

Confidentiality Requested:

Yes  No

KANSAS CORPORATION COMMISSION  
OIL & GAS CONSERVATION DIVISION

Form ACO-1

January 2018

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

Gas  DH  EOR

OG  GSW

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 EOR  Conv. to SWD

Plug Back  Liner  Conv. to GSW  Conv. to Producer

Commingled Permit #: \_\_\_\_\_

Dual Completion Permit #: \_\_\_\_\_

SWD Permit #: \_\_\_\_\_

EOR Permit #: \_\_\_\_\_

GSW Permit #: \_\_\_\_\_

Spud Date or Date Reached TD Completion Date or Recompletion Date

API No.: \_\_\_\_\_

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

GPS Location: Lat: \_\_\_\_\_, Long: \_\_\_\_\_  
(e.g. xx.xxxxx) (e.g. -xxx.xxxxx)

Datum:  NAD27  NAD83  WGS84

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

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

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

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

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

Total Vertical 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

Confidentiality Requested

Date: \_\_\_\_\_

Confidential Release Date: \_\_\_\_\_

Wireline Log Received  Drill Stem Tests Received

Geologist Report / Mud Logs Received

UIC Distribution

ALT  I  II  III Approved by: \_\_\_\_\_ Date: \_\_\_\_\_

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

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

**INSTRUCTIONS:** Show important tops 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.

Final Radioactivity Log, Final Logs run to obtain Geophysical Data and Final Electric Logs must be emailed to kcc-well-logs@kcc.ks.gov. Digital electronic log files must be submitted in LAS version 2.0 or newer AND an image file (TIFF or PDF).

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 Geologist Report / Mud Logs <input type="checkbox"/> Yes <input type="checkbox"/> No  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
<input type="checkbox"/> Perforate <input type="checkbox"/> Protect Casing <input type="checkbox"/> Plug Back TD <input type="checkbox"/> Plug Off Zone				

1. Did you perform a hydraulic fracturing treatment on this well?  Yes  No *(If No, skip questions 2 and 3)*
2. Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons?  Yes  No *(If No, skip question 3)*
3. Was the hydraulic fracturing treatment information submitted to the chemical disclosure registry?  Yes  No *(If No, fill out Page Three of the ACO-1)*

Date of first Production/Injection or Resumed Production/Injection:	Producing Method: <input type="checkbox"/> Flowing <input type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other <i>(Explain)</i> _____			
Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio Gravity

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> <i>(Submit ACO-4)</i>	PRODUCTION INTERVAL: Top Bottom
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Shots Per Foot	Perforation Top	Perforation Bottom	Bridge Plug Type	Bridge Plug Set At	Acid, Fracture, Shot, Cementing Squeeze Record <i>(Amount and Kind of Material Used)</i>

TUBING RECORD:	Size:	Set At:	Packer At:	
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**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: 64210

**DST#: 1**

ATTN: Richard Bell

Test Start: 2018.07.24 @ 07:32:00

## GENERAL INFORMATION:

Formation: **Totonto - LKC "A"**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 09:27:00  
 Time Test Ended: 13:46:00  
 Interval: **3347.00 ft (KB) To 3403.00 ft (KB) (TVD)**  
 Total Depth: 3403.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Good  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: James Winder  
 Unit No: 83  
 Reference Elevations: 2346.00 ft (KB)  
 2339.00 ft (CF)  
 KB to GR/CF: 7.00 ft

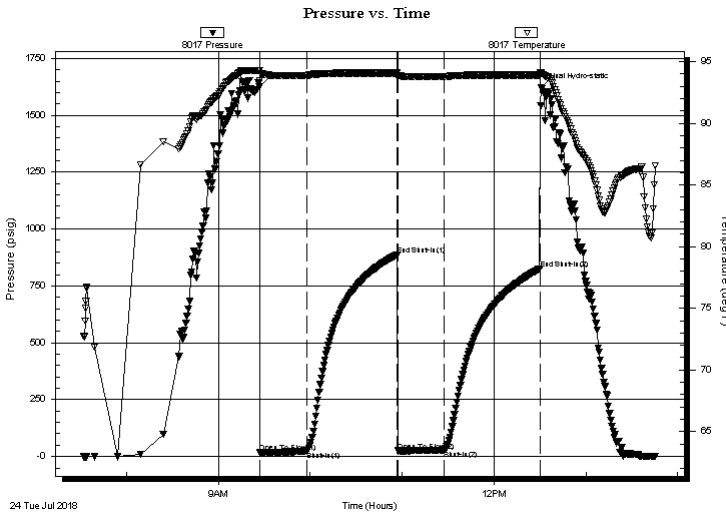
**Serial #: 8017**

**Outside**

Press @ Run Depth: 27.88 psig @ 3348.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2018.07.24 End Date: 2018.07.24 Last Calib.: 2018.07.24  
 Start Time: 07:32:05 End Time: 13:45:59 Time On Btm: 2018.07.24 @ 09:26:45  
 Time Off Btm: 2018.07.24 @ 12:31:00

**TEST COMMENT:** 30 - IF: Surface blow through open  
 60 - IS: No blow back  
 30 - FF: No blow  
 60 - FS: No blow back

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1627.07	94.30	Initial Hydro-static
1	17.45	93.47	Open To Flow (1)
31	22.18	93.89	Shut-In(1)
90	887.23	94.06	End Shut-In(1)
91	24.51	93.71	Open To Flow (2)
121	27.88	93.78	Shut-In(2)
184	825.68	93.91	End Shut-In(2)
185	1621.63	94.02	Final Hydro-static

## Recovery

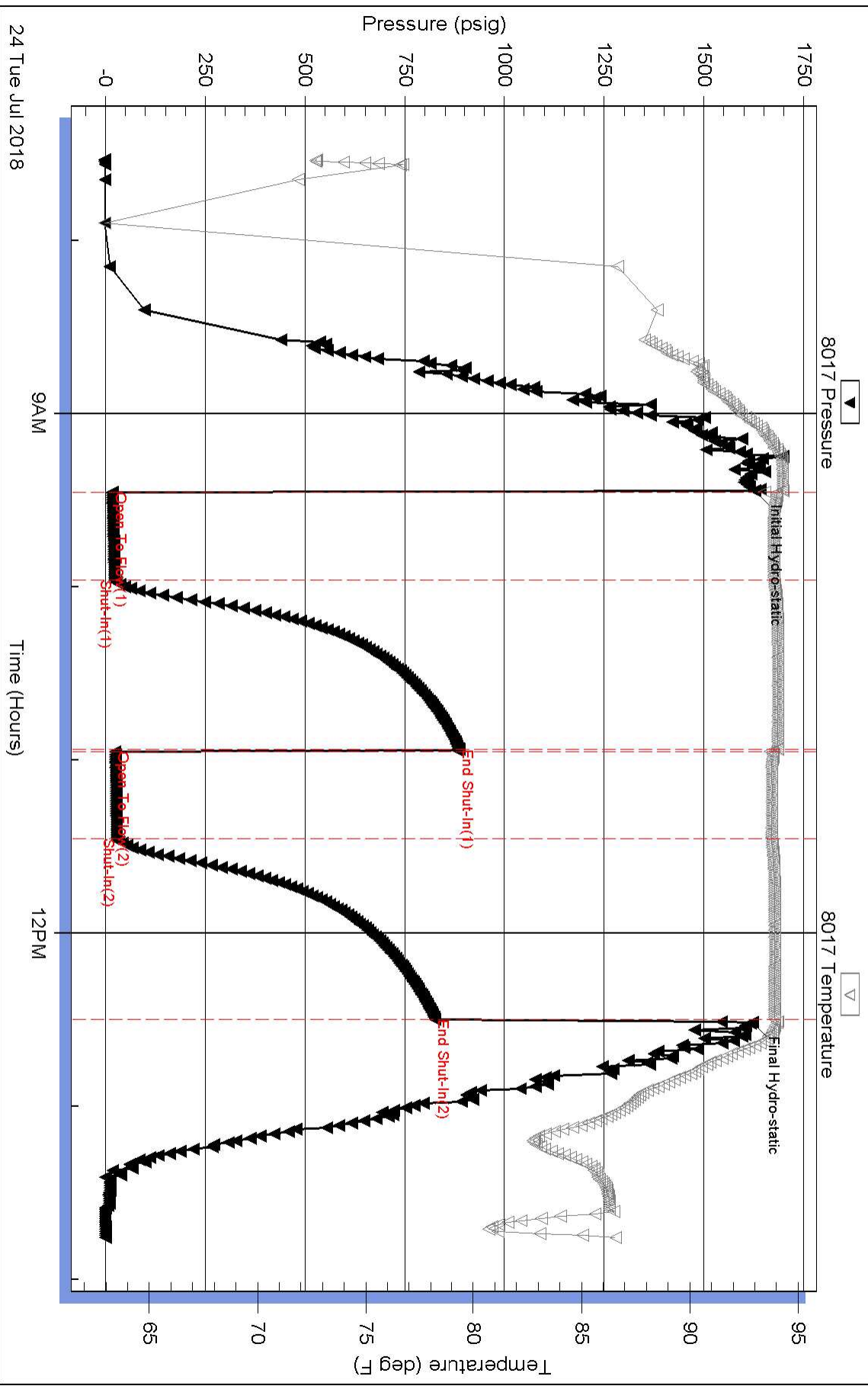
Length (ft)	Description	Volume (bbl)
30.00	Mud 100%	0.15

## Gas Rates

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



### Pressure vs. Time





**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:

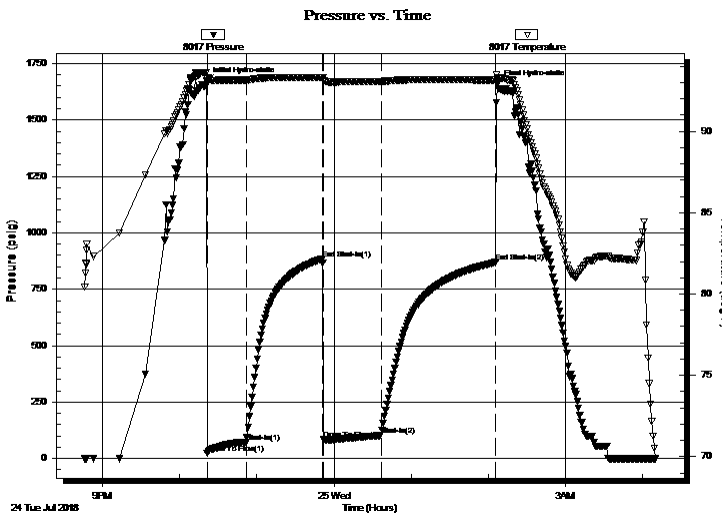
2018.07.24 @ 22:20:45

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% <sub>m</sub> , 38% <sub>w</sub> , 5% <sub>o</sub> , 5% <sub>g</sub>	0.59
10.00	SW/OCM 85% <sub>m</sub> , 11% <sub>o</sub> , 2% <sub>w</sub> , 2% <sub>g</sub>	0.13
75.00	Oil 89% <sub>o</sub> , 7% <sub>g</sub> , 4% <sub>m</sub>	1.05
0.00	GIP = 40'	0.00

\* Recovery from multiple tests

## Gas Rates

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





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

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

## 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 in<sup>3</sup>

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 bbbl
120.00	SO/WCM 52%m, 38%w, 5%o, 5%g	0.590
10.00	SW/OCM 85%m, 11%o, 2%w, 2%g	0.131
75.00	Oil 89%o, 7%g, 4%m	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

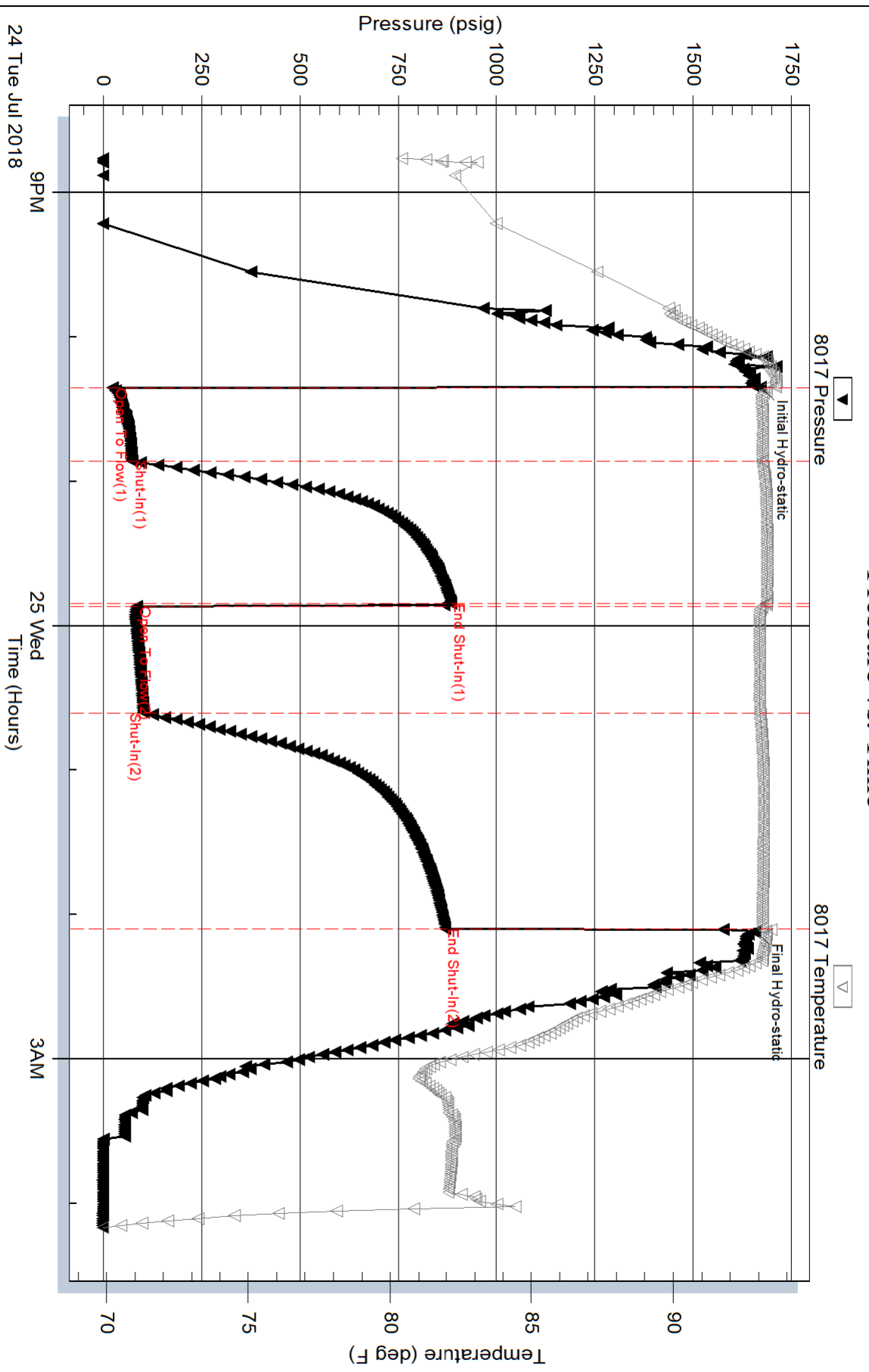
Serial #:

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



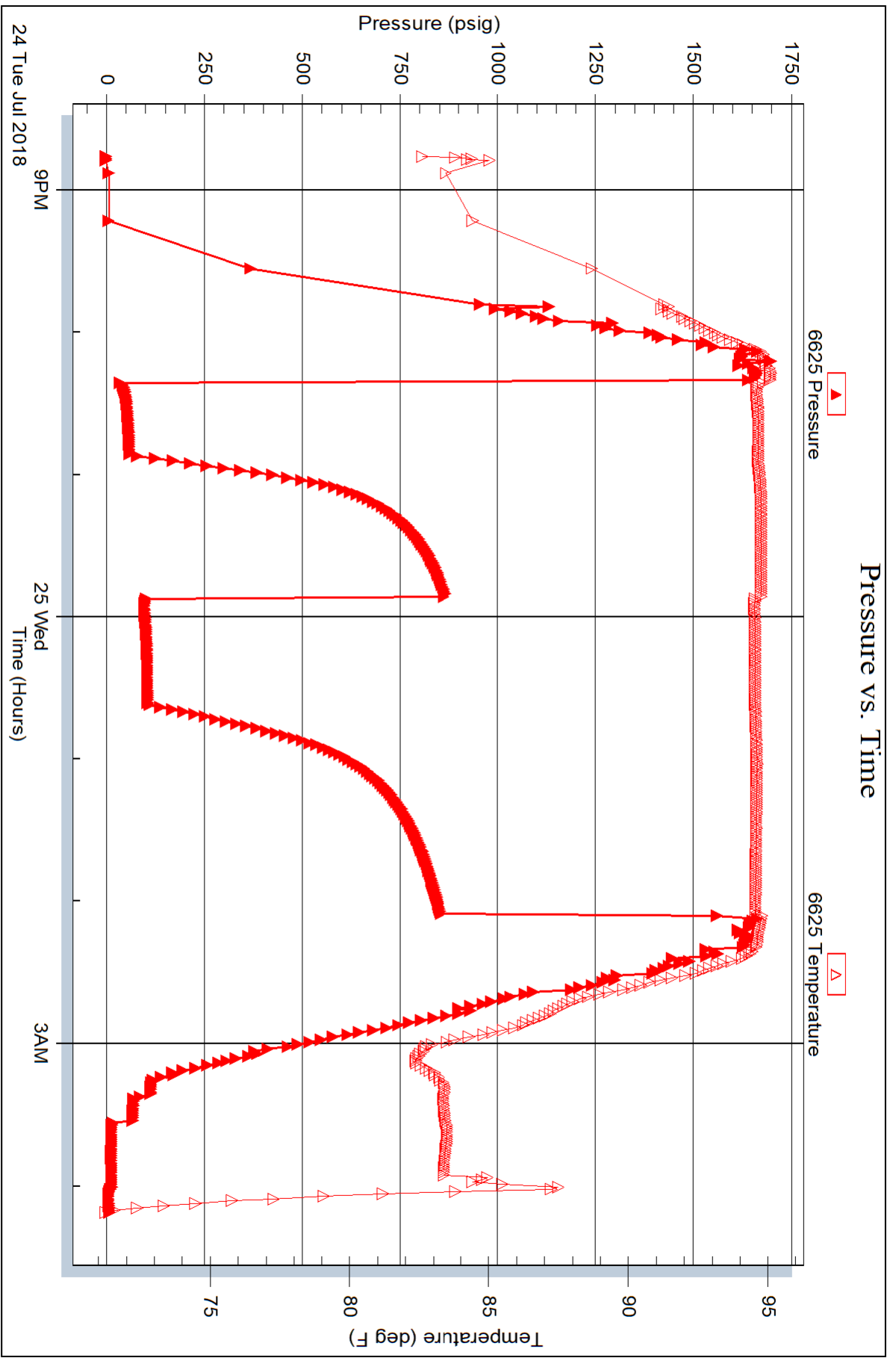
Serial #: 6625

Inside

Great Plains Energy Inc.

Lang #1

DST Test Number: 2



Trilobite Testing, Inc

Ref. No: 64211

Printed: 2018.07.25 @ 07:12:21



**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: 64212

**DST#: 3**

ATTN: Richard Bell

Test Start: 2018.07.25 @ 15:59:00

## GENERAL INFORMATION:

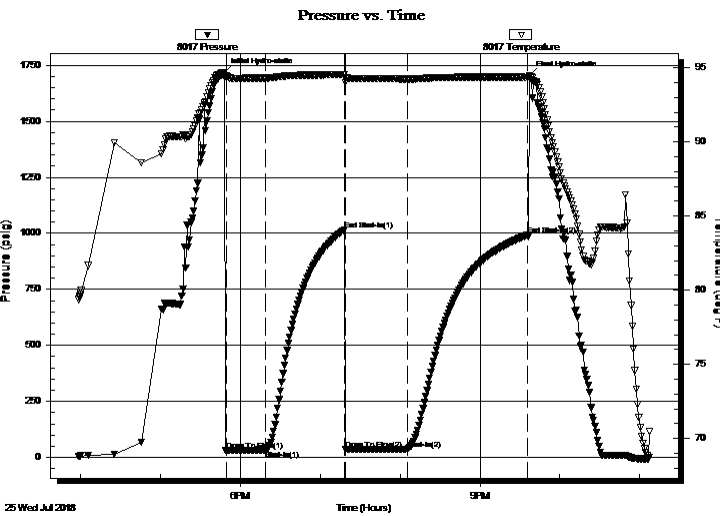
Formation: **LKC "H - K"**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 17:49:45  
 Time Test Ended: 23:07:30  
 Interval: **3477.00 ft (KB) To 3550.00 ft (KB) (TVD)**  
 Total Depth: 3550.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: James Winder  
 Unit No: 83  
 Reference Elevations: 2346.00 ft (KB)  
 2339.00 ft (CF)  
 KB to GR/CF: 7.00 ft

**Serial #: 8017**

**Outside**

Press@RunDepth: 37.43 psig @ 3478.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2018.07.25 End Date: 2018.07.25 Last Calib.: 2018.07.25  
 Start Time: 15:59:05 End Time: 23:07:29 Time On Btm: 2018.07.25 @ 17:48:15  
 Time Off Btm: 2018.07.25 @ 21:37:00

**TEST COMMENT:** 30 - IF: 1/8" Blow at open, built to 3/4"  
 60 - IS: No blow back  
 45 - FF: No blow  
 90 - FS: No blow



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1717.84	94.68	Initial Hydro-static
2	32.48	94.43	Open To Flow (1)
31	34.16	94.30	Shut-In(1)
91	1016.13	94.52	End Shut-In(1)
91	34.99	93.99	Open To Flow (2)
137	37.43	94.22	Shut-In(2)
228	992.41	94.35	End Shut-In(2)
229	1704.16	94.48	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
20.00	Mud w /trace oil 100%m	0.10

\* Recovery from multiple tests

## Gas Rates

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







**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Great Plains Energy Inc.

**32/2s/23w Norton, KS**

6121 S 58th St STE B  
Lincoln, NE 68516

**Lang #1**

Job Ticket: 64212

**DST#: 3**

ATTN: Richard Bell

Test Start: 2018.07.25 @ 15:59:00

## 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: 57.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.39 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1400.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
20.00	Mud w /trace oil 100%m	0.098

Total Length: 20.00 ft      Total Volume: 0.098 bbl

Num Fluid Samples: 0

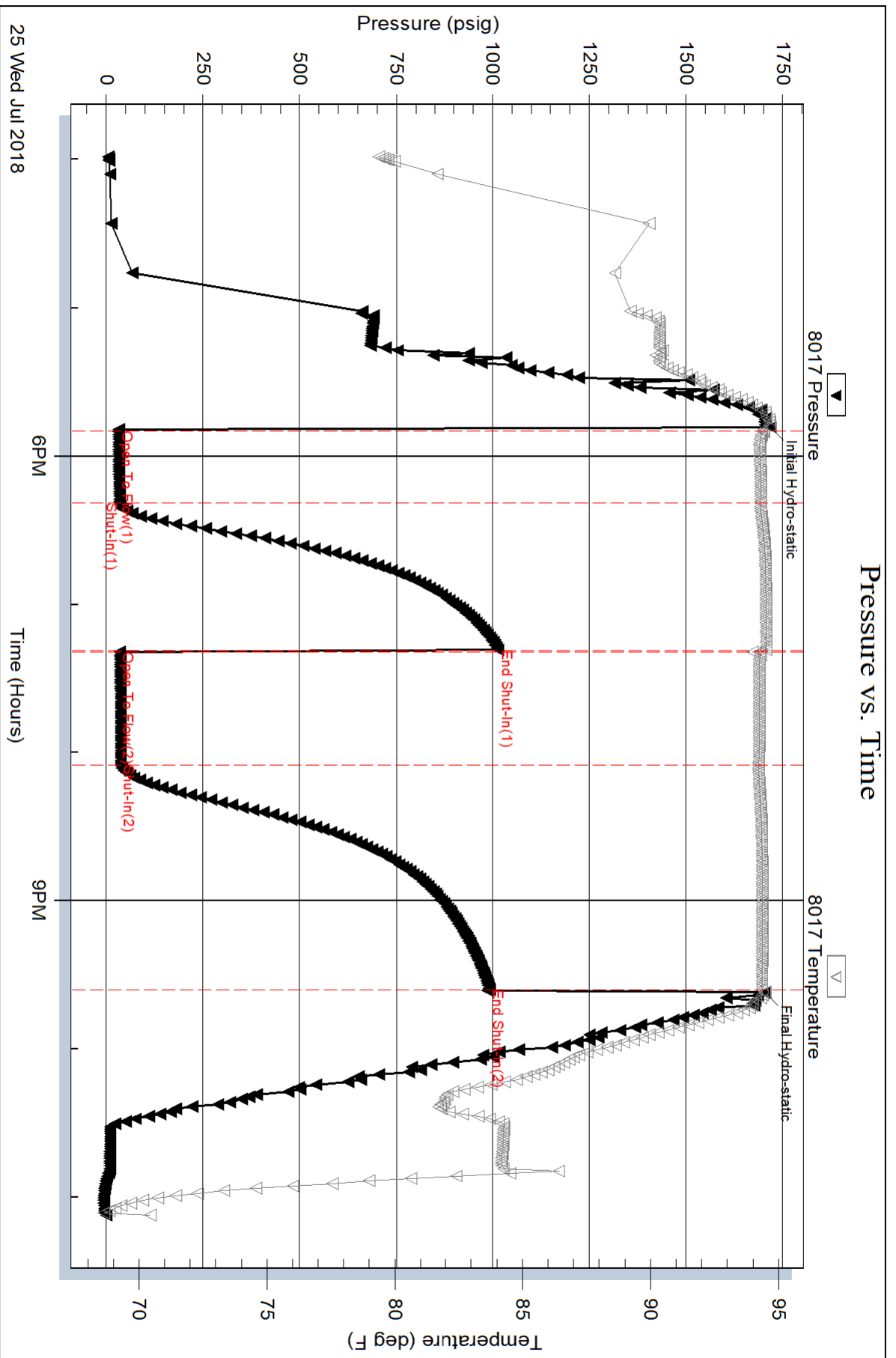
Num Gas Bombs: 0

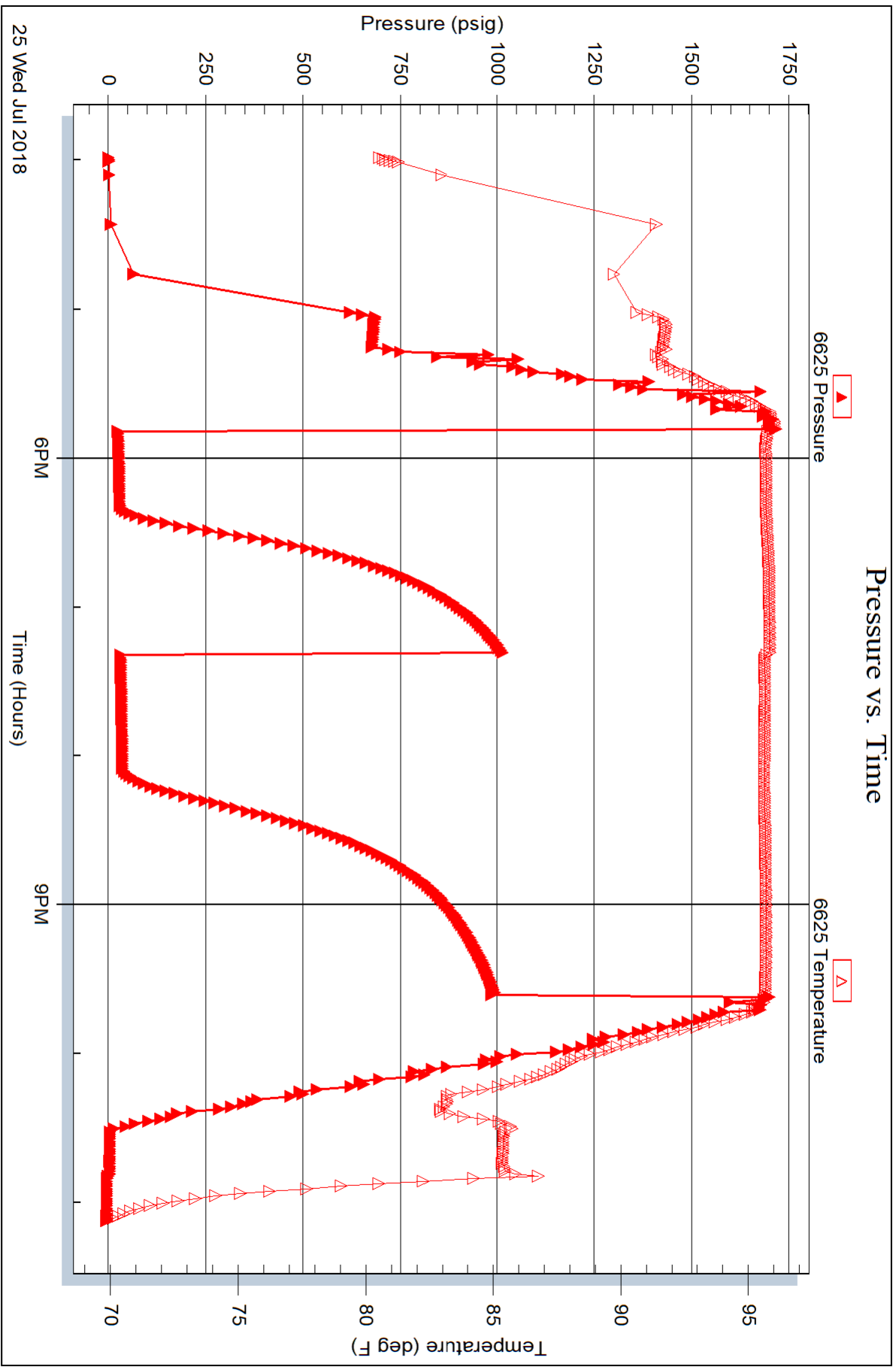
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:







API # 15-137-20249-00-00

**GEOLOGICAL REPORT**

DRILLING TIME AND SAMPLE LOG

COMPANY Great Plains Energy, Inc.

LEASE Lang #1

FIELD Wildcat

LOCATION 1650 East 1400 EWL

SEC 32 TWP 25 RGE 23W

COUNTY Norton STATE Kansas

CONTRACTOR STP Drilling, Inc.

SPUD 7-21-18 COMP 7-26-18

SAMPLES SAVED FROM 3100 TO RID

FORMATION TOPS AND STRUCTURAL POSITION

FORMATION SAMPLE E. LOG DATE

ANHYDRITE 1911 1908 + 438

BASE ANHYDRITE 1941 1938 + 408

TAPAKA 3165 3159 - 813

HEEBNER 3348 3342 - 996

TORONTO 3326 3321 - 1225

LANSING 3389 3383 - 1037

BASE KANSAS CITY 3521 3515 - 1219

MARMATON 3595 3591 - 1245

WEA GRANITE 3610 3604 - 1258

GRANITE 3624 3618 - 1272

TOTAL DEPTH 3644 3639 - 1330

REFERENCE WELLS

1. A.P.E. - Maffett #1-32, 2010 EWL + 350' EWL Sec. 32-25-23W

2. A.P.E. - Maffett #1-32, 2010 EWL + 350' EWL Sec. 32-25-23W

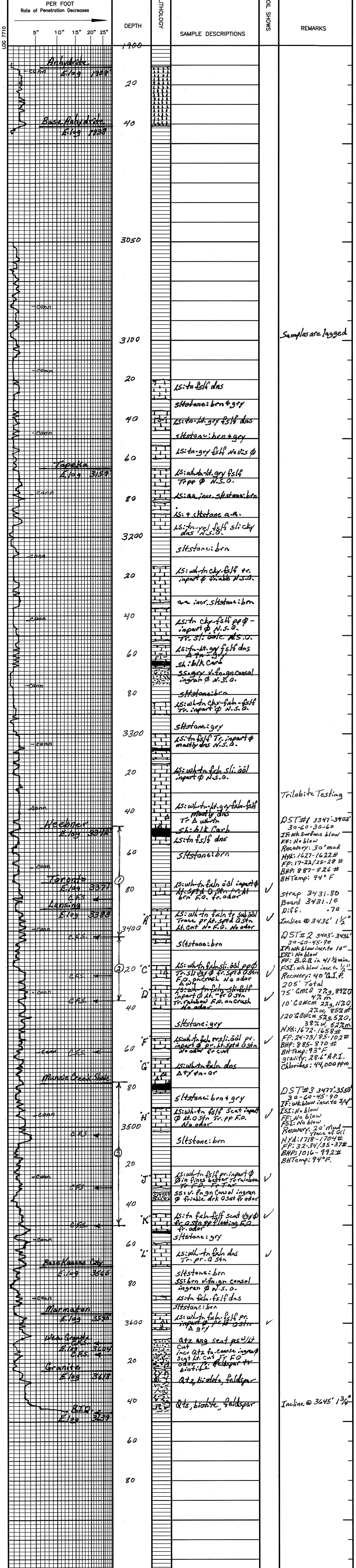
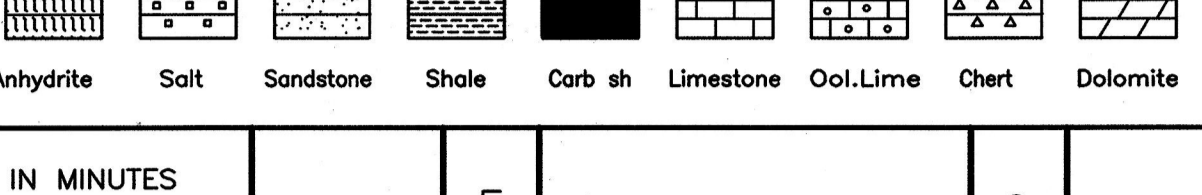
3. A.P.E. - Maffett #1-32, 2010 EWL + 350' EWL Sec. 32-25-23W

REMARKS

This well ran 9 feet higher on the Lansing top than the reference well. The Arbuckle was not present in the Lang #1. After reviewing DST and open hole log data, it was decided production casing would be cemented to further test this well. The zones at 3422 to 3424 and 3411 to 3413 should be tested.

Richard R. Bell  
7-26-18

**LEGEND**



LOG 7710



## Drilling Report

### Lang #1

**Operator:** Great Plains Energy, Inc.  
**Contact Person:** Dan Blankenau  
**Phone:** 402.443.6125  
**Contractor:** STP Drilling Rig #1  
**Well Site Geologist:** Richard Bell  
**Field:** Wildcat  
**Lease:** Lang  
**Location:** NE SW Sec. 32-1S-23W;  
1650' FSL, 1400' FWL, Norton Co. KS  
**Elevation:** 2339' GL, 2346' KB

**Proposed Total Depth:** 3600'  
**Call Depth:** 2900'  
**Spud:** 07/21/18  
**Completed:** 07/27/18  
**TD:** 3645'  
**API #:** 15-137-20749  
**Casing:** 8 5/8" @ 221'  
5 1/2" @ 3644'

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**07/21/18:** MIRU. Spud.

**07/22/18:** Depth: 1124'. Cut: 1124'. DT: 8 hrs. (WOC). CT: None. Ran 5 joints (211') new, 23#, 8 5/8" surface casing. Set @ 221'. Cemented w/ 225 sacks common, 3% cc, 2% gel. Circ. 3 bbls. by SOS. Dev. Surv: .25 deg. @ 221'. Plug down 12:30 am 07/21/18. Drilled out at 12:30 pm 07/21/18.

**07/23/18:** Depth: 2785'. Cut: 1661'. DT: None. CT: None. Mud Wt: 9.3. Vis: 35. LCM: 3#. Anhydrite 1912'-1942'. Flat to reference well (Moffet 1-32).

**07/24/18:** Depth: 3403'. Cut: 618'. DT: None. CT: 8.25 hrs. Mud Wt: 8.7. Vis: 60. WL: 6.4. CL: 600. LCM: 1#.

**07/25/18:** Depth: 3436'. Cut: 33'. DT: None. CT: 22.75 hrs. Mud Wt: 8.9. Vis: 61. WL: 6.4. CL: 900. LCM: 1#. Dev. Surv: 1.25 deg. @ 3436'. Pipe strap: .7' Long.

DST: #1. "Toronto- Lansing "A" Zones. Interval: 3347-3403. Times: 30-60-30-60. IF: Weak blow throughout. ISI: No return. FF: No Blow. FSI: No return. Recovery: 30' mud. IFP: 17-22. FFP: 24-28. ISIP: 887. FSIP: 826. HP: 1627-1622.

DST: #2. "Lansing "C-D" Zones. Interval: 3403-3436. Times: 30-60-45-90. IF: Blow built to 10". ISI: No return. FF: BOB in 41 min. FSI: 1/2" blow. Recovery: 40' GIP; 75' oil (89% oil, 7% gas, 4% mud); 10' SW/OCM (85% mud, 11% oil, 2% water, 2% gas); 120' SO/WCM (52% mud, 38% water, 5% oil, 5% gas). IFP: 24-73. FFP: 85-102. ISIP: 885. FSIP: 870. HP: 1672-1658.





# TEMPERATURE SURVEY

Company GREAT PLAINS ENERGY, INC.  
 Well LANG #1  
 Field WILDCAT  
 County NORTON State KANSAS

Location 1650' FSL & 1400' FWL  
 SEC 32 TWP 2S RGE 23W  
 Other Services

Company GREAT PLAINS ENERGY, INC.  
 Well LANG #1  
 County WILDCAT  
 State KANSAS

Permanent Datum GROUND LEVEL Elevation 2339  
 Log Measured From KELLY BUSHING 7' AGL  
 Drilling Measured From KELLY BUSHING

Elevation K.B. 2346  
 O.L. 2339

Date  
 Run Number ONE  
 Depth Driller 3645  
 Depth Logger 2000  
 Bottom Logged Interval 2000  
 Top Log Interval 0  
 Casing Size 5 1/2"  
 Type Fluid WATER  
 Density / Viscosity  
 Max. Recorded Temp. 30.70  
 Estimated Cement Top

Time Well Ready  
 Time Logger on Bottom  
 Equipment Number TR-8  
 Location CHEYENNE WELLS, CO  
 Recorded By HENDERSON  
 Witnessed By JOHN MONDERO

Run Number  
 Run ONE  
 TMO

Boarding Record  
 From 0  
 To 221  
 Size 12 1/4"  
 Weight 3645

Tubing Record  
 From 0  
 To 221  
 Size 7 7/8"  
 Weight 3645

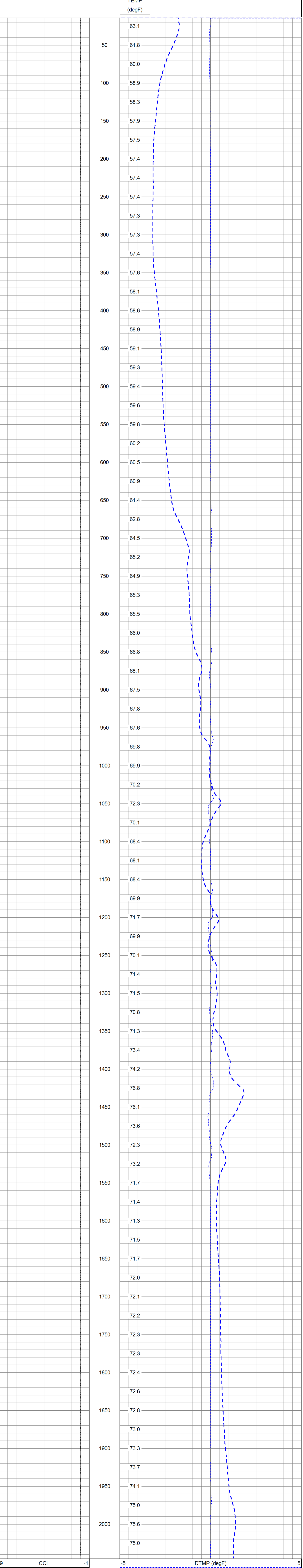
Casing Record  
 Surface String 8 5/8"  
 Production String 5 1/2"  
 Weight 23#  
 Liner 15.5#

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All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, damages, or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees. These interpretations are also subject to our general terms and conditions set out in our current Price Schedule.

Comments

Database File: lang db  
 Dataset Pathname: 1/run1/pass5  
 Presentation Format: temp  
 Dataset Creation: Tue Aug 28 15:33:49 2018 by Log Std Casedhole 10071  
 Charted by: Depth in Feet scaled 1:600



REMIT TO  
RR 1 BOX 90 D  
HOXIE, KS 67740

**SCHIPPERS OIL FIELD SERVICE L.L.C.**

NO 000636

DATE <u>7/2/18</u> SEC. <u>32</u>	RANGE/TWP. <u>2-23</u>	CALLED OUT	ON LOCATION/H <u>1130H</u>	JOB START <u>12:00</u>	JOB FINISH <u>12:30</u>
LEASE <u>Lang #1</u>			WELL #		
			COUNTY <u>Worth</u>	STATE <u>KS</u>	

CONTRACTOR <u>STP</u>	OWNER <u>Great Plain</u>			
TYPE OF JOB				
HOLE SIZE <u>13 3/8</u>	T.D. <u>221</u>	CEMENT		
CASING SIZE <u>8 5/8</u>	DEPTH	AMOUNT ORDERED		
TUBING SIZE	DEPTH			
DRILL PIPE <u>4 1/2</u>	DEPTH			
TOOL	DEPTH			
PRES. MAX	MINIMUM	COMMON	<u>170</u>	@
DISPLACEMENT	SHOE JOINT	POZMIX		@
CEMENT LEFT IN CSG. <u>15-70 ft</u>		GEL	<u>5</u>	@
PERFS		CHLORIDE	<u>6</u>	@
		ASC		@
EQUIPMENT				@
				@
PUMP TRUCK				@
# <u>Suck T</u>				@
BULK TRUCK				@
# <u>Nick A.</u>				@
BULK TRUCK				@
#				@
		HANDLING	<u>181</u>	@ <u>2</u>
		MILEAGE		@
				TOTAL

REMARKS <u>Plug Down 12:30 PM</u>	SERVICE <u>Surf</u>		
<u>Circulate to P.T.</u>	DEPT OF JOB	@	
	PUMP TRUCK CHARGE	@	<u>1050</u>
	EXTRA FOOTAGE	@	
	MILEAGE <u>55</u>	@ <u>6</u>	<u>330</u>
	MANIFOLD	@	
		@	
			TOTAL

CHARGES TO: <u>Great Plain</u>	
STREET	STATE
CITY	ZIP

To: Schippers Oil Field Services L.L.C.  
You are hereby requested to rent cementing equipment and furnish staff to assist owner or contractor to do work as is listed. The above work was done to satisfaction and supervision of owner agent or contractor. I have read and understand the "TERMS AND CONDITIONS" listed on the reverse side.

PLUG & FLOAT EQUIPMENT	@
	@
	@
	@
	@
	TOTAL
TAX	
TOTAL CHARGE	
DISCOUNT (IF PAID IN 20 DAYS)	

SIGNATURE [Signature]

PRINTED NAME



REMIT TO  
RR 1 BOX 90 D  
HOXIE, KS 67740

SCHIPPERS OIL FIELD SERVICE L.L.C.

No 000637

DATE <u>7/27</u>	SEC. <u>32</u>	RANGE/TWP. <u>2-23</u>	CALLED OUT	ON LOCATION	JOB START	JOB FINISH
LEASE <u>L92g</u>			WELL# <u>#1</u>		COUNTY <u>Nowata</u>	STATE <u>KS</u>

CONTRACTOR <u>STP</u>	OWNER <u>Great Plains</u>			
TYPE OF JOB				
HOLE SIZE <u>7 7/8</u>	T.D. <u>3636.83</u>	CEMENT		
CASING SIZE <u>5 7/2</u>	DEPTH	AMOUNT ORDERED		
TUBING SIZE	DEPTH			
DRILL PIPE <u>4 1/2</u>	DEPTH			
TOOL <u>Port Collar</u>	DEPTH			
PRES. MAX	MINIMUM	COMMON	<u>155</u>	@ <u>18<sup>00</sup></u> <u>2790</u>
DISPLACEMENT <u>86.25 bbl</u>	SHOE JOINT <u>11.50</u>	POZMIX		@
CEMENT LEFT IN CSG. <u>11.50</u>		GEL	<u>2</u>	@ <u>22<sup>00</sup></u> <u>44<sup>00</sup></u>
PERFS		CHLORIDE		@
		ASC		@
EQUIPMENT		<u>Plaster</u>	<u>4</u>	@
				@
PUMP TRUCK				@
# <u>Sacte Toll</u>				@
BULK TRUCK				@
#				@
BULK TRUCK				@
#				@
		HANDLING	<u>161</u>	@ <u>2<sup>10</sup></u> <u>338<sup>10</sup></u>
		MILEAGE	<u>55</u>	@ <u>12<sup>00</sup></u> <u>708<sup>00</sup></u>
				TOTAL

REMARKS <u>Weather for Port Collar</u>	SERVICE <u>Porton Stage</u>		
<u>305x Rat Hole</u>	DEPT OF JOB	@	
<u>1255x Primary Job</u>	PUMP TRUCK CHARGE	@ <u>1850</u>	
<u>Plug Down 5:30 AM</u>	EXTRA FOOTAGE	@	
<u>1350 PSI 88 bbl to land plug</u>	MILEAGE	<u>55</u> @ <u>6<sup>00</sup></u>	<u>330<sup>00</sup></u>
	MANIFOLD	@	
		@	
		TOTAL	

CHARGES TO: <u>Great Plains</u>	
STREET	STATE
CITY	ZIP

To: Schippers Oil Field Services L.L.C.  
You are hereby requested to rent cementing equipment and furnish staff to assist owner or contractor to do work as is listed. The above work was done to satisfaction and supervision of owner agent or contractor. I have read and understand the "TERMS AND CONDITIONS" listed on the reverse side.

PLUG & FLOAT EQUIPMENT	
<u>Mud Sweep</u>	@ <u>500</u>
<u>Latch Down</u>	@ <u>499</u>
<u>10 @ 5 1/2 screen</u>	@ <u>43</u> = <u>430</u>
<u>Port Collar</u>	@ <u>2450<sup>00</sup></u>
<u>5 centralizer</u>	@ <u>44</u> = <u>220</u>
<u>buide Shoe AFU</u>	TOTAL <u>249</u>
TAX	
TOTAL CHARGE	
DISCOUNT (IF PAID IN 20 DAYS)	

Sheridan Sentinel Print / Form 411

SIGNATURE

PRINTED NAME

REMIT TO  
RR 1 BOX 90 D  
HOXIE, KS 67740

SCHIPPERS OIL FIELD SERVICE L.L.C.

No 000641

DATE <u>8/27/18</u> SEC. <u>32</u>	RANGE/TWP. <u>23W 2S</u>	CALLED OUT	ON LOCATION	JOB START	JOB FINISH
LEASE: <u>hang</u>		WELL# <u>1</u>			
		COUNTY <u>Worthen</u>		STATE <u>Ks</u>	

CONTRACTOR <u>Green Oil</u>	OWNER <u>great Plains</u>			
TYPE OF JOB <u>Top Stage</u>				
HOLE SIZE	T.D.	CEMENT		
CASING SIZE <u>5 1/2</u>	DEPTH	AMOUNT ORDERED	<u>400</u>	
TUBING SIZE	DEPTH			
DRILL PIPE	DEPTH			
TOOL	DEPTH			
PRES. MAX	MINIMUM	COMMON	<u>240</u>	@ <u>18<sup>00</sup></u> <u>4320<sup>00</sup></u>
DISPLACEMENT	SHOE JOINT	POZMIX	<u>160</u>	@ <u>10<sup>00</sup></u> <u>1600<sup>00</sup></u>
CEMENT LEFT IN CSG.		GEL	<u>20</u>	@ <u>22<sup>00</sup></u> <u>440<sup>00</sup></u>
PERFS		CHLORIDE		@
		ASC		@
EQUIPMENT				@
		<u>Sand</u>	<u>2</u>	@ <u>25<sup>00</sup></u> <u>50<sup>00</sup></u>
PUMP TRUCK		<u>Halls</u>	<u>4</u>	@ <u>22<sup>00</sup></u> <u>88<sup>00</sup></u>
# <u>Sack</u>				@
BULK TRUCK				@
#				@
BULK TRUCK				@
#				@
		HANDLING	<u>426</u>	@ <u>2<sup>00</sup></u> <u>874<sup>00</sup></u>
		MILEAGE	<u>60</u>	@ <u>34<sup>00</sup></u> <u>2044<sup>00</sup></u>
		TOTAL		

REMARKS	SERVICE	<u>Top</u>	<u>Stage</u>	
<u>Port collar @ 1944</u>	DEPT OF JOB		@	
<u>Circulate Hole</u>	PUMP TRUCK CHARGE	<u>1</u>	@ <u>1550<sup>00</sup></u>	<u>1550<sup>00</sup></u>
<u>Spot sand</u>	EXTRA FOOTAGE		@	
<u>Mix 225 sx Blow/No circ</u>	MILEAGE	<u>60</u>	@ <u>6<sup>00</sup></u>	<u>360<sup>00</sup></u>
<u>set 45ml Mix 175 sy Blow/No circ</u>	MANIFOLD		@	
			@	
	TOTAL			

CHARGES TO: <u>great Plains</u>	
STREET	STATE
CITY	ZIP

To: Schippers Oil Field Services L.L.C.  
You are hereby requested to rent cementing equipment and furnish staff to assist owner or contractor to do work as is listed. The above work was done to satisfaction and supervision of owner agent or contractor. I have read and understand the "TERMS AND CONDITIONS" listed on the reverse side.

PLUG & FLOAT EQUIPMENT	
	@
	@
	@
	@
	@
TOTAL	
TAX	
TOTAL CHARGE	
DISCOUNT (IF PAID IN 20 DAYS)	

Sheridan Sentinel Print / Form 411

SIGNATURE

PRINTED NAME

# STATE OF KANSAS



CORPORATION COMMISSION  
CONSERVATION DIVISION  
266 N. MAIN ST., STE. 220  
WICHITA, KS 67202-1513

PHONE: 316-337-6200  
FAX: 316-337-6211  
<http://kec.ks.gov/>

GOVERNOR JEFF COLYER, M.D.

SHARI FEIST ALBRECHT, CHAIR | JAY SCOTT EMLER, COMMISSIONER | DWIGHT D. KEEN, COMMISSIONER

November 27, 2018

Mathew Mondero  
Great Plains Energy, Inc. KLN# 33629  
6121 S 58th St. Ste B  
Lincoln, NE 68516

Re: Lang #2  
W2 SW NE SW Sec. 32-2s-23w  
Norton County, Kansas  
API No. 15-137-20749-00-00

Dear Mr. Mondero,

The Kansas Corporation Commission has received your request for an exception to the Alternate II cementing requirements for the Lang #2. From the request, staff acknowledges the well was not cemented to surface pursuant to K.A.R. 82-3-106.

According to the request, the well has 221 feet of 8 5/8" surface casing set with 175 sacks of cement circulated to surface and 3,644 feet of 5 1/2" production casing set with 125 sacks of cement. The bond log indicates cement was circulated from a depth of 1,948 feet to 660 feet with 400 sacks of cement. The base of fresh water is reported at 150 feet and the base of usable water is reported at 1,200 feet. The top of the Dakota Formation is at 900 feet.

After review of this matter by technical staff it was determined the current construction of the well demonstrates all fresh and usable water is protected. In accordance with K.A.R. 82-3-106(f) an exception is granted for the Alternate II cementing requirement for the Lang #2 well.

Sincerely,

A handwritten signature in blue ink, appearing to read "Ryan A. Hoffman".

Ryan A. Hoffman  
Director

cc: Case Morris, Professional Geologist, District 4 Supervisor  
Rene Stucky, Environmental Program Administrator Supervisor