



Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION 1223658
OIL & GAS CONSERVATION DIVISION

Form ACO-1

August 2013

Form must be Typed

Form must be Signed

All blanks must be Filled

WELL COMPLETION FORM
WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License # _____

Name: _____

Address 1: _____

Address 2: _____

City: _____ State: _____ Zip: _____ + _____

Contact Person: _____

Phone: (_____) _____

CONTRACTOR: License # _____

Name: _____

Wellsite Geologist: _____

Purchaser: _____

Designate Type of Completion:

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

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

Operator: _____

Well Name: _____

Original Comp. Date: _____ Original Total Depth: _____

- Deepening Re-perf. Conv. to ENHR Conv. to SWD
- Plug Back Conv. to GSW Conv. to Producer
- Commingled Permit #: _____
- Dual Completion Permit #: _____
- SWD Permit #: _____
- ENHR Permit #: _____
- GSW Permit #: _____

Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date
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API No. 15 - _____

Spot Description: _____

_____-_____-_____-_____-_____-_____- Sec. _____ Twp. _____ S. R. _____ East West

_____ Feet from North / South Line of Section

_____ Feet from East / West Line of Section

Footages Calculated from Nearest Outside Section Corner:

- NE NW SE SW

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
- Geologist Report Received
- UIC Distribution
- ALT I II III Approved by: _____ Date: _____



1223658

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 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				

Did you perform a hydraulic fracturing treatment on this well? Yes No *(If No, skip questions 2 and 3)*

Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons? Yes No *(If No, skip question 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)*

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

TUBING RECORD:	Size:	Set At:	Packer At:	Liner Run: <input type="checkbox"/> Yes <input type="checkbox"/> No
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Date of First, Resumed Production, SWD or ENHR.	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> <input type="checkbox"/> Other <i>(Specify)</i> _____	PRODUCTION INTERVAL: _____ _____
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Form	ACO1 - Well Completion
Operator	Pickrell Drilling Company, Inc.
Well Name	Mauch "E" 1
Doc ID	1223658

Tops

Name	Top	Datum
T/Anhydrite	1796	_743
B/Anhydrite	1826	+713
Heebner	3814	-1275
Lansing	3851	-1318
Stark	4108	-1569
Fort Scott	4364	-1825
Cherokee	4388	-1849
Mississippian	4472	-1933



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Pickrell Drilling Company, Inc.

18-18s-25w Ness Co, KS

100 S Main STE 505
Wichita KS 67202 - 3738

Mauch "E" #1

Job Ticket: 57268

DST#: 1

ATTN: Jerry Smith

Test Start: 2014.09.08 @ 11:40:00

GENERAL INFORMATION:

Formation: **Mississippian**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 14:04:15

Time Test Ended: 20:34:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Jace McKinney

Unit No: 75

Interval: 4395.00 ft (KB) To 4481.00 ft (KB) (TVD)

Reference Elevations: 2539.00 ft (KB)

Total Depth: 4481.00 ft (KB) (TVD)

2532.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 7.00 ft

Serial #: 8675

Inside

Press @ RunDepth: 369.59 psig @ 4396.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.09.08

End Date:

2014.09.08

Last Calib.:

2014.09.08

Start Time: 11:40:15

End Time:

20:34:00

Time On Btm:

2014.09.08 @ 14:04:00

Time Off Btm:

2014.09.08 @ 18:35:15

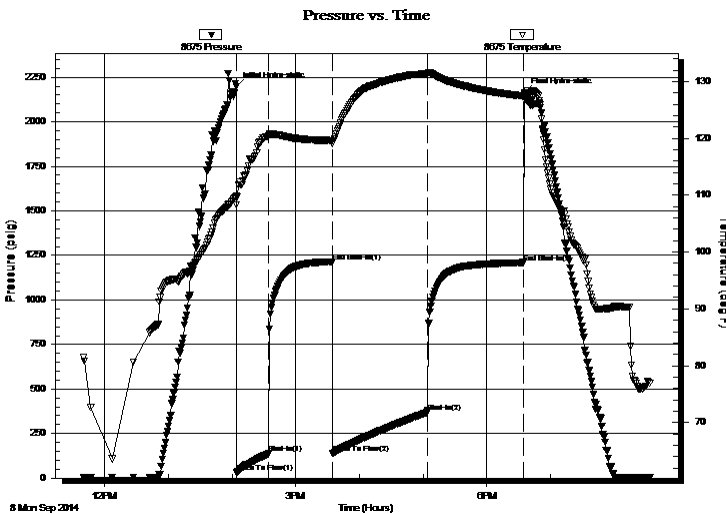
TEST COMMENT: B.O.B. in 13 1/2 min.

Bled off for 5 min. No return blow

B.O.B. in 17 min.

Bled off for 5 min. No return blow

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2196.62	109.82	Initial Hydro-static
1	33.34	108.34	Open To Flow (1)
31	137.26	120.36	Shut-In(1)
91	1215.46	119.63	End Shut-In(1)
91	138.45	119.01	Open To Flow (2)
180	369.59	131.45	Shut-In(2)
271	1209.85	127.41	End Shut-In(2)
272	2163.98	127.79	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
219.00	100%M w ith oil scum	3.07
126.00	w cm w ith oil scum 40%W 60%M	1.77
189.00	mcw w ith oil scum 10%M 90%W	2.65
252.00	100% W	3.53

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Pickrell Drilling Company, Inc.

18-18s-25w Ness Co, KS

100 S Main STE 505
Wichita KS 67202 - 3738

Mauch "E" #1

Job Ticket: 57268

DST#: 1

ATTN: Jerry Smith

Test Start: 2014.09.08 @ 11:40:00

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:

50000 ppm

Viscosity: 57.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 11.18 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2500.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
219.00	100%M w ith oil scum	3.072
126.00	w cm w ith oil scum 40%W 60%M	1.767
189.00	mcw w ith oil scum 10%M 90%W	2.651
252.00	100% W	3.535

Total Length: 786.00 ft Total Volume: 11.025 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW: .18 @ 85 F = 50,000

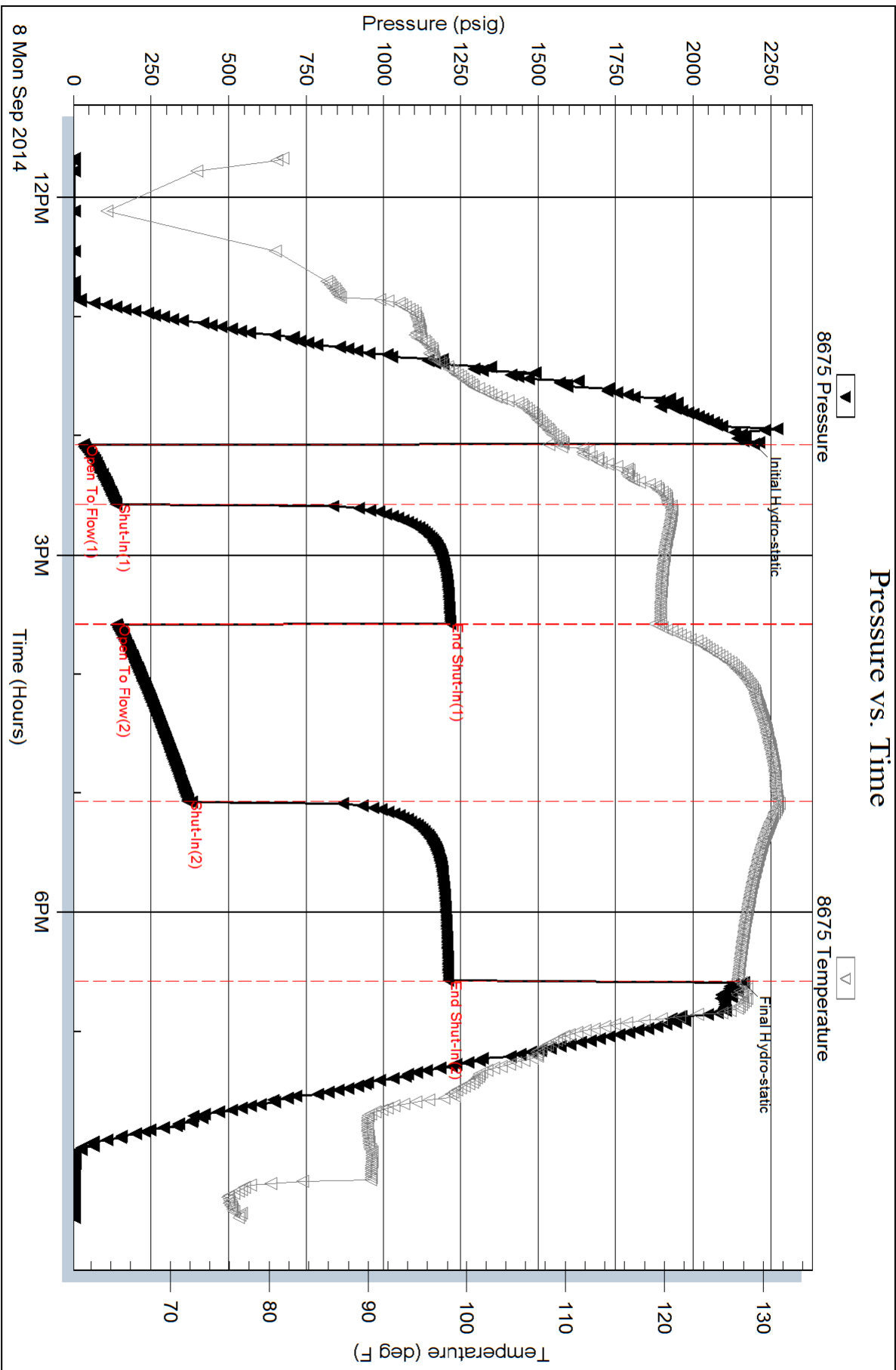
Serial #: 8675

Inside

Pickrell Drilling Company, Inc.

Mauch "E" #1

DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 57268

Printed: 2014.09.08 @ 22:58:03



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Pickrell Drilling Company, Inc.

18-18s-25w Ness Co, KS

100 S Main STE 505
Wichita KS 67202 - 3738

Mauch "E" #1

Job Ticket: 57432

DST#: 2

ATTN: Jerry Smith

Test Start: 2014.09.09 @ 06:22:00

GENERAL INFORMATION:

Formation: **Ft. Scott**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 07:54:15

Time Test Ended: 13:07:30

Test Type: Conventional Bottom Hole (Reset)

Tester: Bradley Walter

Unit No: 69

Interval: 4350.00 ft (KB) To 4430.00 ft (KB) (TVD)

Total Depth: 4481.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 2539.00 ft (KB)

2532.00 ft (CF)

KB to GR/CF: 7.00 ft

Serial #: 8365 Outside

Press @ Run Depth: 55.49 psig @ 4351.00 ft (KB)

Start Date: 2014.09.09

End Date: 2014.09.09

Start Time: 06:22:05

End Time: 13:07:29

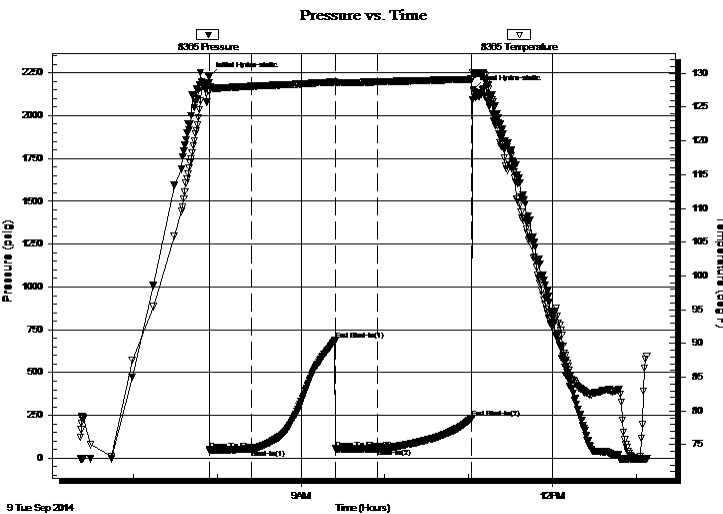
Capacity: 8000.00 psig

Last Calib.: 2014.09.09

Time On Btm: 2014.09.09 @ 07:54:00

Time Off Btm: 2014.09.09 @ 11:03:15

TEST COMMENT: IF: 1" Blow.
IS: No Return
FF: 1/2" Blow
FS: No Return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2230.23	128.68	Initial Hydro-static
1	47.75	127.32	Open To Flow (1)
31	54.22	128.09	Shut-In(1)
91	687.58	128.74	End Shut-In(1)
91	55.38	128.62	Open To Flow (2)
121	55.49	128.75	Shut-In(2)
189	234.00	129.13	End Shut-In(2)
190	2151.11	129.81	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
20.00	OCM 5o 95m	0.28

Gas Rates

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

* Recovery from multiple tests



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Pickrell Drilling Company, Inc.

18-18s-25w Ness Co, KS

100 S Main STE 505
Wichita KS 67202 - 3738

Mauch "E" #1

Job Ticket: 57432

DST#: 2

ATTN: Jerry Smith

Test Start: 2014.09.09 @ 06:22:00

GENERAL INFORMATION:

Formation: **Ft. Scott**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 07:54:15

Time Test Ended: 13:07:30

Test Type: Conventional Bottom Hole (Reset)

Tester: Bradley Walter

Unit No: 69

Interval: 4350.00 ft (KB) To 4430.00 ft (KB) (TVD)

Reference Elevations: 2539.00 ft (KB)

Total Depth: 4481.00 ft (KB) (TVD)

2532.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 7.00 ft

Serial #: 8522 Inside

Press @ Run Depth: psig @ 4351.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.09.09 End Date: 2014.09.09

Last Calib.: 2014.09.09

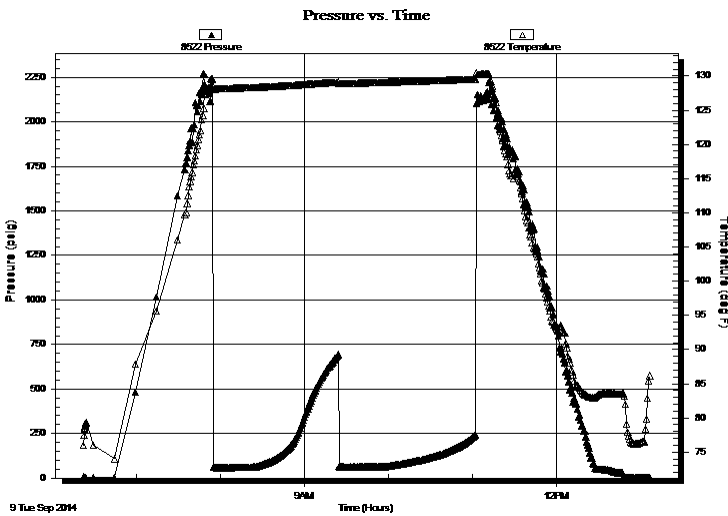
Start Time: 06:22:05 End Time: 13:07:14

Time On Btm:

Time Off Btm:

TEST COMMENT: IF: 1" Blow .
IS: No Return
FF: 1/2 " Blow
FS: No Return

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

Recovery

Length (ft)	Description	Volume (bbl)
20.00	OCM 5o 95m	0.28

Gas Rates

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

* Recovery from multiple tests



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Pickrell Drilling Company, Inc.

18-18s-25w Ness Co, KS

100 S Main STE 505
Wichita KS 67202 - 3738

Mauch "E" #1

Job Ticket: 57432

DST#: 2

ATTN: Jerry Smith

Test Start: 2014.09.09 @ 06:22:00

GENERAL INFORMATION:

Formation: **Ft. Scott**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 07:54:15

Time Test Ended: 13:07:30

Test Type: Conventional Bottom Hole (Reset)

Tester: Bradley Walter

Unit No: 69

Interval: **4350.00 ft (KB) To 4430.00 ft (KB) (TVD)**

Total Depth: 4481.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 2539.00 ft (KB)

2532.00 ft (CF)

KB to GR/CF: 7.00 ft

Serial #: 8677 Below (Straddle)

Press @ RunDepth: psig @ 4445.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.09.09

End Date:

2014.09.09

Last Calib.:

2014.09.09

Start Time: 06:22:05

End Time:

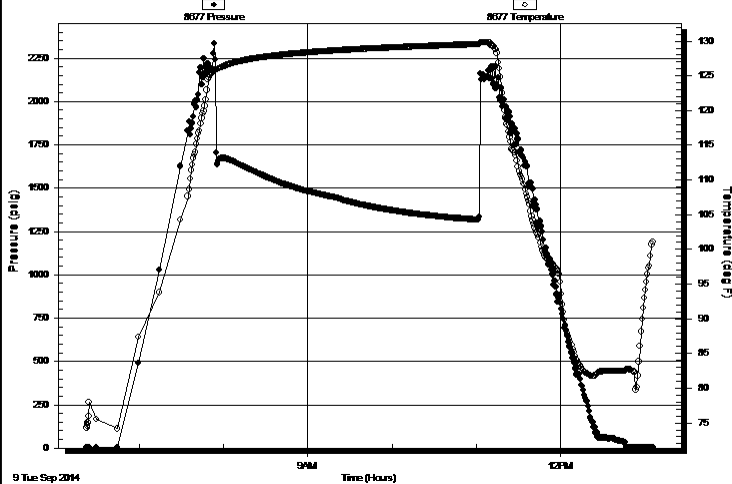
13:06:14

Time On Btm:

Time Off Btm:

TEST COMMENT: IF: 1" Blow.
IS: No Return
FF: 1/2" Blow
FS: No Return

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

Recovery

Length (ft)	Description	Volume (bbl)
20.00	OCM 5o 95m	0.28

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Pickrell Drilling Company, Inc.

18-18s-25w Ness Co, KS

100 S Main STE 505
Wichita KS 67202 - 3738

Mauch "E" #1

Job Ticket: 57432

DST#: 2

ATTN: Jerry Smith

Test Start: 2014.09.09 @ 06:22:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 57.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 11.19 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2500.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
20.00	OCM 5o 95m	0.281

Total Length: 20.00 ft Total Volume: 0.281 bbl

Num Fluid Samples: 0

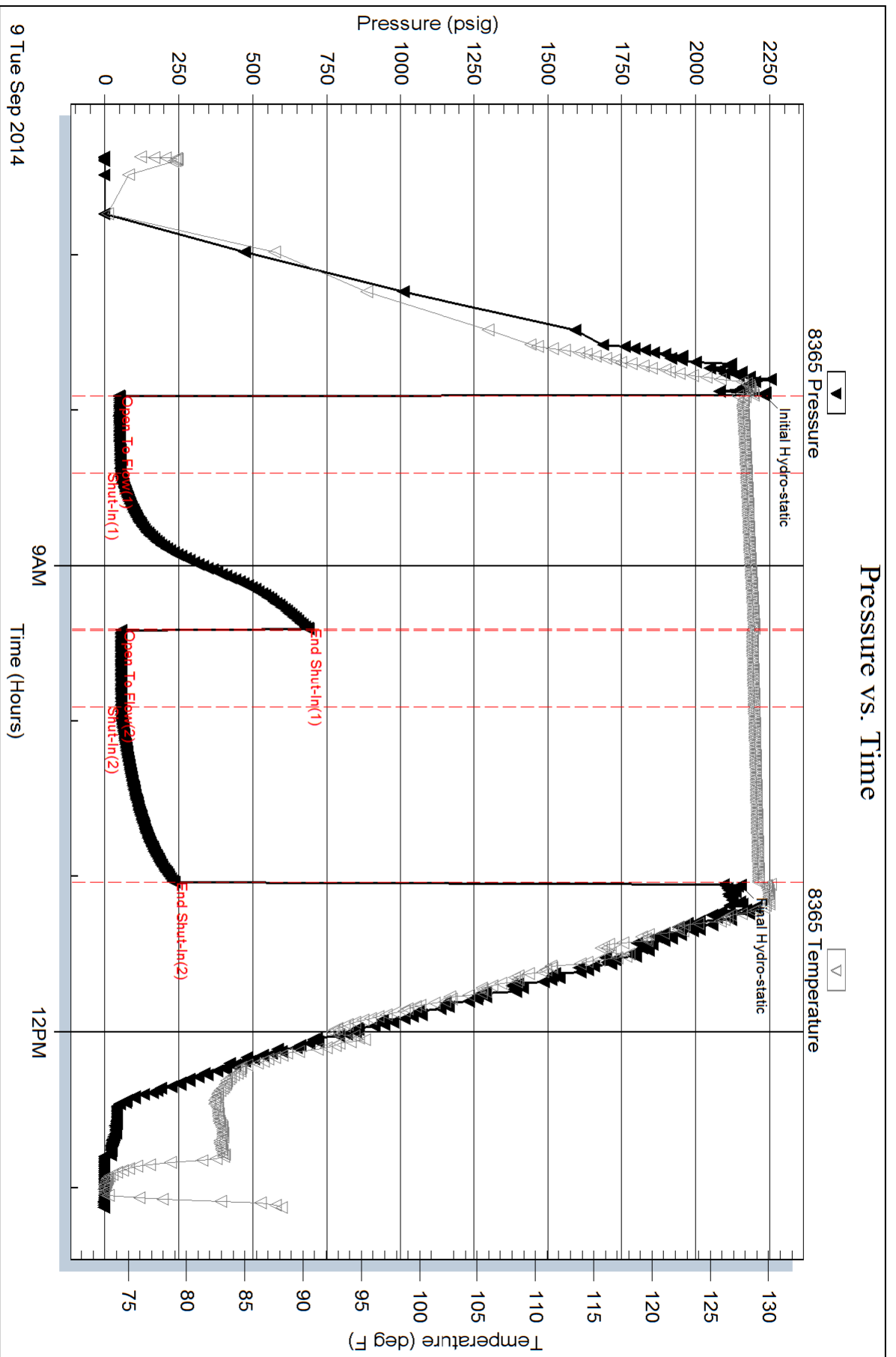
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



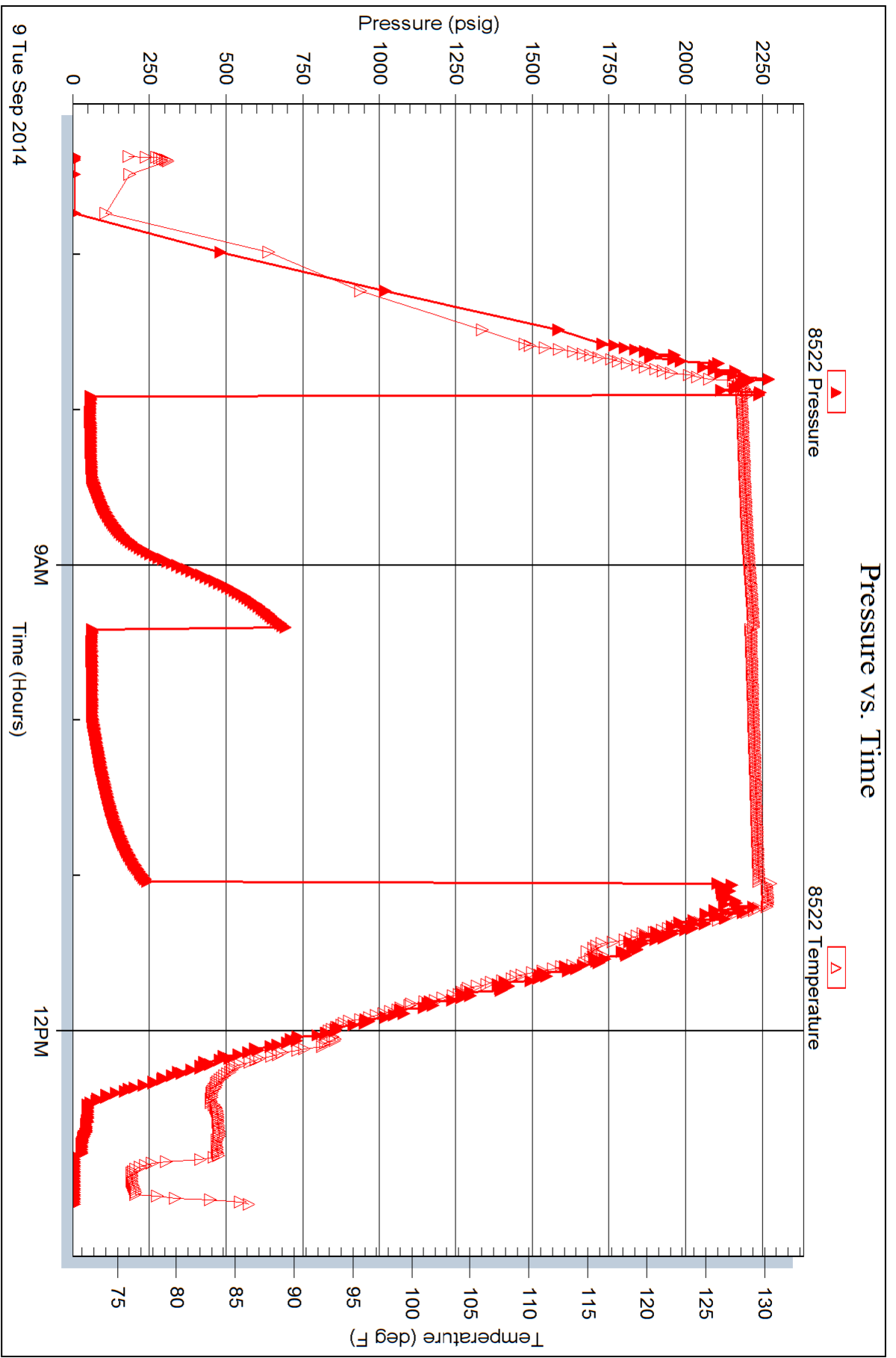
Serial #: 8522

Inside

Pickrell Drilling Company, Inc.

Mauch "E" #1

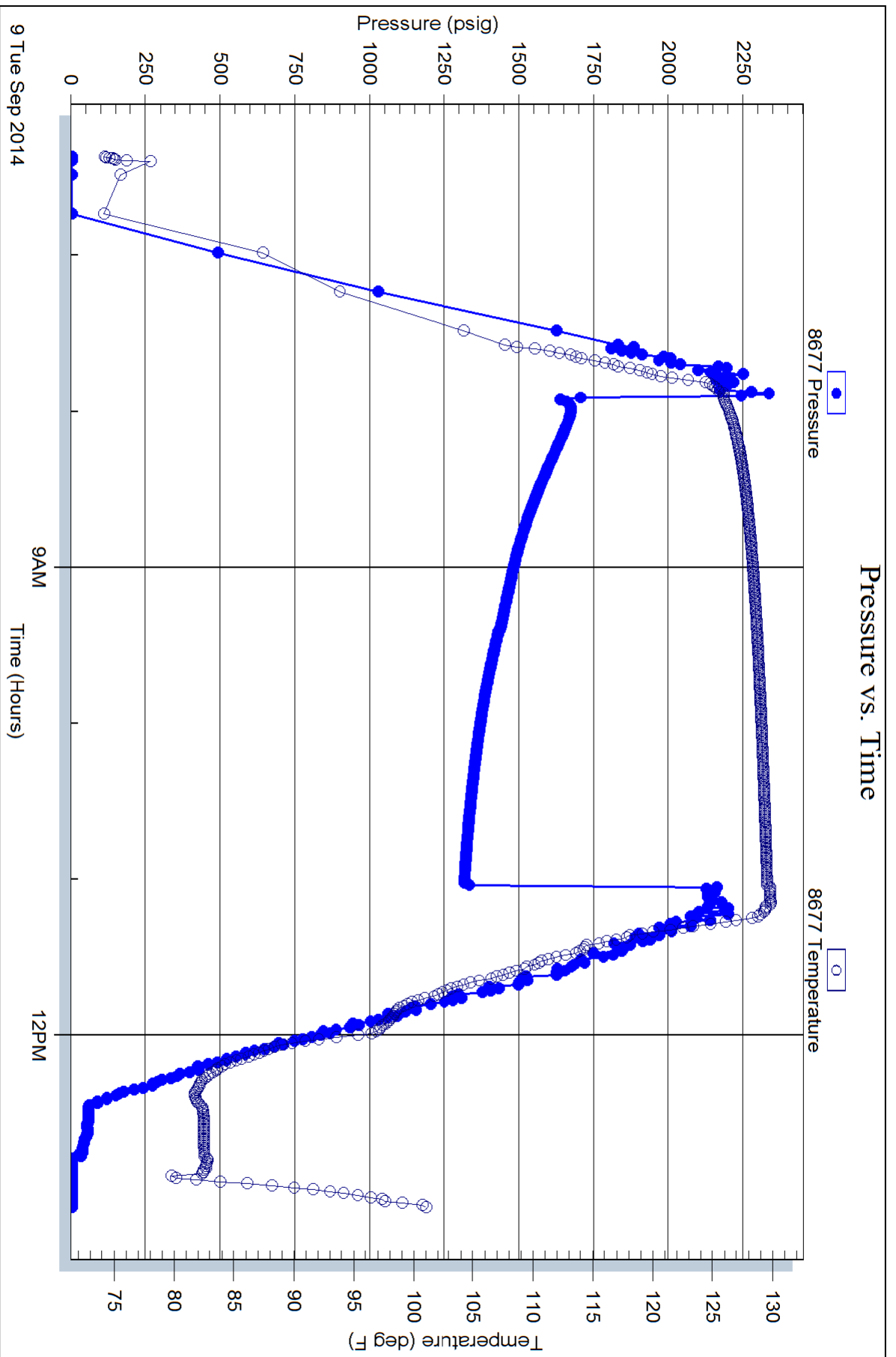
DST Test Number: 2



Trilobite Testing, Inc

Ref. No: 57432

Printed: 2014.09.09 @ 15:04:02





JERRY A. SMITH

CERTIFIED PETROLEUM GEOLOGIST

GEOLOGIST'S REPORT

DRILLING TIME and SAMPLE LOG

COMPANY: PICKRELL DRILLING COMPANY, INC.		ELEVATIONS	
LEASE: #1 MAUCH "E"		K.B. 2539	
FIELD: ALDRICH		D.F. 2537	
LOCATION: 1170' FSL & 1800' FWL		G.L. 2532	
SEC. 18	TWSP. 18	RNG. 25W	Measurements Are All From: KB
COUNTY: NESS		STATE: KANSAS	
CONTRACTOR: COMPANY TOOLS, RIG #10		CASING	
SPUD: 9/2/14	COMP. 9/9/14	SURFACE: 8 5/8" @ 221'	
RTD. 4481	LTD. 4478	PRODUCTION : P & A	
MUD UP: 3495	TYPE MUD: CHEMICAL	ELECTRICAL SURVEYS NABORS: DIL, FDC-CNL, MICRO, SONIC	
API No. 15-135-25809		TO: RTD	
SAMPLES SAVED FROM: 3600		TO: 1900/RTD	
DRILLING TIME KEPT FROM: 1700/3600		TO: RTD	
SAMPLES EXAMINED FROM: 3600		TO: RTD	
GEOLOGICAL SUPERVISION FROM: 3495		TO: RTD	
GEOLOGIST ON WELL: JERRY A. SMITH			
FORMATION TOPS	LOG	SAMPLES	
ANHYDRITE	1796 (+743)	1798 (+741)	
HEEBNER	3814 (-1275)	3816 (-1277)	
LANSING	3851 (-1312)	3858 (-1319)	
STARK	4108 (-1569)	4110 (-1571)	
PAWNEE	4297 (-1758)	4298 (-1759)	
FT. SCOTT	4364 (-1825)	4364 (-1825)	
CHEROKEE	4388 (-1849)	4390 (-1851)	
MISSISSIPPIAN	4472 (-1933)	4471 (-1932)	

LEGEND

Anhydrite	Salt	Sandstone	Shale	Carb. sh	Limestone	Ool. Lime	Chert	Dolomite

LITHOLOGY	DEPTH	DRILLING TIME IN MINUTES PER FOOT Rate of Penetration Increases	SAMPLE DESCRIPTIONS	REMARKS
				NO GAS DETECTOR DST'S (2): TRILOBITE MUD: MUD-CO
				S.H.T.'S 223' ¾" 2244' ½"

714' 1/2° 2651' 3/4°
 1213' 3/4° 2557' 3/4°
 1745' 3/4° 4481' 1/2°

VERT. LOG SCALE: 2" = 100'

1700

50

1800

ANHYDRITE
 1798 (+741) SMPL
 1796 (+743) LOG

B/ANHYDRITE
 1829 (+710) SMPL
 1826 (+713) LOG

50

1900

BIT TRIP @ 3557'

VERT. LOG SCALE: 5" = 100'

3600

1m - CRM. LG. GY. FX.
 SPEAR LOSS. DSE.

PIPE STRAP @ 3557':
 3557.11 STRAP
 3557.02 BOARD
 .09 LONG

1m - CRM. GYATA. FX.
 LOSS. SCAR. FR. VBY.
 LOSS MED. Ø. VIS.

20

1m - CRM. FX. DSE. HD.

40

1m - AA.

60

1m - CRM. LG. GY. FX.
 DSE. NO VIS. Ø.

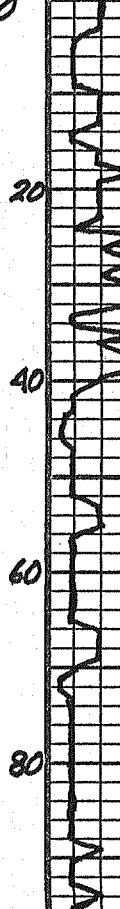
SH - DK GY.
 1m - AA.

80

SH - DK GY.
 1m - AA. ABD DK GY.
 SH.

1m - CRM. FX. SCAR. FR.
 VBY. Ø. VIS. ABD DK
 GY. SH.

3700



Ln - CRM, Lr Gy, FX.
DSE -> SUB - CHKY.

Ln - CRM, Lr Gy, FX.
DSE, HD, ABD DK
Gy SH.

Ln - AA.

Ln - CRM, Lr Gy, FX.
DSE, VgY & Foss No. 10
No.

Ln - AA. CHKY IN PT.

Ln - AA, / SCATT DK
Gy SH.

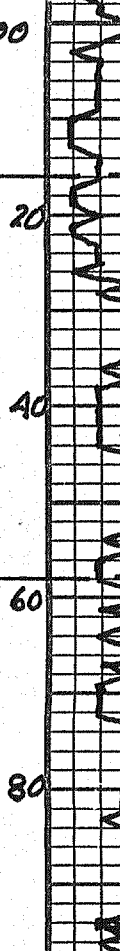
SH - DK Gy.

Ln - AA.

Ln - Lr -> M Gy, FX.
DSE.

MUD @ 3773':
8.9 WT, 51 VIS, 8.0 FILT,
4200 CHLOR, 2# LCM

3800



Ln - M Gy, FX, DSE.
SH - DK Gy.

SH - BK, CARR.

SH - DK Gy, Gy - GN, CARR
IN PT.

Ln - CRM, FX, DSE ->
SUB - CHKY.

SH - DK Gy, Gy - GN.

Ln - CRM, Lr Gy, FX.
DSE.

Ln - CRM, Lr Gy, FX.
DSE.

SH - DK Gy.

Ln - CRM, Lr Gy, FX.
DSE.

Ln - CRM, Lr Gy, FX, DSE.
SCATT DK Gy SH.

HEEBNER
3816 (-1277) SMPL
3814 (-1275) LOG

LANSING
3858 (-1319) SMPL
3851 (-1312) LOG

3900

Ln - CRM, Lr Gy, FX.
DSE, FEW Foss
No Vis.

Ln - CRM, Lr Gy, FX.
DSE, FEW Foss
No Vis.

20
40
60
80
4000
20
40
60
80
4100
20
40

USE CHIT. MGD DR BY SH.

LM - L₂ - M Gy Gy-TN FX DSE. MD.

SH - DR Gy.

LM - CRM, Gy-TN FX DSE. MD.

SH - DR Gy.

LM - M Gy, Gy-TN FX DSE.

LM - AA - / M - DR Gy SH.

LM - CRM, Gy-TN FX SCATT FER. V.G.Y. B. TR. COMED. P. NB.

LM - CRM, L₂ Gy FX DSE. SCATT Gy-BRN SH.

LM - CRM, L₂ Gy L₂ TN FX DSE. SCATT FER. LOSS.

LM - L₂ - M Gy FX DSE.

SH - DR Gy, Gy-BRN.

LM - CRM, FX, FAST, CRM, CRG, SAE, DSE. SCATT LHT.

LM - AA. SHLY.

LM - AA.

LM - CRM. FX DSE.

SH - DR Gy, Gy-BRN.

LM - L₂ - M Gy FX DSE.

LM - AA.

SH - BUK, CARB.

SH - DR Gy, LMY.

LM - L₂ - M Gy FX DSE - CRK S.

STARK
4110 (-1571) SMPL
4108 (-1569) LOG

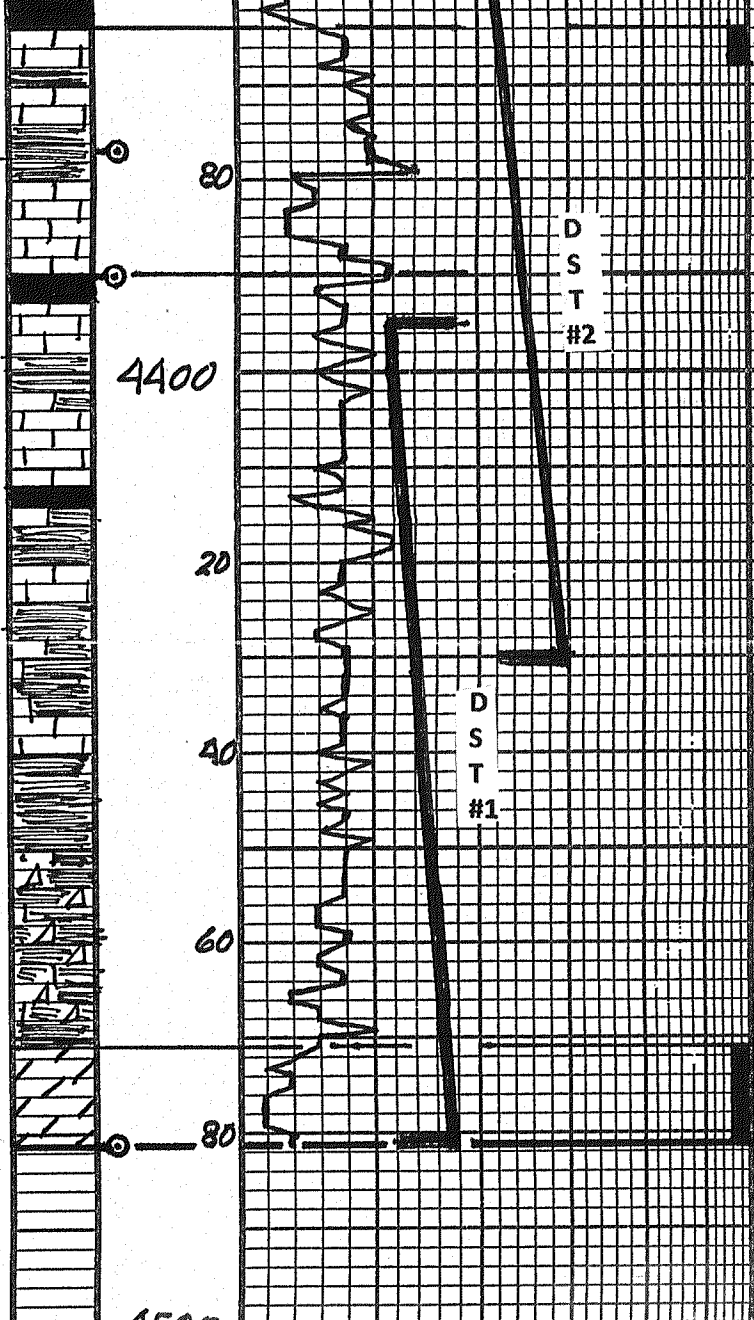
60
80
4200
20
40
60
80
4300
20
40
60

SH - Blk, CARB.
LM - Lt - M Gy. FX.
DSE.
LM - Com. Lt - M Gy.
FX. DSE - SUB -
CHKY.
SH - M - DK Gy. Gy.
GRN, BLN, RD.
LM - Lt - M Gy. FX.
DSE. APP. M - DK Gy.
Gy - Gray, DK Rd. SH.
SH - DK Gy, Gy - GRN.
LM - Lt Gy. FX. DSE.
LM - Lt Gy. FX. DSE.
No Vis D.
LM - Lt TN. FX. DSE.
LM - AA. SCAT DK Gy
SH.
LM - Lt Gy. Lt TN. FX.
DSE. SCAT DK Gy
SH.
LM - Com. Lt TN. FX. No
Vis D.
LM - Com. FX. DSE.
CHKY. SCAT TN -
Lt Gy. APP. SH. DSE.
LM - Lt - M Gy. FX.
DSE.
SH - Blk. CARB. w/ DK Rd,
DK Gy - GRN. SH.
LM - Com. Lt - M Gy.
FX. DSE - SUB - CHKY.
LM - Com. Lt - M Gy. Gy -
TN. FX. DSE. SUB - CHKY
TN. FX.
LM - AA.
LM - Com. Lt - M Gy. Lt
TN. FX. DSE - SUB -
CHKY. TN. FX.
LM - AA. w/ DK Rd. SH.
M - DK Gy, Gy - GRN,
DK Rd.
SH - Lt - M Gy.
LM - AA.
SH - Blk. CARB. w/ DK Rd.

MUD @ 4225':
9.6 WT, 51 VIS, 10.8 FILT,
3000 CHLOR, 1 # LCM

PAWNEE
4298 (-1759) SMPL
4297 (-1758) LOG

ET SCOTT



Lm - Lcm, FX, DSE -> Chky, w/ lhm -
 M Gy, FX, DSE -> VPS VBY/INT -
 XAN D. LR DUBEN -> BLE STN.
 NO F.O. WA, FRETTING ODOR.
 Lm - Lcm, M Gy, FX, DSE, BE -
 COILING SHLY
 SH - DR Gy, Gy - BRN, DR RD.
 Lm - Lcm, FX, SUB - CNK, No VIBS
 w/ Lm - M Gy, FX, LR VBY D
 No VIB SHO. VIB ODOR.
 SH - BLK, CARB.
 Lm - Lcm, LR -> M Gy, FX,
 DSE.
 SH - M -> DR Gy, Gy - BRN,
 DR RD.
 SH - AA.
 Lm - Lcm, Gy - BRN, FX, DSE ->
 SUB - CNK, LR BRN, SH - DR
 Gy, Gy - BRN, DR RD.
 Lm & SH - AA.
 Lm & SH - AA, ADD WA,
 SET CNK.
 Lm & SH - AA, WA, SETO,
 CNK, LR, SH - LR Gy,
 DR, SH, DSE.
 Lm, SH, CNK & CNT - AA.
 Lm, SH, CNK & CNT - AA.
 Dato - LR Gy, LR M, FX, LR -> LR
 VBY D, LR -> LR ODOR, Glo SHO
 LR -> M BRN F.O.

FT. SCOTT
 4364 (-1825) SMPL & LOG
 CHEROKEE
 4390 (-1851) SMPL
 4388 (-1849) LOG
 MISSISSIPPIAN
 4471 (-1932) SMPL
 4472 (-1933) LOG
 TOTAL DEPTH
 4481 (-1942) ROTARY
 4478 (-1939) LOG
 MUD @ 4481':
 9.4 WT, 57 VIS, 11.2 FILT,
 2500 CHLOR, 0 LCM

DST #1: 4395 - 4481
 30-60-90-90
 IF: BOB IN 13 1/2 MIN.
 ISI: NO RETURN
 FF: BOB IN 17 MIN.
 FSI: NO RETURN
 RECOVERY:
 219' MUD W/ OIL SCUM
 126' WCM W/OIL SCUM
 (40% W, 60% M)
 189' MCW W/OIL SCUM
 (90% W, 10% M)
 252' WATER
 786' T.F.
 50,000 CHLOR.
 SIP'S: 1215-1210 #
 FP'S: 33-137/138-370 #

DST #2: 4350-4430
 STRADDLE PACKERS
 30-60-30-60
 IF: 1" BLOW
 ISI: NO RETURN
 FF: 1/2" BLOW
 FSI: NO RETURN
 RECOVERY:
 20' OCM
 (5% O, 95% M)
 SIP'S: 688-234#
 FP'S: 48-54/55-55 #
 HP'S: 2230-2151 #
 BHT: 119° F

HP'S: 2197-2164 #
BHT: 128° F

4600

LITHOLOGY

DEPTH

5" 10" 15" 20" 25"
DRILLING TIME MINUTES/FOOT

←
Rate of Penetration Increases

SAMPLE DESCRIPTIONS

REMARKS

COMPANY: PICKERELL DRILLING COMPANY, INC.

ELEVATION: 2539 KB

LEASE: #1 MAUCH "E"

LOCATION: 1170' FSL & 1800' FWL

SEC 18

TWP 18

RGE 25 W

COUNTY: NESS

STATE: KANSAS

ALLIED OIL & GAS SERVICES, LLC 063518

Federal Tax I.D. # 20-8651475

REMIT TO P.O. BOX 93999
SOUTHLAKE, TEXAS 76092

SERVICE POINT: Enclave

DATE <u>9-2-14</u>	SEC. <u>18</u>	TWP. <u>18S</u>	RANGE <u>25W</u>	CALLED OUT	ON LOCATION <u>2:30pm</u>	JOB START <u>10:00am</u>	JOB FINISH <u>11:50am</u>
LEASE <u>mauch</u>	WELL# <u>1</u>	LOCATION <u>NISS city, 41w, 20n, 12w, 11m</u>			COUNTY <u>NISS</u>	STATE <u>TX</u>	
OLD OR NEW (Circle one)							

CONTRACTOR Pickrell OWNER _____
TYPE OF JOB Surface

HOLE SIZE <u>12 1/4</u>	T.D.
CASING SIZE <u>4 1/2</u>	DEPTH <u>223.70</u>
TUBING SIZE	DEPTH
DRILL PIPE	DEPTH
TOOL	DEPTH
PRES. MAX	MINIMUM
MEAS. LINE	SHOE JOINT
CEMENT LEFT IN CSG. <u>15F+</u>	
PERFS.	
DISPLACEMENT <u>13.24 bbl H2O</u>	EQUIPMENT

CEMENT AMOUNT ORDERED 175 sk class A 3 1/4 Ziegler

COMMON <u>175</u>	@ <u>17.90</u>	<u>3,132.50</u>
POZMIX	@	
GEL <u>329</u>	@ <u>.50</u>	<u>164.50</u>
CHLORIDE <u>493</u>	@ <u>1.10</u>	<u>542.30</u>
ASC	@	
<u>Metric by Total</u>		<u>3,839.30</u>
<u>Disc. @ 20%</u>		<u>767.86</u>
Service		
@		
HANDLING <u>189.23</u>	@ <u>2.48</u>	<u>469.29</u>
MILEAGE <u>8.64 x 20x</u>	@ <u>2.75</u>	<u>475.20</u>

PUMP TRUCK # <u>366</u>	CEMENTER <u>Josh Isaac</u>
	HELPER <u>Ben Merrill</u>
BULK TRUCK # <u>811-112</u>	DRIVER <u>Zeb Schwaiber</u>
BULK TRUCK # _____	DRIVER _____

REMARKS:

In location - Rig up - had safety meeting
Rin 659 casing - Break circulation
Pump 5661 H2O
Mix 175 sk class A 3 1/4 Ziegler
Displace 13.24 bbl H2O
Shut in 11:50am
Cemented and circulate
Rig down

CHARGE TO: Pickrell Drilling
STREET _____
CITY _____ STATE _____ ZIP _____

DEPTH OF JOB <u>223.70</u>	
PUMP TRUCK CHARGE <u>1512.25</u>	
EXTRA FOOTAGE	@
MILEAGE <u>Hum 20</u>	@ <u>7.70</u> <u>154.00</u>
MANIFOLD	@
<u>Hum 20</u>	@ <u>4.40</u> <u>88.00</u>
	@

TOTAL 2,698.74
Disc 20% 539.75

PLUG & FLOAT EQUIPMENT

_____	@	_____
_____	@	_____
_____	@	_____
_____	@	_____
_____	@	_____

0% TOTAL 0

To: Allied Oil & Gas Services, LLC.
You are hereby requested to rent cementing equipment and furnish cementer and helper(s) 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 "GENERAL TERMS AND CONDITIONS" listed on the reverse side.

PRINTED NAME X Mike Kern

SIGNATURE Mike Kern

Thank you!

SALES TAX (If Any) _____
TOTAL CHARGES 6,538.04
DISCOUNT 20% 1,307.61 (20/20)
IF PAID IN 30 DAYS
5,230.43

ALLIED OIL & GAS SERVICES, LLC

Federal Tax I.D. # 20-8651475

063981

REMIT TO P.O. BOX 93999
SOUTHLAKE, TEXAS 76092

SERVICE POINT:

DATE <u>9-09-14</u>	SEC. <u>18</u>	TWP. <u>18</u>	RANGE <u>25</u>	CALLED OUT	ON LOCATION <u>6:30 PM</u>	JOB START <u>9:30 PM</u>	JOB FINISH <u>10:30 PM</u>
LEASE <u>March E</u>	WELL # <u>1</u>	LOCATION <u>Ness City 11 West 2 North</u>			COUNTY <u>Ness</u>	STATE <u>KS</u>	
OLD OR <u>NEW</u> (Circle one)			<u>1/2 West</u>				

CONTRACTOR Pickrell 10
 TYPE OF JOB PTA
 HOLE SIZE 7 7/8 T.D.
 CASING SIZE DEPTH
 TUBING SIZE DEPTH
 DRILL PIPE 4 1/2 DEPTH 1850
 TOOL DEPTH
 PRES. MAX MINIMUM
 MEAS. LINE SHOE JOINT
 CEMENT LEFT IN CSG. All
 PERFS.
 DISPLACEMENT Fresh H2O

OWNER
 CEMENT
 AMOUNT ORDERED 350 SKS 60/40 4% Gel
1/4 flt

EQUIPMENT
 PUMP TRUCK CEMENTER Kevin Eddy
 # 366 HELPER Ben Newell
 BULK TRUCK
 # 610/170 DRIVER Kevin Weighous
 BULK TRUCK
 # DRIVER

COMMON	@		
POZMIX	@		
GEL	@		
CHLORIDE	@		
ASC	@		
<u>350 SKS 60/40+4%</u>	@	<u>18.92</u>	<u>6,622.00</u>
<u>1/4 flt</u>	@	<u>2.97</u>	<u>261.34</u>
@			
<u>Materials Total</u>			<u>6,883.36</u>
<u>Disc 20%</u>			<u>1,376.67</u>
@			
<u>Service</u>	@		
HANDLING <u>375.94</u>	@	<u>2.48</u>	<u>932.33</u>
MILEAGE <u>15.70 x 20</u>	@	<u>2.75</u>	<u>863.50</u>

REMARKS:

On location, Had safety meetings, Rig up
ran 4 1/2 Drill Pipe - Fill Hole w/ Rig mud
#1 - 1850 - 50 SKS #2 - 1020 - 80 SKS
#3 - 1020 - 80 SKS #3 - 570 - 40 SKS
#4 - 240 - 50 SKS
#5 - 60 - 20 SKS
Rot Hole 30 SKS
Rig Down

DEPTH OF JOB			
PUMP TRUCK CHARGE		<u>2,213.75</u>	
EXTRA FOOTAGE	@		
MILEAGE <u>Hum 20</u>	@	<u>7.70</u>	<u>154.00</u>
MANIFOLD	@		
<u>Hum 20</u>	@	<u>4.40</u>	<u>88.00</u>
@			

CHARGE TO: Pickrell Drilling
 STREET _____
 CITY _____ STATE _____ ZIP _____

TOTAL 4,251.58
Disc 20% 850.32

PLUG & FLOAT EQUIPMENT

	@		
	@		
	@		
	@		
	@		

0% TOTAL 0

To: Allied Oil & Gas Services, LLC.
 You are hereby requested to rent cementing equipment and furnish cementer and helper(s) 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 "GENERAL TERMS AND CONDITIONS" listed on the reverse side.

PRINTED NAME Mike Kern
 SIGNATURE Mike Kern

SALES TAX (If Any) _____
 TOTAL CHARGES 11,134.24
20% 2,226.82 (20/20/0)
 DISCOUNT _____ IF PAID IN 30 DAYS
8,907.95