

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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# QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

Phone 785-483-1071  
Cell 785-324-1041

Home Office P.O. Box 32 Russell, KS 67665

No. 1816

Date	10-26-19	Sec.	20	Twp.	7	Range	19	County	Reeds	State	KS	On Location		Finish	3:50pm
Lease								Well No.		Location					
Contractor								Owner		To Quality Oilwell Cementing, Inc. You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.					
Type Job								Charge To		Tengasico					
Hole Size								T.D.		263					
Csg.								Depth		262					
Tbg. Size								Depth							
Tool								Depth		The above was done to satisfaction and supervision of owner agent or contractor.					
Cement Left in Csg.								Shoe Joint		Cement Amount Ordered					
Meas Line								Displace		163CL					
<b>EQUIPMENT</b>															
Pumptrk 5 No. Cementer								Common							
Bulktrk No. Driver								Poz. Mix							
Bulktrk 3 No. Driver								Gel.							
Bulktrk 3 No. Driver								Calcium							
<b>JOB SERVICES &amp; REMARKS</b>															
Remarks:								Hulls							
Rat Hole								Salt							
Mouse Hole								Flowseal							
Centralizers								Kol-Seal							
Baskets								Mud CLR 48							
D/V or Port Collar								CFL-117 or CD110 CAF 38							
5" Run Down: 55' Circulation								Sand							
Mix 165' 400' Displace								Handling							
Cement Circulation								Mileage							
<b>FLOAT EQUIPMENT</b>															
								Guide Shoe							
								Centralizer							
								Baskets							
								AFU Inserts							
								Float Shoe							
								Latch Down							
								Pumptrk Charge							
								Mileage							
X Signature										Tax					
										Discount					
										Total Charge					

# QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

Phone 785-483-1071  
Cell 785-324-1041

Home Office P.O. Box 32 Russell, KS 67665

No. 1014

Date	11-2-19	Sec.	20	Twp.	7s	Range	19w	County	ROCKS	State	KANSAS	4 On Location	3416	Finish	11:45 PM
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Lease JANA Well No. #1 Location WEBSTER DAM, 2W-RD #8  
Owner 1/2 AN YACINTO

Contractor DISCOVERY DRILLING RIG #2 "TERRY"  
Type Job PRODUCTION STRING  
You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.

Hole Size 7 7/8 T.D. 3570' Charge To TEN GASCO INC.  
Csg. 5 1/2 New 14 # Depth 3569' Street

Tbg. Size 8 5/8 Surface Depth 263' City State

Tool LATCH DOWN PLUG Depth 3551'  
The above was done to satisfaction and supervision of owner agent or contractor.

Cement Left in Csg. 17.80 Shoe Joint 17.80 Cement Amount Ordered 195 SK 10% SALT 29 gal  
Meas Line PC @ 1513' Displace 86 1/4 / BBL

**EQUIPMENT**

Pumptrk	17	No.	Cementer		Common
			Helper	<u>GLENN G</u>	
Bulktrk	9	No.	Driver	<u>DAVID L</u>	Poz. Mix
			Driver	<u>TONY L</u>	
Bulktrk		No.	Driver		Gel.
			Driver		Calcium

**JOB SERVICES & REMARKS**

Remarks	<u>JTS 84-85 out</u>	Hulls
Rat Hole	<u>30 SX</u>	Salt
Mouse Hole	<u>15 SX</u>	Flowseal
Centralizers	<u>1, 5, 10, 20, 49</u>	Kol-Seal
Baskets	<u>TUBE OF #48</u>	Mud CLR 48 <u>500 Gal.</u>
D/V of Port Collar	<u>ON #48 JT. (1513')</u>	CFL-117 or CD110 CAF 38
	<u>Ran 5 1/2 csg (14#) Set @ 3569'</u>	Sand
	<u>Received Circ. DROP AFU - Ball</u>	Handling
	<u>Circ. on bottom 1 HAS</u>	Mileage

**FLOAT EQUIPMENT**

	<u>PUMP 500 GAL MUD CLR.</u>	Guide Shoe
	<u>Plug Rat - Mouse Hole.</u>	Centralizer <u>5</u>
	<u>Pump 150 SX Cement Down Hole</u>	Baskets <u>1</u>
	<u>Clear-line, Release L.D. Plug</u>	AFU Inserts
	<u>Displaced a TOTAL OF <u>BBB 1/2</u></u>	Float Shoe <u>1</u>
	<u>LIFT Press # LAND PLUG #</u>	Latch Down <u>1</u>
	<u>Release Press. of AFU - PLUG (Held)</u>	PORT COLLAR - <u>1</u>

THANKS

X Signature [Signature]

Pumptrk Charge		Tax
Mileage		Discount
		Total Charge

# QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

Phone 785-483-1071  
Cell 785-324-1041

Home Office P.O. Box 32 Russell, KS 67665

No. 1837

Date	11-21-19	Sec.	Twp.	Range	County	State	On Location	Finish
					Rooks	KS		3:00p

Location Walshboro Dam & Hwy 24 3mi SW 820 1/2 W into

Lease	<u>Jana</u>	Well No.	<u>1</u>	Owner	To Quality Oilwell Cementing, Inc. You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.
Contractor	<u>Fischer</u>				Charge To <u>Tengasco</u>
Type Job	<u>Port Collar</u>				
Hole Size	<u>2 7/8</u>	T.D.			
Csg.	<u>5 1/2</u>	Depth			
Tbg. Size	<u>2 7/8</u>	Depth			
Tool	<u>Open Port Collar</u>	Depth	<u>1510</u>	The above was done to satisfaction and supervision of owner agent or contractor.	
Cement Left in Csg.		Shoe Joint	Cement Amount Ordered <u>350 80/100 OMIX 14916</u>		

Meas Line	Displace	<u>7RL</u>	<u>2 sand</u>
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**EQUIPMENT**

Pumptrk	No. <u>20</u>	Cementer	<u>Tom G</u>	Common
		Helper	<u>T.M.</u>	Poz. Mix
Bulktrk	No.	Driver		Gel.
Bulktrk	No. <u>19</u>	Driver	<u>Tom G</u>	Calcium

**JOB SERVICES & REMARKS**

Remarks:	<u>KCC Pat Bedore</u>	Hulls
Rat Hole		Salt
Mouse Hole		Flowseal
Centralizers		Kol-Seal
Baskets		Mud CLR 48
D/V or Port Collar		CFL-117 or CD110 CAF 38
		Sand
		Handling
		Mileage

Plug @ 2609 - spot sand 2538  
Total plug to 1000 ft.  
Open tool & dump 450 bl mud.  
Mixed 250SK Cement Circulate.  
Close Tool Pressure to 800#  
Run 5 joints & wash clean  
Wash sand at plug  
(Used 2 sand 250SK)

**FLOAT EQUIPMENT**

Guide Shoe
Centralizer
Baskets
AFU Inserts
Float Shoe
Latch Down

Pumptrk Charge
Mileage

Tax
Discount
Total Charge

X Signature Karl Kule



## DRILL STEM TEST REPORT

Prepared For: **Tengasco Inc**

PO Box 458  
Hays KS 67601+0458

ATTN: Neil Sharp

**Jana #1**

**20-7S-19W Rooks,KS**

Start Date: 2019.10.30 @ 21:35:00

End Date: 2019.10.31 @ 04:58:02

Job Ticket #: 66353                      DST #: 1

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

Printed: 2019.11.05 @ 10:01:41

Tengasco Inc  
20-7S-19W Rooks,KS  
Jana #1  
DST # 1  
LKC 'J'  
2019.10.30



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Tengasco Inc  
PO Box 458  
Hays KS 67601+0458  
ATTN: Neil Sharp

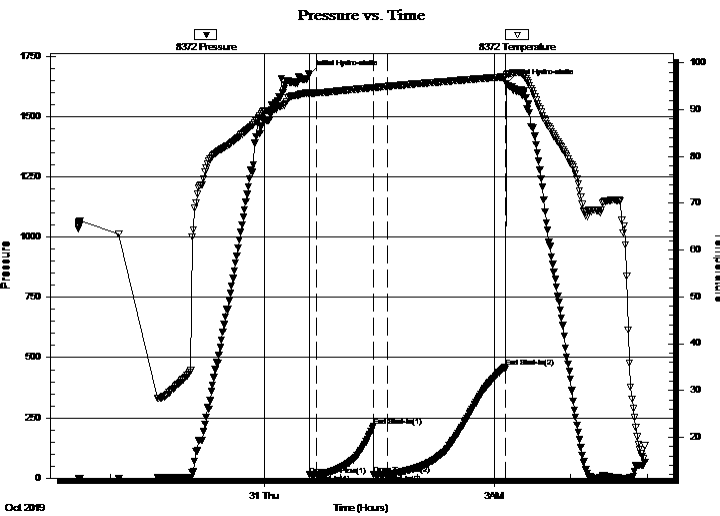
**20-7S-19W Rooks,KS**  
**Jana #1**  
Job Ticket: 66353      **DST#: 1**  
Test Start: 2019.10.30 @ 21:35:00

## GENERAL INFORMATION:

Formation: **LKC 'J'**  
Deviated: No Whipstock:      ft (KB)  
Time Tool Opened: 00:35:32  
Time Test Ended: 04:58:02  
Interval: **3351.00 ft (KB) To 3368.00 ft (KB) (TVD)**  
Total Depth: 3368.00 ft (KB) (TVD)  
Hole Diameter: 7.88 inches Hole Condition: Fair  
Test Type: Conventional Bottom Hole (Initial)  
Tester: Spencer J Staab  
Unit No: 84  
Reference Elevations: 1992.00 ft (KB)  
1984.00 ft (CF)  
KB to GR/CF: 8.00 ft

**Serial #: 8372      Inside**  
Press@RunDepth: 16.18 psig @ 3352.00 ft (KB)      Capacity:      psig  
Start Date: 2019.10.30      End Date: 2019.10.31      Last Calib.: 2019.10.31  
Start Time: 21:35:01      End Time: 04:58:02      Time On Btm: 2019.10.31 @ 00:35:17  
Time Off Btm: 2019.10.31 @ 03:09:47

**TEST COMMENT:** 5-IF-Weak Surface; Died  
45-ISI-No Return  
10-FF-Weak Surface; Died  
90-FSI-No Return



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1674.11	93.64	Initial Hydro-static
1	13.88	93.15	Open To Flow (1)
6	15.16	93.56	Shut-In(1)
51	214.51	94.70	End Shut-In(1)
51	16.45	94.70	Open To Flow (2)
62	16.18	94.99	Shut-In(2)
154	459.59	97.04	End Shut-In(2)
155	1635.89	97.51	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
2.00	OSM 100%M	0.01

## Gas Rates

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







**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Tengasco Inc  
PO Box 458  
Hays KS 67601+0458  
ATTN: Neil Sharp

**20-7S-19W Rooks,KS**  
**Jana #1**  
Job Ticket: 66353      **DST#: 1**  
Test Start: 2019.10.30 @ 21:35:00

**Tool Information**

Drill Pipe:	Length: 3066.00 ft	Diameter: 3.82 inches	Volume: 43.46 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 273.00 ft	Diameter: 2.75 inches	Volume: 2.01 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: 57000.00 lb
			<u>Total Volume: 45.47 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	20.00 ft			String Weight: Initial 55000.00 lb
Depth to Top Packer:	3351.00 ft			Final 55000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	17.00 ft			
Tool Length:	49.00 ft			
Number of Packers:	1	Diameter: 6.75 inches		
Tool Comments:				

<b>Tool Description</b>	<b>Length (ft)</b>	<b>Serial No.</b>	<b>Position</b>	<b>Depth (ft)</b>	<b>Accum. Lengths</b>
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Change Over Sub	1.00			3320.00	
Shut In Tool	5.00			3325.00	
Hydraulic tool	5.00			3330.00	
Gap Sub	3.00			3333.00	
Jars	5.00			3338.00	
Safety Joint	3.00			3341.00	
Packer	5.00			3346.00	32.00 Bottom Of Top Packer
Packer	5.00			3351.00	
Stubb	1.00			3352.00	
Recorder	0.00	8372	Inside	3352.00	
Recorder	0.00	6838	Outside	3352.00	
Perforations	12.00			3364.00	
Bullnose	4.00			3368.00	17.00 Bottom Packers & Anchor

**Total Tool Length: 49.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Tengasco Inc  
PO Box 458  
Hays KS 67601+0458  
ATTN: Neil Sharp

**20-7S-19W Rooks,KS**  
**Jana #1**  
Job Ticket: 66353      **DST#: 1**  
Test Start: 2019.10.30 @ 21:35:00

## 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: 58.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.59 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 2900.00 ppm			
Filter Cake: inches			

## Recovery Information

Recovery Table

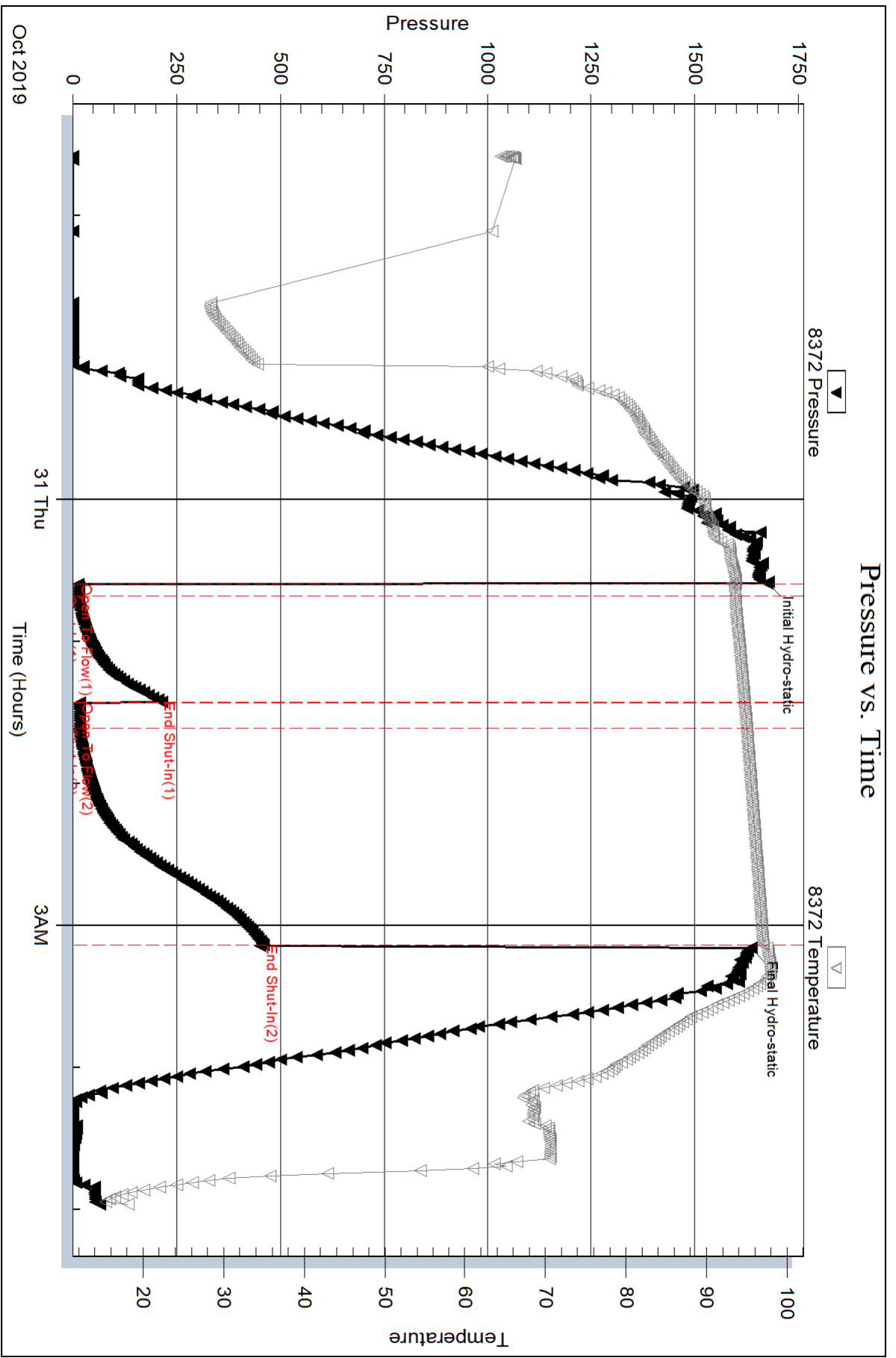
Length ft	Description	Volume bbl
2.00	OSM 100%M	0.015

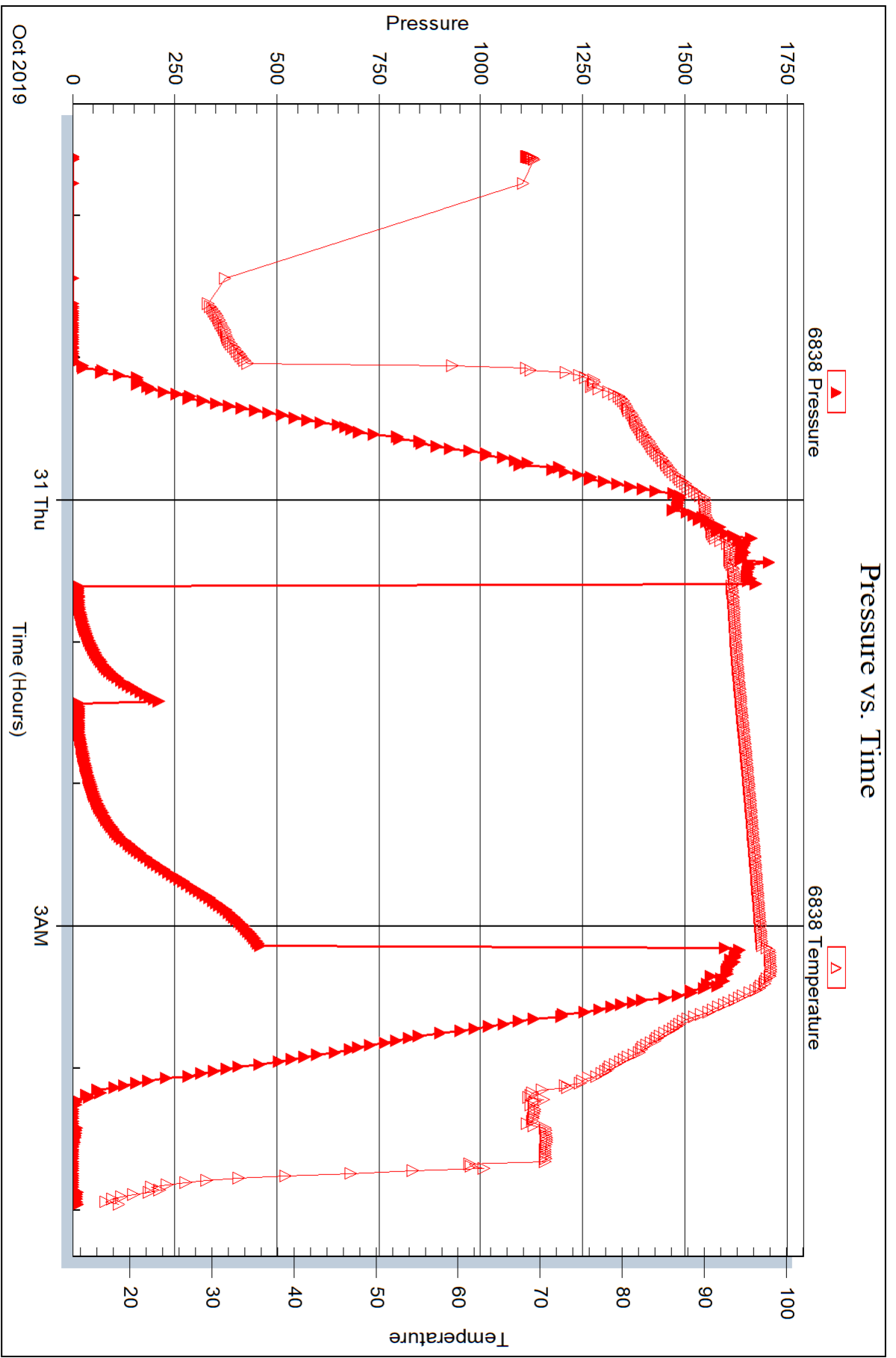
Total Length: 2.00 ft      Total Volume: 0.015 bbl

Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:

Laboratory Name:      Laboratory Location:

Recovery Comments: 2#LCM







## DRILL STEM TEST REPORT

Prepared For: **Tengasco Inc**

PO Box 458  
Hays KS 67601+0458

ATTN: Neil Sharp

**Jana #1**

**20-7S-19W Rooks,KS**

Start Date: 2019.10.31 @ 17:35:00

End Date: 2019.11.01 @ 00:16:02

Job Ticket #: 66354                      DST #: 2

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

Printed: 2019.11.05 @ 10:01:09



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Tengasco Inc  
 PO Box 458  
 Hays KS 67601+0458  
 ATTN: Neil Sharp

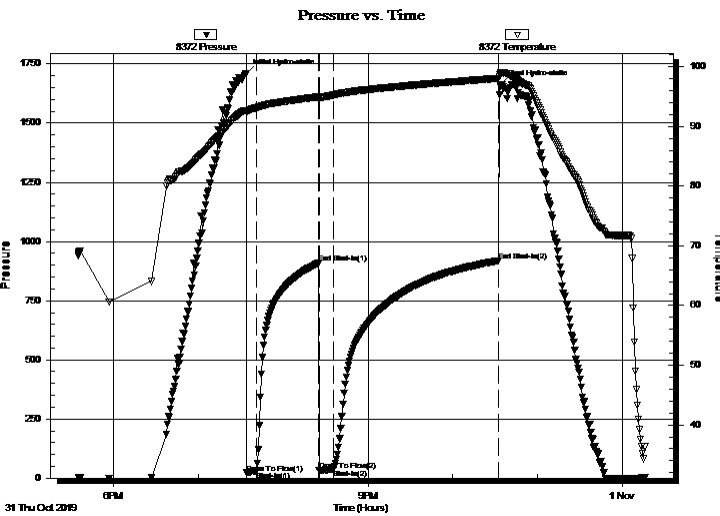
**20-7S-19W Rooks,KS**  
**Jana #1**  
 Job Ticket: 66354      **DST#: 2**  
 Test Start: 2019.10.31 @ 17:35:00

## GENERAL INFORMATION:

Formation: **Arbuckle**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 19:34:02  
 Time Test Ended: 00:16:02  
 Interval: **3390.00 ft (KB) To 3460.00 ft (KB) (TVD)**  
 Total Depth: 3460.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Spencer J Staab  
 Unit No: 84  
 Reference Elevations: 1992.00 ft (KB)  
 1984.00 ft (CF)  
 KB to GR/CF: 8.00 ft

**Serial #: 8372**      **Inside**  
 Press@RunDepth: 39.06 psig @ 3393.00 ft (KB)      Capacity: psig  
 Start Date: 2019.10.31      End Date: 2019.11.01      Last Calib.: 2019.11.01  
 Start Time: 17:35:01      End Time: 00:16:02      Time On Btm: 2019.10.31 @ 19:33:47  
 Time Off Btm: 2019.10.31 @ 22:33:32

**TEST COMMENT:** 5-IF-Weak; Built to 3"  
 45-ISI-No Return  
 10-FF-Weak; Built to 2"  
 120-FSI-No Return



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1710.49	92.64	Initial Hydro-static
1	22.01	92.43	Open To Flow (1)
7	29.36	93.09	Shut-In(1)
51	908.61	94.92	End Shut-In(1)
52	32.69	94.74	Open To Flow (2)
62	39.06	95.27	Shut-In(2)
179	919.21	98.06	End Shut-In(2)
180	1661.37	98.64	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
40.00	OCM 10%O 90%M	0.29

\* Recovery from multiple tests

## Gas Rates

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







**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Tengasco Inc

**20-7S-19W Rooks,KS**

PO Box 458  
Hays KS 67601+0458

**Jana #1**

Job Ticket: 66354

**DST#: 2**

ATTN: Neil Sharp

Test Start: 2019.10.31 @ 17:35:00

## Tool Information

Drill Pipe:	Length: 3100.00 ft	Diameter: 3.82 inches	Volume: 43.94 bbl	Tool Weight:	2500.00 lb
Heavy Wt. Pipe:	Length: 273.00 ft	Diameter: 2.75 inches	Volume: 2.01 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:	58000.00 lb
			<u>Total Volume: 45.95 bbl</u>	Tool Chased	ft
Drill Pipe Above KB:	15.00 ft			String Weight: Initial	56000.00 lb
Depth to Top Packer:	3390.00 ft			Final	56000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	70.00 ft				
Tool Length:	102.00 ft				
Number of Packers:	1	Diameter: 6.75 inches			
Tool Comments:					

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3359.00	
Shut In Tool	5.00			3364.00	
Hydraulic tool	5.00			3369.00	
Gap Sub	3.00			3372.00	
Jars	5.00			3377.00	
Safety Joint	3.00			3380.00	
Packer	5.00			3385.00	32.00 Bottom Of Top Packer
Packer	5.00			3390.00	
Stubb	1.00			3391.00	
Perforations	1.00			3392.00	
Change Over Sub	1.00			3393.00	
Recorder	0.00	8372	Inside	3393.00	
Recorder	0.00	6838	Outside	3393.00	
Drill Pipe	63.00			3456.00	
Change Over Sub	1.00			3457.00	
Bullnose	3.00			3460.00	70.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>102.00</b>				



**TRILOBITE  
TESTING, INC.**

**DRILL STEM TEST REPORT**

**FLUID SUMMARY**

Tengasco Inc  
PO Box 458  
Hays KS 67601+0458  
ATTN: Neil Sharp

**20-7S-19W Rooks,KS**  
**Jana #1**  
Job Ticket: 66354      **DST#: 2**  
Test Start: 2019.10.31 @ 17:35:00

**Mud and Cushion Information**

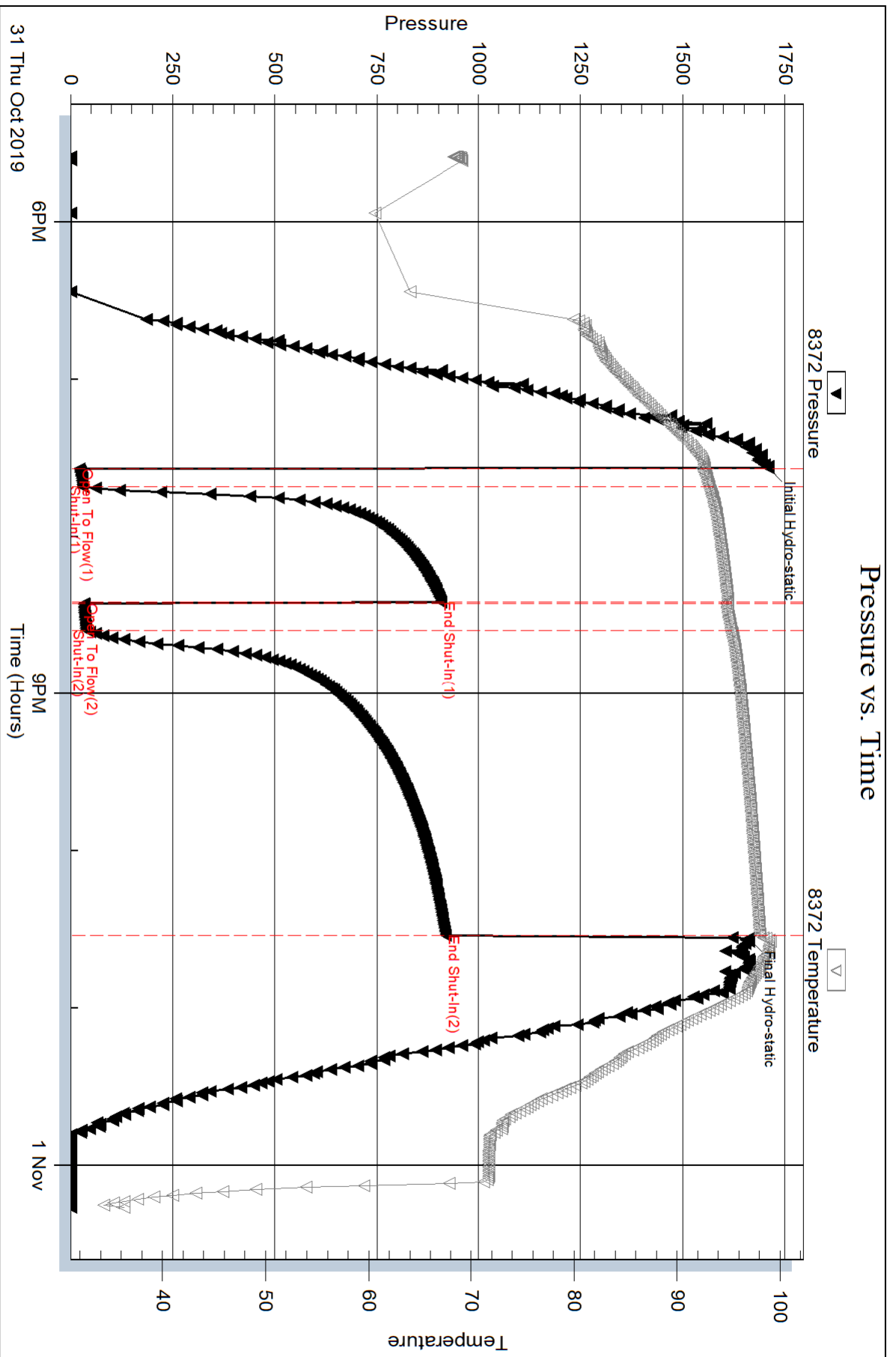
Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 52.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.99 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 3000.00 ppm			
Filter Cake: inches			

**Recovery Information**

Recovery Table

Length ft	Description	Volume bbl
40.00	OCM 10%O 90%M	0.294

Total Length: 40.00 ft      Total Volume: 0.294 bbl  
Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
Laboratory Name:      Laboratory Location:  
Recovery Comments: 2#LCM

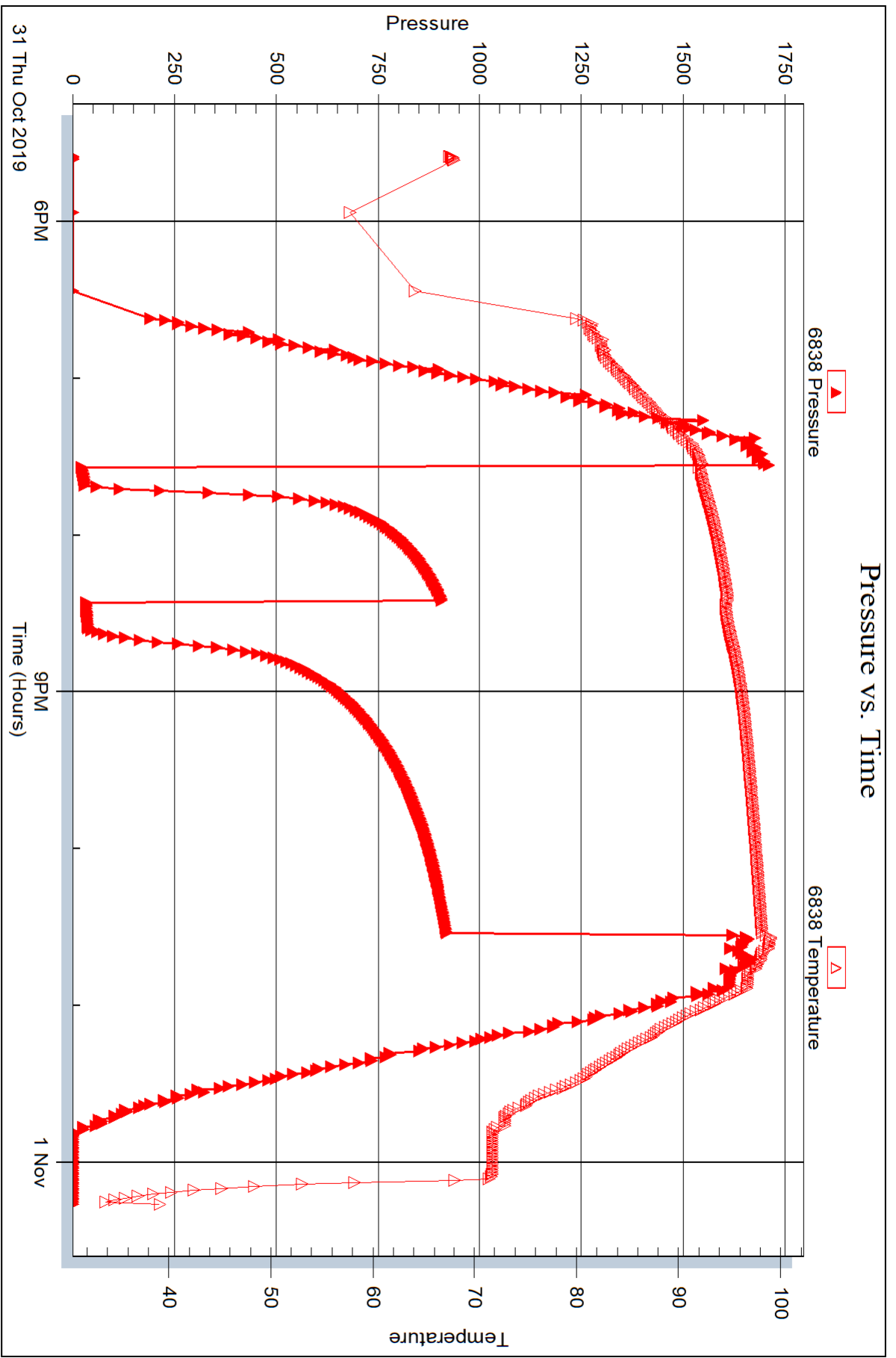


Serial #: 6838

Outside Tengasco Inc

Jana #1

DST Test Number: 2





**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Tengasco Inc  
 PO Box 458  
 Hays KS 67601+0458  
 ATTN: Neil Sharp

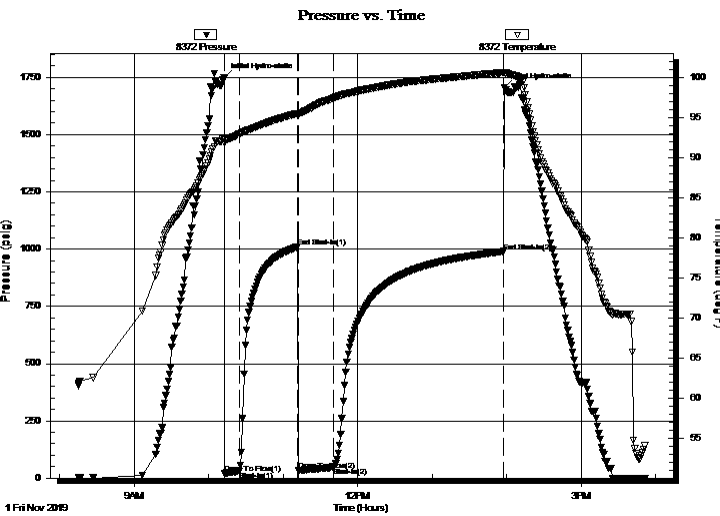
**20-7S-19W Rooks,KS**  
**Jana #1**  
 Job Ticket: 66355      **DST#: 3**  
 Test Start: 2019.11.01 @ 08:15:00

## GENERAL INFORMATION:

Formation: **Arbuckle**  
 Deviated: No      Whipstock:      ft (KB)  
 Time Tool Opened: 10:12:47  
 Time Test Ended: 15:52:02  
 Interval: **3452.00 ft (KB) To 3475.00 ft (KB) (TVD)**  
 Total Depth: 3475.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches      Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Spencer J Staab  
 Unit No: 84  
 Reference Elevations: 1992.00 ft (KB)  
 1984.00 ft (CF)  
 KB to GR/CF: 8.00 ft

**Serial #: 8372      Inside**  
 Press@RunDepth: 46.77 psig @ 3453.00 ft (KB)      Capacity:      psig  
 Start Date: 2019.11.01      End Date: 2019.11.01      Last Calib.: 2019.11.01  
 Start Time: 08:15:01      End Time: 15:52:02      Time On Btm: 2019.11.01 @ 10:12:32  
 Time Off Btm: 2019.11.01 @ 13:58:17

**TEST COMMENT:** 10-IF-Weak; Built to 2"  
 45-ISI-No Return  
 30-FF-Fair; Built to 5"  
 135-FSI-No Return



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1747.41	92.49	Initial Hydro-static
1	20.70	91.95	Open To Flow (1)
12	30.94	93.01	Shut-In(1)
59	1009.30	95.52	End Shut-In(1)
60	33.50	95.48	Open To Flow (2)
89	46.77	97.50	Shut-In(2)
225	989.58	100.67	End Shut-In(2)
226	1705.94	100.69	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
40.00	OCM 15%O 85%M	0.29
50.00	Clean Oil 100%O	0.37

\* Recovery from multiple tests

## Gas Rates

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



**TRILOBITE TESTING, INC.**

## DRILL STEM TEST REPORT

Tengasco Inc  
 PO Box 458  
 Hays KS 67601+0458  
 ATTN: Neil Sharp

**20-7S-19W Rooks,KS**  
**Jana #1**  
 Job Ticket: 66355      **DST#: 3**  
 Test Start: 2019.11.01 @ 08:15:00

### GENERAL INFORMATION:

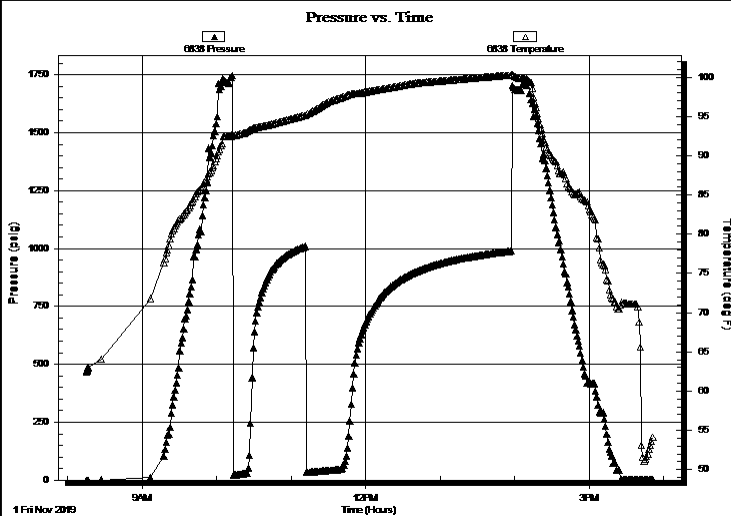
Formation: **Arbuckle**  
 Deviated: No      Whipstock:      ft (KB)  
 Time Tool Opened: 10:12:47  
 Time Test Ended: 15:52:02  
 Interval: **3452.00 ft (KB) To 3475.00 ft (KB) (TVD)**  
 Total Depth: 3475.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches      Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Spencer J Staab  
 Unit No: 84  
 Reference Elevations: 1992.00 ft (KB)  
 1984.00 ft (CF)  
 KB to GR/CF: 8.00 ft

### Serial #: 6838

Outside

Press@RunDepth:      psig @ 3453.00 ft (KB)      Capacity:      psig  
 Start Date: 2019.11.01      End Date: 2019.11.01      Last Calib.: 2019.11.01  
 Start Time: 08:15:01      End Time: 15:52:02      Time On Btm:  
 Time Off Btm:

TEST COMMENT: 10-IF-Weak; Built to 2"  
 45-ISI-No Return  
 30-FF-Fair; Built to 5"  
 135-FSI-No Return



### PRESSURE SUMMARY

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

### Recovery

Length (ft)	Description	Volume (bbl)
40.00	OCM 15%O 85%M	0.29
50.00	Clean Oil 100%O	0.37

### Gas Rates

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

\* Recovery from multiple tests



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Tengasco Inc  
PO Box 458  
Hays KS 67601+0458  
ATTN: Neil Sharp

**20-7S-19W Rooks,KS**  
**Jana #1**  
Job Ticket: 66355      **DST#: 3**  
Test Start: 2019.11.01 @ 08:15:00

## Mud and Cushion Information

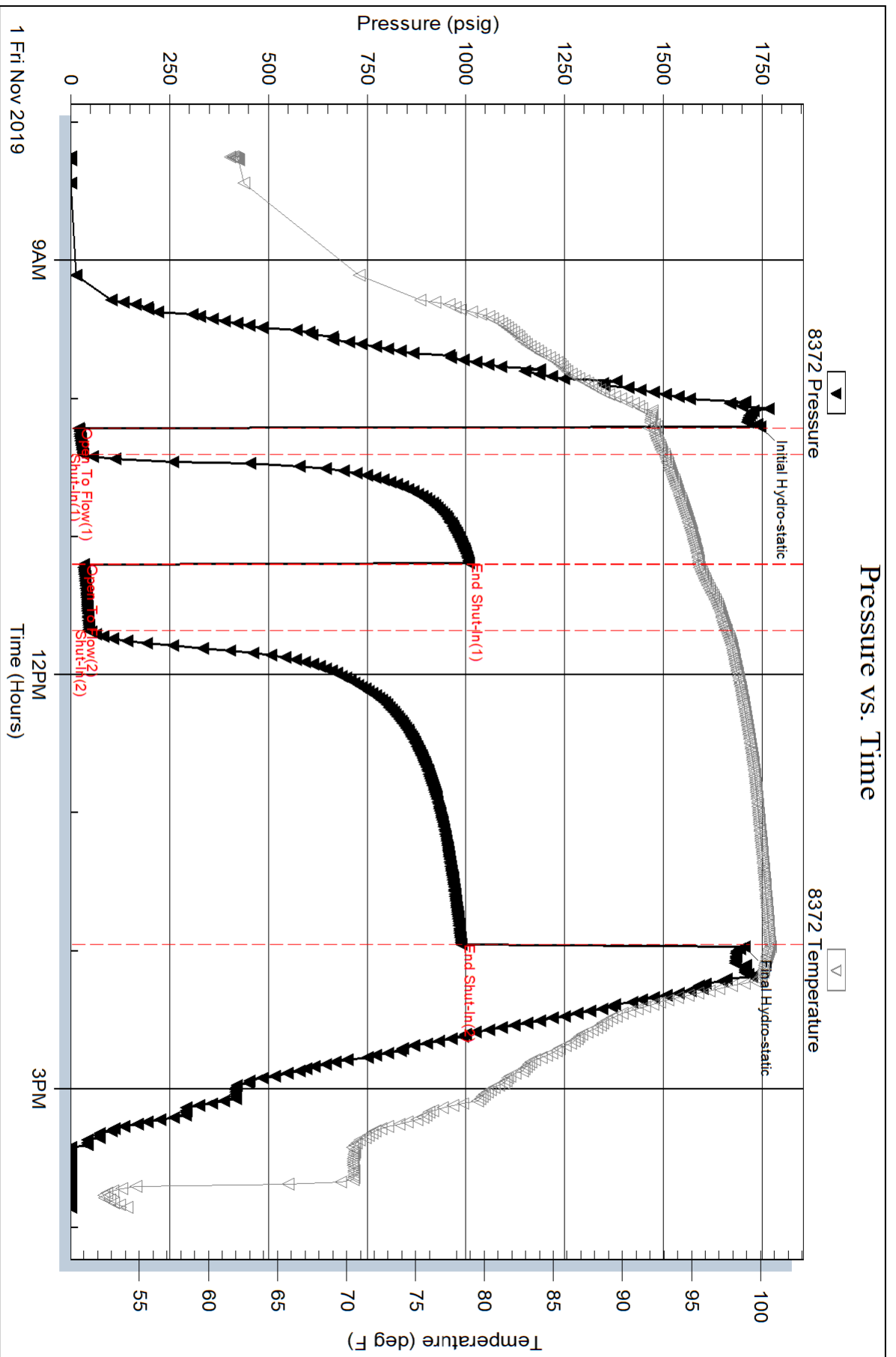
Mud Type: Gel Chem	Cushion Type:	Oil API: 27 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity: ppm
Viscosity: 53.00 sec/qt	Cushion Volume: bbl	
Water Loss: 7.99 in <sup>3</sup>	Gas Cushion Type:	
Resistivity: ohm.m	Gas Cushion Pressure: psig	
Salinity: 3000.00 ppm		
Filter Cake: inches		

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
40.00	OCM 15%O 85%M	0.294
50.00	Clean Oil 100%O	0.367

Total Length: 90.00 ft      Total Volume: 0.661 bbl  
Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
Laboratory Name:      Laboratory Location:  
Recovery Comments: 2#LCM



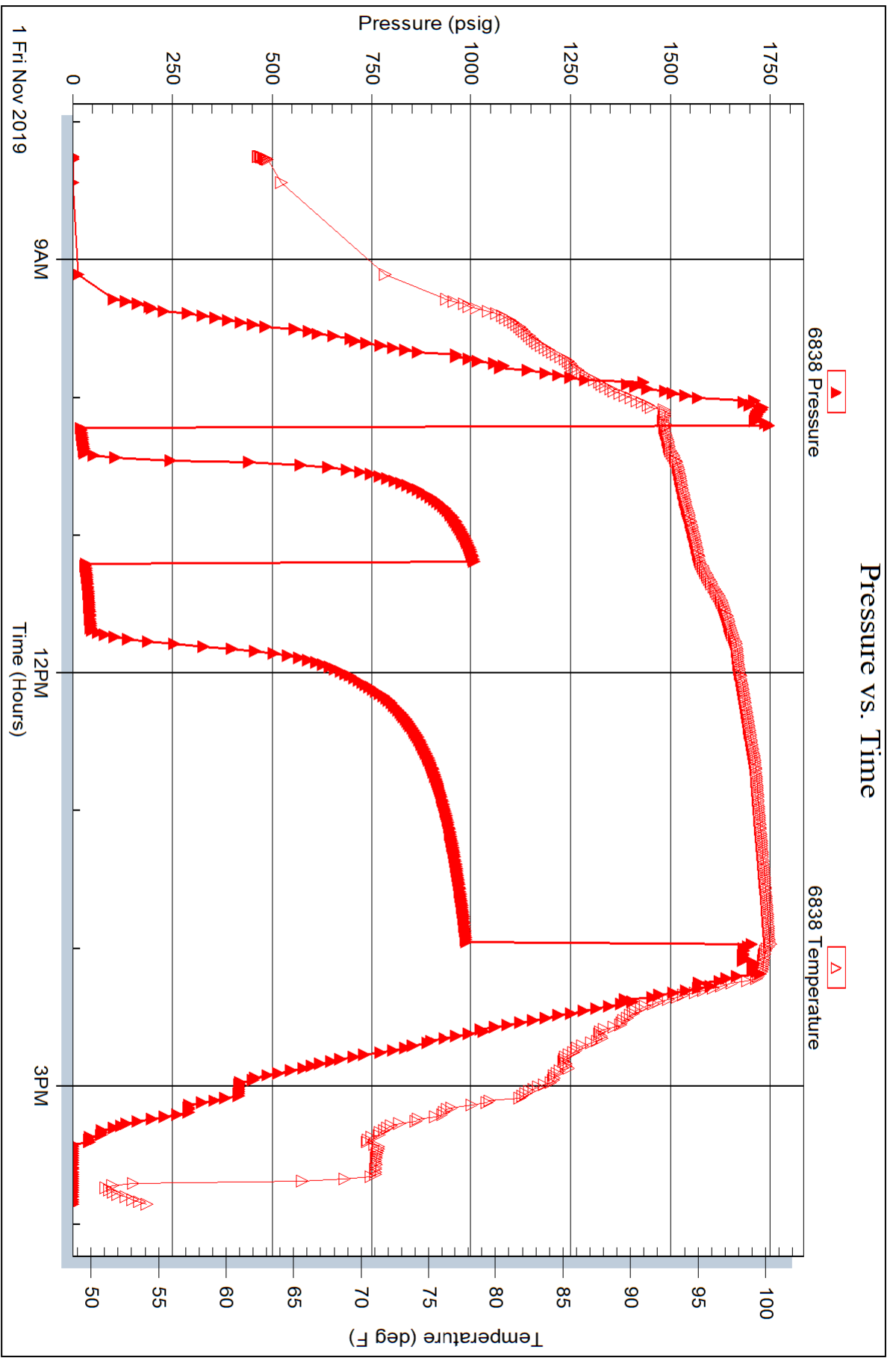


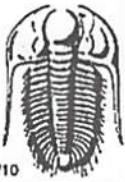
Serial #: 6838

Outside Tengasco Inc

Jana #1

DST Test Number: 3





# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket 66353

NO.

Well Name & No. Jana #1 Test No. 1 Date 10/30/2019  
 Company Yengaco, Inc Elevation 1992' KB 1984' GL  
 Address 1327 Moore Rd PO BOX 458 Hays KS 67601+0458  
 Co. Rep / Geo. Neil Sharp Rig Discovery #2  
 Location: Sec. 20 Twp 7s Rge. 19w Co. Rooks State Ks

Interval Tested 3351' - 3368' Zone Tested LKC 'J'  
 Anchor Length 17' Drill Pipe Run \_\_\_\_\_ Mud Wt. 9.1  
 Top Packer Depth 3346' Drill Collars Run - Vis 58  
 Bottom Packer Depth 3351' Wt. Pipe Run 273' WL 7.6  
 Total Depth 3368' Chlorides 2900 ppm System LCM 2H

Blow Description 77-9 Wbk Surface; Died  
75D - No Return  
77-9 Wbk Surface; Died  
75D - No Return

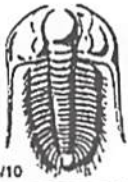
Rec	Feet of	%gas	%oil	%water	%mud
<u>2'</u>	<u>OSM</u>			<u>100</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 2' BHT 97° Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic <u>1674</u>	<input checked="" type="checkbox"/> Test 1200	T-On Location <u>21:15</u>
(B) First Initial Flow <u>13</u>	<input checked="" type="checkbox"/> Jars 250	T-Started <u>21:35</u>
(C) First Final Flow <u>15</u>	<input checked="" type="checkbox"/> Safety Joint 75	T-Open <u>00:32</u>
(D) Initial Shut-In <u>214</u>	<input type="checkbox"/> Circ Sub	T-Pulled <u>03:02</u>
(E) Second Initial Flow <u>16</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>04:55</u>
(F) Second Final Flow <u>16</u>	<input checked="" type="checkbox"/> Mileage <u>11027</u> 110	Comments _____
(G) Final Shut-In <u>459</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>1635</u>	<input type="checkbox"/> Straddle	<input checked="" type="checkbox"/> EM Tool 350
Initial Open <u>5</u>	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Shale Packer
Initial Shut-In <u>45</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Ruined Packer
Final Flow <u>10</u>	<input type="checkbox"/> Extra Recorder	<input type="checkbox"/> Extra Copies
Final Shut-In <u>90</u>	<input type="checkbox"/> Day Standby	Sub Total <u>350</u>
	<input type="checkbox"/> Accessibility	Total <u>1985</u>
	Sub Total <u>1635</u>	MP/DST Disc't _____

Approved By \_\_\_\_\_ Our Representative Spencer J. Neal Thanks!  
 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 tools 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.

785-259-0058



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket 66354

NO.

Well Name & No. Jana #1 Test No. 2 Date 10/31/2019  
 Company Yengasco Inc Elevation 1992 KB 1984 GL  
 Address 1327 Moore Rd PO BOX 458 Hays KS 67601 +0458  
 Co. Rep / Geo. Neil Sharp Rig Discovery #2  
 Location: Sec. 20 Twp 7s Rge. 19w Co. Rooks State Ks

Interval Tested 3390'-3460' Zone Tested Arbuckle  
 Anchor Length 70' Drill Pipe Run 3100' Mud Wt. 9.2  
 Top Packer Depth 3385' Drill Collars Run - Vis 52  
 Bottom Packer Depth 3390' Wt. Pipe Run 273 WL 8.0  
 Total Depth 3460' Chlorides 3000 ppm System LCM 2H

Blow Description 77 Weak; Built to 5'  
78A - No Return  
77 - Weak; Built to 2 1/2"  
78A - No Return

Rec	Feet of	%gas	%oil	%water	%mud
<u>40'</u>	<u>OCM</u>	<u>10</u>		<u>90</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 40' BHT 98° Gravity - API RW - @ - ° F Chlorides - ppm

(A) Initial Hydrostatic 1710  Test 1200 T-On Location 17:04  
 (B) First Initial Flow 22  Jars 250 T-Started 17:35  
 (C) First Final Flow 29  Safety Joint 75 T-Open 19:32  
 (D) Initial Shut-In 908  Circ Sub - T-Pulled 22:32  
 (E) Second Initial Flow 32  Hourly Standby - T-Out 00:16 11/01/2019  
 (F) Second Final Flow 39  Mileage 11027 110  
 (G) Final Shut-In 919  Sampler -  
 (H) Final Hydrostatic 1661  Straddle -  
 Shale Packer -  
 Extra Packer -  
 Extra Recorder -  
 Day Standby -  
 Accessibility -

Initial Open 5  
 Initial Shut-In 45  
 Final Flow 10  
 Final Shut-In 120

Comments -  
 EM Tool -  
 Ruined Shale Packer -  
 Ruined Packer -  
 Extra Copies -  
 Sub Total 0  
 Total 1635

Sub Total 1635  
 Approved By - Our Representative Spencer [Signature]  
 MP/DST Disc't -

Tribolite Testing Inc. shall not be liable for damaged or 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.

785-257-0056



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket 66355

NO.

Well Name & No. Jama #1 Test No. 3 Date 11/1/2019  
 Company Tengasco Inc Elevation 1992 KB 1984 GL  
 Address 1327 Morse Rd PO Box 458 Hays KS 67601 + 0458  
 Co. Rep / Geo. Neil Sharpe Rig Discovery #2  
 Location: Sec. 20 Twp 7A Rge. 19W Co. Rooks State Ks

Interval Tested 3452' - 3475' Zone Tested Arbuckle  
 Anchor Length 23' Drill Pipe Run 3162' Mud Wt. 9.4  
 Top Packer Depth 3447' Drill Collars Run - Vis 53  
 Bottom Packer Depth 3452' Wt. Pipe Run 273' WL 8.0  
 Total Depth 3475' Chlorides 3000 ppm System LCM 2#

Blow Description 77-Weak; Built to 2"  
55 - No Return  
77 - 2 in; Built to 5"  
78 - No Return

Rec	Feet of	%gas	%oil	%water	%mud
<u>40</u>	<u>OCM</u>	<u>15</u>		<u>85</u>	
<u>50</u>	<u>CO</u>	<u>100</u>			

Rec Total 90' BHT 100° Gravity 27° API RW - @ - °F Chlorides - ppm  
 (A) Initial Hydrostatic 1747  Test 1200 T-On Location 07:45  
 (B) First Initial Flow 20  Jars 250 T-Started 08:15  
 (C) First Final Flow 30  Safety Joint 75 T-Open 09:57  
 (D) Initial Shut-In 1009  Circ Sub \_\_\_\_\_ T-Pulled 13:37  
 (E) Second Initial Flow 33  Hourly Standby \_\_\_\_\_ T-Out 15:38  
 (F) Second Final Flow 46  Mileage 110 110 Comments \_\_\_\_\_  
 (G) Final Shut-In 989  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1705  Straddle \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  
 Day Standby \_\_\_\_\_  
 Accessibility \_\_\_\_\_

Initial Open 10  
 Initial Shut-In 45  
 Final Flow 30  
 Final Shut-In 135  
 Sub Total 0  
 Total 1635  
 MP/DST Disc't \_\_\_\_\_

Approved By \_\_\_\_\_ Our Representative Spencer J. Stubbs  
 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.

785-259-0056



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

Well Name: JANA #1  
Well Id:  
Location: NW, NW, SE Sec. 20 - 7S - 19W Rooks Co., KS  
License Number: 15-163-24402-0000  
Spud Date: 10/26/19  
Surface Coordinates: 2310' FSL, 2310' FEL  
Region: Grover West  
Drilling Completed: 11/02/19

Bottom Hole Coordinates: 263': 1/2 DEG, 3368': 1 3/4 DEG, 3570': 1 1/4 DEG  
Ground Elevation (ft): 1984' K.B. Elevation (ft): 1992'  
Logged Interval (ft): 2800' To: 3570' Total Depth (ft): 3570'  
Formation: L/KC, ARBUCKLE  
Type of Drilling Fluid: Chemical Mud

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

**OPERATOR**

Company: TENGASCO, INC.  
Address: 1327 Noose Rd.  
Hays, KS 67601  
Co. Geo.: Mr. Neil Sharp

**GEOLOGIST**

Name: Justin D. Carter  
Company: Consulting Geologist  
Address: 1640 N. Roosevelt Ave.  
Liberal, KS 67901  
Phone: 620-655-1187

**Comments**

Drilling Contractor: Discovery Drilling Rig #2  
Tool Pusher: Terry Wickham

8 5/8" surface casing set at 263'

Mud: MudCo  
Engineer: Gary Schmitberger

Gas Detector: Blue Stem

DSTs: Trilobite Testing  
Tester: Spencer Staab

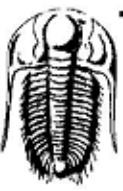
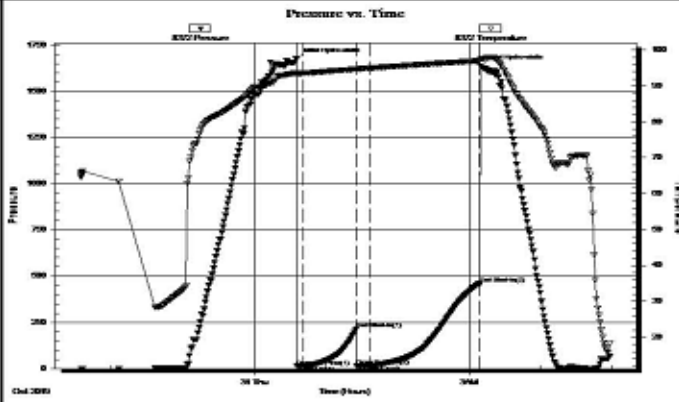
Open-Hole Loggers: Halliburton Wireline

### Remarks

After careful review of the sample log, electric logs, and DST reports, the decision was made to run 5 1/2" casing for further testing of the L/KC and Arbuckle zones in the Jana #1.

Respectfully submitted,

**Justin D. Carter**  
Consulting Geologist

 <p><b>TRILOBITE TESTING, INC.</b></p>	<h2 style="margin: 0;">DRILL STEM TEST REPORT</h2>																																								
<p>Tengasco Inc 1327 Noose Rd PO BOX 458 Hays KS 67601+0458 ATTN: Neil Sharp</p>	<p><b>20-7S-19W Rooks KS</b> <b>Jana #1</b> Job Ticket: 66353      <b>DST#: 1</b> Test Start: 2019.10.30 @ 21:35:00</p>																																								
<p><b>GENERAL INFORMATION:</b></p> <p>Formation: <b>LKC 'J'</b>                  Deviated: No      Whipstock:      ft (KB)                  Time Tool Opened: 00:35:32                  Time Test Ended: 04:58:02</p> <p>Test Type: Conventional Bottom Hole (Initial)                  Tester: Spencer J Staab                  Unit No: 84</p> <p>Interval: <b>3351.00 ft (KB) To 3368.00 ft (KB) (TVD)</b>                  Total Depth: 3368.00 ft (KB) (TVD)                  Hole Diameter: 7.88 inches      Hole Condition: Fair</p> <p>Reference Elevations: 1992.00 ft (KB)                  1984.00 ft (CF)                  KB to GR/CF: 8.00 ft</p>																																									
<p><b>Serial #: 8372      Inside</b></p> <p>Press@RunDepth: 16.18 psig @ 3352.00 ft (KB)      Capacity:      psig                  Start Date: 2019.10.30      End Date: 2019.10.31      Last Calib.: 2019.10.31                  Start Time: 21:35:01      End Time: 04:58:02      Time On Btm: 2019.10.31 @ 00:35:17                  Time Off Btm: 2019.10.31 @ 03:09:47</p> <p><b>TEST COMMENT:</b> 5-IF-Weak Surface; Died                  45-ISI-No Return                  10-PF-Weak Surface; Died                  90-FSI-No Return</p>																																									
	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="4" style="text-align: center;">PRESSURE SUMMARY</th> </tr> <tr> <th style="width: 10%;">Time (Min.)</th> <th style="width: 15%;">Pressure (psig)</th> <th style="width: 10%;">Temp (deg F)</th> <th style="width: 65%;">Annotation</th> </tr> </thead> <tbody> <tr><td>0</td><td>1674.11</td><td>93.64</td><td>Initial Hydro-static</td></tr> <tr><td>1</td><td>13.88</td><td>93.15</td><td>Open To Flow (1)</td></tr> <tr><td>6</td><td>15.16</td><td>93.56</td><td>Shut-In(1)</td></tr> <tr><td>51</td><td>214.51</td><td>94.70</td><td>End Shut-In(1)</td></tr> <tr><td>51</td><td>16.45</td><td>94.70</td><td>Open To Flow (2)</td></tr> <tr><td>62</td><td>16.18</td><td>94.99</td><td>Shut-In(2)</td></tr> <tr><td>154</td><td>459.59</td><td>97.04</td><td>End Shut-In(2)</td></tr> <tr><td>155</td><td>1635.89</td><td>97.51</td><td>Final Hydro-static</td></tr> </tbody> </table>	PRESSURE SUMMARY				Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation	0	1674.11	93.64	Initial Hydro-static	1	13.88	93.15	Open To Flow (1)	6	15.16	93.56	Shut-In(1)	51	214.51	94.70	End Shut-In(1)	51	16.45	94.70	Open To Flow (2)	62	16.18	94.99	Shut-In(2)	154	459.59	97.04	End Shut-In(2)	155	1635.89	97.51	Final Hydro-static
PRESSURE SUMMARY																																									
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation																																						
0	1674.11	93.64	Initial Hydro-static																																						
1	13.88	93.15	Open To Flow (1)																																						
6	15.16	93.56	Shut-In(1)																																						
51	214.51	94.70	End Shut-In(1)																																						
51	16.45	94.70	Open To Flow (2)																																						
62	16.18	94.99	Shut-In(2)																																						
154	459.59	97.04	End Shut-In(2)																																						
155	1635.89	97.51	Final Hydro-static																																						
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="3" style="text-align: center;">Recovery</th> </tr> <tr> <th style="width: 15%;">Length (ft)</th> <th style="width: 60%;">Description</th> <th style="width: 25%;">Volume (bbl)</th> </tr> </thead> <tbody> <tr><td>2.00</td><td>OSM 100%M</td><td>0.01</td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table>	Recovery			Length (ft)	Description	Volume (bbl)	2.00	OSM 100%M	0.01																<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="4" style="text-align: center;">Gas Rates</th> </tr> <tr> <th style="width: 40%;"> </th> <th style="width: 15%;">Choke (inches)</th> <th style="width: 15%;">Pressure (psig)</th> <th style="width: 30%;">Gas Rate (Mcft/d)</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>	Gas Rates					Choke (inches)	Pressure (psig)	Gas Rate (Mcft/d)								
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**TRILOBITE TESTING, INC.**

**DRILL STEM TEST REPORT**

Tengasco Inc  
 1327 Noose Rd  
 PO BOX 458  
 Hays KS 67601+0458  
 ATTN: Neil Sharp

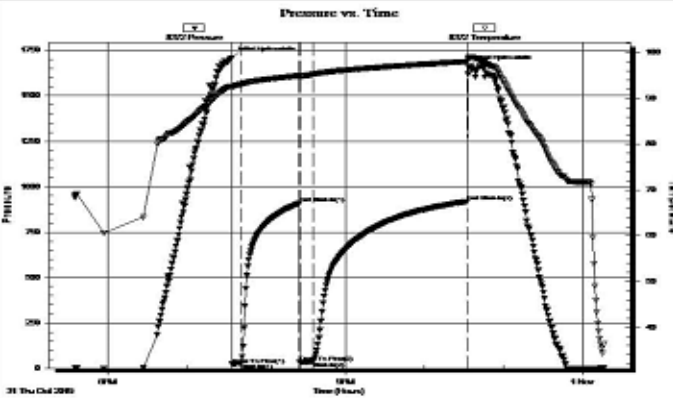
**20-7S-19W Rooks KS**  
**Jana #1**  
 Job Ticket: 66354      **DST#: 2**  
 Test Start: 2019.10.31 @ 17:35:00

**GENERAL INFORMATION:**

Formation: **Arbuckle**  
 Deviated: No Whipstock: ft (KB)  
 Test Type: Conventional Bottom Hole (Reset)  
 Time Tool Opened: 19:34:02  
 Tester: Spencer J Staab  
 Time Test Ended: 00:16:02  
 Unit No: 84  
 Interval: **3390.00 ft (KB) To 3460.00 ft (KB) (TVD)**  
 Reference Elevations: 1992.00 ft (KB)  
 Total Depth: 3460.00 ft (KB) (TVD)  
 1984.00 ft (CF)  
 Hole Diameter: 7.88 inches  
 Hole Condition: Fair  
 KB to GR/CF: 8.00 ft

**Serial #: 8372**      **Inside**  
 Press@RunDepth: 39.06 psig @ 3393.00 ft (KB)      Capacity: psig  
 Start Date: 2019.10.31      End Date: 2019.11.01      Last Calib.: 2019.11.01  
 Start Time: 17:35:01      End Time: 00:16:02      Time On Btm: 2019.10.31 @ 19:33:47  
 Time Off Btm: 2019.10.31 @ 22:33:32

**TEST COMMENT:** 5-IF-Weak; Built to 3"  
 45-ISI-No Return  
 10-FF-Weak; Built to 2"  
 120-FSI-No Return



**PRESSURE SUMMARY**

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1710.49	92.64	Initial Hydro-static
1	22.01	92.43	Open To Flow (1)
7	29.36	93.09	Shut-in(1)
51	908.61	94.92	End Shut-In(1)
52	32.69	94.74	Open To Flow (2)
62	39.06	95.27	Shut-in(2)
179	919.21	98.06	End Shut-In(2)
180	1661.37	98.64	Final Hydro-static

**Recovery**

Length (ft)	Description	Volume (bbl)
40.00	OCM 10%O 90% M	0.29

\* Recovery from multiple tests

**Gas Rates**

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



**TRILOBITE TESTING, INC.**

**DRILL STEM TEST REPORT**

Tengasco Inc  
 1327 Noose Rd  
 PO BOX 458  
 Hays KS 67601+0458  
 ATTN: Neil Sharp

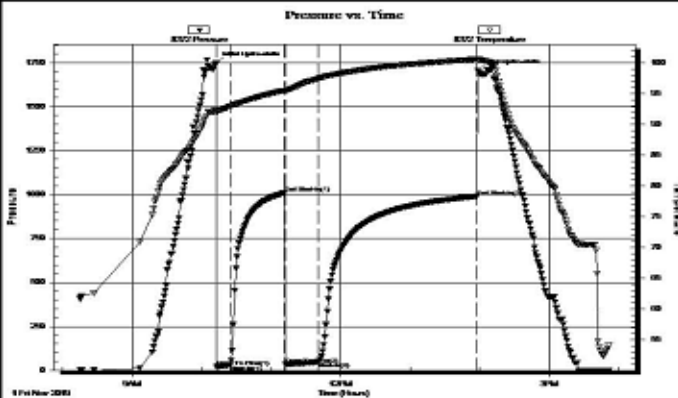
**20-7S-19W Rooks KS**  
**Jana #1**  
 Job Ticket: 66355      **DST#: 3**  
 Test Start: 2019.11.01 @ 08:15:00

**GENERAL INFORMATION:**

Formation: **Arbuckle**  
 Deviated: No Whipstock: ft (KB)  
 Test Type: Conventional Bottom Hole (Reset)  
 Time Tool Opened: 10:12:47  
 Tester: Spencer J Staab  
 Time Test Ended: 15:52:02  
 Unit No: 84  
 Interval: **3452.00 ft (KB) To 3475.00 ft (KB) (TVD)**  
 Reference Elevations: 1992.00 ft (KB)  
 Total Depth: 3475.00 ft (KB) (TVD)  
 1984.00 ft (CF)  
 Hole Diameter: 7.88 inches  
 Hole Condition: Fair  
 KB to GR/CF: 8.00 ft

**Serial #: 8372 Inside**  
 Press@RunDepth: 46.77 psig @ 3453.00 ft (KB)      Capacity: psig  
 Start Date: 2019.11.01      End Date: 2019.11.01      Last Calib.: 2019.11.01  
 Start Time: 08:15:01      End Time: 15:52:02      Time On Btm: 2019.11.01 @ 10:12:32  
 Time Off Btm: 2019.11.01 @ 13:58:17

**TEST COMMENT:** 10-IF-Weak; Built to 2"  
 45-ISI-No Return  
 30-FF-Fair; Built to 5"  
 135-FSI-No Return



**PRESSURE SUMMARY**

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1747.41	92.49	Initial Hydro-static
1	20.70	91.95	Open To Flow (1)
12	30.94	93.01	Shut-in(1)
59	1009.30	95.52	End Shut-In(1)
60	33.50	95.48	Open To Flow (2)
89	46.77	97.50	Shut-in(2)
225	989.58	100.67	End Shut-In(2)
226	1705.94	100.69	Final Hydro-static

**Recovery**

Length (ft)	Description	Volume (bbl)
40.00	OCM 15% O 85% M	0.29
50.00	Clean Oil 100% O	0.37

\* Recovery from multiple tests

**Gas Rates**

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

Trilobite Testing, Inc

Ref. No: 66355

Printed: 2019.11.01 @ 16:16:31

**ROCK TYPES**

- |              |              |                |                 |
|--------------|--------------|----------------|-----------------|
| <b>Anhy</b>  | <b>Gyp</b>   | <b>Shgy</b>    | <b>Sandylms</b> |
| <b>Bent</b>  | <b>Igne</b>  | <b>Sltst</b>   | <b>Shale</b>    |
| <b>Brec</b>  | <b>Lmst</b>  | <b>Ss</b>      | <b>Sltstn</b>   |
| <b>Cht</b>   | <b>Meta</b>  | <b>Till</b>    | <b>Shlyslts</b> |
| <b>Clyst</b> | <b>Mrlst</b> | <b>Carb sh</b> | <b>Sltys sh</b> |
| <b>Coal</b>  | <b>Salt</b>  | <b>Dol</b>     | <b>Lms</b>      |
| <b>Congl</b> | <b>Shale</b> | <b>Dtd</b>     |                 |
| <b>Dol</b>   | <b>Shcol</b> | <b>Gry sh</b>  |                 |



### ACCESSORIES

#### FOSSIL

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

#### MINERAL

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

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

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

#### STRINGER

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

#### TEXTURE

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

### OTHER SYMBOLS

#### INTERVALS

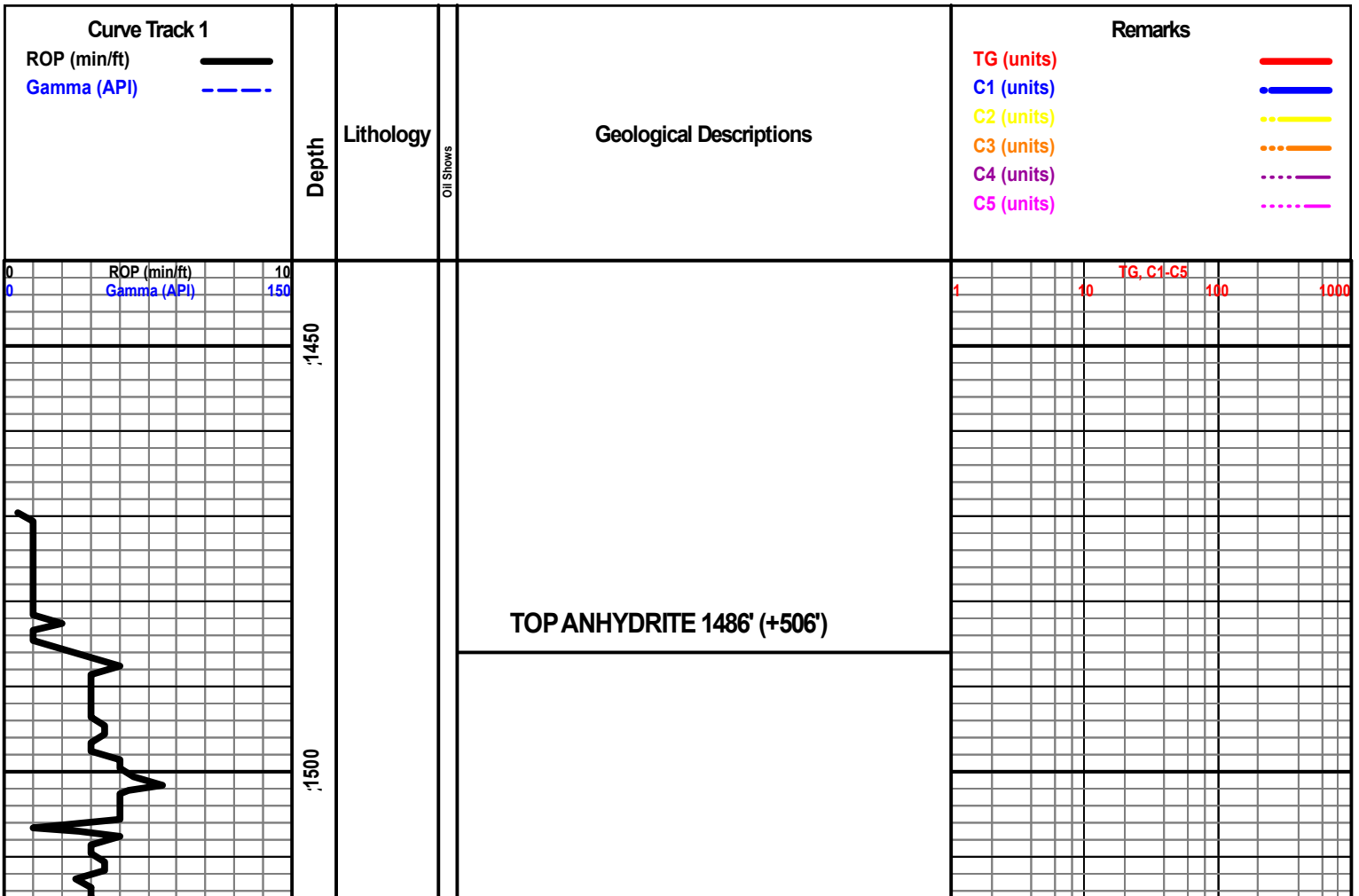
- Core
- Dst

- Dst

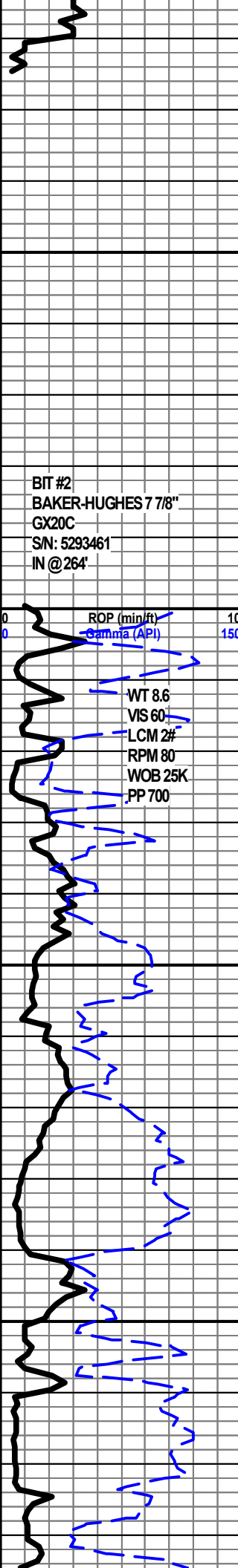
#### OIL SHOWS

- Even
- Spotted

- Ques
- Dead
- Gas show



BASE ANHYDRITE 1520' (+472')

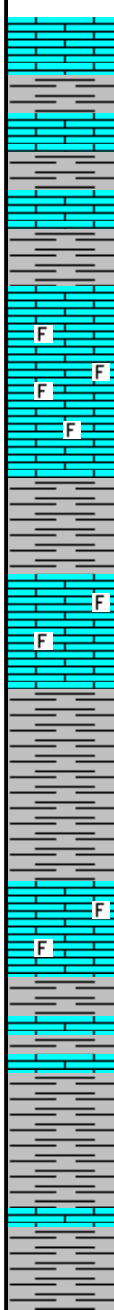


1550

2800

2850

2900



DISPLACE HOLE @ 2571'

GEOLOGIST ON LOCATION 10:00 A.M. 10/29/19

LS- TN CRM, HRD DNS, VF-XLN, RE-XLN MTRX THRU, IMBED OOL IP, NO FLO, NO VIS POR

LS- DK GY, HRD DNS TO BRITT IP, VF-XLN, RE-XLN MTRX IP, IMBED OOL IP, NO FLO, NO VIS POR

LS- CRM, HRD DNS, CRYPTO-XLN, RE-XLN MTRX THRU, TR IMBED FOSS FRAGS, NO FLO, NO VIS POR

SH- DK GY, FRM TO SFT IP, FISS, LMY

LS- CRM, HRD DNS, FMF-XLN, SUCRO MTRX IP TO RE-XLN MTRX, TR IMBED FOSS FRAGS, NO FLO, TR INTER-XLN POR TO NO VIS POR THRU, NS

SH- DK GY, SFT, GMMY

LS- CRM, HRD DNS, VF-XLN, RE-XLN MTRX IP, TR IMBED FOSS FRAGS, NO FLO, NO VIS POR

SH- DK GY, SFT, GMMY

SH- DK GY SET L MY TO TR SLTY GMMY TO TR BL KY

9:30 A.M. 10/29/19

TG, C1-C5 100 CN 1000

MUD CHECK @ 2803'

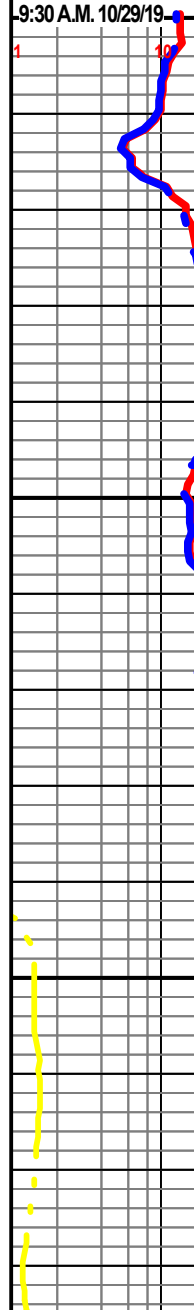
WT 8.8  
VIS 52  
LCM 2#  
PV 12  
YP 21  
PH 11.5  
FIL 7.6  
CHL 2,900

CN

CN

CN

CN



TOPEKA 2948' (-956')

LS- LT GY LT TN, HRD DNS, VF/CRYPTO-XLN, RE-XLN MTRX IP, TR IMBED FOSS FRAGS, NO FLO, NO VIS POR

CN

LS- CRM, HRD DNS, VF-XLN, SUB-SUCRO MTRX IP TO RE-XLN MTRX, NO FLO, TR INTER-XLN POR TO NO VIS POR THRU, NS

LS- LT TN, HRD TO BRITT IP, F/VF-XLN, SUCRO MTRX THRU, TR SFT WHT CHLK, NO FLO, NO VIS POR

CN

SH- GRN GY, FRM, BLKY, SLTY

TG, C1-C2 10 100 1000

LS- CRM BFF, HRD, F-XLN, SUCRO MTRX THRU, IMBED OOL IP, NO FLO, PR INTER-XLN POR SCAT THRU, NS

CN

LS- BFF TN, HRD, VF-XLN, RE-XLN MTRX IP, IMBED FOSS FRAGS SCAT THRU, ABTD SFT WHT CHLK THRU, NO FLO, NO VIS POR

LS- GY, HRD, F/VF-XLN, GRNST IP TO SUCRO MTRX IP, IMBED FOSS FRAGS IP, SFT WHT CHLK IP, NO FLO, NO VIS POR TO TR INTER-FOSS POR, NS

CN

LS- CRM, HRD DNS, VF-XLN, RE-XLN MTRX IP TO TR SUB-SUCRO MTRX, TR IMBED FOSS FRAGS, NO FLO, PR/FR INTER-XLN POR IP TO NO VIS POR IP, NS

CN

LS- LT CRM GY, HRD TO BRITT IP, VF-XLN, RE-XLN MTRX IP, IMBED OOL SCAT THRU, NO FLO, NO VIS POR

CN

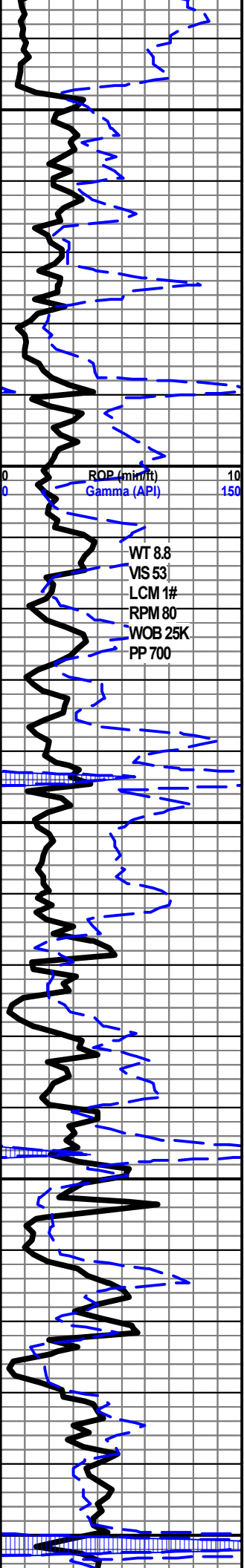
LS- CRM, HRD, F/VF-XLN, SUCRO MTRX THRU, ABTD SFT WHT CHLK THRU, NO FLO, PR/FR INTER-XLN POR THRU, NO ODOR, NS

CN

LS- TN OFF WHT, HRD DNS, VF-XLN, RE-XLN MTRX IP TO SUB-CHLKY MTRX IP, IMBED DK GYOOL SCAT THRU, NO FLO, TR INTER-XLN POR TO TR INTER-OOL POR, NS

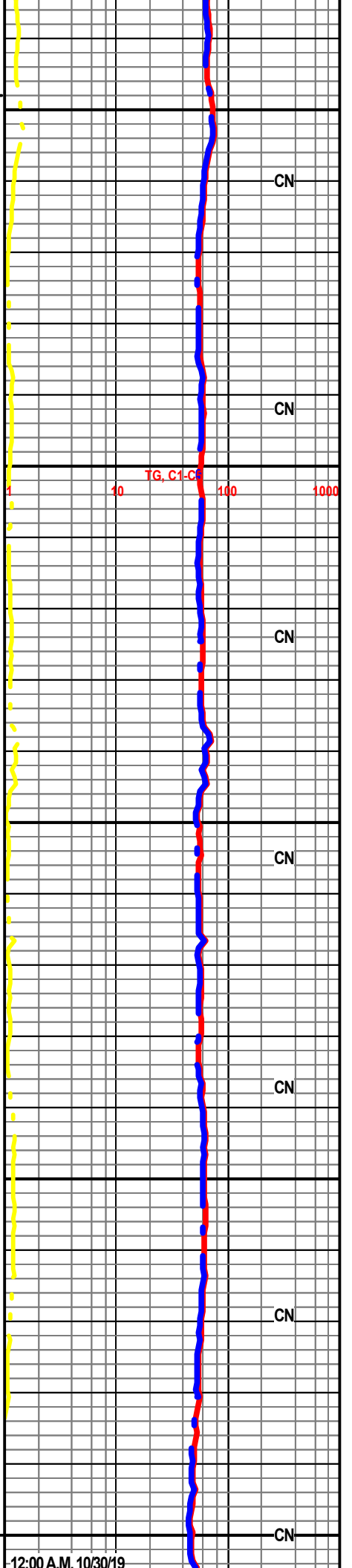
LS- CRM, HRD DNS, CRYPTO-XLN, RE-XLN MTRX THRU, NO FLO, NO VIS POR

HEEBNER 3150' (-1158')



2950  
3000  
3050  
3100  
3150

ROP (min/ft) 10  
Gamma (API) 150  
WT 8.8  
VIS 53  
LCM 1#  
RPM 80  
WOB 25K  
PP 700



SH-RD GY, FRM TO SFT, GMMY

LS-TN CRM, HRD DNS, VF-XLN, RE-XLN MTRX IP, NO FLO, NO VIS POR

**LANSING 3089' (-1097')**

LS-CRM LT CRM, HRD, F/MF-XLN, GRNST, IMBED OOL SCAT THRU, SFT WHT CHLK IP, NO FLO, TR INTER-OOL POR IPTO NO VIS POR IP, NS

LS-CRM, HRD DNS, VF-XLN, RE-XLN MTRX THRU, RE-XLN MTRX THRU, NO FLO, NO VIS POR

SH-RD BLK, FRM, BLKY, LMY

LS-WHT, HRD TO BRITT IP, VF-XLN, GRNST, ABTD IMBED OOL THRU, TR SFT WHT CHLK, NO FLO, PR/FR INTER-OOL POR IP, NSFO, NO ODOR, TR VLT TN STAIN

LS-CRM, HRD DNS, VF-XLN, RE-XLN MTRX THRU, TR GLAUC, NO FLO, NO VIS POR, NS

LS-CRM, HRD DNS, VF-XLN, RE-XLN MTRX THRU, TR IMBED OOL, NO FLO, NO VIS POR

LS-LT GY, HRD DNS, VF/CRYPTO-XLN, RE-XLN MTRX IP, NO FLO, NO VIS POR

LS-TN CRM, HRD, MD/F-XLN, SUCRO MTRX THRU, YEL GLD FLO IN 70%, FAINT FLUSH TO PR SLO BLU STRM CUT, PR/FR INTER-XLN POR SCAT THRU TO TR VUG POR, TN STAIN IP, NO ODOR, NSFO

LS-CRM, HRD DNS, VF-XLN, RE-XLN MTRX IP, TR IMBED OOL, NO FLO, NO VIS POR

LS-TN CRM, HRD TO BRITT IP, VF-XLN, GRNST, IMBED OOL SCAT THRU, DLL YEL GLD FLO IN 80%, FAINT FLUSH TO PR/FR SLO BLU STRM CUT, PR INTER-OOL POR TO TR FRAC POR, NO ODOR, LT TN STAIN THRU

3330' LS-WHT TN, HRD, VF-XLN, GRNST, IMBED FOSS FRAGS IP (CRIN), DLL YEL FLO IP, FAINT SLO BLU STRM CUT, TR INTER-FOSS POR, NSFO

LS-LT CRM, HRD DNS, VF-XLN, RE-XLN MTRX THRU, NO FLO, NO VIS POR, NS

LS-TN, HRD TO BRITT IP, F-XLN, SUCRO MTRX THRU, DLL YEL FLO THRU THRU TO TR BRIT YEL FLO, FAINT FLUSH TO FR SLO BLU STRM CUT, FR INTER-XLN POR THRU, TN STAIN THRU, NO ODOR, NSFO

STRAP OUT @ 3368' 1.25' LONG TO BOARD

CN

CN

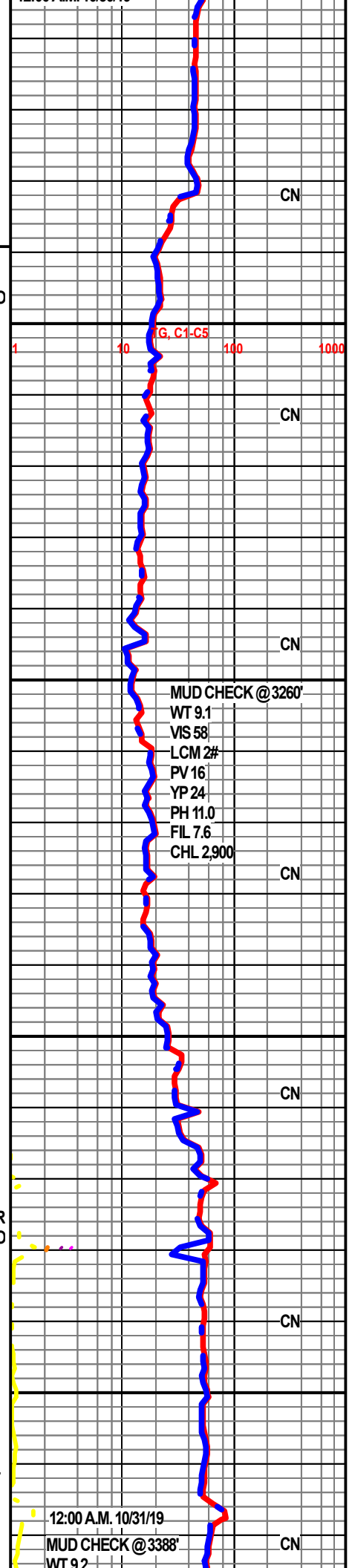
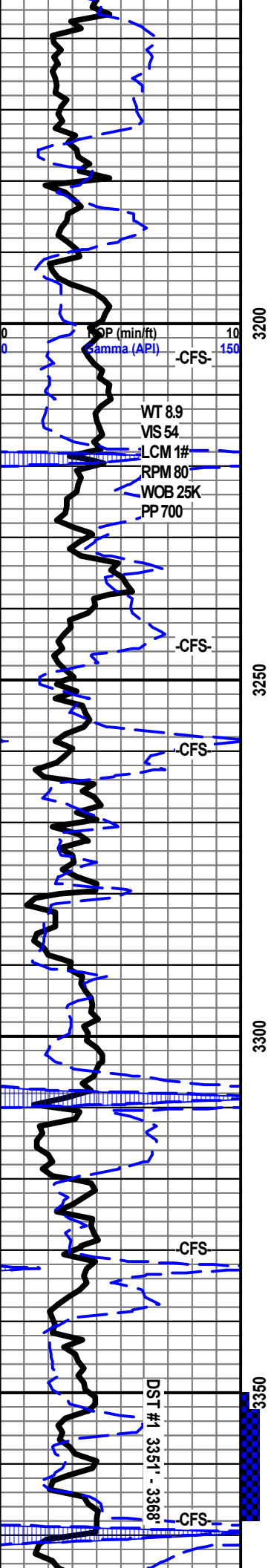
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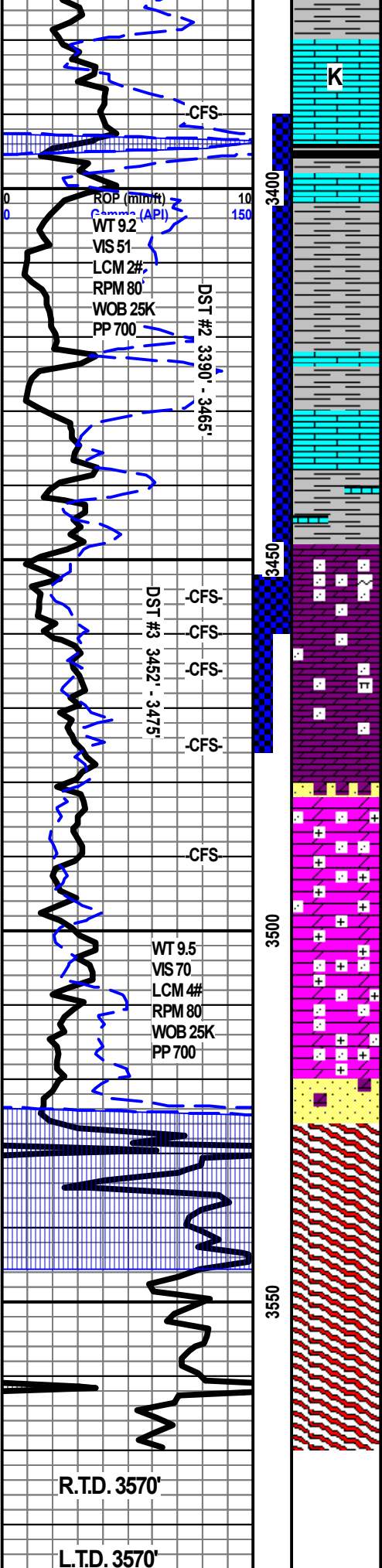
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MUD CHECK @ 3260'  
 WT 9.1  
 VIS 58  
 LCM 2#  
 PV 16  
 YP 24  
 PH 11.0  
 FIL 7.6  
 CHL 2,900

12:00 A.M. 10/31/19

MUD CHECK @ 3388'  
 WT 92



LS- TN CRM, HRD DNS, VF-XLN, RE-XLN MTRX THRU, DLL YEL GLD FLO THRU TO TR BRIT YEL GLD FLO, FAINT FLUSH TO PR SLO BLU STRM CUT, TR INTER-XLN POR TO NO VIS POR IP, TN STAIN SCAT THRU TO TR LIVE OIL STAIN, NO ODOR, TR FREE OIL

SH- GRN RD GY, FRM, BLKY, WXY TEXT

SH- RD, FRM, BLKY, IMBED RND CORSE LS GRNS

LS- CRM, HRD DNS, VF/CRYPTO-XLN, RE-XLN MTRX THRU, TR BLK RESID STAIN, NO VIS POR

SH- RD, FRM HRD, LMY, LT CRM VF-XLN LS IP W/ TR STAIN

**ARBUCKLE 3448' (-1456')**

3450' SNDY DOLO- BLK TN, TT TO FRI IP, CORSE/MD-XLN, ABDT CORSE/MD QTZ XLS SCA THRU, TR GLAUC, TR FLO TO BRIT GLD FLO WHEN CUT, GD FLUSH TO FR BLU STRM CUT, FR/GD INTER-XLN POR THRU, HVY DK BRN STAIN, STRNG ODOR, GSFO

3458' SNDY DOLO- TN BRN, HRD TO FRI IP, CORSE/F-XLN, SUCRO MTRX THRU, CLR QTZ XLS IP, TR GLAUC, TR SFT WHT CHLK, TR YEL GLD FLO TO BRIT YEL GLD FLO THRU WHEN CUT, FR FLUSH CUT TO PR BLU STRM, FR INTER-XLN POR THRU, HVY DK BRN STAIN IP, STRNG ODOR, GSFO

3462' SNDY DOLO- CRM BFF TN, HRD DNS, MED/VF-XLN, SUCRO MTRX THRU TO TR RE-XLN MTRX, MED QTZ XLS IP, SCAT DLL YEL GLD FLO TO BRIT YEL GLD FLO WHEN CUT, PR FLUSH TO FR BLU STRM CUT, FR INTER-XLN POR IP TO NO VIS POR IP, TN STAIN IP, TR FREE OIL, FR/STRNG ODOR

3468' DOLO- BFF TN, HRD DNS, FVF-XLN, SUCRO MTRX THRU, TR SNDY DOLO, MARL IP, TR BRIT YEL GLD FLO, PR FLUSH TO FR SLO BLU STRM CUT, PR/FR INTER-XLN POR SCAT THRU, BLK STAIN IP, FR ODOR, NSFO

3472' DOLO- BFF TN, HRD DNS, CORSE/F-XLN, SUCRO MTRX THRU, SNDY IP, GLAUC IP, SFT WHT CHLK IP, SCAT BRIT YEL GLD FLO, FR FLUSH TO FR SLO BLU STRM CUT, FR INTER-XLN POR SCAT THRU, SCAT BLK STAIN, TR FREE OIL, FR ODOR

3485' DOLO- PINK GRN CLR, TT, MD-XLN, RE-XLN MTRX THRU, ABDT CHLRITE THRU, CLR RND QTZ GRNS IP, FELD SCAT THRU, NO FLO, NO VIS CUT, PR INTER-XLN POR THRU, FAINT ODOR, NSFO

3510' DOLO- TN PINK CLR, HRD DNS, MD/F-XLN, SUCRO MTRX THRU, FELD SCAT THRU, SNDY IP, NO FLO, NO VIS CUT, PR INTER-XLN POR SCAT THRU, FAINT ODOR

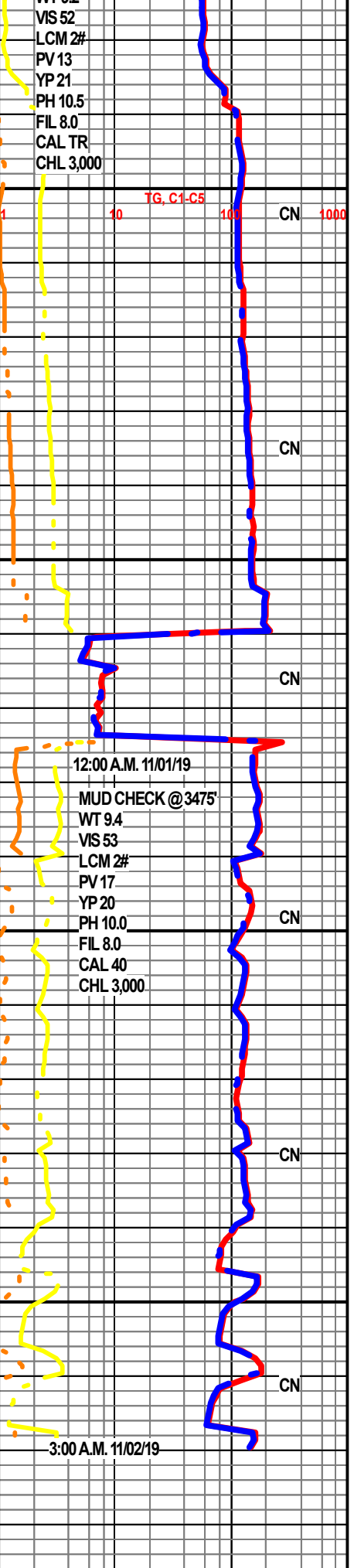
**PRECAMBRIAN 3527' (-1535')**

3520' SS- WHT CLR, FRI, CORSE-GRNS, FR SRT, RND GRNS, SILI CMNT, NO FLO, GD INTER-GRN POR THRU, NS

QTZITE- CLR ORNG, HRD DNS, CRYPTO-XLN, DISS BLK SH THRU, FRAC THRU

QTZITE- CLR, ORNG, HRD DNS, CRYPTO-XLN, DISS BLK SH THRU, FRAC THRU

STRAP OUT @3570', 0.77' LONG TO BOARD



R.T.D. 3570'

L.T.D. 3570'

