Confidentiality Requested:
☐ Yes ☐ No

KANSAS CORPORATION COMMISSION
OIL & GAS CONSERVATION DIVISION

1102106

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 # 34715
Name: Dorado E&P Partners, LLC
Address 1: 1401 17th ST., STE 1500
Address 2:
City: DENVER State: CO Zip: 80202 + ____
Contact Person: TINA MILLER
Phone: (720) 402-3693
CONTRACTOR: License # 5929
Name: Duke Drilling Co., Inc.
Wellsite Geologist: Chris Spencer, Hembros Hydrocarbons
Purchaser: NCRA / West Wichita Gas Gathering

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 #:

09/19/2012 Spud Date or Recompletion Date
10/14/2012 Date Reached TD
1/7/2013 Completion Date or Recompletion Date

API No. 15 - 15-155-21592-01-00
Spot Description:
NE - NW - NW - NW Sec. 4 Twp. 25 S. R. 9 ☐ East ☑ West
150 Feet from ☑ North / ☐ South Line of Section
450 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: Reno
Lease Name: Toews Well #: 25-9-4
Field Name:
Producing Formation: MISSISSIPPIAN
Elevation: Ground: 1701 Kelly Bushing: 1710
Total Vertical Depth: 9346 Plug Back Total Depth:
Amount of Surface Pipe Set and Cemented at: 250 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: 40000 ppm Fluid volume: 1105 bbls
Dewatering method used: Hauled to Disposal

Location of fluid disposal if hauled offsite:

Operator Name: Dorado E&P Partners, LLC
Lease Name: Moser C 1-22 SWD License #: 34715
Quarter SE Sec. 22 Twp. 23 S. R. 8 ☐ East ☑ West
County: Reno Permit #: D-26545

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: 01/14/2013
☑ **Confidential Release Date:** 01/15/2015
☑ **Wireline Log Received**
☐ **Geologist Report Received**
☐ **UIC Distribution**
ALT ☑ **I** ☐ **II** ☐ **III** **Approved by:** NAOMI JAMES **Date:** 01/14/2013

1102106

Operator Name: Dorado E&P Partners, LLC Lease Name: Toews Well #: 25-9-4

Sec. 4 Twp. 25 S. R. 9 ☐ East ☑ West County: Reno

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
MISSISSIPPIAN	3866 TVD	-2156

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	-			
	-			

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
Attached	Attached	Attached	Attached

TUBING RECORD: Size: 2.875 Set At: 3208 Packer At:

Liner Run: ☑ Yes ☐ No

Date of First, Resumed Production, SWD or ENHR. 1/7/2013

Producing Method: ☐ Flowing ☑ Pumping ☐ Gas Lift ☐ Other *(Explain)*

Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity
	48	155	2300	3229	

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: 4350-9303

Mail to: KCC - Conservation Division, 130 S. Market - Room 2078, Wichita, Kansas 67202

Form	ACO1 - Well Completion
Operator	Dorado E&P Partners, LLC
Well Name	Toews 25-9-4
Doc ID	1102106

All Electric Logs Run

Resistivity
Density-Neutron
FMI
Gamma Ray LWD

Form	ACO1 - Well Completion
Operator	Dorado E&P Partners, LLC
Well Name	Toews 25-9-4
Doc ID	1102106

Perforations

Shots Per Foot	Perforation Record	Material Record	Depth
6	STG 1, 5 1' CLUSTERS, 30 SHOTS	217003 GAL CLEAN FLUID, 2500 GAL 15% HCL, 51000# 30/50, 74000# 20/40	9036-9303
6	STG 2, 5 1' CLUSTERS, 30 SHOTS	226715 GAL CLEAN FLUID, 2500 GAL 15% HCl, 52830# 30/50, 78020# 20/40	8685-8981
6	STG 3, 5 1' CLUSTERS, 30 SHOTS	232599 GAL CLEAN FLUID, 2500 GAL 15% HCl, 51000# 30/50, 78000# 20/40	8370-8627
6	STG 4, 5 1' CLUSTERS, 30 SHOTS	231809 GAL CLEAN FLUID, 2500 GAL 15% HCl, 51800# 30/50, 77200# 20/40	8060-8321
6	STG 5, 5 1' CLUSTERS, 30 SHOTS	227791 GAL CLEAN FLUID, 2500 GAL 15% HCl, 51000# 30/50, 78000# 20/40	7740-8001
6	STG 6, 5 1' CLUSTERS, 30 SHOTS	225598 GAL CLEAN FLUID, 2500 GAL 15% HCl, 52300# 30/50, 78500# 20/40	7410-7671
6	STG 7, 5 1' CLUSTERS, 30 SHOTS	225190 GAL CLEAN FLUID, 2500 GAL 15% HCl, 51000# 30/50, 73000# 20/40	7090-7351
6	STG 8, 5 1' CLUSTERS, 30 SHOTS	233068 GAL CLEAN FLUID, 2500 GAL 15% HCl, 51000# 30/50, 77160# 20/40	6760-7031

Form	ACO1 - Well Completion
Operator	Dorado E&P Partners, LLC
Well Name	Toews 25-9-4
Doc ID	1102106

Perforations

Shots Per Foot	Perforation Record	Material Record	Depth
6	STG 9, 5 1' CLUSTERS, 30 SHOTS	231860 GAL CLEAN FLUID, 2500 GAL 15% HCl, 50360# 30/50, 77500# 20/40	6440-6701
6	STG 10, 5 1' CLUSTERS, 30 SHOTS	233138 GAL CLEAN FLUID, 2500 GAL 15% HCl, 51000# 30/50, 79800# 20/40	6100-6361
6	STG 11, 5 1' CLUSTERS, 30 SHOTS	229862 GAL CLEAN FLUID, 2500 GAL 15% HCl, 51000# 30/50, 78000# 20/40	5792-6051
6	STG 12, 5 1' CLUSTERS, 30 SHOTS	221096 GAL CLEAN FLUID, 2500 GAL 15% HCl, 51000# 30/50, 80640# 20/40	5440-5719
6	STG 13, 5 1' CLUSTERS, 30 SHOTS	228598 GAL CLEAN FLUID, 2500 GAL 15% HCl, 51000# 30/50, 78000# 20/40	5090-5371
6	STG 14, 5 1' CLUSTERS, 30 SHOTS	215972 GAL CLEAN FLUID, 2500 GAL 15% HCl, 53000# 30/50, 82000# 20/40	4740-5023
6	STG 15, 5 1' CLUSTERS, 30 SHOTS	223644 GAL CLEAN FLUID, 2500 GAL 15% HCl, 53300# 30/50, 56140# 20/40	4350-4662

Form	ACO1 - Well Completion
Operator	Dorado E&P Partners, LLC
Well Name	Toews 25-9-4
Doc ID	1102106

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	17.5	13.375	48	250	COMMON	300	2% CC
INTERMEDIATE	12.25	9.625	36	1433	A-CON / COMMON	650	3% CC / 2% CC
PRODUCTION	8.75	7	26	4468.65	COMMON / AA-2	205	
LINER	6.125	4.5	11.6	9344		570	

BASIC energy services, L.P.

TREATMENT REPORT

Customer: Dorado E+P Partners, LLC	Lease No.		Date: 9-19-12		
Lease: Toews 25-9-4	Well #				
Field Order # 065770	Station: Pratt KS	Casing: 13 3/8	Depth: 353'	County: Reno	State: KS
Type Job: 13 3/8 conductor CNW	Formation: TD 260'		Legal Description: 4-25-9		

PIPE DATA		PERFORATING DATA		FLUID USED	TREATMENT RESUME		
Casing Size: 13 3/8	Tubing Size	Shots/Ft		Acid: 300 sks common 2% CC, 1/4 #CF @ 15.6	RATE	PRESS	ISIP
Depth: 353'	Depth	From	To	Pre Pad	Max		5 Min.
Volume: 37	Volume	From	To	Pad	Min		10 Min.
Max Press: 400	Max Press	From	To	Frac	Avg		15 Min.
Well Connection: Swedge	Annulus Vol.	From	To		HHP Used		Annulus Pressure
Plug Depth: 338'	Packer Depth	From	To	Flush: Disp H2O	Gas Volume		Total Load

Customer Representative: James | Station Manager: Scotty | Treater: Allen

Service Units	28443	Eric	Wright	Bret H	Reed						
Driver Names	Allen	33708	20920	19960	21010						

Time	Casing Pressure	Tubing Pressure	Bbls. Pumped	Rate	Service Log: Duke #20
600 pm					On Loc. Discuss Safety Setup Plan Job
					Rig cir. @
615					Start out of Hole w/ Bit
630					out of Hole w/ Bit
					Rig up To Run 13 3/8 csg. 48#
650					Start 13 3/8" casing in Hole.
750					casing @ 252' cia w/ Rig.
806	200#			5	Start Mix 300 sks common
					w/ 2% CC, 1/4 #CF @ 15.6 #/gal
			25		Finish mixing cmt
825				5	Start Disp.
830	300#		37	3	Plug down
					Shut in @ well
					Release PSI Back To Trk.
					Wash up Equip. & Rack up.
930					Job complete.
					Cement cir To Pit.
					thanks Allen, Eric
					Bret

Taylor Printing, Inc. 620-672-3656

BASIC energy services, L.P.

TREATMENT REPORT

Customer: DORADO E&P PARTNERS	Lease No.		Date: 9-21-2012		
Lease: TOEWS	Well #: 25-9-4				
Field Order #: 28833	Station: PRATT, KS.	Casing: 9 5/8"	Depth	County: RENO	State: KS.
Type Job: CNW - 9 5/8" S.P.		Formation: TD - 1441'		Legal Description: 4-25-9	

PIPE DATA		PERFORATING DATA		FLUID USED	TREATMENT RESUME		
Casing Size: 9 5/8 X 36	Tubing Size	Shots/Ft	CMT -	Acid: 350 - A-CON	RATE	PRESS	ISIP
Depth: 1436'	Depth	From	To	Pre Pad: @2.12 CUFT³	Max		5 Min.
Volume: 111 BBL	Volume	From	To AMT -	Pad: 300 - COMMON	Min		10 Min.
Max Press: 1000	Max Press	From	To	Frac: @1.20 CUFT³	Avg		15 Min.
Well Connection: T.C.	Annulus Vol.	From	To		HHP Used		Annulus Pressure
Plug Depth: 1375.69	Packer Depth	From	To	Flush: 107.8 BBL	Gas Volume		Total Load

Customer Representative: JAMES FLUD		Station Manager: D. SCOTT				Treater: K. LESLEY					
Service Units	37586	19889	19843	19826	19860	70459	19918				
Driver Names	LESLEY	MARQUEZ	—	LAWRENCE	—	PIERSON	—				

Time	Casing Pressure	Tubing Pressure	Bbls. Pumped	Rate	Service Log
8:30AM					ON LOCATION - SAFETY MEETING
					RUN 36 JTS. 9 5/8" X 36# CSG.
					CENT. - 2, 4, 6, 8, 10, 12, 14, 16
					BASK. - 30
1:30PM					CSG. ON BOTTOM
1:40PM					HOOK UP TO CSG. / BREAK CIRC. W/RIG
2:15PM	3120		5	6	H²O AHEAD
2:17PM	300		132	6	MIX 350 SKS. A-CON @ 12.6 PPG
2:39PM	200		64	6	MIX 300 SKS. COMMON @ 15.6 PPG
2:50PM	0		0	6	RELEASE PLUG / START DISPLACEMENT
3:04PM	200		79	5	LIFT PRESSURE
3:08PM	400		100	3	SLOW RATE
3:10PM	600		107.8	3	PLUG DOWN - HELD
					CIRC. THRU JOB
					CIRC. 80 BBL TO PIT
					JOB COMPLETE,
					THANKS -
					KEVEN LESLEY

10244 NE Hiway 61 • P.O. Box 8613 • Pratt, KS 67124-8613 • (620) 672-1201 • Fax (620) 672-5383

Taylor Printing, Inc. 620-672-3656

BASIC energy services, L.P.

TREATMENT REPORT

Customer DORADO E & P	Lease No. FARMERS LLC			Date 9-29-12	
Lease TOEWS	Well # 25-9-4				
Field Order # 10696	Station PRATT, KS	Casing	Depth	County RENO	State KS
Type Job CNW - CEMENT WHIPSTOCK		Formation		Legal Description 4-25-9	

PIPE DATA		PERFORATING DATA		FLUID USED	TREATMENT RESUME		
Casing Size	Tubing Size	Shots/Ft		~~Acid~~ 225 SK.	RATE	PRESS	ISIP
Depth	Depth	From	To	~~Pre Pad~~ COMMON	Max		5 Min.
Volume	Volume	From	To	~~Pad~~ 1% CC.	Min		10 Min.
Max Press	Max Press	From	To	~~Frac~~ 1/2% CFR	Avg		15 Min.
Well Connection	Annulus Vol.	From	To	1/4% DEFOAM	HHP Used		Annulus Pressure
Plug Depth	Packer Depth	From	To	~~Flush~~ 16#, 1.15 cuft/SK	Gas Volume		Total Load

Customer Representative	JAMES	Station Manager	SCOTT		Treater	GORDLEY			
Service Units	22283	19907	33708	20920	19831	19862			
Driver Names	STEVE	KG		ERIC		JESSE			

Time	Casing Pressure	Tubing Pressure	Bbls. Pumped	Rate	Service Log
2200					ON LOCATION 9/28/12
					WAIT FOR LOG TOOL
					PLACE WHIPSTOCK TOOL
					AT 3240' - DROP BALL
					LOAD DRILL PIPE - 266 bbl.
					PSI UP TO 2500# - WAIT
					PSI UP TO 3700# - TOOL
					SET - WORK D.P. A LITTLE
0650		500	15	3	PUMP 15 bbl. H_2O SPACER
		200	46	4	PUMP 225 SK. COMMON CEMENT
					1% CC 1/2% CFR 1/4% DEFOAMER
					AT 16.0 PPG 1.15 CuFT/SK, 4.9 Gal H_2O/SK
		200	1 1/2	3	PUMP 1 1/2 bbl H_2O SPACER
0715		500	27	3	PUMP 27 bbl. MUD
					STING OUT OF TOOL
					PULL D.P. 100' ABOVE TOOL
					CIRCULATE HOLE CLEAN
					WITH MUD PUMP
0800					JOB COMPLETE - KEVIN

Taylor Printing, Inc. 620-672-3656

BASiC energy services, L.P.

TREATMENT REPORT

Customer: Dorado E and P Partners, LLC.	Lease No.		Date: 10-6-12		
Lease: Toews	Well #: 25-9-4				
Field Order #: 7000	Station: Pratt, Kansas	Casing: 7" 23 Lb.	Depth Ft.: 4,469 Feet	County: Reno	State: Kansas
Type Job: C.N.W. - Intermediate	Formation		Legal Description: 4-25S-9W		

PIPE DATA		PERFORATING DATA		USED	TREATMENT RESUME		
Casing Size: 7" 26 Lb.	Tubing Size:	Shots/Ft	25 sacks Commoncement for Scavenger		RATE	PRESS	ISIP
Depth: 4469 Feet	Depth	From: 180	Sacks AA-2 with .5% FLA		Max: 3	22, .38 Friction Reducer, .2% Defoamer,	
Volume: 170.7 Bbl.	Volume	From	To: 18 Feet	Water Control, 10% salt, .25 Lb/sk Cellflake, 5 Lb/sk. Gilsonite.	Min:		5 Min.
Max Press	Max Press	From	To	15.3 Lb/Gal., 5.52	Avg: Gal./sk., 1.36 CU.FT./SK.		10 Min.
Well Connection: Rig Container	Annulus Vol.	From	To		HHP Used		Annulus Pressure
Plug Depth: 4425 Feet	Packer Depth	From	To	Flush: 169 Bbl. Fresh Water	Gas Volume		Total Load

Customer Representative: James Fud | Station Manager: David Scott | Treater: Clarence R. Messick

Service Units	37,216	19,903	19,905	19,831	19,862						
Driver Names	Messick		Mattal		Reed						

Time A.M.	Casing Pressure	Tubing Pressure	Bbls. Pumped	Rate	Service Log
4:00					Trucks on location and hold safety meeting.
					Casing in well and rig circulating upon arrival.
6:15		2000			Shut in well and pressure Test.
6:24	400			5	Start 25 sacks scavenger cement.
6:26			8	5	Start 180 sacks AA-2 cement.
	-0-		51		Stop pumping. Shut in well. Wash pump and lines.
					Release Top Rubber Plug. Open Well.
6:36	100			6.5	Start Fresh Water Displacement.
			103	5	Start to lift cement.
7:02	650		169		Plug down.
	1,500				Pressure up.
					Release pressure. Float Collar held
	-0-				Wash up pump truck.
8:00					Job Complete.
					Thank You
					Clarence, Mitte, Brett

Taylor Printing, Inc. 620-672-3656

BASIC energy services, L.P.

TREATMENT REPORT

Customer: Dorado E and P Partners,	Lease No.: LLC.		Date: 10-16-12
Lease: Toews	Well #: 25-9-4		
Field Order #: 7281	Station: Pratt, Kansas	Casing: 4 1/2" 11.6Lb. Depth: 9342 Feet	County: Reno / State: Kansas
Type Job: C.N.W.- Liner		Formation:	Legal Description: 4-25S-9W

PIPE DATA		PERFORATING DATA		FLUID USED (Cement)	TREATMENT RESUME		
Casing Size: 4 1/2 11.6Lb	Tubing Size: 4" Drill	Shots/Ft: Pipe		Acid: 570 sacks Premium Cement with .75% Friction Reducer,	RATE	PRESS	ISIP
Depth: 5008	Depth: 4396.72	From	To .25%	Pre Pad: Defoamer, .1% Free Water Control, .10% Salt	Max		5 Min.
Volume: 77.96 Bbl.	Volume: 38.13	From	To 15.6 Lb.	Pad: Gal., 5.43 Gal./Sk., 1.24 CU FT./Sk.	Min		10 Min.
Max Press	Max Press	From	To	Frac	Avg		15 Min.
Well Connection: 4" Full Hole	Annulus Vol.: Drill Pipe	From	To		HHP Used		Annulus Pressure
Plug Depth	Packer Depth	From	To	Flush: Bbl. Fresh Water	Gas Volume		Total Load: 3 (77.96)

Customer Representative	Station Manager	Treater
James Flud	David Scott	Clarence R. Messick

Service Units	37216	19903	19905	19959	21010	70959	19918
Driver Names	Messick	Mattal		Young		Phye	

Time A.M.	Casing Pressure	Tubing Pressure	Bbls. Pumped	Rate	Service Log
5:00					Trucks on location.
	Liner	in well and	Drill Pipe	being ran	upon arrival.
					Liner in well. Circulate for
9:52		4,000			Shut in well. Pressure Test. Open Well.
9:55	500			5	Start 500 Gallons Mud Flush after Bursting Disk.
			12	5	Start Fresh water Spacer.
			17	5	Start 25 sacks Scavenger cement
	500		25.8	5	Start 545 sacks Premium cement.
10:32			146		Stop pumping. Shut in well. Wash pump and lines.
					Release plug. Open Well.
10:34	200			5	Start 2% KCL Displacement with Sugar init.
			10	5	Start 2% KCL Displacement.
10:43			35		Land Drill Pipe plug.
	1,200				Pressure up and release casing plug
				~~8~~	
10:44	1,300			5	Start casing Displacement.
10:52	~~400~~	300	~~78~~ 50	2	Slow rate
	600		75		Plug down.
	1,000				Pressure up.
~~11:04~~	~~1,300~~				Release pressure and check Float. It held.
11:04	1,300				Pressure up and Burst Disk. Pump 5 Bbl.
					Hook up well to Drilling rig to roll hole.

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11:30 Wash up pump truck. 12:00 P.M. Job Complete. Thank You. Clarence, Mike, Steve, Dale

Taylor Printing, Inc. 620-672-3656

Toews 25-9-4-1H
15-155-21592-0100
Pit Hauling (Attached to ACO-1 and CDP-5)

Operator Name:	Dorado E&P Partners, LLC
License #:	34715
Lease Name:	Moser C 1-22 SWD
Location:	N2 NE SE Sec 22-T23S-R8W
County:	Reno
Permit #:	D-26545
Fluid volume:	9000 bbls

Operator Name:	Reh Oil & Gas
License #:	32556
Lease Name:	Harrell SWD
Location:	NE 27-29S-13W
County:	Pratt
Permit #:	D-20005
Fluid volume:	400 bbls

Operator Name:	Messenger Petro
License #:	4706
Lease Name:	Nicholas SWD
Location:	NW NE NE 20-30S-8W
County:	Kingman
Permit #:	D-27434
Fluid volume:	720 bbls

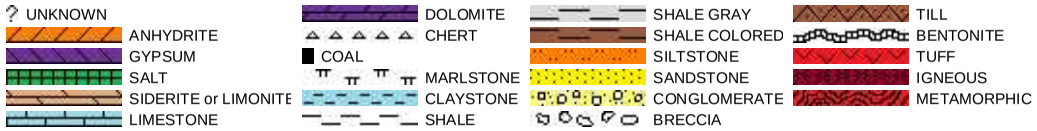
Operator Name:	Struder Oil Comp
License #:	9582
Lease Name:	Studer SWD
Location:	NE SE 4-27S-12W
County:	Pratt
Permit #:	D-24220
Fluid volume:	930 bbls

Total Fluid Volume: 11050 bbls

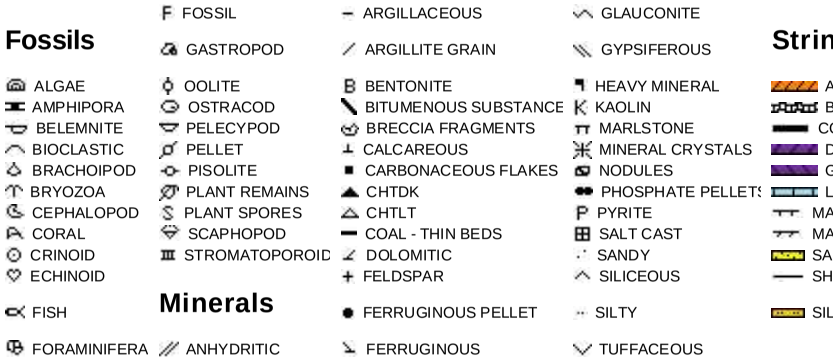
Scale: 5" / 100'
Measured Depth Log

Well Name	Toews 24-9-4-1H		
Location	NW NW Sec4 T25S R9W		
State	Kansas	**County**	Reno
Country	USA	**Rig**	Duke
API Number	15-155-21592		
		K.B. Elevation	1710
Logged Interval	3200 **To** 9346	**Total Depth**	9346
Formation	Osage		

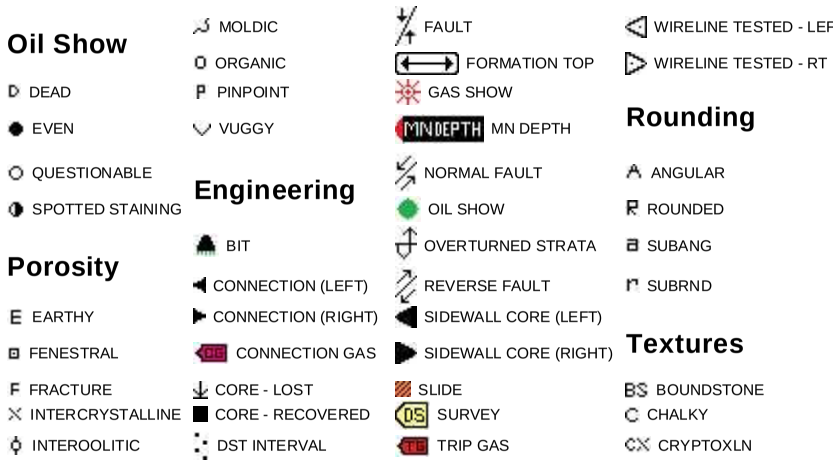
Rock Types



Accessories



Other Symbols



nger

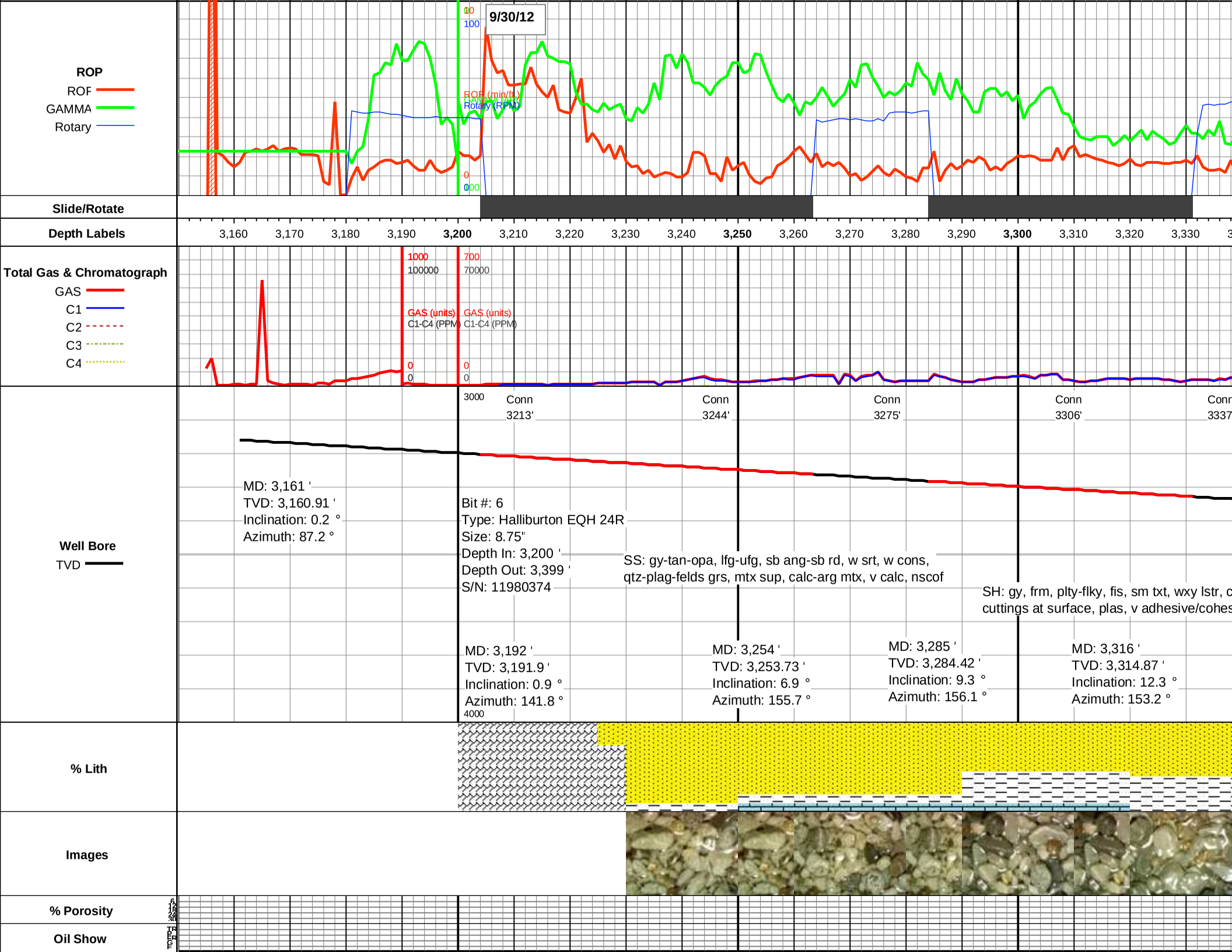
NHYDRITE STRINGER
ENTONITE STRINGER
OAL STRINGER
OLOMITE STRINGER
YPSUM STRINGER
IMESTONE STRINGER
RLSTONE (CALC) STRG
RLSTONE (DOL) STRG
NDSTONE STRINGER
ALE STRINGER

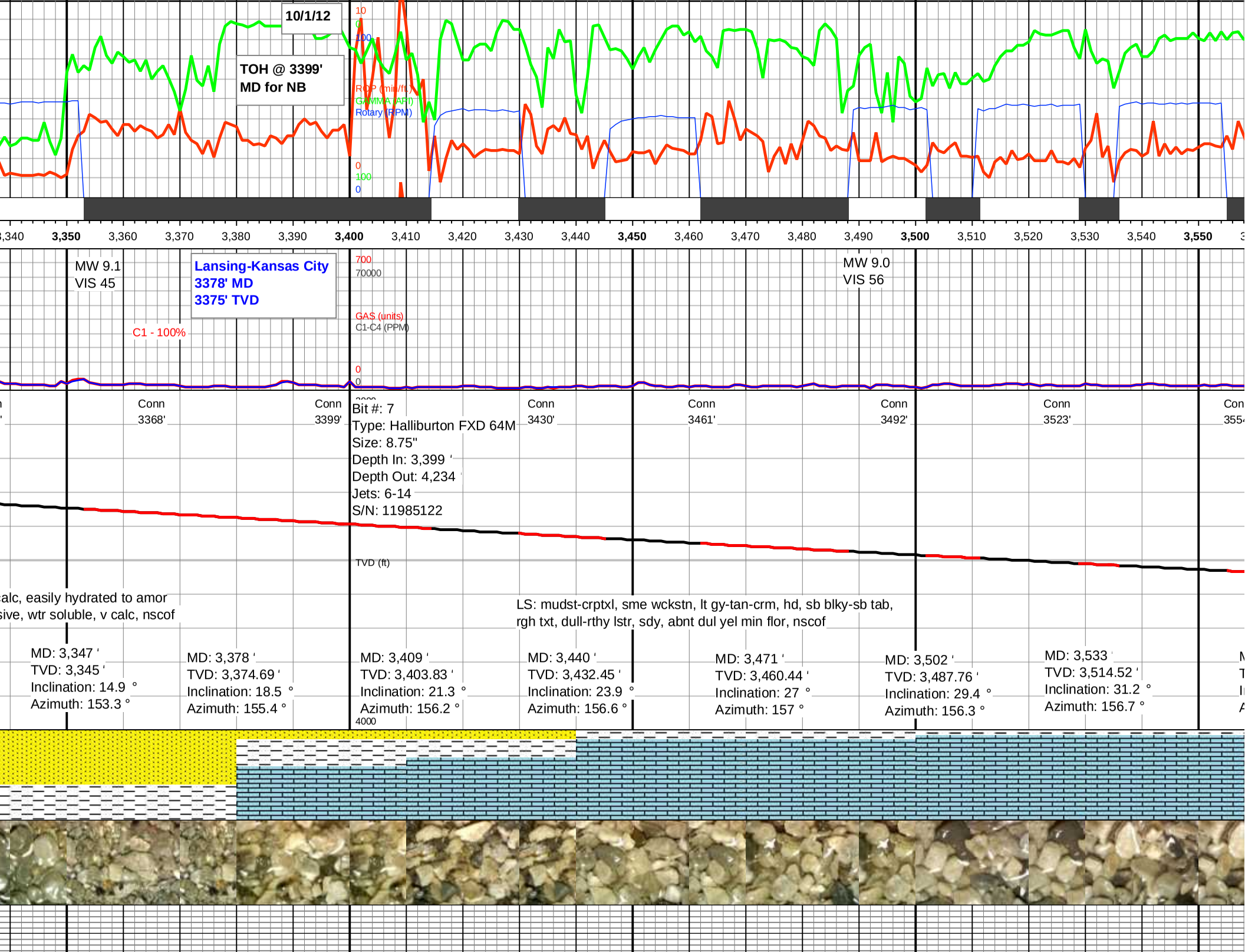
TSTONE STRINGER

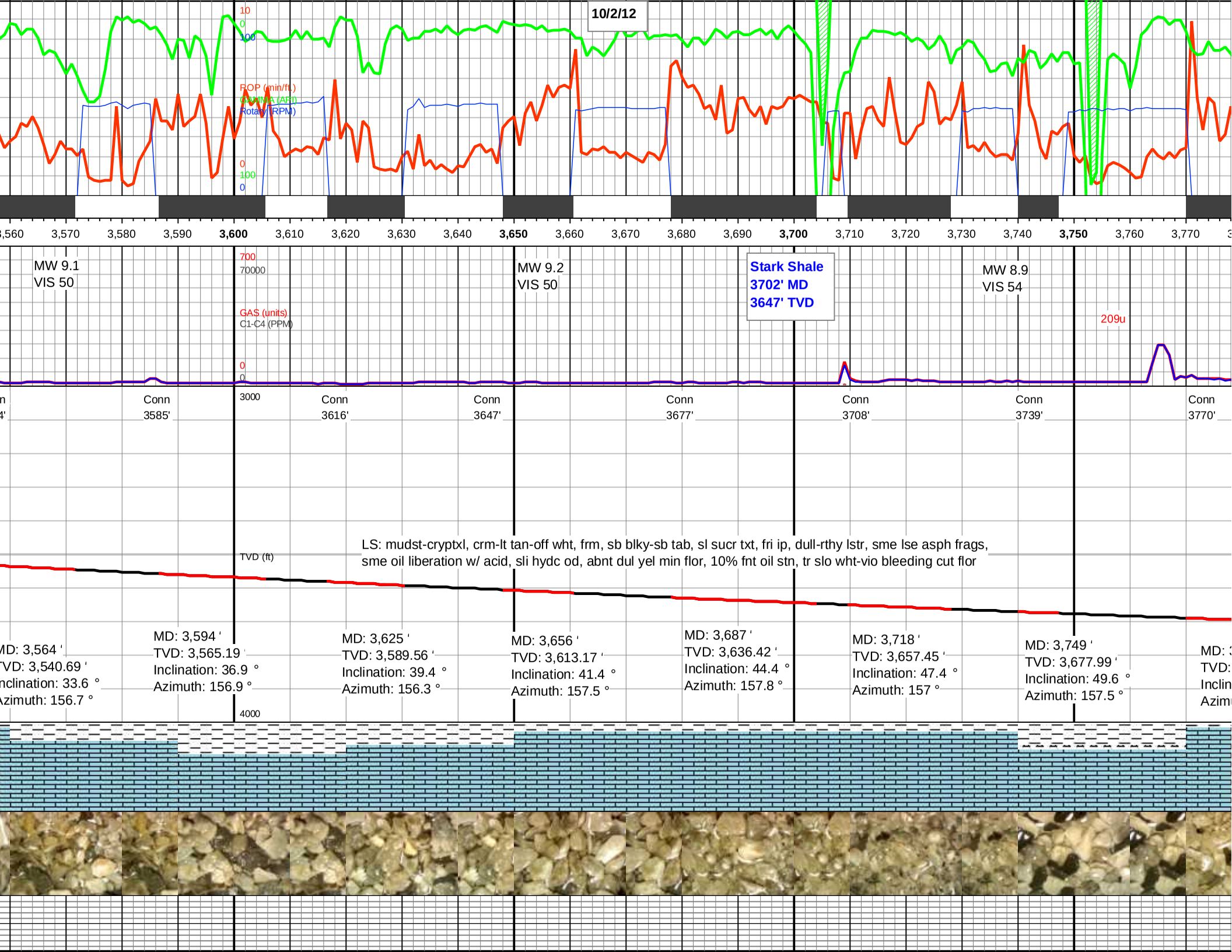
FT E EARTHY
FX FINELYXLN
GS GRAINSTONE
L LITHOGRAPHIC
MX MICROXLN
MS MUDSTONE
PS PACKSTONE
WS WACKESTONE

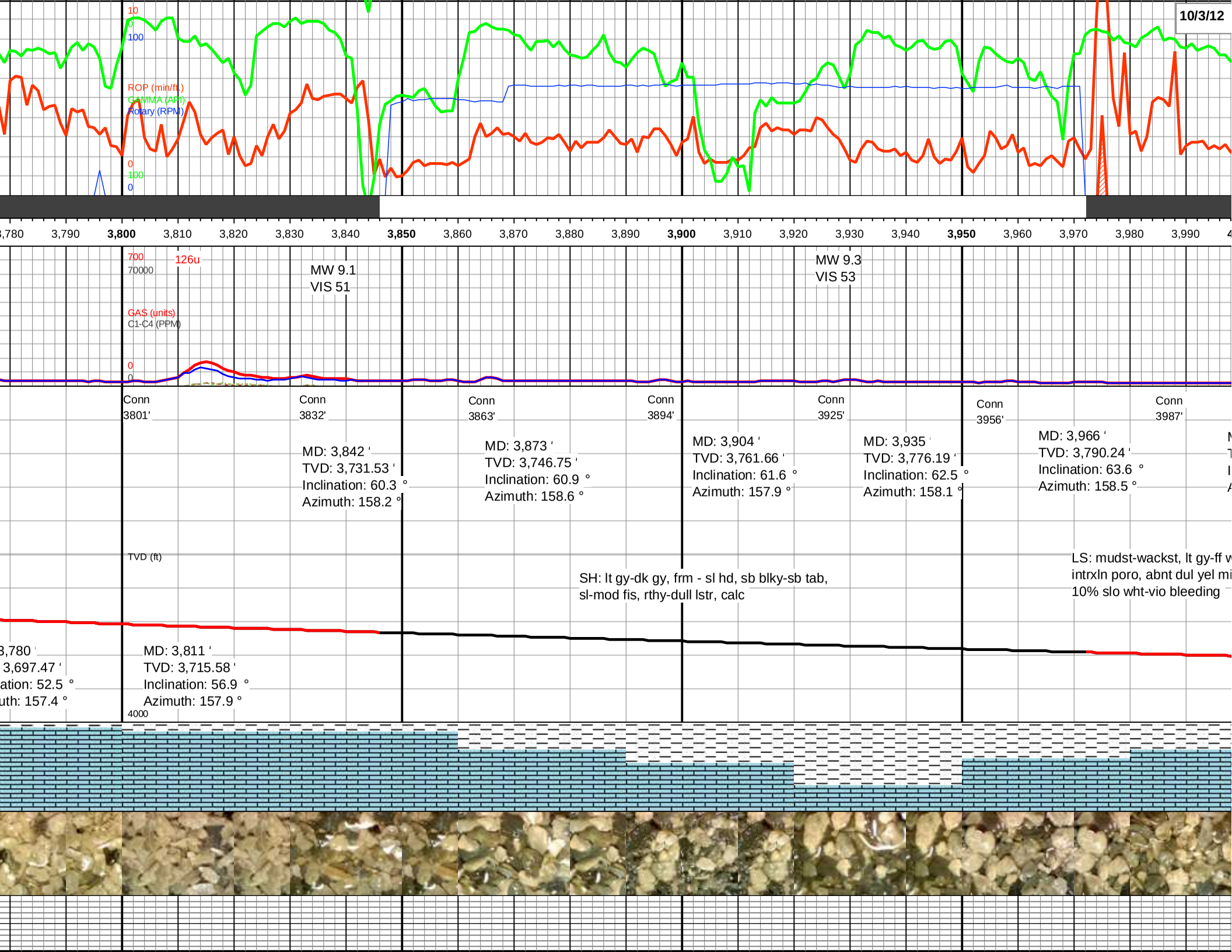
Sorting

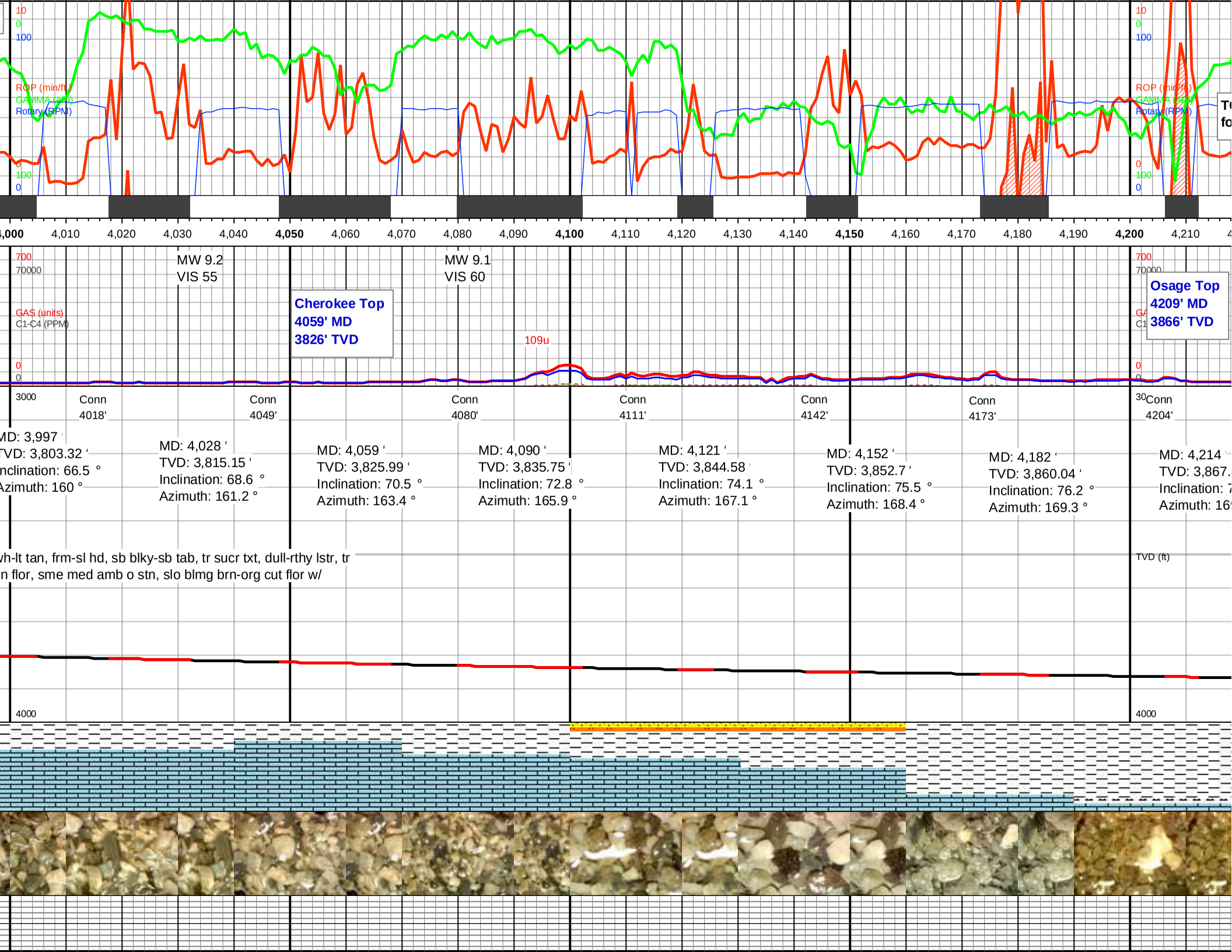
M MODERATE
P POOR
W WELL

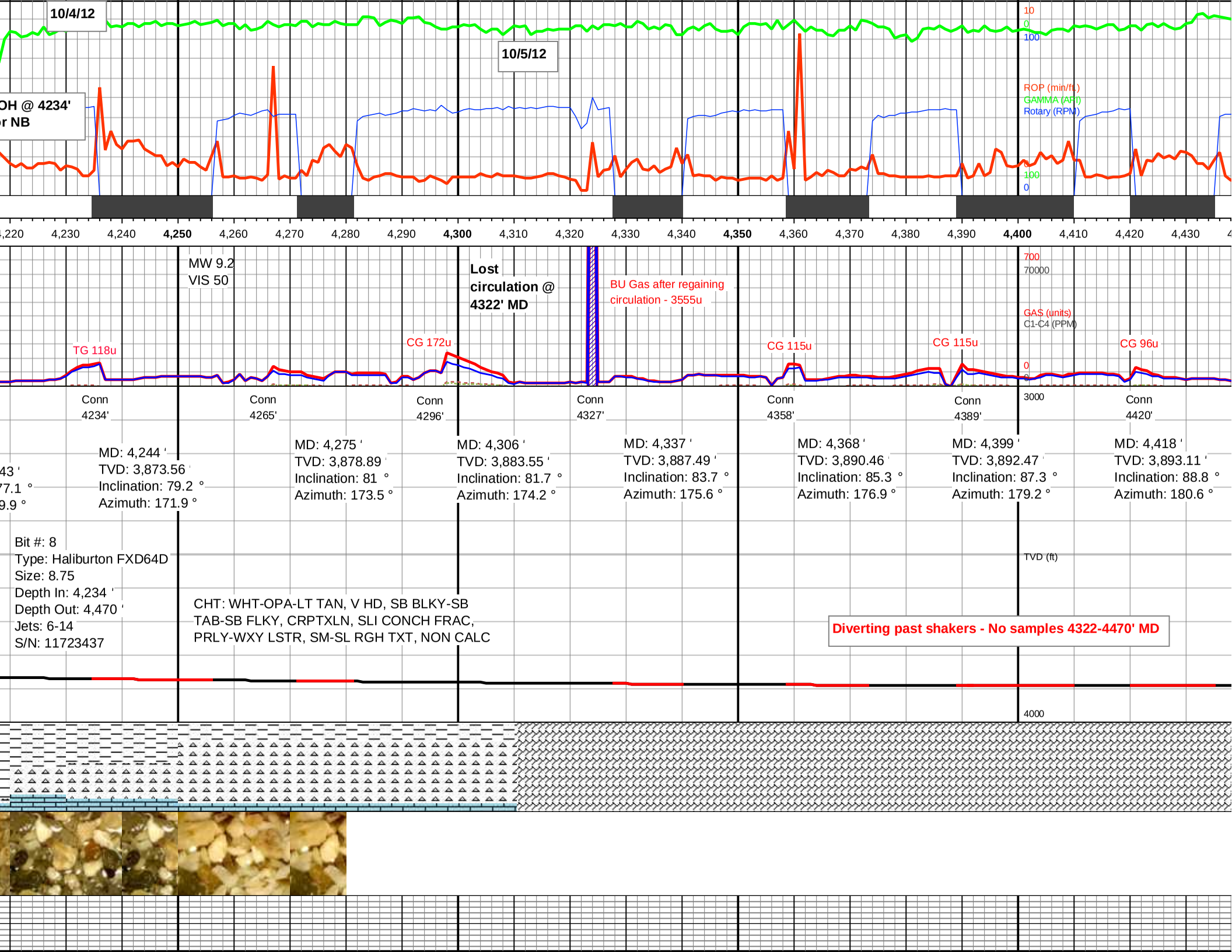

ROP
ROF
GAMMA
Rotary
9/30/12
ROP (min/ft)
GAMMA (API)
Rotary (RPM)
Slide/Rotate
Depth Labels
3,160
3,170
3,180
3,190
3,200
3,210
3,220
3,230
3,240
3,250
3,260
3,270
3,280
3,290
3,300
3,310
3,320
3,330
Total Gas & Chromatograph
GAS
C1
C2
C3
C4
GAS (units)
C1-C4 (PPM)
Well Bore
TVD
Conn
3213'
Conn
3244'
Conn
3275'
Conn
3306'
MD: 3,161 '
TVD: 3,160.91 '
Inclination: 0.2 °
Azimuth: 87.2 °
Bit #: 6
Type: Halliburton EQH 24R
Size: 8.75"
Depth In: 3,200 '
Depth Out: 3,399 '
S/N: 11980374
SS: gy-tan-opa, lfg-ufg, sb ang-sb rd, w srt, w cons,
qtz-plag-felds grs, mtx sup, calc-arg mtx, v calc, nscof
SH: gy, frm, plty-flky, fis, sm txt, wxy lstr,
cuttings at surface, plas, v adhesive/cohes
MD: 3,192 '
TVD: 3,191.9 '
Inclination: 0.9 °
Azimuth: 141.8 °
MD: 3,254 '
TVD: 3,253.73 '
Inclination: 6.9 °
Azimuth: 155.7 °
MD: 3,285 '
TVD: 3,284.42 '
Inclination: 9.3 °
Azimuth: 156.1 °
MD: 3,316 '
TVD: 3,314.87 '
Inclination: 12.3 °
Azimuth: 153.2 °
% Lith
Images
% Porosity
Oil Show

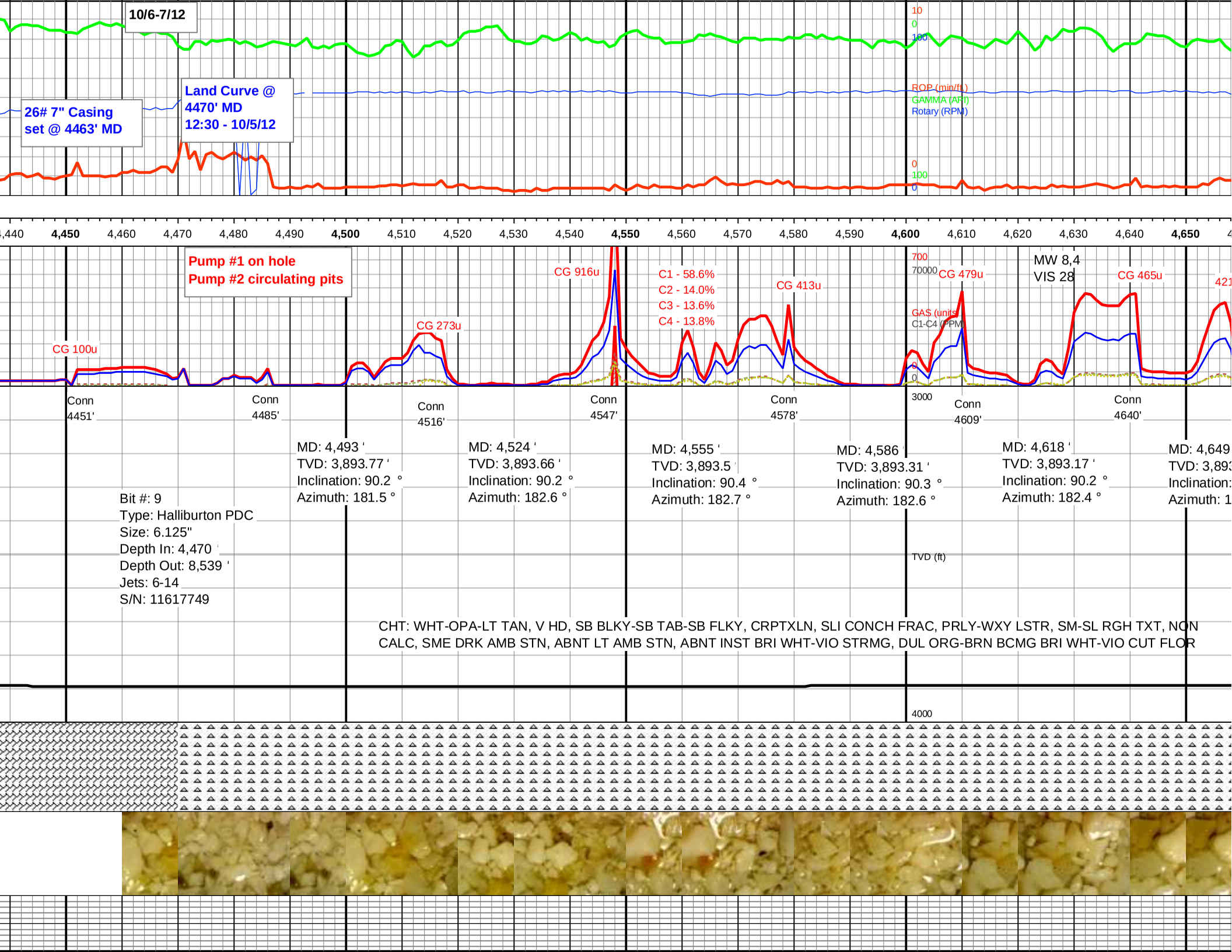

10/1/12
TOH @ 3399'
MD for NB
ROP (min/ft)
GAMMA (API)
Rotary (PPM)
10
0
100
0
100
0
3,340
3,350
3,360
3,370
3,380
3,390
3,400
3,410
3,420
3,430
3,440
3,450
3,460
3,470
3,480
3,490
3,500
3,510
3,520
3,530
3,540
3,550
MW 9.1
VIS 45
Lansing-Kansas City
3378' MD
3375' TVD
C1 - 100%
700
70000
GAS (units)
C1-C4 (PPM)
0
0
MW 9.0
VIS 56
Conn
3368'
Conn
3399'
Conn
3430'
Conn
3461'
Conn
3492'
Conn
3523'
Bit #: 7
Type: Halliburton FXD 64M
Size: 8.75"
Depth In: 3,399 '
Depth Out: 4,234 '
Jets: 6-14
S/N: 11985122
TVD (ft)
4000
calc, easily hydrated to amor
sive, wtr soluble, v calc, nscof
LS: mudst-crptxl, sme wckstn, lt gy-tan-crm, hd, sb blky-sb tab,
rgh txt, dull-rthy lstr, sdy, abnt dul yel min flor, nscof
MD: 3,347 '
TVD: 3,345 '
Inclination: 14.9 °
Azimuth: 153.3 °
MD: 3,378 '
TVD: 3,374.69 '
Inclination: 18.5 °
Azimuth: 155.4 °
MD: 3,409 '
TVD: 3,403.83 '
Inclination: 21.3 °
Azimuth: 156.2 °
MD: 3,440 '
TVD: 3,432.45 '
Inclination: 23.9 °
Azimuth: 156.6 °
MD: 3,471 '
TVD: 3,460.44 '
Inclination: 27 °
Azimuth: 157 °
MD: 3,502 '
TVD: 3,487.76 '
Inclination: 29.4 °
Azimuth: 156.3 °
MD: 3,533 '
TVD: 3,514.52 '
Inclination: 31.2 °
Azimuth: 156.7 °

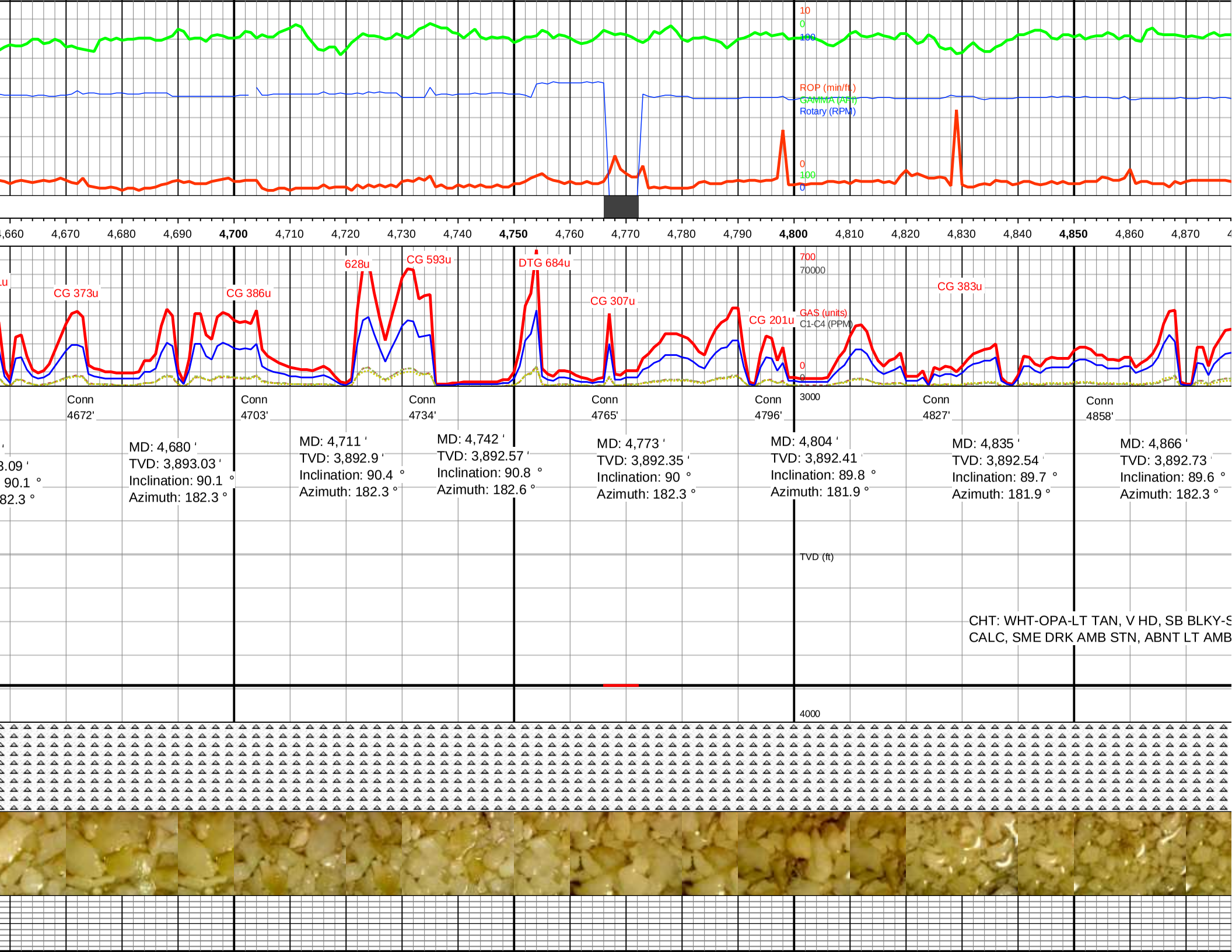

10/2/12
10
0
100
ROP (min/ft)
GAMMA (API)
Rotary (RPM)
0
100
0
3,560
3,570
3,580
3,590
3,600
3,610
3,620
3,630
3,640
3,650
3,660
3,670
3,680
3,690
3,700
3,710
3,720
3,730
3,740
3,750
3,760
3,770
MW 9.1
VIS 50
700
70000
GAS (units)
C1-C4 (PPM)
0
0
MW 9.2
VIS 50
Stark Shale
3702' MD
3647' TVD
MW 8.9
VIS 54
209u
Conn
3585'
Conn
3616'
Conn
3647'
Conn
3677'
Conn
3708'
Conn
3739'
Conn
3770'
3000
TVD (ft)
4000
LS: mudst-cryptxl, crm-lt tan-off wht, frm, sb blky-sb tab, sl sucr txt, fri ip, dull-rthy lstr, sme lse asph frags,
sme oil liberation w/ acid, sli hydc od, abnt dul yel min flor, 10% fnt oil stn, tr slo wht-vio bleeding cut flor
MD: 3,564 '
TVD: 3,540.69 '
Inclination: 33.6 °
Azimuth: 156.7 °
MD: 3,594 '
TVD: 3,565.19 '
Inclination: 36.9 °
Azimuth: 156.9 °
MD: 3,625 '
TVD: 3,589.56 '
Inclination: 39.4 °
Azimuth: 156.3 °
MD: 3,656 '
TVD: 3,613.17 '
Inclination: 41.4 °
Azimuth: 157.5 °
MD: 3,687 '
TVD: 3,636.42 '
Inclination: 44.4 °
Azimuth: 157.8 °
MD: 3,718 '
TVD: 3,657.45 '
Inclination: 47.4 °
Azimuth: 157 °
MD: 3,749 '
TVD: 3,677.99 '
Inclination: 49.6 °
Azimuth: 157.5 °

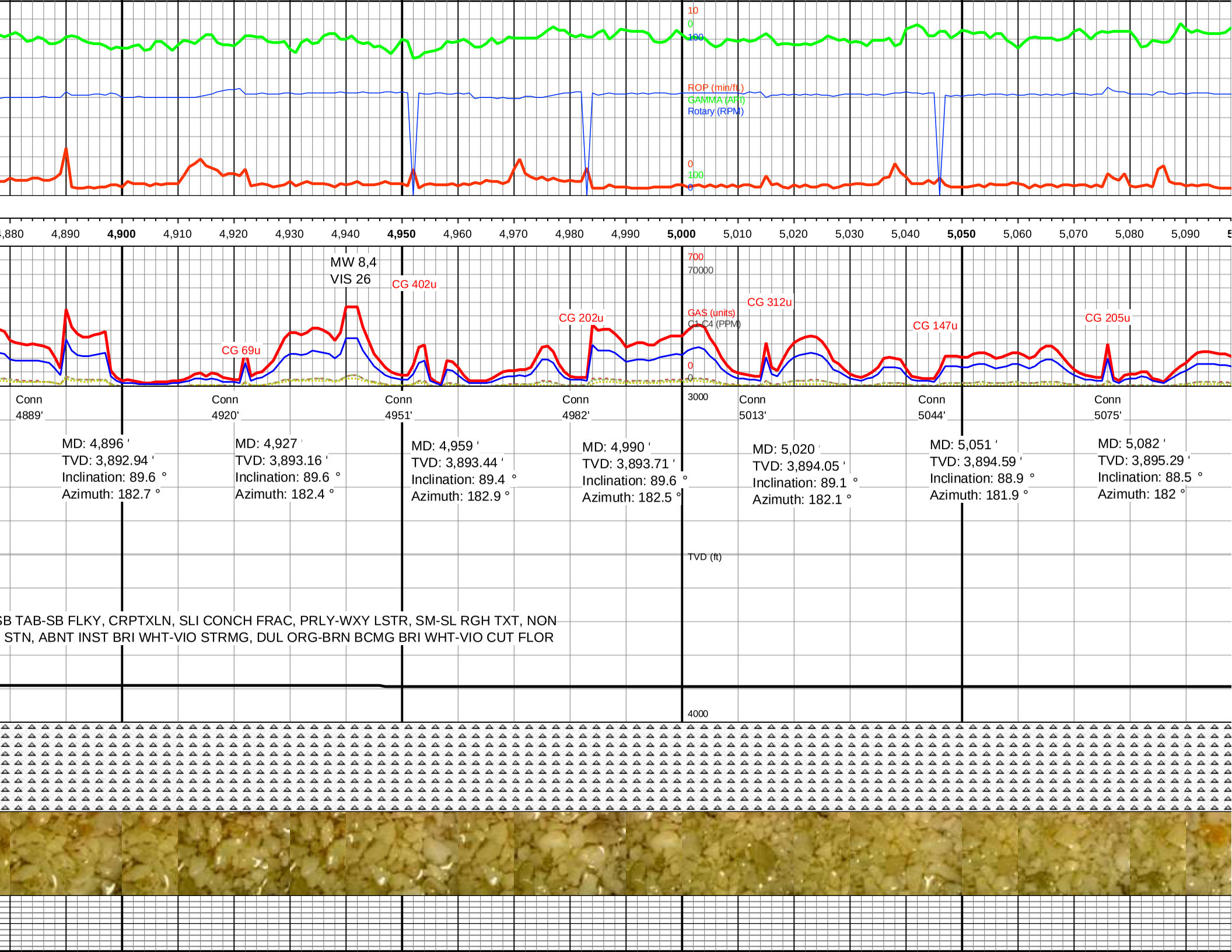

10/3/12
10
0
100
ROP (min/ft)
GAMMA (API)
Rotary (RPM)
0
100
0
3,780
3,790
3,800
3,810
3,820
3,830
3,840
3,850
3,860
3,870
3,880
3,890
3,900
3,910
3,920
3,930
3,940
3,950
3,960
3,970
3,980
3,990
700
70000
126u
GAS (units)
C1-C4 (PPM)
0
0
MW 9.1
VIS 51
MW 9.3
VIS 53
Conn
3801'
Conn
3832'
Conn
3863'
Conn
3894'
Conn
3925'
Conn
3956'
Conn
3987'
MD: 3,842 '
TVD: 3,731.53 '
Inclination: 60.3 °
Azimuth: 158.2 °
MD: 3,873 '
TVD: 3,746.75 '
Inclination: 60.9 °
Azimuth: 158.6 °
MD: 3,904 '
TVD: 3,761.66 '
Inclination: 61.6 °
Azimuth: 157.9 °
MD: 3,935 '
TVD: 3,776.19 '
Inclination: 62.5 °
Azimuth: 158.1 °
MD: 3,966 '
TVD: 3,790.24 '
Inclination: 63.6 °
Azimuth: 158.5 °
TVD (ft)
SH: lt gy-dk gy, frm - sl hd, sb blky-sb tab,
sl-mod fis, rthy-dull lstr, calc
LS: mudst-wackst, lt gy-ff w
intrxln poro, abnt dul yel mi
10% slo wht-vio bleeding
3,780 '
3,697.47 '
ation: 52.5 °
uth: 157.4 °
MD: 3,811 '
TVD: 3,715.58 '
Inclination: 56.9 °
Azimuth: 157.9 °
4000

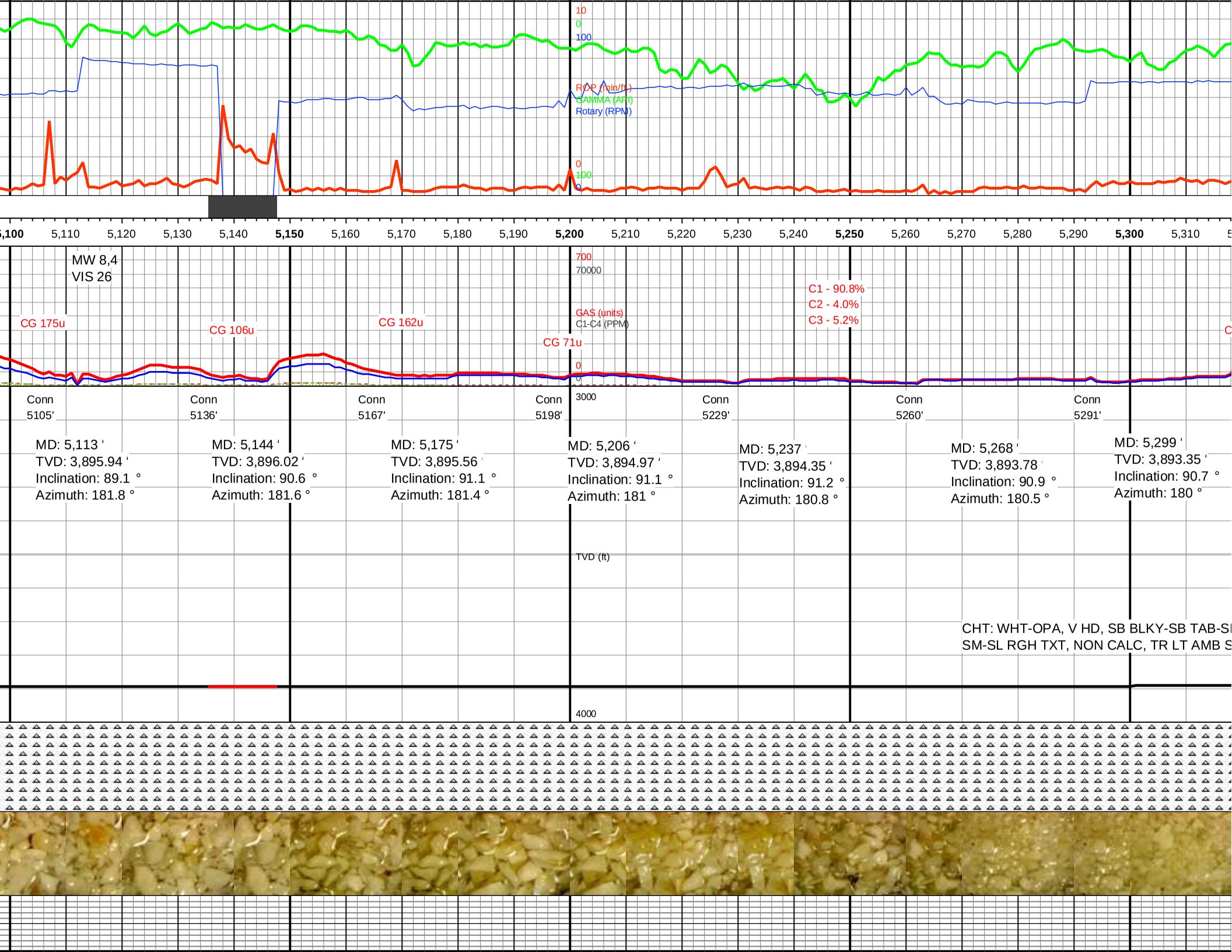

10
0
100
ROP (min/ft)
GAMMA (API)
Rotary (RPM)
0
100
0
4,000
4,010
4,020
4,030
4,040
4,050
4,060
4,070
4,080
4,090
4,100
4,110
4,120
4,130
4,140
4,150
4,160
4,170
4,180
4,190
4,200
4,210
700
70000
GAS (units)
C1-C4 (PPM)
0
0
MW 9.2
VIS 55
MW 9.1
VIS 60
Cherokee Top
4059' MD
3826' TVD
109u
Osage Top
4209' MD
3866' TVD
3000
Conn
4018'
Conn
4049'
Conn
4080'
Conn
4111'
Conn
4142'
Conn
4173'
Conn
4204'
MD: 3,997 '
TVD: 3,803.32 '
Inclination: 66.5 °
Azimuth: 160 °
MD: 4,028 '
TVD: 3,815.15 '
Inclination: 68.6 °
Azimuth: 161.2 °
MD: 4,059 '
TVD: 3,825.99 '
Inclination: 70.5 °
Azimuth: 163.4 °
MD: 4,090 '
TVD: 3,835.75 '
Inclination: 72.8 °
Azimuth: 165.9 °
MD: 4,121 '
TVD: 3,844.58 '
Inclination: 74.1 °
Azimuth: 167.1 °
MD: 4,152 '
TVD: 3,852.7 '
Inclination: 75.5 °
Azimuth: 168.4 °
MD: 4,182 '
TVD: 3,860.04 '
Inclination: 76.2 °
Azimuth: 169.3 °
MD: 4,214 '
TVD: 3,867.
Inclination: 7
Azimuth: 16
wh-lt tan, frm-sl hd, sb blky-sb tab, tr sucr txt, dull-rthy lstr, tr
n flor, sme med amb o stn, slo blmg brn-org cut flor w/
TVD (ft)
4000
4000

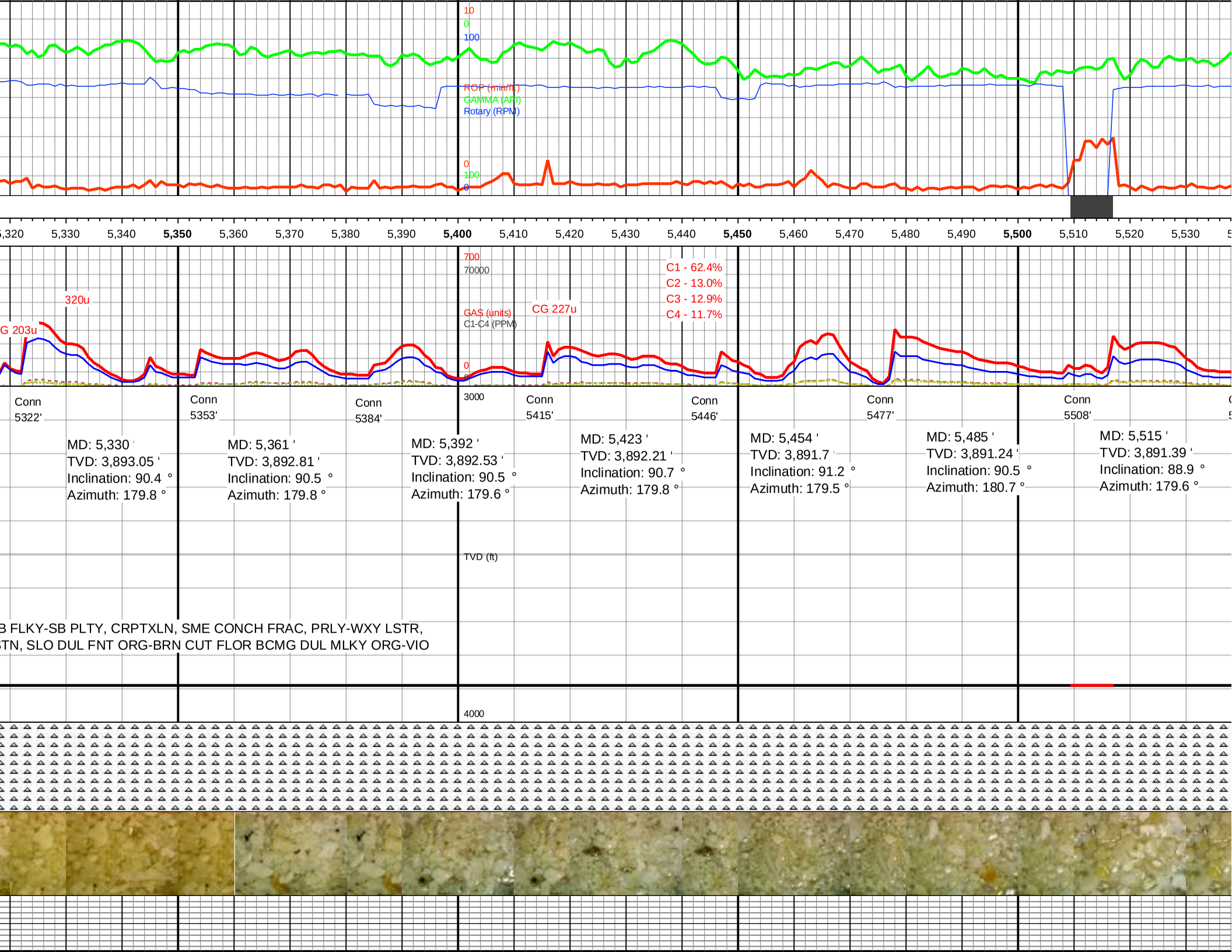

10/4/12
10/5/12
OH @ 4234'
r NB
10
0
100
ROP (min/ft)
GAMMA (API)
Rotary (RPM)
0
100
0
4,220
4,230
4,240
4,250
4,260
4,270
4,280
4,290
4,300
4,310
4,320
4,330
4,340
4,350
4,360
4,370
4,380
4,390
4,400
4,410
4,420
4,430
MW 9.2
VIS 50
Lost circulation @ 4322' MD
BU Gas after regaining circulation - 3555u
700
70000
GAS (units)
C1-C4 (PPM)
TG 118u
CG 172u
CG 115u
CG 115u
CG 96u
0
3000
Conn 4234'
Conn 4265'
Conn 4296'
Conn 4327'
Conn 4358'
Conn 4389'
Conn 4420'
43 '
77.1 °
9.9 °
MD: 4,244 '
TVD: 3,873.56 '
Inclination: 79.2 °
Azimuth: 171.9 °
MD: 4,275 '
TVD: 3,878.89 '
Inclination: 81 °
Azimuth: 173.5 °
MD: 4,306 '
TVD: 3,883.55 '
Inclination: 81.7 °
Azimuth: 174.2 °
MD: 4,337 '
TVD: 3,887.49 '
Inclination: 83.7 °
Azimuth: 175.6 °
MD: 4,368 '
TVD: 3,890.46 '
Inclination: 85.3 °
Azimuth: 176.9 °
MD: 4,399 '
TVD: 3,892.47 '
Inclination: 87.3 °
Azimuth: 179.2 °
MD: 4,418 '
TVD: 3,893.11 '
Inclination: 88.8 °
Azimuth: 180.6 °
Bit #: 8
Type: Haliburton FXD64D
Size: 8.75
Depth In: 4,234 '
Depth Out: 4,470 '
Jets: 6-14
S/N: 11723437
TVD (ft)
CHT: WHT-OPA-LT TAN, V HD, SB BLKY-SB
TAB-SB FLKY, CRPTXLN, SLI CONCH FRAC,
PRLY-WXY LSTR, SM-SL RGH TXT, NON CALC
Diverting past shakers - No samples 4322-4470' MD
4000

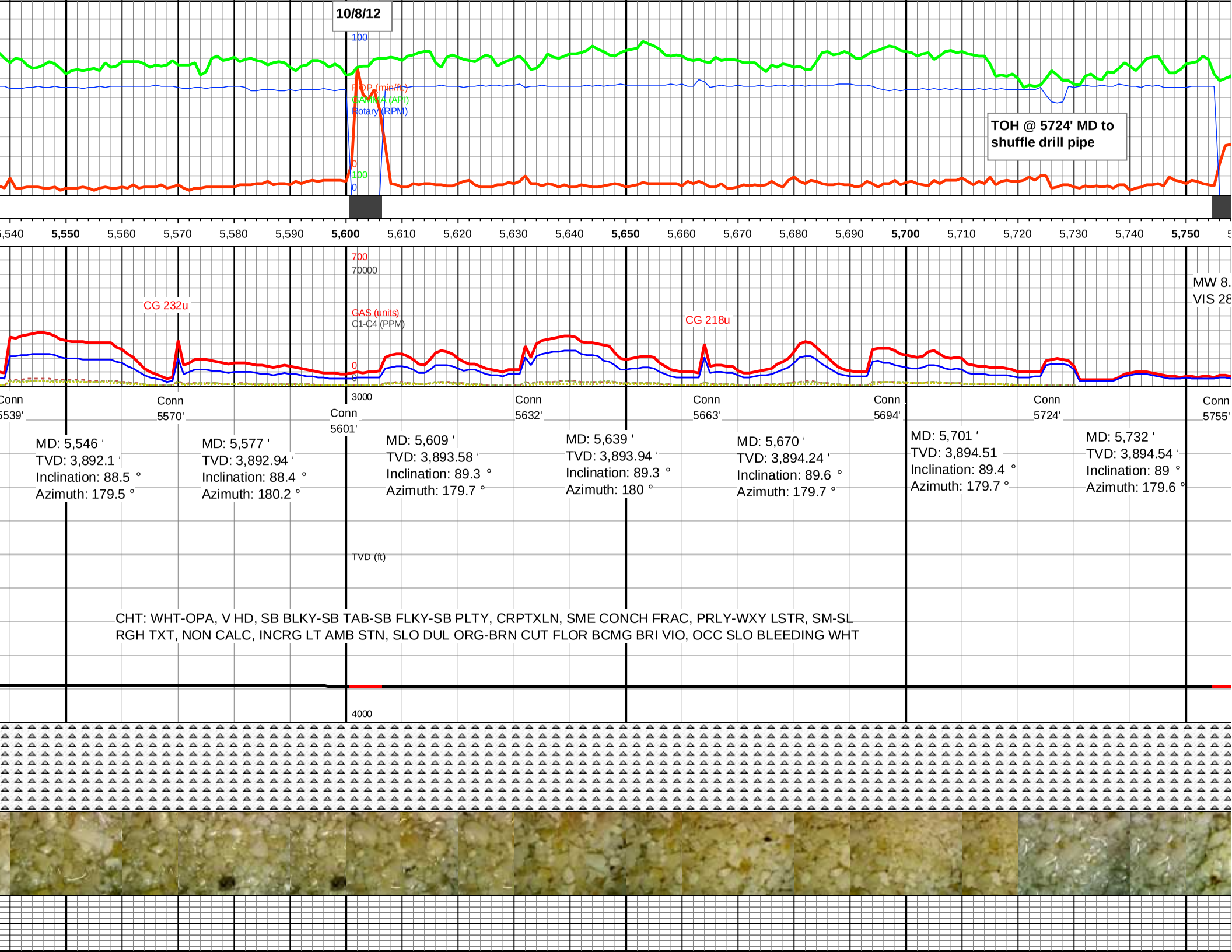

10/6-7/12
26# 7" Casing
set @ 4463' MD
Land Curve @
4470' MD
12:30 - 10/5/12
10
0
100
ROP (min/ft)
GAMMA (API)
Rotary (RPM)
0
100
0
4,440
4,450
4,460
4,470
4,480
4,490
4,500
4,510
4,520
4,530
4,540
4,550
4,560
4,570
4,580
4,590
4,600
4,610
4,620
4,630
4,640
4,650
Pump #1 on hole
Pump #2 circulating pits
CG 100u
CG 273u
CG 916u
C1 - 58.6%
C2 - 14.0%
C3 - 13.6%
C4 - 13.8%
CG 413u
700
70000
CG 479u
GAS (units)
C1-C4 (PPM)
0
3000
MW 8,4
VIS 28
CG 465u
Conn
4451'
Conn
4485'
Conn
4516'
Conn
4547'
Conn
4578'
Conn
4609'
Conn
4640'
MD: 4,493 '
TVD: 3,893.77 '
Inclination: 90.2 °
Azimuth: 181.5 °
MD: 4,524 '
TVD: 3,893.66 '
Inclination: 90.2 °
Azimuth: 182.6 °
MD: 4,555 '
TVD: 3,893.5 '
Inclination: 90.4 °
Azimuth: 182.7 °
MD: 4,586 '
TVD: 3,893.31 '
Inclination: 90.3 °
Azimuth: 182.6 °
MD: 4,618 '
TVD: 3,893.17 '
Inclination: 90.2 °
Azimuth: 182.4 °
MD: 4,649
TVD: 3,893
Inclination:
Azimuth: 1
Bit #: 9
Type: Halliburton PDC
Size: 6.125"
Depth In: 4,470 '
Depth Out: 8,539 '
Jets: 6-14
S/N: 11617749
TVD (ft)
CHT: WHT-OPA-LT TAN, V HD, SB BLKY-SB TAB-SB FLKY, CRPTXLN, SLI CONCH FRAC, PRLY-WXY LSTR, SM-SL RGH TXT, NON CALC, SME DRK AMB STN, ABNT LT AMB STN, ABNT INST BRI WHT-VIO STRMG, DUL ORG-BRN BCMG BRI WHT-VIO CUT FLOR
4000

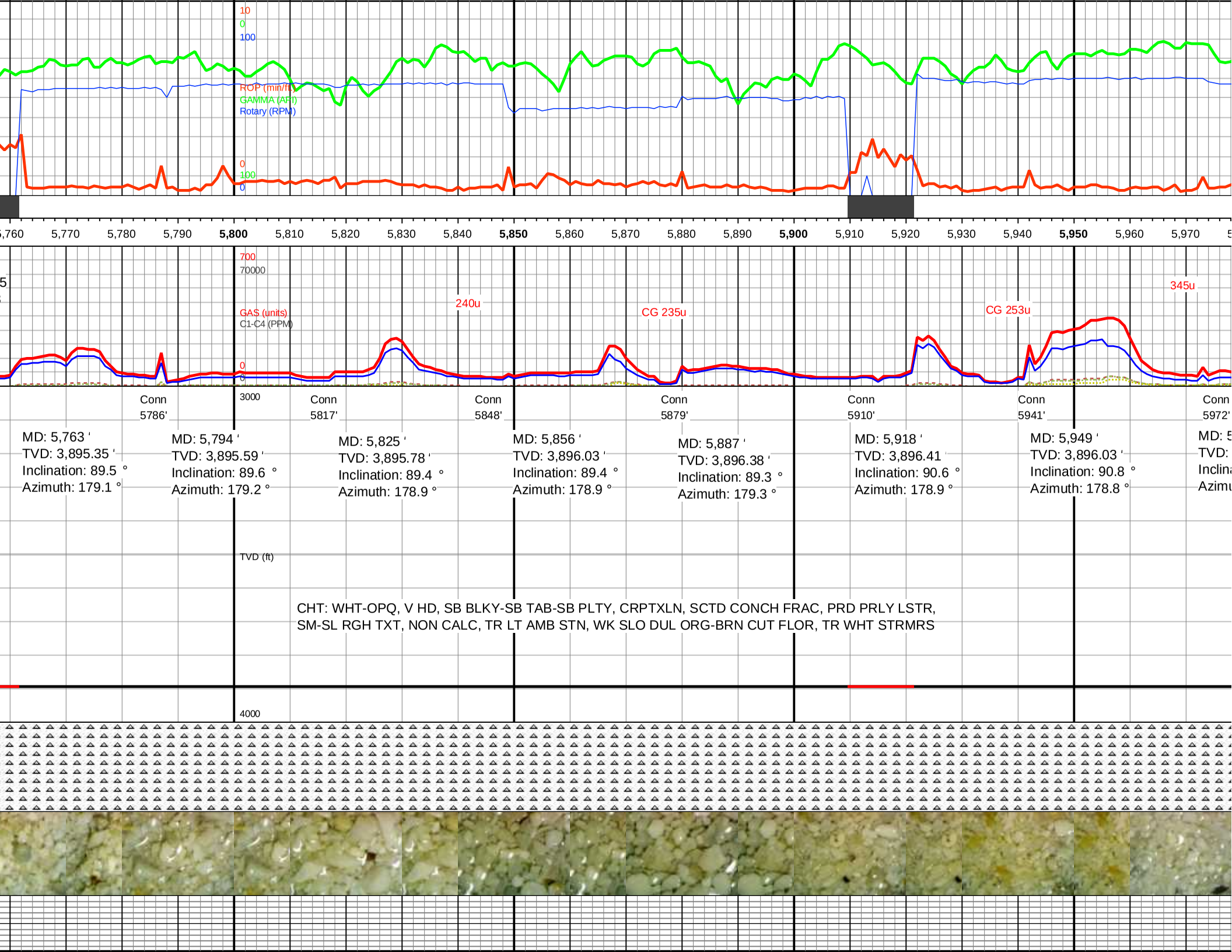

10
0
100
ROP (min/ft)
GAMMA (API)
Rotary (RPM)
0
100
0
4,660
4,670
4,680
4,690
4,700
4,710
4,720
4,730
4,740
4,750
4,760
4,770
4,780
4,790
4,800
4,810
4,820
4,830
4,840
4,850
4,860
4,870
700
70000
GAS (units)
C1-C4 (PPM)
0
0
3000
4000
CG 373u
CG 386u
628u
CG 593u
DTG 684u
CG 307u
CG 201u
CG 383u
Conn
4672'
Conn
4703'
Conn
4734'
Conn
4765'
Conn
4796'
Conn
4827'
Conn
4858'
MD: 4,680 '
TVD: 3,893.03 '
Inclination: 90.1 °
Azimuth: 182.3 °
MD: 4,711 '
TVD: 3,892.9 '
Inclination: 90.4 °
Azimuth: 182.3 °
MD: 4,742 '
TVD: 3,892.57 '
Inclination: 90.8 °
Azimuth: 182.6 °
MD: 4,773 '
TVD: 3,892.35 '
Inclination: 90 °
Azimuth: 182.3 °
MD: 4,804 '
TVD: 3,892.41 '
Inclination: 89.8 °
Azimuth: 181.9 °
MD: 4,835 '
TVD: 3,892.54 '
Inclination: 89.7 °
Azimuth: 181.9 °
MD: 4,866 '
TVD: 3,892.73 '
Inclination: 89.6 °
Azimuth: 182.3 °
TVD (ft)
CHT: WHT-OPA-LT TAN, V HD, SB BLKY-S
CALC, SME DRK AMB STN, ABNT LT AMB

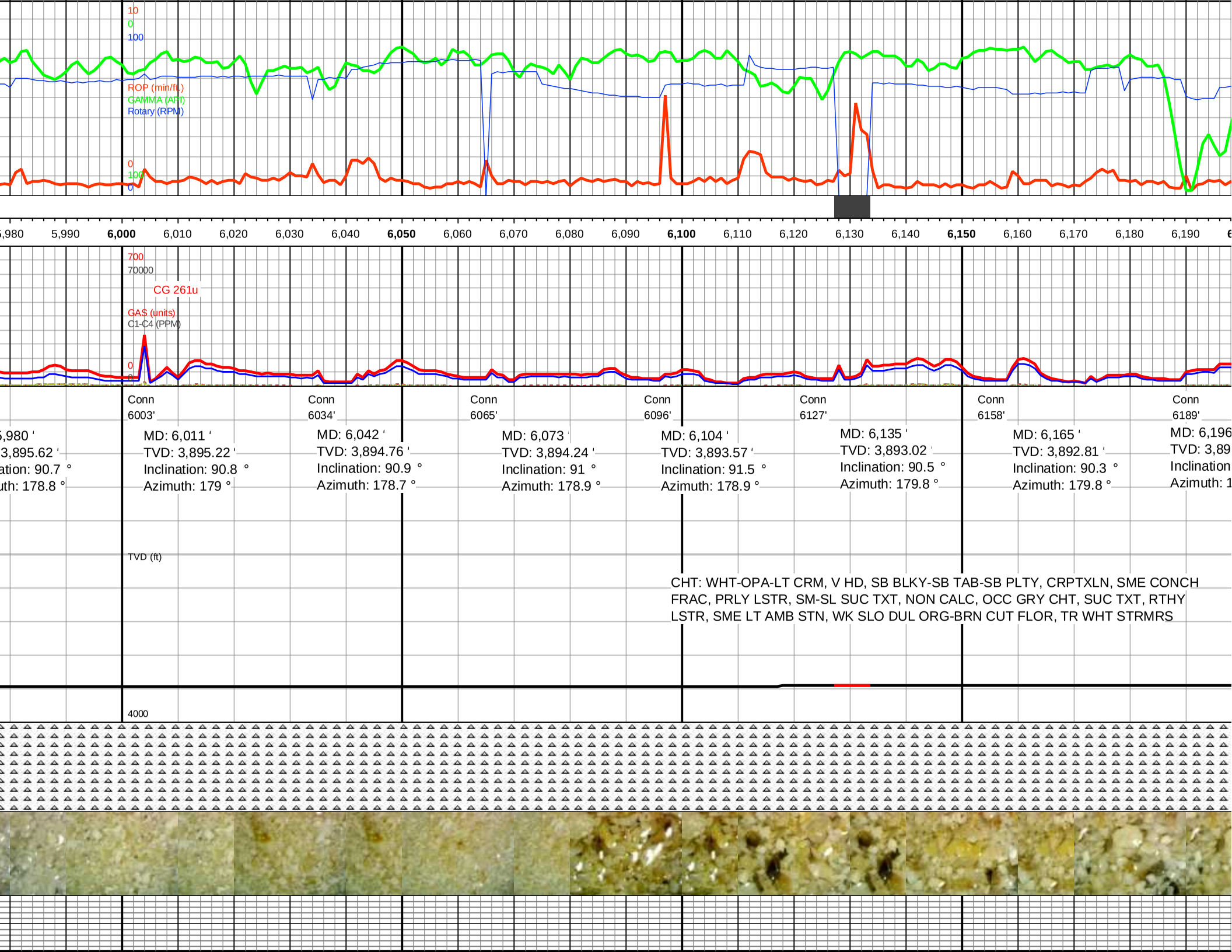

10
0
100
ROP (min/ft)
GAMMA (API)
Rotary (RPM)
0
100
0
4,880
4,890
4,900
4,910
4,920
4,930
4,940
4,950
4,960
4,970
4,980
4,990
5,000
5,010
5,020
5,030
5,040
5,050
5,060
5,070
5,080
5,090
MW 8,4
VIS 26
CG 402u
CG 69u
CG 202u
CG 312u
CG 147u
CG 205u
700
70000
GAS (units)
C1-C4 (PPM)
0
0
3000
Conn
4889'
Conn
4920'
Conn
4951'
Conn
4982'
Conn
5013'
Conn
5044'
Conn
5075'
MD: 4,896 '
TVD: 3,892.94 '
Inclination: 89.6 °
Azimuth: 182.7 °
MD: 4,927 '
TVD: 3,893.16 '
Inclination: 89.6 °
Azimuth: 182.4 °
MD: 4,959 '
TVD: 3,893.44 '
Inclination: 89.4 °
Azimuth: 182.9 °
MD: 4,990 '
TVD: 3,893.71 '
Inclination: 89.6 °
Azimuth: 182.5 °
MD: 5,020 '
TVD: 3,894.05 '
Inclination: 89.1 °
Azimuth: 182.1 °
MD: 5,051 '
TVD: 3,894.59 '
Inclination: 88.9 °
Azimuth: 181.9 °
MD: 5,082 '
TVD: 3,895.29 '
Inclination: 88.5 °
Azimuth: 182 °
TVD (ft)
SB TAB-SB FLKY, CRPTXLN, SLI CONCH FRAC, PRLY-WXY LSTR, SM-SL RGH TXT, NON
STN, ABNT INST BRI WHT-VIO STRMG, DUL ORG-BRN BCMG BRI WHT-VIO CUT FLOR
4000

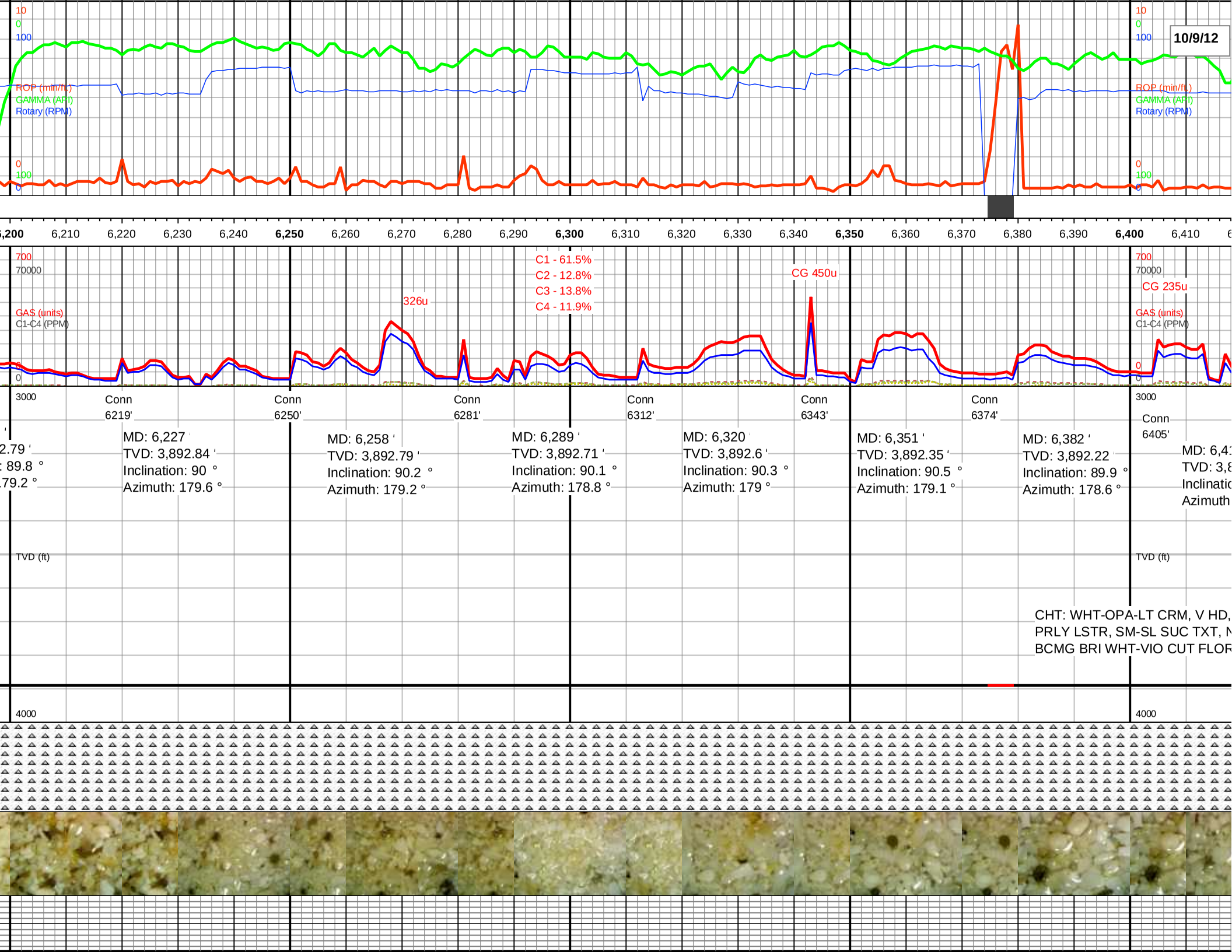

10
0
100
ROP (min/ft)
GAMMA (API)
Rotary (RPM)
0
100
0
5,100
5,110
5,120
5,130
5,140
5,150
5,160
5,170
5,180
5,190
5,200
5,210
5,220
5,230
5,240
5,250
5,260
5,270
5,280
5,290
5,300
5,310
MW 8,4
VIS 26
700
70000
GAS (units)
C1-C4 (PPM)
C1 - 90.8%
C2 - 4.0%
C3 - 5.2%
CG 175u
CG 106u
CG 162u
CG 71u
0
0
Conn
5105'
Conn
5136'
Conn
5167'
Conn
5198'
3000
Conn
5229'
Conn
5260'
Conn
5291'
MD: 5,113 '
TVD: 3,895.94 '
Inclination: 89.1 °
Azimuth: 181.8 °
MD: 5,144 '
TVD: 3,896.02 '
Inclination: 90.6 °
Azimuth: 181.6 °
MD: 5,175 '
TVD: 3,895.56 '
Inclination: 91.1 °
Azimuth: 181.4 °
MD: 5,206 '
TVD: 3,894.97 '
Inclination: 91.1 °
Azimuth: 181 °
MD: 5,237 '
TVD: 3,894.35 '
Inclination: 91.2 °
Azimuth: 180.8 °
MD: 5,268 '
TVD: 3,893.78 '
Inclination: 90.9 °
Azimuth: 180.5 °
MD: 5,299 '
TVD: 3,893.35 '
Inclination: 90.7 °
Azimuth: 180 °
TVD (ft)
CHT: WHT-OPA, V HD, SB BLKY-SB TAB-SI
SM-SL RGH TXT, NON CALC, TR LT AMB S
4000

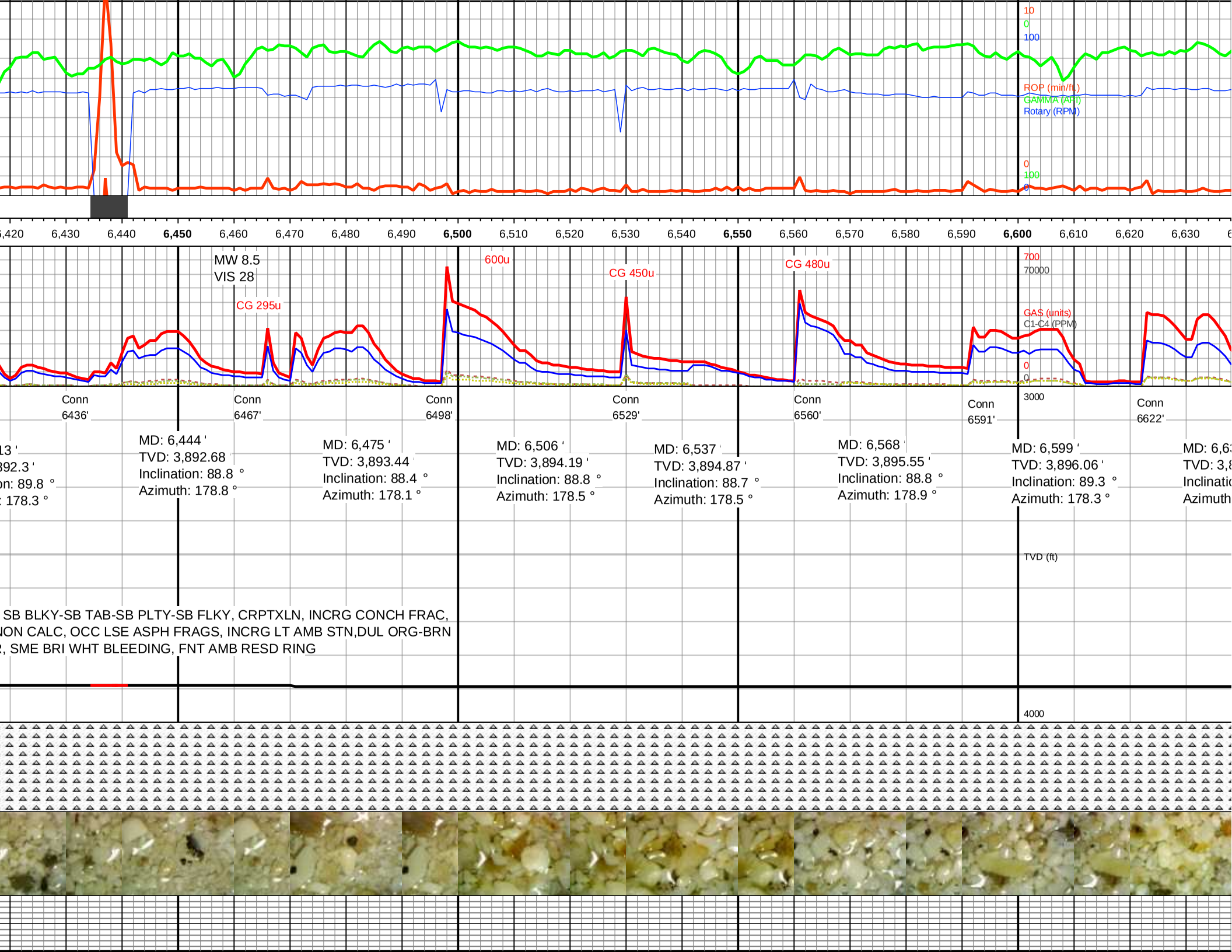

10
0
100
ROP (min/ft)
GAMMA (API)
Rotary (RPM)
0
100
0
5,320
5,330
5,340
5,350
5,360
5,370
5,380
5,390
5,400
5,410
5,420
5,430
5,440
5,450
5,460
5,470
5,480
5,490
5,500
5,510
5,520
5,530
700
70000
GAS (units)
C1-C4 (PPM)
0
3000
4000
320u
G 203u
CG 227u
C1 - 62.4%
C2 - 13.0%
C3 - 12.9%
C4 - 11.7%
Conn
5322'
Conn
5353'
Conn
5384'
Conn
5415'
Conn
5446'
Conn
5477'
Conn
5508'
MD: 5,330 '
TVD: 3,893.05 '
Inclination: 90.4 °
Azimuth: 179.8 °
MD: 5,361 '
TVD: 3,892.81 '
Inclination: 90.5 °
Azimuth: 179.8 °
MD: 5,392 '
TVD: 3,892.53 '
Inclination: 90.5 °
Azimuth: 179.6 °
MD: 5,423 '
TVD: 3,892.21 '
Inclination: 90.7 °
Azimuth: 179.8 °
MD: 5,454 '
TVD: 3,891.7 '
Inclination: 91.2 °
Azimuth: 179.5 °
MD: 5,485 '
TVD: 3,891.24 '
Inclination: 90.5 °
Azimuth: 180.7 °
MD: 5,515 '
TVD: 3,891.39 '
Inclination: 88.9 °
Azimuth: 179.6 °
TVD (ft)
B FLKY-SB PLTY, CRPTXLN, SME CONCH FRAC, PRLY-WXY LSTR,
STN, SLO DUL FNT ORG-BRN CUT FLOR BCMG DUL MLKY ORG-VIO

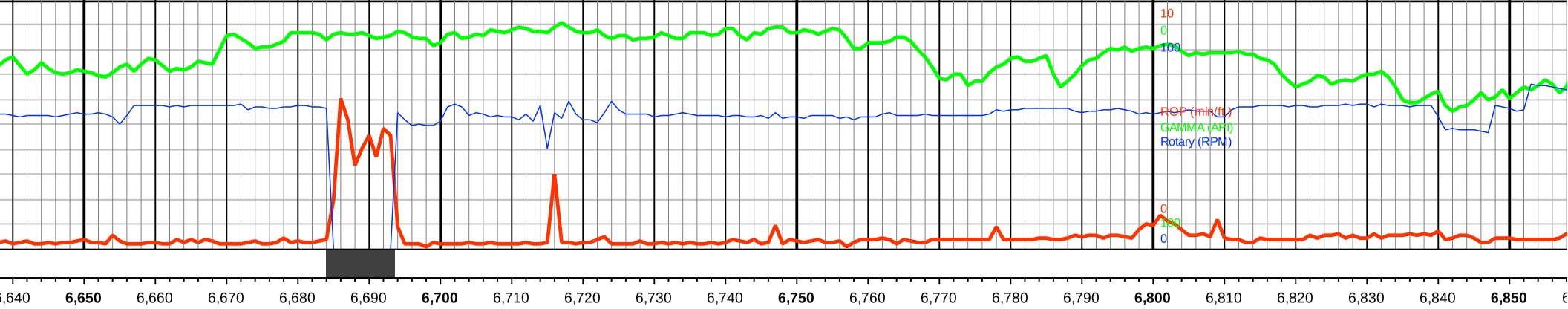

10/8/12
100
ROP (min/ft)
GAMMA (API)
Rotary (RPM)
0
100
0
TOH @ 5724' MD to shuffle drill pipe
5,540
5,550
5,560
5,570
5,580
5,590
5,600
5,610
5,620
5,630
5,640
5,650
5,660
5,670
5,680
5,690
5,700
5,710
5,720
5,730
5,740
5,750
700
70000
CG 232u
GAS (units)
C1-C4 (PPM)
CG 218u
MW 8.
VIS 28
0
0
3000
Conn 5539'
Conn 5570'
Conn 5601'
Conn 5632'
Conn 5663'
Conn 5694'
Conn 5724'
Conn 5755'
MD: 5,546 '
TVD: 3,892.1 '
Inclination: 88.5 °
Azimuth: 179.5 °
MD: 5,577 '
TVD: 3,892.94 '
Inclination: 88.4 °
Azimuth: 180.2 °
MD: 5,609 '
TVD: 3,893.58 '
Inclination: 89.3 °
Azimuth: 179.7 °
MD: 5,639 '
TVD: 3,893.94 '
Inclination: 89.3 °
Azimuth: 180 °
MD: 5,670 '
TVD: 3,894.24 '
Inclination: 89.6 °
Azimuth: 179.7 °
MD: 5,701 '
TVD: 3,894.51 '
Inclination: 89.4 °
Azimuth: 179.7 °
MD: 5,732 '
TVD: 3,894.54 '
Inclination: 89 °
Azimuth: 179.6 °
TVD (ft)
CHT: WHT-OPA, V HD, SB BLKY-SB TAB-SB FLKY-SB PLTY, CRPTXLN, SME CONCH FRAC, PRLY-WXY LSTR, SM-SL
RGH TXT, NON CALC, INCRG LT AMB STN, SLO DUL ORG-BRN CUT FLOR BCMG BRI VIO, OCC SLO BLEEDING WHT
4000

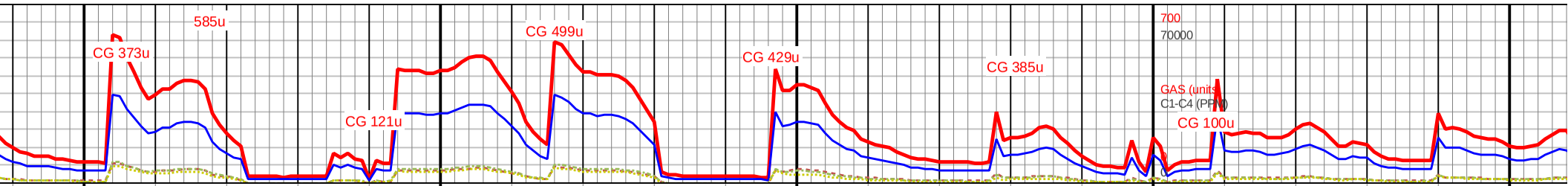

10
0
100
ROP (min/ft)
GAMMA (API)
Rotary (RPM)
0
100
0
5,760
5,770
5,780
5,790
5,800
5,810
5,820
5,830
5,840
5,850
5,860
5,870
5,880
5,890
5,900
5,910
5,920
5,930
5,940
5,950
5,960
5,970
700
70000
GAS (units)
C1-C4 (PPM)
0
0
3000
240u
CG 235u
CG 253u
345u
Conn
5786'
Conn
5817'
Conn
5848'
Conn
5879'
Conn
5910'
Conn
5941'
Conn
5972'
MD: 5,763 '
TVD: 3,895.35 '
Inclination: 89.5 °
Azimuth: 179.1 °
MD: 5,794 '
TVD: 3,895.59 '
Inclination: 89.6 °
Azimuth: 179.2 °
MD: 5,825 '
TVD: 3,895.78 '
Inclination: 89.4 °
Azimuth: 178.9 °
MD: 5,856 '
TVD: 3,896.03 '
Inclination: 89.4 °
Azimuth: 178.9 °
MD: 5,887 '
TVD: 3,896.38 '
Inclination: 89.3 °
Azimuth: 179.3 °
MD: 5,918 '
TVD: 3,896.41 '
Inclination: 90.6 °
Azimuth: 178.9 °
MD: 5,949 '
TVD: 3,896.03 '
Inclination: 90.8 °
Azimuth: 178.8 °
TVD (ft)
CHT: WHT-OPQ, V HD, SB BLKY-SB TAB-SB PLTY, CRPTXLN, SCTD CONCH FRAC, PRD PRLY LSTR,
SM-SL RGH TXT, NON CALC, TR LT AMB STN, WK SLO DUL ORG-BRN CUT FLOR, TR WHT STRMRS
4000


10
0
100
ROP (min/ft)
GAMMA (API)
Rotary (RPM)
0
100
0
5,980
5,990
6,000
6,010
6,020
6,030
6,040
6,050
6,060
6,070
6,080
6,090
6,100
6,110
6,120
6,130
6,140
6,150
6,160
6,170
6,180
6,190
700
70000
CG 261u
GAS (units)
C1-C4 (PPM)
0
Conn
6003'
MD: 6,011 '
TVD: 3,895.22 '
Inclination: 90.8 °
Azimuth: 179 °
Conn
6034'
MD: 6,042 '
TVD: 3,894.76 '
Inclination: 90.9 °
Azimuth: 178.7 °
Conn
6065'
MD: 6,073 '
TVD: 3,894.24 '
Inclination: 91 °
Azimuth: 178.9 °
Conn
6096'
MD: 6,104 '
TVD: 3,893.57 '
Inclination: 91.5 °
Azimuth: 178.9 °
Conn
6127'
MD: 6,135 '
TVD: 3,893.02 '
Inclination: 90.5 °
Azimuth: 179.8 °
Conn
6158'
MD: 6,165 '
TVD: 3,892.81 '
Inclination: 90.3 °
Azimuth: 179.8 °
Conn
6189'
MD: 6,196
TVD: 3,89
Inclination
Azimuth: 1
TVD (ft)
CHT: WHT-OPA-LT CRM, V HD, SB BLKY-SB TAB-SB PLTY, CRPTXLN, SME CONCH FRAC, PRLY LSTR, SM-SL SUC TXT, NON CALC, OCC GRY CHT, SUC TXT, RTHY LSTR, SME LT AMB STN, WK SLO DUL ORG-BRN CUT FLOR, TR WHT STRMRS
4000


10/9/12
ROP (min/ft)
GAMMA (API)
Rotary (RPM)
6,200
6,210
6,220
6,230
6,240
6,250
6,260
6,270
6,280
6,290
6,300
6,310
6,320
6,330
6,340
6,350
6,360
6,370
6,380
6,390
6,400
6,410
GAS (units)
C1-C4 (PPM)
326u
C1 - 61.5%
C2 - 12.8%
C3 - 13.8%
C4 - 11.9%
CG 450u
CG 235u
Conn 6219'
Conn 6250'
Conn 6281'
Conn 6312'
Conn 6343'
Conn 6374'
Conn 6405'
MD: 6,227 '
TVD: 3,892.84 '
Inclination: 90 °
Azimuth: 179.6 °
MD: 6,258 '
TVD: 3,892.79 '
Inclination: 90.2 °
Azimuth: 179.2 °
MD: 6,289 '
TVD: 3,892.71 '
Inclination: 90.1 °
Azimuth: 178.8 °
MD: 6,320 '
TVD: 3,892.6 '
Inclination: 90.3 °
Azimuth: 179 °
MD: 6,351 '
TVD: 3,892.35 '
Inclination: 90.5 °
Azimuth: 179.1 °
MD: 6,382 '
TVD: 3,892.22 '
Inclination: 89.9 °
Azimuth: 178.6 °
TVD (ft)
CHT: WHT-OPA-LT CRM, V HD,
PRLY LSTR, SM-SL SUC TXT, N
BCMG BRI WHT-VIO CUT FLOR


10
0
100
ROP (min/ft)
GAMMA (API)
Rotary (RPM)
0
100
0
6,420
6,430
6,440
6,450
6,460
6,470
6,480
6,490
6,500
6,510
6,520
6,530
6,540
6,550
6,560
6,570
6,580
6,590
6,600
6,610
6,620
6,630
MW 8.5
VIS 28
CG 295u
600u
CG 450u
CG 480u
700
70000
GAS (units)
C1-C4 (PPM)
0
0
3000
Conn
6436'
Conn
6467'
Conn
6498'
Conn
6529'
Conn
6560'
Conn
6591'
Conn
6622'
MD: 6,444 '
TVD: 3,892.68 '
Inclination: 88.8 °
Azimuth: 178.8 °
MD: 6,475 '
TVD: 3,893.44 '
Inclination: 88.4 °
Azimuth: 178.1 °
MD: 6,506 '
TVD: 3,894.19 '
Inclination: 88.8 °
Azimuth: 178.5 °
MD: 6,537 '
TVD: 3,894.87 '
Inclination: 88.7 °
Azimuth: 178.5 °
MD: 6,568 '
TVD: 3,895.55 '
Inclination: 88.8 °
Azimuth: 178.9 °
MD: 6,599 '
TVD: 3,896.06 '
Inclination: 89.3 °
Azimuth: 178.3 °
TVD (ft)
SB BLKY-SB TAB-SB PLTY-SB FLKY, CRPTXLN, INCRG CONCH FRAC,
NON CALC, OCC LSE ASPH FRAGS, INCRG LT AMB STN,DUL ORG-BRN
, SME BRI WHT BLEEDING, FNT AMB RESD RING
4000





Conn 6653'

MD: 6,661 '
TVD: 3,896.93 '
Inclination: 89.1 °
Azimuth: 177.3 °

Conn 6684'

MD: 6,692 '
TVD: 3,897.17 '
Inclination: 90 °
Azimuth: 177 °

Conn 6715'

MD: 6,723 '
TVD: 3,897.12 '
Inclination: 90.2 °
Azimuth: 176.9 °

Conn 6746'

MD: 6,754 '
TVD: 3,896.9 '
Inclination: 90.6 °
Azimuth: 177.3 °

Conn 6777'

MD: 6,785 '
TVD: 3,896.6 '
Inclination: 90.5 °
Azimuth: 176.8 °

Conn 6808'

MD: 6,816 '
TVD: 3,896.3 '
Inclination: 90.6 °
Azimuth: 176.9 °

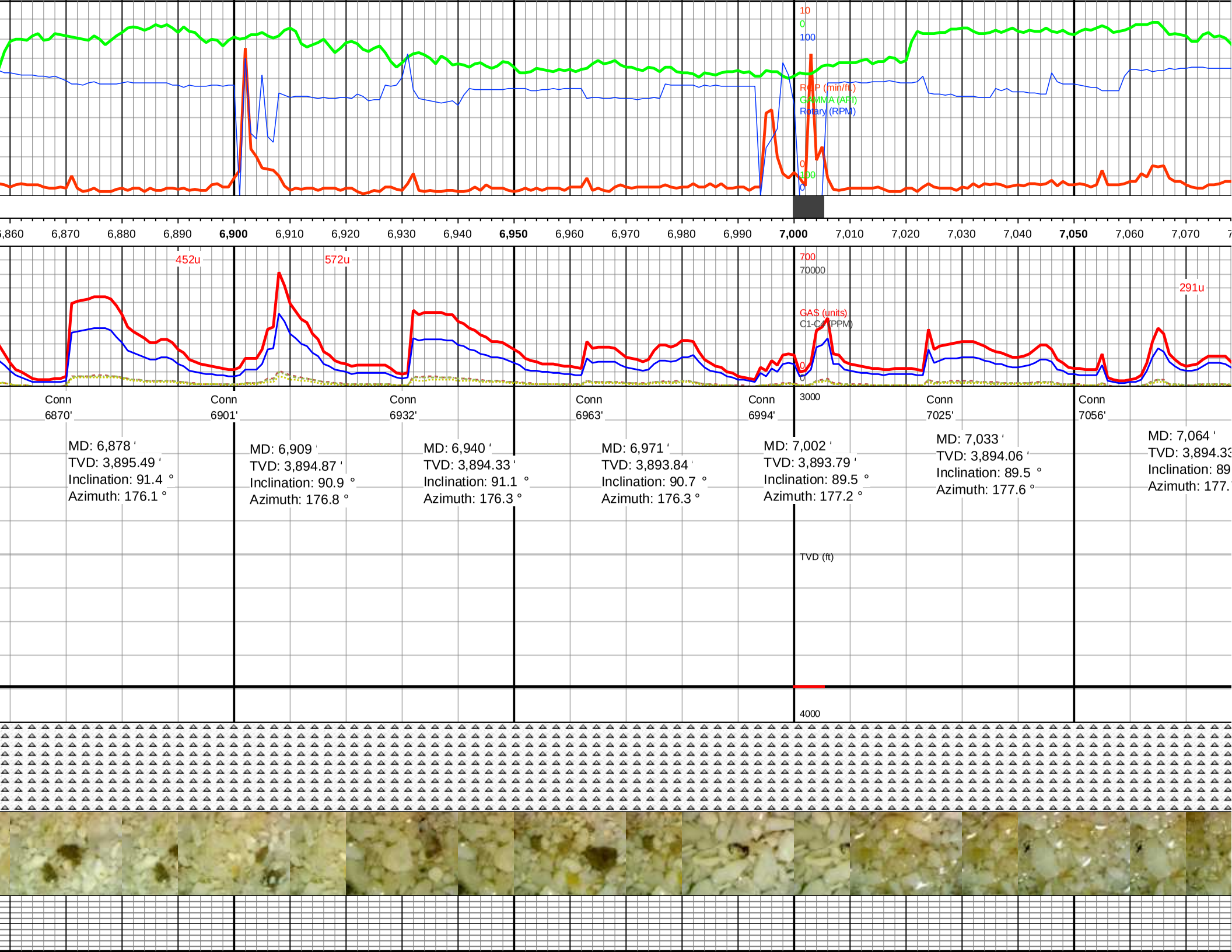
Conn 6839'

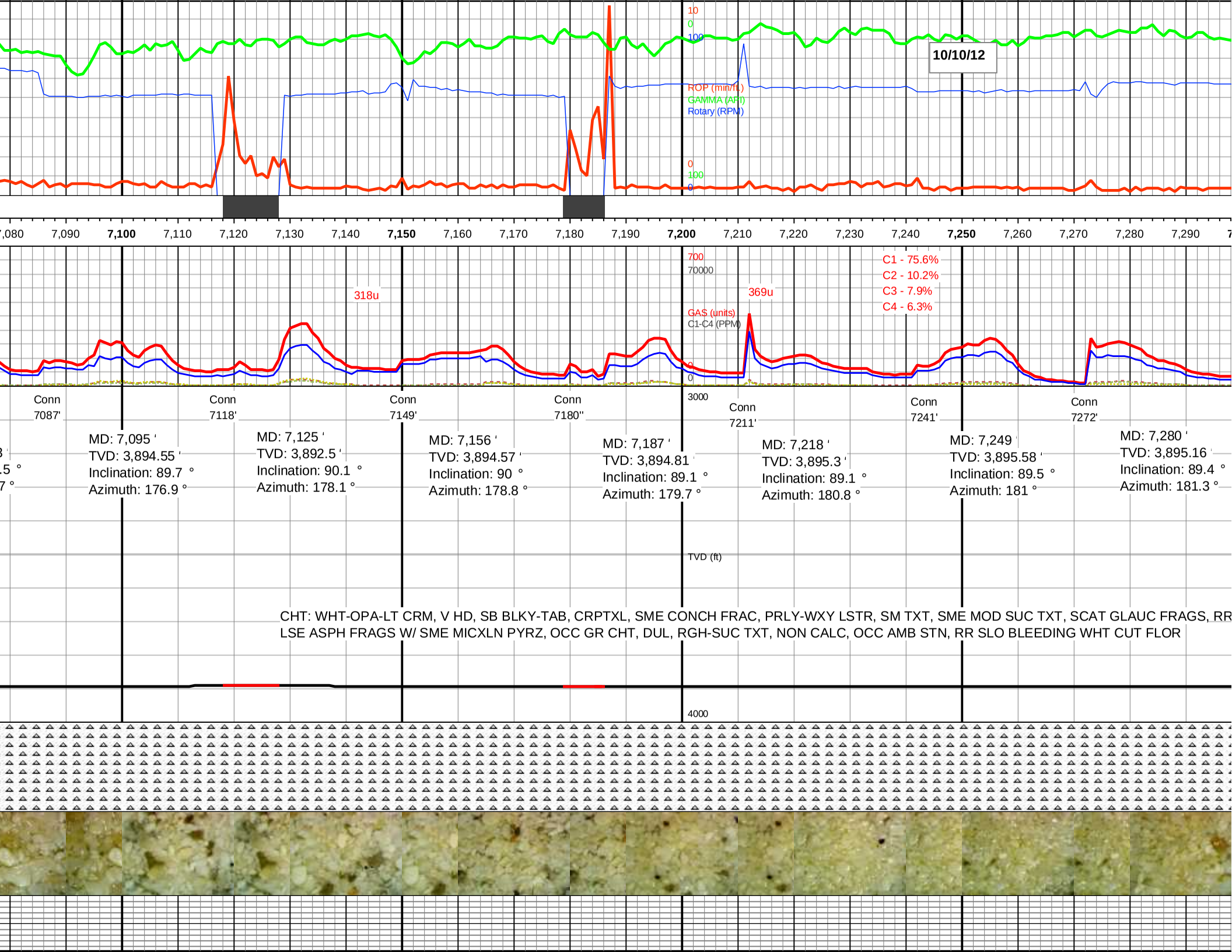
MD: 6,847 '
TVD: 3,896.01 '
Inclination: 90.5 °
Azimuth: 176.6 °

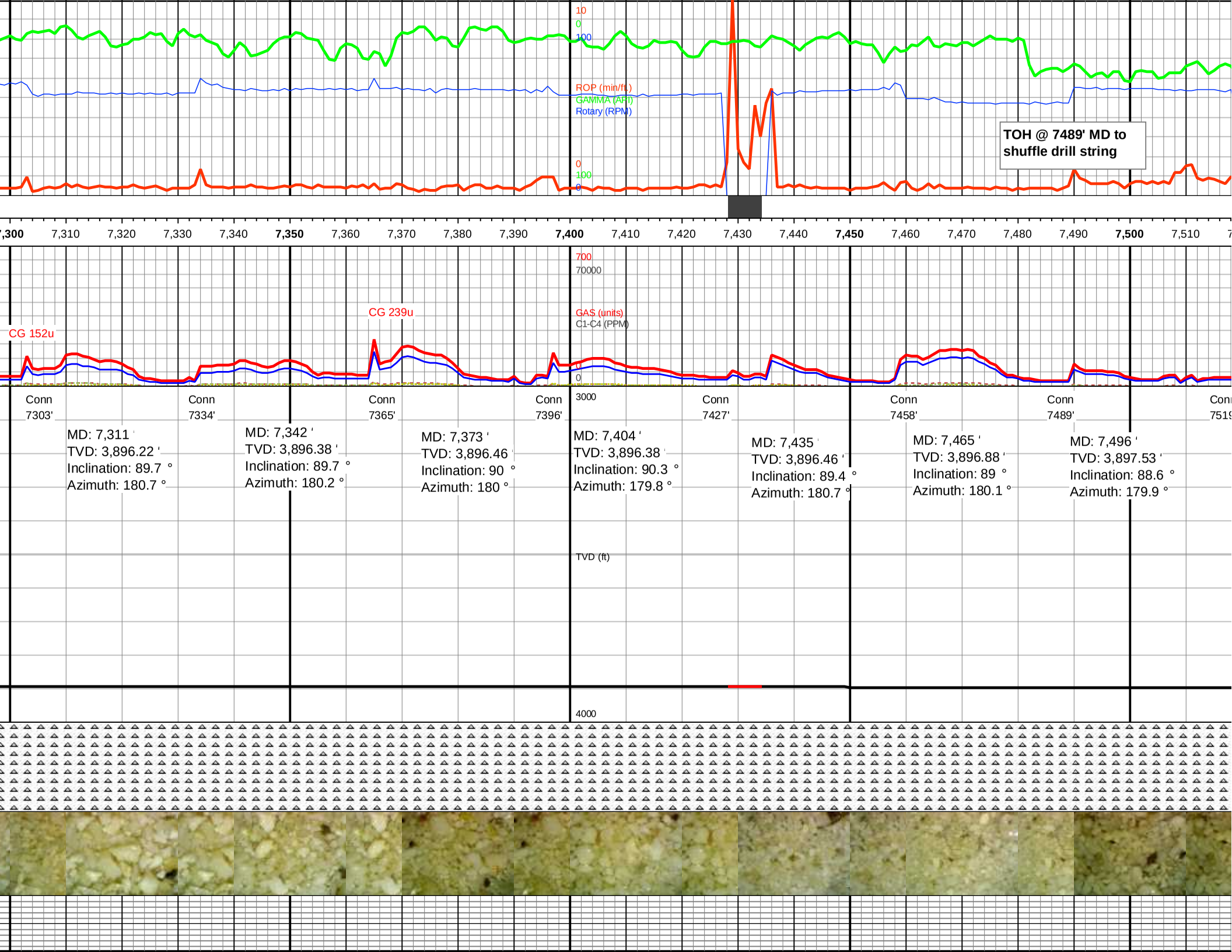
TVD (ft)

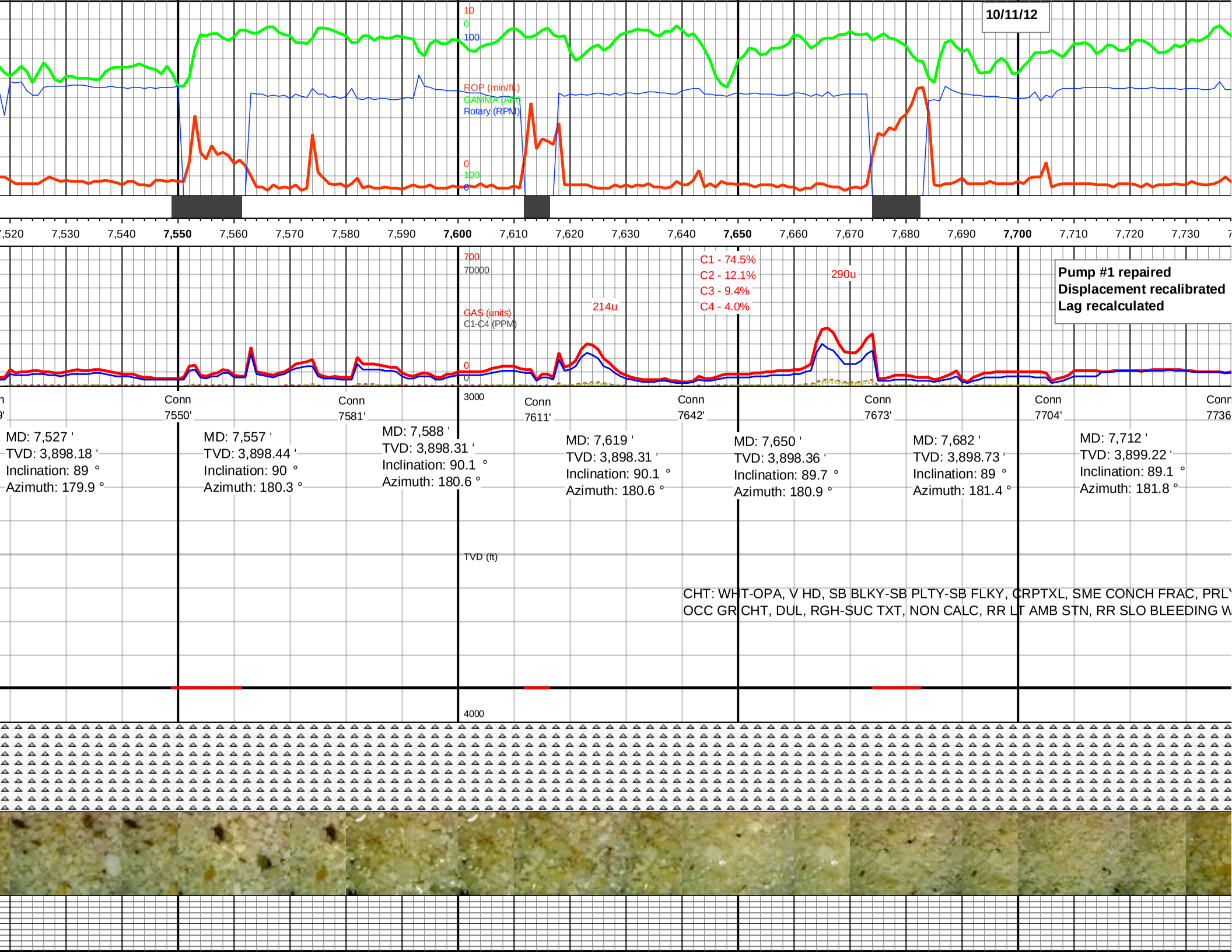
CHT: WHT-OPA-LT CRM, V HD, SB BLKY-SB TAB-SB PLTY-SB FLKY, CRPTXLN, INCRG CONCH FRAC, PRLY LSTR, SM-SL SUC TXT, NON CALC, 2% SCTD FRAC PORO, OCC LSE ASPH FRAGS, LT AMB - DK BRN STN,DUL ORG-BRN BCMG BRI WHT-VIO CUT FLOR, SME BRI WHT BLEEDING, FNT AMB RESD RING

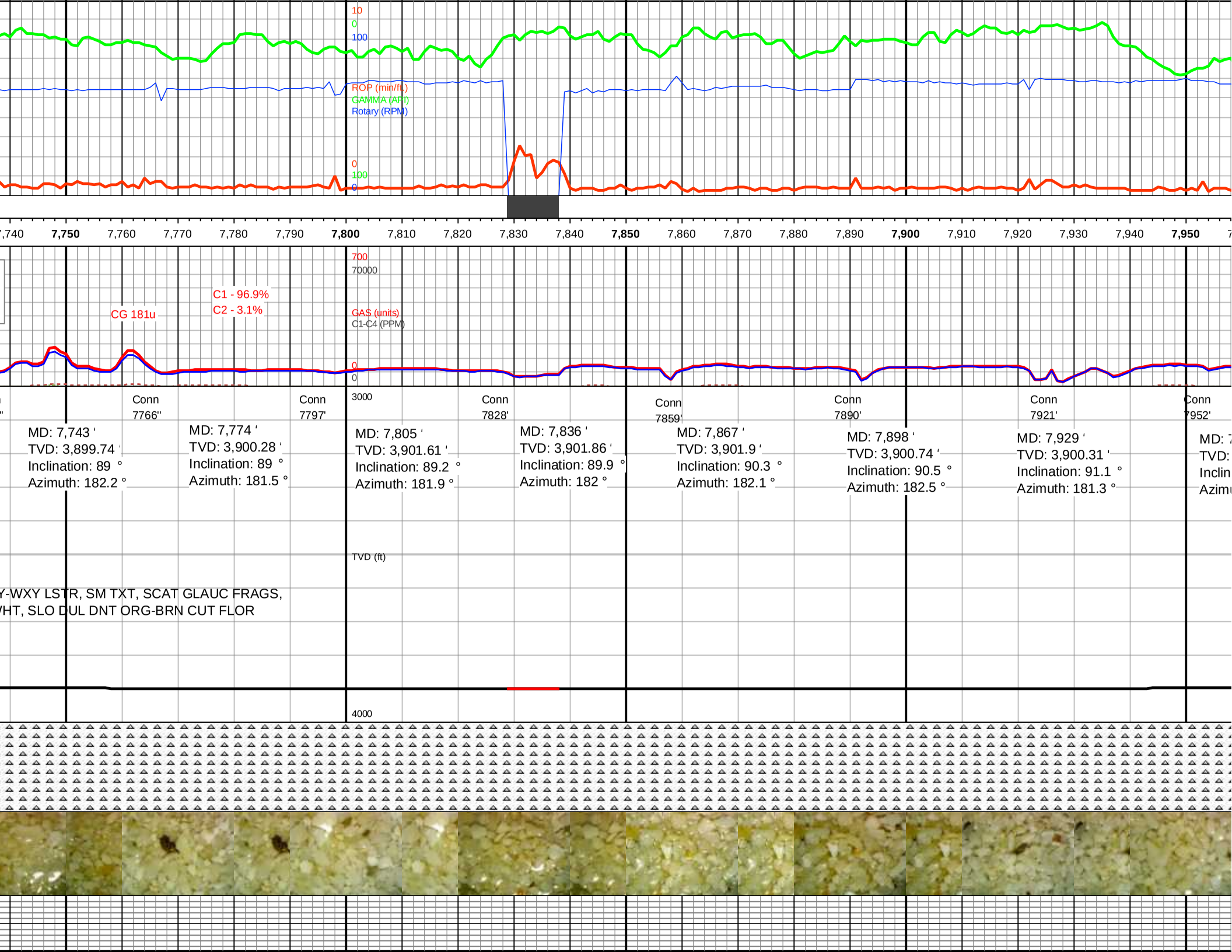
4000

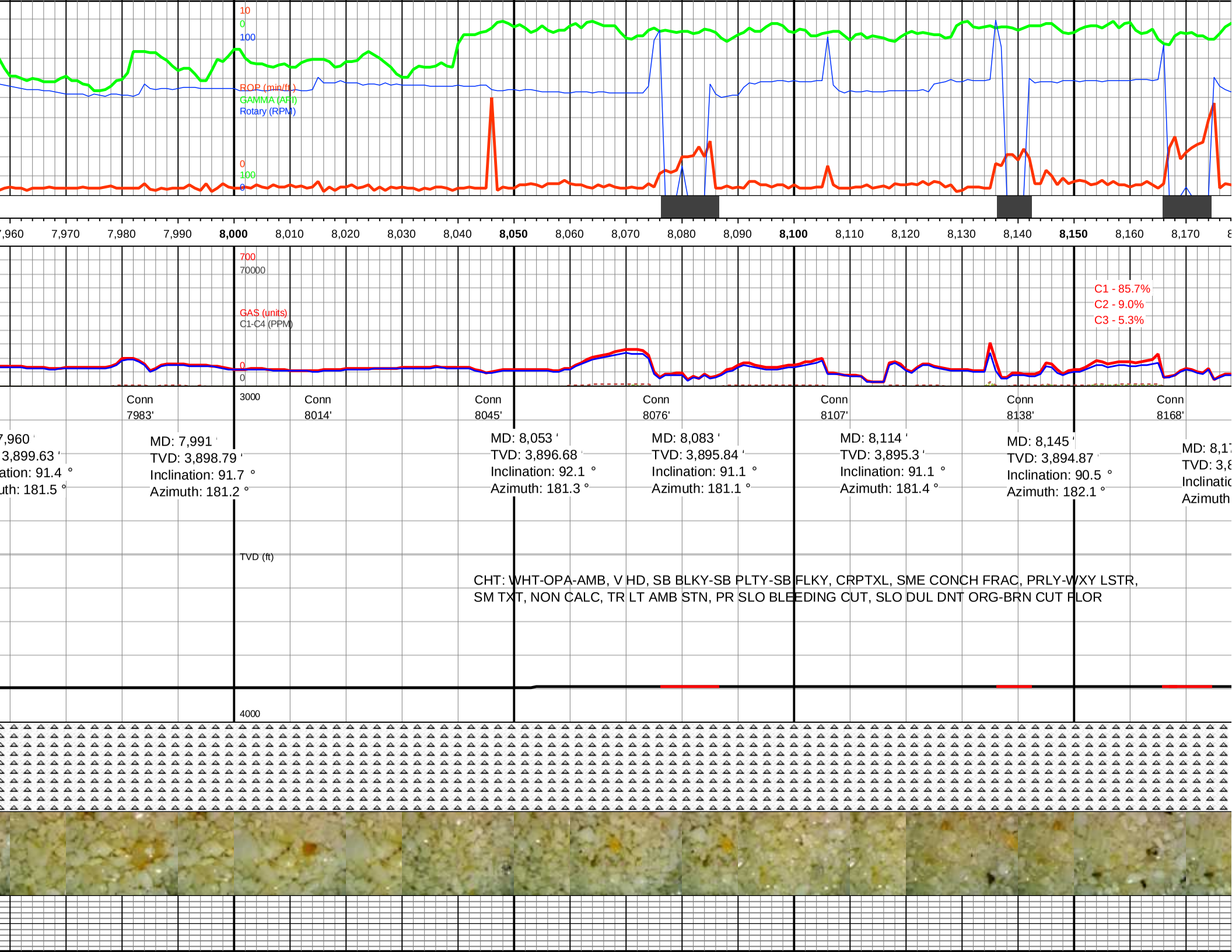

10
0
100
ROP (min/ft)
GAMMA (API)
Rotary (RPM)
0
100
0
6,860
6,870
6,880
6,890
6,900
6,910
6,920
6,930
6,940
6,950
6,960
6,970
6,980
6,990
7,000
7,010
7,020
7,030
7,040
7,050
7,060
7,070
452u
572u
700
70000
291u
GAS (units)
C1-C4 (PPM)
0
3000
Conn
6870'
Conn
6901'
Conn
6932'
Conn
6963'
Conn
6994'
Conn
7025'
Conn
7056'
MD: 6,878 '
TVD: 3,895.49 '
Inclination: 91.4 °
Azimuth: 176.1 °
MD: 6,909 '
TVD: 3,894.87 '
Inclination: 90.9 °
Azimuth: 176.8 °
MD: 6,940 '
TVD: 3,894.33 '
Inclination: 91.1 °
Azimuth: 176.3 °
MD: 6,971 '
TVD: 3,893.84 '
Inclination: 90.7 °
Azimuth: 176.3 °
MD: 7,002 '
TVD: 3,893.79 '
Inclination: 89.5 °
Azimuth: 177.2 °
MD: 7,033 '
TVD: 3,894.06 '
Inclination: 89.5 °
Azimuth: 177.6 °
MD: 7,064 '
TVD: 3,894.33
Inclination: 89
Azimuth: 177.
TVD (ft)
4000

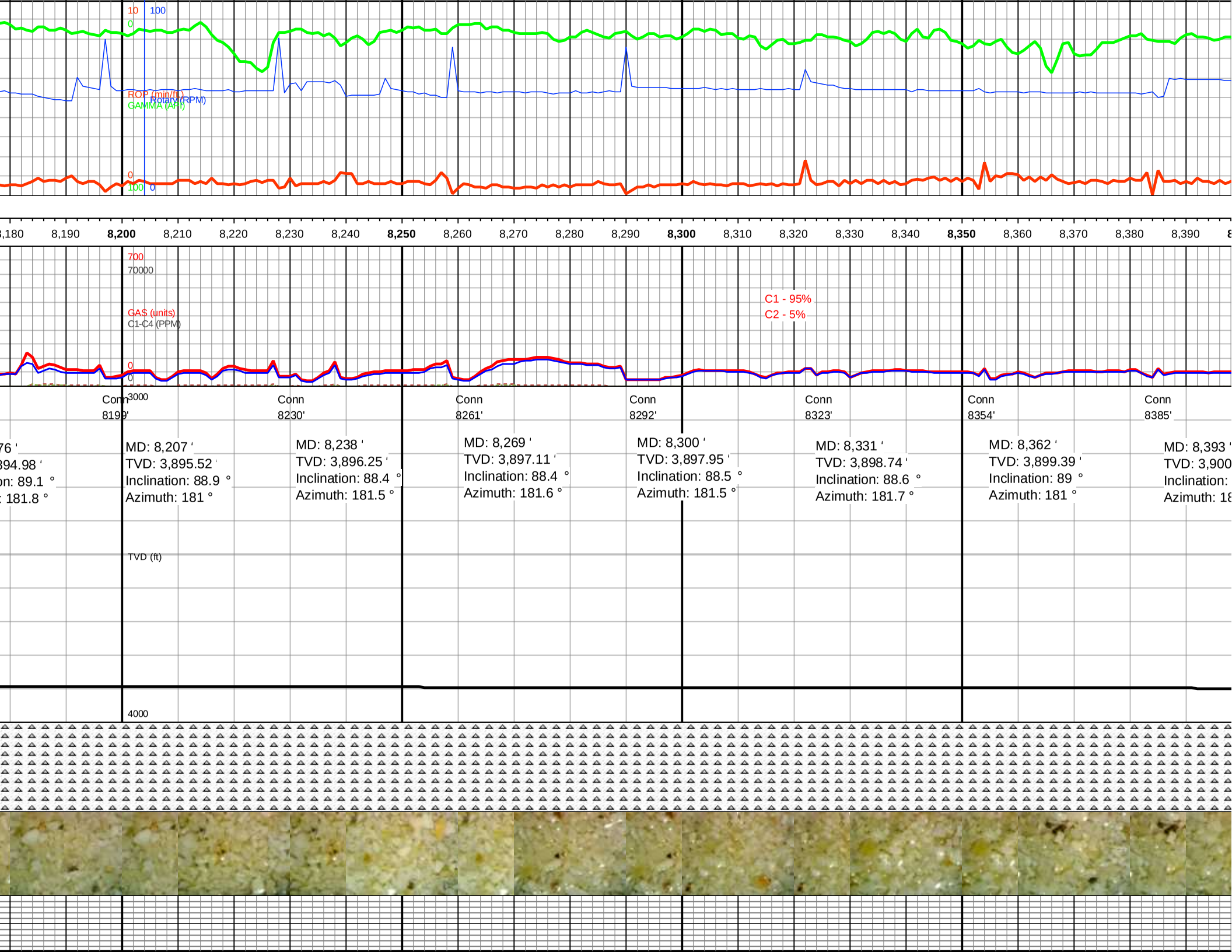

10/10/12
10
0
100
ROP (min/ft)
GAMMA (API)
Rotary (RPM)
0
100
0
7,080
7,090
7,100
7,110
7,120
7,130
7,140
7,150
7,160
7,170
7,180
7,190
7,200
7,210
7,220
7,230
7,240
7,250
7,260
7,270
7,280
7,290
700
70000
GAS (units)
C1-C4 (PPM)
0
3000
318u
369u
C1 - 75.6%
C2 - 10.2%
C3 - 7.9%
C4 - 6.3%
Conn
7087'
Conn
7118'
Conn
7149'
Conn
7180''
Conn
7211'
Conn
7241'
Conn
7272'
MD: 7,095 '
TVD: 3,894.55 '
Inclination: 89.7 °
Azimuth: 176.9 °
MD: 7,125 '
TVD: 3,892.5 '
Inclination: 90.1 °
Azimuth: 178.1 °
MD: 7,156 '
TVD: 3,894.57 '
Inclination: 90 °
Azimuth: 178.8 °
MD: 7,187 '
TVD: 3,894.81 '
Inclination: 89.1 °
Azimuth: 179.7 °
MD: 7,218 '
TVD: 3,895.3 '
Inclination: 89.1 °
Azimuth: 180.8 °
MD: 7,249 '
TVD: 3,895.58 '
Inclination: 89.5 °
Azimuth: 181 °
MD: 7,280 '
TVD: 3,895.16 '
Inclination: 89.4 °
Azimuth: 181.3 °
TVD (ft)
CHT: WHT-OPA-LT CRM, V HD, SB BLKY-TAB, CRPTXL, SME CONCH FRAC, PRLY-WXY LSTR, SM TXT, SME MOD SUC TXT, SCAT GLAUC FRAGS, RR
LSE ASPH FRAGS W/ SME MICXLN PYRZ, OCC GR CHT, DUL, RGH-SUC TXT, NON CALC, OCC AMB STN, RR SLO BLEEDING WHT CUT FLOR
4000

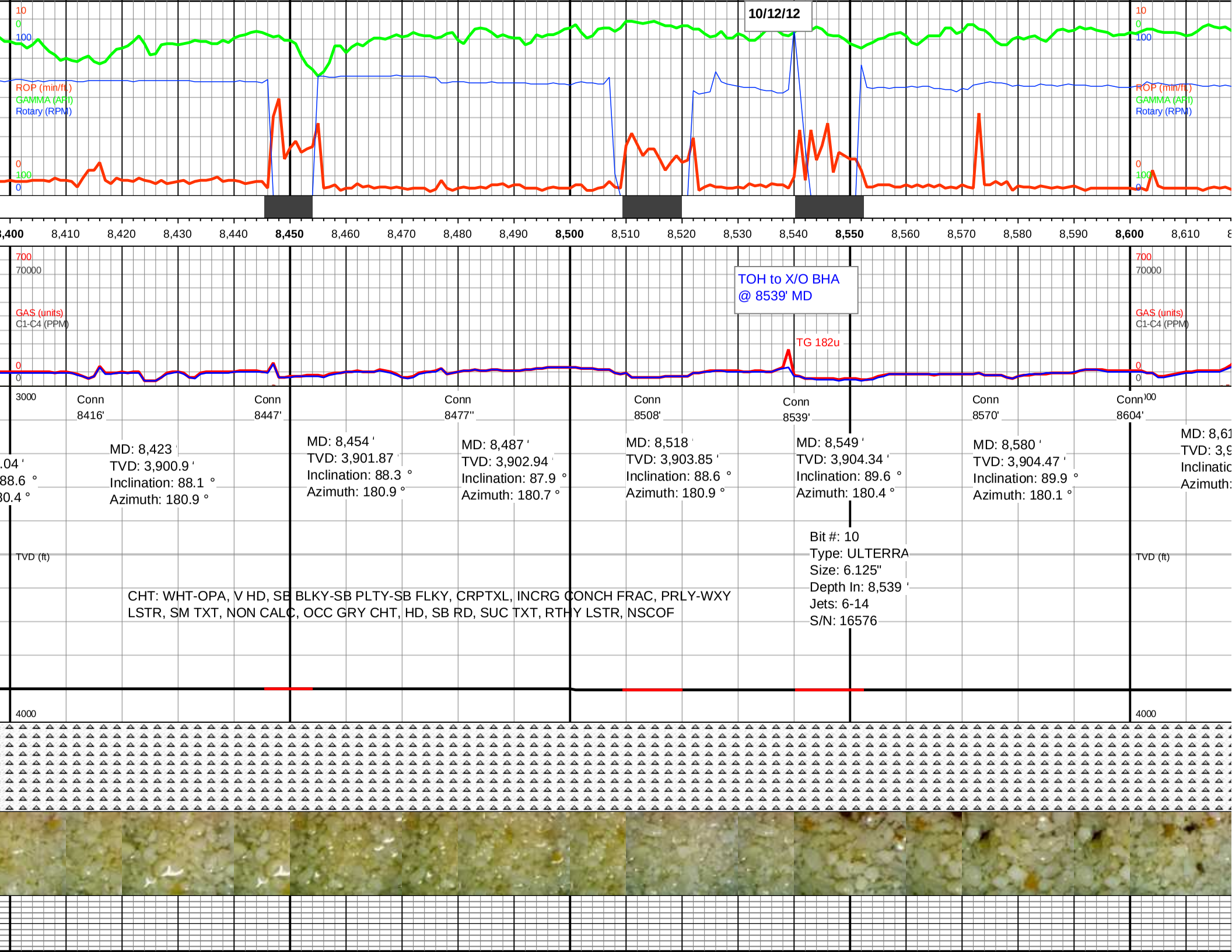

10
0
100
ROP (min/ft)
GAMMA (API)
Rotary (RPM)
0
100
0
TOH @ 7489' MD to shuffle drill string
7,300
7,310
7,320
7,330
7,340
7,350
7,360
7,370
7,380
7,390
7,400
7,410
7,420
7,430
7,440
7,450
7,460
7,470
7,480
7,490
7,500
7,510
700
70000
GAS (units)
C1-C4 (PPM)
0
3000
CG 152u
CG 239u
Conn
7303'
Conn
7334'
Conn
7365'
Conn
7396'
Conn
7427'
Conn
7458'
Conn
7489'
MD: 7,311 '
TVD: 3,896.22 '
Inclination: 89.7 °
Azimuth: 180.7 °
MD: 7,342 '
TVD: 3,896.38 '
Inclination: 89.7 °
Azimuth: 180.2 °
MD: 7,373 '
TVD: 3,896.46 '
Inclination: 90 °
Azimuth: 180 °
MD: 7,404 '
TVD: 3,896.38 '
Inclination: 90.3 °
Azimuth: 179.8 °
MD: 7,435 '
TVD: 3,896.46 '
Inclination: 89.4 °
Azimuth: 180.7 °
MD: 7,465 '
TVD: 3,896.88 '
Inclination: 89 °
Azimuth: 180.1 °
MD: 7,496 '
TVD: 3,897.53 '
Inclination: 88.6 °
Azimuth: 179.9 °
TVD (ft)
4000

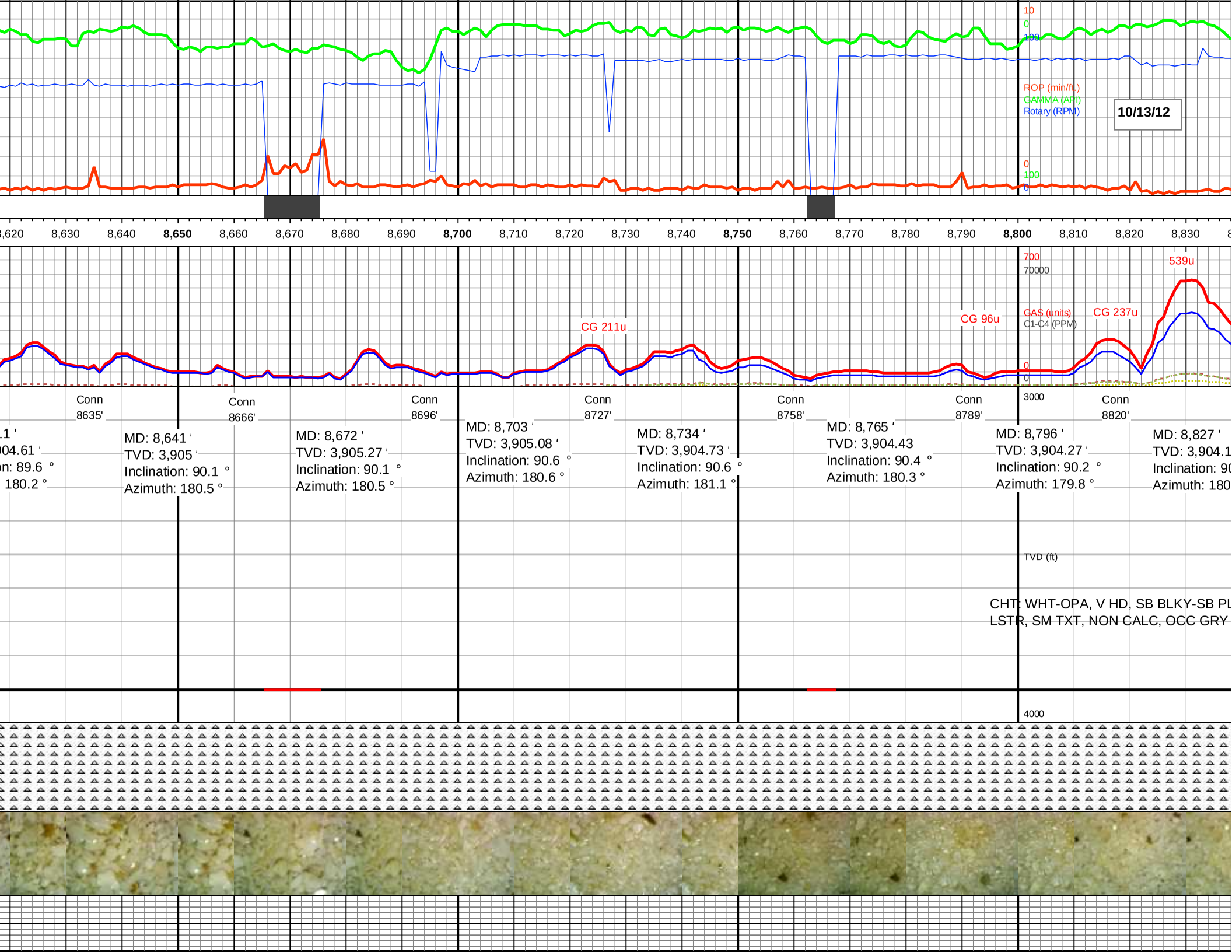

10/11/12
10
0
100
ROP (min/ft)
GAMMA (API)
Rotary (RPM)
0
100
0
7,520
7,530
7,540
7,550
7,560
7,570
7,580
7,590
7,600
7,610
7,620
7,630
7,640
7,650
7,660
7,670
7,680
7,690
7,700
7,710
7,720
7,730
700
70000
GAS (units)
C1-C4 (PPM)
0
0
3000
C1 - 74.5%
C2 - 12.1%
C3 - 9.4%
C4 - 4.0%
214u
290u
Pump #1 repaired
Displacement recalibrated
Lag recalculated
Conn
7550'
Conn
7581'
Conn
7611'
Conn
7642'
Conn
7673'
Conn
7704'
MD: 7,527 '
TVD: 3,898.18 '
Inclination: 89 °
Azimuth: 179.9 °
MD: 7,557 '
TVD: 3,898.44 '
Inclination: 90 °
Azimuth: 180.3 °
MD: 7,588 '
TVD: 3,898.31 '
Inclination: 90.1 °
Azimuth: 180.6 °
MD: 7,619 '
TVD: 3,898.31 '
Inclination: 90.1 °
Azimuth: 180.6 °
MD: 7,650 '
TVD: 3,898.36 '
Inclination: 89.7 °
Azimuth: 180.9 °
MD: 7,682 '
TVD: 3,898.73 '
Inclination: 89 °
Azimuth: 181.4 °
MD: 7,712 '
TVD: 3,899.22 '
Inclination: 89.1 °
Azimuth: 181.8 °
TVD (ft)
CHT: WHT-OPA, V HD, SB BLKY-SB PLTY-SB FLKY, CRPTXL, SME CONCH FRAC, PRLY
OCC GR CHT, DUL, RGH-SUC TXT, NON CALC, RR LT AMB STN, RR SLO BLEEDING W
4000

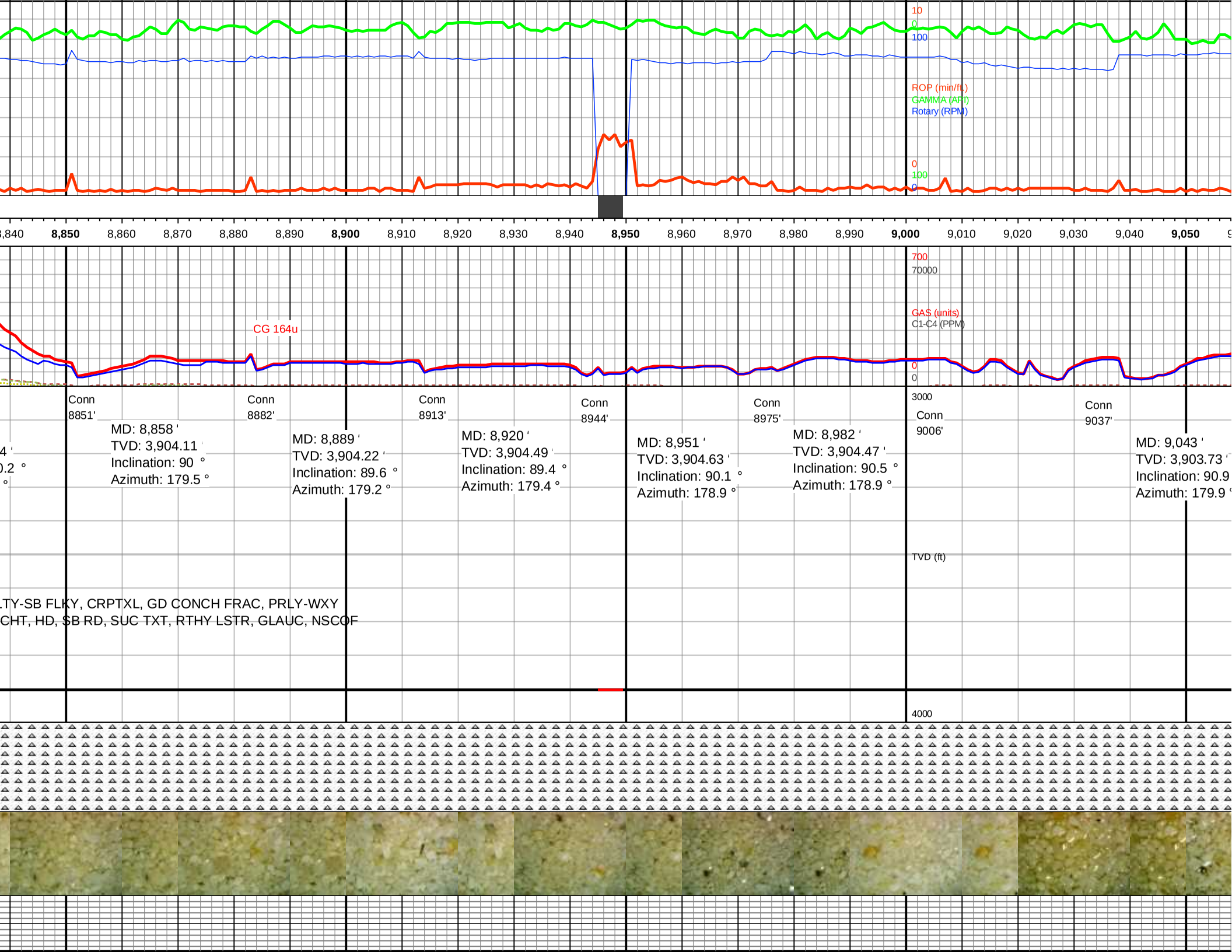

10
0
100
ROP (min/ft)
GAMMA (API)
Rotary (RPM)
0
100
0
7,740
7,750
7,760
7,770
7,780
7,790
7,800
7,810
7,820
7,830
7,840
7,850
7,860
7,870
7,880
7,890
7,900
7,910
7,920
7,930
7,940
7,950
700
70000
CG 181u
C1 - 96.9%
C2 - 3.1%
GAS (units)
C1-C4 (PPM)
0
0
3000
Conn
7766''
Conn
7797'
Conn
7828'
Conn
7859'
Conn
7890'
Conn
7921'
Conn
7952'
MD: 7,743 '
TVD: 3,899.74 '
Inclination: 89 °
Azimuth: 182.2 °
MD: 7,774 '
TVD: 3,900.28 '
Inclination: 89 °
Azimuth: 181.5 °
MD: 7,805 '
TVD: 3,901.61 '
Inclination: 89.2 °
Azimuth: 181.9 °
MD: 7,836 '
TVD: 3,901.86 '
Inclination: 89.9 °
Azimuth: 182 °
MD: 7,867 '
TVD: 3,901.9 '
Inclination: 90.3 °
Azimuth: 182.1 °
MD: 7,898 '
TVD: 3,900.74 '
Inclination: 90.5 °
Azimuth: 182.5 °
MD: 7,929 '
TVD: 3,900.31 '
Inclination: 91.1 °
Azimuth: 181.3 °
TVD (ft)
Y-WXY LSTR, SM TXT, SCAT GLAUC FRAGS,
WHT, SLO DUL DNT ORG-BRN CUT FLOR
4000

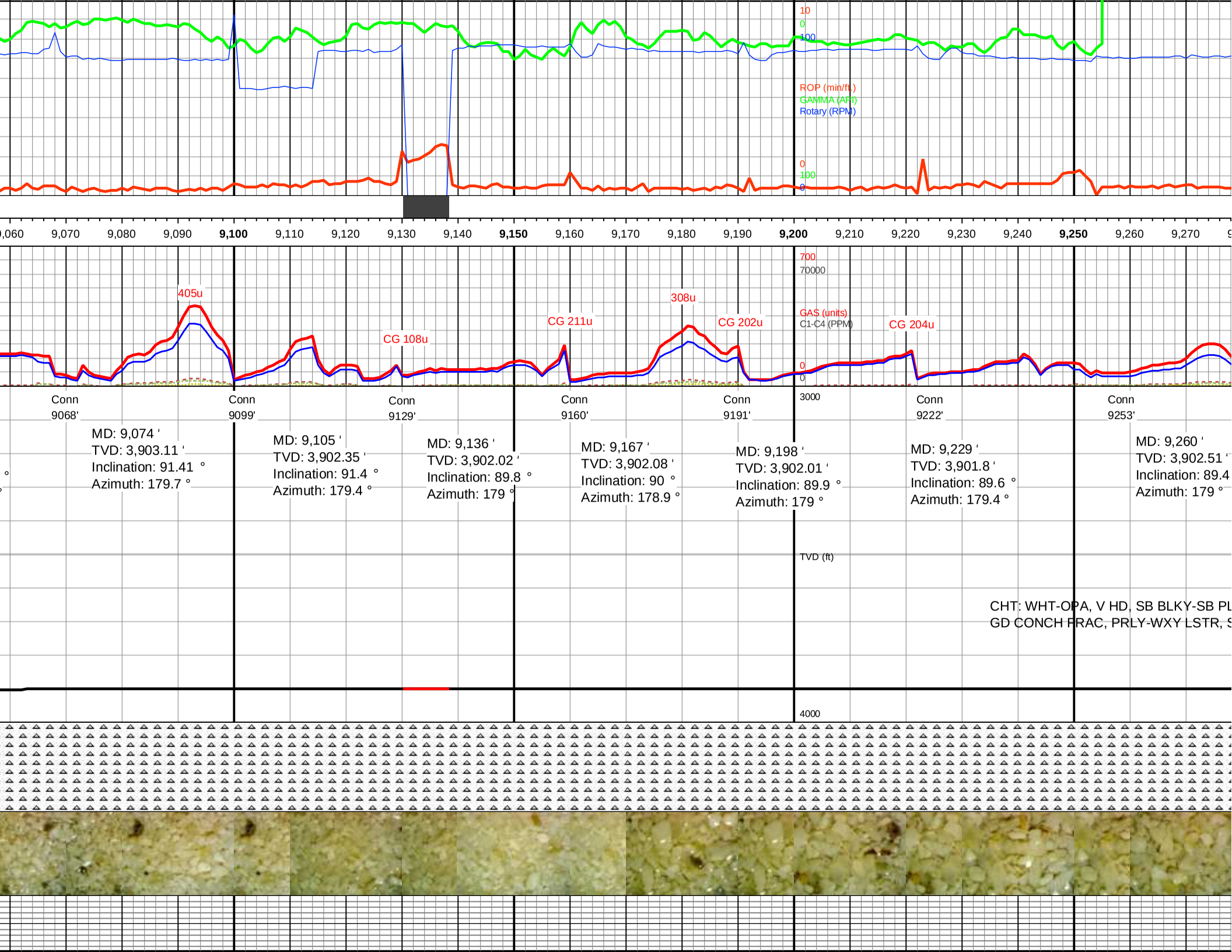

10
0
100
ROP (min/ft)
GAMMA (API)
Rotary (RPM)
0
100
0
7,960
7,970
7,980
7,990
8,000
8,010
8,020
8,030
8,040
8,050
8,060
8,070
8,080
8,090
8,100
8,110
8,120
8,130
8,140
8,150
8,160
8,170
700
70000
GAS (units)
C1-C4 (PPM)
0
0
C1 - 85.7%
C2 - 9.0%
C3 - 5.3%
Conn
7983'
Conn
8014'
Conn
8045'
Conn
8076'
Conn
8107'
Conn
8138'
Conn
8168'
3000
7,960 '
3,899.63 '
ation: 91.4 °
uth: 181.5 °
MD: 7,991 '
TVD: 3,898.79 '
Inclination: 91.7 °
Azimuth: 181.2 °
MD: 8,053 '
TVD: 3,896.68 '
Inclination: 92.1 °
Azimuth: 181.3 °
MD: 8,083 '
TVD: 3,895.84 '
Inclination: 91.1 °
Azimuth: 181.1 °
MD: 8,114 '
TVD: 3,895.3 '
Inclination: 91.1 °
Azimuth: 181.4 °
MD: 8,145 '
TVD: 3,894.87 '
Inclination: 90.5 °
Azimuth: 182.1 °
MD: 8,17
TVD: 3,8
Inclinatio
Azimuth
TVD (ft)
CHT: WHT-OPA-AMB, V HD, SB BLKY-SB PLTY-SB FLKY, CRPTXL, SME CONCH FRAC, PRLY-WXY LSTR,
SM TXT, NON CALC, TR LT AMB STN, PR SLO BLEEDING CUT, SLO DUL DNT ORG-BRN CUT FLOR
4000

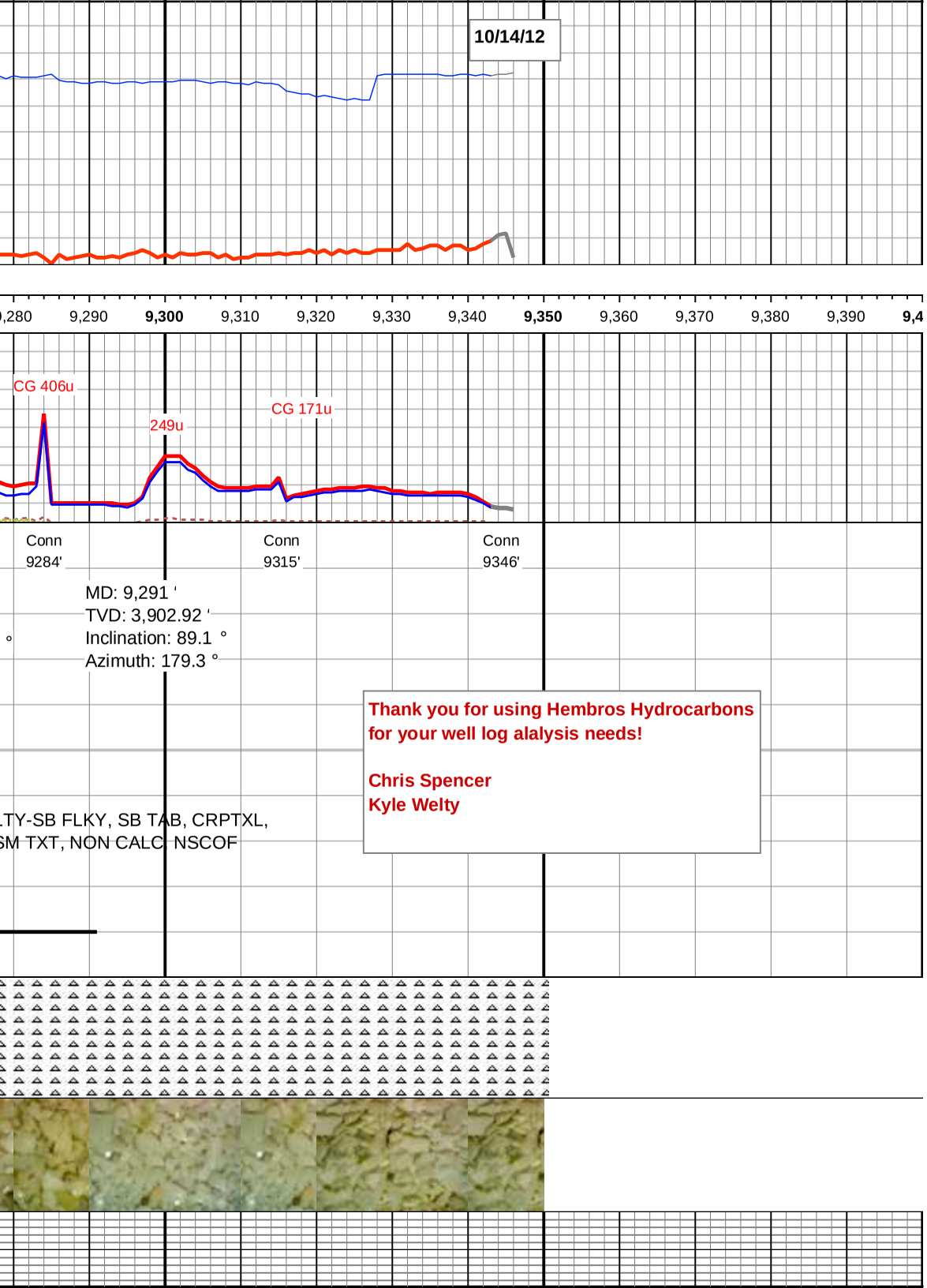

10
100
0
ROP (min/ft)
Rotary (RPM)
GAMMA (API)
0
100
0
8,180
8,190
8,200
8,210
8,220
8,230
8,240
8,250
8,260
8,270
8,280
8,290
8,300
8,310
8,320
8,330
8,340
8,350
8,360
8,370
8,380
8,390
700
70000
GAS (units)
C1-C4 (PPM)
0
0
C1 - 95%
C2 - 5%
3000
Conn
8199'
Conn
8230'
Conn
8261'
Conn
8292'
Conn
8323'
Conn
8354'
Conn
8385'
76 '
394.98 '
on: 89.1 °
: 181.8 °
MD: 8,207 '
TVD: 3,895.52 '
Inclination: 88.9 °
Azimuth: 181 °
MD: 8,238 '
TVD: 3,896.25 '
Inclination: 88.4 °
Azimuth: 181.5 °
MD: 8,269 '
TVD: 3,897.11 '
Inclination: 88.4 °
Azimuth: 181.6 °
MD: 8,300 '
TVD: 3,897.95 '
Inclination: 88.5 °
Azimuth: 181.5 °
MD: 8,331 '
TVD: 3,898.74 '
Inclination: 88.6 °
Azimuth: 181.7 °
MD: 8,362 '
TVD: 3,899.39 '
Inclination: 89 °
Azimuth: 181 °
MD: 8,393 '
TVD: 3,900
Inclination:
Azimuth: 18
TVD (ft)
4000


10/12/12
ROP (min/ft)
GAMMA (API)
Rotary (RPM)
8,400
8,410
8,420
8,430
8,440
8,450
8,460
8,470
8,480
8,490
8,500
8,510
8,520
8,530
8,540
8,550
8,560
8,570
8,580
8,590
8,600
8,610
GAS (units)
C1-C4 (PPM)
TOH to X/O BHA
@ 8539' MD
TG 182u
Conn
8416'
Conn
8447'
Conn
8477''
Conn
8508'
Conn
8539'
Conn
8570'
Conn
8604'
MD: 8,423 '
TVD: 3,900.9 '
Inclination: 88.1 °
Azimuth: 180.9 °
MD: 8,454 '
TVD: 3,901.87 '
Inclination: 88.3 °
Azimuth: 180.9 °
MD: 8,487 '
TVD: 3,902.94 '
Inclination: 87.9 °
Azimuth: 180.7 °
MD: 8,518 '
TVD: 3,903.85 '
Inclination: 88.6 °
Azimuth: 180.9 °
MD: 8,549 '
TVD: 3,904.34 '
Inclination: 89.6 °
Azimuth: 180.4 °
MD: 8,580 '
TVD: 3,904.47 '
Inclination: 89.9 °
Azimuth: 180.1 °
Bit #: 10
Type: ULTERRA
Size: 6.125"
Depth In: 8,539 '
Jets: 6-14
S/N: 16576
TVD (ft)
3000
4000
CHT: WHT-OPA, V HD, SB BLKY-SB PLTY-SB FLKY, CRPTXL, INCRG CONCH FRAC, PRLY-WXY
LSTR, SM TXT, NON CALC, OCC GRY CHT, HD, SB RD, SUC TXT, RTHY LSTR, NSCOF


10
0
100
ROP (min/ft)
GAMMA (API)
Rotary (RPM)
10/13/12
0
100
0
8,620
8,630
8,640
8,650
8,660
8,670
8,680
8,690
8,700
8,710
8,720
8,730
8,740
8,750
8,760
8,770
8,780
8,790
8,800
8,810
8,820
8,830
700
70000
GAS (units)
C1-C4 (PPM)
539u
CG 96u
CG 237u
CG 211u
0
0
3000
Conn
8635'
Conn
8666'
Conn
8696'
Conn
8727'
Conn
8758'
Conn
8789'
Conn
8820'
MD: 8,641 '
TVD: 3,905 '
Inclination: 90.1 °
Azimuth: 180.5 °
MD: 8,672 '
TVD: 3,905.27 '
Inclination: 90.1 °
Azimuth: 180.5 °
MD: 8,703 '
TVD: 3,905.08 '
Inclination: 90.6 °
Azimuth: 180.6 °
MD: 8,734 '
TVD: 3,904.73 '
Inclination: 90.6 °
Azimuth: 181.1 °
MD: 8,765 '
TVD: 3,904.43 '
Inclination: 90.4 °
Azimuth: 180.3 °
MD: 8,796 '
TVD: 3,904.27 '
Inclination: 90.2 °
Azimuth: 179.8 °
MD: 8,827 '
TVD: 3,904.1
Inclination: 90
Azimuth: 180
TVD (ft)
CHT: WHT-OPA, V HD, SB BLKY-SB PL
LSTR, SM TXT, NON CALC, OCC GRY
4000


10
0
100
ROP (min/ft)
GAMMA (API)
Rotary (RPM)
0
100
0
8,840
8,850
8,860
8,870
8,880
8,890
8,900
8,910
8,920
8,930
8,940
8,950
8,960
8,970
8,980
8,990
9,000
9,010
9,020
9,030
9,040
9,050
700
70000
GAS (units)
C1-C4 (PPM)
0
0
CG 164u
3000
Conn
8851'
Conn
8882'
Conn
8913'
Conn
8944'
Conn
8975'
Conn
9006'
Conn
9037'
MD: 8,858 '
TVD: 3,904.11 '
Inclination: 90 °
Azimuth: 179.5 °
MD: 8,889 '
TVD: 3,904.22 '
Inclination: 89.6 °
Azimuth: 179.2 °
MD: 8,920 '
TVD: 3,904.49 '
Inclination: 89.4 °
Azimuth: 179.4 °
MD: 8,951 '
TVD: 3,904.63 '
Inclination: 90.1 °
Azimuth: 178.9 °
MD: 8,982 '
TVD: 3,904.47 '
Inclination: 90.5 °
Azimuth: 178.9 °
MD: 9,043 '
TVD: 3,903.73 '
Inclination: 90.9
Azimuth: 179.9
TVD (ft)
LTY-SB FLKY, CRPTXL, GD CONCH FRAC, PRLY-WXY
CHT, HD, SB RD, SUC TXT, RTHY LSTR, GLAUC, NSCOF
4000


10
0
100
ROP (min/ft)
GAMMA (API)
Rotary (RPM)
0
100
0
9,060
9,070
9,080
9,090
9,100
9,110
9,120
9,130
9,140
9,150
9,160
9,170
9,180
9,190
9,200
9,210
9,220
9,230
9,240
9,250
9,260
9,270
700
70000
GAS (units)
C1-C4 (PPM)
0
0
3000
405u
CG 108u
CG 211u
308u
CG 202u
CG 204u
Conn
9068'
Conn
9099'
Conn
9129'
Conn
9160'
Conn
9191'
Conn
9222'
Conn
9253'
MD: 9,074 '
TVD: 3,903.11 '
Inclination: 91.41 °
Azimuth: 179.7 °
MD: 9,105 '
TVD: 3,902.35 '
Inclination: 91.4 °
Azimuth: 179.4 °
MD: 9,136 '
TVD: 3,902.02 '
Inclination: 89.8 °
Azimuth: 179 °
MD: 9,167 '
TVD: 3,902.08 '
Inclination: 90 °
Azimuth: 178.9 °
MD: 9,198 '
TVD: 3,902.01 '
Inclination: 89.9 °
Azimuth: 179 °
MD: 9,229 '
TVD: 3,901.8 '
Inclination: 89.6 °
Azimuth: 179.4 °
MD: 9,260 '
TVD: 3,902.51 '
Inclination: 89.4
Azimuth: 179 °
TVD (ft)
CHT: WHT-OPA, V HD, SB BLKY-SB PL
GD CONCH FRAC, PRLY-WXY LSTR, S
4000


10/14/12
9,280
9,290
9,300
9,310
9,320
9,330
9,340
9,350
9,360
9,370
9,380
9,390
CG 406u
249u
CG 171u
Conn
9284'
Conn
9315'
Conn
9346'
MD: 9,291 '
TVD: 3,902.92 '
Inclination: 89.1 °
Azimuth: 179.3 °
Thank you for using Hembros Hydrocarbons
for your well log alalysis needs!
Chris Spencer
Kyle Welty
LTY-SB FLKY, SB TAB, CRPTXL,
SM TXT, NON CALC NSCOF

Survey Sheet

Company:	Dorado E&P	Job Number:	OK12147
Well Name:	Toews 25-9-4 1H	Mag Declination:	4.64E
Location:	Noble County	Directional Driller:	Doug Randall/Billy Erwin
Rig Name:	Duke 20	MWD Engineer 1:	Adam Pareja
Leg:	Main	MWD Engineer 2:	Tyler Hill

Calculation Method:	Minimum Curvature
Proposed Azimuth:	177.81
Depth Reference:	0
Tie Into Provided By:	0

Survey Number	Survey Depth (ft)	Inclination (deg)	Azimuth (deg)	Course Length (ft)	True Vertical Depth (ft)	Vertical Section (ft)	Coordinates N/S (ft)		Coordinates E/W (ft)		Closure Distance (ft)	Closure Direction Azimuth	Dogleg Severity (ft/100')	Build Rate (d/100')	Walk Rate (d/100')
Tie In	0	0.0													
1	500	0.6	72.4	500	499.99	-0.70	0.79	N	2.50	E	2.62	72.38	0.12	0.12	14.48
2	1000	0.2	158.0	500	999.98	-0.57	0.78	N	5.32	E	5.37	81.70	0.12	-0.08	17.12
3	1500	0.8	209.4	500	1499.96	3.22	3.08	S	3.93	E	4.99	128.03	0.14	0.12	10.27
4	2000	0.6	213.6	500	1999.92	8.32	8.30	S	0.77	E	8.33	174.69	0.04	-0.04	0.85
5	2500	0.2	217.2	500	2499.91	11.12	11.17	S	1.20	W	11.24	186.15	0.08	-0.08	0.71
6	2925	0.2	287.6	425	2924.91	11.44	11.54	S	2.36	W	11.78	191.56	0.05	0.00	16.57
7	3161	0.3	87.2	236	3160.91	11.30	11.39	S	2.14	W	11.58	190.62	0.21	0.04	-84.92
8	3192	0.9	141.8	31	3191.90	11.49	11.57	S	1.90	W	11.73	189.34	2.47	1.94	176.13
9	3254	6.9	155.7	62	3253.73	15.34	15.35	S	0.07	W	15.35	180.25	9.73	9.68	22.42
10	3285	9.3	156.1	31	3284.42	19.39	19.34	S	1.71	E	19.42	174.94	7.74	7.74	1.29
11	3316	12.3	153.2	31	3314.87	24.72	24.58	S	4.22	E	24.94	170.26	9.83	9.68	-9.35
12	3347	14.9	153.3	31	3345.00	31.35	31.09	S	7.50	E	31.98	166.44	8.39	8.39	0.32
13	3378	18.5	155.4	31	3374.69	39.53	39.12	S	11.34	E	40.73	163.84	11.77	11.61	6.77
14	3409	21.3	156.2	31	3403.83	49.31	48.75	S	15.66	E	51.20	162.19	9.07	9.03	2.58
15	3440	23.9	156.6	31	3432.45	60.40	59.67	S	20.42	E	63.06	161.10	8.40	8.39	1.29
16	3471	27.0	157.0	31	3460.44	72.84	71.91	S	25.67	E	76.35	160.36	10.02	10.00	1.29
17	3502	29.4	156.3	31	3487.76	86.50	85.36	S	31.48	E	90.98	159.76	7.82	7.74	-2.26
18	3533	31.2	156.7	31	3514.52	101.07	99.70	S	37.71	E	106.59	159.28	5.84	5.81	1.29
19	3564	33.6	156.7	31	3540.69	116.56	114.95	S	44.28	E	123.19	158.93	7.74	7.74	0.00
20	3594	36.9	156.9	30	3565.19	132.72	130.87	S	51.10	E	140.49	158.67	11.01	11.00	0.67
21	3625	39.4	156.3	31	3589.56	150.57	148.44	S	58.71	E	159.63	158.42	8.15	8.06	-1.94
22	3656	41.4	157.5	31	3613.17	169.34	166.92	S	66.59	E	179.71	158.25	6.92	6.45	3.87
23	3687	44.4	157.8	31	3635.88	189.15	186.43	S	74.61	E	200.81	158.19	9.70	9.68	0.97
24	3718	47.4	157.9	31	3657.45	210.07	207.05	S	83.00	E	223.07	158.16	9.68	9.68	0.32
25	3749	49.6	157.5	31	3677.99	231.87	228.53	S	91.81	E	246.28	158.11	7.16	7.10	-1.29
26	3780	52.5	157.4	31	3697.47	254.47	250.79	S	101.06	E	270.39	158.05	9.36	9.35	-0.32
27	3811	56.9	157.9	31	3715.38	278.22	274.19	S	110.67	E	295.68	158.02	14.25	14.19	1.61
28	3842	60.3	158.2	31	3731.53	303.12	298.73	S	120.56	E	322.14	158.02	11.00	10.97	0.97
29	3873	60.9	158.6	31	3746.75	328.59	323.84	S	130.50	E	349.14	158.05	2.24	1.94	1.29
30	3904	61.6	157.9	31	3761.66	354.20	349.08	S	140.57	E	376.32	158.07	3.00	2.26	-2.26

Company:	**Dorado E&P**	**Job Number:**	**OK12147**
Well Name:	**Toews 25-9-4 1H**	**Mag Declination:**	**4.64E**
Location:	**Noble County**	**Directional Driller:**	**Doug Randall/Billy Erwin**
Rig Name:	**Duke 20**	**MWD Engineer 1:**	**Adam Pareja**
Leg:	**Main**	**MWD Engineer 2:**	**Tyler Hill**

Calculation Method:	**Minimum Curvature**
Proposed Azimuth:	**177.81**
Depth Reference:	**0**
Tie Into Provided By:	**0**

Survey Number	Survey Depth (ft)	Inclination (deg)	Azimuth (deg)	Course Length (ft)	True Vertical Depth (ft)	Vertical Section (ft)	Coordinates N/S (ft)		Coordinates E/W (ft)		Closure Distance (ft)	Closure Direction Azimuth	Dogleg Severity (ft/100')	Build Rate (d/100')	Walk Rate (d/100')
31	**3935**	**62.5**	**158.1**	31	3776.19	379.96	374.47	S	150.83	E	403.71	158.06	2.96	2.90	0.65
32	**3966**	**63.6**	**158.5**	31	3790.24	406.01	400.15	S	161.05	E	431.34	158.08	3.73	3.55	1.29
33	**3997**	**66.5**	**160.0**	31	3803.32	432.65	426.43	S	171.00	E	459.44	158.15	10.33	9.35	4.84
34	**4028**	**68.6**	**161.2**	31	3815.15	460.02	453.45	S	180.51	E	488.06	158.29	7.66	6.77	3.87
35	**4059**	**70.5**	**163.4**	31	3825.99	488.00	481.12	S	189.34	E	517.04	158.52	9.04	6.13	7.10
36	**4090**	**72.8**	**165.9**	31	3835.75	516.65	509.49	S	197.12	E	546.29	158.85	10.66	7.42	8.06
37	**4121**	**74.1**	**167.1**	31	3844.58	545.79	538.38	S	204.06	E	575.76	159.24	5.60	4.19	3.87
38	**4152**	**75.5**	**168.4**	31	3852.70	575.24	567.62	S	210.41	E	605.36	159.66	6.06	4.52	4.19
39	**4182**	**76.2**	**169.3**	30	3860.04	603.98	596.16	S	216.03	E	634.09	160.08	3.73	2.33	3.00
40	**4213**	**77.1**	**169.9**	31	3867.20	633.83	625.82	S	221.48	E	663.86	160.51	3.46	2.90	1.94
41	**4244**	**79.2**	**171.9**	31	3873.56	663.95	655.78	S	226.27	E	693.72	160.96	9.26	6.77	6.45
42	**4275**	**81.0**	**173.5**	31	3878.89	694.36	686.07	S	230.15	E	723.64	161.46	7.72	5.81	5.16
43	**4306**	**81.7**	**174.2**	31	3883.55	724.93	716.54	S	233.43	E	753.60	161.96	3.18	2.26	2.26
44	**4337**	**83.7**	**175.6**	31	3887.49	755.64	747.16	S	236.17	E	783.60	162.46	7.85	6.45	4.52
45	**4368**	**85.3**	**176.9**	31	3890.46	786.49	777.95	S	238.18	E	813.60	162.98	6.64	5.16	4.19
46	**4399**	**87.3**	**179.2**	31	3892.47	817.42	808.87	S	239.23	E	843.50	163.52	9.82	6.45	7.42
47	**4418**	**88.8**	**180.6**	19	3893.11	836.39	827.85	S	239.27	E	861.74	163.88	10.80	7.89	7.37
48	**4493**	**90.2**	**181.5**	75	3893.77	911.27	902.84	S	237.89	E	933.65	165.24	2.22	1.87	1.20
49	**4524**	**90.2**	**182.6**	31	3893.66	942.18	933.81	S	236.78	E	963.37	165.77	3.55	0.00	3.55
50	**4555**	**90.4**	**182.7**	31	3893.50	973.07	964.78	S	235.35	E	993.07	166.29	0.72	0.65	0.32
51	**4586**	**90.3**	**182.6**	31	3893.31	1003.96	995.75	S	233.92	E	1022.85	166.78	0.46	-0.32	-0.32
52	**4618**	**90.2**	**182.4**	32	3893.17	1035.85	1027.72	S	232.52	E	1053.69	167.25	0.70	-0.31	-0.62
53	**4649**	**90.1**	**182.3**	31	3893.09	1066.75	1058.69	S	231.25	E	1083.65	167.68	0.46	-0.32	-0.32
54	**4680**	**90.1**	**182.3**	31	3893.03	1097.66	1089.67	S	230.01	E	1113.68	168.08	0.00	0.00	0.00
55	**4711**	**90.4**	**182.3**	31	3892.90	1128.56	1120.64	S	228.76	E	1143.75	168.46	0.97	0.97	0.00
56	**4742**	**90.8**	**182.6**	31	3892.57	1159.46	1151.61	S	227.44	E	1173.85	168.83	1.61	1.29	0.97
57	**4773**	**90.0**	**182.3**	31	3892.35	1190.36	1182.58	S	226.11	E	1204.00	169.18	2.76	-2.58	-0.97
58	**4804**	**89.8**	**181.9**	31	3892.41	1221.27	1213.56	S	224.98	E	1234.24	169.50	1.44	-0.65	-1.29
59	**4835**	**89.7**	**181.9**	31	3892.54	1252.19	1244.54	S	223.95	E	1264.53	169.80	0.32	-0.32	0.00
60	**4866**	**89.6**	**182.3**	31	3892.73	1283.10	1275.52	S	222.81	E	1294.84	170.09	1.33	-0.32	1.29
61	**4896**	**89.6**	**182.7**	30	3892.94	1313.00	1305.49	S	221.50	E	1324.15	170.37	1.33	0.00	1.33
62	**4927**	**89.6**	**182.4**	31	3893.16	1343.90	1336.46	S	220.13	E	1354.47	170.65	0.97	0.00	-0.97
63	**4959**	**89.4**	**182.9**	32	3893.44	1375.78	1368.42	S	218.65	E	1385.78	170.92	1.68	-0.62	1.56
64	**4990**	**89.6**	**182.5**	31	3893.71	1406.67	1399.39	S	217.19	E	1416.14	171.18	1.44	0.65	-1.29
65	**5020**	**89.1**	**182.1**	30	3894.05	1436.57	1429.36	S	215.98	E	1445.59	171.41	2.13	-1.67	-1.33
66	**5051**	**88.9**	**181.9**	31	3894.59	1467.48	1460.34	S	214.90	E	1476.07	171.63	0.91	-0.65	-0.65
67	**5082**	**88.5**	**182.0**	31	3895.29	1498.40	1491.31	S	213.85	E	1506.57	171.84	1.33	-1.29	0.32
68	**5113**	**89.1**	**181.8**	31	3895.94	1529.31	1522.29	S	212.82	E	1537.09	172.04	2.04	1.94	-0.65
69	**5144**	**90.6**	**181.6**	31	3896.02	1560.24	1553.27	S	211.90	E	1567.66	172.23	4.88	4.84	-0.65

Company:	Dorado E&P	Job Number:	OK12147
Well Name:	Toews 25-9-4 1H	Mag Declination:	4.64E
Location:	Noble County	Directional Driller:	Doug Randall/Billy Erwin
Rig Name:	Duke 20	MWD Engineer 1:	Adam Pareja
Leg:	Main	MWD Engineer 2:	Tyler Hill

Calculation Method:	Minimum Curvature
Proposed Azimuth:	177.81
Depth Reference:	0
Tie Into Provided By:	0

Survey Number	Survey Depth (ft)	Inclination (deg)	Azimuth (deg)	Course Length (ft)	True Vertical Depth (ft)	Vertical Section (ft)	Coordinates N/S (ft)		Coordinates E/W (ft)		Closure Distance (ft)	Closure Direction Azimuth	Dogleg Severity (ft/100')	Build Rate (d/100')	Walk Rate (d/100')
70	**5175**	**91.1**	**181.4**	31	3895.56	1591.17	1584.26	S	211.09	E	1598.26	172.41	1.74	1.61	-0.65
71	**5206**	**91.1**	**181.0**	31	3894.97	1622.11	1615.25	S	210.44	E	1628.90	172.58	1.29	0.00	-1.29
72	**5237**	**91.2**	**180.8**	31	3894.35	1653.06	1646.24	S	209.95	E	1659.57	172.73	0.72	0.32	-0.65
73	**5268**	**90.9**	**180.5**	31	3893.78	1684.01	1677.23	S	209.60	E	1690.28	172.88	1.37	-0.97	-0.97
74	**5299**	**90.7**	**180.0**	31	3893.35	1714.98	1708.23	S	209.46	E	1721.02	173.01	1.74	-0.65	-1.61
75	**5330**	**90.4**	**179.8**	31	3893.05	1745.96	1739.22	S	209.52	E	1751.80	173.13	1.16	-0.97	-0.65
76	**5361**	**90.5**	**179.8**	31	3892.81	1776.94	1770.22	S	209.63	E	1782.59	173.25	0.32	0.32	0.00
77	**5392**	**90.5**	**179.6**	31	3892.53	1807.92	1801.22	S	209.79	E	1813.40	173.36	0.65	0.00	-0.65
78	**5423**	**90.7**	**179.8**	31	3892.21	1838.90	1832.22	S	209.95	E	1844.21	173.46	0.91	0.65	0.65
79	**5454**	**91.2**	**179.5**	31	3891.70	1869.88	1863.22	S	210.14	E	1875.03	173.57	1.88	1.61	-0.97
80	**5485**	**90.5**	**180.1**	31	3891.24	1900.86	1894.21	S	210.25	E	1905.84	173.67	2.97	-2.26	1.94
81	**5515**	**88.9**	**179.6**	30	3891.39	1930.84	1924.21	S	210.33	E	1935.67	173.76	5.59	-5.33	-1.67
82	**5546**	**88.5**	**179.5**	31	3892.10	1961.82	1955.20	S	210.57	E	1966.51	173.85	1.33	-1.29	-0.32
83	**5577**	**88.4**	**180.2**	31	3892.94	1992.79	1986.19	S	210.65	E	1997.33	173.95	2.28	-0.32	2.26
84	**5609**	**89.3**	**179.7**	32	3893.58	2024.76	2018.18	S	210.68	E	2029.15	174.04	3.22	2.81	-1.56
85	**5639**	**89.3**	**180.0**	30	3893.94	2054.74	2048.18	S	210.76	E	2058.99	174.12	1.00	0.00	1.00
86	**5670**	**89.6**	**179.7**	31	3894.24	2085.72	2079.18	S	210.84	E	2089.84	174.21	1.37	0.97	-0.97
87	**5701**	**89.4**	**179.7**	31	3894.51	2116.70	2110.18	S	211.00	E	2120.70	174.29	0.65	-0.65	0.00
88	**5732**	**89.0**	**179.6**	31	3894.94	2147.68	2141.17	S	211.19	E	2151.56	174.37	1.33	-1.29	-0.32
89	**5763**	**89.5**	**179.1**	31	3895.35	2178.67	2172.17	S	211.54	E	2182.44	174.44	2.28	1.61	-1.61
90	**5794**	**89.6**	**179.2**	31	3895.59	2209.66	2203.16	S	212.00	E	2213.34	174.50	0.46	0.32	0.32
91	**5825**	**89.7**	**179.0**	31	3895.78	2240.65	2234.16	S	212.49	E	2244.24	174.57	0.72	0.32	-0.65
92	**5856**	**89.4**	**178.9**	31	3896.03	2271.64	2265.15	S	213.06	E	2275.15	174.63	1.02	-0.97	-0.32
93	**5887**	**89.3**	**179.3**	31	3896.38	2302.63	2296.15	S	213.54	E	2306.06	174.69	1.33	-0.32	1.29
94	**5918**	**90.6**	**178.9**	31	3896.41	2333.62	2327.14	S	214.03	E	2336.96	174.75	4.39	4.19	-1.29
95	**5949**	**90.8**	**178.8**	31	3896.03	2364.61	2358.13	S	214.65	E	2367.88	174.80	0.72	0.65	-0.32
96	**5980**	**90.7**	**178.8**	31	3895.62	2395.61	2389.12	S	215.30	E	2398.81	174.85	0.32	-0.32	0.00
97	**6011**	**90.8**	**179.0**	31	3895.22	2426.60	2420.12	S	215.90	E	2429.73	174.90	0.72	0.32	0.65
98	**6042**	**90.9**	**178.7**	31	3894.76	2457.59	2451.11	S	216.52	E	2460.65	174.95	1.02	0.32	-0.97
99	**6073**	**91.0**	**178.7**	31	3894.24	2488.58	2482.09	S	217.22	E	2491.58	175.00	0.32	0.32	0.00
100	**6104**	**91.5**	**178.9**	31	3893.57	2519.57	2513.08	S	217.87	E	2522.51	175.05	1.74	1.61	0.65
101	**6135**	**90.5**	**179.8**	31	3893.02	2550.55	2544.07	S	218.22	E	2553.41	175.10	4.34	-3.23	2.90
102	**6165**	**90.3**	**179.8**	30	3892.81	2580.53	2574.07	S	218.33	E	2583.31	175.15	0.67	-0.67	0.00
103	**6196**	**89.8**	**179.2**	31	3892.79	2611.52	2605.07	S	218.60	E	2614.23	175.20	2.52	-1.61	-1.94
104	**6227**	**90.0**	**179.6**	31	3892.84	2642.51	2636.07	S	218.92	E	2645.14	175.25	1.44	0.65	1.29
105	**6258**	**90.2**	**179.2**	31	3892.79	2673.50	2667.07	S	219.25	E	2676.06	175.30	1.44	0.65	-1.29
106	**6289**	**90.1**	**178.8**	31	3892.71	2704.49	2698.06	S	219.79	E	2707.00	175.34	1.33	-0.32	-1.29
107	**6320**	**90.3**	**179.0**	31	3892.60	2735.48	2729.06	S	220.38	E	2737.94	175.38	0.91	0.65	0.65
108	**6351**	**90.6**	**179.1**	31	3892.35	2766.48	2760.05	S	220.90	E	2768.88	175.42	1.02	0.97	0.32

Company:	Dorado E&P	Job Number:	OK12147
Well Name:	Toews 25-9-4 1H	Mag Declination:	4.64E
Location:	Noble County	Directional Driller:	Doug Randall/Billy Erwin
Rig Name:	Duke 20	MWD Engineer 1:	Adam Pareja
Leg:	Main	MWD Engineer 2:	Tyler Hill

Calculation Method:	Minimum Curvature

Proposed Azimuth:	177.81
Depth Reference:	0
Tie Into Provided By:	0

Survey Number	Survey Depth (ft)	Inclination (deg)	Azimuth (deg)	Course Length (ft)	True Vertical Depth (ft)	Vertical Section (ft)	Coordinates N/S (ft)		Coordinates E/W (ft)		Closure Distance (ft)	Closure Direction Azimuth	Dogleg Severity (ft/100')	Build Rate (d/100')	Walk Rate (d/100')
109	6382	89.9	178.6	31	3892.22	2797.47	2791.04	S	221.52	E	2799.82	175.46	2.77	-2.26	-1.61
110	6413	89.8	178.3	31	3892.30	2828.47	2822.03	S	222.36	E	2830.78	175.49	1.02	-0.32	-0.97
111	6444	88.8	178.8	31	3892.68	2859.46	2853.02	S	223.14	E	2861.73	175.53	3.61	-3.23	1.61
112	6475	88.4	178.1	31	3893.44	2890.45	2884.00	S	223.98	E	2892.68	175.56	2.60	-1.29	-2.26
113	6506	88.8	178.5	31	3894.19	2921.44	2914.98	S	224.90	E	2923.64	175.59	1.82	1.29	1.29
114	6537	88.7	178.5	31	3894.87	2952.43	2945.96	S	225.71	E	2954.59	175.62	0.32	-0.32	0.00
115	6568	88.8	178.9	31	3895.55	2983.42	2976.94	S	226.42	E	2985.54	175.65	1.33	0.32	1.29
116	6599	89.3	178.3	31	3896.06	3014.41	3007.93	S	227.17	E	3016.49	175.68	2.52	1.61	-1.94
117	6630	89.2	178.3	31	3896.47	3045.41	3038.91	S	228.09	E	3047.46	175.71	0.32	-0.32	0.00
118	6661	89.1	177.3	31	3896.93	3076.40	3069.88	S	229.28	E	3078.44	175.73	3.24	-0.32	-3.23
119	6692	90.0	177.0	31	3897.17	3107.40	3100.85	S	230.82	E	3109.42	175.74	3.06	2.90	-0.97
120	6723	90.2	176.9	31	3897.12	3138.40	3131.80	S	232.47	E	3140.42	175.75	0.72	0.65	-0.32
121	6754	90.6	177.3	31	3896.90	3169.39	3162.76	S	234.04	E	3171.41	175.77	1.82	1.29	1.29
122	6785	90.5	176.8	31	3896.60	3200.39	3193.72	S	235.64	E	3202.40	175.78	1.64	-0.32	-1.61
123	6816	90.6	176.9	31	3896.30	3231.38	3224.67	S	237.34	E	3233.39	175.79	0.46	0.32	0.32
124	6847	90.5	176.6	31	3896.01	3262.38	3255.62	S	239.10	E	3264.39	175.80	1.02	-0.32	-0.97
125	6878	91.4	176.1	31	3895.49	3293.36	3286.55	S	241.07	E	3295.38	175.80	3.32	2.90	-1.61
126	6909	90.9	176.8	31	3894.87	3324.35	3317.48	S	242.99	E	3326.37	175.81	2.77	-1.61	2.26
127	6940	91.1	176.3	31	3894.33	3355.33	3348.42	S	244.85	E	3357.36	175.82	1.74	0.65	-1.61
128	6971	90.7	176.3	31	3893.84	3386.32	3379.36	S	246.85	E	3388.36	175.82	1.29	-1.29	0.00
129	7002	89.5	177.2	31	3893.79	3417.31	3410.30	S	248.61	E	3419.35	175.83	4.84	-3.87	2.90
130	7033	89.5	177.6	31	3894.06	3448.31	3441.27	S	250.02	E	3450.34	175.84	1.29	0.00	1.29
131	7064	89.5	177.7	31	3894.33	3479.31	3472.24	S	251.29	E	3481.33	175.86	0.32	0.00	0.32
132	7095	89.7	176.9	31	3894.55	3510.31	3503.21	S	252.75	E	3512.31	175.87	2.66	0.65	-2.58
133	7125	90.1	178.1	30	3894.60	3540.31	3533.18	S	254.06	E	3542.30	175.89	4.22	1.33	4.00
134	7156	90.0	178.8	31	3894.57	3571.31	3564.17	S	254.90	E	3573.27	175.91	2.28	-0.32	2.26
135	7187	89.1	179.7	31	3894.81	3602.29	3595.16	S	255.30	E	3604.22	175.94	4.11	-2.90	2.90
136	7218	89.1	180.8	31	3895.30	3633.26	3626.16	S	255.17	E	3635.13	175.97	3.55	0.00	3.55
137	7249	89.5	181.0	31	3895.68	3664.21	3657.15	S	254.68	E	3666.01	176.02	1.44	1.29	0.65
138	7280	89.4	181.3	31	3895.98	3695.16	3688.15	S	254.06	E	3696.89	176.06	1.02	-0.32	0.97
139	7311	89.7	180.7	31	3896.22	3726.11	3719.14	S	253.52	E	3727.77	176.10	2.16	0.97	-1.94
140	7342	89.7	180.2	31	3896.38	3757.08	3750.14	S	253.27	E	3758.68	176.14	1.61	0.00	-1.61
141	7373	90.0	180.0	31	3896.46	3788.05	3781.14	S	253.22	E	3789.61	176.17	1.16	0.97	-0.65
142	7404	90.3	179.6	31	3896.38	3819.03	3812.14	S	253.33	E	3820.55	176.20	1.61	0.97	-1.29
143	7435	89.4	180.7	31	3896.46	3850.01	3843.14	S	253.25	E	3851.47	176.23	4.58	-2.90	3.55
144	7465	89.0	180.1	30	3896.88	3879.97	3873.13	S	253.04	E	3881.39	176.26	2.40	-1.33	-2.00
145	7496	88.6	179.9	31	3897.53	3910.94	3904.13	S	253.04	E	3912.32	176.29	1.44	-1.29	-0.65
146	7527	89.0	179.9	31	3898.18	3941.92	3935.12	S	253.09	E	3943.25	176.32	1.29	1.29	0.00
147	7557	90.0	180.3	30	3898.44	3971.89	3965.12	S	253.04	E	3973.18	176.35	3.59	3.33	1.33

Company:	Dorado E&P	Job Number:	OK12147
Well Name:	Toews 25-9-4 1H	Mag Declination:	4.64E
Location:	Noble County	Directional Driller:	Doug Randall/Billy Erwin
Rig Name:	Duke 20	MWD Engineer 1:	Adam Pareja
Leg:	Main	MWD Engineer 2:	Tyler Hill

Calculation Method:	Minimum Curvature
Proposed Azimuth:	177.81
Depth Reference:	0
Tie Into Provided By:	0

Survey Number	Survey Depth (ft)	Inclination (deg)	Azimuth (deg)	Course Length (ft)	True Vertical Depth (ft)	Vertical Section (ft)	Coordinates N/S (ft)		Coordinates E/W (ft)		Closure Distance (ft)	Closure Direction Azimuth	Dogleg Severity (ft/100')	Build Rate (d/100')	Walk Rate (d/100')
148	**7588**	**90.2**	**180.6**	31	3898.39	4002.86	3996.12	S	252.80	E	4004.10	176.38	1.16	0.65	0.97
149	**7619**	**90.1**	**180.6**	31	3898.31	4033.82	4027.11	S	252.47	E	4035.02	176.41	0.32	-0.32	0.00
150	**7650**	**89.7**	**180.9**	31	3898.36	4064.78	4058.11	S	252.07	E	4065.93	176.45	1.61	-1.29	0.97
151	**7682**	**89.0**	**181.4**	32	3898.73	4096.72	4090.10	S	251.42	E	4097.82	176.48	2.69	-2.19	1.56
152	**7712**	**89.1**	**181.8**	30	3899.22	4126.65	4120.09	S	250.59	E	4127.70	176.52	1.37	0.33	1.33
153	**7743**	**89.0**	**182.2**	31	3899.74	4157.57	4151.06	S	249.50	E	4158.56	176.56	1.33	-0.32	1.29
154	**7774**	**89.0**	**181.5**	31	3900.28	4188.48	4182.04	S	248.50	E	4189.42	176.60	2.26	0.00	-2.26
155	**7805**	**89.2**	**181.9**	31	3900.77	4219.41	4213.02	S	247.58	E	4220.29	176.64	1.44	0.65	1.29
156	**7836**	**89.9**	**182.0**	31	3901.01	4250.33	4244.01	S	246.53	E	4251.16	176.68	2.28	2.26	0.32
157	**7867**	**90.3**	**182.1**	31	3900.95	4281.24	4274.99	S	245.42	E	4282.02	176.71	1.33	1.29	0.32
158	**7898**	**90.5**	**182.5**	31	3900.74	4312.15	4305.96	S	244.18	E	4312.88	176.75	1.44	0.65	1.29
159	**7929**	**91.1**	**181.3**	31	3900.31	4343.06	4336.94	S	243.15	E	4343.75	176.79	4.33	1.94	-3.87

Company:	**Dorado E&P**	**Job Number:**	**OK12147**
Well Name:	**Toews 25-9-4 1H**	**Mag Declination:**	**4.64E**
Location:	**Noble County**	**Directional Driller:**	**Doug Randall/Billy Erwin**
Rig Name:	**Duke 20**	**MWD Engineer 1:**	**Adam Pareja**
Leg:	**Main**	**MWD Engineer 2:**	**Tyler Hill**

Calculation Method:	**Minimum Curvature**
Proposed Azimuth:	**177.81**
Depth Reference:	**0**
Tie Into Provided By:	**0**

Survey Number	Survey Depth (ft)	Inclination (deg)	Azimuth (deg)	Course Length (ft)	True Vertical Depth (ft)	Vertical Section (ft)	Coordinates N/S (ft)		Coordinates E/W (ft)		Closure Distance (ft)	Closure Direction Azimuth	Dogleg Severity (ft/100')	Build Rate (d/100')	Walk Rate (d/100')
160	**7960**	**91.4**	**181.5**	31	3899.63	4373.99	4367.92	S	242.39	E	4374.64	176.82	1.16	0.97	0.65
161	**7991**	**91.7**	**181.2**	31	3898.79	4404.92	4398.90	S	241.66	E	4405.54	176.86	1.37	0.97	-0.97
162	**8022**	**92.0**	**181.5**	31	3897.79	4435.85	4429.88	S	240.93	E	4436.42	176.89	1.37	0.97	0.97
163	**8053**	**92.1**	**181.3**	31	3896.68	4466.77	4460.85	S	240.17	E	4467.31	176.92	0.72	0.32	-0.65
164	**8083**	**91.0**	**181.3**	30	3895.87	4496.70	4490.83	S	239.49	E	4497.21	176.95	3.67	-3.67	0.00
165	**8114**	**91.1**	**181.4**	31	3895.30	4527.64	4521.82	S	238.76	E	4528.11	176.98	0.46	0.32	0.32
166	**8145**	**90.5**	**182.1**	31	3894.87	4558.56	4552.80	S	237.82	E	4559.00	177.01	2.97	-1.94	2.26
167	**8176**	**89.1**	**181.8**	31	3894.98	4589.48	4583.78	S	236.76	E	4589.89	177.04	4.62	-4.52	-0.97
168	**8207**	**88.9**	**181.6**	31	3895.52	4620.40	4614.76	S	235.84	E	4620.78	177.07	0.91	-0.65	-0.65
169	**8238**	**88.4**	**181.5**	31	3896.25	4651.33	4645.74	S	235.00	E	4651.68	177.10	1.64	-1.61	-0.32
170	**8269**	**88.4**	**181.6**	31	3897.11	4682.25	4676.72	S	234.17	E	4682.58	177.13	0.32	0.00	0.32
171	**8300**	**88.5**	**181.5**	31	3897.95	4713.17	4707.69	S	233.33	E	4713.47	177.16	0.46	0.32	-0.32
172	**8331**	**88.6**	**181.7**	31	3898.74	4744.09	4738.67	S	232.46	E	4744.37	177.19	0.72	0.32	0.65
173	**8362**	**89.0**	**181.0**	31	3899.39	4775.03	4769.66	S	231.73	E	4775.28	177.22	2.60	1.29	-2.26
174	**8393**	**88.6**	**180.4**	31	3900.04	4805.98	4800.65	S	231.35	E	4806.22	177.24	2.33	-1.29	-1.94
175	**8423**	**88.1**	**180.9**	30	3900.90	4835.93	4830.63	S	231.01	E	4836.15	177.26	2.36	-1.67	1.67
176	**8454**	**88.3**	**180.9**	31	3901.87	4866.87	4861.61	S	230.53	E	4867.08	177.29	0.65	0.65	0.00
177	**8485**	**88.0**	**180.2**	31	3902.87	4897.82	4892.60	S	230.23	E	4898.01	177.31	2.46	-0.97	-2.26
178	**8518**	**88.6**	**180.9**	33	3903.85	4930.77	4925.58	S	229.91	E	4930.94	177.33	2.79	1.82	2.12
179	**8549**	**89.6**	**180.4**	31	3904.34	4961.72	4956.57	S	229.56	E	4961.89	177.35	3.61	3.23	-1.61
180	**8580**	**89.9**	**180.1**	31	3904.47	4992.70	4987.57	S	229.43	E	4992.85	177.37	1.37	0.97	-0.97
181	**8611**	**89.6**	**180.2**	31	3904.61	5023.67	5018.57	S	229.34	E	5023.81	177.38	1.02	-0.97	0.32
182	**8641**	**88.9**	**180.1**	30	3905.00	5053.64	5048.57	S	229.27	E	5053.77	177.40	2.36	-2.33	-0.33
183	**8672**	**90.1**	**180.5**	31	3905.27	5084.61	5079.57	S	229.10	E	5084.73	177.42	4.08	3.87	1.29
184	**8703**	**90.6**	**180.6**	31	3905.08	5115.58	5110.56	S	228.81	E	5115.68	177.44	1.64	1.61	0.32
185	**8734**	**90.7**	**181.1**	31	3904.73	5146.53	5141.56	S	228.35	E	5146.63	177.46	1.64	0.32	1.61
186	**8765**	**90.4**	**180.3**	31	3904.43	5177.49	5172.56	S	227.97	E	5177.58	177.48	2.76	-0.97	-2.58
187	**8796**	**90.2**	**179.8**	31	3904.27	5208.46	5203.55	S	227.94	E	5208.54	177.49	1.74	-0.65	-1.61
188	**8827**	**90.2**	**180.0**	31	3904.16	5239.44	5234.55	S	227.99	E	5239.52	177.51	0.65	0.00	0.65
189	**8858**	**90.0**	**179.5**	31	3904.11	5270.43	5265.55	S	228.13	E	5270.49	177.52	1.74	-0.65	-1.61
190	**8889**	**89.6**	**179.2**	31	3904.22	5301.41	5296.55	S	228.48	E	5301.48	177.53	1.61	-1.29	-0.97
191	**8920**	**89.4**	**179.4**	31	3904.49	5332.40	5327.55	S	228.86	E	5332.46	177.54	0.91	-0.65	0.65
192	**8952**	**90.1**	**178.9**	32	3904.63	5364.39	5359.54	S	229.34	E	5364.45	177.55	2.69	2.19	-1.56
193	**8982**	**90.5**	**178.9**	30	3904.47	5394.39	5389.54	S	229.91	E	5394.44	177.56	1.33	1.33	0.00
194	**9013**	**90.7**	**179.3**	31	3904.15	5425.38	5420.53	S	230.40	E	5425.43	177.57	1.44	0.65	1.29
195	**9043**	**90.9**	**179.9**	30	3903.73	5455.36	5450.53	S	230.61	E	5455.40	177.58	2.11	0.67	2.00
196	**9074**	**91.4**	**179.7**	31	3903.11	5486.33	5481.52	S	230.72	E	5486.38	177.59	1.74	1.61	-0.65
197	**9105**	**91.4**	**179.4**	31	3902.35	5517.31	5512.51	S	230.96	E	5517.35	177.60	0.97	0.00	-0.97
198	**9136**	**89.8**	**179.0**	31	3902.02	5548.30	5543.51	S	231.39	E	5548.33	177.61	5.32	-5.16	-1.29

Company:	Dorado E&P	Job Number:	OK12147
Well Name:	Toews 25-9-4 1H	Mag Declination:	4.64E
Location:	Noble County	Directional Driller:	Doug Randall/Billy Erwin
Rig Name:	Duke 20	MWD Engineer 1:	Adam Pareja
Leg:	Main	MWD Engineer 2:	Tyler Hill

Calculation Method:	Minimum Curvature
Proposed Azimuth:	177.81
Depth Reference:	0
Tie Into Provided By:	0

Survey Number	Survey Depth (ft)	Inclination (deg)	Azimuth (deg)	Course Length (ft)	True Vertical Depth (ft)	Vertical Section (ft)	Coordinates N/S (ft)		Coordinates E/W (ft)		Closure Distance (ft)	Closure Direction Azimuth	Dogleg Severity (ft/100')	Build Rate (d/100')	Walk Rate (d/100')
199	**9167**	**90.0**	**178.9**	31	3902.08	5579.29	5574.50	S	231.96	E	5579.32	177.62	0.72	0.65	-0.32
200	**9198**	**89.9**	**179.0**	31	3902.10	5610.29	5605.50	S	232.53	E	5610.32	177.62	0.46	-0.32	0.32
201	**9229**	**89.6**	**179.4**	31	3902.24	5641.28	5636.49	S	232.96	E	5641.30	177.63	1.61	-0.97	1.29

Company:	Dorado E&P	Job Number:	OK12147
Well Name:	Toews 25-9-4 1H	Mag Declination:	4.64E
Location:	Noble County	Directional Driller:	Doug Randall/Billy Erwin
Rig Name:	Duke 20	MWD Engineer 1:	Adam Pareja
Leg:	Main	MWD Engineer 2:	Tyler Hill

Calculation Method:	Minimum Curvature
Proposed Azimuth:	177.81
Depth Reference:	0
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Survey Number	Survey Depth (ft)	Inclination (deg)	Azimuth (deg)	Course Length (ft)	True Vertical Depth (ft)	Vertical Section (ft)	Coordinates N/S (ft)		Coordinates E/W (ft)		Closure Distance (ft)	Closure Direction Azimuth	Dogleg Severity (ft/100')	Build Rate (d/100')	Walk Rate (d/100')
202	**9260**	**89.4**	**179.0**	31	3902.51	5672.27	5667.49	S	233.39	E	5672.29	177.64	1.44	-0.65	-1.29
203	**9291**	**89.1**	**179.3**	31	3902.92	5703.26	5698.48	S	233.85	E	5703.28	177.65	1.37	-0.97	0.97
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Company:	Dorado E&P	Job Number:	OK12147
Well Name:	Toews 25-9-4 1H	Mag Declination:	4.64E
Location:	Noble County	Directional Driller:	Doug Randall/Billy Erwin
Rig Name:	Duke 20	MWD Engineer 1:	Adam Pareja
Leg:	Main	MWD Engineer 2:	Tyler Hill

Calculation Method:	Minimum Curvature
Proposed Azimuth:	177.81
Depth Reference:	0
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Survey Number	Survey Depth (ft)	Inclination (deg)	Azimuth (deg)	Course Length (ft)	True Vertical Depth (ft)	Vertical Section (ft)	Coordinates N/S (ft)	Coordinates E/W (ft)	Closure Distance (ft)	Closure Direction Azimuth	Dogleg Severity (ft/100')	Build Rate (d/100')	Walk Rate (d/100')
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Company:	Dorado E&P	Job Number:	OK12147
Well Name:	Toews 25-9-4 1H	Mag Declination:	4.64E
Location:	Noble County	Directional Driller:	Doug Randall/Billy Erwin
Rig Name:	Duke 20	MWD Engineer 1:	Adam Pareja
Leg:	Main	MWD Engineer 2:	Tyler Hill

Calculation Method:	Minimum Curvature
Proposed Azimuth:	177.81
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Survey Number	Survey Depth (ft)	Inclination (deg)	Azimuth (deg)	Course Length (ft)	True Vertical Depth (ft)	Vertical Section (ft)	Coordinates N/S (ft)	Coordinates E/W (ft)	Closure Distance (ft)	Closure Direction Azimuth	Dogleg Severity (ft/100')	Build Rate (d/100')	Walk Rate (d/100')
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Company:	Dorado E&P	Job Number:	OK12147
Well Name:	Toews 25-9-4 1H	Mag Declination:	4.64E
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Calculation Method:	Minimum Curvature
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Survey Number	Survey Depth (ft)	Inclination (deg)	Azimuth (deg)	Course Length (ft)	True Vertical Depth (ft)	Vertical Section (ft)	Coordinates N/S (ft)	Coordinates E/W (ft)	Closure Distance (ft)	Closure Direction Azimuth	Dogleg Severity (ft/100')	Build Rate (d/100')	Walk Rate (d/100')
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Company:	Dorado E&P	Job Number:	OK12147
Well Name:	Toews 25-9-4 1H	Mag Declination:	4.64E
Location:	Noble County	Directional Driller:	Doug Randall/Billy Erwin
Rig Name:	Duke 20	MWD Engineer 1:	Adam Pareja
Leg:	Main	MWD Engineer 2:	Tyler Hill

Calculation Method:	Minimum Curvature
Proposed Azimuth:	177.81
Depth Reference:	0
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Survey Number	Survey Depth (ft)	Inclination (deg)	Azimuth (deg)	Course Length (ft)	True Vertical Depth (ft)	Vertical Section (ft)	Coordinates N/S (ft)	Coordinates E/W (ft)	Closure Distance (ft)	Closure Direction Azimuth	Dogleg Severity (ft/100')	Build Rate (d/100')	Walk Rate (d/100')
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Company:	Dorado E&P	Job Number:	OK12147
Well Name:	Toews 25-9-4 1H	Mag Declination:	4.64E
Location:	Noble County	Directional Driller:	Doug Randall/Billy Erwin
Rig Name:	Duke 20	MWD Engineer 1:	Adam Pareja
Leg:	Main	MWD Engineer 2:	Tyler Hill

Calculation Method:	Minimum Curvature
Proposed Azimuth:	177.81
Depth Reference:	0
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Survey Number	Survey Depth (ft)	Inclination (deg)	Azimuth (deg)	Course Length (ft)	True Vertical Depth (ft)	Vertical Section (ft)	Coordinates N/S (ft)	Coordinates E/W (ft)	Closure Distance (ft)	Closure Direction Azimuth	Dogleg Severity (ft/100')	Build Rate (d/100')	Walk Rate (d/100')
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Company:	Dorado E&P	Job Number:	OK12147
Well Name:	Toews 25-9-4 1H	Mag Declination:	4.64E
Location:	Noble County	Directional Driller:	Doug Randall/Billy Erwin
Rig Name:	Duke 20	MWD Engineer 1:	Adam Pareja
Leg:	Main	MWD Engineer 2:	Tyler Hill

Calculation Method:	Minimum Curvature
Proposed Azimuth:	177.81
Depth Reference:	0
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Survey Number	Survey Depth (ft)	Inclination (deg)	Azimuth (deg)	Course Length (ft)	True Vertical Depth (ft)	Vertical Section (ft)	Coordinates N/S (ft)	Coordinates E/W (ft)	Closure Distance (ft)	Closure Direction Azimuth	Dogleg Severity (ft/100')	Build Rate (d/100')	Walk Rate (d/100')
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Company:	Dorado E&P	Job Number:	OK12147
Well Name:	Toews 25-9-4 1H	Mag Declination:	4.64E
Location:	Noble County	Directional Driller:	Doug Randall/Billy Erwin
Rig Name:	Duke 20	MWD Engineer 1:	Adam Pareja
Leg:	Main	MWD Engineer 2:	Tyler Hill

Calculation Method:	Minimum Curvature
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Survey Number	Survey Depth (ft)	Inclination (deg)	Azimuth (deg)	Course Length (ft)	True Vertical Depth (ft)	Vertical Section (ft)	Coordinates N/S (ft)	Coordinates E/W (ft)	Closure Distance (ft)	Closure Direction Azimuth	Dogleg Severity (ft/100')	Build Rate (d/100')	Walk Rate (d/100')
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Company:	Dorado E&P	Job Number:	OK12147
Well Name:	Toews 25-9-4 1H	Mag Declination:	4.64E
Location:	Noble County	Directional Driller:	Doug Randall/Billy Erwin
Rig Name:	Duke 20	MWD Engineer 1:	Adam Pareja
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Calculation Method:	Minimum Curvature
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Survey Number	Survey Depth (ft)	Inclination (deg)	Azimuth (deg)	Course Length (ft)	True Vertical Depth (ft)	Vertical Section (ft)	Coordinates N/S (ft)	Coordinates E/W (ft)	Closure Distance (ft)	Closure Direction Azimuth	Dogleg Severity (ft/100')	Build Rate (d/100')	Walk Rate (d/100')
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Company:	Dorado E&P	Job Number:	OK12147
Well Name:	Toews 25-9-4 1H	Mag Declination:	4.64E
Location:	Noble County	Directional Driller:	Doug Randall/Billy Erwin
Rig Name:	Duke 20	MWD Engineer 1:	Adam Pareja
Leg:	Main	MWD Engineer 2:	Tyler Hill

Calculation Method:	Minimum Curvature
Proposed Azimuth:	177.81
Depth Reference:	0
Tie Into Provided By:	0

Survey Number	Survey Depth (ft)	Inclination (deg)	Azimuth (deg)	Course Length (ft)	True Vertical Depth (ft)	Vertical Section (ft)	Coordinates N/S (ft)	Coordinates E/W (ft)	Closure Distance (ft)	Closure Direction Azimuth	Dogleg Severity (ft/100')	Build Rate (d/100')	Walk Rate (d/100')
553													

Conservation Division
Finney State Office Building
130 S. Market, Rm. 2078
Wichita, KS 67202-3802

Kansas
Corporation Commission

Phone: 316-337-6200
Fax: 316-337-6211
http://kcc.ks.gov/

January 10, 2013

TINA MILLER
Dorado E&P Partners, LLC
1401 17th ST., STE 1500
DENVER, CO 80202

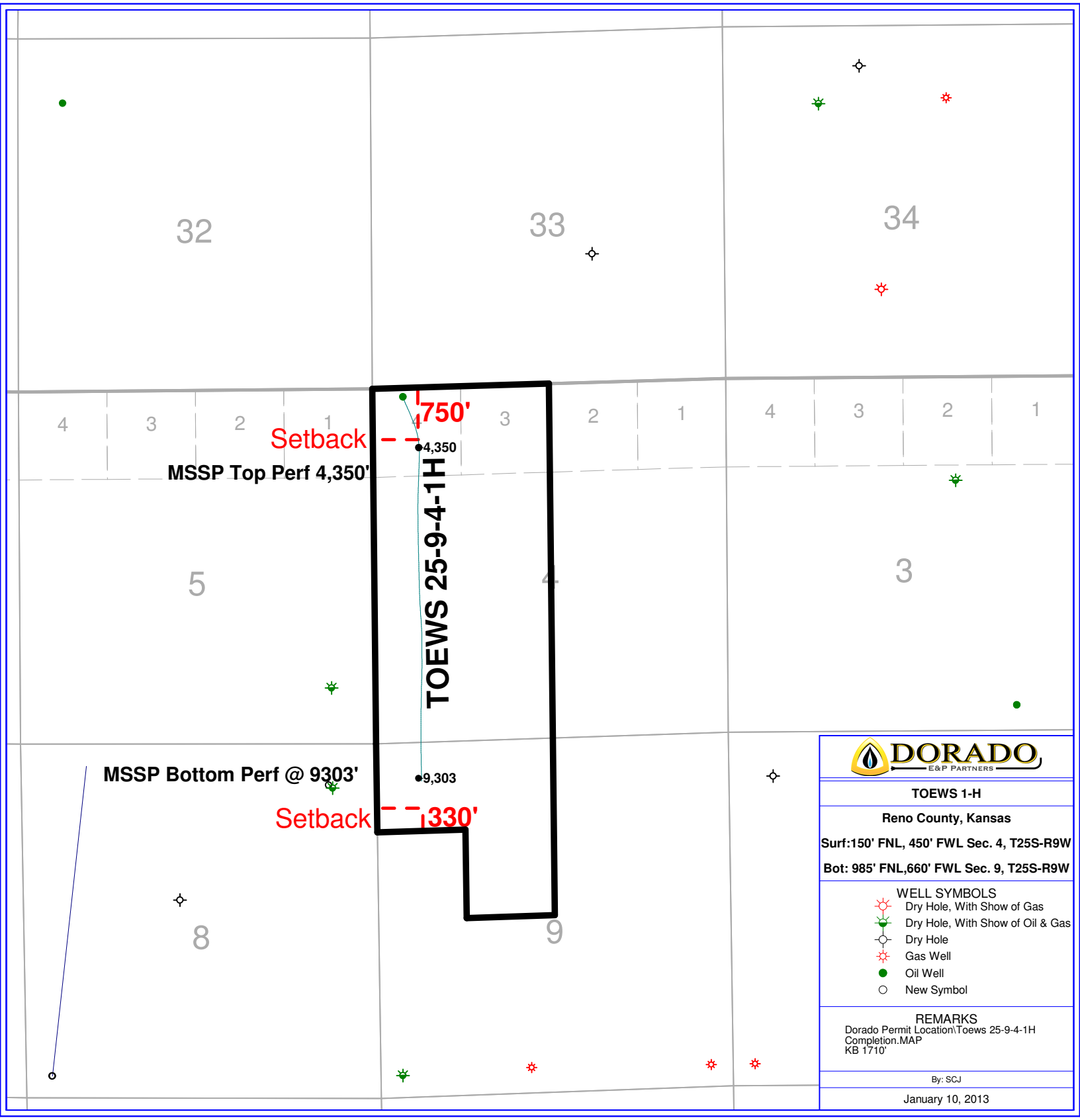
Re: ACO1
API 15-155-21592-00-00
Toews 25-9-4
NW/4 Sec.04-25S-09W
Reno County, Kansas

Dear Production Department:

We are herewith requesting that the Well Completion Form ACO-1 and attached information for the subject well be held confidential for a period of two years.

Should you have any questions or need additional information regarding subject well, please contact our office.

Respectfully,
TINA MILLER



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