

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	A.B. FISHER 14-1
Doc ID	1479092

All Electric Logs Run

Porosity
Dual Induction
Micro
Computer Processed

Form	ACO1 - Well Completion
Operator	Bickle Energies LLC
Well Name	A.B. FISHER 14-1
Doc ID	1479092

Tops

Name	Top	Datum
Stotler	3922	545
Topeka	4062	605
Heebner	4200	-823
Lansing	4252	-875
Stark	4454	-1077
B/KC	4532	-1155
Marmaton	4548	-1171
Pawnee	4636	-1259
Cherokee	4720	-1343
Mississippian	4940	-1563







"THE NEXT GENERATION OF ENERGY"

Scale 1:240 Imperial

Well Name: A.B. Fisher #14-1  
 Surface Location: Sec. 14 - T5S - R37W  
 Bottom Location:  
 API: 15-023-21505-0000  
 License Number: 34917  
 Spud Date: 1/23/2019 Time: 3:30 PM  
 Region: Cheyenne County  
 Drilling Completed: 1/31/2019 Time: 1:00 PM  
 Surface Coordinates: 1956' FSL & 615' FWL  
 Bottom Hole Coordinates:  
 Ground Elevation: 3372.00ft  
 K.B. Elevation: 3377.00ft  
 Logged Interval: 3800.00ft To: 4960.00ft  
 Total Depth: 4960.00ft  
 Formation: Mississippian  
 Drilling Fluid Type: Chemical/Fresh Water Gel

**OPERATOR**

Company: Bickle Energies, LLC  
 Address: P.O. Box 816  
 Hays, KS 67601  
 Contact Geologist:  
 Contact Phone Nbr: 785-639-1681  
 Well Name: A.B. Fisher #14-1  
 Location: Sec. 14 - T5S - R37W  
 API: 15-023-21505-0000  
 Pool: Field: Wildcat  
 State: Kansas Country: USA

**SURFACE CO-ORDINATES**

Well Type: Vertical  
 Longitude: -101.448233194  
 Latitude: 39.617358349  
 N/S Co-ord: 1956' FSL  
 E/W Co-ord: 615' 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  
 Rig #: 10  
 Rig Type: mud rotary  
 Spud Date: 1/23/2019 Time: 3:30 PM  
 TD Date: 1/31/2019 Time: 1:00 PM  
 Rig Release: Time:

**ELEVATIONS**

**NOTES**

Due to results of DST #3, 51/2" production was set and cemented to TD to further test the Pawnee through perforations and stimulation.

A Bloodhound gas detector operated by Bluestem Labs was employed during the drilling of this well. ROP and gas data were imported into this log from the Bloodhound system. Gamma ray and caliper curves were imported from the electrical log suite. Driller measurements averaged about 3 ft low to electrical log measurements. Drill time curve was not shifted to provide an exact match to the electrical log curves but left as recorded in the field.

Samples were saved and 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
01/26/2019		Geologist on location 1510 hrs, 3674 ft, drilling ahead
01/27/2019	4019	drilling ahead, Stotler, wiper trip @ 4019 ft, resume drilling, Topeka, Oread, Heebner, Toronto, Lansing, show in Toronto and Lansing A warrants test, short trip, ctch, TOH
01/28/2019	4262	Pulling tight in Cedar Hills, run back to bottom, spot tank mud, TOH w/bit TIH w/ tools, conduct and complete DST #1, successful test, TIH w/bit, ctch, resume drilling
01/29/2019	4462	shows and gas kicks in H and J warrant test, short trip, ctch, TOH w/bit in w/tools, conduct and complet DST #2, successful test, TIH w/bit, resume drilling, Base KC, Marmaton
01/30/2019	4652	drilling ahead, Marmaton, Pawnee, show in Pawnee warrants test, short trip, ctch, TOH w/bit TIH w/tools, conduct DST #3, successful test, TIH w/bit resume drilling, Mryrick Station
01/31/2019	4813	drilling ahead, Fort Scott, Cherokee, Mississippian, TD 4960 ft @ 1300 hrs cfs, short trip, ctch, TOH for logs, conduct and complete open hole logging operations, geologist off loc @ 2200 hrs

**well comparison sheet**

DRILLING WELL					COMPARISON WELL				COMPARISON WELL			
AB Fisher #14-1 1956' FSL & 615' FWL Sec 14-T5S-R37W 3377 KB					Avery #14-1 1335' FSL & 1645' FEL Sec 14-T5S-R37W 3327 KB				LD Drilling Decds #1-15 2254' FSL & 1970' FEL Sec 15-T5S-R37W 3400 KB			
					Structural Relationship				Structural Relationship			
Formation	Sample	Sub-Sea	Log	Sub-Sea	Log	Sub-Sea	Sample	Log	Log	Sub-Sea	Sample	Log
Anhydrite	3090	287	3088	289	3052	275	12	14	3097	303	-16	-14
Stotler	3920	543	3922	545	3084	557	14	12	3932	532	11	13
Topeka	4065	608	4062	605	4023	696	8	11	4072	672	16	13
Oread	4185	-808	4181	-804	4142	-815	7	11	4192	-792	-16	-12
Heebner	4201	-824	4200	-823	4162	-835	11	12	4212	-812	-12	-11
Toronto	4241	-864	4238	-861	4199	-872	8	11	4248	-848	-16	-13
Lansing	4254	-877	4252	-875	4212	-885	8	10	4262	-862	-15	-13
Lansing D	4303	-926	4302	-925	4260	-933	7	8	4313	-913	-13	-12
Lansing G	4358	901	4356	979	4315	908	7	9	4364	964	17	15
Stark Shale	4458	-1081	4454	-1077	4415	-1088	7	11	4465	-1065	-16	-12
Base KC	4534	-1157	4532	-1155	4493	-1166	9	11	4544	-1144	-13	-11
Marmaton	4544	-1167	4548	-1171	4506	-1179	12	8	4556	-1156	-11	-15
Pawnee	4639	-1262	4636	-1259	4597	-1270	8	11	4652	-1252	-10	-7
Myrick Station	4665	-1288	4662	-1285	4624	-1297	9	12	4675	-1275	-13	-10
Fort Scott	4700	-1323	4698	-1321	4658	-1331	8	10	4706	-1306	-17	-15
Cherokee	4723	-1346	4720	-1343	4680	-1353	7	10	4729	-1329	-17	-14
Mississippian	4940	1563	4940	1563	4885	1550	5	5	4951	1551	12	12
Total Depth	4960	-1583	4959	-1582	4955	-1628	45	46	5048	-1648	65	66

**Drill Stem Test #1**

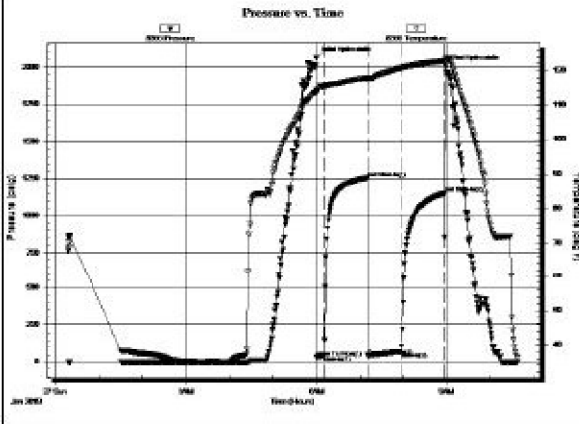
 <p><b>TRIOBITE TESTING, INC.</b></p>	<p><b>DRILL STEM TEST REPORT</b></p>	
	<p>Bicke Energy LLC. PO Box 816 Hays KS 67601 ATTN: Keith Reavis</p>	<p>14-5S-37W Cheyenne KS A.B. Fisher #14-1 Job Ticket: 65281 Test Start: 2019.01.27 @ 00:19:00</p>

**GENERAL INFORMATION:**

Formation: **Toronto - LKC "A"**  
 Deviated: No Whipstock: 0.00 ft (KB)  
 Time Tool Opened: 06:00:30  
 Time Test Ended: 10:37:49  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Ryan Nichols  
 Unit No: 71  
 Interval: **4200.00 ft (KB) To 4262.00 ft (KB) (TVD)**  
 Total Depth: 4262.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches - hole Condition: Good  
 Reference Elevations: 3377.00 ft (KB)  
 3372.00 ft (CF)  
 KB to GR/CF: 5.00 ft

**Serial #: 8366 Outside**  
 Press@RunDepth: 70.65 psig @ 4201.00 ft (KB)  
 Start Date: 2019.01.27 End Date: 2019.01.27  
 Start Time: 00:19:01 End Time: 10:37:49  
 Capacity: 8000.00 psig  
 Last Calib.: 2019.01.28  
 Time On Btm: 2019.01.27 @ 06:00:09  
 Time Off Btm: 2019.01.27 @ 08:58:10

**TEST COMMENT:** 10 IF - Slid 6' blow built to 3"  
 60 ISI - No return  
 45 FF - Bbow built to 2"  
 60 FSI - No return



PRESSURE SUMMARY			
Time (Mn.)	Pressure (psig)	Temp (deg F)	Annotation
0	2060.09	114.18	Initial Hydro-static
1	32.08	113.61	Open To Flow (1)
10	41.99	115.31	Shut-In(1)
71	1253.55	117.95	End Shut-In(1)
71	44.37	117.23	Open To Flow (2)
117	70.65	120.70	Shut-In(2)
177	1151.35	122.81	End Shut-In(2)
179	2000.63	123.37	Final Hydro-static

Recovery		
Length (ft)	Description	Volume (bbl)
120.00	OCM - 10% - 90%M	0.59
2.00	Oil 100%	0.03

Gas Rates			
	Choke (Inches)	Pressure (psig)	Gas Rate (McfD)

**Drill Stem Test #2**

**DRILL STEM TEST REPORT**

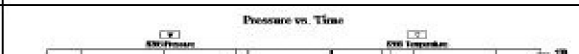
Bicke Energy LLC  
 P.O. Box 816  
 Hays KS 67801  
 ATTN: Keith Reavis

14-5S-37W Cheyenne KS  
**A.B. Fisher #14-1**  
 Job Ticket: 65282 **DST#: 2**  
 Test Start: 2019.01.29 @ 08:51:00

**GENERAL INFORMATION:**  
 Formation: **LKC "H - J"**  
 Deviated: No Whipstock: 0.00 ft (KB)  
 Time Tool Opened: 10:51:40  
 Time Test Ended: 14:16:09  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Ryan Nichols  
 Unit No: 71  
 Interval: **4380.00 ft (KB) To 4462.00 ft (KB) (TVD)**  
 Total Depth: 4462.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches - hole Condition: Good  
 Reference Elevations: 3377.00 ft (KB)  
 3372.00 ft (CF)  
 KB to GR/CF: 5.00 ft

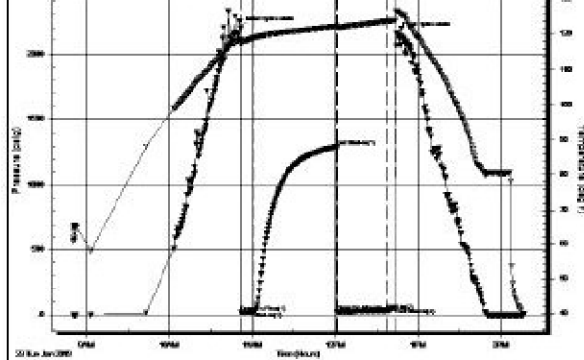
**Serial #: 8366 Outside**  
 Press@RunDepth: 32.50 psig @ 4381.00 ft (KB)  
 Start Date: 2019.01.29 End Date: 2019.01.29  
 Start Time: 08:51:01 End Time: 14:16:10  
 Capacity: 8000.00 psig  
 Last Calib.: 2019.01.29  
 Time On Btm: 2019.01.29 @ 10:51:30  
 Time Off Btm: 2019.01.29 @ 12:44:50

**TEST COMMENT:** 10 IF - Blow built to 1"  
 60 ISI - Weak surface blow  
 35 FF - Blow built to 1"  
 5 FSI - No return



PRESSURE SUMMARY			
Time	Pressure	Temp	Annotation





(Mn.)	(psig)	(deg F)	
0	2196.72	118.20	Initial Hydro-static
1	16.76	117.43	Open To Flow (1)
11	20.51	118.94	Shut-In(1)
70	1294.95	122.20	End Shut-In(1)
71	23.33	121.61	Open To Flow (2)
106	32.50	123.67	Shut-In(2)
113	54.91	123.98	End Shut-In(2)
114	2155.61	126.67	Final Hydro-static

**Recovery**


Length (ft)	Description	Volume (bbl)
15.00	Mud w trace oil 100%M	0.07

\* Recovery from multiple tests

**Gas Rates**

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

### Drill Stem Test #3



## DRILL STEM TEST REPORT

Bickle Energy LLC. 14-5S-37W Cheyenne KS

P.O. Box 816 A.B. Fisher #14-1  
Hays KS 67601

Job Ticket: 65283 DST#: 3

ATTN: Keith Reavis Test Start: 2019.01.30 @ 09:29:00

**GENERAL INFORMATION**

Formation: **Pawnee**  
 Deviated: No Whipstock: 0.00 ft (KB)  
 Time Tool Opened: 11:45:40  
 Time Test Ended: 18:29:40

Interval: **4620.00 ft (KB) To 4652.00 ft (KB) (TVD)**  
 Total Depth: 4652.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches - hole Condition: Good

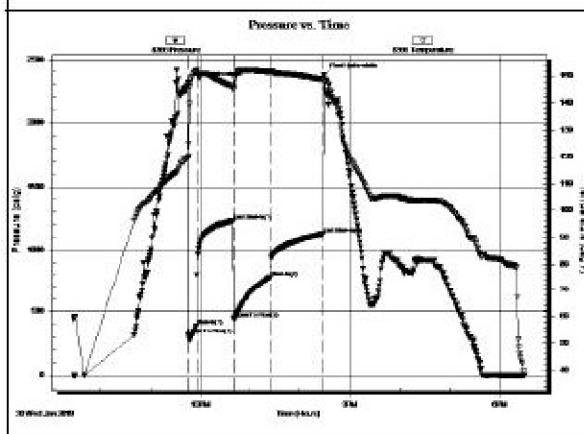
Test Type: Conventional Bottom Hole (Reset)  
 Tester: Ryan Nichols  
 Unit No: 71  
 Reference Beavtons: 3377.00 ft (KB)  
 3372.00 ft (CF)  
 KB to GR/CF: 5.00 ft

**Serial #: 8366 Outside**

Press@RunDepth: 785.32 psig @ 4621.00 ft (KB)  
 Start Date: 2019.01.30 End Date: 2019.01.30  
 Start Time: 09:29:01 End Time: 18:29:40

Capacity: 8000.00 psig  
 Last Calib.: 2019.01.30  
 Time On Btm: 2019.01.30 @ 11:45:20  
 Time Off Btm: 2019.01.30 @ 14:29:00

**TEST COMMENT:** 10 IF - BoB @ 50 seconds  
 45 ISI - BoB @ 10 mins  
 45 FF - BoB @ 1min gas to surface @ 40 mins  
 60 FSI - BoB @ 8 mins



**PRESSURE SUMMARY**

Time (Mn.)	Pressure (psig)	Temp (deg F)	Annotation
0	2317.38	119.49	Initial Hydro-static
1	321.04	120.07	Open To Flow (1)
11	389.65	151.92	Shut-In(1)
55	1230.04	146.33	End Shut-In(1)
56	444.61	145.18	Open To Flow (2)
100	785.32	151.68	Shut-In(2)
164	1129.20	148.66	End Shut-In(2)
164	2377.49	148.15	Final Hydro-static

**Recovery**

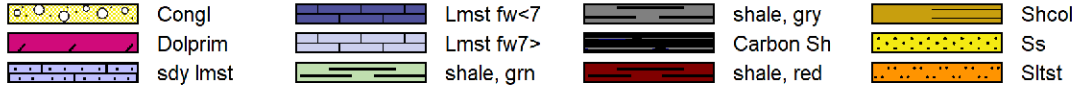
Length (ft)	Description	Volume (bbl)
120.00	MCW - 20%M - 80%W	0.59
1880.00	GO - 40%G - 60%o	26.37
0.00	2500' GIP	0.00

**Gas Rates**

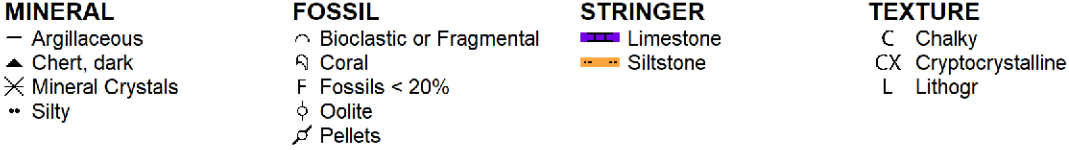
	Choke (inches)	Pressure (psig)	Gas Rate (McfD)

\* Recovery from multiple tests

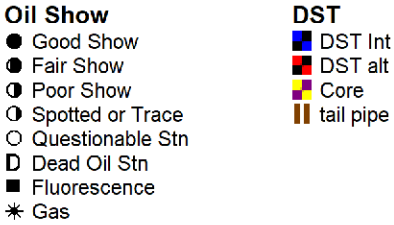
### ROCK TYPES



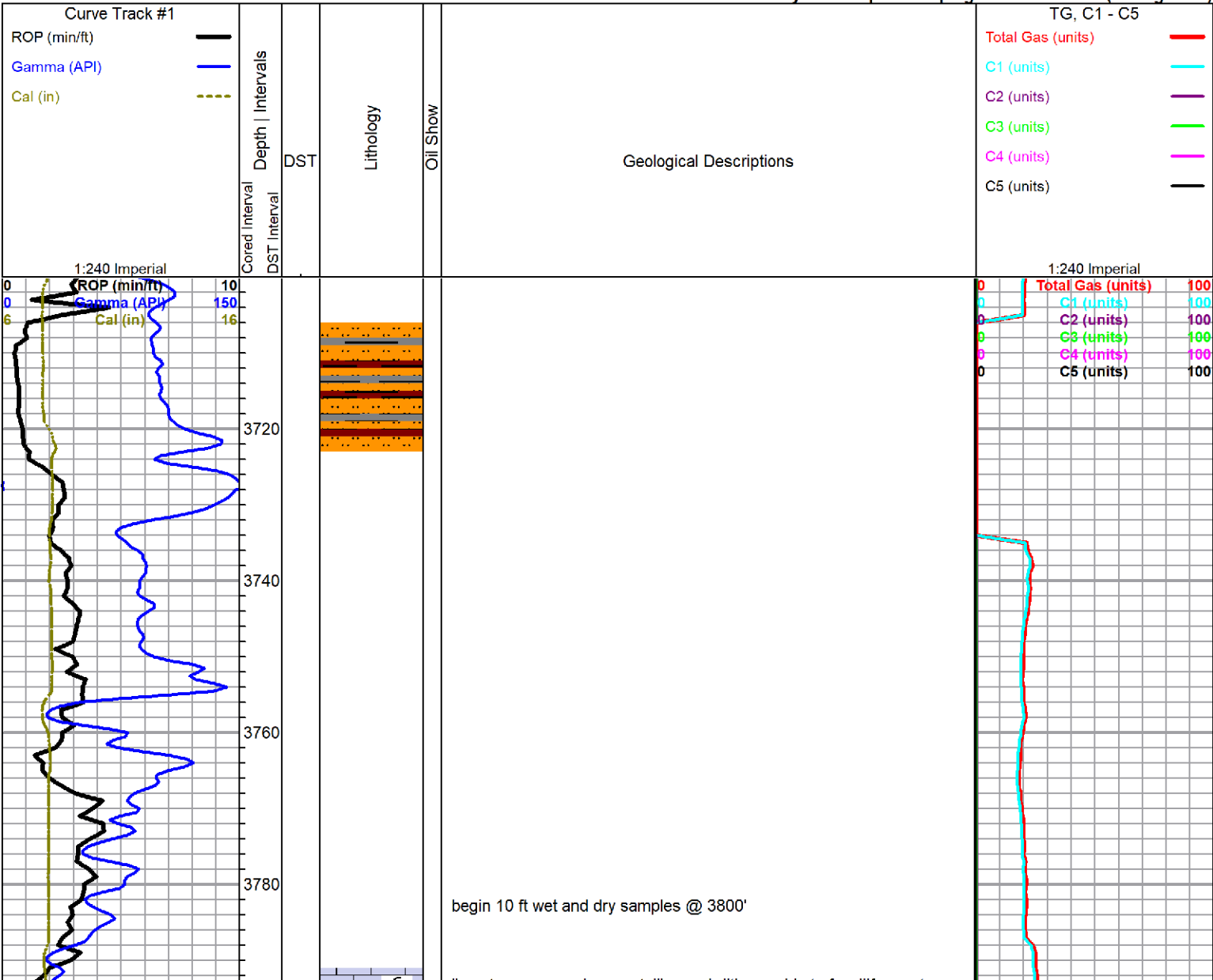
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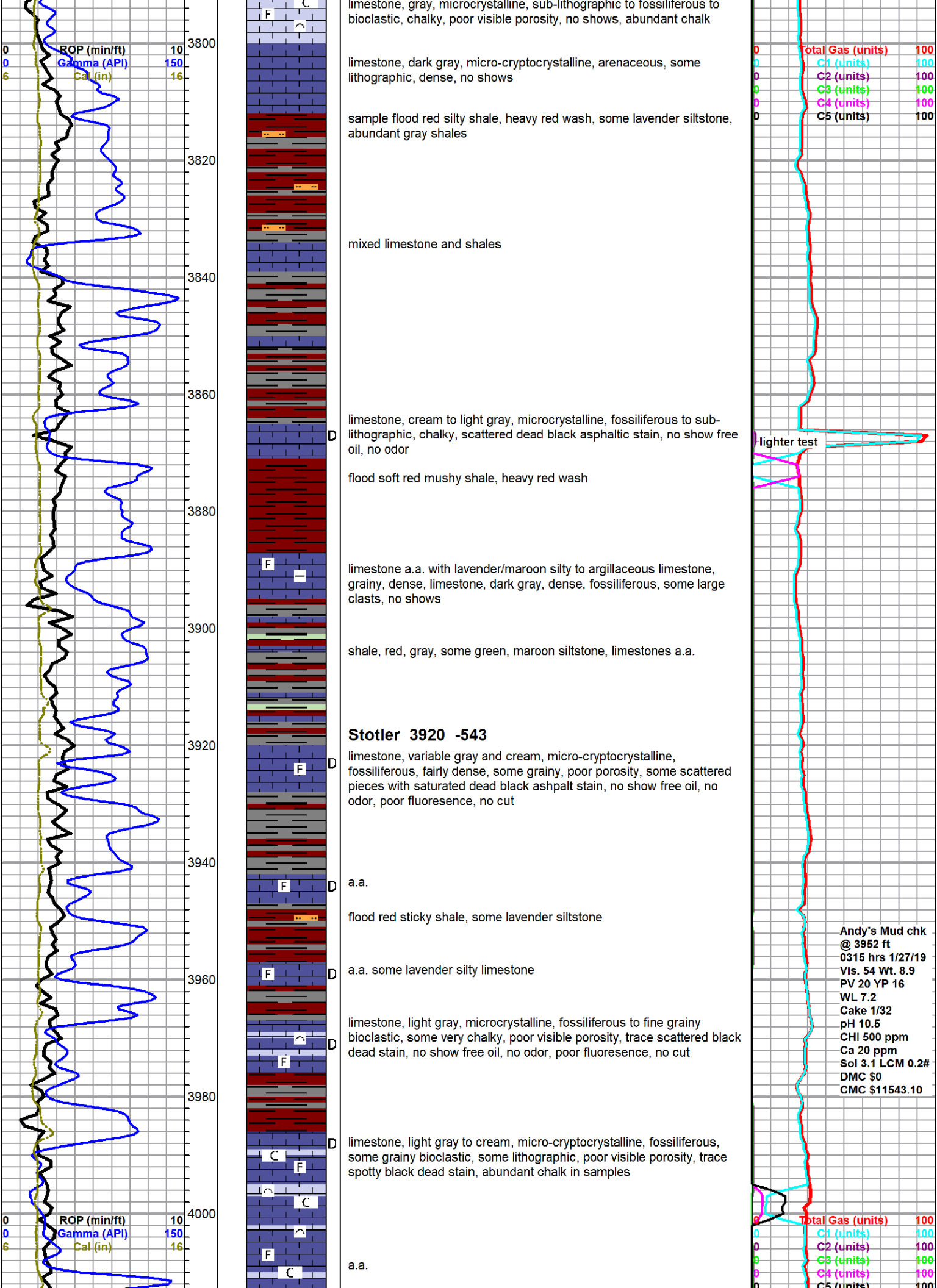


### OTHER SYMBOLS



Printed by GEOstrip VC Striplog version 4.0.8.15 (www.grsi.ca)





ROP (min/ft) 10  
 Gamma (API) 150  
 Cal (in) 16

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

limestone, gray, microcrystalline, sub-lithographic to fossiliferous to bioclastic, chalky, poor visible porosity, no shows, abundant chalk

limestone, dark gray, micro-cryptocrystalline, arenaceous, some lithographic, dense, no shows

sample flood red silty shale, heavy red wash, some lavender siltstone, abundant gray shales

mixed limestone and shales

limestone, cream to light gray, microcrystalline, fossiliferous to sub-lithographic, chalky, scattered dead black asphaltic stain, no show free oil, no odor

flood soft red mushy shale, heavy red wash

limestone a.a. with lavender/maroon silty to argillaceous limestone, grainy, dense, limestone, dark gray, dense, fossiliferous, some large clasts, no shows

shale, red, gray, some green, maroon siltstone, limestones a.a.

**Stotler 3920 -543**

limestone, variable gray and cream, micro-cryptocrystalline, fossiliferous, fairly dense, some grainy, poor porosity, some scattered pieces with saturated dead black asphalt stain, no show free oil, no odor, poor fluorescence, no cut

a.a.

flood red sticky shale, some lavender siltstone

a.a. some lavender silty limestone

limestone, light gray, microcrystalline, fossiliferous to fine grainy bioclastic, some very chalky, poor visible porosity, trace scattered black dead stain, no show free oil, no odor, poor fluorescence, no cut

limestone, light gray to cream, micro-cryptocrystalline, fossiliferous, some grainy bioclastic, some lithographic, poor visible porosity, trace spotty black dead stain, abundant chalk in samples

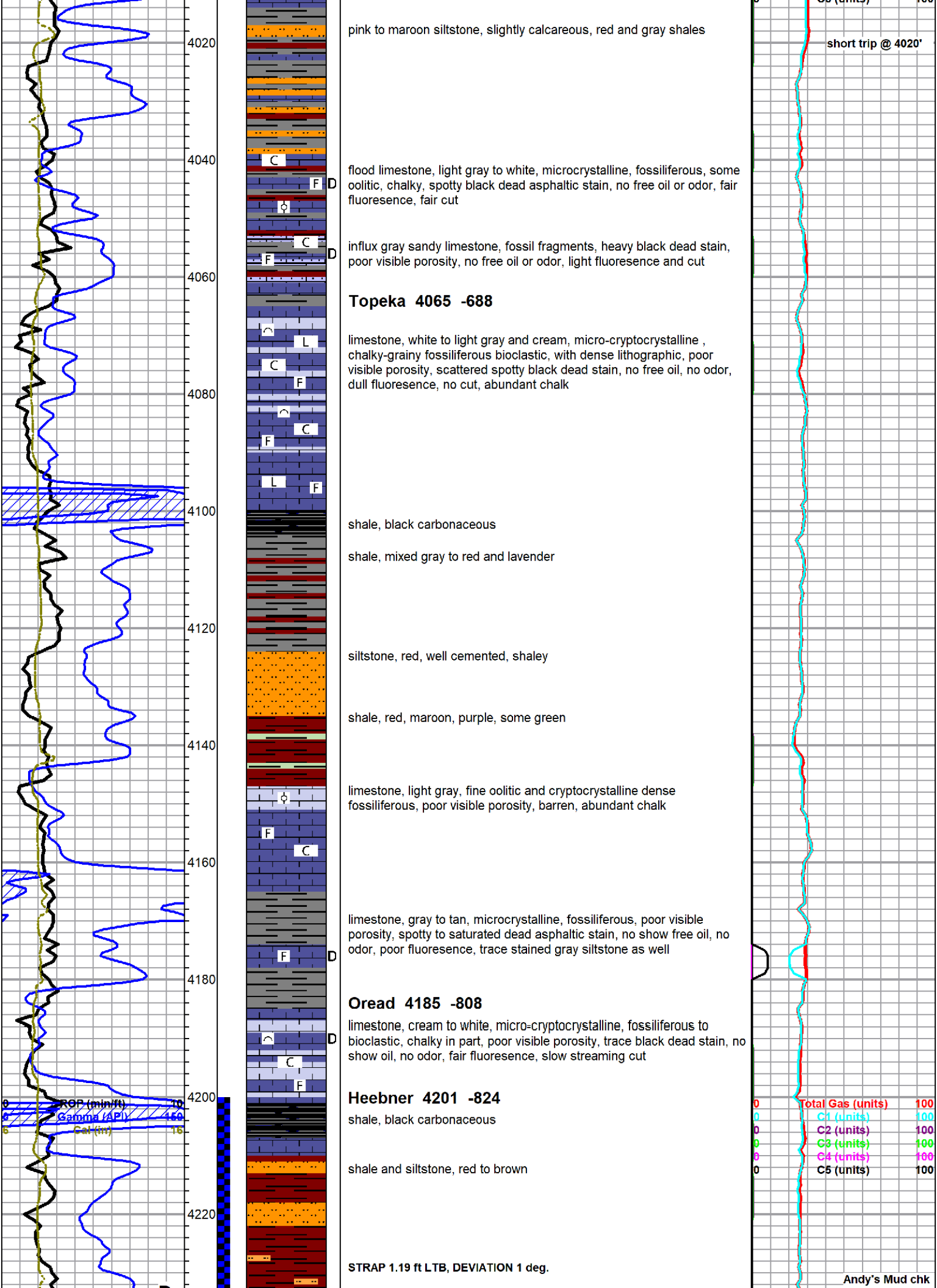
a.a.

lighter test

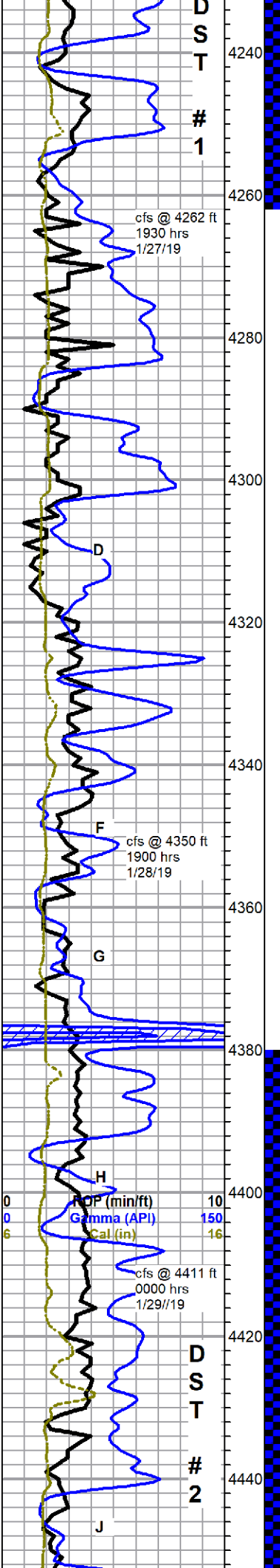
Andy's Mud chk  
 @ 3952 ft  
 0315 hrs 1/27/19  
 Vis. 54 Wt. 8.9  
 PV 20 YP 16  
 WL 7.2  
 Cake 1/32  
 pH 10.5  
 CHI 500 ppm  
 Ca 20 ppm  
 Sol 3.1 LCM 0.2#  
 DMC \$0  
 CMC \$11543.10

ROP (min/ft) 10  
 Gamma (API) 150  
 Cal (in) 16

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







**Toronto 4241 -864**

limestone, white to light gray, oolitic to bioclastic, good interclast porosity, saturated dark brown to black stain, good show free oil with oil floating in sample cup, fleeting odor, good fluorescence, excellent instant bright cut

**Lansing 4254 -877**

limestone, white to cream, micro-cryptocrystalline, fossiliferous to very fine oolitic, mostly dense, poor overall porosity, few pieces with some light spotty staining, show stringy oil on break, no odor, fair even light green fluorescence, fair slow bluish white cut

red, gray and green shales, light gray to maroon siltstone

limestone, white, mostly cryptocrystalline, chalky, fossiliferous, no visible porosity, no shows, moderate chalk

limestone, white to cream, micro-cryptocrystalline, fossiliferous, some grainy with interclast porosity, few scattered specimens with light dead black staining, no free oil, no odor, abundant chalk

grades to limestone, light gray to white, cryptocrystalline, lithographic to chalky fossiliferous, abundant chalk, barren

gray shales with limestone, lavender, fossiliferous and argillaceous, dense to chalky, no shows

limestone, light gray, much yellow and lavender mottled, oolitic to fossiliferous, poor visible porosity, chalky in part, no shows

limestone, variable gray to white, variable very fine to medium oolitic, chalky to dense, well cemented oolites to friable, some bioclastic, some interoolite porosity, barren

grading to denser white and gray fossiliferous limestones, abundant chalk in samples, no shows

4400 sample - variable shales with dark gray limestone, dense, fossiliferous, some large fragmented clasts, gray cryptocrystalline limestones, abundant chalk

limestone, light gray, recrystallized/weathered oolitic to bioclastic, spongy texture, some fair pin-point porosity, spotty edge to saturated black staining, fair show free oil, heavy, stringy, fleeting odor, fair to poor fluorescence, fair cut

grades to limestone, light gray, cryptocrystalline, fossiliferous, dense, chalky in part, barren

shales, mixed gray, silty red, lavender and green

limestone, light gray, microcrystalline, fossiliferous to bioclastic, grainy, weathered and altered in part, some secondary calcite, some interclast porosity, light brown spotty stain, slight to fair show free oil, good odor, good fluorescence, slow streaming fair cut

@ 4262 ft  
1100 hrs 1/28/19  
Vis. 52 Wt. 9.1  
PV 20 YP 10  
WL 7.2  
Cake 1/32  
pH 10.0  
CHI 500 ppm  
Ca 20 ppm  
Sol 3.7 LCM 2#  
DMC \$451.60  
CMC \$11994.70

drill time by hand here,  
wind whipping  
geograph cable,  
messed up bloodhound  
drill time

no gas kicks  
this interval

drill time switched  
back to bloodhound

gas re-zeroed

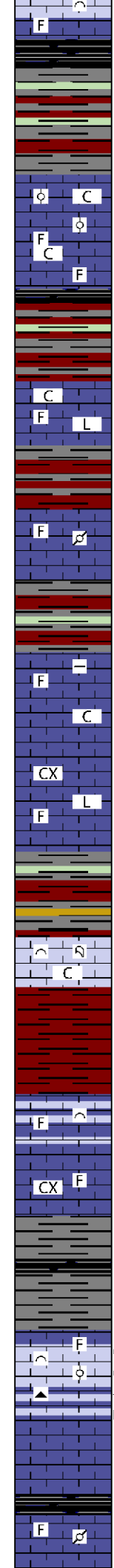
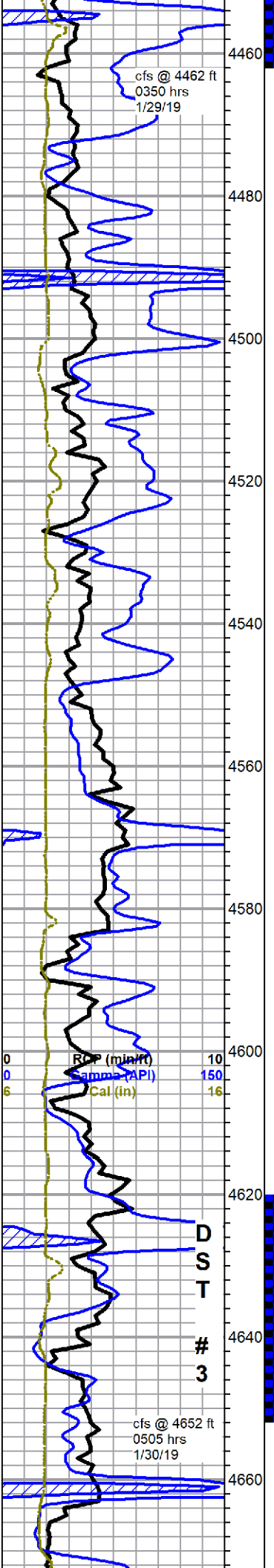
**SCALE CHANGE**

0	Total Gas (units)	50
0	C1 (units)	50
0	C2 (units)	50
0	C3 (units)	50
0	C4 (units)	50
0	C5 (units)	50

gas kick

0	Total Gas (units)	50
0	C1 (units)	50
0	C2 (units)	50
0	C3 (units)	50
0	recycle	50
0	C5 (units)	50

gas kick



**Stark Shale 4458 -1081**

limestone, light gray, re-crystallized oolitic to oolitic, poor visible porosity, with limestone, light gray, cryptocrystalline, fossiliferous to lithographic, chalky, abundant chalk in samples, no shows

limestone, light gray to cream and white, mostly cryptocrystalline, fossiliferous to lithographic, trace dense oolitic, chalky in part, abundant chalk in samples, no shows

limestone, variable gray, mixed fossiliferous, some pelletal, dense to chalky, barren

**Base KC 4534 -1157**

**Marmaton 4544 -1167**

limestone, light gray to cream and white, fossiliferous to lithographic, with: limestone, pale lavender, argillaceous, soft to dense, abundant chalk, no shows

limestones, mixed gray and tan, mostly cryptocrystalline, dense lithographic to slightly fossiliferous

limestone, cream to white, bioclastic, larges clast fragments with secondary calcite crystals, some coral fragments, flood chalk, no shows

soft red mushy shales, heavy red wash

limestone, cream, cryptocrystalline, fossiliferous to bioclastic, grainy in part, with abundant lithographic, dense, poor visible porosity, no shows

limestone, dark gray, cryptocrystalline, fossiliferous, very dense, cherty

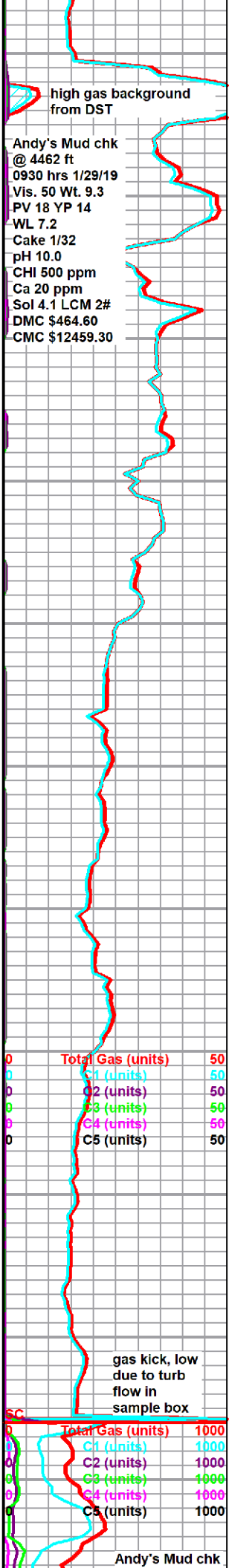
**Pawnee 4639 -1262**

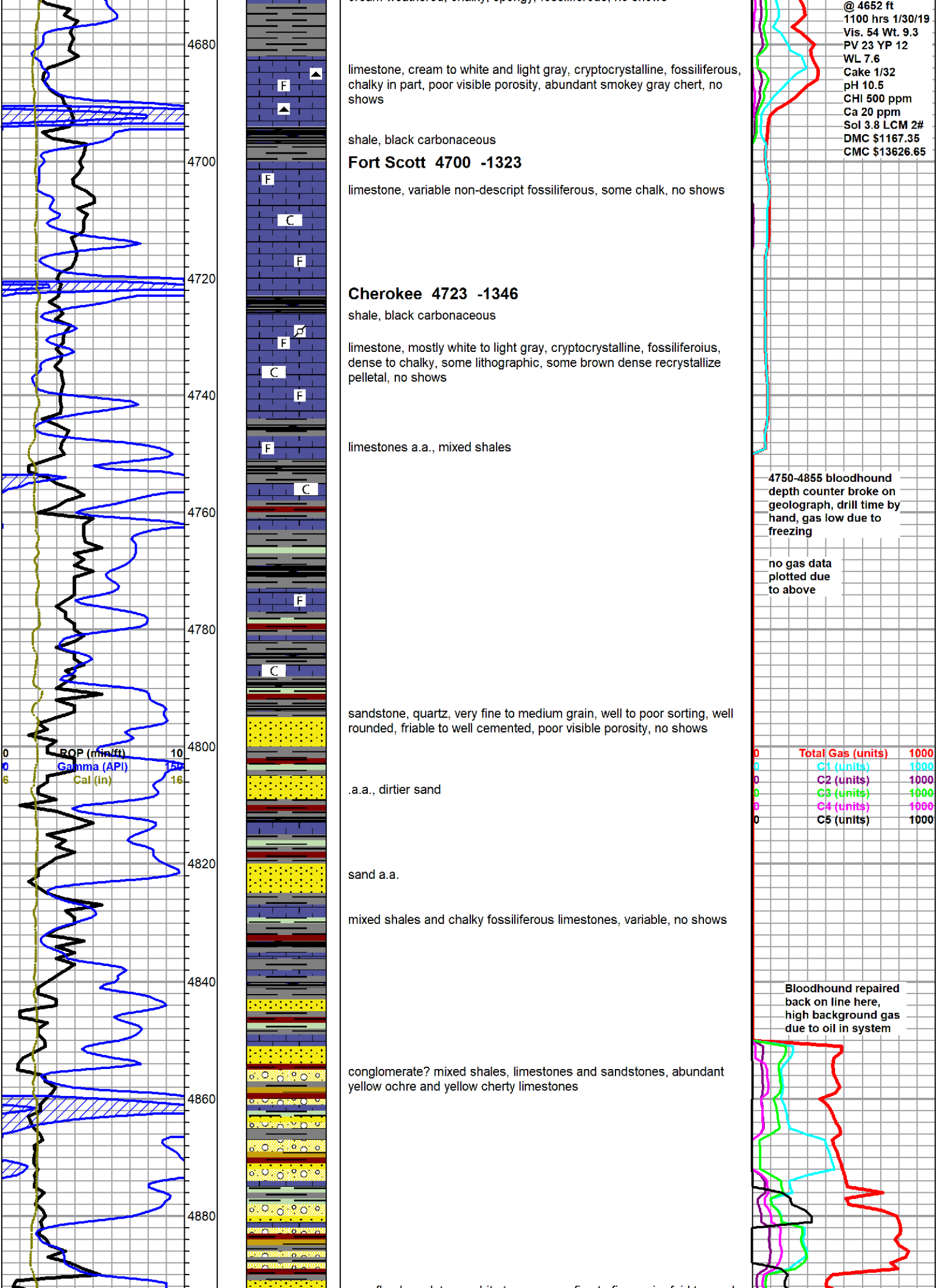
limestone, light gray, cream, white, fossiliferous to grainy bioclastic and some fine oolitic, some fair interclast-oolite porosity, very light staining, show gassy oil with streaming sheen, strong odor, good bright green fluorescence, milky blueish/white cut, with: chalky dense limestone, cream, fractured, slightly fossiliferous, trace stain and tan and gray chert

shale, black carbonaceous

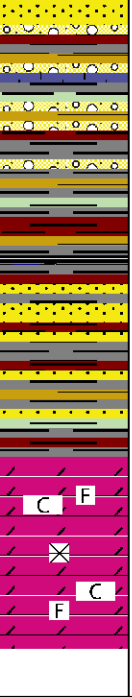
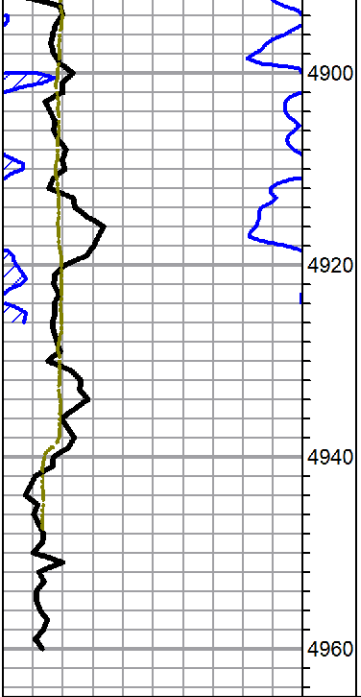
**Myrick Station 4665 -1288**

limestone, gray to brown mottled, green fossiliferous to pelletal, some cream weathered chalky spongy fossiliferous no shows





a.a., flood sandstone, white to gray, very fine to fine grain, fair to poorly sorted, fairly rounded, friable to well cemented, no shows



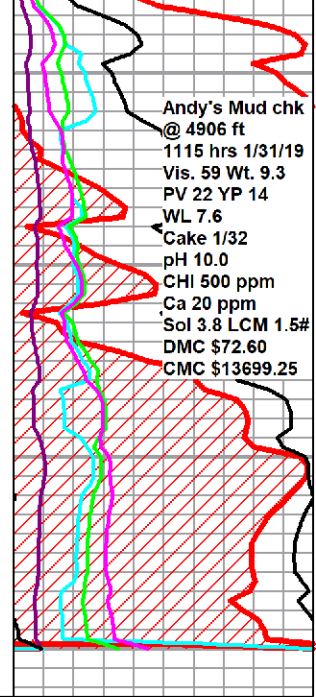
4930 sample, mostly shales

flood mixed sands

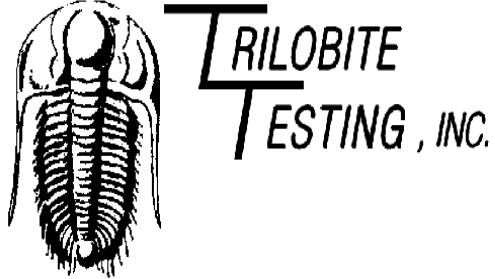
**Mississippian 4940 -1563**

dolomite, light gray mottled and tan, microcrystalline, sub-sucrosic, altered fossiliferous, poor visible porosity, abundant chalk, some scattered loose large dolomite crystals, no shows

Rotary TD 4960 ft @ 1300 hrs 1/31/19  
Pioneer Wireline TD 4959 ft.  
complete logging operation 2115 hrs 1/31/19



Andy's Mud chk  
@ 4906 ft  
1115 hrs 1/31/19  
Vis. 59 Wt. 9.3  
PV 22 YP 14  
WL 7.6  
Cake 1/32  
pH 10.0  
CHI 500 ppm  
Ca 20 ppm  
Sol 3.8 LCM 1.5#  
DMC \$72.60  
CMC \$13699.25



## DRILL STEM TEST REPORT

Prepared For: **Bickle Energy LLC.**

P.O. Box 816  
Hays KS 67601

ATTN: Kieth Reavis

### **A.B. Fisher #14-1**

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

Start Date: 2019.01.27 @ 00:19:00

End Date: 2019.01.27 @ 10:37:49

Job Ticket #: 65281                      DST #: 1

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

Printed: 2019.01.31 @ 14:26:38



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Bickle Energy LLC.

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

P.O. Box 816  
Hays KS 67601

**A.B. Fisher #14-1**

Job Ticket: 65281

**DST#: 1**

ATTN: Kieth Reavis

Test Start: 2019.01.27 @ 00:19:00

## GENERAL INFORMATION:

Formation: **Toronto - LKC "A"**

Deviated: No Whipstock: 0.00 ft (KB)

Time Tool Opened: 06:00:30

Time Test Ended: 10:37:49

Test Type: Conventional Bottom Hole (Initial)

Tester: Ryan Nichols

Unit No: 71

Interval: **4200.00 ft (KB) To 4262.00 ft (KB) (TVD)**

Reference Elevations: 3377.00 ft (KB)

Total Depth: 4262.00 ft (KB) (TVD)

3372.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

**Serial #: 8366 Outside**

Press@RunDepth: 70.65 psig @ 4201.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2019.01.27 End Date: 2019.01.27

Last Calib.: 2019.01.28

Start Time: 00:19:01 End Time: 10:37:49

Time On Btm: 2019.01.27 @ 06:00:09

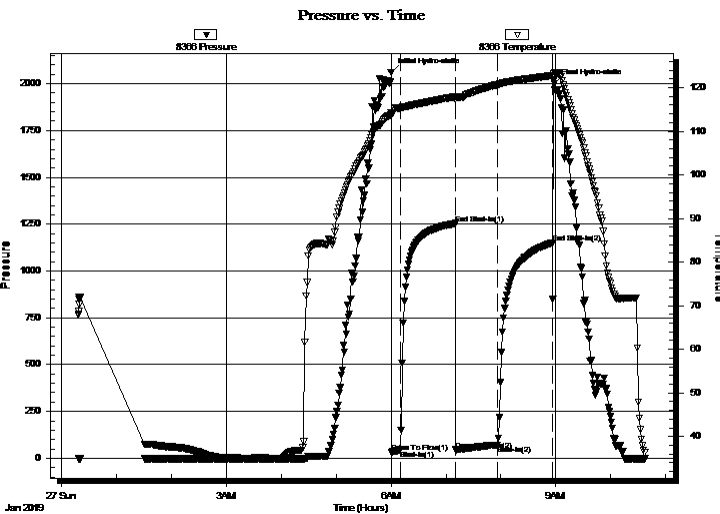
Time Off Btm: 2019.01.27 @ 08:58:10

TEST COMMENT: 10 IF - Slide 6' blow built to 3"

60 ISI - No return

45 FF - Blow built to 2"

60 FSI - No return



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2060.09	114.18	Initial Hydro-static
1	32.08	113.61	Open To Flow (1)
10	41.99	115.31	Shut-In(1)
71	1253.55	117.95	End Shut-In(1)
71	44.37	117.23	Open To Flow (2)
117	70.65	120.70	Shut-In(2)
177	1151.35	122.81	End Shut-In(2)
179	2000.63	123.37	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
120.00	OCM - 10%o - 90%M	0.59
2.00	Oil 100%o	0.03

## Gas Rates

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



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Bickle Energy LLC.

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

P.O. Box 816  
Hays KS 67601

**A.B. Fisher #14-1**

Job Ticket: 65281

**DST#: 1**

ATTN: Kieth Reavis

Test Start: 2019.01.27 @ 00:19:00

## GENERAL INFORMATION:

Formation: **Toronto - LKC "A"**

Deviated: No Whipstock: 0.00 ft (KB)

Time Tool Opened: 06:00:30

Time Test Ended: 10:37:49

Test Type: Conventional Bottom Hole (Initial)

Tester: Ryan Nichols

Unit No: 71

**Interval: 4200.00 ft (KB) To 4262.00 ft (KB) (TVD)**

Reference Elevations: 3377.00 ft (KB)

Total Depth: 4262.00 ft (KB) (TVD)

3372.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

**Serial #: 8353 Inside**

Press@RunDepth: psig @ 4201.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2019.01.27 End Date: 2019.01.27

Last Calib.: 2019.01.28

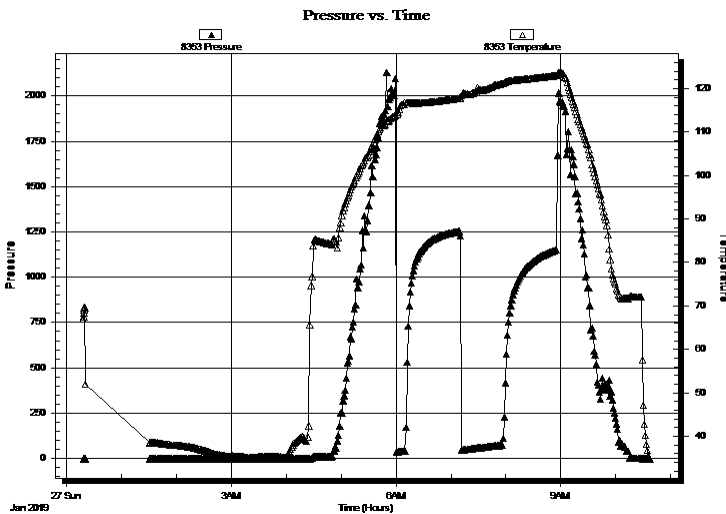
Start Time: 00:19:01 End Time: 10:37:49

Time On Btm:

Time Off Btm:

**TEST COMMENT:** 10 IF - Slide 6' blow built to 3"  
60 ISI - No return  
45 FF - Blow built to 2"  
60 FSI - No return

## PRESSURE SUMMARY



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

## Recovery

Length (ft)	Description	Volume (bbl)
120.00	OCM - 10%o - 90%M	0.59
2.00	Oil 100%o	0.03

## Gas Rates

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



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Bickle Energy LLC.

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

P.O. Box 816  
Hays KS 67601

**A.B. Fisher #14-1**

Job Ticket: 65281

**DST#: 1**

ATTN: Kieth Reavis

Test Start: 2019.01.27 @ 00:19:00

## Tool Information

Drill Pipe:	Length: 4063.00 ft	Diameter: 3.80 inches	Volume: 56.99 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 120.00 ft	Diameter: 2.25 inches	Volume: 0.59 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: 57.58 bbl</u>	Tool Chased 6.00 ft
Drill Pipe Above KB:	11.00 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	4200.00 ft			Final 62000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	62.00 ft			
Tool Length:	90.00 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			4177.00	
Hydraulic tool	5.00			4182.00	
Jars	5.00			4187.00	
Safety Joint	3.00			4190.00	
Packer	5.00			4195.00	28.00 Bottom Of Top Packer
Packer	5.00			4200.00	
Stubb	1.00			4201.00	
Recorder	0.00	8353	Inside	4201.00	
Recorder	0.00	8366	Outside	4201.00	
Perforations	25.00			4226.00	
Blank Spacing	33.00			4259.00	
Bullnose	3.00			4262.00	62.00 Bottom Packers & Anchor

**Total Tool Length: 90.00**





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Bickle Energy LLC.

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

P.O. Box 816  
Hays KS 67601

**A.B. Fisher #14-1**

Job Ticket: 65281

**DST#: 1**

ATTN: Kieth Reavis

Test Start: 2019.01.27 @ 00:19:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

18.5 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 54.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.19 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
120.00	OCM - 10% <sub>o</sub> - 90%M	0.590
2.00	Oil 100% <sub>o</sub>	0.028

Total Length: 122.00 ft      Total Volume: 0.618 bbl

Num Fluid Samples: 0

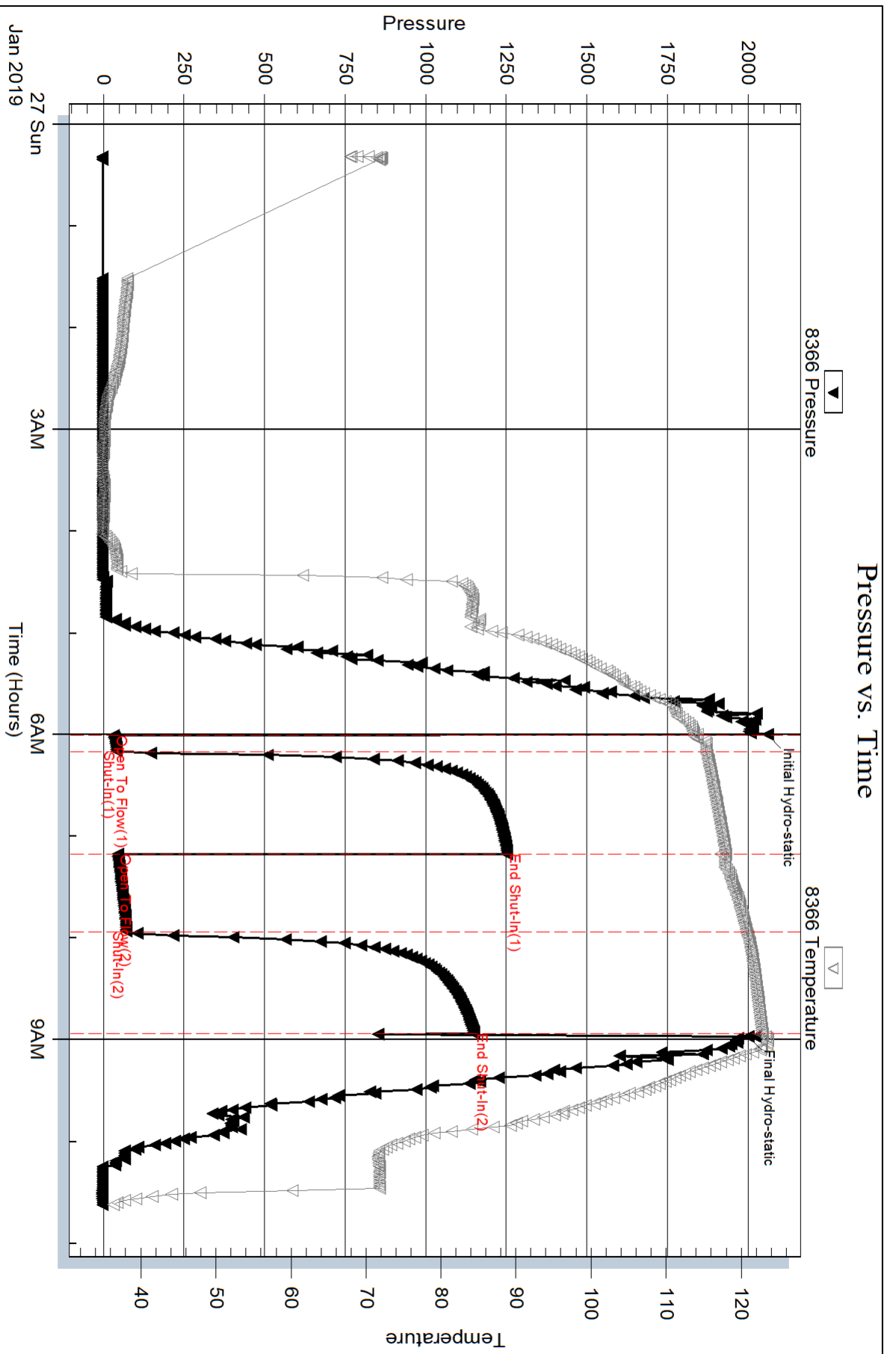
Num Gas Bombs: 0

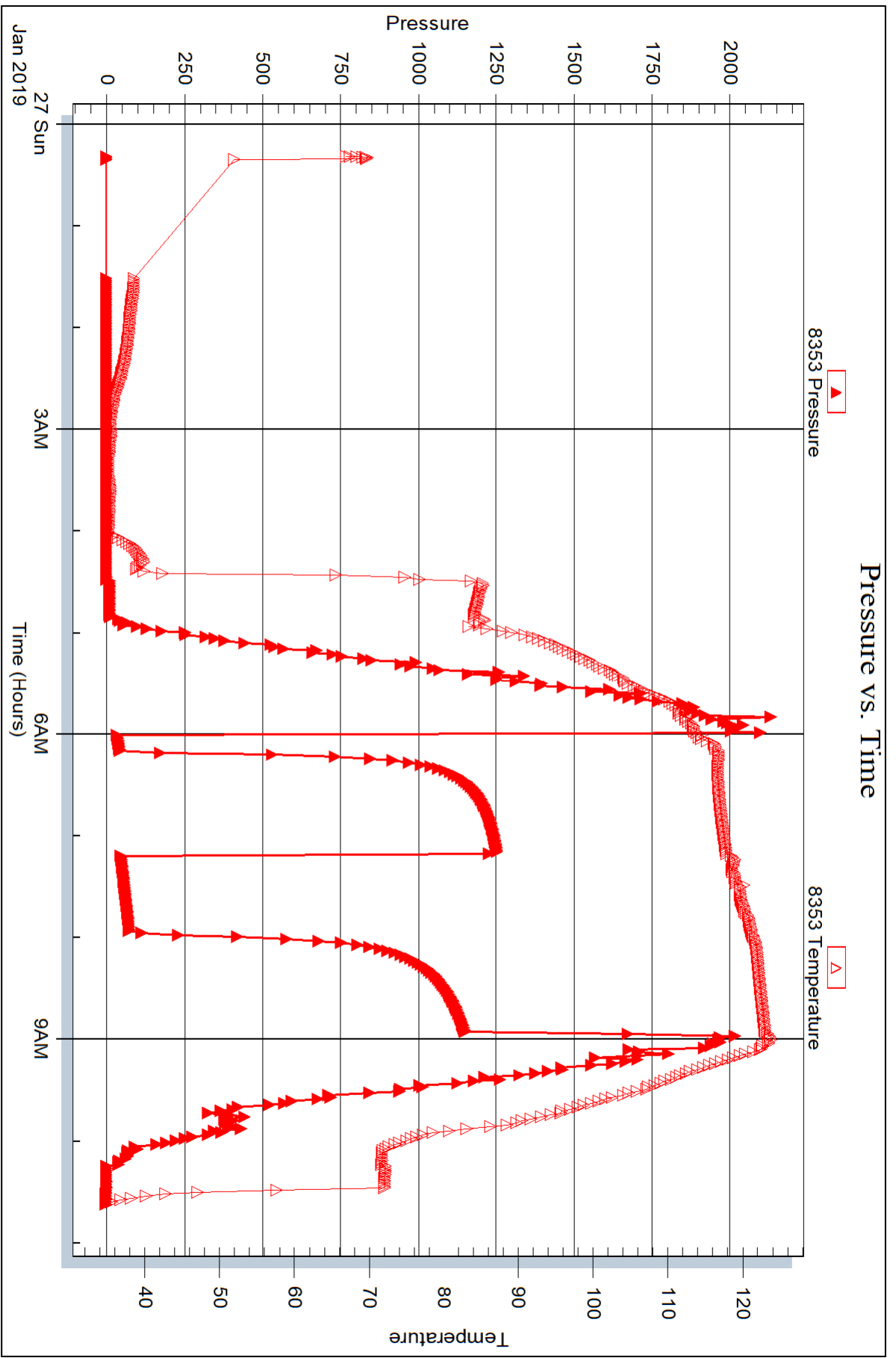
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Gravity = 21 @ 85 DEG F = 18.5 COR 60 DEG F







## DRILL STEM TEST REPORT

Prepared For: **Bickle Energy LLC.**

P.O. Box 816  
Hays KS 67601

ATTN: Kieth Reavis

### **A.B. Fisher #14-1**

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

Start Date: 2019.01.29 @ 08:51:00

End Date: 2019.01.29 @ 14:16:09

Job Ticket #: 65282                      DST #: 2

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

Printed: 2019.01.31 @ 14:19:56



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Bickle Energy LLC.

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

P.O. Box 816  
Hays KS 67601

**A.B. Fisher #14-1**

Job Ticket: 65282

**DST#: 2**

ATTN: Kieth Reavis

Test Start: 2019.01.29 @ 08:51:00

## GENERAL INFORMATION:

Formation: **LKC "H - J"**

Deviated: No Whipstock: 0.00 ft (KB)

Time Tool Opened: 10:51:40

Time Test Ended: 14:16:09

Test Type: Conventional Bottom Hole (Reset)

Tester: Ryan Nichols

Unit No: 71

**Interval: 4380.00 ft (KB) To 4462.00 ft (KB) (TVD)**

Total Depth: 4462.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 3377.00 ft (KB)

3372.00 ft (CF)

KB to GR/CF: 5.00 ft

**Serial #: 8366**

**Outside**

Press@RunDepth: 32.50 psig @ 4381.00 ft (KB)

Start Date: 2019.01.29

End Date:

2019.01.29

Start Time: 08:51:01

End Time:

14:16:10

Capacity: 8000.00 psig

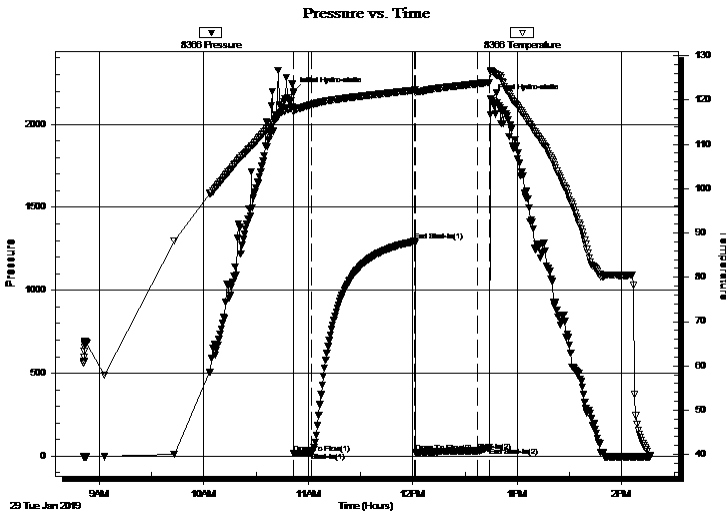
Last Calib.: 2019.01.29

Time On Btm: 2019.01.29 @ 10:51:30

Time Off Btm: 2019.01.29 @ 12:44:50

**TEST COMMENT:** 10 IF - Blow built to 1"  
60 ISI - Weak surface blow  
35 FF - Blow built to 1"  
5 FSI - No return

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2196.72	118.20	Initial Hydro-static
1	16.76	117.43	Open To Flow (1)
11	20.51	118.94	Shut-In(1)
70	1294.95	122.20	End Shut-In(1)
71	23.33	121.61	Open To Flow (2)
106	32.50	123.67	Shut-In(2)
113	54.91	123.98	End Shut-In(2)
114	2155.61	126.67	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
15.00	Mud w /trace oil 100%M	0.07

\* Recovery from multiple tests

## Gas Rates

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



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Bickle Energy LLC.

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

P.O. Box 816  
Hays KS 67601

**A.B. Fisher #14-1**

Job Ticket: 65282

**DST#: 2**

ATTN: Kieth Reavis

Test Start: 2019.01.29 @ 08:51:00

## GENERAL INFORMATION:

Formation: **LKC "H - J"**

Deviated: No Whipstock: 0.00 ft (KB)

Time Tool Opened: 10:51:40

Time Test Ended: 14:16:09

Test Type: Conventional Bottom Hole (Reset)

Tester: Ryan Nichols

Unit No: 71

**Interval: 4380.00 ft (KB) To 4462.00 ft (KB) (TVD)**

Total Depth: 4462.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 3377.00 ft (KB)

3372.00 ft (CF)

KB to GR/CF: 5.00 ft

**Serial #: 8353**

**Inside**

Press@RunDepth: psig @ 4381.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2019.01.29 End Date: 2019.01.29

Last Calib.: 2019.01.29

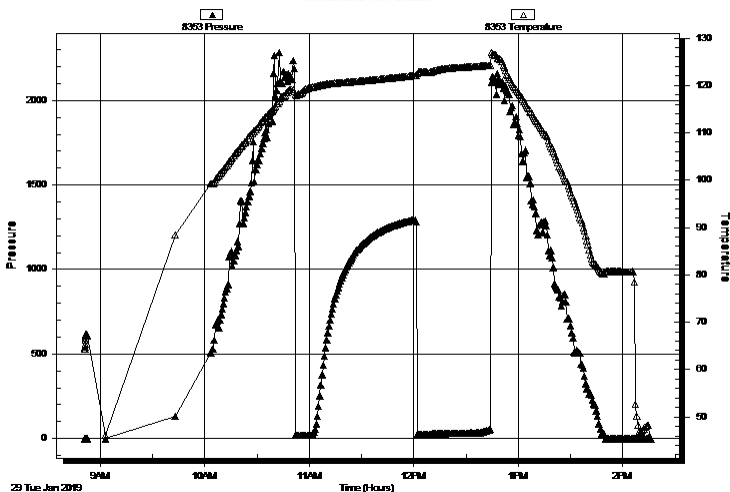
Start Time: 08:51:01 End Time: 14:16:10

Time On Btm:

Time Off Btm:

**TEST COMMENT:** 10 IF - Blow built to 1"  
60 ISI - Weak surface blow  
35 FF - Blow built to 1"  
5 FSI - No return

Pressure vs. Time



## PRESSURE SUMMARY

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

## Recovery

Length (ft)	Description	Volume (bbl)
15.00	Mud w /trace oil 100%M	0.07

\* Recovery from multiple tests

## Gas Rates

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



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Bickle Energy LLC.

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

P.O. Box 816  
Hays KS 67601

**A.B. Fisher #14-1**

Job Ticket: 65282

**DST#: 2**

ATTN: Kieth Reavis

Test Start: 2019.01.29 @ 08:51:00

## Tool Information

Drill Pipe:	Length: 4252.00 ft	Diameter: 3.80 inches	Volume: 59.64 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 120.00 ft	Diameter: 2.25 inches	Volume: 0.59 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 60.23 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	20.00 ft			String Weight: Initial 66000.00 lb
Depth to Top Packer:	4380.00 ft			Final 66000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	82.00 ft			
Tool Length:	110.00 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			4357.00	
Hydraulic tool	5.00			4362.00	
Jars	5.00			4367.00	
Safety Joint	3.00			4370.00	
Packer	5.00			4375.00	28.00 Bottom Of Top Packer
Packer	5.00			4380.00	
Stubb	1.00			4381.00	
Recorder	0.00	8353	Inside	4381.00	
Recorder	0.00	8366	Outside	4381.00	
Perforations	12.00			4393.00	
Blank Spacing	66.00			4459.00	
Bullnose	3.00			4462.00	82.00 Bottom Packers & Anchor

**Total Tool Length: 110.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Bickle Energy LLC.

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

P.O. Box 816  
Hays KS 67601

**A.B. Fisher #14-1**

Job Ticket: 65282

**DST#: 2**

ATTN: Kieth Reavis

Test Start: 2019.01.29 @ 08:51:00

## 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: 50.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.49 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
15.00	Mud w /trace oil 100%M	0.074

Total Length: 15.00 ft      Total Volume: 0.074 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

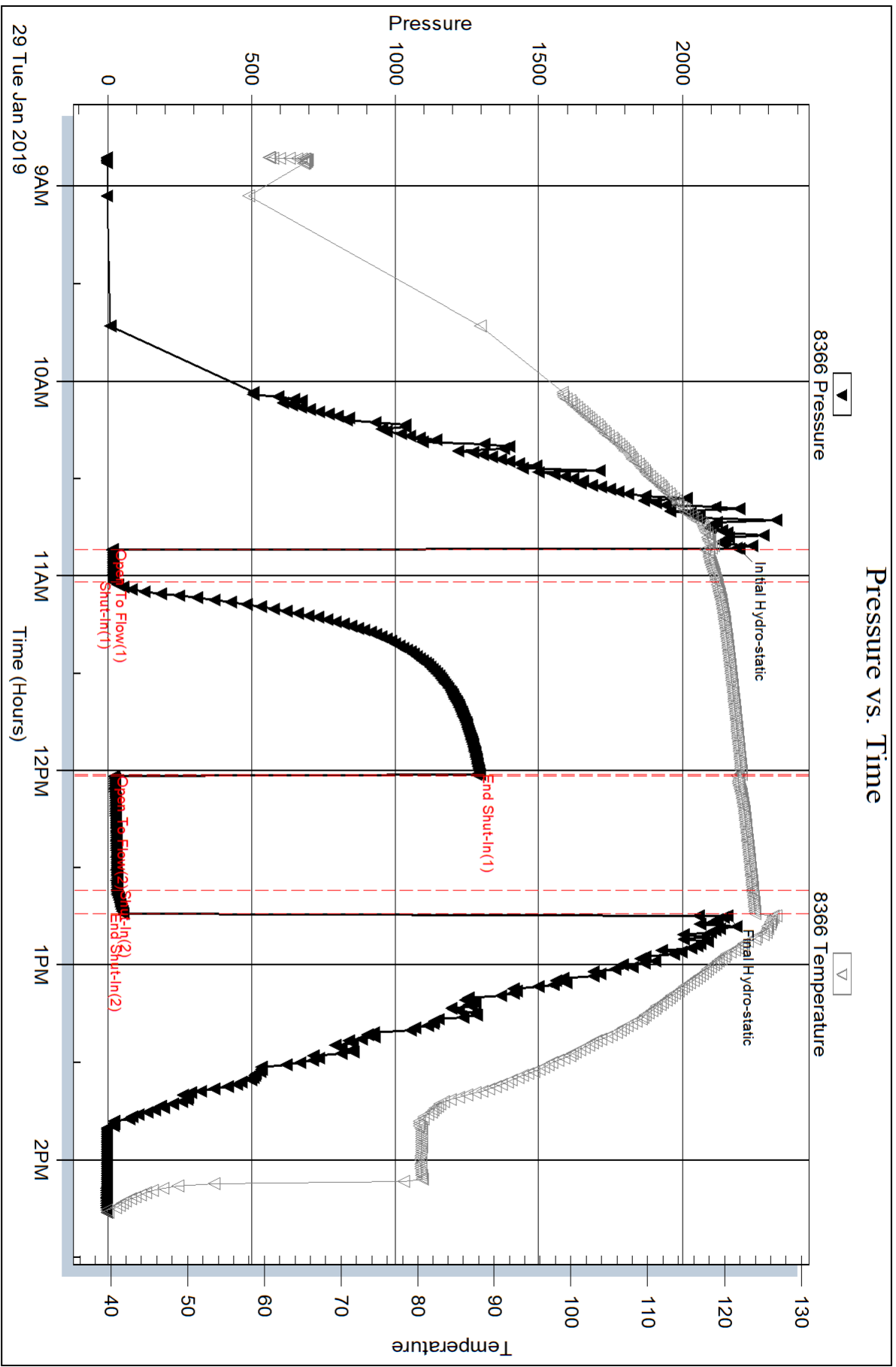
Serial #:

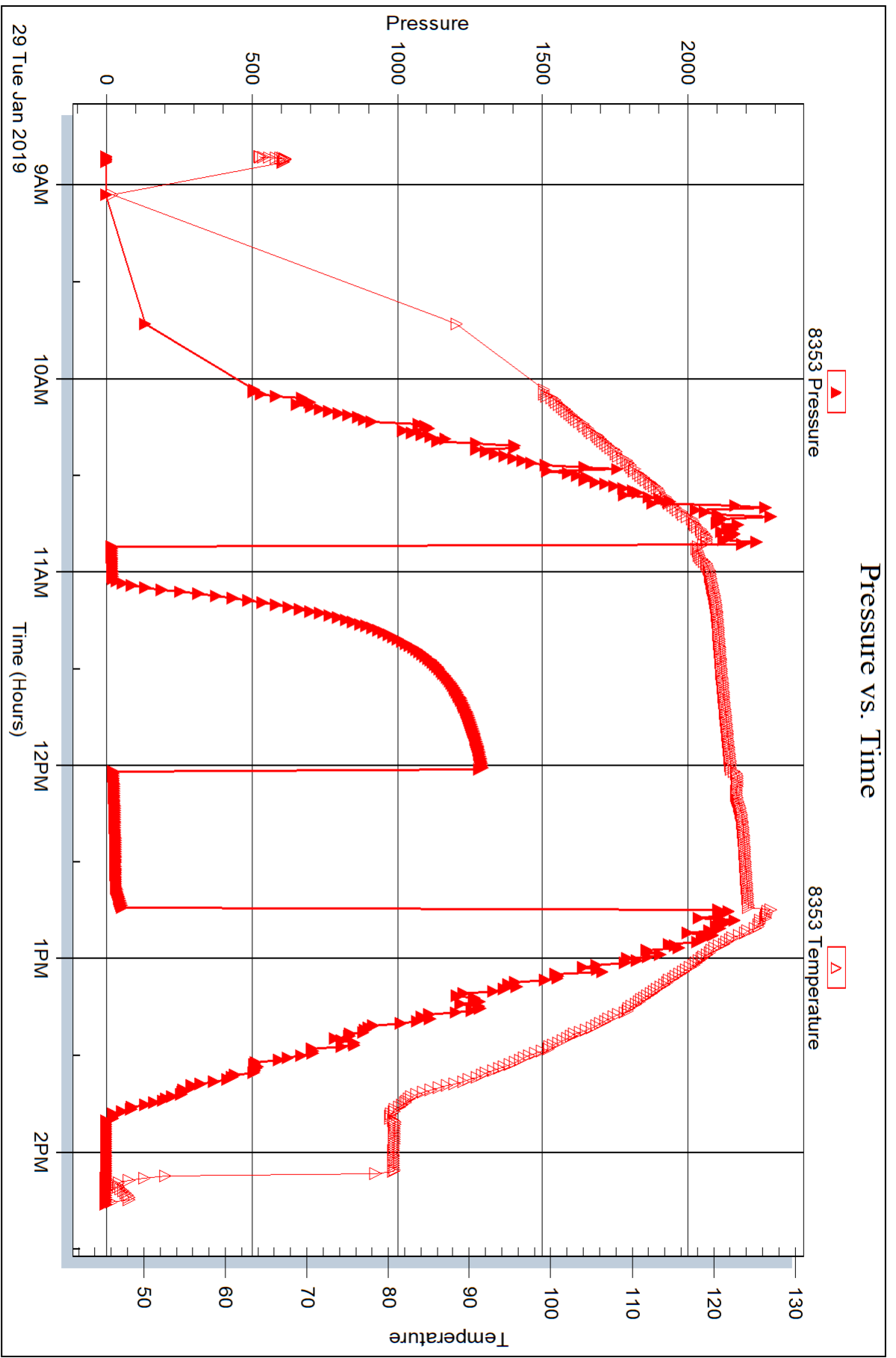
Laboratory Name:

Laboratory Location:

Recovery Comments:









## DRILL STEM TEST REPORT

Prepared For: **Bickle Energy LLC.**

P.O. Box 816  
Hays KS 67601

ATTN: Kieth Reavis

### **A.B. Fisher #14-1**

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

Start Date: 2019.01.30 @ 09:29:00

End Date: 2019.01.30 @ 18:29:40

Job Ticket #: 65283                      DST #: 3

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

Printed: 2019.01.31 @ 14:00:13



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Bickle Energy LLC.

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

P.O. Box 816  
Hays KS 67601

**A.B. Fisher #14-1**

Job Ticket: 65283

**DST#: 3**

ATTN: Kieth Reavis

Test Start: 2019.01.30 @ 09:29:00

## GENERAL INFORMATION:

Formation: **Pawnee**

Deviated: No Whipstock: 0.00 ft (KB)

Time Tool Opened: 11:45:40

Time Test Ended: 18:29:40

Test Type: Conventional Bottom Hole (Reset)

Tester: Ryan Nichols

Unit No: 71

**Interval: 4620.00 ft (KB) To 4652.00 ft (KB) (TVD)**

Reference Elevations: 3377.00 ft (KB)

Total Depth: 4652.00 ft (KB) (TVD)

3372.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

**Serial #: 8366 Outside**

Press@RunDepth: 785.32 psig @ 4621.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2019.01.30

End Date:

2019.01.30

Last Calib.:

2019.01.30

Start Time: 09:29:01

End Time:

18:29:40

Time On Btm:

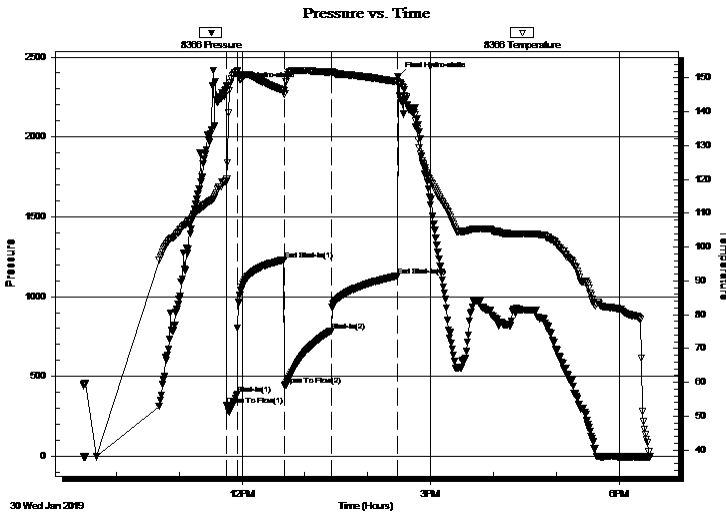
2019.01.30 @ 11:45:20

Time Off Btm:

2019.01.30 @ 14:29:00

**TEST COMMENT:** 10 IF - BoB @ 50 seconds  
45 ISI - BoB @ 10 mins  
45 FF - BoB @ 1min gas to surface @ 40 mins  
60 FSI - BoB @ 8 mins

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2317.38	119.49	Initial Hydro-static
1	321.04	120.07	Open To Flow (1)
11	389.65	151.92	Shut-In(1)
55	1230.04	146.33	End Shut-In(1)
56	444.61	145.18	Open To Flow (2)
100	785.32	151.68	Shut-In(2)
164	1129.20	148.88	End Shut-In(2)
164	2377.49	148.15	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
120.00	MCW - 20%M - 80%W	0.59
1880.00	GO - 40%G - 60%o	26.37
0.00	2500' GIP	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 Energy LLC.

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

P.O. Box 816  
Hays KS 67601

**A.B. Fisher #14-1**

Job Ticket: 65283

**DST#: 3**

ATTN: Kieth Reavis

Test Start: 2019.01.30 @ 09:29:00

## Tool Information

Drill Pipe:	Length: 4505.00 ft	Diameter: 3.80 inches	Volume: 63.19 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 120.00 ft	Diameter: 2.25 inches	Volume: 0.59 bbl	Weight to Pull Loose: 90000.00 lb
			<u>Total Volume: 63.78 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	33.00 ft			String Weight: Initial 66000.00 lb
Depth to Top Packer:	4620.00 ft			Final 80000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	32.00 ft			
Tool Length:	60.00 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			4597.00	
Hydraulic tool	5.00			4602.00	
Jars	5.00			4607.00	
Safety Joint	3.00			4610.00	
Packer	5.00			4615.00	28.00 Bottom Of Top Packer
Packer	5.00			4620.00	
Stubb	1.00			4621.00	
Recorder	0.00	8353	Inside	4621.00	
Recorder	0.00	8366	Outside	4621.00	
Perforations	28.00			4649.00	
Bullnose	3.00			4652.00	32.00 Bottom Packers & Anchor

**Total Tool Length: 60.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Bickle Energy LLC.

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

P.O. Box 816  
Hays KS 67601

**A.B. Fisher #14-1**

Job Ticket: 65283

**DST#: 3**

ATTN: Kieth Reavis

Test Start: 2019.01.30 @ 09:29:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

34.5 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 54.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.60 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
120.00	MCW - 20%M - 80%W	0.590
1880.00	GO - 40%G - 60%o	26.371
0.00	2500' GIP	0.000

Total Length: 2000.00 ft      Total Volume: 26.961 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

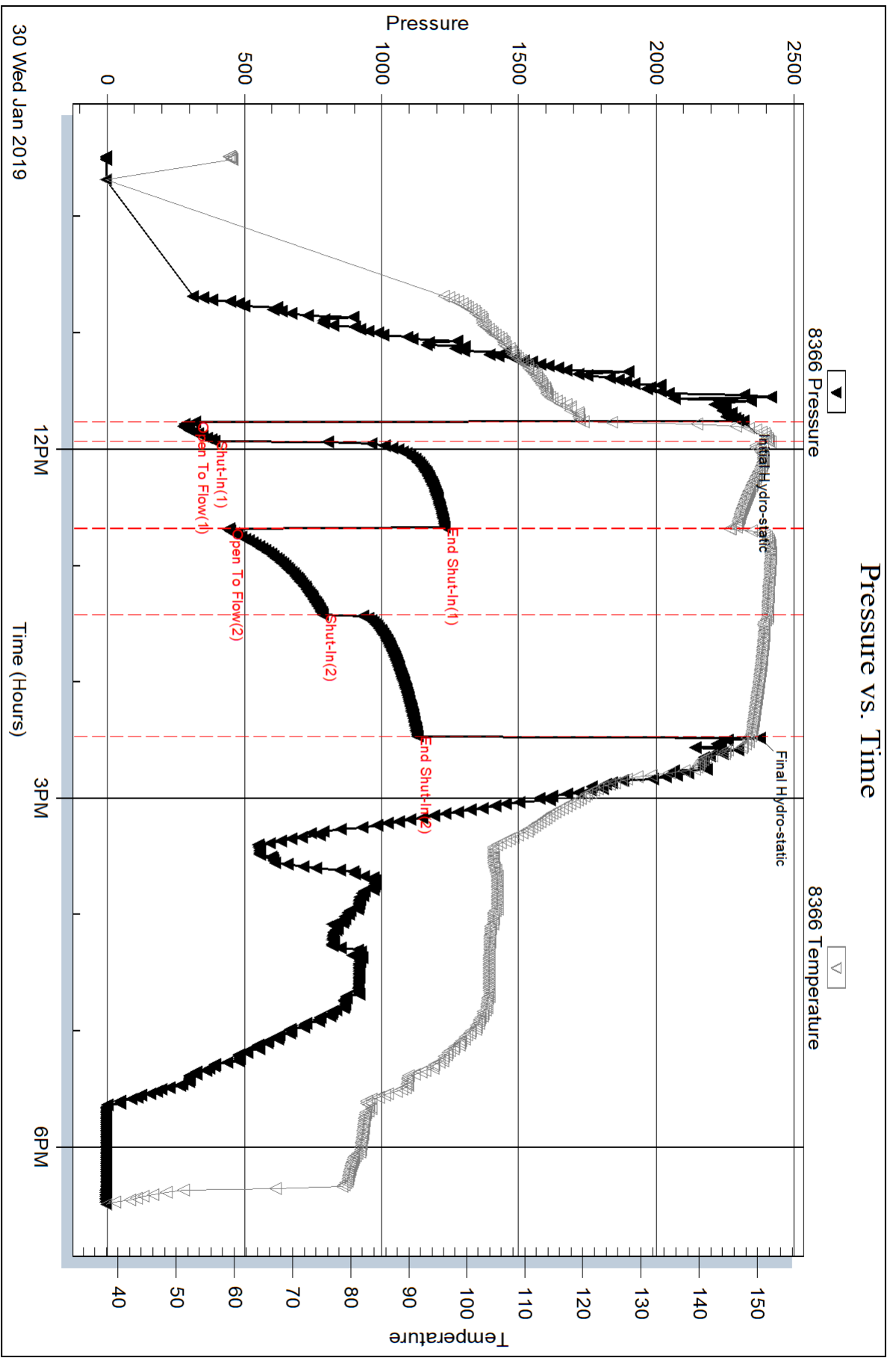
Laboratory Name:

Laboratory Location:

Recovery Comments: Gravity = 33 @ 45 DEG F = 34.5 COR 60 DEG F

RW = .268 @ 29 DEG F

Chlorides = 66,000 ppm





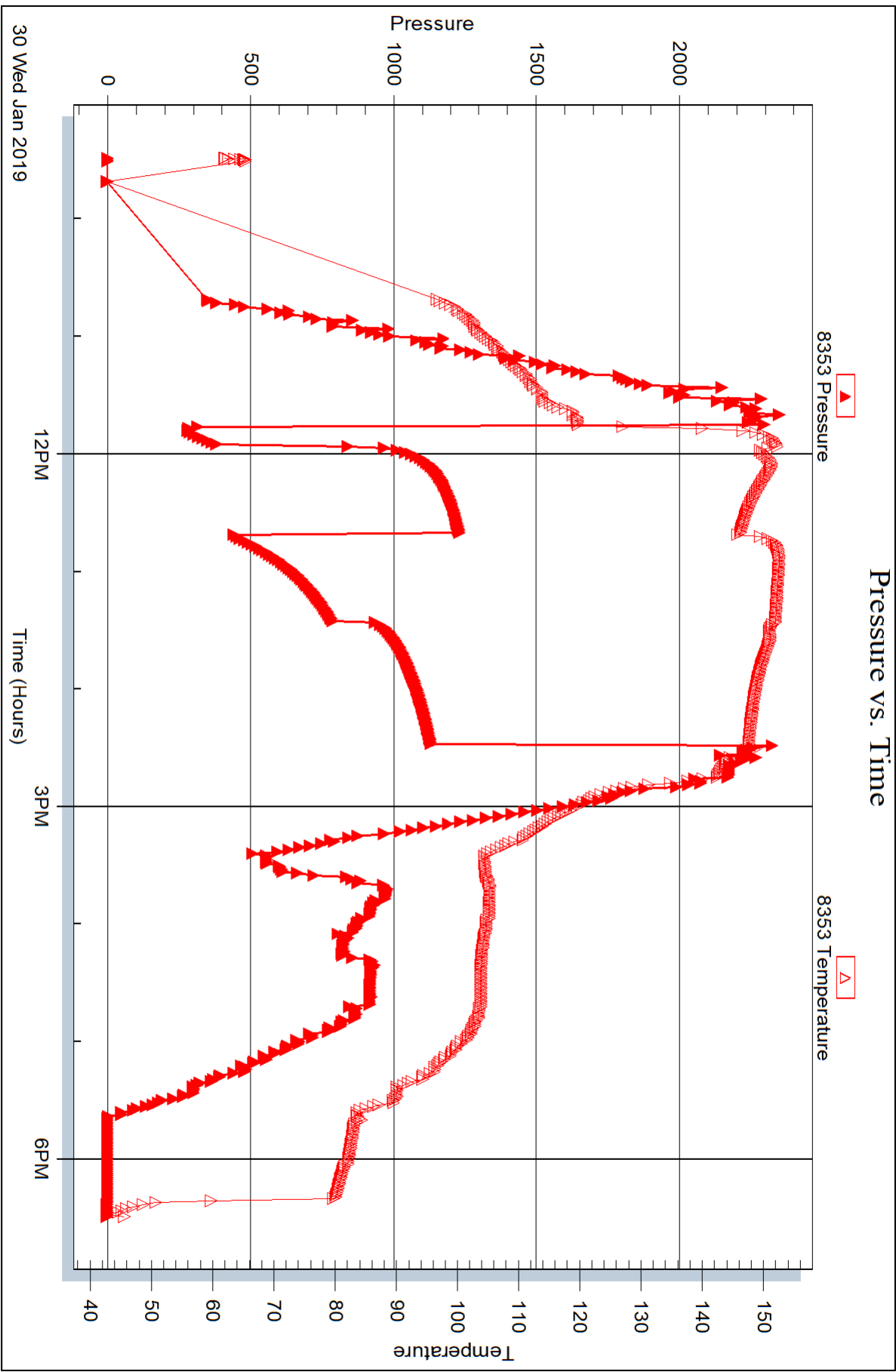
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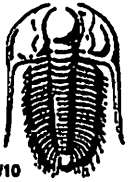
Inside

Bickle Energy LLC.

A.B. Fisher #14-1

DST Test Number: 3





# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 65281

Well Name & No. A.B. Fisher #14-1 Test No. 1 Date 1/27/19  
 Company Bickle Energies LLC. Elevation 3377 KB 3372 GL  
 Address P.O. Box 816 Hays KS 67601  
 Co. Rep / Geo. Keith Keavis Rig WW #10  
 Location: Sec. 14 Twp 55 Rge. 37W Co. Cherokee State KS

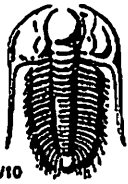
Interval Tested 4200' - 4262' Zone Tested Toronto - LKC "A"  
 Anchor Length 62' Drill Pipe Run 4063' Mud Wt. 8.9  
 Top Packer Depth 4195' Drill Collars Run 120' Vls 54  
 Bottom Packer Depth 4200' Wt. Pipe Run 0' WL 7.2  
 Total Depth 4262' Chlorides 500 ppm System LCM 2  
 Blow Description 10 IF - Slide 6' blow built to 3"  
60 ISI - No return  
45 FF - Blow built to 2"  
60 FSI - No return

Rec	Feet of	%gas	%oil	%water	%mud
<u>2'</u>	<u>Oil</u>	<u>100</u>			
<u>120'</u>	<u>OCM</u>	<u>10</u>		<u>90</u>	

Rec Total 122' BHT 123° Gravity 18.5 COR 60°F API RW — @ —° F Chlorides — ppm

(A) Initial Hydrostatic <u>2060</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>23:30</u>
(B) First Initial Flow <u>32</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>00:19</u>
(C) First Final Flow <u>42</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>06:00</u>
(D) Initial Shut-In <u>1254</u>	<input type="checkbox"/> Circ Sub	T-Pulled <u>08:58</u>
(E) Second Initial Flow <u>44</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>10:40</u>
(F) Second Final Flow <u>71</u>	<input type="checkbox"/> Mileage <u>124 RT</u> 124	Comments <u>Tripped 3/4 way</u>
(G) Final Shut-In <u>1151</u>	<input type="checkbox"/> Sampler	<u>out pulled tight went in</u>
(H) Final Hydrostatic <u>2001</u>	<input type="checkbox"/> Straddle	<u>&amp; reconditioned</u>
Initial Open <u>10</u>	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> EM Tool
Initial Shut-In <u>60</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Ruined Shale Packer
Final Flow <u>45</u>	<input type="checkbox"/> Extra Recorder	<input type="checkbox"/> Ruined Packer
Final Shut-In <u>60</u>	<input type="checkbox"/> Day Standby	Sub Total <u>0</u>
	<input type="checkbox"/> Accessibility	Total <u>1599</u>
	Sub Total <u>1599</u>	MP/DST Disc't

Approved By \_\_\_\_\_ Our Representative Keith Keavis  
 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. 65282

Well Name & No. A. B. Fisher #14-1 Test No. 2 Date 1/29/19  
 Company Bickle Energy LLC. Elevation 3377 KB 3372 GL  
 Address P.O. Box 816 Hays KS 67601  
 Co. Rep / Geo. Keith Reavis Rig WW #10  
 Location: Sec. 14 Twp 55 Rge. 37W Co. Cheyenne State KS

Interval Tested 4380 - 4462 Zone Tested LKC "H-J"  
 Anchor Length 82' Drill Pipe Run 4252' Mud Wt. 9.3  
 Top Packer Depth 4375 Drill Collars Run 120' Vis 50  
 Bottom Packer Depth 4380 Wt. Pipe Run 0' WL 7.5  
 Total Depth 4462 Chlorides 500 ppm System LCM 2  
 Blow Description 10 IF - Blow built to 1"  
60 ISI - Weak surface blow  
35 FF - Blow built to 1"  
5 FSI - No return

Rec	Feet of	%gas	%oil	%water	%mud
<u>15'</u>	<u>Mud w/ trace oil</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 Total 15' BHT 124° Gravity — API RW ← @ — ° F Chlorides — ppm

(A) Initial Hydrostatic <u>2197</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>07:30</u>
(B) First Initial Flow <u>17</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>08:51</u>
(C) First Final Flow <u>21</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>10:51</u>
(D) Initial Shut-In <u>1295</u>	<input type="checkbox"/> Circ Sub	T-Pulled <u>12:44</u>
(E) Second Initial Flow <u>23</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>14:00</u>
(F) Second Final Flow <u>33</u>	<input checked="" type="checkbox"/> Mileage <u>124 RT</u> 124	Comments
(G) Final Shut-In <u>55</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>2156</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> EM Tool
Initial Open <u>10</u>	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Shale Packer
Initial Shut-In <u>60</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Ruined Packer
Final Flow <u>35</u>	<input type="checkbox"/> Extra Recorder	<input type="checkbox"/> Extra Copies
Final Shut-In <u>5</u>	<input type="checkbox"/> Day Standby	Sub Total <u>0</u>
	<input type="checkbox"/> Accessibility	Total <u>1599</u>
	Sub Total <u>1599</u>	MP/DST Disc't

Approved By \_\_\_\_\_ Our Representative Keith Reavis

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 65283

Well Name & No. A.B Fisher #14-1 Test No. 3 Date 1/30/19  
 Company Bickle Energy LLC Elevation 3377 KB 3372 GL  
 Address P.O. Box 816 Hays KS 67601  
 Co. Rep / Geo. Keith Reavis Rig WW #10  
 Location: Sec. 14 Twp 55 Rge. 37W Co. Cheyenne State KS

Interval Tested 4620 - 4652 Zone Tested Pawnee  
 Anchor Length 32' Drill Pipe Run 4505 Mud Wt. 9.3  
 Top Packer Depth 4615 Drill Collars Run 120' Vis 54  
 Bottom Packer Depth 4620 Wt. Pipe Run 0' WL 7.6  
 Total Depth 4652 Chlorides 500 ppm System LCM 2

Blow Description 10 IF - BoB @ 50 seconds  
45 ISI - BoB @ 10 mins  
45 FF - BoB @ 1 min gas to surface @ 40 mins  
60 FSI - BoB @ 8 mins

Rec	Feet of	%gas	%oil	%water	%mud
<u>1880</u>	<u>GO</u>	<u>40</u>	<u>60</u>		
<u>120</u>	<u>MCW</u>		<u>80</u>	<u>20</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 2000 BHT 128 Gravity 34.5 @ 60°F API RW 268 @ 29 °F Chlorides 66,000 ppm

(A) Initial Hydrostatic 2317  
 (B) First Initial Flow 321  
 (C) First Final Flow 390  
 (D) Initial Shut-In 1230  
 (E) Second Initial Flow 445  
 (F) Second Final Flow 785  
 (G) Final Shut-In 1129  
 (H) Final Hydrostatic 2378

Initial Open 10  
 Initial Shut-in 45  
 Final Flow 45  
 Final Shut-in 60

Test 1150  
 Jars 250  
 Safety Joint 75  
 Circ Sub used 50  
 Hourly Standby  
 Mileage 124 RT 124  
 Sampler  
 Straddle  
 Shale Packer  
 Extra Packer  
 Extra Recorder  
 Day Standby  
 Accessibility  
 Sub Total 1649

T-On Location 09:00  
 T-Started 09:29  
 T-Open 11:45  
 T-Pulled 14:28  
 T-Out 18:45  
 Comments 2500' GIP  
 EM Tool  
 Ruined Shale Packer  
 Ruined Packer  
 Extra Copies  
 Sub Total 0  
 Total 1649  
 MP/DST Disc't

Approved By \_\_\_\_\_ Our Representative Keith Reavis

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# QUALITY OILWELL CEMENTING, INC.

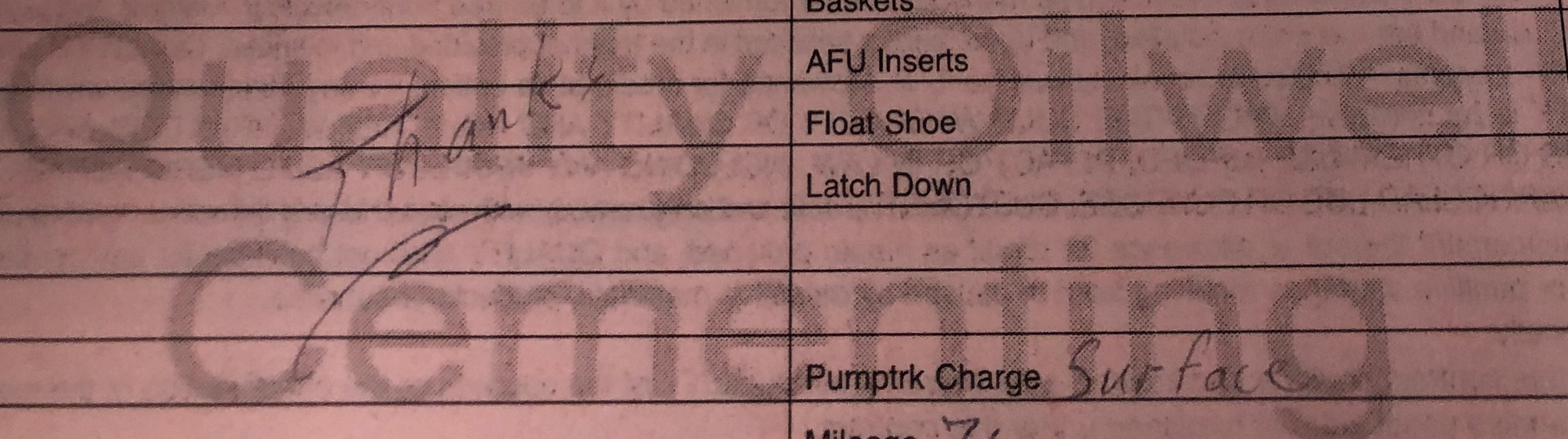
Federal Tax I.D.# 20-2886107

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

No. 1207

Phone 785-483-2025  
785-324-1041

Date	1-23-19	Sec.	Twp.	Range	County	State	On Location	Finish
					Challenge	KS		9:15 PM
Lease	A.B. Fisher				Location	D. 29 15 N 10 C 34 30 D 1 1/2 W		
Contractor	W.W. #10				Well No.	14-1		
Type Job	Surface				Owner To Quality Oilwell Cementing, Inc. You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.			
Hole Size	12 1/4	T.D.	367			Charge To		
Csg.	8 5/8	Depth	346			BICKLE ENGINERS		
Tbg. Size		Depth				Street		
Tool		Depth				City		
Cement Left in Csg.	15'	Shoe Joint				State		
Meas Line		Displace	22.36			The above was done to satisfaction and supervision of owner agent or contractor.		
<b>EQUIPMENT</b>				Cement Amount Ordered				
Pumptrk	17	No.	Cementor	250 8/10 3/cc 2% gel				
			Helper	1/4 # F10				
Bulktrk		No.	Driver	Common 200				
			Driver	Poz. Mix 50				
Bulktrk	9	No.	Driver	Gel. 5				
			Driver	Calcium 9				
<b>JOB SERVICES &amp; REMARKS</b>				Hulls				
Remarks:				Salt				
at Hole				Flowseal 125 #				
ouse Hole				Kol-Seal				
entralizers				Mud CLR 48				
askets				CFL-117 or CD110 CAF 38				
/ or Port Collar				Sand				
8 5/8 on bottom. EST. Completion				Handling 265				
1 1/4 750 SA 1 Displace				Mileage				
Environ. Completed				<b>FLOAT EQUIPMENT</b>				
				Guide Shoe				
				Centralizer				
				Baskets				
				AFU Inserts				
				Float Shoe				
				Latch Down				
				Pumptrk Charge Surface				
				Mileage 71				
				Tax				
				Discount				
				Total Charge				





# QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

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

No. 1215

85-483-2025  
15-324-1041

Date	2-1-19	Sec.	14	Twp.	5	Range	37	County	Cherokee	State	KS	On Location		Finish	10:30 AM
Location													Brewster N Curve 3w 34 31 D 1w 1/2		

Lease A.B. Fisher Well No. 14-1

Contractor W W #10

Type Job Production String

Hole Size 7 7/8 T.D. 4960

Csg. 5 1/2 1550\* Depth 4779

Tbg. Size \_\_\_\_\_ Depth \_\_\_\_\_

Tool \_\_\_\_\_ Depth \_\_\_\_\_

Cement Left in Csg. 32.49 Shoe Joint 3249

Meas Line \_\_\_\_\_ Displace 113BL

Owner  
To Quality Oilwell Cementing, Inc.  
You are hereby requested to rent cementing equipment and furnish  
cementer and helper to assist owner or contractor to do work as listed.

Charge To Bickle Energy

Street \_\_\_\_\_ State \_\_\_\_\_

City \_\_\_\_\_

The above was done to satisfaction and supervision of owner agent or contractor.

Cement Amount Ordered 460 80/20 QMDC 14710

225 QP10-C 500gal mud clear 20BL KCL

**EQUIPMENT**

Pumptrk	7	No.	Cementer	<u>Conig</u>
			Helper	<u>Brett</u>
Bulktrk	19	No.	Driver	<u>Tom</u>
Bulktrk	9	No.	Driver	<u>Jack</u>

**JOB SERVICES & REMARKS**

Remarks:

Rat Hole 30SK

Mouse Hole \_\_\_\_\_

Centralizers \_\_\_\_\_

Baskets \_\_\_\_\_

D/V or Port Collar \_\_\_\_\_

5 1/2 septo 4779. Balled 4746.50  
Est. Circulation 200 min \*  
Set Packer shoe Circulate 1 hr.  
Pump 500gal mud clear + 20BL KCL.  
Plug Rathole. Cement 5 1/2 with  
655SK. Clear lines + Displace Plug.  
Plug did not land. Pressure fall  
back to 500\*. Shut head in.

Poz. Mix	
Gel.	
Calcium	
Hulls	
Salt	
Flowseal	
Kol-Seal	
Mud CLR 48	
CFL-117 or CD110 CAF 38	
Sand	
Handling	
Mileage	
<b>FLOAT EQUIPMENT</b>	
Guide Shoe	
Centralizer	<u>7</u>
Baskets	<u>4</u>
AFU Inserts	
Floor Shoe	<u>Packer Shoe</u>
Latch Down	<u>L</u>

Pumptrk Charge

Mileage

Tax

Discount

Total Charge

X Signature

*[Handwritten Signature]*