EMPIRICA

The Surface Logging Company

Scale: 5" / 100'
Measured Depth Log

Well Name	Source Condiff8-22-2-23		
Location	SEC 3-T32S-R1E		
State	KANSAS	**County**	SUMNER
Country	U.S. A.	**Rig Number**	PISTOL RIG 2
API Number	15-191-22669-01-00		
Spud Date	2/5/2013		
Surface Coordinat...	1477' FWL & 394' FSL		
Ground Elevation	1,247	**K.B. Elevation**	17

Operator

Company SOURCE ENERGY

Geologist

Name Stephen Cox, James Brewer

Company EMPIRICA SURFACE LOGGING

P.O. BOX 6005
EDMOND, OK 73083-6005
(405)340-5545

Other

2 man logging unit commenced

Start Date: 2/7/13

Rock Types

- UNKNOWN
- ANHYDRITE
- GYPSUM
- SALT
- SIDERITE or LIMONITE
- LIME
- DOLO
- CHERT
- COAL
- MARLSTONE
- CLAY
- SHALE
- HOT SHALE
- SHALE GRAY
- SHALE COLORED
- SILT
- SAND
- CONGLOMERATE
- BRECCIA
- TILL
- BENTONITE
- TUFF
- IGNEOUS
- METAMORPHIC
- cement

Accessories

Fossils

- ALGAE
- AMPHIPORA
- BELEMNITE
- BIOCLASTIC
- BRACHOIPOD
- BRYOZOA
- CEPHALOPOD
- CORAL
- CRINOID
- ECHINOID
- FISH
- FORAMINIFERA
- FOSSIL
- GASTROPOD
- OOLITE
- OSTRACOD
- PELECYPOD
- PELLET
- PISOLITE
- PLANT REMAINS
- PLANT SPORES
- SCAPHOPOD
- STROMATOPOROID

Minerals

- ANHYDRITIC
- ARGILLACEOUS
- ARGILLITE GRAIN
- BENTONITE
- BITUMENOUS SUBSTANCE
- BRECCIA FRAGMENTS
- CALCAREOUS
- CARBONACEOUS FLAKES
- CHTDK
- CHTLT
- COAL - THIN BEDS
- DOLOMITIC
- FELDSPAR
- FERRUGINOUS PELLET
- FERRUGINOUS
- GLAUCONITE
- GYPSIFEROUS
- HEAVY MINERAL
- KAOLIN
- MARLSTONE
- MINERAL CRYSTALS
- NODULES
- PHOSPHATE PELLETS
- PYRITE
- SALT CAST
- SANDY
- SILICEOUS
- SILTY
- TUFFACEOUS

Stringer

- ANHYDRITE STRINGER
- BENTONITE STRINGER
- COAL STRINGER
- DOLOMITE STRINGER
- GYPSUM STRINGER
- LIMESTONE STRINGER
- MARLSTONE (CALC) STRG
- MARLSTONE (DOL) STRG
- SANDSTONE STRINGER
- SHALE STRINGER
- SILTSTONE STRINGER

Other Symbols

Oil Show

- DEAD
- EVEN
- QUESTIONABLE
- SPOTTED STAINING

Porosity

- EARTHY
- FENESTRAL
- FRACTURE
- INTERCRYSTALLINE
- INTEROOLITIC
- MOLDIC
- ORGANIC
- PINPOINT
- VUGGY

Engineering

- BIT
- CONNECTION (LEFT)
- CONNECTION (RIGHT)
- CONNECTION GAS
- CORE - LOST
- CORE - RECOVERED
- DST INTERVAL
- FAULT
- FORMATION TOP
- GAS SHOW
- MN DEPTH
- NORMAL FAULT
- OIL SHOW
- OVERTURNED STRATA
- REVERSE FAULT
- SIDEWALL CORE (LEFT)
- SIDEWALL CORE (RIGHT)
- SLIDE
- SURVEY
- TRIP GAS
- WIRELINE TESTED - LEFT
- WIRELINE TESTED - RT

Rounding

- ANGULAR
- ROUNDED
- SUBANG
- SUBRND

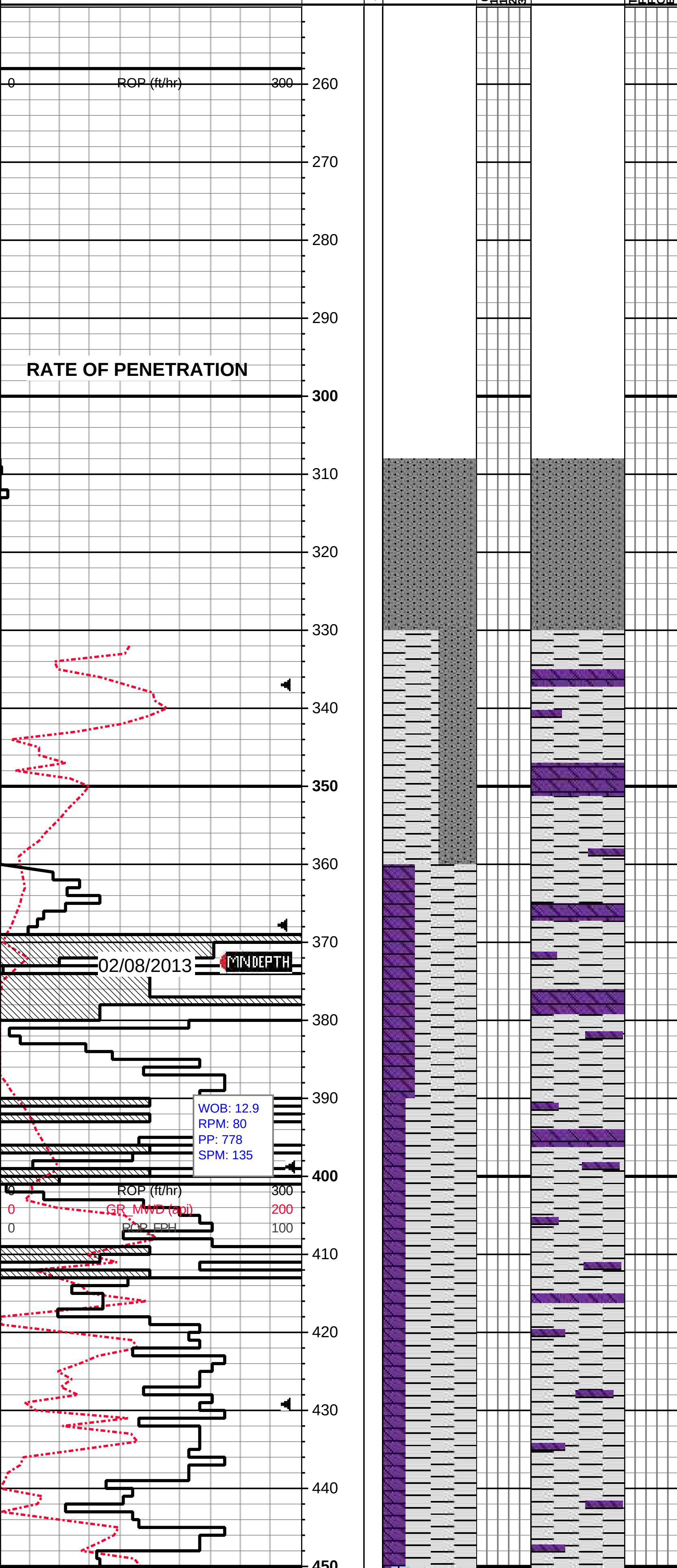
Textures

- BOUNDSTONE
- CHALKY
- CRYPTOXLN
- EARTHY
- FINELYXLN
- GRAINSTONE
- LITHOGRAPHIC
- MICROXLN
- MUDSTONE
- PACKSTONE
- WACKESTONE

Sorting

- MODERATE
- POOR
- WELL

ROP_FPH	Depth Labels	Slide/Rotate	% Lith	% Porosity	Interp Lith	Oil Show	Lithology Descriptions	Total Gas & Chromatograph	Images
ROF, GR_MWI, ROP_FPI				6 12 18 24 30		TR P FR G E		TGAS, C1, C2, C3, C4	



SOURCE ENERGY
CONDIFF 8-22-5-23-H
SEC 3 R1E T32S
SUMNER COUNTY KS

STARTED TWO MAN LOGGING OPERATIONS
ON 02/07/2013

CASING CEMENT

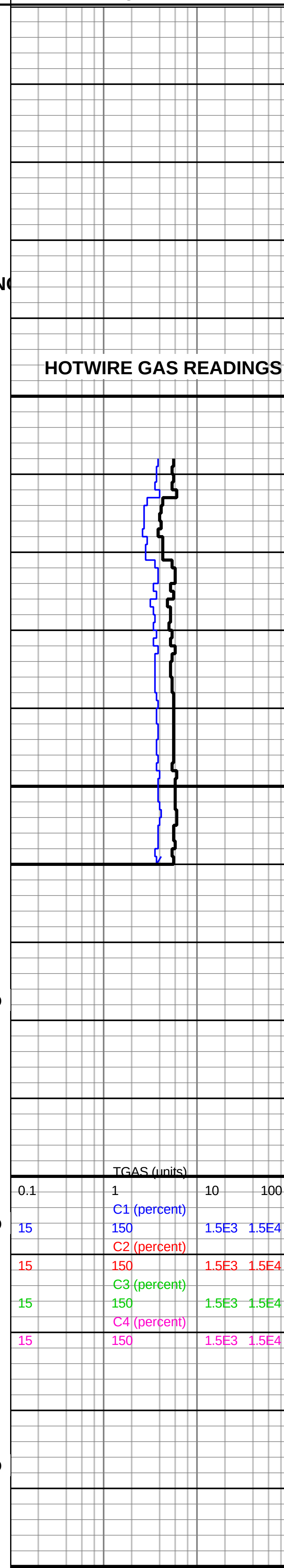
J.BREWER ON

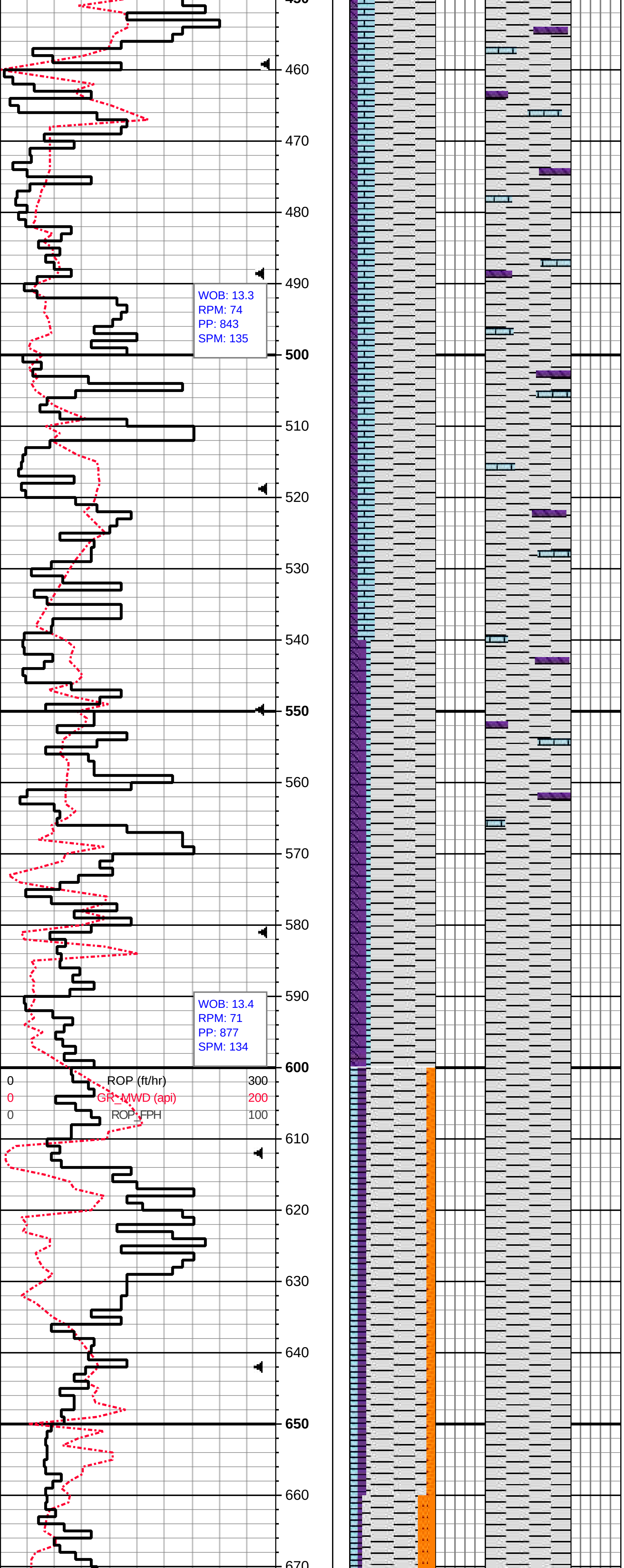
SH: MED TO DK GY, SME LT GY, BLKY TO SB BLKY, SM TO FRM TEX, DLL ERTH LSTR, SFT TO FRM, NON CALC, GYP: WHT TO OFF WHT, TRNSL IP, FRM TO HD, BRIT IP, NON CALC

SH: MED TO DK GY, SME LT GY, BLKY TO SB BLKY, SM TO FRM TEX, DLL ERTH LSTR, SFT TO FRM, NON CALC, TR GYP: WHT TO OFF WHT, TRNSL IP, FRM TO HD, BRIT IP, NON CALC

SH: MED TO DK GY, SME LT GY, BLKY TO SB BLKY, SM TO FRM TEX, DLL ERTH LSTR, SFT TO FRM, NON CALC, TR GYP: WHT TO OFF WHT, TRNSL IP, FRM TO HD, BRIT IP, NON CALC

SH: MED TO DK GY, SME LT GY, BLKY TO SB BLKY, SM TO FRM TEX, DLL ERTH LSTR, SFT TO FRM, NON CALC, TR GYP: WHT TO OFF WHT, TRNSL IP, FRM TO HD, BRIT IP, NON CALC





GAS TRAP TEST

SH: MED TO DK GY, SME LT GY, BLKY TO SB BLKY, SM TO FRM TEX, DLL ERTH LSTR, SFT TO FRM, NON CALC, TR GYP: WHT TO OFF WHT, TRNSL IP, FRM TO HD, BRIT IP, TR LS

SH: MED TO DK GY, SME LT GY, BLKY TO SB BLKY, SM TO FRM TEX, DLL ERTH LSTR, SFT TO FRM, NON CALC, TR GYP: WHT TO OFF WHT, TRNSL IP, FRM TO HD, BRIT IP, TR LS

SH: MED TO DK GY, SME LT GY, BLKY TO SB BLKY, SM TO FRM TEX, DLL ERTH LSTR, SFT TO FRM, NON CALC, TR GYP: WHT TO OFF WHT, TRNSL IP, FRM TO HD, BRIT IP, TR LS

SH: MED TO DK GY, SME LT GY, BLKY TO SB BLKY, SM TO FRM TEX, DLL ERTH LSTR, SFT TO FRM, NON CALC, TR GYP: WHT TO OFF WHT, TRNSL IP, FRM TO HD, BRIT IP, TR LS

S. COX ON

SH: LT-M GY, OCC M-DK GY, BLKY, CHNKY, RGH-SMTH TXT, DLL ERTH LSTR, SFT-MOD HD, TRC LS, TRC DOLO

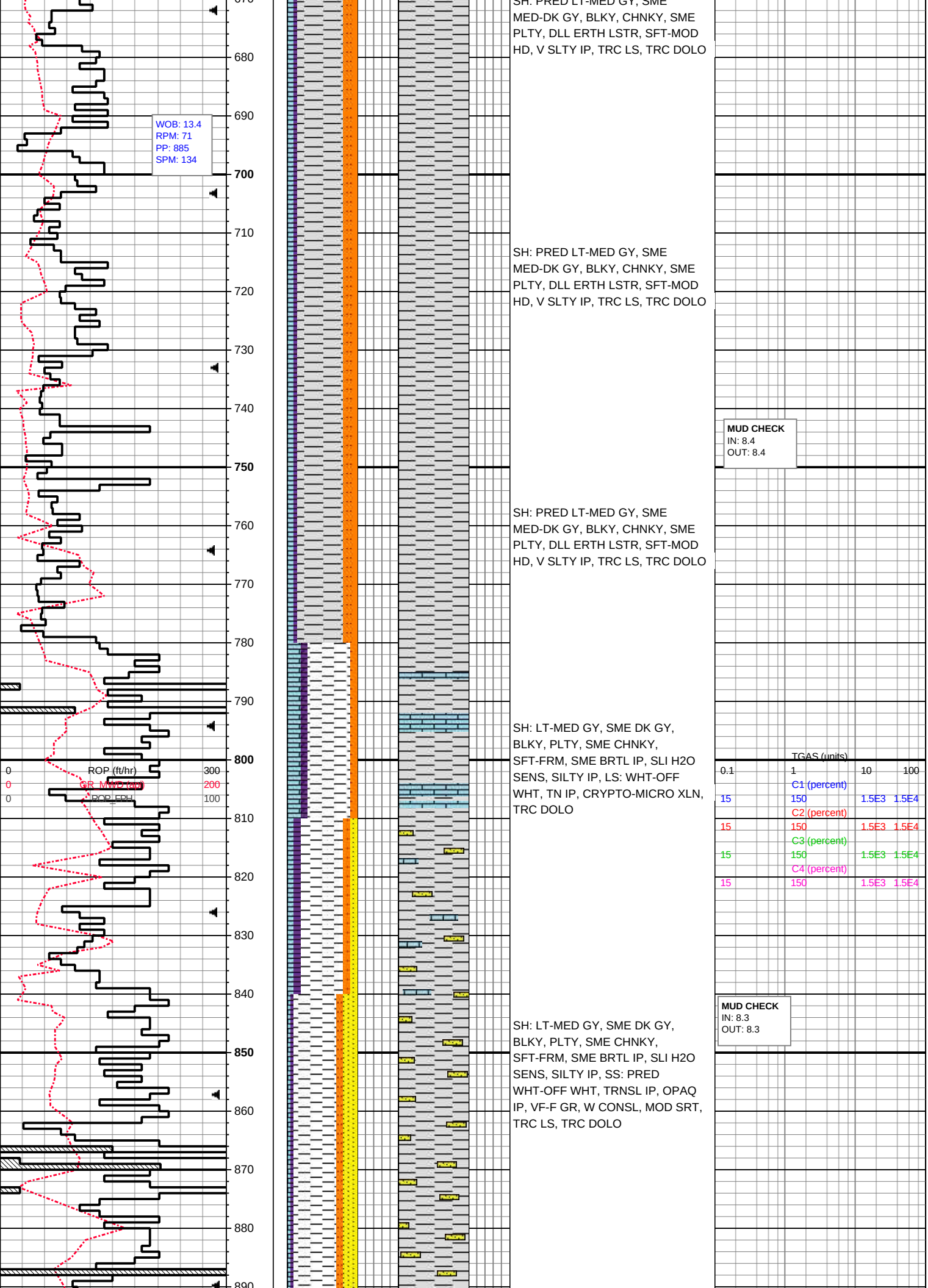
TGAS (units)

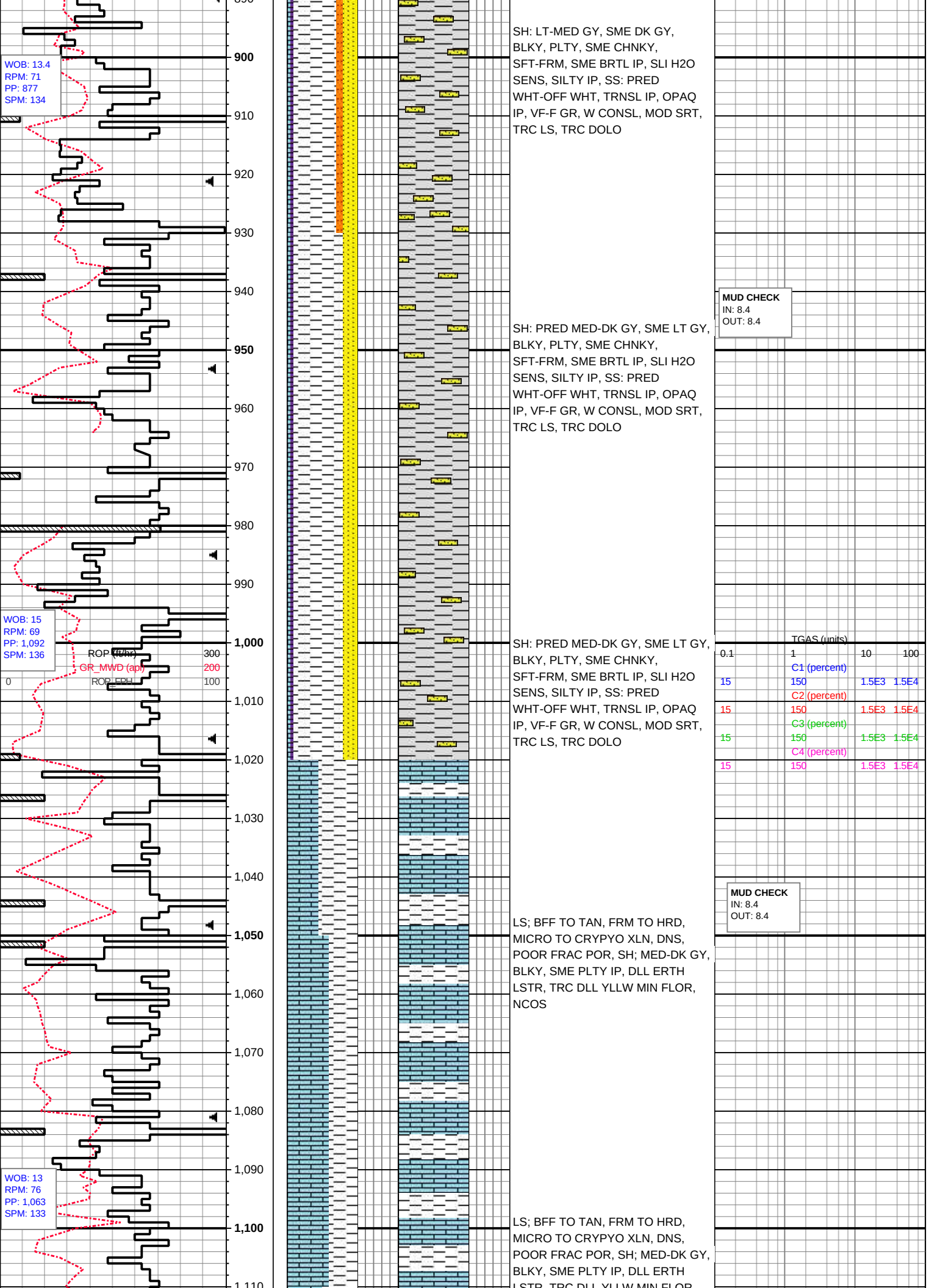
0.1	1	10	100
	C1 (percent)		
15	150	1.5E3	1.5E4
	C2 (percent)		
15	150	1.5E3	1.5E4
	C3 (percent)		
15	150	1.5E3	1.5E4
	C4 (percent)		
15	150	1.5E3	1.5E4

SH: PRED LT-MED GY, SME MED-DK GY, BLKY, CHNKY, SME PLTY, DLL ERTH LSTR, SFT-MOD HD, SLTY IP, TRC LS, TRC DOLO

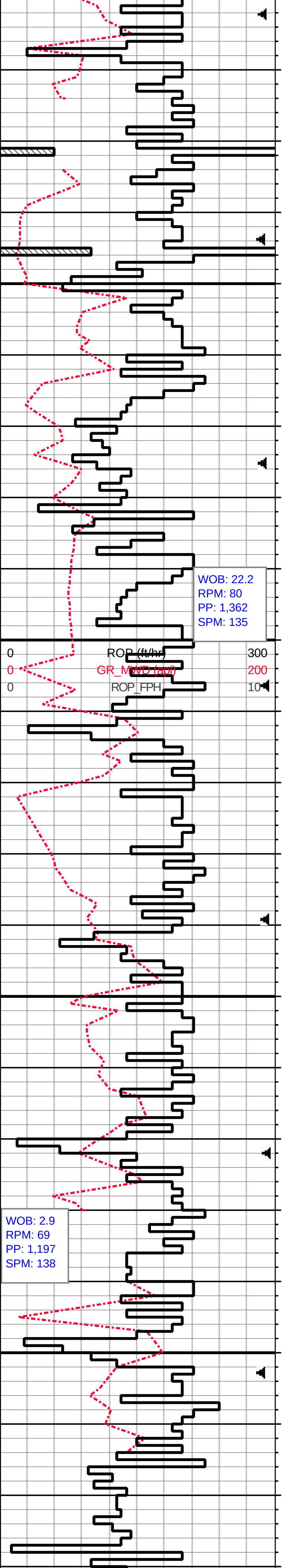
MUD CHECK
IN: 8.45
OUT: 8.45

SH: PRED LT-MED GY, SME


WOB: 13.4
RPM: 71
PP: 885
SPM: 134
0
ROP (ft/hr)
300
0
GR_MWD (api)
200
0
ROP_EPH
100
680
690
700
710
720
730
740
750
760
770
780
790
800
810
820
830
840
850
860
870
880
890
SH: PRED LT-MED GY, SME MED-DK GY, BLKY, CHNKY, SME PLTY, DLL ERTH LSTR, SFT-MOD HD, V SLTY IP, TRC LS, TRC DOLO
SH: PRED LT-MED GY, SME MED-DK GY, BLKY, CHNKY, SME PLTY, DLL ERTH LSTR, SFT-MOD HD, V SLTY IP, TRC LS, TRC DOLO
MUD CHECK
IN: 8.4
OUT: 8.4
SH: PRED LT-MED GY, SME MED-DK GY, BLKY, CHNKY, SME PLTY, DLL ERTH LSTR, SFT-MOD HD, V SLTY IP, TRC LS, TRC DOLO
SH: LT-MED GY, SME DK GY, BLKY, PLTY, SME CHNKY, SFT-FRM, SME BRTL IP, SLI H2O SENS, SILTY IP, LS: WHT-OFF WHT, TN IP, CRYPTO-MICRO XLN, TRC DOLO
TGAS (units)
0.1
1
10
100
C1 (percent)
15
150
1.5E3
1.5E4
C2 (percent)
15
150
1.5E3
1.5E4
C3 (percent)
15
150
1.5E3
1.5E4
C4 (percent)
15
150
1.5E3
1.5E4
MUD CHECK
IN: 8.3
OUT: 8.3
SH: LT-MED GY, SME DK GY, BLKY, PLTY, SME CHNKY, SFT-FRM, SME BRTL IP, SLI H2O SENS, SILTY IP, SS: PRED WHT-OFF WHT, TRNSL IP, OPAQ IP, VF-F GR, W CONSL, MOD SRT, TRC LS, TRC DOLO


WOB: 13.4
RPM: 71
PP: 877
SPM: 134
900
910
920
930
940
950
960
970
980
990
WOB: 15
RPM: 69
PP: 1,092
SPM: 136
ROP (ft/hr)
300
GR_MWD (api)
200
0
ROP_EPH
100
1,000
1,010
1,020
1,030
1,040
1,050
1,060
1,070
1,080
1,090
WOB: 13
RPM: 76
PP: 1,063
SPM: 133
1,100
1,110
SH: LT-MED GY, SME DK GY, BLKY, PLTY, SME CHNKY, SFT-FRM, SME BRTL IP, SLI H2O SENS, SILTY IP, SS: PRED WHT-OFF WHT, TRNSL IP, OPAQ IP, VF-F GR, W CONSL, MOD SRT, TRC LS, TRC DOLO
MUD CHECK
IN: 8.4
OUT: 8.4
SH: PRED MED-DK GY, SME LT GY, BLKY, PLTY, SME CHNKY, SFT-FRM, SME BRTL IP, SLI H2O SENS, SILTY IP, SS: PRED WHT-OFF WHT, TRNSL IP, OPAQ IP, VF-F GR, W CONSL, MOD SRT, TRC LS, TRC DOLO
TGAS (units)
0.1
1
10
100
C1 (percent)
15
150
1.5E3
1.5E4
C2 (percent)
15
150
1.5E3
1.5E4
C3 (percent)
15
150
1.5E3
1.5E4
C4 (percent)
15
150
1.5E3
1.5E4
SH: PRED MED-DK GY, SME LT GY, BLKY, PLTY, SME CHNKY, SFT-FRM, SME BRTL IP, SLI H2O SENS, SILTY IP, SS: PRED WHT-OFF WHT, TRNSL IP, OPAQ IP, VF-F GR, W CONSL, MOD SRT, TRC LS, TRC DOLO
MUD CHECK
IN: 8.4
OUT: 8.4
LS; BFF TO TAN, FRM TO HRD, MICRO TO CRYPYO XLN, DNS, POOR FRAC POR, SH; MED-DK GY, BLKY, SME PLTY IP, DLL ERTH LSTR, TRC DLL YLLW MIN FLOR, NCOS
LS; BFF TO TAN, FRM TO HRD, MICRO TO CRYPYO XLN, DNS, POOR FRAC POR, SH; MED-DK GY, BLKY, SME PLTY IP, DLL ERTH

LSTR, TRC DLL YLLW MIN FLOR,
NCOS



1,120
1,130
1,140
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1,170
1,180
1,190
1,200
1,210
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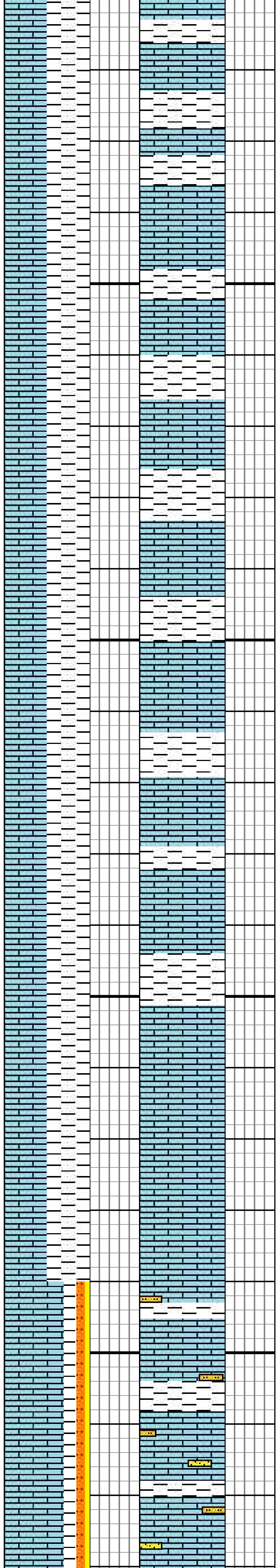
1,290
1,300
1,310
1,320
1,330

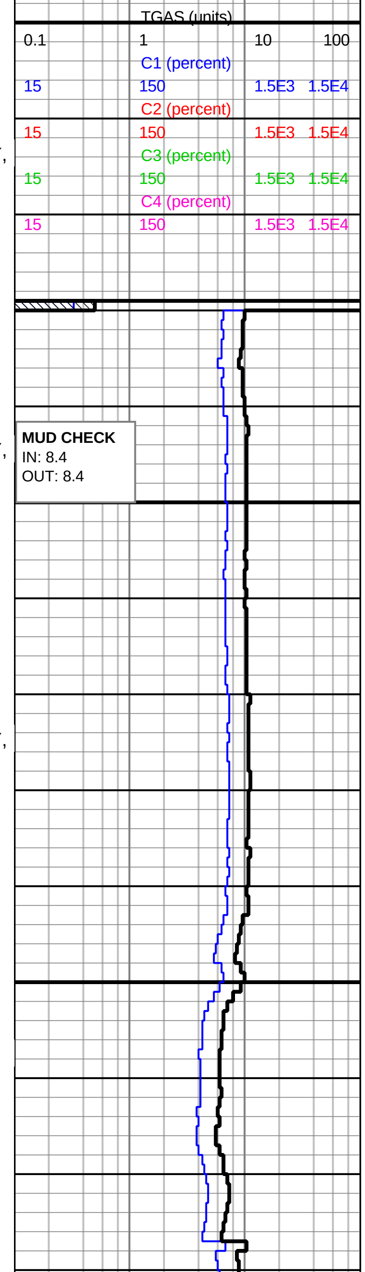


J. BREWER ON

MUD CHECK
IN: 8.4
OUT: 8.4

LS; BFF TO TAN, FRM TO HRD, MICRO TO CRYPYO XLN, DNS, POOR FRAC POR, SH; MED-DK GY, BLKY, SME PLTY IP, DLL ERTH LSTR, TRC DLL YLLW MIN FLOR, NCOS

LS; BFF TO TAN, FRM TO HRD, MICRO TO CRYPYO XLN, DNS, POOR FRAC POR, SH; MED-DK GY, BLKY, SME PLTY IP, DLL ERTH LSTR, TRC DLL YLLW MIN FLOR, NCOS



LS; BFF TO TAN, FRM TO HRD, MICRO TO CRYPYO XLN, DNS, POOR FRAC POR, SH; MED-DK GY, BLKY, SME PLTY IP, DLL ERTH LSTR, TRC DLL YLLW MIN FLOR, NCOS

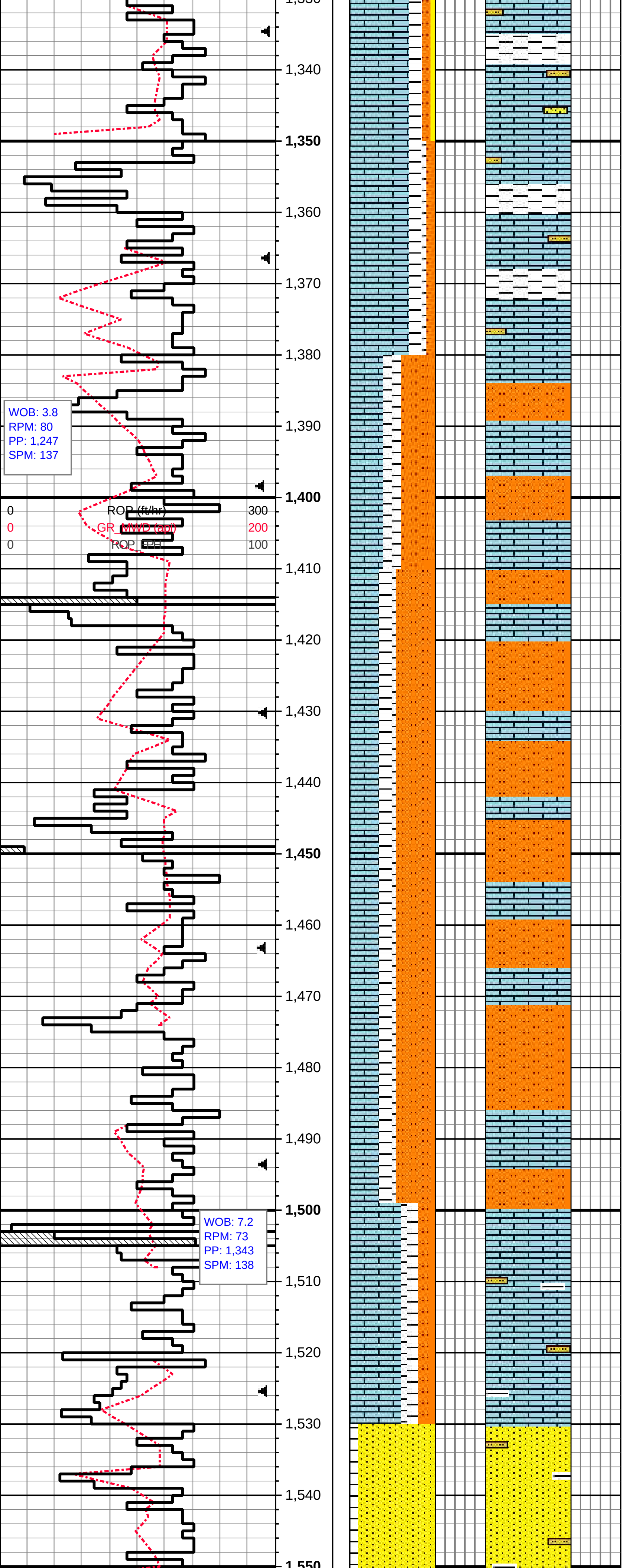
LS; BFF TO TAN, FRM TO HRD, MICRO TO CRYPYO XLN, DNS, POOR FRAC POR, SH; MED-DK GY, BLKY, SME PLTY IP, DLL ERTH LSTR, TRC DLL YLLW MIN FLOR, NCOS

MUD CHECK
IN: 8.4
OUT: 8.4

LS; BFF TO TAN, FRM TO HRD, MICRO TO CRYPYO XLN, DNS, POOR FRAC POR, SH; MED-DK GY, BLKY, SME PLTY IP, DLL ERTH LSTR, TRC DLL YLLW MIN FLOR, NCOS

LS: LT GY TO DK GY, SME OFF WHT TO WHT, F XLN TO MICRO XLN, SM TEX, FAIR INTER XLN POR, SH: GY TO DK GY, VIT LSTR, SM TEX, V CALC, V SLTY, TR SS

LS: LT GY TO DK GY, SME OFF



WHT TO WHT, F XLN TO MICRO XLN, SM TEX, FAIR INTER XLN POR, SH: GY TO DK GY, VIT LSTR, SM TEX, V CALC, V SLTY, TR SS

LS: LT GY TO DK GY, SME OFF WHT TO WHT, F XLN TO MICRO XLN, SM TEX, FAIR INTER XLN POR, SH: GY TO DK GY, VIT LSTR, SM TEX, V CALC, V SLTY

LS: LT GY TO DK GY, SME OFF WHT TO WHT, F XLN TO MICRO XLN, SM TEX, FAIR INTER XLN POR, SH: GY TO DK GY, VIT LSTR, SM TEX, V CALC, V SLTY

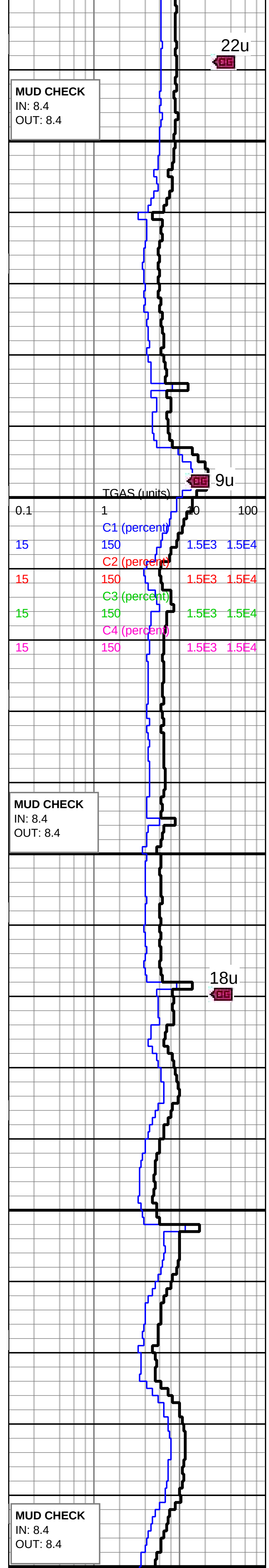
LS: LT GY TO DK GY, SME OFF WHT TO WHT, F XLN TO MICRO XLN, SM TEX, FAIR INTER XLN POR, SH: GY TO DK GY, VIT LSTR, SM TEX, V CALC, V SLTY

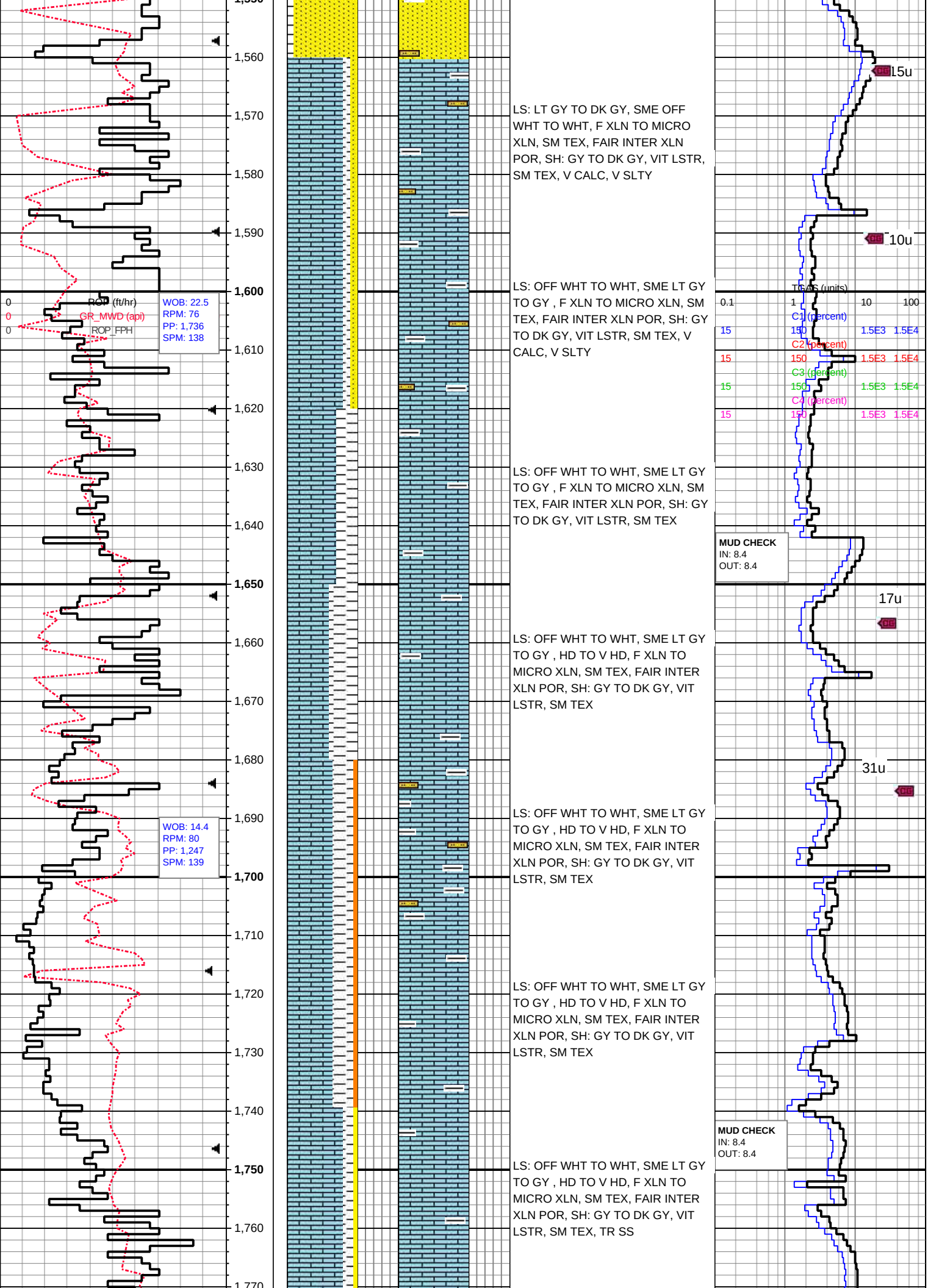
LS: LT GY TO DK GY, SME OFF WHT TO WHT, F XLN TO MICRO XLN, SM TEX, FAIR INTER XLN POR, SH: GY TO DK GY, VIT LSTR, SM TEX, V CALC, V SLTY

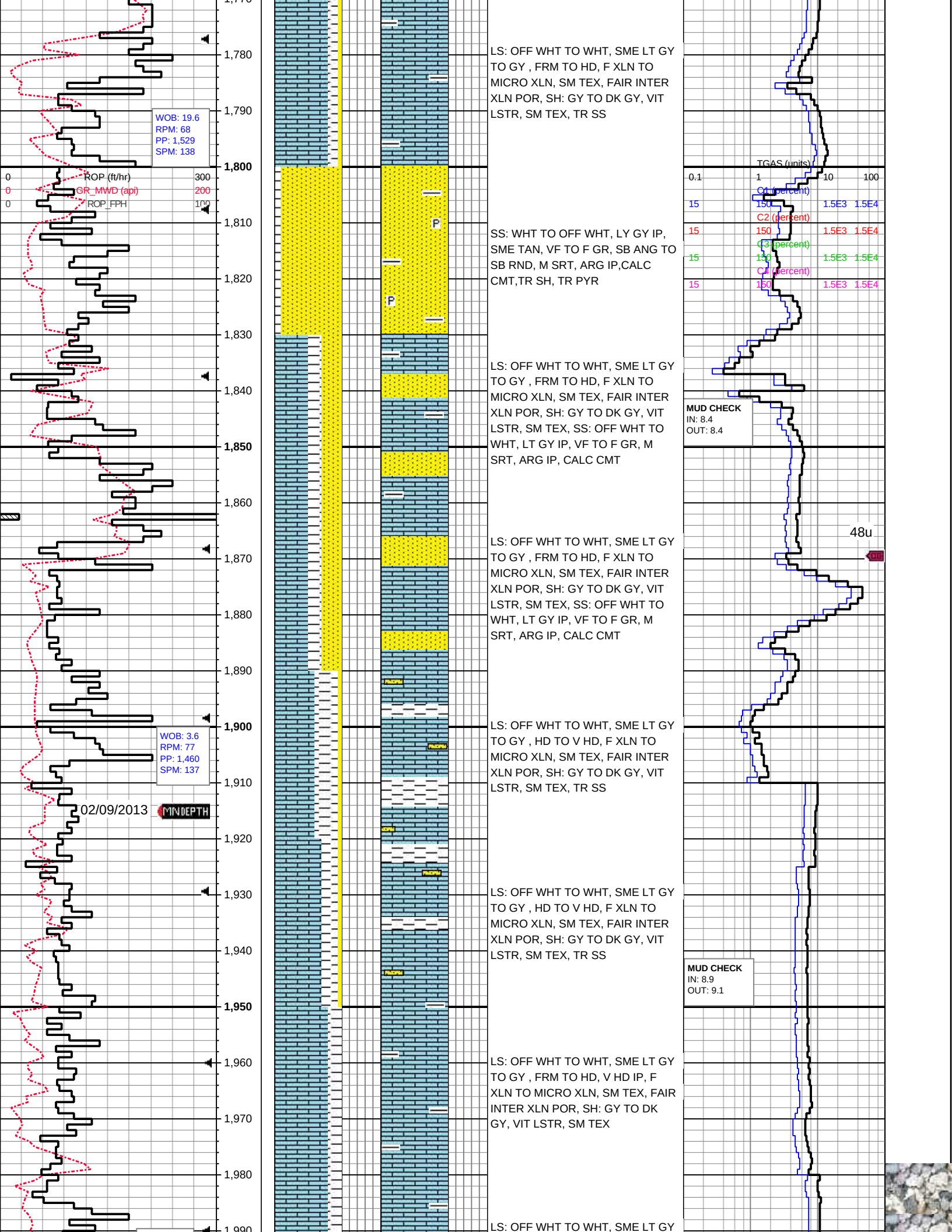
LS: LT GY TO DK GY, SME OFF WHT TO WHT, F XLN TO MICRO XLN, SM TEX, FAIR INTER XLN POR, SH: GY TO DK GY, VIT LSTR, SM TEX, V CALC, V SLTY

LS: LT GY TO DK GY, SME OFF WHT TO WHT, F XLN TO MICRO XLN, SM TEX, FAIR INTER XLN POR, SH: GY TO DK GY, VIT LSTR, SM TEX, V CALC, V SLTY

SS: WHT TO OFF WHT, LY GY IP, SME TAN, VF TO F GR, SB ANG TO SB RND, M SRT, ARG IP,CALC CMT,TR SH




1,560
1,570
1,580
1,590
1,600
1,610
1,620
1,630
1,640
1,650
1,660
1,670
1,680
1,690
1,700
1,710
1,720
1,730
1,740
1,750
1,760
1,770
0
ROP (ft/hr)
0
GR_MWD (api)
0
ROP_FPH
WOB: 22.5
RPM: 76
PP: 1,736
SPM: 138
WOB: 14.4
RPM: 80
PP: 1,247
SPM: 139
LS: LT GY TO DK GY, SME OFF WHT TO WHT, F XLN TO MICRO XLN, SM TEX, FAIR INTER XLN POR, SH: GY TO DK GY, VIT LSTR, SM TEX, V CALC, V SLTY
LS: OFF WHT TO WHT, SME LT GY TO GY , F XLN TO MICRO XLN, SM TEX, FAIR INTER XLN POR, SH: GY TO DK GY, VIT LSTR, SM TEX, V CALC, V SLTY
LS: OFF WHT TO WHT, SME LT GY TO GY , F XLN TO MICRO XLN, SM TEX, FAIR INTER XLN POR, SH: GY TO DK GY, VIT LSTR, SM TEX
LS: OFF WHT TO WHT, SME LT GY TO GY , HD TO V HD, F XLN TO MICRO XLN, SM TEX, FAIR INTER XLN POR, SH: GY TO DK GY, VIT LSTR, SM TEX
LS: OFF WHT TO WHT, SME LT GY TO GY , HD TO V HD, F XLN TO MICRO XLN, SM TEX, FAIR INTER XLN POR, SH: GY TO DK GY, VIT LSTR, SM TEX
LS: OFF WHT TO WHT, SME LT GY TO GY , HD TO V HD, F XLN TO MICRO XLN, SM TEX, FAIR INTER XLN POR, SH: GY TO DK GY, VIT LSTR, SM TEX, TR SS
TGAS (units)
0.1
1
10
100
C1 (percent)
15
150
1.5E3
1.5E4
C2 (percent)
15
150
1.5E3
1.5E4
C3 (percent)
15
150
1.5E3
1.5E4
C4 (percent)
15
150
1.5E3
1.5E4
15u
10u
17u
31u
MUD CHECK
IN: 8.4
OUT: 8.4
MUD CHECK
IN: 8.4
OUT: 8.4


WOB: 19.6
RPM: 68
PP: 1,529
SPM: 138
0 ROP (ft/hr) 300
0 GR_MWD (api) 200
0 ROP_FPH 100
1,780
1,790
1,800
1,810
1,820
1,830
1,840
1,850
1,860
1,870
1,880
1,890
1,900
1,910
1,920
1,930
1,940
1,950
1,960
1,970
1,980
1,990
WOB: 3.6
RPM: 77
PP: 1,460
SPM: 137
02/09/2013
MNDEPTH
LS: OFF WHT TO WHT, SME LT GY TO GY , FRM TO HD, F XLN TO MICRO XLN, SM TEX, FAIR INTER XLN POR, SH: GY TO DK GY, VIT LSTR, SM TEX, TR SS
SS: WHT TO OFF WHT, LY GY IP, SME TAN, VF TO F GR, SB ANG TO SB RND, M SRT, ARG IP,CALC CMT,TR SH, TR PYR
P
P
LS: OFF WHT TO WHT, SME LT GY TO GY , FRM TO HD, F XLN TO MICRO XLN, SM TEX, FAIR INTER XLN POR, SH: GY TO DK GY, VIT LSTR, SM TEX, SS: OFF WHT TO WHT, LT GY IP, VF TO F GR, M SRT, ARG IP, CALC CMT
LS: OFF WHT TO WHT, SME LT GY TO GY , FRM TO HD, F XLN TO MICRO XLN, SM TEX, FAIR INTER XLN POR, SH: GY TO DK GY, VIT LSTR, SM TEX, SS: OFF WHT TO WHT, LT GY IP, VF TO F GR, M SRT, ARG IP, CALC CMT
LS: OFF WHT TO WHT, SME LT GY TO GY , HD TO V HD, F XLN TO MICRO XLN, SM TEX, FAIR INTER XLN POR, SH: GY TO DK GY, VIT LSTR, SM TEX, TR SS
LS: OFF WHT TO WHT, SME LT GY TO GY , HD TO V HD, F XLN TO MICRO XLN, SM TEX, FAIR INTER XLN POR, SH: GY TO DK GY, VIT LSTR, SM TEX, TR SS
LS: OFF WHT TO WHT, SME LT GY TO GY , FRM TO HD, V HD IP, F XLN TO MICRO XLN, SM TEX, FAIR INTER XLN POR, SH: GY TO DK GY, VIT LSTR, SM TEX
LS: OFF WHT TO WHT, SME LT GY
TGAS (units)
0.1 1 10 100
C1 (percent)
15 150 1.5E3 1.5E4
C2 (percent)
15 150 1.5E3 1.5E4
C3 (percent)
15 150 1.5E3 1.5E4
C4 (percent)
15 150 1.5E3 1.5E4
MUD CHECK
IN: 8.4
OUT: 8.4
48u
MUD CHECK
IN: 8.9
OUT: 9.1

WOB: 20.8
RPM: 63
PP: 1,459
SPM: 129

1,990

TO GY , FRM TO HD, V HD IP, F XLN TO MICRO XLN, SM TEX, FAIR INTER XLN POR, SH: GY TO DK GY, VIT LSTR, SM TEX

2,000

0 ROP (ft/hr) 300
0 GR_MWD (api) 200
0 ROP_FPH 100

TGAS (units)
0.1 1 10 100
C1 (percent)
15 150 1.5E3 1.5E4
C2 (percent)
15 150 1.5E3 1.5E4
C3 (percent)
15 150 1.5E3 1.5E4
C4 (percent)
15 150 1.5E3 1.5E4

2,010

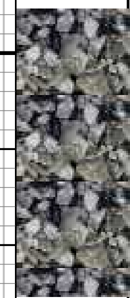
2,020

LS: OFF WHT TO WHT, SME BUFF IP , FRM TO HD, V HD IP, F XLN TO MICRO XLN, SM TEX, FAIR INTER XLN POR, SH: GY TO DK GY, VIT LSTR, SM TEX

2,030

2,040

MUD CHECK
IN: 8.7
OUT: 8.9



2,050

LS: OFF WHT TO WHT, SME BUFF IP , FRM TO HD, V HD IP, F XLN TO MICRO XLN, SM TEX, FAIR INTER XLN POR, SH: GY TO DK GY, VIT LSTR, SM TEX

2,060

2,070

2,080

LS: OFF WHT TO WHT, SME BUFF IP , FRM TO HD, V HD IP, F XLN TO MICRO XLN, SM TEX, FAIR INTER XLN POR, SH: GY TO DK GY, VIT LSTR, SM TEX

2,090

WOB: 20.8
RPM: 71
PP: 1,418
SPM: 129

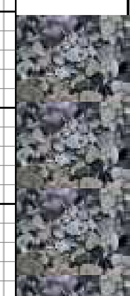
2,100

Depth: 2,104
WT: 8.75
VIS: 28
PV: 2
YP: 2
GELS: 1/1
FIL: 100
CK: 1
PH: 9
SOL: 3
O/W: 0/97
CL: 3,100

2,110

LS: OFF WHT TO WHT, SME BUFF IP , FRM TO HD, V HD IP, F XLN TO MICRO XLN, SM TEX, FAIR INTER XLN POR, SH: GY TO DK GY, VIT LSTR, SM TEX

2,120



2,130

2,140

LS: OFF WHT TO WHT, SME BUFF IP , FRM TO HD, V HD IP, F XLN TO MICRO XLN, SM TEX, FAIR INTER XLN POR, SH: GY TO DK GY, VIT LSTR, SM TEX

2,150

2,160

2,170

LS: OFF WHT TO WHT, SME BUFF IP , FRM TO HD, V HD IP, F XLN TO MICRO XLN, SM TEX, FAIR INTER XLN POR, SH: GY TO DK GY, VIT LSTR, SM TEX

2,180

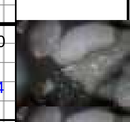
2,190

2,200

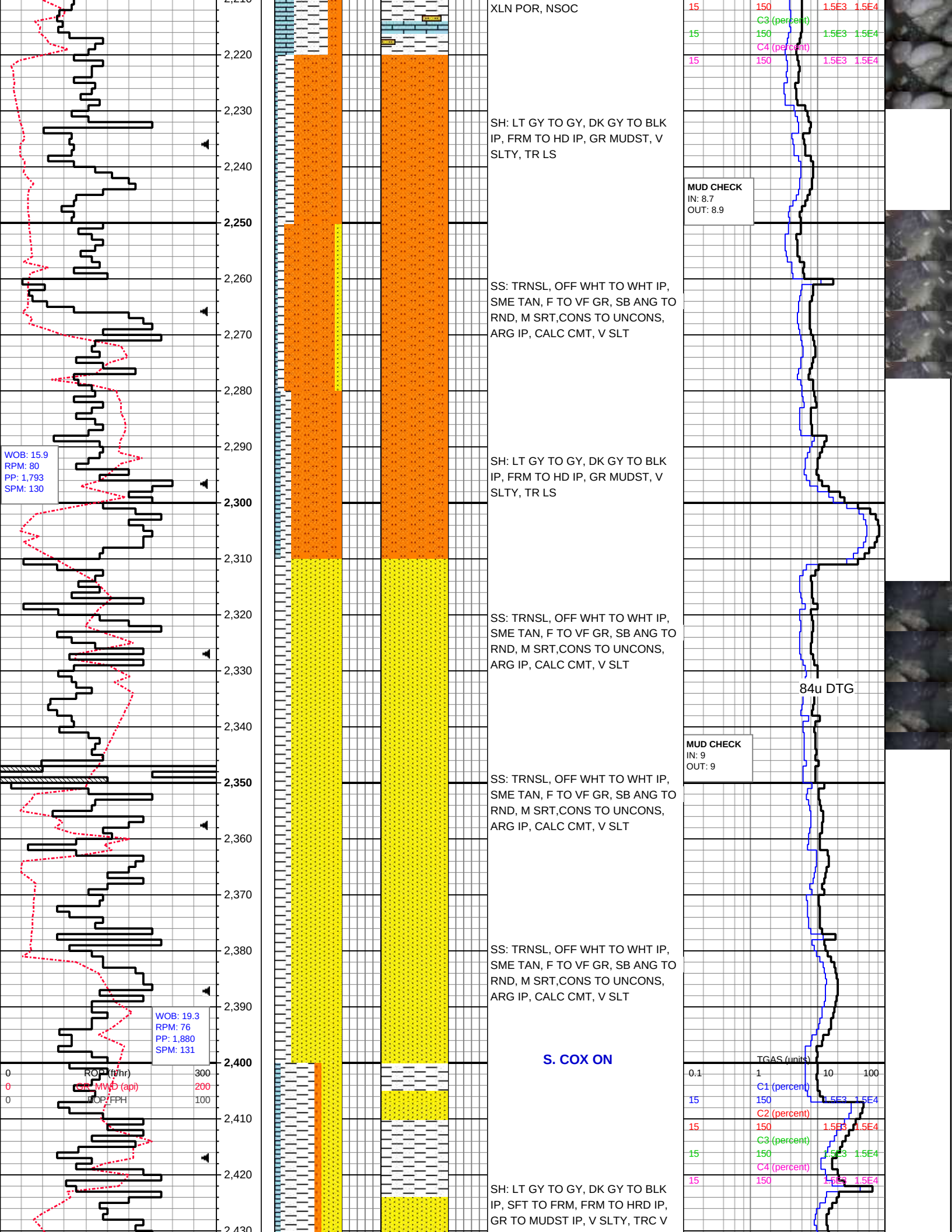
SH: LT GY TO GY, DK GY TO BLK IP, FRM TO HD IP, GR MUDST, V SLTY, LS: OFF WHT TO WHT, BFF IP, FRM TO HD, V HD IP, FR INTER

0 ROP (ft/hr) 300
0 GR_MWD (api) 200
0 ROP_FPH 100

TGAS (units)
0.1 1 10 100
C1 (percent)
15 150 1.5E3 1.5E4
C2 (percent)



2,210


XLN POR, NSOC
SH: LT GY TO GY, DK GY TO BLK IP, FRM TO HD IP, GR MUDST, V SLTY, TR LS
SS: TRNSL, OFF WHT TO WHT IP, SME TAN, F TO VF GR, SB ANG TO RND, M SRT,CONS TO UNCONS, ARG IP, CALC CMT, V SLT
SH: LT GY TO GY, DK GY TO BLK IP, FRM TO HD IP, GR MUDST, V SLTY, TR LS
SS: TRNSL, OFF WHT TO WHT IP, SME TAN, F TO VF GR, SB ANG TO RND, M SRT,CONS TO UNCONS, ARG IP, CALC CMT, V SLT
SS: TRNSL, OFF WHT TO WHT IP, SME TAN, F TO VF GR, SB ANG TO RND, M SRT,CONS TO UNCONS, ARG IP, CALC CMT, V SLT
SS: TRNSL, OFF WHT TO WHT IP, SME TAN, F TO VF GR, SB ANG TO RND, M SRT,CONS TO UNCONS, ARG IP, CALC CMT, V SLT
S. COX ON
SH: LT GY TO GY, DK GY TO BLK IP, SFT TO FRM, FRM TO HRD IP, GR TO MUDST IP, V SLTY, TRC V
MUD CHECK
IN: 8.7
OUT: 8.9
MUD CHECK
IN: 9
OUT: 9
84u DTG
WOB: 15.9
RPM: 80
PP: 1,793
SPM: 130
WOB: 19.3
RPM: 76
PP: 1,880
SPM: 131
2,210
2,220
2,230
2,240
2,250
2,260
2,270
2,280
2,290
2,300
2,310
2,320
2,330
2,340
2,350
2,360
2,370
2,380
2,390
2,400
2,410
2,420
2,430
0 ROP (ft/hr) 300
0 GR_MWD (api) 200
0 ROP_FPH 100
15 150 1.5E3 1.5E4 C3 (percent)
15 150 1.5E3 1.5E4 C4 (percent)
15 150 1.5E3 1.5E4
TGAS (units)
0.1 1 10 100 C1 (percent)
15 150 1.5E3 1.5E4 C2 (percent)
15 150 1.5E3 1.5E4 C3 (percent)
15 150 1.5E3 1.5E4 C4 (percent)
15 150 1.5E3 1.5E4

TT SS, TR LS

SH: LT-M GY, OCC DRK GY, BLKY, PLTY IP, FRM-HD, BRTL IP, SME EMBDD LS, SME EMBDD SS, TRC VUG POR, TRC CONCH FRAC, SME DLL YLLW FLOR, NO CUT OR STN

SH: DK GY, OCC GY, DLL RTHY LSTR, SM TEX, SB PLTY, V CALC, SL SLTY, TR LS, TR SS

SH: DK GY, OCC GY, DLL RTHY LSTR, SM TEX, SB PLTY, V CALC, v SLTY, TR LS, TR SS

SH: DK GY, OCC GY, DLL RTHY LSTR, SM TEX, SB PLTY, V CALC, v SLTY, TR LS, TR SS

SH/SLT: LT-MED GY, SME DRK GY, BLKY, CHNKY, SFT-FRM, GRDG TO MDSTN, V SLTY, TR SS

TONGANOXIE@2636'

MUD CHECK
IN: 8.9
OUT: 8.9

49u

67u DTG

37u

WOB: 26
RPM: 78
PP: 1,644
SPM: 137

53u

26u

MUD CHECK
IN: 8.8
OUT: 8.8

WOB: 15
RPM: 85
PP: 1,698
SPM: 137

36u

50u

130u LIB GAS

0 ROP (ft/hr) 300
0 GR_MWD (api) 200
0 ROP_FPH 100

TGAS (units)
0.1 1 10 100
C1 (percent)
15 150 1.5E3 1.5E4
C2 (percent)
15 150 1.5E3 1.5E4
C3 (percent)
15 150 1.5E3 1.5E4
C4 (percent)
15 150 1.5E3 1.5E4

2,440 2,450 2,460 2,470 2,480 2,490 2,500 2,510 2,520 2,530 2,540 2,550 2,560 2,570 2,580 2,590 2,600 2,610 2,620 2,630 2,640 2,650

2,650
2,660
2,670
2,680
2,690
2,700
2,710
2,720
2,730
2,740
2,750
2,760
2,770
2,780
2,790
2,800
2,810
2,820
2,830
2,840
2,850
2,860
2,870

0	ROP (ft/hr)	300
0	GR_MWD (api)	200
0	ROP_FPH	100

WOB: 18
RPM: 72
PP: 1,704
SPM: 137

WOB: 23
RPM: 80
PP: 2,105
SPM: 134

SS: WHT-OFF WHT, TRNSL IP, OPQ IP, VF-F GR, SME LSE M GR, ANG-SB RND, SLTY CMT, ARG IP, TRC EMBDD DIS GLAUC, TRC DLL YLLW MIN FLOR, NO CUT OR STN

CGL: SS: WHT-OFF WHT, VF-F GR, V TT IP, SB ANG-SB RND, LS: LT GY, WHT-OFF WHT, MOT IP, MICRO XLN, SLTY, PLTY SH, FERR SH, NO FLOR

CGL: SS: WHT-OFF WHT, VF-F GR, V TT IP, SB ANG-SB RND, LS: LT GY, WHT-OFF WHT, MOT IP, MICRO XLN, SLTY, PLTY SH, FERR SH, NO FLOR

CGL: SS: WHT-OFF WHT, VF-F GR, V TT IP, SB ANG-SB RND, LS: LT GY, WHT-OFF WHT, MOT IP, MICRO XLN, SLTY, PLTY SH, FERR SH, NO FLOR

SH: MED-DR GY, OCC LT-M GY, BLKY, CHNKY, DLL ERTH LSTR, SFT-FRM, OCC FRM-HD, SLTY IP

SH: MED-DR GY, OCC LT-M GY, BLKY, CHNKY, DLL ERTH LSTR, SFT-FRM, OCC FRM-HD, SLTY IP

MUD CHECK
IN: 8.9
OUT: 8.9

45u

MUD CHECK
IN: 8.9
OUT: 9

30u

22u

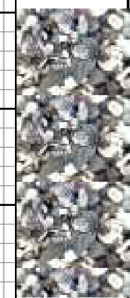
TGAS (units)

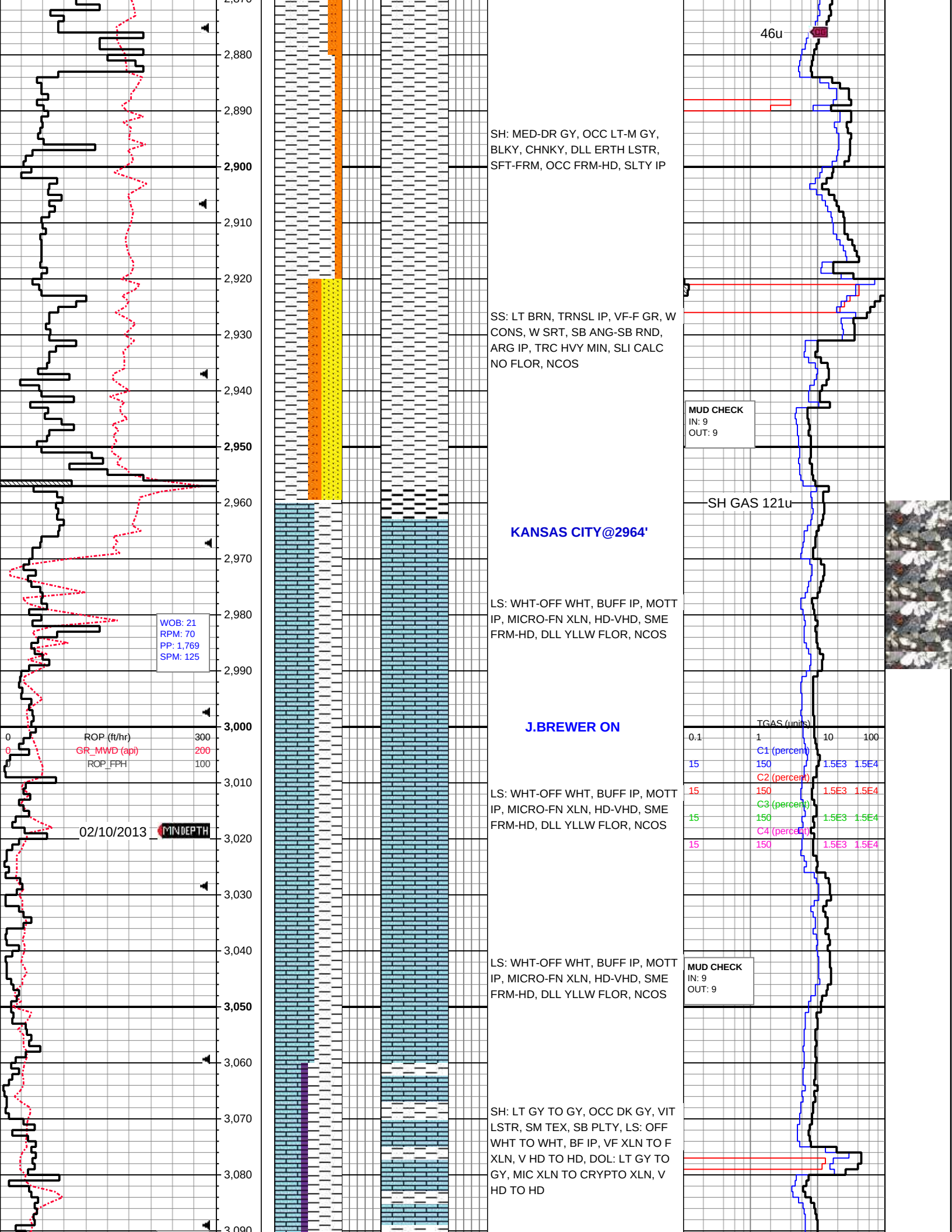
0.1	1	10	100
	C1 (percent)		
15	150	1.5E3	1.5E4
	C2 (percent)		
15	150	1.5E3	1.5E4
	C3 (percent)		
15	150	1.5E3	1.5E4
	C4 (percent)		
15	150	1.5E3	1.5E4

40u

MUD CHECK
IN: 9
OUT: 9

46u




2,880
2,890
2,900
2,910
2,920
2,930
2,940
2,950
2,960
2,970
2,980
2,990
3,000
3,010
3,020
3,030
3,040
3,050
3,060
3,070
3,080
3,090
WOB: 21
RPM: 70
PP: 1,769
SPM: 125
0
ROP (ft/hr)
300
0
GR_MWD (api)
200
0
ROP_FPH
100
02/10/2013
MNDEPTH
SH: MED-DR GY, OCC LT-M GY, BLKY, CHNKY, DLL ERTH LSTR, SFT-FRM, OCC FRM-HD, SLTY IP
SS: LT BRN, TRNSL IP, VF-F GR, W CONS, W SRT, SB ANG-SB RND, ARG IP, TRC HVY MIN, SLI CALC NO FLOR, NCOS
KANSAS CITY@2964'
LS: WHT-OFF WHT, BUFF IP, MOTT IP, MICRO-FN XLN, HD-VHD, SME FRM-HD, DLL YLLW FLOR, NCOS
J.BREWER ON
LS: WHT-OFF WHT, BUFF IP, MOTT IP, MICRO-FN XLN, HD-VHD, SME FRM-HD, DLL YLLW FLOR, NCOS
LS: WHT-OFF WHT, BUFF IP, MOTT IP, MICRO-FN XLN, HD-VHD, SME FRM-HD, DLL YLLW FLOR, NCOS
SH: LT GY TO GY, OCC DK GY, VIT LSTR, SM TEX, SB PLTY, LS: OFF WHT TO WHT, BF IP, VF XLN TO F XLN, V HD TO HD, DOL: LT GY TO GY, MIC XLN TO CRYPTO XLN, V HD TO HD
46u
MUD CHECK
IN: 9
OUT: 9
SH GAS 121u
TGAS (units)
0.1
1
10
100
C1 (percent)
15
150
1.5E3
1.5E4
C2 (percent)
15
150
1.5E3
1.5E4
C3 (percent)
15
150
1.5E3
1.5E4
C4 (percent)
15
150
1.5E3
1.5E4
MUD CHECK
IN: 9
OUT: 9

WOB: 7.4
RPM: 75
PP: 1,751
SPM: 131

3,100
3,110
3,120
3,130
3,140
3,150
3,160
3,170
3,180
3,190
3,200
3,210
3,220
3,230
3,240
3,250
3,260
3,270
3,280
3,290
3,300
3,310

0 ROP (ft/hr) 300
0 GR_MWD (api) 200
0 ROP_FPH 100

WOB: 12
RPM: 75
PP: 2,218
SPM: 139

SH: PRED LT GY TO GY, OCC DK GY, VIT LSTR, SM TEX, SB PLTY, LS: OFF WHT TO WHT, BF IP, VF XLN TO F XLN, V HD TO HD, DOL: LT GY TO GY, MIC XLN TO CRYPTO XLN, V HD TO HD

S. COX ON

SH: MED-DR GY, OCC DRK GY, BLKY, SME PLTY, DLL ERTH LSTR, LS: WHT-OFF WHT, LT GY, TRC GLAU, TRC SS STRING

CLEVELAND @ 3184' MD

CGL: LS: LT BRN-BRN, MOTT IP, CRYP-MICRO XLN, DOLO: WHT-OFF WHT, LT GY IP, MICRO XLN, SS: WHT-OFF WHT, TRNSL IP, VF-F GR, V TT IP, SH NED-DR GY, SME BLK CARB, TRC YLLW FLOR, SLOW RNG CUT

CGL: LS: LT BRN-BRN, MOTT IP, CRYP-MICRO XLN, DOLO: WHT-OFF WHT, LT GY IP, MICRO XLN, SS: WHT-OFF WHT, TRNSL IP, VF-F GR, V TT IP, SH NED-DR GY, SME BLK CARB, TRC YLLW FLOR, SLOW RNG CUT

MD: 3,121 '
TVD: 3,120.89 '
Inclination: 5.73 °
Azimuth: 353.57 °

MUD CHECK
IN: 9
OUT: 9

102u SH GAS

TGAS (units)
0.1 1 10 100
C1 (percent)
15 150 1.5E3 1.5E4
C2 (percent)
15 150 1.5E3 1.5E4
C3 (percent)
15 150 1.5E3 1.5E4
C4 (percent)
150 1.5E3 1.5E4

32u

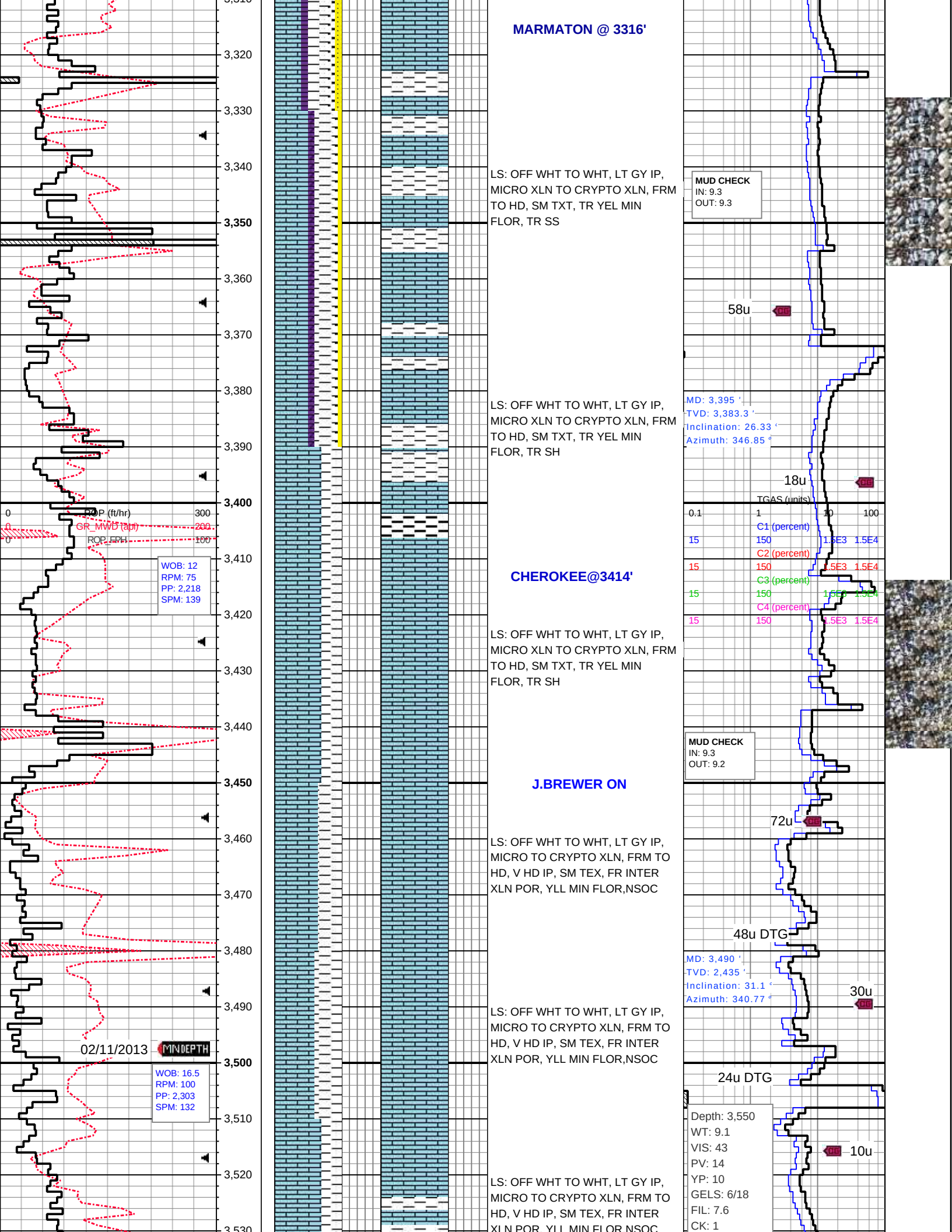
MD: 3,212 '
TVD: 3,210.35 '
Inclination: 13.97 °
Azimuth: 356.35 °

57u

MUD CHECK
IN: 9
OUT: 9

17u

MD: 3,304 '
TVD: 3,299.06 '
Inclination: 17.5 °
Azimuth: 354.64 °


MARMATON @ 3316'
LS: OFF WHT TO WHT, LT GY IP, MICRO XLN TO CRYPTO XLN, FRM TO HD, SM TXT, TR YEL MIN FLOR, TR SS
MUD CHECK
IN: 9.3
OUT: 9.3
58u
LS: OFF WHT TO WHT, LT GY IP, MICRO XLN TO CRYPTO XLN, FRM TO HD, SM TXT, TR YEL MIN FLOR, TR SH
MD: 3,395 '
TVD: 3,383.3 '
Inclination: 26.33 °
Azimuth: 346.85 °
18u
TGAS (units)
0.1
1
10
100
C1 (percent)
15
150
1.5E3
1.5E4
C2 (percent)
C3 (percent)
C4 (percent)
0
ROP (ft/hr)
300
GR_MWD (api)
200
ROP_EPH
100
WOB: 12
RPM: 75
PP: 2,218
SPM: 139
CHEROKEE@3414'
LS: OFF WHT TO WHT, LT GY IP, MICRO XLN TO CRYPTO XLN, FRM TO HD, SM TXT, TR YEL MIN FLOR, TR SH
MUD CHECK
IN: 9.3
OUT: 9.2
J.BREWER ON
72u
LS: OFF WHT TO WHT, LT GY IP, MICRO TO CRYPTO XLN, FRM TO HD, V HD IP, SM TEX, FR INTER XLN POR, YLL MIN FLOR,NSOC
48u DTG
MD: 3,490 '
TVD: 2,435 '
Inclination: 31.1 °
Azimuth: 340.77 °
30u
LS: OFF WHT TO WHT, LT GY IP, MICRO TO CRYPTO XLN, FRM TO HD, V HD IP, SM TEX, FR INTER XLN POR, YLL MIN FLOR,NSOC
02/11/2013
MN DEPTH
WOB: 16.5
RPM: 100
PP: 2,303
SPM: 132
24u DTG
Depth: 3,550
WT: 9.1
VIS: 43
PV: 14
YP: 10
GELS: 6/18
FIL: 7.6
CK: 1
10u
LS: OFF WHT TO WHT, LT GY IP, MICRO TO CRYPTO XLN, FRM TO HD, V HD IP, SM TEX, FR INTER XLN POR, YLL MIN FLOR,NSOC
3,320
3,330
3,340
3,350
3,360
3,370
3,380
3,390
3,400
3,410
3,420
3,430
3,440
3,450
3,460
3,470
3,480
3,490
3,500
3,510
3,520
3,530

PH: 9
SOL: 6
O/W: 0/94
CL: 2,800

121u

LS: OFF WHT TO WHT, LT GY IP, MICRO TO CRYPTO XLN, FRM TO HD, V HD IP, SM TEX, FR INTER XLN POR, SME TR CARB SH,YLL MIN FLOR,NSOC

S. COX ON

MD: 3,582 '
TVD: 3,536 '
Inclination: 43.5 °
Azimuth: 351.99 °

LS: OFF WHT TO WHT, LT GY IP, MICRO TO CRYPTO XLN, FRM TO HD, V HD IP, SM TEX, FR INTER XLN POR, SME TR CARB SH,YLL MIN FLOR,NSOC

0 ROP (ft/hr) 300
0 GR_MWD (api) 200
0 ROP_FPH 100

WOB: 34.6
RPM: 100
PP: 2,192
SPM: 133

TGAS (units)
0.1 214u SH GAS 10 100
15 150 1.5E3 1.5E4
C2 (percent)
15 150 1.5E3 1.5E4
C3 (percent)
15 150 1.5E3 1.5E4
C4 (percent)
15 150 1.5E3 1.5E4

LS: LT GY, BF, SME WHT-OFF WHT, CRYPTO-MICRO XLN, SME MICRO-F XLN, TRC GLAU, TRC CARB SH, NCOS

MUD CHECK
IN: 9.3
OUT: 9.3

MD: 3,677 '
TVD: 3,600.28 '
Inclination: 51.91 °
Azimuth: 1.68 °

18u

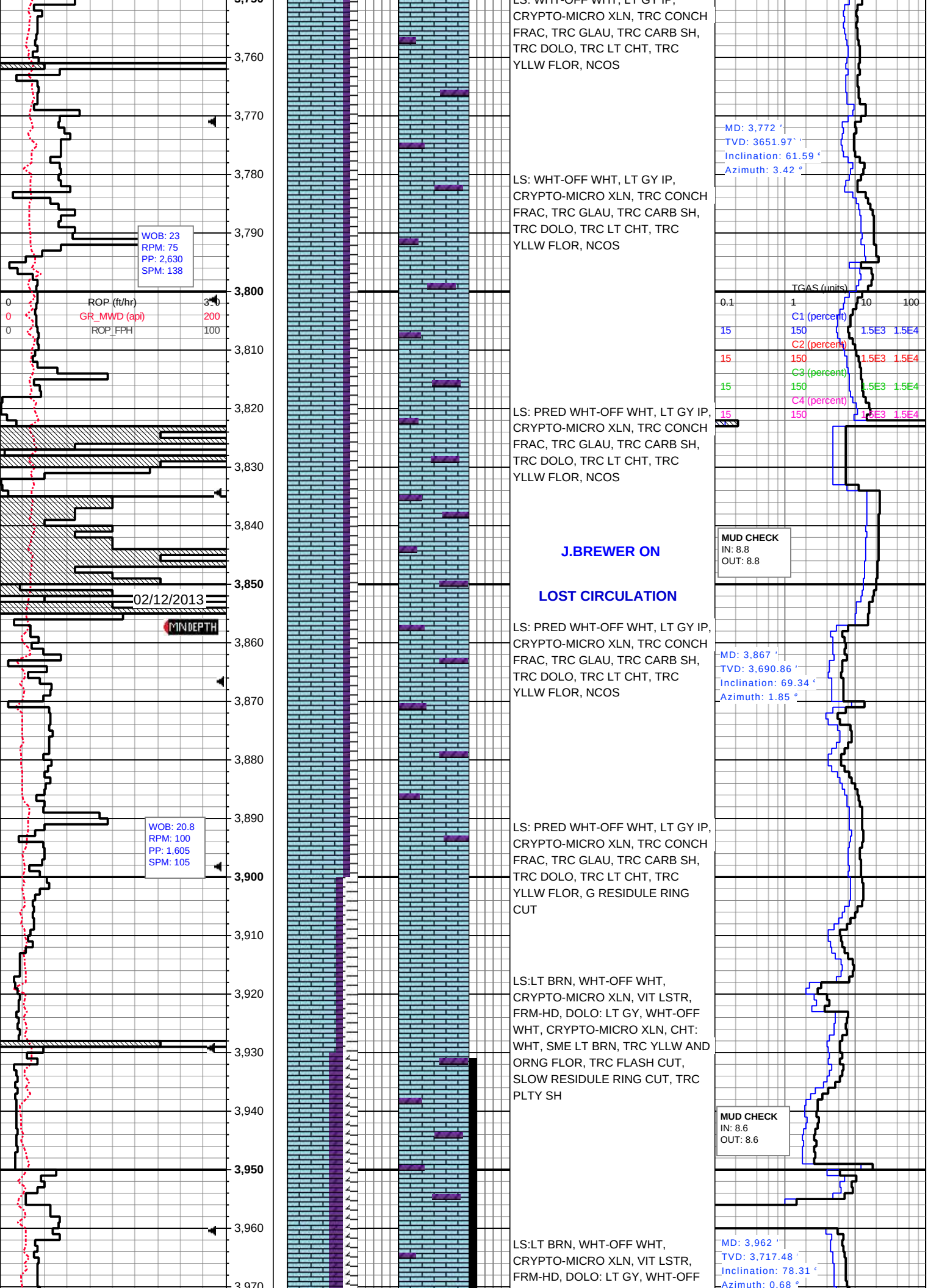
WOB: 23
RPM: 85
PP: 2,429
SPM: 138

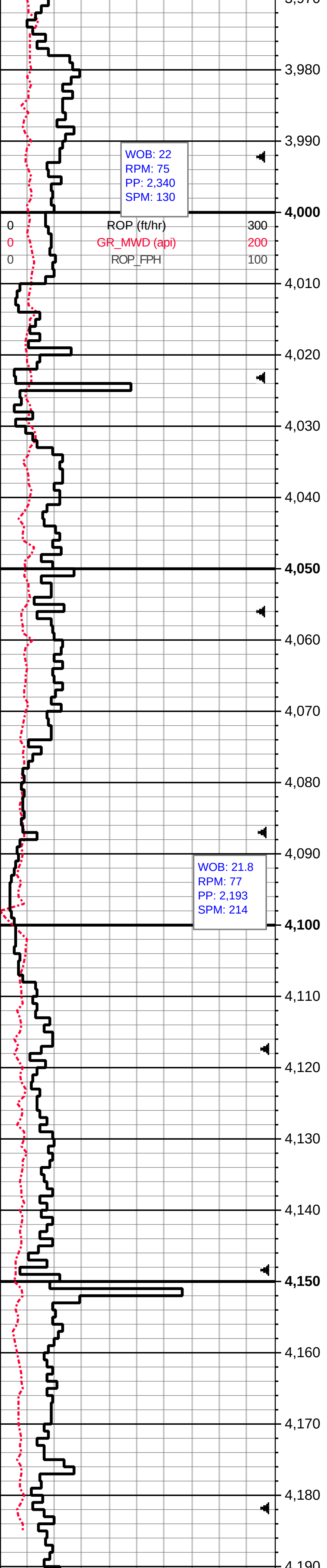
MISSISSIPPI@3685'

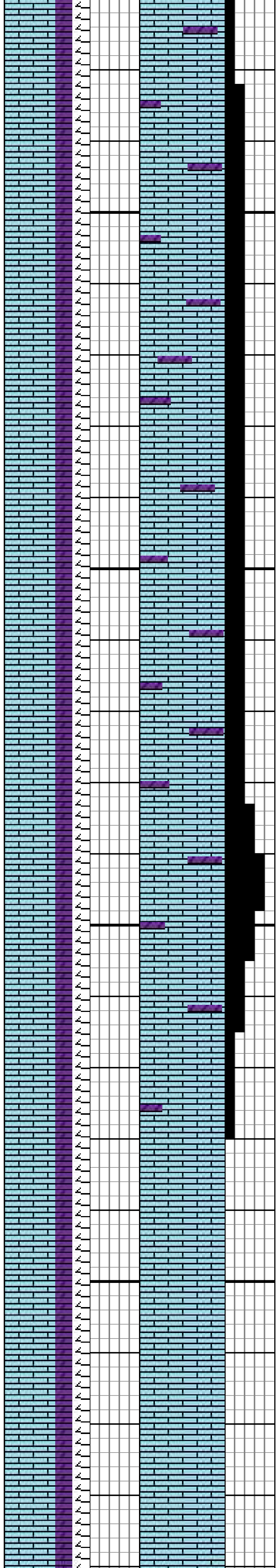
LS/DOLO: WHT-OFF WHT, BF IP, SME LT GY IP, CRYPTO-MICRO XLN, OCC MICRO-F XLN, TRC LT CHT, WHT, V HD, TRC GLAU, NCOS, TRC YLLW FLOR

MUD CHECK
IN: 9.3
OUT: 9.3

LS: WHT-OFF WHT, LT GY IP,


3,760
3,770
3,780
3,790
3,800
3,810
3,820
3,830
3,840
3,850
3,860
3,870
3,880
3,890
3,900
3,910
3,920
3,930
3,940
3,950
3,960
3,970
WOB: 23
RPM: 75
PP: 2,630
SPM: 138
0
ROP (ft/hr)
350
0
GR_MWD (api)
200
0
ROP_FPH
100
02/12/2013
MWDEPTH
WOB: 20.8
RPM: 100
PP: 1,605
SPM: 105
LS: WHT-OFF WHT, LT GY IP, CRYPTO-MICRO XLN, TRC CONCH FRAC, TRC GLAU, TRC CARB SH, TRC DOLO, TRC LT CHT, TRC YLLW FLOR, NCOS
LS: WHT-OFF WHT, LT GY IP, CRYPTO-MICRO XLN, TRC CONCH FRAC, TRC GLAU, TRC CARB SH, TRC DOLO, TRC LT CHT, TRC YLLW FLOR, NCOS
LS: PRED WHT-OFF WHT, LT GY IP, CRYPTO-MICRO XLN, TRC CONCH FRAC, TRC GLAU, TRC CARB SH, TRC DOLO, TRC LT CHT, TRC YLLW FLOR, NCOS
J.BREWER ON
LOST CIRCULATION
LS: PRED WHT-OFF WHT, LT GY IP, CRYPTO-MICRO XLN, TRC CONCH FRAC, TRC GLAU, TRC CARB SH, TRC DOLO, TRC LT CHT, TRC YLLW FLOR, NCOS
LS: PRED WHT-OFF WHT, LT GY IP, CRYPTO-MICRO XLN, TRC CONCH FRAC, TRC GLAU, TRC CARB SH, TRC DOLO, TRC LT CHT, TRC YLLW FLOR, G RESIDULE RING CUT
LS:LT BRN, WHT-OFF WHT, CRYPTO-MICRO XLN, VIT LSTR, FRM-HD, DOLO: LT GY, WHT-OFF WHT, CRYPTO-MICRO XLN, CHT: WHT, SME LT BRN, TRC YLLW AND ORNG FLOR, TRC FLASH CUT, SLOW RESIDULE RING CUT, TRC PLTY SH
LS:LT BRN, WHT-OFF WHT, CRYPTO-MICRO XLN, VIT LSTR, FRM-HD, DOLO: LT GY, WHT-OFF
MD: 3,772 '
TVD: 3651.97` '
Inclination: 61.59 °
Azimuth: 3.42 °
TGAS (units)
0.1
1
10
100
C1 (percent)
15
150
1.5E3
1.5E4
C2 (percent)
15
150
1.5E3
1.5E4
C3 (percent)
15
150
1.5E3
1.5E4
C4 (percent)
15
150
1.5E3
1.5E4
MUD CHECK
IN: 8.8
OUT: 8.8
MD: 3,867 '
TVD: 3,690.86 '
Inclination: 69.34 °
Azimuth: 1.85 °
MUD CHECK
IN: 8.6
OUT: 8.6
MD: 3,962 '
TVD: 3,717.48 '
Inclination: 78.31 °
Azimuth: 0.68 °





WHT, CRYPTO-MICRO XLN, CHT: WHT, SME LT BRN, TRC YLLW AND ORNG FLOR, TRC FLASH CUT, SLOW RESIDULE RING CUT, TRC PLTY SH

LS:LT BRN, WHT-OFF WHT, CRYPTO-MICRO XLN, VIT LSTR, FRM-HD, DOLO: LT GY, WHT-OFF WHT, CRYPTO-MICRO XLN, CHT: WHT, SME LT BRN, TRC YLLW AND ORNG FLOR, TRC FLASH CUT, SLOW RESIDULE RING CUT, TRC PLTY SH

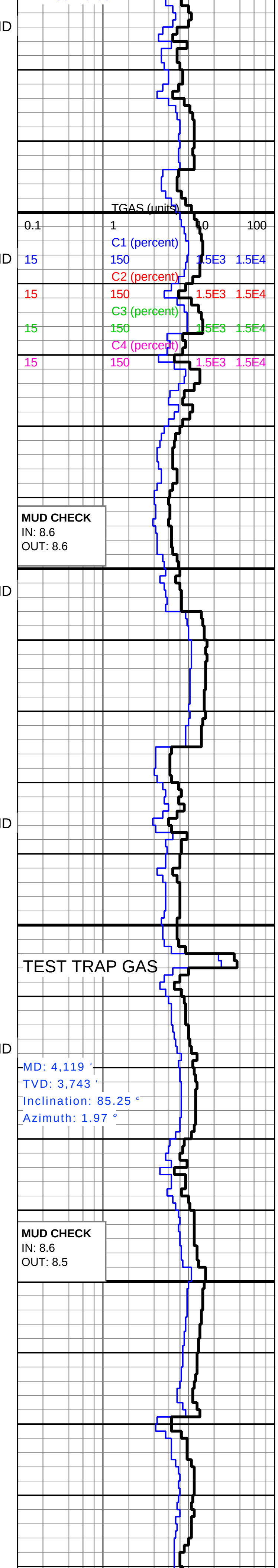
LS:LT BRN, WHT-OFF WHT, CRYPTO-MICRO XLN, VIT LSTR, FRM-HD, DOLO: LT GY, WHT-OFF WHT, CRYPTO-MICRO XLN, CHT: WHT, SME LT BRN, TRC YLLW AND ORNG FLOR, TRC FLASH CUT, SLOW RESIDULE RING CUT, TRC PLTY SH

LS:LT BRN, WHT-OFF WHT, CRYPTO-MICRO XLN, VIT LSTR, FRM-HD, DOLO: LT GY, WHT-OFF WHT, CRYPTO-MICRO XLN, CHT: WHT, SME LT BRN, TRC YLLW AND ORNG FLOR, FLASH CUT, MLKY WHT RING CUT, TRC PLTY SH, TRC PYR

LS:LT BRN, WHT-OFF WHT, CRYPTO-MICRO XLN, VIT LSTR, FRM-HD, DOLO: LT GY, WHT-OFF WHT, CRYPTO-MICRO XLN, CHT: WHT, SME LT BRN, TRC YLLW AND ORNG FLOR, FLASH CUT, MLKY WHT RING CUT, TRC PLTY SH

LS:LT BRN, WHT-OFF WHT, CRYPTO-MICRO XLN, VIT LSTR, FRM-HD, DOLO: LT GY, WHT-OFF WHT, CRYPTO-MICRO XLN, CHT: WHT, SME LT BRN, TRC DULL YLLW FLOR, TRC PLTY SH

LS:LT BRN, WHT-OFF WHT, CRYPTO-MICRO XLN, VIT LSTR, FRM-HD, DOLO: LT GY, WHT-OFF WHT, CRYPTO-MICRO XLN, CHT: WHT, SME LT BRN, TRC DULL YLLW FLOR, TRC PLTY SH



02/15/2013 MNDEPTH

ROP (ft/hr) 0 – 300
GR_MWD (api) 0 – 200
ROP_FPH 0 – 100

4,200

INTERMEDIATE CASING POIN

191u

TGAS (units) 1 10 100

MD: 4,205 '
TVD: 3,745.79 '
Inclination: 90.06 °
Azimuth: 2.45 °

C1 (percent) 1.5E3 1.5E4
C2 (percent) 15 150 1.5E3 1.5E4
C3 (percent) 15 150 1.5E3 1.5E4
C4 (percent) 15 150 1.5E3 1.5E4

4,210

4,220

LS:LT BRN, WHT-OFF WHT, CRYPTO-MICRO XLN, VIT LSTR, FRM-HD, DOLO: LT GY, WHT-OFF WHT, CRYPTO-MICRO XLN, CHT: WHT, SME LT BRN, TRC DULL YLLW FLOR, TRC SLOW RING CUT

4,230

4,240

23u

4,250

MUD CHECK
IN: 8.4
OUT: 8.4

4,260

LS:LT BRN, WHT-OFF WHT, CRYPTO-MICRO XLN, VIT LSTR, FRM-HD, DOLO: LT GY, WHT-OFF WHT, CRYPTO-MICRO XLN, CHT: WHT, SME LT BRN, TRC DULL YLLW FLOR, SLOW RING CUT

4,270

15u

4,280

4,290

WOB: 14
RPM: 117
PP: 1,609
SPM: 105

MD: 4,299 '
TVD: 3,745 '
Inclination: 90.22 °
Azimuth: 2.79 °

4,300

37u

4,310

LS: LT BRN TO BRN, OCC OFF WHT IP, MICRO XLN TO CRYPTO XLN, FRM TO HRD, OCC V HRD IP, SME DRK CHT, TR SH: DLL GY TO GN, WXY TXT, TR DOL

4,320

4,330

4,340

MUD CHECK
IN: 8.3
OUT: 8.3

4,350

LS: LT BRN TO BRN, OCC OFF WHT IP, MICRO XLN TO CRYPTO XLN, FRM TO HRD, OCC V HRD IP, SME DRK CHT, TR SH: DLL GY TO GN, WXY TXT, TR DOL

4,360

4,370

4,380

LS: LT BRN TO BRN, OCC OFF WHT IP, MICRO XLN TO CRYPTO XLN, FRM TO HRD, OCC V HRD IP, SME DRK CHT, TR SH: DLL GY TO GN, WXY TXT, TR DOL

4,390

WOB: 1.3
RPM: 79
PP: 1,490
SPM: 109

MD: 4,393 '
TVD: 3,745.4 '
Inclination: 89.97 °
Azimuth: 2.51 °

4,400

ROP (ft/hr) 0 – 300
GR_MWD (api) 0 – 200
ROP_FPH 0 – 100

TGAS (units) 0.1 1 10 100
C1 (percent) 15 150 1.5E3 1.5E4
C2 (percent)

4,410

4,420

LS: LT BRN TO BRN, OCC OFF WHT IP, MICRO XLN TO CRYPTO XLN, FRM TO HRD, OCC V HRD IP, SME DRK CHT, TR SH: DLL GY TO GN, WXY TXT, TR DOL

4,430

4,440

MUD CHECK
IN: 8.4
OUT: 8.4

4,450

LS: LT BRN TO BRN, OCC OFF WHT IP, MICRO XLN TO CRYPTO XLN, FRM TO HRD, OCC V HRD IP, SME DRK CHT, TR SH: DLL GY TO GN, WXY TXT, TR DOL

4,460

4,470

4,480

LS: LT BRN TO BRN, OCC OFF WHT IP, MICRO XLN TO CRYPTO XLN, FRM TO HRD, OCC V HRD IP, SME DRK CHT, TR SH: DLL GY TO GN, WXY TXT, TR DOL

4,490

WOB: 22.5
RPM: 117
PP: 1,802
SPM: 109

4,500

MD: 4,488 '
TVD: 3,745 '
Inclination: 89.78 °
Azimuth: 1.17 °

4,510

LS: LT BRN TO BRN, OCC OFF WHT IP, MICRO XLN TO CRYPTO XLN, FRM TO HRD, OCC V HRD IP, SME DRK CHT, TR DOL

4,520

4,530

4,540

LS: LT BRN TO BRN, OCC OFF WHT IP, MICRO XLN TO CRYPTO XLN, FRM TO HRD, OCC V HRD IP, SME DRK CHT, TR DOL

MUD CHECK
IN: 8.4
OUT: 8.4

4,550

4,560

4,570

LS: LT BRN TO BRN, OCC OFF WHT IP, MICRO XLN TO CRYPTO XLN, FRM TO HRD, OCC V HRD IP, SME DRK CHT, TR DOL

4,580

WOB: 21.6
RPM: 117
PP: 1,851
SPM: 109

MD: 4,583 '
TVD: 3,746.41 '
Inclination: 89.26 °
Azimuth: 0.97 °

4,590

2/16/2013 MNDEPTH

4,600

LS: LT BRN TO BRN, OCC OFF WHT IP, MICRO XLN TO CRYPTO XLN, FRM TO HRD, OCC V HRD IP, SME DRK CHT, TR DOL

0	ROP (ft/hr)	300
0	GR_MWD (api)	200
0	ROP_FPH	100

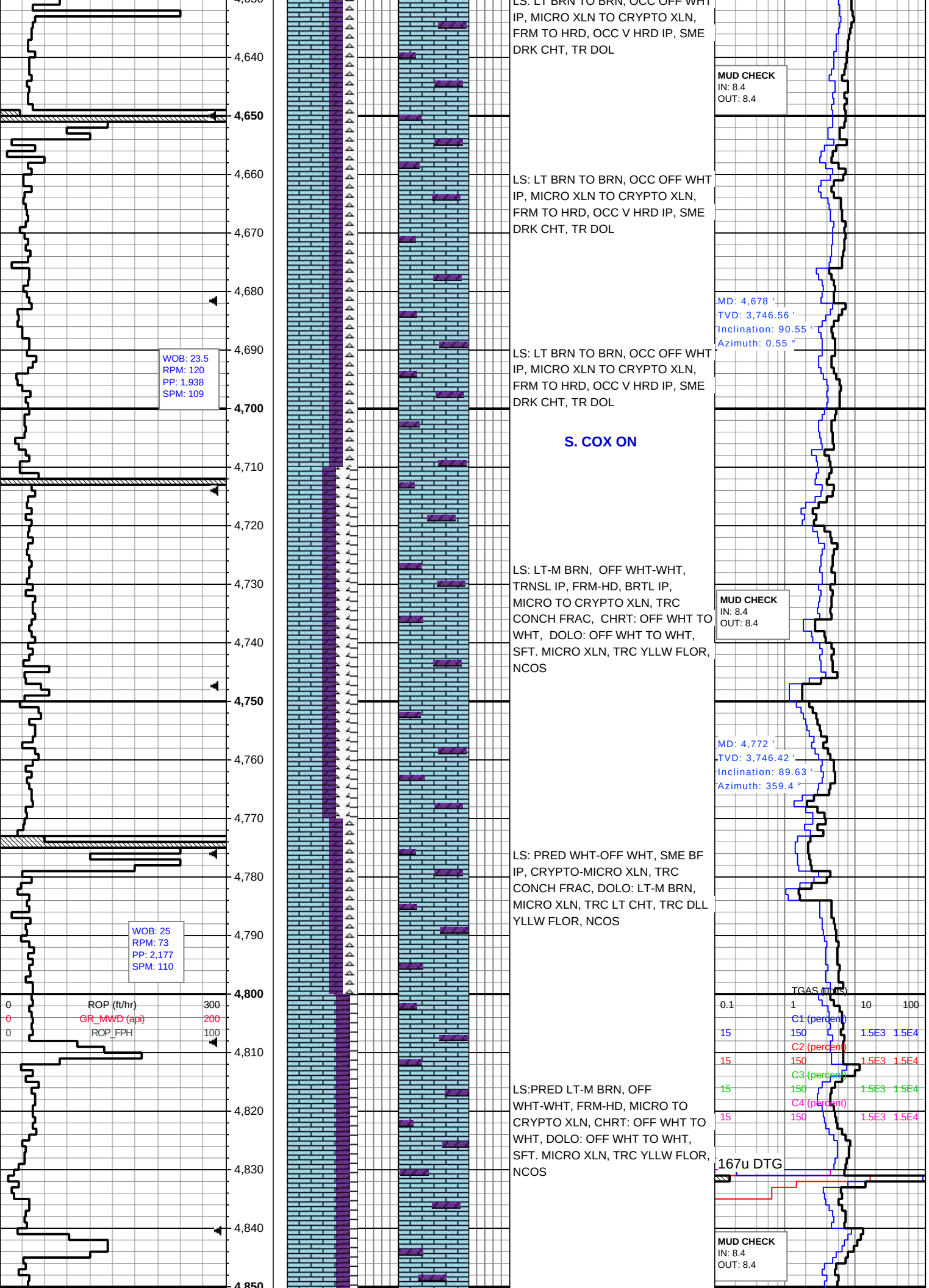
TGAS (units): 0.1 — 1 — 10 — 100
C1 (percent): 15 — 150 — 1.5E3 — 1.5E4
C2 (percent): 15 — 150 — 1.5E3 — 1.5E4
C3 (percent): 15 — 150 — 1.5E3 — 1.5E4
C4 (percent): 15 — 150 — 1.5E3 — 1.5E4

4,610

4,620

4,630

LS: LT BRN TO BRN, OCC OFF WHT


4,640
4,650
4,660
4,670
4,680
4,690
4,700
4,710
4,720
4,730
4,740
4,750
4,760
4,770
4,780
4,790
4,800
4,810
4,820
4,830
4,840
4,850
WOB: 23.5
RPM: 120
PP: 1,938
SPM: 109
WOB: 25
RPM: 73
PP: 2,177
SPM: 110
0 ROP (ft/hr) 300
0 GR_MWD (api) 200
0 ROP_FPH 100
LS: LT BRN TO BRN, OCC OFF WHT IP, MICRO XLN TO CRYPTO XLN, FRM TO HRD, OCC V HRD IP, SME DRK CHT, TR DOL
LS: LT BRN TO BRN, OCC OFF WHT IP, MICRO XLN TO CRYPTO XLN, FRM TO HRD, OCC V HRD IP, SME DRK CHT, TR DOL
LS: LT BRN TO BRN, OCC OFF WHT IP, MICRO XLN TO CRYPTO XLN, FRM TO HRD, OCC V HRD IP, SME DRK CHT, TR DOL
S. COX ON
LS: LT-M BRN, OFF WHT-WHT, TRNSL IP, FRM-HD, BRTL IP, MICRO TO CRYPTO XLN, TRC CONCH FRAC, CHRT: OFF WHT TO WHT, DOLO: OFF WHT TO WHT, SFT. MICRO XLN, TRC YLLW FLOR, NCOS
LS: PRED WHT-OFF WHT, SME BF IP, CRYPTO-MICRO XLN, TRC CONCH FRAC, DOLO: LT-M BRN, MICRO XLN, TRC LT CHT, TRC DLL YLLW FLOR, NCOS
LS:PRED LT-M BRN, OFF WHT-WHT, FRM-HD, MICRO TO CRYPTO XLN, CHRT: OFF WHT TO WHT, DOLO: OFF WHT TO WHT, SFT. MICRO XLN, TRC YLLW FLOR, NCOS
MUD CHECK
IN: 8.4
OUT: 8.4
MD: 4,678 '
TVD: 3,746.56 '
Inclination: 90.55 °
Azimuth: 0.55 °
MUD CHECK
IN: 8.4
OUT: 8.4
MD: 4,772 '
TVD: 3,746.42 '
Inclination: 89.63 °
Azimuth: 359.4 °
TGAS (units)
0.1 1 10 100
C1 (percent)
15 150 1.5E3 1.5E4
C2 (percent)
15 150 1.5E3 1.5E4
C3 (percent)
15 150 1.5E3 1.5E4
C4 (percent)
15 150 1.5E3 1.5E4
167u DTG
MUD CHECK
IN: 8.4
OUT: 8.4

4,860
4,870
4,880
4,890
4,900
4,910
4,920
4,930
4,940
4,950
4,960
4,970
4,980
4,990
5,000
5,010
5,020
5,030
5,040
5,050
5,060
5,070

WOB: 25
RPM: 90
PP: 2,109
SPM: 108

WOB: 24
RPM: 76
PP: 2,117
SPM: 108

0 ROP (ft/hr) 300
0 GR_MWD (api) 200
0 ROP_FPH 100

LS: LT BRN, BF IP, SME WHT-OFF WHTIP, CRYPTO-MICRO XLN, FRM-HD, DOLO: WHT-OFF WHT, MICRO XLN, CHT: LT GY, HD-V HD, TRC YLLW FLOR, NO CUT

MD: 4,867 '
TVD: 3,747.85 '
Inclination: 88.64 °
Azimuth: 359.64 °

LS: PRED LT BRN, BF IP, SME WHT-OFF WHTIP, CRYPTO-MICRO XLN, FRM-HD, DOLO: WHT-OFF WHT, MICRO XLN, CHT: LT GY, HD-V HD, TRC YLLW FLOR, NO CUT

LS: PRED LT BRN, BF IP, SME WHT-OFF WHTIP, CRYPTO-MICRO XLN, FRM-HD, DOLO: WHT-OFF WHT, MICRO XLN, CHT: LT GY, HD-V HD, TRC YLLW FLOR, NO CUT

MUD CHECK
IN: 8.3
OUT: 8.4

MD: 4,962 '
TVD: 3,748.77 '
Inclination: 90.25 °
Azimuth: 359.16 °

LS: WHT-OFF WHT, LT BRN, MICRO-F XLN, SME CRYPTO-MICRO XLN, FRM-HD, TRC CONCH FRAC, DOLO: WHT-OFF WHT, MICRO XLN, SFT-FRM, CHT: LT GY, WHT, HD-V HD, TRC YLLW FLOR, NCOS

20u DTG

TGAS (units)
0.1 1 10 100
C1 (percent)
15 150 1.5E3 1.5E4
C2 (percent)
15 150 1.5E3 1.5E4
C3 (percent)
15 150 1.5E3 1.5E4
C4 (percent)
15 150 1.5E3 1.5E4

22u DTG

LS: WHT-OFF WHT, LT BRN, MICRO-F XLN, SME CRYPTO-MICRO XLN, FRM-HD, TRC CONCH FRAC, DOLO: WHT-OFF WHT, MICRO XLN, SFT-FRM, CHT: LT GY, WHT, HD-V HD, TRC YLLW FLOR, NCOS

33u DTG

LS: WHT-OFF WHT, LT BRN, MICRO-F XLN, SME CRYPTO-MICRO XLN, FRM-HD, TRC CONCH FRAC, DOLO: WHT-OFF WHT, MICRO XLN, SFT-FRM, CHT: LT GY, WHT, HD-V HD, TRC YLLW FLOR, NCOS

MUD CHECK
IN: 8.3
OUT: 8.4

MD: 5,056 '
TVD: 3,748.89 '
Inclination: 89.6 °
Azimuth: 358.61 °

5,070

J.BREWER ON

5,080

LS: OFF WHT TO WHT, SME BUFF TO LT BRN IP, MICRO XLN TO F, TR CONCH FRAC, DOL: OFF WHT TO WHT, MICRO XLN, SFT TO FRM, CHT: LT GY, WHT IP, HD TO V HD, NSOC

5,090

WOB: 24.3
RPM: 83
PP: 2,179
SPM: 108

34u

5,100

5,110

LS: OFF WHT TO WHT, SME BUFF TO LT BRN IP, MICRO XLN TO F, TR CONCH FRAC, DOL: OFF WHT TO WHT, MICRO XLN, SFT TO FRM, CHT: LT GY, WHT IP, HD TO V HD, NSOC

5,120

5,130

5,140

LS: OFF WHT TO WHT, SME BUFF TO LT BRN IP, MICRO XLN TO F, TR CONCH FRAC, DOL: OFF WHT TO WHT, MICRO XLN, SFT TO FRM, CHT: LT GY, WHT IP, HD TO V HD, NSOC

MUD CHECK
IN: 8.4
OUT: 8.3

5,150

5,160

5,170

LS: OFF WHT TO WHT, SME BUFF TO LT BRN IP, MICRO XLN TO F, TR CONCH FRAC, DOL: OFF WHT TO WHT, MICRO XLN, SFT TO FRM, CHT: LT GY, WHT IP, HD TO V HD, NSOC

5,180

5,190

WOB: 24.9
RPM: 80
PP: 1,975
SPM: 111

5,200

0	ROP (ft/hr)	300
0	GR_MWD (api)	200
0	ROP_FPH	100

LS: OFF WHT TO WHT, SME BUFF TO LT BRN IP, MICRO XLN TO F, TR CONCH FRAC, DOL: OFF WHT TO WHT, MICRO XLN, SFT TO FRM, CHT: LT GY, WHT IP, HD TO V HD, TR FLOR, RESD RING CUT

	TGAS (units)		
0.1	1	10	100
	C1 (percent)		
15	150	1.5E3	1.5E4
	C2 (percent)		
15	150	1.5E3	1.5E4
	C3 (percent)		
	150	1.5E3	1.5E4
	C4 (percent)		
		1.5E3	1.5E4

MD: 5,218 '
TVD: 3,748.45 '
Inclination: 90.71 °
Azimuth: 0.29 °

5,210

5,220

5,230

LS: OFF WHT TO WHT, SME BUFF TO LT BRN IP, MICRO XLN TO F, TR CONCH FRAC, DOL: OFF WHT TO WHT, MICRO XLN, SFT TO FRM, CHT: LT GY, WHT IP, HD TO V HD, NSOC

5,240

MUD CHECK
IN: 8.4
OUT: 8.3

5,250

5,260

LS: OFF WHT TO WHT, SME BUFF TO LT BRN IP, MICRO XLN TO F, TR CONCH FRAC, DOL: OFF WHT TO WHT, MICRO XLN, SFT TO FRM, CHT: LT GY, WHT IP, HD TO V HD, NSOC

5,270

5,280

5,290

LS: OFF WHT TO WHT, SME BUFF

WOB: 18.6
RPM: 79
PP: 2,071
SPM: 108

TO LT BRN IP, MICRO XLN TO F, TR CONCH FRAC, DOL: OFF WHT TO WHT, MICRO XLN, SFT TO FRM, CHT: LT GY, WHT IP, HD TO V HD, NSOC

5,300

5,310

LS: OFF WHT TO WHT, SME BUFF TO LT BRN IP, MICRO XLN TO F, TR CONCH FRAC, DOL: OFF WHT TO WHT, MICRO XLN, SFT TO FRM, CHT: LT GY, WHT IP, HD TO V HD, NSOC

5,320

5,330

2/17/2013 MNDEPTH

5,340

MUD CHECK
IN: 8.4
OUT: 8.3

LS: OFF WHT TO WHT, SME BUFF TO LT BRN IP, MICRO XLN TO F, TR CONCH FRAC, DOL: OFF WHT TO WHT, MICRO XLN, SFT TO FRM, CHT: LT GY, WHT IP, HD TO V HD, NSOC

5,350

MD: 5,340 '
TVD: 3,747.42 '
Inclination: 89.6 °
Azimuth: 4.1 °

5,360

5,370

LS: OFF WHT TO WHT, SME BUFF TO LT BRN IP, MICRO XLN TO F, TR CONCH FRAC, DOL: OFF WHT TO WHT, MICRO XLN, SFT TO FRM, CHT: LT GY, WHT IP, HD TO V HD, NSOC

5,380

5,390

WOB: 24.7
RPM: 79
PP: 2,249
SPM: 108

5,400

0	ROP (ft/hr)	300
0	GR_MWD (api)	200
0	ROP_FPH	100

TGAS (units)

0.1	1	10	100
	C1 (percent)		
15	150	1.5E3	1.5E4
	C2 (percent)		
15	150	1.5E3	1.5E4
	C3 (percent)		
15	150	1.5E3	1.5E4
	C4 (percent)		
15	150	1.5E3	1.5E4

LS: OFF WHT TO WHT, SME BUFF TO LT BRN IP, MICRO XLN TO F, TR CONCH FRAC, DOL: OFF WHT TO WHT, MICRO XLN, SFT TO FRM, CHT: LT GY, WHT IP, HD TO V HD, NSOC

5,410

5,420

5,430

MD: 5,435 '
TVD: 3,748.46 '
Inclination: 89.14 °
Azimuth: 3.06 °

LS: OFF WHT TO WHT, SME BUFF TO LT BRN IP, MICRO XLN TO F, TR CONCH FRAC, DOL: OFF WHT TO WHT, MICRO XLN, SFT TO FRM, CHT: LT GY, WHT IP, HD TO V HD, NSOC

5,440

MUD CHECK
IN: 8.4
OUT: 8.3

5,450

5,460

LS: OFF WHT TO WHT, SME BUFF TO LT BRN IP, MICRO XLN TO F, TR CONCH FRAC, DOL: OFF WHT TO WHT, MICRO XLN, SFT TO FRM, CHT: LT GY, WHT IP, HD TO V HD, NSOC

5,470

5,480

5,490

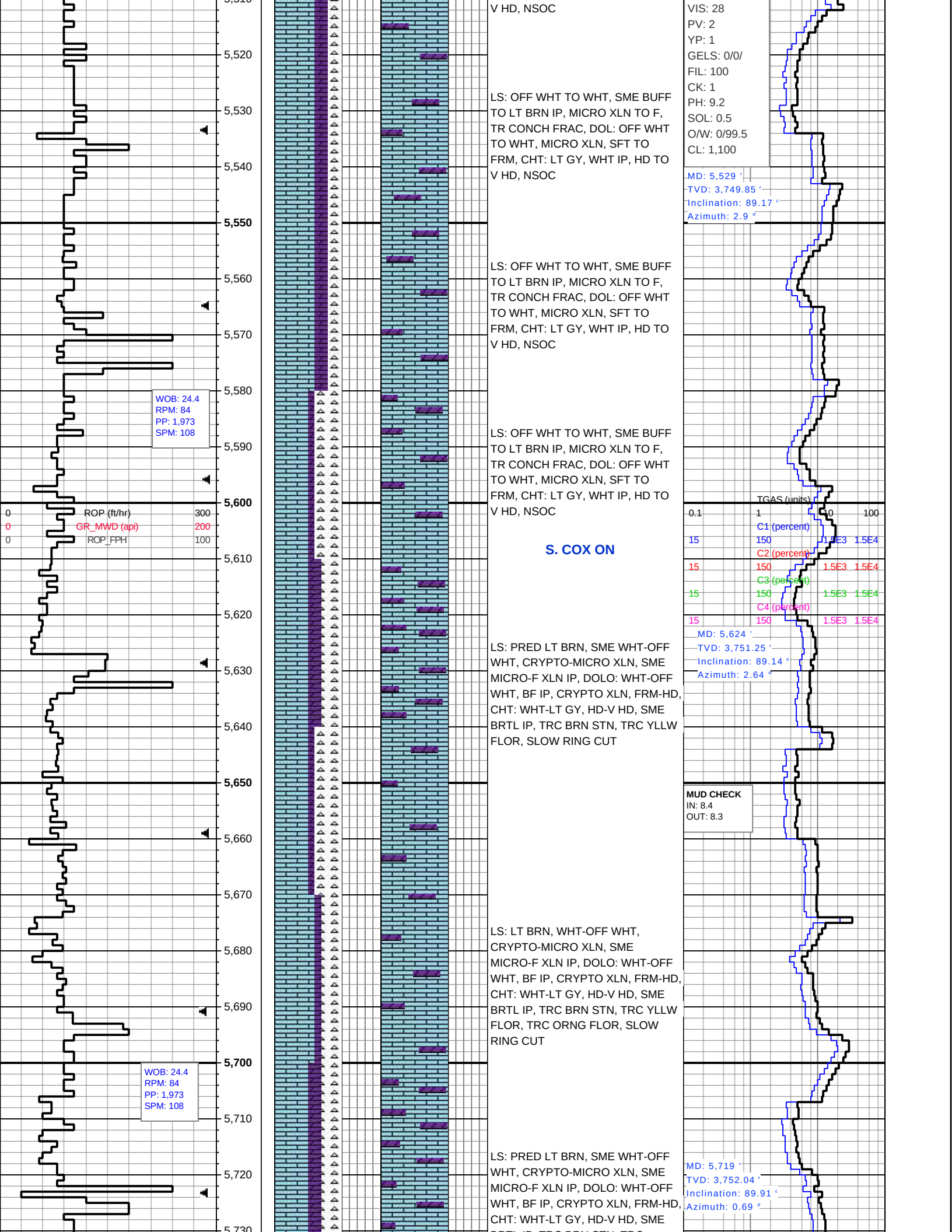
WOB: 24.1
RPM: 77
PP: 2,228
SPM: 108

LS: OFF WHT TO WHT, SME BUFF TO LT BRN IP, MICRO XLN TO F, TR CONCH FRAC, DOL: OFF WHT TO WHT, MICRO XLN, SFT TO FRM, CHT: LT GY, WHT IP, HD TO

5,500

Depth: 5,520
WT: 8.4

5,510


V HD, NSOC
LS: OFF WHT TO WHT, SME BUFF TO LT BRN IP, MICRO XLN TO F, TR CONCH FRAC, DOL: OFF WHT TO WHT, MICRO XLN, SFT TO FRM, CHT: LT GY, WHT IP, HD TO V HD, NSOC
VIS: 28
PV: 2
YP: 1
GELS: 0/0/
FIL: 100
CK: 1
PH: 9.2
SOL: 0.5
O/W: 0/99.5
CL: 1,100
MD: 5,529 '
TVD: 3,749.85 '
Inclination: 89.17 °
Azimuth: 2.9 °
LS: OFF WHT TO WHT, SME BUFF TO LT BRN IP, MICRO XLN TO F, TR CONCH FRAC, DOL: OFF WHT TO WHT, MICRO XLN, SFT TO FRM, CHT: LT GY, WHT IP, HD TO V HD, NSOC
WOB: 24.4
RPM: 84
PP: 1,973
SPM: 108
LS: OFF WHT TO WHT, SME BUFF TO LT BRN IP, MICRO XLN TO F, TR CONCH FRAC, DOL: OFF WHT TO WHT, MICRO XLN, SFT TO FRM, CHT: LT GY, WHT IP, HD TO V HD, NSOC
TGAS (units)
0.1
1
10
100
C1 (percent)
15
150
1.5E3
1.5E4
C2 (percent)
15
150
1.5E3
1.5E4
C3 (percent)
15
150
1.5E3
1.5E4
C4 (percent)
15
150
1.5E3
1.5E4
0
ROP (ft/hr)
300
0
GR_MWD (api)
200
0
ROP_FPH
100
S. COX ON
MD: 5,624 '
TVD: 3,751.25 '
Inclination: 89.14 °
Azimuth: 2.64 °
LS: PRED LT BRN, SME WHT-OFF WHT, CRYPTO-MICRO XLN, SME MICRO-F XLN IP, DOLO: WHT-OFF WHT, BF IP, CRYPTO XLN, FRM-HD, CHT: WHT-LT GY, HD-V HD, SME BRTL IP, TRC BRN STN, TRC YLLW FLOR, SLOW RING CUT
MUD CHECK
IN: 8.4
OUT: 8.3
LS: LT BRN, WHT-OFF WHT, CRYPTO-MICRO XLN, SME MICRO-F XLN IP, DOLO: WHT-OFF WHT, BF IP, CRYPTO XLN, FRM-HD, CHT: WHT-LT GY, HD-V HD, SME BRTL IP, TRC BRN STN, TRC YLLW FLOR, TRC ORNG FLOR, SLOW RING CUT
WOB: 24.4
RPM: 84
PP: 1,973
SPM: 108
LS: PRED LT BRN, SME WHT-OFF WHT, CRYPTO-MICRO XLN, SME MICRO-F XLN IP, DOLO: WHT-OFF WHT, BF IP, CRYPTO XLN, FRM-HD, CHT: WHT-LT GY, HD-V HD, SME
MD: 5,719 '
TVD: 3,752.04 '
Inclination: 89.91 °
Azimuth: 0.69 °
5,510
5,520
5,530
5,540
5,550
5,560
5,570
5,580
5,590
5,600
5,610
5,620
5,630
5,640
5,650
5,660
5,670
5,680
5,690
5,700
5,710
5,720
5,730

5,730

BRTL IP, TRC BRN STN, TRC CONCH FRAC, TRC YLLW FLOR, SLOW RING CUT

5,740

5,750

MUD CHECK
IN: 8.3
OUT: 8.4

5,760

LS: LT BRN, SME WHT-OFF WHT, CRYPTO-MICRO XLN, SME MICRO-F XLN IP, DOLO: WHT-OFF WHT, BF IP, CRYPTO XLN, FRM-HD, CHT: WHT-LT GY, HD-V HD, SME BRTL IP, TRC BRN STN, TRC YLLW FLOR, SLOW RING CUT

5,770

5,780

5,790

WOB: 22
RPM: 74
PP: 2,194
SPM: 108

LS: PRED LT BRN, WHT-OFF WHT, CRYPTO-MICRO XLN, DOLO: WHT-OFF WHT, BF IP, CRYPTO XLN, FRM-HD, CHT: WHT-LT GY, HD-V HD, SME BRTL IP, TRC BRN STN, TRC YLLW FLOR, SLOW RING CUT

5,800

ROP (ft/hr)		
0	ROP (ft/hr)	300
0	GR_MWD (api)	200
0	ROP_FPH	100

TGAS (units)

0.1	1	10	100
	C1 (percent)		
15	150	1.5E3	1.5E4
	C2 (percent)		
15	150	1.5E3	1.5E4
	C3 (percent)		
15	150	1.5E3	1.5E4
	C4 (percent)		
15	150	1.5E3	1.5E4

5,810

5,820

5,830

5,840

LS: LT BRN, WHT-OFF WHT, MICRO-F XLN, FRM-HD, BRTL IP, TRC CONCH FRAC, DOLO: WHT-OFF WHT, BF IP, CRYPTO-MICRO XLN, CHT: WHT-LT GY, HD-V HD, TRC YLLW FLOR, TRC GLAU, TRC BRN STN, NO CUT

MUD CHECK
IN: 8.3
OUT: 8.4

5,850

5,860

5,870

5,880

LS: LT BRN, WHT-OFF WHT, MICRO-F XLN, FRM-HD, BRTL IP, TRC CONCH FRAC, DOLO: WHT-OFF WHT, BF IP, CRYPTO-MICRO XLN, CHT: WHT-LT GY, HD-V HD, TRC YLLW FLOR, TRC GLAU, TRC BRN STN, NO CUT

5,890

WOB: 24
RPM: 85
PP: 2,254
SPM: 108

5,900

MD: 5,907 '
TVD: 3,751.7 '
Inclination: 90.06 °
Azimuth: 0.46 °

5,910

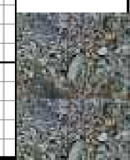
5,920

5,930

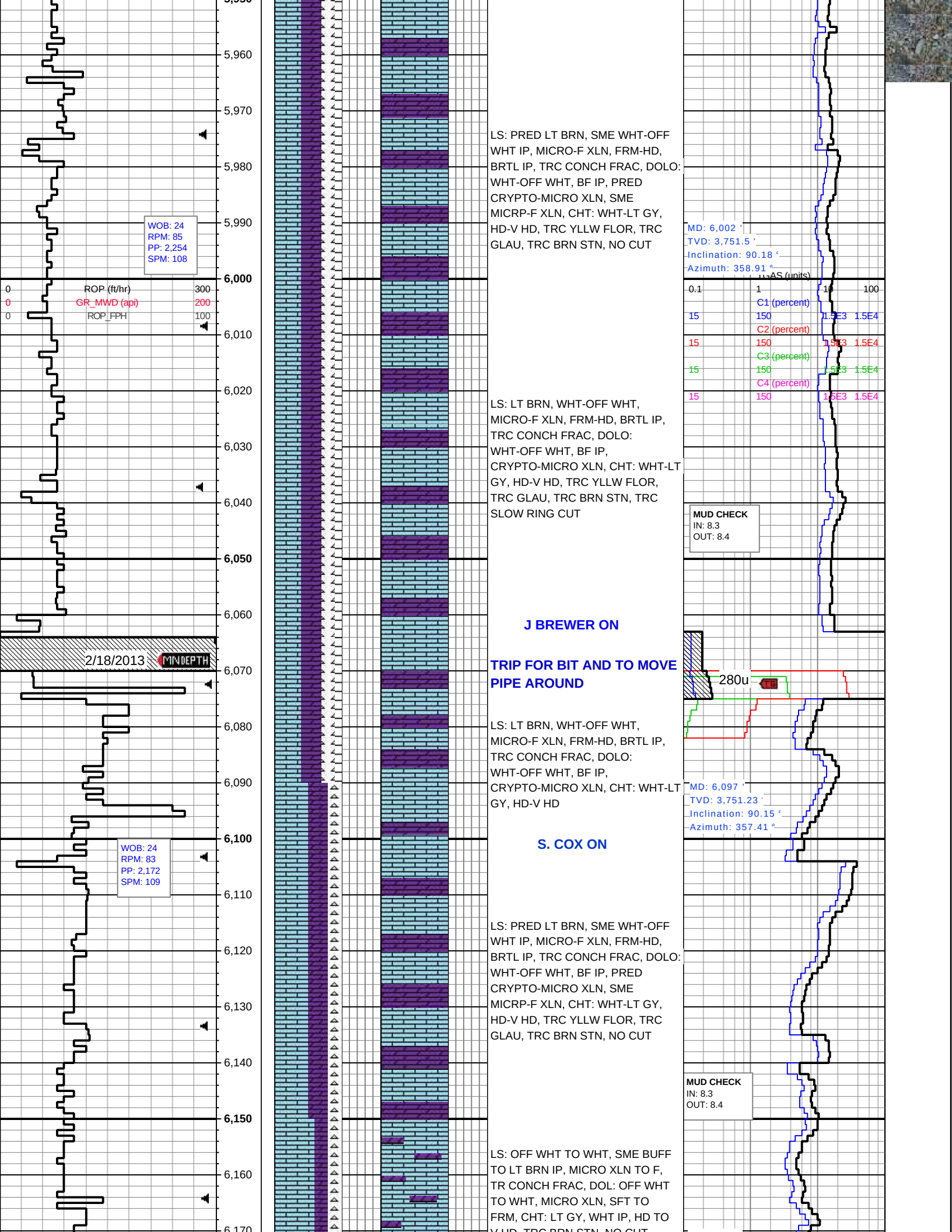
LS: LT BRN, WHT-OFF WHT, MICRO-F XLN, FRM-HD, BRTL IP, TRC CONCH FRAC, DOLO: WHT-OFF WHT, BF IP, CRYPTO-MICRO XLN, CHT: WHT-LT GY, HD-V HD, TRC YLLW FLOR, TRC GLAU, TRC BRN STN, NO CUT

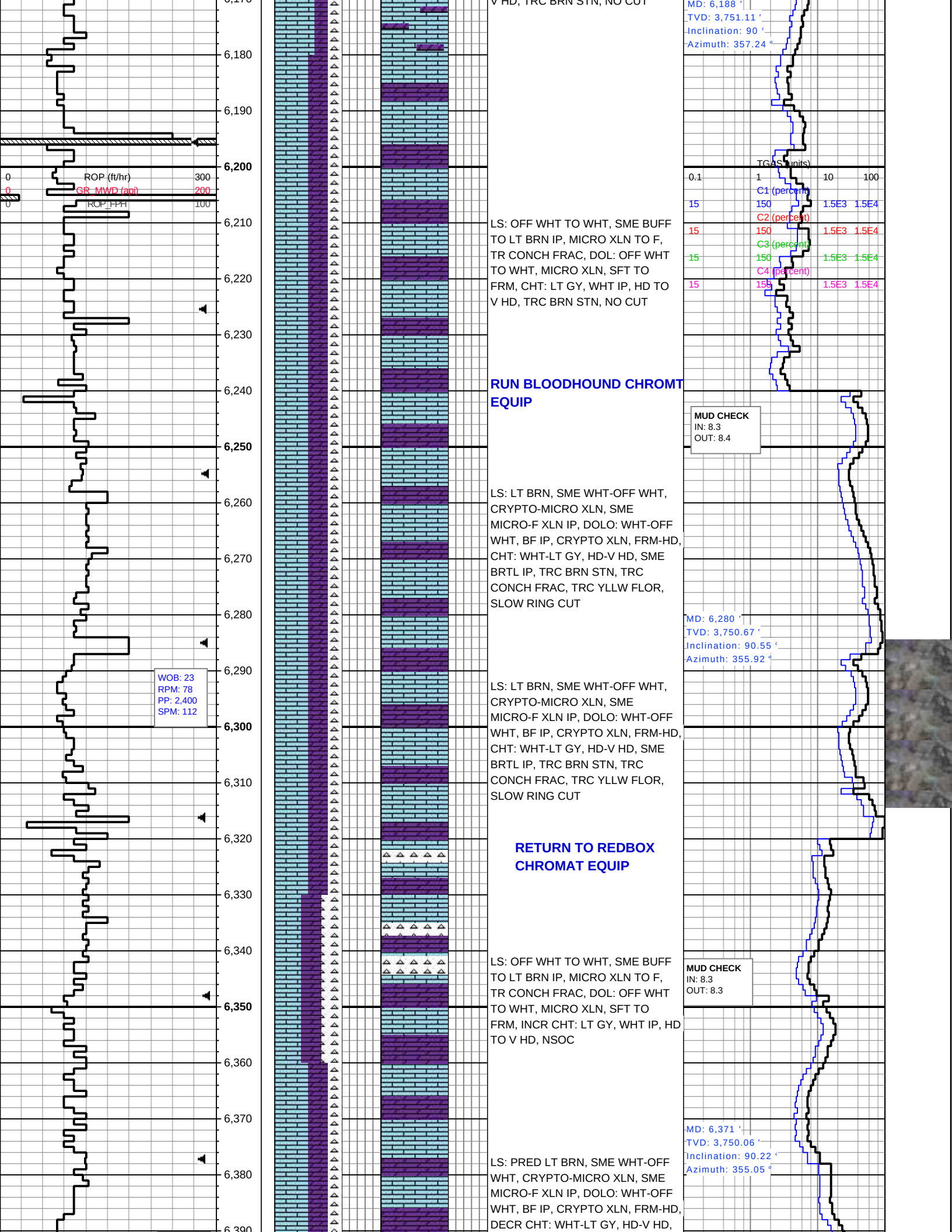
5,940

MUD CHECK
IN: 8.4
OUT: 8.4



5,950


5,960
5,970
5,980
5,990
6,000
6,010
6,020
6,030
6,040
6,050
6,060
6,070
6,080
6,090
6,100
6,110
6,120
6,130
6,140
6,150
6,160
6,170
WOB: 24
RPM: 85
PP: 2,254
SPM: 108
0 ROP (ft/hr) 300
0 GR_MWD (api) 200
0 ROP_FPH 100
2/18/2013
MNDEPTH
WOB: 24
RPM: 83
PP: 2,172
SPM: 109
LS: PRED LT BRN, SME WHT-OFF WHT IP, MICRO-F XLN, FRM-HD, BRTL IP, TRC CONCH FRAC, DOLO: WHT-OFF WHT, BF IP, PRED CRYPTO-MICRO XLN, SME MICRP-F XLN, CHT: WHT-LT GY, HD-V HD, TRC YLLW FLOR, TRC GLAU, TRC BRN STN, NO CUT
MD: 6,002 '
TVD: 3,751.5 '
Inclination: 90.18 °
Azimuth: 358.91 °
HyAS (units)
0.1 1 10 100
C1 (percent)
15 150 1.5E3 1.5E4
C2 (percent)
15 150 1.5E3 1.5E4
C3 (percent)
15 150 1.5E3 1.5E4
C4 (percent)
15 150 1.5E3 1.5E4
LS: LT BRN, WHT-OFF WHT, MICRO-F XLN, FRM-HD, BRTL IP, TRC CONCH FRAC, DOLO: WHT-OFF WHT, BF IP, CRYPTO-MICRO XLN, CHT: WHT-LT GY, HD-V HD, TRC YLLW FLOR, TRC GLAU, TRC BRN STN, TRC SLOW RING CUT
MUD CHECK
IN: 8.3
OUT: 8.4
J BREWER ON
TRIP FOR BIT AND TO MOVE PIPE AROUND
280u
TG
LS: LT BRN, WHT-OFF WHT, MICRO-F XLN, FRM-HD, BRTL IP, TRC CONCH FRAC, DOLO: WHT-OFF WHT, BF IP, CRYPTO-MICRO XLN, CHT: WHT-LT GY, HD-V HD
MD: 6,097 '
TVD: 3,751.23 '
Inclination: 90.15 °
Azimuth: 357.41 °
S. COX ON
LS: PRED LT BRN, SME WHT-OFF WHT IP, MICRO-F XLN, FRM-HD, BRTL IP, TRC CONCH FRAC, DOLO: WHT-OFF WHT, BF IP, PRED CRYPTO-MICRO XLN, SME MICRP-F XLN, CHT: WHT-LT GY, HD-V HD, TRC YLLW FLOR, TRC GLAU, TRC BRN STN, NO CUT
MUD CHECK
IN: 8.3
OUT: 8.4
LS: OFF WHT TO WHT, SME BUFF TO LT BRN IP, MICRO XLN TO F, TR CONCH FRAC, DOL: OFF WHT TO WHT, MICRO XLN, SFT TO FRM, CHT: LT GY, WHT IP, HD TO


0
ROP (ft/hr)
300
0
GR_MWD (api)
200
0
ROP_FPH
100
6,180
6,190
6,200
6,210
6,220
6,230
6,240
6,250
6,260
6,270
6,280
6,290
6,300
6,310
6,320
6,330
6,340
6,350
6,360
6,370
6,380
6,390
WOB: 23
RPM: 78
PP: 2,400
SPM: 112
V HD, TRC BRN STN, NO CUT
MD: 6,188 '
TVD: 3,751.11 '
Inclination: 90 °
Azimuth: 357.24 °
TGAS (units)
0.1
1
10
100
C1 (percent)
15
150
1.5E3
1.5E4
C2 (percent)
15
150
1.5E3
1.5E4
C3 (percent)
15
150
1.5E3
1.5E4
C4 (percent)
15
150
1.5E3
1.5E4
LS: OFF WHT TO WHT, SME BUFF TO LT BRN IP, MICRO XLN TO F, TR CONCH FRAC, DOL: OFF WHT TO WHT, MICRO XLN, SFT TO FRM, CHT: LT GY, WHT IP, HD TO V HD, TRC BRN STN, NO CUT
RUN BLOODHOUND CHROMT EQUIP
MUD CHECK
IN: 8.3
OUT: 8.4
LS: LT BRN, SME WHT-OFF WHT, CRYPTO-MICRO XLN, SME MICRO-F XLN IP, DOLO: WHT-OFF WHT, BF IP, CRYPTO XLN, FRM-HD, CHT: WHT-LT GY, HD-V HD, SME BRTL IP, TRC BRN STN, TRC CONCH FRAC, TRC YLLW FLOR, SLOW RING CUT
MD: 6,280 '
TVD: 3,750.67 '
Inclination: 90.55 °
Azimuth: 355.92 °
LS: LT BRN, SME WHT-OFF WHT, CRYPTO-MICRO XLN, SME MICRO-F XLN IP, DOLO: WHT-OFF WHT, BF IP, CRYPTO XLN, FRM-HD, CHT: WHT-LT GY, HD-V HD, SME BRTL IP, TRC BRN STN, TRC CONCH FRAC, TRC YLLW FLOR, SLOW RING CUT
RETURN TO REDBOX CHROMAT EQUIP
LS: OFF WHT TO WHT, SME BUFF TO LT BRN IP, MICRO XLN TO F, TR CONCH FRAC, DOL: OFF WHT TO WHT, MICRO XLN, SFT TO FRM, INCR CHT: LT GY, WHT IP, HD TO V HD, NSOC
MUD CHECK
IN: 8.3
OUT: 8.3
MD: 6,371 '
TVD: 3,750.06 '
Inclination: 90.22 °
Azimuth: 355.05 °
LS: PRED LT BRN, SME WHT-OFF WHT, CRYPTO-MICRO XLN, SME MICRO-F XLN IP, DOLO: WHT-OFF WHT, BF IP, CRYPTO XLN, FRM-HD, DECR CHT: WHT-LT GY, HD-V HD,

WOB: 21
RPM: 76
PP: 1,963
SPM: 107

SME BRTL IP, TRC BRN STN, TRC YLLW FLOR, SLOW RING CUT

6,400

0 ROP (ft/hr) 300
0 GR_MWD (api) 200
0 ROP_FPH 100

TGAS (units)
0.1 1 10 100
C1 (percent)
15 150 1.5E3 1.5E4
C2 (percent)
15 150 1.5E3 1.5E4
C3 (percent)
15 150 1.5E3 1.5E4
C4 (percent)
15 150 1.5E3 1.5E4

6,410

6,420

LS: PRED LT BRN, SME WHT-OFF WHT, CRYPTO-MICRO XLN, SME MICRO-F XLN IP, DOLO: WHT-OFF WHT, BF IP, CRYPTO XLN, FRM-HD, CHT: WHT-LT GY, HD-V HD, SME BRTL IP, TRC BRN STN, TRC YLLW FLOR, SLOW RING CUT

6,430

6,440

MUD CHECK
IN: 8.3
OUT: 8.4

6,450

6,460

LS: PRED WHT-OFF WHT, LT BRN, MICRO XLN, FRM-HD, DOLO: WHT-OFF WHT, BF IP, CRYPTO-MICRO XLN, CHT: LT GY, WHT, HD-V HD, TRC GLAU, TRC CONCH FRAC, NO CUT

MD: 6,462 '
TVD: 3,749.68 '
Inclination: 90.25 °
Azimuth: 356.74 °

6,470

6,480

WOB: 25
RPM: 77
PP: 2,206
SPM: 106

6,490

LS: PRED WHT-OFF WHT, LT BRN, MICRO XLN, FRM-HD, DOLO: WHT-OFF WHT, BF IP, CRYPTO-MICRO XLN, CHT: LT GY, WHT, HD-V HD, TRC GLAU, TRC CONCH FRAC, NO CUT

6,500

6,510

6,520

6,530

LS: WHT-OFF WHT, LT BRN, CRYPTO-MICRO XLN, FRM-HD, DOLO: WHT-OFF WHT, CRYPTO XLN, CHT: LT GY, WHT, HD-V HD, TRC GLAU, TRC CONCH FRAC, NO CUT

6,540

MUD CHECK
IN: 8.3
OUT: 8.4

6,550

MD: 6,553 '
TVD: 3,749.41 '
Inclination: 90.09 °
Azimuth: 359.18 °

6,560

6,570

LS: WHT-OFF WHT, LT BRN, CRYPTO-MICRO XLN, FRM-HD, DOLO: WHT-OFF WHT, CRYPTO XLN, CHT: LT GY, WHT, HD-V HD, TRC GLAU, TRC CONCH FRAC, NO CUT

6,580

6,590

WOB: 18
RPM: 85
PP: 2,230
SPM: 109

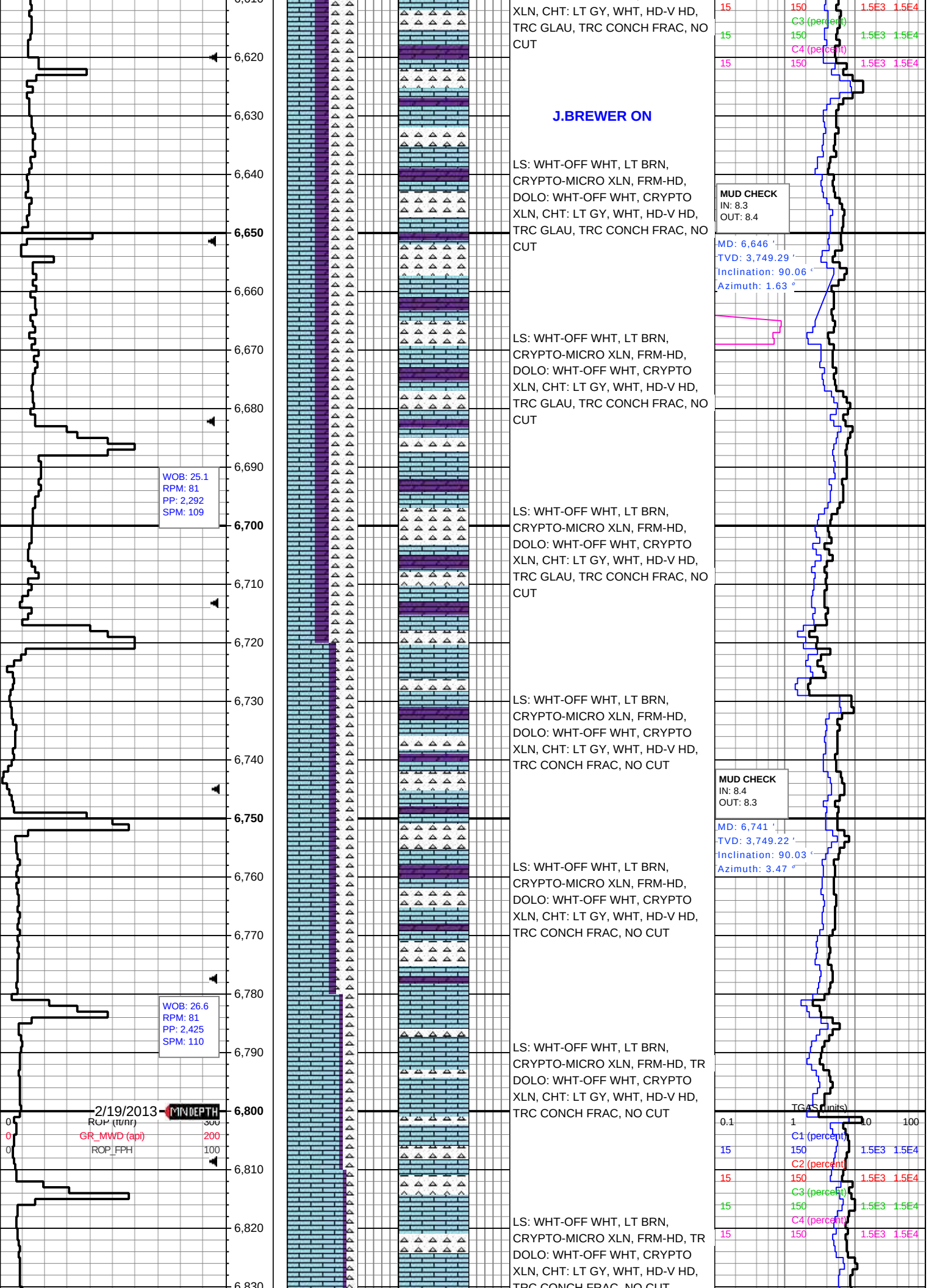
6,600

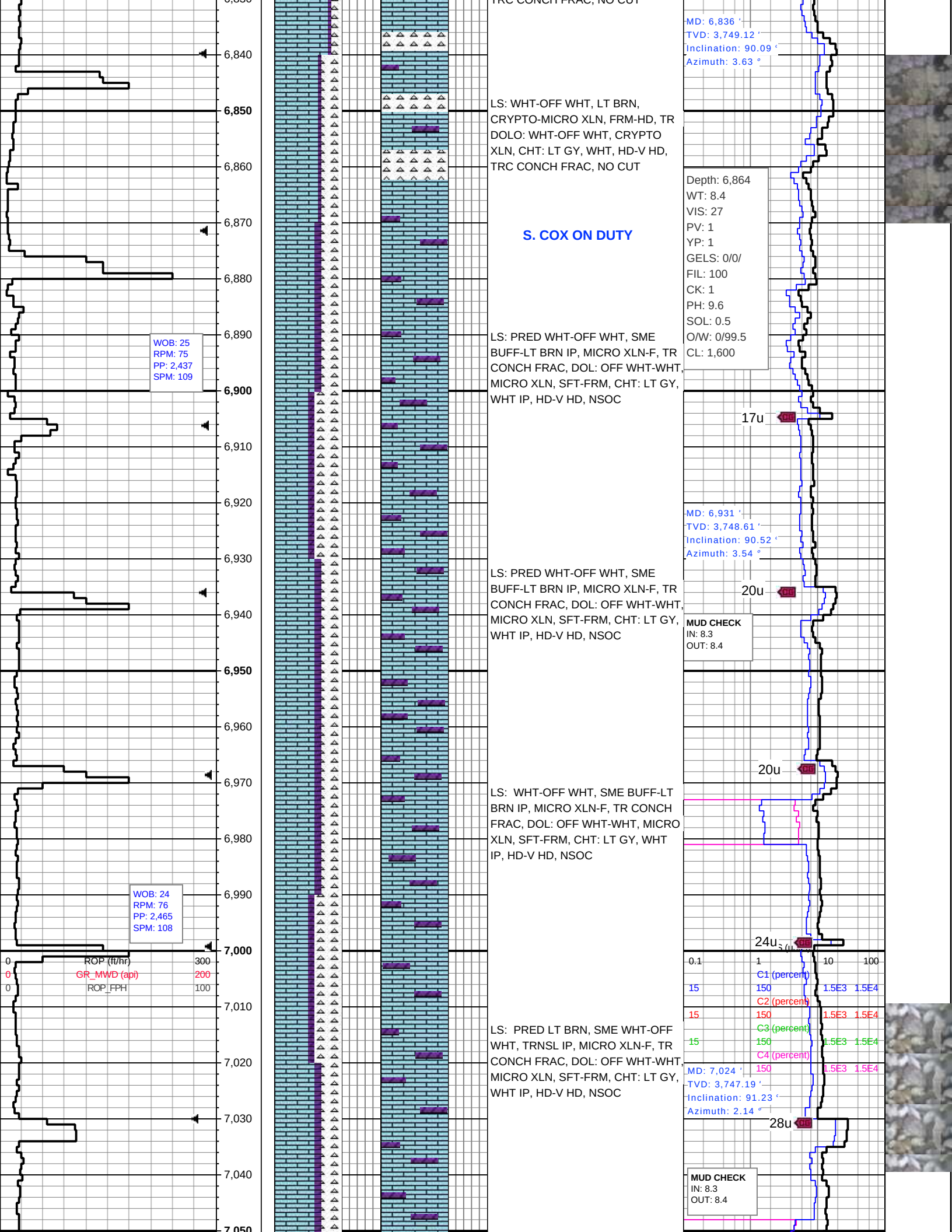
0 ROP (ft/hr) 300
0 GR_MWD (api) 200
0 ROP_FPH 100

TGAS (units)
0.1 1 10 100
C1 (percent)
15 150 1.5E3 1.5E4
C2 (percent)

LS: WHT-OFF WHT, LT BRN, CRYPTO-MICRO XLN, FRM-HD, DOLO: WHT-OFF WHT, CRYPTO

6,610


XLN, CHT: LT GY, WHT, HD-V HD, TRC GLAU, TRC CONCH FRAC, NO CUT
J.BREWER ON
LS: WHT-OFF WHT, LT BRN, CRYPTO-MICRO XLN, FRM-HD, DOLO: WHT-OFF WHT, CRYPTO XLN, CHT: LT GY, WHT, HD-V HD, TRC GLAU, TRC CONCH FRAC, NO CUT
MUD CHECK
IN: 8.3
OUT: 8.4
MD: 6,646 '
TVD: 3,749.29 '
Inclination: 90.06 °
Azimuth: 1.63 °
WOB: 25.1
RPM: 81
PP: 2,292
SPM: 109
LS: WHT-OFF WHT, LT BRN, CRYPTO-MICRO XLN, FRM-HD, DOLO: WHT-OFF WHT, CRYPTO XLN, CHT: LT GY, WHT, HD-V HD, TRC GLAU, TRC CONCH FRAC, NO CUT
LS: WHT-OFF WHT, LT BRN, CRYPTO-MICRO XLN, FRM-HD, DOLO: WHT-OFF WHT, CRYPTO XLN, CHT: LT GY, WHT, HD-V HD, TRC GLAU, TRC CONCH FRAC, NO CUT
LS: WHT-OFF WHT, LT BRN, CRYPTO-MICRO XLN, FRM-HD, DOLO: WHT-OFF WHT, CRYPTO XLN, CHT: LT GY, WHT, HD-V HD, TRC CONCH FRAC, NO CUT
MUD CHECK
IN: 8.4
OUT: 8.3
MD: 6,741 '
TVD: 3,749.22 '
Inclination: 90.03 °
Azimuth: 3.47 °
LS: WHT-OFF WHT, LT BRN, CRYPTO-MICRO XLN, FRM-HD, DOLO: WHT-OFF WHT, CRYPTO XLN, CHT: LT GY, WHT, HD-V HD, TRC CONCH FRAC, NO CUT
WOB: 26.6
RPM: 81
PP: 2,425
SPM: 110
LS: WHT-OFF WHT, LT BRN, CRYPTO-MICRO XLN, FRM-HD, TR DOLO: WHT-OFF WHT, CRYPTO XLN, CHT: LT GY, WHT, HD-V HD, TRC CONCH FRAC, NO CUT
LS: WHT-OFF WHT, LT BRN, CRYPTO-MICRO XLN, FRM-HD, TR DOLO: WHT-OFF WHT, CRYPTO XLN, CHT: LT GY, WHT, HD-V HD, TRC CONCH FRAC, NO CUT
2/19/2013
MNDEPTH
ROP (ft/hr)
GR_MWD (api)
ROP_FPH
TGAS (units)
C1 (percent)
C2 (percent)
C3 (percent)
C4 (percent)
6,620
6,630
6,640
6,650
6,660
6,670
6,680
6,690
6,700
6,710
6,720
6,730
6,740
6,750
6,760
6,770
6,780
6,790
6,800
6,810
6,820
6,830


TRC CONCH FRAC, NO CUT
MD: 6,836 '
TVD: 3,749.12 '
Inclination: 90.09 °
Azimuth: 3.63 °
LS: WHT-OFF WHT, LT BRN, CRYPTO-MICRO XLN, FRM-HD, TR DOLO: WHT-OFF WHT, CRYPTO XLN, CHT: LT GY, WHT, HD-V HD, TRC CONCH FRAC, NO CUT
Depth: 6,864
WT: 8.4
VIS: 27
PV: 1
YP: 1
GELS: 0/0/
FIL: 100
CK: 1
PH: 9.6
SOL: 0.5
O/W: 0/99.5
CL: 1,600
S. COX ON DUTY
WOB: 25
RPM: 75
PP: 2,437
SPM: 109
LS: PRED WHT-OFF WHT, SME BUFF-LT BRN IP, MICRO XLN-F, TR CONCH FRAC, DOL: OFF WHT-WHT, MICRO XLN, SFT-FRM, CHT: LT GY, WHT IP, HD-V HD, NSOC
17u
MD: 6,931 '
TVD: 3,748.61 '
Inclination: 90.52 °
Azimuth: 3.54 °
LS: PRED WHT-OFF WHT, SME BUFF-LT BRN IP, MICRO XLN-F, TR CONCH FRAC, DOL: OFF WHT-WHT, MICRO XLN, SFT-FRM, CHT: LT GY, WHT IP, HD-V HD, NSOC
20u
MUD CHECK
IN: 8.3
OUT: 8.4
20u
LS: WHT-OFF WHT, SME BUFF-LT BRN IP, MICRO XLN-F, TR CONCH FRAC, DOL: OFF WHT-WHT, MICRO XLN, SFT-FRM, CHT: LT GY, WHT IP, HD-V HD, NSOC
WOB: 24
RPM: 76
PP: 2,465
SPM: 108
24u
0 ROP (ft/hr) 300
0 GR_MWD (api) 200
0 ROP_FPH 100
0.1 1 10 100
C1 (percent)
15 150 1.5E3 1.5E4
C2 (percent)
15 150 1.5E3 1.5E4
C3 (percent)
15 150 1.5E3 1.5E4
C4 (percent)
150 1.5E3 1.5E4
LS: PRED LT BRN, SME WHT-OFF WHT, TRNSL IP, MICRO XLN-F, TR CONCH FRAC, DOL: OFF WHT-WHT, MICRO XLN, SFT-FRM, CHT: LT GY, WHT IP, HD-V HD, NSOC
MD: 7,024 '
TVD: 3,747.19 '
Inclination: 91.23 °
Azimuth: 2.14 °
28u
MUD CHECK
IN: 8.3
OUT: 8.4
6,840
6,850
6,860
6,870
6,880
6,890
6,900
6,910
6,920
6,930
6,940
6,950
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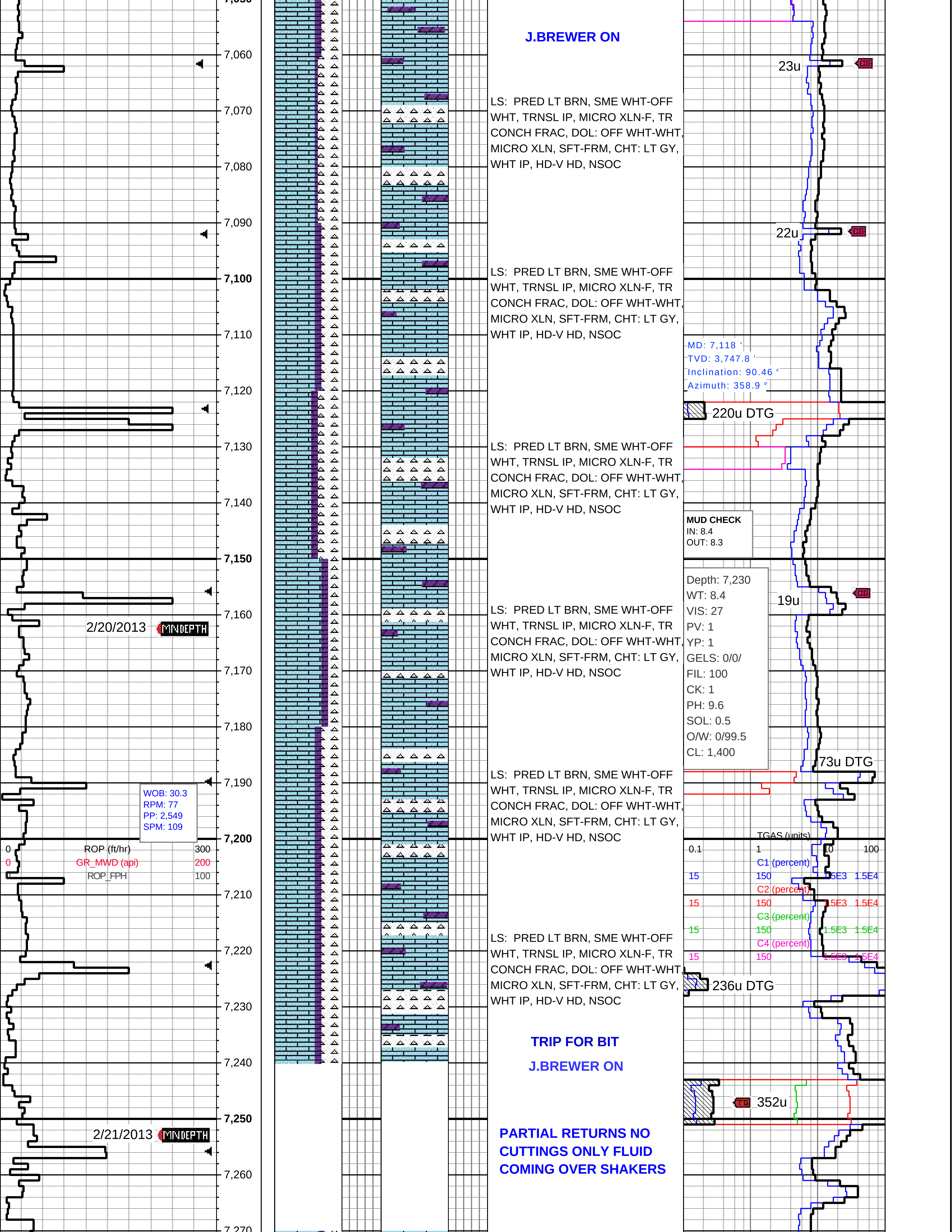
6,980
6,990
7,000
7,010
7,020
7,030
7,040
7,050



7,060
7,070
7,080
7,090
7,100
7,110
7,120
7,130
7,140
7,150
7,160
7,170
7,180
7,190
7,200
7,210
7,220
7,230
7,240
7,250
7,260
J.BREWER ON
23u
LS: PRED LT BRN, SME WHT-OFF WHT, TRNSL IP, MICRO XLN-F, TR CONCH FRAC, DOL: OFF WHT-WHT, MICRO XLN, SFT-FRM, CHT: LT GY, WHT IP, HD-V HD, NSOC
22u
LS: PRED LT BRN, SME WHT-OFF WHT, TRNSL IP, MICRO XLN-F, TR CONCH FRAC, DOL: OFF WHT-WHT, MICRO XLN, SFT-FRM, CHT: LT GY, WHT IP, HD-V HD, NSOC
MD: 7,118 '
TVD: 3,747.8 '
Inclination: 90.46 °
Azimuth: 358.9 °
220u DTG
LS: PRED LT BRN, SME WHT-OFF WHT, TRNSL IP, MICRO XLN-F, TR CONCH FRAC, DOL: OFF WHT-WHT, MICRO XLN, SFT-FRM, CHT: LT GY, WHT IP, HD-V HD, NSOC
MUD CHECK
IN: 8.4
OUT: 8.3
Depth: 7,230
WT: 8.4
VIS: 27
PV: 1
YP: 1
GELS: 0/0/
FIL: 100
CK: 1
PH: 9.6
SOL: 0.5
O/W: 0/99.5
CL: 1,400
19u
2/20/2013
MNDEPTH
LS: PRED LT BRN, SME WHT-OFF WHT, TRNSL IP, MICRO XLN-F, TR CONCH FRAC, DOL: OFF WHT-WHT, MICRO XLN, SFT-FRM, CHT: LT GY, WHT IP, HD-V HD, NSOC
73u DTG
WOB: 30.3
RPM: 77
PP: 2,549
SPM: 109
LS: PRED LT BRN, SME WHT-OFF WHT, TRNSL IP, MICRO XLN-F, TR CONCH FRAC, DOL: OFF WHT-WHT, MICRO XLN, SFT-FRM, CHT: LT GY, WHT IP, HD-V HD, NSOC
0 ROP (ft/hr) 300
0 GR_MWD (api) 200
ROP_FPH 100
TGAS (units)
0.1 1 10 100
C1 (percent)
15 150 1.5E3 1.5E4
C2 (percent)
15 150 1.5E3 1.5E4
C3 (percent)
15 150 1.5E3 1.5E4
C4 (percent)
15 150 1.5E3 1.5E4
LS: PRED LT BRN, SME WHT-OFF WHT, TRNSL IP, MICRO XLN-F, TR CONCH FRAC, DOL: OFF WHT-WHT, MICRO XLN, SFT-FRM, CHT: LT GY, WHT IP, HD-V HD, NSOC
236u DTG
TRIP FOR BIT
J.BREWER ON
352u
2/21/2013
MNDEPTH
PARTIAL RETURNS NO CUTTINGS ONLY FLUID COMING OVER SHAKERS

7,270

7,280

LS: PRED LT BRN, SME WHT-OFF WHT, TRNSL IP, MICRO XLN-F, TR CONCH FRAC, DOL: OFF WHT-WHT, MICRO XLN, SFT-FRM, CHT: LT GY, WHT IP, HD-V HD, NSOC

MD: 7,283 '
TVD: 3,744.11 '
Inclination: 89.51 °
Azimuth: 356.85 °

7,290

WOB: 20.5
RPM: 77
PP: 2,287
SPM: 190

7,300

7,310

LS: PRED LT BRN, SME WHT-OFF WHT, TRNSL IP, MICRO XLN-F, TR CONCH FRAC, DOL: OFF WHT-WHT, MICRO XLN, SFT-FRM, CHT: LT GY, WHT IP, HD-V HD, NSOC

7,320

7,330

7,340

LS: PRED LT BRN, SME WHT-OFF WHT, TRNSL IP, MICRO XLN-F, TR CONCH FRAC, DOL: OFF WHT-WHT, MICRO XLN, SFT-FRM, CHT: LT GY, WHT IP, HD-V HD, NSOC

MUD CHECK
IN: 8.4
OUT: 8.3

7,350

36u

7,360

7,370

7,380

7,390

7,400

0	ROP (ft/hr)	300
0	GR_MWD (api)	200
0	ROP_FPH	100

TGAS (units)

0.1	1	10	100
	C1 (percent)		
15	150	1.5E3	1.5E4
	C2 (percent)		
15	150	1.5E3	1.5E4
	C3 (percent)		
15	150	1.5E3	1.5E4
	C4 (percent)		
15	150	1.5E3	1.5E4

7,410

7,420

7,430

7,440

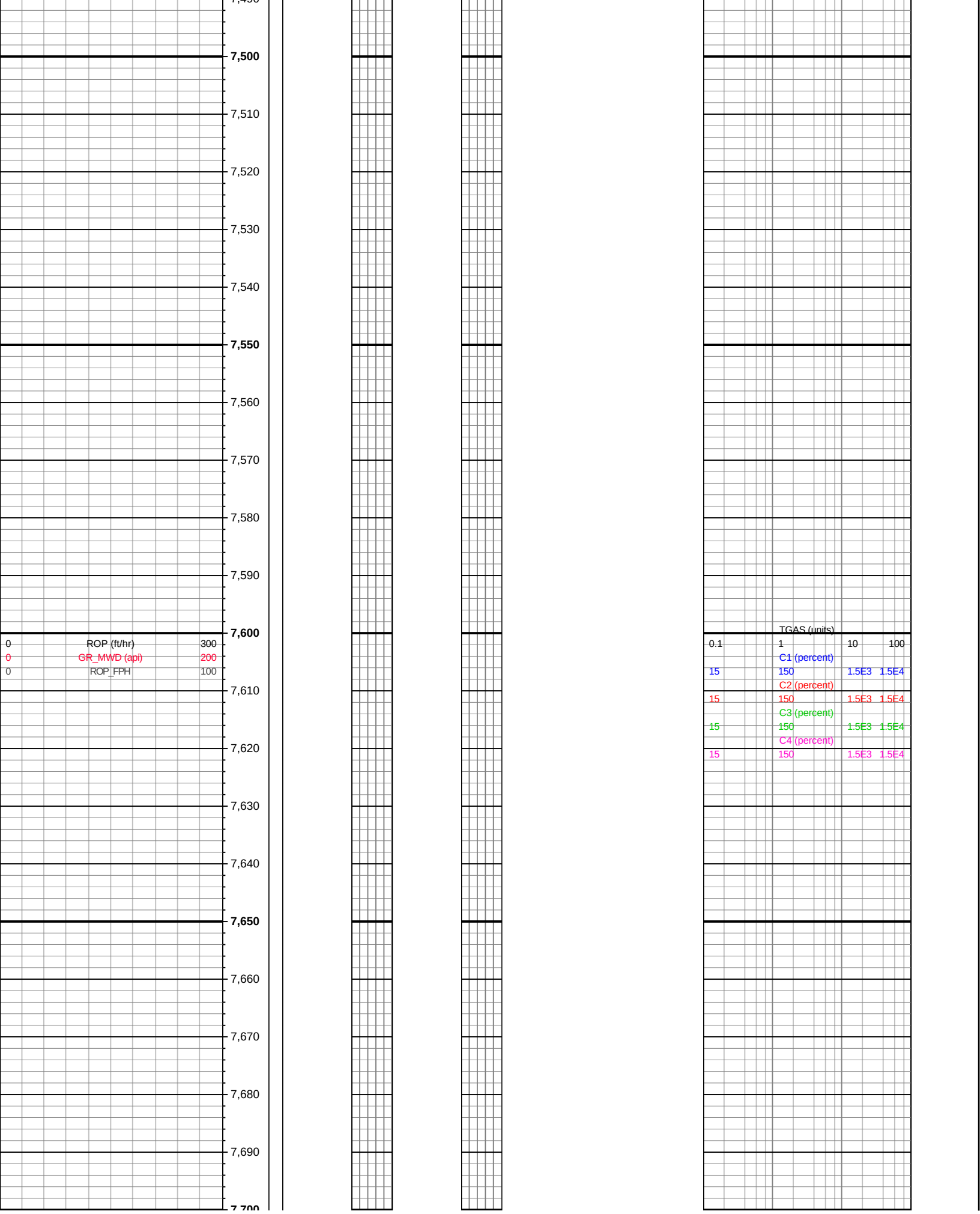
7,450

7,460

7,470

7,480

7,490


7,500
7,510
7,520
7,530
7,540
7,550
7,560
7,570
7,580
7,590
7,600
7,610
7,620
7,630
7,640
7,650
7,660
7,670
7,680
7,690
7,700
0
ROP (ft/hr)
300
0
GR_MWD (api)
200
0
ROP_FPH
100
TGAS (units)
0.1
1
10
100
C1 (percent)
15
150
1.5E3
1.5E4
C2 (percent)
15
150
1.5E3
1.5E4
C3 (percent)
15
150
1.5E3
1.5E4
C4 (percent)
15
150
1.5E3
1.5E4