

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	Younger Energy Company
Well Name	ZACKARY 1-2
Doc ID	1347753

Tops

Name	Top	Datum
Iatan	2429	-1127
Kansas City	2751	-1449
Stark	2861	-1559
Swope	2865	-1563
Hertha	2900	-1598
Base KC	2948	-1646
Marmaton	3036	-1734
Cherokee	3201	-1899
Mississippian	3294	-1992
Kinderhook	3618	-2316
Simpson Sand	3697	-2395
Arbuckle	3761	-2459

COPELAND

Acid & Cement

BURRTON, KS ♦ GREAT BEND, KS
 (620) 463-5161 (620) 793-3366
 FAX (620) 463-2104 FAX (620)

POST OFFICE BOX 438
 HAYSVILLE, KS 67060
 (316) 524-1225
 (316) 524-1027 FAX

Invoice

Page: 1

RECEIVED FEB 14 2017

INVOICE NUMBER:
C44625-IN

BILL TO:
 YOUNGER ENERGY CO.
 9415 E. HARRY ST, STE. 403
 BUILDING 400
 WICHITA, KS 67207-5083

LEASE: ZACKARY 1-2

DATE	ORDER	SALESMAN	ORDER DATE	PURCHASE ORDER	SPECIAL INSTRUCTIONS	
01/31/2017	C44625		01/28/2017		NET 30	
QUANTITY	U/M	ITEM NO./DESCRIPTION		D/C	PRICE	EXTENSION
		1/28/17 - CONDUCTOR PIPE				
50.00	MI	MILEAGE CEMENT PUMP TRUCK		0.00	4.00	200.00
50.00	MI	MILEAGE PIPE TRUCK		0.00	2.00	100.00
1.00	EA	CEMENT PUMP CHARGE - SURFACE		0.00	1,100.00	1,100.00
125.00	SK	60/40 POZ 2% GEL MIX		0.00	10.75	1,343.75
7.00	SK	CALCIUM CHLORIDE		0.00	30.00	210.00
132.00	EA	BULK CHARGE		0.00	1.25	165.00
284.00	MI	BULK TRUCK - TON MILES		0.00	1.10	312.40
REMIT TO:		COP		Net Invoice:		3,431.15
P.O. BOX 438 HAYSVILLE, KS 67060		FUEL SURCHARGE IS NOT TAXABLE AND IS ADDED TO MILEAGE, PUMP AND OR DELIVERY CHARGES ONLY.		SEDCO Sales Tax:		82.50
RECEIVED BY		NET 30 DAYS		Invoice Total:		<u>3,513.65</u>

*1180211
 Cement conductor pipe w/ 125 5x5
 60/40 poz, 2% gel, 3% cc*

DR

There will be a charge of 1.5% "per month" (18% annual rate) on all accounts over 30 days pas

Copeland Acid & Cement is a subsidiary of Gressel Oil Field Service

Gressel Oil Field Service reserves a security interest in the goods sold until the same are paid for in full and reserve all the rights of a secured party under the Uniform Commercial Code.

*Zackary
 2/14/17*

DR

COPELAND

Acid & Cement

BURRTON, KS (620) 463-5161
 GREAT BEND, KS (620) 793-3366
 FAX (620) 463-2104 FAX (620)

POST OFFICE BOX 438
 HAYSVILLE, KS 67060
 (316) 524-1225
 (316) 524-1027 FAX

Invoice

Page: 1

RECEIVED FEB 14 2017

INVOICE NUMBER:
C44626-IN

BILL TO:
 YOUNGER ENERGY CO.
 9415 E. HARRY ST, STE. 403
 BUILDING 400
 WICHITA, KS 67207-5083

LEASE: ZACKARY 1-2

DATE	ORDER	SALESMAN	ORDER DATE	PURCHASE ORDER	SPECIAL INSTRUCTIONS	
01/31/2017	C44626		01/29/2017		NET 30	
QUANTITY	U/M	ITEM NO./DESCRIPTION		D/C	PRICE	EXTENSION
		1/29/17 - SURFACE PIPE				
50.00	MI	MILEAGE CEMENT PUMP TRUCK		0.00	4.00	200.00
50.00	MI	MILEAGE PICKUP TRUCK		0.00	2.00	100.00
1.00	EA	CEMENT PUMP CHARGE - SURFACE		0.00	1,100.00	1,100.00
275.00	SK	60/40 POZ 2% GEL MIX		0.00	10.75	2,956.25
15.00	SK	CALCIUM CHLORIDE		0.00	30.00	450.00
290.00	EA	BULK CHARGE		0.00	1.25	362.50
624.00	MI	BULK TRUCK - TON MILES		0.00	1.10	686.40
		<i>+180211 Cement surface pipe w/275 5x5 60/40 poz, 2% gel, 3% cc</i>				
REMIT TO:		COP		Net Invoice:		5,855.15
P.O. BOX 438 HAYSVILLE, KS 67060		FUEL SURCHARGE IS NOT TAXABLE AND IS ADDED TO MILEAGE, PUMP AND OR DELIVERY CHARGES ONLY.		SEDCO Sales Tax:		82.50
RECEIVED BY _____		NET 30 DAYS		Invoice Total:		5,937.65

There will be a charge of 1.5% "per month" (18% annual rate) on all accounts over 30 days pas

Copeland Acid & Cement is a subsidiary of Gressel Oil Field Service

Gressel Oil Field Service reserves a security interest in the goods sold until the same are paid for in full and reserve all the rights of a secured party under the Uniform Commercial Code.

Zackary

OPERATOR

Company: Younger Energy Company
 Address: 9415 E. Harry
 Bldg. 400 Suite 403
 Wichita, KS 67207

Contact Geologist:
 Contact Phone Nbr: 316-681-2542
 Well Name: Zackary #1-2
 Location: Sec. 2 - T29S - R1W
 API: 15-173-21047-0000
 Pool:
 State: Kansas

Field: Wildcat
 Country: USA



Scale 1:240 Imperial

Well Name: Zackary #1-2
 Surface Location: Sec. 2 - T29S - R1W
 Bottom Location:
 API: 15-173-21047-0000
 License Number: 30705
 Spud Date: 1/28/2017 Time: 4:00 PM
 Region: Sedgwick
 Drilling Completed: 2/5/2017 Time: 1:55 PM
 Surface Coordinates: 2270' FNL & 1100' FEL
 Bottom Hole Coordinates:
 Ground Elevation: 1292.00ft
 K.B. Elevation: 1302.00ft
 Logged Interval: 2400.00ft To: 3767.00ft
 Total Depth: 3767.00ft
 Formation: Arbuckle
 Drilling Fluid Type: Chemical/Fresh Water Gel

SURFACE CO-ORDINATES

Well Type: Vertical
 Longitude: -97.39247
 Latitude: 37.557952
 N/S Co-ord: 2270' FNL
 E/W Co-ord: 1100' FEL

LOGGED BY

Keith Reavis
Consulting Geologist

Company: Keith Reavis, Inc.
 Address: 3420 22nd Street
 Great Bend, KS 67530

Phone Nbr: 620-617-4091
 Logged By: KLG #136

Name: Keith Reavis

CONTRACTOR

Contractor: EC Services, LLC
 Rig #: 6
 Rig Type: mud rotary
 Spud Date: 1/28/2017 Time: 4:00 PM
 TD Date: 2/5/2017 Time: 1:55 PM
 Rig Release: Time:

ELEVATIONS

ELEVATIONS

K.B. Elevation: 1302.00ft
K.B. to Ground: 10.00ft

Ground Elevation: 1292.00ft

NOTES

Due to negative drill stem tests in the Simpson Sand and no other test-worthy formations, it was decided that the Zackary #1-2 be plugged and abandoned as a dry test.

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

Respectfully submitted,
Keith Reavis


Younger Energy Company daily drilling report

DATE	7:00 AM DEPTH	REMARKS
02/01/2017	2163	Geologist Keith Reavis on location @ 1200 hrs, 2332 ft, displacing mud, drill ahead, Iatan, KC lime
02/02/2017	2942	drilling KC, Stark, Swope, Hertha, BKC, Marmaton, Cherokee
02/03/2017	3394	drilling ahead, Mississippian, Kinderhook
02/04/2017	3711	drilling Simpson sand, show warrants test, short trip, strap out, TIH w/tools conduct and complete DST #1, successful test, TIH w/bit, show in B sand warrants test, conducting DST #2
02/05/2017	3734	complete DST #2, successful test, TIH w/bit, resume drilling, lower Simpson and Arbuckle, cfs, orders to P&A, geologist off location @ 1445 hrs

Younger Energy Company well comparison sheet

DRILLING WELL					COMPARISON WELL				COMPARISON WELL			
Well #					Slawson - Blood F #1				E.F. Adair - Blood #1			
2270' FNL & 1100' FEL					SE SE SE				NW NW SE			
Sec 2 - T29S - R1W					Sec 2 - T29S - R1W				Sec 2 - T29S - R1W			
1302 KB					1294 KB		Structural Relationship		1299 KB		Structural Relationship	
Formation	Sample	Sub-Sea	Log	Sub-Sea	Log	Sub-Sea	Sample	Log	Log	Sub-Sea	Sample	Log
Iatan	2429	-1127			2430	-1136	9		2451	-1152	25	
Kansas City	2751	-1449			2752	-1458	9		2768	-1469	20	
Stark	2861	-1559			2861	-1567	8					
Swope	2865	-1563			2868	-1574	11		2858	-1564	1	
Hertha	2900	-1598			2902	-1608	10		2920	-1626	28	
Base KC	2948	-1646			2948	-1654	8		2964	-1670	24	
Marmaton	3036	-1734			3036	-1742	8					
Cherokee	3201	-1899			3200	-1906	7					
Mississippian	3294	-1992			3280	-1986	-6		3305	-2011	19	
Kinderhook	3618	-2316			3606	-2312	-4		3642	-2348	32	
Simpson Sand	3697	-2395			3678	-2384	-11		3707	-2413	18	
Arbuckle	3761	-2459			3746	-2452	-7					
Total Depth	3767	-2465			3779	-2485	20		3757	-2463	-2	

Drill Stem Test #1

	DRILL STEM TEST REPORT	
	YOUNGER ENERGY COMPANY 9415 EAST HARRY SUITE 403 WICHITA, KANSAS 67207-5083 ATTN: KEITH REAVIS	2-29S-1W SEDGWICK ZACKARY 1-2 Job Ticket 01145 DST#:1 Test Start: 2017.02.04 @ 08:36:00

GENERAL INFORMATION:

Formation: **SIMPSON**
 Deviated: No Whipstock ft (KB)
 Time Tool Opened: 11:50:00
 Time Test Ended: 14:00:00

Test Type: Conventional Bottom Hole (Initial)
 Tester: GENE BUDIG
 Unit No: 1 135

Interval: **3613.00 ft (KB) To 3711.00 ft (KB) (TVD)**
 Total Depth: 3711.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches -hole Condition: Fair

Reference Elevations: 1302.00 ft (KB)
 1292.00 ft (CF)
 KB to GR/CF: 10.00 ft

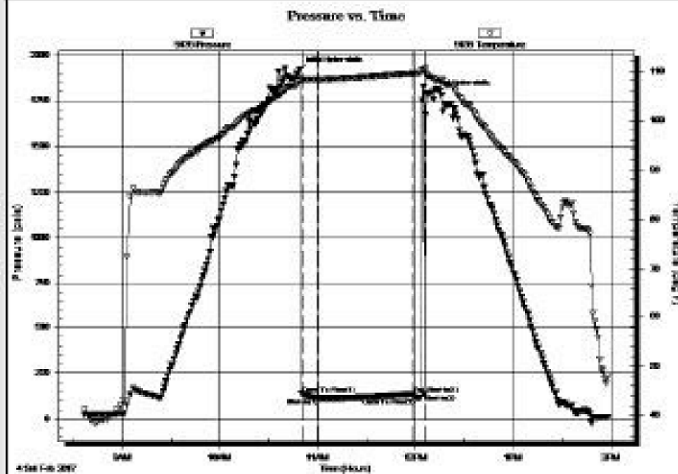
Serial #: 9139

Inside

Press@RunDepth: 134.55 psia @ 3706.03 ft (KB)
 Start Date: 2017.02.04 End Date: 2017.02.04
 Start Time: 08:37:00 End Time: 13:58:00

Capacity: 5000.00 psia
 Last Calb.: 2017.02.04
 Time On Btm: 2017.02.04 @ 10:49:00
 Time Off Btm: 2017.02.04 @ 12:08:00

TEST COMMENT: 1ST OPENING 10 MINUTES VERY WEAK SURFACE BLOW FOR 8 MINUTES AND DIED
 1ST SHUT-IN 60 MINUTES NNO BLOW BACK
 2ND OPENING 15 MINUTES NO BLOW-FLUSHED TOOL-GOOD SURGE-NO HELP
 2ND SHUT-IN NONE TAKEN



PRESSURE SUMMARY

Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1918.58	108.35	Initial Hydro-static
2	135.76	108.12	Open To Flow (1)
12	112.03	108.23	Shut-In(1)
70	134.55	109.42	End Shut-In(1)
71	116.33	109.45	Open To Flow (2)
77	135.54	109.66	Shut-In(2)
79	1788.48	108.85	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
10.00	DRILLING MUD	0.14

Gas Rates

Choke (inches)	Pressure (psia)	Gas Rate (M d/d)

Drill Stem Test #2



DRILL STEM TEST REPORT

YOUNGER ENERGY COMPANY
 9415 EAST HARRY SUITE 403
 WICHITA, KANSAS 67207-5083
 ATTN: KEITH REAVIS

2-29S-1W SEDGWICK
ZACKARY 1-2
 Job Ticket: 01146 **DST#:2**
 Test Start: 2017.02.04 @ 21:29:00

GENERAL INFORMATION:

Formation: **SIMPSON B**
 Deviated: No Whipstock ft (KB)
 Time Tool Opened: 23:28:00
 Time Test Ended: 06:27:00

Test Type: Conventional Bottom Hole (Initial)
 Tester: GENE BUDIG
 Unit No: 1

Interval: **3614.00 ft (KB) To 3734.00 ft (KB) (TVD)**
 Total Depth: 3734.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches -hole Condition: Fair

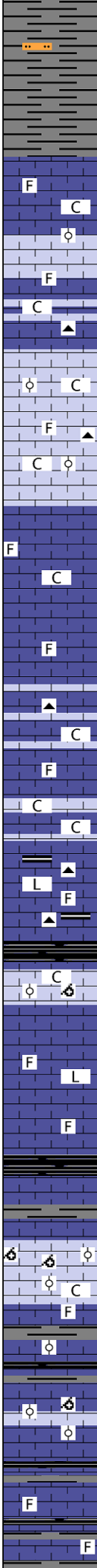
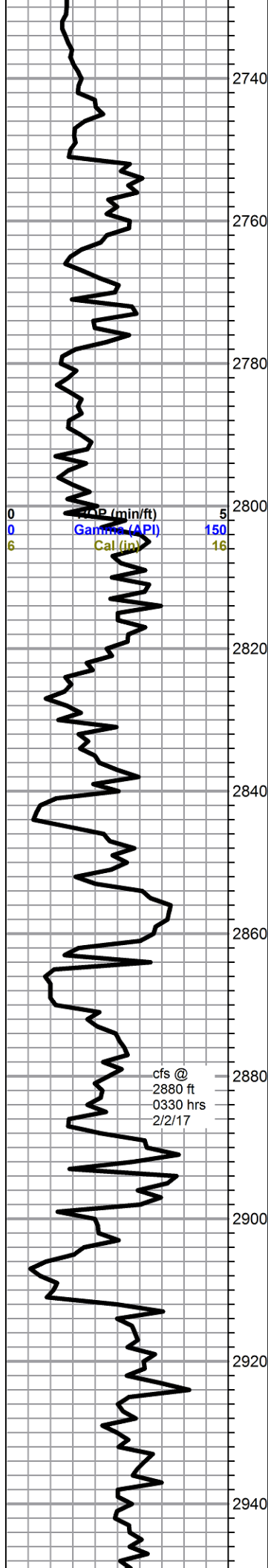
Reference Elevations: 1302.00 ft (KB)
 1292.00 ft (CF)
 KB to GR/CF: 10.00 ft

Serial #: 9139

Inside

Press@RunDepth: 1467.83 psia @ 3729.04 ft (KB)

Capacity: 5000.00 psia



Kansas City 2751 -1449

limestone, light gray to tan, crypto-microcrystalline, fossiliferous, some grainy, poor visible porosity, no shows

grades to: limestone, white, cream and light gray, microcrystalline, fossiliferous, to oolitic, grainy in part, chalky in part, moderate chalk in samples, no shows

a.a., influx gray oolitic cherts

a.a., grainier, chalkier

limestone, light gray to gray and cream, micro-cryptocrystalline, fossiliferous, some large clasts, dense, no visible porosity, no shows, still carrying moderate chalk in samples

limestone, mixed, light gray to cream, with light yellow cast, grainy fossiliferous, chalky, to dense cryptocrystalline fossiliferous, moderate chalk, some scattered gray fossiliferous cherts, no shows

a.a., with increase chalk

limestone, light brown to gray, cryptocrystalline, fossiliferous, dense, abundant dense black shale, black chert, gray chert, no shows

Stark Shale 2861 -1559

shale, black carbonaceous

SWOPE LS limestone, light gray to cream, fine grainy oolitic with some scattered oomoldic, some pinpoint porosity and oomold porosity, abundant chalk, some scattered gray frosted chert, no shows dull green fluorescence, no odor

limestone, variable gray, mixed cryptocrystalline sub-lithographic to fossiliferous and grainy fossiliferous, chalky to dense, no shows

shale, black carbonaceous

Hertha 2900 -1598

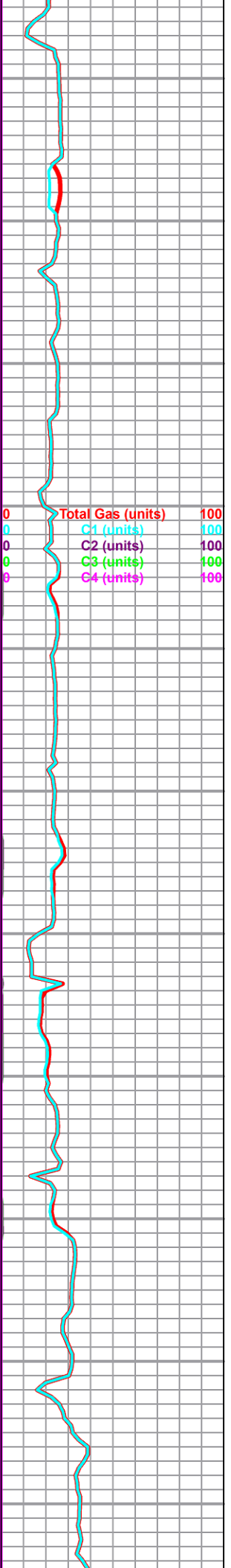
limestone, light gray to cream, fine grainy oolitic to sub-oomoldic, small fragments large oomoldic, some fair porosity, barren, no odor, some scattered fair bright fluorescence, abundant chalk

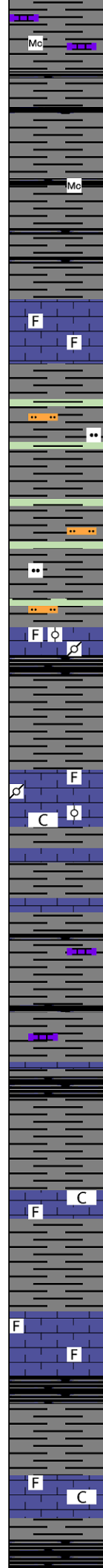
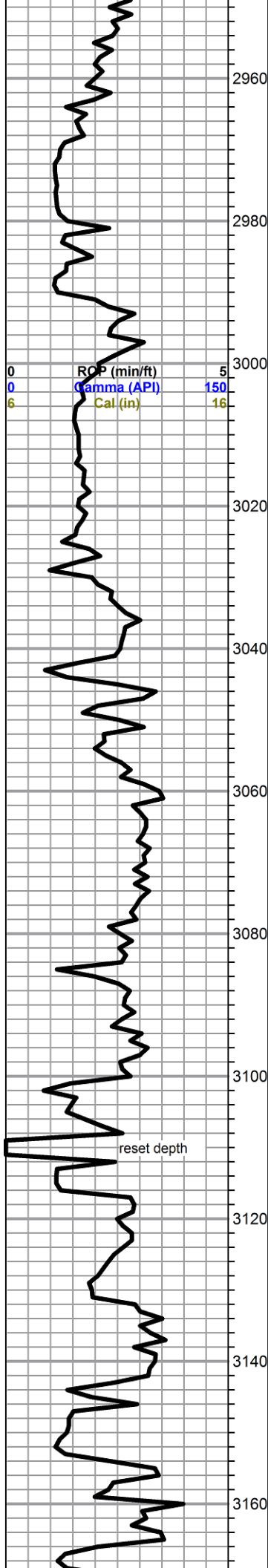
limestone, mixed gray and cream, fossiliferous, grainy, some oolitic, abundant black and gray shales, some chalk

mixed limestone with cream oolitic to oomoldic, some good porosity, barren, some chalk

limestones a.a. with influx dense gray to tan, mottled fossiliferous, abundant black and gray shales, no show

Base KC 2948 -1646





shale, mixed gray and black, some micaceous, fine cuttings, carrying abundant fine white cream and gray limestones, grainy, chalky (from above?)

increasing shale, heavy gray wash

limestone, cream to light gray, microcrystalline, grainy, chalky fossiliferous, with tan, cryptocrystalline, fossiliferous, dense, no shows

shale, gray black and pale green, silty in part, some pale green siltstones

Marmaton 3036 -1734

limestone, light gray to cream, chalky pelletal, microcrystalline, oolitic, crypto-microcrystalline, dense, poor porosity, brown, cryptocrystalline, dense fossiliferous, no shows

limestone, white to cream, cryptocrystalline, fossiliferous, trace pelletal and oolitic, mostly chalky, some dense gray, sub-lithographic, no visible porosity, no shows

shale, gray, black/brittle and lavender, with smooth compact shaley limestone, lavender, dense

limestone, brown, dense, fossiliferous

shale, black carbonaceous

mixed black and gray shales

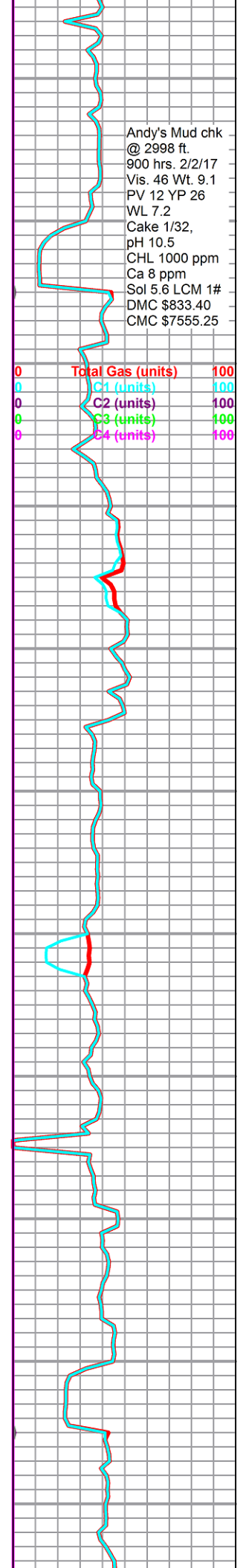
limestone, cream to light gray, chalky, fossiliferous, with olive chert, abundant chalk

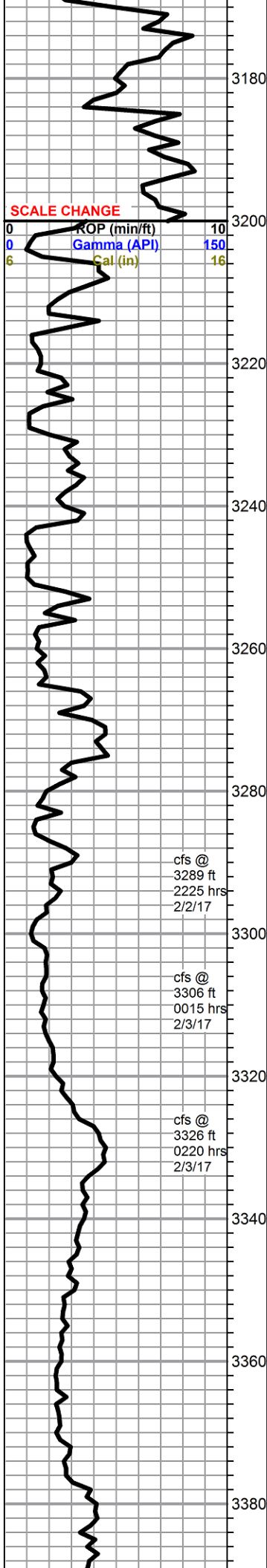
limestone, gray to light gray, cryptocrystalline, chalky to dense, fossiliferous, with limestone, olive/brown, cryptocrystalline, dense, cherty, fossiliferous to sub-lithographic, no shows

shale, black carbonaceous

limestone, light gray, micro-cryptocrystalline, fossiliferous, poor visible porosity, chalky in part, no shows, abundant chalk

shale, black carbonaceous





shale, light gray, silty, some soft

limestone, variable gray, cream and white, mostly cryptocrystalline and lithographic, slightly fossiliferous, dense, trace pyritic, no shows

Cherokee 3201 -1899

shale, black carbonaceous

limestone a.a., with tan cherts, some chalk, scattered weathered olive shales

shale, green, dense, limey, some olive and black

limestone, mixed cream to white, chalky, fossiliferous, brown, cryptocrystalline, cherty, dense, fossiliferous, green, maroon and lavender shales, some black shale

a.a., increase olive shales, green shales lighter and softer, silty in part

cfs samples - mixed shales, with abundant olive/green, mixed limestones, some weathered to chalk, abundant chalk in samples, trace white sandy limestone, some pock-marked pyrite nodules

Mississippian 3294 -1992

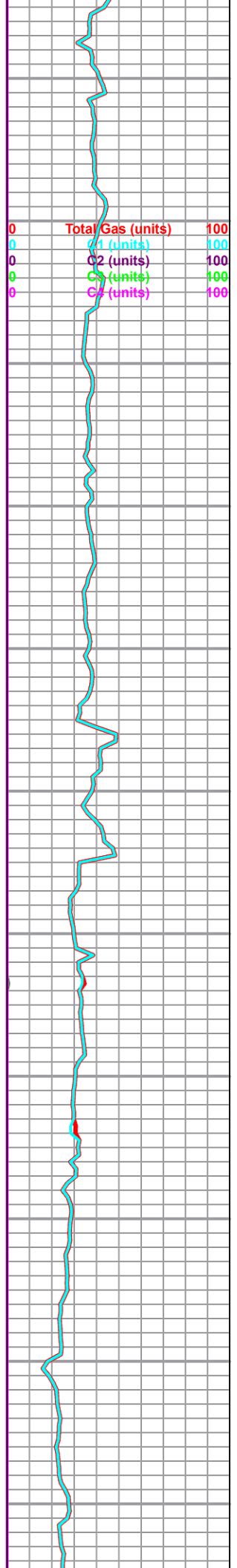
sample appx 60-70% chalk, with dolomite to dolomitic limestone, tan to gray, microcrystalline, sub-sucrosic to fossiliferous, poor visible porosity, yellow fluorescence, some oolitic gray chert, no shows

limestone, dolomitic, olive gray, microcrystalline, arenaceous, some gray lithographic limestone, abundant chalk, no visible porosity, no shows, poor fluorescence

limestone, dolomitic, gray to olive gray, microcrystalline, arenaceous, fossiliferous, fairly dense, no visible porosity, no shows, poor fluorescence

dolomite to dolomitic limestone, light mottled gray, microcrystalline, fossiliferous, grainy, some chert inclusions, poor visible porosity, abundant chalk, with: chert, gray mottled fossiliferous

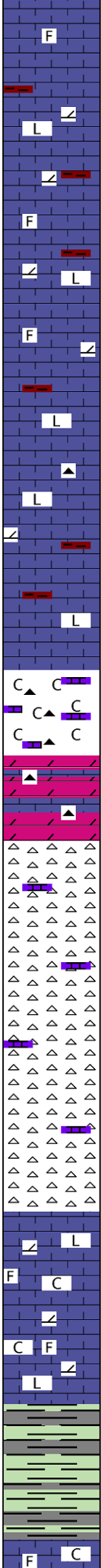
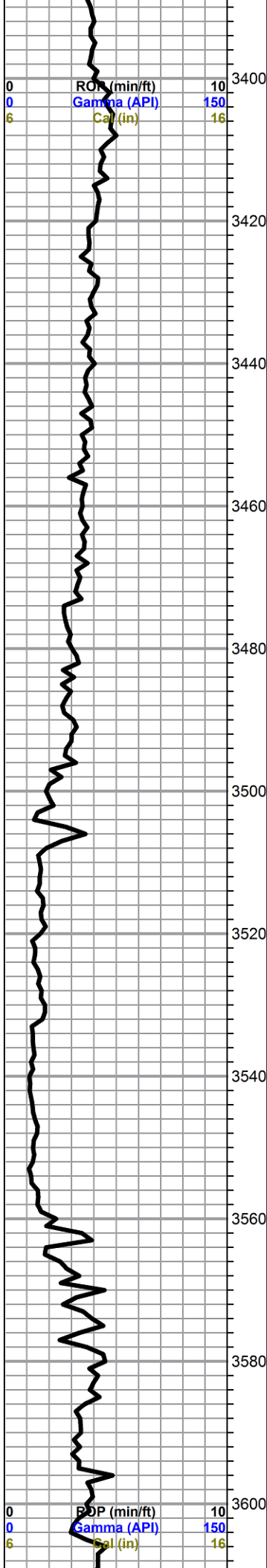
limestone, dolomitic, dark gray to olive gray, microcrystalline, arenaceous, slightly fossiliferous, with: limestone, dark gray-brown, smooth compact lithographic, dense, no visible porosity, no shows, poor fluorescence



cfs @
3289 ft
2225 hrs
2/2/17

cfs @
3306 ft
0015 hrs
2/3/17

cfs @
3326 ft
0220 hrs
2/3/17



a.a. with influx maroon and lavender shales

a.a.

as above, mostly the lithographic facies, trace dark gray chert

3500 sample, flood chalk, light gray/white mottled limestone, heavily weathered, weathered mottled chert

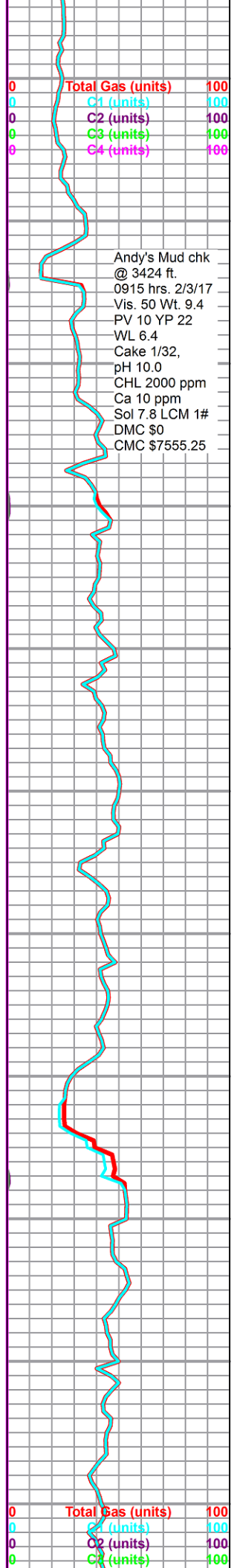
3510 sample, dolomite, light gray to brown, microcrystalline, arenaceous, limestone, dolomitic, brown to tan, recrystallized fossiliferous, grainy, poor visible porosity, chert, white to blue/gray, fossiliferous, no shows

chert, brown to white mottled, tripolitic to rotten weathered, some visible porosity, with some brown sucrosic limestone, no fluorescence

limestone, dolomitic, light blue/gray, microcrystalline, some secondary large crystals, altered/weathered, recrystallized fossiliferous, very chalky, with limestone, dolomitic, blue/gray, dense compact lithographic, abundant chalk, no shows

shale, light green, green and gray, dense to soft, calcareous, milky heavy wash in samples

limestone, light gray to cream, microcrystalline arenaceous to smooth dense compact lithographic. chalky in part. some slightly



Andy's Mud chk
@ 3424 ft.
0915 hrs. 2/3/17
Vis. 50 Wt. 9.4
PV 10 YP 22
WL 6.4
Cake 1/32,
pH 10.0
CHL 2000 ppm
Ca 10 ppm
Sol 7.8 LCM 1#
DMC \$0
CMC \$7555.25

fossiliferous, abundant chalk, no shows

Kinderhook 3618 -2316

shale, dark gray to black, brown, some carbonaceous, with pyrite nodules

a.a.

grading to mostly brownish/gray shales, fairly homogenous, gold specks of fluorescence, (seems to be clear viscous droplets, adheres to shale, some floating)

Simpson Sand 3697 -2395 (also Simpson Top)

sandstone, very fine-fine grain, well sorted and rounded, well cemented, some fair intergranular porosity, pyritic, some shale inclusions, abundant pock marked pyrite nodules, fair to weak odor in wet cup, slight show free oil, mostly barren, few specimens good show on break with odor, poor staining in wet samples, light spotty stain in dry samples, few specimens bright green fluorescence, no cut barren samples, poor cut oily samples

sandstone, quartz, fine grain, sub-angular to sub-round, fair sorting, well cemented to slightly friable, silica cement, some dark shale inclusions, fair porosity in dry samples, very slight stain in dry samples only, appx 50-60% saturated with clear oil (or condensate) and excellent bright green fluorescence, good show oil on break, little free oil in tray, strong odor, no cut fluorescence until sample broken, then streaming good cut

30 min sample, flood chalk with sand, decreasing sand and odor

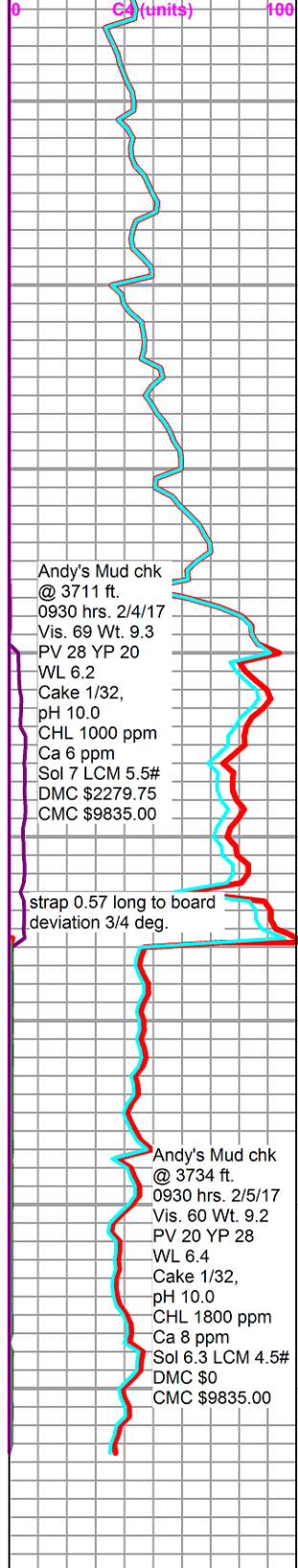
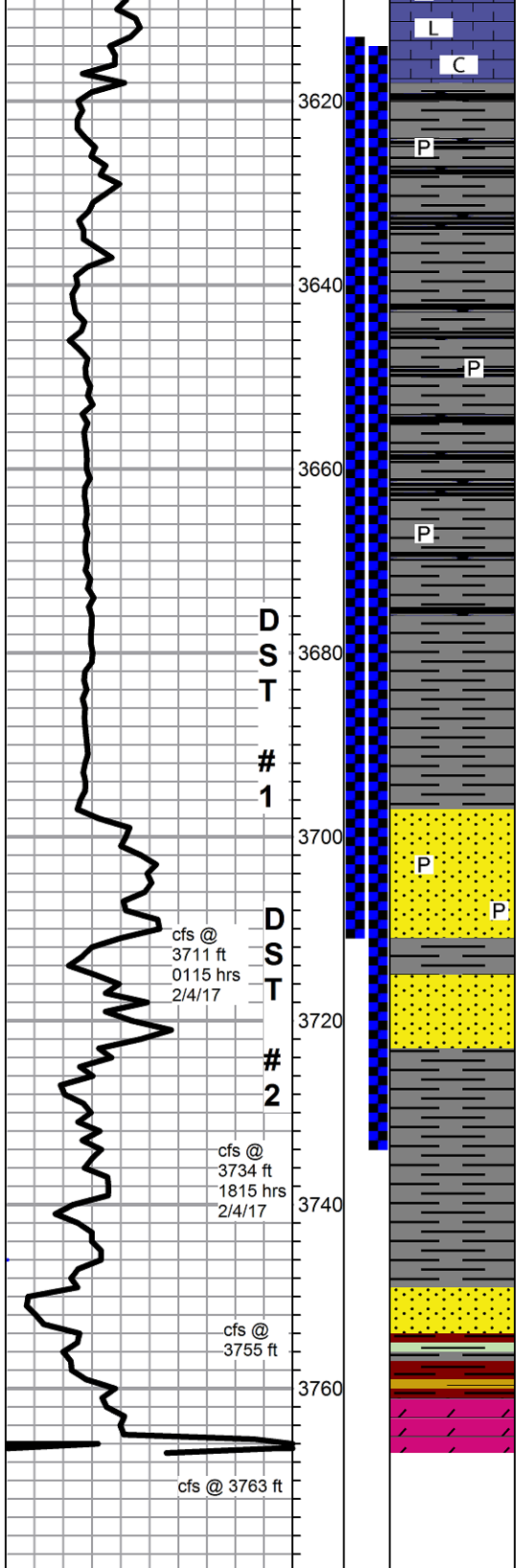
sandstone, quartz, fine to very fine grain, round to sub-round, fair sorting, fair cementing to friable, some fair intergranular porosity, some shale inclusions, mostly very clean, no staining, no shows, no fluorescence

3763 cfs samples: flood mixed shales, some chert, with pyrite, trace dolomite, light gray, microcrystalline arenaceous, no shows

Arbuckle 3761 -2549

dolomite, a.a., fair fluorescence, some cream weathered cherts

TD @ 3767 ft 1355 hrs 2/5/17





DRILL STEM TEST REPORT

Prepared For: **YOUNGER ENERGY COMPANY**

9415 EAST HARRY SUITE 403
WICHITA, KANSAS 67207-5083

ATTN: KEITH REAVIS

ZACKARY 1-2

2-29S-1W SEDGWICK

Start Date: 2017.02.04 @ 08:36:00

End Date: 2017.02.04 @ 14:00:00

Job Ticket #: 01145 DST #: 1

Eagle Testers
1309 Patton Road Great Bend, Kansas 67530
620-791-7394

Printed: 2017.02.04 @ 14:24:16



DRILL STEM TEST REPORT

YOUNGER ENERGY COMPANY

2-29S-1W SEDGWICK

9415 EAST HARRY SUITE 403
WICHITA, KANSAS 67207-5083

ZACKARY 1-2

Job Ticket: 01145

DST#: 1

ATTN: KEITH REAVIS

Test Start: 2017.02.04 @ 08:36:00

GENERAL INFORMATION:

Formation: **SIMPSON**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 11:50:00

Time Test Ended: 14:00:00

Test Type: Conventional Bottom Hole (Initial)

Tester: GENE E BUDIG

Unit No: 1 135

Interval: **3613.00 ft (KB) To 3711.00 ft (KB) (TVD)**

Reference Elevations: 1302.00 ft (KB)

Total Depth: 3711.00 ft (KB) (TVD)

1292.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 10.00 ft

Serial #: 9139

Inside

Press@RunDepth: 134.55 psia @ 3706.03 ft (KB)

Capacity: 5000.00 psia

Start Date: 2017.02.04

End Date:

2017.02.04

Last Calib.:

2017.02.04

Start Time: 08:37:00

End Time:

13:58:00

Time On Btm:

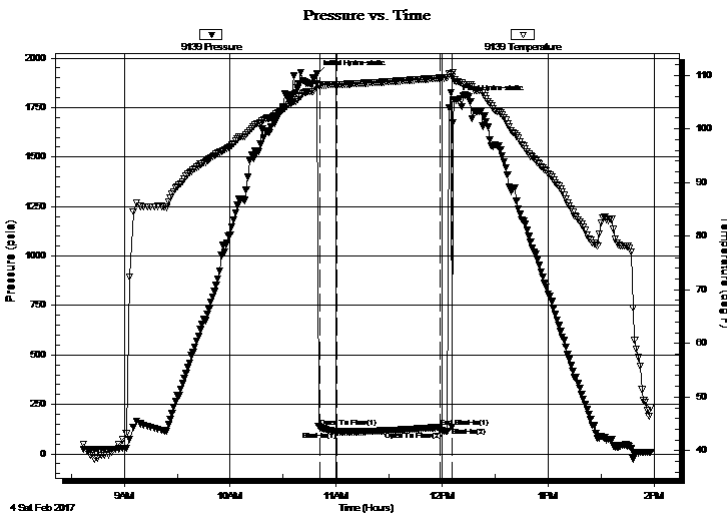
2017.02.04 @ 10:49:00

Time Off Btm:

2017.02.04 @ 12:08:00

TEST COMMENT: 1ST OPENING 10 MINUTES VERY WEAK SURFACE BLOW FOR 8 MINUTES AND DIED
1ST SHUT-IN 60 MINUTES NNO BLOW BACK
2ND OPENING 15 MINUTES NO BLOW-FLUSHED TOOL-GOOD SURGE-NO HELP
2ND SHUT-IN NONE TAKEN

PRESSURE SUMMARY



Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1918.58	108.35	Initial Hydro-static
2	135.76	108.12	Open To Flow (1)
12	112.03	108.23	Shut-In(1)
70	134.55	109.42	End Shut-In(1)
71	116.33	109.45	Open To Flow (2)
77	135.54	109.66	Shut-In(2)
79	1788.48	108.85	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
10.00	DRILLING MUD	0.14

Gas Rates

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



DRILL STEM TEST REPORT

YOUNGER ENERGY COMPANY

2-29S-1W SEDGWICK

9415 EAST HARRY SUITE 403
WICHITA, KANSAS 67207-5083

ZACKARY 1-2

Job Ticket: 01145

DST#: 1

ATTN: KEITH REAVIS

Test Start: 2017.02.04 @ 08:36:00

GENERAL INFORMATION:

Formation: **SIMPSON**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 11:50:00

Time Test Ended: 14:00:00

Test Type: Conventional Bottom Hole (Initial)

Tester: GENE E BUDIG

Unit No: 1 135

Interval: **3613.00 ft (KB) To 3711.00 ft (KB) (TVD)**

Reference Elevations: 1302.00 ft (KB)

Total Depth: 3711.00 ft (KB) (TVD)

1292.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 10.00 ft

Serial #: **91716** Outside

Press@RunDepth: 117.38 psia @ 3706.03 ft (KB)

Capacity: 5000.00 psia

Start Date: 2017.02.04

End Date: 2017.02.04

Last Calib.: 2017.02.04

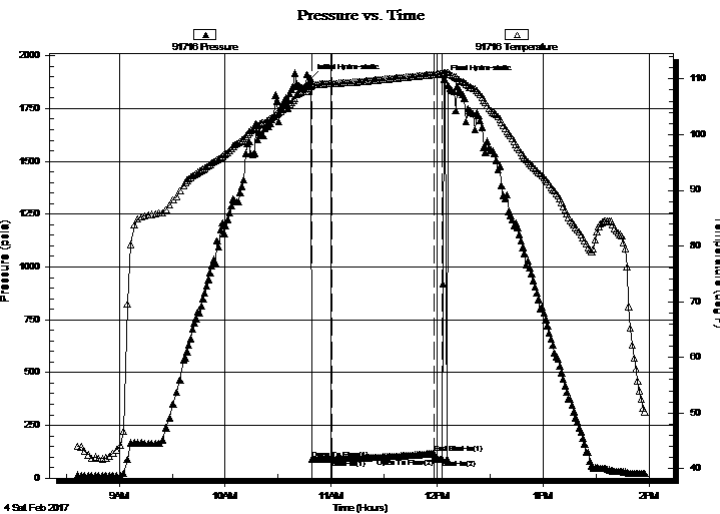
Start Time: 08:36:30

End Time: 13:57:30

Time On Btm: 2017.02.04 @ 10:48:30

Time Off Btm: 2017.02.04 @ 12:04:00

TEST COMMENT: 1ST OPENING 10 MINUTES VERY WEAK SURFACE BLOW FOR 8 MINUTES AND DIED
1ST SHUT-IN 60 MINUTES NNO BLOW BACK
2ND OPENING 15 MINUTES NO BLOW-FLUSHED TOOL-GOOD SURGE-NO HELP
2ND SHUT-IN NONE TAKEN



PRESSURE SUMMARY

Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1891.79	108.72	Initial Hydro-static
1	88.20	108.89	Open To Flow (1)
12	89.54	109.16	Shut-In(1)
70	117.38	110.77	End Shut-In(1)
70	96.11	110.79	Open To Flow (2)
75	89.65	110.89	Shut-In(2)
76	1886.23	111.03	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
10.00	DRILLING MUD	0.14

Gas Rates

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



DRILL STEM TEST REPORT

TOOL DIAGRAM

YOUNGER ENERGY COMPANY

2-29S-1W SEDGWICK

9415 EAST HARRY SUITE 403
WICHITA, KANSAS 67207-5083

ZACKARY 1-2

Job Ticket: 01145

DST#: 1

ATTN: KEITH REAVIS

Test Start: 2017.02.04 @ 08:36:00

Tool Information

Drill Pipe:	Length: 3604.00 ft	Diameter: 3.80 inches	Volume: 50.55 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: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 73000.00 lb
			<u>Total Volume: 50.55 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	20.00 ft			String Weight: Initial 53000.00 lb
Depth to Top Packer:	3613.00 ft			Final lb
Depth to Bottom Packer:	ft			
Interval between Packers:	98.03 ft			
Tool Length:	127.03 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			3589.00	
Hydraulic tool	5.00			3594.00	
Jars	7.00			3601.00	
Safety Joint	2.00		Fluid	3603.00	
Top Packer	5.00			3608.00	
Packer	5.00			3613.00	29.00 Bottom Of Top Packer
Anchor	5.00			3618.00	
Change Over Sub	0.75			3618.75	
Drill Pipe	61.53			3680.28	
Change Over Sub	0.75			3681.03	
Anchor	25.00			3706.03	
Recorder	0.00	9139	Inside	3706.03	
Recorder	0.00	91716	Outside	3706.03	
Bullnose	5.00			3711.03	98.03 Anchor Tool

Total Tool Length: 127.03



DRILL STEM TEST REPORT

FLUID SUMMARY

YOUNGER ENERGY COMPANY

2-29S-1W SEDGWICK

9415 EAST HARRY SUITE 403
WICHITA, KANSAS 67207-5083

ZACKARY 1-2

Job Ticket: 01145

DST#: 1

ATTN: KEITH REAVIS

Test Start: 2017.02.04 @ 08:36:00

Mud and Cushion Information

Mud Type: Gel Chem
Mud Weight: 9.00 lb/gal
Viscosity: 69.00 sec/qt
Water Loss: 6.20 in³
Resistivity: ohm.m
Salinity: 1000.00 ppm
Filter Cake: 1.00 inches

Cushion Type:
Cushion Length: ft
Cushion Volume: bbl
Gas Cushion Type:
Gas Cushion Pressure: psia

Oil API: deg API
Water Salinity: ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
10.00	DRILLING MUD	0.140

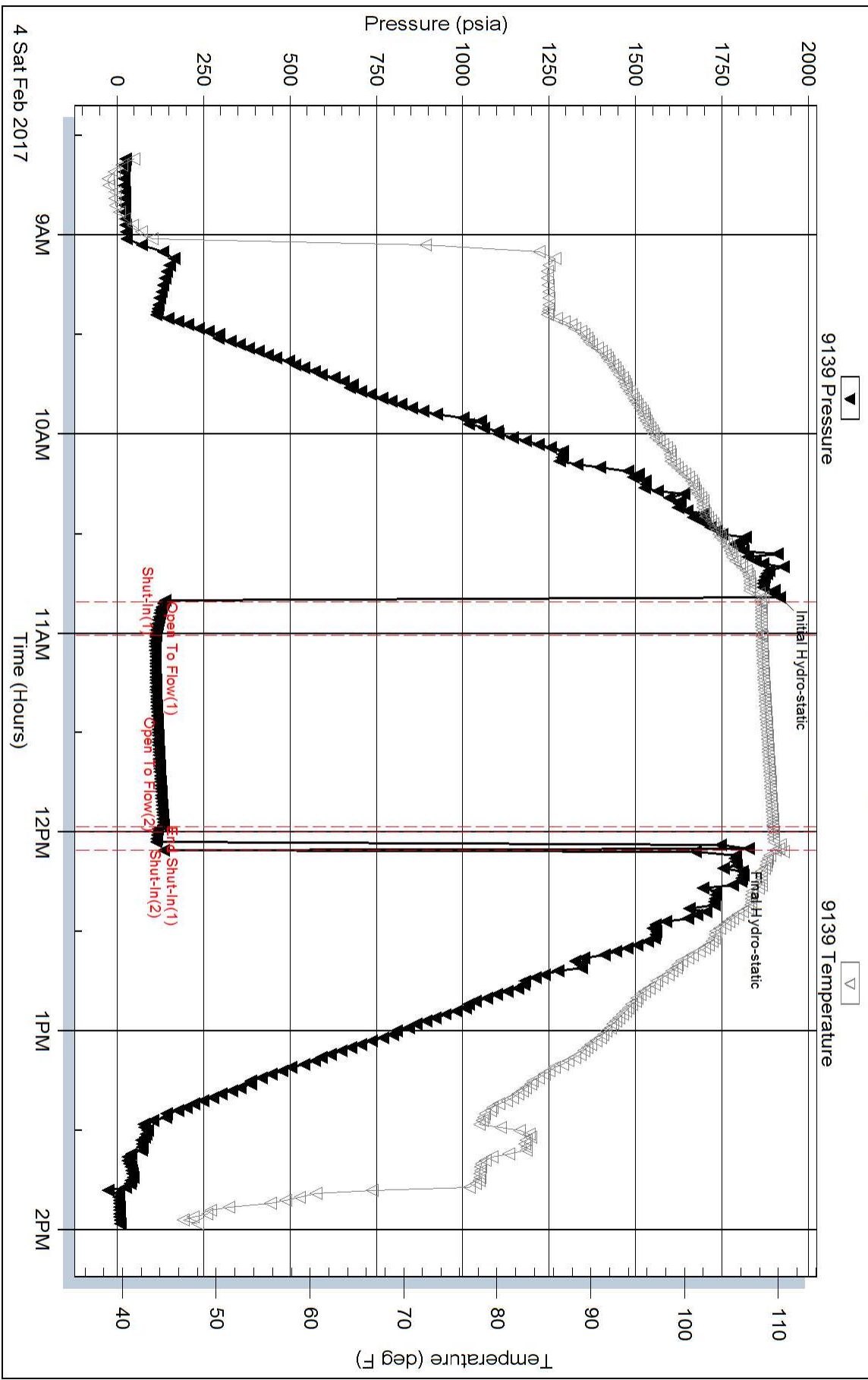
Total Length: 10.00 ft Total Volume: 0.140 bbl

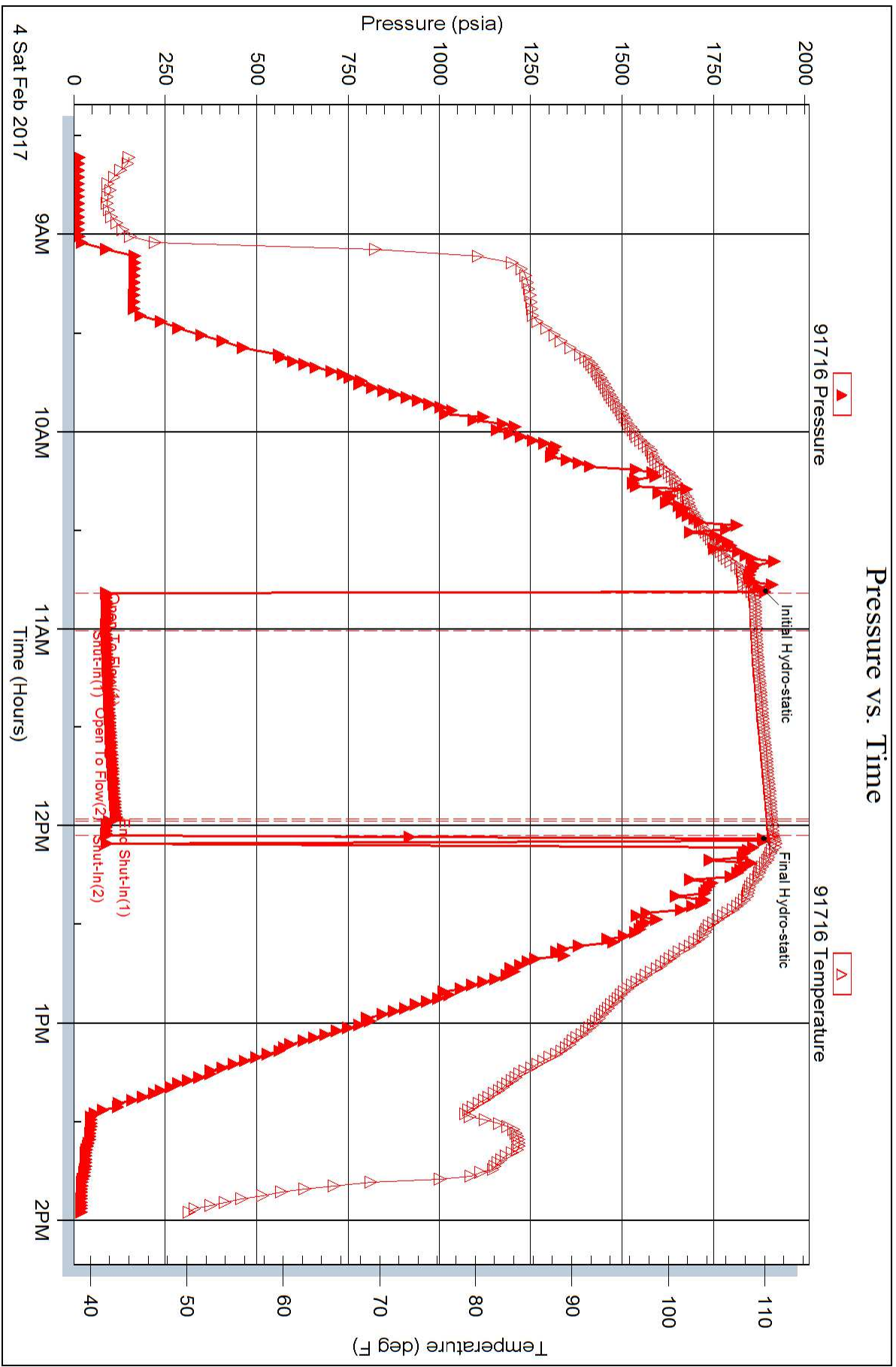
Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:

Laboratory Name: Laboratory Location:

Recovery Comments:

Pressure vs. Time







DRILL STEM TEST REPORT

Prepared For: **YOUNGER ENERGY COMPANY**

9415 EAST HARRY SUITE 403
WICHITA, KANSAS 67207-5083

ATTN: KEITH REAVIS

ZACKARY 1-2

2-29S-1W SEDGWICK

Start Date: 2017.02.04 @ 21:29:00

End Date: 2017.02.05 @ 06:27:00

Job Ticket #: 01146 DST #: 2

Eagle Testers
1309 Patton Road Great Bend, Kansas 67530
620-791-7394

Printed: 2017.02.05 @ 06:47:23



DRILL STEM TEST REPORT

YOUNGER ENERGY COMPANY

2-29S-1W SEDGWICK

9415 EAST HARRY SUITE 403
WICHITA, KANSAS 67207-5083

ZACKARY 1-2

Job Ticket: 01146

DST#: 2

ATTN: KEITH REAVIS

Test Start: 2017.02.04 @ 21:29:00

GENERAL INFORMATION:

Formation: **SIMPSON B**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 23:28:00

Time Test Ended: 06:27:00

Test Type: Conventional Bottom Hole (Initial)

Tester: GENE BUDIG

Unit No: 1

Interval: **3614.00 ft (KB) To 3734.00 ft (KB) (TVD)**

Reference Elevations: 1302.00 ft (KB)

Total Depth: 3734.00 ft (KB) (TVD)

1292.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 10.00 ft

Serial #: 9139

Inside

Press@RunDepth: 1467.83 psia @ 3729.04 ft (KB)

Capacity: 5000.00 psia

Start Date: 2017.02.04

End Date:

2017.02.05

Last Calib.:

2017.02.05

Start Time: 21:29:00

End Time:

06:27:00

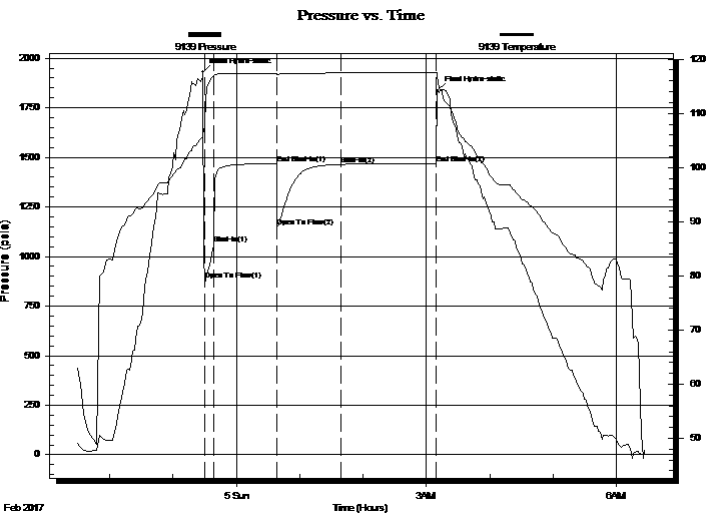
Time On Btm:

2017.02.04 @ 23:28:30

Time Off Btm:

2017.02.05 @ 03:10:30

TEST COMMENT: 1ST OPENING 10 MINUTES STRONG BLOW BOTTOM OF THE BUCKET IN ONE MINUTE
1ST SHUT-IN 60 MINUTES NO BLOW BACK
2ND OPENING 60 MINUTES STRONG BLOW DECREASED AND DIED IN 60 MINUTES
2ND SHUT-IN 90 MINUTES NO BLOW BACK



PRESSURE SUMMARY

Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1928.25	106.29	Initial Hydro-static
2	883.76	107.86	Open To Flow (1)
11	1064.88	116.91	Shut-In(1)
70	1468.14	117.38	End Shut-In(1)
70	1147.70	117.12	Open To Flow (2)
131	1464.27	117.52	Shut-In(2)
221	1467.83	117.55	End Shut-In(2)
222	1835.28	116.77	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
140.00	DRILLING MUD	1.96
120.00	WATERY MUD	1.68
240.00	MUDDY WATER	3.37
2600.00	SALT WATER CHLORIDES 50,000	36.47

Gas Rates

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



DRILL STEM TEST REPORT

YOUNGER ENERGY COMPANY

2-29S-1W SEDGWICK

9415 EAST HARRY SUITE 403
WICHITA, KANSAS 67207-5083

ZACKARY 1-2

Job Ticket: 01146

DST#: 2

ATTN: KEITH REAVIS

Test Start: 2017.02.04 @ 21:29:00

GENERAL INFORMATION:

Formation: **SIMPSON B**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 23:28:00

Time Test Ended: 06:27:00

Test Type: Conventional Bottom Hole (Initial)

Tester: GENE BUDIG

Unit No: 1

Interval: **3614.00 ft (KB) To 3734.00 ft (KB) (TVD)**

Reference Elevations: 1302.00 ft (KB)

Total Depth: 3734.00 ft (KB) (TVD)

1292.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 10.00 ft

Serial #: **91716** Outside

Press@RunDepth: 1450.15 psia @ 3729.04 ft (KB)

Capacity: 5000.00 psia

Start Date: 2017.02.04

End Date:

2017.02.05

Last Calib.:

2017.02.05

Start Time: 21:29:00

End Time:

06:26:29

Time On Btm:

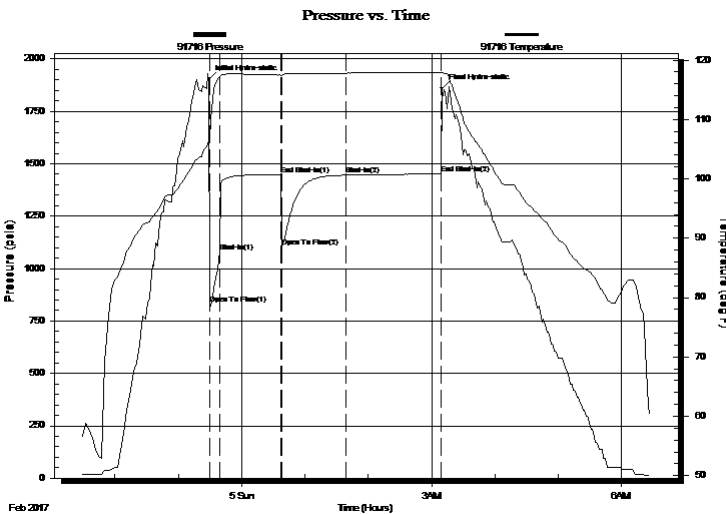
2017.02.04 @ 23:29:00

Time Off Btm:

2017.02.05 @ 03:09:30

TEST COMMENT: 1ST OPENING 10 MINUTES STRONG BLOW BOTTOM OF THE BUCKET IN ONE MINUTE
1ST SHUT-IN 60 MINUTES NO BLOW BACK
2ND OPENING 60 MINUTES STRONG BLOW DECREASED AND DIED IN 60 MINUTES
2ND SHUT-IN 90 MINUTES NO BLOW BACK

PRESSURE SUMMARY



Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1901.05	106.38	Initial Hydro-static
1	831.19	106.60	Open To Flow (1)
10	1078.71	117.15	Shut-In(1)
69	1449.15	117.46	End Shut-In(1)
69	1101.32	117.46	Open To Flow (2)
130	1446.61	117.81	Shut-In(2)
220	1450.15	117.87	End Shut-In(2)
221	1860.03	117.89	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
140.00	DRILLING MUD	1.96
120.00	WATERY MUD	1.68
240.00	MUDDY WATER	3.37
2600.00	SALT WATER CHLORIDES 50,000	36.47

Gas Rates

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



DRILL STEM TEST REPORT

TOOL DIAGRAM

YOUNGER ENERGY COMPANY

2-29S-1W SEDGWICK

9415 EAST HARRY SUITE 403
WICHITA, KANSAS 67207-5083

ZACKARY 1-2

Job Ticket: 01146

DST#: 2

ATTN: KEITH REAVIS

Test Start: 2017.02.04 @ 21:29:00

Tool Information

Drill Pipe:	Length: 3605.00 ft	Diameter: 3.80 inches	Volume: 50.57 bbl	Tool Weight: 20000.00 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: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 75000.00 lb
			Total Volume: 50.57 bbl	Tool Chased 0.00 ft
Drill Pipe Above KB:	20.00 ft			String Weight: Initial 53000.00 lb
Depth to Top Packer:	3614.00 ft			Final 67000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	120.04 ft			
Tool Length:	149.04 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			3590.00	
Hydraulic tool	5.00			3595.00	
Jars	7.00			3602.00	
Safety Joint	2.00		Fluid	3604.00	
Top Packer	5.00			3609.00	
Packer	5.00			3614.00	29.00 Bottom Of Top Packer
Anchor	5.00			3619.00	
Change Over Sub	0.75			3619.75	
Drill Pipe	94.54			3714.29	
Change Over Sub	0.75			3715.04	
Anchor	14.00			3729.04	
Recorder	0.00	9139	Inside	3729.04	
Recorder	0.00	91716	Outside	3729.04	
Bullnose	5.00			3734.04	120.04 Anchor Tool

Total Tool Length: 149.04



DRILL STEM TEST REPORT

FLUID SUMMARY

YOUNGER ENERGY COMPANY

2-29S-1W SEDGWICK

9415 EAST HARRY SUITE 403
WICHITA, KANSAS 67207-5083

ZACKARY 1-2

Job Ticket: 01146

DST#: 2

ATTN: KEITH REAVIS

Test Start: 2017.02.04 @ 21:29:00

Mud and Cushion Information

Mud Type: Gel Chem
Mud Weight: 9.00 lb/gal
Viscosity: 69.00 sec/qt
Water Loss: 6.20 in³
Resistivity: ohm.m
Salinity: 1000.00 ppm
Filter Cake: 1.00 inches

Cushion Type:
Cushion Length: ft
Cushion Volume: bbl
Gas Cushion Type:
Gas Cushion Pressure: psia

Oil API: deg API
Water Salinity: ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
140.00	DRILLING MUD	1.964
120.00	WATERY MUD	1.683
240.00	MUDDY WATER	3.367
2600.00	SALT WATER CHLORIDES 50,000	36.471

Total Length: 3100.00 ft Total Volume: 43.485 bbl

Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:

Laboratory Name: Laboratory Location:

Recovery Comments:

Pressure vs. Time

