[redacted]

Confidentiality Requested:
☑ Yes ☐ No

KANSAS CORPORATION COMMISSION
OIL & GAS CONSERVATION DIVISION

1242942

Form ACO-1
August 2013
Form must be Typed
Form must be Signed
All blanks must be Filled

WELL COMPLETION FORM
WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License # 3882
Name: Samuel Gary Jr. & Associates, Inc.
Address 1: 1515 WYNKOOP, STE 700
Address 2:
City: DENVER State: CO Zip: 80202 + __ __ __ __
Contact Person: CLAYTON CAMOZZI
Phone: (303) 831-4673
CONTRACTOR: License # 30606
Name: Murfin Drilling Co., Inc.
Wellsite Geologist: SCHUYLER HEDRICK
Purchaser:

Designate Type of Completion:

☑ New Well ☐ Re-Entry ☐ Workover

☐ Oil ☐ WSW ☐ SWD ☐ SIOW
☐ Gas ☑ D&A ☐ ENHR ☐ SIGW
☐ OG ☐ GSW ☐ Temp. Abd.
☐ 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 ENHR ☐ Conv. to SWD
☐ Plug Back ☐ Conv. to GSW ☐ Conv. to Producer

☐ Commingled Permit #:
☐ Dual Completion Permit #:
☐ SWD Permit #:
☐ ENHR Permit #:
☐ GSW Permit #:

10/27/2014	11/4/2014	11/5/2014
Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date

API No. 15 - 15-153-21075-00-00
Spot Description:
NW SW NE NE Sec. 36 Twp. 4 S. R. 35 ☐ East ☑ West
980 Feet from ☑ North / ☐ South Line of Section
1135 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: Rawlins
Lease Name: LOEFFLER Well #: 1-36
Field Name:
Producing Formation: N/A
Elevation: Ground: 3215 Kelly Bushing: 3220
Total Vertical Depth: 4806 Plug Back Total Depth:
Amount of Surface Pipe Set and Cemented at: 344 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: 13000 ppm Fluid volume: 0 bbls
Dewatering method used: Evaporated

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: 02/17/2015
☑ **Confidential Release Date:** 02/16/2017
☑ **Wireline Log Received**
☑ **Geologist Report Received**
☐ **UIC Distribution**
ALT ☑ **I** ☐ **II** ☐ **III** **Approved by:** NAOMI JAMES **Date:** 02/18/2015

[redacted]

1242942

Operator Name: Samuel Gary Jr. & Associates, Inc. Lease Name: LOEFFLER Well #: 1-36

Sec. 36 Twp. 4 S. R. 35 ☐ East ☑ West County: Rawlins

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 ☑ Yes ☐ No
(Attach Additional Sheets)

Samples Sent to Geological Survey ☑ Yes ☐ No

Cores Taken ☐ Yes ☑ No

Electric Log Run ☑ Yes ☐ No

List All E. Logs Run:

Attached

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

Name	Top	Datum
TOPEKA	3939	-719
HEEBNER	4078	-858
LANSING	4122	-902
MISSISSIPPIAN	4744	-1524

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	12.25	8.625	23	344	COMMON CLASS A	325	2% GEL, 3% 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	-			
	-			

Did you perform a hydraulic fracturing treatment on this well? ☐ Yes ☑ No *(If No, skip questions 2 and 3)*

Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons? ☐ Yes ☐ No *(If No, skip question 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)*

Shots Per Foot	PERFORATION RECORD - Bridge Plugs Set/Type Specify Footage of Each Interval Perforated	Acid, Fracture, Shot, Cement Squeeze Record *(Amount and Kind of Material Used)*	Depth

TUBING RECORD: Size: Set At: Packer At: Liner Run: ☐ Yes ☐ No

Date of First, Resumed Production, SWD or ENHR. 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:
☐ Vented ☐ Sold ☐ Used on Lease
(If vented, Submit ACO-18.)

METHOD OF COMPLETION:
☐ Open Hole ☐ Perf. ☐ Dually Comp. *(Submit ACO-5)* ☐ Commingled *(Submit ACO-4)*
☐ Other *(Specify)* _____

PRODUCTION INTERVAL:
_____
_____

Form	ACO1 - Well Completion
Operator	Samuel Gary Jr. & Associates, Inc.
Well Name	LOEFFLER 1-36
Doc ID	1242942

All Electric Logs Run

DEN-NEUT
INDUCTION
MICRO
SONIC

Form	ACO1 - Well Completion
Operator	Samuel Gary Jr. & Associates, Inc.
Well Name	LOEFFLER 1-36
Doc ID	1242942

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	12.25	8.625	23	344	COMMON CLASS A	325	2% GEL, 3% CC

ALLIED OIL & GAS SERVICES, LLC 063786

Federal Tax I.D. # 20-8651475

REMIT TO P.O. BOX 93999
SOUTHLAKE, TEXAS 76092

SERVICE POINT: Oakley Ks

DATE 10/27/14	SEC. 36	TWP. 9	RANGE 34	CALLED OUT	ON LOCATION	JOB START 9:30pm	JOB FINISH 11:00pm
LEASE Loffler	WELL # 1-36	LOCATION Colby N to R Cty Rd G 6W 1N W S into				COUNTY Thomas	STATE Ks
OLD OR NEW (Circle one)							

CONTRACTOR Murfin 8
TYPE OF JOB Surface
HOLE SIZE 12 1/4 T.D. 344
CASING SIZE 8 5/8 DEPTH 344
TUBING SIZE DEPTH
DRILL PIPE DEPTH
TOOL DEPTH
PRES. MAX MINIMUM
MEAS. LINE SHOE JOINT
CEMENT LEFT IN CSG. 25'
PERFS.
DISPLACEMENT 20.32 BBL

OWNER Same

CEMENT
AMOUNT ORDERED 325 com 3%CC

		@	
COMMON	325	@ 11.90	3817.90
POZMIX		@	
GEL		@	
CHLORIDE	9	@ 112.00	1008.00
ASC		@	
		@	
Material Total		@	4,826.20
(1,447.86 / 30%)		@	
		@	
		@	
		@	
HANDLING	341.26 cf	@ 2.48	846.33
MILEAGE	225 tn/mile 15.1734	ton	2163.42
		TOTAL	

EQUIPMENT

PUMP TRUCK # 423-281	CEMENTER	Alan Ryan
	HELPER	Kevin Shawn / Ryan Tatro
BULK TRUCK # 818	DRIVER	Wayne Mesalle
BULK TRUCK #	DRIVER	

REMARKS:

Run Csg, Circulate, Mix Cement, Displace Cement
Shut in
Cement Did Circulate

Thank You
Alan, Kevin, Wayne, Shawn

SERVICE

DEPTH OF JOB	344'		
PUMP TRUCK CHARGE			1572.25
EXTRA FOOTAGE		@	
MILEAGE	50	@ 7.70	385.00
MANIFOLD		@	225.00
Lt Vehicle	50	@ 4.40	220.00
		@	

(1620.59 / 30%) TOTAL 5,401.99

CHARGE TO: Sam Gary
STREET
CITY STATE ZIP

PLUG & FLOAT EQUIPMENT

	@	
	@	
	@	
	@	
	@	
	@	

TOTAL

To: Allied Oil & Gas Services, LLC.
You are hereby requested to rent cementing equipment and furnish cementer and helper(s) to assist owner or contractor to do work as is listed. The above work was done to satisfaction and supervision of owner agent or contractor. I have read and understand the "GENERAL TERMS AND CONDITIONS" listed on the reverse side.

PRINTED NAME Rodney Farr

SIGNATURE Rodney Farr

SALES TAX (If Any)
TOTAL CHARGES 10,228.19
DISCOUNT 3,068.45 (30%) IF PAID IN 30 DAYS

7,159.73 Net

ALLIED OIL & GAS SERVICES, LLC 064305

Federal Tax I.D. # 20-8651475

REMIT TO P.O. BOX 93999
SOUTHLAKE, TEXAS 76092

SERVICE POINT: Oakley KS

DATE 11-5-14	SEC. 36	TWP. 4	RANGE 35	CALLED OUT	ON LOCATION 11:00a.m.	JOB START 1:30p.m.	JOB FINISH 2:30p.m.
LEASE Loeffler	WELL # 1-36	LOCATION Colby N to Rd G (Rawlins Co)				COUNTY Rawlins	STATE KS
OLD OR (NEW) (Circle one)		6W, 1N, W, N, W 3/4 S into					

CONTRACTOR Murfin 8
TYPE OF JOB PTA
HOLE SIZE 7 7/8 T.D. 4000'
CASING SIZE DEPTH
TUBING SIZE DEPTH
DRILL PIPE 4 1/2 DEPTH 2935'
TOOL DEPTH
PRES. MAX MINIMUM
MEAS. LINE SHOE JOINT
CEMENT LEFT IN CSG.
PERFS. 1st plug
DISPLACEMENT 5bbl water, 29.6bbl mud
2nd plug 5bbl water 12bbl mud

EQUIPMENT

PUMP TRUCK # 120 CEMENTER Paul Beaver
HELPER Tyler Flipsel/ Juan 3 (TWS)
BULK TRUCK # 566/595 DRIVER Juan 1 (TWS)
BULK TRUCK # DRIVER

OWNER Same

CEMENT
AMOUNT ORDERED 255 sks Lite 60/40 4% gel 1/4 # Flo-seal

		@	
COMMON		@	
POZMIX		@	
GEL		@	
CHLORIDE		@	
ASC		@	
Lite (60/40/4)	255 sks	@ 18.92	4824.60
		@	
Flo-seal	64 #	@ 2.97	190.08
		@	
Material Total		@	5,014.68
(1504.40 / 30%)		@	
		@	
		@	
HANDLING	273.87 ft³	@ 2.48	679.20
MILEAGE	11.44 tons x 50 mi x 2.75		1573.00
		TOTAL	

REMARKS:
mix 50 sks @ 2935' Displace w/ mud
mix 100 sks @ 2220' Displace w/ mud
mix 50 sks @ 395'
mix 20 sks @ 40' w/ plug
mix 30 sks in R.H.
mix 15 sks in M.H.

SERVICE

DEPTH OF JOB			2935'
PUMP TRUCK CHARGE			2483.59
EXTRA FOOTAGE		@	
MILEAGE mi HV	50	@ 7.70	385.00
MANIFOLD		@	
mi LV	50	@ 4.40	220.00
		@	
(1602.23 / 30%)		TOTAL	5,340.79

CHARGE TO: Samuel Gary Jr + Assoc.
STREET
CITY STATE ZIP

PLUG & FLOAT EQUIPMENT

	@	
8 5/8 wooden plug	@	110.00
	@	
	@	
	@	
	@	
0	TOTAL	110.00

To: Allied Oil & Gas Services, LLC.
You are hereby requested to rent cementing equipment and furnish cementer and helper(s) to assist owner or contractor to do work as is listed. The above work was done to satisfaction and supervision of owner agent or contractor. I have read and understand the "GENERAL TERMS AND CONDITIONS" listed on the reverse side.

SALES TAX (If Any)
TOTAL CHARGES 10,465.47
DISCOUNT 3,106.64 (30%) IF PAID IN 30 DAYS
7,358.83 Net.

PRINTED NAME Rodney Farr

SIGNATURE Rodney Farr

DRILL STEM TEST REPORT

Samuel Gary Jr. & Associates

1515 Wynkoop St. STE #700
Denver, CO 80202

ATTN: Chris Mitchell

36-4S-35W Rawlins, KS

Loeffler #1-36

Job Ticket: 60199 **DST#: 1**

Test Start: 2014.10.30 @ 23:50:00

GENERAL INFORMATION:

Formation: **Douglas Sand - LKC "**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 04:02:30
Time Test Ended: 09:41:30

Test Type: Conventional Bottom Hole (Initial)
Tester: Kevin Mack
Unit No: 66

Interval: 4086.00 ft (KB) To 4140.00 ft (KB) (TVD)
Total Depth: 4140.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

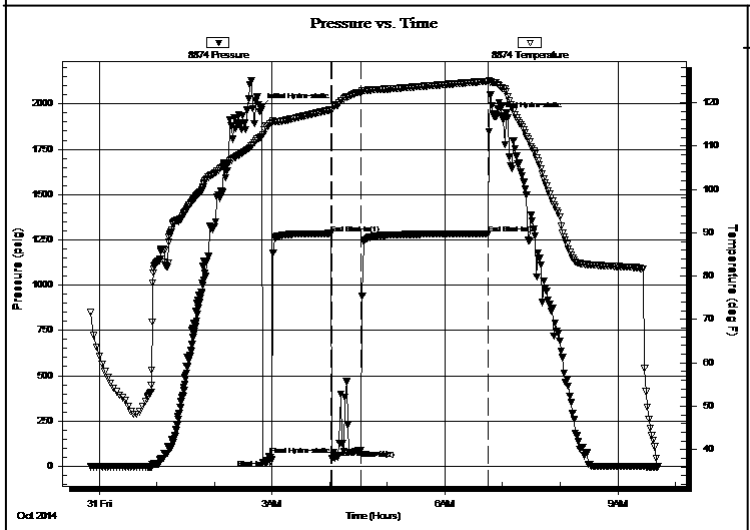
Reference Elevations: 3220.00 ft (KB)
3215.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8874 **Inside**

Press@RunDepth: 89.56 psig @ 4087.00 ft (KB)
Start Date: 2014.10.30 End Date: 2014.10.31
Start Time: 23:51:00 End Time: 09:41:30

Capacity: 8000.00 psig
Last Calib.: 2014.10.31
Time On Btm: 2014.10.31 @ 02:48:30
Time Off Btm: 2014.10.31 @ 02:50:30

TEST COMMENT: 10 - IF- 1/4" Blow built to 1 1/4"
60 - ISI- No Return
30 - FF- Surface Blow started at 3 min. Built to 3 1/2"
120 - FSI- No Return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1980.44	112.06	Initial Hydro-static
2	20.28	112.60	Final Hydro-static
11	35.77	115.47	Shut-In(1)
73	1285.15	118.35	End Shut-In(1)
74	42.21	118.39	Open To Flow (1)
104	89.56	122.34	Shut-In(2)
236	1283.79	124.95	End Shut-In(2)
243	1931.71	124.64	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
160.00	Mud 100M	0.79

Gas Rates

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

DRILL STEM TEST REPORT

Samuel Gary Jr. & Associates

1515 Wynkoop St. STE #700
Denver, CO 80202

ATTN: Chris Mitchell

36-4S-35W Rawlins, KS

Loeffler #1-36

Job Ticket: 60199 **DST#: 1**

Test Start: 2014.10.30 @ 23:50:00

GENERAL INFORMATION:

Formation: **Douglas Sand - LKC "**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 04:02:30
Time Test Ended: 09:41:30

Test Type: Conventional Bottom Hole (Initial)
Tester: Kevin Mack
Unit No: 66

Interval: 4086.00 ft (KB) To 4140.00 ft (KB) (TVD)
Total Depth: 4140.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

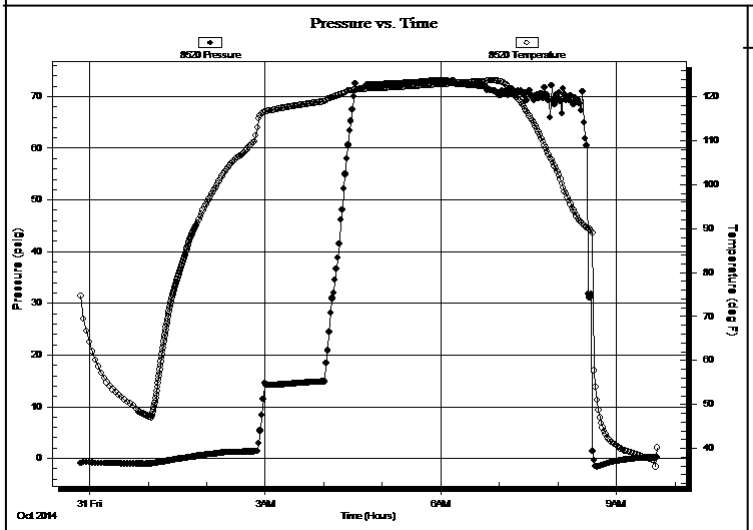
Reference Elevations: 3220.00 ft (KB)
3215.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8520 **Fluid**

Press@RunDepth: psig @ 4056.00 ft (KB)
Start Date: 2014.10.30 End Date: 2014.10.31
Start Time: 23:51:00 End Time: 09:41:30

Capacity: 8000.00 psig
Last Calib.: 2014.10.31
Time On Btm:
Time Off Btm:

TEST COMMENT: 10 - IF- 1/4" Blow built to 1 1/4"
60 - ISI- No Return
30 - FF- Surface Blow started at 3 min. Built to 3 1/2"
120 - FSI- No Return



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
160.00	Mud 100M	0.79

Gas Rates

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

DRILL STEM TEST REPORT

FLUID SUMMARY

Samuel Gary Jr. & Associates

1515 Wynkoop St. STE #700
Denver, CO 80202

ATTN: Chris Mitchell

36-4S-35W Rawlins, KS

Loeffler #1-36

Job Ticket: 60199 **DST#: 1**

Test Start: 2014.10.30 @ 23:50:00

Mud and Cushion Information

Mud Type:	Gel Chem	Cushion Type:		Oil API:	deg API
Mud Weight:	9.00 lb/gal	Cushion Length:	ft	Water Salinity:	ppm
Viscosity:	60.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	8.59 in³	Gas Cushion Type:			
Resistivity:	0.00 ohm.m	Gas Cushion Pressure:	psig		
Salinity:	500.00 ppm				
Filter Cake:	1.00 inches				

Recovery Information

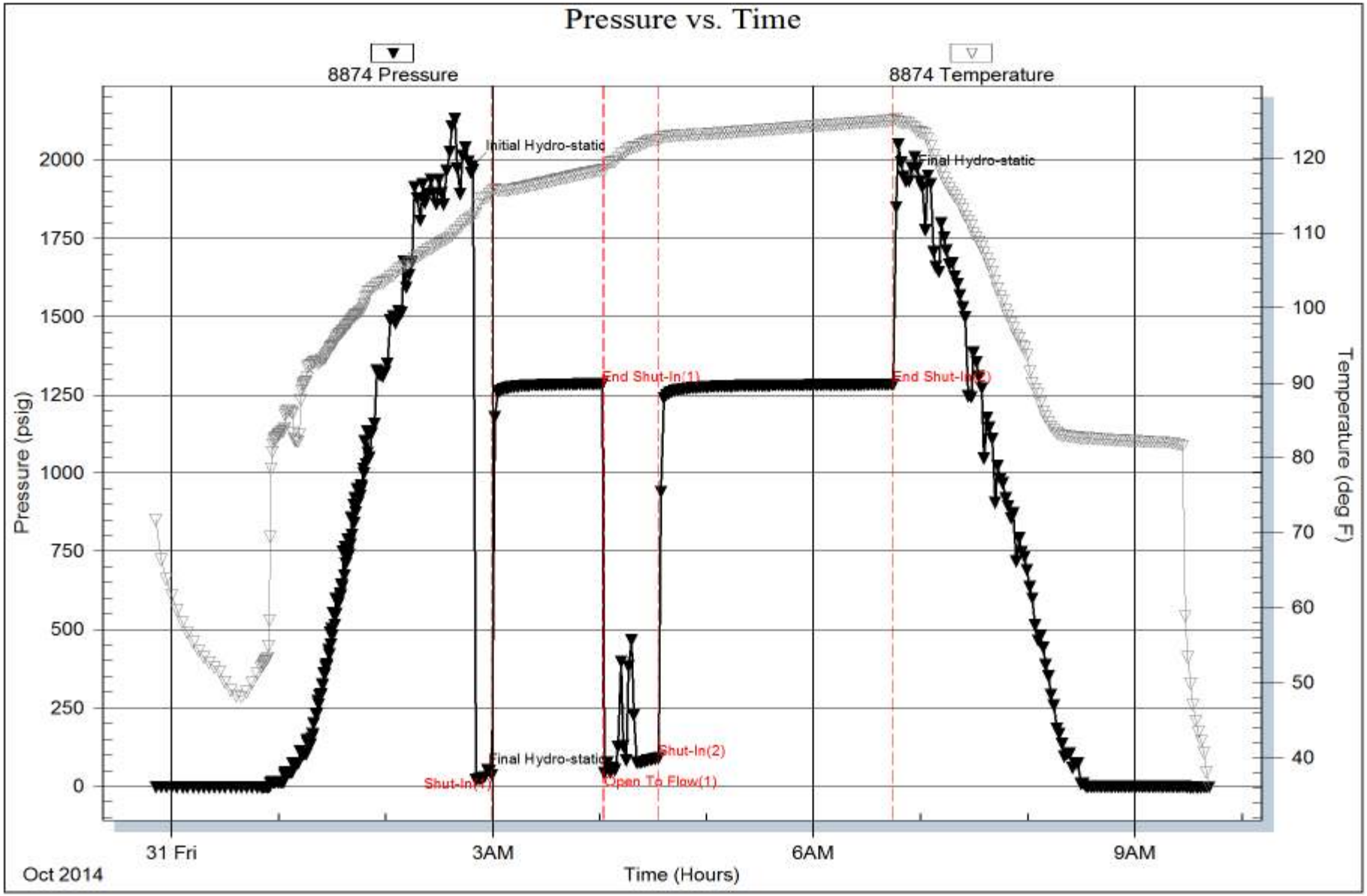
Recovery Table

Length ft	Description	Volume bbl
160.00	Mud 100M	0.787

Total Length: 160.00 ft Total Volume: 0.787 bbl

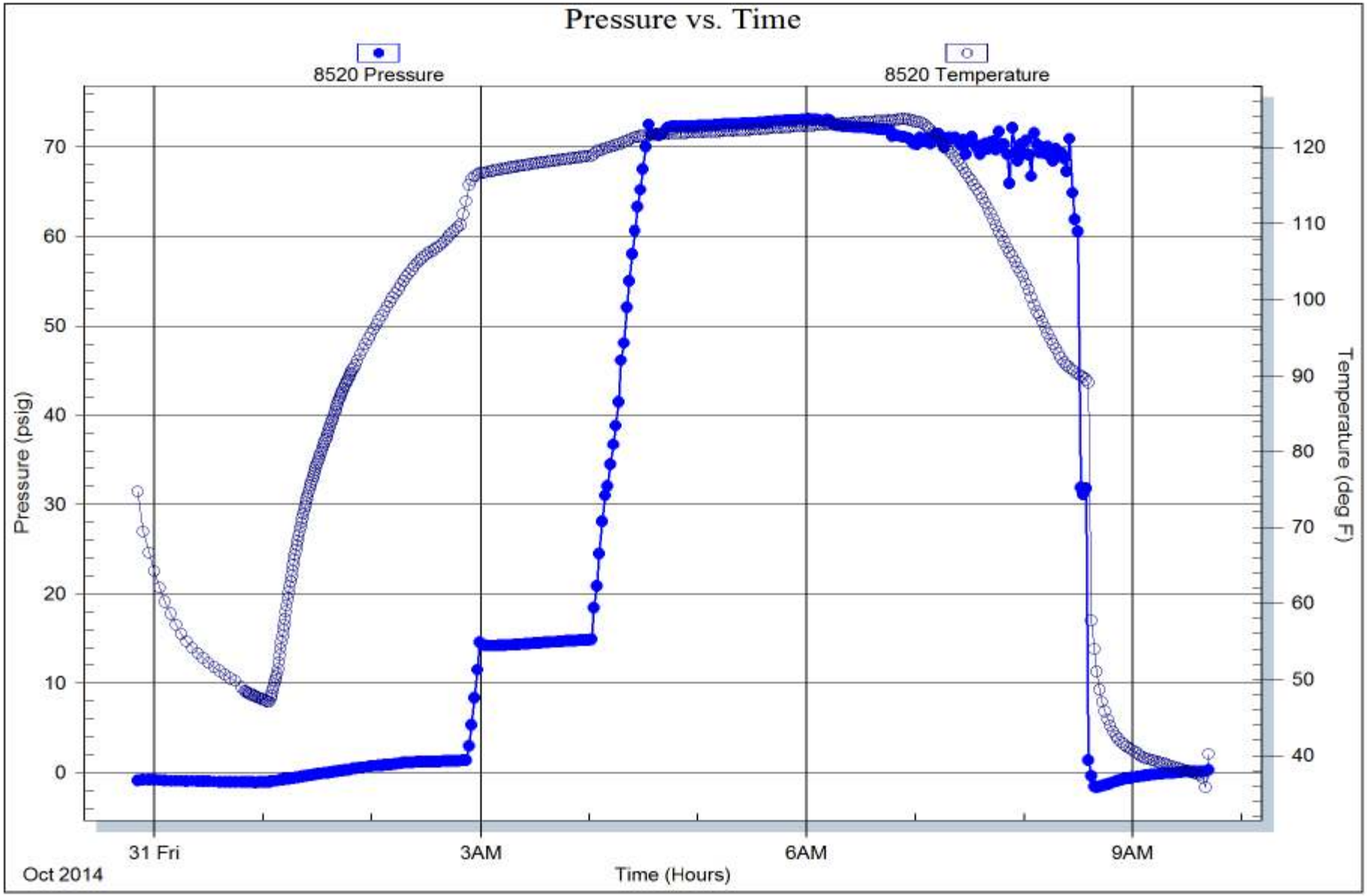
Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
Laboratory Name: Laboratory Location:
Recovery Comments:

Serial #: 8874 **Inside** Samuel Gary Jr. & Associates Loeffler #1-36 DST Test Number: 1



Trilobite Testing, Inc Ref. No: 60199 Printed: 2014.10.31 @ 11:01:10

Serial #: 8520 **Fluid** Samuel Gary Jr. & Associates Loeffler #1-36 DST Test Number: 1



Trilobite Testing, Inc Ref. No: 60199 Printed: 2014.10.31 @ 11:01:10

DRILL STEM TEST REPORT

Samuel Gary Jr. & Associates

1515 Wynkoop St. STE #700
Denver, CO 80202

ATTN: Chris Mitchell

36-4S-35W Rawlins, KS

Loeffler #1-36

Job Ticket: 60200 **DST#: 2**

Test Start: 2014.10.31 @ 15:30:00

GENERAL INFORMATION:

Formation: **Douglas Sand - LKC "**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 18:23:00
Time Test Ended: 22:36:30

Test Type: Conventional Bottom Hole (Initial)
Tester: Kevin Mack
Unit No: 66

Interval: 4086.00 ft (KB) To 4140.00 ft (KB) (TVD)
Total Depth: 4140.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

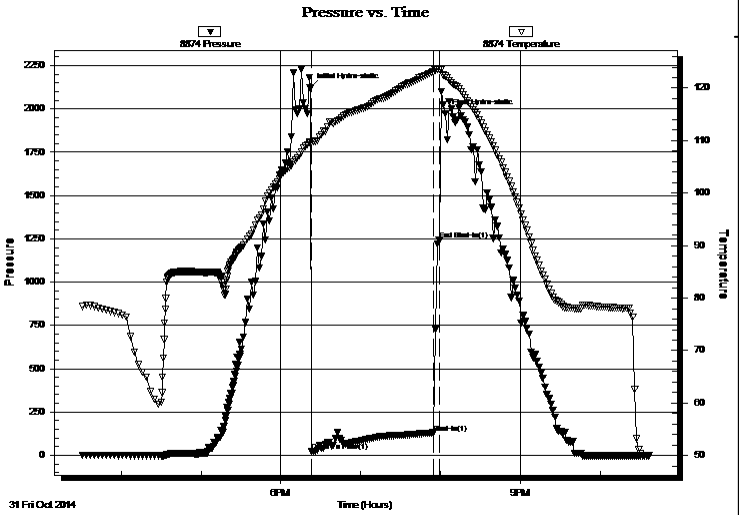
Reference Elevations: 3220.00 ft (KB)
3215.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8874 **Inside**

Press@RunDepth: 129.80 psig @ 4087.00 ft (KB)
Start Date: 2014.10.31 End Date: 2014.10.31
Start Time: 15:31:00 End Time: 22:36:30

Capacity: 8000.00 psig
Last Calib.: 2014.10.31
Time On Btm: 2014.10.31 @ 18:22:00
Time Off Btm: 2014.10.31 @ 20:03:30

TEST COMMENT: 90 - IF- 1/4" Blow built to BoB in 85 min.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2120.57	109.78	Initial Hydro-static
1	20.95	109.67	Open To Flow (1)
93	129.80	123.07	Shut-In(1)
97	1241.99	123.52	End Shut-In(1)
102	1974.35	122.27	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
62.00	MW 40M 60W	0.30
62.00	MW 20M 80W	0.30
62.00	MW 50M 50W	0.30
55.00	Mud 100M	0.77

Gas Rates

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

DRILL STEM TEST REPORT

Samuel Gary Jr. & Associates

1515 Wynkoop St. STE #700
Denver, CO 80202

ATTN: Chris Mitchell

36-4S-35W Rawlins, KS

Loeffler #1-36

Job Ticket: 60200 **DST#: 2**

Test Start: 2014.10.31 @ 15:30:00

GENERAL INFORMATION:

Formation: **Douglas Sand - LKC "**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 18:23:00
Time Test Ended: 22:36:30

Test Type: Conventional Bottom Hole (Initial)
Tester: Kevin Mack
Unit No: 66

Interval: 4086.00 ft (KB) To 4140.00 ft (KB) (TVD)
Total Depth: 4140.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

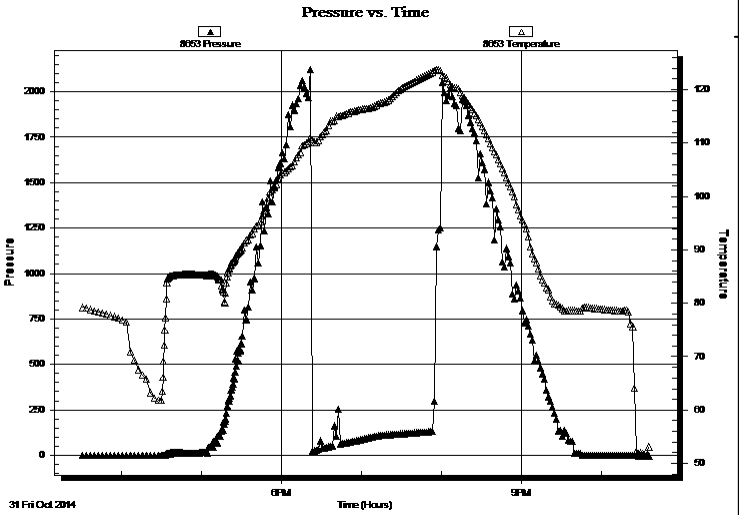
Reference Elevations: 3220.00 ft (KB)
3215.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8653 **Outside**

Press@RunDepth: psig @ 4087.00 ft (KB)
Start Date: 2014.10.31 End Date: 2014.10.31
Start Time: 15:31:00 End Time: 22:35:00

Capacity: 8000.00 psig
Last Calib.: 2014.10.31
Time On Btm:
Time Off Btm:

TEST COMMENT: 90 - IF- 1/4" Blow built to BoB in 85 min.



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
62.00	MW 40M 60W	0.30
62.00	MW 20M 80W	0.30
62.00	MW 50M 50W	0.30
55.00	Mud 100M	0.77

Gas Rates

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

DRILL STEM TEST REPORT

Samuel Gary Jr. & Associates

1515 Wynkoop St. STE #700
Denver, CO 80202

ATTN: Chris Mitchell

36-4S-35W Rawlins, KS

Loeffler #1-36

Job Ticket: 60200 **DST#: 2**

Test Start: 2014.10.31 @ 15:30:00

GENERAL INFORMATION:

Formation: **Douglas Sand - LKC "**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 18:23:00
Time Test Ended: 22:36:30

Test Type: Conventional Bottom Hole (Initial)
Tester: Kevin Mack
Unit No: 66

Interval: 4086.00 ft (KB) To 4140.00 ft (KB) (TVD)
Total Depth: 4140.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

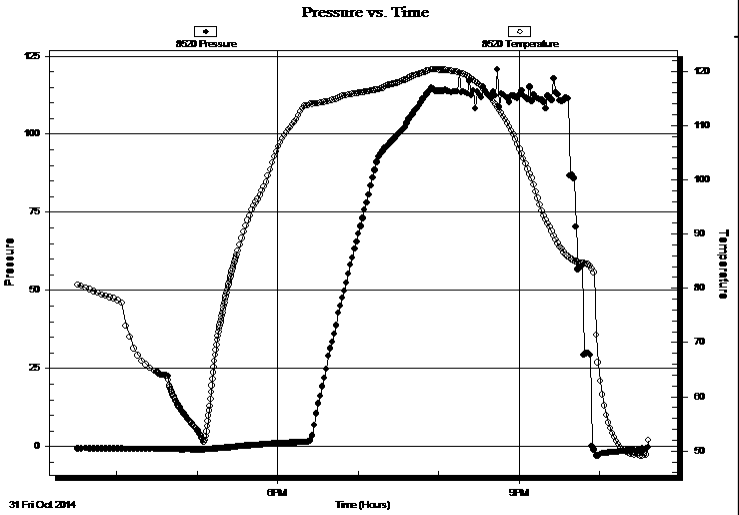
Reference Elevations: 3220.00 ft (KB)
3215.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8520 **Fluid**

Press@RunDepth: psig @ 4056.00 ft (KB)
Start Date: 2014.10.31 End Date: 2014.10.31
Start Time: 15:31:00 End Time: 22:36:30

Capacity: 8000.00 psig
Last Calib.: 2014.10.31
Time On Btm:
Time Off Btm:

TEST COMMENT: 90 - IF- 1/4" Blow built to BoB in 85 min.



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
62.00	MW 40M 60W	0.30
62.00	MW 20M 80W	0.30
62.00	MW 50M 50W	0.30
55.00	Mud 100M	0.77

Gas Rates

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

DRILL STEM TEST REPORT

FLUID SUMMARY

Samuel Gary Jr. & Associates

1515 Wynkoop St. STE #700
Denver, CO 80202

ATTN: Chris Mitchell

36-4S-35W Rawlins, KS

Loeffler #1-36

Job Ticket: 60200 **DST#: 2**

Test Start: 2014.10.31 @ 15:30:00

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:	35000 ppm
Viscosity:	77.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	7.98 in³	Gas Cushion Type:			
Resistivity:	0.00 ohm.m	Gas Cushion Pressure:	psig		
Salinity:	500.00 ppm				
Filter Cake:	1.00 inches				

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
62.00	MW 40M 60W	0.305
62.00	MW 20M 80W	0.305
62.00	MW 50M 50W	0.305
55.00	Mud 100M	0.772

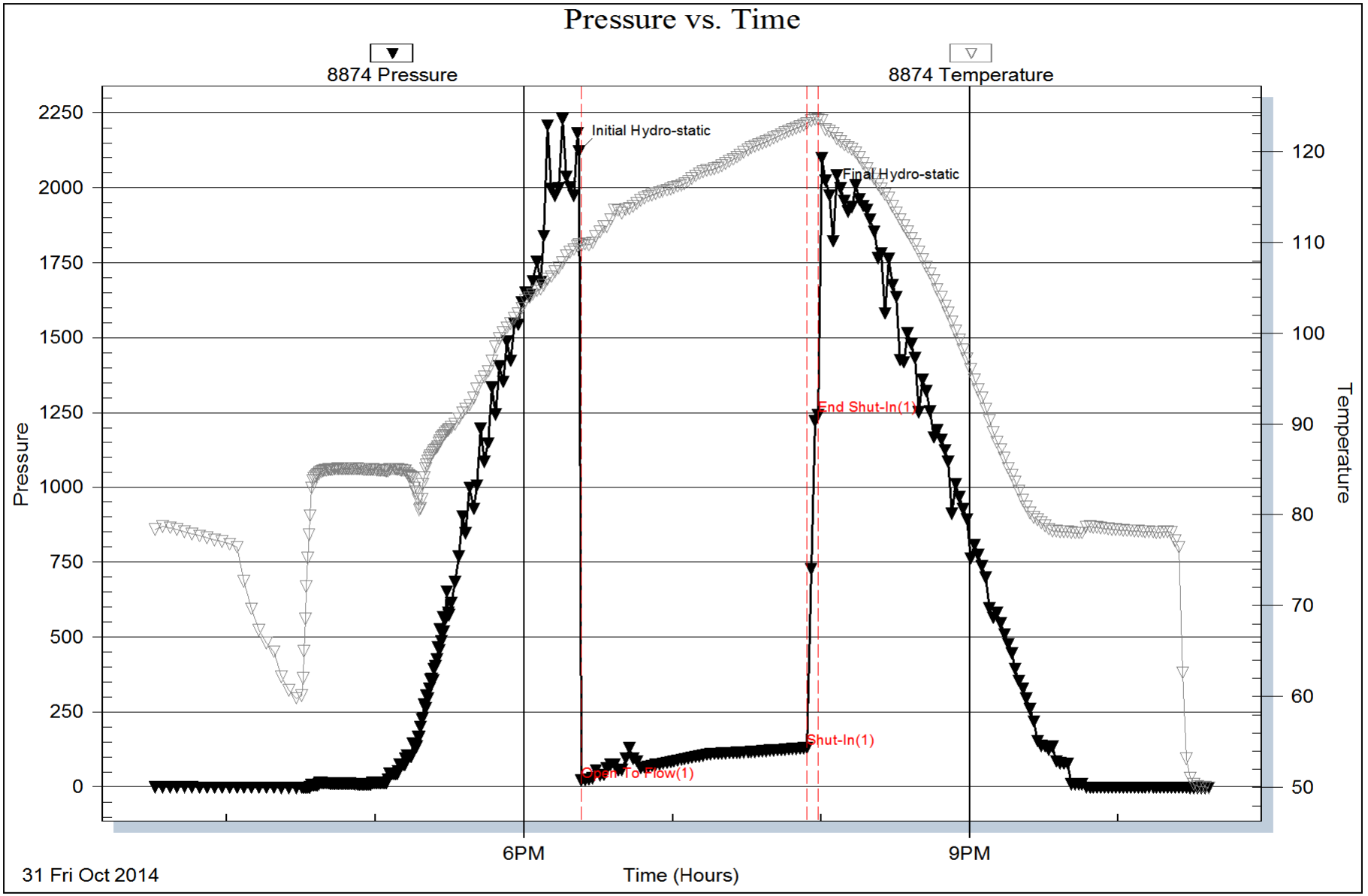
Total Length: 241.00 ft Total Volume: 1.687 bbl

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

Laboratory Name: Laboratory Location:

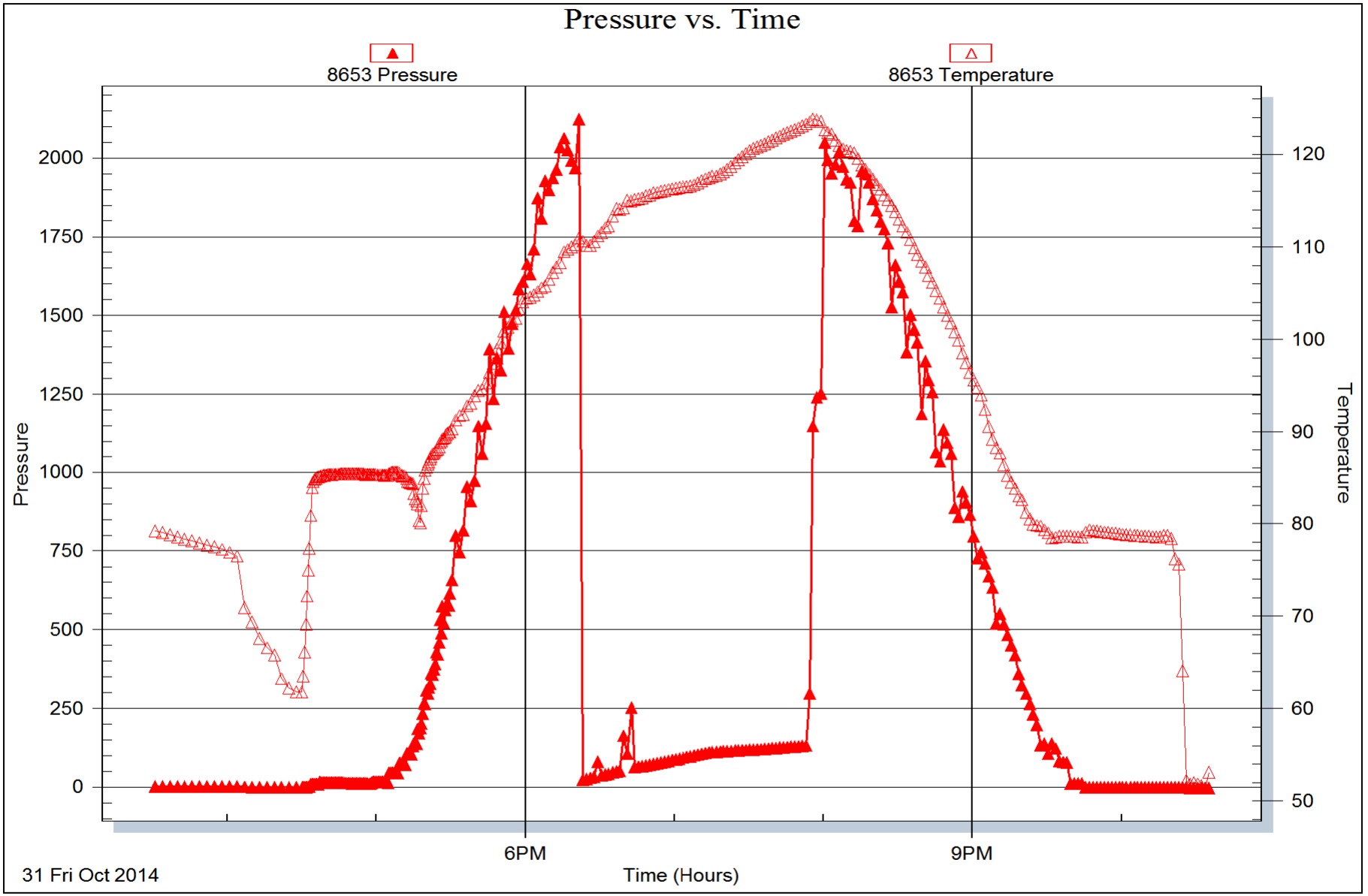
Recovery Comments: .3 @ 47 deg = 35000ppm

Serial #: 8874 **Inside** Samuel Gary Jr. & Associates Loeffler #1-36 DST Test Number: 2



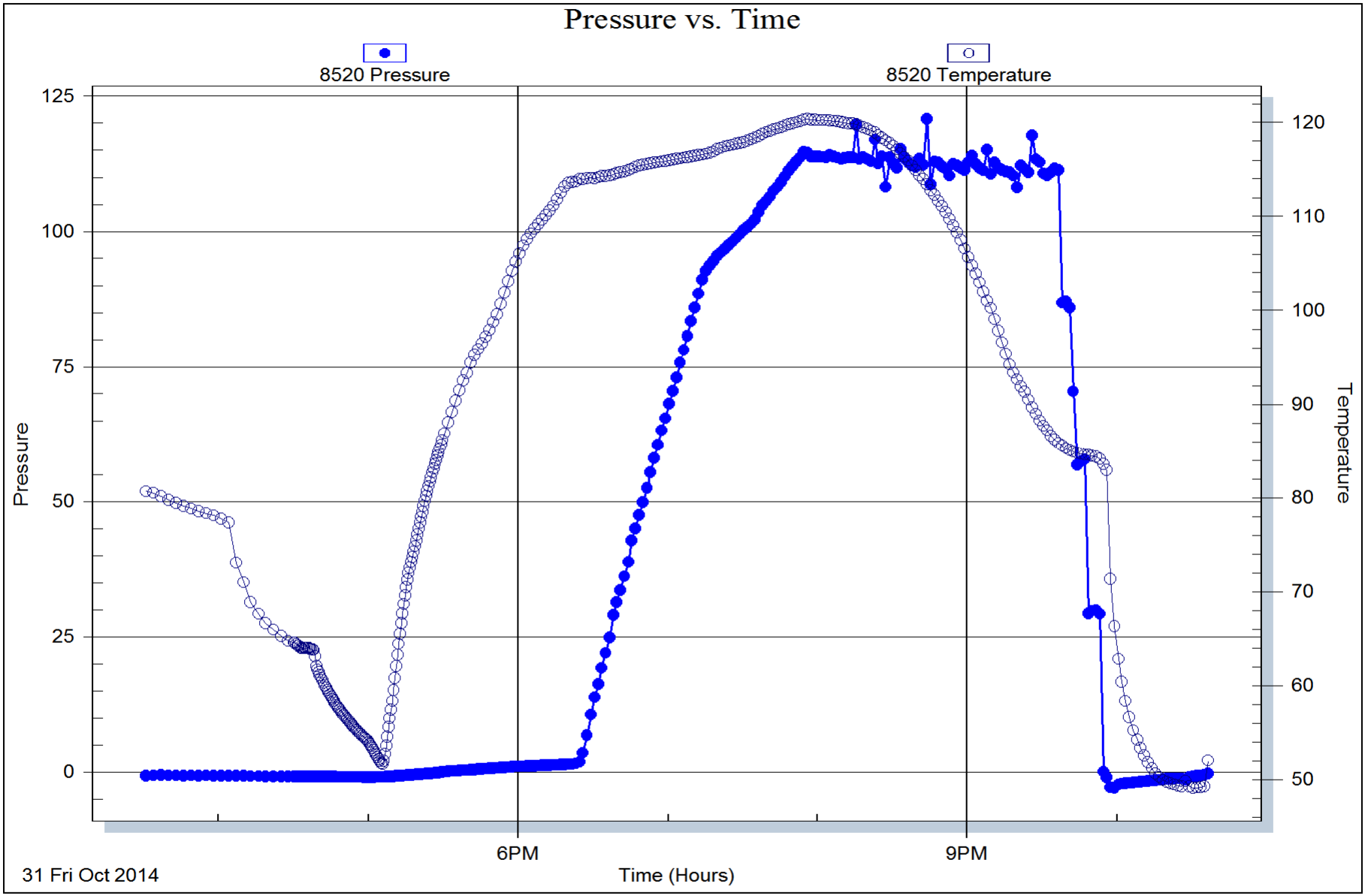
Trilobite Testing, Inc Ref. No: 60200 Printed: 2014.11.02 @ 18:40:46

Serial #: 8653 **Outside** Samuel Gary Jr. & Associates Loeffler #1-36 DST Test Number: 2



Trilobite Testing, Inc Ref. No: 60200 Printed: 2014.11.02 @ 18:40:46

Serial #: 8520 **Fluid** Samuel Gary Jr. & Associates Loeffler #1-36 DST Test Number: 2



Trilobite Testing, Inc Ref. No: 60200 Printed: 2014.11.02 @ 18:40:46

DRILL STEM TEST REPORT

Samuel Gary Jr. & Associates

1515 Wynkoop St. STE #700
Denver, CO 80202

ATTN: Chris Mitchell

36-4S-35W Rawlins, KS

Loeffler #1-36

Job Ticket: 60201 **DST#: 3**

Test Start: 2014.11.01 @ 18:37:00

GENERAL INFORMATION:

Formation: **LKC "G-H"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 21:07:30
Time Test Ended: 03:57:30

Test Type: Conventional Bottom Hole (Initial)
Tester: Kevin Mack
Unit No: 66

Interval: 4214.00 ft (KB) To 4295.00 ft (KB) (TVD)
Total Depth: 4295.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

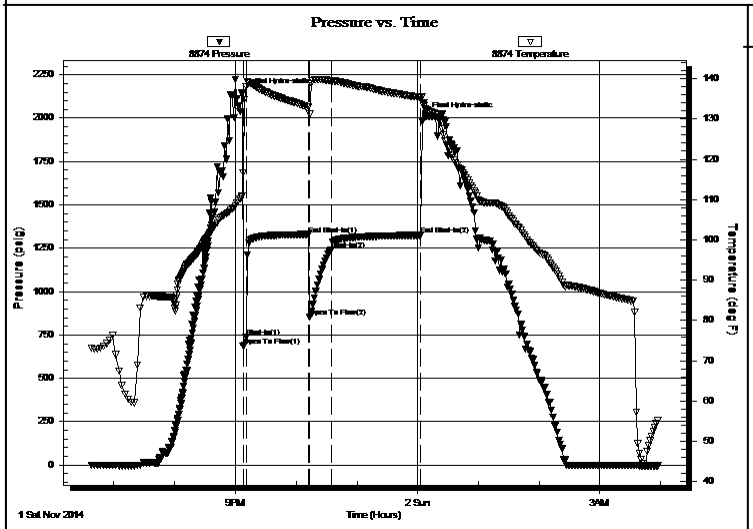
Reference Elevations: 3220.00 ft (KB)
3215.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8874 **Inside**

Press@RunDepth: 1241.97 psig @ 4215.00 ft (KB)
Start Date: 2014.11.01 End Date: 2014.11.02
Start Time: 18:38:00 End Time: 03:57:30

Capacity: 8000.00 psig
Last Calib.: 2014.11.02
Time On Btm: 2014.11.01 @ 21:06:30
Time Off Btm: 2014.11.02 @ 00:08:00

TEST COMMENT: 5 - IF- BoB in 45 sec.
60 - ISI- Surface Return started at 2 min. Did not build or die
30 - FF- BoB in 40 sec.
120 - FSI- No Return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2145.16	110.94	Initial Hydro-static
1	685.09	116.63	Open To Flow (1)
4	738.02	138.04	Shut-In(1)
66	1329.53	132.89	End Shut-In(1)
67	855.10	131.18	Open To Flow (2)
88	1241.97	139.41	Shut-In(2)
177	1325.20	135.32	End Shut-In(2)
182	2010.50	132.36	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
10.00	Mud (Heavy) 100M	0.05
1313.00	MW 5M 95W	16.81
630.00	MW 20M 80W	8.84
315.00	MW 40M 60W	4.42
315.00	WM 30W 70M	4.42

Gas Rates

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

DRILL STEM TEST REPORT

Samuel Gary Jr. & Associates

1515 Wynkoop St. STE #700
Denver, CO 80202

ATTN: Chris Mitchell

36-4S-35W Rawlins, KS

Loeffler #1-36

Job Ticket: 60201 **DST#: 3**

Test Start: 2014.11.01 @ 18:37:00

GENERAL INFORMATION:

Formation: **LKC "G-H"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 21:07:30
Time Test Ended: 03:57:30

Test Type: Conventional Bottom Hole (Initial)
Tester: Kevin Mack
Unit No: 66

Interval: 4214.00 ft (KB) To 4295.00 ft (KB) (TVD)
Total Depth: 4295.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

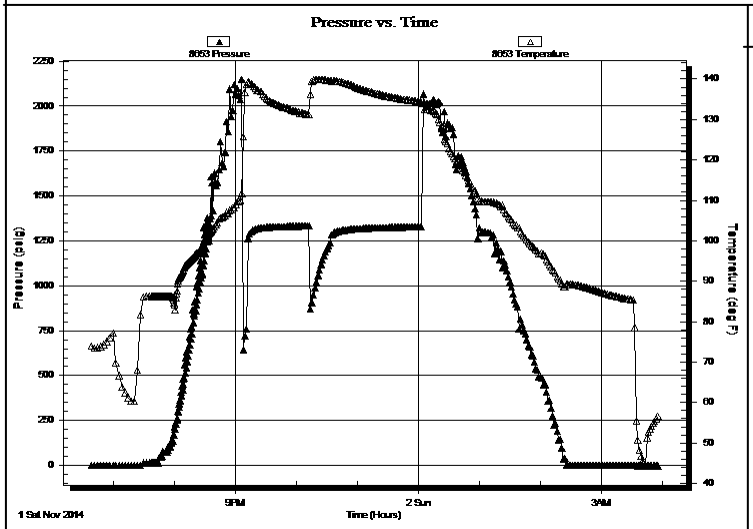
Reference Elevations: 3220.00 ft (KB)
3215.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8653 **Outside**

Press@RunDepth: psig @ 4215.00 ft (KB)
Start Date: 2014.11.01 End Date: 2014.11.02
Start Time: 18:38:00 End Time: 03:55:30

Capacity: 8000.00 psig
Last Calib.: 2014.11.02
Time On Btm:
Time Off Btm:

TEST COMMENT: 5 - IF- BoB in 45 sec.
60 - ISI- Surface Return started at 2 min. Did not build or die
30 - FF- BoB in 40 sec.
120 - FSI- No Return



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
10.00	Mud (Heavy) 100M	0.05
1313.00	MW 5M 95W	16.81
630.00	MW 20M 80W	8.84
315.00	MW 40M 60W	4.42
315.00	WM 30W 70M	4.42

Gas Rates

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

DRILL STEM TEST REPORT

Samuel Gary Jr. & Associates

1515 Wynkoop St. STE #700
Denver, CO 80202

ATTN: Chris Mitchell

36-4S-35W Rawlins, KS

Loeffler #1-36

Job Ticket: 60201 **DST#: 3**

Test Start: 2014.11.01 @ 18:37:00

GENERAL INFORMATION:

Formation: **LKC "G-H"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 21:07:30
Time Test Ended: 03:57:30

Test Type: Conventional Bottom Hole (Initial)
Tester: Kevin Mack
Unit No: 66

Interval: 4214.00 ft (KB) To 4295.00 ft (KB) (TVD)
Total Depth: 4295.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

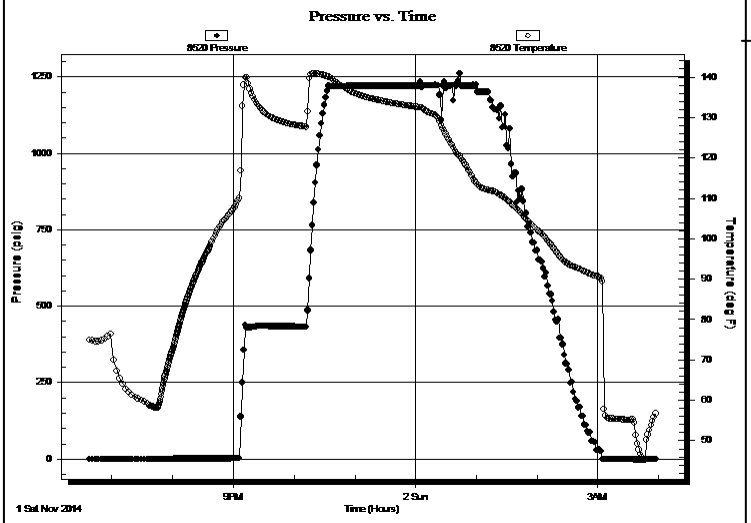
Reference Elevations: 3220.00 ft (KB)
3215.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8520 **Fluid**

Press@RunDepth: psig @ 4184.00 ft (KB)
Start Date: 2014.11.01 End Date: 2014.11.02
Start Time: 18:38:00 End Time: 03:57:30

Capacity: 8000.00 psig
Last Calib.: 2014.11.02
Time On Btm:
Time Off Btm:

TEST COMMENT: 5 - IF- BoB in 45 sec.
60 - ISI- Surface Return started at 2 min. Did not build or die
30 - FF- BoB in 40 sec.
120 - FSI- No Return



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
10.00	Mud (Heavy) 100M	0.05
1313.00	MW 5M 95W	16.81
630.00	MW 20M 80W	8.84
315.00	MW 40M 60W	4.42
315.00	WM 30W 70M	4.42

Gas Rates

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

DRILL STEM TEST REPORT

FLUID SUMMARY

Samuel Gary Jr. & Associates

1515 Wynkoop St. STE #700
Denver, CO 80202

ATTN: Chris Mitchell

36-4S-35W Rawlins, KS

Loeffler #1-36

Job Ticket: 60201 **DST#: 3**

Test Start: 2014.11.01 @ 18:37:00

Mud and Cushion Information

Mud Type:	Gel Chem	Cushion Type:		Oil API:	deg API
Mud Weight:	9.00 lb/gal	Cushion Length:	ft	Water Salinity:	50000 ppm
Viscosity:	77.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	7.99 in³	Gas Cushion Type:			
Resistivity:	0.00 ohm.m	Gas Cushion Pressure:	psig		
Salinity:	500.00 ppm				
Filter Cake:	1.00 inches				

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
10.00	Mud (Heavy) 100M	0.049
1313.00	MW 5M 95W	16.815
630.00	MW 20M 80W	8.837
315.00	MW 40M 60W	4.419
315.00	WM 30W 70M	4.419

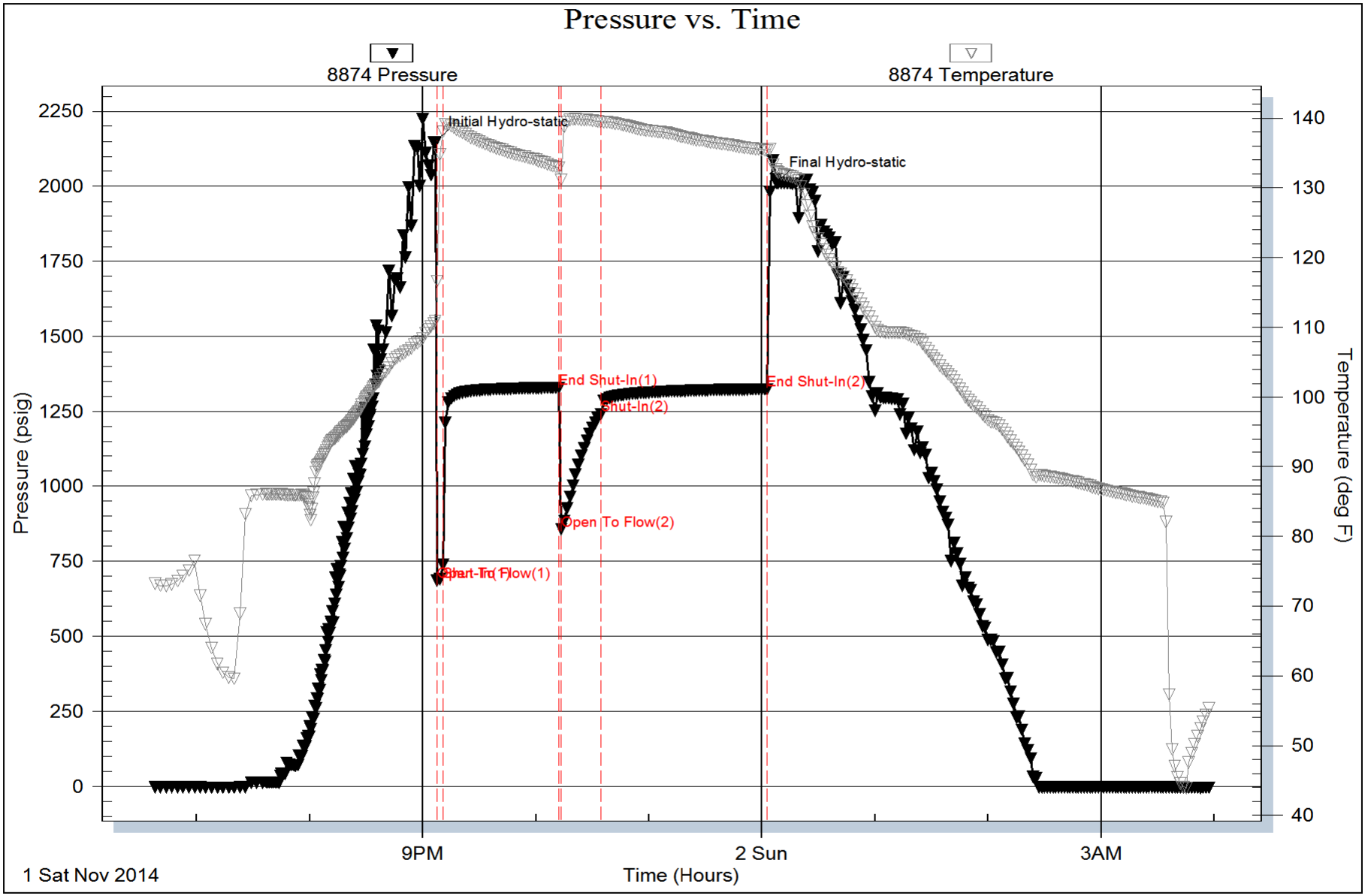
Total Length: 2583.00 ft Total Volume: 34.539 bbl

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

Laboratory Name: Laboratory Location:

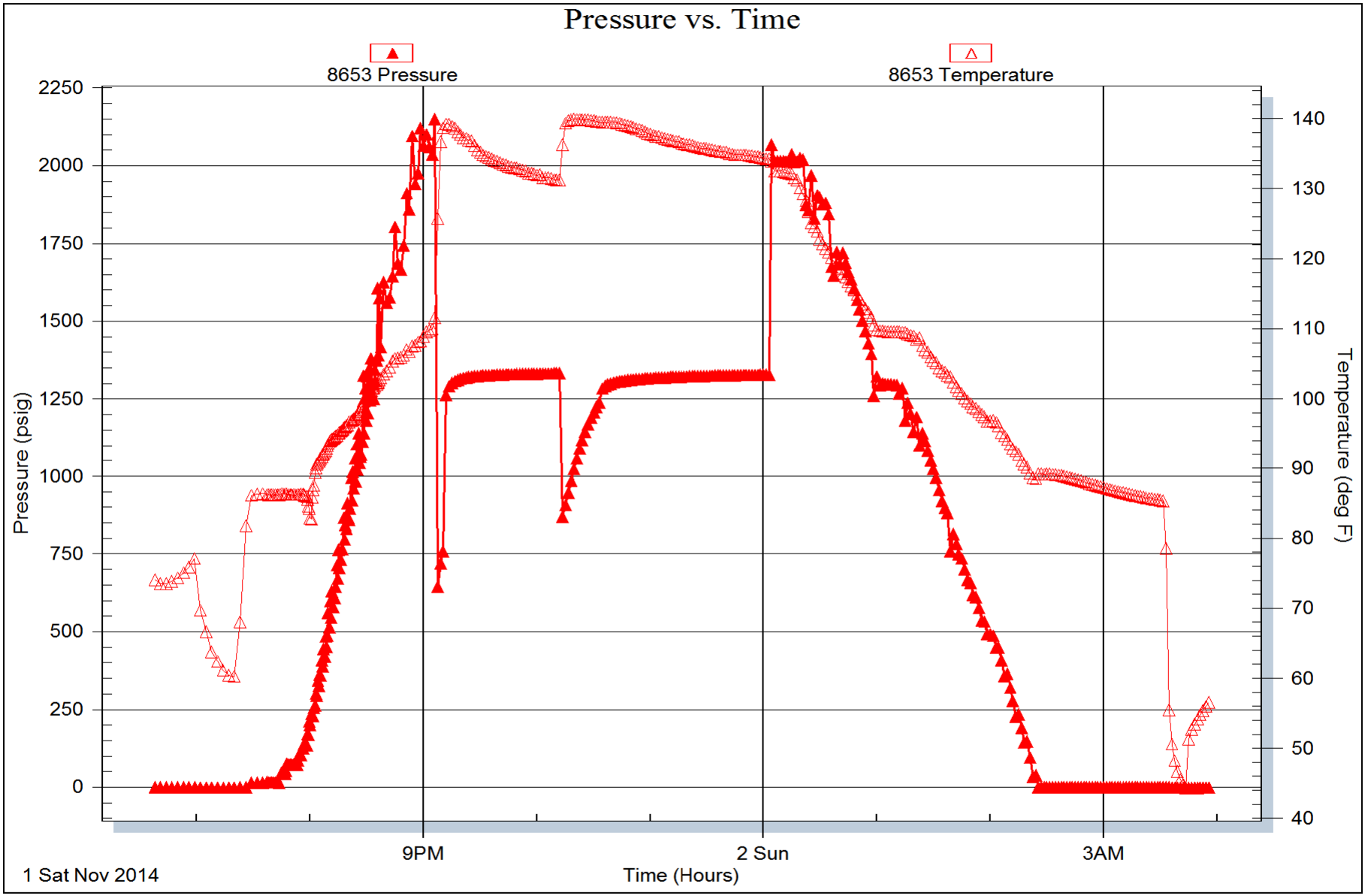
Recovery Comments: RW .18 @ 62 deg = 50,000ppm

Serial #: 8874 **Inside** Samuel Gary Jr. & Associates Loeffler #1-36 DST Test Number: 3



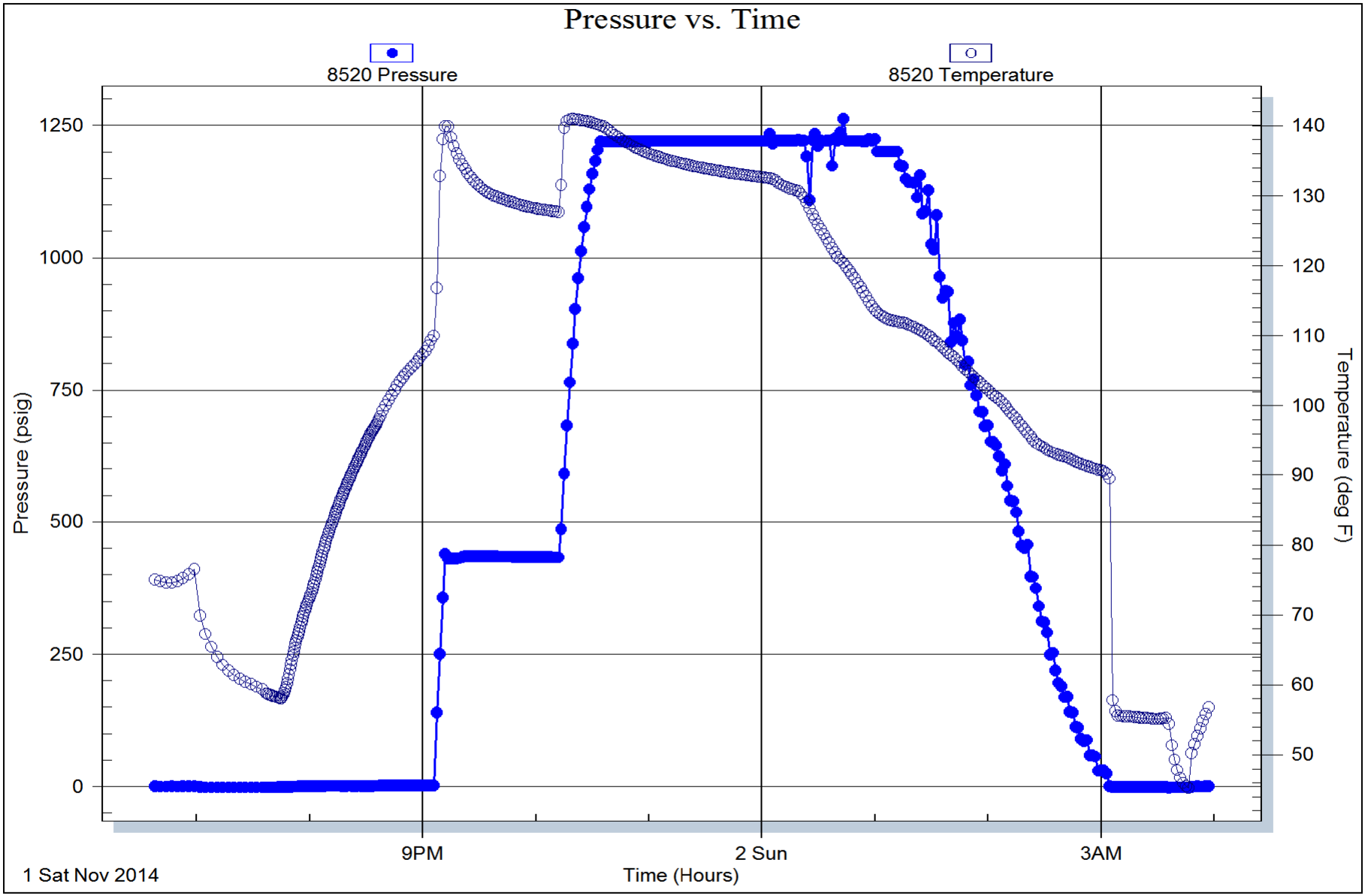
Trilobite Testing, Inc Ref. No: 60201 Printed: 2014.11.02 @ 18:40:22

Serial #: 8653 **Outside** Samuel Gary Jr. & Associates Loeffler #1-36 DST Test Number: 3



Trilobite Testing, Inc Ref. No: 60201 Printed: 2014.11.02 @ 18:40:23

Serial #: 8520 **Fluid** Samuel Gary Jr. & Associates Loeffler #1-36 DST Test Number: 3



Trilobite Testing, Inc Ref. No: 60201 Printed: 2014.11.02 @ 18:40:23

DRILL STEM TEST REPORT

Samuel Gary Jr. & Associates

1515 Wynkoop St. STE #700
Denver, CO 80202

ATTN: Chris Mitchell

36-4S-35W Rawlins, KS

Loeffler #1-36

Job Ticket: 60202 **DST#: 4**

Test Start: 2014.11.03 @ 09:45:00

GENERAL INFORMATION:

Formation: **Pawnee - Ft. Scott**
Deviated: No Whipstock: ft (KB)
Time Tool Opened:
Time Test Ended: 15:40:30

Test Type: Conventional Bottom Hole (Initial)
Tester: Kevin Mack
Unit No: 66

Interval: 4484.00 ft (KB) To 4558.00 ft (KB) (TVD)
Total Depth: 4558.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

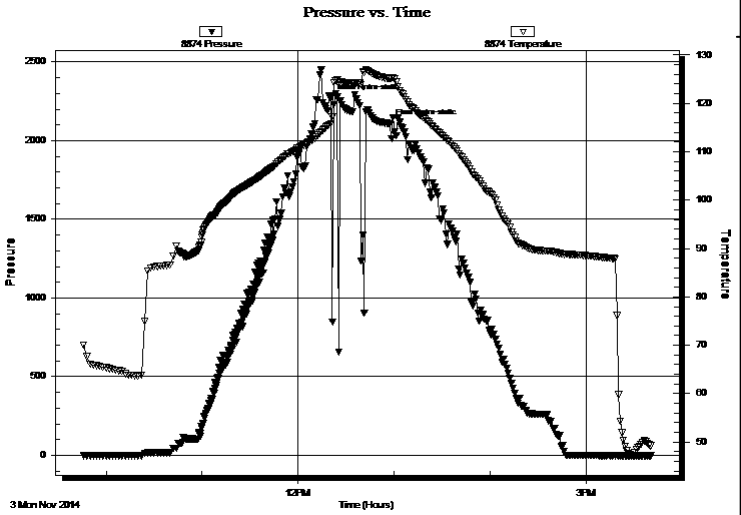
Reference Elevations: 3220.00 ft (KB)
3215.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8874 **Inside**

Press@RunDepth: psig @ 4485.00 ft (KB)
Start Date: 2014.11.03 End Date: 2014.11.03
Start Time: 09:46:00 End Time: 15:40:30

Capacity: 8000.00 psig
Last Calib.: 2014.11.03
Time On Btm: 2014.11.03 @ 12:20:30
Time Off Btm: 2014.11.03 @ 12:57:00

TEST COMMENT: Packer Failure



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2269.25	115.85	Initial Hydro-static
37	2108.19	125.11	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
500.00	mMd 100M	5.32

Gas Rates

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

DRILL STEM TEST REPORT

Samuel Gary Jr. & Associates

1515 Wynkoop St. STE #700
Denver, CO 80202

ATTN: Chris Mitchell

36-4S-35W Rawlins, KS

Loeffler #1-36

Job Ticket: 60202 **DST#: 4**

Test Start: 2014.11.03 @ 09:45:00

GENERAL INFORMATION:

Formation: **Pawnee - Ft. Scott**
Deviated: No Whipstock: ft (KB)
Time Tool Opened:
Time Test Ended: 15:40:30

Test Type: Conventional Bottom Hole (Initial)
Tester: Kevin Mack
Unit No: 66

Interval: 4484.00 ft (KB) To 4558.00 ft (KB) (TVD)
Total Depth: 4558.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

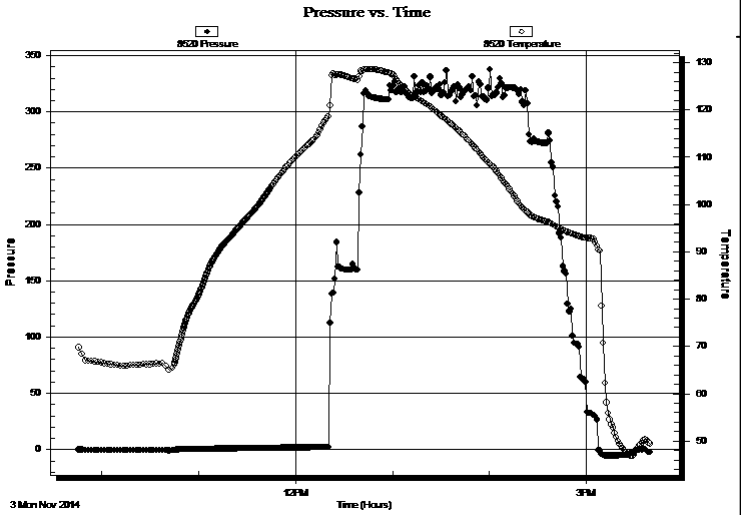
Reference Elevations: 3220.00 ft (KB)
3215.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8520 **Fluid**

Press@RunDepth: psig @ 4454.00 ft (KB)
Start Date: 2014.11.03 End Date: 2014.11.03
Start Time: 09:46:00 End Time: 15:40:00

Capacity: 8000.00 psig
Last Calib.: 2014.11.03
Time On Btm:
Time Off Btm:

TEST COMMENT: Packer Failure



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
500.00	mMd 100M	5.32

Gas Rates

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

DRILL STEM TEST REPORT

FLUID SUMMARY

Samuel Gary Jr. & Associates

1515 Wynkoop St. STE #700
Denver, CO 80202

ATTN: Chris Mitchell

36-4S-35W Rawlins, KS

Loeffler #1-36

Job Ticket: 60202 **DST#: 4**

Test Start: 2014.11.03 @ 09:45:00

Mud and Cushion Information

Mud Type:	Gel Chem	Cushion Type:		Oil API:	deg API
Mud Weight:	9.00 lb/gal	Cushion Length:	ft	Water Salinity:	ppm
Viscosity:	70.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	7.99 in³	Gas Cushion Type:			
Resistivity:	0.00 ohm.m	Gas Cushion Pressure:	psig		
Salinity:	750.00 ppm				
Filter Cake:	1.00 inches				

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
500.00	mMd 100M	5.319

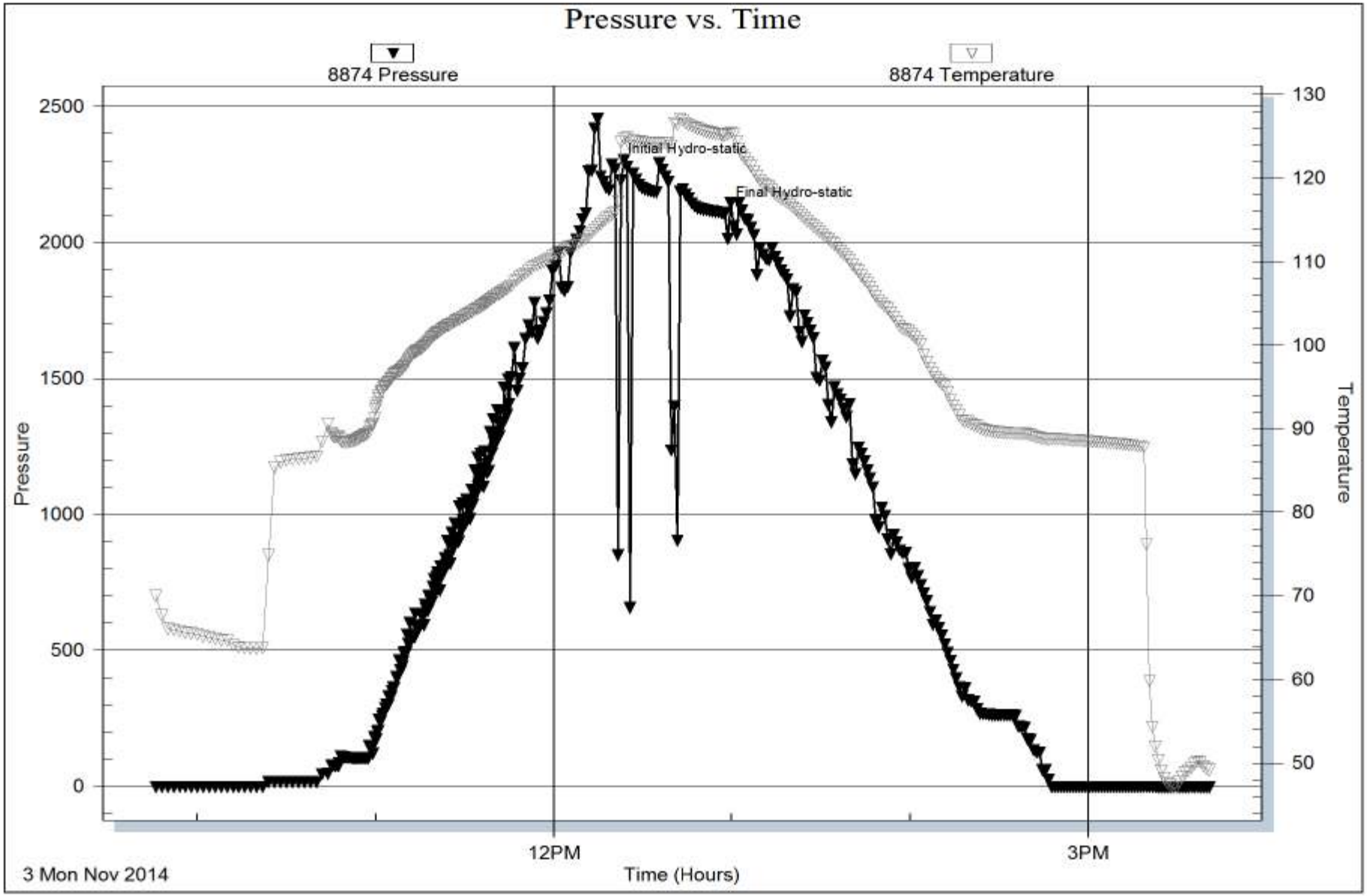
Total Length: 500.00 ft Total Volume: 5.319 bbl

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

Laboratory Name: Laboratory Location:

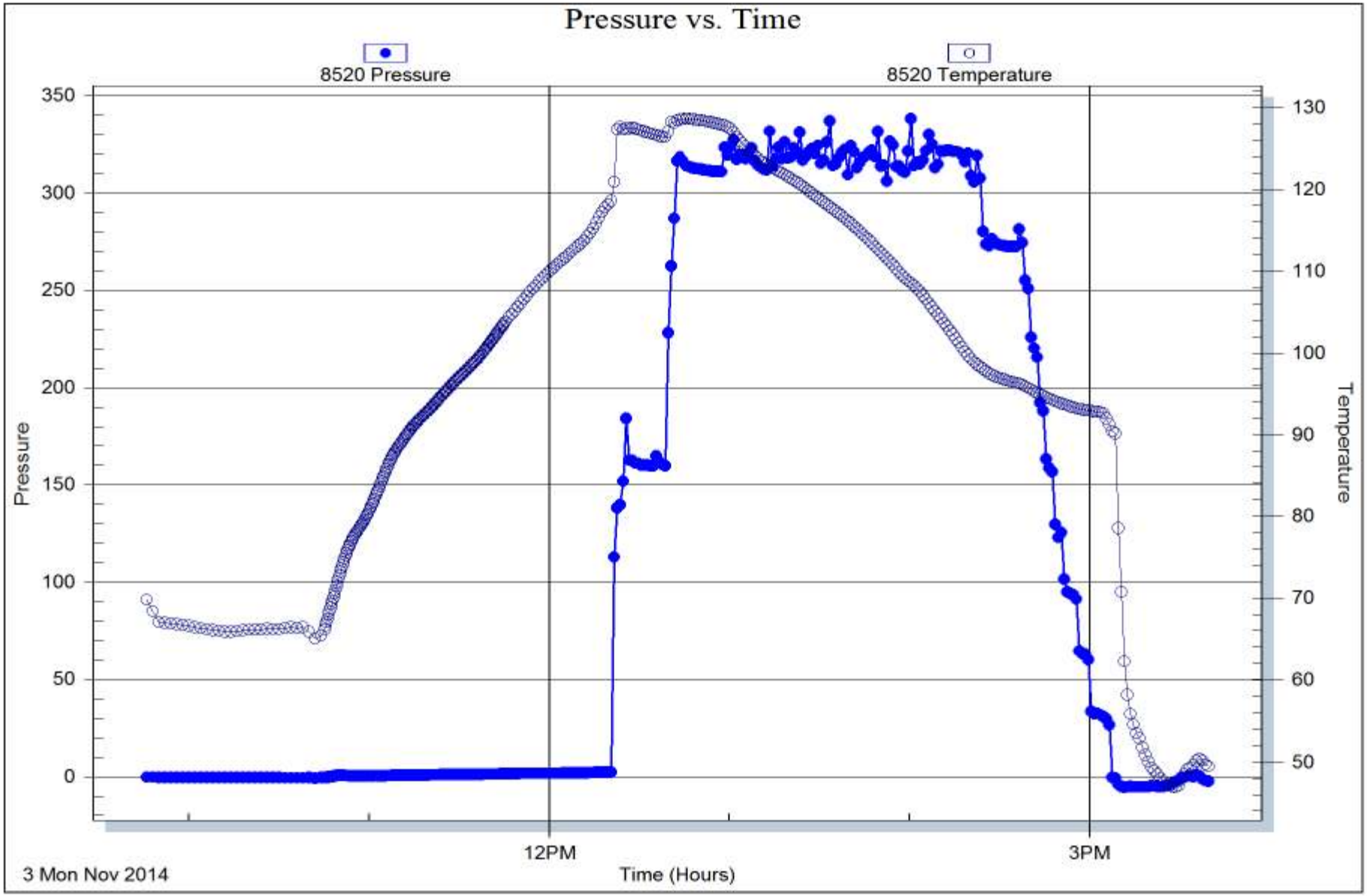
Recovery Comments:

Serial #: 8874 **Inside** Samuel Gary Jr. & Associates Loeffler #1-36 DST Test Number: 4



Trilobite Testing, Inc Ref. No: 60202 Printed: 2014.11.04 @ 09:22:44

Serial #: 8520 **Fluid** Samuel Gary Jr. & Associates Loeffler #1-36 DST Test Number: 4



Trilobite Testing, Inc Ref. No: 60202 Printed: 2014.11.04 @ 09:22:44

DRILL STEM TEST REPORT

Samuel Gary Jr. & Associates

1515 Wynkoop St. STE #700
Denver, CO 80202

ATTN: Chris Mitchell

36-4S-35W Rawlins, KS

Loeffler #1-36

Job Ticket: 60203 **DST#: 5**

Test Start: 2014.11.03 @ 16:04:00

GENERAL INFORMATION:

Formation: **Pawnee - Ft. Scott**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 17:57:10
Time Test Ended: 23:35:30

Test Type: Conventional Bottom Hole (Initial)
Tester: Kevin Mack
Unit No: 66

Interval: 4495.00 ft (KB) To 4558.00 ft (KB) (TVD)
Total Depth: 4558.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

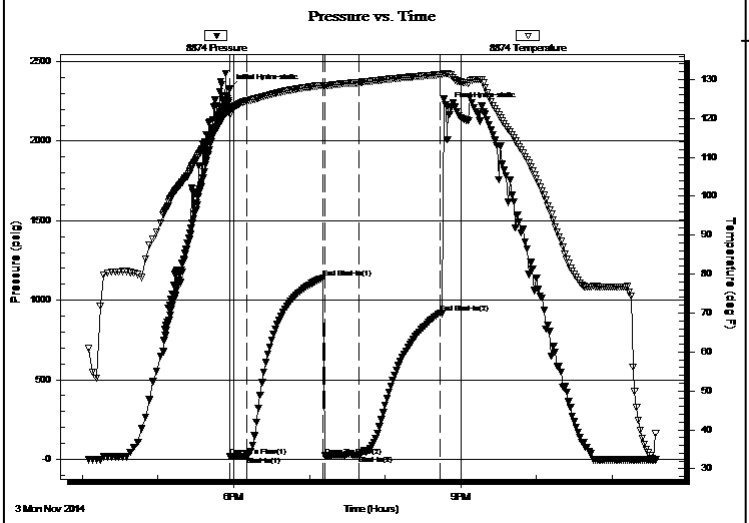
Reference Elevations: 3220.00 ft (KB)
3215.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8874 **Inside**

Press@RunDepth: 25.60 psig @ 4496.00 ft (KB)
Start Date: 2014.11.03 End Date: 2014.11.03
Start Time: 16:05:00 End Time: 23:35:30

Capacity: 8000.00 psig
Last Calib.: 2014.11.03
Time On Btm: 2014.11.03 @ 17:57:00
Time Off Btm: 2014.11.03 @ 20:50:00

TEST COMMENT: 10 - IF- 1/2 " Blow built to 3/4"
60 - ISI- No Return
30 - FF- No Blow
60 - FSI- No Return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2326.96	122.55	Initial Hydro-static
1	18.44	121.11	Open To Flow (1)
13	20.89	124.45	Shut-In(1)
74	1140.42	128.53	End Shut-In(1)
75	22.17	128.30	Open To Flow (2)
102	25.60	129.19	Shut-In(2)
167	919.73	131.24	End Shut-In(2)
173	2215.54	131.46	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
10.00	Mud 100M	0.05

Gas Rates

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

DRILL STEM TEST REPORT

FLUID SUMMARY

Samuel Gary Jr. & Associates

1515 Wynkoop St. STE #700
Denver, CO 80202

ATTN: Chris Mitchell

36-4S-35W Rawlins, KS

Loeffler #1-36

Job Ticket: 60203 **DST#: 5**

Test Start: 2014.11.03 @ 16:04:00

Mud and Cushion Information

Mud Type:	Gel Chem	Cushion Type:		Oil API:	deg API
Mud Weight:	9.00 lb/gal	Cushion Length:	ft	Water Salinity:	ppm
Viscosity:	67.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	7.99 in³	Gas Cushion Type:			
Resistivity:	0.00 ohm.m	Gas Cushion Pressure:	psig		
Salinity:	750.00 ppm				
Filter Cake:	1.00 inches				

Recovery Information

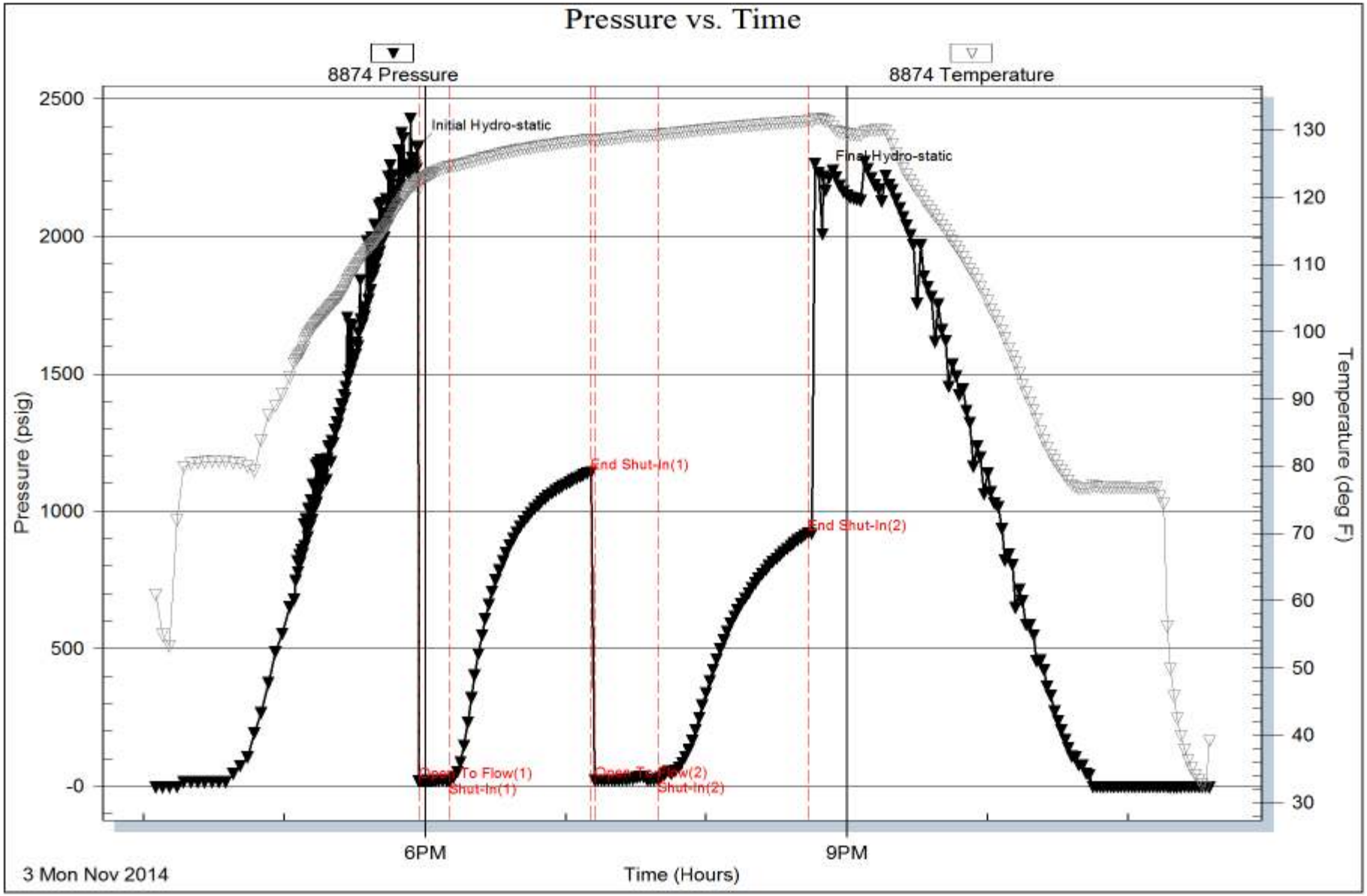
Recovery Table

Length ft	Description	Volume bbl
10.00	Mud 100M	0.049

Total Length: 10.00 ft Total Volume: 0.049 bbl

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

Serial #: 8874 **Inside** Samuel Gary Jr. & Associates Loeffler #1-36 DST Test Number: 5



Trilobite Testing, Inc Ref. No: 60203 Printed: 2014.11.04 @ 09:21:08

Scale 1:240 (5"=100') Imperial
Measured Depth Log

Well Name:	LOEFFLER 1-36		
Well Id:			
Location:	SEC 36-4S-35W	RAWLINS COUNTY, KANSAS	
License Number:	15-153-21075-0000	Region:	WILDCAT
Spud Date:	OCT. 24, 2014	Drilling Completed:	NOV. 4, 2014
Surface Coordinates:	980 FNL / 1135 FEL		
Bottom Hole Coordinates:			
Ground Elevation (ft):	3215'	K.B. Elevation (ft):	3220'
Logged Interval (ft):	3803' To: 4808'	Total Depth (ft):	4808'
Formation:	Lansing, Kansas City		
Type of Drilling Fluid:	Natural Chemical		

Printed by WellSight Log Viewer from WellSight Systems 1-800-447-1534 www.WellSight.com

OPERATOR

Company: Samuel Gary Jr. & Assoc.
Address: 1515 Wynkoop, Ste. # 700
Denver, Colo. 80202
Geo: Chris Mitchell

GEOLOGIST

Name: Schuyler Hedrick/Blake Ward
Company: Earth Tech OGL, Inc.
Address: PO Box 683
Hooker, Okla . 73945
Off. 888-543-8378 Cell: 580-754-0231

DRILL STEM TEST REPORT

Samuel Gary Jr. & Associates

1515 Wynkoop St. STE #700
Denver, CO 80202

ATTN: Chris Mitchell

36-4S-35W Rawlins, KS

Loeffler #1-36

Job Ticket: 60199 **DST#: 1**

Test Start: 2014.10.30 @ 23:50:00

GENERAL INFORMATION:

Formation: **Douglas Sand - LKC "**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 04:02:30
Time Test Ended: 09:41:30

Test Type: Conventional Bottom Hole (Initial)
Tester: Kevin Mack
Unit No: 66

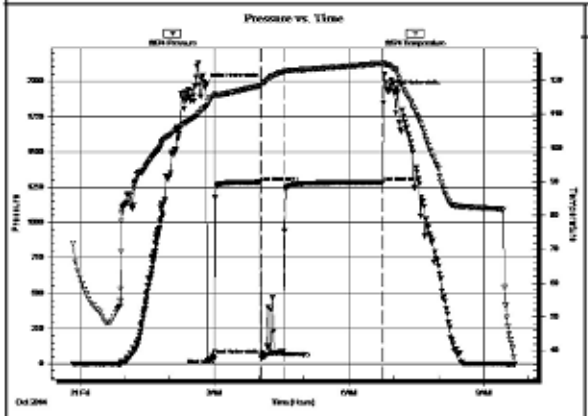
Interval: 4086.00 ft (KB) To 4140.00 ft (KB) (TVD)
Total Depth: 4140.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 3220.00 ft (KB)
3215.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8874 **Inside**
Press@RunDepth: 89.56 psig @ 4087.00 ft (KB)
Start Date: 2014.10.30 End Date: 2014.10.31
Start Time: 23:51:00 End Time: 09:41:30

Capacity: 8000.00 psig
Last Calib.: 2014.10.31
Time On Btm: 2014.10.31 @ 02:48:30
Time Off Btm: 2014.10.31 @ 02:50:30

TEST COMMENT: 10 - IF- 1/4" Blow built to 1 1/4"
60 - ISI- No Return
30 - FF- Surface Blow started at 3 min. Built to 3 1/2"
120 - FSI- No Return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1980.44	112.06	Initial Hydro-static
2	20.28	112.60	Final Hydro-static
11	35.77	115.47	Shut-In(1)
73	1285.15	118.35	End Shut-In(1)
74	42.21	118.39	Open To Flow (1)
104	89.56	122.34	Shut-In(2)
236	1283.79	124.95	End Shut-In(2)
243	1931.71	124.64	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
160.00	Mud 100M	0.79

Gas Rates

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

DRILL STEM TEST REPORT

TRILOBITE TESTING, INC.

Samuel Gary Jr. & Associates

1515 Wynkoop St. STE #700
Denver, CO 80202

ATTN: Chris Mitchell

36-4S-35W Rawlins, KS

Loeffler #1-36

Job Ticket: 60200 **DST#: 2**

Test Start: 2014.10.31 @ 15:30:00

GENERAL INFORMATION:

Formation: **Douglas Sand - LKC "**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 18:23:00
Time Test Ended: 22:36:30

Test Type: Conventional Bottom Hole (Initial)
Tester: Kevin Mack
Unit No: 66

Interval: 4086.00 ft (KB) To 4140.00 ft (KB) (TVD)
Total Depth: 4140.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

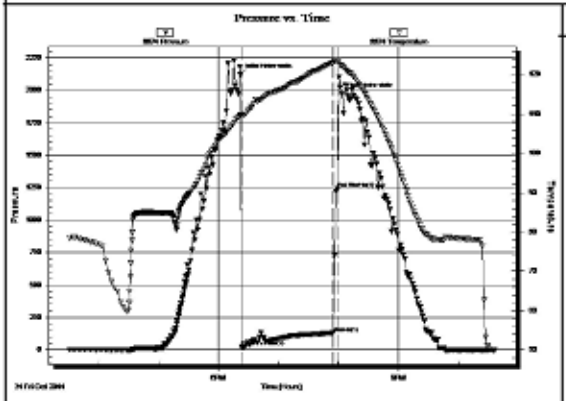
Reference Elevations: 3220.00 ft (KB)
3215.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8874 **Inside**

Press@RunDepth: 129.80 psig @ 4087.00 ft (KB)
Start Date: 2014.10.31 End Date: 2014.10.31
Start Time: 15:31:00 End Time: 22:36:30

Capacity: 8000.00 psig
Last Calib.: 2014.10.31
Time On Btm: 2014.10.31 @ 18:22:00
Time Off Btm: 2014.10.31 @ 20:03:30

TEST COMMENT: 90 - IF- 1/4" Blow built to BoB in 85 min.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2120.57	109.78	Initial Hydro-static
1	20.95	109.67	Open To Flow (1)
93	129.80	123.07	Shut-In(1)
97	1241.99	123.52	End Shut-In(1)
102	1974.35	122.27	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
62.00	MW 40M 60W	0.30
62.00	MW 20M 80W	0.30
62.00	MW 50M 50W	0.30
55.00	Mud 100M	0.77

Gas Rates

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

DRILL STEM TEST REPORT

TRILOBITE TESTING, INC

Samuel Gary Jr. & Associates

1515 Wynkoop St. STE #700
Denver, CO 80202

ATTN: Chris Mitchell

36-4S-35W Rawlins, KS

Loeffler #1-36

Job Ticket: 60201 **DST#: 3**

Test Start: 2014.11.01 @ 18:37:00

GENERAL INFORMATION:

Formation: **LKC "G-H"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 21:07:30
Time Test Ended: 03:57:30

Test Type: Conventional Bottom Hole (Initial)
Tester: Kevin Mack
Unit No: 66

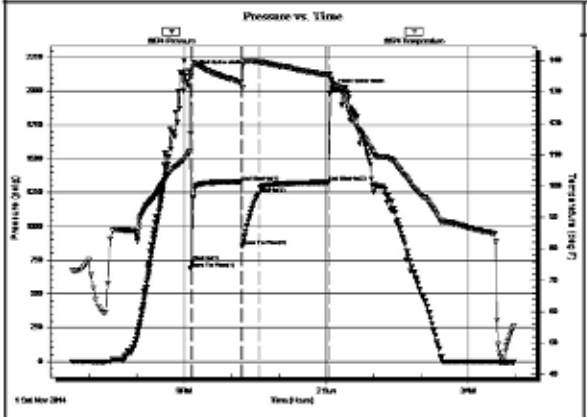
Interval: 4214.00 ft (KB) To 4295.00 ft (KB) (TVD)
Total Depth: 4295.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 3220.00 ft (KB)
3215.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8874 **Inside**
Press@RunDepth: 1241.97 psig @ 4215.00 ft (KB)
Start Date: 2014.11.01 End Date: 2014.11.02
Start Time: 18:38:00 End Time: 03:57:30

Capacity: 8000.00 psig
Last Calib.: 2014.11.02
Time On Btm: 2014.11.01 @ 21:06:30
Time Off Btm: 2014.11.02 @ 00:08:00

TEST COMMENT: 5 - IF- BoB in 45 sec.
60 - ISI- Surface Return started at 2 min. Did not build or die
30 - FF- BoB in 40 sec.
120 - FSI- No Return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2145.16	110.94	Initial Hydro-static
1	685.09	116.63	Open To Flow (1)
4	738.02	138.04	Shut-In(1)
66	1329.53	132.89	End Shut-In(1)
67	855.10	131.18	Open To Flow (2)
88	1241.97	139.41	Shut-In(2)
177	1325.20	135.32	End Shut-In(2)
182	2010.50	132.36	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
10.00	Mud (Heavy) 100M	0.05
1313.00	MW 5M 95W	16.81
630.00	MW 20M 80W	8.84
315.00	MW 40M 60W	4.42
315.00	WM 30W 70M	4.42

Gas Rates

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

DRILL STEM TEST REPORT

Samuel Gary Jr. & Associates

1515 Wynkoop St. STE #700
Denver, CO 80202

ATTN: Chris Mitchell

36-4S-35W Rawlins, KS

Loeffler #1-36

Job Ticket: 60202 **DST#: 4**

Test Start: 2014.11.03 @ 09:45:00

GENERAL INFORMATION:

Formation: **Pawnee - Ft. Scott**
Deviated: No Whipstock: ft (KB)
Time Tool Opened:
Time Test Ended: 15:40:30

Test Type: Conventional Bottom Hole (Initial)
Tester: Kevin Mack
Unit No: 66

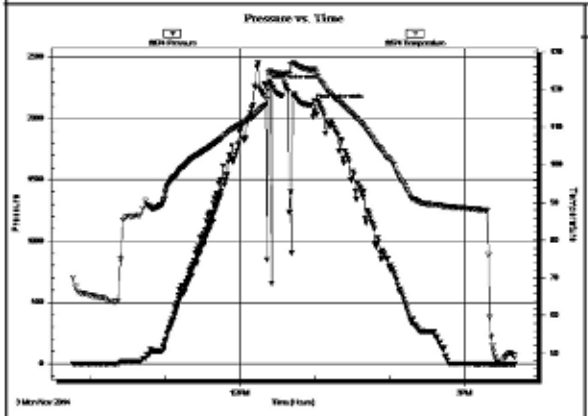
Interval: 4484.00 ft (KB) To 4558.00 ft (KB) (TVD)
Total Depth: 4558.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 3220.00 ft (KB)
3215.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8874 **Inside**
Press@RunDepth: psig @ 4485.00 ft (KB)
Start Date: 2014.11.03 End Date: 2014.11.03
Start Time: 09:46:00 End Time: 15:40:30

Capacity: 8000.00 psig
Last Calib.: 2014.11.03
Time On Btm: 2014.11.03 @ 12:20:30
Time Off Btm: 2014.11.03 @ 12:57:00

TEST COMMENT: Packer Failure



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2269.25	115.85	Initial Hydro-static
37	2108.19	125.11	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
500.00	mMd 100M	5.32

Gas Rates

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

DRILL STEM TEST REPORT

TRILOBITE TESTING, INC

Samuel Gary Jr. & Associates

1515 Wynkoop St. STE #700
Denver, CO 80202

ATTN: Chris Mitchell

36-4S-35W Rawlins, KS

Loeffler #1-36

Job Ticket: 60203 **DST#: 5**

Test Start: 2014.11.03 @ 16:04:00

GENERAL INFORMATION:

Formation: **Pawnee - Ft. Scott**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 17:57:10
Time Test Ended: 23:35:30

Test Type: Conventional Bottom Hole (Initial)
Tester: Kevin Mack
Unit No: 66

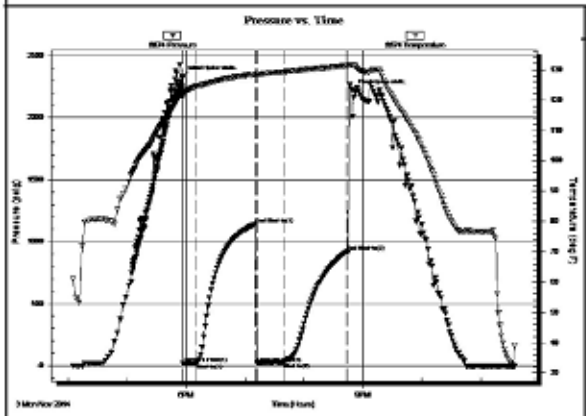
Interval: 4495.00 ft (KB) To 4558.00 ft (KB) (TVD)
Total Depth: 4558.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 3220.00 ft (KB)
3215.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8874 **Inside**
Press@RunDepth: 25.60 psig @ 4496.00 ft (KB)
Start Date: 2014.11.03 End Date: 2014.11.03
Start Time: 16:05:00 End Time: 23:35:30

Capacity: 8000.00 psig
Last Calib.: 2014.11.03
Time On Btm: 2014.11.03 @ 17:57:00
Time Off Btm: 2014.11.03 @ 20:50:00

TEST COMMENT: 10 - IF- 1/2 " Blow built to 3/4"
60 - ISI- No Return
30 - FF- No Blow
60 - FSI- No Return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2326.96	122.55	Initial Hydro-static
1	18.44	121.11	Open To Flow (1)
13	20.89	124.45	Shut-In(1)
74	1140.42	128.53	End Shut-In(1)
75	22.17	128.30	Open To Flow (2)
102	25.60	129.19	Shut-In(2)
167	919.73	131.24	End Shut-In(2)
173	2215.54	131.46	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
10.00	Mud 100M	0.05

Gas Rates

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

ROCK TYPES

- Anhy
- Bent
- Brec
- Cht
- Clyst
- Coal
- Congl
- Dol
- Gyp
- Igne
- Lmst
- Meta
- Mrlst
- Salt
- Shale
- Shcol
- Shgy
- Sltst
- Ss
- Till
- Carb sh
- Dol
- Dtd
- Gry sh
- Sandylms
- Shale
- Sltstn
- Shlyslts
- Sltysh
- Lms

ACCESSORIES

MINERAL
- Anhy
- Arggrn
- Arg
- Bent
- Bit
- Brecfrag
- Calc
- Carb
- Chtdk
- Chtlt
- Dol
- Feldspar
- Ferrpel
- Ferr
- Glau
- Gyp
- Hvymin
- Kaol
- Marl
- Minxl
- Nodule
- Phos
- Pyr
- Salt
- Sandy
- Silt
- Sil
- Sulphur
- Tuff
- Chlorite
- Dol
- Sand
- Slty

FOSSIL
- Algae
- Amph
- Belm
- Bioclst
- Brach
- Bryozoa
- Cephal
- Coral
- Crin
- Echin
- Fish
- Foram
- Fossil
- Gastro
- Oolite
- Ostra
- Pelec
- Pellet
- Pisolite
- Plant
- Strom
- Fuss
- Oomold

STRINGER
- Anhy
- Arg
- Bent
- Coal
- Dol
- Gyp
- Ls
- Mrst
- Sltstrg
- Ssstrg
- Carbsh
- Clystn
- Dol
- Grysh
- Gryslt
- Lms
- Sandylms
- Sh
- Sltstn

TEXTURE
- Boundst
- Chalky
- Cryxln
- Earthy
- Finexln
- Grainst
- Lithogr
- Microxln
- Mudst
- Packst
- Wackest

OTHER SYMBOLS

POROSITY TYPE
- Earthy
- Fenest
- Fracture
- Inter
- Moldic
- Organic
- Pinpoint
- Vuggy

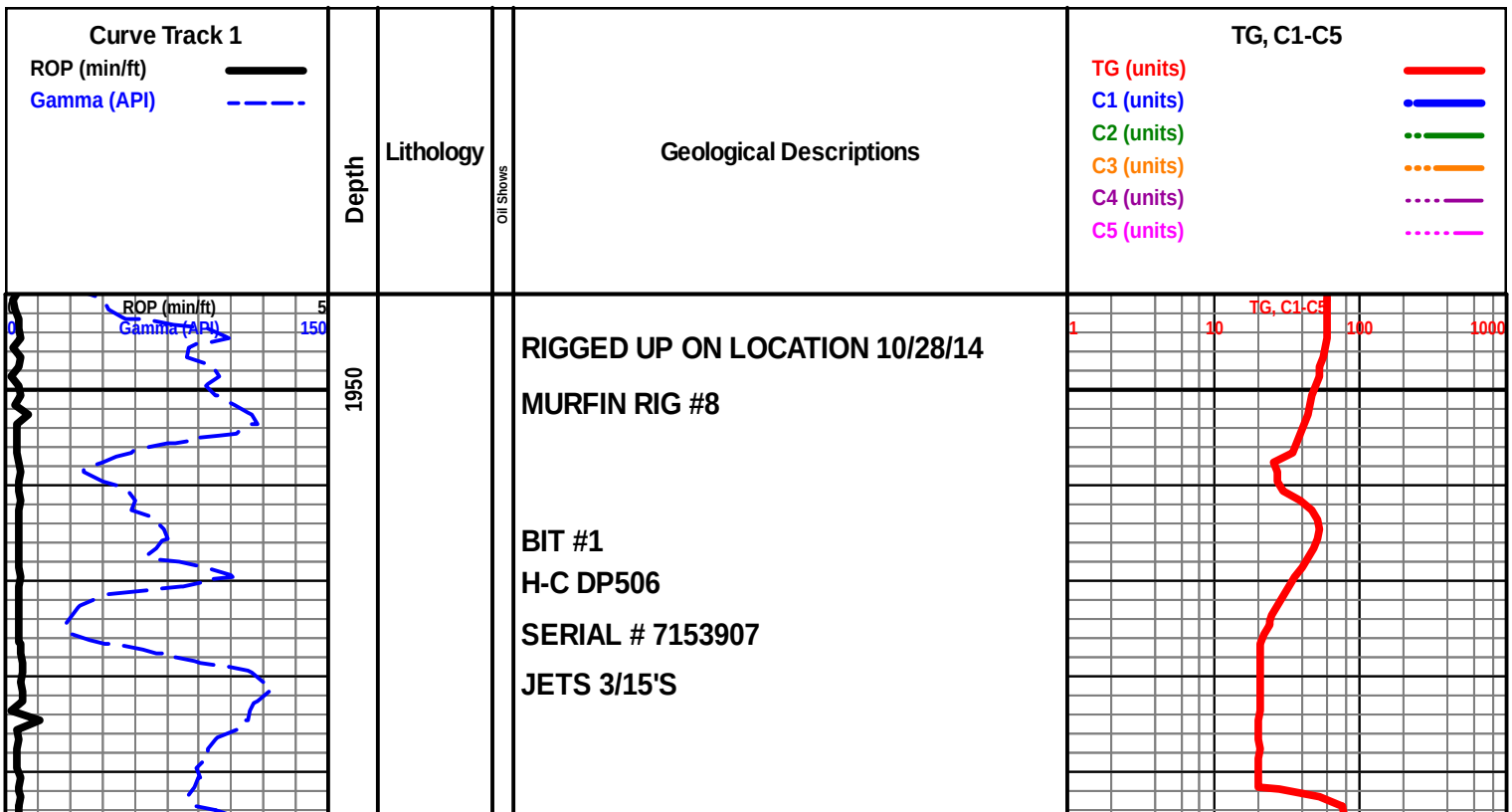
SORTING
- Well
- Moderate
- Poor

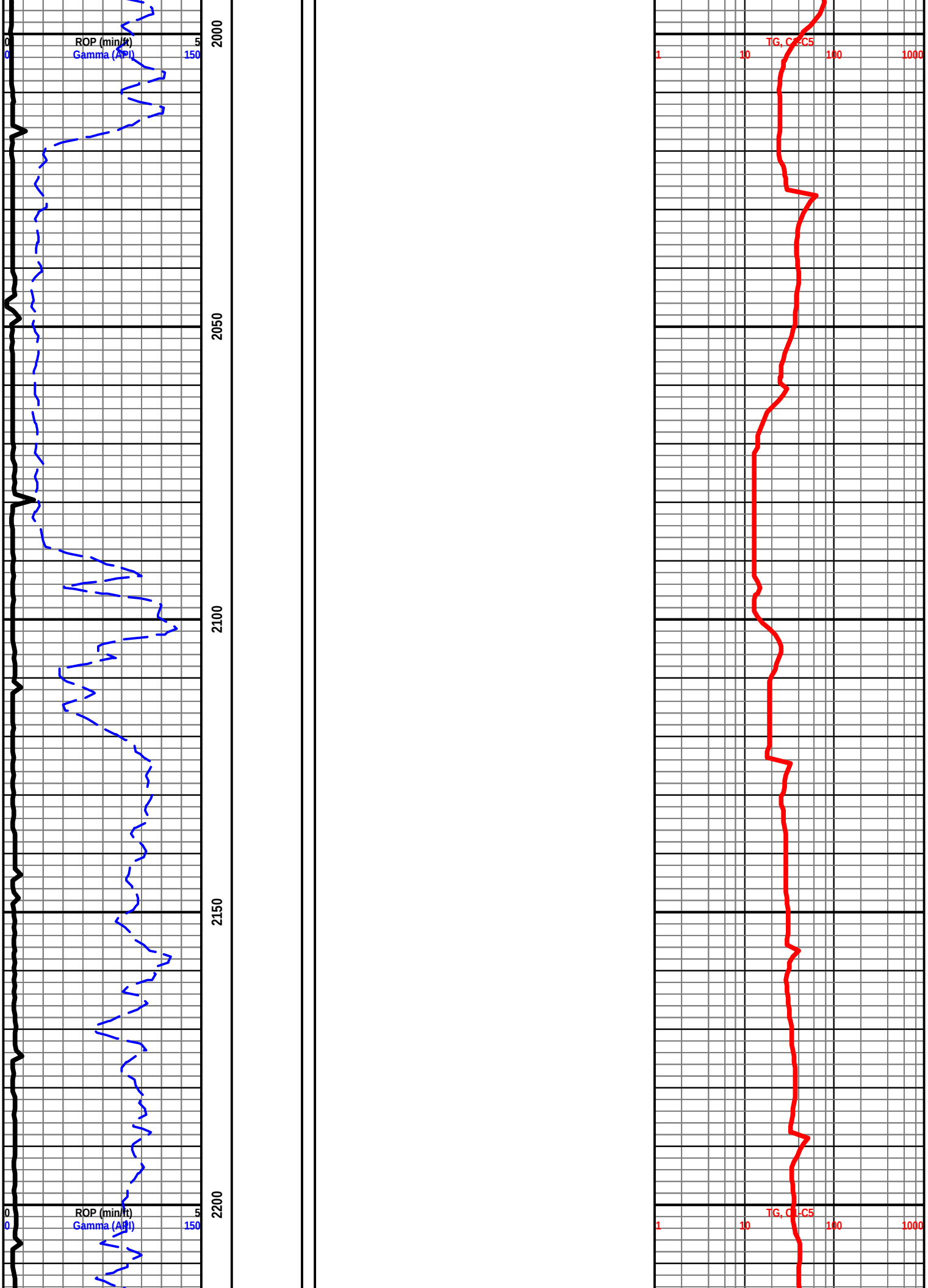
ROUNDING
- Rounded
- Subrnd
- Subang
- Angular

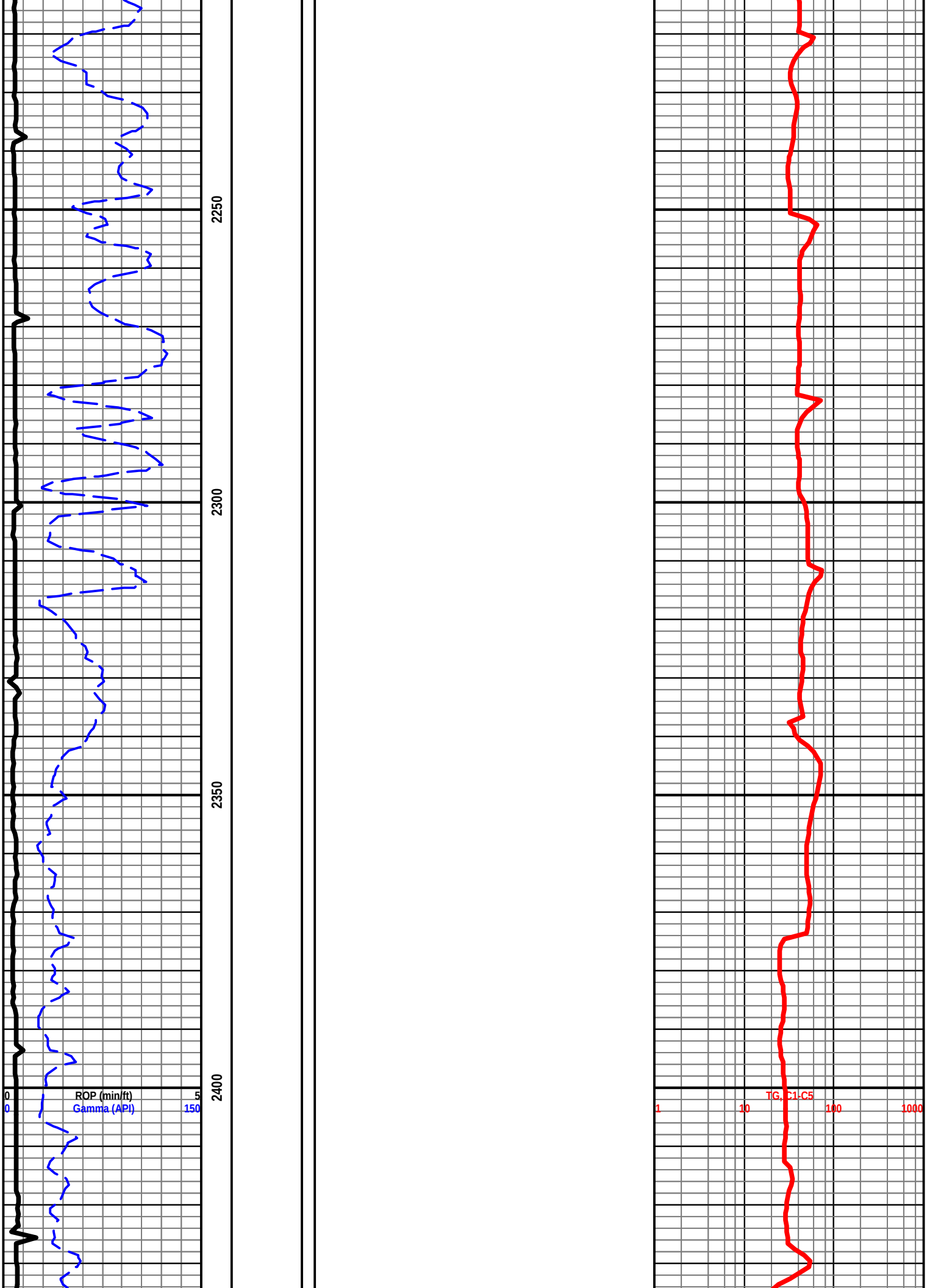
OIL SHOWS
- Even
- Spotted
- Ques
- Dead
- Gas show

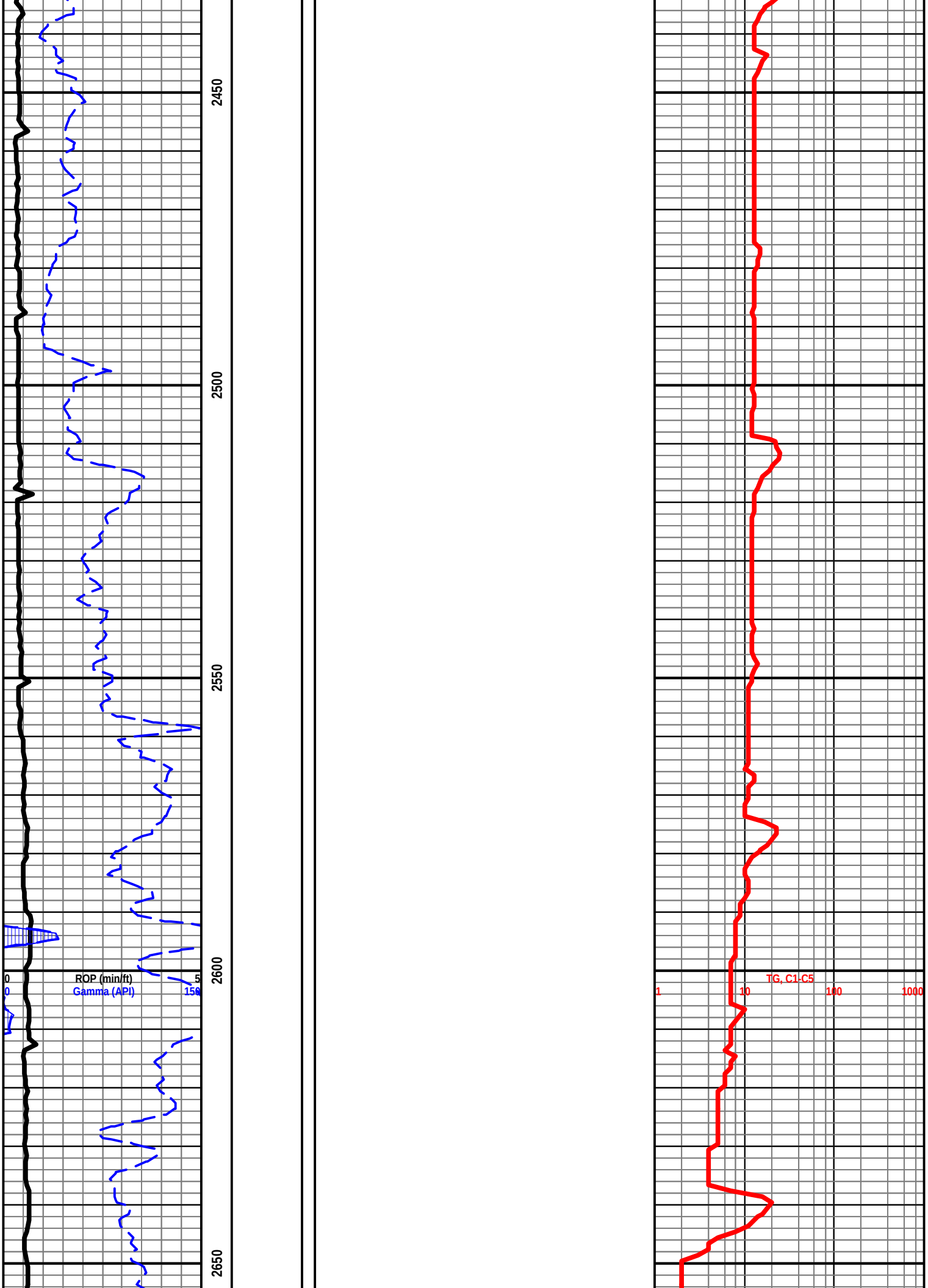
INTERVALS
- Core
- Dst
- Dst

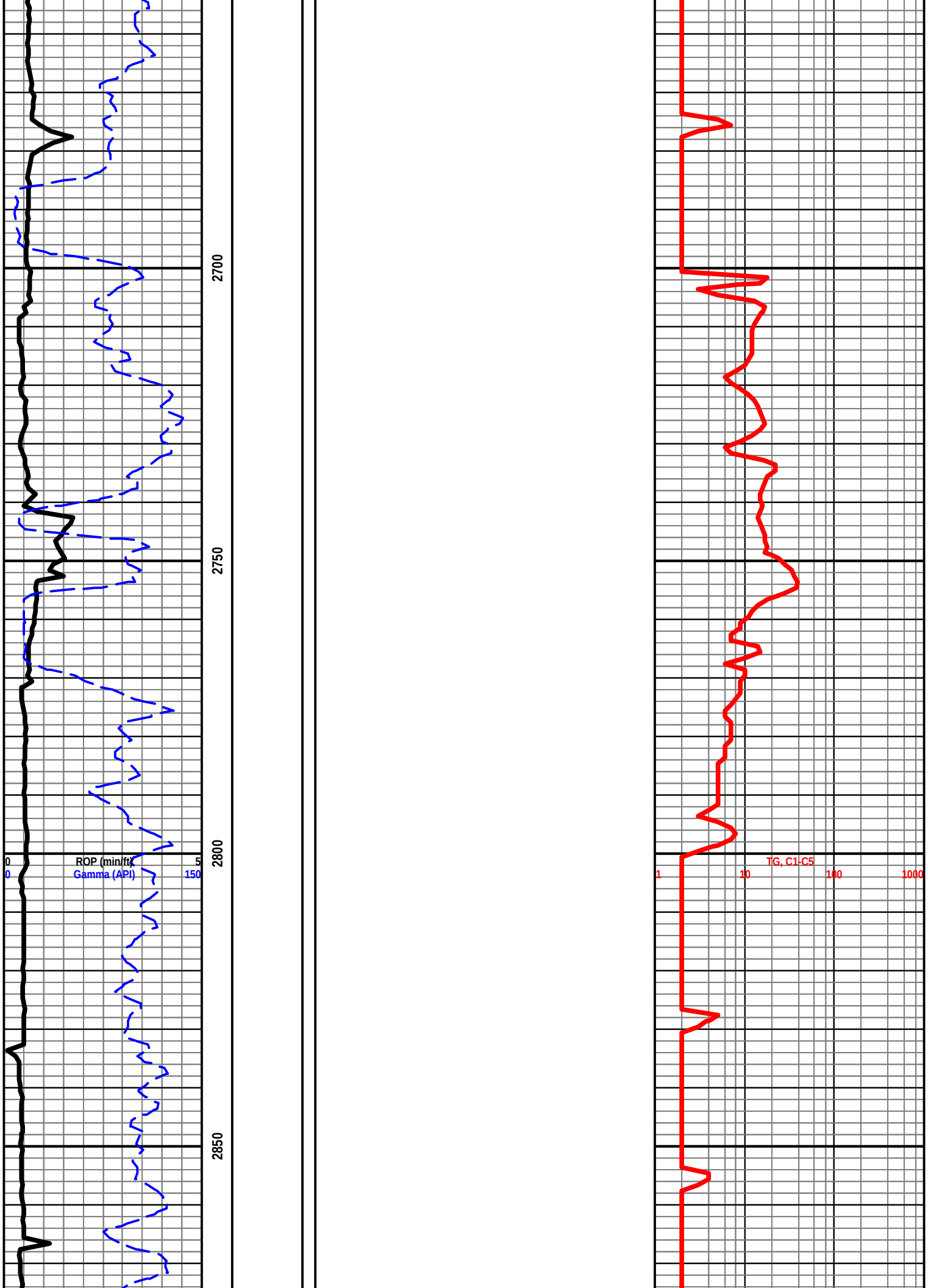
EVENTS
- Rft
- Sidewall

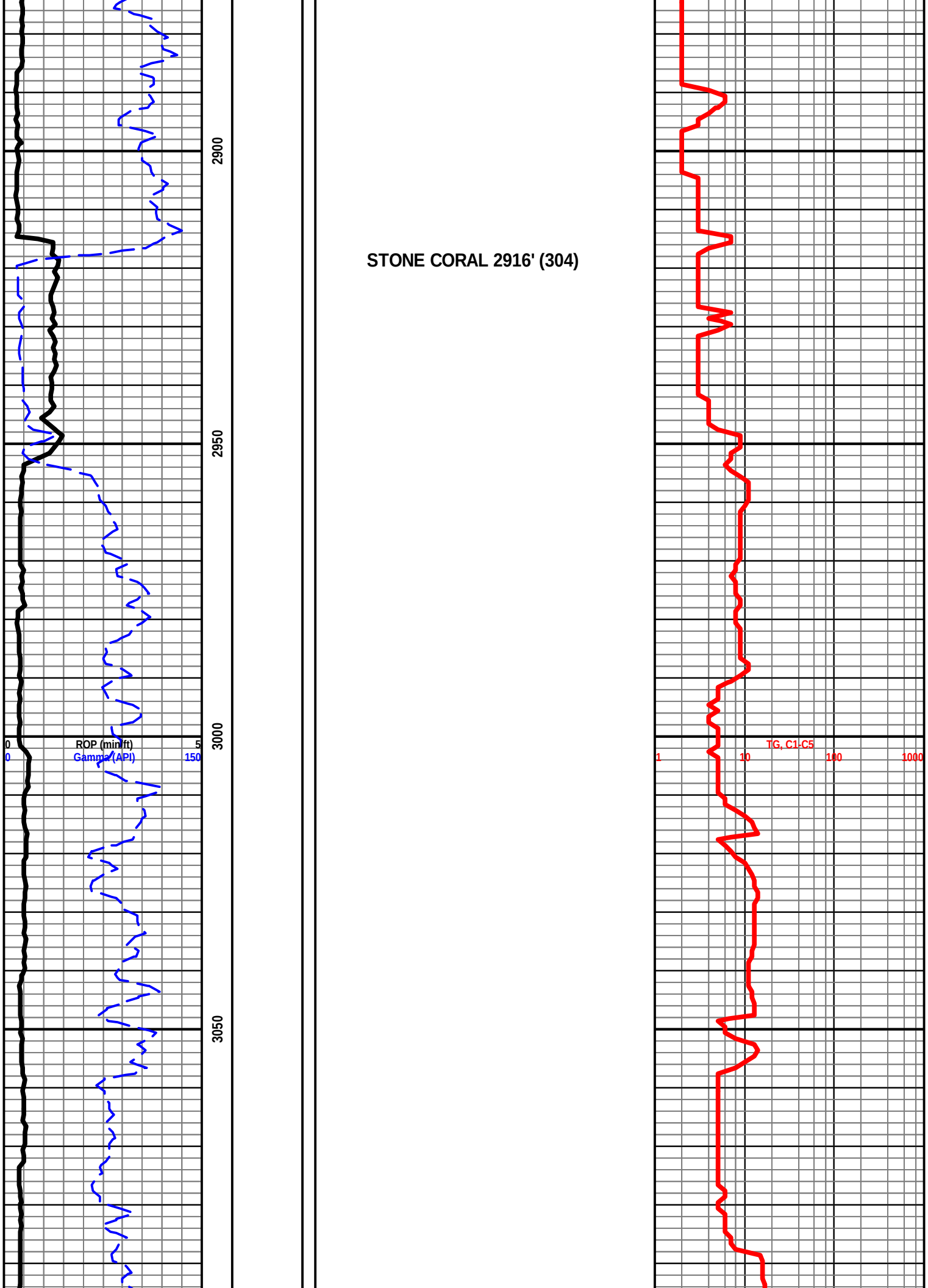


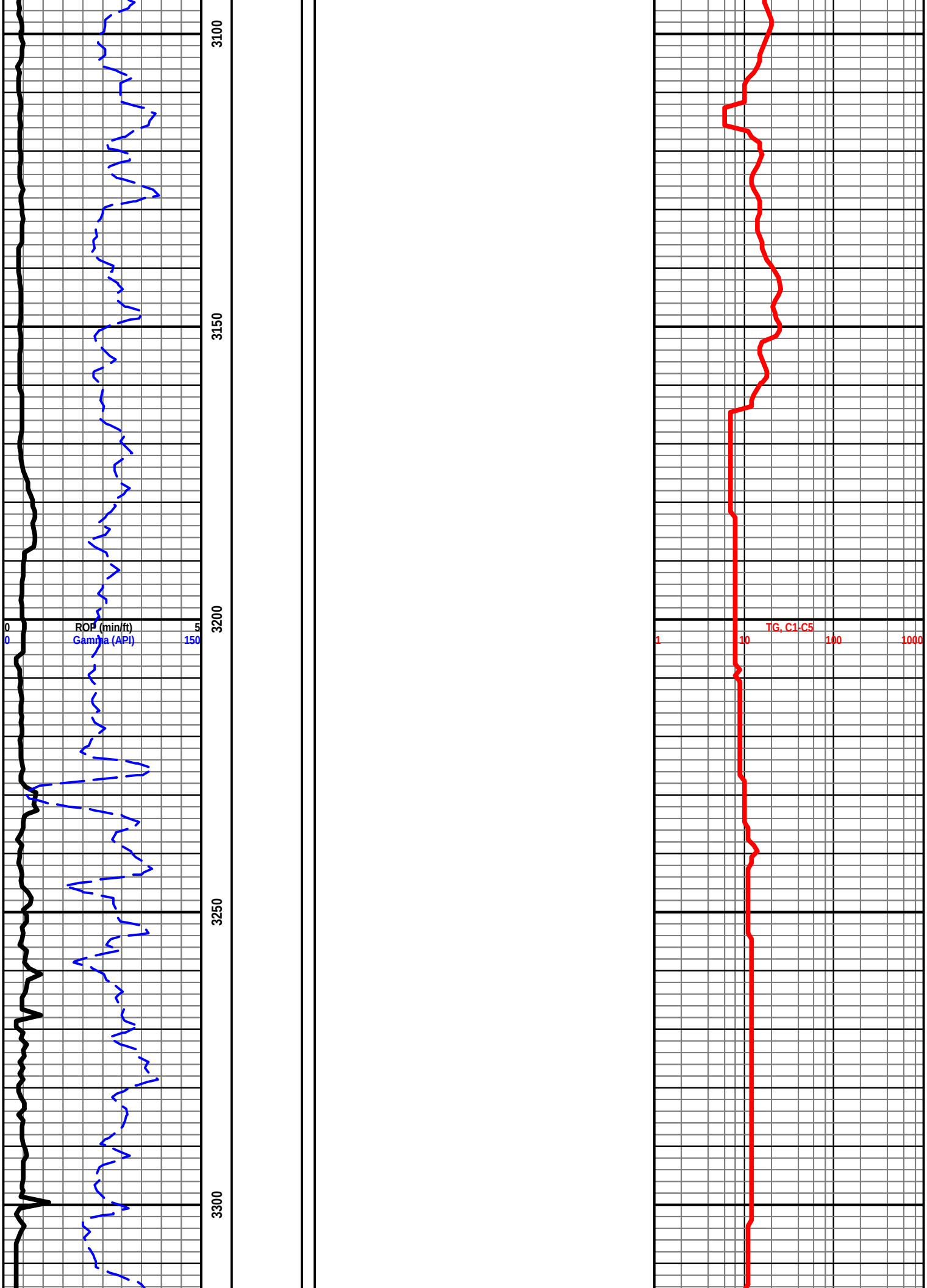

0
ROP (min/ft)
5
0
Gamma (API)
150
2000
2050
2100
2150
2200
TG, C1-C5
1
10
100
1000

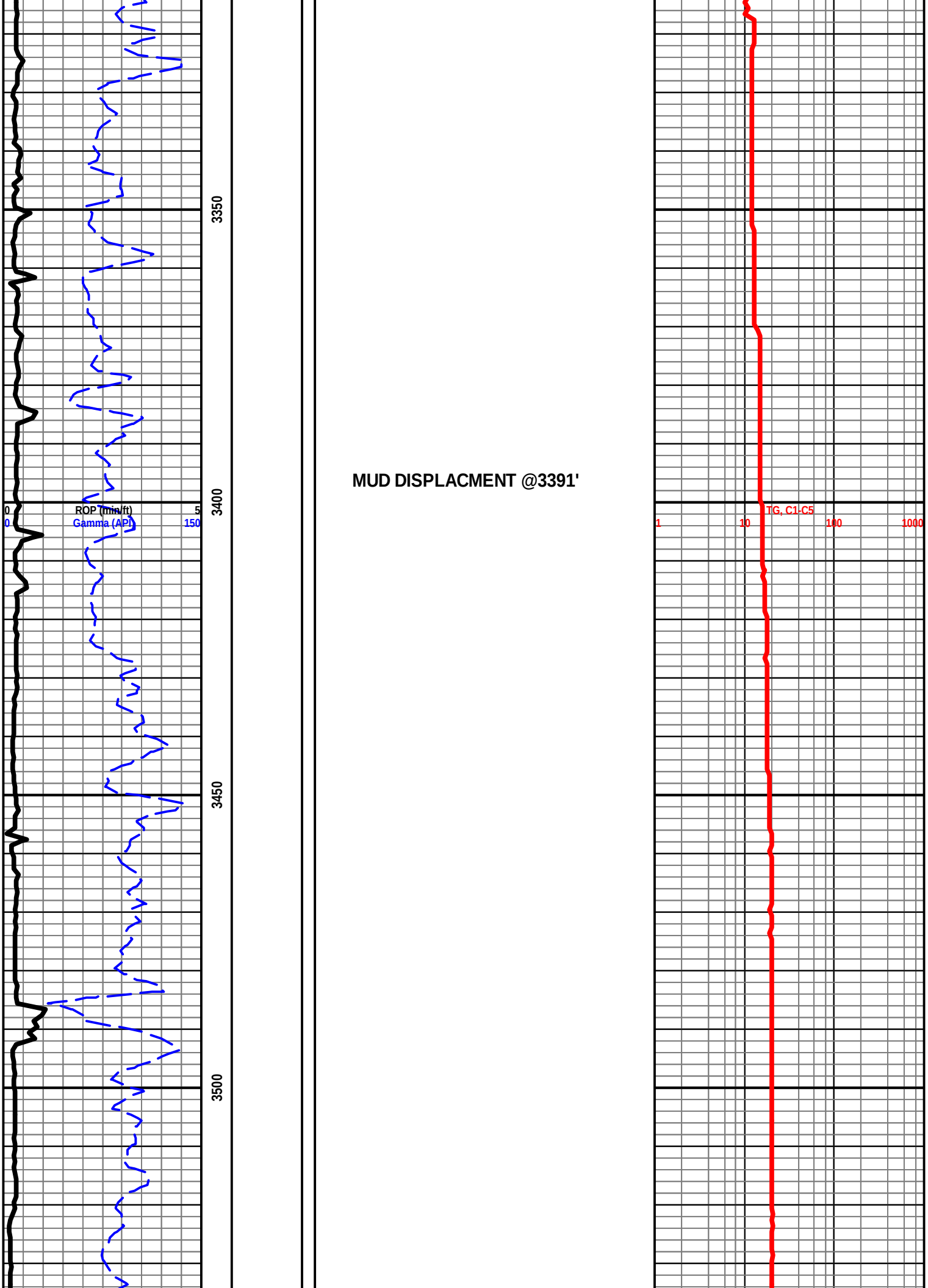

2250
2300
2350
2400
0
ROP (min/ft)
5
0
Gamma (API)
150
TG, C1-C5
1
10
100
1000

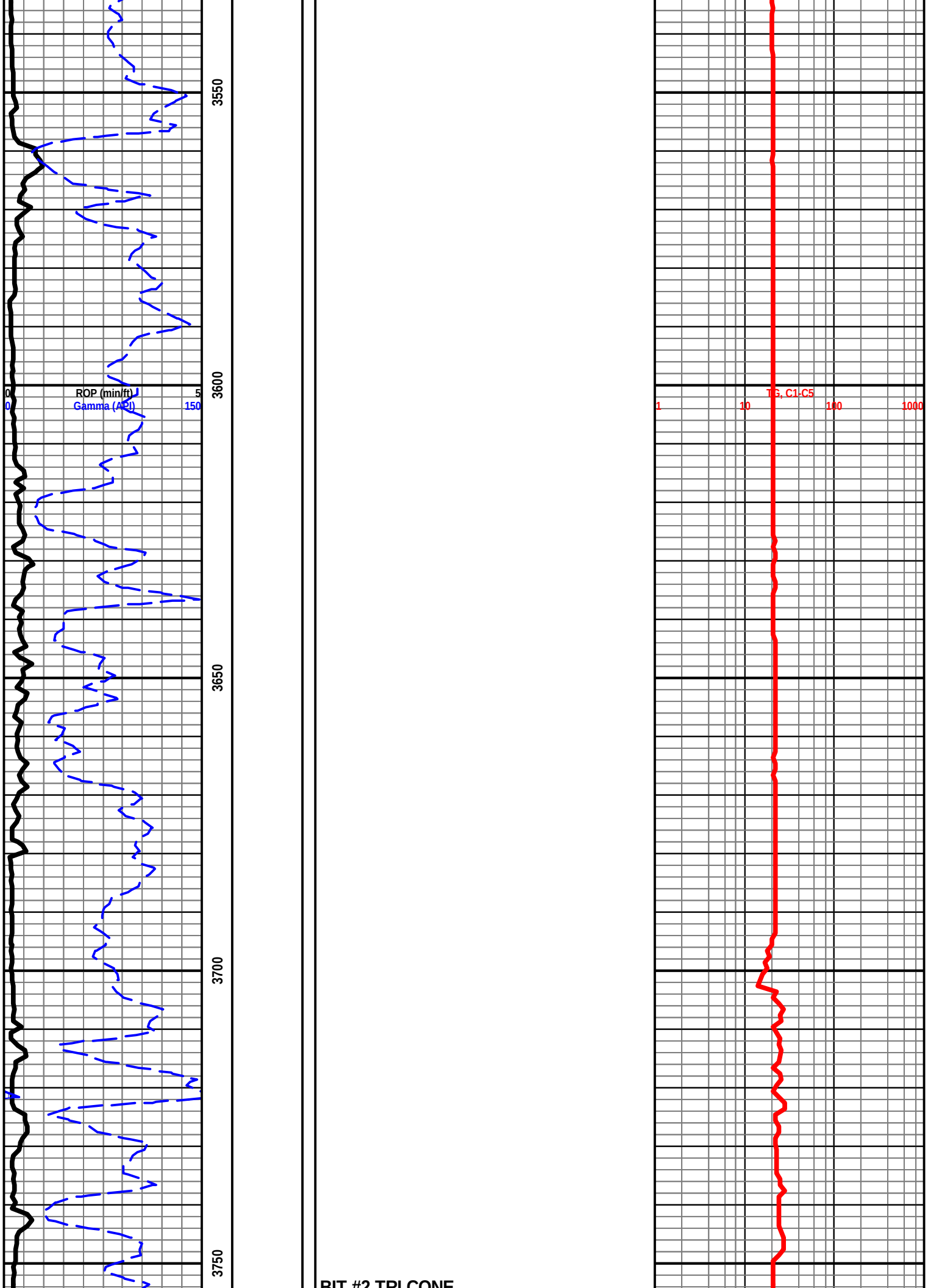

2450
2500
2550
2600
2650
0
ROP (min/ft)
5
0
Gamma (API)
150
TG, C1-C5
1
10
100
1000

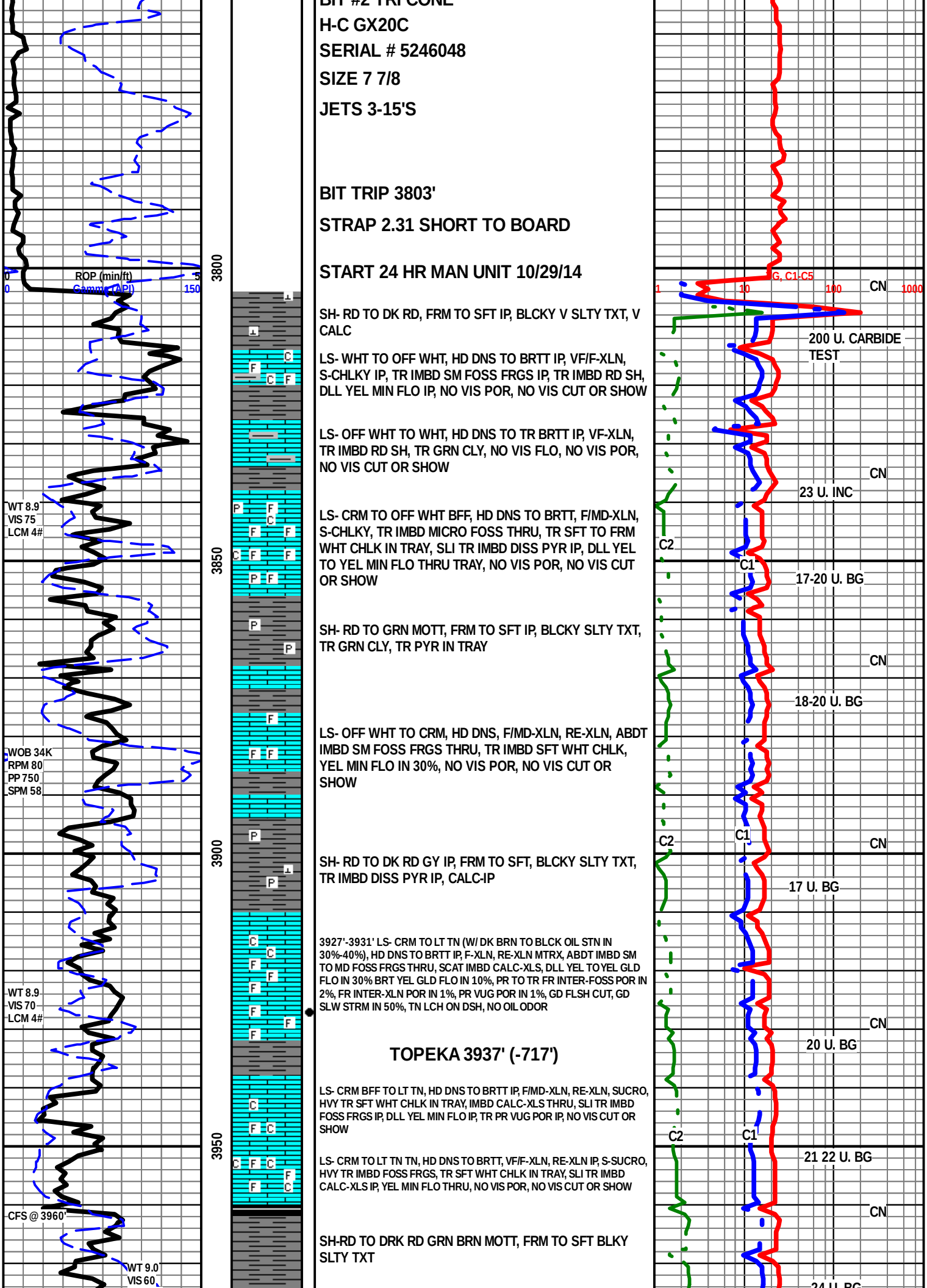

2700
2750
2800
2850
0
ROP (min/ft)
5
0
Gamma (API)
150
TG, C1-C5
1
10
100
1000

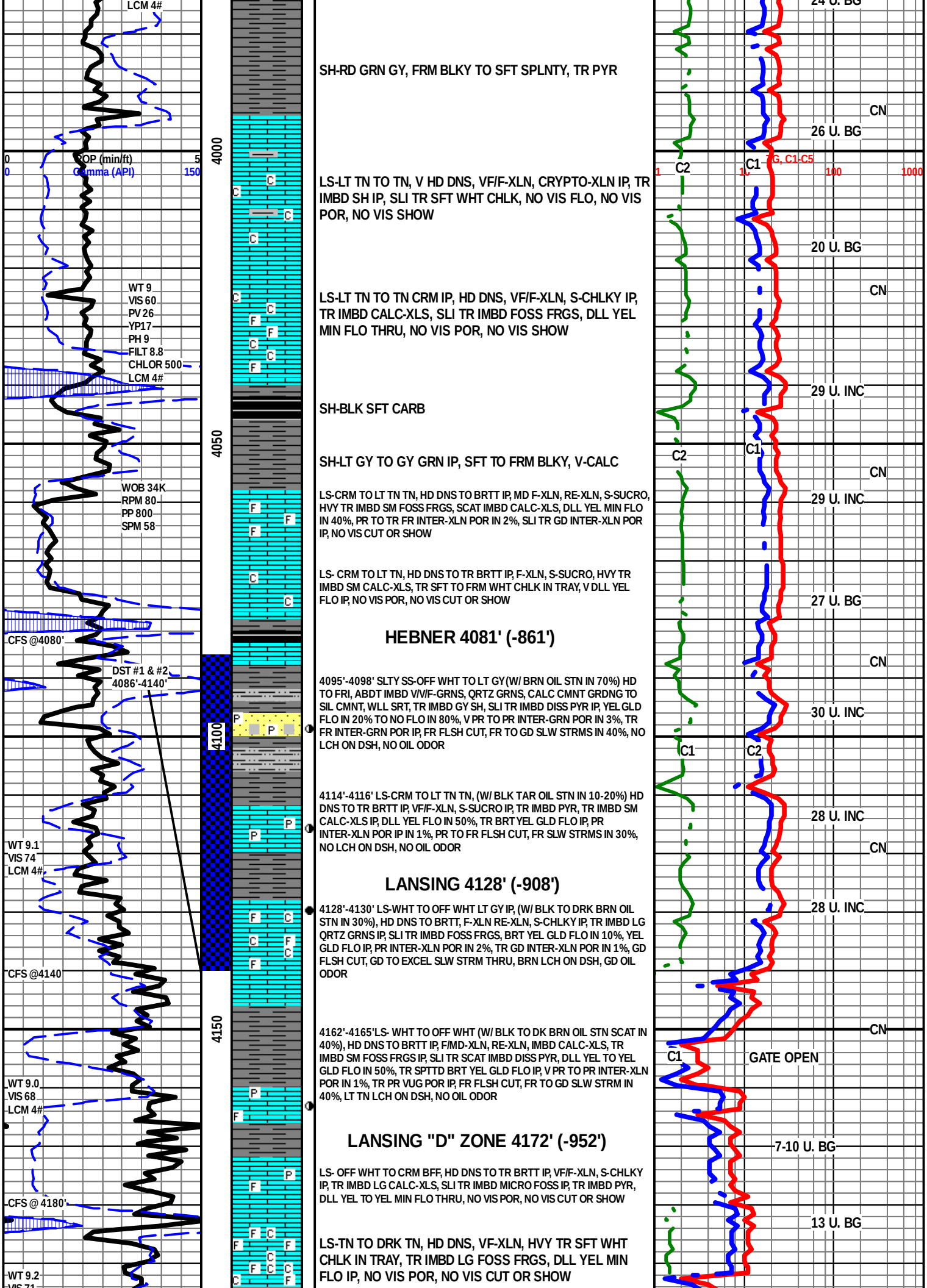

2900
2950
3000
3050
0
ROP (min/ft)
5
0
Gamma (API)
150
STONE CORAL 2916' (304)
TG, C1-C5
1
10
100
1000

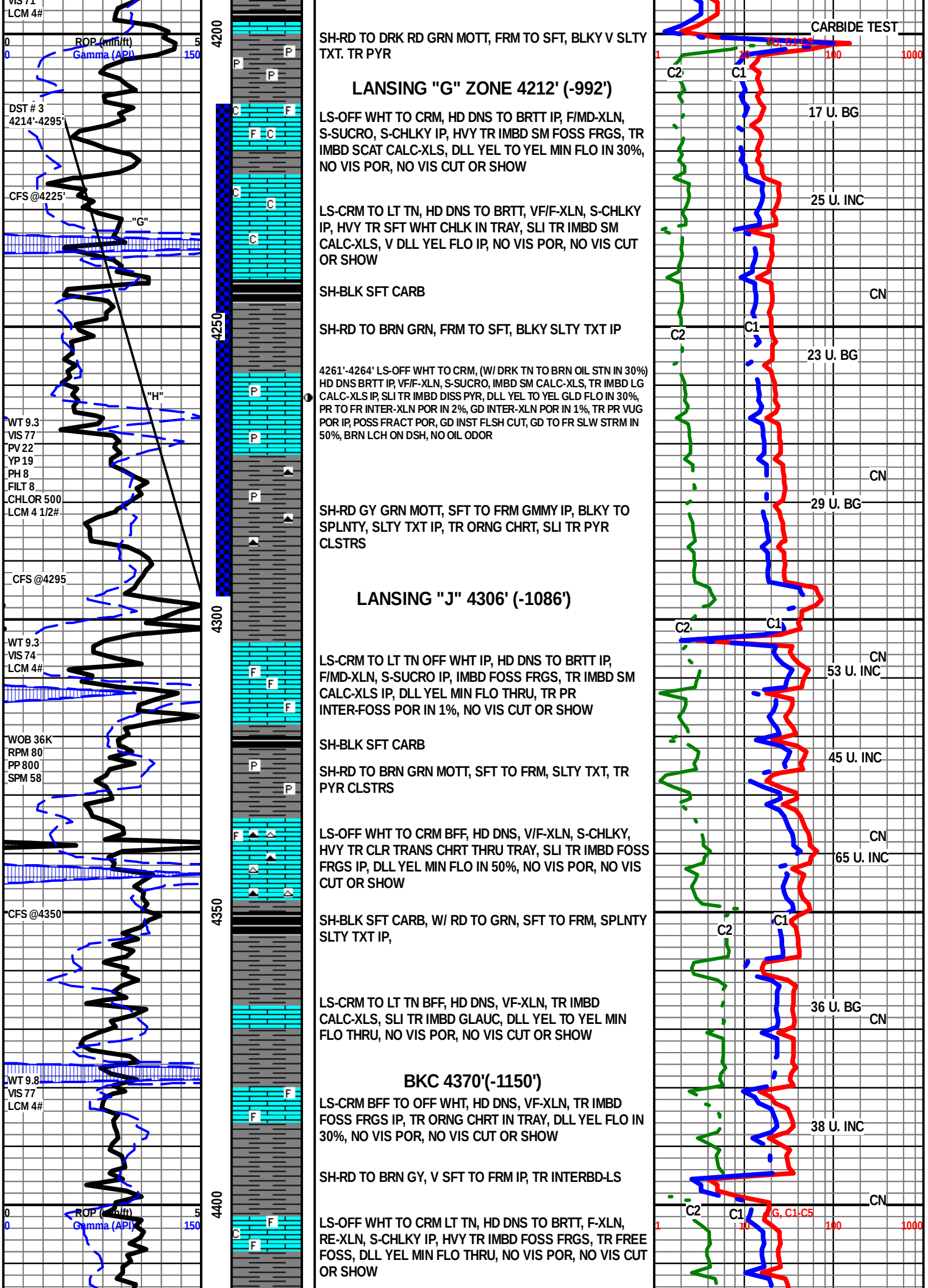

3100
3150
3200
3250
3300
0
ROP (min/ft)
5
0
Gamma (API)
150
TG, C1-C5
1
10
100
1000

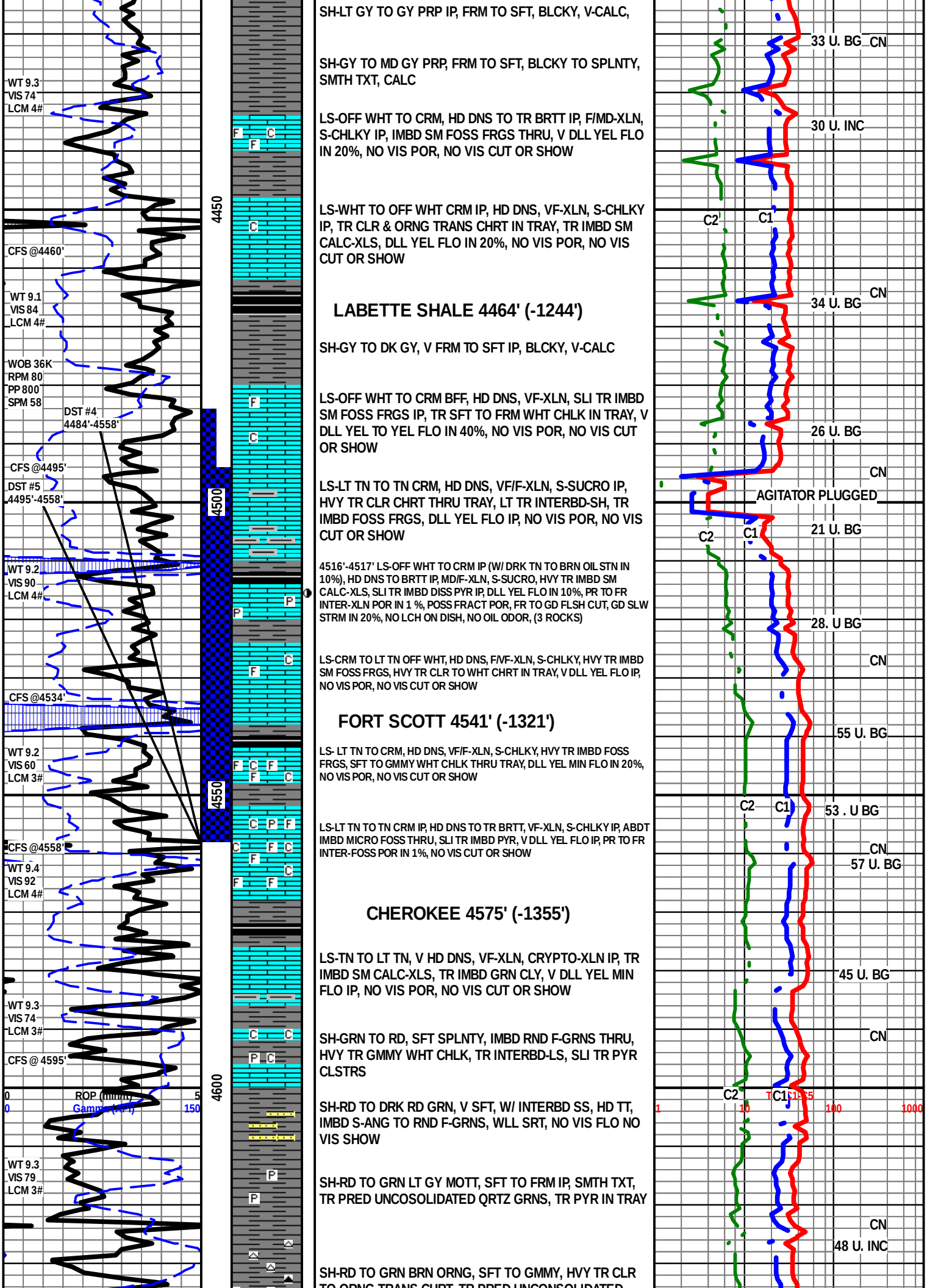

0
ROP (min/ft)
5
0
Gamma (API)
150
3350
3400
3450
3500
MUD DISPLACMENT @3391'
TG, C1-C5
1
10
100
1000

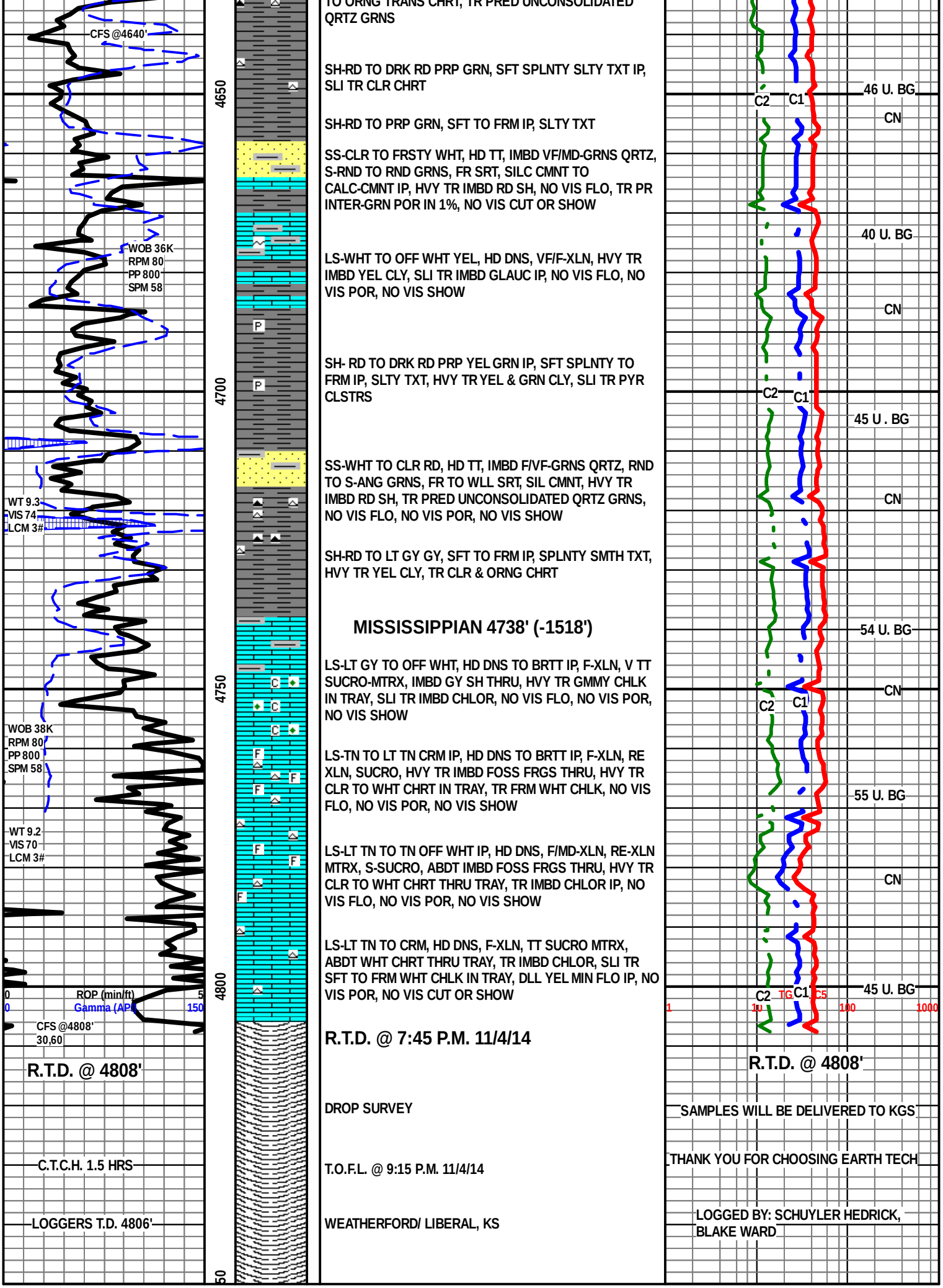

3550
3600
3650
3700
3750
0
ROP (min/ft)
5
0
Gamma (API)
150
TG, C1-C5
1
10
100
1000
BIT #2 TRI CONE


BIT #2 TRI CONE
H-C GX20C
SERIAL # 5246048
SIZE 7 7/8
JETS 3-15'S
BIT TRIP 3803'
STRAP 2.31 SHORT TO BOARD
START 24 HR MAN UNIT 10/29/14
ROP (min/ft)
Gamma (API)
0
150
5
3800
3850
3900
3950
WT 8.9
VIS 75
LCM 4#
WOB 34K
RPM 80
PP 750
SPM 58
WT 8.9
VIS 70
LCM 4#
CFS @ 3960'
WT 9.0
VIS 60
G, C1-C5
1
10
100
1000
CN
200 U. CARBIDE
TEST
CN
23 U. INC
C2
C1
17-20 U. BG
CN
18-20 U. BG
C2
C1
CN
17 U. BG
CN
20 U. BG
C2
C1
21 22 U. BG
CN
SH- RD TO DK RD, FRM TO SFT IP, BLCKY V SLTY TXT, V CALC
LS- WHT TO OFF WHT, HD DNS TO BRTT IP, VF/F-XLN, S-CHLKY IP, TR IMBD SM FOSS FRGS IP, TR IMBD RD SH, DLL YEL MIN FLO IP, NO VIS POR, NO VIS CUT OR SHOW
LS- OFF WHT TO WHT, HD DNS TO TR BRTT IP, VF-XLN, TR IMBD RD SH, TR GRN CLY, NO VIS FLO, NO VIS POR, NO VIS CUT OR SHOW
LS- CRM TO OFF WHT BFF, HD DNS TO BRTT, F/MD-XLN, S-CHLKY, TR IMBD MICRO FOSS THRU, TR SFT TO FRM WHT CHLK IN TRAY, SLI TR IMBD DISS PYR IP, DLL YEL TO YEL MIN FLO THRU TRAY, NO VIS POR, NO VIS CUT OR SHOW
SH- RD TO GRN MOTT, FRM TO SFT IP, BLCKY SLTY TXT, TR GRN CLY, TR PYR IN TRAY
LS- OFF WHT TO CRM, HD DNS, F/MD-XLN, RE-XLN, ABDT IMBD SM FOSS FRGS THRU, TR IMBD SFT WHT CHLK, YEL MIN FLO IN 30%, NO VIS POR, NO VIS CUT OR SHOW
SH- RD TO DK RD GY IP, FRM TO SFT, BLCKY SLTY TXT, TR IMBD DISS PYR IP, CALC-IP
3927'-3931' LS- CRM TO LT TN (W/ DK BRN TO BLCK OIL STN IN 30%-40%), HD DNS TO BRTT IP, F-XLN, RE-XLN MTRX, ABDT IMBD SM TO MD FOSS FRGS THRU, SCAT IMBD CALC-XLS, DLL YEL TO YEL GLD FLO IN 30% BRT YEL GLD FLO IN 10%, PR TO TR FR INTER-FOSS POR IN 2%, FR INTER-XLN POR IN 1%, PR VUG POR IN 1%, GD FLSH CUT, GD SLW STRM IN 50%, TN LCH ON DSH, NO OIL ODOR
TOPEKA 3937' (-717')
LS- CRM BFF TO LT TN, HD DNS TO BRTT IP, F/MD-XLN, RE-XLN, SUCRO, HVY TR SFT WHT CHLK IN TRAY, IMBD CALC-XLS THRU, SLI TR IMBD FOSS FRGS IP, DLL YEL MIN FLO IP, TR PR VUG POR IP, NO VIS CUT OR SHOW
LS- CRM TO LT TN TN, HD DNS TO BRTT, VF/F-XLN, RE-XLN IP, S-SUCRO, HVY TR IMBD FOSS FRGS, TR SFT WHT CHLK IN TRAY, SLI TR IMBD CALC-XLS IP, YEL MIN FLO THRU, NO VIS POR, NO VIS CUT OR SHOW
SH-RD TO DRK RD GRN BRN MOTT, FRM TO SFT BLKY SLTY TXT


LCM 4#
0
ROP (min/ft)
5
0
Gamma (API)
150
4000
WT 9
VIS 60
PV 26
YP17
PH 9
FILT 8.8
CHLOR 500
LCM 4#
4050
WOB 34K
RPM 80
PP 800
SPM 58
CFS @4080'
DST #1 & #2
4086'-4140'
4100
WT 9.1
VIS 74
LCM 4#
CFS @4140
4150
WT 9.0
VIS 68
LCM 4#
CFS @ 4180'
WT 9.2
SH-RD GRN GY, FRM BLKY TO SFT SPLNTY, TR PYR
LS-LT TN TO TN, V HD DNS, VF/F-XLN, CRYPTO-XLN IP, TR IMBD SH IP, SLI TR SFT WHT CHLK, NO VIS FLO, NO VIS POR, NO VIS SHOW
LS-LT TN TO TN CRM IP, HD DNS, VF/F-XLN, S-CHLKY IP, TR IMBD CALC-XLS, SLI TR IMBD FOSS FRGS, DLL YEL MIN FLO THRU, NO VIS POR, NO VIS SHOW
SH-BLK SFT CARB
SH-LT GY TO GY GRN IP, SFT TO FRM BLKY, V-CALC
LS-CRM TO LT TN TN, HD DNS TO BRTT IP, MD F-XLN, RE-XLN, S-SUCRO, HVY TR IMBD SM FOSS FRGS, SCAT IMBD CALC-XLS, DLL YEL MIN FLO IN 40%, PR TO TR FR INTER-XLN POR IN 2%, SLI TR GD INTER-XLN POR IP, NO VIS CUT OR SHOW
LS- CRM TO LT TN, HD DNS TO TR BRTT IP, F-XLN, S-SUCRO, HVY TR IMBD SM CALC-XLS, TR SFT TO FRM WHT CHLK IN TRAY, V DLL YEL FLO IP, NO VIS POR, NO VIS CUT OR SHOW
HEBNER 4081' (-861')
4095'-4098' SLTY SS-OFF WHT TO LT GY(W/ BRN OIL STN IN 70%) HD TO FRI, ABDT IMBD V/V/F-GRNS, QRTZ GRNS, CALC CMNT GRDNG TO SIL CMNT, WLL SRT, TR IMBD GY SH, SLI TR IMBD DISS PYR IP, YEL GLD FLO IN 20% TO NO FLO IN 80%, V PR TO PR INTER-GRN POR IN 3%, TR FR INTER-GRN POR IP, FR FLSH CUT, FR TO GD SLW STRMS IN 40%, NO LCH ON DSH, NO OIL ODOR
4114'-4116' LS-CRM TO LT TN TN, (W/ BLK TAR OIL STN IN 10-20%) HD DNS TO TR BRTT IP, VF/F-XLN, S-SUCRO IP, TR IMBD PYR, TR IMBD SM CALC-XLS IP, DLL YEL FLO IN 50%, TR BRT YEL GLD FLO IP, PR INTER-XLN POR IP IN 1%, PR TO FR FLSH CUT, FR SLW STRMS IN 30%, NO LCH ON DSH, NO OIL ODOR
LANSING 4128' (-908')
4128'-4130' LS-WHT TO OFF WHT LT GY IP, (W/ BLK TO DRK BRN OIL STN IN 30%), HD DNS TO BRTT, F-XLN RE-XLN, S-CHLKY IP, TR IMBD LG QRTZ GRNS IP, SLI TR IMBD FOSS FRGS, BRT YEL GLD FLO IN 10%, YEL GLD FLO IP, PR INTER-XLN POR IN 2%, TR GD INTER-XLN POR IN 1%, GD FLSH CUT, GD TO EXCEL SLW STRM THRU, BRN LCH ON DSH, GD OIL ODOR
4162'-4165'LS- WHT TO OFF WHT (W/ BLK TO DK BRN OIL STN SCAT IN 40%), HD DNS TO BRTT IP, F/MD-XLN, RE-XLN, IMBD CALC-XLS, TR IMBD SM FOSS FRGS IP, SLI TR SCAT IMBD DISS PYR, DLL YEL TO YEL GLD FLO IN 50%, TR SPTTD BRT YEL GLD FLO IP, V PR TO PR INTER-XLN POR IN 1%, TR PR VUG POR IP, FR FLSH CUT, FR TO GD SLW STRM IN 40%, LT TN LCH ON DSH, NO OIL ODOR
LANSING "D" ZONE 4172' (-952')
LS- OFF WHT TO CRM BFF, HD DNS TO TR BRTT IP, VF/F-XLN, S-CHLKY IP, TR IMBD LG CALC-XLS, SLI TR IMBD MICRO FOSS IP, TR IMBD PYR, DLL YEL TO YEL MIN FLO THRU, NO VIS POR, NO VIS CUT OR SHOW
LS-TN TO DRK TN, HD DNS, VF-XLN, HVY TR SFT WHT CHLK IN TRAY, TR IMBD LG FOSS FRGS, DLL YEL MIN FLO IP, NO VIS POR, NO VIS CUT OR SHOW
24 U. BG
CN
26 U. BG
C2
C1
TG, C1-C5
1
10
100
1000
20 U. BG
CN
29 U. INC
C2
C1
CN
29 U. INC
27 U. BG
CN
30 U. INC
C1
C2
28 U. INC
CN
28 U. INC
CN
C1
GATE OPEN
7-10 U. BG
13 U. BG


VIS 71
LCM 4#
0
ROP (min/ft)
5
0
Gamma (API)
150
DST # 3
4214'-4295'
CFS @4225'
"G"
"H"
WT 9.3
VIS 77
PV 22
YP 19
PH 8
FILT 8
CHLOR 500
LCM 4 1/2#
CFS @4295
WT 9.3
VIS 74
LCM 4#
WOB 36K
RPM 80
PP 800
SPM 58
CFS @4350
WT 9.8
VIS 77
LCM 4#
4200
4250
4300
4350
4400
SH-RD TO DRK RD GRN MOTT, FRM TO SFT, BLKY V SLTY TXT. TR PYR
LANSING "G" ZONE 4212' (-992')
LS-OFF WHT TO CRM, HD DNS TO BRTT IP, F/MD-XLN, S-SUCRO, S-CHLKY IP, HVY TR IMBD SM FOSS FRGS, TR IMBD SCAT CALC-XLS, DLL YEL TO YEL MIN FLO IN 30%, NO VIS POR, NO VIS CUT OR SHOW
LS-CRM TO LT TN, HD DNS TO BRTT, VF/F-XLN, S-CHLKY IP, HVY TR SFT WHT CHLK IN TRAY, SLI TR IMBD SM CALC-XLS, V DLL YEL FLO IP, NO VIS POR, NO VIS CUT OR SHOW
SH-BLK SFT CARB
SH-RD TO BRN GRN, FRM TO SFT, BLKY SLTY TXT IP
4261'-4264' LS-OFF WHT TO CRM, (W/ DRK TN TO BRN OIL STN IN 30%) HD DNS BRTT IP, VF/F-XLN, S-SUCRO, IMBD SM CALC-XLS, TR IMBD LG CALC-XLS IP, SLI TR IMBD DISS PYR, DLL YEL TO YEL GLD FLO IN 30%, PR TO FR INTER-XLN POR IN 2%, GD INTER-XLN POR IN 1%, TR PR VUG POR IP, POSS FRACT POR, GD INST FLSH CUT, GD TO FR SLW STRM IN 50%, BRN LCH ON DSH, NO OIL ODOR
SH-RD GY GRN MOTT, SFT TO FRM GMMY IP, BLKY TO SPLNTY, SLTY TXT IP, TR ORNG CHRT, SLI TR PYR CLSTRS
LANSING "J" 4306' (-1086')
LS-CRM TO LT TN OFF WHT IP, HD DNS TO BRTT IP, F/MD-XLN, S-SUCRO IP, IMBD FOSS FRGS, TR IMBD SM CALC-XLS IP, DLL YEL MIN FLO THRU, TR PR INTER-FOSS POR IN 1%, NO VIS CUT OR SHOW
SH-BLK SFT CARB
SH-RD TO BRN GRN MOTT, SFT TO FRM, SLTY TXT, TR PYR CLSTRS
LS-OFF WHT TO CRM BFF, HD DNS, V/F-XLN, S-CHLKY, HVY TR CLR TRANS CHRT THRU TRAY, SLI TR IMBD FOSS FRGS IP, DLL YEL MIN FLO IN 50%, NO VIS POR, NO VIS CUT OR SHOW
SH-BLK SFT CARB, W/ RD TO GRN, SFT TO FRM, SPLNTY SLTY TXT IP,
LS-CRM TO LT TN BFF, HD DNS, VF-XLN, TR IMBD CALC-XLS, SLI TR IMBD GLAUC, DLL YEL TO YEL MIN FLO THRU, NO VIS POR, NO VIS CUT OR SHOW
BKC 4370'(-1150')
LS-CRM BFF TO OFF WHT, HD DNS, VF-XLN, TR IMBD FOSS FRGS IP, TR ORNG CHRT IN TRAY, DLL YEL FLO IN 30%, NO VIS POR, NO VIS CUT OR SHOW
SH-RD TO BRN GY, V SFT TO FRM IP, TR INTERBD-LS
LS-OFF WHT TO CRM LT TN, HD DNS TO BRTT, F-XLN, RE-XLN, S-CHLKY IP, HVY TR IMBD FOSS FRGS, TR FREE FOSS, DLL YEL MIN FLO THRU, NO VIS POR, NO VIS CUT OR SHOW
CARBIDE TEST
C2
C1
17 U. BG
25 U. INC
CN
23 U. BG
29 U. BG
53 U. INC
45 U. INC
65 U. INC
36 U. BG
38 U. INC
1
10
100
1000


WT 9.3
VIS 74
LCM 4#
CFS @4460'
WT 9.1
VIS 84
LCM 4#
WOB 36K
RPM 80
PP 800
SPM 58
DST #4
4484'-4558'
CFS @4495'
DST #5
4495'-4558'
WT 9.2
VIS 90
LCM 4#
CFS @4534'
WT 9.2
VIS 60
LCM 3#
CFS @4558'
WT 9.4
VIS 92
LCM 4#
WT 9.3
VIS 74
LCM 3#
CFS @ 4595'
WT 9.3
VIS 79
LCM 3#
4450
4500
4550
4600
0
ROP (min/ft)
5
0
Gamma (API)
150
SH-LT GY TO GY PRP IP, FRM TO SFT, BLCKY, V-CALC,
SH-GY TO MD GY PRP, FRM TO SFT, BLCKY TO SPLNTY, SMTH TXT, CALC
LS-OFF WHT TO CRM, HD DNS TO TR BRTT IP, F/MD-XLN, S-CHLKY IP, IMBD SM FOSS FRGS THRU, V DLL YEL FLO IN 20%, NO VIS POR, NO VIS CUT OR SHOW
LS-WHT TO OFF WHT CRM IP, HD DNS, VF-XLN, S-CHLKY IP, TR CLR & ORNG TRANS CHRT IN TRAY, TR IMBD SM CALC-XLS, DLL YEL FLO IN 20%, NO VIS POR, NO VIS CUT OR SHOW
LABETTE SHALE 4464' (-1244')
SH-GY TO DK GY, V FRM TO SFT IP, BLCKY, V-CALC
LS-OFF WHT TO CRM BFF, HD DNS, VF-XLN, SLI TR IMBD SM FOSS FRGS IP, TR SFT TO FRM WHT CHLK IN TRAY, V DLL YEL TO YEL FLO IN 40%, NO VIS POR, NO VIS CUT OR SHOW
LS-LT TN TO TN CRM, HD DNS, VF/F-XLN, S-SUCRO IP, HVY TR CLR CHRT THRU TRAY, LT TR INTERBD-SH, TR IMBD FOSS FRGS, DLL YEL FLO IP, NO VIS POR, NO VIS CUT OR SHOW
4516'-4517' LS-OFF WHT TO CRM IP (W/ DRK TN TO BRN OIL STN IN 10%), HD DNS TO BRTT IP, MD/F-XLN, S-SUCRO, HVY TR IMBD SM CALC-XLS, SLI TR IMBD DISS PYR IP, DLL YEL FLO IN 10%, PR TO FR INTER-XLN POR IN 1 %, POSS FRACT POR, FR TO GD FLSH CUT, GD SLW STRM IN 20%, NO LCH ON DISH, NO OIL ODOR, (3 ROCKS)
LS-CRM TO LT TN OFF WHT, HD DNS, F/VF-XLN, S-CHLKY, HVY TR IMBD SM FOSS FRGS, HVY TR CLR TO WHT CHRT IN TRAY, V DLL YEL FLO IP, NO VIS POR, NO VIS CUT OR SHOW
FORT SCOTT 4541' (-1321')
LS- LT TN TO CRM, HD DNS, VF/F-XLN, S-CHLKY, HVY TR IMBD FOSS FRGS, SFT TO GMMY WHT CHLK THRU TRAY, DLL YEL MIN FLO IN 20%, NO VIS POR, NO VIS CUT OR SHOW
LS-LT TN TO TN CRM IP, HD DNS TO TR BRTT, VF-XLN, S-CHLKY IP, ABDT IMBD MICRO FOSS THRU, SLI TR IMBD PYR, V DLL YEL FLO IP, PR TO FR INTER-FOSS POR IN 1%, NO VIS CUT OR SHOW
CHEROKEE 4575' (-1355')
LS-TN TO LT TN, V HD DNS, VF-XLN, CRYPTO-XLN IP, TR IMBD SM CALC-XLS, TR IMBD GRN CLY, V DLL YEL MIN FLO IP, NO VIS POR, NO VIS CUT OR SHOW
SH-GRN TO RD, SFT SPLNTY, IMBD RND F-GRNS THRU, HVY TR GMMY WHT CHLK, TR INTERBD-LS, SLI TR PYR CLSTRS
SH-RD TO DRK RD GRN, V SFT, W/ INTERBD SS, HD TT, IMBD S-ANG TO RND F-GRNS, WLL SRT, NO VIS FLO NO VIS SHOW
SH-RD TO GRN LT GY MOTT, SFT TO FRM IP, SMTH TXT, TR PRED UNCOSOLIDATED QRTZ GRNS, TR PYR IN TRAY
SH-RD TO GRN BRN ORNG, SFT TO GMMY, HVY TR CLR
33 U. BG
CN
30 U. INC
C2'
C1
CN
34 U. BG
26 U. BG
CN
AGITATOR PLUGGED
C2
C1
21 U. BG
28. U BG
CN
55 U. BG
C2
C1
53 . U BG
CN
57 U. BG
45 U. BG
CN
C2
TC1
1
10
100
1000
CN
48 U. INC


CFS @4640'
WOB 36K
RPM 80
PP 800
SPM 58
WT 9.3
VIS 74
LCM 3#
WOB 38K
RPM 80
PP 800
SPM 58
WT 9.2
VIS 70
LCM 3#
0
ROP (min/ft)
5
0
Gamma (API)
150
CFS @4808'
30,60
R.T.D. @ 4808'
C.T.C.H. 1.5 HRS
LOGGERS T.D. 4806'
4650
4700
4750
4800
4850
TO ORNG TRANS CHRT, TR PRED UNCONSOLIDATED QRTZ GRNS
SH-RD TO DRK RD PRP GRN, SFT SPLNTY SLTY TXT IP, SLI TR CLR CHRT
SH-RD TO PRP GRN, SFT TO FRM IP, SLTY TXT
SS-CLR TO FRSTY WHT, HD TT, IMBD VF/MD-GRNS QRTZ, S-RND TO RND GRNS, FR SRT, SILC CMNT TO CALC-CMNT IP, HVY TR IMBD RD SH, NO VIS FLO, TR PR INTER-GRN POR IN 1%, NO VIS CUT OR SHOW
LS-WHT TO OFF WHT YEL, HD DNS, VF/F-XLN, HVY TR IMBD YEL CLY, SLI TR IMBD GLAUC IP, NO VIS FLO, NO VIS POR, NO VIS SHOW
SH- RD TO DRK RD PRP YEL GRN IP, SFT SPLNTY TO FRM IP, SLTY TXT, HVY TR YEL & GRN CLY, SLI TR PYR CLSTRS
SS-WHT TO CLR RD, HD TT, IMBD F/VF-GRNS QRTZ, RND TO S-ANG GRNS, FR TO WLL SRT, SIL CMNT, HVY TR IMBD RD SH, TR PRED UNCONSOLIDATED QRTZ GRNS, NO VIS FLO, NO VIS POR, NO VIS SHOW
SH-RD TO LT GY GY, SFT TO FRM IP, SPLNTY SMTH TXT, HVY TR YEL CLY, TR CLR & ORNG CHRT
MISSISSIPPIAN 4738' (-1518')
LS-LT GY TO OFF WHT, HD DNS TO BRTT IP, F-XLN, V TT SUCRO-MTRX, IMBD GY SH THRU, HVY TR GMMY CHLK IN TRAY, SLI TR IMBD CHLOR, NO VIS FLO, NO VIS POR, NO VIS SHOW
LS-TN TO LT TN CRM IP, HD DNS TO BRTT IP, F-XLN, RE XLN, SUCRO, HVY TR IMBD FOSS FRGS THRU, HVY TR CLR TO WHT CHRT IN TRAY, TR FRM WHT CHLK, NO VIS FLO, NO VIS POR, NO VIS SHOW
LS-LT TN TO TN OFF WHT IP, HD DNS, F/MD-XLN, RE-XLN MTRX, S-SUCRO, ABDT IMBD FOSS FRGS THRU, HVY TR CLR TO WHT CHRT THRU TRAY, TR IMBD CHLOR IP, NO VIS FLO, NO VIS POR, NO VIS SHOW
LS-LT TN TO CRM, HD DNS, F-XLN, TT SUCRO MTRX, ABDT WHT CHRT THRU TRAY, TR IMBD CHLOR, SLI TR SFT TO FRM WHT CHLK IN TRAY, DLL YEL MIN FLO IP, NO VIS POR, NO VIS CUT OR SHOW
R.T.D. @ 7:45 P.M. 11/4/14
DROP SURVEY
T.O.F.L. @ 9:15 P.M. 11/4/14
WEATHERFORD/ LIBERAL, KS
C2
C1
46 U. BG
CN
40 U. BG
CN
C2
C1
45 U . BG
CN
54 U. BG
CN
C2
C1
55 U. BG
CN
45 U. BG
C2
TG
C1
C5
1
10
100
1000
R.T.D. @ 4808'
SAMPLES WILL BE DELIVERED TO KGS
THANK YOU FOR CHOOSING EARTH TECH
LOGGED BY: SCHUYLER HEDRICK, BLAKE WARD