KOLAR Document ID: 1525448

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 # 34318
Name: BEREXCO LLC
Address 1: 2020 N. BRAMBLEWOOD
Address 2:
City: WICHITA State: KS Zip: 67206 + 1094
Contact Person: Brett Blazer
Phone: (316) 265-3311
CONTRACTOR: License # 34317
Name: BEREDCO LLC
Wellsite Geologist: Ed Grieves
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.)*: Stratigraphic test well

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 #:

4/28/2020	5/22/2020	5/22/2020
Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date

API No.: 15-093-21980-00-00
Spot Description:
SW - NW - SE - NE Sec. 10 Twp. 24 S. R. 37 ☐ East ☑ West
1780 Feet from ☑ North / ☐ South Line of Section
1040 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: Kearny
Lease Name: HARTLAND KGS Well #: 6-10
Field Name: Hartland
Producing Formation: N/A
Elevation: Ground: 3262 Kelly Bushing: 3274
Total Vertical Depth: 6650 Plug Back Total Depth:
Amount of Surface Pipe Set and Cemented at: 1740 Feet
Multiple Stage Cementing Collar Used? ☑ Yes ☐ No
If yes, show depth set: 4950 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: 8000 ppm Fluid volume: 1800 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:
☐ **Confidential Release Date:**
☑ **Wireline Log Received** ☑ **Drill Stem Tests Received**
☑ **Geologist Report / Mud Logs Received**
☐ **UIC Distribution**
ALT ☑ **I** ☐ **II** ☐ **III** **Approved by:** Karen Ritter **Date:** 07/31/2020

Operator Name: BEREXCO LLC Lease Name: HARTLAND KGS Well #: 6-10

Sec. 10 Twp. 24 S. R. 37 ☐ East ☑ West County: Kearny

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:
Attached

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

Name	Top	Datum
Heebner	3743	-469
Cherokee	4434	-1160
Mississippi	4870	-1596
Viola	5544	-2270
Arbuckle	5886	-2612

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
Attached	Attached	Attached	Attached	Attached	Attached	Attached	Attached

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	BEREXCO LLC
Well Name	HARTLAND KGS 6-10
Doc ID	1525448

All Electric Logs Run

Sonic
Resistivity
Microlog
Porosity

Form	ACO1 - Well Completion
Operator	BEREXCO LLC
Well Name	HARTLAND KGS 6-10
Doc ID	1525448

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	24	1740	Class C 65/35/6 (Lead), Class A (Tail)	800	6% gel, 3% CC, 1/4# polyflake (Lead), 2% CC, 1/4# polyflake (Tail)
Production	7.875	5.5	15.5	6618	50/50 poz	350	5# gilsonite, 0.5% Dispersant, 0.5% Fluid-loss, 0.25# Defoamer
Production	7.875	5.5	15.5	4950	65/35 poz (Lead), Thixotrophic (Tail)	275	6% gel, 1/4# flakes (Lead), 10% gyp, 10% salt, 5# gilsonite, 0.5% Fluid-loss, 0.25# Defoamer (Tail)

Form	ACO1 - Well Completion
Operator	BEREXCO LLC
Well Name	HARTLAND KGS 6-10
Doc ID	1525448

Casing

Purpose Of String	Size Hole Drilled	Size Casing Set	Weight	Setting Depth	Type Of Cement	Number of Sacks Used	Type and Percent Additives
Production	7.875	5.5	15.5	3200	65/35 poz (Lead), Thixotropic (Tail)	500	6% gel, 1/4# flakes (Lead), 10% gyp, 10% salt, 5# gilsonite, 0.5% Fluid-loss, 0.25# Defoamer (Tail)

QUASAR ENERGY SERVICES, INC.
3288 FM 51
Gainesville, Texas 76240
Office: 940-612-3336
Fax: 940-612-3336 | qesi@qeserve.com

CEMENTING JOB LOG

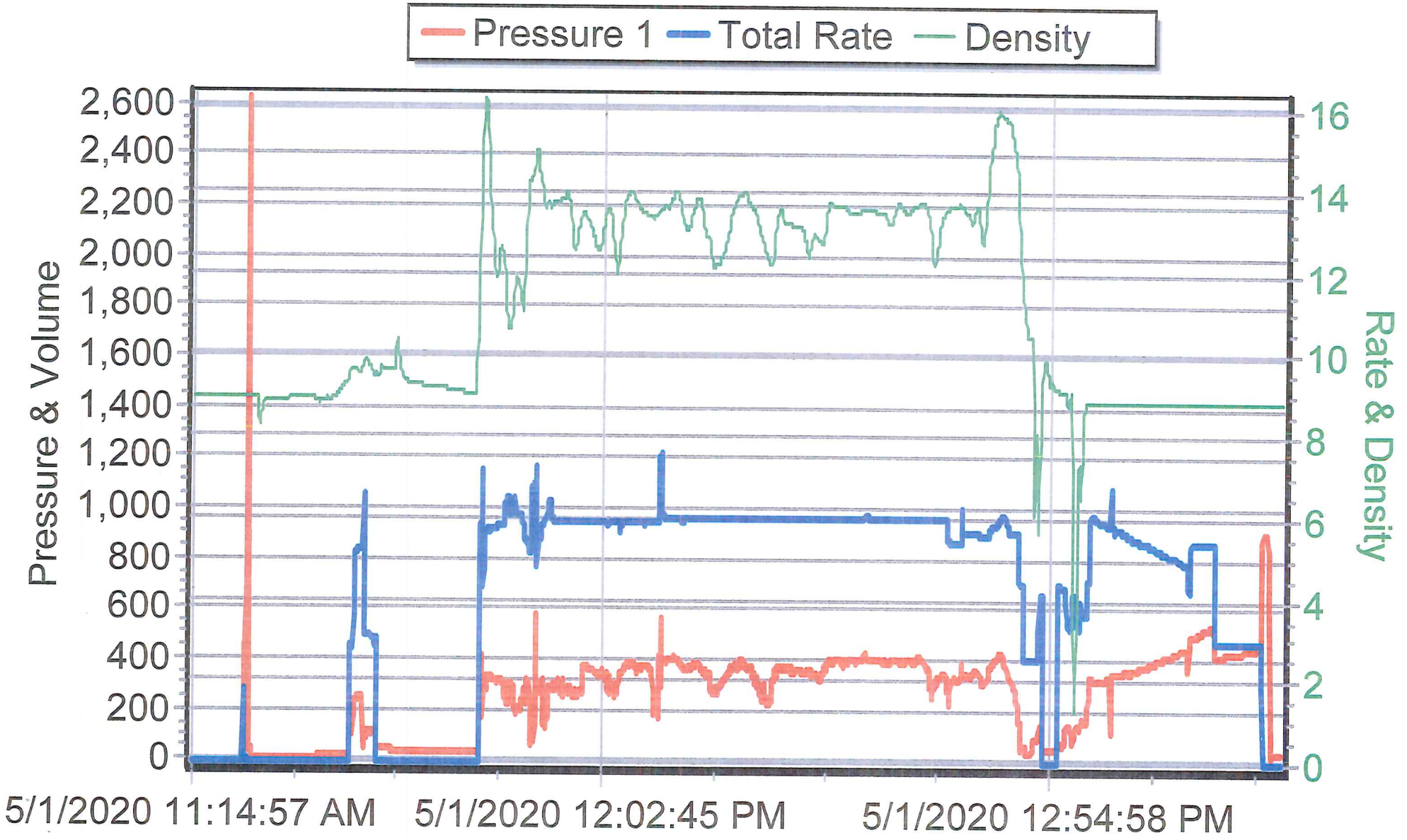
Company:	BEREXCO INC.			**Well Name:**	HARTLAND KGS 6-10		
Type Job:	Cement- Surface			**AFE #:**	0		
CASING DATA							
Size:	8 5/8	Grade:	J-55	Weight:	24		
Casing Depths	Top: 0	Bottom:	0				
Drill Pipe:	Size: 0	Weight:	0				
Tubing:	Size: 0	Weight:	0	Grade:	0	TD (ft):	1755
Open Hole:	Size: 12 1/4	T.D. (ft):	1755				
Perforations	From (ft): 0	To:	0	Packer Depth(ft):	0		

CEMENT DATA									
Spacer Type:									
Amt.		Sks Yield		$ft^3/_{sk}$			Density (PPG)		
LEAD:	CLASS C 65/35/6, 3%CaCl, 1/4#POLYFLAKE						Excess		
Amt.	650	Sks Yield	2.05	$ft^3/_{sk}$	1332		Density (PPG)	12.4	
TAIL:	CLASS C, 2%CaCl, 1/4#POLYFLAKE						Excess		
Amt.	150	Sks Yield	1.34	$ft^3/_{sk}$	201		Density (PPG)	14.8	
WATER:									
Lead:	11.37	gals/sk:	176	Tail:	6.35	gals/sk:	23	Total (bbls):	199
Pump Trucks Used:	210-DP11								
Bulk Equipment:	217 FB11								
Disp. Fluid Type:	FRESH		Amt. (Bbls.)	108.3		Weight (PPG):	8.3		
Mud Type:						Weight (PPG):			

COMPANY REPRESENTATIVE: _____ **CEMENTER:** 0

TIME	PRESSURES PSI			FLUID PUMPED DATA		REMARKS
AM/PM	Casing	Tubing	ANNULUS	TOTAL	RATE	
09:00						ON LOC, SAFTEY MTG, R.U.
11:20	2500					TEST LIES
11:30	320				6	START MIXING LEAD @ 12.4#
12:47	400			238	6	ON TAIL @ 14.8#
12:53				35.8		SHUT DOWN, DROP PLUG
12:55	330				6	START DISPLACEMENT, WASHUP
13:13	420			92	3	SLOW RATE
13:19	450-900			108.5		PLUG DOWN
13:21						RELEASE PSI, FLOAT HELD
						JOB COMPLETE
						THANK YOU FOR YOUR BUSINESS!!!

BEREXCO INC
HARTLAND KGS 6-10 8 5/8



QUASAR ENERGY SERVICES, INC.
3288 FM 51
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Fax: 940-612-3336 | qesi@qeserve.com

Form 185-2c
5/24/20
CEMENTING JOB LOG

CEMENTING JOB LOG

Company:	BEREXCO INC			**Well Name:**	HARTLAND KGS # 6-10		
Type Job:	Cement - DV Tool			**AFE #:**	0		
CASING DATA							
Size:	5 1/2	Grade:	0	Weight:	15.5		
Casing Depths	Top: 0	Bottom:	0				
Drill Pipe:	Size: 0	Weight:	0				
Tubing:	Size: 0	Weight:	0	Grade:	0	TD (ft):	6621.6
Open Hole:	Size: 7 7/8	T.D. (ft):	6621.6				
Perforations	From (ft): 0	To:	0	Packer Depth(ft):	0		
CEMENT DATA							
Spacer Type:	MUD FLUSH						
Amt.	12 BBL	Sks Yield		$ft^3/_{sk}$		Density (PPG)	
LEAD:	50/50 H -- 5# KOL-SEAL, 1% C-15, 1/4#DEFOAMER					Excess	
Amt.	350	Sks Yield	1.16	$ft^3/_{sk}$		Density (PPG)	14.8
TAIL:						Excess	
Amt.		Sks Yield		$ft^3/_{sk}$		Density (PPG)	
WATER:							
Lead:	4.6	gals/sk:		Tail:	gals/sk:	Total (bbls):	
Pump Trucks Used:	110 / DP7						
Bulk Equipment:							
Disp. Fluid Type:	WATER/MUD	Amt. (Bbls.)	40/115		Weight (PPG):	8.33/9.2	
Mud Type:					Weight (PPG):		

COMPANY REPRESENTATIVE: _____ **CEMENTER:** KIRBY HARPER

TIME	PRESSURES PSI			FLUID PUMPED DATA		REMARKS
AM/PM	Casing	Tubing	ANNULUS	TOTAL	RATE	
						ON LOCATION
						START RUNNING CASING
						RIG BROKE DOWN (APPX 110 JTS IN HOLE)
						CREW RELEASED
0400	05/25/20					ON LOCATION -- CASING STUCK IN HOLE
1300	05/25/20					CREW RELEASED
2100	05/25/20					ON LOCATION -- CASING ON BOTTOM
0046	05/26/20	2500				PRESSURE TEST
0047		500		12	5	START PUMPING MUD FLUSH
0053		500		73	6	START MIXING 350 SK CMT @ 14.8 PPG
0107						SHUT DOWN - CLEAN LINES - DROP PLUG
0112		300		0	7	START DISPLACING WITH WATER
0127		350		40	7.5	START PUMPING MUD
0133		550		145	2	SLOW RATE
0141		900-1450		155		BUMP PLUG
0143		1450-0				RELEASE PRESSURE
0145						DROP OPENING TOOL
0208		800				OPEN TOOL -- BREAK CIRC
0804		2500				PRESSURE TEST
0805		200		12	6	MUD FLUSH
0809		200		60	6	START MIXING 175 SK LC @ 12.5 PPG
0823		200		28	6	START MIXING 100 SK TC @ 14.8 PPG

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Office: 940-612-3336
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Form 185-2c

5/24/20

JOB LOG

JOB LOG

Company:	BEREXCO INC	**Well Name:**	HARTLAND KGS # 6-10
Type Job:	Cement - DV Tool	**AFE #:**	0

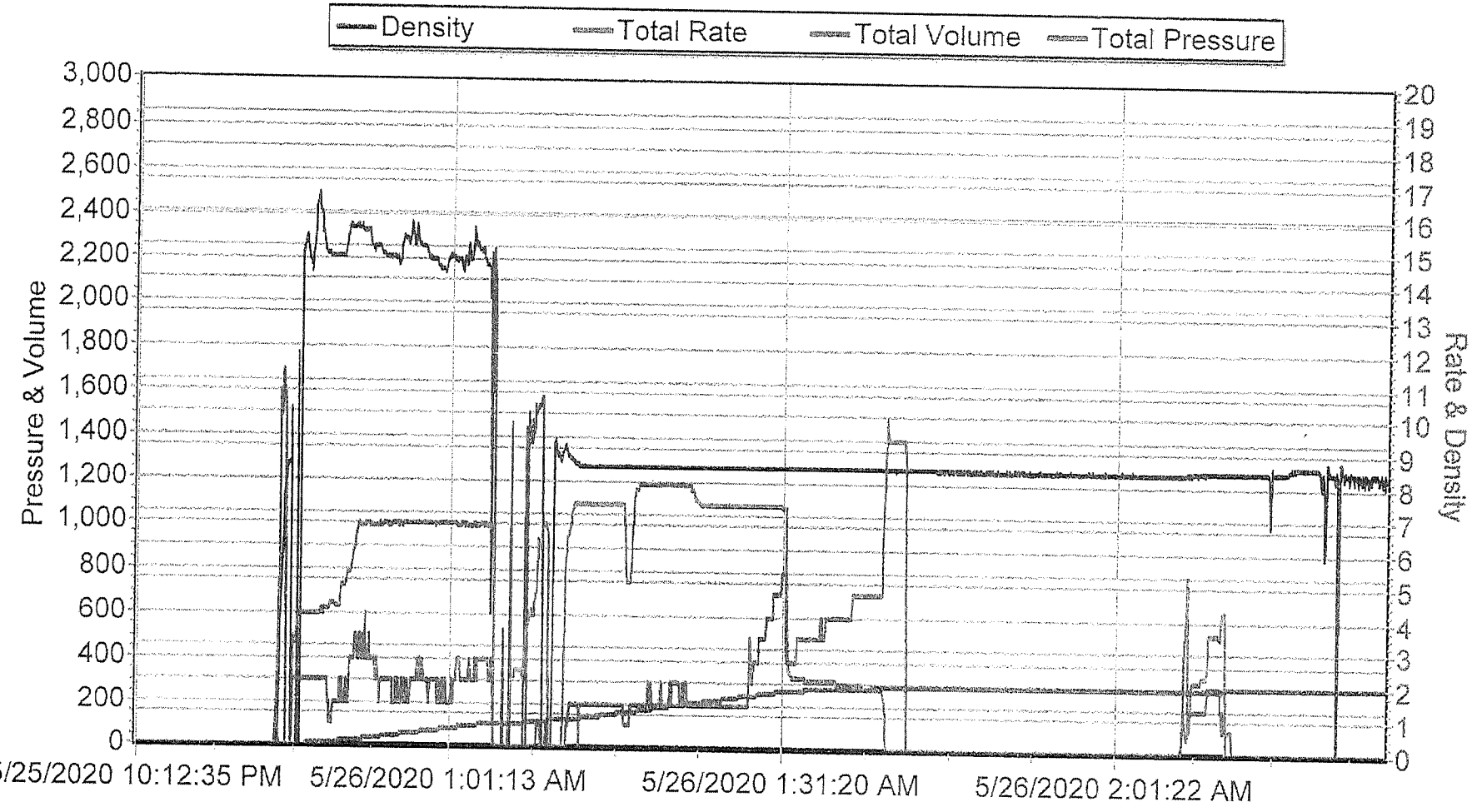
CASING DATA

Size:	5 1/2	Grade:	0	Weight:	15.5

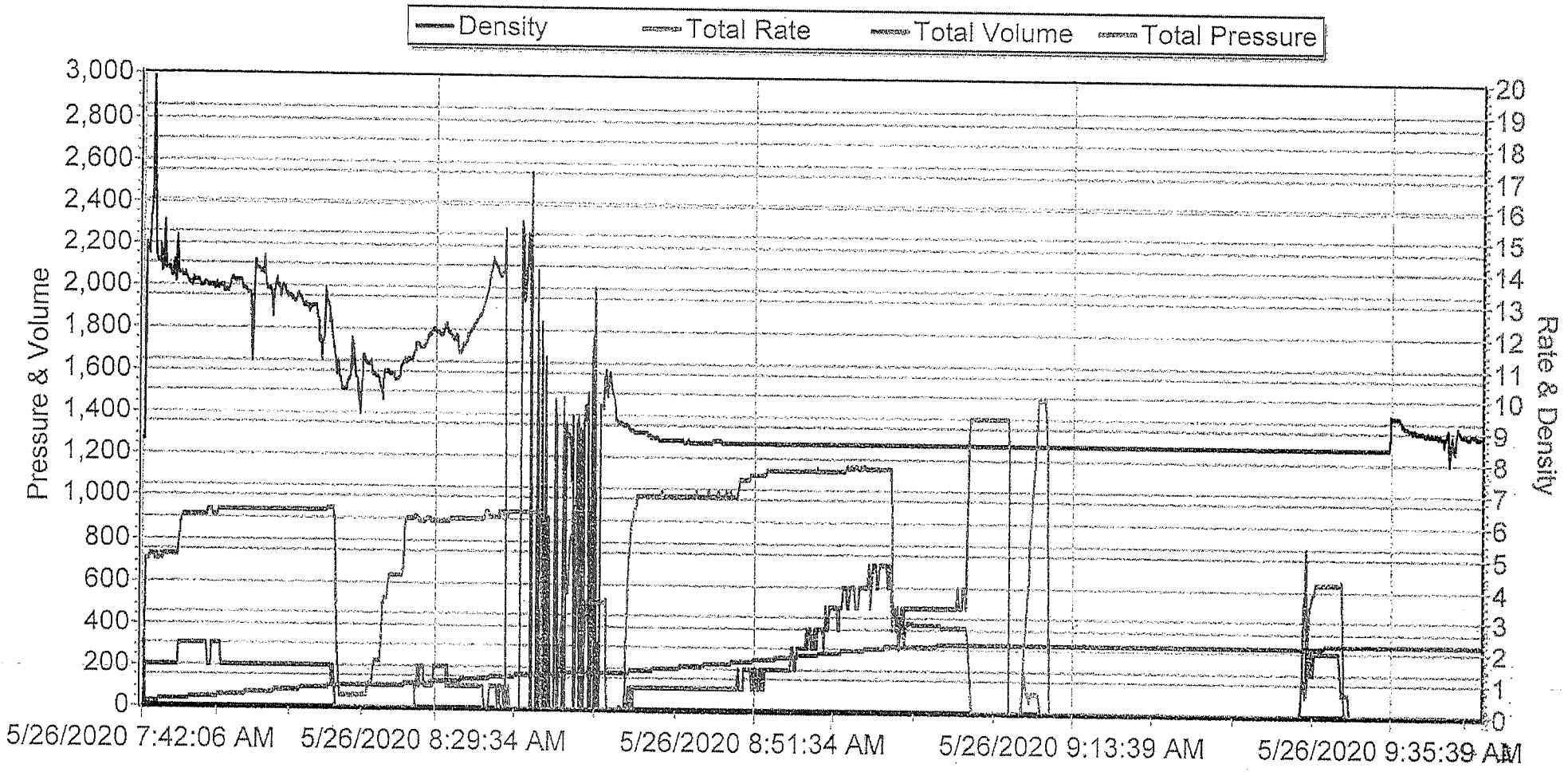
COMPANY REPRESENTATIVE: _____ **CEMENTER:** KIRBY HARPER

TIME	PRESSURES PSI			FLUID PUMPED DATA		REMARKS
AM/PM	Casing	Tubing	ANNULUS	TOTAL	RATE	
0844		200		0	6	START DISPLACING WITH FRESH WATER
0849		200		40	6	START DISPLACING WITH MUD
0903		400		107	2	SLOW RATE
0908		500-1500		117		BUMP PLUG
0913		1500-0				RELEASE PRESSURE -- TOOL CLOSED
0915						DROP OPENING PLUG
0930		850				OPEN TOOL -- BREAK CIRC
1315						PLUG RAT AND MOUSE HOLES
1336		2500				PRESSURE TEST
1338		200		10	6	PUMP SPACER
1340		200		170	6.5	MIX 500 SK LEAD @ 12.5 PPG
1454		200		14	6.5	MIX 50 SK TAIL @ 14.8 PPG
1508						SHUT DOWN -- CLEAN LINES -- DROP PLUG
1513				0	6	START DISPLACEMENT
1522		500		66	2	SLOW RATE
1527		550-1600		76		BUMP PLUG
1529		1600-0				RELEASE PRESSURE -- TOOL CLOSED
						CIRCULATE CEMENT TO THE PIT

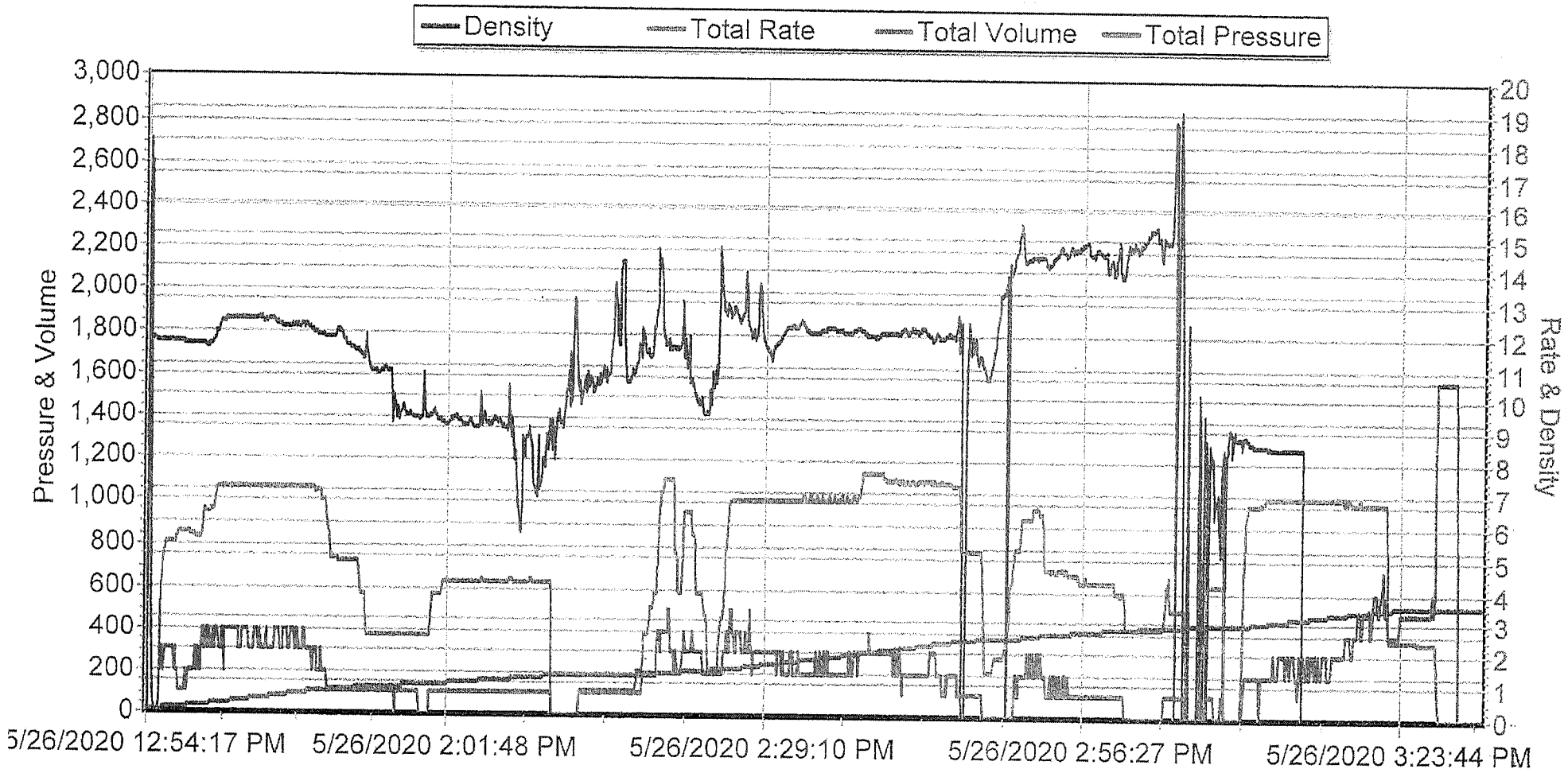
BEREXCO INC
HARTLAND KGS 6-10
5 1/2" PRODUCTION
05/26/2020
1ST STAGE



BEREXCO INC
HARTLAND KGS 6-10
5 1/2" PRODUCTION
2ND STAGE
05/26/2020



BEREXCO INC
HARTLAND KGS 6-10
5 1/2" PRODUCTION
05/26/20
3RD STAGE



DRILL STEM TEST REPORT

Berexco LLC

2020 N. Bramblew ood
Wichita, KS 67202

ATTN: Ed Grieves

10- 24- 37 W. Kearny, KS

Hartland KGS # 6- 10

Job Ticket: 66123 **DST#: 1**

Test Start: 2020.05.19 @ 05:30:00

GENERAL INFORMATION:

Formation: **Granite Wash**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 10:16:20
Time Test Ended: 16:31:49

Test Type: Conventional Bottom Hole (Initial)
Tester: Martine Salinas
Unit No: 82

Interval: 6370.00 ft (KB) To 6420.00 ft (KB) (TVD)
Total Depth: 6420.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

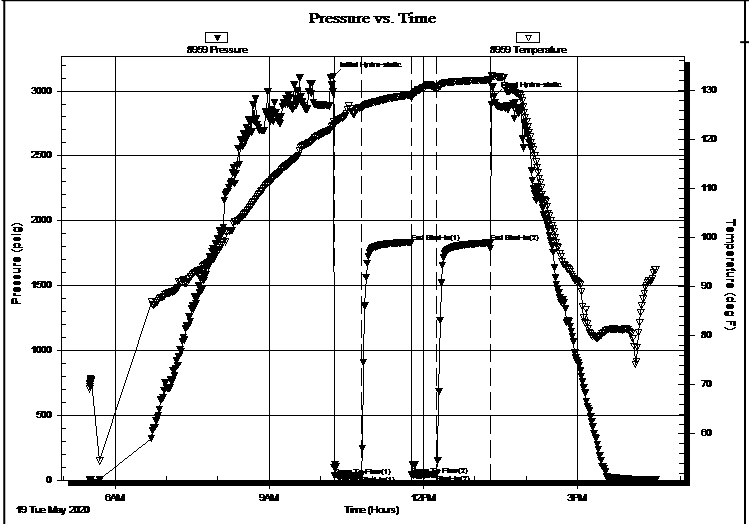
Reference Elevations: 3274.00 ft (KB)
3262.00 ft (CF)
KB to GR/CF: 12.00 ft

Serial #: 8959 **Inside**

Press@RunDepth: 43.90 psig @ 6371.00 ft (KB)
Start Date: 2020.05.19 End Date: 2020.05.19
Start Time: 05:30:01 End Time: 16:31:49

Capacity: 8000.00 psig
Last Calib.: 2020.05.19
Time On Btm: 2020.05.19 @ 10:15:20
Time Off Btm: 2020.05.19 @ 13:22:39

TEST COMMENT: 30-IF-S.blow built to 1/2"
60-ISI- No blow back
30-FF-Surface bubbles @ 3 mins, Flushed tool had a w eak surface blow
60-FSI-No blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	3114.44	123.55	Initial Hydro-static
1	31.94	123.20	Open To Flow (1)
32	34.68	126.44	Shut-In(1)
91	1834.75	129.04	End Shut-In(1)
91	39.56	128.45	Open To Flow (2)
120	43.90	130.64	Shut-In(2)
183	1829.93	132.11	End Shut-In(2)
188	2958.10	132.88	Final Hydro-static

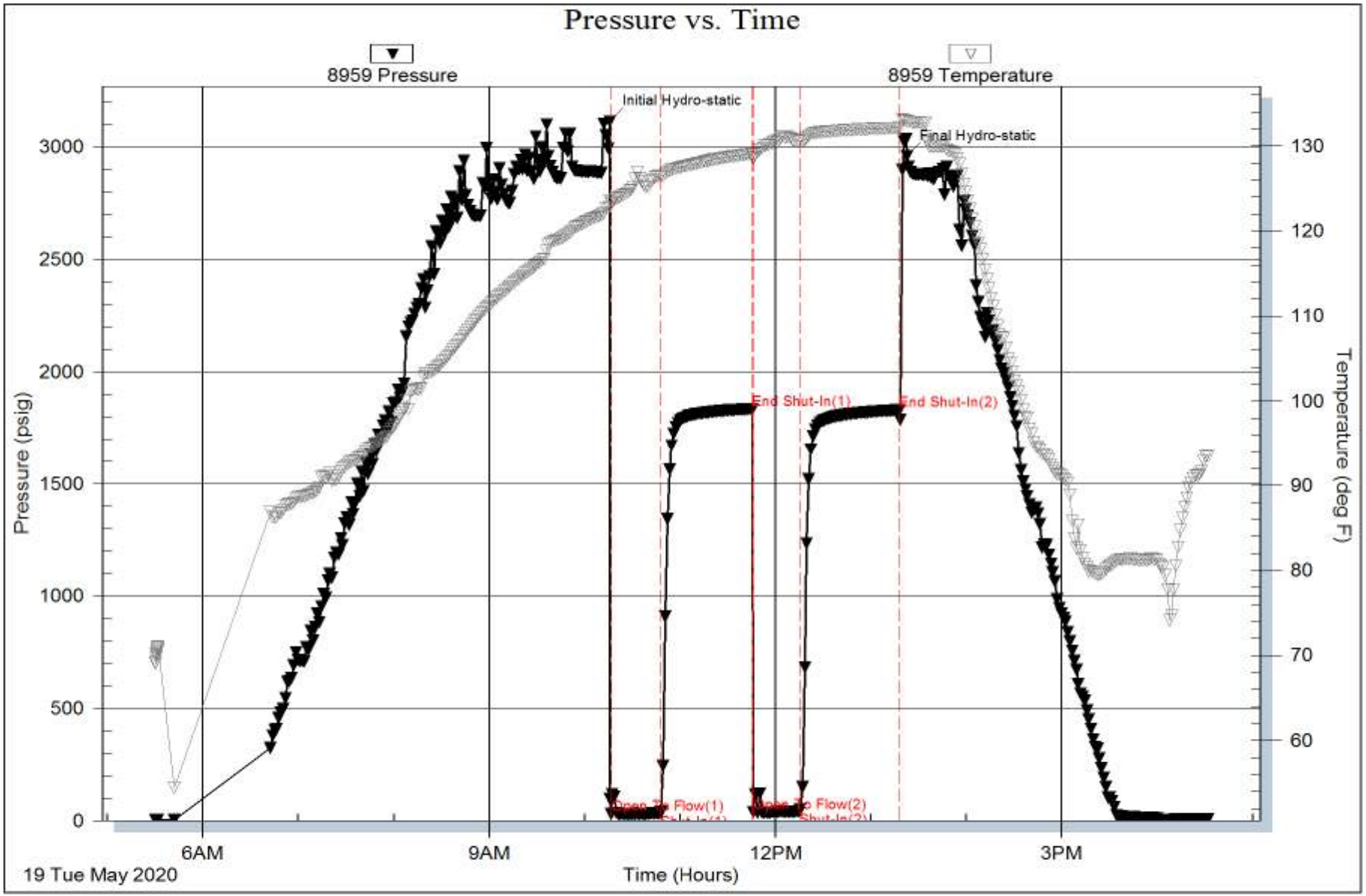
Recovery

Length (ft)	Description	Volume (bbl)
45.00	100% Mud	0.63

Gas Rates

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

Serial #: 8959 **Inside** Berexco LLC Hartland KGS # 6- 10 DST Test Number: 1



Trilobite Testing, Inc Ref. No: 66123 Printed: 2020.05.19 @ 16:59:42

DRILL STEM TEST REPORT

Berexco LLC

2020 N. Bramblew ood
Wichita, KS 67202

ATTN: Ed Grieves

10- 24- 37 W. Kearny, KS

Hartland KGS # 6- 10

Job Ticket: 66124 **DST#: 2**

Test Start: 2020.05.20 @ 21:23:00

GENERAL INFORMATION:

Formation: **Granite**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 01:07:40
Time Test Ended: 08:20:40

Test Type: Conventional Bottom Hole (Reset)
Tester: Martine Salinas
Unit No: 82

Interval: 6505.00 ft (KB) To 6550.00 ft (KB) (TVD)
Total Depth: 6550.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

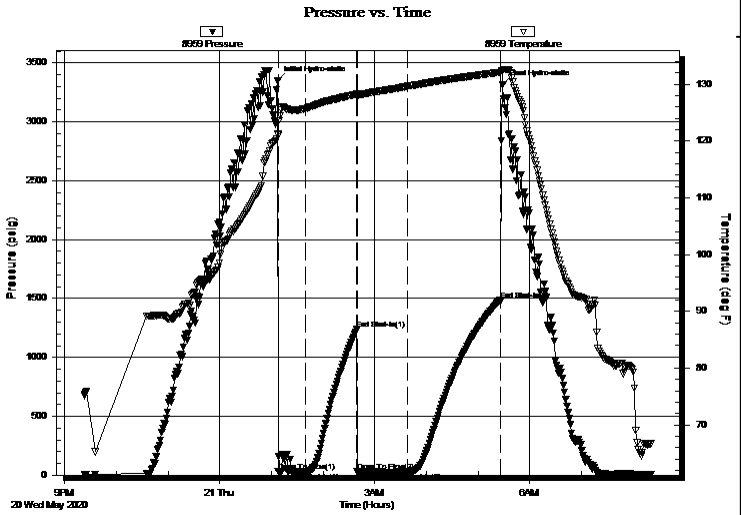
Reference Elevations: 3274.00 ft (KB)
3262.00 ft (CF)
KB to GR/CF: 12.00 ft

Serial #: 8959 **Inside**

Press@RunDepth: 26.57 psig @ 6506.00 ft (KB)
Start Date: 2020.05.20 End Date: 2020.05.21
Start Time: 21:23:01 End Time: 08:20:40

Capacity: 8000.00 psig
Last Calib.: 2020.05.21
Time On Btm: 2020.05.21 @ 01:07:20
Time Off Btm: 2020.05.21 @ 05:28:50

TEST COMMENT: 30-IF-1/4" blow dead @ 25 mins
60-ISI-No blow back
60-FF-No blow
90-FSI-No blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	3347.81	121.26	Initial Hydro-static
1	30.14	121.03	Open To Flow (1)
33	26.16	125.76	Shut-In(1)
92	1236.55	128.29	End Shut-In(1)
93	28.83	127.74	Open To Flow (2)
152	26.57	129.71	Shut-In(2)
259	1486.73	132.13	End Shut-In(2)
262	3318.08	132.44	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	100% Mud	0.07

* Recovery from multiple tests

Gas Rates

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

DRILL STEM TEST REPORT

Berexco LLC

2020 N. Bramblew ood
Wichita, KS 67202

ATTN: Ed Grieves

10- 24- 37 W. Kearny, KS

Hartland KGS # 6- 10

Job Ticket: 66124 **DST#: 2**

Test Start: 2020.05.20 @ 21:23:00

GENERAL INFORMATION:

Formation: **Granite**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 01:07:40
Time Test Ended: 08:20:40

Test Type: Conventional Bottom Hole (Reset)
Tester: Martine Salinas
Unit No: 82

Interval: 6505.00 ft (KB) To 6550.00 ft (KB) (TVD)
Total Depth: 6550.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

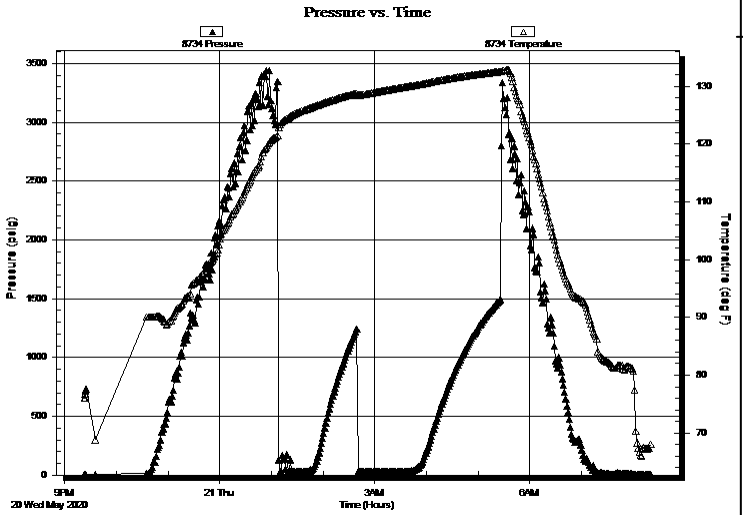
Reference Elevations: 3274.00 ft (KB)
3262.00 ft (CF)
KB to GR/CF: 12.00 ft

Serial #: 8734 **Outside**

Press@RunDepth: psig @ 6506.00 ft (KB)
Start Date: 2020.05.20 End Date: 2020.05.21
Start Time: 21:23:01 End Time: 08:20:49

Capacity: 8000.00 psig
Last Calib.: 2020.05.21
Time On Btm:
Time Off Btm:

TEST COMMENT: 30-IF-1/4" blow dead @ 25 mins
60-ISI-No blow back
60-FF-No blow
90-FSI-No blow



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
5.00	100% Mud	0.07

* Recovery from multiple tests

Gas Rates

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

DRILL STEM TEST REPORT

FLUID SUMMARY

Berexco LLC

2020 N. Bramblew ood
Wichita, KS 67202

ATTN: Ed Grieves

10- 24- 37 W. Kearny, KS

Hartland KGS # 6- 10

Job Ticket: 66124 **DST#: 2**

Test Start: 2020.05.20 @ 21:23:00

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:	58.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	8.79 in³	Gas Cushion Type:			
Resistivity:	ohm.m	Gas Cushion Pressure:	psig		
Salinity:	ppm				
Filter Cake:	1.00 inches				

Recovery Information

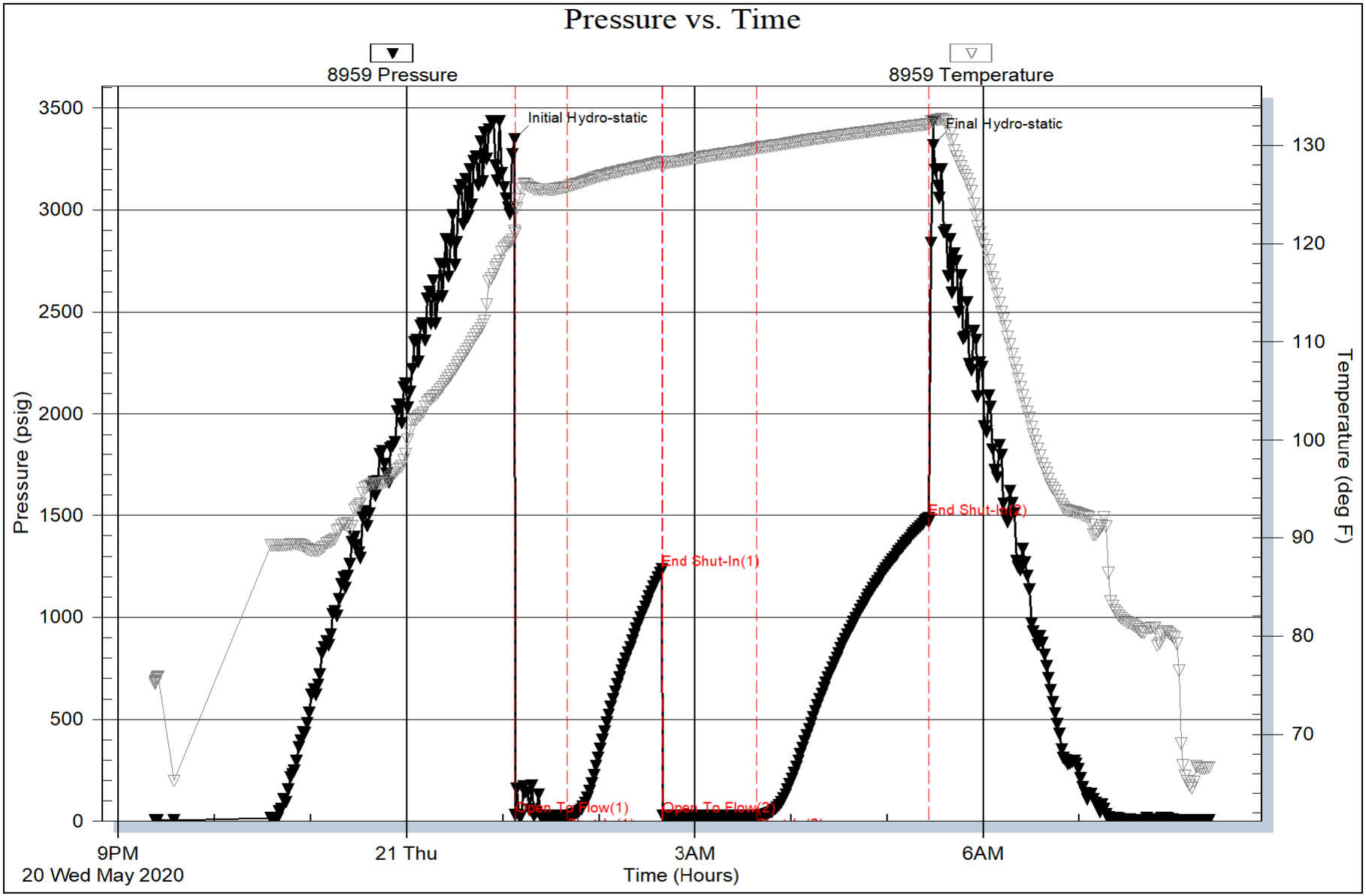
Recovery Table

Length ft	Description	Volume bbl
5.00	100% Mud	0.070

Total Length: 5.00 ft Total Volume: 0.070 bbl

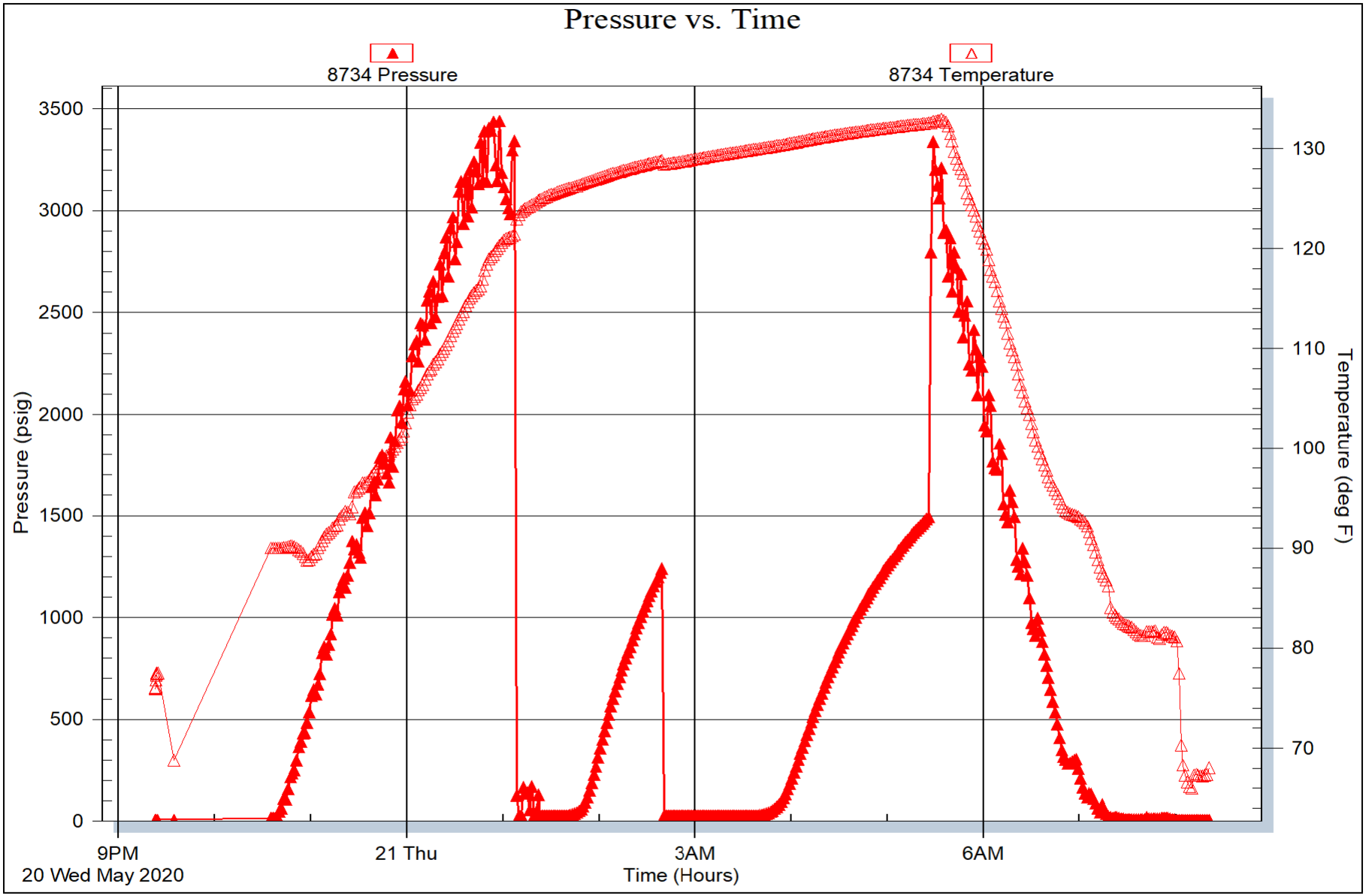
Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
Laboratory Name: Laboratory Location:
Recovery Comments:

Serial #: 8959 **Inside** Berexco LLC Hartland KGS # 6- 10 DST Test Number: 2



Trilobite Testing, Inc Ref. No: 66124 Printed: 2020.05.21 @ 08:40:09

Serial #: 8734 **Outside** Berexco LLC Hartland KGS # 6- 10 DST Test Number: 2



Trilobite Testing, Inc Ref. No: 66124 Printed: 2020.05.21 @ 08:40:10

ONSITE GEOLOGICAL LABORATORIES
EARTH - TECH

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

Well Name:	Hartland KGS # 6-10		
Well Id:			
Location:	Sec 10 T24S R37W, Kearny County, Kansas		
License Number:	15-093-21980-00	Region:	Hartland
Spud Date:	Apr. 28th 2020	Drilling Completed:	May,22, 2020
Surface Coordinates:	1780' FNL & 1040' FEL / SW NW SE NE		
Bottom Hole Coordinates:			
Ground Elevation (ft):	3262'	K.B. Elevation (ft):	3274'
Logged Interval (ft):	3600' To: 6650'	Total Depth (ft):	6650'
Formation:	Morrow, Viola , Arbuckle, Granite Wash		
Type of Drilling Fluid:	Natural Chemical		

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

OPERATOR

Company: BEREXCO LLC
Address: 2020 N. BRAMBLEWOOD
WICHITA, KANSAS 67206
CO. ENG; Mr. Dana Wreath

GEOLOGIST

Name: Edwin H. Grieves/ Aaron Suelter/ Tim Hedrick
Company: GRIEVES AND CO.
Address: PO Box 3125
Edmond, Oklahoma, 74083-3125
Cell: 405-826-9027/620-600-0777/580-754-0062

LOST CIRCULATION RECORD

LOST 640 BBLS @ 5941' - REGAINED CIRCULATION WITH 38# AND MAINTAINED CIRCULATION WITH 28# HULLS

NO MORE LOSSES AS OF 5985'

START LOSING MUD @ 6225' / FULL RETURNS LOST @ 6284' - REGAIN RETURNS WITH 32# LCM AND HELD 30#

DRILL STEM TEST REPORT

TRILOBITE TESTING, INC.

Berexco LLC

2020 N. Bramblewood
Wichita, KS 67202

ATTN: Ed Grieves

10- 24- 37 W. Kearny, KS

Hartland KGS # 6- 10

Job Ticket: 66123 **DST#: 1**

Test Start: 2020.05.19 @ 05:30:00

GENERAL INFORMATION:

Formation: **Granite Wash**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 10:16:20
Time Test Ended: 16:31:49

Test Type: Conventional Bottom Hole (Initial)
Tester: Martine Salinas
Unit No: 82

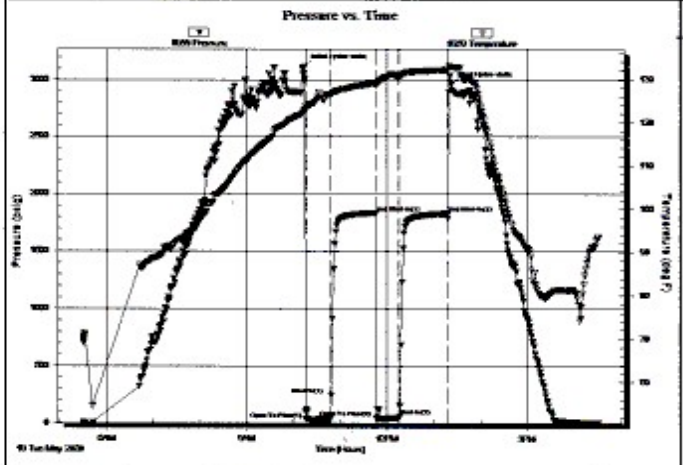
Interval: 6370.00 ft (KB) To 6420.00 ft (KB) (TVD)
Total Depth: 6420.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 3274.00 ft (KB)
3262.00 ft (CF)
KB to GR/CF: 12.00 ft

Serial #: 8959 **Inside**
Press@RunDepth: 43.90 psig @ 6371.00 ft (KB)
Start Date: 2020.05.19 End Date: 2020.05.19
Start Time: 05:30:00 End Time: 16:31:49

Capacity: 8000.00 psig
Last Calib.: 2020.05.19
Time On Btm: 2020.05.19 @ 10:15:20
Time Off Btm: 2020.05.19 @ 13:22:39

TEST COMMENT: 30-IF-S.blow built to 1/2"
60-ISI- No blow back
30-FF-Surface bubbles @ 3 mins, Flushed tool had a weak surface blow
60-FSI-No blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	3114.44	123.55	Initial Hydro-static
1	31.94	123.20	Open To Flow (1)
32	34.68	126.44	Shut-In(1)
91	1834.75	129.04	End Shut-In(1)
91	39.56	128.45	Open To Flow (2)
120	43.90	130.64	Shut-In(2)
183	1829.93	132.11	End Shut-In(2)
188	2958.10	132.88	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
45.00	100% Mud	0.63

Gas Rates

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

DRILL STEM TEST REPORT

TRILOBITE TESTING, INC.

Berexco LLC

2020 N. Bramblewood
Wichita, KS 67202

ATTN: Ed Grieves

10- 24- 37 W. Kearny, KS

Hartland KGS # 6- 10

Job Ticket: 66124 **DST#: 2**

Test Start: 2020.05.20 @ 21:23:00

GENERAL INFORMATION:

Formation: **Granite**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 01:07:40
Time Test Ended: 08:20:40

Test Type: Conventional Bottom Hole (Reset)
Tester: Martine Salinas
Unit No: 82

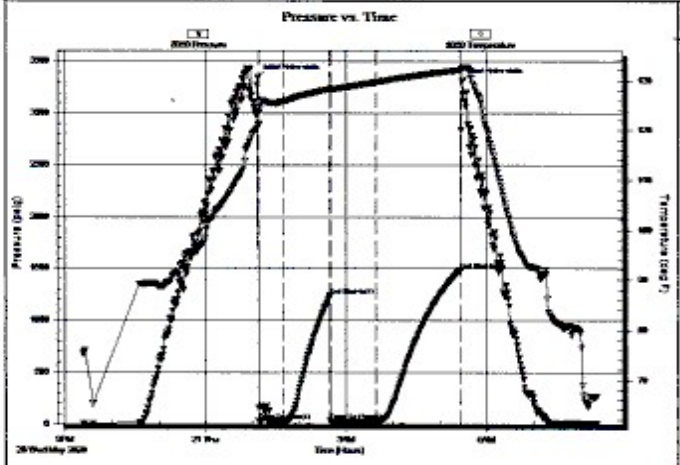
Interval: 6505.00 ft (KB) To 6550.00 ft (KB) (TVD)
Total Depth: 6550.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 3274.00 ft (KB)
3262.00 ft (CF)
KB to GR/CF: 12.00 ft

Serial #: 8959 Inside
Press@RunDepth: 26.57 psig @ 6506.00 ft (KB)
Start Date: 2020.05.20 End Date: 2020.05.21
Start Time: 21:23:01 End Time: 08:20:40

Capacity: 8000.00 psig
Last Calib.: 2020.05.21
Time On Btm: 2020.05.21 @ 01:07:20
Time Off Btm: 2020.05.21 @ 05:28:50

TEST COMMENT: 30-IF-1/4" blow dead @ 25 mins
60-ISI-No blow back
60-FF-No blow
90-FSI-No blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	3347.81	121.26	Initial Hydro-static
1	30.14	121.03	Open To Flow (1)
33	26.16	125.76	Shut-In(1)
92	1236.55	128.29	End Shut-In(1)
93	28.83	127.74	Open To Flow (2)
152	26.57	129.71	Shut-In(2)
259	1486.73	132.13	End Shut-In(2)
262	3318.08	132.44	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	100% Mud	0.07

* Recovery from multiple tests

Gas Rates

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

DEVIATION SURVEY'S & CIRCULATION POINTS

DEPTHS SURVEY

859' =1/4 DEG.
1298' = 3/4 DEG
1745' = 1 3/4 DEG
1866' = 2 1/2 DEG
1992' = 1 3/4 DEG
2050' = 1 1/4 DEG
2055' = 1 3/4 DEG
2308' = 2 DEG
2370' = 1 3/4 DEG
6550' = 1 1/2 DEG

CIRC. POINTS

1. 4730'
2. 4760'
3. 6340'
4. 6420'
5. 6550'
6. 6650'

DAILY 7 AM MORNING DEPTHS

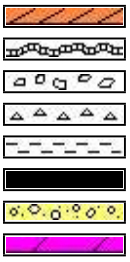
MAY 6, - 3068' @ 7AM
MAY 7, - 3617'
MAY 8, - 4212'
MAY 9, - 4597'
MAY 10, - 4773'
MAY 11, - 5035' @ 7 AM
MAY 12, - 5401'
MAY 13, - 5656'
MAY 14, - 5846'
MAY 15, - 5914'
MAY 16, - 5960'
MAY 17, - 6284' @ 7 AM
MAY 18, - 6284'
MAY 19, - 6420'
MAY 20, - 6488'
MAY 21, - 6550'
MAY 22, - 6650' @ 7 AM
MAY 23, - LOGGING @ 7 AM

DATE	DEPTH	WT	VIS	PV	YP	GS	PH	CAKE	CHLOR	CALCIUM	LCM
6-May	3097	9	35	5	9	3 25	7	0	19,000	HVY	5
7-May	3638	8.5	56	17	19	14 36	11	1	3000	20	3
8-May	4237	9	53	17	20	14 36	10	1	3000	20	6
9-May	4627	9.2	50	16	18	14 35	10.5	1	3200	40	5
10-May	4739	9.2	54	16	19	14 36	10	1	3500	40	5
11-May	5071	9.1	54	19	19	16 43	11	1	2100	20	5
12-May	5428	9.2	60	20	19	17 47	10.5	1	2600	30	5
13-May	5660	9	59	19	19	16 44	9.5	1	2050	40	15
14-May	5874	9.1	51	16	16	14 43	9.5	1	1750	20	20
15-May	5914	8.4	78	22	25	18 45	10.5	1	400	20	32
16-May	5964	8.7	47	12	14	13 35	12	1	6600	40	16
17-May	6284	8.6	47	12	13	12 30	11	1	2250	20	25
5/18/2020	6289	8.6	45	15	14	12 30	9	1	5100	120	32
5/19/2020	6420	8.7	45	15	14	12 31	9.5	1	5600	60	26
5/20/2020	6500	8.7	50	16	19	14 34	10.5	1	5800	60	30
5/21/2020	6550	8.8	51	16	19	14 36	9.5	1	6000	60	30
5/22/2020	6650	8.9	50	16	18	14 34	10.5	1	6000	60	28

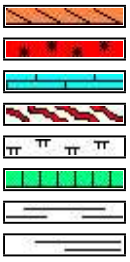
E- LOG FORMATION TOPS

FROMATION	DRILL DEPTH / SUB SEA
BASE HEEBNER	3742' -468'
LANSING	3796' -522'
KANSAS CITY	4120' -846'
BASE KAN . CITY	4285' - 1011'
MARMATON	4318' - 1044'
PAWNEE	4400' - 1126'
FT. SCOTT	4436' - 1162'
CHEROKEE	4446' - 1172'
MORROW FM	4718' -1444'
CHESTER	4758' -1484
ST GEN.	4871' -1597'
VIOLA	5580' -2306
ARBUCKLE	5718' -2504'
REAGAN SS	6278' -3004'
GRANITE WASH	6306' -3032'
RIG TD	6645'

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

FOSSIL

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

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

STRINGER

Anhy
Arg
Bent
Coal
Dol
Gyp
Ls
Mrst
Sltstrg
Ssstrg
Carbsh
Clystn

Dol
Grysh
Grysltt
Lms
Sandylms
Sh
Sltstn

TEXTURE

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

OTHER SYMBOLS

INTERVALS
- Core
- Dst
- Dst

EVENTS
- Rft
- Sidewall

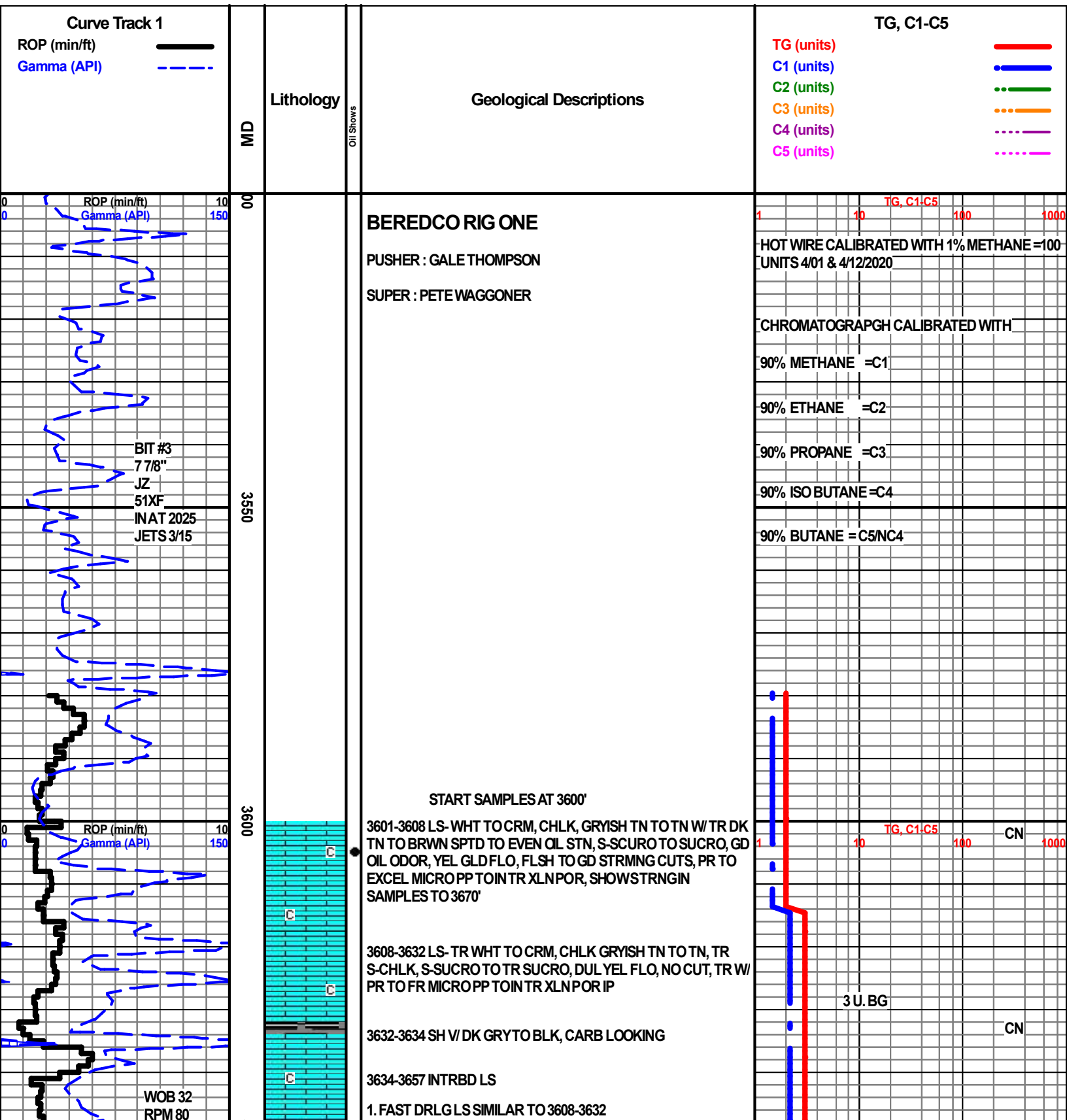
POROSITY TYPE
- E Earthy
- Fenest
- F Fracture
- Inter
- Moldic
- Organic
- P Pinpoint
- V Vuggy

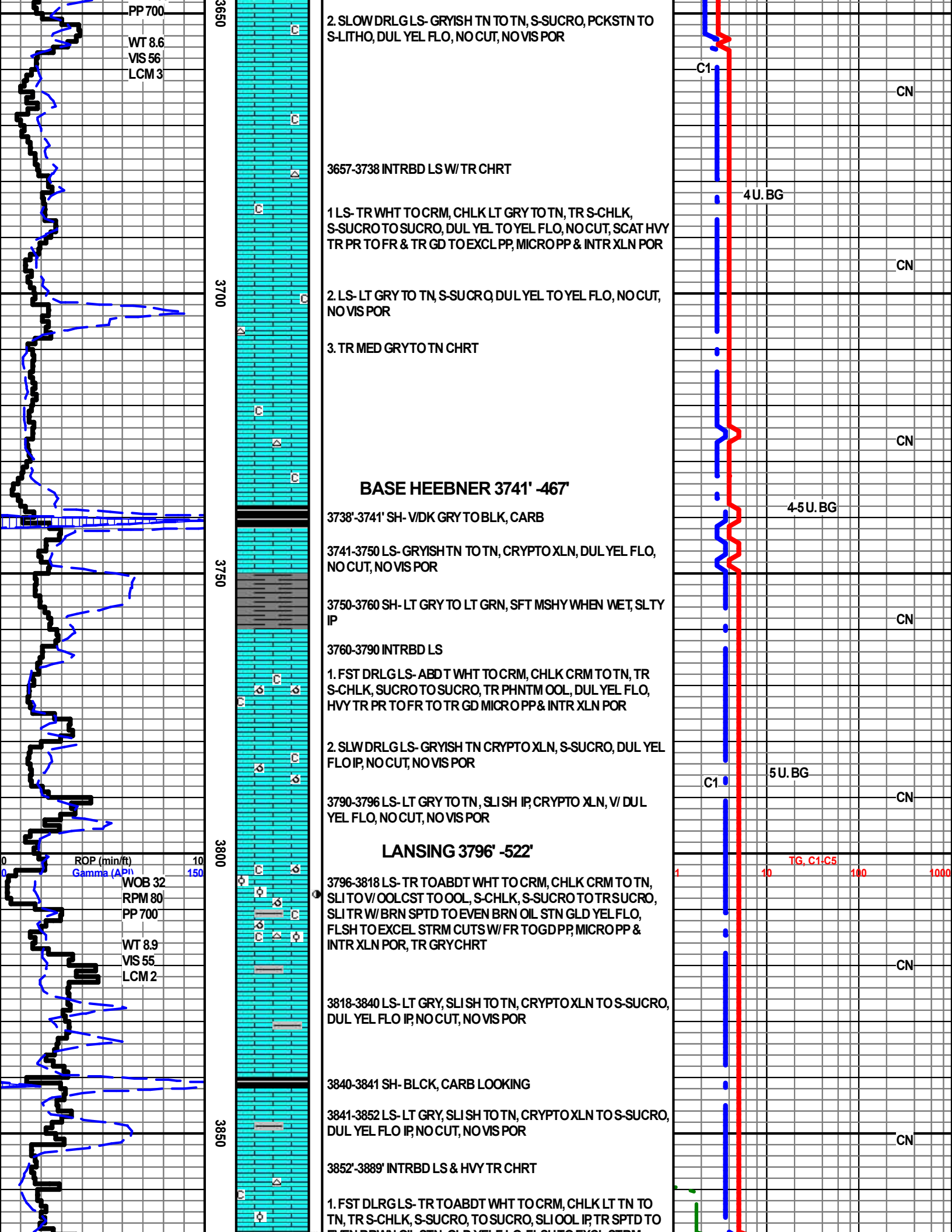
SORTING
- W Well
- M Moderate
- P Poor

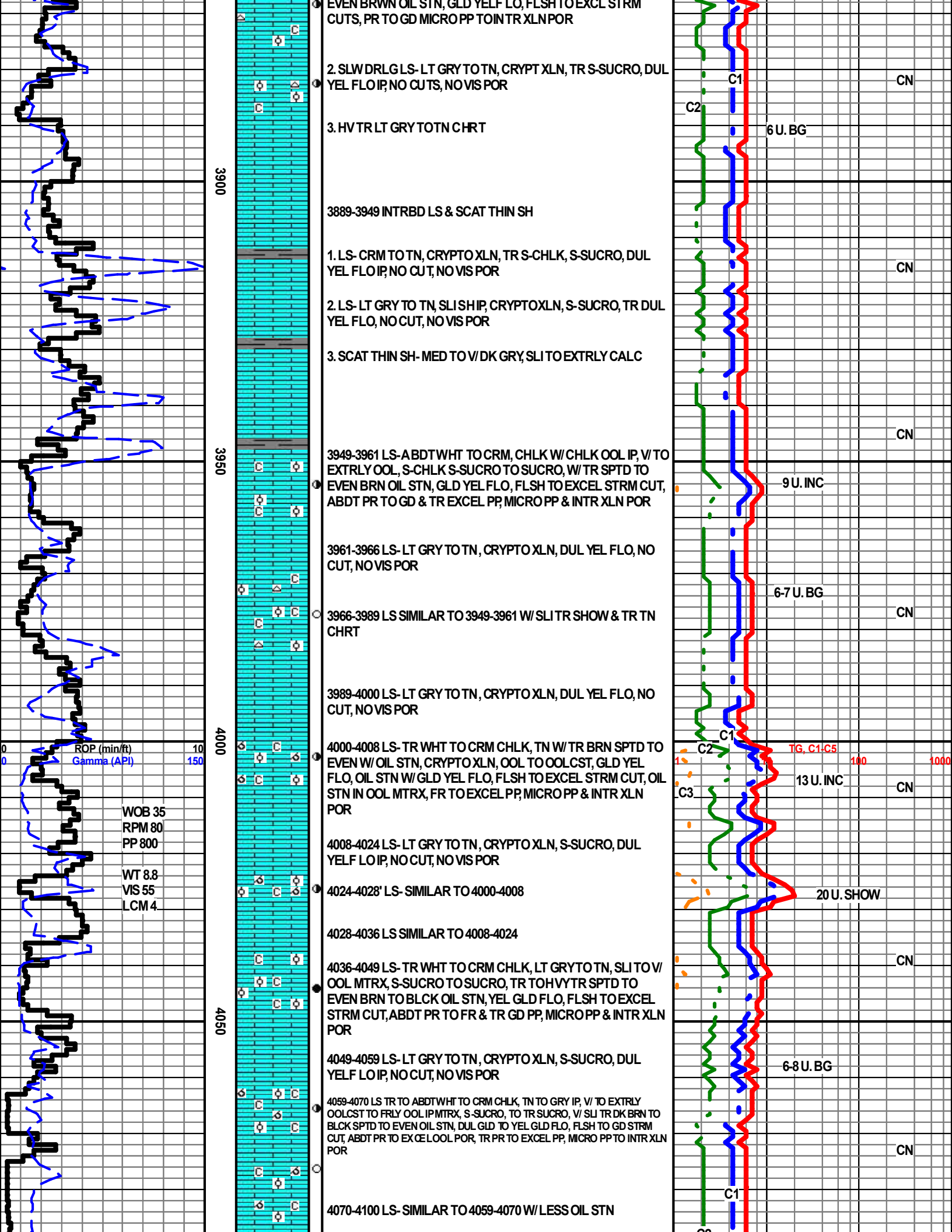
ROUNDING
- R Rounded
- r Subrnd
- a Subang

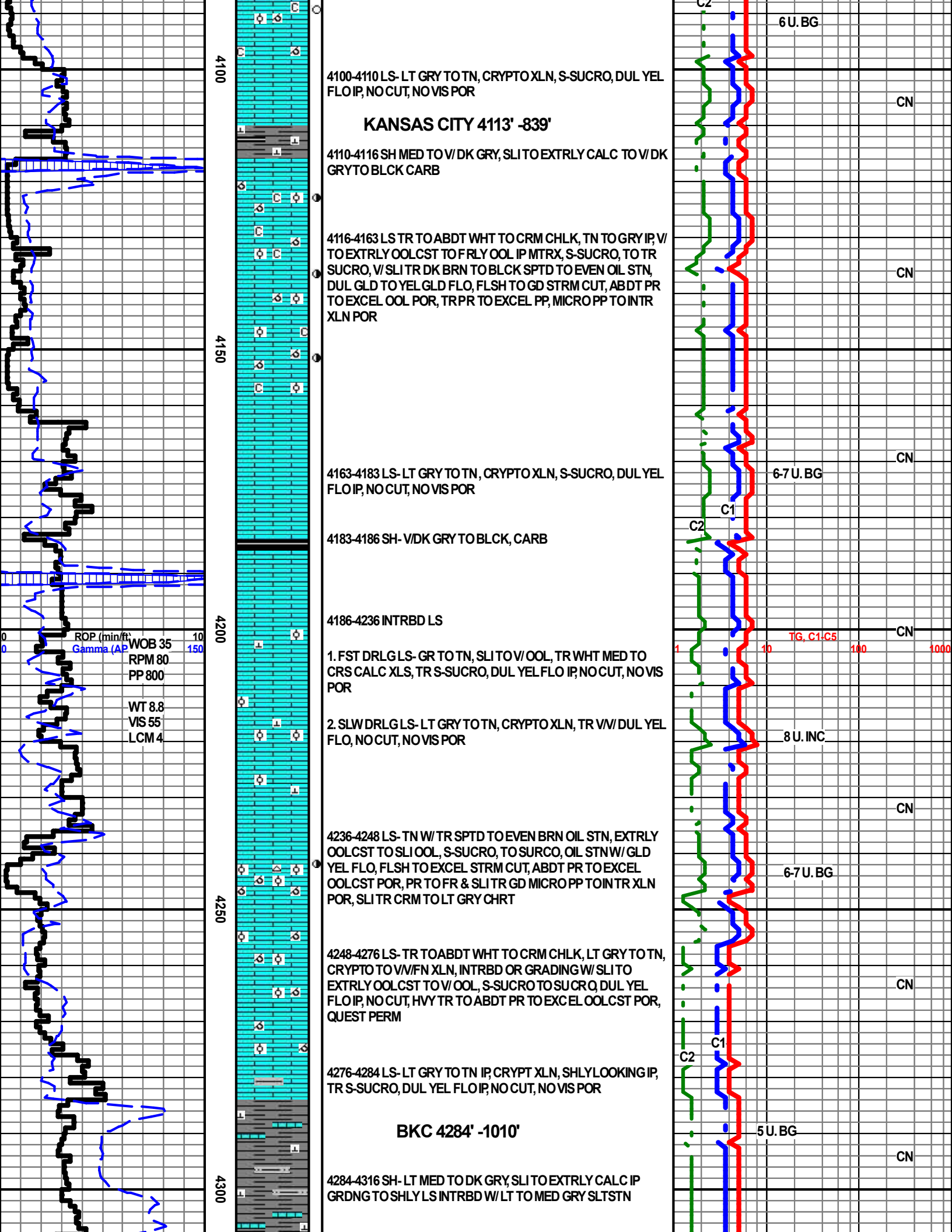
- A Angular

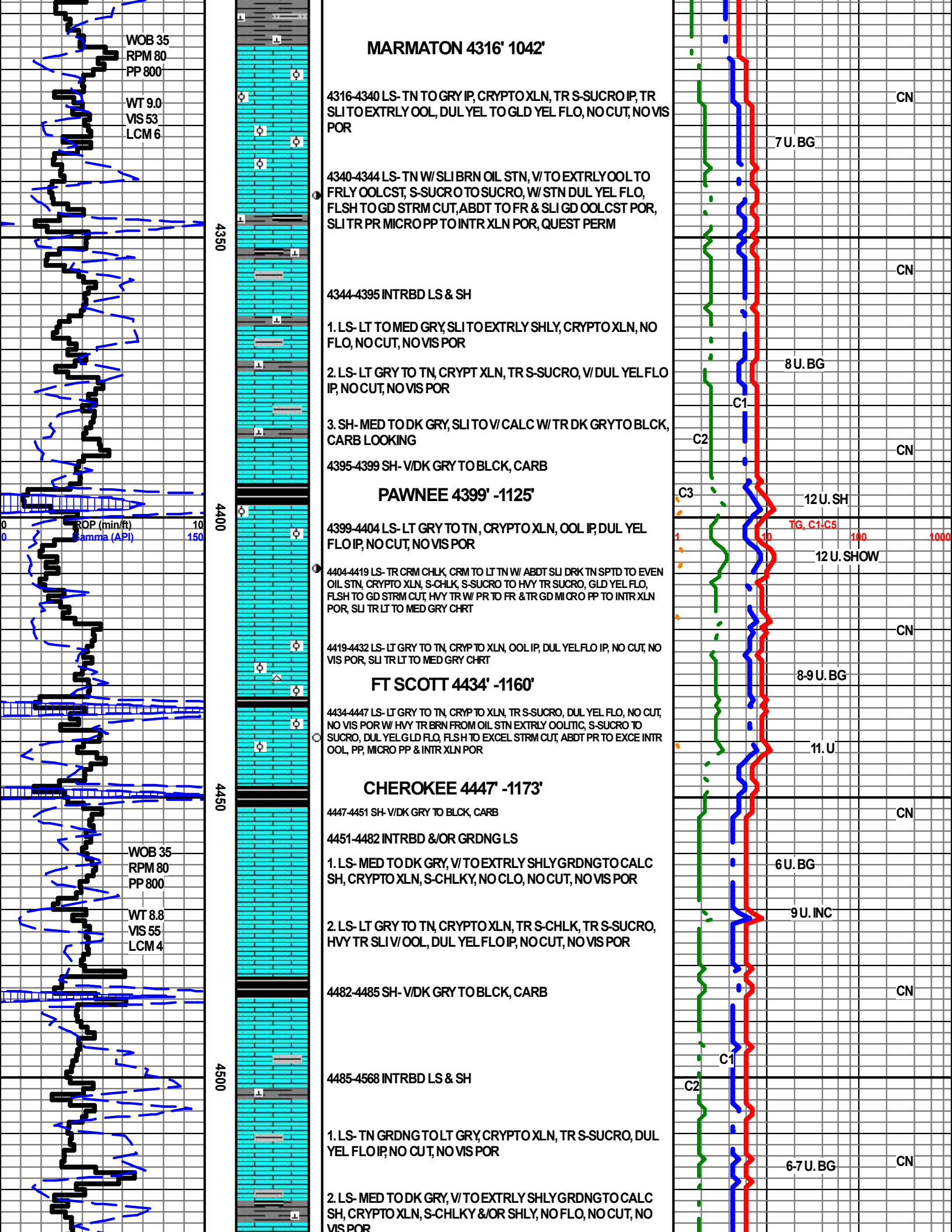
OIL SHOWS
- Even
- Spotted
- Ques
- D Dead
- Gas show

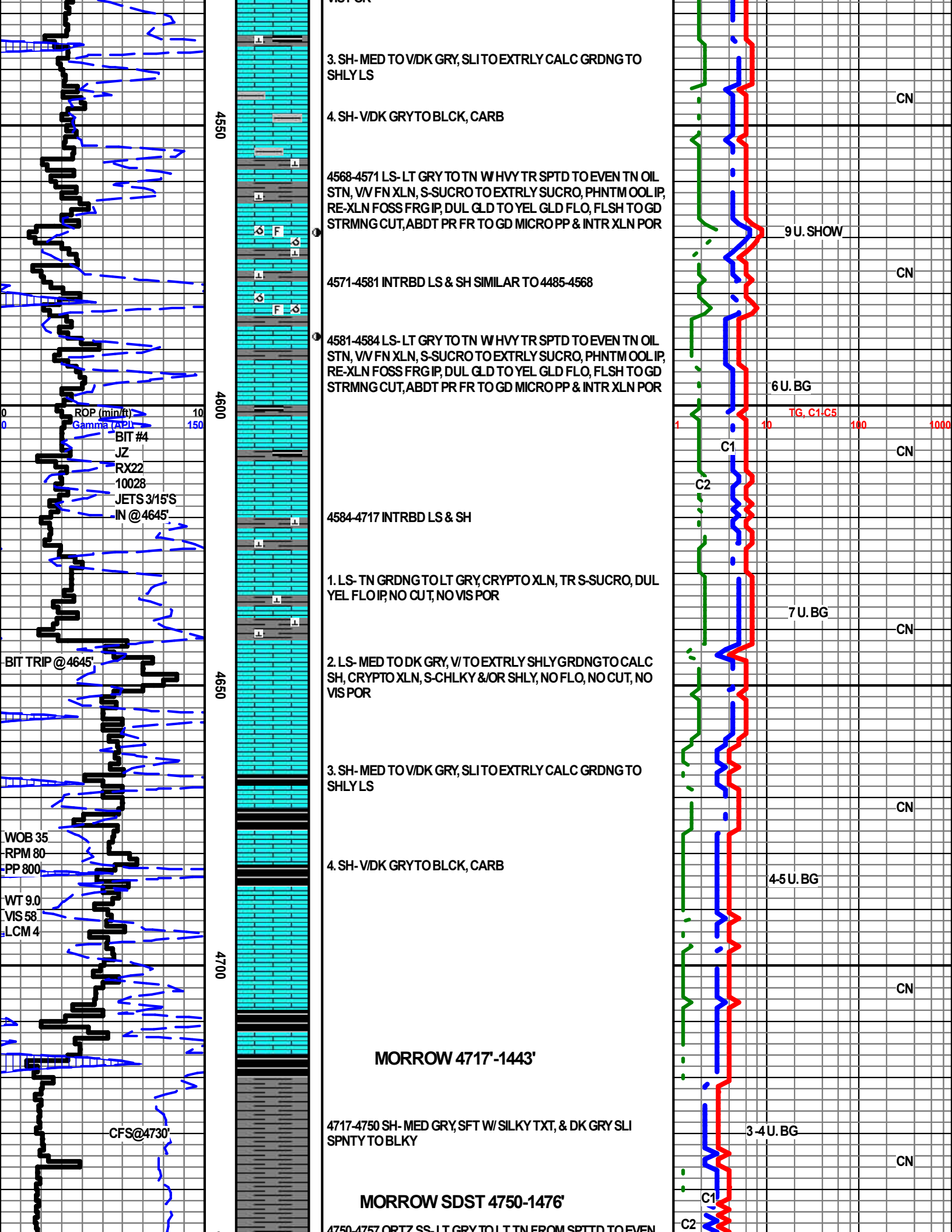


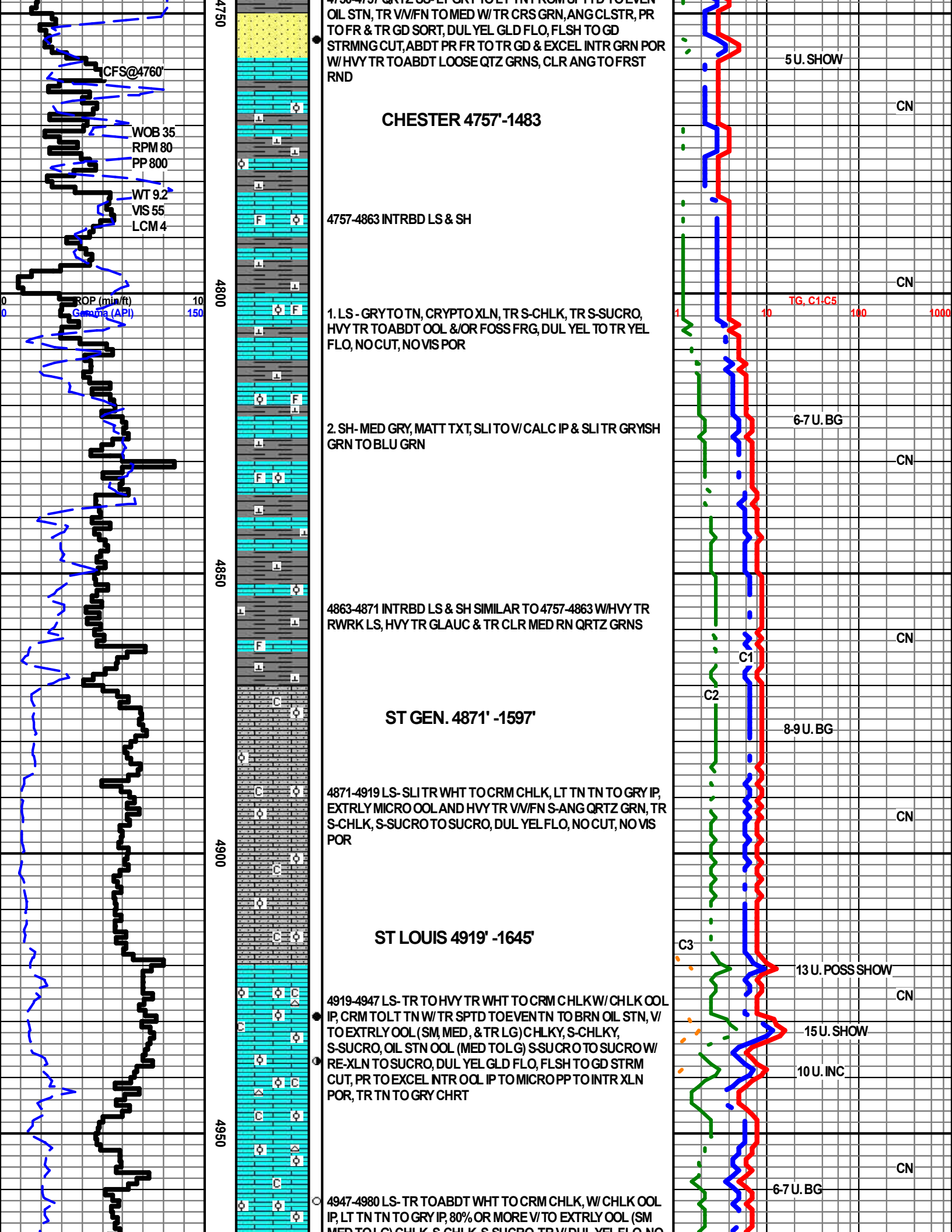

PP 700
WT 8.6
VIS 56
LCM 3
3650
2. SLOW DRLG LS- GRYISH TN TO TN, S-SUCRO, PCKSTN TO S-LITHO, DUL YEL FLO, NO CUT, NO VIS POR
C1
CN
3657-3738 INTRBD LS W/ TR CHRT
4 U. BG
1 LS- TR WHT TO CRM, CHLK LT GRY TO TN, TR S-CHLK, S-SUCRO TO SUCRO, DUL YEL TO YEL FLO, NO CUT, SCAT HVY TR PR TO FR & TR GD TO EXCL PP, MICRO PP & INTR XLN POR
CN
3700
2. LS- LT GRY TO TN, S-SUCRO, DUL YEL TO YEL FLO, NO CUT, NO VIS POR
3. TR MED GRY TO TN CHRT
CN
BASE HEEBNER 3741' -467'
4-5 U. BG
3738'-3741' SH- V/DK GRY TO BLK, CARB
3741-3750 LS- GRYISH TN TO TN, CRYPTO XLN, DUL YEL FLO, NO CUT, NO VIS POR
3750
3750-3760 SH- LT GRY TO LT GRN, SFT MSHY WHEN WET, SLTY IP
CN
3760-3790 INTRBD LS
1. FST DRLG LS- ABDT WHT TO CRM, CHLK CRM TO TN, TR S-CHLK, SUCRO TO SUCRO, TR PHNTM OOL, DUL YEL FLO, HVY TR PR TO FR TO TR GD MICRO PP & INTR XLN POR
2. SLW DRLG LS- GRYISH TN CRYPTO XLN, S-SUCRO, DUL YEL FLO IP, NO CUT, NO VIS POR
5 U. BG
C1
3790-3796 LS- LT GRY TO TN, SLI SH IP, CRYPTO XLN, V/ DUL YEL FLO, NO CUT, NO VIS POR
CN
LANSING 3796' -522'
0
ROP (min/ft)
10
0
Gamma (API)
150
TG, C1-C5
1
10
100
1000
WOB 32
RPM 80
PP 700
3800
3796-3818 LS- TR TO ABDT WHT TO CRM, CHLK CRM TO TN, SLI TO V/ OOLCST TO OOL, S-CHLK, S-SUCRO TO TR SUCRO, SLI TR W/ BRN SPTD TO EVEN BRN OIL STN GLD YEL FLO, FLSH TO EXCEL STRM CUTS W/ FR TO GD PP, MICRO PP & INTR XLN POR, TR GRY CHRT
CN
WT 8.9
VIS 55
LCM 2
3818-3840 LS- LT GRY, SLI SH TO TN, CRYPTO XLN TO S-SUCRO, DUL YEL FLO IP, NO CUT, NO VIS POR
3840-3841 SH- BLCK, CARB LOOKING
3841-3852 LS- LT GRY, SLI SH TO TN, CRYPTO XLN TO S-SUCRO, DUL YEL FLO IP, NO CUT, NO VIS POR
3850
CN
3852'-3889' INTRBD LS & HVY TR CHRT
1. FST DLRG LS- TR TO ABDT WHT TO CRM, CHLK LT TN TO TN, TR S-CHLK, S-SUCRO, TO SUCRO, SLI OOL IP, TR SPTD TO

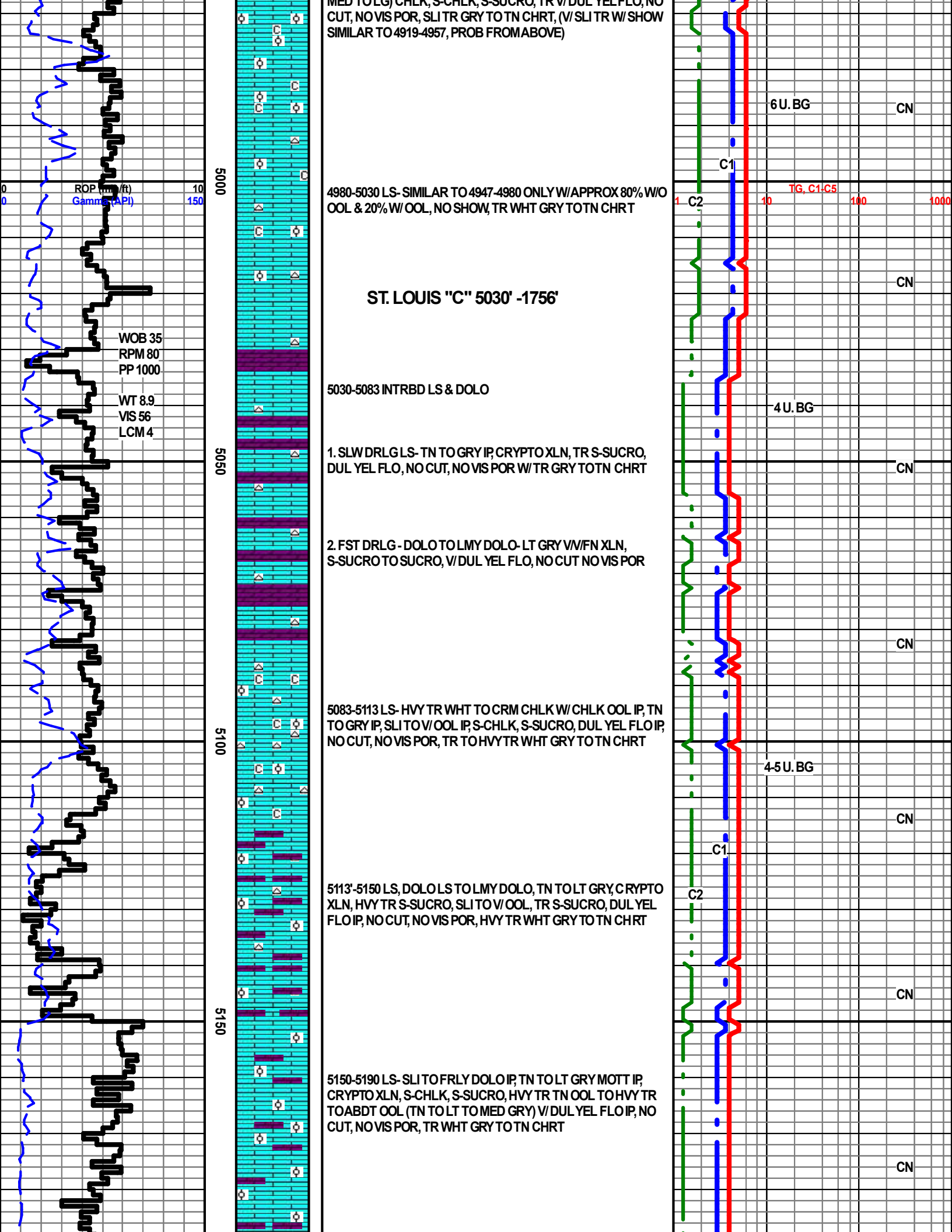

EVEN BRWN OIL STN, GLD YELF LO, FLSH TO EXCL STRM CUTS, PR TO GD MICRO PP TOINTR XLN POR
2. SLW DRLG LS- LT GRY TO TN, CRYPT XLN, TR S-SUCRO, DUL YEL FLO IP, NO CUTS, NO VIS POR
3. HV TR LT GRY TOTN CHRT
3900
3889-3949 INTRBD LS & SCAT THIN SH
1. LS- CRM TO TN, CRYPTO XLN, TR S-CHLK, S-SUCRO, DUL YEL FLO IP, NO CUT, NO VIS POR
2. LS- LT GRY TO TN, SLI SH IP, CRYPTOXLN, S-SUCRO, TR DUL YEL FLO, NO CUT, NO VIS POR
3. SCAT THIN SH- MED TO V/ DK GRY, SLI TO EXTRLY CALC
3950
3949-3961 LS-ABDT WHT TO CRM, CHLK W/ CHLK OOL IP, V/ TO EXTRLY OOL, S-CHLK S-SUCRO TO SUCRO, W/ TR SPTD TO EVEN BRN OIL STN, GLD YEL FLO, FLSH TO EXCEL STRM CUT, ABDT PR TO GD & TR EXCEL PP, MICRO PP & INTR XLN POR
3961-3966 LS- LT GRY TO TN , CRYPTO XLN, DUL YEL FLO, NO CUT, NO VIS POR
3966-3989 LS SIMILAR TO 3949-3961 W/ SLI TR SHOW & TR TN CHRT
3989-4000 LS- LT GRY TO TN , CRYPTO XLN, DUL YEL FLO, NO CUT, NO VIS POR
4000
ROP (min/ft)
Gamma (API)
4000-4008 LS- TR WHT TO CRM CHLK, TN W/ TR BRN SPTD TO EVEN W/ OIL STN, CRYPTO XLN, OOL TO OOLCST, GLD YEL FLO, OIL STN W/ GLD YEL FLO, FLSH TO EXCEL STRM CUT, OIL STN IN OOL MTRX, FR TO EXCEL PP, MICRO PP & INTR XLN POR
WOB 35
RPM 80
PP 800
WT 8.8
VIS 55
LCM 4
4008-4024 LS- LT GRY TO TN , CRYPTO XLN, S-SUCRO, DUL YELF LO IP, NO CUT, NO VIS POR
4024-4028' LS- SIMILAR TO 4000-4008
4028-4036 LS SIMILAR TO 4008-4024
4036-4049 LS- TR WHT TO CRM CHLK, LT GRYTO TN, SLI TO V/ OOL MTRX, S-SUCRO TO SUCRO, TR TOHVYTR SPTD TO EVEN BRN TO BLCK OIL STN, YEL GLD FLO, FLSH TO EXCEL STRM CUT,ABDT PR TO FR & TR GD PP, MICRO PP & INTR XLN POR
4050
4049-4059 LS- LT GRY TO TN , CRYPTO XLN, S-SUCRO, DUL YELF LO IP, NO CUT, NO VIS POR
4059-4070 LS TR TO ABDTWHT TO CRM CHLK, TN TO GRY IP, V/ TO EXTRLY OOLCST TO FRLY OOL IP MTRX, S-SUCRO, TO TR SUCRO, V/ SLI TR DK BRN TO BLCK SPTD TO EVEN OIL STN, DUL GLD TO YEL GLD FLO, FLSH TO GD STRM CUT, ABDT PR TO EXCEL OOL POR, TR PR TO EXCEL PP, MICRO PP TO INTR XLN POR
4070-4100 LS- SIMILAR TO 4059-4070 W/ LESS OIL STN
C1
C2
C3
6 U. BG
9 U. INC
6-7 U. BG
TG, C1-C5
13 U. INC
20 U. SHOW
6-8 U. BG
CN


4100
4150
4200
4250
4300
ROP (min/ft)
0
10
Gamma (AP
0
150
WOB 35
RPM 80
PP 800
WT 8.8
VIS 55
LCM 4
4100-4110 LS- LT GRY TO TN, CRYPTO XLN, S-SUCRO, DUL YEL FLO IP, NO CUT, NO VIS POR
KANSAS CITY 4113' -839'
4110-4116 SH MED TO V/ DK GRY, SLI TO EXTRLY CALC TO V/ DK GRY TO BLCK CARB
4116-4163 LS TR TO ABDT WHT TO CRM CHLK, TN TO GRY IP, V/ TO EXTRLY OOLCST TO F RLY OOL IP MTRX, S-SUCRO, TO TR SUCRO, V/ SLI TR DK BRN TO BLCK SPTD TO EVEN OIL STN, DUL GLD TO YEL GLD FLO, FLSH TO GD STRM CUT, ABDT PR TO EXCEL OOL POR, TR PR TO EXCEL PP, MICRO PP TO INTR XLN POR
4163-4183 LS- LT GRY TO TN , CRYPTO XLN, S-SUCRO, DUL YEL FLO IP, NO CUT, NO VIS POR
4183-4186 SH- V/DK GRY TO BLCK, CARB
4186-4236 INTRBD LS
1. FST DRLG LS- GR TO TN, SLI TO V/ OOL, TR WHT MED TO CRS CALC XLS, TR S-SUCRO, DUL YEL FLO IP, NO CUT, NO VIS POR
2. SLW DRLG LS- LT GRY TO TN, CRYPTO XLN, TR V/V/ DUL YEL FLO, NO CUT, NO VIS POR
4236-4248 LS- TN W/ TR SPTD TO EVEN BRN OIL STN, EXTRLY OOLCST TO SLI OOL, S-SUCRO, TO SURCO, OIL STN W/ GLD YEL FLO, FLSH TO EXCEL STRM CUT, ABDT PR TO EXCEL OOLCST POR, PR TO FR & SLI TR GD MICRO PP TO INTR XLN POR, SLI TR CRM TO LT GRY CHRT
4248-4276 LS- TR TO ABDT WHT TO CRM CHLK, LT GRY TO TN, CRYPTO TO V/V/FN XLN, INTRBD OR GRADING W/ SLI TO EXTRLY OOLCST TO V/ OOL, S-SUCRO TO SUCRO, DUL YEL FLO IP, NO CUT, HVY TR TO ABDT PR TO EXCEL OOLCST POR, QUEST PERM
4276-4284 LS- LT GRY TO TN IP, CRYPT XLN, SHLY LOOKING IP, TR S-SUCRO, DUL YEL FLO IP, NO CUT, NO VIS POR
BKC 4284' -1010'
4284-4316 SH- LT MED TO DK GRY, SLI TO EXTRLY CALC IP GRDNG TO SHLY LS INTRBD W/ LT TO MED GRY SLTSTN
C2
6 U. BG
CN
C1
6-7 U. BG
TG, C1-C5
1
10
100
1000
8 U. INC
5 U. BG

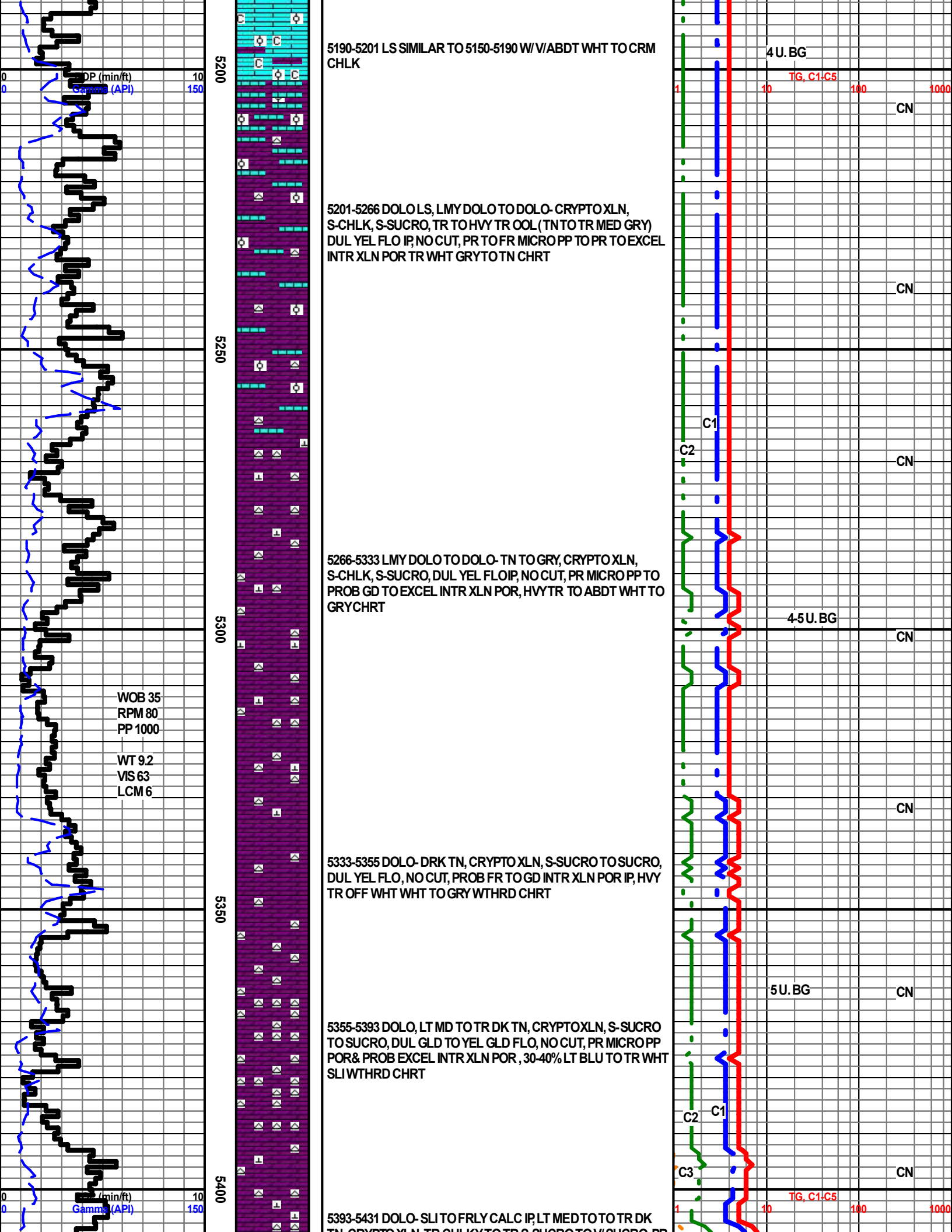

WOB 35
RPM 80
PP 800
WT 9.0
VIS 53
LCM 6
ROP (min/ft)
Gamma (API)
0
150
10
4350
4400
4450
4500
MARMATON 4316' 1042'
4316-4340 LS- TN TO GRY IP, CRYPTO XLN, TR S-SUCRO IP, TR SLI TO EXTRLY OOL, DUL YEL TO GLD YEL FLO, NO CUT, NO VIS POR
4340-4344 LS- TN W/ SLI BRN OIL STN, V/ TO EXTRLY OOL TO FRLY OOLCST, S-SUCRO TO SUCRO, W/ STN DUL YEL FLO, FLSH TO GD STRM CUT, ABDT TO FR & SLI GD OOLCST POR, SLI TR PR MICRO PP TO INTR XLN POR, QUEST PERM
4344-4395 INTRBD LS & SH
1. LS- LT TO MED GRY, SLI TO EXTRLY SHLY, CRYPTO XLN, NO FLO, NO CUT, NO VIS POR
2. LS- LT GRY TO TN, CRYPT XLN, TR S-SUCRO, V/ DUL YEL FLO IP, NO CUT, NO VIS POR
3. SH- MED TO DK GRY, SLI TO V/ CALC W/ TR DK GRY TO BLCK, CARB LOOKING
4395-4399 SH- V/DK GRY TO BLCK, CARB
PAWNEE 4399' -1125'
4399-4404 LS- LT GRY TO TN, CRYPTO XLN, OOL IP, DUL YEL FLO IP, NO CUT, NO VIS POR
4404-4419 LS- TR CRM CHLK, CRM TO LT TN W/ ABDT SLI DRK TN SPTD TO EVEN OIL STN, CRYPTO XLN, S-CHLK, S-SUCRO TO HVY TR SUCRO, GLD YEL FLO, FLSH TO GD STRM CUT, HVY TR W/ PR TO FR & TR GD MICRO PP TO INTR XLN POR, SLI TR LT TO MED GRY CHRT
4419-4432 LS- LT GRY TO TN, CRYP TO XLN, OOL IP, DUL YEL FLO IP, NO CUT, NO VIS POR, SLI TR LT TO MED GRY CHRT
FT SCOTT 4434' -1160'
4434-4447 LS- LT GRY TO TN, CRYP TO XLN, TR S-SUCRO, DUL YEL FLO, NO CUT, NO VIS POR W/ HVY TR BRN FROM OIL STN EXTRLY OOLITIC, S-SUCRO TO SUCRO, DUL YEL GLD FLO, FLSH TO EXCEL STRM CUT, ABDT PR TO EXCE INTR OOL, PP, MICRO PP & INTR XLN POR
CHEROKEE 4447' -1173'
4447-4451 SH- V/DK GRY TO BLCK, CARB
4451-4482 INTRBD &/OR GRDNG LS
1. LS- MED TO DK GRY, V/ TO EXTRLY SHLY GRDNG TO CALC SH, CRYPTO XLN, S-CHLKY, NO CLO, NO CUT, NO VIS POR
2. LS- LT GRY TO TN, CRYPTO XLN, TR S-CHLK, TR S-SUCRO, HVY TR SLI V/ OOL, DUL YEL FLO IP, NO CUT, NO VIS POR
4482-4485 SH- V/DK GRY TO BLCK, CARB
4485-4568 INTRBD LS & SH
1. LS- TN GRDNG TO LT GRY, CRYPTO XLN, TR S-SUCRO, DUL YEL FLO IP, NO CUT, NO VIS POR
2. LS- MED TO DK GRY, V/ TO EXTRLY SHLY GRDNG TO CALC SH, CRYPTO XLN, S-CHLKY &/OR SHLY, NO FLO, NO CUT, NO VIS POR
WOB 35
RPM 80
PP 800
WT 8.8
VIS 55
LCM 4
CN
7 U. BG
8 U. BG
C1
C2
C3
12 U. SH
TG, C1-C5
1
10
100
1000
12 U. SHOW
8-9 U. BG
11. U
6 U. BG
9 U. INC
6-7 U. BG

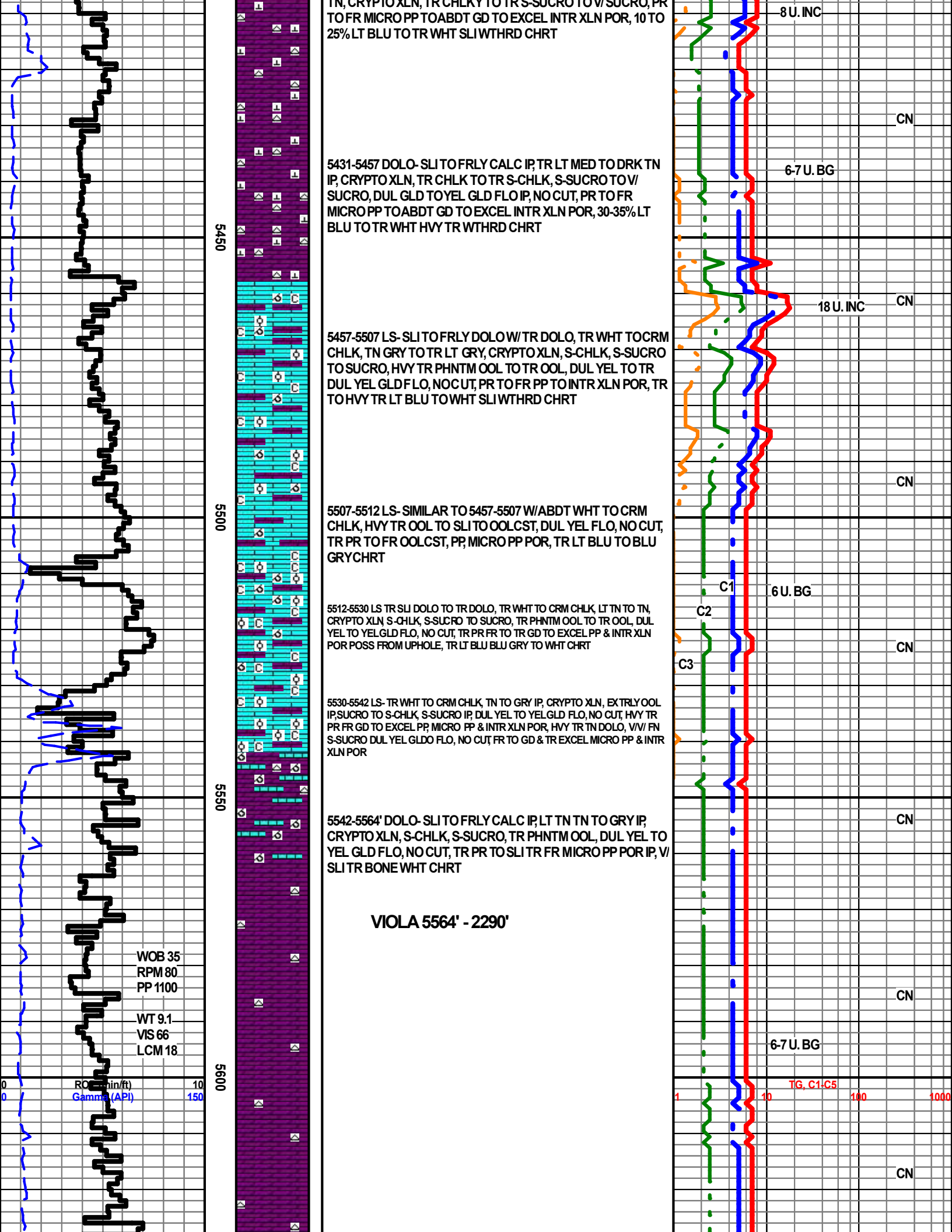

3. SH- MED TO V/DK GRY, SLI TO EXTRLY CALC GRDNG TO SHLY LS
4. SH- V/DK GRY TO BLCK, CARB
4568-4571 LS- LT GRY TO TN W/ HVY TR SPTD TO EVEN TN OIL STN, V/V FN XLN, S-SUCRO TO EXTRLY SUCRO, PHNTM OOL IP, RE-XLN FOSS FRG IP, DUL GLD TO YEL GLD FLO, FLSH TO GD STRMNG CUT, ABDT PR FR TO GD MICRO PP & INTR XLN POR
4571-4581 INTRBD LS & SH SIMILAR TO 4485-4568
4581-4584 LS- LT GRY TO TN W/ HVY TR SPTD TO EVEN TN OIL STN, V/V FN XLN, S-SUCRO TO EXTRLY SUCRO, PHNTM OOL IP, RE-XLN FOSS FRG IP, DUL GLD TO YEL GLD FLO, FLSH TO GD STRMNG CUT, ABDT PR FR TO GD MICRO PP & INTR XLN POR
4584-4717 INTRBD LS & SH
1. LS- TN GRDNG TO LT GRY, CRYPTO XLN, TR S-SUCRO, DUL YEL FLO IP, NO CUT, NO VIS POR
2. LS- MED TO DK GRY, V/ TO EXTRLY SHLY GRDNG TO CALC SH, CRYPTO XLN, S-CHLKY &/OR SHLY, NO FLO, NO CUT, NO VIS POR
3. SH- MED TO V/DK GRY, SLI TO EXTRLY CALC GRDNG TO SHLY LS
4. SH- V/DK GRY TO BLCK, CARB
MORROW 4717'-1443'
4717-4750 SH- MED GRY, SFT W/ SILKY TXT, & DK GRY SLI SPNTY TO BLKY
MORROW SDST 4750-1476'
4750-4757 QRTZ SS- LT GRY TO LT TN FROM SPTTD TO EVEN
4550
4600
4650
4700
ROP (min/ft)
Gamma (API)
0
10
0
150
BIT #4
JZ
RX22
10028
JETS 3/15'S
IN @4645'
BIT TRIP @4645'
WOB 35
RPM 80
PP 800
WT 9.0
VIS 58
LCM 4
CFS@4730'
9 U. SHOW
6 U. BG
7 U. BG
4-5 U. BG
3 -4 U. BG
TG, C1-C5
1
10
100
1000
C1
C2
CN

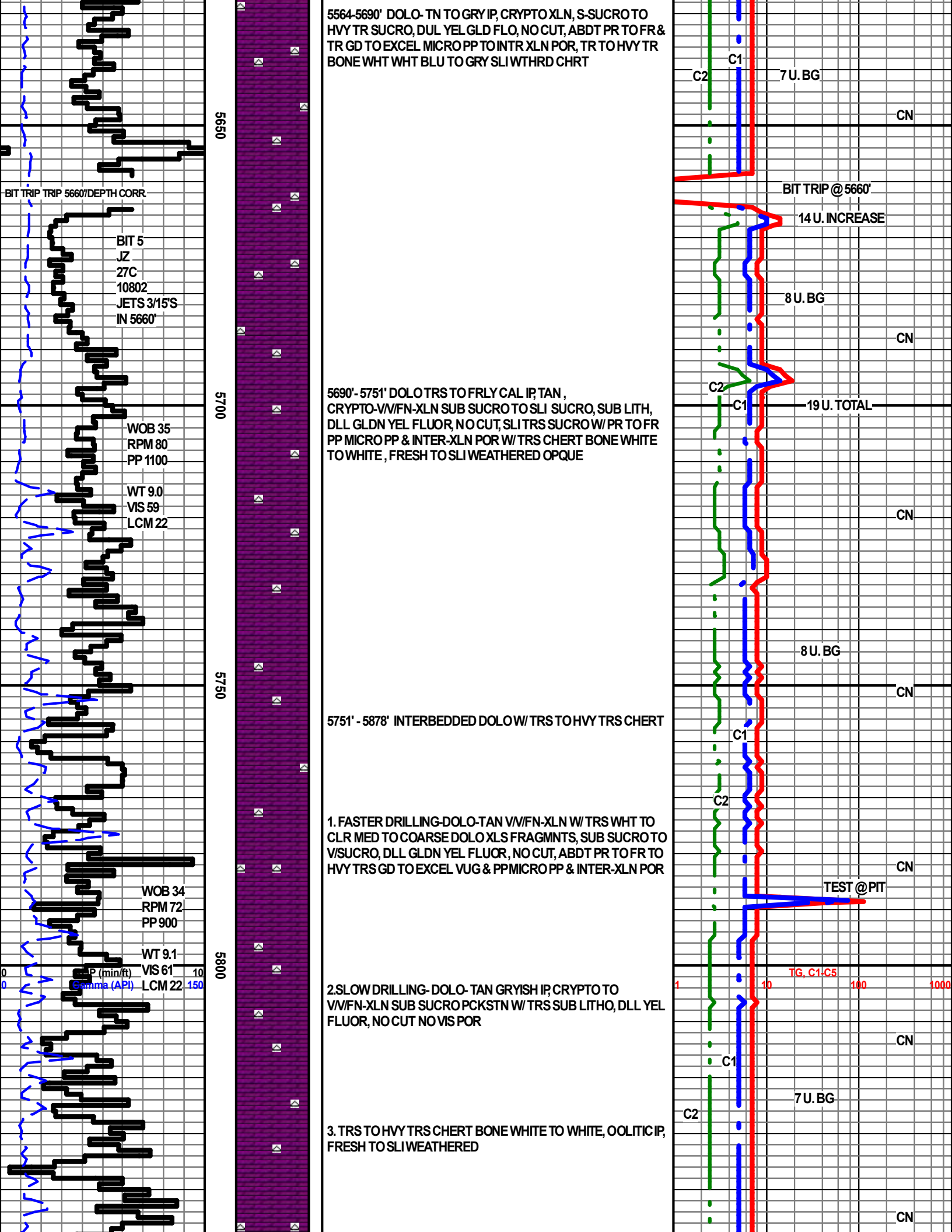

CFS@4760'
WOB 35
RPM 80
PP 800
WT 9.2
VIS 55
LCM 4
0
ROP (min/ft)
10
0
Gamma (API)
150
4750
4800
4850
4900
4950
OIL STN, TR V/V/FN TO MED W/ TR CRS GRN, ANG CLSTR, PR TO FR & TR GD SORT, DUL YEL GLD FLO, FLSH TO GD STRMNG CUT, ABDT PR FR TO TR GD & EXCEL INTR GRN POR W/ HVY TR TO ABDT LOOSE QTZ GRNS, CLR ANG TO FRST RND
5 U. SHOW
CN
CHESTER 4757' -1483
4757-4863 INTRBD LS & SH
CN
1. LS - GRY TO TN, CRYPTO XLN, TR S-CHLK, TR S-SUCRO, HVY TR TO ABDT OOL &/OR FOSS FRG, DUL YEL TO TR YEL FLO, NO CUT, NO VIS POR
TG, C1-C5
1
10
100
1000
2. SH- MED GRY, MATT TXT, SLI TO V/ CALC IP & SLI TR GRYISH GRN TO BLU GRN
6-7 U. BG
CN
4863-4871 INTRBD LS & SH SIMILAR TO 4757-4863 W/HVY TR RWRK LS, HVY TR GLAUC & TR CLR MED RN QRTZ GRNS
CN
C1
C2
ST GEN. 4871' -1597'
8-9 U. BG
4871-4919 LS- SLI TR WHT TO CRM CHLK, LT TN TN TO GRY IP, EXTRLY MICRO OOL AND HVY TR V/V/FN S-ANG QRTZ GRN, TR S-CHLK, S-SUCRO TO SUCRO, DUL YEL FLO, NO CUT, NO VIS POR
CN
C3
ST LOUIS 4919' -1645'
13 U. POSS SHOW
CN
4919-4947 LS- TR TO HVY TR WHT TO CRM CHLK W/ CHLK OOL IP, CRM TO LT TN W/ TR SPTD TO EVEN TN TO BRN OIL STN, V/ TO EXTRLY OOL (SM, MED, & TR LG) CHLKY, S-CHLKY, S-SUCRO, OIL STN OOL (MED TO LG) S-SUCRO TO SUCRO W/ RE-XLN TO SUCRO, DUL YEL GLD FLO, FLSH TO GD STRM CUT, PR TO EXCEL INTR OOL IP TO MICRO PP TO INTR XLN POR, TR TN TO GRY CHRT
15 U. SHOW
10 U. INC
CN
6-7 U. BG
4947-4980 LS- TR TO ABDT WHT TO CRM CHLK, W/ CHLK OOL IP, LT TN TN TO GRY IP, 80% OR MORE V/ TO EXTRLY OOL (SM

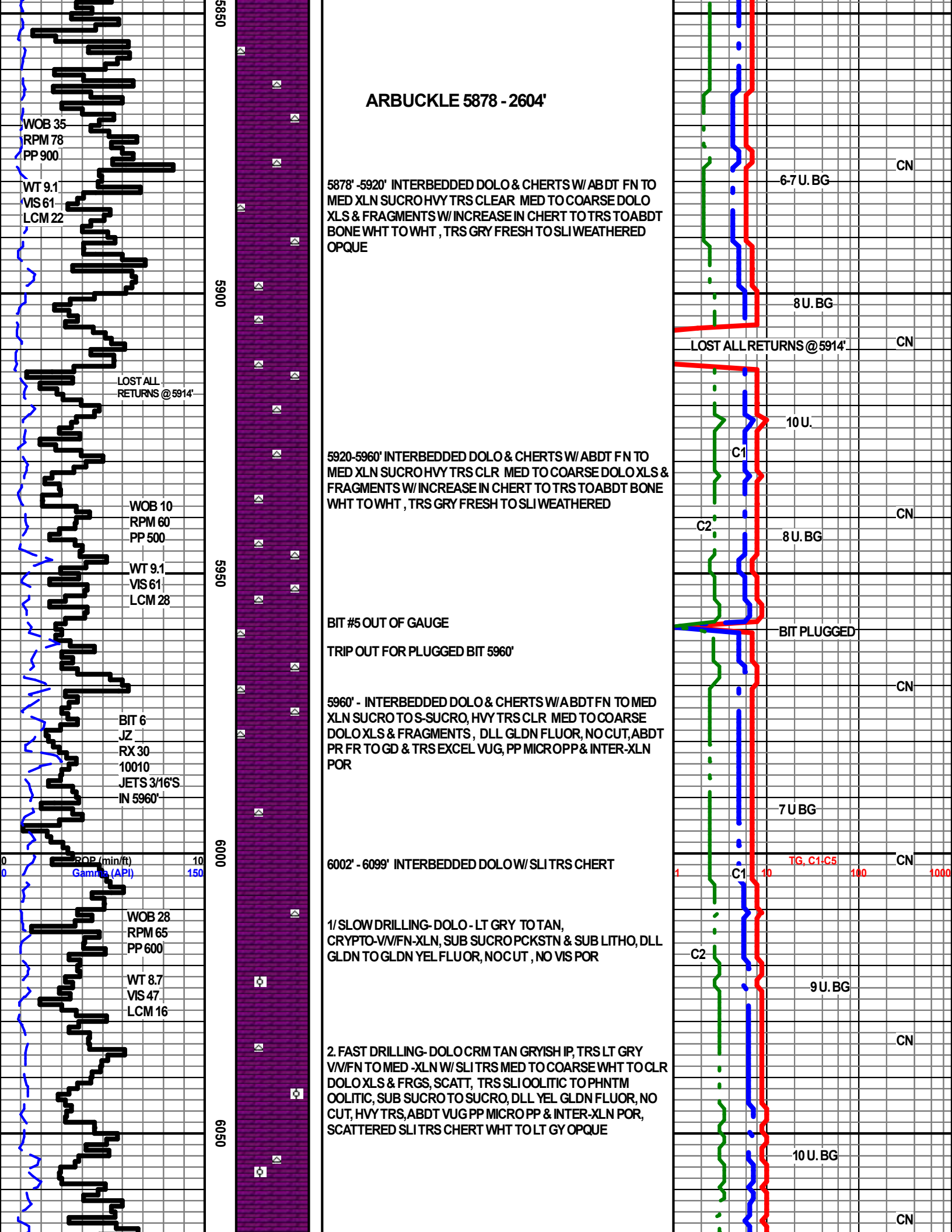


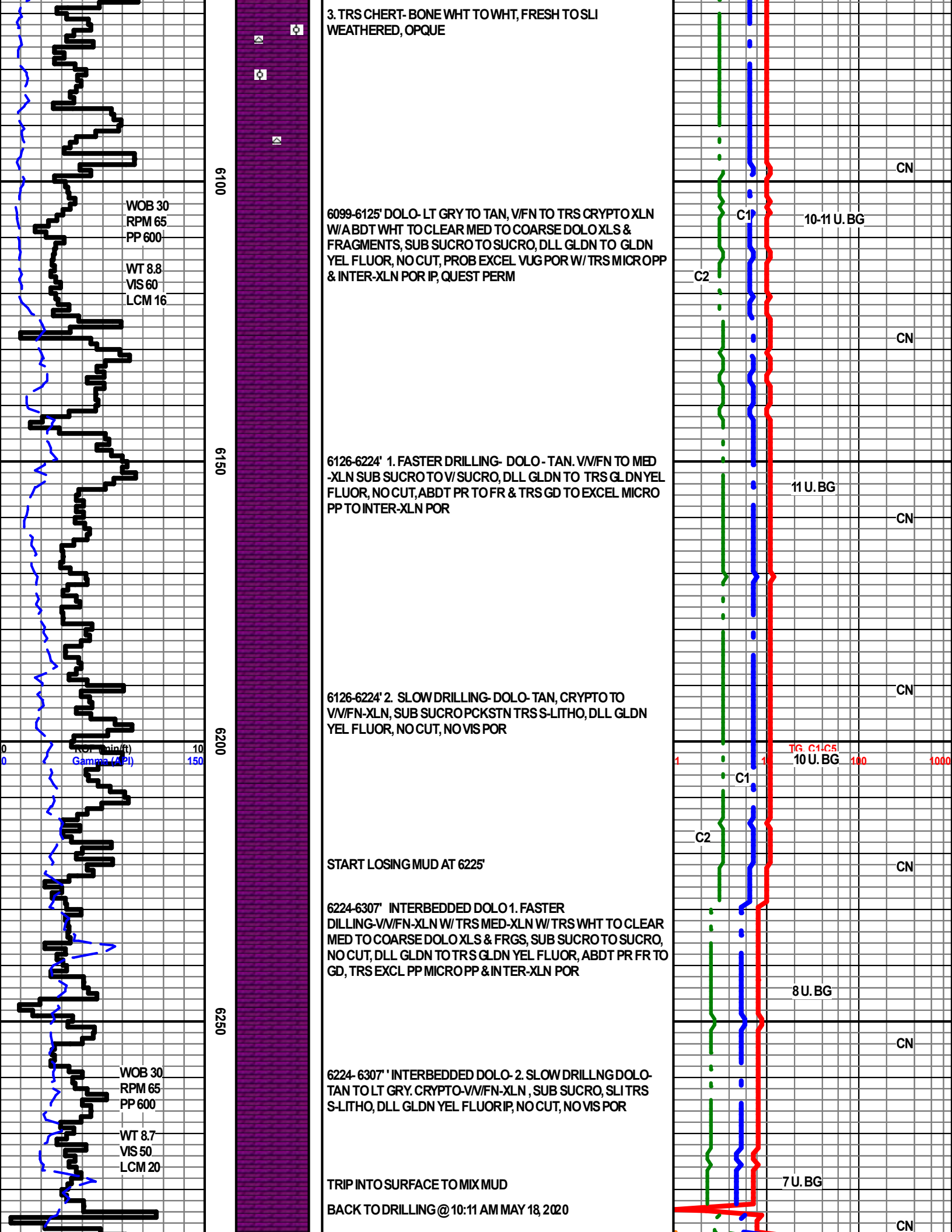
MED TO LG) CHLK, S-CHLK, S-SUCRO, TR V/ DUL YEL FLO, NO CUT, NO VIS POR, SLI TR GRY TO TN CHRT, (V/ SLI TR W/ SHOW SIMILAR TO 4919-4957, PROB FROM ABOVE)
6 U. BG
CN
C1
ROP (min/ft)
Gamma (API)
TG, C1-C5
C2
4980-5030 LS- SIMILAR TO 4947-4980 ONLY W/ APPROX 80% W/O OOL & 20% W/ OOL, NO SHOW, TR WHT GRY TO TN CHRT
ST. LOUIS "C" 5030' -1756'
WOB 35
RPM 80
PP 1000
WT 8.9
VIS 56
LCM 4
5030-5083 INTRBD LS & DOLO
4 U. BG
1. SLW DRLG LS- TN TO GRY IP, CRYPTO XLN, TR S-SUCRO, DUL YEL FLO, NO CUT, NO VIS POR W/ TR GRY TO TN CHRT
2. FST DRLG - DOLO TO LMY DOLO- LT GRY V/V/FN XLN, S-SUCRO TO SUCRO, V/ DUL YEL FLO, NO CUT NO VIS POR
5083-5113 LS- HVY TR WHT TO CRM CHLK W/ CHLK OOL IP, TN TO GRY IP, SLI TO V/ OOL IP, S-CHLK, S-SUCRO, DUL YEL FLO IP, NO CUT, NO VIS POR, TR TO HVY TR WHT GRY TO TN CHRT
4-5 U. BG
5113'-5150 LS, DOLO LS TO LMY DOLO, TN TO LT GRY, CRYPTO XLN, HVY TR S-SUCRO, SLI TO V/ OOL, TR S-SUCRO, DUL YEL FLO IP, NO CUT, NO VIS POR, HVY TR WHT GRY TO TN CHRT
5150-5190 LS- SLI TO FRLY DOLO IP, TN TO LT GRY MOTT IP, CRYPTO XLN, S-CHLK, S-SUCRO, HVY TR TN OOL TO HVY TR TO ABDT OOL (TN TO LT TO MED GRY) V/ DUL YEL FLO IP, NO CUT, NO VIS POR, TR WHT GRY TO TN CHRT
5000
5050
5100
5150

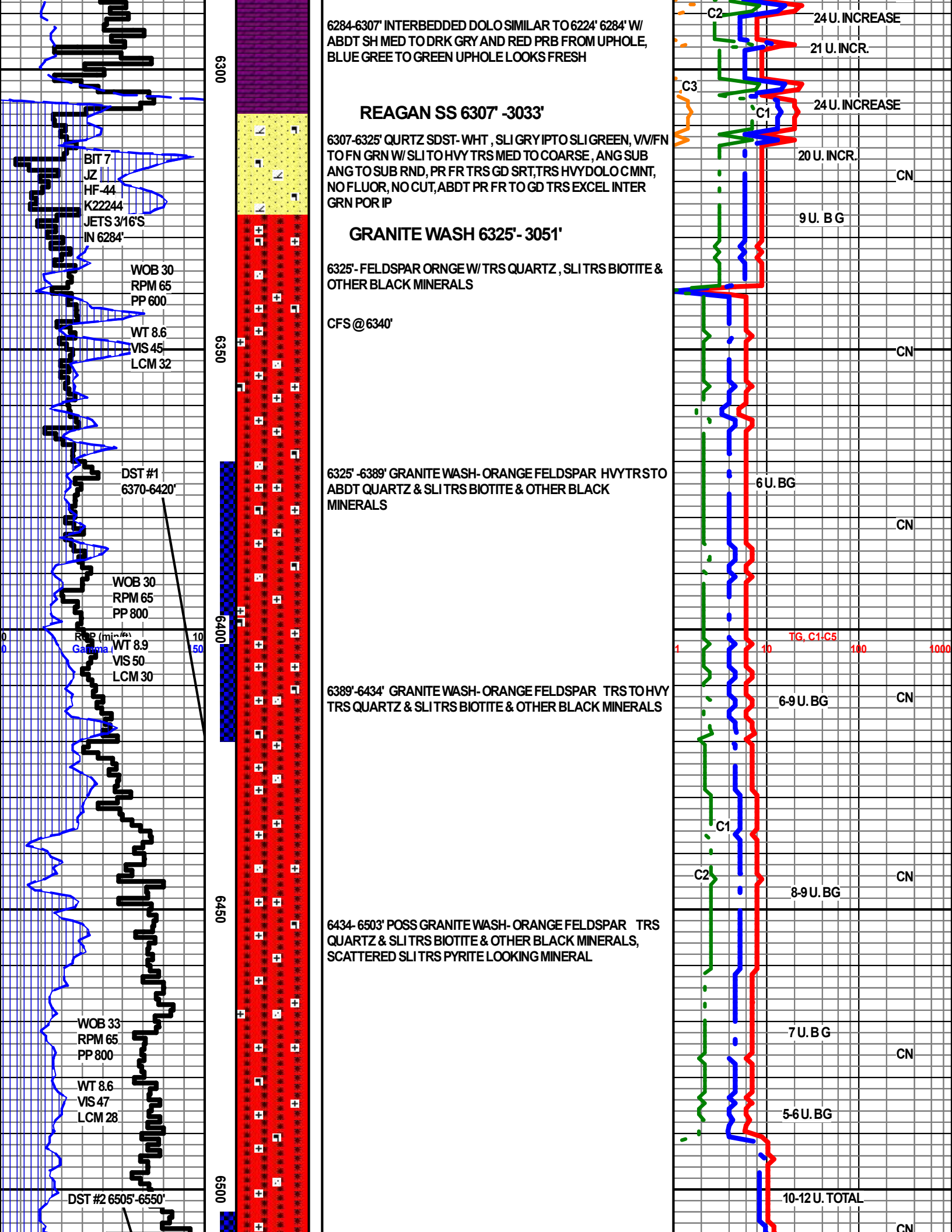

ROP (min/ft)
0
10
Gamma (API)
0
150
5200
5250
5300
5350
5400
5190-5201 LS SIMILAR TO 5150-5190 W/ V/ABDT WHT TO CRM CHLK
5201-5266 DOLO LS, LMY DOLO TO DOLO- CRYPTO XLN, S-CHLK, S-SUCRO, TR TO HVY TR OOL (TN TO TR MED GRY) DUL YEL FLO IP, NO CUT, PR TO FR MICRO PP TO PR TO EXCEL INTR XLN POR TR WHT GRY TO TN CHRT
5266-5333 LMY DOLO TO DOLO- TN TO GRY, CRYPTO XLN, S-CHLK, S-SUCRO, DUL YEL FLO IP, NO CUT, PR MICRO PP TO PROB GD TO EXCEL INTR XLN POR, HVY TR TO ABDT WHT TO GRY CHRT
5333-5355 DOLO- DRK TN, CRYPTO XLN, S-SUCRO TO SUCRO, DUL YEL FLO, NO CUT, PROB FR TO GD INTR XLN POR IP, HVY TR OFF WHT WHT TO GRY WTHRD CHRT
5355-5393 DOLO, LT MD TO TR DK TN, CRYPTO XLN, S-SUCRO TO SUCRO, DUL GLD TO YEL GLD FLO, NO CUT, PR MICRO PP POR& PROB EXCEL INTR XLN POR , 30-40% LT BLU TO TR WHT SLI WTHRD CHRT
5393-5431 DOLO- SLI TO FRLY CALC IP, LT MED TO TO TR DK
WOB 35
RPM 80
PP 1000
WT 9.2
VIS 63
LCM 6
4 U. BG
4-5 U. BG
5 U. BG
TG, C1-C5
1
10
100
1000
C1
C2
C3
CN

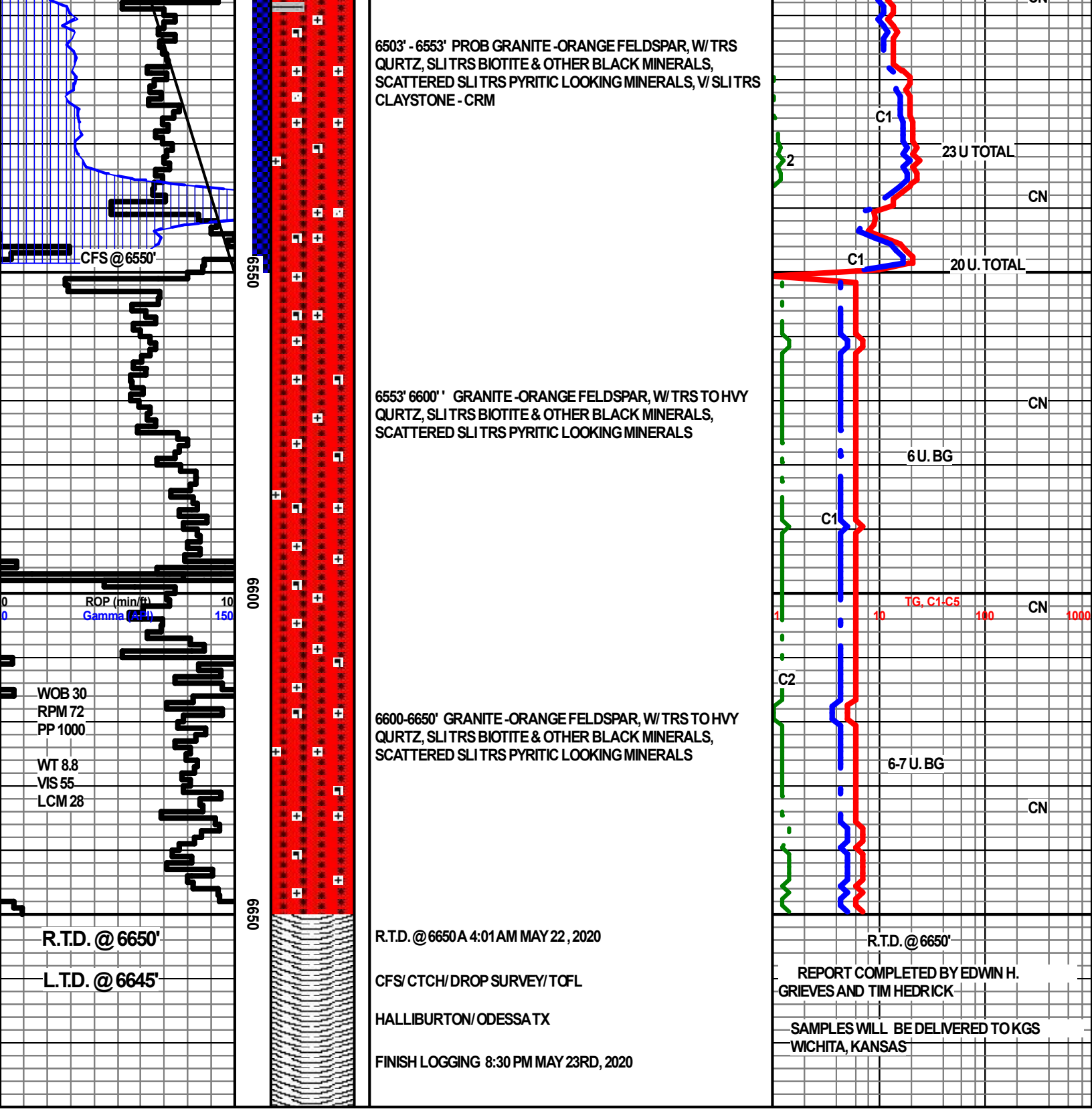

TN, CRYPTO XLN, TR CHLKY TO TR S-SUCRO TO V/ SUCRO, PR TO FR MICRO PP TO ABDT GD TO EXCEL INTR XLN POR, 10 TO 25% LT BLU TO TR WHT SLI WTHRD CHRT
8 U. INC
CN
5431-5457 DOLO- SLI TO FRLY CALC IP, TR LT MED TO DRK TN IP, CRYPTO XLN, TR CHLK TO TR S-CHLK, S-SUCRO TO V/ SUCRO, DUL GLD TO YEL GLD FLO IP, NO CUT, PR TO FR MICRO PP TO ABDT GD TO EXCEL INTR XLN POR, 30-35% LT BLU TO TR WHT HVY TR WTHRD CHRT
6-7 U. BG
5450
18 U. INC
CN
5457-5507 LS- SLI TO FRLY DOLO W/ TR DOLO, TR WHT TO CRM CHLK, TN GRY TO TR LT GRY, CRYPTO XLN, S-CHLK, S-SUCRO TO SUCRO, HVY TR PHNTM OOL TO TR OOL, DUL YEL TO TR DUL YEL GLD F LO, NO CUT, PR TO FR PP TO INTR XLN POR, TR TO HVY TR LT BLU TO WHT SLI WTHRD CHRT
CN
5507-5512 LS- SIMILAR TO 5457-5507 W/ ABDT WHT TO CRM CHLK, HVY TR OOL TO SLI TO OOLCST, DUL YEL FLO, NO CUT, TR PR TO FR OOLCST, PP, MICRO PP POR, TR LT BLU TO BLU GRY CHRT
C1
6 U. BG
C2
5512-5530 LS TR SLI DOLO TO TR DOLO, TR WHT TO CRM CHLK, LT TN TO TN, CRYPTO XLN, S-CHLK, S-SUCRO TO SUCRO, TR PHNTM OOL TO TR OOL, DUL YEL TO YEL GLD FLO, NO CUT, TR PR FR TO TR GD TO EXCEL PP & INTR XLN POR POSS FROM UPHOLE, TR LT BLU BLU GRY TO WHT CHRT
CN
C3
5530-5542 LS- TR WHT TO CRM CHLK, TN TO GRY IP, CRYPTO XLN, EXTRLY OOL IP, SUCRO TO S-CHLK, S-SUCRO IP, DUL YEL TO YEL GLD FLO, NO CUT, HVY TR PR FR GD TO EXCEL PP, MICRO PP & INTR XLN POR, HVY TR TN DOLO, V/V/ FN S-SUCRO DUL YEL GLDO FLO, NO CUT, FR TO GD & TR EXCEL MICRO PP & INTR XLN POR
5500
5542-5564' DOLO- SLI TO FRLY CALC IP, LT TN TN TO GRY IP, CRYPTO XLN, S-CHLK, S-SUCRO, TR PHNTM OOL, DUL YEL TO YEL GLD FLO, NO CUT, TR PR TO SLI TR FR MICRO PP POR IP, V/ SLI TR BONE WHT CHRT
CN
VIOLA 5564' - 2290'
5550
WOB 35
RPM 80
PP 1100
WT 9.1
VIS 66
LCM 18
CN
6-7 U. BG
5600
0
ROP (min/ft)
10
0
Gamma (API)
150
TG, C1-C5
1
10
100
1000
CN


5564-5690' DOLO- TN TO GRY IP, CRYPTO XLN, S-SUCRO TO HVY TR SUCRO, DUL YEL GLD FLO, NO CUT, ABDT PR TO FR & TR GD TO EXCEL MICRO PP TO INTR XLN POR, TR TO HVY TR BONE WHT WHT BLU TO GRY SLI WTHRD CHRT
C1
C2
7 U. BG
CN
5650
BIT TRIP TRIP 5660'/DEPTH CORR.
BIT TRIP @ 5660'
14 U. INCREASE
BIT 5
JZ
27C
10802
JETS 3/15'S
IN 5660'
8 U. BG
CN
5690' - 5751' DOLO TRS TO FRLY CAL IP, TAN , CRYPTO-V/V/FN-XLN SUB SUCRO TO SLI SUCRO, SUB LITH, DLL GLDN YEL FLUOR, NO CUT, SLI TRS SUCRO W/ PR TO FR PP MICRO PP & INTER-XLN POR W/ TRS CHERT BONE WHITE TO WHITE , FRESH TO SLI WEATHERED OPQUE
C2
C1
19 U. TOTAL
5700
WOB 35
RPM 80
PP 1100
WT 9.0
VIS 59
LCM 22
CN
8 U. BG
CN
5751' - 5878' INTERBEDDED DOLO W/ TRS TO HVY TRS CHERT
C1
C2
1. FASTER DRILLING-DOLO-TAN V/V/FN-XLN W/ TRS WHT TO CLR MED TO COARSE DOLO XLS FRAGMNTS, SUB SUCRO TO V/SUCRO, DLL GLDN YEL FLUOR, NO CUT, ABDT PR TO FR TO HVY TRS GD TO EXCEL VUG & PP MICRO PP & INTER-XLN POR
CN
TEST @ PIT
5750
WOB 34
RPM 72
PP 900
WT 9.1
VIS 61
LCM 22
0
ROP (min/ft)
10
0
Gamma (API)
150
TG, C1-C5
1
10
100
1000
2. SLOW DRILLING- DOLO- TAN GRYISH IP, CRYPTO TO V/V/FN-XLN SUB SUCRO PCKSTN W/ TRS SUB LITHO, DLL YEL FLUOR, NO CUT NO VIS POR
CN
C1
7 U. BG
C2
5800
3. TRS TO HVY TRS CHERT BONE WHITE TO WHITE, OOLITIC IP, FRESH TO SLI WEATHERED
CN


ARBUCKLE 5878 - 2604'
5850
5900
5950
6000
6050
WOB 35
RPM 78
PP 900
WT 9.1
VIS 61
LCM 22
5878' -5920' INTERBEDDED DOLO & CHERTS W/ ABDT FN TO MED XLN SUCRO HVY TRS CLEAR MED TO COARSE DOLO XLS & FRAGMENTS W/ INCREASE IN CHERT TO TRS TO ABDT BONE WHT TO WHT , TRS GRY FRESH TO SLI WEATHERED OPQUE
6-7 U. BG
CN
8 U. BG
LOST ALL RETURNS @5914'
CN
LOST ALL RETURNS @5914'
10 U.
C1
5920-5960' INTERBEDDED DOLO & CHERTS W/ ABDT F N TO MED XLN SUCRO HVY TRS CLR MED TO COARSE DOLO XLS & FRAGMENTS W/ INCREASE IN CHERT TO TRS TO ABDT BONE WHT TO WHT , TRS GRY FRESH TO SLI WEATHERED
WOB 10
RPM 60
PP 500
WT 9.1
VIS 61
LCM 28
CN
C2
8 U. BG
BIT #5 OUT OF GAUGE
TRIP OUT FOR PLUGGED BIT 5960'
BIT PLUGGED
CN
5960' - INTERBEDDED DOLO & CHERTS W/ A BDT FN TO MED XLN SUCRO TO S-SUCRO, HVY TRS CLR MED TO COARSE DOLO XLS & FRAGMENTS , DLL GLDN FLUOR, NO CUT, ABDT PR FR TO GD & TRS EXCEL VUG, PP MICRO PP & INTER-XLN POR
BIT 6
JZ
RX 30
10010
JETS 3/16'S
IN 5960'
7 U BG
0
ROP (min/ft)
10
0
Gamma (API)
150
6002' - 6099' INTERBEDDED DOLO W/ SLI TRS CHERT
TG, C1-C5
CN
1
C1
10
100
1000
WOB 28
RPM 65
PP 600
WT 8.7
VIS 47
LCM 16
1/ SLOW DRILLING- DOLO - LT GRY TO TAN, CRYPTO-V/V/FN-XLN, SUB SUCRO PCKSTN & SUB LITHO, DLL GLDN TO GLDN YEL FLUOR, NO CUT , NO VIS POR
C2
9 U. BG
CN
2. FAST DRILLING- DOLO CRM TAN GRYISH IP, TRS LT GRY V/V/FN TO MED -XLN W/ SLI TRS MED TO COARSE WHT TO CLR DOLO XLS & FRGS, SCATT, TRS SLI OOLITIC TO PHNTM OOLITIC, SUB SUCRO TO SUCRO, DLL YEL GLDN FLUOR, NO CUT, HVY TRS, ABDT VUG PP MICRO PP & INTER-XLN POR, SCATTERED SLI TRS CHERT WHT TO LT GY OPQUE
10 U. BG
CN


3. TRS CHERT- BONE WHT TO WHT, FRESH TO SLI WEATHERED, OPQUE
6100
WOB 30
RPM 65
PP 600
WT 8.8
VIS 60
LCM 16
6099-6125' DOLO- LT GRY TO TAN, V/FN TO TRS CRYPTO XLN W/A BDT WHT TO CLEAR MED TO COARSE DOLO XLS & FRAGMENTS, SUB SUCRO TO SUCRO, DLL GLDN TO GLDN YEL FLUOR, NO CUT, PROB EXCEL VUG POR W/ TRS MICR OPP & INTER-XLN POR IP, QUEST PERM
C1
10-11 U. BG
C2
CN
6150
6126-6224' 1. FASTER DRILLING- DOLO - TAN. V/V/FN TO MED -XLN SUB SUCRO TO V/ SUCRO, DLL GLDN TO TRS GL DN YEL FLUOR, NO CUT, ABDT PR TO FR & TRS GD TO EXCEL MICRO PP TO INTER-XLN POR
11 U. BG
CN
6126-6224' 2. SLOW DRILLING- DOLO- TAN, CRYPTO TO V/V/FN-XLN, SUB SUCRO PCKSTN TRS S-LITHO, DLL GLDN YEL FLUOR, NO CUT, NO VIS POR
CN
6200
0
ROP min/ft
10
0
Gamma (API)
150
TG. C1-C5
1
1
10 U. BG
100
1000
C1
C2
START LOSING MUD AT 6225'
CN
6224-6307' INTERBEDDED DOLO 1. FASTER DILLING-V/V/FN-XLN W/ TRS MED-XLN W/ TRS WHT TO CLEAR MED TO COARSE DOLO XLS & FRGS, SUB SUCRO TO SUCRO, NO CUT, DLL GLDN TO TR S GLDN YEL FLUOR, ABDT PR FR TO GD, TRS EXCL PP MICRO PP & INTER-XLN POR
8 U. BG
6250
CN
WOB 30
RPM 65
PP 600
WT 8.7
VIS 50
LCM 20
6224- 6307' ' INTERBEDDED DOLO- 2. SLOW DRILLNG DOLO- TAN TO LT GRY. CRYPTO-V/V/FN-XLN , SUB SUCRO, SLI TRS S-LITHO, DLL GLDN YEL FLUOR IP, NO CUT, NO VIS POR
TRIP INTO SURFACE TO MIX MUD
7 U. BG
BACK TO DRILLING @ 10:11 AM MAY 18, 2020
CN


6284-6307' INTERBEDDED DOLO SIMILAR TO 6224' 6284' W/ ABDT SH MED TO DRK GRY AND RED PRB FROM UPHOLE, BLUE GREE TO GREEN UPHOLE LOOKS FRESH
REAGAN SS 6307' -3033'
6307-6325' QURTZ SDST- WHT , SLI GRY IPTO SLI GREEN, V/V/FN TO FN GRN W/ SLI TO HVY TRS MED TO COARSE , ANG SUB ANG TO SUB RND, PR FR TRS GD SRT,TRS HVYDOLO CMNT, NO FLUOR, NO CUT,ABDT PR FR TO GD TRS EXCEL INTER GRN POR IP
GRANITE WASH 6325'- 3051'
6325'- FELDSPAR ORNGE W/ TRS QUARTZ , SLI TRS BIOTITE & OTHER BLACK MINERALS
CFS @ 6340'
6325' -6389' GRANITE WASH- ORANGE FELDSPAR HVY TR STO ABDT QUARTZ & SLI TRS BIOTITE & OTHER BLACK MINERALS
6389'-6434' GRANITE WASH- ORANGE FELDSPAR TRS TO HVY TRS QUARTZ & SLI TRS BIOTITE & OTHER BLACK MINERALS
6434- 6503' POSS GRANITE WASH- ORANGE FELDSPAR TRS QUARTZ & SLI TRS BIOTITE & OTHER BLACK MINERALS, SCATTERED SLI TRS PYRITE LOOKING MINERAL
BIT 7
JZ
HF-44
K22244
JETS 3/16'S
IN 6284'
WOB 30
RPM 65
PP 600
WT 8.6
VIS 45
LCM 32
DST #1
6370-6420'
WOB 30
RPM 65
PP 800
WT 8.9
VIS 50
LCM 30
WOB 33
RPM 65
PP 800
WT 8.6
VIS 47
LCM 28
DST #2 6505'-6550'
6300
6350
6400
6450
6500
ROP (min/ft)
Gamma
0
50
100
TG, C1-C5
1
10
100
1000
C2
24 U. INCREASE
21 U. INCR.
C3
C1
24 U. INCREASE
20 U. INCR.
CN
9 U. B G
CN
6 U. BG
CN
6-9 U. BG
CN
C1
C2
CN
8-9 U. BG
7 U. B G
CN
5-6 U. BG
10-12 U. TOTAL
CN


CFS @ 6550'
6550
6600
6650
0
ROP (min/ft)
10
0
Gamma (API)
150
WOB 30
RPM 72
PP 1000
WT 8.8
VIS 55
LCM 28
R.T.D. @ 6650'
L.T.D. @ 6645'
6503' - 6553' PROB GRANITE -ORANGE FELDSPAR, W/ TRS QURTZ, SLI TRS BIOTITE & OTHER BLACK MINERALS, SCATTERED SLI TRS PYRITIC LOOKING MINERALS, V/ SLI TRS CLAYSTONE - CRM
6553' 6600' ' GRANITE -ORANGE FELDSPAR, W/ TRS TO HVY QURTZ, SLI TRS BIOTITE & OTHER BLACK MINERALS, SCATTERED SLI TRS PYRITIC LOOKING MINERALS
6600-6650' GRANITE -ORANGE FELDSPAR, W/ TRS TO HVY QURTZ, SLI TRS BIOTITE & OTHER BLACK MINERALS, SCATTERED SLI TRS PYRITIC LOOKING MINERALS
R.T.D. @ 6650 A 4:01 AM MAY 22 , 2020
CFS/ CTCH/ DROP SURVEY/ TOFL
HALLIBURTON/ ODESSA TX
FINISH LOGGING 8:30 PM MAY 23RD, 2020
C1
2
23 U TOTAL
CN
C1
20 U. TOTAL
CN
6 U. BG
C1
TG, C1-C5
1
10
100
1000
CN
C2
6-7 U. BG
CN
R.T.D. @ 6650'
REPORT COMPLETED BY EDWIN H. GRIEVES AND TIM HEDRICK
SAMPLES WILL BE DELIVERED TO KGS WICHITA, KANSAS