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 # 30606
Name: Murfin Drilling Co., Inc.
Address 1: 250 N WATER STE 300
Address 2:
City: WICHITA State: KS Zip: 67202 + 1216
Contact Person: Tom Melland
Phone: (316) 267-3241
CONTRACTOR: License # 30606
Name: Murfin Drilling Co., Inc.
Wellsite Geologist: Saman Sharifaie
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 #:

09/24/2021	10/03/2021	11/01/2021
Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date

API No.: 15-055-22543-00-00
Spot Description:
NW - NE - SE - NE Sec. 10 Twp. 22 S. R. 31 ☐ East ☑ West
1388 Feet from ☑ North / ☐ South Line of Section
526 Feet from ☑ East / ☐ West Line of Section
Footages Calculated from Nearest Outside Section Corner:
☑ NE ☐ NW ☐ SE ☐ SW
GPS Location: Lat: *(e.g. xx.xxxxx)*, Long: *(e.g. -xxx.xxxxx)*
Datum: ☐ NAD27 ☐ NAD83 ☐ WGS84
County: Finney
Lease Name: H & H UNIT Well #: 1-10
Field Name:
Producing Formation: St Louis
Elevation: Ground: 2894 Kelly Bushing: 2902
Total Vertical Depth: 5000 Plug Back Total Depth:
Amount of Surface Pipe Set and Cemented at: 325 Feet
Multiple Stage Cementing Collar Used? ☑ Yes ☐ No
If yes, show depth set: 2115 Feet
If Alternate II completion, cement circulated from: 2115
feet depth to: 0 w/ 300 sx cmt.

Drilling Fluid Management Plan
(Data must be collected from the Reserve Pit)
Chloride content: 7100 ppm Fluid volume: 694 bbls
Dewatering method used: Evaporated
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: 12/17/2021
☐ **Confidential Release Date:** 12/17/2023
☑ **Wireline Log Received** ☑ **Drill Stem Tests Received**
☑ **Geologist Report / Mud Logs Received**
☐ **UIC Distribution**
ALT ☐ **I** ☑ **II** ☐ **III** **Approved by:** Deanna Garrison **Date:** 12/20/2021

Page Two

Operator Name: Murfin Drilling Co., Inc. Lease Name: H & H UNIT Well #: 1-10

Sec. 10 Twp. 22 S. R. 31 ☐ East ☑ West County: Finney

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 ☑ Yes ☐ No
(Attach Additional Sheets)

Samples Sent to Geological Survey ☑ Yes ☐ No

Cores Taken ☐ Yes ☑ No

Electric Log Run ☑ Yes ☐ No

Geologist Report / Mud Logs ☑ Yes ☐ No

List All E. Logs Run:
Attached

☑ Log Formation (Top), Depth and Datum ☑ Sample

Name	Top	Datum
see attached	see attached	see attached

CASING RECORD ☑ New ☐ 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
Surface	12.250	8.625	23	325	H-325	235	na
Production	7.875	5.500	15.5	4894	H-CON	150	na

ADDITIONAL CEMENTING / SQUEEZE RECORD

Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
____ Perforate ____ Protect Casing ____ Plug Back TD ____ 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: 11/11/2021

Producing Method: ☐ Flowing ☑ Pumping ☐ Gas Lift ☐ Other *(Explain)* _____

Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity
	25		4		

DISPOSITION OF GAS: ☐ Vented ☐ Sold ☐ Used on Lease
(If vented, Submit ACO-18.)

METHOD OF COMPLETION: ☐ Open Hole ☑ Perf. ☐ Dually Comp. *(Submit ACO-5)* ☐ Commingled *(Submit ACO-4)*

PRODUCTION INTERVAL:

Top	Bottom
4749	4754

Shots Per Foot	Perforation Top	Perforation Bottom	Bridge Plug Type	Bridge Plug Set At	Acid, Fracture, Shot, Cementing Squeeze Record *(Amount and Kind of Material Used)*
4	4749	4754			500 gals 20%MCA, 3% MAS

TUBING RECORD: Size: 2.375 Set At: 4736 Packer At:

Mail to: KCC - Conservation Division, 266 N. Main, Suite 220, Wichita, Kansas 67202

Form	ACO1 - Well Completion
Operator	Murfin Drilling Co., Inc.
Well Name	H & H UNIT 1-10
Doc ID	1599443

All Electric Logs Run

DIL
DUCP
MEL
BHCS

Form	ACO1 - Well Completion
Operator	Murfin Drilling Co., Inc.
Well Name	H & H UNIT 1-10
Doc ID	1599443

Casing

Purpose Of String	Size Hole Drilled	Size Casing Set	Weight	Setting Depth	Type Of Cement	Number of Sacks Used	Type and Percent Additives
Surface	12.250	8.625	23	325	H-325	235	na
Production	7.875	5.500	15.5	4894	H-CON	150	na

CEMENT TREATMENT REPORT

Customer:	Murfin Drilling	Well:	H&H unit 1-10	Ticket:	WP 1915
City, State:	Oakley Ks	County:	Finney KS	Date:	9/24/2021
Field Rep:	Jesse Jones	S-T-R:	13-22S-35W	Service:	Surface

Downhole Information	
Hole Size:	12 1/4 in
Hole Depth:	325 ft
Casing Size:	8 5/8 in
Casing Depth:	323 ft
Tubing / Liner:	in
Depth:	ft
Tool / Packer:	
Tool Depth:	ft
Displacement:	20.8 bbls

Calculated Slurry - Lead	
Blend:	H-325
Weight:	14.8 ppg
Water / Sx:	6.9 gal / sx
Yield:	1.41 ft^3 / sx
Annular Bbls / Ft.:	0.0735 bbs / ft.
Depth:	325 ft
Annular Volume:	23.9 bbls
Excess:	125%
Total Slurry:	53.7 bbls
Total Sacks:	214 sx

Calculated Slurry - Tail	
Blend:	
Weight:	ppg
Water / Sx:	gal / sx
Yield:	ft^3 / sx
Annular Bbls / Ft.:	bbs / ft.
Depth:	ft
Annular Volume:	0 bbls
Excess:	
Total Slurry:	0.0 bbls
Total Sacks:	0 sx

TIME	RATE	PSI	STAGE BBLs	TOTAL BBLs	REMARKS
1:20p.m.			-	-	Arrival
1:25p.m.				-	Safety Meeting
1:30p.m.				-	Rig up
4:35p.m.				-	Circulate
4:41p.m.	3.0	250.0	5.0	5.0	H20 ahead
4:43p.m.	5.5	350.0	39.3	44.3	Mix 214 Sks @ 14.8 ppg @ 325'
4:49p.m.	6.0	350.0	19.5	63.8	Displace with H20
5:00p.m.				63.8	Plug down
5:03p.m.				63.8	Wash up
5:14p.m.				63.8	Rig down
5:31p.m.				63.8	Depart location
					Circulate 5 bbls cement to pit

	CREW	UNIT
Cementer:	Jesse J	29
Pump Operator:	John P	208
Bulk #1:	Kale O	205
Bulk #2:		

SUMMARY		
Average Rate	Average Pressure	Total Fluid
4.8 bpm	317 psi	64 bbls

ftv: 13-2021/01/19
mplv: 87-2021/01/11

CEMENT TREATMENT REPORT

Customer:	Murfin Drilling	Well:	H&H Unit # 1-10	Ticket:	WP 1948
City, State:	Oakley Ks	County:	Finney KS	Date:	10/5/2021
Field Rep:		S-T-R:	10-22S-31W	Service:	2 Stage

Downhole Information	
Hole Size:	7 7/8 in
Hole Depth:	5119.5 ft
Casing Size:	5 1/2 in
Casing Depth:	4900 ft
Tubing / Liner:	in
Depth:	ft
Tool / Packer:	
Tool Depth:	ft
Displacement:	169.3 bbls

Calculated Slurry - Lead	
Blend:	H-LD
Weight:	14.8 ppg
Water / Sx:	6.5 gal / sx
Yield:	1.51 ft^3 / sx
Annular Bbls / Ft.:	0.0302 bbs / ft.
Depth:	3025 ft
Annular Volume:	40.3 bbls
Excess:	
Total Slurry:	40.3 bbls
Total Sacks:	330 sx

Calculated Slurry - Tail	
Blend:	H-CON
Weight:	12 ppg
Water / Sx:	15.5 gal / sx
Yield:	2.56 ft^3 / sx
Annular Bbls / Ft.:	0.0302 bbs / ft.
Depth:	2073 ft
Annular Volume:	150.4 bbls
Excess:	
Total Slurry:	150.4 bbls
Total Sacks:	150 sx

TIME	RATE	PSI	STAGE BBLs	TOTAL BBLs	REMARKS
6:35p.m.			-	-	Arrival
6:40p.m.				-	Safety meeting
6:45p.m.				-	Unload float equipment
9:00p.m.				-	Started running casing
10:36p.m.				-	Circulate for 30 minutes at joint 67 Dropped ball
11:06p.m.				-	Run rest of casing
12:45a.m.				-	Circulate for 30 minutes at 4900'
12:48a.m.				-	Rig up pump
6:38a.m.	5.0	450.0	5.0	5.0	H2O ahead
6:40a.m.	5.0	450.0	12.0	17.0	Mud flush
6:46a.m.	5.3	460.0	5.0	22.0	H2O behide
6:47a.m.	5.5	520.0	40.3		Mixed 150 sks @ 4900' ppg 14.8
6:56a.m.					Drop plug and wash up pump and lines
7:00a.m.	7.0	200.0	70.0		Displaced 70 bbl of H2O
7:12a.m.	7.0	350.0	50.0		Displaced 50 bbl of mud
7:25a.m.					Land plug
7:28a.m.					Drop bomb
7:39a.m.	3.0	800.0	1.0		Tool opened 10bbl H2O after tool open 6bpm @300psi
7:41a.m.					Circulate for 2 hrs
9:28a.m.	6.0	300.0	10.0		H2O ahead
9:31a.m.	6.0	200.0	13.6		Plug Rat hole 30 sx H-Con mixed @ 12 ppg
9:32a.m.	6.0	200.0	150.5		Mixed 300 sks at 2973' ppg 12
10:20a.m.					Drop plug Slowed down to 3bbl per minute to land
10:21a.m.	6.0	200.0	49.3		Displaced with H2O
10:30a.m.					Land Plug 1380 psi when landed
10:32a.m.					Wash up
10:40a.m.					Rig down

	CREW	UNIT
Cementer:	Jesse J	78
Pump Operator:	Jimmie C	180/520
Bulk #1:	Michael	242
Bulk #2:	Kale	194/250

SUMMARY		
Average Rate	Average Pressure	Total Fluid
5.6 bpm	375 psi	407 bbls

ftv: 13-2021/01/19
mplv: 87-2021/01/11

API #15-003-22043

Saman Sharifaie
Petroleum Geologist

GEOLOGIST'S REPORT
DRILLING TIME AND SAMPLE LOG

WELL NAME: Anhydrite 2075 (>027)
LEASE: Base 2130 (>768)
COUNTY: Morton
STATE: Kansas
CONTRACTOR: Duke Drilling Co. Rig 7
SPUD: 09/26/21 - 12:00 PM
TD: 10/02/21 - 3:00 AM
ELEV.: GL: 3087 KB: 3092
MEASUREMENTS: All Depths Measured from KB
MUD CO.: Duke Drilling Co.
MUD TYPE: Fresh Water Gel
MUD WT.: 8.6 - 9.2 PPG
VISC.: 28 - 32 SEC
WL: NA
PH: 7.5 - 8.5
CASING: Surface: 8 5/8" @ 312'
ELECTRICAL: Dual Induction, Dual Compensated Porosity, Microlog
SURVEYS: 1 Deg @ 312', 1 Deg @ 2130', 1 Deg @ 4500'
CORRELATION: Dave Rhoades Geologist Kansas
Cell: 620-255-7928
Email: dave.rhoades@gmail.com

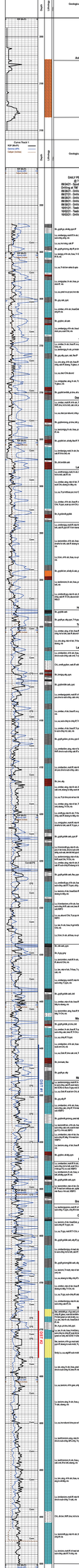
Saman Sharifaie
Petroleum Geologist
Cell: 316-265-2244
Email: saman.sharifaie@gmail.com

REMARKS: Due to poor to fair shows of oil in Marmaton and Mississippian 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

Tops have been adjusted to electric logs

Formation	Sample Top	Sub-Sea Top	Log Top	Sub-Sea Top
Anhydrite	2075	+1027		
Base Anhydrite	2130	+768		
Topeka	3766	-674		
Deer Creek	3858	-766		
LeCompton	3932	-840		
Oread	3989	-897		
Heebner	3992	-900		
Toronto	4016	-924		
Lansing	4025	-933		
Stark	4339	-1247		
Mound City	4421	-1329		
Marmaton	4464	-1372		
Pawnee	4577	-1485		
Fort Scott	4671	-1580		
Cherokee	4704	-1613		
Johnson	4777	-1686		
Mississippian	4816	-1725		
Mississippian Chert	4870	-1779		
Mississippian Dolomite	4880	-1789		
Kinderhook Shale	4900	-1809		
Viola	4922	-1831		
Simpson Shale	4966	-1875		
Simpson Sand	4980	-1889		
Arbuckle	5010	-1919		
RTD	5050	-1959		
LTD			5048	-1957



Curve Track 2
ROP (min/ft)
Gas Units
Gas Units (Total)
Gas Units (Chromatograph)
Ethane (Ppm)
Depth
Lithology
Geological Descriptions
Engineering Data

DAILY PENETRATION
@ 7:00 AM
09/26/21 - Spudded at 9:30 AM 09/26/21
Drilling at 180'
09/26/21 - Drilling at 323'
09/27/21 - Drilling at 1077'
09/28/21 - Drilling at 2077'
09/29/21 - Drilling at 3010'
09/30/21 - Drilling at 3800'
10/01/21 - Trenching at 4507'
10/02/21 - Trenching at 4900'
10/03/21 - Drilling at 4980'

Dry Hole @ 5048' | 3.6F Shoots Guest
Geologic Survey 7

DST #1
(Marmaton)
4440'-4500'
30-30-30-30
IF: Surface Blow
FF: Weak
Rec: 5' M (100%M)
IFP: 31 - 34
FFP: 34 - 34
ISIP: 322
FSIP: 564
IHP: 2206
FHP: 2153
BHT: 107°

DST #2
(Pawnee)
4570'-4610'
30-60-60-90
IF: Blow built to 2½"
FF: Blow built to 5"
Rec: 150' GIP
1'M (5%M) 149'SOCM
1'M (50%M) 0'SOCL 32'HOCL 60'HOCM
IFP: 30 - 61
FFP: 64 - 94
ISIP: 1043
FSIP: 1254
IHP: 2206
FHP: 2154
BHT: 110°

Mississippian 4816 (-1725)
Mississippian Chert 4870 (-1779)
Mississippian Dolomite 4880 (-1789)
Kinderhook Shale 4900 (-1809)
Viola 4922 (-1831)
Simpson Shale 4966 (-1875)
Simpson Sand 4980 (-1889)
Arbuckle 5010 (-1919)
RTD 5050 (-1959)

Dave Rhoades Geologist Kansas

DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co Inc**

250 N. Water STE 300
Wichita, KS 67202

ATTN: Saman Sharifaie

H & H Unit #1-10

10-22S.-31W Finney,KS

Start Date: 2021.09.30 @ 20:35:00

End Date: 2021.10.01 @ 04:31:20

Job Ticket #: 67114 DST #: 1

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620

Printed: 2021.10.05 @ 09:11:35

DRILL STEM TEST REPORT

Murfin Drilling Co Inc

250 N. Water STE 300
Wichita, KS 67202

ATTN: Saman Sharifaie

10-22S.-31W Finney,KS

H & H Unit #1-10

Job Ticket: 67114 **DST#: 1**

Test Start: 2021.09.30 @ 20:35:00

GENERAL INFORMATION:

Formation: **Marmaton**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 23:51:10
Time Test Ended: 04:31:20

Test Type: Conventional Bottom Hole (Initial)
Tester: Martine Salinas
Unit No: 82

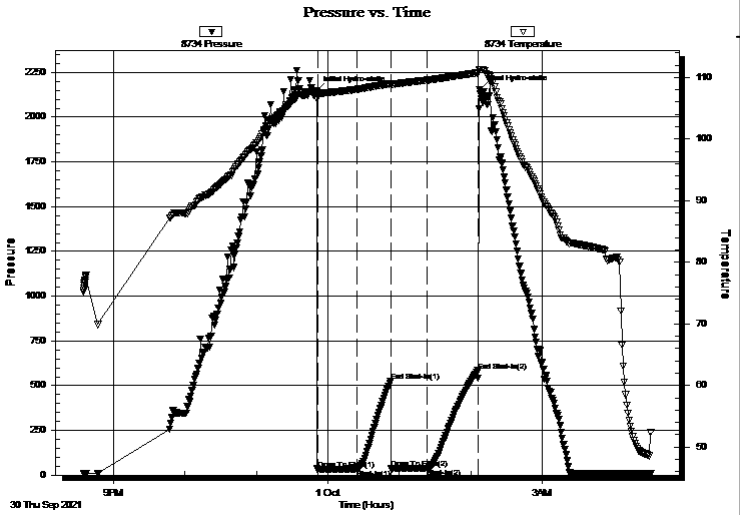
Interval: 4446.00 ft (KB) To 4550.00 ft (KB) (TVD)
Total Depth: 4550.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 2902.00 ft (KB)
2894.00 ft (CF)
KB to GR/CF: 8.00 ft

Serial #: 8734 **Outside**

Press@RunDepth:	37.34 psig @	4447.00 ft (KB)		Capacity:	8000.00 psig
Start Date:	2021.09.30	End Date:	2021.10.01	Last Calib.:	2021.10.01
Start Time:	20:35:01	End Time:	04:31:20	Time On Btm:	2021.09.30 @ 23:50:50
				Time Off Btm:	2021.10.01 @ 02:07:30

TEST COMMENT:
30-IF-S.blow dead @ 5 mins
30-ISI-No return
30-FF-No blow
30-FSI-No return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2147.05	107.79	Initial Hydro-static
1	30.80	107.11	Open To Flow (1)
34	34.13	108.07	Shut-In(1)
62	523.42	108.98	End Shut-In(1)
63	35.49	108.81	Open To Flow (2)
93	37.34	109.56	Shut-In(2)
136	583.88	110.73	End Shut-In(2)
137	2153.03	111.30	Final Hydro-static

Recovery

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

Gas Rates

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

DRILL STEM TEST REPORT

Murfin Drilling Co Inc

250 N. Water STE 300
Wichita, KS 67202

ATTN: Saman Sharifaie

10-22S.-31W Finney,KS

H & H Unit #1-10

Job Ticket: 67114 **DST#: 1**

Test Start: 2021.09.30 @ 20:35:00

GENERAL INFORMATION:

Formation: **Marmaton**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 23:51:10
Time Test Ended: 04:31:20

Test Type: Conventional Bottom Hole (Initial)
Tester: Martine Salinas
Unit No: 82

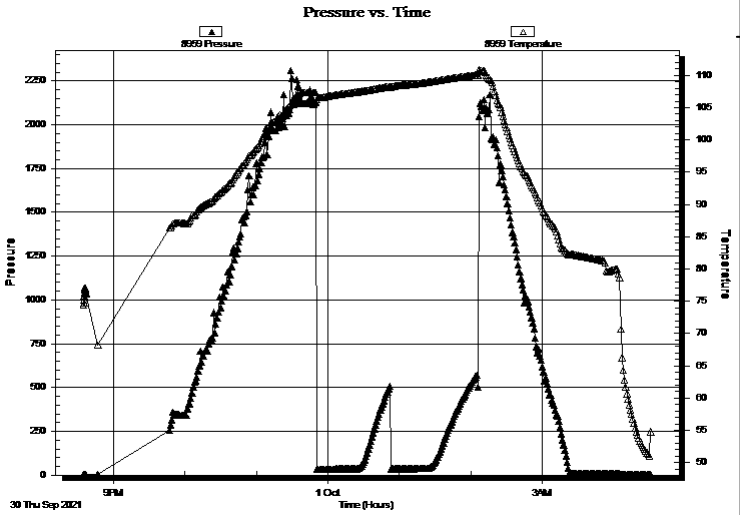
Interval: 4446.00 ft (KB) To 4550.00 ft (KB) (TVD)
Total Depth: 4550.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 2902.00 ft (KB)
2894.00 ft (CF)
KB to GR/CF: 8.00 ft

Serial #: 8959 **Inside**

Press@RunDepth:	psig @	4447.00 ft (KB)		Capacity:	8000.00 psig
Start Date:	2021.09.30	End Date:	2021.10.01	Last Calib.:	2021.10.01
Start Time:	20:35:01	End Time:	04:31:20	Time On Btm:	
				Time Off Btm:	

TEST COMMENT:
30-IF-S.blow dead @ 5 mins
30-ISI-No return
30-FF-No blow
30-FSI-No return



PRESSURE SUMMARY

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

Recovery

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

Gas Rates

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

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co Inc

250 N. Water STE 300
Wichita, KS 67202

ATTN: Saman Sharifaie

10-22S.-31W Finney,KS

H & H Unit #1-10

Job Ticket: 67114 **DST#: 1**

Test Start: 2021.09.30 @ 20:35:00

Tool Information

Drill Pipe:	Length:	4270.00 ft	Diameter:	3.80 inches	Volume:	59.90 bbl	Tool Weight:		2500.00 lb
Heavy Wt. Pipe:	Length:	0.00 ft	Diameter:	2.75 inches	Volume:	0.00 bbl	Weight set on Packer:		25000.00 lb
Drill Collar:	Length:	176.00 ft	Diameter:	2.25 inches	Volume:	0.87 bbl	Weight to Pull Loose:		70000.00 lb
					Total Volume:	60.77 bbl	Tool Chased		0.00 ft
Drill Pipe Above KB:		32.00 ft					String Weight:	Initial	60000.00 lb
Depth to Top Packer:		4446.00 ft						Final	60000.00 lb
Depth to Bottom Packer:		ft							
Interval betw een Packers:		104.00 ft							
Tool Length:		136.00 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			4419.00		
Hydraulic tool	5.00	1113		4424.00		
Jars	5.00	01-07		4429.00		
EM Tool	4.00			4433.00		
Safety Joint	3.00	-001		4436.00		
Packer	5.00			4441.00	32.00	Bottom Of Top Packer
Packer	5.00			4446.00		
Stubb	1.00			4447.00		
Recorder	0.00	8959	Inside	4447.00		
Recorder	0.00	8734	Outside	4447.00		
Perforations	33.00			4480.00		
Change Over Sub	1.00			4481.00		
Drill Pipe	63.00			4544.00		
Change Over Sub	1.00			4545.00		
Bullnose	5.00			4550.00	104.00	Bottom Packers & Anchor
Total Tool Length:	**136.00**					

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co Inc

250 N. Water STE 300
Wichita, KS 67202

ATTN: Saman Sharifaie

10-22S.-31W Finney,KS

H & H Unit #1-10

Job Ticket: 67114 **DST#: 1**

Test Start: 2021.09.30 @ 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:	54.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	7.19 in³	Gas Cushion Type:			
Resistivity:	ohm.m	Gas Cushion Pressure:	psig		
Salinity:	1800.00 ppm				
Filter Cake:	1.00 inches				

Recovery Information

Recovery Table

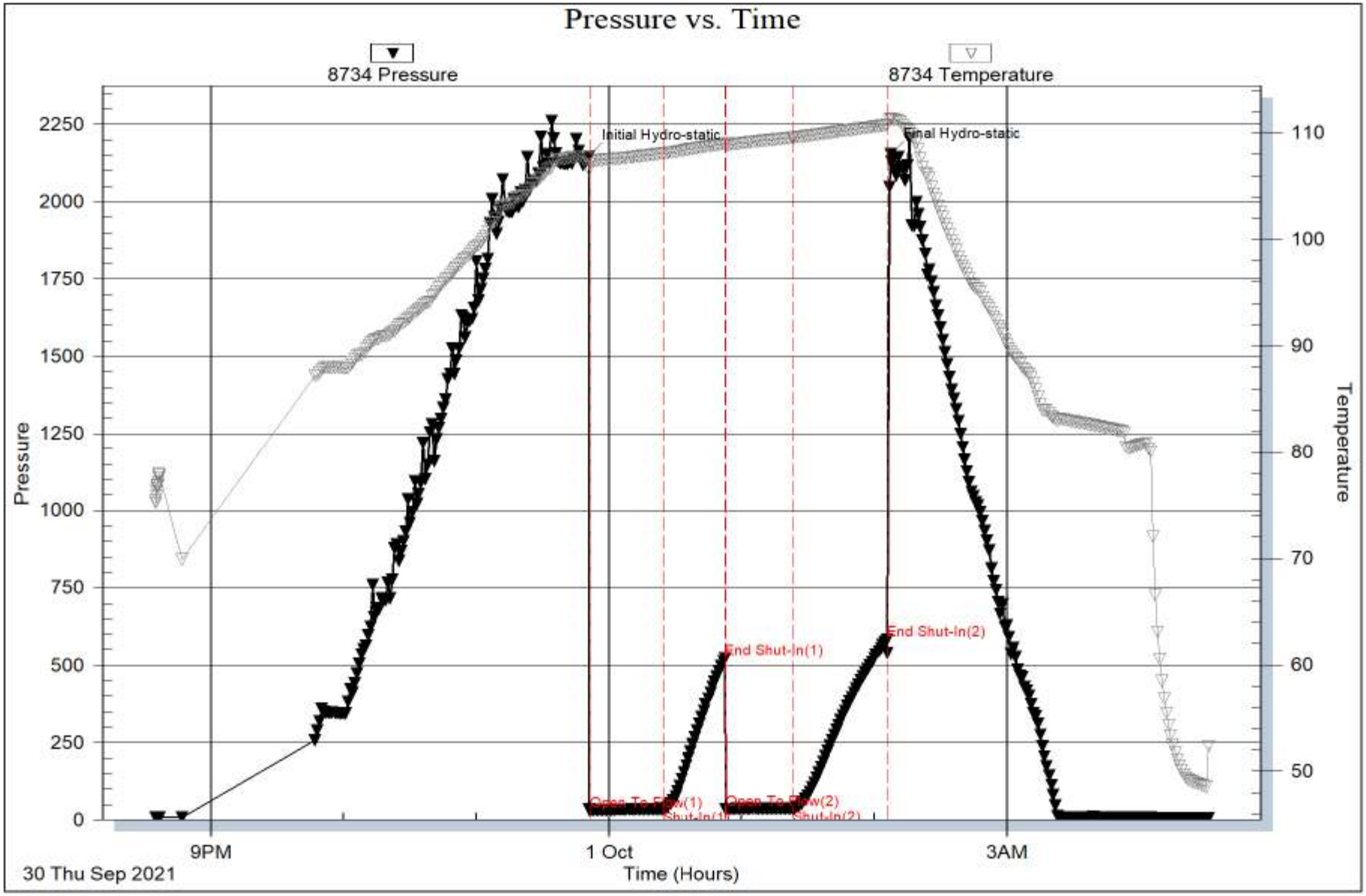
Length ft	Description	Volume bbl
5.00	100%Mud	0.025

Total Length: 5.00 ft Total Volume: 0.025 bbl

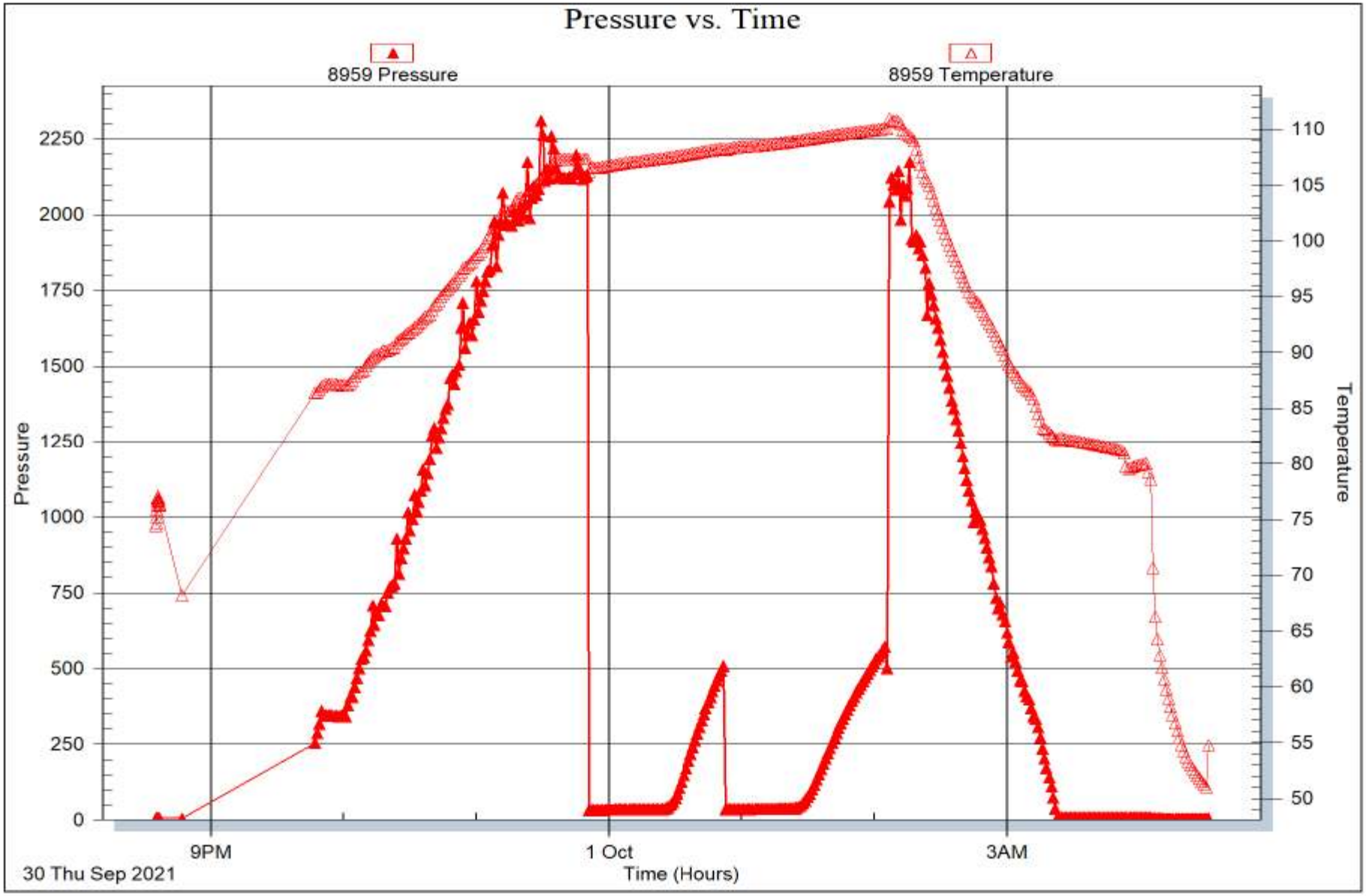
Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:

Laboratory Name: Laboratory Location:

Recovery Comments:


Pressure vs. Time
8734 Pressure
8734 Temperature
Initial Hydro-static
Final Hydro-static
End Shut-In(1)
End Shut-In(2)
Open To Flow(1)
Shut-In(1)
Open To Flow(2)
Shut-In(2)
Pressure
Temperature
2250
2000
1750
1500
1250
1000
750
500
250
0
110
100
90
80
70
60
50
9PM
1 Oct
3AM
30 Thu Sep 2021
Time (Hours)

Serial #: 8959 **Inside** Murfin Drilling Co Inc H & H Unit #1-10 DST Test Number: 1



Trilobite Testing, Inc Ref. No: 67114 Printed: 2021.10.05 @ 09:11:37

DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co Inc**

250 N. Water STE 300
Wichita, KS 67202

ATTN: Saman Sharifaie

H & H Unit #1-10

10-22S.-31W Finney,KS

Start Date: 2021.10.02 @ 10:45:00

End Date: 2021.10.02 @ 20:01:19

Job Ticket #: 67115 DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620

Printed: 2021.10.05 @ 09:10:40

DRILL STEM TEST REPORT

Murfin Drilling Co Inc

250 N. Water STE 300
Wichita, KS 67202

ATTN: Saman Sharifaie

10-22S.-31W Finney,KS

H & H Unit #1-10

Job Ticket: 67115 **DST#: 2**

Test Start: 2021.10.02 @ 10:45:00

GENERAL INFORMATION:

Formation: **Morrow/Miss**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 13:23:30
Time Test Ended: 20:01:19

Test Type: Conventional Bottom Hole (Reset)
Tester: Martine Salinas
Unit No: 82

Interval: 4730.00 ft (KB) To 4780.00 ft (KB) (TVD)
Total Depth: 4780.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

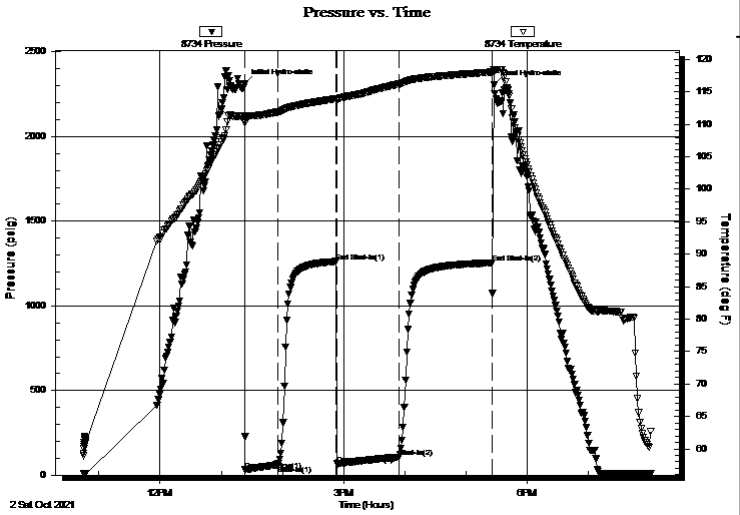
Reference Elevations: 2902.00 ft (KB)
2894.00 ft (CF)
KB to GR/CF: 8.00 ft

Serial #: 8734 **Outside**

Press@RunDepth: 103.59 psig @ 4731.00 ft (KB)
Start Date: 2021.10.02 End Date: 2021.10.02
Start Time: 10:45:01 End Time: 20:01:19

Capacity: 8000.00 psig
Last Calib.: 2021.10.02
Time On Btm: 2021.10.02 @ 13:23:10
Time Off Btm: 2021.10.02 @ 17:27:30

TEST COMMENT:
30-IF-S.blow built to 3 1/2"
60-ISI-No return
60-FF-S.blow built to 5"
90-FSI-No return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2309.51	111.25	Initial Hydro-static
1	30.40	110.52	Open To Flow (1)
33	60.82	111.90	Shut-In(1)
90	1261.92	113.94	End Shut-In(1)
91	66.38	113.73	Open To Flow (2)
151	103.59	116.17	Shut-In(2)
243	1253.83	118.04	End Shut-In(2)
245	2303.90	118.34	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
176.00	GOCM 15%G, 22%O, 63%M	0.87
4.00	CGO 5%G, 95%O	0.06
0.00	130' GIP	0.00

* Recovery from multiple tests

Gas Rates

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

DRILL STEM TEST REPORT

Murfin Drilling Co Inc

250 N. Water STE 300
Wichita, KS 67202

ATTN: Saman Sharifaie

10-22S.-31W Finney,KS

H & H Unit #1-10

Job Ticket: 67115 **DST#: 2**

Test Start: 2021.10.02 @ 10:45:00

GENERAL INFORMATION:

Formation: **Morrow/Miss**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 13:23:30
Time Test Ended: 20:01:19

Test Type: Conventional Bottom Hole (Reset)
Tester: Martine Salinas
Unit No: 82

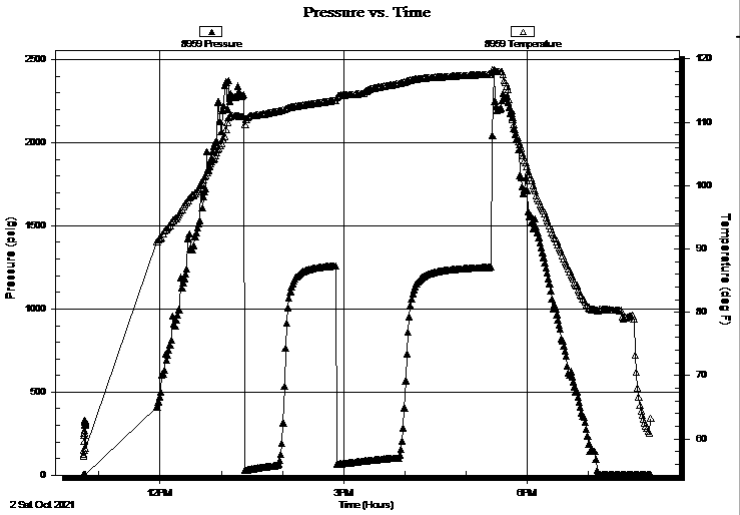
Interval: 4730.00 ft (KB) To 4780.00 ft (KB) (TVD)
Total Depth: 4780.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 2902.00 ft (KB)
2894.00 ft (CF)
KB to GR/CF: 8.00 ft

Serial #: 8959 **Inside**

Press@RunDepth:	psig @	4731.00 ft (KB)		Capacity:	8000.00 psig
Start Date:	2021.10.02	End Date:	2021.10.02	Last Calib.:	2021.10.02
Start Time:	10:45:01	End Time:	20:01:19	Time On Btm:	
				Time Off Btm:	

TEST COMMENT:
30-IF-S.blow built to 3 1/2"
60-ISI-No return
60-FF-S.blow built to 5"
90-FSI-No return



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
176.00	GOCM 15%G, 22%O, 63%M	0.87
4.00	CGO 5%G, 95%O	0.06
0.00	130' GIP	0.00

* Recovery from multiple tests

Gas Rates

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

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co Inc

250 N. Water STE 300
Wichita, KS 67202

ATTN: Saman Sharifaie

10-22S.-31W Finney,KS

H & H Unit #1-10

Job Ticket: 67115 **DST#: 2**

Test Start: 2021.10.02 @ 10:45:00

Tool Information

Drill Pipe:	Length:	4554.00 ft	Diameter:	3.80 inches	Volume:	63.88 bbl	Tool Weight:		2500.00 lb
Heavy Wt. Pipe:	Length:	0.00 ft	Diameter:	2.75 inches	Volume:	0.00 bbl	Weight set on Packer:		25000.00 lb
Drill Collar:	Length:	176.00 ft	Diameter:	2.25 inches	Volume:	0.87 bbl	Weight to Pull Loose:		70000.00 lb
					Total Volume:	64.75 bbl	Tool Chased		0.00 ft
Drill Pipe Above KB:		32.00 ft					String Weight:	Initial	62000.00 lb
Depth to Top Packer:		4730.00 ft						Final	62000.00 lb
Depth to Bottom Packer:		ft							
Interval between Packers:		50.00 ft							
Tool Length:		82.00 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			4703.00		
Hydraulic tool	5.00	1113		4708.00		
Jars	5.00	01-07		4713.00		
EM Tool	4.00			4717.00		
Safety Joint	3.00	-001		4720.00		
Packer	5.00			4725.00	32.00	Bottom Of Top Packer
Packer	5.00			4730.00		
Stubb	1.00			4731.00		
Recorder	0.00	8959	Inside	4731.00		
Recorder	0.00	8734	Outside	4731.00		
Perforations	10.00			4741.00		
Change Over Sub	1.00			4742.00		
Drill Pipe	32.00			4774.00		
Change Over Sub	1.00			4775.00		
Bullnose	5.00			4780.00	50.00	Bottom Packers & Anchor

Total Tool Length: 82.00

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co Inc

250 N. Water STE 300
Wichita, KS 67202

ATTN: Saman Sharifaie

10-22S.-31W Finney,KS

H & H Unit #1-10

Job Ticket: 67115 **DST#: 2**

Test Start: 2021.10.02 @ 10:45:00

Mud and Cushion Information

Mud Type:	Gel Chem	Cushion Type:		Oil API:	29.8 deg API
Mud Weight:	9.00 lb/gal	Cushion Length:	ft	Water Salinity:	ppm
Viscosity:	53.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	7.19 in³	Gas Cushion Type:			
Resistivity:	ohm.m	Gas Cushion Pressure:	psig		
Salinity:	1800.00 ppm				
Filter Cake:	1.00 inches				

Recovery Information

Recovery Table

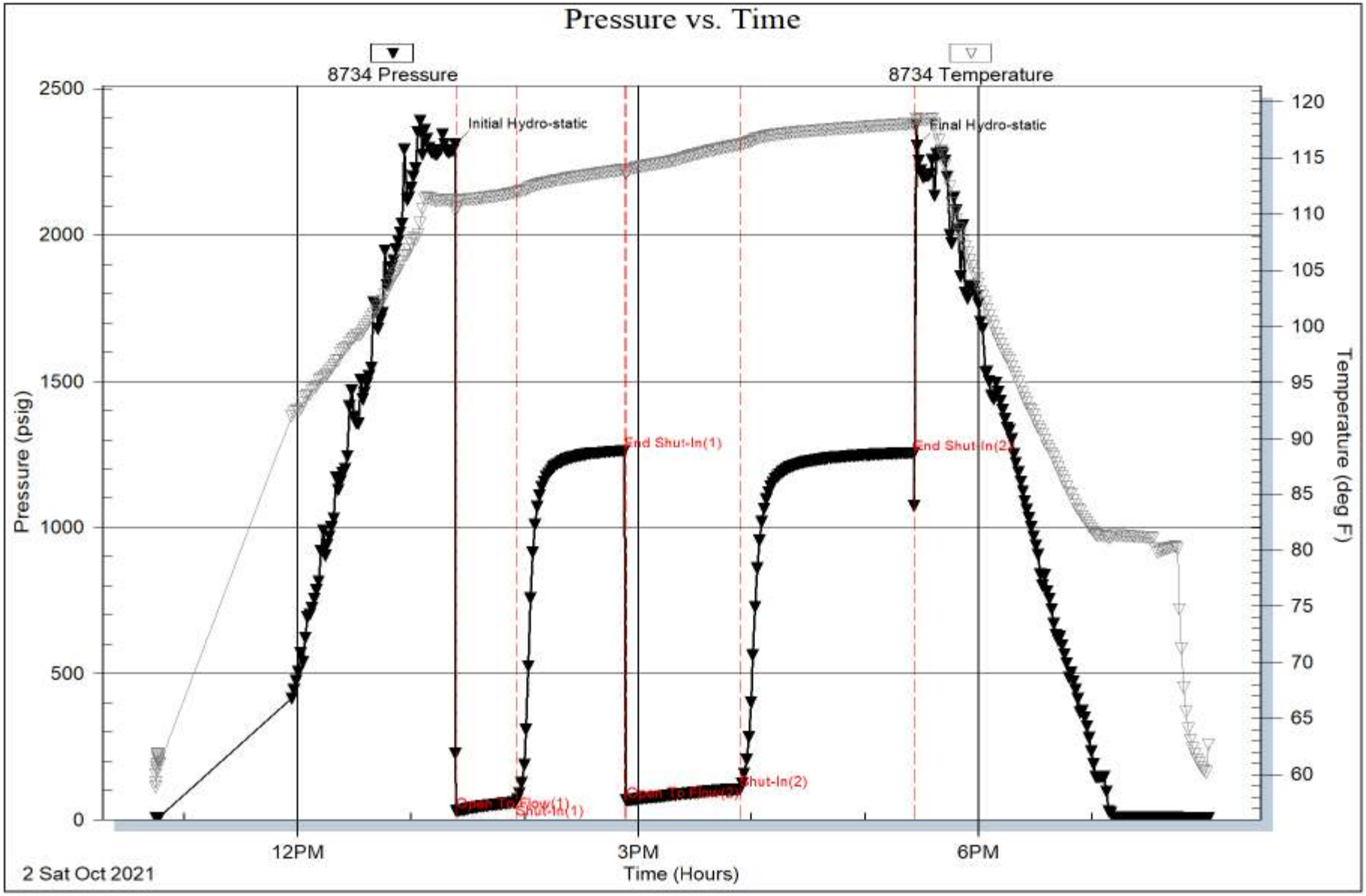
Length ft	Description	Volume bbl
176.00	GOCM 15%G, 22%O, 63%M	0.866
4.00	CGO 5%G, 95%O	0.056
0.00	130' GIP	0.000

Total Length: 180.00 ft Total Volume: 0.922 bbl

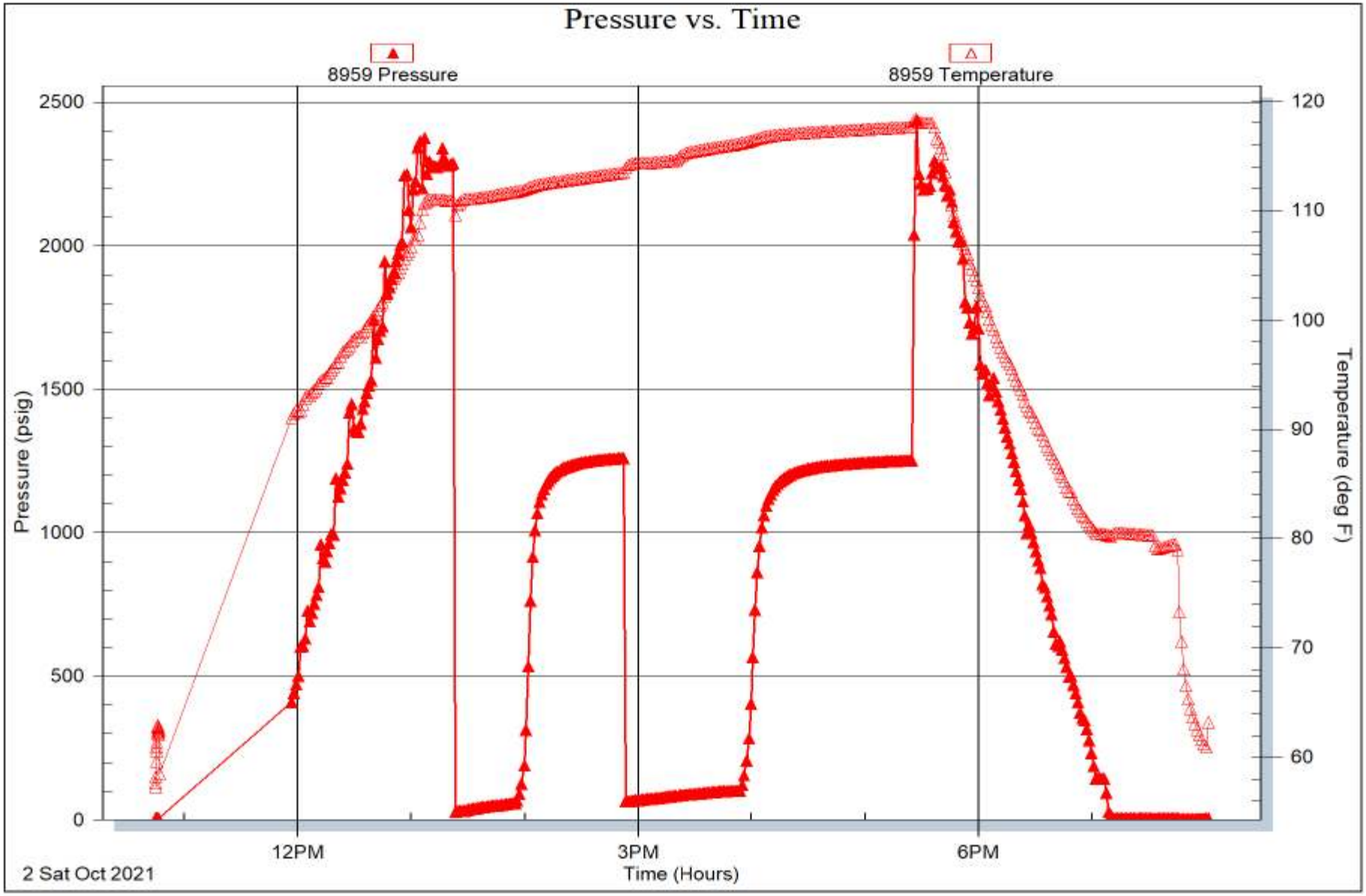
Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:

Laboratory Name: Laboratory Location:

Recovery Comments: Gravity of oil = 30.8 @ 70 degs corrected to 29.8 @ 60 degs


Pressure vs. Time
8734 Pressure
8734 Temperature
Initial Hydro-static
Final Hydro-static
End Shut-In(1)
End Shut-In(2)
Shut-In(2)
Shut-In(1)
Pressure (psig)
Temperature (deg F)
2500
2000
1500
1000
500
0
120
115
110
105
100
95
90
85
80
75
70
65
60
12PM
3PM
6PM
Time (Hours)
2 Sat Oct 2021

Serial #: 8959 **Inside** Murfin Drilling Co Inc H & H Unit #1-10 DST Test Number: 2



Trilobite Testing, Inc Ref. No: 67115 Printed: 2021.10.05 @ 09:10:43

TRILOBITE TESTING INC.
1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 67114

Well Name & No. H & H Unit #1-10 Test No. 1 Date 9-30-21
Company Murfin Drilling Co. Inc Elevation 2902 KB 2894 GL
Address 250 N. Water STE 300 Wichita, KS. 67202.
Co. Rep / Geo. Saman Sharifaie Rig Murfin #112.
Location: Sec. 10 Twp 22S. Rge. 31W. Co. Finney State KS.

Interval Tested 4446-4550 Zone Tested Marmaton.
Anchor Length 104' Drill Pipe Run 4270 Mud Wt. 9.1
Top Packer Depth 4441 Drill Collars Run 176 Vis 54
Bottom Packer Depth 4446 Wt. Pipe Run — WL 7.2
Total Depth 4550 Chlorides 1800 ppm System LCM 3#

Blow Description IF. S. blow dead @ 5 mins.
ISI. No return.
FF. No blow
FSI. No return.

Rec 5	Feet of Mud	%gas	%oil	%water 100	%mud
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 5 BHT 111 Gravity — API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic	2147	☒ Test	1450	T-On Location	12:30
(B) First Initial Flow	31	☒ Jars	250	T-Started	20:35
(C) First Final Flow	34	☒ Safety Joint	75	T-Open	23:53
(D) Initial Shut-In	523	☐ Circ Sub		T-Pulled	01:53
(E) Second Initial Flow	35	☒ Hourly Standby	4hr 400	T-Out	04:32
(F) Second Final Flow	37	☒ Mileage	70RT 87.50	Comments	Told on Bank @ 13:00
(G) Final Shut-In	584	☐ Sampler			
(H) Final Hydrostatic	2153	☐ Straddle		☒ EM Tool	350
		☐ Shale Packer		☐ Ruined Shale Packer	
Initial Open	30	☐ Extra Packer		☐ Ruined Packer	
Initial Shut-In	30	☐ Extra Recorder		☐ Extra Copies	
Final Flow	30	☐ Day Standby		Sub Total	350
Final Shut-In	30	☐ Accessibility		Total	2612.50
		Sub Total	2262.50	MP/DST Disc't	

Approved By _____ Our Representative [signature]

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

NO. 67115

Well Name & No. H+H Unit #1-10 Test No. 2 Date 10-2-21
Company Murfin Drilling Co Inc. Elevation 2902 KB 2894 GL
Address 250 N. Water STE 300, Wichita, KS 67202
Co. Rep / Geo. Saman Sharifaie Rig Murfin #112
Location: Sec. 10 Twp 22S. Rge. 31W. Co. Finney State KS.

Interval Tested 4730 - 4780 Zone Tested Morrow Sd/Miss.
Anchor Length 50' Drill Pipe Run 4554 Mud Wt. 9.1
Top Packer Depth 4725 Drill Collars Run 176 Vis 55
Bottom Packer Depth 4730 Wt. Pipe Run — WL 7.2
Total Depth 4780 Chlorides 1800 ppm System LCM 2#

Blow Description IF - S. blow built to 3½"
ISI - No return.
FF - S. blow built to 5"
FSI - No return.

Rec	176	Feet of	GOCM	15	%gas	22	%oil	%water 63	%mud
Rec	4	Feet of	CGO	5	%gas	95	%oil	%water	%mud
Rec	0	Feet of	130' GIP		%gas		%oil	%water	%mud
Rec		Feet of			%gas		%oil	%water	%mud
Rec		Feet of			%gas		%oil	%water	%mud

Rec Total 130' BHT 118 Gravity 29.9 API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic	2310	☒ Test	1450	T-On Location	10:15
(B) First Initial Flow	30	☒ Jars	250	T-Started	10:45
(C) First Final Flow	61	☒ Safety Joint	75	T-Open	13:23
(D) Initial Shut-In	1262	☐ Circ Sub		T-Pulled	17:23
(E) Second Initial Flow	66	☐ Hourly Standby		T-Out	20:02
(F) Second Final Flow	104	☒ Mileage	70 RT X2 87.50+	Comments	Tools loaded @
(G) Final Shut-In	1254	☐ Sampler	87.50		13:00
(H) Final Hydrostatic	2304	☐ Straddle		☒ EM Tool	350 NS
		☐ Shale Packer		☐ Ruined Shale Packer	
Initial Open	30	☐ Extra Packer		☐ Ruined Packer	
Initial Shut-In	60	☐ Extra Recorder		☐ Extra Copies	
Final Flow	60	☒ Day Standby	X2 1d 6hr 200	Sub Total	200
Final Shut-In	90	☐ Accessibility		Total	2150
		Sub Total	1950	MP/DST Disc't	

Approved By _____ Our Representative _____

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.

DRILLING REPORT - LOG TOPS

DST #1 4446-4550 (Marmaton – Marm C): 30-30-30-30. IF: s. blw dead @ 5mins. FF: no blw. Rec.: 5'M. HP: 2147-2153. FP: 31/34, 35/37. SIP: 523-584. BHT: 111º.

DST #2 4730-4780 (Morrow-Miss):30-60-60-90. IF: S. blw blt to 3 ½". FF: s blw blt to 5". Rec.: 130' GIP, 4'CGO (5%G, 95%O), 176'GOCM (15%G, 22%O, 63%M). HP: 2310-2304. FP: 30/61, 66/104. SIP: 1262-1254. BHT: 118°.

	MDCI H&H Unit #1-10 1388' FNL 526' FEL Sec. 10-T22S-R31W 2902' KB					
Formation	Sample Top	Datum	Ref	Log tops	Datum	Ref
Anhydrite	2073	+829	-9	2075	+827	-11
B/Anhydrite	2140	+762	-13	2136	+766	-9
Topeka	3690	-788	-20	3696	-794	-26
Heebner	3982	-1080	-29	3982	-1080	-29
Lansing	4028	-1126	-24	4025	-1123	-21
Stark	4336	-1434	-21	4339	-1437	-24
Ft Scott	4570	-1668	-15	4571	-1669	-16
Oakley	4630	-1728	-15	4631	-1729	-16
Morrow	4735	-1833	-16	4729	-1827	-10
Mississippian	4760	-1858	-16	4733	-1831	+11
RTD	5000					
LTD				4994		