KOLAR Document ID: 1267237

Confidentiality Requested:
☑ Yes ☐ No

KANSAS CORPORATION COMMISSION
OIL & GAS CONSERVATION DIVISION

Form ACO-1
January 2018
Form must be Typed
Form must be Signed
All blanks must be Filled

WELL COMPLETION FORM
WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License # 34878
Name: Lawco Holdings, LLC
Address 1: 113 S MAIN
Address 2: PO BOX 425
City: BENTONVILLE State: AR Zip: 72712 + _ _ _ _
Contact Person: James R. Lawson
Phone: (479) 273-2670
CONTRACTOR: License # 8736
Name: Dixon, James David
Wellsite Geologist: David A. Brierley
Purchaser:

Designate Type of Completion:
☑ New Well ☐ Re-Entry ☐ Workover
☑ Oil ☐ WSW ☐ SWD
☐ Gas ☐ DH ☐ EOR
☐ OG ☐ GSW
☐ CM *(Coal Bed Methane)*
☐ Cathodic ☐ Other *(Core, Expl., etc.)*:

If Workover/Re-entry: Old Well Info as follows:
Operator:
Well Name:
Original Comp. Date: Original Total Depth:
☐ Deepening ☐ Re-perf. ☐ Conv. to EOR ☐ Conv. to SWD
☐ Plug Back ☐ Liner ☐ Conv. to GSW ☐ Conv. to Producer

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

12/13/2017 Spud Date or Recompletion Date
12/19/2017 Date Reached TD
01/11/2018 Completion Date or Recompletion Date

API No.: 15-035-24682-00-00
Spot Description:
SW - NE - SW - SE Sec. 32 Twp. 34 S. R. 7 ☑ East ☐ West
810 Feet from ☐ North / ☑ South Line of Section
1830 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: Cowley
Lease Name: SMITH Well #: 2-32
Field Name:
Producing Formation: Mississippian Lime
Elevation: Ground: 1203 Kelly Bushing: 1211
Total Vertical Depth: 3390 Plug Back Total Depth:
Amount of Surface Pipe Set and Cemented at: 336 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: 1300 ppm Fluid volume: 2000 bbls
Dewatering method used: Evaporated
Location of fluid disposal if hauled offsite:
Operator Name:
Lease Name: License #:
Quarter Sec. Twp. S. R. ☐ East ☐ West
County: Permit #:

AFFIDAVIT
I am the affiant and I hereby certify that all requirements of the statutes, rules and regulations promulgated to regulate the oil and gas industry have been fully complied with and the statements herein are complete and correct to the best of my knowledge.

Submitted Electronically

KCC Office Use ONLY
☐ **Confidentiality Requested**
Date: 03/08/2018
☐ **Confidential Release Date:** 03/07/2020
☑ **Wireline Log Received** ☐ **Drill Stem Tests Received**
☑ **Geologist Report / Mud Logs Received**
☐ **UIC Distribution**
ALT ☑ **I** ☐ **II** ☐ **III** **Approved by:** Karen Ritter **Date:** 03/08/2018

Operator Name: Lawco Holdings, LLC Lease Name: SMITH Well #: 2-32

Sec. 32 Twp. 34 S. R. 7 ☑ East ☐ West County: Cowley

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

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

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

List All E. Logs Run:

Litho Density Sidewall Neutron Log
Dual Induction LL3

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

Name	Top	Datum
Altamont	2431	NAD27
Pawnee	2514	NAD27
FT Scott	2560	NAD27
Verdigris	2657	NAD27
Chat	2813	NAD27
Miss Lime	2847	NAD27

CASING RECORD ☑ New ☐ Used
Report all strings set-conductor, surface, intermediate, production, etc.

Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives
Surface	12.25	8.625	23	346	Class A	190	3% calcz; 2% gel; 1/4 # per sk Floseal
Production	7.825	5.5	15.50	3359	Pozmix; Thick Set	325	60/40 pozmix; gel 6%; Phenoseal 2#/sl; 1

ADDITIONAL CEMENTING / SQUEEZE RECORD

Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
☐ Perforate ☐ Protect Casing ☐ Plug Back TD ☐ Plug Off Zone	-			
	-			

1. Did you perform a hydraulic fracturing treatment on this well? ☑ Yes ☐ No *(If No, skip questions 2 and 3)*
2. Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons? ☐ Yes ☑ No *(If No, skip question 3)*
3. Was the hydraulic fracturing treatment information submitted to the chemical disclosure registry? ☐ Yes ☐ No *(If No, fill out Page Three of the ACO-1)*

Date of first Production/Injection or Resumed Production/ Injection:	Producing Method: ☐ Flowing ☐ Pumping ☐ Gas Lift ☐ Other *(Explain)*

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

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

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

TUBING RECORD: Size: Set At: Packer At:

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

Form	ACO1 - Well Completion
Operator	Lawco Holdings, LLC
Well Name	SMITH 2-32
Doc ID	1267237

Casing

Purpose Of String	Size Hole Drilled	Size Casing Set	Weight	Setting Depth	Type Of Cement	Number of Sacks Used	Type and Percent Additives
Surface	12.25	8.625	23	346	Class A	190	3% calcz; 2% gel; 1/4 # per sk Floseal
Production	7.825	5.5	15.50	3359	Pozmix; Thick Set	325	60/40 pozmix; gel 6%; Phenoseal 2#/sl; Thick set Cement; Kol-seal 5# sk; Phenoseal 2#/sk; Caustic Preflush

WALLER WELL LOGGING LLC

WellSight Systems

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

Well Name:	**SMITH #2-32**
API:	
Location:	**SE/4 SEC 32-34S-7E COWLEY CO., KANSAS**
License Number:	**Region:**
Spud Date:	**12/13/17** **Drilling Completed: 12/19/17**
Surface Coordinates:	
Bottom Hole Coordinates:	
Ground Elevation (ft):	**1203'** **K.B. Elevation (ft): 1203'**
Logged Interval (ft):	**400'** **To: 3390'** **Total Depth (ft): 3390'**
Formation:	**LAYTON/ALTAMONT/PAWNEE/MISSISSIPPIAN**
Type of Drilling Fluid:	**CHEMICAL GEL**

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

OPERATOR

Company: LAWCO HOLDINGS LLC
Address: 113 S. MAIN
PO BOX 425
BENTONVILLE, ARKANSAS 72742

GEOLOGIST

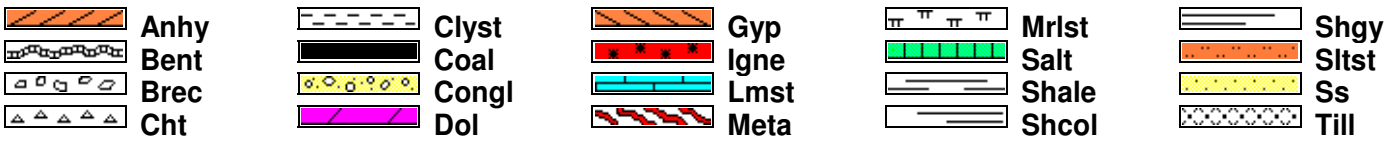
Name: CLAY WALLER/DAVE BRIERLEY
Company: WALLER WELL LOGGING, LLC
Address: 805 W. MAINE
ENID, OKLAHOMA 73701

Cores

DSTs

Comments

ROCK TYPES



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

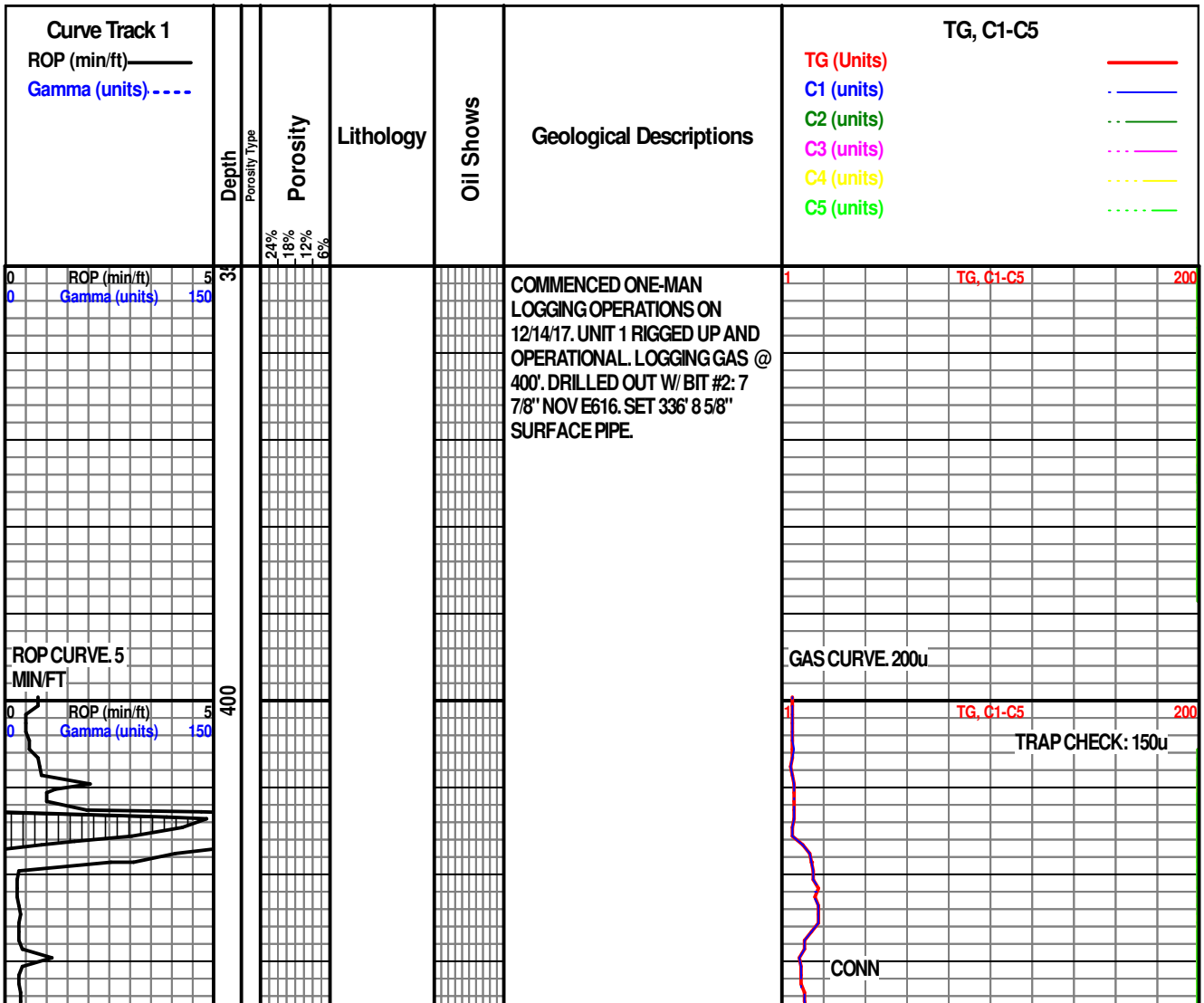
ROUNDING
- Rounded
- Subrnd
- Subang
- Angular

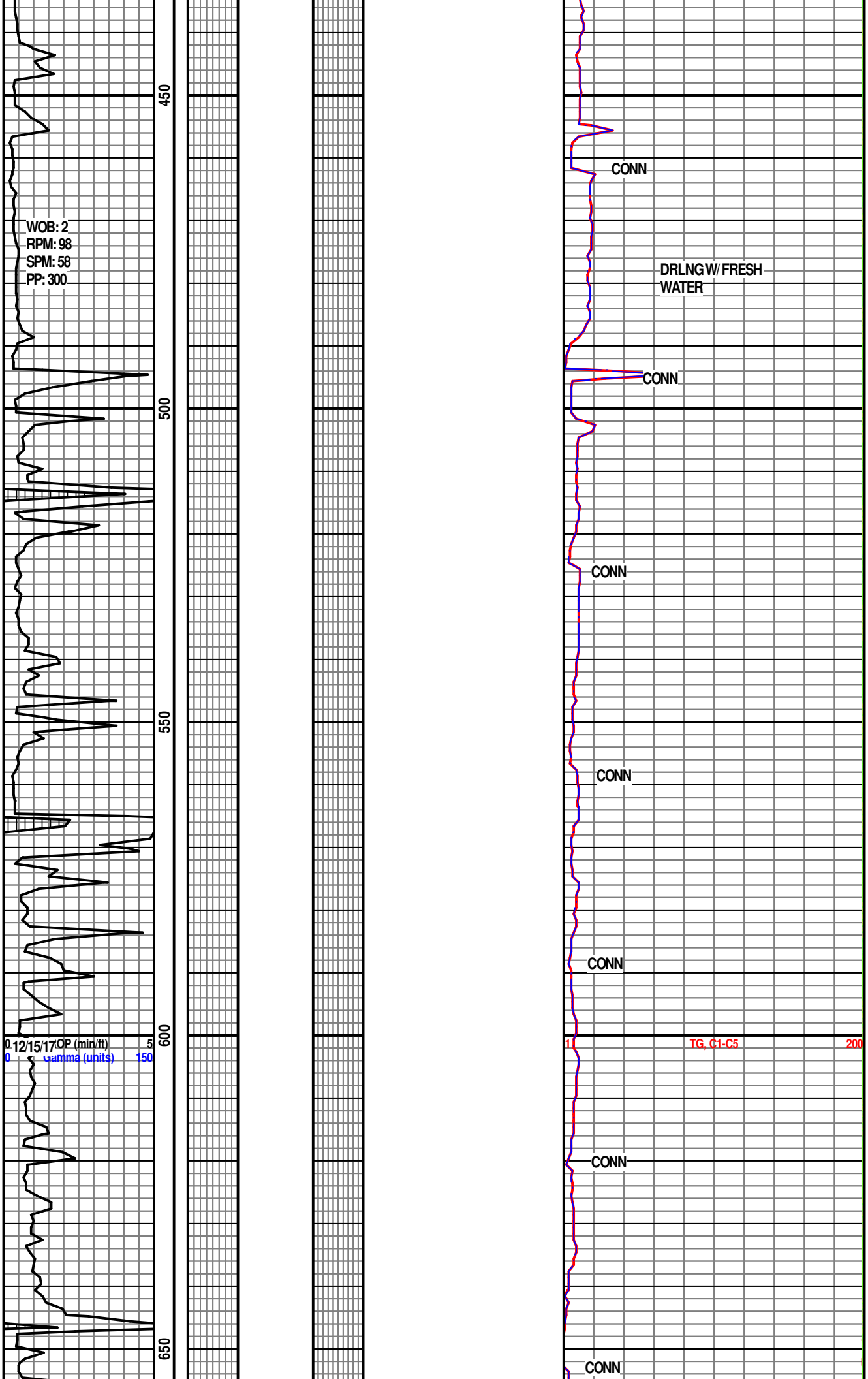
OIL SHOW
- Even

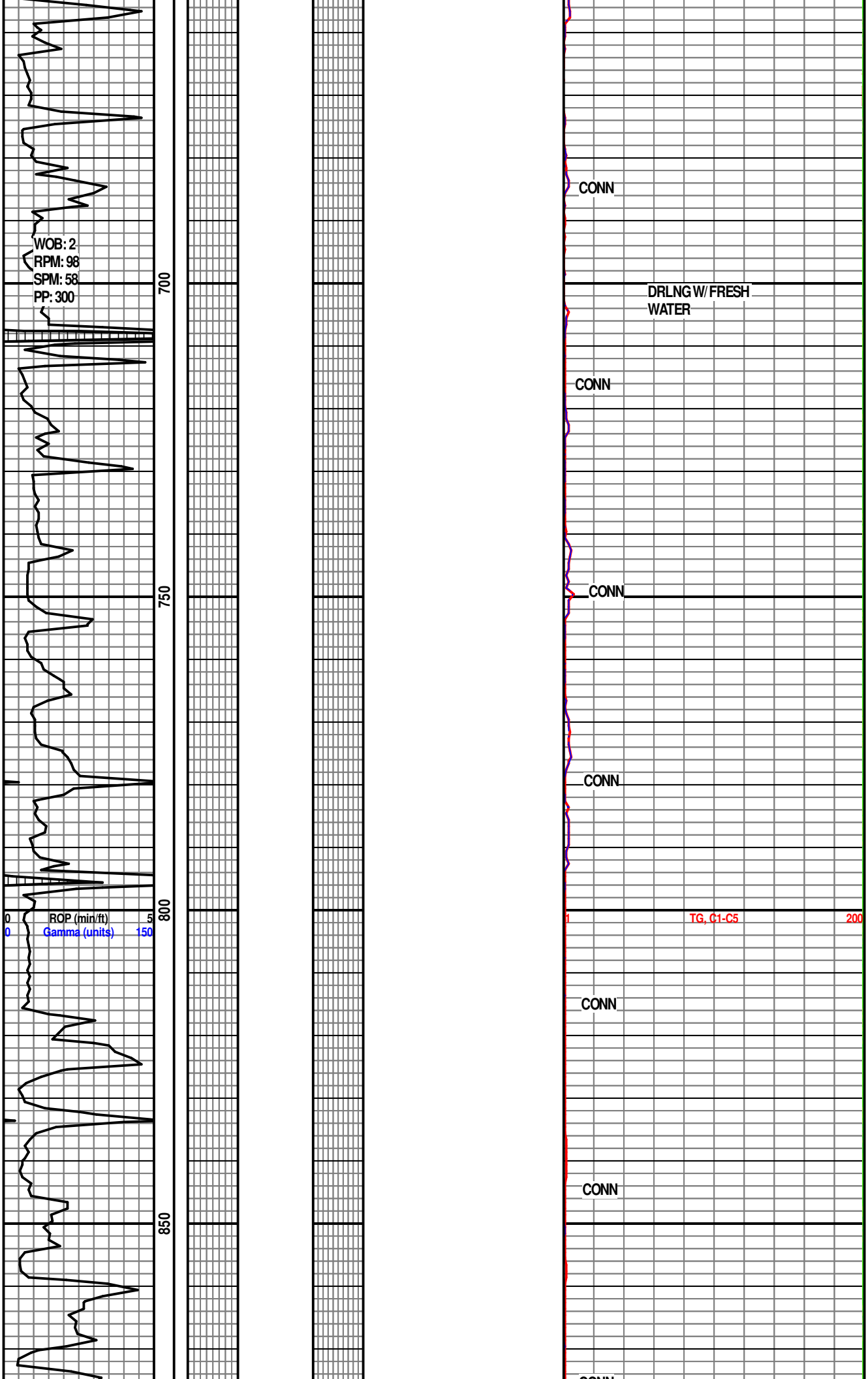
- Spotted
- Ques
- Dead

INTERVAL
- Core
- Dst

EVENT
- Rft
- Sidewall




WOB: 2
RPM: 98
SPM: 58
PP: 300
450
500
550
600
650
0 12/15/17 ROP (min/ft) 5
0 Gamma (units) 150
CONN
DRLNG W/ FRESH WATER
CONN
CONN
CONN
CONN
1 TG, C1-C5 200
CONN
CONN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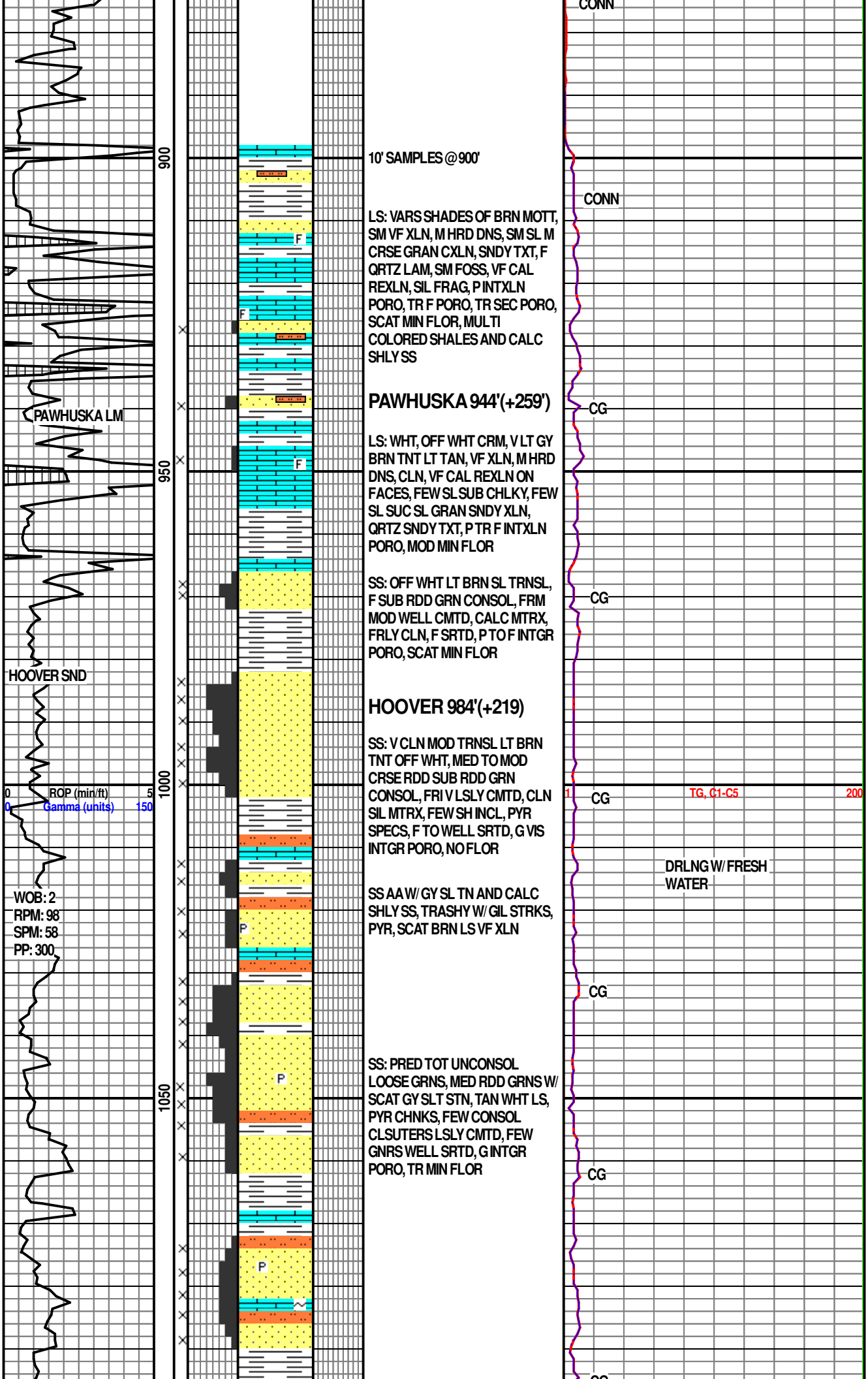
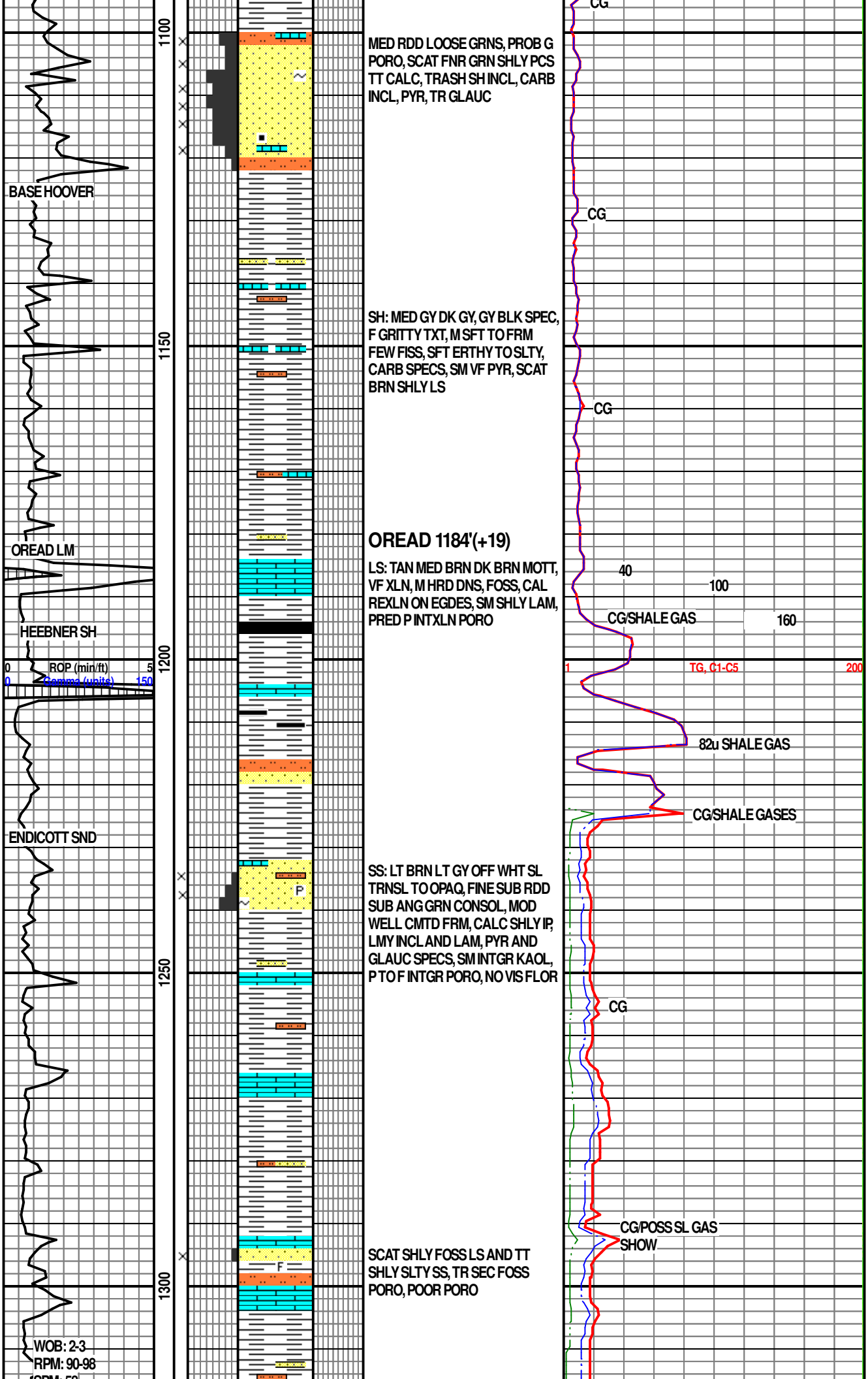
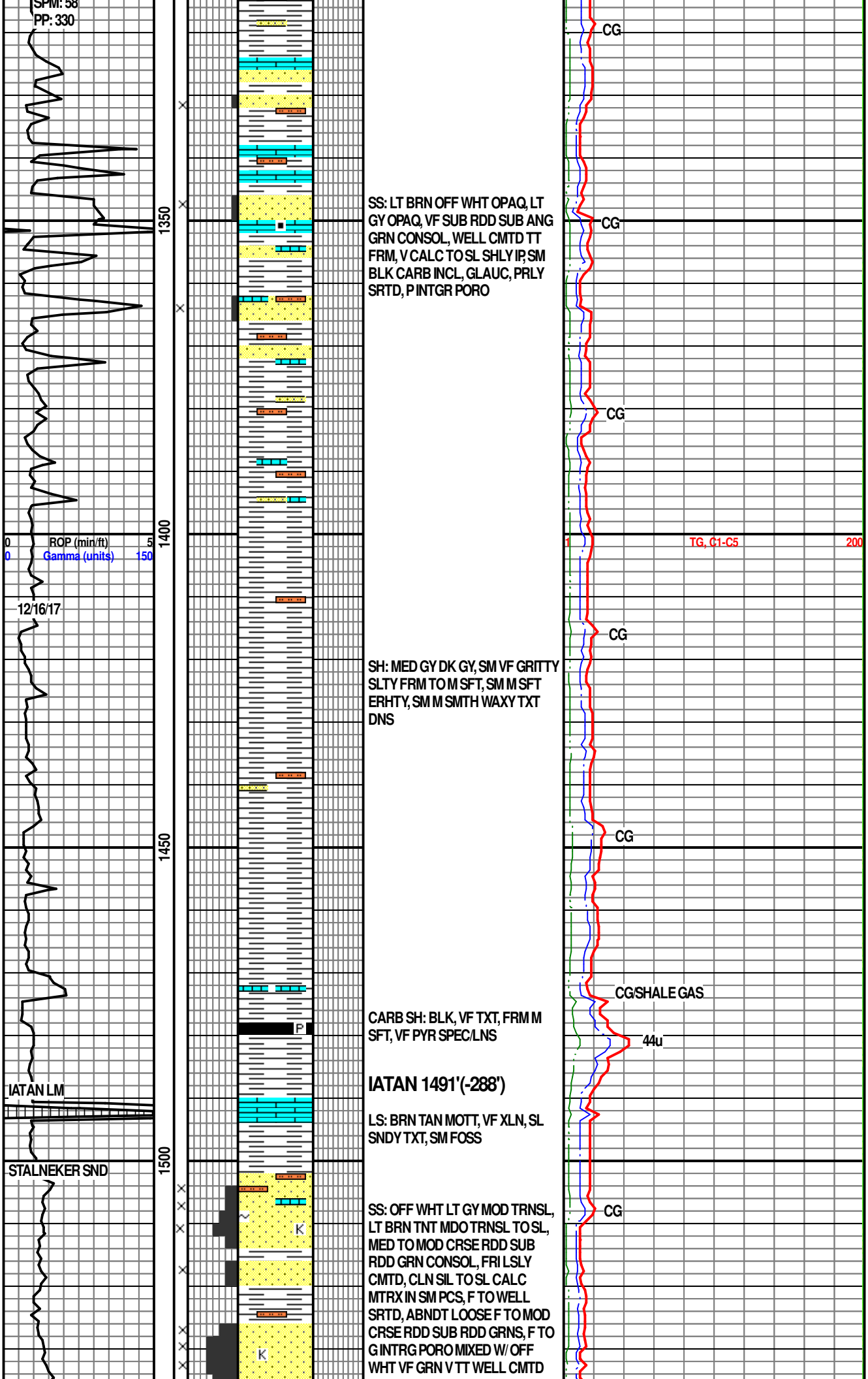
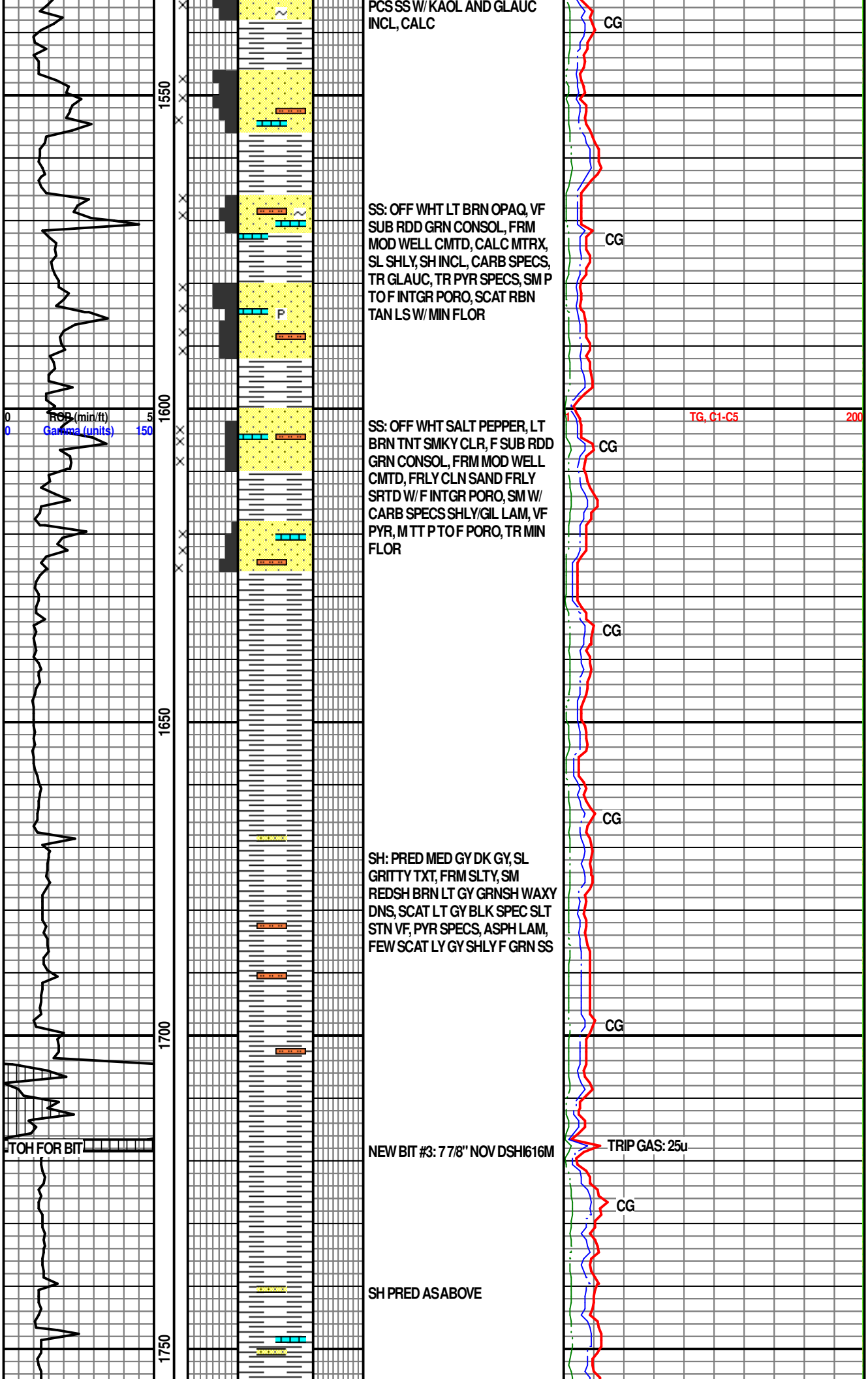
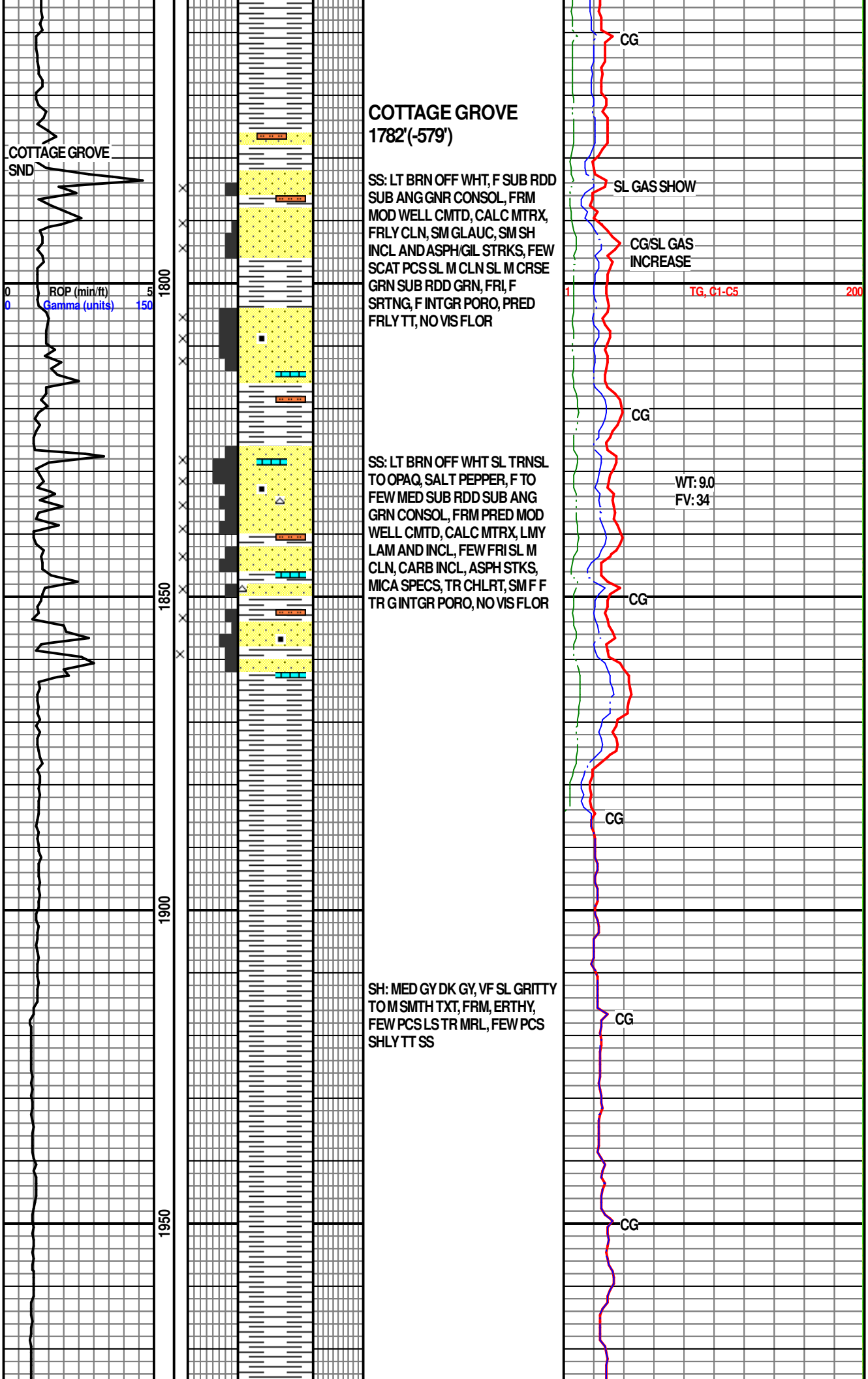
RPM: 98
SPM: 58
PP: 300
700
750
800
850
0
ROP (min/ft)
5
0
Gamma (units)
150
CONN
DRLNG W/ FRESH WATER
CONN
CONN
CONN
1
TG, C1-C5
200
CONN
CONN
CONN

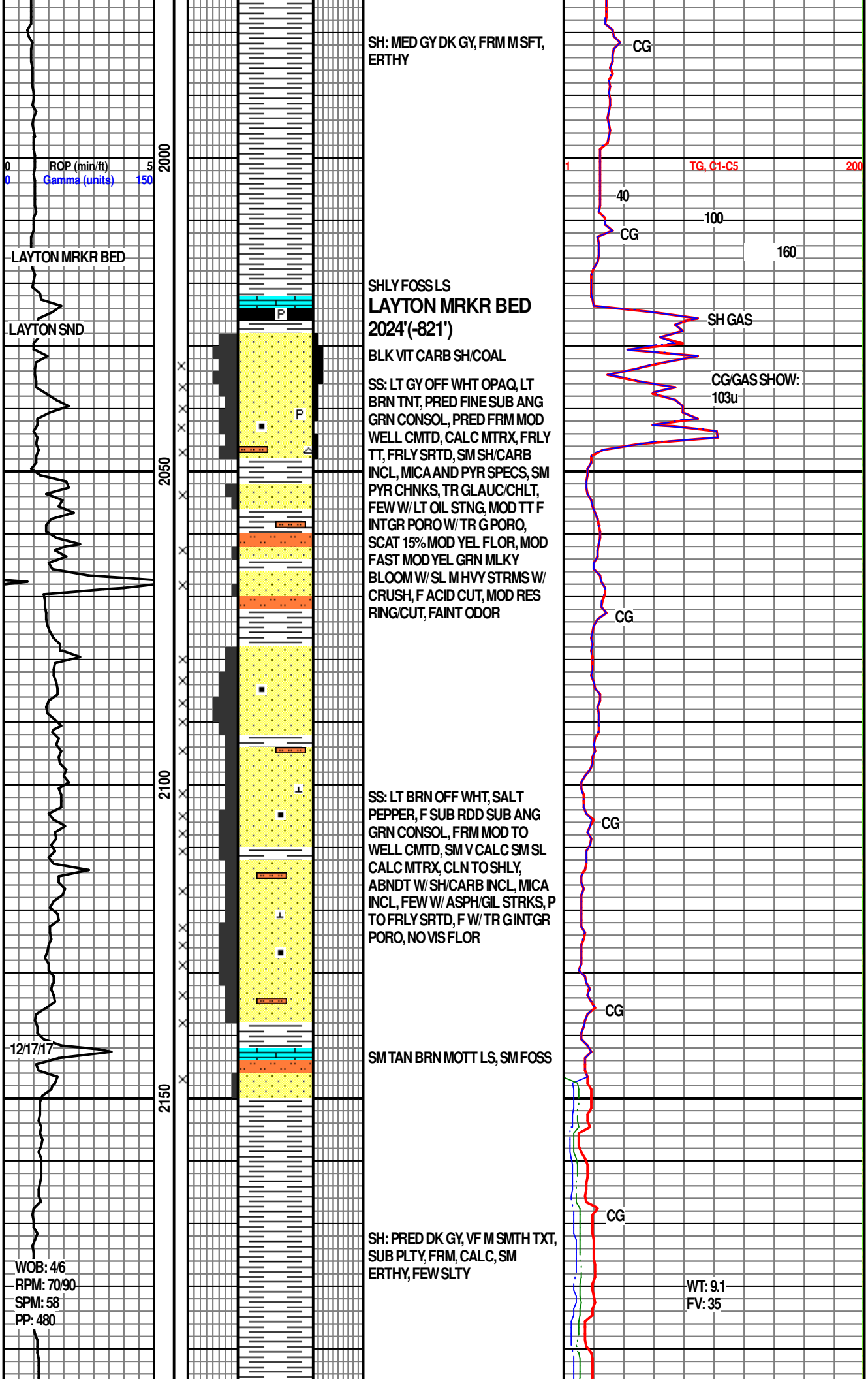

900
950
1000
1050
PAWHUSKA LM
HOOVER SND
0 ROP (min/ft) 5
0 Gamma (units) 150
WOB: 2
RPM: 98
SPM: 58
PP: 300
10' SAMPLES @ 900'
LS: VARS SHADES OF BRN MOTT, SM VF XLN, M HRD DNS, SM SL M CRSE GRAN CXLN, SNDY TXT, F QRTZ LAM, SM FOSS, VF CAL REXLN, SIL FRAG, P INTXLN PORO, TR F PORO, TR SEC PORO, SCAT MIN FLOR, MULTI COLORED SHALES AND CALC SHLY SS
PAWHUSKA 944'(+259')
LS: WHT, OFF WHT CRM, V LT GY BRN TNT LT TAN, VF XLN, M HRD DNS, CLN, VF CAL REXLN ON FACES, FEW SL SUB CHLKY, FEW SL SUC SL GRAN SNDY XLN, QRTZ SNDY TXT, P TR F INTXLN PORO, MOD MIN FLOR
SS: OFF WHT LT BRN SL TRNSL, F SUB RDD GRN CONSOL, FRM MOD WELL CMTD, CALC MTRX, FRLY CLN, F SRTD, P TO F INTGR PORO, SCAT MIN FLOR
HOOVER 984'(+219)
SS: V CLN MOD TRNSL LT BRN TNT OFF WHT, MED TO MOD CRSE RDD SUB RDD GRN CONSOL, FRI V LSLY CMTD, CLN SIL MTRX, FEW SH INCL, PYR SPECS, F TO WELL SRTD, G VIS INTGR PORO, NO FLOR
SS AA W/ GY SL TN AND CALC SHLY SS, TRASHY W/ GIL STRKS, PYR, SCAT BRN LS VF XLN
SS: PRED TOT UNCONSOL LOOSE GRNS, MED RDD GRNS W/ SCAT GY SLT STN, TAN WHT LS, PYR CHNKS, FEW CONSOL CLSUTERS LSLY CMTD, FEW GNRS WELL SRTD, G INTGR PORO, TR MIN FLOR
F
F
F
P
P
P
CONN
CONN
CG
CG
CG
CG
CG
1 TG, C1-C5 200
DRLNG W/ FRESH WATER

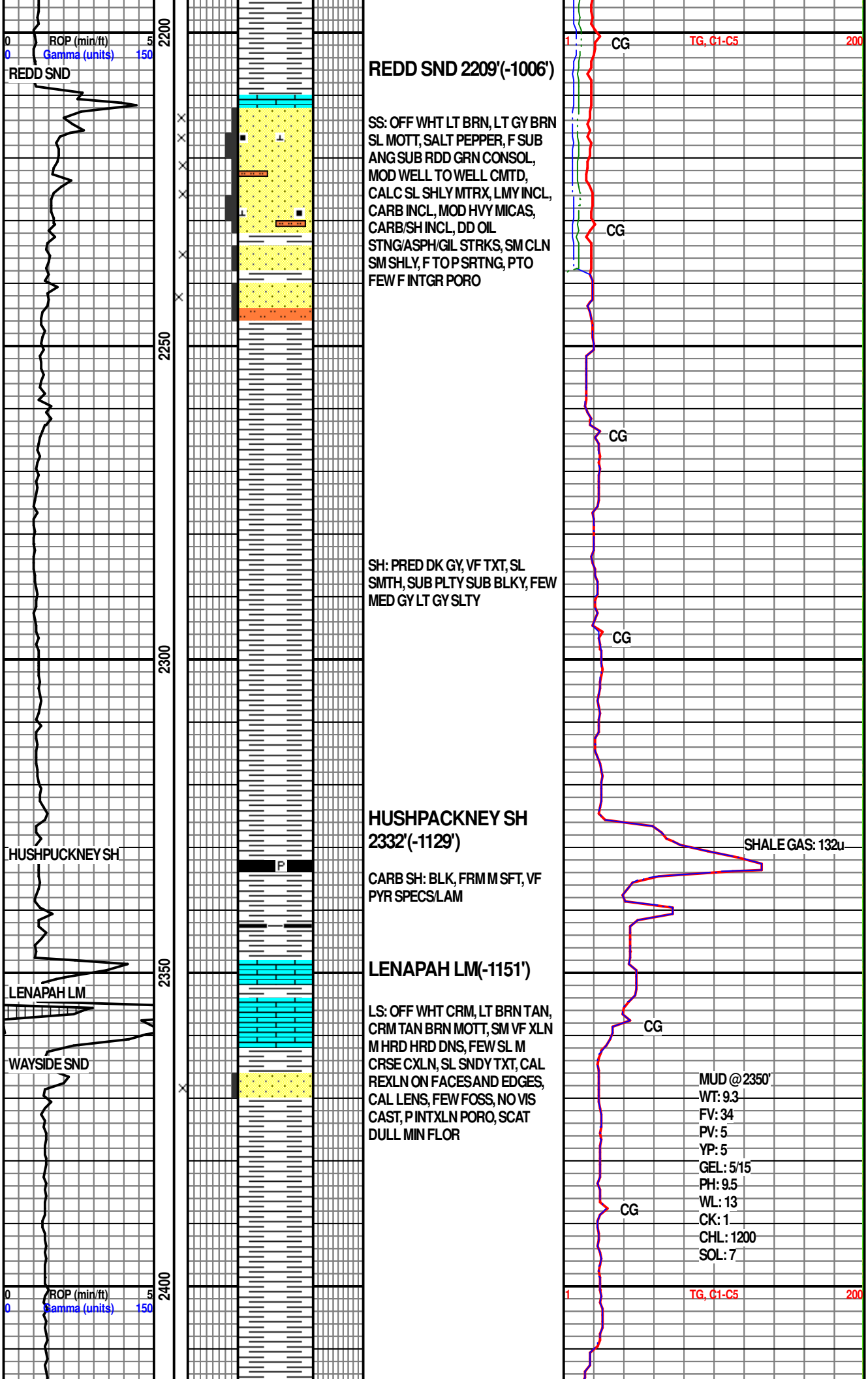

1100
1150
1200
1250
1300
BASE HOOVER
OREAD LM
HEEBNER SH
ENDICOTT SND
0 ROP (min/ft) 5
0 Gamma (units) 150
WOB: 2-3
RPM: 90-98
MED RDD LOOSE GRNS, PROB G PORO, SCAT FNR GRN SHLY PCS TT CALC, TRASH SH INCL, CARB INCL, PYR, TR GLAUC
SH: MED GY DK GY, GY BLK SPEC, F GRITTY TXT, M SFT TO FRM FEW FISS, SFT ERTHY TO SLTY, CARB SPECS, SM VF PYR, SCAT BRN SHLY LS
OREAD 1184'(+19)
LS: TAN MED BRN DK BRN MOTT, VF XLN, M HRD DNS, FOSS, CAL REXLN ON EGDES, SM SHLY LAM, PRED P INTXLN PORO
SS: LT BRN LT GY OFF WHT SL TRNSL TO OPAQ, FINE SUB RDD SUB ANG GRN CONSOL, MOD WELL CMTD FRM, CALC SHLY IP, LMY INCL AND LAM, PYR AND GLAUC SPECS, SM INTGR KAOL, P TO F INTGR PORO, NO VIS FLOR
SCAT SHLY FOSS LS AND TT SHLY SLTY SS, TR SEC FOSS PORO, POOR PORO
P
F
CG
CG
CG
40
100
CG/SHALE GAS
160
1 TG, C1-C5 200
82u SHALE GAS
CG/SHALE GASES
CG
CG/POSS SL GAS SHOW

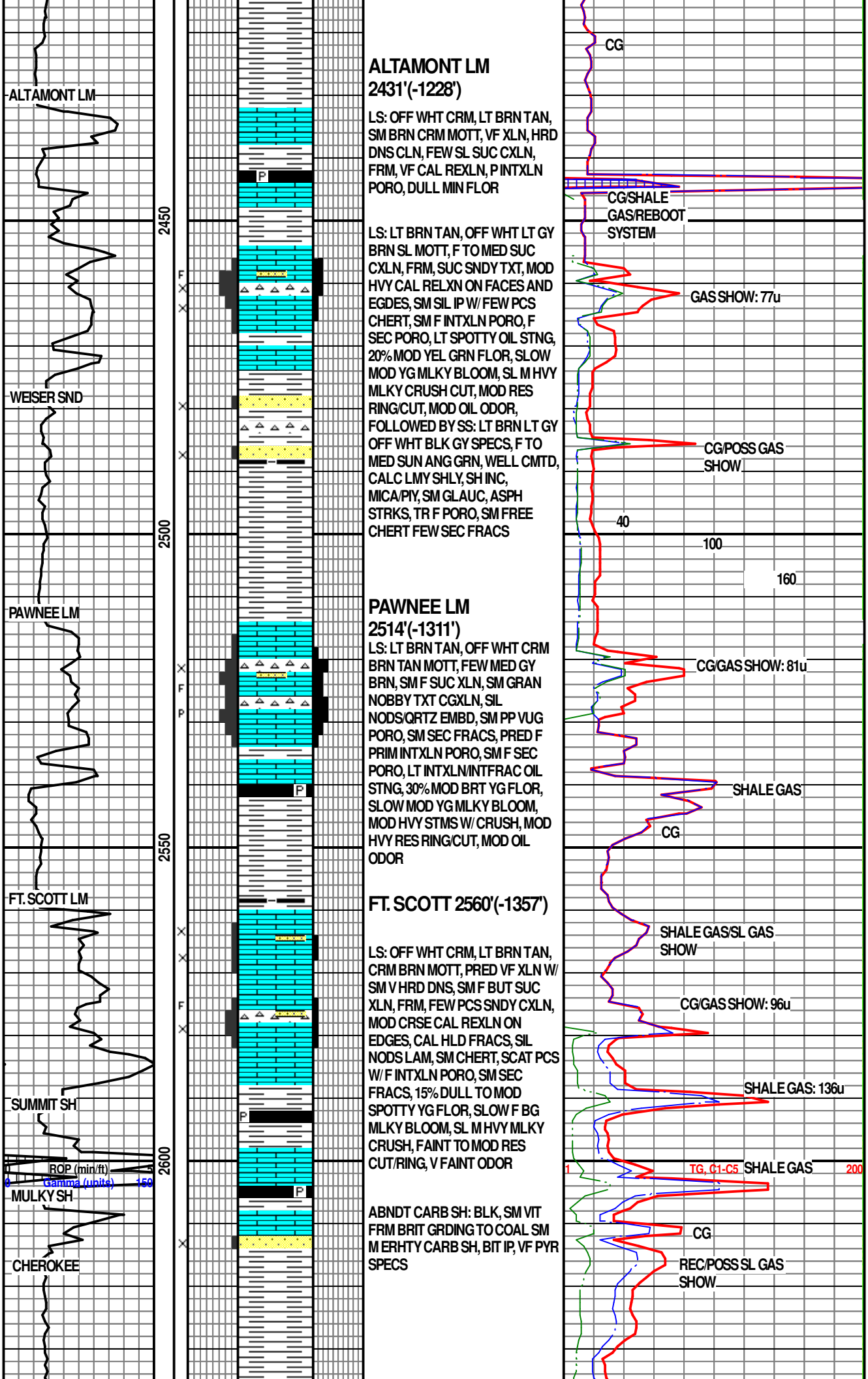

SPM: 58
PP: 330
0 ROP (min/ft) 5
0 Gamma (units) 150
12/16/17
IATAN LM
STALNEKER SND
1350
1400
1450
1500
SS: LT BRN OFF WHT OPAQ, LT GY OPAQ, VF SUB RDD SUB ANG GRN CONSOL, WELL CMTD TT FRM, V CALC TO SL SHLY IP, SM BLK CARB INCL, GLAUC, PRLY SRTD, P INTGR PORO
SH: MED GY DK GY, SM VF GRITTY SLTY FRM TO M SFT, SM M SFT ERHTY, SM M SMTH WAXY TXT DNS
CARB SH: BLK, VF TXT, FRM M SFT, VF PYR SPEC/LNS
IATAN 1491'(-288')
LS: BRN TAN MOTT, VF XLN, SL SNDY TXT, SM FOSS
SS: OFF WHT LT GY MOD TRNSL, LT BRN TNT MDO TRNSL TO SL, MED TO MOD CRSE RDD SUB RDD GRN CONSOL, FRI LSLY CMTD, CLN SIL TO SL CALC MTRX IN SM PCS, F TO WELL SRTD, ABNDT LOOSE F TO MOD CRSE RDD SUB RDD GRNS, F TO G INTRG PORO MIXED W/ OFF WHT VF GRN V TT WELL CMTD
P
K
K
CG
CG
CG
CG
CG
CG/SHALE GAS
44u
CG
1 TG, C1-C5 200

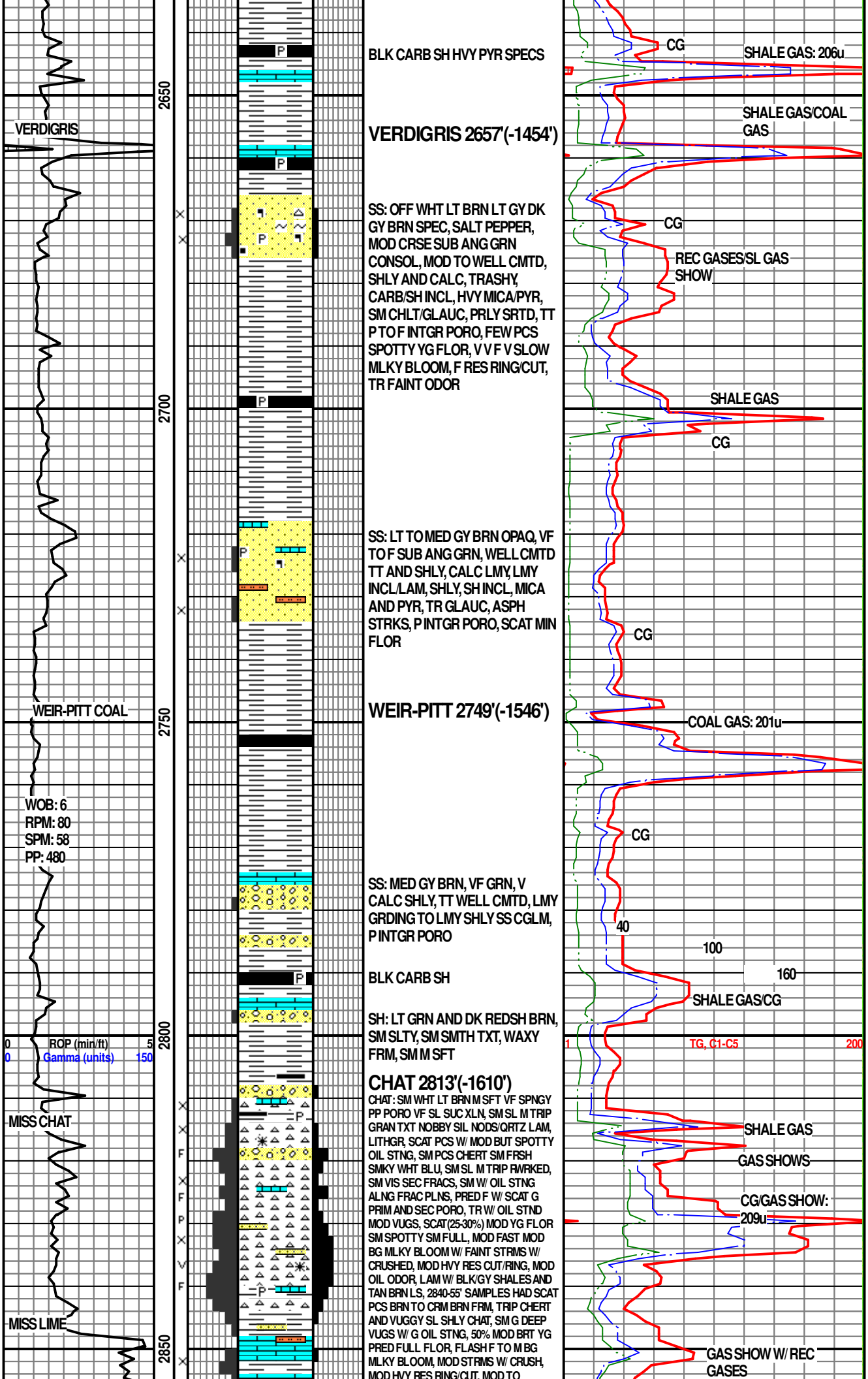

PCS SS W/ KAOL AND GLAUC INCL, CALC
SS: OFF WHT LT BRN OPAQ, VF SUB RDD GRN CONSOL, FRM MOD WELL CMTD, CALC MTRX, SL SHLY, SH INCL, CARB SPECS, TR GLAUC, TR PYR SPECS, SM P TO F INTGR PORO, SCAT RBN TAN LS W/ MIN FLOR
SS: OFF WHT SALT PEPPER, LT BRN TNT SMKY CLR, F SUB RDD GRN CONSOL, FRM MOD WELL CMTD, FRLY CLN SAND FRLY SRTD W/ F INTGR PORO, SM W/ CARB SPECS SHLY/GIL LAM, VF PYR, M TT P TO F PORO, TR MIN FLOR
SH: PRED MED GY DK GY, SL GRITTY TXT, FRM SLTY, SM REDSH BRN LT GY GRNSH WAXY DNS, SCAT LT GY BLK SPEC SLT STN VF, PYR SPECS, ASPH LAM, FEW SCAT LY GY SHLY F GRN SS
TOH FOR BIT
NEW BIT #3: 7 7/8" NOV DSHI616M
SH PRED AS ABOVE
ROP (min/ft)
Gamma (units)
TG, C1-C5
CG
TRIP GAS: 25u
1550
1600
1650
1700
1750

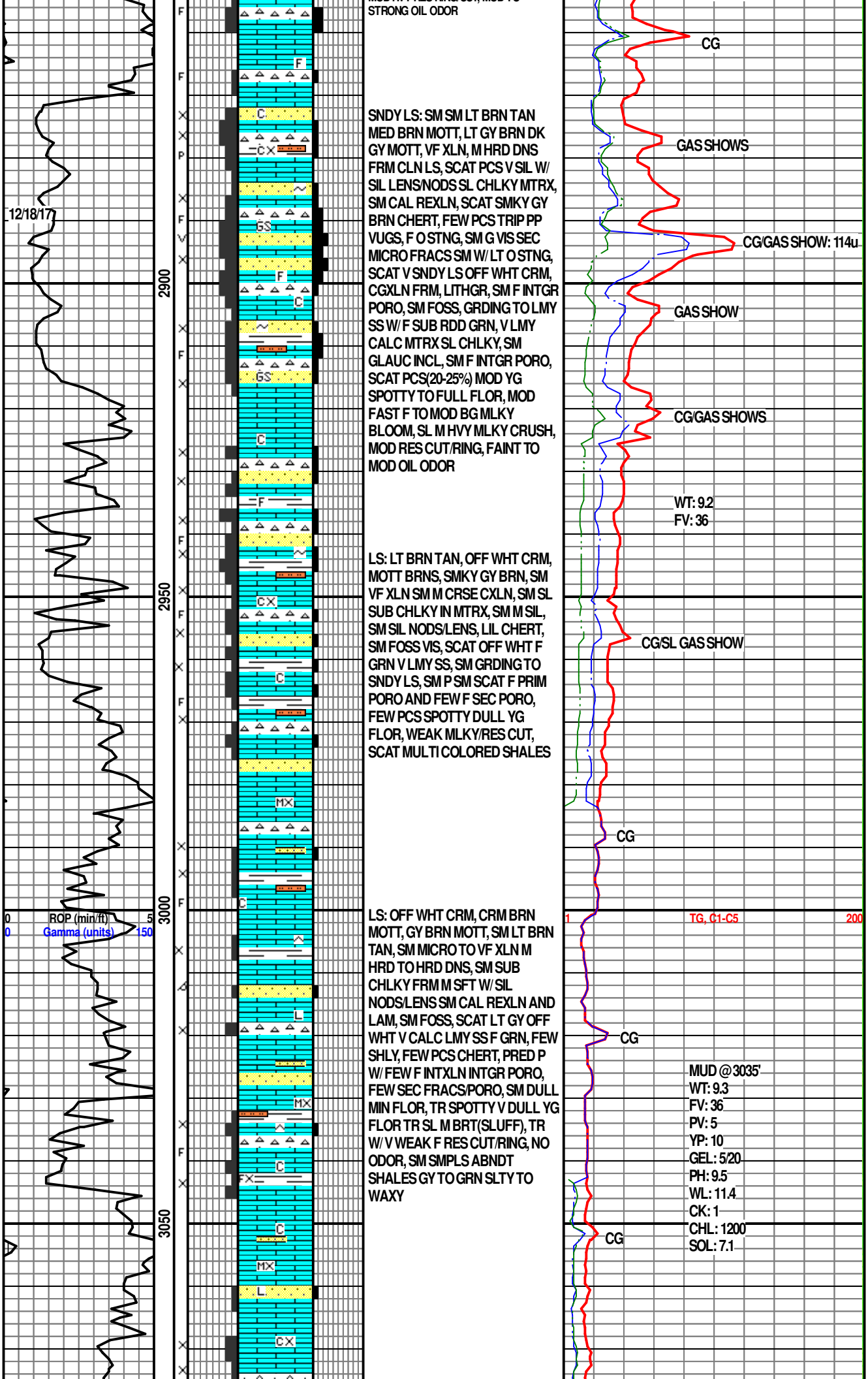

COTTAGE GROVE
SND
0
ROP (min/ft)
5
0
Gamma (units)
150
1800
1850
1900
1950
COTTAGE GROVE
1782'(-579')
SS: LT BRN OFF WHT, F SUB RDD SUB ANG GNR CONSOL, FRM MOD WELL CMTD, CALC MTRX, FRLY CLN, SM GLAUC, SM SH INCL AND ASPH/GIL STRKS, FEW SCAT PCS SL M CLN SL M CRSE GRN SUB RDD GRN, FRI, F SRTNG, F INTGR PORO, PRED FRLY TT, NO VIS FLOR
SS: LT BRN OFF WHT SL TRNSL TO OPAQ, SALT PEPPER, F TO FEW MED SUB RDD SUB ANG GRN CONSOL, FRM PRED MOD WELL CMTD, CALC MTRX, LMY LAM AND INCL, FEW FRI SL M CLN, CARB INCL, ASPH STKS, MICA SPECS, TR CHLRT, SM F F TR G INTGR PORO, NO VIS FLOR
SH: MED GY DK GY, VF SL GRITTY TO M SMTH TXT, FRM, ERTHY, FEW PCS LS TR MRL, FEW PCS SHLY TT SS
CG
SL GAS SHOW
CG/SL GAS INCREASE
1
TG, C1-C5
200
CG
WT: 9.0
FV: 34
CG
CG
CG
CG

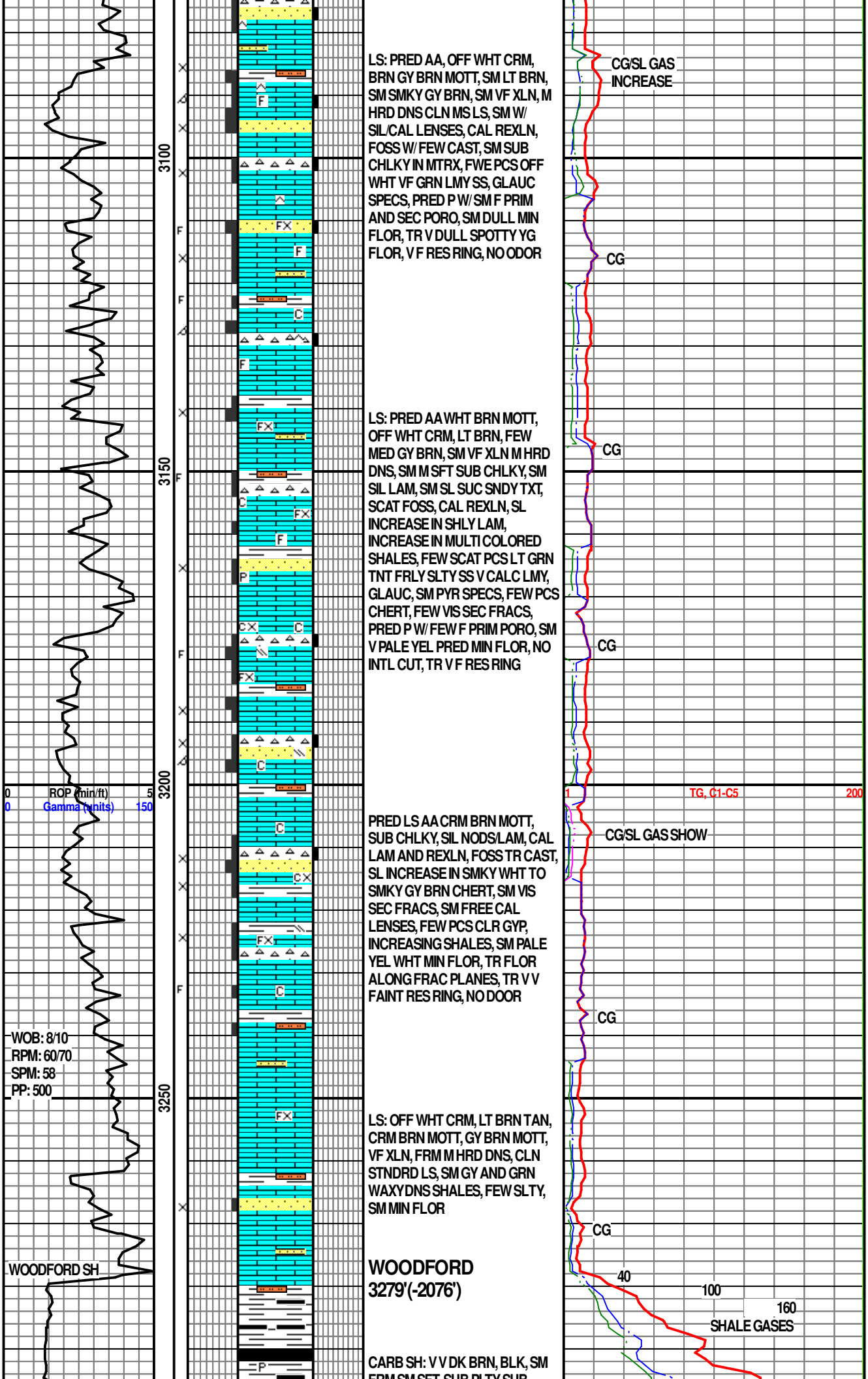

0
ROP (min/ft)
5
0
Gamma (units)
150
LAYTON MRKR BED
LAYTON SND
12/17/17
WOB: 4/6
RPM: 70/90
SPM: 58
PP: 480
2000
2050
2100
2150
SH: MED GY DK GY, FRM M SFT, ERTHY
SHLY FOSS LS
LAYTON MRKR BED
2024'(-821')
BLK VIT CARB SH/COAL
SS: LT GY OFF WHT OPAQ, LT BRN TNT, PRED FINE SUB ANG GRN CONSOL, PRED FRM MOD WELL CMTD, CALC MTRX, FRLY TT, FRLY SRTD, SM SH/CARB INCL, MICA AND PYR SPECS, SM PYR CHNKS, TR GLAUC/CHLT, FEW W/ LT OIL STNG, MOD TT F INTGR PORO W/ TR G PORO, SCAT 15% MOD YEL FLOR, MOD FAST MOD YEL GRN MLKY BLOOM W/ SL M HVY STRMS W/ CRUSH, F ACID CUT, MOD RES RING/CUT, FAINT ODOR
SS: LT BRN OFF WHT, SALT PEPPER, F SUB RDD SUB ANG GRN CONSOL, FRM MOD TO WELL CMTD, SM V CALC SM SL CALC MTRX, CLN TO SHLY, ABNDT W/ SH/CARB INCL, MICA INCL, FEW W/ ASPH/GIL STRKS, P TO FRLY SRTD, F W/ TR G INTGR PORO, NO VIS FLOR
SM TAN BRN MOTT LS, SM FOSS
SH: PRED DK GY, VF M SMTH TXT, SUB PLTY, FRM, CALC, SM ERTHY, FEW SLTY
1
TG, C1-C5
200
40
100
160
CG
SH GAS
CG/GAS SHOW:
103u
WT: 9.1
FV: 35

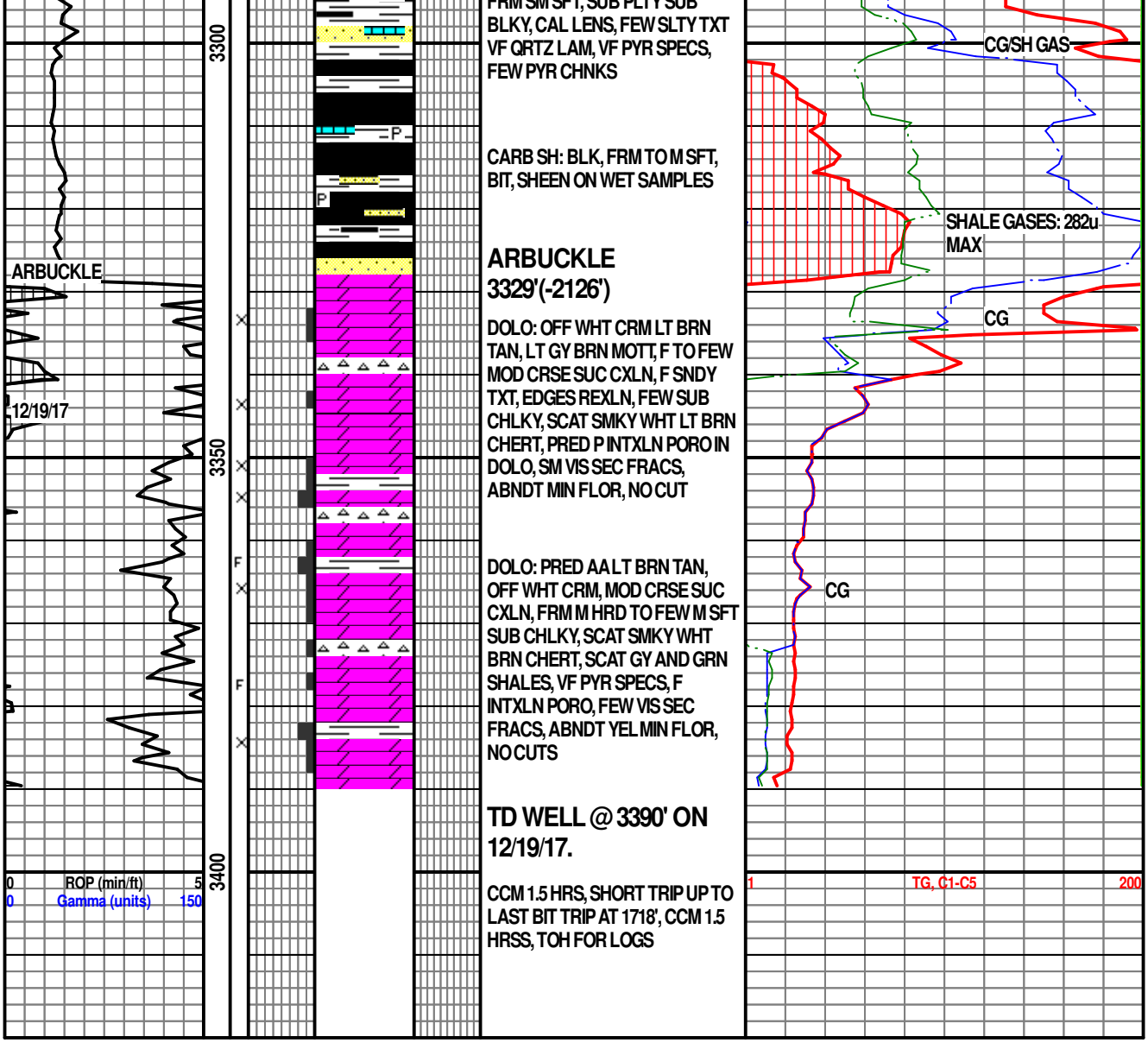

0 ROP (min/ft) 5
0 Gamma (units) 150
REDD SND
2200
2250
2300
HUSHPUCKNEY SH
2350
LENAPAH LM
WAYSIDE SND
2400
0 ROP (min/ft) 5
0 Gamma (units) 150
REDD SND 2209'(-1006')
SS: OFF WHT LT BRN, LT GY BRN SL MOTT, SALT PEPPER, F SUB ANG SUB RDD GRN CONSOL, MOD WELL TO WELL CMTD, CALC SL SHLY MTRX, LMY INCL, CARB INCL, MOD HVY MICAS, CARB/SH INCL, DD OIL STNG/ASPH/GIL STRKS, SM CLN SM SHLY, F TO P SRTNG, PTO FEW F INTGR PORO
SH: PRED DK GY, VF TXT, SL SMTH, SUB PLTY SUB BLKY, FEW MED GY LT GY SLTY
HUSHPACKNEY SH 2332'(-1129')
CARB SH: BLK, FRM M SFT, VF PYR SPECS/LAM
LENAPAH LM(-1151')
LS: OFF WHT CRM, LT BRN TAN, CRM TAN BRN MOTT, SM VF XLN M HRD HRD DNS, FEW SL M CRSE CXLN, SL SNDY TXT, CAL REXLN ON FACES AND EDGES, CAL LENS, FEW FOSS, NO VIS CAST, P INTXLN PORO, SCAT DULL MIN FLOR
P
1 TG, C1-C5 200
CG
CG
CG
CG
SHALE GAS: 132u
CG
CG
MUD @ 2350'
WT: 9.3
FV: 34
PV: 5
YP: 5
GEL: 5/15
PH: 9.5
WL: 13
CK: 1
CHL: 1200
SOL: 7
1 TG, C1-C5 200


ALTAMONT LM
WEISER SND
PAWNEE LM
FT. SCOTT LM
SUMMIT SH
ROP (min/ft)
Gamma (units)
MULKY SH
CHEROKEE
2450
2500
2550
2600
P
F
ALTAMONT LM
2431'(-1228')
LS: OFF WHT CRM, LT BRN TAN, SM BRN CRM MOTT, VF XLN, HRD DNS CLN, FEW SL SUC CXLN, FRM, VF CAL REXLN, P INTXLN PORO, DULL MIN FLOR
LS: LT BRN TAN, OFF WHT LT GY BRN SL MOTT, F TO MED SUC CXLN, FRM, SUC SNDY TXT, MOD HVY CAL RELXN ON FACES AND EGDES, SM SIL IP W/ FEW PCS CHERT, SM F INTXLN PORO, F SEC PORO, LT SPOTTY OIL STNG, 20% MOD YEL GRN FLOR, SLOW MOD YG MLKY BLOOM, SL M HVY MLKY CRUSH CUT, MOD RES RING/CUT, MOD OIL ODOR, FOLLOWED BY SS: LT BRN LT GY OFF WHT BLK GY SPECS, F TO MED SUN ANG GRN, WELL CMTD, CALC LMY SHLY, SH INC, MICA/PIY, SM GLAUC, ASPH STRKS, TR F PORO, SM FREE CHERT FEW SEC FRACS
PAWNEE LM
2514'(-1311')
LS: LT BRN TAN, OFF WHT CRM BRN TAN MOTT, FEW MED GY BRN, SM F SUC XLN, SM GRAN NOBBY TXT CGXLN, SIL NODS/QRTZ EMBD, SM PP VUG PORO, SM SEC FRACS, PRED F PRIM INTXLN PORO, SM F SEC PORO, LT INTXLN/INTFRAC OIL STNG, 30% MOD BRT YG FLOR, SLOW MOD YG MLKY BLOOM, MOD HVY STMS W/ CRUSH, MOD HVY RES RING/CUT, MOD OIL ODOR
FT. SCOTT 2560'(-1357')
LS: OFF WHT CRM, LT BRN TAN, CRM BRN MOTT, PRED VF XLN W/ SM V HRD DNS, SM F BUT SUC XLN, FRM, FEW PCS SNDY CXLN, MOD CRSE CAL REXLN ON EDGES, CAL HLD FRACS, SIL NODS LAM, SM CHERT, SCAT PCS W/ F INTXLN PORO, SM SEC FRACS, 15% DULL TO MOD SPOTTY YG FLOR, SLOW F BG MLKY BLOOM, SL M HVY MLKY CRUSH, FAINT TO MOD RES CUT/RING, V FAINT ODOR
ABNDT CARB SH: BLK, SM VIT FRM BRIT GRDING TO COAL SM M ERHTY CARB SH, BIT IP, VF PYR SPECS
CG
CG/SHALE GAS/REBOOT SYSTEM
GAS SHOW: 77u
CG/POSS GAS SHOW
40
100
160
CG/GAS SHOW: 81u
SHALE GAS
CG
SHALE GAS/SL GAS SHOW
CG/GAS SHOW: 96u
SHALE GAS: 136u
1
TG, C1-C5
SHALE GAS
200
CG
REC/POSS SL GAS SHOW


2650
2700
2750
2800
2850
VERDIGRIS
WEIR-PITT COAL
WOB: 6
RPM: 80
SPM: 58
PP: 480
0 ROP (min/ft) 5
0 Gamma (units) 150
MISS CHAT
MISS LIME
BLK CARB SH HVY PYR SPECS
VERDIGRIS 2657'(-1454')
SS: OFF WHT LT BRN LT GY DK GY BRN SPEC, SALT PEPPER, MOD CRSE SUB ANG GRN CONSOL, MOD TO WELL CMTD, SHLY AND CALC, TRASHY, CARB/SH INCL, HVY MICA/PYR, SM CHLT/GLAUC, PRLY SRTD, TT P TO F INTGR PORO, FEW PCS SPOTTY YG FLOR, V V F V SLOW MLKY BLOOM, F RES RING/CUT, TR FAINT ODOR
SS: LT TO MED GY BRN OPAQ, VF TO F SUB ANG GRN, WELL CMTD TT AND SHLY, CALC LMY, LMY INCL/LAM, SHLY, SH INCL, MICA AND PYR, TR GLAUC, ASPH STRKS, P INTGR PORO, SCAT MIN FLOR
WEIR-PITT 2749'(-1546')
SS: MED GY BRN, VF GRN, V CALC SHLY, TT WELL CMTD, LMY GRDING TO LMY SHLY SS CGLM, P INTGR PORO
BLK CARB SH
SH: LT GRN AND DK REDSH BRN, SM SLTY, SM SMTH TXT, WAXY FRM, SM M SFT
CHAT 2813'(-1610')
CHAT: SM WHT LT BRN M SFT VF SPNGY PP PORO VF SL SUC XLN, SM SL M TRIP GRAN TXT NOBBY SIL NODS/QRTZ LAM, LITHGR, SCAT PCS W/ MOD BUT SPOTTY OIL STNG, SM PCS CHERT SM FRSH SMKY WHT BLU, SM SL M TRIP FWRKED, SM VIS SEC FRACS, SM W/ OIL STNG ALNG FRAC PLNS, PRED F W/ SCAT G PRIM AND SEC PORO, TR W/ OIL STND MOD VUGS, SCAT(25-30%) MOD YG FLOR SM SPOTTY SM FULL, MOD FAST MOD BG MLKY BLOOM W/ FAINT STRMS W/ CRUSHED, MOD HVY RES CUT/RING, MOD OIL ODOR, LAM W/ BLK/GY SHALES AND TAN BRN LS, 2840-55' SAMPLES HAD SCAT PCS BRN TO CRM BRN FRM, TRIP CHERT AND VUGGY SL SHLY CHAT, SM G DEEP VUGS W/ G OIL STNG, 50% MOD BRT YG PRED FULL FLOR, FLASH F TO M BG MLKY BLOOM, MOD STRMS W/ CRUSH, MOD HVY RES RING/CUT, MOD TO
CG
SHALE GAS: 206u
SHALE GAS/COAL GAS
CG
REC GASES/SL GAS SHOW
SHALE GAS
CG
CG
COAL GAS: 201u
CG
40
100
160
SHALE GAS/CG
1 TG, C1-C5 200
SHALE GAS
GAS SHOWS
CG/GAS SHOW: 209u
GAS SHOW W/ REC GASES


STRONG OIL ODOR
CG
SNDY LS: SM SM LT BRN TAN MED BRN MOTT, LT GY BRN DK GY MOTT, VF XLN, M HRD DNS FRM CLN LS, SCAT PCS V SIL W/ SIL LENS/NODS SL CHLKY MTRX, SM CAL REXLN, SCAT SMKY GY BRN CHERT, FEW PCS TRIP PP VUGS, F O STNG, SM G VIS SEC MICRO FRACS SM W/ LT O STNG, SCAT V SNDY LS OFF WHT CRM, CGXLN FRM, LITHGR, SM F INTGR PORO, SM FOSS, GRDING TO LMY SS W/ F SUB RDD GRN, V LMY CALC MTRX SL CHLKY, SM GLAUC INCL, SM F INTGR PORO, SCAT PCS(20-25%) MOD YG SPOTTY TO FULL FLOR, MOD FAST F TO MOD BG MLKY BLOOM, SL M HVY MLKY CRUSH, MOD RES CUT/RING, FAINT TO MOD OIL ODOR
GAS SHOWS
CG/GAS SHOW: 114u
GAS SHOW
CG/GAS SHOWS
WT: 9.2
FV: 36
LS: LT BRN TAN, OFF WHT CRM, MOTT BRNS, SMKY GY BRN, SM VF XLN SM M CRSE CXLN, SM SL SUB CHLKY IN MTRX, SM M SIL, SM SIL NODS/LENS, LIL CHERT, SM FOSS VIS, SCAT OFF WHT F GRN V LMY SS, SM GRDING TO SNDY LS, SM P SM SCAT F PRIM PORO AND FEW F SEC PORO, FEW PCS SPOTTY DULL YG FLOR, WEAK MLKY/RES CUT, SCAT MULTI COLORED SHALES
CG/SL GAS SHOW
CG
LS: OFF WHT CRM, CRM BRN MOTT, GY BRN MOTT, SM LT BRN TAN, SM MICRO TO VF XLN M HRD TO HRD DNS, SM SUB CHLKY FRM M SFT W/ SIL NODS/LENS SM CAL REXLN AND LAM, SM FOSS, SCAT LT GY OFF WHT V CALC LMY SS F GRN, FEW SHLY, FEW PCS CHERT, PRED P W/ FEW F INTXLN INTGR PORO, FEW SEC FRACS/PORO, SM DULL MIN FLOR, TR SPOTTY V DULL YG FLOR TR SL M BRT(SLUFF), TR W/ V WEAK F RES CUT/RING, NO ODOR, SM SMPLS ABNDT SHALES GY TO GRN SLTY TO WAXY
CG
MUD @3035'
WT: 9.3
FV: 36
PV: 5
YP: 10
GEL: 5/20
PH: 9.5
WL: 11.4
CK: 1
CHL: 1200
SOL: 7.1
CG
12/18/17
2900
2950
3000
3050
0 ROP (min/ft) 5
0 Gamma (units) 150
1 TG, C1-C5 200


3100
3150
3200
3250
0
ROP (min/ft)
5
0
Gamma (units)
150
WOB: 8/10
RPM: 60/70
SPM: 58
PP: 500
WOODFORD SH
LS: PRED AA, OFF WHT CRM, BRN GY BRN MOTT, SM LT BRN, SM SMKY GY BRN, SM VF XLN, M HRD DNS CLN MS LS, SM W/ SIL/CAL LENSES, CAL REXLN, FOSS W/ FEW CAST, SM SUB CHLKY IN MTRX, FWE PCS OFF WHT VF GRN LMY SS, GLAUC SPECS, PRED P W/ SM F PRIM AND SEC PORO, SM DULL MIN FLOR, TR V DULL SPOTTY YG FLOR, V F RES RING, NO ODOR
CG/SL GAS INCREASE
CG
LS: PRED AA WHT BRN MOTT, OFF WHT CRM, LT BRN, FEW MED GY BRN, SM VF XLN M HRD DNS, SM M SFT SUB CHLKY, SM SIL LAM, SM SL SUC SNDY TXT, SCAT FOSS, CAL REXLN, SL INCREASE IN SHLY LAM, INCREASE IN MULTI COLORED SHALES, FEW SCAT PCS LT GRN TNT FRLY SLTY SS V CALC LMY, GLAUC, SM PYR SPECS, FEW PCS CHERT, FEW VIS SEC FRACS, PRED P W/ FEW F PRIM PORO, SM V PALE YEL PRED MIN FLOR, NO INTL CUT, TR V F RES RING
CG
CG
1
TG, C1-C5
200
PRED LS AA CRM BRN MOTT, SUB CHLKY, SIL NODS/LAM, CAL LAM AND REXLN, FOSS TR CAST, SL INCREASE IN SMKY WHT TO SMKY GY BRN CHERT, SM VIS SEC FRACS, SM FREE CAL LENSES, FEW PCS CLR GYP, INCREASING SHALES, SM PALE YEL WHT MIN FLOR, TR FLOR ALONG FRAC PLANES, TR V V FAINT RES RING, NO DOOR
CG/SL GAS SHOW
CG
LS: OFF WHT CRM, LT BRN TAN, CRM BRN MOTT, GY BRN MOTT, VF XLN, FRM M HRD DNS, CLN STNDRD LS, SM GY AND GRN WAXY DNS SHALES, FEW SLTY, SM MIN FLOR
CG
WOODFORD
3279'(-2076')
40
100
160
SHALE GASES
CARB SH: V V DK BRN, BLK, SM


ARBUCKLE
12/19/17
3300
3350
3400
P
P
F
F
FRM SM SFT, SUB PLTY SUB BLKY, CAL LENS, FEW SLTY TXT VF QRTZ LAM, VF PYR SPECS, FEW PYR CHNKS
CARB SH: BLK, FRM TO M SFT, BIT, SHEEN ON WET SAMPLES
ARBUCKLE
3329'(-2126')
DOLO: OFF WHT CRM LT BRN TAN, LT GY BRN MOTT, F TO FEW MOD CRSE SUC CXLN, F SNDY TXT, EDGES REXLN, FEW SUB CHLKY, SCAT SMKY WHT LT BRN CHERT, PRED P INTXLN PORO IN DOLO, SM VIS SEC FRACS, ABNDT MIN FLOR, NO CUT
DOLO: PRED AA LT BRN TAN, OFF WHT CRM, MOD CRSE SUC CXLN, FRM M HRD TO FEW M SFT SUB CHLKY, SCAT SMKY WHT BRN CHERT, SCAT GY AND GRN SHALES, VF PYR SPECS, F INTXLN PORO, FEW VIS SEC FRACS, ABNDT YEL MIN FLOR, NO CUTS
TD WELL @ 3390' ON 12/19/17.
CCM 1.5 HRS, SHORT TRIP UP TO LAST BIT TRIP AT 1718', CCM 1.5 HRSS, TOH FOR LOGS
CG/SH GAS
SHALE GASES: 282u MAX
CG
CG
0 ROP (min/ft) 5
0 Gamma (units) 150
1 TG, C1-C5 200

810 E 7TH
PO Box 92
EUREKA, KS 67045
(620) 583-5561

ELITE
CEMENTING & ACID SERVICE, LLC

Cement or Acid Field Report
Ticket No. **3684**
Foreman Kevin McCoy
Camp Eureka

API # 15-035-24688-00-00

Date	Cust. ID #	Lease & Well Number	Section	Township	Range	County	State
12-20-17	1136	Smith #2-32	32	34S	7E	Cowley	KS

Customer: Lawco Holdings, LLC
Mailing Address: 113 N. Main P.O. Box 425
City: Bentonville | State: AR | Zip Code: 72712

Safety Meeting: KM DG JH SM

Unit #	Driver	Unit #	Driver
105	Dave G.		
112	Jason H.		
113	Steve M.		

Job Type Longstring | Hole Depth 3390' | Slurry Vol. | Tubing
Casing Depth 3358.90 G.L. | Hole Size 7 7/8" | Slurry Wt. 12.8# 13.7# | Drill Pipe
Casing Size & Wt. 5 1/2 15.50# | Cement Left in Casing 0' | Water Gal/SK 8.0 9.0 | Other
Displacement 82.5 Bbl | Displacement PSI 1450 | Bump Plug to 1900 PSI | BPM

Remarks: Safety Meeting: Rig up to 5 1/2 Casing. Break Circulation, Pump 10 Bbl Caustic Pre Flush, 5 Bbl water Spacer. Mixed 150 sks 60/40 Pozmix Cement w/ 6% Gel, 2# PhenoSeal / sk @ 12.8#/gal, yield 1.55 = 41 Bbl Slurry. Tail in w/ 175 sks Thick Set Cement w/ 5# Kol-Seal / sk, 1# PhenoSeal / sk @ 13.7#/gal, yield 1.75 = 55 Bbl Slurry. Wash out Pump & Lines. Shut down. Release Latch down Plug. Displace Plug to Seat w/ 82.5 Bbl Fresh water. (First 50 Bbl w/ KCL) Final Pumping Pressure 1450 psi. Bump Plug to 1900 psi. Wait 2 Mins. Release Pressure. Float & Plug Held. Good Circulation @ All times while Cementing. Job Complete. Rig down.

Centralizers on #2 10 12 19 21 23 31 33 Baskets on Top of #13, 35

Code	Qty or Units	Description of Product or Services	Unit Price	Total
C 102	1	Pump Charge	1050.00	1050.00
C 107	70	Mileage	3.95	276.50
C 203	150 sks	60/40 Pozmix Cement (Lead Cement)	12.75	1912.50
C 206	775 #	Gel 6% (Lead Cement)	.20 #	155.00
C 208	300 #	PhenoSeal 2#/sk (Lead Cement)	1.25 #	375.00
C 201	175 sks	Thick Set Cement (Tail Cement)	19.50	3412.50
C 207	875 #	Kol-Seal 5#/sk (Tail Cement)	.45 #	393.75
C 208	175 #	PhenoSeal 2#/sk (Tail Cement)	1.25 #	218.75
C 217	50 #	Caustic Pre Flush	1.60 #	80.00
C 108 B	16.07 Tons	Ton Mileage 70 miles	1.35	1518.62
C 661	1	5 1/2 AFU Float Shoe	294.00	294.00
C 421	1	5 1/2 Latch down Plug	230.00	230.00
C 604	1	5 1/2 Cement Baskets	225.00	225.00
C 504	8	5 1/2 x 7 7/8 Centralizers	48.00	384.00
C 222	5 gal	KCL (Mixed w/ First 50 Bbl Displacement water)	34.00	170.00
		THANK You	Sub Total	10,695.62
			Sales Tax	
			Total	

Authorization _____ Title _____

I agree to the payment terms and conditions of services provided on the back of this job ticket. Any amendments to payment terms must be in writing on the front of this job ticket or in the Customer's records at ELITE's office.

810 E 7TH
PO Box 92
EUREKA, KS 67045
(620) 583-5561

ELITE
CEMENTING & ACID SERVICE, LLC

Cement or Acid Field Report
Ticket No. 3654
Foreman Steve Mead
Camp Eureka KS

API 15-035-24682

Date	Cust. ID #	Lease & Well Number	Section	Township	Range	County	State
12-14-17	1126	Smith #2-32	32	34S	7E	Cowley	KS

Customer: Lawco Holding LLC
Mailing Address: PO Box 426
City: Beaumont State: AR Zip Code: 72712
Safety Meeting: SM, PP, JH

Unit #	Driver	Unit #	Driver
104	Blair		
112	Jason		

Job Type Surface
Casing Depth 322' GL
Casing Size & Wt. 8 5/8" 20#
Displacement 21 bbls
Hole Depth 346
Hole Size 12 1/4
Cement Left in Casing 15'
Displacement PSI
Slurry Vol.
Slurry Wt.
Water Gal/SK
Bump Plug to
Tubing
Drill Pipe
Other
BPM

Remarks: Safty Meeting. Rig up to 8 5/8 casing. Break Circulation w/ Fresh water Pump 5bbl ahead. Mix 190sks Class A Cement w/ 3% Cacl2 2% Gel & 1/4# Flo Seal Displace w/ 21bbl Fresh water. Shut Well in. Good Cement to Surface 10bbl to pit.

Job Complete. Rig down

Thank You

Code	Qty or Units	Description of Product or Services	Unit Price	Total
C101	1	Pump Charge	840.00	840.00
C107	70	Mileage	3.95	276.50
C200	190sks	Class A Cement	15.00	2850.00
C205	535#	3% Cacl2	1.60	321.00
C206	350#	2% Gel	.20	70.00
C209	47#	1/4# per sk Flo Seal	2.25	105.75
C108B	8.93 ton	Ton Mileage Bulk Truck	1.35	843.89
			Sub Total	5307.14
		6.7%	Sales Tax	225.91
			Total	5533.05

Authorization _____ Title _____

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