



Scale: 5" / 100'
Measured Depth Log

Well Name HOWARD 29C-21HZ

Location SESW: SEC 21 T 1N R 67W

State COLORADO

Country U.S.A.

API Number 05-123-36794-0000

Region DJ BASIN

Spud Date 6/10/2013

Surface Coordinates 311' FSL x 1519' FWL

Bottom Hole Coordinates 460' FNL, 1430' FWL

County WELD

Rig Number XTREME 6

AFE # 2077317.DRL

Field WATTENBERG

Drilling Completed 11/7/2013

Ground Elevation 5025'

K.B. Elevation 5041'

Logged Interval 7150' To 12195'

Total Depth 12195'

Formation CODELL

Type of Drilling Fluid LSND

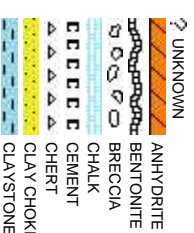
Company Anadarko

Address 1099 18th St #1
Denver, CO 80202

Name ISAAC SMITH & ASSOCIATES

Company COLUMBINE LOGGING

Address 2385 S. Lipan St
Denver, CO 80226



Operator

800
202

Geologist

& SHANNON WHITMORE
OGGING INC.
street
223

Rock Types

CONGLOMERATE	MARLSTONE	SHALY SANDSTONE
DOLomite	METAMORPHIC	SHALY SILTSTONE
DOLomitic LIMESTONE	NO SAMPLE	SILTY SHALE
GRANITE	SALT	SILTSTONE
GYPSUM	SANDSTONE	TILL
IGNEOUS	SALT-PEPPER SANt	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	BITUMENOUS SUBSTANCE	BENTONITE STRINGER
AMPHIPORA	O OSTRACOD	BRECCIA FRAGMENTS	COAL STRINGER
BELEMNITE	P PELECYPOD	C CALCAREOUS	DOLOMITE STRINGER
BIOCLASTIC	P PELLET	CARBONACEOUS FLAKES	GYPSUM STRINGER
BRACHIOPOD	P PISOLITE	C CHTD	LIMESTONE STRINGER
BRYOZOA	P PLANT REMAINS	C CHTL	MARLSTONE (CALC) STRG
CEPHALOPOD	P PLANT SPORES	C COAL - THIN BEDS	MARLSTONE (DOL) STRG
CORAL	S SCAPHOPOD	D DOLOMITIC	SANDSTONE STRINGER
CRINOID	S STROMATOPOROID	F FELDSPAR	SHALE STRINGER
ECHINOID	F FERRUGINOUS PELLET	F FERRUGINOUS	S SILTY
FISH	Minerals	T TUFFACEOUS	
FORAMINIFERA	A ANHYDRITIC	G GLAUCONITE	
F FOSSIL	A ARGILLACEOUS	G GYPSIFEROUS	Stringer

Other Symbols

Oil Show	P PINPOINT	DST INTERVAL	WIRELINE TESTED - LEFT	E EARTHY
	V VUGGY	FAULT	WIRELINE TESTED - RT	Fx FINELY XLN
Engineering	D DEAD	FORMATION TOP	DRILL STEM TEST	GS GRAINSTONE
	E EVEN	GAS SHOW	MN DEPTH	L LITHOGRAPHIC
	Q QUESTIONABLE	OIL SHOW	MN DEPTH	Mx MICROXLN
	BIT			
SPOTTED STAINING	CONNECTION (UP)	Rounding		MS MUDSTONE
		MN DEPTH UP		
Porosity	CONNECTION (DOWN)	A ANGULAR		PS PACKSTONE
		NORMAL FAULT		
E EARTHY	CONNECTION GAS (LEFT)	R ROUNDED		WS WACKESTONE
F FENESTRAL	TRIP GAS	B SUBANG		
		P SUBUND		
F FRACTURE	TRIP GAS (LEFT)	Sorting		
		CASING		
INTERCRYSTALLINE	DOWN TIME GAS	SIDEWALL CORE (LEFT)		P POOR
INTERCRYSTALLINE	DOWN TIME GAS (LEFT)	SLIDE		
MOLDIC	CORE - LOST	SIDEWALL CORE (RIGHT)		W WELL
ORGANIC	CORE - RECOVERED	SURVEY		
		CRYPTOXLN		
		Textures		
		BS BOUNDSTONE		
		C CHALKY		

Slide/Rotate

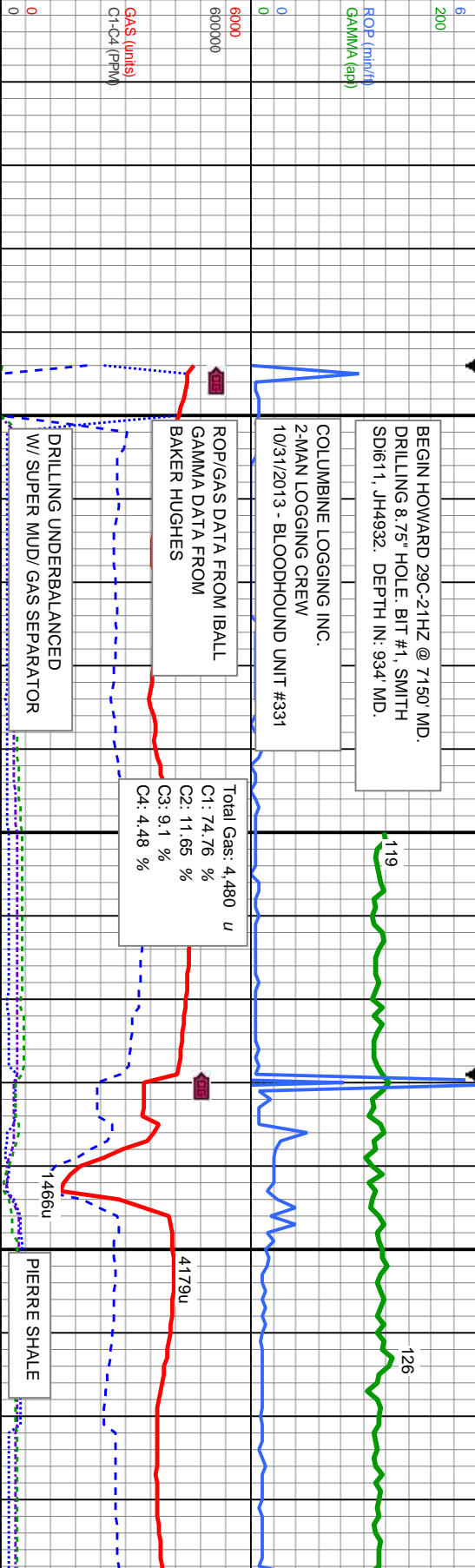
ROP
ROF
GAMMA

BEGIN HOWARD 29C-21HZ @ 7150 MD.
DRILLING 8.75" HOLE. BIT #1, SMITH
SD611, JH4932. DEPTH IN: 934' MD.

COLUMBINE LOGGING INC.
2-MAN LOGGING CREW
10/31/2013 - BLOODHOUND UNIT #331

Total Gas & Chromatograph

GAS
C1
C2
C3
C4



Depth Labels

% Lith

6500

WT IN 9.8/ OUT 9.8
VIS IN 43/ OUT 43

Well Bore
TVD

MD: 7,080 '
TVD: 7,054.2 '
Inclination: 1.35 °
Azimuth: 340.15 °
VS: -250.15 '

MD: 7,165 '
TVD: 7,139.12 '
Inclination: 3.56 °
Azimuth: 335.78 °
VS: -246.79 '

Oil Show

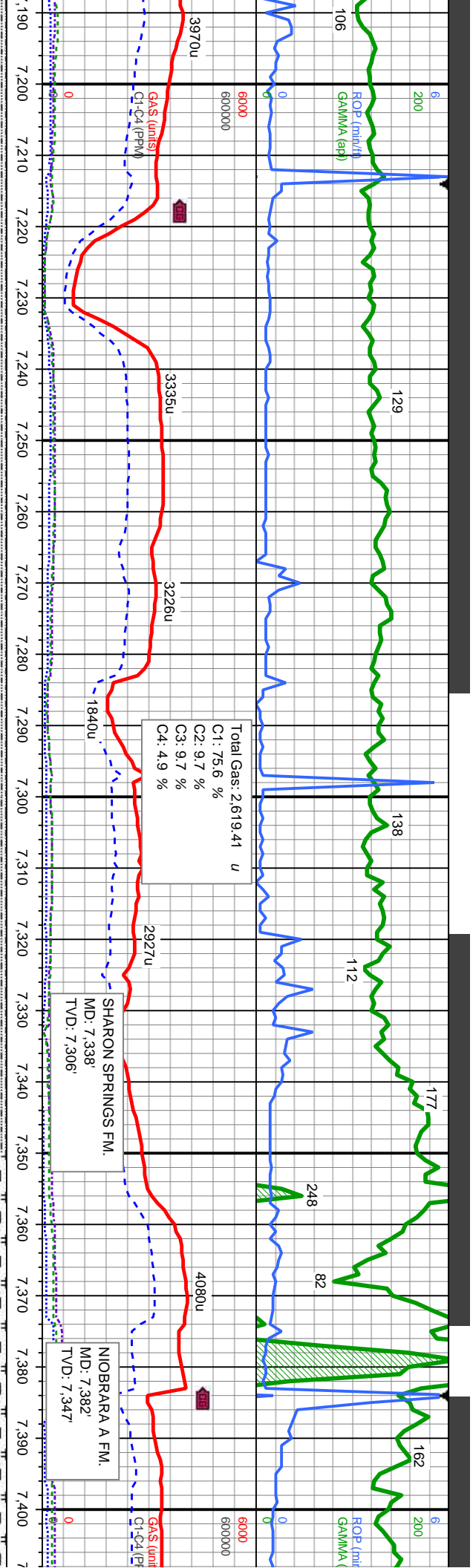
E
G
M
F
T
ST

SLTY SH: med gy-dk gy, pily-sb blk, frm-sft, sb
rnd-sb ang, mod fri, sl calc, sl tr bent, no o

SLTY SH: med gy-dk gy, pily-sb blk, fr
rnd-sb ang, mod fri, sl calc, sl tr bent, n

Images





MD: 7,208 '
TVD: 7,181.8 '
Inclination: 9.9 °
Azimuth: 336.98 °
VS: -242.16 '

MD: 7,250 '
TVD: 7,222.7 '
Inclination: 16.14 °
Azimuth: 337.56 °
VS: -233.42 '

MD: 7,293 '
TVD: 7,263.58 '
Inclination: 19.93 °
Azimuth: 340.89 °
VS: -220.95 '

CHK: It-med gy,lt-med brn, mot, sb blk-y-sb pily, sft-sl frm, fri, chky-sb wxy v calc, tr bent, MRLST: med-dk gy-gy brn, sb pily-blky, mod sft-frm, sb ang-sily, calc, SL TY SH: med gy-dk gy, pily-sb blk-y, frm-sft, sb rnd-sb ang, mod fri, sl calc, no o, inst difse: sting bri bl-wh mky cut; mod thk bl-green res ring

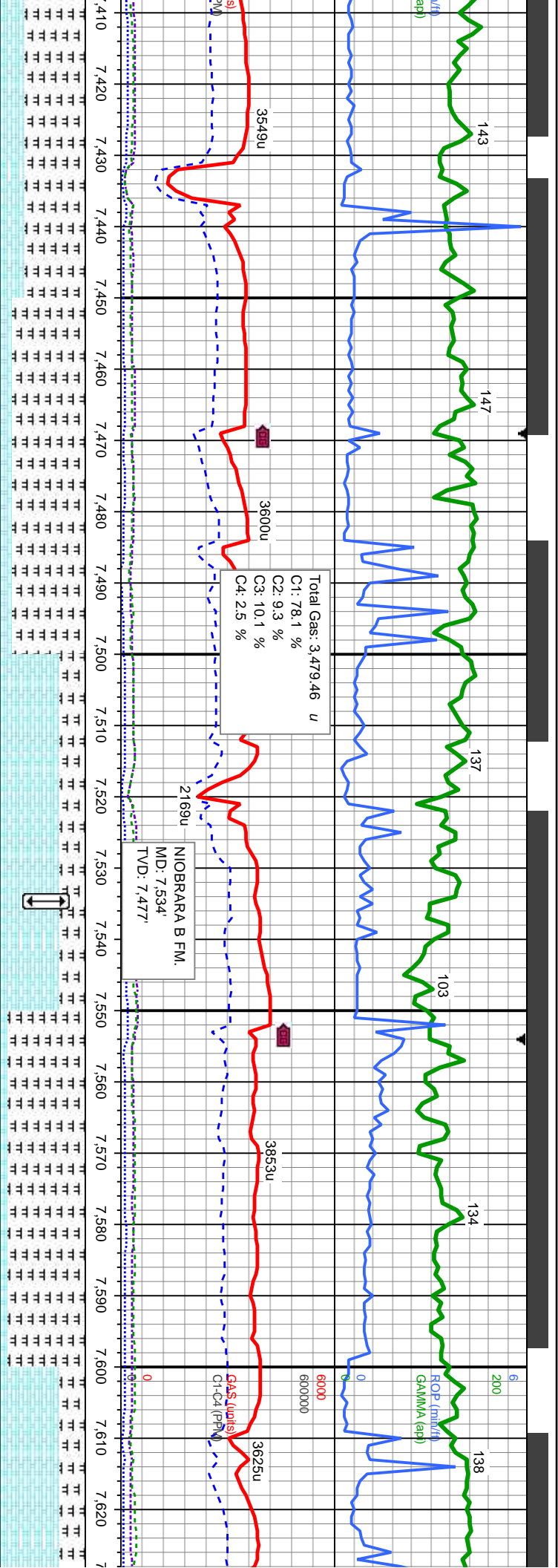
CHK: It-med gy, mot, sb blk-y-sb pily, sft-sl frm, fri, chky-sb wxy v calc, tr bent, MRLST: med-dk gy-gy brn, sb pily-blky, mod sft-frm, sb ang-sily, calc, PY: inst difse: sting bri bl-wh mky cut; mod thk bl-green res ring

MRLST sft-frm, blk-y-sb calc, sl cut; mnc

SL TY SH: med gy-dk gy, pily-sb blk-y, frm-sft, sb rnd-sb ang, mod fri, sl calc, occ bent, no o

SL TY SH: med gy-dk gy, pily-sb blk-y, frm-sft, sb rnd-sb ang, mod fri, sl calc, occ bent, no o

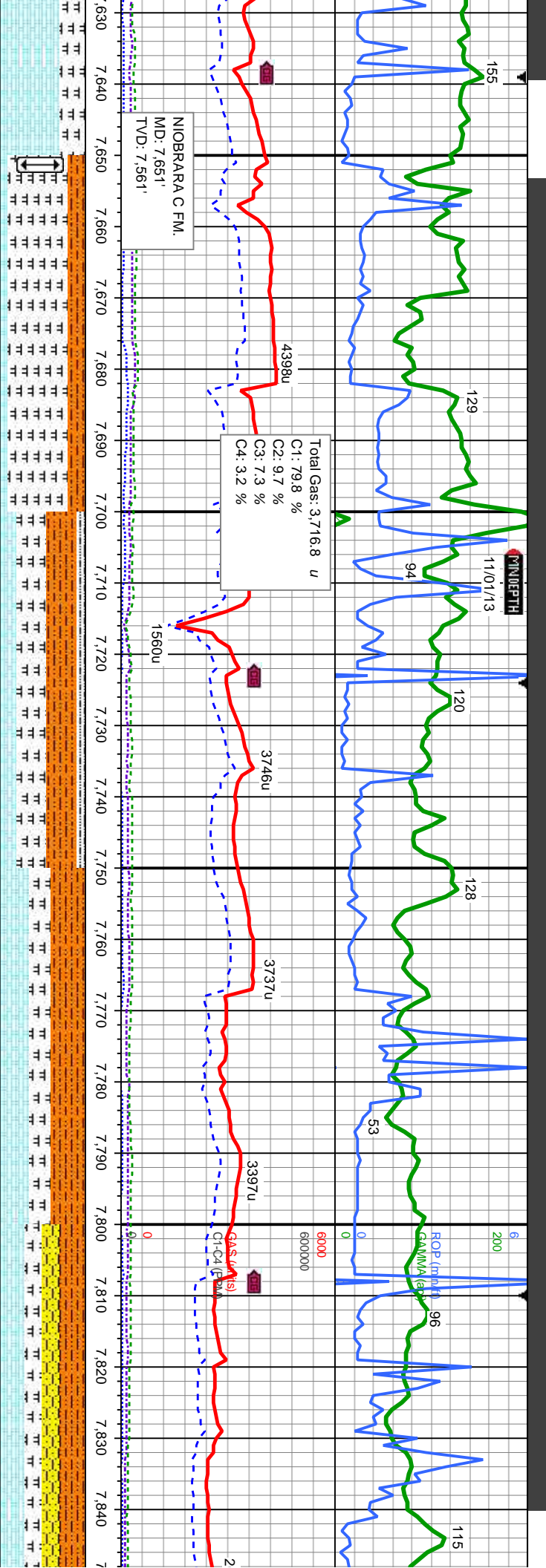




MD: 7,421 '	MD: 7,463 '	MD: 7,506 '	MD: 7,548 '	MD: 7,591 '
TVD: 7,381.56 '	TVD: 7,417.76 '	TVD: 7,453.72 '	TVD: 7,487.63 '	TVD: 7,519.84 '
Inclination: 28.4 °	Inclination: 32.56 °	Inclination: 33.94 °	Inclination: 38.32 °	Inclination: 44.62 °
Azimuth: 358.25 °	Azimuth: 4.17 °	Azimuth: 4.97 °	Azimuth: 4.21 °	Azimuth: 3.77 °
VS: -172.84 '	VS: -151.57 '	VS: -128.08 '	VS: -103.4 '	VS: -75.02 '

med-dk gy-gy brn, sb pily-biky, mod	MRST: med-dk gy-gy brn, sb pily-biky, mod	CHK: lt-med gy brn, mot, sb biky-sb pily, sft-sl	MRST: med-dk gy-gy brn, sb pily-biky, mod	CHK: lt-med gy brn, mot, sb biky-sb pily, sft-sl
sb arg-sily, calc: CHK: lt-med gy, mot, sb	sft-firm, sb arg-sily, calc: CHK: lt-med gy, mot, sb	frm, fti, chky-sb wxy, v calc, sl tr bent, MRLST:	sft-firm, sb arg-sily, calc: CHK: lt-med gy, mot, sb	frm, fti, chky-sb wxy, v calc, sl tr bent, MRLST:
pily, sft-sl frm, fti, chky-sb wxy, v	biky-sb pily, sft-sl frm, fti, chky-sb wxy, v calc, tr	med-dk gy-gy brn, sb pily-biky, mod sft-firm, sb	biky-sb pily, sft-sl frm, fti, chky-sb wxy, v calc, tr	med-dk gy-gy brn, sb pily-biky, mod sft-firm, sb
tr bent, v fast: multi sting bri bl-wh mky	bent, v fast: multi sting bri bl-wh mky cut; mod	arg-sily, calc: fast dfise: multi sting bri bl-wh	bent, pyr: fast dfise: multi sting bri bl-wh mky	arg-sily, calc: fast dfise: multi sting bri bl-wh
and thk bri bl-wh-sl green res ring	thk bri bl-wh-sl green res ring	mky cut; mod thk bri bl-wh green res ring	cut; mod thk bri bl-wh green res ring	cut; mod thk bri bl-wh green res ring

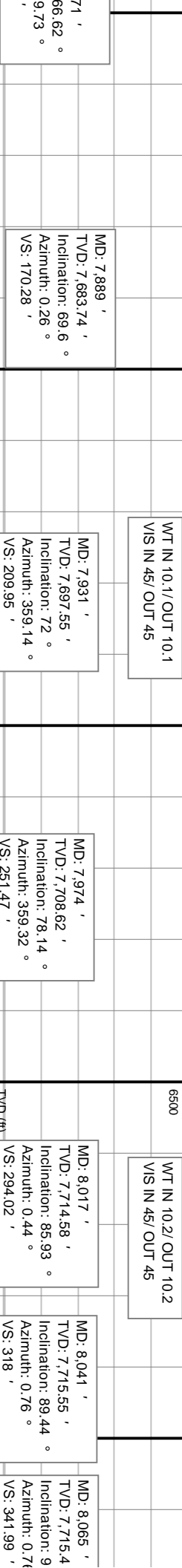
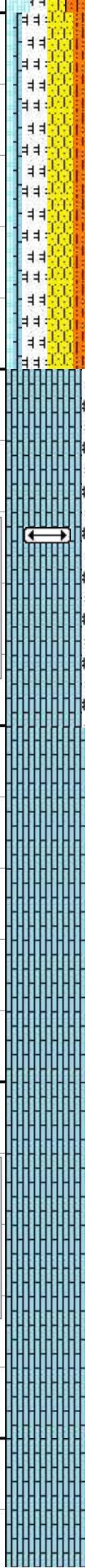
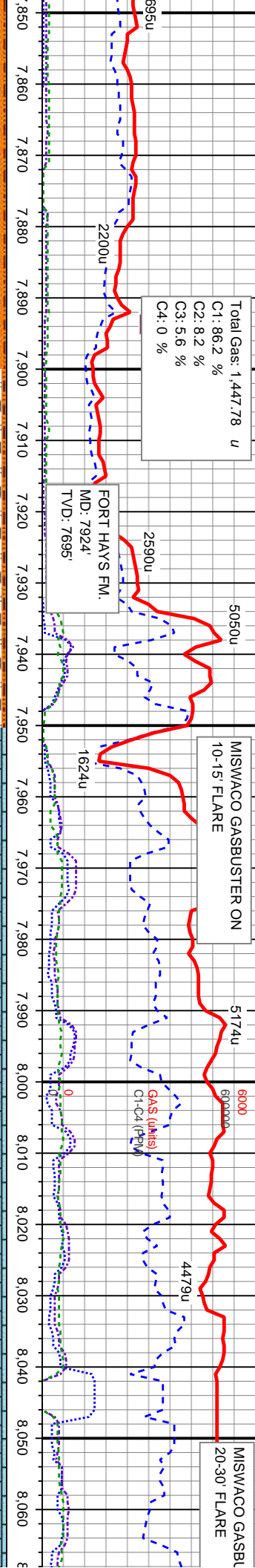
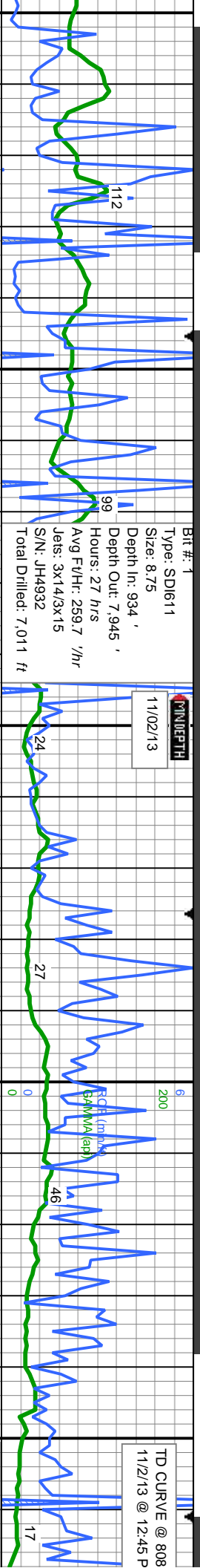




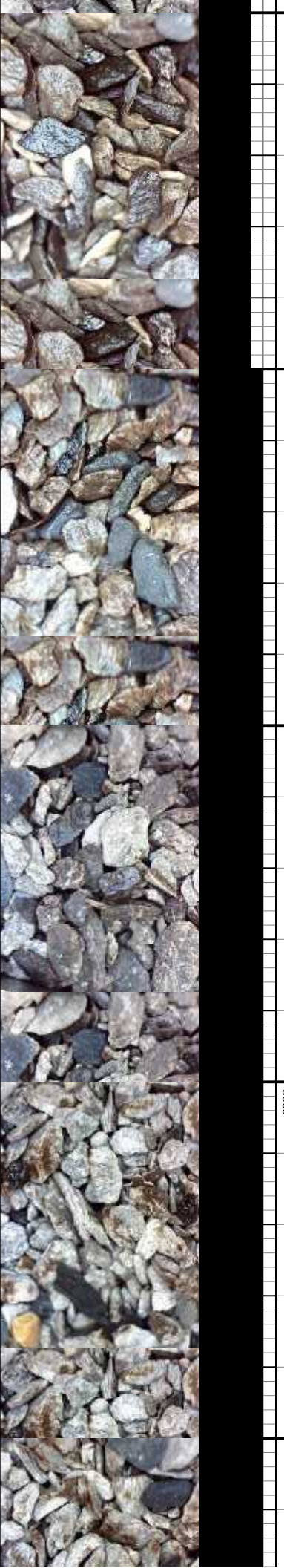
MD: 7.633 ' TVD: 7.549.18 ' Inclination: 46.73 ° Azimuth: 3.5 ° VS: -45.04 '	MD: 7.676 ' TVD: 7.577.63 ' Inclination: 50.43 ° Azimuth: 2.77 ° VS: -12.86 '	MD: 7.718 ' TVD: 7.603.6 ' Inclination: 53.16 ° Azimuth: 3.43 ° VS: 20.09 '	MD: 7.761 ' TVD: 7.628.26 ' Inclination: 56.84 ° Azimuth: 2.66 ° VS: 55.25 '	MD: 7.804 ' TVD: 7.649.82 ' Inclination: 62.95 ° Azimuth: 1.11 ° VS: 92.4 '	MD: 7.846 ' TVD: 7.667 ' Inclination: Azimuth: 35 ' VS: 130.39 '
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biky-sb pily, sft-sl frm, it: MRLST: med-dk	MRLST:aa: CHK:aa: SHY SLTST: lt-gy-med gy, sb-biky-sb-pily, med-v frm v calc: v: fast difse: multi sting bri bl-wh mky cut; thk bri bl-wh res ring	MRLST:aa: SLTY SH:aa:CHK: lt-med gy, mot, sb biky-sb pily, sft-sl frm, fti, chky-sb wxy, v calc, sl tr bent, pyr: SHY SLTST: lt-gy-med gy, sb-biky-sb-pily med-v frm, v calc: mod difse: sl multi sting bl-wh mky cut; sl thk green-yel res ring	MRLST:aa: CHK:aa: SHY SLTST: lt-gy-med gy, sb-biky-sb-pily, med-v frm v calc: mod difse: sl multi sting bl-wh mky cut; sl thk green-yel res ring	MRLST:aa: CHK:aa: SHY SLTST:aa: Shy SS: brn-dk gy, brn-mot, v-f gr, v frm, sb rnd-sb pily lam, frm-med sft, wi calc cm; sl fast difse: multi sting bl-wh mky cut; mod thk green-yel res ring
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<p>MR.LST:aa,CHK:aa,SHY SLT.ST:aa,Shy SS: brn-dk gy, brn-mot, vf-gr, v frm, sb rnd-sb pily lam, frm-med sft, w/calc cmt.LS: crm-offwht lt brn, pily-fiky ip, frm-brit, cyxln-mcxln, v sl arg, calc: sl fast dfse: multi stmg bl-wh mky cut; mod thk green-yl res ring</p>	<p>LS: crm-offwht lt brn, pily-fiky ip, frm-brit, cyxln-mcxln, v sl arg, calc: MR.LST: med-dk gy-gy brn, sb pily-biky, mod sft-frm, sb arg-sily, calc: SHY SLT.ST: lt gy-med gy, sb-biky-sb-pily, med-v frm, v calc, tr bent: sl mod dfse: sl multi stmg bl-wh mky cut; sl thk bri bl res ring</p>	<p>LS: crm-offwht lt brn, pily-fiky ip, frm-brit, cyxln-mcxln, v sl arg, calc, tr bent: sl mod dfse: sl multi stmg bl-wh mky cut; sl thk bri bl res ring</p>	<p>LS: crm-offwht lt brn, pily-fiky ip, frm-brit, cyxln-mcxln, v sl arg, calc, sl tr bent: fast dfse: multi stmg bl-wh mky cut; mod thk bri bl res ring</p>	<p>LS: crm-offwht lt brn, pily-fiky ip, frm-brit, cyxln-mcxln, v sl arg, calc, sl tr bent: fast dfse: multi stmg bl-wh mky cut; mod thk bri bl res ring</p>
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11/5/13 @ 2:20PM.

Depth In: 7,945 '
Depth Out: 8,086 '
Hours: 4.8 hrs
Avg Ft/Hr: 29.38 '/hr
Jets: 3x14/3x15

37



MD: 8,086 '
 TVD: 7,715.48 '
 Inclination: 90.72 °
 Azimuth: 0.76 °
 VS: 362.99 '

MD: 8.102 '
 TVD: 7,714.22 '
 Inclination: 92.4 °
 Azimuth: 1.09 °
 VS: 378.97 '

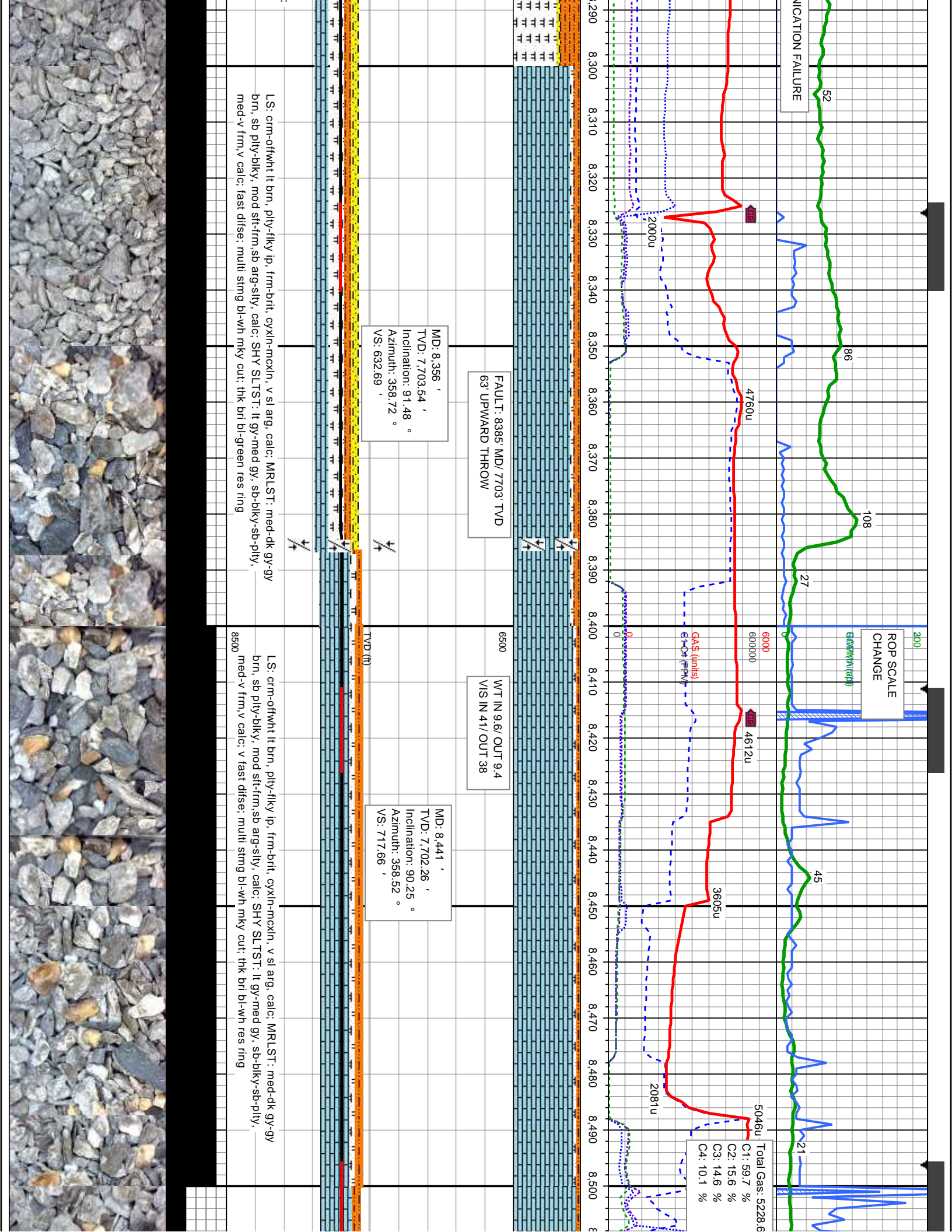
MD: 8.187 ' °
TVD: 7,710.13 '
Inclination: 93.11 °
Azimuth: 1.34 °
VS: 463.84 '

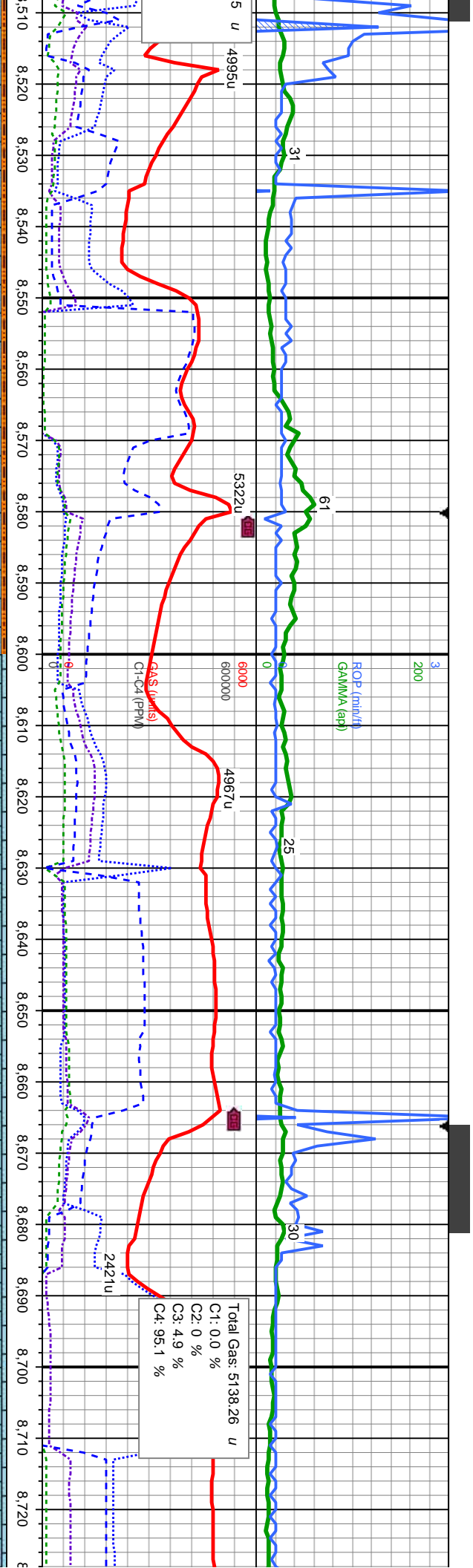
MD: 8,270 '
 TVD: 7,706.3 '
 Inclination: 92.19 °
 Azimuth: 359.94 °
 VS: 546.74 '

sl arg, calc, 't bent: v slow disse: sl multi string b-wh mxy cut; dull th bl-green res ring

MRST: meek gy-gy brn, sb ply-biky mod sit-frm, sb ang-sily, calc: SHY SLTS
 It gy-med gy, sb-biky-sly lam, med-v frm, w calc: SHY SS, brn-dk gy, brn-mot, vf-f
 gr, v frm, sb rnd-sb ply sbn, frm-med sit, w calc cmt; sl mod dfse, sl multi
 string bl-wh mky cut; dull thn bl-green res ring







MD: 8,526 '
TVD: 7,702.1 '
Inclination: 89.97 °
Azimuth: 357.69 °
VS: 802.62 '

WT IN 9.6/ OUT 9.5
VIS IN 41/ OUT 41

MD: 8,610 '
TVD: 7,701.49 '
Inclination: 90.89 °
Azimuth: 357.64 °
VS: 886.56 '

WT IN 9.6/ OUT 9.4
VIS IN 41/ OUT 40

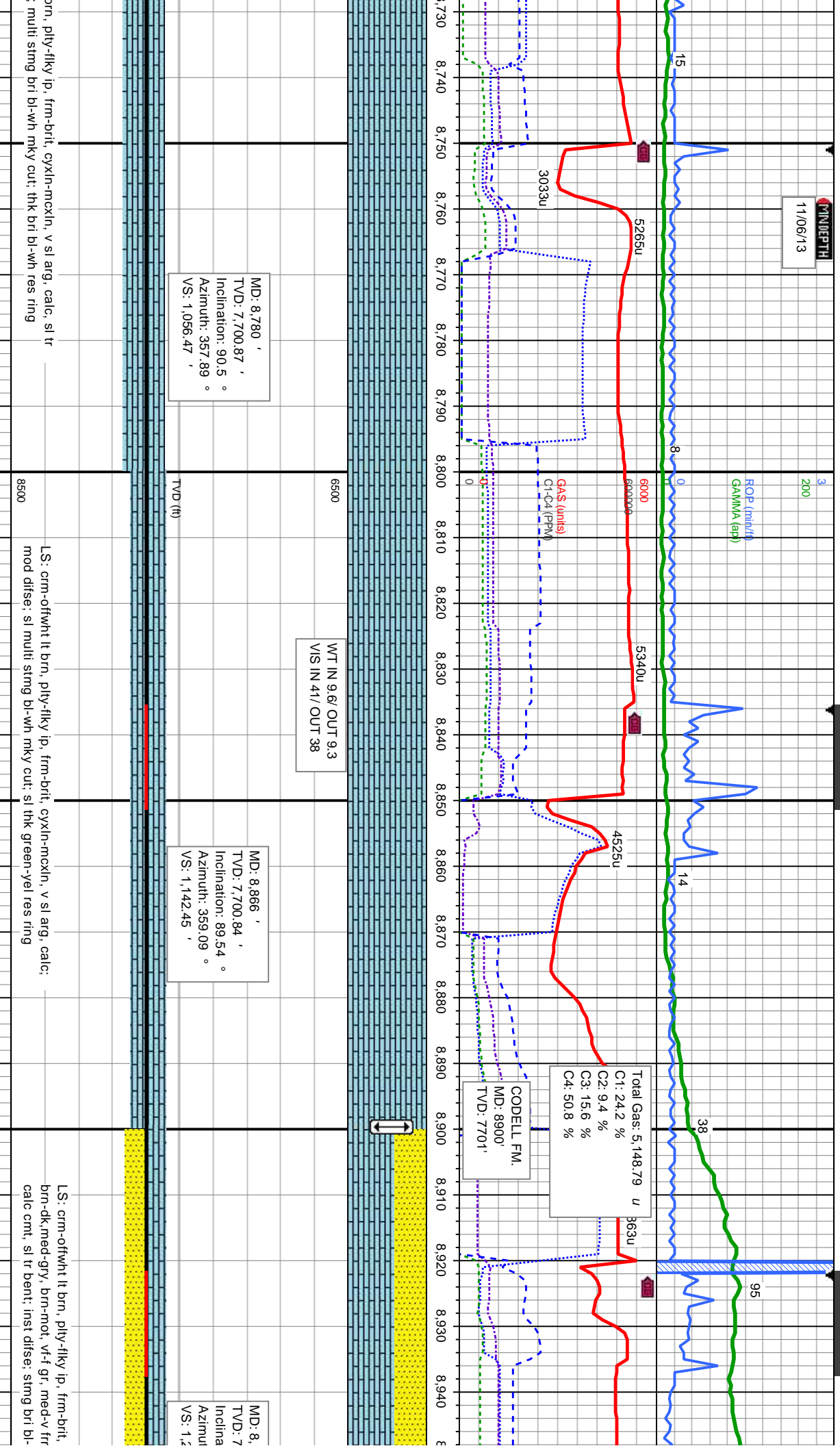
MD: 8,695 '
TVD: 7,701.04 '
Inclination: 89.72 °
Azimuth: 358.09 °
VS: 971.51 '

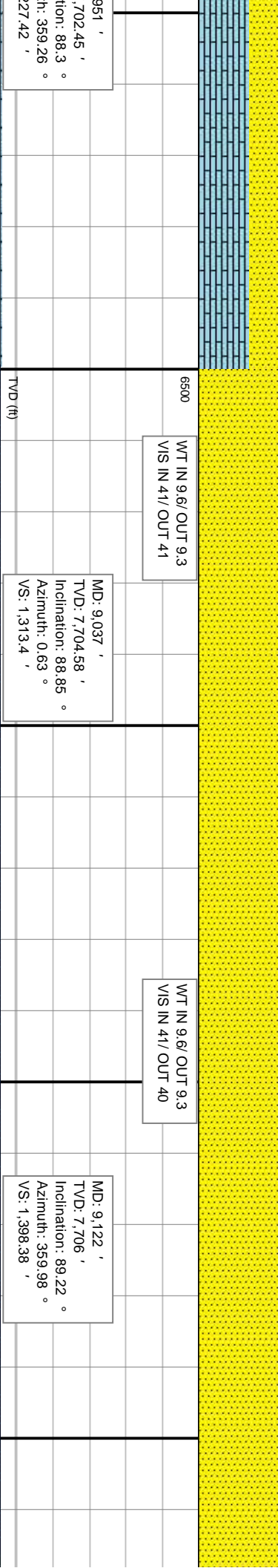
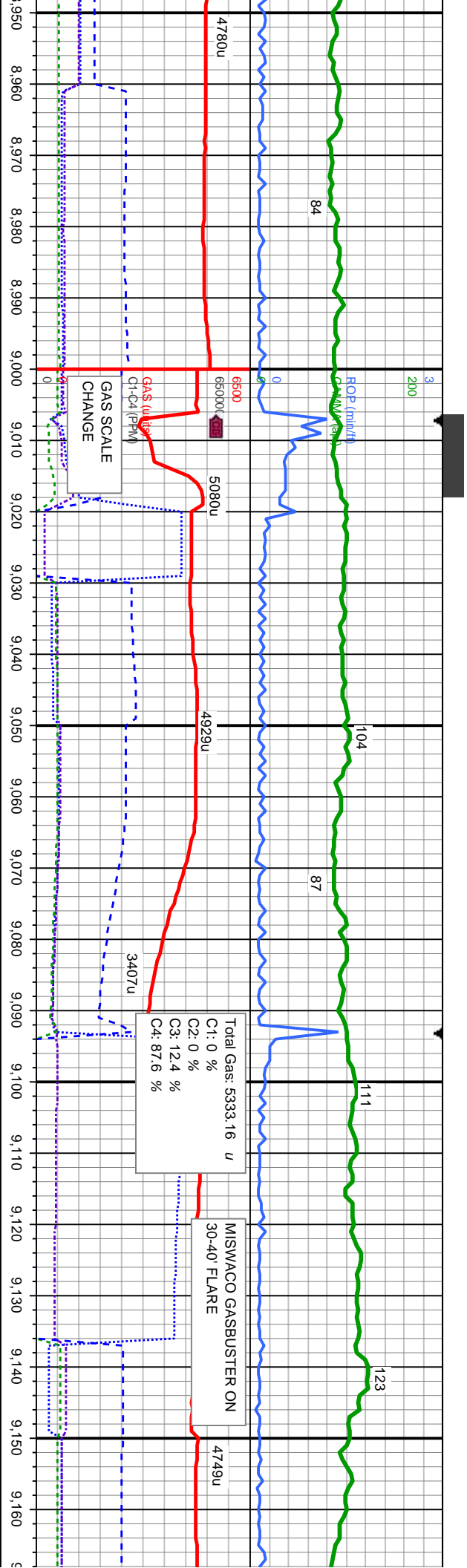
LS: crm-offwht lt brn, pily-rlky ip, frm-brti, cyxln-mcxln, v sl arg, calc;
SHY SLTST: lt gy-med gy, sb-biky-sb-pily, med-v frm, v calc, tr bent, v
slow difse; sl multi stmg bl-wh mky cut; dull thk bl-green res ring

LS: crm-offwht lt brn, pily-rlky ip, frm-brti, cyxln-mcxln, v sl arg, calc;
fast difse; multi stmg bl-wh mky cut; mod thk bri bl res ring

LS: crm-offwht lt lt bent; v, fast difse

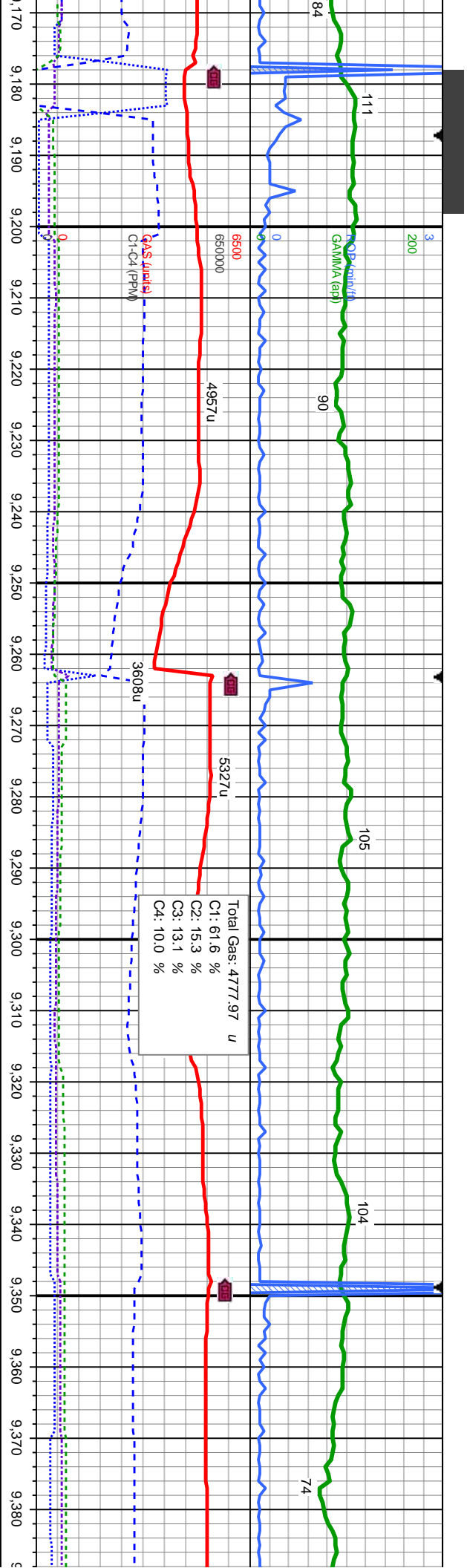






cylin-mcxlin, v sl arg, calc, SS: lt	SS: lt brn-dk, med-gr, brn-mot, vf-f gr, med-v frm, sb-rnd-rnd, med-w strd, p-mod cons w/	SS: lt brn-dk, med-gr, brn-mot, vf-f gr, med-v frm, sb-rnd-rnd, med-w strd, p-mod cons w/
n, sb-rnd-rnd, med-w strd, p-mod cons w/ v	v calc cmt, sl tr bent, tr LS; fast difse; sl multi string bl-wh mky cut; thk bri bl-wh res ring	w/ v calc cmt, tr LS; fast difse; sl multi string bl-wh mky cut; thk
wh mky cut; mod thk bl-green res ring		





WT IN 9.3/ OUT 9.3
VIS IN 40/ OUT 40

MD: 9,207 '
TVD: 7,707.18 '
Inclination: 89.19 °
Azimuth: 2.09 °
VS: 1,483.35 '

WT IN 9.3/ OUT 9.3
VIS IN 40/ OUT 40

MD: 9,293 '
TVD: 7,707.87 '
Inclination: 89.9 °
Azimuth: 1.34 °
VS: 1,569.29 '

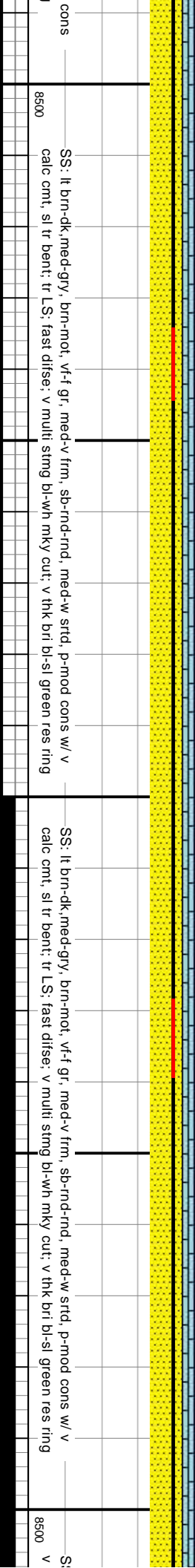
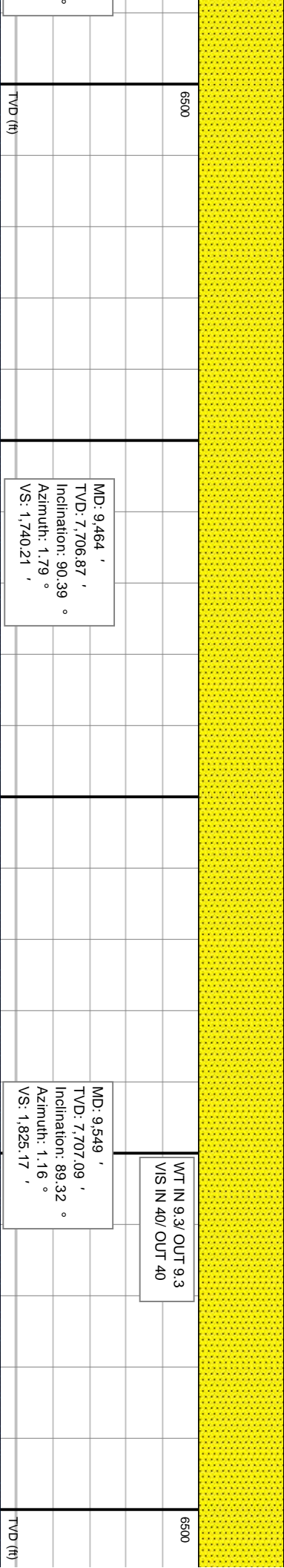
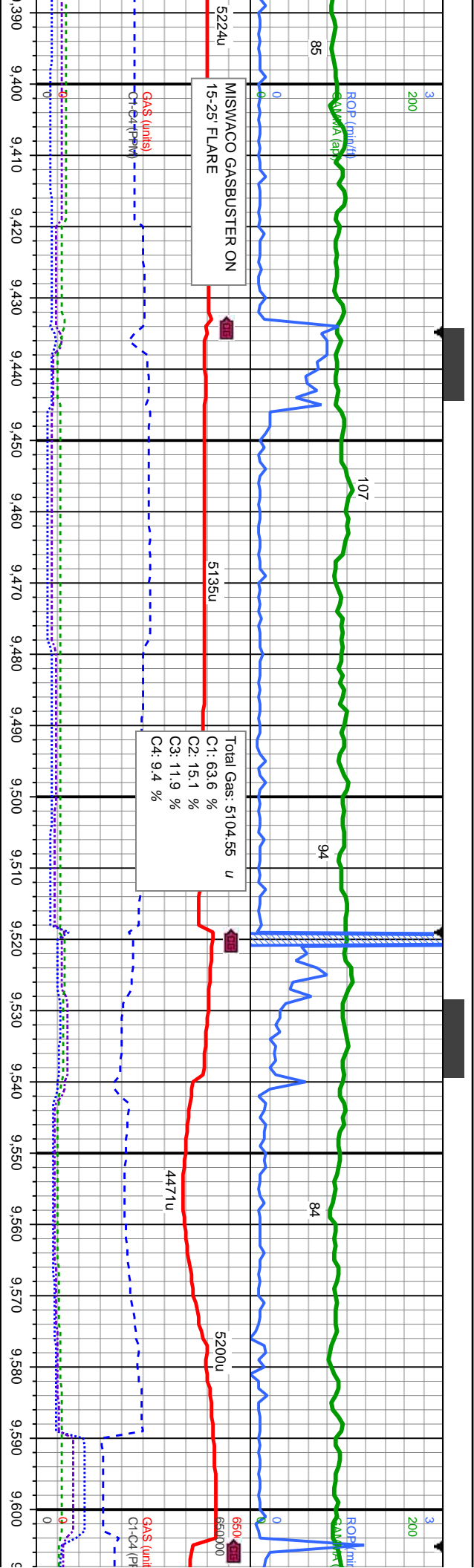
MD: 9,378 '
TVD: 7,707.56 '
Inclination: 90.52 °
Azimuth: 1.39 °
VS: 1,654.26 '

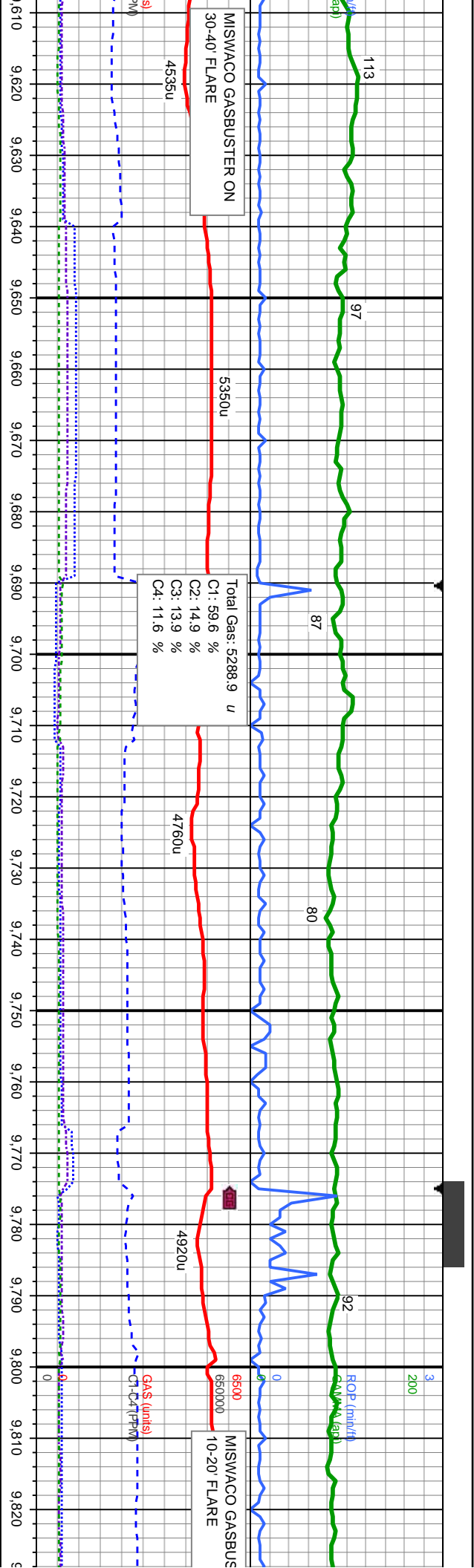
med-w strd, p-mod cons
ori bl-wh res ring

SS: lt brn-dk, med-gr, brn-mot, vf-f gr, med-v frm, sb-rnd-rnd, med-w strd, p-mod
cons w/ v calc cnt; tr LS; no difse; no sting cut; sl thk bri bl-sl green res ring

SS: lt brn-dk, med-gr, brn-mot, vf-f gr, med-v frm, sb-rnd-rnd, med-w strd, p-mod
w/ v calc cnt, sl tr bent; tr LS; no difse; no sting cut; sl thk bri bl-sl green res ring







MD: 9.634 '
TVD: 7,707.25 '
Inclination: 90.46 °
Azimuth: 1.46 °
VS: 1,910.14 '

MD: 9.719 '
TVD: 7,706.12 '
Inclination: 91.07 °
Azimuth: 0.8 °
VS: 1,995.11 '

MD: 9.805 '
TVD: 7,705.18 '
Inclination: 90.18 °
Azimuth: 1.38 °
VS: 2,081.08 '

WT IN 9.3/ OUT 9.2
VIS IN 41/ OUT 40

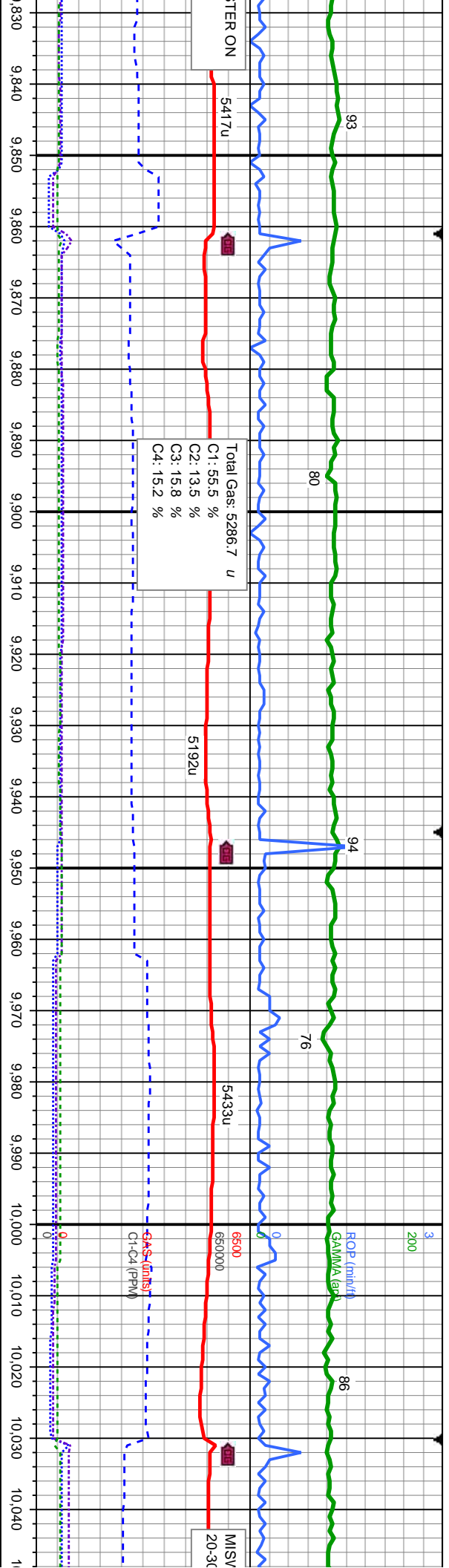
6500

SS: lt brn-dk, med-gr, brn-mot, vf-f gr, med-v frm, sb-rnd-rnd, med-w strd, p-mod cons w/ calc cmt, tr LS: v fast difse, slow multi string bl-wh mky cut, sl thk br bl-wh res ring

SS: lt brn-dk, med-gr, brn-mot, vf-f gr, med-v frm, sb-rnd-rnd, med-w strd, p-mod cons w/ calc cmt, tr bent, tr LS: fast difse, sl multi string bl-wh mky cut, sl thk bl-green res ring

SS: lt brn-dk, med-gr, brn-mot, vf-f gr, med-v frm, sb-rnd-rnd, med-w strd, p-mod cons w/ calc cmt, tr bent, tr LS: fast difse, sl multi string bl-wh mky cut, sl thk bl-green res ring





Total Gas: 5286.7 u
C1: 55.5 %
C2: 13.5 %
C3: 15.8 %
C4: 15.2 %

MD: 9.889 '
TVD: 7,704.62 '
Inclination: 90.58 °
Azimuth: 0.04 °
VS: 2,165.07 '

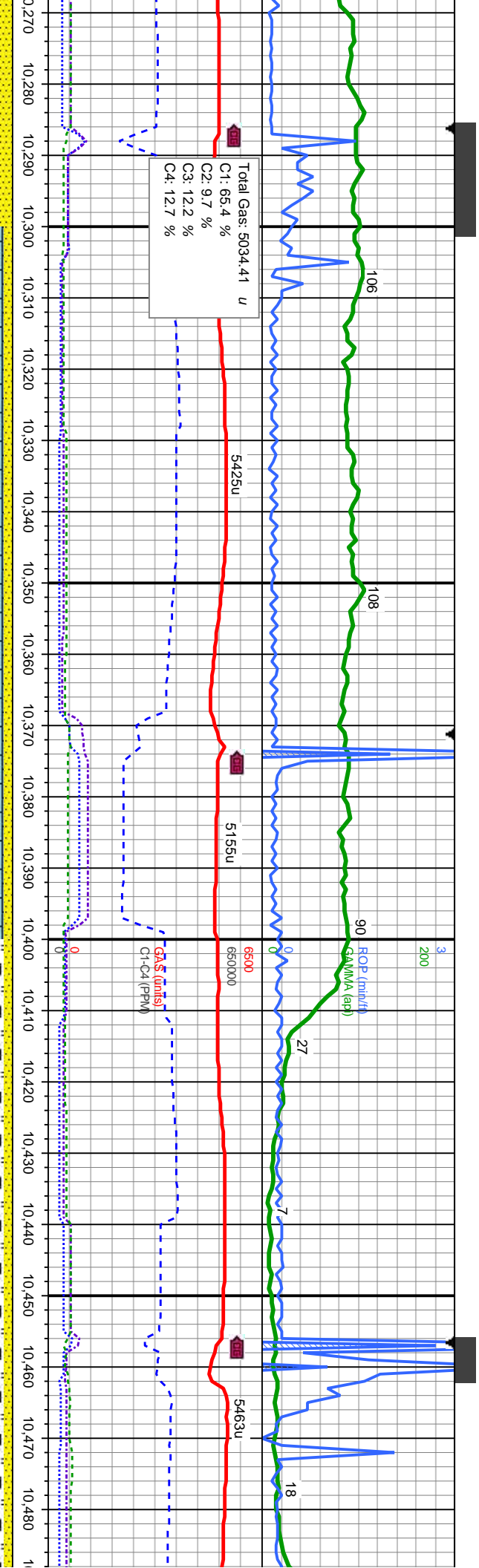
MD: 9.974 '
TVD: 7,703.89 '
Inclination: 90.4 °
Azimuth: 0.11 °
VS: 2,250.06 '

brn-mot, vf-f gr, med-v frm, sb-rnd-rnd, med-w strd, p-mod cons w/ v
S: fast disse; sl multi strng bl-wh mky cut; sl thk bl-green res ring

SS: lt brn-dk,med-gr, brn-mot, vf-f gr, med-v frm, sb-rnd-rnd, med-w strd, p-mod
cons w/ v calc cmt; LS: crm-offwht lt brn, plty-fily ip, frm-brt, cyxln-mcxln, v sl
arg, calc, tr bent; no disse, no strng cut; thk bl-sl green res ring

SS: lt brn-dk,med-gr, brn-mot, vf-f gr, p
cons w/ v calc cmt; LS: crm-offwht lt brn
arg, calc, tr bent; no disse, no strng cut;





WT IN 9.2/ OUT 9.2
VIS IN 40/ OUT 40

MD: 10,315 '
TVD: 7,707.76 '
Inclination: 92 °
Azimuth: 359.86 °
VS: 2,590.93 '

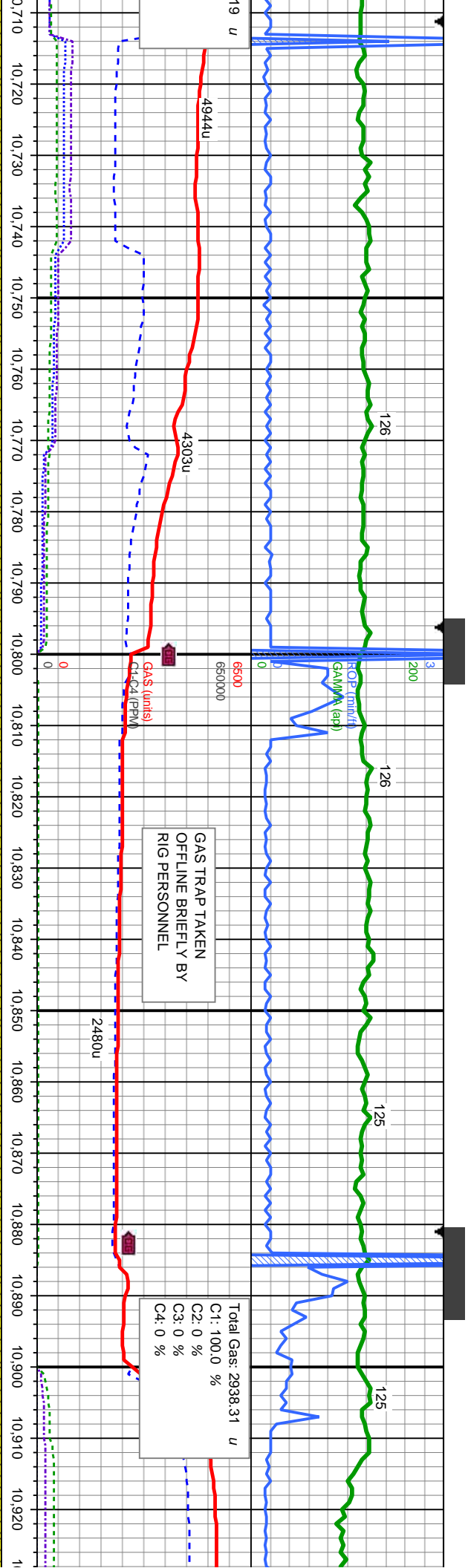
MD: 10,401 '
TVD: 7,704.44 '
Inclination: 92.43 °
Azimuth: 0.51 °
VS: 2,676.87 '

WT IN 9.2/ OUT 9.2
VIS IN 40/ OUT 40

MD: 10,485 '
TVD: 7,701. '
Inclination: 92.43 °
Azimuth: 0.51 °
VS: 2,760.8 '

LS: crm-offwht lt brn, ply-filky ip, frm-brt, cyxln-mcxln, v sl arg, calc; SS: lt brn-dk,med-gry, brn-mot, vf-f gr, med-v frm, sb-rnd-rnd, med-w strd, p-mod cons w/ v calc cmt; MRLST: med-dk gy-gy brn, sb ply-biky, mod srt-frm,sb arg-sily, v calc; no disse; no sting cut; mod thk bri bl res ring





GAS TRAP TAKEN
OFFLINE BRIEFLY BY
RIG PERSONNEL

Total Gas: 2938.31 u
C1: 100.0 %
C2: 0 %
C3: 0 %
C4: 0 %

MD: 10,741 '
TVD: 7,694.05 '
Inclination: 91.97 °
Azimuth: 359.62 °
VS: 3,016.69 '

MD: 10,825 '
TVD: 7,690.96 '
Inclination: 92.24 °
Azimuth: 359.55 °
VS: 3,100.63 '

MD: 10,911 '
TVD: 7,688.29 '
Inclination: 91.32 °
Azimuth: 0.1 °
VS: 3,186.59 '

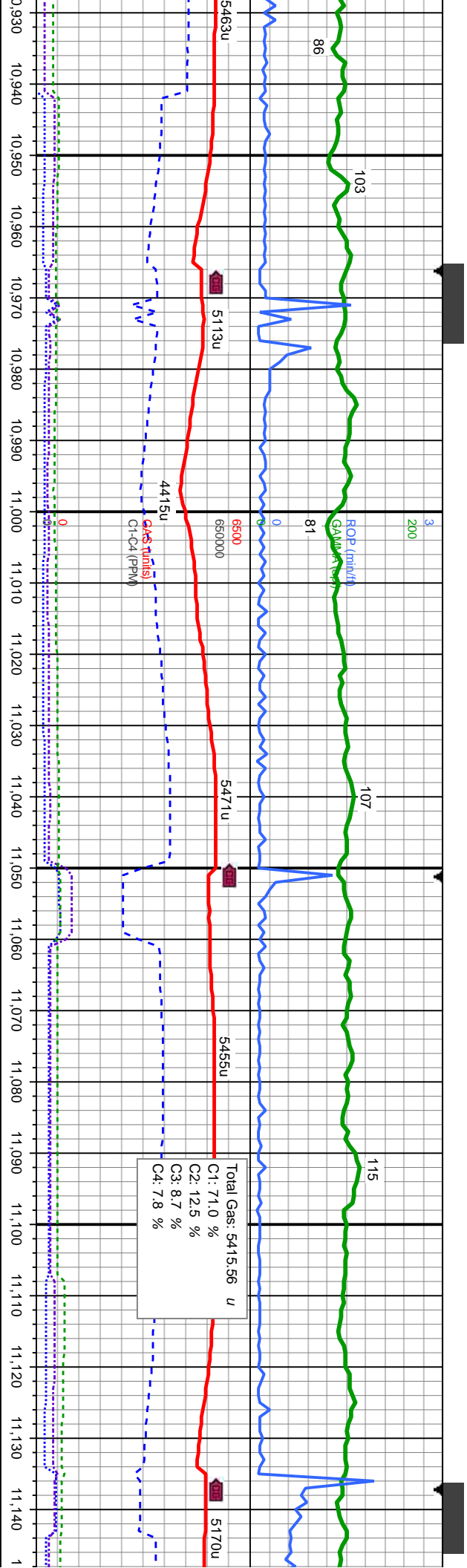
FAULT: 10914' MD/ 7688' TVD
5' DOWNWARD THROW

SS: lt brn-dk, med-gry, brn-mot, vf-f gr, med-v frm, sb-rnd-rnd, med-w strd, p-mod
cons w/ v calc cnt; LS: crm-offwht lt brn, ply-fiky ip, frm-brt, cyxln-mcxln, v sl
arg, calc: MRLST: med-dk gy-gy brn, sb ply-blky, mod sft-frm, sb arg-sily, v calc;
sl fast difse; sl multi string bl-wh mky cut; thk bri bl-wh res ring

SS: lt brn-dk, med-gry, brn-mot, vf-f gr, med-v frm, sb-rnd-rnd, med-w strd, p-mod
cons w/ v calc cnt; LS: crm-offwht lt brn, ply-fiky ip, frm-brt, cyxln-mcxln, v sl
arg, calc: MRLST: med-dk gy-gy brn, sb ply-blky, mod sft-frm, sb arg-sily, v calc, tr
bent; sl fast difse; sl multi string bl-wh mky cut; thk bri bl-wh res ring

SS: lt brn-dk, med-gry, brn
calc cnt; Tr LS and Mst;





WT IN 9.2/ OUT 9.2
VIS IN 40/ OUT 38

MD: 10,996 '
TVD: 7,687.11 '
Inclination: 90.27 °
Azimuth: 359.33 °
VS: 3,271.58 '

MD: 11,081 '
TVD: 7,686.44 '
Inclination: 90.64 °
Azimuth: 359.5 °
VS: 3,356.57 '

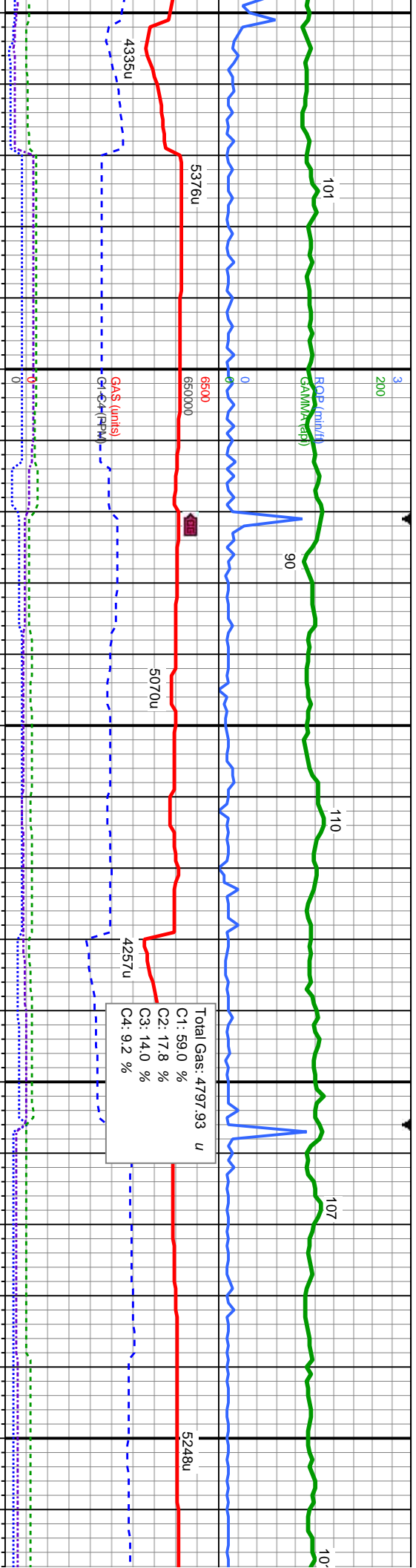
WT IN 9.2/ OUT 9.2
VIS IN 40/ OUT 39

not, vf-f gr, med-v frm, sb-rnd-rnd, med-w strd, p-mod cons w/ v
v slow dfse; sl multi string bl-wh mky cut; dull thk bl-green res ring

SS: lt brn-dk, med-gr, brn-mot, vf-f gr, med-v frm, sb-rnd-rnd, med-w strd, p-mod
cons w/ v calc cnt; LS: crm-oftwht lt brn, pily-flky ip, frm-brt, cyxln-mcxln, v sl
arg, calc; MRLST: med-dk gy-gy brn, sb pily-blky, mod sft-frm, sb arg-sily, v calc;
fast dfse; multi string bl-wh mky cut; mod thk brt bl-wh res ring

SS: lt brn-dk, med-gr, brn-mot, vf-f gr, med-
v calc cnt; sl r bent; mod dfse; sl multi str





Total Gas: 4797.93 u
C1: 59.0 %
C2: 17.8 %
C3: 14.0 %
C4: 9.2 %

MD: 11,166 '
TVD: 7,686.35 '
Inclination: 89.47 °
Azimuth: 358.23 °
VS: 3,441.56 '

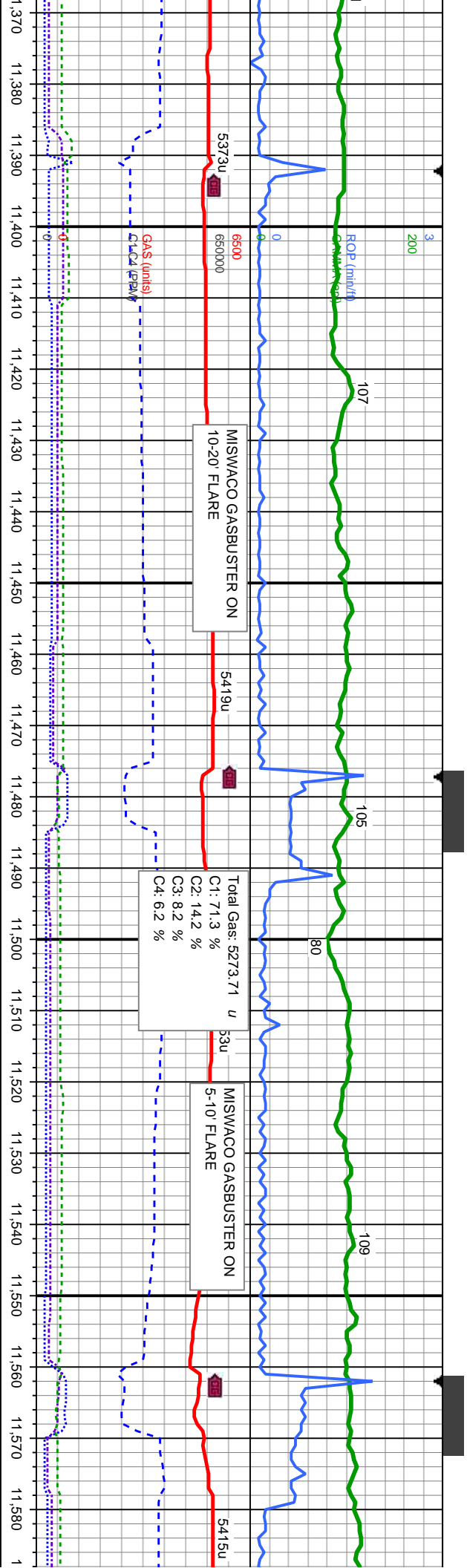
MD: 11,251 '
TVD: 7,686.7 '
Inclination: 90.06 °
Azimuth: 358.42 °
VS: 3,526.53 '

MD: 11,336 '
TVD: 7,686.82 '
Inclination: 89.78 °
Azimuth: 357.42 °
VS: 3,611.49 '

v frm, sb-rnd-rnd, med-w strd, p-mod cons w/ —
g bl-wh mky cut; sl thk bl-sl green res ring

SS: lt brn-dk, med-gry, brn-mot, vf-f gr, med-v frm, sb-rnd-rnd, med-w strd, p-mod cons
w/ v calc cnt; mod disse; sl multi strng bl-wh mky cut; sl thk bl-sl green res ring

SS: lt brn-dk, med-gry, brn-mot, vf-f gr, med-v frm, sb-rnd-rnd
cons w/ v calc cnt; no disse; no strng cut; sl thk bri bl-sl gree



WT IN 9.2/ OUT 9.3
VIS IN 40/ OUT 45

6500

MD: 11,421 '
TVD: 7,687.38 '
Inclination: 89.47 °
Azimuth: 356.65 °
VS: 3,696.39 '

TVD (ft)

Total Gas: 5273.71 u
C1: 71.3 %
C2: 14.2 %
C3: 8.2 %
C4: 6.2 %

MISWACO GASBUSTER ON
5-10' FLARE

MD: 11,506 '
TVD: 7,687.75 '
Inclination: 90.03 °
Azimuth: 356.64 °
VS: 3,781.26 '

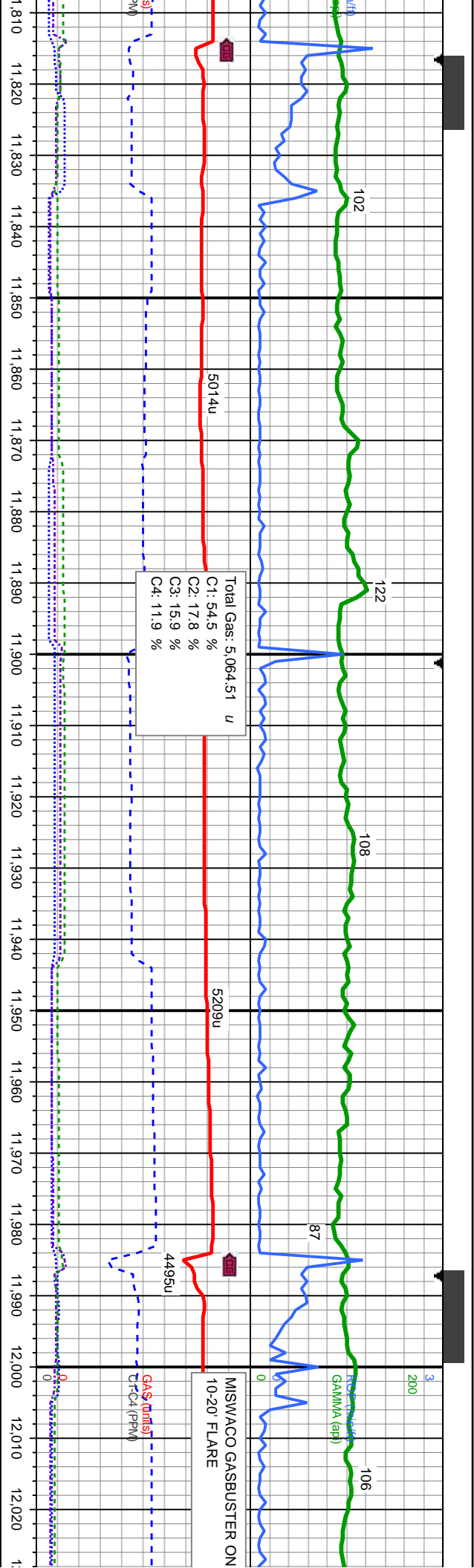
MD: 11,581 '
TVD: 7,687.75 '
Inclination: 90.03 °
Azimuth: 356.64 °
VS: 3,861.26 '

l, med-w strd, p-mod
h res ring

SS: lt brn-dk, med-gry, brn-mot, vf-f gr, med-v frm, sb-rnd-rnd, med-w strd, p-mod cons
w/ v calc cnt; tr LS: fast difse; sl multi strng bl-wh mky cut; thk brt bl-wh res ring

SS: lt brn-dk, med-gry, brn-mot, vf-f gr, med-v frm, sb-rnd-rnd, med-w strd, p-mod con
w/ v calc cnt; sl tr bent; fast difse; multi strng bl-wh mky cut; sl thk bl-sl green res rin





Total Gas: 5,064.51 u
C1: 54.5 %
C2: 17.8 %
C3: 15.9 %
C4: 11.9 %

WIT IN 9.2/ OUT 9.4
VIS IN 40/ OUT 40

MD: 11,846 '
TVD: 7,685.12 '
Inclination: 90.58 °
Azimuth: 359.2 °
VS: 4,121.07 '

MD: 11,931 '
TVD: 7,683.71 '
Inclination: 91.32 °
Azimuth: 359.32 °
VS: 4,206.05 '

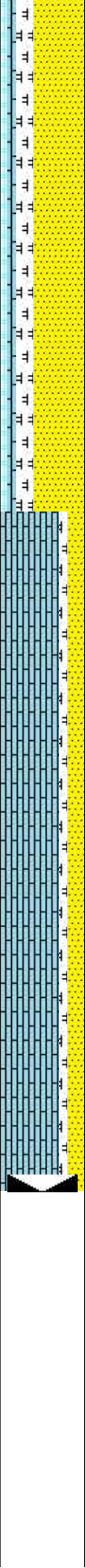
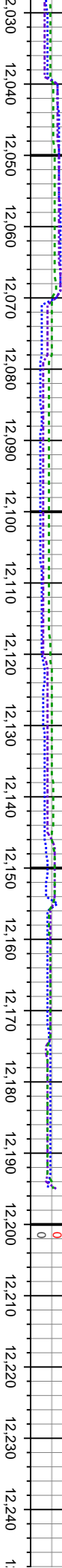
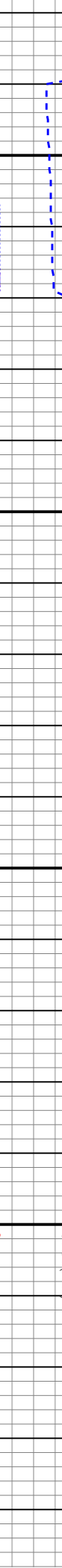
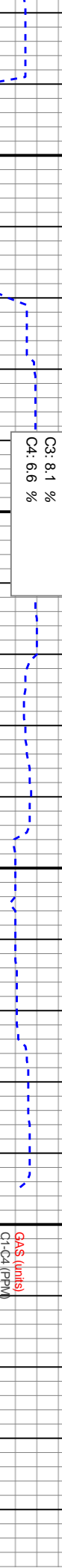
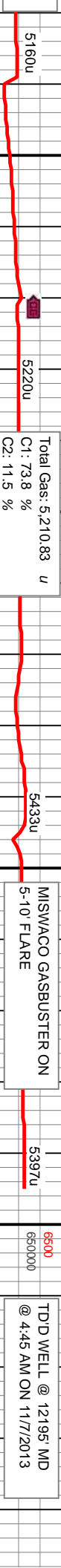
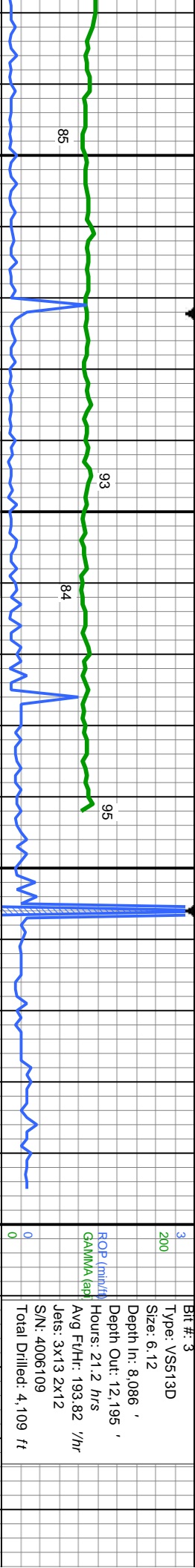
MD: 12,017 '
TVD: 7,682.14 '
Inclination: 90.77 °
Azimuth: 359.6 °
VS: 4,292.03 '

SS: lt brn-dk, med-gr, brn-mot, v-f gr, med-v frm, sb-rnd-rnd, w strd, p-mod cons
w/ v calc cnt; MRLST: med-dk gy-gy brn, sb pily-blky, mod sft-frm, sb arg-sily, v
calc; tr LS; v fast disse; multi string bl-wh mky cut; thk bri bl-sl green res ring

SS: lt brn-dk, med-gr, brn-mot, v-f gr, med-v frm, sb-rnd-rnd, w strd, p-mod cons
w/ v calc cnt; MRLST: med-dk gy-gy brn, sb pily-blky, mod sft-frm, sb arg-sily, v
calc; tr LS; v slow disse; sl multi string bl-wh mky cut; dull thk bl- green res ring

SS: lt brn-dk, med-gr, brn-
cnt; LS: crm-offwht lt brn,
brn, sb pily-blky, mod sft-frm
8cm, fri, chky-sb wxy v calc





WT IN 9.2/ OUT 9.5
VIS IN 40/ OUT 40

MD: 12,102 '
TVD: 7,680.61 '
Inclination: 91.29 °
Azimuth: 359.82 °
VS: 4,377.02 '

MD: 12,139 '
TVD: 7,679.86 '
Inclination: 91.04 °
Azimuth: 359.21 °
VS: 4,414.01 '

WT IN 9.6/ OUT 9.6
VIS IN 41/ OUT 41

MD: 12,195 '
TVD: 7,678.84 '
Inclination: 91.04 °
Azimuth: 359.21 °
VS: 4,470 '

PROJECTION TO BIT

THANK YOU FOR USING
COLUMBINE LOGGING INC.!

mot. v-f gr. med-v frm. sb-rnd-rnd. med-w srtf. p-mod cons w/ v calc
ply-ilty ip. frm-brt. cylin-mckln. v sl arg. calc. MRLST: med-dk gy-gy
m. sb arg-sily. v calc. CHK: lt-med gy brn. mot. sb bly-sb ply. sft-sl
; v fast difse; multi sting bl-wh mky cut; sl thk bri bl-wh res ring

LS: crm-offwht lt brn. ply-ilty ip. frm-brt. cylin-mckln. v sl arg. calc. SS: lt
brn-dk,med-gry. brn-mot. v-f gr. med-v frm. sb-rnd-rnd. med-w srtf. p-mod cons
w/ v calc cnt. MRLST: med-dk gy-gy brn. sb ply-biky. mod sft-frm, sb arg-sily. v
calc. tr bent; inst difse; multi sting bri bl-wh mky cut; thk dull bl-green res ring

8500



