

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
--	---

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>

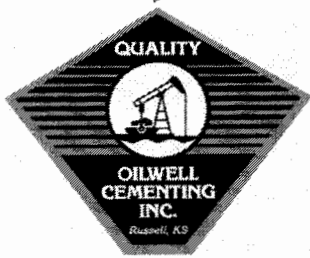
TUBING RECORD:	Size:	Set At:	Packer At:	
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Form	ACO1 - Well Completion
Operator	Funk Petroleum, LLC
Well Name	LEGACY 1-19
Doc ID	1426856

All Electric Logs Run

DIL
DUCP
MEL
BHCS





**QUALITY OILWELL CEMENTING, INC.**  
 PO Box 32 - 740 WEST WICHITA AVE, RUSSELL KS 67665  
 PHONE:785-324-1041 FAX:785-483-1087  
 EMAIL: cementing@ruraltel.net

Date: 10/23/2018  
 Invoice # 1041  
 P.O.#:  
 Due Date: 11/22/2018  
 Division: *Russell*

# Invoice

**Contact:**  
 FUNK PETROLEUM  
**Address/Job Location:**

2110 N. 1184 RD  
 EUDORA KS 66025

**Reference:**  
 LEGACY 1-19 SEC 19-9-35

**Description of Work:**  
 SURFACE JOB

Services / Items Included:	Quantity	Price	Taxable	Item	Quantity	Price	Taxable
Labor		\$ 657.71	No				
Common-Class A	200	\$ 3,037.18	Yes				
Calcium Chloride	9	\$ 371.54	Yes				
POZ Mix-Standard	50	\$ 258.01	Yes				
Bulk Truck Matl-Material Service Charge	264	\$ 194.62	No				
Premium Gel (Bentonite)	5	\$ 106.89	Yes				
Pump Truck Mileage-Job to Nearest Camp	33	\$ 109.47	No				
Bulk Truck Mileage-Job to Nearest Bulk Plant	33	\$ 85.14	No				

**Invoice Terms:**  
 Net 30

	<i>SubTotal:</i>	\$	4,820.56
	<i>Discount Available ONLY if Invoice is Paid &amp; Received within listed terms of invoice:</i>	\$	(120.51)
<hr/>			
	SubTotal for Taxable Items:	\$	3,679.28
	SubTotal for Non-Taxable Items:	\$	1,020.77
<hr/>			
	Total:	\$	4,700.05
	Tax:	\$	294.34
	<b>Amount Due:</b>	<b>\$</b>	<b>4,994.39</b>
	<b>Applied Payments:</b>		
	<b>Balance Due:</b>	<b>\$</b>	<b>4,994.39</b>

8.00% Thomas County Sales Tax

**Thank You For Your Business!**

Past Due Invoices are subject to a service charge (annual rate of 24%)  
 This does not include any applicable taxes unless it is listed.  
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# QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

Phone 785-483-2025  
Cell 785-324-1041

Home Office P.O. Box 32 Russell, KS 67665

No. 1041

Date	10-23-18	Sec.	19	Twp.	9	Range	35	County	Thomas	State	KS	On Location		Finish	6.15 PM
------	----------	------	----	------	---	-------	----	--------	--------	-------	----	-------------	--	--------	---------

Location *Levan+ 65 KRD 3w 800 1/2 Winto*

Lease	<i>Legacy</i>	Well No.	<i>1-19</i>	Owner	To Quality Oilwell Cementing, Inc. You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.
Contractor	<i>Murphy #16</i>			Charge To	<i>Funk Petroleum</i>
Type Job	<i>Surface</i>			Street	
Hole Size	<i>12 1/4</i>	T.D.	<i>302</i>	City	
Csg.	<i>8 5/8</i>	Depth	<i>301</i>	State	
Tbg. Size		Depth		The above was done to satisfaction and supervision of owner agent or contractor.	
Tool		Depth		Cement Amount Ordered	<i>250 8/20 3/4 2/4 4/2</i>
Cement Left in Csg.	<i>15</i>	Shoe Joint			
Meas Line		Displace	<i>18 BC</i>		

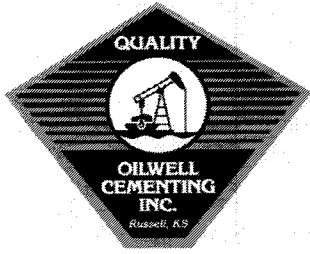
**EQUIPMENT**

Pumptrk	<i>20</i>	No.		Cementer	<i>Greg</i>	Common	<i>200</i>
				Helper	<i>BTTF</i>	Poz. Mix	<i>50</i>
Bulktrk		No.		Driver	<i>BTTF</i>	Gel.	<i>5</i>
Bulktrk	<i>9</i>	No.		Driver	<i>Doug</i>	Calcium	<i>9</i>

**JOB SERVICES & REMARKS**

Remarks:		Hulls	
Rat Hole		Salt	
Mouse Hole		Flowseal	
Centralizers		Kol-Seal	
Baskets		Mud CLR 48	
D/V or Port Collar		CFL-117 or CD110 CAF 38	
<i>8 5/8 on bottom. Est. Circulation.</i>		Sand	
<i>Mix 250 SK + Displace.</i>		Handling	<i>264</i>
<i>Cement Circulated!</i>		Mileage	
		<b>FLOAT EQUIPMENT</b>	<i>8 5/8 Swage</i>
		Guide Shoe	
		Centralizer	
		Baskets	
		AFU Inserts	
		Float Shoe	
		Latch Down	
		Pumptrk Charge	<i>Surface</i>
		Mileage	<i>33</i>

Signature	<i>[Signature]</i>	Tax	
		Discount	
		Total Charge	



**QUALITY OILWELL CEMENTING, INC.**  
 PO Box 32 - 740 WEST WICHITA AVE, RUSSELL KS 67665  
 PHONE: 785-324-1041 FAX: 785-483-1087  
 EMAIL: cementing@ruraltel.net

Date: 10/31/2018  
 Invoice # 1048

P.O.#:  
 Due Date: 11/30/2018  
 Division: *Russell*

# Invoice

**Contact:**  
 FUNK PETROLEUM  
**Address/Job Location:**

2110 N. 1184 RD  
 EUDORA KS 66025

**Reference:**  
 LEGACY 1-19-SEC 19-9-35

**Description of Work:**  
 plug job

Services / Items Included:	Quantity	Price	Taxable	Item	Quantity	Price	Taxable
Labor		\$ 657.71	Yes				
Common-Class A	153	\$ 2,323.44	Yes				
Bulk Truck Matl-Material Service Charge	264	\$ 194.62	Yes				
Pump Truck Mileage-Job to Nearest Camp	33	\$ 109.47	Yes				
Bulk Truck Mileage-Job to Nearest Bulk Plant	33	\$ 85.14	Yes				
POZ Mix-Standard	102	\$ 526.35	Yes				
Premium Gel (Bentonite)	9	\$ 192.40	Yes				

**Invoice Terms:**  
 Net 30

SubTotal: \$ 4,224.78  
 Discount Available ONLY if Invoice is Paid & Received  
 within listed terms of invoice: \$ (105.62)

---

SubTotal for Taxable Items: \$ 4,119.16  
 SubTotal for Non-Taxable Items: \$ -

8.00% Thomas County Sales Tax

Total: \$ 4,119.16  
 Tax: \$ 329.53  
**Amount Due: \$ 4,448.69**  
**Applied Payments:**  
**Balance Due: \$ 4,448.69**

**Thank You For Your Business!**

Past Due Invoices are subject to a service charge (annual rate of 24%)  
 This does not include any applicable taxes unless it is listed.  
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# QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

Phone 785-483-2025  
Cell 785-324-1041

Home Office P.O. Box 32 Russell, KS 67665

No. 1048

Date	10-31-18	Sec.	19	Twp.	9	Range	35	County	Thomas	State	KS	On Location		Finish	5:30am											
								Location								Levan + 65 KRD 3w 1s										
Lease	Legacy								Well No.	1-19								Owner	To Quality Oilwell Cementing, Inc. You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.							
Contractor	Miguel #16																									
Type Job	Rotary Plug																									
Hole Size	7/8								T.D.	4850								Charge To	Fork Petroleum							
Csg.									Depth									Street								
Tbg. Size									Depth									City	State							
Tool									Depth									The above was done to satisfaction and supervision of owner agent or contractor.								
Cement Left in Csg.									Shoe Joint									Cement Amount Ordered 255 <sup>bu</sup> No 4 / 62 1/2 #10								
Meas Line									Displace																	
<b>EQUIPMENT</b>																										
Pumptrk	20	No.	Cementer	Craig								Common	153													
			Helper	Brett								Poz. Mix	102													
Bulktrk		No.	Driver									Gel.	9													
Bulktrk	9	No.	Driver	Jack								Calcium														
<b>JOB SERVICES &amp; REMARKS</b>																										
Remarks:									Hulls																	
Rat Hole	30SK								Salt																	
Mouse Hole	15SK								Flowseal	50#																
Centralizers									Kol-Seal																	
Baskets									Mud CLR 48																	
D/V or Port Collar									CFL-117 or CD110 CAF 38																	
1st	2825		50SK									Sand														
2nd	1880		100SK									Handling	264													
3rd	350		50SK									Mileage														
4th	40'		10SK									<b>FLOAT EQUIPMENT</b> 8 1/8 D/V Hole Plug														
<p style="font-size: 2em; opacity: 0.5;">Quality Oilwell Cementing</p> <p style="font-size: 3em; opacity: 0.5;">Thanks</p>																Guide Shoe										
																Centralizer										
																Baskets										
																AFU Inserts										
																Float Shoe										
Latch Down																										
Pumptrk Charge										p/69																
Mileage										233																
Tax																										
Discount																										
Total Charge																										
X Signature	[Signature]																									





## DRILL STEM TEST REPORT

Prepared For: **Funk Petroleum LLC**

2110 N 1184th St  
Eudora, KS 66025

ATTN: Tom Funk

### **Legacy #1-19**

#### **19-9s-35w Thomas,KS**

Start Date: 2018.10.27 @ 23:35:33

End Date: 2018.10.28 @ 07:20:33

Job Ticket #: 64264                      DST #: 1

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

Printed: 2018.10.31 @ 08:15:22



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Funk Petroleum LLC

**19-9s-35w Thomas, KS**

2110 N 1184th St  
Eudora, KS 66025

**Legacy #1-19**

ATTN: Tom Funk

Job Ticket: 64264

**DST#: 1**

Test Start: 2018.10.27 @ 23:35:33

## GENERAL INFORMATION:

Formation: **LKC H**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 01:26:33

Time Test Ended: 07:20:33

Test Type: Conventional Bottom Hole (Initial)

Tester: Brandon Turley

Unit No: 79

**Interval: 4262.00 ft (KB) To 4310.00 ft (KB) (TVD)**

Reference Elevations: 3335.00 ft (KB)

Total Depth: 4310.00 ft (KB) (TVD)

3330.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

**Serial #: 8166 Outside**

Press@RunDepth: 64.22 psig @ 4263.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2018.10.27 End Date: 2018.10.28

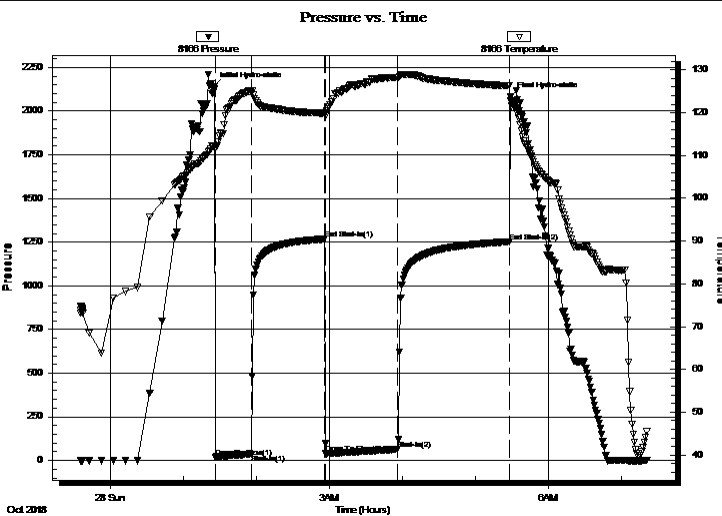
Last Calib.: 2018.10.28

Start Time: 23:35:38 End Time: 07:20:32

Time On Btm: 2018.10.28 @ 01:25:03

Time Off Btm: 2018.10.28 @ 05:28:33

**TEST COMMENT:** IF: 1/2" blow built to 3 1/4"  
IS: No return.  
FF: Surface blow built to 3 1/2"  
FS: No return.



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2137.45	112.13	Initial Hydro-static
2	18.34	111.77	Open To Flow (1)
31	36.09	124.69	Shut-In(1)
91	1267.22	119.92	End Shut-In(1)
92	38.32	120.02	Open To Flow (2)
151	64.22	128.24	Shut-In(2)
243	1251.56	126.27	End Shut-In(2)
244	2080.52	122.78	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
90.00	mcw 80%w 20%m	0.99

## Gas Rates

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



**TRILOBITE TESTING, INC.**

**DRILL STEM TEST REPORT**

Funk Petroleum LLC

**19-9s-35w Thomas, KS**

2110 N 1184th St  
Eudora, KS 66025

**Legacy #1-19**

ATTN: Tom Funk

Job Ticket: 64264

**DST#: 1**

Test Start: 2018.10.27 @ 23:35:33

**GENERAL INFORMATION:**

Formation: **LKC H**

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Time Test Ended: 07:20:33

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Tester: Brandon Turley

Unit No: 79

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Reference Elevations: 3335.00 ft (KB)

Total Depth: 4310.00 ft (KB) (TVD)

3330.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

**Serial #: 6651 Inside**

Press@RunDepth: psig @ 4263.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2018.10.27

End Date:

2018.10.28

Last Calib.:

2018.10.28

Start Time: 23:35:50

End Time:

07:20:44

Time On Btm:

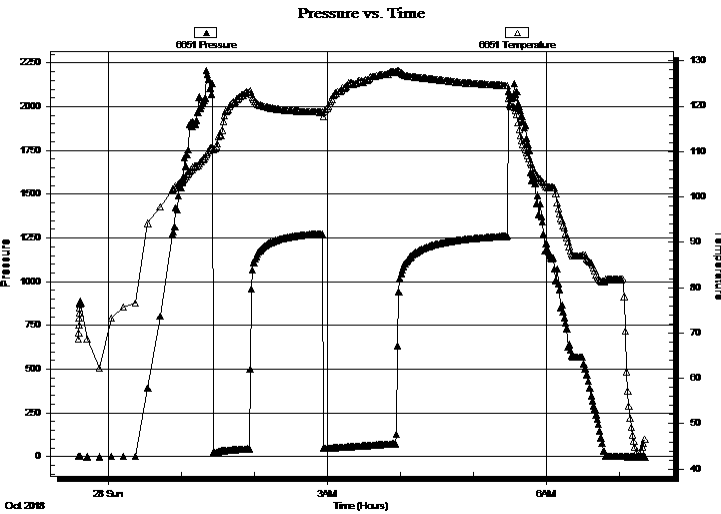
Time Off Btm:

**TEST COMMENT:** IF: 1/2" blow built to 3 1/4"

IS: No return.

FF: Surface blow built to 3 1/2"

FS: No return.



**PRESSURE SUMMARY**

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

**Recovery**

Length (ft)	Description	Volume (bbl)
90.00	mcw 80%w 20%m	0.99

**Gas Rates**

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



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Funk Petroleum LLC

**19-9s-35w Thomas,KS**

2110 N 1184th St  
Eudora, KS 66025

**Legacy #1-19**

Job Ticket: 64264

**DST#: 1**

ATTN: Tom Funk

Test Start: 2018.10.27 @ 23:35:33

## Tool Information

Drill Pipe:	Length: 4212.00 ft	Diameter: 3.80 inches	Volume: 59.08 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: 30000.00 lb
Drill Collar:	Length: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 65000.00 lb
			<u>Total Volume: 59.23 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	7.00 ft			String Weight: Initial 52000.00 lb
Depth to Top Packer:	4262.00 ft			Final 52000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	48.00 ft			
Tool Length:	75.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

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

Stubb	1.00			4236.00	
Shut In Tool	5.00			4241.00	
Hydraulic tool	5.00			4246.00	
Jars	5.00			4251.00	
Safety Joint	2.00			4253.00	
Packer	5.00			4258.00	27.00 Bottom Of Top Packer
Packer	4.00			4262.00	
Stubb	1.00			4263.00	
Recorder	0.00	6651	Inside	4263.00	
Recorder	0.00	8166	Outside	4263.00	
Perforations	9.00			4272.00	
Change Over Sub	1.00			4273.00	
Drill Pipe	31.00			4304.00	
Change Over Sub	1.00			4305.00	
Bullnose	5.00			4310.00	48.00 Bottom Packers & Anchor

**Total Tool Length: 75.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Funk Petroleum LLC

**19-9s-35w Thomas,KS**

2110 N 1184th St  
Eudora, KS 66025

**Legacy #1-19**

Job Ticket: 64264

**DST#: 1**

ATTN: Tom Funk

Test Start: 2018.10.27 @ 23:35:33

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

58000 ppm

Viscosity: 57.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.19 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 3300.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
90.00	mcw 80%w 20%m	0.989

Total Length: 90.00 ft      Total Volume: 0.989 bbl

Num Fluid Samples: 0

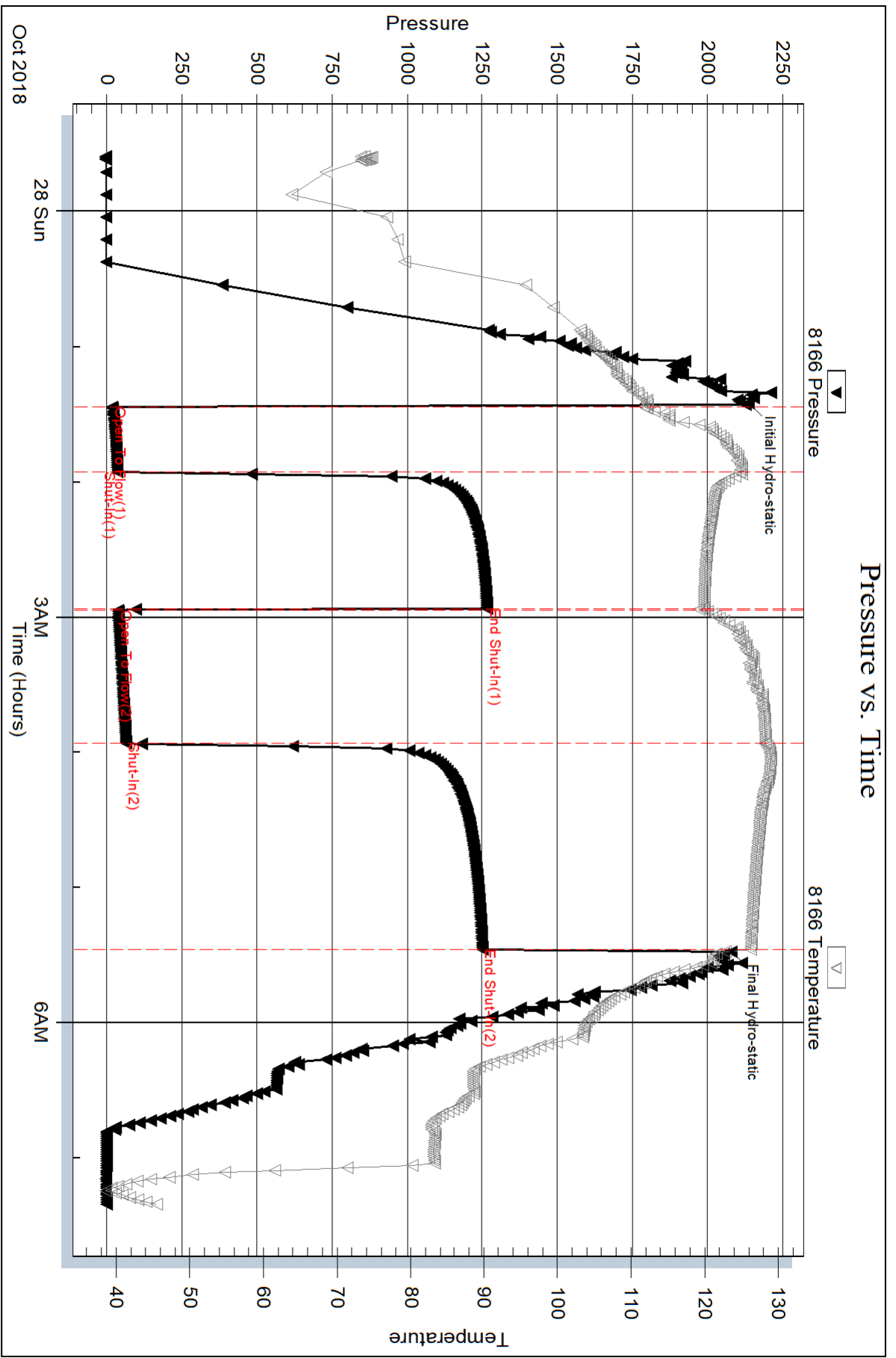
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: .22@42=58000



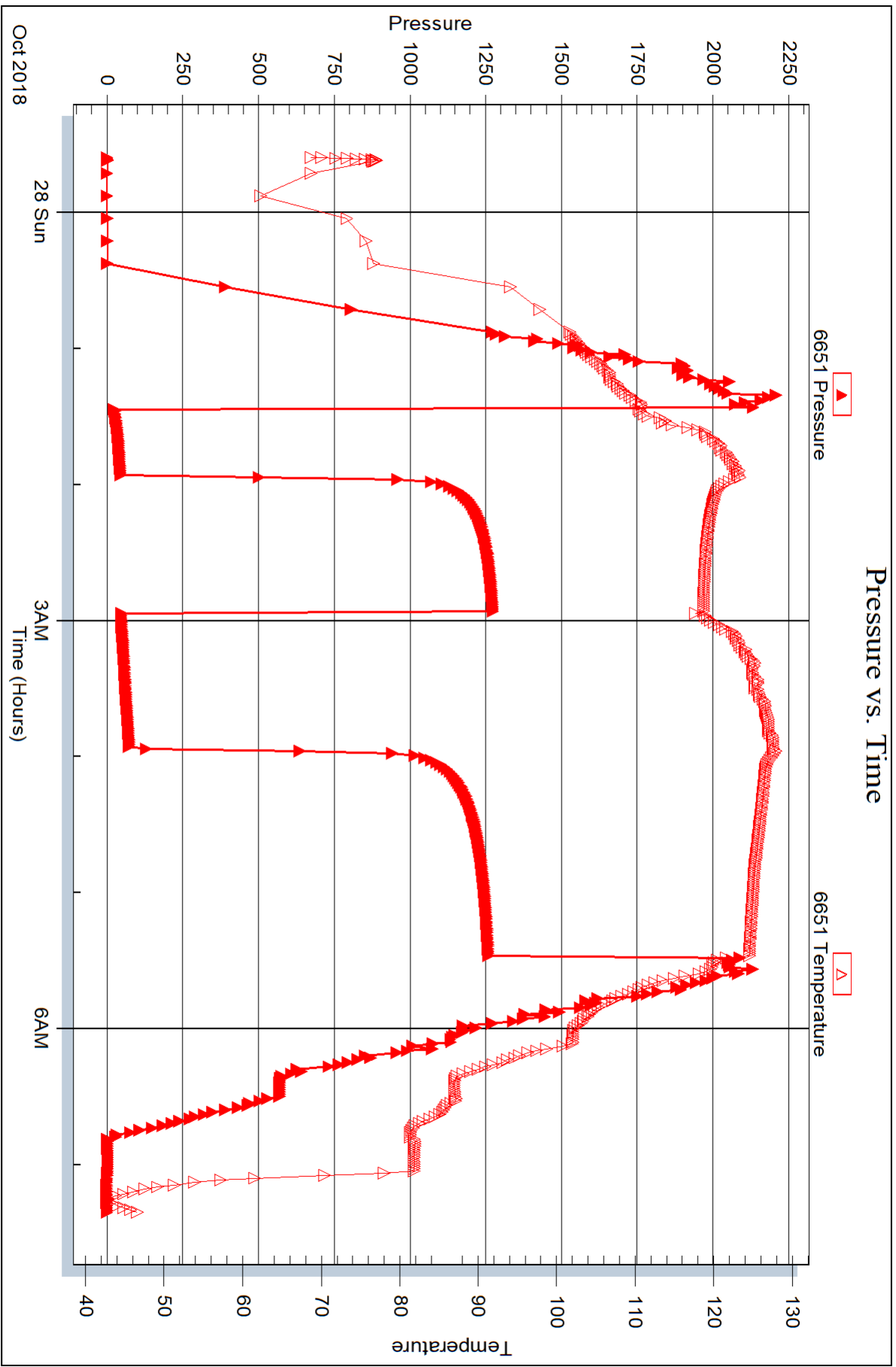
Serial #: 6651

Inside

Funk Petroleum LLC

Legacy #1-19

DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 64264

Printed: 2018.10.31 @ 08:15:23



## DRILL STEM TEST REPORT

Prepared For: **Funk Petroleum LLC**

2110 N 1184th St  
Eudora, KS 66025

ATTN: Tom Funk

### **Legacy #1-19**

#### **19-9s-35w Thomas,KS**

Start Date: 2018.10.29 @ 17:34:46

End Date: 2018.10.29 @ 23:09:16

Job Ticket #: 64265                      DST #: 2

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

Printed: 2018.10.31 @ 08:10:46





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Funk Petroleum LLC

**19-9s-35w Thomas,KS**

2110 N 1184th St  
Eudora, KS 66025

**Legacy #1-19**

ATTN: Tom Funk

Job Ticket: 64265

**DST#: 2**

Test Start: 2018.10.29 @ 17:34:46

## GENERAL INFORMATION:

Formation: **Cherokee - Johnson**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 19:26:16

Time Test Ended: 23:09:16

Test Type: Conventional Bottom Hole (Reset)

Tester: Brandon Turley

Unit No: 79

**Interval: 4623.00 ft (KB) To 4697.00 ft (KB) (TVD)**

Reference Elevations: 3335.00 ft (KB)

Total Depth: 4697.00 ft (KB) (TVD)

3330.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

**Serial #: 8166 Outside**

Press@RunDepth: 31.86 psig @ 4624.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2018.10.29

End Date:

2018.10.29

Last Calib.:

2018.10.29

Start Time: 17:34:51

End Time:

23:09:15

Time On Btm:

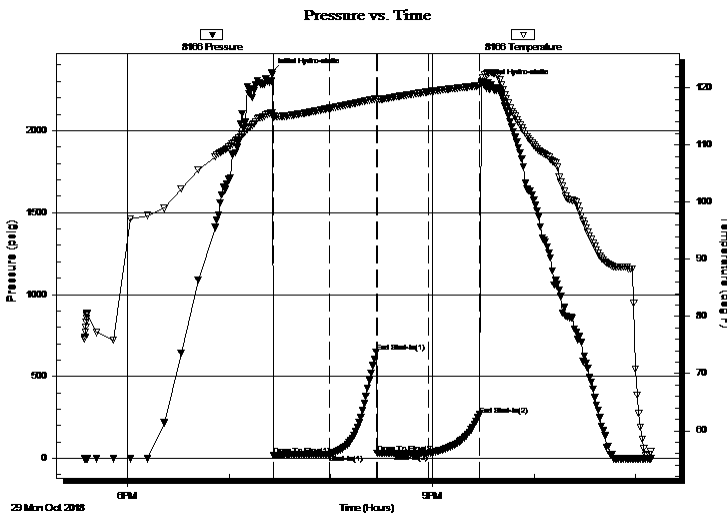
2018.10.29 @ 19:25:16

Time Off Btm:

2018.10.29 @ 21:28:46

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

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2354.26	115.60	Initial Hydro-static
1	20.26	114.80	Open To Flow (1)
34	26.97	116.41	Shut-In(1)
62	646.71	118.07	End Shut-In(1)
62	31.68	117.85	Open To Flow (2)
93	31.86	119.30	Shut-In(2)
123	265.86	120.38	End Shut-In(2)
124	2284.32	121.05	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
35.00	ocm 5%o 95%m	0.22

\* Recovery from multiple tests

## Gas Rates

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



# TRILOBITE TESTING, INC.

## DRILL STEM TEST REPORT

Funk Petroleum LLC  
 2110 N 1184th St  
 Eudora, KS 66025  
 ATTN: Tom Funk

19-9s-35w Thomas,KS

Legacy #1-19

Job Ticket: 64265

DST#: 2

Test Start: 2018.10.29 @ 17:34:46

### GENERAL INFORMATION:

Formation: Cherokee - Johnson

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 19:26:16

Time Test Ended: 23:09:16

Test Type: Conventional Bottom Hole (Reset)

Tester: Brandon Turley

Unit No: 79

Interval: 4623.00 ft (KB) To 4697.00 ft (KB) (TVD)

Total Depth: 4697.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 3335.00 ft (KB)

3330.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 6651 Inside

Press@RunDepth: psig @ 4624.00 ft (KB)

Start Date: 2018.10.29

End Date: 2018.10.29

Capacity: 8000.00 psig

Last Calib.: 2018.10.29

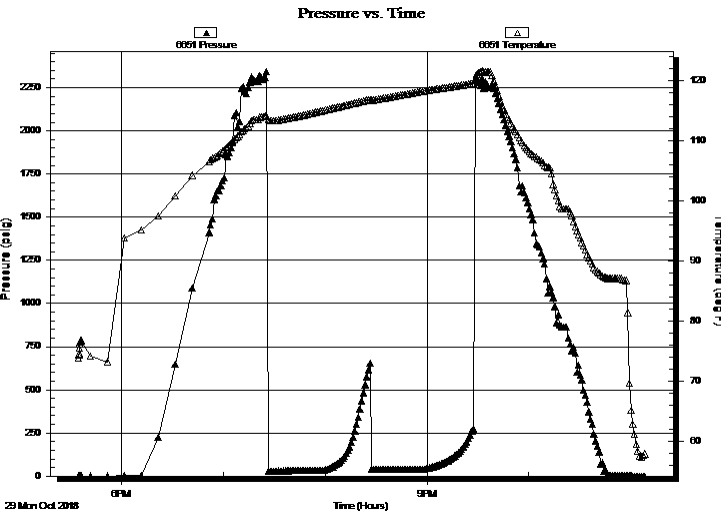
Start Time: 17:34:29

End Time: 23:08:53

Time On Btm:

Time Off Btm:

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



### PRESSURE SUMMARY

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

### Recovery

Length (ft)	Description	Volume (bbl)
35.00	ocm 5%o 95%m	0.22

\* Recovery from multiple tests

### Gas Rates

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



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Funk Petroleum LLC

**19-9s-35w Thomas,KS**

2110 N 1184th St  
Eudora, KS 66025

**Legacy #1-19**

Job Ticket: 64265

**DST#: 2**

ATTN: Tom Funk

Test Start: 2018.10.29 @ 17:34:46

## Tool Information

Drill Pipe:	Length: 4591.00 ft	Diameter: 3.80 inches	Volume: 64.40 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: 30000.00 lb
Drill Collar:	Length: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 65000.00 lb
			<u>Total Volume: 64.55 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	25.00 ft			String Weight: Initial 56000.00 lb
Depth to Top Packer:	4623.00 ft			Final 56000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	74.00 ft			
Tool Length:	101.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

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

Stubb	1.00			4597.00	
Shut In Tool	5.00			4602.00	
Hydraulic tool	5.00			4607.00	
Jars	5.00			4612.00	
Safety Joint	2.00			4614.00	
Packer	5.00			4619.00	27.00 Bottom Of Top Packer
Packer	4.00			4623.00	
Stubb	1.00			4624.00	
Recorder	0.00	6651	Inside	4624.00	
Recorder	0.00	8166	Outside	4624.00	
Perforations	4.00			4628.00	
Change Over Sub	1.00			4629.00	
Drill Pipe	62.00			4691.00	
Change Over Sub	1.00			4692.00	
Bullnose	5.00			4697.00	74.00 Bottom Packers & Anchor

**Total Tool Length: 101.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Funk Petroleum LLC

**19-9s-35w Thomas,KS**

2110 N 1184th St  
Eudora, KS 66025

**Legacy #1-19**

Job Ticket: 64265

**DST#: 2**

ATTN: Tom Funk

Test Start: 2018.10.29 @ 17:34:46

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 58.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.19 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 5500.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
35.00	ocm 5%o 95%m	0.218

Total Length: 35.00 ft      Total Volume: 0.218 bbl

Num Fluid Samples: 0

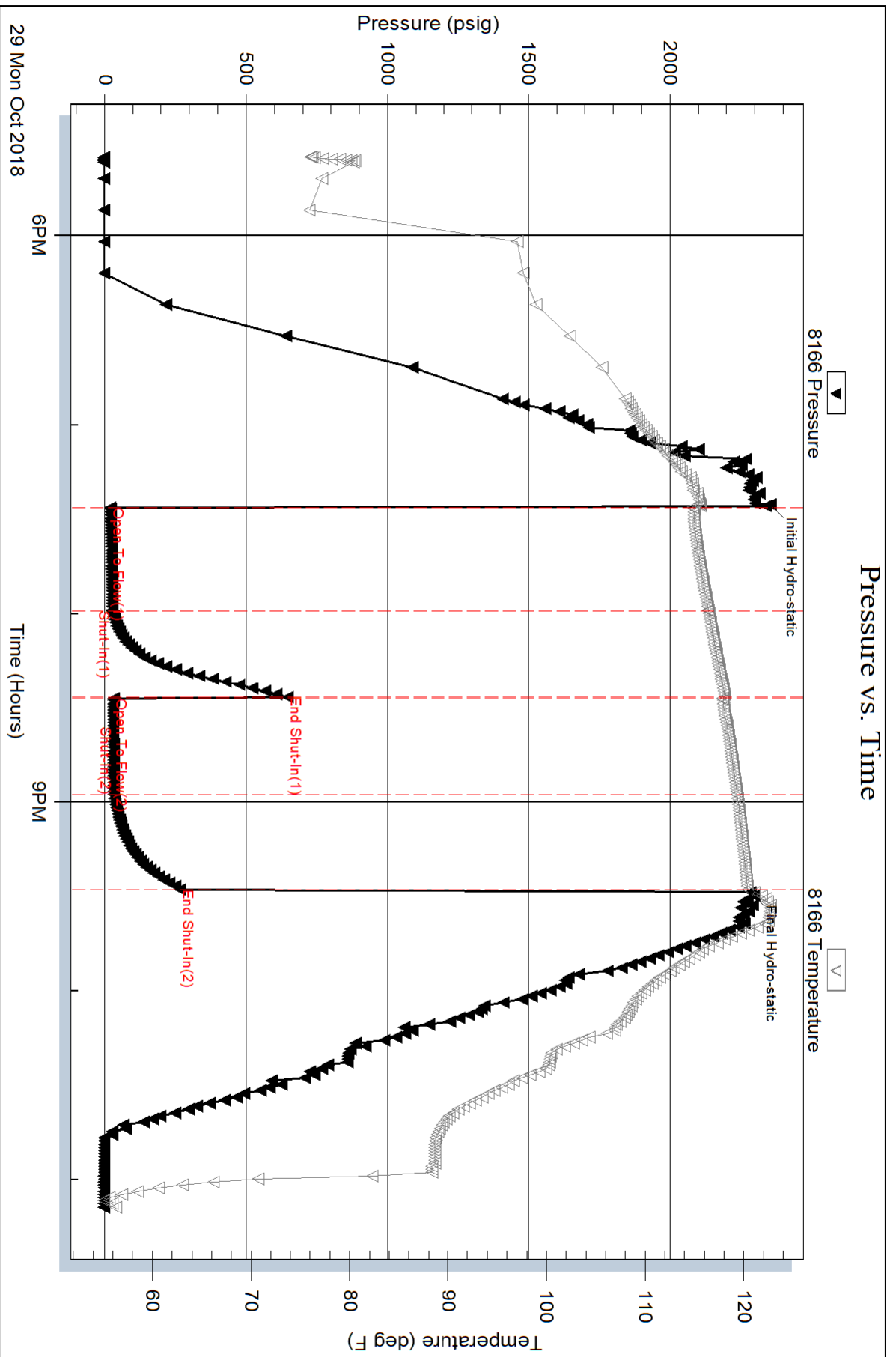
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



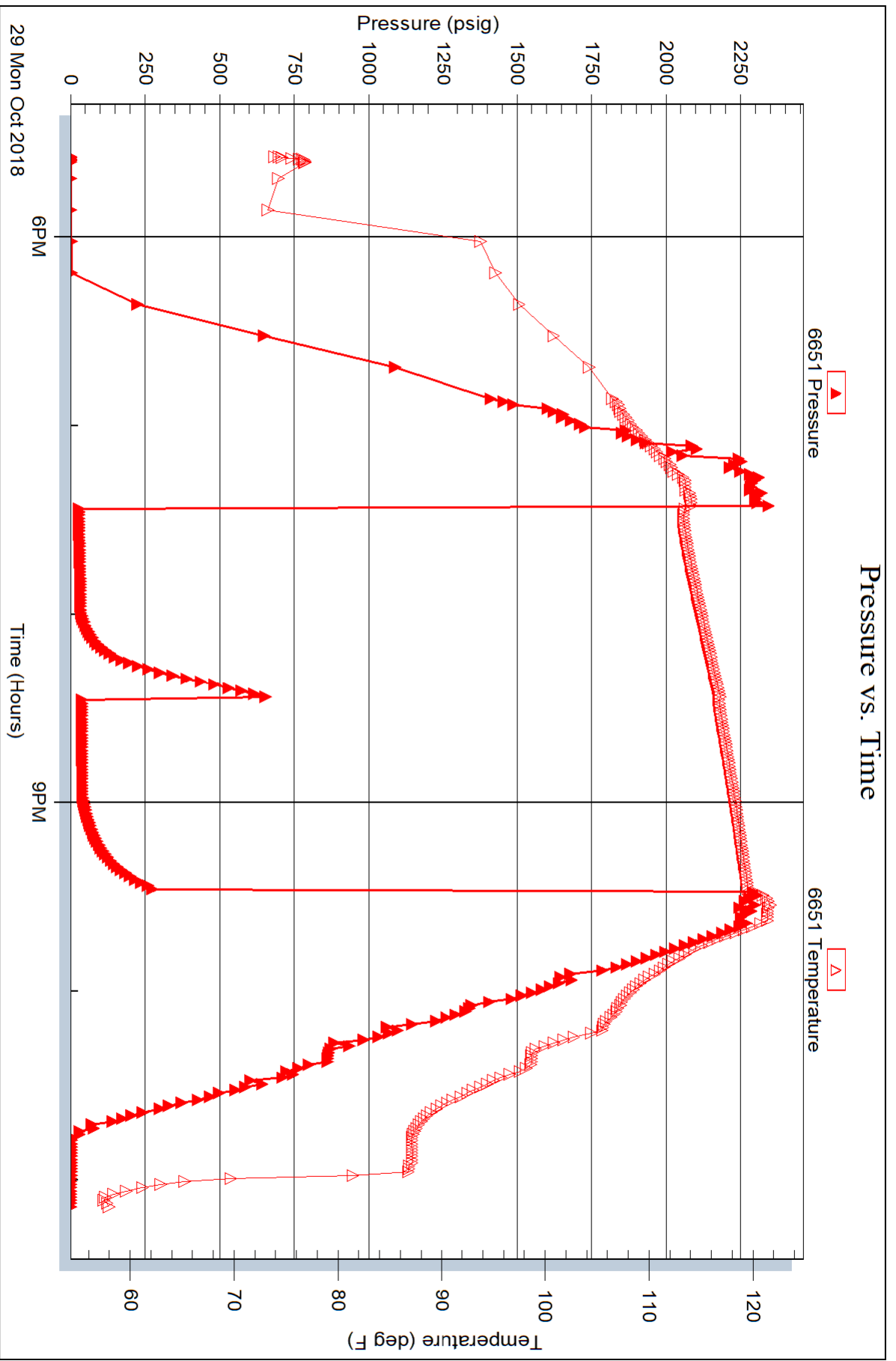
Serial #: 6651

Inside

Funk Petroleum LLC

Legacy #1-19

DST Test Number: 2





# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 64264

Well Name & No. Legacy 1-19 Test No. 1 Date 10-27-18  
 Company Funk Petroleum LLC Elevation 3335 KB 3330 GL  
 Address 2110 N 1184th St Eudora, KS 66025  
 Co. Rep / Geo. Tom Funk Rig Murfin 16  
 Location: Sec. 19 Twp 9 Rge. 35 Co. THOMAS State KS

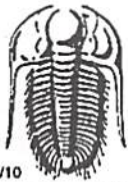
Interval Tested 4262 4310 Zone Tested Lynsing H  
 Anchor Length 48 Drill Pipe Run 4212 Mud Wt. 8.8  
 Top Packer Depth 4297 Drill Collars Run 30 Vis 57  
 Bottom Packer Depth 4262 Wt. Pipe Run — WL 7.2  
 Total Depth 4310 Chlorides 3300 ppm System LCM 2  
 Blow Description IF: 1/2 blow built to 3/4.  
IS: No return.  
FF: surface blow built to 3 1/2.  
FS: No return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>90</u>	<u>mcw</u>		<u>80</u>	<u>20</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 90 BHT 128 Gravity — API RW .22 @ 42° F Chlorides 58,000 ppm  
 (A) Initial Hydrostatic 2137  Test 1150 T-On Location 20:45  
 (B) First Initial Flow 18  Jars 250 T-Started 23:35  
 (C) First Final Flow 36  Safety Joint 75 T-Open 1:25  
 (D) Initial Shut-In 1267  Circ Sub N/C T-Pulled 5:25  
 (E) Second Initial Flow 38  Hourly Standby \_\_\_\_\_ T-Out 7:20  
 (F) Second Final Flow 64  Mileage 178-178 Comments out of town  
 (G) Final Shut-In 1251  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 2080  Straddle \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  
 Day Standby \_\_\_\_\_  
 Accessibility \_\_\_\_\_  
 Initial Open 30  
 Initial Shut-In 60  
 Final Flow 60  
 Final Shut-In 90  
 Sub Total 1653  
 Total 1653  
 MP/DST Disc't \_\_\_\_\_

Approved By Tom Funk 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. 64265

Well Name & No. Legacy 1-19 Test No. 2 Date 10-29-19  
 Company Funk Petroleum LLC Elevation 3335 KB 3330 GL  
 Address \_\_\_\_\_  
 Co. Rep / Geo. Tom Funk Rig Martin 16  
 Location: Sec. 19 Twp 9 Rge. 35 Co. Thomas State KS

Interval Tested 4623 4697 Zone Tested Cherokee - Johnson  
 Anchor Length 74 Drill Pipe Run 4591 Mud Wt. 9.4  
 Top Packer Depth 4618 Drill Collars Run 30 Vis 58  
 Bottom Packer Depth 4623 Wt. Pipe Run \_\_\_\_\_ WL 7.2  
 Total Depth 4697 Chlorides 5000 ppm System LCM 1  
 Blow Description IF: 1/4 blow built to 1/4.  
FS: No return,  
FF: Surface blow built to 1/4.  
FS: No return

Rec	Feet of	%gas	%oil	%water	%mud
<u>35</u>	<u>OCM</u>	<u>5</u>		<u>95</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 35 BHT 120 Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm  
 (A) Initial Hydrostatic 2354  Test 1150 T-On Location 17:00  
 (B) First Initial Flow 20  Jars 250 T-Started 17:34  
 (C) First Final Flow 26  Safety Joint 75 T-Open 19:25  
 (D) Initial Shut-In 646  Circ Sub NIL T-Pulled 21:25  
 (E) Second Initial Flow 31  Hourly Standby \_\_\_\_\_ T-Out 23:10  
 (F) Second Final Flow 31  Mileage 178-22 178+178 Comments out of town  
 (G) Final Shut-In 265  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 2284  Straddle \_\_\_\_\_  
 Initial Open 30  Shale Packer \_\_\_\_\_  
 Initial Shut-In 30  Extra Packer \_\_\_\_\_  
 Final Flow 30  Extra Recorder \_\_\_\_\_  
 Final Shut-In 30  Day Standby \_\_\_\_\_  
 Sub Total 1831  Accessibility \_\_\_\_\_  
 Sub Total 1831  Ruined Shale Packer \_\_\_\_\_  
 Ruined Packer \_\_\_\_\_  
 Extra Copies \_\_\_\_\_  
 Sub Total 0  
 Total 1831  
 MP/DST Disc't \_\_\_\_\_

Approved By [Signature] 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.



Thomas J. Funk  
Petroleum Geologist

Geologists Report  
Drilling Time and Sample Log

OPERATOR Funk Petroleum, LLC

LEASE Legacy

FIELD Wildcat

LOCATION 1772' FNL & 888' FEL

SEC. 19 TWP. 9S RGE. 35W

COUNTY Thomas STATE Kansas

CONTRACTOR Marlin Dig Co. Rig #16

COMM 10/23/2018

RTD 4860'

SAMPLES SAVED FROM 3800'

DRILLING TIME KEPT FROM 3800'

SAMPLES EXAMINED FROM 3800'

GEOLOGICAL SUPERVISION FROM 3800'

MUD UP 3500'

TO 4860'

TO 4850'

TO 4850'

TO 4850'

None

PRODUCTION

8 5/8" at 302' KB w/2505x

Date	Daily Progress	NO. Stretches	Make	Type of	Bit	Depth	Out	Feet	Hours
10/23/18	Spud	1	1 1/4"	Feed	TCOP	303		303	3:30
10/24/18									
10/25/18		2	7 7/8"	HTC	GX20c	4950		4547	108
10/26/18									
10/27/18									
10/28/18									
10/29/18									
10/30/18									
10/31/18									

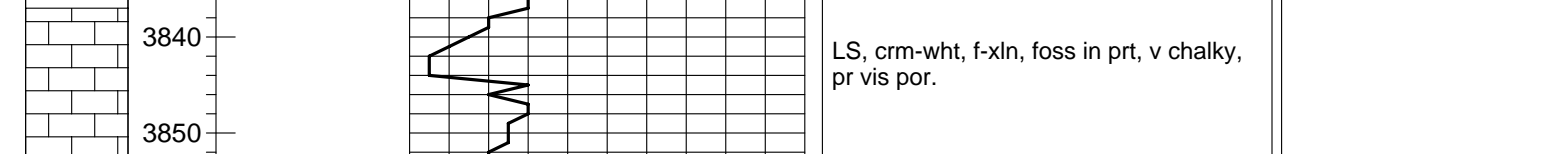
WELL NO	#1-19
KB	3335'
DF	15-193-21034
GL	3330'
Measurements Are All	
From	KB

FORMATION	LOG	SAMPLE	TOP DATUM	TOP DATUM
Anhydrite	2802 (+533)	2806 (+529)	2831 (+504)	2831 (+504)
Baryhydrite	3888 (-553)	3894 (-559)	3894 (-559)	3894 (-559)
Topokaka	4091 (-756)	4092 (-757)	4092 (-757)	4092 (-757)
Heebner Sh	4130 (-795)	4132 (-797)	4130 (-795)	4132 (-797)
Lansing	4267 (-932)	4268 (-933)	4267 (-932)	4268 (-933)
Muncie Creek	4356 (-1021)	4356 (-1021)	4356 (-1021)	4356 (-1021)
Start Sh	4440 (-1105)	4438 (-1103)	4438 (-1103)	4438 (-1103)
Marmaton	4541 (-1206)	4540 (-1205)	4541 (-1206)	4540 (-1205)
Pawnee	4629 (-1294)	4627 (-1292)	4629 (-1294)	4627 (-1292)
Cherokee Sh	4670 (-1335)	4667 (-1332)	4670 (-1335)	4667 (-1332)
Johnson Zone	4758 (-1423)	4754 (-1419)	4758 (-1423)	4754 (-1419)
Mississippian				

FORMATION	LOG	SAMPLE	TOP DATUM	TOP DATUM
Anhydrite	2802 (+533)	2806 (+529)	2831 (+504)	2831 (+504)
Baryhydrite	3888 (-553)	3894 (-559)	3894 (-559)	3894 (-559)
Topokaka	4091 (-756)	4092 (-757)	4092 (-757)	4092 (-757)
Heebner Sh	4130 (-795)	4132 (-797)	4130 (-795)	4132 (-797)
Lansing	4267 (-932)	4268 (-933)	4267 (-932)	4268 (-933)
Muncie Creek	4356 (-1021)	4356 (-1021)	4356 (-1021)	4356 (-1021)
Start Sh	4440 (-1105)	4438 (-1103)	4438 (-1103)	4438 (-1103)
Marmaton	4541 (-1206)	4540 (-1205)	4541 (-1206)	4540 (-1205)
Pawnee	4629 (-1294)	4627 (-1292)	4629 (-1294)	4627 (-1292)
Cherokee Sh	4670 (-1335)	4667 (-1332)	4670 (-1335)	4667 (-1332)
Johnson Zone	4758 (-1423)	4754 (-1419)	4758 (-1423)	4754 (-1419)
Mississippian				

Remarks And Recommendations:  
Based on sample examination, DST results, and log analysis  
It was decided to plug and abandon the #1-19 Legacy.  
Thomas Funk  
Petroleum Geologist

LEGEND



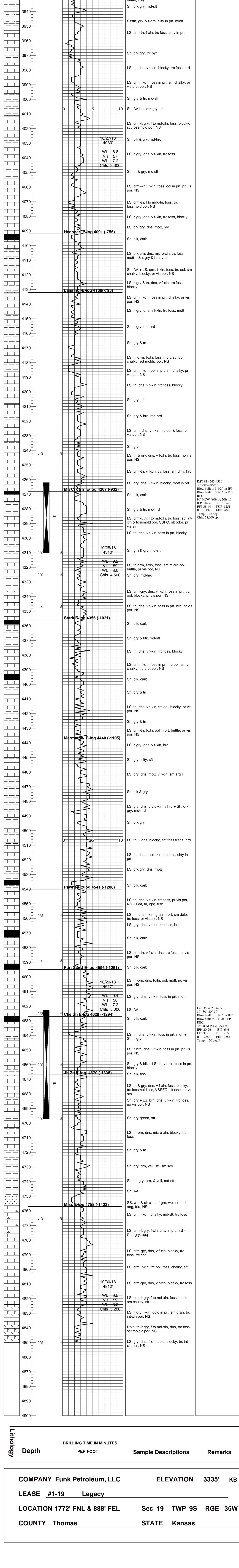
Lithology

DRILLING TIME IN MINUTES PER FOOT

Depth

Sample Descriptions

Remarks



Lithology

DRILLING TIME IN MINUTES PER FOOT

Depth

Sample Descriptions

Remarks

COMPANY	Funk Petroleum, LLC	ELEVATION	3335'	KB
LEASE	#1-19 Legacy			
LOCATION	1772' FNL & 888' FEL	Sec 19	TWP 9S	RGE 35W
COUNTY	Thomas	STATE	Kansas	