

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
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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	Murfin Drilling Co., Inc.
Well Name	DORSCH 'A' 1-5
Doc ID	1518437

All Electric Logs Run

DUCP
MEL
BHCS
DIL



CEMENT TREATMENT REPORT

Customer: Murfin Drilling CO	Well: Dorsch A # 1-5	Ticket: ICT 3483
City, State:	County: Cheyenne KS	Date: April 12th 2020
Field Rep: Troy Gonzalez	S-T-R: 5-3S-37W	Service: Production

Downhole Information	
Hole Size:	7 7/8 in
Hole Depth:	5100 ft
Casing Size:	5.5 in
Casing Depth:	5098 ft
Tubing / Liner:	in
Depth:	ft
Tool / Packer:	
Depth:	ft
Displacement:	120.8 bbls

Calculated Slurry	
Weight:	12.0/14.8 # / sx
Water / Sx:	15.46/6.38 gal / sx
Yield:	2.58/1.45 ft ³ / sx
Bbls / Ft.:	0.0309
Depth:	5098 ft
Annular Volume:	157.5282 bbls
Excess:	
Total Slurry:	222.6 bbls
Total Sacks:	550 sx

Product	% / #	#
Class A		
Poz		
Gel		
CaCl		
Gypsum		
Metso		
Kol Seal		
Flo Seal		
Salt (brw)		
Total		-

TIME	RATE	PSI	BBLs	REMARKS
11:00 PM				Arrive on location
11:05 PM				Safety meeting
11:10 PM				Rig up pump and lines
12:00 AM				Run float equipment
2:05 AM				Casing on bottom. Circulate
2:15 AM				Ball thru @ 1000 psi
3:35 AM	4.0	400.0	13.0	Pump 500 gal of mudflush
3:40 AM	2.0	90.0	23.0	Plug RH and MH
3:45 AM	6.0	620.0	137.0	Mix 300 sks of H-Con
3:53 AM	6.0	630.0	54.0	Mix 200 sks of H-Long
4:00 AM				Shut down
4:05 AM				Release Plug
4:10 AM	6.0	690.0	121.0	Displace with H2O
4:20 AM				Plug landed @ 2100 with 1700 Lift
4:25 AM				Open release. Float held
4:30 AM				Final wash up
4:40 AM				Rig down pump and lines
5:40 AM				Depart
				Approx 3 bbls to pit
				Cement did circulate

CREW		UNIT	SUMMARY		
Cementer:	Dane	78	Average Rate	Average Pressure	Total Fluid
Pump Operator:	Josh	230	4.8 bpm	446 psi	348 bbls
Bulk #1:	Mike	194/254			
Bulk #2:	Jesse	205			

MDCI
 Dorsch 'A' #1-5
 750' FSL 330'FWL
 Sec. 55-3S-37W
 3437' KB

Formation	Sample top	Datum	Ref	Log tops	Datum	Ref
Anhydrite	3302	+135	Flat	3299	+138	+3
B/Anhydrite	3342	+95	-3	3336	+101	+3
Topeka	4142	-705	+3	4142	-705	+3
Oread	4282	-845	Flat	4278	-841	+4
Lansing	4357	-920	+3	4352	-915	+8
Stark	4590	-1153	-2	4586	-1149	+2
Mound City	4640	-1203	Flat	4639	-1202	+1
Ft Scott	4766	-1329	-2	4762	-1325	+2
Oakley	4836	-1399	+2	4839	-1402	-1
Mississippian				5062	-1625	Flat
RTD	5100					
LTD				5101		

Saman Sharifaie

Petroleum Geologist

GEOLOGIST'S REPORT

DRILLING TIME AND SAMPLE LOG

COMPANY: **Martin Drilling Co., Inc.**
LEASE: **Dorscht, A #1-C-5**

FIELD: **Wildcat**
LOCATION: **750' ESL & 330' FVL**
SEC: **5** TWP: **3S** RGE: **37W**
COUNTY: **Cherokee** STATE: **Kansas**
CONTRACTOR: **Martin Drilling #3**
SPUD: **04/01/20** COMP: **04/17/20**
RTD: **5100'** TYPE MUD: **Oil**

WUD UP: **3661'** TYPE MUD: **Chemical**
SAMPLES SAVED FROM: **4050'** TO RTD
DRILLING TIME KEPT FROM: **4050'** TO RTD
SAMPLES EXAMINED FROM: **4050'** TO RTD

GEOLOGICAL SUPERVISION FROM: **3750'**
CND: **DILL, MEL, Sainc**
REFERENCE WELL: **MDC1 - Burr #1-6**

FORMATION: **Frontier**
Burr #1-6

Formation	Sample Tops	E-log Tops	Strat Pos.
Amshydric	3302 (+135)	3299 (+138)	E-3
Base Amshydric	3342 (+95)	3356 (+101)	E-3
Topeka	4142 (-705)	4122 (-705)	E-4
Oread	4278 (-841)	4278 (-841)	E-4
Stark	4357 (-920)	4352 (-915)	E-5
Starts	4390 (-1355)	4386 (-149)	E-2
Noland City	4640 (-1205)	4639 (-149)	E-2
FT Scott	4766 (-1329)	4762 (-1325)	E-2
OKrey	4836 (-1399)	4839 (-1402)	E-1



ELEVATIONS
KB 3437'
DF _____
GL 3432'
Measurements Are All From Kelly Bushing

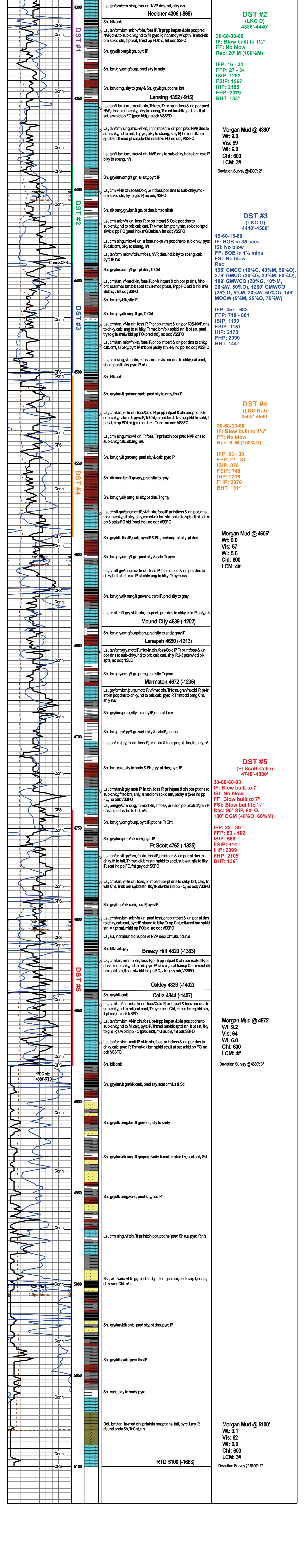
CASING
CONDUCTOR 8-5/8" at 390'
SURFACE 5-1/2" at 508'

ELECTRICAL
SURVEYS
CND: DILL, MEL, Sainc
REFERENCE WELL: MDC1 - Burr #1-6

REMARKS
Due to poor to fair shows of oil in multiple potential pay zones and positive DST results, it is recommended and agreed upon by all parties that production casing be set to further evaluate this well.

Respectfully Submitted,
Saman Sharifaie
Petroleum Geologist

API #15-023-21543
*Tops have been adjusted to electric logs



Geological Descriptions	Engineering Data
Anhydrite 3299 (+138)	
Base 3336 (+101)	
DAILY PENETRATION @ 7:00 AM	
<p>04/01/20 - Spud at 9:45 AM 04/02/20 - Drilling at 790' 04/03/20 - Drilling at 2757' 04/04/20 - Drilling at 3690' 04/05/20 - Drilling at 4170' 04/06/20 - Testing at 4390' 04/07/20 - Drilling at 4439' 04/08/20 - Testing at 4500' 04/09/20 - Drilling at 4595' 04/10/20 - Drilling at 4855' 04/11/20 - CTCH at 5100'</p>	
<p>Sh, bmlgry/omg/purp, pred sly, Tr mdy, pyrc P Ls, tanlcmgry, mott IP, fr in, foss, pr pp intpart & xln poc pt dns to sub-chly, calc cnt, hd to brit, sbang to sil bly, sly to bly, shly, nls Sh, dk omg/bmlt gnygry, sly to gmy, Tr pyrc Ls, cmfmln, fr in, foss, pr pp intpart & xln poc pt dns to sub-chly, hd to brit, sbang to sil bly, scat dk bmlk spld stn, spkld to spkld, l med sat, pred try to bly, r pp FO bld (pred on brk), Tr fld, no odr, VSSFO Sh, lt gnt, grygry, pyrc P Ls, tanlcmgry, v-fn xln, foss, IP, no-prvs poc dns to sub-chly, calc cnt, hd to brit, sbang to sil bly, sly to bly, shly, nls Sh, dk omg/gry/bmlt gn, pred sly to gmy, pyrc P Ls, cmfmln, v-fn xln, sil foss, no-prvs poc dns to sub-chly, calc cnt, sil bly to sbang, shly IP, Tr fld bkl spld stn, gls, no odr, NSLO Sh, dk gry/bmlomg</p>	
Topeka 4142 (-705)	
<p>Ls, cmvwlntan, fr in, foss, pr fr pp intpart poc pt dns to sub-chly, fr to brit, calc, scat dk bmlk spld stn, l med sat, pred glistry, shly bld pp FO (pred on brk), frt OCB, r G Bubbles, frt gsy odr, S-FSFO Ls, cmvwlntan, v-fn xln, sil foss, no-prvs poc dns to sub-chly, hd to brit, calc, pr pyrc IP, ang to sil bly, Tr dk bm spld stn, l med sat, pred try to bly, r pp FO bld (pred on brk), Tr fld, no odr, VSSFO Ls, cmfmln, fr in, foss, pr pp intpart & xln poc pt dns to sub-chly, hd to brit, calc, pr pyrc IP, ang to sil bly, Tr dk bm spld stn, l med sat, pred try to bly, r pp FO bld (pred on brk), Tr fld, no odr, VSSFO</p>	
Deer Creek 4166 (-729)	
<p>Ls, cmvwlntan, fr in, foss, Oalc IP, pr pp intpart & xln poc pt dns to sub-chly, calc cnt, pyrc P, scat med bm stn, spkld to spkld, l med sat, pred try to bly, r pp FO bld (pred on brk), Tr fld, no odr, VSSFO Ls, whltl gny/cm, v-fn xln, sil foss, no-prvs poc dns to sub-chly, hd to brit, calc IP, ang to bly, pyrc P, shly, nls Sh, bmlk omg/gry, pred sly to gmy, scat Set w dd bkl splkld stn Sh, dk omg/bmln, gmy to sly & Sh, gry, pyrc Stst, bm, vfr gr, srtd, pr intgran por, pt dns, brit, calc, sub-mdd to sil bly, shly, nls Sh, dk omg/bmlt gn, gmy to sly Sh, gryllt gn/varic, sil carb, pyrc P</p>	<p>Morgan Mud @ 4176' Wt: 8.2 Vis: 6.7 Chl: 5.6 LCM: 4#</p>
LeCompton 4236 (-799)	
<p>Ls, cmfmln, v-fn xln, foss, IP, pr pp intpart & xln poc pt dns to sub-chly, calc cnt, pyrc P, Tr Chl, r med bmlk spld stn, spkld to spkld, l med sat, pred try to bly, r pp FO bld (pred on brk), Tr fld, no odr, VSSFO Sh, lt gry/purp/gny/bk carb, pred sly & calc Sh, gry/omg/gny, sly to gmy, pyrc P Sh, gry/purp/gny/varic, sly, calc, pyrc P</p>	<p>DST #1 (Oread-LKC A) 4246'-4390'</p> <p>30-60-30-60 IF: Blow built to 1 1/2" FF: Surface blow Rec: 70' OCM (100%, 90%M)</p> <p>IPP: 20 - 40 FFP: 45 - 63 ISIP: 1208 FSP: 1169 IHP: 2133 FHP: 1971 BHT: 127°</p>
Oread 4278 (-841)	
<p>Ls, cmfmln, v-fn xln, foss, Oalc IP, pr pp intpart & xln poc pt dns to sub-chly, calc cnt, pyrc P, scat med bm stn, spkld to spkld, l med sat, pred try to bly, r pp FO bld (pred on brk), Tr fld, no odr, VSSFO Ls, aa, deer Sh abund, l bm IP, pred dns w NVP, bly to sbang, Tr fld, no odr, VSSFO Ls, tanlcm, sing, micr-fn xln, NVP, dns, hd, bly, nls</p>	
Heebner 4306 (-869)	
<p>Sh, blk carb Ls, tanlcm, micr-fn xln, foss, IP, pr pp intpart & xln poc pt dns to sub-chly, calc cnt, pyrc P, Tr Chl, r med bmlk spld stn, spkld to spkld, l med sat, pred try to bly, r pp FO bld (pred on brk), Tr fld, no odr, VSSFO Sh, gry/dk omg/gny, pyrc P Sh, bmlgry/omg/purp, pred sly to mdy Sh, bmlomg, sly to gmy & Sh, gryllt gn, pt dns, brit</p>	<p>DST #2 (LKC D) 4386'-4440'</p> <p>30-60-30-60 IF: Blow built to 1 1/2" FF: No blow Rec: 20' M (100%M)</p> <p>IPP: 16 - 24 FFP: 27 - 34 ISIP: 1292 FSP: 1267 IHP: 2185 FHP: 2079 BHT: 133°</p>
Lansing 4352 (-915)	
<p>Ls, tanlcm, sing, micr-fn xln, Tr pr intpart & xln poc, pred NVP dns to sub-chly, hd to brit, calc, pyrc P, Tr Chl, r med bmlk spld stn, spkld to spkld, l med sat, pred try to bly, r pp FO bld (pred on brk), Tr fld, no odr, VSSFO Ls, aa, deer Sh abund, l bm IP, pred dns w NVP, bly to sbang, Tr fld, no odr, VSSFO Ls, tanlcm, sing, micr-fn xln, NVP, dns, hd, bly, to sbang, calc, pyrc P, nls Sh, gry/bmlomg/gny, sil sly, pyrc IP Sh, bmlomg, sly to gmy & Sh, gryllt gn, pt dns, brit</p>	<p>Morgan Mud @ 4390' Wt: 9.0 Vis: 5.9 Chl: 6.0 LCM: 3#</p> <p>Deviation Survey @ 4390: 2"</p>
DST #3	
<p>Ls, cm, micr-fn xln, foss, IP, pr pp intpart & Oalc poc dns to sub-chly, hd to brit, calc, cnt, Tr l med bm ptych stn, spkld to spkld, l med sat, pred try to bly, r pp FO bld (pred on brk), Tr fld, no odr, VSSFO Ls, cm, sing, micr-fn xln, r foss, no-prvs poc dns to sub-chly, pyrc P, calc cnt, bly to sbang, nls Ls, tanlcm, micr-fn xln, r foss, NVP, dns, hd, bly, to sbang, calc, pyrc P, nls Sh, gry/bmlomg/gny, pt dns, Tr Chl Ls, cmfmln, v-fn xln, foss, IP, pr pp intpart & xln poc pt dns, fit to brit, sbang to sil bly, Tr med bmlk spld stn, l med sat, pred try to bly, r pp FO bld (pred on brk), Tr fld, no odr, VSSFO Sh, bmlgry/bk, sly IP Sh, bmlgry/dk omg/gny, Tr Chl Ls, cmfmln, v-fn xln, foss, IP, pr pp intpart & xln poc 60% NVP, dns to sub-chly, calc, ang to sil bly, Tr med bmlk spld stn, l med sat, pred try to bly, r pp FO bld (pred on brk), Tr fld, no odr, VSSFO Ls, cmfmln, micr-fn xln, foss, IP, pr pp intpart & xln poc dns to chly, calc cnt, sil bly, pyrc P, r med ptych stn, 4-5 fld pp, no odr, VSSFO Ls, cm, sing, v-fn xln, r foss, no-prvs poc dns to chly, calc cnt, sbang to sil bly, pyrc P, nls Sh, blk carb Sh, gry/bmlt gn/omg/varic, pred sly to gmy, fss IP</p>	<p>DST #3 (LKC G) 4440'-4500'</p> <p>15-60-15-60 IF: BOB in 35 secs IS: No blow FF: BOB in 1 1/2 mins FSI: No blow Rec: 195' GMCO (10%G, 40%M, 50%O), 378' GMCO (30%G, 20%M, 50%O), 189' GMWCO (20%G, 40%M, 20%W, 50%O), 1260' GMWCO (25%G, 5%M, 20%W, 50%O), 148' MOCW (5%M, 25%O, 75%W)</p> <p>IPP: 457 - 683 FFP: 718 - 881 ISIP: 1199 FSI: 1151 FHP: 2216 BHT: 144°</p>
DST #4	
<p>Ls, cm, sing, micr-fn xln, r foss, Tr pr intpart & xln poc, pred NVP, dns to sub-chly, calc, sbang, nls Sh, bmlgry/lt gn/omg, pred sly & calc, pyrc P Sh, dk omg/bmlt gnygry, pred sly to gmy Sh, bmlgry/dk omg, sil sly to gms, Tr gmy Ls, cmfmln, v-fn xln, foss, IP, v-fn xln, foss, IP, pr intpart & xln poc, dns to sub-chly, hd to brit, calc, cnt, Tr l med bm ptych stn, spkld to spkld, l med sat, pred try to bly, r pp FO bld (pred on brk), Tr fld, no odr, VSSFO Sh, gry/bk, fss IP, carb, pyrc IP & Sh, bmlomg, sil sly, pt dns Sh, bmlgry/omg/gny, pred sly & calc, Tr pyrc Ls, cmfmln, v-fn xln, foss, IP, Tr pr intpart & xln poc dns to chly, hd to brit, calc IP, sil chly, ang to bly, Tr pyrc, nls Sh, bmlgry/dk omg/gny/varic, carb IP, pred sly to gmy Ls, cmbmlt gry, v-fn xln, no-prvs poc, dns to chly, calc IP, shly, nls</p>	<p>DST #4 (LKC H-J) 4502'-4590'</p> <p>30-60-30-60 IF: Blow built to 1 1/2" FF: No blow Rec: 5' M (100%M)</p> <p>IPP: 23 - 30 FFP: 27 - 31 ISIP: 870 FSP: 740 IHP: 2185 FHP: 2070 BHT: 131°</p>
DST #5	
<p>Ls, cmfmln, v-fn xln, foss, IP, pr pp intpart & xln poc, dns to sub-chly, calc, sbang, nls Sh, gry/bk, fss IP, carb, pyrc IP & Sh, bmlomg, sil sly, pt dns Sh, bmlgry/omg/gny, pred sly & calc, Tr pyrc Ls, cmfmln, v-fn xln, foss, IP, Tr pr intpart & xln poc dns to chly, hd to brit, calc IP, sil chly, ang to bly, Tr pyrc, nls Sh, bmlgry/dk omg/gny/varic, carb IP, pred sly to gmy Ls, cmbmlt gry, v-fn xln, no-prvs poc, dns to chly, calc IP, shly, nls</p>	<p>Morgan Mud @ 4606' Wt: 9.0 Vis: 5.7 Chl: 5.6 LCM: 4#</p>
Mount City 4639 (-1202)	
<p>Sh, bmlgry/omg/gny/purp/lt gn, pred sly to gmy, IP Lenapah 4650 (-1213) Ls, tanlcm, micr-fn xln, foss, Oalc IP, pr pp intpart & xln poc dns to sub-chly, hd to brit, calc, cnt, Tr l med bm ptych stn, spkld to spkld, l med sat, pred try to bly, r pp FO bld (pred on brk), Tr fld, no odr, NSLO Sh, bmlgry/omg/gny/purp, pred sly, Tr pyrc Marmaton 4672 (-1235) Ls, cmbmlbmln, mott IP, v-fn xln, Tr, foss, gran/med IP, pr fr intgran poc dns to chly, hd to brit, calc, pyrc P, Tr intbld omg CH, shly, nls Sh, gry/bmlpurp, sly to snyd IP, dns, sil Lmy Sh, bmlpurp/gnyllt gn/varic, sly & calc IP, pt dns Ls, tanlcmgry, fr in, foss, IP, pr intpart & foss poc pt dns, fit, shly, nls Sh, bm, calc, sly to snyd & Sh, gry, pt dns, pyrc IP Ls, cmfmln, v-fn xln, foss, IP, pr intpart & xln poc pt dns to sub-chly, hd to brit, calc, cnt, Tr l med bm ptych stn, ptych r (5-6) fld pp FO, no odr, VSSFO Ls, bmlgry/omg, sing, fr med xln, Tr, foss, pr intpart, nox/dz/gran IP, dns to pt dns, hd to brit, nls Sh, bmlgry/omg/purp, pyrc IP, pt dns, Tr Chl Sh, gry/bmlpurp/bk carb, pyrc IP FT Scott 4762 (-1325) Ls, tanlcm/lt gry/bm, fr in, foss, IP, pr intpart & xln poc pt dns to chly, fit to brit, Tr med-dk bm stn, spkld to spkld, sub-sat, gls to fly IP, scat ind pp FO, frt gsy odr, SSFO Ls, cmfmln, v-fn xln, foss, pr intpart poc pt dns to chly, brit, calc, Tr wht Chl, Tr dk bm splkld stn, fly IP, slw bld ind pp FO, no odr, VSSFO Sh, gry/lt gny/bk carb, fss IP, pyrc P Ls, cmbmlbmln, micr-fn xln, pred foss, pr pp intpart & xln poc pt dns to chly, calc, cnt, pyrc IP, sbang to bly, Troop Chl, r l med bm splkld stn, v fr med pp FO bld, no odr, VSSFO Ls, aa, incr abund dns pcs w NVP, deer Chl abund, nls Sh, blk carb Breezy Hill 4820 (-1383) Ls, cmfmln, micr-fn xln, foss, IP, pr fr pp intpart & xln poc rexd IP, pt dns to sub-chly, hd to brit, calc, pyrc IP, sil calc, scat transp CH, r med-dk bm spld stn, l med sat, slw bld ind pp FO, v fr med gsy odr, VSSFO Oakley 4839 (-1402) Sh, gry/bk carb Celia 4844 (-1405) Ls, cmbmlbmln, micr-fn xln, foss, Oalc IP, pr intpart & foss poc dns to sub-chly, hd to brit, calc, cnt, Tr pyrc, scat CH, r l med bm splkld stn, l med sat, no odr, NSFO Ls, tanlcm, v-fn xln, foss, pr fr pp intpart & xln poc pt dns to sub-chly, hd to brit, calc, pyrc IP, sil calc, scat transp CH, r med-dk bm spld stn, l med sat, slw bld ind pp FO, v fr med gsy odr, VSSFO Ls, tanlcm, mott IP, v-fn xln, foss, pr intpart & xln poc dns to chly, calc, pyrc IP, Tr med-dk bm splkld stn, l med sat, r ind pp FO, no odr, VSSFO Sh, blk carb Sh, gry/bmlt gny/bk carb, pred sly, scat cm Ls & Sd Sh, gry/dk omg/bmlt gn/varic, sly to snyd Sh, gry/bk carb, pyrc, fss IP Ls, cm, sing, v-fn xln, Tr pr intpart poc, pt dns, pred Sh aa, pyrc IP, nls Sat, wht/lt gry, v-fn gr mod srt, pr fr intgran por, brit to argll, const, shly, scat CH, nls Sh, gry/bk carb, pred sly, pt dns, pyrc IP Sh, gry/bk carb, pyrc, fss IP Sh, varic, sly to snyd, pyrc Dol, bmltan, fr med xln, pr intpart poc, pt dns, brit, pyrc, Lmy IP, abund snyd Sh, Tr Chl, nls</p>	<p>DST #5 (FT Scott-Celia) 4740'-4880'</p> <p>30-60-60-90 IF: Blow built to 7" IS: No blow FF: Blow built to 7" FSI: Blow built to 1/4" Rec: 90' GIP, 60' O 180' OCM (40%O, 60%M)</p> <p>IPP: 22 - 80 FFP: 83 - 102 ISIP: 565 FSI: 414 IHP: 2399 FHP: 2109 BHT: 136°</p>
RTD 5100 (-1663)	
	<p>Morgan Mud @ 5100' Wt: 9.1 Vis: 6.2 Wl: 6.0 Chl: 600 LCM: 3#</p> <p>Deviation Survey @ 5100: 1°</p>



DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co. Inc.**

250 N. Water STE 300
Wichita KS 67202

ATTN: Samon Sharifie

Dorsch A #1-5

5-3s-37w Cheyenne,KS

Start Date: 2020.04.06 @ 02:55:00

End Date: 2020.04.06 @ 10:26:20

Job Ticket #: 66538 DST #: 1

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

Printed: 2020.04.13 @ 09:28:10



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Co. Inc.

5-3s-37w Cheyenne,KS

250 N. Water STE 300
Wichita KS 67202

Dorsch A #1-5

Job Ticket: 66538

DST#: 1

ATTN: Samon Sharifie

Test Start: 2020.04.06 @ 02:55:00

GENERAL INFORMATION:

Formation: **Oread - LKC " A "**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 05:45:50

Time Test Ended: 10:26:20

Test Type: Conventional Bottom Hole (Initial)

Tester: Ryan Nichols

Unit No: 71

Interval: 4246.00 ft (KB) To 4390.00 ft (KB) (TVD)

Reference Elevations: 3437.00 ft (KB)

Total Depth: 4390.00 ft (KB) (TVD)

3432.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

Serial #: 8366 Outside

Press@RunDepth: 62.77 psig @ 4247.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2020.04.06 End Date: 2020.04.06

Last Calib.: 2020.04.06

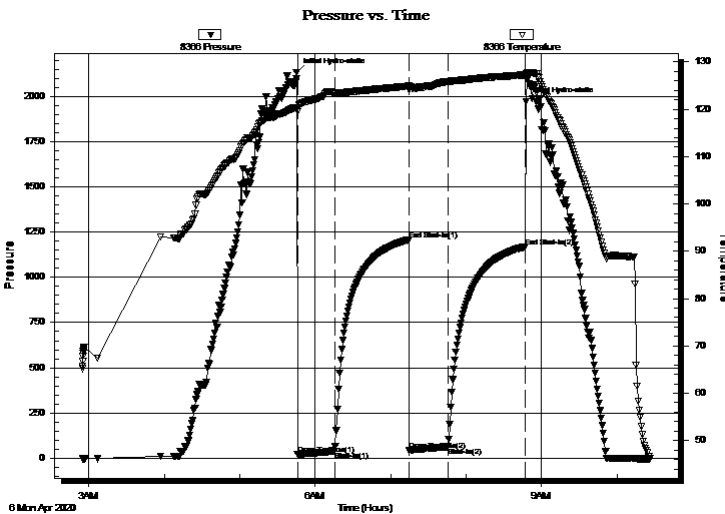
Start Time: 02:55:01 End Time: 10:26:20

Time On Btm: 2020.04.06 @ 05:45:00

Time Off Btm: 2020.04.06 @ 08:47:39

TEST COMMENT: 30 IF - Slide 10', 1/2" blow built to 1 1/2" died back to 1"
60 ISI - No return
30 FF - Surface blow
60 FSI - No return

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2132.65	120.27	Initial Hydro-static
1	19.80	119.51	Open To Flow (1)
31	39.56	123.30	Shut-In(1)
90	1207.75	124.91	End Shut-In(1)
90	44.50	124.14	Open To Flow (2)
121	62.77	125.85	Shut-In(2)
183	1169.36	127.27	End Shut-In(2)
183	1970.67	127.51	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
70.00	OCM - 10%o - 90%M	0.34

Gas Rates

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



DRILL STEM TEST REPORT

Murfin Drilling Co. Inc.

5-3s-37w Cheyenne,KS

250 N. Water STE 300
Wichita KS 67202

Dorsch A #1-5

Job Ticket: 66538

DST#: 1

ATTN: Samon Sharifie

Test Start: 2020.04.06 @ 02:55:00

GENERAL INFORMATION:

Formation: **Oread - LKC " A "**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 05:45:50

Time Test Ended: 10:26:20

Test Type: Conventional Bottom Hole (Initial)

Tester: Ryan Nichols

Unit No: 71

Interval: 4246.00 ft (KB) To 4390.00 ft (KB) (TVD)

Reference Elevations: 3437.00 ft (KB)

Total Depth: 4390.00 ft (KB) (TVD)

3432.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

Serial #: 8353

Inside

Press@RunDepth: psig @ 4247.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2020.04.06

End Date:

2020.04.06

Last Calib.:

2020.04.06

Start Time: 02:55:01

End Time:

10:26:20

Time On Btm:

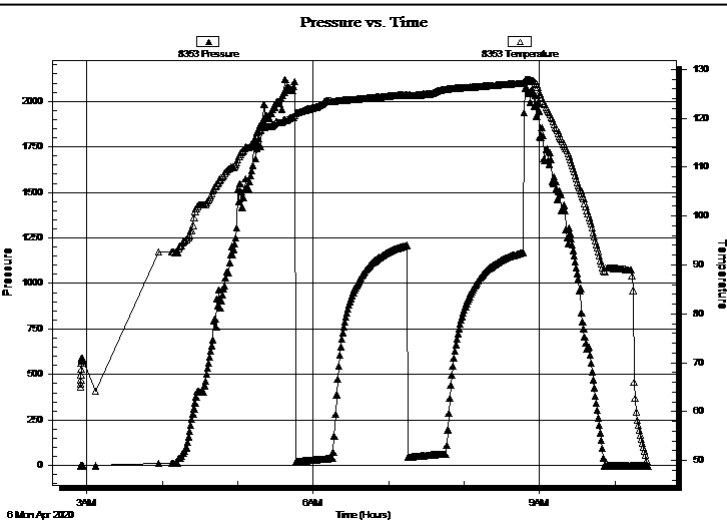
Time Off Btm:

TEST COMMENT: 30 IF - Slide 10', 1/2" blow built to 1 1/2" died back to 1"

60 ISI - No return

30 FF - Surface blow

60 FSI - No return



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
70.00	OCM - 10%o - 90%M	0.34

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co. Inc.

5-3s-37w Cheyenne,KS

250 N. Water STE 300
Wichita KS 67202

Dorsch A #1-5

Job Ticket: 66538

DST#: 1

ATTN: Samon Sharifie

Test Start: 2020.04.06 @ 02:55:00

Tool Information

Drill Pipe:	Length: 4080.00 ft	Diameter: 3.80 inches	Volume: 57.23 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	20000.00 lb
Drill Collar:	Length: 148.00 ft	Diameter: 2.25 inches	Volume: 0.73 bbl	Weight to Pull Loose:	72000.00 lb
			<u>Total Volume: 57.96 bbl</u>	Tool Chased	10.00 ft
Drill Pipe Above KB:	10.00 ft			String Weight: Initial	65000.00 lb
Depth to Top Packer:	4246.00 ft			Final	65000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	144.00 ft				
Tool Length:	172.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
------------------	-------------	------------	----------	------------	----------------

Shut In Tool	5.00			4223.00	
Hydraulic tool	5.00			4228.00	
Jars	5.00			4233.00	
Safety Joint	3.00			4236.00	
Packer	5.00			4241.00	28.00 Bottom Of Top Packer
Packer	5.00			4246.00	
Stubb	1.00			4247.00	
Recorder	0.00	8353	Inside	4247.00	
Recorder	0.00	8366	Outside	4247.00	
Perforations	11.00			4258.00	
Blank Spacing	129.00			4387.00	
Bullnose	3.00			4390.00	144.00 Bottom Packers & Anchor

Total Tool Length: 172.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co. Inc.

5-3s-37w Cheyenne,KS

250 N. Water STE 300
Wichita KS 67202

Dorsch A #1-5

Job Ticket: 66538

DST#: 1

ATTN: Samon Sharifie

Test Start: 2020.04.06 @ 02:55:00

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: 62.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.58 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 600.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
70.00	OCM - 10%o - 90%M	0.344

Total Length: 70.00 ft Total Volume: 0.344 bbl

Num Fluid Samples: 0

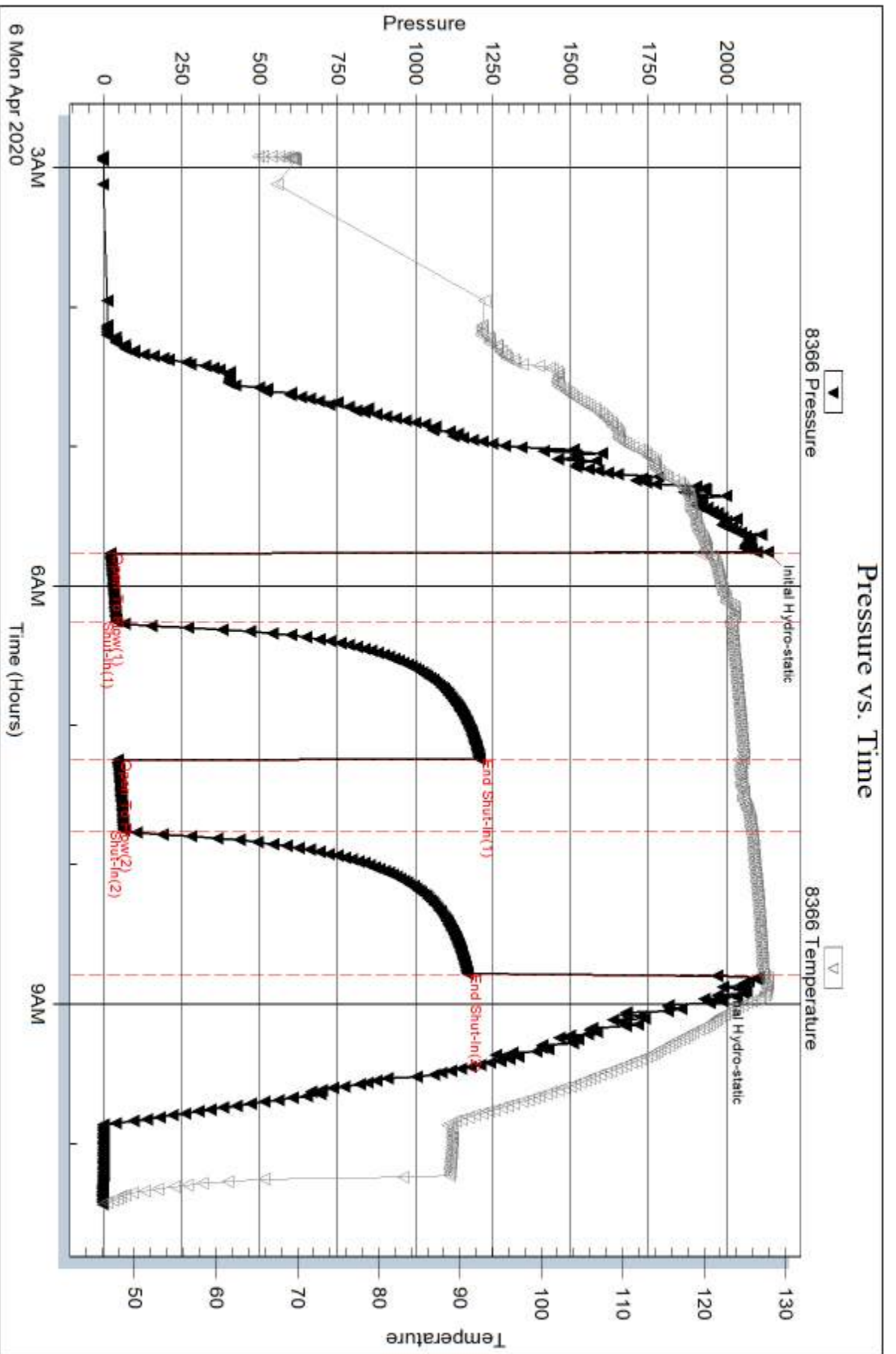
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



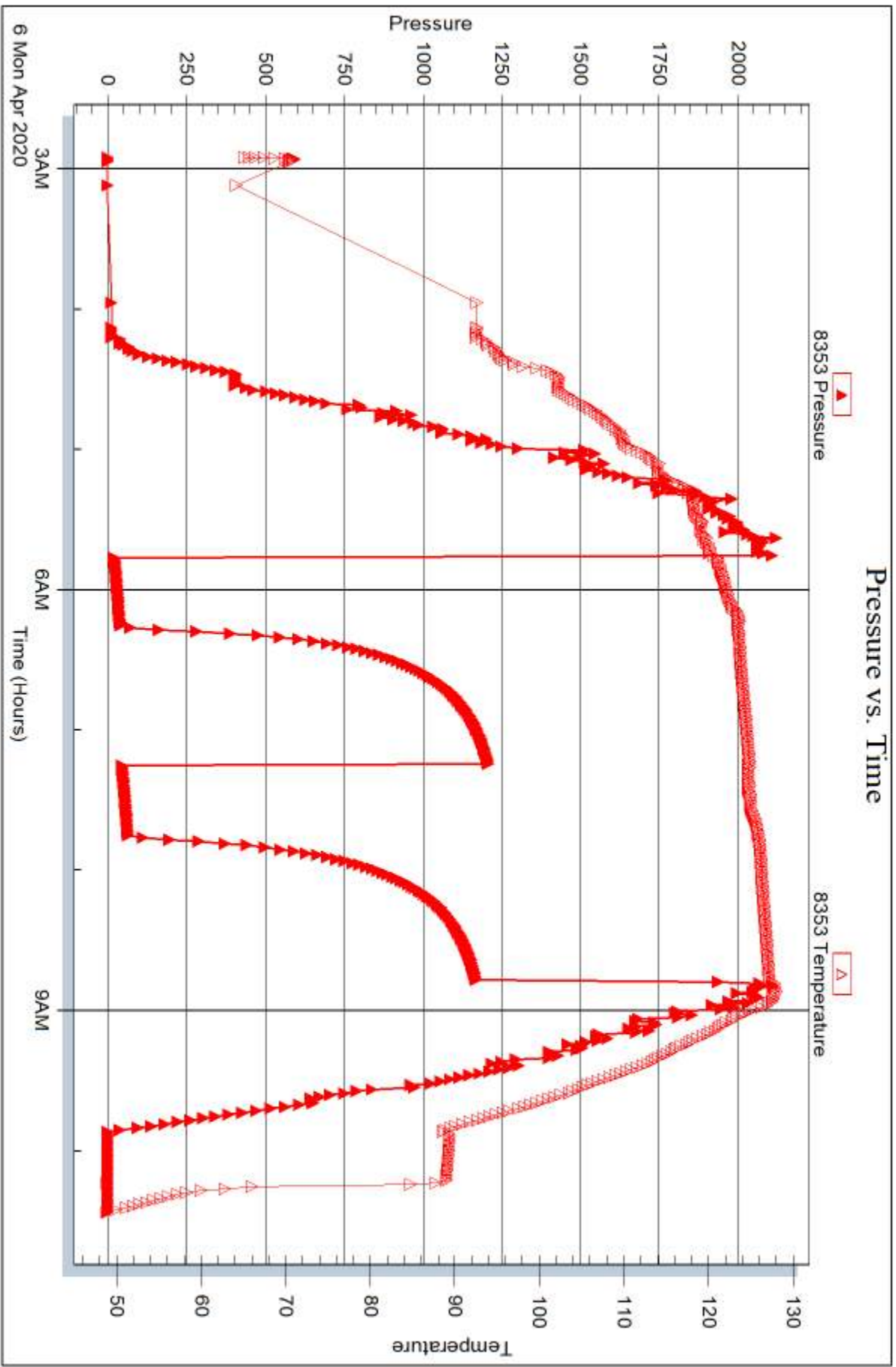
Serial #: 8353

Inside

Murfin Drilling Co. Inc.

Dorsch A #1-5

DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 66538

Printed: 2020.04.13 @ 09:28:11



DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co. Inc.**

250 N. Water STE 300
Wichita KS 67202

ATTN: Samon Sharifie

Dorsch A #1-5

5-3s-37w Cheyenne,KS

Start Date: 2020.04.06 @ 20:35:00

End Date: 2020.04.07 @ 03:44:50

Job Ticket #: 66539 DST #: 2

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

Printed: 2020.04.13 @ 09:22:29



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Murfin Drilling Co. Inc.

5-3s-37w Cheyenne,KS

250 N. Water STE 300
Wichita KS 67202

Dorsch A #1-5

Job Ticket: 66539

DST#: 2

ATTN: Samon Sharifie

Test Start: 2020.04.06 @ 20:35:00

GENERAL INFORMATION:

Formation: **LKC " D "**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 22:46:50

Time Test Ended: 03:44:50

Test Type: Conventional Bottom Hole (Reset)

Tester: Ryan Nichols

Unit No: 71

Interval: 4385.00 ft (KB) To 4439.00 ft (KB) (TVD)

Reference Elevations: 3437.00 ft (KB)

Total Depth: 4439.00 ft (KB) (TVD)

3432.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

Serial #: 8366 Outside

Press@RunDepth: 33.51 psig @ 4386.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2020.04.06

End Date:

2020.04.07

Last Calib.: 2020.04.07

Start Time: 20:35:01

End Time:

03:44:50

Time On Btm: 2020.04.06 @ 22:46:40

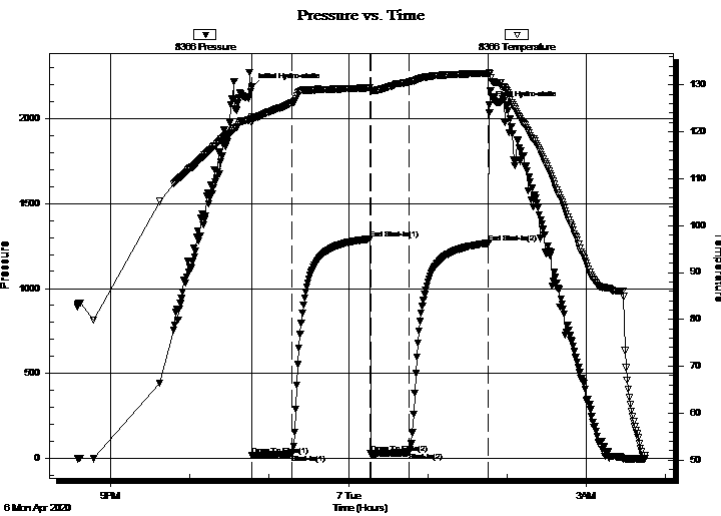
Time Off Btm: 2020.04.07 @ 01:46:30

TEST COMMENT: 30 IF - Blow built to 1 1/2"

60 ISI - No return

30 FF - No blow

60 FSI - No return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2185.36	123.15	Initial Hydro-static
1	16.01	121.96	Open To Flow (1)
31	24.08	126.15	Shut-In(1)
90	1291.84	129.40	End Shut-In(1)
91	26.80	128.86	Open To Flow (2)
120	33.51	130.61	Shut-In(2)
180	1266.80	132.50	End Shut-In(2)
180	2079.03	132.69	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
20.00	Mud 100%	0.10

* Recovery from multiple tests

Gas Rates

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



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co. Inc.

5-3s-37w Cheyenne,KS

250 N. Water STE 300
Wichita KS 67202

Dorsch A #1-5

ATTN: Samon Sharifie

Job Ticket: 66539

DST#: 2

Test Start: 2020.04.06 @ 20:35:00

GENERAL INFORMATION:

Formation: **LKC " D "**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 22:46:50

Time Test Ended: 03:44:50

Test Type: Conventional Bottom Hole (Reset)

Tester: Ryan Nichols

Unit No: 71

Interval: 4385.00 ft (KB) To 4439.00 ft (KB) (TVD)

Reference Elevations: 3437.00 ft (KB)

Total Depth: 4439.00 ft (KB) (TVD)

3432.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

Serial #: 8353 Inside

Press@RunDepth: psig @ 4386.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2020.04.06

End Date: 2020.04.07

Last Calib.: 2020.04.07

Start Time: 20:35:01

End Time: 03:56:13

Time On Btm:

Time Off Btm:

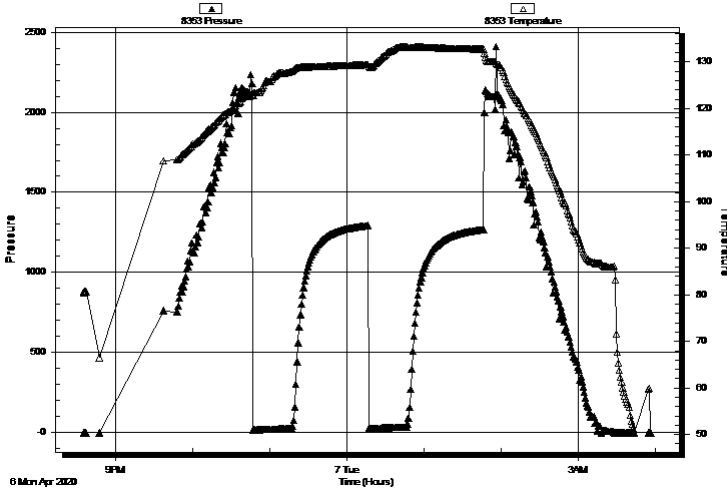
TEST COMMENT: 30 IF - Blow built to 1 1/2"

60 ISI - No return

30 FF - No blow

60 FSI - No return

Pressure vs. Time



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
20.00	Mud 100%	0.10

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co. Inc.

5-3s-37w Cheyenne,KS

250 N. Water STE 300
Wichita KS 67202

Dorsch A #1-5

Job Ticket: 66539

DST#: 2

ATTN: Samon Sharifie

Test Start: 2020.04.06 @ 20:35:00

Tool Information

Drill Pipe:	Length: 4235.00 ft	Diameter: 3.80 inches	Volume: 59.41 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 148.00 ft	Diameter: 2.25 inches	Volume: 0.73 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 60.14 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	26.00 ft			String Weight: Initial 65000.00 lb
Depth to Top Packer:	4385.00 ft			Final 65000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	54.00 ft			
Tool Length:	82.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			4362.00	
Hydraulic tool	5.00			4367.00	
Jars	5.00			4372.00	
Safety Joint	3.00			4375.00	
Packer	5.00			4380.00	28.00 Bottom Of Top Packer
Packer	5.00			4385.00	
Stubb	1.00			4386.00	
Recorder	0.00	8353	Inside	4386.00	
Recorder	0.00	8366	Outside	4386.00	
Perforations	17.00			4403.00	
Blank Spacing	33.00			4436.00	
Bullnose	3.00			4439.00	54.00 Bottom Packers & Anchor

Total Tool Length: 82.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co. Inc.

5-3s-37w Cheyenne,KS

250 N. Water STE 300
Wichita KS 67202

Dorsch A #1-5

Job Ticket: 66539

DST#: 2

ATTN: Samon Sharifie

Test Start: 2020.04.06 @ 20:35:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 59.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.99 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 600.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
20.00	Mud 100%	0.098

Total Length: 20.00 ft Total Volume: 0.098 bbl

Num Fluid Samples: 0

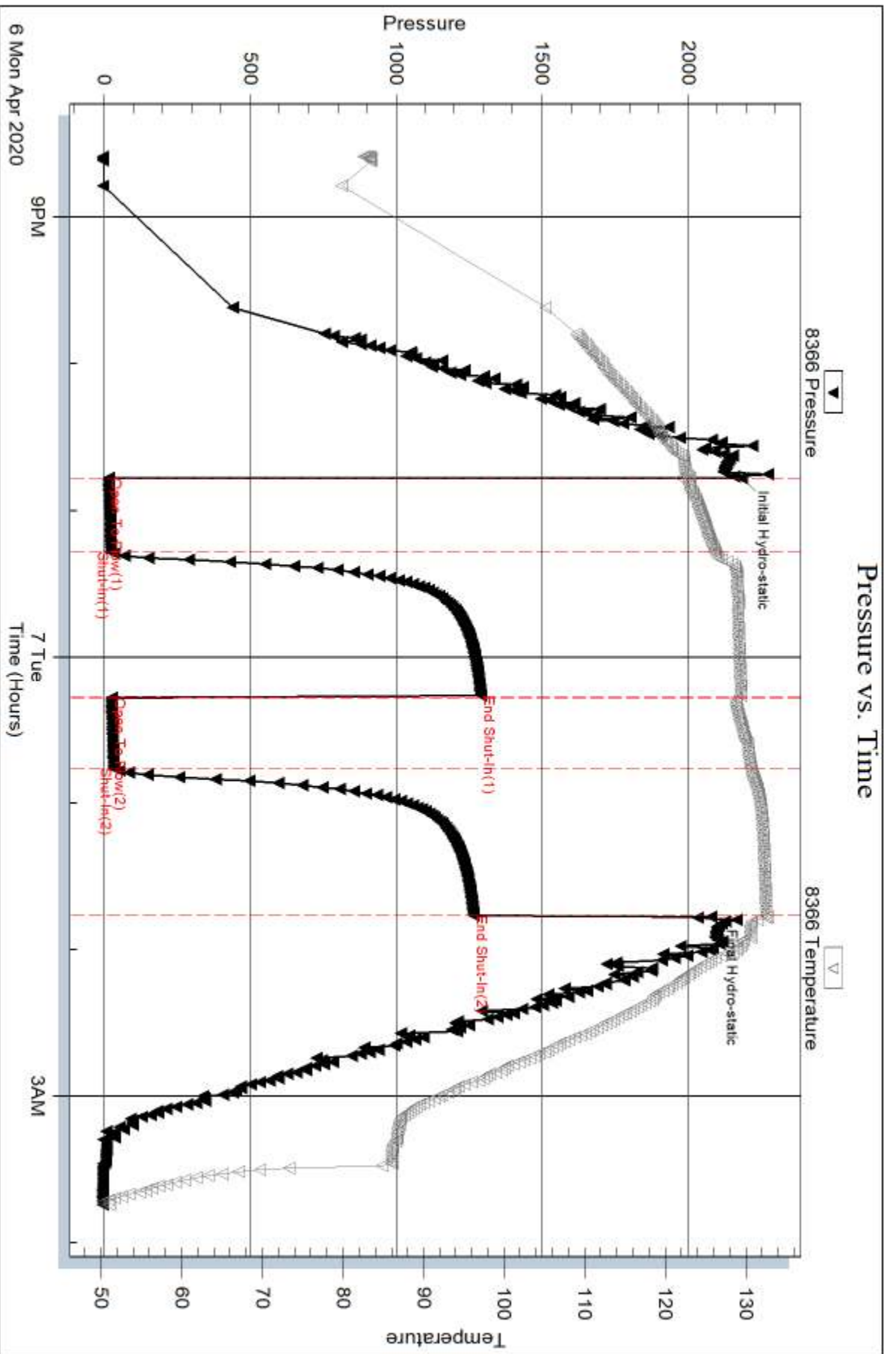
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



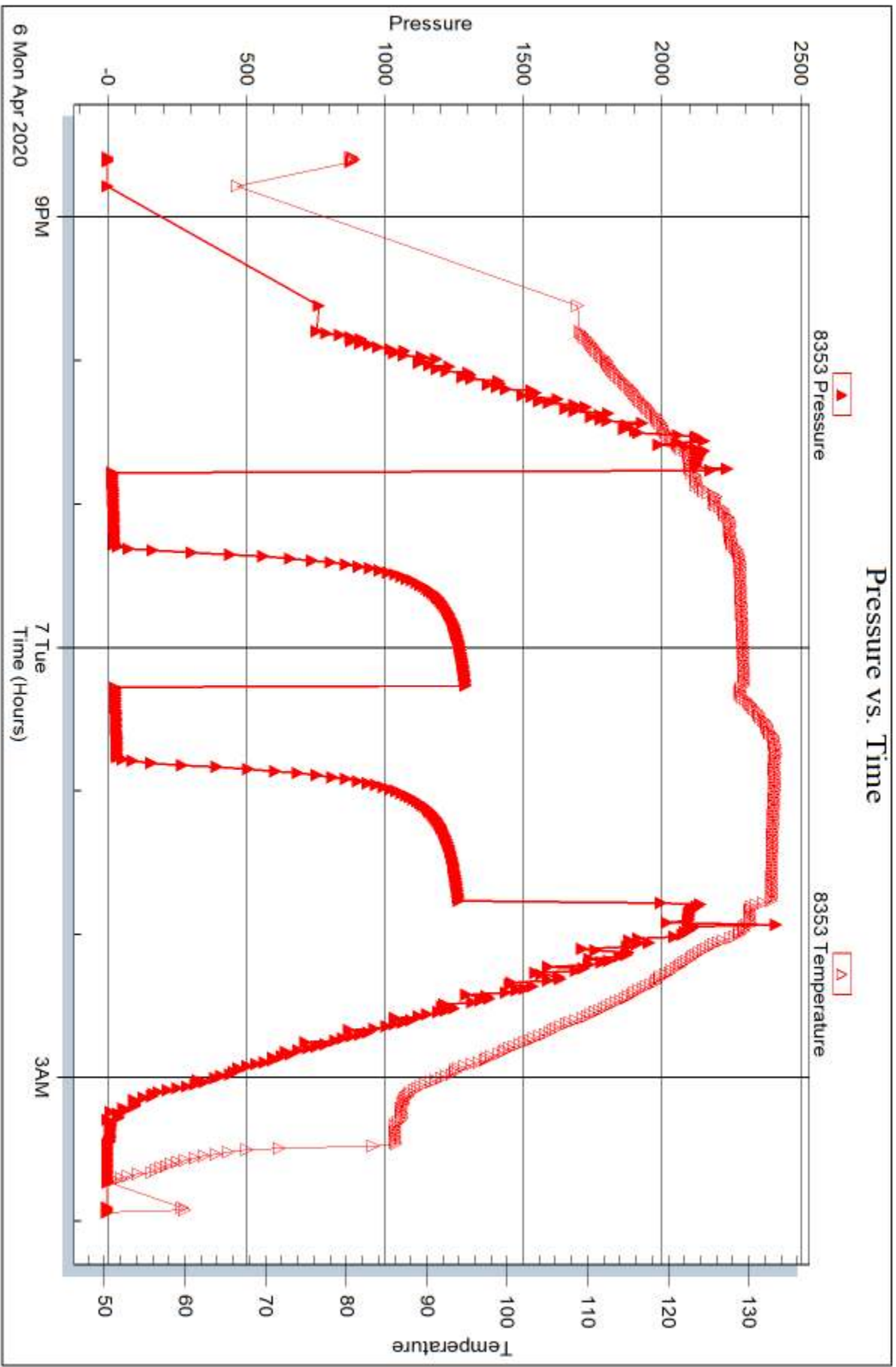
Serial #: 8353

Inside

Murfin Drilling Co. Inc.

Dorsch A #1-5

DST Test Number: 2



Trilobite Testing, Inc

Ref. No: 66539

Printed: 2020.04.13 @ 09:22:30



DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co. Inc.**

250 N. Water STE 300
Wichita KS 67202

ATTN: Samon Sharifie

Dorsch A #1-5

5-3s-37w Cheyenne,KS

Start Date: 2020.04.07 @ 21:42:00

End Date: 2020.04.08 @ 06:11:00

Job Ticket #: 66540 DST #: 3

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

Printed: 2020.04.13 @ 09:21:52



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Co. Inc.

5-3s-37w Cheyenne,KS

250 N. Water STE 300
Wichita KS 67202

Dorsch A #1-5

Job Ticket: 66540

DST#: 3

ATTN: Samon Sharifie

Test Start: 2020.04.07 @ 21:42:00

GENERAL INFORMATION:

Formation: **LKC " G "**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 00:04:00

Time Test Ended: 06:11:00

Test Type: Conventional Bottom Hole (Reset)

Tester: Ryan Nichols

Unit No: 71

Interval: 4440.00 ft (KB) To 4500.00 ft (KB) (TVD)

Reference Elevations: 3437.00 ft (KB)

Total Depth: 4500.00 ft (KB) (TVD)

3432.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

Serial #: 8366 Outside

Press@RunDepth: 682.87 psig @ 4441.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2020.04.07

End Date: 2020.04.08

Last Calib.: 2020.04.08

Start Time: 21:42:01

End Time: 06:11:00

Time On Btm: 2020.04.08 @ 00:03:50

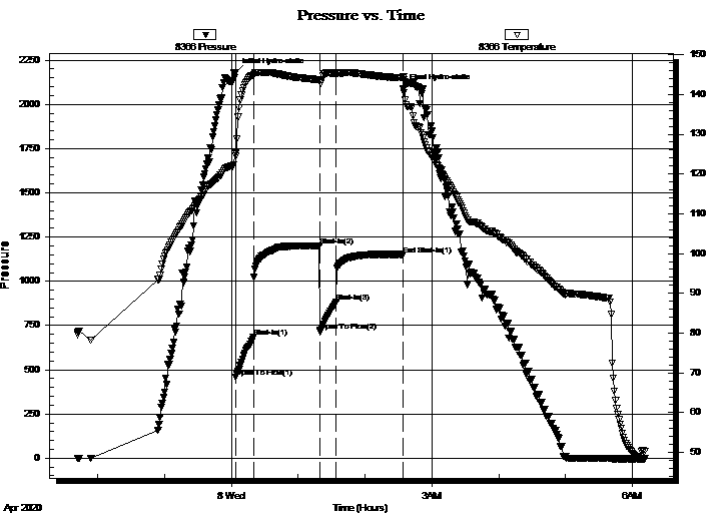
Time Off Btm: 2020.04.08 @ 02:34:30

TEST COMMENT: 15 IF - Slide 10' opened tool reset tool, BoB @ 35 secs

60 ISI - No return

15 FF - BoB @ 1 1/2 mins

60 FSI - No return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2177.92	125.26	Initial Hydro-static
1	457.28	124.43	Open To Flow (1)
16	682.87	144.77	Shut-In(1)
76	1198.80	143.68	Shut-In(2)
76	717.93	143.28	Open To Flow (2)
91	881.40	145.27	Shut-In(3)
151	1150.94	144.14	End Shut-In(1)
151	2089.52	144.48	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
148.00	MOCW - 5%M - 25%O - 75%W	0.73
1260.00	GMWCO - 25%G - 5%M - 20%W - 50%O	17.67
189.00	GMWCO - 20%G - 10%M - 20%W - 50%O	2.65
378.00	GMCO - 30%G - 20%M - 50%O	5.30
195.00	GMCO - 10%G - 40%M - 50%O	2.74

* Recovery from multiple tests

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co. Inc.
 250 N. Water STE 300
 Wichita KS 67202
 ATTN: Samon Sharifie

5-3s-37w Cheyenne,KS

Dorsch A #1-5

Job Ticket: 66540

DST#: 3

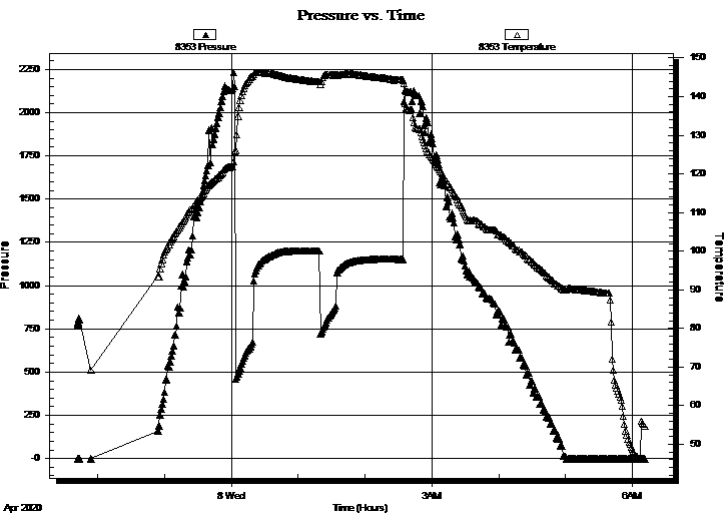
Test Start: 2020.04.07 @ 21:42:00

GENERAL INFORMATION:

Formation: **LKC " G "**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 00:04:00
 Time Test Ended: 06:11:00
 Interval: **4440.00 ft (KB) To 4500.00 ft (KB) (TVD)**
 Total Depth: 4500.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Ryan Nichols
 Unit No: 71
 Reference Elevations: 3437.00 ft (KB)
 3432.00 ft (CF)
 KB to GR/CF: 5.00 ft

Serial #: 8353 Inside
 Press@RunDepth: psig @ 4441.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2020.04.07 End Date: 2020.04.08 Last Calib.: 2020.04.08
 Start Time: 21:42:01 End Time: 06:11:00 Time On Btm:
 Time Off Btm:

TEST COMMENT: 15 IF - Slide 10' opened tool reset tool, BoB @ 35 secs
 60 ISI - No return
 15 FF - BoB @ 1 1/2 mins
 60 FSI - No return



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
148.00	MOCW - 5%M - 25%o - 75%W	0.73
1260.00	GMWCO - 25%G - 5%M - 20%W - 50%o	17.67
189.00	GMWCO - 20%G - 10%M - 20%W - 50%o	2.65
378.00	GMCO - 30%G - 20%M - 50%o	5.30
195.00	GMCO - 10%G - 40%M - 50%o	2.74

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co. Inc.

5-3s-37w Cheyenne,KS

250 N. Water STE 300
Wichita KS 67202

Dorsch A #1-5

Job Ticket: 66540

DST#: 3

ATTN: Samon Sharifie

Test Start: 2020.04.07 @ 21:42:00

Tool Information

Drill Pipe:	Length: 4299.00 ft	Diameter: 3.80 inches	Volume: 60.30 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 148.00 ft	Diameter: 2.25 inches	Volume: 0.73 bbl	Weight to Pull Loose: 90000.00 lb
			<u>Total Volume: 61.03 bbl</u>	Tool Chased 10.00 ft
Drill Pipe Above KB:	35.00 ft			String Weight: Initial 65000.00 lb
Depth to Top Packer:	4440.00 ft			Final 78000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	60.00 ft			
Tool Length:	88.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
------------------	-------------	------------	----------	------------	----------------

Shut In Tool	5.00			4417.00	
Hydraulic tool	5.00			4422.00	
Jars	5.00			4427.00	
Safety Joint	3.00			4430.00	
Packer	5.00			4435.00	28.00 Bottom Of Top Packer
Packer	5.00			4440.00	
Stubb	1.00			4441.00	
Recorder	0.00	8353	Inside	4441.00	
Recorder	0.00	8366	Outside	4441.00	
Perforations	23.00			4464.00	
Blank Spacing	33.00			4497.00	
Bullnose	3.00			4500.00	60.00 Bottom Packers & Anchor

Total Tool Length: 88.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co. Inc.

5-3s-37w Cheyenne,KS

250 N. Water STE 300
Wichita KS 67202

Dorsch A #1-5

Job Ticket: 66540

DST#: 3

ATTN: Samon Sharifie

Test Start: 2020.04.07 @ 21:42:00

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 60.00 sec/qt

Water Loss: 5.99 in³

Resistivity: ohm.m

Salinity: 600.00 ppm

Filter Cake: 2.00 inches

Cushion Type:

Cushion Length: ft

Cushion Volume: bbl

Gas Cushion Type:

Gas Cushion Pressure: psig

Oil API:

Water Salinity: deg API

ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
148.00	MOCW - 5%M - 25%o - 75%W	0.728
1260.00	GMWCO - 25%G - 5%M - 20%W - 50%o	17.674
189.00	GMWCO - 20%G - 10%M - 20%W - 50%o	2.651
378.00	GMCO - 30%G - 20%M - 50%o	5.302
195.00	GMCO - 10%G - 40%M - 50%o	2.735

Total Length: 2170.00 ft Total Volume: 29.090 bbl

Num Fluid Samples: 0

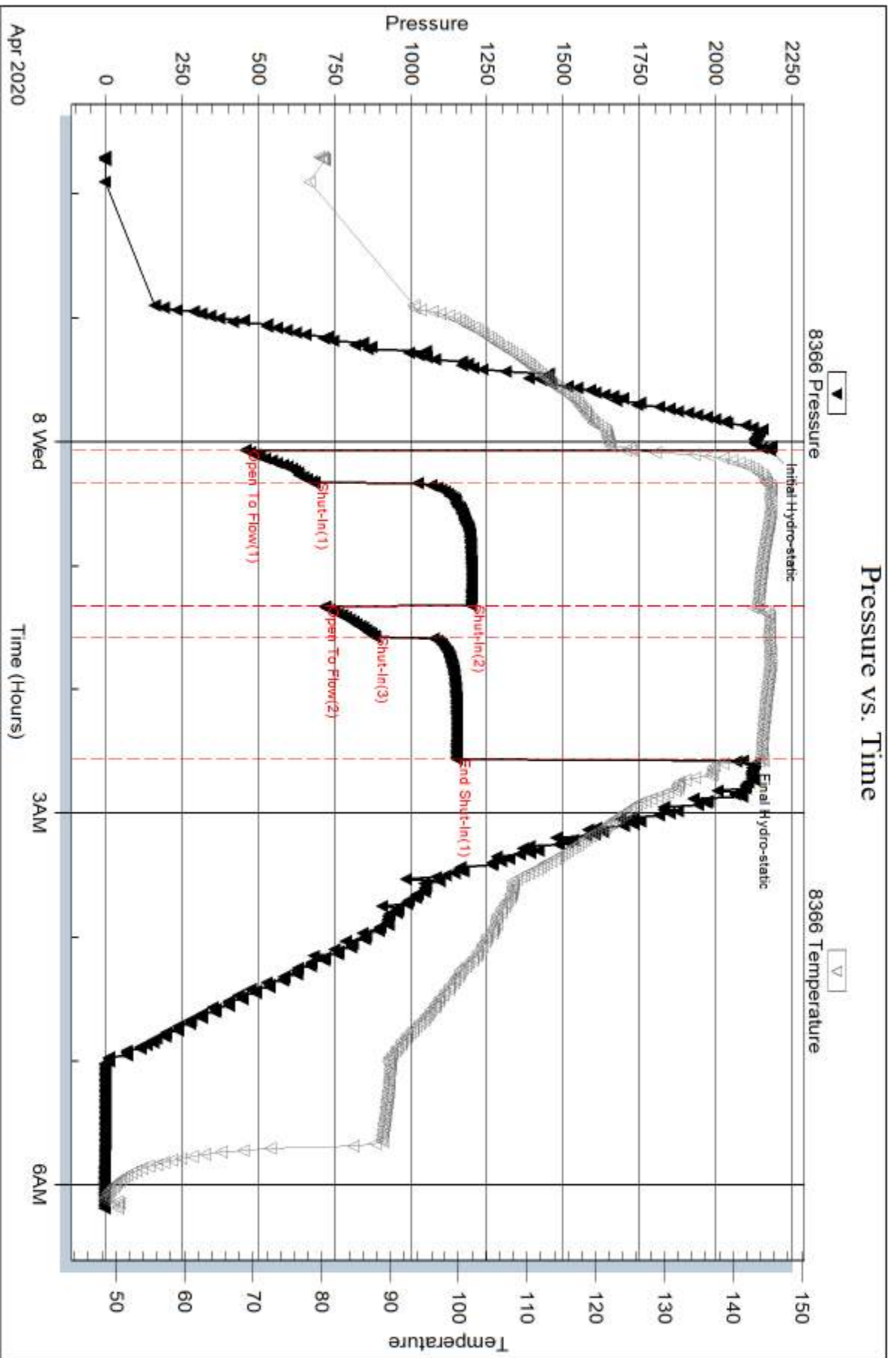
Num Gas Bombs: 0

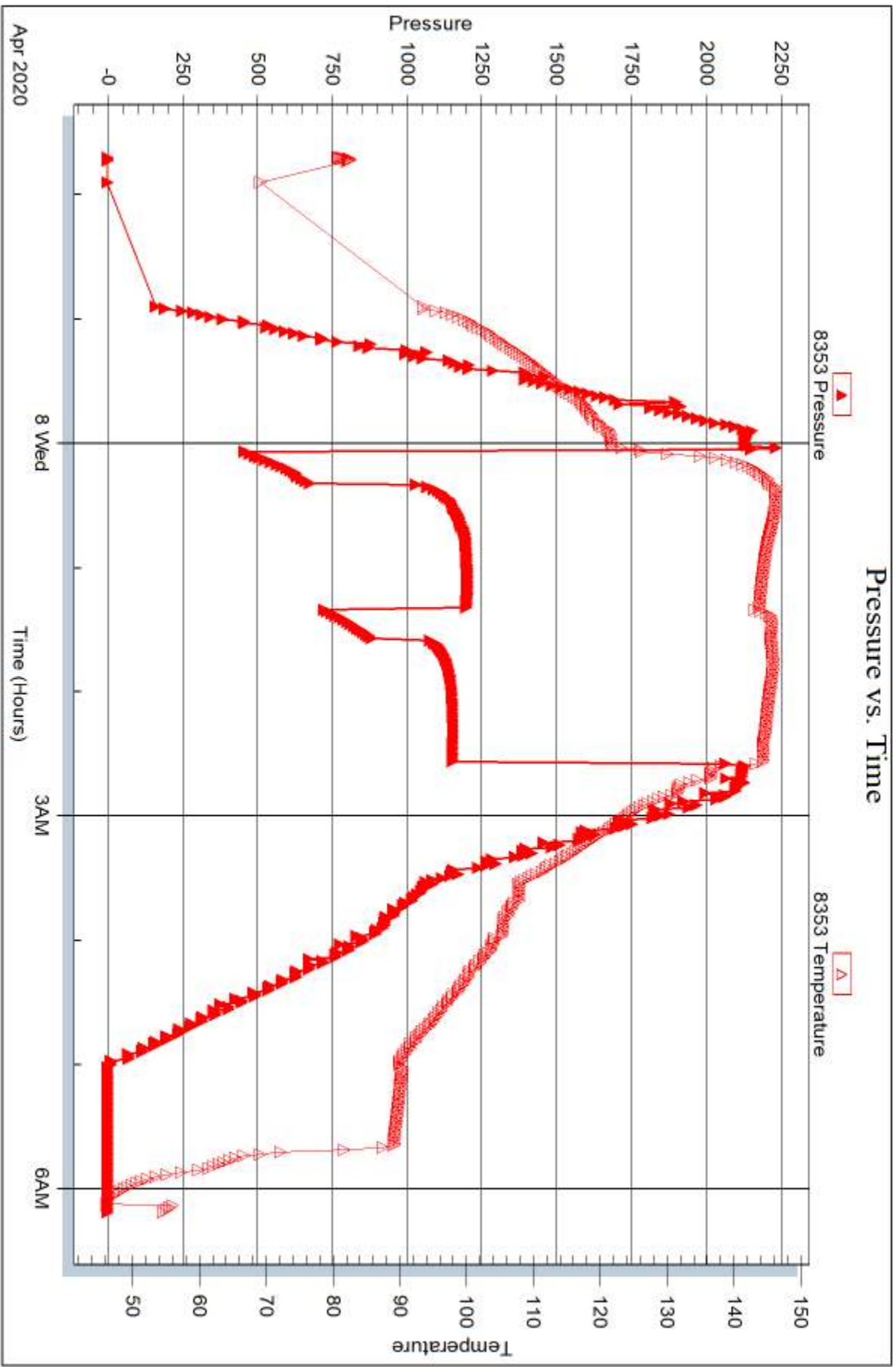
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:







DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co. Inc.**

250 N. Water STE 300
Wichita KS 67202

ATTN: Samon Sharifie

Dorsch A #1-5

5-3s-37w Cheyenne,KS

Start Date: 2020.04.08 @ 19:38:00

End Date: 2020.04.09 @ 02:46:39

Job Ticket #: 66541 DST #: 4

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

Printed: 2020.04.13 @ 09:21:26



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Murfin Drilling Co. Inc.

5-3s-37w Cheyenne,KS

250 N. Water STE 300
Wichita KS 67202

Dorsch A #1-5

Job Ticket: 66541

DST#: 4

ATTN: Samon Sharifie

Test Start: 2020.04.08 @ 19:38:00

GENERAL INFORMATION:

Formation: **LKC " H - J "**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 22:02:00

Time Test Ended: 02:46:39

Test Type: Conventional Bottom Hole (Reset)

Tester: Ryan Nichols

Unit No: 71

Interval: 4502.00 ft (KB) To 4590.00 ft (KB) (TVD)

Reference Elevations: 3437.00 ft (KB)

Total Depth: 4590.00 ft (KB) (TVD)

3432.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

Serial #: 8366 Outside

Press@RunDepth: 30.59 psig @ 4503.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2020.04.08

End Date:

2020.04.09

Last Calib.: 2020.04.09

Start Time: 19:38:01

End Time:

02:46:40

Time On Btm: 2020.04.08 @ 22:01:50

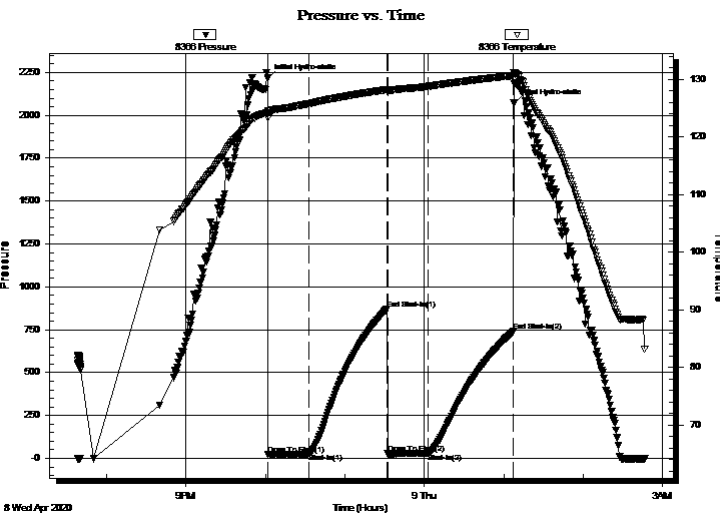
Time Off Btm: 2020.04.09 @ 01:07:39

TEST COMMENT: 30 IF - Slide 5', 1" blow built to 1 1/4"

60 ISI - No return

30 FF - No blow

60 FSI - No return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2215.55	124.58	Initial Hydro-static
1	23.12	123.38	Open To Flow (1)
32	29.97	125.80	Shut-In(1)
90	870.03	128.22	End Shut-In(1)
91	26.70	127.81	Open To Flow (2)
121	30.59	128.78	Shut-In(2)
186	739.88	130.66	End Shut-In(2)
186	2069.98	131.20	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	Mud 100%	0.02

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Co. Inc.

5-3s-37w Cheyenne,KS

250 N. Water STE 300
Wichita KS 67202

Dorsch A #1-5

Job Ticket: 66541

DST#: 4

ATTN: Samon Sharifie

Test Start: 2020.04.08 @ 19:38:00

GENERAL INFORMATION:

Formation: **LKC " H - J "**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 22:02:00

Time Test Ended: 02:46:39

Test Type: Conventional Bottom Hole (Reset)

Tester: Ryan Nichols

Unit No: 71

Interval: 4502.00 ft (KB) To 4590.00 ft (KB) (TVD)

Total Depth: 4590.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 3437.00 ft (KB)

3432.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 8353

Inside

Press@RunDepth: psig @ 4503.00 ft (KB)

Start Date: 2020.04.08

End Date:

2020.04.09

Capacity: 8000.00 psig

Last Calib.:

2020.04.09

Start Time: 19:38:01

End Time:

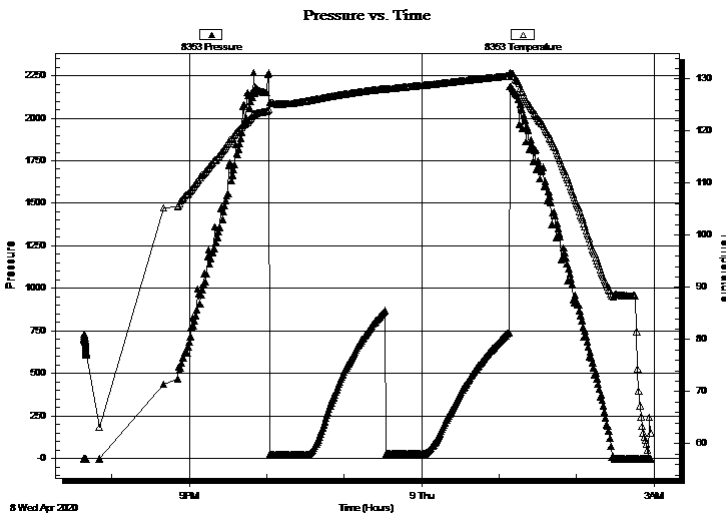
02:57:30

Time On Btm:

Time Off Btm:

TEST COMMENT: 30 IF - Slide 5', 1" blow built to 1 1/4"
60 ISI - No return
30 FF - No blow
60 FSI - No return

PRESSURE SUMMARY



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

Recovery

Length (ft)	Description	Volume (bbl)
5.00	Mud 100%	0.02

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co. Inc.

5-3s-37w Cheyenne,KS

250 N. Water STE 300
Wichita KS 67202

Dorsch A #1-5

Job Ticket: 66541

DST#: 4

ATTN: Samon Sharifie

Test Start: 2020.04.08 @ 19:38:00

Tool Information

Drill Pipe:	Length: 4359.00 ft	Diameter: 3.80 inches	Volume: 61.15 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 148.00 ft	Diameter: 2.25 inches	Volume: 0.73 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: 61.88 bbl</u>	Tool Chased 5.00 ft
Drill Pipe Above KB:	33.00 ft			String Weight: Initial 66000.00 lb
Depth to Top Packer:	4502.00 ft			Final 66000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	88.00 ft			
Tool Length:	116.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
------------------	-------------	------------	----------	------------	----------------

Shut In Tool	5.00			4479.00	
Hydraulic tool	5.00			4484.00	
Jars	5.00			4489.00	
Safety Joint	3.00			4492.00	
Packer	5.00			4497.00	28.00 Bottom Of Top Packer
Packer	5.00			4502.00	
Stubb	1.00			4503.00	
Recorder	0.00	8353	Inside	4503.00	
Recorder	0.00	8366	Outside	4503.00	
Perforations	18.00			4521.00	
Blank Spacing	66.00			4587.00	
Bullnose	3.00			4590.00	88.00 Bottom Packers & Anchor

Total Tool Length: 116.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co. Inc.

5-3s-37w Cheyenne,KS

250 N. Water STE 300
Wichita KS 67202

Dorsch A #1-5

Job Ticket: 66541

DST#: 4

ATTN: Samon Sharifie

Test Start: 2020.04.08 @ 19:38:00

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: 62.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.59 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 600.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	Mud 100%	0.025

Total Length: 5.00 ft Total Volume: 0.025 bbl

Num Fluid Samples: 0

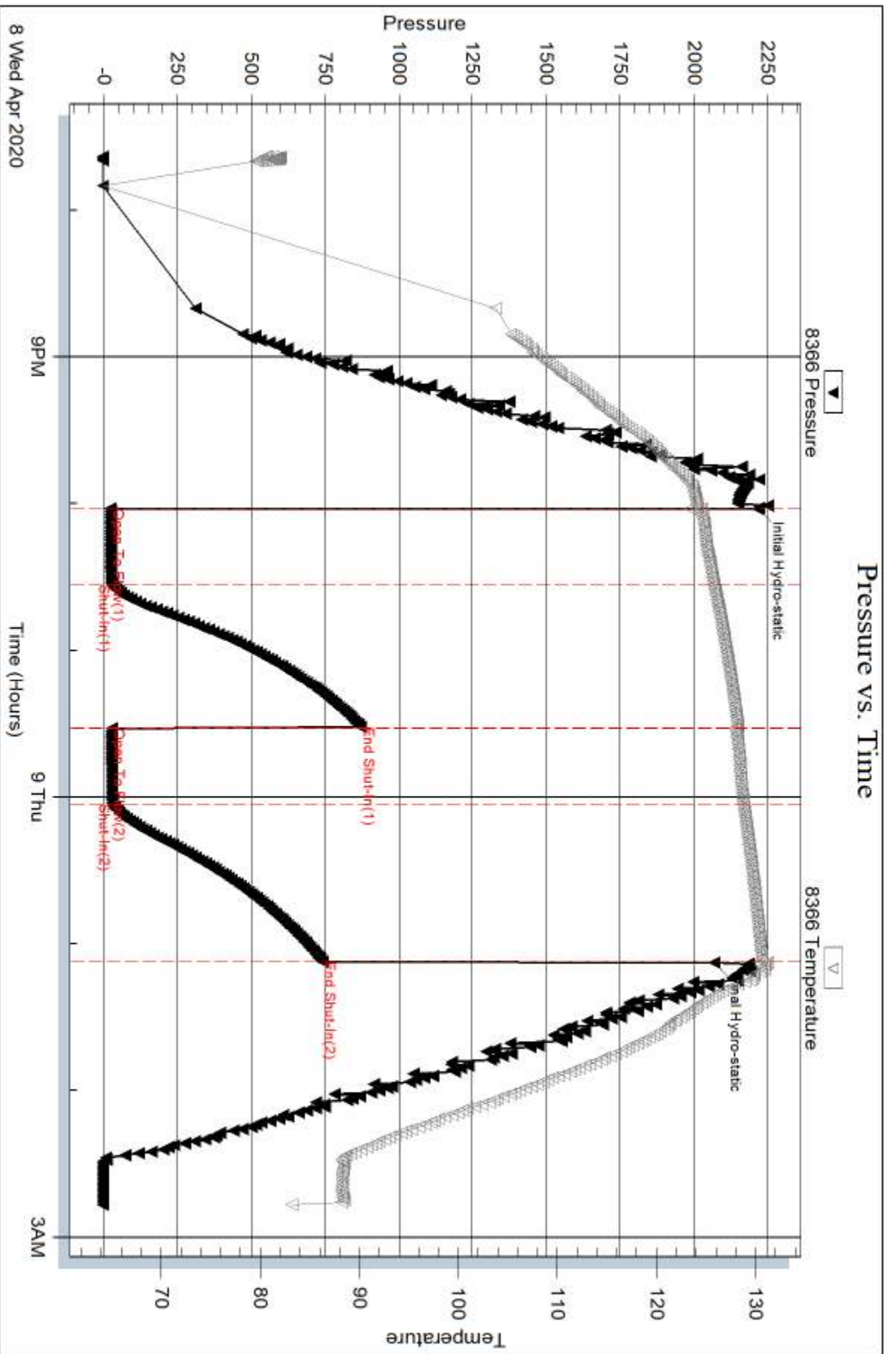
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



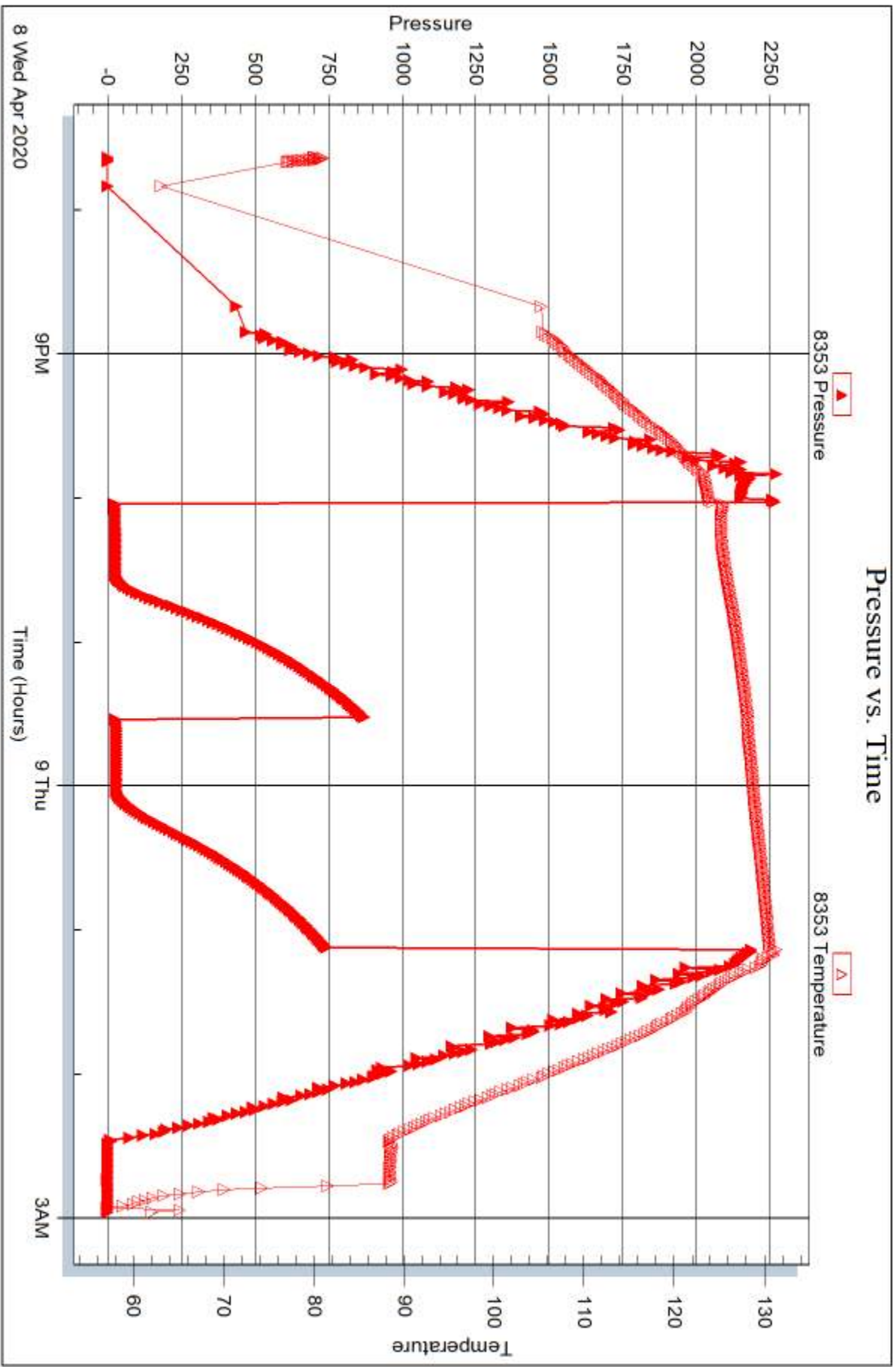
Serial #: 8353

Inside

Murfin Drilling Co. Inc.

Dorsch A #1-5

DST Test Number: 4



Trilobite Testing, Inc

Ref. No: 66541

Printed: 2020.04.13 @ 09:21:27



DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co. Inc.**

250 N. Water STE 300
Wichita KS 67202

ATTN: Samon Sharifie

Dorsch A #1-5

5-3s-37w Cheyenne,KS

Start Date: 2020.04.10 @ 13:25:00

End Date: 2020.04.10 @ 22:12:40

Job Ticket #: 66542 DST #: 5

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

Printed: 2020.04.13 @ 09:16:04



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Co. Inc.

5-3s-37w Cheyenne,KS

250 N. Water STE 300
Wichita KS 67202

Dorsch A #1-5

Job Ticket: 66542

DST#: 5

ATTN: Samon Sharifie

Test Start: 2020.04.10 @ 13:25:00

GENERAL INFORMATION:

Formation: **Ft. Scott - Celia**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 15:38:20

Time Test Ended: 22:12:40

Test Type: Conventional Bottom Hole (Reset)

Tester: Ryan Nichols

Unit No: 71

Interval: 4740.00 ft (KB) To 4880.00 ft (KB) (TVD)

Reference Elevations: 3437.00 ft (KB)

Total Depth: 4880.00 ft (KB) (TVD)

3432.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

Serial #: 8353 Inside

Press@RunDepth: 102.43 psig @ 4741.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2020.04.10 End Date: 2020.04.10

Last Calib.: 2020.04.10

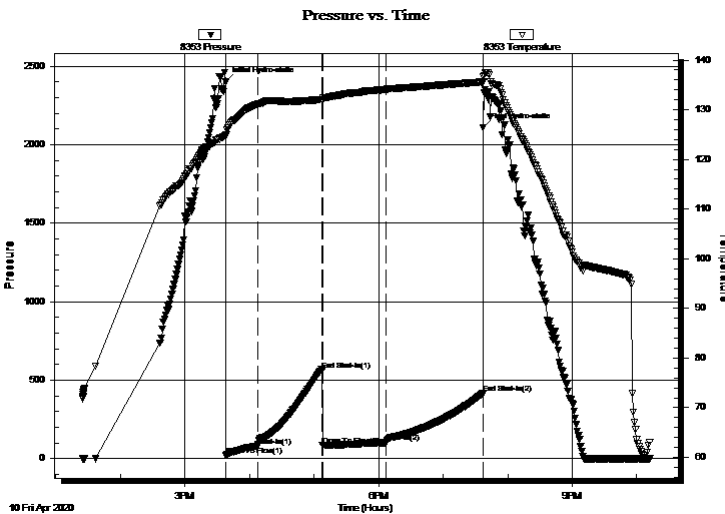
Start Time: 13:25:01 End Time: 22:12:40

Time On Btm: 2020.04.10 @ 15:38:00

Time Off Btm: 2020.04.10 @ 19:37:20

TEST COMMENT: 30 IF - 1" blow built to 7"
60 ISI - No return
60 FF - Surface blow built to 7"
90 FSI - Surface return built to 1/4" died @ 45 mins

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2399.35	125.04	Initial Hydro-static
1	21.62	124.90	Open To Flow (1)
30	80.03	131.12	Shut-In(1)
90	565.01	132.07	End Shut-In(1)
91	83.03	132.39	Open To Flow (2)
150	102.43	134.10	Shut-In(2)
240	414.01	135.60	End Shut-In(2)
240	2108.51	136.66	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
180.00	OCM - 40%o - 60%M	1.18
60.00	Oil - 100%o	0.84
0.00	90' GIP	0.00

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co. Inc.

5-3s-37w Cheyenne,KS

250 N. Water STE 300
Wichita KS 67202

Dorsch A #1-5

Job Ticket: 66542

DST#: 5

ATTN: Samon Sharifie

Test Start: 2020.04.10 @ 13:25:00

Tool Information

Drill Pipe:	Length: 4576.00 ft	Diameter: 3.80 inches	Volume: 64.19 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 148.00 ft	Diameter: 2.25 inches	Volume: 0.73 bbl	Weight to Pull Loose: 95000.00 lb
			<u>Total Volume: 64.92 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	12.00 ft			String Weight: Initial 70000.00 lb
Depth to Top Packer:	4740.00 ft			Final 72000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	140.00 ft			
Tool Length:	168.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
------------------	-------------	------------	----------	------------	----------------

Shut In Tool	5.00			4717.00	
Hydraulic tool	5.00			4722.00	
Jars	5.00			4727.00	
Safety Joint	3.00			4730.00	
Packer	5.00			4735.00	28.00 Bottom Of Top Packer
Packer	5.00			4740.00	
Stubb	1.00			4741.00	
Recorder	0.00	8353	Inside	4741.00	
Recorder	0.00	8366	Outside	4741.00	
Perforations	7.00			4748.00	
Blank Spacing	129.00			4877.00	
Bullnose	3.00			4880.00	140.00 Bottom Packers & Anchor

Total Tool Length: 168.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co. Inc.

5-3s-37w Cheyenne,KS

250 N. Water STE 300
Wichita KS 67202

Dorsch A #1-5

Job Ticket: 66542

DST#: 5

ATTN: Samon Sharifie

Test Start: 2020.04.10 @ 13:25:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

27 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 64.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.00 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 600.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
180.00	OCM - 40%o - 60%M	1.177
60.00	Oil - 100%o	0.842
0.00	90' GIP	0.000

Total Length: 240.00 ft Total Volume: 2.019 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

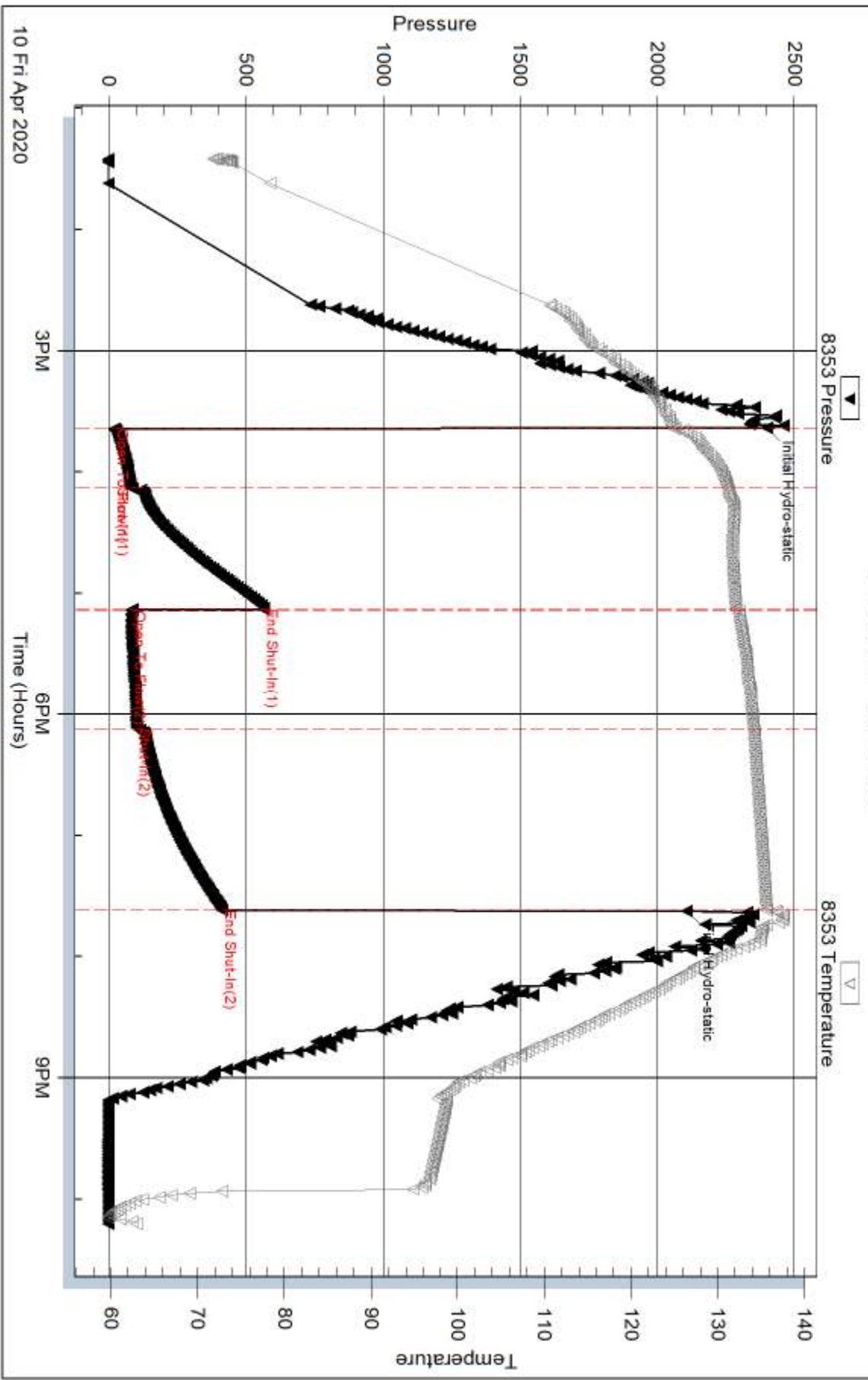
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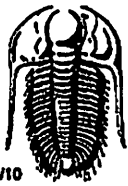
Laboratory Name:

Laboratory Location:

Recovery Comments: Gravity = 27 @ 60 DEG F

Pressure vs. Time





TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket 66538

NO.

Well Name & No. Darsch A #1-05 Test No. 1 Date 4/6/20
 Company Murfin Drilling Co. Inc Elevation 3437 KB 3432 GL
 Address 250 N. Water STE 300 Wichita KS 67202
 Co. Rep / Geo. Saman Sharifaie Rig Murfin # 3
 Location: Sec. 5 Twp 35 Rge. 37W Co. Cheyenne State KS

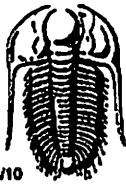
Interval Tested 4246 - 4390 Zone Tested Oread - LKC "A"
 Anchor Length 144' Drill Pipe Run 4080' Mud Wt. 8.7
 Top Packer Depth 4241 Drill Collars Run 148' Vls 62
 Bottom Packer Depth 4246 Wt. Pipe Run 0' WL 5.6
 Total Depth 4390 Chlorides 600 ppm System LCM 4
 Blow Description 30 IF - Slide 10', 1/2" blow built to 1 1/2" died back to 1"
60 ISF - No return
30 FF - Surface blow
60 FST - No return

Rec	Feet of	%gas	%oil	%water	%mud
<u>70</u>	<u>OCM</u>	<u>10</u>		<u>90</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 70' BHT 127 Gravity — API RW — @ — F Chlorides — ppm

(A) Initial Hydrostatic <u>2133</u>	<input checked="" type="checkbox"/> Test <u>1300</u>	T-On Location <u>02:00</u>
(B) First Initial Flow <u>20</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>02:55</u>
(C) First Final Flow <u>40</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>05:45</u>
(D) Initial Shut-In <u>1208</u>	<input type="checkbox"/> Circ Sub	T-Pulled <u>08:45</u>
(E) Second Initial Flow <u>45</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>10:30</u>
(F) Second Final Flow <u>63</u>	<input checked="" type="checkbox"/> Mileage <u>115 BT</u>	Comments
(G) Final Shut-In <u>1169</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>1971</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> EM Tool
Initial Open <u>30</u>	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Shale Packer
Initial Shut-In <u>60</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Ruined Packer
Final Flow <u>30</u>	<input type="checkbox"/> Extra Recorder	<input type="checkbox"/> Extra Copies
Final Shut-In <u>60</u>	<input type="checkbox"/> Day Standby	Sub Total <u>0</u>
	<input type="checkbox"/> Accessibility	Total <u>1740</u>
	Sub Total <u>1740</u>	MP/DST Disc't

Approved By _____ Our Representative Ryan J. Smith
 Trilobite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket 66539

NO.

Well Name & No. Dorsch A #1-5 Test No. 2 Date 4/6/20
 Company Martin Drilling Co. Inc. Elevation 3437 KB 3432 GL
 Address 250 N. Water STE 300 Wichita KS 67202
 Co. Rep / Geo. Samon Sharitic Rig Martin #3
 Location: Sec. 5 Twp 35 Rge. 37 W Co. Cheyenne State KS

Interval Tested 4385-4439 Zone Tested LKC "D"
 Anchor Length 54' Drill Pipe Run 4735' Mud Wt. 9.0
 Top Packer Depth 4380 Drill Collars Run 148' Vis 59
 Bottom Packer Depth 4385 Wt. Pipe Run 0' WL 6.0
 Total Depth 4439 Chlorides 600 ppm System LCM 3
 Blow Description 30 IF - Blow built to 1 1/2"
60 ISI - No return
30 FF - No blow
60 FSI - No return

Rec	Feet of	%gas	%oil	%water	%mud
<u>20</u>	<u>Mud</u>			<u>100</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

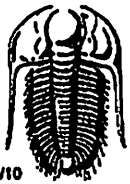
Rec Total 20' BHT 133° Gravity — API RW — @ — ° F Chlorides — ppm

(A) Initial Hydrostatic 2185 Test 1300 T-On Location 20:00
 (B) First Initial Flow 16 Jars 250 T-Started 20:35
 (C) First Final Flow 34 Safety Joint 75 T-Open 22:46
 (D) Initial Shut-In 1292 Circ Sub T-Pulled 01:46
 (E) Second Initial Flow 27 Hourly Standby T-Out 03:45
 (F) Second Final Flow 34 Mileage 115 115 RT Comments _____
 (G) Final Shut-In 1267 Sampler _____
 (H) Final Hydrostatic 2079 Straddle _____
 Shale Packer _____
 Extra Packer _____
 Extra Recorder _____
 Day Standby _____
 Accessibility _____
 Sub Total 1740 MP/DST Disc't _____

Initial Open 30
 Initial Shut-In 60
 Final Flow 30
 Final Shut-In 60

Sub Total 0
 Total 1740

Approved By _____ Our Representative Ray 2 Vicks
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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket 66540

NO.

Well Name & No. Dorsch A #1-5 Test No. 3 Date 4/7/20
 Company Martin Drilling Co Inc. Elevation 3437 KB 3432 GL
 Address 250 N. Water STE 300 Wichita KS 67202
 Co. Rep / Geo. Saman Sharifair Rig Martin #3
 Location: Sec. 5 Twp 3E Rge. 37W Co. Cheyenne State KS

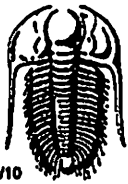
Interval Tested 4440 - 4500 Zone Tested LKC "G"
 Anchor Length 60' Drill Pipe Run 4299' Mud Wt. 9.2
 Top Packer Depth 4435 Drill Collars Run 148' Vis 60
 Bottom Packer Depth 4440 Wt. Pipe Run 0' WL 6.0
 Total Depth 4500 Chlorides 600 ppm System LCM 4
 Blow Description 15 ISE - Slide 10' opened tool, rest tool, BoB @ 35 secs
60 ISE - No return
15 FF - BoB @ 1 1/2 mins
60 FSI - No return

Rec	Feet of	%gas	%oil	%water	%mud
<u>195'</u>	<u>GMCO</u>	<u>10</u>	<u>50</u>	<u>40</u>	
<u>378'</u>	<u>GMCO</u>	<u>30</u>	<u>50</u>	<u>20</u>	
<u>189'</u>	<u>GMWCO</u>	<u>20</u>	<u>50</u>	<u>20</u>	<u>10</u>
<u>1260'</u>	<u>GMWCO</u>	<u>25</u>	<u>50</u>	<u>20</u>	<u>5</u>
<u>148</u>	<u>MOCW</u>		<u>25</u>	<u>70</u>	<u>5</u>

Rec Total 2170' BHT 1440' Gravity — API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic <u>2178</u>	<input checked="" type="checkbox"/> Test 1300	T-On Location <u>21:00</u>
(B) First Initial Flow <u>459</u>	<input type="checkbox"/> Jars 250	T-Started <u>22:42</u>
(C) First Final Flow <u>683</u>	<input checked="" type="checkbox"/> Safety Joint 75	T-Open <u>00:04</u>
(D) Initial Shut-In <u>1199</u>	<input type="checkbox"/> Circ Sub	T-Pulled <u>02:34</u>
(E) Second Initial Flow <u>718</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>06:15</u>
(F) Second Final Flow <u>881</u>	<input checked="" type="checkbox"/> Mileage <u>115RT</u>	Comments _____
(G) Final Shut-In <u>1151</u>	<input type="checkbox"/> Sampler	_____
(H) Final Hydrostatic <u>2090</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> EM Tool
Initial Open <u>15</u>	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Shale Packer
Initial Shut-In <u>60</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Ruined Packer
Final Flow <u>75</u>	<input type="checkbox"/> Extra Recorder	<input type="checkbox"/> Extra Copies
Final Shut-In <u>60</u>	<input type="checkbox"/> Day Standby	Sub Total <u>0</u>
	<input type="checkbox"/> Accessibility	Total <u>1740</u>
Sub Total <u>1740</u>		MP/DST Disc't _____

Approved By _____ Our Representative [Signature]
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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket 66541

NO.

Well Name & No. Dorsch A #1-S Test No. 4 Date 4/8/20
 Company Martin Drilling Co. Inc. Elevation 3437 KB 3432 GL
 Address 250 N. Water STE 300 Wichita KS 67202
 Co. Rep / Geo. Samon Sharifaic Rig Martin # 3
 Location: Sec. 5 Twp 3s Rge. 37w Co. Cheyenne State KS

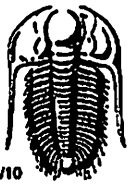
Interval Tested 4502 - 4590 Zone Tested LKC "H - J"
 Anchor Length 88' Drill Pipe Run 4359' Mud Wt. 9.0
 Top Packer Depth 4497 Drill Collars Run 148' Vis 62
 Bottom Packer Depth 4502 Wt. Pipe Run 0' WL 5.6
 Total Depth 4590 Chlorides 600 ppm System LCM 4
 Blow Description 30 IF - 31 slide 5', 1" blow built to 1 1/4"
60 ISI - No return
30 FF - No blow
60 FSI - No return

Rec	Feet of	%gas	%oil	%water	%mud
<u>5'</u>	<u>Mud</u>			<u>100</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 5' BHT 131° Gravity — API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic <u>2216</u>	<input checked="" type="checkbox"/> Test <u>1300</u>	T-On Location <u>19:00</u>
(B) First Initial Flow <u>23</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>19:38</u>
(C) First Final Flow <u>30</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>22:02</u>
(D) Initial Shut-In <u>870</u>	<input type="checkbox"/> Circ Sub	T-Pulled <u>01:02</u>
(E) Second Initial Flow <u>27</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>03:00</u>
(F) Second Final Flow <u>31</u>	<input checked="" type="checkbox"/> Mileage <u>115 RT</u>	Comments
(G) Final Shut-In <u>740</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>2070</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> EM Tool
Initial Open <u>30</u>	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Shale Packer
Initial Shut-In <u>60</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Ruined Packer
Final Flow <u>30</u>	<input type="checkbox"/> Extra Recorder	<input type="checkbox"/> Extra Copies
Final Shut-In <u>60</u>	<input type="checkbox"/> Day Standby	Sub Total <u>0</u>
	<input type="checkbox"/> Accessibility	Total <u>1740</u>
	Sub Total <u>1740</u>	MP/DST Disc't <u>3</u>

Approved By _____ Our Representative [Signature]
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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket 66542

NO.

Well Name & No. Dorsch A #1-05 Test No. 5 Date 4/10/20
 Company Martin Drilling Co. Inc. Elevation 3437 KB 3432 GL
 Address 250N. Water STE 300 Wichita KS 67202
 Co. Rep / Geo. Samon Sharifair Rig Martin #3
 Location: Sec. 5 Twp 35 Rge. 37w Co. Cheyenne State KS

Interval Tested 4740 - 4880 Zone Tested Ft. Scott - Celia
 Anchor Length ~~140~~ 140' Drill Pipe Run 4576' Mud Wt. 9.2
 Top Packer Depth 4735 Drill Collars Run 148' Vis 64
 Bottom Packer Depth 4740 Wt. Pipe Run 0' WL 6.0
 Total Depth 4880 Chlorides 600 ppm System LCM 4
 Blow Description 30 IF - 1" blow built to 7"
60 TSI - No return
60 FF - Blow built to 7"
90 FSI - Surface return built to 1/4" died @ 45 mins

Rec	Feet of	%gas	%oil	%water	%mud
<u>60'</u>	<u>Dil</u>	<u>100</u>			
<u>180'</u>	<u>OCM</u>	<u>40</u>		<u>60</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 240' BHT 136° Gravity 27 API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic <u>2399</u>	<input checked="" type="checkbox"/> Test <u>1300</u>	T-On Location <u>13:00</u>
(B) First Initial Flow <u>22</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>13:25</u>
(C) First-Final Flow <u>80</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>15:38</u>
(D) Initial Shut-In <u>565</u>	<input type="checkbox"/> Circ Sub	T-Pulled <u>17:38</u>
(E) Second Initial Flow <u>83</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>22:00</u>
(F) Second Final Flow <u>102</u>	<input checked="" type="checkbox"/> Mileage <u>115 RT</u>	Comments <u>90' GIP</u>
(G) Final Shut-In <u>414</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>2109</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> EM Tool
Initial Open <u>30</u>	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Shale Packer
Initial Shut-In <u>60</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Ruined Packer
Final Flow <u>60</u>	<input type="checkbox"/> Extra Recorder	<input type="checkbox"/> Extra Copies
Final Shut-In <u>90</u>	<input type="checkbox"/> Day Standby	Sub Total <u>0</u>
	<input type="checkbox"/> Accessibility	Total <u>1740</u>
	Sub Total <u>1740</u>	MP/DST Disc't

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