

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 Recompletion Date _____ Date Reached TD _____ Completion Date or Recompletion Date _____

API No.: _____

Spot Description: _____

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

_____ Feet from North / South Line of Section

_____ Feet from East / West Line of Section

Footages Calculated from Nearest Outside Section Corner:

NE NW SE SW

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

Datum: NAD27 NAD83 WGS84

County: _____

Lease Name: _____ Well #: _____

Field Name: _____

Producing Formation: _____

Elevation: Ground: _____ Kelly Bushing: _____

Total Vertical Depth: _____ Plug Back Total Depth: _____

Amount of Surface Pipe Set and Cemented at: _____ Feet

Multiple Stage Cementing Collar Used? Yes No

If yes, show depth set: _____ Feet

If Alternate II completion, cement circulated from: _____

feet depth to: _____ w/ _____ sx cmt.

Drilling Fluid Management Plan

(Data must be collected from the Reserve Pit)

Chloride content: _____ ppm Fluid volume: _____ bbls

Dewatering method used: _____

Location of fluid disposal if hauled offsite: _____

Operator Name: _____

Lease Name: _____ License #: _____

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

County: _____ Permit #: _____

AFFIDAVIT

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

Submitted Electronically

KCC Office Use ONLY

Confidentiality Requested

Date: _____

Confidential Release Date: _____

Wireline Log Received Drill Stem Tests Received

Geologist Report / Mud Logs Received

UIC Distribution

ALT I II III Approved by: _____ Date: _____

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

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

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

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

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

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

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

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

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

TUBING RECORD:	Size:	Set At:	Packer At:	
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Form	ACO1 - Well Completion
Operator	BEREXCO LLC
Well Name	WALTERS 1-22
Doc ID	1510095

All Electric Logs Run

Microlog
Sonic
Neutron Density
Induction



Liberal Yard #1717 - Phone 620-624-2277 - 1700 S. Country Estates Road, Liberal KS 67901

PRESSURE PUMPING

Job Log

Customer:	Berexco LLC	Cement Pump No.:	38119-33666 7 HRS	Operator TRK No.:	96815
Address:	2020 N Bramblewood	Ticket #:	1718-19843 L	Bulk TRK No.:	31025-25866
City, State, Zip:	Wichita Ks 672016	Job Type:	Z-42 Cement Surface Casing		
Service District:		Well Type:	OIL		
Well Name and No.:	Walters # 1-22	Well Location:	22-22S-33W	County:	Finney
				State:	Kansas

Type of Cmt	Sacks	Additives	Truck Loaded On		
A SERV LITE	650	3%CaCl, 1/4#POLYFLAKE	31025-25866	Front	Back
CLASS C	150	2%CaCl, 1/4#POLYFLAKE		Front	Back
				Front	Back

Lead/Tail:	Weight #1 Gal.	Cu/Ft/sk	Water Requirements	CU. FT.	Man Hours / Personnel	
Lead:	12.5	1.89	10.77	1228.5	Man Hours:	
Tail:	14.8	1.34	6.33	201	# of Men on Job:	3

Time (am/pm)	(BPM)	Volume (BBLs)	Pumps		Pressure(PSI)		Description of Operation and Materials
			T	C	Tubing	Casing	
15:00							ON LOC, SAFTEY MTG, R.U.
20:10						2000	TEST LINES
8:14 PM	5					280	START LEAD @ 12.5#
8:58 PM	5.5	230				327	START TAIL @ 14.8#
9:10 PM		36					SHUT DOWN, DROP PLUG
21:14	5.2					290	START DISPLACEMENT
21:34	2	100				500	SLOW RATE
9:38 PM		111				500-1200	PLUG DOWN
21:40						470	RELEASE PSI FLOAT NOT HOLDING
21:42						470	SHUT IN HEAD, RELEASE PSI
							JOB COMPLETE
							THANK YOU FOR YOUR BUSINESS!!!

Size Hole	12 1/4	Depth	1800'		TYPE	
Size & Wt. Csg.	8 5/8 24	Depth	1794'	New / Used	Packer	Depth
tbg.		Depth			Retainer	Depth
Top Plugs		Type			Perfs	CIBP

Customer Signature:	Basic Representative:	CHAD HINZ
	Basic Signature:	
	Date of Service:	12/7/2019



CEMENT TREATMENT REPORT

Customer: Herexco LLC	Well: Walters #1-22	Ticket: ICT2989
City, State: Wichita, KS	County: Finnoy, KS	Date: 12/19/2019
Field Rep: Nick Broyles	S-T-R: Sec 22 - T22S - R33W	Service: Cement - Production Csg

Downhole Information	
Hole Size:	7.075 In
Hole Depth:	4800 ft
Casing Size:	5.5 In
Casing Depth:	ft
Surface Casing:	8,625 In
Sur Csg Depth:	4790 ft
Tool / Packon:	
Depth:	4790 ft
Displacement:	116.0 bbls

Calculated Lead Slurry	
Weight:	12.6 # / ax
Water / Sk:	10.35 gal / ax
Yield:	1.90 ft ³ / ax
Bbls / Ft.:	0.0309
Depth:	4800 ft
Annular Volume:	bbls
Excess:	
Total Slurry:	37.0 bbls
Total Sacks:	150 ax

Product	% / #	#
Class A	65.00	12220
Poz	35.00	5180
Gel	6.00	1044
CaCl		
Gypsum		
Motso		
PhenoSeal		
Flo Seal	0.25	50
Salt (bww)		
Total		18,494

Calculated Tail Slurry	
Weight:	14.8 # / ax
Water / Sk:	6.61 gal / ax
Yield:	1.56 ft ³ / ax
Bbls / Ft.:	0.0309
Depth:	4800 ft
Annular Volume:	bbls
Excess:	
Total Slurry:	33.1 bbls
Total Sacks:	120 ax

Product	% / #	#
Class A	100.00	11280
Poz		
Gel		
Defoamer	0.25	28
Gypsum	10.00	1128
Fluid Loss	0.50	56
PhenoSeal		
KolSeal	5.00	600
Salt (bww)	10.00	680
Total		13,773

TIME	RATE	PSI	BBLs	REMARKS
6:30				Call out
10:30				Depart yard
12:00				Arrive on locn. Rig LD DP & collars
16:45				Equipment on locn
16:50				JSA, discuss moving on, spotting & rig-up of equipment
18:55				Move on, spot & rig-up equipment
17:30				Rig-up complete
17:45				Rig down Unit #: 231 & send back to Oakley, Exhaust filter plugged warning light is on.
18:45				Start to RIH w/ 5.5" 14ppf csg
19:30				Unit #:230 on locn, spot & rig-up same
23:10	450.0			Casing @ setting depth, Circulate & condition mud
0:15				Make-up cement head
0:30				Prime up pump truck
0:35	4.5	350.0	5.0	Pump freshwater ahead
0:38		4,500.0		Pressure test
0:45	2.0		8.5	Plug rathole w/ 25sx cement slurry @ 12.6ppg
0:50	2.0		8.5	Plug mousehole w/ 25sx cement slurry @ 12.6ppg
0:55	5.5	590.0	60.8	Mix & pump 150ax lead slurry @ 12.6ppg. Y - 1.90cutf/sk; MR - 10.35g/sk
1:12	5.5	430.0	33.1	Mix & pump 120ax tail slurry @ 14.8ppg. Y - 1.65cutf/sk; MR - 6.81g/sk
1:20				Shutdown
1:22				Release LD dart / Wash-up pumps & lines
1:27	6.0	280.0		Displace w/ freshwater
1:45	6.0	930.0	100.0	Rate & pressure
1:46	2.0	700.0	103.0	Slow rate
1:50	2.0	1,470.0	116.0	Bump plug
1:53				B/O, darts latched. 1/2bbl back.
1:55				JSA, discuss rigging down & racking up equipment
2:00				Rig down & rack up
2:25				JSA, discuss journey management
2:30				Depart locn

Thanks for calling Hurricane Svcs Inc

	CREW		UNIT	SUMMARY		
	Name	Count		Average Rate	Average Pressure	Total Fluid
Cementor:	Scott Green	74		3.94444 bpm	1,078 psi	427 bbls
Pump Operator:	Josh Mosler	231				
Bulk #1:	Kale Ochs	194 / 254				
Bulk #2:						



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Berexco LLC
 2020 N. Bramblewood
 Wichita, KS 67206
 ATTN: Ed Grieves

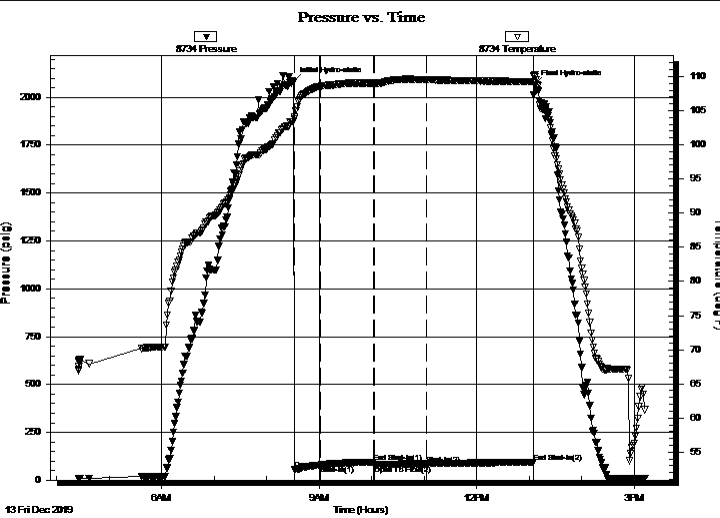
22- 22S.- 33W Finney,KS
Walters # 1-22
 Job Ticket: 66108 **DST#: 1**
 Test Start: 2019.12.13 @ 04:25:00

GENERAL INFORMATION:

Formation: **Marmaton " B "**
 Deviated: No Whipstock: ft (KB)
 Test Type: Conventional Bottom Hole (Initial)
 Time Tool Opened: 08:31:50 Tester: Martine Salinas
 Time Test Ended: 15:12:49 Unit No: 82
 Interval: **4338.00 ft (KB) To 4370.00 ft (KB) (TVD)** Reference Elevations: 2887.00 ft (KB)
 Total Depth: 4370.00 ft (KB) (TVD) 2879.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Good KB to GR/CF: 8.00 ft

Serial #: 8734 Outside
 Press@RunDepth: 85.26 psig @ 4339.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2019.12.13 End Date: 2019.12.13 Last Calib.: 2019.12.13
 Start Time: 04:25:01 End Time: 15:12:49 Time On Btm: 2019.12.13 @ 08:30:40
 Time Off Btm: 2019.12.13 @ 13:06:19

TEST COMMENT: 30-IF-B.O.B @ 2 1/2mins (blow increased to 39 1/2"
 60-ISI-S.blow back @ 1 min built to 1 1/4" & decreased to 1"
 60-FF-S.blow built to 5 3/4"
 120-FS-S.blow back @ 4 mins built to 1/4"



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2080.39	103.36	Initial Hydro-static
2	54.51	103.86	Open To Flow (1)
31	78.12	108.55	Shut-In(1)
92	94.64	109.01	End Shut-In(1)
93	78.29	108.99	Open To Flow (2)
152	85.26	109.53	Shut-In(2)
275	93.34	109.26	End Shut-In(2)
276	2064.84	110.29	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
150.00	GMCO 25%G, 16%M, 59%O	2.10
0.00	300' GIP	0.00

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Berexco LLC

22- 22S.- 33W

Finney,KS

2020 N. Bramblewood
Wichita, KS 67206

Walters # 1-22

Job Ticket: 66108

DST#: 1

ATTN: Ed Grieves

Test Start: 2019.12.13 @ 04:25:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

35 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 53.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.80 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 5300.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
150.00	GMCO 25%G, 16%M, 59%O	2.104
0.00	300' GIP	0.000

Total Length: 150.00 ft Total Volume: 2.104 bbl

Num Fluid Samples: 0

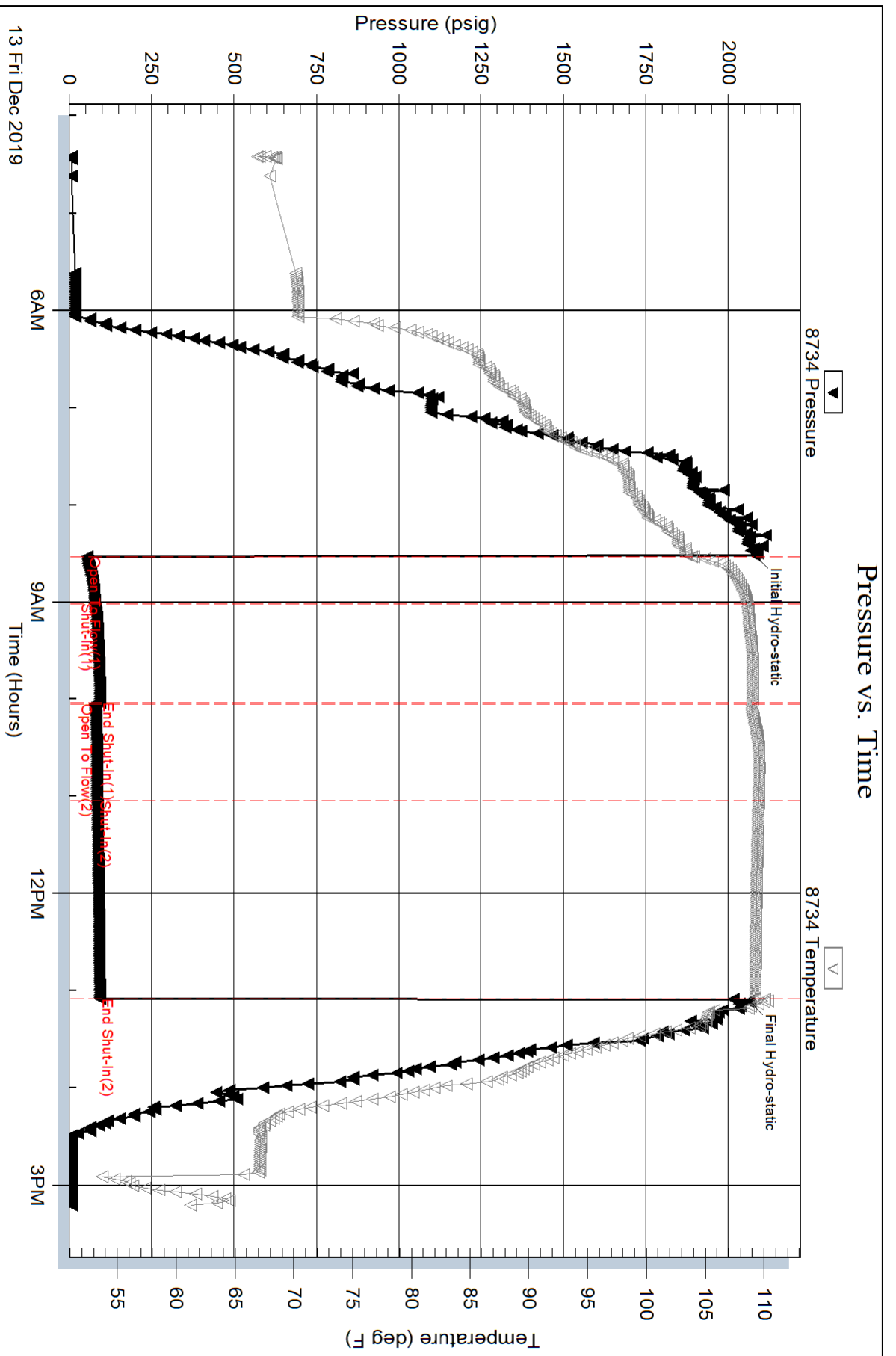
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Gravity of oil 35.2 @ 62 degs corrected to 35 @ 60



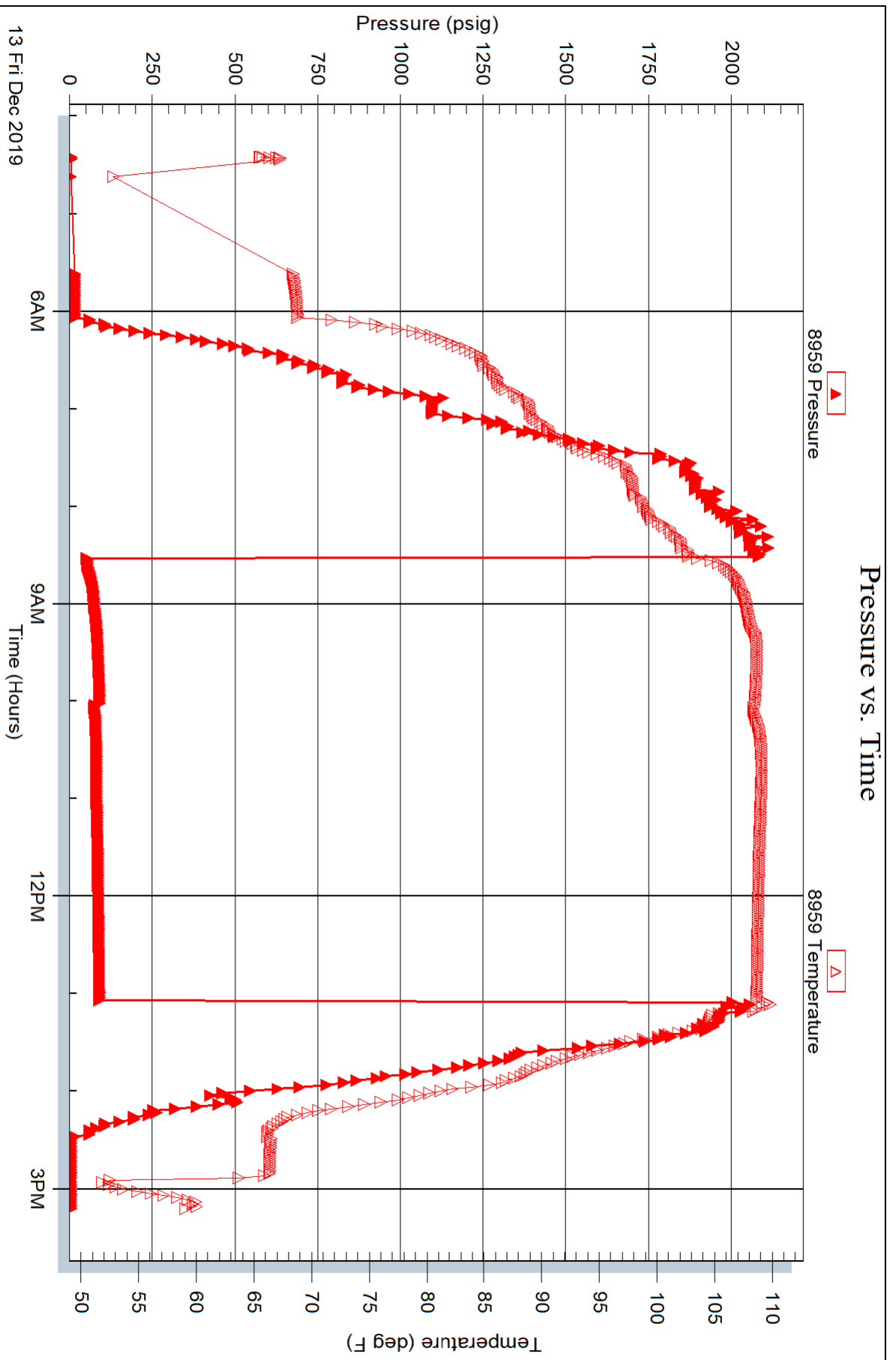
Serial #: 8959

Inside

Berexco LLC

Walters # 1-22

DST Test Number: 1





TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Berexco LLC
 2020 N. Bramblewood
 Wichita, KS 67206
 ATTN: Ed Grieves

22- 22S.- 33W Finney,KS
Walters # 1-22
 Job Ticket: 66109 **DST#: 2**
 Test Start: 2019.12.14 @ 06:11:00

GENERAL INFORMATION:

Formation: **Pawnee**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 08:26:40
 Time Test Ended: 15:22:00
 Interval: **4392.00 ft (KB) To 4415.00 ft (KB) (TVD)**
 Total Depth: 4415.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Martine Salinas
 Unit No: 82
 Reference Elevations: 2887.00 ft (KB)
 2879.00 ft (CF)
 KB to GR/CF: 8.00 ft

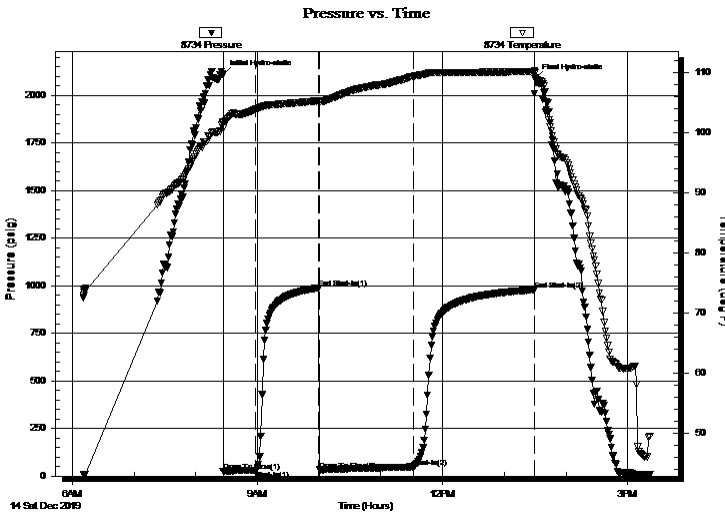
Serial #: 8734

Outside

Press@RunDepth: 48.73 psig @ 4393.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2019.12.14 End Date: 2019.12.14 Last Calib.: 2019.12.14
 Start Time: 06:11:01 End Time: 15:22:00 Time On Btm: 2019.12.14 @ 08:26:30
 Time Off Btm: 2019.12.14 @ 13:29:50

TEST COMMENT: 30-IF-S.blow built to 1 3/4"
 60-ISI-No blow back
 90-FF-S.blow built to 2"
 120-FSI-No blow back

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2109.36	101.81	Initial Hydro-static
1	24.01	100.76	Open To Flow (1)
32	31.34	103.95	Shut-In(1)
93	988.37	105.34	End Shut-In(1)
94	33.14	105.18	Open To Flow (2)
186	48.73	109.44	Shut-In(2)
303	978.53	110.22	End Shut-In(2)
304	2085.47	110.10	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
15.00	MCW 24%M, 76%W	0.21
0.00	Oil spots in tool	0.00

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Berexco LLC

22- 22S.- 33W

Finney,KS

2020 N. Bramblewood
Wichita, KS 67206

Walters # 1-22

Job Ticket: 66109

DST#: 2

ATTN: Ed Grieves

Test Start: 2019.12.14 @ 06:11:00

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:

61000 ppm

Viscosity: 53.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.80 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3500.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
15.00	MCW 24%M, 76%W	0.210
0.00	Oil spots in tool	0.000

Total Length: 15.00 ft Total Volume: 0.210 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

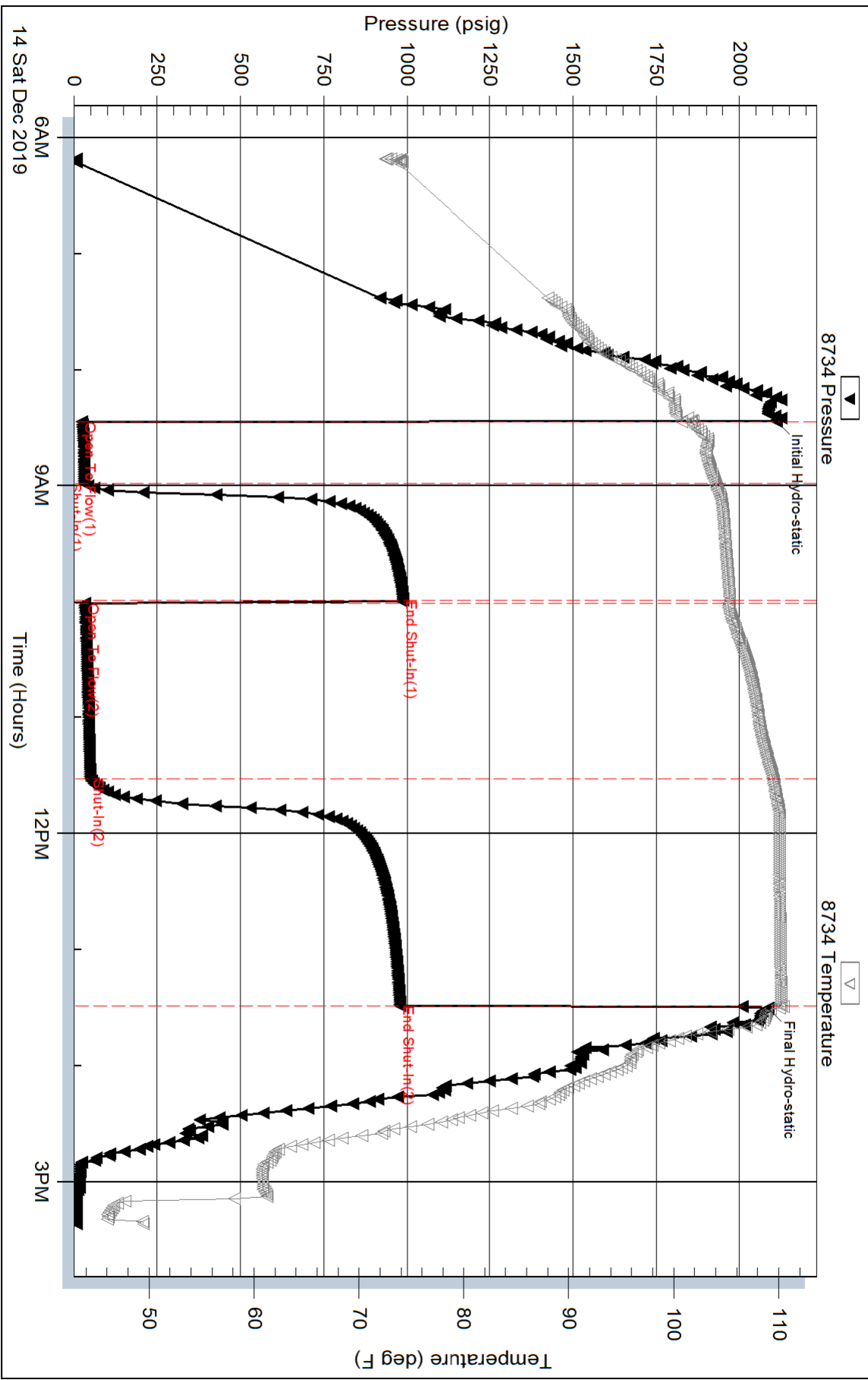
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW= .188 @ 49 degs = 61,000 PPM

Pressure vs. Time



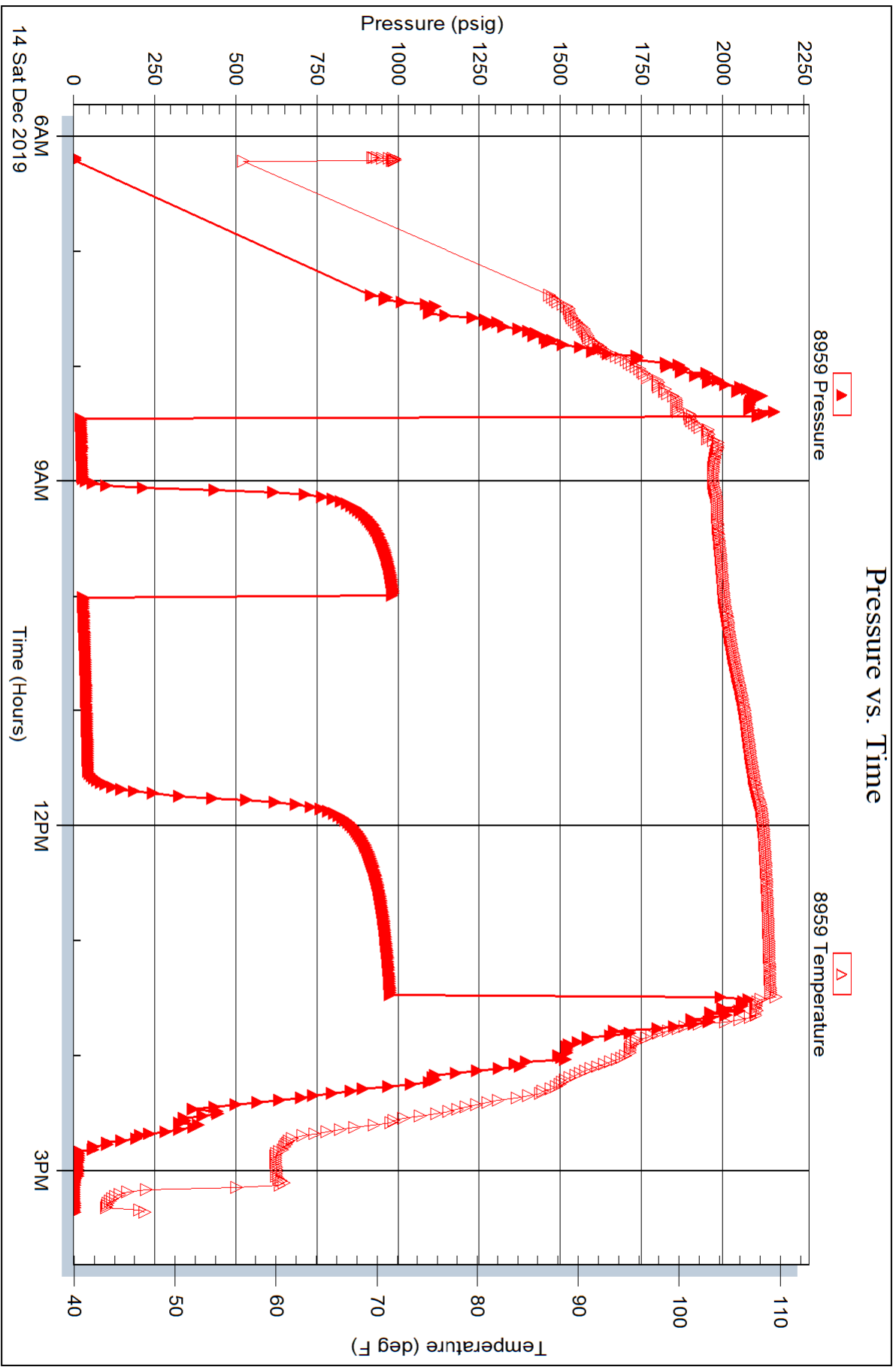
Serial #: 8959

Inside

Berexco LLC

Walters # 1-22

DST Test Number: 2





**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Berexco LLC
2020 N. Bramblewood
Wichita, KS 67206
ATTN: Ed Grieves

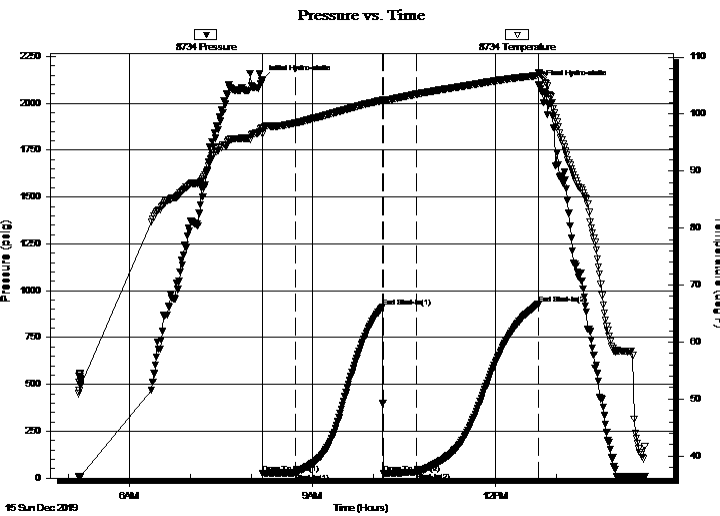
22- 22S.- 33W Finney,KS
Walters # 1-22
Job Ticket: 66110 **DST#: 3**
Test Start: 2019.12.15 @ 05:10:00

GENERAL INFORMATION:

Formation: **Ft. Scott**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 08:11:10
Time Test Ended: 14:27:40
Interval: **4427.00 ft (KB) To 4445.00 ft (KB) (TVD)**
Total Depth: 4445.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good
Test Type: Conventional Bottom Hole (Reset)
Tester: Martine Salinas
Unit No: 82
Reference Elevations: 2887.00 ft (KB)
2879.00 ft (CF)
KB to GR/CF: 8.00 ft

Serial #: 8734 Outside
Press@RunDepth: 30.18 psig @ 4428.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2019.12.15 End Date: 2019.12.15 Last Calib.: 2019.12.15
Start Time: 05:10:01 End Time: 14:27:40 Time On Btm: 2019.12.15 @ 08:11:00
Time Off Btm: 2019.12.15 @ 12:43:09

TEST COMMENT: 30-IF-S.blow built to 2 1/4"
60-ISI-No blow back
60-FF-S.blow built to 3 3/4"
120-FSI-No blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2124.39	97.61	Initial Hydro-static
1	24.55	96.48	Open To Flow (1)
32	28.20	98.41	Shut-In(1)
119	912.28	102.42	End Shut-In(1)
119	24.64	102.23	Open To Flow (2)
152	30.18	103.48	Shut-In(2)
272	926.52	106.76	End Shut-In(2)
273	2097.90	107.31	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
15.00	SOCM 10%O, 90%M	0.21

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Berexco LLC

22- 22S.- 33W

Finney,KS

2020 N. Bramblewood
Wichita, KS 67206

Walters # 1-22

Job Ticket: 66110

DST#: 3

ATTN: Ed Grieves

Test Start: 2019.12.15 @ 05:10:00

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: 60.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.60 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1000.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
15.00	SOCM 10%O, 90%M	0.210

Total Length: 15.00 ft Total Volume: 0.210 bbl

Num Fluid Samples: 0

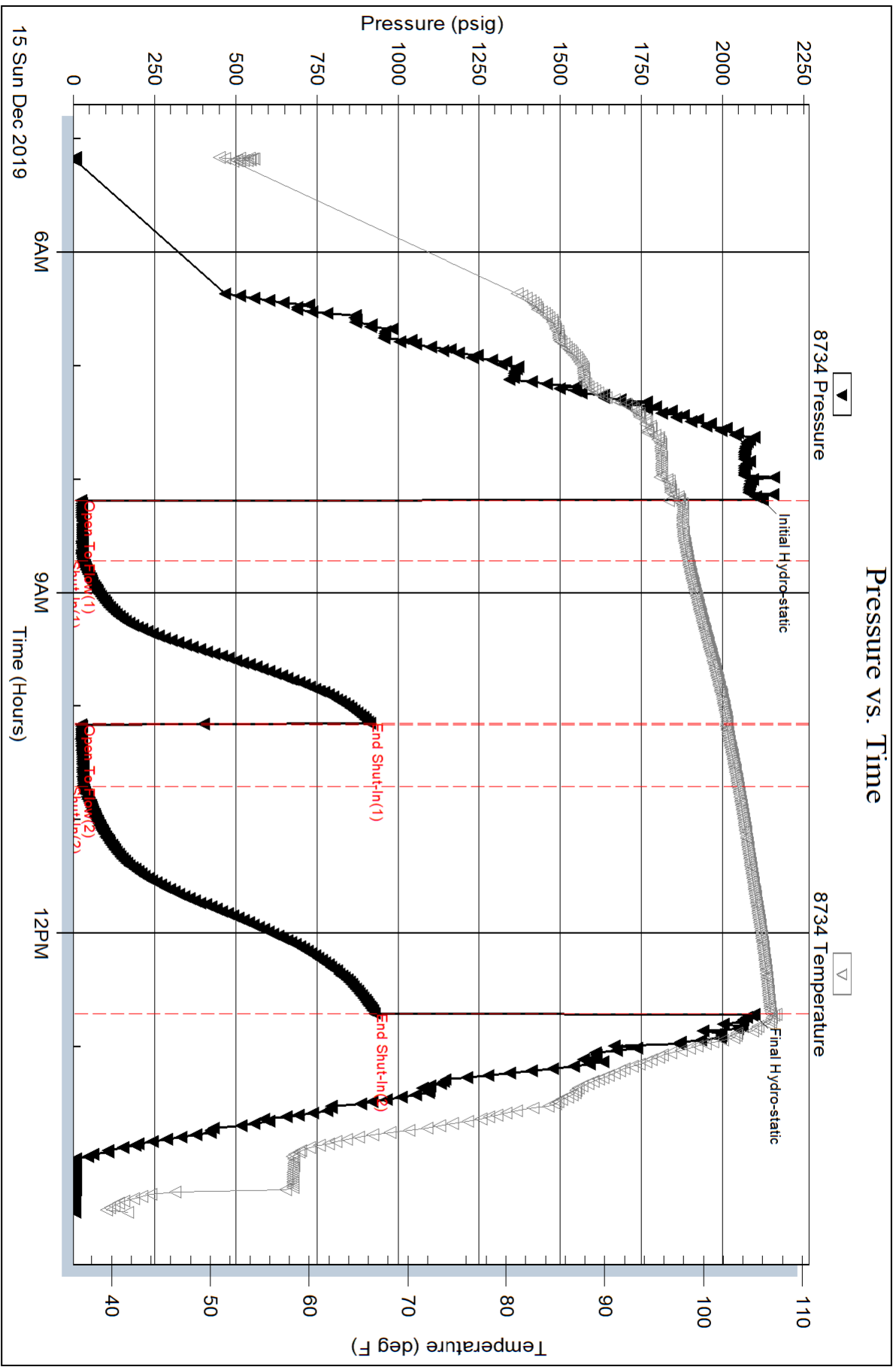
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



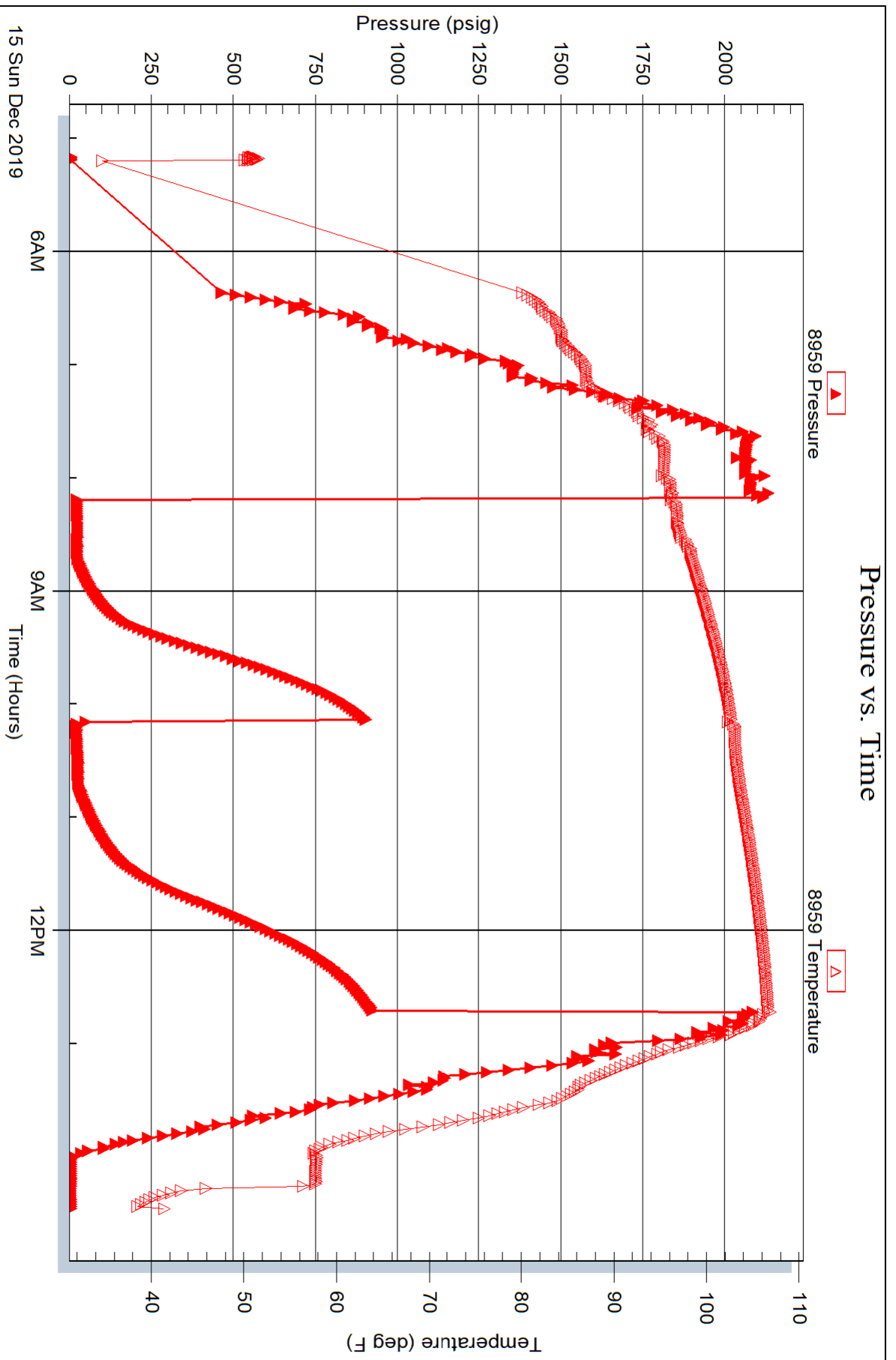
Serial #: 8959

Inside

Berexco LLC

Walters # 1-22

DST Test Number: 3





TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Berexco LLC
 2020 N. Bramblewood
 Wichita, KS 67206
 ATTN: Ed Grieves

22- 22S.- 33W Finney,KS
Walters # 1-22
 Job Ticket: 66111 **DST#: 4**
 Test Start: 2019.12.17 @ 08:02:00

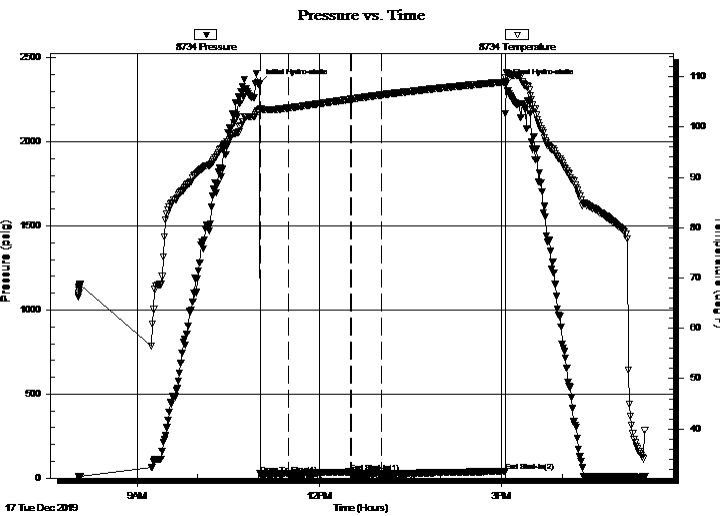
GENERAL INFORMATION:

Formation: **St. Louis**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 11:02:10
 Time Test Ended: 17:21:49
 Interval: **4672.00 ft (KB) To 4720.00 ft (KB) (TVD)**
 Total Depth: 4720.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Martine Salinas
 Unit No: 82
 Reference Elevations: 2887.00 ft (KB)
 2879.00 ft (CF)
 KB to GR/CF: 8.00 ft

Serial #: 8734 Outside

Press@RunDepth: 25.66 psig @ 4673.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2019.12.17 End Date: 2019.12.17 Last Calib.: 2019.12.17
 Start Time: 08:02:01 End Time: 17:21:49 Time On Btm: 2019.12.17 @ 11:00:20
 Time Off Btm: 2019.12.17 @ 15:04:50

TEST COMMENT: 30-IF-S.blow built to 2 1/2"
 60-ISI-No blow back
 30-FF-No blow
 120-FSI-No blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2342.50	103.11	Initial Hydro-static
2	20.44	103.52	Open To Flow (1)
30	25.89	103.76	Shut-In(1)
91	36.72	105.50	End Shut-In(1)
92	23.15	105.51	Open To Flow (2)
122	25.66	106.36	Shut-In(2)
244	40.62	108.92	End Shut-In(2)
245	2346.47	110.83	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
10.00	OCM 10%O, 90%M	0.14

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Berexco LLC

22- 22S.- 33W

Finney,KS

2020 N. Bramblewood
Wichita, KS 67206

Walters # 1-22

Job Ticket: 66111

DST#: 4

ATTN: Ed Grieves

Test Start: 2019.12.17 @ 08:02:00

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: 63.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.20 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3500.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
10.00	OCM 10%O, 90%M	0.140

Total Length: 10.00 ft Total Volume: 0.140 bbl

Num Fluid Samples: 0

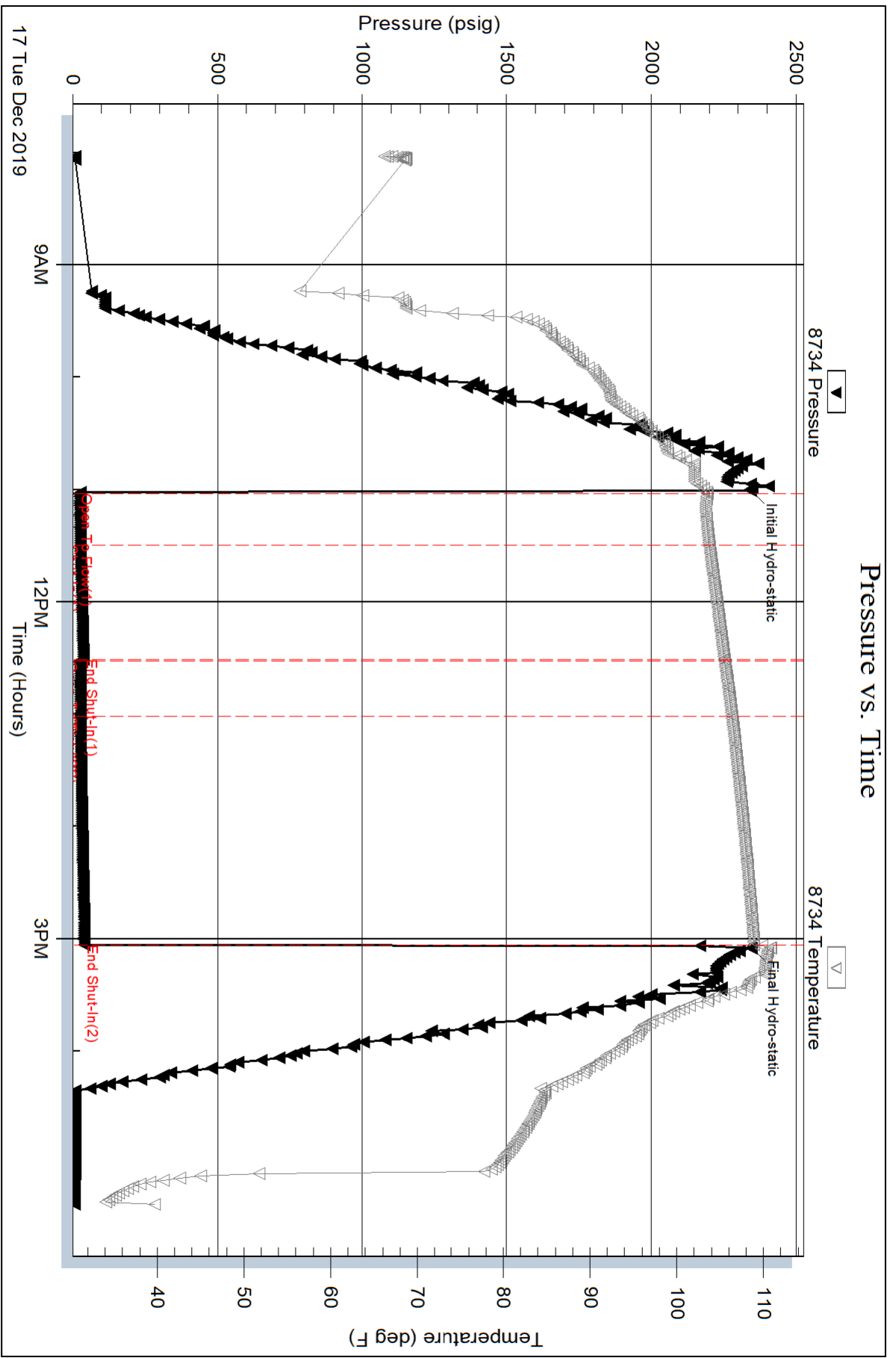
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



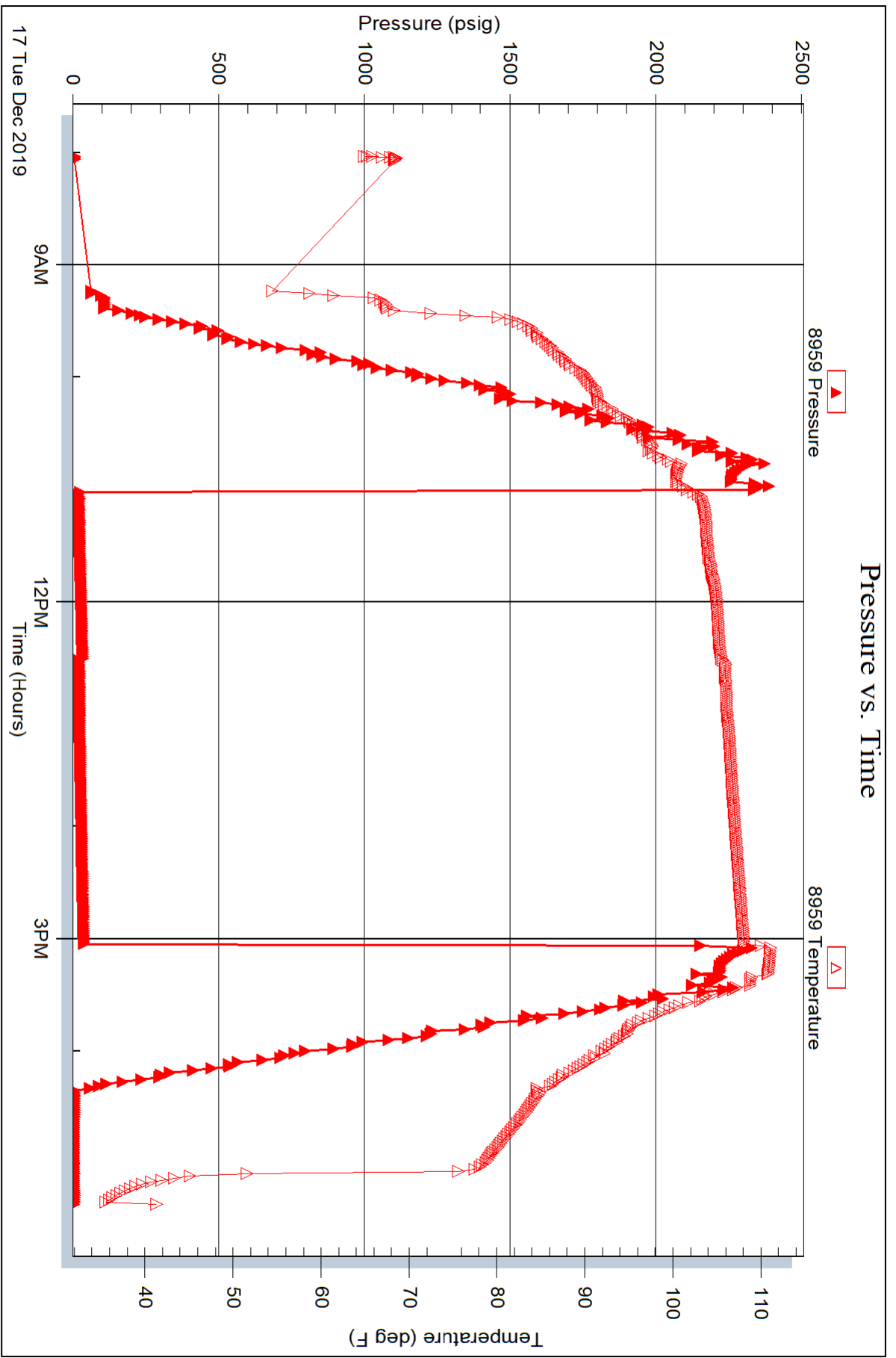
Serial #: 8959

Inside

Berexco LLC

Walters # 1-22

DST Test Number: 4





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

Well Name: Walters 1-22
Well Id:
Location: Sec 22 T22S R33W, Finney County, Kansas
License Number: 15-055-22528-00
Spud Date: Dec. 3rd. 2019
Surface Coordinates: 1950' FSL & 2150' FEL
Region: DAMME
Drilling Completed: Dec. 18th, 2019

Bottom Hole
Coordinates:
Ground Elevation (ft): 2875' K.B. Elevation (ft): 2887'
Logged Interval (ft): 3600' To: 4800' Total Depth (ft): 4800'
Formation: Morrow
Type of Drilling Fluid: Natural Chemical

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

OPERATOR

Company: BEREXCO LLC
Address: 2020 N. BRAMBLEWOOD
WICHITA, KANSAS 67206
CO. ENG; Mr. Brett Blazer

GEOLOGIST

Name: Edwin H. Grieves/Aaron Suelter
Company: GRIEVES AND CO.
Address: PO Box 3125
Edmond, Oklahoma, 74083-3125
Cell: 405-826-9027/Cell:580-754-0062



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Berexco LLC
 2020 N. Bramblewood
 Wichita, KS 67206
 ATTN: Ed Grieves

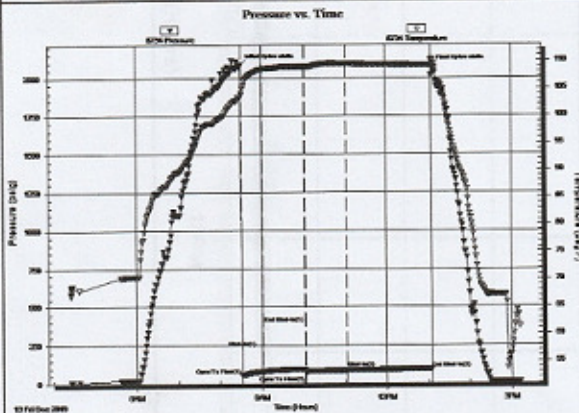
22- 22S.- 33W Finney,KS
Walters # 1-22
 Job Ticket: 66108 **DST#: 1**
 Test Start: 2019.12.13 @ 04:25:00

GENERAL INFORMATION:

Formation: **Marmaton " B "**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 08:31:50
 Time Test Ended: 15:12:49
 Interval: **4338.00 ft (KB) To 4370.00 ft (KB) (TVD)**
 Total Depth: **4370.00 ft (KB) (TVD)**
 Hole Diameter: **7.88 inches** Hole Condition: Good
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Martine Salinas
 Unit No: 82
 Reference Elevations: 2887.00 ft (KB)
 2879.00 ft (CF)
 KB to GR/CF: 8.00 ft

Serial #: 8734 Outside
 Press@RunDepth: 85.26 psig @ 4339.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2019.12.13 End Date: 2019.12.13 Last Calib.: 2019.12.13
 Start Time: 04:25:00 End Time: 15:12:49 Time On Btm: 2019.12.13 @ 08:30:40
 Time Off Btm: 2019.12.13 @ 13:06:19

TEST COMMENT: 30-IF-B.O.B @ 2 1/2mins (blow increased to 39 1/2"
 60-ISI-S.blow back @ 1 min built to 1 1/4" & decreased to 1"
 60-FF-S.blow built to 5 3/4"
 120-FSI-S.blow back @ 4 mins built to 1/4"



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2080.39	103.36	Initial Hydro-static
2	54.51	103.86	Open To Flow (1)
31	78.12	108.55	Shut-in(1)
92	94.64	109.01	End Shut-in(1)
93	78.29	108.99	Open To Flow (2)
152	85.26	109.53	Shut-in(2)
275	93.34	109.26	End Shut-in(2)
276	2064.84	110.29	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
150.00	GMCO 25%G, 16%M, 59%O	2.10
0.00	300' GIP	0.00

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcfd)



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Berexco LLC

22- 22S. - 33W Finney,KS

2020 N. Bramblewood
Wichita, KS 67206

Walters # 1-22

Job Ticket: 66110

DST#: 3

ATTN: Ed Grieves

Test Start: 2019.12.15 @ 05:10:00

GENERAL INFORMATION:

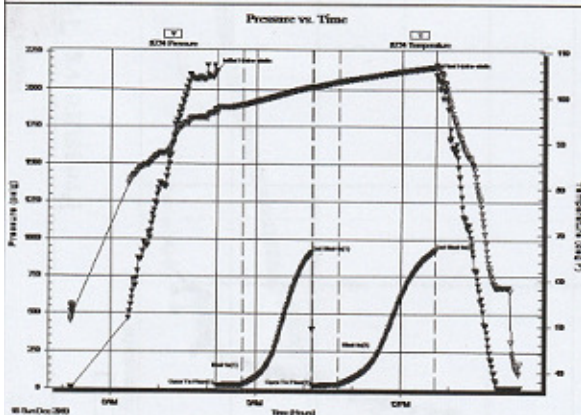
Formation: **Ft. Scott**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 08:11:10
 Time Test Ended: 14:27:40
 Interval: **4427.00 ft (KB) To 4445.00 ft (KB) (TVD)**
 Total Depth: **4445.00 ft (KB) (TVD)**
 Hole Diameter: **7.88 inches** Hole Condition: **Good**
 Test Type: **Conventional Bottom Hole (Reset)**
 Tester: **Martine Salinas**
 Unit No: **82**
 Reference Elevations: **2887.00 ft (KB)**
2879.00 ft (CF)
 KB to GR/CF: **8.00 ft**

Serial #: 8734

Outside

Press@RunDepth: 30.18 psig @ 4428.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2019.12.15 End Date: 2019.12.15 Last Calib.: 2019.12.15
 Start Time: 05:10:00 End Time: 14:27:40 Time On Btm: 2019.12.15 @ 08:11:00
 Time Off Btm: 2019.12.15 @ 12:43:09

TEST COMMENT: 30-IF-S.blow built to 2 1/4"
 60-ISI-No blow back
 60-FF-S.blow built to 3 3/4"
 120-FSI-No blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2124.39	97.61	Initial Hydro-static
1	24.55	96.48	Open To Flow (1)
32	28.20	98.41	Shut-In (1)
119	912.28	102.42	End Shut-In (1)
119	24.64	102.23	Open To Flow (2)
152	30.18	103.48	Shut-In (2)
272	926.52	106.76	End Shut-In (2)
273	2097.90	107.31	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbt)
15.00	OCM 10%O, 90%M	0.21

* Recovery from multiple tests

Gas Rates

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

Trilobite Testing, Inc

Ref. No: 66110

Printed: 2019.12.15 @ 14:37:12



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Berexco LLC
 2020 N. Bramblewood
 Wichita, KS 67206
 ATTN: Ed Grieves

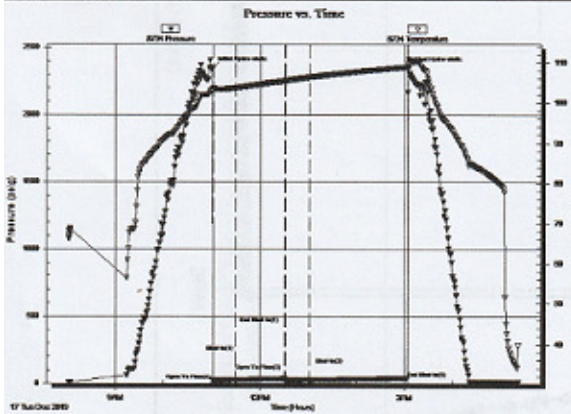
22- 22S. - 33W Finney,KS
Walters # 1-22
 Job Ticket: 66111 **DST#: 4**
 Test Start: 2019.12.17 @ 08:02:00

GENERAL INFORMATION:

Formation: **St. Louis**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 11:02:10
 Time Test Ended: 17:21:49
 Interval: **4672.00 ft (KB) To 4720.00 ft (KB) (TVD)**
 Total Depth: 4720.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Martine Salinas
 Unit No: 82
 Reference Elevations: 2887.00 ft (KB)
 2879.00 ft (CF)
 KB to GR/CF: 8.00 ft

Serial #: 8734 Outside
 Press@RunDepth: 25.66 psig @ 4673.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2019.12.17 End Date: 2019.12.17 Last Calib.: 2019.12.17
 Start Time: 08:02:00 End Time: 17:21:49 Time On Btm: 2019.12.17 @ 11:00:20
 Time Off Btm: 2019.12.17 @ 15:04:50

TEST COMMENT: 30-IF-S.blow built to 2 1/2"
 60-ISI-No blow back
 30-FF-No blow
 120-FSI-No blow



PRESSURE SUMMARY			
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2342.50	103.11	Initial Hydro-static
2	20.44	103.52	Open To Flow (1)
30	25.89	103.76	Shut-in(1)
91	36.72	105.50	End Shut-in(1)
92	23.15	105.51	Open To Flow (2)
122	25.66	106.36	Shut-in(2)
244	40.62	108.92	End Shut-in(2)
245	2346.47	110.83	Final Hydro-static

Recovery		
Length (ft)	Description	Volume (bbl)
10.00	OCM 10%O, 90%M	0.14

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

* Recovery from multiple tests

Formation Tops

SAMPLE LOG TOPS

	SAMPLE	LOG TOPS
HEEBNER		
BS. HEEBNER	3785' -898'	3790' -903'
TORONTO		
LANSING	3829' -942'	3833' -945'
KANSAS CITY "A"	4170' -1283'	4163' -1283'
BKC	4300' -1413'	4284' -1407'
MARMATON	4326' -1439'	4317' -1430'
PAWNEE	4396' -1509'	4392' -1505'
FT. SCOTT	4424' -1537'	4418' -1531'
CHEROKEE	4440' -1553'	4433' -1546'
ATOKA	4525' -1638'	4516' -1629'
MORROW FM.	4593' -1706'	4506' -1629'
MID MORROW		
ST. GEN.		
ST. LOUIS	4633' -1746'	4626' -1739'
ST. LOUIS "C"		
RTD	4800' -1913'	4798' -1911'

7 AM DEPTHS

12/10/19 3120' DRLG
12/11/19 3750' DRLG
12/12/19 4220' DRLG
12/13/19 4370' DST1
12/14/19 4415' DST2
12/15/19 4445' DST3
12/16/19 4588' DRLG
12/17/19 4720' DST4
12/18/19 4800' PREP TO LOG

CIRC. POINTS


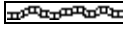
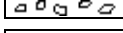





1 3990'
2 4417'
3 4143'
4 4190'
5 4260'
6 4300'
7 4350'
8 4370'
9 4415'
10 4445'
11 4600'
12 4630'
13 4650'
14 4692'
15 4720'
16 4800' TD






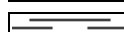
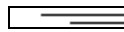

DATE	DEPTH	WT	VIS	PV	YP	GS	PH	CAKE	CHLOR	CALCIUM	LCM
10-Dec	3180	9.6	30	3	3	3/4	7		31000 HVY		1.5
11-Dec	3888	9	60	18	19	18/55	10	1	3200	20	2
12-Dec	4260	9.2	43	11	13	12/35	11	1	5300	20	2.5
13-Dec	4370	9.2	50	17	17	14/39	11	1	3500	40	2
14-Dec	4415	9.1	49	13	13	2/5	11.5	1	1000	15	1
15-Dec	4443	9.1	53	15	15	6/19	11	1	3000	15	2
16-Dec	4605	9.2	53	15	15	8/29	11	1	3500	20	2
17-Dec	4720	9.4	65	17	19	17/53	11	1	3050	10	3
18-Dec	4800	9.2	47	14	14	13/41	11	1	3450	20	2

DEV. SURVEYS



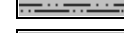
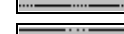
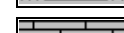

- 1 892' INC 1
- 2 1800' INC 2.5
- 3 1960' INC 2
- 4 2340' INC 1
- 5 4370' INC 1
- 6 4800' INC N/A

ROCK TYPES

-  Anhy
-  Bent
-  Brec
-  Cht
-  Clyst
-  Coal
-  Congl
-  Dol

-  Gyp
-  Igne
-  Lmst
-  Meta
-  Mrlst
-  Salt
-  Shale
-  Shcol

-  Shgy
-  Sltst
-  Ss
-  Till
-  Carb sh
-  Dol
-  Dtd
-  Gry sh

-  Sandylms
-  Shale
-  Sltstn
-  Shlyslts
-  Sltlysh
-  Lms

ACCESSORIES

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

- Fossil
- Gastro
- Oolite
- Ostra
- Pelec
- Pellet
- Pisolite
- Plant
- Strom
- Fuss
- Oomold

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

FOSSIL

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

STRINGER

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

TEXTURE

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

OTHER SYMBOLS

POROSITY TYPE

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

SORTING

- Well
- Moderate
- Poor

ROUNDING

- Rounded
- Subrnd
- Subang

- Angular

OIL SHOWS

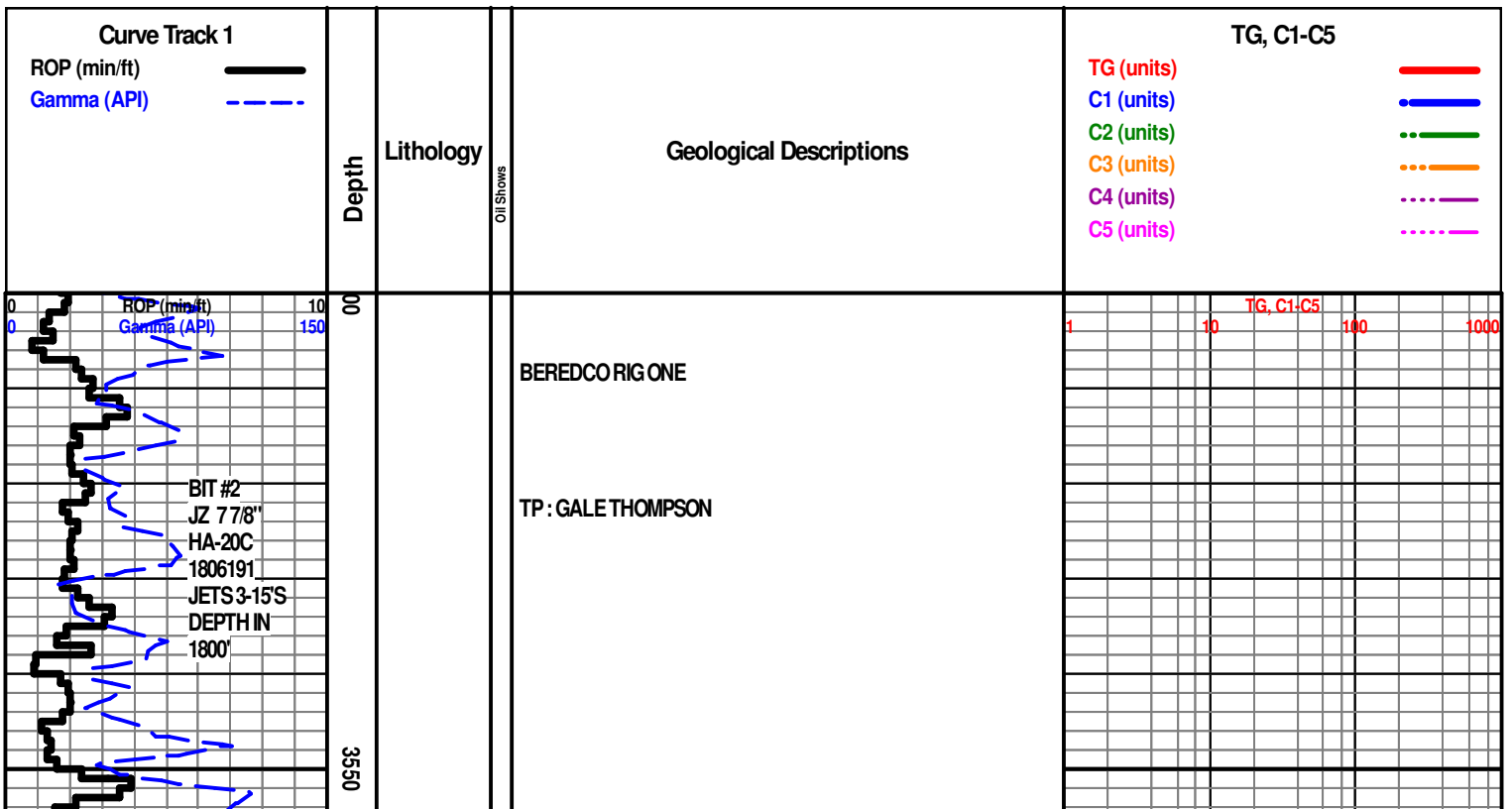
- Even
- Spotted
- Ques
- Dead
- Gas show

INTERVALS

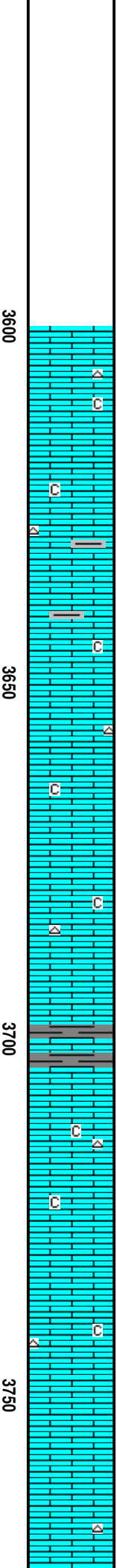
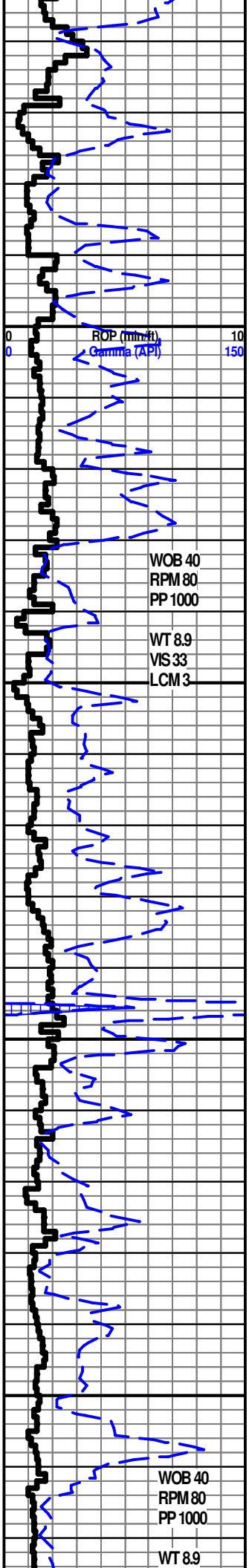
- Core
- Dst
- Dst

EVENTS

- Rft
- Sidewall



BIT #2
 JZ 778"
 HA-20C
 1806191
 JETS 3-15'S
 DEPTH IN
 1800'



START SAMPLES @ 3600'

3600'-3782' INTRBD LS & SCAT THIN SH

1 LS- HVY TR TOABDT WHT TO CRM CHLK, LT TN TOTN, CRYPTO XLN, S-CHLK, S-SUCRO TO SUCRO, DUL TO LT YEL FLO, NO CUT, HVY TR PR FR TO TR GD MICRO PP & INTR XLN POR

2 LS- GRY TO TN, CRYPTO XLN, TR S-CHLK, S-SUCRO, DUL TO TR LT YEL FLO, NO CUT, NO VIS POR

3 SH- MD TO V/DK GRY, CALC IP, SLI TR BLCK CARB

4 TR CRM CHRT

1 LS- HVY TR TOABDT WHT TO CRM CHLK, LT TN TOTN, CRYPTO XLN, S-CHLK, S-SUCRO TO SUCRO, DUL TO LT YEL FLO, NO CUT, HVY TR PR FR TO TR GD MICRO PP & INTR XLN POR

2 LS- GRY TO TN, CRYPTO XLN, TR S-CHLK, S-SUCRO, DUL TO TR LT YEL FLO, NO CUT, NO VIS POR

3 SH- MD TO V/DK GRY, CALC IP, SLI TR BLCK CARB

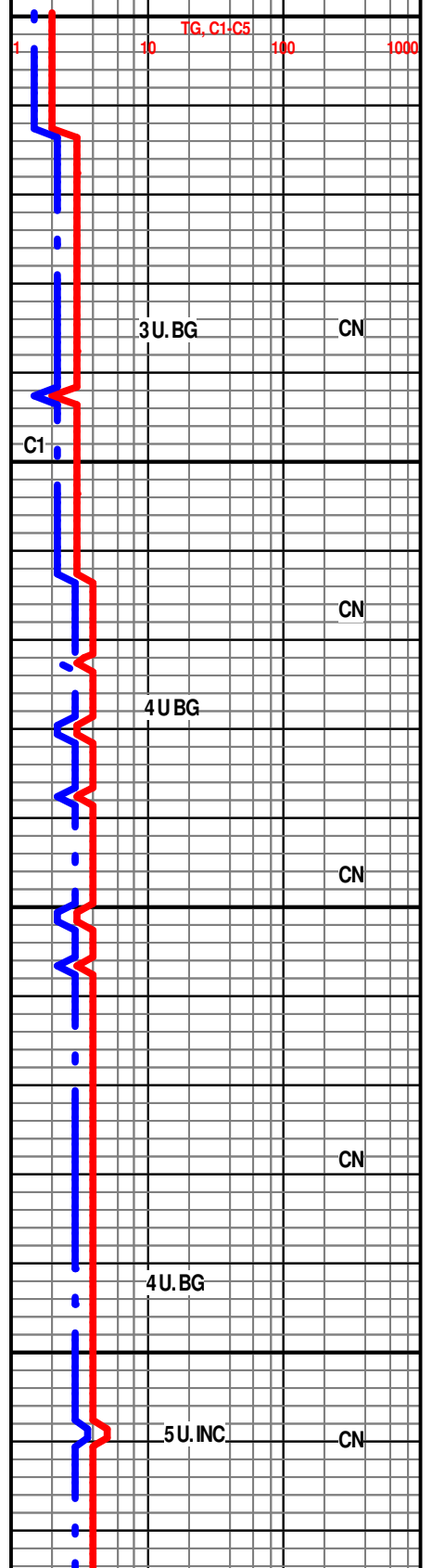
4 TR CRM CHRT

WOB 40
RPM 80
PP 1000

WT 8.9
VIS 33
LCM 3

WOB 40
RPM 80
PP 1000

WT 8.9



3 U. BG

CN

C1

4 U. BG

CN

CN

4 U. BG

CN

5 U. INC

CN

VS 33
LCM 3

HEEBNER 3785' -898'

3782'-3785' SH- BLCK, CARB

3790'-3800' SH LT GRY TO GRN, V/SFT TO MUSH, SLI SILTY IP

3800'-3824' LS- WHT TO CRM CHLK, GRY TO TN, CRYPTO XLN, TR S-CHLK, S-SUCRO TO SUCRO, DUL YEL TO LT YEL FLO, NO CUT, TR PR TO SLI TR FR MICRO PP POR & PROB INTR XLN POR

3824'-3829' SH- MD TO V/DK GRY, CALC IP

LANSING 3829' -942'

3829'-3884' INTRBD LS W/ SCAT THIN SH

1 LS- HVY TR WHT TO CRM CHLK, TN, V/VFN XLN, S-SUCRO TO SUCRO, DUL TO LT YEL FLO, NO CUT, SCAT TR MICRO PP POR IP

2 LS- LT GRY GRDNG TO TN, CRYPTO XLN, S-SUCRO, DUL YEL FLO IP, NO CUT, NO VIS POR

3. SCAT THIN SH- MD TO V/DK GRY, CALC IP

3884'-3893' LS- HVY TR WHT TO CRM CHLK, TN V/VFN XLN, S-SUCRO TO V/SUCRO, DUL YEL FLO, NO CUT, ABDT PR TO FR & TR GD MICRO PP & INTR XLN POR, TR CRM TO TN CHRT

3893'-3908' LS- TR WHT TO CRM CHLK, TN, CRYPTO XLN, S-SUCRO, PCKSTN, DUL YEL FLO IP, NO CUT, NO VIS POR

3908'-3911' SH- V/DK GRY TO BLCK, CARB

3911'-3949' INTRBD LS W/ SCAT THIN SH

1 LS- HVY TR WHT TO CRM CHLK, TN, V/VFN XLN, S-SUCRO TO SUCRO, DUL TO LT YEL FLO, NO CUT, SCAT TR MICRO PP POR IP

2 LS- LT GRY GRDNG TO TN, CRYPTO XLN, S-SUCRO, DUL YEL FLO IP, NO CUT, NO VIS POR

3. SCAT THIN SH- MD TO V/DK GRY, CALC IP

3949'-3964' LS- ABDT WHT TO CRM CHLK, CRM TO LT TN, CRYPTO XLN, TR S-CHLK, S-SUCRO TO V/SUCRO, DUL YEL FLO, NO CUT, ABDT PR TO FR & TR EXCEL MICRO PP & INTR XLN POR, SLI TR CRM TO WHT CHRT

3964'-3980' LS- TR CRM TO WHT CHLK, TN, CRYPTO XLN, TR S-CHLK, TR S-SUCRO, DUL YEL FLO, NO CUT, SCAT TR POR SIMILAR TO 2949'-3964', TR CRM TO WHT CHRT

3980'-3983' SH- LT TO MD GRY, V/ SFT TO MUSHY, V/ CALC

LANSING 'F' 3983' -1096'

3983'-3993' LS- HVY TR WHT TO CRM CHLK, TN, CRYPTO XLN, TR S-CHLK, S-SUCRO TO V/SUCRO, YEL TO YEL GLD FLO, NO CUT, ABDT PR TO FR & TR EXCEL MICRO PP & INTR XLN

3800

ROP (min/ft)
Gamma (API)

0 10 150

3850

3850

3900

3950

WOB 40
RPM 80
PP 1000

WT 9.2
VIS 63
LCM 3

CFS@3990'

C1

6 U. INC

CN

TG, C1-C5

5 U. BG

CN

5 U. BG

CN

CARBIDE TEST AT PIT

CN

4-5 U. BG

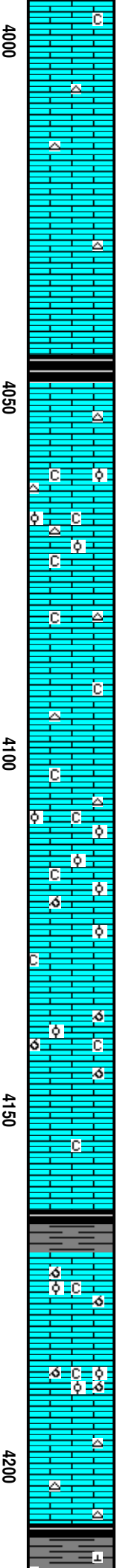
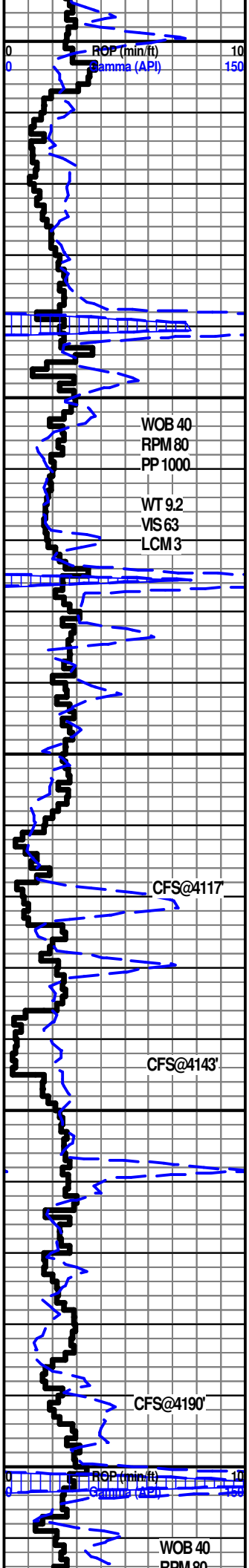
CN

C1

CN

4 U. BG

CN



CUT, ABDT PR FR TO GD & TR EXCEL MICRO PP & INTR XLN POR, TR LT GRY TO GRM CHRT

3993'-4007' LS- TN CRYPTO XLN, S-SUCRO & PCKSTN, DUL YEL TO YEL FLO, NO CUT, NO VIS POR, TR LT GRY TO WHT CHRT

4007'-4030' LS- TN, CRYPTO XLN, TR S-CHLK, S-SUCRO TO SUCRO, DUL YEL FLO, NO CUT, ABDT PR TO FR TO TR GD MICRO PP & POSS INTR XLN POR, HVY TR WHT CHRT

4030'-4045' LS- SIMILAR TO 3993'-4007'

4045'-4047' SH- V/DK GRY TO BLCK, CARB LOOKING

4047'-4058' LS- TN CRYPTO XLN, S-SUCRO & PCKSTN, DUL YEL TO YEL FLO, NO CUT, NO VIS POR, TR LT GRY TO WHT CHR

4058'-4073' LS- HVY TR WHT TO CRM CHLK, TN, CRYPTO XLN, S-CHLK, S-SUCRO, TR PHNTM OOL TO TR OOL, DUL TO LT YEL FLO, NO CUT, NO VIS POR, HVY TR CRM TO TN CHRT

4073'-4111' LS- SLI TR WHT TO CRM CHLK, TN TO GRY IP, CRYPTO XLN, TR S-CHLK, S-SUCRO, DUL TO LT YEL FLO, NO CUT, NO VIS POR, TR WHT CHRT

LANSING 'I' 4111' -1224'

4111'-4117' LS HVY TR WHT TO CRM CHLK, TN, V/V/FN XLN, V/ SUCRO, MD TO LG OOL, DUL YEL FLO, NO CUT, ABDT PR TO FR & HVY TR GD TO EXCL MICRO PP TO INTR XLN POR

4117'-4124' LS- TR WHT TO CRM CHLK, TN, V/ TO EXTRLY MD TO LG OOL, SLI OOLCST, CRYPTO XLN, S-CHLK, S-SUCRO TO V/ SUCRO, GLD YEL FLO, NO CUT, ABDT PR FR TO GD & TR EXCL OOL POR, PP, MICRO PP & INTR XLN POR

4124'-4136' LS- SIMILAR TO 4073'-4111'

4136'-4145' LS- TR WHT TO CRM CHLK, TN, V/ TO EXTRLY OOLCST, SLI TO FR OOL, CRYPTO XLN, S-SUCRO, DUL GLD TO GLD YEL FLO, NO CUT, ABDT PR FR GD TO EXCEL OOLCST POR, QUEST PERM

4145'-4164' LS- SIMILAR TO 4073'-4111'

KANSAS CITY 'A' 4170' -1283'

4164'-4170' SH- MD TO V/DK GRY & BLCK, CARB

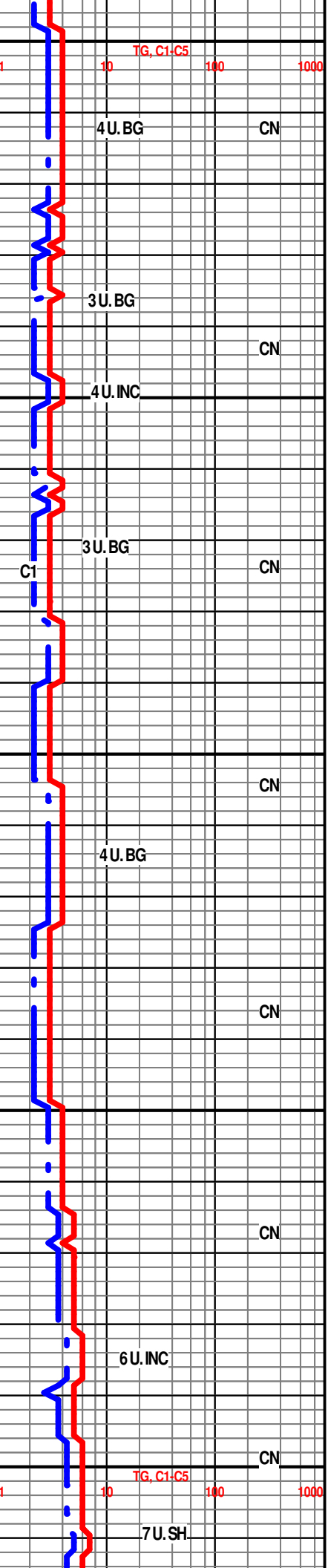
4170'-4178' LS- SLI TR WHT TO CRM CHLK, TN, CRYPTO XLN, SLI TO FRLY OOLCST, SLI OOL IP, S-SUCRO TO TR SUCRO, DUL YEL FLO, NO CUT, HVY TR PR TO FR & TR GD OOLCST, PP, MICRO PP & INTR XLN POR, NO SHOW

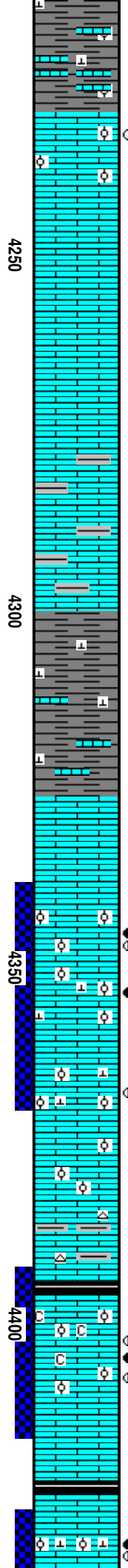
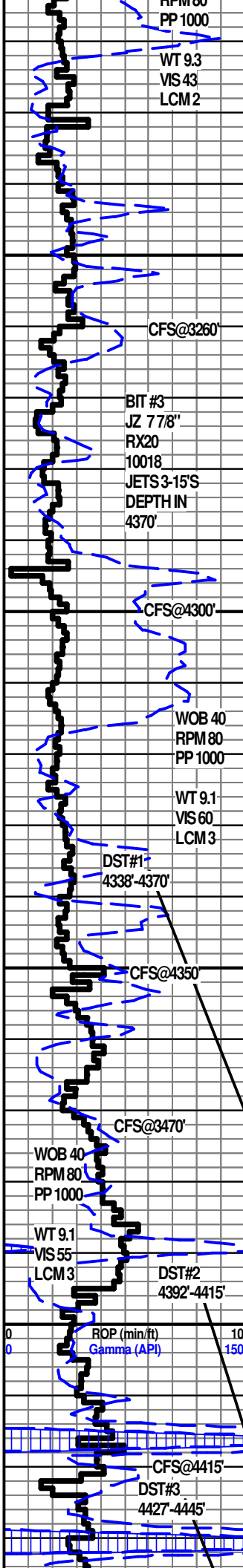
4184'-4194' LS- SIMILAR TO 4170'-4178'

4194'-4207' LS- SIMILAR TO 4178' 4184' W/ PROB INTRBEDS GRY RED GRN SH, TR LT GRY TO WH CHRT

4207'-4209' SH- V/DK GRY TO BLCK, CARB

KANSAS CITY 'B' 4209' 1322'





4209'-4229' SH- GRY, SLI TO EXTRLY CALC GRDNG TO LS, LT GRY TO TN, CRYPTO XLN, S-SUCRO, OOLITIC IP, TR VERIG SH

4229'-4241' LS- TN TO GRYIP, CRYPTO XLN, TR S-CHLK, S-SUCRO TO SUCRO, SLI TO FRLY OOL IP, FR TO GD OIL ODOR, SLI TR DRKR TN SPTD OIL STN, DUL GLD TOYEL GLD FLO, FNT RING CUT, NO VIS POR

4241'-4272 LS- LT GRY TO TN, CRYPTO XLN, PCKSTN TO S-LITHOGR, DUL YEL FLO, NO CUT, NO VIS POR

4272'-4300' LS- LT GRY TO TN IP, CRYPTO XLN, S-CHLK, S-SUCRO, DUL YEL TO TR YEL FLO, NO CUT, NO VIS POR, HVY TR TO ABDT GRY RED GRN SH

BKC 4300' -1413'

4300-4336' SH- MD TO DK GRY, V/ TO EXTRLY CACL IP, GRDNG TO SHLY LS

MARMATON 4326' -1439'

4326'-4346' LS- TR WHT OT CRM CHLK, LT GRY TO TN, SLI OOL, CRYPTO XLN, TR S-CHLK, S-SUCRO TO SUCRO, DUL GLD TO YEL GLD FLO, NO CUT, NO VIS POR

MARMATON 'B' 4340-1453'

4346'-4353' LS- GRY TO TN, CRYPTO XLN, SLI TO FRLY OOL, S-SUCRO, SUCRO, TR SPTD TO EVEN BRWN OIL STN, GLD YEL FLO, FNT TO FR STRM CUTS, TR PR TO FR & SLI TR GD TO EXCL PP, MICRO PP, & POSS TR INTR XLN POR, QUEST PERM

4353'-4357' LS- TN W/ ABDT BRWN SPTD TO EVEN OIL STN, FR OIL ODOR, CRYPTO XLN, MED CALC XLS & FRAGMNT, S-SUCRO TO SUCRO, PHNTM OOL IP, DUL GLD TO YEL GLD FLO, FL SH TO STRMING CUTS, HVY TR PR TO FR & TR GD TO EXCEL VUG, PP, MICRO PP & POSS INTR XLNT POR IP

4366'-4374' LS- SIMILAR TO 4353'-4357'

4374'-4383' LS- LT GRY TO TN, CRYPTO XLN, S-SUCRO & PCKSTN, TR PHNTM OOL TO TR OOL, DUL YEL FLO IP, NO CUT, NO VIS POR

4383'-4395' - LS- LT TN TO MD GRY, SLI TO EXTRLY SHLY, CRYPTO XLN, S-CHLK &/OR SHLY, NO FLO, NO CUT, NO VIS POR, TR WHT CHRT

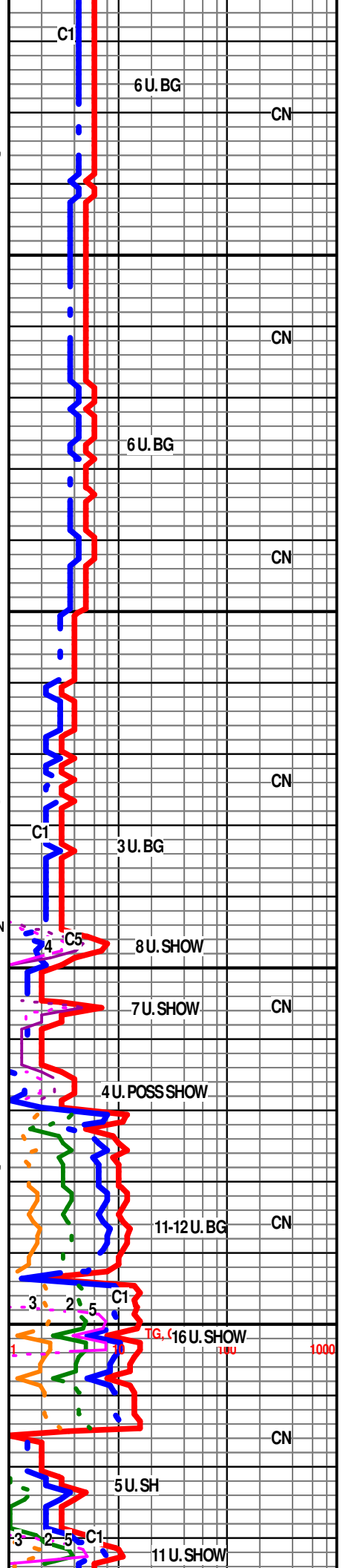
4395'-4396' SH- V/DK GRY TO BLCK, CARB

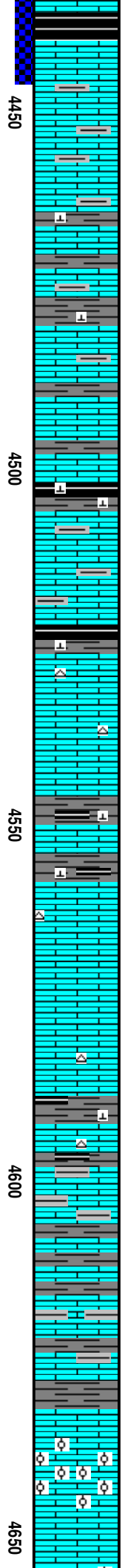
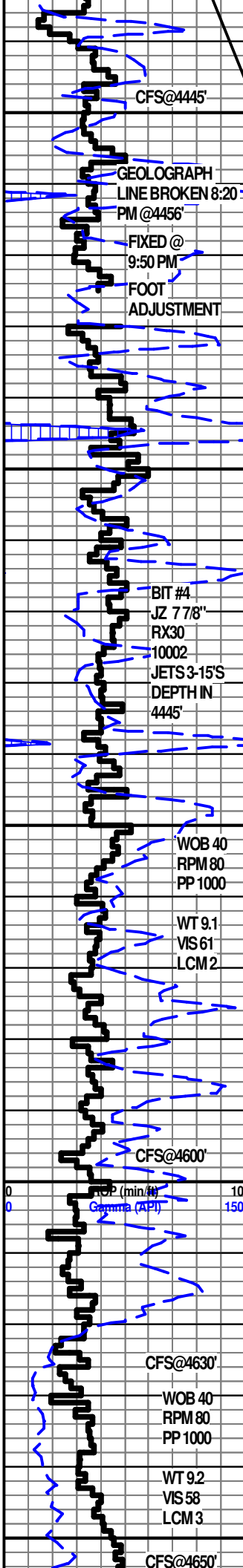
PAWNEE 4396' -1509'

4396'-4411' LS- HVYTR WHT TO CRM CHLK, CRM TO LT TN, HVY TR SPTN TO EVEN TN OIL STN, FR OIL ODOR, S-CHLK, S-SUCRO TO SUCRO, SLI TO V/ OOL IP, DUL TO LT YEL FLO, FNT TO FR STRMING CUT TO MILKY CUT, HVY TR PR TO FR & TR GD MICRO PP & POSS INTR XLN POR, QUEST PERM IP

4421'-4424' SH- BLCK, CARB

4430'-4433' LS- LS- GRY TO TN, HVY TR SPTD TO EVEN LT BRWN OIL STN, CRPTO XLN, TR MD TO CRS WHT TO CLR CALC XLS & FRAG, S-SUCR TO SUCRO, PHNTM OOL IP, GLD





YEL FLO, FLSH TO GD STRMING CUT, ABDT PR TO FR & TR GD TO SLI TR EXCEL PP, MICRO PP & INTR XLN POR W/ PROB VUG POR

4440'-4525' INTRBD LS & SH

1. LS- TN CRYPTO TO VV/FN XLN, TR S-CHLK, S-SUCRO, PCKSTN W/ SLI TR S-LITHOGR, DUL YEL DUL GLD TO GLD YEL FLO, NO CUT, NO VIS POR

2. LS- LT TO MD GRY, SLI TO FRLYSHLY, CRPYTO TO VV/FN XLN, S-SUCRO, CHLK &/OR SHLY, TR S-SUCRO & PCKSTN, NO FLO, NO CUT, NO VIS POR

3. SH- MD TO V/DK GRY, SLI TO EXTRLY CALC IP

4. SH- V/DK TO BLCK, CARB

ATOKA 4525' -1638'

4425'-4593' INTRBD LS & SH W/ TR CHRT

1. LS- TN TO TR GRY, SLI SHLY, CRYPTO TO VV/FN XLN, TR S-CHLK, S-SUCRO, PCKSTN, & TR S-LITHOGR, DUL YEL DUL GLD TO GLD YEL FLO, NO CUT, NO VIS POR

2. SH- MD TO V/DK GRY, SLI TO FRLY CALC IP, SLI SLTY IP

3. SH- V/DK GRY TO BLCK, CARB

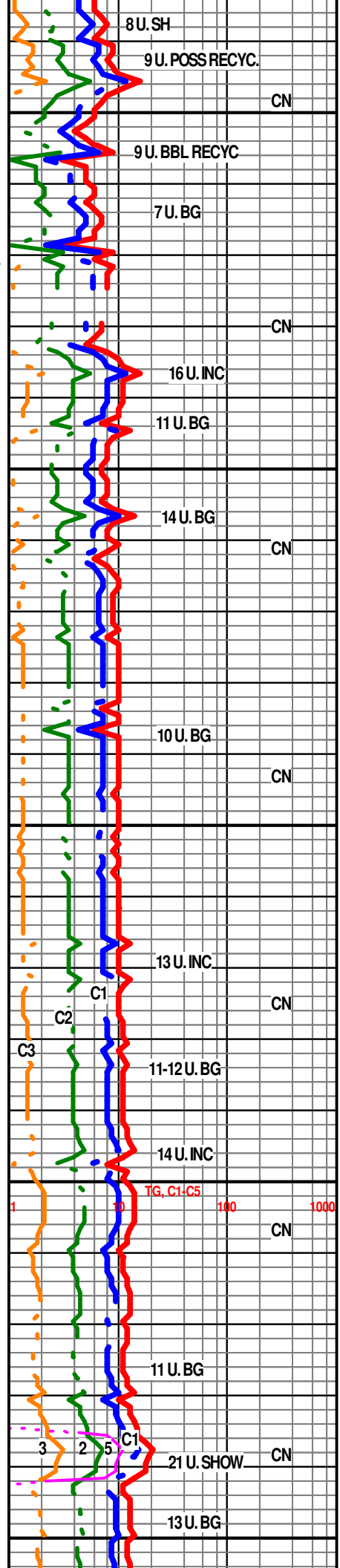
4. TR GRY TO TN CHRT

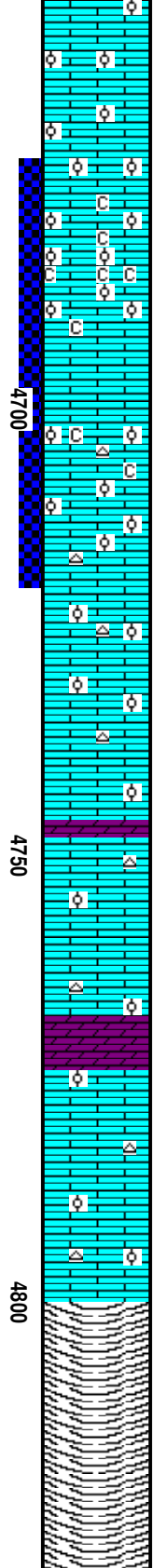
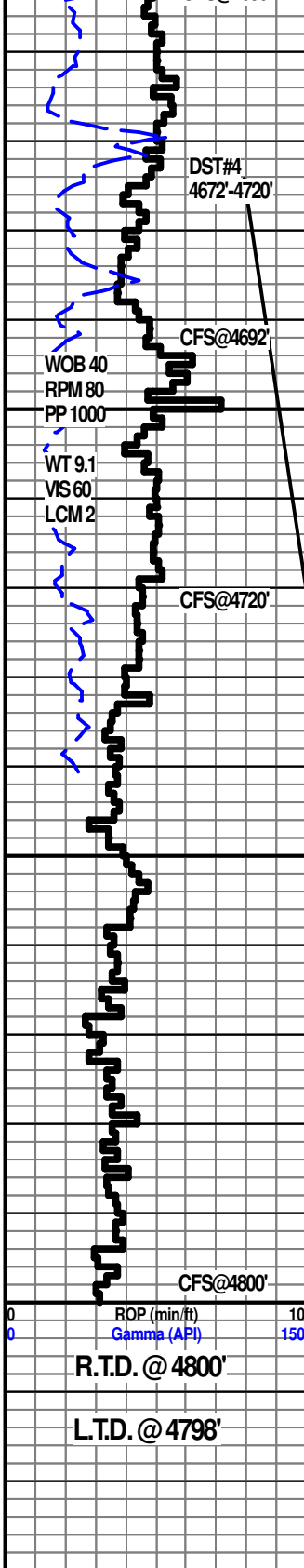
MORROW 4593' -1706'

4593'-4633' LS- LT TO MD GRY, V/ TO EXTRLYSHLY, SLI TO V/ SLTY, S-CHLK TO SHLY, NO FLO, NO CUT, NO VIS POR, GRDNG TO CALC SH W/ TR VERIG RED & GRN SH

ST LOUIS 4633' -1746'

4633'-4644' LS- TN W/ EXTRA ABDT DK TN TO BRWN EVEN OIL STN, FNT OIL ODOR, EXTRLY ABDT SM TO MD OOL, S-SUCRO TO SUCRO, GLD YEL FLO, EXCEL FLSH TO EXCEL STRMING CUT, 4633'-4638' HVY TR PR TO FR PP & INTR XLN POR, QUEST PERM, 4638'-4644' ABDT PR FR TO GD & TR EXCEL PP & INTR XLN POR & TR INTR OOL POR





4644'-4675' LS- TN, CRYPTO XLN, V/ TO EXTRLY ABDT MICRO SM TO TR MD OOL, TR S-CHLK, S-SUCRO TO SUCRO, HVY TR SPTD TO TR EVEN DRK TN TO BRWN OIL STN, GLD YEL FLO, FL SH TO GD STRMNG CUTS, TR PR MIRO PP POR, POSS INTR XLN POR IP, TR STN ALONG FRACT

ST LOUIS 'C?' 4675' -1788'

4675'-4690' LS- TR WHT TO CRM CHLK, SLI TR W/ CHLK OOL, TN, CRYPTO XLN, V/ TO EXTRLY ABDT SM MD TO LRG OOL, CHLK, S-CHLK, S-SUCRO TO SUCRO, TR SPTD TO SLI TR EVEN DRK TN OIL STN, GLD YEL FLO, FL SH TO STRMNG CUT, TR PR TO FR & SLI TR GD MICRO PP POR IP, POSS INTRX XLN POR IP, QUEST PERM IP

4690'-4733' LS- TN, CRYPTO XLN, ABDT NON OOL PCKSTN, TO S-LITHOGR & V/ TO EXTRLY ABDT SM MD TO TR LG OOL, TR S-CHLK, S-SUCRO, DUL YEL FLO, NO CUT, NO VIS POR, W/ TR LT GRY CHRT

4733'-4800' LS- TR WHT TO CRM CHLK, TN TO GRY IP, CRYPTO XLN, S-CHLK, S-SUCRO, TR PHNTM OOL, DUL YEL TO TR YEL FLO, NO CUT, NO VIS POR, TR LT GRY TO TN CHRT, TR DOLOMTC LS TO LMY DOLO

LS- TR WHT TO CRM CHLK, TN TO GRY IP, CRYPTO XLN, S-CHLK, S-SUCRO, TR PHNTM OOL, DUL YEL TO TR YEL FLO, NO CUT, NO VIS POR, TR LT GRY TO TN CHRT, TR DOLOMTC LS TO LMY DOLO

R.T.D. @ 4800' 12/18/195:50 AM
 CFS 1.5 HOURS
 SHORT TRIP 10 STANDS
 CIRC 1.5 HOURS
 TOFL
 STEP

