

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 _____ Recompletion Date _____

API No.: _____

Spot Description: _____

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

_____ Feet from North / South Line of Section

_____ Feet from East / West Line of Section

Footages Calculated from Nearest Outside Section Corner:

NE NW SE SW

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

Datum: NAD27 NAD83 WGS84

County: _____

Lease Name: _____ Well #: _____

Field Name: _____

Producing Formation: _____

Elevation: Ground: _____ Kelly Bushing: _____

Total Vertical Depth: _____ Plug Back Total Depth: _____

Amount of Surface Pipe Set and Cemented at: _____ Feet

Multiple Stage Cementing Collar Used? Yes No

If yes, show depth set: _____ Feet

If Alternate II completion, cement circulated from: _____

feet depth to: _____ w/ _____ sx cmt.

Drilling Fluid Management Plan

(Data must be collected from the Reserve Pit)

Chloride content: _____ ppm Fluid volume: _____ bbls

Dewatering method used: _____

Location of fluid disposal if hauled offsite:

Operator Name: _____

Lease Name: _____ License #: _____

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

County: _____ Permit #: _____

AFFIDAVIT

I am the affiant and I hereby certify that all requirements of the statutes, rules and regulations promulgated to regulate the oil and gas industry have been fully complied with and the statements herein are complete and correct to the best of my knowledge.

Submitted Electronically

KCC Office Use ONLY

Confidentiality Requested

Date: _____

Confidential Release Date: _____

Wireline Log Received Drill Stem Tests Received

Geologist Report / Mud Logs Received

UIC Distribution

ALT I II III Approved by: _____ Date: _____

Operator Name: _____ Lease Name: _____ Well #: _____

Sec. _____ Twp. _____ S. R. _____ East West County: _____

INSTRUCTIONS: Show important tops of formations penetrated. Detail all cores. Report all final copies of drill stems tests giving interval tested, time tool open and closed, flowing and shut-in pressures, whether shut-in pressure reached static level, hydrostatic pressures, bottom hole temperature, fluid recovery, and flow rates if gas to surface test, along with final chart(s). Attach extra sheet if more space is needed.

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

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

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

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

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

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

TUBING RECORD:	Size:	Set At:	Packer At:	
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Form	ACO1 - Well Completion
Operator	Norstar Petroleum, Inc.
Well Name	CBCF 7-31
Doc ID	1499472

Tops

Name	Top	Datum
Anhydrite	1442	+629
Heebner	3436	-1365
Lansing	3476	-1405
Stark Shale	3660	-1589
Pawnee	3829	-1758
Labette Shale	3889	-1818
Ft Scott	3910	-1839
Cherokee Sand	3936	-1865
Mississippi	4008	-1937

JOB LOG

SWIFT Services, Inc.

DATE 11/23/19 PAGE NO. 1

CUSTOMER *Norstar Petroleum* WELL NO. *7-31* LEASE *CBCF* JOB TYPE *2 Stage L.S.* TICKET NO. *326608*

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING	
	1115							On location, Rig LDDP.
								4 1/2" x 10 1/2" Used Pipe
								R7D - 4057'
								Total Pipe - 4061.11
								Shoe It - 41.69
								Baffle Plate - 4019
								Centralizers - 1, 2, 4, 6, 8, 10, 12, 14, 16, 18
								Baskets - 7, 62
								D.V. Tool - Top of 63 @ 1 1/2 63
	1330							Start Circulating w/ Float Equipment.
	1520							Break Circulation on Bottom
	1635	2	7					Plug Bathole w/ 30 SLS EA2
		4	12			400		Pump Mudflush
		4	20			460		Pump KCL spacer
								Take on 1 Tank Mud
		4	41			300		Pump EA2 Cont
								Drop Plug, Washout Annular Lines
		6				100		Start Displacement
		6	40			500		Catch Cont - Start Mud
	1735	6	64			1100		Land Plug Lift PSI 900 Land PSI 1100
	1740							Drop D.V. Bomb
	1750							Open D.V. Tool + Verify Circulation
								Hoist up to Circ for 45 min
	1850	4	20			200		Pump 20 bbl KCL spacer
		5 1/2	125					Pump SAID Cont
	1920							Drop Plug
	1925	5				1100		Start Displacement Lift PSI 500
	1930		23			500/1500		Land Plug Land PSI 1500
								Release, Dry Cont Circulated
								Washup
								Rackup
	1950							Job Complete Thanks Tony, Austin, Isaac



WELL TREATMENT REPORT

Customer: **Norstar Petroleum**
 City, State: _____
 Field Rep: **Scott**

Well: **Cedar Bluff Cattle Feeders 7-31**
 County: **Trego KS**
 S-T-R: **13/14/21**

Ticket: **ICT2784**
 Date: **11/15/2019**
 Service: **Surface**

Downhole Information	
Hole Size:	12.25 in
Hole Depth:	211 ft
Casing Size:	8 5/8 in
Casing Depth:	211 ft
Tubing / Liner:	in
Depth:	ft
Tool / Packer:	
Depth:	ft
Displacement:	13.4 bbls

Calculated Slurry	
Weight:	14.8 # / sx
Water / Sx:	6.88 gal / sx
Yield:	1.41 ft ³ / sx
Bbls / Ft.:	0.0735
Depth:	211 ft
Annular Volume:	15.5085 bbls
Excess:	150%
Total Slurry:	38.8 bbls
Total Sacks:	155 sx

Product	% / #	#
Class A	100.00	14570
Poz		
Gel	2.00	291
CaCl	3.00	437
Gypsum		
Metso		
Kol Seal		
Flo Seal	0.25	36
Salt (bww)		
Total		15,335

TIME	RATE	PSI	BBLs	REMARKS
6:30 PM				Arrive on location
6:35 PM				Safety Meeting
6:40 PM				Rig up pump and lines
10:20 PM				Rig up 8 5/8 surface head and circulate casing to bottom with mud
10:30 PM				Rig circulates hole with mud
11:00 PM				Rig up 8 5/8 surface head the pump
11:08 PM	2.0	300.0	5.0	Pump H2O ahead
11:10 PM	5.5	290.0	39.0	Mix 155 sks of H325 at 14.8 ppg
11:15 PM	5.5	220.0	13.5	Start displacement
11:22 PM		90.0		End displacement
11:28 PM		90.0		Shut in well
11:35 PM				Wash up pump and lines
11:40 PM				Rig pump and lines down
11:45 PM				Depart location
				Approx 10 bbls to pit

CREW			UNIT	SUMMARY		
Cementer:	Josh		73	Average Rate	Average Pressure	Total Fluid
Pump Operator:	Michael		266	4.33333 bpm	198 psi	58 bbls
Bulk #1:	Jesse		242			
Bulk #2:						



DRILL STEM TEST REPORT

Prepared For: **Norstar Petroleum Inc**

88 Inverness Cir. E Unit F104
Englewood, CO 80112

ATTN: Larry Friend

CBCF #7-31

31-14S-21W Trego,KS

Start Date: 2019.11.21 @ 12:23:00

End Date: 2019.11.21 @ 19:03:02

Job Ticket #: 66268 DST #: 1

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

Printed: 2019.11.25 @ 14:50:00

Norstar Petroleum Inc
31-14S-21W Trego,KS
CBCF #7-31
DST # 1
Cherokee B Sand
2019.11.21



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Norstar Petroleum Inc
 88 Inverness Cir. E Unit F104
 Englewood, CO 80112
 ATTN: Larry Friend

31-14S-21W Trego, KS

CBCF #7-31

Job Ticket: 66268

DST#: 1

Test Start: 2019.11.21 @ 12:23:00

GENERAL INFORMATION:

Formation: **Cherokee B Sand**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 14:40:47
 Time Test Ended: 19:03:02
 Interval: **3911.00 ft (KB) To 3939.00 ft (KB) (TVD)**
 Total Depth: 3939.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Ken Swinney
 Unit No: 72
 Reference Elevations: 2071.00 ft (KB)
 2066.00 ft (CF)
 KB to GR/CF: 5.00 ft

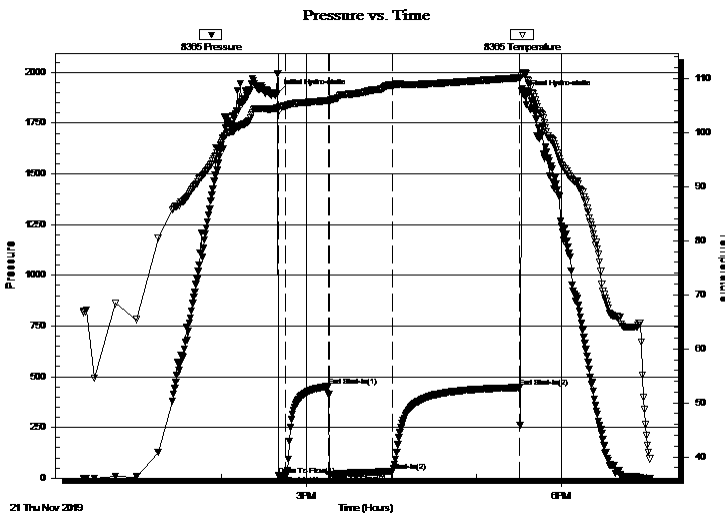
Serial #: 8365

Inside

Press@RunDepth: 33.27 psig @ 3912.00 ft (KB) Capacity: psig
 Start Date: 2019.11.21 End Date: 2019.11.21 Last Calib.: 2019.11.21
 Start Time: 12:23:01 End Time: 19:03:02 Time On Btm: 2019.11.21 @ 14:39:32
 Time Off Btm: 2019.11.21 @ 17:33:32

TEST COMMENT: IF 5 Minutes/ Blow built to 1/4 inch
 ISI 30 Minutes/ No blow back
 FF 45 Minutes/ Blow built to 1 inch
 FSI 90 Minutes/ No blow back

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1896.61	104.50	Initial Hydro-static
2	14.23	103.88	Open To Flow (1)
6	15.45	104.97	Shut-In(1)
37	451.93	105.93	End Shut-In(1)
37	17.61	105.93	Open To Flow (2)
82	33.27	108.73	Shut-In(2)
171	446.83	110.16	End Shut-In(2)
174	1891.61	111.04	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
45.00	Mud 100%	0.22

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Norstar Petroleum Inc
 88 Inverness Cir. E Unit F104
 Englewood, CO 80112
 ATTN: Larry Friend

31-14S-21W Trego, KS

CBCF #7-31

Job Ticket: 66268

DST#: 1

Test Start: 2019.11.21 @ 12:23:00

GENERAL INFORMATION:

Formation: **Cherokee B Sand**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 14:40:47
 Time Test Ended: 19:03:02
 Interval: **3911.00 ft (KB) To 3939.00 ft (KB) (TVD)**
 Total Depth: 3939.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Ken Swinney
 Unit No: 72
 Reference Elevations: 2071.00 ft (KB)
 2066.00 ft (CF)
 KB to GR/CF: 5.00 ft

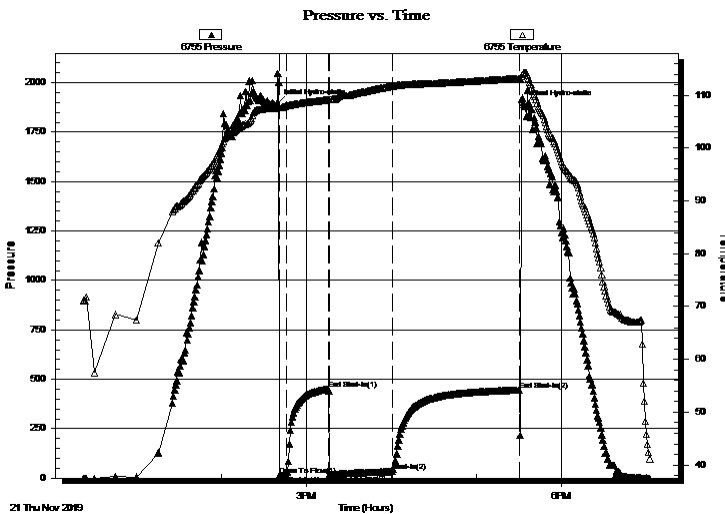
Serial #: 6755

Outside

Press@RunDepth: 445.28 psig @ 3913.00 ft (KB) Capacity: psig
 Start Date: 2019.11.21 End Date: 2019.11.21 Last Calib.: 2019.11.21
 Start Time: 12:23:01 End Time: 19:03:02 Time On Btm: 2019.11.21 @ 14:39:47
 Time Off Btm: 2019.11.21 @ 17:33:47

TEST COMMENT: IF 5 Minutes/ Blow built to 1/4 inch
 ISI 30 Minutes/ No blow back
 FF 45 Minutes/ Blow built to 1 inch
 FSI 90 Minutes/ No blow back

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1894.89	107.65	Initial Hydro-static
2	14.67	107.63	Open To Flow (1)
7	15.75	108.01	Shut-In(1)
36	450.14	109.14	End Shut-In(1)
37	17.84	109.16	Open To Flow (2)
82	33.58	111.73	Shut-In(2)
171	445.28	113.22	End Shut-In(2)
174	1888.41	114.27	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
45.00	Mud 100%	0.22

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Norstar Petroleum Inc
88 Inverness Cir. E Unit F104
Englewood, CO 80112
ATTN: Larry Friend

31-14S-21W Trego,KS
CBCF #7-31
Job Ticket: 66268 **DST#: 1**
Test Start: 2019.11.21 @ 12:23:00

Tool Information

Drill Pipe:	Length: 3795.00 ft	Diameter: 3.80 inches	Volume: 53.23 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: 20000.00 lb
Drill Collar:	Length: 120.00 ft	Diameter: 2.25 inches	Volume: 0.59 bbl	Weight to Pull Loose: 55000.00 lb
			<u>Total Volume: 53.82 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	26.00 ft			String Weight: Initial 48000.00 lb
Depth to Top Packer:	3911.00 ft			Final 48000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	28.00 ft			
Tool Length:	50.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Shut-In Tool	5.00			3894.00	
Hydraulic tool	5.00			3899.00	
Safety Joint	2.00			3901.00	
Top Packer	5.00			3906.00	
Packer	5.00			3911.00	22.00 Bottom Of Top Packer
Recorder	1.00	8365	Inside	3912.00	
Recorder	1.00	6755	Outside	3913.00	
Anchor	23.00			3936.00	
Bullnose	3.00			3939.00	28.00 Anchor Tool
Total Tool Length:	50.00				



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Norstar Petroleum Inc

31-14S-21W Trego,KS

88 Inverness Cir. E Unit F104
Englewood, CO 80112

CBCF #7-31

Job Ticket: 66268

DST#: 1

ATTN: Larry Friend

Test Start: 2019.11.21 @ 12:23:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 64.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.77 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 7700.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
45.00	Mud 100%	0.221

Total Length: 45.00 ft Total Volume: 0.221 bbl

Num Fluid Samples: 0

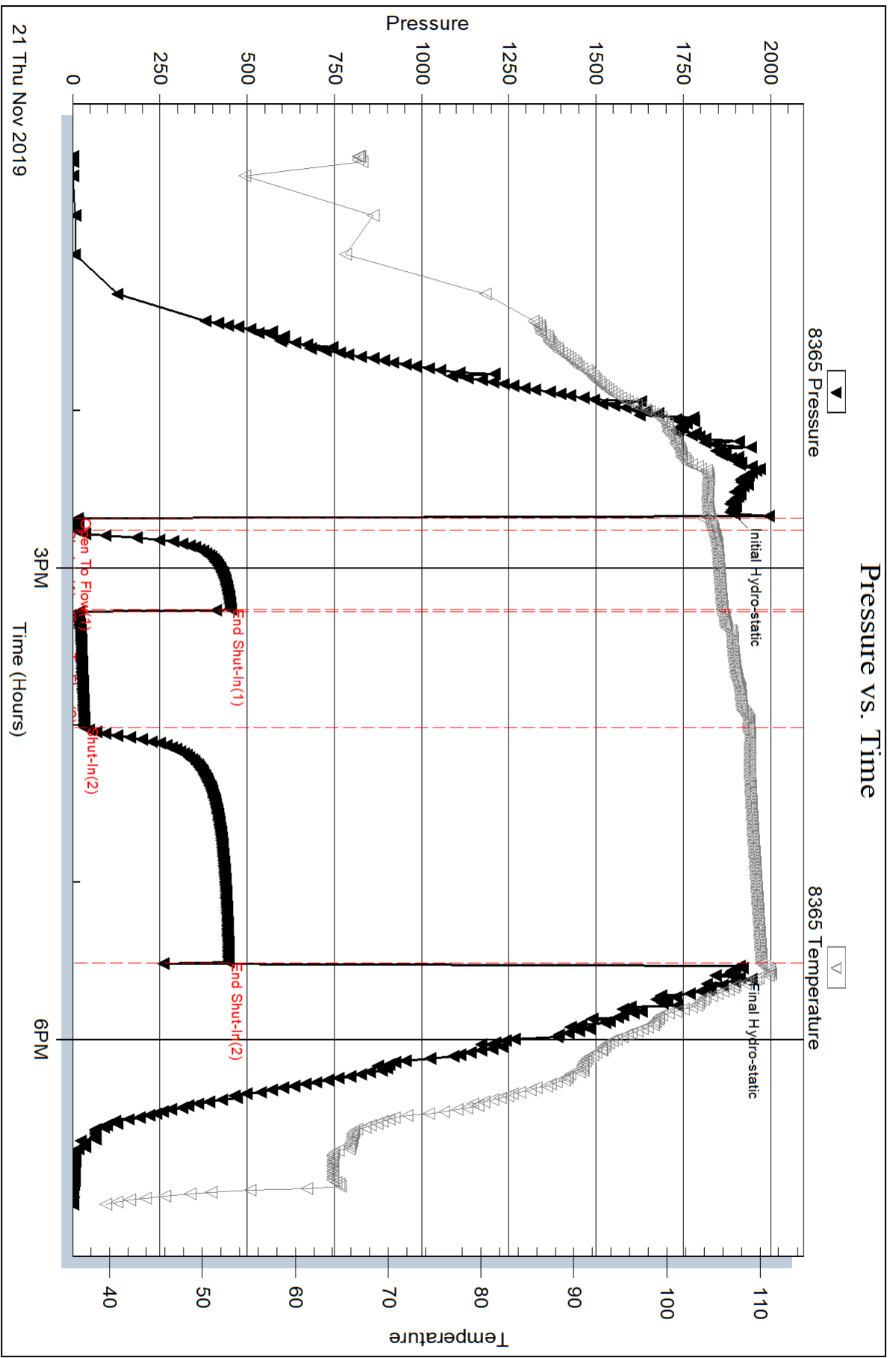
Num Gas Bombs: 0

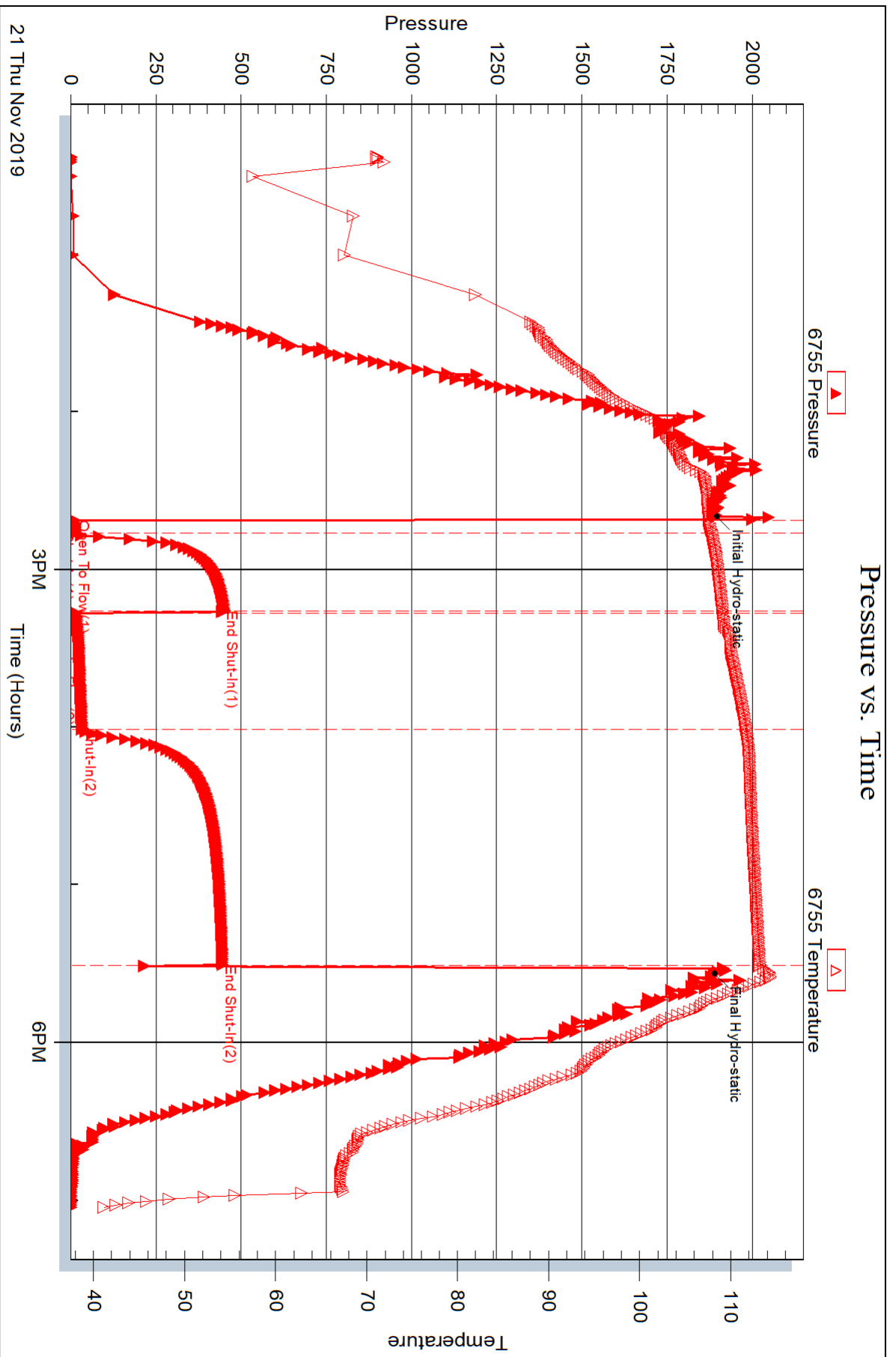
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:







DRILL STEM TEST REPORT

Prepared For: **Norstar Petroleum Inc**

88 Inverness Cir. E Unit F104
Englewood, CO 80112

ATTN: Larry Friend

CBCF #7-31

31-14S-21W Trego,KS

Start Date: 2019.11.21 @ 15:47:00

End Date: 2019.11.21 @ 22:49:02

Job Ticket #: 66269 DST #: 2

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

Printed: 2019.11.25 @ 14:49:36

Norstar Petroleum Inc
31-14S-21W Trego,KS
CBCF #7-31
DST # 2
Upper Kutina Sand
2019.11.21



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Norstar Petroleum Inc
 88 Inverness Cir. E Unit F104
 Englewood, CO 80112
 ATTN: Larry Friend

31-14S-21W Trego, KS

CBCF #7-31

Job Ticket: 66269

DST#: 2

Test Start: 2019.11.21 @ 15:47:00

GENERAL INFORMATION:

Formation: **Upper Kutina Sand**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 18:02:02

Time Test Ended: 22:49:02

Test Type: Conventional Bottom Hole (Initial)

Tester: Ken Swinney

Unit No: 72

Interval: **3944.00 ft (KB) To 3963.00 ft (KB) (TVD)**

Reference Elevations: 2071.00 ft (KB)

Total Depth: 3963.00 ft (KB) (TVD)

2066.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 8365

Inside

Press@RunDepth: 64.30 psig @ 3945.00 ft (KB)

Capacity: psig

Start Date: 2019.11.21

End Date:

2019.11.21

Last Calib.:

2019.11.21

Start Time: 15:47:01

End Time:

22:49:02

Time On Btm:

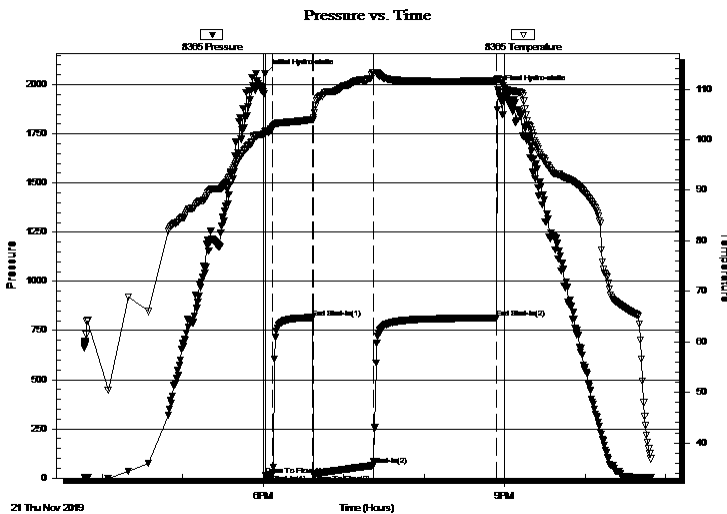
2019.11.21 @ 18:01:32

Time Off Btm:

2019.11.21 @ 20:55:02

TEST COMMENT: IF 5 Minutes/ Blow built to 1 1/2 inch
 ISI 30 Minutes/ No blow back
 FF 45 Minutes/ Blow built to 3 1/2 inch
 FSI 90 Minutes/ No blow back

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2057.26	101.61	Initial Hydro-static
1	14.67	101.47	Open To Flow (1)
6	18.55	102.47	Shut-In(1)
36	816.03	104.03	End Shut-In(1)
36	20.86	103.96	Open To Flow (2)
81	64.30	113.31	Shut-In(2)
173	814.05	111.78	End Shut-In(2)
174	1975.83	112.00	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
120.00	OSWM/ O 1% W 39% M 60%	0.59

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Norstar Petroleum Inc
 88 Inverness Cir. E Unit F104
 Englewood, CO 80112
 ATTN: Larry Friend

31-14S-21W Trego, KS

CBCF #7-31

Job Ticket: 66269

DST#: 2

Test Start: 2019.11.21 @ 15:47:00

GENERAL INFORMATION:

Formation: **Upper Kutina Sand**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 18:02:02

Time Test Ended: 22:49:02

Test Type: Conventional Bottom Hole (Initial)

Tester: Ken Swinney

Unit No: 72

Interval: **3944.00 ft (KB) To 3963.00 ft (KB) (TVD)**

Reference Elevations: 2071.00 ft (KB)

Total Depth: 3963.00 ft (KB) (TVD)

2066.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 6755 Outside

Press@RunDepth: 812.43 psig @ 3946.00 ft (KB)

Capacity: psig

Start Date: 2019.11.21

End Date:

2019.11.21

Last Calib.:

2019.11.21

Start Time: 15:47:01

End Time:

22:49:02

Time On Btm:

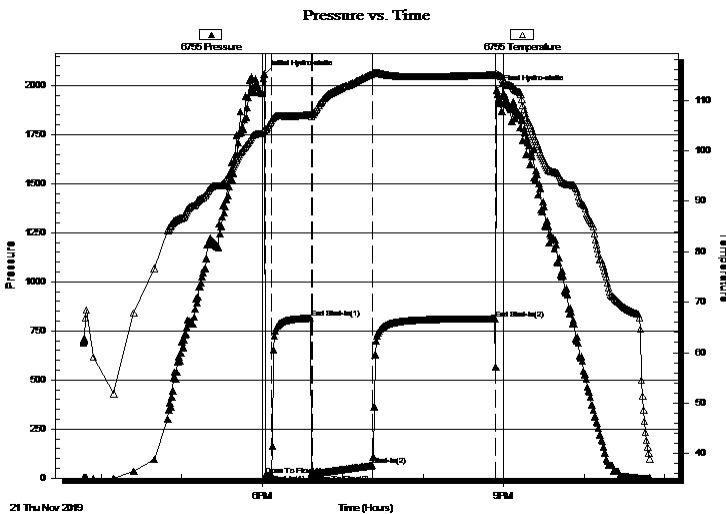
2019.11.21 @ 18:01:32

Time Off Btm:

2019.11.21 @ 20:55:02

TEST COMMENT: IF 5 Minutes/ Blow built to 1 1/2 inch
 ISI 30 Minutes/ No blow back
 FF 45 Minutes/ Blow built to 3 1/2 inch
 FSI 90 Minutes/ No blow back

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2056.14	103.96	Initial Hydro-static
1	15.47	104.24	Open To Flow (1)
6	18.63	105.96	Shut-In(1)
35	814.13	107.17	End Shut-In(1)
36	21.17	107.08	Open To Flow (2)
81	64.24	115.28	Shut-In(2)
173	812.43	115.01	End Shut-In(2)
174	1977.69	115.20	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
120.00	OSWM/ O 1% W 39% M 60%	0.59

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Norstar Petroleum Inc
88 Inverness Cir. E Unit F104
Englewood, CO 80112
ATTN: Larry Friend

31-14S-21W Trego,KS
CBCF #7-31
Job Ticket: 66269 **DST#: 2**
Test Start: 2019.11.21 @ 15:47:00

Tool Information

Drill Pipe:	Length: 3827.00 ft	Diameter: 3.80 inches	Volume: 53.68 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: 20000.00 lb
Drill Collar:	Length: 120.00 ft	Diameter: 2.25 inches	Volume: 0.59 bbl	Weight to Pull Loose: 52000.00 lb
			<u>Total Volume: 54.27 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	25.00 ft			String Weight: Initial 48000.00 lb
Depth to Top Packer:	3944.00 ft			Final 48000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	19.00 ft			
Tool Length:	41.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Shut-In Tool	5.00			3927.00	
Hydraulic tool	5.00			3932.00	
Safety Joint	2.00			3934.00	
Top Packer	5.00			3939.00	
Packer	5.00			3944.00	22.00 Bottom Of Top Packer
Recorder	1.00	8365	Inside	3945.00	
Recorder	1.00	6755	Outside	3946.00	
Anchor	14.00			3960.00	
Bullnose	3.00			3963.00	19.00 Anchor Tool
Total Tool Length:	41.00				



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Norstar Petroleum Inc

31-14S-21W Trego,KS

88 Inverness Cir. E Unit F104
Englewood, CO 80112

CBCF #7-31

Job Ticket: 66269

DST#: 2

ATTN: Larry Friend

Test Start: 2019.11.21 @ 15:47:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

15000 ppm

Viscosity: 55.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.98 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 7900.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
120.00	OSWM/ O 1% W 39% M 60%	0.590

Total Length: 120.00 ft Total Volume: 0.590 bbl

Num Fluid Samples: 0

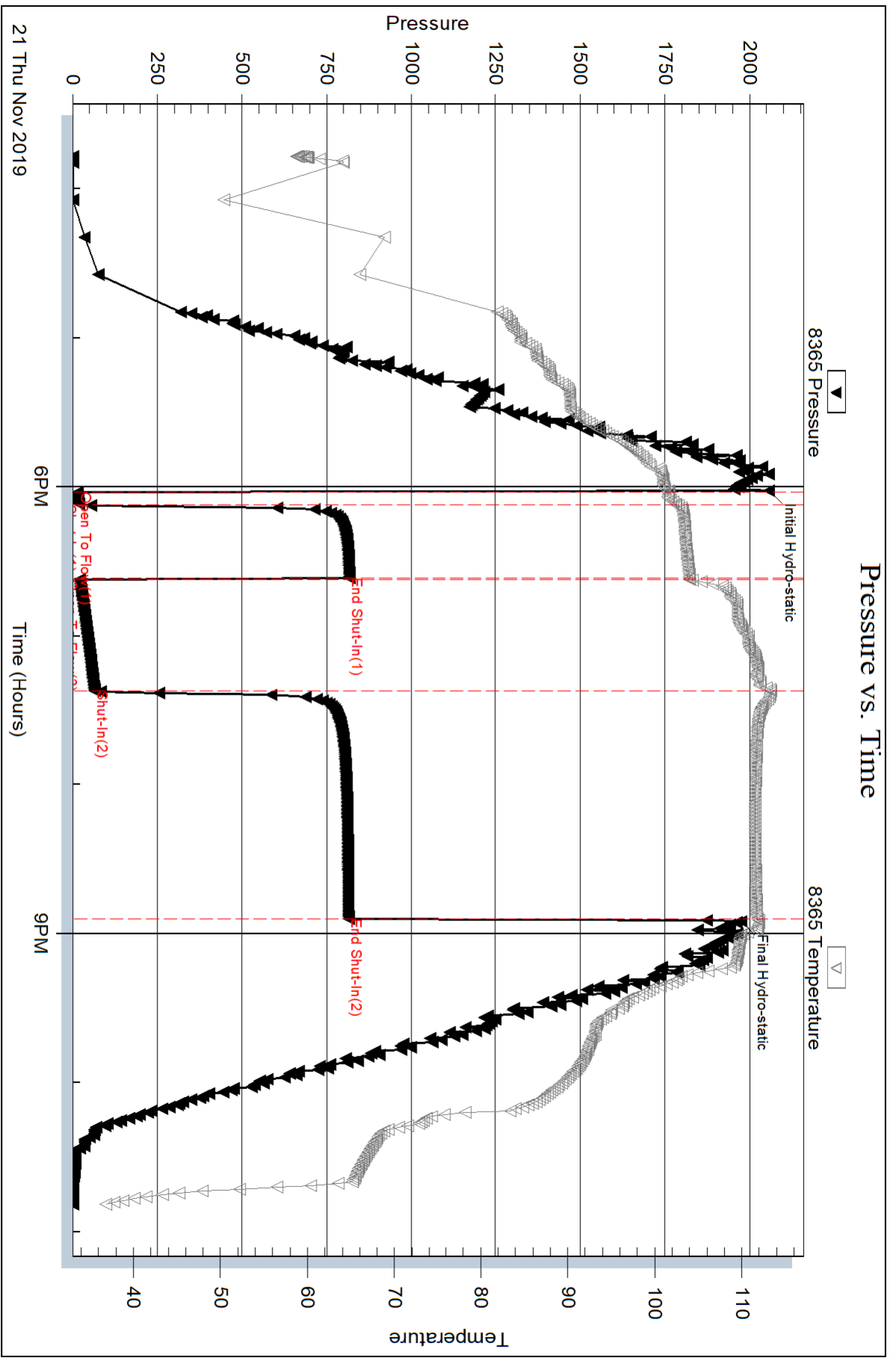
Num Gas Bombs: 0

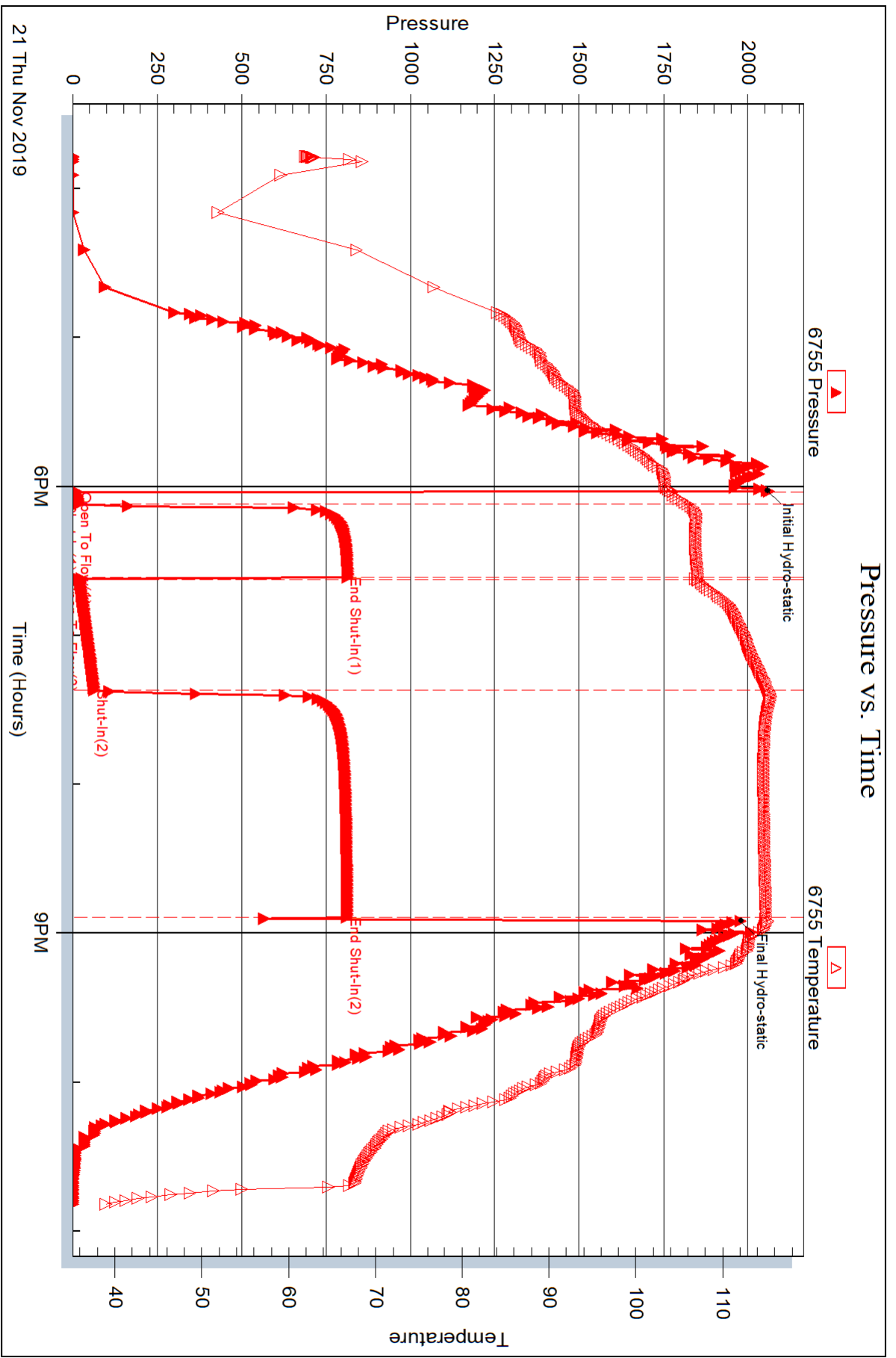
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Recovery Resistivity .593 ohms @ 51 deg.







DRILL STEM TEST REPORT

Prepared For: **Norstar Petroleum Inc**

88 Inverness Cir. E Unit F104
Englewood, CO 80112

ATTN: Larry Friend

CBCF #7-31

31-14S-21W Trego,KS

Start Date: 2019.11.22 @ 05:54:00

End Date: 2019.11.22 @ 11:36:02

Job Ticket #: 66270 DST #: 3

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

Printed: 2019.11.25 @ 14:49:08



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Norstar Petroleum Inc
 88 Inverness Cir. E Unit F104
 Englewood, CO 80112
 ATTN: Larry Friend

31-14S-21W Trego, KS

CBCF #7-31

Job Ticket: 66270

DST#: 3

Test Start: 2019.11.22 @ 05:54:00

GENERAL INFORMATION:

Formation: **Kutina Sand**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 08:03:02

Time Test Ended: 11:36:02

Test Type: Conventional Bottom Hole (Initial)

Tester: Ken Swinney

Unit No: 72

Interval: 3964.00 ft (KB) To 3971.00 ft (KB) (TVD)

Reference Elevations: 2071.00 ft (KB)

Total Depth: 3971.00 ft (KB) (TVD)

2066.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 8365

Inside

Press@RunDepth: 148.62 psig @ 3965.00 ft (KB)

Capacity: psig

Start Date: 2019.11.22

End Date:

2019.11.22

Last Calib.:

2019.11.22

Start Time: 05:54:01

End Time:

11:36:02

Time On Btm:

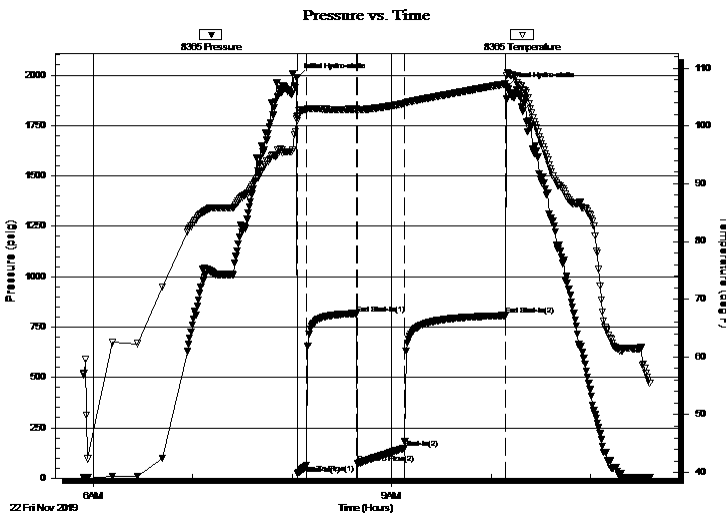
2019.11.22 @ 08:02:47

Time Off Btm:

2019.11.22 @ 10:09:32

TEST COMMENT: IF 5 Minutes/ Blow built to 4 1/2 inches
 ISI 30 Minutes/ Surface blow back
 FF 30 Minutes/ Blow built to BOB in 18 minutes/ Total build 20 inches
 FSI 60 Minutes/ 1/4 inch blow back

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1988.29	101.63	Initial Hydro-static
1	22.20	100.88	Open To Flow (1)
6	62.60	102.83	Shut-In(1)
36	816.91	102.92	End Shut-In(1)
37	71.41	102.81	Open To Flow (2)
65	148.62	103.90	Shut-In(2)
126	807.36	107.33	End Shut-In(2)
127	1942.92	109.26	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
278.00	MW / M 10% W 90%	2.81

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Norstar Petroleum Inc
 88 Inverness Cir. E Unit F104
 Englewood, CO 80112
 ATTN: Larry Friend

31-14S-21W Trego, KS

CBCF #7-31

Job Ticket: 66270

DST#: 3

Test Start: 2019.11.22 @ 05:54:00

GENERAL INFORMATION:

Formation: **Kutina Sand**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 08:03:02

Time Test Ended: 11:36:02

Test Type: Conventional Bottom Hole (Initial)

Tester: Ken Swinney

Unit No: 72

Interval: **3964.00 ft (KB) To 3971.00 ft (KB) (TVD)**

Reference Elevations: 2071.00 ft (KB)

Total Depth: 3971.00 ft (KB) (TVD)

2066.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 6755 Outside

Press@RunDepth: 805.58 psig @ 3966.00 ft (KB)

Capacity: psig

Start Date: 2019.11.22

End Date:

2019.11.22

Last Calib.:

2019.11.22

Start Time: 05:54:01

End Time:

11:36:02

Time On Btm:

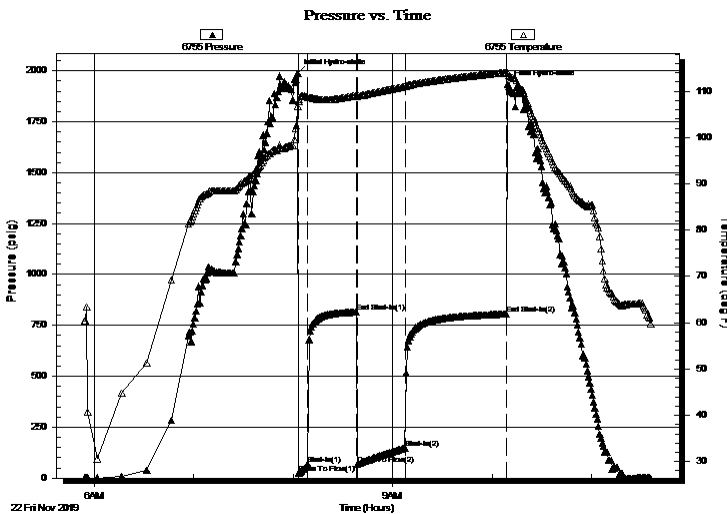
2019.11.22 @ 08:02:47

Time Off Btm:

2019.11.22 @ 10:09:32

TEST COMMENT: IF 5 Minutes/ Blow built to 4 1/2 inches
 ISI 30 Minutes/ Surface blow back
 FF 30 Minutes/ Blow built to BOB in 18 minutes/ Total build 20 inches
 FSI 60 Minutes/ 1/4 inch blow back

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1987.35	106.69	Initial Hydro-static
1	22.98	107.75	Open To Flow (1)
6	67.90	108.72	Shut-In(1)
36	815.36	109.12	End Shut-In(1)
36	69.08	108.96	Open To Flow (2)
65	148.78	111.05	Shut-In(2)
126	805.58	114.09	End Shut-In(2)
127	1933.25	113.96	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
278.00	MW / M 10% W 90%	2.81

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Norstar Petroleum Inc
88 Inverness Cir. E Unit F104
Englewood, CO 80112
ATTN: Larry Friend

31-14S-21W Trego,KS
CBCF #7-31
Job Ticket: 66270 **DST#: 3**
Test Start: 2019.11.22 @ 05:54:00

Tool Information

Drill Pipe:	Length: 3827.00 ft	Diameter: 3.80 inches	Volume: 53.68 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: 20000.00 lb
Drill Collar:	Length: 120.00 ft	Diameter: 2.25 inches	Volume: 0.59 bbl	Weight to Pull Loose: 75000.00 lb
			<u>Total Volume: 54.27 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	10.00 ft			String Weight: Initial 48000.00 lb
Depth to Top Packer:	3964.00 ft			Final 49000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	7.00 ft			
Tool Length:	34.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Shut-In Tool	5.00			3942.00	
Hydraulic tool	5.00			3947.00	
Jars	5.00			3952.00	
Safety Joint	2.00			3954.00	
Top Packer	5.00			3959.00	
Packer	5.00			3964.00	27.00 Bottom Of Top Packer
Recorder	1.00	8365	Inside	3965.00	
Recorder	1.00	6755	Outside	3966.00	
Anchor	2.00			3968.00	
Bullnose	3.00			3971.00	7.00 Anchor Tool
Total Tool Length:	34.00				



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Norstar Petroleum Inc

31-14S-21W Trego,KS

88 Inverness Cir. E Unit F104
Englewood, CO 80112

CBCF #7-31

Job Ticket: 66270

DST#: 3

ATTN: Larry Friend

Test Start: 2019.11.22 @ 05:54:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

26000 ppm

Viscosity: 55.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.98 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 7900.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
278.00	MW / M 10% W 90%	2.806

Total Length: 278.00 ft Total Volume: 2.806 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Recovery Resistivity .460 ohms @ 38 deg.

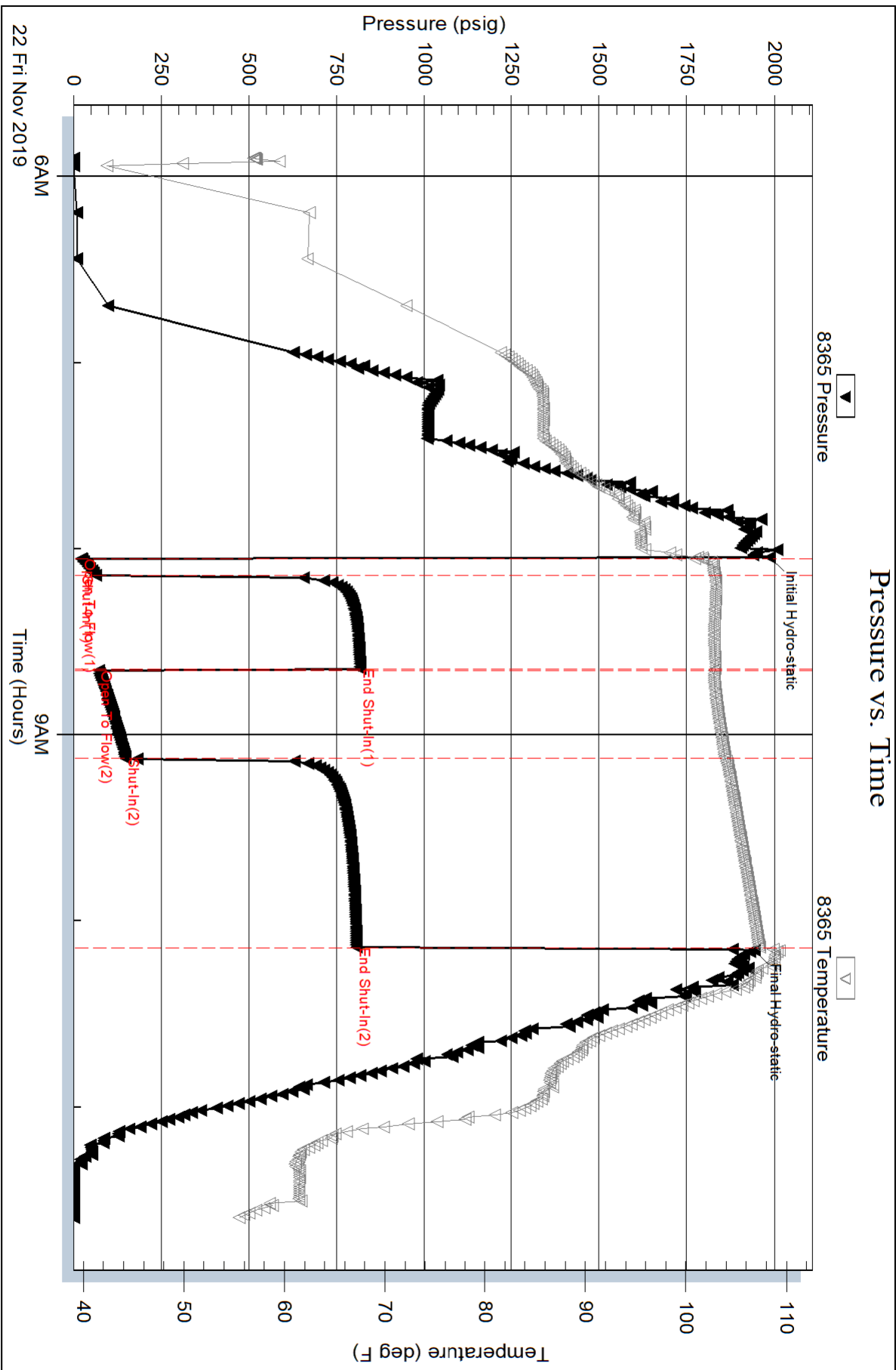
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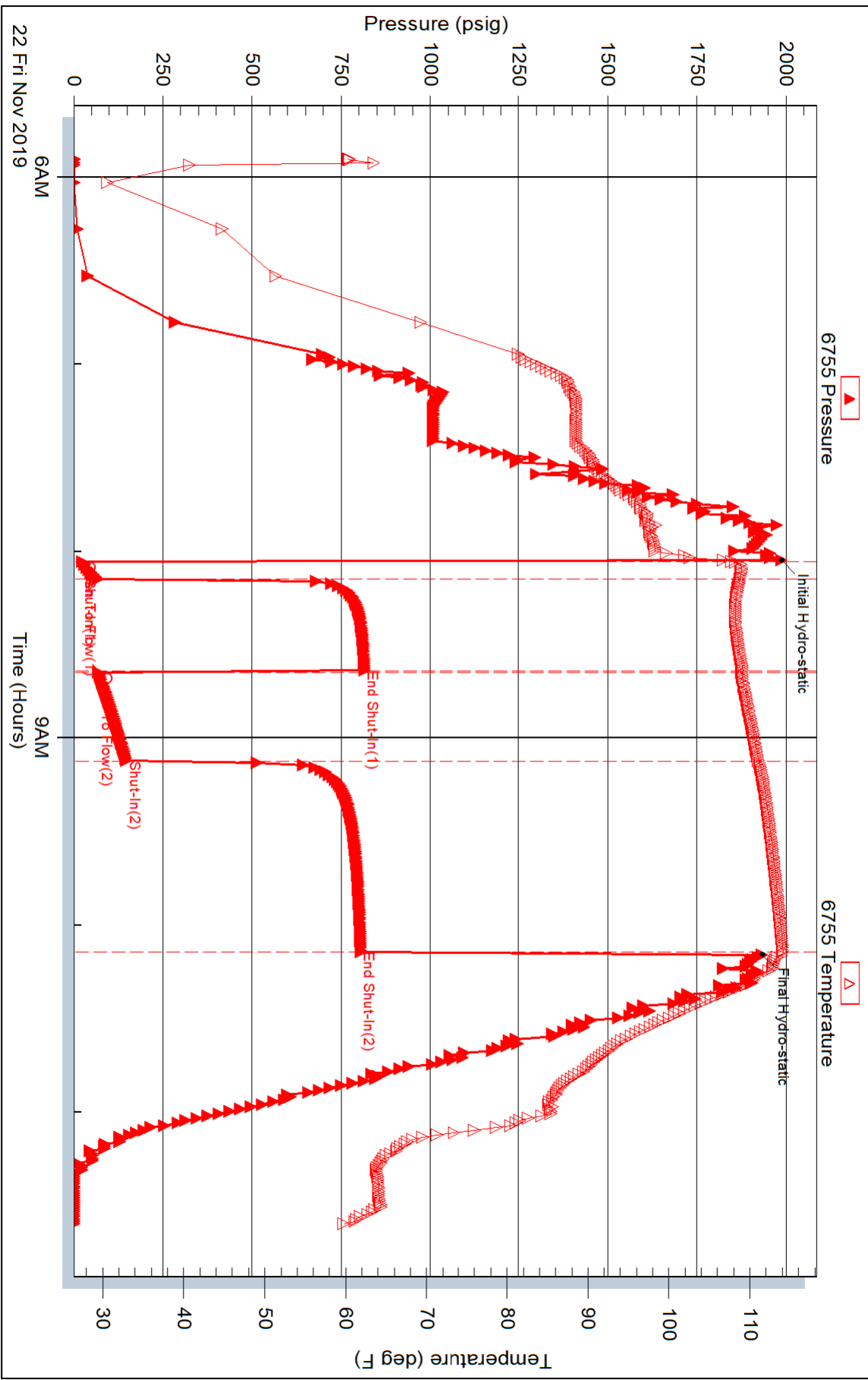
Norstar Petroleum Inc

CBOF #7-31

DST Test Number: 3



Pressure vs. Time





TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket 66268

NO.

Well Name & No. CBCF 7-31 Test No. 1 Date 20 NOV 19
 Company Norstar Petroleum Inc Elevation 2071 KB 2066 GL
 Address 88 Inverness Cir E Unit F104 Englewood Colorado 80112+5514
 Co. Rep / Geo. Larry Friend Rig WW Rig 108
 Location: Sec. 31 Twp 14S Rge. 21W Co. Trego State KS

Interval Tested 3911-3939 Zone Tested Cherokee B Sand
 Anchor Length 28 Drill Pipe Run 3795 Mud Wt. 9.3
 Top Packer Depth 3906 Drill Collars Run 120 Vis 64
 Bottom Packer Depth 3911 Wt. Pipe Run — WL 7.8
 Total Depth 3939 Chlorides 7700 ppm System LCM 2#

Blow Description IF Blow built to 1/4 inch
ISF No blowback
FF Blow built to 1 inch
FSE No blowback

Rec	Feet of	%gas	%oil	%water	%mud
<u>45</u>	<u>Mud</u>				<u>100</u>

Rec Total 45 BHT 108 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 1896 Test 1200 T-On Location 10:47pm
 (B) First Initial Flow 14 Jars _____ T-Started 1223 am
 (C) First Final Flow 15 Safety Joint 75 T-Open 241 am
 (D) Initial Shut-In 457 Circ Sub _____ T-Pulled 531 am
 (E) Second Initial Flow 17 Hourly Standby _____ T-Out 705 am
 (F) Second Final Flow 33 Mileage 84 84 Comments _____
 (G) Final Shut-In 446 Sampler _____
 (H) Final Hydrostatic 1891 Straddle _____ EM Tool _____
 Shale Packer _____ Ruined Shale Packer _____
 Extra Packer _____ Ruined Packer _____
 Extra Recorder _____ Extra Copies _____
 Day Standby _____ Sub Total 0
 Accessibility _____ Total 1359
 Sub Total 1359 MP/DST Disc't _____

Approved By Larry Friend 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 66269

NO.

Well Name & No. CBCF 7-31 Test No. 2 Date 21 NOV 19
 Company Notstar Petroleum Inc Elevation 2071 KB 2066 GL
 Address 88 Inverness Cir, E Unit F104 Englewood CO 80112+5514
 Co. Rep / Geo. Larry Friend Rig WW Rig 108
 Location: Sec. 31 Twp 14S Rge. 21W Co. Trego State KS

Interval Tested 3944-3963 Zone Tested Upper Kutina Sand
 Anchor Length 19 Drill Pipe Run 3827 Mud Wt. 9.3
 Top Packer Depth 3939 Drill Collars Run 120 Vis 55
 Bottom Packer Depth 3944 Wt. Pipe Run - WL 8.0
 Total Depth 3963 Chlorides 7900 ppm System LCM 2#

Blow Description FF Blow built to 1 1/2 inch
ISF No blow back
FF Blow built to 3 1/2 inch
FSI No blow back

Rec	Feet of	%gas	%oil	%water	%mud
<u>120</u>	<u>050m</u>			<u>39%</u>	<u>60%</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 120 BHT 113 Gravity _____ API RW .593@ 51 °F Chlorides 15,000 ppm

(A) Initial Hydrostatic <u>2057</u>	<input checked="" type="checkbox"/> Test <u>1200</u>	T-On Location <u>2:43 pm</u>
(B) First Initial Flow <u>14</u>	<input type="checkbox"/> Jars _____	T-Started <u>3:47 pm</u>
(C) First Final Flow <u>18</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>6:02 pm</u>
(D) Initial Shut-In <u>816</u>	<input type="checkbox"/> Circ Sub _____	T-Pulled <u>8:52 pm</u>
(E) Second Initial Flow <u>20</u>	<input type="checkbox"/> Hourly Standby _____	T-Out <u>10:50 pm</u>
(F) Second Final Flow <u>64</u>	<input checked="" type="checkbox"/> Mileage <u>84</u> <u>84</u>	Comments _____
(G) Final Shut-In <u>814</u>	<input type="checkbox"/> Sampler _____	_____
(H) Final Hydrostatic <u>1975</u>	<input type="checkbox"/> Straddle _____	_____

Initial Open <u>5</u>	<input type="checkbox"/> Shale Packer _____	<input type="checkbox"/> EM Tool _____
Initial Shut-In <u>30</u>	<input type="checkbox"/> Extra Packer _____	<input type="checkbox"/> Ruined Shale Packer _____
Final Flow <u>45</u>	<input type="checkbox"/> Extra Recorder _____	<input type="checkbox"/> Ruined Packer _____
Final Shut-In <u>20</u>	<input type="checkbox"/> Day Standby _____	<input type="checkbox"/> Extra Copies _____
	<input type="checkbox"/> Accessibility _____	Sub Total <u>0</u>
	Sub Total <u>1359</u>	Total <u>1359</u>

Approved By [Signature] 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 66270

NO.

Well Name & No. CRCF 7-31 Test No. 3 Date 22 NOV 19
 Company Norstar Petroleum Inc. Elevation 2071 KB 2066 GL
 Address 88 Inverness Cir E Unit F104 Englewood CO 80112-5514
 Co. Rep/Geo. Larry Friend Rig WW Rig 108
 Location: Sec. 31 Twp 14S Rge. 21W Co. Trego State KS

Interval Tested 3964-3971 Zone Tested Katina Sand
 Anchor Length 7 Drill Pipe Run 3827 Mud Wt. 9.3
 Top Packer Depth 3959 Drill Collars Run 120 Vis 55
 Bottom Packer Depth 3964 Wt. Pipe Run — WL 8.0
 Total Depth 3971 Chlorides 7900 ppm System LCM 2#

Blow Description IF Blow built to 4 1/2 inches
ESI Surface b/w back
FF Blow to BOB 19 minutes / Total build 20 inches
FSI 1/4 inch blow back

Rec	Feet of	%gas	%oil	%water	%mud
<u>278</u>	<u>Mud</u>			<u>90</u>	<u>10</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 278 BHT 107 Gravity _____ API RW 460 @ 38° F Chlorides 26000 ppm

(A) Initial Hydrostatic <u>1998</u>	<input checked="" type="checkbox"/> Test <u>1200</u>	T-On Location <u>4:40 am</u>
(B) First Initial Flow <u>22</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>5:54 am</u>
(C) First Final Flow <u>62</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>8:03 am</u>
(D) Initial Shut-In <u>816</u>	<input type="checkbox"/> Circ Sub _____	T-Pulled <u>10:08 am</u>
(E) Second Initial Flow <u>71</u>	<input type="checkbox"/> Hourly Standby _____	T-Out <u>11:37 am</u>
(F) Second Final Flow <u>148</u>	<input checked="" type="checkbox"/> Mileage <u>84</u> 168	Comments _____
(G) Final Shut-In <u>807</u>	<input type="checkbox"/> Sampler _____	<u>loaded tools 4:45 11/23</u>
(H) Final Hydrostatic <u>1942</u>	<input type="checkbox"/> Straddle _____	<input type="checkbox"/> EM Tool _____

Initial Open <u>5</u>	<input type="checkbox"/> Shale Packer _____	<input type="checkbox"/> Ruined Shale Packer _____
Initial Shut-In <u>30</u>	<input type="checkbox"/> Extra Packer _____	<input type="checkbox"/> Ruined Packer _____
Final Flow <u>30</u>	<input type="checkbox"/> Extra Recorder _____	<input type="checkbox"/> Extra Copies _____
Final Shut-In <u>60</u>	<input type="checkbox"/> Day Standby _____	Sub Total <u>0</u>
	<input type="checkbox"/> Accessibility _____	Total <u>1693</u>
	Sub Total <u>1693</u>	MP/DST Disc't _____

Approved By Larry Friend Our Representative [Signature]

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WELL INFORMATION

Company: NORSTAR PETROLEUM INC.
 Address: 88 INVERNESS CIR E, UNIT F104
 ENGLEWOOD, CO 80112

Well Name: CBCF #7-31

Location: 1071' FNL & 1258' FWL
 SECTION 31-T14S-R21W
 TREGO COUNTY, KANSAS

API: 15-195-23098-00-00
 Field: MADDIE

K. B. Elevation: 2071 Rotary Depth: 4057
 Ground Elevation: 2066 Log Depth: 4057

Spud Date: 11/16/2019 Drilling Completed: 11/23/2019

Completion: OIL - CHEROKEE B SAND
 Surface Casing: 23#, 8 5/8" SET @ 223 Production Casing: 4.5" SET AT 4055

Formation at TD: MISSISSIPPIAN
 Drilling Fluid Type: CHEMICAL

Rig Contractor: WW, RIG 108
 Logger: ELI Logs Run: DI, CND W/PE, MICRO

Wellsite Geologist: LARRY P. FRIEND

FORMATION DEPTHS

COMPARED TO:
 CRAWFORD OIL CO.
 CBCF 4-31
 846 FNL, 2256 FWL
 31-T14S-R21W

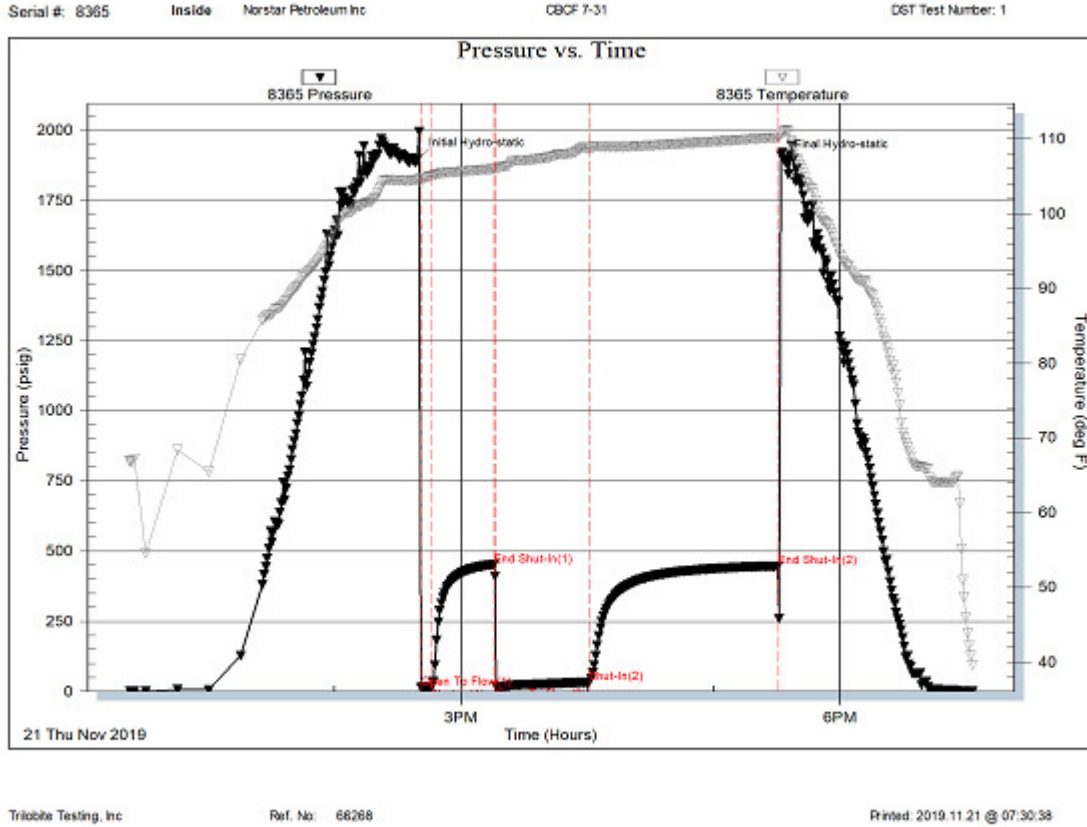
FORMATION DEPTHS	SAMPLE	LOG	
STONE CORRAL	1443 +628	1442 +629	-5
BS STONE CORRAL	1484 +587	1482 +589	-3
HEEBNER SHALE	3437 -1366	3436 -1365	+1
LANSING	3475 -1404	3476 -1405	-1
STARK SHALE	3660 -1589	3660 -1589	-6
BS KANSAS CITY	3736 -1665	3736 -1665	-8
PAWNEE (CORRECTED)	3829 -1758	3829 -1758	-5
LABETTE SHALE	3889 -1818	3889 -1818	-10
FT. SCOTT	3909 -1838	3910 -1839	-12
CHEROKEE B SAND	3934 -1863	3936 -1865	-13
CHEROKEE E SAND	3958 -1887	3958 -1887	-15
KUTINA SAND	3963 -1892	3963 -1892	-15
MISSISSIPPI	4008 -1937	4008 -1937	-12

NOTES

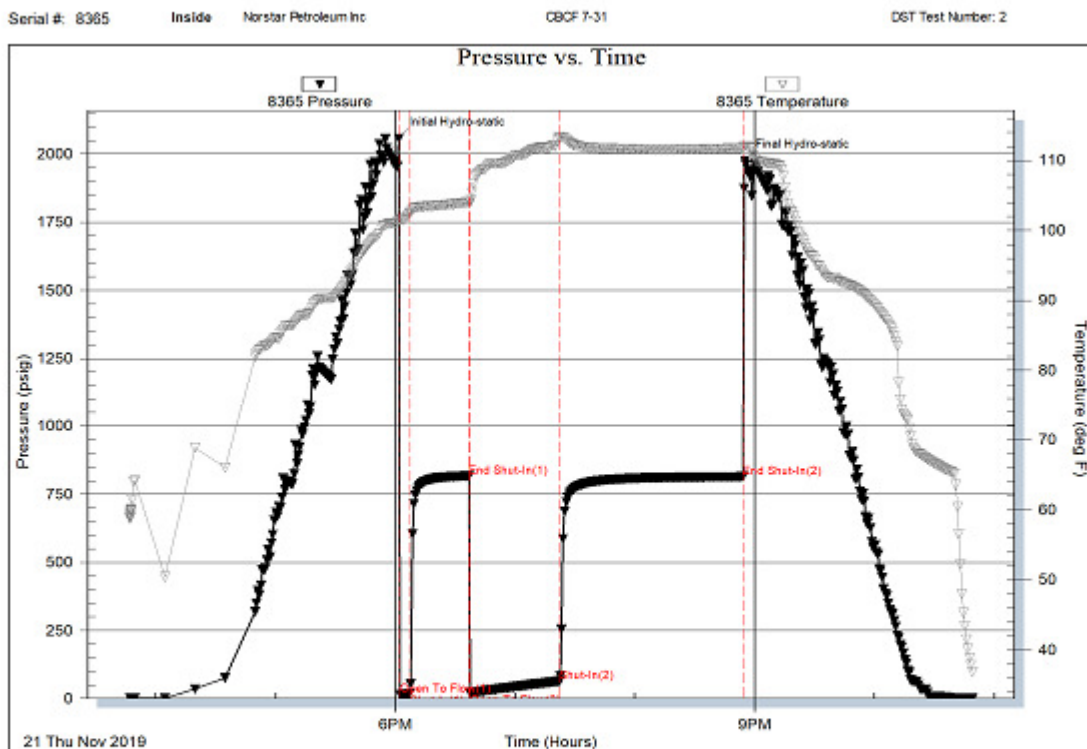
NOTES

DUE TO THE CHEROKEE B SAND (3936-40) HAVING GOOD POROSITY, POSITIVE LOG CALCULATIONS AND SINCE THE SHUT IN PRESSURES ON DST #1 INDICATE THAT THIS WELL IS TAPPED INTO THE CURRENT AREA WIDE CHEROKEE B SAND RESERVOIR, IT WAS DECIDED TO RUN CASING ON THIS WELL AND ATTEMPT PRODUCTION IN THE CHEROKEE B SAND.
LARRY FRIEND

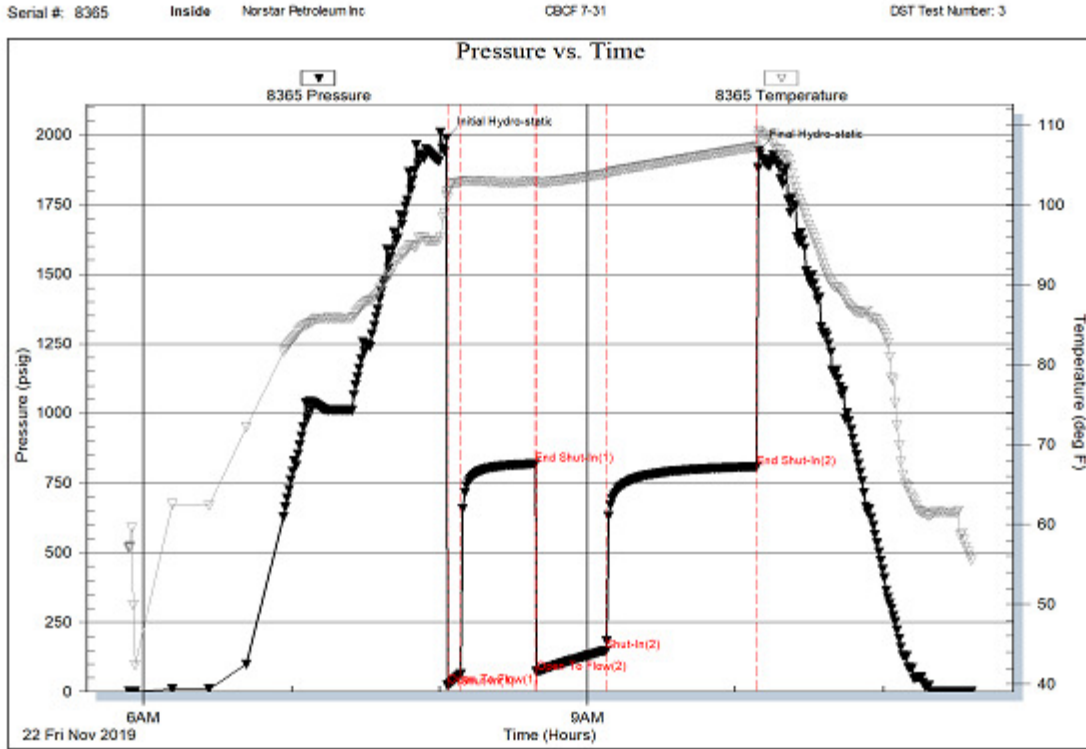
DST #1 CHART: 3911-39 CHEROKEE B SAND, REC: 45' MUD, NS, SIP: 451 - 446#



DST #2 CHART: 3944-63 CHEROKEE E SAND, REC: 120' OIL SPKED WTY MUD, SIP: 816 - 814#



DST #3 CHART: 3964-71 KUTINA SAND: REC: 278' MDY WTR, SIP: 816 - 807#



ROCK TYPES

 Coal	 Ss	 Shcol	 Cht vari
 Lmst fw7>	 Shgy	 Slst	

ACCESSORIES

MINERAL

- Argillaceous
- ⊥ Calcareous
- Carbonaceous Flakes
- ▲ Chert, dark
- ∩ Glauconite
- Sandy
- ∧ Siliceous
- Silty

FOSSIL

- Oolites

OTHER SYMBOLS

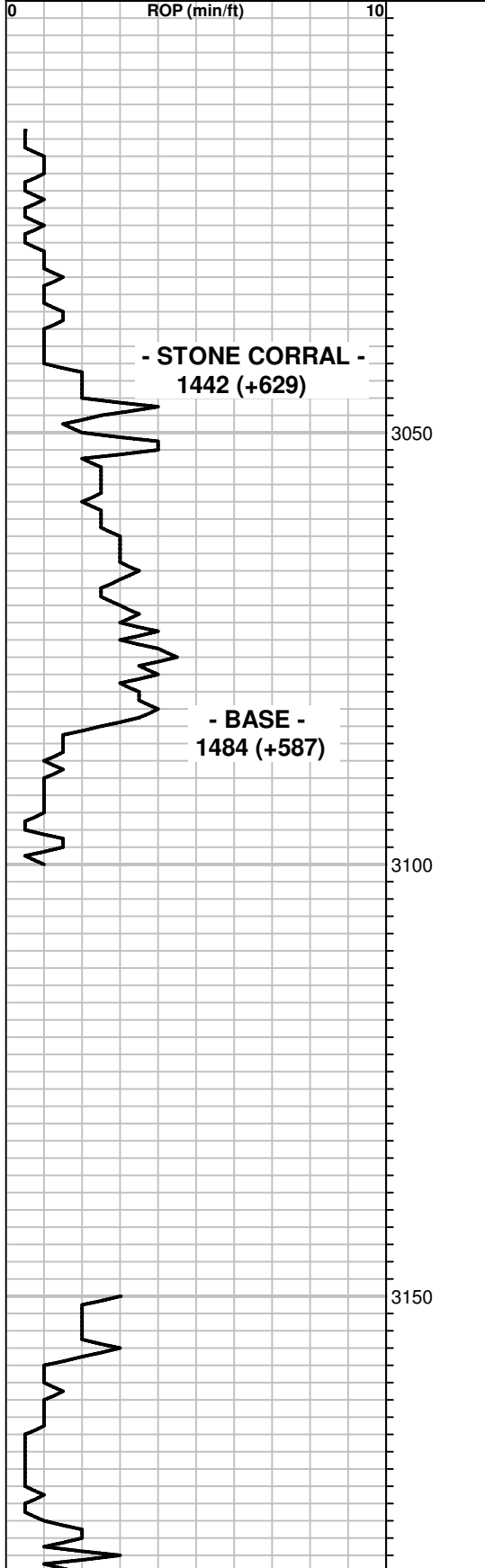
OIL SHOWS

- Even Stn
- Spotted Stn 50 - 75 %
- Spotted Stn 25 - 50 %
- Spotted Stn 1 - 25 %
- Questionable Stn
- D Dead Oil Stn
- Fluorescence

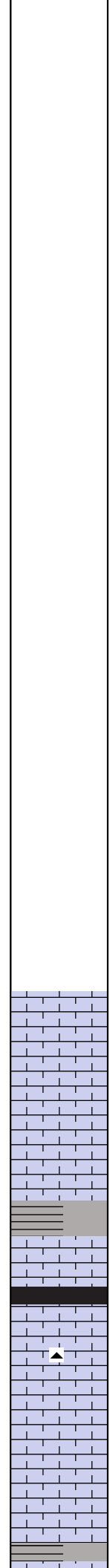
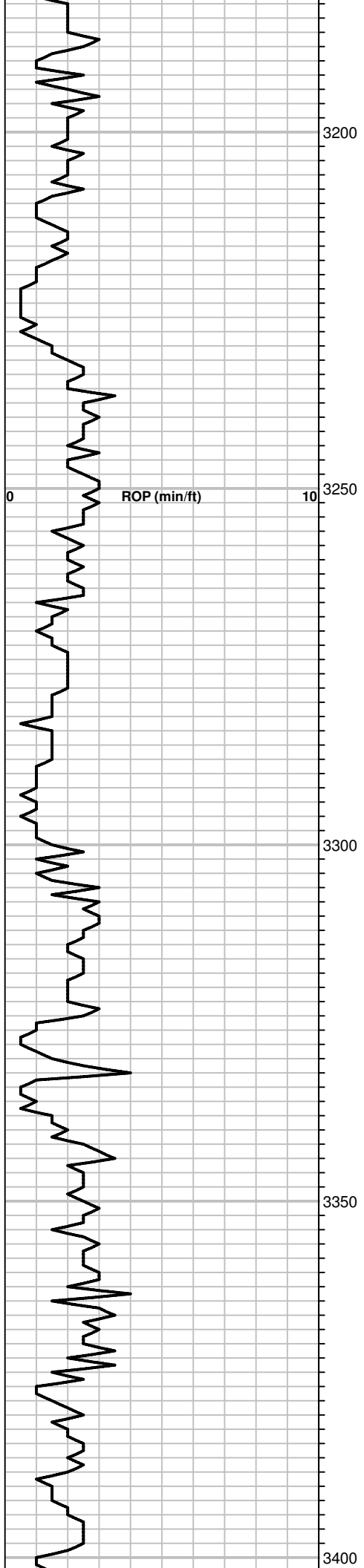
INTERVALS

- Core
- DST

<p>Curve Track #01</p> <p>ROP (min/ft)</p>	<p>Depth Intervals</p> <p>Cored Interval</p> <p>DST Interval</p>	<p>Interpreted Lithology</p>	<p>Oil Shows</p>	<p>Geological Descriptions</p>	<p>Comment</p>
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DEVIATION SURVEYS:
 0.5 DEG @ 223'
 0.5 DEG @ 1213'
 1.0 DEG @ 2219'
 0.75 DEG @ 3003'
 1.25 DEG @ 3939'
 1.25 DEG @ 4057'



3360: LS TAN CESELY FOSS, FR XLN POR, NS

70: LS, AA POOR POR & SHALE, GRY; NS

80: LS, TAN-BRN, V. FOSS, PR-FR XLN POR;
TR. BLK SHALE; NS

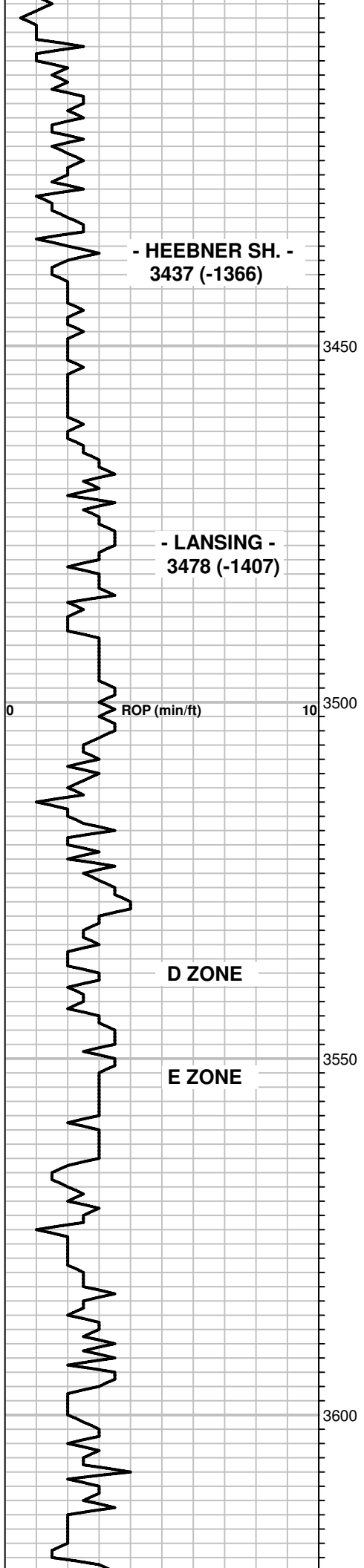
90: LS, BRN, FOSS, PR POR; CHERT, GRY,
SHP; SHALE, GRY; NS

3400: TR LS BRN, GRANULAR, FOSS, FR.
XLN POR; NS

10: LS, BRN, FOSS, PR - TR. FR. XLN POR;
NS

20: LS, AA & TR. BLK SHALE; NS

10 FT. WET & DRY SAMPLES
STARTED AT 3350.

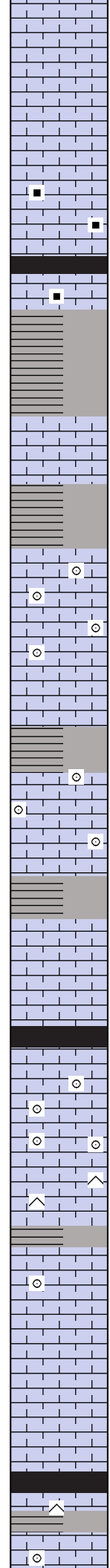


- HEEBNER SH. -
3437 (-1366)

- LANSING -
3478 (-1407)

D ZONE

E ZONE



30 & 40: TR. LS BRN, GRANULAR, FOSS,
FR. GRAN. POR; NS

50: LS, BRN, FOSS, PR POR TO LS CRM
WEATHERED, SLI. CHLKY, SOFT W/ SCAT
BRN CARBONACEOUS MATERIAL; NS

60: LS, BRN, FOSS/ SLI. DETRITAL, PR POR;
TO SOME LS, SLI CHLKY, SOFT W/ SOME
BRN CARBONACEOUS MAT; SHALE, BLK;
NS

70: LS, BRN, VFXLN, PR. POR; NS

80: TR GRY & GRN SHALE; LS, BRN, FOSS
PR. XLN POR; NS

90: LS, BRN, FOSS, FXLN, PR POR; NS

3500: TR. LS, TAN, VFXLN, OOLITIC/ FOSS
PR. VIS. POR; NS

10: TR. LS AS ABV: FXLN, V. OOLITIC/
FOSS, PR. XLN POR; NS

20: LS, AS ABV AND SHALE GRY, GRN
& BRN, CARBONACEOUS; NS

30: SHALE, GRY, GRN & BLK,
CARBONACEOUS

40: LS, TAN-BRN, FXLN, SLI TO V. OOLITIC/
FOSS, SOME POR FILLED W/ CALCITE,
PR - FR. XLN POR; NS

50: TR. LS TAN FXLN SUCROSIC, PR POR
& TR. .LS AS ABV; NS

60: FEW PCS LS SOFT - HARD, PR- FR.
XLN POR W/ PR. SPTY TO TR TOTAL
SAT. STN, TR DK HVY FO, WK CUT, SLI.
ODOR

70: CP PCS LS AS ABV W/ SHOW; 1 PC LS
PR. VIS POR, GD DK BRN TOTAL SAT,
GSFO&G, GD FLUSH CUT, SLI. ODOR

70 & 80: LS, TAN, V. OOLITIC/ FOSS, PR-
TR. FR XLN POR; SMALL AMT GRY CHT; NS

90: LS, TAN, FOSS, SOME CHERTY/ DOL.
HARD, NO VIS POR; NS

3600: MOSTLY LS, TAN, VFXLN, PR POR; NS

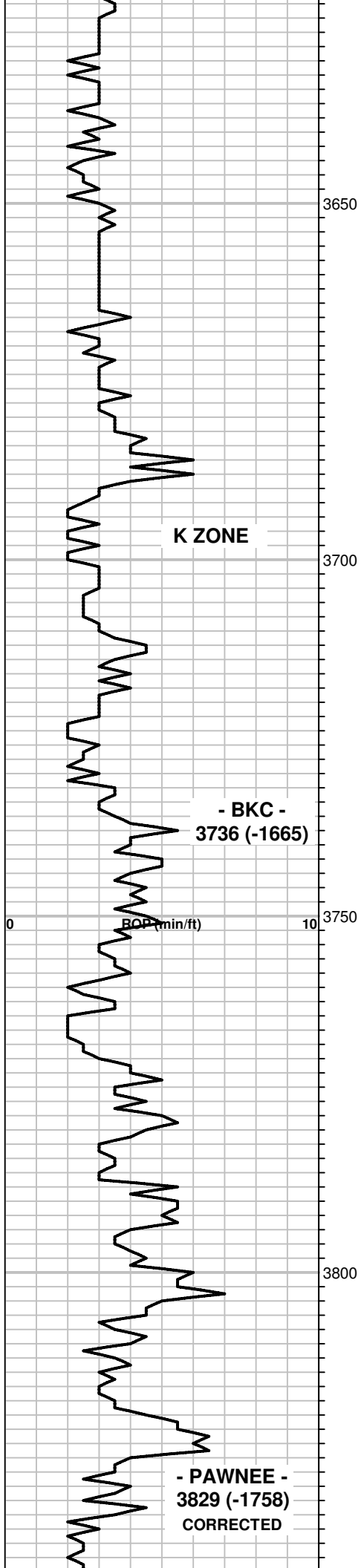
10: LS, TAN, FXLN, SOME FOSS, PR. XLN
POR; NS

20: LS, AS ABV; TR. DK GRY SHALE; NS

30: TR. LS, TAN CHTY, HARD; TR. LS,
SOFT, FOSS, SLI. CHLKY; NS

40: LS, TAN FXLN, V. OOLITIC/ FOSS,
PR - TR. FR. XLN POR; NS

DRILLING MUD @ 3475':
WT: 8.7
VIS: 60+
pH: 11.0
FILTRATE: 7.2
CHLORIDES: 6,900
LCM: 2



50: SHALE, GRY & LS, TAN, TR. CHTY, TR. OOL/ FOSS AS ABV; NS

60: LS, TAN-BRN, VFXLN, PR. POR; ALSO TR. LS AS ABV, OOL./ FOSS; NS

70: TR. LS, TAN, V. OOLITIC, 1 PC W/ PR-FR OOLICASTIC POR; NS

80: POOR SAMPLE, MIXED.

90: LS, TAN-BRN, VF-FXLN, PR. POR; SHALE; NS

3700: TR LS, TAN, VFXLN, V. OOLITIC (FNTLY OOL - RE-XTAL); AND LS, BRN, SLI. FOSS, DSE; SHALE, V. COLORED; NS

10: TR. LS TAN, V. OOL. W/ PR - TR. FR XLN POR & TR. PR. VUG - FOSS CAST POR; NS

20: TR. LS, V. OOLITIC AS ABV, PR -TR FR. XLN POR; MOSTLY LS, BRN VFXLN PR POR; NS

30: LS, BRN, VFXLN, DSE TO SOME LS CRM, WEATH. SLI. CHLKY; NS

40: LS, AS ABV; NS

50: LS, BRN, VF-FXLN, TR. FAINTLY OOL. RE-XTAL, PR. POR; NS

60: TR. RED SHALE; LS AS ABV; NS

70: TR. LS, V. OOL/ FOSS, PR. XLN POR; ALSO LS BRN DSE & SHALE V. COL; NS

80: LS, BRN, VFXLN, SOME OOL./FOSS, PR. POR; TR. CHERT BRN; V. COL. SHALE NS

90: VARY COLORED SHALE

3800: LS, CRM-BRN, VF-FXLN, SLI. FOSS PR. POR TO SOME LS, CRM SOFT, SLI. CHLKY; SHALE AS ABV; NS

10: INC. LS BRN, VFXLN, DSE; ALSO TR. GRY LMY SILTSTONE & V. COL. SHALE; NS

20: LS, AS ABV BRN, VFXLN, DSE; AND V. COLORED SHALE; NS

30 & 40: SMALL AMT. ORANGE CHERT, SHP; LS AS ABV & TR. GRY LMY SILTSTN; AND V. COLORED SHALE; NS

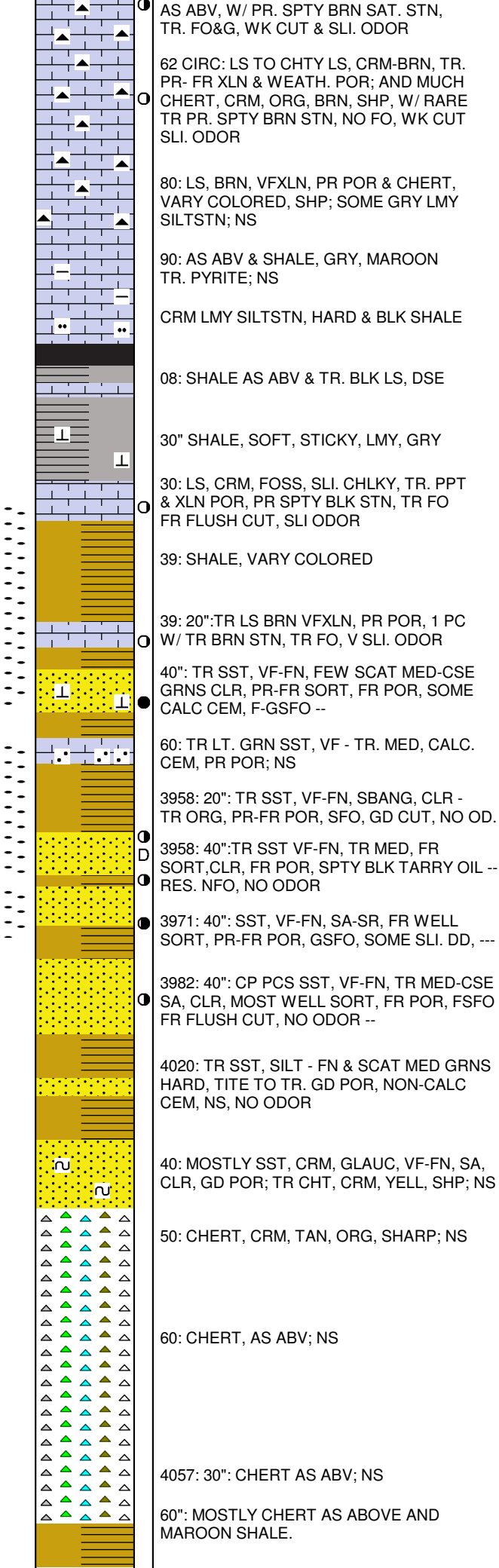
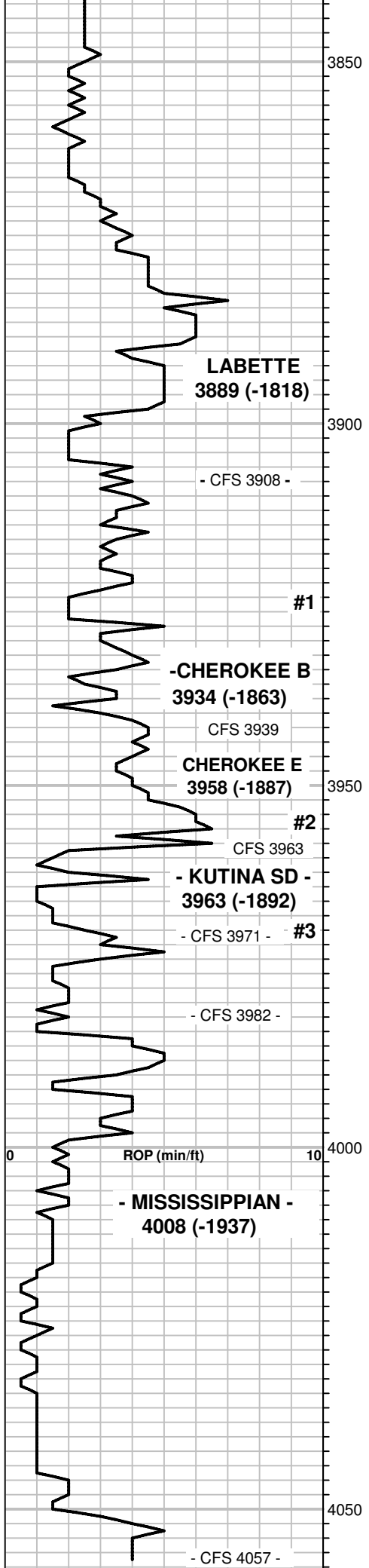
50: LS, BRN VFXLN INTERMIXED W/ CRM CHERT, FEW PCS W/ SPTY WEATH POR, PR LT-DK BRN SPTY SAT. STN, TR. LT. FO&G, WK FLUSH CUT, SLI-FR. ODOR

60: LS, BRN VFXLN TO CRM & BRN CHERT

DOWN 45", WORK ON PUMP

DST #1: 3911-39
TIMES: 5-30-45-90
IF: BLOW BUILT TO .25"
FF: BLOW BUILT TO 1"
NO BLOW BACK
REC.: 45' DRLG MUD, NS
IFP: 14-15#, FFP: 17-33#
SIP: 451-446#
TEMP: 108 DEG.

DRILLING MUD @ 3862:
 WT: 9.3 LB
 VIS: 64
 pH: 10.5
 FILTRATE: 7.8
 CHLORIDES: 7,700 PPM
 SOLIDS: 6.7%
 LCM: 2



POOR SHOW

DST: #2: 3944-3963
TIMES: 5-30-45-90
IF: BLOW BUILT TO 1.5"
FF: BLOW BUILT TO 3.5"
NO BLOW BACK
REC: 120' OIL SPK WTRY
MUD (1% O, 39%W, 60%M)
W. CHLOR. 15,000 PPM
SYSTEM : 7,900 PPM
IFP: 14-18#, FFP: 20-64#
SIP: 816-814#
TEMP: 113 DEG.

DRILLING MUD @ 3939:
 WT: 9.3 LB
 VIS: 55
 pH: 10.0
 FILTRATE: 8.0
 CHLORIDES: 7,900 PPM
 SOLIDS: 6.0%
 LCM: 2 LB

MOSTLY TOTAL SAT STN, SPY FLUOR, WK FLUSH CUT, NO OD

PIPE STRAP @ 3939 = .99 FT LONG TO BOARD

1 LG PC SST, VF-FN, WELL SORT V. TITE, NON-CALC CEM, GSFO TOT. SAT, FR CUT - FROM ABV?

SPY-TOT. SAT STN, SOME BARREN, WK FLSH CUT, NO OD.

ALSO FEW PCS SST VF-FN, SA CLR, GD POR, ONLY TR SPY STN, MUCH BARREN.

DST #3: 3964-3971
TIMES: 5-30-30-60
IF: BLOW BUILT TO 4.5"
ISI: SURF. BLOW BACK
FF: BLOW BOB IN 19 MIN
TOTAL BUILD 20"
REC: 278' MDY WTR, NS (90% W, 10%M)
WTR CHLOR: 26,000 PPM
SYSTEM: 7,900 PPM
IFP: 22-62#, FFP: 71-148#
SIP: 816-807#
TEMP: 107 DEG.

DRILLING MUD @ 3971:
 WT. 9.4 LB
 VIS: 56
 FILTRATE: 8.0
 CHLORIDES: 7,800 PPM
 SOLIDS: 7.4%
 LCM: 2 LB

RTD 4057 (-1986)

LTD 4057 (-1986)

SWIFT Services, Inc.

Petroleum		WELL NO.	LEASE	JOB TYPE	TICKET NO.		
		7-31	CBCF	2-stage L.S.	326608		
TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS
			T	C	TUBING	CASING	
1115							On location, Rig LDDP. 4 1/2" x 10 1/2" Used Pipe RTD - 4057' Total Pipe - 4061.11 Shoe JT - 41.69 Baffle Plate - 4019 Centralizers - 1, 2, 4, 6, 8, 10, 12, 14, 62, + 64 Baskets - 7, 62 D.U. Tool - Top of 63 @ 1463
1330							Start casing w/ float equipments
1520							Break circulation on bottom
1635	2	7					Plug Rathole w/ 30 SKS EA2
	4	12				400	Pump Mud flush
	4	20				400	Pump KCL spacer
							Take on 1 Tank Mud
	4	41				300	Pump EA2 Cmt - 170 SX Drop Plug, Washout Pump Lines
	6					Vac	Start Displacement
	6	40				500	Catch Cmt, Start Mud
1735	6	64				900 / 1400	Land Plug Lift PSI 900 Land PSI 1400
1740							Drop D.U. Bomb
1750							Open D.U. Tool + verify circulation Hook up to Circ for 45 min
1850	4	20				200	Pump 20 bbl KCL spacer
	5 1/2	125					Pump SMD Cmt - 235 SX
1920							Drop Plug
1925	5					Vac	Start Displacement Lift PSI 500
1930		23				500 / 1500	Land Plug Land PSI 1500
							Release, Dry Cmt Circulated Wash up Rack up
2950							Job Complete Thanks Jon, Austin, Isaac