

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](mailto:kcc-well-logs@kcc.ks.gov). Digital electronic log files must be submitted in LAS version 2.0 or newer AND an image file (TIFF or PDF).

Drill Stem Tests Taken <input type="checkbox"/> Yes <input type="checkbox"/> No <i>(Attach Additional Sheets)</i>  Samples Sent to Geological Survey <input type="checkbox"/> Yes <input type="checkbox"/> No  Cores Taken <input type="checkbox"/> Yes <input type="checkbox"/> No Electric Log Run <input type="checkbox"/> Yes <input type="checkbox"/> No Geologist Report / Mud Logs <input type="checkbox"/> Yes <input type="checkbox"/> No List All E. Logs Run: _____	<input type="checkbox"/> Log Formation (Top), Depth and Datum <input type="checkbox"/> Sample  Name Top Datum
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CASING RECORD <input type="checkbox"/> New <input type="checkbox"/> Used							
Report all strings set-conductor, surface, intermediate, production, etc.							
Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives

ADDITIONAL CEMENTING / SQUEEZE RECORD				
Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
<input type="checkbox"/> Perforate <input type="checkbox"/> Protect Casing <input type="checkbox"/> Plug Back TD <input type="checkbox"/> Plug Off Zone				

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

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

DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <i>(Submit ACO-4)</i>	PRODUCTION INTERVAL: Top Bottom
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Shots Per Foot	Perforation Top	Perforation Bottom	Bridge Plug Type	Bridge Plug Set At	Acid, Fracture, Shot, Cementing Squeeze Record <i>(Amount and Kind of Material Used)</i>

TUBING RECORD:	Size:	Set At:	Packer At:	
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Form	ACO1 - Well Completion
Operator	Lario Oil & Gas Company
Well Name	KNOBBE 2-4
Doc ID	1410584

All Electric Logs Run

Array Compensated True Resistivity
Microlog
Spectral Density Dual Spaced Neutron
Borehole Comp Sonic
Logs by Halliburton

Form	ACO1 - Well Completion
Operator	Lario Oil & Gas Company
Well Name	KNOBBE 2-4
Doc ID	1410584

Tops

Name	Top	Datum
Heebner	3896	-578
Lansing	3936	-618
Stark Shale	4229	-911
Hushpuckney	4280	-962
Base KC	4361	-1043
Marmaton	4398	-1080
Pawnee	4488	-1170
Ft. Scott	4510	-1192
Johnson	4632	-1314
Morrow	4742	-1424
Mississippian	4852	-1534





PRESSURE PUMPING LLC

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# 812482

Invoice Date: 02/21/18

Terms: Net 30

Page 1

LARIO OIL & GAS

P.O. BOX 1093  
 GARDEN CITY KS 67846  
 USA  
 3162655611

**KNOBBE 2-4**

drilling AFE 18-011

APPROVED FEB 26 2018

Part No	Description	Quantity	Unit Price	Discount(%)	Total
CE0471	Cement Pump Charge 301' - 500' (Coalbed/Methane)	1.000	1,150.0000	30.000	805.00
CE0002	Equipment Mileage Charge - Heavy Equipment	45.000	7.1500	30.000	225.23
CE0710	Cement Delivery Charge	1.000	888.3000	30.000	621.81
CC5871	<u>Surface Blend II, 2% Gel/3% CaCl</u>	240.000	24.0000	30.000	4,032.00

Subtotal 8,120.05

Discounted Amount 2,436.02

SubTotal After Discount 5,684.03

Amount Due 8,609.65 If paid after 03/23/18

Tax: 342.72

Total: 6,026.76

OK TO PAY					
Acc	Exp	FILE			
GC					
EG			FEB 26 2018		
PV					
NO	JS	KE	JR	SP	DB



PRESSURE PUMPING LLC  
 PO Box 884, Chanute, KS 66720  
 620-431-9210 or 800-467-8676

10071  
 9961

TICKET NUMBER 55024  
 LOCATION Dunkley KS  
 FOREMAN Walt Dinkel

FIELD TICKET & TREATMENT REPORT  
 CEMENT

Invoice #812482

DATE	CUSTOMER #	WELL NAME & NUMBER	SECTION	TOWNSHIP	RANGE	COUNTY	
2-19-18	4793	Knobbe 2-4	4	19S	37W	Wichita	
CUSTOMER Hario Oil & Gas		Leoti West to Rd 10 4.5 south WIS		TRUCK #	DRIVER	TRUCK #	DRIVER
MAILING ADDRESS P.O. Box 1093				731	Cory Davis		
CITY Garden City		STATE KS	ZIP CODE 67846	772-7121	Neal		

JOB TYPE Surface HOLE SIZE 12 1/4 HOLE DEPTH 348 CASING SIZE & WEIGHT 8 5/8 - 24 1/2  
 CASING DEPTH 348 DRILL PIPE \_\_\_\_\_ TUBING \_\_\_\_\_ OTHER \_\_\_\_\_  
 SLURRY WEIGHT 15.2 SLURRY VOL \_\_\_\_\_ WATER gal/sk \_\_\_\_\_ CEMENT LEFT in CASING 1.5 - 20'  
 DISPLACEMENT 20.8 DISPLACEMENT PSI \_\_\_\_\_ MIX PSI \_\_\_\_\_ RATE 4 BPM

REMARKS: Safety Meeting, rig up on Dike #4, Circ casing on battery,  
mixed 240 SKS Surface Blend II, Displace 20.8 BBL H<sub>2</sub>O, Shut in  
Content Did Circ

Approx - 3 BBL left

Thank You  
 Walt & Crew

ACCOUNT CODE	QUANTITY or UNITS	DESCRIPTION of SERVICES or PRODUCT	UNIT PRICE	TOTAL
Cco 471	1	PUMP CHARGE	1,150.00	1,150.00
Cco 02	45	MILEAGE	7.15	321.75
Cco 710	11.28	Ton Mileage Delivery	172	888.30
C.C.5871	240 SKS	Surface Blend II	24.00	5,760.00
				8,120.00
		Less 30% Disc	-2,436.00	5,684.00
		SALES TAX		342.72
		ESTIMATED TOTAL		6,026.72

AUTHORIZATION Hector Tord TITLE \_\_\_\_\_ DATE \_\_\_\_\_

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.



PRESSURE PUMPING LLC

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

MAIN OFFICE

P.O.Box 884  
 Chanute, KS 66720  
 620/431-9210, 1-800/467-8676  
 Fax 620/431-0012

Invoice

Invoice#

812608

Invoice Date: 03/09/18

Terms: Net 30

Page 1

LARIO OIL & GAS

P.O. BOX 1093  
 GARDEN CITY KS 67846  
 USA  
 3162655611

KNOBBE #2-4  
*drilling ops 18-010*  
 APPROVED MAR 12 2018 *AK*

Part No	Description	Quantity	Unit Price	Discount(%)	Total
CE0453	Cement Pump Charge 4001' - 5000'	1.000	2,800.0000	30.000	1,960.00
CE0002	Equipment Mileage Charge - Heavy Equipment	40.000	7.1500	30.000	200.20
CE0710	Cement Delivery Charge	1,395.660	1.7500	30.000	1,709.68
CC5862	ThixoBlend III	176.000	26.0000	30.000	3,203.20
CC5831	Lite-Weight Blend VII (60:40:8)	620.000	17.5000	30.000	7,595.00
CC6077	Kolseal	880.000	0.5000	30.000	308.00
CC6075	Celloflake	155.000	3.0000	30.000	325.50
CC6125	Mud Flush, Viscous	500.000	0.6500	30.000	227.50
CP8485	5 1/2" Float Shoe, AFU	1.000	585.0000	30.000	409.50
CP8254	5 1/2" Latch Down Plug & Assembly	1.000	400.0000	30.000	280.00
CP8629	5 1/2" Basket	1.000	385.0000	30.000	269.50
CP8801	5 1/2" DV Tool	1.000	5,970.0000	30.000	4,179.00
CP8554	5 1/2" Centralizer	16.000	81.0000	30.000	907.20

*AP*  
*le*  
 MAR 1 2018  
*le*

Subtotal 30,820.41  
 Discounted Amount 9,246.12  
 SubTotal After Discount 21,574.29

Amount Due 32,970.23 If paid after 04/08/18

Tax: 1,504.88  
 Total: 23,079.16





PRESSURE PUMPING LLC  
 PO Box 884, Chanute, KS 66720  
 620-431-9210 or 800-467-8676

FIELD TICKET & TREATMENT REPORT  
 CEMENT

TICKET NUMBER 55029

LOCATION Oakley, Ks

FOREMAN Walt Dunkel

Invoice # 812608 Ks

10/17/12  
 10066

DATE	CUSTOMER #	WELL NAME & NUMBER	SECTION	TOWNSHIP	RANGE	COUNTY
3-3-18	4793	Knabbe #2-4	4	19S	37W	Wichita
CUSTOMER			Leoti			
MAILING ADDRESS			2 west to Rd 10			
CITY			4 south W.S.			
STATE			Ks			
ZIP CODE			61846			
CUSTOMER			Lario Oil & Gas			
MAILING ADDRESS			P.O. Box 1093			
CITY			Garden City			
STATE			Ks			
ZIP CODE			61846			
TRUCK #	DRIVER	TRUCK #	DRIVER			
753	Travis Williams	630-T129	Paul Williams			
772-T127	Neil White					

JOB TYPE Prod 2-stage HOLE SIZE 7 1/8" HOLE DEPTH 5000' CASING SIZE & WEIGHT 5 1/2-15.5  
 CASING DEPTH 4986' DRILL PIPE \_\_\_\_\_ TUBING \_\_\_\_\_ OTHER Shoe 30'  
 SLURRY WEIGHT 142,125 SLURRY VOL \_\_\_\_\_ WATER gal/sk \_\_\_\_\_ CEMENT LEFT in CASING Dental 2318'  
 DISPLACEMENT \_\_\_\_\_ DISPLACEMENT PSI \_\_\_\_\_ MIX PSI \_\_\_\_\_ RATE 5 BPM

REMARKS: Safety Meeting, rig up on Duke #4, Circ casing on bottom  
Pump 500 gal mud flush, mix 176 sks Thixoblend III, 5# Kalseal, clear Pump + lines, release Plug, Displace 65- 880 Water + 57- 880 mud @ 1200 #, land Plug @ 1,900 #, release opening tool, open tool @ 800 #, circ 3 hrs  
Put 30 sks cement in bit,  
Mixed 590 sks 60% 40ppm, 8% Cal, 1/4 # Flo-Seal, clear Pump + lines, release Plug + Displaced 55 Bbl H<sub>2</sub>O, @ 750 #, Land @ 1900 #, Shut Tool, release Pressure, Hotel  
Cement Did Circ Thank you Walt + crew

ACCOUNT CODE	QUANTITY or UNITS	DESCRIPTION of SERVICES or PRODUCT	UNIT PRICE	TOTAL
Co 453	1	PUMP CHARGE	2,800.00	2,800.00
Co 002	40	MILEAGE	7.15	286.00
Co 710	34.89	Ton Mileage Delivery	1.75	2,442.40
CC5862	176 - sks	Thixoblend III	26.00	4,576.00
CC5831	620 - sks	Lite-Weight Blend VII	17.50	10,850.00
CC6079	880 #	Kalseal	.50	440.00
CC6075	155 #	Flo-seal	3.00	465.00
CC6125	500 gal	Mud Flush	65¢	325.00
CP8485	1	5 1/2 AFU Float Shoe	585.00	585.00
CP8254	1	5 1/2 Latch down Plug assembly	400.00	400.00
CP8629	1	5 1/2 Basket	385.00	385.00
CP8801	1	5 1/2 DV Tool	5,970.00	5,970.00
CP8554	16	5 1/2 Centralizers	81.00	1,296.00
				30,826.40
		Less 30%		9,246.12
				21,574.28
		SALES TAX ESTIMATED		1,504.88
		TOTAL		23,079.16

AUTHORIZATION Reuben Peddock TITLE Production Foreman DATE 3/4/2018

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.



**LARIO OIL & GAS COMPANY**  
**Knobbe #2-4**  
**2415' FNL & 1045' FEL of Section 4-T19S-R37W**  
**WICHITA COUNTY, KANSAS**  
**API#15-203-20327-00-00**

**Geologist's Report**  
**WellSight Systems**

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

Well Name: Knobbe #2-4  
API: 15-203-20327-00-00  
Location: 2415' FNL & 1045' FEL of Section 4-T19S-R37W  
License Number: API#15-203-20327-00-00  
Spud Date: 02-19-2018  
Surface Coordinates: 2415' FNL & 1045' FEL of Section 4-T19S-R37W  
Region: Wichita County, KS  
Drilling Completed: 03-03-2018

Bottom Hole Vertical Test  
Coordinates: Field: Obi-Wan 5 1/2 " @ 4986'  
Ground Elevation (ft): 3309 K.B. Elevation (ft): 3318  
Logged Interval (ft): RTD To: 3400 Total Depth (ft): RTD 5000 LTD 5000  
Formation: Mississippi  
Type of Drilling Fluid: Chemical (Displaced @ 3396 )

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

**Operator**

Company: Lario Oil & Gas Company  
Address: 301 S Market  
Wichita, Kansas 67202  
Division Geologist: John Hastings

**Geologist**

Name: Richard S.(Steve) Davis Jr.  
Company: Consulting Petroleum Geologist  
Address: 7329 E. Norfolk  
Wichita, Kansas 67206  
Cell 316-772-6479 Home 316-686-1193

## FORMATION TOPS

Formation	Sample	E-Log	Datum	Formation	Sample	E-Log	Datum
KB 3318							
Anhydrite	2350	2348	+970	Lansing L	4288	4287	-969
B/Anhydrite	2366	2364	+954	BKC	4359	4361	-1043
Stotler	3500	3502	-184	Marmaton	4394	4398	-1080
Topeka	3712	3712	-394	Pawnee	4485	4488	-1170
Heebner	3895	3896	-578	Fort Scott	4508	4510	-1192
Lansing	3932	3936	-618	Cherokee Sh	4522	4524	-1206
Lansing D	4054	4049	-731	Lwr Cherokee	4562	4561	-1243
Muncie Creek	4138	4139	-821	Johnson	4633	4632	-1314
Lansing H	4151	4150	-832	Morrow	4738	4742	-1424
Lansing I	4177	4177	-859	Basal Penn Sd	absent	absent	
Lansing J	4205	4201	-883	Mississippi	4852	4852	-1534
Stark	4230	4229	-911	Total Depth	5000	5000	-1682
Lansing K	4234	4235	-917				
Hushpuckney	4278	4280	-962				

### DAILY PENETRATION: 7:00 AM

Date	Depth	Activity
02/19/18	0	MIRU & Spud
02/20	348'	WOC
02/21	1785'	Drlg
02/22	2982'	Drlg
02/23	3515'	Drlg
02/24	4038'	Drlg
02/25	4330'	Drlg
02/26	4498'	DST #1
02/27	4525'	DST #2
02/28	4562'	TIH w/ bit
03/01	4776'	TOH w/bit
03/02	4880'	Drlg
03/03	5000'	Logging

### CONTRACTOR:

Duke Drilling Rig #4

Toolpusher: Hector Tores

### MUD:

Mud Co (displacement complete @ 3396')

Reed Atkins

**DRILL STEM TESTING: Trilobite Testing Inc.**

**Brandon Turley**

### ELECTRIC LOG:

Halliburton: Richard Whitlock

(DIL, CDL/CNL, PE, MEL & Sonic)

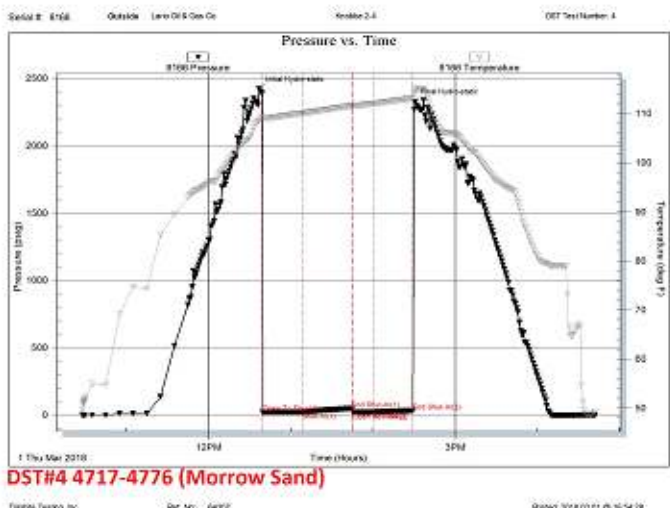
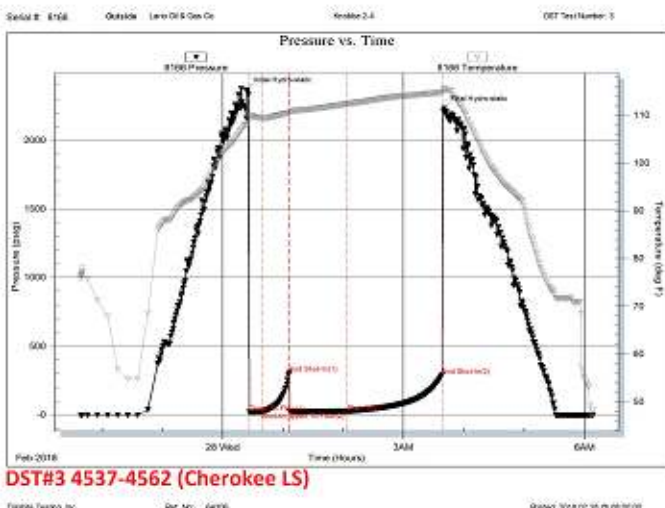
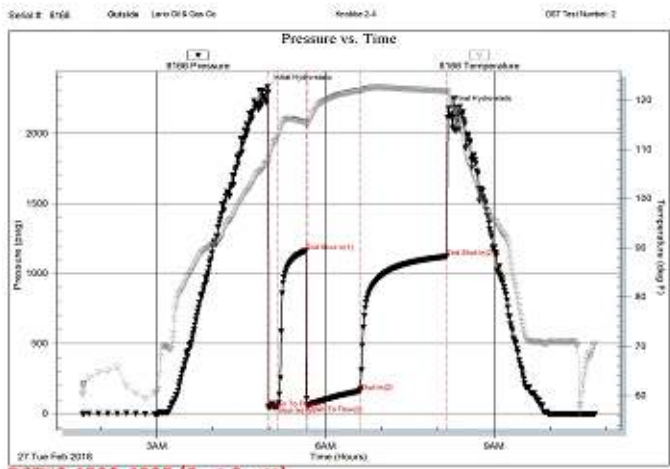
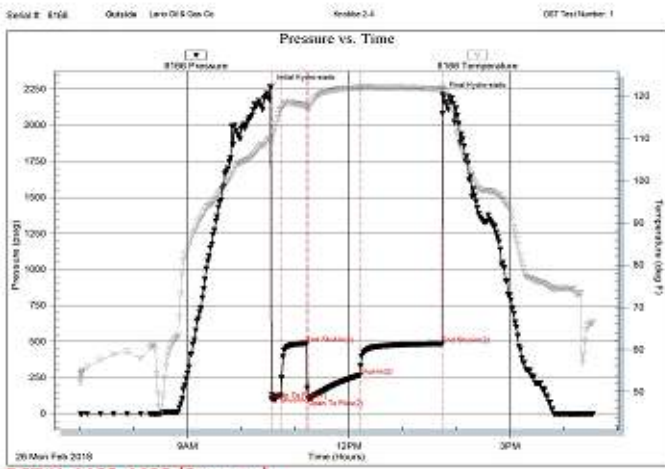
### CASING RECORD:

Surface: 8 5/8" @ 348' w/ 240 sx

Production: 5 1/2" @ 4986'

### BIT RECORD:

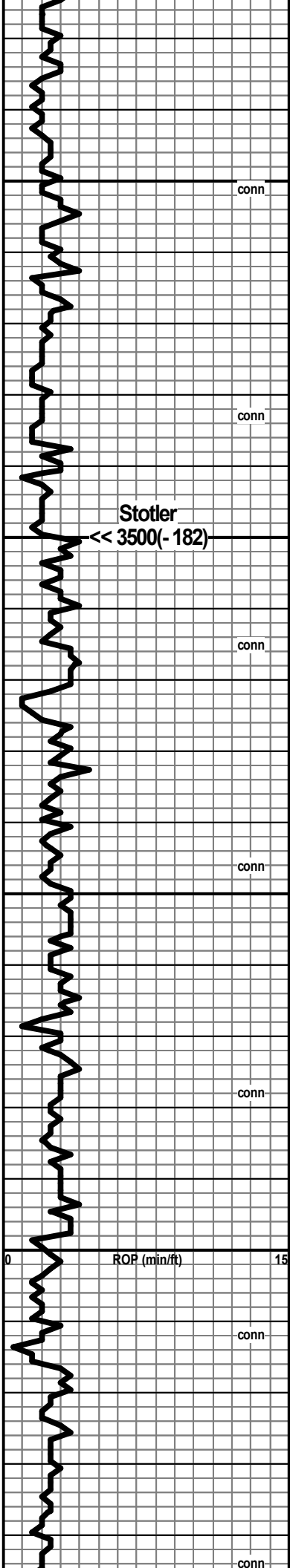
Bit No./Size	Make/Type	Out	Ftg	Hrs
#1/ 12 1/4"	JZ RT	348'	348'	2
#2/ 7 7/8"	VarHE21MSV	4776'	4428'	113 3/4
#2/ 7 7/8"	Smith FHI24Y	5000'	224'	20 3/4



**Rock Types**

- |      |       |      |       |      |
|------|-------|------|-------|------|
| Anhy | Clyst | Gyp  | Mrlst | Shgy |
| Bent | Coal  | Igne | Salt  | Slst |
| Brec | Congl | Lmst | Shale | Ss   |
| Cht  | Dol   | Meta | Shcol | Till |

ROP (min/ft)	Depth	Lithology	Geological Descriptions	Remarks
 ROP (min/ft)				
 ROP (min/ft)	3400			<p>Note: Lost circulation (80 bbls) @ 3386'. After regaining returns displaced @ 3396.</p> <p>Start 20' Wet &amp; Dry Samples @ 3400</p>



3450

conn

conn

Stotler  
<< 3500(- 182)

3500

conn

conn

3550

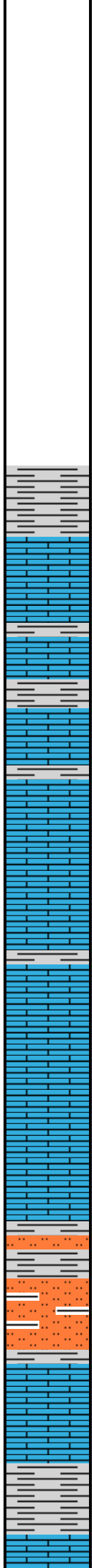
conn

3600

ROP (min/ft)

conn

conn



Shale, gy, gn & red

LS, gy-bm, f-vfxln, NV por, V fine, most shale

Most shale, gy, gn & rust

LS, cm-wh, fxln, chky IP, foss & ool, P ipart por, NS, sft

LS AA+ Shale, vcol

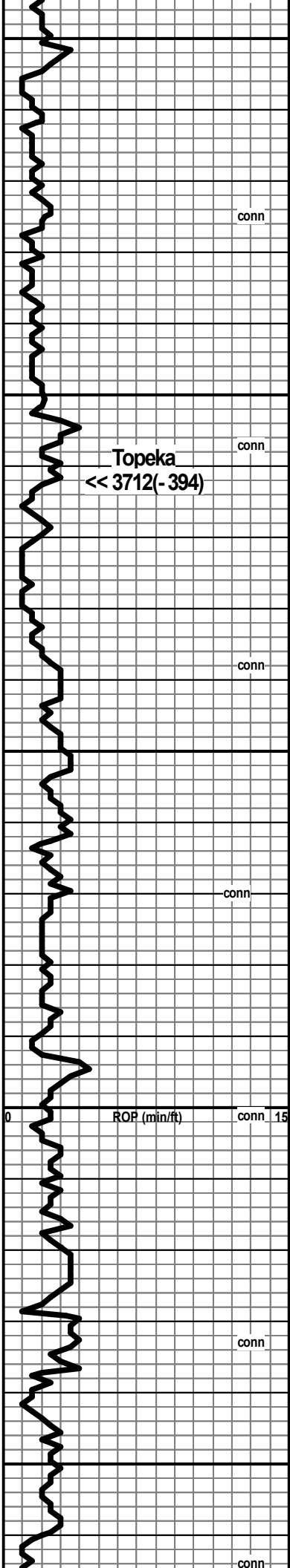
LS, gy-bm, vfxln, gran, chky IP, slty foss, NV por, hd +  
Shale, gy, gn, blk & red

Silst, gy, gm & rust + Shale, gy, gn & blk

LS, cm-bm, fxln, gran, few foss frag, hd, rP ixln por,  
NS

Shale, red, bm & gy, HTW

Vis 46 Wt 8.7 Fil 6.4 PH 11.5  
Chl 4,000 LCM 4#  
02/23/2018 @ 3545



3650

conn

3700

Topeka  
<< 3712(-394)

conn

conn

3750

conn

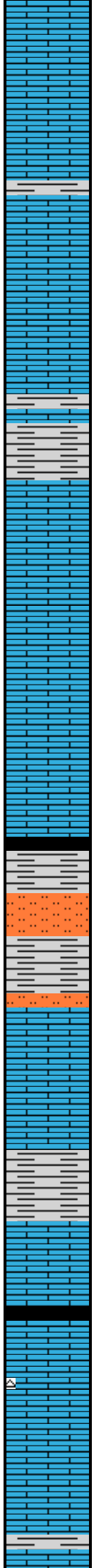
0 ROP (min/ft) conn 15

3800

conn

3850

conn



LS, wh-cm, fxn, foss, chky, sft, NV por

LS, bm-gy, f-vfxn, foss, chky-arg IP, NV por, hd

LS, bm-gy, fxn, foss, arg-chky IP, NV por, m hd

LS, wh-cm, vf-fxn, chky-dns, foss & ool, NV por +  
Shale, dk gy-blk

Shale, gy-gn, calc

LS, gy-bm, vf-fxn, sub ool-foss, arg, P ixn por, NS

LS, tan-gy-bm, f-vfxn, arg, foss frag, NV por, hd

Shale, blk, sub carb

Shale, gy, gn & blk + Sltst, gn-gy

LS, bm-cm-wh, vf-fxn, chky IP, sltly foss, NV por, hd

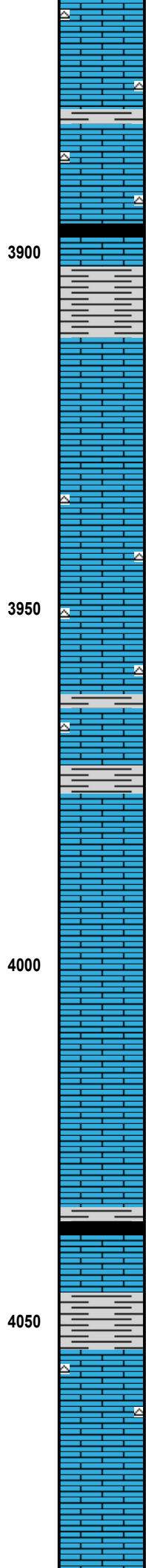
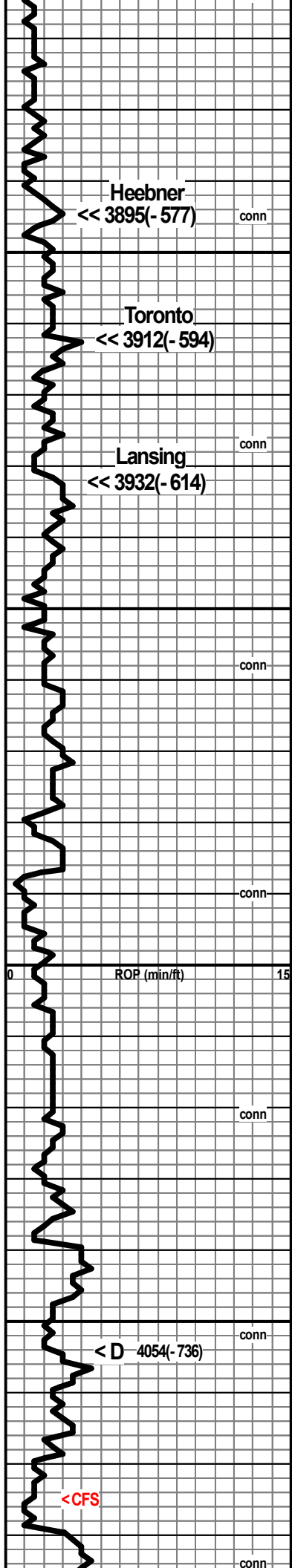
Shale, lt gn, blk & dk gy

Shale, blk, sub carb + LS, gy-bm, vf-micxn, NV por,  
dns

LS, cm-off wh, fxn, sub ool-foss, chky IP, P pp por, NS  
+ few pc's Cht, tan-lt gy, opq

LS, bm-gy, vf-micxn, sltly foss, NV por, dns

Vis 58 Wt 8.7 LCM 3#



LS, gy-bm, f-vfxln, arg, sltly foss, NV por, hd + Cht, gy-wh, opq

Shale, gy, gn & bm + LS, tan-cm, gy, f-vfxln, sltly foss, NV por, hd + Cht, lt gy-tan, sltly foss, opq

Shale, blk, carb

LS, bm-tan, vf-fxln, sltly foss, NV por, dns

Shale, gn-gy, sft

LS, cm-wh, fxln, chky IP, sub ool, NV por, m hd

Shale, blk, lt gy & gn + LS, gy-bm, fxln, arg, sltly foss, NV por

LS, cm-wh, vfxln, sub ool-foss, NV por, hd + Cht, wh-lt gy, sltly foss, opq

LS, cm-wh, f-vfxln, chky IP, sub ool-foss, r P pp por & P ixn por, ? spt'd stn, NSFO, N fluor, N odor + Cht, wh, sltly foss, opq

LS, vf-fxln, chky IP, sub ool-foss (gy) in cm mtz, NV por, hd + Shale, gy, gn & blk & Cht, gy-wh, opq

LS, wh-cm f-vfxln, ool, P iool por, NS, m hd + LS, gy-bm, fxln, arg, sltly foss, NV por, m hd

LS, cm-wh, fxln, ool & foss, F-P vgy por, NS

LS, cm-wh, fxln, ool, P iool por & P vgy por, NS + LS, bm-gy, vfxln-micxln, dns

LS, wh-cm, vf-micxln, sltly foss, r P vgy por, NS + Cht, wh-lt gy, opq

LS, cm-bm, fxln, foss & ool, F-P vgy por & F-P ixln por, NS

Shale, blk, carb-sub carb

LS, bm-gy, f-vfxln, sltly foss, NV por, dns

Shale, blk, gn & gy

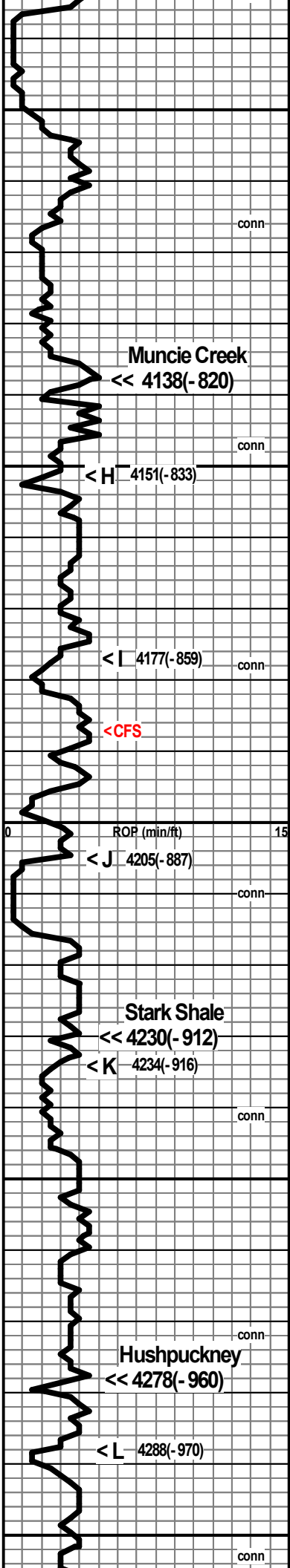
LS, bm-lt gy, vf-micxln, NV por, dns + Cht, gy-tan, opq

LS, cm-gy, vf-mxln, chty IP, sltly foss, P ixln & P pp por, ? r spt'd stn, NSFO, N fluor, N odor

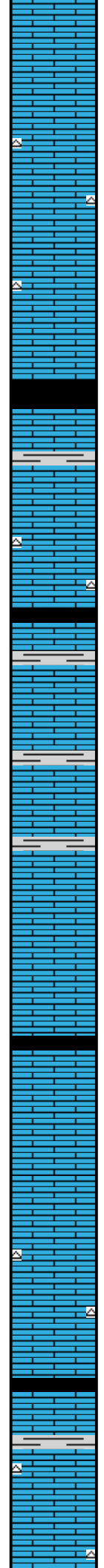
LS, lt gy-tan, vf-micxln, NV por, sharp, chty IP, dns

Start 10' Wet & Dry Samples @ 3900

Vis 49 Wt 8.9 Fil 5.6 PH 11.5  
 Chl 3,300 LCM 3#  
 02/24/2018 @ 4067



4100  
4150  
4200  
4250  
4300



LS, cm-gy-bm, fxl, ool, F-P oom por, NS

LS, lt gy-bm, f-vfxln, sub ool-foss, NV por, dns + Cht, lt gy-tan, opq

LS, lt gy-tan-wh, vf-micxln, chty, sharp, sltly foss, NV por, dns

LS AA + LS, cm-tan, fxl, ool, F-P oom por, NS

Shale, blk, carb (4160 spl)

LS, tan-wh-lt gy, vf-micxln, chky-chty IP, most dns + Shale, dk gy-blk

LS, cm, fxl, ool, P oom por, NSFO, N fluor, N odor

LS, lt gy-tan, vf-micxln, sharp, chty, NV por, dns + Cht, gy, opq

Shale, blk, sub carb, fis + LS, tan-gy, vf-micxln, NV por, dns

LS, cm-lt gy, f-vfxln, ool, F-P oom por & Pixln por, NSFO, N fluor, N odor + Shale, vcol

LS, tan-bm-gy, vf-micxln, chky-dns, NV por + Cht, gy, opq & Shale, gy-gn & mar

LS, cm-wh-lt gy, fxl, foss & ool, chky, F-P mold por & P ipart por, NS

LS, gy-cm-bm, fxl, ool, F-G oom por, NS

LS, cm-bm-gy, vf-fxl, ool & foss, chky IP, rP vgy-pp por, NS, most NV por, dns

Shale, blk, carb

LS, tan-lt gy, f-vfxln, F-P oom por, NS

LS, bm-gy, f-vfxln, chky IP, some arg, sub ool-foss, NV por

LS, lt gy-bm, f-vfxln, P oom por, NS + Cht, tan-lt gy, sltly foss, opq

Shale, blk, carb

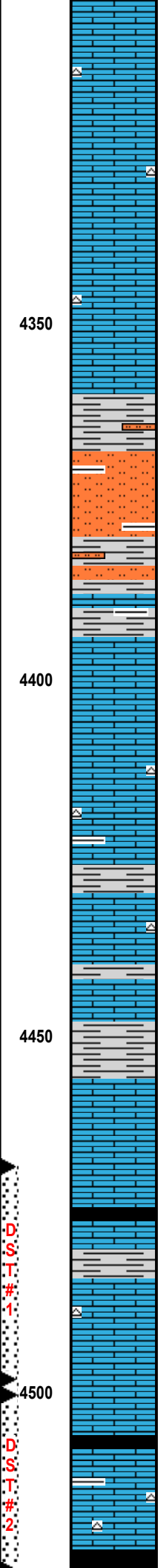
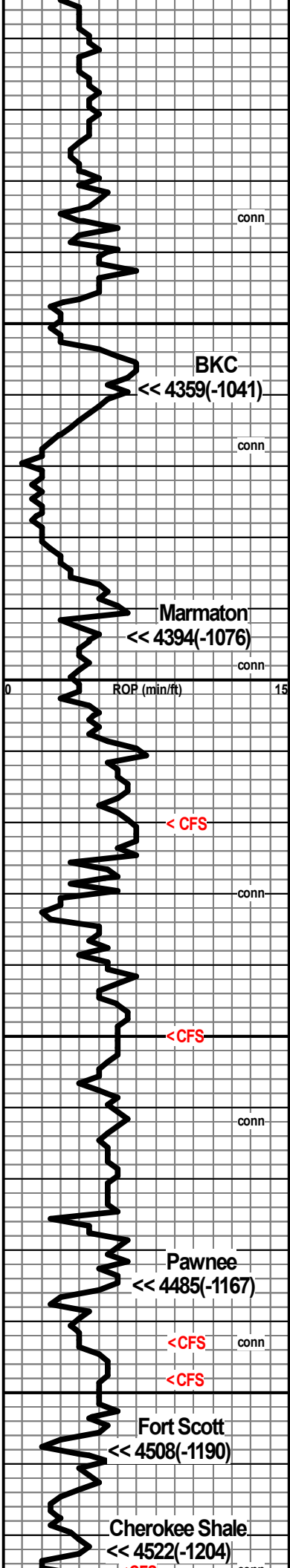
LS, tan-lt gy, vf-micxln, dns, NV por + Shale, blk, gy & mar

LS, gy-tan & cm, sltly foss, chky-dns, NV por + Cht, gy, opq

Vis 60 Wt 9.0 LCM 2#

Work on pump @ 4290 (Pulled 5 stands)





LS, bm-gy, micxn, chty IP, sharp, dns + Cht, gy, opq

LS AA + LS, cm-bm, fxln, foss & ool, r P vgy-pp por, NS, dns

LS, cm-bm-gy, fxln, foss & ool, r P vgy por, NS, dns + LS, tan-gy, vf-micxn, chty, sharp, sub ool-foss, NV por, dns & Cht, gy-wh, opq

LS, bm-gy, vf-fxln, foss & ool, chty IP, NV por, hd + Cht, gy-tan, silty foss, opq

Shale, gy, gn & red, some silty

Shale, vcol + Sltst, gy-tan

Sltst, gy-gn & bm + Shale, mar(silty), gy-gn & blk

LS, bm-gy, f-vfxln, foss, NV por, hd + Sltst, gy-tan & Shale, gn, mar, gy & blk

LS, cm-bm-gy, vf-fxln, chky IP, ool & foss, NV por, hd

LS, cm-bm, vf-fxln, ool & foss, r P mold por, NS, most NV por + Cht, tan, opq-tmsl

LS, gy-bm, vf-micxn, sub ool, NV por, dns + Cht, tan-gy, opq-tmsl

Shale, gy-gn, blk, sub carb, fis

LS, cm-wh-lt gy, fxln, chky, P iool por, NS, sft +LS gy-bm, vf-fxln, ool, NV por, dns & few pc's Cht, tan, opq

LS, bm-gy, vf-micxn, ool (dk gy), NV por, dns + Shale, blk & gy-gn (HTW)

Shale, gy, blk & mar

LS, dk bm-gy, vf-micxn, dns, NV por + LS, br-cm-gy, vf-micxn, chky IP, sub ool-foss, NV por + Shale, vcol

LS, blk-dk gy, f-vfxln, arg, sub ool-ool, NV por, hd + Shale, blk, sub carb

Shale, blk, dk gy-gn & mar

LS, wh- cm-lt gy, fxln, gran, silty foss, chky IP, F-P ixln por, SSFO (V lt), few gas bubb, spt'd lt stn & fluor, fnt odor + few pc's Cht, tan, tmsl

LS, bm-gy, vf-micxn, sub ool-foss, chky IP-dns, NV por

Shale, blk, carb

LS, lt gy-tan-wh, vf-fxln, F-P vgy-pp por & few pc's F-P iool por, FSFO w/ few gas bubb, spt'd stn & fluor, fnt odor + Cht, gy, ool, opq

Shale, blk, carb

Vis 62 Wt 9.0 Fil 7.2 PH 11.0  
 Chl 3,500 LCM 3#  
 02/25/2018 @ 4356

Vis 54 Wt 9.0 LCM 2#

Ran 23 stand short trip prior to DST#1 @ 4498

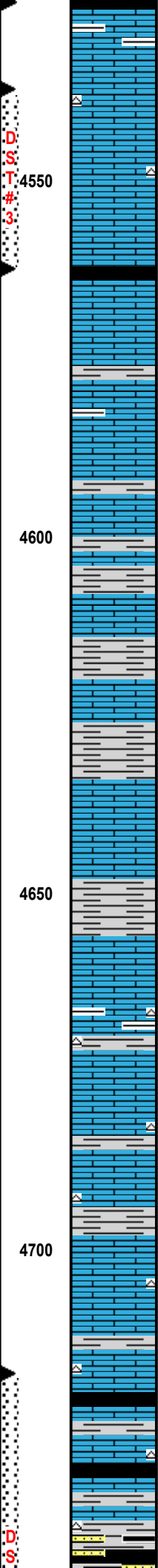
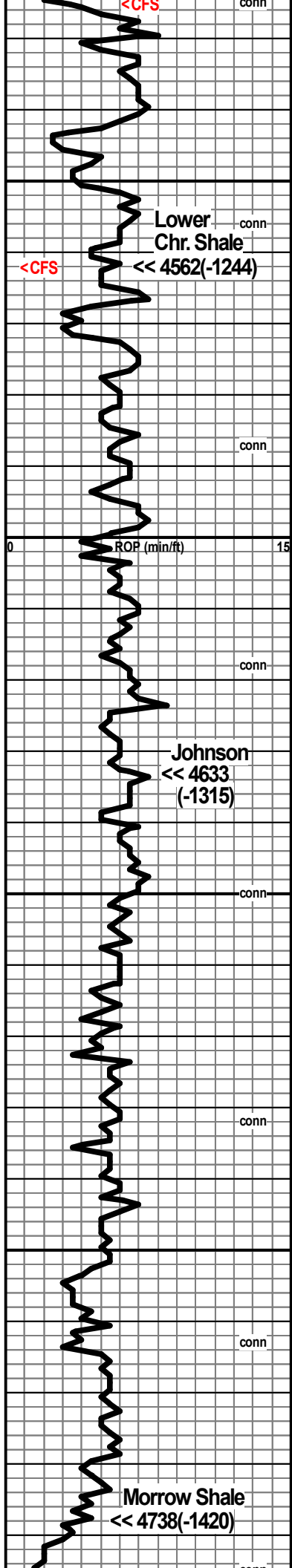
Pipe strap @ 4498, 1.71' long  
 Survey 3/4 deg

Vis 57 Wt 9.1 Fil 8.0 PH 10.5  
 Chl 4,400 LCM 2#  
 02/26/18 @ 4498

**DST#1 4468 - 4498**

(Pawnee)  
 10 30 60 90  
 BLOW:  
 IF BOB 4 min  
 ISI 1/2" return  
 FF BOB 2 min  
 FSI BOB 6 min  
 RECOVERY: 1240' GIP  
 398' GO (40% g 60% o)  
 252' MCGO (60% g 30% o 10% m)  
 63' GOCM (20% g 10% o 70% m)

D.S.T.#1



LS, gy-bm, vf-fxln, ool & foss, P ipart por & P vgy-pp por, spt'd dk stn, N fluor, N odor+ Shale, blk, gy, gn & red

LS, lt gy-crm-bm, f-mxln, ool, F-P iool por & F-P vgy por, F-GSFO, spt'd-unf stn & fluor, m hd- dns + few ool clus, fri-comp, F-G iool por, SSFO & Cht, gy, ool (cfs @4562 fnt odor)

LS, dk bm-gy, fxln, sub ool, P vgy por, SSFO, unf dk stn, dns

Shale, blk carb & pyr

LS, gy-bm, micxln- vfxln, ool, spt'd stn, NSFO, N fluor, N odor+ abnd Shale, vcol

LS, lt gy-tan, vf-micxln, chty IP, sharp, NV por, dns + Shale, red, br, dk gy-blk & gn

LS, gy-tan, vf-micxln, sub ool, chky IP-dns, NV por+ Shale, vcol

LS, lt gy-tan, vfxln, chky IP, sub ool-foss, NV por, hd + Shale, blk, gy, gn & mar

Shale, blk-dk gy & mar

LS, gy-tan-bm, vf-micxln, chky IP, stly foss, NV por dns

Shale, dk gy-gn & blk

LS, lt gy-crm-bm, vf-micxln, stly foss, NV por, dns

Shale, blk, gn, gy & mar

LS, bm-gy, micxln, chty IP, sharp, NV por, dns

LS bn-dk gy, vf-micxln, chty IP, sharp, NV por, dns + shale, blk, sub carb, mar & gn, some pyr & Cht, blk-dk bm, opq-tmsl

Shale, vcol & Cht, dk bm-blk, tmsl + LS, bm-crm-gy, vf-fxln, stly foss-ool, NV por, dns

Shale, lt gy-gn & blk

LS, crm-gy, vf-micxln, stly foss-ool, NV por, dns

LS, dk gy-bm, vf-micxln, chty, stly foss, NV por, dns + Shale, blk, sub carb-carb & few pc's Cht, bm-blk, stly foss, tmsl

Shale, blk, carb-sub carb + LS, br-dk gy, micxln, chty-arg IP, NV por, dns

Shale, blk, gy, gn & mar + few clus SS, chr qtz, vf-fgm, mod sort, sub rd-sub ang, fri, F-G ig por, SSFO, N fluor, N odor

TOTAL FLUID: 713' (Gr 29)  
 IH 2260  
 IF 100 - 124  
 ISI 485  
 FF 102 - 265  
 FSI 482  
 FH 2207 BHT 121 deg F

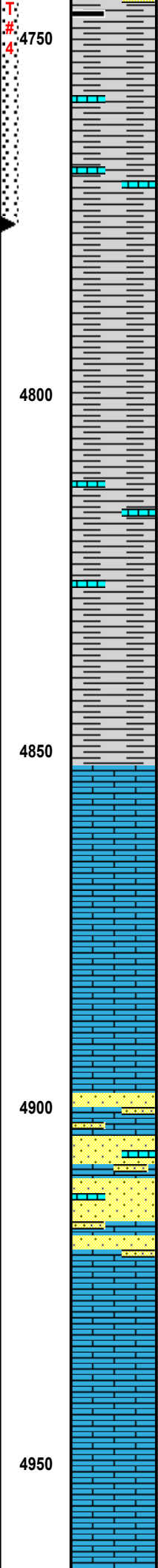
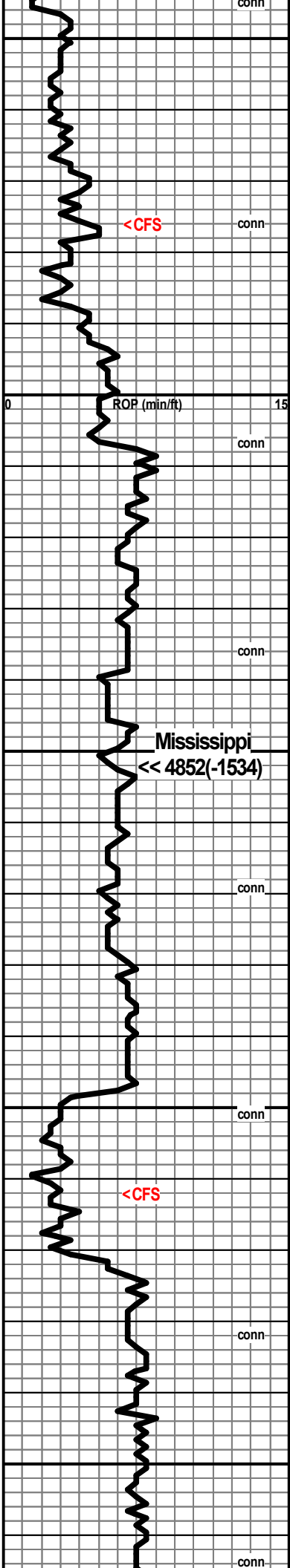
Vis 67 Wt 9.1 Fil 8.8 PH 10.0  
 Chl 5,800 LCM 2#  
 02/27/18 @4562

**DST#2 4500 - 4525**  
 (Fort Scott)  
 10 30 60 90  
 BLOW:  
 IF BOB 3 min  
 ISI 2" return  
 FF BOB 1 min  
 FSI BOB 14 min  
 RECOVERY: 1510' GIP  
 128' GO (20%g 80%o)  
 189' MCGO (30%g 60%o 10% m)  
 63' GOCWM (10%g 10%o 20%w 60%am)  
 TOTAL FLUID: 380' (Gr 30)  
 IH 2326  
 IF 41 - 51  
 ISI 1159  
 FF 58 - 160  
 FSI 1119  
 FH 2176 BHT 121 deg F

**DST#3 4537 - 4562**  
 (Cherokee LS)  
 10 30 60 90  
 BLOW:  
 IF Surface blow built to 3/4"  
 FF Surface blow built to 3 1/4"  
 RECOVERY:  
 31' Mud w/ oil spots  
 IH 2363  
 IF 19 - 21  
 ISI 307  
 FF 23 - 25  
 FSI 289  
 FH 2228 BHT 114 deg F

Vis 64 Wt 8.7 Fil 8.8 PH 9.5  
 Chl 6,600 LCM 2#  
 02/28/18 @4567

**DST#4 4717 - 4776**  
 (Morrow Sand)  
 30 34 15 30  
 BLOW:  
 IF Weak surface blow  
 FF No blow  
 RECOVERY: 5' M (100%M)  
 IH 2419  
 IF 19 - 21  
 ISI 48  
 FF 20 - 21  
 FSI 24



Shale, gy, blk & gn + LS, gy-bm, fxln, gran, arg, NV por, hd

Shale, blk, gy, gn & mar + few pc's LS, bm-gy, fxln, arg, NV por, NS

Shale, blk, gy, gn, mar & bm (sft)

Shale, blk, gy, gn, mar & bm + few pc's pyr

Shale, blk, gy, gn, mar & bm (silty)

Shale, blk, gy (sdy) + few pc's LS, bm-gy, fxln, sdy, arg, silty foss, NV por

LS, gy-bm, vf-fxln, silty foss, chky IP + few pc's pyr

Shale, blk, gy, mar & turq

Shale, gy, gn, blk, mar & turq (silty sdy)

LS, cm-wh, fxln, sdy, chky IP, NV por, hd (4760 spl)

LS, wh-lt gy-tan, fxln, sdy, chky-sub chky, NV por, m hd

LS, wh-lt gy-tan, fxln, sdy-sub ool, chky IP, NV por, m hd-sft

LS, wh-cm-lt gy, vfxln, sdy, NV por, hd

LS, cm-lt gy, vfxln, sdy & ool, NV por, dns

SS, wh-tan, vf-fgm, rd, mod-well sort, fri, F-P ig por, calc cmt + few clus SS, clr qtz, vfgm, rd, well sort, fri, G ig por, NS & LS, white-cm, fxln, sdy, vf-mgm, chky, NV por, sft

LS, lt gy-wh, vf-fxln, chky, m hd, NV por

LS, wh-lt gy, vf-fxln, sdy, chky IP, NV por, hd

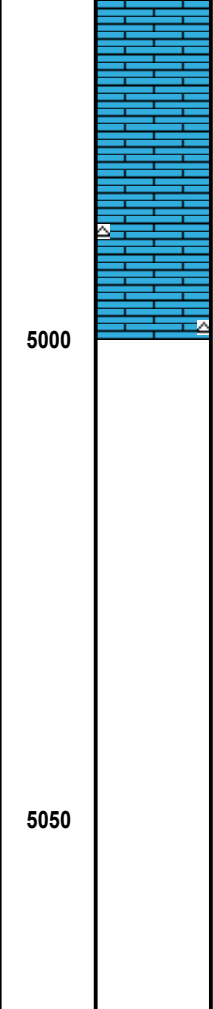
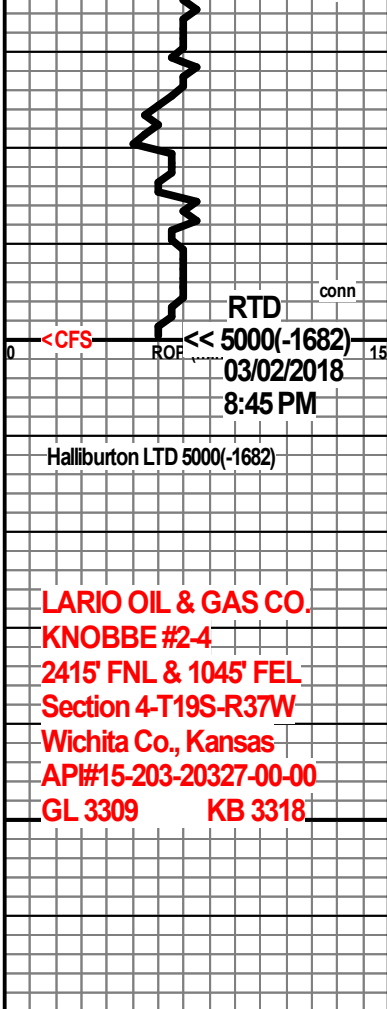
LS, wh-cm, fxln, sdy & ool, chky IP, NV por

LS, tan-cm, vfxln, sub ool, NV por, dns

FSI 31  
FH 2325 BHT 113 deg F

Vis 55 Wt 9.1 Fil 8.8 PH 10.5  
Chl 6,000 LCM 2#  
03/01/18 @ 4776'

Vis 62 Wt 9.1 Fil 8.8 PH 9.5  
Chl 6,700 LCM 2#  
03/02/2018 @ 4912



LS, lt gy-tan, vfxln, sdy-ool, NV por, dns

LS, lt gy-tan, vfxln, sdy-ool, NV por, dns + LS, tan-wh, vf-micxln, chty IP, sharp, NV por, dns + few pc's Cht, cm-wh, opq

Survey @ 5000, 1 deg



## DRILL STEM TEST REPORT

Prepared For: **Lario Oil & Gas Co**

301 S Market St  
Wichita, KS 67202

ATTN: Steve Davis

### **Knobbe #2-4**

#### **4-19s-37w Wichita,KS**

Start Date: 2018.02.26 @ 07:00:06

End Date: 2018.02.26 @ 16:33:06

Job Ticket #: 64304                      DST #: 1

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

Printed: 2018.03.02 @ 11:54:16



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Lario Oil & Gas Co

**4-19s-37w Wichita, KS**

301 S Market St  
Wichita, KS 67202

**Knobbe #2-4**

Job Ticket: 64304

**DST#: 1**

ATTN: Steve Davis

Test Start: 2018.02.26 @ 07:00:06

## GENERAL INFORMATION:

Formation: **Pawnee**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 10:33:06

Time Test Ended: 16:33:06

Test Type: Conventional Bottom Hole (Initial)

Tester: Brandon Turley

Unit No: 79

**Interval: 4468.00 ft (KB) To 4498.00 ft (KB) (TVD)**

Reference Elevations: 3318.00 ft (KB)

Total Depth: 4498.00 ft (KB) (TVD)

3308.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 10.00 ft

**Serial #: 8166 Outside**

Press@RunDepth: 265.30 psig @ 4469.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2018.02.26

End Date: 2018.02.26

Last Calib.: 2018.02.26

Start Time: 07:00:11

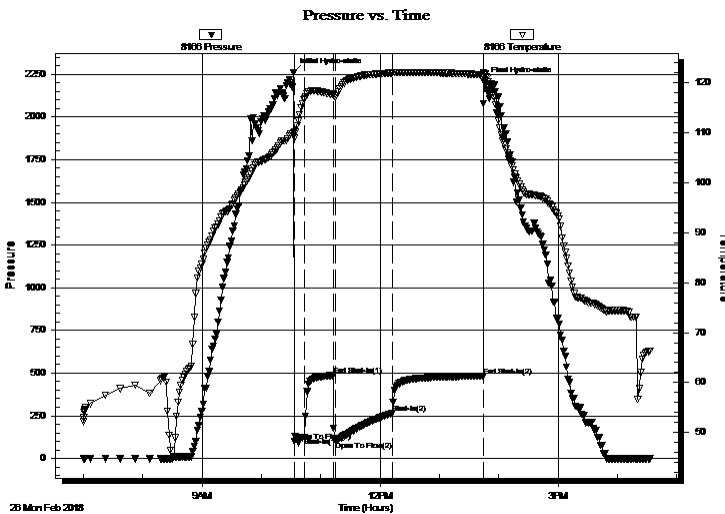
End Time: 16:33:06

Time On Btm: 2018.02.26 @ 10:32:06

Time Off Btm: 2018.02.26 @ 13:45:06

**TEST COMMENT:** IF: BOB in 4 min.  
IS: Surface blow built to 1/2"  
FF: BOB in 2 min.  
FS: BOB in 6 min.

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2260.96	109.90	Initial Hydro-static
1	100.94	108.89	Open To Flow (1)
12	124.84	116.78	Shut-In(1)
41	485.78	117.63	End Shut-In(1)
43	102.78	116.97	Open To Flow (2)
101	265.30	121.96	Shut-In(2)
192	482.88	121.55	End Shut-In(2)
193	2207.49	121.74	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
63.00	gocm 20%g 10%o 70%m	0.88
252.00	mco 60%g 30%o 10%m	3.53
398.00	go 40%g 60%o	5.58
0.00	1240 GIP	0.00

## Gas Rates

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





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Lario Oil & Gas Co

**4-19s-37w Wichita,KS**

301 S Market St  
Wichita, KS 67202

**Knobbe #2-4**

Job Ticket: 64304

**DST#: 1**

ATTN: Steve Davis

Test Start: 2018.02.26 @ 07:00:06

## Tool Information

Drill Pipe:	Length: 4469.00 ft	Diameter: 3.80 inches	Volume: 62.69 bbl	Tool Weight: 2000.00 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: 75000.00 lb
			<u>Total Volume: 62.69 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	28.00 ft			String Weight: Initial 64000.00 lb
Depth to Top Packer:	4468.00 ft			Final 65000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	30.00 ft			
Tool Length:	57.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

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

Stubb	1.00			4442.00	
Shut In Tool	5.00			4447.00	
Hydraulic tool	5.00			4452.00	
Jars	5.00			4457.00	
Safety Joint	2.00			4459.00	
Packer	5.00			4464.00	27.00 Bottom Of Top Packer
Packer	4.00			4468.00	
Stubb	1.00			4469.00	
Recorder	0.00	6651	Inside	4469.00	
Recorder	0.00	8166	Outside	4469.00	
Perforations	24.00			4493.00	
Bullnose	5.00			4498.00	30.00 Bottom Packers & Anchor

**Total Tool Length: 57.00**





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Lario Oil & Gas Co

**4-19s-37w Wichita,KS**

301 S Market St  
Wichita, KS 67202

**Knobbe #2-4**

Job Ticket: 64304

**DST#: 1**

ATTN: Steve Davis

Test Start: 2018.02.26 @ 07:00:06

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

29 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 62.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.18 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 3500.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
63.00	gocm 20%g 10%o 70%m	0.884
252.00	mco 60%g 30%o 10%m	3.535
398.00	go 40%g 60%o	5.583
0.00	1240 GIP	0.000

Total Length: 713.00 ft

Total Volume: 10.002 bbl

Num Fluid Samples: 0

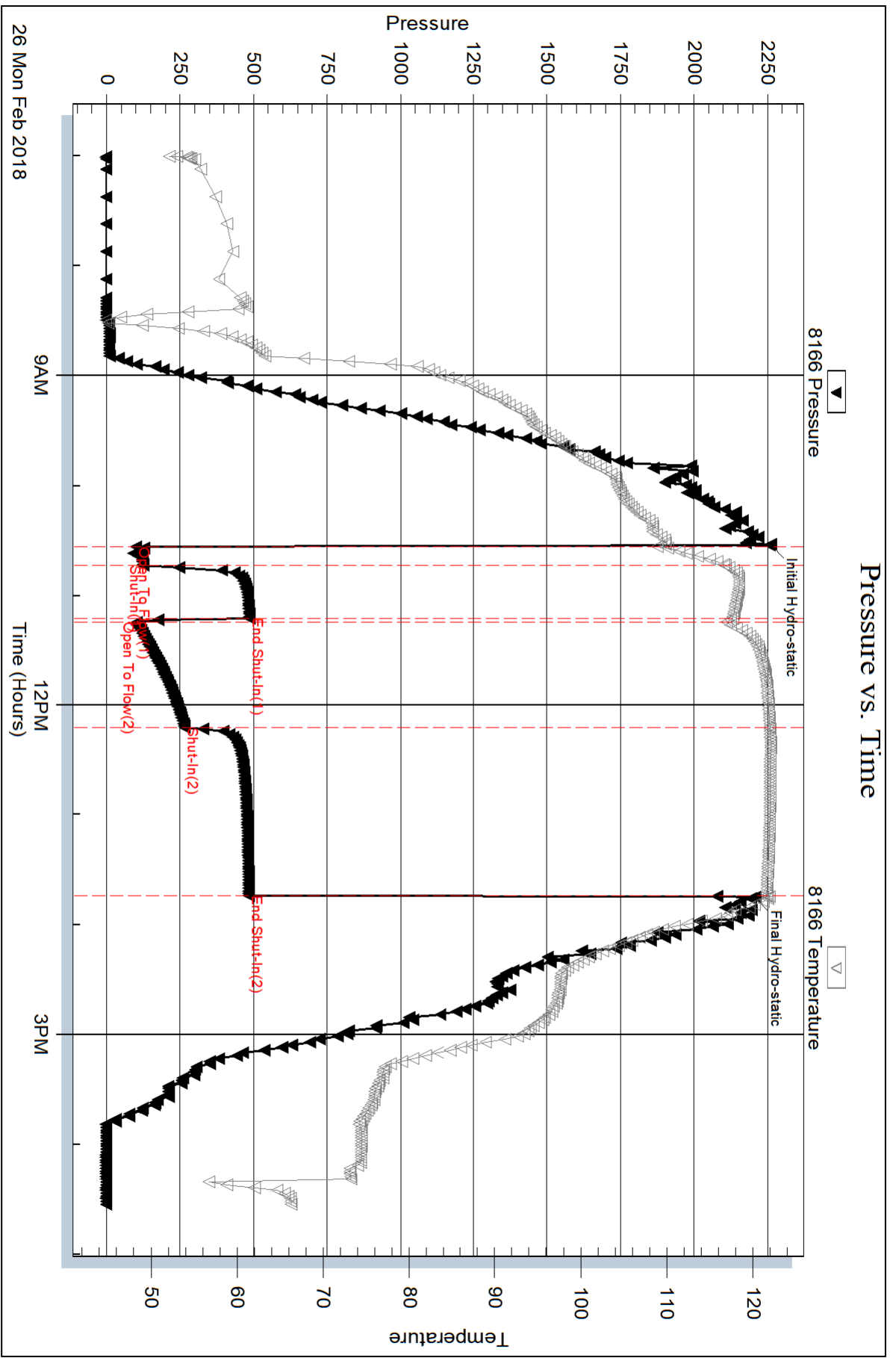
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: 31@80=29



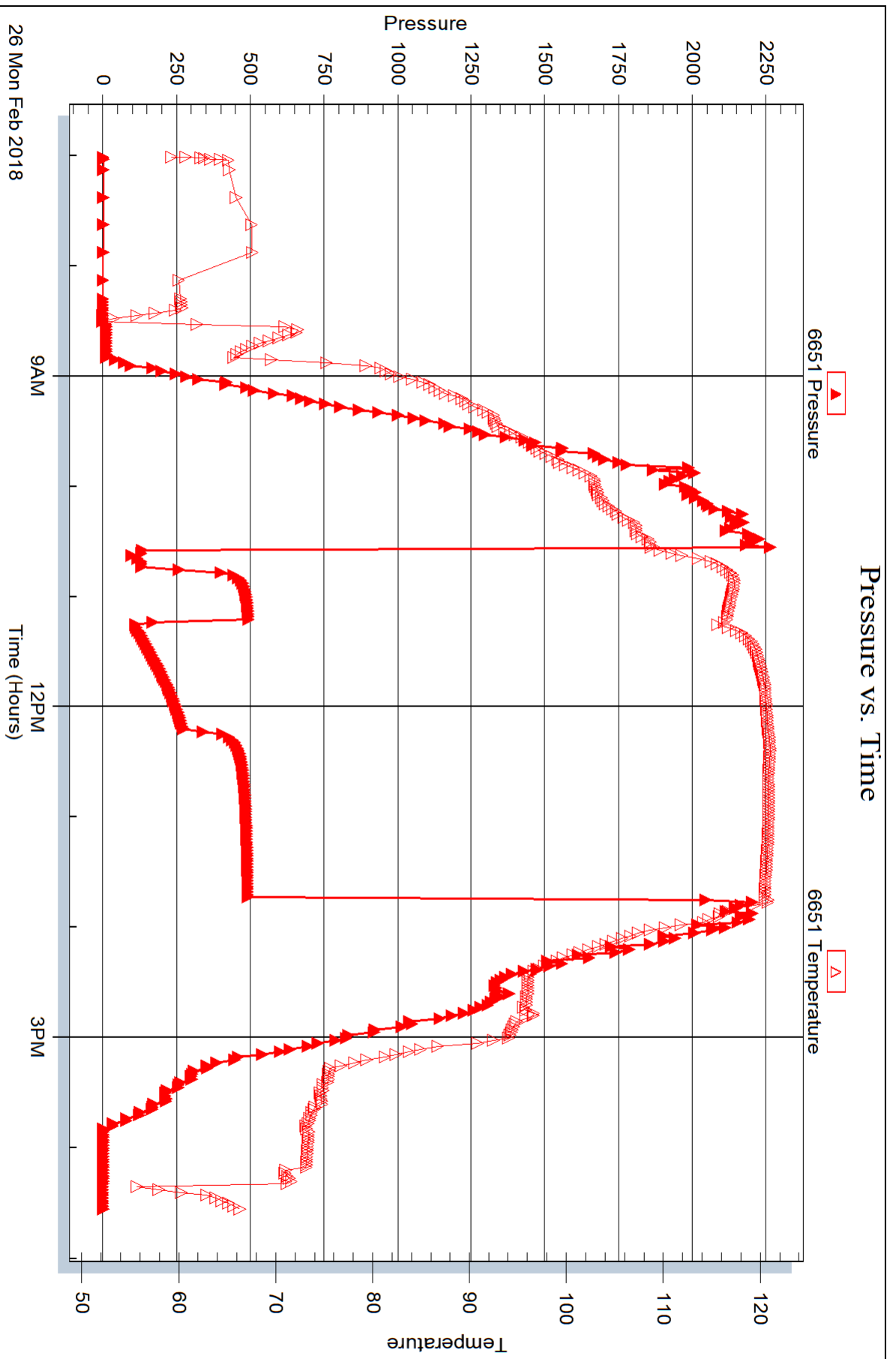
Serial #: 6651

Inside

Lario Oil & Gas Co

Knobbe #2-4

DST Test Number: 1



Triobite Testing, Inc

Ref. No: 64304

Printed: 2018.03.02 @ 11:54:18



## DRILL STEM TEST REPORT

Prepared For: **Lario Oil & Gas Co**

301 S Market St  
Wichita, KS 67202

ATTN: Steve Davis

### **Knobbe #2-4**

#### **4-19s-37w Wichita,KS**

Start Date: 2018.02.27 @ 01:40:40

End Date: 2018.02.27 @ 10:47:40

Job Ticket #: 64305                      DST #: 2

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

Printed: 2018.03.02 @ 11:53:40



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Lario Oil & Gas Co

**4-19s-37w Wichita, KS**

301 S Market St  
Wichita, KS 67202

**Knobbe #2-4**

Job Ticket: 64305

**DST#: 2**

ATTN: Steve Davis

Test Start: 2018.02.27 @ 01:40:40

## GENERAL INFORMATION:

Formation: **Ft Scott**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 04:59:10

Time Test Ended: 10:47:40

Test Type: Conventional Bottom Hole (Reset)

Tester: Brandon Turley

Unit No: 79

**Interval: 4500.00 ft (KB) To 4525.00 ft (KB) (TVD)**

Reference Elevations: 3318.00 ft (KB)

Total Depth: 4525.00 ft (KB) (TVD)

3308.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 10.00 ft

**Serial #: 8166 Outside**

Press@RunDepth: 160.19 psig @ 4501.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2018.02.27

End Date:

2018.02.27

Last Calib.:

2018.02.27

Start Time: 01:40:45

End Time:

10:47:40

Time On Btm:

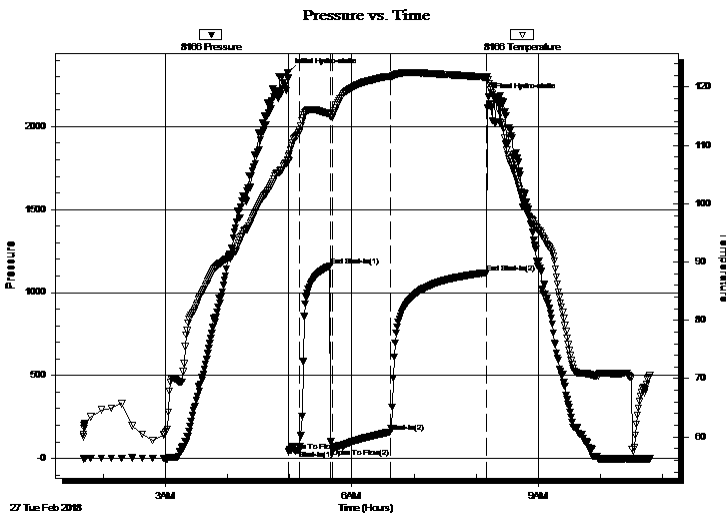
2018.02.27 @ 04:58:10

Time Off Btm:

2018.02.27 @ 08:11:40

**TEST COMMENT:** IF: BOB in 3 min.  
IS: Surface blow built to 2"  
FF: BOB in 2 min.  
FS: BOB in 14 min.

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2326.01	107.46	Initial Hydro-static
1	41.55	107.36	Open To Flow (1)
11	51.37	112.37	Shut-In(1)
41	1159.99	115.36	End Shut-In(1)
43	58.99	114.85	Open To Flow (2)
99	160.19	121.80	Shut-In(2)
192	1119.27	121.68	End Shut-In(2)
194	2176.84	121.31	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
63.00	gocw m 10%g 10%o 20%w 60%m	0.88
189.00	mogo 30%g 60%o 10%m	2.65
128.00	go 20%g 80%o	1.80
0.00	1510 GIP	0.00

\* Recovery from multiple tests

## Gas Rates

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



# TRILOBITE TESTING, INC.

## DRILL STEM TEST REPORT

Lario Oil & Gas Co  
 301 S Market St  
 Wichita, KS 67202  
 ATTN: Steve Davis

**4-19s-37w Wichita,KS**

**Knobbe #2-4**

Job Ticket: 64305

**DST#: 2**

Test Start: 2018.02.27 @ 01:40:40

### GENERAL INFORMATION:

Formation: **Ft Scott**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 04:59:10  
 Time Test Ended: 10:47:40  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Brandon Turley  
 Unit No: 79  
 Interval: **4500.00 ft (KB) To 4525.00 ft (KB) (TVD)**  
 Reference Elevations: 3318.00 ft (KB)  
 Total Depth: 4525.00 ft (KB) (TVD)  
 3308.00 ft (CF)  
 Hole Diameter: 7.88 inches  
 Hole Condition: Good  
 KB to GR/CF: 10.00 ft

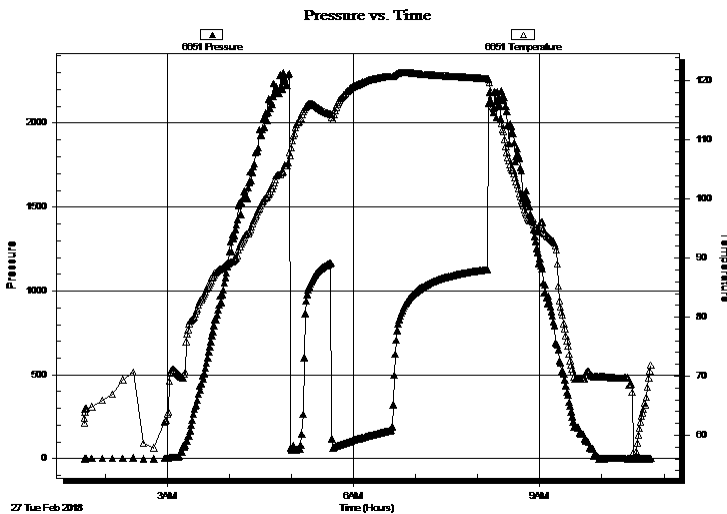
**Serial #: 6651**

**Inside**

Press@RunDepth: psig @ 4501.00 ft (KB)  
 Capacity: 8000.00 psig  
 Start Date: 2018.02.27 End Date: 2018.02.27 Last Calib.: 2018.02.27  
 Start Time: 01:40:12 End Time: 10:47:07  
 Time On Btm:  
 Time Off Btm:

TEST COMMENT: IF: BOB in 3 min.  
 IS: Surface blow built to 2"  
 FF: BOB in 2 min.  
 FS: BOB in 14 min.

### PRESSURE SUMMARY



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

### Recovery

Length (ft)	Description	Volume (bbl)
63.00	gocw m 10%g 10%o 20%w 60%m	0.88
189.00	mogo 30%g 60%o 10%m	2.65
128.00	go 20%g 80%o	1.80
0.00	1510 GIP	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**

Lario Oil & Gas Co

**4-19s-37w Wichita,KS**

301 S Market St  
Wichita, KS 67202

**Knobbe #2-4**

Job Ticket: 64305

**DST#: 2**

ATTN: Steve Davis

Test Start: 2018.02.27 @ 01:40:40

## Tool Information

Drill Pipe:	Length: 4500.00 ft	Diameter: 3.80 inches	Volume: 63.12 bbl	Tool Weight:	2000.00 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:	85000.00 lb
			<u>Total Volume: 63.12 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	27.00 ft			String Weight: Initial	64000.00 lb
Depth to Top Packer:	4500.00 ft			Final	66000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	25.00 ft				
Tool Length:	52.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			
Tool Comments:					

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

Stubb	1.00			4474.00	
Shut In Tool	5.00			4479.00	
Hydraulic tool	5.00			4484.00	
Jars	5.00			4489.00	
Safety Joint	2.00			4491.00	
Packer	5.00			4496.00	27.00 Bottom Of Top Packer
Packer	4.00			4500.00	
Stubb	1.00			4501.00	
Recorder	0.00	6651	Inside	4501.00	
Recorder	0.00	8166	Outside	4501.00	
Perforations	19.00			4520.00	
Bullnose	5.00			4525.00	25.00 Bottom Packers & Anchor

**Total Tool Length: 52.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Lario Oil & Gas Co

**4-19s-37w Wichita,KS**

301 S Market St  
Wichita, KS 67202

**Knobbe #2-4**

Job Ticket: 64305

**DST#: 2**

ATTN: Steve Davis

Test Start: 2018.02.27 @ 01:40:40

### Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

30 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 57.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.97 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 4400.00 ppm

Filter Cake: 1.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
63.00	gocw m 10%g 10%o 20%w 60%m	0.884
189.00	mcgo 30%g 60%o 10%m	2.651
128.00	go 20%g 80%o	1.796
0.00	1510 GIP	0.000

Total Length: 380.00 ft

Total Volume: 5.331 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

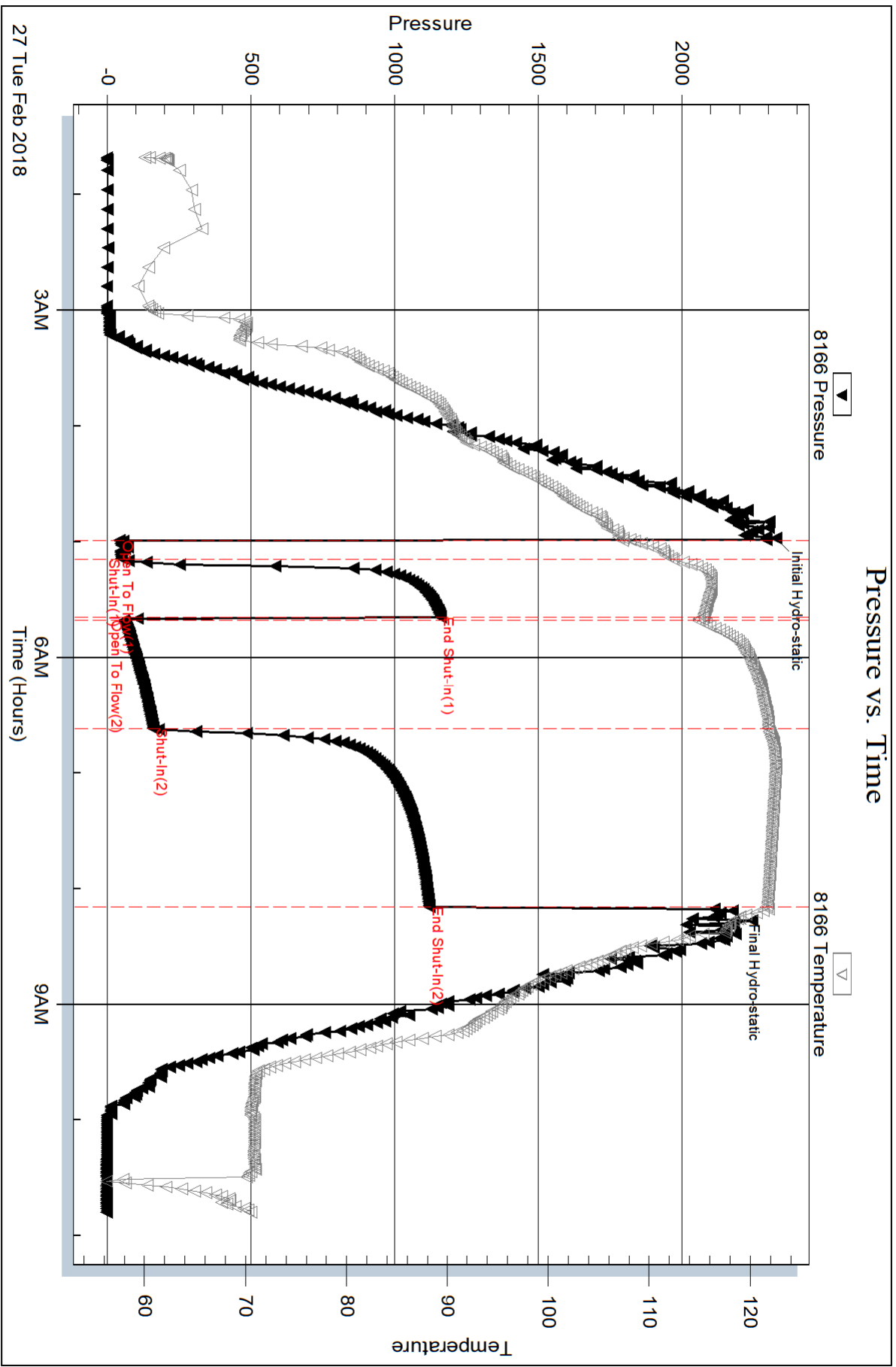
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: 31@70=30





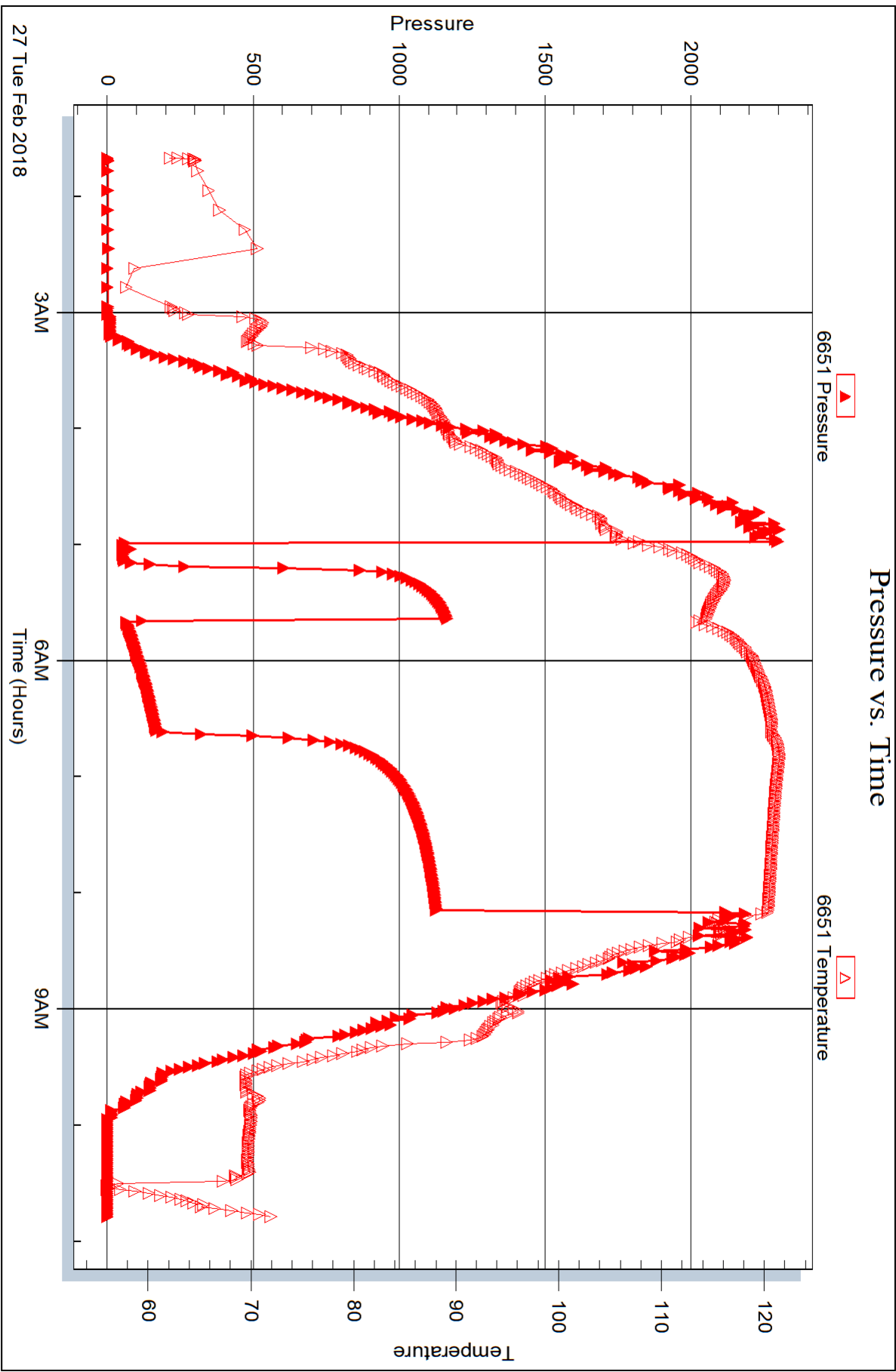
Serial #: 6651

Inside

Lario Oil & Gas Co

Knobbe#2-4

DST Test Number: 2





## DRILL STEM TEST REPORT

Prepared For: **Lario Oil & Gas Co**

301 S Market St  
Wichita, KS 67202

ATTN: Steve Davis

### **Knobbe #2-4**

#### **4-19s-37w Wichita,KS**

Start Date: 2018.02.27 @ 21:38:22

End Date: 2018.02.28 @ 06:08:22

Job Ticket #: 64306                      DST #: 3

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

Printed: 2018.03.02 @ 11:53:07



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Lario Oil & Gas Co

**4-19s-37w Wichita,KS**

301 S Market St  
Wichita, KS 67202

**Knobbe #2-4**

Job Ticket: 64306

**DST#: 3**

ATTN: Steve Davis

Test Start: 2018.02.27 @ 21:38:22

## GENERAL INFORMATION:

Formation: **Cherokee LS**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 00:26:22

Time Test Ended: 06:08:22

Test Type: Conventional Bottom Hole (Reset)

Tester: Brandon Turley

Unit No: 79

**Interval: 4537.00 ft (KB) To 4562.00 ft (KB) (TVD)**

Reference Elevations: 3318.00 ft (KB)

Total Depth: 4562.00 ft (KB) (TVD)

3308.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 10.00 ft

**Serial #: 8166 Outside**

Press@RunDepth: 25.86 psig @ 4538.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2018.02.27 End Date: 2018.02.28

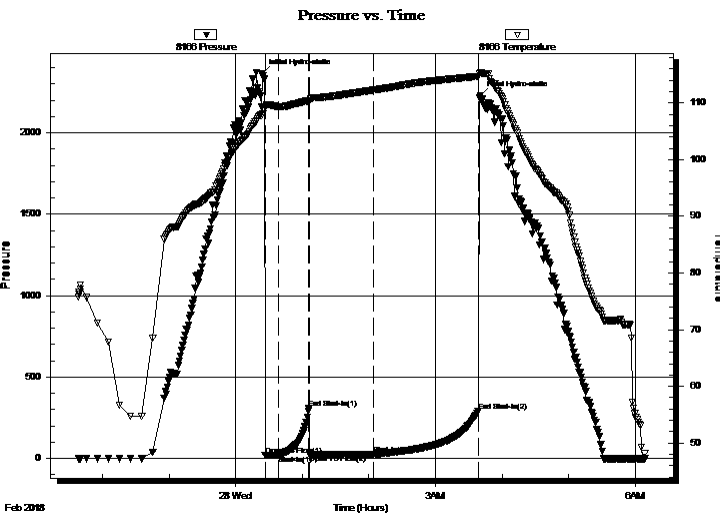
Last Calib.: 2018.02.28

Start Time: 21:38:27 End Time: 06:08:21

Time On Btm: 2018.02.28 @ 00:23:52

Time Off Btm: 2018.02.28 @ 03:40:22

**TEST COMMENT:** IF: Surface blow built to 3/4"  
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	2363.83	107.92	Initial Hydro-static
3	19.23	109.23	Open To Flow (1)
15	21.32	109.35	Shut-In(1)
42	307.90	110.42	End Shut-In(1)
43	23.81	110.37	Open To Flow (2)
100	25.86	112.26	Shut-In(2)
195	289.75	114.70	End Shut-In(2)
197	2228.70	115.38	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
31.00	mud oil spots 100%m	0.43

\* Recovery from multiple tests

## Gas Rates

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



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Lario Oil & Gas Co

**4-19s-37w Wichita, KS**

301 S Market St  
Wichita, KS 67202

**Knobbe #2-4**

Job Ticket: 64306

**DST#: 3**

ATTN: Steve Davis

Test Start: 2018.02.27 @ 21:38:22

## GENERAL INFORMATION:

Formation: **Cherokee LS**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 00:26:22

Time Test Ended: 06:08:22

Test Type: Conventional Bottom Hole (Reset)

Tester: Brandon Turley

Unit No: 79

**Interval: 4537.00 ft (KB) To 4562.00 ft (KB) (TVD)**

Reference Elevations: 3318.00 ft (KB)

Total Depth: 4562.00 ft (KB) (TVD)

3308.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 10.00 ft

**Serial #: 6651**

**Inside**

Press@RunDepth: psig @ 4538.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2018.02.27

End Date:

2018.02.28

Last Calib.:

2018.02.28

Start Time: 21:38:54

End Time:

06:08:48

Time On Btm:

Time Off Btm:

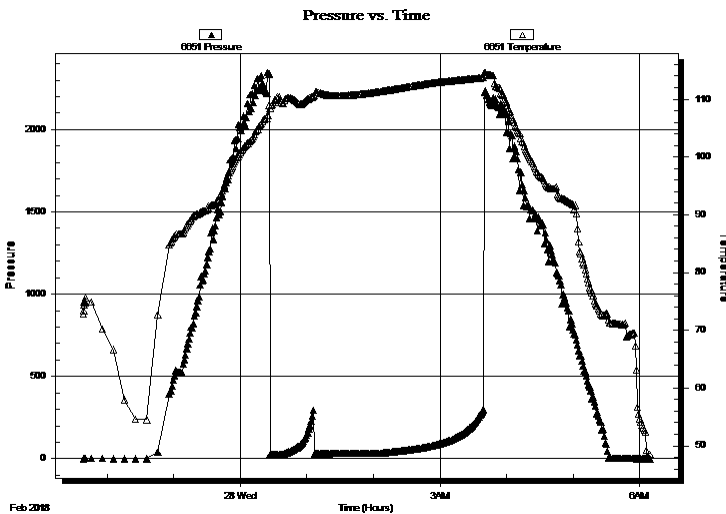
TEST COMMENT: IF: Surface blow built to 3/4"

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)
31.00	mud oil spots 100%m	0.43

## Gas Rates

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

\* Recovery from multiple tests



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Lario Oil & Gas Co

**4-19s-37w Wichita,KS**

301 S Market St  
Wichita, KS 67202

**Knobbe #2-4**

Job Ticket: 64306

**DST#: 3**

ATTN: Steve Davis

Test Start: 2018.02.27 @ 21:38:22

## Tool Information

Drill Pipe:	Length: 4532.00 ft	Diameter: 3.80 inches	Volume: 63.57 bbl	Tool Weight: 2000.00 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: 110000.0 lb
			<u>Total Volume: 63.57 bbl</u>	Tool Chased 5.00 ft
Drill Pipe Above KB:	22.00 ft			String Weight: Initial 64000.00 lb
Depth to Top Packer:	4537.00 ft			Final 64000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	25.00 ft			
Tool Length:	52.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

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

Stubb	1.00			4511.00	
Shut In Tool	5.00			4516.00	
Hydraulic tool	5.00			4521.00	
Jars	5.00			4526.00	
Safety Joint	2.00			4528.00	
Packer	5.00			4533.00	27.00 Bottom Of Top Packer
Packer	4.00			4537.00	
Stubb	1.00			4538.00	
Recorder	0.00	6651	Inside	4538.00	
Recorder	0.00	8166	Outside	4538.00	
Perforations	19.00			4557.00	
Bullnose	5.00			4562.00	25.00 Bottom Packers & Anchor

**Total Tool Length: 52.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Lario Oil & Gas Co

**4-19s-37w Wichita,KS**

301 S Market St  
Wichita, KS 67202

**Knobbe #2-4**

Job Ticket: 64306

**DST#: 3**

ATTN: Steve Davis

Test Start: 2018.02.27 @ 21:38:22

## 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: 67.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.78 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 5800.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
31.00	mud oil spots 100%m	0.435

Total Length: 31.00 ft      Total Volume: 0.435 bbl

Num Fluid Samples: 0

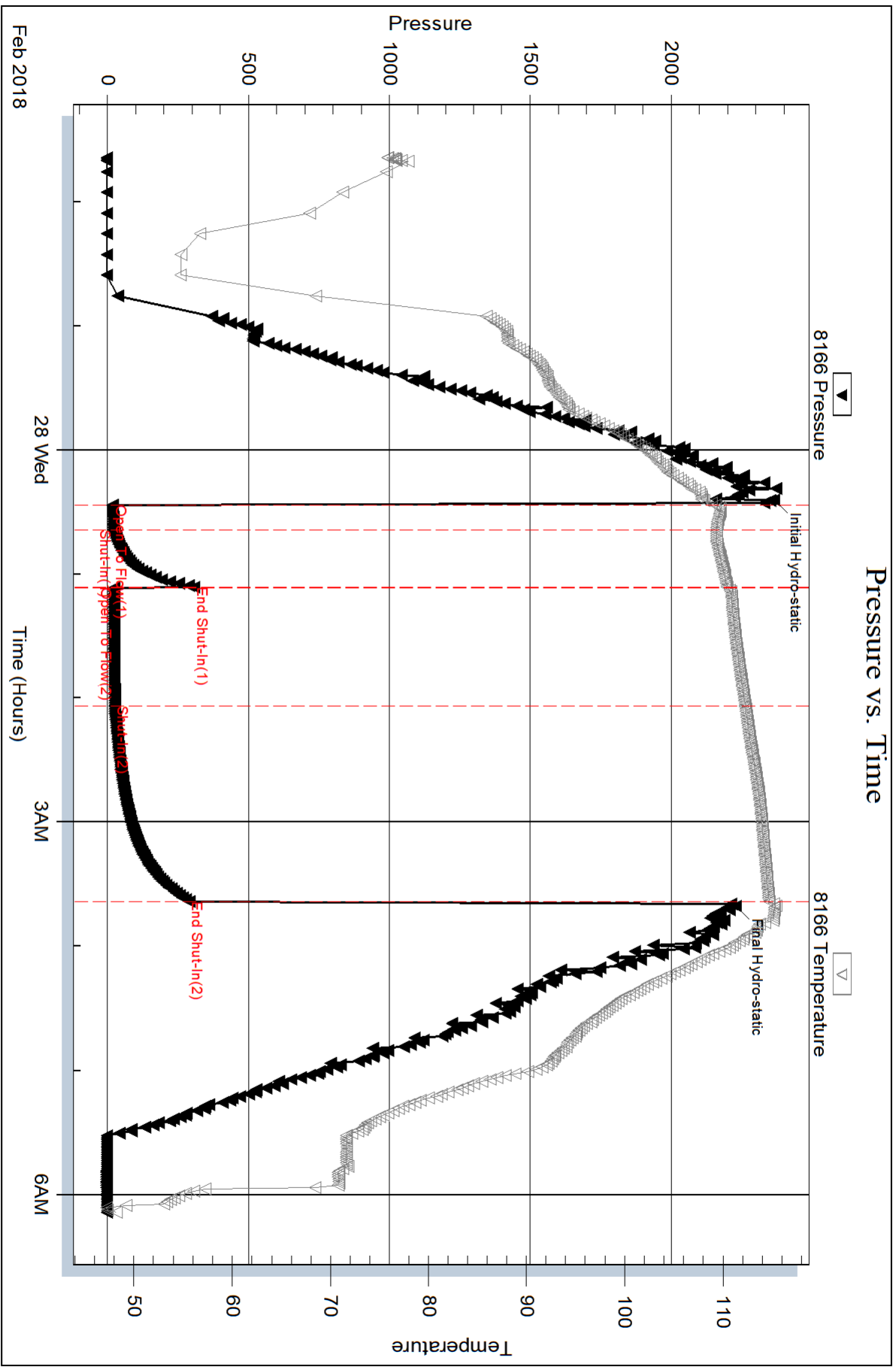
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:





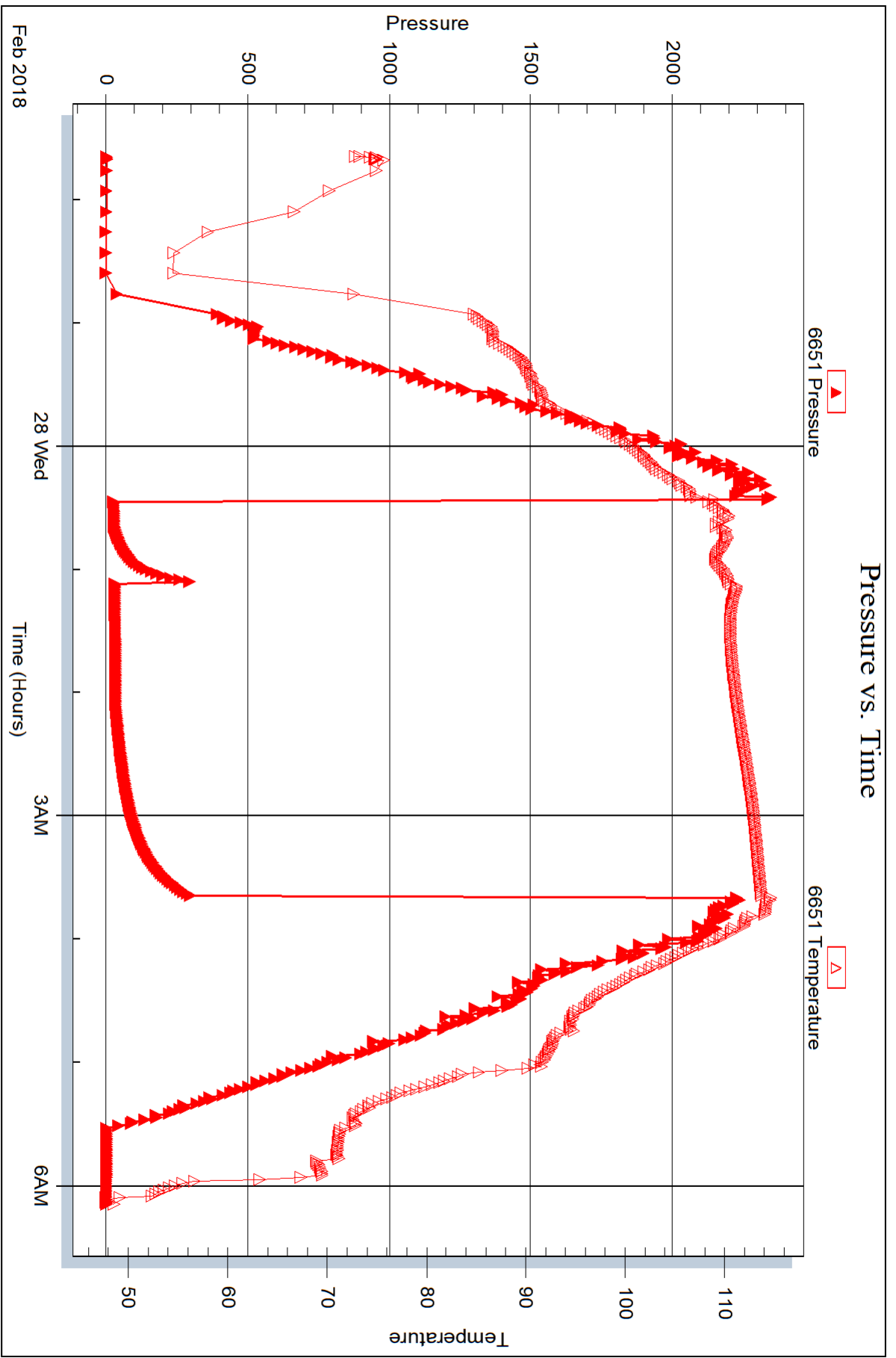
Serial #: 6651

Inside

Lario Oil & Gas Co

Knobbe #2-4

DST Test Number: 3



Triobite Testing, Inc

Ref. No: 64306

Printed: 2018.03.02 @ 11:53:08



## DRILL STEM TEST REPORT

Prepared For: **Lario Oil & Gas Co**

301 S Market St  
Wichita, KS 67202

ATTN: Steve Davis

### **Knobbe #2-4**

#### **4-19s-37w Wichita,KS**

Start Date: 2018.03.01 @ 10:27:50

End Date: 2018.03.01 @ 16:41:50

Job Ticket #: 64307                      DST #: 4

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

Printed: 2018.03.02 @ 11:52:16



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Lario Oil & Gas Co  
 301 S Market St  
 Wichita, KS 67202  
 ATTN: Steve Davis

**4-19s-37w Wichita,KS**

**Knobbe #2-4**

Job Ticket: 64307

**DST#: 4**

Test Start: 2018.03.01 @ 10:27:50

## GENERAL INFORMATION:

Formation: **Morrow Sand**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 12:39:20

Time Test Ended: 16:41:50

Test Type: Conventional Bottom Hole (Reset)

Tester: Brandon Turley

Unit No: 79

**Interval: 4717.00 ft (KB) To 4776.00 ft (KB) (TVD)**

Reference Elevations: 3318.00 ft (KB)

Total Depth: 4776.00 ft (KB) (TVD)

3308.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 10.00 ft

**Serial #: 8166 Outside**

Press@RunDepth: 21.09 psig @ 4718.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2018.03.01

End Date:

2018.03.01

Last Calib.:

2018.03.01

Start Time:

10:27:55

End Time:

16:41:49

Time On Btm:

2018.03.01 @ 12:36:50

Time Off Btm:

2018.03.01 @ 14:30:20

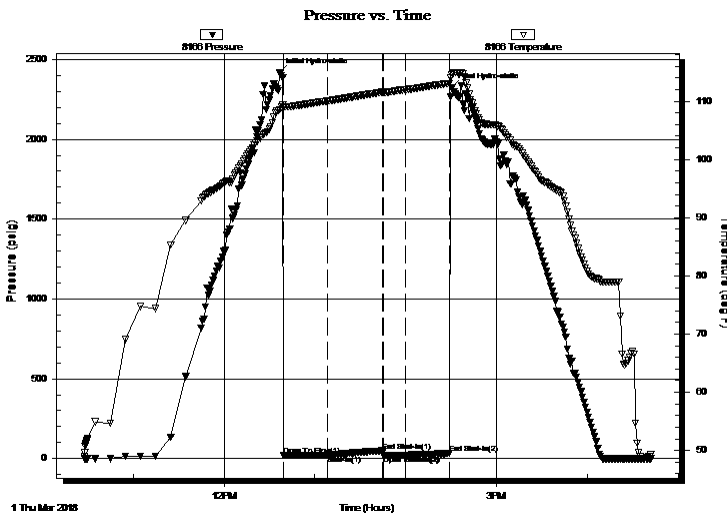
TEST COMMENT: IF: Surface blow that never built.

IS: No return.

FF: No blow.

FS: No return.

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2419.06	108.52	Initial Hydro-static
3	19.45	108.96	Open To Flow (1)
32	21.10	110.04	Shut-In(1)
68	48.32	111.55	End Shut-In(1)
69	20.67	111.57	Open To Flow (2)
83	21.09	112.00	Shut-In(2)
112	31.46	113.09	End Shut-In(2)
114	2325.78	114.52	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
5.00	mud 100%m	0.07

\* Recovery from multiple tests

## Gas Rates

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





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Lario Oil & Gas Co

**4-19s-37w Wichita,KS**

301 S Market St  
Wichita, KS 67202

**Knobbe #2-4**

Job Ticket: 64307

**DST#: 4**

ATTN: Steve Davis

Test Start: 2018.03.01 @ 10:27:50

## Tool Information

Drill Pipe:	Length: 4691.00 ft	Diameter: 3.80 inches	Volume: 65.80 bbl	Tool Weight: 2000.00 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: 80000.00 lb
			<u>Total Volume: 65.80 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	5.00 ft			String Weight: Initial 68000.00 lb
Depth to Top Packer:	4717.00 ft			Final 68000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	59.00 ft			
Tool Length:	90.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

**Length (ft) Serial No. Position Depth (ft) Accum. Lengths**

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Stubb	1.00			4687.00	
Shut In Tool	5.00			4692.00	
Hydraulic tool	5.00			4697.00	
Jars	5.00			4702.00	
EM tool	4.00			4706.00	
Safety Joint	2.00			4708.00	
Packer	5.00			4713.00	31.00 Bottom Of Top Packer
Packer	4.00			4717.00	
Stubb	1.00			4718.00	
Recorder	0.00	6651	Inside	4718.00	
Recorder	0.00	8166	Outside	4718.00	
Perforations	19.00			4737.00	
Change Over Sub	1.00			4738.00	
Drill Pipe	32.00			4770.00	
Change Over Sub	1.00			4771.00	
Bullnose	5.00			4776.00	59.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>90.00</b>				



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Lario Oil & Gas Co

**4-19s-37w Wichita,KS**

301 S Market St  
Wichita, KS 67202

**Knobbe #2-4**

Job Ticket: 64307

**DST#: 4**

ATTN: Steve Davis

Test Start: 2018.03.01 @ 10:27:50

## 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: 64.00 sec/qt

Cushion Volume:

bbl

Water Loss: 8.79 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 6600.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	mud 100%m	0.070

Total Length: 5.00 ft      Total Volume: 0.070 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

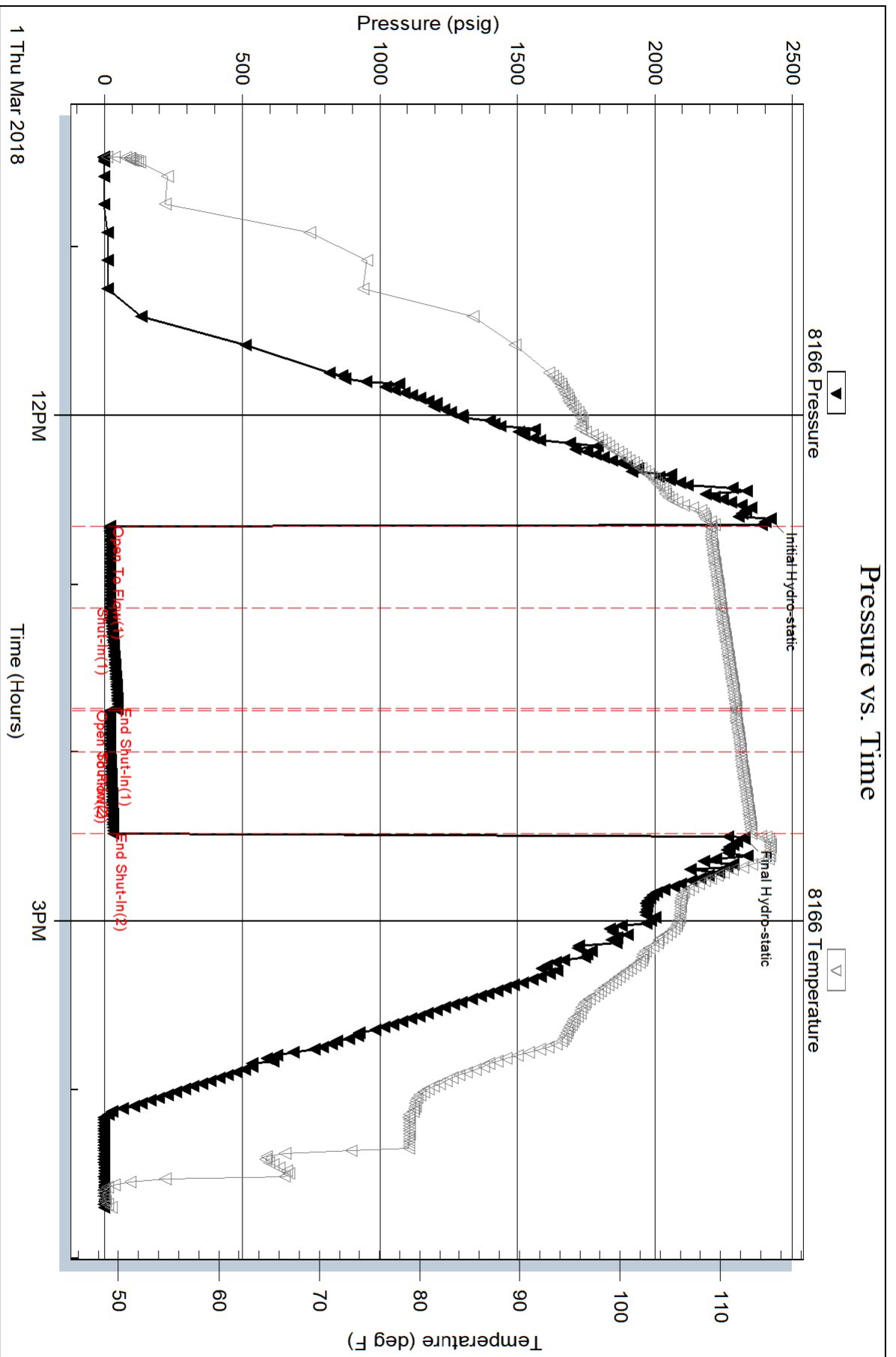
Recovery Comments:

Serial #: 8166

Outside Lario Oil & Gas Co

Knobbe #2-4

DST Test Number: 4



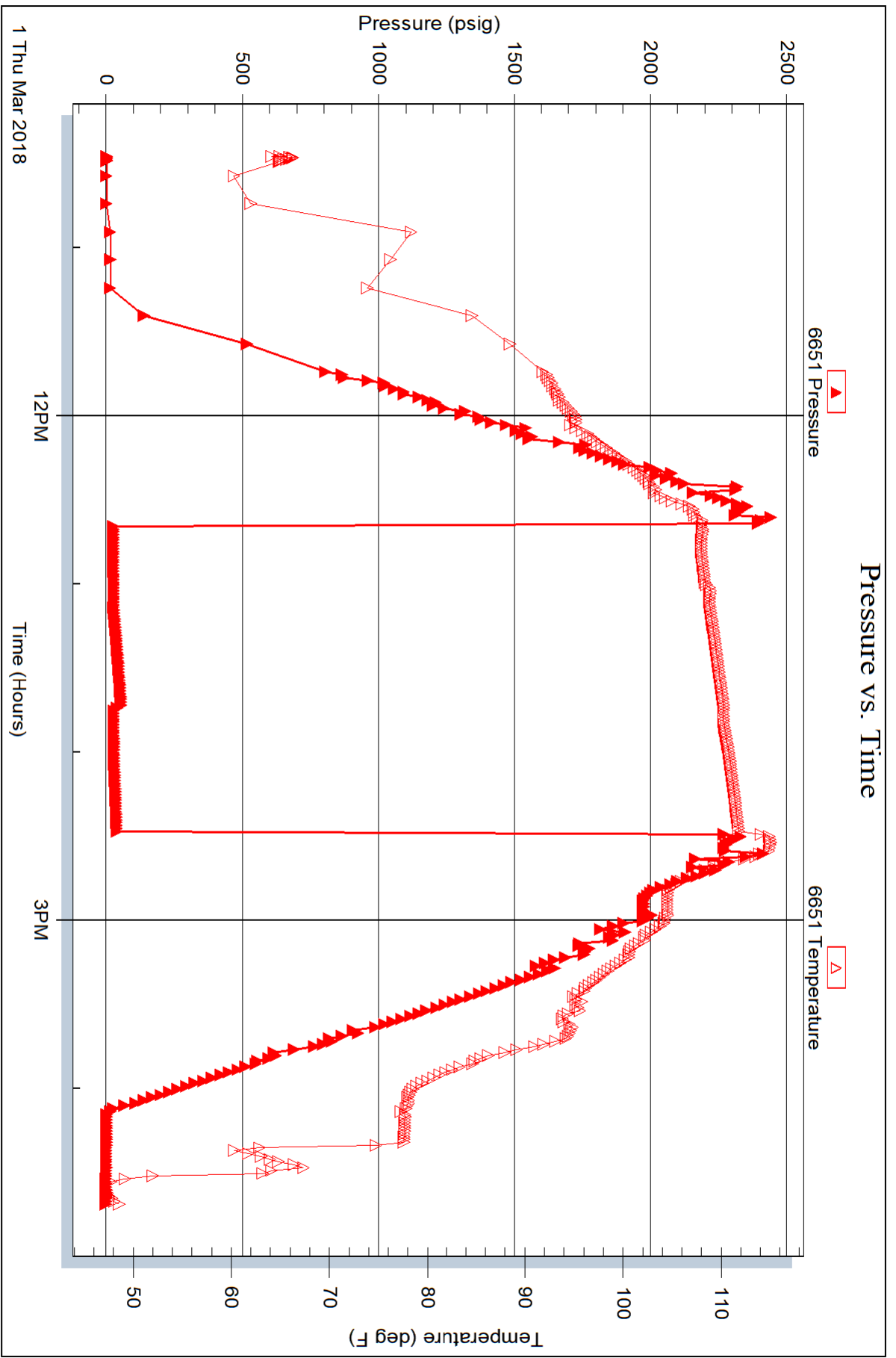
Serial #: 6651

Inside

Lario Oil & Gas Co

Knobbe #2-4

DST Test Number: 4







# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. **64304**

Well Name & No. Knobbe 2-4 Test No. 1 Date 2-28-18  
 Company Lario oil & Gas Co Elevation 3318 KB 3308 GL  
 Address 301 S Market St Wichita, KS 67202  
 Co. Rep / Geo. Steve Davis Rig Duke #4  
 Location: Sec. 4 Twp. 19S Rge. 37W Co. Wichita State KS

Interval Tested 4468 4498 Zone Tested Pawnee  
 Anchor Length 30 Drill Pipe Run 4469 Mud Wt. 9.0  
 Top Packer Depth 4463 Drill Collars Run — Vis 62  
 Bottom Packer Depth 4468 Wt. Pipe Run — WL 7.2  
 Total Depth 4498 Chlorides 3500 ppm System LCM 3

Blow Description IF: BoB in 4 min.  
FS: Surface blow built to 1/2.  
IF: BoB in 2 min.  
FS: BoB in 6 min.

Rec	Feet of	%gas	%oil	%water	%mud
<u>398</u>	<u>90</u>	<u>40</u>	<u>60</u>		
<u>252</u>	<u>ML90</u>	<u>60</u>	<u>30</u>	<u>10</u>	
<u>63</u>	<u>90cm</u>	<u>20</u>	<u>10</u>	<u>70</u>	
<u>—</u>	<u>1240 GIP</u>				
<u>—</u>					

Rec Total 713 BHT 121 Gravity 29 API RW — @ — °F Chlorides — ppm

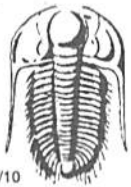
(A) Initial Hydrostatic 2260  Test 1150 T-On Location 5:00  
 (B) First Initial Flow 100  Jars 250 T-Started 7:00  
 (C) First Final Flow 124  Safety Joint 75 T-Open 10:33  
 (D) Initial Shut-In 485  Circ Sub NIC 1/2h 40 T-Pulled 13:43  
 (E) Second Initial Flow 102  Hourly Standby 1 1/2 - 120.00 T-Out 16:34  
 (F) Second Final Flow 265  Mileage 68 - 68 Comments \_\_\_\_\_  
 (G) Final Shut-In 482  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 2207  Straddle \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  
 Day Standby \_\_\_\_\_  
 Accessibility \_\_\_\_\_

Initial Open 10  
 Initial Shut-In 30  
 Final Flow 60  
 Final Shut-In 90

Sub Total 1583 Total 1583 MP/DST Disc't \_\_\_\_\_

Approved By Sh Di Our Representative [Signature]

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. **64305**

Well Name & No. Knobbe 2-4 Test No. 2 Date 2-27-18  
 Company Lario Oil & Gas Co Elevation 3318 KB 3308 GL  
 Address \_\_\_\_\_  
 Co. Rep / Geo. Steve Davis Rig Duke #4  
 Location: Sec. 4 Twp. 19S Rge. 37W Co. Wichita State KS

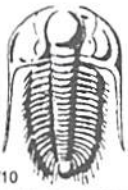
Interval Tested 4500 4525 Zone Tested Ft Scott  
 Anchor Length 25 Drill Pipe Run 4500 Mud Wt. 9.1  
 Top Packer Depth 4495 Drill Collars Run — Vis 57  
 Bottom Packer Depth 4500 Wt. Pipe Run — WL 8.0  
 Total Depth 4525 Chlorides 4400 ppm System LCM 2  
 Blow Description IF: BoB in 3 min.  
FS: Surface blow built to 2.  
FF: BoB in 1 min.  
FS: BoB in 14 min.

Rec	Feet of	%gas	%oil	%water	%mud
<u>128</u>	<u>90</u>	<u>20</u>	<u>80</u>		
<u>189</u>	<u>ML90</u>	<u>30</u>	<u>60</u>		<u>10</u>
<u>63</u>	<u>900M</u>	<u>10</u>	<u>10</u>	<u>20</u>	<u>60</u>
<u>1510</u>	<u>GIP</u>				

Rec Total 380 BHT 121 Gravity 30 API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic <u>2326</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>1:15</u>
(B) First Initial Flow <u>41</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>1:40</u>
(C) First Final Flow <u>51</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>5:00</u>
(D) Initial Shut-In <u>1159</u>	<input checked="" type="checkbox"/> Circ Sub <u>N/C</u>	T-Pulled <u>8:10</u>
(E) Second Initial Flow <u>58</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>10:50</u>
(F) Second Final Flow <u>160</u>	<input checked="" type="checkbox"/> Mileage <u>68</u> <u>68</u>	Comments _____
(G) Final Shut-In <u>1199</u>	<input type="checkbox"/> Sampler	_____
(H) Final Hydrostatic <u>2176</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer
Initial Open <u>10</u>	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Packer
Initial Shut-In <u>30</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Extra Copies
Final Flow <u>60</u>	<input type="checkbox"/> Extra Recorder	Sub Total <u>0</u>
Final Shut-In <u>90</u>	<input type="checkbox"/> Day Standby	Total <u>1543</u>
	<input type="checkbox"/> Accessibility	MP/DST Disc't _____
	Sub Total <u>1543</u>	

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. **64306**

4/10

Well Name & No. Knobbe 2-4 Test No. 3 Date 2-27-18  
 Company Lario oil & GAS CO Elevation 3318 KB 3308 GL  
 Address \_\_\_\_\_  
 Co. Rep / Geo. Steve Dgois Rig Duke 4  
 Location: Sec. 4 Twp. 19S Rge. 37W Co. Wichita State KS

Interval Tested 4537 4562 Zone Tested Cherokee LS  
 Anchor Length 25 Drill Pipe Run 4532 Mud Wt. 9.1  
 Top Packer Depth 4532 Drill Collars Run — Vis 67  
 Bottom Packer Depth 4537 Wt. Pipe Run — WL 8.8  
 Total Depth 4562 Chlorides 5800 ppm System LCM 2

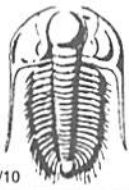
Blow Description IF: Surface blow built to 3/4.  
IS: No return.  
FF: Surface blow built to 3/4.  
FS: No return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>31</u>	<u>mud oil spots</u>			<u>100</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 31 BHT 114 Gravity — API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic <u>2363</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>20:50</u>
(B) First Initial Flow <u>19</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>21:38</u>
(C) First Final Flow <u>21</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>00:25</u>
(D) Initial Shut-In <u>307</u>	<input checked="" type="checkbox"/> Circ Sub <u>NIL</u>	T-Pulled <u>3:35</u>
(E) Second Initial Flow <u>23</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>6:08</u>
(F) Second Final Flow <u>25</u>	<input checked="" type="checkbox"/> Mileage <u>68-</u> <u>68</u>	Comments _____
(G) Final Shut-In <u>289</u>	<input type="checkbox"/> Sampler	_____
(H) Final Hydrostatic <u>2228</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer
Initial Open <u>10</u>	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Packer
Initial Shut-In <u>30</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Extra Copies
Final Flow <u>60</u>	<input type="checkbox"/> Extra Recorder	Sub Total <u>0</u>
Final Shut-In <u>90</u>	<input type="checkbox"/> Day Standby	Total <u>1543</u>
	<input type="checkbox"/> Accessibility	MP/DST Disc't _____
	Sub Total <u>1543</u>	

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. **64307**

Well Name & No. Knobbe 2-4 Test No. 4 Date 3-1-18  
 Company Lario oil & GAS CO Elevation 3318 KB 3308 GL  
 Address \_\_\_\_\_  
 Co. Rep / Geo. Steve Davis Rig Duke 4  
 Location: Sec. 4 Twp. 19S Rge. 37W Co. Wichita State KS

Interval Tested 4717 4776 Zone Tested Morrow Sand  
 Anchor Length \_\_\_\_\_ 59 Drill Pipe Run 4691 Mud Wt. 8.7  
 Top Packer Depth \_\_\_\_\_ 4712 Drill Collars Run \_\_\_\_\_ Vis 64  
 Bottom Packer Depth \_\_\_\_\_ 4717 Wt. Pipe Run \_\_\_\_\_ WL 8.8  
 Total Depth \_\_\_\_\_ 4776 Chlorides 6600 ppm System LCM 2

Blow Description IF: surface blow that never built  
IS: No return.  
FF: No blow.  
FS: No return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>5</u>	<u>mud</u>			<u>100</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 5 BHT 113 Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic \_\_\_\_\_  Test 1150 T-On Location 9:45  
 (B) First Initial Flow \_\_\_\_\_  Jars 250 T-Started 10:27  
 (C) First Final Flow \_\_\_\_\_  Safety Joint 75 T-Open 12:38  
 (D) Initial Shut-In \_\_\_\_\_  Circ Sub N/C T-Pulled 14:28  
 (E) Second Initial Flow \_\_\_\_\_  Hourly Standby \_\_\_\_\_ T-Out 16:42  
 (F) Second Final Flow \_\_\_\_\_  Mileage 68-x2 136  
 (G) Final Shut-In \_\_\_\_\_  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic \_\_\_\_\_  Straddle \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  
 Day Standby \_\_\_\_\_  
 Accessibility \_\_\_\_\_

Initial Open 30  
 Initial Shut-In 34  
 Final Flow 15  
 Final Shut-In 30

Sub Total 1611

MP/DST Disc't \_\_\_\_\_

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