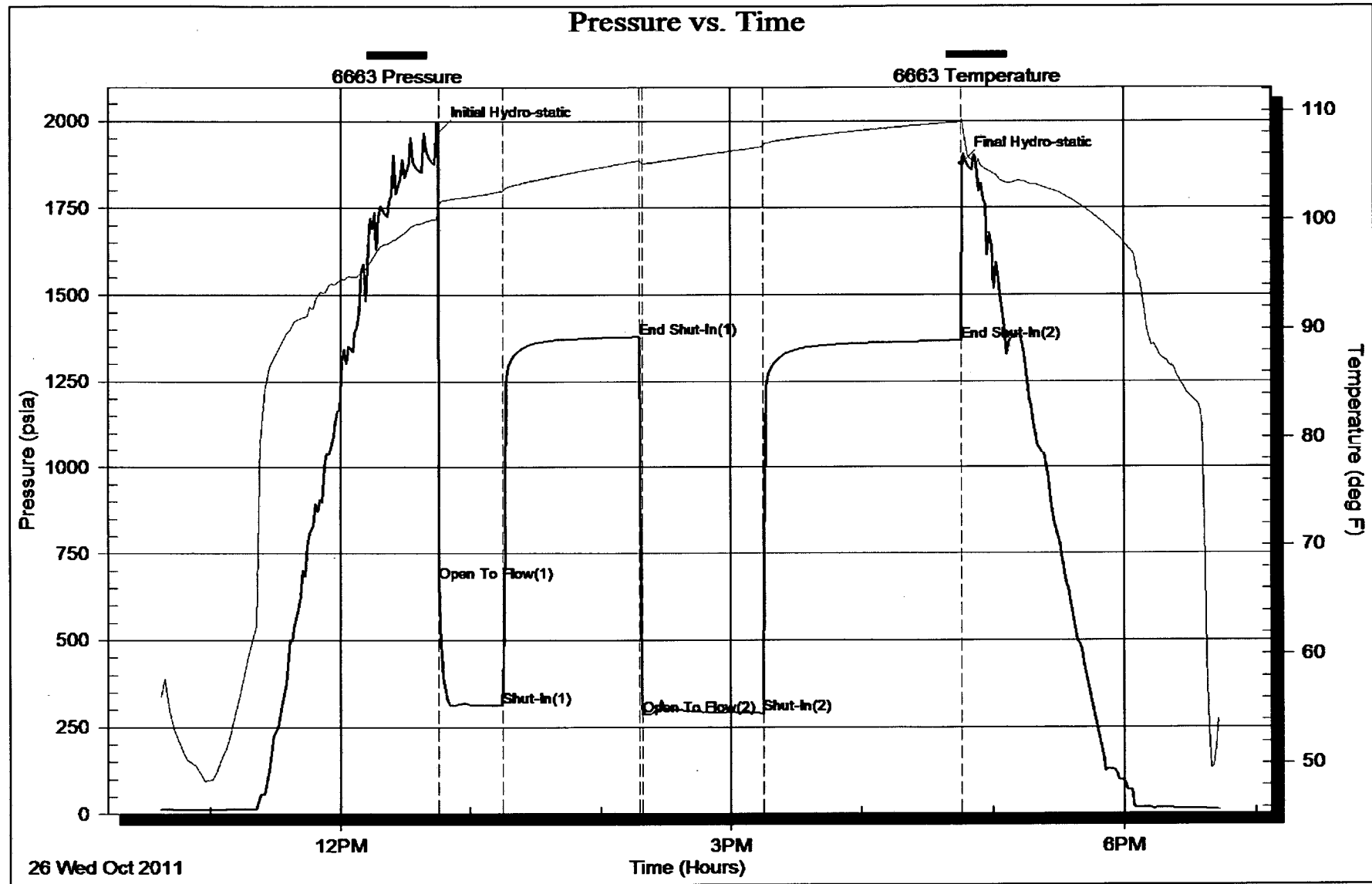
**Eakin Unit 5-7**  
**7-22s-16w -Pawnee**  
Job Ticket: 17228      **DST#: 1**  
Test Start: 2011.10.26 @ 10:36:00

## Gas Rates Information

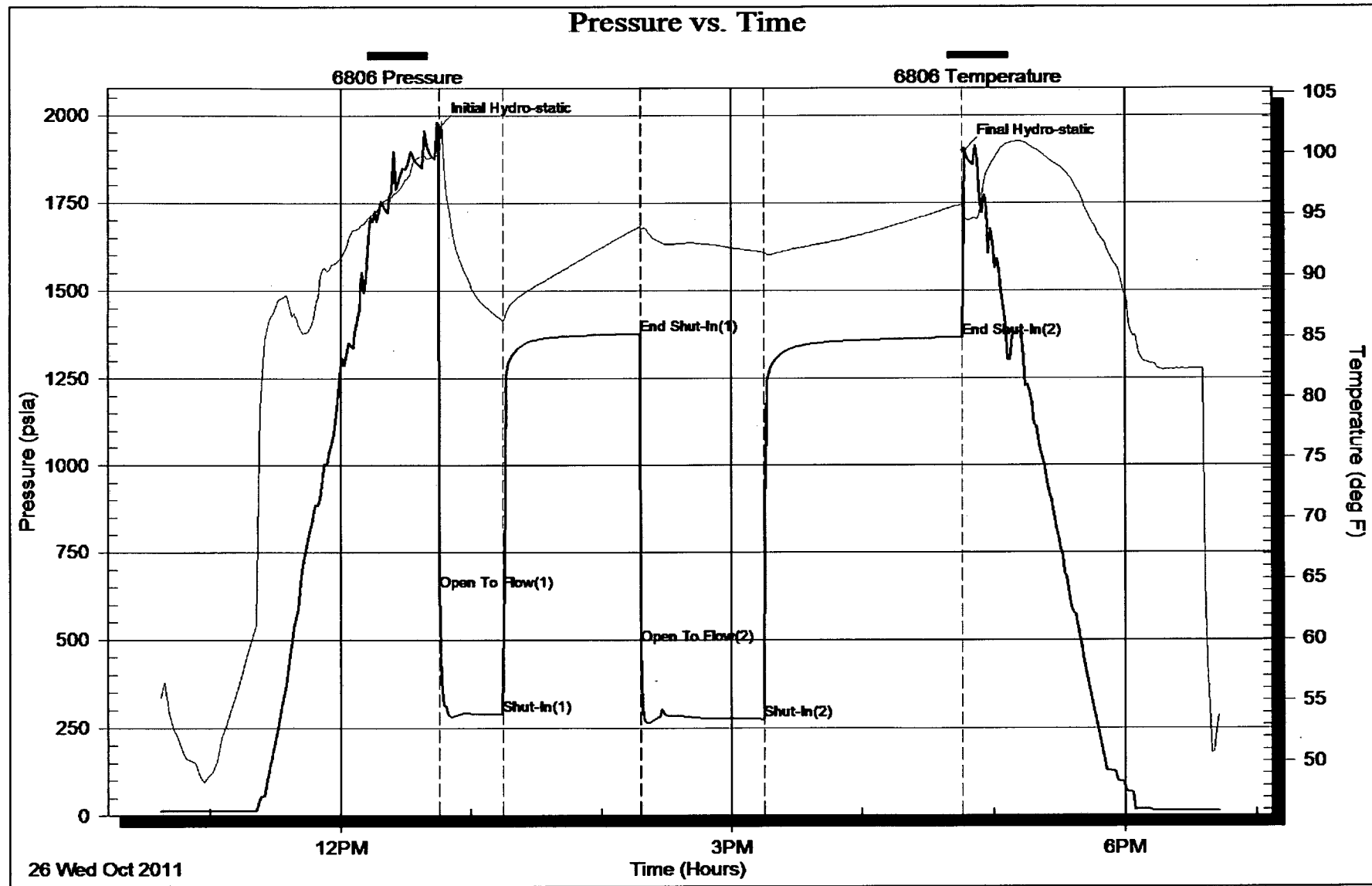
Temperature: 59 (deg F)  
Relative Density: 0.65  
Z Factor: 0.8

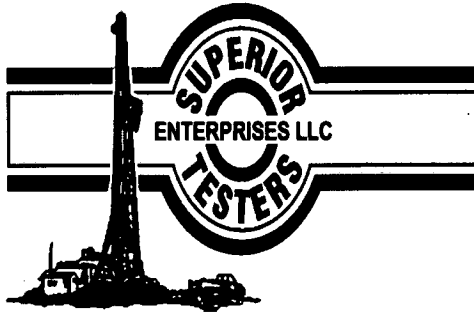
Gas Rates Table

Flow Period	Elapsed Time	Choke (inches)	Pressure (psia)	Gas Rate (Mcf/d)
1	10	1.00	26.00	747.47
2	20	1.00	23.00	661.22
3	30	1.00	23.00	661.22
4	40	1.00	23.00	661.22
5	50	1.00	23.00	661.22
6	60	1.00	23.00	661.22









## DRILL STEM TEST REPORT

Prepared For: **Captiva 2**

2717 Canal Blvd. Hays  
Kansas 67601

ATTN: Charlie Sturdavant

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

**Eakin Unit 5-7**

Start Date: 2011.10.27 @ 04:18:00

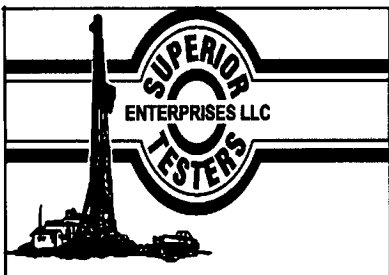
End Date: 2011.10.27 @ 11:53:30

Job Ticket #: 17229                      DST #: 2

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

Printed: 2011.10.27 @ 12:09:36

Captiva 2    Eakin Unit 5-7    7-22s-16w -Pawnee    DST # 2    Conglomerate    2011.10.27



# DRILL STEM TEST REPORT

Captiva 2  
 2717 Canal Blvd. Hays  
 Kansas 67601  
 ATTN: Charlie Sturdavant

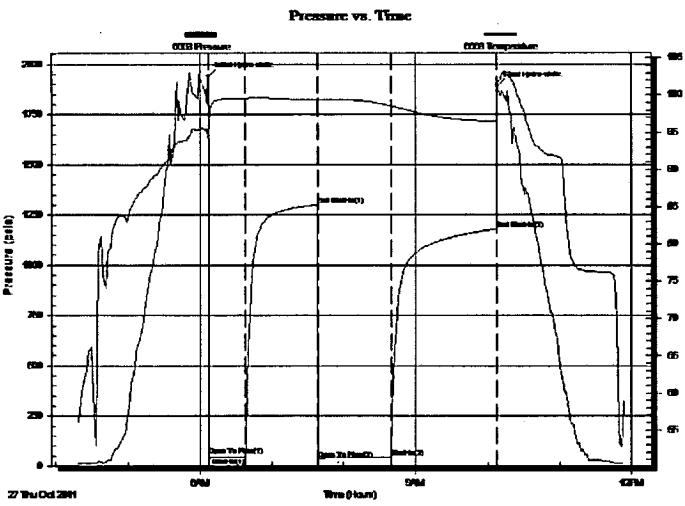
**Eakin Unit 5-7**  
**7-22s-16w -Pawnee**  
 Job Ticket: 17229      **DST#: 2**  
 Test Start: 2011.10.27 @ 04:18:00

## GENERAL INFORMATION:

Formation: **Conglomerate**  
 Deviated: No      Whipstock:      ft (KB)  
 Time Tool Opened: 06:07:30  
 Time Test Ended: 11:53:30  
 Interval: **3894.00 ft (KB) To 3903.00 ft (KB) (TVD)**  
 Total Depth: 3903.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches      Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Dustin Ellis  
 Unit No: 3315-GB-55  
 Reference Elevations: 2021.00 ft (KB)  
 2010.00 ft (CF)  
 KB to GR/CF: 11.00 ft

**Serial #: 6663      Outside**  
 Press@RunDepth: 42.50 psia @ 3900.00 ft (KB)      Capacity: 5000.00 psia  
 Start Date: 2011.10.27      End Date: 2011.10.27      Last Calib.: 2011.10.27  
 Start Time: 04:18:00      End Time: 11:53:30      Time On Btm: 2011.10.27 @ 06:07:00  
 Time Off Btm: 2011.10.27 @ 10:08:00

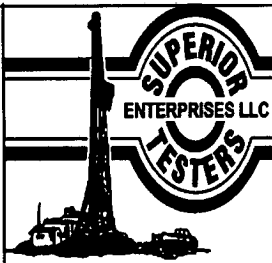
**TEST COMMENT:** 1st open 30 minutes Strong blow blew bottom of bucket instantly  
 1st shut in 60 minutes No blow  
 2nd open 60 minutes Strong blow blew bottom of bucket instantly  
 2nd shut in 90 minutes No blow



PRESSURE SUMMARY			
Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1942.26	94.12	Initial Hydro-static
1	53.39	95.79	Open To Flow (1)
31	43.69	99.47	Shut-In(1)
91	1299.21	99.39	End Shut-In(1)
92	33.95	99.67	Open To Flow (2)
153	42.50	98.54	Shut-In(2)
240	1180.08	96.56	End Shut-In(2)
241	1893.13	101.33	Final Hydro-static

Recovery		
Length (ft)	Description	Volume (bbl)
56.00	Mud 100%	0.28

Gas Rates			
	Choke (inches)	Pressure (psia)	Gas Rate (Mcf/d)
First Gas Rate	1.00	3.00	86.25
Last Gas Rate	0.75	3.00	46.86
Max. Gas Rate	0.75	4.00	62.48



# DRILL STEM TEST REPORT

Captiva 2  
 2717 Canal Blvd. Hays  
 Kansas 67601  
 ATTN: Charlie Sturdavant

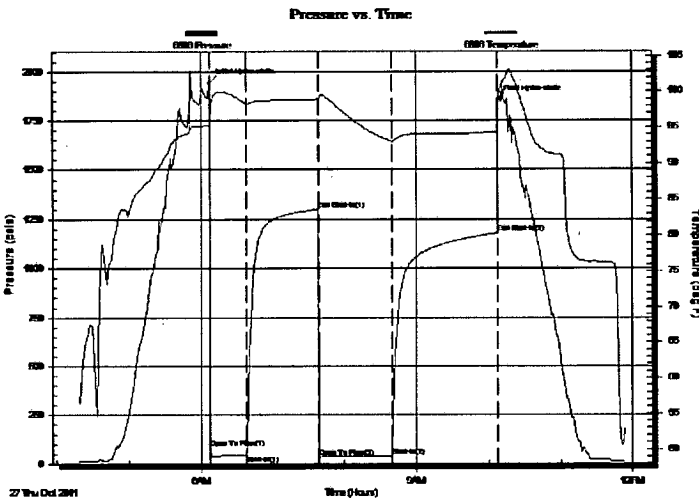
**Eakin Unit 5-7**  
**7-22s-16w -Pawnee**  
 Job Ticket: 17229 **DST#: 2**  
 Test Start: 2011.10.27 @ 04:18:00

## GENERAL INFORMATION:

Formation: **Conglomerate**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 06:07:30  
 Time Test Ended: 11:53:30  
 Interval: **3894.00 ft (KB) To 3903.00 ft (KB) (TVD)**  
 Total Depth: 3903.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Dustin Ellis  
 Unit No: 3315-GB-55  
 Reference Elevations: 2021.00 ft (KB)  
 2010.00 ft (CF)  
 KB to GR/CF: 11.00 ft

**Serial #: 6806** **Inside**  
 Press@RunDepth: 1179.25 psia @ 3899.00 ft (KB) Capacity: 5000.00 psia  
 Start Date: 2011.10.27 End Date: 2011.10.27 Last Calib.: 2011.10.27  
 Start Time: 04:18:00 End Time: 11:53:30 Time On Btm: 2011.10.27 @ 06:07:00  
 Time Off Btm: 2011.10.27 @ 10:07:30

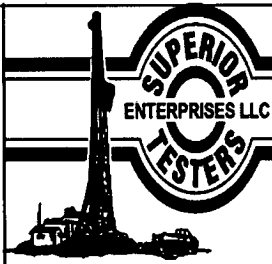
**TEST COMMENT:** 1st open 30 minutes Strong blow blew bottom of bucket instantly  
 1st shut in 60 minutes No blow  
 2nd open 60 minutes Strong blow blew bottom of bucket instantly  
 2nd shut in 90 minutes No blow



PRESSURE SUMMARY			
Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1942.68	95.25	Initial Hydro-static
1	83.89	95.09	Open To Flow (1)
31	41.88	98.28	Shut-In(1)
91	1299.57	98.89	End Shut-In(1)
92	35.20	98.85	Open To Flow (2)
153	40.65	93.03	Shut-In(2)
240	1179.25	94.42	End Shut-In(2)
241	1856.52	95.08	Final Hydro-static

Recovery		
Length (ft)	Description	Volume (bbl)
56.00	Mud 100%	0.28

Gas Rates			
	Choke (inches)	Pressure (psia)	Gas Rate (Mcf/d)
First Gas Rate	1.00	3.00	86.25
Last Gas Rate	0.75	3.00	46.86
Max. Gas Rate	0.75	4.00	62.48



# DRILL STEM TEST REPORT

TOOL DIAGRAM

Captiva 2  
 2717 Canal Blvd. Hays  
 Kansas 67601  
 ATTN: Charlie Sturdavant

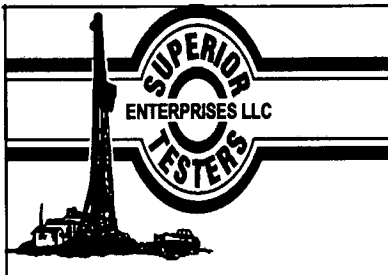
**Eakin Unit 5-7**  
**7-22s-16w -Pawnee**  
 Job Ticket: 17229      **DST#: 2**  
 Test Start: 2011.10.27 @ 04:18:00

### Tool Information

Drill Pipe:	Length: 3672.00 ft	Diameter: 3.80 inches	Volume: 51.51 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: 213.00 ft	Diameter: 2.25 inches	Volume: 1.05 bbl	Weight to Pull Loose:	72000.00 lb
			<u>Total Volume: 52.56 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	19.00 ft			String Weight: Initial	70000.00 lb
Depth to Top Packer:	3894.00 ft			Final	70000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	9.00 ft				
Tool Length:	37.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut-In Tool	5.00			3871.00	
Hydraulic Tool	5.00			3876.00	
Jars	6.00			3882.00	
Safety Joint	2.00			3884.00	
Packer	5.00			3889.00	28.00      Bottom Of Top Packer
Packer	5.00			3894.00	
Perforations	4.00			3898.00	
Recorder	1.00	6806	Inside	3899.00	
Recorder	1.00	6663	Outside	3900.00	
Bull Plug	3.00			3903.00	9.00      Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>37.00</b>				



# DRILL STEM TEST REPORT

## FLUID SUMMARY

Captiva 2  
 2717 Canal Blvd. Hays  
 Kansas 67601  
 ATTN: Charlie Sturdavant

**Eakin Unit 5-7**  
**7-22s-16w -Pawnee**  
 Job Ticket: 17229      **DST#: 2**  
 Test Start: 2011.10.27 @ 04:18:00

### Mud and Cushion Information

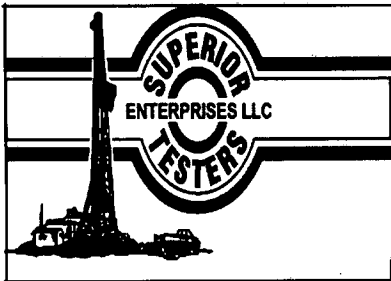
Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 49.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.60 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psia		
Salinity: 8600.00 ppm			
Filter Cake: 1.00 inches			

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
56.00	Mud 100%	0.275

Total Length: 56.00 ft      Total Volume: 0.275 bbl  
 Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
 Laboratory Name:      Laboratory Location:  
 Recovery Comments:



# DRILL STEM TEST REPORT

**GAS RATES**

Captiva 2  
2717 Canal Blvd. Hays  
Kansas 67601  
ATTN: Charlie Sturdavant

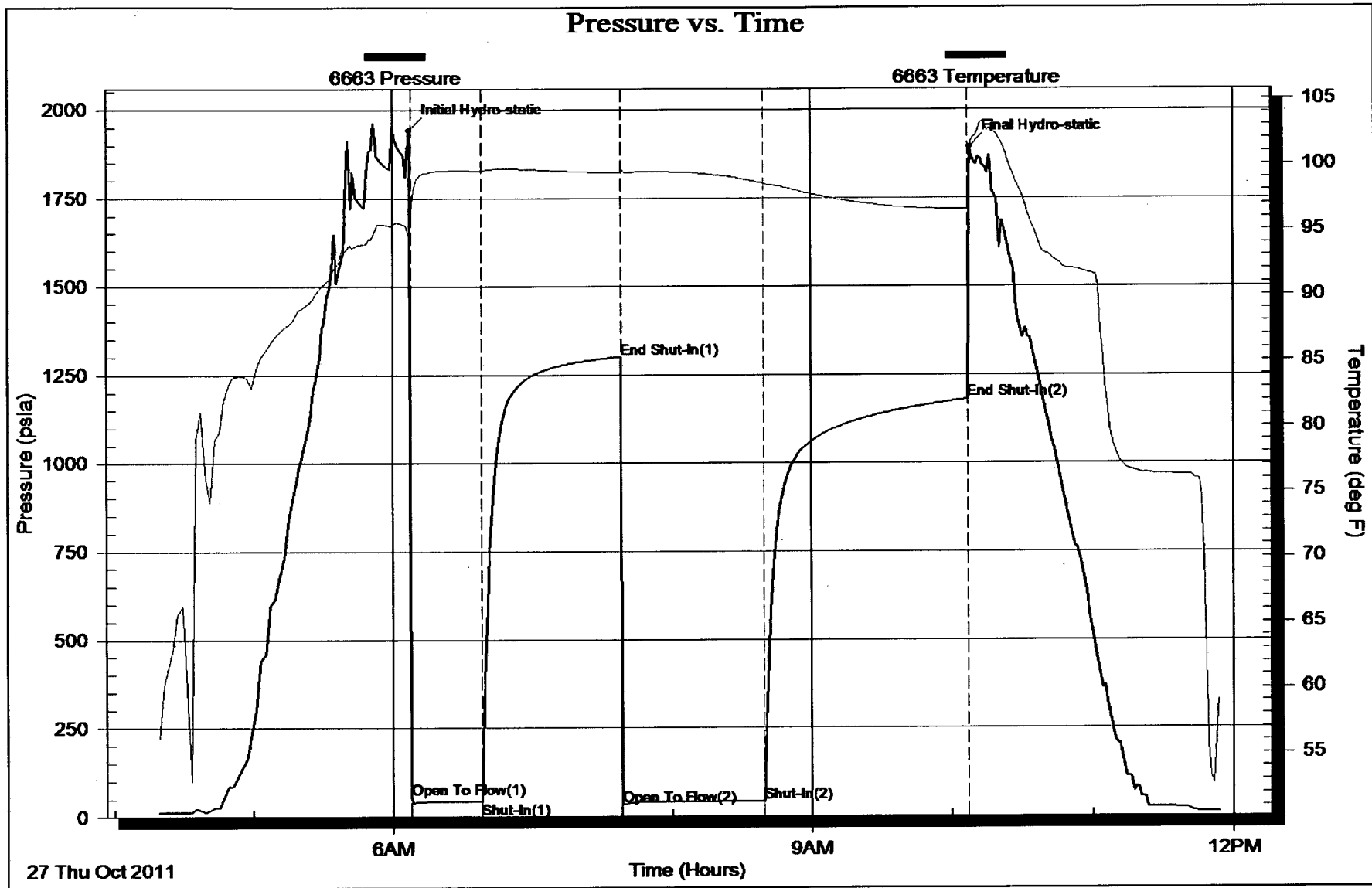
**Eakin Unit 5-7**  
**7-22s-16w -Pawnee**  
Job Ticket: 17229      **DST#: 2**  
Test Start: 2011.10.27 @ 04:18:00

## Gas Rates Information

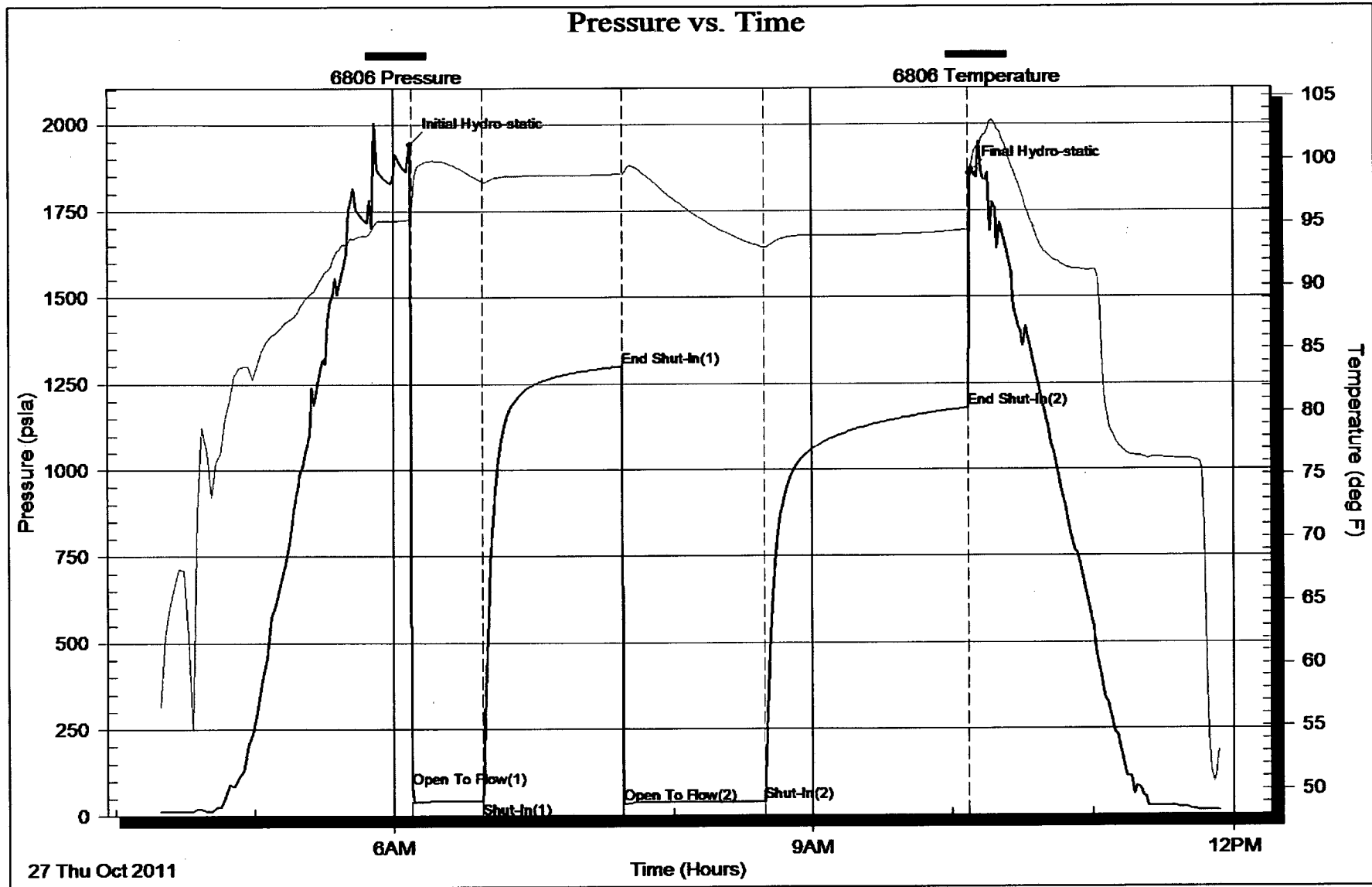
Temperature: 59 (deg F)  
Relative Density: 0.65  
Z Factor: 0.8

Gas Rates Table

Flow Period	Elapsed Time	Choke (inches)	Pressure (psia)	Gas Rate (Mcf/d)
1	10	1.00	3.00	86.25
2	20	0.75	4.00	62.48
3	30	0.75	3.00	46.86
4	40	0.75	3.00	46.86
5	50	0.75	3.00	46.86







NATURAL GAS ANALYSIS REPORT

Sampled by:  
 Superior Testers Interprises, Inc.  
 1309 Patton Rd.  
 Great Bend, Kansas 67530  
 Phone: 800-792-6902  
 Fax: 620-792-6902

Analyzed by:  
 Caraway Analytical, Inc  
 P. O. Box 2137  
 Liberal, Kansas 67905  
 Phone: 620-624-5389  
 Fax: 620-626-7108

-----  
 Lab Number: 20113654 Analyzed: 11/01/11  
 Sample From: EAKIN UNIT 5-7 Pressure:  
 Producer: CAPTIVA ENERGY II Temperature:  
 Date: 10/26/11 Location: 7-22-16  
 Received: 10/31/11 County: PAWNEE  
 Sampler: GENE State:  
 Source: Formation: CONGLOMERA  
 -----

	Mole %	GPM
Helium	He: 2.859	0.000
Hydrogen	H2: 0.000	0.000
Oxygen	O2: 0.000	0.000
Nitrogen	N2: 28.471	0.000
Carbon Dioxide	CO2: 0.245	0.000
Methane	C1: 60.443	0.000
Ethane	C2: 3.991	1.067
Propane	C3: 1.830	0.504
Iso Butane	iC4: 0.490	0.160
Normal Butane	nC4: 0.825	0.260
Iso Pentane	iC5: 0.223	0.082
Normal Pentane	nC5: 0.297	0.108
Hexanes Plus	C6+: 0.326	0.142

TOTAL: 100.000 2.323  
 Z Fact: 0.9983  
 SP.GR.: 0.7386  
 BTU (SAT): 796.7 @ 14.73 psia  
 BTU (DRY): 810.8 @ 14.73 psia  
 OCTANE RATING: 86.1

-----  
 COMMENTS: From 3860 0.000  
 To 3894