

Confidentiality Requested:

Yes No

**KANSAS CORPORATION COMMISSION
OIL & GAS CONSERVATION DIVISION**

Form ACO-1

January 2018

Form must be Typed

Form must be Signed

All blanks must be Filled

**WELL COMPLETION FORM
WELL HISTORY - DESCRIPTION OF WELL & LEASE**

OPERATOR: License # _____

Name: _____

Address 1: _____

Address 2: _____

City: _____ State: _____ Zip: _____ + _____

Contact Person: _____

Phone: (_____) _____

CONTRACTOR: License # _____

Name: _____

Wellsite Geologist: _____

Purchaser: _____

Designate Type of Completion:

New Well Re-Entry Workover

Oil WSW SWD

Gas DH EOR

OG GSW

CM (Coal Bed Methane)

Cathodic Other (Core, Expl., etc.): _____

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

Operator: _____

Well Name: _____

Original Comp. Date: _____ Original Total Depth: _____

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

Plug Back Liner Conv. to GSW Conv. to Producer

Commingled Permit #: _____

Dual Completion Permit #: _____

SWD Permit #: _____

EOR Permit #: _____

GSW Permit #: _____

Spud Date or Date Reached TD Completion Date or Recompletion Date

API No.: _____

Spot Description: _____

_____ - _____ - _____ Sec. _____ Twp. _____ S. R. _____ East West

_____ Feet from North / South Line of Section

_____ Feet from East / West Line of Section

Footages Calculated from Nearest Outside Section Corner:

NE NW SE SW

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

Datum: NAD27 NAD83 WGS84

County: _____

Lease Name: _____ Well #: _____

Field Name: _____

Producing Formation: _____

Elevation: Ground: _____ Kelly Bushing: _____

Total Vertical Depth: _____ Plug Back Total Depth: _____

Amount of Surface Pipe Set and Cemented at: _____ Feet

Multiple Stage Cementing Collar Used? Yes No

If yes, show depth set: _____ Feet

If Alternate II completion, cement circulated from: _____

feet depth to: _____ w/ _____ sx cmt.

Drilling Fluid Management Plan

(Data must be collected from the Reserve Pit)

Chloride content: _____ ppm Fluid volume: _____ bbls

Dewatering method used: _____

Location of fluid disposal if hauled offsite:

Operator Name: _____

Lease Name: _____ License #: _____

Quarter _____ Sec. _____ Twp. _____ S. R. _____ East West

County: _____ Permit #: _____

AFFIDAVIT

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

Submitted Electronically

KCC Office Use ONLY

Confidentiality Requested

Date: _____

Confidential Release Date: _____

Wireline Log Received Drill Stem Tests Received

Geologist Report / Mud Logs Received

UIC Distribution

ALT I II III Approved by: _____ Date: _____

Operator Name: _____ Lease Name: _____ Well #: _____

Sec. _____ Twp. _____ S. R. _____ East West County: _____

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

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

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

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

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

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

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

TUBING RECORD:	Size:	Set At:	Packer At:	
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Form	ACO1 - Well Completion
Operator	Bickle Energies LLC
Well Name	KUHL-HART UNIT 26-1
Doc ID	1359266

All Electric Logs Run

CNL/CDL
Resistivity(Dual Induction)
Micro-resistivity
Sonic

Form	ACO1 - Well Completion
Operator	Bickle Energies LLC
Well Name	KUHL-HART UNIT 26-1
Doc ID	1359266

Tops

Name	Top	Datum
Topeka	3759	-647
LeCompton	3957	-845
Heebner	4040	-928
Toronto	4068	-956
Lansing	4084	-972
Stark	4310	-1198
B/KC	4394	-1282
Marmaton	4422	-1310
Morrow Shale	4673	-1561
Mississippian	4720	-1608



DRILL STEM TEST REPORT

Prepared For: **Bickle Energies Inc.**

PO Box 816
Hays KS 67601

ATTN: Keith Reavis

Kuhl-Hart Unit #26-1

26-12s-33w Logan, KS

Start Date: 2017.06.26 @ 00:01:15

End Date: 2017.06.26 @ 07:37:15

Job Ticket #: 63748 DST #: 1

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

Printed: 2017.07.03 @ 07:37:48

Bickle Energies Inc. 26-12s-33w Logan, KS Kuhl-Hart Unit #26-1 DST # 1 LKC K 2017.06.26



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Bickle Energies Inc.

26-12s-33w Logan, KS

PO Box 816
Hays KS 67601

Kuhl-Hart Unit #26-1

ATTN: Keith Reavis

Job Ticket: 63748

DST#: 1

Test Start: 2017.06.26 @ 00:01:15

GENERAL INFORMATION:

Formation: **LKC K**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 02:22:00

Time Test Ended: 07:37:15

Test Type: Conventional Bottom Hole (Initial)

Tester: Mike Roberts

Unit No: 81

Interval: 4308.00 ft (KB) To 4336.00 ft (KB) (TVD)

Reference Elevations: 3109.00 ft (KB)

Total Depth: 4336.00 ft (KB) (TVD)

3104.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 6749 Outside

Press@RunDepth: 37.96 psig @ 4309.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2017.06.26

End Date:

2017.06.26

Last Calib.:

2017.06.27

Start Time: 00:01:15

End Time:

07:37:15

Time On Btm:

2017.06.26 @ 02:21:45

Time Off Btm:

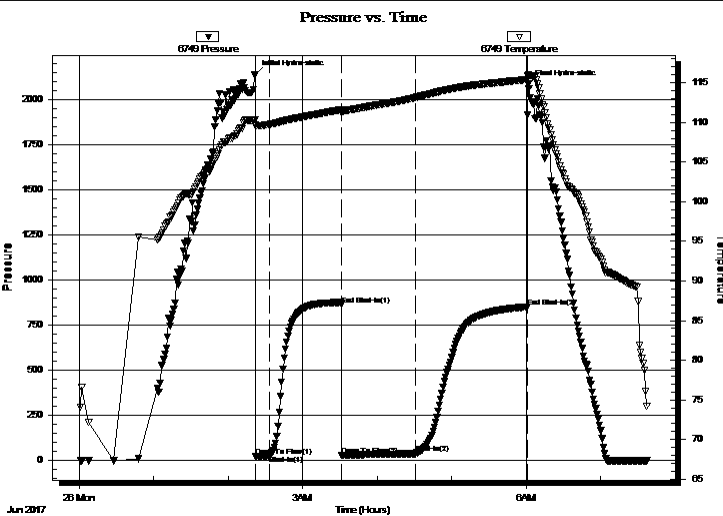
2017.06.26 @ 06:02:00

TEST COMMENT: IF: Built to weak surface blow

IS: No return blow

FF: Built to 1/4" blow

FS: No return blow



PRESSURE SUMMARY

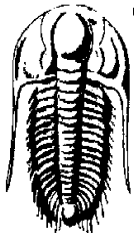
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2137.61	110.31	Initial Hydro-static
1	24.32	109.59	Open To Flow (1)
12	27.04	109.75	Shut-In(1)
70	863.48	111.60	End Shut-In(1)
70	29.44	111.25	Open To Flow (2)
130	37.96	113.15	Shut-In(2)
220	850.99	115.39	End Shut-In(2)
221	2083.75	116.05	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
30.00	ocm 10%o 90%m	0.15

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Bickle Energies Inc.

26-12s-33w Logan, KS

PO Box 816
Hays KS 67601

Kuhl-Hart Unit #26-1

Job Ticket: 63748

DST#: 1

ATTN: Keith Reavis

Test Start: 2017.06.26 @ 00:01:15

GENERAL INFORMATION:

Formation: **LKC K**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 02:22:00

Time Test Ended: 07:37:15

Test Type: Conventional Bottom Hole (Initial)

Tester: Mike Roberts

Unit No: 81

Interval: 4308.00 ft (KB) To 4336.00 ft (KB) (TVD)

Reference Elevations: 3109.00 ft (KB)

Total Depth: 4336.00 ft (KB) (TVD)

3104.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 8672 Inside

Press@RunDepth: psig @ 4309.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2017.06.26 End Date: 2017.06.26

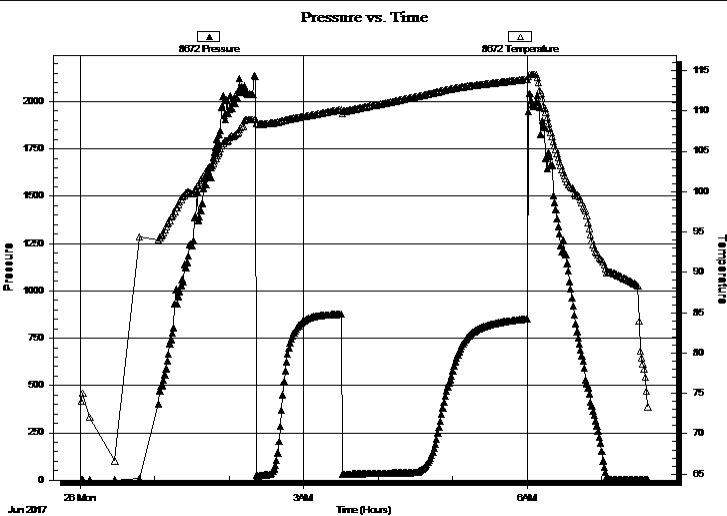
Last Calib.: 2017.06.27

Start Time: 00:01:15 End Time: 07:37:15

Time On Btm:

Time Off Btm:

TEST COMMENT: IF: Built to weak surface blow
IS: No return blow
FF: Built to 1/4" blow
FS: No return blow



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
30.00	ocm 10%o 90%m	0.15

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Bickle Energies Inc.

26-12s-33w Logan, KS

PO Box 816
Hays KS 67601

Kuhl-Hart Unit #26-1

Job Ticket: 63748

DST#: 1

ATTN: Keith Reavis

Test Start: 2017.06.26 @ 00:01:15

Tool Information

Drill Pipe:	Length: 4173.00 ft	Diameter: 3.80 inches	Volume: 58.54 bbl	Tool Weight: 1500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 119.00 ft	Diameter: 2.25 inches	Volume: 0.59 bbl	Weight to Pull Loose: 90000.00 lb
			<u>Total Volume: 59.13 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	12.00 ft			String Weight: Initial 70000.00 lb
Depth to Top Packer:	4308.00 ft			Final 71000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	28.00 ft			
Tool Length:	56.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4281.00	
Shut In Tool	5.00			4286.00	
Hydraulic tool	5.00			4291.00	
Jars	5.00			4296.00	
Safety Joint	3.00			4299.00	
Packer	5.00			4304.00	28.00 Bottom Of Top Packer
Packer	4.00			4308.00	
Stubb	1.00			4309.00	
Recorder	0.00	8672	Inside	4309.00	
Recorder	0.00	6749	Outside	4309.00	
Perforations	22.00			4331.00	
Bullnose	5.00			4336.00	28.00 Bottom Packers & Anchor

Total Tool Length: 56.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Bickle Energies Inc.

26-12s-33w Logan, KS

PO Box 816
Hays KS 67601

Kuhl-Hart Unit #26-1

Job Ticket: 63748

DST#: 1

ATTN: Keith Reavis

Test Start: 2017.06.26 @ 00:01:15

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: 51.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.54 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 8000.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
30.00	ocm 10%o 90%m	0.148

Total Length: 30.00 ft Total Volume: 0.148 bbl

Num Fluid Samples: 0

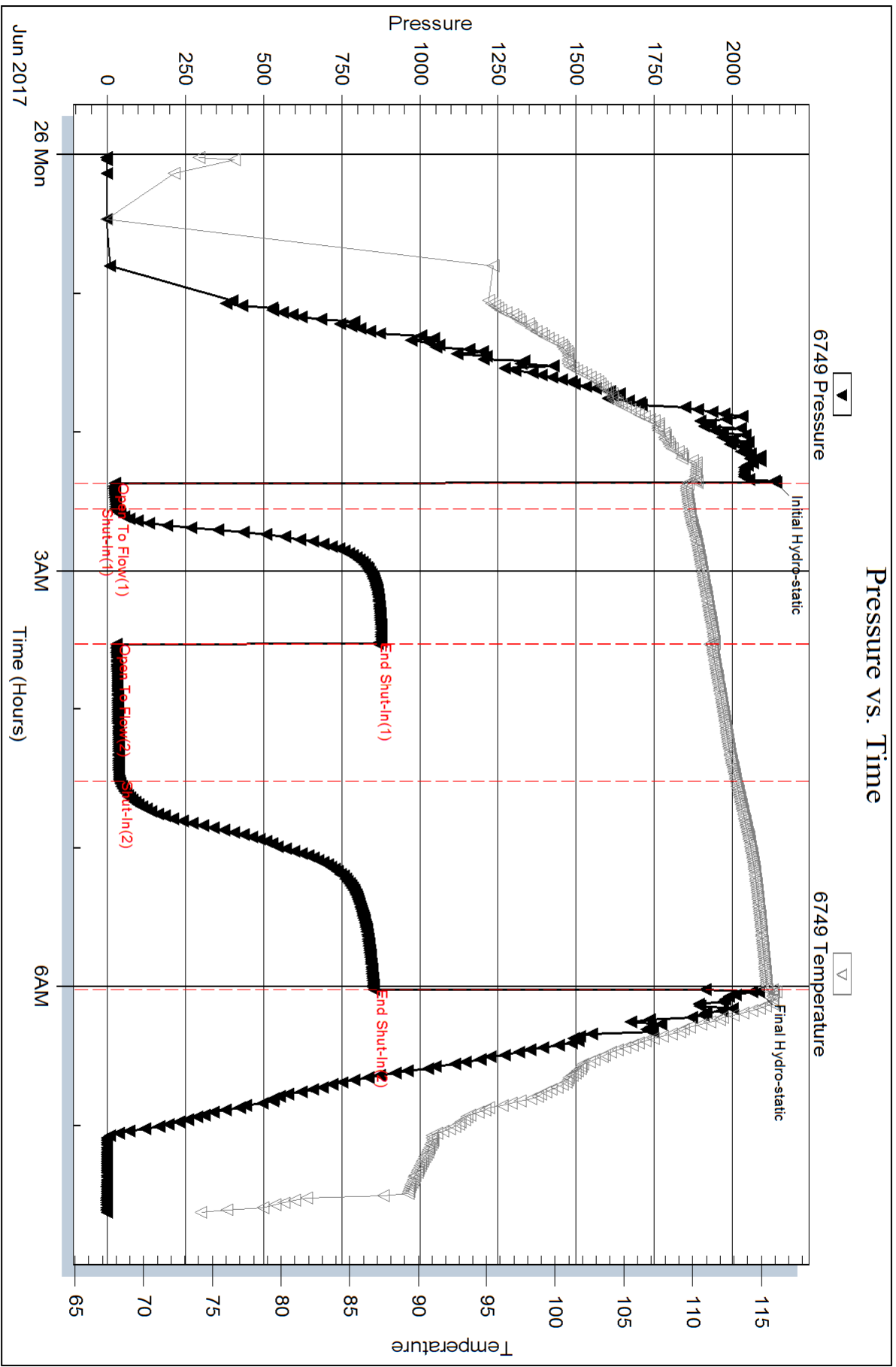
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



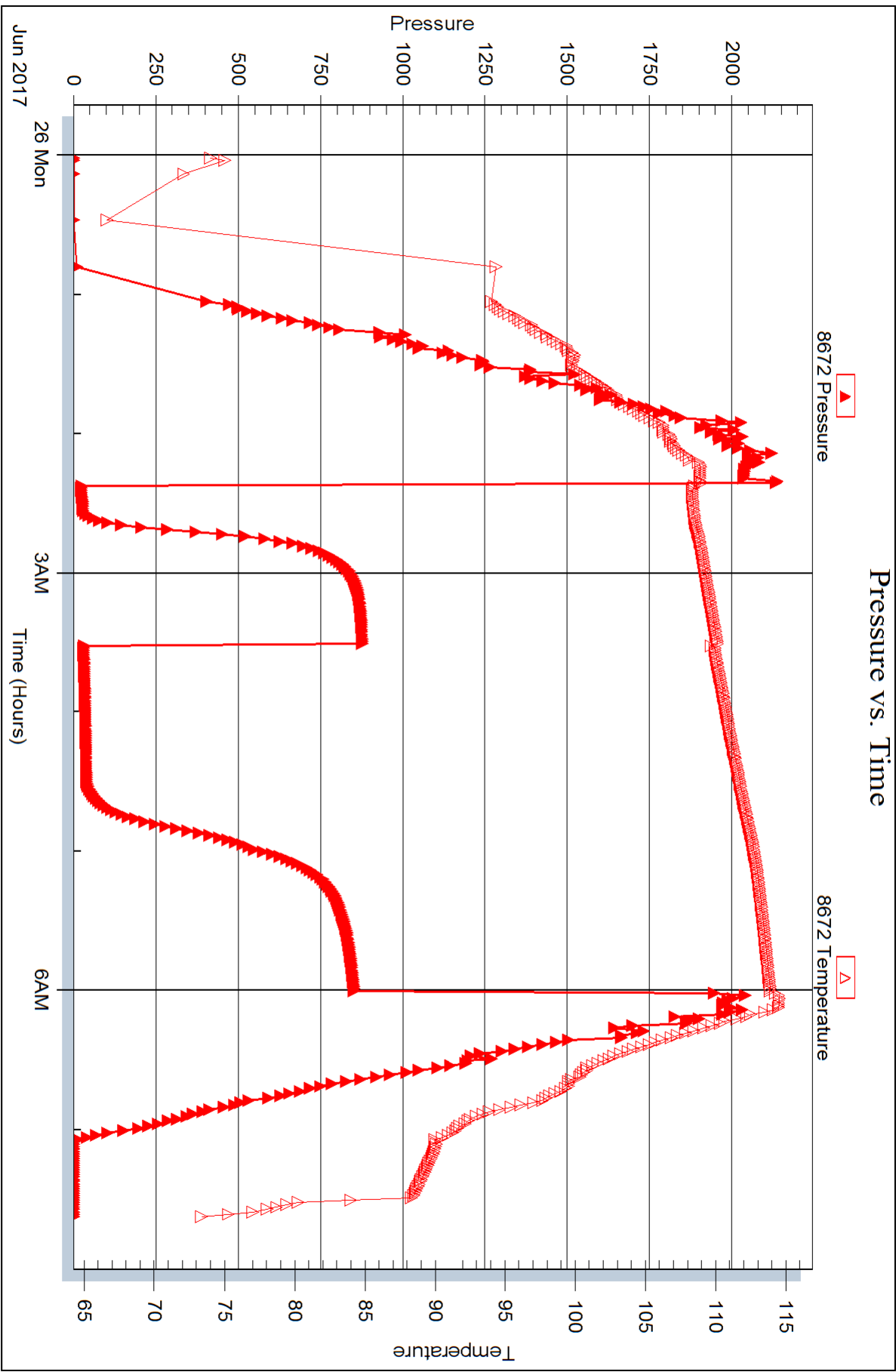
Serial #: 8672

Inside

Bickle Energies Inc.

Kuhl-Hart Unit #26-1

DST Test Number: 1





DRILL STEM TEST REPORT

Prepared For: **Bickle Energies Inc.**

PO Box 816
Hays KS 67601

ATTN: Keith Reavis

Kuhl-Hart Unit #26-1

26-12s-33w Logan, KS

Start Date: 2017.06.28 @ 03:05:15

End Date: 2017.06.28 @ 09:14:15

Job Ticket #: 63749 DST #: 2

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

Printed: 2017.07.03 @ 07:37:21



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Bickle Energies Inc.

26-12s-33w Logan, KS

PO Box 816
Hays KS 67601

Kuhl-Hart Unit #26-1

ATTN: Keith Reavis

Job Ticket: 63749

DST#: 2

Test Start: 2017.06.28 @ 03:05:15

GENERAL INFORMATION:

Formation: **Marmaton**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 05:28:15

Time Test Ended: 09:14:15

Test Type: Conventional Bottom Hole (Reset)

Tester: Mike Roberts

Unit No: 81

Interval: 4424.00 ft (KB) To 4504.00 ft (KB) (TVD)

Reference Elevations: 3109.00 ft (KB)

Total Depth: 4504.00 ft (KB) (TVD)

3104.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 6749 Outside

Press@RunDepth: 60.90 psig @ 4499.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2017.06.28

End Date:

2017.06.28

Last Calib.:

2017.06.28

Start Time: 03:05:15

End Time:

09:14:15

Time On Btm:

2017.06.28 @ 05:28:00

Time Off Btm:

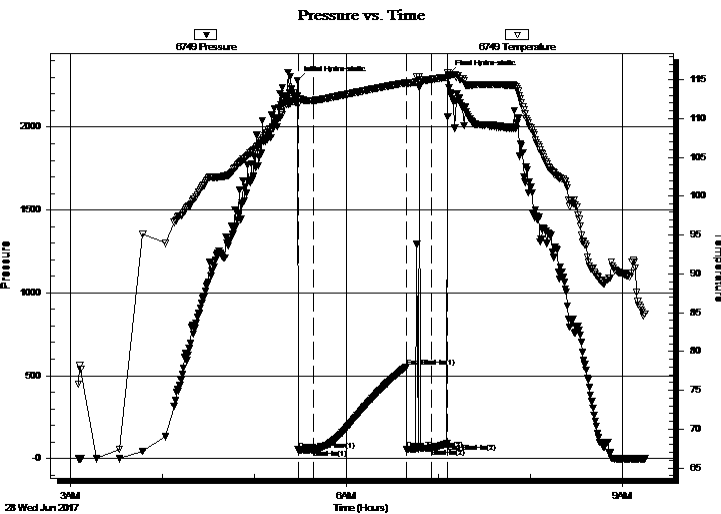
2017.06.28 @ 07:06:15

TEST COMMENT: IF: Built to weak surface blow

IS: No return blow

FF: No blow ---- flushed tool ---- weak surface blow died in 30 seconds.

FS: No return blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2279.02	112.95	Initial Hydro-static
1	52.51	111.77	Open To Flow (1)
11	53.10	112.33	Shut-In(1)
71	553.20	114.61	End Shut-In(1)
71	53.57	114.43	Open To Flow (2)
87	60.90	115.04	Shut-In(2)
98	90.89	115.33	End Shut-In(2)
99	2316.50	115.50	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	w cm 2%w 98%m	0.02

* Recovery from multiple tests

Gas Rates

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



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Bickle Energies Inc.

26-12s-33w Logan, KS

PO Box 816
Hays KS 67601

Kuhl-Hart Unit #26-1

Job Ticket: 63749

DST#: 2

ATTN: Keith Reavis

Test Start: 2017.06.28 @ 03:05:15

GENERAL INFORMATION:

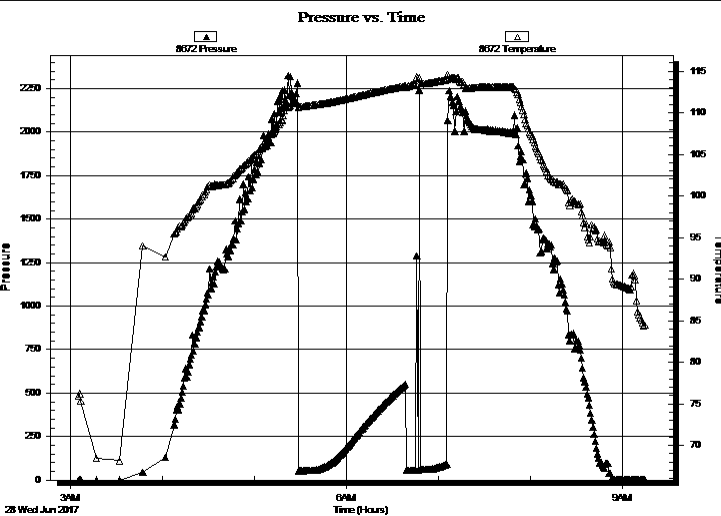
Formation: **Marmaton**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 05:28:15
 Time Test Ended: 09:14:15
 Interval: **4424.00 ft (KB) To 4504.00 ft (KB) (TVD)**
 Total Depth: 4504.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Mike Roberts
 Unit No: 81
 Reference Elevations: 3109.00 ft (KB)
 3104.00 ft (CF)
 KB to GR/CF: 5.00 ft

Serial #: 8672

Inside

Press@RunDepth: psig @ 4499.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2017.06.28 End Date: 2017.06.28 Last Calib.: 2017.06.28
 Start Time: 03:05:15 End Time: 09:14:15 Time On Btm:
 Time Off Btm:

TEST COMMENT: IF: Built to weak surface blow
 IS: No return blow
 FF: No blow ---- flushed tool---- weak surface blow died in 30 seconds.
 FS: No return blow



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
5.00	w cm 2%w 98% m	0.02

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Bickle Energies Inc.

26-12s-33w Logan, KS

PO Box 816
Hays KS 67601

Kuhl-Hart Unit #26-1

Job Ticket: 63749

DST#: 2

ATTN: Keith Reavis

Test Start: 2017.06.28 @ 03:05:15

Tool Information

Drill Pipe:	Length: 4300.00 ft	Diameter: 3.80 inches	Volume: 60.32 bbl	Tool Weight: 1500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 119.00 ft	Diameter: 2.25 inches	Volume: 0.59 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: 60.91 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	23.00 ft			String Weight: Initial 68000.00 lb
Depth to Top Packer:	4424.00 ft			Final 68000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	80.00 ft			
Tool Length:	108.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4397.00	
Shut In Tool	5.00			4402.00	
Hydraulic tool	5.00			4407.00	
Jars	5.00			4412.00	
Safety Joint	3.00			4415.00	
Packer	5.00			4420.00	28.00 Bottom Of Top Packer
Packer	4.00			4424.00	
Stubb	1.00			4425.00	
Perforations	4.00			4429.00	
Change Over Sub	1.00			4430.00	
Drill Pipe	63.00			4493.00	
Change Over Sub	1.00			4494.00	
Perforations	5.00			4499.00	
Recorder	0.00	8672	Inside	4499.00	
Recorder	0.00	6749	Outside	4499.00	
Bullnose	5.00			4504.00	80.00 Bottom Packers & Anchor
Total Tool Length:	108.00				



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Bickle Energies Inc.

26-12s-33w Logan, KS

PO Box 816
Hays KS 67601

Kuhl-Hart Unit #26-1

Job Ticket: 63749

DST#: 2

ATTN: Keith Reavis

Test Start: 2017.06.28 @ 03:05:15

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: 46.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.95 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 9500.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
5.00	w cm 2%w 98%m	0.025

Total Length: 5.00 ft Total Volume: 0.025 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

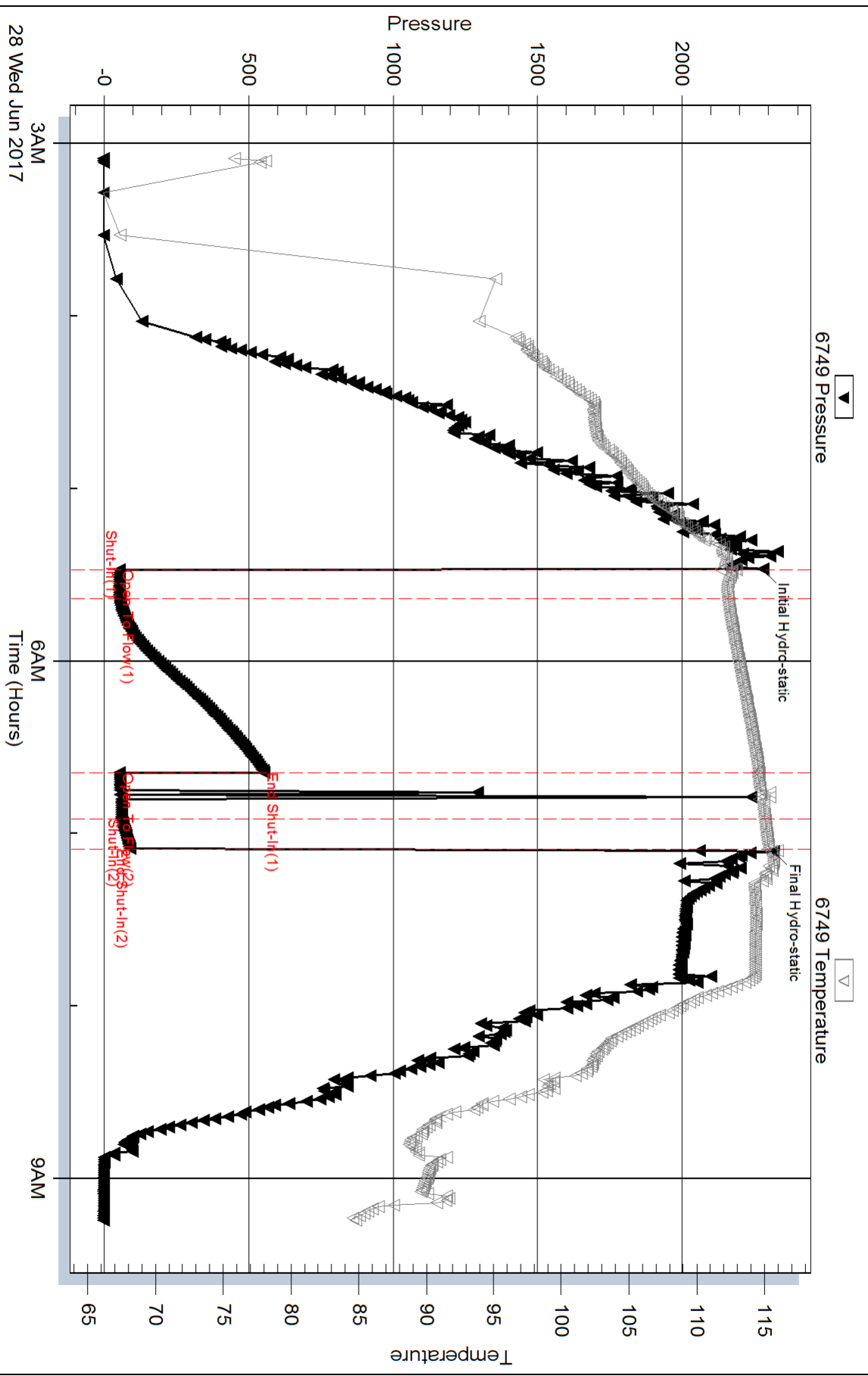
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Pressure vs. Time



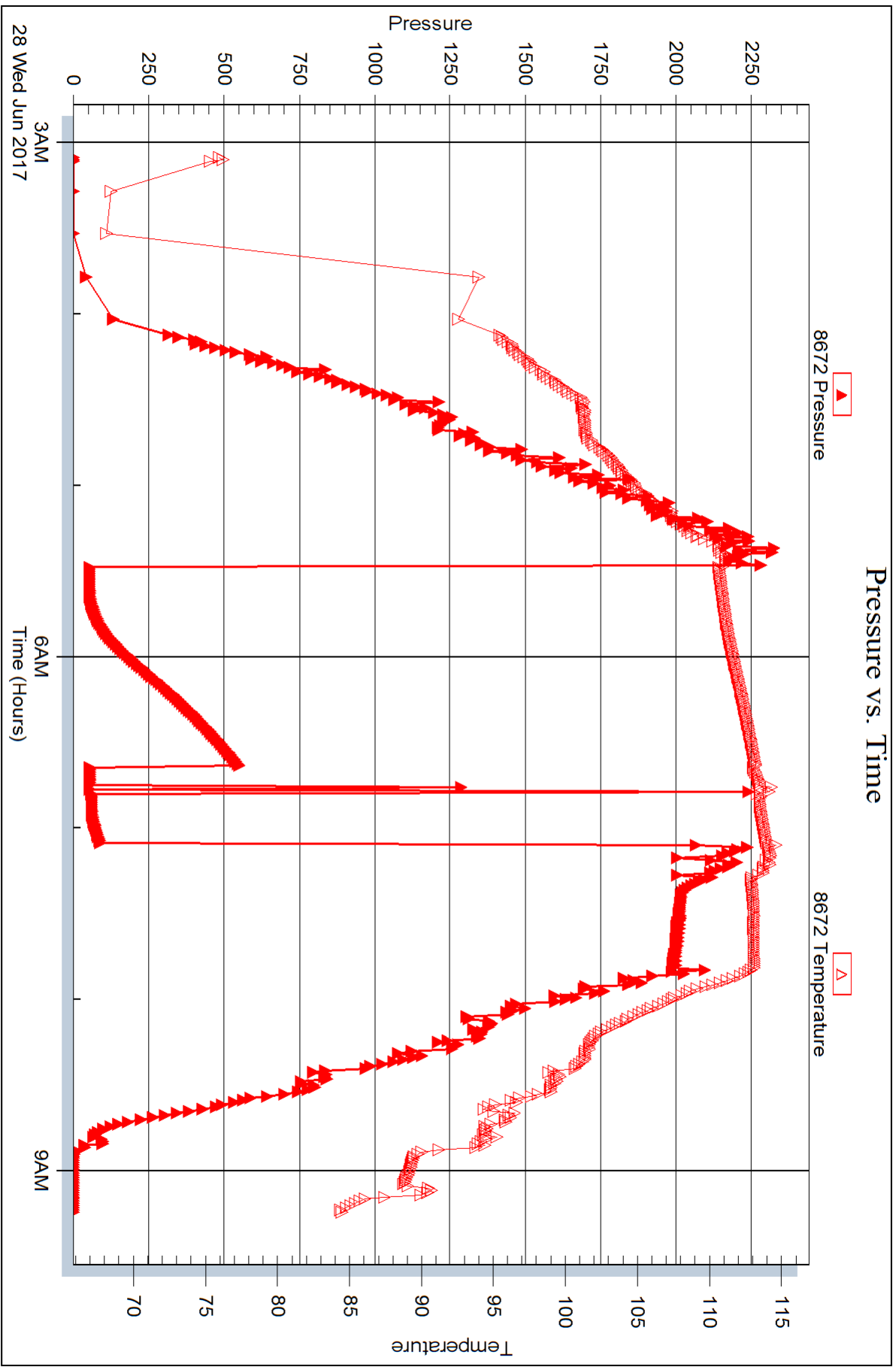
Serial #: 8672

Inside

Bickle Energies Inc.

Kuhl-Hart Unit #26-1

DST Test Number: 2





DRILL STEM TEST REPORT

Prepared For: **Bickle Energies Inc.**

PO Box 816
Hays KS 67601

ATTN: Keith Reavis

Kuhl-Hart Unit #26-1

26-12s-33w Logan, KS

Start Date: 2017.06.29 @ 03:20:15

End Date: 2017.06.29 @ 10:17:45

Job Ticket #: 63750 DST #: 3

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

Printed: 2017.07.03 @ 07:36:55



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Bickle Energies Inc.

26-12s-33w Logan, KS

PO Box 816
Hays KS 67601

Kuhl-Hart Unit #26-1

ATTN: Keith Reavis

Job Ticket: 63750

DST#: 3

Test Start: 2017.06.29 @ 03:20:15

GENERAL INFORMATION:

Formation: **Johnson**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 05:56:30

Time Test Ended: 10:17:45

Test Type: Conventional Bottom Hole (Reset)

Tester: Mike Roberts

Unit No: 81

Interval: 4614.00 ft (KB) To 4673.00 ft (KB) (TVD)

Reference Elevations: 3109.00 ft (KB)

Total Depth: 4673.00 ft (KB) (TVD)

3104.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 6749 Outside

Press@RunDepth: 43.24 psig @ 4668.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2017.06.29

End Date:

2017.06.29

Last Calib.:

2017.06.29

Start Time: 03:20:15

End Time:

10:17:45

Time On Btm:

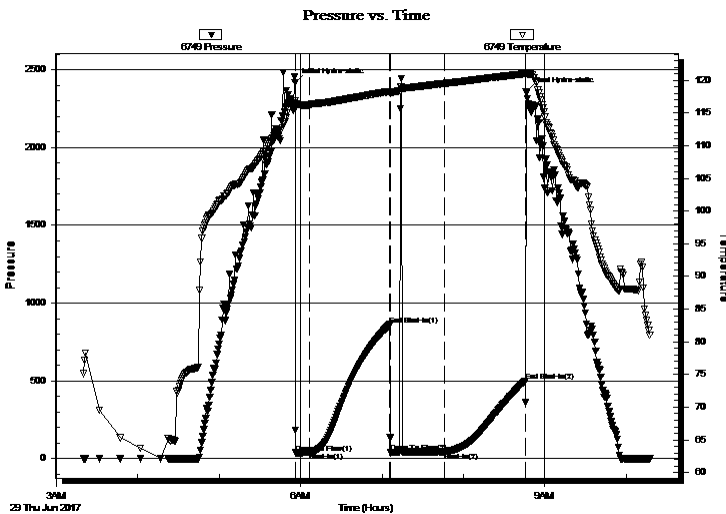
2017.06.29 @ 05:56:00

Time Off Btm:

2017.06.29 @ 08:46:15

TEST COMMENT: IF: Built to 1/8" blow
IS: No return blow
FF: No blow
FS: No return blow

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2418.84	116.87	Initial Hydro-static
1	36.50	116.32	Open To Flow (1)
11	37.91	116.24	Shut-In(1)
70	860.85	118.30	End Shut-In(1)
71	37.87	118.09	Open To Flow (2)
110	43.24	119.50	Shut-In(2)
170	499.81	121.00	End Shut-In(2)
171	2358.35	121.20	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	mud 100%m	0.02

Gas Rates

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

* Recovery from multiple tests



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Bickie Energies Inc.

26-12s-33w Logan, KS

PO Box 816
Hays KS 67601

Kuhl-Hart Unit #26-1

Job Ticket: 63750

DST#: 3

ATTN: Keith Reavis

Test Start: 2017.06.29 @ 03:20:15

GENERAL INFORMATION:

Formation: **Johnson**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 05:56:30
 Time Test Ended: 10:17:45
 Interval: **4614.00 ft (KB) To 4673.00 ft (KB) (TVD)**
 Total Depth: 4673.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Mike Roberts
 Unit No: 81
 Reference Elevations: 3109.00 ft (KB)
 3104.00 ft (CF)
 KB to GR/CF: 5.00 ft

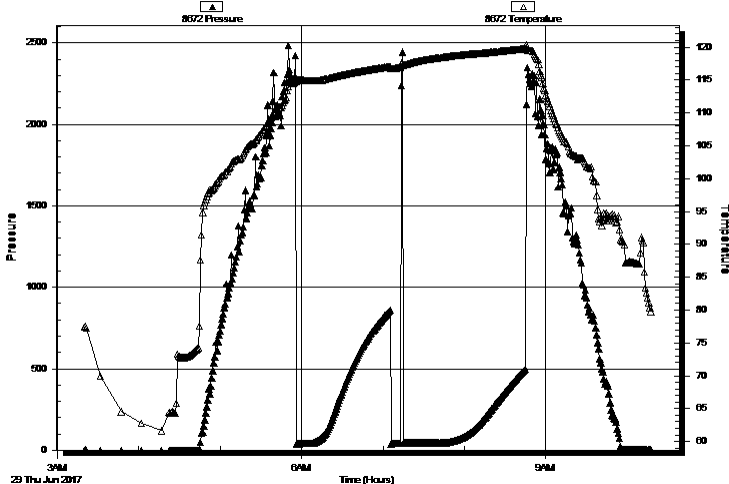
Serial #: 8672

Inside

Press@RunDepth: psig @ 4668.00 ft (KB)
 Start Date: 2017.06.29 End Date: 2017.06.29
 Start Time: 03:20:15 End Time: 10:17:45
 Capacity: 8000.00 psig
 Last Calib.: 2017.06.29
 Time On Btm:
 Time Off Btm:

TEST COMMENT: IF: Built to 1/8" blow
 IS: No return blow
 FF: No blow
 FS: No return blow

Pressure vs. Time



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
5.00	mud 100% m	0.02

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 Inc.

26-12s-33w Logan, KS

PO Box 816
Hays KS 67601

Kuhl-Hart Unit #26-1

Job Ticket: 63750

DST#: 3

ATTN: Keith Reavis

Test Start: 2017.06.29 @ 03:20:15

Tool Information

Drill Pipe:	Length: 4490.00 ft	Diameter: 3.80 inches	Volume: 62.98 bbl	Tool Weight: 1500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 119.00 ft	Diameter: 2.25 inches	Volume: 0.59 bbl	Weight to Pull Loose: 90000.00 lb
			<u>Total Volume: 63.57 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	23.00 ft			String Weight: Initial 70000.00 lb
Depth to Top Packer:	4614.00 ft			Final 71000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	59.00 ft			
Tool Length:	87.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4587.00	
Shut In Tool	5.00			4592.00	
Hydraulic tool	5.00			4597.00	
Jars	5.00			4602.00	
Safety Joint	3.00			4605.00	
Packer	5.00			4610.00	28.00 Bottom Of Top Packer
Packer	4.00			4614.00	
Stubb	1.00			4615.00	
Perforations	5.00			4620.00	
Change Over Sub	1.00			4621.00	
Drill Pipe	31.00			4652.00	
Change Over Sub	1.00			4653.00	
Perforations	15.00			4668.00	
Recorder	0.00	8672	Inside	4668.00	
Recorder	0.00	6749	Outside	4668.00	
Bullnose	5.00			4673.00	59.00 Bottom Packers & Anchor
Total Tool Length:	87.00				



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Bickle Energies Inc.

26-12s-33w Logan, KS

PO Box 816
Hays KS 67601

Kuhl-Hart Unit #26-1

Job Ticket: 63750

DST#: 3

ATTN: Keith Reavis

Test Start: 2017.06.29 @ 03:20:15

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: 57.00 sec/qt

Cushion Volume:

bbl

Water Loss: 7.57 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 8000.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	mud 100%m	0.025

Total Length: 5.00 ft Total Volume: 0.025 bbl

Num Fluid Samples: 0

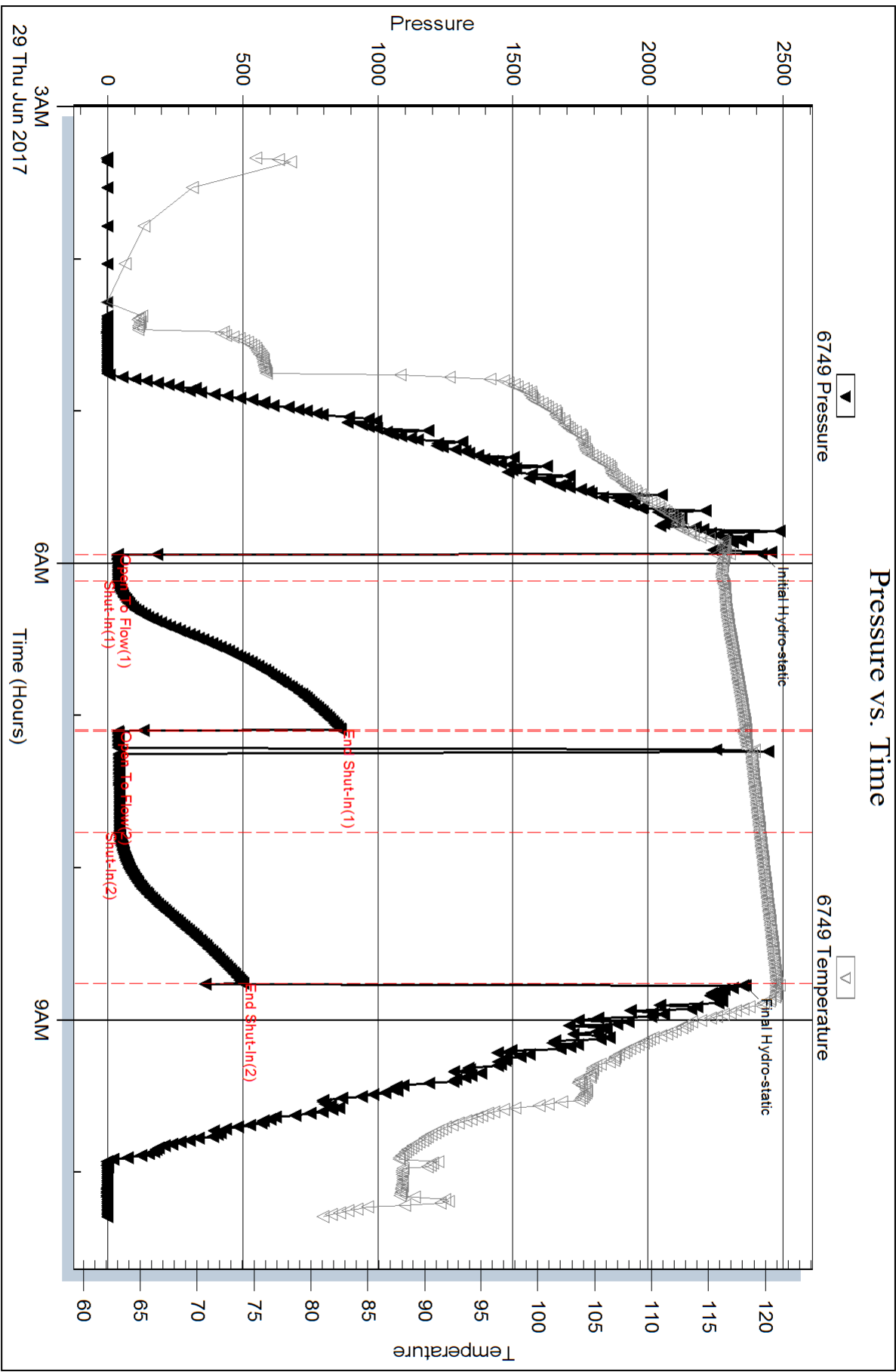
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



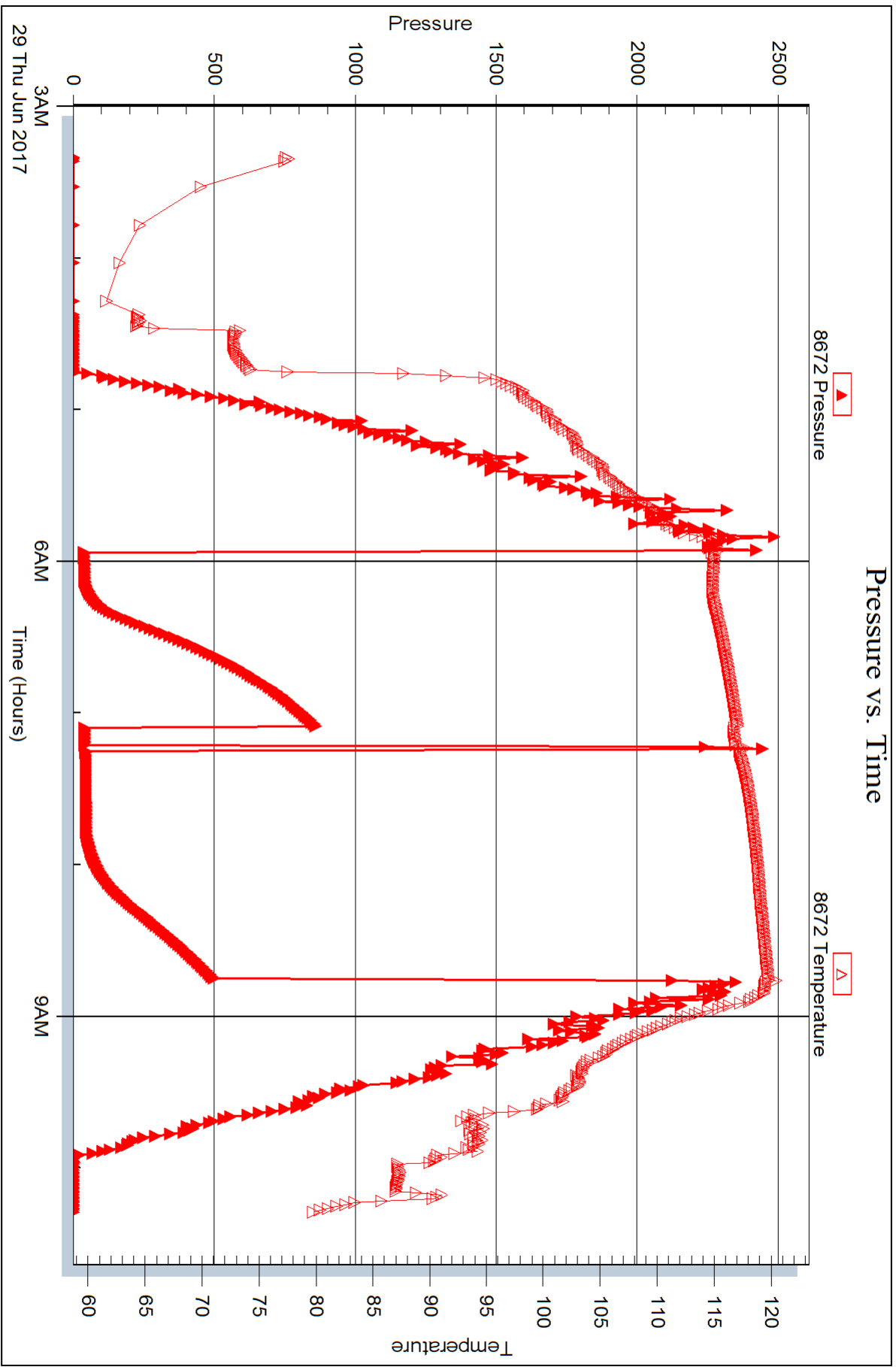
Serial #: 8672

Inside

Bickle Energies Inc.

Kuhl-Hart Unit #26-1

DST Test Number: 3





DRILL STEM TEST REPORT

Prepared For: **Bickle Energies Inc.**

PO Box 816
Hays KS 67601

ATTN: Keith Reavis

Kuhl-Hart Unit #26-1

26-12s-33w Logan, KS

Start Date: 2017.06.29 @ 18:25:15

End Date: 2017.06.30 @ 00:44:00

Job Ticket #: 63826 DST #: 4

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

Printed: 2017.07.03 @ 07:36:22



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Bickle Energies Inc.

26-12s-33w Logan, KS

PO Box 816
Hays KS 67601

Kuhl-Hart Unit #26-1

ATTN: Keith Reavis

Job Ticket: 63826

DST#: 4

Test Start: 2017.06.29 @ 18:25:15

GENERAL INFORMATION:

Formation: **Morrow**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 20:18:15

Time Test Ended: 00:44:00

Test Type: Conventional Bottom Hole (Reset)

Tester: Mike Roberts

Unit No: 81

Interval: 4669.00 ft (KB) To 4719.00 ft (KB) (TVD)

Reference Elevations: 3109.00 ft (KB)

Total Depth: 4719.00 ft (KB) (TVD)

3104.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 6749 Outside

Press@RunDepth: 48.76 psig @ 4714.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2017.06.29

End Date:

2017.06.30

Last Calib.: 2017.06.30

Start Time: 18:25:15

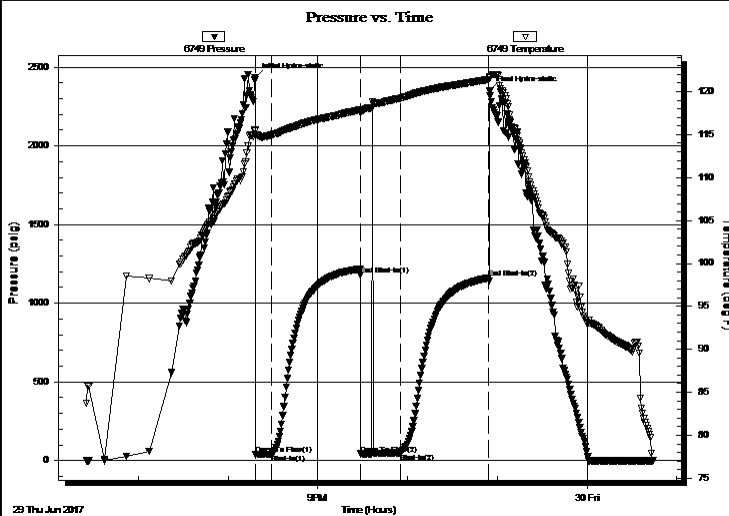
End Time:

00:44:00

Time On Btm: 2017.06.29 @ 20:18:00

Time Off Btm: 2017.06.29 @ 22:55:00

TEST COMMENT: IF: Built to weak surface blow
IS: No return blow
FF: No blow ----flushed tool----no blow
FS: No return blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2433.21	115.53	Initial Hydro-static
1	37.46	114.89	Open To Flow (1)
11	39.05	114.95	Shut-In(1)
71	1177.63	117.86	End Shut-In(1)
71	42.06	117.54	Open To Flow (2)
97	48.76	119.23	Shut-In(2)
157	1159.78	121.41	End Shut-In(2)
157	2347.79	121.60	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	ocm 1%o 99%m	0.02

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Bickle Energies Inc.
PO Box 816
Hays KS 67601
ATTN: Keith Reavis

26-12s-33w Logan, KS

Kuhl-Hart Unit #26-1

Job Ticket: 63826 **DST#: 4**

Test Start: 2017.06.29 @ 18:25:15

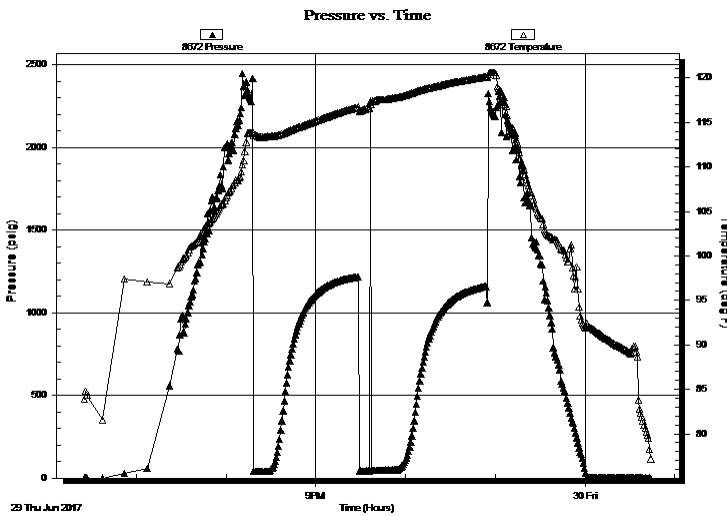
GENERAL INFORMATION:

Formation: Morrow		Test Type: Conventional Bottom Hole (Reset)
Deviated: No Whipstock: ft (KB)		Tester: Mike Roberts
Time Tool Opened: 20:18:15		Unit No: 81
Time Test Ended: 00:44:00		
Interval: 4669.00 ft (KB) To 4719.00 ft (KB) (TVD)		Reference Elevations: 3109.00 ft (KB)
Total Depth: 4719.00 ft (KB) (TVD)		3104.00 ft (CF)
Hole Diameter: 7.88 inches Hole Condition: Fair		KB to GR/CF: 5.00 ft

Serial #: 8672 Inside

Press@RunDepth: psig @ 4714.00 ft (KB)	Capacity: 8000.00 psig
Start Date: 2017.06.29 End Date: 2017.06.30	Last Calib.: 2017.06.30
Start Time: 18:25:15 End Time: 00:44:00	Time On Btm:
	Time Off Btm:

TEST COMMENT: IF: Built to weak surface blow
IS: No return blow
FF: No blow ---- flushed tool ---- no blow
FS: No return blow



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
5.00	ocm 1%o 99% m	0.02

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 Inc.

26-12s-33w Logan, KS

PO Box 816
Hays KS 67601

Kuhl-Hart Unit #26-1

Job Ticket: 63826

DST#: 4

ATTN: Keith Reavis

Test Start: 2017.06.29 @ 18:25:15

Tool Information

Drill Pipe:	Length: 4549.00 ft	Diameter: 3.80 inches	Volume: 63.81 bbl	Tool Weight: 1500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 119.00 ft	Diameter: 2.25 inches	Volume: 0.59 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: 64.40 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	27.00 ft			String Weight: Initial 70000.00 lb
Depth to Top Packer:	4669.00 ft			Final 70000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	50.00 ft			
Tool Length:	78.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4642.00	
Shut In Tool	5.00			4647.00	
Hydraulic tool	5.00			4652.00	
Jars	5.00			4657.00	
Safety Joint	3.00			4660.00	
Packer	5.00			4665.00	28.00 Bottom Of Top Packer
Packer	4.00			4669.00	
Stubb	1.00			4670.00	
Perforations	5.00			4675.00	
Change Over Sub	1.00			4676.00	
Drill Pipe	32.00			4708.00	
Change Over Sub	1.00			4709.00	
Perforations	5.00			4714.00	
Recorder	0.00	8672	Inside	4714.00	
Recorder	0.00	6749	Outside	4714.00	
Bullnose	5.00			4719.00	50.00 Bottom Packers & Anchor
Total Tool Length:	78.00				



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Bickle Energies Inc.

26-12s-33w Logan, KS

PO Box 816
Hays KS 67601

Kuhl-Hart Unit #26-1

Job Ticket: 63826

DST#: 4

ATTN: Keith Reavis

Test Start: 2017.06.29 @ 18:25:15

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: 45.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.58 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 9500.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	ocm 1%o 99%m	0.025

Total Length: 5.00 ft Total Volume: 0.025 bbl

Num Fluid Samples: 0

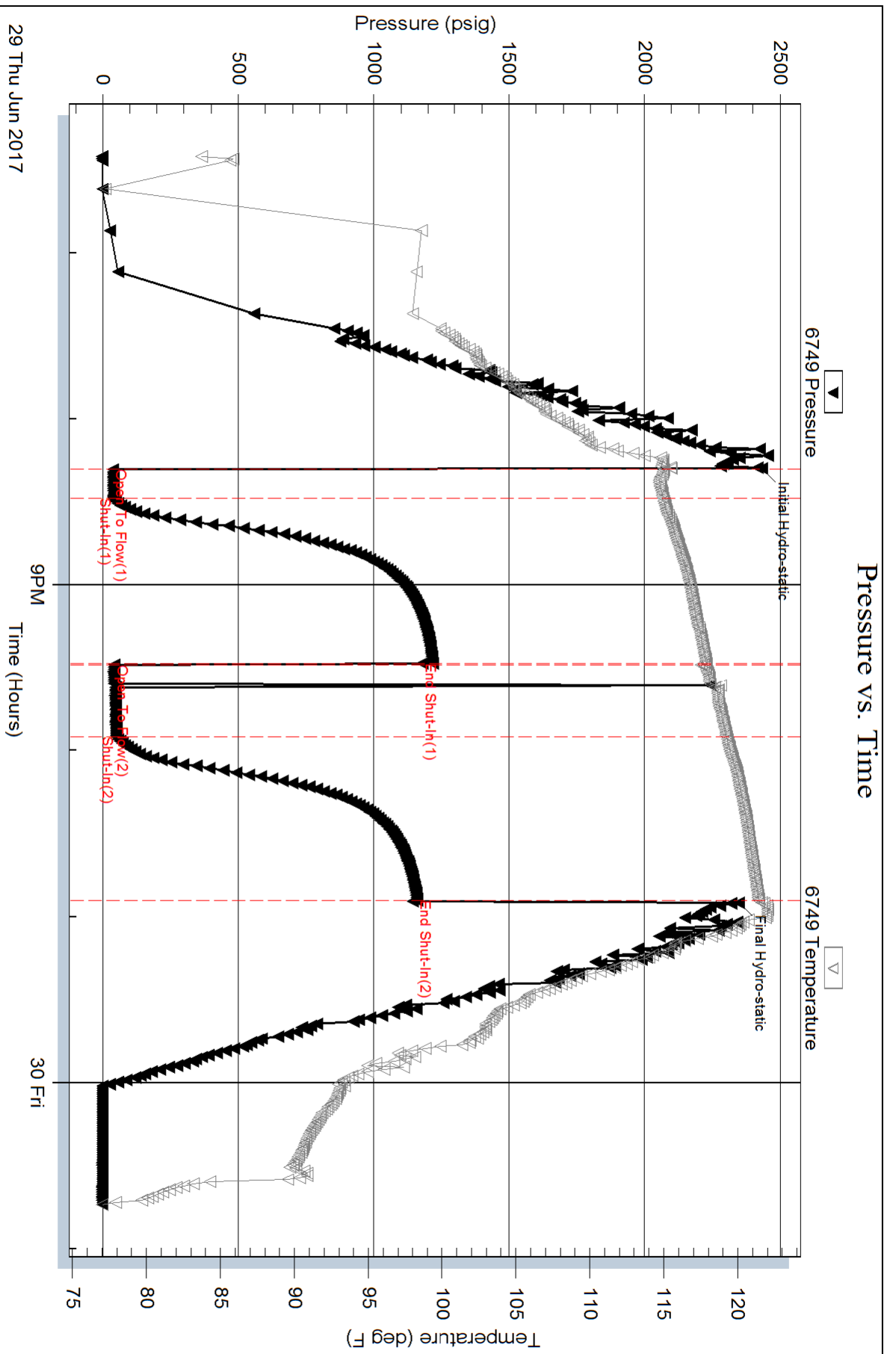
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



Serial #: 8672

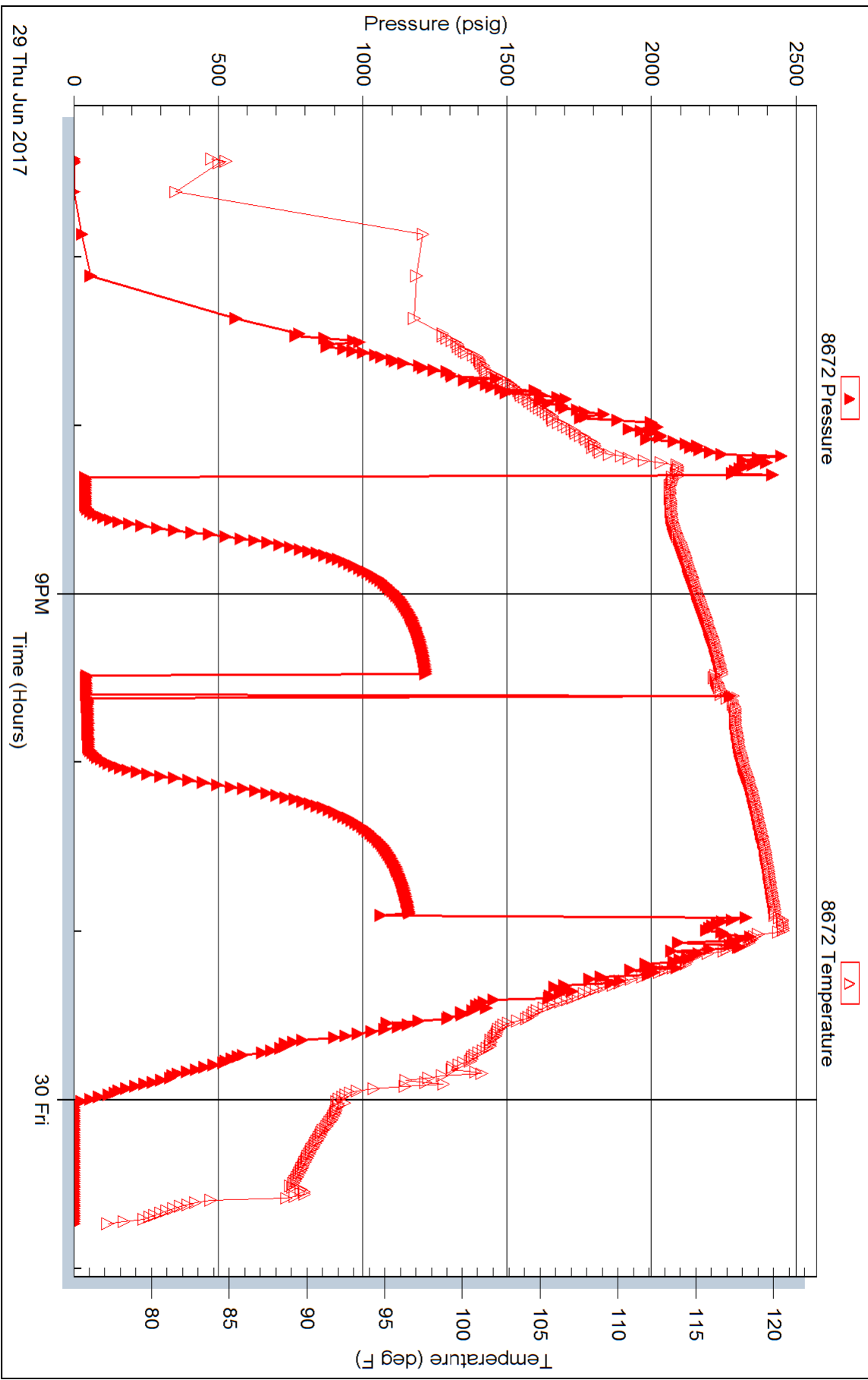
Inside

Bickle Energies Inc.

Kuhl-Hart Unit #26-1

DST Test Number: 4

Pressure vs. Time





TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **63748**

Well Name & No. Kuhl-Hart Unit 26-1 Test No. 1 Date 6-20-17
 Company Bickle Energies Inc Elevation 3109 KB 3104 GL
 Address P.O. Box 818 Hays KS 67601
 Co. Rep / Geo. Keith Reavis Rig WL10
 Location: Sec. 26 Twp. 12 Rge. 33W Co. Logan State KS

Interval Tested 4308-4336 Zone Tested K
 Anchor Length 28 Drill Pipe Run 4173 Mud Wt. 9.1
 Top Packer Depth 4303 Drill Collars Run 119 Vis 51
 Bottom Packer Depth 4308 Wt. Pipe Run Ø WL 7.4
 Total Depth 4336 Chlorides 8000 ppm System LCM 2
 Blow Description IF: Built to Weak Surface Blow
IS: No Return Blow
FF: Built to 1/4" Blow
FS: No Return Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>30</u>	<u>OCM</u>	<u>10</u>		<u>90</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 30 BHT 115 Gravity — API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic <u>2137</u>	<input checked="" type="checkbox"/> Test <u>\$1150.00/-</u>	T-On Location <u>19:45</u>
(B) First Initial Flow <u>24</u>	<input checked="" type="checkbox"/> Jars <u>\$250.00/-</u>	T-Started <u>12:01</u>
(C) First Final Flow <u>27</u>	<input checked="" type="checkbox"/> Safety Joint <u>\$75.00/-</u>	T-Open <u>02:21</u>
(D) Initial Shut-In <u>863</u>	<input checked="" type="checkbox"/> Circ Sub <u>NC</u>	T-Pulled <u>06:01</u>
(E) Second Initial Flow <u>29</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>07:37</u>
(F) Second Final Flow <u>37</u>	<input checked="" type="checkbox"/> Mileage <u>96RT = \$72.00/-</u>	Comments
(G) Final Shut-In <u>850</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>2083</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer
	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Packer
	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Extra Copies
	<input type="checkbox"/> Extra Recorder	Sub Total <u>0</u>
	<input type="checkbox"/> Day Standby	Total <u>1547</u>
	<input type="checkbox"/> Accessibility	MP/DST Disc't
	Sub Total <u>\$1547.00/-</u>	

Approved By Keith Reavis Our Representative Mike Roberts

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. **63749**

Well Name & No. Kuhl-Hart Unit 26-1 Test No. 2 Date 6-28-17
 Company Bickle Energies Inc Elevation 3109 KB 3104 GL
 Address P.O. Box 816 Hays KS 67601
 Co. Rep / Geo. Keith Reavis Rig WW10
 Location: Sec. 26 Twp. 12 Rge. 33w Co. Fogon State KS

Interval Tested 4424-4504 Zone Tested Marmaton
 Anchor Length 80 Drill Pipe Run 4300 Mud Wt. 9.0
 Top Packer Depth 4419 Drill Collars Run 119 Vis 46
 Bottom Packer Depth 4424 Wt. Pipe Run Ø WL 8.0
 Total Depth 4504 Chlorides 9500 ppm System LCM 2
 Blow Description IF: Built to Weak Surface Blow
IS: No Return Blow
FF: No Blow --- Flushed- weak Blow died in 30sec.
FS: No Return Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>5</u>	<u>WCM</u>		<u>2</u>	<u>98</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 5 BHT 116 Gravity — API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic <u>2279</u>	<input checked="" type="checkbox"/> Test <u>\$1150.00/-</u>	T-On Location <u>02:25</u>
(B) First Initial Flow <u>52</u>	<input checked="" type="checkbox"/> Jars <u>\$250.00/-</u>	T-Started <u>03:05</u>
(C) First Final Flow <u>53</u>	<input checked="" type="checkbox"/> Safety Joint <u>\$75.00/-</u>	T-Open <u>05:28</u>
(D) Initial Shut-In <u>553</u>	<input checked="" type="checkbox"/> Circ Sub <u>NC</u>	T-Pulled <u>07:05</u>
(E) Second Initial Flow <u>53</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>09:14</u>
(F) Second Final Flow <u>60</u>	<input checked="" type="checkbox"/> Mileage <u>96 RT = \$72.00/-</u>	Comments
(G) Final Shut-In <u>90</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>2314</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer
	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Packer
	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Extra Copies
Initial Open <u>10</u>	<input type="checkbox"/> Extra Recorder	Sub Total <u>0</u>
Initial Shut-In <u>60</u>	<input type="checkbox"/> Day Standby	Total <u>1547</u>
Final Flow <u>16</u>	<input type="checkbox"/> Accessibility	MP/DST Disc't
Final Shut-In <u>11</u>	Sub Total <u>\$1547.00/-</u>	

Approved By Keith Reavis Our Representative Mike Rohlf

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. **63750**

Well Name & No. Kuhl-Hart Unit 26-1 Test No. 3 Date 6-29-17
 Company Bickle Energies Inc Elevation 3109 KB 3104 GL
 Address P.O. Box 816 Hays KS 67601
 Co. Rep / Geo. Keith Reavis Rig WW10
 Location: Sec. 26 Twp. 12 Rge. 33W Co. Logan State KS

Interval Tested 4614-4673 Zone Tested Johnson
 Anchor Length 59 Drill Pipe Run 4490 Mud Wt. 9.2
 Top Packer Depth 4609 Drill Collars Run 119 Vis 57
 Bottom Packer Depth 4614 Wt. Pipe Run Ø WL 7.6
 Total Depth 4673 Chlorides 8000 ppm System LCM 2
 Blow Description IF: Built to 1/8" Blow
IS: No Return Blow
FF: No Blow -- Flushed -- No Blow
FS: No Return Blow

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

Rec Total 5 BHT 121 Gravity — API RW — @ — ° F Chlorides — ppm
 (A) Initial Hydrostatic 2418 Test \$1150.00/- T-On Location 02:35
 (B) First Initial Flow 36 Jars \$250.00/- T-Started 03:20
 (C) First Final Flow 37 Safety Joint \$75.00/- T-Open 05:56
 (D) Initial Shut-In 860 Circ Sub NC T-Pulled 08:45
 (E) Second Initial Flow 37 Hourly Standby — T-Out 10:17
 (F) Second Final Flow 43 Mileage 96 RT = \$72.00/- Comments —
 (G) Final Shut-In 499 Sampler —
 (H) Final Hydrostatic 2358 Straddle — Ruined Shale Packer —
 Shale Packer — Ruined Packer —
 Extra Packer — Extra Copies —
 Extra Recorder — Sub Total 0
 Day Standby — Total 1547
 Accessibility — MP/DST Disc't —
 Sub Total \$1547.00/-

Initial Open 10
 Initial Shut-In 60
 Final Flow 38
 Final Shut-In 60

Approved By Keith Reavis Our Representative Mike Roberts

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. **63826**

Well Name & No. Kuhl - Hart Unit 26-1 Test No. 4 Date 6-29-17
 Company Bickle Energies Inc Elevation 3109 KB 3104 GL
 Address P.O. Box 816 Hays KS 67601
 Co. Rep / Geo. Keith Reavis Rig WW10
 Location: Sec. 26 Twp. 12 Rge. 33W Co. Logan State KS

Interval Tested 4669-4719 Zone Tested Morrow
 Anchor Length 50 Drill Pipe Run 4549 Mud Wt. 9.2
 Top Packer Depth 4664 Drill Collars Run 119 Vis 45
 Bottom Packer Depth 4669 Wt. Pipe Run Ø WL 7.6
 Total Depth 4719 Chlorides 9500 ppm System LCM 2
 Blow Description IF: Built to Weak Surface Blow
IS: No Return Blow
FF: No Blow - Flusted Tool No Blow
FS: No Return Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>5</u>	<u>OCM</u>		<u>1</u>		<u>99</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 5 BHT 122 Gravity — API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic	<u>2433</u>	<input checked="" type="checkbox"/> Test	<u>\$1150.00/-</u>	T-On Location	<u>18:00</u>
(B) First Initial Flow	<u>37</u>	<input checked="" type="checkbox"/> Jars	<u>\$250.00/-</u>	T-Started	<u>18:25</u>
(C) First Final Flow	<u>39</u>	<input checked="" type="checkbox"/> Safety Joint	<u>\$75.00/-</u>	T-Open	<u>20:18</u>
(D) Initial Shut-In	<u>1177</u>	<input checked="" type="checkbox"/> Circ Sub	<u>NC</u>	T-Pulled	<u>23:00 22:52</u>
(E) Second Initial Flow	<u>42</u>	<input type="checkbox"/> Hourly Standby		T-Out	<u>00:44</u>
(F) Second Final Flow	<u>48</u>	<input checked="" type="checkbox"/> Mileage	<u>96RT = \$72.00/-</u>	Comments	
(G) Final Shut-In	<u>1159</u>	<input type="checkbox"/> Sampler			
(H) Final Hydrostatic	<u>2347</u>	<input type="checkbox"/> Straddle		<input type="checkbox"/> Ruined Shale Packer	

Initial Open 10
 Initial Shut-In 30
 Final Flow 30
 Final Shut-In 60

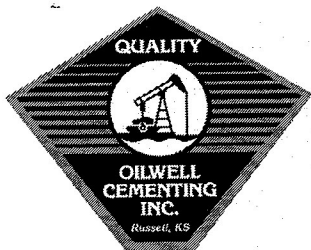
Shale Packer
 Extra Packer
 Extra Recorder
 Day Standby
 Accessibility

Sub Total 1547

Sub Total 1547

Approved By _____ Our Representative Mike Roberts

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.



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: 6/22/2017
 Invoice # 1573

P.O.#:
 Due Date: 7/22/2017
 Division: Russell

Invoice

Contact:
 BICKLE ENERGY
Address/Job Location:

PO Box 816
 HAYS, KS 67601

ENTERED

Reference:
 KUHL- HART UNIT 26-1 SEC 26 12 33

Description of Work:
 SURFACE JOB

Services / Items Included:	Quantity	Price	Taxable	Item	Quantity	Price	Taxable
Labor		\$ 616.83	No				
Common-Class A	140	\$ 1,606.72	Yes				
POZ Mix-Standard	35	\$ 169.38	Yes				
Bulk Truck Matl-Material Service Charge	185	\$ 127.90	No				
Premium Gel (Bentonite)	3	\$ 60.15	Yes				
Pump Truck Mileage-Job to Nearest Camp	18	\$ 56.00	No				
Bulk Truck Mileage-Job to Nearest Bulk Plant	18	\$ 43.56	No				

Invoice Terms:

Net 30

SubTotal: \$ 2,680.53

Discount Available ONLY if Invoice is Paid & Received within listed terms of invoice: \$ (67.01)

SubTotal for Taxable Items: \$ 1,790.34

SubTotal for Non-Taxable Items: \$ 823.18

Total: \$ 2,613.52

Tax: \$ 143.23

8.00% Logan County Sales Tax

Amount Due: \$ 2,756.75

Applied Payments:

Balance Due: \$ 2,756.75

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. 1573

Date	Sec.	Twp.	Range	County	State	Well Location	Finish
12-22-17	26	13	33	Logan	KS		
Lease				Well No.		Owner	
Kettle - Hart unit				26-1		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				Type Job		Charge To	
WW 810				Surface		B. Matt Bickel Energy	
Hole Size		T.D.		Street		City State	
12 1/4		259		Bickel Energy			
Csg.		Depth		City		State	
8 5/8		258					
Tbg. Size		Depth		The above was done to satisfaction and supervision of owner agent or contractor.			
				Cement Amount Ordered 175 8/20 3/11 2/1 GEL			
Tool		Depth		Cement Left in Csg. 10			
				Shoe Joint			
Meas Line		Displace		Cement			
		15 3/4 BCL		Common 140			
EQUIPMENT							
Pumptrk	No.	Cementer	Helper		Poz. Mix		
20		ra g			35		
Bulktrk	No.	Driver	Driver		Gel.		
		LYTT			3		
Bulktrk	No.	Driver	Driver		Calcium		
15		Jordan			7		
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			
8 5/8 on bottom 1st circulation				Sand			
M. 175 sec. Displacement				Handling			
Cement Guaranteed				Mileage			
FLOAT EQUIPMENT							
Guide Shoe				AFU Inserts			
Centralizer				Float Shoe			
Baskets				Latch Down			
Pumptrk Charge				Mileage			
				18			
Signature				Tax			
				Discount			
				Total Charge			

Quality Oilwell
Cementing

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bekuhl-hartunit#26-1... Page 1 of 0

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 - Notes
 - Sent Mes...
 - Snoozed
 - Synced ...

15-109-21508 Sent ★

Eli Felts <ejfelts@yahoo.com>
To: kcc-well-logs@kcc.ks.gov

Attached: Open-Hole Logs

Attn: Confidentiality Requested

Eli J. Felts
 Geologist
 (316) 204-5059

[Download all attachments](#)

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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: Kuhl - Hart Unit 26-1
 Location: Sec. 26 - T12S - R33W
 API: 15-109-21508-0000
 Pool:
 State: Kansas

Field: Wildcat
 Country: USA



"THE NEXT GENERATION OF ENERGY"

Scale 1:240 Imperial

Well Name: Kuhl - Hart Unit 26-1
 Surface Location: Sec. 26 - T12S - R33W
 Bottom Location:
 API: 15-109-21508-0000
 License Number: 34917
 Spud Date: 6/22/2017 Time: 1:30 PM
 Region: Logan County Time: 8:00 AM
 Drilling Completed: 6/30/2017
 Surface Coordinates: 280' FSL & 1430' FWL
 Bottom Hole Coordinates:
 Ground Elevation: 3104.00ft
 K.B. Elevation: 3109.00ft
 Logged Interval: 3760.00ft To: 4770.00ft
 Total Depth: 4770.00ft
 Formation: Mississippian
 Drilling Fluid Type: Chemical/Fresh Water Gel

SURFACE CO-ORDINATES

Well Type: Vertical
 Longitude:
 Latitude:
 N/S Co-ord: 280' FSL
 E/W Co-ord: 1430' FWL

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: WW Drilling, LLC
 Rig #: 10
 Rig Type: mud rotary
 Spud Date: 6/22/2017
 TD Date: 6/30/2017
 Rig Release:

Time: 1:30 PM
 Time: 8:00 AM
 Time:

ELEVATIONS

K.B. Elevation: 3109.00ft
K.B. to Ground: 5.00ft

Ground Elevation: 3104.00ft

NOTES

Due to negative results of drill stem testing and subsequent log analysis, it was determined that Kuhl-Hart Unit would prove non-commercial and was therefore abandoned as a dry test.

A Bloodhound gas detection system operated by Bluestem Labs was employed during the drilling of this well. ROP and gas data were imported into this report.

Samples were saved will be available for review at the Kansas Geological Survey Well Sample Library located in Wichita, KS.

Respectfully submitted,
Keith Reavis

daily drilling report

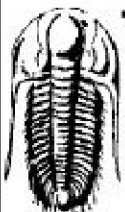
DATE	7:00 AM DEPTH	REMARKS
06/25/2017		Geologist Keith Reavis on location @ 0840 hrs, 3702 ft, drilling ahead Topeka, Heebner, Toronto, Lansing
06/26/2017	4173	conduct and complete wiper trip, resume drilling, Lansing, Muncie Creek, Stark Shale, show and gas kick in K zone warrants test, hole starting out with bit, short trip 15 stds, ctch, TOH w/bit
06/27/2017	4336	TIH w/tools, conduct and complete DST #1, successful test, TIH w/bit, ctch, resume drilling, I zone, BKC, Pleasanton, Marmaton, cfs all Altamont benches, run short trip prior to condemnation test - DST #2
06/28/2017	4504	complete short trip, ctch, TOH w/bit and in w/tools, conduct DST #2 complete DST #2, successful test, TIH w/bit, resume drilling, Pawnee, Ft. Scott, Cherokee, Johnson
06/28/2017	4673	show and gas kicks in Johnson warrant test, TOH w/bit, in w/tools, conducting and complete DST #3, TIH w/bit, resume drilling, Morrow and Mississippian, show and gas kick in Morrow Sand warrants test, TOH w/bit and in w/tools, conducting DST #4
06/30/2017	4754	complete DST #4, TIH w/bit, rathole ahead to TD of 4770, reached At 0800, ctch, TOH, conduct logging operations, geologist off of Location @ 1640 hrs

well comparison sheet

DRILLING WELL					COMPARISON WELL				COMPARISON WELL			
Kuhl - Hart Unit 26-1					Russell - Joseph 35-1				Bickle - Shallow River			
280' FSL & 1430' FWL					1880' FSL & 340' FWL				2190' FNL & 2020' FWL			
Sec 26-T12S-R33W					Sec 35-T12S-R33W				Sec 26-T12S-R33W			
3109KB					3095KB		Structural Relationship		3093KB		Structural Relationship	
Formation	Sample	Sub-Sea	Log	Sub-Sea	Log	Sub-Sea	Sample	Log	Log	Sub-Sea	Sample	Log
Topeka	3827	-718	3828	-719	3799	-704	-14	-15	3800	-707	-11	-12
Heebner	4039	-930	4040	-931	4008	-913	-17	-18	4009	-916	-14	-15
Toronto	4064	-955	4068	-959	4032	-937	-18	-22	4038	-945	-10	-14
Lansing	4082	-973	4084	-975	4050	-955	-18	-20	4053	-960	-13	-15
Muncie Creek	4228	-1119	4230	-1121	4196	-1101	-18	-20	4203	-1110	-9	-11
Stark	4309	-1200	4310	-1201	4284	-1189	-11	-12	4284	-1191	-9	-10
Base KC	4374	-1265	4376	-1267	4345	-1250	-15	-17	4346	-1253	-12	-14
Marmaton	4415	-1306	4422	-1313	4388	-1293	-13	-20	4395	-1302	-4	-11
Pawnee	4505	-1396	4508	-1399	4482	-1387	-9	-12	4476	-1383	-13	-16
Ft. Scott	4564	-1455	4567	-1458	4538	-1443	-12	-15	4532	-1439	-16	-19
Cherokee	4592	-1483	4594	-1485	4565	-1470	-13	-15	4560	-1467	-16	-18
Johnson	4635	-1526	4638	-1529	4608	-1513	-13	-16	4603	-1510	-16	-19
Morrow	4671	-1562	4673	-1564	4642	-1547	-15	-17	4637	-1544	-18	-20
Mississippi	4717	-1608	4721	-1612	4678	-1583	-25	-29	4660	-1567	-41	-45
Total Depth	4770	-1661	4772	-1663	4727	-1632	-29	-31	4740	-1647	-14	-16
COMPARISON WELL					COMPARISON WELL				COMPARISON WELL			
Davis - #1-35 Wasse Miller					Davis - Wasse Miller #1				Olympic - #1 Bob Clark			
C N/2 SW NE					C SW NW				C SW NE			
Sec 35-T12S-R33W					Sec 35-T12S-R33W				Sec 26-T12S-R33W			
3107KB					3090KB		Structural Relationship		3080KB		Structural Relationship	
Formation	Log	Sub-Sea	Sample	Log	Log	Sub-Sea	Sample	Log	Log	Sub-Sea	Sample	Log
Topeka					3793	-713	-5	-6				
Heebner	4028	-921	-9	-10	4000	-920	-10	-11				

Toronto	4055	-948	-7	-11	4045	-955	0	-4	4025	-945	-10	-14
Lansing	4074	-967	-6	-8	4064	-974	1	-1	4043	-963	-10	-12
Muncie Creek	4224	-1117	-2	-4					4192	-1112	-7	-9
Stark	4302	-1195	-5	-6	4292	-1202	2	1	4278	-1198	-2	-3
Base KC	4370	-1263	-2	-4	4358	-1268	3	1	4340	-1260	-5	-7
Marmaton	4412	-1305	-1	-8	4399	-1309	3	-4	4386	-1306	0	-7
Pawnee	4504	-1397	1	-2	4500	-1410	14	11	4467	-1387	-9	-12
Ft. Scott	4560	-1453	-2	-5	4557	-1467	12	9	4527	-1447	-8	-11
Cherokee	4586	-1479	-4	-6					4554	-1474	-9	-11
Johnson					4622	-1532	6	3	4600	-1520	-6	-9
Morrow									4632	-1552	-10	-12
Mississippi	4701	-1594	-14	-18	4722	-1632	24	20	4664	-1584	-24	-28
Total Depth	4740	-1633	-28	-30	4740	-1650	-11	-13	4726	-1646	-15	-17

Drill Stem Test 1

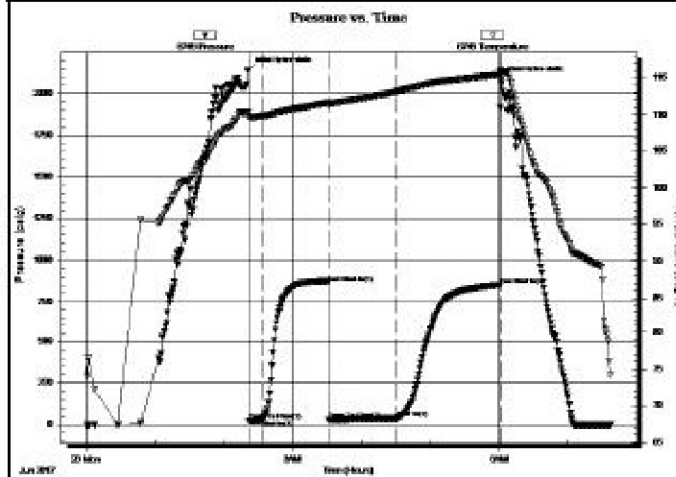
 TRILOBITE TESTING, INC.	DRILL STEM TEST REPORT	
	Bicke Energies Inc. P.O. Box 816 Hays KS 67601 ATTN: Keith Reavis	26-12-33w Logan Co. KS Kuhl-Hart Unit 26-1 Job Ticket: 63748 DST#: 1 Test Start: 2017.06.26 @ 00:01:15

GENERAL INFORMATION:

Formation:	K	Test Type:	Conventional Bottom Hole (Initial)	
Deviated:	No Whipstock:	ft (KB)	Tester:	Mike Roberts
Time Tool Opened:	02:22:00	Unit No:	81	
Time Test Ended:	07:37:15	Reference Elevations:	3109.00 ft (KB)	
Interval:	4308.00 ft (KB) To 4336.00 ft (KB) (TVD)		3104.00 ft (CF)	
Total Depth:	4336.00 ft (KB) (TVD)	Hole Diameter:	7.88 inches-hole Condition: Fair	
			KB to GR/CF: 5.00 ft	

Serial #: 6749	Outside	Capacity:	8000.00 psig
Press@RunDepth:	37.96 psig @ 4309.00 ft (KB)	Last Calib.:	2017.06.27
Start Date:	2017.06.26	End Date:	2017.06.26
Start Time:	00:01:15	End Time:	07:37:15
		Time On Btm:	2017.06.26 @ 02:21:45
		Time Off Btm:	2017.06.26 @ 06:02:00

TEST COMMENT: IF: Built to weak surface blow
 IS: No return blow
 FF: Built to 1/4" blow
 FS: No return blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2137.61	110.31	Initial Hydro-static
1	24.32	109.59	Open To Flow (1)
12	27.04	109.75	Shut-In (1)
70	863.48	111.60	End Shut-In (1)
70	29.44	111.25	Open To Flow (2)
130	37.96	113.15	Shut-In (2)
220	850.99	115.39	End Shut-In (2)
221	2083.75	118.05	Final Hydro-static

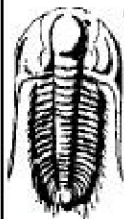
Recovery

Length (ft)	Description	Volume (bbl)
30.00	ocm 10% @ 90% m	0.15

Gas Rates

Choke (Inches)	Pressure (psig)	Gas Rate (MDD)

Drill Stem Test 2

 TRILOBITE TESTING, INC.	DRILL STEM TEST REPORT	
	Bicke Energies Inc. P.O. Box 816 Hays KS 67601 ATTN: Keith Reavis	26-12-33w Logan Co. KS Kuhl-Hart Unit 26-1 Job Ticket: 63749 DST#: 2 Test Start: 2017.06.28 @ 03:05:15

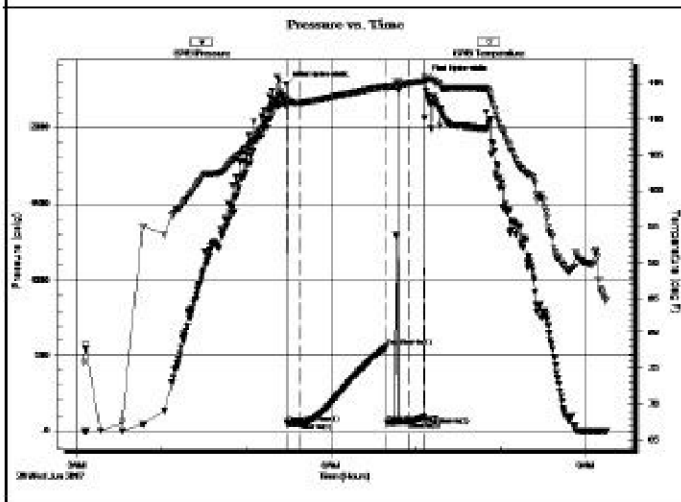
GENERAL INFORMATION:

Formation: Marmaton	Test Type: Conventional Bottom Hole (Reset)
Deviated: No Whipstock: ft (KB)	Tester: Mike Roberts
Time Tool Opened: 05:28:15	Unit No: 81
Time Test Ended: 09:14:15	Reference Elevations: 3109.00 ft (KB)
Interval: 4424.00 ft (KB) To 4504.00 ft (KB) (TVD)	3104.00 ft (CF)
Total Depth: 4504.00 ft (KB) (TVD)	KB to GR/CF: 5.00 ft
Hole Diameter: 7.88 inches hole Condition: Fair	

Serial #: 6749 Outside

Press@RunDepth: 60.90 psig @ 4499.00 ft (KB)	Capacity: 8000.00 psig
Start Date: 2017.06.28	End Date: 2017.06.28
Start Time: 03:05:15	End Time: 09:14:15
	Last Calib.: 2017.06.28
	Time On Btm: 2017.06.28 @ 05:28:00
	Time Off Btm: 2017.06.28 @ 07:06:15

TEST COMMENT: IF: Built to weak surface bbw
 IS: No return blow
 FF: No bbw --- flushed tool --- weak surface blow died in 30 seconds.
 FS: No return blow




PRESSURE SUMMARY			
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2279.02	112.95	Initial Hydro-static
1	52.51	111.77	Open To Flow (1)
11	53.10	112.33	Shut-In(1)
71	553.20	114.61	End Shut-In(1)
71	53.57	114.43	Open To Flow (2)
87	60.90	115.04	Shut-In(2)
96	90.89	115.33	End Shut-In(2)
99	2316.50	115.50	Final Hydro-static

Recovery		
Length (ft)	Description	Volume (bbl)
5.00	w cm 2%w 98%km	0.02

* Recovery from multiple tests

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

Drill Stem Test 3

 TRILOBITE TESTING, INC.	DRILL STEM TEST REPORT	
	Bicke Energies Inc. P.O. Box 816 Hays KS 67601 ATTN: Keith Reavis	26-12-33w Logan Co. KS Kuhl-Hart Unit 26-1 Job Ticket: 63750 DST#: 3 Test Start: 2017.06.28 @ 03:05:15

GENERAL INFORMATION:

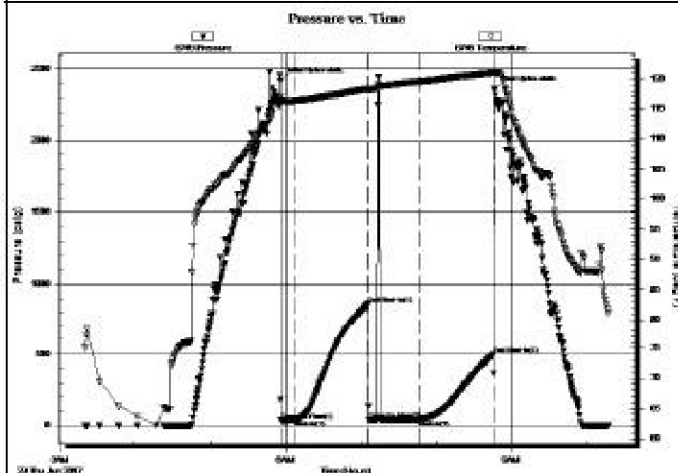
Formation: **Johnson**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 05:56:30
 Time Test Ended: 10:17:45
 Interval: **4614.00 ft (KB) To 4673.00 ft (KB) (TVD)**
 Total Depth: **4673.00 ft (KB) (TVD)**
 Hole Diameter: **7.88 inches** -hole Condition: Fair

Test Type: Conventional Bottom Hole (Reset)
 Tester: Mike Roberts
 Unit No: 81
 Reference Elevations: 3109.00 ft (KB)
 3104.00 ft (CF)
 KB to GR/CF: 5.00 ft.

Serial #: 6749**Outside**

Press@RunDepth: 43.24 psig @ 4668.00 ft (KB)
 Start Date: 2017.06.29 End Date: 2017.06.29
 Start Time: 03:20:15 End Time: 10:17:45
 Capacity: 8000.00 psig
 Last Calib.: 2017.06.29
 Time On Btm: 2017.06.29 @ 05:56:00
 Time Off Btm: 2017.06.29 @ 08:46:15

TEST COMMENT: IF:Built to 1/8" blow
 IS:No return blow
 FF:No blow
 FS:No return blow

**PRESSURE SUMMARY**

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2418.84	116.87	Initial Hydro-static
1	36.50	116.32	Open To Flow (1)
11	37.91	116.24	Shut-In(1)
70	860.85	118.30	End Shut-In(1)
71	37.87	118.09	Open To Flow (2)
110	43.24	119.50	Shut-In(2)
170	499.81	121.00	End Shut-In(2)
171	2358.35	121.20	Final Hydro-static

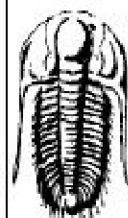
Recovery

Length (ft)	Description	Volume (bbl)
5.00	mud 100%rn	0.02

* Recovery from multiple tests

Gas Rates

	Choke (Inches)	Pressure (psig)	Gas Rate (Mcf/D)

Drill Stem Test 4

**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Bickle Energies Inc.

26-12-33w Logan Co. KS

P.O. Box 816
Hays KS 67601

Kuhl-Hart Unit 26-1

ATTN: Keith Reavis

Job Ticket: 63826

DST#: 4

Test Start: 2017.06.29 @ 18:25:15

GENERAL INFORMATION:

Formation: **Morrow**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 20:18:15
 Time Test Ended: 00:44:00
 Interval: **4669.00 ft (KB) To 4719.00 ft (KB) (TVD)**
 Total Depth: **4719.00 ft (KB) (TVD)**
 Hole Diameter: **7.88 inches** -hole Condition: Fair

Test Type: Conventional Bottom Hole (Reset)
 Tester: Mike Roberts
 Unit No: 81
 Reference Elevations: 3109.00 ft (KB)
 3104.00 ft (CF)
 KB to GR/CF: 5.00 ft.

Serial #: 6749

Outside

Press@RunDepth: 48.76 psig @ 4714.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2017.06.29 End Date: 2017.06.30

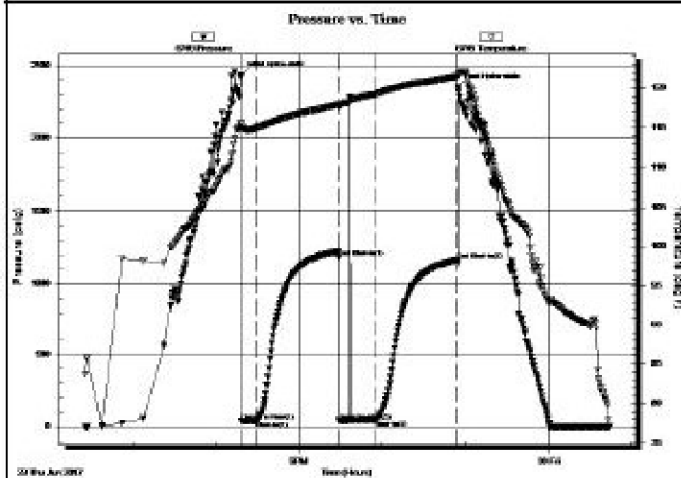
Last Calib.: 2017.06.30

Start Time: 18:25:15 End Time: 00:44:00

Time On Btm: 2017.06.29 @ 20:18:00

Time Off Btm: 2017.06.29 @ 22:55:00

TEST COMMENT: IF: Built to weak surface bbw
IS: No return blow
FF: No bbw --- flushed tool --- no blow
FS: No return blow



PRESSURE SUMMARY

Table with 4 columns: Time (Min.), Pressure (psig), Temp (deg F), and Annotation. It lists key events such as Initial Hydro-static, Open To Flow, Shut-In, and Final Hydro-static.

Recovery

Table with 3 columns: Length (ft), Description, and Volume (bbl). It shows a single recovery entry for 5.00 ft of ocm 1% @ 99% m with a volume of 0.02 bbl.

* Recovery from multiple tests

Gas Rates

Table with 4 columns: Choke (Inches), Pressure (psig), and Gas Rate (MDD). The table is currently empty.

ROCK TYPES

Legend for rock types including Dolprim, Dolsec, sdym lms, Lms, shale, gry, Carbon Sh, shale, red, Ss, and Siltst.

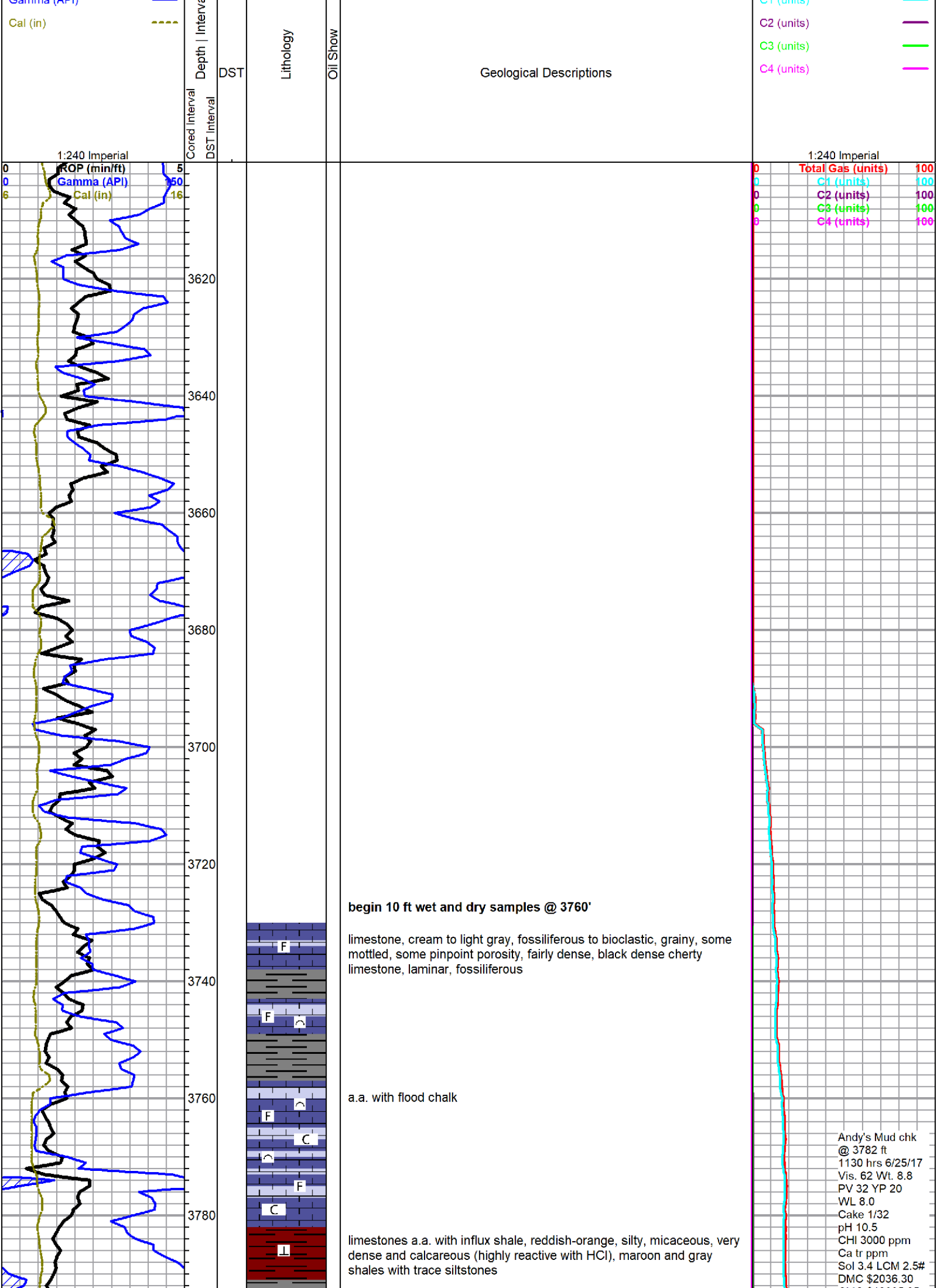
ACCESSORIES

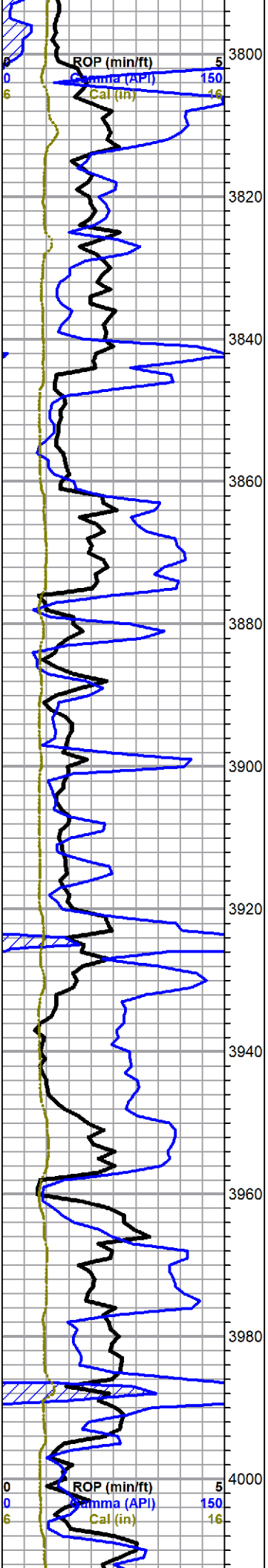
Legend for accessories including MINERAL (Argillaceous, Calcareous, etc.), FOSSIL (Bioclastic, Fossils < 20%, etc.), STRINGER (Sandstone, Siltstone, etc.), and TEXTURE (Chalky, Cryptocrystalline, etc.).

OTHER SYMBOLS

Legend for other symbols including Oil Show (Good Show, Fair Show, etc.) and DST (DST Int, DST alt, Core, tail pipe).

Table for Curve Track #1 showing ROP (min/ft), Gamma (API), and Total Gas (units) with corresponding symbols and colors.





Topeka 3827 -718

limestone, light gray, cream, white, microcrystalline, fossiliferous, bioclastic, poor visible porosity, chalky in part, no shows, abundant chalk

a.a. with trace pinpoint porosity

a.a. with some darker gray limestone, larger clasts

limestone, cream, micro-crystalline, fossiliferous to bioclastic, poor visible porosity, dense, abundant chalk, no shows

as above with influx dark gray mottled fossiliferous limestone, trace orange chert

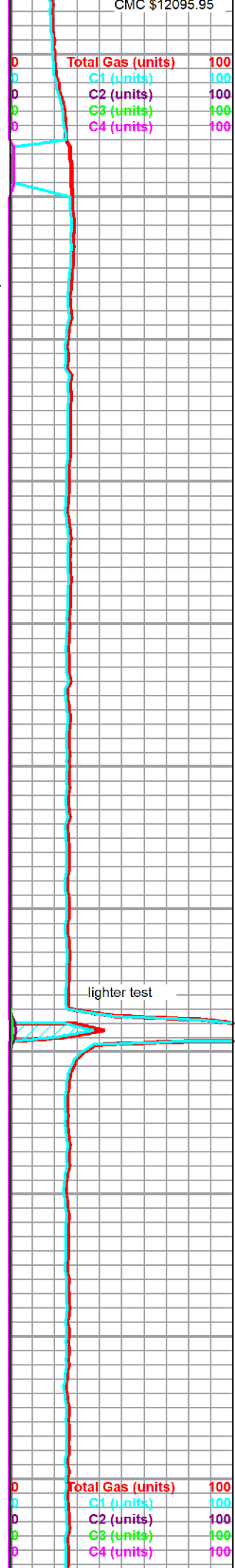
siltstone and very fine grain sandstone, light gray to reddish-brown, sandstone is well sorted, clayey in part, some silty shales

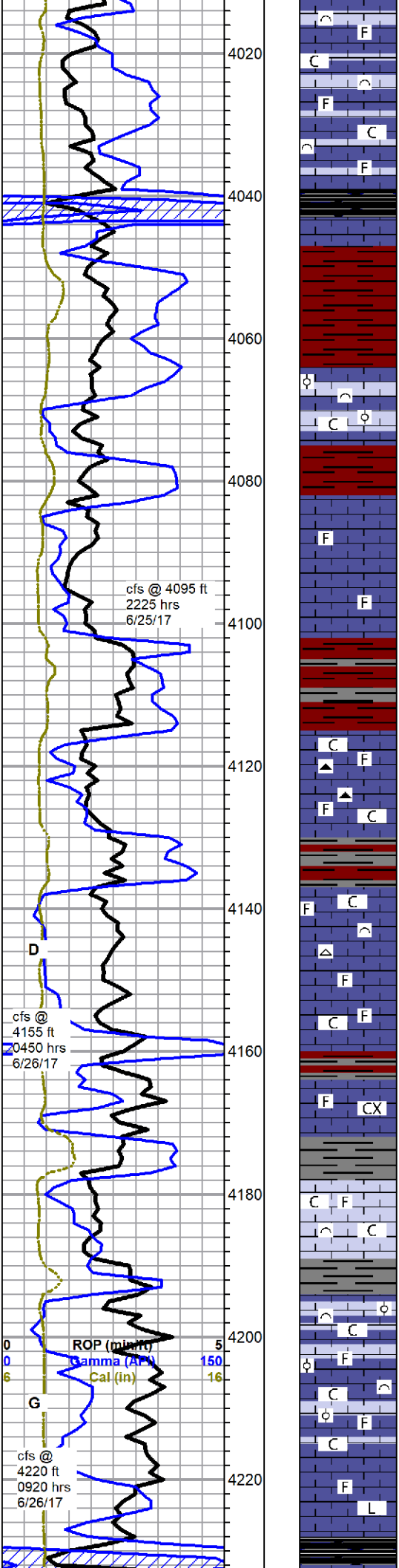
lighter test

dolomite to dolomitic limestone, white to cream, micro-fine crystalline, secondary crystals, re-crystallized fossil frags, poor visible porosity, no shows

limestone, light gray, microcrystalline, grainy fossiliferous, fairly dense, some chalk, some gray to tan limestone, dense cryptocrystalline, lithographic, no shows

limestone a.a., flood gray to light gray and frosted cherts, fossiliferous, sharp, fresh, no shows, moderate chalk





limestone, light gray, some white, microcrystalline, fossiliferous to bioclastic, some scattered pin-point porosity, abundant chalk, no shows

Heebner 4039 -930

shale, black carbonaceous

Toronto 4064 -955

limestone, white to light gray, fine oolitic to bioclastic, some pin-point porosity, fairly dense, abundant chalk, no shows

Lansing 4082 -973

limestone, light gray, some pale green tint, micro-cryptocrystalline, fossiliferous, some secondary calcite crystals, poor visible porosity, no shows

limestone, light gray, cryptocrystalline, fossiliferous, grainy in part, poor visible porosity, with gray and orange cherts, very abundant chalk, no shows

limestone, light gray, cryptocrystalline, fossiliferous, chalky, some grainy bioclastic, poor visible porosity, trace gray chert, very abundant chalk, no shows

limestone, gray, cryptocrystalline, fossiliferous, mostly recrystallized, some calcite seams, dense, no shows

limestone, light gray to cream, grainy fossiliferous to bioclastic, chalky, poor visible porosity, abundant chalk, no shows

limestone, light gray to cream, grainy fossiliferous to bioclastic, some scattered fine oolitic, poor visible porosity with influx gray cryptocrystalline, fossiliferous limestone deeper in bench, abundant chalk, no shows

a.a. with light blue/gray limestone, cryptocrystalline, lithographic to slightly fossiliferous, no shows

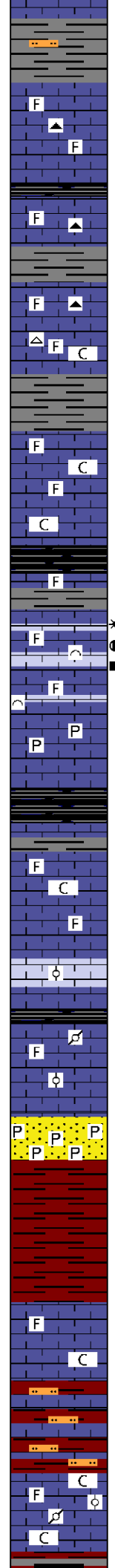
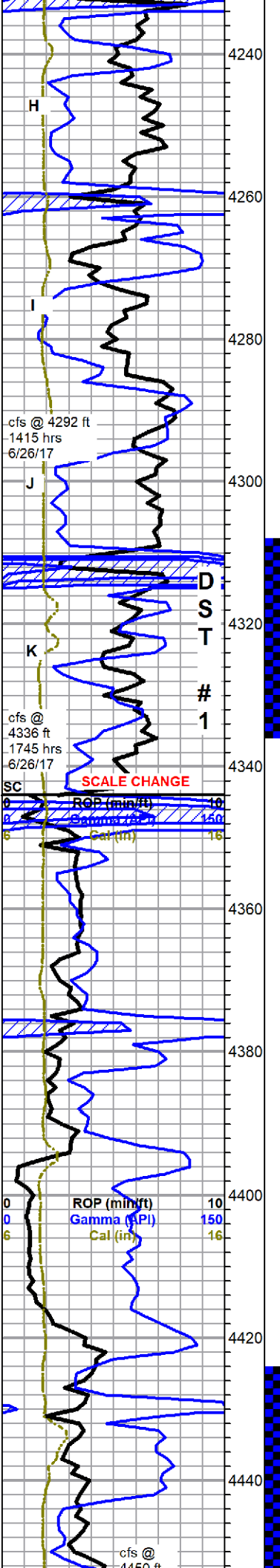
Muncie Creek 4228 -1119

shale, black carbonaceous

after CFS ran
35 stand short
trip @ 4095'

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

Andy's Mud chk
@ 4221 ft
1030 hrs 6/26/17
Vis. 51 Wt. 9.1
PV 19 YP 12



gray shale with some light gray siltstone

limestone, mixed gray, blue/gray, fossiliferous, grainy, chalky, with tan and brown, cryptocrystalline, fossiliferous, dense, trace pyritic, chert, white/tan, fossiliferous & pale gray, translucent to opaque, slightly fossiliferous, fresh, sharp, some chalk, no shows

limestone, cream to light gray, micro-cryptocrystalline, fossiliferous, mixed grainy/chalky to dense, with some brown cryptocrystalline limestone, fossiliferous with some large clasts, some gray chert, opaque, fossiliferous, sharp, fresh, no shows

a.a. with influx white chert and chalk, no shows

limestone, light gray to blue/gray, mostly cryptocrystalline, fossiliferous, chalky in part, poor visible porosity, abundant chalk, no shows

Stark Shale 4309 -1200

4330 sample, flood shale, black carbonaceous, with limestone, brown, cryptocrystalline, fossiliferous, large clasts, dense

limestone, cream to light gray, fossiliferous to bioclastic, fair interclast porosity with good framework, lightly stained, gassy, bleeding some free oil, fair show free oil on break, strong sweet odor, fair pale green fluorescence, excellent cut

resume drilling after DST 1025 hrs 6/27/17

4350 sample - flood pyrite in tray

limestone, tan to brown and gray, crypto-microcrystalline, fossiliferous, some large clasts, fairly dense, grades to:

limestone, variable grays, mostly cryptocrystalline, fossiliferous to lithographic, dense, moderate chalk in samples, no shows

a.a. w/some chalky flattened oolitic

Base KC 4374 -1265

limestones, mixed, tan to gray to brown, fossiliferous to flattened oolitic to pelletal, chalky to dense, poor visible porosity, no shows

starting 4410 sample, flood pyrite, sandy to pock-marked, no sand clusters present

red, orange and maroon shales, silty

Marmaton 4415 -1306

limestone, light gray to gray, olive gray to brown, mixed chalky to dense fossiliferous, some large clasts

4450 sample, flood brown and gray siltstones

limestone, gray to olive/tan, cryptocrystalline, fossiliferous, some large clasts, some pelletal, some grainy fossiliferous and flattened oolitic, abundant chalk, trace gray chert, poor visible porosity but rocks fractured, no shows

4457 cfs and 4460 samples, LS a.a. with flood soft lavender and red

WL 7.6
Cake 1/32
pH 10.0
CHI 8000 ppm
Ca 96 ppm
Sol 4.8 LCM 2#
DMC \$0
CMC \$12101.75

47 unit total kick

strap 1.36' STB deviation 3/4 deg.

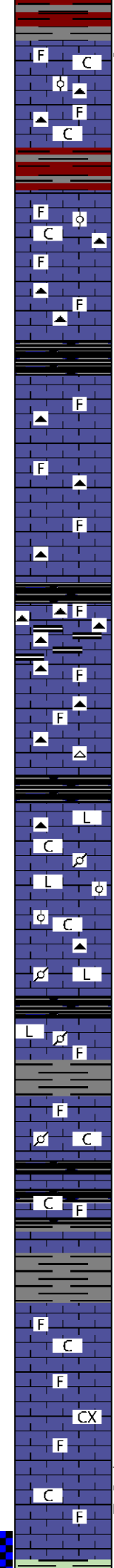
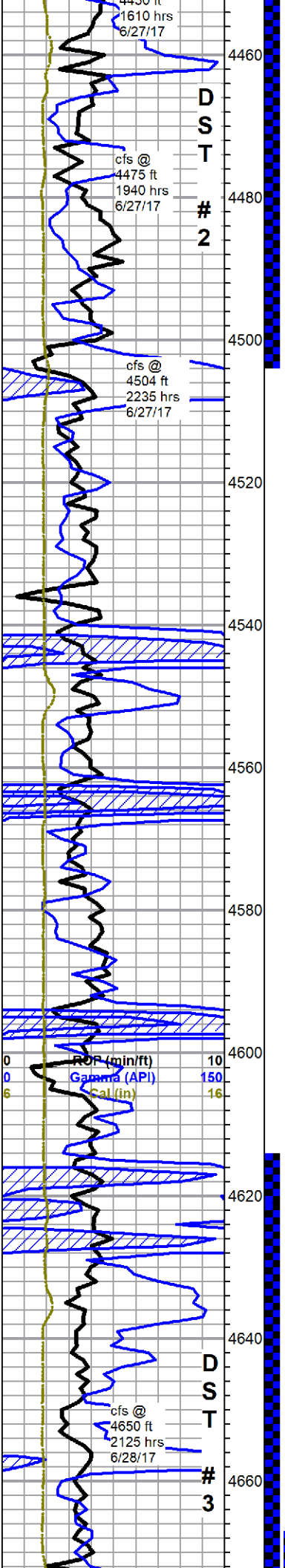
Andy's Mud chk @ 4364 ft
1145 hrs 6/27/17
Vis. 46 Wt. 9.0
PV 15 YP 10
WL 8.0
Cake 1/32
pH 9.5
CHI 9500 ppm
Ca 96 ppm
Sol 4.1 LCM 2#
DMC \$0
CMC \$12101.75

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

added pre-mix

gas flat to open air flow, found flowline disconnected, reconnected at depth of 4473'

pull up and circ @ 4457' for 30 min, light plant still down and backup power



shales, marked increases in chalk from above

4470 sample faint odor, limestones a.a., no shows noted

4475 30 min sample, limestone, white to light gray, mostly cryptocrystalline, fossiliferous, some oolitic, dense to very chalky, poor visible porosity, with orange oolitic/fossil chert and orange and white coral fans replaced with chert, abundant chalk, scaley sheen on water in tray, 60 min a.a. fleeting odor

as above with some yellow/olive/gray limestone, fossiliferous, dense, still much chalk

a.a. with influx limestone, dark gray, cryptocrystalline, fossiliferous to lithographic, dense, smokey gray cherts, less chalk, no shows

resume drilling after DST #2 1150 hrs 6/28/17

shale, black carbonaceous

Pawnee 4505 -1396

limestone, cream to light gray, microcrystalline, fossiliferous, chalky in part, poor visible porosity, chert, mottled fossiliferous and smokey gray, mostly sharp and fresh, no shows

grades to brown and gray mottled limestones, micro-cryptocrystalline, fossiliferous, dense, cherts as above, no shows

4550 sample, flood gassy black carbonaceous shale with dark gray and black fossiliferous chert, black obsidian like chert, limestone, gray, mottled, fossiliferous, large clasts, chalky, poor visible porosity, no shows

limestone and chert a.a. with influx brown limestone, mottled, fossiliferous, large clasts, some arenaceous, dense, still carrying abundant black and black carbonaceous shale, no shows

dark cherts drop out, influx smokey gray chert

Fort Scott 4564 -1455

limestone, light gray, cryptocrystalline, lithographic, with limestone, gray mottled to brown, oolitic to pelletal, dense and cherty to chalky, with: chert, frosted to smokey grays, fossiliferous to oolitic, abundant chalk, no shows

Cherokee 4592 -1483

shale, black carbonaceous

limestone, gray, cryptocrystalline, lithographic, limestone, white to cream, chalky, with dark fossil frags and pellets, very chalky, limestone, light gray to cream, fossiliferous, chalky in part, poor visible porosity, abundant chalk, no shows

NOTE: a.a. poor sample recovery at sample box 4620-4650 cfs ran caustic sweep prior to resuming drilling at 4650'. samples improved

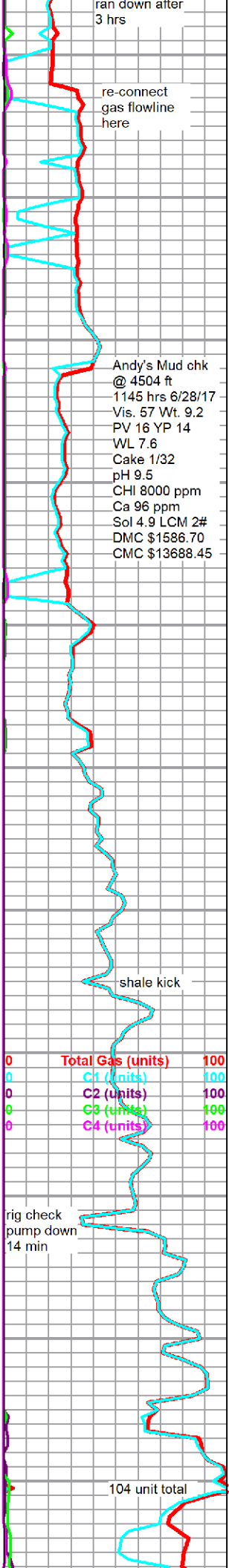
Johnson Zone 4635 -1526

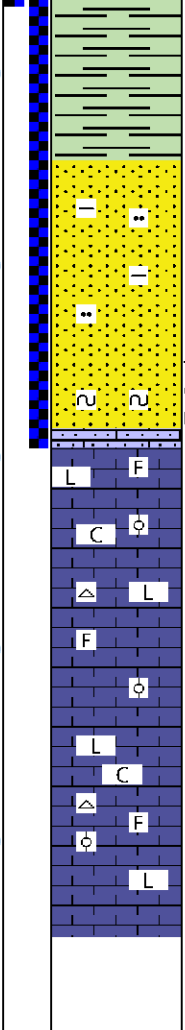
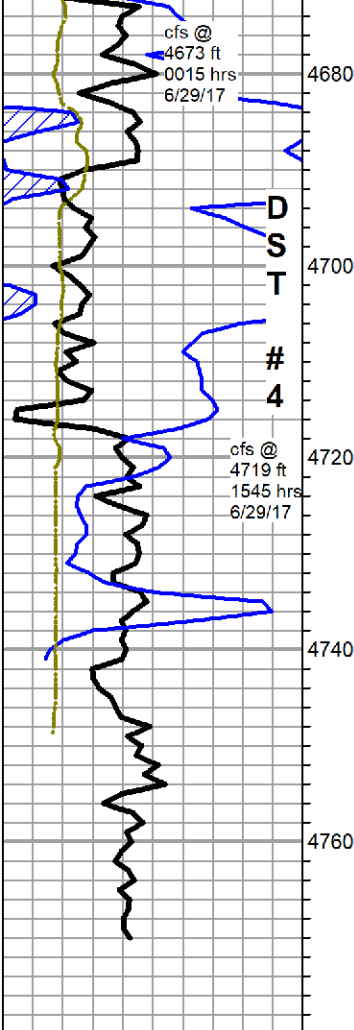
limestones, light gray to gray, cryptocrystalline, lithographic to fossiliferous, dense, - cream, light gray and white, microcrystalline, very chalky, fossiliferous, poor visible porosity, - brown cryptocrystalline, fossiliferous, some large clasts and secondary calcite, dense, some chalk, no shows, pale green fluor. - fleeting odor in 4650 sample

see NOTE above

4670 sample, a.a. with influx cream to gray, fossiliferous, grainy, sub-chalky, barren

4673 cfs samples, limestones a.a. with some limestone, light gray grainy fossiliferous, fair pinpoint interclast porosity, very light interclast stain, bleeding some gassy oil, good fluorescence, free oil droplets in trays, no odor in wet cups, slow bright steaming cut





Morrow Shale 4671 -1562
shales, mixed, red, maroon, gray, and green/olive mottled, some gray very silty

Morrow Sand 4689 -1580
sandstone, gray to white to pale green, very fine grain, argillaceous, silty, fair to poor sorting, fair rounding, well to poorly cemented, poor visible porosity, no shows

lower sand: sandstone, quartz, pale gray to blue/gray to white, fine grain, sub-rounded, fair sorting, friable to med. cemented, good intergranular porosity, glauconitic, light stain, slight show free oil, slight bleeding, good show gassy oil on break, no odor in wet cup, good fluorescence, excellent cut

Mississippian 4717 -1608
limestone, light gray to tan, fossiliferous to flattened oolitic, dense to chalky, some sandy, no shows

limestones, mixed, gray to light gray, cryptocrystalline, lithographic, dense, gray to cream, fossiliferous to oolitic, chalky to dense, oolitic, flattened and chalky, abundant chalk, trace chert, no shows

limestone, a.a., slight increase in oolitic, no shows

Rotary TD 4770 ft 0800 hrs 6/30/17
Gemini Log TD 4772 ft
Complete Logging Operations 1600 hrs 6/30/17

