

Décollement Consulting Inc.



Scale: 5" / 100'
Measured Depth Log

Well Name State Antelope C12-W42-2HNC_Lateral

Location SW/NW Section 2, T5N - R62W

State CO

County Weld

Country USA

Rig Number Xtreme 22

API Number 05-123-41043

Field Wattenberg

Region D.J. Basin

Drilling Completed 8/7/2015

Spud Date 8/2/2015

Surface Coordinates 394 FWL x 1401 FNL (Lat: 40.432923, -104.298623)

Bottom Hole Coordinates 470 FEL x 2310 FNL (Lat: 40.430888, -104.282511)

Ground Elevation 4,647

K.B. Elevation 4,664

Logged Interval 6,850 To 11,000

Total Depth 11,028

Formation Niobrara "C" Chalk

Type of Drilling Fluid Water Based Mud

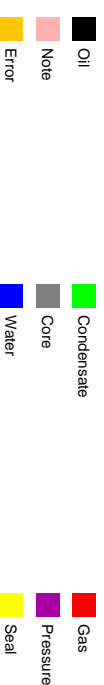
Operator

Address Bonanza Creek Energy, Inc.
410 17th Street, Suite 1500
Denver, Colorado 80202

Geologist

Name Dan Kabala & Brian Spitzmiller
Company Decollement Consulting Inc.
Address 13300 Braun Rd.
Golden, CO. 80401

Zone Color Coding



Rock Types

Blank

CEMENT

MPF

SHALE S

CHALK

LIMESTONE

SHALE SF

CPF

MARLSTONE

SHALE

Accessories

Fossils

- ALGAE
- AMPHIPORA
- BELEMNITE
- BIOCLASTIC
- BRACHIOPOD
- 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

ORGANIC FORMATION TOP L LITHOGRAPHIC

Oil Show

P PINPOINT GAS SHOW M~~X~~ MICROXLN

Rounding

DEAD V VUGGY MNDEPTH MN DEPTH A ANGULAR M~~S~~ MUDSTONE

EVEN

NORMAL FAULT R ROUNDED P~~S~~ PACKSTONE

Engineering

QUESTIONABLE OIL SHOW S SUBANG W~~S~~ WACKESTONE

SPOTTED STAINING BIT OVERTURNED STRATA P SUBRAND

Sorting

CASING REVERSE FAULT

Porosity

CONNECTION (LEFT) SIDEWALL CORE (LEFT) M MODERATE

Textures

CONNECTION (RIGHT) SIDEWALL CORE (RIGHT) B~~S~~ BOUNDSTONE P POOR

EENESTRAL CONNECTION GAS SLIDE C CHALKY W WELL

RACTURE CORE - LOST S SURVEY C~~X~~ CRYPTOXLN

INTERCRYSTALLINE CORE - RECOVERED TRIP GAS E EARTHY

INTEROOLITIC DST INTERVAL WIRELINE TESTED - LEFT F~~X~~ FINELYXLN

MOLDIC FAULT WIRELINE TESTED - RT G~~S~~ GRAINSTONE

Slide/Rotate

Depth

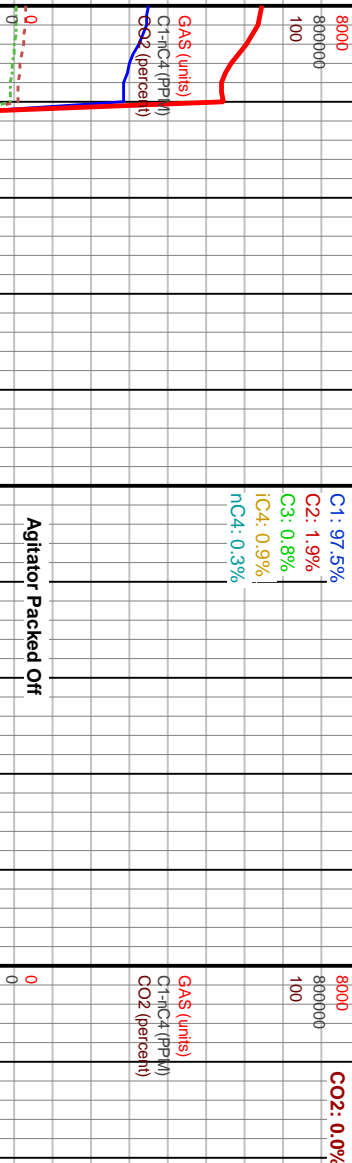


Total Gas & Chromatography

GAS — **C1** — **C2** - - - **C3** - - - **iC4** - - - **nC4** — **CO2** - - -

Total Gas Calibration
1% Methane = 100u

Gas Chromatograph Calibration
C1 = 1.0% Methane = 10,000ppm
C2 = 1.0% Ethane = 10,000ppm
C3 = 1.0% Propane = 10,000ppm
iC4 = 1.0% Iso-Butane = 10,000ppm
nC4 = 1.0% N-Butane = 10,000ppm



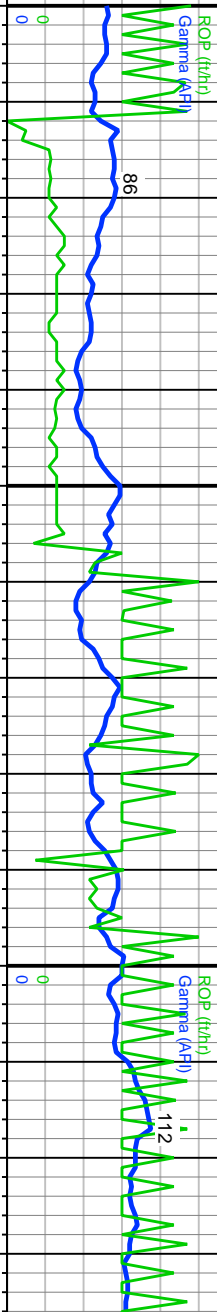
Agitator Packed Off

WOB 18
RPM 45
SPM 2745
SPM 0/90

Decollement
Consulting on
location and rigged
up with Bloodhound
#5643 on 8/2/2015.

Curves
ROP —
Gamma —

Finished curve
section of well @
16:52 hrs on 8/3/2015.
Start logging lateral
at 6,811' on 8/5/2015
at 11:42 hours.



Depth Labels



Interpretive Lithology



Well Bore
TVD —

MD: 6,880'
TVD: 6,318.71'
Inclination: 91.02°
Azimuth: 82.3°
VS: 477'

80% CHK: tan/gy, occ crm, sft - frm, occ brit, sb
ply-sb blk, rthy istr, v calc, sl brn/bk sin.
20% MARL: med-dk blk, frm, sb ply-sb blk, rthy
istr, grty, occ motld carb mat.

Abndt CMNT
fst sl bri blu cdy cut, mod thck blu-whi resid ring.
6350

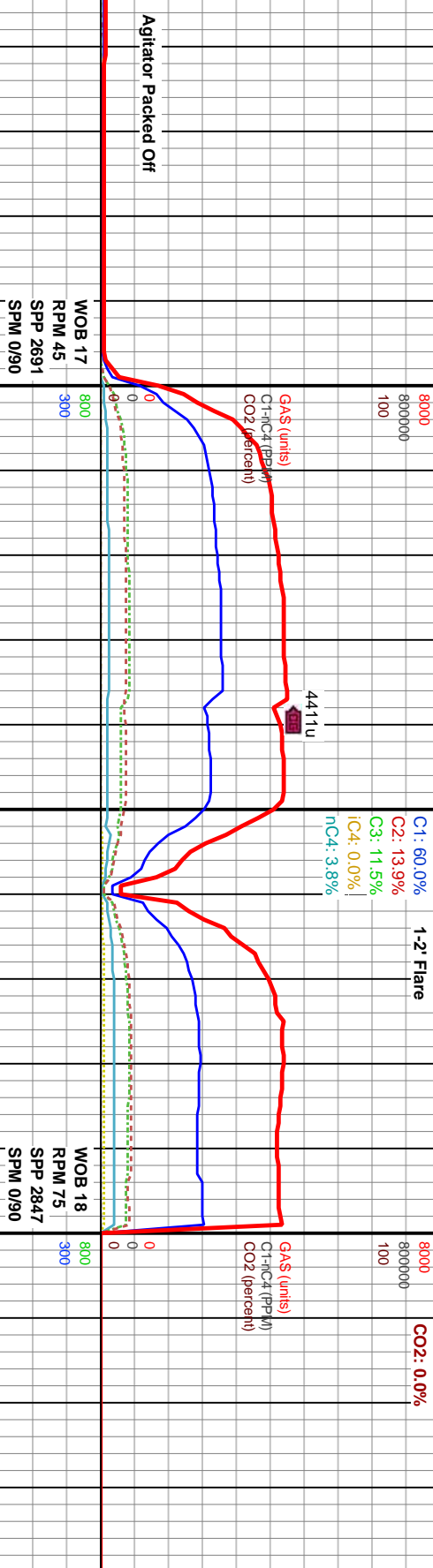
Tr SH
Instnt mod bri blu blooming cut, mod thck
blu-whi resid ring.

60% CHK: tan/gy, occ crm, sft - frm, occ
ply-sb blk, rthy istr, v calc, sl brn/bk sin.
20% MARL: med-dk blk, frm, sb ply-sb
istr, grty, occ motld carb mat.
20% SH: med gy, mod frm, ply, sprkling
ētesid ring.

Oil Show

TR
P
FR
G
E

6,940 6,950 6,960 6,970 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



		ROP (ft/hr)		Gamma (API)				ROP (ft/hr)		Gamma (API)													
		149				89		104															
		0		0				0		0													
6,940	6,950	6,960	6,970	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		
						6280						6280											
		MD: 6.972'		TVD: 6.316'		Inclination: 92.35°		Azimuth: 82.91°		VS: 565.05'				MD: 7.064'		TVD: 6.311.72'		Inclination: 92.99°		Azimuth: 86.5°		VS: 653.94'	
						TVD (ft)						TVD (ft)											
60% CHK: tan/gy, occ crm, sft - frm, occ brit, sb ply-sb blk, rthy istr, v calc, sl brn/bk stn. 40% MARL: med-dk blk, frm, sb ply-sb blk, rthy istr, grry, occ mottld carb mat.		60% MARL: med-dk blk, frm, sb ply-sb blk, rthy istr, grry, occ mottld carb mat. 40% CHK: tan/gy, com crm, sft - frm, occ brit, sb ply-sb blk, rthy istr, v calc, sl brn/bk stn.		90% MARL: med-dk blk, frm, sb ply-sb blk, rthy istr, grry, occ mottld carb mat. 10% CHK: tan/gy, com crm, sft - frm, occ brit, sb ply-sb blk, rthy istr, v calc, sl brn/bk stn.		80% MARL: med-dk blk, frm, sb ply-sb blk, rthy istr, grry, occ mottld carb mat. 20% CHK: tan/gy, com crm, sft - frm, occ brit, sb ply-sb blk, rthy istr, v calc, sl brn/bk stn.		60% b		istr, gr		40% C		ply-sb									
Tr SH		Tr SH		Tr SH		Tr SH		Tr SH		Tr SH		Tr SH		Tr SH		Tr SH		Tr SH		Tr SH		Tr SH	
fst bri blu blooming cut, mod thck blu-whi resid ring.		fst mod bri blu mlky cut, mod thck blu-whi resid ring.		fst mod bri blu mlky cut, mod thck blu-whi resid ring.		fst mod bri blu mlky cut, mod thck blu-whi resid ring.		fst mod bri blu mlky cut, mod thck blu-whi resid ring.		fst mod bri blu mlky cut, mod thck blu-whi resid ring.		fst mod bri blu mlky cut, mod thck blu-whi resid ring.		fst mod bri blu mlky cut, mod thck blu-whi resid ring.		fst mod bri blu mlky cut, mod thck blu-whi resid ring.		fst mod bri blu mlky cut, mod thck blu-whi resid ring.		fst mod bri blu mlky cut, mod thck blu-whi resid ring.		fst mod bri blu mlky cut, mod thck blu-whi resid ring.	

7,160 7,170 7,180 7,190 7,200 7,210 7,220 7,230 7,240 7,250 7,260 7,270 7,280 7,290 7,300 7,310 7,320 7,330 7,340 7,350 7,360 7,370

MINDEPTH

8000
8/6/2015

GAS (units)
C1+HC4 (PPM)
CO2 (percent)

Motor Failure at
7208' MD, TOO H
for new motor.

WOB 19
RPM 75
SPM 2988
SPM 0/90

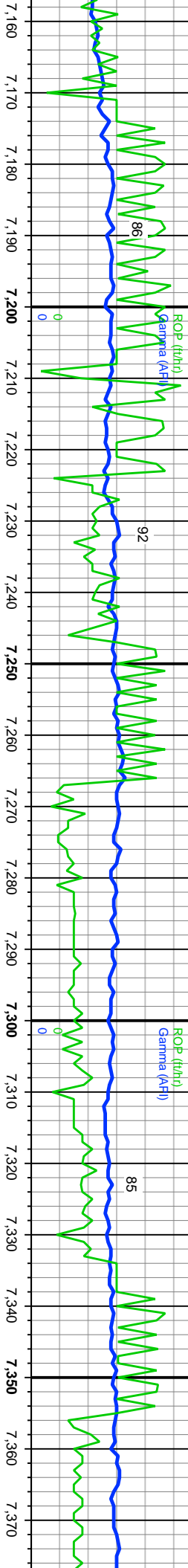
C1: 91.20%
C2: 8.70%
C3: 1.4%
C4: 0.0%
nC4: 0.0%

GAS (units)
C1+HC4 (PPM)
CO2 (percent)

CO2: 0.10%

WOB 13
RPM 71
SPM 1781
SPM 0/125

ROP (t/hr)
Gamma (AFI)



41'
92.37°
1.09°

MD: 7,241'
TVD: 6,304.93'
Inclination: 90.98°
Azimuth: 91.49°
VS: 828.36'

MD: 7,326'
TVD: 6,304.34'
Inclination: 89.81°
Azimuth: 89.95°
VS: 912.39'

TVD (ft)

MARL: med-dk blk, frm, sb pily-sb blk, rthy
tth, occ mottld carb mat.
CHK: tan/gy, com crm, sft - frm, occ brt, sb
o blk, rthy lstr, v calc, sl brn/blk sin.

50% MARL: med-dk blk, frm, sb pily-sb blk, rthy
lstr, grry, occ mottld carb mat.
50% CHK: tan/gy, com crm, sft - frm, occ brt, sb
pily-sb blk, rthy lstr, v calc, sl brn/blk sin.

Tr SH
Inst brt blu mlky cut, mod thck blu-whi resid
ring.

50% MARL: med-dk brwn, frm, sb pily-sb blk,
rthy lstr, grry, occ mottld carb mat.
45% CHK: tan/gy, com crm, sft - frm, occ brt, sb
pily-sb blk, rthy lstr, v calc, sl brn/blk sin.
Aon calc xls.
~5% SH
Tr pyr
fst, mod brt blu mlky cut, mod thck blu-whi resid
ring.

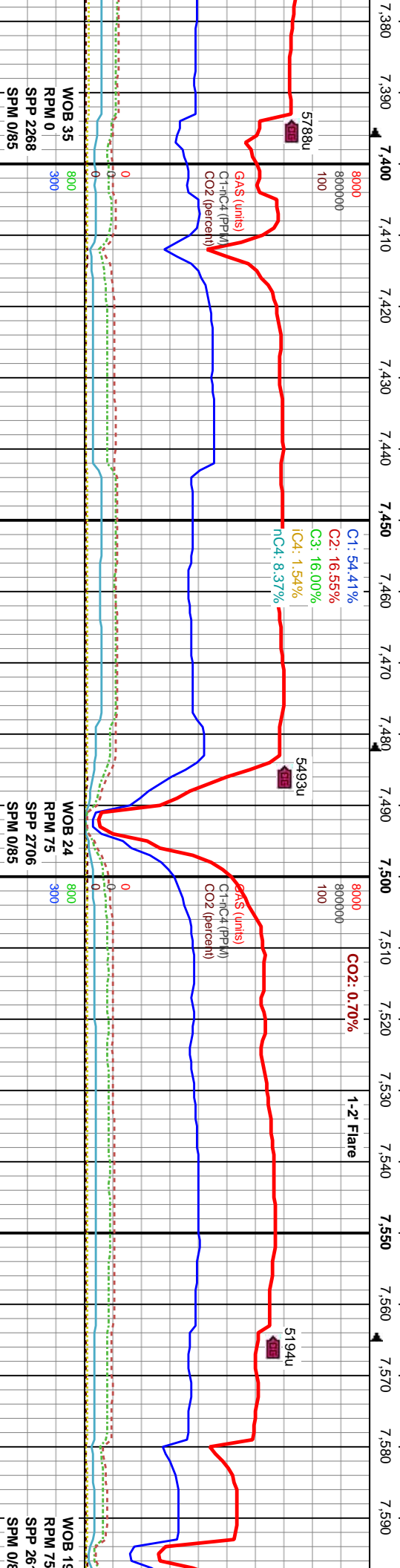
TVD (ft)

70% CHK: tan/gy, occ crm, frm, occ brt, sb
pily-sb blk, rthy lstr, v calc, sl brn/blk sin.
30% MARL: med-dk brwn, frm, sb pily-sb blk,
rthy lstr, grry, cmnn mottld carb mat.

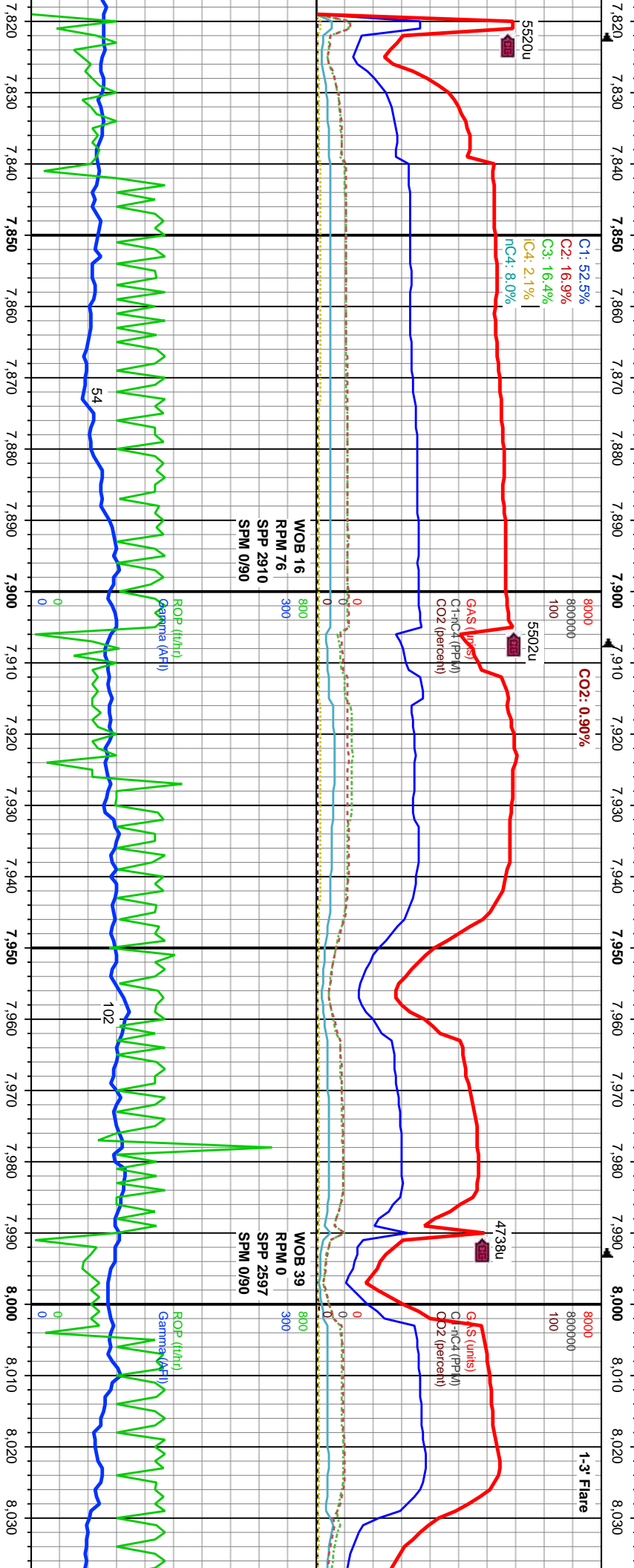
Tr SH
Instnt brt blu blooming cut, mod thck blu-whi
resid ring.

70% CHK: tan/gy, occ crm, l
pily-sb blk, rthy lstr, v calc,
30% MARL: med-dk brwn, fr
rthy lstr, grry, cmnn mottld

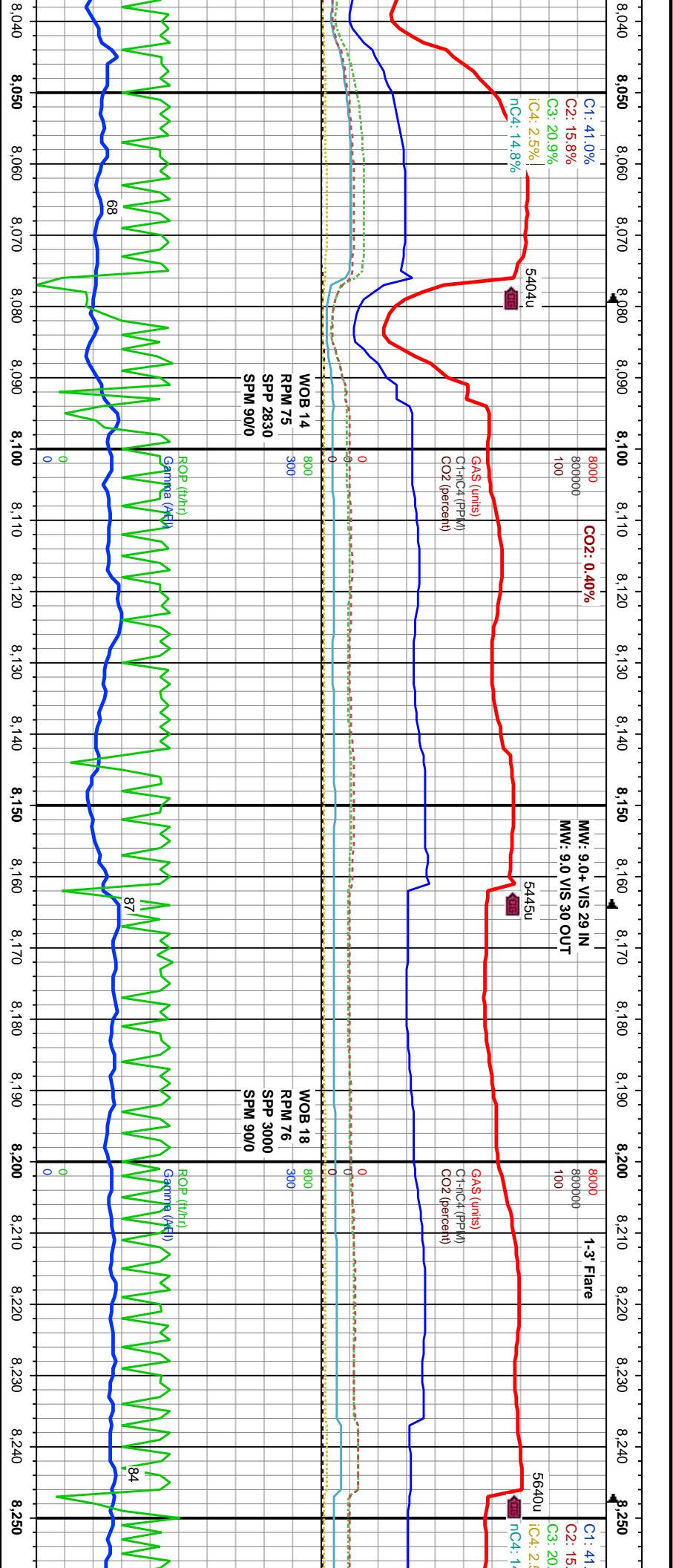
Tr SH
Instnt brt blu blooming cut, r
resid ring.



MD: 7.412'		MD: 7.497'		MD: 7.582'	
TVD: 6,304.97'		TVD: 6,305.53'		TVD: 6,306.61'	
Inclination: 89.35°		Inclination: 89.9°		Inclination: 88.64°	
Azimuth: 88.7°		Azimuth: 88.75°		MD: 7.580' 1.46°	
VS: 997.06'		VS: 1,080.59'		TVD: 6,306.57'	
6280		6280		6280	
TVD (ft)		TVD (ft)		TVD (ft)	
60% CHK: tan/gy, occ crm, frm, occ brlt, sb ply-sb blk, rthy lstr, v calc, sl brn/bk stn.		50% MARL: med-dk brwn, frm, sb ply-sb blk, rthy lstr, grtty, occ mottld carb mat.		60% MARL: med-dk brwn, frm, sb ply-sb blk, rthy lstr, grtty, occ mottld carb mat.	
40% MARL: med-dk brwn, frm, sb ply-sb blk, rthy lstr, grtty, cmmn mottld carb mat.		50% CHK: tan/gy, com crm, sft - frm, occ brlt, sb ply-sb blk, rthy lstr, v calc, sl brn/bk stn.		40% CHK: tan/gy, com crm, sft - frm, occ brlt, sb ply-sb blk, rthy lstr, v calc, sl brn/bk stn.	
frm, occ brlt, sb sl brn/bk stn.		Abn calc xls.		cmmn SH	
mod thck blu-whi resid ring.		good blu whi blooming cut, mod thck blu-whi resid ring.		1st blu whi blooming cut, mod thck blu-whi resid ring.	



<p>MD: 7,839'</p> <p>TVD: 6,308.15'</p> <p>Inclination: 90.34°</p> <p>Azimuth: 88.12°</p> <p>VS: 1,416.49'</p>	<p>MD: 7,924'</p> <p>TVD: 6,308.24'</p> <p>Inclination: 89.54°</p> <p>Azimuth: 87.5°</p> <p>VS: 1,499.76'</p>	<p>MD: 8,009'</p> <p>TVD: 6,309.34'</p> <p>Inclination: 88.98°</p> <p>Azimuth: 87.14°</p> <p>VS: 1,582.88'</p>
<p>90% CHK: tan/gy sl brn, com crm, sft - frm, occ brit, sb ply-sb blk, rthy lstr, v calc, sl brn/bk stn, 10% MARL: med-dk brwn, blk, frm, sb ply-sb blk, rthy lstr, gttty, occ mottld carb mat.</p> <p>cmnn SH</p>	<p>90% CHK: tan/gy sl brn, com crm, sft - frm, occ brit, sb ply-sb blk, rthy lstr, v calc, sl brn/bk stn, 10% MARL: med-dk brwn, blk, frm, sb ply-sb blk, rthy lstr, gttty, occ mottld carb mat.</p> <p>cmnn SH, rr pyr</p>	<p>95% CHK: tan/gy sl brn, com crm, sft - frm, occ brit, sb ply-sb blk, rthy lstr, v calc, sl brn/bk stn, 5% MARL: med-dk brwn, blk, frm, sb ply-sb blk, rthy lstr, gttty, occ mottld carb mat.</p> <p>Rr SH</p>
<p>Inst sl bri blu whi blooming cut, mod thick blu-whi resid ring.</p>	<p>Inst mod bri blu whi blooming cut, mod thick blu-whi resid ring.</p>	<p>Inst bri blu whi blooming cut, mod thick blu-whi resid ring.</p>
<p>Inst sl bri blu whi blooming cut, mod thick blu-whi resid ring.</p>	<p>Inst mod bri blu whi blooming cut, mod thick blu-whi resid ring.</p>	<p>V lstr mod bri blu whi blooming cut, mod thick blu-whi resid ring.</p>



MD: 8,095'
TVD: 6,310.55'
Inclination: 89.41°
Azimuth: 87.29°
VS: 1,666.94'

TVD (ft)

80% CHK: tan/gy sl brn, com crm, sft - frm, occ
brit, sb ply-sb blkly, rthy lstr, v calc, sl brn/bk stn,
20% MARL: med-dk brwn, blk, frm, sb ply-sb blkly,
rthy lstr, grtty, occ mottld carb mat.
Rt SH

Inst bri blu whi blooming cut, mod thick blu-whi
resid ring.

MD: 8,181'
TVD: 6,311.08'
Inclination: 89.88°
Azimuth: 87.29°
VS: 1,751.03'

TVD (ft)

100% CHK: tan/gy sl brn, com crm, sft - frm, occ
brit, sb ply-sb blkly, rthy lstr, v calc, sl brn/bk stn,
Tr MARL: med-dk brwn, blk, frm, sb ply-sb blkly,
rthy lstr, grtty, occ mottld carb mat.

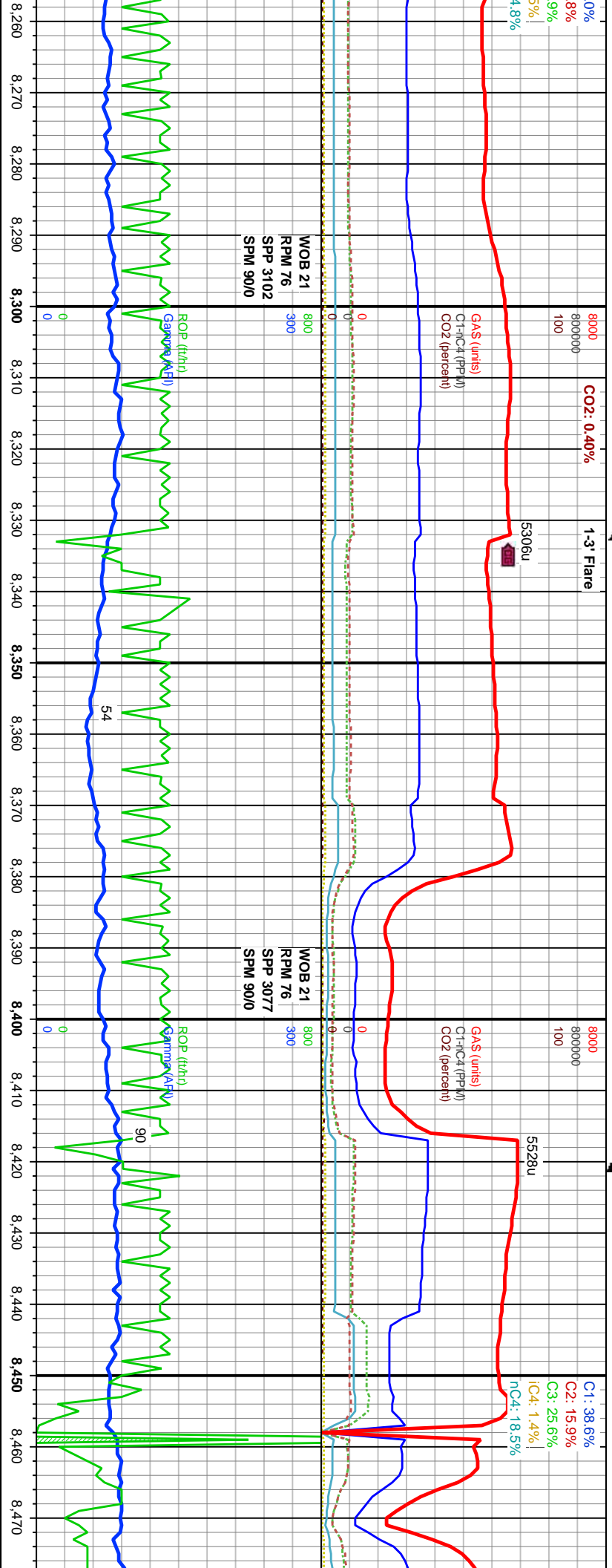
Mod fst blu whi milky cut, mod thick blu-whi resid
ring.

100% CHK: tan/gy sl brn, com crm, sft - frm, occ
brit, sb ply-sb blkly, rthy lstr, v calc, sl brn/bk stn,
Tr MARL: med-dk brwn, blk, frm, sb ply-sb blkly,
rthy lstr, grtty, occ mottld carb mat.

Mod fst blu whi milky cut, mod thick blu-whi resid
ring.

90% C
brit, sb
10% M
blkly, r

Mod fs

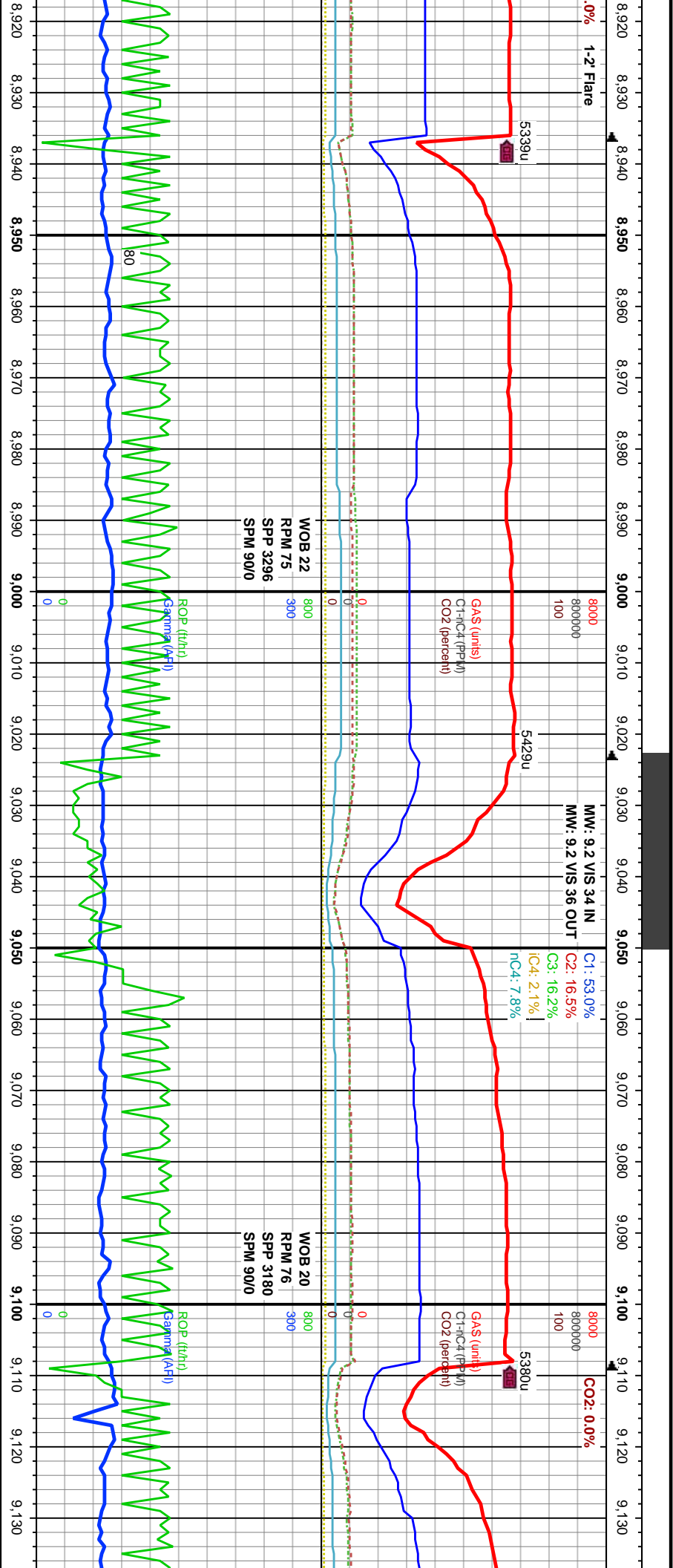


WOB 21
RPM 76
SPP 3102
SPM 90/0

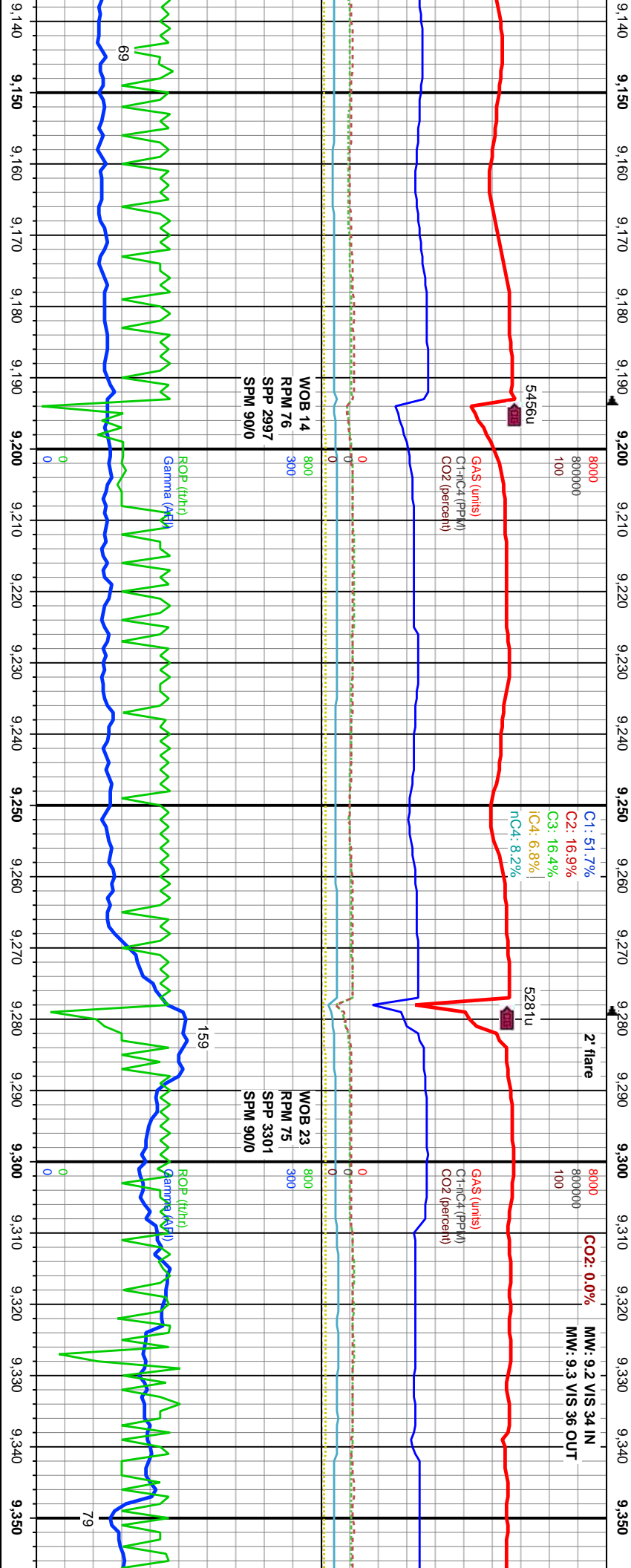
WOB 21
RPM 76
SPP 3077
SPM 90/0

MD: 8,266' TVD: 6,310.83' Inclination: 90.46° Azimuth: 87.78° VS: 1,834.22'	MD: 8,352' TVD: 6,309.91' Inclination: 90.77° Azimuth: 87.59° VS: 1,918.43'	MD: 8,439' TVD: 6,308.13' Inclination: 91.57° Azimuth: 87.73° VS: 2,003.6'
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HK: tan/gy sl brn, com crm, sft - frm, occ ply-sb blk, rthy lstr, v calc, sl brn/blk str. MARL: med-dk brwn - blk, frm - hd, sb ply-sb rthy lstr, grrty, occ mottld carb mat.	60% CHK: brn, com crm, sft - frm, occ brt, sb ply-sb blk, rthy lstr, v calc, sl brn/blk str. 40% MARL: med-dk gy - blk, frm - hd, sb ply-sb blk, rthy lstr, grrty, occ mottld carb mat.	50% CHK: brn, com crm, sft - frm, occ brt, sb ply-sb blk, rthy lstr, v calc, sl brn/blk str. 50% MARL: med-dk gy - blk, frm - hd, sb ply-sb blk, rthy lstr, grrty, occ mottld carb mat.	80% CHK: brn, com crm, sft - frm, occ brt, sb ply-sb blk, rthy lstr, v calc, sl brn/blk str. 10% MARL: med-dk gy - blk, frm - hd, sb ply-sb blk, rthy lstr, grrty, occ mottld carb mat. 10% SH: Med gy, frm, ply-tab, grrty, slty ip	100% CHK: brn, com crm, sft ply-sb blk, rthy lstr, v calc, sl Tr MARL: med-dk gy - blk, frm rthy lstr, grrty, occ mottld carb Rr SH
Slw blu whi milky cut, sl thick blu-whi resid ring.	Mod fst blu whi milky cut, sl thick blu-whi resid ring.	Mod fst sl bri blu whi milky cut, mod thick blu-whi resid ring.	Mod fst sl bri blu whi milky cut resid ring.	



MD: 8.954' TVD: 6,306.28' Inclination: 90.28° Azimuth: 89.44° VS: 2,509.12'	6280	TVD (ft)	95% CHK: lt-med brn, com crm, sft - frm, occ brit, sb ply-sb blk, rthy istr, v calc, sl brn/blk str, 5% MARL: lt-dk gy, com blk, frm - hd, sb ply-sb blk, rthy istr, grty, occ mottd carb mat.	First bri blu whi blooming cut, mod thick blu-whi resid ring.
MD: 9.040' TVD: 6,306.16' Inclination: 89.88° Azimuth: 88.07° VS: 2,593.64'	6280	TVD (ft)	100% CHK: lt-med brn, com crm, sft - frm, occ brit, sb ply-sb blk, rthy istr, v calc, sl brn/blk str, Tr MARL: lt-dk gy, com blk, frm - hd, sb ply-sb blk, rthy istr, grty, occ mottd carb mat.	V 1st sl bri blu whi milky cut, thick blu-whi resid ring.
MD: 9.125' TVD: 6,306.18' Inclination: 90.09° Azimuth: 88.11° VS: 2,676.99'	6280	TVD (ft)	100% CHK: lt-med brn, com crm-tan, sft occ brit, sb ply-sb blk, rthy istr, v calc, sl brn/blk str, Tr MARL: lt-dk gy, com blk, frm - hd, sb blk, rthy istr, grty, occ mottd carb mat.	V 1st bri blu whi blooming cut, mod thick tressid ring.



WOB 14
RPM 76
SPP 2997
SPM 900

WOB 23
RPM 75
SPP 3301
SPM 900

6280	MD: 9,210' TVD: 6,305.56' Inclination: 90.74° Azimuth: 88.42° VS: 2,760.4'	95% CHK: lt-med brn, com crm, sft - frm, occ brlt, sb ply-sb blk, rthy lstr, v calc, sl brn/blk strn, 5% MARL: lt-dk gy, com blk, frm - hd, sb ply-sb blk, rthy lstr, grty, occ mottld carb mat.	95% CHK: lt-med brn, com crm, sft - frm, occ brlt, sb ply-sb blk, rthy lstr, v calc, sl brn/blk strn, 5% MARL: pred blk, lt-dk gy, frm - hd, sb ply-sb blk, rthy lstr, grty, occ mottld carb mat.	Mod fst sl br blu whi mlky cut, mod thck blu-whi resid ring.
6280	MD: 9,296' TVD: 6,303.83' Inclination: 91.57° Azimuth: 88.54° VS: 2,844.83'	90% CHK: lt-med brn, com crm, sft - frm, occ brlt, sb ply-sb blk, rthy lstr, v calc, sl brn/blk strn, 10% MARL: pred blk, lt-dk gy, frm - hd, sb ply-sb blk, rthy lstr, grty, occ mottld carb mat.	80% CHK: lt-med brn, com crm, sft - frm, occ brlt, sb ply-sb blk, rthy lstr, v calc, sl brn/blk strn, 20% MARL: pred blk, lt-dk gy, frm - hd, sb ply-sb blk, rthy lstr, grty, occ mottld carb mat.	Inst blu whi blooming cut, mod thck blu-whi resid ring.

9,360 9,370 9,380 9,390 9,400 9,410 9,420 9,430 9,440 9,450 9,460 9,470 9,480 9,490 9,500 9,510 9,520 9,530 9,540 9,550 9,560 9,570

2' flare

C1: 62.6%
C2: 15.1%
C3: 13.5%
iC4: 1.4%
nC4: 5.9%

CO2: 0.0%

MW: 9.2 VIS 36 IN
MW: 9.2 VIS 36 OUT

8000
800000
100

8000
800000
100

4679u

5210u

5003u

GAS (units)
C1-iC4 (PPM)
CO2 (percent)

GAS (units)
C1-iC4 (PPM)
CO2 (percent)

WOB 15
RPM 75
SPP 3047
SPM 90/0

WOB 22
RPM 76
SPP 3326
SPM 0/90

ROP (t/hr)
Gamma (API)

ROP (t/hr)
Gamma (API)

81

MD: 9,383'
TVD: 6,301.73'
Inclination: 91.19°
Azimuth: 87.59°
VS: 2,930.11'

MD: 9,469'
TVD: 6,300.27'
Inclination: 90.76°
Azimuth: 86.5°
VS: 3,014.11'

MD: 9,554'
TVD: 6,300.65'
Inclination: 88.73°
Azimuth: 86.98°
VS: 3,097.05'

TVD (ft)

TVD (ft)

CHK: lt-med brn, com crm, sft - frm, occ brit,
sb blk, rthy lst, v calc, sl brn/bk sin.
MARL: pred blk, lt-dk gy, frm - hd, sb ply-sb
hly lst, grty, occ motld carb mat.

80% CHK: lt-med brn, com crm, sft - frm, occ brit,
sb ply-sb blk, rthy lst, v calc, sl brn/bk sin.
20% MARL: pred blk, lt-dk gy, frm - hd, sb ply-sb
blk, rthy lst, grty, occ motld carb mat.

90% CHK: lt-med brn, com crm, sft - frm, occ brit,
sb ply-sb blk, rthy lst, v calc, sl brn/bk sin.
10% MARL: pred blk, lt-dk gy, frm - hd, sb ply-sb
blk, rthy lst, grty, occ motld carb mat.

90% CHK: lt-med brn, com crm, sft - frm, occ brit,
sb ply-sb blk, rthy lst, v calc, sl brn/bk sin.
10% MARL: pred blk, lt-dk gy, frm - hd, sb ply-sb
blk, rthy lst, grty, occ motld carb mat.

90% CHK: lt-med brn, com crm, sft - frm, occ brit,
sb ply-sb blk, rthy lst, v calc, sl brn/bk sin.
10% MARL: pred blk, lt-dk gy, frm - hd, sb ply-sb
blk, rthy lst, grty, occ motld carb mat.

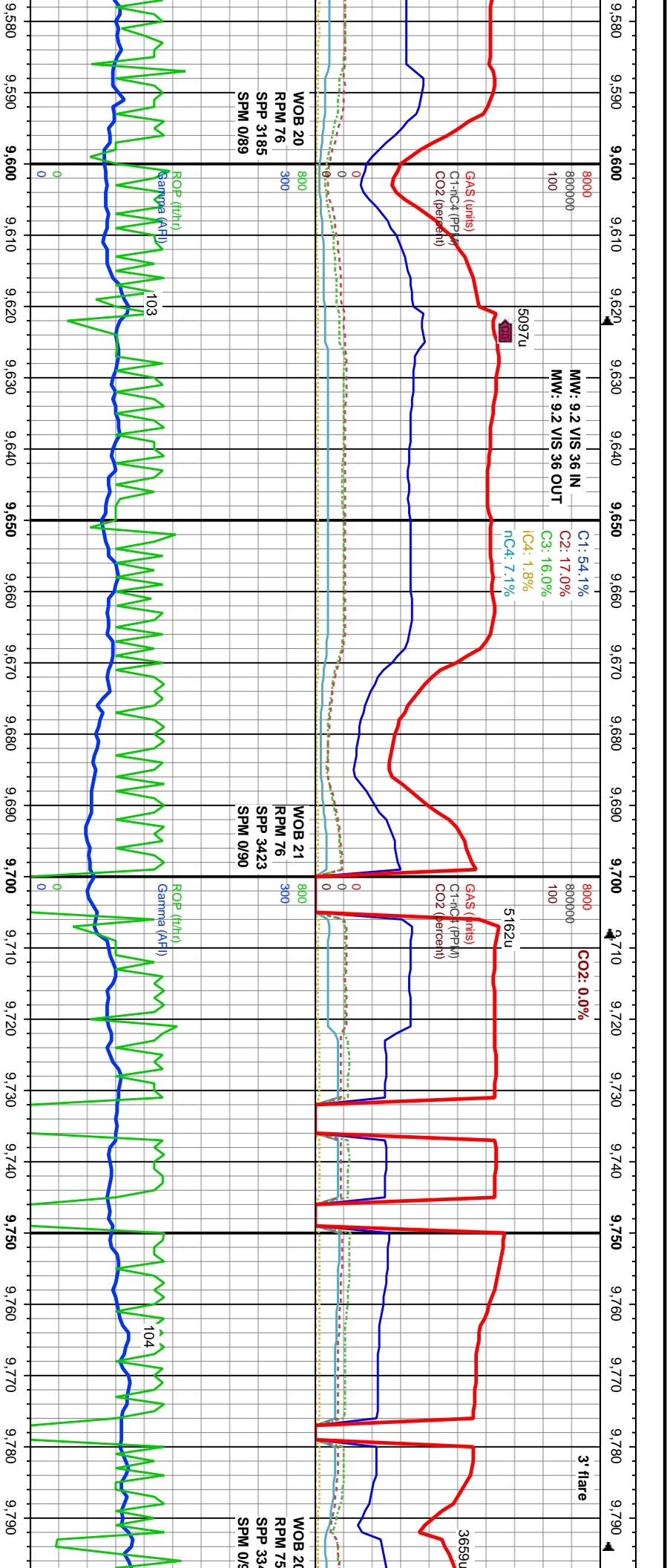
whi blooming cut, mod thick blu-whi resid

ring.

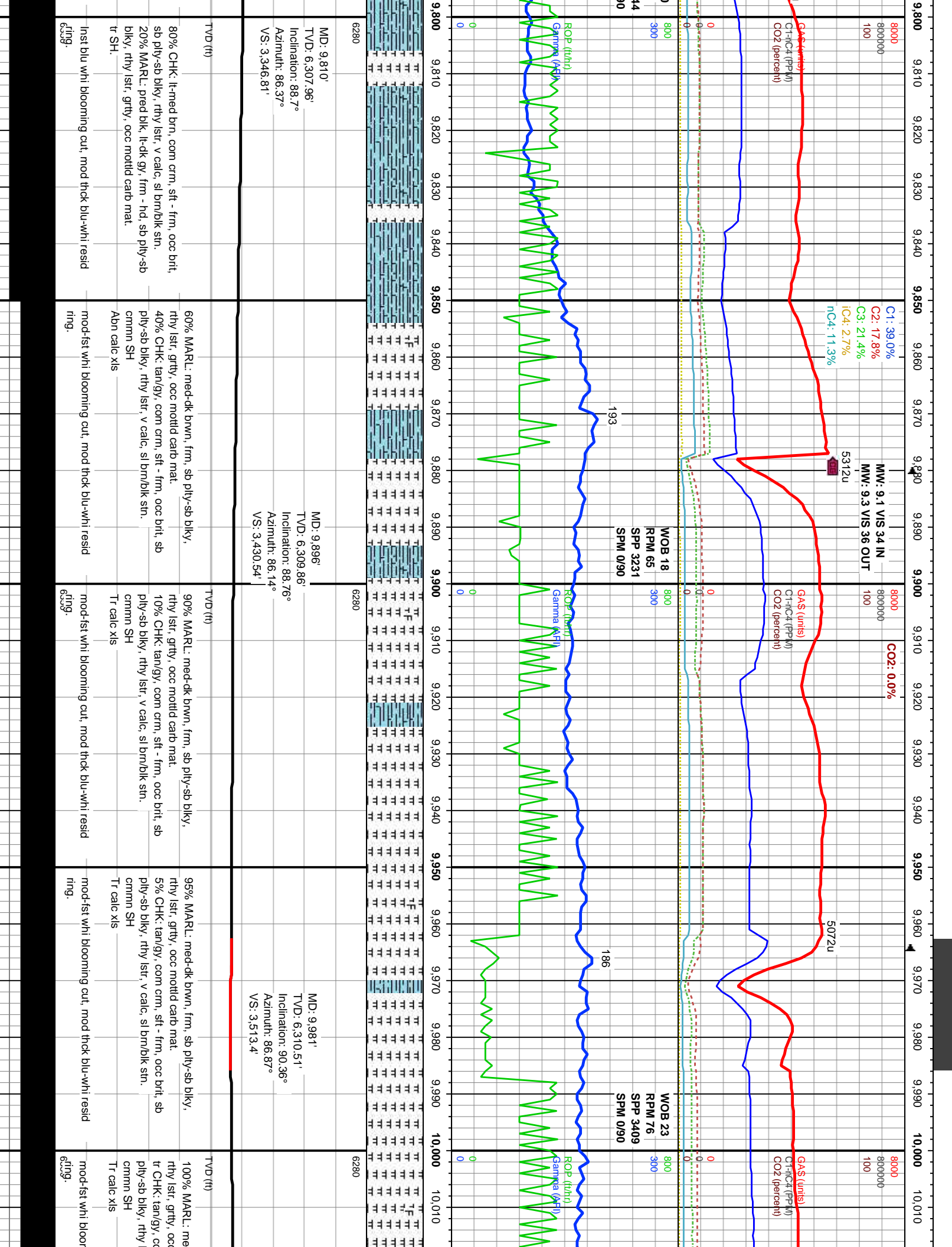
ring.

ring.

ring.



6280	<div>MD: 9.639'</div> <div>TVD: 6,303.13'</div> <div>Inclination: 87.93°</div> <div>Azimuth: 87.19°</div> <div>VS: 3.180.06</div>	<div>TVD (ft)</div> <div>90% CHK: lt-med brn, com crm, sft - frm, occ brlt, sb ply-sb blkly, rthy lstr, v calc, sl brn/bk sn.</div> <div>10% MARL: pred blk, lt-dk gy, frm - hd, sb ply-sb blkly, rthy lstr, grtty, occ motild carb mat.</div> <div>Abn calc xls</div> <div>Tr SH</div>	<div>mod thck blu-whi resid ring.</div>
6280	<div>MD: 9.725'</div> <div>TVD: 6,305.84'</div> <div>Inclination: 88.45°</div> <div>Azimuth: 86.59°</div> <div>VS: 3.263.98</div>	<div>TVD (ft)</div> <div>95% CHK: lt-med brn, com crm, sft - frm, occ brlt, sb ply-sb blkly, rthy lstr, v calc, sl brn/bk sn.</div> <div>5% MARL: pred blk, lt-dk gy, frm - hd, sb ply-sb blkly, rthy lstr, grtty, occ motild carb mat.</div> <div>tr SH.</div>	<div>Inst blu whi blooming cut, mod thck blu-whi resid ring.</div>
6280		<div>90% CHK: lt-med brn, com crm, sft - frm, occ brlt, sb ply-sb blkly, rthy lstr, v calc, sl brn/bk sn.</div> <div>10% MARL: pred blk, lt-dk gy, frm - hd, sb ply-sb blkly, rthy lstr, grtty, occ motild carb mat.</div> <div>tr SH.</div>	<div>Inst blu whi blooming cut, mod thck blu-whi resid ring.</div>



10,020 10,030 10,040 10,050 10,060 10,070 10,080 10,090 10,100 10,110 10,120 10,130 10,140 10,150 10,160 10,170 10,180 10,190 10,200 10,210 10,220 10,230

C1: 63.3%
C2: 15.0%
C3: 10.1%
iC4: 1.0%
nC4: 5.0%

5317u

CO2: 0.0%

GAS (units)
CH4 (PPM)
CO2 (percent)

4887u

MINDEPTH
8/7/2015

GAS (units)
CH4 (PPM)
CO2 (percent)

5187u

WOB 23
RPM 75
SPP 3212
SPM 0/90
183

WOB 23
RPM 66
SPP 3379
SPM 0/90

ROP (ft/hr)
Gamma (AFI)

102



MD: 10,067'
TVD: 6,309.3'
Inclination: 91.26°
Azimuth: 86.94°
VS: 3,597.36'

MD: 10,152'
TVD: 6,308.02'
Inclination: 90.46°
Azimuth: 87.08°
VS: 3,680.38'

MD: 10,152'
TVD: 6,308.02'
Inclination: 90.46°
Azimuth: 87.08°
VS: 3,680.38'

6280

6280

TVD (ft)

TVD (ft)

100% MARL: med-dk brwn, frm, sb ply-sb blk, rthy lstr, grty, occ motild carb mat.
tr CHK: tan/gy, com crm, sft - frm, occ brt, sb ply-sb blk, rthy lstr, v calc, sl brn/blk stn.
cmnm SH
Tr calc xls

80% CHK: lt-med brn, com crm, sft - frm, occ brt, sb ply-sb blk, rthy lstr, v calc, sl brn/blk stn.
20% MARL: pred blk, lt-dk gy, frm - hd, sb ply-sb blk, rthy lstr, grty, occ motild carb mat.
tr SH.

80% CHK: lt-med brn, com crm, sft - frm, occ brt, sb ply-sb blk, rthy lstr, v calc, sl brn/blk stn.
20% MARL: pred blk, lt-dk gy, frm - hd, sb ply-sb blk, rthy lstr, grty, occ motild carb mat.
tr SH.

mod-fst whi blooming cut, mod thck blu-whi resid ring.

fst blu whi blooming cut, mod thck blu-whi resid ring.

fst blu whi blooming cut, mod thck blu-whi resid ring.

fst blu whi blooming cut, mod thck blu-whi resid ring.

med-dk brwn, frm, sb ply-sb blk, c motild carb mat.
com crm, sft - frm, occ brt, sb ply-sb blk, rthy lstr, v calc, sl brn/blk stn.
Tr calc xls

mod-fst whi blooming cut, mod thck blu-whi resid ring.

10,240 10,250 10,260 10,270 10,280 10,290 10,300 10,310 10,320 10,330 10,340 10,350 10,360 10,370 10,380 10,390 10,400 10,410 10,420 10,430 10,440 10,450

C1: 61.4%
C2: 16.8%
C3: 13.1%
iC4: 1.3%
nC4: 5.0%

CO2: 0.0%

MW: 9.3 VIS 36 IN
MW: 9.3 VIS 35 OUT

5202u

5447u

8000
800000
100

GAS (units)
C-10C4 (PPM)
CO2 (percent)

C1: 63
C2: 15
C3: 11
iC4: 1
nC4: 4

WOB 24
RPM 75
SPP 3426
SPM 0/90

WOB 67
RPM 0
SPP 2746
SPM 0/90

ROP (t/hr)
Gamma (AFI)

ROP (t/hr)
Gamma (AFI)

109

97

57



38'
07.18'
n: 90.67°
87.09°
4.4'

MD: 10.323'
TVD: 6,305.66'
Inclination: 91.38°
Azimuth: 86.78°
VS: 3.847.39'

MD: 10.408'
TVD: 6,303.79'
Inclination: 91.14°
Azimuth: 86.5°
VS: 3.930.28'

TVD (ft)

TVD (ft)

occ brlt,
sb pty-sb blk, rthy lstr, v calc, sl brn/bk stn.
sn.
sb pty-sb

60% CHK: lt-med brn, com crm, sft - frm, occ brlt,
sb pty-sb blk, rthy lstr, v calc, sl brn/bk stn.
40% MARL: pred blk, lt-dk gy, frm - hd, sb pty-sb
blk, rthy lstr, grty, occ motld carb mat.
tr SH.
Abn calc xls

90% CHK: lt-med brn, com crm, sft - frm, occ brlt,
sb pty-sb blk, rthy lstr, v calc, sl brn/bk stn.
10% MARL: pred blk, lt-dk gy, frm - hd, sb pty-sb
blk, rthy lstr, grty, occ motld carb mat.
tr SH.

90% CHK: lt-med brn, com crm, sft - frm, occ brlt,
sb pty-sb blk, rthy lstr, v calc, sl brn/bk stn.
10% MARL: pred blk, lt-dk gy, frm - hd, sb pty-sb
blk, rthy lstr, grty, occ motld carb mat.
tr SH.

90% C
sb pty
10% MARL: pred blk, lt-dk gy, frm - hd, sb pty-sb
blk, rthy lstr, grty, occ motld carb mat.
tr SH.

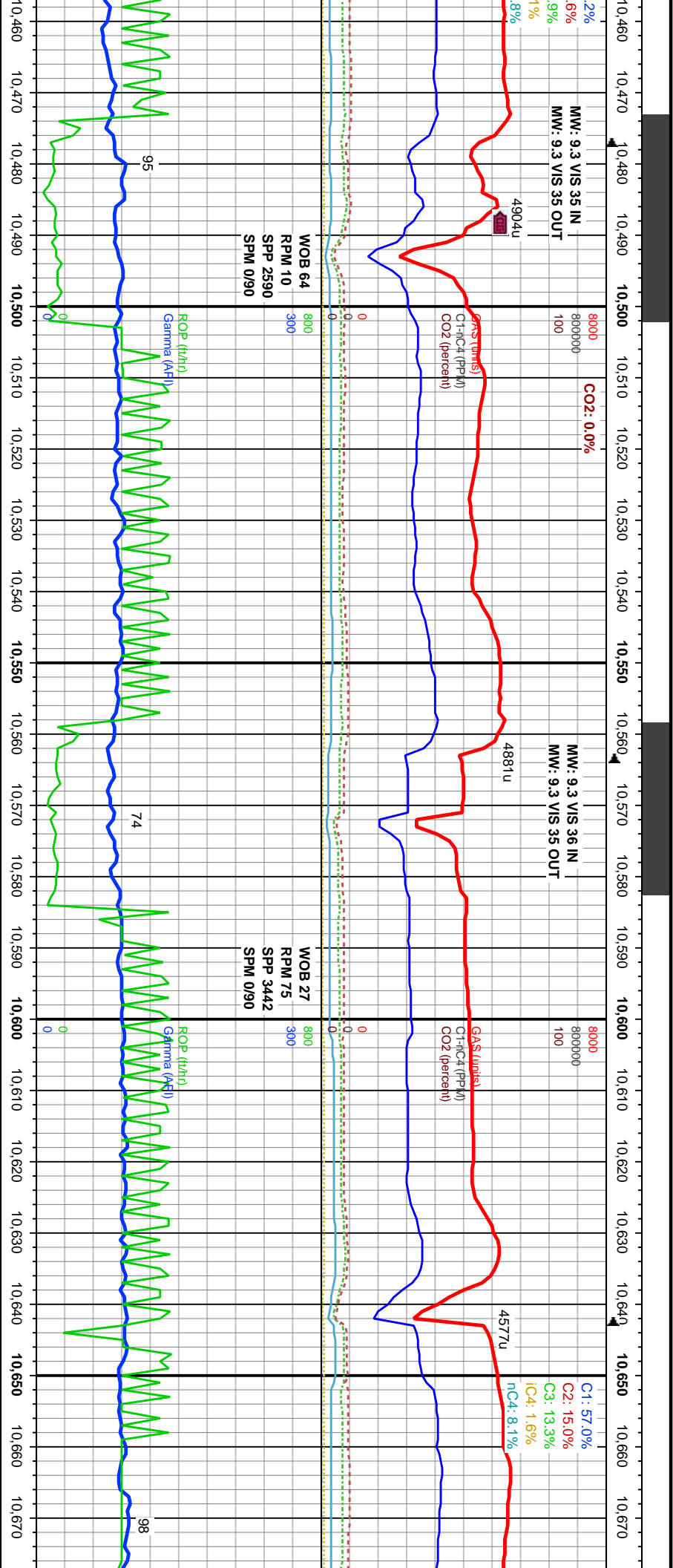
rst resid
ring.

fst blu whi blooming cut, mod thck blu-whi resid
ring.

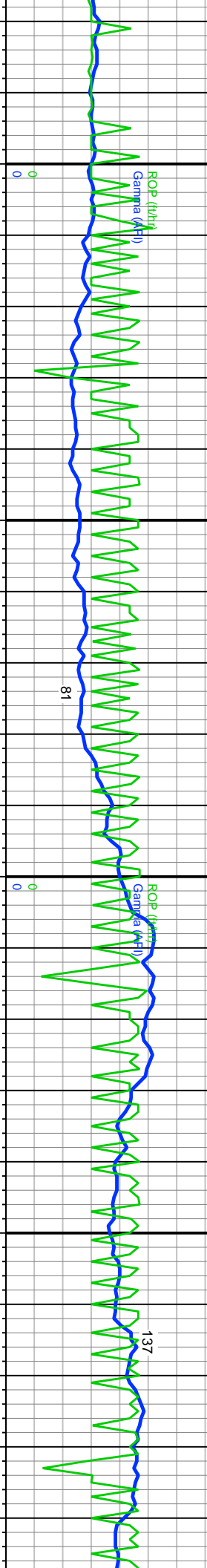
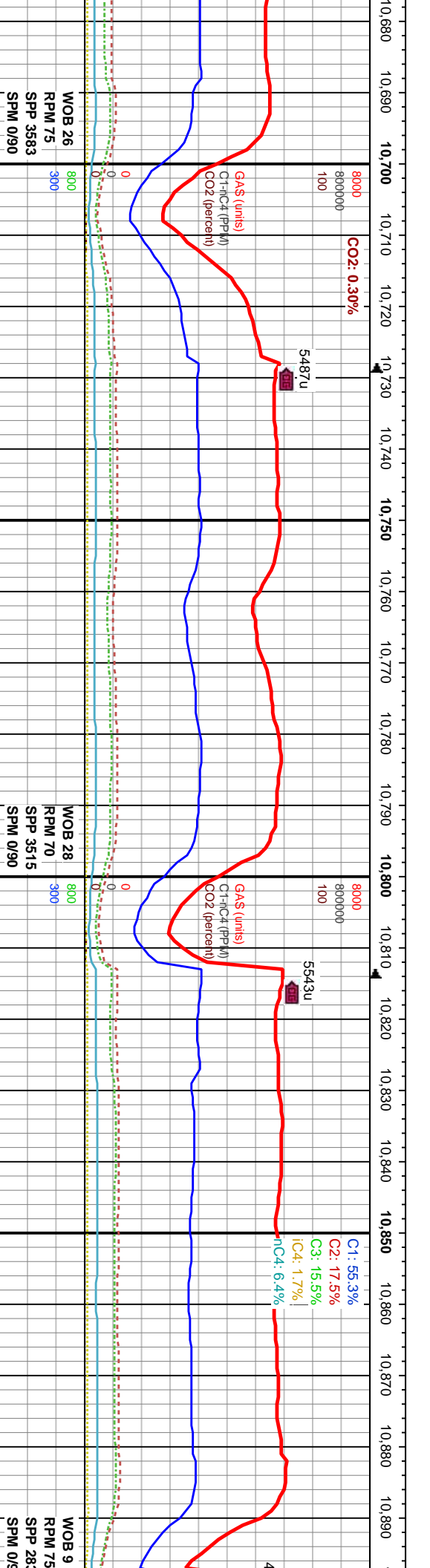
rst blu whi blooming cut, mod thck blu-whi resid
ring.
6350

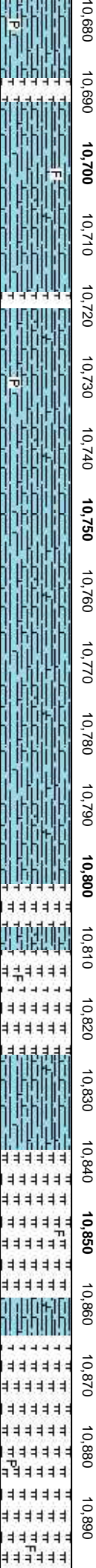
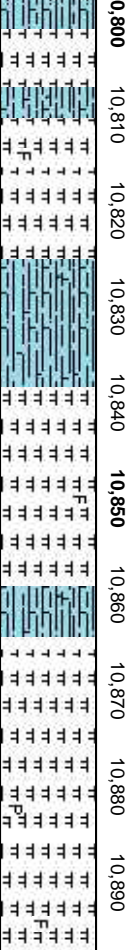
rst blu whi blooming cut, mod thck blu-whi resid
ring.

rst blu whi blooming cut, mod thck blu-whi resid
ring.
6350



MD: 10.494' TVD: 6,302.33' Inclination: 90.8° Azimuth: 87.32° VS: 4,014.24'		MD: 10.579' TVD: 6,301.12' Inclination: 90.83° Azimuth: 88.51° VS: 4,097.53'		MD: 10.665' TVD: 6,299.81' Inclination: 90.92° Azimuth: 88.81° VS: 4,182.02'	
90% CHK: lt-med brn, com crm, sft - frm, occ brt, sb ply-sb blk, rthy lstr, v calc, sl brn/blk sin, 10% MARL: pred blk, lt-dk gy, frm - hd, sb ply-sb blk, rthy lstr, gfty, occ mottd carb mat.		95% CHK: lt-med brn, com crm, sft - frm, occ brt, sb ply-sb blk, rthy lstr, v calc, sl brn/blk sin, 5% MARL: pred blk, lt-dk gy, frm - hd, sb ply-sb blk, rthy lstr, gfty, occ mottd carb mat.		80% CHK: lt-med brn, com crm, sft - frm, occ brt, sb ply-sb blk, rthy lstr, v calc, sl brn/blk sin, 20% MARL: pred blk, lt-dk gy, frm - hd, sb ply-sb blk, rthy lstr, gfty, occ mottd carb mat.	
inst blu whi blooming cut, mod thick blu-whi resid ring.		inst blu whi blooming cut, mod thick blu-whi resid ring.		inst blu whi blooming cut, mod thick blu-whi resid ring.	



10,680	10,690	10,700	10,710	10,720	10,730	10,740	10,750	10,760	10,770	10,780	10,790	10,800	10,810	10,820	10,830	10,840	10,850	10,860	10,870	10,880	10,890
																					
6280												6280									
MD: 10,750' TVD: 6,298.01' Inclination: 91.5° Azimuth: 88.46° VS: 4,265.51'												MD: 10,836' TVD: 6,296.13' Inclination: 92.34° Azimuth: 88.86° VS: 4,349.96'									
TVD (ft)												TVD (ft)									
90% CHK: lt-med brn, com crm, sft - frm, occ brt, sb ply-sb blk, rthy lstr, v calc, sl brn/bk stn. 10% MARL: pred blk, lt-dk gy, frm - hd, sb ply-sb blk, rthy lstr, grty, occ mottld carb mat. tr SH.												70% MARL: med-dk brwn, frm, sb ply-sb blk, rthy lstr, grty, occ mottld carb mat. 30% CHK: tan/gy, com crm, sft - frm, occ brt, sb ply-sb blk, rthy lstr, v calc, sl brn/bk stn. cmrn SH Abn calc xls									
fst blu whi blooming cut, mod thick blu-whi resid ring.												mod-fst whi blooming cut, mod thick blu-whi resid ring.									
thick blu-whi resid												mod-fst whi blooming cut, mod thick blu-whi resid									

