

COLUMBINE LOGGING

Scale: 5" / 100'
Measured Depth Log

Well Name 05123380300000_Howard_38C_33HZ_MUD

Location NW/SE: SEC: 28 TWP: 1N 67W 6PM

State COLORADO

County WELD

Country U.S.A

Rig Number XTREME 6

API Number 05123380300000

AFE # 2087573.DRL

Region DJ BASIN

Field WATTENBERG

Spud Date 2/8/2014

Drilling Completed 2/15/2014

Surface Coordinates 1575' FSL 1351' FEL

Bottom Hole Coordinates 460' FFSL 190' FFELL

Ground Elevation 5023'

K.B. Elevation 5043'

Logged Interval 7300' To 13151'

Total Depth 13151'

Formation CODELL

Type of Drilling Fluid LSND/ PHPA

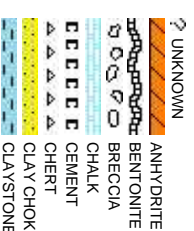
Company Anadarko

Address Granite Tower
1099 18th St. #
Denver, CO 802

Name ISAAC SMITH

Company COLUMBINE LOGGING

Address 2385 S. Lipan St
Denver, CO 802



Operator

1800
202

Geologist

OGGING INC.
TED STOCKWELL

OGGING INC.

street

2223

Rock Types

CONGLOMERATE	MARLSTONE	SHALY SANDSTONE
DOLOMITE	METAMORPHIC	SHALY SILTSTONE
DOLOMITIC LIMESTONE	NO SAMPLE	SILT SHALE
GRANITE	SALT	SILTSTONE
GYPSUM	SANDSTONE	TILL
IGNEOUS	SALT-PEPPER SAN	TUFF
SIDERITE or LIMONITE	SHALE	WELDED TUFF
LIMESTONE	SHALE COLORED	
	SHALE GRAY	

Accessories

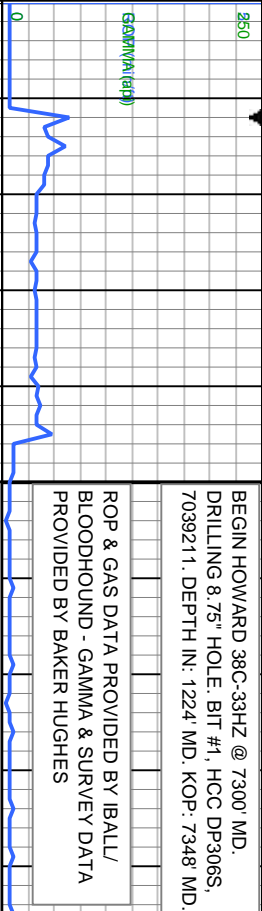
Fossils	GASTROPOD	ARGILLITE GRAIN	HEAVY MINERAL
INOCERAMUS	B BENTONITE	K KAOLIN	ANHYDRITE STRINGER
ALGAE	O OOLITE	BIT BITUMENOUS SUBSTANCE	B BENTONITE STRINGER
AMPHIPORA	O OSTRACOD	BRE BRECCIA FRAGMENTS	COAL STRINGER
BELEMNITE	P PELECYPOD	C CALCAREOUS	DOLOMITE STRINGER
BIOCLASTIC	P PELLET	C CARBONACEOUS FLAKES	G GYPSUM STRINGER
BRACHIOPOD	P PISOLITE	CHT CHERT	LIM LIMESTONE STRINGER
BRYOZOA	P PLANT REMAINS	T THIN BEDS	M MARLSTONE (CALC) STRG
CEPHALOPOD	S PLANT SPORES	D DOLOMITIC	M MARLSTONE (DOL) STRG
CORAL	S SCAPHOPOD	F FELDSPAR	SAND SANDSTONE STRINGER
CRINOID	S STROMATOPOROID	F FERRUGINOUS PELLET	SHA SHALE STRINGER
ECHINOID		F FERRUGINOUS	S SILTY
FISH	Minerals	T TUFFACEOUS	SIL SILTSTONE STRINGER
FORAMINIFERA	A ANHYDRITIC	G GLAUCONITE	
F FOSSIL	A ARGILLACEOUS	G GYPSIFEROUS	Stringer

Other Symbols

Oil Show	P PINPOINT	DST INTERVAL	W WIRELINE TESTED - LEFT	E EARTHY
V VUGGY	F FAULT	W WIRELINE TESTED - RT	F FINELY XLN	
D DEAD	F FORMATION TOP	D DRILL STEM TEST	G GRAINSTONE	
E EVEN	G GAS SHOW	MN DEPTH	L LITHOGRAPHIC	
Q QUESTIONABLE	B BIT	O OIL SHOW	M MICRO XLN	
S SPOTTED STAINING	C CONNECTION (UP)	MN DEPTH UP	M MUDSTONE	
Porosity	C CONNECTION (DOWN)	MN DEPTH (DOWN)	A ANGULAR	P PACKSTONE
C CONNECTION GAS	N NORMAL FAULT	R ROUNDED	W WACKESTONE	
E EARTHY	C CONNECTION GAS (LEFT)	S SUBANG		
F FENESTRAL	T TRIP GAS	O OVERTURNED STRATA	S SUBRND	
F FRACTURE	T TRIP GAS (LEFT)	R REVERSE FAULT		
I INTERCRYSTALLINE	C CASING	S SIDEWALL CORE (LEFT)	Textures	M MODERATE
I INTERCRYSTALLINE	D DOWN TIME GAS	S SIDEWALL CORE (RIGHT)	P POOR	W WELL
M MOLDIC	D DOWN TIME GAS (LEFT)	S SLIDE	C CHALKY	
O ORGANIC	C CORE - LOST	S SURVEY	C CRYPTOXLN	
	C CORE - RECOVERED			

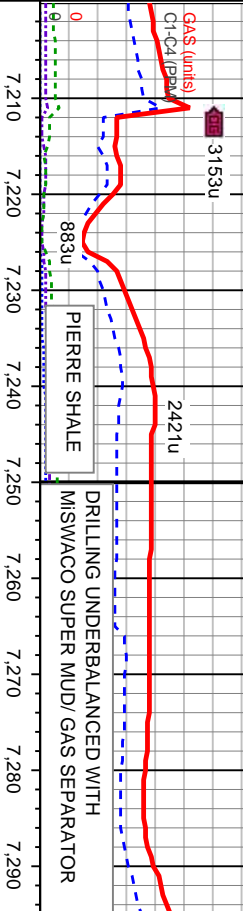
Slide/Rotate

ROP
ROF
GAMMA



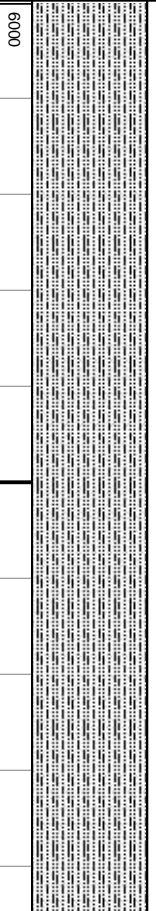
Total Gas & Chromatograph

GAS
C1
C2
C3
C4



Depth Labels

% Lith



Well Bore
TVD

MD: 7.247
TVD: 7,109.64
Inclination: 13.97
Azimuth: 163.12
VS: 891.11

THE INTERPRETATION OF THE WELLBORE LITHOLOGY IS NOT TO SCALE

SLTY SH: med gy-dk gy, occ lt tan, sb blk-y-sb pty, occ pty, frm-sft, mod fri, silty; difse string dull bl cut, thin dull bl resd ring

ACETONE WAS USED AS THE CUTTING AGENT WITH THE DIMPLE FILLED TO THE RIM. THE RATINGS ARE BASED ON 7 DESCRIPTORS: NONE, SLIGHT TRACE, TRACE, FAIR, MODERATE, GOOD, AND EXCELLENT. THE DESCRIPTOR USED IS BASED ON THE LOGGERS OBSERVATIONS AND BEST JUDGMENT OF BRILLIANCE, COLOR AND LONGEVITY OF THE CUT.

MD: 7.332
TVD: 7,192.57
Inclination: 11.33
Azimuth: 162.02
VS: 909.07

MD: 7.375
TVD: 7,234.61
Inclination: 12.93
Azimuth: 161.05
VS: 917.74

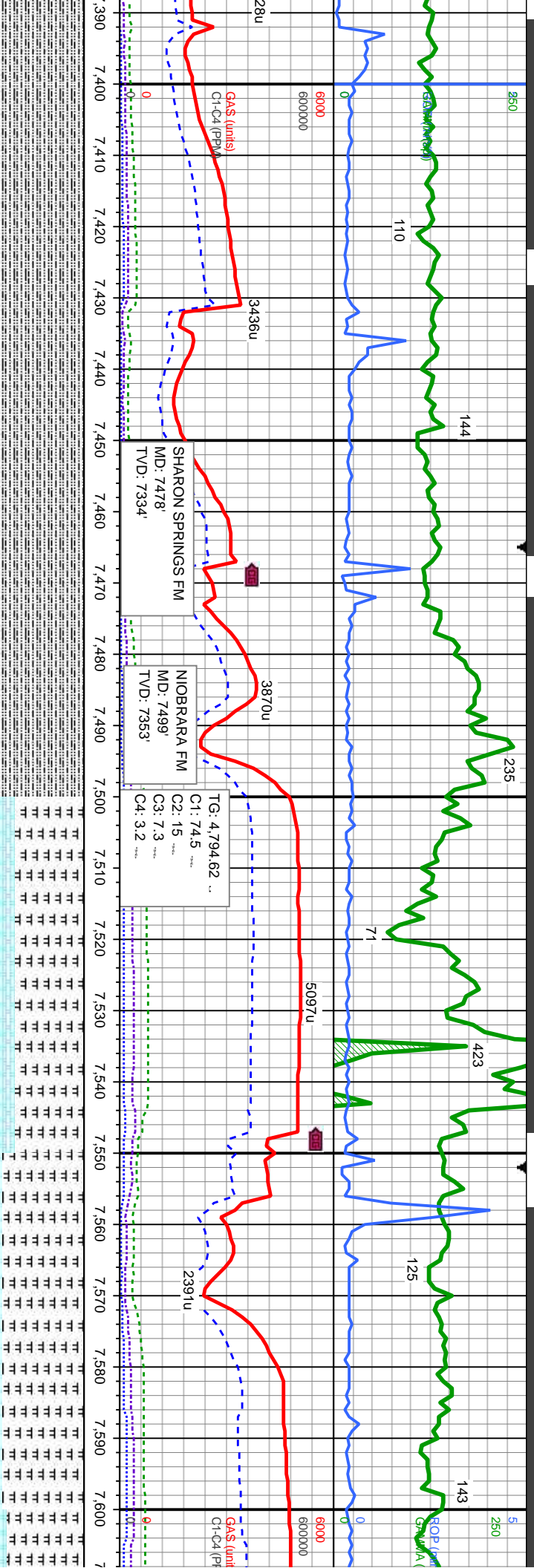
SLTY SH: med gy-dk gy, occ lt tan, sb blk-y-sb pty, occ pty, frm-sft, mod fri, silty; difse string dull bl cut, thin dull bl resd ring

Oil Show

83
66
50
33
16

Images



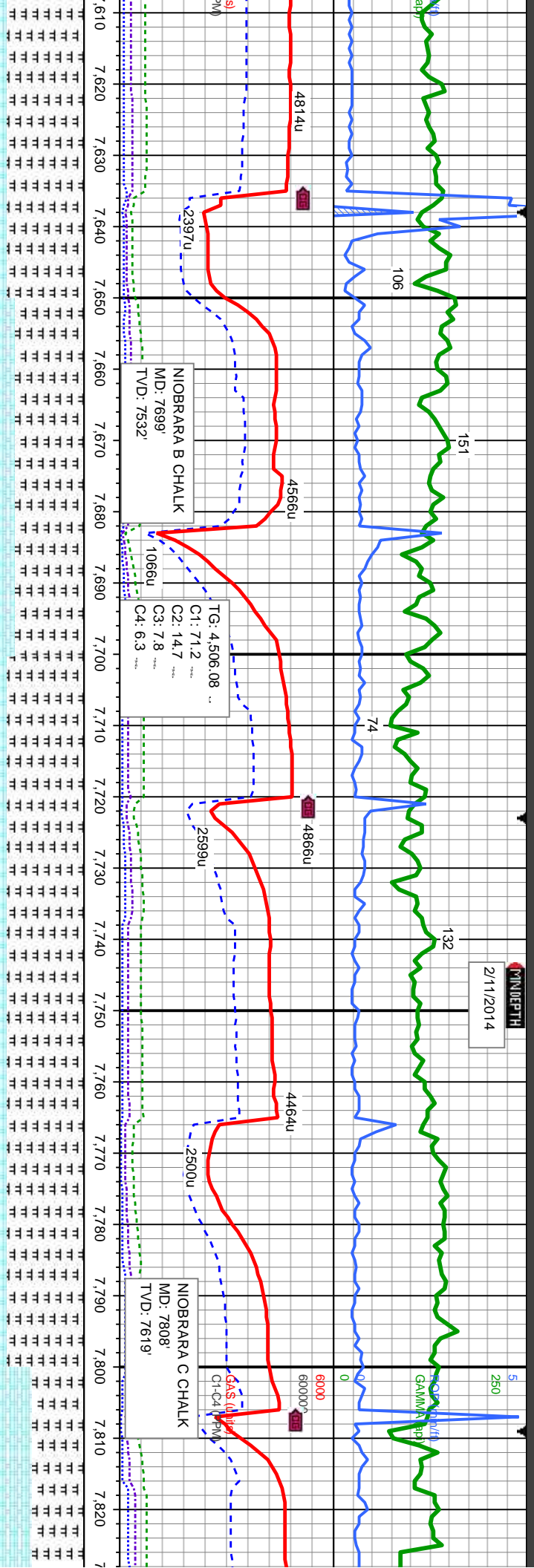


SAMPLE INTERVAL SAMPLE DESCRIPTION	6000	WT IN 9.9/ OUT 9.8 VIS IN 44/ OUT 44	
		MD: 7.418 TVD: 7.276.3 Inclination: 15.29 Azimuth: 160.85 VS: 927.77	
SAMPLE INTERVAL SAMPLE DESCRIPTION	6000	MD: 7.460 TVD: 7.316.5 Inclination: 18.37 Azimuth: 162.23 VS: 939.44	
		MD: 7.503 TVD: 7.356.95 Inclination: 21.28 Azimuth: 162.84 VS: 953.5	
SAMPLE INTERVAL SAMPLE DESCRIPTION	6000	MD: 7.548 TVD: 7.396.68 Inclination: 23.7 Azimuth: 165.82 VS: 969.49	
		MD: 7.589 TVD: 7.435.83 Inclination: 25.16 Azimuth: 167.95 VS: 986.95	

SAMPLE INTERVAL SAMPLE DESCRIPTION	6000	MUD DATA	
		WT: 10 FV: 48 PV: 12 YP: 13 CK: 1 Sol: 10 pH/Temp: 9.3/102 Chl: 1.500	
SAMPLE INTERVAL SAMPLE DESCRIPTION	6000	MRLST: med-dk gy-gy brn, sb pily-occ pily, mod sft-frn, arg-sily, tr bent, tr pyr; CHK: med gy-lt-med brn, mod, sb bly-sb pily, sft-si frn, fri, sl arg, v calc; difse sl stmg mod-dull bl wh cut, thn bl-wh reedl ring	
		MRLST: med-dk gy-gy brn, sb pily-occ pily, mod sft-frn, arg-sily, calc, tr bent, tr pyr; CHK: aa, difse sl stmg mod-dull bl wh cut, thn bl-wh reedl ring	



DEPTH
2/1/2014



TT IN 10.0/ OUT 9.9
S IN 48/ OUT 48

MD: 7.631
TVD: 7.473.47
Inclination: 27.51
Azimuth: 170.19
VS: 1.005.36

MD: 7.674
TVD: 7.511.11
Inclination: 30.29
Azimuth: 171.49
VS: 1.025.98

MD: 7.717
TVD: 7.547.48
Inclination: 34.13
Azimuth: 171.14
VS: 1.048.75

WT IN 10.0/ OUT 9.9
VIS IN 48/ OUT 48

MD: 7.760
TVD: 7.582.28
Inclination: 37.8
Azimuth: 171.65
VS: 1.073.84

MD: 7.802
TVD: 7.614.51
Inclination: 41.92
Azimuth: 172.29
VS: 1.100.61

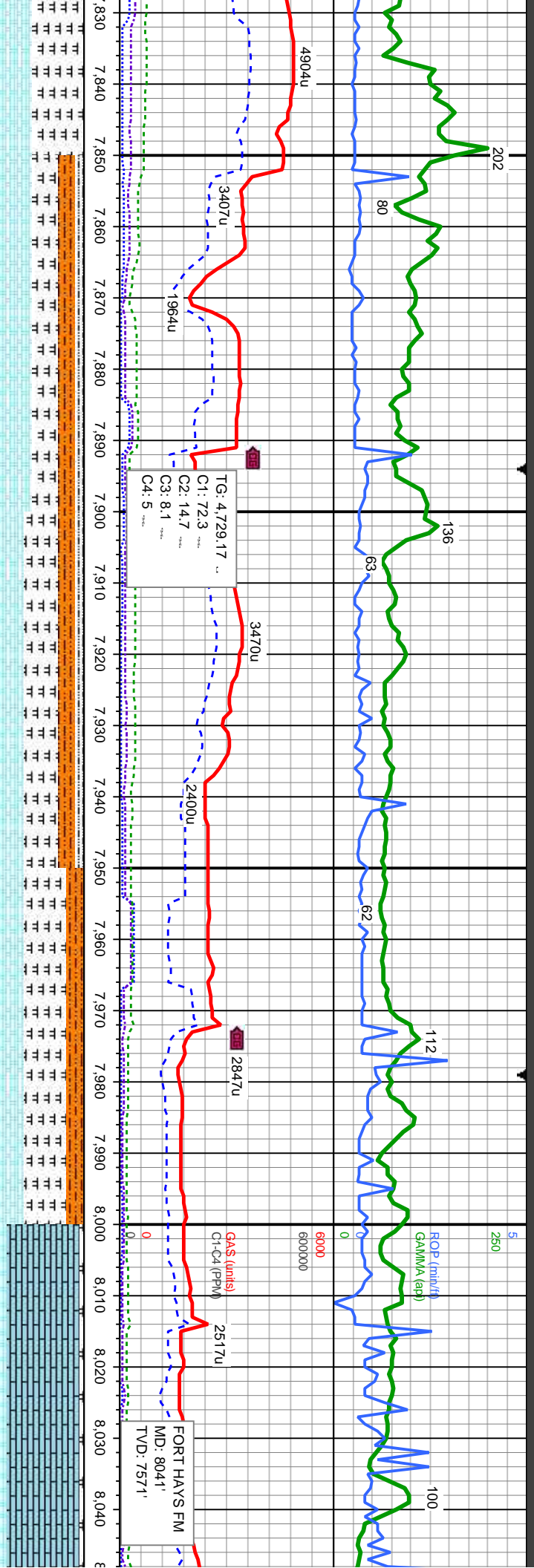
med-dk gy-gy brn, sb pily-occ pily, mod sft-frn, arg-sily, calc, tr pyr, tr fos frag; CHK: med gy-ilt-med brn, mot, sb bily-sb pily, sft-sl frm, fri, sl wxy, sl arg, v calc; difse sl stmg mod-dull bl wh cut, thn bl-wh resdl ring

med-dk gy-gy brn, sb pily-occ pily, mod sft-frn, arg-sily, calc, tr pyr, tr fos frag; CHK: med gy-ilt-med brn, mot, sb bily-sb pily, sft-sl frm, fri, sl wxy, sl arg, v calc; difse sl stmg mod-dull bl wh cut, thn bl-wh resdl ring

med-dk gy-gy brn, sb pily-occ pily, mod sft-frn, arg-sily, calc, tr pyr, tr fos frag; CHK: med gy-ilt-med brn, mot, sb bily-sb pily, sft-sl frm, fri, sl wxy, sl arg, v calc; difse sl stmg mod-dull bl wh cut, thn bl-wh resdl ring

med-dk gy-gy brn, sb pily-occ pily, mod sft-frn, arg-sily, calc, tr pyr, tr fos frag; CHK: med gy-ilt-med brn, mot, sb bily-sb pily, sft-sl frm, fri, sl wxy, sl arg, v calc; difse sl stmg mod-dull bl wh cut, thn bl-wh resdl ring





MD: 7.845
TVD: 7.645.5
Inclination: 45.84
Azimuth: 172.78
VS: 1.130.28

WT IN 10.0/ OUT 9.9
VIS IN 50/ OUT 49

MD: 7.888
TVD: 7.674.1
Inclination: 50.76
Azimuth: 172.86
VS: 1.162.25

MD: 7.930
TVD: 7.699.29
Inclination: 55.51
Azimuth: 172.9
VS: 1.195.71

MD: 7.973
TVD: 7.721.92
Inclination: 60.94
Azimuth: 172.93
VS: 1.232.12

WT IN 10.0/ OUT 10.0
VIS IN 49/ OUT 49

MD: 8.015
TVD: 7.740.68
Inclination: 65.98
Azimuth: 173.09
VS: 1.269.55

bl-ky-sb pily-tr pily,
g - calc silty sh, tr
mot, sb bl-ky-sb pily,
calc: difse hvy stmg
bl-wh resdl ring

MRLST: med-dk gy-gy brn, sb bl-ky-sb pily-tr
pily, mod sft-frm, arg-sily, calc: CHK: aa: SLTY
SH: aa: SHY SLTST: lt gy-med gy,
sb-bl-ky-sb-pily, med-v frn, sl calc: mod stmg
bl-wh mky cut: thn bri bl-wh resdl ring

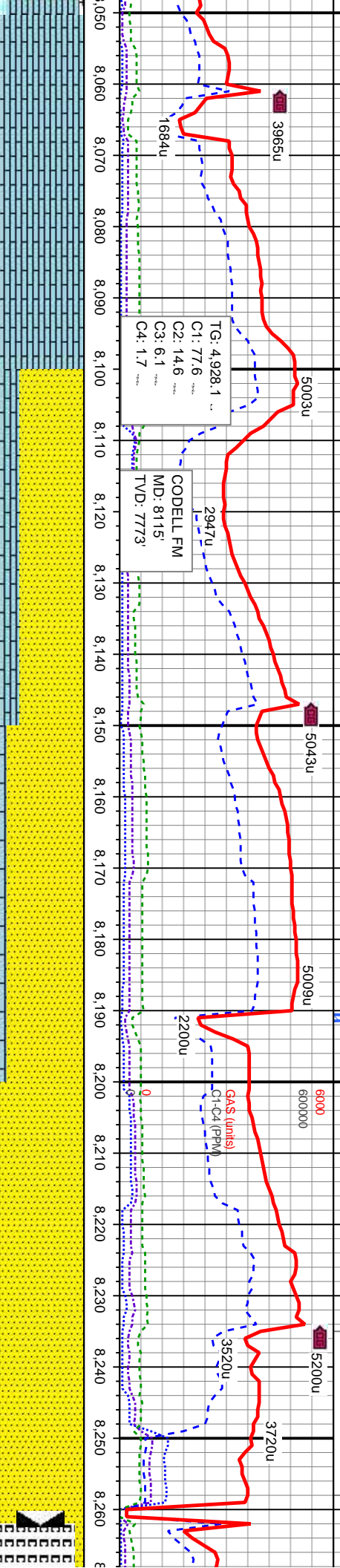
MRLST: aa: CHK: med gy-lt-med brn, mot, sb
bl-ky-sb pily, sft-sl frn, fri, sl wxy, sl arg, v
calc: SLTY SH: aa: SHY SLTST: aa: mod stmg
bl-wh mky cut: thn bri bl-wh resdl ring

MRLST: med-dk gy-gy brn, sb bl-ky-sb pily-tr pily,
mod sft-frm, arg-sily, calc: CHK: aa: SHY SLTST: lt
gy-med gy, sb-bl-ky-sb-pily, med-v frn, sl calc:
mod stmg bl-wh mky cut: thn bri bl-wh resdl ring

LS: crm-offwhlt-brn, pily, ang, mod frm-frm,
cylxn-mckln, v calc: MRLST: med-dk gy-gy
brn, sb bl-ky-sb pily-tr pily, mod sft-frm,
arg-sily, calc: CHK: aa: difse stmg bri bl-wh
mky cut: thk dull bl-grn resdl ring

Bit #: 1
Type: DP306S
Size: 8.75
Depth In: 1,224
Depth Out: 8,262
Total Drilled: 7,038
Hours: 31
Avg FV/Hr: 227.03
Jets: 6X18
S/N: 7039211

2/12/201
2/13/201
REACH
8262 MI



WT IN 10.0/ OUT 10.0
VIS IN 45/ OUT 45

WT IN 10.0/ OUT 9.9
VIS IN 46/ OUT 46

MUD DATA
WT: 10
FV: 58
PV: 13
YP: 14
CK: 1
Sol: 10
pH/Temp: 9.7/72
Chl: 2,500

PROJECTION TO

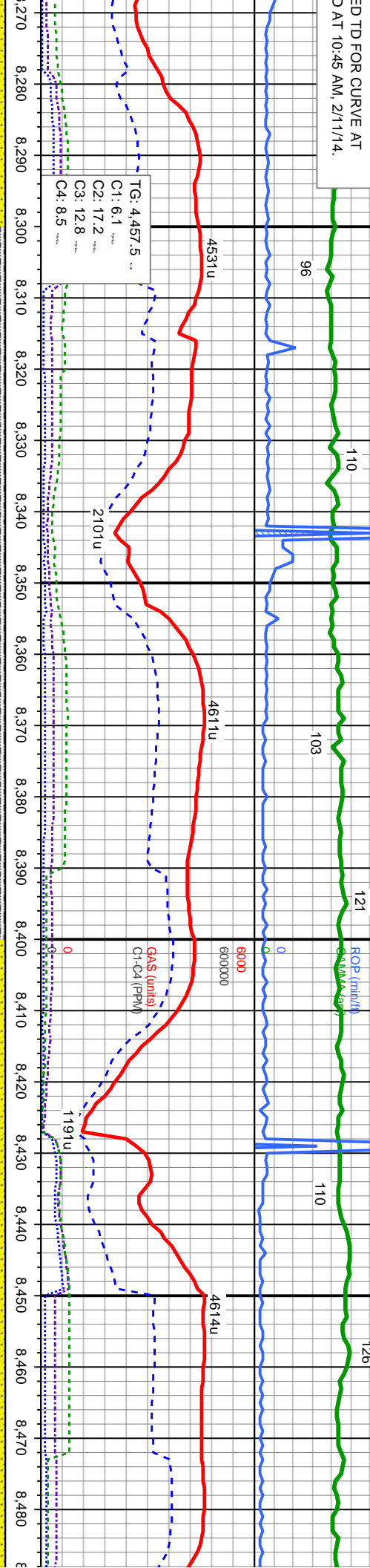
ID: 8.058 VD: 7.756.5 Inclination: 70.85 Azimuth: 173.88 VS: 1,309.4	MD: 8.100 TVD: 7.768.84 Inclination: 74.95 Azimuth: 175.02 VS: 1,349.47	MD: 8.143 TVD: 7.778.52 Inclination: 79.03 Azimuth: 176.48 VS: 1,391.32	MD: 8.185 TVD: 7.784.93 Inclination: 83.42 Azimuth: 177.68 VS: 1,432.82	MD: 8.213 TVD: 7.787.44 Inclination: 86.27 Azimuth: 178.48 VS: 1,460.7	MD: 8.262 TVD: 7.789.57 Inclination: 88.7 Azimuth: 178.26 VS: 1,509.65
--	---	---	---	--	--

LS: crm-offwht-lt brn, pily, ang, mod frm-frn, cylvn-mexln, v calc; difse sting bri bl-wh mky cut; thk dull bl-green res ring	SS: gry-dk-gry, sl mot, grnl, med-c gr, mod-v frm, sb-rnd-rnd, mod-w strd, p-mod cons, sl calc cmt; LS: crm-offwht-lt brn, pily, ang, mod frm-frn, cylvn-mexln, v calc; difse sting bri bl-wh mky cut; thk dull bl-gn res ring	SS: gry-dk-gry, sl mot, grnl, med-c gr, mod-v frm, sb-rnd-rnd, mod-w strd, p-mod cons, sl calc cmt; LS: crm-offwht-lt brn, pily, ang, mod frm-frn, cylvn-mexln, v calc; difse sting bri bl-wh mky cut; thk dull bl-green res ring	SS: gry-dk-gry, sl mot, grnl, med-c gr, mod-v frm, sb-rnd-rnd, mod-w strd, p-mod cons, sl calc cmt; sting wi occ strgs, lt bl flr wi g bri bl-wh difse cut, thn bri bl resd ring	SS: gry-dk-gry, s frm, sb-rnd-rnd, mod arg, sl calc
---	--	---	--	---



PTH
4 -
4
BEGIN DRILLING LATERAL ON 2/13/14 AT
6:12 PM. 6.125" HOLE W/ BIT #2. VAREL,
VSS513D. DEPTH IN: 8262' MD

ED TD FOR CURVE AT
D AT 10:45 AM, 2/11/14.



TG: 4.457 5 ..
C1: 6.1
C2: 17.2
C3: 12.8
C4: 8.5

MD: 8,291
TVD: 7,790.1
Inclination: 89.13
Azimuth: 178.08
VS: 1,538.64

100' SAMPLE INTERVAL
100' SAMPLE DESCRIPTION

MD: 8,376
TVD: 7,790.36
Inclination: 90.52
Azimuth: 177.76
VS: 1,623.64

TVD (ft)

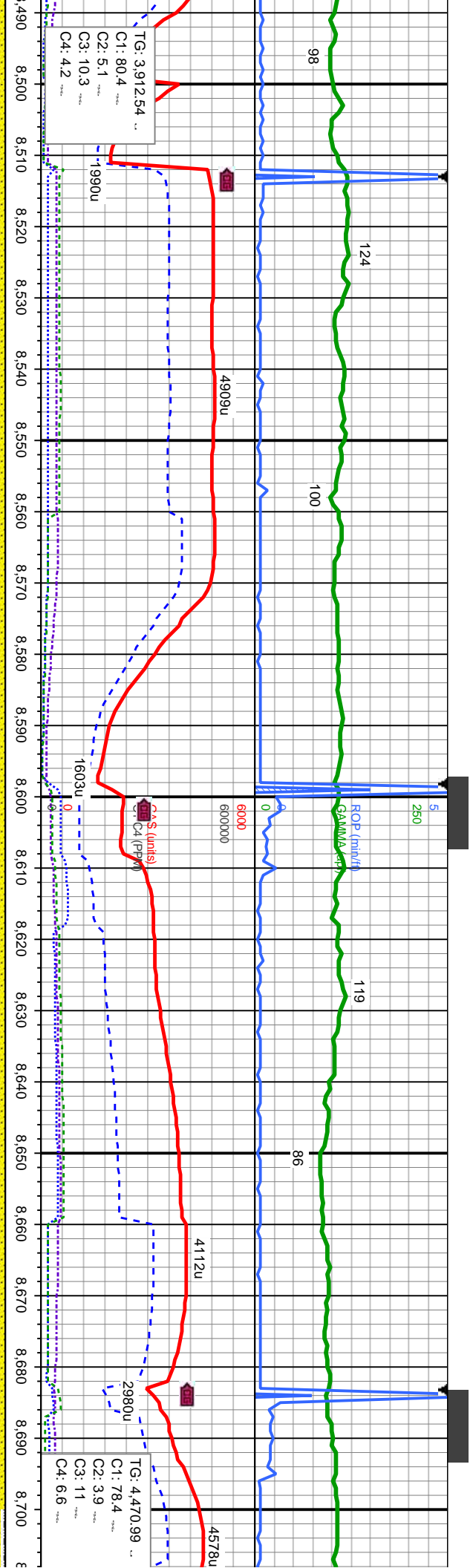
MD: 8,460
TVD: 7,789.01
Inclination: 91.32
Azimuth: 177.22
VS: 1,707.63

l brn, grnl, med-c gr, mod-v
mod strd, p-mod cons, sl -
cmt, tr sh; no show

SS: gry-dk-gry, sl brn, grnl, med-c gr, mod-v frm, sb-rnd-rnd, mod strd, p-mod cons,
sl - mod arg, sl calc cmt; SL TY SH: lt-med gy, sft-frm, sb blk-y-sb ply, v sl calc,
arg-sily, stmg wi occ strgs, lt bl flor wi g bri bl-wh difse cut, thn bri bl resd ring

SS: gry-dk-gry, sl brn, grnl, med-c gr, mod-v frm, sb-rnd-rnd, mod
strd, p-mod cons, sl - mod arg, sl calc cmt, occ sily sh; stmg wi occ
strgs, lt bl flor wi g bri bl-wh difse cut, thn bri bl resd ring

WT IN 9.4/ OUT 9.4
VIS IN 42/ OUT 42



MD: 8,545
TVD: 7,787.03
Inclination: 91.36
Azimuth: 176.52
VS: 1,792.59

MD: 8,630
TVD: 7,785.31
Inclination: 90.95
Azimuth: 177.55
VS: 1,877.56

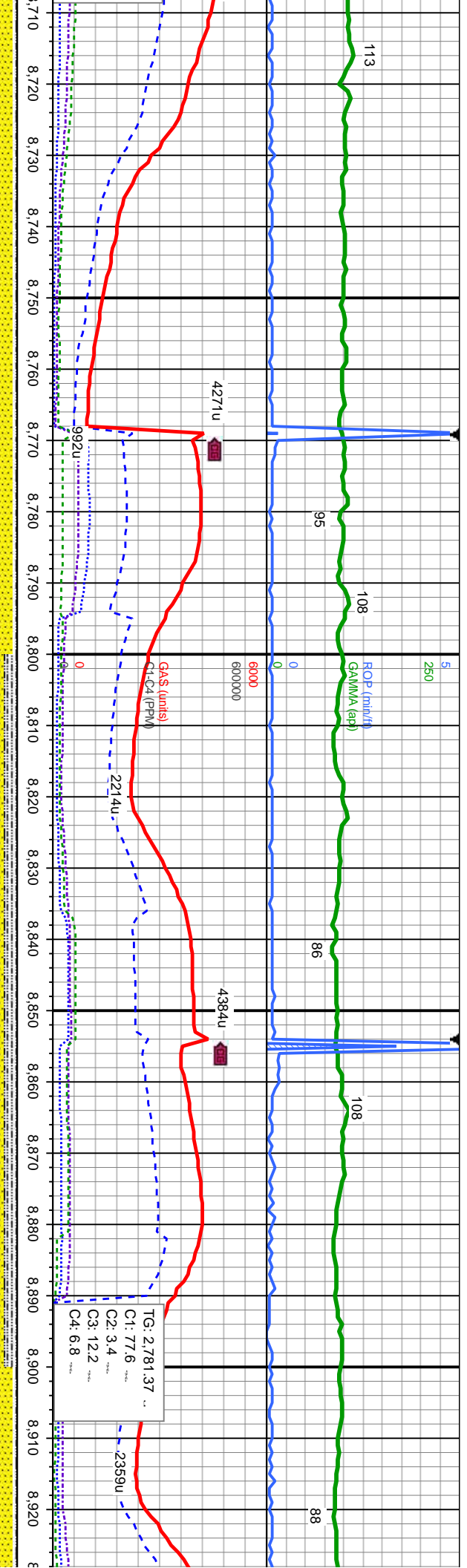
MUD DATA
WT: 9.3
FV: 40
PV: 11
YP: 9
CK: 1
Sol: 6
pH/Temp: 10.0/88
Chl: 2,400

WT IN 9.4/ OUT 9.4
VIS IN 42/ OUT 42

SS: gry-dk-gry, sl brn, grml, med-c-gr, mod-v frm, sb-rnd-rnd, mod
strd, p-mod cons, sl - mod arg, sl calc cnt, occ silty sh, string wi
occ strgs, lt bl flwr wi g bri bl-wh dfse cut, thn bri bl resdl ring

SS: gry-dk-gry, sl brn, grml, med-c-gr, mod-v frm, sb-rnd-rnd, mod
strd, p-mod cons, sl - mod arg, sl calc cnt, occ silty sh, string wi
occ strgs, lt bl flwr wi g bri bl-wh dfse cut, thn bri bl resdl ring





VD: 8.716
VD: 7.784.4
Inclination: 90.27
Azimuth: 176.79
S: 1.963.55

TVD (ft)

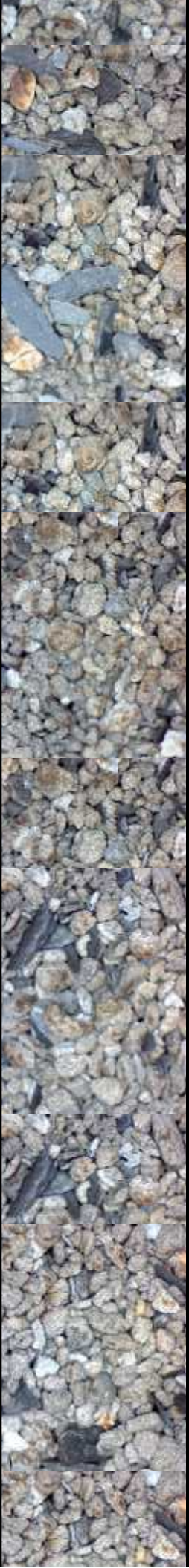
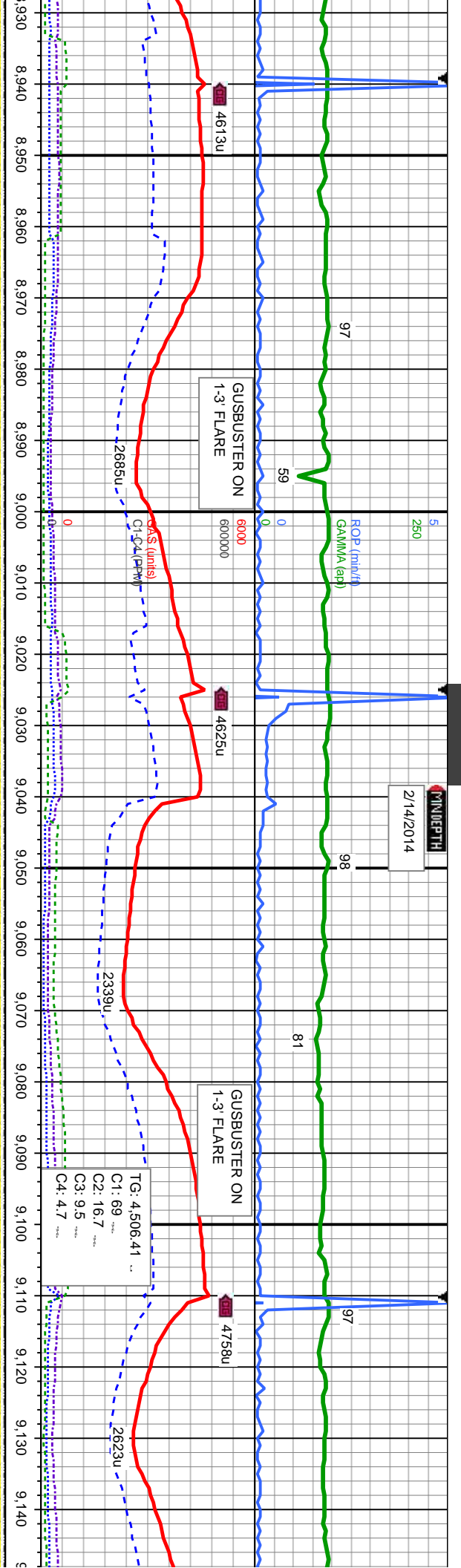
MD: 8.886
TVD: 7.783.09
Inclination: 90.61
Azimuth: 177.68
VS: 2.133.53

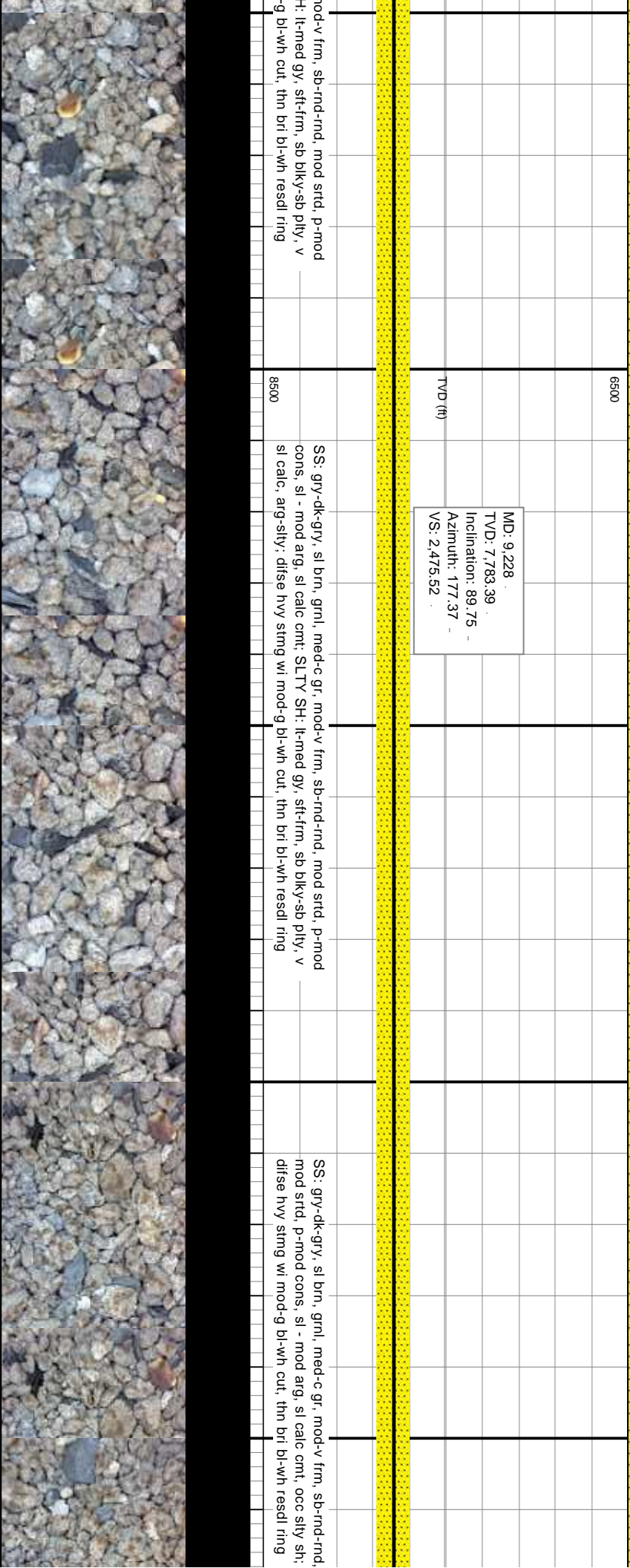
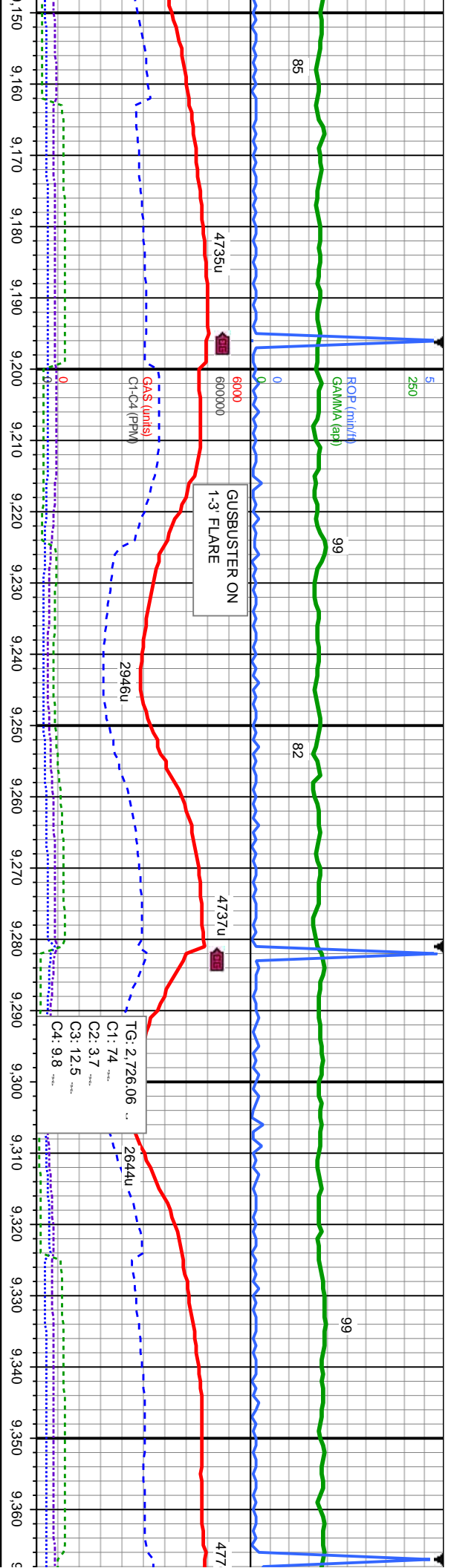
SS: gry-dk-gry, sl brn, grml, med-c-gr, mod-v frm, sb-rnd-rnd, mod strd, p-mod
cons, sl - mod arg, sl calc cmt; SLTY SH: lt-med gy, sft-frm, sb bky-sb ply, v
sl calc, arg-sily; difse hvy string wi mod-g bl-wh cut, thn bri bl-wh resd ring

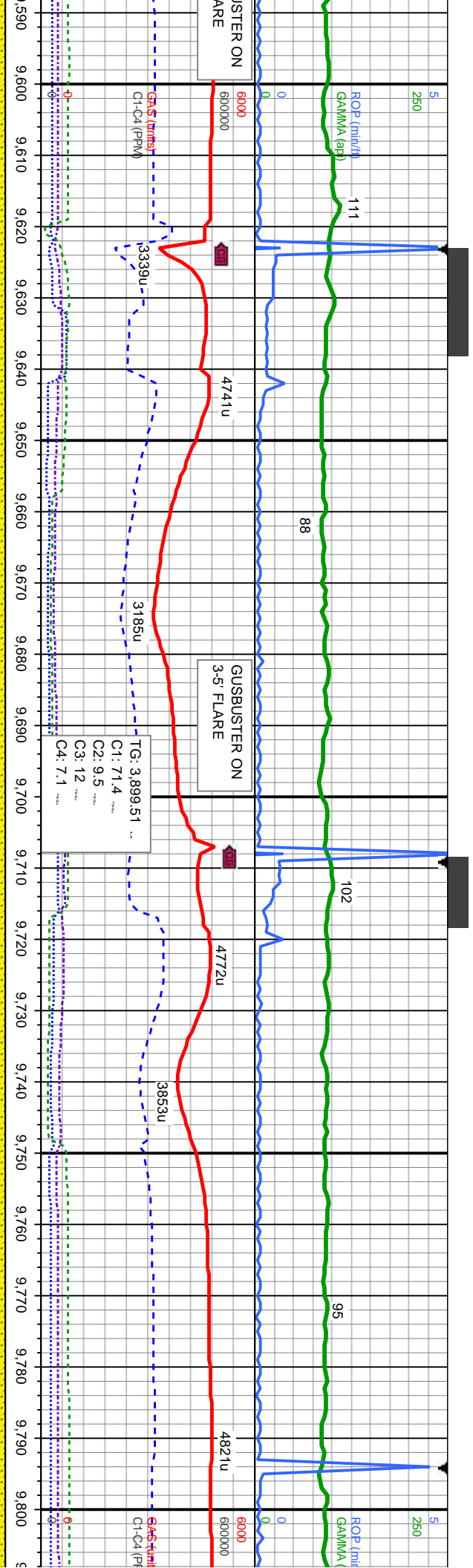
SS: gry-dk-gry, sl brn, grml, med-c-gr, mod-v frm, sb-rnd-rnd, mod strd, p-mod
cons, sl - mod arg, sl calc cmt; SLTY SH: lt-med gy, sft-frm, sb bky-sb ply, v
sl calc, arg-sily; difse hvy string wi mod-g bl-wh cut, thn bri bl-wh resd ring

SS: gry-dk-gry, sl brn, grml, med-c-gr, mod-v frm, sb-rnd-rnd, mod strd, p-mod
cons, sl - mod arg, sl calc cmt; SLTY SH: lt-med gy, sft-frm, sb bky-sb ply, v
sl calc, arg-sily; difse hvy string wi mod-g bl-wh cut, thn bri bl-wh resd ring







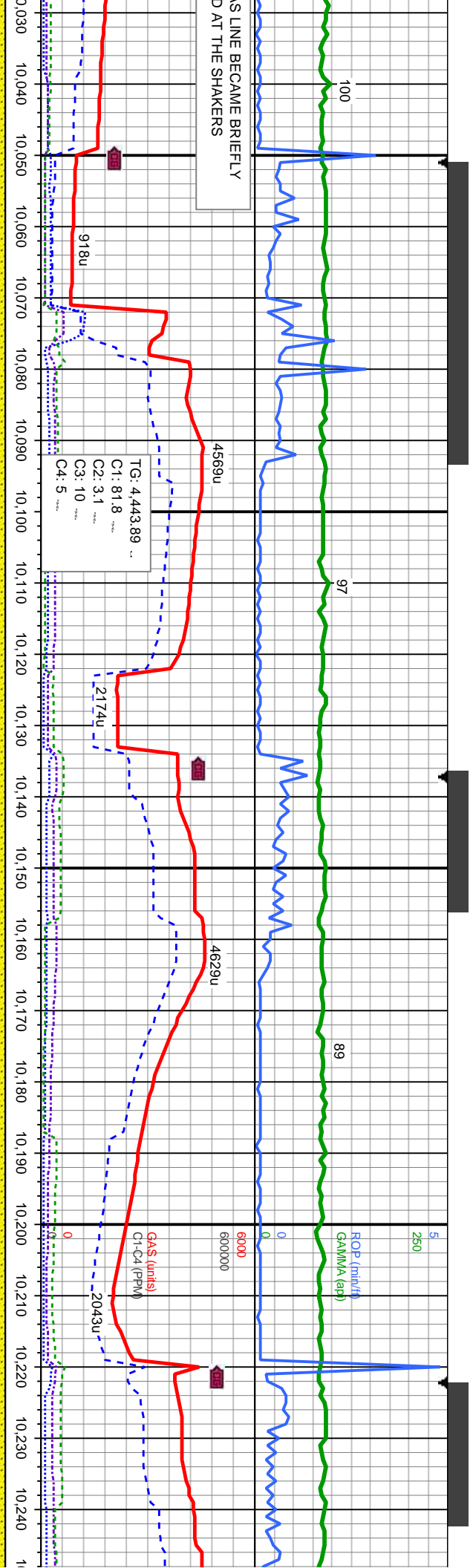


WT IN 9.4/ OUT 9.4
VIS IN 40/ OUT 40

MD: 9.741
TVD: 7.785.79
Inclination: 90.95
Azimuth: 176.99
VS: 2.988.4

SS: gry-dk-gry, sl brn, grnl, med-c-gr, mod-v frm, sb-rnd-rnd,
mod strd, p-mod cons, sl - mod arg, sl calc cnt, occ silty sh,
dise hvy stmg wi mod-g bl-wh cut, thn bri bl-wh resd ring

SS: gry-dk-gry, sl brn, grnl, med-c-gr, mod-v frm, sb-rnd-rnd,
mod strd, p-mod cons, sl - mod arg, sl calc cnt, occ silty sh,
dise hvy stmg wi mod-g bl-wh cut, thn bri bl-wh resd ring



MUD DATA
WT: 9.5
FV: 45
PV: 11
YP: 13
CK: 1
Sol: 7
pH/ Temp: 9.5/101
Chl: 2,600

WT IN 9.4/ OUT 9.4
VIS IN 44/ OUT 44

MD: 10.084
TVD: 7.786;16
Inclination: 90.3
Azimuth: 174.86
VS: 3.331.1

WT IN 9.4/ OUT 9.4
VIS IN 45/ OUT 45

MI
TV
Im
Az
VS

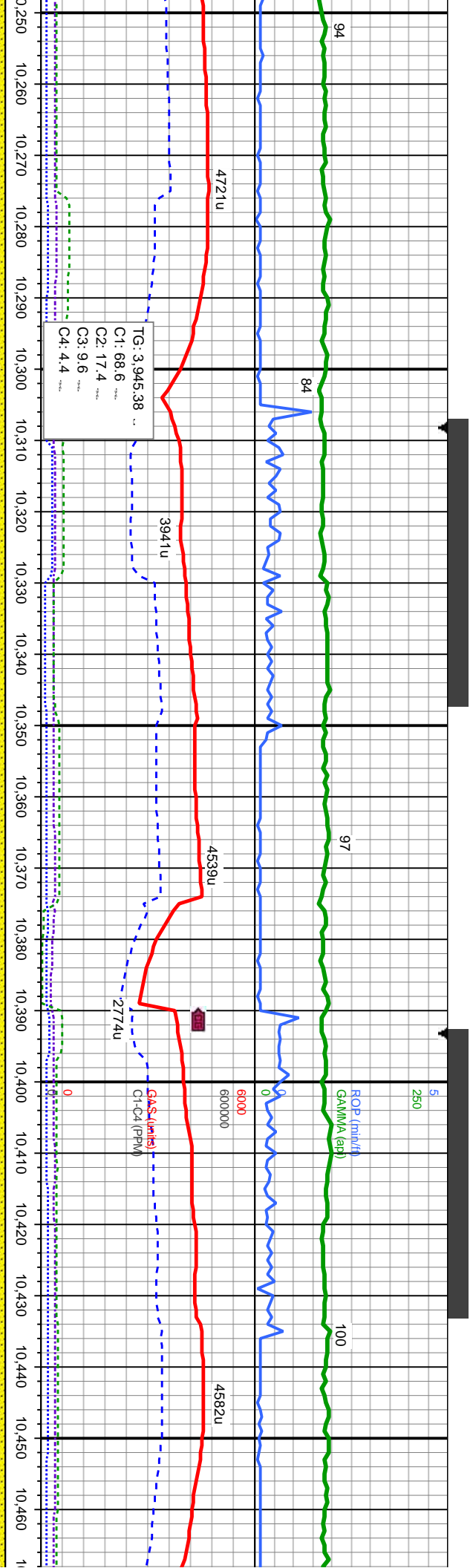
TVD (ft)

SS: lt-med brn,lt gry-med-gry, mot, vf-f gr, mod-v frm, sb-rnd-rnd, med-w srt, p-mod cons, sl calc cmt; string wi rr strgs, lt bl flr wi g bri bl-wh disse cut, thk bri bl resd sl gn ring

SS: lt-med brn,lt gry-med-gry, mot, vf-f gr, mod-v frm, sb-rnd-rnd, med-w srt, p-mod cons, sl calc cmt; string wi rr strgs, lt bl flr wi g bri bl-wh disse cut, thk bri bl resd sl gn ring

SS: lt-med brn,lt gry-med-gry, mot, vf-f gr, mod-v frm, sb-rnd-rnd, med-w srt, p-mod cons, sl calc cmt; string wi rr strgs, lt bl flr wi g bri bl-wh disse cut, thk bri bl resd sl gn ring

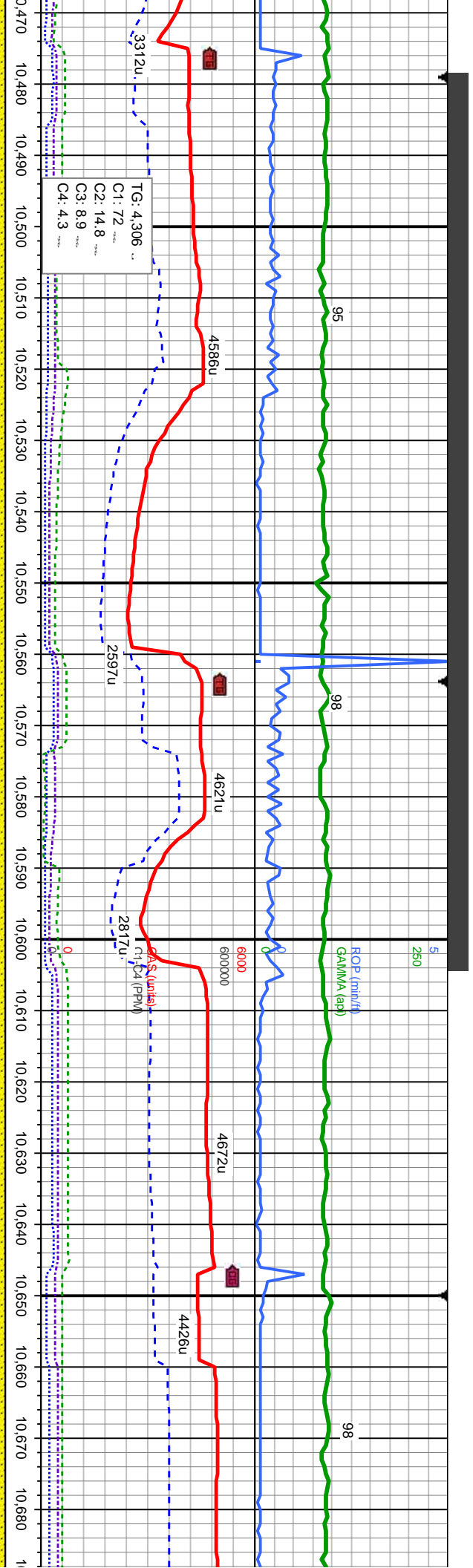




D: 10.255	WT IN 9.4/OUT 9.4	6500	MD: 10.426
D: 7.786.04	VIS IN 45/OUT 45		TVD: 7.785.88
Inclination: 89.78			Inclination: 90.33
Azimuth: 175.67			Azimuth: 175.8
VS: 3.501.93			VS: 3.672.81

mod-v frm, sb-rnd-rnd, med-w srt, p-mod cons, g bri bl-wh disse cut, thk bri bl reed sl gn ring	SS: lt-med brn,lt gry-med-gry, mot, vf-f gr, mod-v frm, sb-rnd-rnd, med-w srt, p-mod cons, sl calc cmt; sting wi rr strgs, lt bl flr wi g bri bl-wh disse cut, thk bri bl reed sl gn ring	8500	SS: lt-med brn,lt gry-med-gry, mot, vf-f gr, mod-v frm, sb-rnd-rnd, med-w srt, p-mod cons, sl calc cmt; sting wi rr strgs, lt bl flr wi g bri bl-wh disse cut,
---	---	------	--



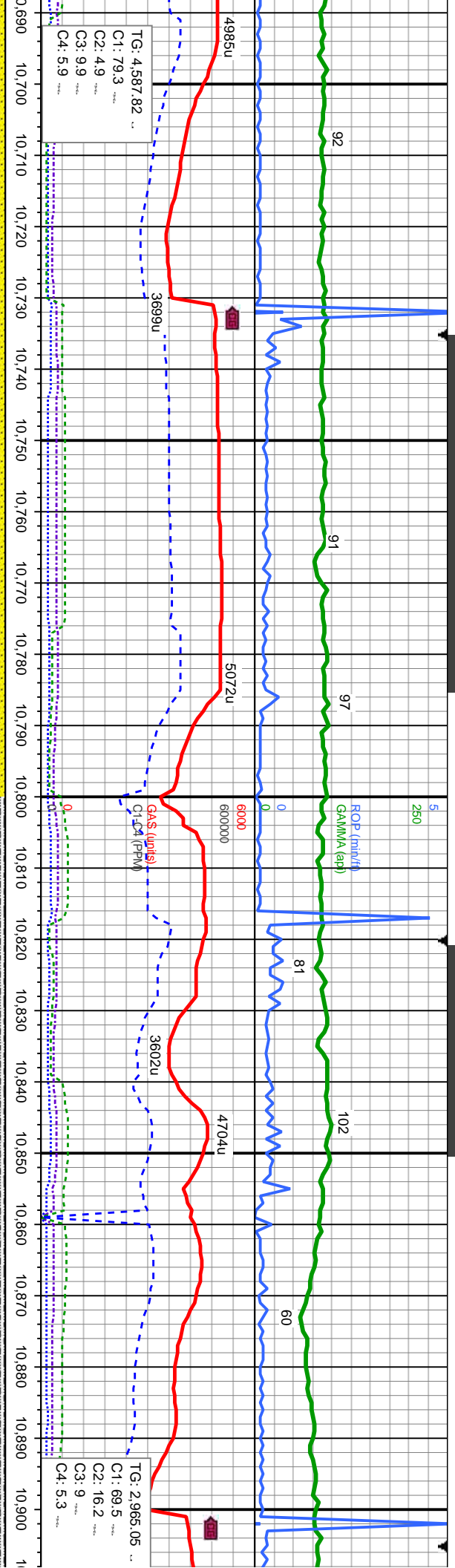


WT IN 9.4/ OUT 9.4
VIS IN 45/ OUT 45

MD: 10.597
TVD: 7,783.88
Inclination: 91.01
Azimuth: 176.36
VS: 3.843.71

SS: lt-med brn,lt gry-med-gry, mot, v-f gr, mod-v frm, sb-rnd-rnd, med-w srt, fr-mod cons, sl calc cmt; string wi rr strgs, lt bl flr wi g bri bl-wh difse cut, thk bri bl resd sl gn ring



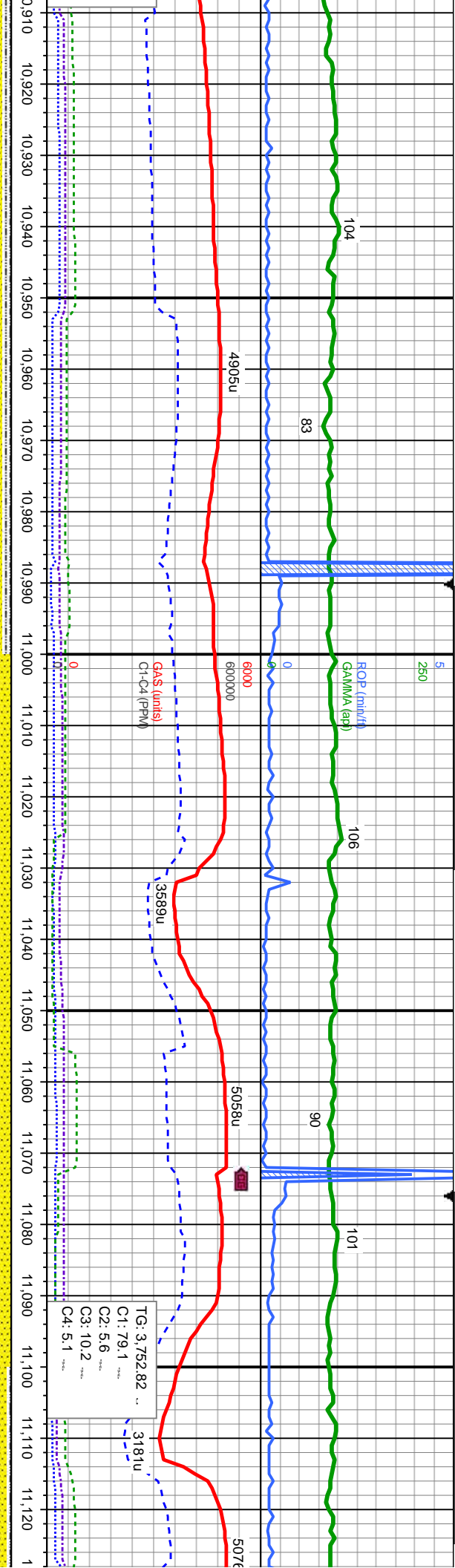


WT IN 9.4/ OUT 9.4
VIS IN 44/ OUT 44

MD: 10.767
TVD: 7.781.7
Inclination: 90.46
Azimuth: 175.92
VS: 4.013.62

ring	SS: lt-med brn,lt gry-med-gry, mot, v-f gr, mod-v frm, sb-rnd-rnd, med-w srd, fr-mod cons, sl calc cnt; sting w r strgs, lt bl flr w g bri bl-wh disse cut, thk bri bl resd sl gn ring	ring	SS: crm-offwh-lt brn, sb ply, ang, mod frm-frm, cyxln-mcxln, v calc; SS: lt-med brn,lt gry-med gry, mot, v-f gr, mod-v frm, sb-rnd-rnd, med-w srd, fr-mod cons, sl calc cnt; SLTY SH: lt-med gry, st-frm, sb blk-y-sb ply, v sl calc, arg-sly; mod sting bl-wh mky cut; thn bri bl-wh resd ring	ring





MD: 10,937
TVD: 7,782.9
Inclination: 88.73
Azimuth: 175.54
VS: 4,183.49

TVD (ft)

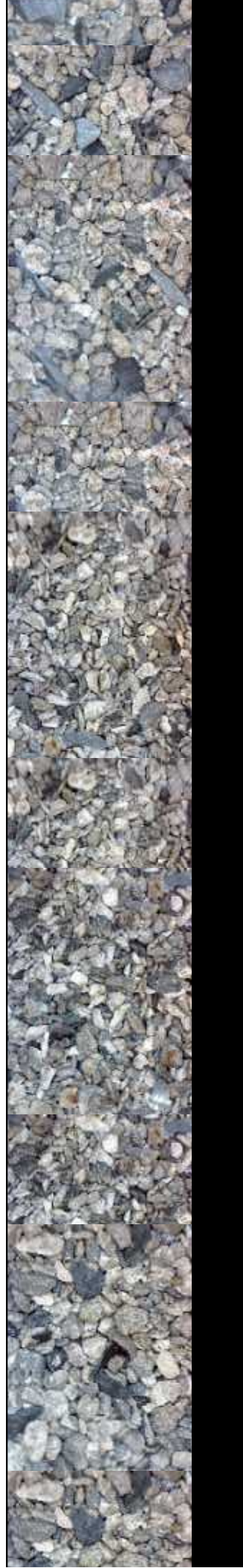
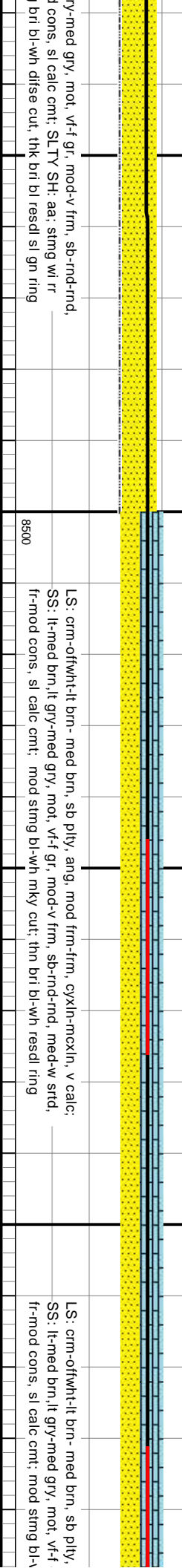
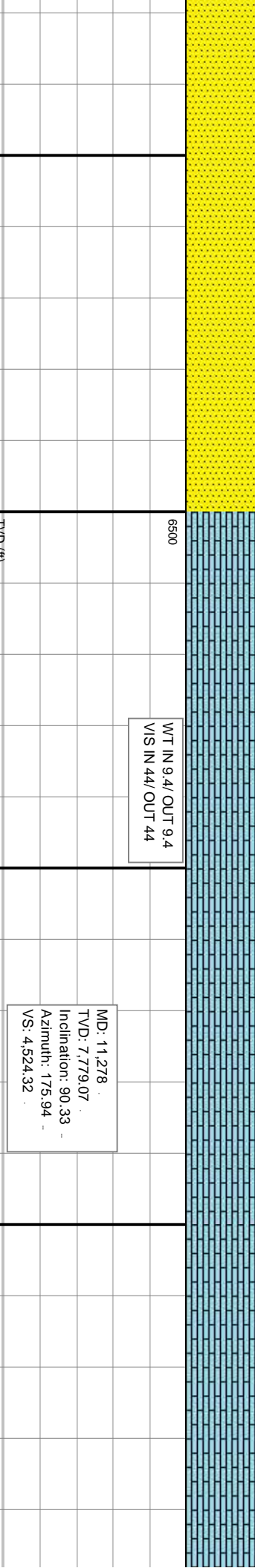
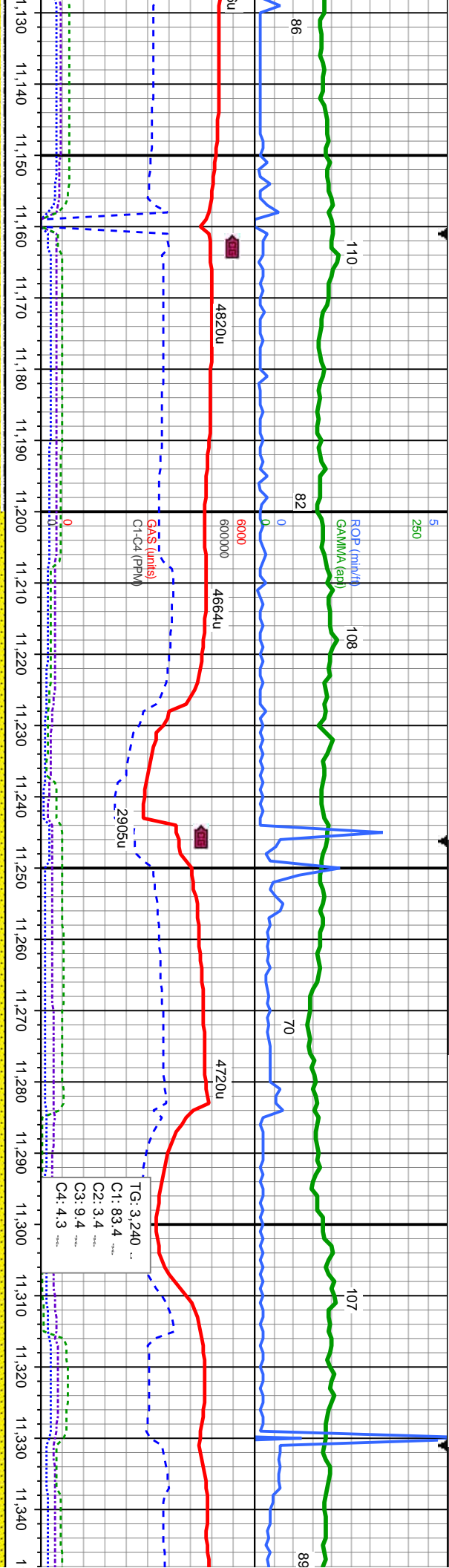
MD: 11,108
TVD: 7,782.17
Inclination: 91.76
Azimuth: 177.1
VS: 4,354.4

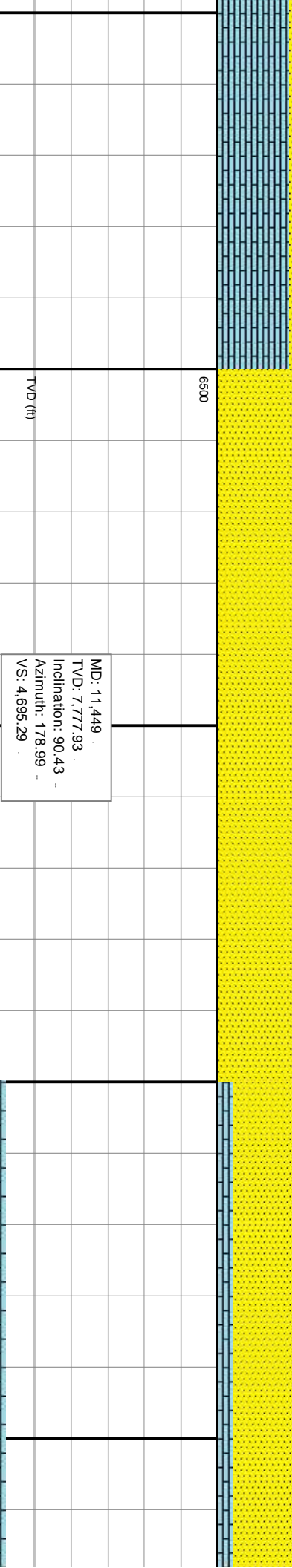
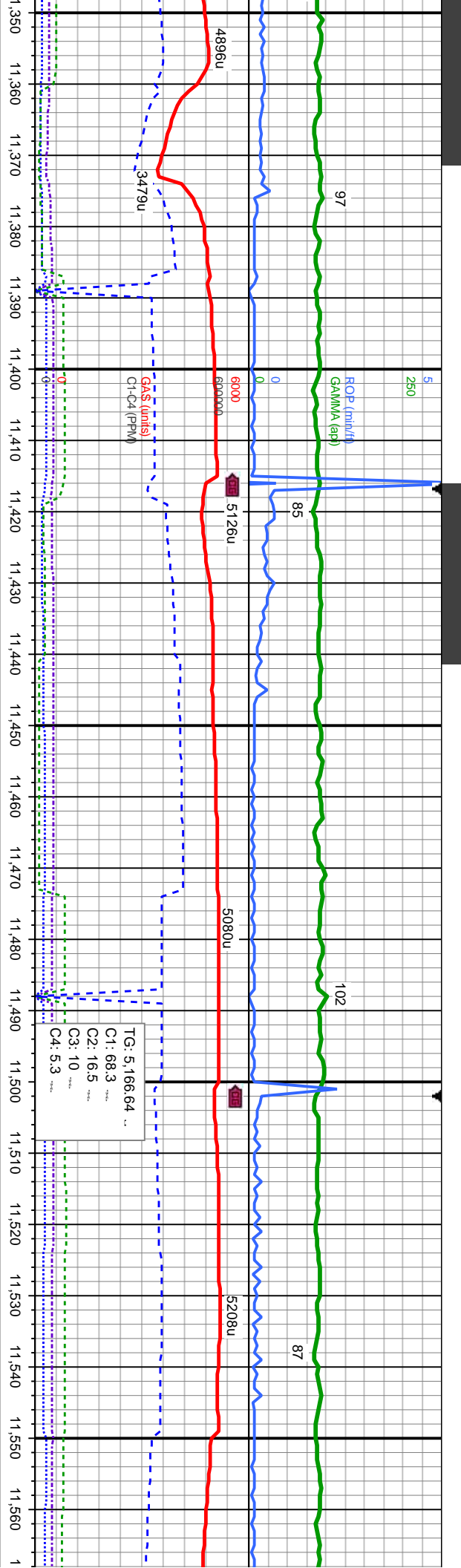
3: lt-med brn,lt gry-med gry, mot, vf-f gr, mod-v frm, sb-rnd-rnd, med-w strd, fr-mod cons, sl calc cnt; LS: crm-offwh-lt brn, sb ply, ang, mod frm-frm, cyxln-mcxln, v calc; SL TY SH: lt-med strf-frm, sb blkly-sb ply, v sl calc, ang-sily; mod sting bl-wh mky cut; thn bri bl-wh resd ring

SS: lt-med brn,lt gry-med gry, mot, vf-f gr, mod-v frm, sb-rnd-rnd, med-w strd, fr-mod cons, sl calc cnt; LS: crm-offwh-lt brn, sb ply, ang, mod frm-frm, cyxln-mcxln, v calc; sting wi rr strgs, lt bl flr wi g bri bl-wh difse cut, thk bri bl resd sl gn ring

SS: lt-med brn,lt gry-med gry, mot, vf-f gr, mod-v frm, sb-rnd-rnd, med-w strd, fr-mod cons, sl calc cnt; LS: crm-offwh-lt brn, sb ply, ang, mod frm-frm, cyxln-mcxln, v calc; sting wi rr strgs, lt bl flr wi g bri bl-wh difse cut, thk bri bl resd sl gn ring

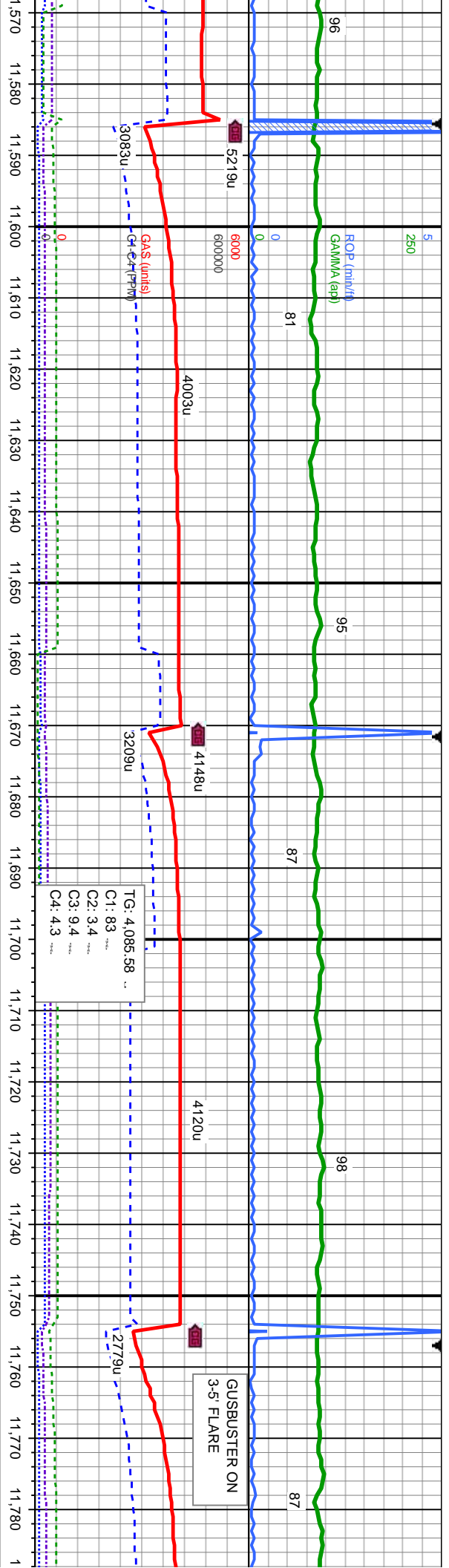






ang, mod frm-frm, cyxln-mcxln, v calc;	SS: lt-med brn, lt gry-med gry, mot, vf-f gr, mod v frm, sb-rnd-rnd, med-w strd, fr-mod
gr, mod v frm, sb-rnd-rnd, med-w strd,	cons, sl calc cnt; SL TY SH: lt-med gy, str-frm, sb blk-y-sb ply, v sl calc, arg-sily;
thn mky cut; thn bri bl-wh resd ring	sting wi rr strgs, lt bl flr wi g bri bl-wh difse cut, thk bri bl resd sl gn ring
8500	





MUD DATA
WT: 9.5
FV: 43
PV: 10
YP: 11
CK: 1
Sol: 7
pH/ Temp: 9.8/104
Chl: 2,500

MD: 11,620
TVD: 7,776.89
Inclination: 90.27
Azimuth: 178.8
VS: 4,866.26

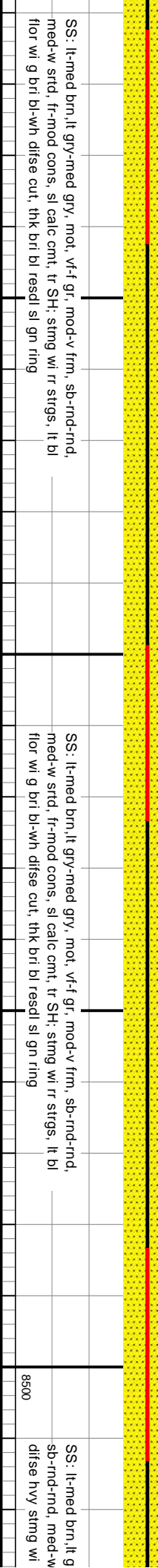
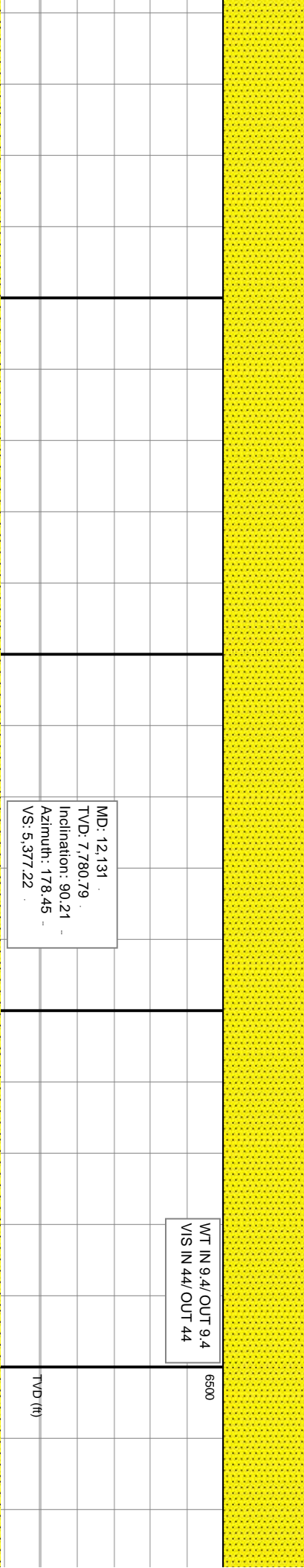
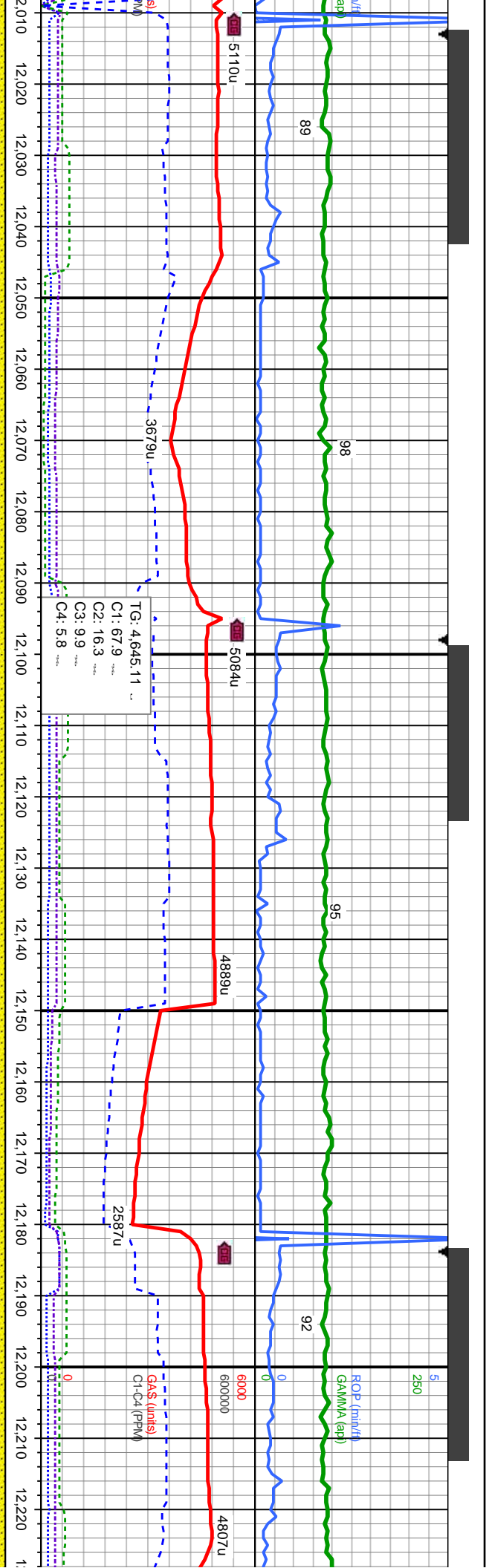
WT IN 9.4/ OUT 9.4
VIS IN 43/ OUT 43

TG: 4,085.58
C1: 83
C2: 3.4
C3: 9.4
C4: 4.3

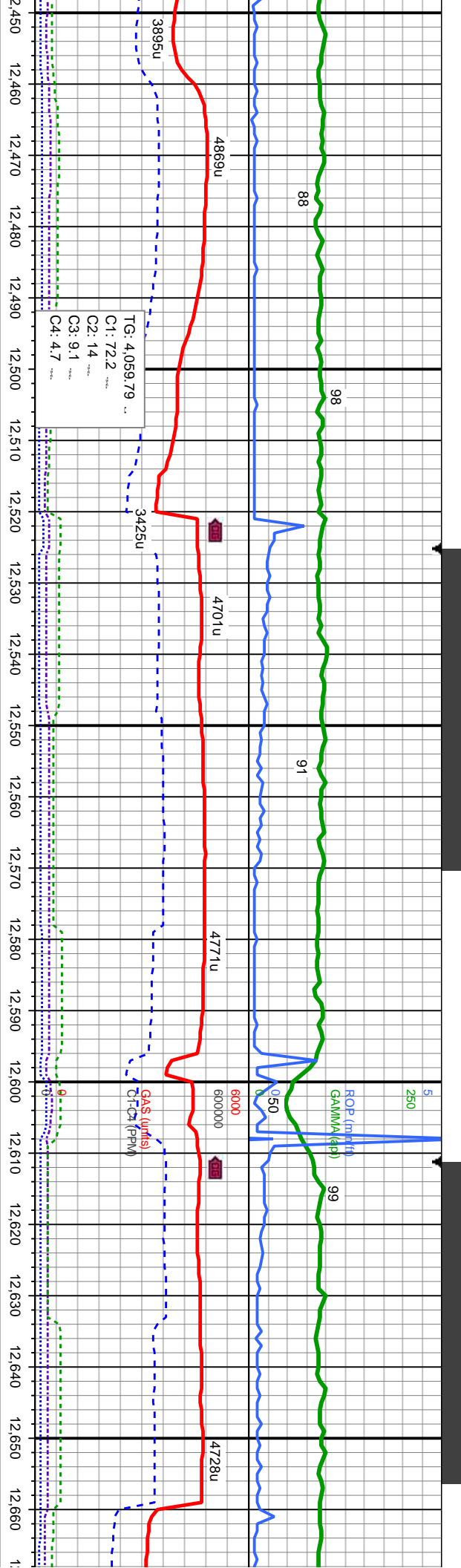
MD: 11,780
TVD: 7,777
Inclination: 90.27
Azimuth: 178.8
VS: 5,035

SS: lt-med brn, lt gry-med gry, mot, vf-f gr, mod-v frm, sb-rnd-rnd, med-w strd, fr-mod cons, fr-mod cons, sl calc cnt, strng wi rr strgs, lt bl flwr wi g bri bl-wh dfse cut, thk bri bl resdl sl gn ring









MD: 12,473
TVD: 7,782.9
Inclination: 89.26
Azimuth: 175.44
VS: 5,719.11

WT IN 9.4/ OUT 9.4
VIS IN 45/ OUT 45

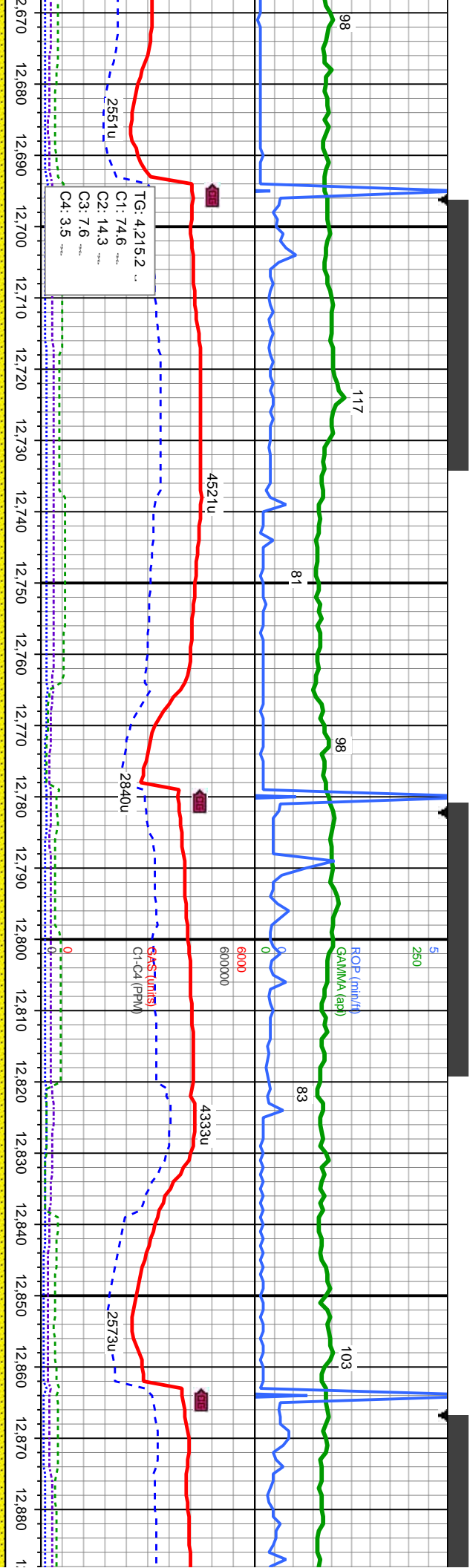
MD: 12,643
TVD: 7,782.26
Inclination: 91.17
Azimuth: 175.67
VS: 5,888.96

gr, mod-v frm, sb-rnd-rnd, med-w strd, fr-mod
wi mod-g bl-wh cut, thn bri bl-wh resd ring

SS: lt-med brn, lt gry-med gry, mot, vf-f gr, mod-v frm, sb-rnd-rnd, med-w strd,
fr-mod cons, sl calc cnt, tr sh; LS: crm-offwh-lt brn- med brn, sb ply, ang, mod
frm-frm, cylvn-mexln, v calc; mod sting bl-wh mky cut; thn bri bl-wh resd ring

SS: lt-med brn, lt gry-med gry, mot, vf-f gr, mod-v frm, sb-rnd-rnd, med-w strd,
med-w strd, fr-mod cons, sl calc cnt, tr sh frag; LS: aa: MRL
aa; difse hvy sting wi mod-g bl-wh cut, thn bri bl-wh resd ring





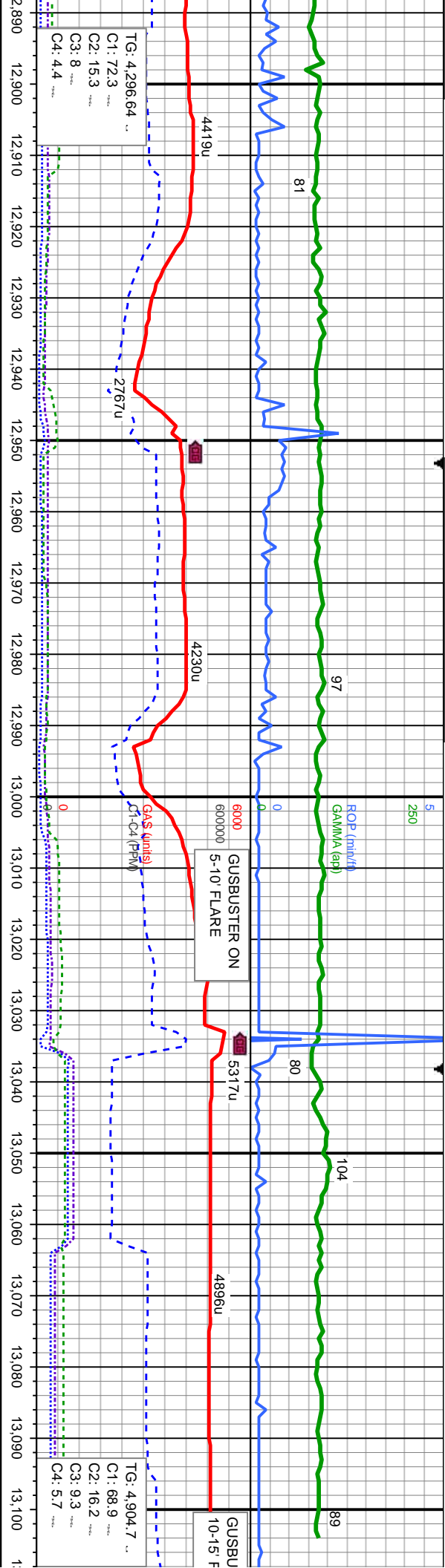
WT IN 9.4/ OUT 9.4
VIS IN 45/ OUT 45

MD: 12,814
TVD: 7,779.38
Inclination: 90.76
Azimuth: 177.31
TVD (ft)
VS: 6,059.88

SS: lt-med brn, lt gry-med gry, mot. vf-f gr, mod-v frm, sb-rnd-rnd, med-w strtd, fr-mod cons, sl calc cnt, tr sh frag; LS: aa: MRLST: aa: stmg wi rr strgs, lt bl flr wi g brl bl-wh difse cut, thk brl bl resdl sl gn ring

SS: lt-med brn, lt gry-med gry, mot. vf-f gr, mod-v frm, sb-rnd-rnd, med-w strtd, fr-mod c calc cnt, tr sh frag; LS: crm-offwh-lt brn- med brn, sb ply, ang, mod frm frm, cyxln-m calc; MRLST: aa: stmg wi rr strgs, lt bl flr wi g brl bl-wh difse cut, thk brl bl resdl sl gn





MD: 12,985
TVD: 7,778.62
Inclination: 89.75
Azimuth: 180.67
VS: 6,230.82

TV D (ft)

WT IN 94/O1IT 94

MD: 13,098
TVD: 7,779.15
Inclination: 89.72
Azimuth: 182.9
VS: 6,343.55

SS: It-*med* brn, *i* g₁ y-*med* g₁ y, *mo*, v*f*-*i* g₁, *mo*-v *fr*-*m*, sb-*nd*-*nd*, *med*-w *str*d, *fr*-*mod* *cons*, si
calc *cm*t, *it* sh *fr*g: LS: *cm*-*off*-*wh*-*it* br- *med* brn, sb *ply*, *ang*, *mod* *fr*-*fr*-*m*, *cy*x*h*-*m*cx*h*, v
calc, MR₁ST: *aa*, *st*mg, *it* bl *fl*or w*i* g *br* b*w*-*wh* *d*ise *cut*, *br* bl *res*d*l* si *gn* *ring*

SS: l-*med* br, l-*gry*-*med* gry, *mot*, *v*-*f*-*g*, *mod*-*v* *fr*m, *sb*-*nd*-*nd*, *med*-*w* *strd*, *fr*-*mod* *cons*, *sl* *calc* *cnt*, *tr* *sn* *frag*; LS: *c*rm-*ofn*-*lt* *br*-*med* *br*m, *sb* *ply*, *ang*, *mod* *fr*m-*fr*m, *cyl*xh-*m*cxh, *v* *calc*; MRLST: *aa*: *s*img *br*-*wh* *mky* *cut*; *tn* *br* *br*-*wh* *resl* *ring*

SS: It-r
frm, sb-
cmt, tr s
bl-wh r

