



Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION 1242793
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: _____



1242793

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: Yes No

Date of First, Resumed Production, SWD or ENHR. _____ Producing Method:
 Flowing Pumping Gas Lift Other *(Explain)* _____

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> _____ <i>(Submit ACO-4)</i>	PRODUCTION INTERVAL: _____ _____
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ALLIED OIL & GAS SERVICES, LLC 063611

Federal Tax I.D. # 20-8651475

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

SERVICE POINT: Great Bend

DATE <u>1-7-15</u>	SEC <u>15</u>	TWP <u>30S</u>	RANGE <u>8W</u>	CALLED OUT <u>3:00 AM</u>	ON LOCATION <u>6:30</u>	JOB START <u>11:00</u>	JOB FINISH <u>12:00</u>
LEASE # <u>Higgins K</u>	WELL# <u>3</u>	LOCATION <u>Sanger Ero 1 mile W of</u>			COUNTY <u>Kingman</u>	STATE <u>KS</u>	
OLD OR NEW (Circle one) <u>NEW</u>			<u>Sperry 4 in to</u>				

CONTRACTOR Prekrell Drilling #10 OWNER _____
TYPE OF JOB Surface

HOLE SIZE <u>12 1/4</u>	T.D.	CEMENT
CASING SIZE <u>8 1/4</u>	DEPTH <u>211.06</u>	AMOUNT ORDERED <u>165 SKS class A</u>
TUBING SIZE _____	DEPTH _____	<u>34.00 24 gal</u>
DRILL PIPE <u>4 in</u>	DEPTH _____	
TOOL _____	DEPTH _____	

PRES. MAX _____	MINIMUM _____	COMMON <u>165</u>	@ <u>17.90</u>	<u>2,953.50</u>
MEAS. LINE _____	SHOE JOINT _____	POZMIX _____	@ _____	_____
CEMENT LEFT IN CSG. <u>15 Fr</u>		GEL <u>310</u>	@ <u>.50</u>	<u>155.00</u>
PERFS. _____		CHLORIDE <u>465</u>	@ <u>1.10</u>	<u>511.50</u>
DISPLACEMENT <u>12 1/4 6 1/2 Freshwater</u>		ASC _____	<u>Materials Total 3,620.00</u>	
EQUIPMENT		<u>Dec 25% 905.00</u>		

PUMP TRUCK CEMENTER Dustin Chambers
366 HELPER Ben Newell
BULK TRUCK _____
87112 DRIVER Kevin Wrayhous
BULK TRUCK _____
_____ DRIVER _____

HANDLING <u>178.42</u>	@ <u>2.48</u>	<u>442.48</u>
MILEAGE <u>8.14 x 20 x</u>	@ <u>2.75</u>	<u>447.70</u>
Service _____		

REMARKS:

Pump 5 1/2 Freshwater Ahead
mix 165 SKS class A spec 24 gal
Displace 12 1/4 6 1/2 Freshwater
9 1/2 in
Cement set circulation
plug down 11:20 AM
put it down

DEPTH OF JOB _____		
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>

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

TOTAL 2,644.43
Dec 25% 661.11

PLUG & FLOAT EQUIPMENT

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

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.

TOTAL 0
Dec 0%

PRINTED NAME A Mike Kelly
SIGNATURE X Mike Kelly
Thank You!!

SALES TAX (If Any) _____
TOTAL CHARGES 6,264.43
25% 1,566.11
DISCOUNT _____ IF PAID IN 30 DAYS
4,698.32

ALLIED OIL & GAS SERVICES, LLC 065689

Federal Tax I.D. # 20-8651475

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

SERVICE POINT:
Great Bend KS

DATE <u>1-16-15</u>	SEC. <u>15</u>	TWP. <u>30w</u>	RANGE <u>8w</u>	CALLED OUT	ON LOCATION	JOB START <u>11:30 AM</u>	JOB FINISH <u>12:50 PM</u>
LEASE # <u>H: 5000</u>		WELL # <u>K 3</u>		LOCATION <u>S.P. UCV 2 west South in TO</u>		COUNTY <u>Kingman</u>	STATE <u>KS</u>
OLD OR (NEW) (Circle one)							

CONTRACTOR <u>Pickwell</u>	OWNER <u>Pickwell</u>
TYPE OF JOB <u>Production</u>	
HOLE SIZE <u>7 7/8</u>	T.D. <u>4270</u>
CASING SIZE <u>4 1/2</u>	DEPTH <u>4269.26</u>
TUBING SIZE	DEPTH
DRILL PIPE	DEPTH
TOOL	DEPTH
PRES. MAX	MINIMUM
MEAS. LINE	SHOE JOINT <u>17.68</u>
CEMENT LEFT IN CSG.	
PERFS.	
DISPLACEMENT <u>67.75 2% Uch</u>	
EQUIPMENT	
PUMP TRUCK # <u>366</u>	CEMENTER <u>Wayne Davis</u>
BULK TRUCK # <u>544/198</u>	DRIVER <u>Marvin Spangenberg</u>
BULK TRUCK #	DRIVER

CEMENT			
AMOUNT ORDERED <u>175 SX class A + 10% salt + 5% Kalscal</u>			
<u>SDSX 60/40 + 4% Gel 500 Gallon DV</u>			
COMMON	<u>175</u>	@ <u>17.90</u>	<u>3,132.50</u>
POZMAX Salt	<u>962</u>	@ <u>-68</u>	<u>654.16</u>
GEL		@	
CHLORIDE		@	
ASC		@	
	<u>7 Gallon Uch</u>	@ <u>34.40</u>	<u>240.80</u>
	<u>Kalscal 875</u>	@ <u>.98</u>	<u>857.50</u>
	<u>SDSX 60/40 + 4%</u>	@ <u>18.92</u>	<u>946.00</u>
	<u>DV 1100 500</u>	@ <u>1.27</u>	<u>635.00</u>
Materials Total			<u>6,465.96</u>
	<u>Disc</u>	<u>30%</u>	<u>1,939.79</u>
		@	
		Service	
HANDLING	<u>258.93</u>	@ <u>2.48</u>	<u>642.15</u>
MILEAGE	<u>11.38 x 20x</u>	<u>2.75</u>	<u>625.90</u>

REMARKS:

Ran casing Put Guide Shoe on
After Insect Scout 2-3
Drop Ball Break circulation
Ran 5 BBs water Ahead mix 500 Gallon
DV 1100 Ran 5 BBs water Behind plus
Rat with 30SX / mouse with 20SX 60/40
Mix 175 SX class A + 10% salt + 5% Kalscal
wash pump and line Drop plus
Displace 67.75 BBs with 2% Uch
Land plug at 1000 PSI Release and Hold

CHARGE TO: Pickwell
STREET _____
CITY _____ STATE _____ ZIP _____

DEPTH OF JOB	<u>4269.26</u>		
PUMP TRUCK CHARGE	<u>2765.75</u>		
EXTRA FOOTAGE		@	
MILEAGE <u>HVM</u>	<u>20</u>	@ <u>7.70</u>	<u>154.00</u>
MANIFOLD <u>Head manifold</u>		@	<u>275.00</u>
	<u>HVM</u>	<u>20</u>	@ <u>4.40</u>
		@	<u>88.00</u>

TOTAL 4,550.80
30% 1,365.24

PLUG & FLOAT EQUIPMENT

<u>Guided Shoe</u>	@	<u>281.00</u>
<u>5 Cementizer</u>	@ <u>57.00</u>	<u>285.00</u>
<u>After Insect</u>	@ <u>360.00</u>	<u>360.00</u>
<u>Rubber Plug</u>	@ <u>85.00</u>	<u>85.00</u>
	@	

TOTAL 1,011.00
30% 303.30

To: Allied Oil & Gas Services, LLC.
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PRINTED NAME DAVID HAMMERTZHEIM

SIGNATURE David Hammertzheim

SALES TAX (If Any) _____
TOTAL CHARGES 12,027.75
30% 3,608.33
DISCOUNT _____ IF PAID IN 30 DAYS

8,419.43

Geologic Report
Aaron L. Young

Drilling Time and Sample Log

Scale 1:240 (5"=100') Imperial
Measured Depth Log

Well Name: Higgins "K" #3
API: 15-095-22293
Location: Section 15 - T30S - R8W
License Number: 5123
Spud Date: 1/06/ 2015
Surface Coordinates: 1320' FNL and 2310' FWL
Approx. E2 - E2 - NW
Region: Kingman Co., KS
Drilling Completed: 1/16/15
Bottom Hole Coordinates:
Ground Elevation (ft): 1494' K.B. Elevation (ft): 1504'
Logged Interval (ft): 3000' To: 4270' Total Depth (ft): 4270'
Formation: Mississippian
Type of Drilling Fluid: Chemical - Mud-Co

Printed by MUD.LOG from WellSight Systems 1-800-447-1534 www.WellSight.com

OPERATOR

Company: Pickrell Drilling Company, Inc.
Address: 100 S Main Ste 505
Wichita, KS 67202+3738

GEOLOGIST

Name: Aaron L. Young, M.S.
Company: Young Consulting LLC
Address: 100 S Main, Suite 505
Wichita, Kansas 67202

General Info

CONTRACTOR: Pickrell Drilling, Rig #1

BIT RECORD:

No.	Size	Make	Jets	Out	Feet	Hours
1	12-1/4	JZ RR	15-15-15	212	202	6.25
2	7-7/8	HA20JQ	15-15-15	4173	3971	102.00
3	7-7/8	HA30Q	15-15-15	4270	97	4.00

SURVEYS: 212'-1.75, 716'-1, 1221'-1.25, 1724'-1, 2229'-1.75, 2734'-1.25, 4173'-1

GENERAL DRILLING AND PUMP INFORMATION:

Drilling with 32,000 - 42,000 lbs. on bit and approx 65-75 RPM.
Running 9 stands of collars; 519'
Pumping approx 1100 psi at standpipe.

Daily Status

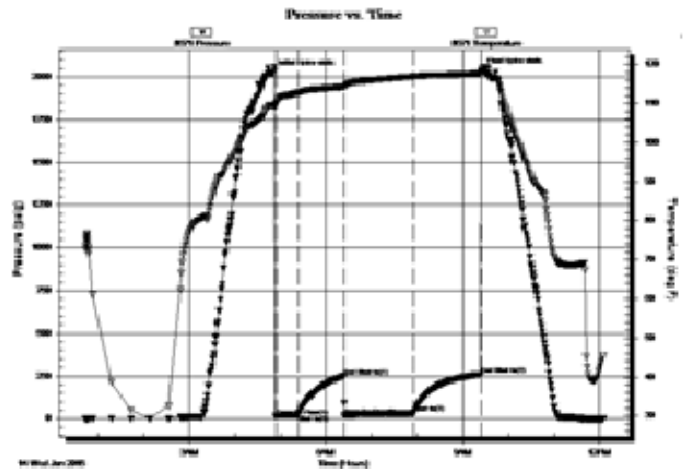
1/06/15 - Spud @ 11:45pm
 1/07/15 - Drilling @155', Ran 5 jts of New 8 5/8" 28# surface casing set @ 211', cmt w/ 165 sx Class A, 2% gel, 3% CC
 1/08/15 - Drilling mouse hole
 1/09/15 - Drilling @ 1221'
 1/10/15 - Drilling @ 1950'
 1/11/15 - Drilling @ 3947'
 1/12/15 - DST #1 4142'-4173'
 1/13/15 - DST #2 4173'-4193'
 1/14/15 - TD @ 4270, Logged
 1/15/15 - Ran 102 jts of New 4 1/2" 10.5# prod casing set @ 4269', cmt w/ 175sx Class A, 10% salt, w/ 5# gil/sx, 30sx in RH, 20sx in MH of 60-40 poz
 1/16/15 -

DST #1: 4,142' - 4,173' Mississippian
30" - 60" - 90" - 90"

IF: BOB in 5 1/2min
 ISI: No blow
 FF: BOB in 4 1/2min
 FSI: No blow

RECOVERY: 720' GIP, 42' GOCM (1% G, 1% O, 98% M)

SIP: 250-260; FP: 14-22, 19-32; HP: 2020-2032;

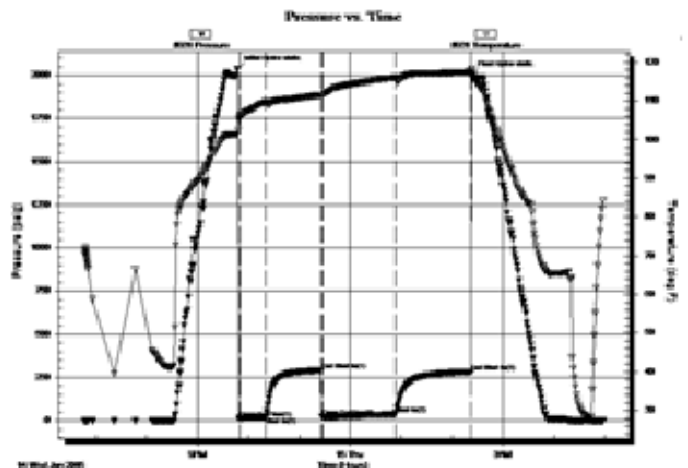


DST #2 4,173'-4,193' Mississippian
30" - 60" - 90" - 90"

IF: BOB 5min
 ISI: Weak blow, Surface - 1/4" in 30min
 FF: BOB immediately
 FSI: Weak blow, Surface - 1/4" after 60min

Rec': 1734' GIP, 64' OGWCM (7% G, 3% O, 25% W, 65% M)

SIP: 292-283; FP: 13-21, 20-36 HP: 2037-2007



ROCK TYPES

	Anhy
	Bent
	Brec
	Cht
	Clyst
	Coal
	Congl
	Dol

	Gyp
	Igne
	Lmst
	Meta
	Mrlst
	Salt
	Shale
	Shcol

	Shgy
	Slstst
	Ss
	Till
	Carb sh
	Dol
	Dtd
	Gry sh

	Sandylms
	Shale
	Slststn
	Shlyslts
	Sltysh
	Lms

ACCESSORIES

MINERAL

- Anhy
- Arggrn
- Arg
- Bent
- Bit
- Breclfrag
- Calc
- Carb
- Chtdk
- Chtlt
- Dol
- Feldspar
- Ferrpel
- Ferr
- Glau
- Gyp
- Hvymin
- Kaol
- Marl
- Minxl
- Nodule
- Phos
- Pyr

- Salt
- Sandy
- Silt
- Sil
- Sulphur
- Tuff
- Chlorite
- Dol
- Sand
- Sltly

FOSSIL

- Algae
- Amph
- Belm
- Bioclst
- Brach
- Bryozoa
- Cephal
- Coral
- Crin
- Echin
- Fish
- Foram

- Fossil
- Gastro
- Oolite
- Ostra
- Pelec
- Pellet
- Pisolite
- Plant
- Strom
- Fuss
- Oomold

STRINGER

- Anhy
- Arg
- Bent
- Coal
- Dol
- Gyp
- Ls
- Mrst
- Sltstrg
- Ssstrg
- Carbsh

- Clystn
- Dol
- Grysh
- Gryslt
- Lms
- Sandylms
- Sh
- Sltstn

TEXTURE

- Boundst
- Chalky
- Cryxln
- Earthy
- Finexln
- Grainst
- Lithogr
- Microxln
- Mudst
- Packst
- Wackest

OTHER SYMBOLS

POROSITY TYPE

- Earthy
- Fenest
- Fracture
- Inter
- Moldic
- Organic
- Pinpoint
- Vuggy

SORTING

- Well
- Moderate
- Poor

ROUNDING

- Rounded
- Subrnd
- Subang
- Angular

OIL SHOWS

- Even
- Spotted
- Ques
- Dead
- Gas show

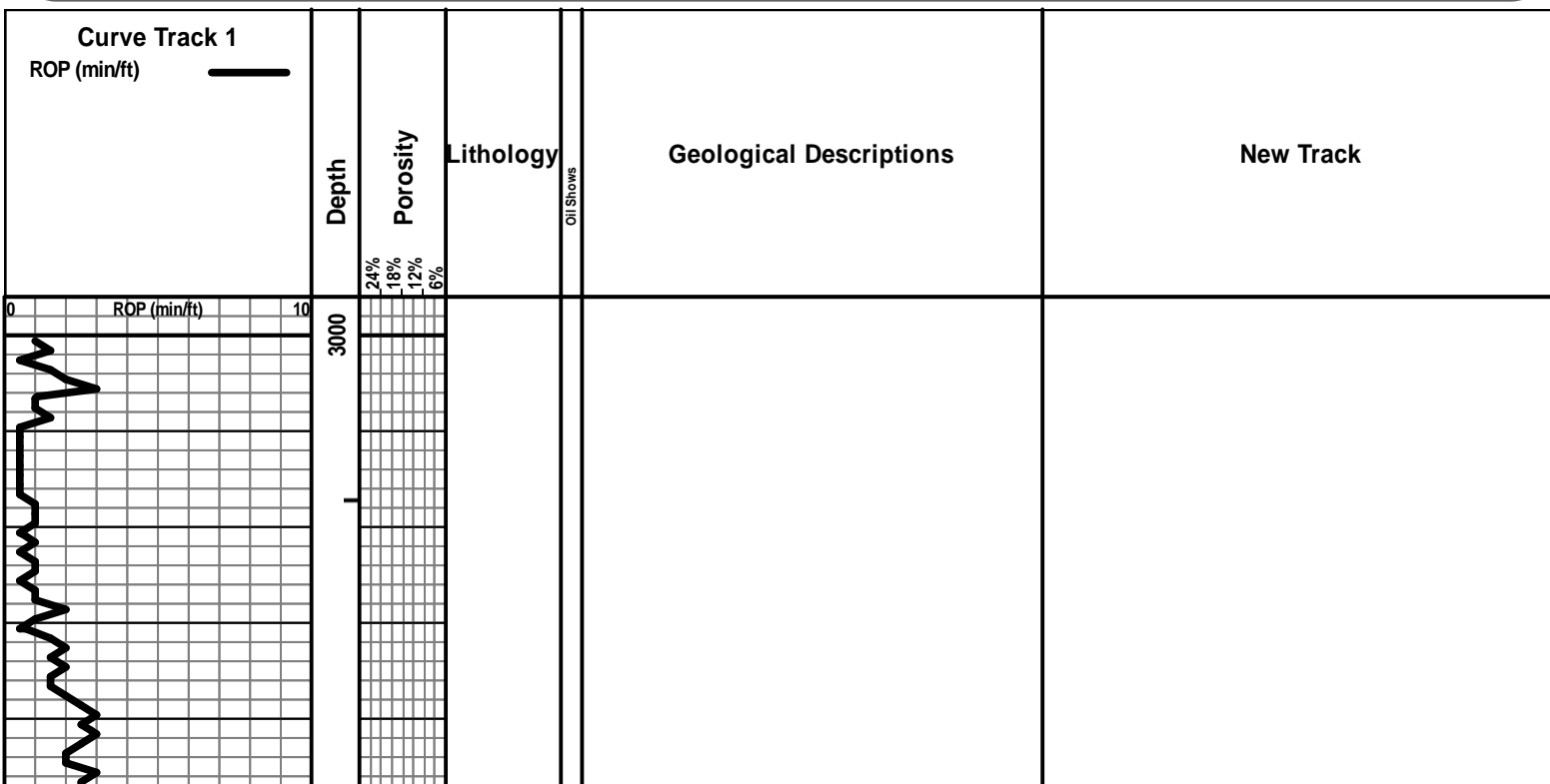
INTERVALS

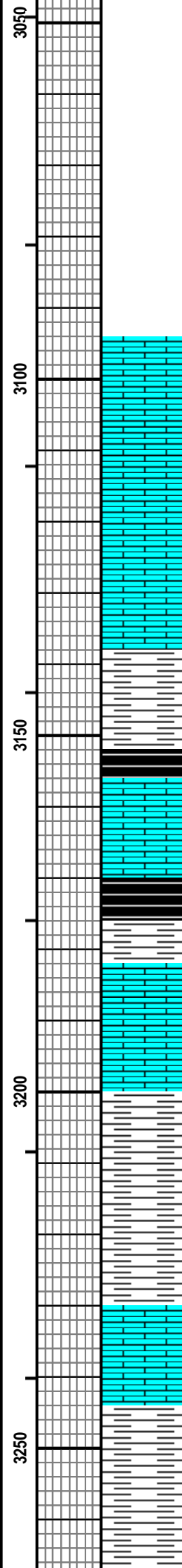
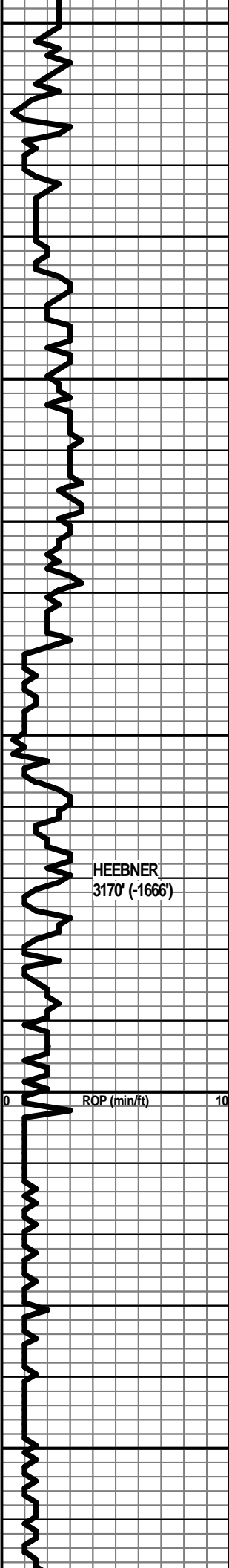
- Core
- Dst

- Dst

EVENTS

- Rft
- Sidewall
- Conn





LS - CRM / TAN, VF / F XLN, SUBCHKY / DNS

WT 8.7
VIS 60

LS - CRM, VF XLN, SUBCHKY / CHKY

SH - GRN / GY

SH - GRN / GY, SOFT

SH - BLK, MOD CARB

LS - TAN / GY, VF / F XLN, SUBCHKY, FOSS

HEEBNER
3170' (-1666')

SH - BLK, CARB

WT 8.7
VIS 57

LS - CRM, VF / F XLN, MOD DNS

LS - TAN / LT BRN, F XLN, DNS

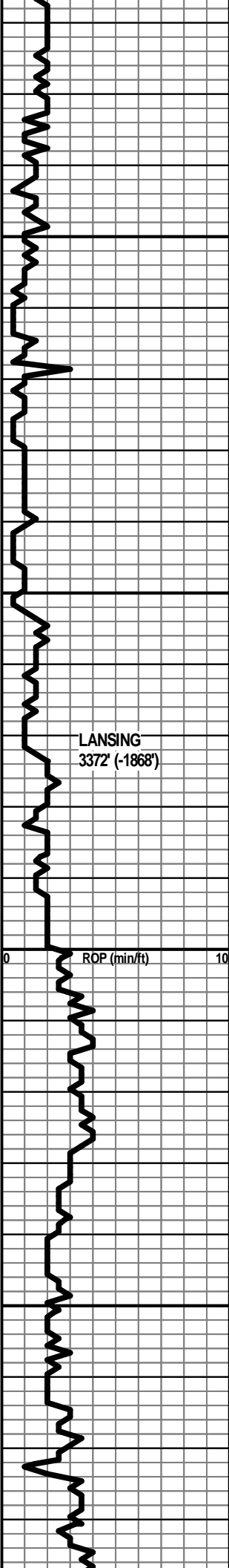
SH - LT GY

SH - GY / LT GRN, LMY, SLTY

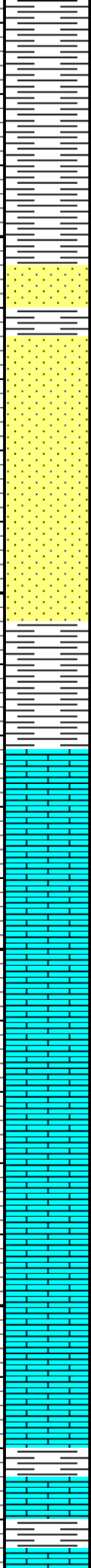
LS - CRM, F XLN, DNS, ABUND FOSS

WT 8.8
VIS 57

SH - LT GY, SLTY



3300
3350
3400
3450



SH - GRN / GY / RD

SH - GY

SS - CLR, FN GR, P SRTD, GLAUC IN PT

SS - CLR / GY, SHLY IN PT, FN GR, P SRTD, GLAUC

SS - CLR / GY, FN GR, P SRTD GLAUC

SH - GY

LS - CRM / TAN, F XLN, DNS, ABUND FOSS, W LS - CRM / WHT, VF XLN, CHKY

LS - TAN / GY, F XLN, DNS, FOSS

LS - GY, F XLN, DNS, FOSS IN PT

LS - CRM, VF / F XLN, SUBCHKY / DNS, FOSS IN PT

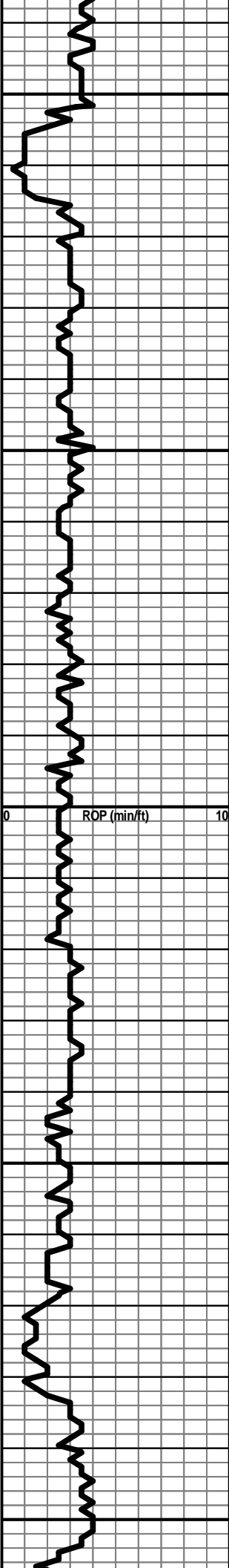
LS - CRM / TAN / GY, VF / F XLN, SUBCHKY / MOD DNS, FOSS IN PT

SH - GRN / GY, W LS - CRM / TAN, VF / F XLN, P INTXLN + VUG POR, NS, NO ODOR

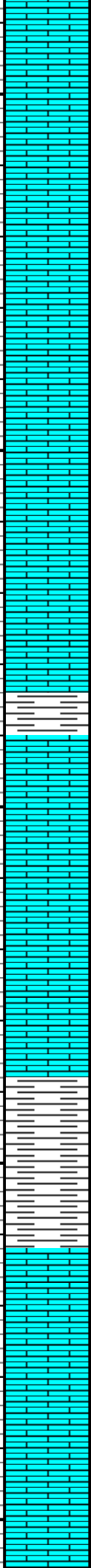
WT 9.0
VIS 60

WT 8.9
VIS 55

LANSING
3372' (-1868')



3500
3550
3600
3650
3700



LS - TAN, F XLN, DNS

LS - CRM / TAN, VF / F XLN, CHKY / SUBCHKY

LS - TAN, VF / F XLN, MOD DNS / DNS

LS - TAN / LT BRN, F XLN, DNS, FOSS IN PT

SH - GRN / GY

LS - CRM / TAN, VF / F XLN, SUBCHKY / MOD DNS

SH - GY / GRN / RD

SH - LT GRN / RD / GY

SH - RD / GRN / GY

LS - CRM / TAN, VF / F XLN, SUBCHKY

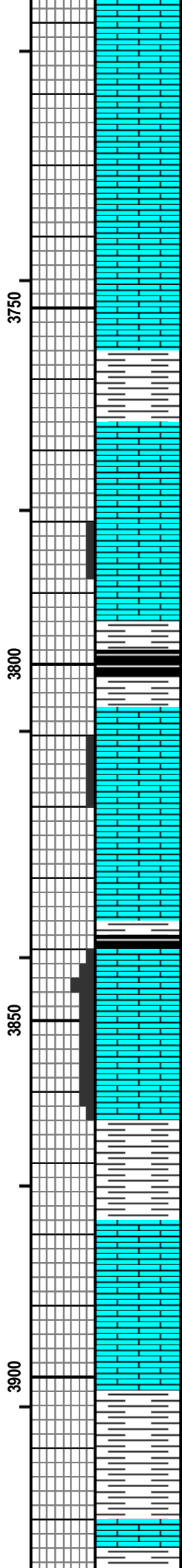
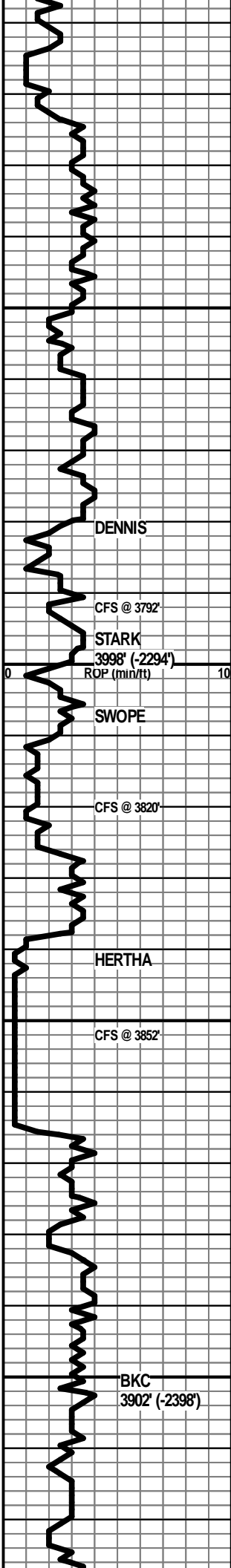
LS - WHT / CRM , VF / F XLN, SUBCHKY / CHKY

LS - TAN, VF / F XLN, SUBCHKY, FOSS IN PT

WT 9.0
VIS 55

WT 9.5
VIS 54

WT 9.2
VIS 45



LS - CRM / TAN, VF / F XLN, MOD DNS / SUBCHKY

 LS - CRM / TAN / LT BRN, VF / F XLN, SUBCHKY / MOD DNS

 LS - TAN, F XLN, DNS

 SH - RD / GRN / GY

 LS - CRM, VF / F XLN, P INTXLN POR IN PT, NS, NO ODOR

 SH - DK GRN
 SH - BLK, CARB
 LS - TAN, F XLN, DNS, NS
 LS - CRM / TAN, VF / F XLN, PRED SUBCHKY / DNS, P INTXLN POR IN PT, NS

 SH - GY
 SH - BLK, SLI CARB
 LS - TAN / BRN, F XLN, P / F OOLMOLDIC POR, P / F INTXLN POR IN PT, NS, NO ODOR

 SH - LT GY / LT GRN

 LS - GY, VF / F XLN, SUBCHKY / MOD DNS

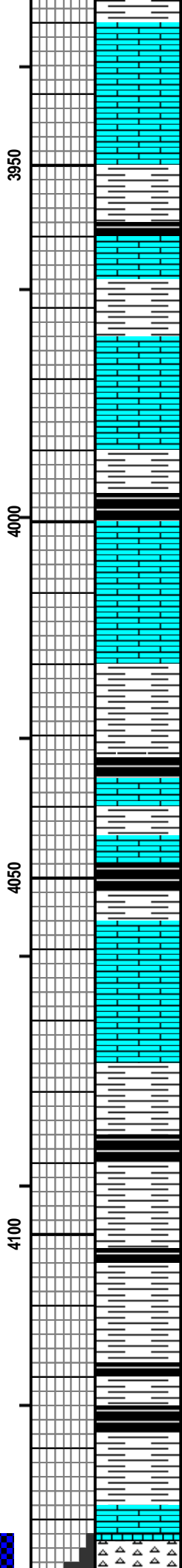
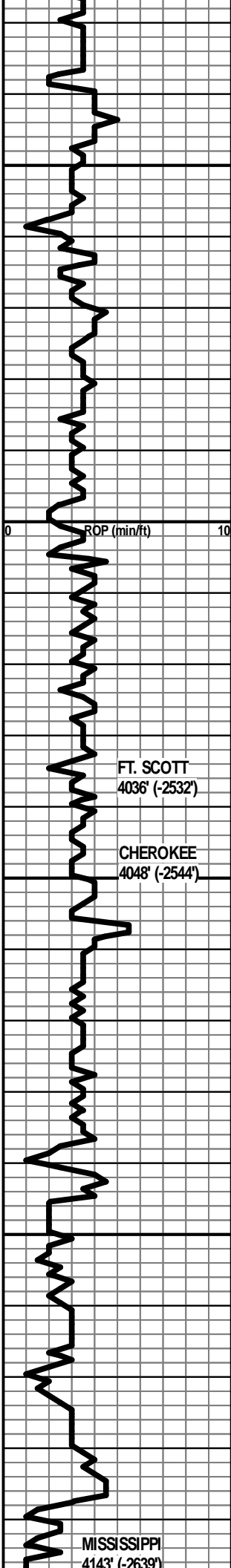
 SH - LT GY / LT GRN

 SH - GRN / GY

 SH - GY, SOFT. W/LS - CRM, VF XLN, SUBCHKY, SHLY IN PT

WT 9.2
VIS 45

WT 9.3
VIS 48



LS - CRM / TAN, VF / F XLN, SUBCHKY / DNS, STYLOLITIZED IN PT

SH - GY

SH - BLK, CARB

LS - OFF WHT / CRM, VF XLN, SUBCHKY / CHKY

SH - GRN / RD

LS - CRM, VF / F XLN, MOD DNS

SH - GY

SH - BLK, CARB

LS - CRM / TAN, F XLN, DNS

SH - GY, SOFT

SH - BLK, CARB

SH - RD

LS - TAN, F XLN, DNS

SH - BLK, CARB

LS - TAN / GY, F XLN, DNS

SH - GY

SH - BLK, CARB

SH - GY, SLTY IN PT

SH - GRN / GY

LS - TAN / GY, F XLN, DNS, NS

CHT - OFF WHT, WEATH, F / G TRIP POR, FSFO, GS GAS

WT 9.2
VIS 49

WT 9.6
VIS 50
LCM 1/4#

DST #1
MISSISSIPPIAN
4142'-4173'
30"-60"-90"-90"

IF: BOB in 5 1/2min
ISI: No blow
FF: BOB in 4 1/2min
FSI: No blow

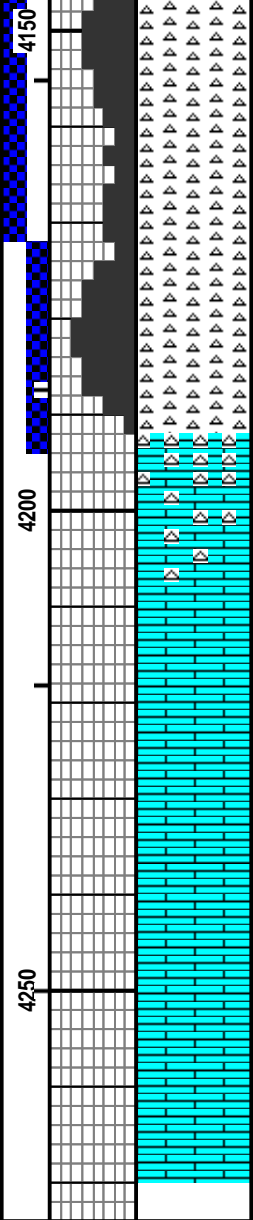
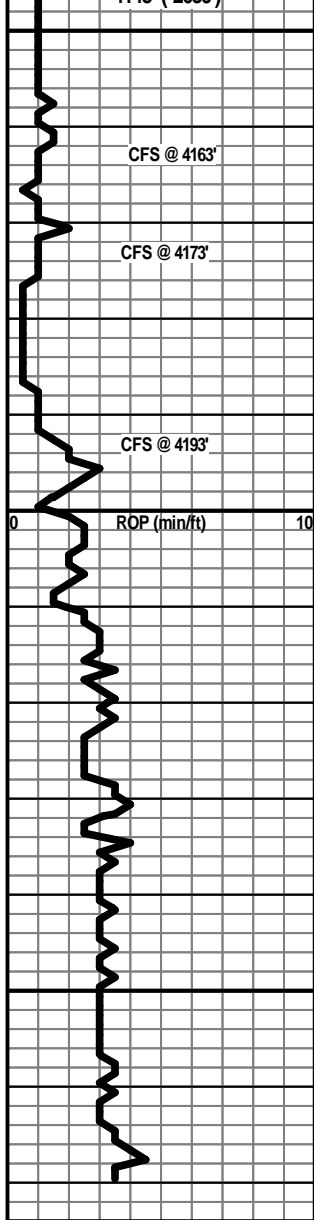
Rec': 720' GIP, 42' G0CM (1% G, 1% O, 98% M)

IH: 2020#
IF: 14#-22#
ISI: 250#
FF: 19#-32#
FSI: 260#
FH: 2032#

FT. SCOTT
4036' (-2532')

CHEROKEE
4048' (-2544')

MISSISSIPPI
4143' (-2639')



BUBB, F ODOR, G YEL FLUOR, W SCAT CHT - WHT, FRSH, DNS

● CHT - WHT, 50% FRSH, DNS, 50% WEATH, G TRIP POR, VGS GAS BUBB, GSFO, G ODOR, G YEL-GRN FLUOR

● CHT - WHT, 60% FRSH, DNS, 40% WEATH, G TRIP POR, GSFO, GS GAS BUBB, G ODOR, G YEL-GRN FLUOR

● CHT - WHT, 60% FRSH, DNS, 40% WEATH, G TRIP POR, VGSFO, GS GAS BUBB, G ODOR, G YEL-GRN FLUOR

CHT - WHT / OFF WHT, FRSH, DNS

LS - CRM, VF / F XLN, SUBCHKY / MOD DNS, NS, NO ODOR, CHTY

LS - CRM / TAN, VF / F XLN, SUBCHKY / MOD DNS, NS, NO ODOR, CHTY

LS - CRM / TAN, VF XLN, SUBCHKY / CHKY

LS - WHT / CRM / TAN, VF XLN, SUBCHKY / CHKY

LS - TAN / GY, F XLN, MOD DNS / DNS

RTD 4270'

Strap 4190.33
Board 4187.33
Strap 3.00 long

WT 9.3
VIS 48
LCM 1#

DST #2
MISSISSIPPIAN
4173'-4193'
30"-60"-90"-90"

IF: BOB in 5min
ISI: Weak blow, Surface - 1/4" in 30min
FF: BOB immediately
FSI: Weak blow, Surface - 1/4" after 60min

Rec: 1734' GIP, 64' OGWCM (7% G, 3% O, 25% W, 65% M)

IH: 2037#
IF: 13#-21#
ISI: 292#
FF: 20#-36#
FSI: 283#
FH: 2007#

WT 9.3
VIS 56



DRILL STEM TEST REPORT

Prepared For: **Pickrell Drilling Company, Inc.**

100 S. Main STE 505
Wichita, KS 67202

ATTN: Aaron Young

Higgins "K" #3

15-30s-8w Kingman,KS

Start Date: 2015.01.14 @ 00:42:55

End Date: 2015.01.14 @ 12:05:10

Job Ticket #: 57802 DST #: 1

Trilobite Testing, Inc
1515 Commerce Parkway Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2015.01.16 @ 16:14:57



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Pickrell Drilling Company, Inc.

15-30s-8w Kingman,KS

100 S. Main STE 505
Wichita, KS 67202

Higgins "K" #3

Job Ticket: 57802

DST#: 1

ATTN: Aaron Young

Test Start: 2015.01.14 @ 00:42:55

GENERAL INFORMATION:

Formation: **Mississippi**

Deviated: No Whipstock: 0.00 ft (KB)

Time Tool Opened: 04:53:55

Time Test Ended: 12:05:10

Test Type: Conventional Bottom Hole (Initial)

Tester: Matt Smith

Unit No: 53

Interval: 4142.00 ft (KB) To 4173.00 ft (KB) (TVD)

Reference Elevations: 1504.00 ft (KB)

Total Depth: 4173.00 ft (KB) (TVD)

1494.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 10.00 ft

Serial #: 8671 Outside

Press@RunDepth: 31.62 psig @ 4143.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2015.01.14

End Date:

2015.01.14

Last Calib.:

2015.01.14

Start Time: 00:43:00

End Time:

12:05:10

Time On Btm:

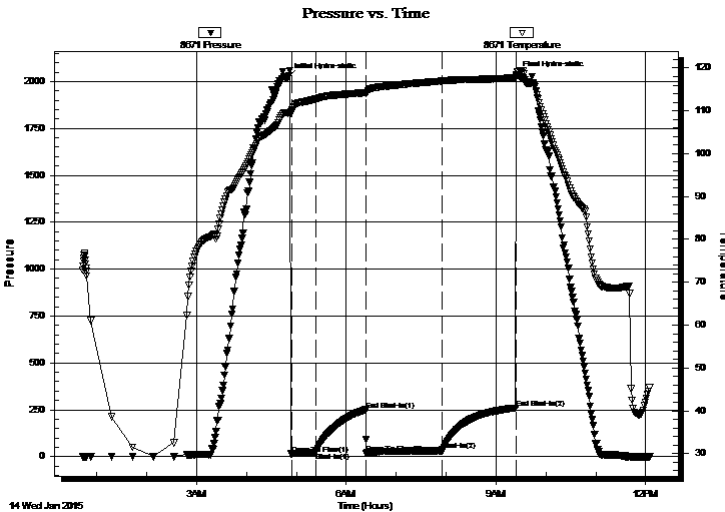
2015.01.14 @ 04:49:40

Time Off Btm:

2015.01.14 @ 09:24:10

TEST COMMENT: IF: Fair to Strong blow . B.O.B. in 5 3/4 mins.
IS: No blow .
FF: Fair to Strong blow . B.O.B. in 4 1/2 mins.
FS: No blow .

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2019.59	109.49	Initial Hydro-static
5	13.92	109.67	Open To Flow (1)
34	22.21	112.78	Shut-In(1)
94	250.04	114.23	End Shut-In(1)
94	19.40	114.09	Open To Flow (2)
186	31.62	116.93	Shut-In(2)
275	259.99	117.71	End Shut-In(2)
275	2032.09	118.52	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
42.00	GOCM 1%g 1%o 98%m	0.59
0.00	702' G.I.P. 100%g	0.00

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Pickrell Drilling Company, Inc.

15-30s-8w Kingman,KS

100 S. Main STE 505
Wichita, KS 67202

Higgins "K" #3

Job Ticket: 57802

DST#: 1

ATTN: Aaron Young

Test Start: 2015.01.14 @ 00:42:55

Tool Information

Drill Pipe:	Length: 4129.00 ft	Diameter: 3.80 inches	Volume: 57.92 bbl	Tool Weight:	2400.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	28000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose:	64000.00 lb
			<u>Total Volume: 57.92 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	15.00 ft			String Weight: Initial	58000.00 lb
Depth to Top Packer:	4142.00 ft			Final	58000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	31.00 ft				
Tool Length:	59.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments: Shale Pcker in place of bottom packer.

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
------------------	-------------	------------	----------	------------	----------------

Change Over Sub	1.00			4115.00	
Shut In Tool	5.00			4120.00	
Hydraulic tool	5.00			4125.00	
Jars	5.00			4130.00	
Safety Joint	3.00			4133.00	
Packer	5.00			4138.00	28.00 Bottom Of Top Packer
Packer	4.00			4142.00	
Stubb	1.00			4143.00	
Recorder	0.00	8931	Inside	4143.00	
Recorder	0.00	8671	Outside	4143.00	
Perforations	27.00			4170.00	
Bullnose	3.00			4173.00	31.00 Bottom Packers & Anchor

Total Tool Length: 59.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Pickrell Drilling Company, Inc.

15-30s-8w Kingman,KS

100 S. Main STE 505
Wichita, KS 67202

Higgins "K" #3

Job Ticket: 57802

DST#: 1

ATTN: Aaron Young

Test Start: 2015.01.14 @ 00:42:55

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:

3000 ppm

Viscosity: 53.00 sec/qt

Cushion Volume:

bbf

Water Loss: 8.99 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3000.00 ppm

Filter Cake: 0.20 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbf
42.00	GOCM 1%g 1%o 98%m	0.589
0.00	702' G.I.P. 100%g	0.000

Total Length: 42.00 ft Total Volume: 0.589 bbf

Num Fluid Samples: 0

Num Gas Bombs: 0

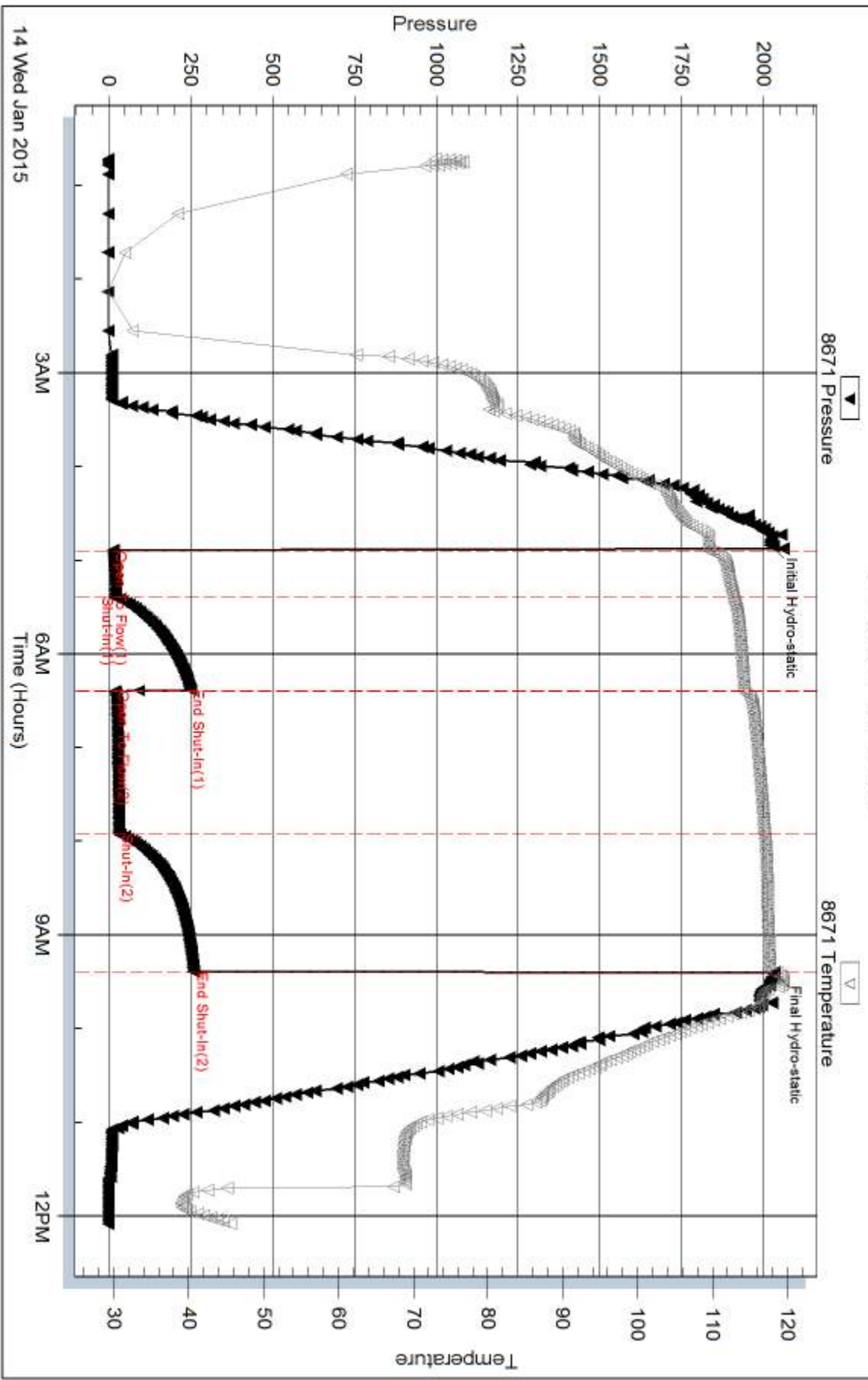
Serial #: none

Laboratory Name:

Laboratory Location:

Recovery Comments:

Pressure vs. Time



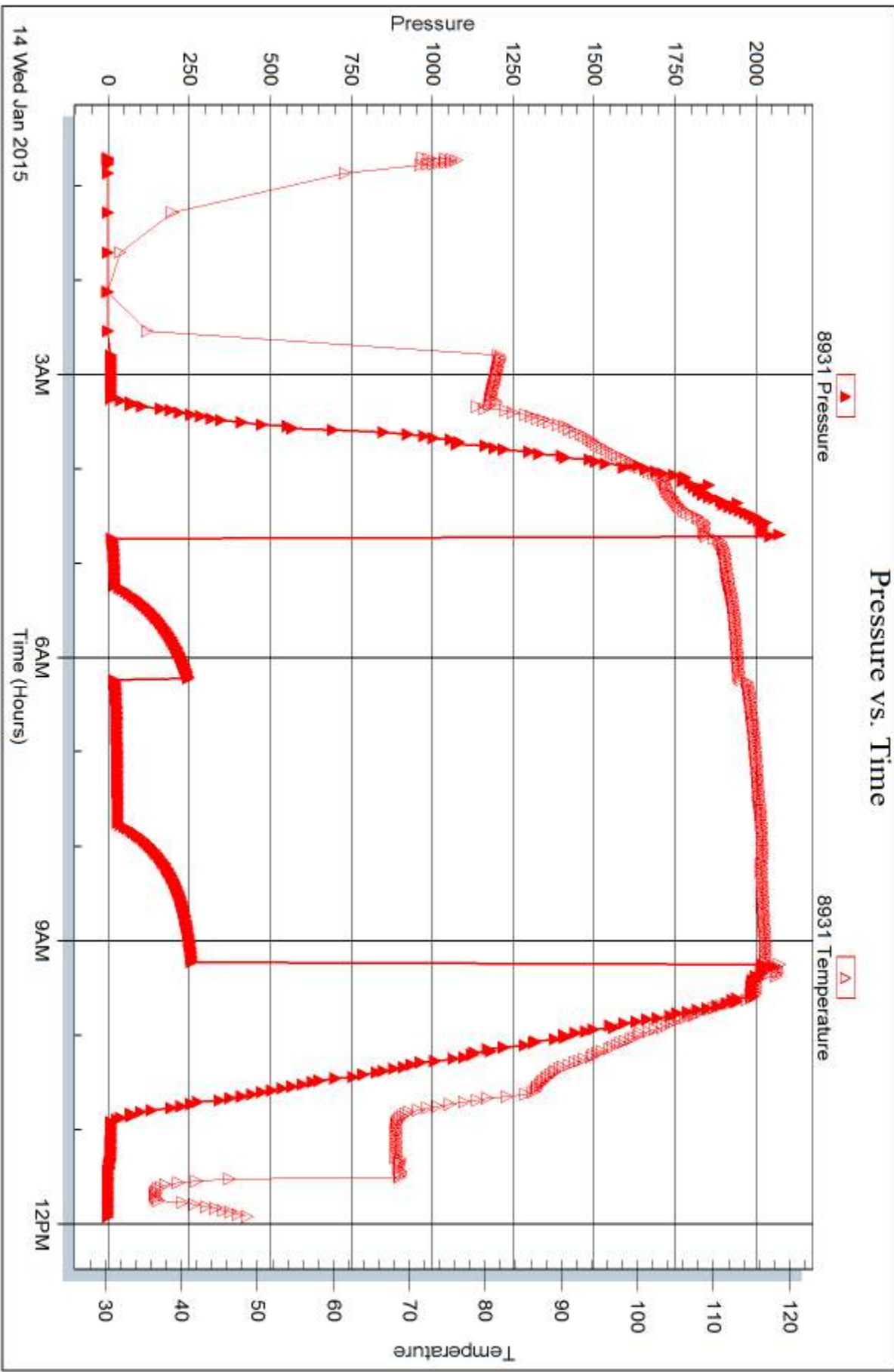
Serial #: 8931

Inside

Pickrell Drilling Company, Inc.

Higgins "K" #3

DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 57802

Printed: 2015.01.16 @ 16:14:58



DRILL STEM TEST REPORT

Prepared For: **Pickrell Drilling Company, Inc.**

100 S. Main STE 505
Wichita, KS 67202

ATTN: Aaron Young

Higgins "K" #3

15-30s-8w Kingman,KS

Start Date: 2015.01.14 @ 18:46:23

End Date: 2015.01.15 @ 04:58:23

Job Ticket #: 57803 DST #: 2

Trilobite Testing, Inc
1515 Commerce Parkway Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2015.01.16 @ 16:14:25



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Pickrell Drilling Company, Inc.

15-30s-8w Kingman,KS

100 S. Main STE 505
Wichita, KS 67202

Higgins "K" #3

Job Ticket: 57803

DST#: 2

ATTN: Aaron Young

Test Start: 2015.01.14 @ 18:46:23

GENERAL INFORMATION:

Formation: **Mississippi**

Deviated: No Whipstock: 0.00 ft (KB)

Time Tool Opened: 21:49:23

Time Test Ended: 04:58:23

Test Type: Conventional Bottom Hole (Reset)

Tester: Matt Smith

Unit No: 53

Interval: 4173.00 ft (KB) To 4193.00 ft (KB) (TVD)

Reference Elevations: 1504.00 ft (KB)

Total Depth: 4193.00 ft (KB) (TVD)

1494.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 10.00 ft

Serial #: 8931

Inside

Press@RunDepth: 35.76 psig @ 4174.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2015.01.14

End Date:

2015.01.15

Last Calib.:

2015.01.15

Start Time: 18:46:28

End Time:

04:58:23

Time On Btm:

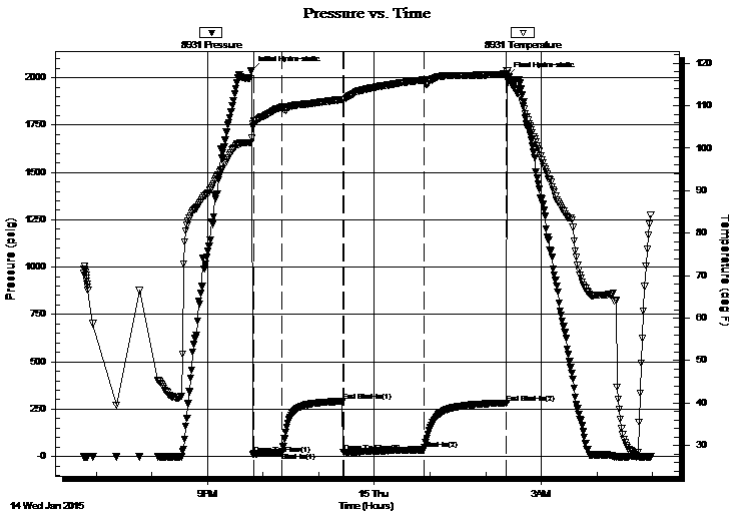
2015.01.14 @ 21:47:53

Time Off Btm:

2015.01.15 @ 02:22:53

TEST COMMENT: IF: Fair to Strong blow . B.O.B. in 5 mins.
IS: Weak blow . Surf., - 1/4", in 30 mins.
FF: Strong blow . Immediate B.O.B.
FS: Weak blow . Surf., - 1/4", after 60 mins.

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2036.68	102.33	Initial Hydro-static
2	12.86	105.66	Open To Flow (1)
33	20.53	109.78	Shut-In(1)
98	291.67	111.51	End Shut-In(1)
100	20.18	111.41	Open To Flow (2)
186	35.76	116.08	Shut-In(2)
275	283.00	117.45	End Shut-In(2)
275	2006.69	118.19	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
64.00	OGWCM 3%o 7%g 25%w 65%m	0.90
0.00	1,734' G.I.P. 100%g	0.00

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Pickrell Drilling Company, Inc.

15-30s-8w Kingman,KS

100 S. Main STE 505
Wichita, KS 67202

Higgins "K" #3

Job Ticket: 57803

DST#: 2

ATTN: Aaron Young

Test Start: 2015.01.14 @ 18:46:23

Tool Information

Drill Pipe:	Length: 4160.00 ft	Diameter: 3.80 inches	Volume: 58.35 bbl	Tool Weight:	2400.00 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: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose:	60000.00 lb
			<u>Total Volume: 58.35 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	15.00 ft			String Weight: Initial	56000.00 lb
Depth to Top Packer:	4173.00 ft			Final	56000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	20.00 ft				
Tool Length:	48.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments: Shale packer is place of bottom packer.

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4146.00	
Shut In Tool	5.00			4151.00	
Hydraulic tool	5.00			4156.00	
Jars	5.00			4161.00	
Safety Joint	3.00			4164.00	
Packer	5.00			4169.00	28.00 Bottom Of Top Packer
Packer	4.00			4173.00	
Stubb	1.00			4174.00	
Recorder	0.00	8931	Inside	4174.00	
Recorder	0.00	8671	Outside	4174.00	
Perforations	16.00			4190.00	
Bullnose	3.00			4193.00	20.00 Bottom Packers & Anchor
Total Tool Length:	48.00				



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Pickrell Drilling Company, Inc.

15-30s-8w Kingman,KS

100 S. Main STE 505
Wichita, KS 67202

Higgins "K" #3

Job Ticket: 57803

DST#: 2

ATTN: Aaron Young

Test Start: 2015.01.14 @ 18:46:23

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:

15000 ppm

Viscosity: 58.00 sec/qt

Cushion Volume:

bbf

Water Loss: 9.08 in³

Gas Cushion Type:

Resistivity: 1.14 ohm.m

Gas Cushion Pressure:

psig

Salinity: 3000.00 ppm

Filter Cake: 0.20 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbf
64.00	OGWCM 3%o 7%g 25%w 65%m	0.898
0.00	1,734' G.I.P. 100%g	0.000

Total Length: 64.00 ft Total Volume: 0.898 bbf

Num Fluid Samples: 0

Num Gas Bombs: 0

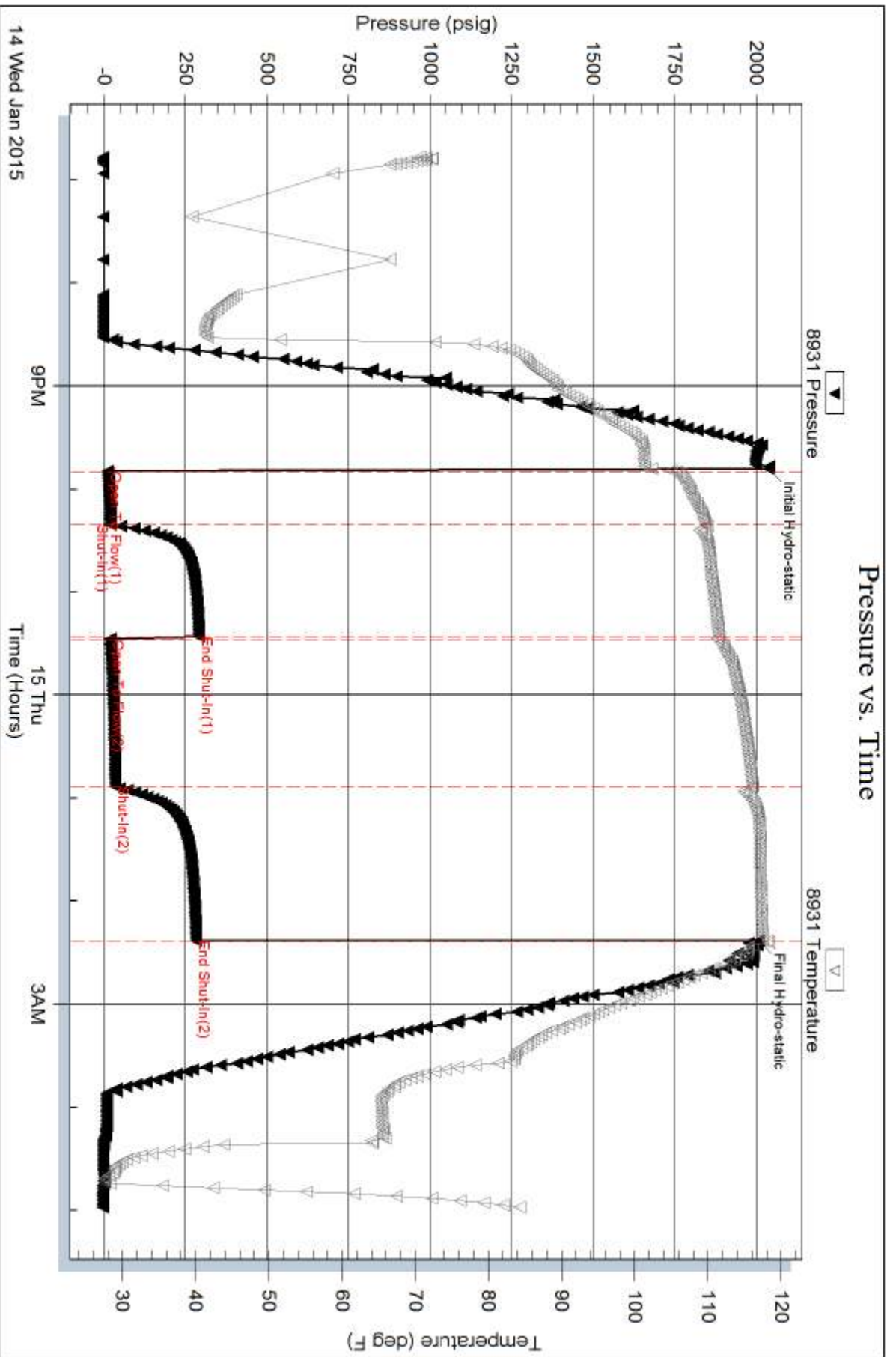
Serial #: none

Laboratory Name:

Laboratory Location:

Recovery Comments: RW is 1.14 @ 28 degrees = 15,000 chlorides.

Pressure vs. Time

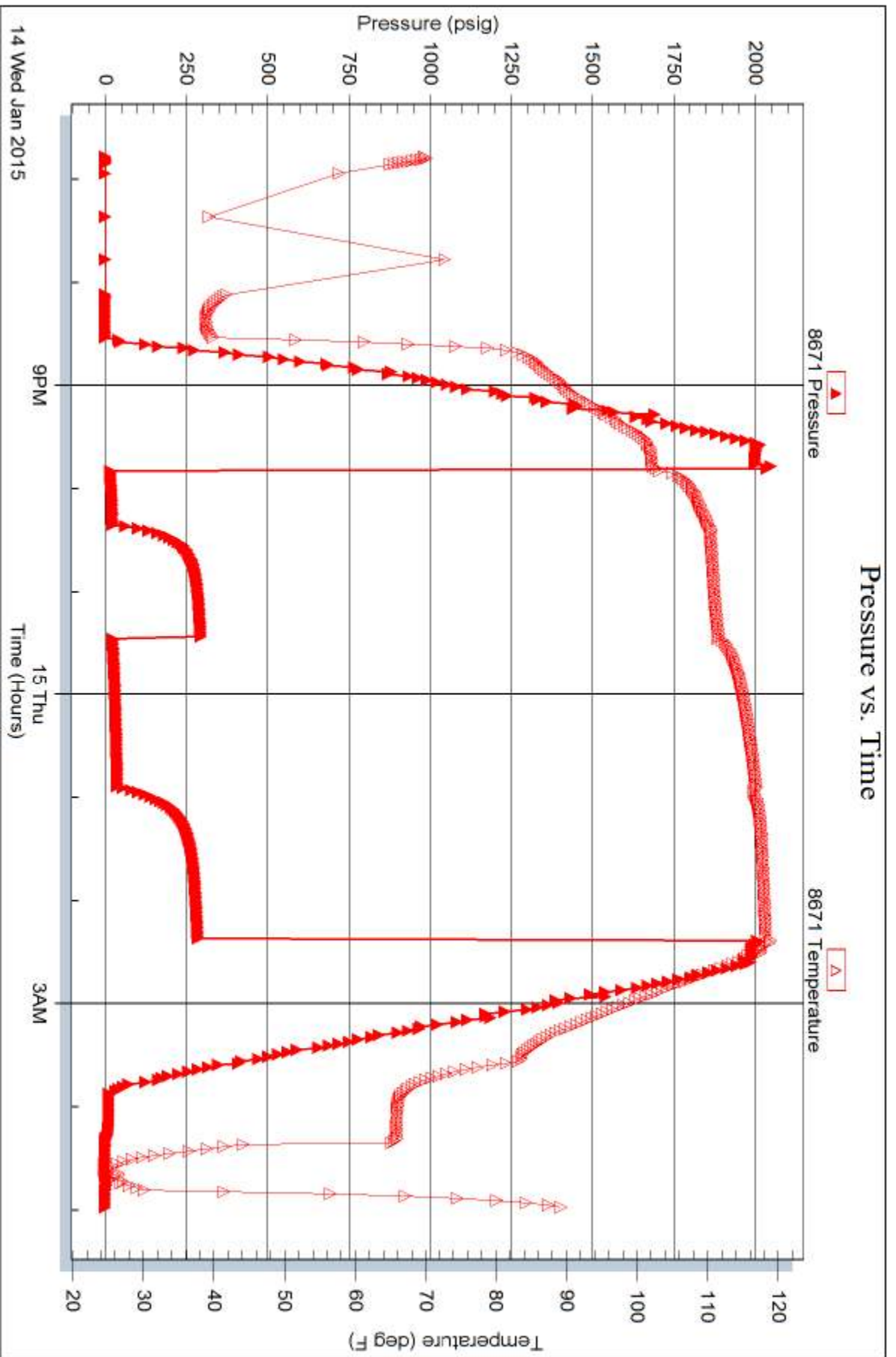


Serial #: 8671

Outside Pickett Drilling Company, Inc.

Higgins "K" #3

DST Test Number: 2





TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 57802

Well Name & No. Higgins "K" # 3 Test No. 1 Date 01/14/15
 Company Pickrell Drilling Company, Inc. Elevation 1504 KB 1494 GL
 Address 100 S. Main STE 505 Wichita, KS. 67202
 Co. Rep / Geo. AARON Young Rig Pickrell Rig #1
 Location: Sec. 15 Twp. 30s Rge. 8w Co. Kingman State KS.

Interval Tested 4142 - 4173 Zone Tested Mississippi
 Anchor Length 31' Drill Pipe Run 4,129' Mud Wt. 9.4
 Top Packer Depth 4137 Drill Collars Run 0 Vis 53
 Bottom Packer Depth 4142 Wt. Pipe Run 0 WL 9.00
 Total Depth 4173 Chlorides 3000 ppm System LCM TRC - 1/4"

Blow Description IF: Fair to strong blow. B.O.B in 5 3/4 mins.
ISI: No blow.
FF: Fair to strong blow, B.O.B in 4 1/2 mins.
FSI: No blow.

Rec	Feet of	%gas	%oil	%water	%mud
<u>702</u>	<u>G.I.P.</u>	<u>100</u>			
<u>42</u>	<u>60cm</u>	<u>1</u>	<u>1</u>		<u>98</u>
		%gas	%oil	%water	%mud
		%gas	%oil	%water	%mud
		%gas	%oil	%water	%mud

Rec Total 42' BHT 118° Gravity N.A. API RW N.C @ — °F Chlorides 3000 ppm

(A) Initial Hydrostatic <u>2020</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>0015</u>
(B) First Initial Flow <u>14</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>0042</u>
(C) First Final Flow <u>22</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>0453</u>
(D) Initial Shut-In <u>250</u>	<input type="checkbox"/> Circ Sub	T-Pulled <u>0924</u>
(E) Second Initial Flow <u>19</u>	<input checked="" type="checkbox"/> Hourly Standby <u>1.5</u> 1.25h 100	T-Out <u>1205</u>
(F) Second Final Flow <u>32</u>	<input checked="" type="checkbox"/> Mileage <u>100</u> 100	Comments <u>BANK @ 1:30 Am.</u>
(G) Final Shut-In <u>260</u>	<input type="checkbox"/> Sampler	<u>Check over a lot of test time.</u>
(H) Final Hydrostatic <u>2032</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer
Initial Open <u>30</u>	<input checked="" type="checkbox"/> Shale Packer <u>250</u>	<input type="checkbox"/> Ruined Packer
Initial Shut-In <u>60</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Extra Copies
Final Flow <u>90</u>	<input type="checkbox"/> Extra Recorder	Sub Total <u>0</u>
Final Shut-In <u>90</u>	<input type="checkbox"/> Day Standby	Total <u>1925</u>
	<input type="checkbox"/> Accessibility	MP/DST Disc't
	Sub Total <u>1925</u>	

Approved By _____ Our Representative Matthew Smith

Trilobite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 57803

Well Name & No. Higgins "K" #3 Test No. 2 Date 01/14/15
 Company Pickrell Drilling Company, Inc. Elevation 1504 KB 1494 GL
 Address 100 S. Main STE 505 Wichita, KS. 67202
 Co. Rep / Geo. Aaron Young Rig Pickrell Rig #1
 Location: Sec. 15 Twp. 30s Rge. 8w Co. Kingman State KS.

Interval Tested 4173 - 4193 Zone Tested Mississippi
 Anchor Length 20' Drill Pipe Run 4160' Mud Wt. 9.4
 Top Packer Depth 4168 Drill Collars Run 0 Vis 58
 Bottom Packer Depth 4173 Wt. Pipe Run 0 WL 9.1
 Total Depth 4193 Chlorides 3000 ppm System LCM 1#

Blow Description IF: Fair to Strong blow. B.O.B in 5 mins.
ISI: Weak blow. Surface - 1/4" in 30 mins.
FF: Strong blow. Immediate B.O.B.
FSI: Weak blow. Surface - 1/4" after 60 mins.

Rec	Feet of	%gas	%oil	%water	%mud
<u>1,734</u>	<u>G.I.P.</u>	<u>100</u>			
<u>64</u>	<u>0625 06wcm</u>	<u>7</u>	<u>3</u>	<u>25</u>	<u>65</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 64' BHT 117° Gravity N.A. API RW 1.14 @ 28 °F Chlorides 15,000 ppm

(A) Initial Hydrostatic	<u>2037</u>	<input checked="" type="checkbox"/> Test	<u>1150</u>	T-On Location	<u>1836</u>
(B) First Initial Flow	<u>13</u>	<input checked="" type="checkbox"/> Jars	<u>250</u>	T-Started	<u>1846</u>
(C) First Final Flow	<u>21</u>	<input checked="" type="checkbox"/> Safety Joint	<u>75</u>	T-Open	<u>2149</u>
(D) Initial Shut-In	<u>292</u>	<input type="checkbox"/> Circ Sub		T-Pulled	<u>0222</u>
(E) Second Initial Flow	<u>20</u>	<input type="checkbox"/> Hourly Standby		T-Out	<u>0458</u>
(F) Second Final Flow	<u>36</u>	<input checked="" type="checkbox"/> Mileage <u>(100)</u>	<u>100</u>	Comments	
(G) Final Shut-In	<u>283</u>	<input type="checkbox"/> Sampler			
(H) Final Hydrostatic	<u>2007</u>	<input type="checkbox"/> Straddle		<input type="checkbox"/> Ruined Shale Packer	

Initial Open 30
 Initial Shut-In 60
 Final Flow 90
 Final Shut-In 90

Shale Packer 250
 Extra Packer
 Extra Recorder
 Day Standby
 Accessibility

Sub Total 1825

Total 1825
 MP/DST Disc't

Approved By _____ Our Representative Matthew Smith

Trilobite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.