Tooke Rockies, Inc.
(A Weatherford Company)

884 Implement Dr.
Dickinson, ND 58601
701-227-4408

717 West Platte
PO BOX 435
Casper, WY 82601
307-265-2124

Weatherford®

Surface Logging Systems

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

Well Name: St. of Colorado 36-1
Location: NW/SE Sec. 36, T3S, R64W, Adams County, CO
License Number: API- 05-001-09759 Region: DJ Basin
Spud Date: 12/13/2012 Drilling Completed: 12/25/2012
Surface Coordinates: 2396' FSL & 2600' FEL of NW/SE Sec. 36 T3S-R64W Adams County, CO

Bottom Hole Coordinates: Same as surface location - vertical wellbore
Ground Elevation (ft): 5555' K.B. Elevation (ft): 5579'
Logged Interval (ft): 6000' To: 7700' Total Depth (ft): 7700'
Formation: Niobrara
Type of Drilling Fluid: INVERT/OBM

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

OPERATOR

Company: Conoco/Phillips
Address: 550 Westlake Park Blvd. WL3-3026
P.O. Box 2197
Houston, Texas 77252

GEOLOGIST

Name: Todd Thiesse, Gabe Genitempo
Company: Tooke Rockies/ Weatherford SLS
Address: PO Box 435
Casper, WY. 82602
307.265.2124

Supervision

Project Geologist: John Ostergren- Conoco/Phillips
Drilling Engineer: Gary Hamilton- Conoco/Phillips
Drilling Sup: Bob Strickler- Conoco/Phillips
Company Rep: Richard Perez, Frank Holubec(Day Leads)
Company Rep: Wes Evans, Casey Burns(Night Leads)
Well Site Safety: Rainey Schexnider, Nick Atkinson

Comments

Drilling Co.--H & P, Rig #280
Toolpusher- , Mike Stevens, Josh Coleman
Dir. Co.- Sperry
Mud Co.- Baroid/Haliburton, Dave Howell, Chase Putnam
Core Handling.- Core Lab
Core Tools.- Baker/Hughes, Inteq.

CORE

Contractor:	Baker Hughes/Inteq
Core #:	1/ #2/ #3.
Formation:	Pierre,Sharon Spgs, Niobrara, Ft. Hays, Carlile, Greenhorn.
Core Interval:	From: 7080/ #2=7260'/ #3= 7 Cut: 180'/ #2=180'/ #3= 180'
	To: 7260/ #2=7440 Recovered: 180'/ #2=180'/ #3= 180'
Bit type:	HTC, BHC-406Z,
Size:	8 3/4", 1.29TFA
Coring Time:	10.5 HRS/ #2= 11.5HRS./ #3= 9.25HRS.

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, CryxIn, Earthy, FinexIn, Grainst, Lithogr, MicroxIn, Mudst, Packst, Wackest

OTHER SYMBOLS

INTERVALS
Core, Dst

EVENTS
Rft, Sidewall

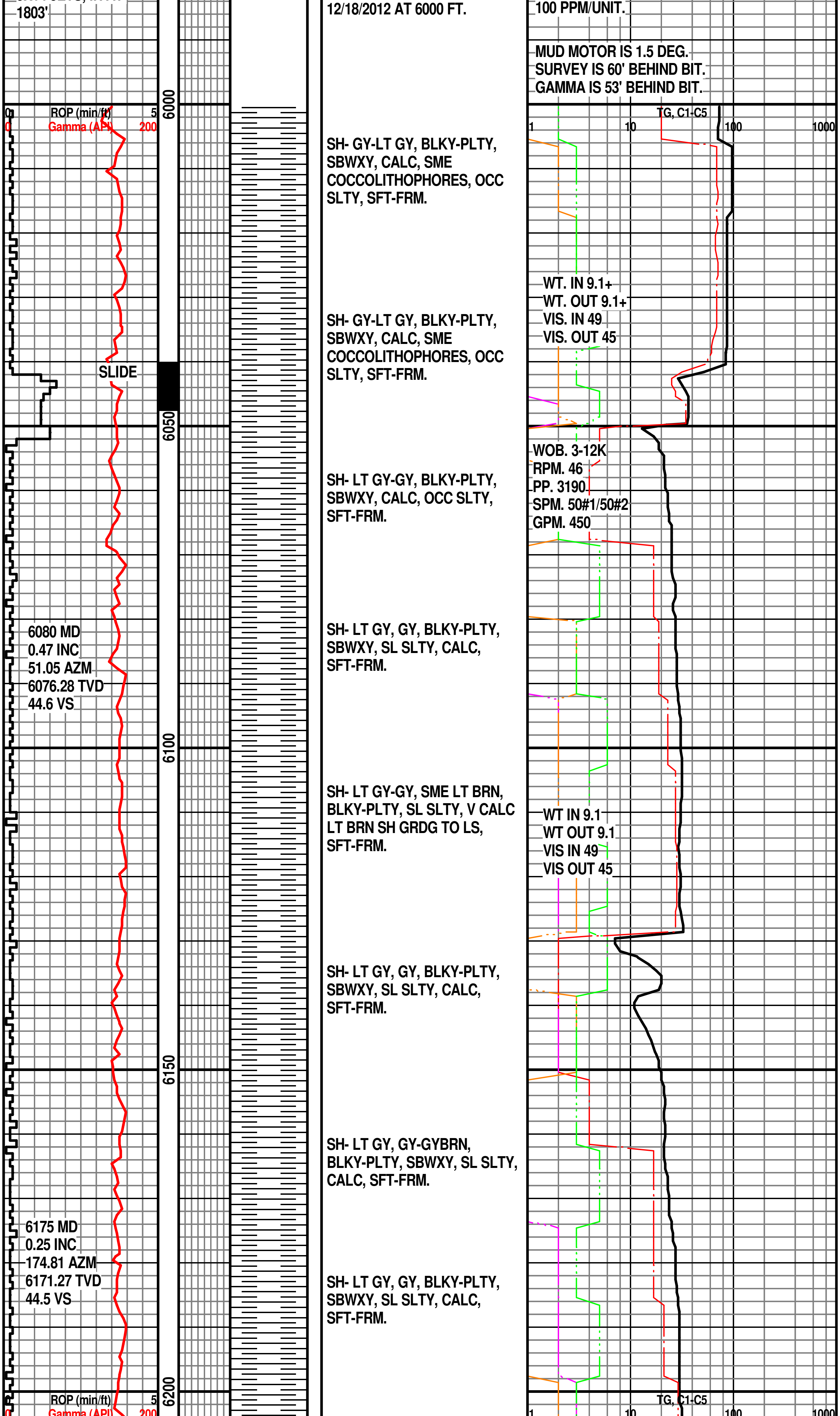
POROSITY TYPE
Earthy, Fenest, Fracture, Inter, Moldic, Organic, Pinpoint, Vuggy

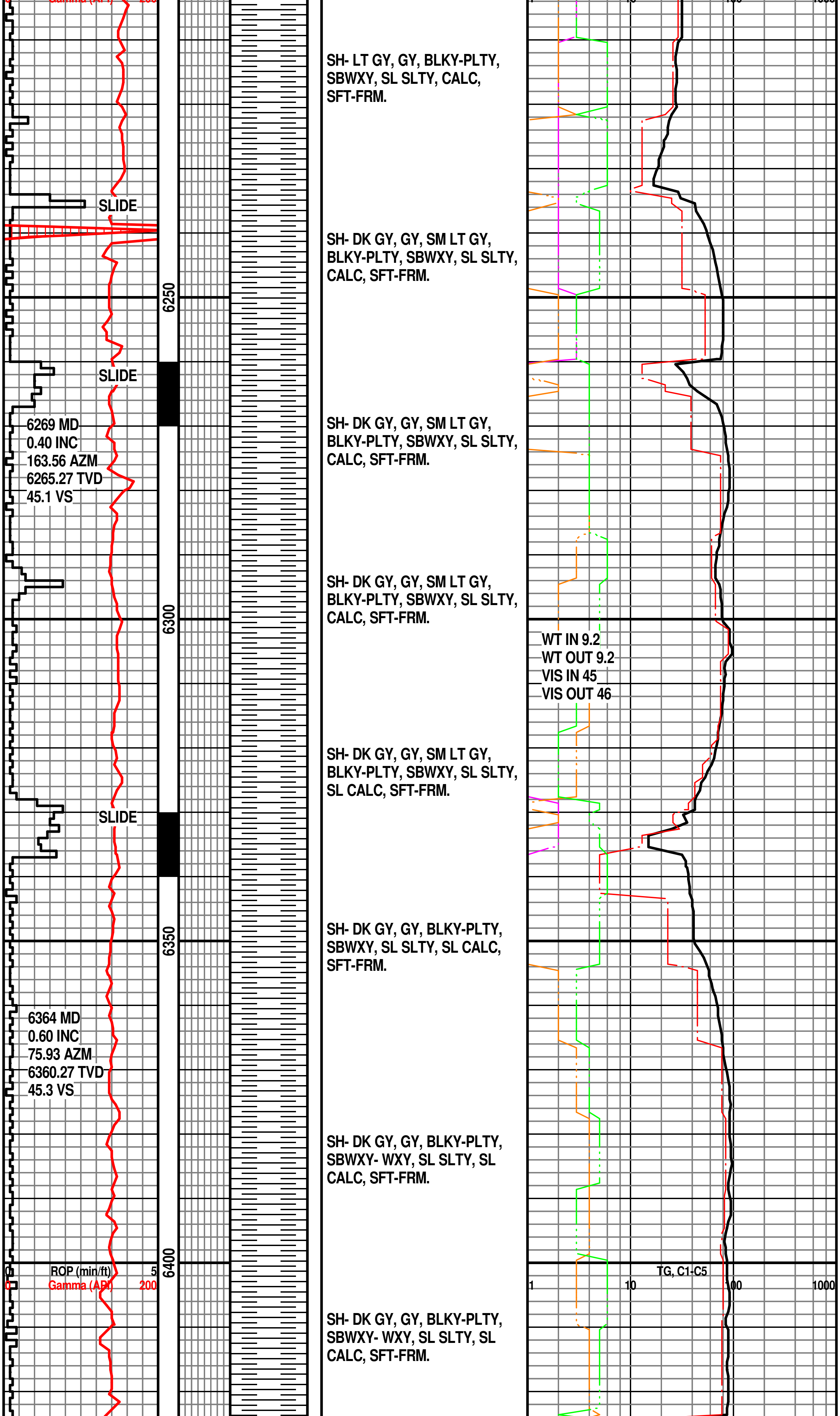
SORTING
Well, Moderate, Poor

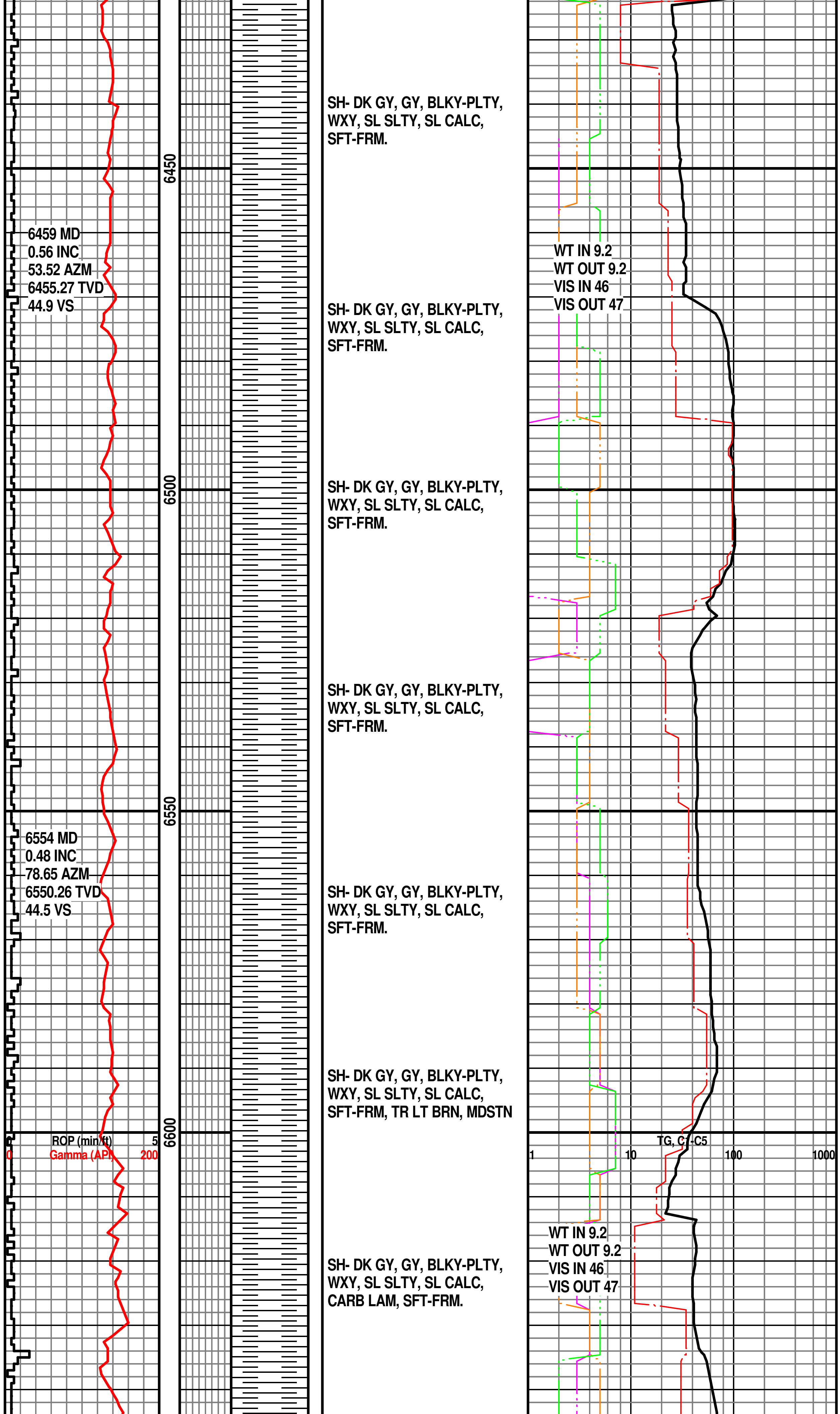
ROUNDING
Rounded, Subrnd, Subang, Angular

OIL SHOWS
Even, Spotted, Ques, Dead

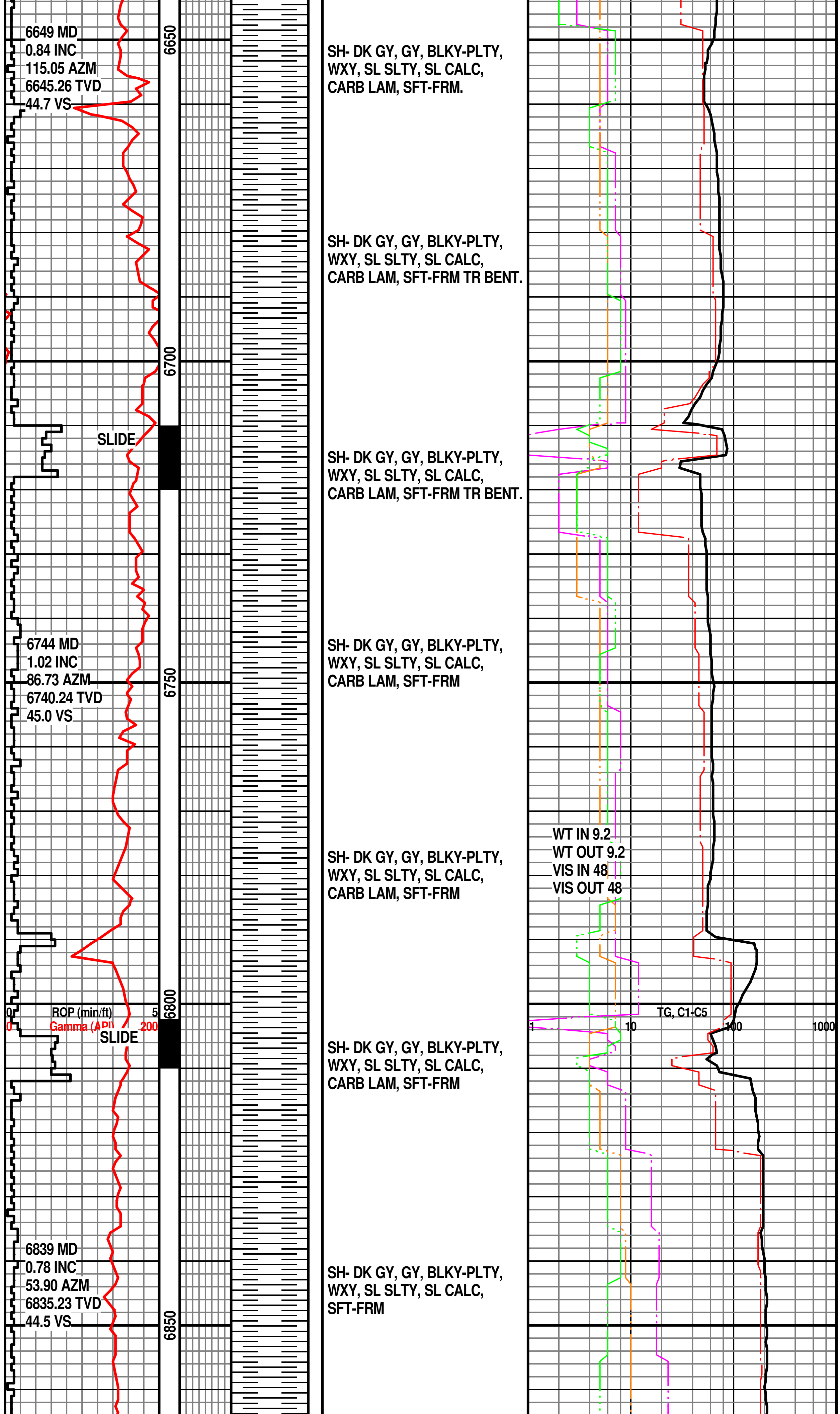
Curve Track 1 ROP (min/ft) Gamma (API)	Depth	Porosity 24% 18% 12% 6%	Lithology	Oil Shows	Geological Descriptions	TG, C1-C5 TG (units) C1 (units) C2 (units) C3 (units) C4 (units) C5 (units)
0 ROP (min/ft) 5 0 Gamma (API) 200						TG, C1-C5 1 10 100 1000
BIT # 2, Security, FX55, PDC, 8 3/4", 5X14 JETS, IN AT					SPUDDED 12/13/2012 . SET 9 5/8" #36 SURF. CSG. AT 1803 FT. TOOKE ROCKIES/ WEATHERFORD SLS COMMENCED LOGGING ON	CALIBRATIONS: HOT WIRE 1%= 100 UNITS CHROMATOGRAPH ALL GASES EQUAL C1= RED C2= PURP C3= ORNG C4= GREEN TOTAL GAS= BLACK


1803'
12/18/2012 AT 6000 FT.
100 PPM/UNIT.
MUD MOTOR IS 1.5 DEG.
SURVEY IS 60' BEHIND BIT.
GAMMA IS 53' BEHIND BIT.
ROP (min/ft) 0 5
Gamma (API) 0 200
6000
TG, C1-C5
1 10 100 1000
SH- GY-LT GY, BLKY-PLTY, SBWXY, CALC, SME COCCOLITHOPHORES, OCC SLTY, SFT-FRM.
WT. IN 9.1+
WT. OUT 9.1+
VIS. IN 49
VIS. OUT 45
SH- GY-LT GY, BLKY-PLTY, SBWXY, CALC, SME COCCOLITHOPHORES, OCC SLTY, SFT-FRM.
SLIDE
6050
WOB. 3-12K
RPM. 46
PP. 3190
SPM. 50#1/50#2
GPM. 450
SH- LT GY-GY, BLKY-PLTY, SBWXY, CALC, OCC SLTY, SFT-FRM.
6080 MD
0.47 INC
51.05 AZM
6076.28 TVD
44.6 VS
SH- LT GY, GY, BLKY-PLTY, SBWXY, SL SLTY, CALC, SFT-FRM.
6100
SH- LT GY-GY, SME LT BRN, BLKY-PLTY, SL SLTY, V CALC LT BRN SH GRDG TO LS, SFT-FRM.
WT IN 9.1
WT OUT 9.1
VIS IN 49
VIS OUT 45
SH- LT GY, GY, BLKY-PLTY, SBWXY, SL SLTY, CALC, SFT-FRM.
6150
SH- LT GY, GY-GYBRN, BLKY-PLTY, SBWXY, SL SLTY, CALC, SFT-FRM.
6175 MD
0.25 INC
174.81 AZM
6171.27 TVD
44.5 VS
SH- LT GY, GY, BLKY-PLTY, SBWXY, SL SLTY, CALC, SFT-FRM.
6200
ROP (min/ft) 0 5
Gamma (API) 0 200
TG, C1-C5
1 10 100 1000


SH- LT GY, GY, BLKY-PLTY, SBWXY, SL SLTY, CALC, SFT-FRM.
SLIDE
SH- DK GY, GY, SM LT GY, BLKY-PLTY, SBWXY, SL SLTY, CALC, SFT-FRM.
6250
SLIDE
6269 MD
0.40 INC
163.56 AZM
6265.27 TVD
45.1 VS
SH- DK GY, GY, SM LT GY, BLKY-PLTY, SBWXY, SL SLTY, CALC, SFT-FRM.
SH- DK GY, GY, SM LT GY, BLKY-PLTY, SBWXY, SL SLTY, CALC, SFT-FRM.
6300
WT IN 9.2
WT OUT 9.2
VIS IN 45
VIS OUT 46
SH- DK GY, GY, SM LT GY, BLKY-PLTY, SBWXY, SL SLTY, SL CALC, SFT-FRM.
SLIDE
6350
SH- DK GY, GY, BLKY-PLTY, SBWXY, SL SLTY, SL CALC, SFT-FRM.
6364 MD
0.60 INC
75.93 AZM
6360.27 TVD
45.3 VS
SH- DK GY, GY, BLKY-PLTY, SBWXY- WXY, SL SLTY, SL CALC, SFT-FRM.
6400
0 ROP (min/ft) 5
0 Gamma (API) 200
TG, C1-C5
1 10 100 1000
SH- DK GY, GY, BLKY-PLTY, SBWXY- WXY, SL SLTY, SL CALC, SFT-FRM.



SH- DK GY, GY, BLKY-PLTY, WXY, SL SLTY, SL CALC, SFT-FRM.
6450
6459 MD
0.56 INC
53.52 AZM
6455.27 TVD
44.9 VS
WT IN 9.2
WT OUT 9.2
VIS IN 46
VIS OUT 47
SH- DK GY, GY, BLKY-PLTY, WXY, SL SLTY, SL CALC, SFT-FRM.
6500
SH- DK GY, GY, BLKY-PLTY, WXY, SL SLTY, SL CALC, SFT-FRM.
SH- DK GY, GY, BLKY-PLTY, WXY, SL SLTY, SL CALC, SFT-FRM.
6550
6554 MD
0.48 INC
78.65 AZM
6550.26 TVD
44.5 VS
SH- DK GY, GY, BLKY-PLTY, WXY, SL SLTY, SL CALC, SFT-FRM.
SH- DK GY, GY, BLKY-PLTY, WXY, SL SLTY, SL CALC, SFT-FRM, TR LT BRN, MDSTN
6600
0
ROP (min/ft)
5
0
Gamma (API)
200
TG, C1-C5
1
10
100
1000
WT IN 9.2
WT OUT 9.2
VIS IN 46
VIS OUT 47
SH- DK GY, GY, BLKY-PLTY, WXY, SL SLTY, SL CALC, CARB LAM, SFT-FRM.


6649 MD
0.84 INC
115.05 AZM
6645.26 TVD
44.7 VS
6650
SH- DK GY, GY, BLKY-PLTY, WXY, SL SLTY, SL CALC, CARB LAM, SFT-FRM.
SH- DK GY, GY, BLKY-PLTY, WXY, SL SLTY, SL CALC, CARB LAM, SFT-FRM TR BENT.
6700
SLIDE
SH- DK GY, GY, BLKY-PLTY, WXY, SL SLTY, SL CALC, CARB LAM, SFT-FRM TR BENT.
6744 MD
1.02 INC
86.73 AZM
6740.24 TVD
45.0 VS
6750
SH- DK GY, GY, BLKY-PLTY, WXY, SL SLTY, SL CALC, CARB LAM, SFT-FRM
WT IN 9.2
WT OUT 9.2
VIS IN 48
VIS OUT 48
SH- DK GY, GY, BLKY-PLTY, WXY, SL SLTY, SL CALC, CARB LAM, SFT-FRM
0 ROP (min/ft) 5
0 Gamma (API) 200
6800
SLIDE
TG, C1-C5
1 10 100 1000
SH- DK GY, GY, BLKY-PLTY, WXY, SL SLTY, SL CALC, CARB LAM, SFT-FRM
6839 MD
0.78 INC
53.90 AZM
6835.23 TVD
44.5 VS
SH- DK GY, GY, BLKY-PLTY, WXY, SL SLTY, SL CALC, SFT-FRM
6850

SH- DK GY, GY, BLKY-PLTY, WXY, SL SLTY, SL CALC, SFT-FRM

SH- DK GY, GY, BLKY-PLTY, WXY, SL SLTY, SL CALC, CARB LAM, SFT-FRM.

6900

12/19/12

SH- DK GY, GY, BLKY-PLTY, WXY, SL SLTY, SL CALC, CARB LAM, SFT-FRM.

WOB. 7-12K
RPM. 45
PP. 3314
SPM. 50#1/50#2
GPM. 450

6934 MD
1.10 INC
119.68 AZM
6930.22 TVD
44.6 VS

6950

SH- DK GY, GY, BLKY-PLTY, WXY, SL SLTY, SL CALC, SFT-FRM

WT IN 9.2
WT OUT 9.2
VIS IN 47
VIS OUT 46

SH- DK GY, GY, BLKY-PLTY, WXY, SL SLTY, SL CALC, SFT-FRM

SLIDE

SH- DK GY, GY, BLKY-PLTY, WXY, SL SLTY, SL CALC, CARB LAM, SFT-FRM.

0 ROP (min/ft) 5
0 Gamma (API) 200

7000

TG, C1-C5
1 10 100 1000

7010 MD
0.85 INC
129.54 AZM
7006.21 TVD
45.3 VS

7020 MD
0.93 INC
104.42 AZM
7016.21 TVD
45.4 VS

SH- DK GY, GY, BLKY-PLTY, WXY, SL SLTY, SL CALC, SFT-FRM

SH- DK GY, GY, BLKY-PLTY, WXY, SL SLTY, SL CALC, SFT-FRM

7050

SH- DK GY, GY, BLKY-PLTY, WXY, SL SLTY, SL CALC, SFT-FRM

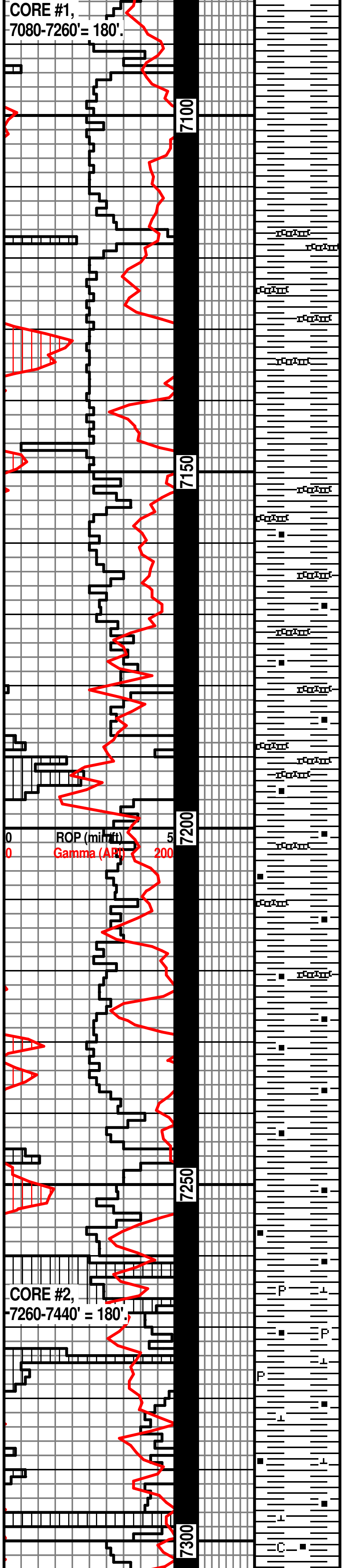
BIT #3, HUGHES, BHC-406Z, CORE, 8 3/4", 6X17 JETS, IN AT 7080'.

12/20/2012

7080' TRIPPING OUT FOR CORING TOOLS

WOB. 2-5K
RPM. 60
PP. 1202
SPM. 60

TRIP GAS= 109u



FOR CORING TOOLS.

SH- GY-LT GY, PLTY, SBWXY-WXY, SL CALC, SFT-FRM.

SAMPLE TOP SHARON SPRINGS 7116

SH- GY-LT GY, DK GY, PLTY, SBWXY, SL CALC, SFT-FRM. W/ BENT- LT GY-CRM, WH.

SH- DK GY-GY, BLKY- PLTY, SBWXY, SL CALC, SFT- FRM, TR BENT.

SH- DK GY-GY, BLKY- PLTY, SBWXY, CALC, SFT- FRM, TR BENT.

SAMPLE TOP NIOBRARA 7154

SH- DK GY-GY, BLKY- PLTY, SBWXY, V CALC, CARB, SFT-FRM, TR BENT.

SH- DK GY-GY, BLKY- PLTY, SBWXY, V CALC, CARB, SFT-FRM, TR BENT.

SH- DK GY-GY, BLKY- PLTY, SBWXY, V CALC, CARB, SFT-FRM, TR BENT.

SH- DK GY-GY, BLKY- PLTY, SBWXY, V CALC, CARB, SFT-FRM, TR BENT.

SH- DK GY-GY, BLKY- PLTY, SBWXY, V CALC, CARB, SFT-FRM, TR BENT.

SH- DK GY-GY, BLKY- PLTY, SBWXY, V CALC, CARB, SFT-FRM, TR BENT.

SH- DK GY-GY, BLKY- PLTY, SBWXY, V CALC, CARB, SFT-FRM.

SAMPLE TOP NIOBRARA B 7240

SH- DK GY-GY, BLKY- PLTY, SBWXY, V CALC, CARB, SFT-FRM.

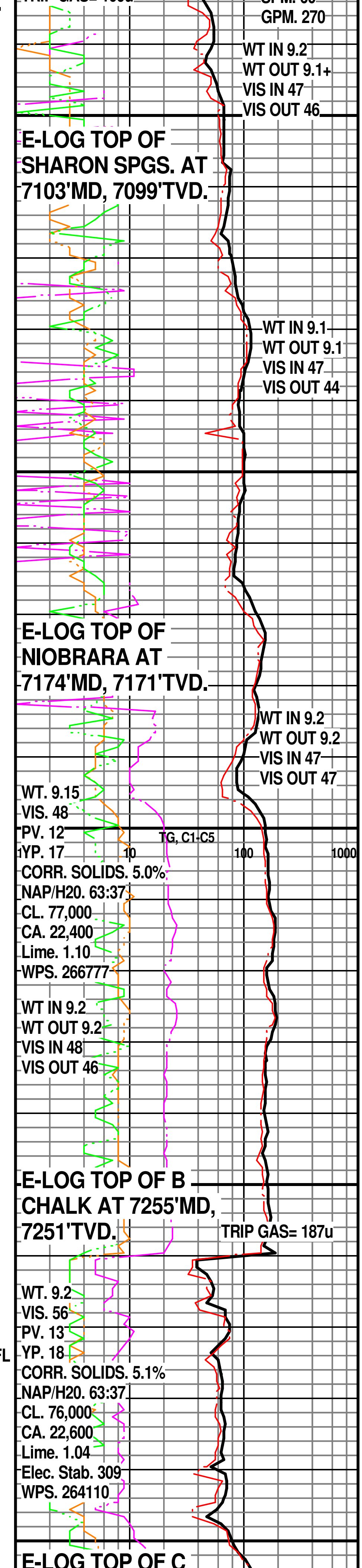
12/21-22/12

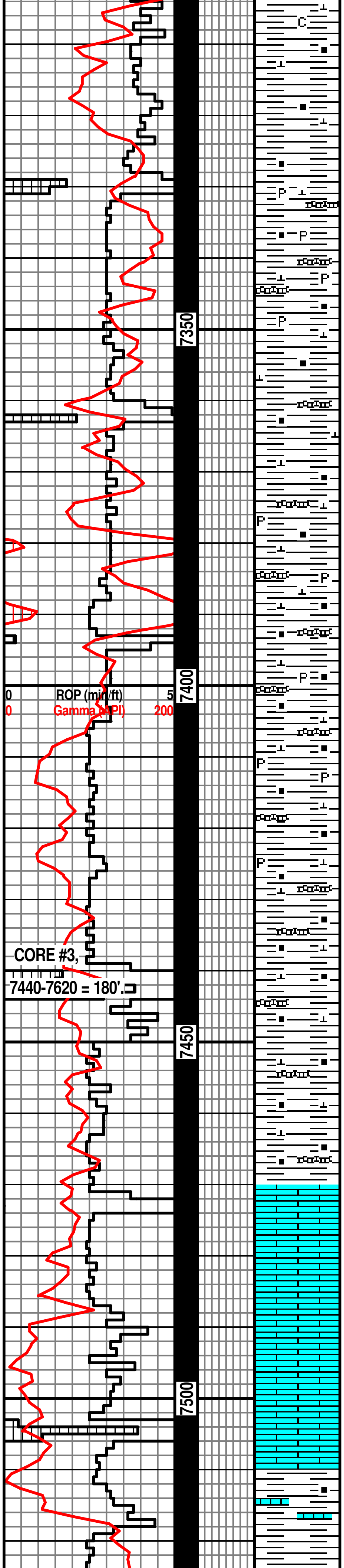
TRIPPING OUT WITH CORE # 1 AT 7260'.

SH- GY-DK GY, BLKY-PLTY, SBWXY, V CALC, SME CALC FL FRAC, TR PYR, CARB, SFT-FRM.

SH- GY, DK GY, BLKY-PLTY, SBWXY, V CALC, CARB, SFT-FRM.

SH- DK GY-GY, BLKY-PLTY





SH- DK GY-GY, BLKY-PLTY, SBWXY, CARB, V CALC, SME CALC FL FRAC, CHLKY, SFT-FRM.

SH- DK GY-GY, BLKY-PLTY, SBWXY, CARB, V CALC-LMY, OCC CALC FL FRAC, SFT-FRM.

SH- GY-DK GY, BLKY-PLTY, SBWXY, V CALC-LMY, CARB, SME CALC FL FRAC, TR PYR, SFT-FRM. W/ SME BENT- LT GY-BUFF.

SH- DK GY-GY, SME LT GY, BLKY-PLTY, SBWXY, V CALC-LMY, CARB, OCC CALC FL FRAC, TR BENT, SFT-FRM.

SH- DK GY-GY, BLKY-PLTY, SBWXY, V CALC-LMY, CARB, CALC FL FRAC, TR BENT, TR PYR, SFT-FRM.

SH- DK GY-GY, BLKY-PLTY, SBWXY, V CALC-LMY, CARB, CALC FL FRAC, SFT-FRM, TR BENT, TR PYR.

SH- DK GY-GY, BLKY-PLTY, SBWXY, V CALC-LMY, CARB, CALC FL FRAC, SFT-FRM, TR BENT, TR PYR.

TRIPPING OUT WITH CORE # 2 AT 7440'.

12/23/12

SH- DK GY-GY, BLKY-PLTY, SBWXY, V CALC-LMY, CARB, CALC FL FRAC, SFT-FRM, TR BENT.

SH- DK GY-GY, BLKY-PLTY, SBWXY, V CALC-LMY, CARB, CALC FL FRAC, SFT-FRM, TR BENT.

SAMPLE TOP FORT HAYS LS 7474

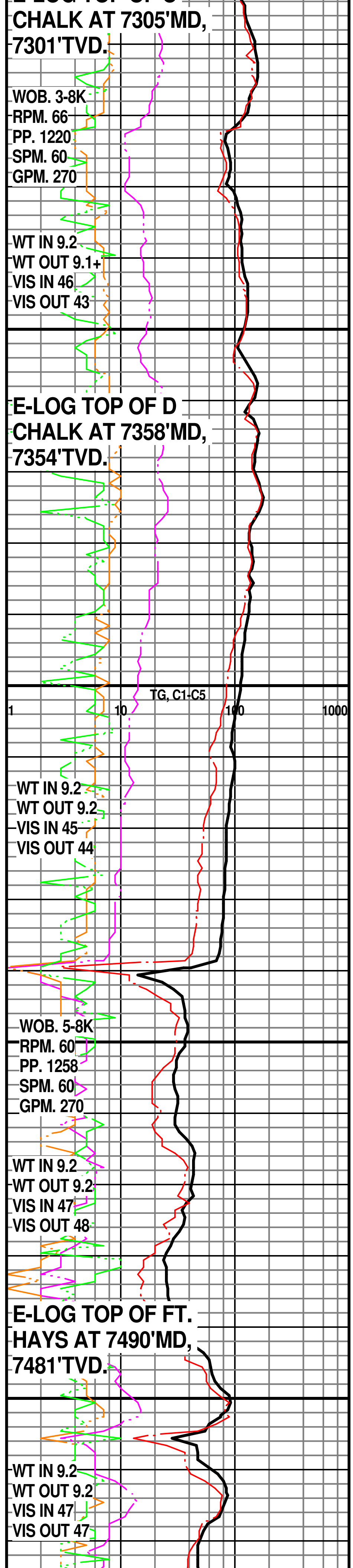
LS- LT GY-BF-WH, MICXLN-FXLN, HD, DNS.

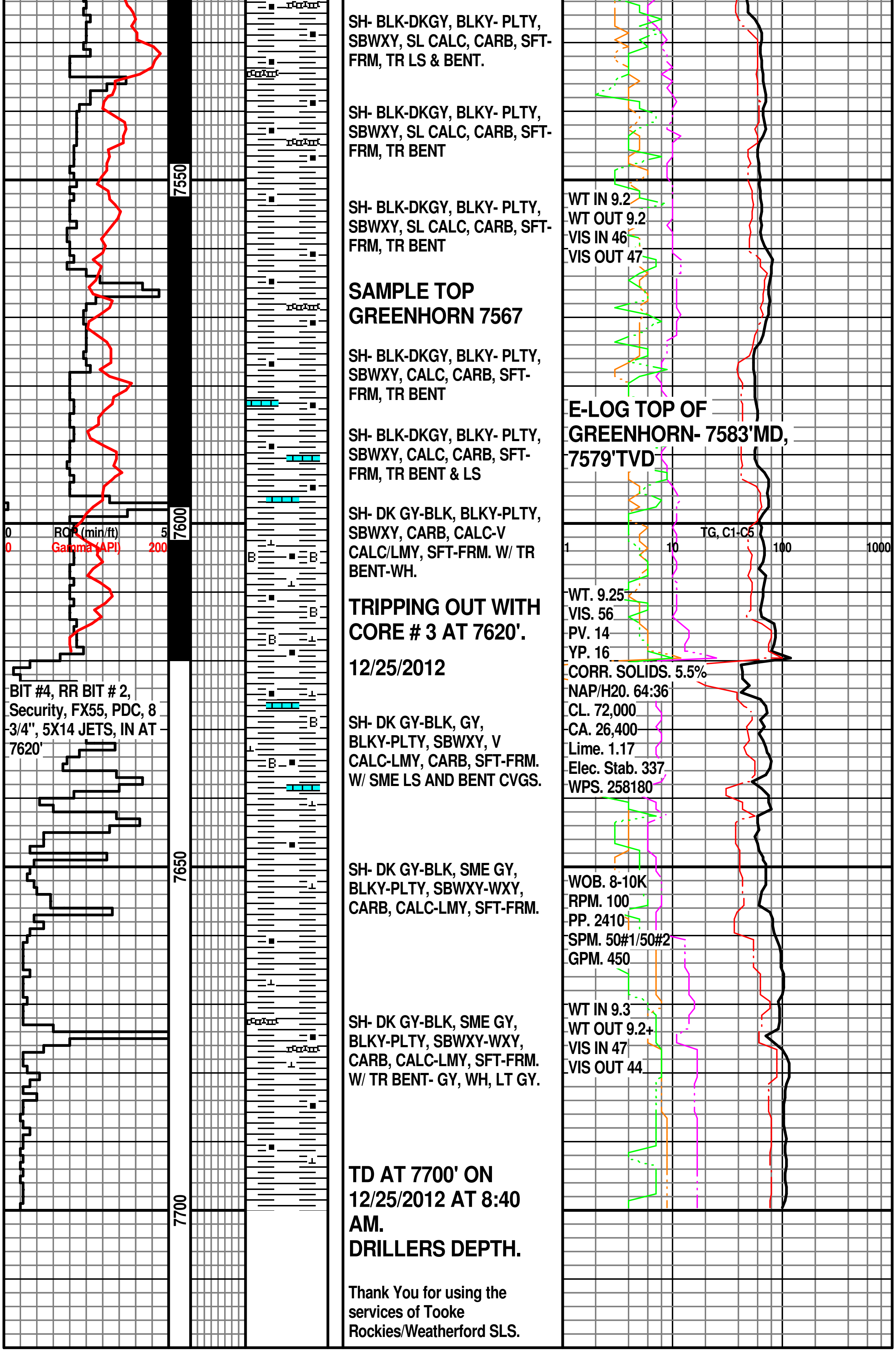
LS- LT GY-BF-WH, MICXLN-FXLN, HD, DNS.

12/24/12

LS- LT GY-BF-WH, MICXLN-FXLN, HD, DNS.

SAMPLE TOP CARLISLE SHALE 7515





SH- BLK-DKGY, BLKY- PLTY, SBWXY, SL CALC, CARB, SFT-FRM, TR LS & BENT.
SH- BLK-DKGY, BLKY- PLTY, SBWXY, SL CALC, CARB, SFT-FRM, TR BENT
7550
SH- BLK-DKGY, BLKY- PLTY, SBWXY, SL CALC, CARB, SFT-FRM, TR BENT
WT IN 9.2
WT OUT 9.2
VIS IN 46
VIS OUT 47
SAMPLE TOP GREENHORN 7567
SH- BLK-DKGY, BLKY- PLTY, SBWXY, CALC, CARB, SFT-FRM, TR BENT
E-LOG TOP OF GREENHORN- 7583'MD, 7579'TVD
SH- BLK-DKGY, BLKY- PLTY, SBWXY, CALC, CARB, SFT-FRM, TR BENT & LS
7600
0 ROP (min/ft) 5
0 Gamma (API) 200
SH- DK GY-BLK, BLKY-PLTY, SBWXY, CARB, CALC-V CALC/LMY, SFT-FRM. W/ TR BENT-WH.
TG, C1-C5
1 10 100 1000
TRIPPING OUT WITH CORE # 3 AT 7620'.
WT. 9.25
VIS. 56
PV. 14
YP. 16
12/25/2012
CORR. SOLIDS. 5.5%
NAP/H20. 64:36
CL. 72,000
CA. 26,400
Lime. 1.17
Elec. Stab. 337
WPS. 258180
BIT #4, RR BIT # 2, Security, FX55, PDC, 8 3/4", 5X14 JETS, IN AT 7620'
SH- DK GY-BLK, GY, BLKY-PLTY, SBWXY, V CALC-LMY, CARB, SFT-FRM. W/ SME LS AND BENT CVGS.
7650
SH- DK GY-BLK, SME GY, BLKY-PLTY, SBWXY-WXY, CARB, CALC-LMY, SFT-FRM.
WOB. 8-10K
RPM. 100
PP. 2410
SPM. 50#1/50#2
GPM. 450
SH- DK GY-BLK, SME GY, BLKY-PLTY, SBWXY-WXY, CARB, CALC-LMY, SFT-FRM. W/ TR BENT- GY, WH, LT GY.
WT IN 9.3
WT OUT 9.2+
VIS IN 47
VIS OUT 44
TD AT 7700' ON 12/25/2012 AT 8:40 AM.
DRILLERS DEPTH.
7700
Thank You for using the services of Tooke Rockies/Weatherford SLS.