

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) (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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Form	ACO1 - Well Completion
Operator	K3 Oil & Gas Operating Company
Well Name	UNRUH 2-33
Doc ID	1422267

All Electric Logs Run

Annular Hole
Dual Spaced Neutron Density
Micor Log
Repaet Section
Borehole Compensated Sonic Array
Array Compensated Resistivity

Form	ACO1 - Well Completion
Operator	K3 Oil & Gas Operating Company
Well Name	UNRUH 2-33
Doc ID	1422267

Tops

Name	Top	Datum
Topeka	3553	-703
Heebner	4140	-1290
Marm	4728	-1878
Pawn	4820	-1970
Morrow	5040	-2190
Chester	5097	-2247
ST Gen	5216	-2366
St Louis	5378	-2528



REMIT TO
 QES Pressure Pumping LLC
 Dept:970
 P.O.Box 4346
 Houston, TX 77210-4346

MAIN OFFICE

P.O.Box884
 Chanute,KS 66720
 620/431-9210, 1-800/467-8676
 Fax 620/431-0012

Invoice Invoice# 814230

RECEIVED
 OCT 03 2018

Invoice Date: 09/28/18 Terms: Net 30 Page 1

K3 OIL & GAS OPERATING COMPANY

24900 Pitkin Road, Ste. 305
 The Woodlands TX 77386
 USA
 833-813-8558

Unrah 2-33

Part No	Description	Quantity	Unit Price	Discount(%)	Total
CE0451	Cement Pump Charge 1501' - 3000'	1.000	1,900.0000	25.000	1,425.00
CE0002	Equipment Mileage Charge - Heavy Equipment	40.000	7.1500	25.000	214.50
CE0710	Cement Delivery Charge	1.000	2,473.2000	25.000	1,854.90
CC5828	Lite-Weight Blend IV (65:35:6), 3% CaCl	650.000	19.5000	25.000	9,506.25
CC6075	Celloflake	162.000	3.0000	25.000	364.50
CC5871	Surface Blend II, 2% Gel/3% CaCl	150.000	24.0000	25.000	2,700.00
CP8556	8 5/8" Centralizer	5.000	110.0000	25.000	412.50
CP8453	8 5/8" Aluminum Baffle Plate	1.000	162.0000	25.000	121.50
CP8181	8 5/8" Top Rubber Plug	1.000	185.0000	25.000	138.75

Subtotal 22,317.20
 Discounted Amount 5,579.30
 SubTotal After Discount 16,737.90

Amount Due 23,553.26 If paid after 10/28/18

Company _____

Well Name Unrah

G/L Account 9210

Approval [Signature]

Tax: 927.05
 Total: 17,664.95

*WW Drilling, LLC
WaKeeney, KS
Well Plugging Orders*

Operator: K3 Oil & Gas Operating Company License # 35032
Address: 24900 Pitkins RD Suite 305 The Woodlands, Texas 77386

API # 15-081-22182-00-00

Lease Name: Unruh #2-33

Legals: 33-27s-31w

County: Haskell

State: Kansas

Plug #	Sx.	Feet
1st	<u>50</u>	<u>@ Top of Arbuckle 5480'</u>
2nd	<u>50</u>	<u>@ 1895'</u>
3rd	<u>40</u>	<u>@ 930'</u>
4th	<u>40</u>	<u>@ 450'</u>
5th	<u>20</u>	<u>@ 60'</u>
Rathole	<u>30</u>	
Mousehole		

Total: 230

Type: 60/40 Poz - 4% Gel - 1/4 # per sx flo-seal

Spud Report: Eric Maclaren Date: 9/20/2018 Time: 3:50 PM

Orders From: Larry Harris Date: 9/27/2018 Time: 4:50 PM

Reported to: Kenny Sullivan Date: 10/8/2018 Time: 1:50 PM

Results: P&A

LITHOLOGY STRIP LOG

WellSight Systems

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

Measured Depth Log

Well Name: Unruh No.2-33

API: 15-081-22182

Location: NE NE NW Sec.33-T27S-R31W, Haskell Co., KS

License Number:

Region: Wildcat

Spud Date: 9/21/18

Drilling Completed: 10/5/18

Surface Coordinates: 348'FNL 2491'FWL

Latitude 38.78424/ Longitude -101.85194

Bottom Hole

Coordinates:

Ground Elevation (ft): 2888

K.B. Elevation (ft): 2893

Logged Interval (ft): 3600

To: 5500

Total Depth (ft): 5500

Formation: Lansing, Marmaton, Pawnee, St. Genevieve, St. Louis

Type of Drilling Fluid: Chemical

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

OPERATOR

Company: K3 Oil and Gas Operating Company

Address: 24900 Pitkin Road, Ste. 305

The Woodlands, TX 77386

832-813-8558

GEOLOGIST

Name: Randy Say

Company: RSay Enterprises

Address: 13524 W. 67th Way

Arvada, CO 80004

303-940-8751

Casing/ Data

8.625" Surface Casing set at 1823'.

Logging Program

Halliburton Energy Services

Logs

Interval

Array Compensated True Resistivity

1823-5490

Spectral Density Dual Spaced Neutron

1823-5461

Microlog

3400-5461

BHC Sonic

1823-5472

Annular Hole Volume Log

1823-5461

DSTs

DST No.1 5146-5202(56) Mississippian Chester

IO: 5min; slowly built to 2.61"

ISI: 30min; No return

FO: 45min; BOB instantly, Built to 180"

FSI: 60min; No return

REC: 60 drilling mud, no oil; 3150 of GIP

Sampler: 2000cc Gas at 1400psi; No oil or water

IHP: 2586; IFP: 32-33; ISIP: 477; FFP: 32-44; FSIP: 1447; FSIP: 2521

DST No.2 5364-5394(30) Mississippian St. Louis

IO: 5min; Quickly built to 11.16"

ISI: 30min; No blow

FO: 45min; slowly built to 7"

FSI: 60min; No blow

REC: 340' Total Recovery: 180' MW [10% Mud/90% Water], 160' Mud [100% Mud] no trace of oil

Rw=0.13 @ 69F, CL=53000; BHT=133F

Sampler: 2000cc Total [100cc Mud/1900cc Water] @ 680psi. No oil

Rw=0.13 @ 69F, CL=52000

IHP: 2741'; IFP: 95-131; ISIP: 1542; FFP: 131-182; FSIP: 1512; FHP: 2646

DST No.3 4636-4660(28) Straddle Test Lansing

IO: 5min; 0.25" blow built to 1"

ISI: 30min; No return

FO: 45min; Surface blow built to 0.75"

FSI: 60min; No return

REC: 120' WCM [20% Water / 80% Mud]

Rw=0.31 @ 86 F, CL=18000 ; BHT=F 116F


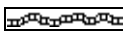
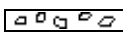
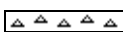
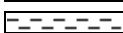
Sampler: 2000cc Total [100cc Mud / 1900cc Water]






Rw=0.31 @86 F, CL=1800 ; BHT= 116F



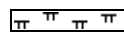

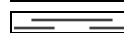
IHP: 2396; IFP: 25-29; ISIP: 1384; FFP: 32-62; FSIP: 1350; FHP: 2409

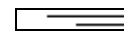
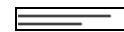



Comments

ROCK TYPES

	Anhy
	Bent
	Brec
	Cht
	Clyst

	Coal
	Congl
	Dol
	Gyp
	Igne

	Lmst
	Meta
	Mrlst
	Salt
	Shale

	Shcol
	Shgy
	Sltst
	Ss
	Till

ACCESSORIES

FOSSIL

- Algae
- Amph
- Belm
- Bioclst
- Brach
- Bryozoa
- Cephal
- Coral
- Crin
- Echin
- Fish
- Foram
- Fossil
- Gastro
- Oolite
- Ostra
- Pelec
- Pellet
- Pisolite

- Plant
- Strom

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

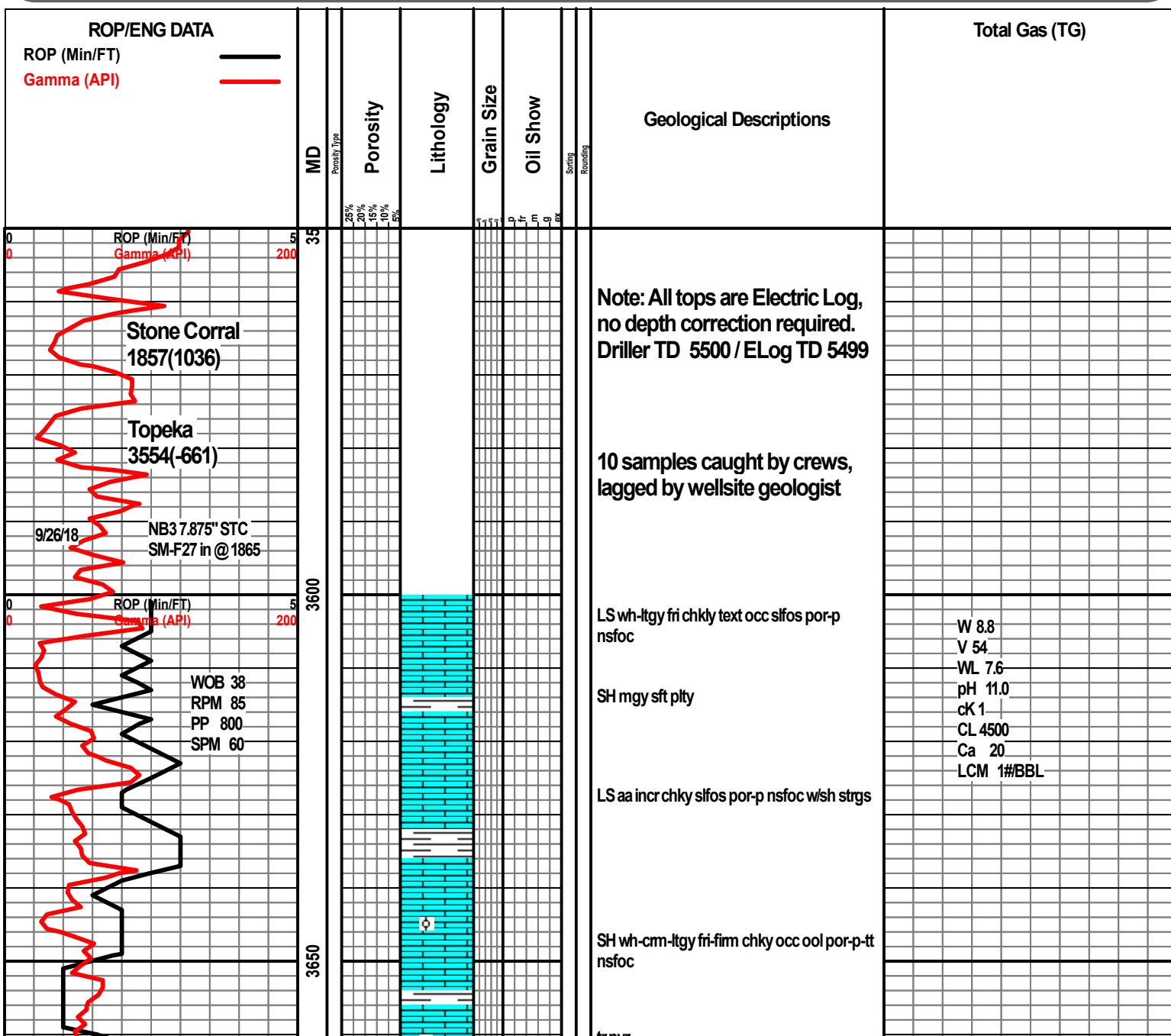
- Gyp
- Ls
- Mrst
- Sltstrg
- Ssstrg

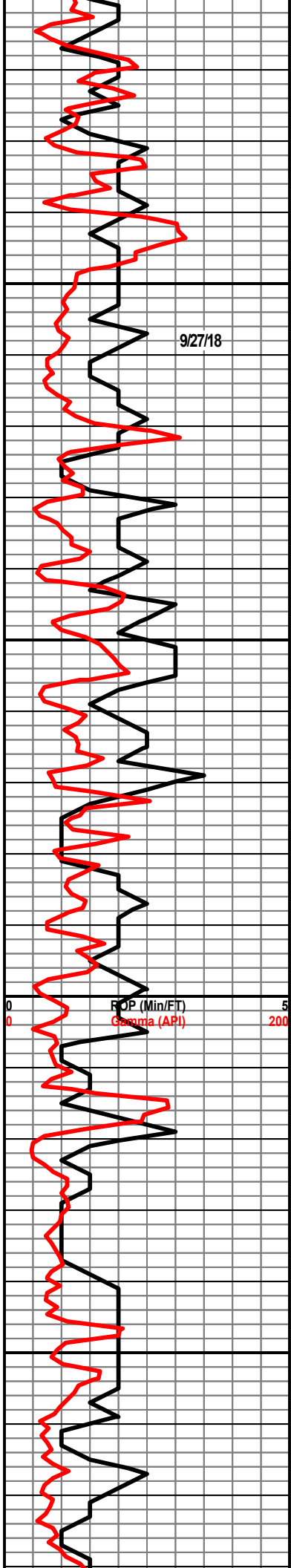
TEXTURE

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

STRINGER

- Anhy
- Arg
- Bent
- Coal
- Dol



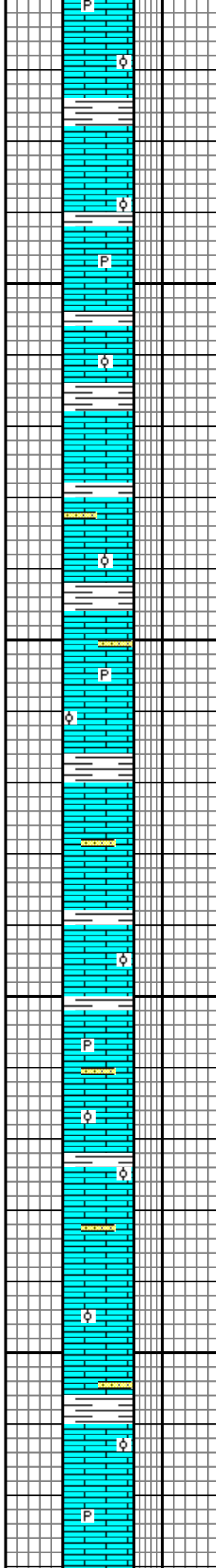


3700

3750

3800

3850



tr pyr

LS aa incr ool occ tr fos por-p-tt nsfoc
w/intbd gy sh

LS cm-ltgy-tan xfxl-litho fri chky incr ool
w/calc infill por-tt nsfoc

SH mgy sft plty carb

LS tan-cm xfxl firm decr chky occ ool slpyr
w/sh strgs; por-p nsfoc

LS aa w/occ sdy text tr ool; por-p-tt nsfoc

SH m-dkgy sft plty arg vcarb

tr pyr

LS mgy-tan-wh firm-fri slsdy tr ool; por-p-tt
nsfoc

SH mgy- sft plty vcarb

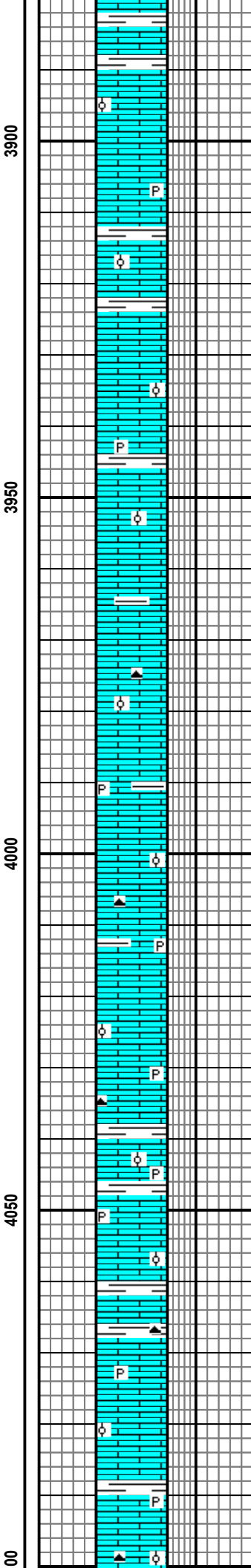
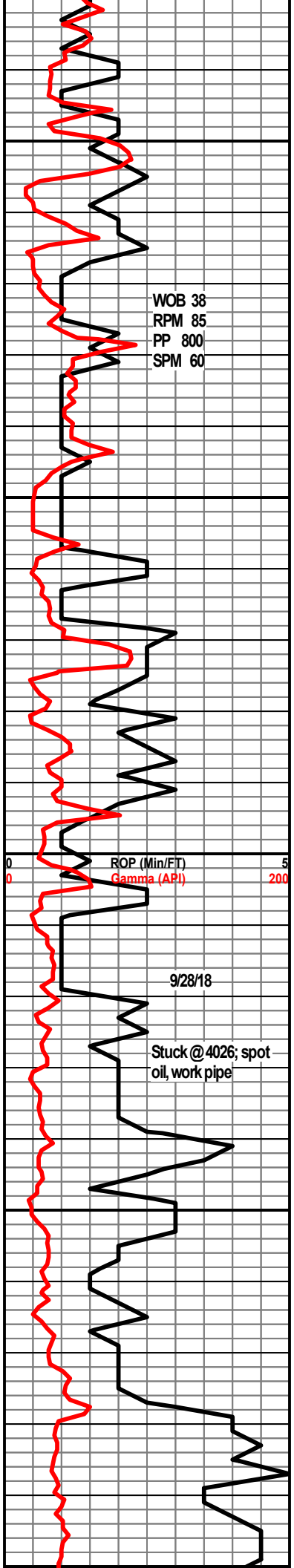
LS wh-ltgy fri chky slool pyr occ sdy text
w/intbd sh strgs; por-p nsfoc

SH m-dkgy plty vcarb sity

LS tan-wh fri chky occ slty w/ool strgs & occ
sdy text; por-p nsfoc

SH m-dkgy blkly vcarb slcalc

LS tan-ltgy-wh fri-firm decr sdy slool in strgs
occ fos w/calc infill slpyr; por-p-tt nsfoc



SH strgs dkgy firm blk carb

LS aa incr fos & slpyr w/tr ool; por-p nsfoc

tr pyr

LS ltgy-tan xfxl-litho firm chky ool decr sfos
por-p nsfoc

LS tan-crm litho fri arg vchky w/tr ool occ
slpyr; por-p-tt nsfoc

SH decr amt mgy sft plty vcarb sity

LS vitgy-tan-crm litho-gran fri tr fos & ool
w/pyr; por-p nsfoc

tr pyr & occ mgy cht

LS ltgy-tan xfxl-gran fri-firm slool w/thin
intbd mgy sh strgs; por-p-tt nsfoc

LS tan-ltgy-wh xfxl-gran firm-fri chkly mtrx;
decr amt ool tr fos w/calc infill; por-p nsfoc

LS aa incr gran firm w/tr sh strgs; slpyr;
por-tt

LS tan-mgy xfxl-gran firm-fri slool vsipy
scalac; por-tt nsfoc

SH incr amt m-dkgy firm blk carb

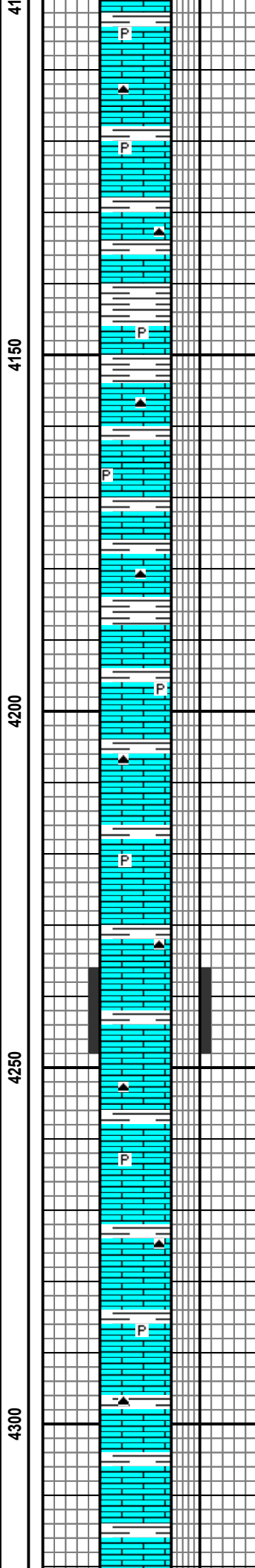
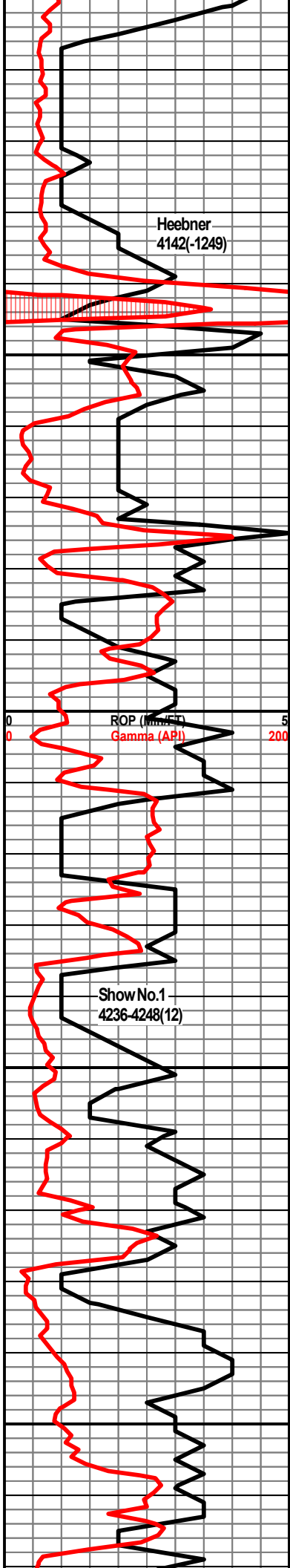
LS aa incr mgy-ltan-crm xfxl firm-fri occ gran
trool vpyr tr cht; por-p-tt nsfoc

SH strgs aa incr

tr pyr

LS tan-incr gy/wh xfxl-gran firm occ chky tr
ool decr; por-p-tt nsfoc

W 8.9
V 70
WL 6.4
pH 10.0
cK 1
CL 4400
Ca 20
LCM 1#/BBL
Oil 3.5%



SH mgy vsft plty vcarb slcalc

LS tan-occ bm-gy xfxl-litho vchky text decr tr ool occ sifos tr cht; por-p-fr nsfoc

LS tan-ltgy-cm gran-litjho fri-firm slchky occ fos vfpvr w/incr in mgy sh; por-p-tt nsfoc

SH dkgy-bk mot firm blkly occ slty slcalc

SH aa incr blkly dkgy firm slcalc w/intbd LS strgs aa

LS mot ltgy-bm gran-xfxl firm-fri sifos tr cht & pyr; por-p nsfoc

SH dkgy firm blkly carb

LS gy-tan xfxl-gran firm sifos tr ool decr; slpyr & cht; por-p-fr nsfoc

LS mgy-tan/cm xfxl firm occ fos slpyr & tr cht w/intbd dkgy sh strgs; por-p-tt nsfoc

tr pyr & cht

Show No.1 4236-4248(12)

LS tan-cm gran-xfxl fri-firm incr amt fos & ool wchky mtrx; tr cht wthin sh strgs; por-p-occ fr; oilstn-none; flor-10% pale yel; cut-10% vweak slow mlokt residual cut; res-mlky flor res

SH m-dkgy firm blkly carb

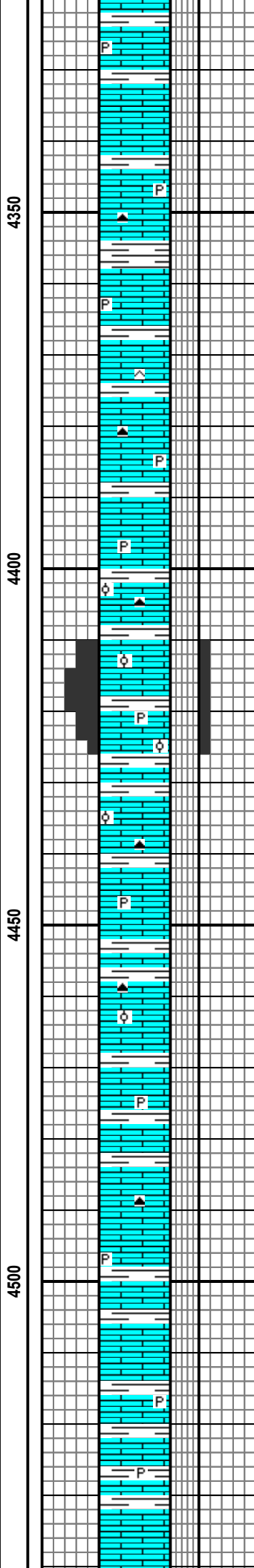
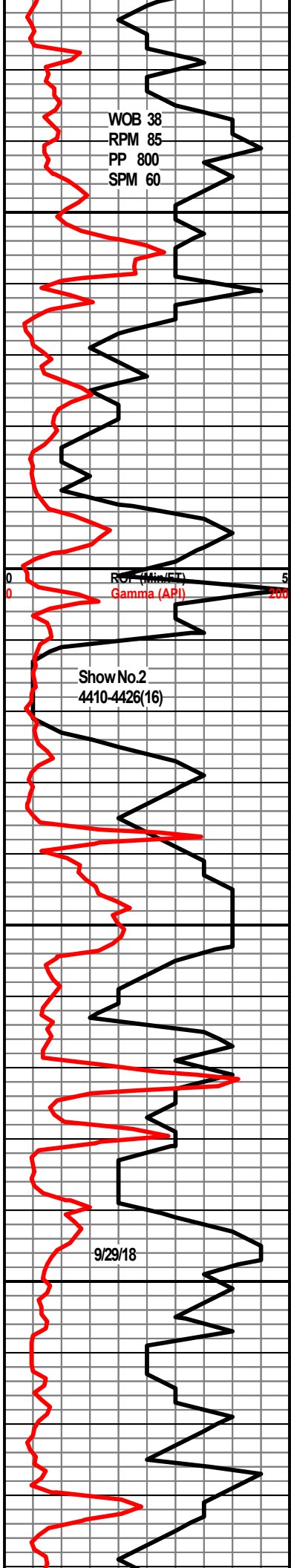
LS tan-gy firm-fri gran por-tt nsfoc

LS mot bm/tan-cm gran-litho fri-firm mfos w/calc infill occ tr cht & pyr; por-occ fr-tt; nsfoc

SH m-dkgy firm blkly vcarb slty

LS mot cm-tan gran-litho fri-occ hd sifos w/intbd sh strgs tr pyr; por-p-tt nsfoc

W 9.0
V 53
WL 8.0
pH 9.5
cK 1
CL 4700
Ca 60
LCM 1#/BBL
Oil 3.5%



SH aa

LS mot cm-mgy-occ brn gran-xfxl firm-occ
hd fos w/calc infill slpyr w/intbd dkgy sh
strgs; por-p-tt nsfoc

SH m-ltgy sft plty vcarb slcalc

tr pyr occ tr cht

LS mor bm/tan-cm xfxl-gran firm fos occ tr
ool text w/calc infill; por-p-tt nsfoc

incr tr cht

LS tan-ltgy xfxl firm-occ hd dns calc infill
slfos pyr w/tr cht w/sh strgs; por-tt nsfoc

Show No.2 4410-4426(16)

LS mot bm-tan/gy pred gran-xfxl firm-fri occ
suc text; oolitic occ vfp yr w/vthin sh strgs;
por-p-occ g(oomold); oilstn-none, faint
gassy odor in fresh smpl cuttings; flor-10%
ltyel; cut-10% slow weak milky crush cut on
oolitic smpl; res-none, no live oilstn

LS wh-cm litho firm-occ hd dns slfos pyr &
occ cht w/dkgy sh strgs; por-p nsfoc

SH dkgy firm blkly vcarb slcalc

LS mot ltgy-tan-cm xfxl-litho firm mfos
w/calc infill occ chty & pyr; occ tr ool; por-p-tt
nsfoc

SH mgy-gygn sft plty slcarb mcalc

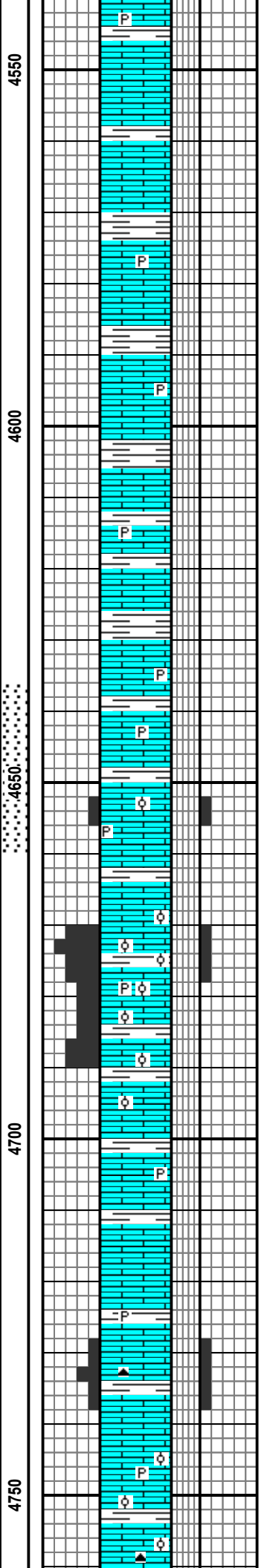
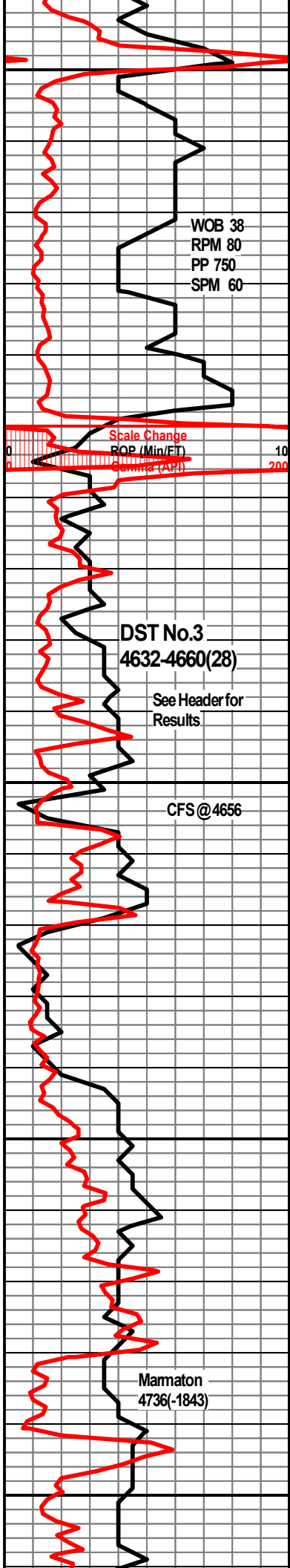
LS aa incr fos & slool w/chk mtrx occ calc
infill vfp yr tr cht decr; por-p-fr nsfoc

SH aa

LS tan-mot bm/tan fri-firm mfos chky mtrx
slpyr w/intbd sh strgs incr; por-p nsfoc

SH mgy-gygn sft plty

Faint gassy odor in fresh
smpl cuttings



LS ltan-gy-cm xfxl-litho firm mfos w/calc
infill chky mtrx occ tr pyr w/intbd sh strgs;
por-p-tt nsfoc

LS aa incr xfxl firm-occ hd pyr sfos; por-p
nsfoc

SH m-ltgy sft plty carb s/calc

tr pyr

LS tan-gy-bm xfxl-occ gran firm-fri arg chky
wfos occ sh strgs; por-p-occ fr(gran) nsfoc

SH bk-dkgy firm plty carb s/calc

decr tr pyr

LS tan-wh xfxl-gran firm-fri fos w/chk mtrx
w/intbd sh strgs; por-p-tt nsfoc

LS mot tan-wh/bm xfxl-gran firm-occ hd
mfos w/calc infill slpyr w/occ fri chky ls;
por-tt-p nsfoc

Show No.3 4652-4656(4)

LS tan-cm gran-vfri ool w/calc infill slpyr
vchky mtrx occ vug in ool; por-fr-occ g;
oilstrn0none; flr-10% lt/yel; cut-10% vweak
slow residual cut; res-none

Show No.4 4670-4690(20)

**Lower Lansing Zone
4670-4690(20)**

LS mot tan-cm gran-litho vfri-firm ool w/chk
mtrx & calc infill trpyr occ fos w/in sh strgs;
por-g-fr occ oomold; oilstrn-none; flr-10%
pale yel; cut-10% vweak slow mlky diffuse
residual cut; res-mlky flr res

SH mgy sft plty carb

LS mot tan-bm xfxl firm-occ hd decr ool occ
fos w/calc infill slpyr w/dkgy sh strgs; por-p-tt
nsfoc

LS aa incr firm-hd fos pyr por-tt nsfoc

Show No.5 4728-4738(10)

LS cm-tan xfxl-gran firm chk mtrx fos w/calc
infill tr cht; por-p-tt; oilstrn-none; flr-tr pale
yel; cut-tr vweak mlky diffuse cut; res-none

LS tan-ltgy xfxl-litho hd dns-firm mfos occ
ool slpyr occ chky; por-tt nsfoc

SH gybm sft plty vcarb

LS aa incr ool por-p nsfoc

Pawnee 4760(-1867)

WOB 38
RPM 85
PP 750
SPM 60

ROP (Min/FIT)
Gamma (API)

9/30/18

Cherokee
4856(-1963)

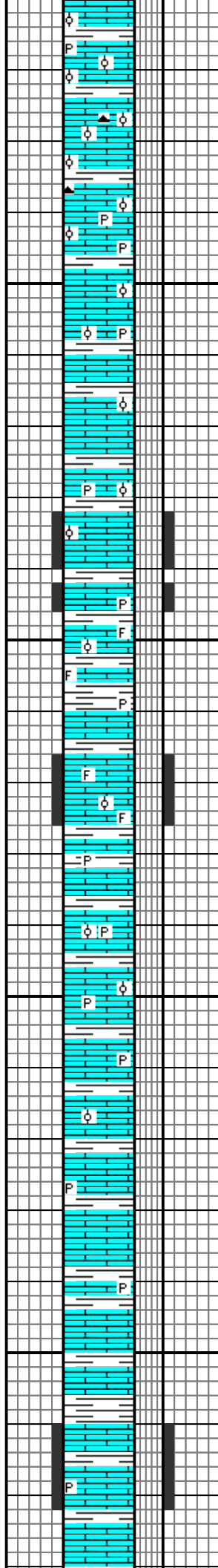
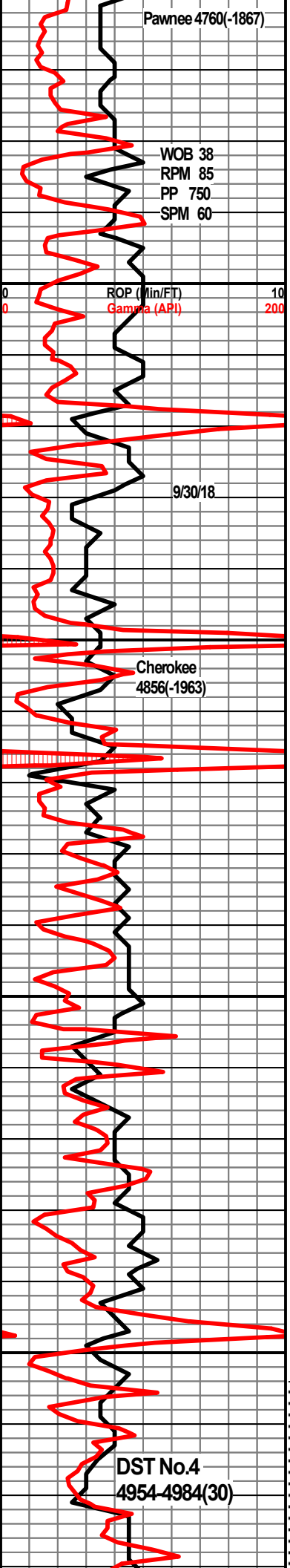
DST No.4
4954-4984(30)

4800

4850

4900

4950



LS ltgy-cm xfd firm incr fos w/calc infill incr
amt ool w/chk mtrx; tr cht & pyr; por-p-tt
nsfoc

tr cht; thin gybm sh strgs

LS mot ltgy-cm xfd firm incr amt ool & occ
fos w/calc infill; tr cht; w/thin intbd dkgy sh
strgs; por-p-tt nsfoc

tr pyr

LS tan-ltgy firm ool & fos chk mtrx slpyr
w/intbd mgy sh strgs; por-tt-p nsfoc

tr pyr incr amt ool

SH mgy-gybm sft pty vcarb sicalc

Show No.6 4832-4846(12)

LS mot tan-gy-cm xfd-occ gran
firm-hd-occ fri incr ool & fos w/calc infill &
chk mtrx slpyr shly strgs; por-p-tt;
oilstn-none; flor-10% ltyel; cut-10% mlky
weak cut; res-none

LS aa incr ool/fos por-p-occ fr nsfoc

SH mgy sft pty

Show No.7 4866-4876(10)

LS tan-mot bm/gy xfd-gran fri-firm slpyr ool
& fos scat calc & chk mtrx; por-p-occ fr;
oilstn-none; flor-tr pale yel cut-tr slow mlky
diffuse cut; res-none

LS aa incr pyr mfos vchky w/incr in intbd bk
sh blkly vcarb; por-tt nsfoc

SH bk-dkgybm firm blkly vcarb mcalc

LS mot bm-tan firm-gran mod ool & fos
w/calc infill; chk mtrx vfpwr w/intbd dkgy blkly
sh strgs; por-p-tt nsfoc

SH m-dkgy firm blkly vcarb slty slpyr

LS tan-bm xfd firm-hd dns slpyr occ fos
w/intbd bk sh strgs; por-tt nsfoc

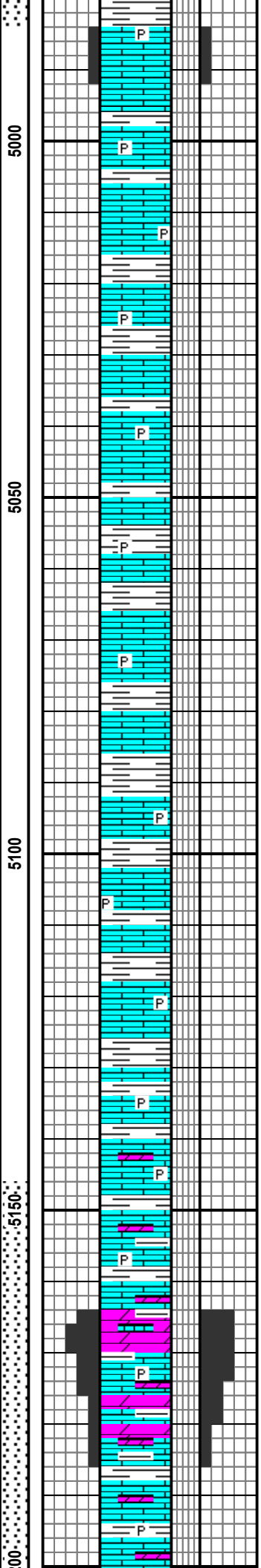
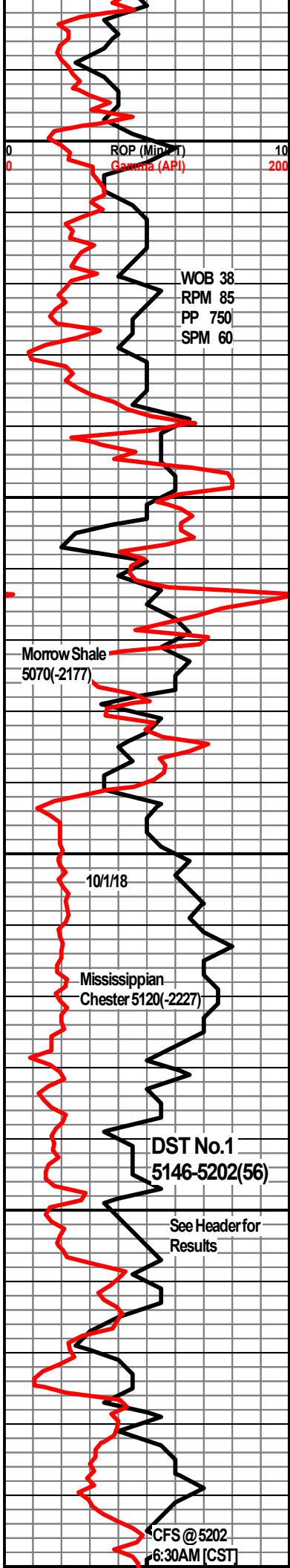
tr pyr

LS aa incr litho firm slty slfos por-tt-p nsfoc

**Show No.8 [Interval]
4960-4992(32)**

LS mot tan/bm-mgy xfd-gran firm/hd-occ fri
& gran vfos w/calc infill (decr por) & vchky
mtrx; rare vug por; vfpwr w/sh strgs;
por-tt-occ fr(vug); oilstn-none; flor-10% pale
yel; cut-10% slow mlky residual cut;
res-none

W 9.2
V 56
WL 10.0
pH 11.0
cK 1
CL 4750
Ca 50
LCM 2#/BBL
Oil 0.0%



LS aa decr por-tt; Shows decr to a trace

SH bk-dkgy blkly firm vcarb

LS tan-bm-crm xfxl-litho hd-firm decr fos calc infill occ pyr wsh strgs; por-tt nsfoc

tr pyr

SH dkgy-bk firm blkly carb

LS bm-mgy-tan xfxl hd-firm fos w/calc infill & incr in pyr occ chty w/bk-dkgy sh strgs vcarb slty; por-tt nsfoc

LS aa incr mot bm-dkgy-tan xfxl hd dns fos w/incr in SH bk-dkgybm firm blkly vcarb slty pyr

SH aa incr dkgybm firm blkly carb

tr pyr

LS ltgy xfxl fri vchky fos por-p nsfoc

SH dkgy-gybm-gygn sft plty carb slty scalc

LS mot ltgy-tan-bm xfxl-gran fri vchky incr fos w/chk mtrx w/intbd SH strgs; LS por-p-vtt nsfoc

SH aa

LS wh-ltgy-tan xfxl-gran firm mfos w/calc infill vpyr w/intbd dkgy SH strgs; por-p-vtt nsfoc

tr pyr

LS mot crm-wh/gy litho-gran firm-occ fri mfos occ tr ool zones; vpyr w/incr amt thin ltan DOL strgs; por-tt-occ fr nsfoc

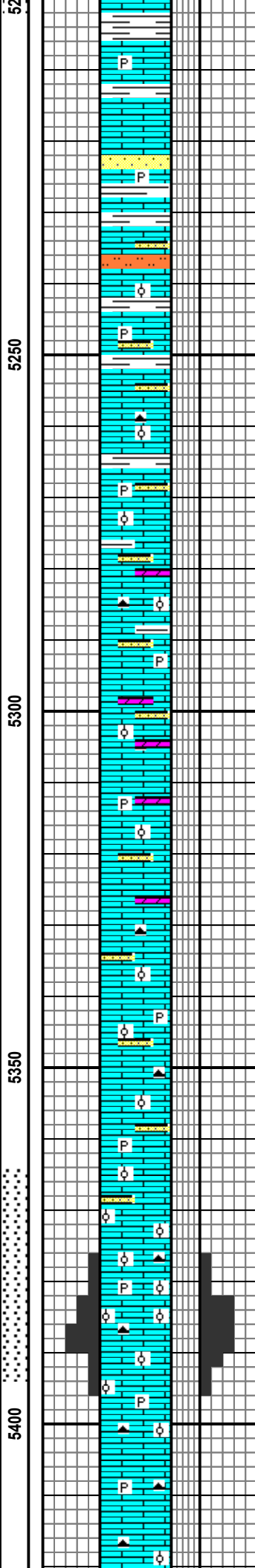
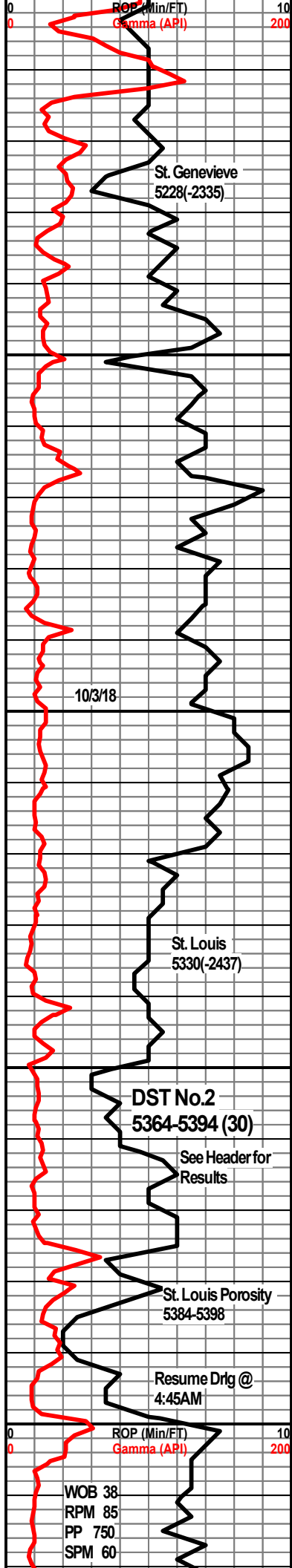
LS aa incr ool w/incr in strgs tan DOL gran fri arg mtrx; DOL por-fr-p nsfoc

Show No.9 5164-5186(22)

DOL ltgy-tan pred gran/suc text vfri-firm arg mtrx slpyr; w/intbd strgs LS aa & bm SH strgs; por-fr-occ g(when suc & vfri); oilstn-tan speckled oil stn in gran DOL; flor-30% myel; cut-30% slow to immed strm occ briyel strm cut on vfri suc DOL; res-visible ltan oil rim in dish, briyel flor in flor light

LS mot ltgy-tan-bm fri-firm fos pyr w/decr in DOL strgs aa pred LS strgs; DOL por-fr nsfoc

DST No.1 5146-5202(56)



SH m-dkgy-occ pale pink sft plty varg slcalc

LS aa incr fri vchky fos por-p nsfoc

SS wh-gy vfri f-vfg uncon sbrd pred loose
gms; carb sh prtgs slpyr; por-p nsfoc
w/intbd sh/lr strgs

LS ltgy-tan fri-firm gran-litho fos & sloop
w/occ sdy ls strgs; por-p-tt nsfoc

SH decr amt mgy-pink/gy sft plty sity

LS ltan-gy xfxl-gran firm-occ hd-fri occ sdy
& gran occ ool tr fos vfpvr por-p nsfoc

tr pyr & occ cht

LS mot ltgy-wh-crm firm-hd litho-gran sdy &
gran to hd dns vfpvr w/thinn strgs intbd
sh/dol; por-p-tt nsfoc

incr tr DOL ltgyt gran fri arg por-p nsfoc

LS tan-cm-wh gran-xfxl hd-occ fri sdy mool
& occ fos w/chk mtrx; tr cht & pyr; LS
por-p-tt nsfoc

tr pyr decr amt cht

LS m-ltgy-tan gran-litho firm-fri decr sdy incr
tr ool & pyr w/intbd dol strgs; LS por-p nsfoc

tr cht & pyr

LS tan-ltgy-wh litho-incr gran fri-firm occ sdy
mool w/chk mtrx; por-p nsfoc

tr dkgy cht

LS mot wh-tan-bm xfxl-gran fri-occ hd dns
mool & fos w/chk mtrx w/occ vsdy ls strgs;
por-p nsfoc

LS aa incr ool w/calc infill & sdy ls strgs tr cht;
por-p-occ fr nsfoc

Show No.10 5376-5396(20)

LS tan-cm vfri-firm gran/suc-xfxl vool
w/some calc infill & chk mtrx; vsipyr scat cht;
por-fr-g(inter ool-inter gran; oilstn-tan-bm
live oil & tan oilstn; flor-40% myel on ool ls;
cut-40% immed stm briyel; res- visible live
oil immed stm from ool leaving tan oil in
dish; oil odor in cuttings

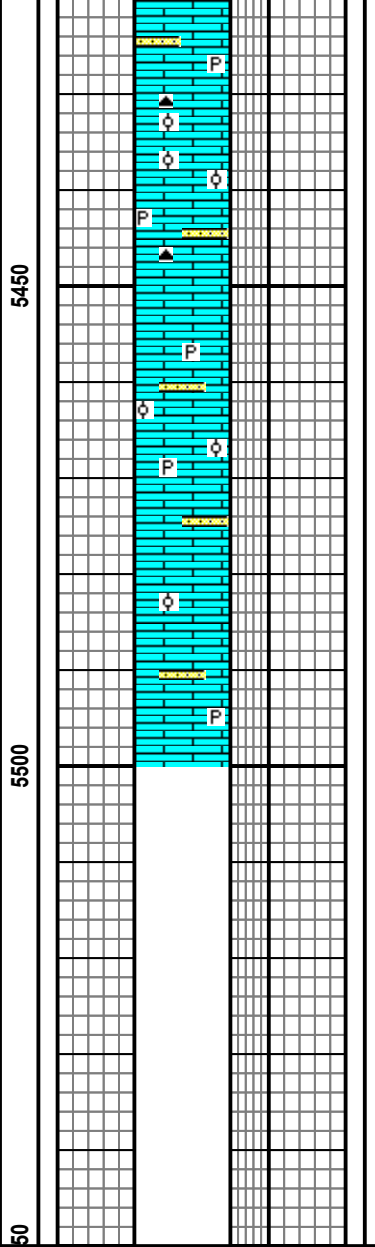
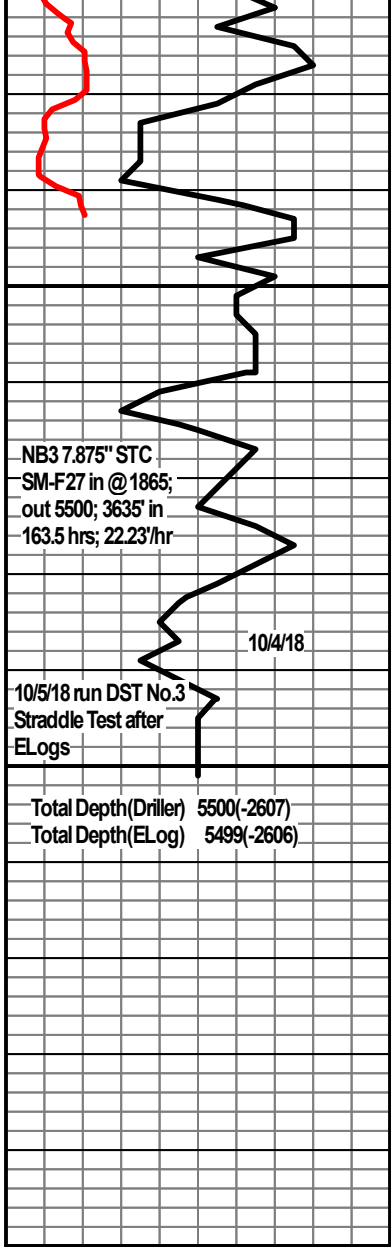
LS tan-cm gran-xfxl decr fri/firm-occ hd dns
mool w/abnt calc infill (decr por); tr cht & pyr;
por-tt nsfoc

W 9.2
V 70
WL 10.4
pH 11.0
cK 1
CL 3600
Ca 60
LCM 2#/BBL
Oil 0.0%

W 9.2
V 55
WL 10.0
pH 11.0
cK 1
CL 4400
Ca 20
LCM 2#/BBL
Oil 0.0%

Oil odor in smpls

W 9.3
V 52
WL 10.0
pH 11.0
cK 1
CL 5600
Ca 20



LS wh-ltgy-tan xfxl firm mfos & ool w/abnt
 calc infill slpyr w/in cr tr sdy(aren) ls; por-tt
 nsfoc

LS tan-crm xfxl-occ gran firm-occ mfri vool tr
 fos w/calc infill slpyr decr tr cht; por-p nsfoc

tr cht & pyr

LS mot tan-crm xfxl-litho firm-occ hd dns
 decr ool w/calc infill & vfp yr w/occ aren ls
 strgs; por-p-tt nsfoc

LS aa occ mool w/calc infill & chk mtrx;
 por-tt nsfoc

LS tan-wh xfxl-occ gran hd-fri decr ool w/calc
 infill w/pyr & intbd strgs aren ls; por-p-tt
 nsfoc

LS tan-mgy-wh xfxl firm-hd dns tr ool vfp yr
 aren por-p-tt nsfoc

LCM 2#BBL
 Oil 0.0%

W 9.3
 V 47
 WL 9.2
 pH 10.5
 cK 1
 CL 6500
 Ca 20
 LCM 3#BBL
 Oil 0.0%



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

K3 Oil & Gas Operating Company

33-27S-31W Haskell, KS

24900 Pitkin Rd.
Suite 305
The Woodlands, TX 77386
ATTN: Randy Say

Unruh #2-33

Job Ticket: 64781

DST#: 1

Test Start: 2018.10.01 @ 23:50:08

GENERAL INFORMATION:

Formation: **Chester**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 04:55:38

Time Test Ended: 09:55:08

Test Type: Conventional Bottom Hole (Initial)

Tester: Brannan Lonsdale

Unit No: 73

Interval: 5146.00 ft (KB) To 5202.00 ft (KB) (TVD)

Reference Elevations: 2893.00 ft (KB)

Total Depth: 5202.00 ft (KB) (TVD)

2888.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 6753 Outside

Press@RunDepth: 44.16 psig @ 5147.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2018.10.01 End Date: 2018.10.02

Last Calib.: 2018.10.02

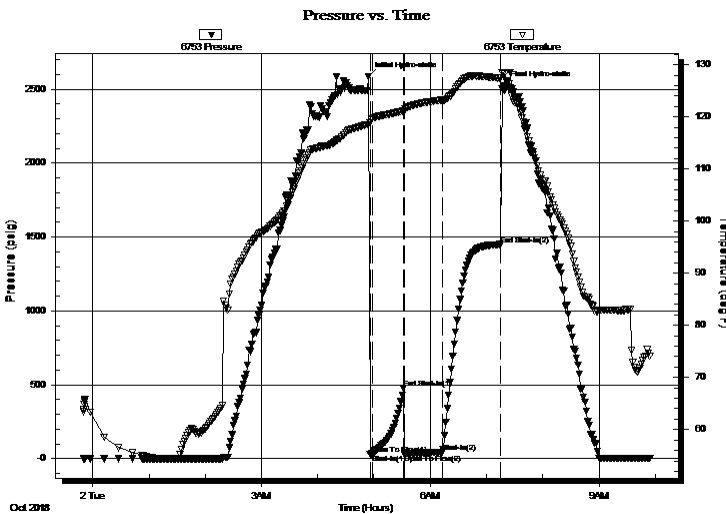
Start Time: 23:50:13 End Time: 09:55:08

Time On Btm: 2018.10.02 @ 04:54:08

Time Off Btm: 2018.10.02 @ 07:18:08

TEST COMMENT: 05- IF- Slowly built to 2.61"
30- IS- No blow
45- FF- BOB instantly. Built to 180"
60- FS- No blow

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2586.42	118.44	Initial Hydro-static
2	32.42	118.85	Open To Flow (1)
4	32.83	119.65	Shut-In(1)
38	477.20	121.18	End Shut-In(1)
39	32.13	121.23	Open To Flow (2)
79	44.16	123.22	Shut-In(2)
141	1446.50	127.40	End Shut-In(2)
144	2521.15	128.39	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
60.00	M	0.30
0.00	3150' GIP	0.00

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

K3 Oil & Gas Operating Company
 24900 Pitkin Rd.
 Suite 305
 The Woodlands, TX 77386
 ATTN: Randy Say

33-27S-31W Haskell, KS

Unruh #2-33

Job Ticket: 64781

DST#: 1

Test Start: 2018.10.01 @ 23:50:08

GENERAL INFORMATION:

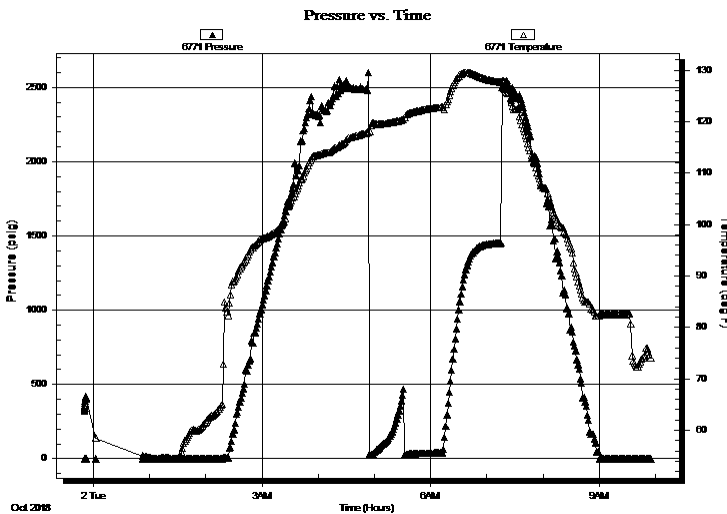
Formation: **Chester**
 Deviated: No Whipstock: ft (KB)
 Test Type: Conventional Bottom Hole (Initial)
 Time Tool Opened: 04:55:38
 Tester: Brannan Lonsdale
 Time Test Ended: 09:55:08
 Unit No: 73
 Interval: **5146.00 ft (KB) To 5202.00 ft (KB) (TVD)**
 Reference Elevations: 2893.00 ft (KB)
 Total Depth: 5202.00 ft (KB) (TVD)
 2888.00 ft (CF)
 Hole Diameter: 7.88 inches
 Hole Condition: Fair
 KB to GR/CF: 5.00 ft

Serial #: 6771

Inside

Press@RunDepth: psig @ 5147.00 ft (KB)
 Capacity: 8000.00 psig
 Start Date: 2018.10.01 End Date: 2018.10.02 Last Calib.: 2018.10.02
 Start Time: 23:50:29 End Time: 09:55:33
 Time On Btm:
 Time Off Btm:

TEST COMMENT: 05- IF- Slowly built to 2.61"
 30- IS- No blow
 45- FF- BOB instantly. Built to 180"
 60- FS- No blow



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
60.00	M	0.30
0.00	3150' GIP	0.00

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

K3 Oil & Gas Operating Company

33-27S-31W Haskell, KS

24900 Pitkin Rd.
Suite 305
The Woodlands, TX 77386
ATTN: Randy Say

Unruh #2-33

Job Ticket: 64781

DST#: 1

Test Start: 2018.10.01 @ 23:50:08

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 53.00 sec/qt

Water Loss: 9.59 in³

Resistivity: ohm.m

Salinity: 3900.00 ppm

Filter Cake: inches

Cushion Type:

Cushion Length: ft

Cushion Volume: bbl

Gas Cushion Type:

Gas Cushion Pressure: psig

Oil API:

Water Salinity: ppm

deg API

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
60.00	M	0.295
0.00	3150' GIP	0.000

Total Length: 60.00 ft Total Volume: 0.295 bbl

Num Fluid Samples: 0

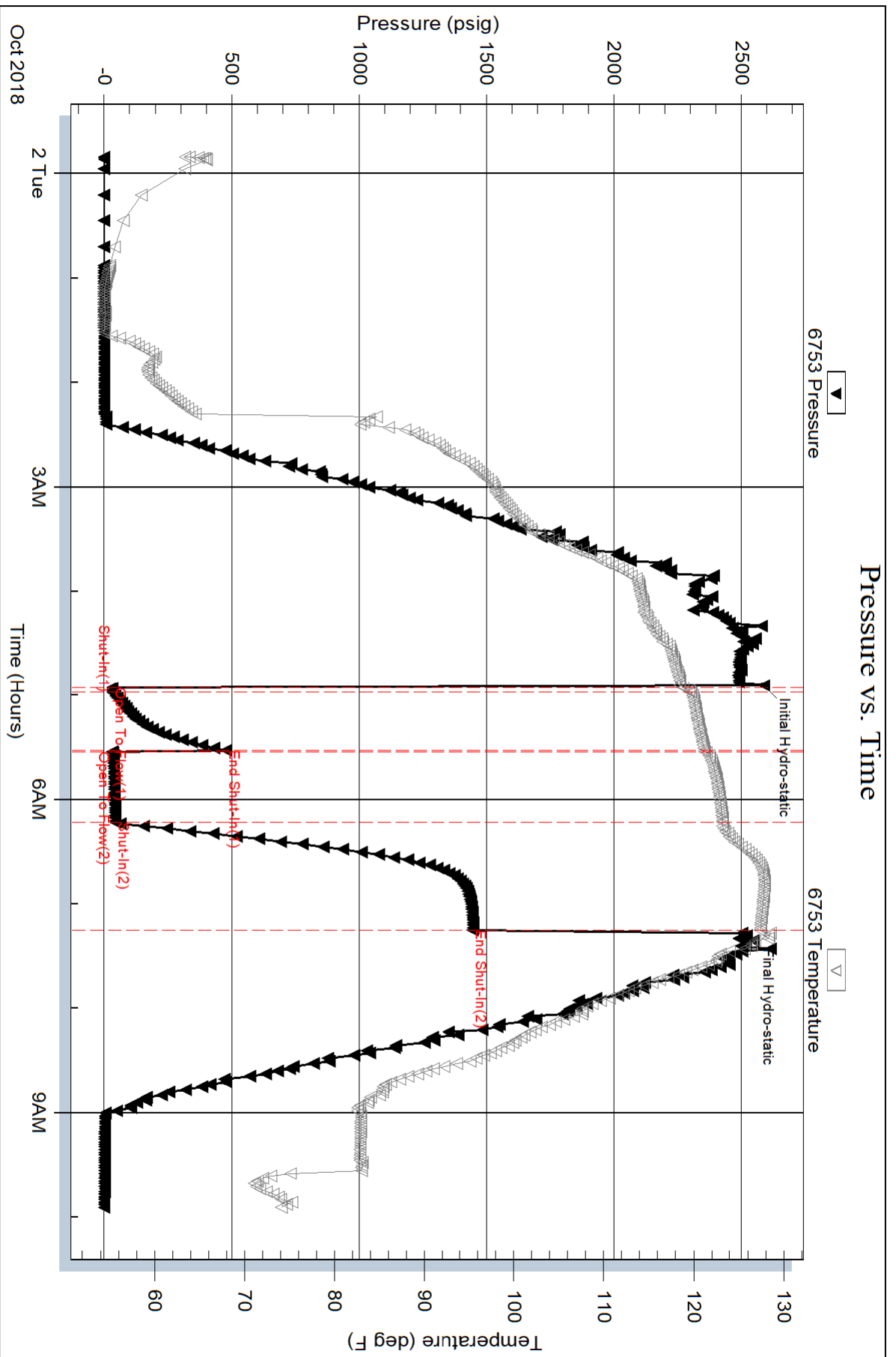
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Sampler: 2000mL G @ 1400PSI



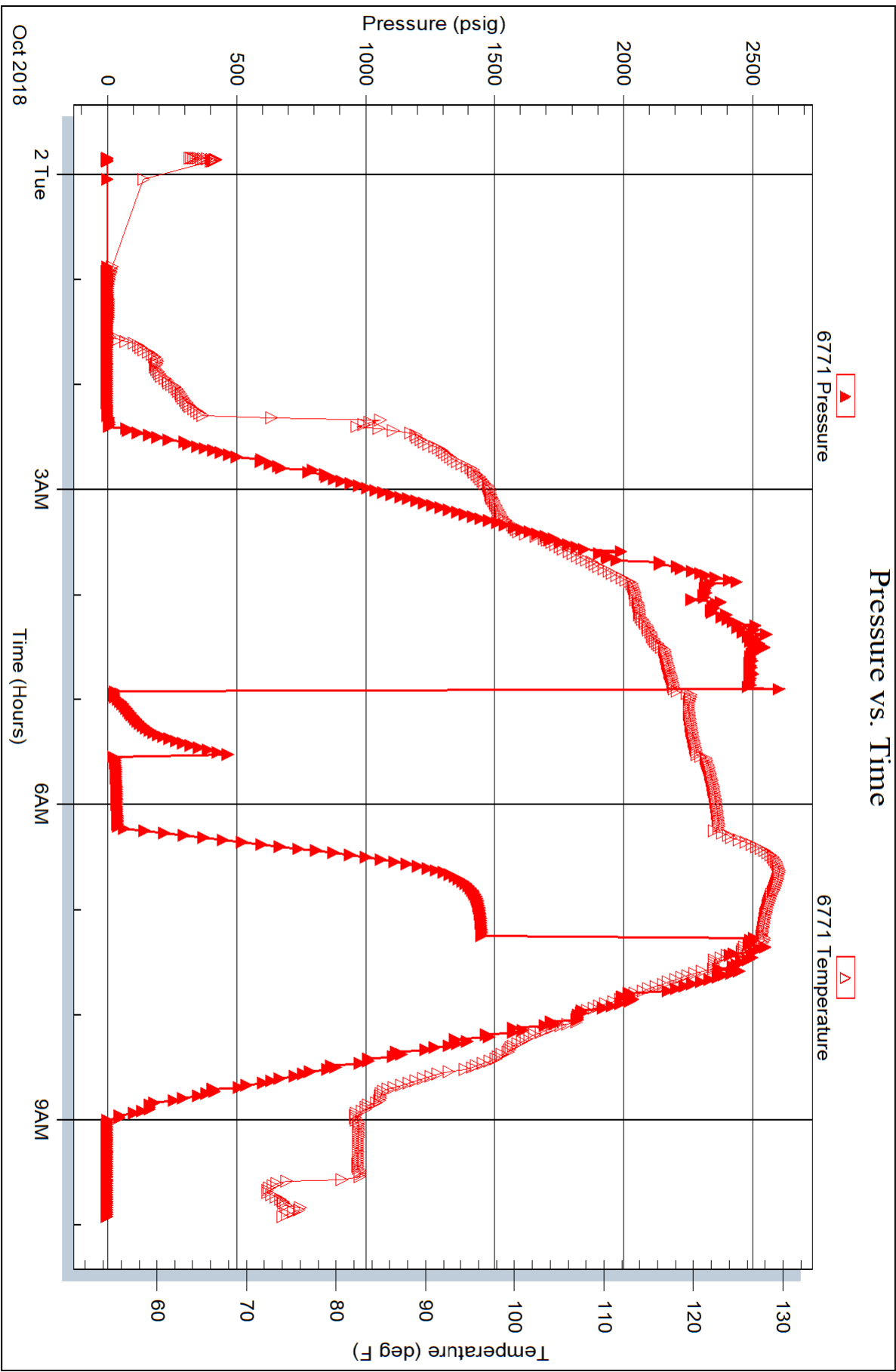
Serial #: 6771

Inside

K3 Oil & Gas Operating Company

Unruh #2-33

DST Test Number: 1





TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

K3 Oil & Gas Operating Company

33-27S-31W Haskell, KS

24900 Pitkin Rd.
Suite 305
The Woodlands, TX 77386
ATTN: Randy Say

Unruh #2-33

Job Ticket: 64782

DST#: 2

Test Start: 2018.10.03 @ 14:28:14

GENERAL INFORMATION:

Formation: **St. Louis**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 18:45:14
 Time Test Ended: 01:39:14
 Interval: **5364.00 ft (KB) To 5394.00 ft (KB) (TVD)**
 Total Depth: 5394.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Brannan Lonsdale
 Unit No: 73
 Reference Elevations: 2893.00 ft (KB)
 2888.00 ft (CF)
 KB to GR/CF: 5.00 ft

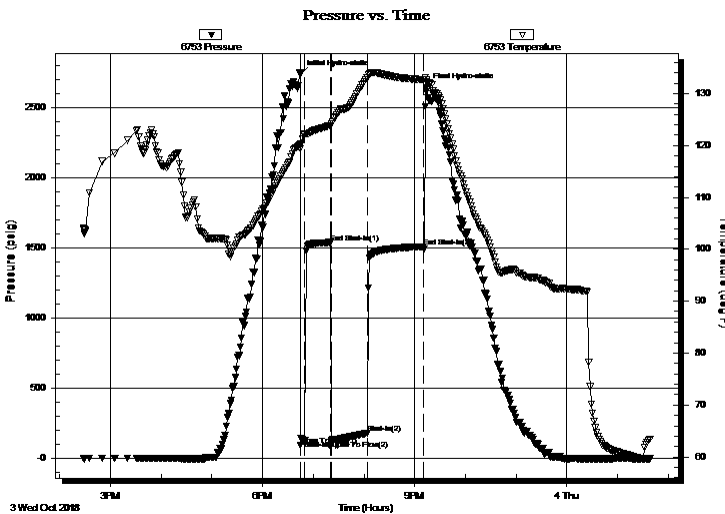
Serial #: 6753

Outside

Press@RunDepth: 182.03 psig @ 5365.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2018.10.03 End Date: 2018.10.04 Last Calib.: 2018.10.04
 Start Time: 14:28:19 End Time: 01:39:14 Time On Btm: 2018.10.03 @ 18:44:44
 Time Off Btm: 2018.10.03 @ 21:13:44

TEST COMMENT: 05- IF- Quickly built to 11.16"
 30- IS- No blow
 45- FF- Slowly built to 7"
 60- FSI- No blow

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2741.29	120.18	Initial Hydro-static
1	95.28	119.36	Open To Flow (1)
6	131.10	122.11	Shut-In(1)
36	1541.60	123.88	End Shut-In(1)
37	131.12	124.12	Open To Flow (2)
80	182.03	133.09	Shut-In(2)
146	1511.92	132.67	End Shut-In(2)
149	2645.61	132.58	Final Hydro-static

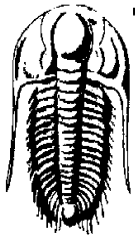
Recovery

Length (ft)	Description	Volume (bbl)
180.00	MW, 10%M 90%W	1.47
160.00	M	2.27

* Recovery from multiple tests

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

K3 Oil & Gas Operating Company

33-27S-31W Haskell, KS

24900 Pitkin Rd.
Suite 305
The Woodlands, TX 77386
ATTN: Randy Say

Unruh #2-33

Job Ticket: 64782 **DST#: 2**

Test Start: 2018.10.03 @ 14:28:14

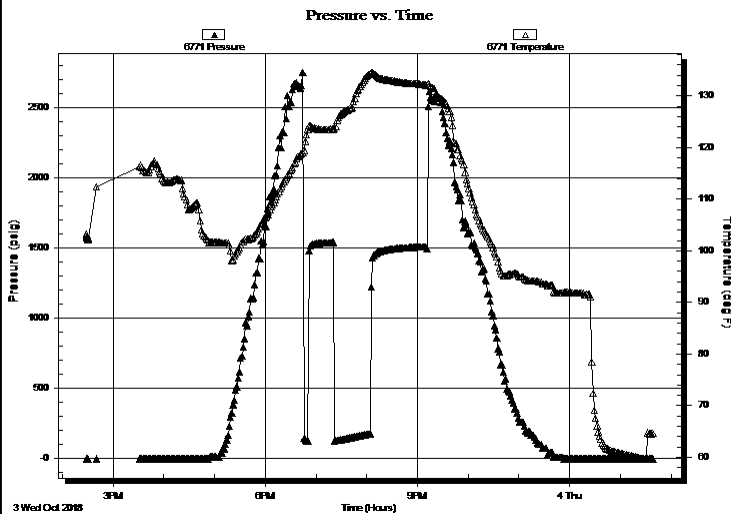
GENERAL INFORMATION:

Formation: **St. Louis**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 18:45:14
 Time Test Ended: 01:39:14
 Interval: **5364.00 ft (KB) To 5394.00 ft (KB) (TVD)**
 Total Depth: 5394.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Brannan Lonsdale
 Unit No: 73
 Reference Elevations: 2893.00 ft (KB)
 2888.00 ft (CF)
 KB to GR/CF: 5.00 ft

Serial #: 6771 Inside

Press@RunDepth: psig @ 5365.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2018.10.03 End Date: 2018.10.04 Last Calib.: 2018.10.04
 Start Time: 14:28:33 End Time: 01:39:37 Time On Btm:
 Time Off Btm:

TEST COMMENT: 05- IF- Quickly built to 11.16"
 30- IS- No blow
 45- FF- Slowly built to 7"
 60- FS- No blow



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
180.00	MW, 10%M 90%W	1.47
160.00	M	2.27

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

K3 Oil & Gas Operating Company

33-27S-31W Haskell, KS

24900 Pitkin Rd.
Suite 305
The Woodlands, TX 77386
ATTN: Randy Say

Unruh #2-33

Job Ticket: 64782

DST#: 2

Test Start: 2018.10.03 @ 14:28:14

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 53.00 sec/qt

Water Loss: 9.58 in³

Resistivity: ohm.m

Salinity: 3900.00 ppm

Filter Cake: inches

Cushion Type:

Cushion Length: ft

Cushion Volume: bbl

Gas Cushion Type:

Gas Cushion Pressure: psig

Oil API:

Water Salinity: 52000 ppm

deg API

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
180.00	MW, 10%M 90%W	1.468
160.00	M	2.268

Total Length: 340.00 ft Total Volume: 3.736 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW: .13@69deg

Sampler: 100mL M & 1900mL W @ 680PSI

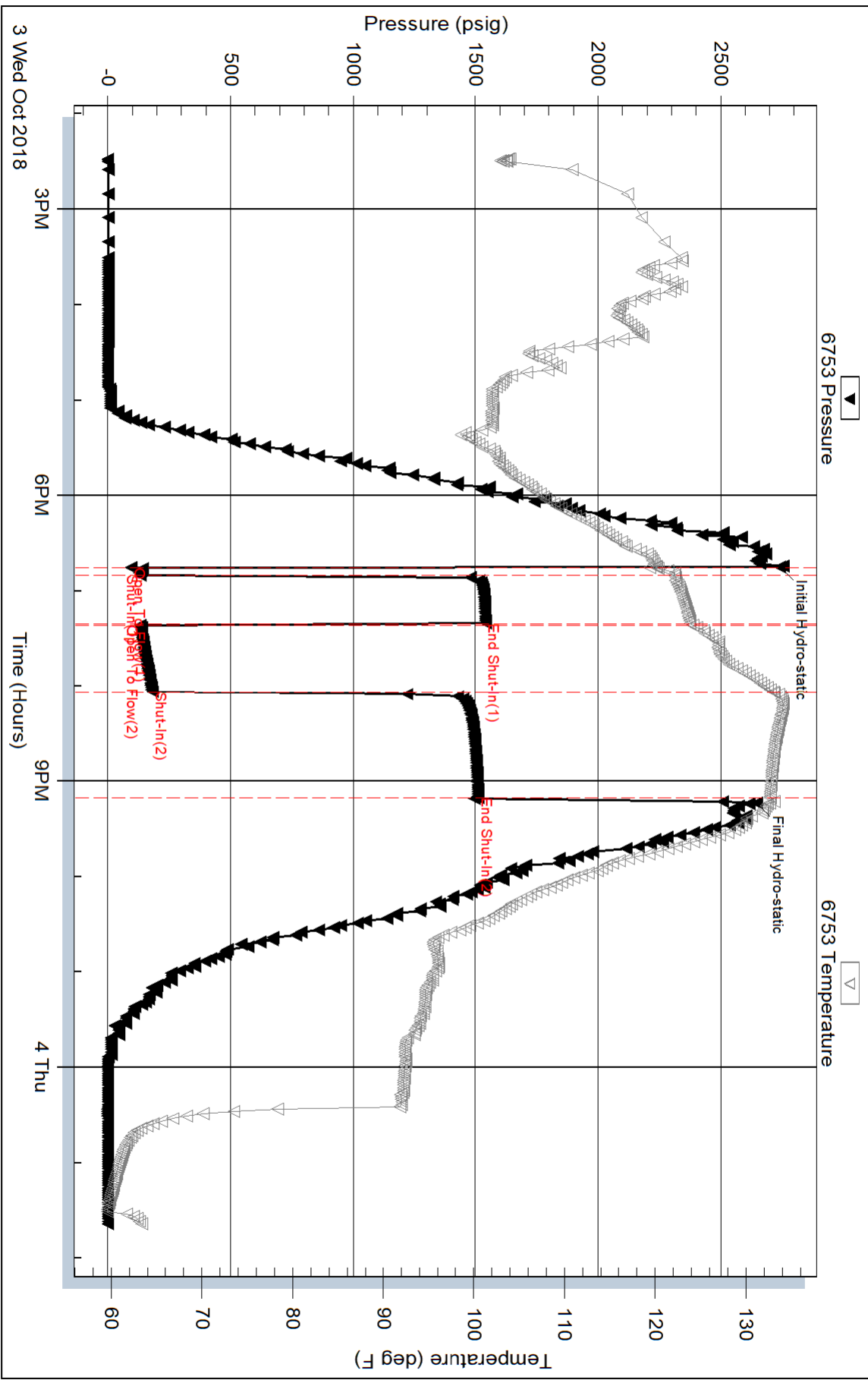
Serial #: 6753

Outside K3 Oil & Gas Operating Company

Unruh #-2-33

DST Test Number: 2

Pressure vs. Time



Trilobite Testing, Inc

Ref. No: 64782

Printed: 2018.10.04 @ 07:04:56

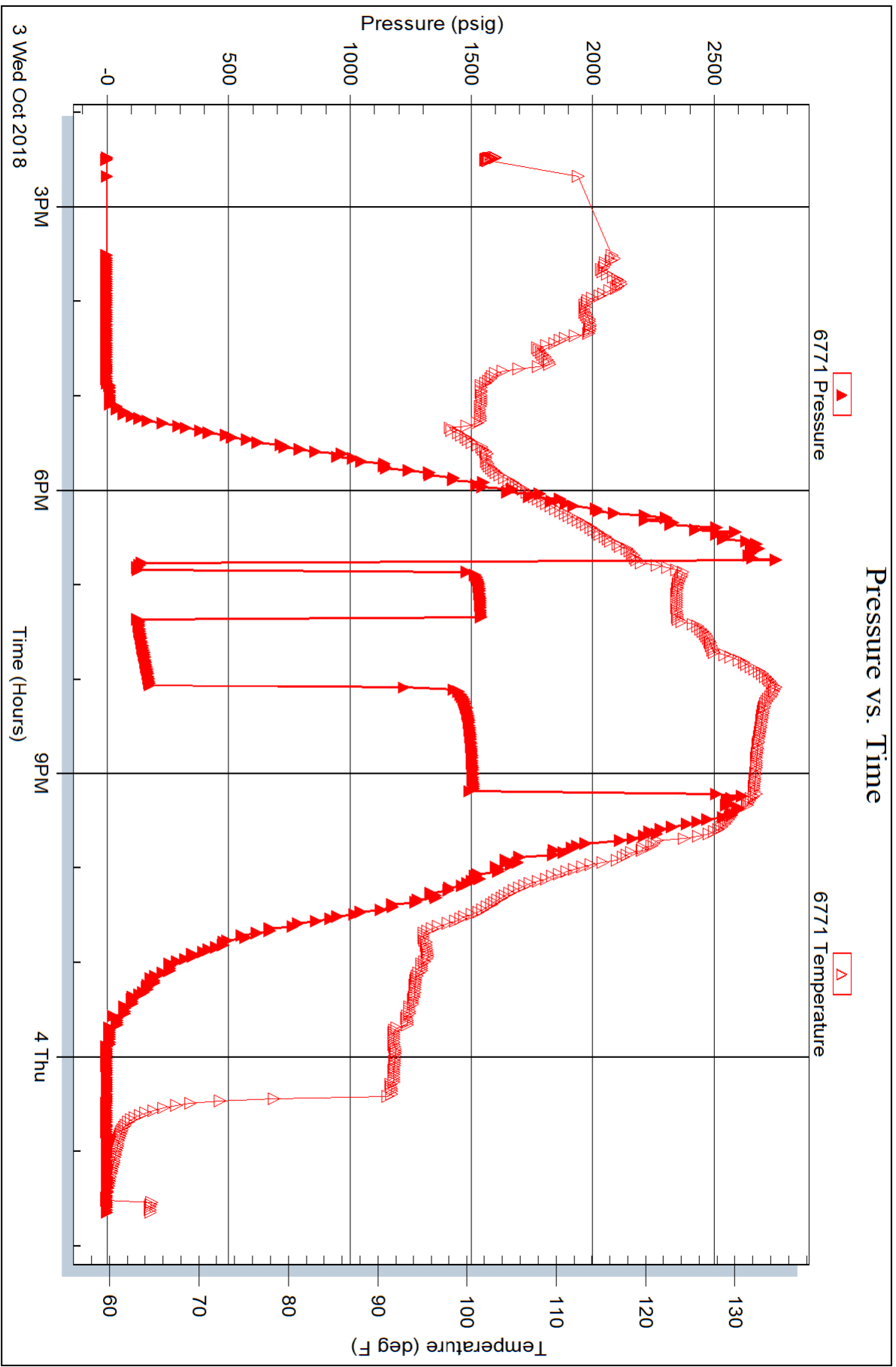
Serial #: 6771

Inside

K3 Oil & Gas Operating Company

Unruh #-2-33

DST Test Number: 2





TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

K3 Oil & Gas Operating Company

33-27S-31W Haskell,KS

24900 Pitkin Rd. Suite 305
The Woodlands, TX 77386

Unruh #2-33

Job Ticket: 64258

DST#: 3

ATTN: Randy Say

Test Start: 2018.10.05 @ 07:22:35

GENERAL INFORMATION:

Formation: **Lansing**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 09:52:35

Time Test Ended: 14:43:05

Test Type: Conventional Bottom Hole (Reset)

Tester: Brandon Turley

Unit No: 79

Interval: 4636.00 ft (KB) To 4660.00 ft (KB) (TVD)

Reference Elevations: 2893.00 ft (KB)

Total Depth: 5500.00 ft (KB) (TVD)

2888.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

Serial #: 8166 Outside

Press@RunDepth: 62.70 psig @ 4637.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2018.10.05 End Date: 2018.10.05

Last Calib.: 2018.10.05

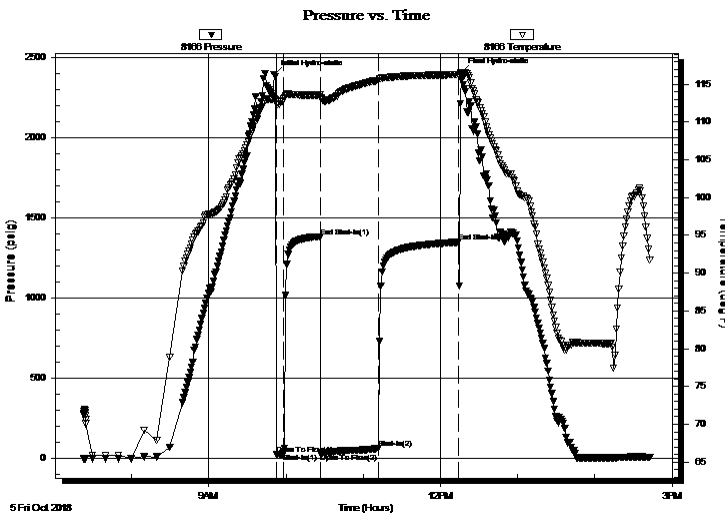
Start Time: 07:22:40 End Time: 14:43:04

Time On Btm: 2018.10.05 @ 09:50:35

Time Off Btm: 2018.10.05 @ 12:16:05

TEST COMMENT: IF: 1/4 blow built to 1.
IS: No return.
FF: Surface blow built to 3 1/4.
FS: No return.

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2396.43	113.03	Initial Hydro-static
2	25.88	112.40	Open To Flow (1)
8	29.73	113.04	Shut-In(1)
36	1384.99	113.61	End Shut-In(1)
37	32.96	113.20	Open To Flow (2)
81	62.70	115.50	Shut-In(2)
144	1350.14	116.28	End Shut-In(2)
146	2409.48	116.47	Final Hydro-static

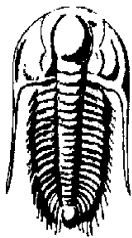
Recovery

Length (ft)	Description	Volume (bbl)
120.00	w cm 20%w 80%m	0.62

Gas Rates

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

* Recovery from multiple tests



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

K3 Oil & Gas Operating Company

33-27S-31W Haskell, KS

24900 Pitkin Rd. Suite 305
The Woodlands, TX 77386

Unruh #2-33

ATTN: Randy Say

Job Ticket: 64258

DST#: 3

Test Start: 2018.10.05 @ 07:22:35

GENERAL INFORMATION:

Formation: **Lansing**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 09:52:35

Time Test Ended: 14:43:05

Interval: 4636.00 ft (KB) To 4660.00 ft (KB) (TVD)

Total Depth: 5500.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Test Type: Conventional Bottom Hole (Reset)

Tester: Brandon Turley

Unit No: 79

Reference Elevations: 2893.00 ft (KB)

2888.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 6651 Inside

Press@RunDepth: psig @ 4637.00 ft (KB)

Start Date: 2018.10.05

End Date:

2018.10.05

Start Time: 07:22:36

End Time:

14:43:00

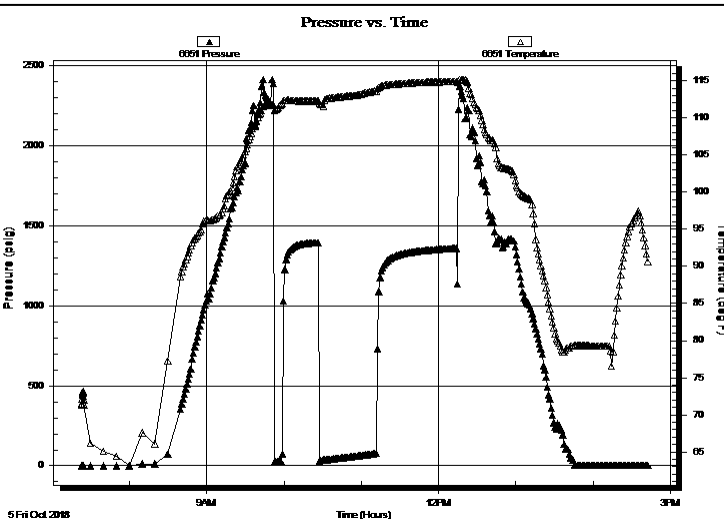
Capacity: 8000.00 psig

Last Calib.: 2018.10.05

Time On Btm:

Time Off Btm:

TEST COMMENT: IF: 1/4 blow built to 1.
IS: No return.
FF: Surface blow built to 3 1/4.
FS: No return.



PRESSURE SUMMARY

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

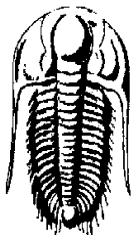
Recovery

Length (ft)	Description	Volume (bbl)
120.00	w cm 20%w 80%m	0.62

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

K3 Oil & Gas Operating Company

33-27S-31W Haskell,KS

24900 Pitkin Rd. Suite 305
The Woodlands, TX 77386

Unruh #2-33

Job Ticket: 64258 **DST#: 3**
Test Start: 2018.10.05 @ 07:22:35

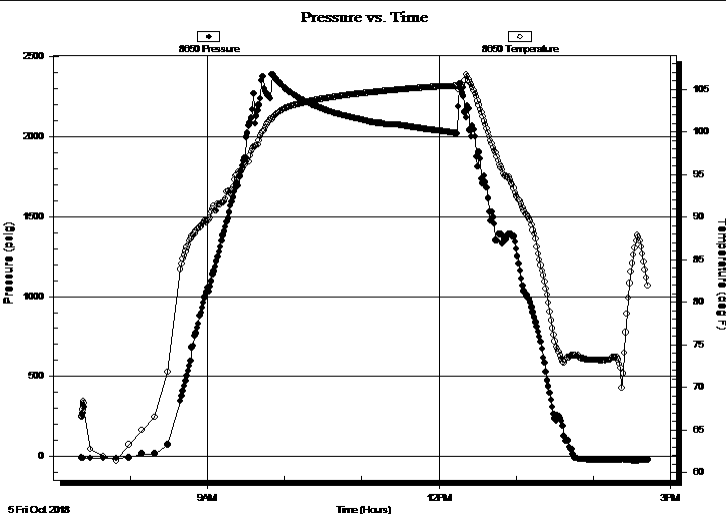
ATTN: Randy Say

GENERAL INFORMATION:

Formation: **Lansing**
Deviated: No Whipstock: ft (KB) Test Type: Conventional Bottom Hole (Reset)
Time Tool Opened: 09:52:35 Tester: Brandon Turley
Time Test Ended: 14:43:05 Unit No: 79
Interval: 4636.00 ft (KB) To 4660.00 ft (KB) (TVD) Reference Elevations: 2893.00 ft (KB)
Total Depth: 5500.00 ft (KB) (TVD) 2888.00 ft (CF)
Hole Diameter: 7.88 inches Hole Condition: Good KB to GR/CF: 5.00 ft

Serial #: 8650 Below (Straddle)
Press@RunDepth: psig @ 4672.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2018.10.05 End Date: 2018.10.05 Last Calib.: 2018.10.05
Start Time: 07:22:14 End Time: 14:42:38 Time On Btm:
Time Off Btm:

TEST COMMENT: IF: 1/4 blow built to 1.
IS: No return.
FF: Surface blow built to 3 1/4.
FS: No return.



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
120.00	w cm 20% w 80% m	0.62

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

K3 Oil & Gas Operating Company

33-27S-31W Haskell,KS

24900 Pitkin Rd. Suite 305
The Woodlands, TX 77386

Unruh #2-33

Job Ticket: 64258

DST#: 3

ATTN: Randy Say

Test Start: 2018.10.05 @ 07:22:35

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:

1800 ppm

Viscosity: 52.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 9.99 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 5600.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
120.00	w cm 20%w 80%m	0.618

Total Length: 120.00 ft Total Volume: 0.618 bbl

Num Fluid Samples: 0

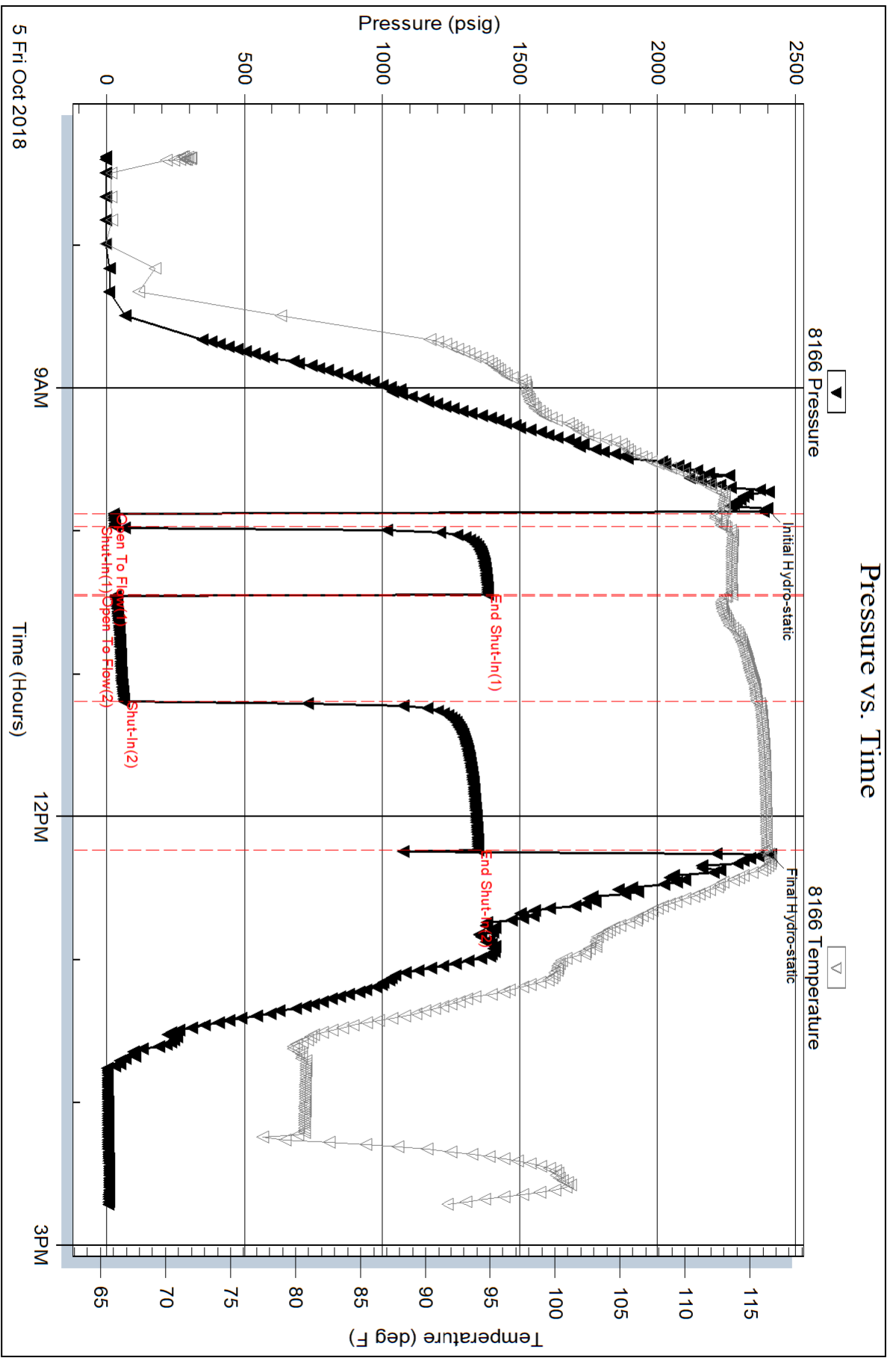
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: .31@86=1800



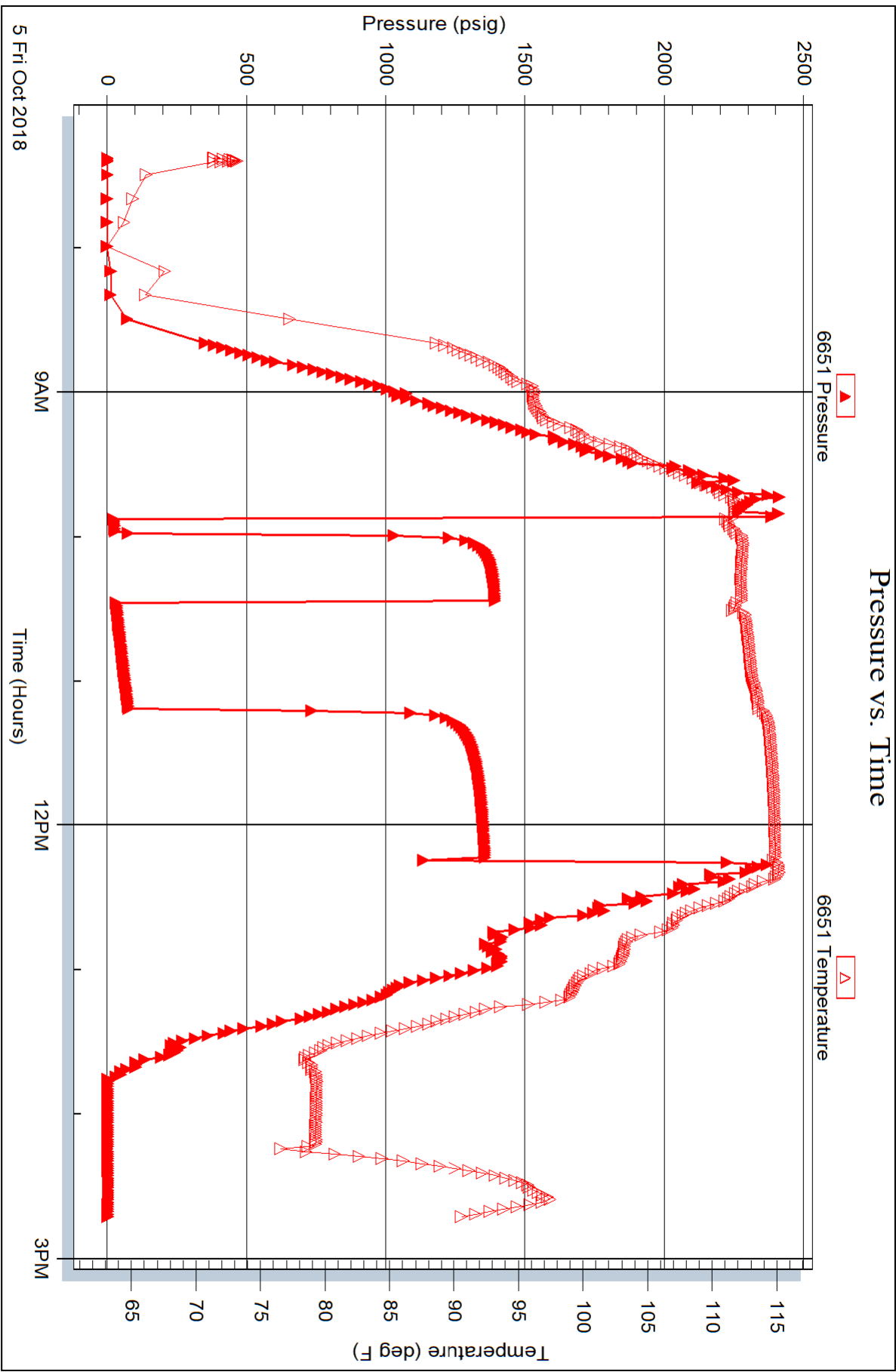
Serial #: 6651

Inside

K3 Oil & Gas Operating Company

Unruh #-2-33

DST Test Number: 3

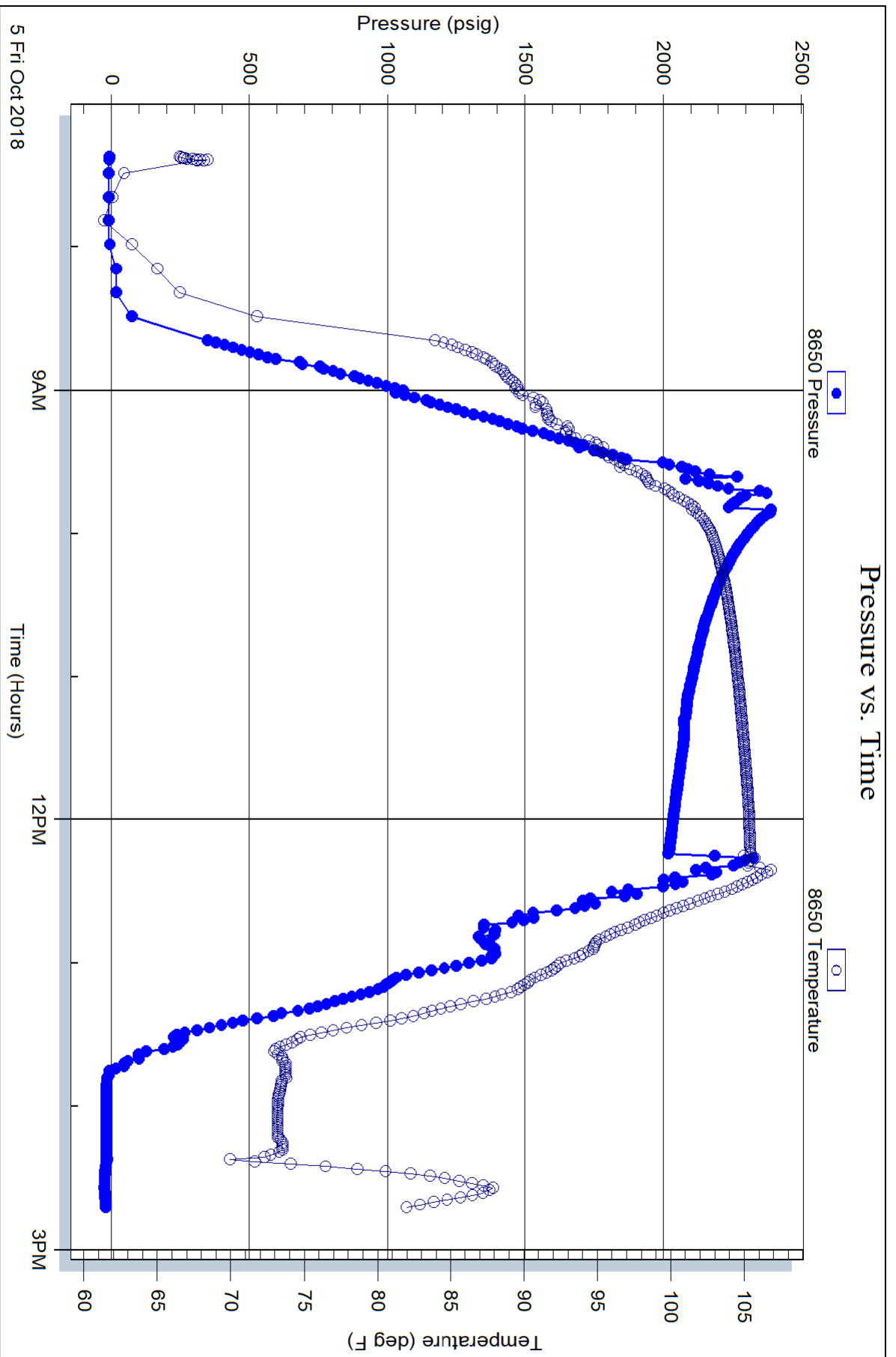


Serial #: 8650

Below (Stratton) & Gas Operating Company

Unruh #2-33

DST Test Number: 3





TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

K3 Oil & Gas Operating Company

33-27S-31W Haskell,KS

24900 Pitkin Rd. Suite 305
The Woodlands, TX 77386

Unruh #2-33

Job Ticket: 64259

DST#: 4

ATTN: Randy Say

Test Start: 2018.10.05 @ 15:37:28

GENERAL INFORMATION:

Formation: **Marmaton**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 17:37:58

Time Test Ended: 22:32:28

Test Type: Conventional Bottom Hole (Reset)

Tester: Brandon Turley

Unit No: 79

Interval: 4954.00 ft (KB) To 4984.00 ft (KB) (TVD)

Reference Elevations: 2893.00 ft (KB)

Total Depth: 5500.00 ft (KB) (TVD)

2888.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 8166 Outside

Press@RunDepth: 70.54 psig @ 4955.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2018.10.05 End Date: 2018.10.05

Last Calib.: 2018.10.05

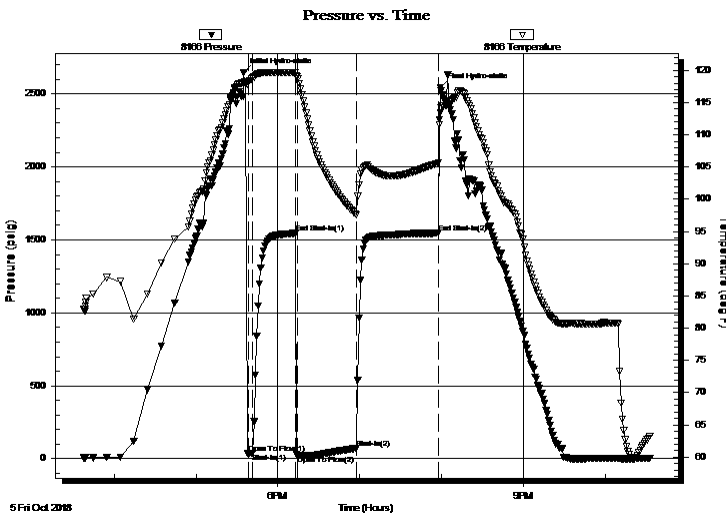
Start Time: 15:37:33 End Time: 22:32:27

Time On Btm: 2018.10.05 @ 17:34:58

Time Off Btm: 2018.10.05 @ 19:58:58

TEST COMMENT: IF: BOB in 1 1/2 mins. 61"
IS: No return.
FF: BOB Gas to surface in 11 min.
FS: No return.

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2647.73	118.13	Initial Hydro-static
3	35.49	118.07	Open To Flow (1)
7	37.65	118.80	Shut-In(1)
38	1544.95	119.69	End Shut-In(1)
39	23.55	119.02	Open To Flow (2)
83	70.54	97.54	Shut-In(2)
143	1546.40	105.63	End Shut-In(2)
144	2542.56	113.40	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
70.00	w cm 5%w 95%m	0.34

* Recovery from multiple tests

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate	0.13	8.09	8.42
Last Gas Rate	0.13	38.60	18.60
Max. Gas Rate	0.13	38.60	18.60



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

K3 Oil & Gas Operating Company

33-27S-31W Haskell, KS

24900 Pitkin Rd. Suite 305
The Woodlands, TX 77386

Unruh #2-33

Job Ticket: 64259

DST#: 4

ATTN: Randy Say

Test Start: 2018.10.05 @ 15:37:28

GENERAL INFORMATION:

Formation: **Marmaton**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 17:37:58

Time Test Ended: 22:32:28

Test Type: Conventional Bottom Hole (Reset)

Tester: Brandon Turley

Unit No: 79

Interval: 4954.00 ft (KB) To 4984.00 ft (KB) (TVD)

Reference Elevations: 2893.00 ft (KB)

Total Depth: 5500.00 ft (KB) (TVD)

2888.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 6651 Inside

Press@RunDepth: psig @ 4955.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2018.10.05 End Date: 2018.10.05

Last Calib.: 2018.10.05

Start Time: 15:37:55 End Time: 22:32:49

Time On Btm:

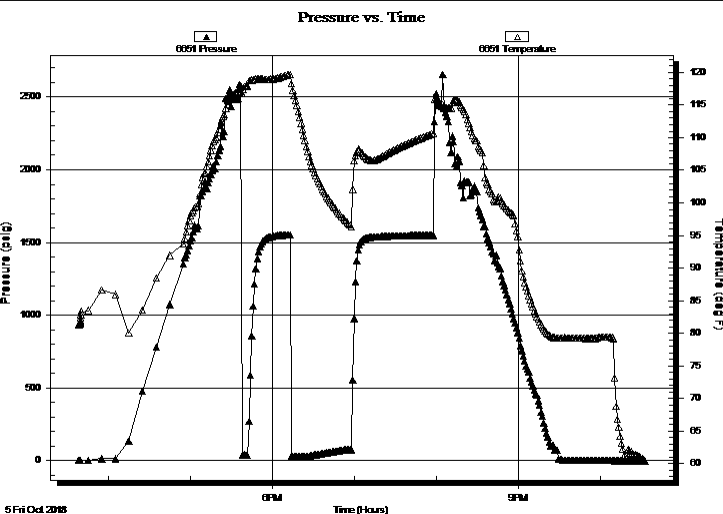
Time Off Btm:

TEST COMMENT: IF: BOB in 1 1/2 mins. 61"

IS: No return.

FF: BOB Gas to surface in 11 min.

FS: No return.



PRESSURE SUMMARY

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

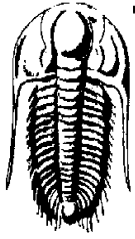
Recovery

Length (ft)	Description	Volume (bbl)
70.00	w cm 5%w 95%m	0.34

* Recovery from multiple tests

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate	0.13	8.09	8.42
Last Gas Rate	0.13	38.60	18.60
Max. Gas Rate	0.13	38.60	18.60



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

K3 Oil & Gas Operating Company
24900 Pitkin Rd. Suite 305
The Woodlands, TX 77386

ATTN: Randy Say

33-27S-31W Haskell, KS
Unruh #2-33
Job Ticket: 64259 **DST#: 4**
Test Start: 2018.10.05 @ 15:37:28

GENERAL INFORMATION:

Formation: **Marmaton**
Deviated: No Whipstock: ft (KB)
Test Type: Conventional Bottom Hole (Reset)
Time Tool Opened: 17:37:58
Tester: Brandon Turley
Time Test Ended: 22:32:28
Unit No: 79

Interval: **4954.00 ft (KB) To 4984.00 ft (KB) (TVD)**
Reference Elevations: 2893.00 ft (KB)
Total Depth: 5500.00 ft (KB) (TVD)
2888.00 ft (CF)
Hole Diameter: 7.88 inches Hole Condition: Fair
KB to GR/CF: 5.00 ft

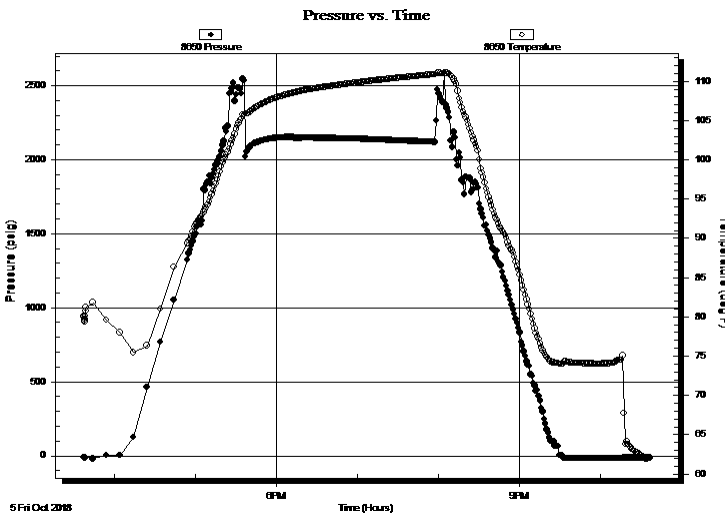
Serial #: 8650 Below (Straddle)

Press@RunDepth: psig @ 4979.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2018.10.05 End Date: 2018.10.05 Last Calib.: 2018.10.05
Start Time: 15:37:36 End Time: 22:36:30 Time On Btm:
Time Off Btm:

TEST COMMENT: IF: BOB in 1 1/2 mins. 61"
IS: No return.
FF: BOB Gas to surface in 11 min.
FS: No return.

PRESSURE SUMMARY

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



Recovery

Length (ft)	Description	Volume (bbl)
70.00	w cm 5%w 95%m	0.34

* Recovery from multiple tests

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate	0.13	8.09	8.42
Last Gas Rate	0.13	38.60	18.60
Max. Gas Rate	0.13	38.60	18.60



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

K3 Oil & Gas Operating Company

33-27S-31W Haskell,KS

24900 Pitkin Rd. Suite 305
The Woodlands, TX 77386

Unruh #2-33

Job Ticket: 64259

DST#: 4

ATTN: Randy Say

Test Start: 2018.10.05 @ 15:37:28

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: 52.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 9.99 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 5600.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
70.00	w cm 5%w 95%m	0.344

Total Length: 70.00 ft Total Volume: 0.344 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

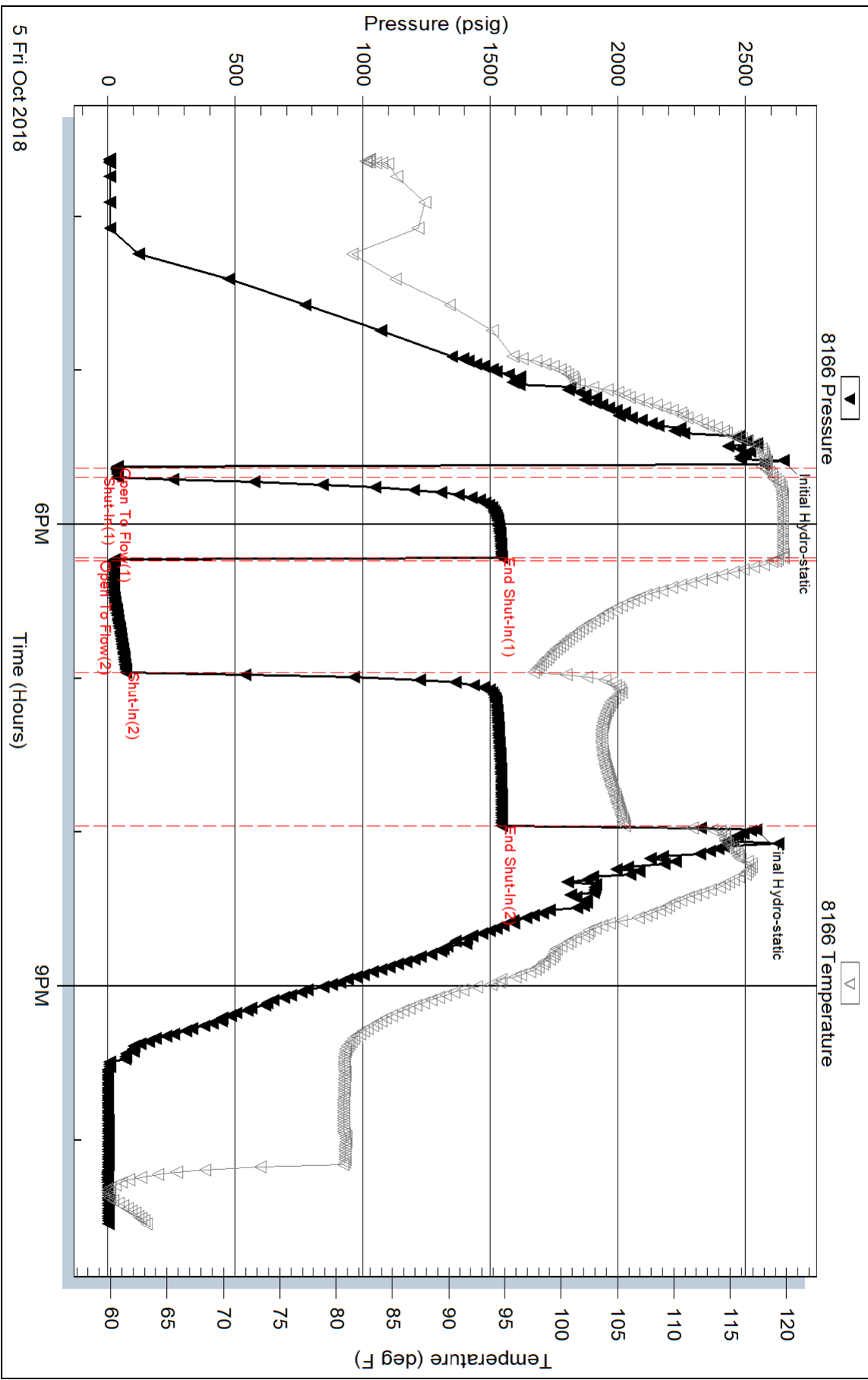
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Pressure vs. Time



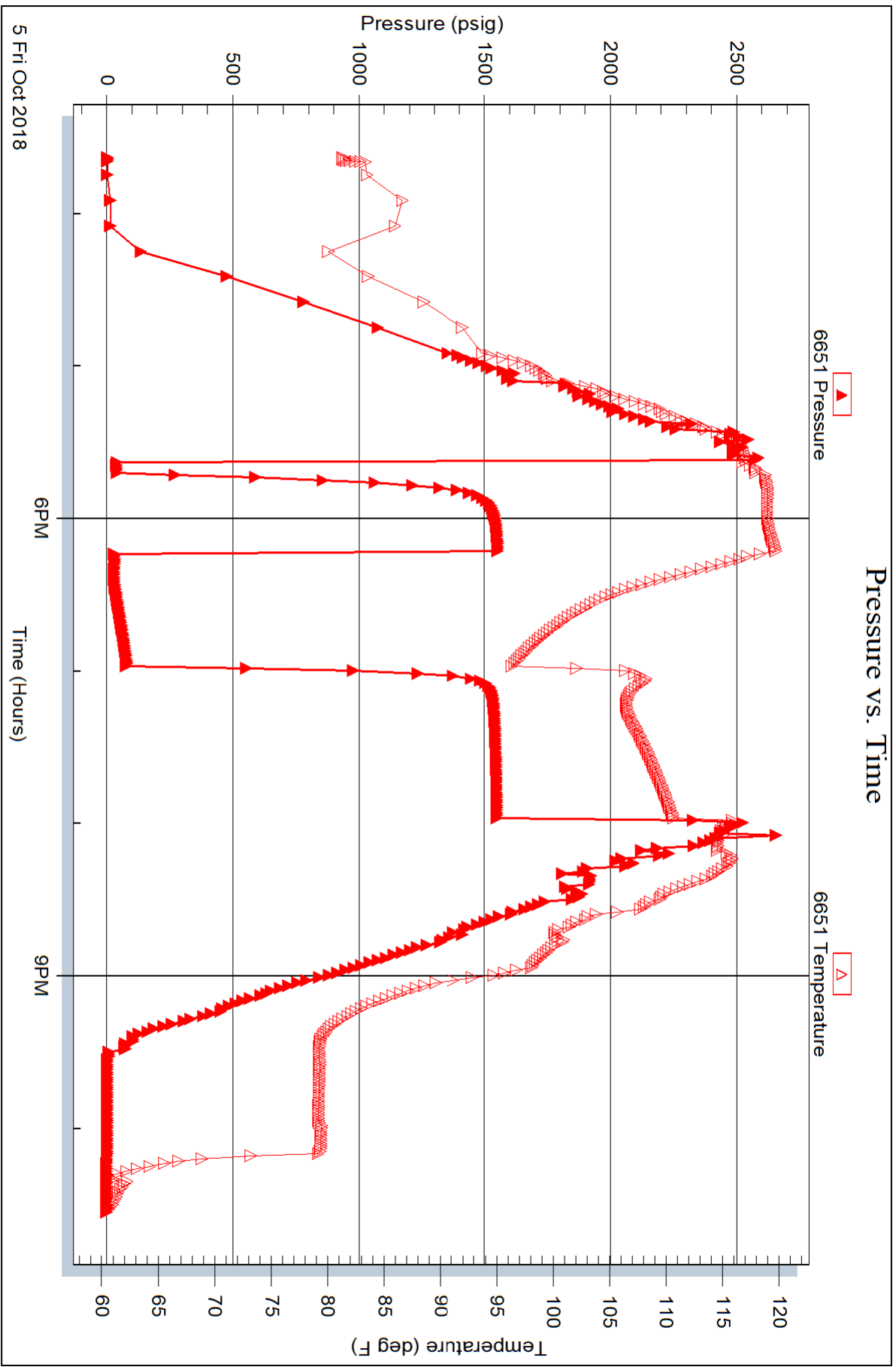
Serial #: 6651

Inside

K3 Oil & Gas Operating Company

Unruh #2-33

DST Test Number: 4



Triobite Testing, Inc

Ref. No: 64259

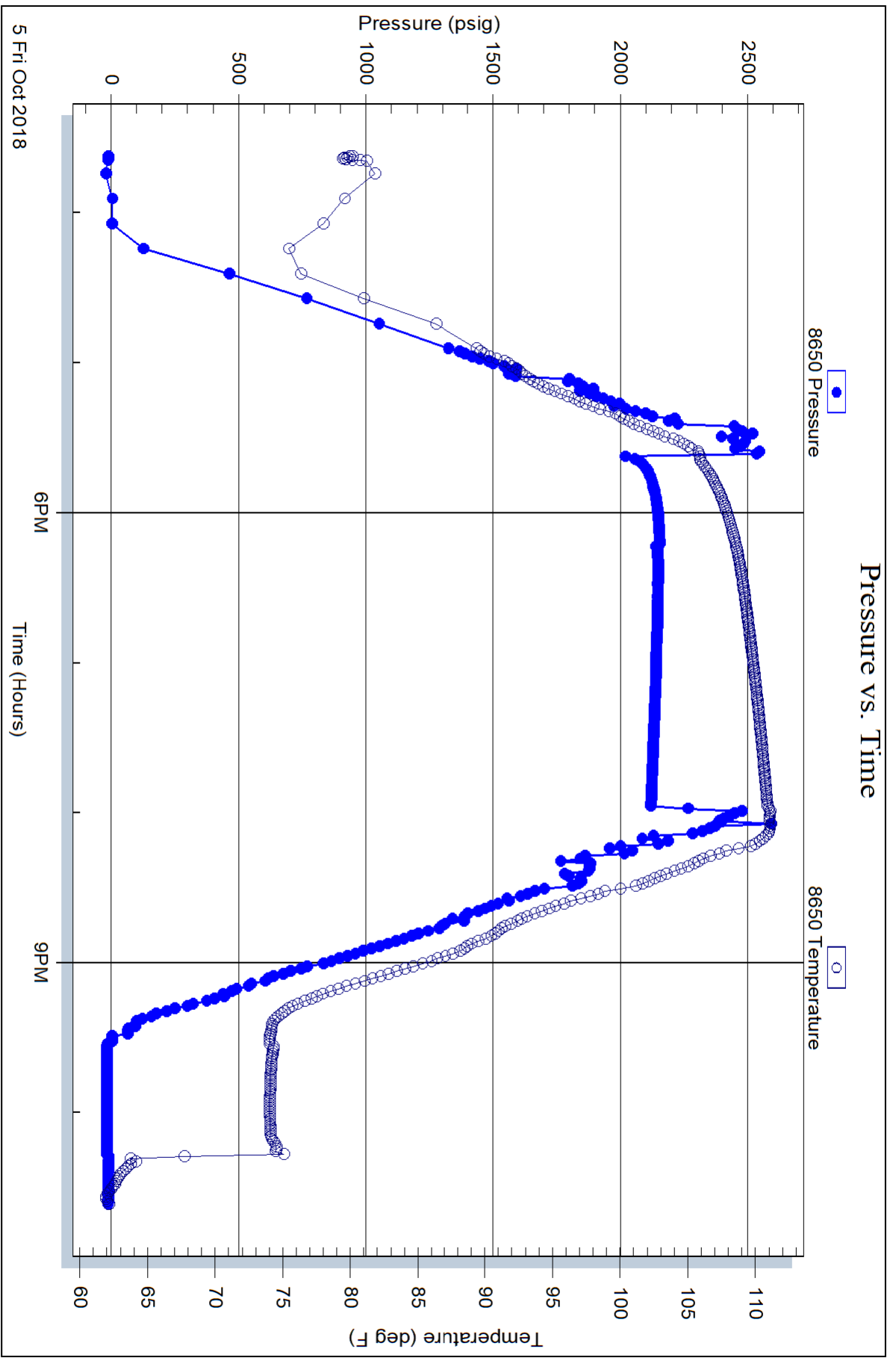
Printed: 2018.10.05 @ 23:23:55

Serial #: 8650

Below (Stratton) & Gas Operating Company

Unruh #2-33

DST Test Number: 4



S

11697
11588

TICKET NUMBER 55894
LOCATION Corkley Kr
FOREMAN Jerry Y
Miles S

JUMPING LLC
Danute, KS 66720
or 800-467-8676

FIELD TICKET & TREATMENT REPORT
CEMENT

INVOICE #814230

CUSTOMER #	WELL NAME & NUMBER	SECTION	TOWNSHIP	RANGE	COUNTY
4462	Unruh 2-33	33	27S	31W	Haswell
K-3 Oil & Gas Company					
Sublet # N+070 E to UU					
TRUCK #	DRIVER	TRUCK #	DRIVER		
753	Cory W	70	Miles S		
566	Steve C				
528-7-127	Neil W				
535	Jerry Y				

ADDRESS
1774 Kin Road, Ste. 305
Woodlands STATE Tx ZIP CODE 77386

TYPE Deep Surface HOLE SIZE 12 1/4 HOLE DEPTH 1865 CASING SIZE & WEIGHT 8 5/8 24#
RING DEPTH 1865 DRILL PIPE _____ TUBING _____ OTHER _____
SLURRY WEIGHT 12.7/152 SLURRY VOL 184/124 WATER gal/sk _____ CEMENT LEFT in CASING 46'
DISPLACEMENT 116 bbl DISPLACEMENT PSI _____ MIX PSI _____ RATE _____

REMARKS: Silly meeting arises upon WW2 ~~circulate~~ run flat equip^{5,15,25,40} circulate casing mix 650 sks 65/35 6% gel 3% CC 1/4" flo set lead and tail in with 150 sks com 3% CC 2% gel shut down release plug wash up & displace with 1 bbl H₂O approx 30 bbl to fit

Cement +
did circulate

Thank you
Jerry screw

ACCOUNT CODE	QUANTITY or UNITS	DESCRIPTION of SERVICES or PRODUCT	UNIT PRICE	TOTAL
CE0451	1	PUMP CHARGE	1900.00	1900.00
CE0002	40	MILEAGE	7.15	286.00
CE0710	35.33	ton mileage delivery	1.75	2473.20
1822 CC5828	650 SKS	lite blend TV	19.50	12675.00
CC6075	162 #	floccal	3.00	486.00
1825 CC5871	150 SKS	surface blend II	24.00	3600.00
CP8556	5	8 5/8 centralizers	110.00	550.00
CP8453	1	8 5/8 baffel plate	162.00	162.00
CP8181	1	8 5/8 plug	185.00	185.00
			Subtotal	22317.20
			-25%	5579.30
			Subtotal	16,737.90
			SALES TAX	927.05
			ESTIMATED TOTAL	17664.95

Ravin 3737

AUTHORIZATION Jeff Crawford TITLE BCS DATE 9-24-18

I acknowledge that the payment terms, unless specifically amended in writing on the front of the form or in the customer's account records, at our office, and conditions of service on the back of this form are in effect for services identified on this form.