

Confidentiality Requested:

Yes  No

KANSAS CORPORATION COMMISSION  
OIL & GAS CONSERVATION DIVISION

Form ACO-1

January 2018

Form must be Typed

Form must be Signed

All blanks must be Filled

WELL COMPLETION FORM  
WELL HISTORY - DESCRIPTION OF WELL & LEASE

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

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

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

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

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

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

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

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

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

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

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

Designate Type of Completion:

New Well  Re-Entry  Workover

Oil  WSW  SWD

Gas  DH  EOR

OG  GSW

CM (Coal Bed Methane)

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

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

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

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

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

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

Plug Back  Liner  Conv. to GSW  Conv. to Producer

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

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

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

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

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

Spud Date or Date Reached TD Completion Date or Recompletion Date

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

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

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

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

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

Footages Calculated from Nearest Outside Section Corner:

NE  NW  SE  SW

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

Datum:  NAD27  NAD83  WGS84

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

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

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

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

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

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

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

Multiple Stage Cementing Collar Used?  Yes  No

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

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

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

Drilling Fluid Management Plan

(Data must be collected from the Reserve Pit)

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

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

Location of fluid disposal if hauled offsite:

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

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

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

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

AFFIDAVIT

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

Submitted Electronically

KCC Office Use ONLY

Confidentiality Requested

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

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

Wireline Log Received  Drill Stem Tests Received

Geologist Report / Mud Logs Received

UIC Distribution

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

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

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

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

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

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

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

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

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

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

TUBING RECORD:	Size:	Set At:	Packer At:	
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Form	ACO1 - Well Completion
Operator	Murfin Drilling Co., Inc.
Well Name	HAMIT UNIT 2-20
Doc ID	1383097

All Electric Logs Run

DIL
DUCP
MEL
BHCS





JOB LOG

SWIFT Services, Inc.

DATE 11-14-17 PAGE NO.

CUSTOMER: Murfin Drilling WELL NO. 2-20 LEASE# Hamlet Unit JOB TYPE 2 stage TICKET NO. 30868

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING	
	1430							On location
								Csg - <del>5 1/2</del> 5 1/2 x 15.5 # LTD - 3686 LTD - 3687 Pipe set @ 3680' Shoe - 63.86 Baffle @ 3616 D.V. #47 @ 1731 Centralizers - 1,2,3,5,9,11,14,21,25,46 Basket. 47
	1550							Start running csg
	1700							break circ on Bottom
	1800	5	12			300		pump mud flush 500 gal
		5	20			300		pump Kcl spacer
	1820							take on mud for corp.
	1830	5	30			300		pump out - 125 sks EA-2 @ 15.5ppg
								Drop plug/wash pit
	1845	6.5	0			150		Start Drsp w/ wtr
		6.5	50			150		Switch to mud
	1900	5	86			600		land plug - lift psi - 600 psi land psi - 1400
								Release psi - Dry
	1905							Drop D.V. opening tool
	1915					1600		open D.V. Tool
	1920							Circulate for 4 hours
								plug rat hole - 30 sks cmt
								plug mouse hole - 15 sks cmt
								pump 5 BBL wtr spacer
	2335	6.5	133			200		pump cmt - 220 sks SMD @ 11.2
								<del>Drop</del> Drop plug
	0000	5	0			150		Start Drsp
		5	27			300		circ cmt
	0010	5	41.5			450		land plug - <del>lift</del> lift - 450 land 1700
								Release psi - Dry
								Circulated 25 sks cmt to pit

MDCI  
 Hamit Unit #2-20  
 330 FSL 1330 FWL  
 Sec. 20-T6S-R19W  
 2130' KB

Formation	Sample top	Datum	Ref	Log Top	Datum	Ref
Anhydrite	1704	+426	-2	1702	+428	Flat
B/Anhydrite	1737	+393	-1	1736	+394	Flat
Topeka	3122	-992	-3	3124	-994	-5
Heebner	3322	-1192	-5	3321	-1191	-4
Toronto	3341	-1211	-2	3342	-1212	-3
Lansing	3357	-1227	-4	3357	-1227	-4
Mound City	3573	-1443	-6	3572	-1442	-5
Reagan	3632	-1502	-7	3630	-1500	-5
Granite	3670	-1540	-9	3669	-1539	-8
RTD	3686					
LTD				3687		

# Robert D. Hendrix

## Petroleum Geologist

### GEOLOGIST'S REPORT

#### DRILLING TIME AND SAMPLE LOG

COMPANY **Murfin Drilling Company Inc.**

LEASE **Hamit Unit #2-20**

FIELD **Wildcat**

LOCATION **330' fsl & 1330' fwl**

SEC **20** TWP **6S** RGE **19W**

COUNTY **Rooks** STATE **Kansas**

CONTRACTOR **Murfin Drilling Co. Inc. Rig #3**

SPUD **11/7/2017** COMP **11/14/2017**

RTD **3686** LTD **3687**

MUD UP **2800** TYPE MUD **Chemical**

SAMPLES SAVED FROM **3020** TOTD

DRILLING TIME KEPT FROM **3020** TOTD

SAMPLES EXAMINED FROM **3020** TOTD

GEOLOGICAL SUPERVISION FROM **2880**

GEOLOGIST ON WELL **Robert D. Hendrix**

FORMATION TOPS

ELECTRIC LOG

SAMPLE

Base Anhydrite **1702 (+428)** **1705 (+425)**

Heebner **1736 (+394)** **1737 (+393)**

Topeka **3124 (-994)** **3122 (-992)**

Toronto **3320 (-1190)** **3322 (-1192)**

Lansing **3342 (-1212)** **3341 (-1211)**

Stark Sh **3356 (-1226)** **3357 (-1227)**

Mound City **3537 (-1407)** **3540 (-1410)**

Reagan Sand **3572 (-1442)** **3573 (-1443)**

Reagan Sand **3630 (-1500)** **3632 (-1502)**

ELEVATIONS

KB **2130'**

DF

GL **2125'**

Measurements Are All From **Kelly Busting**

CASING

CONDUCTOR

SURFACE **8 5/8" at 218'**

PRODUCTION **5 1/2" at 3680'**

ELECTRICAL SURVEYS

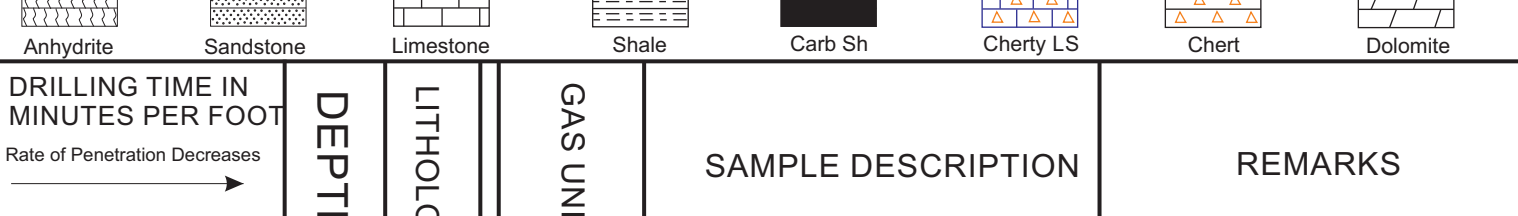
Pioneer Wellbore, Compensated Porosity, Dual Induction, Macrolog, Sonic

APi# 15-163-24349



REMARKS:

### LEGEND



DEPTH	LITHOLOGY	GAS UNITS	SAMPLE DESCRIPTION	REMARKS
1700	Anhydrite			<b>Anhydrite 1705 (+425)</b>
1737	Base Anhydrite			<b>Base Anhydrite 1737 (+393)</b>
3122	Limestone		Limestone: lt gray, fxl, soft, silty, granular, no vis por	Geologist on location 2880' at 6:00 am 11/10/2017 Mud Check at 2975' wt 8.6, vis. 69, lcm 1# Morgan Mud, Dave Lines
3122	Shale		Shale: gray, red, silty	
3122	Limestone		Limestone: gray to tan, fxl, chalky, fossiliferous, no vis por	
3122	Shale		Shale: red, gray, muddy	
3122	Limestone		Limestone: white to gray, fxl, v- chalky, soft, silty, granular, no vis por	
3122	Shale		Shale: gray, red, silty, soft muddy	
3122	Limestone		Limestone: gray, fxl, chalky, fossiliferous, small amt of gilsonite, nfo, no odor, no vis por	
3122	Shale		Shale: gray, silty, sandy, biotitic	
3122	Limestone		Limestone: lt brown, tan to gray, f-mxl, fossiliferous, no vis por, 5% sample fr amt of brown stain, nfo, no odor	<b>Topeka 3122 (-992)</b>
3122	Shale		Shale: red, gray	
3122	Limestone		Limestone: tan to brown, v-fxl, dense, fossiliferous, no vis por	
3122	Shale		Shale: red, gray	
3122	Limestone		Limestone: gray to tan, f-mxl, fossiliferous, no vis por	
3122	Limestone		Limestone: gray to tan, fxl, chalky, fossiliferous, no vis por	
3122	Shale		Shale: gray, black	
3122	Shale		Shale: black, carbonaceous	
3122	Shale		Shale: gray, red	
3122	Limestone		Limestone: tan to gray, f-mxl, pyritic, cherty, pelletaloid, fossiliferous, no vis por	
3122	Shale		Shale: gray, red	
3122	Limestone		Limestone: tan, f-mxl, sl chalky, fossiliferous, no vis por	
3122	Shale		Shale: gray, green silty	
3122	Shale		Shale: black, carbonaceous	
3122	Shale		Shale: gray, brown, red	
3122	Limestone		Limestone: tan to gray, fxl, cherty, oolitic in part, fossiliferous, no vis por	
3122	Limestone		Limestone: tan to gray, fxl, sl chalky, sl cherty, fossiliferous, no vis por	
3122	Shale		Shale: black, carbonaceous	
3122	Limestone		Limestone: tan, fxl, dense, hard, fossiliferous, no vis por	<b>Heebner 3322 (-1192)</b>
3122	Shale		Shale: gray, green, red, black	
3122	Limestone		Limestone: tan to white, fxl, dense, cherty, fossiliferous, no vis por, 1 piece dark spotty stain, nfo, no odor	<b>Toronto 3341 (-1211)</b>
3122	Shale		Shale: gray, green, red	
3122	Limestone		Limestone: tan, f-mxl, chalky, cherty, oolitic, fossiliferous, 1% sample pr interxln por, spotty to sat stain, slsfo mostly on break, no odor	<b>Lansing 3357 (-1227)</b>
3122	Limestone		Limestone: tan, fxl, chalky, cherty, fossiliferous, dense, no vis por, faint odor	
3122	Shale		Shale: gray, green, red	
3122	Limestone		Limestone: white to tan, fxl, sl chalky, fossiliferous, 5% of sample sl interxln por, lt sat stain, slsfo on break, no odor	
3122	Shale		Shale: gray, green, red	
3122	Limestone		Limestone: tan, m-blk, sl chalky, oolitic, fossiliferous, 2% sample, pr interxln por, lt spotty to sat stain, slsfo, no odor	
3122	Shale		Shale: gray, red, black	
3122	Limestone		Limestone: tan to white, fxl, oolitic in part, fossiliferous, 2 piece's pr interxln por, dark spotty stain, slsfo on break, no odor	
3122	Shale		Shale: gray, green, red, black	
3122	Limestone		Limestone: tan to white, fxl, sl chalky, dense, sl, fossiliferous, no vis por, ns	
3122	Limestone		Limestone: gray to lt gray, dense, no vis por, ns	8:00am, 11/11/2017 wt 9.0, vis. 49, lcm 0.5# Morgan Mud, Dave Lines
3122	Shale		Shale: black carbonaceous	
3122	Shale		Shale: dark gray, black, red	
3122	Limestone		Limestone: tan to white, f-mxl, cherty, oolitic in part, fossiliferous, pyritic, 1% sample pr interxln por, brown sat stain, nfo, no odor	<b>DST #2</b> 3470-3573 30-60-30-60 1st open: wk blow built to 1" 2nd open: no blow no returns Rec: 10' sloclm 1/99 hydro: 1675-1658 psi lf: 28-28 psi ff: 57-93 psi sip: 670-619 psi bht: 101° F
3122	Shale		Shale: dark gray, red	
3122	Limestone		Limestone: tan, fxl, sl chalky, dense, 5% sample, no vis por, dark surface to sat stain, slsfo on break, no odor	
3122	Shale		Shale: red, gray	
3122	Limestone		Limestone: white, f-mxl, hard, oolitic in part, fossiliferous, pyritic, 20% sample sl pp to vug por, gd dark sat stain, frsfo (light), fr odor	<b>Stark Sh. 3540 (-1410)</b>
3122	Shale		Shale: black carbonaceous	
3122	Shale		Shale: gray, green, red	
3122	Limestone		Limestone: white to tan, fxl, sl chalky, dense, no vis por, ns	8:00am, 11/12/2017 wt 9.0, vis. 51, lcm 2# Morgan Mud, Dave Lines
3122	Shale		Shale: gray, red, brown, black	
3122	Limestone		Limestone: tan to lt gray, f-mxl, sl chalky, oolitic, fossiliferous, no vis por, ns	<b>Mound City 3573 (-1443)</b>
3122	Shale		Shale: gray, green, red	
3122	Limestone		Limestone: tan, f-mxl, sl chalky, oolitic, fossiliferous, no vis por, ns	
3122	Shale		Shale: gray, green, red	
3122	Limestone		Limestone: tan, f-mxl, sl chalky, v-fossiliferous, no vis por, ns	
3122	Shale		Shale: gray, green, red, black	
3122	Limestone		Limestone: white to lt gray, fxl, sl chalky, fossiliferous, no vis por, ns	
3122	Shale		Shale: gray, green, red, v-sandy, calcareous	<b>Reagan Sand 3632 (-1502)</b>
3122	Sandstone		Sandstone: clear to lt gray, lt, fr-crse grained, subangular, poorly sorted, calcareous, fr intergranular por, gdsfo (bleeding), dark stain, gd odor, pr fluorescence, gd steaming cut	8:00am, 11/13/2017 wt 9.0, vis. 51, lcm 2# Morgan Mud, Dave Lines
3122	Granite		Granite Wash: quartz, feldspar (K-spar), biotite, black gilsonite, few pieces dull yellow fluorescence, v-pr streaming cut	
3122	Granite		Granite: quartz, feldspar (K-spar), Abundant amount of biotite. The amount of conchoidal fracture here did not increase as anticipated. The drill time reflecting abnormal cutting times as compared to past experiences when cutting this zone. This could be due to prior weathering or compositional make up but it was very unexpected when compared to past experiences.	<b>Granite 3670 (-1540)</b>
3122	RTD			<b>RTD 3686 (-1556)</b>

Murfin Drilling Company Inc.  
Hamit Unit #2-20  
330'fsl & 1330'fwi  
20-6s-19w, Rooks County, Kansas  
KB=2130', GL=2125'  
API: 15-163-24349

Geologist off location at 10:00 am 11/14/2017





## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Company**

250 N Water STE 300  
Wichita KS 67202+1216

ATTN: Robert Hendrix

### **Hamit Unit #2-20**

### **20-6s-19w Rooks,KS**

Start Date: 2017.11.11 @ 13:10:00

End Date: 2017.11.11 @ 21:27:00

Job Ticket #: 63177                      DST #: 1

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2017.11.14 @ 09:15:44



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Company  
 250 N Water STE 300  
 Wichita KS 67202+1216  
 ATTN: Robert Hendrix

**20-6s-19w Rooks,KS**

**Hamit Unit #2-20**

Job Ticket: 63177

**DST#: 1**

Test Start: 2017.11.11 @ 13:10:00

## GENERAL INFORMATION:

Formation: **LKC 'A-G'**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 16:28:15  
 Time Test Ended: 21:27:00  
 Interval: **3348.00 ft (KB) To 3464.00 ft (KB) (TVD)**  
 Total Depth: 3464.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Spencer J. Staab  
 Unit No: 84  
 Reference Elevations: 2130.00 ft (KB)  
 2125.00 ft (CF)  
 KB to GR/CF: 5.00 ft

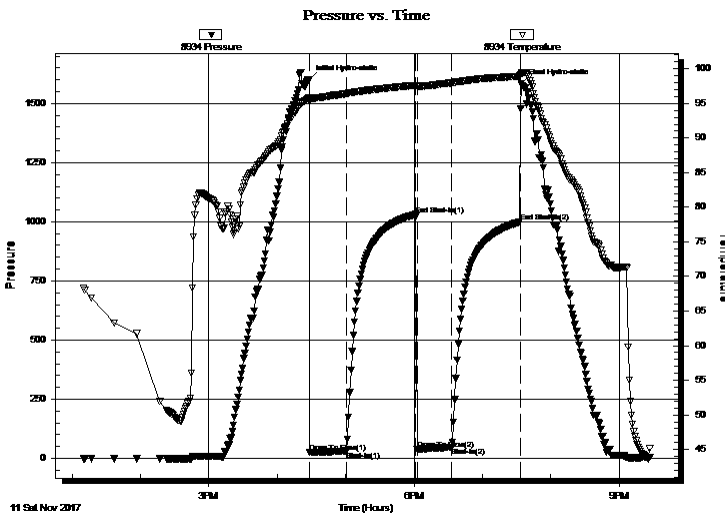
## Serial #: 8934

Inside

Press@RunDepth: 47.71 psig @ 3351.00 ft (KB)  
 Start Date: 2017.11.11 End Date: 2017.11.11  
 Start Time: 13:10:15 End Time: 21:27:00  
 Capacity: 8000.00 psig  
 Last Calib.: 2017.11.11  
 Time On Btm: 2017.11.11 @ 16:28:00  
 Time Off Btm: 2017.11.11 @ 19:34:00

TEST COMMENT: 30-IF-Weak Blow ; Built to 2"  
 60-ISI-No Return  
 30-FF-No Blow  
 60-FSI-No Return

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1601.92	95.85	Initial Hydro-static
1	25.34	95.35	Open To Flow (1)
33	31.72	96.39	Shut-In(1)
94	1030.82	97.61	End Shut-In(1)
95	39.04	97.42	Open To Flow (2)
126	47.71	97.96	Shut-In(2)
185	999.26	98.94	End Shut-In(2)
186	1583.90	99.29	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
60.00	Mud 100%M	0.30

## Gas Rates

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



**TRILOBITE**  
TESTING, INC.

# DRILL STEM TEST REPORT

Murfin Drilling Company  
250 N Water STE 300  
Wichita KS 67202+1216  
ATTN: Robert Hendrix

**20-6s-19w Rooks,KS**

**Hamit Unit #2-20**

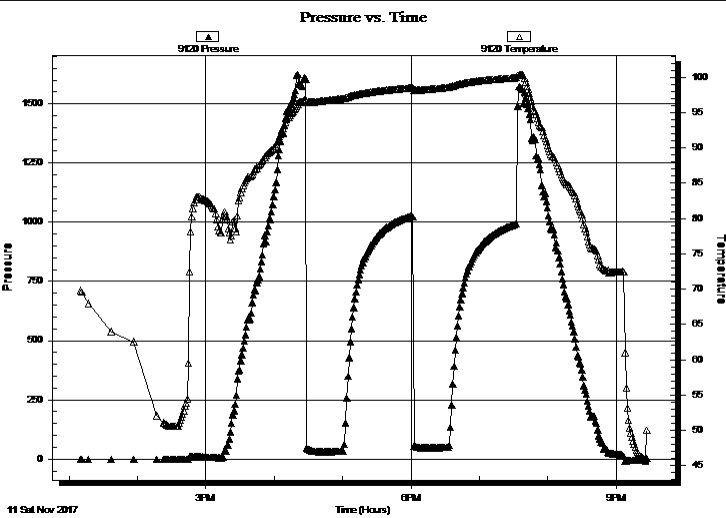
Job Ticket: 63177      **DST#: 1**  
Test Start: 2017.11.11 @ 13:10:00

**GENERAL INFORMATION:**

Formation: **LKC 'A-G'**  
Deviated: No Whipstock: ft (KB)  
Time Tool Opened: 16:28:15  
Time Test Ended: 21:27:00  
Interval: **3348.00 ft (KB) To 3464.00 ft (KB) (TVD)**  
Total Depth: 3464.00 ft (KB) (TVD)  
Hole Diameter: 7.88 inches Hole Condition: Fair  
Reference Elevations: 2130.00 ft (KB)  
2125.00 ft (CF)  
KB to GR/CF: 5.00 ft  
Test Type: Conventional Bottom Hole (Initial)  
Tester: Spencer J. Staab  
Unit No: 84

**Serial #: 9120      Inside**  
Press@RunDepth:      psig @      3351.00 ft (KB)      Capacity:      8000.00 psig  
Start Date:      2017.11.11      End Date:      2017.11.11      Last Calib.:      2017.11.11  
Start Time:      13:10:15      End Time:      21:27:00      Time On Btm:  
Time Off Btm:

**TEST COMMENT:** 30-IF-Weak Blow ; Built to 2"  
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)
60.00	Mud 100%M	0.30

**Gas Rates**

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



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Company  
250 N Water STE 300  
Wichita KS 67202+1216  
ATTN: Robert Hendrix

**20-6s-19w Rooks,KS**  
**Hamit Unit #2-20**  
Job Ticket: 63177 **DST#: 1**  
Test Start: 2017.11.11 @ 13:10:00

## Tool Information

Drill Pipe:	Length: 3150.00 ft	Diameter: 3.80 inches	Volume: 44.19 bbl	Tool Weight: 2200.00 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: 180.00 ft	Diameter: 2.25 inches	Volume: 0.89 bbl	Weight to Pull Loose: 50000.00 lb
			<u>Total Volume: 45.08 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	10.00 ft			String Weight: Initial 50000.00 lb
Depth to Top Packer:	3348.00 ft			Final 50000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	116.00 ft			
Tool Length:	144.00 ft			
Number of Packers:	1	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3321.00	
Shut In Tool	5.00			3326.00	
Hydraulic tool	5.00			3331.00	
Jars	5.00			3336.00	
Safety Joint	3.00			3339.00	
Packer	5.00			3344.00	28.00 Bottom Of Top Packer
Packer	4.00			3348.00	
Stubb	1.00			3349.00	
Perforations	1.00			3350.00	
Change Over Sub	1.00			3351.00	
Recorder	0.00	9120	Inside	3351.00	
Recorder	0.00	8934	Inside	3351.00	
Drill Pipe	93.00			3444.00	
Change Over Sub	1.00			3445.00	
Perforations	15.00			3460.00	
Bullnose	4.00			3464.00	116.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>144.00</b>				



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Murfin Drilling Company  
250 N Water STE 300  
Wichita KS 67202+1216  
ATTN: Robert Hendrix

**20-6s-19w Rooks,KS**  
**Hamit Unit #2-20**  
Job Ticket: 63177      **DST#: 1**  
Test Start: 2017.11.11 @ 13:10:00

### Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 49.00 sec/qt	Cushion Volume: bbl		
Water Loss: 6.39 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 700.00 ppm			
Filter Cake: inches			

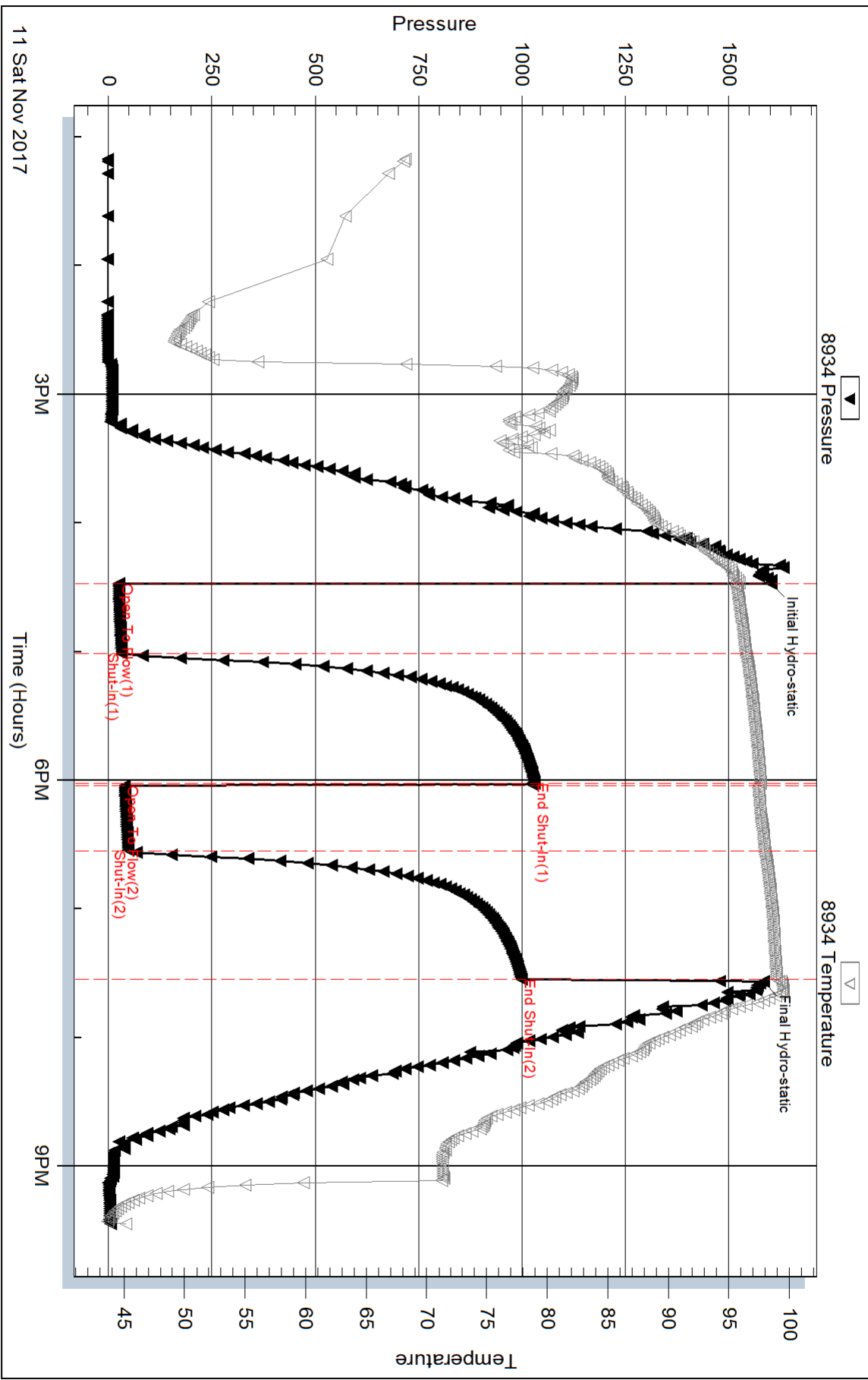
### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
60.00	Mud 100%M	0.295

Total Length: 60.00 ft      Total Volume: 0.295 bbl  
 Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
 Laboratory Name:      Laboratory Location:  
 Recovery Comments: 1/2#LCM

# Pressure vs. Time



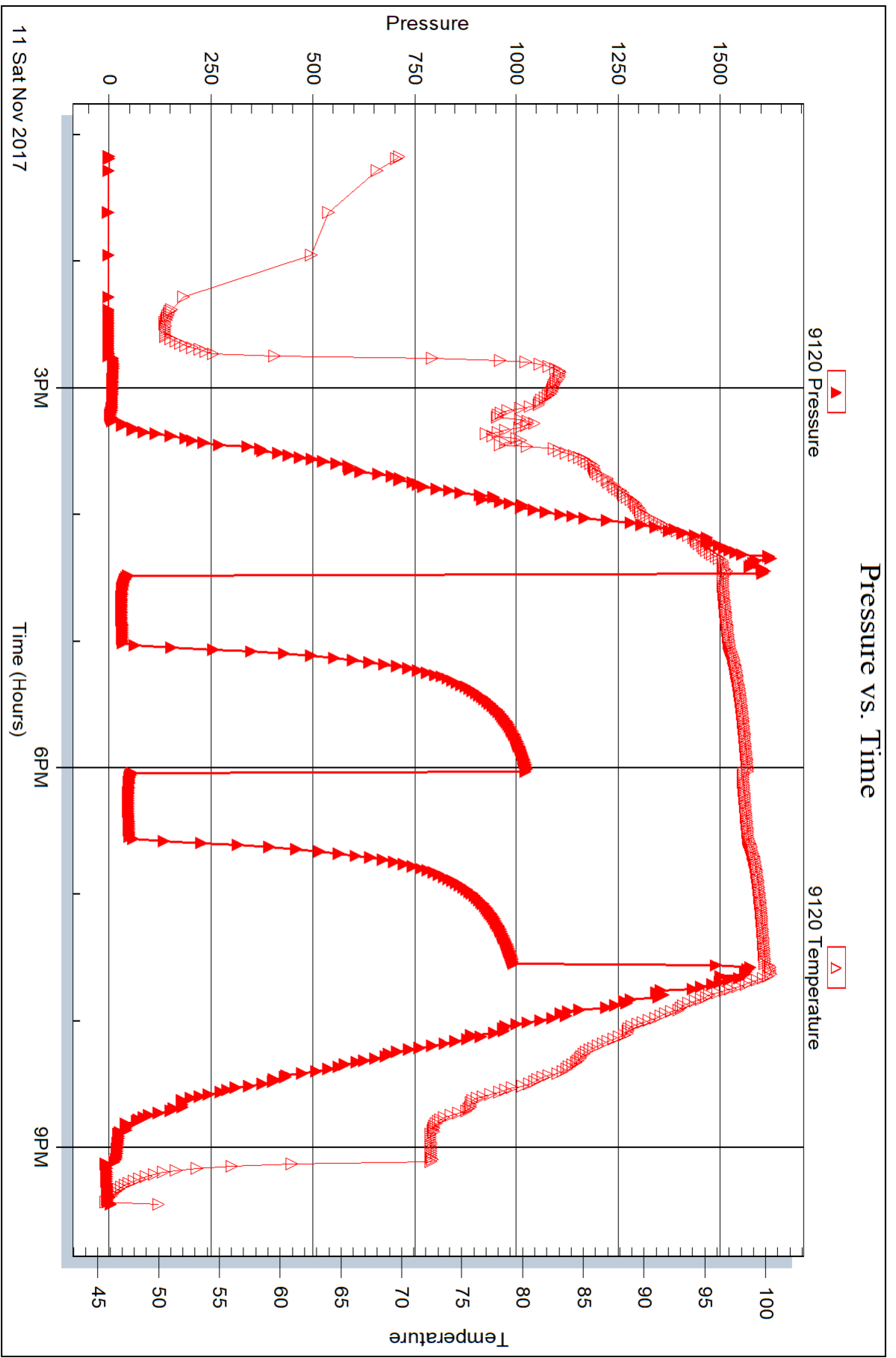
Serial #: 9120

Inside

Murfin Drilling Company

Hamit Unit #2-20

DST Test Number: 1





## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Company**

250 N Water STE 300  
Wichita KS 67202+1216

ATTN: Robert Hendrix

### **Hamit Unit #2-20**

#### **20-6s-19w Rooks,KS**

Start Date: 2017.11.12 @ 12:33:00

End Date: 2017.11.12 @ 19:26:30

Job Ticket #: 63178                      DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2017.11.14 @ 09:15:04





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Company  
250 N Water STE 300  
Wichita KS 67202+1216  
ATTN: Robert Hendrix

**20-6s-19w Rooks,KS**

**Hamit Unit #2-20**

Job Ticket: 63178

**DST#: 2**

Test Start: 2017.11.12 @ 12:33:00

## GENERAL INFORMATION:

Formation: **LKC 'G-L'**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 14:49:15  
 Time Test Ended: 19:26:30  
 Interval: **3470.00 ft (KB) To 3573.00 ft (KB) (TVD)**  
 Total Depth: 3573.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Spencer J. Staab  
 Unit No: 84  
 Reference Elevations: 2130.00 ft (KB)  
 2125.00 ft (CF)  
 KB to GR/CF: 5.00 ft

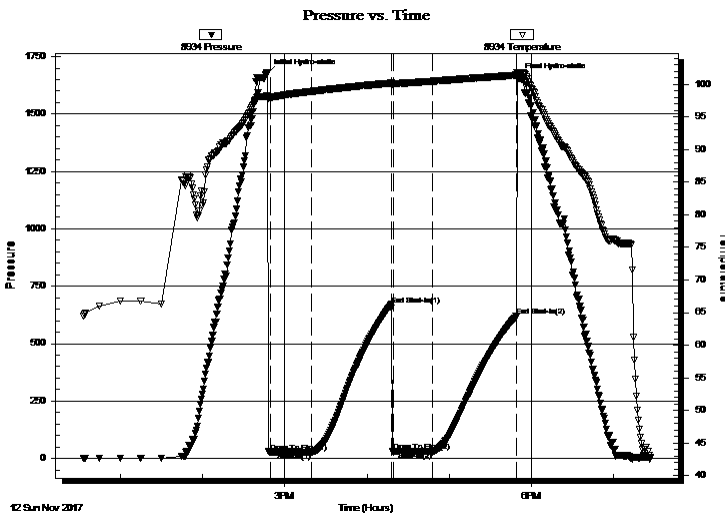
## Serial #: 8934

Inside

Press@RunDepth: 31.46 psig @ 3475.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2017.11.12 End Date: 2017.11.12 Last Calib.: 2017.11.12  
 Start Time: 12:33:15 End Time: 19:26:30 Time On Btm: 2017.11.12 @ 14:47:30  
 Time Off Btm: 2017.11.12 @ 17:50:30

TEST COMMENT: 30-IF-Weak Blow ; Built to 1"  
 60-ISI-No Return  
 30-FF-No Blow  
 60-FSI-No Return

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1675.05	98.32	Initial Hydro-static
2	28.87	98.00	Open To Flow (1)
32	28.15	98.91	Shut-In(1)
91	670.04	100.18	End Shut-In(1)
92	31.61	100.05	Open To Flow (2)
121	31.46	100.47	Shut-In(2)
182	619.14	101.39	End Shut-In(2)
183	1658.55	101.75	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
10.00	SOCM 1%O 99%M	0.05

\* Recovery from multiple tests

## Gas Rates

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



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Company  
 250 N Water STE 300  
 Wichita KS 67202+1216  
 ATTN: Robert Hendrix

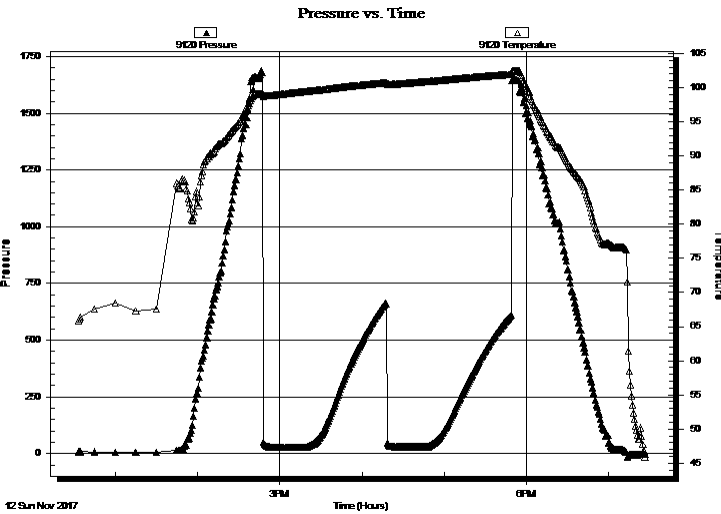
**20-6s-19w Rooks, KS**  
**Hamit Unit #2-20**  
 Job Ticket: 63178 **DST#: 2**  
 Test Start: 2017.11.12 @ 12:33:00

## GENERAL INFORMATION:

Formation: **LKC 'G-L'**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 14:49:15  
 Time Test Ended: 19:26:30  
 Interval: **3470.00 ft (KB) To 3573.00 ft (KB) (TVD)**  
 Total Depth: 3573.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches  
 Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Spencer J. Staab  
 Unit No: 84  
 Reference Elevations: 2130.00 ft (KB)  
 2125.00 ft (CF)  
 KB to GR/CF: 5.00 ft

**Serial #: 9120** Inside  
 Press@RunDepth: psig @ 3475.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2017.11.12 End Date: 2017.11.12 Last Calib.: 2017.11.12  
 Start Time: 12:33:15 End Time: 19:26:45 Time On Btm:  
 Time Off Btm:

**TEST COMMENT:** 30-IF-Weak Blow ; Built to 1"  
 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)
10.00	SOCM 1%O 99%M	0.05

\* 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 Company  
250 N Water STE 300  
Wichita KS 67202+1216  
ATTN: Robert Hendrix

**20-6s-19w Rooks,KS**  
**Hamit Unit #2-20**  
Job Ticket: 63178      **DST#: 2**  
Test Start: 2017.11.12 @ 12:33:00

**Tool Information**

Drill Pipe:	Length: 3273.00 ft	Diameter: 3.80 inches	Volume: 45.91 bbl	Tool Weight: 2200.00 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: 180.00 ft	Diameter: 2.25 inches	Volume: 0.89 bbl	Weight to Pull Loose: 51000.00 lb
		Total Volume: 46.80 bbl		Tool Chased 0.00 ft
Drill Pipe Above KB:	11.00 ft			String Weight: Initial 50000.00 lb
Depth to Top Packer:	3470.00 ft			Final 50000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	103.00 ft			
Tool Length:	131.00 ft			
Number of Packers:	1	Diameter: 6.75 inches		

Tool Comments:

<b>Tool Description</b>	<b>Length (ft)</b>	<b>Serial No.</b>	<b>Position</b>	<b>Depth (ft)</b>	<b>Accum. Lengths</b>
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Change Over Sub	1.00			3443.00	
Shut In Tool	5.00			3448.00	
Hydraulic tool	5.00			3453.00	
Jars	5.00			3458.00	
Safety Joint	3.00			3461.00	
Packer	5.00			3466.00	28.00      Bottom Of Top Packer
Packer	4.00			3470.00	
Stubb	1.00			3471.00	
Perforations	3.00			3474.00	
Change Over Sub	1.00			3475.00	
Recorder	0.00	9120	Inside	3475.00	
Recorder	0.00	8934	Inside	3475.00	
Drill Pipe	93.00			3568.00	
Change Over Sub	1.00			3569.00	
Bullnose	4.00			3573.00	103.00      Bottom Packers & Anchor

**Total Tool Length: 131.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Company  
250 N Water STE 300  
Wichita KS 67202+1216  
ATTN: Robert Hendrix

**20-6s-19w Rooks,KS**  
**Hamit Unit #2-20**  
Job Ticket: 63178      **DST#: 2**  
Test Start: 2017.11.12 @ 12:33:00

## Mud and Cushion Information

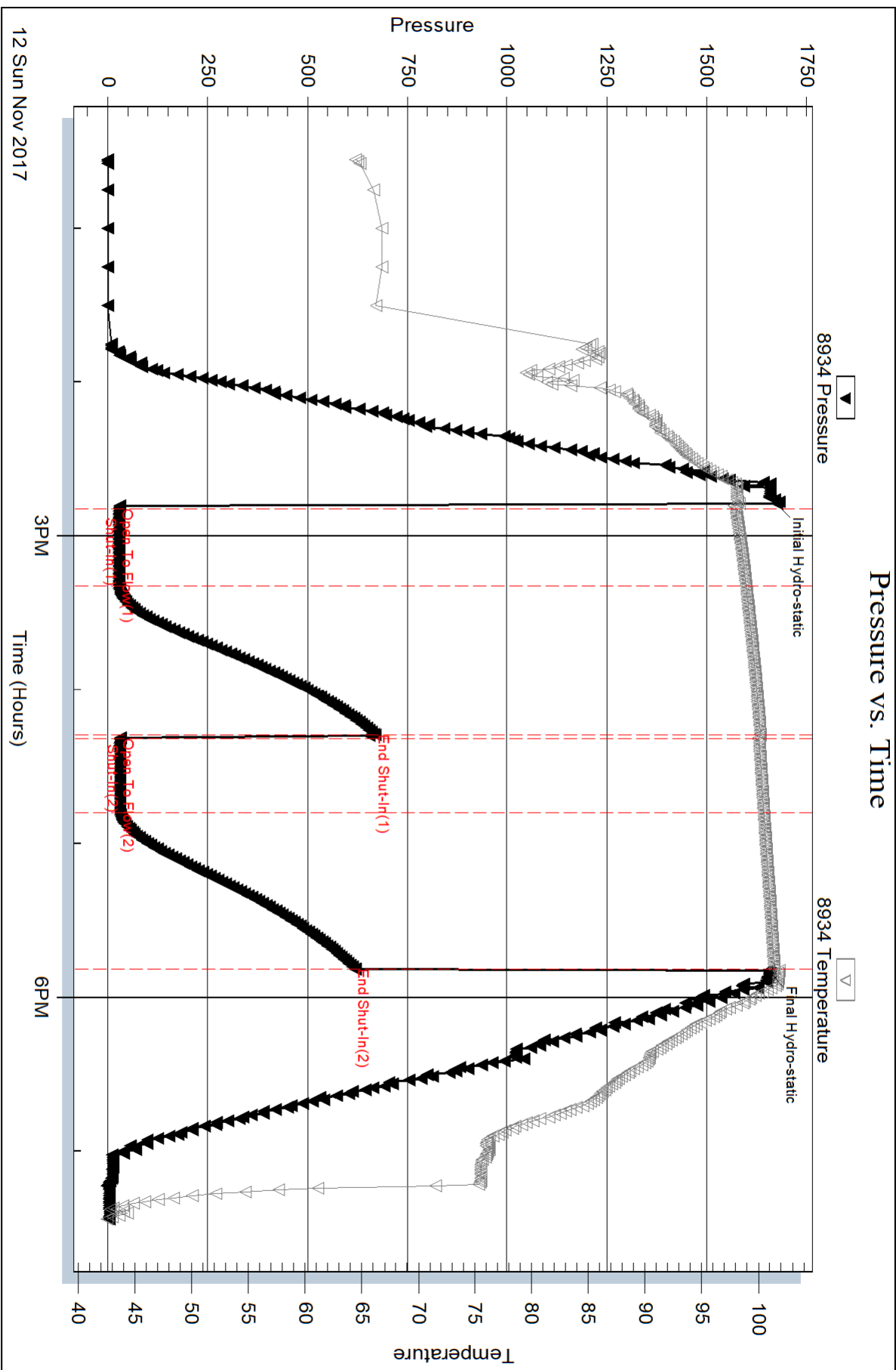
Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 54.00 sec/qt	Cushion Volume: bbl		
Water Loss: 5.99 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 1000.00 ppm			
Filter Cake: inches			

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
10.00	SOCM 1%O 99%M	0.049

Total Length: 10.00 ft      Total Volume: 0.049 bbl  
 Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
 Laboratory Name:      Laboratory Location:  
 Recovery Comments: Trace LCM



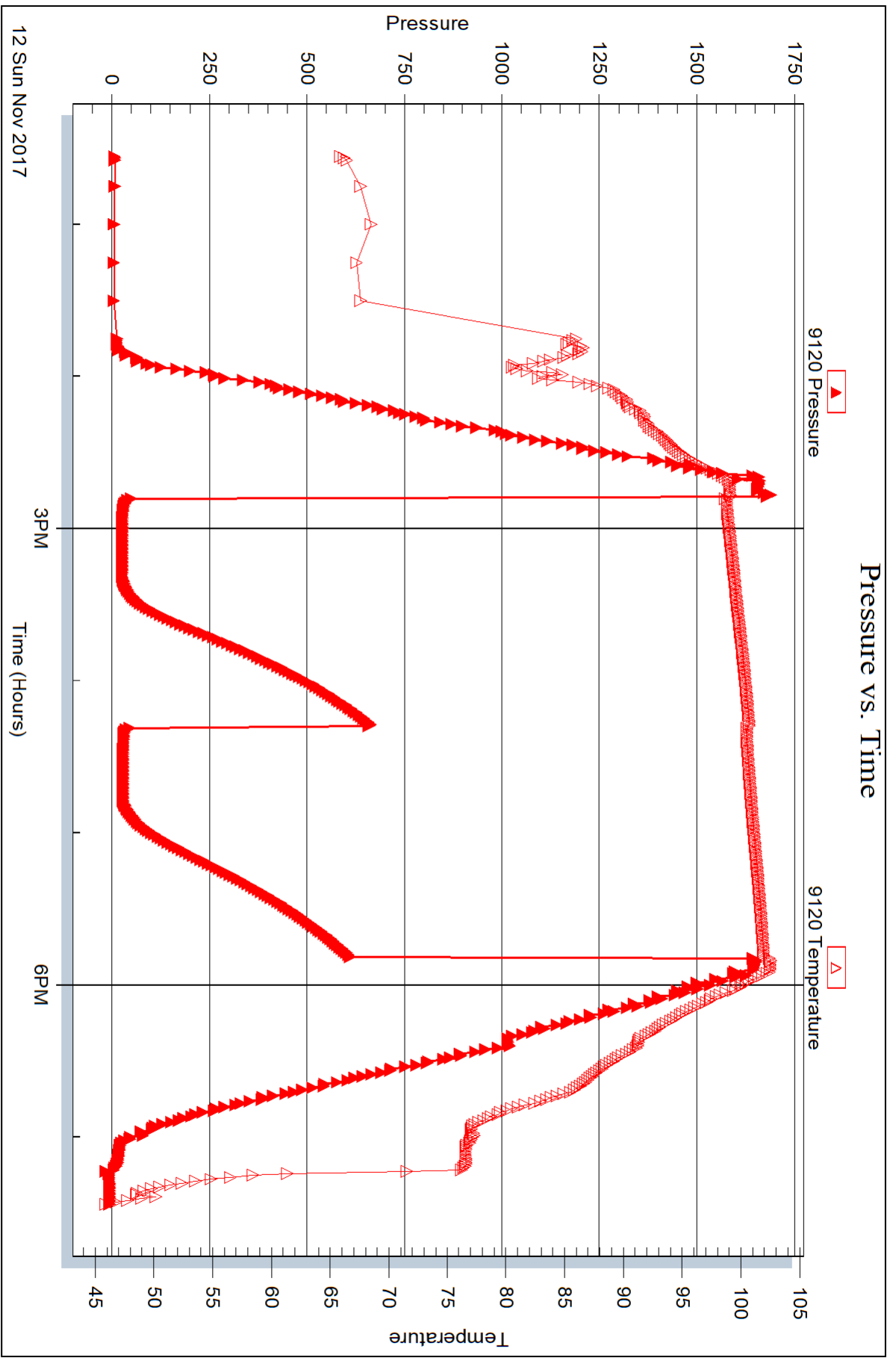
Serial #: 9120

Inside

Murfin Drilling Company

Hamit Unit #2-20

DST Test Number: 2



Trilobite Testing, Inc

Ref. No: 63178

Printed: 2017.11.14 @ 09:15:07



## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Company**

250 N Water STE 300  
Wichita KS 67202+1216

ATTN: Robert Hendrix

### **Hamit Unit #2-20**

### **20-6s-19w Rooks,KS**

Start Date: 2017.11.13 @ 03:42:00

End Date: 2017.11.13 @ 11:26:30

Job Ticket #: 63179                      DST #: 3

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2017.11.14 @ 09:14:36



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Company  
 250 N Water STE 300  
 Wichita KS 67202+1216  
 ATTN: Robert Hendrix

**20-6s-19w Rooks,KS**

**Hamit Unit #2-20**

Job Ticket: 63179

**DST#: 3**

Test Start: 2017.11.13 @ 03:42:00

## GENERAL INFORMATION:

Formation: **Reagan Sand**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 05:44:00  
 Time Test Ended: 11:26:30  
 Interval: **3607.00 ft (KB) To 3643.00 ft (KB) (TVD)**  
 Total Depth: 3643.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Spencer J. Staab  
 Unit No: 84  
 Reference Elevations: 2130.00 ft (KB)  
 2125.00 ft (CF)  
 KB to GR/CF: 5.00 ft

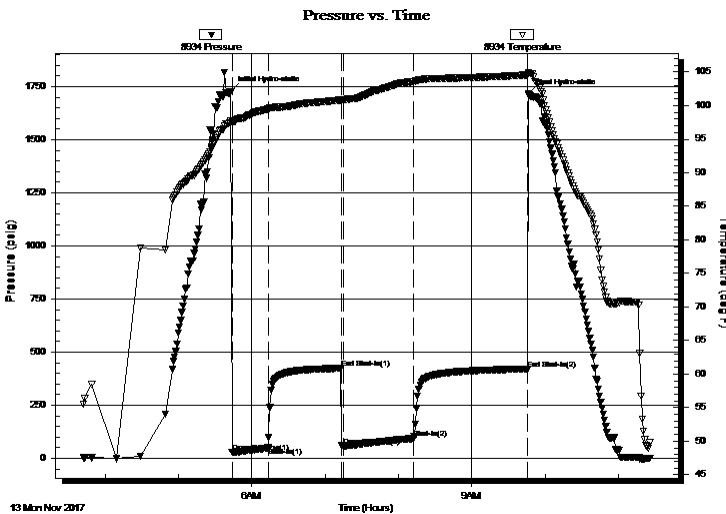
**Serial #: 8934**

**Outside**

Press@RunDepth: 93.29 psig @ 3611.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2017.11.13 End Date: 2017.11.13 Last Calib.: 2017.11.13  
 Start Time: 03:42:15 End Time: 11:26:30 Time On Btm: 2017.11.13 @ 05:43:00  
 Time Off Btm: 2017.11.13 @ 09:46:15

**TEST COMMENT:** 30-IF-Weak Blow ; Built to 4"  
 60-ISI-No Return  
 60-FF-Weak Blow ; Built to 5 1/2"  
 90-FSI-No Return

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1729.90	97.73	Initial Hydro-static
1	26.85	97.58	Open To Flow (1)
31	50.11	99.51	Shut-In(1)
90	423.74	100.85	End Shut-In(1)
92	57.24	100.84	Open To Flow (2)
150	93.29	103.61	Shut-In(2)
243	419.83	104.56	End Shut-In(2)
244	1717.62	104.94	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
60.00	OCM 5%O 95%M	0.30
60.00	OCM 10%O 90%M	0.30
30.00	HMCO 20%M 80%O	0.15
30.00	GO 50%G 50%O	0.15

\* Recovery from multiple tests

## Gas Rates

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





**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Company  
 250 N Water STE 300  
 Wichita KS 67202+1216  
 ATTN: Robert Hendrix

**20-6s-19w Rooks,KS**

**Hamit Unit #2-20**

Job Ticket: 63179 **DST#: 3**  
 Test Start: 2017.11.13 @ 03:42:00

## GENERAL INFORMATION:

Formation: **Reagan Sand**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 05:44:00  
 Time Test Ended: 11:26:30  
 Interval: **3607.00 ft (KB) To 3643.00 ft (KB) (TVD)**  
 Total Depth: 3643.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Spencer J. Staab  
 Unit No: 84  
 Reference Elevations: 2130.00 ft (KB)  
 2125.00 ft (CF)  
 KB to GR/CF: 5.00 ft

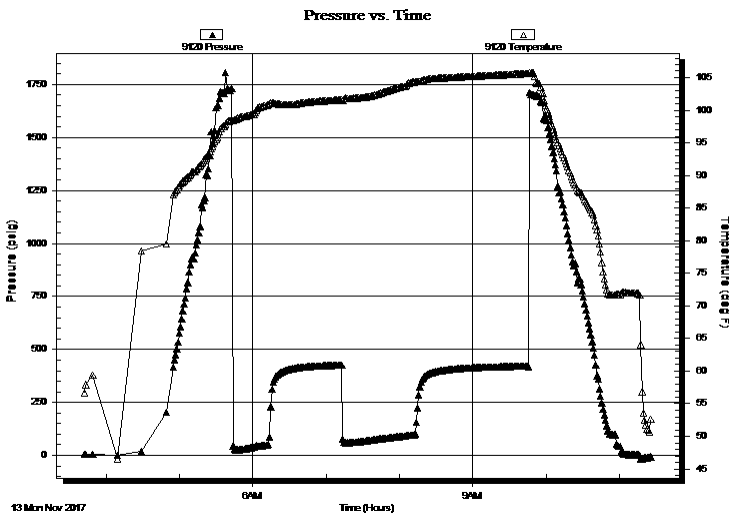
## Serial #: 9120

Inside

Press@RunDepth: psig @ 3611.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2017.11.13 End Date: 2017.11.13 Last Calib.: 2017.11.13  
 Start Time: 03:42:15 End Time: 11:26:30 Time On Btm:  
 Time Off Btm:

TEST COMMENT: 30-IF-Weak Blow ; Built to 4"  
 60-ISI-No Return  
 60-FF-Weak Blow ; Built to 5 1/2"  
 90-FSI-No Return

## PRESSURE SUMMARY



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

## Recovery

Length (ft)	Description	Volume (bbl)
60.00	OCM 5%O 95%M	0.30
60.00	OCM 10%O 90%M	0.30
30.00	HMCO 20%M 80%O	0.15
30.00	GO 50%G 50%O	0.15

\* 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 Company  
250 N Water STE 300  
Wichita KS 67202+1216  
ATTN: Robert Hendrix

**20-6s-19w Rooks,KS**  
**Hamit Unit #2-20**  
Job Ticket: 63179      **DST#: 3**  
Test Start: 2017.11.13 @ 03:42:00

**Tool Information**

Drill Pipe:	Length: 3428.00 ft	Diameter: 3.80 inches	Volume: 48.09 bbl	Tool Weight: 2200.00 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: 180.00 ft	Diameter: 2.25 inches	Volume: 0.89 bbl	Weight to Pull Loose: 50000.00 lb
			<u>Total Volume: 48.98 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	29.00 ft			String Weight: Initial 50000.00 lb
Depth to Top Packer:	3607.00 ft			Final 50000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	36.00 ft			
Tool Length:	64.00 ft			
Number of Packers:	1	Diameter: 6.75 inches		

Tool Comments:

<b>Tool Description</b>	<b>Length (ft)</b>	<b>Serial No.</b>	<b>Position</b>	<b>Depth (ft)</b>	<b>Accum. Lengths</b>
-------------------------	--------------------	-------------------	-----------------	-------------------	-----------------------

Change Over Sub	1.00			3580.00	
Shut In Tool	5.00			3585.00	
Hydraulic tool	5.00			3590.00	
Jars	5.00			3595.00	
Safety Joint	3.00			3598.00	
Packer	5.00			3603.00	28.00      Bottom Of Top Packer
Packer	4.00			3607.00	
Stubb	1.00			3608.00	
Perforations	3.00			3611.00	
Recorder	0.00	9120	Inside	3611.00	
Recorder	0.00	8934	Outside	3611.00	
Perforations	28.00			3639.00	
Bullnose	4.00			3643.00	36.00      Bottom Packers & Anchor

**Total Tool Length: 64.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Company  
250 N Water STE 300  
Wichita KS 67202+1216  
ATTN: Robert Hendrix

**20-6s-19w Rooks,KS**  
**Hamit Unit #2-20**  
Job Ticket: 63179      **DST#: 3**  
Test Start: 2017.11.13 @ 03:42:00

## Mud and Cushion Information

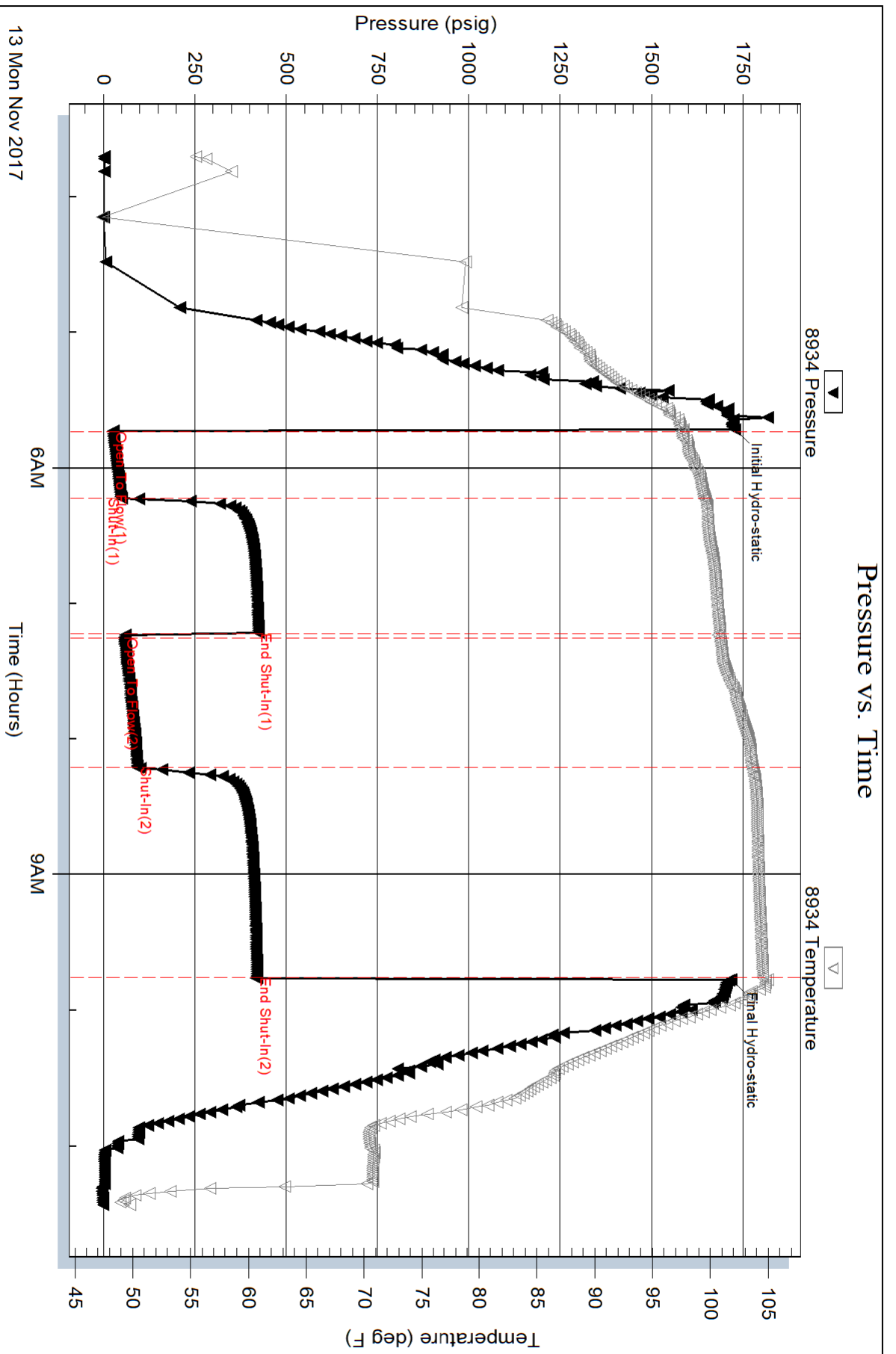
Mud Type: Gel Chem	Cushion Type:	Oil API: 25 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity: ppm
Viscosity: 54.00 sec/qt	Cushion Volume: bbl	
Water Loss: 5.99 in <sup>3</sup>	Gas Cushion Type:	
Resistivity: ohm.m	Gas Cushion Pressure: psig	
Salinity: 1000.00 ppm		
Filter Cake: inches		

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
60.00	OCM 5%O 95%M	0.295
60.00	OCM 10%O 90%M	0.295
30.00	HMCO 20%M 80%O	0.148
30.00	GO 50%G 50%O	0.148

Total Length: 180.00 ft      Total Volume: 0.886 bbl  
Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
Laboratory Name:      Laboratory Location:  
Recovery Comments: Trace LCM



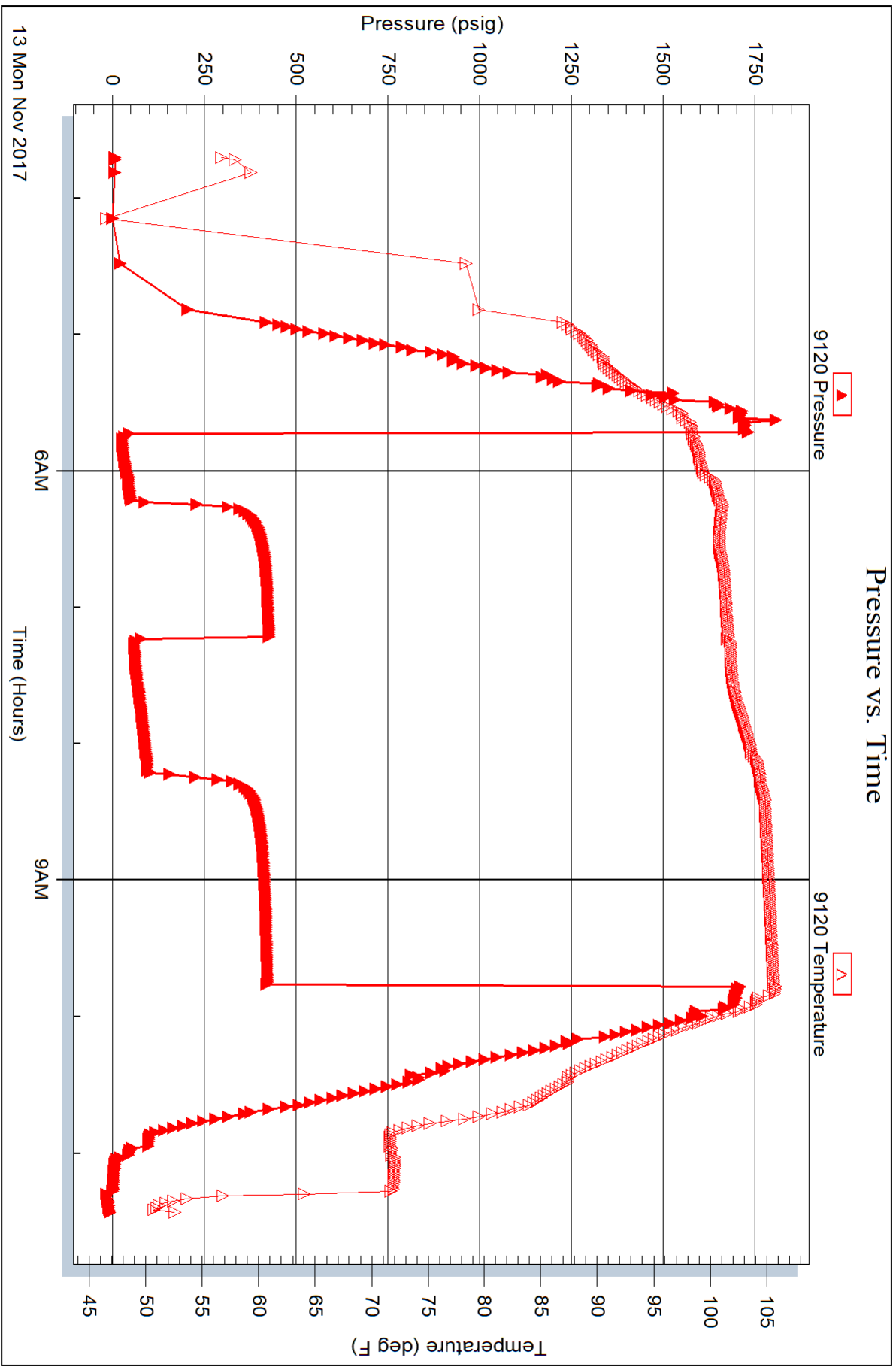
Serial #: 9120

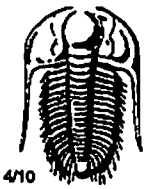
Inside

Murfin Drilling Company

Hamit Unit #2-20

DST Test Number: 3





# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 63177

Well Name & No. Hamit Unit # 2-20 Test No. 1 Date 11/11/2017  
 Company Murfin Drilling Company Elevation 2130 KB 2125 GL  
 Address 250 N Water STE 300 Wichita KS 67202-1216  
 Co. Rep / Geo. Robert Hendrix Rig Murfin #3  
 Location: Sec. 20 Twp. 6S Rge. 19W Co. Rooks State KS

Interval Tested 3348' - 3464' Zone Tested Lansing 'a-g'  
 Anchor Length 116' Drill Pipe Run 3150' Mud Wt. 9.0  
 Top Packer Depth 3343' Drill Collars Run 180' Vis 49  
 Bottom Packer Depth 3348' Wt. Pipe Run - WL 6.4  
 Total Depth 3464' Chlorides 700 ppm System LCM 1/2#

Blow Description 17-Weak Blow, Built to 2"

1SD - No Return  
77 - No Blow  
7SD - No Return

Rec	Feet of	%gas	%oil	%water	%mud
<u>60'</u>	<u>Mud</u>				

Rec Total 60' BHT 98° Gravity - API RW - @ - °F Chlorides - ppm

- (A) Initial Hydrostatic 1601
- (B) First Initial Flow 25
- (C) First Final Flow 31
- (D) Initial Shut-In 1030
- (E) Second Initial Flow 39
- (F) Second Final Flow 47
- (G) Final Shut-In 999
- (H) Final Hydrostatic 1583

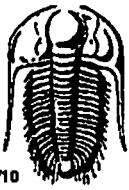
- Test 1050
- Jars 250
- Safety Joint 75
- Circ Sub
- Hourly Standby X1 80
- Mileage 112 27 84
- Sampler
- Straddle
- Shale Packer
- Extra Packer
- Extra Recorder
- Day Standby
- Accessibility
- Sub Total 1539

- T-On Location 71:22
- T-Started 13:10
- T-Open 16:30
- T-Pulled 19:30
- T-Out 21:26
- Comments Stayed in Phillipsburg @ Econo Lodge
- Ruined Shale Packer
- Ruined Packer
- Extra Copies
- Sub Total 0
- Total 1539
- MP/DST Disc't

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

Approved By \_\_\_\_\_

Our Representative James J. Staal Thanks!  
785-259-0056



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 63178

Well Name & No. Haymit Unit #2-20 Test No. 2 Date 11/12/2017  
 Company Murfin Drilling Company Inc. Elevation 2130' KB 2125' GL  
 Address 250 N. Water STE 300 Wichita Ks 67202 +1216  
 Co. Rep / Geo. Robert Hendrix Rig Murfin #3  
 Location: Sec. 20 Twp. 6s Rge. 19w Co. Rooks State Ks

Interval Tested 3470' - 3573' Zone Tested Lansing 'H-L'  
 Anchor Length 103' Drill Pipe Run 3273' Mud Wt. 9.1  
 Top Packer Depth 3465' Drill Collars Run 180' Vis 54  
 Bottom Packer Depth 3470' Wt. Pipe Run - WL 6.0  
 Total Depth 3573' Chlorides 1,000 ppm System LCM trace

Blow Description 77-Weak Blow; Built to 1"  
55D-No Return  
77-No Blow  
75D-No Return

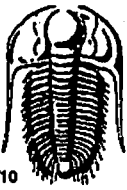
Rec	Feet of	%gas	%oil	%water	%mud
<u>10'</u>	<u>Slightly OCM</u>	<u>1</u>		<u>99</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 10' BHT 101° Gravity - API RW - @ - °F Chlorides - ppm

(A) Initial Hydrostatic 1675  Test 1050 T-On Location 12:00  
 (B) First Initial Flow 28  Jars 250 T-Started 12:33  
 (C) First Final Flow 28  Safety Joint 75 T-Open 14:46  
 (D) Initial Shut-In 670  Circ Sub \_\_\_\_\_ T-Pulled 17:46  
 (E) Second Initial Flow 31  Hourly Standby \_\_\_\_\_ T-Out 19:24  
 (F) Second Final Flow 31  Mileage 112 RT <sup>84</sup> Comments Stayed at Bill  
 (G) Final Shut-In 619  Sampler \_\_\_\_\_ City house  
 (H) Final Hydrostatic 1658  Straddle \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  
 Day Standby \_\_\_\_\_  
 Accessibility \_\_\_\_\_

Ruined Shale Packer \_\_\_\_\_  
 Ruined Packer \_\_\_\_\_  
 Extra Copies \_\_\_\_\_  
 Sub Total 0  
 Total 1459  
 MP/DST Disc't \_\_\_\_\_  
 Sub Total 1459

Approved By \_\_\_\_\_ Our Representative Spencer J. Stival Thanks!



# TRIOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 63179

Well Name & No. Hamit Unit # 2-20 Test No. 3 Date 11/13/2017  
 Company Murfin Drilling Company Inc. Elevation 2130 KB 2125 GL  
 Address 250 N. Water STE 300 Wichita Ks 67202 +1216  
 Co. Rep / Geo. Robert Hendrix Rig Murfin #3  
 Location: Sec. 20 Twp. 6A Rge. 19W Co. Rooks State Ks

Interval Tested 3607' - 3643' Zone Tested Reagan  
 Anchor Length 36' Drill Pipe Run 3428' Mud Wt. 9.1  
 Top Packer Depth 3602' Drill Collars Run 180' Vis 54  
 Bottom Packer Depth 3607' Wt. Pipe Run - WL 6.0  
 Total Depth 3643' Chlorides 1,000 ppm System LCM Trace

Blow Description 77-Weak Blow; Built to 4"  
ISA No Return  
77-Weak Blow; Built to 5 1/2"  
75D - No Return

Rec	Feet of	%gas	%oil	%water	%mud
60'	OCM	5		95	
60'	OCM	10		90	
30'	HMCO	80		20	
30'	NO	50	50		

Rec Total 180' BHT 104° Gravity 25° API RW - @ - ° F Chlorides - ppm

(A) Initial Hydrostatic 1729  Test 1050 T-On Location 03:14  
 (B) First Initial Flow 26  Jars 250 T-Started 03:42  
 (C) First Final Flow 50  Safety Joint 75 T-Open 05:42  
 (D) Initial Shut-In 423  Circ Sub \_\_\_\_\_ T-Pulled 09:42  
 (E) Second Initial Flow 57  Hourly Standby \_\_\_\_\_ T-Out 11:25  
 (F) Second Final Flow 93  Mileage 112 RT <sup>84</sup> Comments Loaded tools  
 (G) Final Shut-In 419  Sampler \_\_\_\_\_ after test  
 (H) Final Hydrostatic 1717  Straddle \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_ Sub Total 0  
 Day Standby \_\_\_\_\_ Total 1459  
 Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Sub Total 1459

Approved By \_\_\_\_\_ Our Representative Spencer J. Neal Thanks!  
 785-259-0056