

Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION
OIL & GAS CONSERVATION DIVISION

Form ACO-1

January 2018

Form must be Typed

Form must be Signed

All blanks must be Filled

WELL COMPLETION FORM
WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License # _____

Name: _____

Address 1: _____

Address 2: _____

City: _____ State: _____ Zip: _____ + _____

Contact Person: _____

Phone: (_____) _____

CONTRACTOR: License # _____

Name: _____

Wellsite Geologist: _____

Purchaser: _____

Designate Type of Completion:

New Well Re-Entry Workover

Oil WSW SWD

Gas DH EOR

OG GSW

CM (Coal Bed Methane)

Cathodic Other (Core, Expl., etc.): _____

If Workover/Re-entry: Old Well Info as follows:

Operator: _____

Well Name: _____

Original Comp. Date: _____ Original Total Depth: _____

Deepening Re-perf. Conv. to EOR Conv. to SWD

Plug Back Liner Conv. to GSW Conv. to Producer

Commingled Permit #: _____

Dual Completion Permit #: _____

SWD Permit #: _____

EOR Permit #: _____

GSW Permit #: _____

Spud Date or Date Reached TD Completion Date or Recompletion Date

API No.: _____

Spot Description: _____

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

_____ Feet from North / South Line of Section

_____ Feet from East / West Line of Section

Footages Calculated from Nearest Outside Section Corner:

NE NW SE SW

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

Datum: NAD27 NAD83 WGS84

County: _____

Lease Name: _____ Well #: _____

Field Name: _____

Producing Formation: _____

Elevation: Ground: _____ Kelly Bushing: _____

Total Vertical Depth: _____ Plug Back Total Depth: _____

Amount of Surface Pipe Set and Cemented at: _____ Feet

Multiple Stage Cementing Collar Used? Yes No

If yes, show depth set: _____ Feet

If Alternate II completion, cement circulated from: _____

feet depth to: _____ w/ _____ sx cmt.

Drilling Fluid Management Plan

(Data must be collected from the Reserve Pit)

Chloride content: _____ ppm Fluid volume: _____ bbls

Dewatering method used: _____

Location of fluid disposal if hauled offsite:

Operator Name: _____

Lease Name: _____ License #: _____

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

County: _____ Permit #: _____

AFFIDAVIT

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

Submitted Electronically

KCC Office Use ONLY

Confidentiality Requested

Date: _____

Confidential Release Date: _____

Wireline Log Received Drill Stem Tests Received

Geologist Report / Mud Logs Received

UIC Distribution

ALT I II III Approved by: _____ Date: _____

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

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

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

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

Drill Stem Tests Taken <input type="checkbox"/> Yes <input type="checkbox"/> No <i>(Attach Additional Sheets)</i> Samples Sent to Geological Survey <input type="checkbox"/> Yes <input type="checkbox"/> No Cores Taken <input type="checkbox"/> Yes <input type="checkbox"/> No Electric Log Run <input type="checkbox"/> Yes <input type="checkbox"/> No Geologist Report / Mud Logs <input type="checkbox"/> Yes <input type="checkbox"/> No List All E. Logs Run:	<input type="checkbox"/> Log Formation (Top), Depth and Datum <input type="checkbox"/> Sample Name Top Datum
--	---

CASING RECORD <input type="checkbox"/> New <input type="checkbox"/> Used							
Report all strings set-conductor, surface, intermediate, production, etc.							
Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives

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

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

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

DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5) (Submit ACO-4)</i>	PRODUCTION INTERVAL: Top Bottom
---	--	------------------------------------

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:	
----------------	-------	---------	------------	--



BASICSM
ENERGY SERVICES

10244 NE Hwy. 61
P.O. Box 8613
Pratt, Kansas 67124
Phone 620-672-1201

FIELD SERVICE TICKET

1718 18499 A

PRESSURE PUMPING & WIRELINE

TMH 40

DATE

TICKET NO.

18499

DATE OF JOB 11-20-19	DISTRICT Pratt, KS. #1718	NEW WELL <input checked="" type="checkbox"/>	OLD WELL <input type="checkbox"/>	PROD <input type="checkbox"/>	INJ <input type="checkbox"/>	WDW <input type="checkbox"/>	CUSTOMER ORDER NO.:		
CUSTOMER Huntington Energy	LEASE Dickinson Ranch	WELL NO. 2H							
ADDRESS	COUNTY Barber	STATE Kansas							
CITY	STATE	SERVICE CREW Carl B Ron G Darian F							
AUTHORIZED BY	JOB TYPE: surface 2-42								
EQUIPMENT#	HRS	EQUIPMENT#	HRS	EQUIPMENT#	HRS	TRUCK CALLED	DATE	AM	TIME
27463	.75					11-20-19	11-20-19	AM	9:50
19960-21010	.50					ARRIVED AT JOB		AM	11:30
						START OPERATION		AM	1:50
						FINISH OPERATION		AM	2:30
						RELEASED		AM	3:15
						MILES FROM STATION TO WELL		PM	50

CONTRACT CONDITIONS: (This contract must be signed before the job is commenced or merchandise is delivered).

The undersigned is authorized to execute this contract as an agent of the customer. As such, the undersigned agrees and acknowledges that this contract for services, materials, products, and/or supplies includes all of and only those terms and conditions appearing on the front and back of this document. No additional or substitute terms and/or conditions shall become a part of this contract without the written consent of an officer of Basic Energy Services LP.

SIGNED:

(WELL OWNER, OPERATOR, CONTRACTOR OR AGENT)

ITEM/PRICE REF. NO.	MATERIAL, EQUIPMENT AND SERVICES USED	UNIT	QUANTITY	UNIT PRICE	\$ AMOUNT	
BC 101	Class C Cement	SK	355		10,295	
CC 109	Calcium Chloride	lb	688	1605.00	1108.40	
CC 102	Cellulose	lb	89	350.00	311.50	
CF 256	Guide shoe	ea	1		700	
CF 1457	Flapper type insert	ea	1		490	
CF 1756	Centralizers	ea	2		250	
CF 109	Top Rubber plug	ea	1		470	
ME 102	Heavy Equipment Mileage	mi	100		800	
CE 240	Blending + mixing charge	SK	355		497	
TM	Bulk Delivery Charges per ton	TN	835		2505	
CC 1	Depth charge 0-1000'	HR	1		1200	
CS 504	Plug container utilization charge	ea	1		250	
ME 101	Light Vehicle Mileage	mi	50		250	
T 105	Cement Data Acquisition, monitor	ea	1		550	
BE 143	Service supervisor charge	ea	1		75	
BE 144	Driven Charge	ea	2		70	
					19,426.00	
					SUB TOTAL	17,522.70

CHEMICAL / ACID DATA:			

SERVICE & EQUIPMENT	%TAX ON \$	
MATERIALS	%TAX ON \$	
TOTAL		9785.30

SERVICE REPRESENTATIVE *Carl Beldy*

THE ABOVE MATERIAL AND SERVICE ORDERED BY CUSTOMER AND RECEIVED BY: *[Signature]*

FIELD SERVICE ORDER NO.

(WELL OWNER OPERATOR CONTRACTOR/OP AGENT)

BASIC

energy services, L.P.

TREATMENT REPORT

Customer <i>Huntington Energy</i>	Lease No.	Date <i>11-20-2019</i>
Lease <i>Dickinson</i>	Well # <i>21-1</i>	
Field Order # <i>18499</i>	Station <i>Pratt, KS. #1718</i>	Casing <i>13 3/8</i>
Type Job <i>13 3/8 surface</i>	Depth <i>332'</i>	County <i>Baker</i>
	Formation	State <i>KS.</i>
		Legal Description <i>1-3/5-14w</i>

PIPE DATA		PERFORATING DATA		FLUID USED		TREATMENT RESUME		
Casing Size	Tubing Size	Shots/Ft		Acid	RATE	PRESS	ISIP	
<i>13 3/8</i>				Pre Pad	Max		5 Min.	
Depth <i>332'</i>	Depth	From	To	Pad	Min		10 Min.	
Volume <i>45.1'</i>	Volume	From	To	Frac	Avg		15 Min.	
Max Press <i>500</i>	Max Press	From	To		HHP Used		Annulus Pressure	
Well Connection	Annulus Vol.	From	To	Flush	Gas Volume		Total Load	
Plug Depth	Packer Depth	From	To					

Customer Representative	Station Manager <i>Justin Westerman</i>	Treater <i>CARL BARDWIG</i>
-------------------------	--	--------------------------------

Service Units <i>27463 19960 21010</i>								
Driver Names <i>Ron G Dorian Frierson</i>								

Time	Casing Pressure	Tubing Pressure	Bbbs. Pumped	Rate	Service Log
					<i>on location + Rig up</i>
<i>1:30 PM</i>					<i>Ran 332' 13 3/8 casing + float equip. Pipe on bottom, Break circulation with Rig</i>
<i>1:45 PM</i>					<i>Rig up to cement</i>
<i>1:50 PM</i>	<i>150</i>		<i>5</i>	<i>3</i>	<i>Start Freshwater</i>
	<i>150</i>		<i>80</i>	<i>5</i>	<i>Start 355 sx, Cement</i>
					<i>Cement in stop pumps</i>
					<i>Release plug</i>
	<i>50</i>				<i>Start Freshwater Displacement</i>
	<i>200</i>		<i>45</i>	<i>4.5</i>	<i>Ramp 45 Bbbs Freshwater</i>
<i>2:30 PM</i>	<i>500</i>			<i>1.5</i>	<i>Ramp plug + float held</i>
					<i>Circulate 75 sx Cement to pit</i>
					<i>THANK YOU</i>



BASICSM
ENERGY SERVICES
PRESSURE PUMPING & WIRELINE

10244 NE Hwy. 61
P.O. Box 8613
Pratt, Kansas 67124
Phone 620-672-1201

FIELD SERVICE TICKET
1718 18434 A

TMH-42

DATE _____ TICKET NO. _____

DATE OF JOB <u>12-1-2019</u> DISTRICT _____		NEW WELL <input checked="" type="checkbox"/> OLD WELL <input type="checkbox"/> PROD <input type="checkbox"/> INJ <input type="checkbox"/> WDW <input type="checkbox"/> CUSTOMER ORDER NO.: _____				
CUSTOMER <u>HUNTINGTON ENERGY</u>		LEASE <u>DICKINSON RANCH</u>		WELL NO. <u>21-1</u>		
ADDRESS _____		COUNTY <u>BARBER</u>		STATE <u>Ks</u>		
CITY _____ STATE _____		SERVICE CREW <u>LESLEY, MARQUEZ, RILEY</u>				
AUTHORIZED BY _____		JOB TYPE: <u>242 5 1/2" L.S.</u>				
EQUIPMENT#	HRS	EQUIPMENT#	HRS	EQUIPMENT#	HRS	TRUCK CALLED <u>11-30-19</u> DATE <u>11-30-19</u> PM <u>10:00</u> TIME
<u>27463</u>	<u>1</u>					ARRIVED AT JOB <u>12-1-19</u> AM <u>12:00</u>
<u>04981/19918</u>	<u>1</u>					START OPERATION <u>8:45</u> AM
						FINISH OPERATION <u>9:45</u> AM
						RELEASED <u>11:00</u> AM
						MILES FROM STATION TO WELL _____

CONTRACT CONDITIONS: (This contract must be signed before the job is commenced or merchandise is delivered).

The undersigned is authorized to execute this contract as an agent of the customer. As such, the undersigned agrees and acknowledges that this contract for services, materials, products, and/or supplies includes all of and only those terms and conditions appearing on the front and back of this document. No additional or substitute terms and/or conditions shall become a part of this contract without the written consent of an officer of Basic Energy Services LP.

SIGNED: [Signature]
(WELL OWNER, OPERATOR, CONTRACTOR OR AGENT)

ITEM/PRICE REF. NO.	MATERIAL, EQUIPMENT AND SERVICES USED	UNIT	QUANTITY	UNIT PRICE	\$ AMOUNT
BC 132	100/40 P02	SK	50	✓	1,350.00
BC 146	AA2 PREMIUM CEMENT	SK	185	✓	3,515.00
CC 105	C-41P	LB	53	✓	212.00
CC 111	SALT	LB	983	✓	491.50
CC 187	C-17	LB	105	✓	2,560.00
CC 200	CEMENT GEL	LB	86	✓	43.00
CC 201	GILSONITE	LB	925	✓	925.00
CC 151	MUD FLUSH	GAL	500	✓	750.00
ME 101	PICKUP MILEAGE	MI	50	•	250.00
ME 102	HEAVY EQUIPMENT MILEAGE	MI	100	•	800.00
TM	TON MILEAGE	MI	543	•	1,629.00
CE 240	BLEND & MIX CHARGE	SK	235	•	329.00
CE 504	PLUG CONTAINER UTILIZATION	EA	1	•	250.00
CC 5	DEPTH CHARGE, 4001-5000'	HR	1	•	2,500.00
CF 1251	AUTO FILL FLOAT SHADE, 5 1/2"	EA	1	✓	360.00
CF 607	LATCH DOWN PLUG & BAFFLE, 5 1/2"	EA	1	✓	400.00
CF 1051	TURBOLIZER 5 1/2"	EA	10	✓	1,100.00
BE 143	SERVICE SUPERVISOR	EA	1	•	25.00
BE 144	DRIVER CHARGE	EA	8	•	1,050.00
SUB TOTAL					17,604.50

CHEMICAL / ACID DATA:			

SERVICE & EQUIPMENT	%TAX ON \$
MATERIALS	%TAX ON \$

TOTAL 19,893.68

SERVICE REPRESENTATIVE <u>[Signature]</u>	THE ABOVE MATERIAL AND SERVICE ORDERED BY CUSTOMER AND RECEIVED BY <u>[Signature]</u> (WELL OWNER OPERATOR CONTRACTOR OR AGENT)
---	--

FIELD SERVICE ORDER NO. _____

BASIC

energy services, L.P.

TREATMENT REPORT

Customer	HUNTINGTON ENERGY	Lease No.		Date	
Lease	DICKINSON RANCH	Well #	21-1 TD		12-1-2019
Field Order #	18434	Station	PRATT, KS.	Casing	5 1/2" 4830'
Type Job	5 1/2" LONGSTRING			County	BARBER
				State	KS
				Legal Description	21-315-14W

PIPE DATA		PERFORATING DATA		FLUID USED		TREATMENT RESUME		
Casing Size	#Tubing Size	Shots/Ft				RATE	PRESS	ISIP
5 1/2" x 15.5"	14	185 SKS		AA2 Premium				
Depth	Depth	From	To	Pre Pad	Max			5 Min.
4841'				@ 1.47 CU FT				
Volume	Volume	From	To	Pad	Min			10 Min.
117 BBL								
Max Press	Max Press	From	To	Frac	Avg			15 Min.
1500								
Well Connection	Annulus Vol.	From	To		HHP Used			Annulus Pressure
P.C.								
Plug Depth	Packer Depth	From	To	Flush	Gas Volume			Total Load
4808'				117 BBL				

Customer Representative		Station Manager	J. WESTERMAN	Treater	K. LESLEY
Service Units	96817	27463	84981	19918	
Driver Names	LESLEY	MARBLE	OSBOURNE		

Time	Casing Pressure	Tubing Pressure	Bbls. Pumped	Rate	Service Log
11:45 PM					ON LOCATION - SAFETY MEETING
4:20 AM					RUN 138 JTS. 5 1/2" x 15.5" CSG.
3					TURBO - 2, 3, 4, 6, 8, 14, 20, 26, 32, 38
7:45 AM					CSG. ON BOTTOM / BREAK CIRC. W/ RIG
8:45 AM	250		5	6	H2O AHEAD
8:47 AM	250		12	6	MUD FLUSH
8:49 AM	250		5	6	H2O SPACER
8:50 AM	200		49	6	MIX 185 SKS @ 14.8 PPG
8:58 AM					SHOT DOWN - CLEAR PUMP & LINE / DROPL. PLUG
9:24 AM	0		0	6	START DISPLACEMENT
9:38 AM	400		83	5	LIFT PRESSURE
9:43 AM	650		100	4	SLOW RATE
9:45 AM	1500		117	3	PLUG DOWN - HELD
3					CIRC. THRU JOB
10:20 AM			7.5		PWG R.H. & M.H.
					3277' = 14"
					1564' = 15.5"
					JOB COMPLETE,
					THANKS -
					KEVEN LESLEY

Big Bucket's Rathole Drilling, Inc.

P. O. Box 5252
 Enid, OK 73702
 Office 580-233-9850
 Fax 580-233-4588

INVOICE

DATE	INVOICE NO.
11/20/2019	7115

BILL TO
Huntington Energy, LLC 908 NW 71st Street Oklahoma City, Oklahoma 73116

WELLNAME		RIG	COUNTY	LEGAL	LEGAL	
DickensenRanch21-1		Duke Drlg. #7	Barber, KS	SW/4 Sec 21	31S-14W	
DATE	W. TKT	DESCRIPTION		QTY	RATE	AMOUNT
11/1/2019	6032	Drilled rat holes and cellar			750.00	750.00
		Drilled 30" conductor hole		58	40.00	2,320.00
		Bobcat to remove dirt			450.00	450.00
		Furnished 20" conductor pipe		58	48.80	2,830.40
		Furnished grout: 6.5 yards of 8 sack grout 2%CC			937.38	937.38
		Furnished 4' of 60" steel cellar form			450.00	450.00
		Furnished welder & materials			350.00	350.00
		trip permit (2 trucks)			150.00	150.00
		STATE TAX			4.50%	0.00
Have A Safe Holiday!				Total		\$8,237.78

P.G. # _____

BIG E JACKETS RATHOLE DRILLING

NO 6032

P.O. Box 5252

ORDERED BY

Enid, Oklahoma 73702

Phone (580) 233-9850

Fax (580) 233-4588

Date 11/19/20

Robert Herritt

Bill To Quinn Operating Company

Lease Dickinson Ranch #21-1

Address Huntington E Okla

Legal Sec 21-31S-14W

County Saline Co Kansas

Rig Duke #7

DESCRIPTION

AMOUNT

DESCRIPTION	AMOUNT
Furnish Men & Equipment To <u>Drill rat hole # 4' of 60" cellar</u>	<u>\$ 750.00</u>
<u>Drill 58 ft of 30" hole @ 42.50/ft.</u>	<u>2320.00</u>
<u>Obort to remove dirt off loc.</u>	<u>450.00</u>
Materials Furnished <u>58 ft. of new 20" pipe @ #48.00</u>	<u>2830.40</u>
<u>6' of 4" x 8" sub grade</u>	<u>937.38</u>
<u>4' of 60" timber (cellar form)</u>	<u>450.00</u>
<u>Welder & materials</u>	<u>350.00</u>
<u>K's bk permits (2 bk)</u>	<u>150.00</u>

Operator Jerry Rice

Approved By

Total \$ 8237.78

Covey

The Well Watchers

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

Well Name: DICKINSON RANCH #21-1
Location: Section 21 - Township 31S - Range 14 West
Licence Number: 15-007-24364-00-00 Region: Barber County, KS.
Spud Date: 20 November 2019 Drilling Completed: 30 November 2019
Surface Coordinates: 2,522' FSL & 1,180' FSL
(NAD 83 LAT: 37.742536811 NAT 83 LONG: 100.675762827)

Bottom Hole Coordinates:
Ground Elevation (ft): 1,700' K.B. Elevation (ft): 1,713'
Logged Interval (ft): 3,000' To: 4,830' Total Depth (ft): 4,830'
Formation: Heebner -----> Arbuckle
Type of Drilling Fluid: Displace @ 3,500' - Chemical, Low Solids, non Dispersed

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

OPERATOR

Company: QUINQUE OPERATING COMPANY
Address: 908 NW 71st Street POC: Joe Bruns
Oklahoma City, Oklahoma 73116 Robert Herritt
(405) 840-9876

GEOLOGIST

Name: Curtis E. Covey
Company: COVEY - The Well Watchers
Address: 6548 Bedford Circle
Derby, Kansas 67037
Office: (316) 776-0367 Cell: (316) 217-4679

KB: 1,713'

FORMATION TOPS

GL: 1,700'

Formation	Rotary Sample Depth (Datum)	E-log Depth (Datum)
Wabaunsee	2,862' (-1,149')	Not Logged
Stotler	3,086' (-1,373')	Not Logged
Topeka	3,256' (-1,543')	Not Logged
Heebner Shale	3,718' (-2,005')	3,716' (-2,003)
Lansing	3,900' (-2,187')	3,898' (-2,185')
Stark Shale	4,252' (-2,539')	4,249' (-2,536')
B / KC	4,345' (-2,632')	4,340' (-2,627')
Marmaton	4,357' (-2,644')	4,354' (-2,641')
Miss	4,428' (-2,715')	4,428' (-2,715')
Viola	4,456' (-2,742')	4,513' (-2,800')
Simpson	4,658' (-2,945') ?	4,674' (-2,961')
Arbuckle	4,753' (-3,040')	4,748' (-3,035')

RTD: 4,830' LTD: 4,829' ATD: 4,828'

Float:
Rotary Sample Depth is 0' - 2' low to E-log Depth.

E-Loggers: Step Energy Services
Hays, Kansas

DST #1 - DENNIS LS

Rotary Depth: 4,200' - 4,226'
Logger's Depth: 4,200' - 4,226'

IFP: 46# - 217# / 30"
ISIP: 1,578# / 45"
FFP: 35# - 78# / 45"
FSIP: 1,565# / 90"
BHT: 115 deg F
MH: 2,044# - 2,097#

Trilobite Testing ... Pratt, KS.

Recovery:
20P .. GTS 7 minutes
(4,068' GIP)
122' GAS cut Mud (6%G,94%M)

IF: Strong Blow, BOB in 10 seconds
built to 341 inches.
ISI: No blow back.
FF: GTS 7 minutes, gauged & caught samples.
FSI: No blow back.

Gas Volume Gauge:
2FP: 10" - 7.6 MCF/D @ 1/8" chock.
20" - 9.5 MCF/D @ 1/8" chock.
30" - 11.4 MCF @ 1/8" chock.
40" - 13.3 MCF/D @ 1/8" chock.
45" - 14.4 MCF/D @ 1/8" chock.

Recovery Water: (NA)
System Water: (4,500 ppm)
Recovery Water (Engineer): (NA)
Reported Rw = (NA)
Sampler: 400 ml MUD @ 30 psi.
Gas bottle taken.

DST #2 - MISS CHERT

Rotary Depth: 4,406' - 4,440'
Logger's Depth: 4,404' - 4,438'

IFP: 27# - 27# / 30"
ISIP: 76# / 45"
FFP: 23# - 729# / 45"
FSIP: 90# / 90"
113 deg F
MH: 2,122# - 2,111#

Recovery:
297' Gas in Pipe)
10' Slightly GAS cut Mud (2%G,98%M)

IF: Weak Blow, built to 6 inches.
ISI: No blow back.
FF: Weak Blow, built to 1 inch.
FSI: No blow back.

Gas Volume Gauge: NA
Recovery Water: (NA)
System Water: (4,500 ppm)
Recovery Water (Engineer): (NA)
Reported Rw = (NA)
Sampler: 400 ml MUD
Trilobite Testing ... Pratt, KS.

DST #3 - VIOLA

Rotary Depth: 4,506' - 4,540'
Logger's Depth: 4,504' - 4,534'

IFP: 18# - 23# / 30"
ISIP: 60# / 30"
FFP: 19# - 23# / 30"
FSIP: 80# / 60"
114 deg F
MH: 2,202# - 2,151#

Recovery:
110' Gas in Pipe
10' GAS cut Mud (10%G,90%M)

IF: Weak Blow, built to 5.5 inches.
ISI: No blow back.
FF: Weak Blow, built to 2.25 inch.
FSI: No blow back.

Gas Volume Gauge: NA
Recovery Water: (NA)
System Water: (4,500 ppm)
Recovery Water (Engineer): (NA)
Reported Rw = (NA)
Sampler: 400 ml MUD
Trilobite Testing ... Pratt, KS.

BIT RECORD

DATE	SIZE	TYPE (IADC)	JET SIZE	DEPTH IN / OUT	CUM. FT.	HOURS	ROP (ft/hr)
SURFACE ---							
19 Nov 2019	17-1/2"	SMITH TDS-CPS	15 - 15 - 15	58' / 340'	282'	9.25	30.5
VERTICAL ---							
21 Nov 2019	12-1/4"	PDC	15's	340' / 461'	121'	2.75	44.0
21 Nov 2019	12-1/4"	SMITH RR	6 - 13's	461' / 977'	516'	11.25	45.9
22 Nov 2019	7-7/8"	HTC GX-20C (751)	15 - 15 - 15	977' / 4,830'	3,853'	99.00	38.9

ROCK TYPES

POROSITY

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

LITHOLOGY

- Anhy
- Bent
- Brec
- Cht
- Clyst
- Coal
- Granite wash
- Congl
- Dol lmst
- Silty dol

- Calc dol
- Dol 2
- Dol
- Gyp
- Igne
- Lmst 2
- Lmst
- Meta
- Mrlst
- Salt
- Shale 3
- Shale
- Shcol
- Shgy
- Sltst
- Ss
- Till
- Ss 2

MINERAL

- Mica
- Anhy
- Arggrn
- Arg
- Bent
- Bit
- Brecfrag
- Calc
- Carb
- Chtdk
- Chtlt
- Dol
- Feldspar
- Ferrpel
- Ferr
- Glau
- Gyp
- Hvymin
- Kaol
- Marl

MINXL

- Minxl
- Nodule
- Phos
- Pyr
- Salt
- Sandy
- Silt
- Sil
- Sulphur
- Tuff
- Copper
- Ooliticastic
- Ooloid
- Oolite
- Sucrosic
- Dark specks

STRINGER

- Dol ls
- Silty dol
- Anhy

- Arg
- Bent
- Coal
- Dol
- Gyp
- Ls
- Mrst
- Calc dol
- Sltstrg
- Ssstrg
- Chalk
- New symbol
- Oil
- Spotted
- Ques
- Dead
- Gas
- Oil/gas
- Bed contact

ACCESSORIES

FOSSIL

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

- Oolite
- Ostra
- Pelec
- Pellet
- Pisolite
- Plant
- Strom

MINERAL

- Mica
- Anhy
- Arggrn
- Arg
- Bent
- Bit
- Brecfrag

- Calc
- Carb
- Chtdk
- Chtlt
- Dol
- Feldspar
- Ferrpel
- Ferr
- Glau
- Gyp
- Hvymin
- Kaol
- Marl
- Minxl
- Nodule
- Phos

- Pyr
- Salt
- Sandy
- Silt
- Sil
- Sulphur
- Tuff
- Copper
- Ooliticastic
- Ooloid
- Oolite
- Sucrosic
- Dark specks

STRINGER

- Dol ls

- Silty dol
- Anhy
- Arg
- Bent
- Coal
- Dol
- Gyp
- Ls
- Mrst
- Calc dol
- Sltstrg
- Ssstrg
- Chalk
- New symbol

OTHER SYMBOLS

ACTIVITY

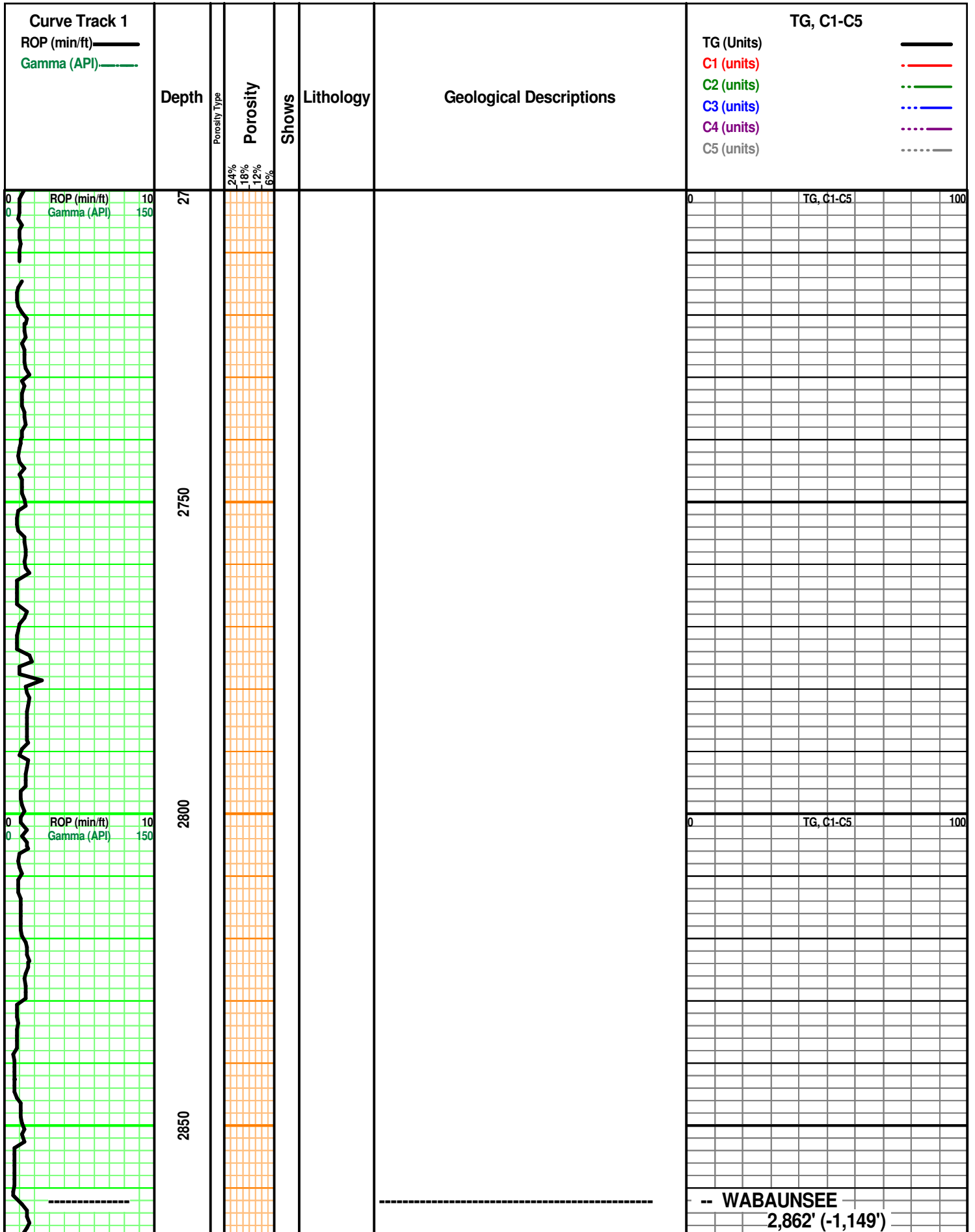
-  Lost circulation
-  Circulate for sam

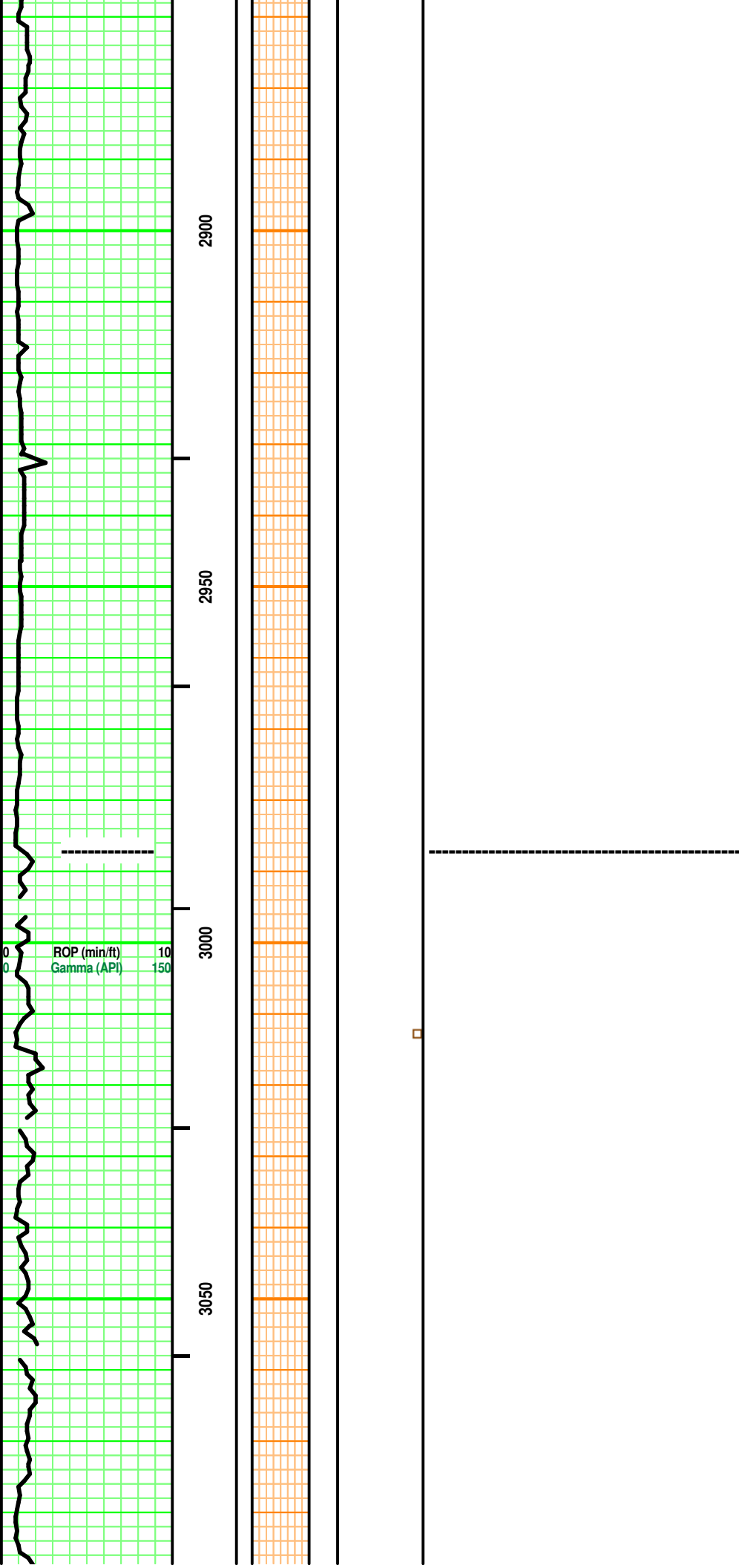


-  Circulate for sam
-  EVENT
-  Trip

-  Rtd
-  Connection
-  Rft

-  Sidewall





TookeDaq gas detection equipment was used in the evaluation of the hydrocarbon gases contained in the drilling fluids of this well.

Gas Detection Equipmnet is TookeDaq provided by COVEY - The Well Watchers

Total Gas and Chromatograph curves are shown values and corrected for depth.

Daily Total Gas Check on gas detection equipment by Calibrated Test Bottles respectively for Hotwire & Chromatograph Filament response.

This geolog uses plotted drilling time, available rotary drilling samples and the gas curves to produce this work product.

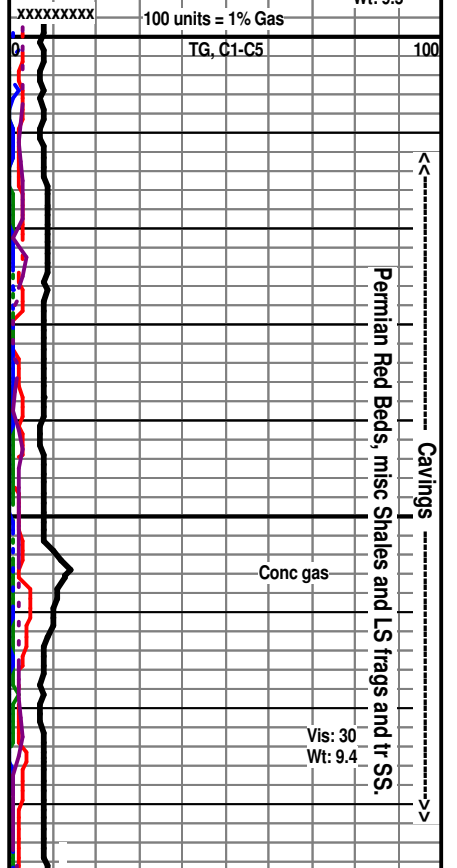
Non-representative drilling time, rotary rock samples and/or drilling practices does effect the accuracy of any geolog.

Rotary Samples were collected from the possum belly of the shale shaker.

Steel pits with agitators were used.

-- STOTLER
2,987' (-1,274')

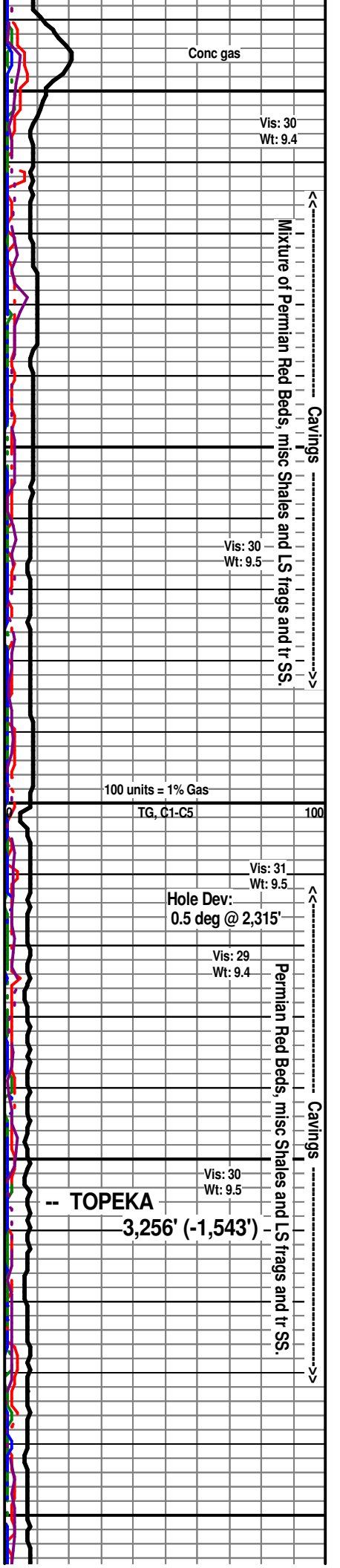
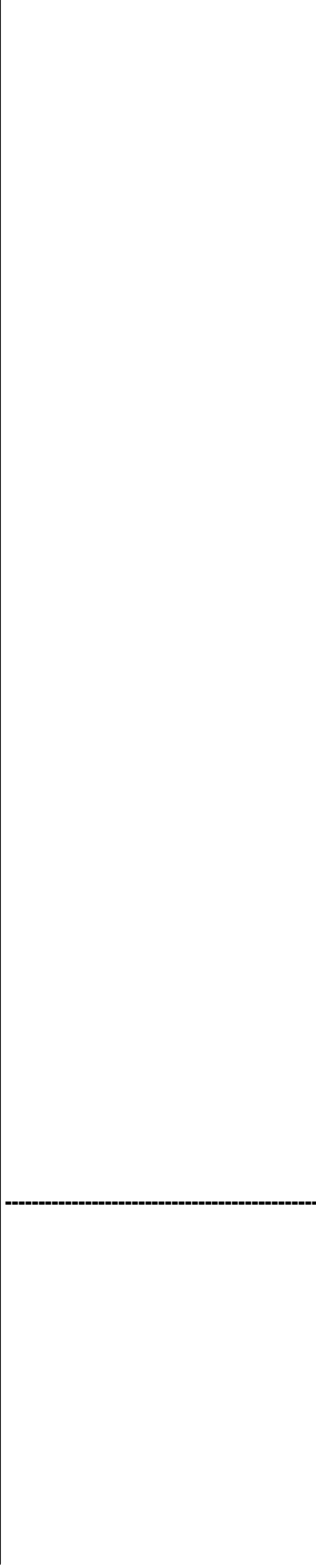
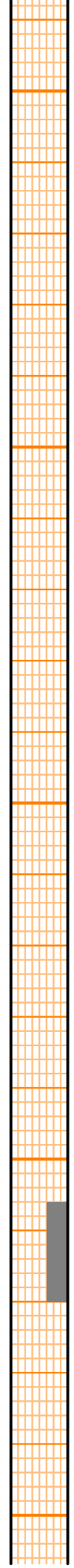
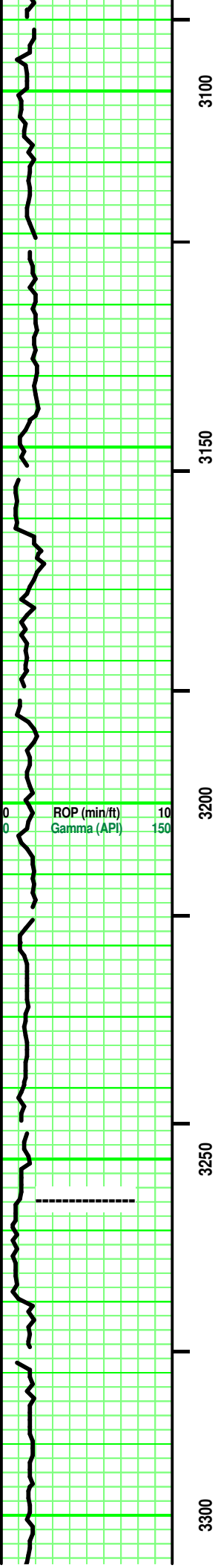
Vis: 28
Wt: 9.5



Permian Red Beds, misc Shales and LS frags and tr SS.

Cavings

Vis: 30
Wt: 9.4



<<-----> Cavings ----->>
<<-----> Cavings ----->>

<<----->>
Cavings ----->>
Permian Red Beds, misc Shales and LS frags

Cavings (Permian Red Beds, etc.)

Cavings (Permian Red Beds)

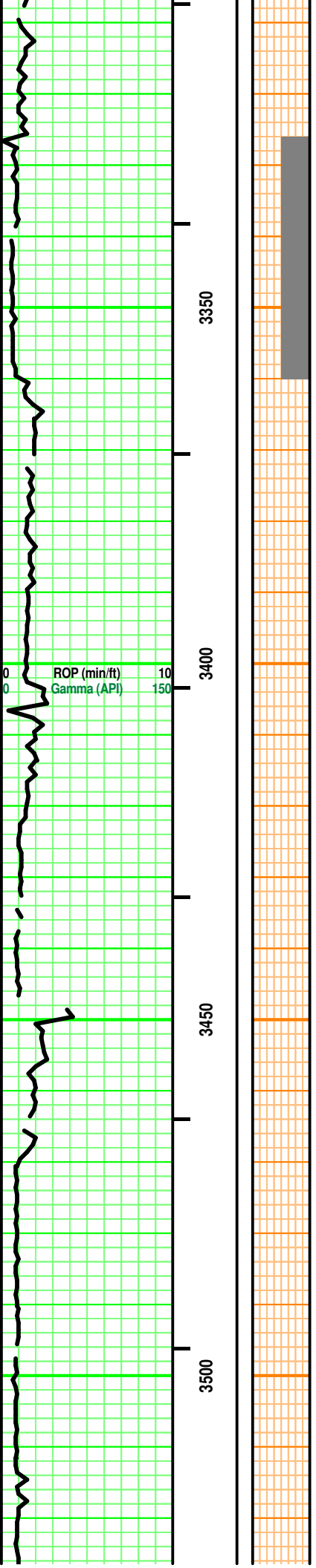
Cavings (Permian Red Beds)

100 units = 1% Gas
TG. C1-C5
DISPLACED MUD @ 3,403'

Lost Pump Pressure

3,496' -
Vis: 48 Wt: 8.7 WL: 8.8
PV: 13 YP: 14 Gels: 11/36
pH: 10.5 Cl (2,000) Cl (80)
Solids: 2.7% LCM: 2#

Few pcs: Limestone - Tans. Sing/ tr Mot.
XF-/F-xln. xln por. No/ some subchalky. No/ rare
fossil frags. Friable. tr/ Fair vis por.



3350

3400

3450

3500

ROP (min/ft) 10
Gamma (API) 150

Hotwire Callibration Check

Chromatograph Callibration Check

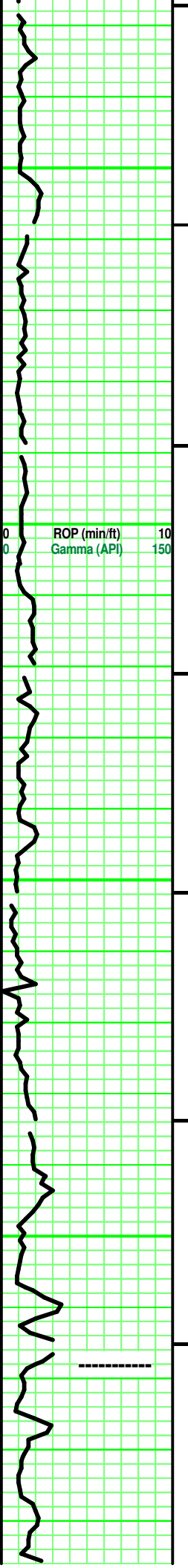
Cavings starting to disappear (by volume).

Vis: 60
Wt: 8.8

100 units = 1% Gas

TG, C1-C5

100

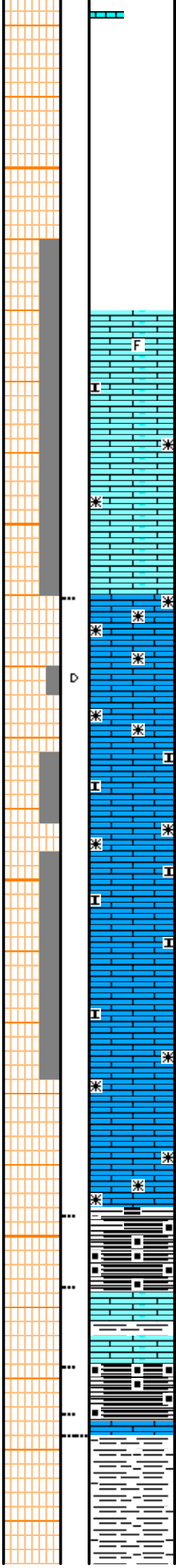


3550

3600

3650

3700



LS - Lt/ Med Tan. Pale Lt Gray. Sing/ mostly Mot or Mixed. XF-/ Micro-xln. xln por. No/ tr subchalky. No/ rare fossil frag. No/ tr argil in part. partly Firm. tr/ some Fair vis por.

Mixed with:

LS - Lt Tan/ Clear. Mot. XF-xln. xln & part por. Friable. Fair/ some good vis por. 1 pc: with disseminated, irregular black gilsonitic frags.

LS - Pale and Lt Gray/ tr Tan, Lt Brown. Sing. Micro-/ XF-xln. tr VF-xln in part. xln por/ tr part por. mostly No but tr argil/shaly interbedded or in part. tr Re-xln. subchalky in part. partly Firm in part. . No/ tr vis por.

SH - Black. Sing. Carb. Soft.

LS - Grays/ tr Tan, Lt Brown. Sing. Micro-/ XF-xln. xln por. argil/shaly interbedded or in part. tr Re-xln. Firm. No/ tr vis por.

SH - Black. Sing. Carb. Soft.

LS - Pale Tannish Gray. Sing. Micro-xln. xln por. tr Firm. No/ tr vis por.

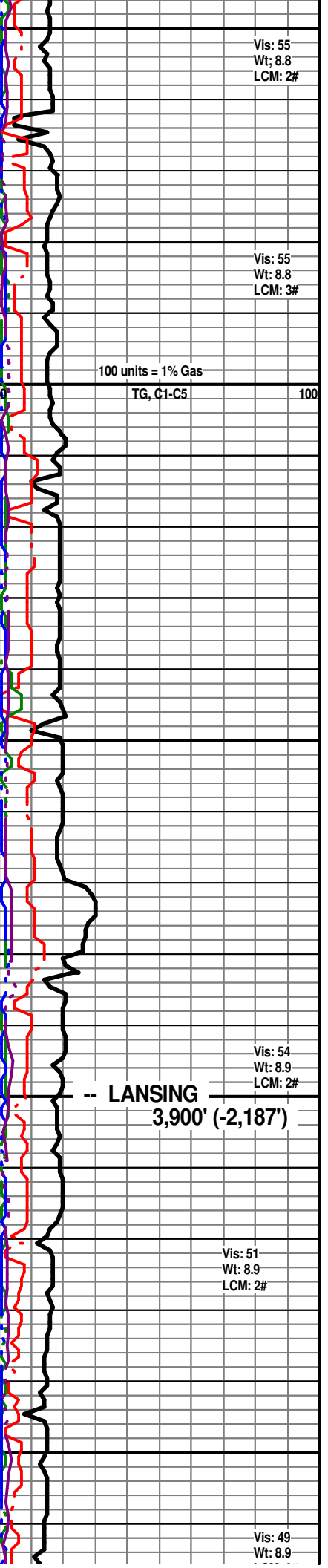
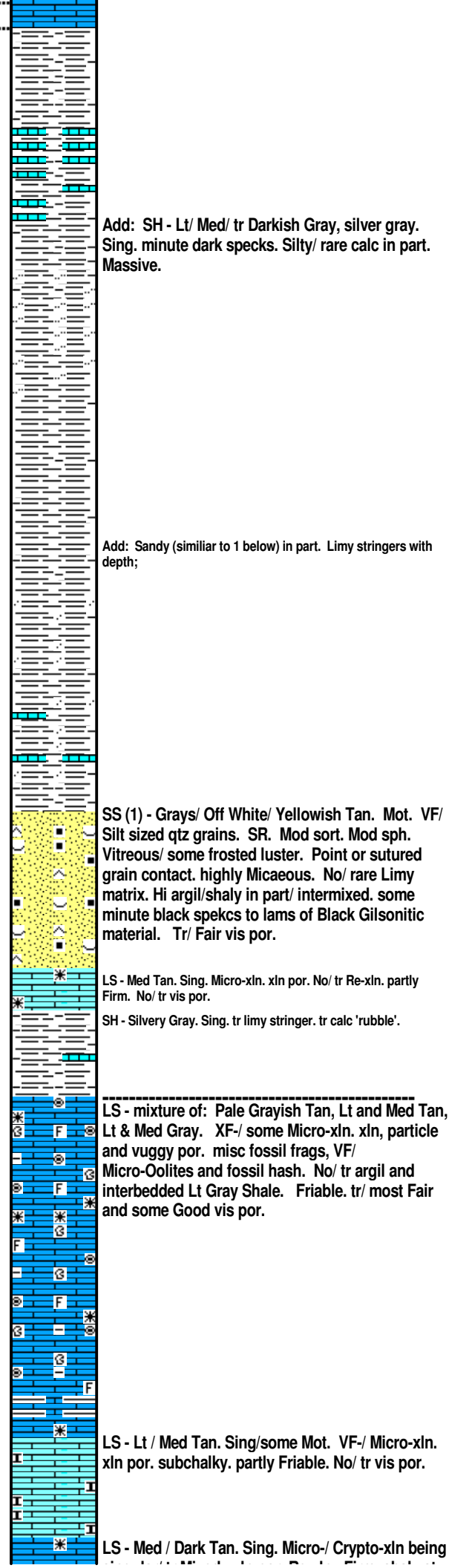
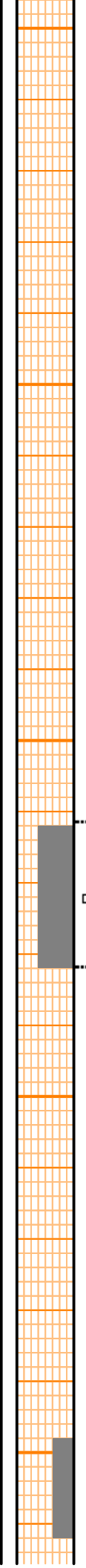
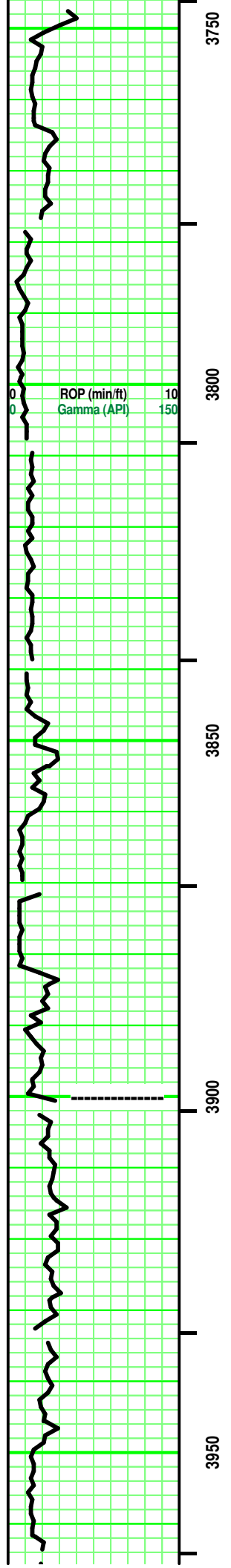
SH - some Med/ Dark Gray, Greenish gray. Hi limy to limestone intermixed/ interbedded. Tan/ Pale to Lt Gray. Med Gray with depth. Sing. Micro-xln. xln por. argil. part Firm. No/ tr vis por.

Black Shale Gas

Hole Dev:
1.25 deg @ 3,715'

-- HEEBNER SH

3,718' (- 2,005')



-- LANSING
3,900' (-2,187')

singular/ tr Mixed. xln por. Re-xln. Firm. shaly at depth. No vis por.

LS - Tans. Mixed. Micro-Oolites and brec fossil frags. Clear/ Med or Dark Brownish Tan matrix. part por. No/ tr chalky. Friable. tr/ Fair vis por.

Vis: 49
Wt: 8.9
LCM: 2#

CFS @ 4,001'

100 units = 1% Gas
TG, C1 - C5 100

ROP (min/ft) 10
Gamma (API) 150

LS - Lt/ Med Tan, Pale Grayish Tan. rare Yellowish Tan. some XF-/ mostly Micro-xln. xln por. some Re-xln. Pale Gray argil in part (mixed). Firm. No/ tr vis por.

xxxxxx CFS @ 4,001': 30" xxxxxx100

Hotwire Callibration Check

Chromatograph Callibration Check

SH - Lt/ Med Gray. Sing. tr calc.

LS - Pale Grayish Tan, tr Off Whitish Tan. Sing/ tr Mot. XF-/ Micro-xln. xln por. No/ some subchalky in part. No/ tr Re-xln. Firm. No/ tr vis por.

LS - Med Tan/ some Lt Tan to Off Whitish Med Tan. Sing/ some Mixed. VF-/F-/ tr Micro-xln (Sing/Mixed). xln and tr sucrosic porosity. No/ tr Re-xln. partly Friable. tr/ some Fair vis por.

Add: Mixed LS and fossil frags, No/ subchalky in part.

Vis: 48
Wt: 9.0
LCM: 1#

LS - Lt/ Med Gray. Tr Dark Tan. Sing/Mot/ tr Mixed. XF-/Micro-xln. xln por. mostly No/ tr subchalky. No/ some Re-xln. Firm. No/ tr vis por.

SH - Med Gray. Sing. soft.

LS - Mixture of Lt/Med Tan, Grayish Tan VF/XF sized, Ang frags. Lt Tan sucrosic matrix. minute misc, dark pcs. Friable. tr/ Fair vis por.

CFS @ 4,124'

xxxxxx CFS @ 4,024': 50" xxxxxx

LS (2) - Tans, Whitish Tan, Tanish Gray at depth. Sing/Mixed. tr XF-/ Micro-/ some Crypto-xln. xln por. No/ some Re-xln. argil in part. Firm. No/ tr vis por.

SH - Med Gray. Sing. soft.

LS - similiar to (2) above.

Add rare pcs: Chert - Pale Gray, Pale Grayish Tan. Sing. Opaque. No/ ? minute inclusions. No tripolitic.

DST #1 Dennis LS
Rec: 20P .. GTS 7 minutes
(14.7 MCF/D)
122' GCM (6%G,94%M)

Vis: 54
Wt: 9.0
LCM: 1#

LS - Tans. Sing/Mot. VF-/XF-xln. xln por. mixture of subchalky. Friable. No/ tr vis por.

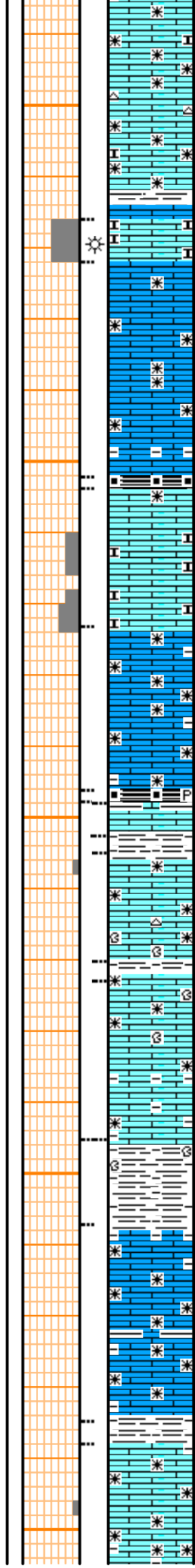
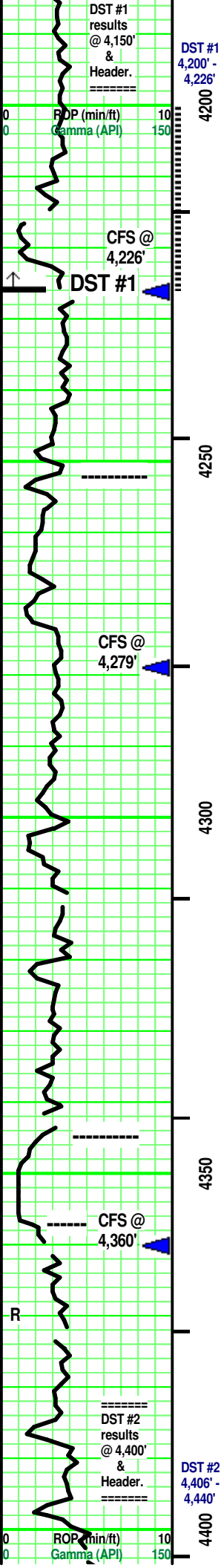
SH - Med Gray. Sing. soft.

LS - Tans. Sing/ Mixed. XF-/Micro-xln. xln por. No to some Re-xln. {some Chert - Pale Gray to Pale Tannish Gray, mostly Sing/ rare Mot. Opaque. No/ tr inclusions. No tripolitic.} No/ tr chalky in part. Mostly Firm. mostly No/ tr vis por.

IF: Strong Blow, BOB in 10 seconds built to 341 inches.
ISI: No blow back.
FF: GTS 7 minutes, gauged & caught samples.
FSI: No blow back.

Vis: 53
Wt: 9.2
LCM: 2#

Hole Dev: 1.5 dea @ 4.183'



SH - Med Gray. Sing. tr calc.

LS - Off White. Sing. Micro-xln. xln por. Chalk. Friable. No vis por. Oil odor. No free oil or gas. Spotted, uniform Pale Lt Tan stain. mostly No/ rare v weak cut and residual. mostly No/ rare v weak acid/ residual.

LS - Tans, Lt & some Med Gray. Sing/ Mixed. tr XF-/ Micro-/ some Crypto-xln. xln por. No/ some Re-xln. argil in part. Firm. No/ tr vis por.

STARK SH 4,252' (-2,539')

SH - Black. Sing. carb. soft.

LS - Lt & Med Tan, Grayish Tan. Sing. VF-/ XF-xln. xln por. subchalky. partly Friable. No/ tr vis por.

LS - Tans/ Lt & Gray. Sing/ tr Mot. Crypto-/ some Micro-xln. xln por. No/ tr Re-xln. some argil. tr Re-xln. Firm. No/ tr vis por.

SH - Black. Carb. minute pyrite. Soft.

LS - Tan/ some Off White / Lt and Med Gray. Sing/ some Mot/ tr Mixed. Micro-/ XF-xln. some Crypto-xln. xln por. some Re-xln. No/ tr argil. Off White has XF sized, Rd, disseminated Dark Gray Shale frags. {tr Chert - Tan, Grayish Tan. Sing. Opaque. No/ rare inclusions. No tripolitic.} No/ tr vis por.

Interbedded with SH - Med/ Dark Gray. Sing. soft. platty with depth

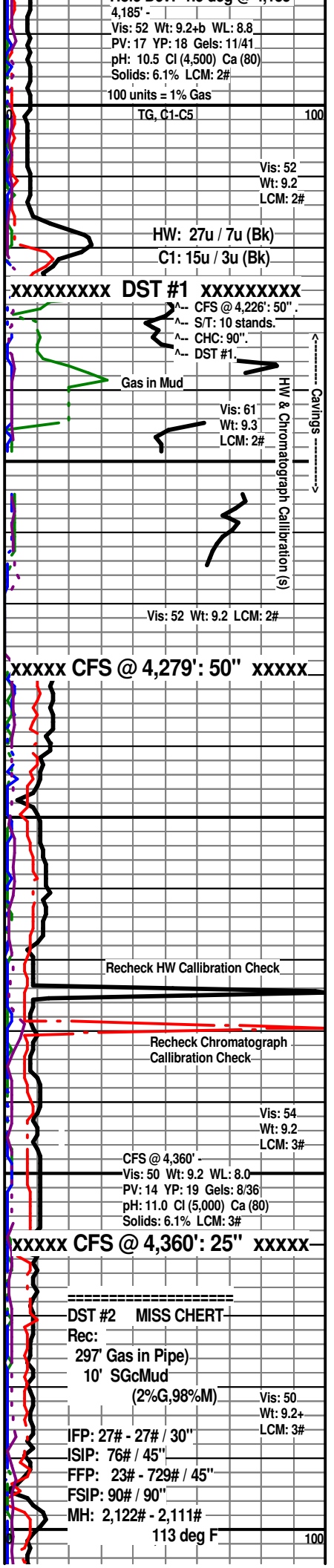
B / KC 4,345' (-2,632')

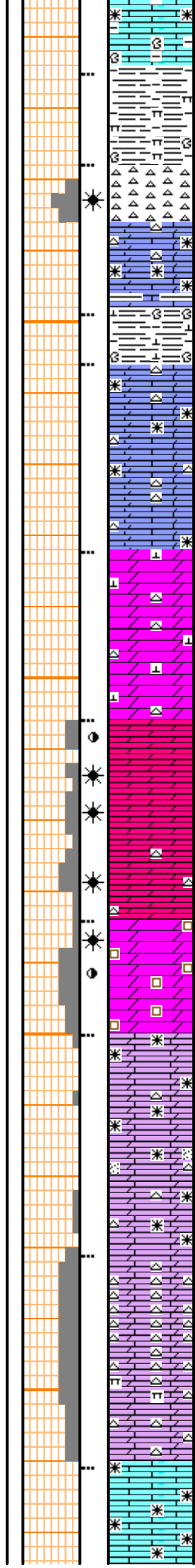
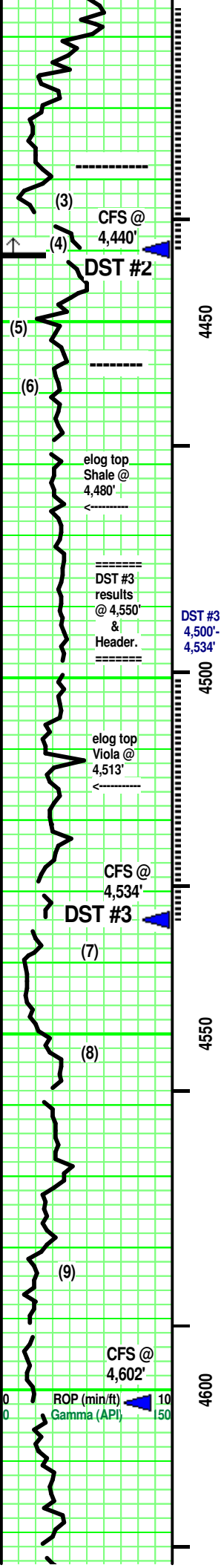
MARMATON 4,357' (-2,644')

LS - Tan/ Lt Gray. Sing/ some Mot. Micro-/ XF-xln. xln por. some Re-xln. tr argil. No/ tr vis por.

SH - Med/ Dark Gray. Sing. Massive. tr misc minute inclusions.

LS - Tans/ Brown. Mixed/ Mot. Grays with depth. XF-/Micro-xln/ some Crypto-xln. xln & particle por. Misc, VF/XF SA LS frags at depth. No/ tr Re-xln. No/ tr argil in part. Re-xln. mixture of Friable and Firm. most No, some tr vis por.





few pcs: LS - White/ Off White. Sing. Micro-xln. xln & minute re-xln por. partly Friable. random, lenticular Black amorphous infill. (No Cut, No fluorescence)

SH / Marl - Pale Bluish Green, some grays. Sing. Highly marly in part, some misc 'rubble' frags at depth.

CHERT (3) - rare Clear, mostly intermixed Black, Tan, Lt Gray, tr Orange. Mixed. Opaque to some semi-transparent. mixture of Vitreous & Tripolitic por. Mostly No/ rare inclusions. Friable. Good vis por. Light (turpentine like) odor. On own, some free Lt to Med Brown OIL. some Free minute gas bubbles clinging to chert chips. Black, irregular and infill stain. Pos cut/ residual. Pos acid/ residual.

LS (Dol) (4) - Med Tan, Brownish Gray. Sing/ Mot. Micro-xln. xln por. some Chert similar to (3) above. Re-xln. Firm. No/ tr vis por. SH (5) ----->

VIOLA 4,456' (-2,742')

LS (Hi Dol in part) (6) - Lt / some Med Tan. Sing. tr XF-/ mostly Micro-xln. xln por. tr No/ Re-xln. Firm. tr No/ mostly tr vis por. mixed with some Chert (7)- White/Off White. Sing. Opaque. No Inclusions. No trip.

Dol (tr Calc in part) - Lt/ Med Tan, Pale Grayish Tan, Grays. Sing. tr XF-/ mostly Micro-xln. xln por. [tr Chert similar to (7) above.] Firm / Dense. No/ tr Re-xln. No/ tr vis por.

DOL - mostly Off White/ tr Pale Lt Gray. Sing. VF-/Micro subeuhedral xtals. mixture of vuggy and xln por. Friable in part. some sutured grains. Fair/some Good, some Tr vis por. [few pcs CHERT - Off White. -----> Fair/Good odor. Spotted/ some uniform Med Yellow fluorescence. On own, minute free Lt Brown OIL blob floating on wash water. On own, minute OILY GAS Bubbles clinging to rock chips. mixture of: spotted, uniform Lt Brown stain. Pos cut/ residual. Pos acid/ residual. [30" later - numerous OIL blobs floating on wash water. numerous OILY Gas bubbles clinging to rock chips.]

DOL (7) - Off White/White, tr pale Lt Gray. Sing. Micro-Re-xln. xln & sucrosie por. Show similar to above and decreasing with depth.

DOL (Calc) (8) - White/ Off White/ tr pale Lt Gray. Sing. Micro-Re-xln. xln por. [some Chert - White/ Off Whitish very Pale Gray. Sing. tr Mot. Opaque. No Inclusions. No/ rare trip with rare pinpoint black specks.] Firm. No/ tr vis por.

DOL (Calc) (9) - similar to (8) above. Add: Pale Green/ Bluish Green at depth. Sing. Mixed. marly. Friable. [lots of Chert - White/Off White. Sing. Opaque. No Inclusions. No trip.] tr vis por.

Add: Chert - Dull Yellowish Tan. Sing. Opaque to semi-transparent. No/ some minute black specks. No/ rare trip.

LS - Lt Brown, very Dark Brownish Tan. VF-/ XF-xln. xln por. Mod VF, Ang Clear Re-xln. 'sugary' texture. some pcs with minute black specks. partly Friable. tr/ Fair vis por. (Whole rock chips dissolve with HCl. No qtz sand.)

IF: Weak Blow, built to 6 inches.
 ISI: No blow back.
 FF: Weak Blow, built to 1 inch. Vis: 49
 FSI: No blow back. Wt: 9.1
 LCM: 4#

MISS
4,428' (-2,715')
 HW: 20u / 5 u (Bk)
 CH: 11u / 5u (Bk)

DST #2 -----
 ^ CFS @ 4,440' : 50"
 ^ Vis: 66, Wt: 9.1, LCM: 4#
 ^ S/T: 11 stands
 ^ CHC: 75"
 ^ 2 deg @ 4,440'
 ^ DST #2.

After DST #2 -
 Vis: 52 Wt: 9.2 WL: 8.0
 PV: 15 YP: 15 Gels: 9/38
 pH: 10.5 Cl (4,500)
 Cl (80) Solids: 6.2%
 LCM: 4# Vis: 52
 'rubble' top and Wt: 9.1
 bottom. LCM: 4#

Vis: 57
 Wt: 8.9
 HW Calibration Check LCM: 5#

 Chromatograph Calibration Check

Vis: 59
 Wt: 8.9
 LCM: 5#

Sing. Opaque. No inclusions. No trip. Cross cut with DOL, as described.]
 * SH - Dark Gray. Sing. hi calc. & Misc.

HW: 30u / 5u (Bk) Vis: 56
 CH: 14u / 5u (Bk) Wt: 9.0
 LCM: 5#

DST #3 -----
 ^ CFS @ 4,534' : 60"
 ^ Trip straight out.
 ^ DST #3.

DST #3 VIOLA
 Rec: 110' Gas in Pipe
 10' SGcMud (2%G,98%M)

IFP: 18# - 23# / 30"
 ISIP: 60# / 30"
 FFP: 19# - 23# / 30"
 FSIP: 80# / 60"
 MH: 2,202# - 2,151#
 114 deg F

IF: Weak Blow, built to 5.5 inches.
 ISI: No blow back.
 FF: Weak Blow, built to 2.25 inch.
 FSI: No blow back.

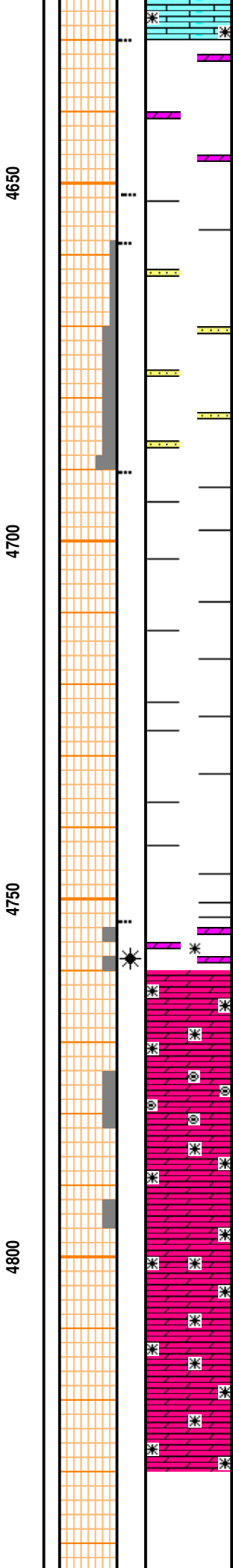
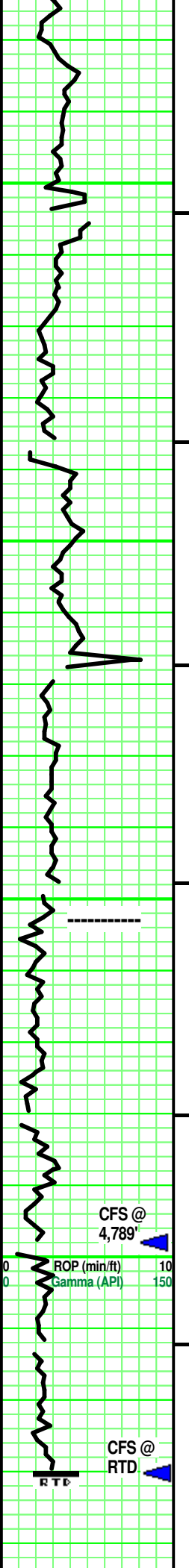
100 units = 1% Gas 100

CFS @ 4,602' : 60" -----
 Vis: 55 Wt: 9.2+ LCM: 5#

After DST #3 -
 Vis: 56 Wt: 9.2 WL: 8.0
 PV: 18 YP: 19 Gels: 10/42
 pH: 10.5 Cl (6,000)
 Cl (80) Solids: 6.0%
 LCM: 2#

CAVINGS ----->

CAVINGS *----->



4,660' & 4,670' Sample: several pcs: LS (tr Dol) - Dark Tan, Tannish Brown. Sing. Crypto-xln. xln por. Dense. No vis por.

4,680' Sample: SH - Very Dark Green (blue hue). Sing. tr calc. vitreous luster.

4,690' Sample: few pcs: SS - Clear/ Lt Gray. Mot/ Mixed. VF-/ tr silt sized quartz grain. SA/SR. Mod sphericity. Frosted luster. Mod to Highly Sutured/ some pinpoint contact. Sil / tr calc cement. Lt Gray Clay/ VF, SR argil frags in part. No/ tr vis por.

4,700' Sample: some pcs:SS - Clear/ Lt Gray/ Off White. Mixed/ Mot. VF-/silt sized quartz grain. SA/SR. Mod sphericity. Frosted luster. Sutured/ some pinpoint contact. Lt Gray Clay/ VF, RD, elongated SH frags. misc. inclusions in part. tr vis por.

4,710' Sample: some pcs SS - Clear/ Off White. some Light Gray, Brownish Gray. Mot. rare F/ some VF- & mostly silt sized qtz grains. SR/SA. Mod sort. Mod sph. Vitreous/ frosted grain contact. Calc/ sil cement. mostly sutured/ some point grain contact. tr argil in part. carb flecks infilling (Ang, VF). some SA, VF Dark Gray frags. few pcs: SA, Silt/tr VF Dark Green frags. partly Friable. tr/Fair vis por.

SH - Very Dark Green (blue hue). Sing. mostly No/ rare calc. vitreous luster. Massive. ductile.

SH - Dark Gray, Black. Sing. Massive. No/ tr misc pyrite, frags.

few pcs: DOL - Lt & Med Tan. Sing/ some Mot. XF-/ Micro-Re-xln. subeuhedral xtals in part. some sutured xtal contacts. few pcs: 'ghost' F, suboblated Oolites. mostly Opaque but some semi-transparent matrix. most fair/ some tr and good vis por.

No/ ? Odor while wet (upon drying Good Arbuckle Odor). Spotted dull Yellow fluorescence (not mineral). On own, minute dark Brown/Black oil spheres clinging to rock chips. rare minute gas bubble clinging to rock chips. Spotted/ uniform Med Brown stain. Pos cut/ residual. Pos acid/residual. (Photos taken.)

DOL - mostly Lt/ Med Tan. tr DarkTan in part. Sing/ some Mixed with Pale Lt Gray. XF-/ mostly Micro-Re-xln. mostly Re-xln & tr sutured xtal por. partly Firm. mostly tr/ tr fair vis por.

DOL - mostly Lt Tan. tr MedTan in part. Sing/ some Mixed with Pale Lt Gray. XF-/ mostly Micro-Re-xln. mostly Re-xln xtal por. partly Firm. mostly No/ tr vis por.

CFS @ 4,789'

CFS @ RTD

Vis: 51
Wt: 9.1
LCM: 6#

Vis: 43 Wt: 9.0 LCM: 6#

Vis: 59 Wt: 8.9 LCM: 6#

Misc Ssd's Cavings Vis: 63
HW Calibration Check Wt: 8.9
LCM: 6#

Chromatograph Calibration Check

Misc hole cavings and mush:
(various shales, lots of ss, some ls frags, tr permian red beds, etc.)
Vis: 61
Wt: 9.0
LCM: 7#

--- ARBUCKLE
4,753'(-3,040')

Hole Dev:
1.5 deg @ 4,780'

Vis: 59
Wt: 9.2
LCM: 5#

xxxxx CFS @ 4,798': 60" xxxxx
TG, C1-C5
100 units = 1% Gas

Vis: 59
Wt: 9.2
LCM: 5#

100 units = 1% Gas
xxxxxxxxx RTD xxxxxxxxxxxx
^---- CFS @ 4,830' (RTD): 60"
^---- S/T: 6 stands.
^---- CHC: 70"
Work Kelly (every 15").
No Shale

(Vis falling, sample quality going bad)
Poor Samples - Cavings

Start Cleaning samples out of hole.

CAVINGS

RTD: 4,830'

LTD: 4,829'

ATD: 4,828'

4850

DICKINSON RANCH #21-1

2,522' FSL & 1,180' FWL 21-T31S-R14W
Barber County, Kansas

Quinque Operating Company
Oklahoma City, Oklahoma

NO Strike.
Check Possum Belly (every
15") for Volume &
Type of Fill.
^----- No Hole Dev at RTD.
^----- E-LOG.
(Step Energy Services)

Geologist:
Curtis Covey
COVEY - The Well Watchers
Well Number: 1,182



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Quinque Operating Co
 908 NW 71st St
 Oklahoma City, OK 73116
 ATTN: Curtis Covey/Ron Lac

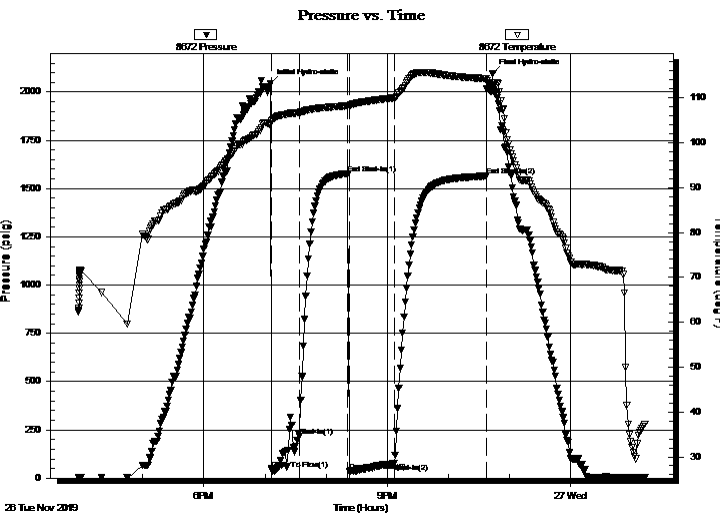
21-31S-14W Barber, KS
Dickinson Ranch 21-1
 Job Ticket: 65925 **DST#: 1**
 Test Start: 2019.11.26 @ 15:57:00

GENERAL INFORMATION:

Formation: **Dennis Lime**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 19:06:32
 Time Test Ended: 01:12:47
 Interval: **4200.00 ft (KB) To 4226.00 ft (KB) (TVD)**
 Total Depth: 4226.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Leal Cason
 Unit No: 74
 Reference Elevations: 1713.00 ft (KB)
 1700.00 ft (CF)
 KB to GR/CF: 13.00 ft

Serial #: 8672 Inside
 Press@RunDepth: 77.92 psig @ 4201.00 ft (KB) Capacity: psig
 Start Date: 2019.11.26 End Date: 2019.11.27 Last Calib.: 2019.11.27
 Start Time: 15:57:01 End Time: 01:12:47 Time On Btm: 2019.11.26 @ 19:05:02
 Time Off Btm: 2019.11.26 @ 22:43:32

TEST COMMENT: IF: Strong Blow , BOB in 10 Seconds, Built to 341 inches
 IS: No Blow Back
 FF: Strong Blow , BOB Immediate, GTS in 7 minutes, Gauged & Caught Sample
 FS: No Blow Back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2043.83	104.11	Initial Hydro-static
2	45.90	104.89	Open To Flow (1)
29	216.91	106.72	Shut-In(1)
77	1577.69	108.22	End Shut-In(1)
78	34.58	108.25	Open To Flow (2)
122	77.92	110.01	Shut-In(2)
212	1565.27	114.25	End Shut-In(2)
219	2096.83	113.42	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
0.00	4068 GIP	0.00
122.00	GCM 6%G 94%M	0.60

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate	0.13	6.00	7.63
Last Gas Rate	0.13	25.00	14.75
Max. Gas Rate	0.13	25.00	14.75



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Quinque Operating Co

21-31S-14W Barber, KS

908 NW 71st St
Oklahoma City, OK 73116

Dickinson Ranch 21-1

Job Ticket: 65925

DST#: 1

ATTN: Curtis Covey/Ron Lac

Test Start: 2019.11.26 @ 15:57:00

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:

bbbl

Water Loss: 8.78 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 4500.00 ppm

Filter Cake: 0.02 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
0.00	4068 GIP	0.000
122.00	GCM 6%G 94%M	0.600

Total Length: 122.00 ft Total Volume: 0.600 bbl

Num Fluid Samples: 0

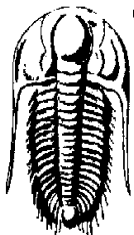
Num Gas Bombs: 2

Serial #: P2

Laboratory Name:

Laboratory Location:

Recovery Comments: Sampler Data: 400 MI Mud @ 30 psi



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

GAS RATES

Quinque Operating Co

21-31S-14W Barber, KS

908 NW 71st St
Oklahoma City, OK 73116

Dickinson Ranch 21-1

Job Ticket: 65925

DST#: 1

ATTN: Curtis Covey/Ron Lac

Test Start: 2019.11.26 @ 15:57:00

Gas Rates Information

Temperature: 59 (deg F)

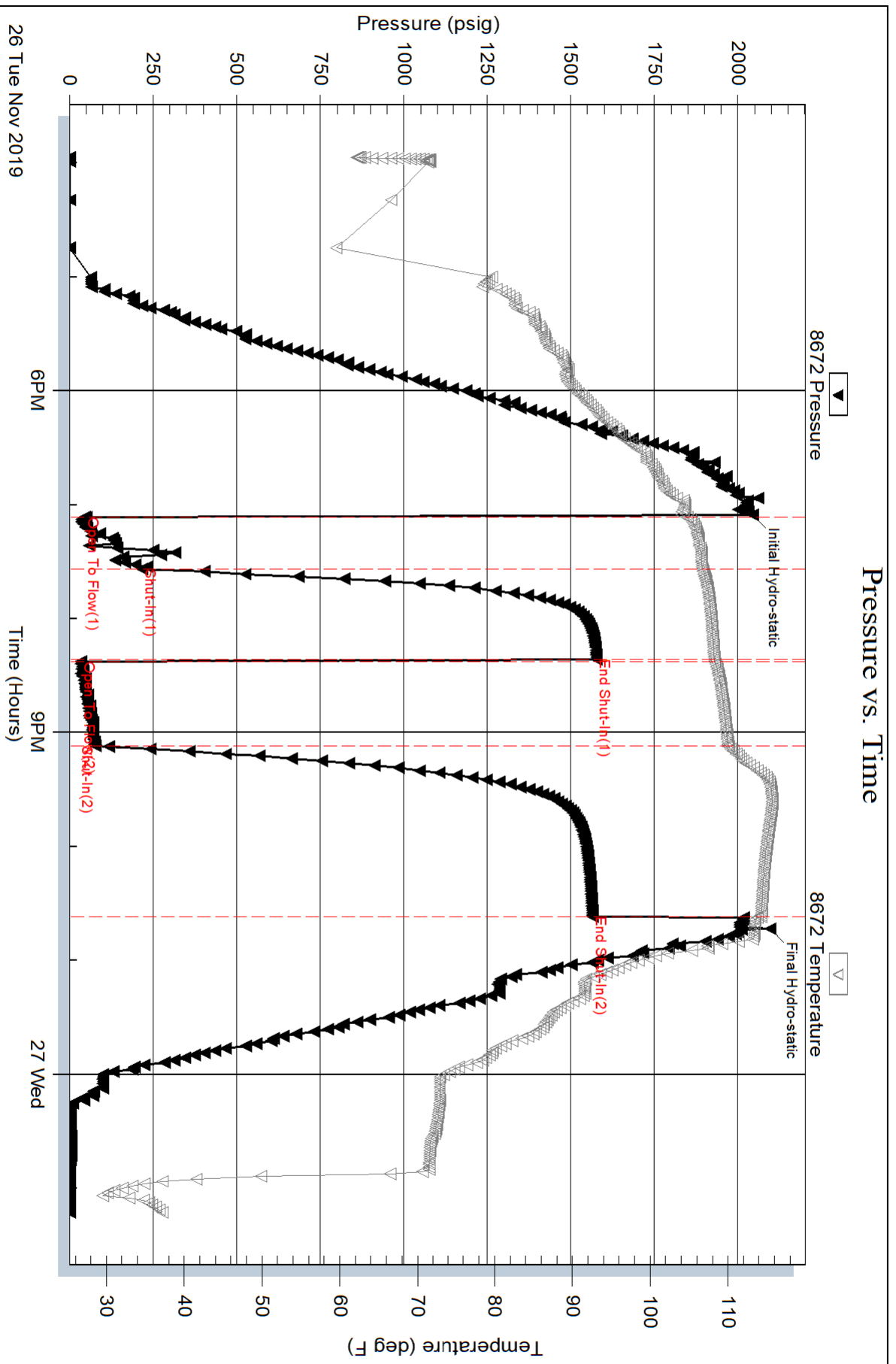
Relative Density: 0.65

Z Factor: 0.8

Gas Rates Table

Flow Period	Elapsed Time	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
2	10	0.13	6.00	7.63
2	20	0.13	11.00	9.51
2	30	0.13	16.00	11.38
2	40	0.13	21.00	13.25
2	45	0.13	25.00	14.75

Pressure vs. Time

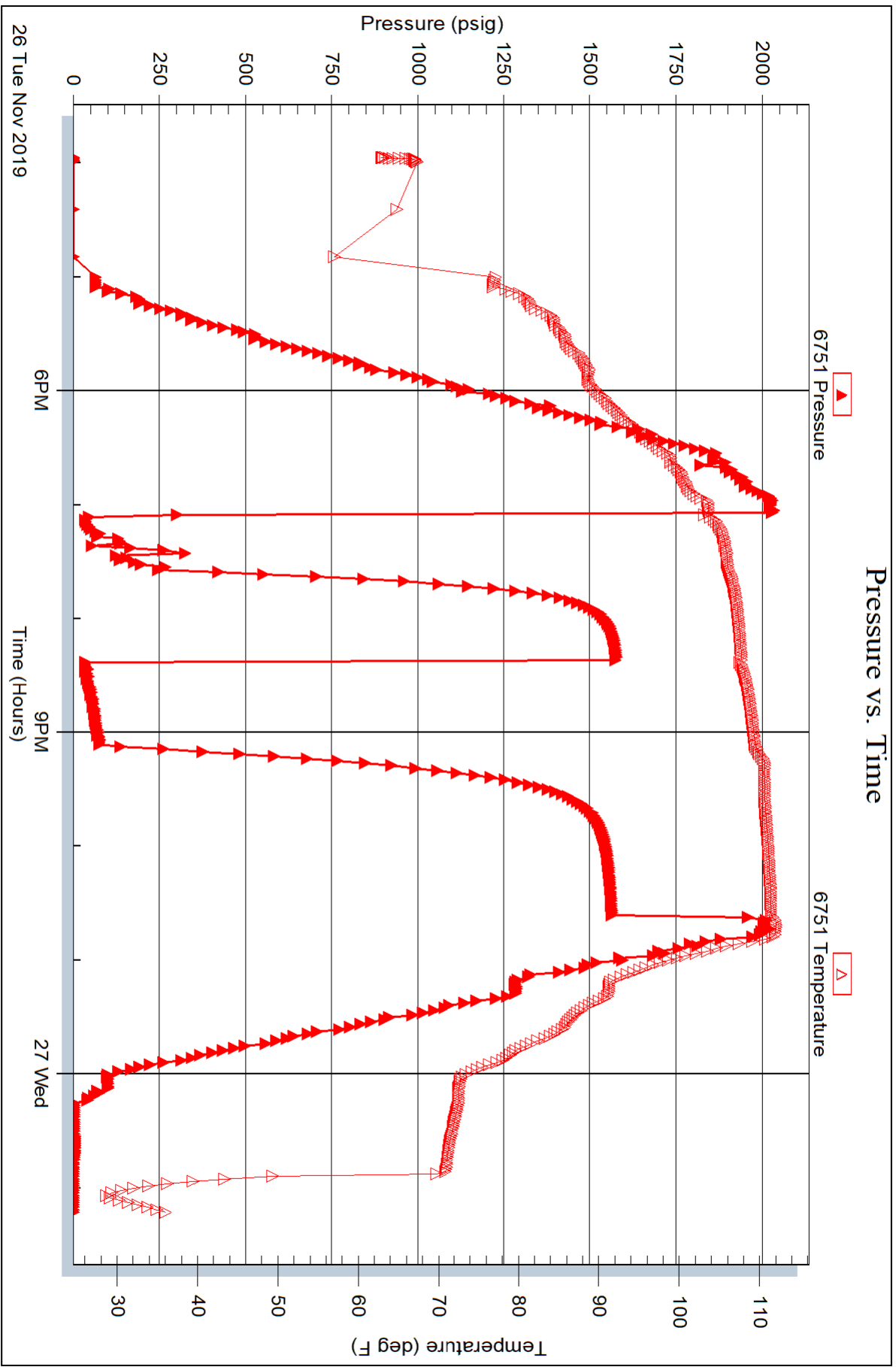


Serial #: 6751

Outside Quinque Operating Co

Dickinson Ranch 21-1

DST Test Number: 1





**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Quinque Operating Co

21-31S-14W Barber, KS

908 NW 71st St
Oklahoma City, OK 73116

Dickinson Ranch 21-1

ATTN: Curtis Covey/Ron Lac

Job Ticket: 65476

DST#: 2

Test Start: 2019.11.28 @ 01:34:00

GENERAL INFORMATION:

Formation: **Mississippi**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 04:15:47

Time Test Ended: 09:46:02

Test Type: Conventional Bottom Hole (Reset)

Tester: Leal Cason

Unit No: 74

Interval: 4406.00 ft (KB) To 4440.00 ft (KB) (TVD)

Reference Elevations: 1713.00 ft (KB)

Total Depth: 4440.00 ft (KB) (TVD)

1700.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 13.00 ft

Serial #: 8672

Inside

Press@RunDepth: 29.56 psig @ 4407.00 ft (KB)

Capacity: psig

Start Date: 2019.11.28

End Date:

2019.11.28

Last Calib.:

2019.11.28

Start Time: 01:34:01

End Time:

09:46:02

Time On Btm:

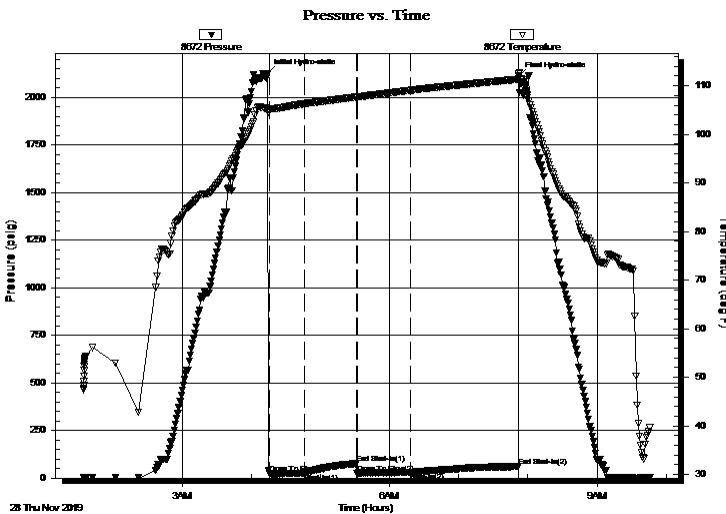
2019.11.28 @ 04:13:47

Time Off Btm:

2019.11.28 @ 07:52:02

TEST COMMENT: IF: Weak Blow , Built to 6 inches
IS: No Blow Back
FF: Weak Blow , Built to 1 inch
FS: No Blow Back

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2122.25	105.31	Initial Hydro-static
2	26.79	104.92	Open To Flow (1)
32	27.21	106.28	Shut-In(1)
78	76.32	107.66	End Shut-In(1)
78	22.92	107.67	Open To Flow (2)
125	29.56	109.05	Shut-In(2)
218	61.37	111.34	End Shut-In(2)
219	2110.80	112.47	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
0.00	297 GIP	0.00
10.00	SGCM 2%G 98%M	0.05

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Quinque Operating Co

21-31S-14W Barber, KS

908 NW 71st St
Oklahoma City, OK 73116

Dickinson Ranch 21-1

Job Ticket: 65476

DST#: 2

ATTN: Curtis Covey/Ron Lac

Test Start: 2019.11.28 @ 01:34:00

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: 50.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.98 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 5000.00 ppm

Filter Cake: 0.02 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
0.00	297 GIP	0.000
10.00	SGCM 2%G 98%M	0.049

Total Length: 10.00 ft Total Volume: 0.049 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

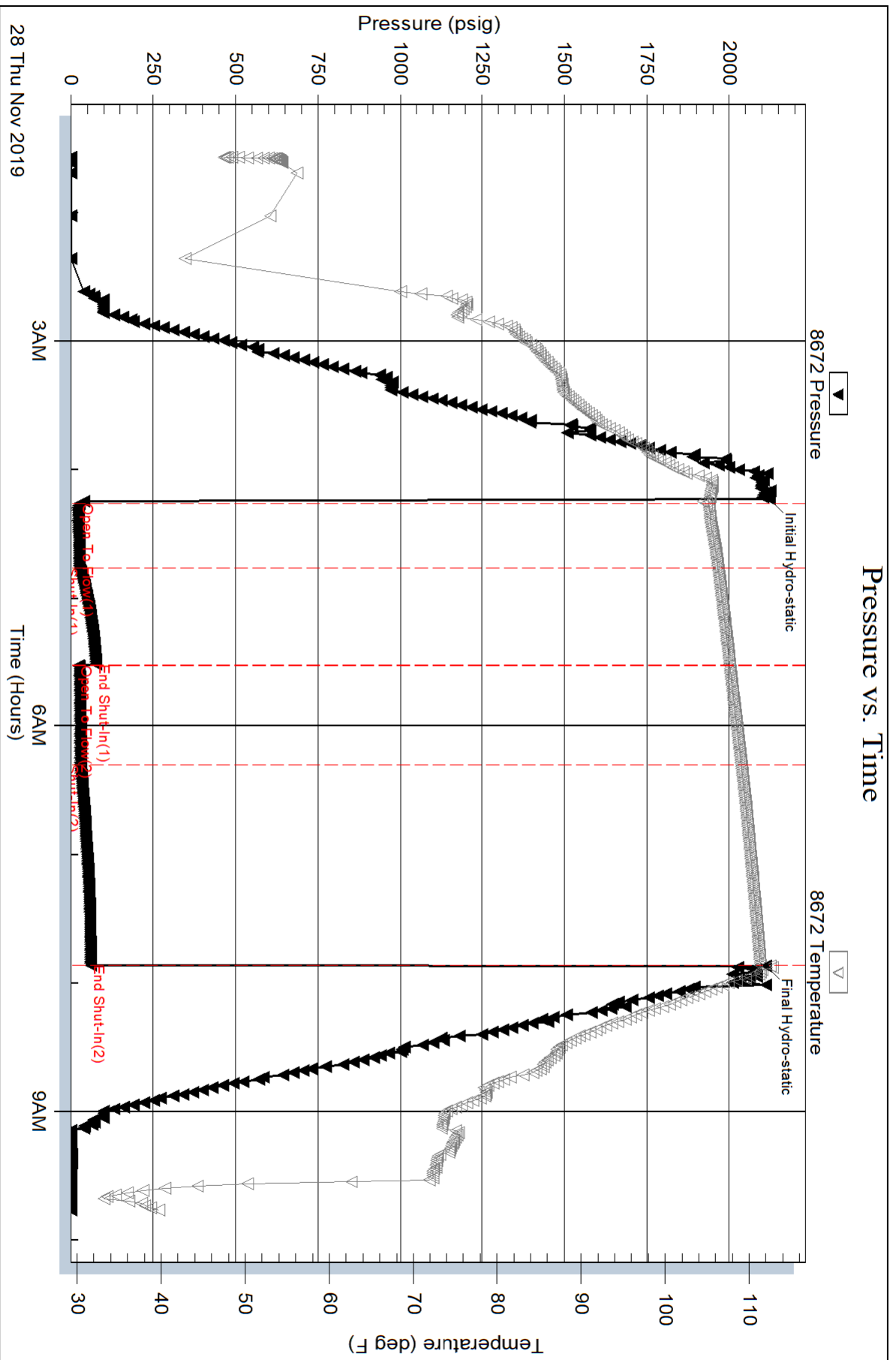
Serial #:

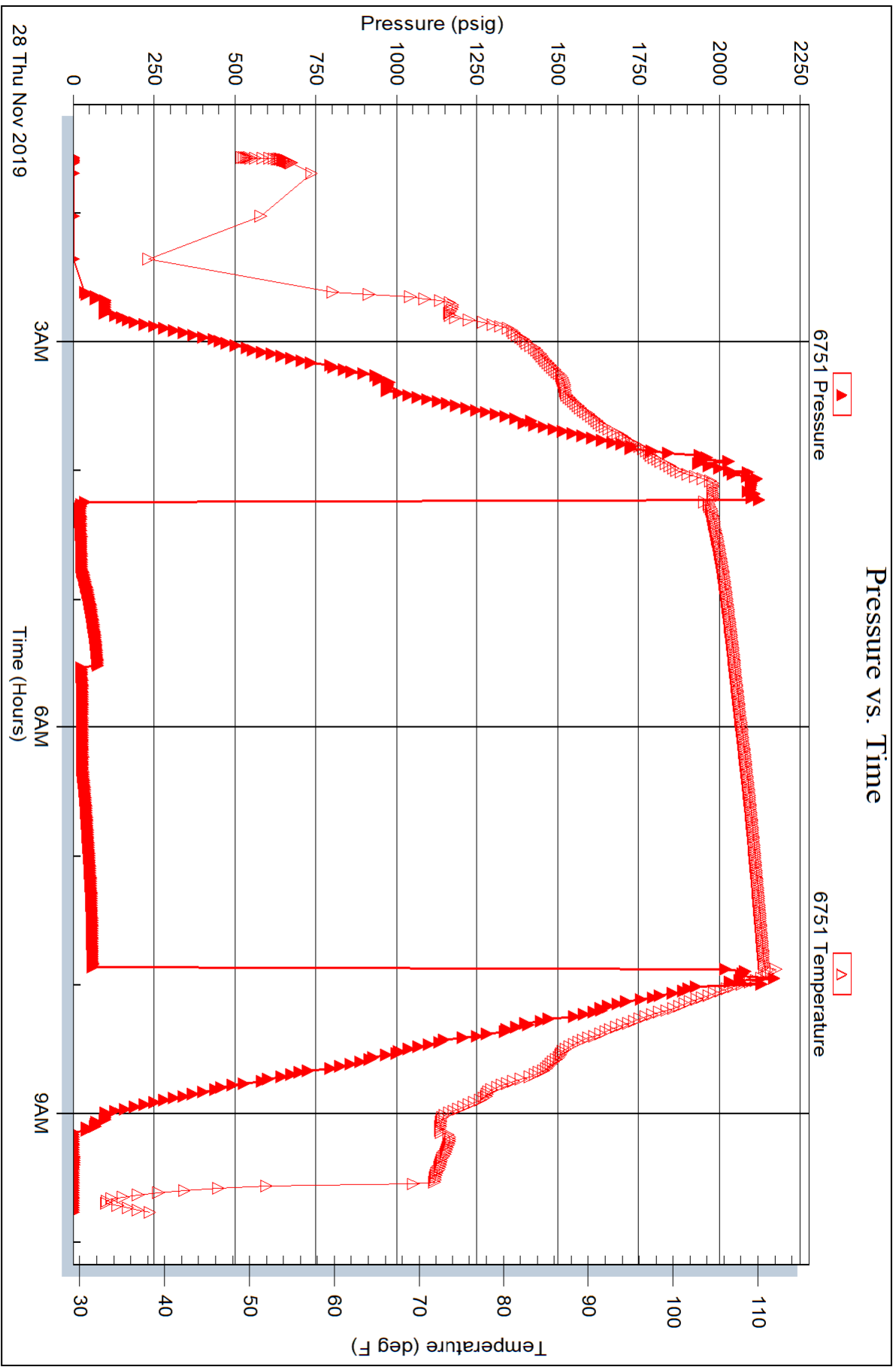
Laboratory Name:

Laboratory Location:

Recovery Comments: Sampler Data: 200 MI Mud

Pressure vs. Time







**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Quinque Operating Co
908 NW 71st St
Oklahoma City, OK 73116
ATTN: Curtis Covey/Ron Lac

21-31S-14W Barber, KS
Dickinson Ranch 21-1
Job Ticket: 65476 **DST#: 2**
Test Start: 2019.11.28 @ 01:34:00

GENERAL INFORMATION:

Formation: **Mississippi**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 04:15:47
Time Test Ended: 09:46:02
Interval: **4406.00 ft (KB) To 4440.00 ft (KB) (TVD)**
Total Depth: 4440.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good
Test Type: Conventional Bottom Hole (Reset)
Tester: Leal Cason
Unit No: 74
Reference Elevations: 1713.00 ft (KB)
1700.00 ft (CF)
KB to GR/CF: 13.00 ft

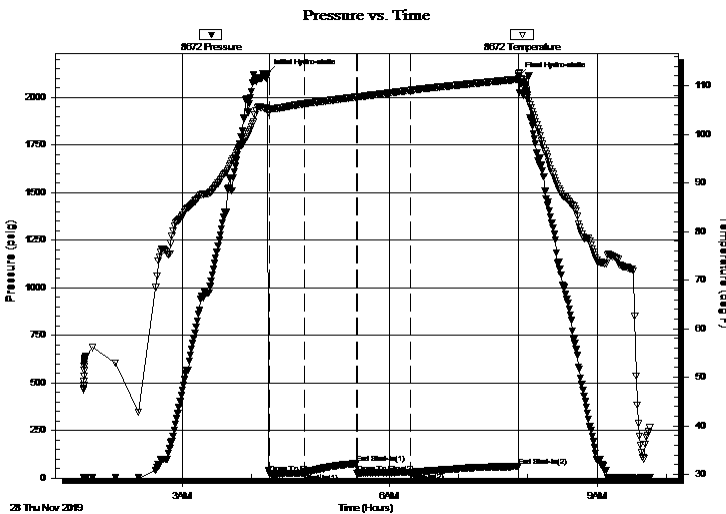
Serial #: 8672

Inside

Press@RunDepth: 29.56 psig @ 4407.00 ft (KB) Capacity: psig
Start Date: 2019.11.28 End Date: 2019.11.28 Last Calib.: 2019.11.28
Start Time: 01:34:01 End Time: 09:46:02 Time On Btm: 2019.11.28 @ 04:13:47
Time Off Btm: 2019.11.28 @ 07:52:02

TEST COMMENT: IF: Weak Blow , Built to 6 inches
IS: No Blow Back
FF: Weak Blow , Built to 1 inch
FS: No Blow Back

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2122.25	105.31	Initial Hydro-static
2	26.79	104.92	Open To Flow (1)
32	27.21	106.28	Shut-In(1)
78	76.32	107.66	End Shut-In(1)
78	22.92	107.67	Open To Flow (2)
125	29.56	109.05	Shut-In(2)
218	61.37	111.34	End Shut-In(2)
219	2110.80	112.47	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
0.00	297 GIP	0.00
10.00	SGCM 2%G 98%M	0.05

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Quinque Operating Co

21-31S-14W Barber, KS

908 NW 71st St
Oklahoma City, OK 73116

Dickinson Ranch 21-1

Job Ticket: 65476

DST#: 2

ATTN: Curtis Covey/Ron Lac

Test Start: 2019.11.28 @ 01:34:00

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: 50.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.98 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 5000.00 ppm

Filter Cake: 0.02 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
0.00	297 GIP	0.000
10.00	SGCM 2%G 98%M	0.049

Total Length: 10.00 ft Total Volume: 0.049 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

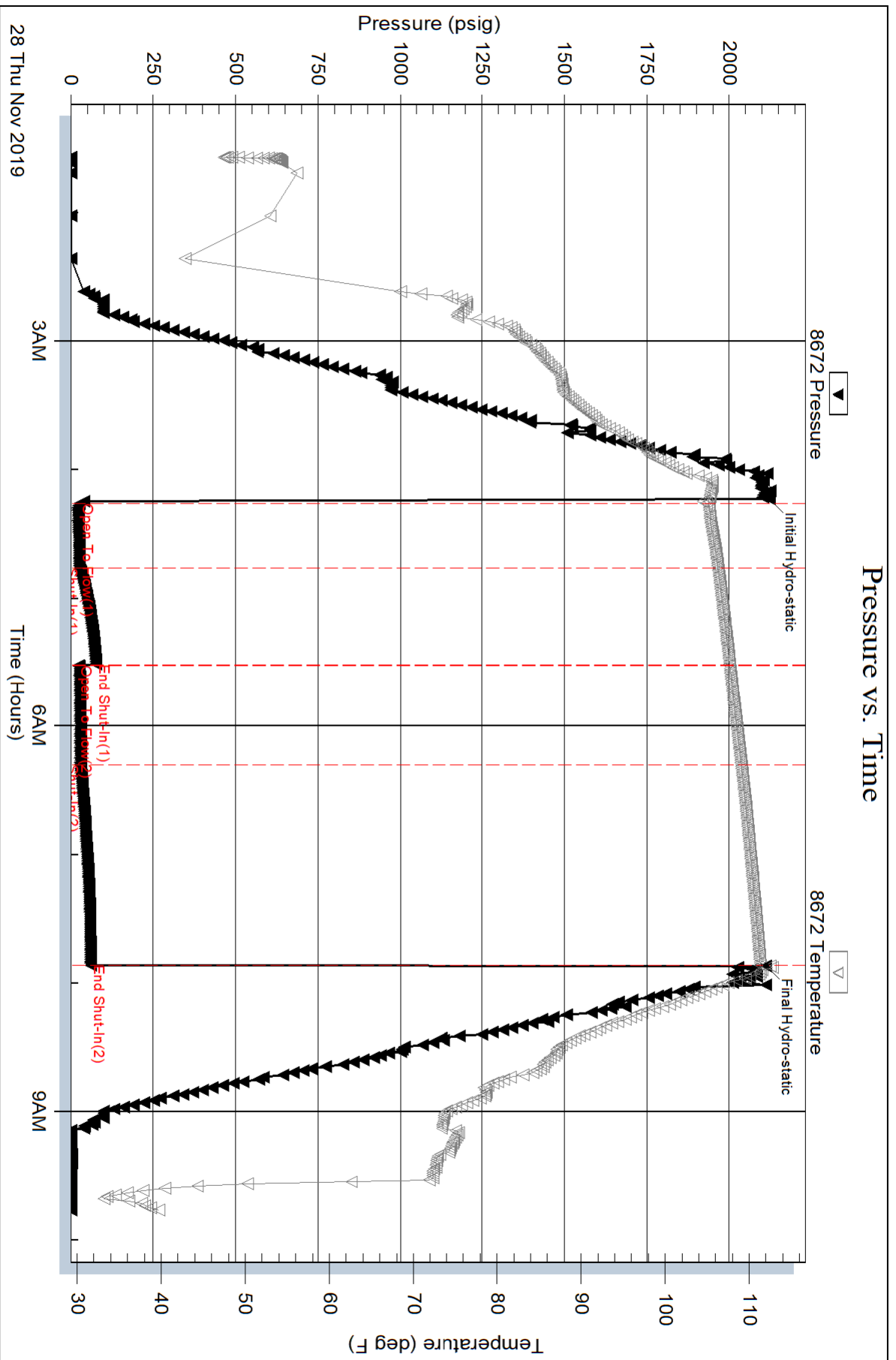
Serial #:

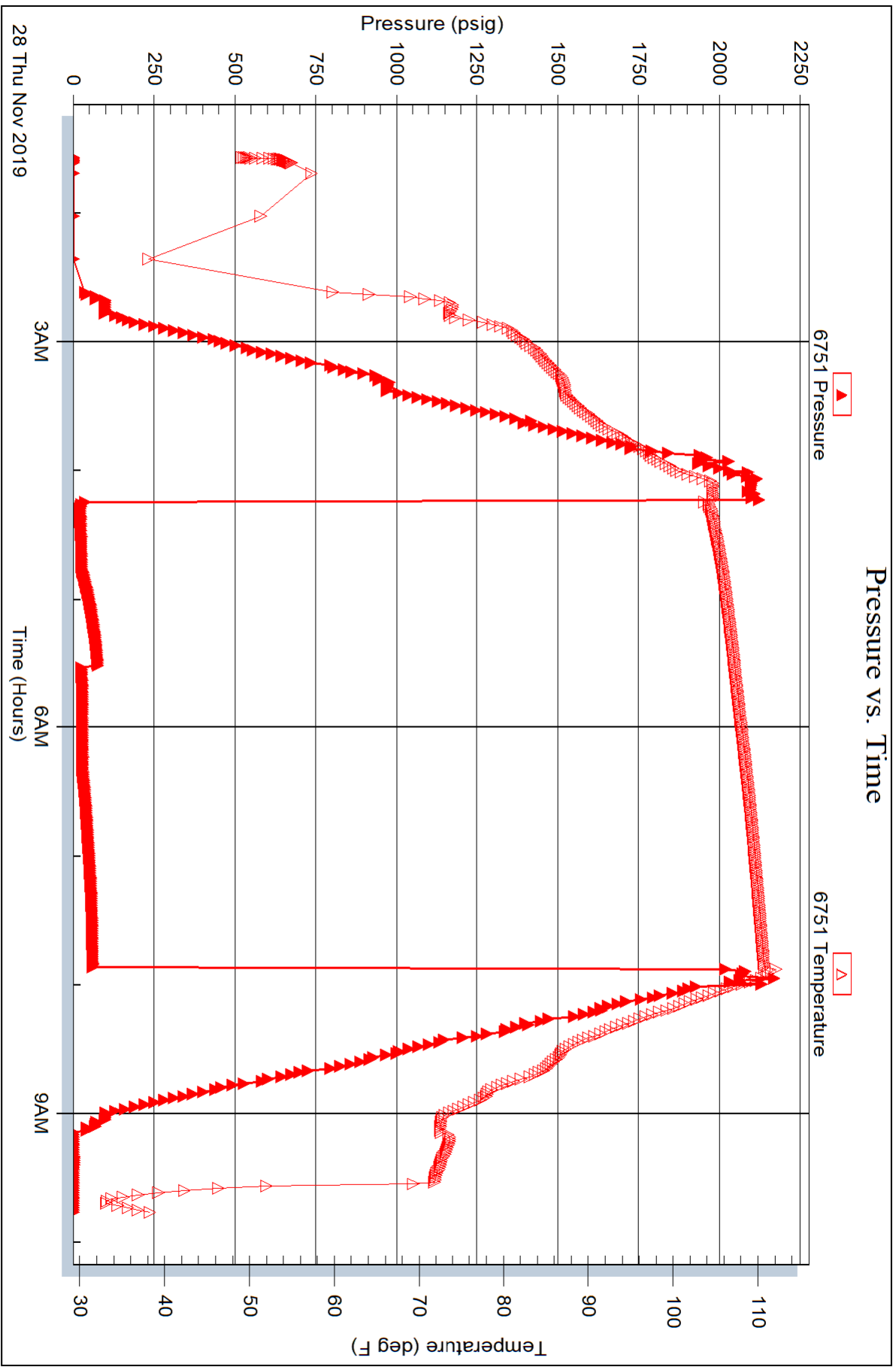
Laboratory Name:

Laboratory Location:

Recovery Comments: Sampler Data: 200 MI Mud

Pressure vs. Time







TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Quinque Operating Co

21-31S-14W Barber, KS

908 NW 71st St
Oklahoma City, OK 73116

Dickinson Ranch 21-1

ATTN: Curtis Covey/Ron Lac

Job Ticket: 65477

DST#: 3

Test Start: 2019.11.28 @ 23:10:00

GENERAL INFORMATION:

Formation: **Viola**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 01:32:47
 Time Test Ended: 06:42:02
 Interval: **4500.00 ft (KB) To 4534.00 ft (KB) (TVD)**
 Total Depth: 4534.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Leal Cason
 Unit No: 74
 Reference Elevations: 1713.00 ft (KB)
 1700.00 ft (CF)
 KB to GR/CF: 13.00 ft

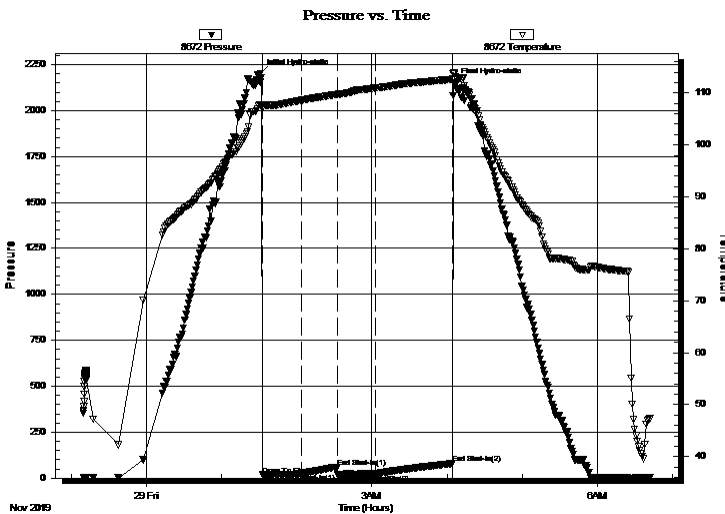
Serial #: 8672

Inside

Press@RunDepth: 23.34 psig @ 4501.00 ft (KB) Capacity: psig
 Start Date: 2019.11.28 End Date: 2019.11.29 Last Calib.: 2019.11.29
 Start Time: 23:10:01 End Time: 06:42:02 Time On Btm: 2019.11.29 @ 01:31:17
 Time Off Btm: 2019.11.29 @ 04:05:32

TEST COMMENT: IF: Weak Blow , Built to 5 1/2 inches
 IS: No Blow Back
 FF: Weak Blow , Built to 2 1/4 inches
 FS: No Blow Back

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2202.42	107.68	Initial Hydro-static
2	17.93	107.03	Open To Flow (1)
33	23.53	108.59	Shut-In(1)
61	60.56	109.71	End Shut-In(1)
62	18.86	109.72	Open To Flow (2)
92	23.34	110.94	Shut-In(2)
154	80.61	112.67	End Shut-In(2)
155	2150.92	113.95	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
0.00	110 GIP	0.00
10.00	GCM 10%G 90%M	0.05

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Quinque Operating Co

21-31S-14W Barber, KS

908 NW 71st St
Oklahoma City, OK 73116

Dickinson Ranch 21-1

Job Ticket: 65477

DST#: 3

ATTN: Curtis Covey/Ron Lac

Test Start: 2019.11.28 @ 23:10:00

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:

bbbl

Water Loss: 7.99 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 4500.00 ppm

Filter Cake: 0.02 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
0.00	110 GIP	0.000
10.00	GCM 10%G 90%M	0.049

Total Length: 10.00 ft Total Volume: 0.049 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Sampler Data: 200 MI Mud

