



KANSAS CORPORATION COMMISSION 1075476  
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 # 33629  
Name: Great Plains Energy, Inc.  
Address 1: 6121 S 58th ST, STE B  
Address 2: \_\_\_\_\_  
City: LINCOLN State: NE Zip: 68516 + \_\_\_\_\_  
Contact Person: Dan Blankenau  
Phone: (402) 443-6125  
CONTRACTOR: License # 33575  
Name: WW Drilling, LLC  
Wellsite Geologist: Richard Bell  
Purchaser: MV Purchasing

Designate Type of Completion:  
 New Well     Re-Entry     Workover  
 Oil     WSW     SWD     SLOW  
 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 #: \_\_\_\_\_  
07/18/2011    07/24/2011    08/23/2011  
Spud Date or    Date Reached TD    Completion Date or  
Recompletion Date       Recompletion Date

API No. 15 - 15-137-20573-00-00  
Spot Description: \_\_\_\_\_  
NW SE SE NE Sec. 32 Twp. 2 S. R. 23  East  West  
2010 Feet from  North /  South Line of Section  
350 Feet from  East /  West Line of Section  
Footages Calculated from Nearest Outside Section Corner:  
 NE     NW     SE     SW  
County: Norton  
Lease Name: Moffet Well #: 1-32  
Field Name: \_\_\_\_\_  
Producing Formation: Lansing-Kansas City  
Elevation: Ground: 2305 Kelly Bushing: 2310  
Total Depth: 3640 Plug Back Total Depth: \_\_\_\_\_  
Amount of Surface Pipe Set and Cemented at: 219 Feet  
Multiple Stage Cementing Collar Used?  Yes  No  
If yes, show depth set: 1869 Feet  
If Alternate II completion, cement circulated from: 3640  
feet depth to: 0 w/ 325 sx cmt.

**Drilling Fluid Management Plan**  
(Data must be collected from the Reserve Pit)  
Chloride content: 2000 ppm Fluid volume: 800 bbls  
Dewatering method used: Evaporated  
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: Deanna Gambor Date: 03/01/2012



1075476

Operator Name: Great Plains Energy, Inc. Lease Name: Moffet Well #: 1-32  
 Sec. 32 Twp. 2 S. R. 23  East  West County: Norton

**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  Yes  No  
 (Attach Additional Sheets)

Samples Sent to Geological Survey  Yes  No

Cores Taken  Yes  No

Electric Log Run  Yes  No

Electric Log Submitted Electronically  Yes  No  
 (If no. Submit Copy)

List All E. Logs Run:

**Attached**

Log Formation (Top), Depth and Datum  Sample  
 Name Top Datum  
 Attached Attached Attached

CASING RECORD  New  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	12.75	8.6250	23	219	Common	160	3%cc, 2% gel
Production	8.75	5.5	15.5	3640	ASC	185	3%cc, 2% gel

ADDITIONAL CEMENTING / SQUEEZE RECORD

Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
<input type="checkbox"/> Perforate <input checked="" type="checkbox"/> Protect Casing <input type="checkbox"/> Plug Back TD <input type="checkbox"/> Plug Off Zone	0-1869	Lite	140	3%cc, 2% gel
	-			

Shots Per Foot	PERFORATION RECORD - Bridge Plugs Set/Type Specify Footage of Each Interval Perforated	Acid, Fracture, Shot, Cement Squeeze Record (Amount and Kind of Material Used)	Depth
4	3391-3395	250 gal MCA, 1250 gal 15% NE	

TUBING RECORD: Size: <u>2.3750</u> Set At: <u>3500</u> Packer At: <u>N/A</u>		Liner Run: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Date of First, Resumed Production, SWD or ENHR. <u>09/20/2011</u>		Producing Method: <input type="checkbox"/> Flowing <input checked="" type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other (Explain) _____	
Estimated Production Per 24 Hours	Oil Bbls. <u>80</u>	Gas Mcf <u>2</u>	Water Bbls. <u>2</u>
		Gas-Oil Ratio	Gravity

DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease (If vented, Submit ACO-18.)	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input checked="" type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled (Submit ACO-5) (Submit ACO-4) <input type="checkbox"/> Other (Specify) _____	PRODUCTION INTERVAL: <u>3391-3395</u>
--	--	--

Form	ACO1 - Well Completion
Operator	Great Plains Energy, Inc.
Well Name	Moffet 1-32
Doc ID	1075476

All Electric Logs Run

Compensated Density
Dual Induction
Micro
Sonic

Form	ACO1 - Well Completion
Operator	Great Plains Energy, Inc.
Well Name	Moffet 1-32
Doc ID	1075476

Tops

Anhydrite	1876	+434
Base	1906	+404
Topeka	3130	-820
Heebner	3313	-1003
Toronto	3342	-1032
Lansing	3356	-1046
BKC	3536	-1226
Arbuckle	3573	-1263
Granite	3585	-1275



---

**GREAT PLAINS ENERGY, INC.**  
**Box 292**  
**Wahoo, NE 68066**

---

**MOFFET #1-32**  
**Sec 32, Twp 02S, R 23W**  
**Norton Co., KS**

**Pipe Set**

*Prepared for:* Dan Blankenau

07/28/11

*Prepared by:*  
X-Hand Engineering, Inc.  
Harold Bellerive  
1269 F. Road  
Morland, KS 67650  
(785-627-4531)

GREAT PLAINS ENERGY, INC.

Moffet #1-32

July 24, 2011

Anhy. 1876'-1906'

Ran joints #3 as shoe joint (42.58'), joints #4 through joint #11, joint #2, joints #12 through joint #43 (D.V. tool on top of joint) then joints #44 through joint #87. Joint #1 is out (20.40'). Pipe set at 3637'. Centralizers on joints #4, #5, #6, #7, #8, #9, #11, #12, #13 and #42. Baskets put on joints #14 and #43.

Total 5½", 15.5#	3,629.10'
Float Equipment	3.00'
Landing Joint	<u>8.00'</u>
Total	3,640.10'

7:00 p.m. Started in hole with pipe.

9:15 p.m. Tagged up. Broke circulation.

10:15 p.m. Viscosity down to 37.

10:20 p.m. Pumped mud-flush.

10:25 p.m. Started mixing cement.

10:40 p.m. Done mixing. Washed up. Started displacement—60 bbls @ 250#, 65 bbls @ 300#, 70 bbls @ 350#, 75 bbls @ 450#, 80 bbls @ 525# and 85 bbls @ 600#.

11:00 p.m. Landed plug @ 85.6 bbls with 1300#. Dropped D.V. opener.

11:30 p.m. Opened D.V.

GREAT PLAINS ENERGY, INC.

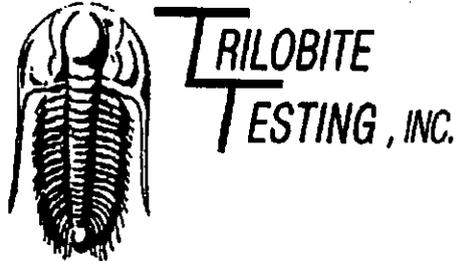
Moffet #1-32

July 25, 2011

2:35 a.m. Plugged rat-hole with 30 sacks. Started mixing cement.

3:05 a.m. Done mixing. Started displacement—20 bbls @ 550#, 25 bbls @ 600#, 30 bbls @ 625#, 35 bbls @ 650#, 40 bbls @ 675# and 45 bbls @ 675#.

3:17 a.m. Landed plug at 46 bbls with 1700#.



## DRILL STEM TEST REPORT

Prepared For: **Great Plains Energy**

6121 South 58th street Ste. B  
Lincoln, NE 68516

ATTN: Rich Bell

**32 2 23w Norton,KS**

**Moffet #1-32**

Start Date: 2011.07.21 @ 20:30:00

End Date: 2011.07.22 @ 02:40:30

Job Ticket #: 43717                      DST #: 1

TriLOBITE Testing, Inc  
PO Box 1733 Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2011.08.02 @ 13:45:43 Page 1

Great Plains Energy

Moffet #1-32

32 2 23w Norton,KS

DST # 1

Toronto, LKC-A

2011.07.21



**TRILOBITE  
TESTING, INC**

## DRILL STEM TEST REPORT

Great Plains Energy  
6121 South 58th street Ste. B  
Lincoln, NE 68516  
ATTN: Rich Bell

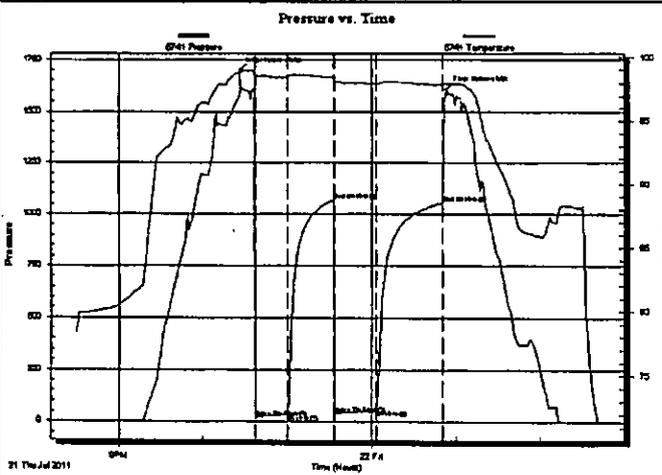
Moffet #1-32  
32 2 23w Norton, KS  
Job Ticket: 43717 DST#: 1  
Test Start: 2011.07.21 @ 20:30:00

### GENERAL INFORMATION:

Formation: **Toronto, LKC-A**  
 Deviated: **No Whipstock** ft (KB)  
 Test Type: **Conventional Bottom Hole**  
 Time Tool Opened: **22:37:00**  
 Tester: **Chuck Kreuzer Jr.**  
 Time Test Ended: **02:40:30**  
 Unit No: **36**  
 Interval: **3312.00 ft (KB) To 3368.00 ft (KB) (TVD)**  
 Reference Elevations: **2310.00 ft (KB)**  
 Total Depth: **3368.00 ft (KB) (TVD)**  
**2305.00 ft (CF)**  
 Hole Diameter: **7.88 inches** Hole Condition: **Fair**  
 KB to GR/CF: **5.00 ft**

**Serial #: 6741** **Outside**  
 Press@RunDepth: **56.67 psig @ 3313.00 ft (KB)** Capacity: **8000.00 psig**  
 Start Date: **2011.07.21** End Date: **2011.07.22** Last Calib.: **2011.07.22**  
 Start Time: **20:30:05** End Time: **02:40:29** Time On Btm: **2011.07.21 @ 22:26:00**  
 Time Off Btm: **2011.07.22 @ 00:53:30**

**TEST COMMENT:** IF: Weak blow, Died in 15 mins.  
 IS: No blow back  
 FF: No blow  
 FS: No blow back



### PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1696.97	98.88	Initial Hydro-static
11	18.76	98.02	Open To Flow (1)
34	36.73	98.45	Shut-In(1)
67	1066.93	98.40	End Shut-In(1)
67	39.01	98.11	Open To Flow (2)
98	56.67	97.92	Shut-In(2)
145	1053.84	97.86	End Shut-In(2)
148	1606.62	97.97	Final Hydro-static

### Recovery

Length (ft)	Description	Volume (bbl)
65.00	mud-100%	0.32

### Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcfd)



**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Great Plains Energy

Moffet #1-32

6121 South 58th street Ste. B  
Lincoln, NE 68516

32 2 23w Norton,KS

Job Ticket: 43717

DST#: 1

ATTN: Rich Bell

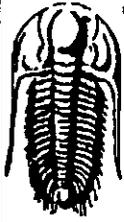
Test Start: 2011.07.21 @ 20:30:00

### Tool Information

Drill Pipe:	Length: 3194.00 ft	Diameter: 3.80 inches	Volume: 44.80 bbl	Tool Weight: 2600.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 120.00 ft	Diameter: 2.25 inches	Volume: 0.59 bbl	Weight to Pull Loose: 35000.00 lb
			<u>Total Volume: 45.39 bbl</u>	Tool Chased 2.00 ft
Drill Pipe Above KB:	30.00 ft			String Weight: Initial 32000.00 lb
Depth to Top Packer:	3312.00 ft			Final 32000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	56.00 ft			
Tool Length:	84.00 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			3289.00	
Hydraulic tool	5.00			3294.00	
Jars	5.00			3299.00	
Safety Joint	3.00			3302.00	
Packer	5.00			3307.00	28.00 Bottom Of Top Packer
Packer	5.00			3312.00	
Stubb	1.00			3313.00	
Recorder	0.00	6752	Inside	3313.00	
Recorder	0.00	6741	Outside	3313.00	
Perforations	4.00			3317.00	
Change Over Sub	0.50			3317.50	
Blank Spacing	32.00			3349.50	
Change Over Sub	0.50			3350.00	
Perforations	15.00			3365.00	
Bullnose	3.00			3368.00	56.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>84.00</b>				



**TRILOBITE  
TESTING, INC**

**DRILL STEM TEST REPORT**

**FLUID SUMMARY**

Great Plains Energy  
6121 South 58th street Ste. B  
Lincoln, NE 68516  
ATTN: Rich Bell

Moffet #1-32  
32 2 23w Norton,KS  
Job Ticket: 43717      DST#: 1  
Test Start: 2011.07.21 @ 20:30:00

**Mud and Cushion Information**

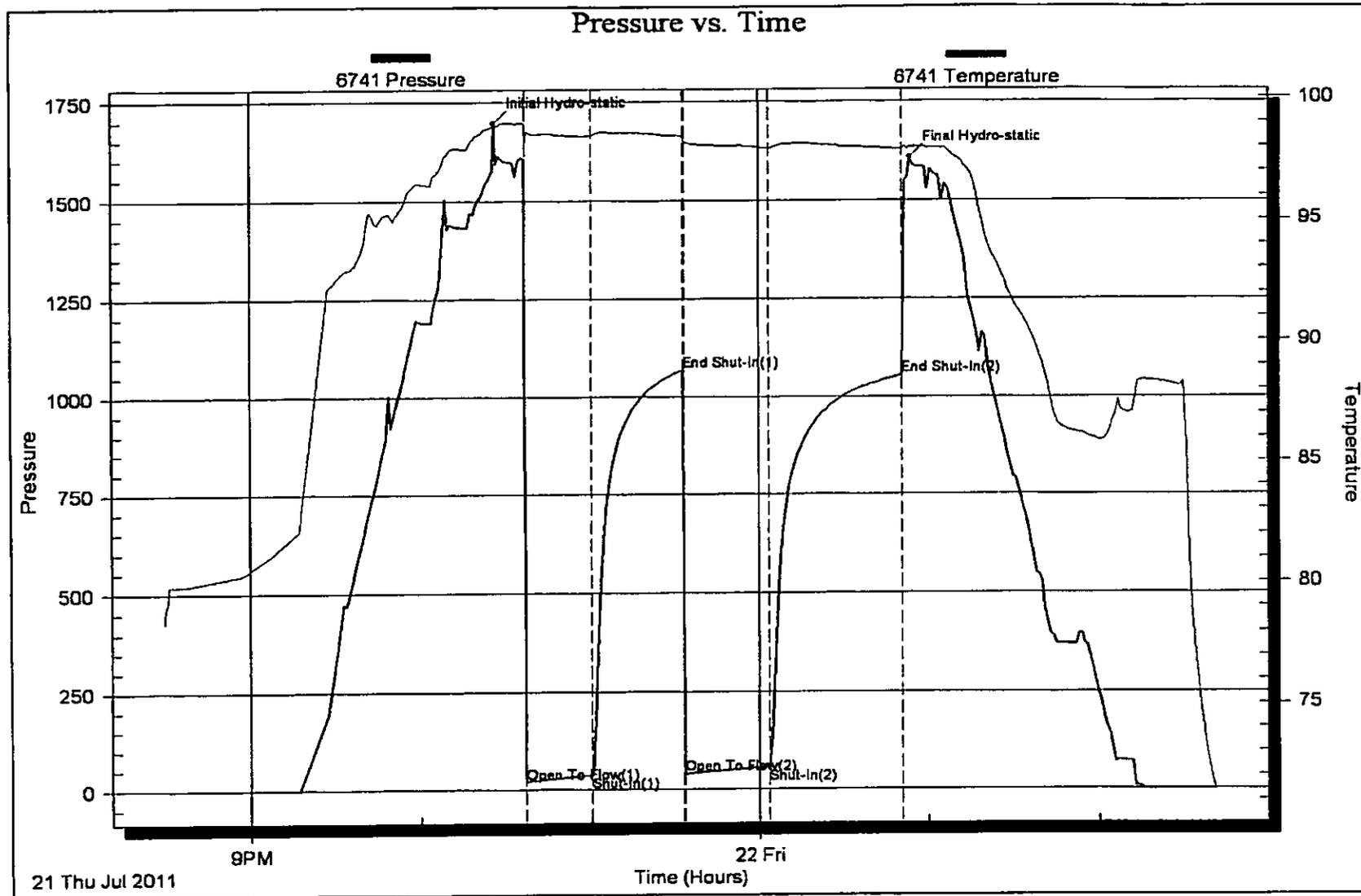
Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 50.00 sec/qt	Cushion Volume: bbl		
Water Loss: 6.78 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 1200.00 ppm			
Filter Cake: 2.00 inches			

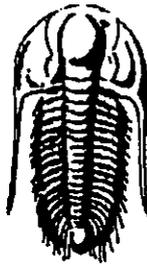
**Recovery Information**

Recovery Table

Length ft	Description	Volume bbl
65.00	mud-100%	0.320

Total Length: 65.00 ft      Total Volume: 0.320 bbl  
 Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
 Laboratory Name:      Laboratory Location:  
 Recovery Comments:





**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

Prepared For: **Great Plains Energy**  
6121 South 58th street Ste. B  
Lincoln, NE 68516

ATTN: Rich Bell

**32 2 23w Norton,KS**

**Moffet #1-32**

Start Date: 2011.07.22 @ 08:45:00  
End Date: 2011.07.22 @ 16:12:00  
Job Ticket #: 43718                      DST #: 2

Trilobite Testing, Inc  
PO Box 1733 Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Great Plains Energy

Moffet #1-32

32 2 23w Norton,KS

DST # 2

LKC-C,D

2011.07.22



**TRILOBITE TESTING, INC**

## DRILL STEM TEST REPORT

Great Plains Energy  
 6121 South 58th street Ste. B  
 Lincoln, NE 68516  
 ATTN: Rich Bell

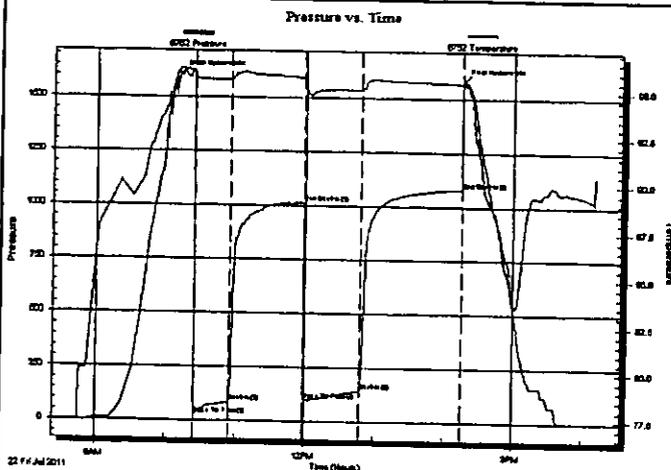
Moffet #1-32  
 32 2 23w Norton, KS  
 Job Ticket: 43718      DST#: 2  
 Test Start: 2011.07.22 @ 08:45:00

### GENERAL INFORMATION:

Formation: **LKC-C,D**  
 Deviated: **No Whipstock**      ft (KB)  
 Time Tool Opened: **10:24:30**  
 Time Test Ended: **16:12:00**  
 Interval: **3368.00 ft (KB) To 3400.00 ft (KB) (TVD)**  
 Total Depth: **3400.00 ft (KB) (TVD)**  
 Hole Diameter: **7.88 inches** Hole Condition: **Fair**  
 Test Type: **Conventional Bottom Hole**  
 Tester: **Chuck Kreutzer Jr.**  
 Unit No: **36**  
 Reference Elevations: **2310.00 ft (KB)**  
    **2305.00 ft (CF)**  
    KB to GR/CF: **5.00 ft**

Serial #: **6752**      Inside  
 Press@RunDepth: **143.39 psig @ 3369.00 ft (KB)**      Capacity: **8000.00 psig**  
 Start Date: **2011.07.22**      End Date: **2011.07.22**      Last Calib.: **2011.07.22**  
 Start Time: **08:45:05**      End Time: **16:11:59**      Time On Btm: **2011.07.22 @ 10:12:00**  
    **16:11:59**      Time Off Btm: **2011.07.22 @ 14:16:00**

TEST COMMENT: IF: Fair blow, Built to B.O.B in 30 mins.  
 IS: Blow Back After 1 min.. Built to 2 1/2 in. over 60 mins.  
 FF: Strong blow, Built to B.O.B in 15 mins.  
 FS: Blow backn after 1min. Built to 5 in. over 9



### PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1607.84	96.22	Initial Hydro-static
13	25.39	95.78	Open To Flow (1)
43	84.30	95.58	Shut-In(1)
107	1013.15	95.73	End Shut-In(1)
108	98.72	95.30	Open To Row (2)
156	143.39	95.10	Shut-In(2)
243	1077.86	95.45	End Shut-In(2)
244	1579.74	95.60	Final Hydro-static

### Recovery

Length (ft)	Description	Volume (bb)
182.00	gmco-15%g30%r65%o	1.46
144.00	go-10%g90%o	2.02
0.00	372 ft. of gas in pipe	0.00

### Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mc/d)



**TRILOBITE  
TESTING, INC**

**DRILL STEM TEST REPORT**

**TOOL DIAGRAM**

Great Plains Energy

Moffet #1-32

6121 South 58th street Ste. B  
Lincoln, NE 68516

32 2 23w Norton, KS

Job Ticket: 43718

DST#: 2

ATTN: Rich Bell

Test Start: 2011.07.22 @ 08:45:00

**Tool Information**

Drill Pipe:	Length: 3228.00 ft	Diameter: 3.80 inches	Volume: 45.28 bbl	Tool Weight: 2600.00 lb
Heavy Wl. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 120.00 ft	Diameter: 2.25 inches	Volume: 0.59 bbl	Weight to Pull Loose: 40000.00 lb
			<u>Total Volume: 45.87 bbl</u>	Tool Chased 2.00 ft
Drill Pipe Above KB:	8.00 ft			String Weight: Initial 35000.00 lb
Depth to Top Packer:	3368.00 ft			Final lb
Depth to Bottom Packer:	ft			
Interval between Packers:	32.00 ft			
Tool Length:	60.00 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			3345.00	
Hydraulic tool	5.00			3350.00	
Jars	5.00			3355.00	
Safety Joint	3.00			3358.00	
Packer	5.00			3363.00	28.00 Bottom Of Top Packer
Packer	5.00			3368.00	
Stubb	1.00			3369.00	
Recorder	0.00	6752	Inside	3369.00	
Recorder	0.00	6741	Outside	3369.00	
Perforations	28.00			3397.00	
Bullnose	3.00			3400.00	32.00 Bottom Packers & Anchor

**Total Tool Length: 60.00**



**TRILOBITE  
TESTING, INC**

**DRILL STEM TEST REPORT**

**FLUID SUMMARY**

Great Plains Energy  
6121 South 58th street Ste. B  
Lincoln, NE 68516  
ATTN: Rich Bell

Moffet #1-32  
32 2 23w Norton, KS  
Job Ticket: 43718      DST#: 2  
Test Start: 2011.07.22 @ 08:45:00

**Mud and Cushion Information**

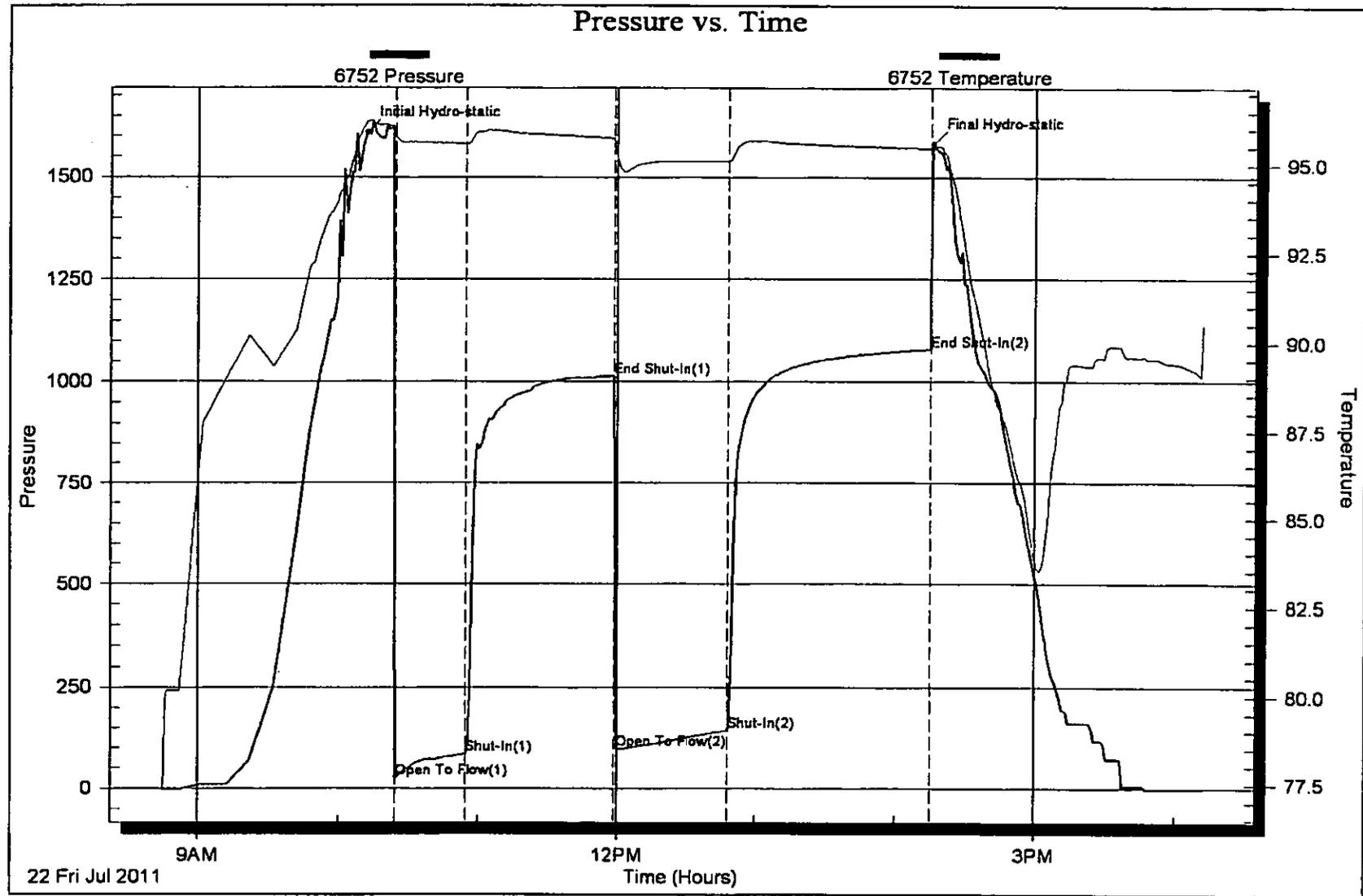
Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 50.00 sec/qt	Cushion Volume: bbl		
Water Loss: 6.77 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 1200.00 ppm			
Filter Cake: 2.00 inches			

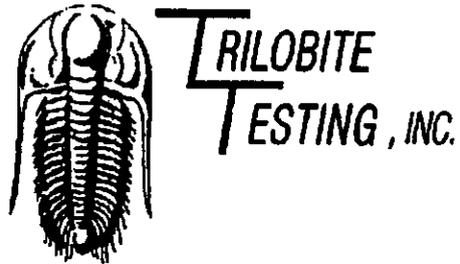
**Recovery Information**

Recovery Table

Length ft	Description	Volume bbl
182.00	gmco-15%g30%m65%o	1.460
144.00	go-10%g90%o	2.020
0.00	372 ft. of gas in pipe	0.000

Total Length: 326.00 ft      Total Volume: 3.480 bbl  
 Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
 Laboratory Name:      Laboratory Location:  
 Recovery Comments:





## DRILL STEM TEST REPORT

Prepared For: **Great Plains Energy**

6121 South 58th street Ste. B  
Lincoln, NE 68516

ATTN: Rich Bell

**32 2 23w Norton,KS**

**Moffet #1-32**

Start Date: 2011.07.23 @ 03:45:00

End Date: 2011.07.23 @ 10:07:30

Job Ticket #: 43719                      DST #: 3

Trilobite Testing, Inc  
PO Box 1733 Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620



**TRILOBITE  
TESTING, INC**

**DRILL STEM TEST REPORT**

Great Plains Energy

6121 South 58th street Ste. B  
Lincoln, NE 68516

ATTN: Rich Bell

Moffet #1-32

32 2 23w Norton, KS

Job Ticket: 43719

DST#: 3

Test Start: 2011.07.23 @ 03:45:00

**GENERAL INFORMATION:**

Formation: LKC-H,J,K

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 05:24:30

Time Test Ended: 10:07:30

Test Type: Conventional Bottom Hole

Tester: Chuck Kreutzer Jr.

Unit No: 36

Interval: 3443.00 ft (KB) To 3515.00 ft (KB) (TVD)

Total Depth: 3515.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2310.00 ft (KB)

2305.00 ft (CF)

KB to GRVCF: 5.00 ft

Serial #: 6741

Outside

Press@RunDepth: 91.27 psig @ 3444.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2011.07.23

End Date:

2011.07.23

Last Calib.:

2011.07.23

Start Time: 03:45:05

End Time:

10:07:29

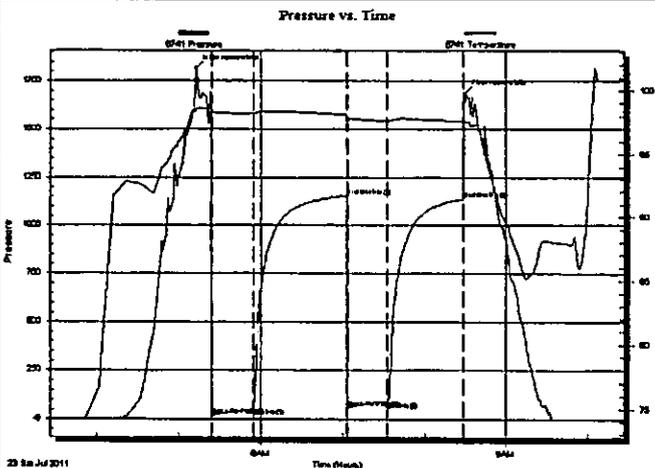
Time On Btm

2011.07.23 @ 05:12:30

Time Off Btm

2011.07.23 @ 08:30:00

**TEST COMMENT:** IF: Weak blow, Built to 2 in. over 30 mins.  
IS: No Blow back over 60 mins.  
FF: Weak blow, Built to 1/2 in. over 30 mins.  
FS: No blow back over 60 mins.



**PRESSURE SUMMARY**

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1816.87	98.40	Initial Hydro-static
12	22.54	98.32	Open To Flow (1)
43	56.95	98.15	Shut-In(1)
111	1153.75	98.09	End Shut-In(1)
111	60.22	97.45	Open To Flow (2)
140	91.27	97.61	Shut-In(2)
197	1138.37	97.59	End Shut-In(2)
198	1687.45	97.56	Final Hydro-static

**Recovery**

Length (ft)	Description	Volume (bbl)
140.00	mud with oil specs	0.87

**Gas Rates**

	Choke (Inches)	Pressure (psig)	Gas Rate (Mcf/d)



**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Great Plains Energy

**Moffet #1-32**

6121 South 58th street Ste. B  
Lincoln, NE 68516

**32 2 23w Norton,KS**

Job Ticket: 43719

**DST#: 3**

ATTN: Rich Bell

Test Start: 2011.07.23 @ 03:45:00

### Tool Information

Drill Pipe:	Length: 3310.00 ft	Diameter: 3.80 inches	Volume: 46.43 bbl	Tool Weight: 2600.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 120.00 ft	Diameter: 2.25 inches	Volume: 0.59 bbl	Weight to Pull Loose: 36000.00 lb
			<u>Total Volume: 47.02 bbl</u>	Tool Chased 2.00 ft
Drill Pipe Above KB:	15.00 ft			String Weight: Initial 34000.00 lb
Depth to Top Packer:	3443.00 ft			Final 34000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	72.00 ft			
Tool Length:	100.00 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			3420.00	
Hydraulic tool	5.00			3425.00	
Jars	5.00			3430.00	
Safety Joint	3.00			3433.00	
Packer	5.00			3438.00	28.00 Bottom Of Top Packer
Packer	5.00			3443.00	
Stubb	1.00			3444.00	
Recorder	0.00	6752	Inside	3444.00	
Recorder	0.00	6741	Outside	3444.00	
Perforations	4.00			3448.00	
Change Over Sub	0.50			3448.50	
Blank Spacing	31.00			3479.50	
Change Over Sub	0.50			3480.00	
Perforations	32.00			3512.00	
Bullnose	3.00			3515.00	72.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>100.00</b>				



**TRILOBITE  
TESTING, INC**

**DRILL STEM TEST REPORT**

**FLUID SUMMARY**

Great Plains Energy  
6121 South 58th street Ste. B  
Lincoln, NE 68516  
ATTN: Rich Bell

Moffet #1-32  
32 2 23w Norton, KS  
Job Ticket: 43719      DST#: 3  
Test Start: 2011.07.23 @ 03:45:00

**Mud and Cushion Information**

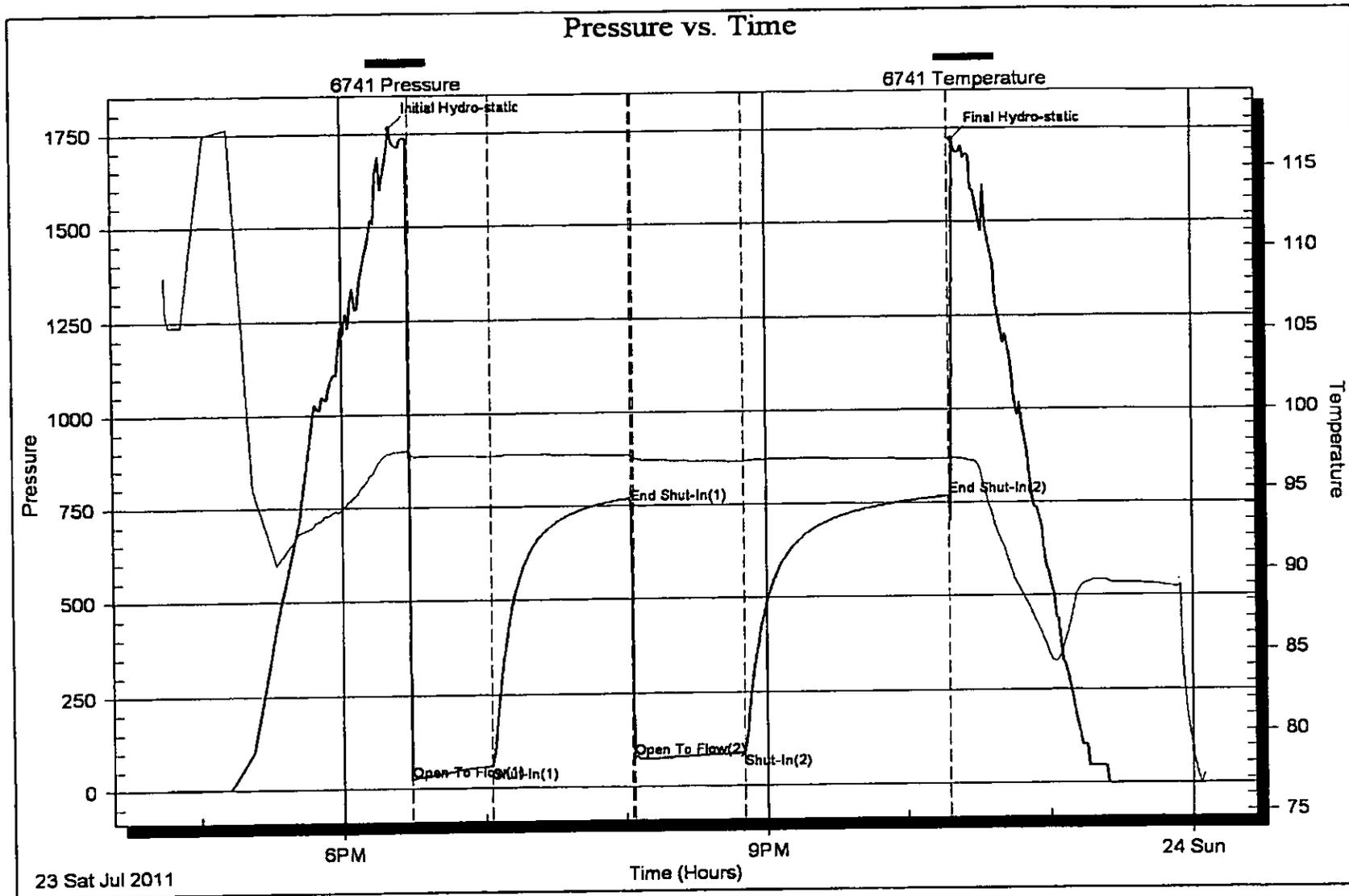
Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 48.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.19 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm m	Gas Cushion Pressure: psig		
Salinity: 2000.00 ppm			
Filter Cake: 2.00 inches			

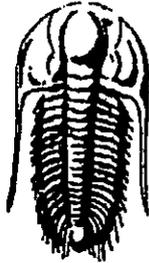
**Recovery Information**

Recovery Table

Length ft	Description	Volume bbl
140.00	mud with oil specs	0.871

Total Length: 140.00ft      Total Volume: 0.871 bbl  
 Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
 Laboratory Name:      Laboratory Location:  
 Recovery Comments:





**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

Prepared For: **Great Plains Energy**

6121 South 58th street Ste. B  
Lincoln, NE 68516

ATTN: Rich Bell

**32 2 23w Norton,KS**

**Moffet #1-32**

Start Date: 2011.07.23 @ 16:45:00

End Date: 2011.07.24 @ 00:04:30

Job Ticket #: 43720                      DST #: 4

Trilobite Testing, Inc

PO Box 1733 Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620

Great Plains Energy

Moffet #1-32

32 2 23w Norton,KS

DST # 4

Arbuckle

2011.07.23



**TRILOBITE  
TESTING, INC**

## DRILL STEM TEST REPORT

Great Rains Energy  
6121 South 58th street Ste. B  
Lincoln, NE 68516  
ATTN: Rich Bell

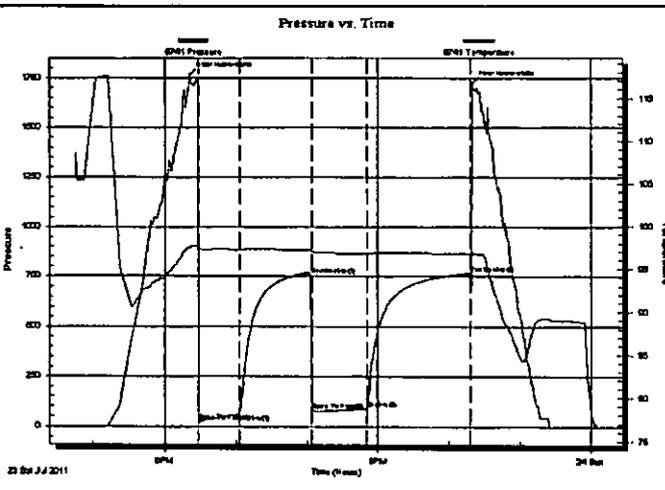
**Moffet #1-32**  
**32 2 23w Norton,KS**  
Job Ticket: 43720      DST#: 4  
Test Start: 2011.07.23 @ 16:45:00

### GENERAL INFORMATION:

Formation: **Arbuckle**  
Deviated: **No Whipstock**      ft (KB)  
Time Tool Opened: 18:28:30  
Time Test Ended: 00:04:30  
Interval: **3534.00 ft (KB) To 3580.00 ft (KB) (TVD)**  
Total Depth: **3580.00 ft (KB) (TVD)**  
Hole Diameter: **7.88 inches** Hole Condition: **Fair**  
Test Type: **Conventional Bottom Hole**  
Tester: **Chuck Kreutzer Jr.**  
Unit No: **36**  
Reference Elevations: **2310.00 ft (KB)**  
**2305.00 ft (CF)**  
**KB to GR/CF: 5.00 ft**

**Serial #: 6741**      **Outside**  
Press@RunDepth: **89.41 psig @ 3535.00 ft (KB)**      Capacity: **8000.00 psig**  
Start Date: **2011.07.23**      End Date: **2011.07.24**      Last Calib.: **2011.07.24**  
Start Time: **16:45:05**      End Time: **00:04:29**      Time On Btm: **2011.07.23 @ 18:20:30**  
Time Off Btm: **2011.07.23 @ 22:19:30**

**TEST COMMENT:** IF: Weak blow, Built to 2 in. over 30 mins.  
IS: No blow back over 60 mins.  
FF: Weak blow, Built to 1/4 in. over 45 mins.  
FS: No blow back over 90 mins.



PRESSURE SUMMARY			
Time (Mn.)	Pressure (psig)	Temp (deg F)	Annotation
0	1762.36	97.44	Initial Hydro-static
8	23.44	97.35	Open To Flow (1)
42	60.72	97.19	Shut-in(1)
102	754.73	97.18	End Shut-in(1)
103	77.86	97.00	Open To Flow (2)
150	89.41	96.76	Shut-in(2)
238	765.47	96.78	End Shut-in(2)
239	1720.54	96.85	Final Hydro-static

Recovery		
Length (ft)	Description	Volume (bbl)
60.00	ocw m-10%o40%w 50%m	0.30
60.00	ocw m-20%o20%w 60%m	0.30
30.00	ocm-40%o60%m	0.42

Gas Rates			
	Choke (Inches)	Pressure (psig)	Gas Rate (Mc/d)



**TRILOBITE  
TESTING, INC**

**DRILL STEM TEST REPORT**

**TOOL DIAGRAM**

Great Plains Energy  
6121 South 58th street Ste. B  
Lincoln, NE 68516  
ATTN: Rich Bell

**Moffet #1-32**  
**32 2 23w Norton, KS**  
Job Ticket: 43720      DST#: 4  
Test Start: 2011.07.23 @ 16:45:00

**Tool Information**

Drill Pipe:	Length: 3410.00 ft	Diameter: 3.80 inches	Volume: 47.83 bbl	Tool Weight: 2600.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 120.00 ft	Diameter: 2.25 inches	Volume: 0.59 bbl	Weight to Pull Loose: 36000.00 lb
			<u>Total Volume: 48.42 bbl</u>	Tool Chased 2.00 ft
Drill Pipe Above KB:	24.00 ft			String Weight: Initial 33000.00 lb
Depth to Top Packer:	3534.00 ft			Final 34000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	46.00 ft			
Tool Length:	74.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

**Tool Description**

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			3511.00	
Hydraulic tool	5.00			3516.00	
Jars	5.00			3521.00	
Safety Joint	3.00			3524.00	
Packer	5.00			3529.00	28.00      Bottom Of Top Packer
Packer	5.00			3534.00	
Stubb	1.00			3535.00	
Recorder	0.00	6752	Inside	3535.00	
Recorder	0.00	6741	Outside	3535.00	
Perforations	42.00			3577.00	
Bullnose	3.00			3580.00	46.00      Bottom Packers & Anchor

**Total Tool Length: 74.00**



**TRILOBITE  
TESTING, INC**

## DRILL STEM TEST REPORT

**FLUID SUMMARY**

Great Plains Energy  
6121 South 58th street Ste. B  
Lincoln, NE 68516  
ATTN: Rich Bell

Moffet #1-32  
32 2 23w Norton, KS  
Job Ticket: 43720      DST#: 4  
Test Start: 2011.07.23 @ 16:45:00

### 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: 48.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.19 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 2000.00 ppm			
Filter Cake: 2.00 inches			

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
60.00	ocw m-10%o40%w 50%m	0.295
60.00	ocw m-20%o20%w 60%m	0.295
30.00	ocm-40%o60%m	0.421

Total Length: 150.00 ft      Total Volume: 1.011 bbl  
 Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
 Laboratory Name:      Laboratory Location:  
 Recovery Comments:

