



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Great Plains Energy Inc.

32/2s/23w Norton, KS

6121 S 58th St STE B
Lincoln, NE 68516

Lang #1

Job Ticket: 64211

DST#: 2

ATTN: Richard Bell

Test Start: 2018.07.24 @ 20:46:00

GENERAL INFORMATION:

Formation: **LKC "C - D"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 22:21:15

Time Test Ended: 04:10:45

Test Type: Conventional Bottom Hole (Reset)

Tester: James Winder

Unit No: 83

Interval: 3403.00 ft (KB) To 3436.00 ft (KB) (TVD)

Reference Elevations: 2346.00 ft (KB)

Total Depth: 3436.00 ft (KB) (TVD)

2339.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 7.00 ft

Serial #: 8017 Outside

Press@RunDepth: 102.11 psig @ 3404.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2018.07.24 End Date: 2018.07.25

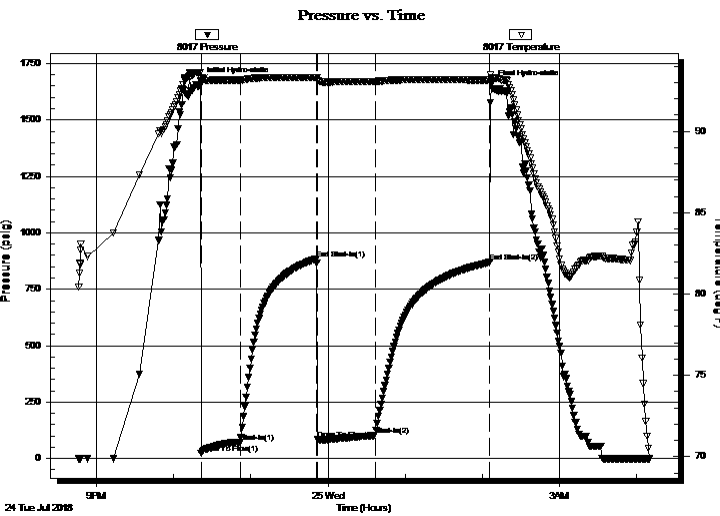
Last Calib.: 2018.07.25

Start Time: 20:46:05 End Time: 04:10:44

Time On Btm: 2018.07.24 @ 22:20:45

Time Off Btm: 2018.07.25 @ 02:07:00

TEST COMMENT: 30 - IF: Blow built to 10"
60 - IS: No blow back
45 - FF: Blow built to BOB (11") at 41 1/2 min.
90 - FS: Blow back built 1/2"



PRESSURE SUMMARY

| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation |
|-------------|-----------------|--------------|----------------------|
| 0 | 1672.07 | 93.62 | Initial Hydro-static |
| 1 | 23.82 | 93.22 | Open To Flow (1) |
| 31 | 73.41 | 93.14 | Shut-In(1) |
| 90 | 884.97 | 93.29 | End Shut-In(1) |
| 91 | 84.98 | 93.13 | Open To Flow (2) |
| 136 | 102.11 | 93.05 | Shut-In(2) |
| 226 | 869.75 | 93.14 | End Shut-In(2) |
| 227 | 1658.45 | 93.26 | Final Hydro-static |

Recovery

| Length (ft) | Description | Volume (bbl) |
|-------------|--|--------------|
| 120.00 | SO/WCM 52% _m , 38% _w , 5% _o , 5% _g | 0.59 |
| 10.00 | SW/OCM 85% _m , 11% _o , 2% _w , 2% _g | 0.13 |
| 75.00 | Oil 89% _o , 7% _g , 4% _m | 1.05 |
| 0.00 | GIP = 40' | 0.00 |
| | | |
| | | |

* Recovery from multiple tests

Gas Rates

| | Choke (inches) | Pressure (psig) | Gas Rate (Mcf/d) |
|--|----------------|-----------------|------------------|
| | | | |



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FLUID SUMMARY

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Job Ticket: 64211

DST#: 2

ATTN: Richard Bell

Test Start: 2018.07.24 @ 20:46:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

28.6 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

44000 ppm

Viscosity: 68.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.39 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 900.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

| Length ft | Description | Volume bbl |
|--------------|--|---------------|
| 120.00 | SO/WCM 52% <i>m</i> , 38% <i>w</i> , 5% <i>o</i> , 5% <i>g</i> | 0.590 |
| 10.00 | SW/OCM 85% <i>m</i> , 11% <i>o</i> , 2% <i>w</i> , 2% <i>g</i> | 0.131 |
| 75.00 | Oil 89% <i>o</i> , 7% <i>g</i> , 4% <i>m</i> | 1.052 |
| 0.00 | GIP = 40' | 0.000 |

Total Length: 205.00 ft Total Volume: 1.773 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Gravity = 29.6 api @ 70 deg F Corrected Gravity = 28.6 api
RW = .170 ohms @ 71.5 deg F Chlorides = 44,000 ppm

Pressure vs. Time

