

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	Bickle Energies LLC
Well Name	AVERY 14-1
Doc ID	1434491

All Electric Logs Run

MICRO
DUAL INDUCTION
NEUTRON DENSITY
SONIC

Form	ACO1 - Well Completion
Operator	Bickle Energies LLC
Well Name	AVERY 14-1
Doc ID	1434491

Tops

Name	Top	Datum
TOPEKA	4023	-696
HEEBNER	4162	-835
LANSING	4212	-885
MARMATON	4506	-1179
PAWNEE	4597	-1270
CHEROKEE	4680	-1353
MISSISSIPPI	4885	-1558
T.D.	4955	-1628





"THE NEXT GENERATION OF ENERGY"

Scale 1:240 Imperial

Well Name: Avery 14-1  
 Surface Location: Sec. 14 - T5S - R37W  
 Bottom Location:  
 API: 15-023-21488-0000  
 License Number: 34917  
 Spud Date: 6/18/2018 Time: 4:15 PM  
 Region: Cheyenne County  
 Drilling Completed: 6/29/2018 Time: 8:50 AM  
 Surface Coordinates: 1335' FSL & 1645' FEL  
 Bottom Hole Coordinates:  
 Ground Elevation: 3322.00ft  
 K.B. Elevation: 3327.00ft  
 Logged Interval: 3700.00ft To: 4950.00ft  
 Total Depth: 4950.00ft  
 Formation: Mississippian  
 Drilling Fluid Type: Chemical/Fresh Water Gel

**OPERATOR**

Company: Bickle Energies, LLC  
 Address: P.O. Box 816  
 Hays, KS 67601  
 Contact Geologist: Matt Bickle  
 Contact Phone Nbr: 785-639-1681  
 Well Name: Avery 14-1  
 Location: Sec. 14 - T5S - R37W  
 API: 15-023-21488-0000  
 Pool:  
 State: Kansas Field: Un-named  
 Country: USA

**SURFACE CO-ORDINATES**

Well Type: Vertical  
 Longitude:  
 Latitude:  
 N/S Co-ord: 1335' FSL  
 E/W Co-ord: 1645' FEL

**LOGGED BY**

***Keith Reavis***  
*Consulting Geologist*

Company: Keith Reavis, Inc.  
 Address: 3420 22nd Street  
 Great Bend, KS 67530  
 Phone Nbr: 620-617-4091  
 Logged By: KLG #136 Name: Keith Reavis

**CONTRACTOR**

Contractor: L.D. Drilling Company  
 Rig #: 1  
 Rig Type: mud rotary  
 Spud Date: 6/18/2018 Time: 4:15 PM  
 TD Date: 6/29/2018 Time: 8:50 AM  
 Rig Release: Time:

**ELEVATIONS**

K.B. Elevation: 3327.00ft  
 K.B. to Ground: 5.00ft

Ground Elevation: 3322.00ft

**NOTES**

Due to positive results of Drill Stem Test #4, 5 1/2" production casing was set and cemented to further test the Pawnee Limestone through perforations and stimulation.

A Bloodhound gas detection system operated by Bluestem Labs was employed during the drilling of this well. ROP and gas data were imported from said system into this geological log. Gamma ray and caliper curves were also imported into the log.

Samples were saved and submitted to the Kansas Geological Survey Well Sample Library located in Wichita, KS.

Respectfully submitted,  
 Keith Reavis

**daily drilling report**

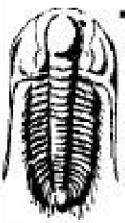
DATE	7:00 AM DEPTH	REMARKS
06/23/2018	3850	Geologist on location 1400 hrs, 3985 ft, drilling ahead, Stotler, Topeka
06/24/2018	4216	drilling ahead, Oread, Heebner, Toronto, Lansing A, shows in Toronto and A zone warrant test, short trip, TOH for DST #1, conduct and complete DST #1, storm delay, TIH w/bit, resume drilling
06/25/2018	4293	drilling ahead, LKC, shows in D and F zones warrant test, TOH w/bit, conduct and complete DST #2, successful test, TIH w/bit, drill ahead
06/26/2018	4414	drilling ahead, LKC, show in J zone warrants test, TOH w/bit, TIH w/tools, conduct DST #3, successful test, TIH w/bit, drill ahead
06/27/2018	4504	drilling ahead, Marmaton, Pawnee, show and kick in Pawnee warrants test, short trip, TOH w/bit, in w/tools, conduct DST #4
06/28/2018	4615	complete DST #4, successful test, release test, TIH w/bit, resume drilling, Myrick, Ft. Scott, Cherokee
06/29/2018	4905	drilling ahead, Cherokee, Mississippian, TD 4950 ft @ 0850 hrs, cfs, short trip, ctch, TOH w/bit, conduct electrical logging operations, geologist off location at noon

**well comparison sheet**

DRILLING WELL					COMPARISON WELL			
Avery #14-1					McNeish Oil - #1 Yonkey			
1335' FSL & 1645' FEL					NE SE SE			
Sec 14-T5S-R37W					Sec 14-T5S-R37W			
3327 KB					3357 KB		Structural Relationship	
Formation	Sample	Sub-Sea	Log	Sub-Sea	Log	Sub-Sea	Sample	Log
Stotler	3882	-555	3884	-557	3915	-558	3	1
Topeka	4029	-702	4023	-696	4054	-697	-5	1
Oread	4141	-814	4142	-815	4172	-815	1	0
Heebner	4162	-835	4162	-835	4192	-835	0	0
Toronto	4198	-871	4199	-872	4231	-874	3	2
Lansing	4212	-885	4212	-885	4245	-888	3	3
Lansing D	4262	-935	4260	-933	4296	-939	4	6
Lansing G	4314	-987	4315	-988	4348	-991	4	3
Muncie Creek	4334	-1007	4336	-1009	4370	-1013	6	4
Stark Shale	4413	-1086	4415	-1088	4445	-1088	2	0
Base KC	4488	-1161	4493	-1166	4522	-1165	4	-1
Marmaton	4502	-1175	4506	-1179	4537	-1180	5	1
Pawnee	4596	-1269	4597	-1270	4632	-1275	6	5
Myrick Station	4622	-1295	4624	-1297	4657	-1300	5	3
Fort Scott	4656	-1329	4658	-1331	4692	-1335	6	4
Cherokee	4678	-1351	4680	-1353	4714	-1357	6	4

Mississippian	4884	-1557	4885	-1558	4955	-1598	41	40
Total Depth	4950	-1623	4955	-1628	5000	-1643	20	15

### Drill Stem Test #1

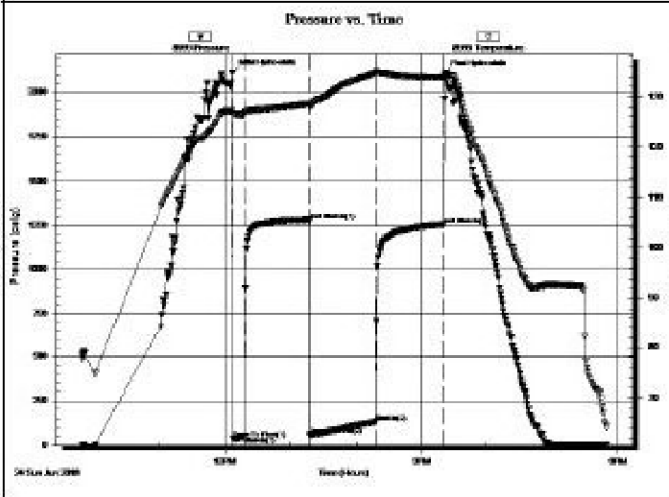
 <b>TRILOBITE TESTING, INC.</b>	<b>DRILL STEM TEST REPORT</b>	
	Bickle Energies LLC	14-5S.-37W Cheyenne Co.
	P.O. Box 816 Hays, KS 67601	<b>Avery #14-1</b>
ATTN: Keith Reavis	Job Ticket: 64182	<b>DST#:1</b>
	Test Start: 2018.06.24 @ 09:50:00	

**GENERAL INFORMATION:**

Formation: <b>Toronto/Lansing A</b>	Test Type: Conventional Bottom Hole (Initial)
Deviated: No Whipstock: ft (KB)	Tester: Martine Salinas
Time Tool Opened: 12:07:40	Unit No: 62
Time Test Ended: 17:49:39	Reference Elevations: 3327.00 ft (KB)
Interval: <b>4156.00 ft (KB) To 4216.00 ft (KB) (TVD)</b>	3322.00 ft (CF)
Total Depth: 4216.00 ft (KB) (TVD)	KB to GR/CF: 5.00 ft
Hole Diameter: 7.88 inches -hole Condition: Good	

<b>Serial #: 8959</b>	<b>Inside</b>				
Press@RunDepth: 131.77 psig @ 4157.00 ft (KB)	Capacity: 8000.00 psig				
Start Date: 2018.06.24	End Date: 2018.06.24	2018.06.24	Last Calib.: 2018.06.24		
Start Time: 09:50:01	End Time: 17:49:40	17:49:40	Time On Btm: 2018.06.24 @ 12:07:20		
			Time Off Btm: 2018.06.24 @ 15:21:50		

**TEST COMMENT:** 10-F-S blow built to 4"  
60-SI-No blow  
60-FF-S blow built to B.O.B (12 inches) @ 47 mins  
60-FSI-No blow



PRESSURE SUMMARY			
Time (Mn.)	Pressure (psig)	Temp (deg F)	Annotation
0	2109.93	127.24	Initial Hydro-static
1	35.40	128.52	Open To Flow (1)
11	49.92	128.56	Shut-In(1)
71	1281.99	128.50	End Shut-In(1)
71	56.55	127.87	Open To Flow(2)
131	131.77	134.75	Shut-In(2)
193	1255.71	133.77	End Shut-In(2)
195	2108.63	134.34	Final Hydro-static

Recovery		
Length (ft)	Description	Volume (bbl)
242.00	OS/HMCW 4%O, 38%M, 59%W	3.39
1.00	CO 100%	0.01

Gas Rates			
	Choke (Inches)	Pressure (psig)	Gas Rate (Mcf/d)

### Drill Stem Test #2

 <b>TRILOBITE TESTING, INC.</b>	<b>DRILL STEM TEST REPORT</b>	
	Bickle Energies LLC	14-5S.-37W Cheyenne Co.
	P.O. Box 816	<b>Avery #14-1</b>





Hays, KS 67601

Job Ticket: 64183

DST#: 2

ATTN: Keith Reavis

Test Start: 2018.06.25 @ 11:06:00

**GENERAL INFORMATION:**Formation: **LKC D,E & F**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 12:33:10

Time Test Ended: 17:34:39

Test Type: Conventional Bottom Hole (Reset)

Tester: Martine Salinas

Unit No: 82

Interval: **4249.00 ft (KB) To 4307.00 ft (KB) (TVD)**

Total Depth: 4307.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches -hole Condition: Good

Reference Elevations: 3327.00 ft (KB)

3322.00 ft (CF)

KB to GR/CF: 5.00 ft

**Serial #: 8959**

Inside

Press@RunDepth: 51.15 psig @ 4250.00 ft (KB)

Start Date: 2018.06.25

End Date:

2018.06.25

Start Time: 11:06:01

End Time:

17:34:40

Capacity: 8000.00 psig

Last Calib.: 2018.06.25

Time On Btm: 2018.06.25 @ 12:33:00

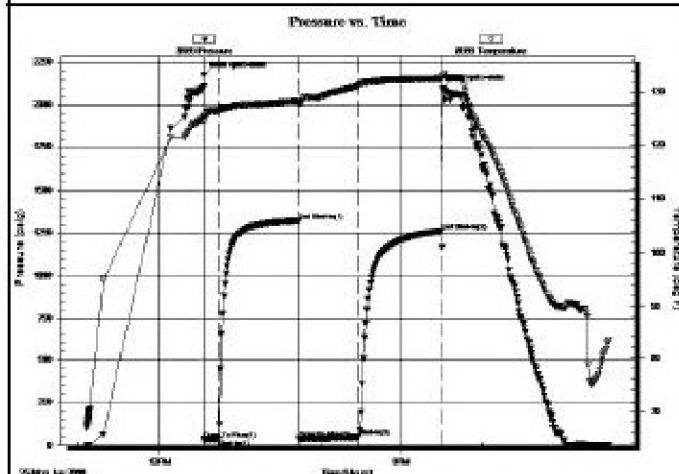
Time Off Btm: 2018.06.25 @ 15:31:00

**TEST COMMENT:** 10-F-S.blow built to 3/4"

60-SI-No blow

45-FF-S.blow @ 8 mins built to 1 1/2"

60-FSI-No blow

**PRESSURE SUMMARY**

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2173.59	125.43	Initial Hydro-static
1	34.62	124.44	Open To Flow (1)
11	37.56	128.54	Shut-In(1)
71	1321.67	128.25	End Shut-In(1)
71	40.08	127.73	Open To Flow (2)
116	51.15	131.32	Shut-In(2)
177	1262.40	132.50	End Shut-In(2)
178	2095.58	133.03	Final Hydro-static

**Recovery**

Length (ft)	Description	Volume (bbl)
68.00	SOSM 1%O, 99%M	0.95

\* Recovery from multiple tests

**Gas Rates**

	Choke (inches)	Pressure (psig)	Gas Rate (Mcfd)

**Drill Stem Test #3****TRILOBITE TESTING, INC.****DRILL STEM TEST REPORT**

Bicke Energies LLC

14-5S.-37W

Cheyenne Co.

P.O. Box 816

Hays, KS 67601

Avery #14-1

Job Ticket: 64184

DST#: 3

ATTN: Keith Reavis

Test Start: 2018.06.26 @ 11:54:00

**GENERAL INFORMATION:**Formation: **LKC " J "**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 13:49:50

Time Test Ended: 18:59:20

Test Type: Conventional Bottom Hole (Reset)

Tester: Martine Salinas

Unit No: 82

Interval: **4360.00 ft (KB) To 4414.00 ft (KB) (TVD)**

Reference Elevations: 3327.00 ft (KB)

Total Depth: 4414.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches-hole Condition: Good

3322.00 ft (CF)  
 KB to GR/CF: 5.00 ft

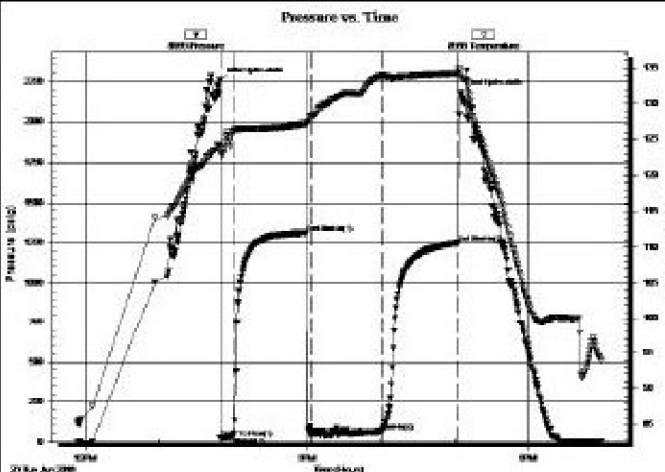
Serial #: 8959

Inside

Press@RunDepth: 66.27 psig @ 4361.00 ft (KB)  
 Start Date: 2018.06.26 End Date: 2018.06.26  
 Start Time: 11:54:01 End Time: 18:59:20

Capacity: 8000.00 psig  
 Last Calib.: 2018.06.26  
 Time On Btm: 2018.06.26 @ 13:49:10  
 Time Off Btm: 2018.06.26 @ 17:04:30

TEST COMMENT: 10-F-S.blow built to 2"  
 60-IS-No blow  
 45-FF-S.blow @ 1 mins built to 9"  
 60-FSI-No blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2256.91	124.17	Initial Hydro-static
1	24.75	123.19	Open To Flow (1)
11	34.93	126.21	Shut-In(1)
71	1314.20	127.28	End Shut-In(1)
75	43.96	128.25	Open To Flow (2)
132	66.27	133.88	Shut-In(2)
194	1248.33	134.23	End Shut-In(2)
196	2179.91	134.74	Final Hydro-static

Recovery

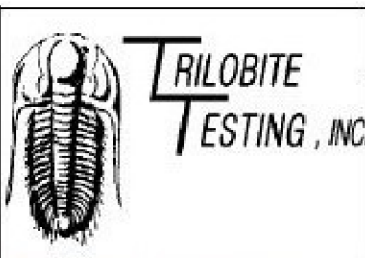
Length (ft)	Description	Volume (bbl)
63.00	SOCM 8%O, 92%M	0.88
31.00	GOC/WCM 3%G, 15%O, 22%W, 60%M	0.43
1.00	CO 100%O	0.01

\* Recovery from multiple tests

Gas Rates

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

Drill Stem Test #4



DRILL STEM TEST REPORT

Bickle Energies LLC

14-5S.-37W Cheyenne,KS

P.O. Box 816  
 Hays, KS 67601

Avery #14-1

ATTN: Keith Reavis

Job Ticket: 64185

DST#:4

Test Start: 2018.06.27 @ 22:10:00

GENERAL INFORMATION:

Formation: Pawnee  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 00:02:30  
 Time Test Ended: 07:34:19

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

Interval: 4580.00 ft (KB) To 4615.00 ft (KB) (TVD)

Reference Elevations: 3327.00 ft (KB)

Total Depth: 4615.00 ft (KB) (TVD)

3322.00 ft (CF)

Hole Diameter: 7.88 inches-hole Condition: Good

KB to GR/CF: 5.00 ft

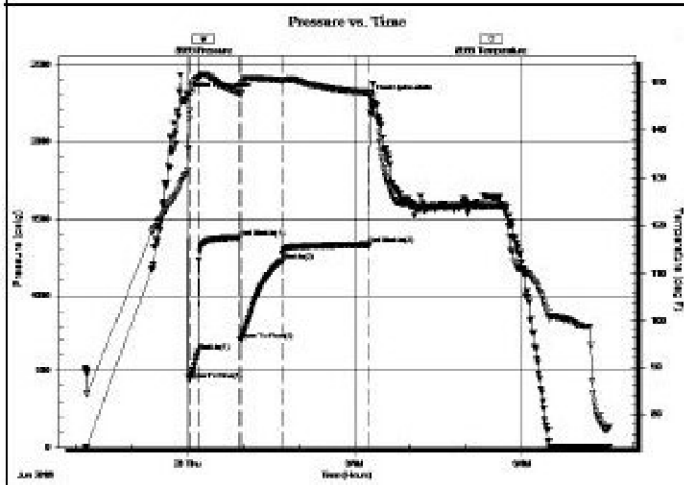
Serial #: 8959

Inside

Press@RunDepth: 1224.51 psig @ 4581.00 ft (KB)  
 Start Date: 2018.06.27 End Date: 2018.06.28  
 Start Time: 22:10:01 End Time: 07:34:19

Capacity: 8000.00 psig  
 Last Calib.: 2018.06.28  
 Time On Btm: 2018.06.28 @ 00:00:40  
 Time Off Btm: 2018.06.28 @ 03:16:50

TEST COMMENT: 10-F-5" blow built to B.O.B (12 inches) @ 45 secs (blow increased to 265")  
 60-IS-Blow back built to B.O.B (12 inches) @ 4 mins (blow increased to 335")  
 45-FF-Blow built to B.O.B (12 inches) @ 45 mins (blow increased to 240")



**PRESSURE SUMMARY**

Time (Mn.)	Pressure (psig)	Temp (deg F)	Annotation
0	2302.19	131.76	Initial Hydro-static
2	440.60	142.37	Open To Flow (1)
11	626.64	150.81	Shut-In(1)
56	1378.42	147.79	End Shut-In(1)
57	694.80	147.27	Open To Flow (2)
102	1224.51	150.43	Shut-In(2)
195	1332.94	147.84	End Shut-In(2)
197	2283.10	146.69	Final Hydro-static

**Recovery**

Length (ft)	Description	Volume (bbl)
127.00	GOCM 20%G, 25%O, 55%M	1.78
2954.00	CGO 25%G, 75%O Reversed	41.44
221.00	CGO 16%G, 84%O	3.10
0.00	GTS	0.00

\* Recovery from multiple tests

**Gas Rates**

	Choke (inches)	Pressure (psig)	Gas Rate (McfD)

**ROCK TYPES**

Dolprim	Lmst fw7>	Carbon Sh	Ss
sdy lmsl	shale, grn	shale, red	Siltst
Lmst fw<7	shale, gry	Shcol	

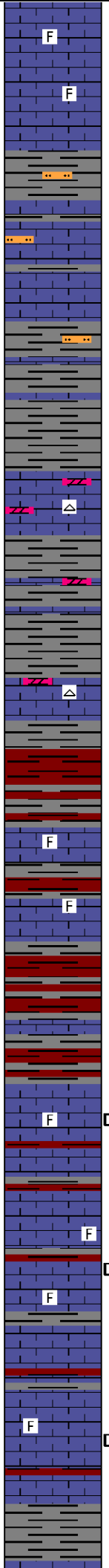
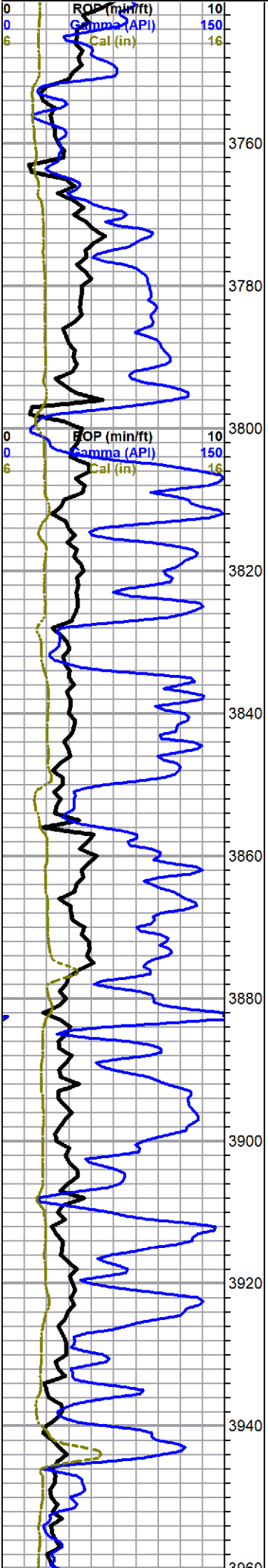
**ACCESSORIES**

<b>MINERAL</b>	<b>FOSSIL</b>	<b>STRINGER</b>	<b>TEXTURE</b>
⊥ Calcareous	∩ Bioclastic or Fragmental	Dolomite	C Chalky
▲ Chert, dark	∩ Coral	Limestone	L Lithogr
∩ Glauconite	F Fossils < 20%	Sandstone	
× Mineral Crystals	⊕ Oolite	Siltstone	
P Pyrite	∩ Pellets	Shale	
• Silty		red shale	
△ Chert White			

**OTHER SYMBOLS**

<b>Oil Show</b>	<b>DST</b>
● Good Show	DST Int
● Fair Show	DST alt
● Poor Show	Core
○ Spotted or Trace	tail pipe
○ Questionable Stn	
D Dead Oil Stn	
■ Fluorescence	
* Gas	

Curve Track #1	Depth   Intervals	DST	Lithology	Oil Show	Geological Descriptions	TG, C1 - C5
ROP (min/ft)						Total Gas (units)
Gamma (API)						C1 (units)
Cal (in)						C2 (units)
						C3 (units)
						C4 (units)
						C5 (units)



**20 ft wet and dry samples**

limestone, light gray, mostly cryptocrystalline, slightly fossiliferous to sub-lithographic, dense, no shows

mostly dark gray mixed limestone, dense gray limey shale, some lavender siltstone

limestone, cream to light gray, some white, micro-cryptocrystalline, fossiliferous to sub-lithographic, trace spongy pinpoint porosity, with dolomite, light gray, microcrystalline, sub-sucrosic, poor visible porosity, no shows, some scattered light gray chert, no shows

a.a.

flood shale, red, silty, with lavender, red wash in samples, cream and light gray fossiliferous limestone, maroon tinting, with some arenaceous dense maroon limestone, no shows

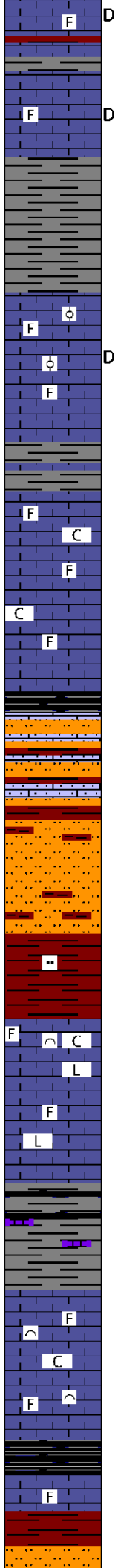
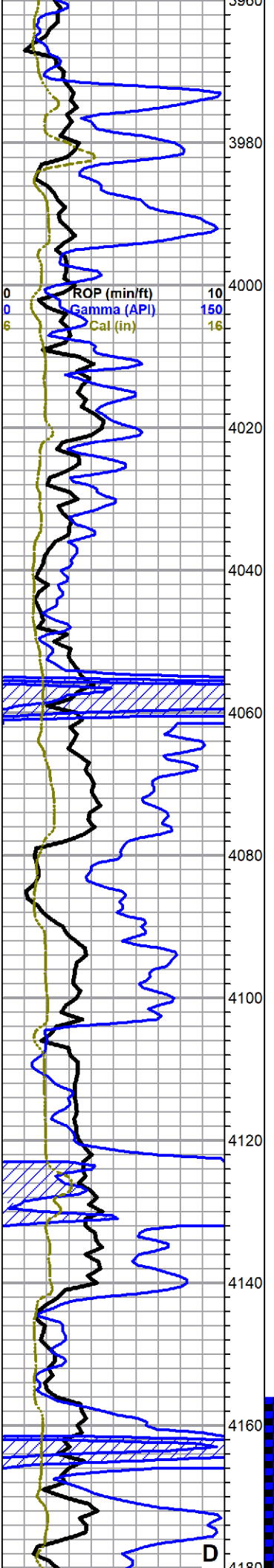
**Stotler 3882 -555**

limestone, variable gray, micro-cryptocrystalline, fossiliferous, trace dark gray pelletal, trace black solid stained asphaltic, leached, no free oil, no odor

limestone, white, light gray and cream, chalky, fossiliferous, some mottling, scattered black dead stain (no cut), some surface etching, trace pinpoint porosity, trace solid black leached asphaltic (good cut), dense, no show free oil, no odor, some scattered fair fluorescence

limestone, light gray, mostly cryptocrystalline, fossiliferous, grainy and chalky in part, scattered dead black stain, poor visible porosity, scaly dead oil with some sheen on break, scattered light fluorescence, no other shows free oil, no odor, poor to no cut, 4000 sample shows more evident solution vugs, good staining, but mostly dead, one rock with some very tarry oil





limestone a.a.

limestone, cream to light gray, microcrystalline, fossiliferous to oolitic, recrystallized in part, poor visible porosity, fairly dense, spotty to heavy black dead staining, no show free oil, no odor, light fluorescence, fair milky white to bluish white cut

begin 10 ft wet and dry samples @ 4030 ft

**Topeka 4029 -702**

limestone, white to light gray and cream, micro-cryptocrystalline, fossiliferous, grain in part, chalky in part, scattered small vugs, barren, abundant chalk

shale, black carbonaceous

light gray siltstone and silty limestone

soft red shale and red siltstone

limestone, light gray to cream, fossiliferous, fine grained bioclastic, chalky in part, some pinpoint porosity, no shows

grades to limestone, gray, cryptocrystalline, lithographic and fossiliferous, dense, no shows

black and gray shale, with gray argillaceous limestone, trace light gray limestone, cryptocrystalline, slightly fossiliferous, trace stain, no show free oil, no odor

**Oread 4141 -814**

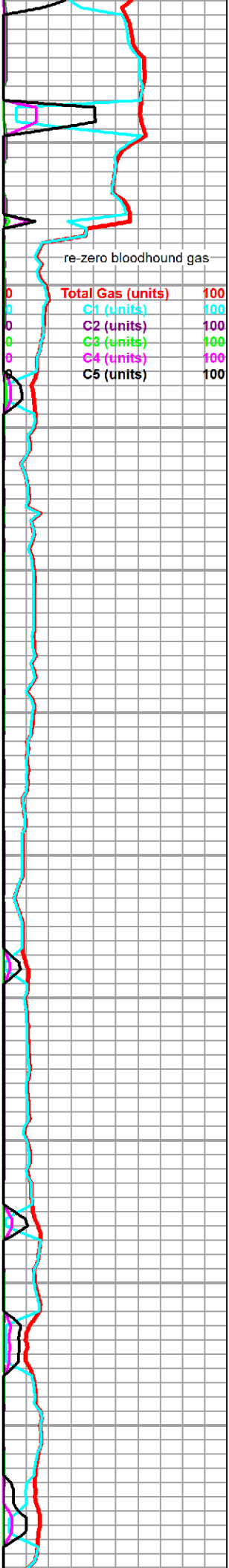
limestone, white to cream, bioclastic to fossiliferous, grainy, chalky, some pinpoint porosity, abundant chalk in samples, no shows

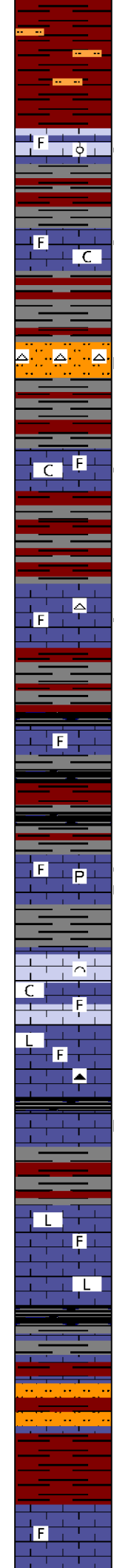
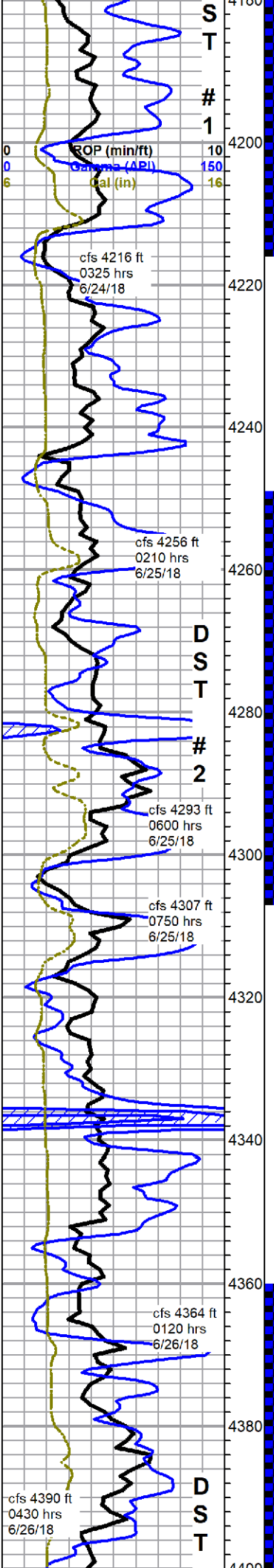
**Heebner 4162 -835**

shale, black carbonaceous

limestone, gray to brown, cryptocrystalline, fossiliferous, some large clasts, no shows

shale red, silty, siltstone, pink to red





**Toronto 4198 -871**

limestone, white to light gray, grainy fossiliferous to oolitic, chalky and weathered in part, some fair vuggy porosity, fairly even black stain, questionable odor, show slow bleeding free oil and heavy sheen, light fluorescence, slow streaming milky cut with halo

**Lansing 4212 -885**

limestone, white to light gray and cream, micro-cryptocrystalline, fossiliferous, grainy in part, some chalky and weathered, spotty to even black staining, fair odor, steaming sheen with slight show heavy bleeding oil, good fluorescence, slow steaming milky cut with halo

4240 & 50 samples, B zone, light gray siltstone, pyritic with large chert nodules, well cemented, slight lightly black mottled staining, no show free oil, poor fluorescence, light blue cut with halo

C zone - limestone, white to light gray, cryptocrystalline, fossiliferous, chalky, poor visible porosity, spotty speckled black gilstonitic/asphalt staining, no show free oil, no odor, fair fluorescence, fair cut

D zone - limestone, white to light gray, microcrystalline, sub-lithographic to fossiliferous, spotty black dead stain, few pieces nice vugs with oily stain and heavy clingy oil, trace free oil in tray, fleeting odor, spotty fluorescence, good cut, with; smokey gray to white chert, spotty stain

E zone - light gray to blue gray, cryptocrystalline, fossiliferous, some large clasts, poor visible porosity, no shows

F zone - limestone, white to gray, microcrystalline, fossiliferous, some re-crystallized, trace pyritic, fair scattered pinpoint to interclast porosity, spotty to fair overall black oily stain, streaming sheen in tray, good show oil on break, questionable odor, variable fair to good fluorescence, excellent cut

G zone - limestone, white to cream, grainy bioclastic to fossiliferous, very chalky, no shows grades to cream to gray, cryptocrystalline, fossiliferous to lithographic, dense, no shows

limestone, dark gray to mottled gray, cyptocrystalline, fossiliferous to lithographic, dense, cherty, no shows

**Muncie Creek 4334 -1007**

shale, black carbonaceous

H zone - limestone, light gray to white, chalky fossiliferous, poor visible porosity, scattered light to even spotty black staining, no show free oil, no odor, light fluorescence, poor cut

H zone - limestone, cream to light gray, cryptocrystalline, lithographic to fossiliferous, trace chalky, no visible porosity, mostly dense, no shows

gray and black shales, with olive gray fossiliferous limestone, abundant carry-over from above

siltstone, red, with red sandy shale, abundant very fine mixed limestone, some scattered black staining, no free oil or odor

cfs sample, a.a. with flood soft mushy pink/red shale, heavy red wash

4400 sample, limestone, olive/gray to red/brown, microcrystalline, arenaceous to fossiliferous, some large clasts and secondary calcite, trace oolitic with light stain, abundant shale from above

J Porosity - limestone, white to light gray, cryptocrystalline, lithographic

Total Gas (units)	100
C1 (units)	100
C2 (units)	100
C3 (units)	100
C4 (units)	100
C5 (units)	100

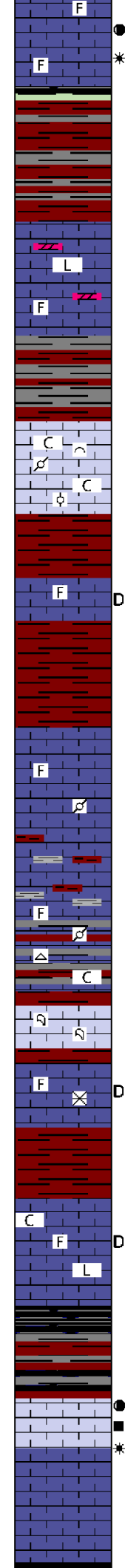
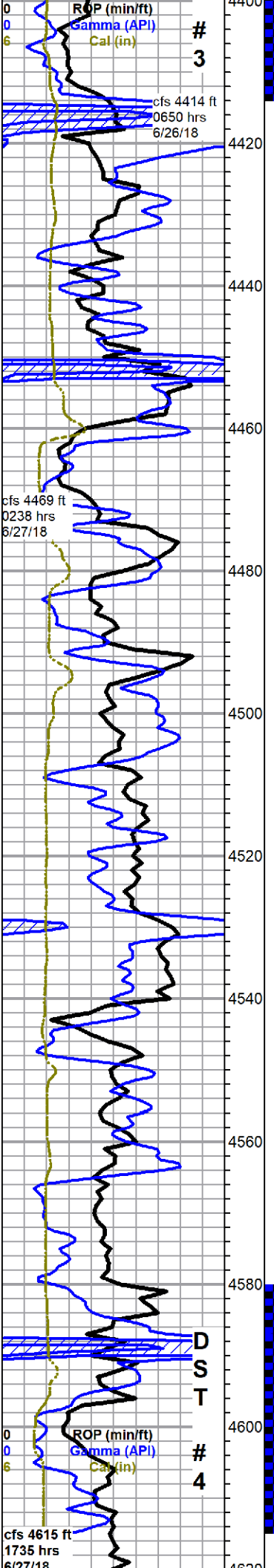
Strap 0.44 ft LTB deviation 3/4 deg

Andy's Mud chk @ 4216 ft  
1230 hrs 6/24/18  
Vis. 45 Wt. 9.3  
PV 18 YP 9  
WL 7.6  
Cake 1/32  
pH 9.5  
CHI 500 ppm  
Ca 36 ppm  
Sol 4.1 LCM 2#  
DMC \$1019.40  
CMC \$8869.15

Andy's Mud chk @ 4307 ft  
1045 hrs 6/25/18  
Vis. 46 Wt. 9.3  
PV 20 YP 10  
WL 7.2  
Cake 1/32  
pH 10.5  
CHI 750 ppm  
Ca 40 ppm  
Sol 4.1 LCM 1.5#  
DMC \$673.30  
CMC \$9542.45

**SCALE CHANGE**

Total Gas (units)	100
G1 (units)	100
G2 (units)	100
G3 (units)	100
G4 (units)	100
G5 (units)	100



to fossiliferous, dense to friable, scattered slight surface etching with spotty to even light golden stain, slight show free oil and fair show gassy oil on break, faint to fleeting gassy odor, scattered fair fluorescence with variable poor to good cut with halo

**Stark Shale 4413 -1086**  
 mixed shales and abundant trip trash

K zone - limestone, light gray, microcrystalline, arenaceous to sub-sucrosic, dolomite, light tan, microcrystalline, sub-sucrosic, limestone, white to light gray, cryptocrystalline, fossiliferous to sub-lithographic, dense, some chalk, no shows

L zone - limestone, gray, grainy bioclastic to fine oolitic/pelletal, good interclast porosity, no shows, poor fluorescence, flood chalk in samples

limestone, light gray, fossiliferous to pelletal, recrystallized in part, some arenaceous, scattered spotty to fair speckled black dead stain, no show free oil, no odor, poor fluorescence and cut

**Base KC 4488 -1161**

**Marmaton 4502 -1175**  
 limestone, gray to lavender to tan, fossiliferous to pelletal, some large clasts, poor visible porosity, abundant lavender gray shaley lime to limey shale, some silty, lithographic to arenaceous texture, soft to dense, abundant shale, no shows

mixed red and gray shales with limestone a.a.

limestone, olive gray, cream, maroon, microcrystalline, fossiliferous/pelletal, some large clasts, some scattered chert, abundant chalk, some scattered coral fan fragments, no shows

4550 flood translucent coral fan fragementes with red siltstones

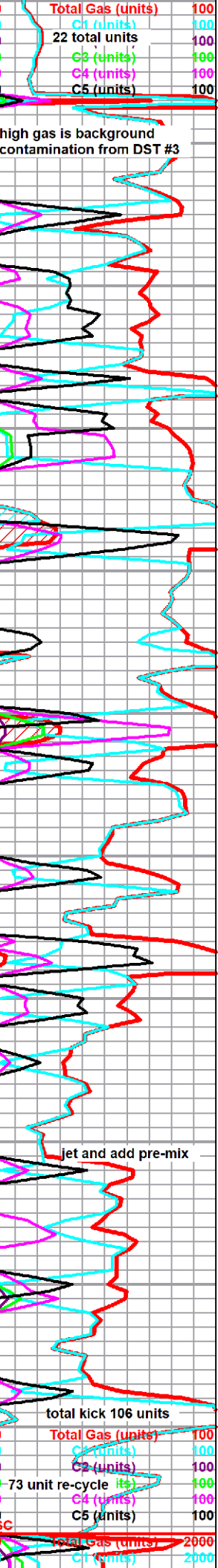
limestone, light gray to cream, cryptocrystalline, recrystallized fossiliferous, secondary calcite, dense, with variable white to gray chalky fossiliferous, no visible porosity, trace of spotty black dead stain, no free oil or odor

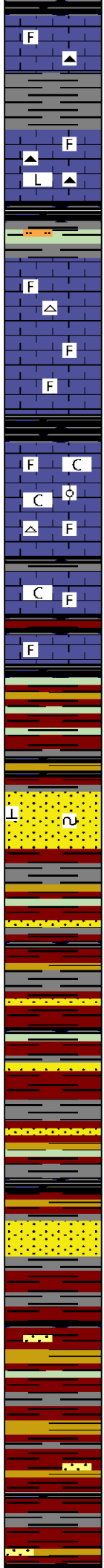
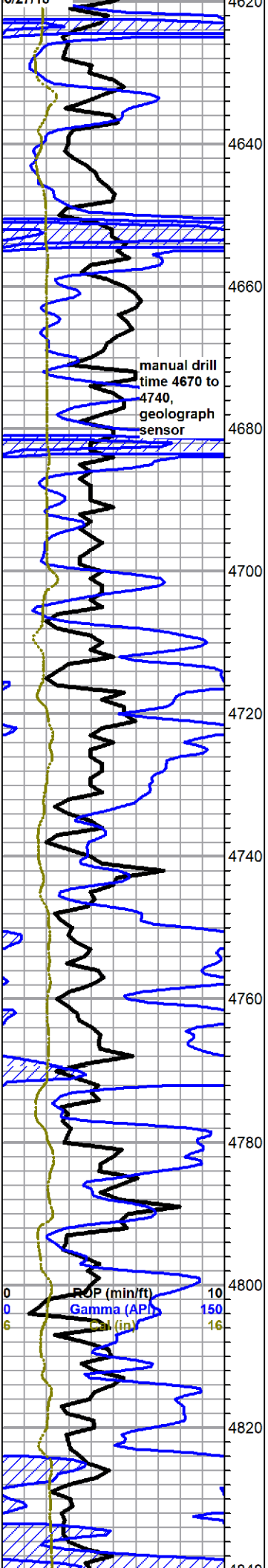
variable limestone, white to gray chalky fossiliferous, gray arenaceous and gray cryptocrystalline, compact, lithographic, some dark gray fossiliferous, cryptocrystalline, cherty, dense, trace scattered spotty black dead stain, no free oil, no odor

4600, brown carbonaceous shale, gray and red silty shale

**Pawnee 4596 -1269**  
 limestone, white to light gray, cryptocrystalline, fossiliferous, chalky and dense, mostly barren, with limestone, bioclastic to oolitic, good interclast and oolite porosity, fair light brown interclast and oolite staining, fair show free oil, good odor, bright green/yellow fluorescence, excellent cut, abundant frosted white chert, fresh, sharp

shale, black carbonaceous





shale, black carbonaceous

**Myrick Station 4622 -1295**

limestone, brown to tan and cream, microcrystalline, fossiliferous, grainy in part, some brown fossiliferous chert, no shows

limestone, light gray, micro-cryptocrystalline, fossiliferous to lithographic, chalky in part, abundant smokey gray chert, fossiliferous, no shows

**Fort Scott 4656 -1329**

limestone, light gray to cream, microcrystalline, fossiliferous, chalky in part, some scattered chert, no shows

**Cherokee 4678 -1351**

limestone, mixed, cream to gray and white, some brown, fossiliferous, trace recrystallized oolitic, abundant chalk, poor visible porosity, no shows

increasing chalk

limestone stringers a.a. with influx multicolored shales

sandstone, cream, very fine to medium grain mix, some scattered coarse grains, poorly sorted, fair rounding, silty, dirty, some feldspars and glauconite, mostly well cemented, calcareous, no shows

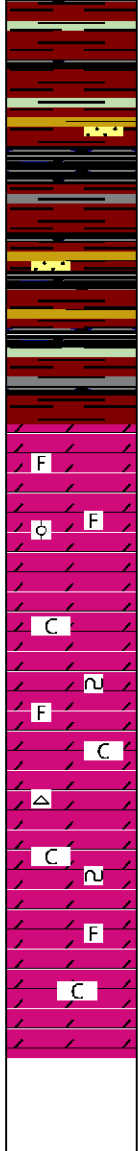
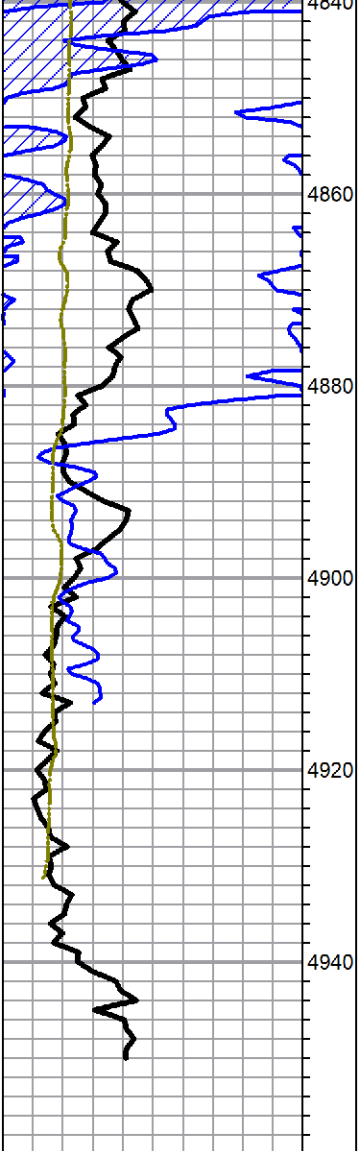
mixed shale, predominately red and gray, with sandstone stringers a.a.

sandstone, white, quartz, very fine to medium grain, poorly sorted, well rounded, well cemented, some large loose quartz grains, poor visible porosity, barren

variable shale, predominately red, heavy red was, scattered variable dirty sandstone stringers







shales grade to predominately black and gray, still scattered sandstone clusters a.a.

**Mississippian 4884 -1557**

dolomite, brown/gray mottled, microcrystalline, sub-sucrosic, recrystallized fossiliferous, poor visible porosity, some chalk, no shows

dolomite to dolomitic limestone, light gray to tan mottled, flattened oolitic to recrystallized fossiliferous, poor visible porosity, no shows

grades to: dolomite, mixed gray to cream, mostly microcrystalline, fossiliferous in part, sub-sucrosic to sub-rhombic, some weathered, some glauconitic, some large secondary dolomite crystals, abundant chalk in samples, trace chert

a.a., no shows

rotary TD 4950 ft @ 0850 hrs 6/29/18  
Gemini Wireline TD 4955 ft





## DRILL STEM TEST REPORT

Prepared For: **Bickle Energies LLC**

PO Box 816  
Hays, KS 67601

ATTN: Keath Reavis

### **Avery #14-1**

#### **14-5S-37W Cheyenne,KS**

Start Date: 2018.06.24 @ 09:50:00

End Date: 2018.06.24 @ 17:49:39

Job Ticket #: 64182                      DST #: 1

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

Printed: 2018.06.28 @ 14:38:50



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Bickle Energies LLC

**14-5S-37W Cheyenne, KS**

PO Box 816  
Hays, KS 67601

**Avery #14-1**

Job Ticket: 64182

**DST#: 1**

ATTN: Keath Reavis

Test Start: 2018.06.24 @ 09:50:00

## GENERAL INFORMATION:

Formation: **Toronto - Lansing A**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 12:07:40

Time Test Ended: 17:49:39

Test Type: Conventional Bottom Hole (Initial)

Tester: Martine Salinas

Unit No: 82

**Interval: 4156.00 ft (KB) To 4216.00 ft (KB) (TVD)**

Reference Elevations: 3327.00 ft (KB)

Total Depth: 4216.00 ft (KB) (TVD)

3322.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

**Serial #: 8959**

**Inside**

Press@RunDepth: 131.77 psig @ 4157.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2018.06.24

End Date:

2018.06.24

Last Calib.:

2018.06.24

Start Time: 09:50:01

End Time:

17:49:40

Time On Btm:

2018.06.24 @ 12:07:20

Time Off Btm:

2018.06.24 @ 15:21:50

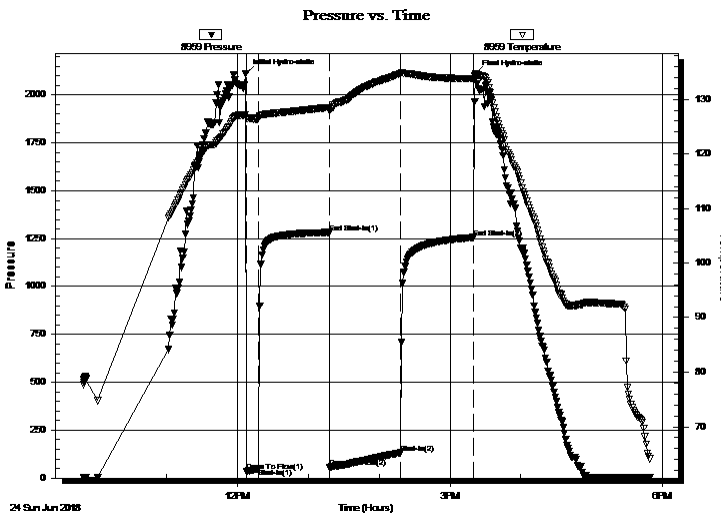
**TEST COMMENT:** 10-IF-Surface blow built to 4"

60-ISI-No blow

60-FF-Surface blow built to B.O.B (12 inches) @ 47 mins

60-FSI-No blow

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2109.93	127.24	Initial Hydro-static
1	35.40	126.52	Open To Flow (1)
11	49.92	126.56	Shut-In(1)
71	1281.99	128.50	End Shut-In(1)
71	56.55	127.87	Open To Flow (2)
131	131.77	134.75	Shut-In(2)
193	1255.71	133.77	End Shut-In(2)
195	2108.63	134.34	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
242.00	OS/HMCW 4%O, 38%M, 59%W	3.39
1.00	CO 100%	0.01

## Gas Rates

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





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Bickle Energies LLC

**14-5S-37W Cheyenne,KS**

PO Box 816  
Hays, KS 67601

**Avery #14-1**

Job Ticket: 64182

**DST#: 1**

ATTN: Keath Reavis

Test Start: 2018.06.24 @ 09:50:00

## Tool Information

Drill Pipe:	Length: 4150.00 ft	Diameter: 3.80 inches	Volume: 58.21 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: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 78000.00 lb
			<u>Total Volume: 58.21 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	26.00 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	4156.00 ft			Final 60000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	60.00 ft			
Tool Length:	92.00 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			4129.00	
Hydraulic tool	5.00			4134.00	
Jars	5.00			4139.00	
EM Tool	4.00			4143.00	
Safety Joint	3.00			4146.00	
Packer	5.00			4151.00	32.00 Bottom Of Top Packer
Packer	5.00			4156.00	
Stubb	1.00			4157.00	
Recorder	0.00	8959	Inside	4157.00	
Recorder	0.00	8734	Outside	4157.00	
Perforations	20.00			4177.00	
Change Over Sub	1.00			4178.00	
Drill Pipe	32.00			4210.00	
Change Over Sub	1.00			4211.00	
Bullnose	5.00			4216.00	60.00 Bottom Packers & Anchor

**Total Tool Length: 92.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Bickle Energies LLC

**14-5S-37W Cheyenne,KS**

PO Box 816  
Hays, KS 67601

**Avery #14-1**

Job Ticket: 64182

**DST#: 1**

ATTN: Keath Reavis

Test Start: 2018.06.24 @ 09:50:00

## 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:

40000 ppm

Viscosity: 45.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.55 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 500.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
242.00	OS/HMCW 4%O, 38%M, 59%W	3.395
1.00	CO 100%	0.014

Total Length: 243.00 ft      Total Volume: 3.409 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

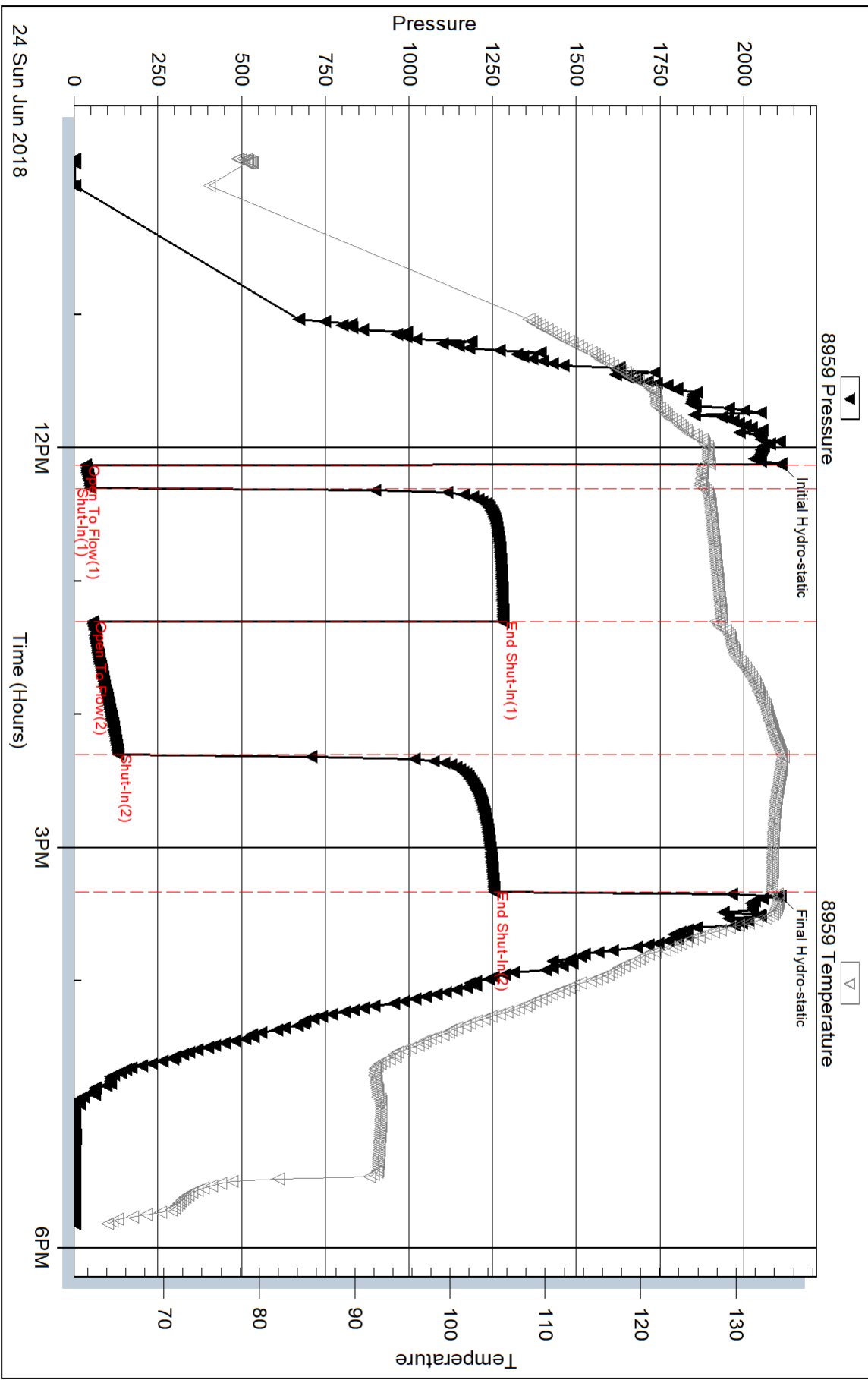
Laboratory Name:

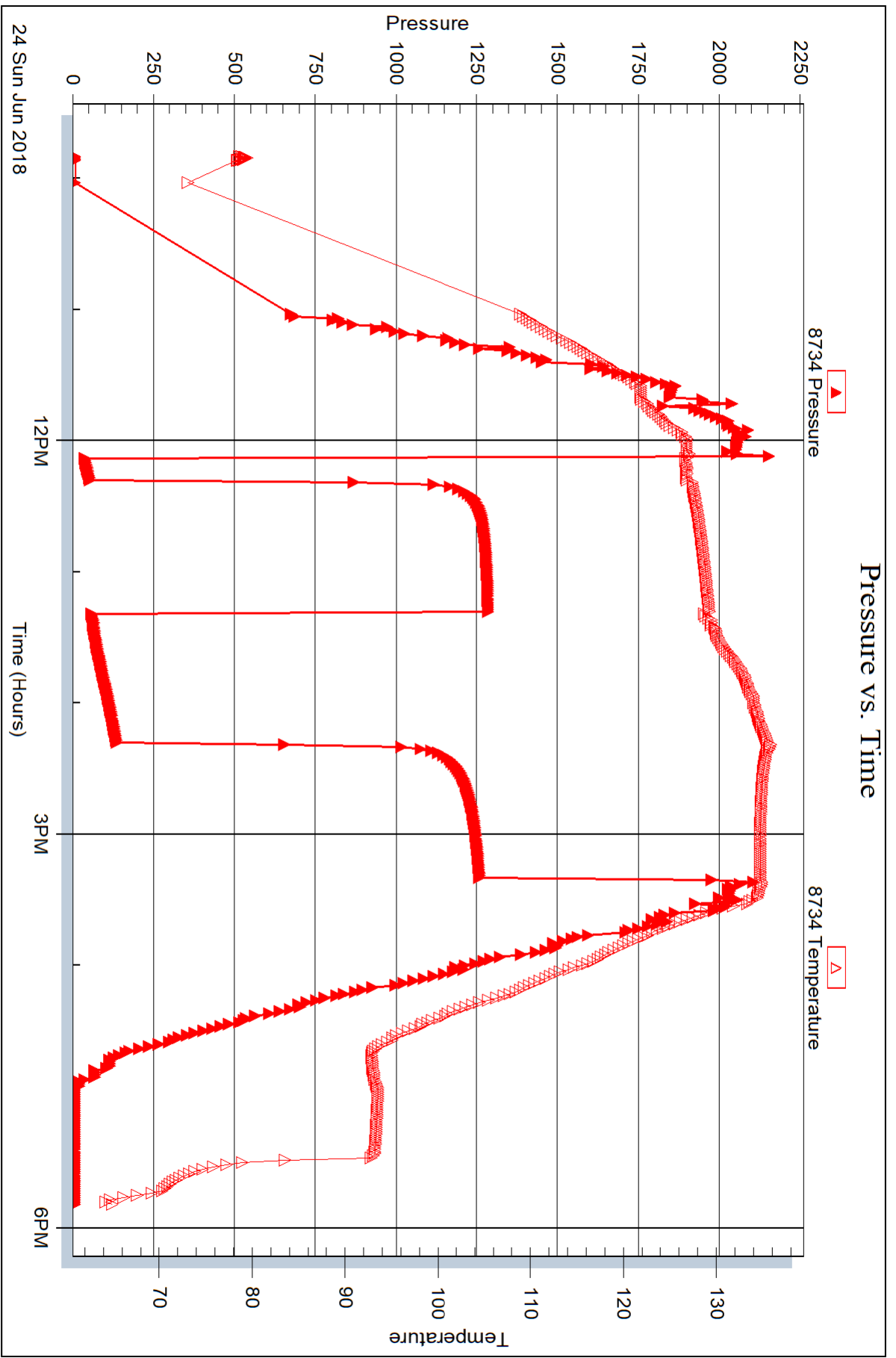
Laboratory Location:

Recovery Comments: RW= .210 @ 63.3 degs = 40,000 ppm

Not enough oil to catch a gravity

# Pressure vs. Time









## DRILL STEM TEST REPORT

Prepared For: **Bickle Energies LLC**

PO Box 816  
Hays, KS 67601

ATTN: Keath Reavis

### **Avery #14-1**

#### **14-5S-37W Cheyenne,KS**

Start Date: 2018.06.25 @ 11:06:00

End Date: 2018.06.25 @ 17:34:39

Job Ticket #: 64183                      DST #: 2

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

Printed: 2018.06.28 @ 14:37:55



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Bickle Energies LLC

**14-5S-37W Cheyenne, KS**

PO Box 816  
Hays, KS 67601

**Avery #14-1**

Job Ticket: 64183

**DST#: 2**

ATTN: Keath Reavis

Test Start: 2018.06.25 @ 11:06:00

## GENERAL INFORMATION:

Formation: **LKC "F"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 12:33:10

Time Test Ended: 17:34:39

Test Type: Conventional Bottom Hole (Reset)

Tester: Martine Salinas

Unit No: 82

**Interval: 4249.00 ft (KB) To 4307.00 ft (KB) (TVD)**

Reference Elevations: 3327.00 ft (KB)

Total Depth: 4307.00 ft (KB) (TVD)

3322.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

**Serial #: 8959**

**Inside**

Press@RunDepth: 51.15 psig @ 4250.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2018.06.25

End Date:

2018.06.25

Last Calib.:

2018.06.25

Start Time: 11:06:01

End Time:

17:34:40

Time On Btm:

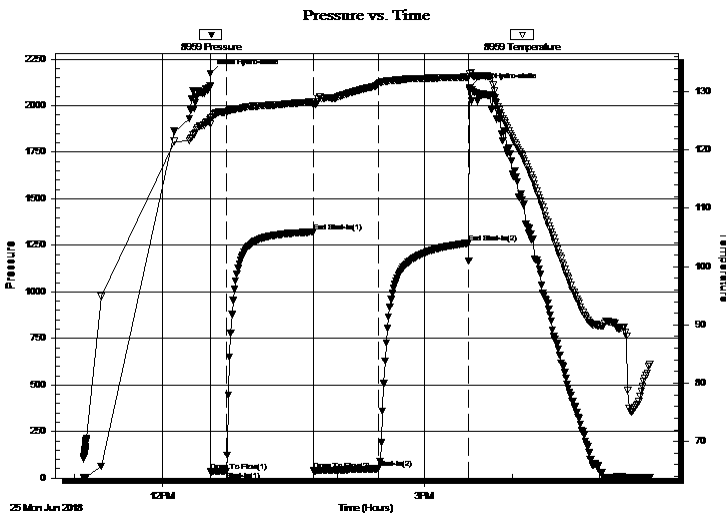
2018.06.25 @ 12:33:00

Time Off Btm:

2018.06.25 @ 15:31:00

**TEST COMMENT:** 10-IF-Surface blow built to 3/4"  
60-ISI-No blow  
45-FF-Surface blow @ 8 mins built to 1 1/2"  
60-FSI-No blow

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2173.59	125.43	Initial Hydro-static
1	34.62	124.44	Open To Flow (1)
11	37.56	126.54	Shut-In(1)
71	1321.67	128.25	End Shut-In(1)
71	40.08	127.73	Open To Flow (2)
116	51.15	131.32	Shut-In(2)
177	1262.40	132.50	End Shut-In(2)
178	2095.58	133.03	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
68.00	SOSM 1%O, 99%M	0.95

\* Recovery from multiple tests

## Gas Rates

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





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Bickle Energies LLC

**14-5S-37W Cheyenne,KS**

PO Box 816  
Hays, KS 67601

**Avery #14-1**

Job Ticket: 64183

**DST#: 2**

ATTN: Keath Reavis

Test Start: 2018.06.25 @ 11:06:00

## Tool Information

Drill Pipe:	Length: 4245.00 ft	Diameter: 3.80 inches	Volume: 59.55 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: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 82000.00 lb
			<u>Total Volume: 59.55 bbl</u>	Tool Chased 4.00 ft
Drill Pipe Above KB:	24.00 ft			String Weight: Initial 62000.00 lb
Depth to Top Packer:	4249.00 ft			Final 62000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	58.00 ft			
Tool Length:	86.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments: Opened tool and slid to bottom 4'  
bled off floor manifold 1 min

## Tool Description

**Length (ft) Serial No. Position Depth (ft) Accum. Lengths**

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			4226.00	
Hydraulic tool	5.00			4231.00	
Jars	5.00			4236.00	
Safety Joint	3.00			4239.00	
Packer	5.00			4244.00	28.00 Bottom Of Top Packer
Packer	5.00			4249.00	
Packer - Shale	0.00			4249.00	
Stubb	1.00			4250.00	
Recorder	0.00	8959	Inside	4250.00	
Recorder	0.00	8734	Outside	4250.00	
Perforations	19.00			4269.00	
Change Over Sub	1.00			4270.00	
Drill Pipe	31.00			4301.00	
Change Over Sub	1.00			4302.00	
Bullnose	5.00			4307.00	58.00 Bottom Packers & Anchor

**Total Tool Length: 86.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Bickle Energies LLC

**14-5S-37W Cheyenne,KS**

PO Box 816  
Hays, KS 67601

**Avery #14-1**

Job Ticket: 64183

**DST#: 2**

ATTN: Keath Reavis

Test Start: 2018.06.25 @ 11:06:00

### 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: 45.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.56 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 500.00 ppm

Filter Cake: 1.00 inches

### Recovery Information

#### Recovery Table

Length ft	Description	Volume bbl
68.00	SOSM 1%O, 99%M	0.954

Total Length: 68.00 ft      Total Volume: 0.954 bbl

Num Fluid Samples: 0

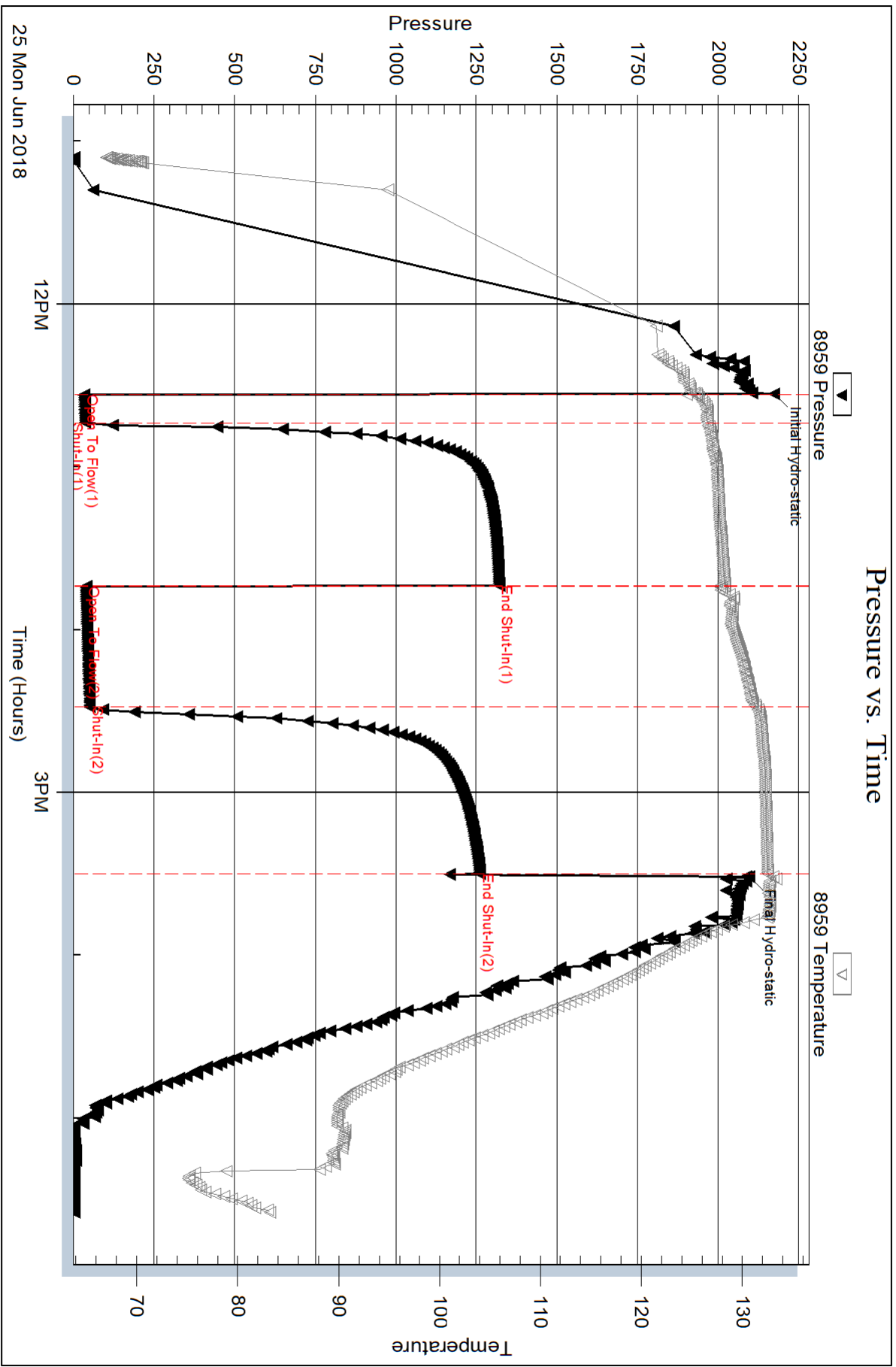
Num Gas Bombs: 0

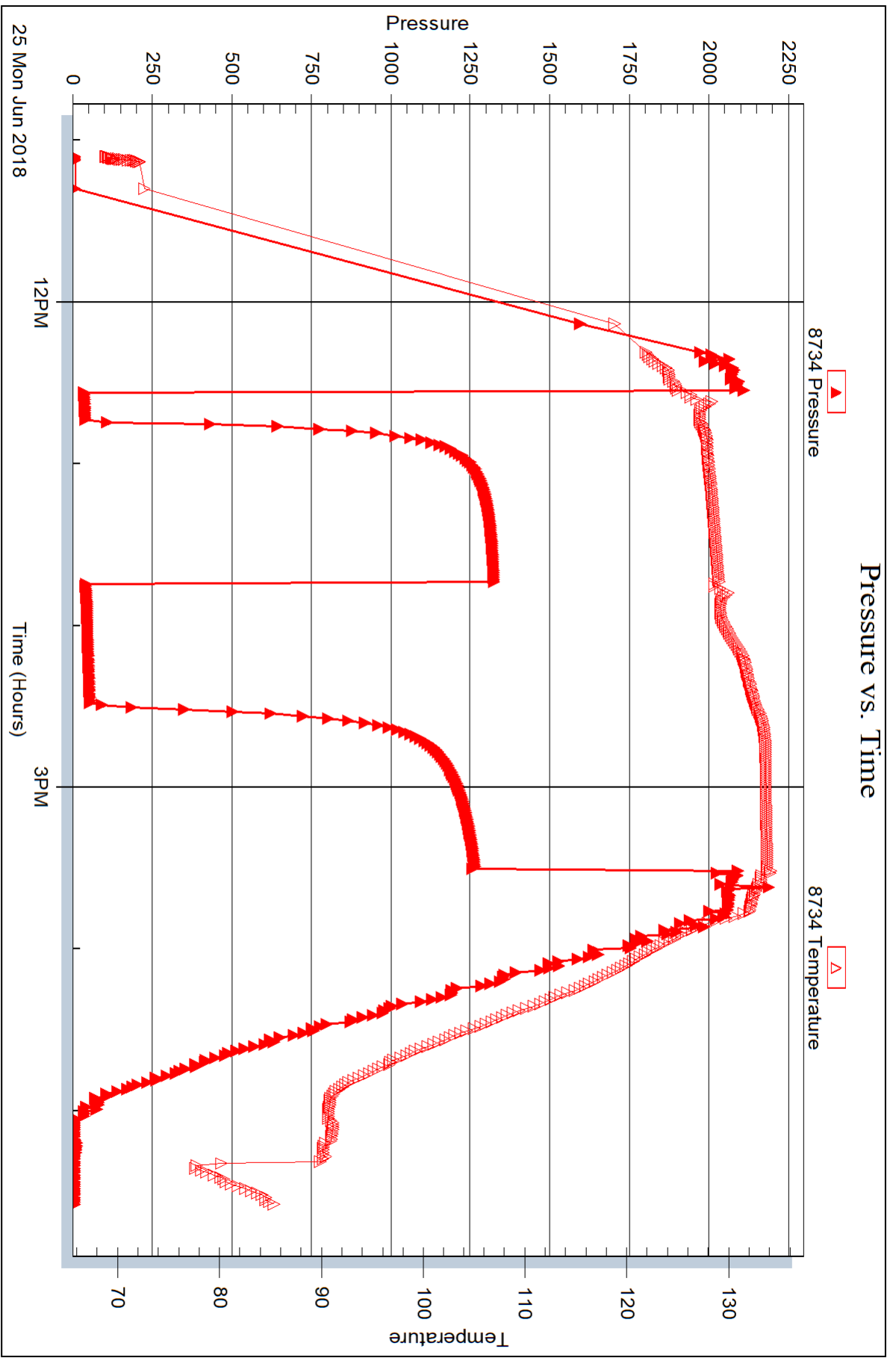
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Opened tool and slid to bottom 4'  
bled off floor manifold 1 mins







## DRILL STEM TEST REPORT

Prepared For: **Bickle Energies LLC**

PO Box 816  
Hays, KS 67601

ATTN: Keath Reavis

### **Avery #14-1**

#### **14-5S-37W Cheyenne,KS**

Start Date: 2018.06.26 @ 11:54:00

End Date: 2018.06.26 @ 18:59:20

Job Ticket #: 64184                      DST #: 3

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

Printed: 2018.06.28 @ 14:37:29

Bickle Energies LLC  
14-5S-37W Cheyenne,KS  
Avery #14-1  
DST # 3  
LKC "J"  
2018.06.26





**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Bickle Energies LLC

**14-5S-37W Cheyenne, KS**

PO Box 816  
Hays, KS 67601

**Avery #14-1**

Job Ticket: 64184

**DST#: 3**

ATTN: Keath Reavis

Test Start: 2018.06.26 @ 11:54:00

## GENERAL INFORMATION:

Formation: **LKC "J"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 13:49:50

Time Test Ended: 18:59:20

Test Type: Conventional Bottom Hole (Reset)

Tester: Martine Salinas

Unit No: 82

**Interval: 4360.00 ft (KB) To 4414.00 ft (KB) (TVD)**

Reference Elevations: 3327.00 ft (KB)

Total Depth: 4414.00 ft (KB) (TVD)

3322.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

**Serial #: 8959**

**Inside**

Press@RunDepth: 66.27 psig @ 4361.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2018.06.26

End Date:

2018.06.26

Last Calib.:

2018.06.26

Start Time: 11:54:01

End Time:

18:59:20

Time On Btm:

2018.06.26 @ 13:49:10

Time Off Btm:

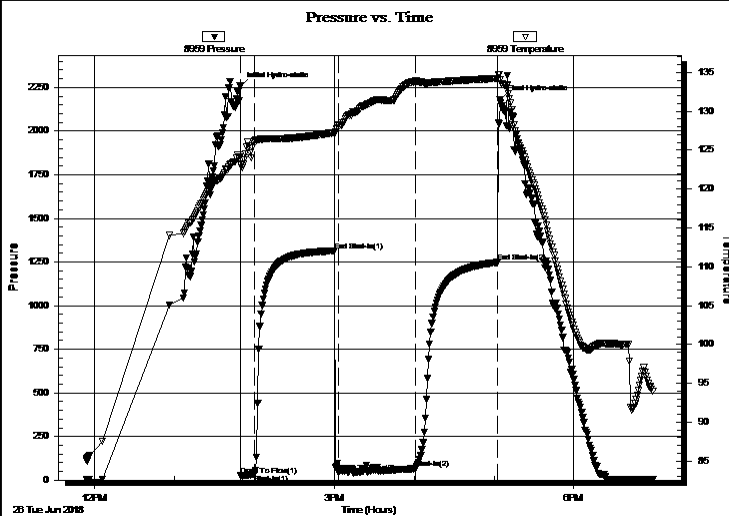
2018.06.26 @ 17:04:30

**TEST COMMENT:** 10-IF-Surface blow built to 2 "

60-ISI-No blow

45-FF-Surface blow @ 1 mins built to 9"

60-FSI-No blow



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2256.91	124.17	Initial Hydro-static
1	24.75	123.19	Open To Flow (1)
11	34.93	126.21	Shut-In(1)
71	1314.20	127.28	End Shut-In(1)
75	43.96	128.25	Open To Flow (2)
132	66.27	133.88	Shut-In(2)
194	1248.33	134.23	End Shut-In(2)
196	2179.91	134.74	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
63.00	SOCM 8%O, 92%M	0.88
31.00	GOC/WCM 3%G, 15%O, 22%W, 60%M	0.43
1.00	CO 100%O	0.01

## Gas Rates

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

\* Recovery from multiple tests





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Bickle Energies LLC

**14-5S-37W Cheyenne, KS**

PO Box 816  
Hays, KS 67601

**Avery #14-1**

Job Ticket: 64184

**DST#: 3**

ATTN: Keath Reavis

Test Start: 2018.06.26 @ 11:54:00

## Tool Information

Drill Pipe:	Length: 4338.00 ft	Diameter: 3.80 inches	Volume: 60.85 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: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: 60.85 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	6.00 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	4360.00 ft			Final 60000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	54.00 ft			
Tool Length:	82.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

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

Shut In Tool	5.00			4337.00	
Hydraulic tool	5.00			4342.00	
Jars	5.00			4347.00	
Safety Joint	3.00			4350.00	
Packer	5.00			4355.00	28.00 Bottom Of Top Packer
Packer	5.00			4360.00	
Stubb	1.00			4361.00	
Recorder	0.00	8959	Inside	4361.00	
Recorder	0.00	8734	Outside	4361.00	
Perforations	15.00			4376.00	
Change Over Sub	1.00			4377.00	
Drill Pipe	31.00			4408.00	
Change Over Sub	1.00			4409.00	
Bullnose	5.00			4414.00	54.00 Bottom Packers & Anchor

**Total Tool Length: 82.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Bickle Energies LLC

**14-5S-37W Cheyenne,KS**

PO Box 816  
Hays, KS 67601

**Avery #14-1**

Job Ticket: 64184

**DST#: 3**

ATTN: Keath Reavis

Test Start: 2018.06.26 @ 11:54:00

## 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:

20000 ppm

Viscosity: 58.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.18 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 750.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
63.00	SOCM 8%O, 92%M	0.884
31.00	GOC/WCM 3%G, 15%O, 22%W, 60%M	0.435
1.00	CO 100%O	0.014

Total Length: 95.00 ft      Total Volume: 1.333 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW=.285 @ 87.2 degs=20,000PPM

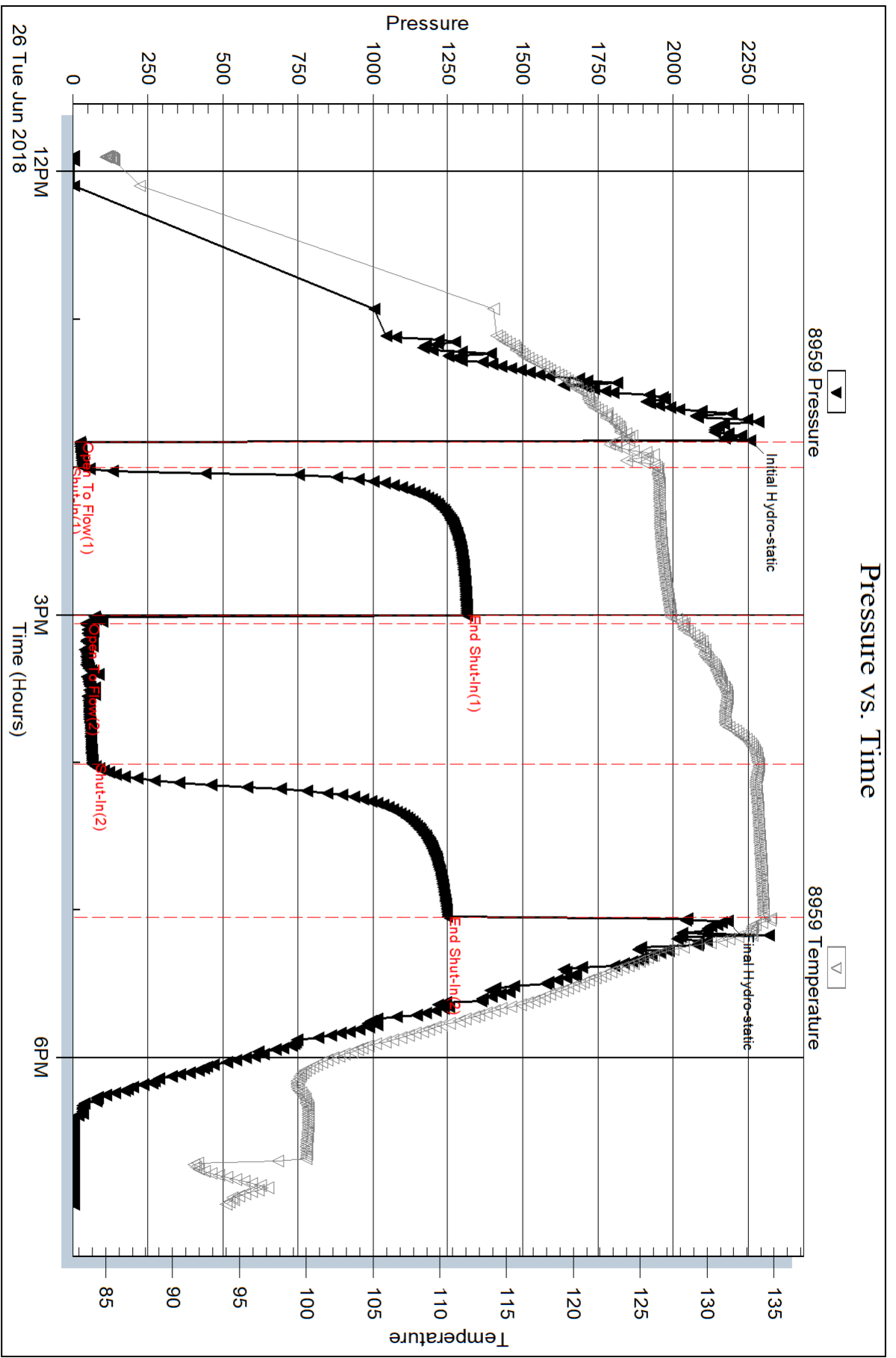
Serial #: 8959

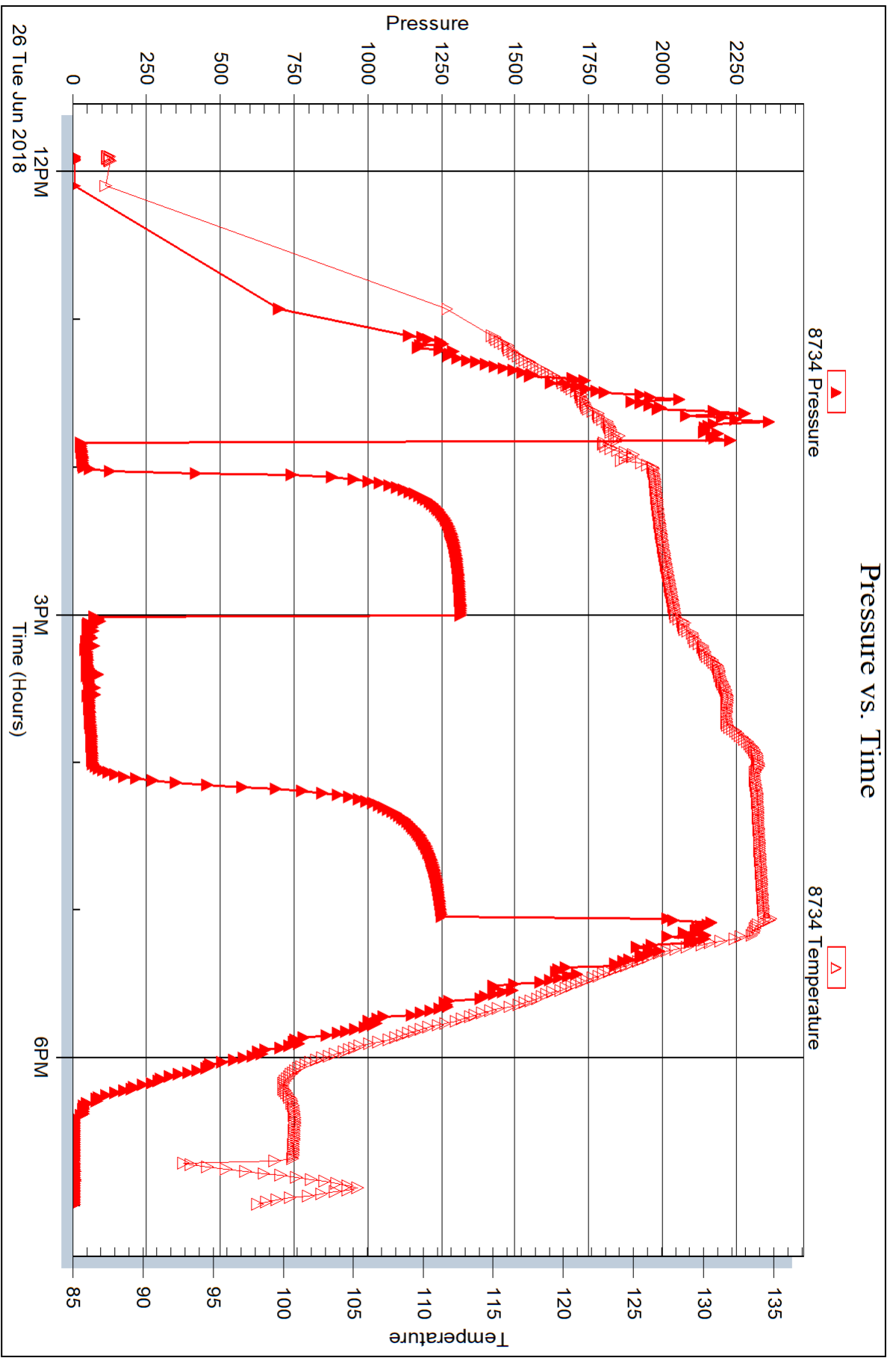
Inside

Bickle Energies LLC

Avery #14-1

DST Test Number: 3







## DRILL STEM TEST REPORT

Prepared For: **Bickle Energies LLC**

PO Box 816  
Hays, KS 67601

ATTN: Keath Reavis

### **Avery #14-1**

#### **14-5S-37W Cheyenne,KS**

Start Date: 2018.06.27 @ 22:10:00

End Date: 2018.06.28 @ 07:34:19

Job Ticket #: 64185                      DST #: 4

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

Printed: 2018.06.28 @ 14:36:35



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Bickle Energies LLC

**14-5S-37W Cheyenne, KS**

PO Box 816  
Hays, KS 67601

**Avery #14-1**

Job Ticket: 64185

**DST#: 4**

ATTN: Keath Reavis

Test Start: 2018.06.27 @ 22:10:00

## GENERAL INFORMATION:

Formation: **Pawnee**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 00:02:30

Time Test Ended: 07:34:19

Test Type: Conventional Bottom Hole (Reset)

Tester: Martine Salinas

Unit No: 82

**Interval: 4580.00 ft (KB) To 4615.00 ft (KB) (TVD)**

Reference Elevations: 3327.00 ft (KB)

Total Depth: 4615.00 ft (KB) (TVD)

3322.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

**Serial #: 8959**

**Inside**

Press@RunDepth: 1224.51 psig @ 4581.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2018.06.27

End Date:

2018.06.28

Last Calib.:

2018.06.28

Start Time: 22:10:01

End Time:

07:34:19

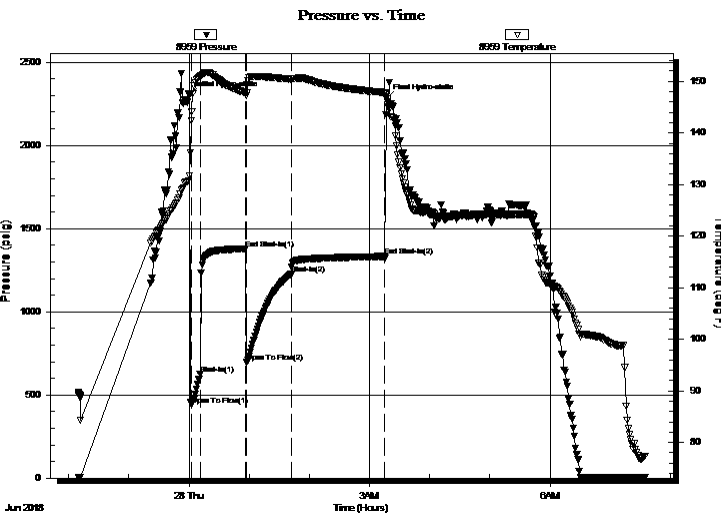
Time On Btm:

2018.06.28 @ 00:00:40

Time Off Btm:

2018.06.28 @ 03:16:50

**TEST COMMENT:** 10-IF-5" blow built to B.O.B (12 inches) @ 45 secs (blow increased to 265")  
60-ISI-Blow back built to B.O.B (12 inches) @ 4 mins (blow increased to 335")  
60-FF-Blow built to B.O.B (12 inches) @ 45 secs (blow increased to 340")  
60-FSI-No blow (blow decreased to 336")



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2302.19	131.76	Initial Hydro-static
2	440.60	142.37	Open To Flow (1)
11	626.64	150.81	Shut-In(1)
56	1378.42	147.79	End Shut-In(1)
57	694.80	147.27	Open To Flow (2)
102	1224.51	150.43	Shut-In(2)
195	1332.94	147.84	End Shut-In(2)
197	2283.10	146.69	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
127.00	GOCM 20%G, 25%O, 55%M	1.78
2954.00	CGO 25%G, 75%O Reversed	41.44
221.00	CGO 16%G, 84%O	3.10
0.00	GTS	0.00

## Gas Rates

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

\* Recovery from multiple tests





**TRILOBITE TESTING, INC.**

## DRILL STEM TEST REPORT

Bickle Energies LLC

**14-5S-37W Cheyenne, KS**

PO Box 816  
Hays, KS 67601

**Avery #14-1**

Job Ticket: 64185 **DST#: 4**

ATTN: Keath Reavis

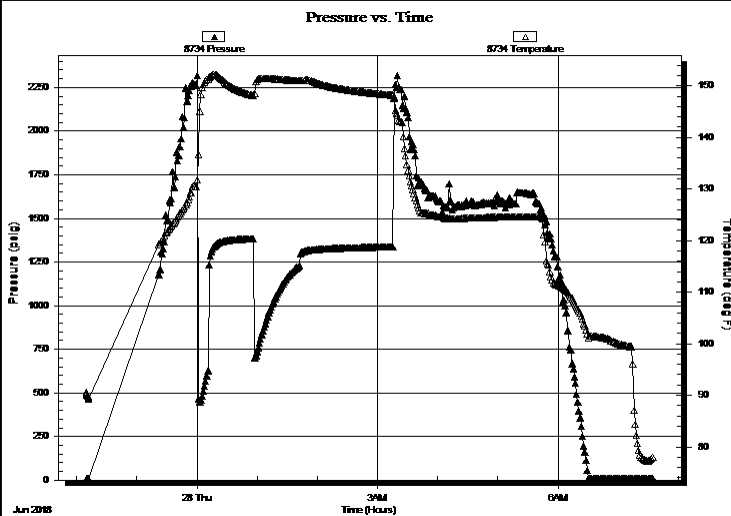
Test Start: 2018.06.27 @ 22:10:00

### GENERAL INFORMATION:

Formation:	<b>Pawnee</b>				
Deviated:	No Whipstock:	ft (KB)	Test Type:	Conventional Bottom Hole (Reset)	
Time Tool Opened:	00:02:30		Tester:	Martine Salinas	
Time Test Ended:	07:34:19		Unit No:	82	
<b>Interval:</b>	<b>4580.00 ft (KB) To 4615.00 ft (KB) (TVD)</b>		Reference Elevations:	3327.00 ft (KB)	
Total Depth:	4615.00 ft (KB) (TVD)			3322.00 ft (CF)	
Hole Diameter:	7.88 inches	Hole Condition: Good	KB to GR/CF:	5.00 ft	

<b>Serial #: 8734</b>	<b>Outside</b>				
Press@RunDepth:	psig @	4581.00 ft (KB)	Capacity:	8000.00 psig	
Start Date:	2018.06.27	End Date:	2018.06.28	Last Calib.:	2018.06.28
Start Time:	22:10:01	End Time:	07:34:30	Time On Btm:	
				Time Off Btm:	

**TEST COMMENT:** 10-IF-5" blow built to B.O.B (12 inches) @ 45 secs (blow increased to 265")  
 60-ISI-Blow back built to B.O.B (12 inches) @ 4 mins (blow increased to 335")  
 60-FF-Blow built to B.O.B (12 inches) @ 45 secs (blow increased to 340")  
 60-FSI-No blow (blow decreased to 336")



### PRESSURE SUMMARY

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

### Recovery

Length (ft)	Description	Volume (bbl)
127.00	GOCM 20%G, 25%O, 55%M	1.78
2954.00	CGO 25%G, 75%O Reversed	41.44
221.00	CGO 16%G, 84%O	3.10
0.00	GTS	0.00

\* Recovery from multiple tests

### Gas Rates

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



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Bickle Energies LLC

**14-5S-37W Cheyenne,KS**

PO Box 816  
Hays, KS 67601

**Avery #14-1**

Job Ticket: 64185

**DST#: 4**

ATTN: Keath Reavis

Test Start: 2018.06.27 @ 22:10:00

## Tool Information

Drill Pipe:	Length: 4556.00 ft	Diameter: 3.80 inches	Volume: 63.91 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: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 92000.00 lb
			<u>Total Volume: 63.91 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	8.00 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	4580.00 ft			Final 73000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	35.00 ft			
Tool Length:	67.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			4553.00	
Hydraulic tool	5.00			4558.00	
Jars	5.00			4563.00	
EM Tool	4.00			4567.00	
Safety Joint	3.00			4570.00	
Packer	5.00			4575.00	32.00 Bottom Of Top Packer
Packer	5.00			4580.00	
Stubb	1.00			4581.00	
Recorder	0.00	8959	Inside	4581.00	
Recorder	0.00	8734	Outside	4581.00	
Perforations	29.00			4610.00	
Bullnose	5.00			4615.00	35.00 Bottom Packers & Anchor

**Total Tool Length: 67.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Bickle Energies LLC

**14-5S-37W Cheyenne,KS**

PO Box 816  
Hays, KS 67601

**Avery #14-1**

Job Ticket: 64185

**DST#: 4**

ATTN: Keath Reavis

Test Start: 2018.06.27 @ 22:10:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

34.6 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 51.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.78 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 750.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
127.00	GOCM 20%G, 25%O, 55%M	1.781
2954.00	CGO 25%G, 75%O      Reversed	41.437
221.00	CGO 16%G, 84%O	3.100
0.00	GTS	0.000

Total Length: 3302.00 ft      Total Volume: 46.318 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

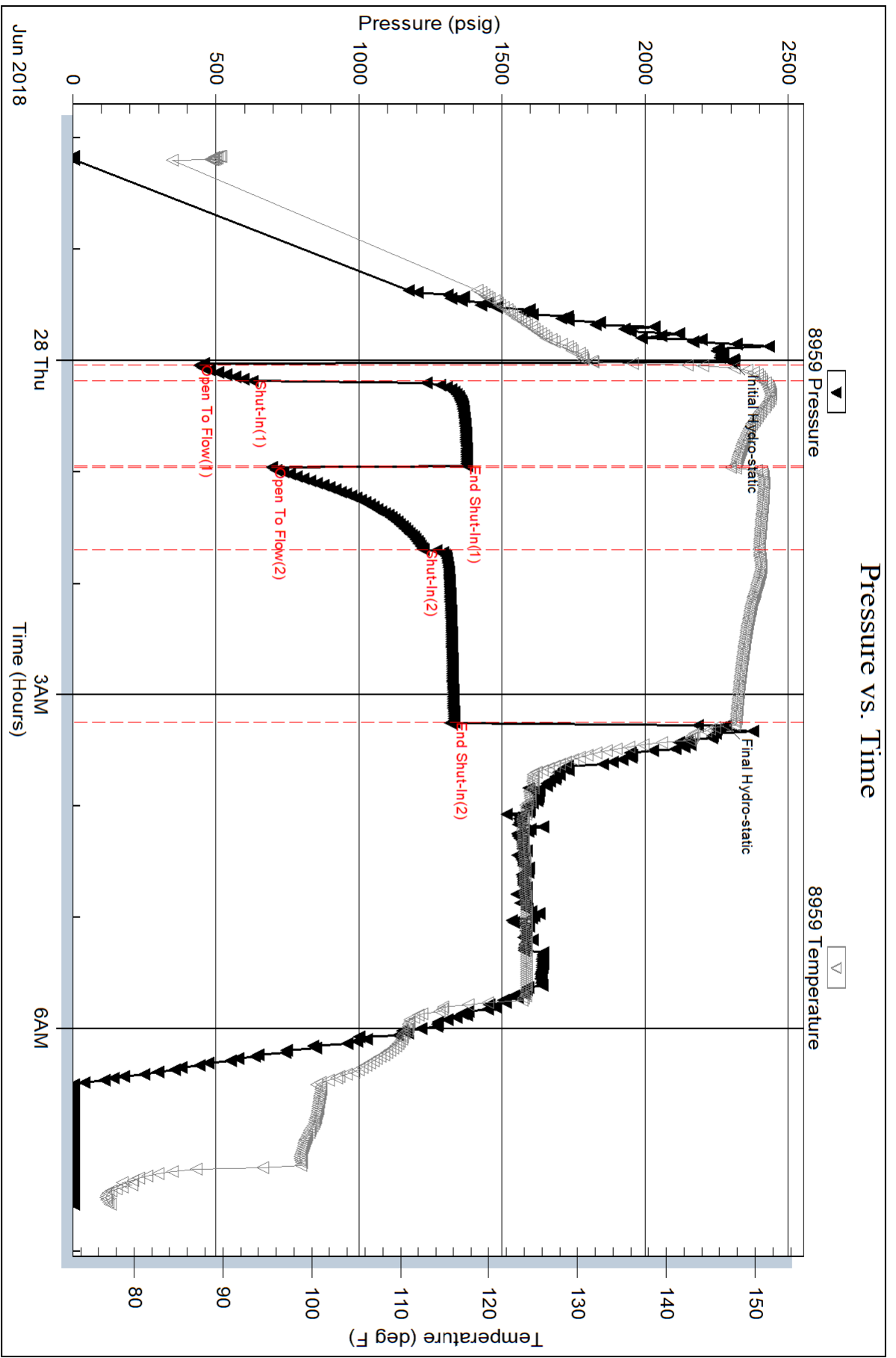
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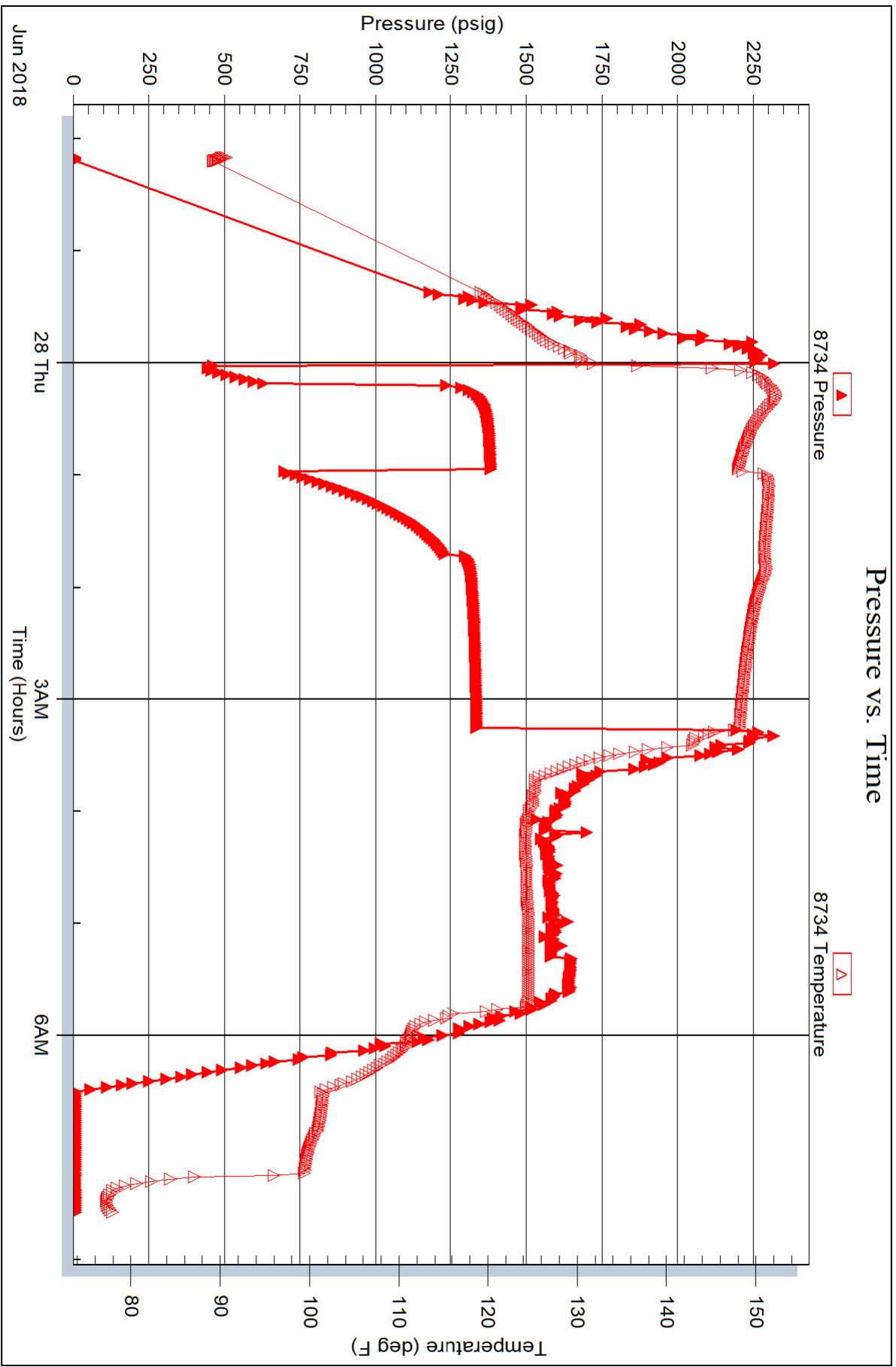
Laboratory Name:

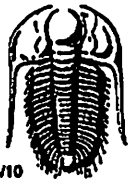
Laboratory Location:

Recovery Comments: Gravity of oil = 36 @ 74 degs

Gravity corected to 34.6 @ 60 degs







# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 64182

Well Name & No. Avery # 14-1 Test No. 1 Date 06-24-18  
 Company Bickle Energies, LLC Elevation 3327 KB 3322 GL  
 Address P.O. Box 816 Hays, KS 67601  
 Co. Rep / Geo. Keith Preavis Rig LD #1  
 Location: Sec. 14 Twp 5S. Rge. 37W. Co. Cheyenne State KS.

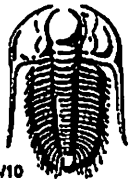
Interval Tested 4156-4216 Zone Tested Toronto/Lansing A  
 Anchor Length 60 Drill Pipe Run 4150 Mud Wt. 9.3  
 Top Packer Depth 4151 Drill Collars Run — Vis 45  
 Bottom Packer Depth 4156 Wt. Pipe Run — WL 7.6  
 Total Depth 4216 Chlorides 560 ppm System LCM 24  
 Blow Description IF-S. blow built to 4"  
ISI - No blow  
FF-S. blow @ 2 mins built to B.O.B (12 inches) @ 47 mins.  
FSI - No blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>242</u>	<u>05/HWEM</u>	<u>4</u>	<u>58</u>	<u>38</u>	
<u>1</u>	<u>CO</u>	<u>106</u>			

Rec Total 243 BHT 134 Gravity — API RW .210 @ 63.3 °F Chlorides 40,000 ppm

(A) Initial Hydrostatic 2110  Test 1150 T-On Location 08:15  
 (B) First Initial Flow 35  Jars 250 T-Started 09:50  
 (C) First Final Flow 50  Safety Joint 75 T-Open 12:08  
 (D) Initial Shut-In 1282  Circ Sub — T-Pulled 15:18  
 (E) Second Initial Flow 57  Hourly Standby — T-Out 17:50  
 (F) Second Final Flow 132  Mileage 140 RT 140  
 (G) Final Shut-In 1256  Sampler —  
 (H) Final Hydrostatic 2109  Straddle —  
 Shale Packer —  Ruined Shale Packer —  
 Extra Packer —  Ruined Packer —  
 Extra Recorder —  Extra Copies —  
 Day Standby — Sub Total 0  
 Accessibility — Total 1615  
 Sub Total 1615 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. 64183

Well Name & No. Avery #14-1 Test No. 2 Date 06-25-18  
 Company Bickle Energies LLC Elevation 3327 KB 3322 GL  
 Address P.O. Box 816 Hays, KS 67601  
 Co. Rep / Geo. Keith Reavis Rig LD#1  
 Location: Sec. 14 Twp 5S. Rge. 37W. Co. Cheyenne State KS.

Interval Tested 4249-4307 Zone Tested LKC D, E, & F  
 Anchor Length 58' Drill Pipe Run 4245 Mud Wt. 9.3  
 Top Packer Depth 4244 Drill Collars Run — Vis 45  
 Bottom Packer Depth 4249 (shale) Wt. Pipe Run — WL 7.6  
 Total Depth 4307 Chlorides 500 ppm System LCM 1#

Blow Description IF - 5. blow built to 3/4"  
ISI - No blow  
FF - 5. blow @ 8 mins built to 1 1/2"  
FSI - No blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>68</u>	<u>505M</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

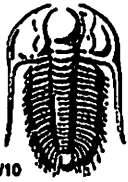
Rec Total 68 BHT 133 Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic 2174  Test 1150 T-On Location 10:50  
 (B) First Initial Flow 35  Jars 250 T-Started 11:06  
 (C) First Final Flow 38  Safety Joint 75 T-Open 12:33  
 (D) Initial Shut-In 1322  Circ Sub \_\_\_\_\_ T-Pulled 15:28  
 (E) Second Initial Flow 40  Hourly Standby \_\_\_\_\_ T-Out 17:35  
 (F) Second Final Flow 51  Mileage 140 RT 140 Comments Opened tool & slid 4'  
 (G) Final Shut-In 1262  Sampler \_\_\_\_\_ to bottom, bled off flowmeter fold  
 (H) Final Hydrostatic 2096  Straddle \_\_\_\_\_ 1 min.

Initial Open 10  Ruined Shale Packer \_\_\_\_\_  
 Initial Shut-In 60  Ruined Packer \_\_\_\_\_  
 Final Flow 45  Extra Copies \_\_\_\_\_  
 Final Shut-In 60  Extra Recorder \_\_\_\_\_ Sub Total 0  
 Day Standby \_\_\_\_\_ Total 1865  
 Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Sub Total 1865

Approved By Keith Reavis Our Representative [Signature]

Triobite 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.



# TRIBOLITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 64184

Well Name & No. Avery #14-1 Test No. 3 Date 06-26-18  
 Company Bickle Energies-LLC Elevation 3327 KB 3322 GL  
 Address P.O. Box 816 Hays, KS 67601  
 Co. Rep / Geo. Keith Reavis Rig LD#1  
 Location: Sec. 14 Twp S.S. Rge. 37W. Co. Cherokee State KS

Interval Tested 4360-4414 Zone Tested LKC J  
 Anchor Length 54 Drill Pipe Run 4338 Mud Wt. 9.3  
 Top Packer Depth 4355 Drill Collars Run --- Vls 58  
 Bottom Packer Depth 4360 Wt. Pipe Run --- WL 7.2  
 Total Depth 4414 Chlorides 750 ppm System LCM 1H  
 Blow Description IF - S. blow built to 2"  
IST - No blow  
FF - S. blow @ 1 min built to 9"  
EST - No blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>68</u>	<u>SOCM</u>	<u>8</u>		<u>92</u>	
<u>32</u>	<u>GOC/WCM</u>	<u>3</u>	<u>15</u>	<u>22</u>	<u>60</u>
<u>1</u>	<u>CO</u>	<u>100</u>			

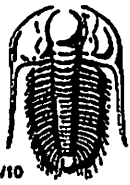
Rec Total 95 BHT 135 Gravity \_\_\_\_\_ API RW 285 @ 87.2 °F Chlorides 20,000 ppm

(A) Initial Hydrostatic 2257  Test 1150 T-On Location 09:40  
 (B) First Initial Flow 28  Jars 250 T-Started 11:54  
 (C) First Final Flow 35  Safety Joint 75 T-Open 13:50  
 (D) Initial Shut-In 1314  Circ Sub \_\_\_\_\_ T-Pulled 17:00  
 (E) Second Initial Flow 44  Hourly Standby \_\_\_\_\_ T-Out 19:00  
 (F) Second Final Flow 66  Mileage 140 RT 140 Comments \_\_\_\_\_  
 (G) Final Shut-In 1248  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 2180  Straddle \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_ Sub Total 0  
 Day Standby \_\_\_\_\_ Total 1615  
 Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Sub Total 1615

Approved By Keith Reavis Our Representative Matt Salinas

Tribolite 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. 64185

Well Name & No. Avery #14-1 Test No. 4 Date 6-27-18  
 Company Bickle Energies LLC Elevation 3327 KB 3322 GL  
 Address P.O. Box 816 Hays, KS 67601  
 Co. Rep / Geo. Keith Beavis Rig LD#1  
 Location: Sec. 14 Twp SS. Rge. 37W. Co. Cheyenne State KS.

Interval Tested 4580 - 4615 Zone Tested Pawnee  
 Anchor Length 35 Drill Pipe Run 4556 Mud Wt. 9.3  
 Top Packer Depth 4575 Drill Collars Run — Vls 51  
 Bottom Packer Depth 4580 Wt. Pipe Run — WL 8.8  
 Total Depth 4615 Chlorides 750 ppm System LCM 3H

Blow Description TS - blow built to B.O.B (12 inches) @ 45 Secs (blow increased to 265")  
ISI - Blow back built to B.O.B (12 inches) @ 4 mins (blow increased to 335")  
FF - blow built to B.O.B @ 45 secs (blow increased to 340")  
FST - No blow (Blow decreased to 336")

Rec	Feet of	%gas	%oil	%water	%mud
<u>127</u>	<u>CGCM</u>	<u>20</u>	<u>25</u>	<u>55</u>	
<u>2954</u>	<u>CGO (Reversed)</u>	<u>25</u>	<u>75</u>		
<u>221</u>	<u>CGO</u>	<u>16</u>	<u>84</u>		
<u>0</u>	<u>1292' GIP (Gas to Surface)</u>				

Rec Total 3302 BHT 147 Gravity 34.6 API RW @ — °F Chlorides — ppm

(A) Initial Hydrostatic <u>2302</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>21:00</u>
(B) First Initial Flow <u>441</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>22:10</u>
(C) First Final Flow <u>627</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>00:01</u>
(D) Initial Shut-In <u>1378</u>	<input checked="" type="checkbox"/> Circ Sub <u>Diag Bar</u> 50	T-Pulled <u>03:11</u>
(E) Second Initial Flow <u>695</u>	<input checked="" type="checkbox"/> Hourly Standby	T-Out <u>07:35</u>
(F) Second Final Flow <u>1225</u>	<input checked="" type="checkbox"/> Mileage <u>140 RT</u> 140	Comments <u>Tools loaded @ 08:30</u>
(G) Final Shut-In <u>1333</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>2283</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer

Initial Open 10  
 Initial Shut-In 45  
 Final Flow 45  
 Final Shut-In 90

Ruined Packer  
 Extra Copies  
 Sub Total 0  
 Total 1665  
 MP/DST Disc't

Approved By [Signature] Our Representative [Signature]

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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. 856

Date	Sec.	Twp.	Range	County	State	On Location	Finish
6-30-18	14	6	37	Cherokee	KS		10:30

Location Brewster N Coline 600 600 4W34

Lease Avery Well No. 14-1 Owner 1/2 Winto

Contractor L-D To Quality Oilwell Cementing, Inc.

Type Job Production String You are hereby requested to rent cementing equipment and furnish

Hole Size 7 7/8 T.D. 4955 Charge To Bickle Energies

Csg. 5 1/2 Depth 4947 Street

Tbg. Size Depth City State

Tool Depth The above was done to satisfaction and supervision of owner agent or contra

Cement Left in Csg. 42.45 Shoe Joint 42.45 Cement Amount Ordered 470 @ 70 @ MDL 1/4 # 60

Meas Line Displace 117 BL 25 @ Pro-C 50 gal mud Clear 20 BL KCL

### EQUIPMENT

Pumptrk 20	No.	Cement Helper	King	Common
Bulktrk 15	No.	Driver	Brett	Poz. Mix
Bulktrk 19	No.	Driver	Jordan	Gel
	No.	Driver	Doug	Calcium

### JOB SERVICES & REMARKS

Remarks:	Hulls
Rat Hole 30SK	Salt
Mouse Hole	Flowseal
Centralizers	Kol-Seal
Baskets	Mud CLR 48
D/V or Port Collar	CFL-117 or CD110 CAF 38
5 1/2 size 4947. Balled 4904.55	Sand
Best Circulation Pump 50 gal mud	Handling
Clear @ 20 BL KCL Cement 5 1/2 with	Mileage
Collessk Clear lines & Displace Plug	
Left Pressure 1200 #	
Plug loaded @ 2200 #	
Cement Circulated	

### FLOAT EQUIPMENT

Guide Shoe
Centralizer 10
Baskets 4 Cased
AFI Inserts 28 scratchers
Float Shoe 1
Latch Down 1

Pumptrk Charge

Mileage

Tax

Discount

Total Charge

# 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. 849

Date	Sec.	Twp.	Range	County	State	On Location	Finish
6-19-18	14	5	37	Cherokee	KS		12:30 PM
Lease Avery				Location Brewster N Coline 8 N Rd G. 4W		Well No. 14-1	
Contractor L.D. Darling		Owner 34 Rd 25 Winto		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.			
Type Job Surface		Charge To Bickle Engines					
Hole Size 12 1/4	T.D. 349	Street					
Csg. 8 5/8	Depth 346	City		State			
Tbg. Size	Depth	City		State			
Tool	Depth	The above was done to satisfaction and supervision of owner agent or contractor.					
Cement Left in Csg. 15	Shoe Joint	Cement Amount Ordered		250 80/20 3/4 2 1/2 4 1/2 1 1/2 1/2 1/2			
Meas Line Displace 21BL							
<b>EQUIPMENT</b>				<b>Common</b>			
Pumptrk 20 No. Cementer	Helper		Poz. Mix				
Bulktrk No. Driver	Driver		Gel.				
Bulktrk 14 No. Driver	Driver		Calcium				
<b>JOB SERVICES &amp; REMARKS</b>				Hulls			
Remarks:				Salt			
Rat Hole				Flowseal			
Mouse Hole				Kol-Seal			
Centralizers				Mud CLR 48			
Baskets				CFL-117 or CD110 CAF 38			
O/V or Port Collar				Sand			
8 7/8 on bottom. Est. Circulation.				Handling			
Mix 250SK & Displace.				Mileage			
Cement Circulated!				<b>FLOAT EQUIPMENT</b>			
				Guide Shoe			
				Centralizer			
				Baskets			
				AFU Inserts			
				Float Shoe			
				Latch Down			
				Pumptrk Charge			
				Mileage			
Signature [Signature]				Tax			
				Discount			
				Total Charge			

Quality Oilwell Cementing