KOLAR Document ID: 1475196

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 # 35679
Name: Sapphire Resource, LLC
Address 1: 61 PRONGHORN MEADOW LANE
Address 2:
City: GILLETTE State: WY Zip: 82718 + 9116
Contact Person: Rick Briscoe
Phone: (307) 752-7630
CONTRACTOR: License # 5929
Name: Duke Drilling Co., Inc.
Wellsite Geologist: Bruce Ard
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 #:

09/25/2019 — Spud Date or Recompletion Date
10/02/2019 — Date Reached TD
10/4/2019 — Completion Date or Recompletion Date

API No.: 15-007-24359-00-00
Spot Description:
SE - SW - SW - SW Sec. 15 Twp. 34 S. R. 12 ☐ East ☑ West
35 Feet from ☐ North / ☑ South Line of Section
480 Feet from ☐ East / ☑ West Line of Section
Footages Calculated from Nearest Outside Section Corner:
☐ NE ☐ NW ☐ SE ☑ SW
GPS Location: Lat: *(e.g. xx.xxxxx)* , Long: *(e.g. -xxx.xxxxx)*
Datum: ☐ NAD27 ☐ NAD83 ☐ WGS84
County: Barber
Lease Name: WATTS RANCH Well #: 1
Field Name: Wildcat
Producing Formation: D&A
Elevation: Ground: 1435 Kelly Bushing: 1448
Total Vertical Depth: 5471 Plug Back Total Depth:
Amount of Surface Pipe Set and Cemented at: 232 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: 6000 ppm Fluid volume: 700 bbls
Dewatering method used: Hauled to Disposal
Location of fluid disposal if hauled offsite:
Operator Name: Chiefton Oil
Lease Name: Big Chief License #: 33235
Quarter SW Sec. 6 Twp. 35 S. R. 11 ☐ East ☑ West
County: Barber Permit #: D30859

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: 10/20/2019
☐ **Confidential Release Date:** 10/19/2021
☑ **Wireline Log Received** ☑ **Drill Stem Tests Received**
☑ **Geologist Report / Mud Logs Received**
☐ **UIC Distribution**
ALT ☑ **I** ☐ **II** ☐ **III** **Approved by:** Karen Ritter **Date:** 10/23/2019

Operator Name: Sapphire Resource, LLC Lease Name: WATTS RANCH Well #: 1

Sec. 15 Twp. 34 S. R. 12 ☐ East ☑ West County: Barber

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 *(Attach Additional Sheets)*	☑ Yes	☐ No
Samples Sent to Geological Survey	☑ Yes	☐ No
Cores Taken	☐ Yes	☑ No
Electric Log Run	☑ Yes	☐ No
Geologist Report / Mud Logs	☑ Yes	☐ No

List All E. Logs Run:

DIL
MICRO
CNDL

☑ Log Formation (Top), Depth and Datum ☐ Sample

Name	Top	Datum
Mississippi	4658	-3211
Simpson	5178	-3731
Arbuckle	5360	-3913

CASING RECORD ☑ New ☐ 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
Surface	14.75	10.75	32.75	232	Class A	200	2%cc

ADDITIONAL CEMENTING / SQUEEZE RECORD

Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
☐ Perforate ☐ Protect Casing ☐ Plug Back TD ☐ 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: ☐ Flowing ☐ Pumping ☐ Gas Lift ☐ Other *(Explain)*

Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity

DISPOSITION OF GAS:	METHOD OF COMPLETION:	PRODUCTION INTERVAL:
☐ Vented ☐ Sold ☐ Used on Lease *(If vented, Submit ACO-18.)*	☐ Open Hole ☐ Perf. ☐ Dually Comp. *(Submit ACO-5)* ☐ Commingled *(Submit ACO-4)*	Top / Bottom

Shots Per Foot	Perforation Top	Perforation Bottom	Bridge Plug Type	Bridge Plug Set At	Acid, Fracture, Shot, Cementing Squeeze Record *(Amount and Kind of Material Used)*

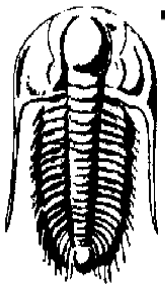
TUBING RECORD: Size: Set At: Packer At:

Mail to: KCC - Conservation Division, 266 N. Main, Suite 220, Wichita, Kansas 67202

Form	ACO1 - Well Completion
Operator	Sapphire Resource, LLC
Well Name	WATTS RANCH 1
Doc ID	1475196

Casing

Purpose Of String	Size Hole Drilled	Size Casing Set	Weight	Setting Depth	Type Of Cement	Number of Sacks Used	Type and Percent Additives
Surface	14.75	10.75	32.75	232	Class A	200	2%cc



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Prepared For: **Sapphire Resource, LLC**

61 Pronghorn Meadow Lane
Gillette, WY 82718-0116

ATTN: Rick Briscoe/Bruce A

Watts Ranch #1

15-34S-12W Barber, KS

Start Date: 2019.09.29 @ 16:38:00

End Date: 2019.09.30 @ 00:36:00

Job Ticket #: 65402 DST #: 1

Trilobite Testing, Inc

1515 Commerce Parkway Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620

Printed: 2019.10.04 @ 11:07:40

DRILL STEM TEST REPORT

TRILOBITE TESTING, INC.

Sapphire Resource, LLC

61 Pronghorn Meadow Lane
Gillette, WY 82718-0116

ATTN: Rick Briscoe/Bruce A

15-34S-12W Barber, KS

Watts Ranch #1

Job Ticket: 65402 **DST#: 1**

Test Start: 2019.09.29 @ 16:38:00

GENERAL INFORMATION:

Formation: **Mississippian**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 18:57:10
Time Test Ended: 00:36:00

Test Type: Conventional Bottom Hole (Initial)
Tester: Jimmy Ricketts
Unit No: 80

Interval: 4830.00 ft (KB) To 4930.00 ft (KB) (TVD)
Total Depth: 4930.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

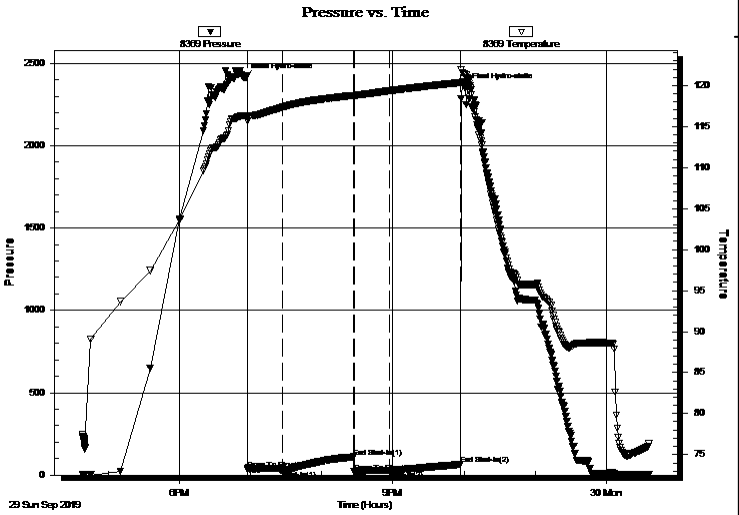
Reference Elevations: 1434.00 ft (KB)
1421.00 ft (CF)
KB to GR/CF: 13.00 ft

Serial #: 8369 **Outside**

Press@RunDepth: 27.94 psig @ 4831.00 ft (KB)
Start Date: 2019.09.29 End Date: 2019.09.30
Start Time: 16:38:01 End Time: 00:36:00

Capacity: 8000.00 psig
Last Calib.: 2019.09.29
Time On Btm: 2019.09.29 @ 18:54:30
Time Off Btm: 2019.09.29 @ 22:01:00

TEST COMMENT: IF - Weak blow building to 3"
FF - Weak blow building to 1 1/2"



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2410.71	116.35	Initial Hydro-static
3	35.73	115.69	Open To Flow (1)
33	27.59	117.37	Shut-In(1)
93	110.84	118.81	End Shut-In(1)
93	19.89	118.77	Open To Flow (2)
123	27.94	119.37	Shut-In(2)
183	64.49	120.37	End Shut-In(2)
187	2348.74	121.36	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
40.00	OSM 1% O & 99% M	0.20

Gas Rates

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

DRILL STEM TEST REPORT

Sapphire Resource, LLC

61 Pronghorn Meadow Lane
Gillette, WY 82718-0116

ATTN: Rick Briscoe/Bruce A

15-34S-12W Barber, KS

Watts Ranch #1

Job Ticket: 65402 **DST#: 1**

Test Start: 2019.09.29 @ 16:38:00

GENERAL INFORMATION:

Formation: **Mississippian**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 18:57:10
Time Test Ended: 00:36:00

Test Type: Conventional Bottom Hole (Initial)
Tester: Jimmy Ricketts
Unit No: 80

Interval: 4830.00 ft (KB) To 4930.00 ft (KB) (TVD)
Total Depth: 4930.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

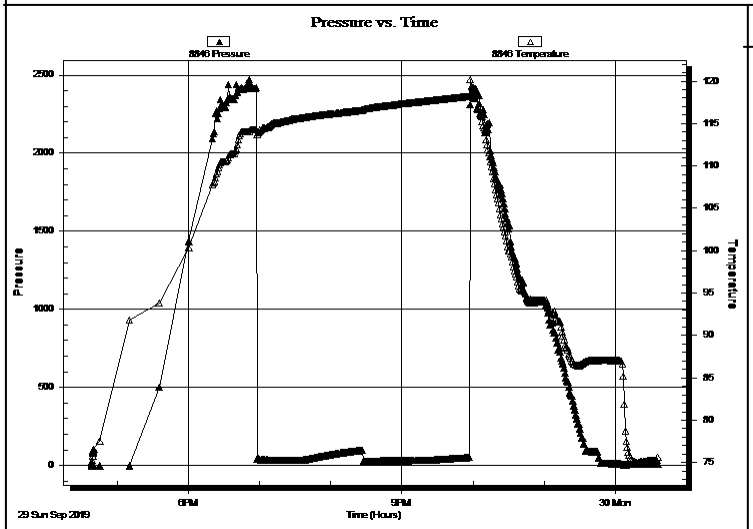
Reference Elevations: 1434.00 ft (KB)
1421.00 ft (CF)
KB to GR/CF: 13.00 ft

Serial #: 8846 **Inside**

Press@RunDepth: psig @ 4831.00 ft (KB)
Start Date: 2019.09.29 End Date: 2019.09.30
Start Time: 16:38:01 End Time: 00:36:10

Capacity: 8000.00 psig
Last Calib.: 1899.12.30
Time On Btm:
Time Off Btm:

TEST COMMENT: IF - Weak blow building to 3"
FF - Weak blow building to 1 1/2"



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
40.00	OSM 1% O & 99% M	0.20

Gas Rates

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

DRILL STEM TEST REPORT

TOOL DIAGRAM

Sapphire Resource, LLC

61 Pronghorn Meadow Lane
Gillette, WY 82718-0116

ATTN: Rick Briscoe/Bruce A

15-34S-12W Barber, KS

Watts Ranch #1

Job Ticket: 65402 **DST#: 1**

Test Start: 2019.09.29 @ 16:38:00

Tool Information

Drill Pipe:	Length:	4632.00 ft	Diameter:	3.80 inches	Volume:	64.97 bbl	
Heavy Wt. Pipe:	Length:	0.00 ft	Diameter:	inches	Volume:	0.00 bbl	
Drill Collar:	Length:	179.00 ft	Diameter:	2.25 inches	Volume:	0.88 bbl	
					Total Volume:	65.85 bbl	

Drill Pipe Above KB:	9.00 ft
Depth to Top Packer:	4830.00 ft
Depth to Bottom Packer:	ft
Interval betw een Packers:	100.00 ft
Tool Length:	128.00 ft
Number of Packers:	2 Diameter: 6.75 inches

Tool Weight:		2400.00 lb
Weight set on Packer:		27000.00 lb
Weight to Pull Loose:		80000.00 lb
Tool Chased		6.00 ft
String Weight:	Initial	72000.00 lb
	Final	72000.00 lb

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths	
Change Over Sub	1.00			4803.00		
Shut In Tool	5.00			4808.00		
Hydraulic tool	5.00			4813.00		
Jars	5.00			4818.00		
Safety Joint	3.00			4821.00		
Packer	5.00			4826.00	28.00	Bottom Of Top Packer
Packer	4.00			4830.00		
Stubb	1.00			4831.00		
Recorder	0.00	8369	Outside	4831.00		
Recorder	0.00	8846	Inside	4831.00		
Perforations	28.00			4859.00		
Change Over Sub	1.00			4860.00		
Blank Spacing	61.00			4921.00		
Change Over Sub	1.00			4922.00		
Perforations	3.00			4925.00		
Bullnose	5.00			4930.00	100.00	Bottom Packers & Anchor
Total Tool Length:	**128.00**					

DRILL STEM TEST REPORT

FLUID SUMMARY

Sapphire Resource, LLC

61 Pronghorn Meadow Lane
Gillette, WY 82718-0116

ATTN: Rick Briscoe/Bruce A

15-34S-12W Barber, KS

Watts Ranch #1

Job Ticket: 65402 **DST#: 1**

Test Start: 2019.09.29 @ 16:38:00

Mud and Cushion Information

Mud Type:	Gel Chem	Cushion Type:		Oil API:	deg API
Mud Weight:	10.00 lb/gal	Cushion Length:	ft	Water Salinity:	ppm
Viscosity:	50.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	10.77 in³	Gas Cushion Type:			
Resistivity:	ohm.m	Gas Cushion Pressure:	psig		
Salinity:	8000.00 ppm				
Filter Cake:	inches				

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
40.00	OSM 1% O & 99% M	0.197

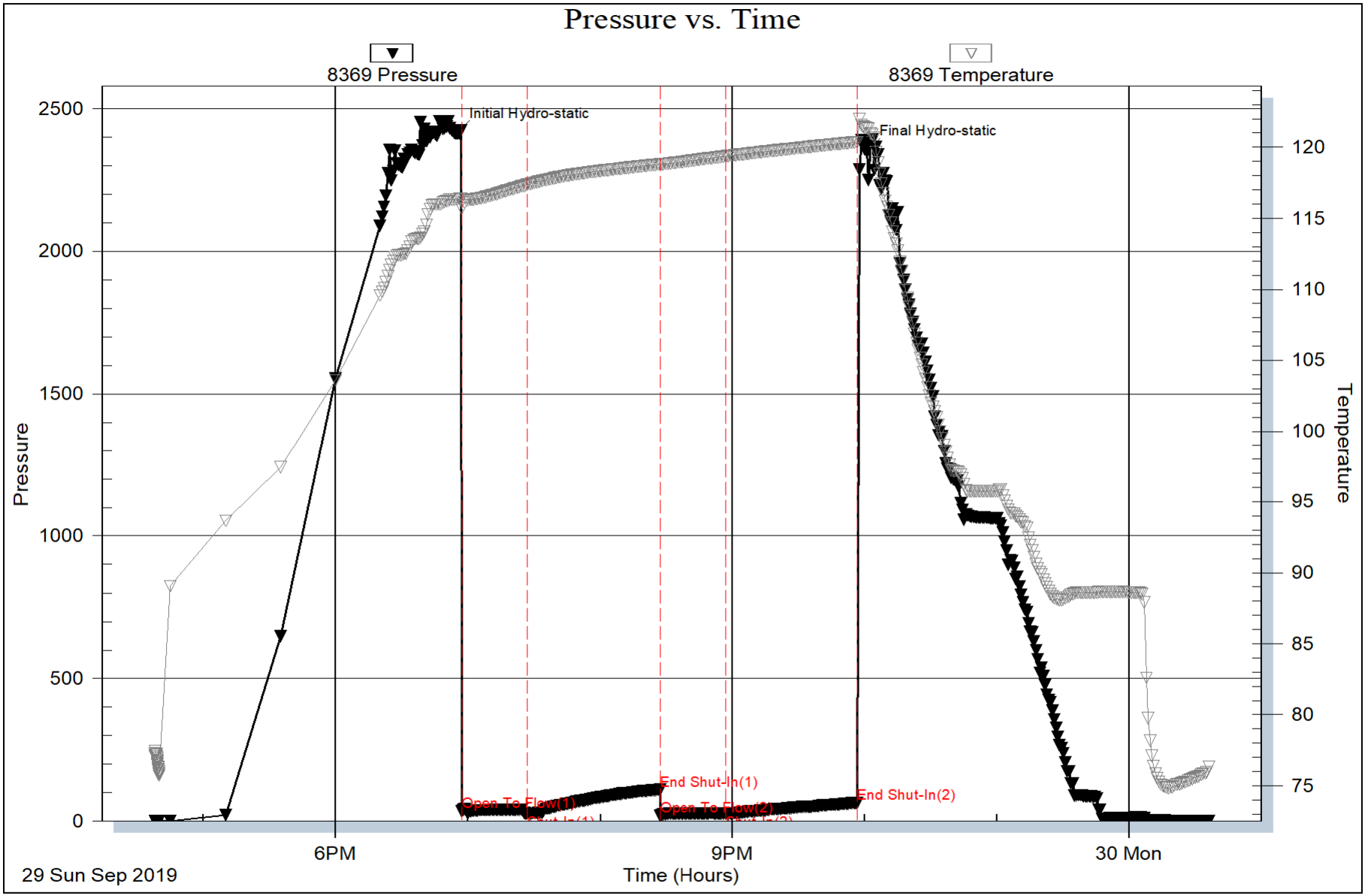
Total Length: 40.00 ft Total Volume: 0.197 bbl

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

Laboratory Name: Laboratory Location:

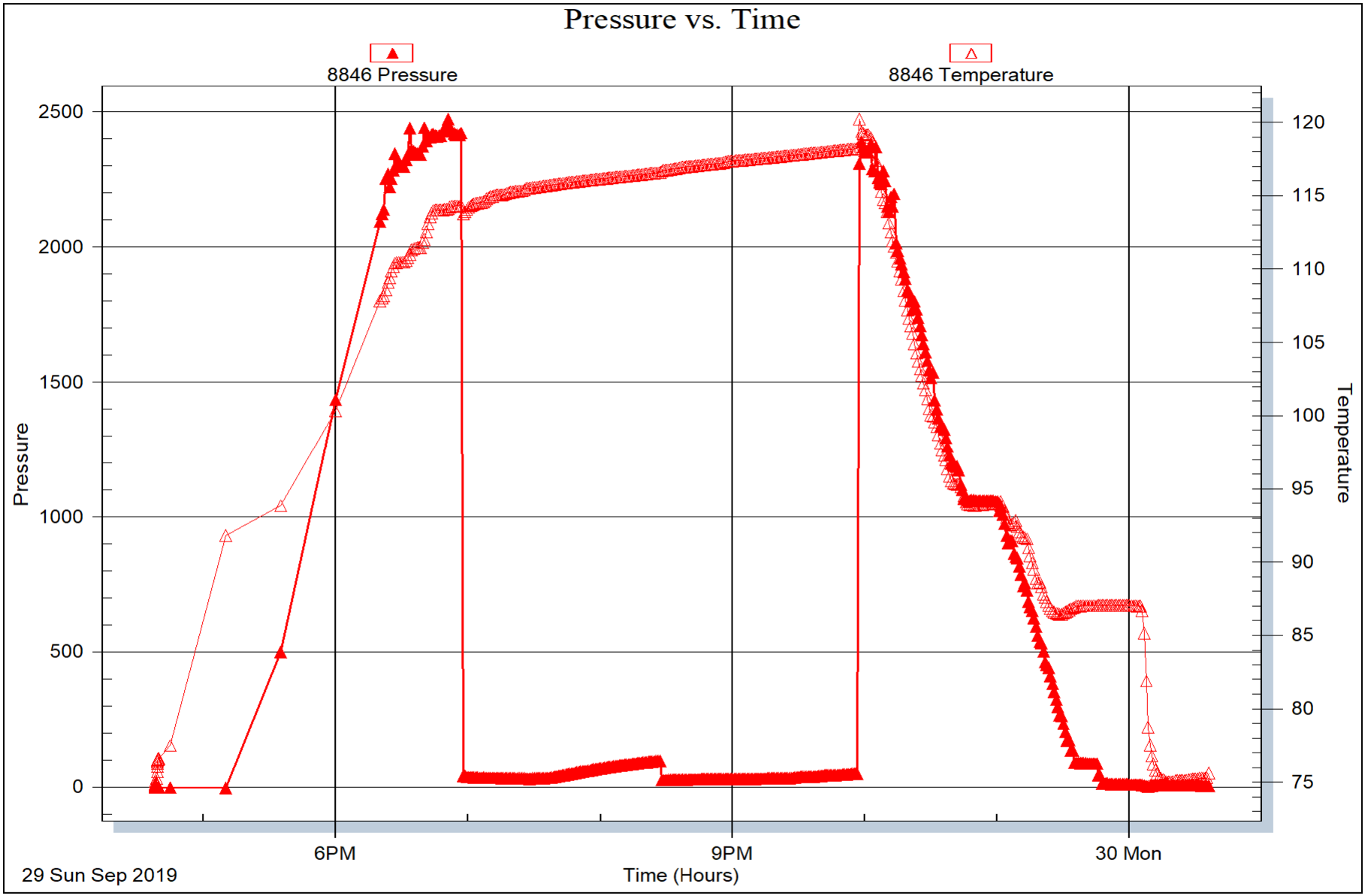
Recovery Comments:

Serial #: 8369 **Outside** Sapphire Resource, LLC Watts Ranch #1 DST Test Number: 1



Trilobite Testing, Inc Ref. No: 65402 Printed: 2019.10.04 @ 11:07:41

Serial #: 8846 **Inside** Sapphire Resource, LLC Watts Ranch #1 DST Test Number: 1



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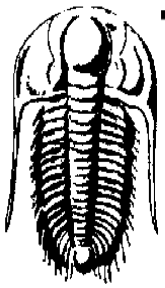


TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Prepared For: **Sapphire Resource, LLC**

61 Pronghorn Meadow Lane
Gillette, WY 82718-0116

ATTN: Rick Briscoe/Bruce A

Watts Ranch #1

15-34S-12W Barber, KS

Start Date: 2019.09.30 @ 15:17:01

End Date: 2019.09.30 @ 22:07:50

Job Ticket #: 65403 DST #: 2

Trilobite Testing, Inc

1515 Commerce Parkway Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620

Printed: 2019.10.04 @ 11:06:59

DRILL STEM TEST REPORT

Sapphire Resource, LLC

61 Pronghorn Meadow Lane
Gillette, WY 82718-0116

ATTN: Rick Briscoe/Bruce A

15-34S-12W Barber, KS

Watts Ranch #1

Job Ticket: 65403 **DST#: 2**

Test Start: 2019.09.30 @ 15:17:01

GENERAL INFORMATION:

Formation: **Misener**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 17:53:30
Time Test Ended: 22:07:50

Test Type: Conventional Bottom Hole (Initial)
Tester: Jimmy Ricketts
Unit No: 80

Interval: 5042.00 ft (KB) To 5092.00 ft (KB) (TVD)
Total Depth: 5092.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

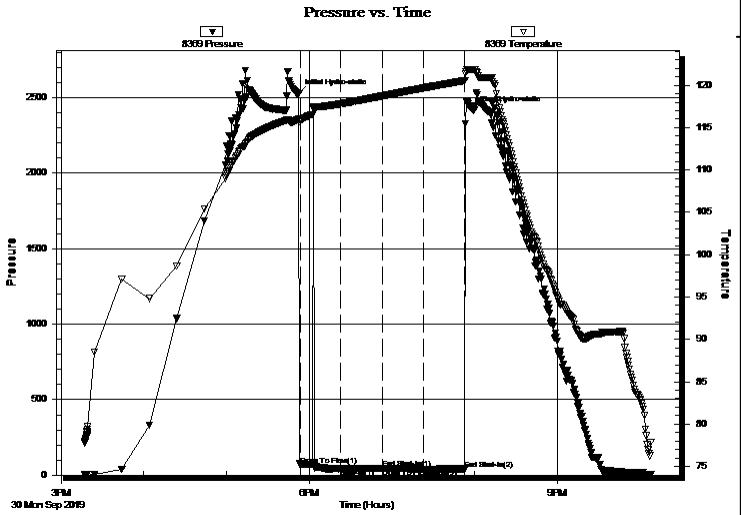
Reference Elevations: 1434.00 ft (KB)
1421.00 ft (CF)
KB to GR/CF: 13.00 ft

Serial #: 8369 **Outside**

Press@RunDepth: 40.02 psig @ 5043.00 ft (KB)
Start Date: 2019.09.30 End Date: 2019.09.30
Start Time: 15:17:01 End Time: 22:07:50

Capacity: 8000.00 psig
Last Calib.: 2019.09.30
Time On Btm: 2019.09.30 @ 17:51:50
Time Off Btm: 2019.09.30 @ 19:59:30

TEST COMMENT: IF - No blow . Flushed tool 10 minutes into initial flow period. Still no blow .
FF - No blow .



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2525.35	115.96	Initial Hydro-static
2	66.66	115.81	Open To Flow (1)
32	43.11	117.80	Shut-In(1)
61	44.30	118.73	End Shut-In(1)
62	44.29	118.74	Open To Flow (2)
92	40.02	119.67	Shut-In(2)
122	41.03	120.55	End Shut-In(2)
128	2412.27	121.80	Final Hydro-static

Recovery

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

Gas Rates

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

DRILL STEM TEST REPORT

TRILOBITE TESTING, INC.

Sapphire Resource, LLC

61 Pronghorn Meadow Lane
Gillette, WY 82718-0116

ATTN: Rick Briscoe/Bruce A

15-34S-12W Barber, KS

Watts Ranch #1

Job Ticket: 65403 **DST#: 2**

Test Start: 2019.09.30 @ 15:17:01

GENERAL INFORMATION:

Formation: **Misener**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 17:53:30
Time Test Ended: 22:07:50

Test Type: Conventional Bottom Hole (Initial)
Tester: Jimmy Ricketts
Unit No: 80

Interval: 5042.00 ft (KB) To 5092.00 ft (KB) (TVD)
Total Depth: 5092.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

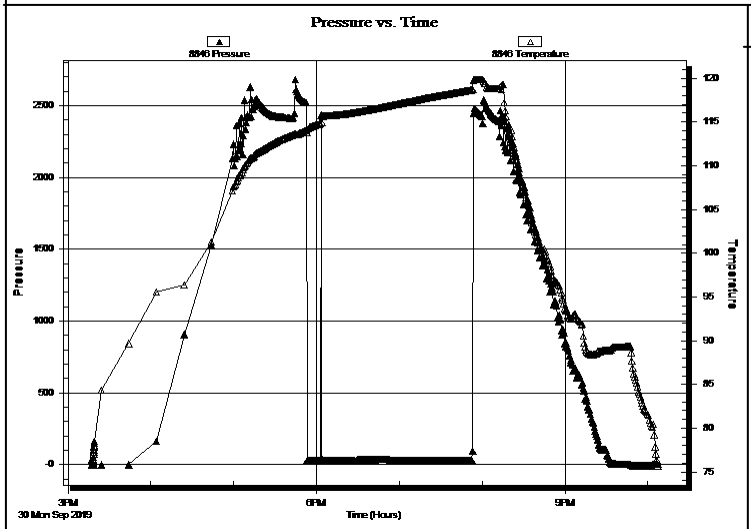
Reference Elevations: 1434.00 ft (KB)
1421.00 ft (CF)
KB to GR/CF: 13.00 ft

Serial #: 8846 **Inside**

Press@RunDepth: psig @ 5043.00 ft (KB)
Start Date: 2019.09.30 End Date: 2019.09.30
Start Time: 15:17:01 End Time: 22:07:20

Capacity: 8000.00 psig
Last Calib.: 1899.12.30
Time On Btm:
Time Off Btm:

TEST COMMENT: IF - No blow . Flushed tool 10 minutes into initial flow period. Still no blow .
FF - No blow .



PRESSURE SUMMARY

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

Recovery

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

Gas Rates

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

DRILL STEM TEST REPORT

TOOL DIAGRAM

Sapphire Resource, LLC

61 Pronghorn Meadow Lane
Gillette, WY 82718-0116

ATTN: Rick Briscoe/Bruce A

15-34S-12W Barber, KS

Watts Ranch #1

Job Ticket: 65403 **DST#: 2**

Test Start: 2019.09.30 @ 15:17:01

Tool Information

Drill Pipe:	Length:	4849.00 ft	Diameter:	3.80 inches	Volume:	68.02 bbl	
Heavy Wt. Pipe:	Length:	0.00 ft	Diameter:	inches	Volume:	0.00 bbl	
Drill Collar:	Length:	179.00 ft	Diameter:	2.25 inches	Volume:	0.88 bbl	
					Total Volume:	68.90 bbl	

Drill Pipe Above KB:	14.00 ft
Depth to Top Packer:	5042.00 ft
Depth to Bottom Packer:	ft
Interval betw een Packers:	50.00 ft
Tool Length:	78.00 ft
Number of Packers:	2 Diameter: 6.75 inches

Tool Weight:		2500.00 lb
Weight set on Packer:		28000.00 lb
Weight to Pull Loose:		82000.00 lb
Tool Chased		0.00 ft
String Weight:	Initial	74000.00 lb
	Final	74000.00 lb

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths	
Change Over Sub	1.00			5015.00		
Shut In Tool	5.00			5020.00		
Hydraulic tool	5.00			5025.00		
Jars	5.00			5030.00		
Safety Joint	3.00			5033.00		
Packer	5.00			5038.00	28.00	Bottom Of Top Packer
Packer	4.00			5042.00		
Stubb	1.00			5043.00		
Recorder	0.00	8369	Outside	5043.00		
Recorder	0.00	8846	Inside	5043.00		
Perforations	10.00			5053.00		
Change Over Sub	0.50			5053.50		
Blank Spacing	31.00			5084.50		
Change Over Sub	0.50			5085.00		
Perforations	2.00			5087.00		
Bullnose	5.00			5092.00	50.00	Bottom Packers & Anchor
Total Tool Length:	**78.00**					

DRILL STEM TEST REPORT

FLUID SUMMARY

Sapphire Resource, LLC

61 Pronghorn Meadow Lane
Gillette, WY 82718-0116

ATTN: Rick Briscoe/Bruce A

15-34S-12W Barber, KS

Watts Ranch #1

Job Ticket: 65403 **DST#: 2**

Test Start: 2019.09.30 @ 15:17:01

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:	65.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	9.57 in³	Gas Cushion Type:			
Resistivity:	ohm.m	Gas Cushion Pressure:	psig		
Salinity:	6000.00 ppm				
Filter Cake:	inches				

Recovery Information

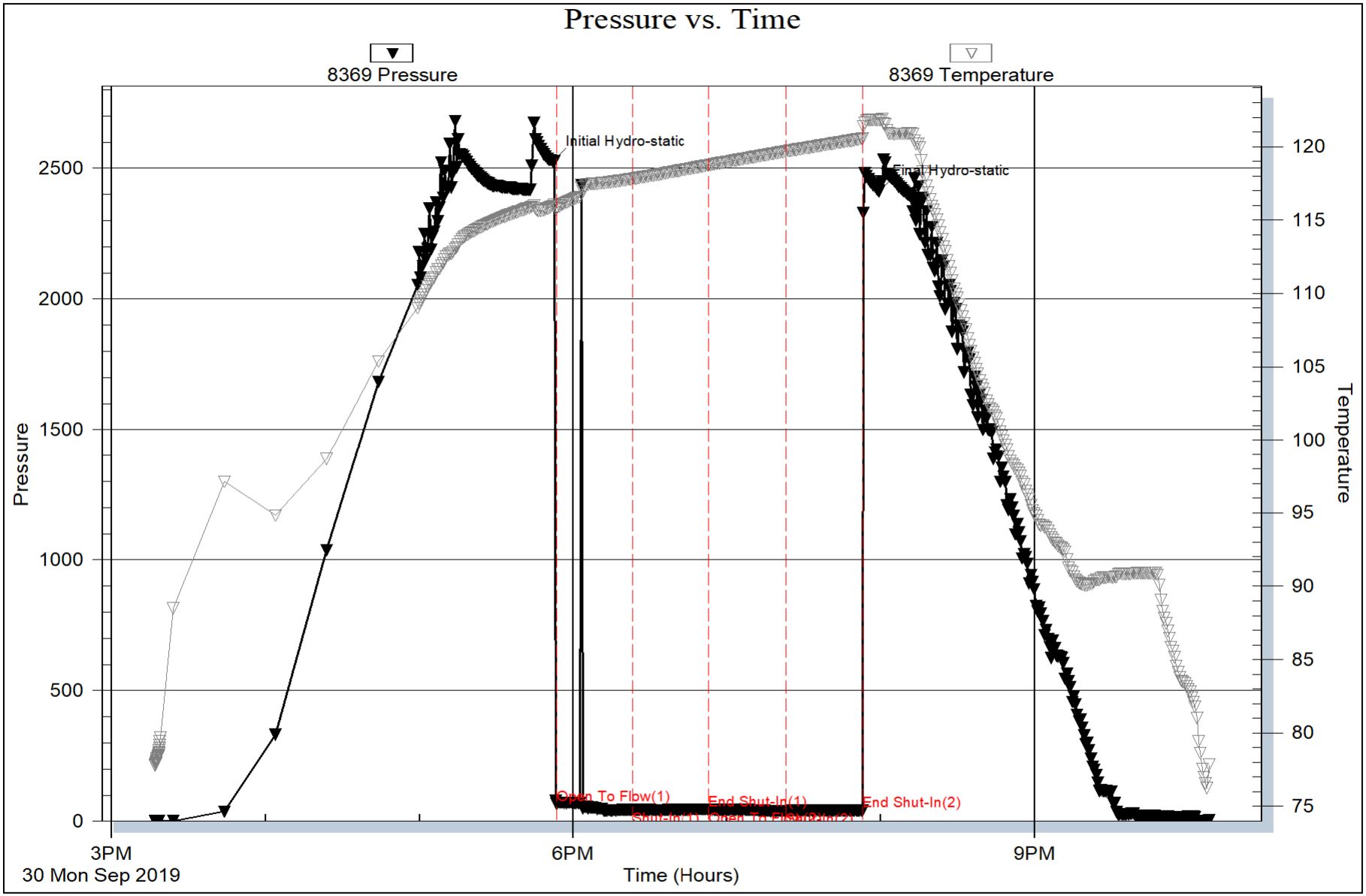
Recovery Table

Length ft	Description	Volume bbl
5.00	Drilling mud 100% M	0.025

Total Length: 5.00 ft Total Volume: 0.025 bbl

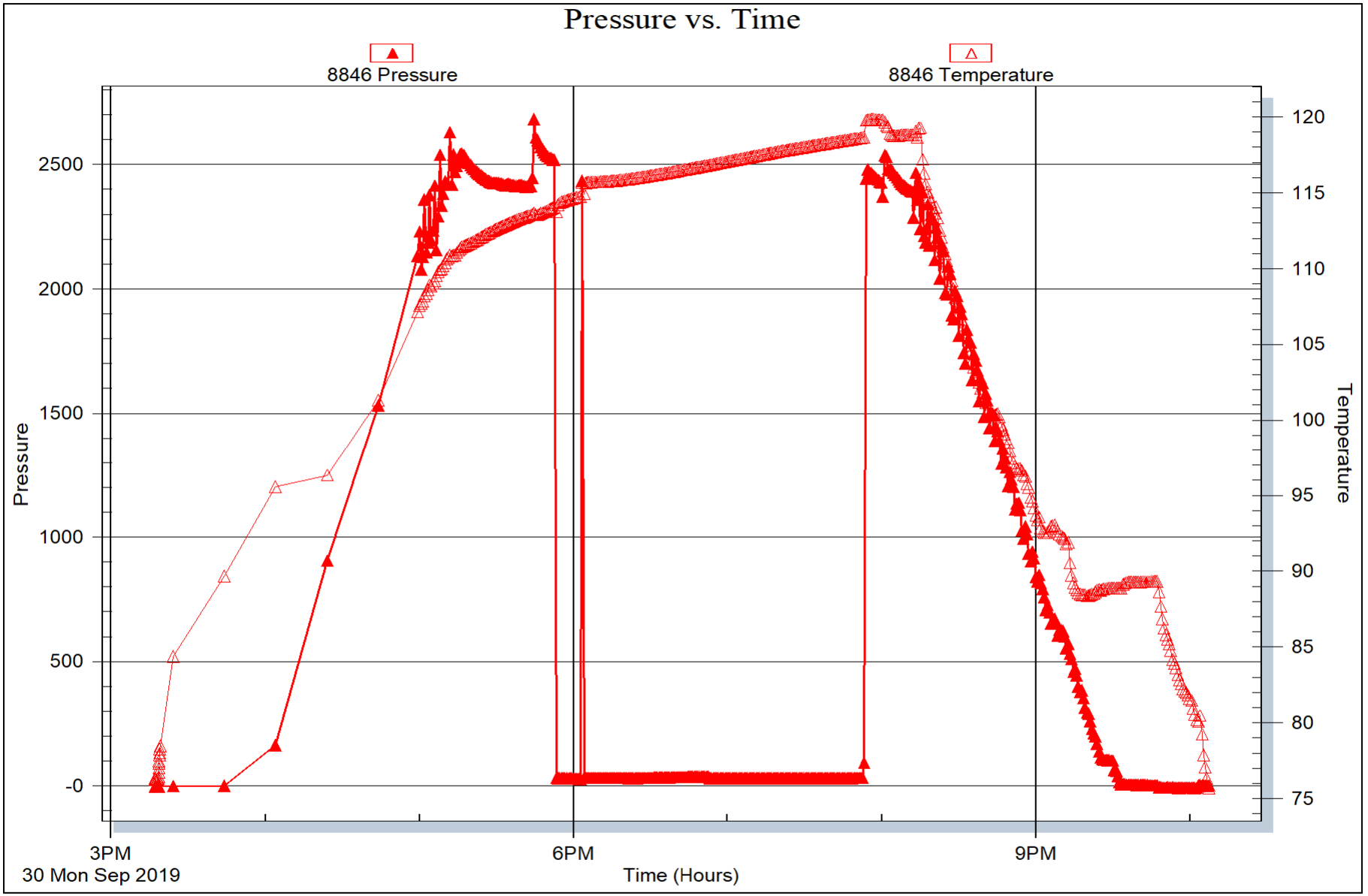
Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
Laboratory Name: Laboratory Location:
Recovery Comments:

Serial #: 8369 **Outside** Sapphire Resource, LLC Watts Ranch #1 DST Test Number: 2

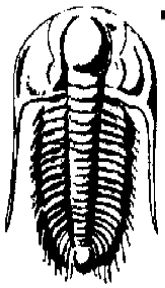


Trilobite Testing, Inc Ref. No: 65403 Printed: 2019.10.04 @ 11:07:00

Serial #: 8846 **Inside** Sapphire Resource, LLC Watts Ranch #1 DST Test Number: 2



Trilobite Testing, Inc Ref. No: 65403 Printed: 2019.10.04 @ 11:07:00



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Prepared For: **Sapphire Resource, LLC**

61 Pronghorn Meadow Lane
Gillette, WY 82718-0116

ATTN: Rick Briscoe/Bruce A

Watts Ranch #1

15-34S-12W Barber, KS

Start Date: 2019.10.02 @ 18:29:01

End Date: 2019.10.03 @ 04:46:30

Job Ticket #: 65404 DST #: 3

Trilobite Testing, Inc

1515 Commerce Parkway Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620

Printed: 2019.10.04 @ 11:04:19

DRILL STEM TEST REPORT

Sapphire Resource, LLC

61 Pronghorn Meadow Lane
Gillette, WY 82718-0116

ATTN: Rick Briscoe/Bruce A

15-34S-12W Barber, KS

Watts Ranch #1

Job Ticket: 65404 **DST#: 3**

Test Start: 2019.10.02 @ 18:29:01

GENERAL INFORMATION:

Formation: **Upper Mississippian**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 20:21:40
Time Test Ended: 04:46:30

Test Type: Conventional Straddle (Initial)
Tester: Jimmy Ricketts
Unit No: 80

Interval: 4640.00 ft (KB) To 4690.00 ft (KB) (TVD)
Total Depth: 5470.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

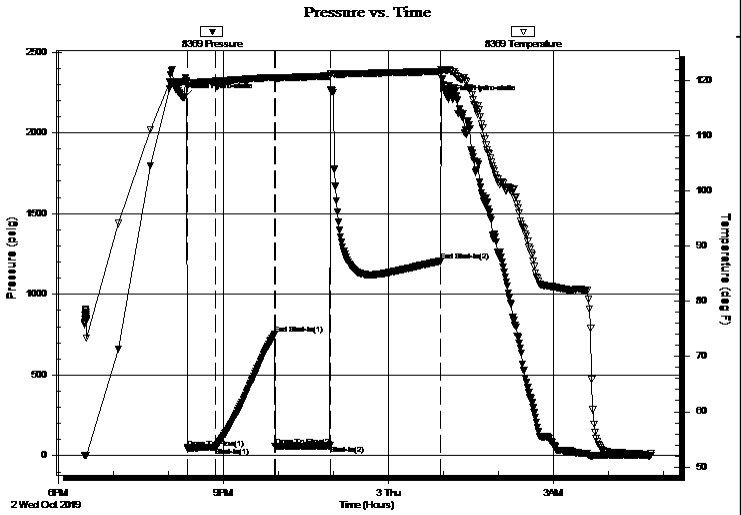
Reference Elevations: 1434.00 ft (KB)
1421.00 ft (CF)
KB to GR/CF: 13.00 ft

Serial #: 8369 **Outside**

Press@RunDepth: 64.07 psig @ 4680.00 ft (KB)
Start Date: 2019.10.02 End Date: 2019.10.03
Start Time: 18:29:01 End Time: 04:46:30

Capacity: 8000.00 psig
Last Calib.: 1899.12.30
Time On Btm: 2019.10.02 @ 20:17:20
Time Off Btm: 2019.10.03 @ 01:06:00

TEST COMMENT: IF - Weak blow building to 8"
FF - Weak blow building to strong blow 53 minutes. Continued to build to 13"



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2218.92	119.76	Initial Hydro-static
5	44.88	119.36	Open To Flow (1)
35	54.22	119.82	Shut-In(1)
99	753.74	120.54	End Shut-In(1)
100	56.98	120.38	Open To Flow (2)
160	64.07	120.77	Shut-In(2)
280	1204.27	121.59	End Shut-In(2)
289	2208.53	121.87	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
60.00	Drilling mud 100% M	0.30

Gas Rates

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

DRILL STEM TEST REPORT

Sapphire Resource, LLC

61 Pronghorn Meadow Lane
Gillette, WY 82718-0116

ATTN: Rick Briscoe/Bruce A

15-34S-12W Barber, KS

Watts Ranch #1

Job Ticket: 65404 **DST#: 3**

Test Start: 2019.10.02 @ 18:29:01

GENERAL INFORMATION:

Formation: **Upper Mississippian**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 20:21:40
Time Test Ended: 04:46:30

Test Type: Conventional Straddle (Initial)
Tester: Jimmy Ricketts
Unit No: 80

Interval: 4640.00 ft (KB) To 4690.00 ft (KB) (TVD)
Total Depth: 5470.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

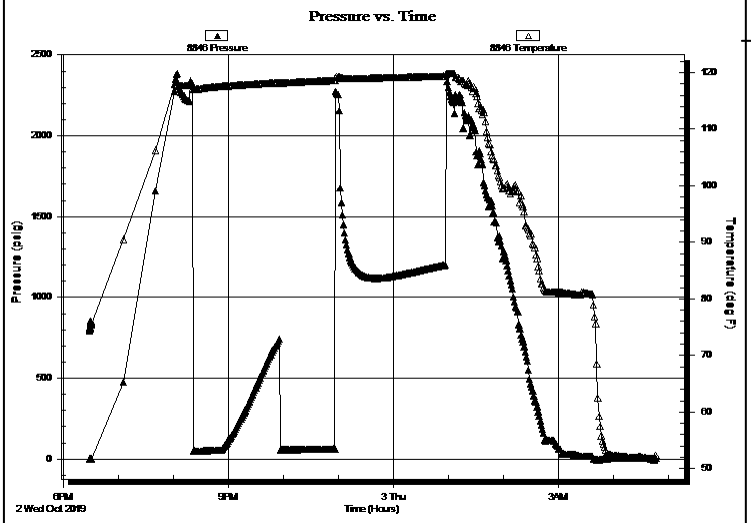
Reference Elevations: 1434.00 ft (KB)
1421.00 ft (CF)
KB to GR/CF: 13.00 ft

Serial #: 8846 **Inside**

Press@RunDepth: psig @ 4680.00 ft (KB)
Start Date: 2019.10.02 End Date: 2019.10.03
Start Time: 18:29:01 End Time: 04:47:19

Capacity: 8000.00 psig
Last Calib.: 1899.12.30
Time On Btm:
Time Off Btm:

TEST COMMENT: IF - Weak blow building to 8"
FF - Weak blow building to strong blow 53 minutes. Continued to build to 13"



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
60.00	Drilling mud 100% M	0.30

Gas Rates

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

DRILL STEM TEST REPORT

Sapphire Resource, LLC

61 Pronghorn Meadow Lane
Gillette, WY 82718-0116

ATTN: Rick Briscoe/Bruce A

15-34S-12W Barber, KS

Watts Ranch #1

Job Ticket: 65404 **DST#: 3**

Test Start: 2019.10.02 @ 18:29:01

GENERAL INFORMATION:

Formation: **Upper Mississippian**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 20:21:40
Time Test Ended: 04:46:30

Test Type: Conventional Straddle (Initial)
Tester: Jimmy Ricketts
Unit No: 80

Interval: 4640.00 ft (KB) To 4690.00 ft (KB) (TVD)
Total Depth: 5470.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

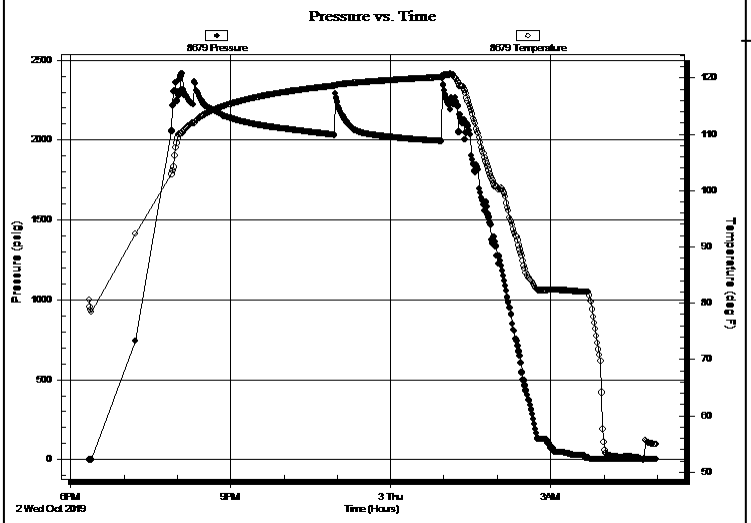
Reference Elevations: 1434.00 ft (KB)
1421.00 ft (CF)
KB to GR/CF: 13.00 ft

Serial #: 8679 **Below (Straddle)**

Press@RunDepth: psig @ 4696.00 ft (KB)
Start Date: 2019.10.02 End Date: 2019.10.03
Start Time: 18:21:05 End Time: 04:58:39

Capacity: 8000.00 psig
Last Calib.: 2019.10.02
Time On Btm:
Time Off Btm:

TEST COMMENT: IF - Weak blow building to 8"
FF - Weak blow building to strong blow 53 minutes. Continued to build to 13"



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
60.00	Drilling mud 100% M	0.30

Gas Rates

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

DRILL STEM TEST REPORT

TOOL DIAGRAM

Sapphire Resource, LLC

61 Pronghorn Meadow Lane
Gillette, WY 82718-0116

ATTN: Rick Briscoe/Bruce A

15-34S-12W Barber, KS

Watts Ranch #1

Job Ticket: 65404 **DST#: 3**

Test Start: 2019.10.02 @ 18:29:01

Tool Information

Drill Pipe:	Length:	4472.00 ft	Diameter:	3.80 inches	Volume:	62.73 bbl	
Heavy Wt. Pipe:	Length:	0.00 ft	Diameter:	inches	Volume:	0.00 bbl	
Drill Collar:	Length:	179.00 ft	Diameter:	2.25 inches	Volume:	0.88 bbl	
					Total Volume:	63.61 bbl	

Drill Pipe Above KB:	34.00 ft
Depth to Top Packer:	4640.00 ft
Depth to Bottom Packer:	4690.00 ft
Interval betw een Packers:	50.00 ft
Tool Length:	853.00 ft
Number of Packers:	3 Diameter: 6.75 inches

Tool Weight:		3400.00 lb
Weight set on Packer:		35000.00 lb
Weight to Pull Loose:		90000.00 lb
Tool Chased		5.00 ft
String Weight:	Initial	80000.00 lb
	Final	80000.00 lb

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths	
Change Over Sub	1.00			4618.00		
Shut In Tool	5.00			4623.00		
Hydraulic tool	5.00			4628.00		
Jars	5.00			4633.00		
Safety Joint	3.00			4636.00		
Packer	4.00			4640.00	23.00	Bottom Of Top Packer
Stubb	1.00			4641.00		
Perforations	7.00			4648.00		
Change Over Sub	0.50			4648.50		
Blank Spacing	31.00			4679.50		
Change Over Sub	0.50			4680.00		
Recorder	0.00	8369	Outside	4680.00		
Recorder	0.00	8846	Inside	4680.00		
Perforations	5.00			4685.00		
Stubb	4.00			4689.00		
Blank Off Sub	1.00			4690.00	50.00	Tool Interval
Packer	5.00			4695.00		
Stubb	1.00			4696.00		
Recorder	0.00	8679	Below	4696.00		
Perforations	15.00			4711.00		
Change Over Sub	0.50			4711.50		
Blank Spacing	752.00			5463.50		
Change Over Sub	0.50			5464.00		
Bullnose	6.00			5470.00	780.00	Bottom Packers & Anchor
Total Tool Length:	**853.00**					

DRILL STEM TEST REPORT

FLUID SUMMARY

Sapphire Resource, LLC

61 Pronghorn Meadow Lane
Gillette, WY 82718-0116

ATTN: Rick Briscoe/Bruce A

15-34S-12W Barber, KS

Watts Ranch #1

Job Ticket: 65404 **DST#: 3**

Test Start: 2019.10.02 @ 18:29:01

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:	57.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	8.99 in³	Gas Cushion Type:			
Resistivity:	ohm.m	Gas Cushion Pressure:	psig		
Salinity:	5000.00 ppm				
Filter Cake:	inches				

Recovery Information

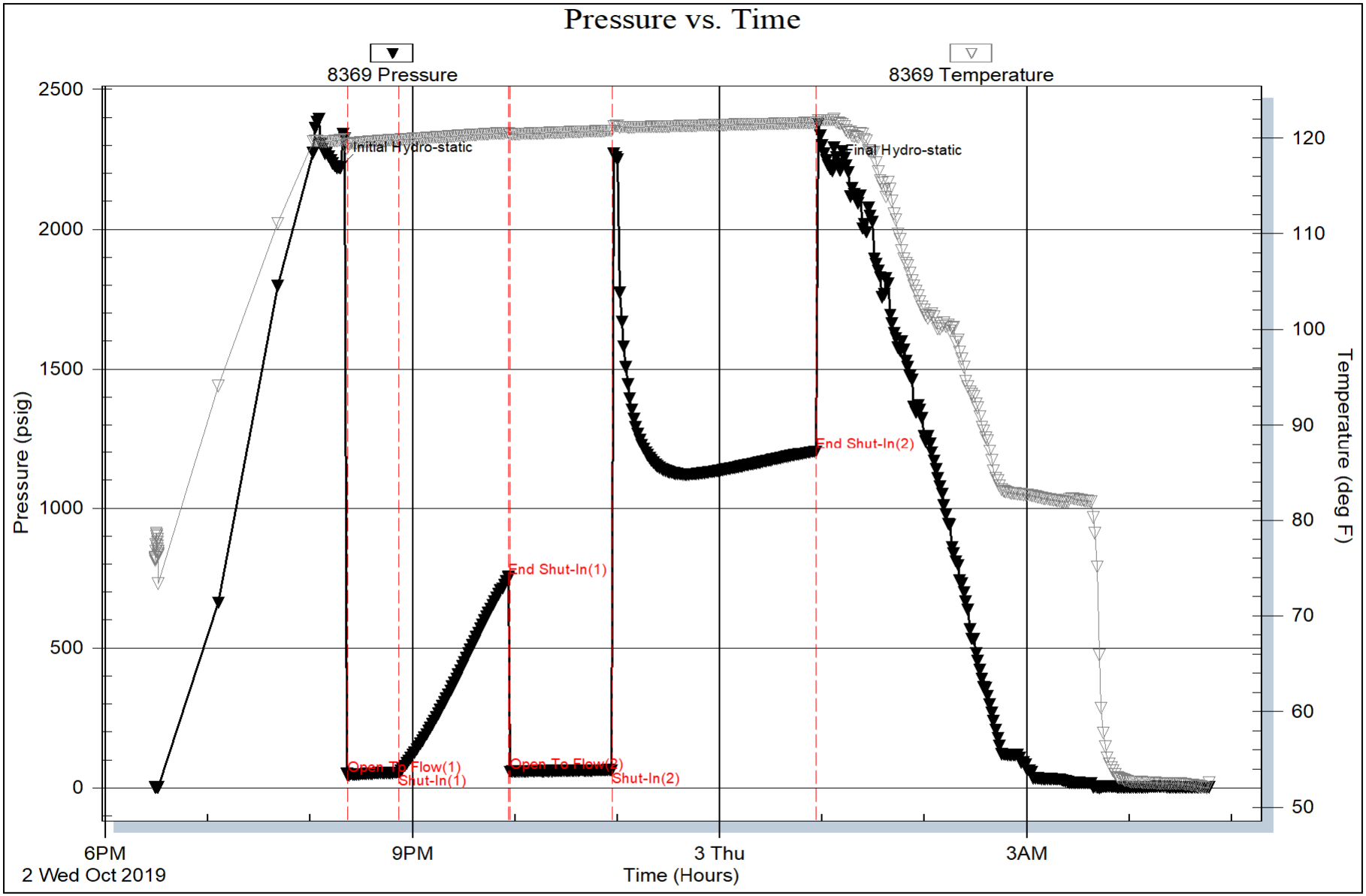
Recovery Table

Length ft	Description	Volume bbl
60.00	Drilling mud 100% M	0.295

Total Length: 60.00 ft Total Volume: 0.295 bbl

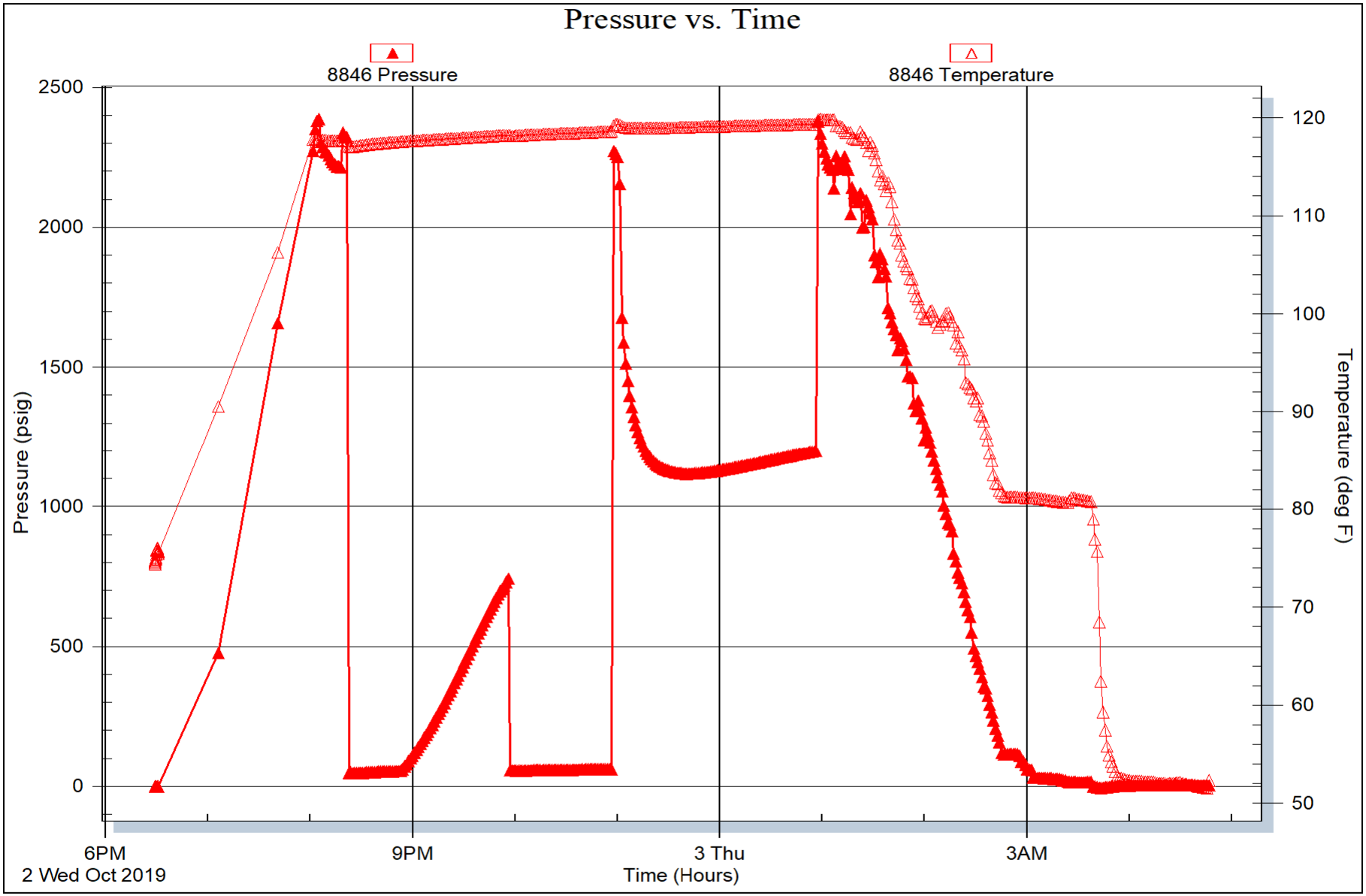
Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
Laboratory Name: Laboratory Location:
Recovery Comments:

Serial #: 8369 **Outside** Sapphire Resource, LLC Watts Ranch #1 DST Test Number: 3



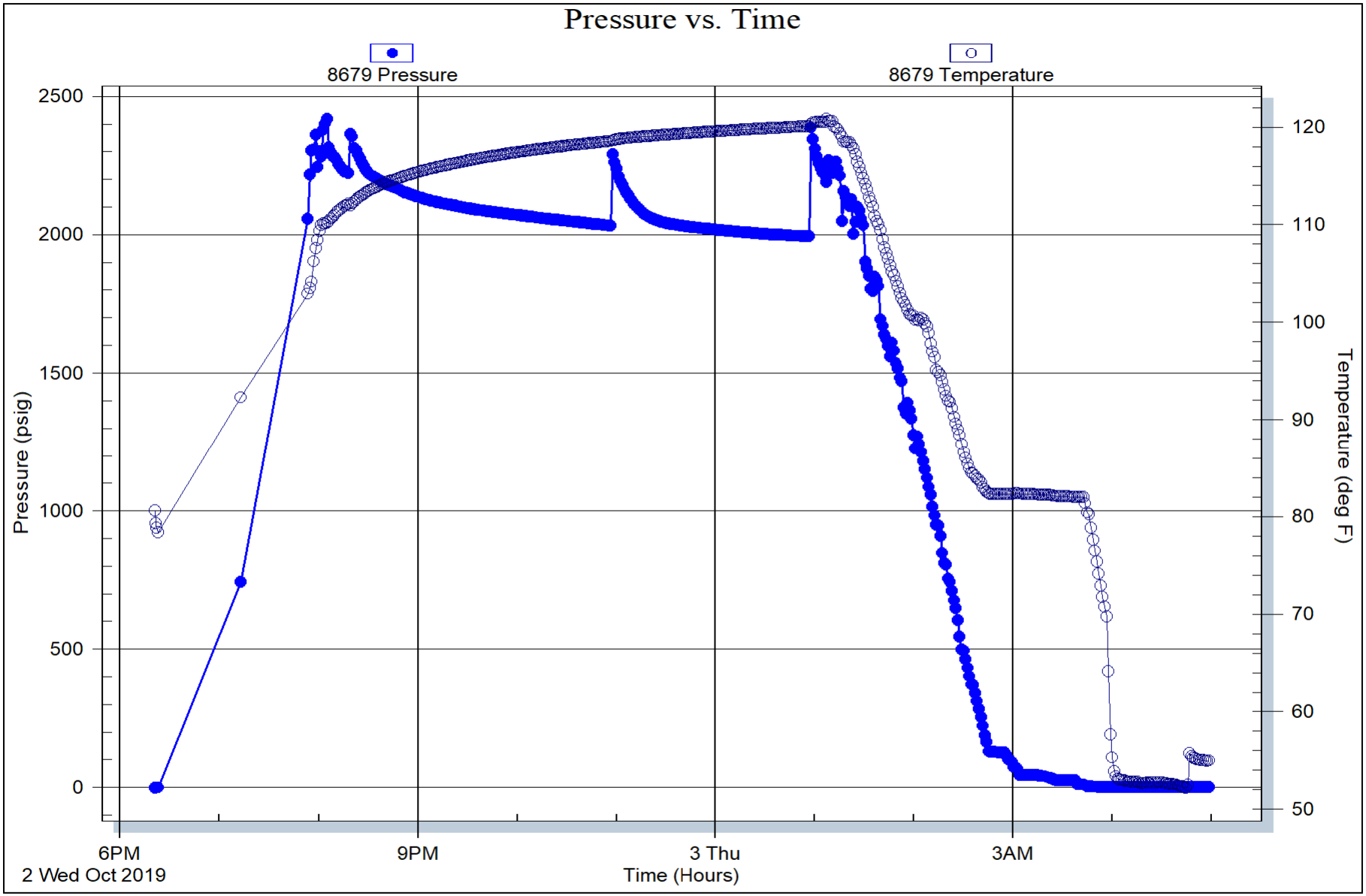
Trilobite Testing, Inc Ref. No: 65404 Printed: 2019.10.04 @ 11:04:20

Serial #: 8846 **Inside** Sapphire Resource, LLC Watts Ranch #1 DST Test Number: 3



Trilobite Testing, Inc Ref. No: 65404 Printed: 2019.10.04 @ 11:04:20

Serial #: 8679 **Below (Straddle)** Sapphire Resource, LLC Watts Ranch #1 DST Test Number: 3



Trilobite Testing, Inc Ref. No: 65404 Printed: 2019.10.04 @ 11:04:20

TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

4/10

Test Ticket

NO. 65402

Well Name & No. Watts Ranch #1 Test No. 1 Date 9-29-19

Company Sapphire Resources LLC Elevation 1434 KB 1421 GL

Address 61 Pronghorn Meadow Lane Gillette, WY. 82718-0116

Co. Rep / Geo. Rick Briscoe / Bruce Ard Rig Duke Drilling #7

Location: Sec. 15 Twp 34 S Rge. 12 W Co. Barber State KS

Interval Tested 4830-4930 Zone Tested Mississippian

Anchor Length 100' Drill Pipe Run 4632 Mud Wt. 9.5

Top Packer Depth 4825 Drill Collars Run 179 Vis 50

Bottom Packer Depth 4830 Wt. Pipe Run 0 WL 10.6

Total Depth 4930 Chlorides 8000 ppm System LCM

Blow Description IF - Weak blow building to 3 inches IFA
FF - Weak blow staying at 1/2 inches during FFP

Rec 40	Feet of Oil Spotted mud	%gas	%oil	%water 9	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 40 BHT 121 Gravity ____ API RW ____ @ ____ °F Chlorides ____ ppm

(A) Initial Hydrostatic 2411	☑ Test 1300	T-On Location 1520	
(B) First Initial Flow 36	☑ Jars 250	T-Started 1638	
(C) First Final Flow 28	☑ Safety Joint 75	T-Open 1857	
(D) Initial Shut-In 111	☐ Circ Sub	T-Pulled 2157	
(E) Second Initial Flow 20	☐ Hourly Standby	T-Out 0030	
(F) Second Final Flow 28	☑ Mileage 110 RT 200	Comments	
(G) Final Shut-In 64	☐ Sampler		
(H) Final Hydrostatic 2349	☐ Straddle	☐ EM Tool	
	☐ Shale Packer	☐ Ruined Shale Packer	
Initial Open 30	☐ Extra Packer	☐ Ruined Packer	
Initial Shut-In 60	☐ Extra Recorder	☐ Extra Copies	
Final Flow 30	☐ Day Standby	Sub Total 0	
Final Shut-In 60	☐ Accessibility	Total 1735	
	Sub Total 1735	MP/DST Disc't	

Approved By [signature] Our Representative [signature]

TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

4/10

Test Ticket

NO. 65403

Well Name & No. Watts Ranch #1 Test No. 2 Date 9-30-19

Company Sapphire Resources, LLC Elevation 1434 KB 1421 GL

Address 61 Pronghorn Meadow Lane, Gillette, WY, 82718-0116

Co. Rep / Geo. Rick Briscoe / Bruce Ard Rig Duke Drilling #7

Location: Sec. 15 Twp 34 S Rge. 12 W Co. Barber State KS

Interval Tested 5042-5092 Zone Tested Misener

Anchor Length 50' Drill Pipe Run 4849 Mud Wt. 9.3

Top Packer Depth 5037 Drill Collars Run 179 Vis 65

Bottom Packer Depth 5042 Wt. Pipe Run 0 WL 9.6

Total Depth 5092 Chlorides 6000 ppm System LCM

Blow Description IF - No blow. Flushed tool 18 min. into IFP. No help

FF - No blow

Rec 5	Feet of Drilling Mud	%gas	%oil	%water 100	%mud	
Rec	Feet of	%gas	%oil	%water	%mud	
Rec	Feet of	%gas	%oil	%water	%mud	
Rec	Feet of	%gas	%oil	%water	%mud	
Rec	Feet of	%gas	%oil	%water	%mud	

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

(A) Initial Hydrostatic 2525	☑ Test 1400	T-On Location ~~1300~~ 1400	
(B) First Initial Flow 67	☑ Jars 250	T-Started 1517	
(C) First Final Flow 43	☑ Safety Joint 75	T-Open 1753	
(D) Initial Shut-In 44	☐ Circ Sub	T-Pulled 1953	
(E) Second Initial Flow 44	☐ Hourly Standby	T-Out 2200	
(F) Second Final Flow 40	☑ Mileage 110 RT 50	Comments	
(G) Final Shut-In 41	☐ Sampler		
(H) Final Hydrostatic 2412	☐ Straddle	☐ EM Tool	
	☐ Shale Packer	☐ Ruined Shale Packer	
Initial Open 30	☐ Extra Packer	☐ Ruined Packer	
Initial Shut-In 30	☐ Extra Recorder	☐ Extra Copies	
Final Flow 30	☐ Day Standby	Sub Total 0	
Final Shut-In 30	☐ Accessibility	Total 1835	
	Sub Total 1835	MP/DST Disc't	

Approved By Bruce B. Ard Our Representative Jimmy Dilloth

TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

4/10

Test Ticket

NO. 65404

Well Name & No. Watts Ranch #1 Test No. 3 Date 10-2-19

Company Sapphire Resources, LLC Elevation 1434 KB 1421 GL

Address 61 Pronghorn Meadow Lane, Gillette, WY, 82718-0116

Co. Rep / Geo. Rick Briscoe / Brace Ard Rig Duke Drilling #7

Location: Sec. 15 Twp 34 S Rge. 12 W Co. Barber State KS

Interval Tested 4640 - 4690 Zone Tested Mississippian

Anchor Length 50' Drill Pipe Run 4472 Mud Wt. 9.3

Top Packer Depth 4640 Drill Collars Run 179 Vis 57

Bottom Packer Depth 4690, 4695 Wt. Pipe Run 0 WL 9.0

Total Depth 5470 Chlorides 5000 ppm System LCM

Blow Description IF-Weak blow building to 8 inches IFP
FF-Weak blow building to strong blow 53 mins. into FFP
Continuing to build to 13 inches FFP

Rec 60	Feet of Drilling Mud	%gas	%oil	%water	100	%mud
Rec	Feet of	%gas	%oil	%water		%mud
Rec	Feet of	%gas	%oil	%water		%mud
Rec	Feet of	%gas	%oil	%water		%mud
Rec	Feet of	%gas	%oil	%water		%mud

Rec Total 60 BHT 122 Gravity ____ API RW ____ @ ____ °F Chlorides ____ ppm

(A) Initial Hydrostatic	2219	☑ Test	1400	T-On Location	1700
(B) First Initial Flow	45	☑ Jars	250	T-Started	1821 B, 1829 I & O
(C) First Final Flow	54	☑ Safety Joint	75	T-Open	2022
(D) Initial Shut-In	754	☐ Circ Sub		T-Pulled	0057
(E) Second Initial Flow	57	☐ Hourly Standby		T-Out	0410
(F) Second Final Flow	64	☑ Mileage	110 RT 110	Comments	
(G) Final Shut-In	1204	☐ Sampler			
(H) Final Hydrostatic	2209	☑ Straddle	600	☐ EM Tool	
		☑ Shale Packer	250	☐ Ruined Shale Packer	
Initial Open	30	☐ Extra Packer		☐ Ruined Packer	
Initial Shut-In	65	☐ Extra Recorder		☐ Extra Copies	
Final Flow	60	☐ Day Standby		Sub Total	0
Final Shut-In	120	☐ Accessibility		Total	2685
		Sub Total	2685	MP/DST Disc't	

Approved By ____ Our Representative Jimmy Richards

RILLING

DAILY DRILLING REPORT

RIG# 7 TOOLPUSHER _____ DAYS FROM SPUD 10 DATE 10-04-19

WELL NAME Watts Ranch #1 OPERATOR Sapphire Rox LLC LEGALS 18 3N-12W

DEPTH 5470 FOOTAGE LAST 24 HOURS -0- FORMATION ARB/

RESENT OPERATION Rig down NO. DAYS SINCE LAST LTA _____ HRS WORKED _____

PUMP PRES -0- GPM _____ SPM#1 _____ SPM#2 _____

BIT#	SIZE	TYPE	SERIAL #	JET SIZE	IN	OUT	FOOTAGE	HRS	FT/HR	WOB	RPM
			- Same -								

BHA	DC	LENGTH	WT	AV DP	DC	OTHER

MUD

MUD MIXED	GEL	CAU	C/F	HULLS	BAR	DRIS	THIN
NONE	LIME	DESCO	LIG	S.ASH	DESCO		

OTHER _____ VOL. HOLE _____ VOL. PITS _____

DMC $ _____ TMC $ _____ MUD CO. _____ MUD ENG _____

Wt In/Out	Visc Sec/Cps	PWYp	Gals 0/10	Wt LT/HT	FC 32nds	pH	% Sand	% Solids	% Oil	% LCM	Chloride ppm	CA ppm	ALKM PF	ALKM MF	F In/Out
		/	/												

SURVEYS _____ FUEL ON HAND 25" Fuel End LAST 24 HRS. 74 FOR WELL _____

TIME _____ FUEL DEL. _____ PRICE _____

START	END	Hr	Min	OPERATION	DEPTH
700	745		45	T.I.H	5470
745	900	1	15	W.O.O	
900	1100	2	-	Lay down DP	
1100	113	2	15	Wait on Cementers	
113	145		30	Cement Asbuckle @ 5350	
145	730	5	45	LDDP & Plug	
730	930	2	-	Clean Pits	
930	700	9	30	Rig down	

TIME DIST	TODAY	CUM
RU/RD	9 1/2	
Drlg		
Ream/Wash		
Survey		
Trip	3/4	
Rig Serv		
Circ/Cond		
Run Csg/Cmt		
WOC		
NU/TST/BOP		
Repair		
~~Wait~~ Wait on Cementers	2 1/4	
Fish		
DST		
WOO	1 1/4	
Clean Pits	2	
Lay down DP	2	
LDDP & Plug	6 1/4	
Misc.		
TOTAL	24	

CASING RAN _____ JJTS OF _____ CSG _____ LB _____ GRADE _____ TOTAL FEET SET _____

CEMENTED BY Basic Services WITH Plug w/ 50 sx @ 5350'

EQUIPMENT 260 sx 60/40 poz, 4% gel COMMENTS 50 sx @ 620'

Plug down @ 730 P.M 50 sx @ 240'

30 sx @ 80'

30 sx - RH

20 sx - MH

Rig released @ 930 P.M

10-03-19

BASIC ENERGY SERVICES
PRESSURE PUMPING & WIRELINE

10244 NE Hwy. 61
P.O. Box 8613
Pratt, Kansas 67124
Phone 620-672-1201

TmH= 45

15-345-12w

FIELD SERVICE TICKET
1718 18196 A

DATE TICKET NO.

DATE OF JOB 10/3/2019	DISTRICT Pratt, KS	NEW WELL ☒ OLD WELL ☐ PROD ☐ INJ ☐ WDW ☐	CUSTOMER ORDER NO.:
CUSTOMER Briscoe Petroleum, LLC		LEASE Wyatts Ranch	WELL NO. 1
ADDRESS		COUNTY Barber	STATE KS
CITY	STATE	SERVICE CREW Dyron, Brent, Derrick	
AUTHORIZED BY		JOB TYPE: Z421 PTA	

EQUIPMENT#	HRS	EQUIPMENT#	HRS	EQUIPMENT#	HRS
19843	6 1/4				
19860	1/2				

	DATE		TIME
TRUCK CALLED	10/3	AM PM	9:00
ARRIVED AT JOB	10/3	AM PM	11:30
START OPERATION	10/3	AM PM	1:15
FINISH OPERATION	10/3	AM PM	7:30
RELEASED	10/3	AM PM	8:00
MILES FROM STATION TO WELL	31		

CONTRACT CONDITIONS: (This contract must be signed before the job is commenced or merchandise is delivered).
The undersigned is authorized to execute this contract as an agent of the customer. As such, the undersigned agrees and acknowledges that this contract for services, materials, products, and/or supplies includes all of and only those terms and conditions appearing on the front and back of this document. No additional or substitute terms and/or conditions shall become a part of this contract without the written consent of an officer of Basic Energy Services LP.

SIGNED: Richard D Rowe
(WELL OWNER, OPERATOR, CONTRACTOR OR AGENT)

ITEM/PRICE REF. NO.	MATERIAL, EQUIPMENT AND SERVICES USED	UNIT	QUANTITY	UNIT PRICE	$ AMOUNT
BC132	60/40 Poz	SK	260		7,020 00
CC200	Cement Gel	LB	448		274 00
ME101	Light Vehicle Mileage	MI	50		250 00
ME102	Heavy Equipment Mileage	MI	100		800 00
CC6	Depth Charge	HR	1		2,900 00
CE240	Blending & Mixing Service Charge	SK	260		364 00
BE143	Service Supervisor Charge	EA	1		75 00
BE144	Driver Charge	EA	3		105 00

CHEMICAL / ACID DATA:			

SUB TOTAL

SERVICE & EQUIPMENT	%TAX ON $	
MATERIALS	%TAX ON $	

Discounted TOTAL

SERVICE REPRESENTATIVE Dillon Franklin

THE ABOVE MATERIAL AND SERVICE ORDERED BY CUSTOMER AND RECEIVED BY: Richard D Rowe
(WELL OWNER OPERATOR CONTRACTOR OR AGENT)

FIELD SERVICE ORDER NO.

CLOUD LITHO - Abilene, TX

BASIC ENERGY SERVICES
PRESSURE PUMPING & WIRELINE

10244 NE Hwy. 61
P.O. Box 8613
Pratt, Kansas 67124
Phone 620-672-1201

TmH = 40

FIELD SERVICE TICKET
1718 18340 A

DATE TICKET NO. 18340

DATE OF JOB 9-25-19	DISTRICT Pratt KS. #1718	NEW WELL ☒ OLD WELL ☐ PROD ☐ INJ ☐ WDW ☐	CUSTOMER ORDER NO.:
CUSTOMER Briscoe Petroleum		LEASE Watts Ranch	WELL NO. 1
ADDRESS		COUNTY Barber	STATE Kansas
CITY	STATE	SERVICE CREW Carl B Eddie M. Clarence G	
AUTHORIZED BY		JOB TYPE: Surface E-42	

EQUIPMENT#	HRS	EQUIPMENT#	HRS	EQUIPMENT#	HRS
20920-20920	1.50				
33708-73768	1.25				

TRUCK CALLED	9-24-19	AM PM	3:30 P
ARRIVED AT JOB	9-24-19	AM PM	8:30
START OPERATION	9-25-19	AM PM	8:30
FINISH OPERATION	9-25-19	AM PM	7:00
RELEASED	9-25-19	AM PM	7:30
MILES FROM STATION TO WELL			50

CONTRACT CONDITIONS: (This contract must be signed before the job is commenced or merchandise is delivered).
The undersigned is authorized to execute this contract as an agent of the customer. As such, the undersigned agrees and acknowledges that this contract for services, materials, products, and/or supplies includes all of and only those terms and conditions appearing on the front and back of this document. No additional or substitute terms and/or conditions shall become a part of this contract without the written consent of an officer of Basic Energy Services LP.

SIGNED: Arlen D Roach
(WELL OWNER, OPERATOR, CONTRACTOR OR AGENT)

ITEM/PRICE REF. NO.	MATERIAL, EQUIPMENT AND SERVICES USED	UNIT	QUANTITY	UNIT PRICE	$ AMOUNT
BC 100	Class A Cement	SK	200		6200 —
CC 102	Cello Flake	lb	51		204 —
CC 109	Calcium chloride	lb	376		376 —
ME 101	Light Vehicle mileage	mi	50		250 —
ME 102	Heavy Equipment mileage	mi	100		800 —
CC 1	Depth Charge 0'-1000'	HR	1		1200 —
CE 240	Blending + mixing charge	SK	200		280 —
CF 505	10 3/4" stop Ring	ea	1		55 —
CF 1755	10 3/4 Centralizers	ea	6		660 —
BE 143	Service Supervisor Charge	ea	1		75 —
BE 144	Driver Charge	ea	3		105 —

CHEMICAL / ACID DATA:

SUB TOTAL

SERVICE & EQUIPMENT	%TAX ON $	
MATERIALS	%TAX ON $	

SERVICE REPRESENTATIVE Carl Bales

THE ABOVE MATERIAL AND SERVICE ORDERED BY CUSTOMER AND RECEIVED BY: Arlen D Roach
(WELL OWNER OPERATOR CONTRACTOR OR AGENT)

FIELD SERVICE ORDER NO.

CLOUD LITHO - Abilene, TX

Cement Callsheet

BASIC ENERGY SERVICES

Company	Briscoe Petroleum, LLC	Service Point	Pratt, KS
		Contact Person	Justin Westerman 620-672-1201

Well Type	New	CONTRACTOR	Duke 7		COUNTY	Barber		STATE	KS
LEASE	Watts Ranch	WELL #	1	SEC	15	TWP	34s	RANGE	12w

DIRECTIONS:

281 Hwy. & Hardtner Shortcut - 9 Southwest to Hargis Road
1 East, Northeast into

Job Type	200' Surface Casing	Casing Size 10 3/4	Thread 8RD	Weight 24
Equipiment	Will land 10 3/4" casing with an adaptor and a 8 5/8" landing joint	Tubing/Drill Pipe Size	Thread	Weight
		Hole Size 14 3/4	Packer	Bridge Plug
Remarks:	cement through 8 5/8" swage & valve	Plug Container No	Casing Swivel	Squeeze Manifold

10 3/4" Surface Casing

CEMENT DATA

LEAD 1	Weight PPG	Type		Additives
Sacks	Excess	Yield Ft³/sk	Water Gal/sk	
TAIL 1	Weight PPG	Type		Additives
CP100C	15.60	Common Cement		2% calcium chloride 0.25 pps celloflake
Sacks 200	Excess 100%	Yield Ft³/sk 1.20	Water Gal/sk 5.23	
LEAD 2	Weight PPG	Type		Additives
Sacks	Excess	Yield Ft³/sk	Water Gal/sk	
TAIL 2	Weight PPG	.		Additives
Sacks	Excess	Yield Ft³/sk	Water Gal/sk	
Rat Hole	Weight PPG	Type		Additives
Sacks	Excess	Yield Ft³/sk	Water Gal/sk	

Float Equipment

Part #	Quanity	Description	# Used	# Returned
CF505	1	10 3/4" Stop Ring		
CF1755	7	Centralizer, 10 3/4" (Blue)		

Misc. Chemicals

Ordered By	Rick Briscoe	Phone	307-752-7630	Fax	Date of Job	
Call Taken By	Kevin Brungardt	Phone	620-213-1586	Email rbriscoe@briscoepet	Time Ready	
Operator or Driver Called					Call Out Time	

BASIC ENERGY SERVICES
PRESSURE PUMPING & WIRELINE

10244 NE Hwy. 61 Trip = 40
P.O. Box 8613
Pratt, Kansas 67124
Phone 620-672-1201

FIELD SERVICE TICKET
1718 18340 A

DATE TICKET NO. 18340

DATE OF JOB 9-25-19	DISTRICT Pratt KS. #1718	NEW WELL X / OLD WELL ☐ PROD ☐ INJ ☐ WDW ☐	CUSTOMER ORDER NO.:
CUSTOMER Briscoe Petroleum		LEASE Watts Ranch	WELL NO. 1
ADDRESS		COUNTY Barber	STATE Kansas
CITY	STATE	SERVICE CREW Carl B Eddie M. Clarence G	
AUTHORIZED BY		JOB TYPE: Surface Z-42	

EQUIPMENT#	HRS	EQUIPMENT#	HRS	EQUIPMENT#	HRS
84980 20920	50				
33708-73168	25				

TRUCK CALLED 9-24-19	DATE	AM PM TIME 8:30
ARRIVED AT JOB 9-24-19		AM PM 8:30
START OPERATION 9-25-19		AM PM 6:30
FINISH OPERATION 9-25-19		AM PM 7:00
RELEASED 9-25-19		AM PM 7:30
MILES FROM STATION TO WELL 50		

CONTRACT CONDITIONS: (This contract must be signed before the job is commenced or merchandise is delivered).
The undersigned is authorized to execute this contract as an agent of the customer. As such, the undersigned agrees and acknowledges that this contract for services, materials, products, and/or supplies includes all of and only those terms and conditions appearing on the front and back of this document. No additional or substitute terms and/or conditions shall become a part of this contract without the written consent of an officer of Basic Energy Services LP.

SIGNED: Aaron D Roach
(WELL OWNER, OPERATOR, CONTRACTOR OR AGENT)

ITEM/PRICE REF. NO.	MATERIAL, EQUIPMENT AND SERVICES USED	UNIT	QUANTITY	UNIT PRICE	$ AMOUNT
FC 100	Class A Cement	SX	200	/	6200 —
CC 102	Cello Flake	lb	51	/	204 —
CC 109	Calcium chloride	lb	376	/	376 —
ME 101	Light Vehicle mileage	mi	30		250 —
ME 102	Heavy equipment mileage	mi	100		300 —
CC 1	Depth Charge 0'-1000'	HR	1		1200 —
CE 240	Blending + mixing charge	SX	200		280 —
CF 505	10 3/4" stop Ring	ea	1	/	55 —
CF 1755	10 3/4 Centralizers	ea	6	/	660 —
BE 143	Service Supervisor Charge	ea	1		75 —
BE 144	Driver Charge	ea	3		105 —

SUB TOTAL 10205 00

CHEMICAL / ACID DATA:			

SERVICE & EQUIPMENT	%TAX ON $	
MATERIALS	%TAX ON $	

TOTAL 49920 00
JWW

SERVICE REPRESENTATIVE Carl Baker

THE ABOVE MATERIAL AND SERVICE ORDERED BY CUSTOMER AND RECEIVED BY: Aaron D Roach
(WELL OWNER OPERATOR CONTRACTOR OR AGENT)

FIELD SERVICE ORDER NO.

CLOUD LITHO - Abilene, TX

ASiC
Energy services, L.P.

TREATMENT REPORT

Customer: Bristoe Petroleum	Lease No.	Date: 9-25-19	
Lease: Watts Ranch	Well #: 1		
Field Order #: 18340	Station: Pratt, KS.	Casing: 10 3/4	Depth
County: Barber	State: KS		
Type Job: Surface	Formation	Legal Description: 15-34S	

PIPE DATA		PERFORATING DATA		FLUID USED
Casing Size: 10 3/4	Tubing Size	Shots/Ft		Acid
Depth: 212	Depth	From	To	Pre Pad
Volume	Volume	From	To	Pad
Max Press	Max Press	From	To	Frac
Well Connection	Annulus Vol.	From	To	
Plug Depth: 212 cem	Packer Depth	From	To	Flush

TREATMENT RESUME		
RATE	PRESS	ISIP
Max		5 Min.
Min		10 Min.
Avg		15 Min.
HHP Used		Annulus Pressure
Gas Volume		Total Load

Customer Representative: Caden Roach | Station Manager: Justin Westerman | Treater: CARL BALDING

Service Units	84980	20920	33708	73768							
Driver Names	Eddie	M	Clarence	Good							

Time	Casing Pressure	Tubing Pressure	Bbls. Pumped	Rate	Service Log
8:30 PM					On Location + Rig up
					Run 212' 10 3/4 Casing
					w/ 15' 8 5/8 Landing Joint
6:45 PM					Break circulation w/ Rig
	100		5	4	Start Freshwater
	75		42.75	4.5	Mix 200sk Class A + 2% gel + 4 flosea
	100		20.25	3	Displace with 20.5 Bbls water
					Leave 20' cement in casing
7:00 PM					Shut in
					Cement Did circulate

Taylor Printing, Inc. 620-672-3656

Scale 1:240 Imperial

Well Name:	Watts Ranch #1		
Surface Location:	Sec. 15 - T34S - R12W		
Bottom Location:			
API:	15-007-24359-00-00		
License Number:	35679		
Spud Date:	9/24/2019	Time:	12:00 AM
Region:	Mid Continent		
Drilling Completed:	10/2/2019	Time:	12:00 AM
Surface Coordinates:	35' FSL & 480' FWL		
Bottom Hole Coordinates:			
Ground Elevation:	1434.00ft		
K.B. Elevation:	1447.00ft		
Logged Interval:	2600.00ft	To:	5470.00ft
Total Depth:	5470.00ft		
Formation:	Misner		
Drilling Fluid Type:	Chemical/Fresh Water Gel		

OPERATOR

Company:	Sapphire Resources, LLC		
Address:	45 E. Loucks Street - Suite 209 P. O. Box 6690 Sheridan, WY 82801		
Contact Geologist:	Rick Briscoe		
Contact Phone Nbr:	307-752-7630		
Well Name:	Watts Ranch #1		
Location:	Sec. 15 - T34S - R12W		
API:	15-007-24359-00-00		
Pool:	Barber County	Field:	wildcat
State:	Kansas	Country:	USA

CONTRACTOR

Contractor:	Duke Drilling Company		
Rig #:	7		
Rig Type:	mud rotary		
Spud Date:	9/24/2019	Time:	12:00 AM
TD Date:	10/2/2019	Time:	12:00 AM
Rig Release:	10/3/2019	Time:	9:30 PM

LOGGED BY

Ard Consulting Services
Bruce B. Ard
6000 10th Street
Great Bend, KS 67530

Company:	A.C.S. - Ard Consulting Services		
Address:	6000 10th Street Great Bend, KS 67530		
Phone Nbr:	620-357-1849		
Logged By:	Geologist	Name:	Bruce B. Ard - KPG # 220

TOTAL DEPTH

Measurement Type:	Measurement Depth:	TVD:
	0.00	0.00

SURFACE CO-ORDINATES

Well Type:	Vertical
Longitude:	
Latitude:	
N/S Co-ord:	35' FSL
E/W Co-ord:	480' FWL

ELEVATIONS

K.B. Elevation: 1447.00ft
K.B. to Ground: 13.00ft
Ground Elevation: 1434.00ft

NOTES

After review of the Open Hole Logs, DST Results and Geological Log, it was recommended and agreed upon by all interested parties to cease drilling of the Watts Ranch #1 test well to plug and abandon as a dry hole.

The drilling samples were requested by the Kansas Geological Survey, located in Wichita, Ks. where they will be delivered, processed, and deposited.

Respectfully Submitted, Bruce B. Ard - KPG #220

Sapphire Resources, LLC

WELL COMPARISON SHEET

	DRILLING WELL Watts Ranch #1 35' FSL & 480' FWL Sec. 15 - T34S - R12W 1447 KB				COMPARISON WELL Lawrence #1 1570' FSL & 1320' FWL Sec. 15 - T34S - R12W 1426 KB		Structural Relationship	
Formation	Sample	Sub-Sea	Log	Sub-Sea	Log	Sub-Sea	Sample	Log
Kanawaka	3548	-2101	3550	-2103	3517	-2091	-10	-12
Elgin	3577	-2130	3579	-2132	3550	-2124	-6	-8
Heebner	3780	-2333	3777	-2330	3749	-2323	-10	-7
Br. Lime	3971	-2524	3969	-2522	3941	-2515	-9	-7
Lansing	3978	-2531	3976	-2529	3946	-2520	-11	-9
Stark	4440	-2993	4443	-2996	4411	-2985	-8	-11
Hushpuckney	4465	-3018	4470	-3023	4438	-3012	-6	-11
BKC	4518	-3071	4519	-3072	4486	-3060	-11	-12
Marmaton	4528	-3081	4534	-3087	4501	-3075	-6	-12
Cherokee	4646	-3199	4646	-3199	4617	-3191	-8	-8
Mississippian	4658	-3211	4658	-3211	4630	-3204	-7	-7
Kinderhook	4964	-3517	4948	-3501	4918	-3492	-25	-9
Woodford	5028	-3581	5018	-3571	4991	-3565	-16	-6
Misner	5062	-3615	5058	-3611	5027	-3601	-14	-10
Viola	5085	-3638	5083	-3636	5051	-3625	-13	-11
Simpson Sh	5175	-3728	5176	-3729	5143	-3717	-11	-12
1st sand	5190	-3743	5196	-3749	5164	-3738	-5	-11
2nd sand	5319	-3872	5318	-3871	5285	-3859	-13	-12
Arbuckle	5360	-3913	5360	-3913	5329	-3903	-10	-10
Total Depth	5470	-4023	5471	-4024	5374	-3948		

ROCK TYPES

Cht vari, Dolprim, Dolsec, Lmst fw7>, shale, grn, shale, gry, Carbon Sh, Shcol, Ss

ACCESSORIES

MINERAL
- ⊥ Calcareous
- ▲ Chert, dark
- ∠ Dolomitic
- ᔓ Glauconite
- P Pyrite
- ⁘ Sandy
- •• Silty
- △ Chert White
- Mc Mica
- Argillaceous/Shale

FOSSIL
- F Fossils < 20%
- Oomoldic

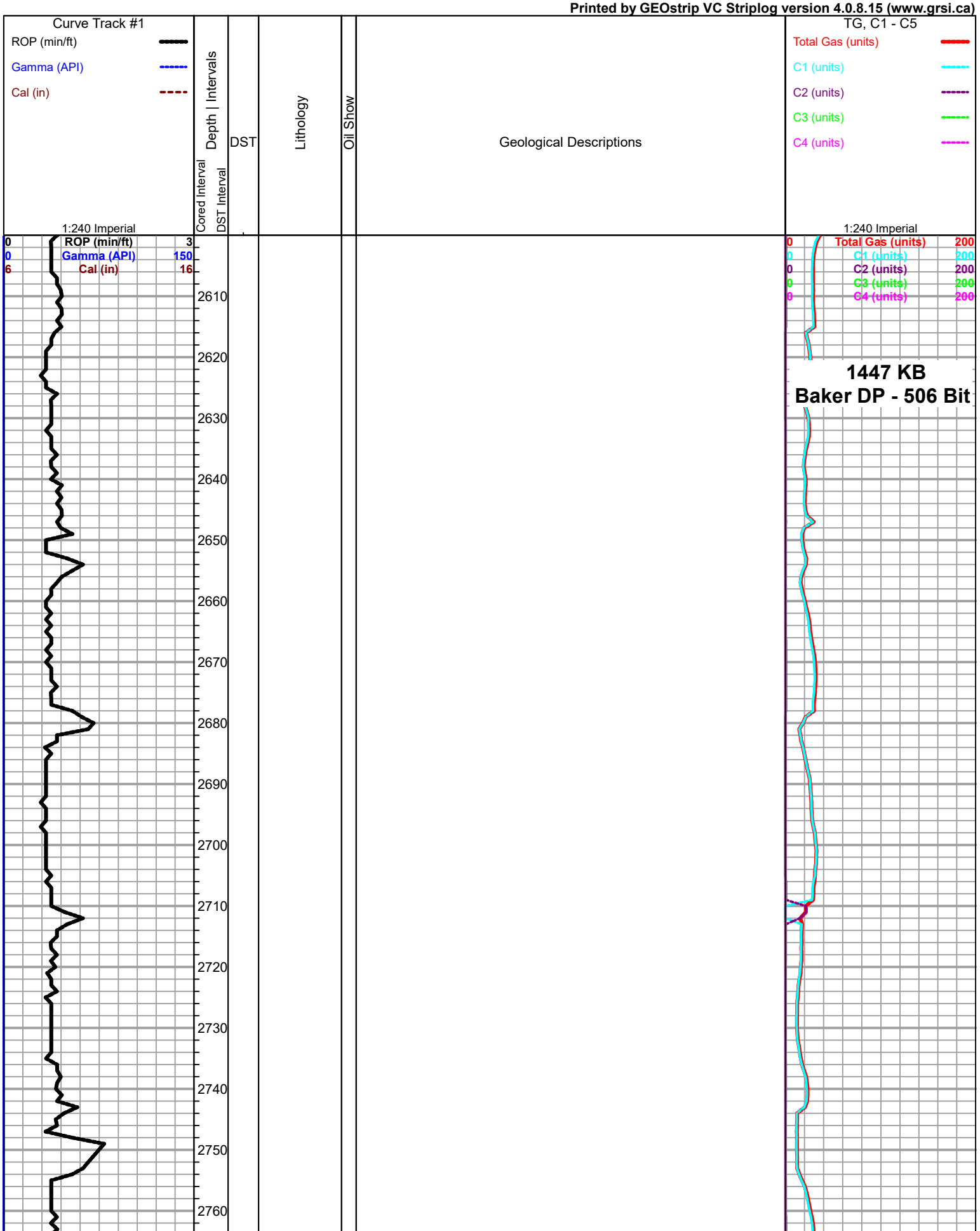
STRINGER
- Limestone
- Sandstone
- Siltstone
- Shale
- green shale
- red shale

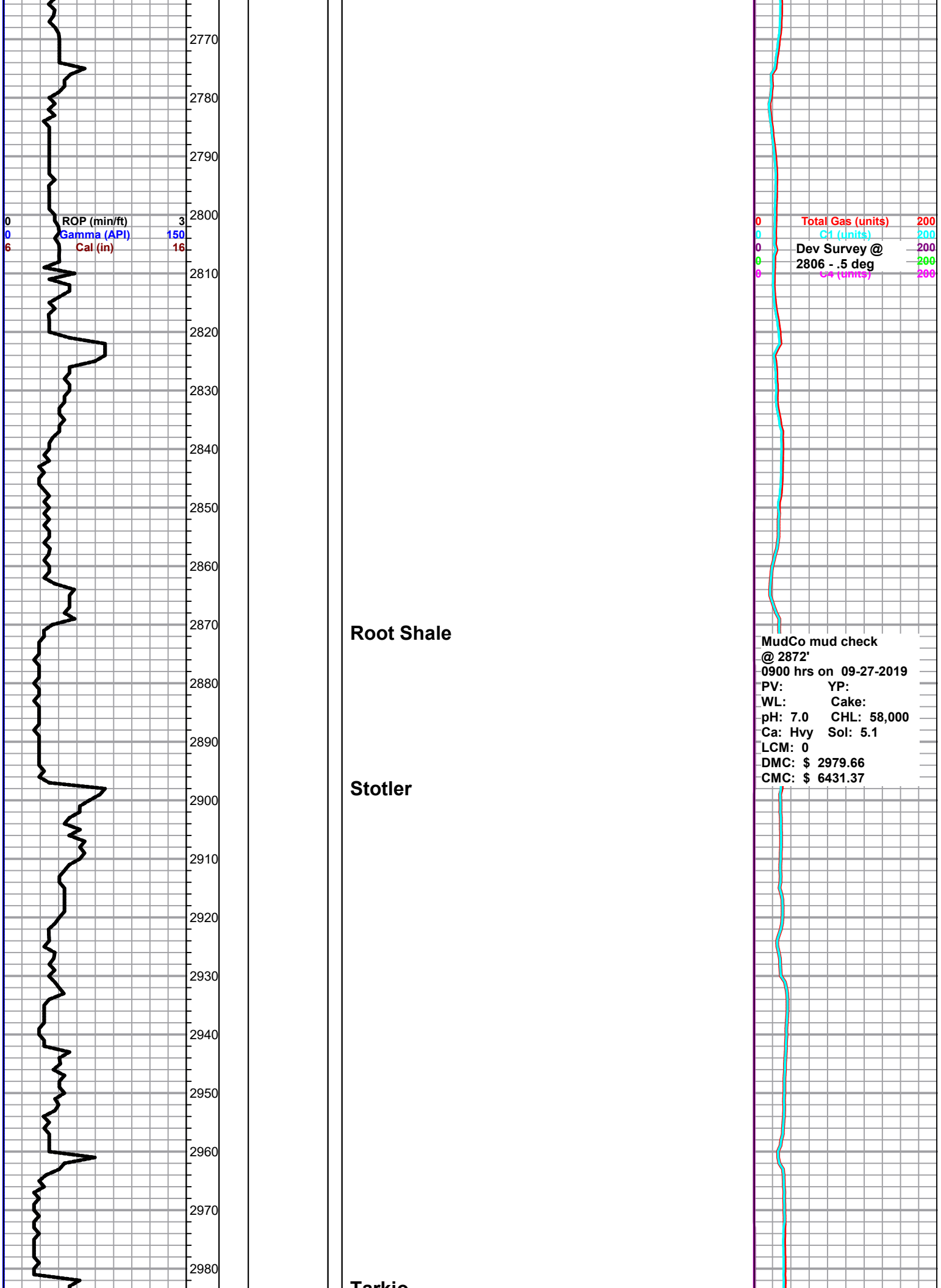
TEXTURE
- C Chalky
- FX Finexln

OTHER SYMBOLS

DST
DST Int
DST alt

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

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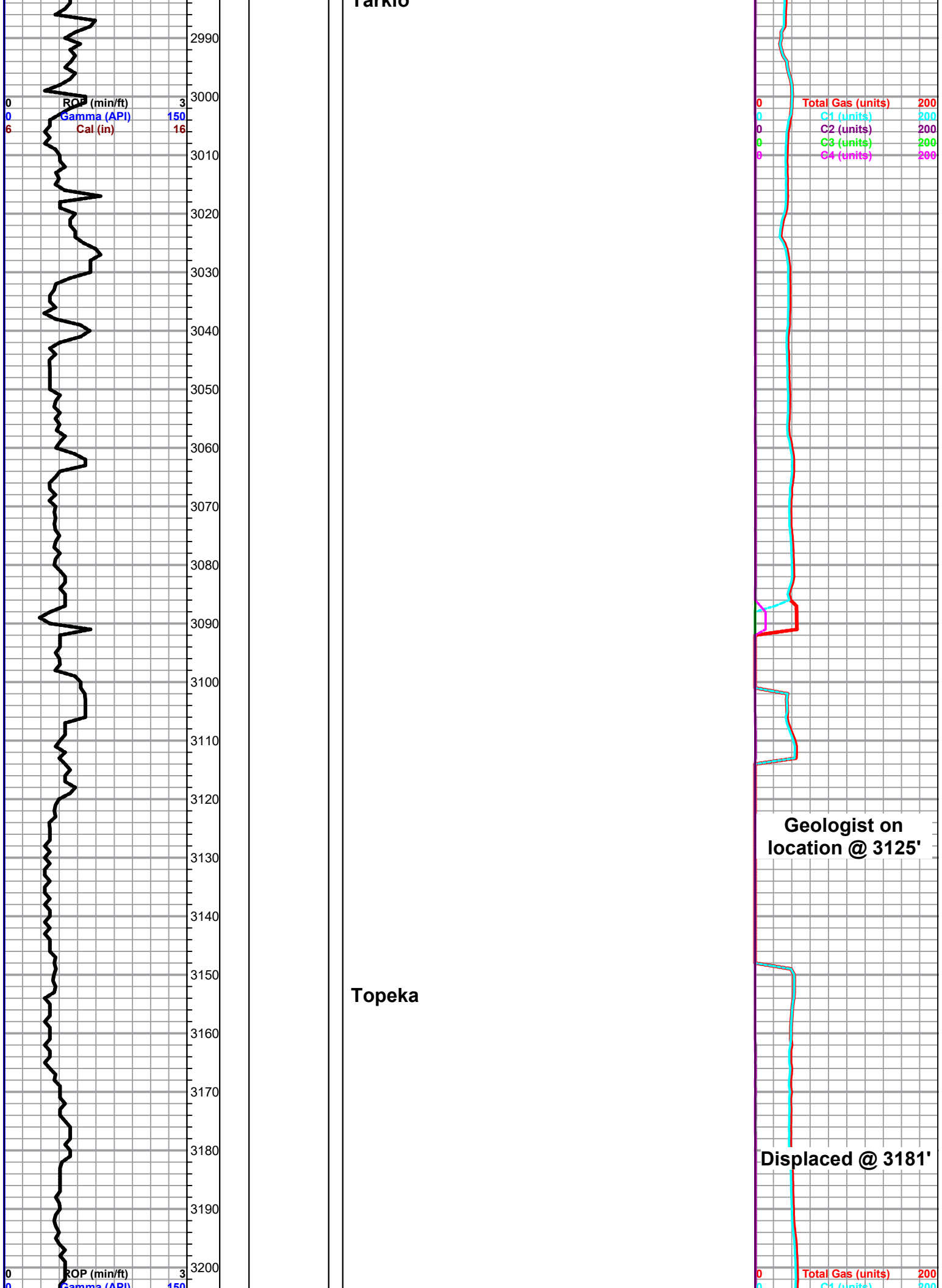
0 Gamma (API) 150
6 Cal (in) 16
2770
2780
2790
2800
2810
2820
2830
2840
2850
2860
2870
2880
2890
2900
2910
2920
2930
2940
2950
2960
2970
2980
0 Total Gas (units) 200
0 C1 (units) 200
0 Dev Survey @ 200
2806 - .5 deg
0 C4 (units) 200
Root Shale
MudCo mud check
@ 2872'
0900 hrs on 09-27-2019
PV: YP:
WL: Cake:
pH: 7.0 CHL: 58,000
Ca: Hvy Sol: 5.1
LCM: 0
DMC: $ 2979.66
CMC: $ 6431.37
Stotler


Tarkio
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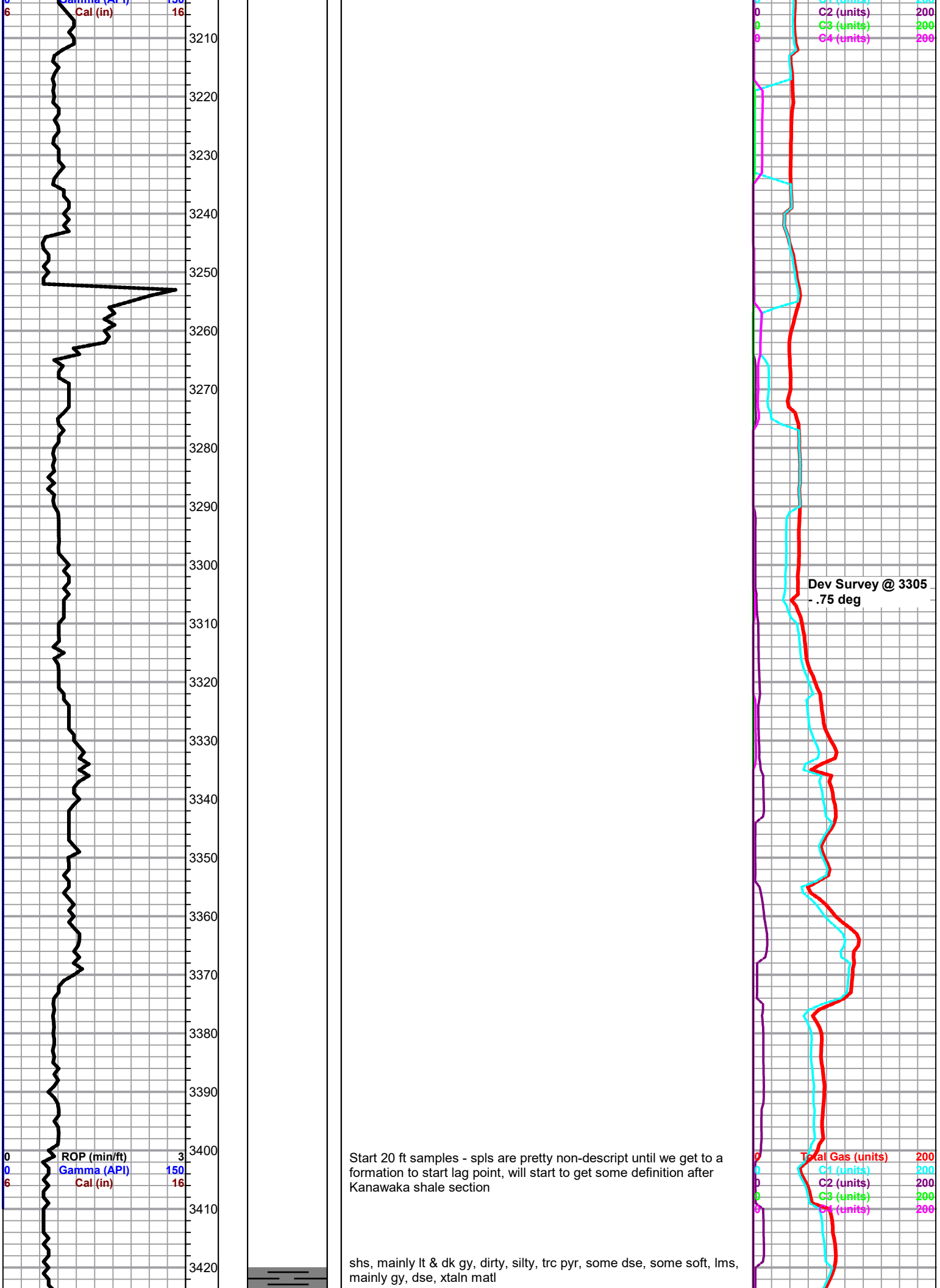
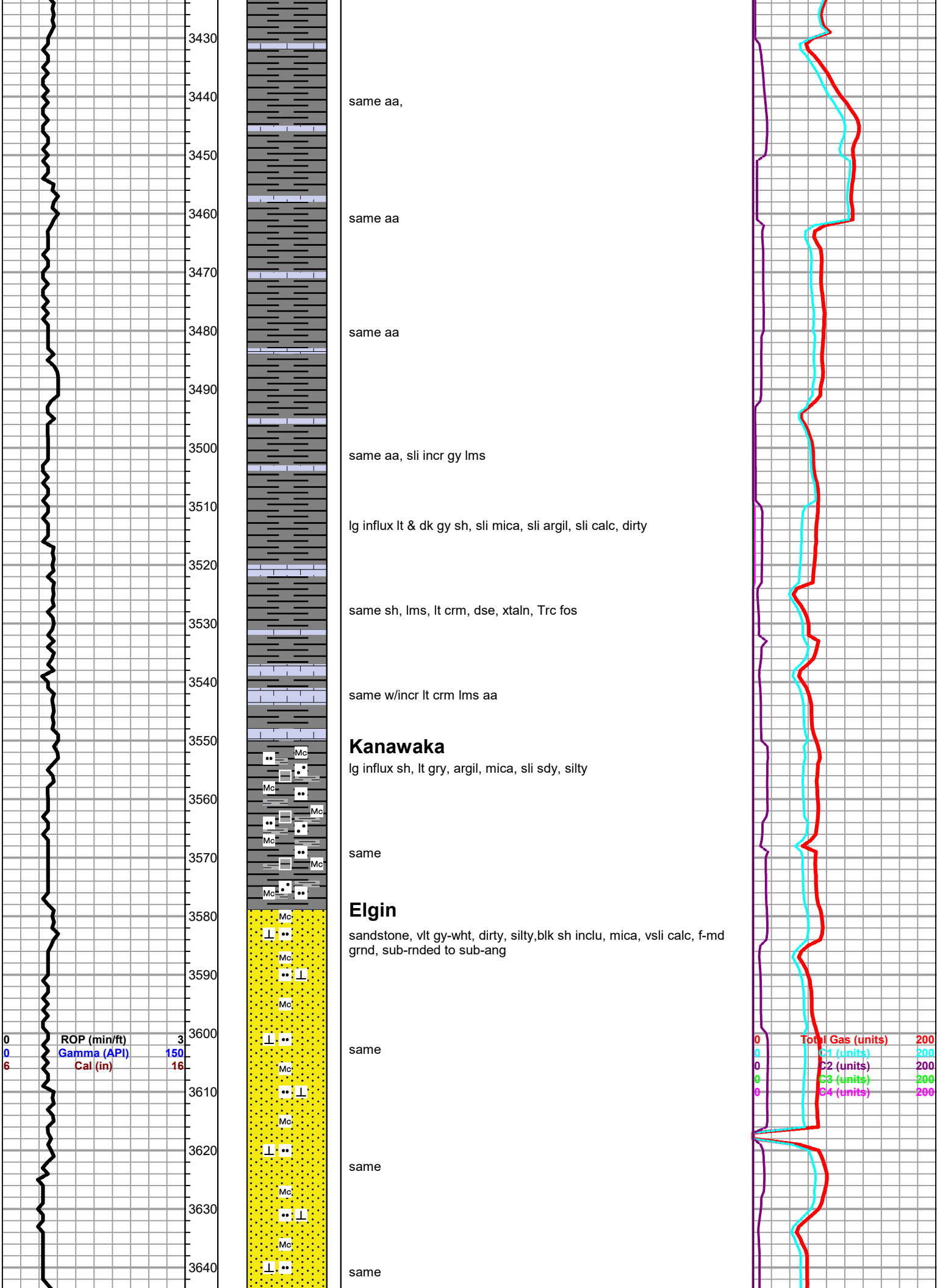
2990
3000
3010
3020
3030
3040
3050
3060
3070
3080
3090
3100
3110
3120
3130
3140
3150
3160
3170
3180
3190
3200
0 Total Gas (units) 200
0 C1 (units) 200
0 C2 (units) 200
0 C3 (units) 200
0 C4 (units) 200
Geologist on location @ 3125'
Topeka
Displaced @ 3181'
0 ROP (min/ft) 3
0 Total Gas (units) 200


Gamma (API) 150
Cal (in) 16
3210
3220
3230
3240
3250
3260
3270
3280
3290
3300
3310
3320
3330
3340
3350
3360
3370
3380
3390
3400
ROP (min/ft) 3
Gamma (API) 150
Cal (in) 16
3410
3420
C2 (units) 200
C3 (units) 200
C4 (units) 200
Dev Survey @ 3305
- .75 deg
Total Gas (units) 200
C1 (units) 200
C2 (units) 200
C3 (units) 200
C4 (units) 200
Start 20 ft samples - spls are pretty non-descript until we get to a formation to start lag point, will start to get some definition after Kanawaka shale section
shs, mainly lt & dk gy, dirty, silty, trc pyr, some dse, some soft, lms, mainly gy, dse, xtaln matl



same aa,

same aa

same aa

same aa, sli incr gy lms

lg influx lt & dk gy sh, sli mica, sli argil, sli calc, dirty

same sh, lms, lt crm, dse, xtaln, Trc fos

same w/incr lt crm lms aa

Kanawaka

lg influx sh, lt gry, argil, mica, sli sdy, silty

same

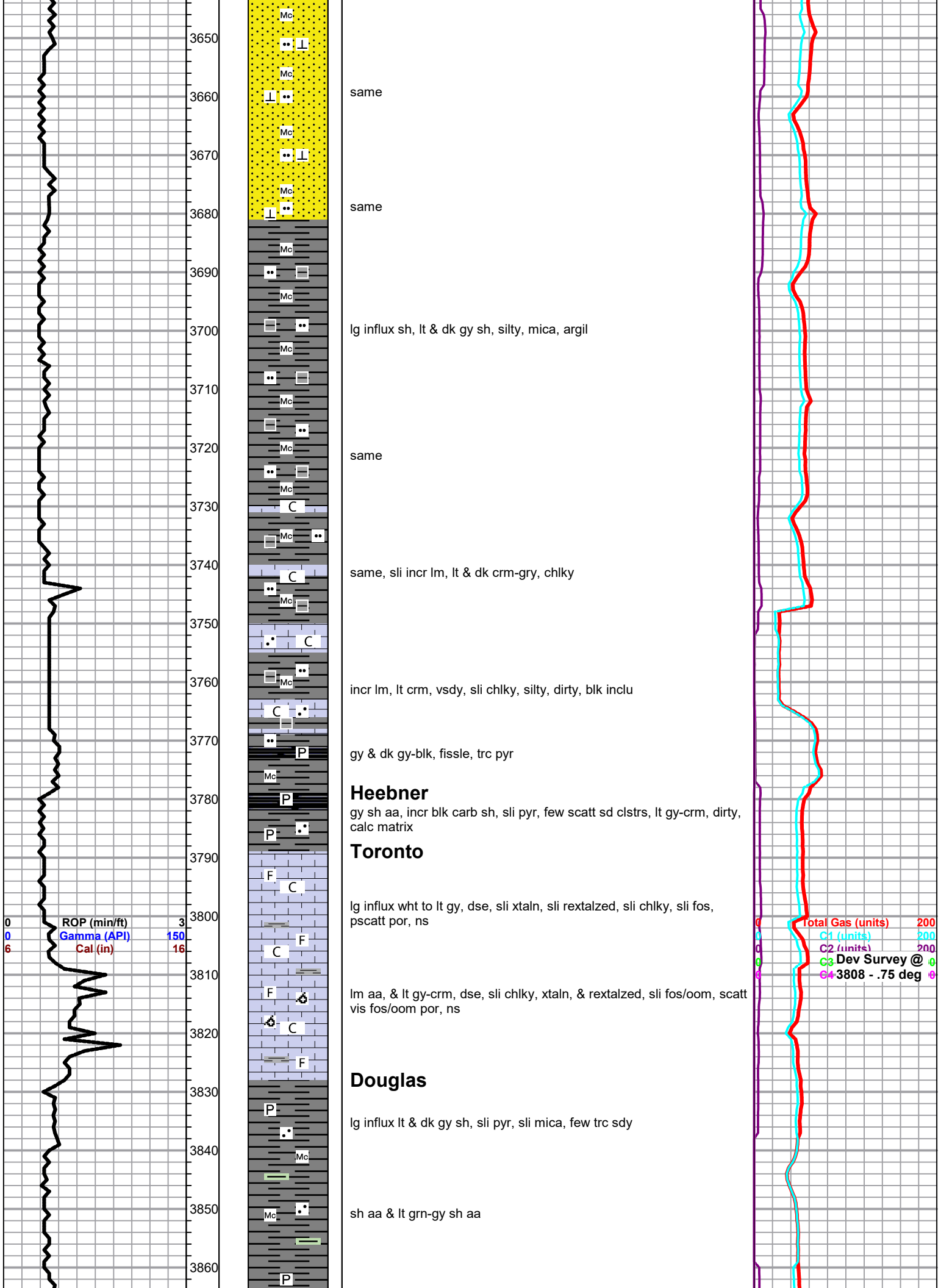
Elgin

sandstone, vlt gy-wht, dirty, silty,blk sh inclu, mica, vsli calc, f-md grnd, sub-rnded to sub-ang

same

same

same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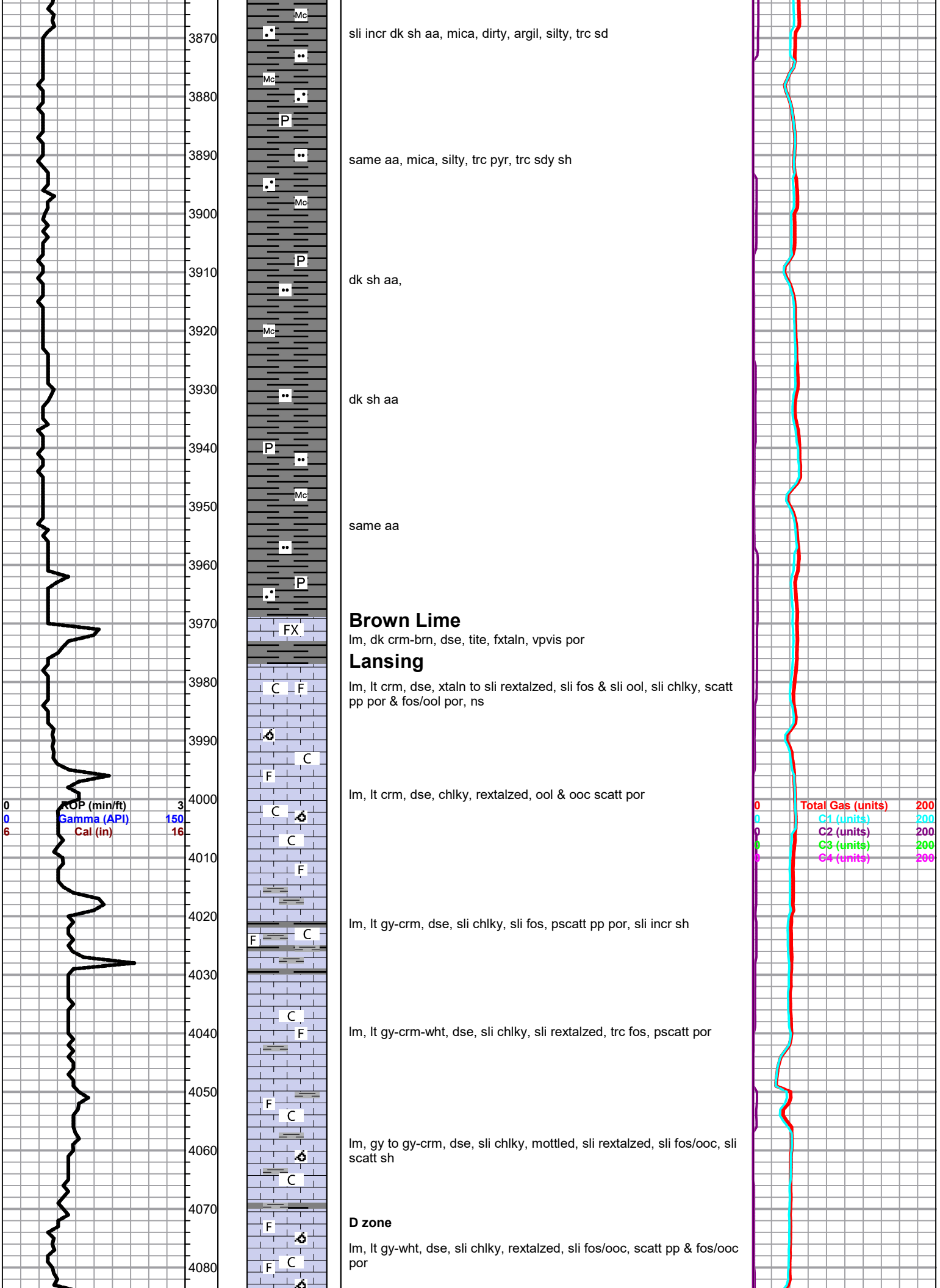
3650
3660
3670
3680
3690
3700
3710
3720
3730
3740
3750
3760
3770
3780
3790
3800
3810
3820
3830
3840
3850
3860
same
same
lg influx sh, lt & dk gy sh, silty, mica, argil
same
same, sli incr lm, lt & dk crm-gry, chlky
incr lm, lt crm, vsdy, sli chlky, silty, dirty, blk inclu
gy & dk gy-blk, fissle, trc pyr
Heebner
gy sh aa, incr blk carb sh, sli pyr, few scatt sd clstrs, lt gy-crm, dirty, calc matrix
Toronto
lg influx wht to lt gy, dse, sli xtaln, sli rextalzed, sli chlky, sli fos, pscatt por, ns
lm aa, & lt gy-crm, dse, sli chlky, xtaln, & rextalzed, sli fos/oom, scatt vis fos/oom por, ns
Douglas
lg influx lt & dk gy sh, sli pyr, sli mica, few trc sdy
sh aa & lt grn-gy sh aa
0 Total Gas (units) 200
0 C1 (units) 200
0 C2 (units) 200
0 C3 Dev Survey @ 0
0 C4 3808 - .75 deg 0



sli incr dk sh aa, mica, dirty, argil, silty, trc sd

same aa, mica, silty, trc pyr, trc sdy sh

dk sh aa,

dk sh aa

same aa

Brown Lime

lm, dk crm-brn, dse, tite, fxtaln, vpvis por

Lansing

lm, lt crm, dse, xtaln to sli rextalzed, sli fos & sli ool, sli chlky, scatt pp por & fos/ool por, ns

lm, lt crm, dse, chlky, rextalzed, ool & ooc scatt por

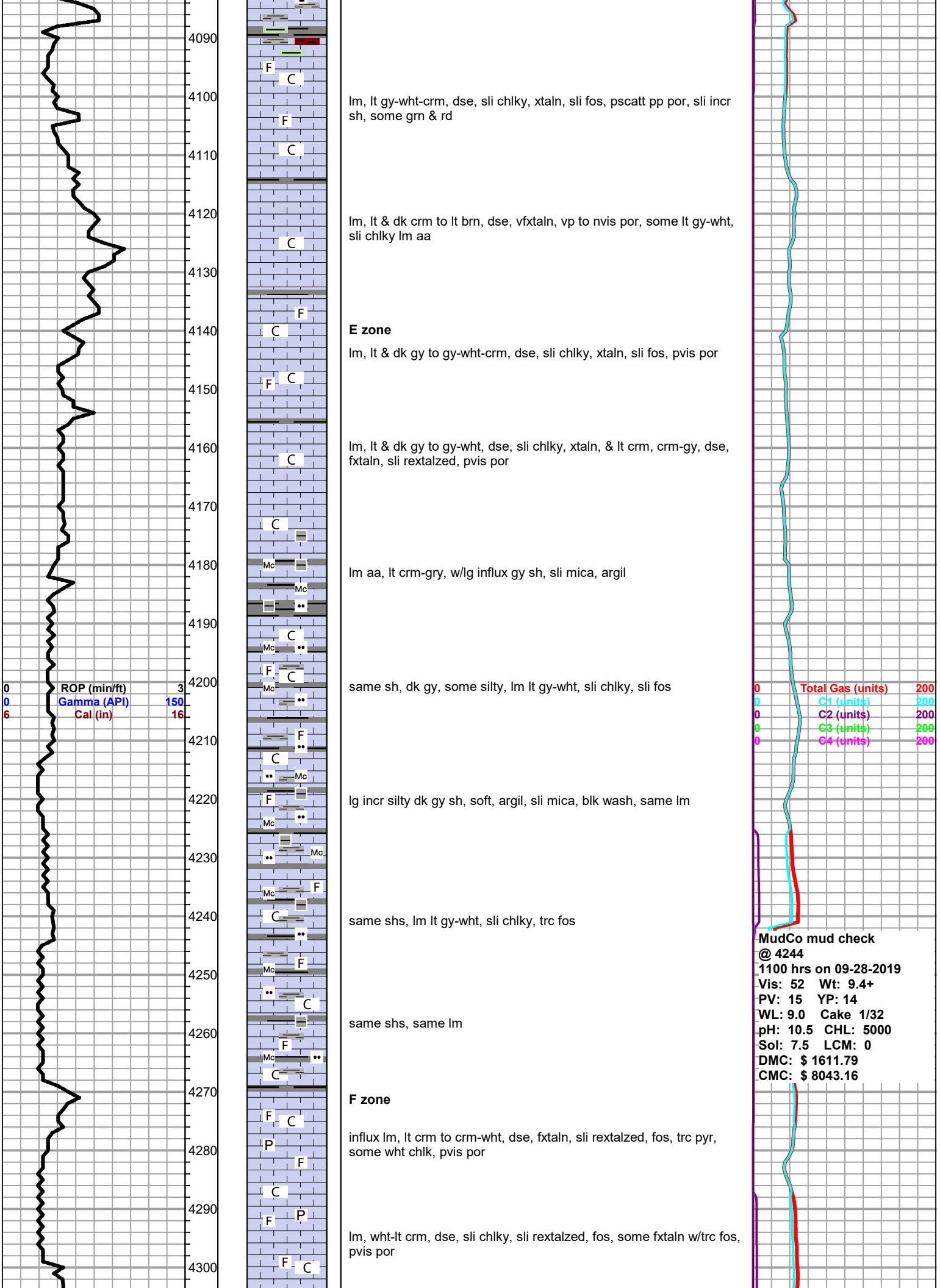
lm, lt gy-crm, dse, sli chlky, sli fos, pscatt pp por, sli incr sh

lm, lt gy-crm-wht, dse, sli chlky, sli rextalzed, trc fos, pscatt por

lm, gy to gy-crm, dse, sli chlky, mottled, sli rextalzed, sli fos/ooc, sli scatt sh

D zone

lm, lt gy-wht, dse, sli chlky, rextalzed, sli fos/ooc, scatt pp & fos/ooc por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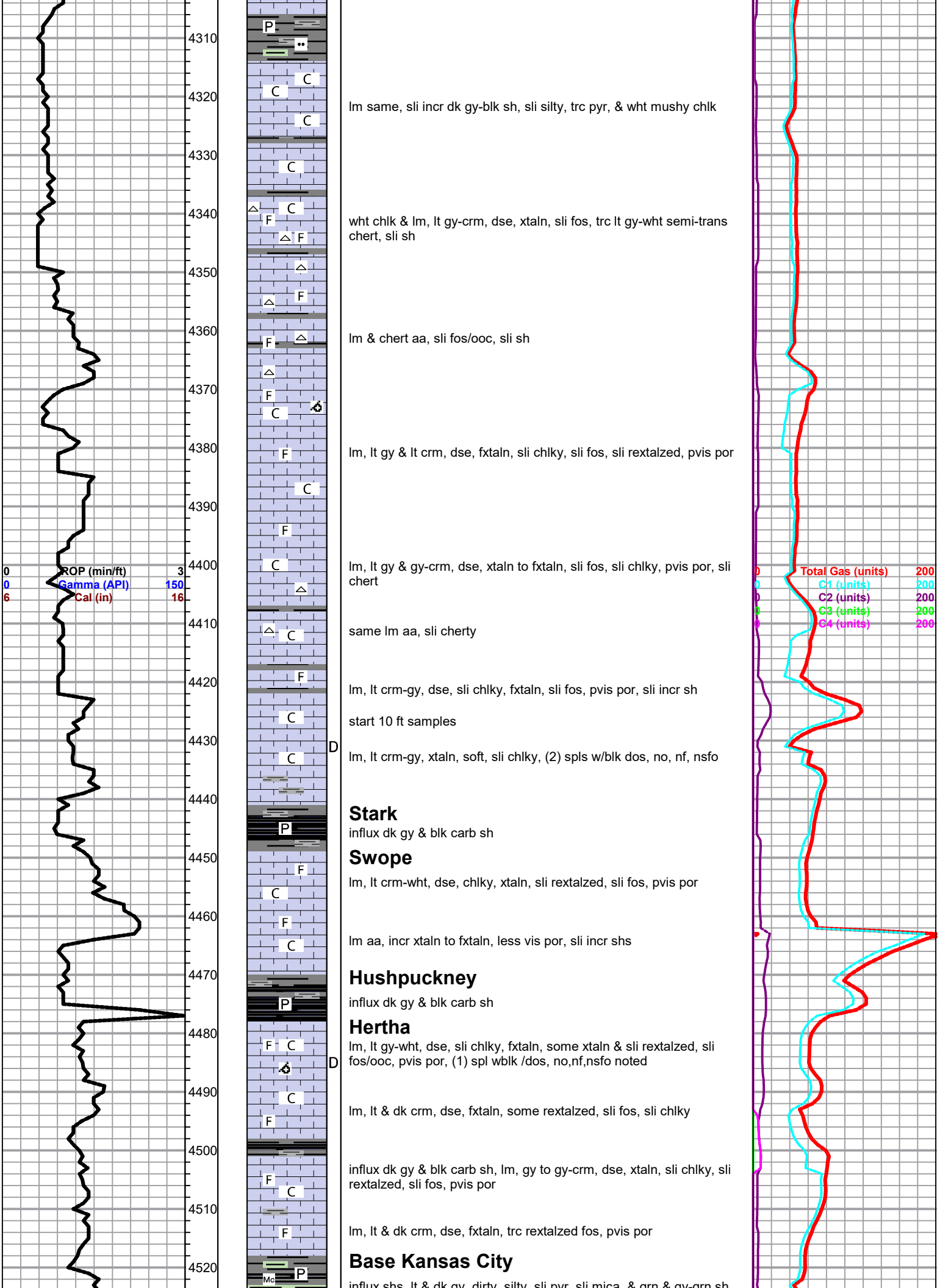
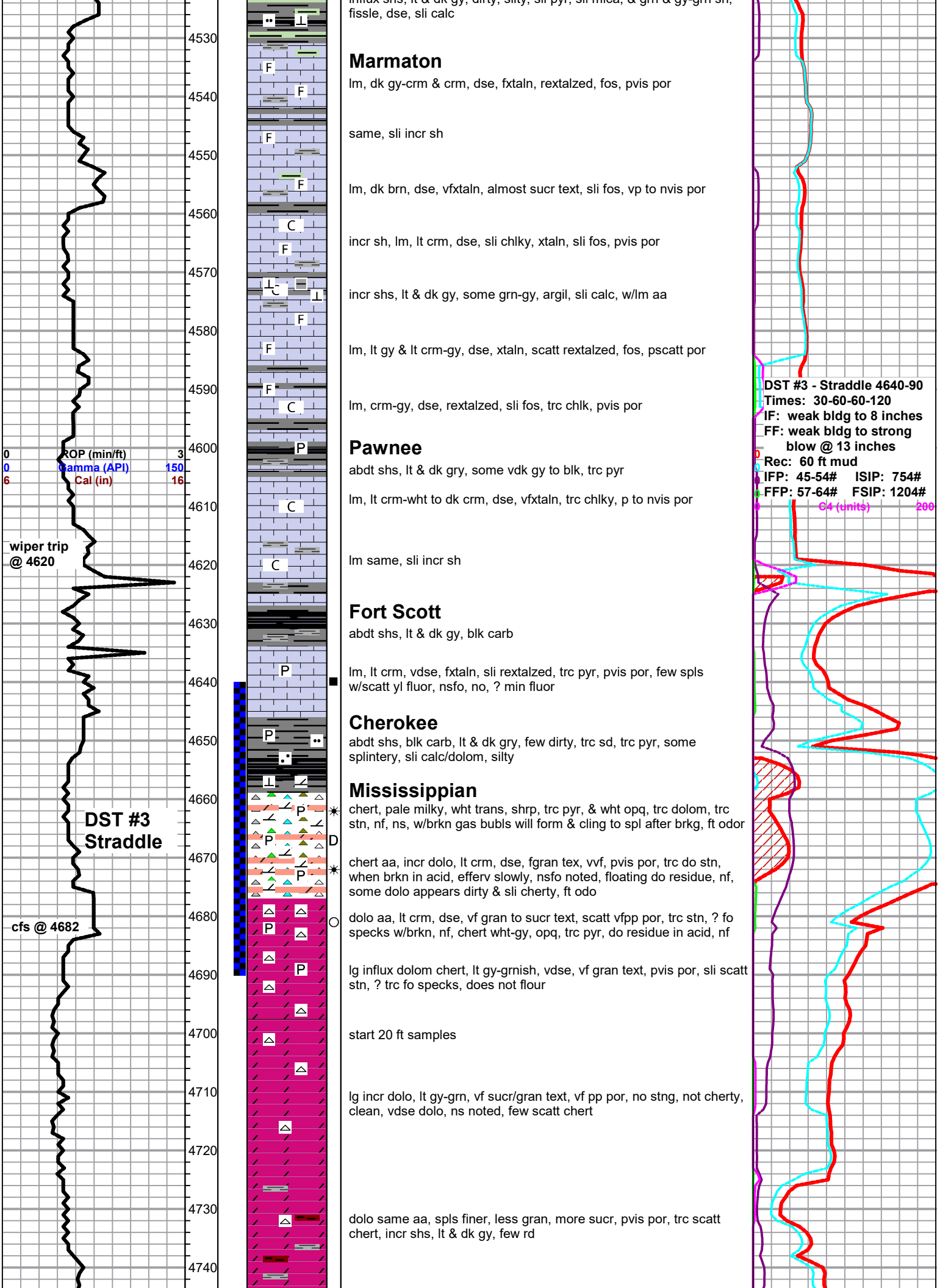
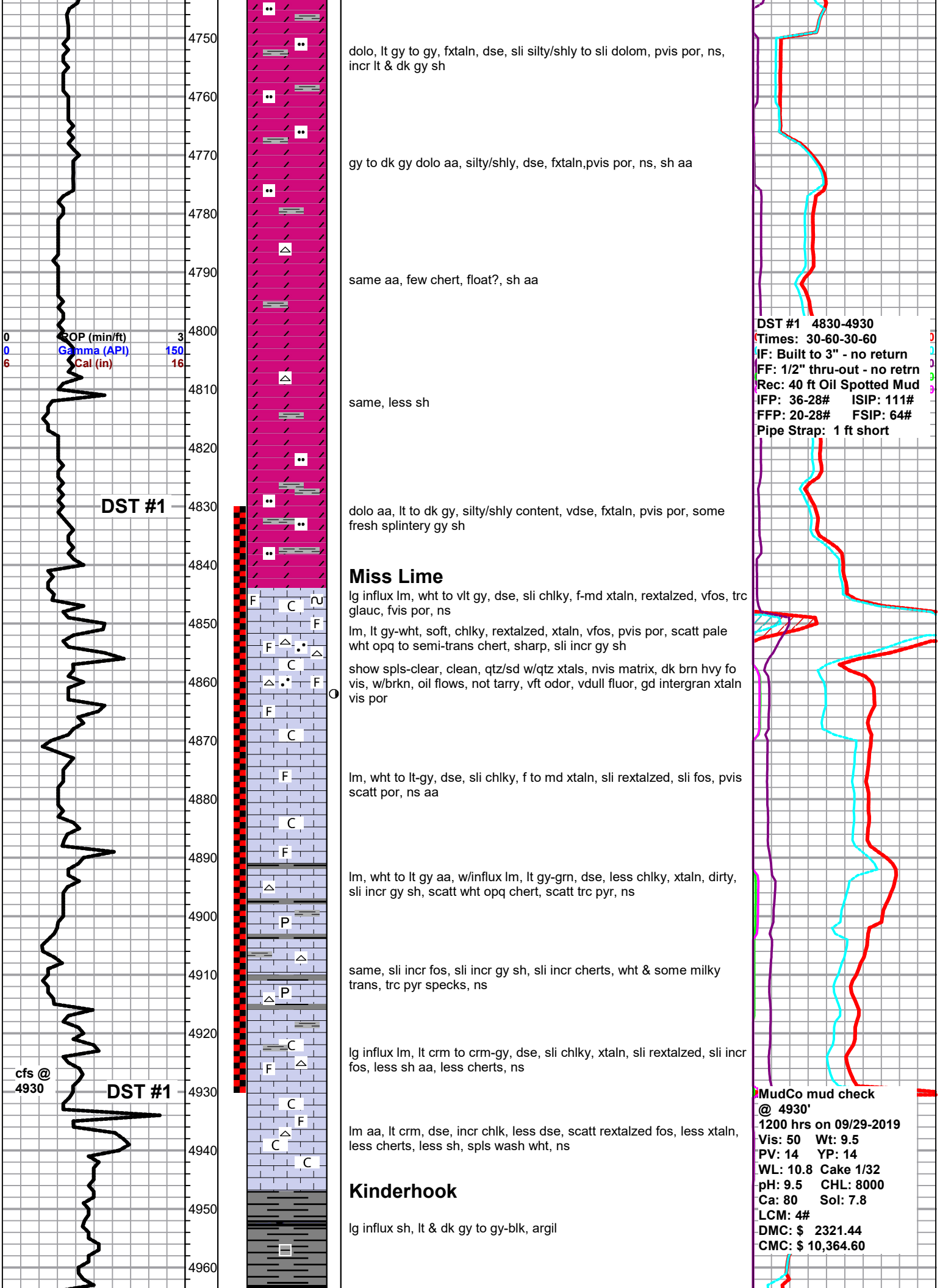
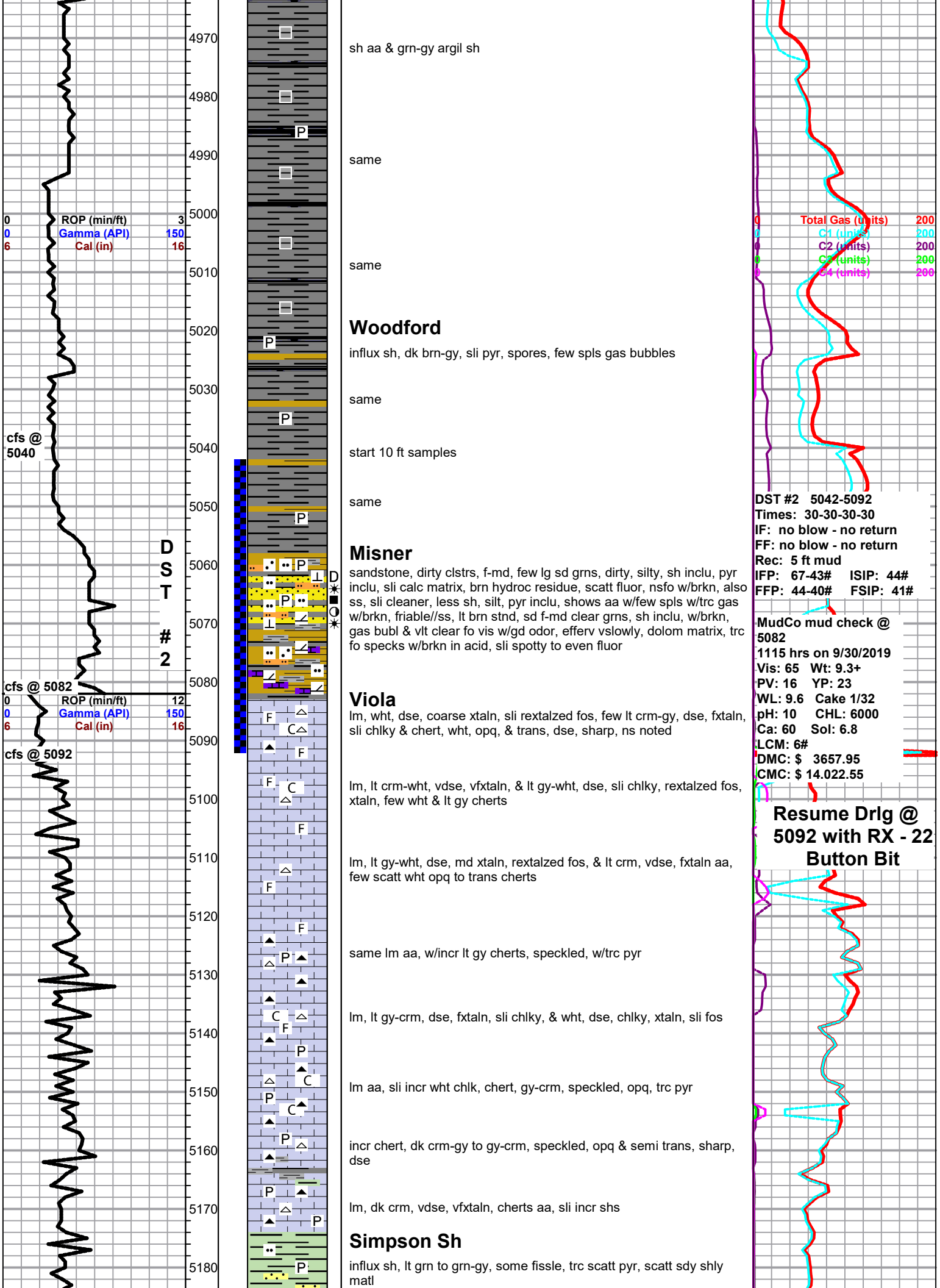
4100
4110
4120
4130
4140
4150
4160
4170
4180
4190
4200
4210
4220
4230
4240
4250
4260
4270
4280
4290
4300
lm, lt gy-wht-crm, dse, sli chlky, xtaln, sli fos, pscatt pp por, sli incr sh, some grn & rd
lm, lt & dk crm to lt brn, dse, vfxtaln, vp to nvis por, some lt gy-wht, sli chlky lm aa
E zone
lm, lt & dk gy to gy-wht-crm, dse, sli chlky, xtaln, sli fos, pvis por
lm, lt & dk gy to gy-wht, dse, sli chlky, xtaln, & lt crm, crm-gy, dse, fxtaln, sli rextalzed, pvis por
lm aa, lt crm-gry, w/lg influx gy sh, sli mica, argil
same sh, dk gy, some silty, lm lt gy-wht, sli chlky, sli fos
lg incr silty dk gy sh, soft, argil, sli mica, blk wash, same lm
same shs, lm lt gy-wht, sli chlky, trc fos
same shs, same lm
F zone
influx lm, lt crm to crm-wht, dse, fxtaln, sli rextalzed, fos, trc pyr, some wht chlk, pvis por
lm, wht-lt crm, dse, sli chlky, sli rextalzed, fos, some fxtaln w/trc fos, pvis por
0 Total Gas (units) 200
0 C1 (units) 200
0 C2 (units) 200
0 C3 (units) 200
0 C4 (units) 200
MudCo mud check
@ 4244
1100 hrs on 09-28-2019
Vis: 52 Wt: 9.4+
PV: 15 YP: 14
WL: 9.0 Cake 1/32
pH: 10.5 CHL: 5000
Sol: 7.5 LCM: 0
DMC: $ 1611.79
CMC: $ 8043.16


0 ROP (min/ft) 3
0 Gamma (API) 150
6 Cal (in) 16
0 Total Gas (units) 200
0 C1 (units) 200
0 C2 (units) 200
0 C3 (units) 200
0 C4 (units) 200
4310
4320
4330
4340
4350
4360
4370
4380
4390
4400
4410
4420
4430
4440
4450
4460
4470
4480
4490
4500
4510
4520
lm same, sli incr dk gy-blk sh, sli silty, trc pyr, & wht mushy chlk
wht chlk & lm, lt gy-crm, dse, xtaln, sli fos, trc lt gy-wht semi-trans chert, sli sh
lm & chert aa, sli fos/ooc, sli sh
lm, lt gy & lt crm, dse, fxtaln, sli chlky, sli fos, sli rextalzed, pvis por
lm, lt gy & gy-crm, dse, xtaln to fxtaln, sli fos, sli chlky, pvis por, sli chert
same lm aa, sli cherty
lm, lt crm-gy, dse, sli chlky, fxtaln, sli fos, pvis por, sli incr sh
start 10 ft samples
lm, lt crm-gy, xtaln, soft, sli chlky, (2) spls w/blk dos, no, nf, nsfo
Stark
influx dk gy & blk carb sh
Swope
lm, lt crm-wht, dse, chlky, xtaln, sli rextalzed, sli fos, pvis por
lm aa, incr xtaln to fxtaln, less vis por, sli incr shs
Hushpuckney
influx dk gy & blk carb sh
Hertha
lm, lt gy-wht, dse, sli chlky, fxtaln, some xtaln & sli rextalzed, sli fos/ooc, pvis por, (1) spl wblk /dos, no,nf,nsfo noted
lm, lt & dk crm, dse, fxtaln, some rextalzed, sli fos, sli chlky
influx dk gy & blk carb sh, lm, gy to gy-crm, dse, xtaln, sli chlky, sli rextalzed, sli fos, pvis por
lm, lt & dk crm, dse, fxtaln, trc rextalzed fos, pvis por
Base Kansas City
influx shs, lt & dk gy, dirty, silty, sli pyr, sli mica, & grn & gy-grn sh


0 ROP (min/ft) 3
0 Gamma (API) 150
6 Cal (in) 16
wiper trip @ 4620
DST #3 Straddle
cfs @ 4682
4530
4540
4550
4560
4570
4580
4590
4600
4610
4620
4630
4640
4650
4660
4670
4680
4690
4700
4710
4720
4730
4740
influx shs, lt & dk gy, dirty, silty, sli pyr, sli mica, & grn & gy-grn sh, fissle, dse, sli calc
Marmaton
lm, dk gy-crm & crm, dse, fxtaln, rextalzed, fos, pvis por
same, sli incr sh
lm, dk brn, dse, vfxtaln, almost sucr text, sli fos, vp to nvis por
incr sh, lm, lt crm, dse, sli chlky, xtaln, sli fos, pvis por
incr shs, lt & dk gy, some grn-gy, argil, sli calc, w/lm aa
lm, lt gy & lt crm-gy, dse, xtaln, scatt rextalzed, fos, pscatt por
lm, crm-gy, dse, rextalzed, sli fos, trc chlk, pvis por
Pawnee
abdt shs, lt & dk gry, some vdk gy to blk, trc pyr
lm, lt crm-wht to dk crm, dse, vfxtaln, trc chlky, p to nvis por
lm same, sli incr sh
Fort Scott
abdt shs, lt & dk gy, blk carb
lm, lt crm, vdse, fxtaln, sli rextalzed, trc pyr, pvis por, few spls w/scatt yl fluor, nsfo, no, ? min fluor
Cherokee
abdt shs, blk carb, lt & dk gry, few dirty, trc sd, trc pyr, some splintery, sli calc/dolom, silty
Mississippian
chert, pale milky, wht trans, shrp, trc pyr, & wht opq, trc dolom, trc stn, nf, ns, w/brkn gas bubls will form & cling to spl after brkg, ft odor
chert aa, incr dolo, lt crm, dse, fgran tex, vvf, pvis por, trc do stn, when brkn in acid, efferv slowly, nsfo noted, floating do residue, nf, some dolo appears dirty & sli cherty, ft odo
dolo aa, lt crm, dse, vf gran to sucr text, scatt vfpp por, trc stn, ? fo specks w/brkn, nf, chert wht-gy, opq, trc pyr, do residue in acid, nf
lg influx dolom chert, lt gy-grnish, vdse, vf gran text, pvis por, sli scatt stn, ? trc fo specks, does not flour
start 20 ft samples
lg incr dolo, lt gy-grn, vf sucr/gran text, vf pp por, no stng, not cherty, clean, vdse dolo, ns noted, few scatt chert
dolo same aa, spls finer, less gran, more sucr, pvis por, trc scatt chert, incr shs, lt & dk gy, few rd
DST #3 - Straddle 4640-90
Times: 30-60-60-120
IF: weak bldg to 8 inches
FF: weak bldg to strong blow @ 13 inches
Rec: 60 ft mud
IFP: 45-54# ISIP: 754#
FFP: 57-64# FSIP: 1204#
C4 (units) 200


0 ROP (min/ft) 3
0 Gamma (API) 150
6 Cal (in) 16
4750
4760
4770
4780
4790
4800
4810
4820
4830
4840
4850
4860
4870
4880
4890
4900
4910
4920
4930
4940
4950
4960
DST #1
DST #1
cfs @ 4930
dolo, lt gy to gy, fxtaln, dse, sli silty/shly to sli dolom, pvis por, ns, incr lt & dk gy sh
gy to dk gy dolo aa, silty/shly, dse, fxtaln,pvis por, ns, sh aa
same aa, few chert, float?, sh aa
same, less sh
dolo aa, lt to dk gy, silty/shly content, vdse, fxtaln, pvis por, some fresh splintery gy sh
Miss Lime
lg influx lm, wht to vlt gy, dse, sli chlky, f-md xtaln, rextalzed, vfos, trc glauc, fvis por, ns
lm, lt gy-wht, soft, chlky, rextalzed, xtaln, vfos, pvis por, scatt pale wht opq to semi-trans chert, sharp, sli incr gy sh
show spls-clear, clean, qtz/sd w/qtz xtals, nvis matrix, dk brn hvy fo vis, w/brkn, oil flows, not tarry, vft odor, vdull fluor, gd intergran xtaln vis por
lm, wht to lt-gy, dse, sli chlky, f to md xtaln, sli rextalzed, sli fos, pvis scatt por, ns aa
lm, wht to lt gy aa, w/influx lm, lt gy-grn, dse, less chlky, xtaln, dirty, sli incr gy sh, scatt wht opq chert, scatt trc pyr, ns
same, sli incr fos, sli incr gy sh, sli incr cherts, wht & some milky trans, trc pyr specks, ns
lg influx lm, lt crm to crm-gy, dse, sli chlky, xtaln, sli rextalzed, sli incr fos, less sh aa, less cherts, ns
lm aa, lt crm, dse, incr chlk, less dse, scatt rextalzed fos, less xtaln, less cherts, less sh, spls wash wht, ns
Kinderhook
lg influx sh, lt & dk gy to gy-blk, argil
DST #1 4830-4930
Times: 30-60-30-60
IF: Built to 3" - no return
FF: 1/2" thru-out - no retrn
Rec: 40 ft Oil Spotted Mud
IFP: 36-28# ISIP: 111#
FFP: 20-28# FSIP: 64#
Pipe Strap: 1 ft short
MudCo mud check
@ 4930'
1200 hrs on 09/29-2019
Vis: 50 Wt: 9.5
PV: 14 YP: 14
WL: 10.8 Cake 1/32
pH: 9.5 CHL: 8000
Ca: 80 Sol: 7.8
LCM: 4#
DMC: $ 2321.44
CMC: $ 10,364.60



sh aa & grn-gy argil sh

same

same

Woodford

influx sh, dk brn-gy, sli pyr, spores, few spls gas bubbles

same

start 10 ft samples

same

Misner

sandstone, dirty clstrs, f-md, few lg sd grns, dirty, silty, sh inclu, pyr inclu, sli calc matrix, brn hydroc residue, scatt fluor, nsfo w/brkn, also ss, sli cleaner, less sh, silt, pyr inclu, shows aa w/few spls w/trc gas w/brkn, friable//ss, lt brn stnd, sd f-md clear grns, sh inclu, w/brkn, gas bubl & vlt clear fo vis w/gd odor, efferv vslowly, dolom matrix, trc fo specks w/brkn in acid, sli spotty to even fluor

Viola

lm, wht, dse, coarse xtaln, sli rextalzed fos, few lt crm-gy, dse, fxtaln, sli chlky & chert, wht, opq, & trans, dse, sharp, ns noted

lm, lt crm-wht, vdse, vfxtaln, & lt gy-wht, dse, sli chlky, rextalzed fos, xtaln, few wht & lt gy cherts

lm, lt gy-wht, dse, md xtaln, rextalzed fos, & lt crm, vdse, fxtaln aa, few scatt wht opq to trans cherts

same lm aa, w/incr lt gy cherts, speckled, w/trc pyr

lm, lt gy-crm, dse, fxtaln, sli chlky, & wht, dse, chlky, xtaln, sli fos

lm aa, sli incr wht chlk, chert, gy-crm, speckled, opq, trc pyr

incr chert, dk crm-gy to gy-crm, speckled, opq & semi trans, sharp, dse

lm, dk crm, vdse, vfxtaln, cherts aa, sli incr shs

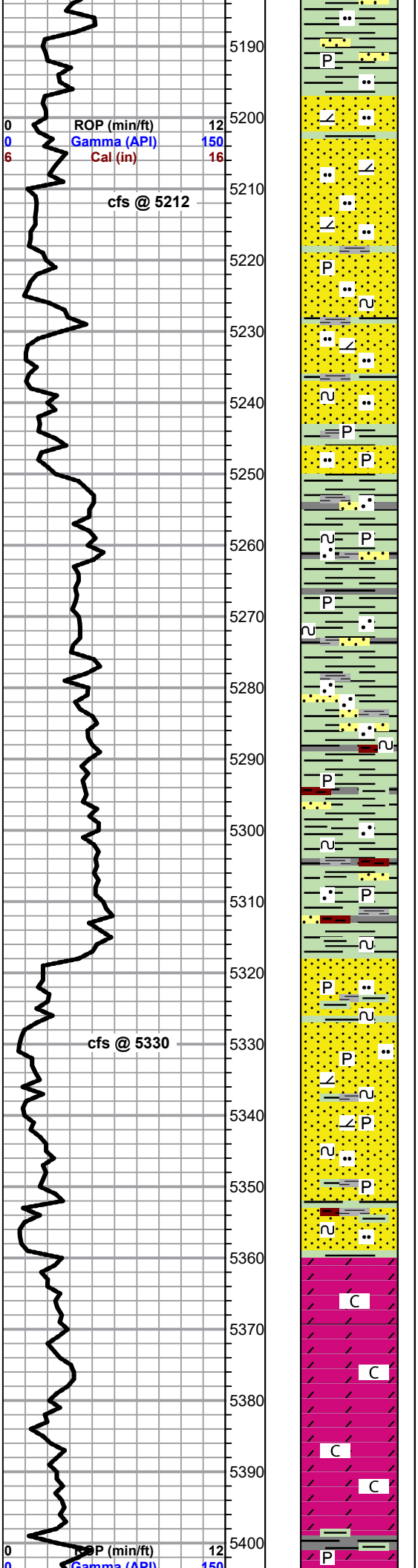
Simpson Sh

influx sh, lt grn to grn-gy, some fissle, trc scatt pyr, scatt sdy shly matl

DST #2 5042-5092
Times: 30-30-30-30
IF: no blow - no return
FF: no blow - no return
Rec: 5 ft mud
IFP: 67-43# ISIP: 44#
FFP: 44-40# FSIP: 41#

MudCo mud check @ 5082
1115 hrs on 9/30/2019
Vis: 65 Wt: 9.3+
PV: 16 YP: 23
WL: 9.6 Cake 1/32
pH: 10 CHL: 6000
Ca: 60 Sol: 6.8
LCM: 6#
DMC: $ 3657.95
CMC: $ 14.022.55

Resume Drlg @ 5092 with RX - 22 Button Bit



same, sdy sh dirty

Simpson Sd

sandstone, wht & clear qtz clstrs, friable, f to md grns, sub-ang to sub-rnded, sli sh inclu, f intergran por, sli dolom matrix, ns noted

same aa, w/ lt grn-gy to grn-wht sd clstrs, less friable, f to md, sub-ang to sub-rnded, incr sh inclu, trc dolom matrix, abdt loose sd grns in tray, ns noted

ss aa, lt gy to wht clstrs, less friable, f-md sd grns, trc pyr & glauc w/sh inclu, sli silty, f-md sub-ang to sub-rnded, grn & gy shs, ns noted

ss aa w/lt gy, dirty, sli silty, vf grnd, sub-ang to ang, sli dolom matrix, w/blk dos, nsfo, nf, ? trc odor in acid

incr sh, grn, gy, fissle, trc pyr, & ss, lt gy-wht, sd clstrs, scatt sh inclu, sli pyr, trc glauc, sli silty, sd grns f-md, sub-ang to sub-rnded, less friable to dse, ns noted

lg influx grn, gy, & gy-grn shs, some sli sdy to sdy, blk sh inclu, scatt pyr, & trc scatt glauc

shs aa w/incr grn splintry, argil, some gy blocky sh

shs aa, sdy & pry

inrc grn dkr marine sh, fillse, splintry, also gy & maroon

same aa

Simpson Sd

sandstone, lt gy-wht, dirty sd clstrs, sli silty, sh inclu, sli pyr, trc glauc, sd grns f-md, sub-ang to sub-rnded, ns noted

ss aa, sli incr pyr & glauc, incr sh to vsdy dirty sh, sli dolom matrix, sli effrv, ns noted

sandstone, lt gy-wht, f-md grns, sub-ang to sub-rnded aa, spls dse, less friable, incr sh inclu, scatt pyr & glauc, dirty, ns noted

ss aa, clstrs dse, dirty w/sli incr sh, grn-gy & some maroon

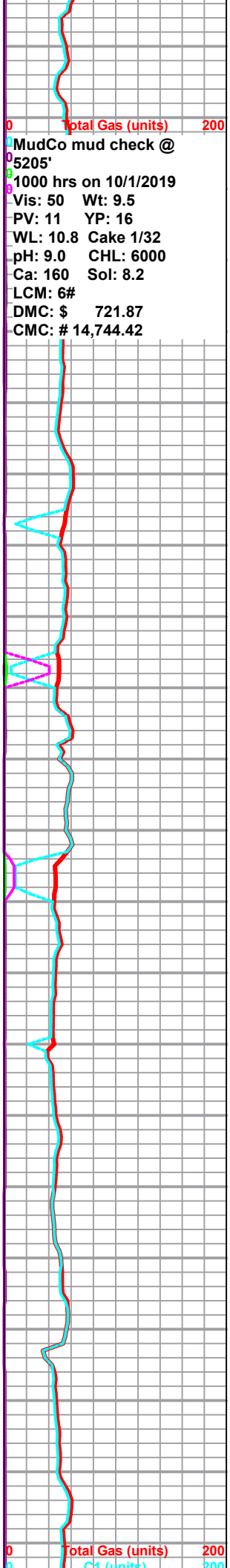
Arbuckle

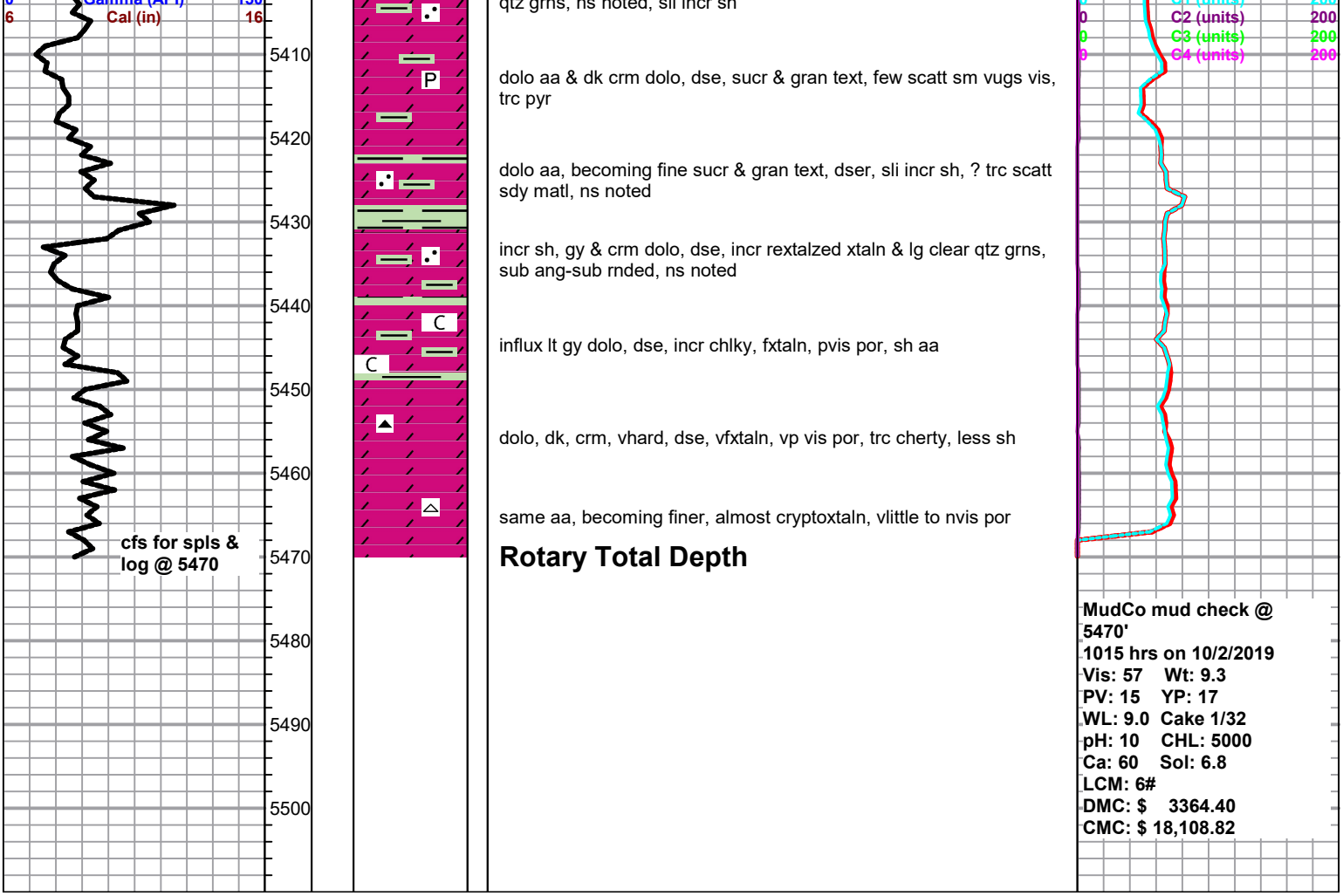
dolo, lt & dk crm, dse, fxtaln, sucr text, some md gran text, trc chlk

dolo aa & sli incr to coarse gran, sucr text, fvis por, incr chlky

dolo, lt gy to gy-crm, dse, finer xtaln & sucr text than aa, some wht chlk, less vis por

incr dolo, lt gy-crm, fxtaln to fsucr, trc pyr, trc sdy, fsub-rnded, clear




Gamma (API)
0
150
Cal (in)
6
16
5410
5420
5430
5440
5450
5460
5470
5480
5490
5500
P
C
C
cfs for spls &
log @ 5470
qtz grns, ns noted, sli incr sh
dolo aa & dk crm dolo, dse, sucr & gran text, few scatt sm vugs vis, trc pyr
dolo aa, becoming fine sucr & gran text, dser, sli incr sh, ? trc scatt sdy matl, ns noted
incr sh, gy & crm dolo, dse, incr rextalzed xtaln & lg clear qtz grns, sub ang-sub rnded, ns noted
influx lt gy dolo, dse, incr chlky, fxtaln, pvis por, sh aa
dolo, dk, crm, vhard, dse, vfxtaln, vp vis por, trc cherty, less sh
same aa, becoming finer, almost cryptoxtaln, vlittle to nvis por
Rotary Total Depth
0
C2 (units)
200
0
C3 (units)
200
0
C4 (units)
200
MudCo mud check @
5470'
1015 hrs on 10/2/2019
Vis: 57 Wt: 9.3
PV: 15 YP: 17
WL: 9.0 Cake 1/32
pH: 10 CHL: 5000
Ca: 60 Sol: 6.8
LCM: 6#
DMC: $ 3364.40
CMC: $ 18,108.82