Confidentiality Requested:
☐ Yes ☐ No

KANSAS CORPORATION COMMISSION
OIL & GAS CONSERVATION DIVISION

1103032

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 # 33168
Name: Woolsey Operating Company, LLC
Address 1: 125 N MARKET STE 1000
Address 2:
City: WICHITA State: KS Zip: 67202 + 1729
Contact Person: DEAN PATTISSON
Phone: (316) 267-4379
CONTRACTOR: License # 33132
Name: Dan D Drilling
Wellsite Geologist: BILLY KLAVER
Purchaser: PLAINS MARKETING / ATLAS PIPELINE

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 #:

08/03/2012 Spud Date or Recompletion Date
08/30/2012 Date Reached TD
11/02/2012 Completion Date or Recompletion Date

API No. 15 - 15-007-23928-01-00
Spot Description:
SW SE SE SW Sec. 14 Twp. 34 S. R. 11 ☐ East ☑ West
13 Feet from ☐ North / ☑ South Line of Section
2115 Feet from ☐ East / ☑ West Line of Section
Footages Calculated from Nearest Outside Section Corner:
☐ NE ☐ NW ☐ SE ☑ SW
GPS Location: Lat: *(e.g. xx.xxxxx)* , Long: *(e.g. -xxx.xxxxx)*
Datum: ☐ NAD27 ☐ NAD83 ☐ WGS84
County: Barber
Lease Name: MILLER-DIEL Well #: 1 H
Field Name: MAYBERRY NORTH
Producing Formation: MISSISSIPPIAN
Elevation: Ground: 1379 Kelly Bushing: 1396
Total Vertical Depth: 9118 Plug Back Total Depth: 9050
Amount of Surface Pipe Set and Cemented at: 326 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: 4900 ppm Fluid volume: 2500 bbls
Dewatering method used: Hauled to Disposal
Location of fluid disposal if hauled offsite:
Operator Name: WOOLSEY OPERATING COMPANY LLC
Lease Name: WECKWORTH 6 SWD License #: 33168
Quarter SW Sec. 9 Twp. 35 S. R. 12 ☐ East ☑ West
County: BARBER Permit #: D-31,019

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: 11/30/2012
☑ **Confidential Release Date:** 11/30/2014
☑ **Wireline Log Received**
☐ **Geologist Report Received**
☐ **UIC Distribution**
ALT ☑ **I** ☐ **II** ☐ **III** **Approved by:** NAOMI JAMES **Date:** 12/07/2012

1103032

Operator Name: Woolsey Operating Company, LLC Lease Name: MILLER-DIEL Well #: 1 H

Sec. 14 Twp. 34 S. R. 11 ☐ East ☑ West County: Barber

INSTRUCTIONS: Show important tops of formations penetrated. Detail all cores. Report all final copies of drill stems tests giving interval tested, time tool open and closed, flowing and shut-in pressures, whether shut-in pressure reached static level, hydrostatic pressures, bottom hole temperature, fluid recovery, and flow rates if gas to surface test, along with final chart(s). Attach extra sheet if more space is needed.

Final Radioactivity Log, Final Logs run to obtain Geophysical Data and Final Electric Logs must be emailed to kcc-well-logs@kcc.ks.gov. Digital electronic log files must be submitted in LAS version 2.0 or newer AND an image file (TIFF or PDF).

Drill Stem Tests Taken ☐ 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:

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

Name	Top	Datum
LECOMPTON	3462	-2066
HEEBNER	3680	-2284
HASKELL BROWN LIME	4092	-2696
PAWNEE LS	455	-3162
MISSISSIPPIAN	4663	-3267

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
	8952, 8612, 8380, 8163, 7945,	16 stage PackersPlus StackFrac HD	
	7735, 7520, 7300, 7083, 6862,	(see attached for full details)	
	6639, 6421, 6199, 5977, 5754		
	& 5495		5495-8952 OA

TUBING RECORD: Size:	Set At:	Packer At:	Liner Run:
2.875 X 6.5#	4327		☐ Yes ☐ No

Date of First, Resumed Production, SWD or ENHR. 11/12/2012

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

Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity
	55	850	2300	15455	25

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:
5495-8952

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

Form	ACO1 - Well Completion
Operator	Woolsey Operating Company, LLC
Well Name	MILLER-DIEL 1 H
Doc ID	1103032

Casing

Purpose Of String	Size Hole Drilled	Size Casing Set	Weight	Setting Depth	Type Of Cement	Number of Sacks Used	Type and Percent Additives
CONDUCTOR	30	20	53	40	GROUT	4	4 YDS, NOT SX
SURFACE	17.5	13.1875	54.5	326	CLASS A	300	2% gel, 3% cc
INTERMEDIATE	8.75	7	23	5358	POZMIX	50	
INTERMEDIATE	8.75	7	23	5358	CLASS H	200	10% gyp, 10% salt, .5% fluid loss, ¼# flow seal
PRODUCTION	7.875	4.5	11.6	9063	NONE	0	PACKER PLUS SYS

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/

November 29, 2012

DEAN PATTISSON
Woolsey Operating Company, LLC
125 N MARKET STE 1000
WICHITA, KS 67202-1729

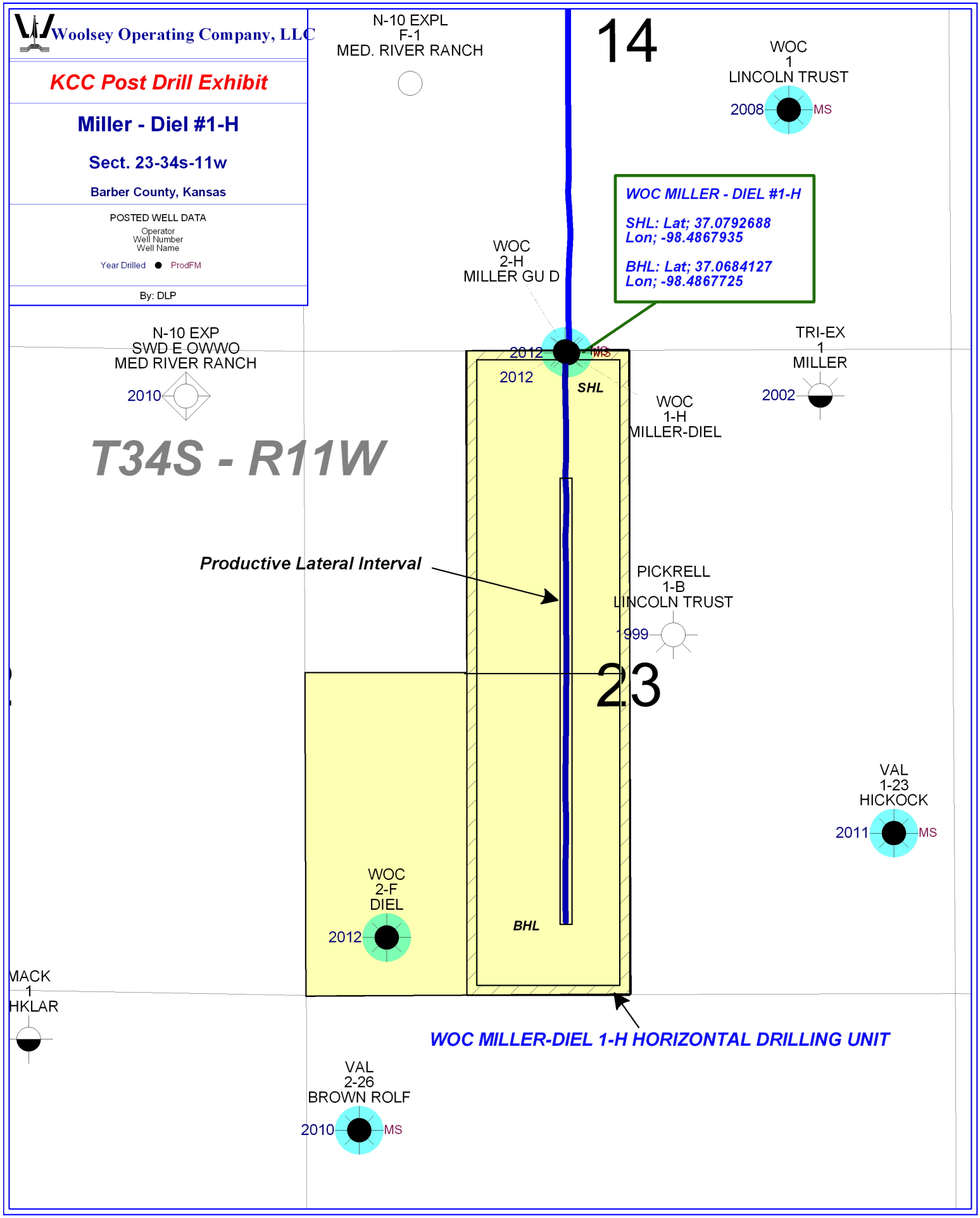
Re: ACO1
API 15-007-23928-01-00
MILLER-DIEL 1 H
SW/4 Sec.14-34S-11W
Barber County, Kansas

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,
DEAN PATTISSON


Woolsey Operating Company, LLC
KCC Post Drill Exhibit
Miller - Diel #1-H
Sect. 23-34s-11w
Barber County, Kansas
POSTED WELL DATA
Operator
Well Number
Well Name
Year Drilled ● ProdFM
By: DLP
N-10 EXPL
F-1
MED. RIVER RANCH
14
WOC
1
LINCOLN TRUST
2008 MS
WOC MILLER - DIEL #1-H
SHL: Lat; 37.0792688
Lon; -98.4867935
BHL: Lat; 37.0684127
Lon; -98.4867725
WOC
2-H
MILLER GU D
2012 MS
2012
SHL
N-10 EXP
SWD E OWWO
MED RIVER RANCH
2010
TRI-EX
1
MILLER
2002
WOC
1-H
MILLER-DIEL
T34S - R11W
Productive Lateral Interval
PICKRELL
1-B
LINCOLN TRUST
1999
23
VAL
1-23
HICKOCK
2011 MS
WOC
2-F
DIEL
2012
BHL
MACK
1
HKLAR
WOC MILLER-DIEL 1-H HORIZONTAL DRILLING UNIT
VAL
2-26
BROWN ROLF
2010 MS

P.O. # _____

BIG BUCKETS RATHOLE DRILLING
P.O. Box 5252
Enid, Oklahoma 73702
Phone (580) 233-9850
Fax (580) 233-4588

№ 5001

ORDERED BY Mike Sharp

Date 8/3/12

Bill To Headsey Operating LLC

Lease Miller Oil #1-4

Address

Legal Sec 14-34S-11W

County Barber KS

Rig Dan D Drlg #11

DESCRIPTION	AMOUNT	
Furnish Men & Equipment To Mill rat, mouse holes 5'of 60" cellar & 40 ft. of 30" hole & remove dirt off loc.		
Materials Furnished 40 ft. of 30" pipe - 4 yds of 8 sk grout 5'of 60" timber (cellar) 50ft. of 15" timbers (R&M Boots) KS trip permits (2 tkts)	$7000	00
Total	$7000	00

Operator Dan Whittington Approved By

ALLIED OIL & GAS SERVICES, LLC 053871

Federal Tax I.D.# 20-5975804

REMIT TO P.O. BOX 31
RUSSELL, KANSAS 67665

SERVICE POINT: Medicine Lodge KS

DATE	SEC.	TWP.	RANGE	CALLED OUT	ON LOCATION	JOB START	JOB FINISH
08-05-12	14	34s	11w			11:00 PM	11:30 PM

LEASE Miller - Diel WELL # 1-8 LOCATION 281 & Geelane, East to Bethel Rd, south to Angus Rd, west ½ mile, N/S COUNTY Barber STATE KS

OLD OR NEW (Circle one)

CONTRACTOR Dan "D" #5
TYPE OF JOB Surface
HOLE SIZE 17½ T.D. 325
CASING SIZE 13⅜ DEPTH 326
TUBING SIZE DEPTH
DRILL PIPE DEPTH
TOOL DEPTH
PRES. MAX 200 MINIMUM —
MEAS. LINE SHOE JOINT N/A
CEMENT LEFT IN CSG. 20'
PERFS.
DISPLACEMENT 48 Bbls fresh H2O

OWNER Woolsey Oper.

EQUIPMENT

PUMP TRUCK CEMENTER Gary (Baldivia) D. Felix
#471-302 HELPER S. Paddy 2
BULK TRUCK
#353-290 DRIVER B. Boor 3
BULK TRUCK
DRIVER

REMARKS:

See 506 Log
Shut in - Cement Did Circulate

THX

CEMENT

AMOUNT ORDERED 300sx A + 3% cc + 2% gel

COMMON	300 SX "A"	@ 16.25	4875.00
POZMIX		@	
GEL	6 SX	@ 21.25	127.50
CHLORIDE	11 SX	@ 58.20	640.20
ASC		@	
HANDLING	321.40	@ 2.10	674.94
MILEAGE	14.80 x 15	x 2.35	521.70
		TOTAL	$7045.14

222 -

SERVICE

DEPTH OF JOB	326'		
PUMP TRUCK CHARGE			1125-
EXTRA FOOTAGE	26'	@ .95	24.70
MILEAGE	15	@ 7.00	105.00
MANIFOLD	N/A	@	
Light Vehicle	15	@ 4.00	60-
		@	
		TOTAL	$1314.70

CHARGE TO: Woolsey Oper.
STREET
CITY STATE ZIP

PLUG & FLOAT EQUIPMENT

None

TOTAL

SALES TAX (If Any) -0-
TOTAL CHARGES $8160.34
DISCOUNT 20% $1632.07 IF PAID IN 30 DAYS
NET $6528.27

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

PRINTED NAME MIKE THARP

SIGNATURE Mike Tharp

ALLIED OIL & GAS SERVICES, LLC 053989

Federal Tax I.D.# 20-5975804

REMIT TO P.O. BOX 31
RUSSELL, KANSAS 67665

SERVICE POINT:
Medicine Lodge KS

DATE 8-20-2012	SEC. 14	TWP. 34S	RANGE 11W	CALLED OUT	ON LOCATION	JOB START 6:30 AM	JOB FINISH 7:30 PM
LEASE Miller-Diel	WELL # 1-14		LOCATION 281 & Gorlan Rd, east to Bath,			COUNTY Barber	STATE KS
OLD OR (NEW) (Circle one)			South to Angus, 1/8W, N/into				

1.02

CONTRACTOR Duke #11
TYPE OF JOB ~~Production~~ Intermediate
HOLE SIZE 8 3/4" T.D. 5371'
CASING SIZE 7" 23# DEPTH 5357'
TUBING SIZE DEPTH
DRILL PIPE DEPTH
TOOL DEPTH
PRES. MAX MINIMUM
MEAS. LINE SHOE JOINT 43'
CEMENT LEFT IN CSG.
PERFS.
DISPLACEMENT 213 bbls of Fresh Water

OWNER Woolsey Operating

EQUIPMENT

PUMP TRUCK #360-265 CEMENTER Darin F. 1
HELPER Scott P. 2
BULK TRUCK #353-290 DRIVER Branden B., Essie P. 3
BULK TRUCK # DRIVER

CEMENT

AMOUNT ORDERED 30 sx 60:40:4% Gel
200 sx Class H +10% Gyp +10% Salt +¼# Kolseal
+.8% FL-160 +¼# Flo-Seal

COMMON	30 sx "A"	@ 16.25	487.50
POZMIX	20 sx	@ 8.50	170.00
GEL	2 sx	@ 21.25	42.50
CHLORIDE		@	
ASC		@	
Class H - 200 sx		@ 19.25	3850.00
Gypseal - 19 sx		@ 34.20	649.80
Kolseal - 12.00 #		@ .89	10108.00
Salt - 82 sx		@ 12.00	984.00
FL-160 - 94 #		@ 17.20	1616.80
Flo-Seal - 50 #		@ 2.70	135.00
		@	
		@	
HANDLING 342.87		@ 2.10	720.08
MILEAGE 13.79 x 2.35 x 15			486.10
206.85		TOTAL	$9489.73

REMARKS:

Pipe on bottom & break circulation, mix 50 sx of Scavenger, mix 200 sx of H cement. Shut down, wash pump & lines, Release plug start displacement, Late pressure at 120 bbls slow rate to 3bpm at 200 bbls, bump plug at 213 bbls 100-1600 PSI, float held

SERVICE

DEPTH OF JOB 5357'
PUMP TRUCK CHARGE 2695.00
EXTRA FOOTAGE @
MILEAGE 15 @ 7.00 105.00
MANIFOLD Hess rental @ 200.-
LV 15 @ 4.00 60.-
@
TOTAL 3060.-

PLUG & FLOAT EQUIPMENT

7"

1-Rubber Plug	@	85.00
1-Sure Steel Shoe	@	1659.00
1-Sure Steel Collar	@	758.00
5-Spring Gliders	@ 189.20	946.00
10-Stop Rings	@ 48	480.-
	TOTAL	3878.00

CHARGE TO: Woolsey Operating
STREET
CITY STATE ZIP

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

PRINTED NAME X MIKE THARP

SIGNATURE X Mike Tharp

Thank you!!!

SALES TAX (If Any) -0-
TOTAL CHARGES $15,427.73
DISCOUNT 3085.55 IF PAID IN 30 DAYS
Net $12,342.18

StackFRAC® HD

Multi-Stage Fracturing System from

Packers Plus — Do It Once Do It Right

Prepared for:

Woolsey Petroleum

Mr. Carl Durr

Miller Deil 1H

Barber County, KS

16-Stage 4-1/2" StackFRAC® HD
Completion
4-1/2" 11.60# P-110 LTC

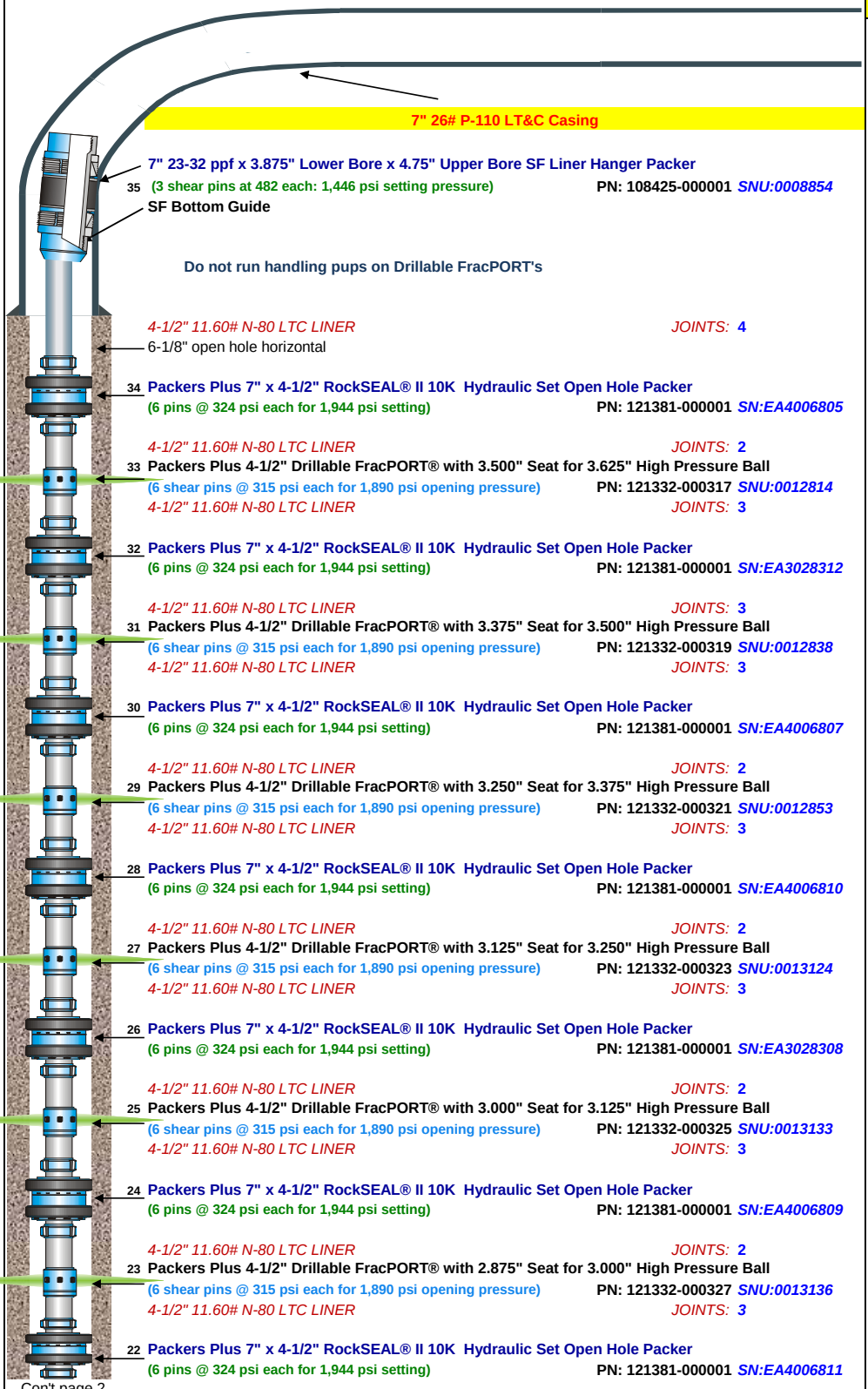
Packers Plus

Do It Once. Do It Right.

Confidential Information - not to be disclosed outside Woolsey Petroleum

Completion FINAL

Prepared for	Company	Date
Mr. Carl Durr	Woolsey Petroleum	7-Sep-12
Well Name	**Type of Installation**	**Location**
Miller Deil #1H	16-Stage 4-1/2" StackFRAC® HD	Barber, KS

Depth	Drawing	Description	OD (in)	ID (in)	Length
		**7" 26# P-110 LT&C Casing**			
SF liner **5229'** *205bbls*		**7" 23-32 ppf x 3.875" Lower Bore x 4.75" Upper Bore SF Liner Hanger Packer** 35 **(3 shear pins at 482 each: 1,446 psi setting pressure)** **PN: 108425-000001** ***SNU:0008854*** **SF Bottom Guide**	5.875" 5.850" 4.500"	4.750" 3.875" 3.850" 4.000"	9.92'
		Do not run handling pups on Drillable FracPORT's			
		4-1/2" 11.60# N-80 LTC LINER *JOINTS:* **4** 6-1/8" open hole horizontal	4.500"	4.000"	166.32'
5407'		34 **Packers Plus 7" x 4-1/2" RockSEAL® II 10K Hydraulic Set Open Hole Packer** **(6 pins @ 324 psi each for 1,944 psi setting)** **PN: 121381-000001** ***SN:EA4006805***	5.75"	3.875"	14.41'
		4-1/2" 11.60# N-80 LTC LINER *JOINTS:* **2**	4.500"	4.000"	79.27'
Stage 16		33 **Packers Plus 4-1/2" Drillable FracPORT® with 3.500" Seat for 3.625" High Pressure Ball**	5.630"	**3.500"**	2.65'
5495'		**(6 shear pins @ 315 psi each for 1,890 psi opening pressure)** **PN: 121332-000317** ***SNU:0012814***		3.875"	
209bbls		*4-1/2" 11.60# N-80 LTC LINER* *JOINTS:* **3**	4.500"	4.000"	121.53'
5625'		32 **Packers Plus 7" x 4-1/2" RockSEAL® II 10K Hydraulic Set Open Hole Packer** **(6 pins @ 324 psi each for 1,944 psi setting)** **PN: 121381-000001** ***SN:EA3028312***	5.75"	3.875"	14.42'
		4-1/2" 11.60# N-80 LTC LINER *JOINTS:* **3**	4.500"	4.000"	120.47'
Stage 15		31 **Packers Plus 4-1/2" Drillable FracPORT® with 3.375" Seat for 3.500" High Pressure Ball**	5.630"	**3.375"**	2.65'
5754'		**(6 shear pins @ 315 psi each for 1,890 psi opening pressure)** **PN: 121332-000319** ***SNU:0012838***		3.875"	
213bbls		*4-1/2" 11.60# N-80 LTC LINER* *JOINTS:* **3**	4.500"	4.000"	124.76'
		30 **Packers Plus 7" x 4-1/2" RockSEAL® II 10K Hydraulic Set Open Hole Packer**	5.75"	3.875"	14.41'
5887'		**(6 pins @ 324 psi each for 1,944 psi setting)** **PN: 121381-000001** ***SN:EA4006807***			
		4-1/2" 11.60# N-80 LTC LINER *JOINTS:* **2**	4.500"	4.000"	81.80'
Stage 14		29 **Packers Plus 4-1/2" Drillable FracPORT® with 3.250" Seat for 3.375" High Pressure Ball**	5.630"	**3.250"**	2.65'
5977'		**(6 shear pins @ 315 psi each for 1,890 psi opening pressure)** **PN: 121332-000321** ***SNU:0012853***		3.875"	
217bbls		*4-1/2" 11.60# N-80 LTC LINER* *JOINTS:* **3**	4.500"	4.000"	121.66'
		28 **Packers Plus 7" x 4-1/2" RockSEAL® II 10K Hydraulic Set Open Hole Packer**	5.75"	3.875"	14.44'
6108'		**(6 pins @ 324 psi each for 1,944 psi setting)** **PN: 121381-000001** ***SN:EA4006810***			
		4-1/2" 11.60# N-80 LTC LINER *JOINTS:* **2**	4.500"	4.000"	82.79'
Stage 13		27 **Packers Plus 4-1/2" Drillable FracPORT® with 3.125" Seat for 3.250" High Pressure Ball**	5.630"	**3.125"**	2.65'
6199'		**(6 shear pins @ 315 psi each for 1,890 psi opening pressure)** **PN: 121332-000323** ***SNU:0013124***		3.875"	
220bbls		*4-1/2" 11.60# N-80 LTC LINER* *JOINTS:* **3**	4.500"	4.000"	123.79'
		26 **Packers Plus 7" x 4-1/2" RockSEAL® II 10K Hydraulic Set Open Hole Packer**	5.75"	3.875"	14.40'
6331'		**(6 pins @ 324 psi each for 1,944 psi setting)** **PN: 121381-000001** ***SN:EA3028308***			
		4-1/2" 11.60# N-80 LTC LINER *JOINTS:* **2**	4.500"	4.000"	81.19'
Stage 12		25 **Packers Plus 4-1/2" Drillable FracPORT® with 3.000" Seat for 3.125" High Pressure Ball**	5.630"	**3.000"**	2.65'
6421'		**(6 shear pins @ 315 psi each for 1,890 psi opening pressure)** **PN: 121332-000325** ***SNU:0013133***		3.875"	
224bbls		*4-1/2" 11.60# N-80 LTC LINER* *JOINTS:* **3**	4.500"	4.000"	119.36'
		24 **Packers Plus 7" x 4-1/2" RockSEAL® II 10K Hydraulic Set Open Hole Packer**	5.75"	3.875"	14.42'
6549'		**(6 pins @ 324 psi each for 1,944 psi setting)** **PN: 121381-000001** ***SN:EA4006809***			
		4-1/2" 11.60# N-80 LTC LINER *JOINTS:* **2**	4.500"	4.000"	81.91'
Stage 11		23 **Packers Plus 4-1/2" Drillable FracPORT® with 2.875" Seat for 3.000" High Pressure Ball**	5.630"	**2.875"**	2.65'
6639		**(6 shear pins @ 315 psi each for 1,890 psi opening pressure)** **PN: 121332-000327** ***SNU:0013136***		3.875"	
227bbls		*4-1/2" 11.60# N-80 LTC LINER* *JOINTS:* **3**			127.90'
			4.500"	4.000"	
		22 **Packers Plus 7" x 4-1/2" RockSEAL® II 10K Hydraulic Set Open Hole Packer**	5.75"	3.875"	14.43'
6776'		**(6 pins @ 324 psi each for 1,944 psi setting)** **PN: 121381-000001** ***SN:EA4006811***			
	Con't page 2				

Service Center	Telephone	Contact	Telephone
Conway, AR	501-327-0241	Gary Leber	Chad Williams 405-255-3223

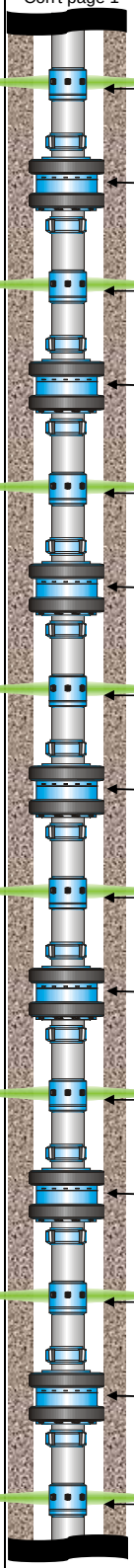
Packers Plus

Do It Once. Do It Right.

Confidential Information - not to be disclosed outside Woolsey Petroleum

Completion FINAL

Prepared for	Company	Date
Mr. Carl Durr	Woolsey Petroleum	7-Sep-12
Well Name	**Type of Installation**	**Location**
Miller Deil #1H	16-Stage 4-1/2" StackFRAC® HD	Barber, KS

Depth	Drawing	Description	OD (in)	ID (in)	Length
	Con't page 1				
		*4-1/2" 11.60# N-80 LTC LINER* *JOINTS:* 2	4.500"	4.000"	77.60'
Stage 10		21 **Packers Plus 4-1/2" Drillable FracPORT® with 2.750" Seat for 2.875" High Pressure Ball**	5.630"	**2.750"**	2.65'
6862'		**(6 shear pins @ 315 psi each for 1,890 psi opening pressure)** **PN: 121332-000329** ***SNU:0013268***		3.875"	
230bbls		*4-1/2" 11.60# N-80 LTC LINER* *JOINTS:* 3	4.500"	4.000"	126.74'
6997'		20 **Packers Plus 7" x 4-1/2" RockSEAL® II 10K Hydraulic Set Open Hole Packer** **(6 pins @ 324 psi each for 1,944 psi setting)** **PN: 121381-000001** ***SN:EA3028309***	5.75"	3.875"	14.38'
		4-1/2" 11.60# N-80 LTC LINER *JOINTS:* 2	4.500"	4.000"	77.22'
Stage 9		19 **Packers Plus 4-1/2" Drillable FracPORT® with 2.625" Seat for 2.750" High Pressure Ball**	5.630"	**2.625"**	2.65'
7083'		**(6 shear pins @ 315 psi each for 1,890 psi opening pressure)** **PN: 121332-000016** ***SN:EA3016994***		3.875"	
234bbls		*4-1/2" 11.60# N-80 LTC LINER* *JOINTS:* 3	4.500"	4.000"	117.99'
7210'		18 **Packers Plus 7" x 4-1/2" RockSEAL® II 10K Hydraulic Set Open Hole Packer** **(6 pins @ 324 psi each for 1,944 psi setting)** **PN: 121381-000001** ***SN:EA3028307***	5.75"	3.875"	14.42'
		4-1/2" 11.60# N-80 LTC LINER *JOINTS:* 2	4.500"	4.000"	82.15'
Stage 8		17 **Packers Plus 4-1/2" Drillable FracPORT® with 2.500" Seat for 2.625" High Pressure Ball**	5.630"	**2.500"**	2.65'
7300'		**(6 shear pins @ 315 psi each for 1,890 psi opening pressure)** **PN: 121332-000015** ***SN:EA3016979***		3.875"	
237bbls		*4-1/2" 11.60# N-80 LTC LINER* *JOINTS:* 3	4.500"	4.000"	125.42'
7434'		16 **Packers Plus 7" x 4-1/2" RockSEAL® II 10K Hydraulic Set Open Hole Packer** **(6 pins @ 324 psi each for 1,944 psi setting)** **PN: 121381-000001** ***SN:EA3028313***	5.75"	3.875"	14.42'
		4-1/2" 11.60# N-80 LTC LINER *JOINTS:* 2	4.500"	4.000"	77.84'
Stage 7		15 **Packers Plus 4-1/2" Drillable FracPORT® with 2.375" Seat for 2.500" High Pressure Ball**	5.630"	**2.375"**	2.65'
7520		**(6 shear pins @ 315 psi each for 1,890 psi opening pressure)** **PN: 121332-000014** ***SN:EA1022602***		3.875"	
240bbls		*4-1/2" 11.60# N-80 LTC LINER* *JOINTS:* 3	4.500"	4.000"	117.50'
7647'		14 **Packers Plus 7" x 4-1/2" RockSEAL® II 10K Hydraulic Set Open Hole Packer** **(6 pins @ 324 psi each for 1,944 psi setting)** **PN: 121381-000001** ***SN:EA3023810***	5.75"	3.875"	14.39'
		4-1/2" 11.60# N-80 LTC LINER *JOINTS:*	4.500"	4.000"	
Stage 6		13 **Packers Plus 4-1/2" Drillable FracPORT® with 2.250" Seat for 2.375" High Pressure Ball**	5.630"	**2.250"**	2.65'
7735'		**(6 shear pins @ 315 psi each for 1,890 psi opening pressure)** **PN: 121332-000013** ***SN:EA1021060***		3.875"	
243bbls		*4-1/2" 11.60# N-80 LTC LINER* *JOINTS:* 3	4.500"	4.000"	118.50'
7862'		12 **Packers Plus 7" x 4-1/2" RockSEAL® II 10K Hydraulic Set Open Hole Packer** **(6 pins @ 324 psi each for 1,944 psi setting)** **PN: 121381-000001** ***SN:EA3028311***	5.75"	3.875"	14.39'
		4-1/2" 11.60# N-80 LTC LINER *JOINTS:* 2	4.500"	4.000"	74.27'
Stage 5		11 **Packers Plus 4-1/2" Drillable FracPORT® with 2.125" Seat for 2.250" High Pressure Ball**	5.630"	**2.125"**	2.65'
7945'		**(6 shear pins @ 315 psi each for 1,890 psi opening pressure)** **PN: 121332-000012** ***SN:EA1021435***		3.875"	
247bbls		*4-1/2" 11.60# N-80 LTC LINER* *JOINTS:* 3	4.500"	4.000"	124.34'
8078'		10 **Packers Plus 7" x 4-1/2" RockSEAL® II 10K Hydraulic Set Open Hole Packer** **(6 pins @ 324 psi each for 1,944 psi setting)** **PN: 121381-000001** ***SN:EA2025347***	5.75"	3.875"	14.42'
		4-1/2" 11.60# N-80 LTC LINER *JOINTS:* 2	4.500"	4.000"	77.03'
Stage 4		9 **Packers Plus 4-1/2" Drillable FracPORT® with 2.000" Seat for 2.125" High Pressure Ball**	5.630"	**2.000"**	2.65'
8163'		**(6 shear pins @ 315 psi each for 1,890 psi opening pressure)** **PN: 121332-000011** ***SN:EA1015760***		3.875"	
250bbls		*4-1/2" 11.60# N-80 LTC LINER* *JOINTS:* 3	4.500"	4.000"	119.99'
8292'		8 **Packers Plus 7" x 4-1/2" RockSEAL® II 10K Hydraulic Set Open Hole Packer** **(6 pins @ 324 psi each for 1,944 psi setting)** **PN: 121381-000001** ***SN:EA3015443***	5.75"	3.875"	14.42'
		4-1/2" 11.60# N-80 LTC LINER *JOINTS:* 2	4.500"	4.000"	80.08'
Stage 3		7 **Packers Plus 4-1/2" Drillable FracPORT® with 1.875" Seat for 2.000" High Pressure Ball**	5.630"	**1.875"**	2.65'
8380'		**(6 shear pins @ 315 psi each for 1,890 psi opening pressure)** **PN: 121332-000010** ***SN:EA1019662***		3.875"	
254bbls		*4-1/2" 11.60# N-80 LTC LINER* *JOINTS:* 3	4.500"	4.000"	129.56'

Service Center	Telephone	Contact	Telephone
Conway, AR	501-327-0241	Gary Leber	Chad Williams 405-255-3223

Packers Plus

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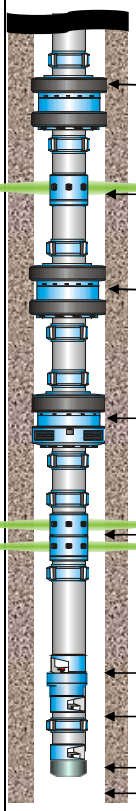
Completion FINAL

Prepared for	Company	Date
Mr. Carl Durr	Woolsey Petroleum	7-Sep-12
Well Name	**Type of Installation**	**Location**
Miller Deil #1H	16-Stage 4-1/2" StackFRAC® HD	Barber, KS

Depth	Drawing	Description	OD (in)	ID (in)	Length
					
8519'	6	**Packers Plus 7" x 4-1/2" RockSEAL® II 10K Hydraulic Set Open Hole Packer**	5.75"	3.875"	14.43'
		(6 pins @ 324 psi each for 1,944 psi setting) **PN: 121381-000001** ***SN:EA4001872***			
		4-1/2" 11.60# N-80 LTC LINER *JOINTS:* **2**	4.500"	4.000"	85.42'
Stage 2	5	**Packers Plus 4-1/2" Drillable FracPORT® with 1.750" Seat for 1.875" High Pressure Ball**	5.630"	**1.750"**	2.65'
8612'		**(6 shear pins @ 315 psi each for 1,890 psi opening pressure)** **PN: 121332-000009** ***SN:EA1020981***		3.875"	
257bbls		*4-1/2" 11.60# N-80 LTC LINER* *JOINTS:* **3**	4.500"	4.000"	129.29'
8750'	4	**Packers Plus 7" x 4-1/2" RockSEAL® II 10K Hydraulic Set Open Hole Packer**	5.75"	3.875"	14.43'
		(6 pins @ 324 psi each for 1,944 psi setting) **PN: 121381-000001** ***SN:EA3015439***			
		4-1/2" 11.60# N-80 LTC LINER *JOINTS:* **2**	4.500"	4.000"	86.77'
8852'	3	**Packers Plus 7" x 4-1/2" RockSEAL® IIS 10K Hydraulic Set Anchor Packer**	5.75"	3.875"	16.37'
		(6 shear pins at 324 psi each: 1,944 psi setting pressure) **PN: 124306-000001** ***SN:EA4007045***			
		4-1/2" 11.60# N-80 LTC LINER *JOINTS:* **2**	4.500"	4.000"	84.31'
	2				
Stage 1		**Packers Plus 4-1/2" Dual Hydraulic FracPORT®** **PN: 121288-000001** ***SNU:0013027***	5.630"	3.875"	13.51'
8952'		**(11 pins at 391 psi each: 4,301 psi Upper) / (7 pins at 630 psi each: 4,410 psi Lower)**			
262bbls					
		4-1/2" 11.60# N-80 LTC LINER *JOINTS:* **2**	4.500"	4.000"	84.29'
9050'	1	**Packers Plus 4-1/2" Toe Circulating Sub w/ .75"-1.00"-1.25" Seat for High Pressure Ball**	5.50"	**3.75"**	18.50'
264bbls		**(3 pins at 366 psi each: 1,098 psi closing pressure)** **PN: 103039-000005** ***SN:EA1022231***			
		4-1/2" LTC Single Valve Float Collar **PN: 104733-000001**	5.000"	**4.000"**	
		4-1/2" LTC Single Valve Float Collar **PN: 104733-000001**	5.000"	**4.000"**	
9063'		**4-1/2" LTC Guide Shoe** **PN: 121704-000001**	5.500"	2.25"	

Service Center	Telephone	Contact	Telephone
Conway, AR	501-327-0241	Gary Leber	Chad Williams 405-255-3223

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8980

Operator:	Woolsey Petroleum	**Base Point:**	20600 Conway
Company Rep:	Mike Tharp	**Packers Plus Rep:**	Gary Goodman/Brad Kelley
Well Name:	Miller-Diel # 1H	**Date Started:**	8/31/2012
Ticket Number:	SOU005411	**Date Completed:**	9/7/2012
County/State:	Barber Co. KS.	**Type of Job:**	StackFrac HD

1	Description	Length	Landed @ Actual MD	TMD Accumulated	Proposed
			9063.00		
	GUIDE SHOE	0.92	9062.08	0.92	-0.92
	FLOAT COLLAR	1.34	9060.74	2.26	-2.26
	PUP JOINT	6.11	9054.63	8.37	-8.37
	FLOAT COLLAR	1.34	9053.29	9.71	-9.71
	TOE SUB	2.73	9050.56	12.44	-12.44
	PUP JOINT	6.06	9044.50	18.50	-18.50
1	Casing 4.5" 11.6ppf L80	42.15	9002.35	60.65	-60.65
2	Casing 4.5" 11.6ppf L80	42.14	8960.21	102.79	-102.79
	PUP JOINT	3.07	8957.14	105.86	-105.86
	DEH FRAC PORT	4.33	8952.81	110.19	-110.19
	PUP JOINT	6.11	8946.70	116.30	-116.30
3	Casing 4.5" 11.6ppf L80	42.16	8904.54	158.46	-158.46
4	Casing 4.5" 11.6ppf L80	42.15	8862.39	200.61	-200.61
	PUP JOINT	3.07	8859.32	203.68	-203.68
	RSIIs	7.20	8852.12	210.88	-210.88
	PUP JOINT	6.10	8846.02	216.98	-216.98
5	Casing 4.5" 11.6ppf L80	42.16	8803.86	259.14	-259.14
6	Casing 4.5" 11.6ppf L80	44.61	8759.25	303.75	-303.75
	PUP JOINT	3.08	8756.17	306.83	-306.83
	RSII	5.24	8750.93	312.07	-312.07
	PUP JOINT	6.11	8744.82	318.18	-318.18
7	Casing 4.5" 11.6ppf L80	42.15	8702.67	360.33	-360.33
8	Casing 4.5" 11.6ppf L80	42.83	8659.84	403.16	-403.16
9	Casing 4.5" 11.6ppf L80	44.31	8615.53	447.47	-447.47
	FRACPORT (1.750")	2.65	8612.88	450.12	-450.12
10	Casing 4.5" 11.6ppf L80	42.15	8570.73	492.27	-492.27
11	Casing 4.5" 11.6ppf L80	43.27	8527.46	535.54	-535.54
	PUP JOINT	3.09	8524.37	538.63	-538.63
	RSII	5.23	8519.14	543.86	-543.86
	PUP JOINT	6.11	8513.03	549.97	-549.97
12	Casing 4.5" 11.6ppf L80	42.16	8470.87	592.13	-592.13
13	Casing 4.5" 11.6ppf L80	43.14	8427.73	635.27	-635.27
14	Casing 4.5" 11.6ppf L80	44.26	8383.47	679.53	-679.53
	FRACPORT (1.875")	2.65	8380.82	682.18	-682.18
15	Casing 4.5" 11.6ppf L80	40.08	8340.74	722.26	-722.26
16	Casing 4.5" 11.6ppf L80	40.00	8300.74	762.26	-762.26
	PUP JOINT	3.09	8297.65	765.35	-765.35

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	RSII	5.22	8292.43	770.57	-770.57
	PUP JOINT	6.11	8286.32	776.68	-776.68
17	**Casing 4.5" 11.6ppf L80**	40.00	8246.32	816.68	-816.68
18	**Casing 4.5" 11.6ppf L80**	39.97	8206.35	856.65	-856.65
19	**Casing 4.5" 11.6ppf L80**	40.02	8166.33	896.67	-896.67
	FRAC PORT (2.000")	2.65	8163.68	899.32	-899.32
20	**Casing 4.5" 11.6ppf L80**	39.99	8123.69	939.31	-939.31
21	**Casing 4.5" 11.6ppf L80**	37.04	8086.65	976.35	-976.35
	PUP JOINT	3.07	8083.58	979.42	-979.42
	RSII	5.23	8078.35	984.65	-984.65
	PUP JOINT	6.12	8072.23	990.77	-990.77
22	**Casing 4.5" 11.6ppf L80**	40.00	8032.23	1030.77	-1030.77
23	**Casing 4.5" 11.6ppf L80**	42.22	7990.01	1072.99	-1072.99
24	**Casing 4.5" 11.6ppf L80**	42.12	7947.89	1115.11	-1115.11
	FRAC PORT (2.125")	2.65	7945.24	1117.76	-1117.76
25	**Casing 4.5" 11.6ppf L80**	34.27	7910.97	1152.03	-1152.03
26	**Casing 4.5" 11.6ppf L80**	40.00	7870.97	1192.03	-1192.03
	PUP JOINT	3.08	7867.89	1195.11	-1195.11
	RSII	5.23	7862.66	1200.34	-1200.34
	PUP JOINT	6.08	7856.58	1206.42	-1206.42
27	**Casing 4.5" 11.6ppf L80**	41.35	7815.23	1247.77	-1247.77
28	**Casing 4.5" 11.6ppf L80**	40.02	7775.21	1287.79	-1287.79
29	**Casing 4.5" 11.6ppf L80**	37.13	7738.08	1324.92	-1324.92
	FRAC PORT (2.250")	2.65	7735.43	1327.57	-1327.57
30	**Casing 4.5" 11.6ppf L80**	40.02	7695.41	1367.59	-1367.59
31	**Casing 4.5" 11.6ppf L80**	40.04	7655.37	1407.63	-1407.63
	PUP JOINT	3.07	7652.30	1410.70	-1410.70
	RSII	5.23	7647.07	1415.93	-1415.93
	PUP JOINT	6.09	7640.98	1422.02	-1422.02
32	**Casing 4.5" 11.6ppf L80**	40.00	7600.98	1462.02	-1462.02
33	**Casing 4.5" 11.6ppf L80**	37.47	7563.51	1499.49	-1499.49
34	**Casing 4.5" 11.6ppf L80**	40.03	7523.48	1539.52	-1539.52
	FRAC PORT (2.375")	2.65	7520.83	1542.17	-1542.17
35	**Casing 4.5" 11.6ppf L80**	35.66	7485.17	1577.83	-1577.83
36	**Casing 4.5" 11.6ppf L80**	42.18	7442.99	1620.01	-1620.01
	PUP JOINT	3.08	7439.91	1623.09	-1623.09
	RSII	5.23	7434.68	1628.32	-1628.32
	PUP JOINT	6.11	7428.57	1634.43	-1634.43
37	**Casing 4.5" 11.6ppf L80**	43.42	7385.15	1677.85	-1677.85
38	**Casing 4.5" 11.6ppf L80**	42.20	7342.95	1720.05	-1720.05
39	**Casing 4.5" 11.6ppf L80**	39.80	7303.15	1759.85	-1759.85
	FRAC PORT (2.500")	2.65	7300.50	1762.50	-1762.50
40	**Casing 4.5" 11.6ppf L80**	42.97	7257.53	1805.47	-1805.47
41	**Casing 4.5" 11.6ppf L80**	39.18	7218.35	1844.65	-1844.65
	PUP JOINT	3.08	7215.27	1847.73	-1847.73
	RSII	5.23	7210.04	1852.96	-1852.96
	PUP JOINT	6.11	7203.93	1859.07	-1859.07
42	**Casing 4.5" 11.6ppf L80**	38.94	7164.99	1898.01	-1898.01

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43	**Casing 4.5" 11.6ppf L80**	39.30	7125.69	1937.31	-1937.31
44	**Casing 4.5" 11.6ppf L80**	39.75	7085.94	1977.06	-1977.06
	FRAC PORT (2.625")	2.65	7083.29	1979.71	-1979.71
45	**Casing 4.5" 11.6ppf L80**	39.75	7043.54	2019.46	-2019.46
46	**Casing 4.5" 11.6ppf L80**	37.47	7006.07	2056.93	-2056.93
	PUP JOINT	3.06	7003.01	2059.99	-2059.99
	RSII	5.23	6997.78	2065.22	-2065.22
	PUP JOINT	6.09	6991.69	2071.31	-2071.31
47	**Casing 4.5" 11.6ppf L80**	43.34	6948.35	2114.65	-2114.65
48	**Casing 4.5" 11.6ppf L80**	43.38	6904.97	2158.03	-2158.03
49	**Casing 4.5" 11.6ppf L80**	40.02	6864.95	2198.05	-2198.05
	FRAC PORT (2.750")	2.65	6862.30	2200.70	-2200.70
50	**Casing 4.5" 11.6ppf L80**	37.59	6824.71	2238.29	-2238.29
51	**Casing 4.5" 11.6ppf L80**	40.01	6784.70	2278.30	-2278.30
	PUP JOINT	3.09	6781.61	2281.39	-2281.39
	RSII	5.23	6776.38	2286.62	-2286.62
	PUP JOINT	6.11	6770.27	2292.73	-2292.73
52	**Casing 4.5" 11.6ppf L80**	43.65	6726.62	2336.38	-2336.38
53	**Casing 4.5" 11.6ppf L80**	42.11	6684.51	2378.49	-2378.49
54	**Casing 4.5" 11.6ppf L80**	42.14	6642.37	2420.63	-2420.63
	FRAC PORT (2.875")	2.65	6639.72	2423.28	-2423.28
55	**Casing 4.5" 11.6ppf L80**	39.75	6599.97	2463.03	-2463.03
56	**Casing 4.5" 11.6ppf L80**	42.16	6557.81	2505.19	-2505.19
	PUP JOINT	3.09	6554.72	2508.28	-2508.28
	RSII	5.23	6549.49	2513.51	-2513.51
	PUP JOINT	6.10	6543.39	2519.61	-2519.61
57	**Casing 4.5" 11.6ppf L80**	38.41	6504.98	2558.02	-2558.02
58	**Casing 4.5" 11.6ppf L80**	40.50	6464.48	2598.52	-2598.52
59	**Casing 4.5" 11.6ppf L80**	40.45	6424.03	2638.97	-2638.97
	FRAC PORT (3.00")	2.65	6421.38	2641.62	-2641.62
60	**Casing 4.5" 11.6ppf L80**	42.18	6379.20	2683.80	-2683.80
61	**Casing 4.5" 11.6ppf L80**	39.01	6340.19	2722.81	-2722.81
	PUP JOINT	3.10	6337.09	2725.91	-2725.91
	RSII	5.23	6331.86	2731.14	-2731.14
	PUP JOINT	6.07	6325.79	2737.21	-2737.21
62	**Casing 4.5" 11.6ppf L80**	42.21	6283.58	2779.42	-2779.42
63	**Casing 4.5" 11.6ppf L80**	39.34	6244.24	2818.76	-2818.76
64	**Casing 4.5" 11.6ppf L80**	42.24	6202.00	2861.00	-2861.00
	FRAC PORT (3.125")	2.65	6199.35	2863.65	-2863.65
65	**Casing 4.5" 11.6ppf L80**	40.52	6158.83	2904.17	-2904.17
66	**Casing 4.5" 11.6ppf L80**	42.24	6116.59	2946.41	-2946.41
	PUP JOINT	3.11	6113.48	2949.52	-2949.52
	RSII	5.23	6108.25	2954.75	-2954.75
	PUP JOINT	6.10	6102.15	2960.85	-2960.85
67	**Casing 4.5" 11.6ppf L80**	38.81	6063.34	2999.66	-2999.66
68	**Casing 4.5" 11.6ppf L80**	41.42	6021.92	3041.08	-3041.08
69	**Casing 4.5" 11.6ppf L80**	41.43	5980.49	3082.51	-3082.51
	FRAC PORT (3.250")	2.65	5977.84	3085.16	-3085.16

PACKERS PLUS - PACKER PLACEMENT

70	**Casing 4.5" 11.6ppf L80**	42.23	5935.61	3127.39	-3127.39
71	**Casing 4.5" 11.6ppf L80**	39.57	5896.04	3166.96	-3166.96
	PUP JOINT	3.08	5892.96	3170.04	-3170.04
	RSII	5.22	5887.74	3175.26	-3175.26
	PUP JOINT	6.11	5881.63	3181.37	-3181.37
72	**Casing 4.5" 11.6ppf L80**	42.10	5839.53	3223.47	-3223.47
73	**Casing 4.5" 11.6ppf L80**	43.36	5796.17	3266.83	-3266.83
74	**Casing 4.5" 11.6ppf L80**	39.30	5756.87	3306.13	-3306.13
	FRAC PORT (3.375")	2.65	5754.22	3308.78	-3308.78
75	**Casing 4.5" 11.6ppf L80**	42.22	5712.00	3351.00	-3351.00
76	**Casing 4.5" 11.6ppf L80**	38.50	5673.50	3389.50	-3389.50
77	**Casing 4.5" 11.6ppf L80**	39.75	5633.75	3429.25	-3429.25
	PUP JOINT	3.10	5630.65	3432.35	-3432.35
	RSII	5.23	5625.42	3437.58	-3437.58
	PUP JOINT	6.09	5619.33	3443.67	-3443.67
78	**Casing 4.5" 11.6ppf L80**	42.19	5577.14	3485.86	-3485.86
79	**Casing 4.5" 11.6ppf L80**	37.13	5540.01	3522.99	-3522.99
80	**Casing 4.5" 11.6ppf L80**	42.21	5497.80	3565.20	-3565.20
	FRAC PORT (3.500")	2.65	5495.15	3567.85	-3567.85
81	**Casing 4.5" 11.6ppf L80**	37.15	5458.00	3605.00	-3605.00
82	**Casing 4.5" 11.6ppf L80**	42.12	5415.88	3647.12	-3647.12
	PUP JOINT	3.07	5412.81	3650.19	-3650.19
	RSII	5.23	5407.58	3655.42	-3655.42
	PUP JOINT	6.11	5401.47	3661.53	-3661.53
83	**Casing 4.5" 11.6ppf L80**	42.20	5359.27	3703.73	-3703.73
84	**Casing 4.5" 11.6ppf L80**	42.15	5317.12	3745.88	-3745.88
85	**Casing 4.5" 11.6ppf L80**	42.19	5274.93	3788.07	-3788.07
86	**Casing 4.5" 11.6ppf L80**	39.78	5235.15	3827.85	-3827.85
	PUP JOINT	3.08	5232.07	3830.93	-3830.93
	BOTTOM CONN.	1.02	5231.05	3831.95	-3831.95
	SF LINER HANGER	1.84	5229.21	3833.79	-3833.79
	LOWER SETTING SLEEVE	0.67	5228.54	3834.46	-3834.46
	UPPER SETTING SLEEVE	2.82	5225.72	3837.28	-3837.28
	HYD SETTING TOOL	4.47	5221.25	3841.75	-3841.75
	TOP CONN.	1.03	5220.22	3842.78	-3842.78
1	**4" FULL HOLE DP**	58.32	5161.90	3901.10	-3901.10
2		58.95	5102.95	3960.05	-3960.05
3		59.00	5043.95	4019.05	-4019.05
4		60.39	4983.56	4079.44	-4079.44
5		61.38	4922.18	4140.82	-4140.82
6		63.29	4858.89	4204.11	-4204.11
7		62.46	4796.43	4266.57	-4266.57
8		61.60	4734.83	4328.17	-4328.17
9		62.80	4672.03	4390.97	-4390.97
10		61.70	4610.33	4452.67	-4452.67
11		62.57	4547.76	4515.24	-4515.24
12		61.62	4486.14	4576.86	-4576.86
13		61.63	4424.51	4638.49	-4638.49

14		62.08	4362.43	4700.57	-4700.57
15		63.60	4298.83	4764.17	-4764.17
16		62.33	4236.50	4826.50	-4826.50
17		62.70	4173.80	4889.20	-4889.20
18		61.39	4112.41	4950.59	-4950.59
19		62.85	4049.56	5013.44	-5013.44
20	**4" FULL HOLE DP**	62.22	3987.34	5075.66	-5075.66
21	**4" FULL HOLE HW DP**	61.96	3925.38	5137.62	-5137.62
22		61.68	3863.70	5199.30	-5199.30
23		61.45	3802.25	5260.75	-5260.75
24		61.76	3740.49	5322.51	-5322.51
25		62.40	3678.09	5384.91	-5384.91
26		61.38	3616.71	5446.29	-5446.29
27		61.43	3555.28	5507.72	-5507.72
28		61.07	3494.21	5568.79	-5568.79
29		61.35	3432.86	5630.14	-5630.14
30		62.01	3370.85	5692.15	-5692.15
31		61.94	3308.91	5754.09	-5754.09
32		62.37	3246.54	5816.46	-5816.46
33		61.35	3185.19	5877.81	-5877.81
34		61.94	3123.25	5939.75	-5939.75
35		61.98	3061.27	6001.73	-6001.73
36		61.36	2999.91	6063.09	-6063.09
37		61.76	2938.15	6124.85	-6124.85
38		61.31	2876.84	6186.16	-6186.16
39		61.32	2815.52	6247.48	-6247.48
40	**4" FULL HOLE HW DP**	30.48	2785.04	6277.96	-6277.96
41	**4" FULL HOLE DP**	62.69	2722.35	6340.65	-6340.65
42		60.63	2661.72	6401.28	-6401.28
43		59.35	2602.37	6460.63	-6460.63
44		61.32	2541.05	6521.95	-6521.95
45		60.31	2480.74	6582.26	-6582.26
46		62.65	2418.09	6644.91	-6644.91
47		62.25	2355.84	6707.16	-6707.16
48		61.32	2294.52	6768.48	-6768.48
49		60.30	2234.22	6828.78	-6828.78
50		60.90	2173.32	6889.68	-6889.68
51		60.95	2112.37	6950.63	-6950.63
52		60.32	2052.05	7010.95	-7010.95
53		58.26	1993.79	7069.21	-7069.21
54		63.35	1930.44	7132.56	-7132.56
55		61.95	1868.49	7194.51	-7194.51
56		61.12	1807.37	7255.63	-7255.63
57		62.84	1744.53	7318.47	-7318.47
58		60.35	1684.18	7378.82	-7378.82
59		62.22	1621.96	7441.04	-7441.04
60		62.87	1559.09	7503.91	-7503.91
61		62.80	1496.29	7566.71	-7566.71

62		60.30	1435.99	7627.01	-7627.01
63		62.44	1373.55	7689.45	-7689.45
64		61.95	1311.60	7751.40	-7751.40
65		61.66	1249.94	7813.06	-7813.06
66		62.54	1187.40	7875.60	-7875.60
67		60.25	1127.15	7935.85	-7935.85
68		63.52	1063.63	7999.37	-7999.37
69		62.74	1000.89	8062.11	-8062.11
70		62.00	938.89	8124.11	-8124.11
71		60.44	878.45	8184.55	-8184.55
72		85.73	792.72	8270.28	-8270.28
73		95.10	697.62	8365.38	-8365.38
74		60.90	636.72	8426.28	-8426.28
75		62.40	574.32	8488.68	-8488.68
76		60.87	513.45	8549.55	-8549.55
77		58.45	455.00	8608.00	-8608.00
78		61.07	393.93	8669.07	-8669.07
79		60.28	333.65	8729.35	-8729.35
80		62.82	270.83	8792.17	-8792.17
81		62.57	208.26	8854.74	-8854.74
82		62.49	145.77	8917.23	-8917.23
83		59.09	86.68	8976.32	-8976.32
84		61.93	24.75	9038.25	-9038.25
85	**4 " FULL HOLE DP**	29.94	-5.19	9068.19	-9068.19

Packers Plus — Do It Once Do It Right

Job Record V1.1.2

Operator:	**Woolsey Petroleum**	**Base Point:**	**20600 Conway**
Company Rep:	**Mike Tharp**	**Packers Plus Rep:**	**Gary Goodman/Brad Kelley**
Well Name:	**Miller-Diel # 1H**	**Date Started:**	**8/31/2012**
Ticket Number:	**SOU005411**	**Date Completed:**	**9/7/2012**
County/State:	**Barber Co. KS.**	**Type of Job:**	**StackFrac HD**
Field	**Mayberry North**	**Formation**	**Mississippi**
Rig Name	**Dan D 11**	**Well API #**	

DETAIL THE JOB - THIS FORM USED TO REPORT WHAT ACTUALLY TOOK PLACE - FILL OUT COMPLETELY

General Well Information

Well Profile	**Open Hole Horizontal**		
Depth TVD	**4,733**	Feet	
Depth MD	**9,118**	Feet	
Lateral Length	**4,008**	Feet	
KOP	**4,020**	Feet	
Hole Size	**6.125**	Inch	
BHP	**2,239**	PSI	
BHT	**95**	°F	
Reamer run?	yes	**Size**	6"
Build Rate	**10/100**	°/100 FT	
Max Dog Leg	**13.87**	°/100 FT	
Angle of Perma Plus	**85**	°	
Planned Depth Bullet Guide	9,049	Feet	
Actual Depth Bullet Guide	9,049	Feet	
Distance Off	0	Feet	

Stages

Number of Stages	**16**		
MD to Packer 1	259		
Packer 1 to Packer 2	226		
Packer 2 to Packer 3	221		
Packer 3 to Packer 4	208		
Packer 4 to Packer 5	210		
Packer 5 to Packer 6	210		
Packer 6 to Packer 7	207		
Packer 7 to Packer 8	219		
Packer 8 to Packer 9	207		
Packer 9 to Packer 10	216		
Packer 10 to Packer 11	221		
Packer 11 to Packer 12	212		
Packer 12 to Packer 13	218		
Packer 13 to Packer 14	215		
Packer 14 to Packer 15	257		
Packer 15 to Packer 16	212		
Average Stage Length	**220**		Feet

WORK STRING INFORMATION

Casing	**Weight**	**Thread**	**ID**	**Capacity**	**Grade**	**Shoe**	
7"	**23**	**LTC**	**6.366**	0.039368521	**J55**	**5110'**	
				0			
Drill Pipe	**Weight**	**Thread**	**ID**	**Capacity**	**Grade**	**Length**	**Torque**
4" Full Hole	14	IF	3.34	0.010836992	XH	7944	10k
Heavy Weight	**Weight**	**Thread**	**ID**	**Capacity**	**Grade**	**Length**	**Torque**
4" Full Hole	27.2	IF	3.31	0.01064319	XH	1233.66	10k
Drill Collar	**Weight**	**Thread**	**ID**	**Capacity**	**Grade**	**Length**	**Torque**
n/a	n/a	n/a	n/a	#VALUE!	n/a	n/a	n/a
Liner	**Weight**	**Thread**	**ID**	**Capacity**	**Grade**	**Length**	**Torque**
4"	11.6	LTC	3.428	0.011415566	L80	4644	2280

Well Data						**Open Hole**	
MD	**TVD**	**KOP**	**Shoe**		**Lateral**	**Size**	**Capacity**
9118	4733	4020	5110'		4008	6.125	0.03644417 **bbl/ft**

FLUIDS

Mud Weight		**Mud Type**		**Fill Fluid**	**Fill Weight**	**LCM (if yes-amount- ppg)**	**Viscosity**
9.1		water		fresh water	8.34	4#	32-35
Fluid Level in Annulus Start	**full**	**PUMP TYPE**	**SPM**	**BPS**	**Rig Type**	**Kelly**	**Weight**
Fluid Level in Annulus Change	**full**	DH-7000	75	0.079	Kelly	Double	10K

AS RUN IN HOLE WEIGHTS

Liner		**Push Pipe**		**H.W.D.P.**		**D.P.**	
Air	**Mud**	**Air**	**Mud**	**Air**	**Mud**	**Air**	**Mud**
n/a	9	n/a	9	n/a	9	n/a	n/a
Calculated Neutral Weight Including Blocks:		***99k***		***Weight When Released From PermaPlus:***		***98k***	
				Pipe Stretch in Inches Before Releasing:		26"	

Setting Tool Part Number	**SNU0003569**	**FracPORT Part Number**	EA1020981
Elastomer / Metallurgy / Pinned to		*Elastomer / Metallurgy / Pinned to*	
Packer Part Number	**EA3015439**	**Other Part Number**	RSIIs EA4007045
Elastomer / Metallurgy / Pinned to		*Elastomer / Metallurgy / Pinned to*	
FTR	**No**	**Problem on Job**	

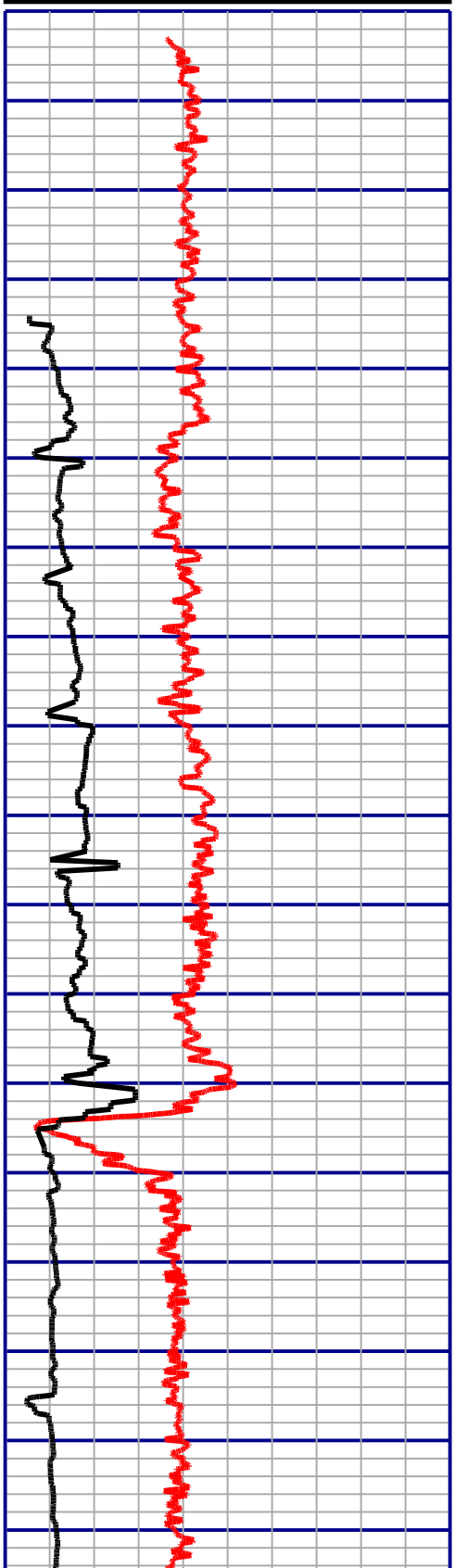
Notes:

Woolsey Operating Company
Dan D

Miler-Diel #1H

MD
1:240
Feet

0	Gamma (AAPI)	150
150	Gamma (AAPI)	300
300	Gamma (AAPI)	450
0	ROP (ft per hr)	200



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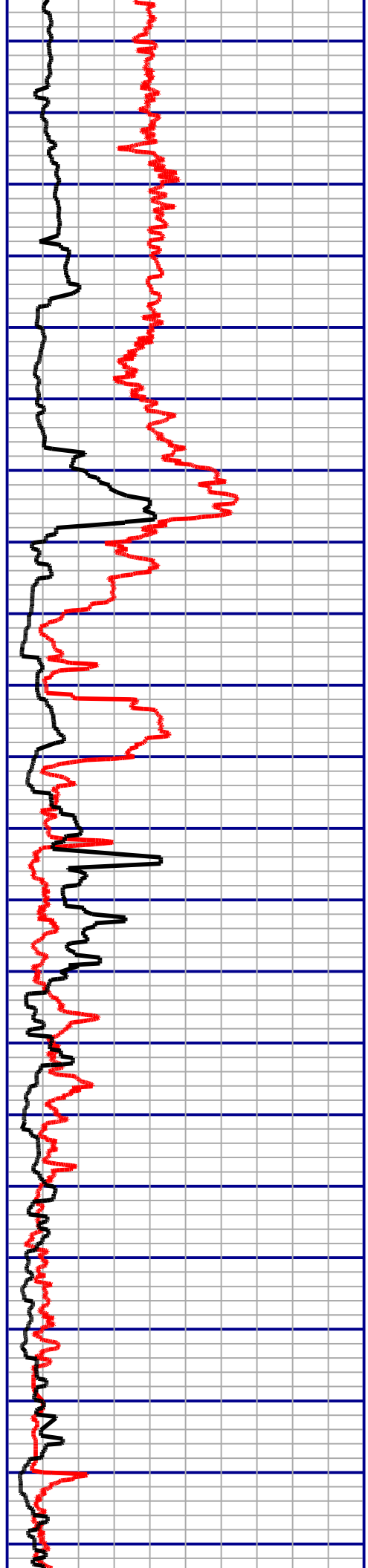
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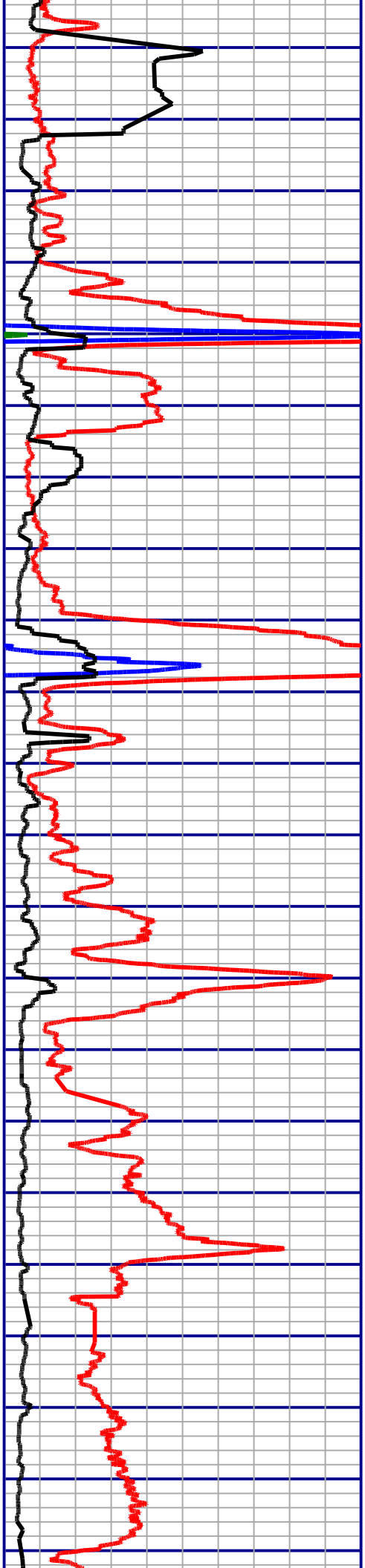
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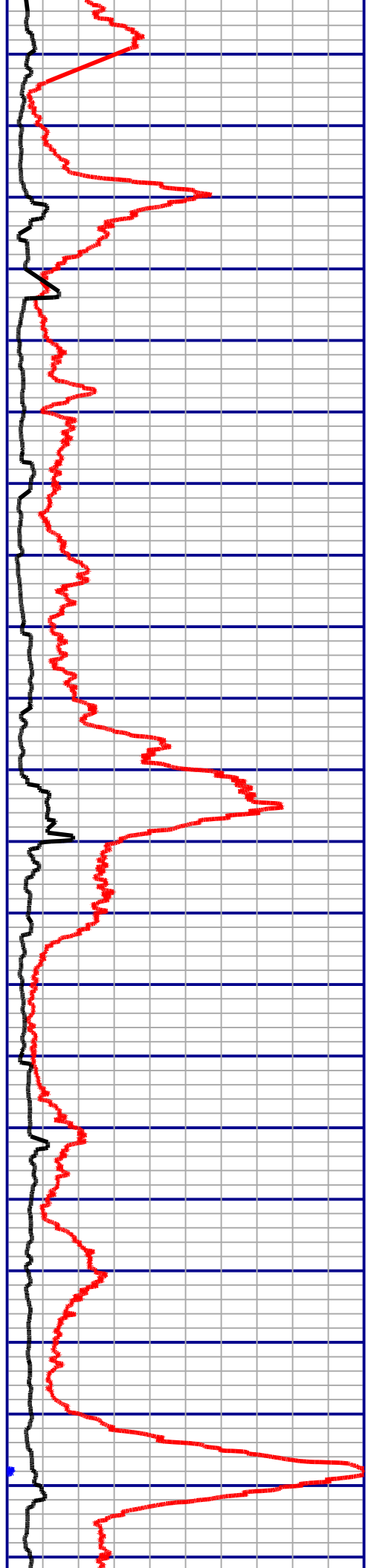
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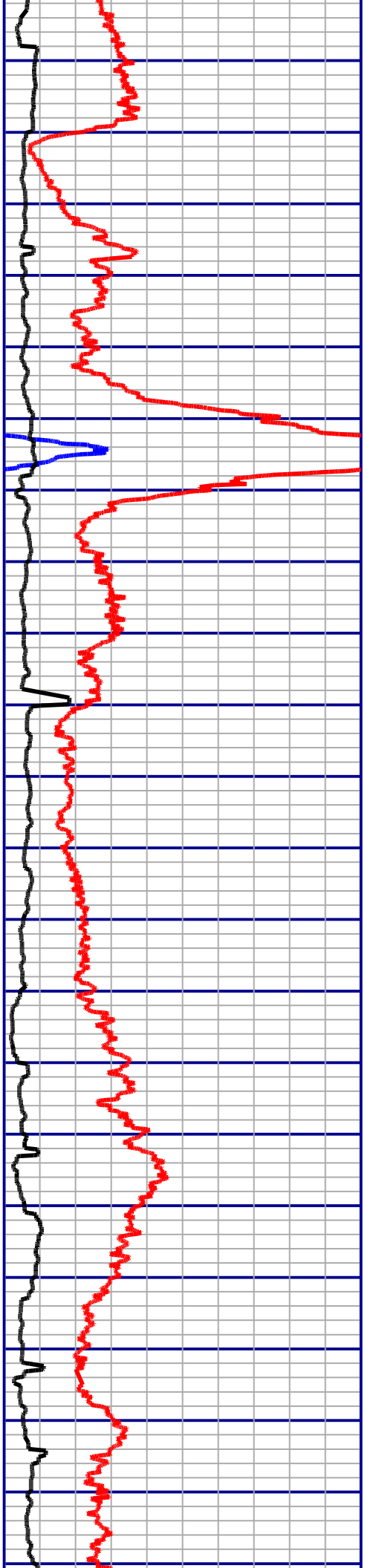
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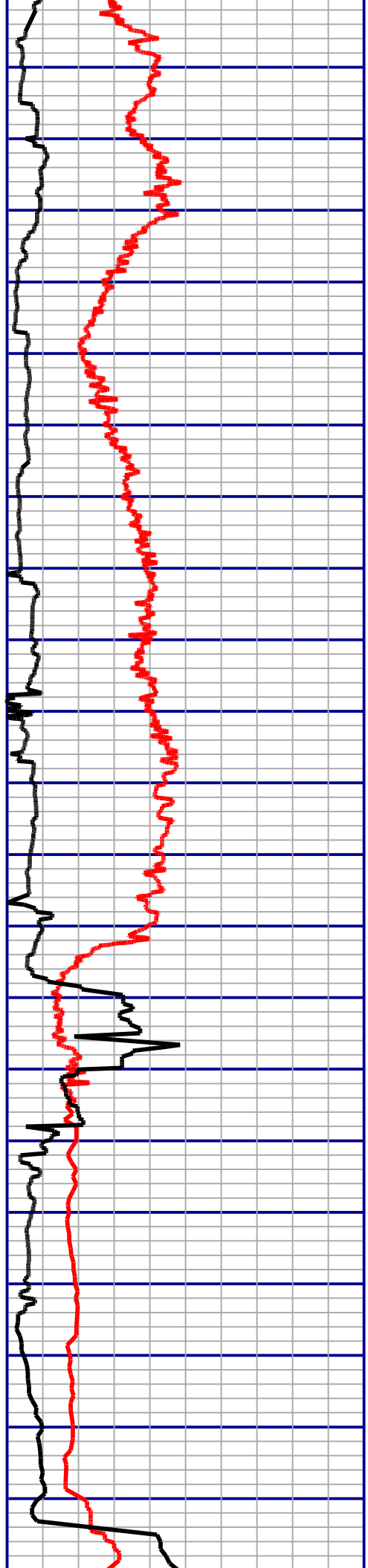

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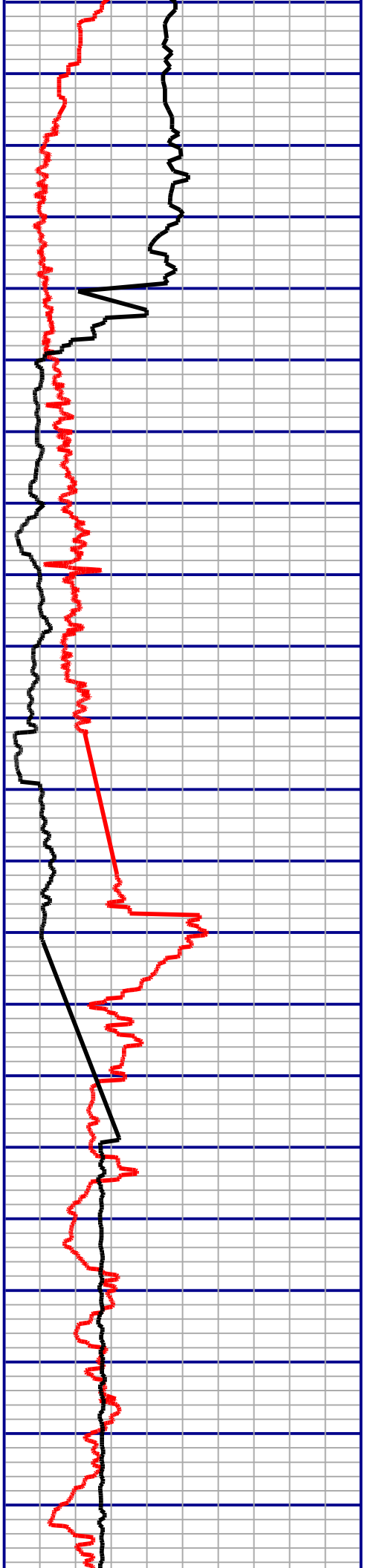
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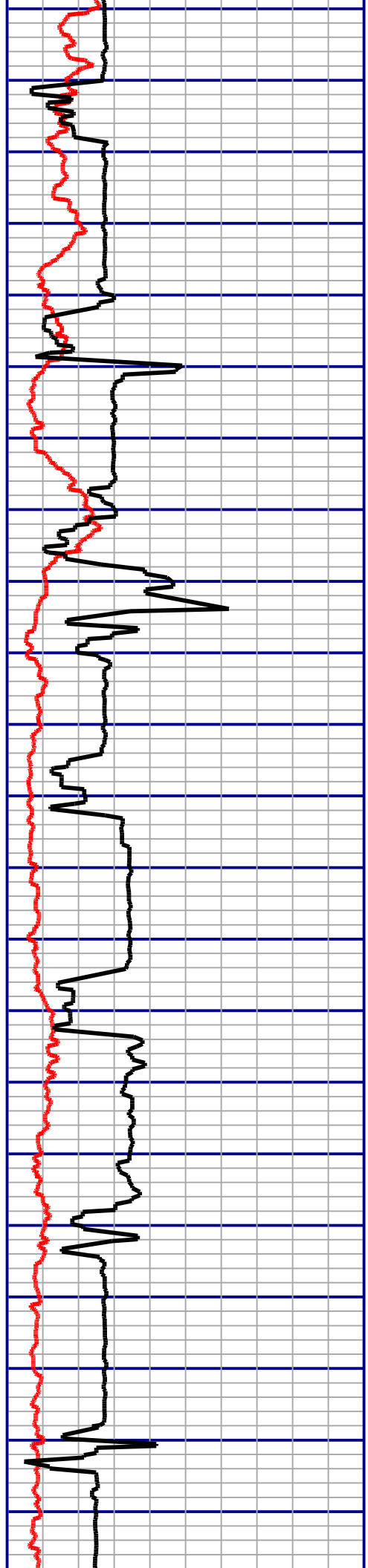
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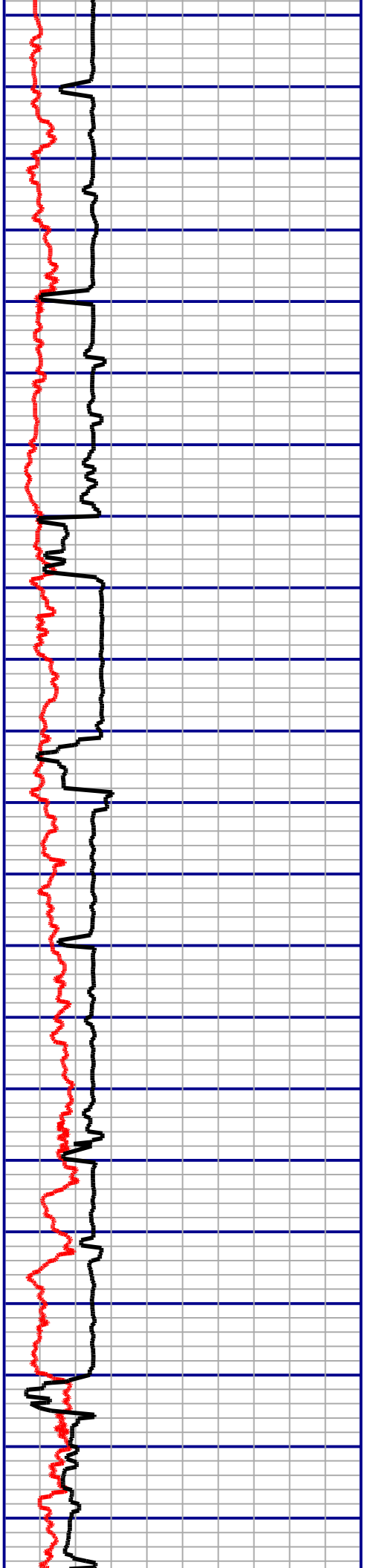
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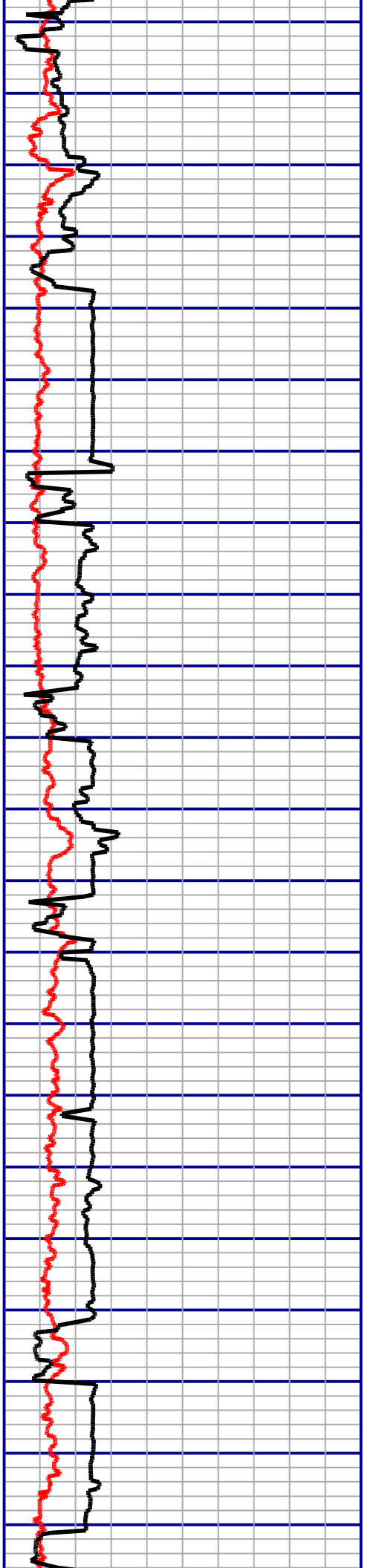

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INC: 88.8
AZM: 182.4

5920

5930

5940

MD: 5945
INC: 88.5
AZM: 182.2

5950

5960

5970

MD: 5974
INC: 88.8
AZM: 182

5980

5990

6000

MD: 6003
INC: 89.3
AZM: 181.4

6010

6020

6030

MD: 6033
INC: 90.3
AZM: 181.2

6040

6050

6060

MD: 6062
INC: 90.5
AZM: 180.8

6070

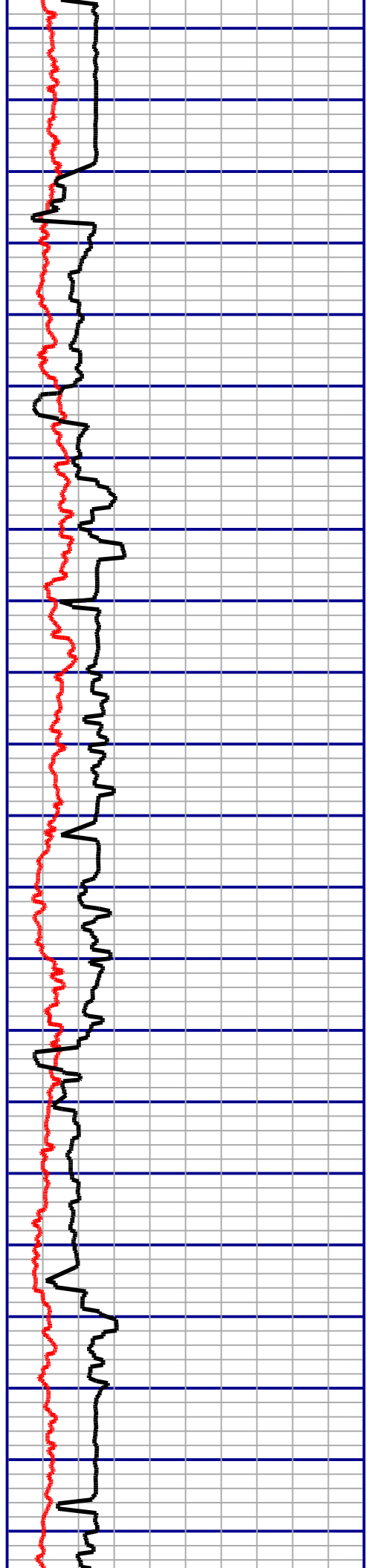
6080

6090

MD: 6092
INC: 90.5
AZM: 181

6100

6110


6120
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6140
6150
6160
6170
6180
6190
6200
6210
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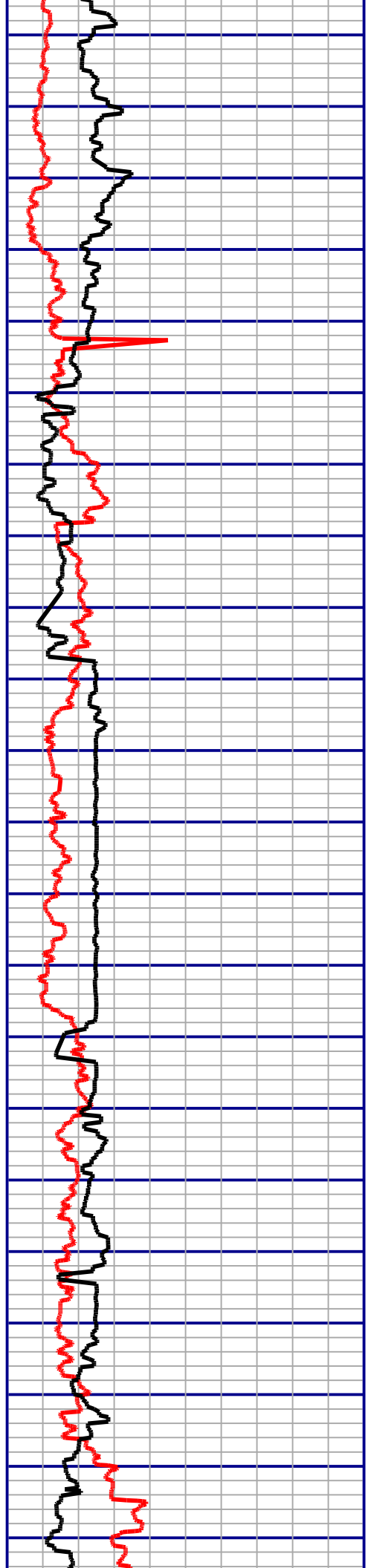
6230
6240
6250
6260
6270
6280
6290
6300
6310
6320
6330
MD: 6122
INC: 90.2
AZM: 180.3
MD: 6152
INC: 89.8
AZM: 180
MD: 6183
INC: 89.2
AZM: 179.7
MD: 6214
INC: 90.6
AZM: 179.6
MD: 6246
INC: 89.8
AZM: 179.8
MD: 6277
INC: 89.2
AZM: 179.8
MD: 6309
INC: 88.9
AZM: 180



MD: 6340
INC: 90.6
AZM: 180.5

MD: 6369
INC: 90.5
AZM: 180.6

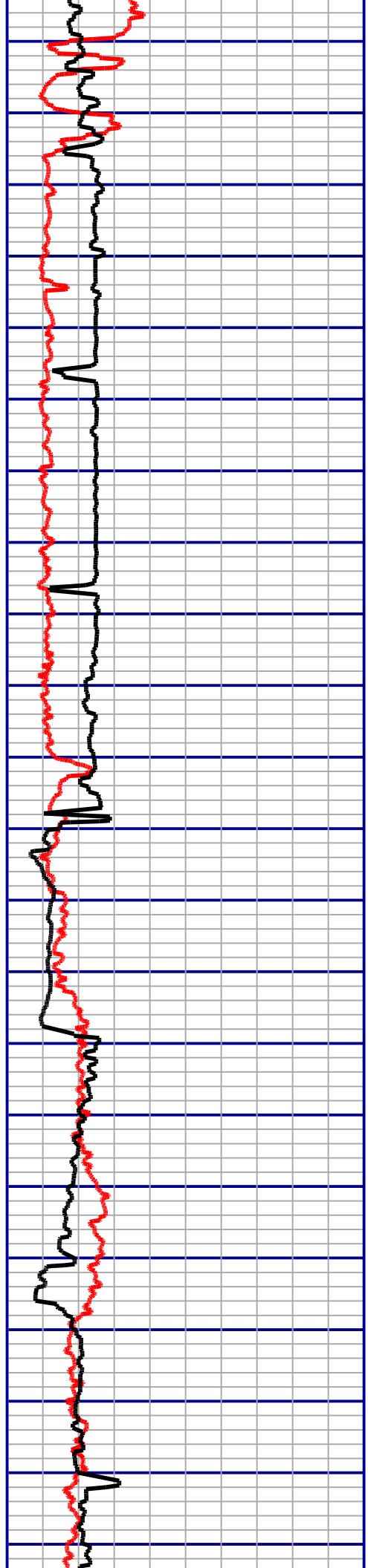
MD: 6402
INC: 89.5
AZM: 180.6

MD: 6433
INC: 88.9
AZM: 180.1

MD: 6464
INC: 89
AZM: 179.8

MD: 6495
INC: 89.1
AZM: 180

MD: 6526
INC: 89.2
AZM: 180.2



6560

MD: 6557
INC: 88.4
AZM: 180.1

6570

6580

6590

MD: 6588
INC: 88.2
AZM: 180.5

6600

6610

6620

MD: 6619
INC: 88
AZM: 180.6

6630

6640

6650

MD: 6650
INC: 88.5
AZM: 180.9

6660

6670

6680

MD: 6682
INC: 88.9
AZM: 181.3

6690

6700

6710

MD: 6713
INC: 89
AZM: 180.9

6720

6730

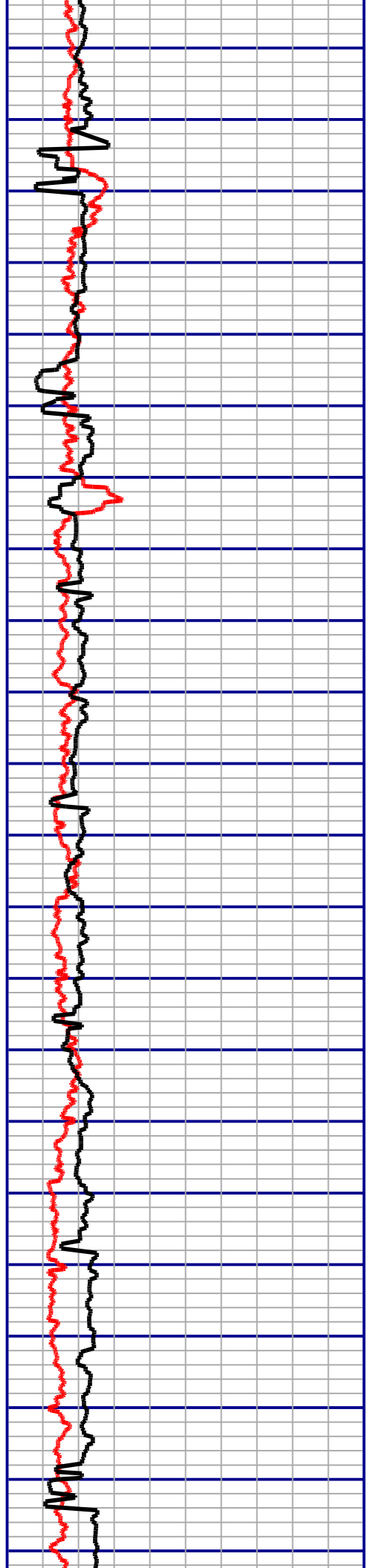
6740

MD: 6744
INC: 89.4
AZM: 180.9

6750

6760

6770



6780
MD: 6775
INC: 89.4
AZM: 181
6790
6800
6810
MD: 6806
INC: 88.8
AZM: 180.3
6820
6830
6840
MD: 6836
INC: 88
AZM: 179.8
6850
6860
6870
MD: 6867
INC: 87.8
AZM: 179.8
6880
6890
6900
MD: 6898
INC: 87.9
AZM: 179.3
6910
6920
6930
MD: 6929
INC: 88.2
AZM: 179.4
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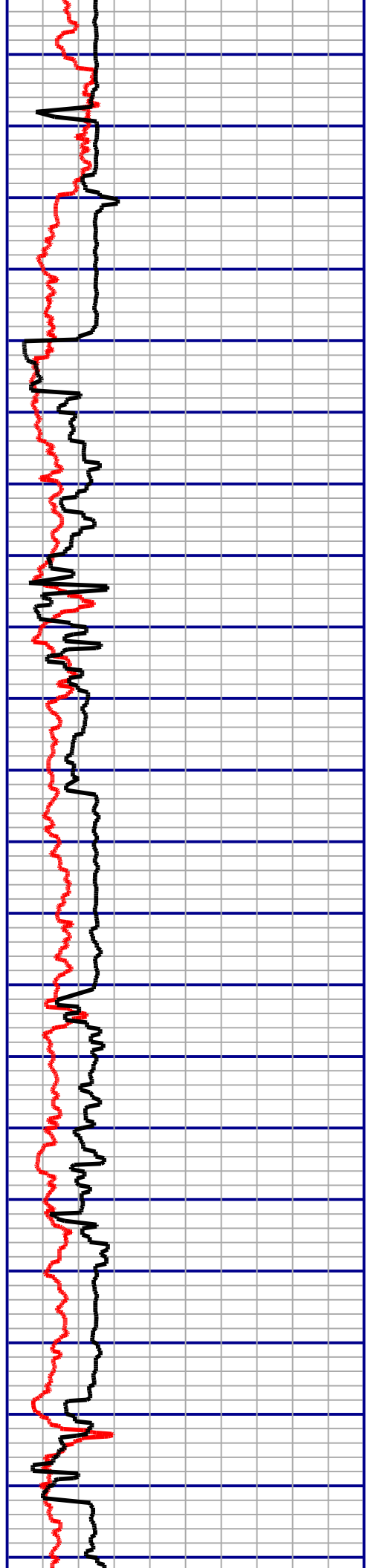
6950
6960
MD: 6959
INC: 88.2
AZM: 179.6
6970
6980
6990
MD: 6990



INC: 88.1
AZM: 179.7

7000

7010

7020

MD: 7021
INC: 87.8
AZM: 179.8

7030

7040

7050

MD: 7053
INC: 88.2
AZM: 179.6

7060

7070

7080

MD: 7083
INC: 89.2
AZM: 179.4

7090

7100

7110

MD: 7113
INC: 89.1
AZM: 179.3

7120

7130

7140

MD: 7145
INC: 89.8
AZM: 179

7150

7160

7170

MD: 7177
INC: 89.5
AZM: 179.4

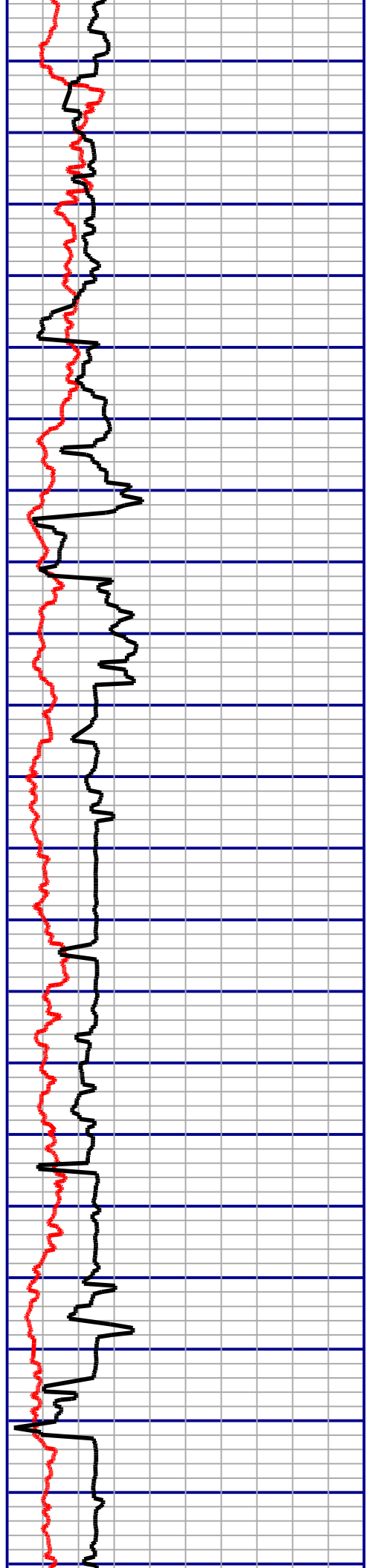
7180

7190

7200

MD: 7206
INC: 88.4

7210



AZM: 179.1

7220

7230

MD: 7235
INC: 87.7
AZM: 179.6

7240

7250

7260

MD: 7264
INC: 88.2
AZM: 179.4

7270

7280

7290

MD: 7295
INC: 89.1
AZM: 180

7300

7310

7320

MD: 7326
INC: 89
AZM: 180.4

7330

7340

7350

MD: 7356
INC: 89.3
AZM: 180.2

7360

7370

7380

MD: 7385
INC: 89.7
AZM: 179.9

7390

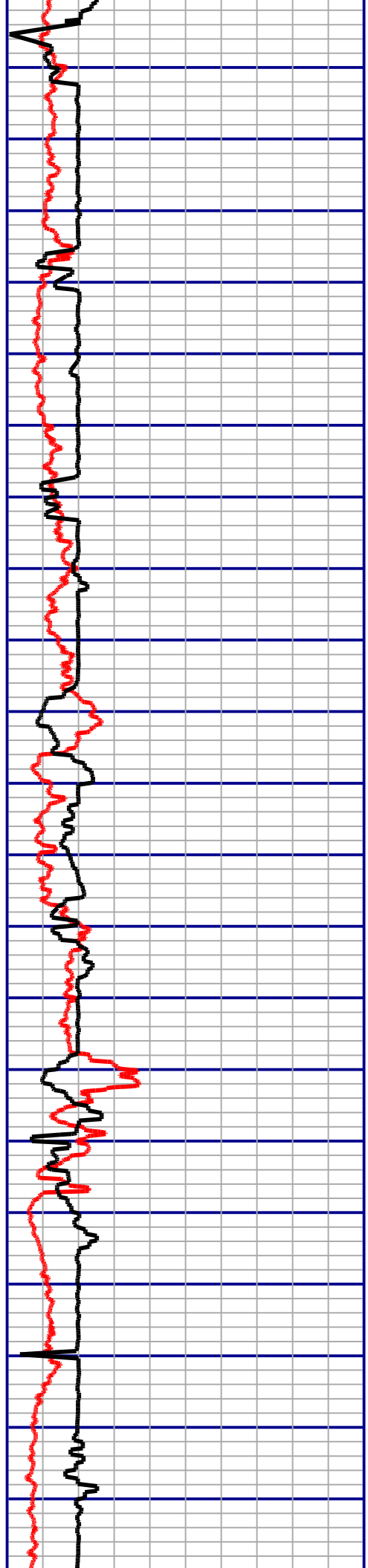
7400

7410

MD: 7417
INC: 89.4
AZM: 179.5

7420

7430



MD: 7449
INC: 88.4
AZM: 178.9

MD: 7478
INC: 88
AZM: 179.1

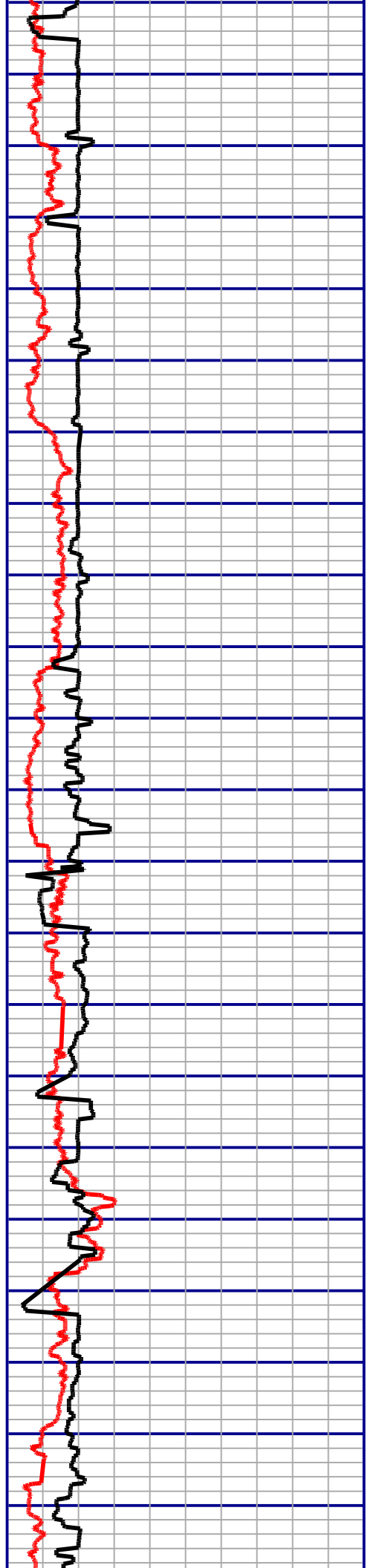
MD: 7509
INC: 88.6
AZM: 179.5

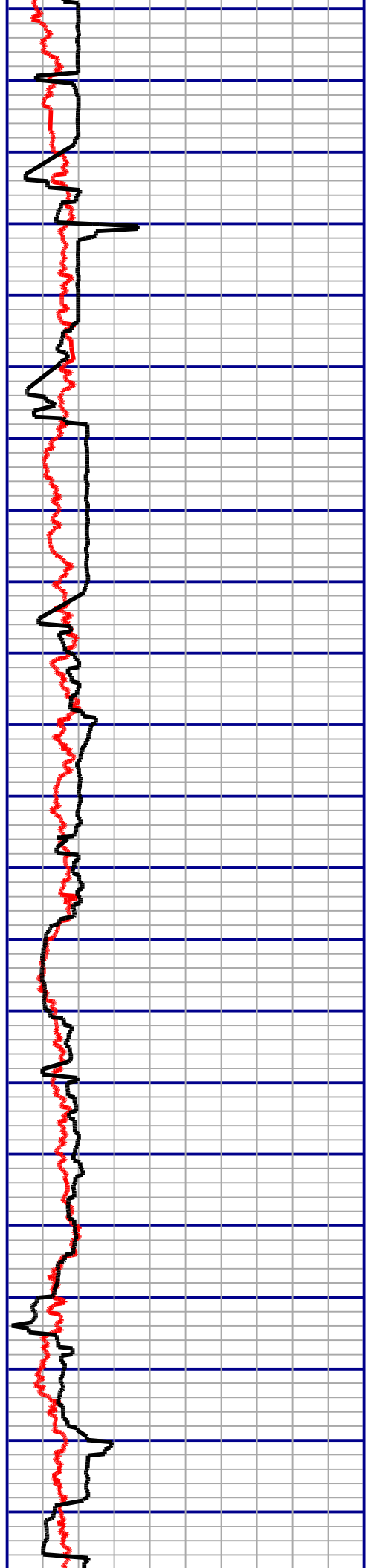
MD: 7540
INC: 88.7
AZM: 179.6

MD: 7570
INC: 89
AZM: 179.5

MD: 7602
INC: 89.1
AZM: 179.8

MD: 7631
INC: 88.7
AZM: 179.7


7650
7660
MD: 7662
INC: 88.2
AZM: 179.4
7670
7680
7690
MD: 7693
INC: 88.5
AZM: 179.5
7700
7710
7720
MD: 7724
INC: 89.3
AZM: 179.2
7730
7740
7750
MD: 7753
INC: 89.9
AZM: 179.5
7760
7770
7780
MD: 7783
INC: 89.1
AZM: 179.4
7790
7800
7810
MD: 7814
INC: 89.5
AZM: 179.8
7820
7830
7840
MD: 7844
INC: 89.8
AZM: 180.1
7850
7860


7870
MD: 7874
INC: 90.3
AZM: 179.9
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7890
7900
MD: 7906
INC: 89.1
AZM: 179.8
7910
7920
7930
MD: 7938
INC: 88.8
AZM: 179.3
7940
7950
7960
MD: 7969
INC: 88
AZM: 179.3
7970
7980
7990
8000
MD: 8000
INC: 89.4
AZM: 178.9
8010
8020
8030
MD: 8030
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AZM: 179.4
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8050
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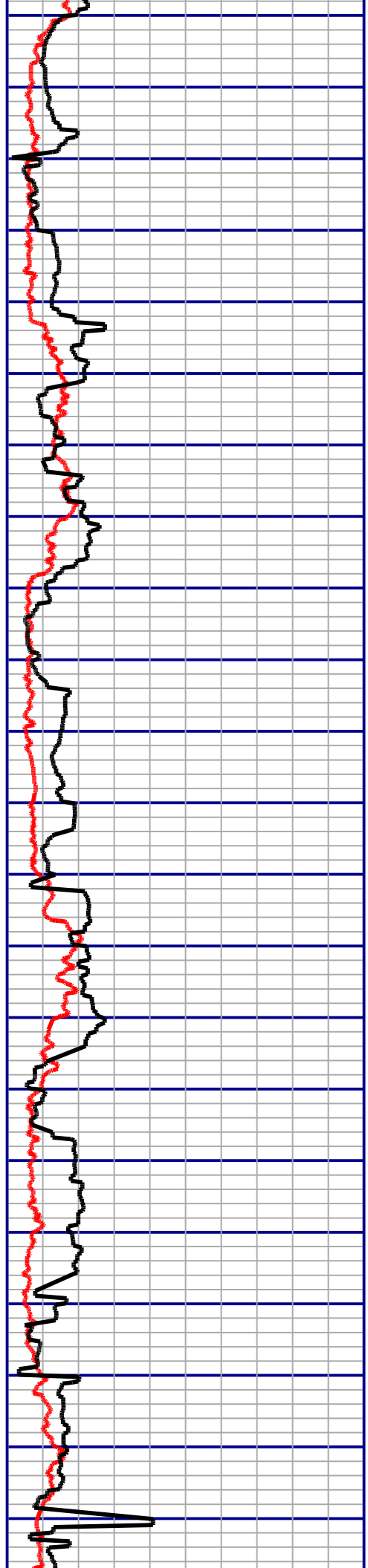
MD: 8061
INC: 91.8
AZM: 178.8
8070
8080



MD: 8093
INC: 91.8
AZM: 178.8

MD: 8124
INC: 91.2
AZM: 178.1

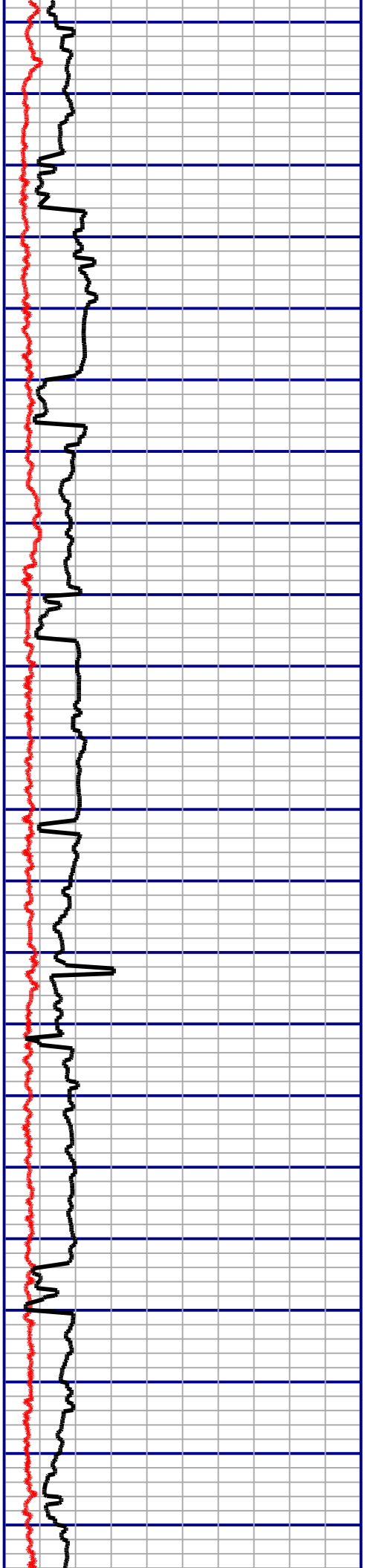
MD: 8155
INC: 90.6
AZM: 178.6

MD: 8187
INC: 86.2
AZM: 178.8

MD: 8219
INC: 88.4
AZM: 179.6

MD: 8250
INC: 89.1
AZM: 180.4

MD: 8281
INC: 86.8
AZM: 180.6



8310

MD: 8312
INC: 86.8
AZM: 180.5

8320

8330

8340

MD: 8342
INC: 87.6
AZM: 180.3

8350

8360

8370

MD: 8374
INC: 88.4
AZM: 180.7

8380

8390

8400

MD: 8404
INC: 89.5
AZM: 180.7

8410

8420

8430

MD: 8436
INC: 89.6
AZM: 180.9

8440

8450

8460

MD: 8467
INC: 89.4
AZM: 181.5

8470

8480

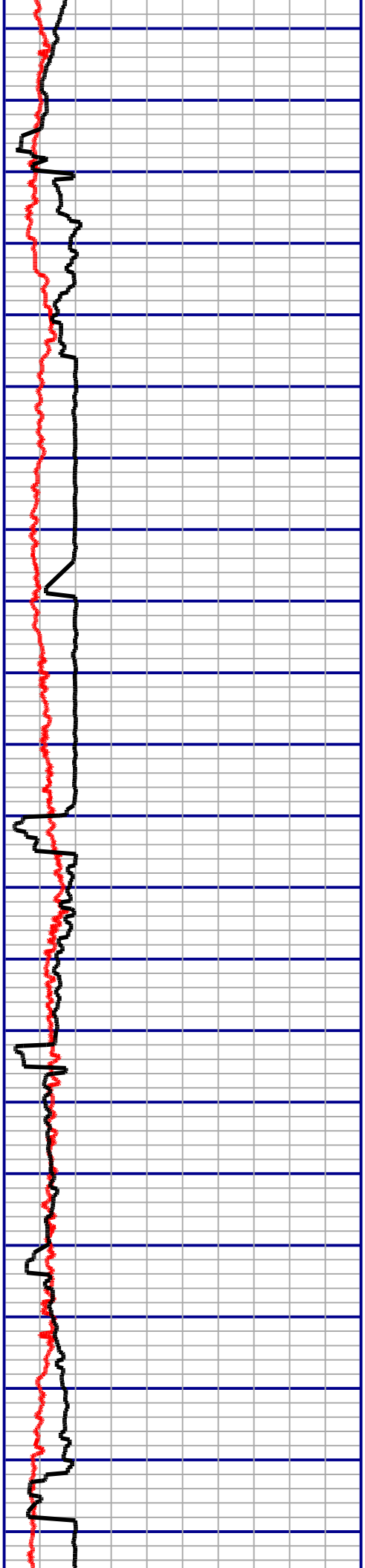
8490

MD: 8497
INC: 89.4
AZM: 180.9

8500

8510

8520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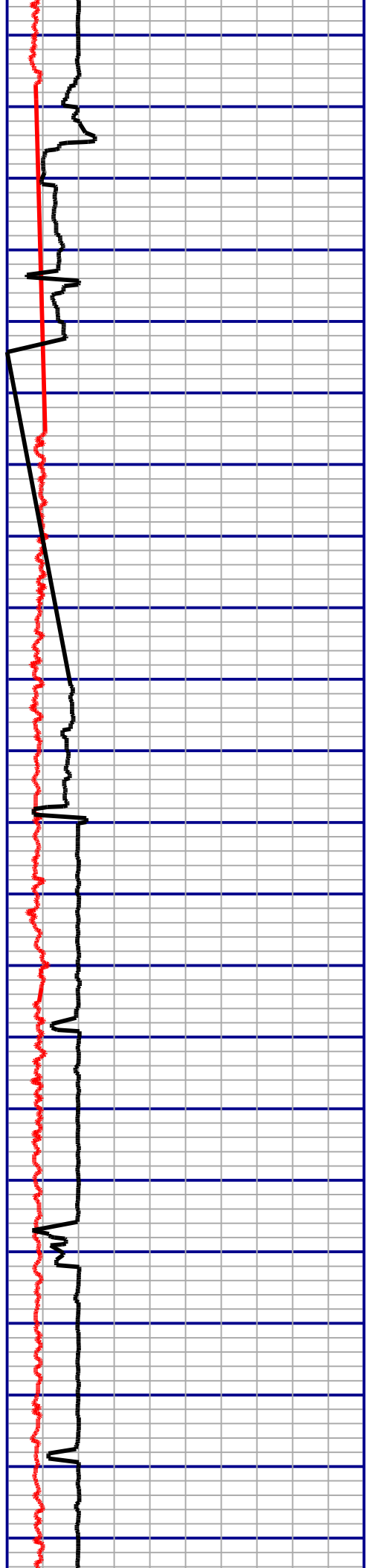
8690
8700
8710
8720
8730
8740
MD: 8528
INC: 89.9
AZM: 180.9
MD: 8560
INC: 88.5
AZM: 180.5
MD: 8591
INC: 88.5
AZM: 180.2
MD: 8623
INC: 88.6
AZM: 180.1
MD: 8653
INC: 90
AZM: 180.6
MD: 8684
INC: 92.2
AZM: 180.5
MD: 8715
INC: 93
AZM: 180.4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MD: 8747
INC: 92.2
AZM: 180.3
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8770
8780
MD: 8778
INC: 91.3
AZM: 180.1
8790
8800
8810
MD: 8810
INC: 89.7
AZM: 179.9
8820
8830
8840
MD: 8840
INC: 89.8
AZM: 179.7
8850
8860
8870
MD: 8869
INC: 89.6
AZM: 179.2
8880
8890
8900
MD: 8900
INC: 89.6
AZM: 179.1
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MD: 8930
INC: 90
AZM: 179.4
8940
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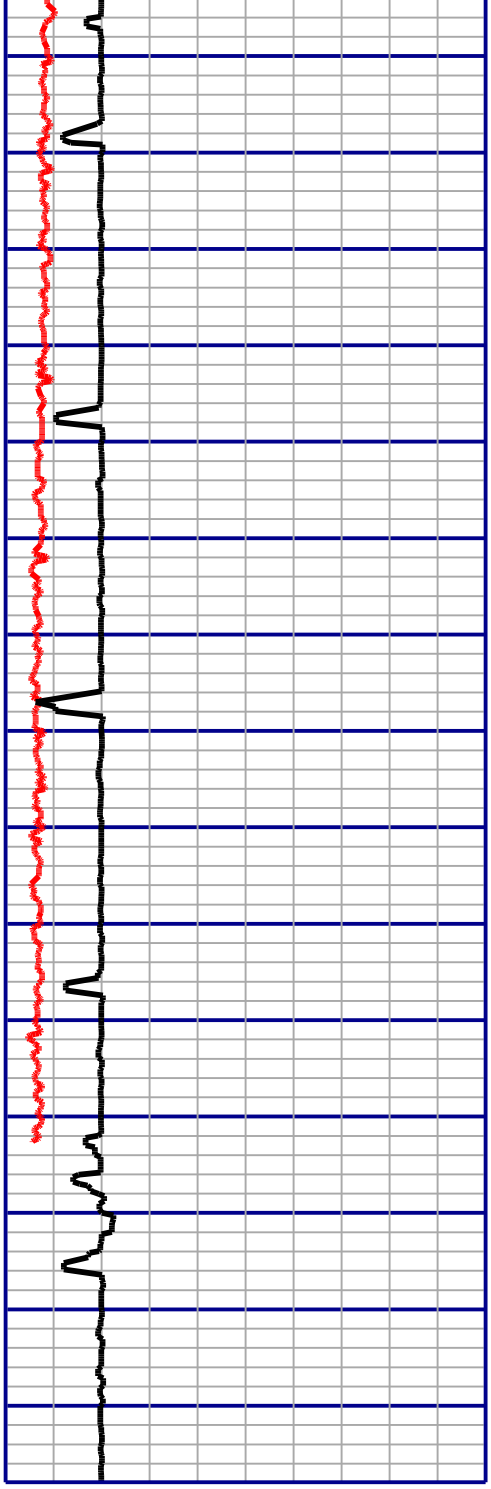
INC: 89.9



AZM: 179

8970

8980

8990

MD: 8989
INC: 89.8
AZM: 179.4

9000

9010

9020

MD: 9018
INC: 89.9
AZM: 179.5

9030

9040

9050

MD: 9047
INC: 90.2
AZM: 179.5

9060

9070

9080

9090

9100

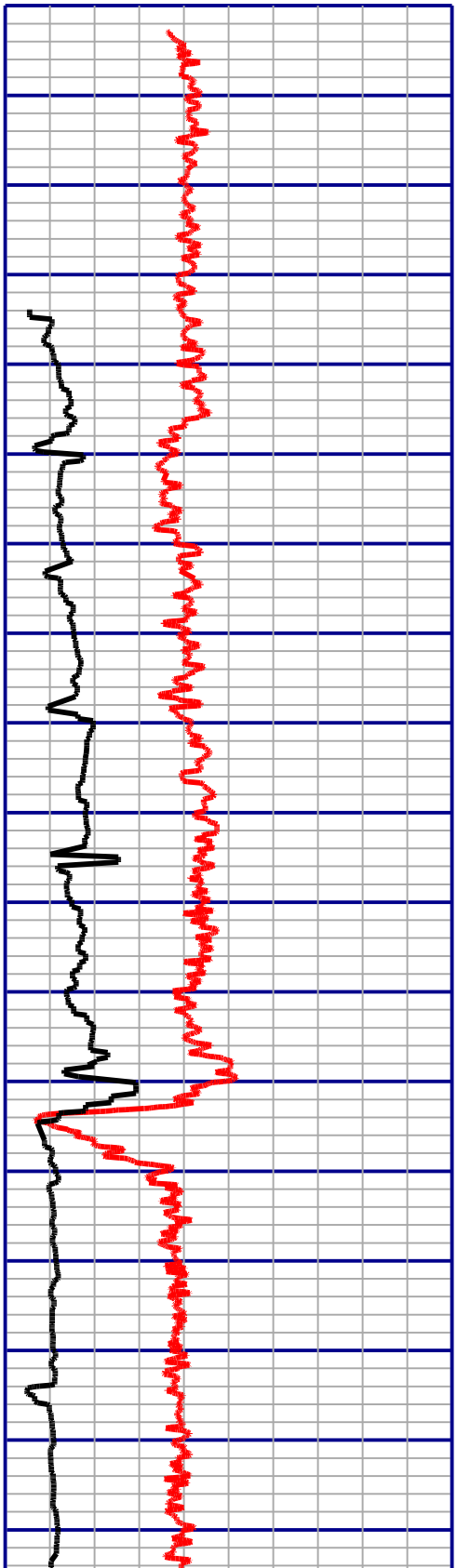
9110

Woolsey Operating Company
Dan D

Miler-Diel #1H

TVD
1:240
Feet

0	Gamma (AAPI)	150
150	Gamma (AAPI)	300
300	Gamma (AAPI)	450
0	ROP (ft per hr)	200



3970
3980
3990
4000
4010
4020
4030
4040
4050
4060
4070
4080
4090
4100
4110
4120
4130
4140

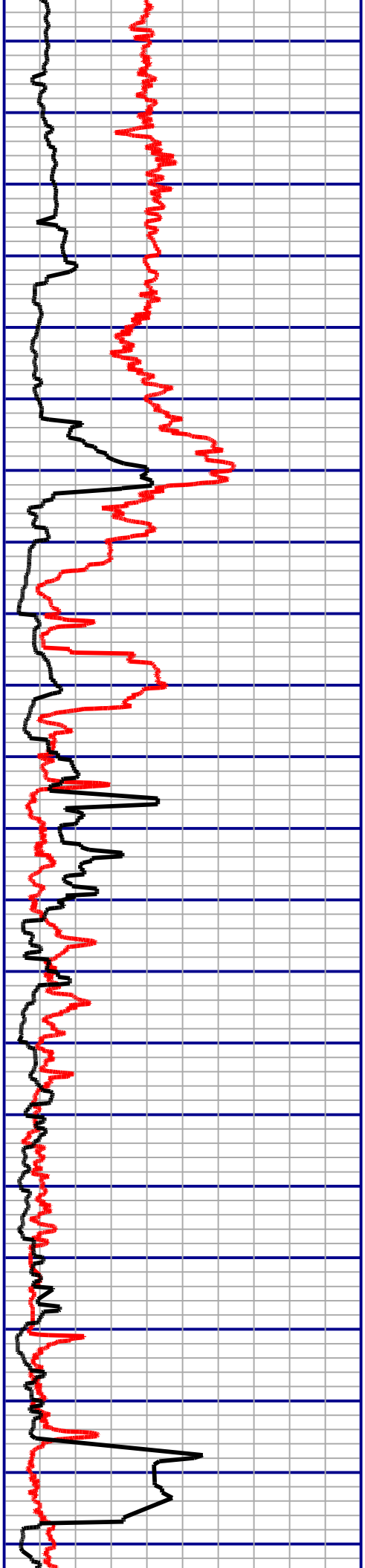
MD: 3989
INC: 0.5
AZM: 155.4
TVD: 3988.8

MD: 4021
INC: 2.4
AZM: 163.1
TVD: 4020.79

MD: 4052
INC: 4.7
AZM: 166.1
TVD: 4051.73

MD: 4082
INC: 7.5
AZM: 170.8
TVD: 4081.56

MD: 4113
INC: 10.5
AZM: 173.9
TVD: 4112.18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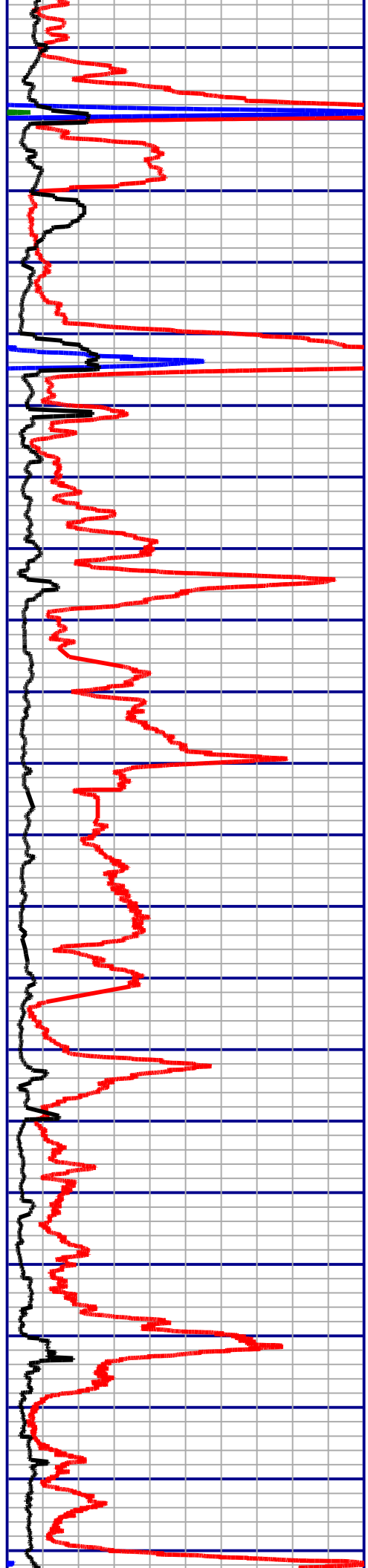
4160
4170
4180
4190
4200
4210
4220
4230
4240
4250
4260
4270
4280
4290
4300
4310
4320
4330
4340
4350
4360
INC: 13.2
AZM: 175.6
TVD: 4140.56
MD: 4174
INC: 16.3
AZM: 176.5
TVD: 4171.5
MD: 4205
INC: 19.1
AZM: 177.2
TVD: 4201.03
MD: 4236
INC: 21.8
AZM: 177.7
TVD: 4230.07
MD: 4268
INC: 24.9
AZM: 177.4
TVD: 4259.45
MD: 4300
INC: 28.3
AZM: 178.1
TVD: 4288.06
MD: 4329
INC: 31.5
AZM: 179.5
TVD: 4313.2
MD: 4360
INC: 34.9
AZM: 180.8
TVD: 4339.14



MD: 4390
INC: 37.5
AZM: 181.4
TVD: 4363.35
4370
4380
TVD: 4363.35
MD: 4421
INC: 40
AZM: 181.9
4390
TVD: 4387.52
4400
4410
MD: 4452
INC: 42.9
AZM: 182.2
4420
TVD: 4410.75
4430
MD: 4483
INC: 45.9
AZM: 182
4440
TVD: 4432.9
4450
MD: 4515
INC: 48.6
AZM: 181.1
4460
TVD: 4454.62
4470
MD: 4546
INC: 50.9
AZM: 180.6
4480
TVD: 4474.65
4490
MD: 4577
INC: 53.4
AZM: 180.4
4500
TVD: 4493.67
4510
MD: 4609
INC: 56.8
AZM: 180
4520
TVD: 4511.98
MD: 4640
INC: 61.1
4530
AZM: 180.1
4540
MD: 4669
INC: 64.9
AZM: 180.2
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INC: 68.4
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AZM: 181.3
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INC: 71.3
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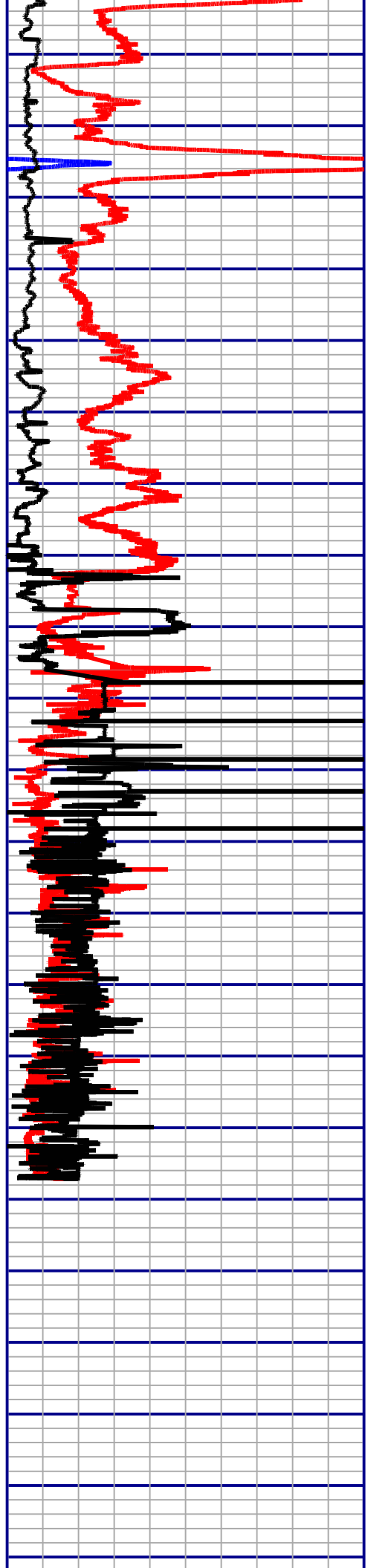
MD: 4762
INC: 72
4580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4620
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4640
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4670
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4690
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4730
4740
4750
4760
4770
4780
4790
4800
MD: 4794
INC: 72.3
MD: 4825
INC: 72.2
MD: 4857
INC: 72
MD: 4888
INC: 71.8
MD: 4919
INC: 72.2
MD: 4951
INC: 74.2
MD: 4983
MD: 5014
MD: 5044
MD: 5074
MD: 5322
MD: 5484
MD: 5516
MD: 9047
INC: 90.2
AZM: 179.5
TVD: 4743.23

Woolsey Operating Company, LLC

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

Well Name:	**Miller-Diel #1 H**		
Location:	**Section 14 - Township 34 South - Range 11 West**		
License Number:	**15-007-23928-01-00**	**Region:**	**Barber County, KS**
Spud Date:	**August 5, 2012**	**Drilling Completed:**	**August 31, 2012**
Surface Coordinates:	**SW SE SE SW** **13' FSL, 2115' FWL**		
Bottom Hole Coordinates:	**330' FSL, 1980' FWL** **Section 23 - Township 34 South - Range 11 West**		
Ground Elevation (ft):	**1380'**	**K.B. Elevation (ft):**	**1397'**
Logged Interval (ft):	**3600'** **To: 5371'**	**Total Depth (ft):**	**9118'**
Formation:	**Kansas City Grp ---> Mississippian**		
Type of Drilling Fluid:	**Chemical Mud**		

OPERATOR

Company: **Woolsey Operating Company,LLC**
Address: **125 N. Market, Suite 1000**
Wichita, KS 67202

GEOLOGIST

Name: **Billy G. Klaver**
Company: **Woolsey Operating Co. LLC**
Address: **125 N. Market, Wichita Kansas, 67202**

COMMENTS

Surface Casing: Set 20" X 53#/ft conductor to 40' with 4 yards of grout, Ran 12 joints of new 10 3/4" X 32.75#/ft casing to 326' KB with 300 sx Class A, 2% gel, 3% cc, Cement did circulate. 7" X 23#/ft to 5358' KB, 250 sx

Bit Record: #1 14 3/4" HTC in at 40', out at 330', 3.75 hours.

Gas Detector: Woolsey Operating Co. Gas Trailer #2
Mud System: Mud-Co. Brad Bortz, Engineer

INFO

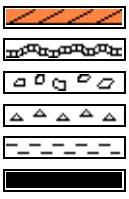
Bit Record: 1) 17 1/2" RR RT, 2) 12 1/4" RR RT, 3) 8 3/4" JZ PDC, 4) 8 3/4" RTC DSX 616, 5) 8 3/4" RTC R23A PD.H, 6) 8 3/4" RTC R23A, 7-9) RTC 6 1/8" R68B.

Gas Detector: Woolsey Operating, Gas Trailer #2
Mud Program: Mud-Co. Brad Bortz, Engineer

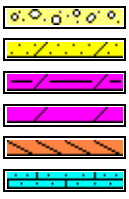
CREWS

Tool Pusher: Mitch Sovia, Relief: Sammy Fry
Drillers: (12 hour tours, 7 on 7 off) Days: Johnny Stone, David Herring, Evening: Terry Slack, Jeffery Meyers.
Assorted Okie roughnecks.

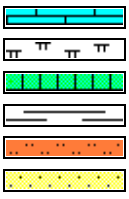
ROCK TYPES



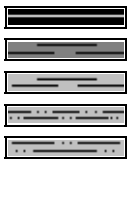
Anhy
Bent
Brec
Cht
Clyst
Coal



Congl
Sdy dolo
Shy dolo
Dol
Gyp
Sdy lmst



Lmst
Mrlst
Salt
Shale
Sltst
Ss



Black sh
Gry sh
Shale
Shysltst
Sltysh

ACCESSORIES

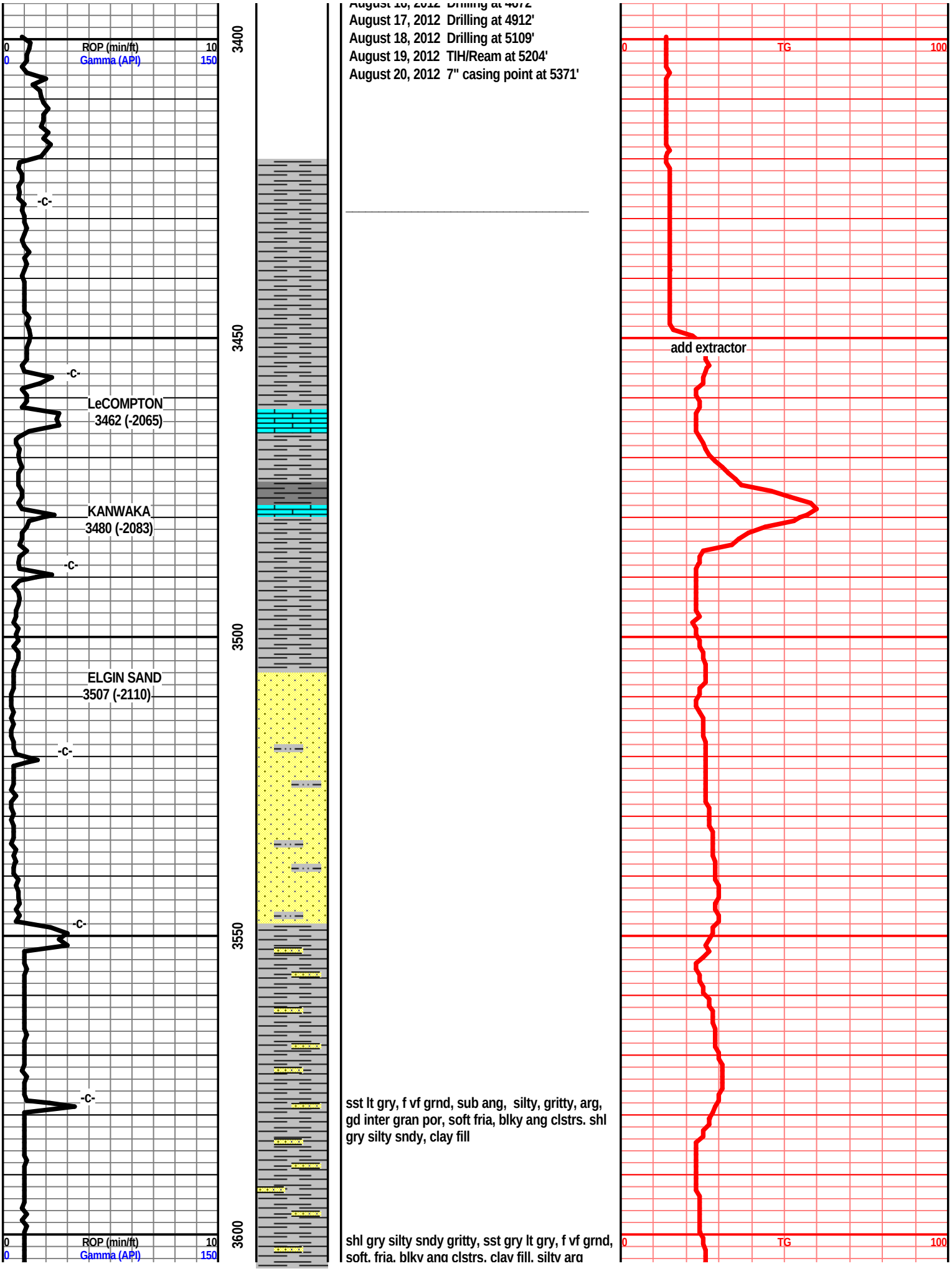
MINERAL
- Anhy
- Arg
- Bent
- Bit
- Brecfrag
- Calc
- Carb
- Chtdk
- Chtlt
- Dol
- Ferrpel
- Ferr
- Glau
- Gyp
- Marl
- Nodule
- Phos
- Pyr
- Salt
- Sandy
- Silt
- Chlorite
- Dol
- Sand
- Slty

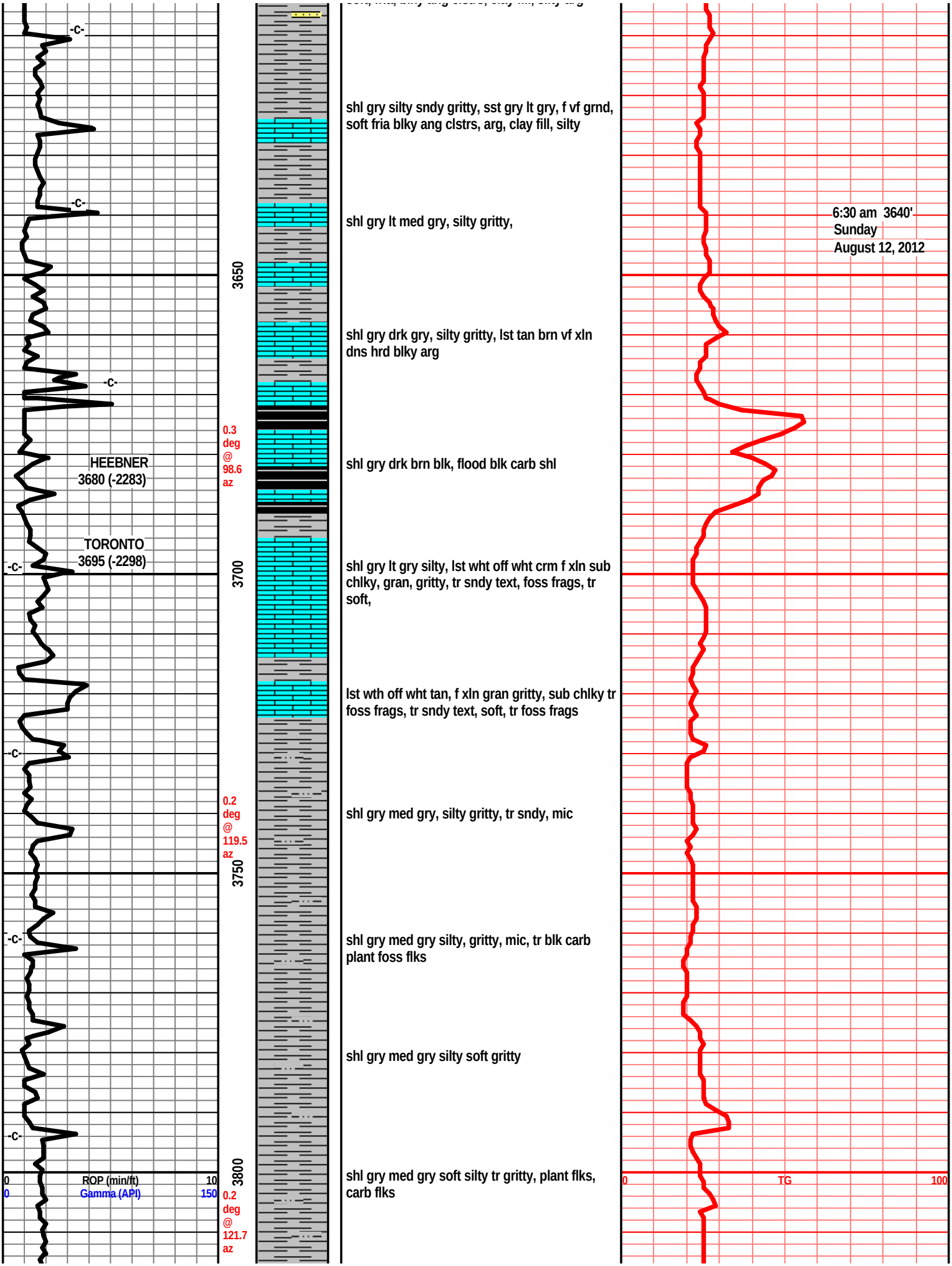
FOSSIL
- Algae
- Amph
- Belm
- Bioclst
- Brach
- Bryozoa
- Cephal
- Coral
- Crin
- Echin
- Fish
- Foram
- Fossil
- Gastro
- Oolite
- Ostra
- Pelec
- Pellet
- Pisolite
- Plant
- Strom
- Fuss
- Oomoldic

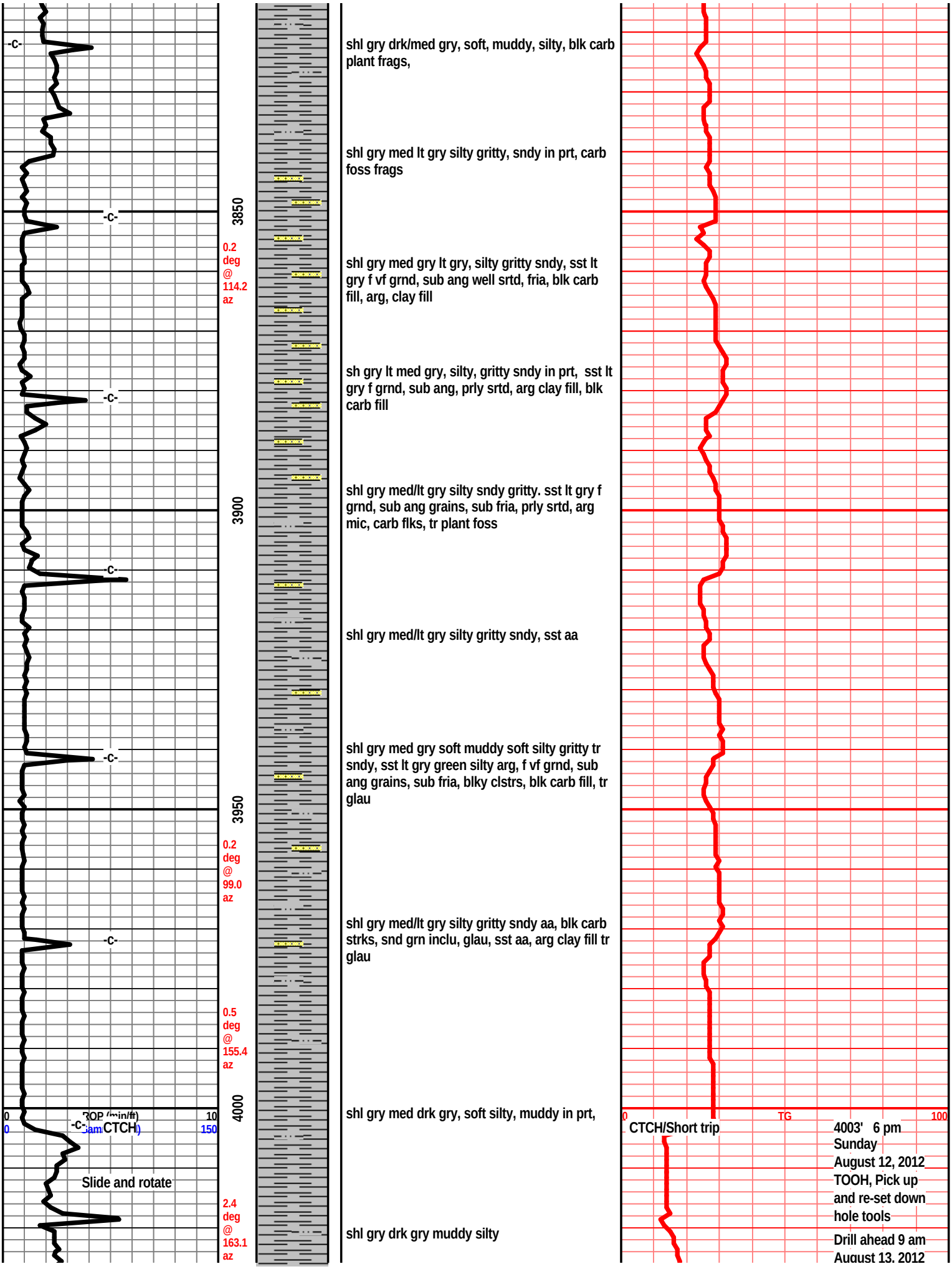
STRINGER
- Anhy
- Arg
- Bent
- Coal
- Dol
- Gyp
- Ls
- Mrst
- Sltstrg
- Ssstrg
- Carbsh
- Clystn
- Dol
- Grysh
- Gryslt
- Lms
- Sandylms
- Sh
- Sltstn

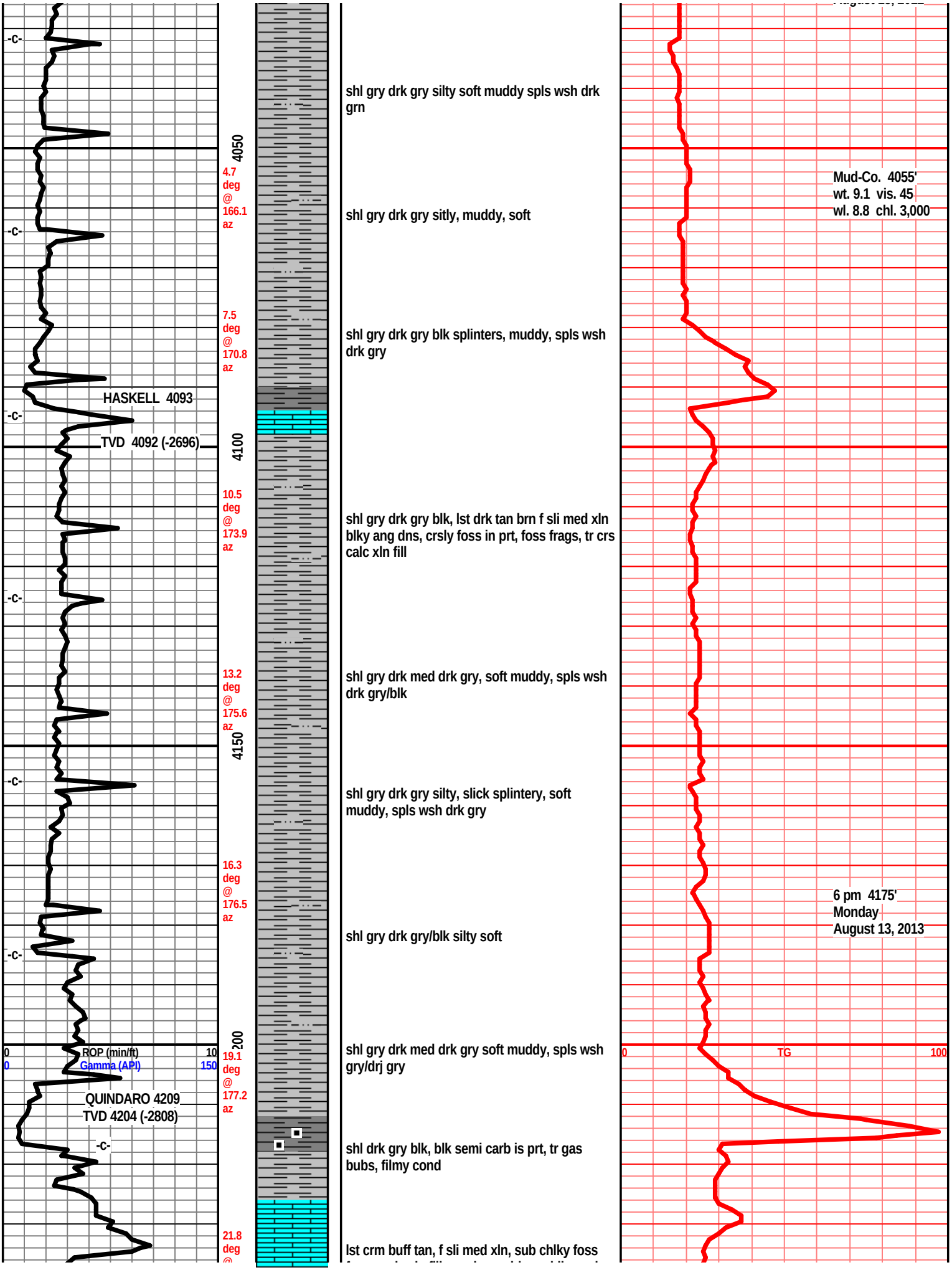
TEXTURE
- BS Boundst
- C Chalky
- CX Cryxln
- E Earthy
- FX Finexln
- GS Grainst
- L Lithogr
- MX Microxln
- MS Mudst
- PS Packst
- WS Wackest

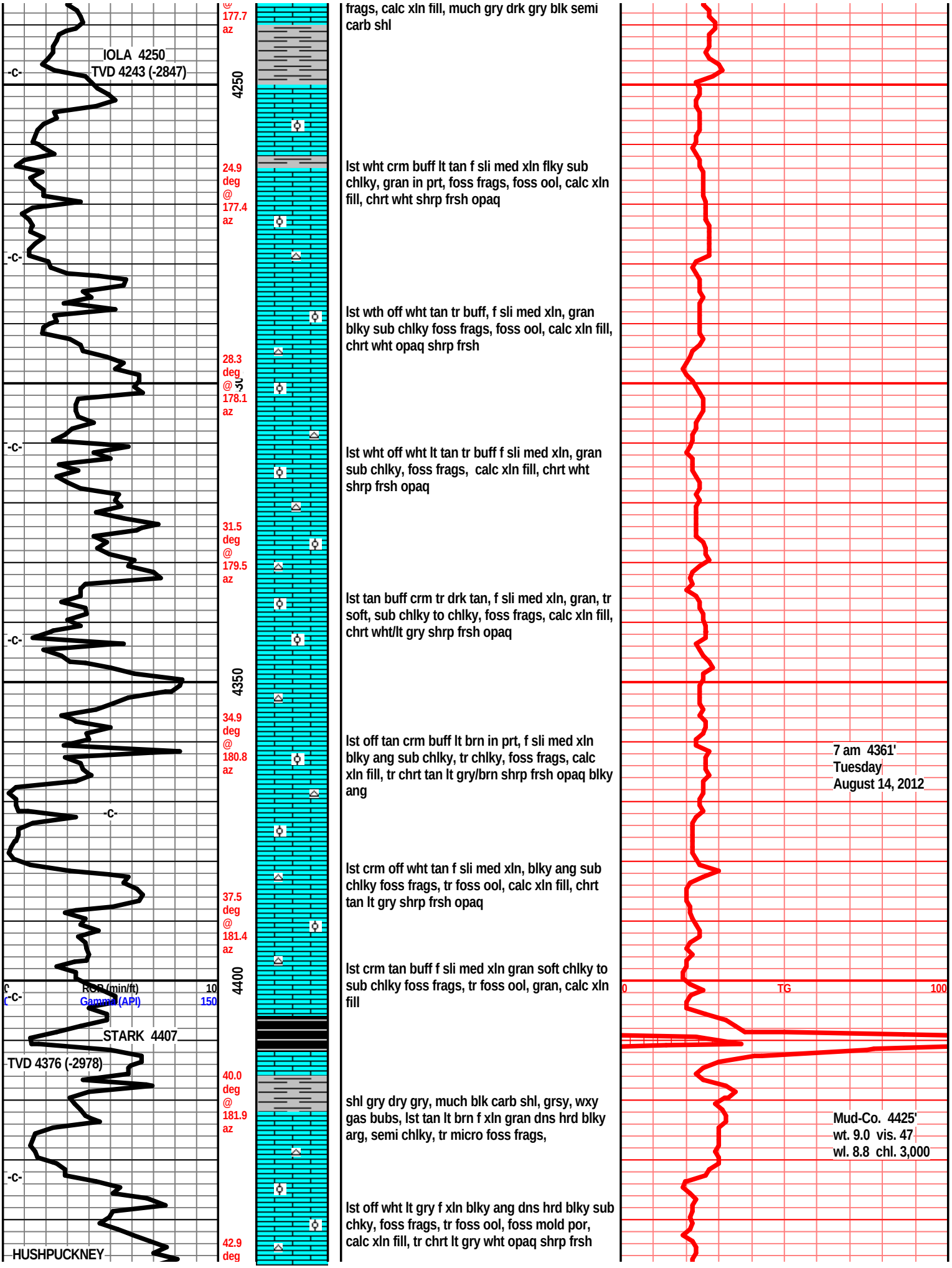
Curve Track 1	Depth	Lithology	Oil Shows	Geological Descriptions	TG, C1-C5
ROP (min/ft) 0 – 10 Gamma (API) 0 – 150	33				TG (units) 0 – 100 C1 (units) C2 (units) C3 (units) C4 (units) C5 (units)
Scale Change ROP (min/ft) 0 – 10 Gamma (API) 0 – 150	3350			Reference wells for structural position: Woolsey Operating Co's Lincoln Trust #1, N/2 SE, 14-T34S-R11W, Woolsey Operating Co's Miller D #1, NW NW NW, 14-T34S-R11W, Tri-Ex's Miller #1, 14-T34S-R11W, Woolsey Operating Co's Miller D 2 H, NL N/2 NE NW, 23-T34S-R11W. Val Energy's Rolf Brown 2-26, SE SW NW NW, 26-34S-R11W. 7 am Progress by Day: August 3, 2012 Set conductor August 4, 5, 2012 MIRT/Spud August 6, 2012 WOC at 330' August 7, 2012 Nipple up BOP at 740' August 8, 2012 1050' August 9, 2012 Drilling at 1850' August 10, 2012 Drilling at 2576' August 11, 2012 Drilling at 3020' August 12, 2012 Drilling at 3660' August 13, 2012 TIH w/bit at 4003' August 14, 2012 Drilling at 4361' August 15, 2012 Drilling at 4607' August 16, 2012 Drilling at 4672'	

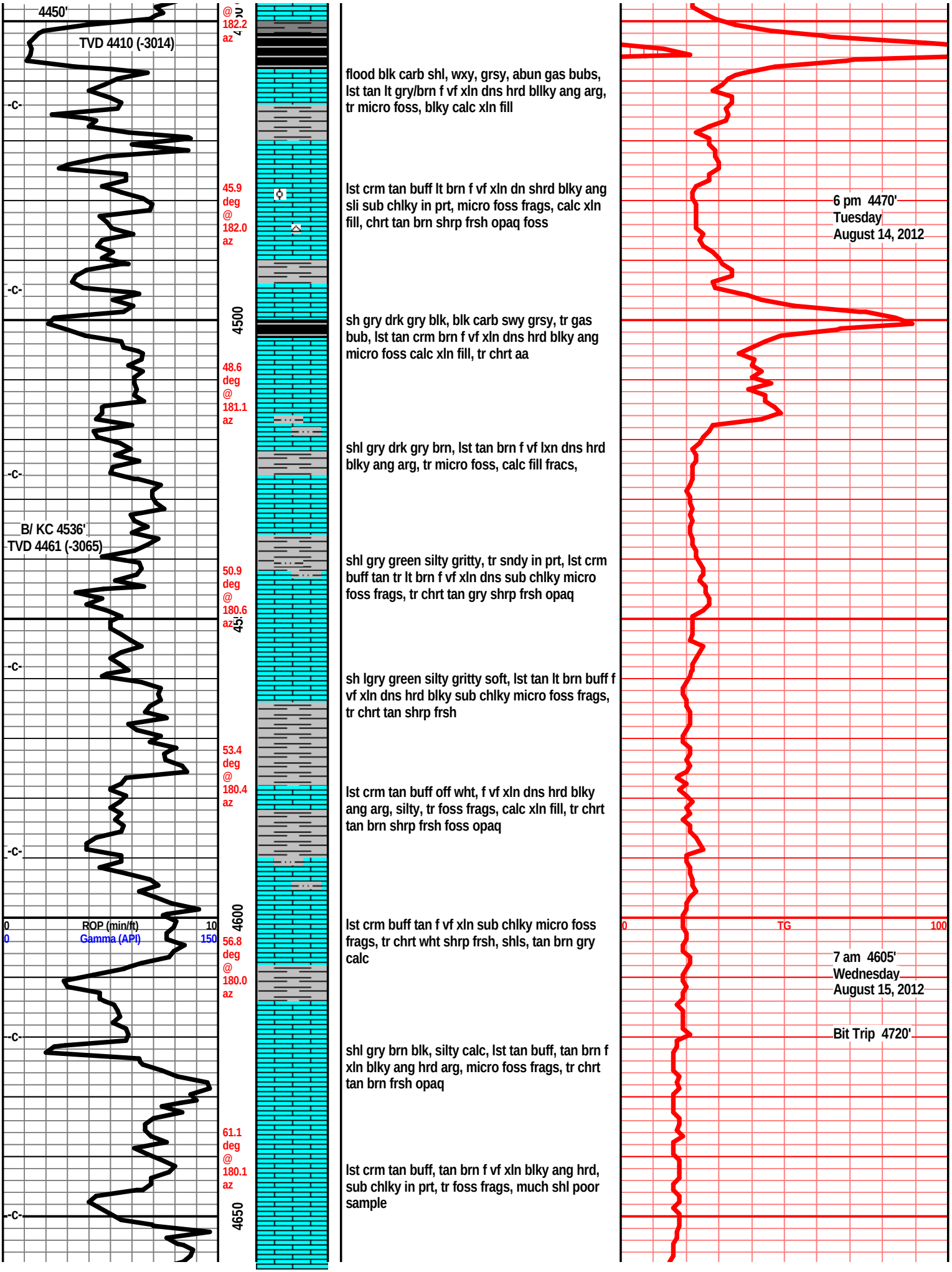

0
ROP (min/ft)
10
0
Gamma (API)
150
-C-
-C-
LeCOMPTON
3462 (-2065)
KANWAKA
3480 (-2083)
-C-
ELGIN SAND
3507 (-2110)
-C-
-C-
-C-
0
ROP (min/ft)
10
0
Gamma (API)
150
3400
3450
3500
3550
3600
August 17, 2012 Drilling at 4912'
August 18, 2012 Drilling at 5109'
August 19, 2012 TIH/Ream at 5204'
August 20, 2012 7" casing point at 5371'
sst lt gry, f vf grnd, sub ang, silty, gritty, arg, gd inter gran por, soft fria, blky ang clstrs. shl gry silty sndy, clay fill
shl gry silty sndy gritty, sst gry lt gry, f vf grnd, soft, fria, blky ang clstrs, clay fill, silty arg
0
TG
100
add extractor
0
TG
100

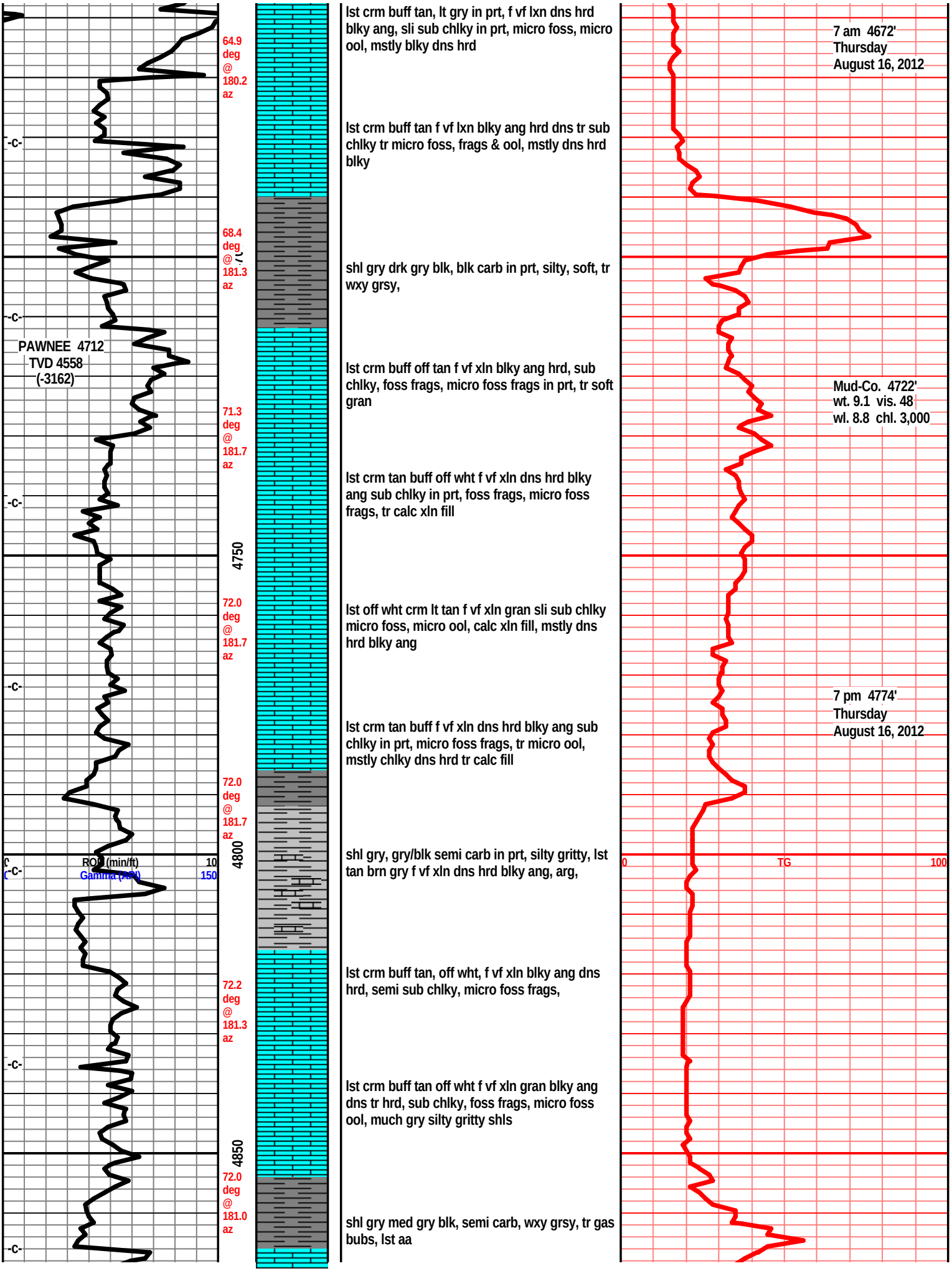

-C-
-C-
-C-
HEEBNER
3680 (-2283)
TORONTO
3695 (-2298)
-C-
-C-
-C-
-C-
3650
3700
3750
3800
0.3 deg @ 98.6 az
0.2 deg @ 119.5 az
0.2 deg @ 121.7 az
0
ROP (min/ft)
10
0
Gamma (API)
150
shl gry silty sndy gritty, sst gry lt gry, f vf grnd, soft fria blky ang clstrs, arg, clay fill, silty
shl gry lt med gry, silty gritty,
shl gry drk gry, silty gritty, lst tan brn vf xln dns hrd blky arg
shl gry drk brn blk, flood blk carb shl
shl gry lt gry silty, lst wht off wht crm f xln sub chlky, gran, gritty, tr sndy text, foss frags, tr soft,
lst wth off wht tan, f xln gran gritty, sub chlky tr foss frags, tr sndy text, soft, tr foss frags
shl gry med gry, silty gritty, tr sndy, mic
shl gry med gry silty, gritty, mic, tr blk carb plant foss flks
shl gry med gry silty soft gritty
shl gry med gry soft silty tr gritty, plant flks, carb flks
6:30 am 3640'
Sunday
August 12, 2012
0
TG
100

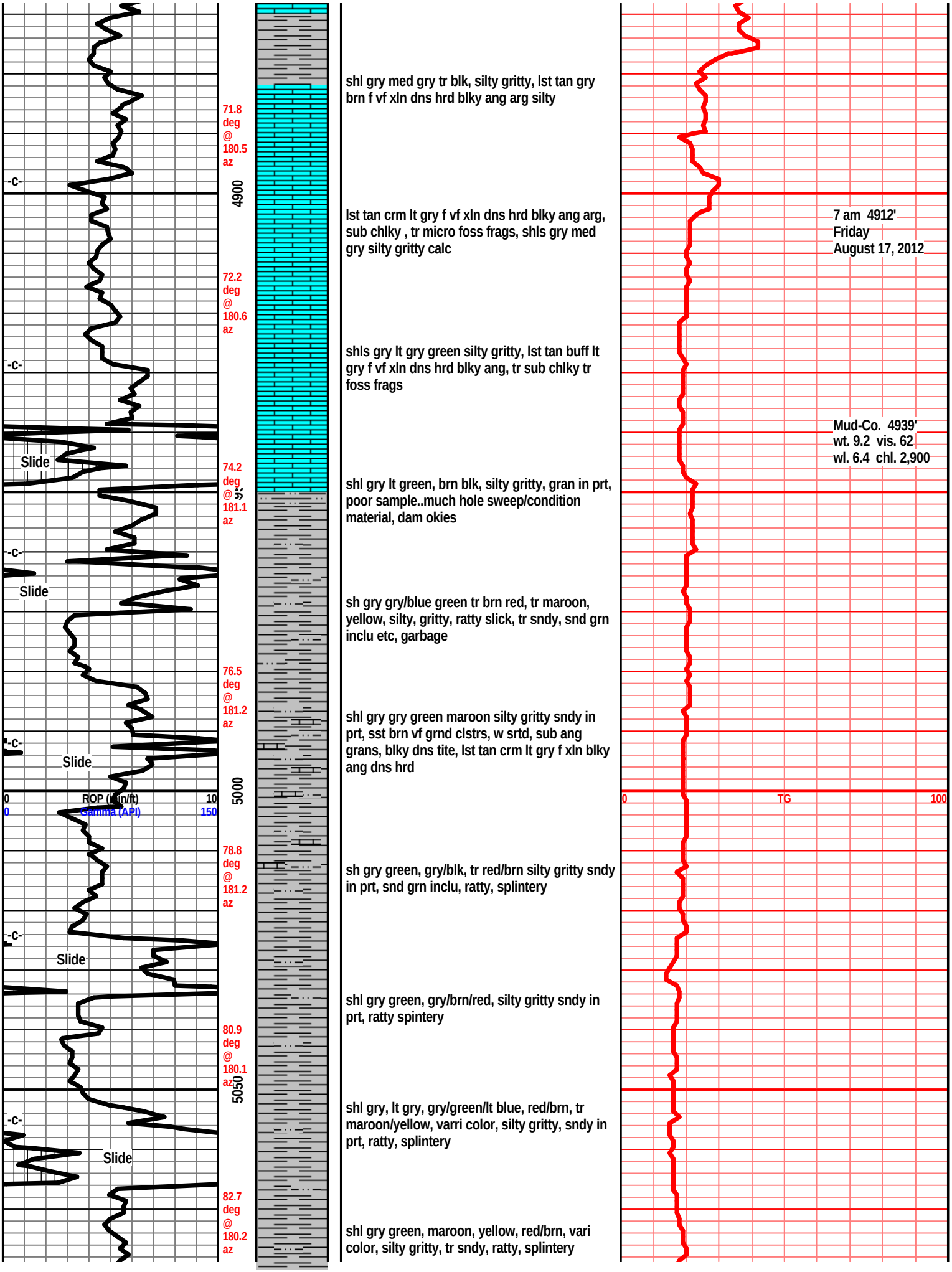

-C-
-C-
-C-
-C-
-C-
-C-
3850
3900
3950
4000
0.2 deg @ 114.2 az
0.2 deg @ 99.0 az
0.5 deg @ 155.4 az
2.4 deg @ 163.1 az
0
10
0
150
ROP (min/ft)
CTCH)
Slide and rotate
shl gry drk/med gry, soft, muddy, silty, blk carb plant frags,
shl gry med lt gry silty gritty, sndy in prt, carb foss frags
shl gry med gry lt gry, silty gritty sndy, sst lt gry f vf grnd, sub ang well srtd, fria, blk carb fill, arg, clay fill
sh gry lt med gry, silty, gritty sndy in prt, sst lt gry f grnd, sub ang, prly srtd, arg clay fill, blk carb fill
shl gry med/lt gry silty sndy gritty. sst lt gry f grnd, sub ang grains, sub fria, prly srtd, arg mic, carb flks, tr plant foss
shl gry med/lt gry silty gritty sndy, sst aa
shl gry med gry soft muddy soft silty gritty tr sndy, sst lt gry green silty arg, f vf grnd, sub ang grains, sub fria, blky clstrs, blk carb fill, tr glau
shl gry med/lt gry silty gritty sndy aa, blk carb strks, snd grn inclu, glau, sst aa, arg clay fill tr glau
shl gry med drk gry, soft silty, muddy in prt,
shl gry drk gry muddy silty
0
TG
100
CTCH/Short trip
4003' 6 pm Sunday August 12, 2012
TOOH, Pick up and re-set down hole tools
Drill ahead 9 am August 13, 2012

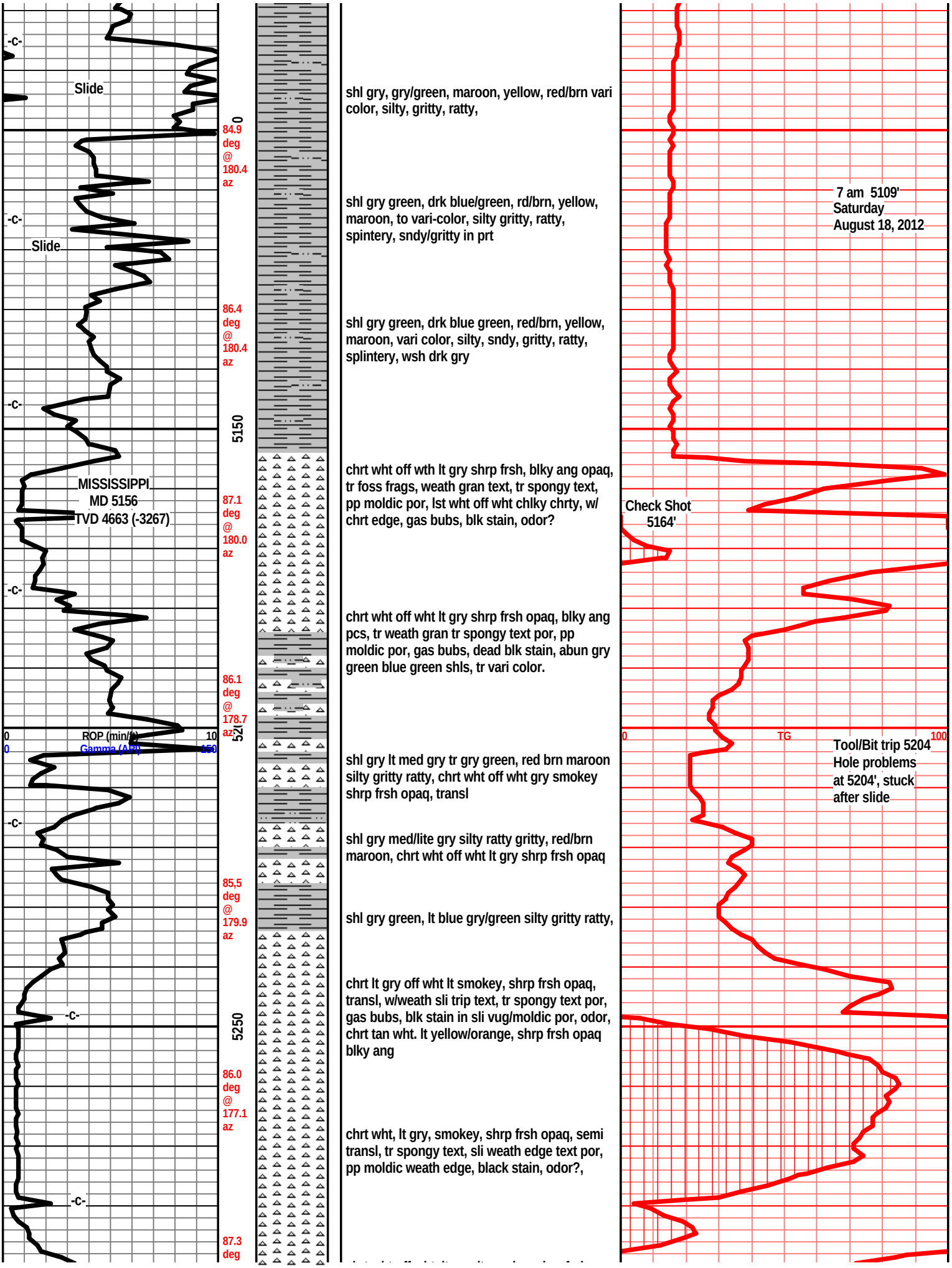

-C-
-C-
-C-
-C-
-C-
-C-
HASKELL 4093
TVD 4092 (-2696)
QUINDARO 4209
TVD 4204 (-2808)
0
ROP (min/ft)
10
0
Gamma (API)
150
4050
4100
4150
200
4.7 deg @ 166.1 az
7.5 deg @ 170.8 az
10.5 deg @ 173.9 az
13.2 deg @ 175.6 az
16.3 deg @ 176.5 az
19.1 deg @ 177.2 az
21.8 deg
shl gry drk gry silty soft muddy spls wsh drk grn
shl gry drk gry sitly, muddy, soft
shl gry drk gry blk splinters, muddy, spls wsh drk gry
shl gry drk gry blk, lst drk tan brn f sli med xln blky ang dns, crsly foss in prt, foss frags, tr crs calc xln fill
shl gry drk med drk gry, soft muddy, spls wsh drk gry/blk
shl gry drk gry silty, slick splintery, soft muddy, spls wsh drk gry
shl gry drk gry/blk silty soft
shl gry drk med drk gry soft muddy, spls wsh gry/drj gry
shl drk gry blk, blk semi carb is prt, tr gas bubs, filmy cond
lst crm buff tan, f sli med xln, sub chlky foss
Mud-Co. 4055'
wt. 9.1 vis. 45
wl. 8.8 chl. 3,000
6 pm 4175'
Monday
August 13, 2013
0
TG
100

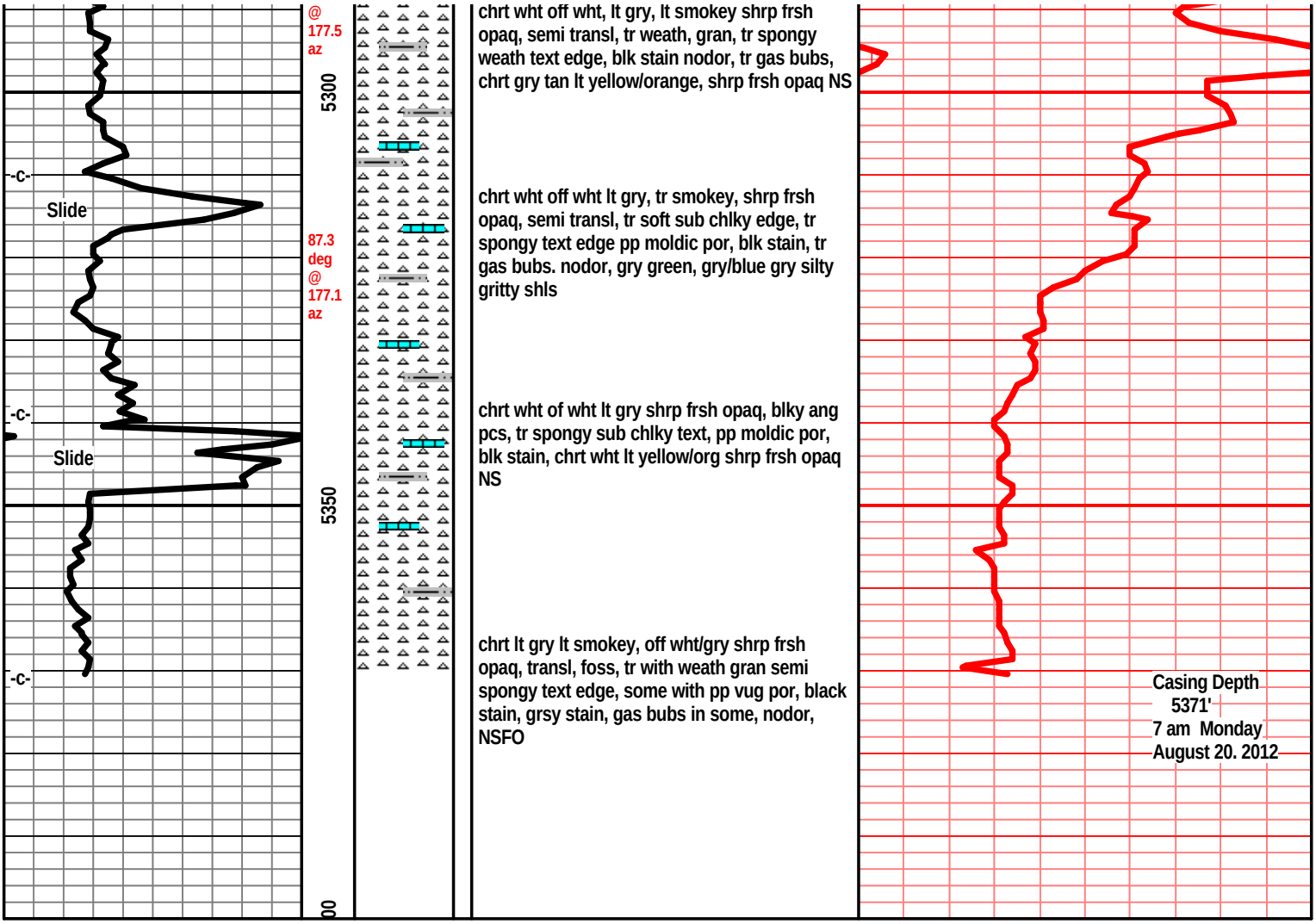

IOLA 4250
TVD 4243 (-2847)
-C-
177.7 az
4250
24.9 deg @ 177.4 az
28.3 deg @ 178.1 az
4350
31.5 deg @ 179.5 az
34.9 deg @ 180.8 az
37.5 deg @ 181.4 az
4400
ROP (min/ft) 10
Gamma (API) 150
STARK 4407
TVD 4376 (-2978)
40.0 deg @ 181.9 az
42.9 deg
HUSHPUCKNEY
frags, calc xln fill, much gry drk gry blk semi carb shl
lst wht crm buff lt tan f sli med xln flky sub chlky, gran in prt, foss frags, foss ool, calc xln fill, chrt wht shrp frsh opaq
lst wth off wht tan tr buff, f sli med xln, gran blky sub chlky foss frags, foss ool, calc xln fill, chrt wht opaq shrp frsh
lst wht off wht lt tan tr buff f sli med xln, gran sub chlky, foss frags, calc xln fill, chrt wht shrp frsh opaq
lst tan buff crm tr drk tan, f sli med xln, gran, tr soft, sub chlky to chlky, foss frags, calc xln fill, chrt wht/lt gry shrp frsh opaq
lst off tan crm buff lt brn in prt, f sli med xln blky ang sub chlky, tr chlky, foss frags, calc xln fill, tr chrt tan lt gry/brn shrp frsh opaq blky ang
lst crm off wht tan f sli med xln, blky ang sub chlky foss frags, tr foss ool, calc xln fill, chrt tan lt gry shrp frsh opaq
lst crm tan buff f sli med xln gran soft chlky to sub chlky foss frags, tr foss ool, gran, calc xln fill
shl gry dry gry, much blk carb shl, grsy, wxy gas bubs, lst tan lt brn f xln gran dns hrd blky arg, semi chlky, tr micro foss frags,
lst off wht lt gry f xln blky ang dns hrd blky sub chky, foss frags, tr foss ool, foss mold por, calc xln fill, tr chrt lt gry wht opaq shrp frsh
0 TG 100
7 am 4361'
Tuesday
August 14, 2012
Mud-Co. 4425'
wt. 9.0 vis. 47
wl. 8.8 chl. 3,000


4450'
TVD 4410 (-3014)
-C-
45.9 deg @ 182.0 az
4500
48.6 deg @ 181.1 az
B/ KC 4536'
TVD 4461 (-3065)
50.9 deg @ 180.6 az
4550
53.4 deg @ 180.4 az
0 ROP (min/ft) 10
0 Gamma (API) 150
4600
56.8 deg @ 180.0 az
61.1 deg @ 180.1 az
4650
flood blk carb shl, wxy, grsy, abun gas bubs, lst tan lt gry/brn f vf xln dns hrd bllky ang arg, tr micro foss, blky calc xln fill
lst crm tan buff lt brn f vf xln dn shrd blky ang sli sub chlky in prt, micro foss frags, calc xln fill, chrt tan brn shrp frsh opaq foss
sh gry drk gry blk, blk carb swy grsy, tr gas bub, lst tan crm brn f vf xln dns hrd blky ang micro foss calc xln fill, tr chrt aa
shl gry drk gry brn, lst tan brn f vf lxn dns hrd blky ang arg, tr micro foss, calc fill fracs,
shl gry green silty gritty, tr sndy in prt, lst crm buff tan tr lt brn f vf xln dns sub chlky micro foss frags, tr chrt tan gry shrp frsh opaq
sh lgry green silty gritty soft, lst tan lt brn buff f vf xln dns hrd blky sub chlky micro foss frags, tr chrt tan shrp frsh
lst crm tan buff off wht, f vf xln dns hrd blky ang arg, silty, tr foss frags, calc xln fill, tr chrt tan brn shrp frsh foss opaq
lst crm buff tan f vf xln sub chlky micro foss frags, tr chrt wht shrp frsh, shls, tan brn gry calc
shl gry brn blk, silty calc, lst tan buff, tan brn f xln blky ang hrd arg, micro foss frags, tr chrt tan brn frsh opaq
lst crm tan buff, tan brn f vf xln blky ang hrd, sub chlky in prt, tr foss frags, much shl poor sample
0 TG 100
6 pm 4470'
Tuesday
August 14, 2012
7 am 4605'
Wednesday
August 15, 2012
Bit Trip 4720'


64.9 deg @ 180.2 az
-c-
68.4 deg @ 181.3 az
-c-
PAWNEE 4712
TVD 4558
(-3162)
71.3 deg @ 181.7 az
-c-
4750
72.0 deg @ 181.7 az
-c-
ROP (min/ft)
10
Gamma (API)
150
72.0 deg @ 181.7 az
4800
-c-
72.2 deg @ 181.3 az
-c-
4850
72.0 deg @ 181.0 az
-c-
lst crm buff tan, lt gry in prt, f vf lxn dns hrd blky ang, sli sub chlky in prt, micro foss, micro ool, mstly blky dns hrd
lst crm buff tan f vf lxn blky ang hrd dns tr sub chlky tr micro foss, frags & ool, mstly dns hrd blky
shl gry drk gry blk, blk carb in prt, silty, soft, tr wxy grsy,
lst crm buff off tan f vf xln blky ang hrd, sub chlky, foss frags, micro foss frags in prt, tr soft gran
lst crm tan buff off wht f vf xln dns hrd blky ang sub chlky in prt, foss frags, micro foss frags, tr calc xln fill
lst off wht crm lt tan f vf xln gran sli sub chlky micro foss, micro ool, calc xln fill, mstly dns hrd blky ang
lst crm tan buff f vf xln dns hrd blky ang sub chlky in prt, micro foss frags, tr micro ool, mstly chlky dns hrd tr calc fill
shl gry, gry/blk semi carb in prt, silty gritty, lst tan brn gry f vf xln dns hrd blky ang, arg,
lst crm buff tan, off wht, f vf xln blky ang dns hrd, semi sub chlky, micro foss frags,
lst crm buff tan off wht f vf xln gran blky ang dns tr hrd, sub chlky, foss frags, micro foss ool, much gry silty gritty shls
shl gry med gry blk, semi carb, wxy grsy, tr gas bubs, lst aa
7 am 4672'
Thursday
August 16, 2012
Mud-Co. 4722'
wt. 9.1 vis. 48
wl. 8.8 chl. 3,000
7 pm 4774'
Thursday
August 16, 2012
0
TG
100


71.8 deg @ 180.5 az
4900
72.2 deg @ 180.6 az
74.2 deg @ 181.1 az
76.5 deg @ 181.2 az
5000
78.8 deg @ 181.2 az
80.9 deg @ 180.1 az
5050
82.7 deg @ 180.2 az
-C-
Slide
0
ROP (Min/ft)
10
0
Gamma (API)
150
shl gry med gry tr blk, silty gritty, lst tan gry brn f vf xln dns hrd blky ang arg silty
lst tan crm lt gry f vf xln dns hrd blky ang arg, sub chlky , tr micro foss frags, shls gry med gry silty gritty calc
shls gry lt gry green silty gritty, lst tan buff lt gry f vf xln dns hrd blky ang, tr sub chlky tr foss frags
shl gry lt green, brn blk, silty gritty, gran in prt, poor sample..much hole sweep/condition material, dam okies
sh gry gry/blue green tr brn red, tr maroon, yellow, silty, gritty, ratty slick, tr sndy, snd grn inclu etc, garbage
shl gry gry green maroon silty gritty sndy in prt, sst brn vf grnd clstrs, w srtd, sub ang grans, blky dns tite, lst tan crm lt gry f xln blky ang dns hrd
sh gry green, gry/blk, tr red/brn silty gritty sndy in prt, snd grn inclu, ratty, splintery
shl gry green, gry/brn/red, silty gritty sndy in prt, ratty spintery
shl gry, lt gry, gry/green/lt blue, red/brn, tr maroon/yellow, varri color, silty gritty, sndy in prt, ratty, splintery
shl gry green, maroon, yellow, red/brn, vari color, silty gritty, tr sndy, ratty, splintery
7 am 4912'
Friday
August 17, 2012
Mud-Co. 4939'
wt. 9.2 vis. 62
wl. 6.4 chl. 2,900
0
TG
100


-C-
Slide
84.9 deg @ 180.4 az
-C-
Slide
86.4 deg @ 180.4 az
-C-
5150
MISSISSIPPI
MD 5156
TVD 4663 (-3267)
87.1 deg @ 180.0 az
-C-
86.1 deg @ 178.7 az
0
ROP (min/ft)
10
0
Gamma (API)
150
5210
-C-
85,5 deg @ 179.9 az
-C-
5250
86.0 deg @ 177.1 az
-C-
87.3 deg
shl gry, gry/green, maroon, yellow, red/brn vari color, silty, gritty, ratty,
shl gry green, drk blue/green, rd/brn, yellow, maroon, to vari-color, silty gritty, ratty, spintery, sndy/gritty in prt
shl gry green, drk blue green, red/brn, yellow, maroon, vari color, silty, sndy, gritty, ratty, splintery, wsh drk gry
chrt wht off wth lt gry shrp frsh, blky ang opaq, tr foss frags, weath gran text, tr spongy text, pp moldic por, lst wht off wht chlky chrty, w/ chrt edge, gas bubs, blk stain, odor?
chrt wht off wht lt gry shrp frsh opaq, blky ang pcs, tr weath gran tr spongy text por, pp moldic por, gas bubs, dead blk stain, abun gry green blue green shls, tr vari color.
shl gry lt med gry tr gry green, red brn maroon silty gritty ratty, chrt wht off wht gry smokey shrp frsh opaq, transl
shl gry med/lite gry silty ratty gritty, red/brn maroon, chrt wht off wht lt gry shrp frsh opaq
shl gry green, lt blue gry/green silty gritty ratty,
chrt lt gry off wht lt smokey, shrp frsh opaq, transl, w/weath sli trip text, tr spongy text por, gas bubs, blk stain in sli vug/moldic por, odor, chrt tan wht. lt yellow/orange, shrp frsh opaq blky ang
chrt wht, lt gry, smokey, shrp frsh opaq, semi transl, tr spongy text, sli weath edge text por, pp moldic weath edge, black stain, odor?,
7 am 5109'
Saturday
August 18, 2012
Check Shot
5164'
0
TG
100
Tool/Bit trip 5204
Hole problems
at 5204', stuck
after slide


@ 177.5 az
5300
-c-
Slide
87.3 deg @ 177.1 az
-c-
Slide
5350
-c-
00
chrt wht off wht, lt gry, lt smokey shrp frsh opaq, semi transl, tr weath, gran, tr spongy weath text edge, blk stain nodor, tr gas bubs, chrt gry tan lt yellow/orange, shrp frsh opaq NS
chrt wht off wht lt gry, tr smokey, shrp frsh opaq, semi transl, tr soft sub chlky edge, tr spongy text edge pp moldic por, blk stain, tr gas bubs. nodor, gry green, gry/blue gry silty gritty shls
chrt wht of wht lt gry shrp frsh opaq, blky ang pcs, tr spongy sub chlky text, pp moldic por, blk stain, chrt wht lt yellow/org shrp frsh opaq NS
chrt lt gry lt smokey, off wht/gry shrp frsh opaq, transl, foss, tr with weath gran semi spongy text edge, some with pp vug por, black stain, grsy stain, gas bubs in some, nodor, NSFO
Casing Depth
5371'
7 am Monday
August 20. 2012

Woolsey Operating Company, LLC

Scale 1:600 (2"=100') Metric
Measured Depth Log

Well Name:	**Miller-Diel 1 H**		
Location:	**Section 14 - Township 34 South - Range 11 West**		
License Number:	**15-007- 23928-01-00**	**Region:**	**Barber County, KS**
Spud Date:	**August 5, 2012**	**Drilling Completed:**	
Surface Coordinates:	**SW SE SE SW** **13' FSL, 2115' FWL**		
Bottom Hole Coordinates:	**330' FSL and 1980' FWL** **Section 23 - Township 34 South - Range 11 West**		
Ground Elevation (m):	**1380'**	**K.B. Elevation (m):**	**1397'**
Logged Interval (m):	**4000'** **To:**	**Total Depth (m):**	
Formation:	**Kansas City Group ----> Mississippian**		
Type of Drilling Fluid:	**Water/Flozan**		

OPERATOR

Company: **Woolsey Operating Company, LLC**
Address: **125 N. Market Suite 1000**
Wichita, Kansas 67202

GEOLOGIST

Name: **Bill Klaver**
Company: **Woolsey Operating Company, LLC**
Address: **125 N. Market Suite 1000**
Wichita, Kansas 67202

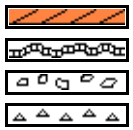
Comments

Gas Detector: Woolsey Operating Co. Gas Trailer #2
Mud Program: Mud-Co. Brad Bortz, Engineer

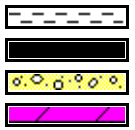
Crews

Dan D Drilling Rig 11, Mitch Sovia-Toolpusher, Sammy Fry-Relief
Drillers: (12 hour tours) Johnny Stone, Terry Stark, David Herring, Jeffery Meyers. Roughnecks: Assorted Okies.

ROCK TYPES

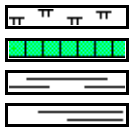


Anhy
Bent
Brec
Cht

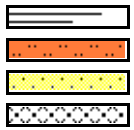


Clyst
Coal
Congl
Dol

Gyp
Igne
Lmst
Meta



Mrlst
Salt
Shale
Shcol



Shgy
Sltst
Ss
Till

ACCESSORIES

MINERAL

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

FOSSIL

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

STRINGER

Anhy
Arg
Bent
Coal
Dol
Gyp
Ls
Mrst
Sltstrg
Ssstrg

TEXTURE

Boundst
Chalky
Cryxln
Earthy
Finexln
Grainst
Lithogr
Microxln
Mudst
Packst
Wackest

OTHER SYMBOLS

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

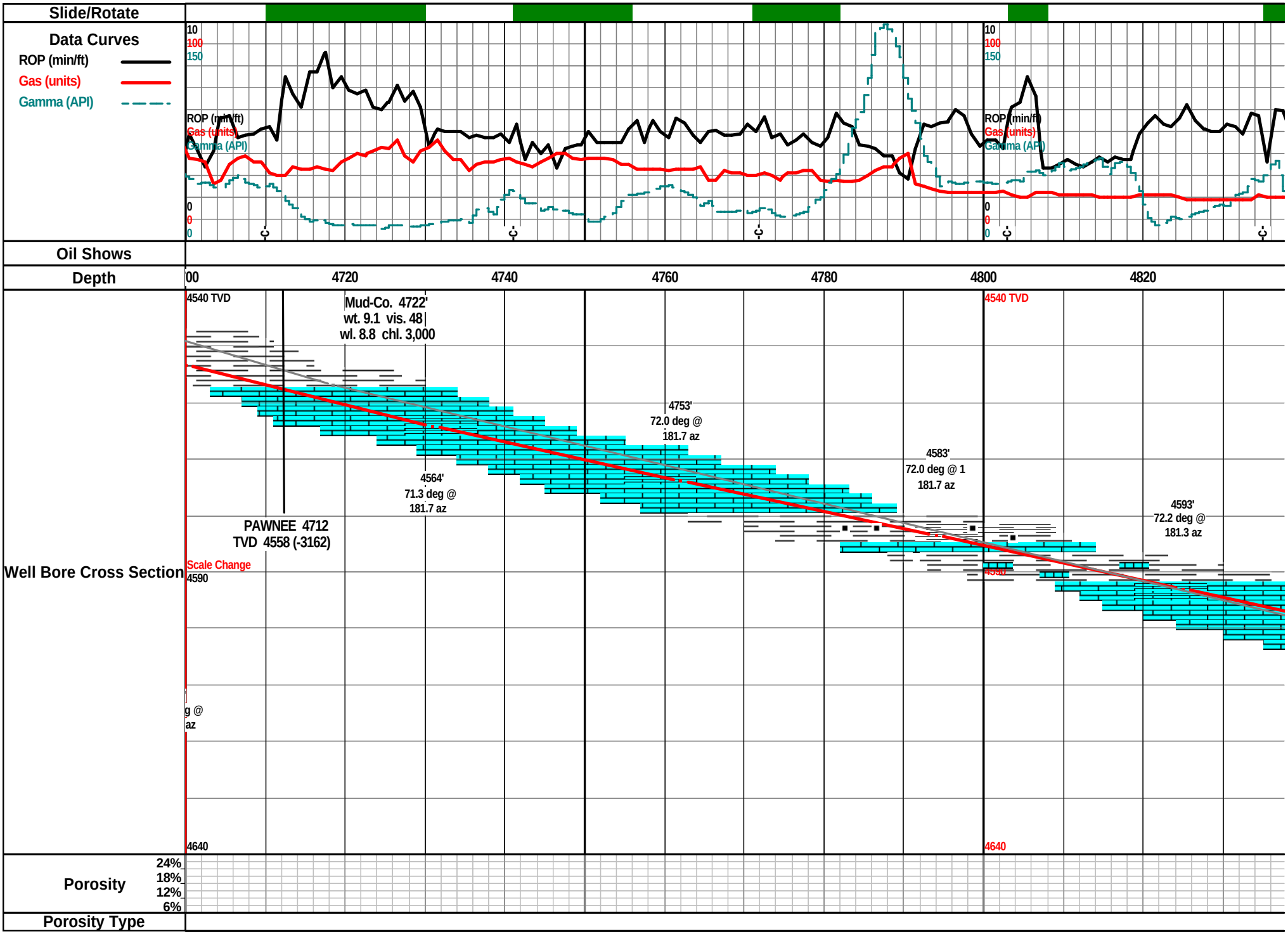
SORTING
- Well
- Moderate
- Poor

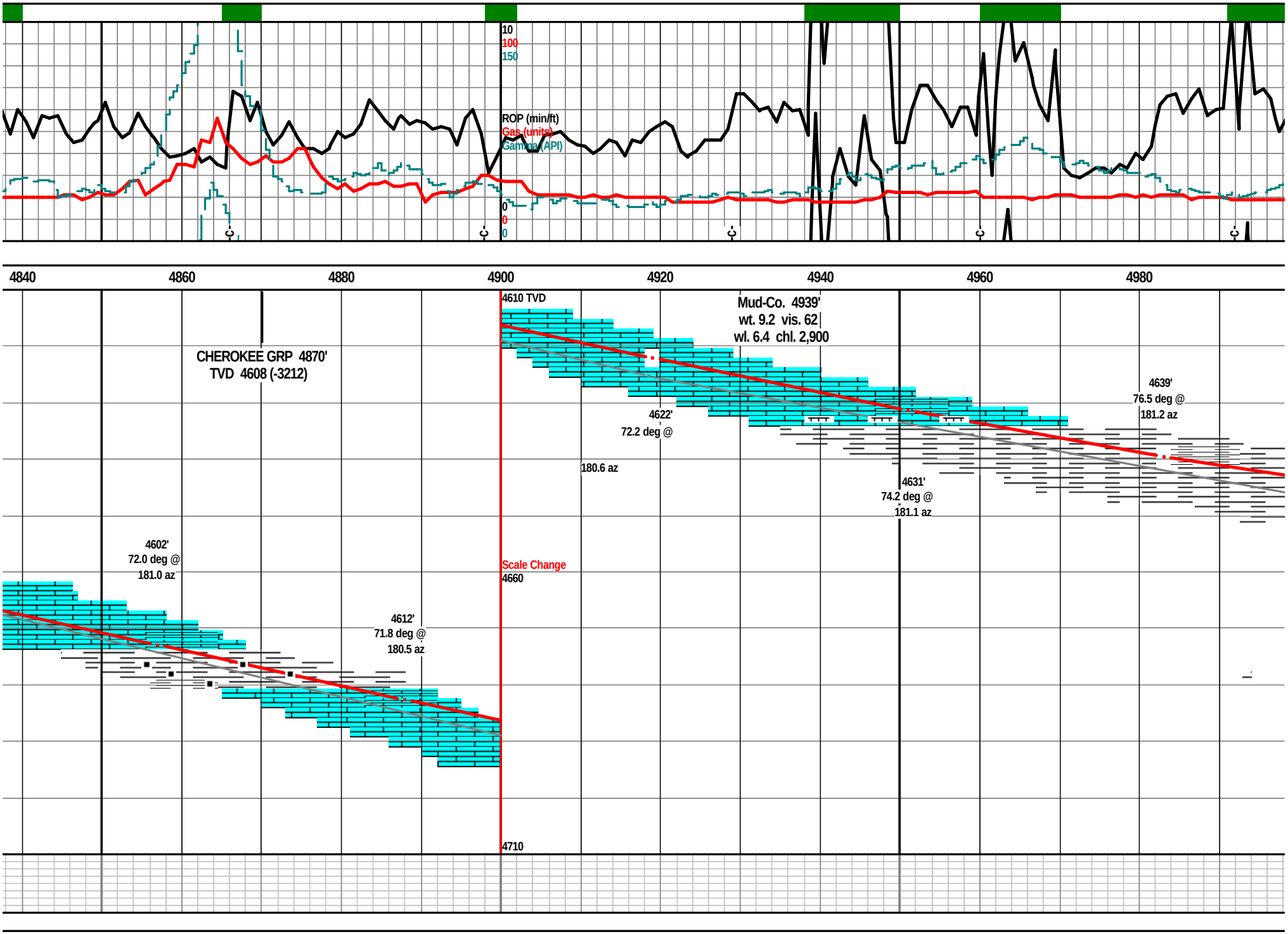
ROUNDING
- Rounded
- Subrnd
- Subang
- Angular

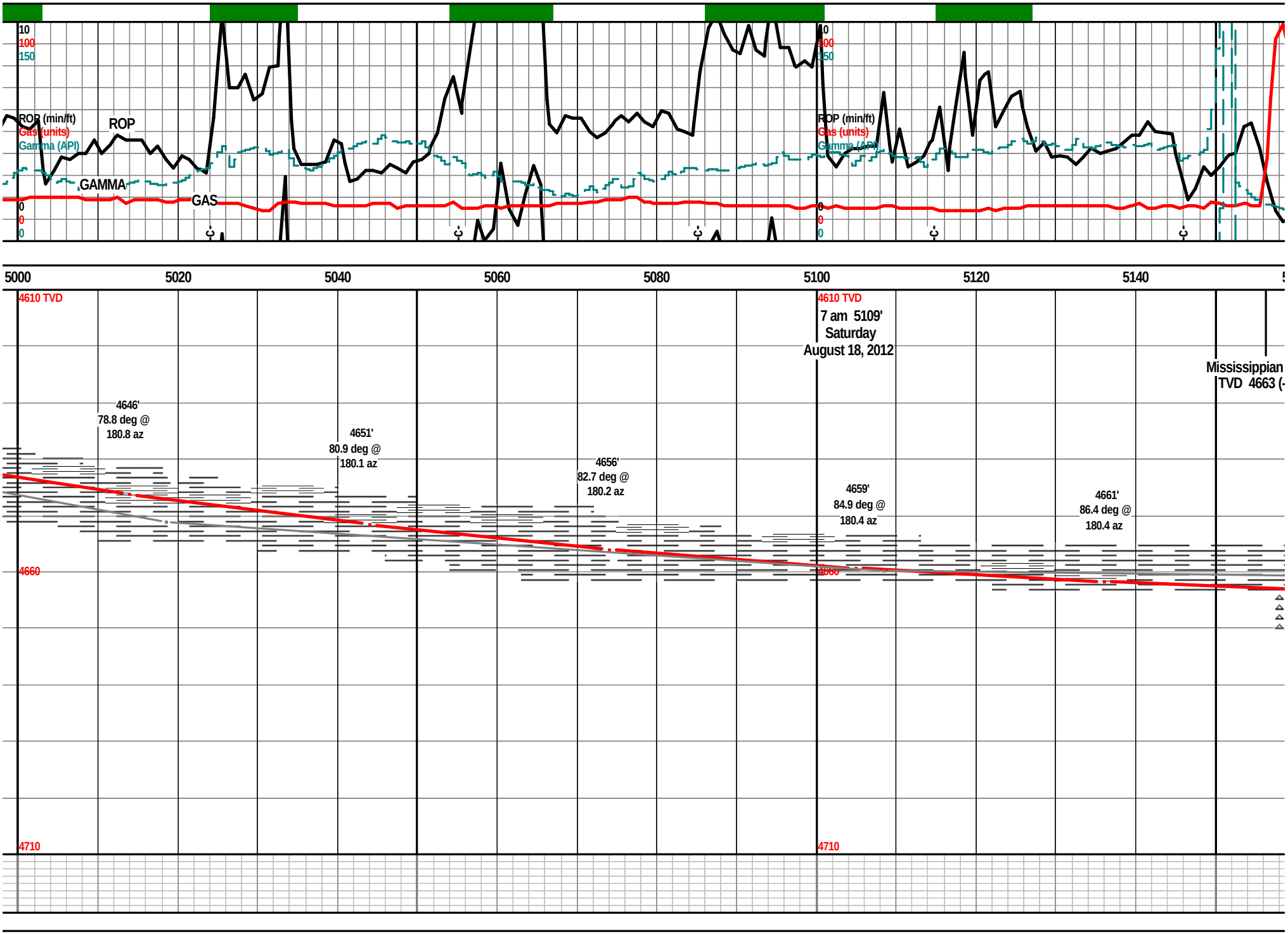
OIL SHOW
- Even
- Spotted
- Ques
- Dead

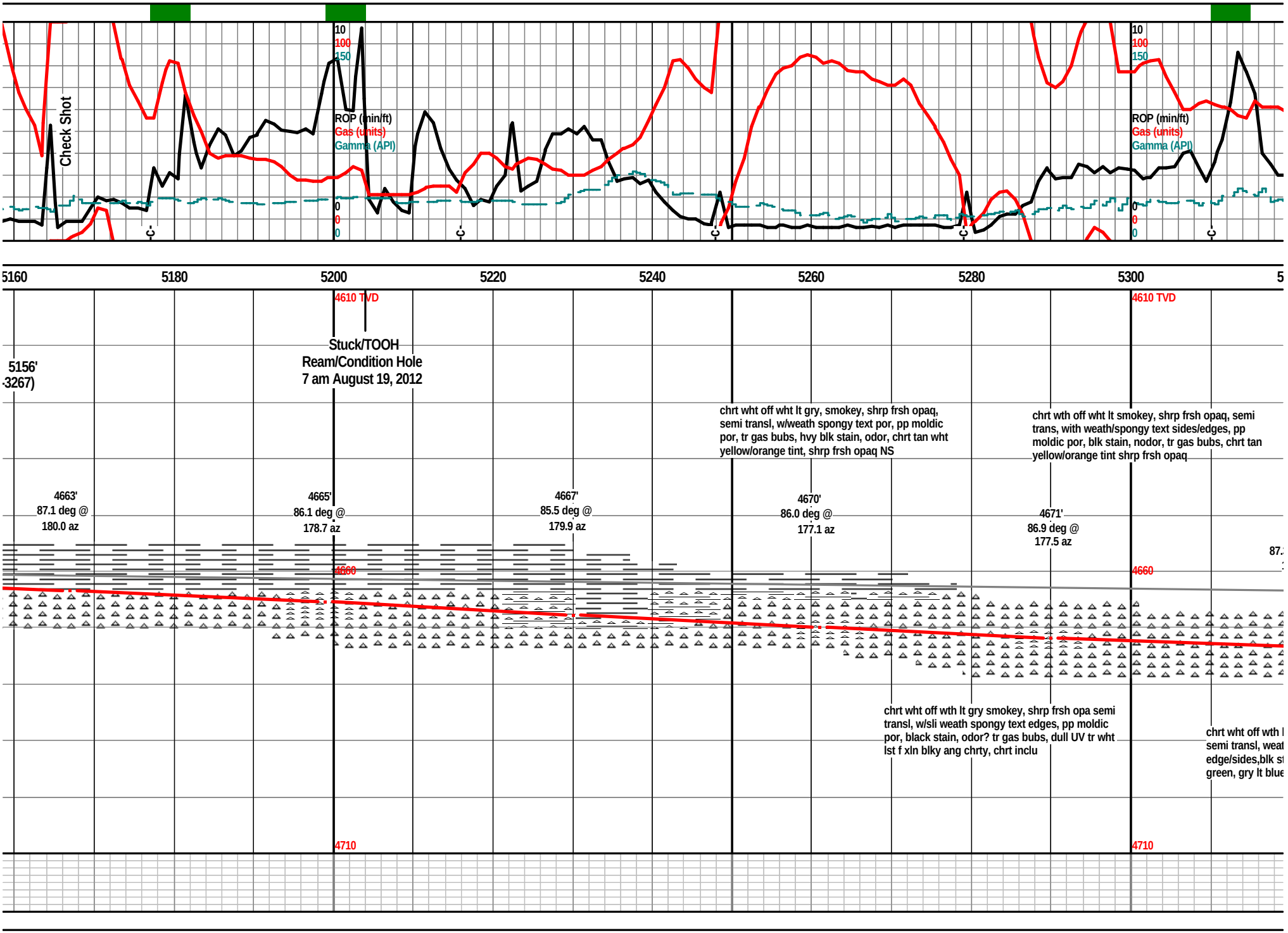
INTERVAL
- Core
- Dst

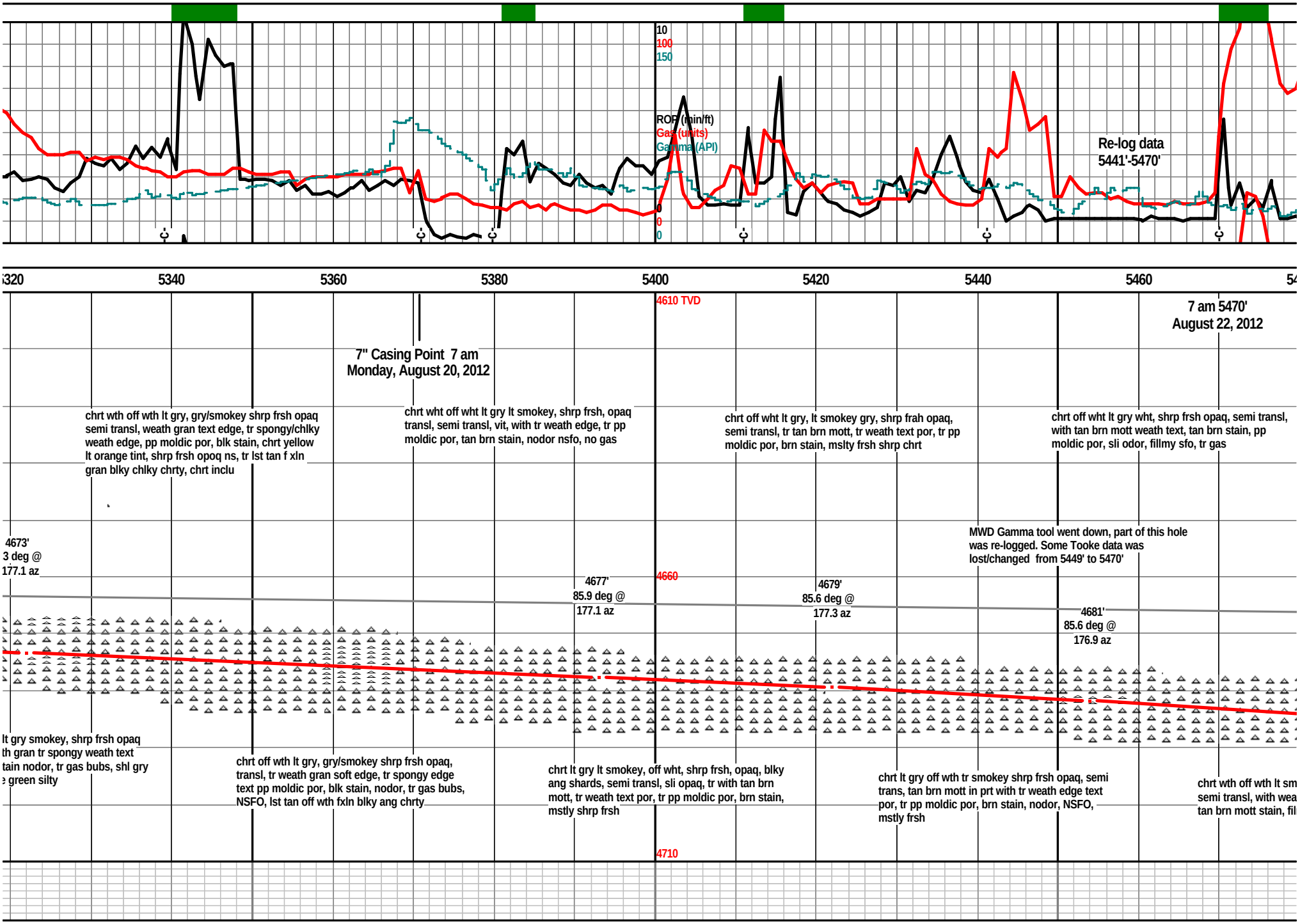
EVENT
- Rft
- Sidewall

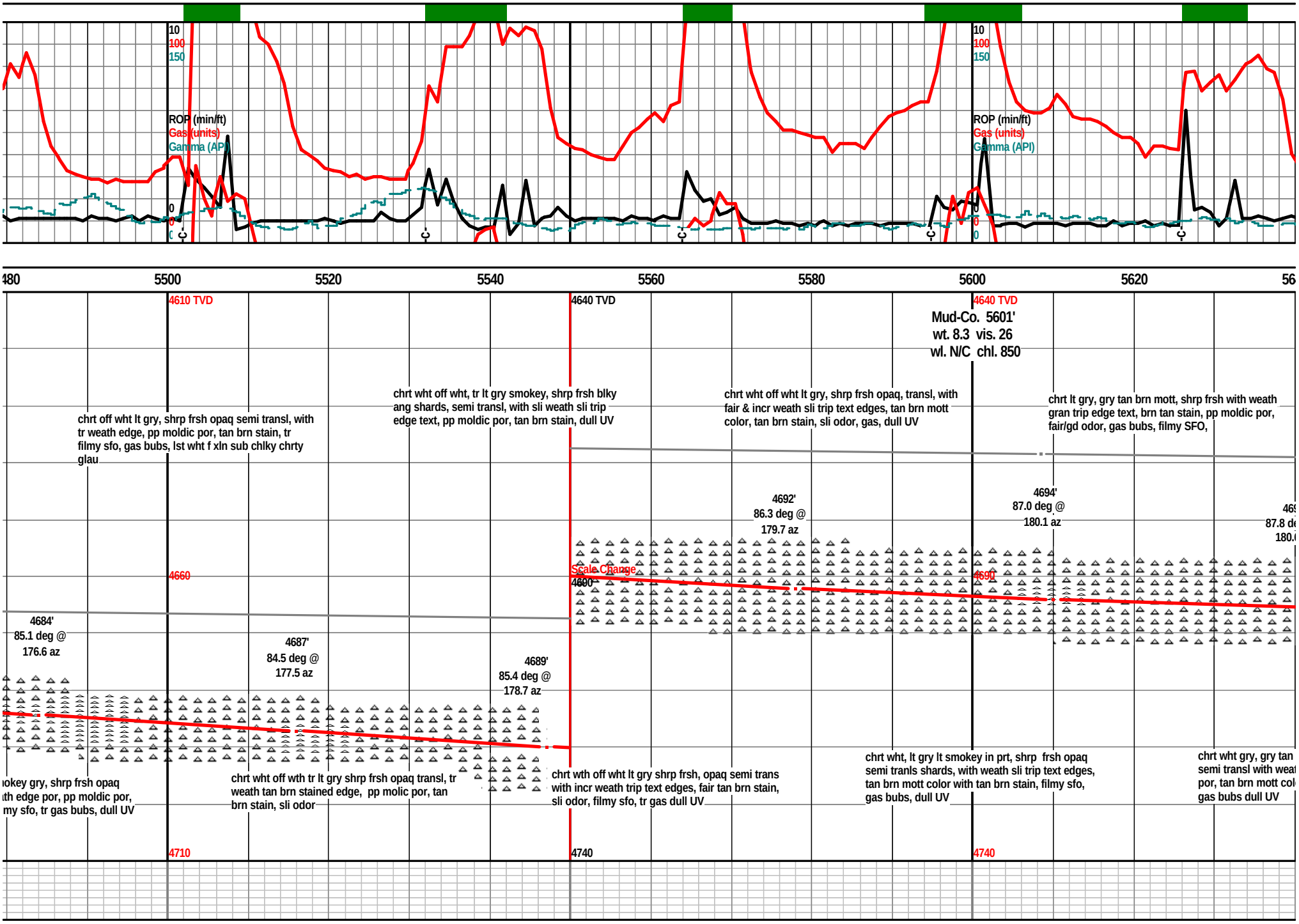

Slide/Rotate
Data Curves
ROP (min/ft)
Gas (units)
Gamma (API)
10
100
150
0
0
0
Oil Shows
Depth
00
4720
4740
4760
4780
4800
4820
Well Bore Cross Section
4540 TVD
Mud-Co. 4722'
wt. 9.1 vis. 48
wl. 8.8 chl. 3,000
4753'
72.0 deg @
181.7 az
4564'
71.3 deg @
181.7 az
4583'
72.0 deg @ 1
181.7 az
4593'
72.2 deg @
181.3 az
PAWNEE 4712
TVD 4558 (-3162)
Scale Change
4590
4640
Porosity
24%
18%
12%
6%
Porosity Type

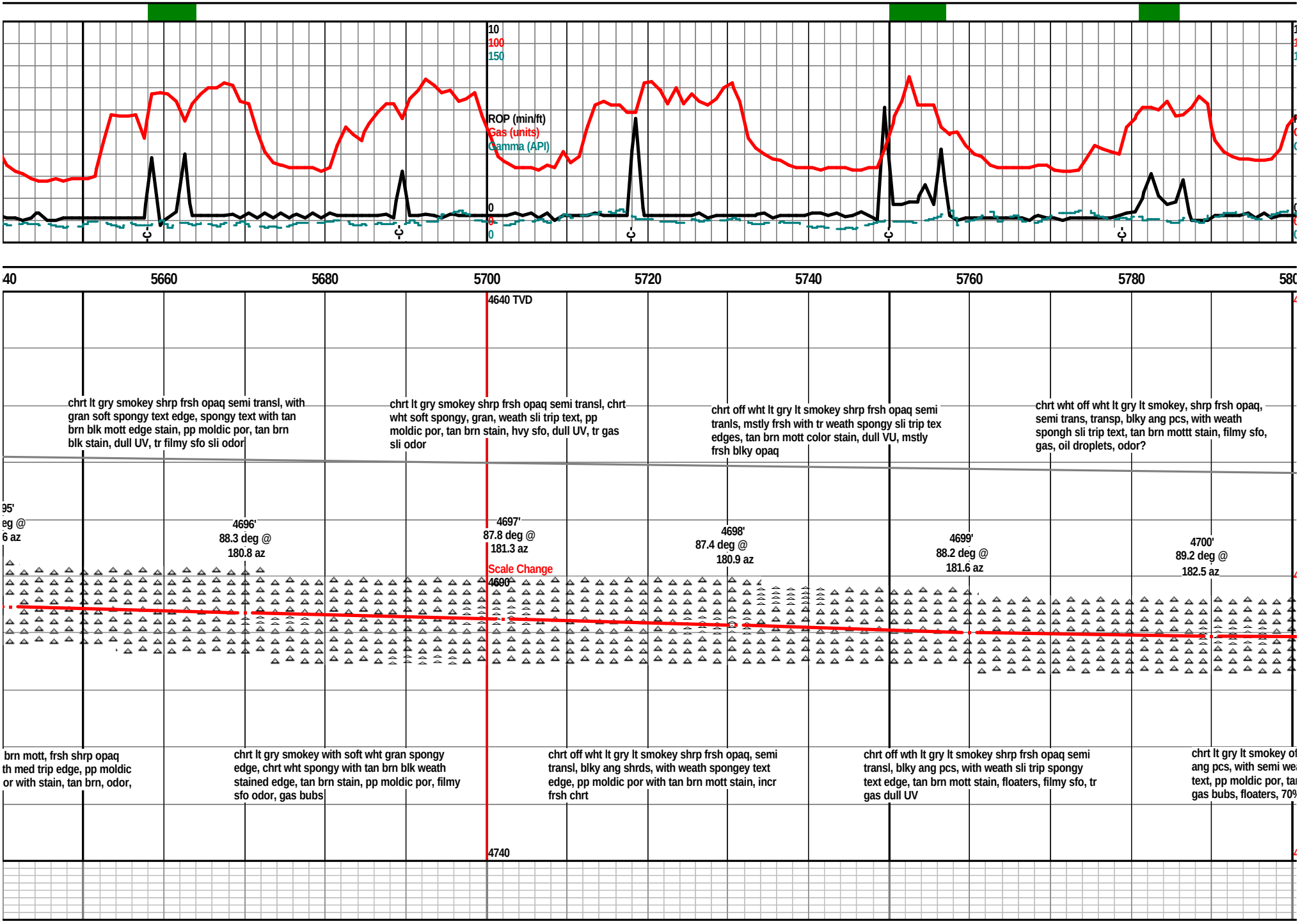

10
100
150
ROP (min/ft)
Gas (units)
Gamma (API)
0
0
0
4840
4860
4880
4900
4920
4940
4960
4980
CHEROKEE GRP 4870'
TVD 4608 (-3212)
4610 TVD
Mud-Co. 4939'
wt. 9.2 vis. 62
wl. 6.4 chl. 2,900
4602'
72.0 deg @
181.0 az
4612'
71.8 deg @
180.5 az
Scale Change
4660
4710
4622'
72.2 deg @
180.6 az
4631'
74.2 deg @
181.1 az
4639'
76.5 deg @
181.2 az

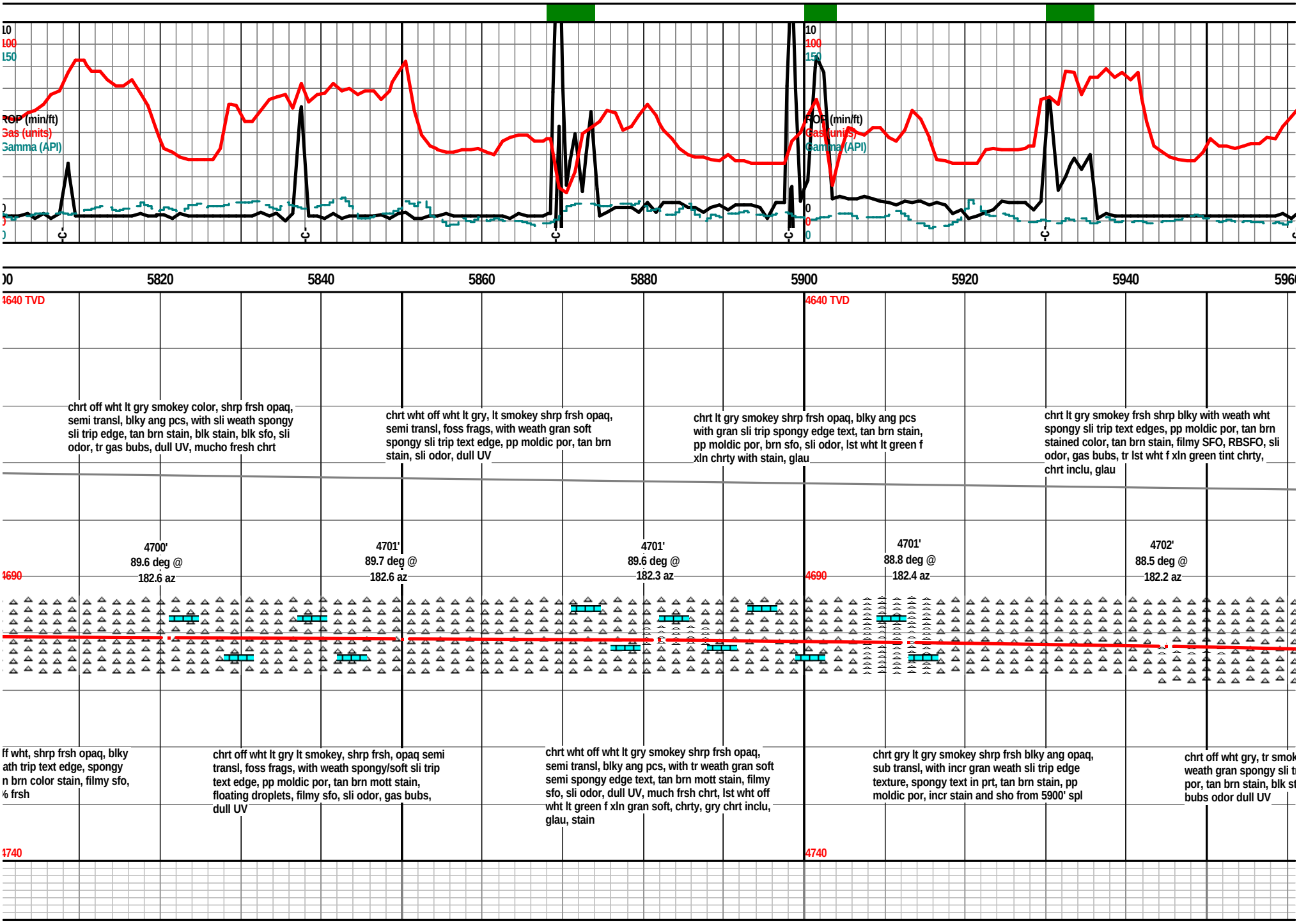

10
100
150
ROP (min/ft)
Gas (units)
Gamma (API)
ROP
GAMMA
GAS
0
0
0
5000
5020
5040
5060
5080
5100
5120
5140
4610 TVD
4660
4710
4646'
78.8 deg @
180.8 az
4651'
80.9 deg @
180.1 az
4656'
82.7 deg @
180.2 az
4659'
84.9 deg @
180.4 az
4661'
86.4 deg @
180.4 az
7 am 5109'
Saturday
August 18, 2012
Mississippian
TVD 4663 (-

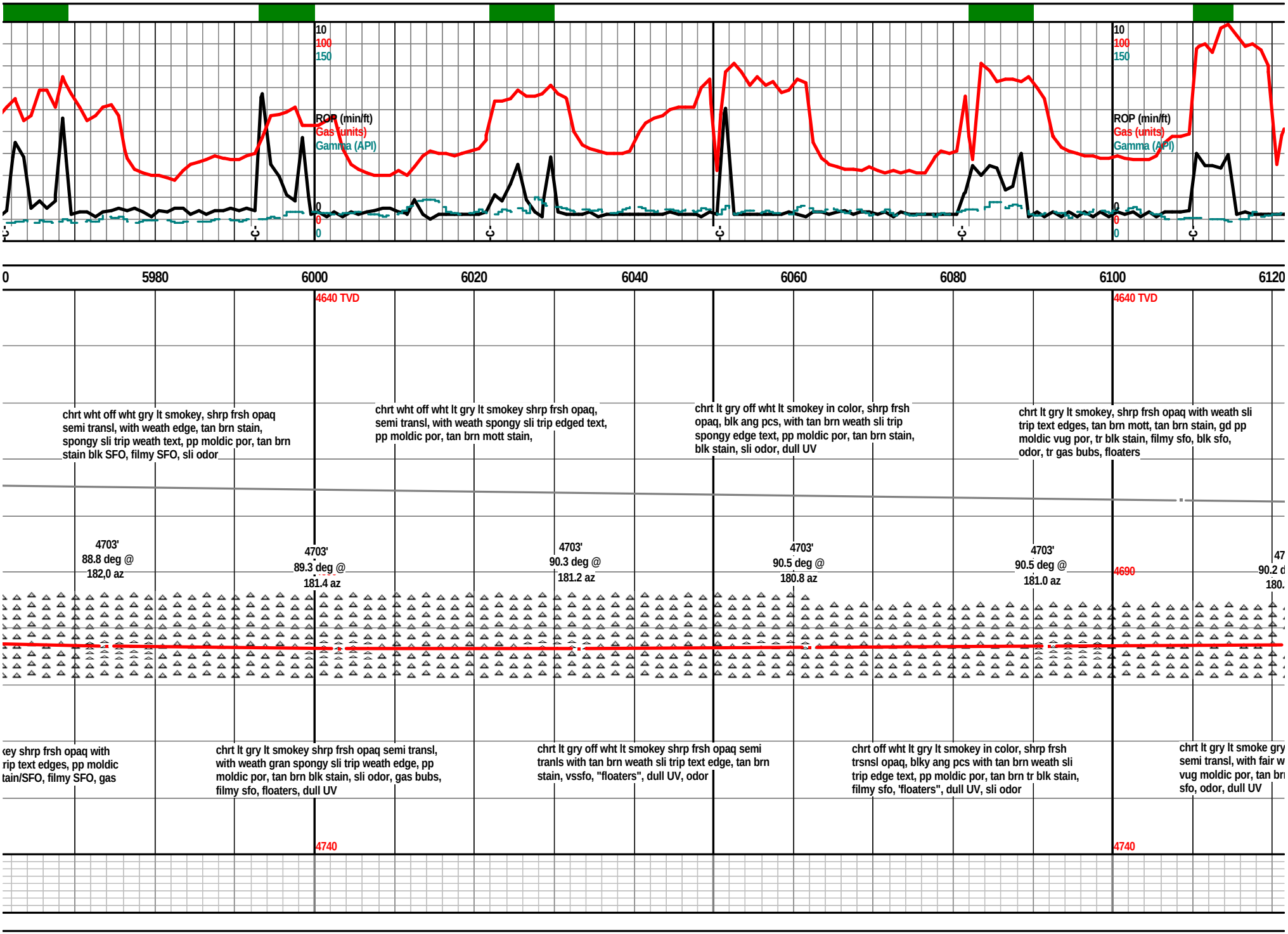

Check Shot
10
100
150
ROP (min/ft)
Gas (units)
Gamma (API)
0
0
0
10
100
150
ROP (min/ft)
Gas (units)
Gamma (API)
0
0
0
5160
5180
5200
5220
5240
5260
5280
5300
5
4610 TVD
4610 TVD
Stuck/TOOH
Ream/Condition Hole
7 am August 19, 2012
5156'
-3267)
chrt wht off wht lt gry, smokey, shrp frsh opaq, semi transl, w/weath spongy text por, pp moldic por, tr gas bubs, hvy blk stain, odor, chrt tan wht yellow/orange tint, shrp frsh opaq NS
chrt wth off wht lt smokey, shrp frsh opaq, semi trans, with weath/spongy text sides/edges, pp moldic por, blk stain, nodor, tr gas bubs, chrt tan yellow/orange tint shrp frsh opaq
4663'
87.1 deg @
180.0 az
4665'
86.1 deg @
178.7 az
4667'
85.5 deg @
179.9 az
4670'
86.0 deg @
177.1 az
4671'
86.9 deg @
177.5 az
4660
4660
chrt wht off wth lt gry smokey, shrp frsh opa semi transl, w/sli weath spongy text edges, pp moldic por, black stain, odor? tr gas bubs, dull UV tr wht lst f xln blky ang chrty, chrt inclu
chrt wht off wth l
semi transl, weat
edge/sides,blk st
green, gry lt blue
4710
4710

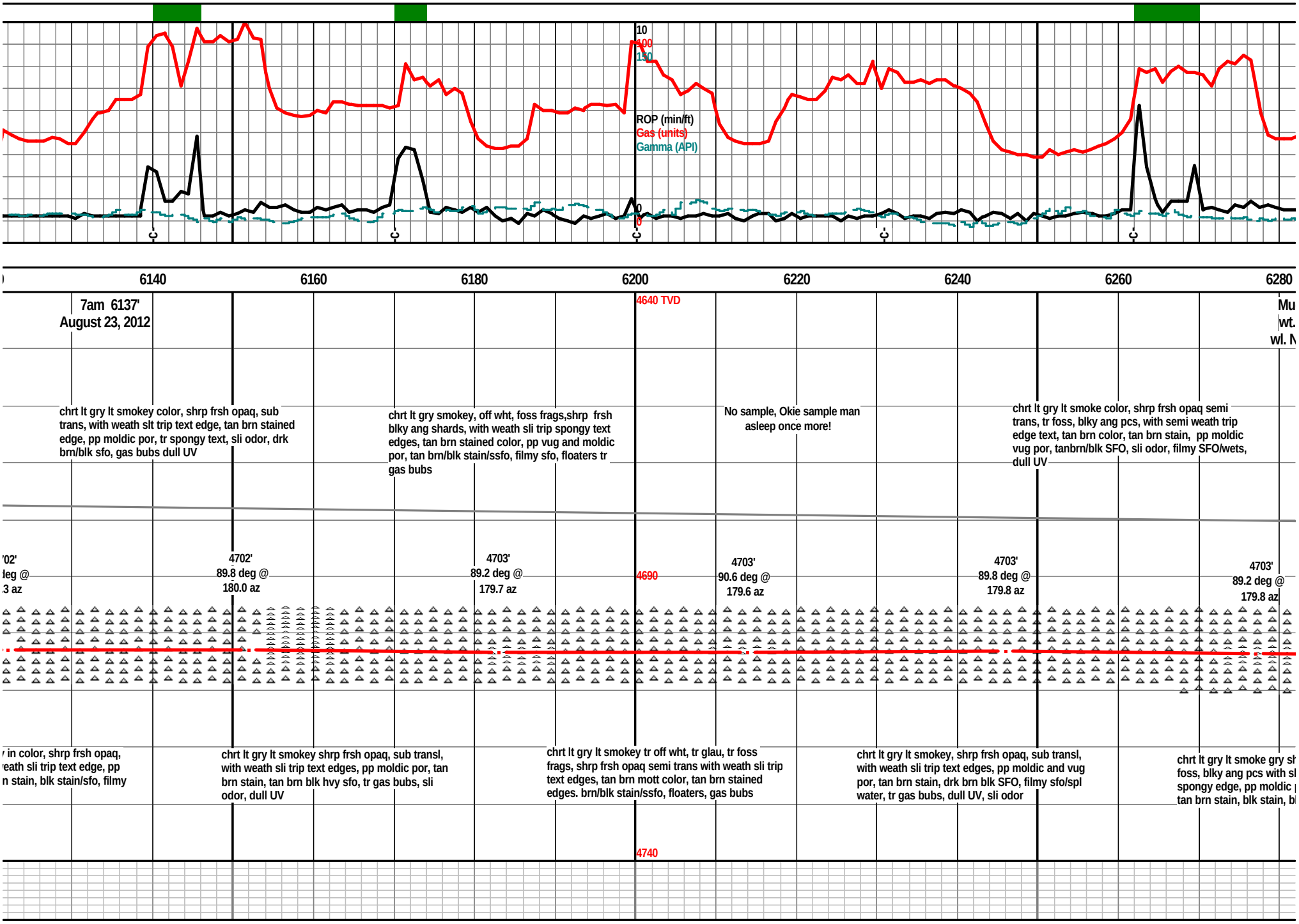

10
100
150
ROP (min/ft)
Gas (units)
Gamma (API)
0
0
0
Re-log data
5441'-5470'
320
5340
5360
5380
5400
5420
5440
5460
54
4610 TVD
4660
4710
7" Casing Point 7 am
Monday, August 20, 2012
7 am 5470'
August 22, 2012
chrt wth off wth lt gry, gry/smokey shrp frsh opaq semi transl, weath gran text edge, tr spongy/chlky weath edge, pp moldic por, blk stain, chrt yellow lt orange tint, shrp frsh opoq ns, tr lst tan f xln gran blky chlky chrty, chrt inclu
chrt wht off wht lt gry lt smokey, shrp frsh, opaq transl, semi transl, vit, with tr weath edge, tr pp moldic por, tan brn stain, nodor nsfo, no gas
chrt off wht lt gry, lt smokey gry, shrp frah opaq, semi transl, tr tan brn mott, tr weath text por, tr pp moldic por, brn stain, mslty frsh shrp chrt
chrt off wht lt gry wht, shrp frsh opaq, semi transl, with tan brn mott weath text, tan brn stain, pp moldic por, sli odor, fillmy sfo, tr gas
MWD Gamma tool went down, part of this hole was re-logged. Some Tooke data was lost/changed from 5449' to 5470'
4673'
3 deg @
177.1 az
4677'
85.9 deg @
177.1 az
4679'
85.6 deg @
177.3 az
4681'
85.6 deg @
176.9 az
lt gry smokey, shrp frsh opaq
th gran tr spongy weath text
tain nodor, tr gas bubs, shl gry
e green silty
chrt off wth lt gry, gry/smokey shrp frsh opaq, transl, tr weath gran soft edge, tr spongy edge text pp moldic por, blk stain, nodor, tr gas bubs, NSFO, lst tan off wth fxln blky ang chrty
chrt lt gry lt smokey, off wht, shrp frsh, opaq, blky ang shards, semi transl, sli opaq, tr with tan brn mott, tr weath text por, tr pp moldic por, brn stain, mstly shrp frsh
chrt lt gry off wth tr smokey shrp frsh opaq, semi trans, tan brn mott in prt with tr weath edge text por, tr pp moldic por, brn stain, nodor, NSFO, mstly frsh
chrt wth off wth lt sm
semi transl, with wea
tan brn mott stain, fil

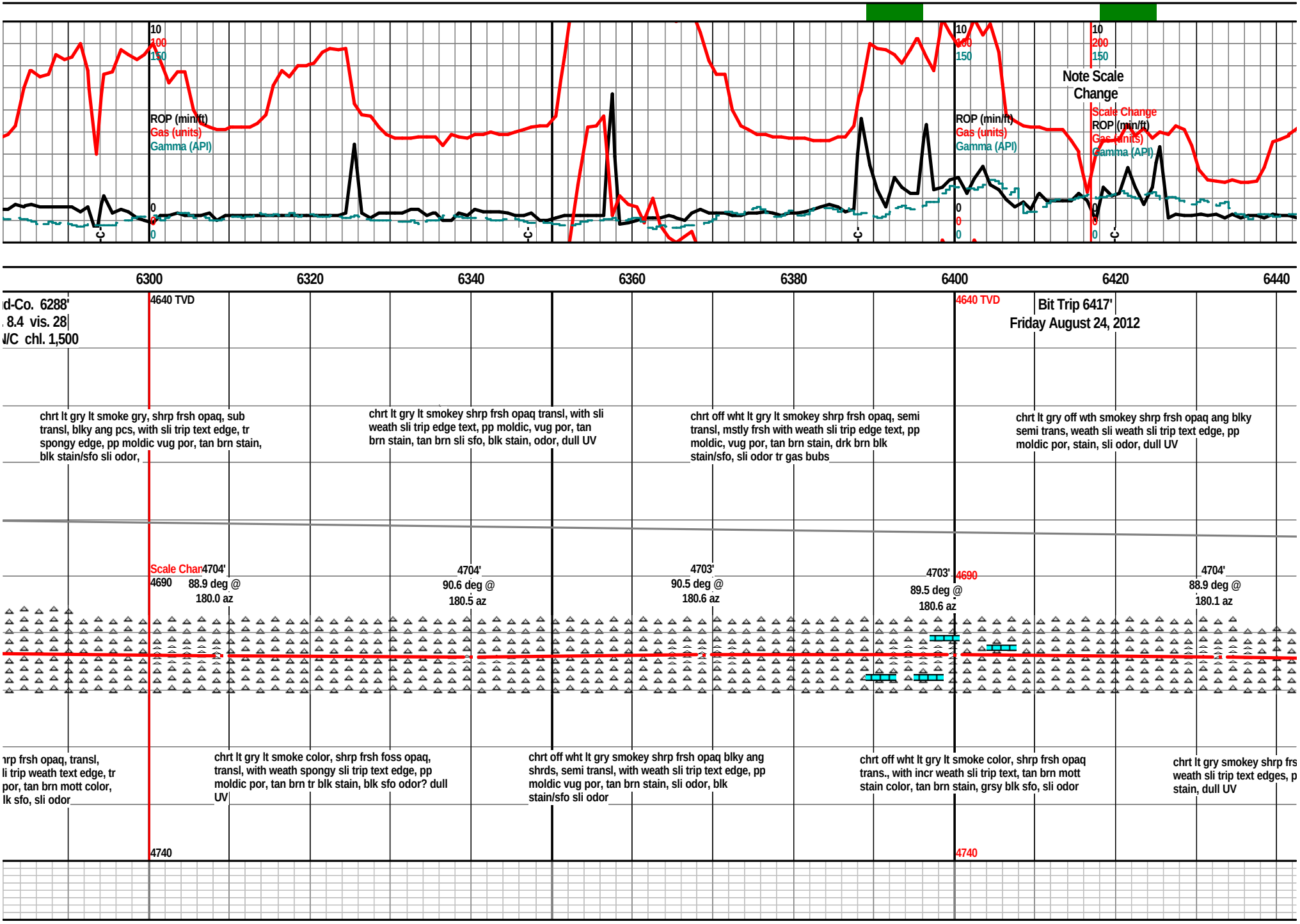

10
100
150
ROP (min/ft)
Gas (units)
Gamma (API)
0
0
10
100
150
ROP (min/ft)
Gas (units)
Gamma (API)
0
0
480
5500
5520
5540
5560
5580
5600
5620
56
4610 TVD
4640 TVD
4640 TVD
Mud-Co. 5601'
wt. 8.3 vis. 26
wl. N/C chl. 850
chrt off wht lt gry, shrp frsh opaq semi transl, with tr weath edge, pp moldic por, tan brn stain, tr filmy sfo, gas bubs, lst wht f xln sub chlky chrty glau
chrt wht off wht, tr lt gry smokey, shrp frsh blky ang shards, semi transl, with sli weath sli trip edge text, pp moldic por, tan brn stain, dull UV
chrt wht off wht lt gry, shrp frsh opaq, transl, with fair & incr weath sli trip text edges, tan brn mott color, tan brn stain, sli odor, gas, dull UV
chrt lt gry, gry tan brn mott, shrp frsh with weath gran trip edge text, brn tan stain, pp moldic por, fair/gd odor, gas bubs, filmy SFO,
4692'
86.3 deg @
179.7 az
4694'
87.0 deg @
180.1 az
4660
Scale Change
4680
4690
4684'
85.1 deg @
176.6 az
4687'
84.5 deg @
177.5 az
4689'
85.4 deg @
178.7 az
okey gry, shrp frsh opaq
th edge por, pp moldic por,
my sfo, tr gas bubs, dull UV
chrt wht off wth tr lt gry shrp frsh opaq transl, tr weath tan brn stained edge, pp molic por, tan brn stain, sli odor
chrt wth off wht lt gry shrp frsh, opaq semi trans with incr weath trip text edges, fair tan brn stain, sli odor, filmy sfo, tr gas dull UV
chrt wht, lt gry lt smokey in prt, shrp frsh opaq semi tranls shards, with weath sli trip text edges, tan brn mott color with tan brn stain, filmy sfo, gas bubs, dull UV
chrt wht gry, gry tan
semi transl with weat
por, tan brn mott col
gas bubs dull UV
4710
4740
4740

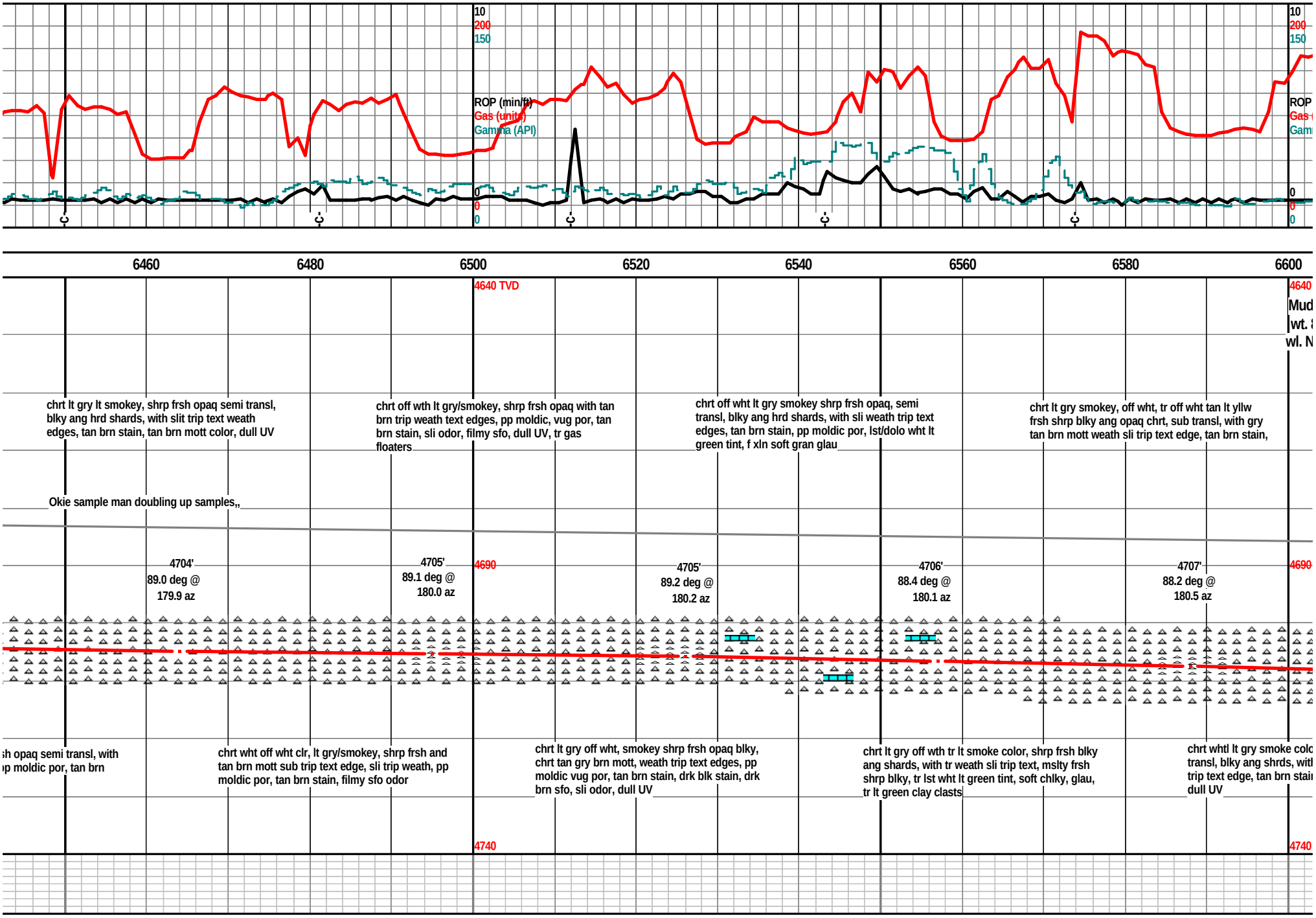

10
100
150
ROP (min/ft)
Gas (units)
Gamma (API)
0
0
0
40
5660
5680
5700
5720
5740
5760
5780
580
4640 TVD
chrt lt gry smokey shrp frsh opaq semi transl, with gran soft spongy text edge, spongy text with tan brn blk mott edge stain, pp moldic por, tan brn blk stain, dull UV, tr filmy sfo sli odor
chrt lt gry smokey shrp frsh opaq semi transl, chrt wht soft spongy, gran, weath sli trip text, pp moldic por, tan brn stain, hvy sfo, dull UV, tr gas sli odor
chrt off wht lt gry lt smokey shrp frsh opaq semi tranls, mstly frsh with tr weath spongy sli trip tex edges, tan brn mott color stain, dull VU, mstly frsh blky opaq
chrt wht off wht lt gry lt smokey, shrp frsh opaq, semi trans, transp, blky ang pcs, with weath spongh sli trip text, tan brn mottt stain, filmy sfo, gas, oil droplets, odor?
95'
eg @
6 az
4696'
88.3 deg @
180.8 az
4697'
87.8 deg @
181.3 az
Scale Change
4690
4698'
87.4 deg @
180.9 az
4699'
88.2 deg @
181.6 az
4700'
89.2 deg @
182.5 az
brn mott, frsh shrp opaq
th med trip edge, pp moldic
or with stain, tan brn, odor,
chrt lt gry smokey with soft wht gran spongy edge, chrt wht spongy with tan brn blk weath stained edge, tan brn stain, pp moldic por, filmy sfo odor, gas bubs
chrt off wht lt gry lt smokey shrp frsh opaq, semi transl, blky ang shrds, with weath spongey text edge, pp moldic por with tan brn mott stain, incr frsh chrt
chrt off wth lt gry lt smokey shrp frsh opaq semi transl, blky ang pcs, with weath sli trip spongy text edge, tan brn mott stain, floaters, filmy sfo, tr gas dull UV
chrt lt gry lt smokey of
ang pcs, with semi wea
text, pp moldic por, tan
gas bubs, floaters, 70%
4740

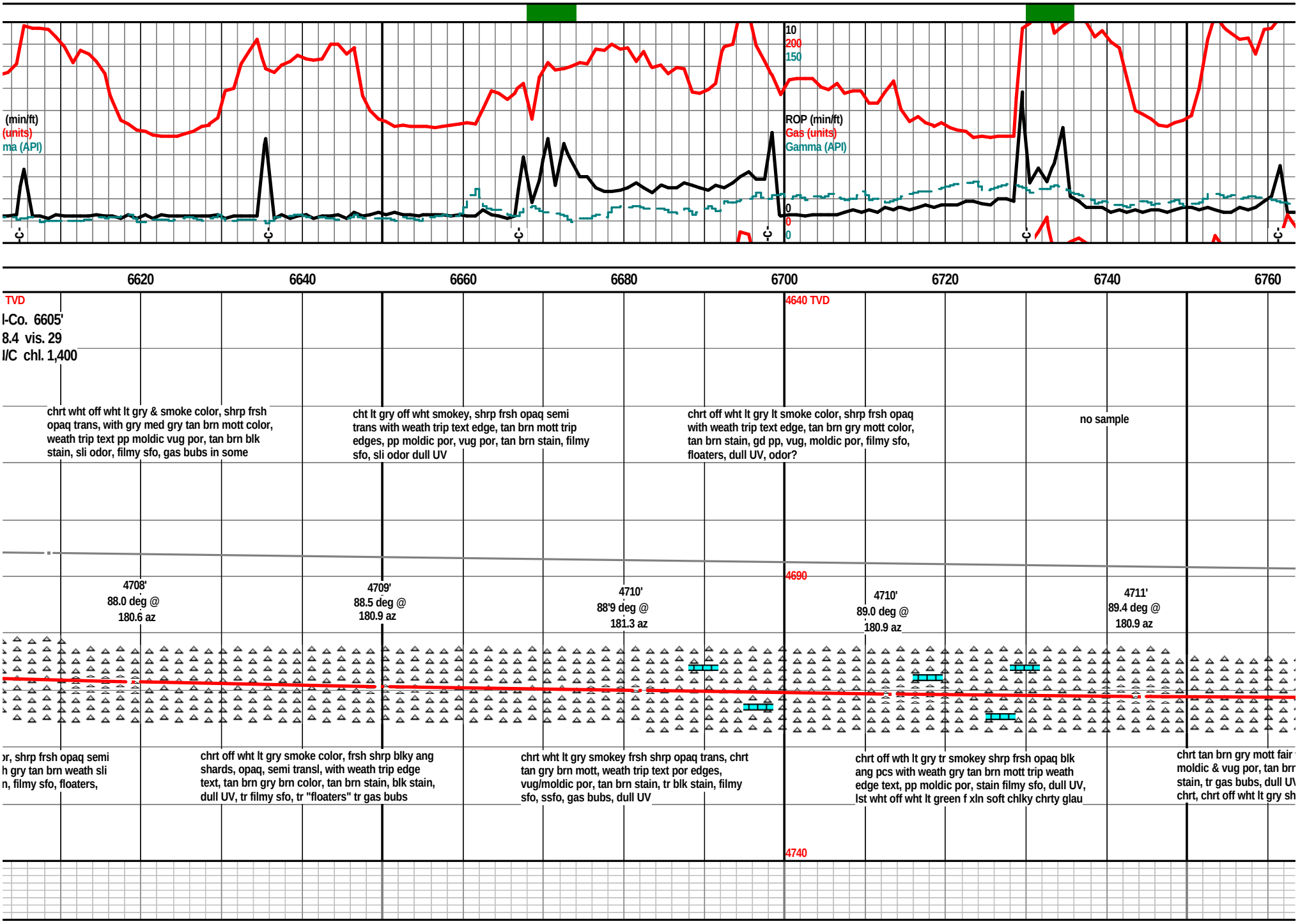

ROP (min/ft)
Gas (units)
Gamma (API)
5820
5840
5860
5880
5900
5920
5940
4640 TVD
4690
4740
chrt off wht lt gry smokey color, shrp frsh opaq, semi transl, blky ang pcs, with sli weath spongy sli trip edge, tan brn stain, blk stain, blk sfo, sli odor, tr gas bubs, dull UV, mucho fresh chrt
chrt wht off wht lt gry, lt smokey shrp frsh opaq, semi transl, foss frags, with weath gran soft spongy sli trip text edge, pp moldic por, tan brn stain, sli odor, dull UV
chrt lt gry smokey shrp frsh opaq, blky ang pcs with gran sli trip spongy edge text, tan brn stain, pp moldic por, brn sfo, sli odor, lst wht lt green f xln chrty with stain, glau
chrt lt gry smokey frsh shrp blky with weath wht spongy sli trip text edges, pp moldic por, tan brn stained color, tan brn stain, filmy SFO, RBSFO, sli odor, gas bubs, tr lst wht f xln green tint chrty, chrt inclu, glau
4700' 89.6 deg @ 182.6 az
4701' 89.7 deg @ 182.6 az
4701' 89.6 deg @ 182.3 az
4701' 88.8 deg @ 182.4 az
4702' 88.5 deg @ 182.2 az
ff wht, shrp frsh opaq, blky ath trip text edge, spongy n brn color stain, filmy sfo, % frsh
chrt off wht lt gry lt smokey, shrp frsh, opaq semi transl, foss frags, with weath spongy/soft sli trip text edge, pp moldic por, tan brn mott stain, floating droplets, filmy sfo, sli odor, gas bubs, dull UV
chrt wht off wht lt gry smokey shrp frsh opaq, semi transl, blky ang pcs, with tr weath gran soft semi spongy edge text, tan brn mott stain, filmy sfo, sli odor, dull UV, much frsh chrt, lst wht off wht lt green f xln gran soft, chrty, gry chrt inclu, glau, stain
chrt gry lt gry smokey shrp frsh blky ang opaq, sub transl, with incr gran weath sli trip edge texture, spongy text in prt, tan brn stain, pp moldic por, incr stain and sho from 5900' spl
chrt off wht gry, tr smok weath gran spongy sli t por, tan brn stain, blk st bubs odor dull UV

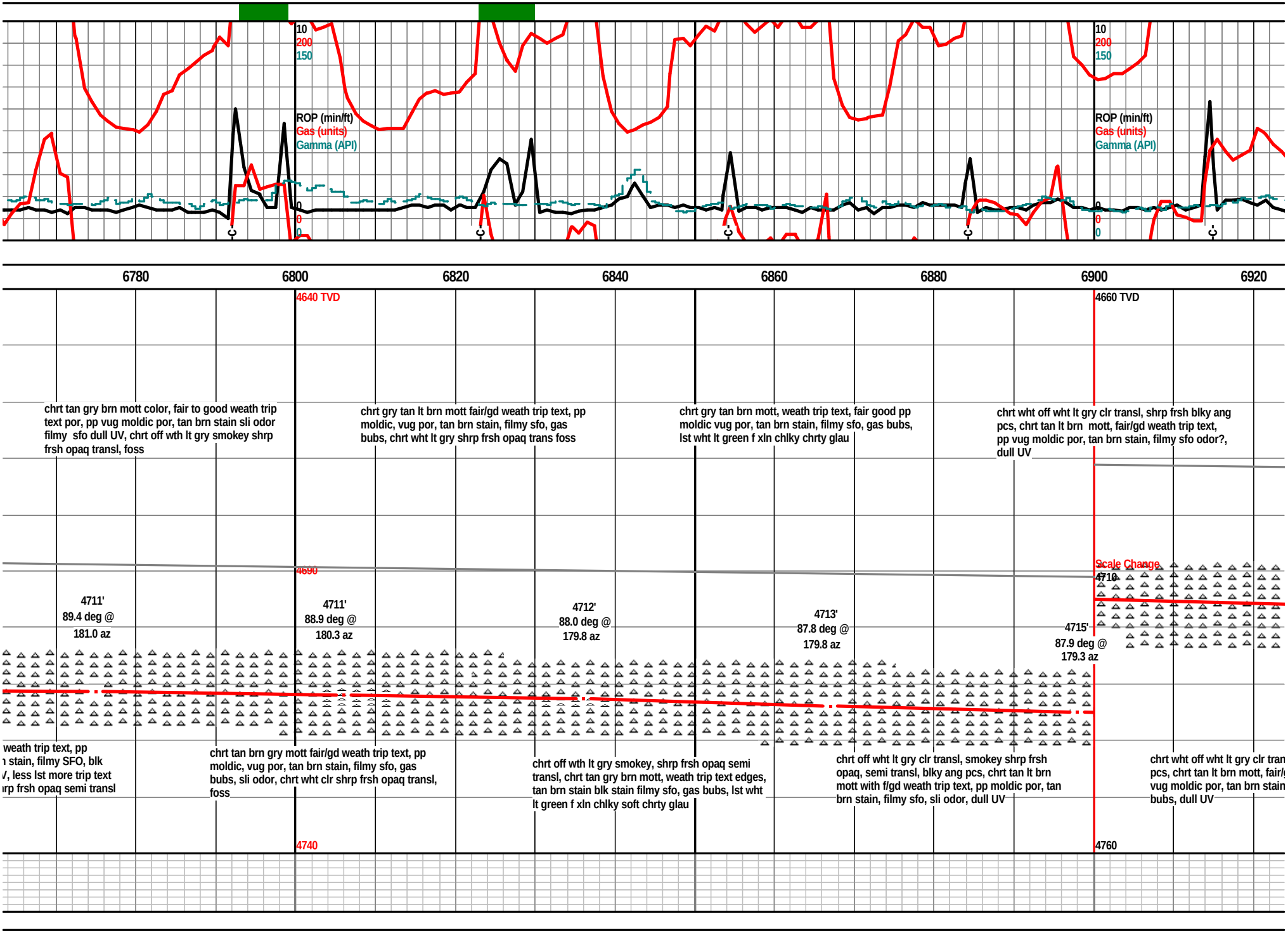

10
100
150
ROP (min/ft)
Gas (units)
Gamma (API)
0
0
0
10
100
150
ROP (min/ft)
Gas (units)
Gamma (API)
0
0
0
0
5980
6000
6020
6040
6060
6080
6100
6120
4640 TVD
4640 TVD
chrt wht off wht gry lt smokey, shrp frsh opaq semi transl, with weath edge, tan brn stain, spongy sli trip weath text, pp moldic por, tan brn stain blk SFO, filmy SFO, sli odor
chrt wht off wht lt gry lt smokey shrp frsh opaq, semi transl, with weath spongy sli trip edged text, pp moldic por, tan brn mott stain,
chrt lt gry off wht lt smokey in color, shrp frsh opaq, blk ang pcs, with tan brn weath sli trip spongy edge text, pp moldic por, tan brn stain, blk stain, sli odor, dull UV
chrt lt gry lt smokey, shrp frsh opaq with weath sli trip text edges, tan brn mott, tan brn stain, gd pp moldic vug por, tr blk stain, filmy sfo, blk sfo, odor, tr gas bubs, floaters
4703'
88.8 deg @
182,0 az
4703'
89.3 deg @
181.4 az
4703'
90.3 deg @
181.2 az
4703'
90.5 deg @
180.8 az
4703'
90.5 deg @
181.0 az
4690
47
90.2 d
180.
key shrp frsh opaq with rip text edges, pp moldic tain/SFO, filmy SFO, gas
chrt lt gry lt smokey shrp frsh opaq semi transl, with weath gran spongy sli trip weath edge, pp moldic por, tan brn blk stain, sli odor, gas bubs, filmy sfo, floaters, dull UV
chrt lt gry off wht lt smokey shrp frsh opaq semi tranls with tan brn weath sli trip text edge, tan brn stain, vssfo, "floaters", dull UV, odor
chrt off wht lt gry lt smokey in color, shrp frsh trsnsl opaq, blky ang pcs with tan brn weath sli trip edge text, pp moldic por, tan brn tr blk stain, filmy sfo, 'floaters", dull UV, sli odor
chrt lt gry lt smoke gry semi transl, with fair w vug moldic por, tan br sfo, odor, dull UV
4740
4740

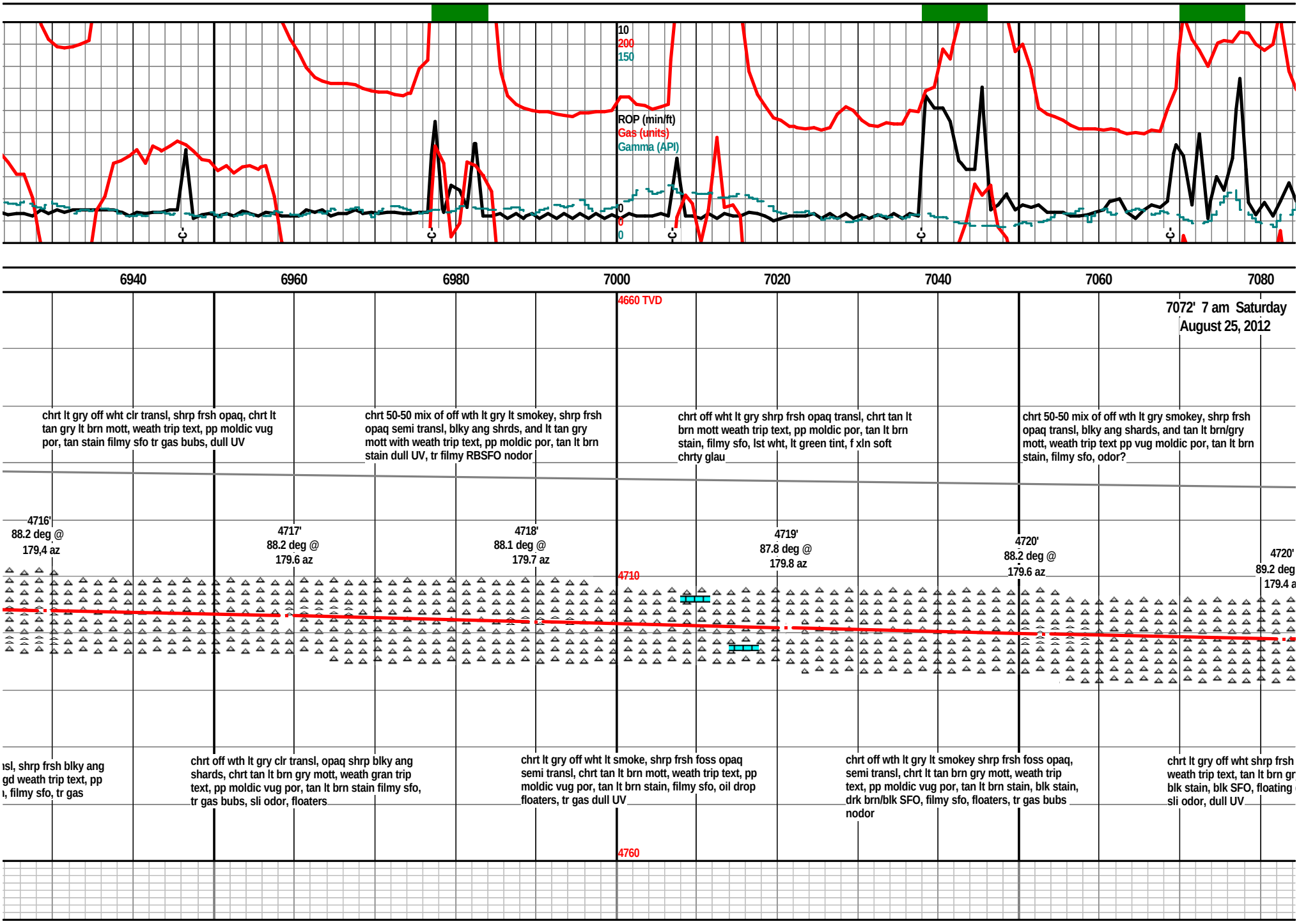

10
400
150
ROP (min/ft)
Gas (units)
Gamma (API)
0
0
6140
6160
6180
6200
6220
6240
6260
6280
7am 6137'
August 23, 2012
4640 TVD
Mu
wt.
wl. M
chrt lt gry lt smokey color, shrp frsh opaq, sub trans, with weath slt trip text edge, tan brn stained edge, pp moldic por, tr spongy text, sli odor, drk brn/blk sfo, gas bubs dull UV
chrt lt gry smokey, off wht, foss frags,shrp frsh blky ang shards, with weath sli trip spongy text edges, tan brn stained color, pp vug and moldic por, tan brn/blk stain/ssfo, filmy sfo, floaters tr gas bubs
No sample, Okie sample man asleep once more!
chrt lt gry lt smoke color, shrp frsh opaq semi trans, tr foss, blky ang pcs, with semi weath trip edge text, tan brn color, tan brn stain, pp moldic vug por, tanbrn/blk SFO, sli odor, filmy SFO/wets, dull UV
'02'
leg @
3 az
4702'
89.8 deg @
180.0 az
4703'
89.2 deg @
179.7 az
4690
4703'
90.6 deg @
179.6 az
4703'
89.8 deg @
179.8 az
4703'
89.2 deg @
179.8 az
r in color, shrp frsh opaq,
eath sli trip text edge, pp
n stain, blk stain/sfo, filmy
chrt lt gry lt smokey shrp frsh opaq, sub transl, with weath sli trip text edges, pp moldic por, tan brn stain, tan brn blk hvy sfo, tr gas bubs, sli odor, dull UV
chrt lt gry lt smokey tr off wht, tr glau, tr foss frags, shrp frsh opaq semi trans with weath sli trip text edges, tan brn mott color, tan brn stained edges. brn/blk stain/ssfo, floaters, gas bubs
chrt lt gry lt smokey, shrp frsh opaq, sub transl, with weath sli trip text edges, pp moldic and vug por, tan brn stain, drk brn blk SFO, filmy sfo/spl water, tr gas bubs, dull UV, sli odor
chrt lt gry lt smoke gry sh
foss, blky ang pcs with sl
spongy edge, pp moldic
tan brn stain, blk stain, bl
4740

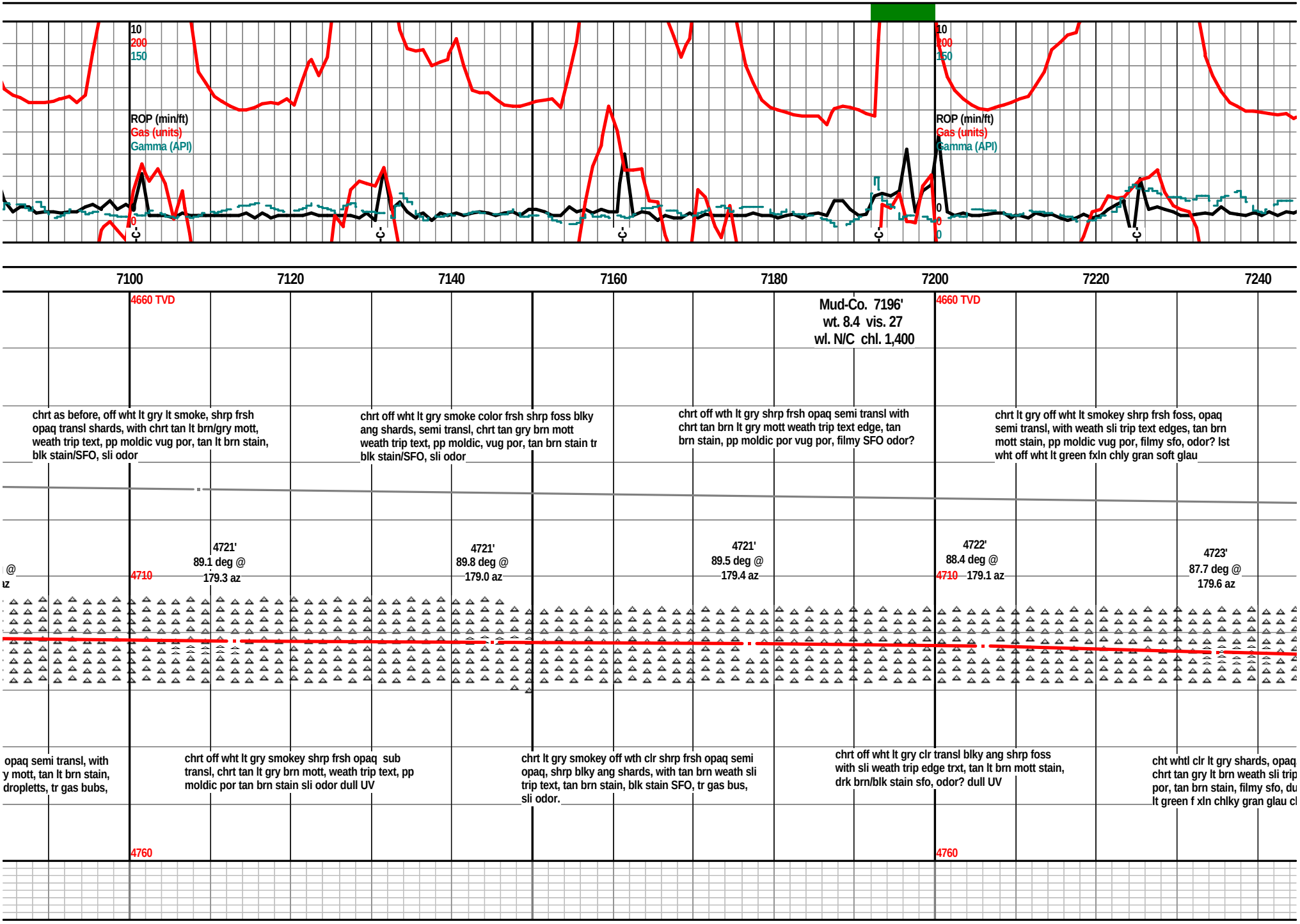

10
100
150
ROP (min/ft)
Gas (units)
Gamma (API)
0
0
0
Note Scale
Change
Scale Change
10
200
150
6300
6320
6340
6360
6380
6400
6420
6440
d-Co. 6288'
8.4 vis. 28
l/C chl. 1,500
4640 TVD
Bit Trip 6417'
Friday August 24, 2012
chrt lt gry lt smoke gry, shrp frsh opaq, sub transl, blky ang pcs, with sli trip text edge, tr spongy edge, pp moldic vug por, tan brn stain, blk stain/sfo sli odor,
chrt lt gry lt smokey shrp frsh opaq transl, with sli weath sli trip edge text, pp moldic, vug por, tan brn stain, tan brn sli sfo, blk stain, odor, dull UV
chrt off wht lt gry lt smokey shrp frsh opaq, semi transl, mstly frsh with weath sli trip edge text, pp moldic, vug por, tan brn stain, drk brn blk stain/sfo, sli odor tr gas bubs
chrt lt gry off wth smokey shrp frsh opaq ang blky semi trans, weath sli weath sli trip text edge, pp moldic por, stain, sli odor, dull UV
Scale Char
4690
4704'
88.9 deg @
180.0 az
4704'
90.6 deg @
180.5 az
4703'
90.5 deg @
180.6 az
4703'
89.5 deg @
180.6 az
4690
4704'
88.9 deg @
180.1 az
rp frsh opaq, transl,
li trip weath text edge, tr
por, tan brn mott color,
lk sfo, sli odor
chrt lt gry lt smoke color, shrp frsh foss opaq, transl, with weath spongy sli trip text edge, pp moldic por, tan brn tr blk stain, blk sfo odor? dull UV
chrt off wht lt gry smokey shrp frsh opaq blky ang shrds, semi transl, with weath sli trip text edge, pp moldic vug por, tan brn stain, sli odor, blk stain/sfo sli odor
chrt off wht lt gry lt smoke color, shrp frsh opaq trans., with incr weath sli trip text, tan brn mott stain color, tan brn stain, grsy blk sfo, sli odor
chrt lt gry smokey shrp frs
weath sli trip text edges, p
stain, dull UV
4740
4740

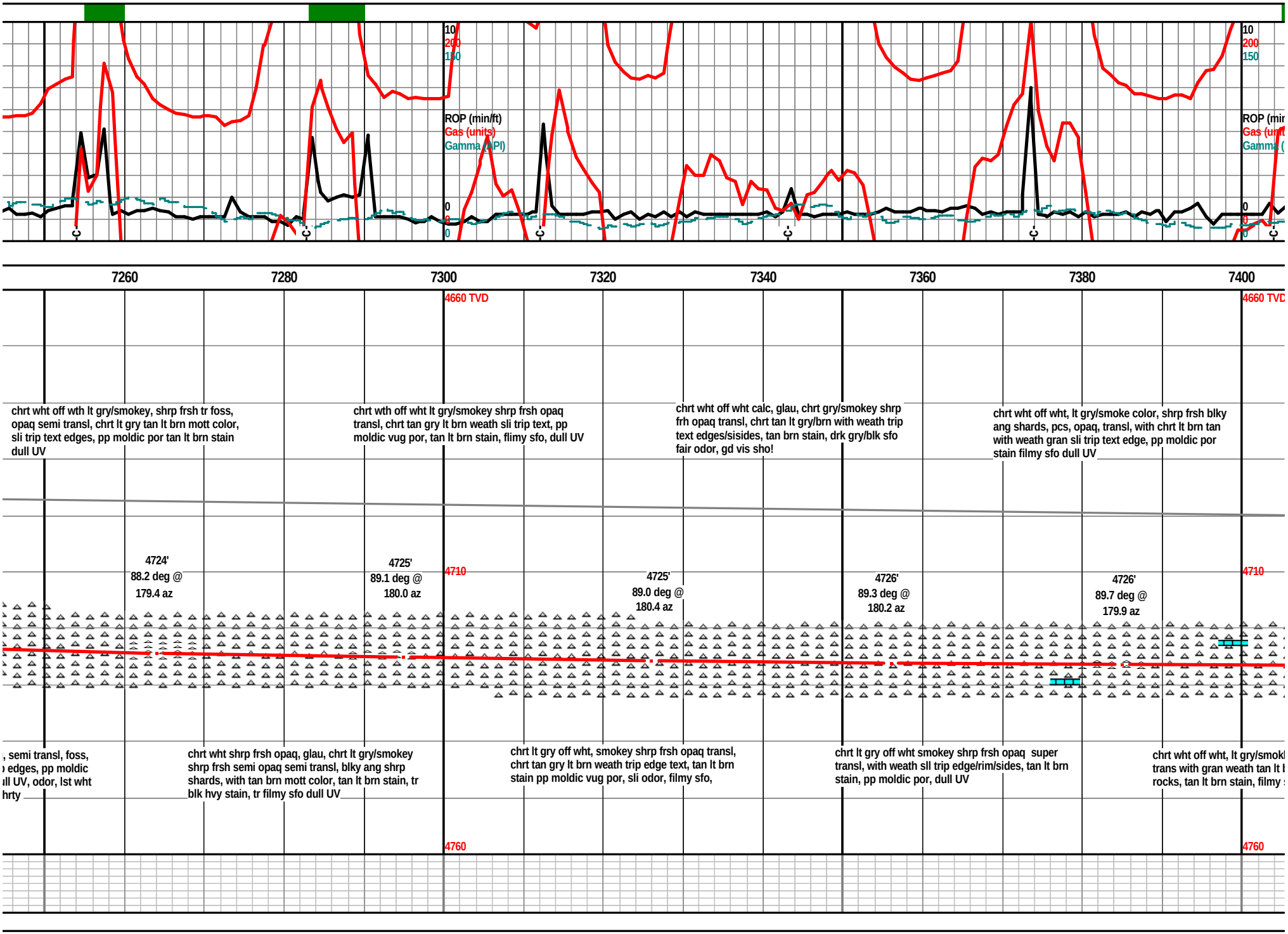

10
200
150
ROP (min/ft)
Gas (units)
Gamma (API)
0
0
0
6460
6480
6500
6520
6540
6560
6580
6600
4640 TVD
4690
4740
chrt lt gry lt smokey, shrp frsh opaq semi transl, blky ang hrd shards, with slit trip text weath edges, tan brn stain, tan brn mott color, dull UV
chrt off wth lt gry/smokey, shrp frsh opaq with tan brn trip weath text edges, pp moldic, vug por, tan brn stain, sli odor, filmy sfo, dull UV, tr gas floaters
chrt off wht lt gry smokey shrp frsh opaq, semi transl, blky ang hrd shards, with sli weath trip text edges, tan brn stain, pp moldic por, lst/dolo wht lt green tint, f xln soft gran glau
chrt lt gry smokey, off wht, tr off wht tan lt yllw frsh shrp blky ang opaq chrt, sub transl, with gry tan brn mott weath sli trip text edge, tan brn stain,
Okie sample man doubling up samples,,
4704'
89.0 deg @
179.9 az
4705'
89.1 deg @
180.0 az
4705'
89.2 deg @
180.2 az
4706'
88.4 deg @
180.1 az
4707'
88.2 deg @
180.5 az
chrt wht off wht clr, lt gry/smokey, shrp frsh and tan brn mott sub trip text edge, sli trip weath, pp moldic por, tan brn stain, filmy sfo odor
chrt lt gry off wht, smokey shrp frsh opaq blky, chrt tan gry brn mott, weath trip text edges, pp moldic vug por, tan brn stain, drk blk stain, drk brn sfo, sli odor, dull UV
chrt lt gry off wth tr lt smoke color, shrp frsh blky ang shards, with tr weath sli trip text, mslty frsh shrp blky, tr lst wht lt green tint, soft chlky, glau, tr lt green clay clasts

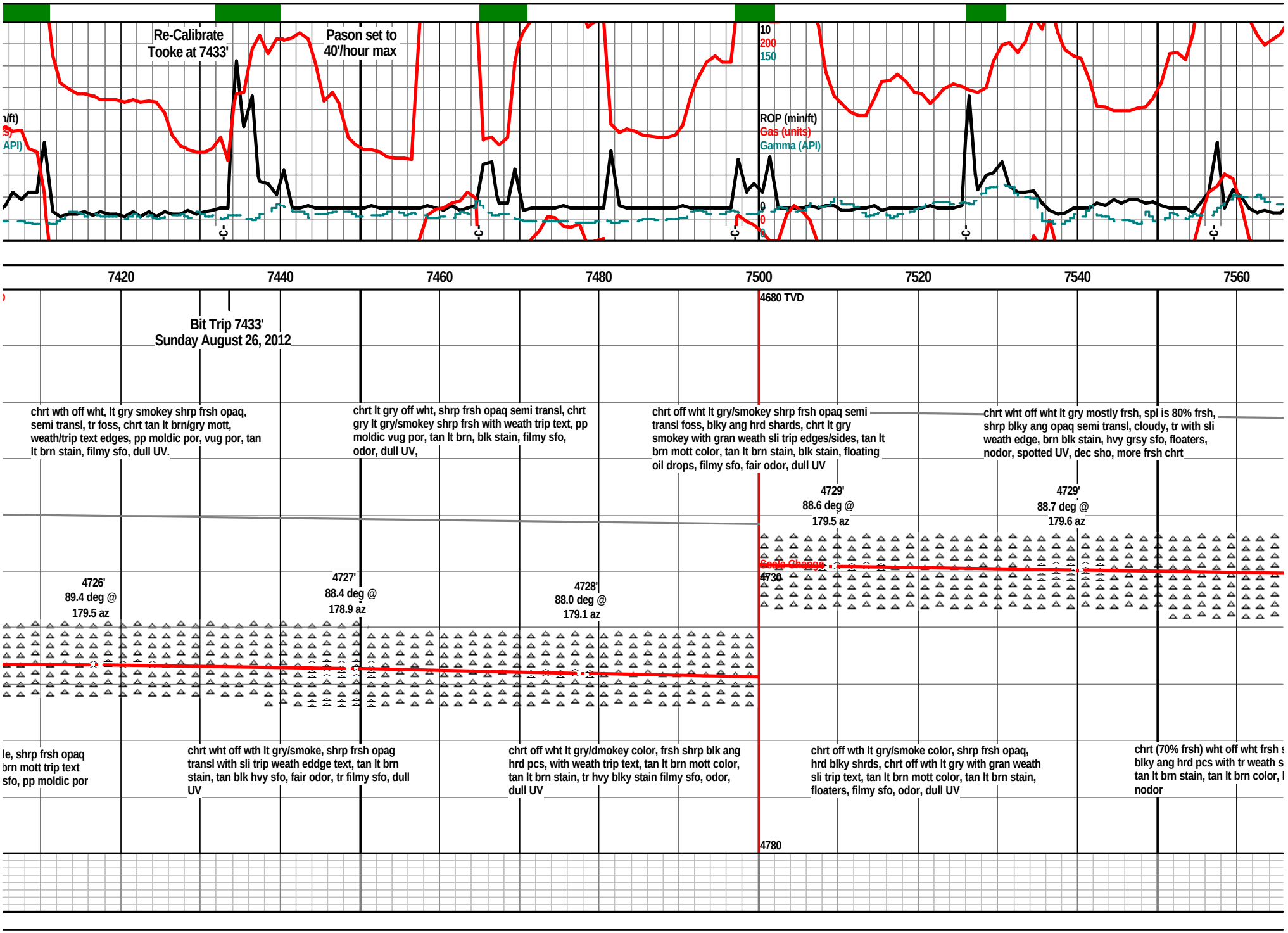

10
200
150
(min/ft)
(units)
ma (API)
ROP (min/ft)
Gas (units)
Gamma (API)
0
0
0
6620
6640
6660
6680
6700
6720
6740
6760
TVD
4640 TVD
l-Co. 6605'
8.4 vis. 29
l/C chl. 1,400
chrt wht off wht lt gry & smoke color, shrp frsh opaq trans, with gry med gry tan brn mott color, weath trip text pp moldic vug por, tan brn blk stain, sli odor, filmy sfo, gas bubs in some
cht lt gry off wht smokey, shrp frsh opaq semi trans with weath trip text edge, tan brn mott trip edges, pp moldic por, vug por, tan brn stain, filmy sfo, sli odor dull UV
chrt off wht lt gry lt smoke color, shrp frsh opaq with weath trip text edge, tan brn gry mott color, tan brn stain, gd pp, vug, moldic por, filmy sfo, floaters, dull UV, odor?
no sample
4690
4708'
88.0 deg @
180.6 az
4709'
88.5 deg @
180.9 az
4710'
88'9 deg @
181.3 az
4710'
89.0 deg @
180.9 az
4711'
89.4 deg @
180.9 az
4740
or, shrp frsh opaq semi
h gry tan brn weath sli
n, filmy sfo, floaters,
chrt off wht lt gry smoke color, frsh shrp blky ang shards, opaq, semi transl, with weath trip edge text, tan brn gry brn color, tan brn stain, blk stain, dull UV, tr filmy sfo, tr "floaters" tr gas bubs
chrt wht lt gry smokey frsh shrp opaq trans, chrt tan gry brn mott, weath trip text por edges, vug/moldic por, tan brn stain, tr blk stain, filmy sfo, ssfo, gas bubs, dull UV
chrt off wth lt gry tr smokey shrp frsh opaq blk ang pcs with weath gry tan brn mott trip weath edge text, pp moldic por, stain filmy sfo, dull UV, lst wht off wht lt green f xln soft chlky chrty glau
chrt tan brn gry mott fair
moldic & vug por, tan brr
stain, tr gas bubs, dull U
chrt, chrt off wht lt gry sh

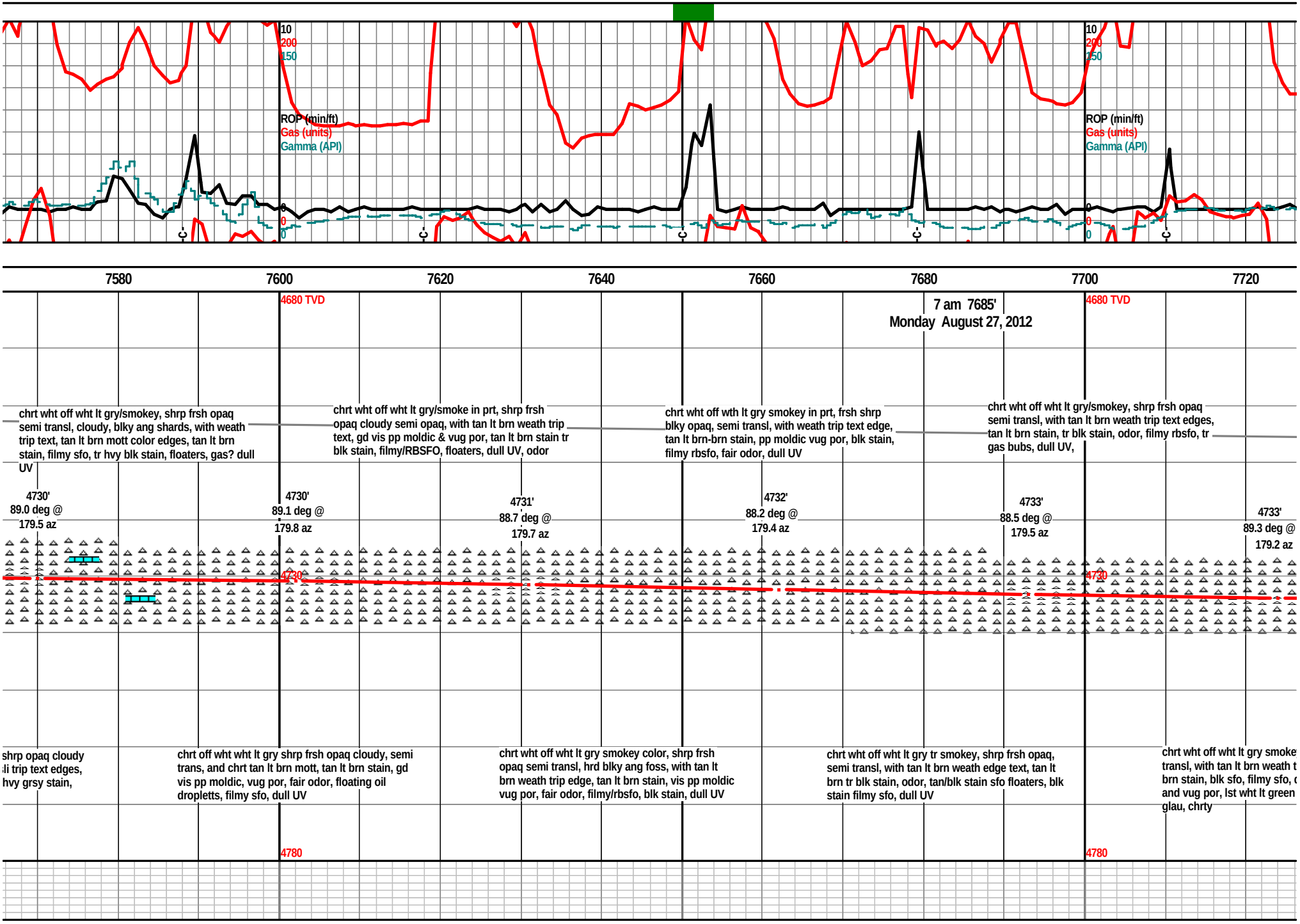

10
200
150
ROP (min/ft)
Gas (units)
Gamma (API)
0
0
0
10
200
150
ROP (min/ft)
Gas (units)
Gamma (API)
0
0
0
6780
6800
6820
6840
6860
6880
6900
6920
4640 TVD
4660 TVD
chrt tan gry brn mott color, fair to good weath trip text por, pp vug moldic por, tan brn stain sli odor filmy sfo dull UV, chrt off wth lt gry smokey shrp frsh opaq transl, foss
chrt gry tan lt brn mott fair/gd weath trip text, pp moldic, vug por, tan brn stain, filmy sfo, gas bubs, chrt wht lt gry shrp frsh opaq trans foss
chrt gry tan brn mott, weath trip text, fair good pp moldic vug por, tan brn stain, filmy sfo, gas bubs, lst wht lt green f xln chlky chrty glau
chrt wht off wht lt gry clr transl, shrp frsh blky ang pcs, chrt tan lt brn mott, fair/gd weath trip text, pp vug moldic por, tan brn stain, filmy sfo odor?, dull UV
4690
Scale Change
4710
4711'
89.4 deg @
181.0 az
4711'
88.9 deg @
180.3 az
4712'
88.0 deg @
179.8 az
4713'
87.8 deg @
179.8 az
4715'
87.9 deg @
179.3 az
weath trip text, pp
stain, filmy SFO, blk
, less lst more trip text
rp frsh opaq semi transl
chrt tan brn gry mott fair/gd weath trip text, pp moldic, vug por, tan brn stain, filmy sfo, gas bubs, sli odor, chrt wht clr shrp frsh opaq transl, foss
chrt off wth lt gry smokey, shrp frsh opaq semi transl, chrt tan gry brn mott, weath trip text edges, tan brn stain blk stain filmy sfo, gas bubs, lst wht lt green f xln chlky soft chrty glau
chrt off wht lt gry clr transl, smokey shrp frsh opaq, semi transl, blky ang pcs, chrt tan lt brn mott with f/gd weath trip text, pp moldic por, tan brn stain, filmy sfo, sli odor, dull UV
chrt wht off wht lt gry clr tran
pcs, chrt tan lt brn mott, fair/
vug moldic por, tan brn stain
bubs, dull UV
4740
4760

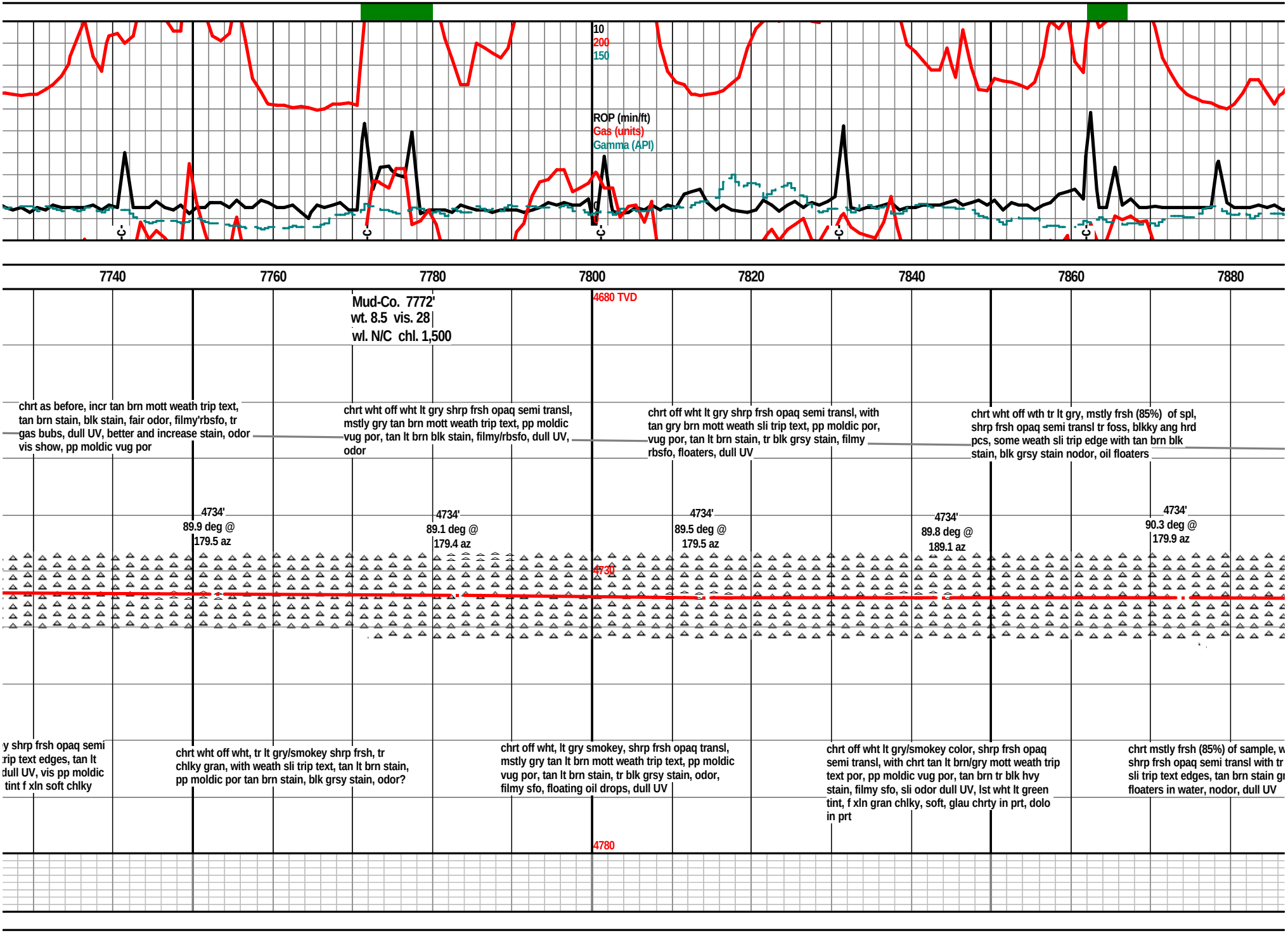

10
200
150
ROP (min/ft)
Gas (units)
Gamma (API)
0
0
0
6940
6960
6980
7000
7020
7040
7060
7080
4660 TVD
7072' 7 am Saturday
August 25, 2012
chrt lt gry off wht clr transl, shrp frsh opaq, chrt lt tan gry lt brn mott, weath trip text, pp moldic vug por, tan stain filmy sfo tr gas bubs, dull UV
chrt 50-50 mix of off wth lt gry lt smokey, shrp frsh opaq semi transl, blky ang shrds, and lt tan gry mott with weath trip text, pp moldic por, tan lt brn stain dull UV, tr filmy RBSFO nodor
chrt off wht lt gry shrp frsh opaq transl, chrt tan lt brn mott weath trip text, pp moldic por, tan lt brn stain, filmy sfo, lst wht, lt green tint, f xln soft chrty glau
chrt 50-50 mix of off wth lt gry smokey, shrp frsh opaq transl, blky ang shards, and tan lt brn/gry mott, weath trip text pp vug moldic por, tan lt brn stain, filmy sfo, odor?
4716'
88.2 deg @
179,4 az
4717'
88.2 deg @
179.6 az
4718'
88.1 deg @
179.7 az
4719'
87.8 deg @
179.8 az
4720'
88.2 deg @
179.6 az
4720'
89.2 deg
179.4 a
4710
ısl, shrp frsh blky ang
gd weath trip text, pp
ı, filmy sfo, tr gas
chrt off wth lt gry clr transl, opaq shrp blky ang shards, chrt tan lt brn gry mott, weath gran trip text, pp moldic vug por, tan lt brn stain filmy sfo, tr gas bubs, sli odor, floaters
chrt lt gry off wht lt smoke, shrp frsh foss opaq semi transl, chrt tan lt brn mott, weath trip text, pp moldic vug por, tan lt brn stain, filmy sfo, oil drop floaters, tr gas dull UV
chrt off wth lt gry lt smokey shrp frsh foss opaq, semi transl, chrt lt tan brn gry mott, weath trip text, pp moldic vug por, tan lt brn stain, blk stain, drk brn/blk SFO, filmy sfo, floaters, tr gas bubs nodor
chrt lt gry off wht shrp frsh
weath trip text, tan lt brn gr
blk stain, blk SFO, floating
sli odor, dull UV
4760

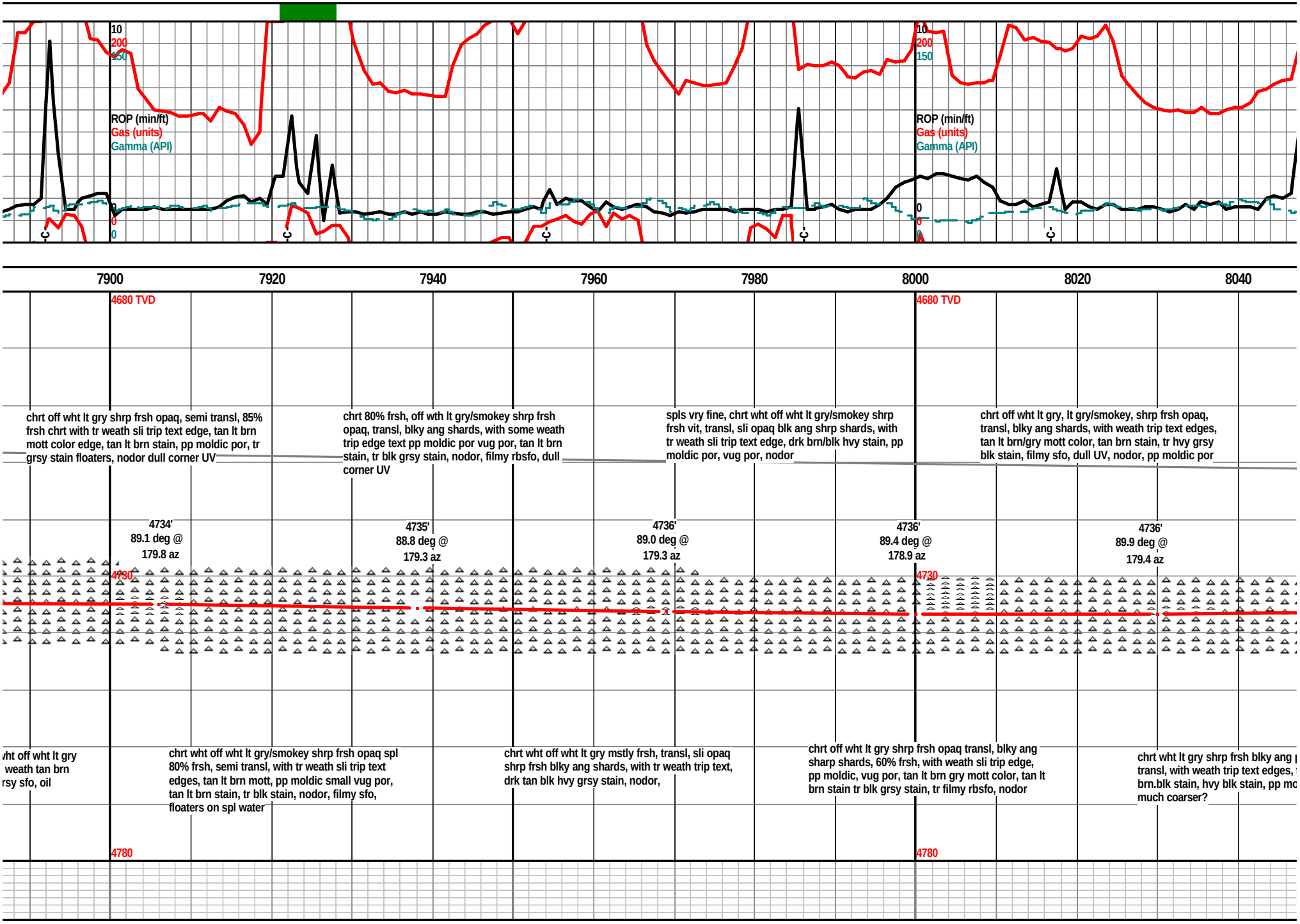

10
200
150
ROP (min/ft)
Gas (units)
Gamma (API)
0
7100
7120
7140
7160
7180
7200
7220
7240
4660 TVD
Mud-Co. 7196'
wt. 8.4 vis. 27
wl. N/C chl. 1,400
chrt as before, off wht lt gry lt smoke, shrp frsh opaq transl shards, with chrt tan lt brn/gry mott, weath trip text, pp moldic vug por, tan lt brn stain, blk stain/SFO, sli odor
chrt off wht lt gry smoke color frsh shrp foss blky ang shards, semi transl, chrt tan gry brn mott weath trip text, pp moldic, vug por, tan brn stain tr blk stain/SFO, sli odor
chrt off wth lt gry shrp frsh opaq semi transl with chrt tan brn lt gry mott weath trip text edge, tan brn stain, pp moldic por vug por, filmy SFO odor?
chrt lt gry off wht lt smokey shrp frsh foss, opaq semi transl, with weath sli trip text edges, tan brn mott stain, pp moldic vug por, filmy sfo, odor? lst wht off wht lt green fxln chly gran soft glau
4721'
89.1 deg @
179.3 az
4721'
89.8 deg @
179.0 az
4721'
89.5 deg @
179.4 az
4722'
88.4 deg @
179.1 az
4723'
87.7 deg @
179.6 az
4710
opaq semi transl, with
y mott, tan lt brn stain,
dropletts, tr gas bubs,
chrt off wht lt gry smokey shrp frsh opaq sub transl, chrt tan lt gry brn mott, weath trip text, pp moldic por tan brn stain sli odor dull UV
chrt lt gry smokey off wth clr shrp frsh opaq semi opaq, shrp blky ang shards, with tan brn weath sli trip text, tan brn stain, blk stain SFO, tr gas bus, sli odor.
chrt off wht lt gry clr transl blky ang shrp foss with sli weath trip edge trxt, tan lt brn mott stain, drk brn/blk stain sfo, odor? dull UV
cht whtl clr lt gry shards, opaq
chrt tan gry lt brn weath sli trip
por, tan brn stain, filmy sfo, du
lt green f xln chlky gran glau cl
4760

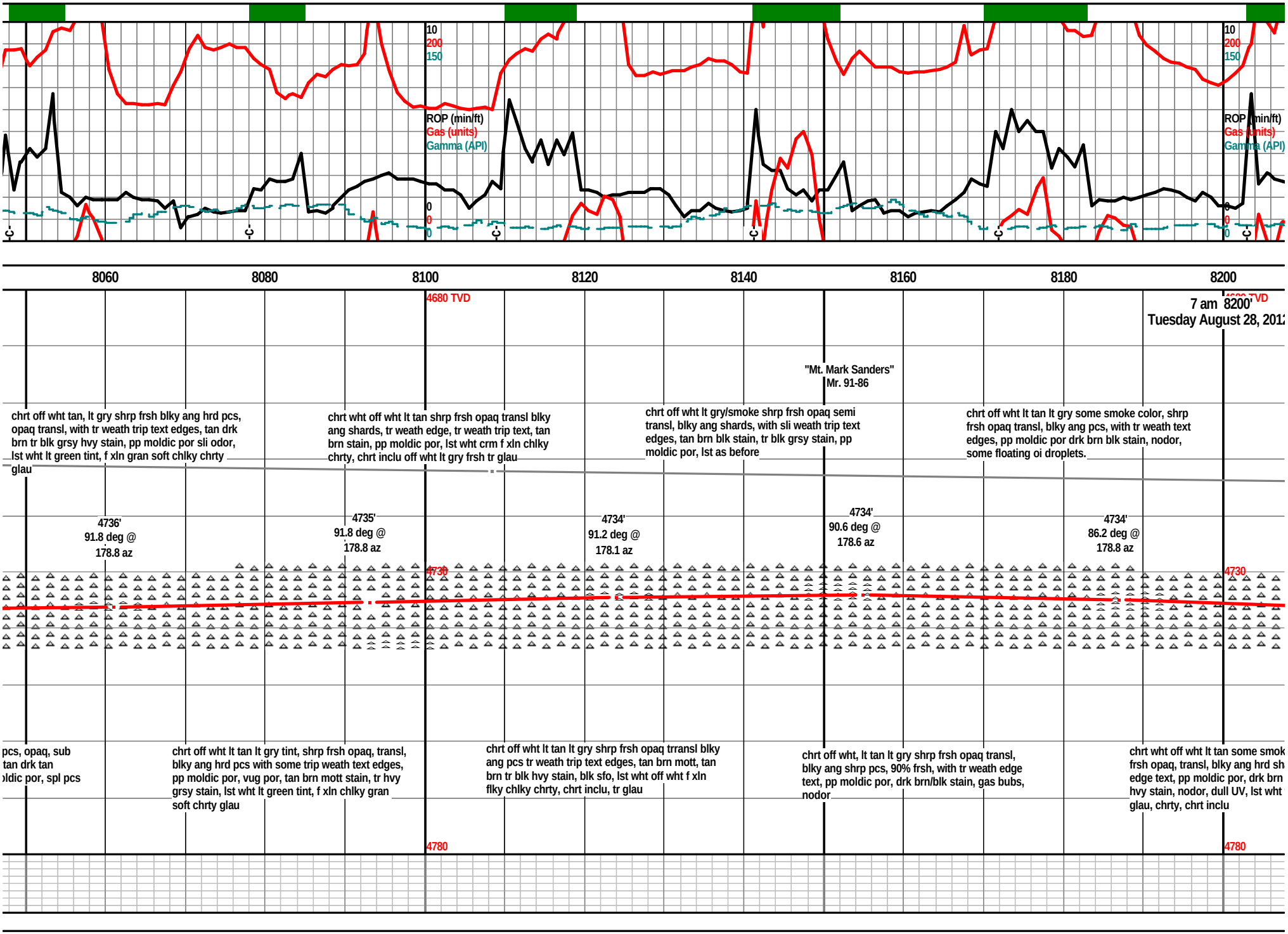

10
200
150
ROP (min/ft)
Gas (units)
Gamma (API)
0
0
0
7260
7280
7300
7320
7340
7360
7380
7400
4660 TVD
4710
4760
chrt wht off wth lt gry/smokey, shrp frsh tr foss, opaq semi transl, chrt lt gry tan lt brn mott color, sli trip text edges, pp moldic por tan lt brn stain dull UV
chrt wth off wht lt gry/smokey shrp frsh opaq transl, chrt tan gry lt brn weath sli trip text, pp moldic vug por, tan lt brn stain, flimy sfo, dull UV
chrt wht off wht calc, glau, chrt gry/smokey shrp frh opaq transl, chrt tan lt gry/brn with weath trip text edges/sisides, tan brn stain, drk gry/blk sfo fair odor, gd vis sho!
chrt wht off wht, lt gry/smoke color, shrp frsh blky ang shards, pcs, opaq, transl, with chrt lt brn tan with weath gran sli trip text edge, pp moldic por stain filmy sfo dull UV
4724'
88.2 deg @
179.4 az
4725'
89.1 deg @
180.0 az
4725'
89.0 deg @
180.4 az
4726'
89.3 deg @
180.2 az
4726'
89.7 deg @
179.9 az
, semi transl, foss,
edges, pp moldic
ll UV, odor, lst wht
hrty
chrt wht shrp frsh opaq, glau, chrt lt gry/smokey shrp frsh semi opaq semi transl, blky ang shrp shards, with tan brn mott color, tan lt brn stain, tr blk hvy stain, tr filmy sfo dull UV
chrt lt gry off wht, smokey shrp frsh opaq transl, chrt tan gry lt brn weath trip edge text, tan lt brn stain pp moldic vug por, sli odor, filmy sfo,
chrt lt gry off wht smokey shrp frsh opaq super transl, with weath sll trip edge/rim/sides, tan lt brn stain, pp moldic por, dull UV
chrt wht off wht, lt gry/smokl
trans with gran weath tan lt l
rocks, tan lt brn stain, filmy

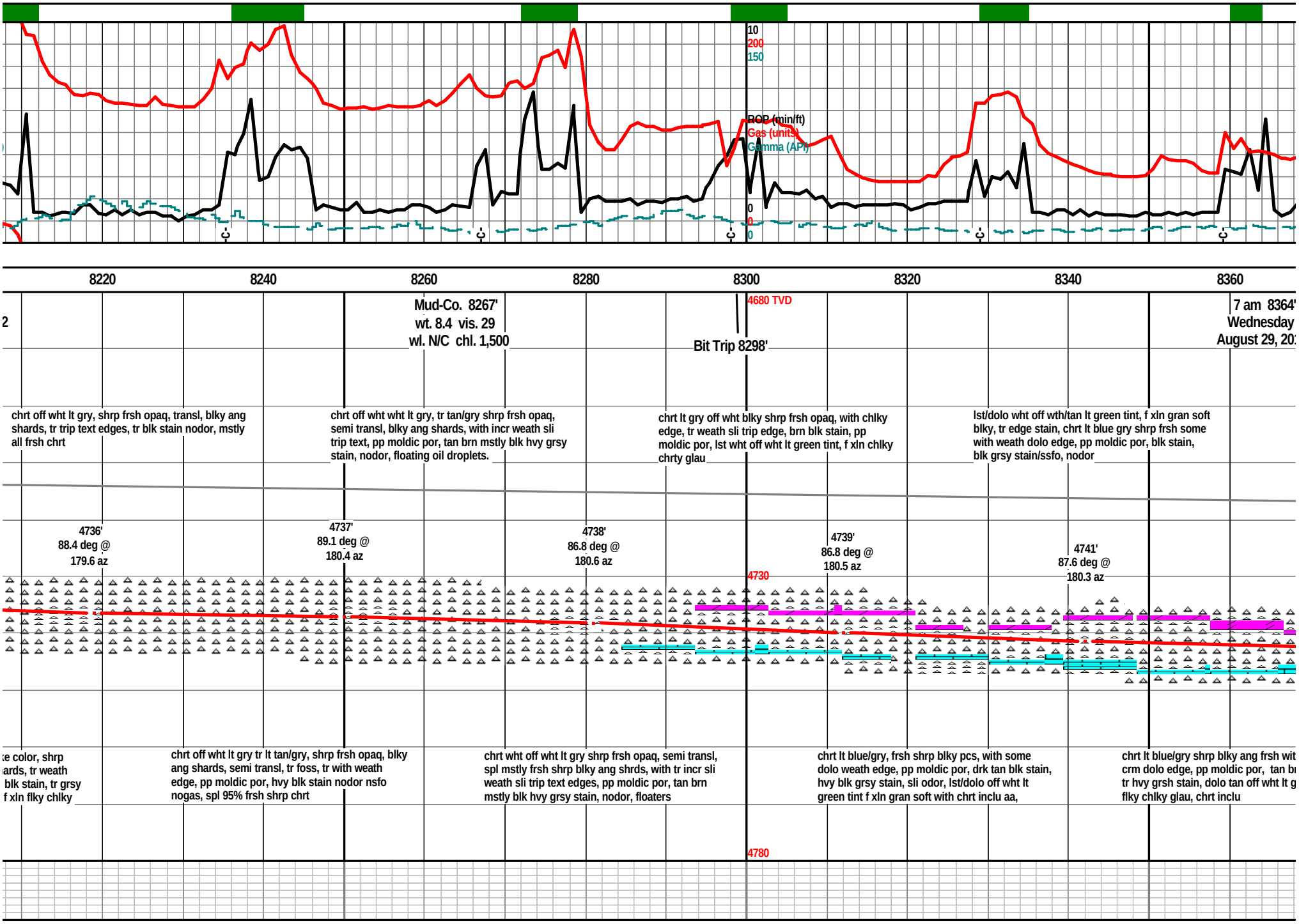

Re-Calibrate
Tooke at 7433'
Pason set to
40'/hour max
10
200
150
ROP (min/ft)
Gas (units)
Gamma (API)
0
0
7420
7440
7460
7480
7500
7520
7540
7560
4680 TVD
Bit Trip 7433'
Sunday August 26, 2012
chrt wth off wht, lt gry smokey shrp frsh opaq, semi transl, tr foss, chrt tan lt brn/gry mott, weath/trip text edges, pp moldic por, vug por, tan lt brn stain, filmy sfo, dull UV.
chrt lt gry off wht, shrp frsh opaq semi transl, chrt gry lt gry/smokey shrp frsh with weath trip text, pp moldic vug por, tan lt brn, blk stain, filmy sfo, odor, dull UV,
chrt off wht lt gry/smokey shrp frsh opaq semi transl foss, blky ang hrd shards, chrt lt gry smokey with gran weath sli trip edges/sides, tan lt brn mott color, tan lt brn stain, blk stain, floating oil drops, filmy sfo, fair odor, dull UV
chrt wht off wht lt gry mostly frsh, spl is 80% frsh, shrp blky ang opaq semi transl, cloudy, tr with sli weath edge, brn blk stain, hvy grsy sfo, floaters, nodor, spotted UV, dec sho, more frsh chrt
4726'
89.4 deg @
179.5 az
4727'
88.4 deg @
178.9 az
4728'
88.0 deg @
179.1 az
4729'
88.6 deg @
179.5 az
4729'
88.7 deg @
179.6 az
Geoio Change
4730
le, shrp frsh opaq
brn mott trip text
sfo, pp moldic por
chrt wht off wth lt gry/smoke, shrp frsh opag transl with sli trip weath eddge text, tan lt brn stain, tan blk hvy sfo, fair odor, tr filmy sfo, dull UV
chrt off wht lt gry/dmokey color, frsh shrp blk ang hrd pcs, with weath trip text, tan lt brn mott color, tan lt brn stain, tr hvy blky stain filmy sfo, odor, dull UV
chrt off wth lt gry/smoke color, shrp frsh opaq, hrd blky shrds, chrt off wth lt gry with gran weath sli trip text, tan lt brn mott color, tan lt brn stain, floaters, filmy sfo, odor, dull UV
chrt (70% frsh) wht off wht frsh
blky ang hrd pcs with tr weath
tan lt brn stain, tan lt brn color,
nodor
4780

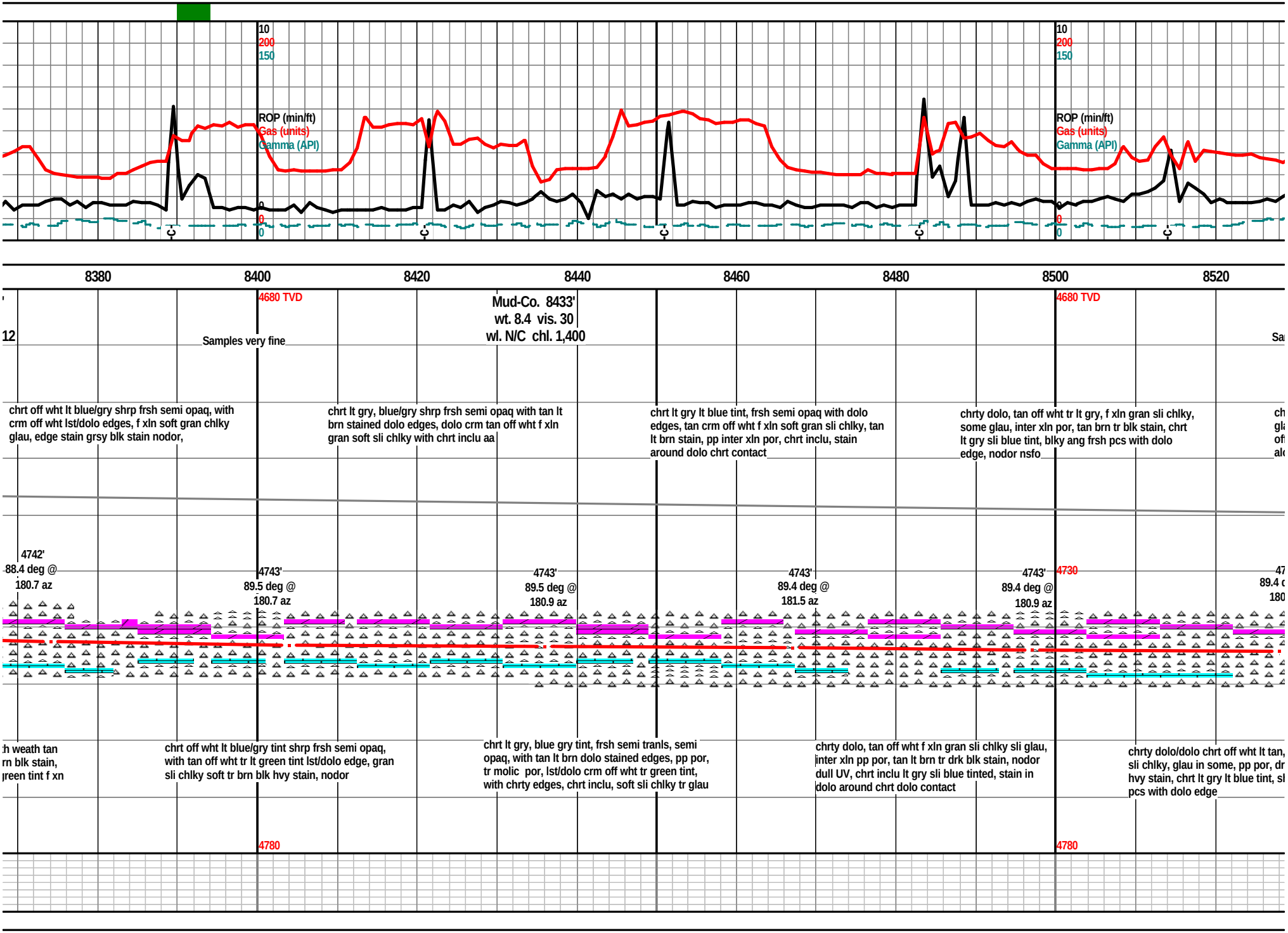

10
200
150
ROP (min/ft)
Gas (units)
Gamma (API)
0
0
0
10
200
150
ROP (min/ft)
Gas (units)
Gamma (API)
0
0
0
7580
7600
7620
7640
7660
7680
7700
7720
4680 TVD
4680 TVD
7 am 7685'
Monday August 27, 2012
chrt wht off wht lt gry/smokey, shrp frsh opaq semi transl, cloudy, blky ang shards, with weath trip text, tan lt brn mott color edges, tan lt brn stain, filmy sfo, tr hvy blk stain, floaters, gas? dull UV
chrt wht off wht lt gry/smoke in prt, shrp frsh opaq cloudy semi opaq, with tan lt brn weath trip text, gd vis pp moldic & vug por, tan lt brn stain tr blk stain, filmy/RBSFO, floaters, dull UV, odor
chrt wht off wth lt gry smokey in prt, frsh shrp blky opaq, semi transl, with weath trip text edge, tan lt brn-brn stain, pp moldic vug por, blk stain, filmy rbsfo, fair odor, dull UV
chrt wht off wht lt gry/smokey, shrp frsh opaq semi transl, with tan lt brn weath trip text edges, tan lt brn stain, tr blk stain, odor, filmy rbsfo, tr gas bubs, dull UV,
4730'
89.0 deg @
179.5 az
4730'
89.1 deg @
179.8 az
4731'
88.7 deg @
179.7 az
4732'
88.2 deg @
179.4 az
4733'
88.5 deg @
179.5 az
4733'
89.3 deg @
179.2 az
4730
4730
4730
shrp opaq cloudy
li trip text edges,
hvy grsy stain,
chrt off wht wht lt gry shrp frsh opaq cloudy, semi trans, and chrt tan lt brn mott, tan lt brn stain, gd vis pp moldic, vug por, fair odor, floating oil dropletts, filmy sfo, dull UV
chrt wht off wht lt gry smokey color, shrp frsh opaq semi transl, hrd blky ang foss, with tan lt brn weath trip edge, tan lt brn stain, vis pp moldic vug por, fair odor, filmy/rbsfo, blk stain, dull UV
chrt wht off wht lt gry tr smokey, shrp frsh opaq, semi transl, with tan lt brn weath edge text, tan lt brn tr blk stain, odor, tan/blk stain sfo floaters, blk stain filmy sfo, dull UV
chrt wht off wht lt gry smoke
transl, with tan lt brn weath t
brn stain, blk sfo, filmy sfo, c
and vug por, lst wht lt green
glau, chrty
4780
4780

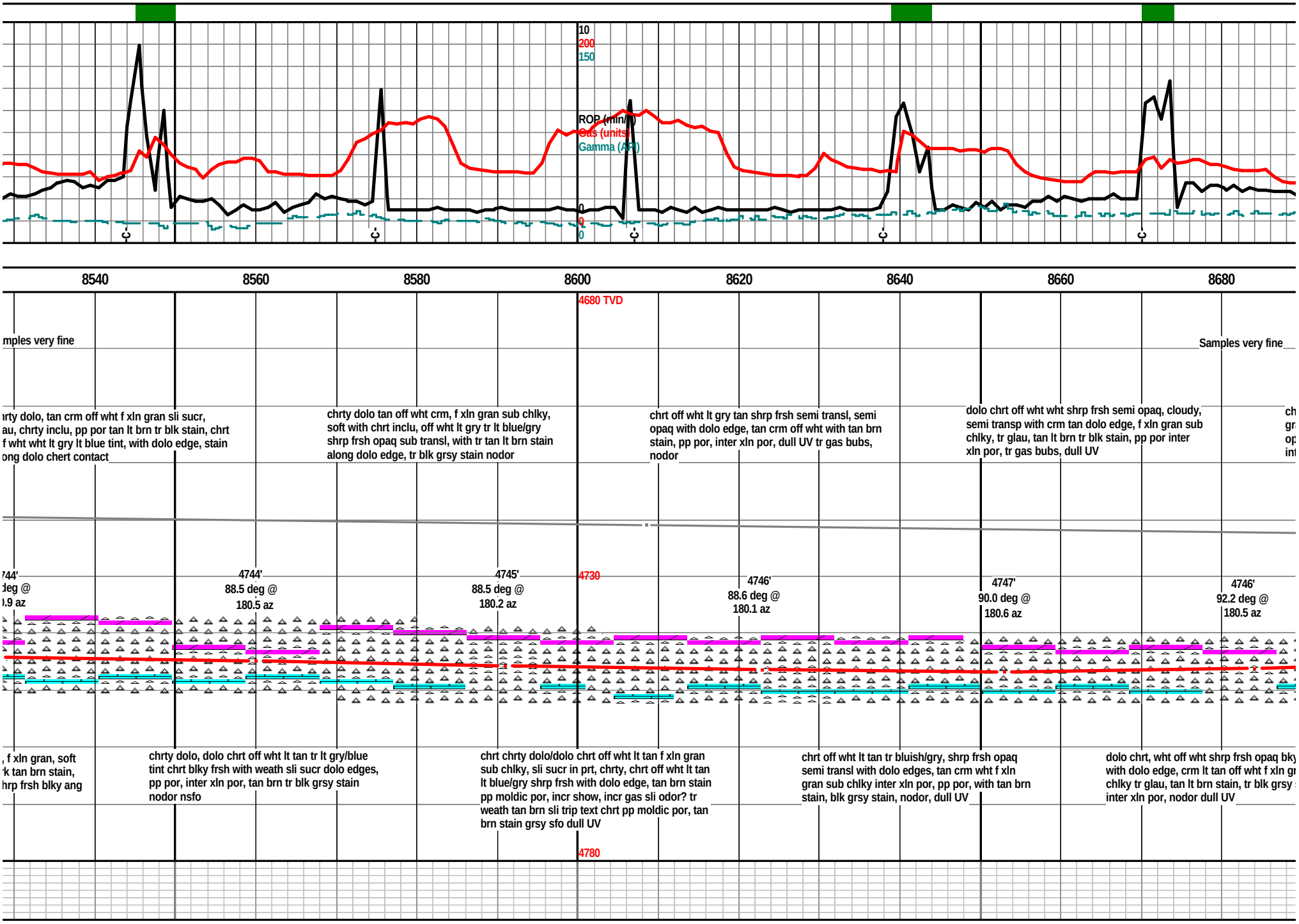

10
200
150
ROP (min/ft)
Gas (units)
Gamma (API)
7740
7760
7780
7800
7820
7840
7860
7880
Mud-Co. 7772'
wt. 8.5 vis. 28
wl. N/C chl. 1,500
4680 TVD
chrt as before, incr tan brn mott weath trip text, tan brn stain, blk stain, fair odor, filmy'rbsfo, tr gas bubs, dull UV, better and increase stain, odor vis show, pp moldic vug por
chrt wht off wht lt gry shrp frsh opaq semi transl, mstly gry tan brn mott weath trip text, pp moldic vug por, tan lt brn blk stain, filmy/rbsfo, dull UV, odor
chrt off wht lt gry shrp frsh opaq semi transl, with tan gry brn mott weath sli trip text, pp moldic por, vug por, tan lt brn stain, tr blk grsy stain, filmy rbsfo, floaters, dull UV
chrt wht off wth tr lt gry, mstly frsh (85%) of spl, shrp frsh opaq semi transl tr foss, blkky ang hrd pcs, some weath sli trip edge with tan brn blk stain, blk grsy stain nodor, oil floaters
4734'
89.9 deg @
179.5 az
4734'
89.1 deg @
179.4 az
4734'
89.5 deg @
179.5 az
4734'
89.8 deg @
189.1 az
4734'
90.3 deg @
179.9 az
4730
y shrp frsh opaq semi
rip text edges, tan lt
dull UV, vis pp moldic
tint f xln soft chlky
chrt wht off wht, tr lt gry/smokey shrp frsh, tr chlky gran, with weath sli trip text, tan lt brn stain, pp moldic por tan brn stain, blk grsy stain, odor?
chrt off wht, lt gry smokey, shrp frsh opaq transl, mstly gry tan lt brn mott weath trip text, pp moldic vug por, tan lt brn stain, tr blk grsy stain, odor, filmy sfo, floating oil drops, dull UV
chrt off wht lt gry/smokey color, shrp frsh opaq semi transl, with chrt tan lt brn/gry mott weath trip text por, pp moldic vug por, tan brn tr blk hvy stain, filmy sfo, sli odor dull UV, lst wht lt green tint, f xln gran chlky, soft, glau chrty in prt, dolo in prt
chrt mstly frsh (85%) of sample, w
shrp frsh opaq semi transl with tr
sli trip text edges, tan brn stain gr
floaters in water, nodor, dull UV
4780

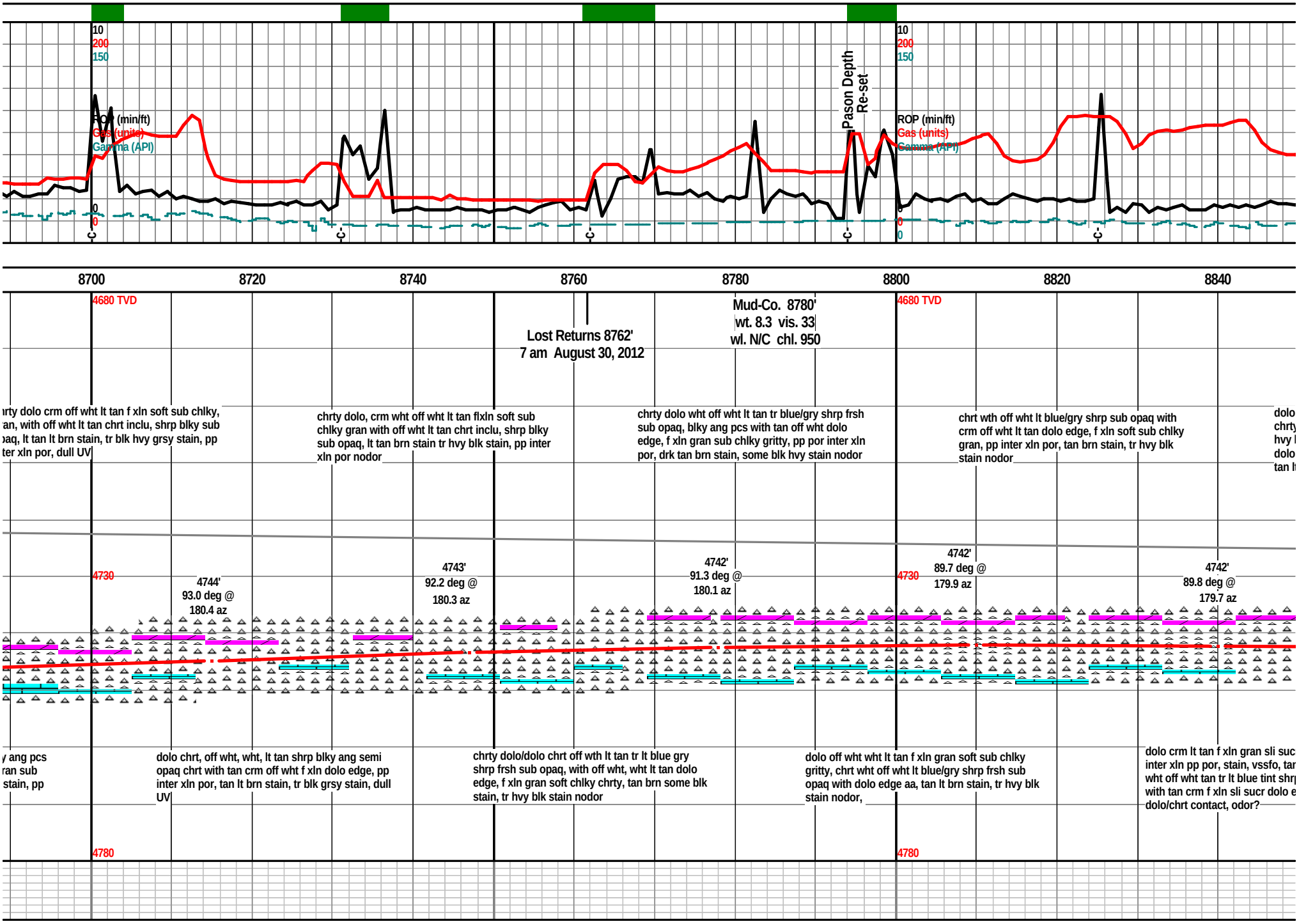

10
200
150
ROP (min/ft)
Gas (units)
Gamma (API)
0
0
0
10
200
150
ROP (min/ft)
Gas (units)
Gamma (API)
0
0
0
7900
7920
7940
7960
7980
8000
8020
8040
4680 TVD
4680 TVD
chrt off wht lt gry shrp frsh opaq, semi transl, 85% frsh chrt with tr weath sli trip text edge, tan lt brn mott color edge, tan lt brn stain, pp moldic por, tr grsy stain floaters, nodor dull corner UV
chrt 80% frsh, off wth lt gry/smokey shrp frsh opaq, transl, blky ang shards, with some weath trip edge text pp moldic por vug por, tan lt brn stain, tr blk grsy stain, nodor, filmy rbsfo, dull corner UV
spls vry fine, chrt wht off wht lt gry/smokey shrp frsh vit, transl, sli opaq blk ang shrp shards, with tr weath sli trip text edge, drk brn/blk hvy stain, pp moldic por, vug por, nodor
chrt off wht lt gry, lt gry/smokey, shrp frsh opaq, transl, blky ang shards, with weath trip text edges, tan lt brn/gry mott color, tan brn stain, tr hvy grsy blk stain, filmy sfo, dull UV, nodor, pp moldic por
4734'
89.1 deg @
179.8 az
4735'
88.8 deg @
179.3 az
4736'
89.0 deg @
179.3 az
4736'
89.4 deg @
178.9 az
4736'
89.9 deg @
179.4 az
4730
4730
ht off wht lt gry
weath tan brn
rsy sfo, oil
chrt wht off wht lt gry/smokey shrp frsh opaq spl 80% frsh, semi transl, with tr weath sli trip text edges, tan lt brn mott, pp moldic small vug por, tan lt brn stain, tr blk stain, nodor, filmy sfo, floaters on spl water
chrt wht off wht lt gry mstly frsh, transl, sli opaq shrp frsh blky ang shards, with tr weath trip text, drk tan blk hvy grsy stain, nodor,
chrt off wht lt gry shrp frsh opaq transl, blky ang sharp shards, 60% frsh, with weath sli trip edge, pp moldic, vug por, tan lt brn gry mott color, tan lt brn stain tr blk grsy stain, tr filmy rbsfo, nodor
chrt wht lt gry shrp frsh blky ang
transl, with weath trip text edges,
brn.blk stain, hvy blk stain, pp mo
much coarser?
4780
4780

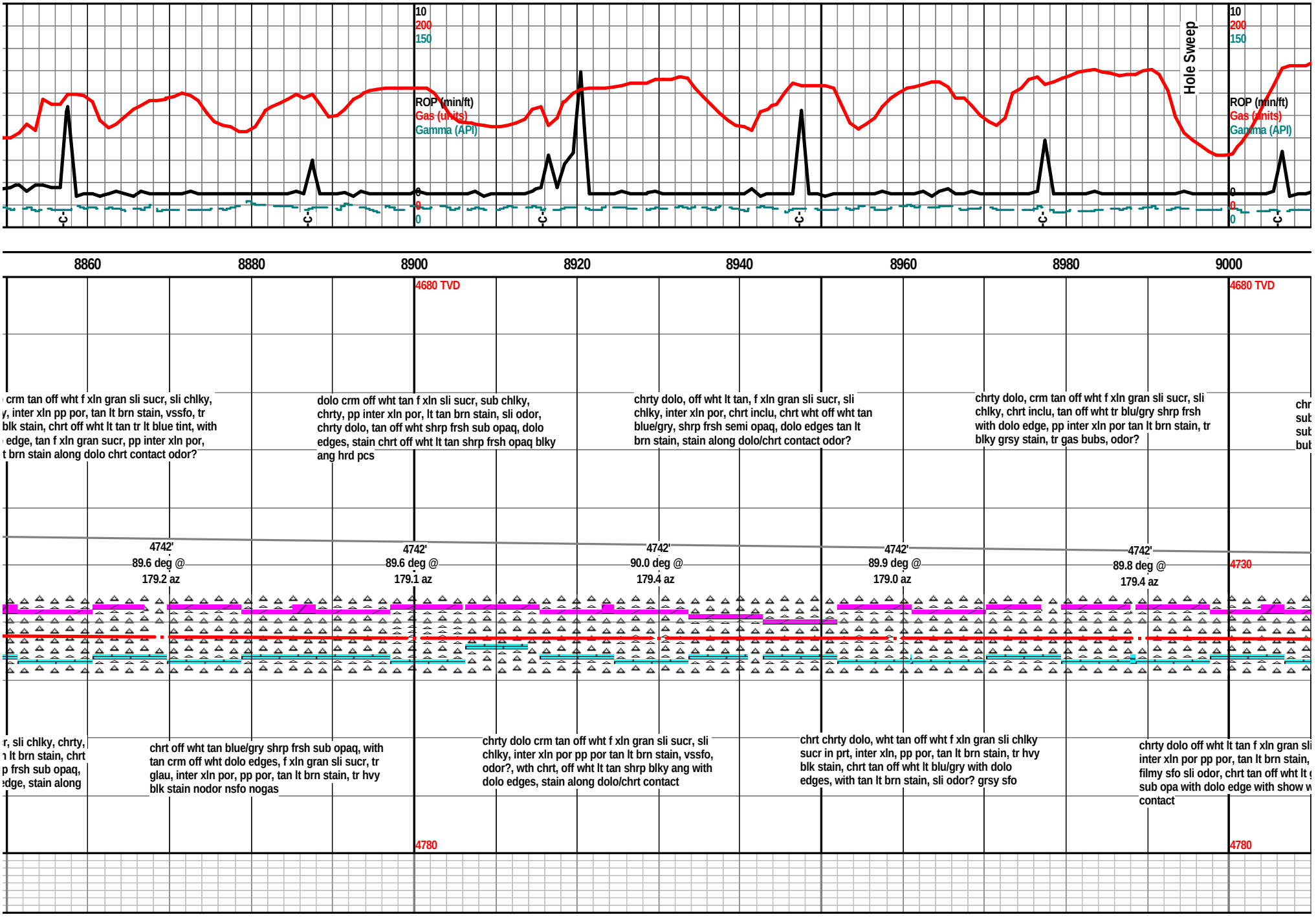

10
200
150
ROP (min/ft)
Gas (units)
Gamma (API)
0
0
0
8060
8080
8100
8120
8140
8160
8180
8200
4680 TVD
7 am 8200' TVD
Tuesday August 28, 201
"Mt. Mark Sanders"
Mr. 91-86
chrt off wht tan, lt gry shrp frsh blky ang hrd pcs, opaq transl, with tr weath trip text edges, tan drk brn tr blk grsy hvy stain, pp moldic por sli odor, lst wht lt green tint, f xln gran soft chlky chrty glau
chrt wht off wht lt tan shrp frsh opaq transl blky ang shards, tr weath edge, tr weath trip text, tan brn stain, pp moldic por, lst wht crm f xln chlky chrty, chrt inclu off wht lt gry frsh tr glau
chrt off wht lt gry/smoke shrp frsh opaq semi transl, blky ang shards, with sli weath trip text edges, tan brn blk stain, tr blk grsy stain, pp moldic por, lst as before
chrt off wht lt tan lt gry some smoke color, shrp frsh opaq transl, blky ang pcs, with tr weath text edges, pp moldic por drk brn blk stain, nodor, some floating oi droplets.
4736'
91.8 deg @
178.8 az
4735'
91.8 deg @
178.8 az
4734'
91.2 deg @
178.1 az
4734'
90.6 deg @
178.6 az
4734'
86.2 deg @
178.8 az
4730
4730
pcs, opaq, sub
tan drk tan
ldic por, spl pcs
chrt off wht lt tan lt gry tint, shrp frsh opaq, transl, blky ang hrd pcs with some trip weath text edges, pp moldic por, vug por, tan brn mott stain, tr hvy grsy stain, lst wht lt green tint, f xln chlky gran soft chrty glau
chrt off wht lt tan lt gry shrp frsh opaq trransl blky ang pcs tr weath trip text edges, tan brn mott, tan brn tr blk hvy stain, blk sfo, lst wht off wht f xln flky chlky chrty, chrt inclu, tr glau
chrt off wht, lt tan lt gry shrp frsh opaq transl, blky ang shrp pcs, 90% frsh, with tr weath edge text, pp moldic por, drk brn/blk stain, gas bubs, nodor
chrt wht off wht lt tan some smok
frsh opaq, transl, blky ang hrd sh
edge text, pp moldic por, drk brn
hvy stain, nodor, dull UV, lst wht
glau, chrty, chrt inclu
4780
4780

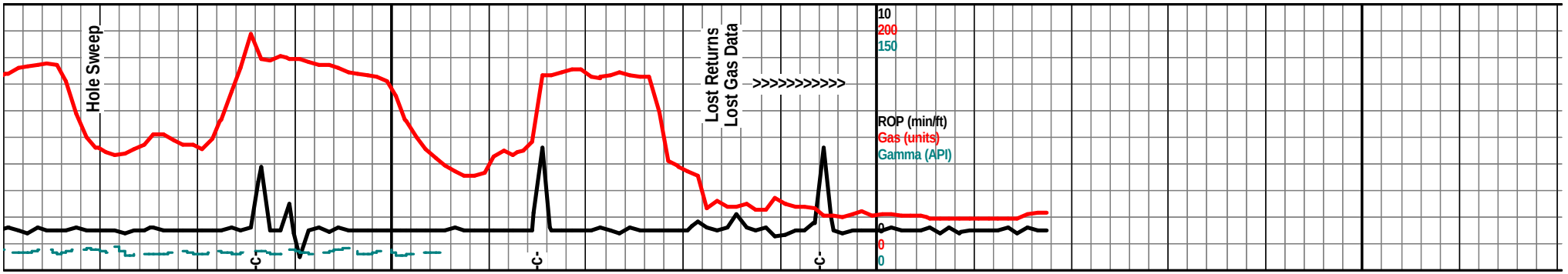

10
200
150
ROP (min/ft)
Gas (units)
Gamma (API)
0
0
0
8220
8240
8260
8280
8300
8320
8340
8360
Mud-Co. 8267'
wt. 8.4 vis. 29
wl. N/C chl. 1,500
4680 TVD
Bit Trip 8298'
7 am 8364'
Wednesday
August 29, 20
chrt off wht lt gry, shrp frsh opaq, transl, blky ang shards, tr trip text edges, tr blk stain nodor, mstly all frsh chrt
chrt off wht wht lt gry, tr tan/gry shrp frsh opaq, semi transl, blky ang shards, with incr weath sli trip text, pp moldic por, tan brn mstly blk hvy grsy stain, nodor, floating oil droplets.
chrt lt gry off wht blky shrp frsh opaq, with chlky edge, tr weath sli trip edge, brn blk stain, pp moldic por, lst wht off wht lt green tint, f xln chlky chrty glau
lst/dolo wht off wth/tan lt green tint, f xln gran soft blky, tr edge stain, chrt lt blue gry shrp frsh some with weath dolo edge, pp moldic por, blk stain, blk grsy stain/ssfo, nodor
4736'
88.4 deg @
179.6 az
4737'
89.1 deg @
180.4 az
4738'
86.8 deg @
180.6 az
4739'
86.8 deg @
180.5 az
4741'
87.6 deg @
180.3 az
4730
4780
e color, shrp
ards, tr weath
blk stain, tr grsy
f xln flky chlky
chrt off wht lt gry tr lt tan/gry, shrp frsh opaq, blky ang shards, semi transl, tr foss, tr with weath edge, pp moldic por, hvy blk stain nodor nsfo nogas, spl 95% frsh shrp chrt
chrt wht off wht lt gry shrp frsh opaq, semi transl, spl mstly frsh shrp blky ang shrds, with tr incr sli weath sli trip text edges, pp moldic por, tan brn mstly blk hvy grsy stain, nodor, floaters
chrt lt blue/gry, frsh shrp blky pcs, with some dolo weath edge, pp moldic por, drk tan blk stain, hvy blk grsy stain, sli odor, lst/dolo off wht lt green tint f xln gran soft with chrt inclu aa,
chrt lt blue/gry shrp blky ang frsh wit
crm dolo edge, pp moldic por, tan b
tr hvy grsh stain, dolo tan off wht lt g
flky chlky glau, chrt inclu


10
200
150
ROP (min/ft)
Gas (units)
Gamma (API)
0
0
0
10
200
150
ROP (min/ft)
Gas (units)
Gamma (API)
0
0
0
8380
8400
8420
8440
8460
8480
8500
8520
4680 TVD
Samples very fine
Mud-Co. 8433'
wt. 8.4 vis. 30
wl. N/C chl. 1,400
4680 TVD
chrt off wht lt blue/gry shrp frsh semi opaq, with crm off wht lst/dolo edges, f xln soft gran chlky glau, edge stain grsy blk stain nodor,
chrt lt gry, blue/gry shrp frsh semi opaq with tan lt brn stained dolo edges, dolo crm tan off wht f xln gran soft sli chlky with chrt inclu aa
chrt lt gry lt blue tint, frsh semi opaq with dolo edges, tan crm off wht f xln soft gran sli chlky, tan lt brn stain, pp inter xln por, chrt inclu, stain around dolo chrt contact
chrty dolo, tan off wht tr lt gry, f xln gran sli chlky, some glau, inter xln por, tan brn tr blk stain, chrt lt gry sli blue tint, blky ang frsh pcs with dolo edge, nodor nsfo
4742'
88.4 deg @
180.7 az
4743'
89.5 deg @
180.7 az
4743'
89.5 deg @
180.9 az
4743'
89.4 deg @
181.5 az
4743'
89.4 deg @
180.9 az
4730
chrt off wht lt blue/gry tint shrp frsh semi opaq, with tan off wht tr lt green tint lst/dolo edge, gran sli chlky soft tr brn blk hvy stain, nodor
chrt lt gry, blue gry tint, frsh semi tranls, semi opaq, with tan lt brn dolo stained edges, pp por, tr molic por, lst/dolo crm off wht tr green tint, with chrty edges, chrt inclu, soft sli chlky tr glau
chrty dolo, tan off wht f xln gran sli chlky sli glau, inter xln pp por, tan lt brn tr drk blk stain, nodor dull UV, chrt inclu lt gry sli blue tinted, stain in dolo around chrt dolo contact
chrty dolo/dolo chrt off wht lt tan, sli chlky, glau in some, pp por, dr hvy stain, chrt lt gry lt blue tint, sl pcs with dolo edge
4780
4780


10
200
150
ROP (min/ft)
Gas (units)
Gamma (API)
0
0
0
8540
8560
8580
8600
8620
8640
8660
8680
4680 TVD
mples very fine
Samples very fine
rty dolo, tan crm off wht f xln gran sli sucr, au, chrty inclu, pp por tan lt brn tr blk stain, chrt f wht wht lt gry lt blue tint, with dolo edge, stain ong dolo chert contact
chrty dolo tan off wht crm, f xln gran sub chlky, soft with chrt inclu, off wht lt gry tr lt blue/gry shrp frsh opaq sub transl, with tr tan lt brn stain along dolo edge, tr blk grsy stain nodor
chrt off wht lt gry tan shrp frsh semi transl, semi opaq with dolo edge, tan crm off wht with tan brn stain, pp por, inter xln por, dull UV tr gas bubs, nodor
dolo chrt off wht wht shrp frsh semi opaq, cloudy, semi transp with crm tan dolo edge, f xln gran sub chlky, tr glau, tan lt brn tr blk stain, pp por inter xln por, tr gas bubs, dull UV
4730
4780
4744'
deg @
.9 az
4744'
88.5 deg @
180.5 az
4745'
88.5 deg @
180.2 az
4746'
88.6 deg @
180.1 az
4747'
90.0 deg @
180.6 az
4746'
92.2 deg @
180.5 az
, f xln gran, soft
k tan brn stain,
hrp frsh blky ang
chrty dolo, dolo chrt off wht lt tan tr lt gry/blue tint chrt blky frsh with weath sli sucr dolo edges, pp por, inter xln por, tan brn tr blk grsy stain nodor nsfo
chrt chrty dolo/dolo chrt off wht lt tan f xln gran sub chlky, sli sucr in prt, chrty, chrt off wht lt tan lt blue/gry shrp frsh with dolo edge, tan brn stain pp moldic por, incr show, incr gas sli odor? tr weath tan brn sli trip text chrt pp moldic por, tan brn stain grsy sfo dull UV
chrt off wht lt tan tr bluish/gry, shrp frsh opaq semi transl with dolo edges, tan crm wht f xln gran sub chlky inter xln por, pp por, with tan brn stain, blk grsy stain, nodor, dull UV
dolo chrt, wht off wht shrp frsh opaq bk with dolo edge, crm lt tan off wht f xln g chlky tr glau, tan lt brn stain, tr blk grsy inter xln por, nodor dull UV


10
200
150
ROP (min/ft)
Gas (units)
Gamma (API)
0
0
Pason Depth
Re-set
10
200
150
ROP (min/ft)
Gas (units)
Gamma (API)
0
0
8700
8720
8740
8760
8780
8800
8820
8840
4680 TVD
Lost Returns 8762'
7 am August 30, 2012
Mud-Co. 8780'
wt. 8.3 vis. 33
wl. N/C chl. 950
4680 TVD
rty dolo crm off wht lt tan f xln soft sub chlky,
an, with off wht lt tan chrt inclu, shrp blky sub
aq, lt tan lt brn stain, tr blk hvy grsy stain, pp
ter xln por, dull UV
chrty dolo, crm wht off wht lt tan flxln soft sub
chlky gran with off wht lt tan chrt inclu, shrp blky
sub opaq, lt tan brn stain tr hvy blk stain, pp inter
xln por nodor
chrty dolo wht off wht lt tan tr blue/gry shrp frsh
sub opaq, blky ang pcs with tan off wht dolo
edge, f xln gran sub chlky gritty, pp por inter xln
por, drk tan brn stain, some blk hvy stain nodor
chrt wth off wht lt blue/gry shrp sub opaq with
crm off wht lt tan dolo edge, f xln soft sub chlky
gran, pp inter xln por, tan brn stain, tr hvy blk
stain nodor
dolo
chrty
hvy l
dolo
tan l
4730
4744'
93.0 deg @
180.4 az
4743'
92.2 deg @
180.3 az
4742'
91.3 deg @
180.1 az
4730
4742'
89.7 deg @
179.9 az
4742'
89.8 deg @
179.7 az
y ang pcs
ran sub
stain, pp
dolo chrt, off wht, wht, lt tan shrp blky ang semi
opaq chrt with tan crm off wht f xln dolo edge, pp
inter xln por, tan lt brn stain, tr blk grsy stain, dull
UV
chrty dolo/dolo chrt off wth lt tan tr lt blue gry
shrp frsh sub opaq, with off wht, wht lt tan dolo
edge, f xln gran soft chlky chrty, tan brn some blk
stain, tr hvy blk stain nodor
dolo off wht wht lt tan f xln gran soft sub chlky
gritty, chrt wht off wht lt blue/gry shrp frsh sub
opaq with dolo edge aa, tan lt brn stain, tr hvy blk
stain nodor,
dolo crm lt tan f xln gran sli suc
inter xln pp por, stain, vssfo, tar
wht off wht tan tr lt blue tint shr
with tan crm f xln sli sucr dolo e
dolo/chrt contact, odor?
4780
4780


10
200
150
ROP (min/ft)
Gas (units)
Gamma (API)
0
0
0
Hole Sweep
10
200
150
ROP (min/ft)
Gas (units)
Gamma (API)
0
0
0
8860
8880
8900
8920
8940
8960
8980
9000
4680 TVD
4680 TVD
crm tan off wht f xln gran sli sucr, sli chlky,
y, inter xln pp por, tan lt brn stain, vssfo, tr
blk stain, chrt off wht lt tan tr lt blue tint, with
edge, tan f xln gran sucr, pp inter xln por,
t brn stain along dolo chrt contact odor?
dolo crm off wht tan f xln sli sucr, sub chlky,
chrty, pp inter xln por, lt tan brn stain, sli odor,
chrty dolo, tan off wht shrp frsh sub opaq, dolo
edges, stain chrt off wht lt tan shrp frsh opaq blky
ang hrd pcs
chrty dolo, off wht lt tan, f xln gran sli sucr, sli
chlky, inter xln por, chrt inclu, chrt wht off wht tan
blue/gry, shrp frsh semi opaq, dolo edges tan lt
brn stain, stain along dolo/chrt contact odor?
chrty dolo, crm tan off wht f xln gran sli sucr, sli
chlky, chrt inclu, tan off wht tr blu/gry shrp frsh
with dolo edge, pp inter xln por tan lt brn stain, tr
blky grsy stain, tr gas bubs, odor?
chr
sub
sub
bub
4742'
89.6 deg @
179.2 az
4742'
89.6 deg @
179.1 az
4742'
90.0 deg @
179.4 az
4742'
89.9 deg @
179.0 az
4742'
89.8 deg @
179.4 az
4730
r, sli chlky, chrty,
lt brn stain, chrt
p frsh sub opaq,
dge, stain along
chrt off wht tan blue/gry shrp frsh sub opaq, with
tan crm off wht dolo edges, f xln gran sli sucr, tr
glau, inter xln por, pp por, tan lt brn stain, tr hvy
blk stain nodor nsfo nogas
chrty dolo crm tan off wht f xln gran sli sucr, sli
chlky, inter xln por pp por tan lt brn stain, vssfo,
odor?, wth chrt, off wht lt tan shrp blky ang with
dolo edges, stain along dolo/chrt contact
chrt chrty dolo, wht tan off wht f xln gran sli chlky
sucr in prt, inter xln, pp por, tan lt brn stain, tr hvy
blk stain, chrt tan off wht lt blu/gry with dolo
edges, with tan lt brn stain, sli odor? grsy sfo
chrty dolo off wht lt tan f xln gran sli
inter xln por pp por, tan lt brn stain,
filmy sfo sli odor, chrt tan off wht lt
sub opa with dolo edge with show
contact
4780
4780



9020 9040 9060 9080 9100 9120 9140 9160

4680 TVD

Lost Returns 9118'

t, chrty dolo, tan of wht crm f xln gran sli sucr,
chky, chrt inclu, off wht lt blu/gry shrp frsh
opaq, with dolo edges, tan lt brn stain gas
s, sli odor

dolo tan crm lt brn f xln gran soft, sucr text, pp interxln moldic por, stain, ssfo, filmy sfo, chrt tan lt gry/brn shrp weath sli trip edge, pp moldic por, tan brn stain, filmy sfo, gas bubs.

4742'
89.9 deg @
179.5 az

4742'
90.2 deg @
179.5 az

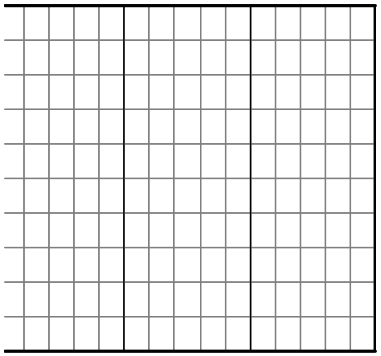
4730

i sucr text,
gas bubs
gry shrp frsh
with dolo/chrt

chrt, chrty dolo, tan off wht crm f xln gran sucr text, blky ang pp inter xln por, tan brn stain gas bubs, ssfo, odor, chrt off wth tan lt gry shrp frsh with gran sucr dolo edge stain, tr hevy stain, filmy sfo

dolo chrty dolo, crm tan off wht f xln gran, sucr text, sli chlky pp moldic por, interxln por, fair/gd lt tan brn stain, odor, chrt off wht tan crm shrp frsh sub opaq, with dolo edge aa

4780



9180 92

Woolsey Operating Company, LLC

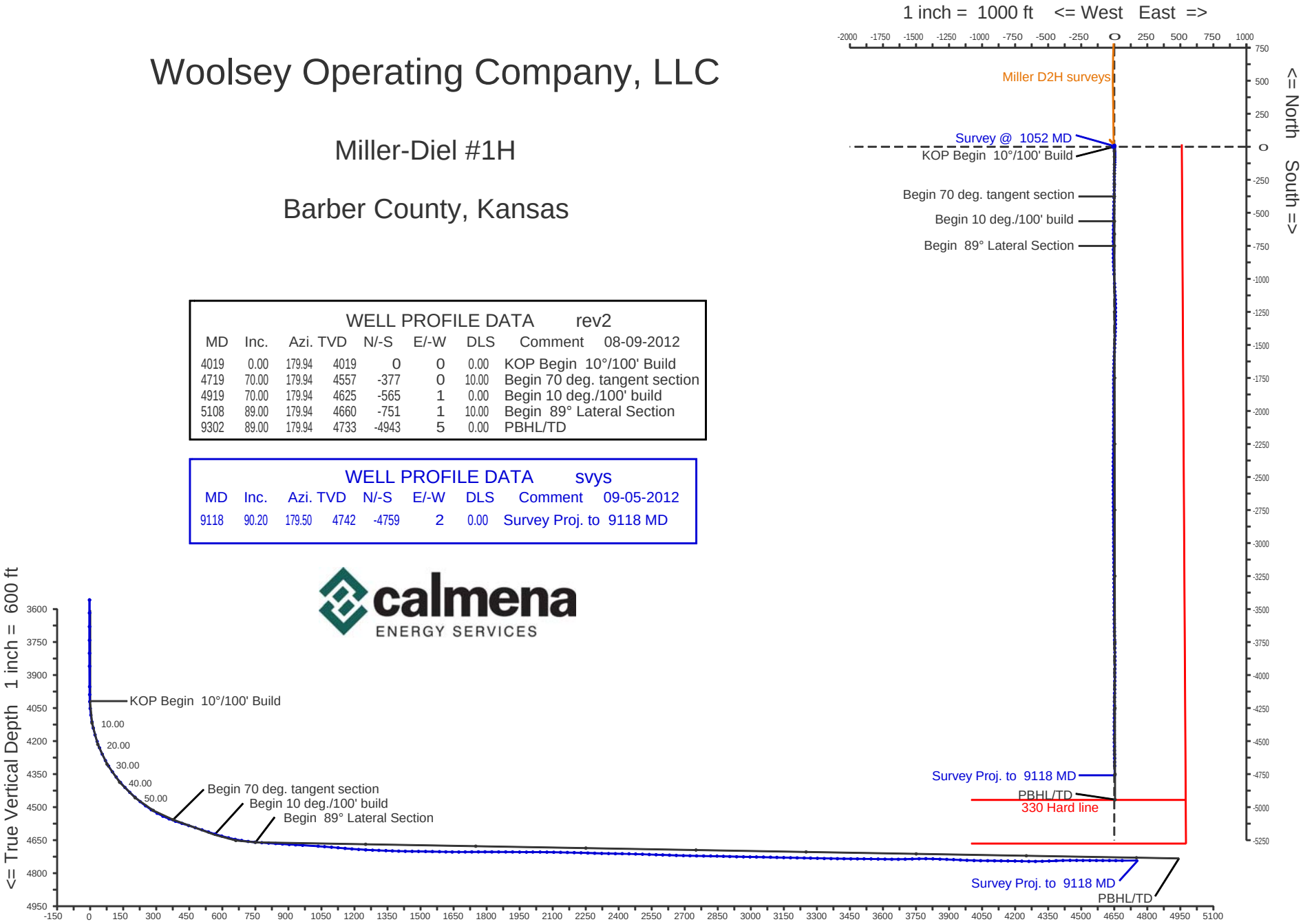
Miller-Diel #1H

Barber County, Kansas

WELL PROFILE DATA rev2								
MD	Inc.	Azi.	TVD	N/-S	E/-W	DLS	Comment	08-09-2012
4019	0.00	179.94	4019	0	0	0.00	KOP Begin 10°/100' Build	
4719	70.00	179.94	4557	-377	0	10.00	Begin 70 deg. tangent section	
4919	70.00	179.94	4625	-565	1	0.00	Begin 10 deg./100' build	
5108	89.00	179.94	4660	-751	1	10.00	Begin 89° Lateral Section	
9302	89.00	179.94	4733	-4943	5	0.00	PBHL/TD	

WELL PROFILE DATA svys								
MD	Inc.	Azi.	TVD	N/-S	E/-W	DLS	Comment	09-05-2012
9118	90.20	179.50	4742	-4759	2	0.00	Survey Proj. to 9118 MD	

calmena ENERGY SERVICES



Calmena Energy Services

Company: Woolsey Operating Company
Well: Miller Diel #1H
Location: Barber County, Kansas

Date:5-Sep-2012
Surveys

Job# : 6708
NAD27 Ks South gr elev=1379

MD (feet)	Inclination (degrees)	Azimuth (degrees)	TVD RKB (feet)	N/-S (feet)	E/-W (feet)	DLS (deg/100')	VS @ 181.65° Az (feet)	Grid Y	Grid X	Comments
Surface Location								**150237.00**	**2003853.00**	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	150237.00	2003853.00	
686.00	1.00	4.30	685.97	5.97	0.45	0.15	-5.98	150242.97	2003853.45	
717.00	1.10	357.40	716.96	6.54	0.46	0.52	-6.55	150243.54	2003853.46	
747.00	0.70	356.10	746.96	7.01	0.43	1.33	-7.02	150244.01	2003853.43	
779.00	0.70	356.10	778.95	7.40	0.40	0.00	-7.41	150244.40	2003853.40	
809.00	0.60	325.70	808.95	7.71	0.30	1.18	-7.72	150244.71	2003853.30	
840.00	0.80	258.30	839.95	7.80	0.00	2.56	-7.80	150244.80	2003853.00	
870.00	1.00	248.90	869.95	7.66	-0.45	0.83	-7.65	150244.66	2003852.55	
902.00	1.30	237.50	901.94	7.37	-1.02	1.17	-7.34	150244.37	2003851.98	
931.00	1.20	235.40	930.93	7.02	-1.54	0.38	-6.97	150244.02	2003851.46	
963.00	1.00	227.90	962.93	6.64	-2.03	0.77	-6.58	150243.64	2003850.97	
992.00	1.10	222.60	991.92	6.27	-2.40	0.48	-6.19	150243.27	2003850.60	
1022.00	1.10	214.40	1021.92	5.82	-2.76	0.52	-5.73	150242.82	2003850.24	
1052.00	0.90	223.10	1051.91	5.41	-3.08	0.84	-5.32	150242.41	2003849.92	
1081.00	1.00	227.90	1080.91	5.07	-3.43	0.44	-4.97	150242.07	2003849.57	
1110.00	1.00	229.50	1109.90	4.74	-3.81	0.10	-4.63	150241.74	2003849.19	
1172.00	1.10	225.70	1171.89	3.97	-4.65	0.20	-3.83	150240.97	2003848.35	
1232.00	1.10	231.90	1231.88	3.21	-5.51	0.20	-3.05	150240.21	2003847.49	
1291.00	0.90	237.00	1290.87	2.61	-6.35	0.37	-2.43	150239.61	2003846.65	
1352.00	0.90	222.00	1351.87	1.99	-7.07	0.39	-1.79	150238.99	2003845.93	
1411.00	1.10	223.70	1410.86	1.24	-7.77	0.34	-1.02	150238.24	2003845.23	
1472.00	1.20	221.70	1471.85	0.34	-8.60	0.18	-0.09	150237.34	2003844.40	
1533.00	1.00	229.60	1532.83	-0.48	-9.43	0.41	0.75	150236.52	2003843.57	
1595.00	0.40	194.70	1594.83	-1.04	-9.90	1.14	1.33	150235.96	2003843.10	
1656.00	0.10	61.20	1655.83	-1.22	-9.90	0.78	1.51	150235.78	2003843.10	
1717.00	0.30	38.00	1716.83	-1.07	-9.76	0.35	1.35	150235.93	2003843.24	
1775.00	0.30	63.40	1774.83	-0.88	-9.53	0.23	1.16	150236.12	2003843.47	
1837.00	0.30	45.40	1836.83	-0.70	-9.27	0.15	0.96	150236.30	2003843.73	
1898.00	0.20	82.40	1897.83	-0.57	-9.05	0.30	0.83	150236.43	2003843.95	
1961.00	0.40	49.00	1960.83	-0.41	-8.77	0.41	0.66	150236.59	2003844.23	

Calmena Energy Services

Company: Woolsey Operating Company
Well: Miller Diel #1H
Location: Barber County, Kansas

Date:5-Sep-2012
Surveys

Job# : 6708
NAD27 Ks South gr elev=1379

MD (feet)	Inclination (degrees)	Azimuth (degrees)	TVD RKB (feet)	N/-S (feet)	E/-W (feet)	DLS (deg/100')	VS @ 181.65° Az (feet)	Grid Y	Grid X	Comments
2024.00	0.40	23.70	2023.82	-0.07	-8.52	0.28	0.31	150236.93	2003844.48	
2084.00	0.30	83.10	2083.82	0.14	-8.28	0.60	0.09	150237.14	2003844.72	
2146.00	0.30	63.00	2145.82	0.24	-7.97	0.17	-0.01	150237.24	2003845.03	
2208.00	0.30	40.80	2207.82	0.43	-7.72	0.19	-0.21	150237.43	2003845.28	
2269.00	0.30	39.20	2268.82	0.68	-7.52	0.01	-0.46	150237.68	2003845.48	
2331.00	0.30	56.50	2330.82	0.89	-7.28	0.15	-0.68	150237.89	2003845.72	
2394.00	0.30	50.50	2393.82	1.09	-7.01	0.05	-0.89	150238.09	2003845.99	
2455.00	0.40	36.90	2454.82	1.36	-6.76	0.21	-1.17	150238.36	2003846.24	
2516.00	0.30	40.20	2515.82	1.65	-6.53	0.17	-1.47	150238.65	2003846.47	
2578.00	0.30	38.80	2577.82	1.90	-6.33	0.01	-1.72	150238.90	2003846.67	
2639.00	0.30	56.10	2638.81	2.12	-6.09	0.15	-1.94	150239.12	2003846.91	
2700.00	0.40	58.10	2699.81	2.32	-5.78	0.17	-2.15	150239.32	2003847.22	
2762.00	0.30	60.00	2761.81	2.52	-5.46	0.16	-2.36	150239.52	2003847.54	
2823.00	0.30	55.20	2822.81	2.69	-5.19	0.04	-2.54	150239.69	2003847.81	
2886.00	0.30	45.10	2885.81	2.90	-4.93	0.08	-2.75	150239.90	2003848.07	
2946.00	0.20	129.80	2945.81	2.94	-4.74	0.57	-2.80	150239.94	2003848.26	
3008.00	0.30	122.00	3007.81	2.79	-4.52	0.17	-2.65	150239.79	2003848.48	
3071.00	0.20	148.00	3070.81	2.61	-4.32	0.24	-2.48	150239.61	2003848.68	
3131.00	0.10	146.50	3130.81	2.47	-4.24	0.17	-2.35	150239.47	2003848.76	
3193.00	0.10	166.20	3192.81	2.37	-4.20	0.06	-2.25	150239.37	2003848.80	
3254.00	0.10	255.10	3253.81	2.31	-4.24	0.23	-2.19	150239.31	2003848.76	
3316.00	0.10	4.10	3315.81	2.35	-4.28	0.26	-2.23	150239.35	2003848.72	
3377.00	0.20	29.60	3376.81	2.50	-4.23	0.19	-2.37	150239.50	2003848.77	
3438.00	0.20	22.30	3437.81	2.69	-4.13	0.04	-2.57	150239.69	2003848.87	
3498.00	0.20	37.80	3497.81	2.87	-4.03	0.09	-2.75	150239.87	2003848.97	
3559.00	0.20	91.70	3558.81	2.95	-3.86	0.30	-2.83	150239.95	2003849.14	
3618.00	0.20	93.20	3617.81	2.94	-3.65	0.01	-2.83	150239.94	2003849.35	
3680.00	0.30	98.60	3679.81	2.91	-3.38	0.17	-2.81	150239.91	2003849.62	
3742.00	0.20	119.50	3741.81	2.83	-3.13	0.22	-2.74	150239.83	2003849.87	
3801.00	0.20	121.70	3800.81	2.73	-2.95	0.01	-2.64	150239.73	2003850.05	

Calmena Energy Services

Company: Woolsey Operating Company
Well: Miller Diel #1H
Location: Barber County, Kansas

Date:5-Sep-2012
Surveys

Job# : 6708
NAD27 Ks South gr elev=1379

MD (feet)	Inclination (degrees)	Azimuth (degrees)	TVD RKB (feet)	N/-S (feet)	E/-W (feet)	DLS (deg/100')	VS @ 181.65° Az (feet)	Grid Y	Grid X	Comments
3860.00	0.20	114.20	3859.81	2.63	-2.77	0.04	-2.55	150239.63	2003850.23	
3953.00	0.20	99.00	3952.80	2.54	-2.46	0.06	-2.47	150239.54	2003850.54	
3989.00	0.50	155.40	3988.80	2.38	-2.34	1.18	-2.32	150239.38	2003850.66	
4021.00	2.40	163.10	4020.79	1.62	-2.08	5.96	-1.56	150238.62	2003850.92	
4052.00	4.70	166.10	4051.73	-0.24	-1.59	7.44	0.28	150236.76	2003851.41	
4082.00	7.50	170.80	4081.56	-3.36	-0.98	9.47	3.39	150233.64	2003852.02	
4113.00	10.50	173.90	4112.17	-8.17	-0.36	9.80	8.18	150228.83	2003852.64	
4142.00	13.20	175.60	4140.55	-14.10	0.18	9.39	14.09	150222.90	2003853.18	
4174.00	16.30	176.50	4171.49	-22.23	0.73	9.71	22.20	150214.77	2003853.73	
4205.00	19.10	177.20	4201.02	-31.64	1.25	9.06	31.59	150205.36	2003854.25	
4236.00	21.80	177.70	4230.07	-42.46	1.73	8.73	42.39	150194.54	2003854.73	
4268.00	24.90	177.40	4259.44	-55.13	2.27	9.69	55.04	150181.87	2003855.27	
4300.00	28.30	178.10	4288.05	-69.44	2.83	10.67	69.33	150167.56	2003855.83	
4329.00	31.50	179.50	4313.19	-83.89	3.12	11.29	83.77	150153.11	2003856.12	
4360.00	34.90	180.80	4339.13	-100.86	3.07	11.20	100.73	150136.14	2003856.07	
4390.00	37.50	181.40	4363.33	-118.58	2.72	8.75	118.45	150118.42	2003855.72	
4421.00	40.00	181.90	4387.51	-137.97	2.16	8.13	137.85	150099.03	2003855.16	
4452.00	42.90	182.20	4410.74	-158.48	1.43	9.38	158.37	150078.52	2003854.43	
4483.00	45.90	182.00	4432.89	-180.15	0.63	9.69	180.06	150056.85	2003853.63	
4515.00	48.60	181.10	4454.61	-203.64	0.00	8.69	203.55	150033.36	2003853.00	
4546.00	50.90	180.60	4474.63	-227.29	-0.35	7.52	227.21	150009.71	2003852.65	
4577.00	53.40	180.40	4493.65	-251.77	-0.56	8.08	251.68	149985.23	2003852.44	
4609.00	56.80	180.00	4511.96	-278.01	-0.65	10.67	277.91	149958.99	2003852.35	
4640.00	61.10	180.10	4527.95	-304.56	-0.67	13.87	304.45	149932.44	2003852.33	
4669.00	64.90	180.20	4541.11	-330.39	-0.74	13.11	330.28	149906.61	2003852.26	
4700.00	68.40	181.30	4553.39	-358.85	-1.12	11.75	358.73	149878.15	2003851.88	
4731.00	71.30	181.70	4564.07	-387.94	-1.88	9.43	387.83	149849.06	2003851.12	
4762.00	72.00	181.70	4573.83	-417.35	-2.75	2.26	417.25	149819.65	2003850.25	
4794.00	72.30	181.70	4583.64	-447.79	-3.66	0.94	447.71	149789.21	2003849.34	
4825.00	72.20	181.30	4593.09	-477.31	-4.43	1.27	477.24	149759.69	2003848.57	

Calmena Energy Services

Company: Woolsey Operating Company
Well: Miller Diel #1H
Location: Barber County, Kansas

Date:5-Sep-2012
Surveys

Job# : 6708
NAD27 Ks South gr elev=1379

MD (feet)	Inclination (degrees)	Azimuth (degrees)	TVD RKB (feet)	N/-S (feet)	E/-W (feet)	DLS (deg/100')	VS @ 181.65° Az (feet)	Grid Y	Grid X	Comments
4857.00	72.00	181.00	4602.93	-507.75	-5.04	1.09	507.69	149729.25	2003847.96	
4888.00	71.80	180.50	4612.56	-537.22	-5.43	1.66	537.15	149699.78	2003847.57	
4919.00	72.20	180.60	4622.14	-566.70	-5.71	1.33	566.63	149670.30	2003847.29	
4951.00	74.20	181.10	4631.39	-597.33	-6.16	6.43	597.26	149639.67	2003846.84	
4983.00	76.50	181.20	4639.48	-628.28	-6.79	7.19	628.21	149608.72	2003846.21	
5014.00	78.80	180.80	4646.11	-658.55	-7.31	7.53	658.49	149578.45	2003845.69	
5044.00	80.90	180.10	4651.40	-688.08	-7.54	7.37	688.01	149548.92	2003845.46	
5074.00	82.70	180.20	4655.67	-717.77	-7.62	6.01	717.70	149519.23	2003845.38	
5105.00	84.90	180.40	4659.02	-748.59	-7.78	7.13	748.50	149488.41	2003845.22	
5136.00	86.40	180.40	4661.37	-779.50	-8.00	4.84	779.41	149457.50	2003845.00	
5167.00	87.10	180.00	4663.13	-810.45	-8.11	2.60	810.35	149426.55	2003844.89	
5199.00	86.10	178.70	4665.03	-842.39	-7.75	5.12	842.26	149394.61	2003845.25	
5230.00	85.50	177.90	4667.30	-873.29	-6.83	3.22	873.13	149363.71	2003846.17	
5261.00	86.00	177.10	4669.60	-904.18	-5.48	3.04	903.96	149332.82	2003847.52	
5290.00	86.90	177.50	4671.39	-933.09	-4.12	3.40	932.82	149303.91	2003848.88	
5322.00	87.30	177.10	4673.01	-965.01	-2.61	1.77	964.69	149271.99	2003850.39	
5393.00	85.90	177.10	4677.22	-1035.80	0.97	1.97	1035.34	149201.21	2003853.97	
5422.00	85.60	177.30	4679.37	-1064.68	2.39	1.24	1064.17	149172.32	2003855.39	
5454.00	85.60	176.90	4681.83	-1096.55	4.00	1.25	1095.98	149140.46	2003857.00	
5484.00	85.10	176.60	4684.26	-1126.40	5.70	1.94	1125.77	149110.60	2003858.70	
5516.00	84.50	177.50	4687.16	-1158.22	7.34	3.37	1157.53	149078.78	2003860.34	
5547.00	85.40	178.70	4689.89	-1189.09	8.36	4.83	1188.35	149047.91	2003861.36	
5578.00	86.30	179.70	4692.13	-1220.00	8.79	4.33	1219.24	149017.00	2003861.79	
5610.00	87.00	180.10	4694.00	-1251.95	8.85	2.52	1251.17	148985.05	2003861.85	
5641.00	87.80	180.60	4695.41	-1282.91	8.66	3.04	1282.13	148954.09	2003861.66	
5670.00	88.30	180.80	4696.39	-1311.89	8.30	1.86	1311.11	148925.11	2003861.30	
5702.00	87.80	181.30	4697.48	-1343.87	7.72	2.21	1343.09	148893.13	2003860.72	
5731.00	87.40	180.90	4698.70	-1372.84	7.16	1.95	1372.06	148864.16	2003860.16	
5760.00	88.20	181.60	4699.81	-1401.81	6.53	3.66	1401.04	148835.19	2003859.53	
5790.00	89.20	182.50	4700.49	-1431.78	5.46	4.48	1431.03	148805.22	2003858.46	

Calmena Energy Services

Company: Woolsey Operating Company
Well: Miller Diel #1H
Location: Barber County, Kansas

Date:5-Sep-2012
Surveys

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MD (feet)	Inclination (degrees)	Azimuth (degrees)	TVD RKB (feet)	N/-S (feet)	E/-W (feet)	DLS (deg/100')	VS @ 181.65° Az (feet)	Grid Y	Grid X	Comments
5821.00	89.60	182.60	4700.81	-1462.75	4.08	1.33	1462.03	148774.25	2003857.08	
5850.00	89.70	182.60	4700.99	-1491.72	2.76	0.34	1491.02	148745.28	2003855.76	
5882.00	89.60	182.30	4701.19	-1523.69	1.39	0.99	1523.02	148713.31	2003854.39	
5913.00	88.80	182.40	4701.62	-1554.66	0.12	2.60	1554.01	148682.34	2003853.12	
5945.00	88.50	182.20	4702.37	-1586.63	-1.16	1.13	1586.00	148650.37	2003851.84	
5974.00	88.80	182.00	4703.06	-1615.60	-2.22	1.24	1614.99	148621.40	2003850.78	
6003.00	89.30	181.40	4703.54	-1644.58	-3.08	2.69	1643.99	148592.42	2003849.92	
6033.00	90.30	181.20	4703.64	-1674.57	-3.76	3.40	1673.99	148562.43	2003849.24	
6062.00	90.50	180.80	4703.44	-1703.57	-4.27	1.54	1702.98	148533.43	2003848.73	
6092.00	90.50	181.00	4703.18	-1733.56	-4.74	0.67	1732.98	148503.44	2003848.26	
6122.00	90.20	180.30	4703.00	-1763.56	-5.08	2.54	1762.98	148473.44	2003847.92	
6152.00	89.80	180.00	4703.00	-1793.56	-5.16	1.67	1792.97	148443.44	2003847.84	
6183.00	89.20	179.70	4703.27	-1824.56	-5.08	2.16	1823.95	148412.44	2003847.92	
6214.00	90.60	179.60	4703.32	-1855.56	-4.89	4.53	1854.93	148381.44	2003848.11	
6246.00	89.80	179.80	4703.21	-1887.56	-4.72	2.58	1886.91	148349.44	2003848.28	
6277.00	89.20	179.80	4703.48	-1918.56	-4.61	1.94	1917.89	148318.45	2003848.39	
6309.00	88.90	180.00	4704.01	-1950.55	-4.56	1.13	1949.87	148286.45	2003848.44	
6340.00	90.60	180.50	4704.14	-1981.55	-4.69	5.72	1980.86	148255.45	2003848.31	
6369.00	90.50	180.60	4703.87	-2010.55	-4.97	0.49	2009.86	148226.45	2003848.03	
6402.00	89.50	180.60	4703.87	-2043.54	-5.32	3.03	2042.85	148193.46	2003847.68	
6433.00	88.90	180.10	4704.30	-2074.54	-5.51	2.52	2073.84	148162.46	2003847.49	
6464.00	89.00	179.80	4704.87	-2105.53	-5.48	1.02	2104.82	148131.47	2003847.52	
6495.00	89.10	180.00	4705.38	-2136.53	-5.42	0.72	2135.80	148100.47	2003847.58	
6526.00	89.20	180.20	4705.84	-2167.53	-5.48	0.72	2166.79	148069.47	2003847.52	
6557.00	88.40	180.10	4706.49	-2198.52	-5.56	2.60	2197.77	148038.48	2003847.44	
6588.00	88.20	180.50	4707.41	-2229.51	-5.72	1.44	2228.75	148007.50	2003847.28	
6619.00	88.00	180.60	4708.44	-2260.49	-6.02	0.72	2259.72	147976.51	2003846.98	
6650.00	88.50	180.90	4709.38	-2291.47	-6.43	1.88	2290.70	147945.53	2003846.57	
6682.00	88.90	181.30	4710.11	-2323.46	-7.04	1.77	2322.70	147913.55	2003845.96	
6713.00	89.00	180.90	4710.68	-2354.44	-7.63	1.33	2353.69	147882.56	2003845.37	

Calmena Energy Services

Company: Woolsey Operating Company
Well: Miller Diel #1H
Location: Barber County, Kansas

Date:5-Sep-2012
Surveys

Job# : 6708
NAD27 Ks South gr elev=1379

MD (feet)	Inclination (degrees)	Azimuth (degrees)	TVD RKB (feet)	N/-S (feet)	E/-W (feet)	DLS (deg/100')	VS @ 181.65° Az (feet)	Grid Y	Grid X	Comments
6744.00	89.40	180.90	4711.11	-2385.44	-8.12	1.29	2384.68	147851.56	2003844.88	
6775.00	89.40	181.00	4711.44	-2416.43	-8.64	0.32	2415.68	147820.57	2003844.36	
6806.00	88.90	180.30	4711.90	-2447.43	-8.99	2.77	2446.67	147789.57	2003844.01	
6836.00	88.00	179.80	4712.71	-2477.41	-9.01	3.43	2476.65	147759.59	2003843.99	
6867.00	87.80	179.80	4713.84	-2508.39	-8.90	0.65	2507.61	147728.61	2003844.10	
6898.00	87.90	179.30	4715.01	-2539.37	-8.66	1.64	2538.57	147697.63	2003844.34	
6929.00	88.20	179.40	4716.06	-2570.35	-8.31	1.02	2569.52	147666.65	2003844.69	
6959.00	88.20	179.60	4717.00	-2600.33	-8.05	0.67	2599.49	147636.67	2003844.95	
6990.00	88.10	179.70	4718.00	-2631.32	-7.86	0.46	2630.45	147605.68	2003845.14	
7021.00	87.80	179.80	4719.11	-2662.30	-7.72	1.02	2661.42	147574.70	2003845.28	
7053.00	88.20	179.60	4720.23	-2694.28	-7.56	1.40	2693.38	147542.72	2003845.44	
7083.00	89.20	179.40	4720.91	-2724.27	-7.29	3.40	2723.35	147512.73	2003845.71	
7113.00	89.10	179.30	4721.36	-2754.26	-6.95	0.47	2753.32	147482.74	2003846.05	
7145.00	89.80	179.00	4721.66	-2786.26	-6.48	2.38	2785.29	147450.74	2003846.52	
7177.00	89.50	179.40	4721.86	-2818.25	-6.03	1.56	2817.26	147418.75	2003846.97	
7206.00	88.40	179.10	4722.39	-2847.25	-5.65	3.93	2846.23	147389.75	2003847.35	
7235.00	87.70	179.60	4723.38	-2876.23	-5.32	2.97	2875.19	147360.77	2003847.68	
7264.00	88.20	179.40	4724.41	-2905.21	-5.07	1.86	2904.15	147331.79	2003847.93	
7295.00	89.10	180.00	4725.14	-2936.20	-4.91	3.49	2935.12	147300.80	2003848.09	
7326.00	89.00	180.40	4725.66	-2967.19	-5.02	1.33	2966.11	147269.81	2003847.98	
7356.00	89.30	180.20	4726.10	-2997.19	-5.17	1.20	2996.10	147239.81	2003847.83	
7385.00	89.70	179.90	4726.36	-3026.19	-5.20	1.72	3025.08	147210.81	2003847.80	
7417.00	89.40	179.50	4726.61	-3058.19	-5.03	1.56	3057.06	147178.81	2003847.97	
7449.00	88.40	178.90	4727.22	-3090.18	-4.59	3.64	3089.03	147146.82	2003848.41	
7478.00	88.00	179.10	4728.13	-3119.16	-4.08	1.54	3117.98	147117.84	2003848.92	
7509.00	88.60	179.50	4729.05	-3150.14	-3.70	2.33	3148.94	147086.86	2003849.30	
7540.00	88.70	179.60	4729.78	-3181.13	-3.46	0.46	3179.91	147055.87	2003849.54	
7570.00	89.00	179.50	4730.38	-3211.13	-3.22	1.05	3209.89	147025.87	2003849.78	
7602.00	89.10	179.80	4730.92	-3243.12	-3.03	0.99	3241.86	146993.88	2003849.97	
7631.00	88.70	179.70	4731.47	-3272.12	-2.90	1.42	3270.84	146964.89	2003850.10	

Calmena Energy Services

Company: Woolsey Operating Company
Well: Miller Diel #1H
Location: Barber County, Kansas

Date:5-Sep-2012
Surveys

Job# : 6708
NAD27 Ks South gr elev=1379

MD (feet)	Inclination (degrees)	Azimuth (degrees)	TVD RKB (feet)	N/-S (feet)	E/-W (feet)	DLS (deg/100')	VS @ 181.65° Az (feet)	Grid Y	Grid X	Comments
7662.00	88.20	179.40	4732.31	-3303.10	-2.66	1.88	3301.81	146933.90	2003850.34	
7693.00	88.50	179.50	4733.20	-3334.09	-2.36	1.02	3332.77	146902.91	2003850.64	
7724.00	89.30	179.20	4733.80	-3365.08	-2.01	2.76	3363.74	146871.92	2003850.99	
7753.00	89.90	179.50	4734.00	-3394.08	-1.68	2.31	3392.72	146842.92	2003851.32	
7783.00	89.10	179.40	4734.26	-3424.08	-1.39	2.69	3422.70	146812.93	2003851.61	
7814.00	89.50	179.80	4734.64	-3455.07	-1.17	1.82	3453.67	146781.93	2003851.83	
7844.00	89.80	180.10	4734.82	-3485.07	-1.15	1.41	3483.66	146751.93	2003851.85	
7874.00	90.30	179.90	4734.80	-3515.07	-1.15	1.80	3513.65	146721.93	2003851.85	
7906.00	89.10	179.80	4734.97	-3547.07	-1.06	3.76	3545.63	146689.93	2003851.94	
7938.00	88.80	179.30	4735.55	-3579.06	-0.81	1.82	3577.60	146657.94	2003852.19	
7969.00	89.00	179.30	4736.15	-3610.06	-0.43	0.65	3608.57	146626.95	2003852.57	
8000.00	89.40	178.90	4736.58	-3641.05	0.05	1.82	3639.54	146595.95	2003853.05	
8030.00	89.90	179.40	4736.76	-3671.04	0.50	2.36	3669.51	146565.96	2003853.50	
8061.00	91.80	178.80	4736.30	-3702.04	0.98	6.43	3700.47	146534.97	2003853.98	
8093.00	91.80	178.80	4735.30	-3734.01	1.65	0.00	3732.42	146502.99	2003854.65	
8124.00	91.20	178.10	4734.49	-3764.99	2.49	2.97	3763.36	146472.01	2003855.49	
8155.00	90.60	178.60	4734.00	-3795.97	3.38	2.52	3794.30	146441.03	2003856.38	
8187.00	86.20	178.80	4734.89	-3827.95	4.11	13.76	3826.24	146409.06	2003857.11	
8219.00	88.40	179.60	4736.40	-3859.90	4.56	7.31	3858.17	146377.10	2003857.56	
8250.00	89.10	180.40	4737.08	-3890.90	4.56	3.43	3889.15	146346.10	2003857.56	
8281.00	86.80	180.60	4738.19	-3921.87	4.29	7.45	3920.12	146315.13	2003857.29	
8312.00	86.80	180.50	4739.92	-3952.82	3.99	0.32	3951.07	146284.18	2003856.99	
8342.00	87.60	180.30	4741.38	-3982.79	3.78	2.75	3981.03	146254.21	2003856.78	
8374.00	88.40	180.70	4742.50	-4014.77	3.50	2.79	4013.00	146222.24	2003856.50	
8404.00	89.50	180.70	4743.05	-4044.76	3.13	3.67	4042.99	146192.24	2003856.13	
8436.00	89.60	180.90	4743.30	-4076.75	2.69	0.70	4074.99	146160.25	2003855.69	
8467.00	89.40	181.50	4743.57	-4107.75	2.04	2.04	4105.98	146129.25	2003855.04	
8497.00	89.40	180.90	4743.88	-4137.74	1.41	2.00	4135.98	146099.26	2003854.41	
8528.00	89.90	180.90	4744.07	-4168.73	0.92	1.61	4166.98	146068.27	2003853.92	
8560.00	88.50	180.50	4744.52	-4200.73	0.53	4.55	4198.97	146036.27	2003853.53	

Calmena Energy Services

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MD (feet)	Inclination (degrees)	Azimuth (degrees)	TVD RKB (feet)	N/-S (feet)	E/-W (feet)	DLS (deg/100')	VS @ 181.65° Az (feet)	Grid Y	Grid X	Comments
8591.00	88.50	180.20	4745.33	-4231.72	0.34	0.97	4229.95	146005.29	2003853.34	
8623.00	88.60	180.10	4746.14	-4263.71	0.26	0.44	4261.93	145973.30	2003853.26	
8653.00	90.00	180.60	4746.51	-4293.70	0.08	4.96	4291.92	145943.30	2003853.08	
8684.00	92.20	180.50	4745.91	-4324.69	-0.22	7.10	4322.91	145912.31	2003852.78	
8715.00	93.00	180.40	4744.51	-4355.66	-0.47	2.60	4353.87	145881.34	2003852.53	
8747.00	92.20	180.30	4743.06	-4387.63	-0.66	2.52	4385.83	145849.38	2003852.34	
8778.00	91.30	180.10	4742.11	-4418.61	-0.77	2.97	4416.80	145818.39	2003852.23	
8810.00	89.70	179.90	4741.83	-4450.61	-0.77	5.04	4448.79	145786.39	2003852.23	
8840.00	89.80	179.70	4741.96	-4480.61	-0.66	0.75	4478.77	145756.39	2003852.34	
8869.00	89.60	179.20	4742.11	-4509.61	-0.39	1.86	4507.75	145727.40	2003852.61	
8900.00	89.60	179.10	4742.33	-4540.60	0.07	0.32	4538.72	145696.40	2003853.07	
8930.00	90.00	179.40	4742.43	-4570.60	0.47	1.67	4568.69	145666.40	2003853.47	
8959.00	89.90	179.00	4742.46	-4599.60	0.87	1.42	4597.66	145637.40	2003853.87	
8989.00	89.80	179.40	4742.54	-4629.59	1.29	1.37	4627.64	145607.41	2003854.29	
9018.00	89.90	179.50	4742.61	-4658.59	1.57	0.49	4656.61	145578.41	2003854.57	
9047.00	90.20	179.50	4742.59	-4687.59	1.82	1.03	4685.59	145549.41	2003854.82	
9118.00	90.20	179.50	4742.34	-4758.59	2.44	0.00	4756.54	145478.41	2003855.44	Survey projected