

Confidentiality Requested:

Yes  No

KANSAS CORPORATION COMMISSION  
OIL & GAS CONSERVATION DIVISION

Form ACO-1

January 2018

Form must be Typed

Form must be Signed

All blanks must be Filled

**WELL COMPLETION FORM**  
**WELL HISTORY - DESCRIPTION OF WELL & LEASE**

OPERATOR: License # \_\_\_\_\_

Name: \_\_\_\_\_

Address 1: \_\_\_\_\_

Address 2: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_ + \_\_\_\_\_

Contact Person: \_\_\_\_\_

Phone: ( \_\_\_\_\_ ) \_\_\_\_\_

CONTRACTOR: License # \_\_\_\_\_

Name: \_\_\_\_\_

Wellsite Geologist: \_\_\_\_\_

Purchaser: \_\_\_\_\_

Designate Type of Completion:

New Well  Re-Entry  Workover

Oil  WSW  SWD

Gas  DH  EOR

OG  GSW

CM (Coal Bed Methane)

Cathodic  Other (Core, Expl., etc.): \_\_\_\_\_

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

Operator: \_\_\_\_\_

Well Name: \_\_\_\_\_

Original Comp. Date: \_\_\_\_\_ Original Total Depth: \_\_\_\_\_

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

Plug Back  Liner  Conv. to GSW  Conv. to Producer

Commingled Permit #: \_\_\_\_\_

Dual Completion Permit #: \_\_\_\_\_

SWD Permit #: \_\_\_\_\_

EOR Permit #: \_\_\_\_\_

GSW Permit #: \_\_\_\_\_

Spud Date or Date Reached TD Completion Date or Recompletion Date

API No.: \_\_\_\_\_

Spot Description: \_\_\_\_\_

\_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_ Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West

\_\_\_\_\_ Feet from  North /  South Line of Section

\_\_\_\_\_ Feet from  East /  West Line of Section

Footages Calculated from Nearest Outside Section Corner:

NE  NW  SE  SW

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

Datum:  NAD27  NAD83  WGS84

County: \_\_\_\_\_

Lease Name: \_\_\_\_\_ Well #: \_\_\_\_\_

Field Name: \_\_\_\_\_

Producing Formation: \_\_\_\_\_

Elevation: Ground: \_\_\_\_\_ Kelly Bushing: \_\_\_\_\_

Total Vertical Depth: \_\_\_\_\_ Plug Back Total Depth: \_\_\_\_\_

Amount of Surface Pipe Set and Cemented at: \_\_\_\_\_ Feet

Multiple Stage Cementing Collar Used?  Yes  No

If yes, show depth set: \_\_\_\_\_ Feet

If Alternate II completion, cement circulated from: \_\_\_\_\_

feet depth to: \_\_\_\_\_ w/ \_\_\_\_\_ sx cmt.

**Drilling Fluid Management Plan**

*(Data must be collected from the Reserve Pit)*

Chloride content: \_\_\_\_\_ ppm Fluid volume: \_\_\_\_\_ bbls

Dewatering method used: \_\_\_\_\_

Location of fluid disposal if hauled offsite:

Operator Name: \_\_\_\_\_

Lease Name: \_\_\_\_\_ License #: \_\_\_\_\_

Quarter \_\_\_\_\_ Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West

County: \_\_\_\_\_ Permit #: \_\_\_\_\_

**AFFIDAVIT**

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

Submitted Electronically

**KCC Office Use ONLY**

Confidentiality Requested

Date: \_\_\_\_\_

Confidential Release Date: \_\_\_\_\_

Wireline Log Received  Drill Stem Tests Received

Geologist Report / Mud Logs Received

UIC Distribution

ALT  I  II  III Approved by: \_\_\_\_\_ Date: \_\_\_\_\_

Operator Name: \_\_\_\_\_ Lease Name: \_\_\_\_\_ Well #: \_\_\_\_\_

Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West County: \_\_\_\_\_

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

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

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

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

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

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

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

TUBING RECORD:	Size:	Set At:	Packer At:	
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Form	ACO1 - Well Completion
Operator	Darrah Oil Company, LLC
Well Name	B4US 1-5
Doc ID	1566930

All Electric Logs Run

micro
compensated density
dual induction
Sonic



Hurricane Services, Inc.  
 250 N. Water St., Suite #200  
 Wichita, KS 67202



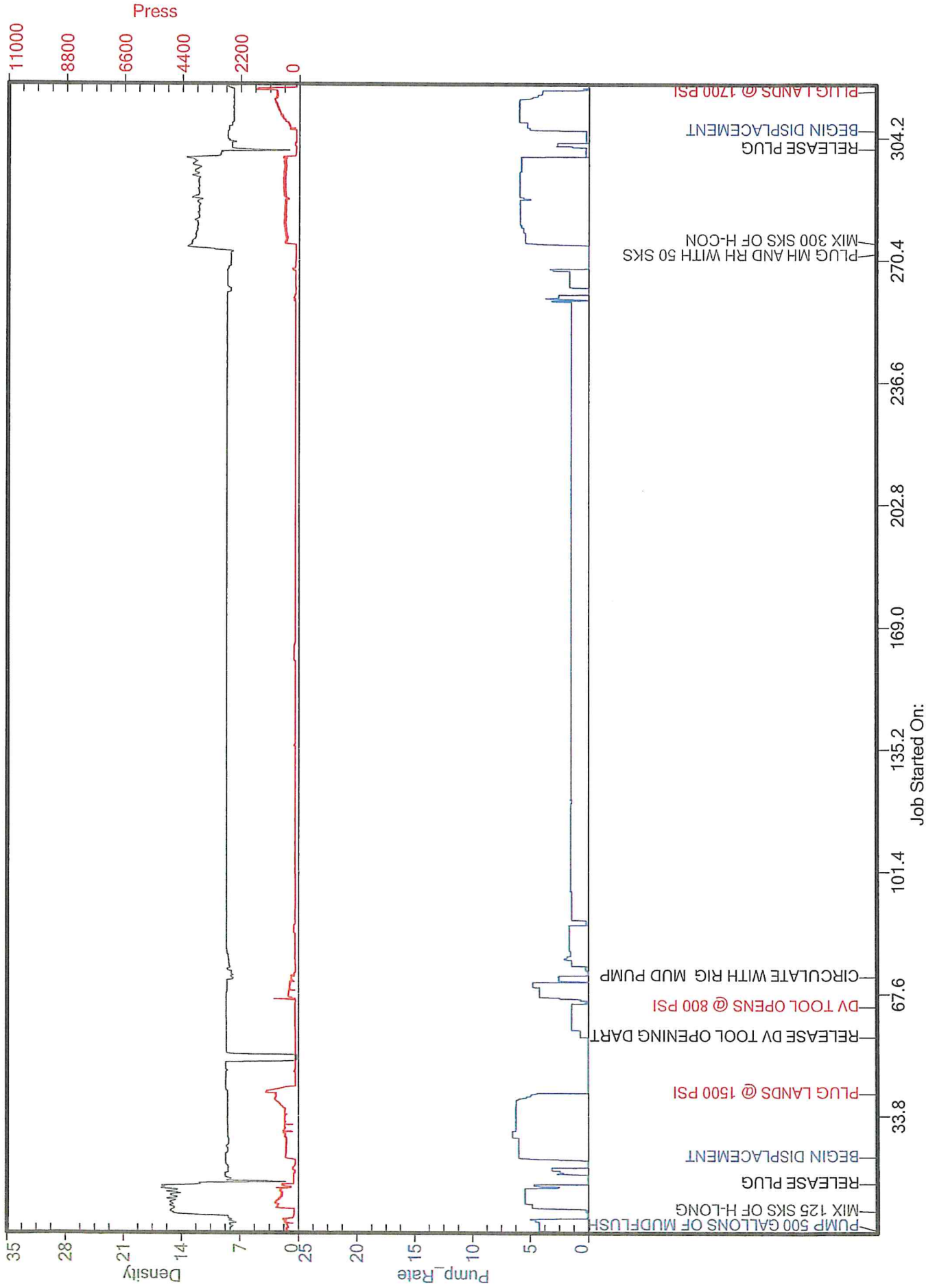
Customer	Darrah Oil Company LLC	Lease & Well #	B4US # 1-5		Date	12/14/2020		
Service District	Oakley Ks	County & State	Scott Ks	Legals S/T/R	5/18/33W	Job #		
Job Type	2 stage	<input checked="" type="checkbox"/> PROD	<input type="checkbox"/> INJ	<input type="checkbox"/> SWD	New Well?	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> No	
Equipment #	Driver	Job Safety Analysis - A Discussion of Hazards & Safety Procedures						
78	dane	<input checked="" type="checkbox"/> Hard hat	<input checked="" type="checkbox"/> Gloves	<input checked="" type="checkbox"/> Lockout/Tagout	<input checked="" type="checkbox"/> Warning Signs & Flagging			
230	mike	<input checked="" type="checkbox"/> H2S Monitor	<input checked="" type="checkbox"/> Eye Protection	<input checked="" type="checkbox"/> Required Permits	<input checked="" type="checkbox"/> Fall Protection			
180	Kale	<input checked="" type="checkbox"/> Safety Footwear	<input type="checkbox"/> Respiratory Protection	<input checked="" type="checkbox"/> Slip/Trip/Fall Hazards	<input type="checkbox"/> Specific Job Sequence/Expectations			
242	john	<input checked="" type="checkbox"/> FRC/Protective Clothing	<input type="checkbox"/> Additional Chemical/Acid PPE	<input checked="" type="checkbox"/> Overhead Hazards	<input checked="" type="checkbox"/> Muster Point/Medical Locations			
		<input checked="" type="checkbox"/> Hearing Protection	<input checked="" type="checkbox"/> Fire Extinguisher	<input type="checkbox"/> Additional concerns or issues noted below				
Comments								
Product/ Service Code	Description	Unit of Measure	Quantity				Net Amount	
C020	Cement Pump - Multi Stage Service	ea	1.00				\$2,000.00	
M015	Light Equipment Mileage	mi	45.00				\$72.00	
M010	Heavy Equipment Mileage	mi	45.00				\$144.00	
M020	Ton Mileage	tm	1,006.00				\$1,207.20	
Cp030	H-Long	sack	125.00				\$2,800.00	
cp025	H-Con	sack	350.00				\$5,880.00	
Cp170	Mud Flush	gal	500.00				\$400.00	
Fe130	5 1/2" Cement Basket	ea	2.00				\$480.00	
Fe135	5 1/2 Turbolizer	ea	3.00				\$192.00	
fe145	5 1/2" Float Shoe - AFU Flapper Type	ea	1.00				\$300.00	
fe150	5 1/2" DV Tool - 2 Stage	ea	1.00				\$4,000.00	
Customer Section: On the following scale how would you rate Hurricane Services Inc.?							Net:	\$17,475.20
Based on this job, how likely is it you would recommend HSI to a colleague?							Total Taxable	\$ -
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>							Tax Rate:	
Unlikely 1 2 3 4 5 6 7 8 9 10 Extremely Likely							Sale Tax:	\$ -
State tax laws deem certain products and services used on new wells to be sales tax exempt. Hurricane Services relies on the customer provided well information above to make a determination if services and/or products are tax exempt.							Total:	\$ 17,475.20
HSI Representative: <i>Dane Retzloff</i>								

**TERMS:** Cash in advance unless Hurricane Services Inc. (HSI) has approved credit prior to sale. Credit terms of sale for approved accounts are total invoice due on or before the 30th day from the date of invoice. Past due accounts shall pay interest on the balance past due at the rate of 1 1/2% per month or the maximum allowable by applicable state or federal laws. In the event it is necessary to employ an agency and/or attorney to affect the collection, Customer hereby agrees to pay all fees directly or indirectly incurred for such collection. In the event that Customer's account with HSI becomes delinquent, HSI has the right to revoke any discounts previously applied in arriving at net invoice price. Upon revocation, the full invoice price without discount is immediately due and subject to collection. Prices quoted are estimates only and are good for 30 days from the date of issue. Pricing does not include federal, state, or local taxes, or royalties and stated price adjustments. Actual charges may vary depending upon time, equipment, and material ultimately required to perform these services. Any discount is based on 30 days net payment terms or cash. **DISCLAIMER NOTICE:** Technical data is presented in good faith, but no warranty is stated or implied. HSI assumes no liability for advice or recommendations made concerning the results from the use of any product or service. The information presented is a best estimate of the actual results that may be achieved and should be used for comparison purposes and HSI makes no guarantee of future production performance. Customer represents and warrants that well and all associated equipment in acceptable condition to receive services by HSI. Likewise, the customer guarantees proper operational care of all customer owned equipment and property while HSI is on location performing services. The authorization below acknowledges the receipt and acceptance of all terms/conditions stated above, and Hurricane has been provided accurate well information in determining taxable services.

X \_\_\_\_\_ **CUSTOMER AUTHORIZATION SIGNATURE**



Darrah Oil Co LLC  
B4US 1-5







# Wellsite Services, LLC

John Goldsmith  
(316) 640-0236

427 Roosevelt St.  
Cheney, KS 67025

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

Well Name: #1-5 B4US  
API: 15-171-21265  
Location: 545'FSL & 1,385'FWL, Sec 5-18S-33W, NW SW SE SW  
License Number: #35615  
Spud Date: 12/05/2020  
Surface Coordinates: LAT: 38.512826  
LONG: -100.994226  
Bottom Hole Vertical Hole  
Coordinates: 0.25 Degree Deviation  
Ground Elevation (ft): 3334' K.B. Elevation (ft): 3045'  
Logged Interval (ft): 3750' To: RTD Total Depth (ft): 4900'  
Formation: Mississippian at RTD  
Type of Drilling Fluid: Chemical

Region: Scott County  
Drilling Completed: 12/05/2020

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

### OPERATOR

Company: Darrah Oil Company, LLC  
Address: 125 N Market Ste. 1425  
Wichita, KS 67202-1720  
(316) 219-3390

### GEOLOGIST

Name: John Goldsmith  
Company: Wellsite Services LLC  
Address: 427 Roosevelt St.  
Cheney, KS 67025  
(316) 640-0236

### RIG RECORDS

Contractor: Murfin Drilling Rig #21  
Pusher: Juan Tinoco

Collar Tally: 571.70'

Pump: Emsco DB550  
Liner & Stroke: 6 x 16

### BIT RECORDS

Size:	Type:	Footage:	Condition:	Hours:	Serial #:
12 1/4"	Sm-tooth	0-282'	RR	3.25	...
7 7/8"	MSI-516	282'-3709'	New	53	JK 2057
7 7/8"	Sm-F27	3709'-4900'	New	60 3/4	RK 6529

### COMMENTS

Surface Casing: 7 joints of 8 5/8" set @ 282'  
Production Casing: 5.5" production casing was set.  
Mud by: Anyd's Mud  
DST's by: Trilobite Testing  
Logs by: ELI (DIL, CN-CD, ML, CS)  
RTD=4900' LTD=4908'

## FORMATION TOPS

FORMATION	SAMPLE TOPS		LOG TOPS	
	Depth	Datum	Depth	Datum
Base of Anhydrite	2392'	+653	2390'	+655
Heebner Shale	3974'	-929	3974'	-929
Toronto	3989'	-944	3990'	-945
Lansing	4015'	-970	4017'	-972
Muncie Creek Shale	4211'	-1166 4316'	4212'	-1167 4318'
Stark Shale	-1271		-1273	
Hushpuckney Shale	4362'	-1317	4364'	-1319
Base of Kansas City	4403'	-1358	4405'	-1360
Altamont	4462'	-1417	4464'	-1419
Pawnee	4540'	-1495	4542'	-1497
Myrick Station	4574'	-1529	4580'	-1535
Ft Scott	4588'	-1543	4592'	-1547
Cherokee Shale	4615'	-1570	4620'	-1575
Johnson Zone	4695'	-1650	4697'	-1652
Morrow	4742'	-1697	4744'	-1699
Mississippian	4808'	-1763	4810'	-1765
RTD	4900'	-1855		
LTD			4908'	-1863

## DST's

**DST #1 "LKC C" 4037'-4066' 12-8-20 30-45-45-60**  
 1st Blw: 1/2" blw blt to 4.5" (No BB)  
 2nd Blw: Surf blw blt to 5.5" (No BB)  
 IFP: 45-90# ISIP: 1016# FFP: 103-160# FSIP: 997#  
 Hyd: 2034-2004#  
 Rec: 160'WCM w/OS (20%Wtr), 120'MCW (70%Wtr).

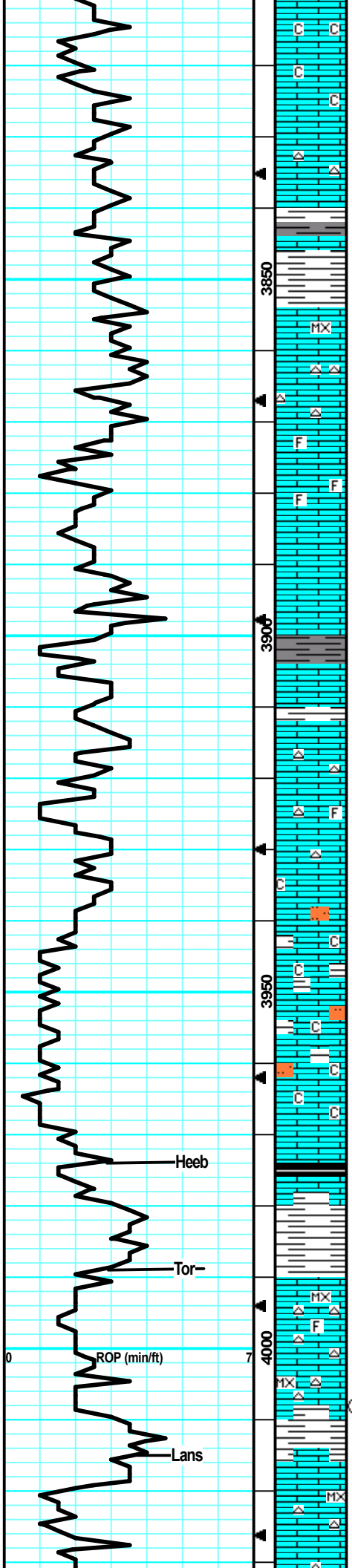
**DST #2 "Altamont" 4428'-4500' 12-10-20 30-45-45-60**  
 1st Blw: Blt to BOB in 12min (1.5" BB)  
 2nd Blw: Blt to BOB in 8min (BOB BB in 22min)  
 IFP: 60-140# ISIP: 1189# FFP: 145-196# FSIP: 1153#  
 Hyd: 2294-2176#  
 Rec: 189'GO (90%O), 252'GO (40%O, 50%M).

**DST #3 "St Louis" 4814'-4840' 12-12-20 30-30-30-30**  
 1st Blw: 1/4" blw died in 15min (No BB)  
 2nd Blw: No blw (No BB)  
 IFP: 32-38# ISIP: 1024# FFP: 33-35# FSIP: 1023#  
 Hyd: 2537-2408#  
 Rec: 5'Mud.

## ROCK TYPES

 Anhy	 Dol	 Sltst	 Sandylms
 Cht	 Lmst	 Ss	 Shaly ls
 Congl	 Shale	 Carb sh	





LS: lt tan/lt gry, fn xln, sub-chlky in prt, tr-nvp, no odr, ns.

Much of the same, infx of pur chl, no odr, ns.

LS: tan/lt gry, mott in prt, fn xln, many firm, flaky/mealy, fw pcs chrt, tr-nvp, o odr, ns.

LS: tan/lt tan, mott in prt, fn xln, sub-chlky, brit, tr-nvp, no odr, ns.

LS: lt tan/lt gry, sing, micro xln, dense, fw firm, tr-nvp, no odr, ns.

LS: tan, sing, micro-fn xln, many dens, firm, sub-chlky in prt, tr-nvp, fw Chert: wht, opa, sharp, no odr, ns.

LS: tan/lt gry, mott in prt, fn xln, sm v foss, sm brit, flky/mealy in prt, tr-pr intxln por in fw, no odr, ns.

LS: tan/gry, fn xln, many sandy/gritty, fw sub-chlky & foss, tr-nvp, svrl SH: gry, gritty, soft, no odr, ns.

LS: tan/gry, sm sandy/grainy, brit, fw sub-chlky, nvp, sm SH: gry/blu, silty, soft, no odr, ns.

LS: tan/lt gry, fn xln, sub-chlky in prt, brit, sm flaky/mealy, tr-nvp, no odr, ns.

Same, nvp, no odr, ns.

LS: tan/lt gry, mostly dens, 2 pc/try, grainy, fr intxln por, shpr of oil cling to rx chp, vssfo on brk, svrl pcs pur chl, fw CHERT: wht, foss, sharp, no odr.

LS: tan/gry, mott in prt, fn xln, many chlky, many dnse, tr-nvp, no cup odr, ns.

Much of the same, Lrg infx of pur chl, sm SH: gry/blu, silty, v soft, no odr, ns.

LS: tan/gry, mott, fn xln, sub-chlky, brit, tr-nvp, no odr, ns.

LS: gry/lt bm, slght mott, fn xln, sm firm, sub-chlky, tr-nvp, svrl pcs pur chl, no odr, ns.

SH: blk, carb, silty.

SH: gry/blu/blk, mostly silty & soft, fw carb, fw LS: gry/tan, mott, tr-nvp, no odr, ns.

LS: cm/lt tan, micro-fn xln, chlky, brit, tr-nvp, fw Chert: wht, foss, sharp, no odr, ns.

Much of the same, svrl mor pcs Chert: wht, opa, foss, sharp, no odr, ns.

SH: gry/bm/drk gry, silty, sm gritty, soft, friab, no odr, ns.

LS: lt tan/cm, sing, micro-fn xln, dense, tr-nvp, fw Chert: wht, opa, sharp, no cup odr, ns.

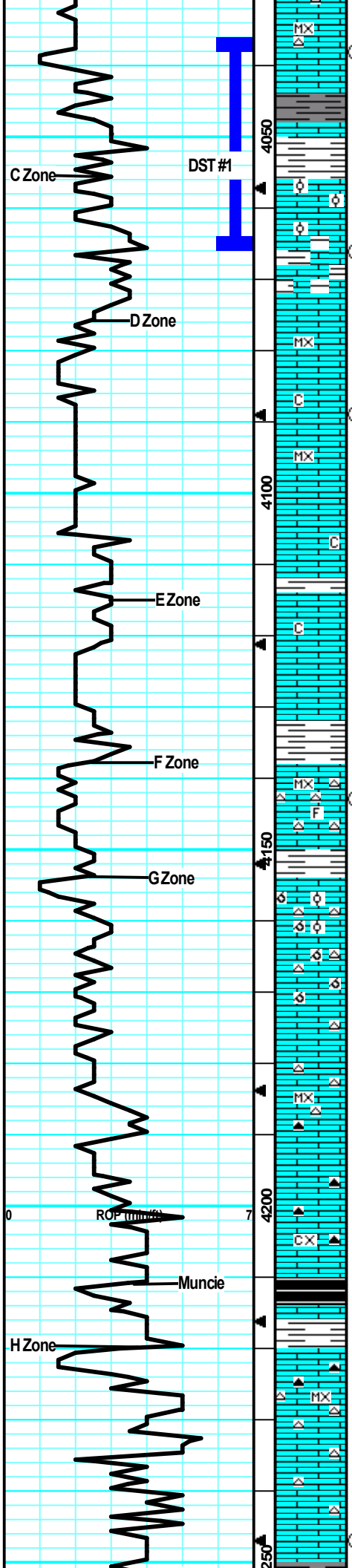
Heebner @ 3974' (-929)

Toronto @ 3989' (-944)

Andy's Mud Report #2  
12/8/2020 @ 3994'  
Wt: 9.3  
Vis: 55  
LCM: 3#

CFS @ 4008' (30"/60")

Lansing @ 4015' (-970)



Much of the same, infix of chlk, no odr, ns.

SH: gry/drk gry/gm, silty, soft, waxy, fw carb, no odr, ns.

LS: lt gry/tan, fn xln, ool, sm fr-gd intxn/intool por, sm vuggy on edges, drk hvy strns in por, glob on oil cling to rx chip, fr sfo on brk in 3-4 pcs/try, faint cup odr, strm fluor.

60" Smpl: Mostly barren LS: tan, fn xln, dense, sub-chlky, 3 more pcs of sho, fr sml intool por, fr cup odr, ssfo.

LS: tan/lt gry, sing, fn xln, sub-chlky in prt, fw flaky/mealy, tr-nvp, svrl SH: gry/blu, silty, v soft, no odr, ns.

LS: tan, sing, micro-fn xln, sub-chlky, brit, tr-nvp, abund of pur chlk, no cup odr, ns.

60" Smpl, much of the same profus fill'd with pur chlk, no odr, ns.

LS: lt tan, sing, micro-fn xln, dense, sm brit, chlky, tr-nvp, tray profus fill'd w pur chlk, no odr, ns.

LS: gry/lt tan, fn xln, sm gd intxn por in fw pcs, sub-chlky in prt, barren, no stns/shos, no odr.

LS: gry/lt tan, slght mott, fn xln, dense, sm flakey/mealy, sub-chlky in prt, tr-nvp, no odr, ns.

LS: tan/lt tan, sing, fw pcs w/ fr intxn por, 2 pcs w/ hvy blk tar like stns in por, slw pos cut resid, no enrg, no cup odr, vssfo.

Circ Smples: much more dense, flakey/mealy LS, only 1 pc w/ sho desc above, infix SH: gry/bm.

LS: lt tan, sing, micro-fn xln, dense, sub-chlky, tr-nvp, svrl pcs Chert: wht, foss, sharp, no odr, ns.

LS: tan, mott, fn xln, profus ool, sm gd oolcast por, many firm/hard, svrl pcs pur chlk, fw Chert: wht, opa, sharp, no odr, ns.

Same as above.

Much of the same, infix LS: lt tan, micro xln, dense, sub-chlky, britl, tr-nvp, no cup odr, ns.

LS: tan/lt gry gry, micro-fn xln, dense, sub-chlky, svrl Chert: gry/wht, foss, sharp, no odr, ns.

LS: gry, slght mott, fn xln, dense, sm flakey/mealy, sm firm, tr-nvp, no odr, ns.

LS: gry/tan, mott, fn-crs xln, flakey/mealy, dense, firm, tr-nvp, fw Chert: gry/smokey, sharp, no cup odr, ns.

Much of the same mott hard LS, infix of SH: blk, silty, carb, svrl Chert: gry/smokey, foss, sharp, no odr, ns.

LS: cm/lt tan/, sing, micro-fn xln, dense, sub-chlky in prt, tr-nvp, abund Chert: lt tan/cm, foss, no cup odr, ns.

LS: tan/lt gry, sing, fn xln, dense, many firm, tr-nvp, sm Chert: wht/opa, foss, no cup odr, ns.

Circ Smples: much of the same, no odr, ns.

SH: drk gr/blu/fw/blk silty soft v fw carb

CFS @ 4038' (30"/60")

DST #1 "LKC C" 4037-4066' 12-8-20 30-45-45-60  
 1st Blw: 1/2" blw bit to 4.5" (No BB)  
 2nd Blw: Surf blw bit to 5.5" (No BB)  
 IFP: 45-90# ISIP: 1016# FFP: 103-160# FSIP: 997#  
 Hyd: 2034-2004#  
 Rec: 160WCM w/OS (20%Wtr), 120MCW (70%Wtr).

CFS @ 4066' (30"/60")

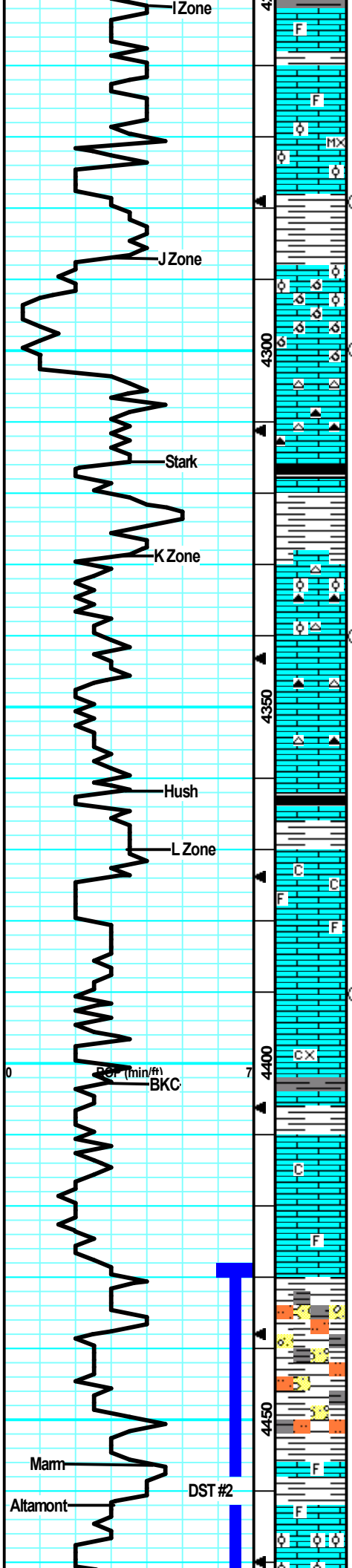
CFS @ 4089' (30"/60")

Andy's Mud Report #3  
 12/9/2020 @ 4090'  
 Wt: 9.3  
 Vis: 59  
 LCM: 3#

CFS @ 4143' (30"/60")

Muncie Creek @ 4211' (-1166)

CFS @ 4247' (30"/60")



SH: drk gry/blu/bm, blk, chky, soft, v fw carb.

LS: tan/lt tan, slight mott, fn xln, fw v foss, sm flakey/mealy, britl in prt, tr-nvp, svrl SH: brn&gry, no odr, ns.

LS: tan/lt gry, slight mott, fn xln, fw foss, mostly britl, sub-chlky in prt, tr-nvp, no odr, ns.

LS: tan/lt bm, mott, micro-fn xln, foss/ool, brit in prt, sm hard, tr-pr intool por in v fw pcs, no odr, ns.

SH: gry/blu/drk bm, silty, soft, sm waxy, no odr, ns.

LS: lt tan/tan, fn xln, many profus ool, many w/ v gd oocast por, sm britl, no cup odr, ns.

LS: lt gry, slight mott, fn xln, xln, dense, sub-chlky, sm firm, tr-nvp, fw pcs Chert: gry/wht, mott, foss, sharp, no cup odr, ns.

SH: blk, mostly carb, silty, med crush.

SH: gry/blk, silty, sm carb, fw LS: lt gry/tan, slight mott, fn xln, sm britl, tr-nvp, no odr, ns.

LS: gry/lt tan, slight mott, fn xln, fw ool, sandy/grainy like, sub-chlky, mostly britl, tr-nvp, fw pcs pur chl, no odr, ns.

Circ Smpls: more gry/tan, and more firm, tr-nvp, v fw Chert: gry/wht, sharp, no odr, ns.

LS: gry/tan, sing, fn xln, sub-chlky, many firm, tr-nvp, fw Chert: gry/why, sharp, no odr, ns.

Much of the same as above.

SH: blk, silty, carb.

SH: blu/gm, silty, soft, waxy, fw SitStn: bm, gritty, friabl.

LS: tan/lt gry, slight mott, fn xln, fw foss, frags, mostly flakey/mealy, sub-chlky in prt, tr-nvp, fw pcs pur chl, no cup odr, ns.

Much of the same as above, more firm & less chl, no odr, ns.

LS: gry/lt tan, slight mott, fn xln, sub-chlky, tr-nvp, svrl SH: gry/blu, silty, waxy, sm fissile, no cup odr, ns.

LS: gry/tan, mott, fn-crx xln, sm foss, brit, sub-chlky in prt, tr-pr intxln por in v fw pcs, svrl SH: drk gry/drk bm, silty, gritty, no odr, ns.

Much of the same LS, less SH, no odr, ns.

LS: gry/tan, slight mott, fn xln, fw foss, britl, sub-chlky, tr-nvp, v fw pcs chl, no odr, ns.

LS: gry/tan, fn xln, fw foss, firm, tr-nvp, sm SH: gry/bm, silty, waxy in prt, fw Chert: gry/bm, foss, sharp, no odr, ns.

SH: gry/blu/bm, silty soft, fw waxy, svrl SitStn: bm, gritty, friabl, LS: gry/lt bm, mott, fn-crs xln, tr-nvp, no odr, ns.

SH: gry/blu, silty, gritty, soft, friable, sm LS: tan/lt tan, slight mott, fn xln, fw britl, tr-nvp, no odr, ns.

LS: gry/lt bm, mott in prt, fn-crs xln, fw foss frags, mostly hard, tr-nvp, svrl SH: gry/blu, soft, no odr, ns.

LS: gry/lt tan, fn xln, sm profus ool, spttd drk bm stns in sm

CFS @ 4247' (30"/60")

**Stark @ 4316' (-1271)**

CFS @ 4340' (30"/60")

**Hushpuckney @ 4362' (-1317)**

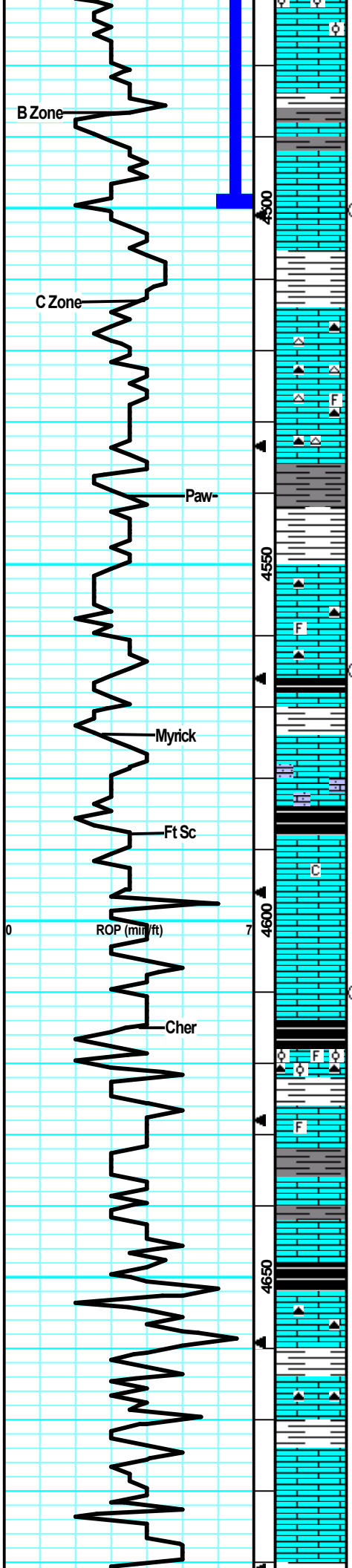
CFS @ 4390' (30"/60")

**Base of KC @ 4403' (-1358)**

Andy's Mud Report #4  
12/10/2020 @ 4434'  
Wt: 9.6  
Vis: 59  
LCM: 4#

**Marmaton @ 4456' (-1411)**

**Altamont @ 4462' (-1417)**



tight intoool por, sm firm, gd strm cut, faint cup odr, ssfo on brk in 3-4 pcs.

LS: tan/lt gry, fn xln, sub-chlky in prt, tr-nvp, 2 pcs w/ ssfo as desc above, no cup odr, infix SH: drk gry.

LS: gry/tan, slight mott, fn xln, mostly britl, sm sandy/gmy, tr-nvp, no cup odr, ns. 60" lrg infix SH: gry, waxy, med crush.

SH: gry/bm/gm/bm, silty, soft, fw LS: gry/tan, mott, fn xln, tr-nvp, no cup odr, ns.

LS: tan/lt gry, fn xln, sm flakey/mealy, sub-chlky in prt, svrl Chert: lt tan/lt gry, sharp, no cup odr, ns.

LS: gry/tan, slight mott, fn xln, fw foss frags, sub-chlky in prt, tr-nvp, lrg infix Chert: drk gry, sm foss, sharp, no odr, ns.

SH: drk gry/blk, silty, sm carb, med crush.

SH: gry/drk gry/bm, gritty, med crush, fw LS: gry/tan, mott, fn xln, sm firm, tr-nvp, no odr, ns.

LS: lt gry/lt tan, fn xln, foss in prt, many firm, tr-nvp, svrl Chert: lt gry, foss, sharp, no odr, ns.

Mostly the same, infix of LS: lt gry/lt tan, sing, fn xln, sub-chlky, dense, tr-nvp, no odr, ns.

SH: blk/drk gry, silty, mostly carb, med crush.

LS: gry/lt bm, mott, fn-crs xln, sm sandy/gmy, firm, tr-nvp, svrl SH: drk gry/blk, no cup odr, ns.

SH: blk/fw drk gry, mostly carb, med crush.

LS: tan/lt gry, slight mott, fn xln, mostly dense, fw sub-chlky, many firm, fw pcs w/ fr intxln por, no stn or sfo, no cup odr.

LS: tan, sing, fn xln, dense, hard, tr-nvp, fw pcs flakey/mealy, no por, no cup odr, ns.

SH: blk, silty, carb, med crush, fw LS: tan/lt tan, micro-fn xln, sm vool, many firm, tr-pr intoool por in v fw, no cup odr, ns.

LS: tan/lt gry, mott in prt, fn xln, svrl foss/ool, fw brit, many firm, tr-nvp, fw Chert: drk gry, foss, sharp, svrl SH: gry/blu, silty, friabl, no cup odr, ns.

LS: tan/lt tan, mott, fn xln, many profus foss, fw sub-chlky, firm, tr-nvp, svrl SH: drk gry/blk, silty, sm carb, no cup odr, ns.

Much odr the same, abund SH: drk gry/blk/bm, silty, sm waxy, fw carb, no odr, ns.

LS: tan/gry, slight mott, fn xln, sm ool/foss, many hard, tr-nvp, fw Chert: gry, foss, sharp, sm SH: blk/drk gry, silty, sm carb, no odr, ns.

LS: gry/tan, sing, fn xln, dense, hard, tr-nvp, svrl Chert: drk gry/drk bm, sharp, abund SH: gry/blu/drk, silty, sm friabl, no odr, no sho.

LS: tan/lt gry, sing, fn xln, sm flakey/mealy, mostly dense/hard, tr-nvp, no cup odr, ns.

LS: tan/gry, sing, fn xln, mostly dense/hard, 2 pcs w/ pos drk dead stns, no fluor/cut, pos min, no cup odr, ns.

30-45-45-60  
 1st Blw: Blt to BOB in 12min (1.5" BB)  
 2nd Blw: Blt to BOB in 8min (BOB BB in 22min)  
 IFF: 60-140# ISIP: 1189# FFP: 145-196# FSIP: 1153#  
 Hyd: 2294-2176#  
 Rec: 189GO (90%O), 252GOCM (40%O, 50%M).

**CFS @ 4500' (30"/60")**  
 Survey @ 4500' = 0.25 Degree

Andy's Mud Report #5  
 12/11/2020 @ 4520'  
 Wt: 9.2  
 Vis: 65  
 LCM: 3#

**Pawnee @ 4540' (-1495)**

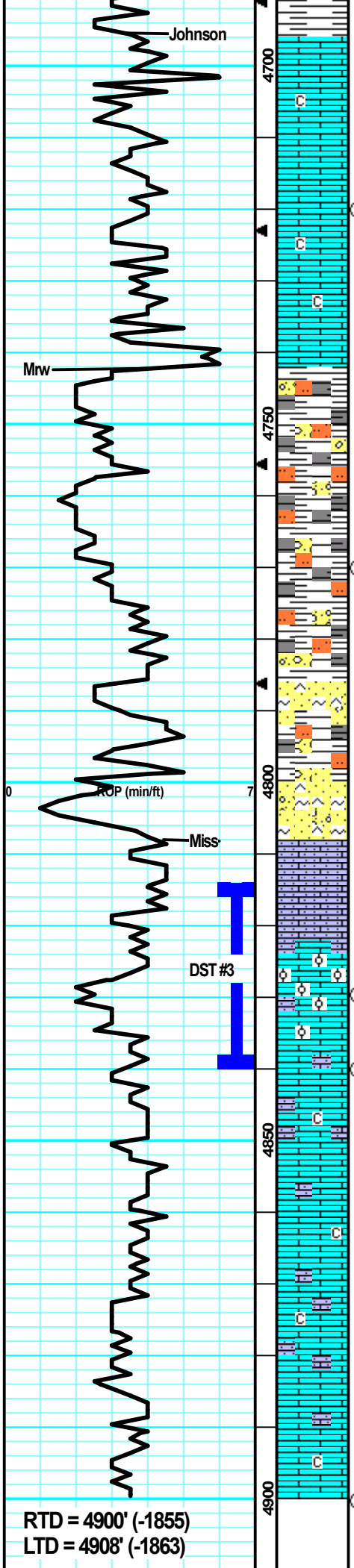
**CFS @ 4565' (30"/60")**

**Myrick Station @ 4574' (-1529)**

**Ft Scott @ 4588' (-1543)**

**CFS @ 4610' (30"/60")**

**Cherokee @ 4615' (-1570)**



LS: tan, sing, fn xln, dense, hard, tr-nvp, 2 pcs w/ drk dead stns, no fluor, no engy, nsfo.

LS: tan/t tan, sing, fn xln, fw sub-chlky, mostly dense, tr-nvp, no cup odr, ns.

CircSmpls: Much of the same, 30" had 1 pc w/ drk dead stns, no fluor, no odr, nsfo.

LS: tan, fn xln, sub-chlky in prt, v rare scat vug por, hard, 2 pcs w/ patchy bm stn, wk-? fluor, unable to brk, nsfo, no cup odr, ns.

LS: lt tan/crm, fn xln, chlky in prt, svrl pcs w/ patchy spitted stns, no fluor, no cut, no engy, drk dead flaky stns, no cup odr.

SH: gry/blu/yel/bm, silty, soft, sm muddy, fw wthrd, fw SS: gry, fn gr, wel srt, v friabl, fr intgrm por, v min blk spc, no fluor, no oil sphr crush in wtr, nsfo, no cup odr.

SH: gry/blu/gm/yel, silty soft, fw wthrd, fw muddy, fw SitStn: gry/bm, gritty friabl, infix SS: gm/gry, fn gm, pr srted, arg, glauc, tr-nvp, no cup odr, ns.

Much of the same, almost pur muddy so SH.

SH: gry/gm/blu/bm/yel, mostly soft, sm muddy like, no odr, ns.

Much of the same.

SS: gry, fn gm, wl srted, mostly arg, v fw w/ pr intgrm por, mostly glauc w/ min gm spcs, sm drk min stns, no fluor/cut, no sfo, no cup odr.

LS: cm/lt tan, sing, fn xln, v sandy/gritty, sm britl, friabl, sub-chlky, tr-nvp, svrl SH: drk gry/blu/gm, silty, waxy, no cup odr, ns.

LS: cm/lt tan, sing, fn xln, v sandy/gritty, sm friabl, tr-nvp, fw mor dens, hard, tr-nvp, no cup odr, ns.

Mostly the same, 4 pcs LS: tan, fn xln, v ool, fr intool por, spitted stns in por, dul yel fluor, strm cut, ssfo on brk, no cup odr.

60" Smpl: only 2pcs with ool ssfo, infix Chert: gry, ool/foss, sharp, no cup odr.

LS: tan/lt tan, fn xln, svrl dense, fw pcs ool, firm, tr-nvp, no cup odr, ns.

LS: tan/lt tan, fn xln, many sandy/gritty, fw dense, firm, tr-nvp, no cup odr, ns.

Much of the same, infix of SH: gry/blu/gm, soft, fw fissile, mostl likely slough, no odr, ns.

LS: tan/lt tan, sing, fn xln, sub-clky, britl, tr-nvp, svrl pcs sandy/gritty LS from above, no odr, ns.

LS: tan/lt gry, slight mott, fw xln, fw pcs sandy/grainy, mostly dense, tr-nvp, no cup odr, ns.

Much of the same, infix of pur chl, no cup odr, ns.

LS: lt gry/lt tan, sing, fn xln, sub-chlky in prt, fw flakey/mealy, tr-nvp, no cup odr, no sho.

**Johnson @ 4695' (-1650)**

**CFS @ 4720' (30"/60")**

**Morrow @ 4742' (-1694)**

**CFS @ 4770' (30"/60")**

**Mississippi @ 4808' (-1763)**

**CFS @ 4830' (30"/60")**

**CFS @ 4840' (30"/60")**

**CFS @ 4900' (30"/60")**

Andy's Mud Report #6  
12/12/2020 @ 4839'  
Wt: 9.4  
Vis: 58  
LCM: 3.5#

DST #3 "St Louis" 4814'-4840' 12-12-20  
30-30-30-30  
1st Blw: 1/4" blw died in 15min (No BB)  
2nd Blw: No blw (No BB)  
IFP: 32-38# ISIP: 1024# FFP: 33-35# FSIP: 1023#  
Hyd: 2537-2408#  
Rec: 5Mud.

Survey @ 4900' = 0.25 Degree

RTD = 4900' (-1855)  
LTD = 4908' (-1863)





**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Darrah Oil Co LLC

**5-18s-33w Scott, Ks**

125 N suite 1425  
Wichita, Ks 67202

**B4US 1-5**

Job Ticket: 66785

**DST#: 1**

ATTN: John Goldsmith

Test Start: 2020.12.08 @ 21:33:54

## GENERAL INFORMATION:

Formation: **Lansing C**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 23:45:24

Time Test Ended: 05:06:54

Test Type: Conventional Bottom Hole (Initial)

Tester: Brandon Turley

Unit No: 79

**Interval: 4037.00 ft (KB) To 4066.00 ft (KB) (TVD)**

Reference Elevations: 3045.00 ft (KB)

Total Depth: 4066.00 ft (KB) (TVD)

3035.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 10.00 ft

**Serial #: 8674 Outside**

Press@RunDepth: 160.05 psig @ 4038.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2020.12.08

End Date:

2020.12.09

Last Calib.:

2020.12.09

Start Time: 21:33:59

End Time:

05:06:53

Time On Btm:

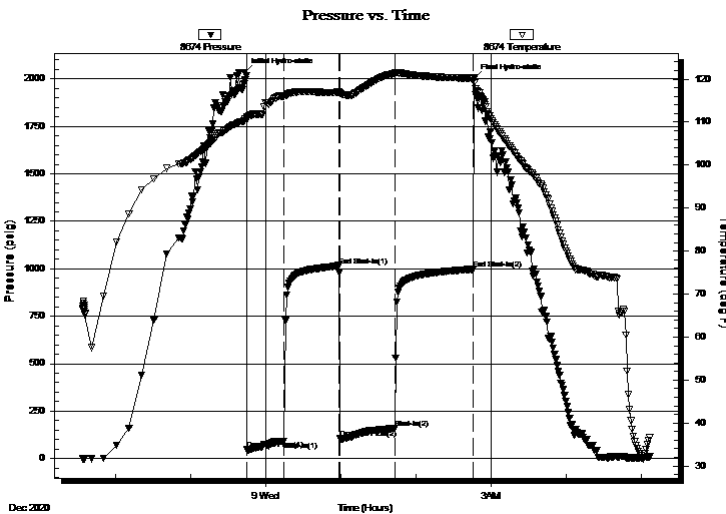
2020.12.08 @ 23:43:24

Time Off Btm:

2020.12.09 @ 02:46:54

**TEST COMMENT:** IF: 1/2 blow built to 4 1/2.  
IS: No return.  
FF: Surface blow built to 5 1/2.  
FS: No return.

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2034.67	110.41	Initial Hydro-static
2	45.94	110.67	Open To Flow (1)
32	90.86	116.05	Shut-In(1)
75	1016.72	116.99	End Shut-In(1)
76	103.66	116.70	Open To Flow (2)
120	160.05	121.35	Shut-In(2)
183	997.03	120.20	End Shut-In(2)
184	2004.52	119.22	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
120.00	mcw 30% m 70% w	0.59
160.00	w cm oil spots 20% w 80% m	1.15

## Gas Rates

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





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Darrah Oil Co LLC

**5-18s-33w Scott, Ks**

125 N suite 1425  
Wichita, Ks 67202

**B4US 1-5**

Job Ticket: 66785

**DST#: 1**

ATTN: John Goldsmith

Test Start: 2020.12.08 @ 21:33:54

### Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

25000 ppm

Viscosity: 55.00 sec/qt

Cushion Volume:

bbbl

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

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 3000.00 ppm

Filter Cake: 1.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
120.00	mcw 30%m 70%w	0.590
160.00	w cm oil spots 20%w 80%m	1.151

Total Length: 280.00 ft      Total Volume: 1.741 bbl

Num Fluid Samples: 0

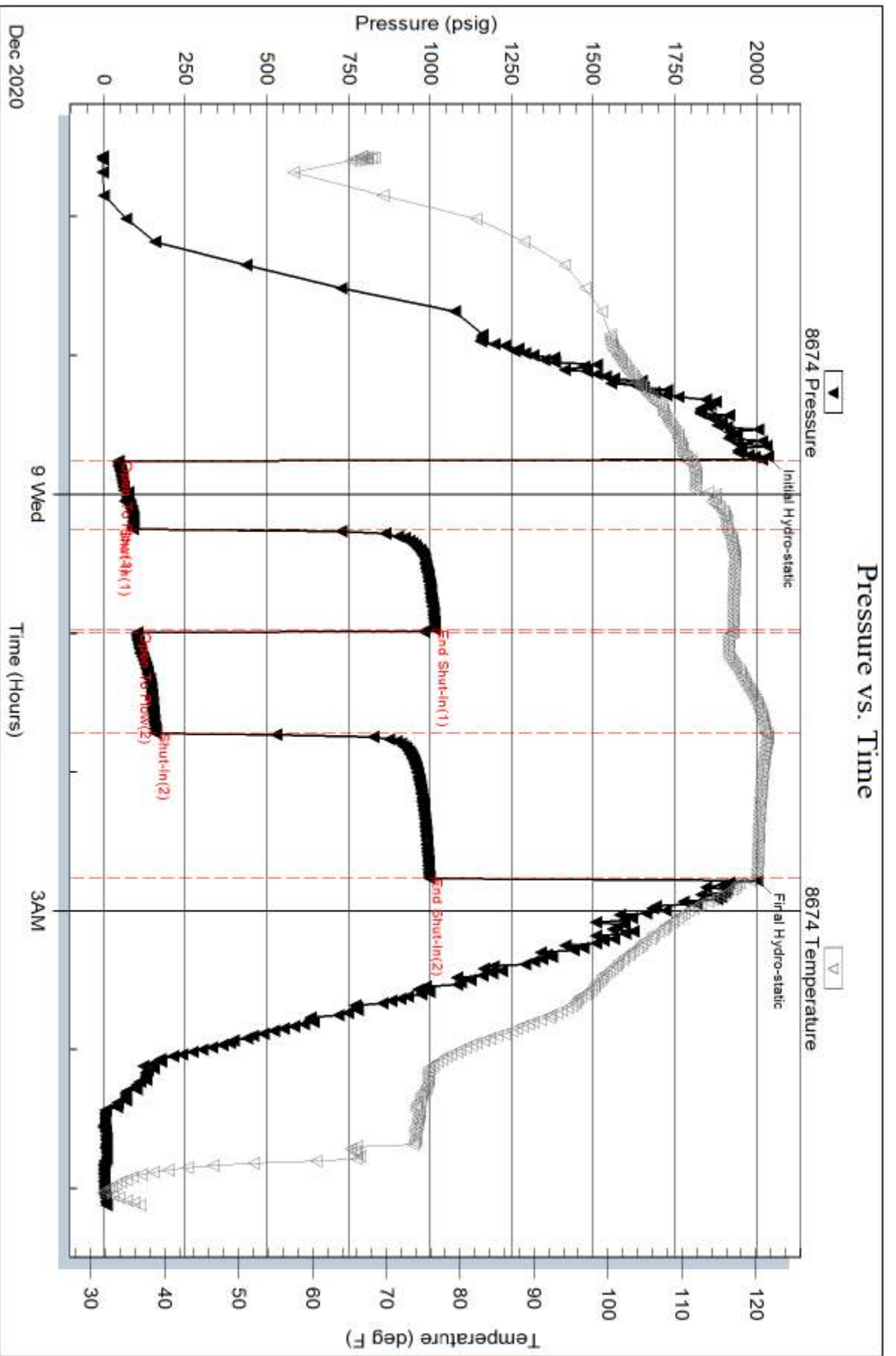
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: .70@27=25000



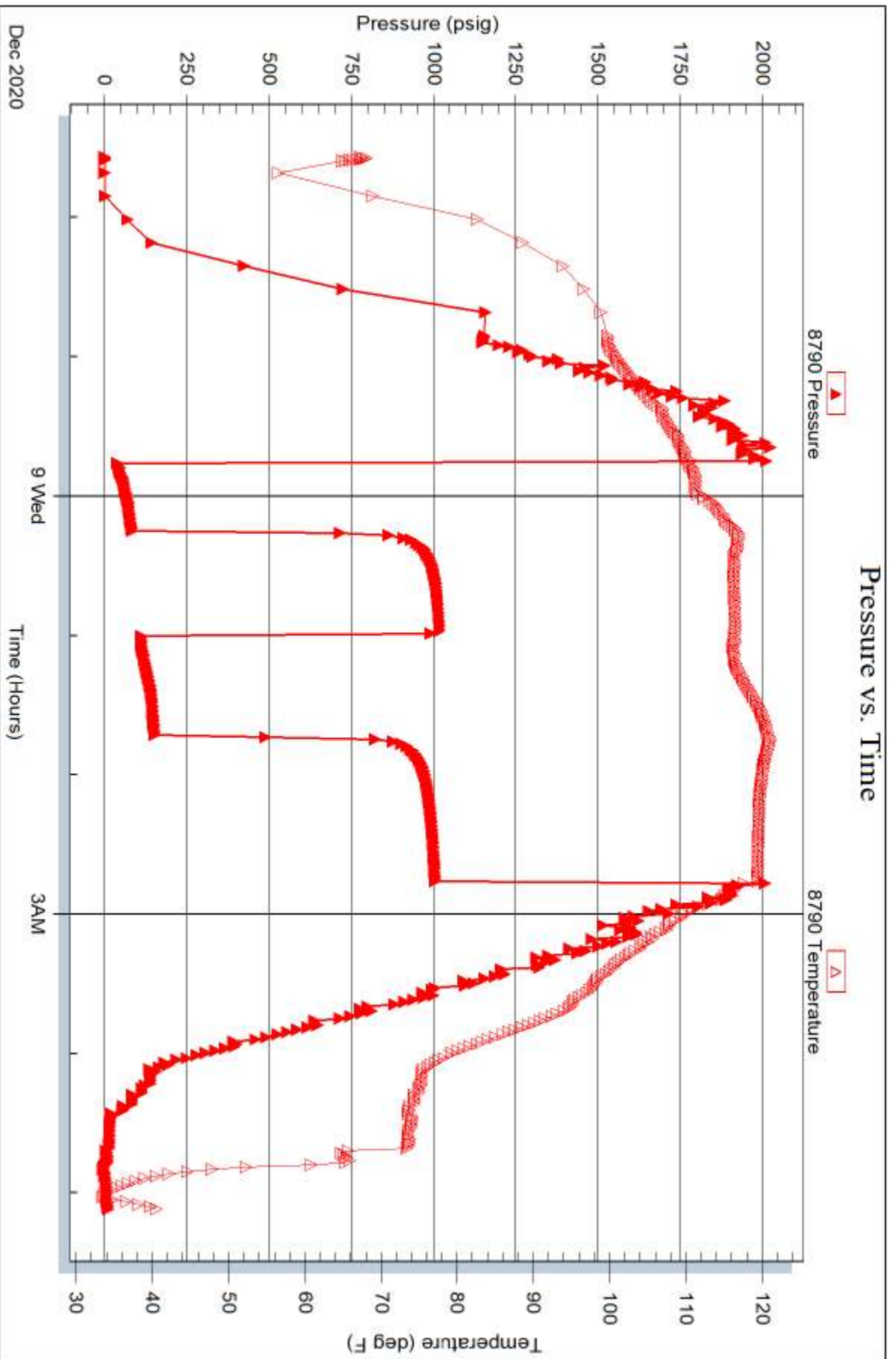
Serial #: 8790

Inside

Darrah Oil Co LLC

BAUS 1-5

DST Test Number: 1





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Darrah Oil Co LLC

**5-18s-33w Scott, Ks**

125 N suite 1425  
Wichita, Ks 67202

**B4US 1-5**

Job Ticket: 66786

**DST#: 2**

ATTN: John Goldsmith

Test Start: 2020.12.10 @ 20:56:21

## GENERAL INFORMATION:

Formation: **Altamont**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 23:00:21

Time Test Ended: 05:02:51

Test Type: Conventional Bottom Hole (Reset)

Tester: Brandon Turley

Unit No: 79

**Interval: 4428.00 ft (KB) To 4500.00 ft (KB) (TVD)**

Reference Elevations: 3045.00 ft (KB)

Total Depth: 4500.00 ft (KB) (TVD)

3035.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 10.00 ft

**Serial #: 8674 Outside**

Press@RunDepth: 196.92 psig @ 4429.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2020.12.10

End Date:

2020.12.11

Last Calib.: 2020.12.11

Start Time: 20:56:26

End Time:

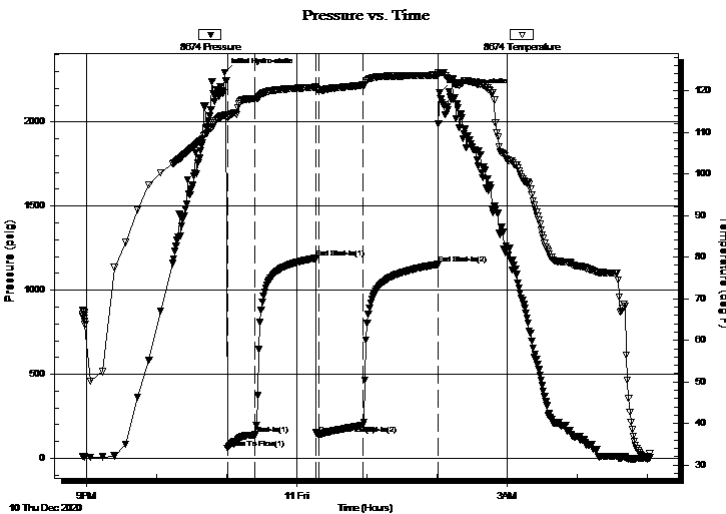
05:02:50

Time On Btm: 2020.12.10 @ 22:58:21

Time Off Btm: 2020.12.11 @ 02:02:21

**TEST COMMENT:** IF: BOB in 12 mins 21  
IS: Surface blow built to 1 1/2.  
FF: BOB in 8 min. 54  
FS: BOB in 22 mins. 13 30-45-45-60

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2294.97	114.12	Initial Hydro-static
2	60.24	113.56	Open To Flow (1)
26	140.89	118.09	Shut-In(1)
78	1189.57	120.83	End Shut-In(1)
81	145.54	120.26	Open To Flow (2)
119	196.92	121.32	Shut-In(2)
183	1153.37	123.73	End Shut-In(2)
184	2176.57	124.33	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
252.00	gocm 10%g 40%o 50%m	1.35
189.00	go 10%g 90%o	2.65
0.00	756 GIP Weak	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

Darrah Oil Co LLC

**5-18s-33w Scott, Ks**

125 N suite 1425  
Wichita, Ks 67202

**B4US 1-5**

Job Ticket: 66786

**DST#: 2**

ATTN: John Goldsmith

Test Start: 2020.12.10 @ 20:56:21

### Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

29 deg API

Mud Weight: 10.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 59.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 9.59 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 4500.00 ppm

Filter Cake: 1.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
252.00	gocm 10%g 40%o 50%m	1.349
189.00	go 10%g 90%o	2.651
0.00	756 GIP Weak	0.000

Total Length: 441.00 ft

Total Volume: 4.000 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

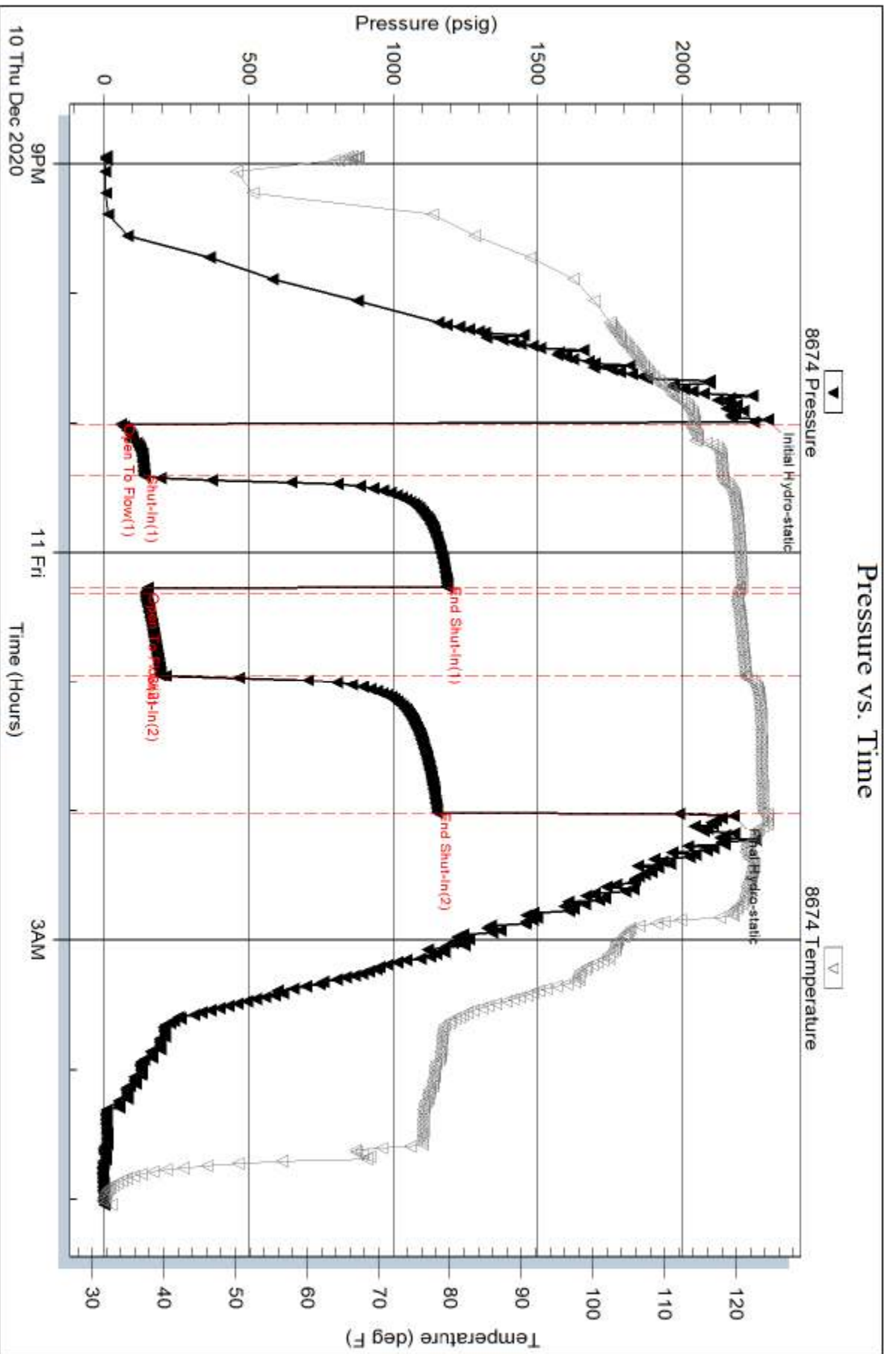
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: 29@30=29





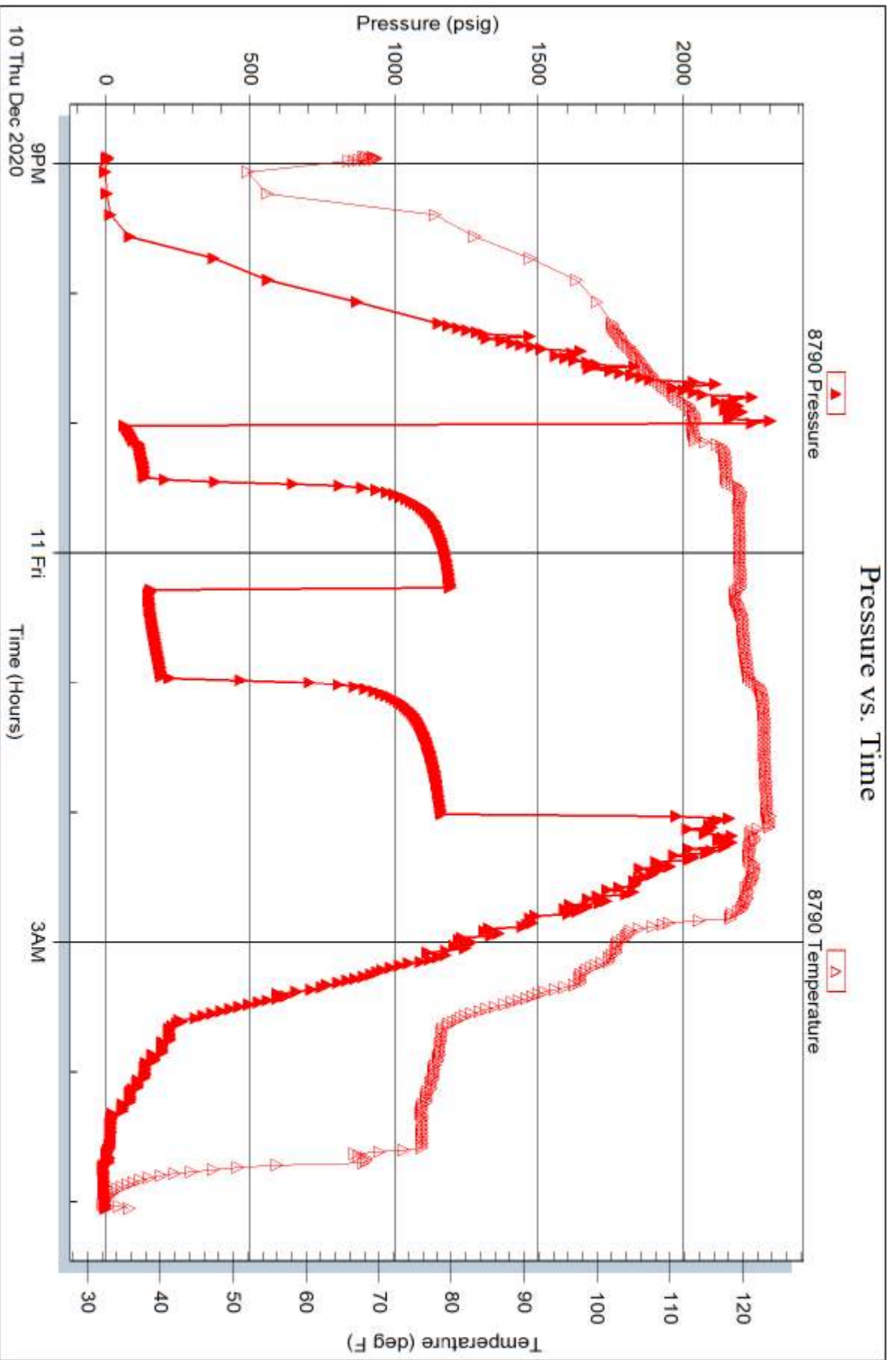
Serial #: 8790

Inside

Darrah Oil Co LLC

BAUS 1-5

DST Test Number: 2

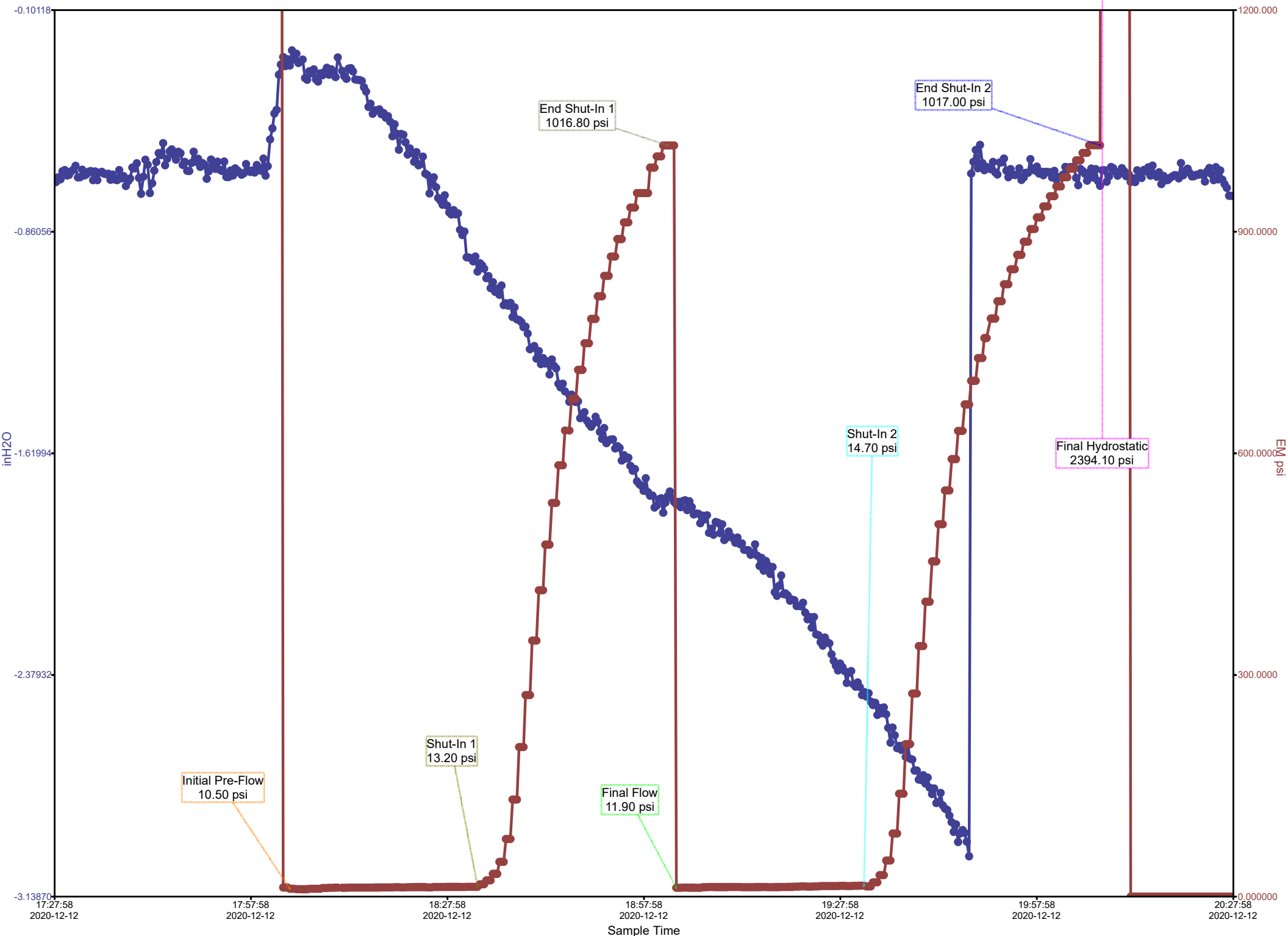


Trilobite Testing, Inc

Ref. No: 66786

Printed: 2020.12.11 @ 07:10:42

# Darrah Oil Company - B4US #1-5 - DST #3





**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Darrah Oil Co LLC

**5-18s-33w Scott, Ks**

125 N suite 1425  
Wichita, Ks 67202

**B4US 1-5**

Job Ticket: 66787

**DST#: 3**

ATTN: John Goldsmith

Test Start: 2020.12.12 @ 15:30:17

## GENERAL INFORMATION:

Formation: **St Louis**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 18:04:47

Time Test Ended: 22:36:17

Test Type: Conventional Bottom Hole (Reset)

Tester: Brandon Turley

Unit No: 79

**Interval: 4814.00 ft (KB) To 4840.00 ft (KB) (TVD)**

Reference Elevations: 3045.00 ft (KB)

Total Depth: 4840.00 ft (KB) (TVD)

3035.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 10.00 ft

**Serial #: 8674 Outside**

Press@RunDepth: 35.82 psig @ 4815.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2020.12.12 End Date: 2020.12.12

Last Calib.: 2020.12.12

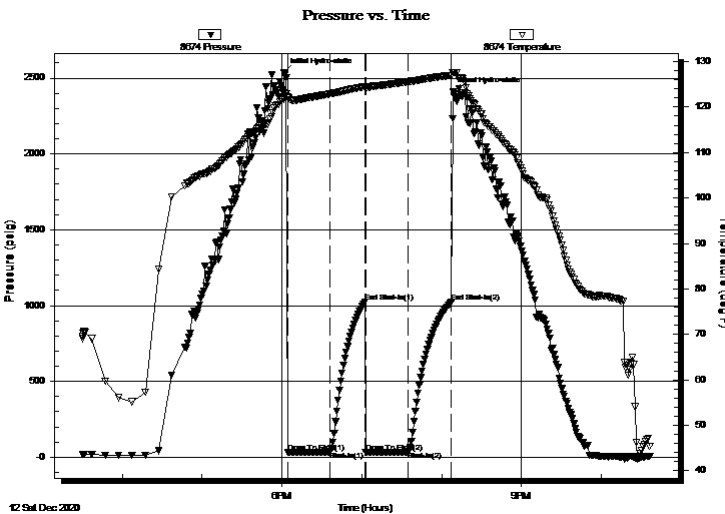
Start Time: 15:30:22 End Time: 22:36:16

Time On Btm: 2020.12.12 @ 18:01:47

Time Off Btm: 2020.12.12 @ 20:08:47

**TEST COMMENT:** IF: 1/4 blow died in 15 min.  
IS: No return.  
FF: No blow.  
FS: No return 30-30-30-30

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2537.61	121.93	Initial Hydro-static
3	32.57	122.13	Open To Flow (1)
35	38.95	122.91	Shut-In(1)
61	1024.49	124.48	End Shut-In(1)
61	33.84	124.22	Open To Flow (2)
93	35.82	125.55	Shut-In(2)
126	1023.03	126.98	End Shut-In(2)
127	2408.63	127.60	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
5.00	mud 100%m	0.02

\* Recovery from multiple tests

## Gas Rates

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





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Darrah Oil Co LLC

**5-18s-33w Scott, Ks**

125 N suite 1425  
Wichita, Ks 67202

**B4US 1-5**

Job Ticket: 66787

**DST#: 3**

ATTN: John Goldsmith

Test Start: 2020.12.12 @ 15:30:17

### Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 58.00 sec/qt

Cushion Volume:

bbf

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

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 3500.00 ppm

Filter Cake: 1.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbf
5.00	mud 100%m	0.025

Total Length: 5.00 ft      Total Volume: 0.025 bbf

Num Fluid Samples: 0

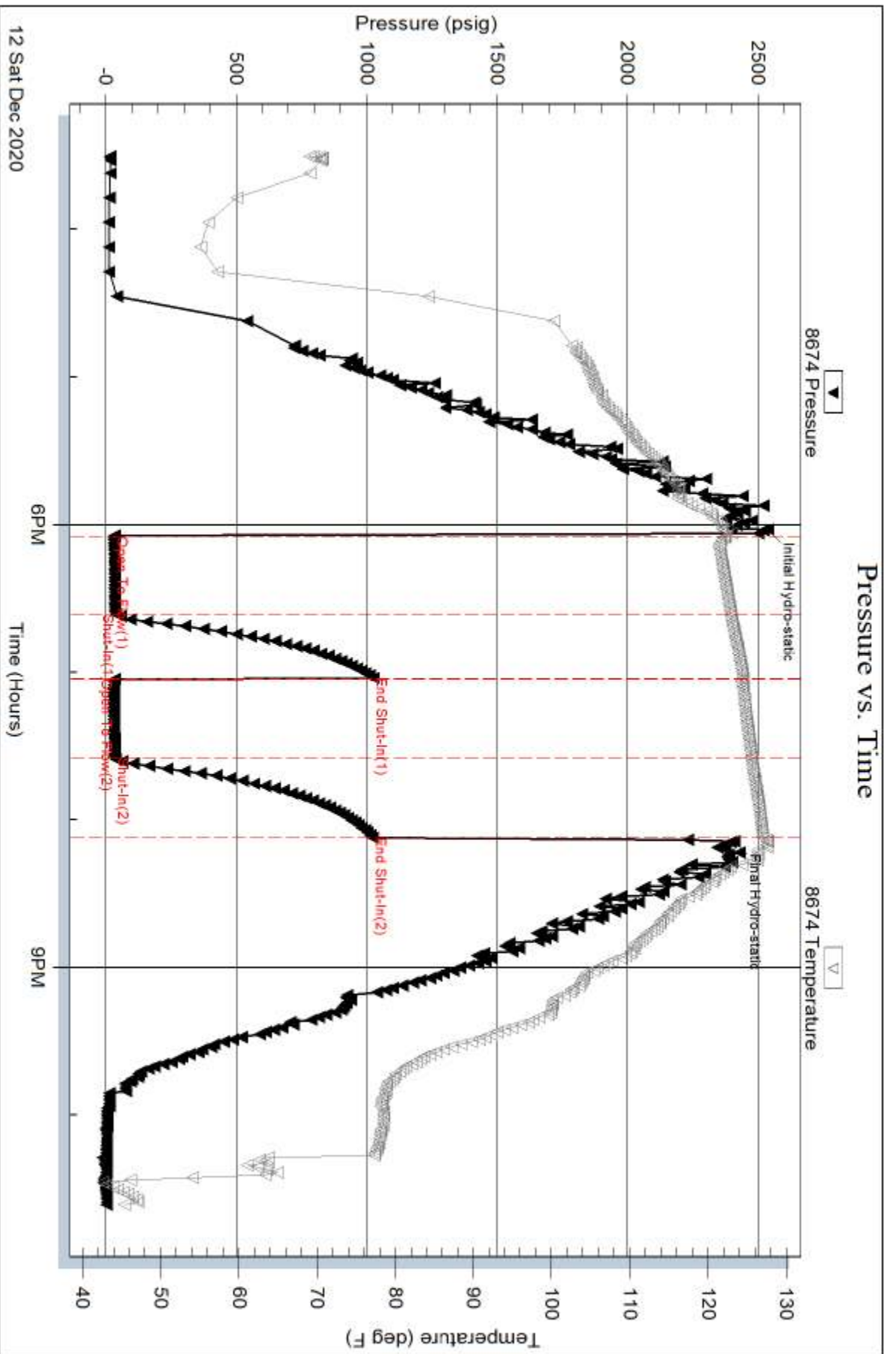
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



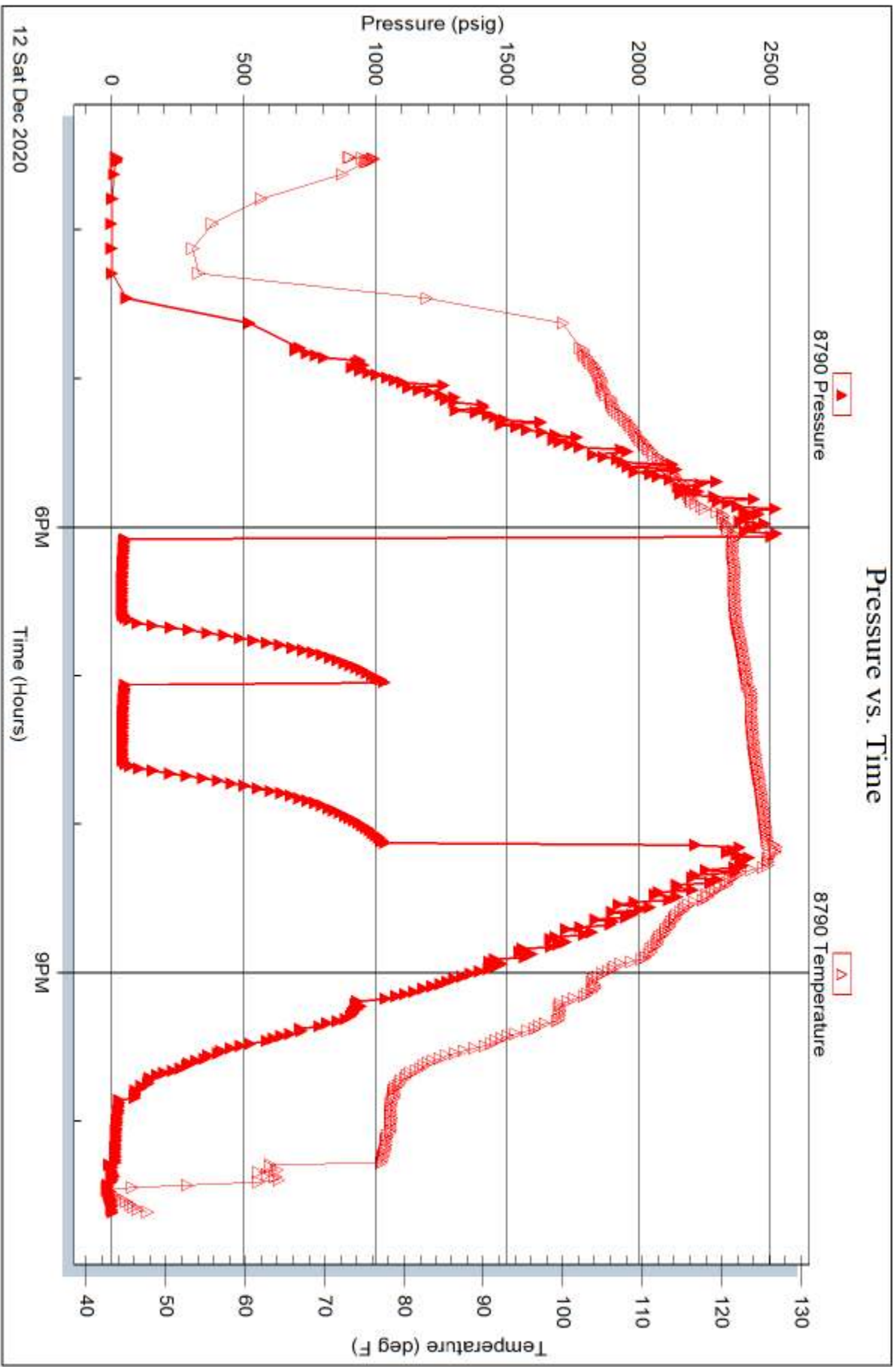
Serial #: 8790

Inside

Darrah Oil Co LLC

B4US 1-5

DST Test Number: 3



Tribble Testing, Inc

Ref. No: 66787

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