

COLUMBINE LOGGING

Scale: 5" / 100'
Measured Depth Log

Well Name Antelope B11-V41-33HNC

Location SWNW SEC 33 T5N R62W

State CO

County WELD

Country USA

Rig Number CADE 26

Region DJ BASIN

Field WATTENBERG

Spud Date 5/6/2014

Drilling Completed 5/14/2014

Surface Coordinates 1471' FNL x 350' FWL (LAT: 40.35939, 104.33701)

Bottom Hole Coordinates 981' FNL x 470' FEL (LAT: 40.36070, 104.32123) PROJECTED

Ground Elevation 4579'

K.B. Elevation 4596'

Logged Interval 5850' To 10850'

Total Depth 10850'

Formation NIOBRARA, C-CHALK

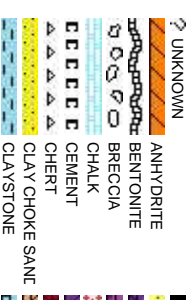
Type of Drilling Fluid LSND, H2O

Company Bonanza Creek

Name Paul McKay

Company Bonanza Creek

Address 410 17th Street
Denver, CO 80202



Operator

Energy Inc.

Geologist

Energy Inc.

, Suite 1500
2022

Rock Types

CONGLOMERATE	MARLSTONE	SHALY SANDSTONE
DOLomite	METAMORPHIC	SHALY SILTSTONE
DOLomite	NO SAMPLE	SILTY SHALE
DOLomite Limestone	SALT	SILTSTONE
GRANITE	SANDSTONE	TUFF
Gypsum	SALT-PEPPER SAND	WELDED TUFF
igneous	SHALE	
SIDERITE or LIMONITE	SHALE COLORED	
LIMESTONE	SHALE GRAY	

Accessories

Fossils	GASTROPOD	ARGILLITE GRAIN	HEAVY MINERAL
INOCERAMUS	B BENTONITE	K KAOLIN	ANHYDRITE STRINGER
ALGAE	O OOLITE	M MARLSTONE	COAL STRINGER
AMPHIPORA	O OSTRACOD	MICACEOUS	DOLOMITE STRINGER
BELEMNITE	P PELECYPOD	MINERAL CRYSTALS	GYPSUM STRINGER
BIOCLASTIC	P PELLET	CARBONACEOUS FLAKES	LIMESTONE STRINGER
BRACHIOPOD	P PISOLITE	CHRTK	N NODULES
BRYOZOA	P PLANT REMAINS	CHRTK	PHOSPHATE PELLETS
CEPHALOPOD	S PLANT SPORES	COAL - THIN BEDS	P PYRITE
CORAL	S SCAPHOPOD	DOLOMITIC	S SALT CAST
CRINOID	S STROMATOPOROID	F FELDSPAR	S SANDY
ECHINOID		F FERRUGINOUS PELLET	S SILICEOUS
Minerals	F FISH	F FERRUGINOUS	S SILTY
FORAMINIFERA	A ANHYDRITIC	G GLAUCONITE	T TUFACEOUS
F FOSSIL	A ARGILLACEOUS	G GYPSIFEROUS	Stringer

Other Symbols

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

Slide/Rotate

ROP
ROF
GAMMA

Bit Data
Bit #: 3
Type: HEO4MRSV
Size: 8.75
Depth In: 5,830'
Jets: 3x20
S/N: 1387663

Total Gas & Chromatograph

GAS
C1
C2
C3
C4

COLUMBINE LOGGING RIGGED UP ON
5/9/2014 MANNED 2-PERSON LOGGING
WITH BLOODHOUND GAS
CHROMATOGRAPH UNIT #0603 BEGAN
ON 5/10/2014, 01:42 MST at 5850' MD

Depth Labels

% Lith

Well Bore
TVD

Oil Show

EMFST

Images

VIS 44 WT 9.3

114

1265u

1972u

MD: 5,873'
Inclination: 6.9 °
Azimuth: 101.93 °
TVD: 5,822.4'
VS: -271.91'

MD: 5,921'
Inclination: 13.35 °
Azimuth: 107.27 °
TVD: 5,869.63'
VS: -264.08'

MD: 5,968'
Inclination: 18.25 °
Azimuth: 109.78 °
TVD: 5,914.84'
VS: -252.48'

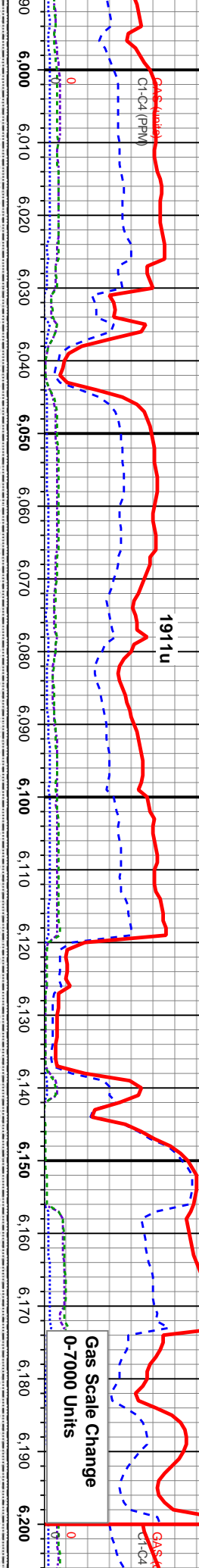
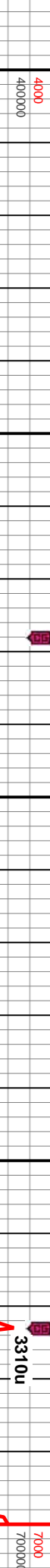
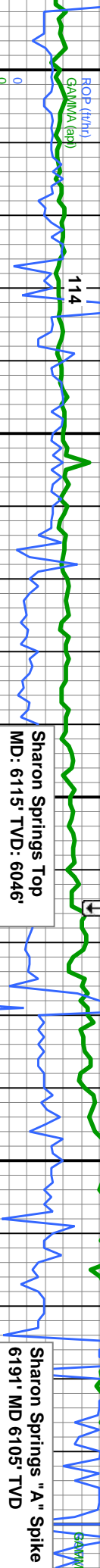
100% SLTY SH: lt-med gy, some dk gy,
mod sft - sl firm, sb blkly-sb plty, occ plty, rthy
- gt, mtx; arg - slty, sl calc, tr sdy sh

100% SLTY SH: med gy, some dk gy, mod
sft - sl firm, sb blkly-sb plty, occ plty, rthy - gt,
mtx; arg - slty, sl calc, tr sdy sh

100% SLTY SH: lt-med gy, some d
mod sft - sl firm, sb blkly-sb plty, occ
- gt, mtx; arg - slty, sl calc, tr sdy sh

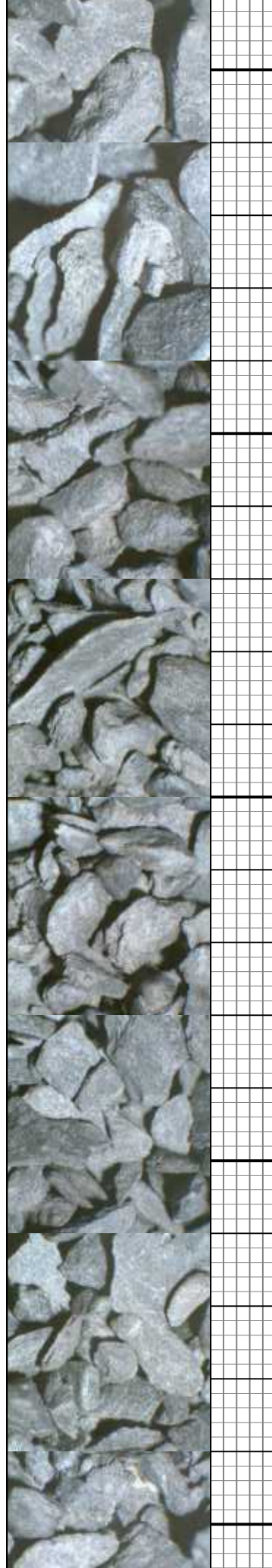


VIS 41 WT 9.4
300
ROP S
220



MD: 6,016' Inclination: 22.86 ° Azimuth: 104.87 ° TVD: 5,959.78' VS: -237.01'	MD: 6,064' Inclination: 28.95 ° Azimuth: 100 ° TVD: 6,002.94' VS: -217.14'	MD: 6,111' Inclination: 35.57 ° Azimuth: 97.65 ° TVD: 6,042.67' VS: -192.91'	MD: 6,159' Inclination: 39.72 ° Azimuth: 96.68 ° TVD: 6,080.66' VS: -164.39'	MD: 6,200' Inclination: 39.72 ° Azimuth: 96.68 ° TVD: 6,119.66' VS: -134.39'
---	--	--	--	--

100% SLTY SH: lt-med gy, some dk gy, mod sft - sl firm, sb blkly-sb pty, occ pty, rthy - gt, mtx; arg - slty, sl calc, tr sdy sh	100% SLTY SH: lt-med gy, some dk gy, mod sft - sl firm, sb blkly-sb pty, occ pty, rthy - gt, mtx; arg - slty, sl calc	100% SLTY SH: med gy, some dk gy, mod sft - sl firm, sb blkly-sb pty, occ pty, rthy - gt, mtx; arg - slty, sl calc	100% SLTY SH: med gy, some dk gy, mod sft - sl firm, sb blkly-sb pty, occ pty, rthy - gt, mtx; arg - slty, sl calc, abnt bent
--	---	--	---



Scale Change 0-500 Fv/Hr

VIS 41 WT 9.3

270

84

Niobara A Marl Top
6322 MD, 6197' TVD

4760u

VIS 44 WT 9.3

162

Sharon Springs "B" Spike
MD: 6240' TVD: 6140'

Niobara A Chalk Top
6307 MD, 6188' TVD

4978u

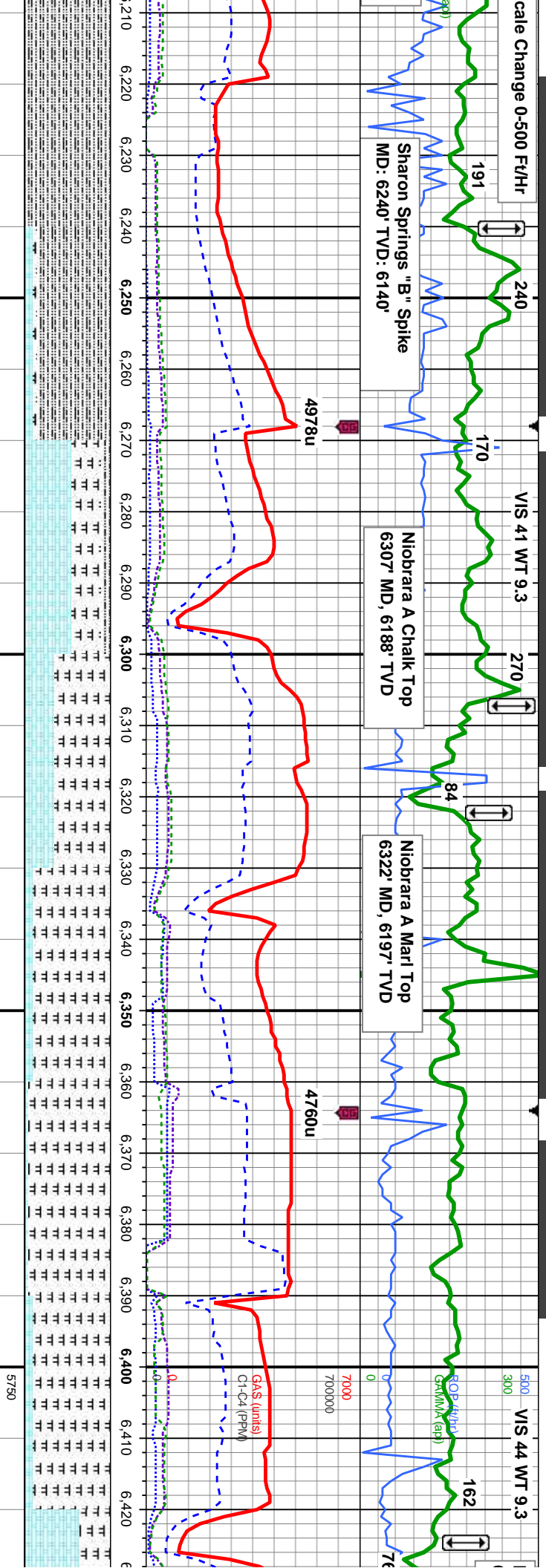
Gas (units)
C1-C4 (ppm)

7000

700000

ROP (ft/hr)

Gamma (api)



6'
n: 42.99 °
97.43 °
15.94'
17'

MD: 6,253'
Inclination: 44.56 °
Azimuth: 95.07 °
TVD: 6,149.88'
VS: -102.43'

MD: 6,301'
Inclination: 48.58 °
Azimuth: 87.82 °
TVD: 6,182.89'
VS: -67.92'

MD: 6,349'
Inclination: 54.5 °
Azimuth: 80.35 °
TVD: 6,212.76'
VS: -30.4'

85-10% SLTY SH: medgy-dkgy, blk, mod sft - firm, pily
- sb blk, sl rthy - gt, mtx; arg - slty, sl calc, 10-55%
CHK: lt gy, crm, mot, sb pily-blky, sft-si frm, rthy-sb
wxy, 5-35%: MRLST: med - dk gy, blk, sb pily - blk, sl
frm - mod hd, arg-sily tex, mtx; calc, fr is & imbd cal,
sl mod chk flor, scat bent; mod-fst strmg bri bishwh,
even mod thk mod yel-amb ring, mod yel-brn

65-90%: MRLST: med-dk gy, blk, sb pily-blky, sl
frm-mod hd, arg-sily tex, mtx; calc, 35-10% CHK: lt
gy, wht-crm, mot, sb pily-blky, sft-si frm, rthy-sb wxy,
fr bent, occ uphole contaminants, fr od; mod-fst
strmg bri bishwh, even mod thk mod yel-amb ring,
mod yel-brn

95-90%: MRLST: med-dk gy, blk, sb pily-blky, sl
frm-mod hd, arg-sily tex, mtx; calc, 5-10% CHK: lt gy,
wht-crm, mot, sb pily-blky, sft-si frm, rthy-sb wxy, occ
uphole con, fr od; mod-fast bri wh bl strmg, even thn
fnt yel-amb rig, thn yel brn

65-75%
frm, rti
med-c
tex, m
mod o
wh-ye

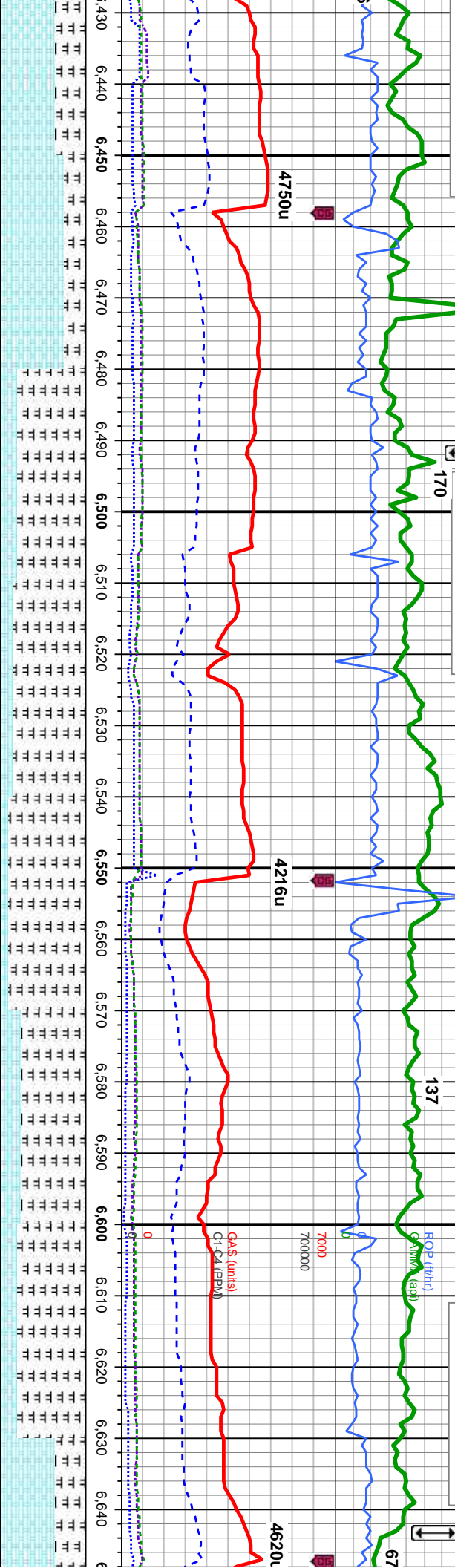


Niobrara B Chalk Top
6424' MD, 6251' TVD

Niobrara B Marl Top
6492' MD, 6280' TVD

VIS 40 WT 9.3

Niobrara C Chalk Top
6643' MD, 6326' TVD



MD: 6,443' Inclination: 64.33° Azimuth: 87.48° TVD: 6,260.16' VS: 50.59'	MD: 6,490' Inclination: 67.52° Azimuth: 90.05° TVD: 6,279.33' VS: 93.33'	MD: 6,538' Inclination: 67.44° Azimuth: 90.73° TVD: 6,297.72' VS: 137.38'	MD: 6,585' Inclination: 73.27° Azimuth: 93.2° TVD: 6,313.51' VS: 181.17'	MD: 6,632' Inclination: 80.16° Azimuth: 93.9° TVD: 6,324.31' VS: 226.22'
%CHK: lt gy, wht-crm, mot, sb ply-biky, sft-si	80-85%: MRLST: med-dk gy, blk, sb ply-biky, sl	90-75%: MRLST: med-dk gy, blk, sb ply-biky, sl	80-35%: MRLST: med-dk gy, blk, sb ply-bik	
ny-sb wxy, occ imbd cal, 35-25%: MRLST:	frm-mod hd, arg-sily tex, mtx, calc, 20-15% CHK: lt gy,	frm-mod hd, arg-sily tex, mtx, calc, 10-25% CHK: lt gy,	frm-mod hd, arg-sily tex, mtx, calc, 20-65% (
lk gy, blk, sb ply-biky, sl frm-mod hd, arg-sily	wht-crm, mot, sb ply-biky, sft-si frm, rthy-sb wxy, occ	wht-crm, mot, sb ply-biky, sft-si frm, rthy-sb wxy, abnt	gy, wht-crm, occ dk brn, mot, sb ply-biky, sft	
tx; calc, lt pyr, some ise cal, scat uphole con,	uphole con, some bent, fr oc, v slow string bri	uphole con, some bent, mod string mod bishwh	rthy-sb wxy, abnt uphole con, lt bent, mod cl	
rd, fast mod wh bl string, even mod thn frt	bishwh, even mod thk mod yel-amb ring, mod yel-brn	string, even mod thk mod yel-amb ring, thk yel-brn	mod oc, fast mod wh bl string, even mod thk	
ring, mod yel brn			wh-yel ring, mod yel brn	



VIS 42 WT 9.3

VIS 46 WT 8.7

ROP Scale Change
0-600 FV/Hr

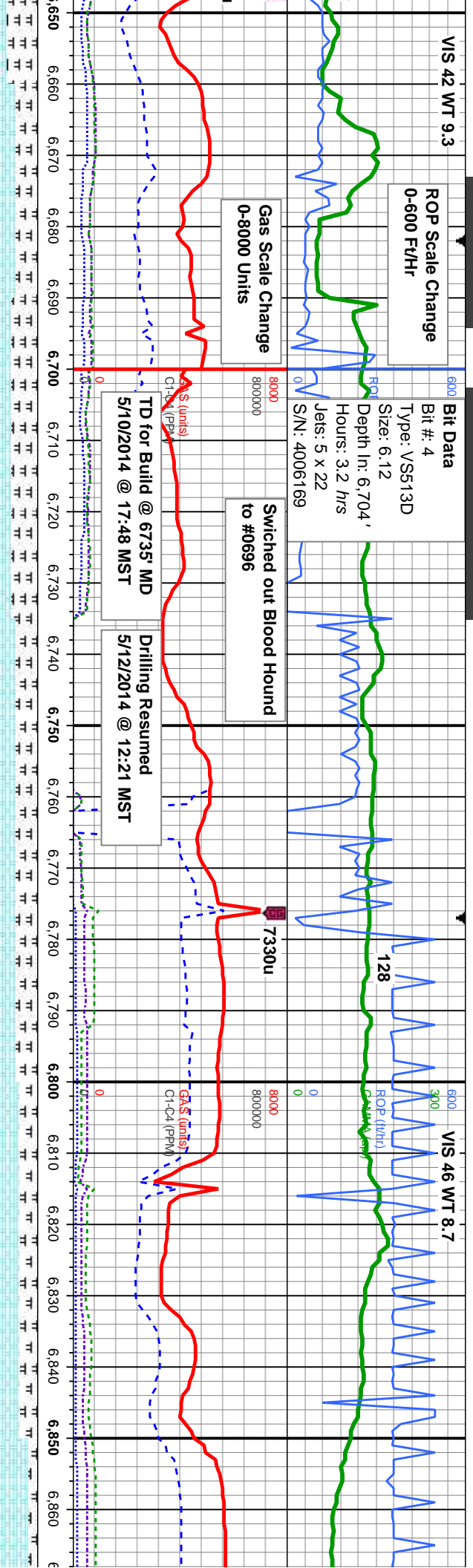
Bit Data
Bit #: 4
Type: VSS513D
Size: 6.12
Depth In: 6,704'
Hours: 3.2 hrs
Jets: 5 x 22
S/N: 4006169

Gas Scale Change
0-8000 Units

Switched out Blood Hound
to #0696

TD for Build @ 6735' MD
5/10/2014 @ 17:48 MST

Drilling Resumed
5/12/2014 @ 12:21 MST



MD: 6,673'
Inclination: 82.06°
Azimuth: 94.48°
TVD: 6,330.64'
VS: 266.06'

Projection to Bit:
MD: 6735
INC: 89.25
AZM: 91.87
TVD: 6335.34
High: 2.66
Right: 9.86

MD: 6,794'
Inclination: 90.4°
Azimuth: 95°
TVD: 6,338.59'
VS: 384.5'

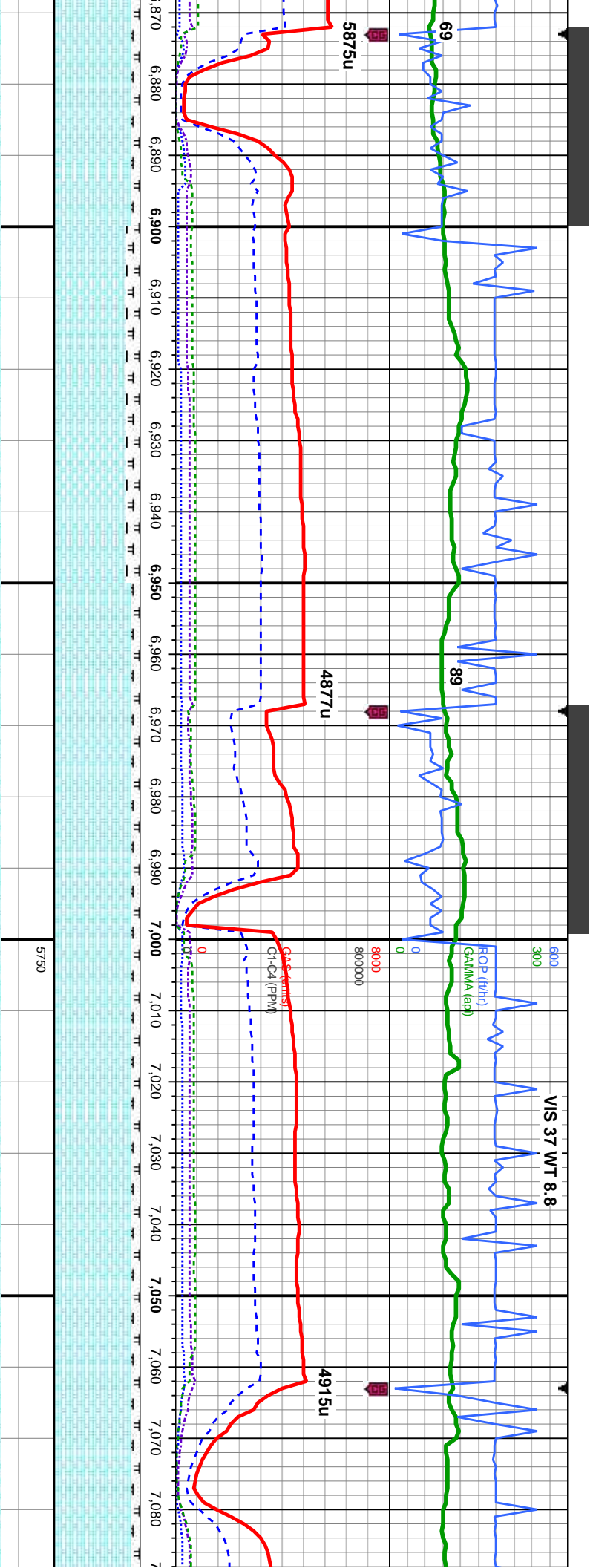
75-70% CHK: lt gy, wht-crm, some dk brn, mot, sb pily-biky, sft-si frm, rthy-sb wxy, occ imbd cal, 25-30%: MRLST: med-dk gy, blk, sb pily-biky, si frm-mod hd, arg-sily tex, mtb, calc, tr pyr, some lse cal, abnt uphole con, mod chk flor, g od, fst strng bri bishwh, even mod thk mod yel-amb ring, mod yel-brn

75% CHK: lt gy, wht-crm, some dk brn, mot, sb pily-biky, sft-si frm, rthy-sb wxy, occ imbd cal, 25%: MRLST: med-dk gy, blk, sb pily-biky, si frm-mod hd, arg-sily tex, mtb, calc, tr pyr, some lse cal, cmt con, g od, fast stng wh bl, even mod thk bri wh-yel, thk yel brn stn

80% CHK: lt gy, wht-crm, mot, sb pily-biky, sft-si frm, rthy-sb wxy, 20%: MRLST: med-dk gy, blk, sb pily-biky, si frm-mod hd, arg-sily tex, some inoc fos fag, g od, fast stng wh bl, even mod thk bri wh-yel, thk yel brn stn

90% CHK: lt gy, sft-si frm, rthy-sb wxy, blk, sb pily-biky, some inoc fos fag, wh bl, even mod stn





MD: 6.889'
Inclination: 90.43 °
Azimuth: 92.93 °
TVD: 6.337.9'
VS: 478'

wht-crm, mot, sb pty-blky,
b wxy, 10%: MRLST: med-dk
blky, sl frm-mod hd, arg-sily
sng fag, g od, mod-fast stmg
thk bri wh-yei, thk yel brn

85% CHK: lt-med gy, occ wht-crm, mot, sb
pty-blky, sft-sl frm, rhy-sb wxy, 15%:
MRLST: med-dk gy, blk, sb pty-blky, sl
frm-mod hd, arg-sily tex, occ cal incl, mod
chk flr, g od, mod-fast stmg wh bl, even
mod thk bri wh-yei, thk yel brn stn

MD: 6.984'
Inclination: 89.97 °
Azimuth: 90.14 °
TVD: 6.337.57'
VS: 572.13'

90% CHK: lt-med gy, occ wht-crm, mot, sb
pty-blky, sft-sl frm, rhy-sb wxy, 10%:
MRLST: med-dk gy, blk, sb pty-blky, sl
frm-mod hd, arg-sily tex, occ cal incl, mod
chk flr, g od, mod-fast stmg wh bl, even
mod thk bri wh-yei, thk yel brn stn

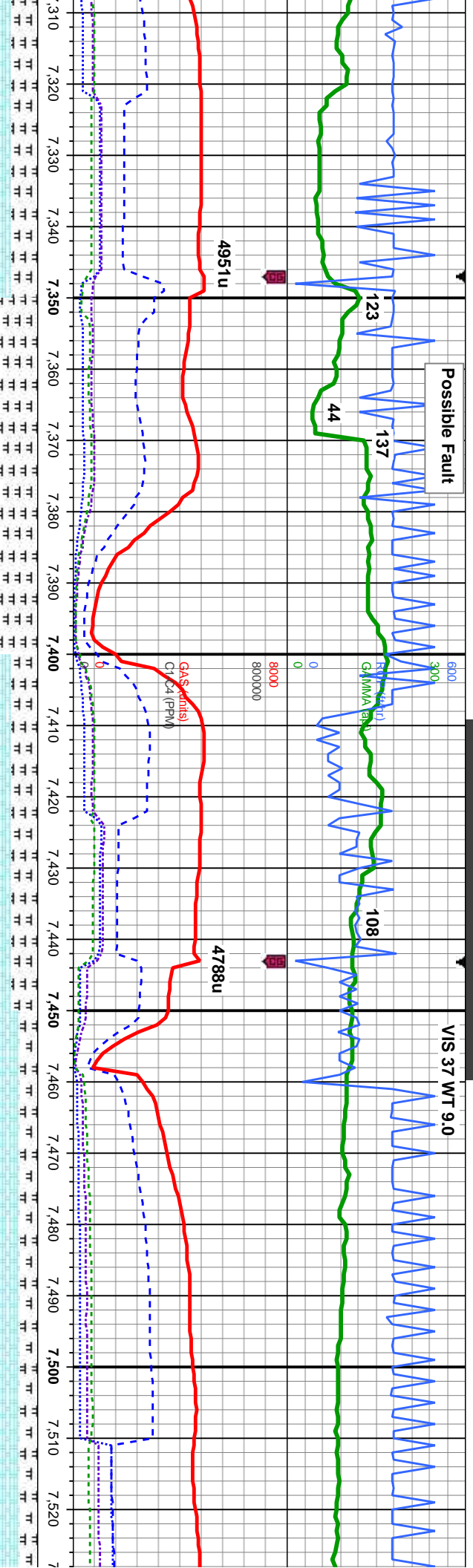
TVD (ft)

90% CHK: lt-med gy, occ wht-crm, mot, sb
pty-blky, sft-sl frm, rhy-sb wxy, 10%:
MRLST: med-dk gy, blk, sb pty-blky, sl
frm-mod hd, arg-sily tex, occ cal incl, mod
chk flr, g od, mod-fast stmg wh bl, even
mod thk bri wh-yei, thk yel brn stn

MD: 7.079'
Inclination: 89.82
Azimuth: 89.14 °
TVD: 6.337.75'
VS: 666.63'

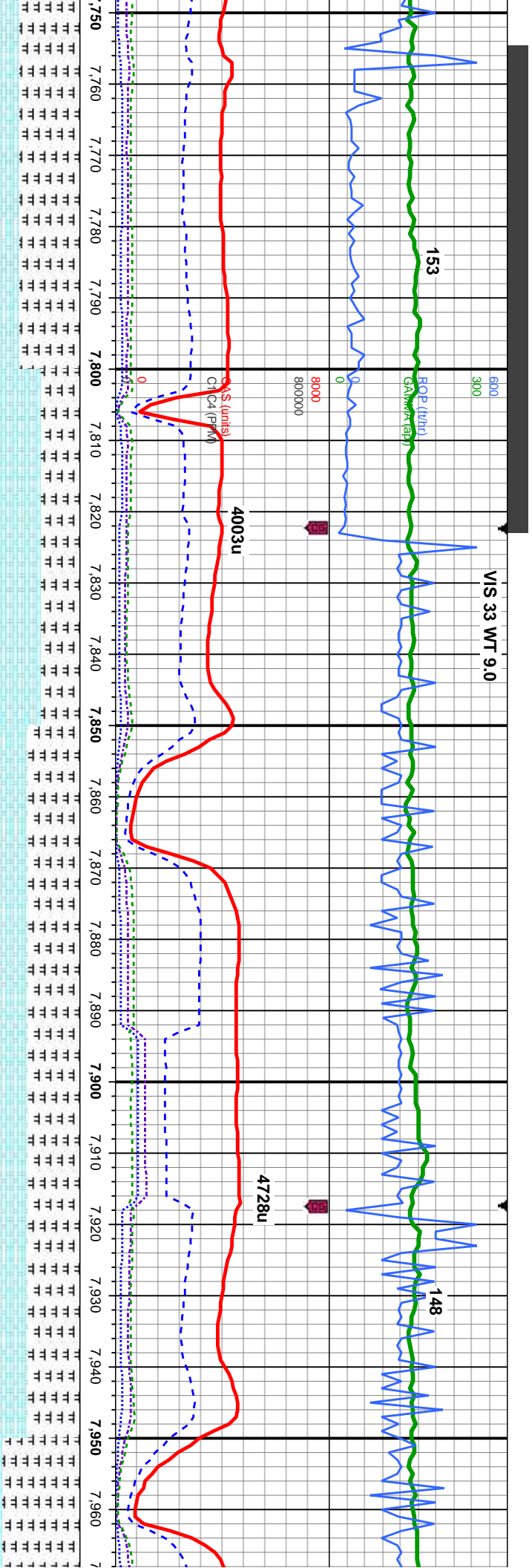
90% CHK: lt-med gy, occ wht-crm,
pty-blky, sft-sl frm, rhy-sb wxy, 1
MRLST: med-dk gy, blk, sb pty-bl
frm-mod hd, arg-sily tex, occ cal ir
chk flr, g od, mod-fast stmg wh bl
mod thk bri wh-yei, thk yel brn stn



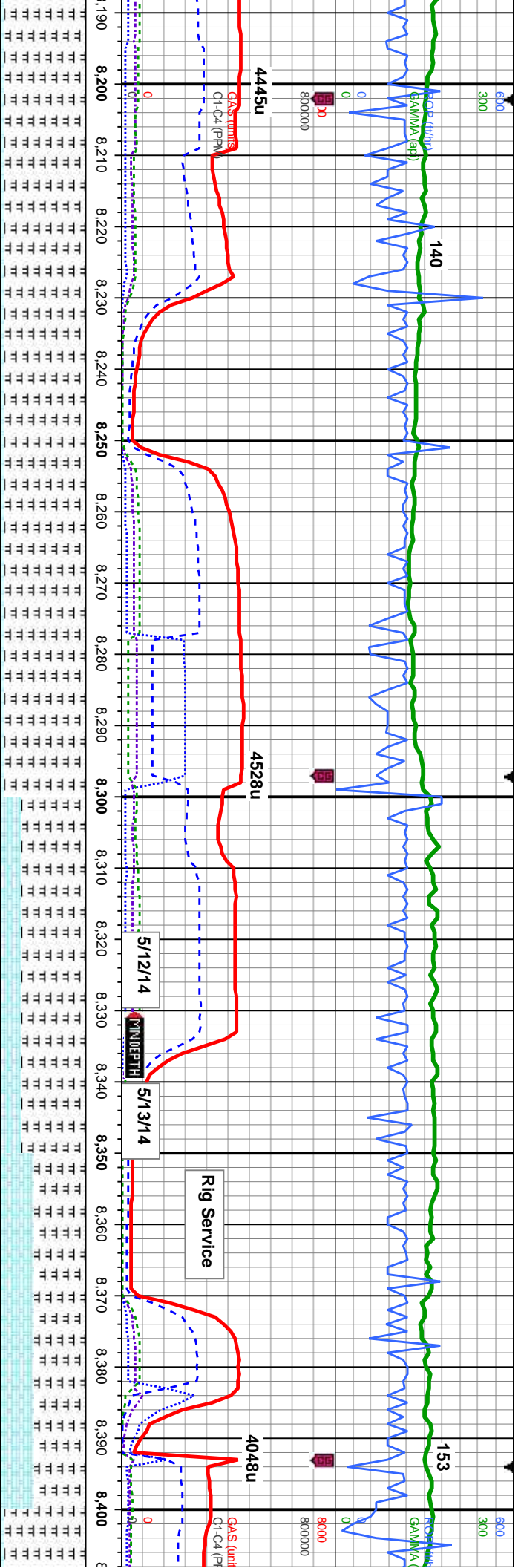


MD: 7,364' Inclination: 90.92 ° Azimuth: 90.4 ° TVD: 6,336.77' VS: 950.17'		55% CHK: med-dk gy, occ wht-crm, mot, sb ply-bkly, sft- sl frm, rthy-sb wxy, 45%: MRLST: med-dk gy, blk, sb ply-bkly, sl frm-mod hd, arg-sily tex, some lse cal, tr fos, occ cal incl, mod od, mod sting wh bl, even mod thk mod wh-yel, tr yel brn stn	70% CHK: med-dk gy, occ wht-crm, mot, sb ply-bkly, sft- sl frm, rthy-sb wxy, 30%: MRLST: med-dk gy, blk, sb ply-bkly, sl frm-mod hd, arg-sily tex, some lse cal, tr fos, occ cal incl, mod od, mod sting wh bl, even mod thk mod wh-yel, mod yel brn stn	80% CHK: med-dk gy, occ brn, mot, sb ply-bkly, sft- sl frm, rthy-sb wxy, 20%: MRLST: med-dk gy, blk, sb ply-bkly, sl frm-mod hd, arg-sily tex, some lse cal, tr fos, scat cal incl, mod od, mod sting wh bl, even mod thk, mod wh-yel, tr yel brn stn	80% CHK: med-dk gy, occ ply-bkly, sft- sl frm, rthy-s MRLST: med-dk gy, blk, s frm-mod hd, arg-sily tex, : fos, scat cal incl, mod od, even mod thk, mod wh-yel
--	--	--	---	--	--





										5750																			



MD: 8,219'
Inclination: 89.32 °
Azimuth: 87.11 °
TVD: 6,340.87'
VS: 1,802.84'

MD: 8,314'
Inclination: 89.35 °
Azimuth: 87.2 °
TVD: 6,341.97'
VS: 1,897.67'

MD: 8.4
Inclination:
Azimuth:
TVD: 6,
VS: 1,9

95% MRLST: dk gy, blk, sb pty-blky, sl frm-mod hd, arg-sily tex, 5% CHK: med gy, dk brn, mot, sb pty-blky, sft-si frm, rthy-sb wxy, tr lse cal, tr fos, some bent, fast sting bri wh bl, even mod thn mod wh yel ring, mod yel brn stn	95% MRLST: dk gy, blk, sb pty-blky, sl frm-mod hd, arg-sily tex, 5% CHK: med gy, dk brn, mot, sb pty-blky, sft-si frm, rthy-sb wxy, tr lse cal, tr fos, some bent, fast sting bri wh bl, even mod thn mod wh yel ring, mod yel brn stn	75% MRLST: dk gy, blk, sb pty-blky, sl frm-mod hd, arg-sily tex, 25% CHK: med gy, dk brn, occ lt gy, mot, sb pty-blky, sft-si frm, rthy-sb wxy, tr imbd cal, mod-fast sting bri wh bl, even mod thn wh yel ring, mod yel brn stn	60% MRLST: dk gy, blk, sb pty-blky, sl frm-mod hd, arg-sily tex, 40% CHK: med gy, dk brn, occ lt gy, mot, sb pty-blky, sft-si frm, rthy-sb wxy, tr imbd cal, mod chk flor, tr ocl, mod-fast sting bri wh bl, even mod mod wh yel ring, mod yel brn stn	95% MRLST: dk gy, blk, sb pty-blky, sl frm-mod hd, arg-sily tex, 5% CHK: med gy, dk brn, mot, sb pty-blky, sft-si frm, rthy-sb wxy, tr lse cal, tr fos, some bent, fast sting bri wh bl, even mod thn mod wh yel ring, mod yel brn stn
--	--	--	--	--



VIS 34 WT 9.0+

600
300
0

168

RUP (mV)
GAMMA (api)

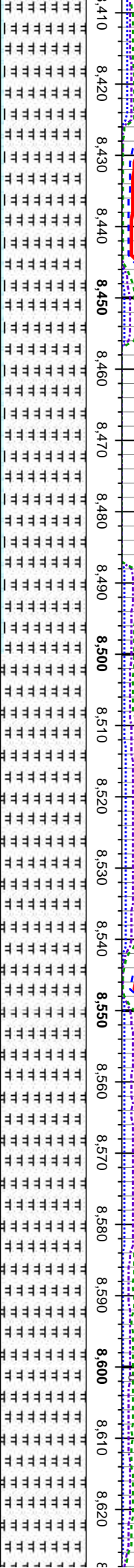
8000
800000

GAS (units)
Gr-C4 (ppm)

4212u

3930u

5750



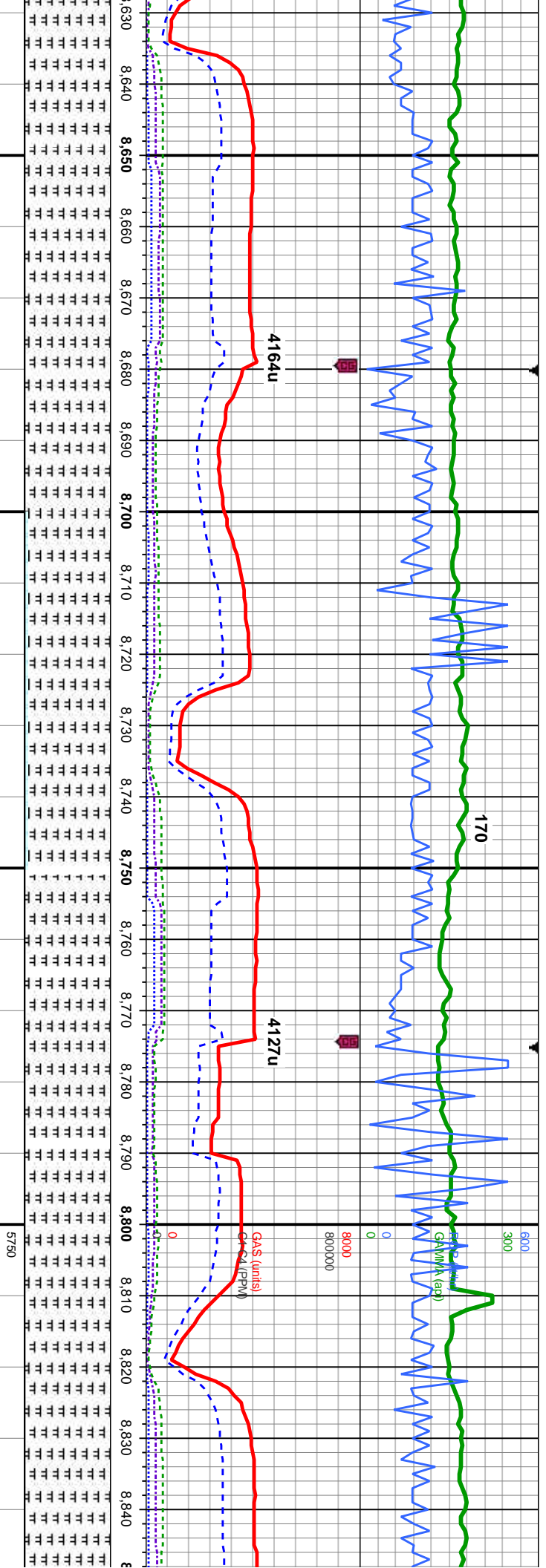
08'
on: 90.31 °
i: 89.22 °
342.25'
31.39'

MD: 8,503'
Inclination: 90.55 °
Azimuth: 88.76 °
TVD: 6,341.54'
VS: 2,085.99'

MD: 8,599'
Inclination: 90.74 °
Azimuth: 89.14 °
TVD: 6,340.46'
VS: 2,181.6'

95% MRLST: dk gy, blk, sb pty-blky, sl frm-mod hd, arg-sily tex, 5% CHK: med gy, dk bm, occ lt gy, mot, sb pty-blky, sft-si frm, rthy-sb wxy, tr cal frags, fr oc; slow-mod string bri wh bl, even thn fnt wh yel ring, mod yel brn sin	100% MRLST: dk gy, blk, sb pty-blky, sl frm-mod hd, arg-sily tex, tr lse cal: mod string bri wh bl, even thn fnt amb-yel ring, mod yel brn sin	100% MRLST: dk gy, blk, sb pty-blky, sl frm-mod hd, arg-sily tex, tr lse cal: mod string bri wh bl, even thn fnt amb-yel ring, mod yel brn sin	100% MRLST: dk gy, blk, sb pty-blky, sl frm-mod hd, arg-sily tex, tr lse cal: mod string bri wh bl, even thn fnt amb-yel ring, mod yel brn sin
---	--	--	--





MD: 8,694'
Inclination: 89.78 °
Azimuth: 89.83 °
TVD: 6,340.03'
VS: 2,276.13'

MD: 8,788'
Inclination: 89.32 °
Azimuth: 90.36 °
TVD: 6,340.77'
VS: 2,369.56'

sb pty-blky, sl	100% MRLST: dk gy, blk, sb pty-blky, sl	95% MRLST: dk gy, blk, sb pty-blky, sl	100% MRLST: dk gy, blk, sb pty-blky, sl	100% MRLST: dk gy, blk, sb pty-blky, sl
tr ise cal; mod-fast	frm-mod hd, arg-sily tex, tr ise cal; mod-fast	dk brn, occ lt gy, mot, sb pty-blky, sft- sl frm,	frm-mod hd, arg-sily tex, tr ise & imbd cal;	frm-mod hd, arg-sily tex, tr ise cal; slow
mod thn mod wh	sting bri wh bl sting, even mod thn mod wh	wh bl, even mod thn mod wh yel ring, mod	slow sting bri wh bl, even mod thn mod wh	sting bri wh bl, even mod thn wh yel ring,
	yel ring, mod yel brn stn	yel brn stn	yel ring, mod yel brn stn	mod yel brn stn



VIS 39 WT 9.3

164

4116u

4216u

GAS (mole)
C1-C4 (PPM)

4634u

600
300
0

800000
80000
0

120

103

8,850 8,860 8,870 8,880 8,890 8,900 8,910 8,920 8,930 8,940 8,950 8,960 8,970 8,980 8,990 9,000 9,010 9,020 9,030 9,040 9,050 9,060

5750

MD: 8,884'
Inclination: 89.72 °
Azimuth: 90.21 °
TVD: 6,341.57'
VS: 2,464.94'

MD: 8,979'
Inclination: 88.6 °
Azimuth: 90.33 °
TVD: 6,342.96'
VS: 2,559.33'

M
In
Az
TV
VS

100% MRLST: dk gy, blk, sb pty-blky, sl
frm-mod hd, arg-sily tex, tr ise cal; slow
stng bri wh bl, even mod thn wh yel ring,
mod yel brn stn

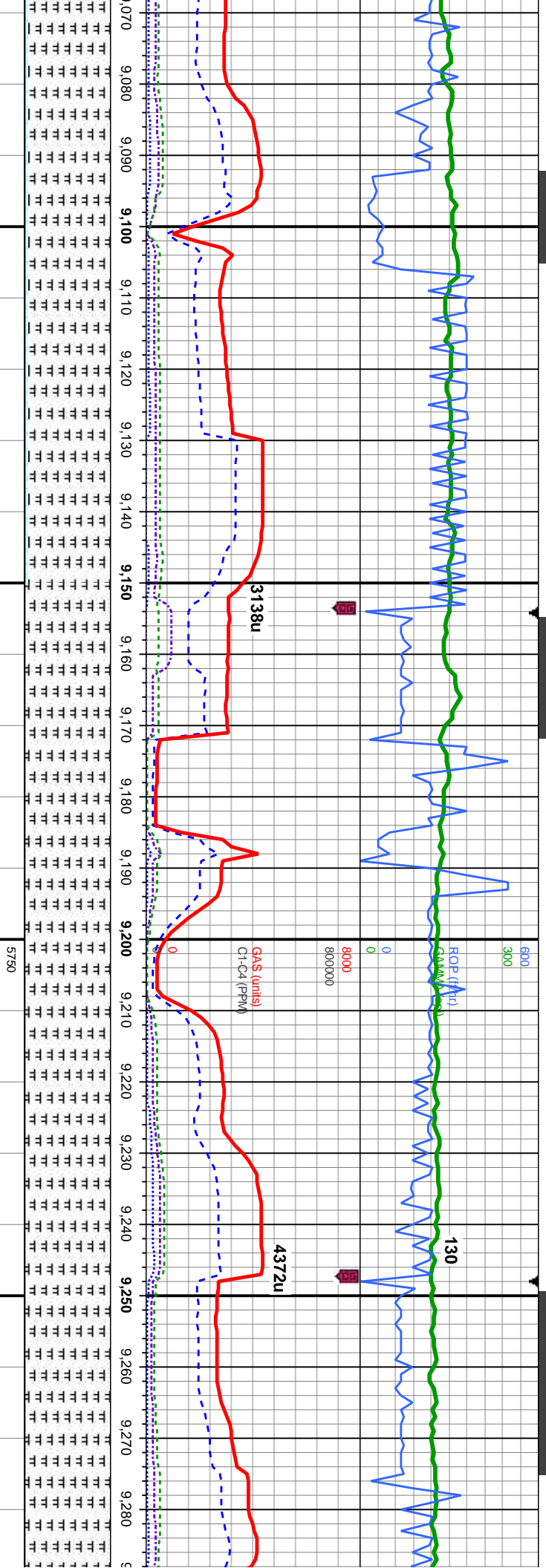
100% MRLST: dk gy, blk, sb pty-blky, sl
frm-mod hd, arg-sily tex, tr ise & imbd cal;
slow stng bri wh bl, even mod thn wh yel
ring, mod yel brn stn

100% MRLST: dk gy, blk, sb pty-blky, sl
frm-mod hd, arg-sily tex, tr ise & imbd cal;
slow stng bri wh bl, even mod thn wh yel
ring, mod yel brn stn

100% MRLST: dk gy, blk, sb pty-blky, sl
frm-mod hd, arg-sily tex, tr ise & imbd cal;
slow stng bri wh bl, even mod thn wh yel
ring, mod yel brn stn

95% MRLST: dk
frm-mod hd, arg
dk brn, occ lt gy,
rthy-sb wxy, tr in
wh bl, even mod
stn





D: 9,074'
Inclination: 88.83 °
Azimuth: 90.06 °
D: 6,345.09'
VS: 2,653.71'

gy, blk, sb pty-blky, sl
silty tex, 5% CHK: med gy,
mot, sb pty-blky, sft-si frm,
thn wh yel ring, mod yel brn

95% MRLST: dk gy, blk, sb pty-blky, sl
frm-mod hd, arg-sily tex, 5% CHK: med gy,
dk brn, occ lt gy, mot, sb pty-blky, sft-si frm,
rthy-sb wxy, tr imbd & ls cal, mod-fast stng
brn wh bl, even mod thk mod wh yel, mod yel
brn stn

100% MRLST: dk gy, blk, sb pty-blky, sl
frm-mod hd, arg-sily tex, occ cal frags, mod-
fast stng bri wh bl, even mod thk mod wh
yel, mod yel brn stn

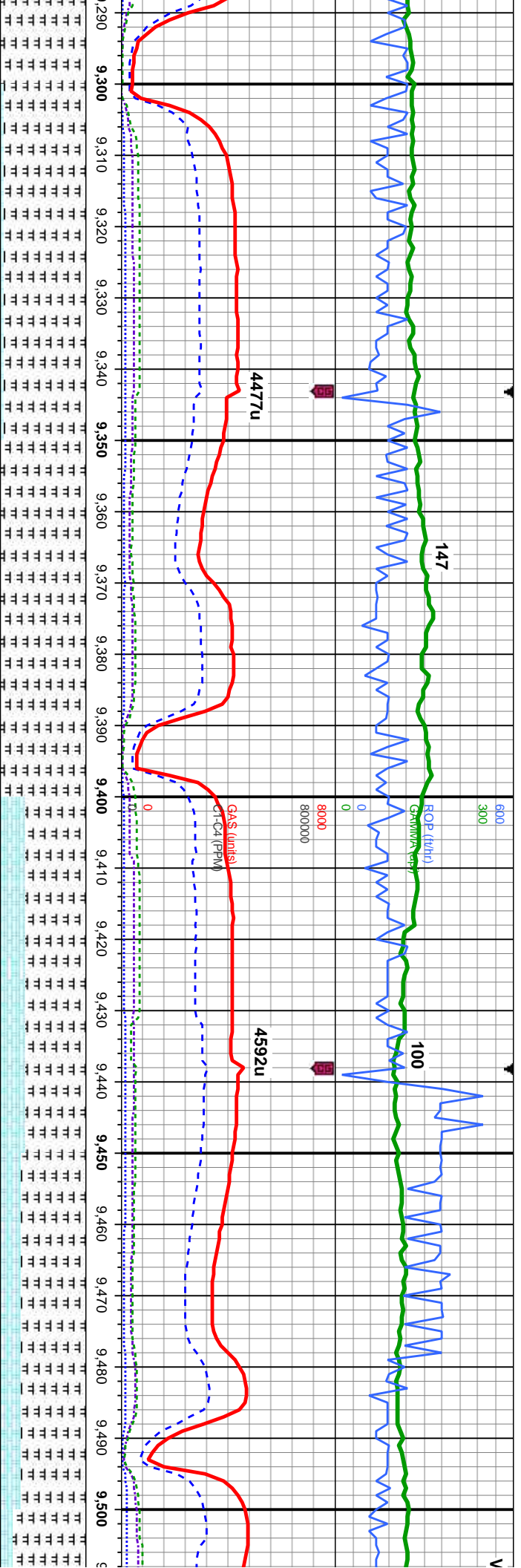
100% MRLST: dk gy, blk, sb pty-blky, sl
frm-mod hd, arg-sily tex, occ cal frags, mod-
fast stng bri wh bl, even mod thk mod wh
yel, mod yel brn stn

100% MRLST: dk gy, blk, sb pty-blky, sl
frm-mod hd, arg-sily tex, occ cal fra

MD: 9,169'
Inclination: 88.31 °
Azimuth: 90.35 °
TVD: 6,347.47'
VS: 2,748.09'

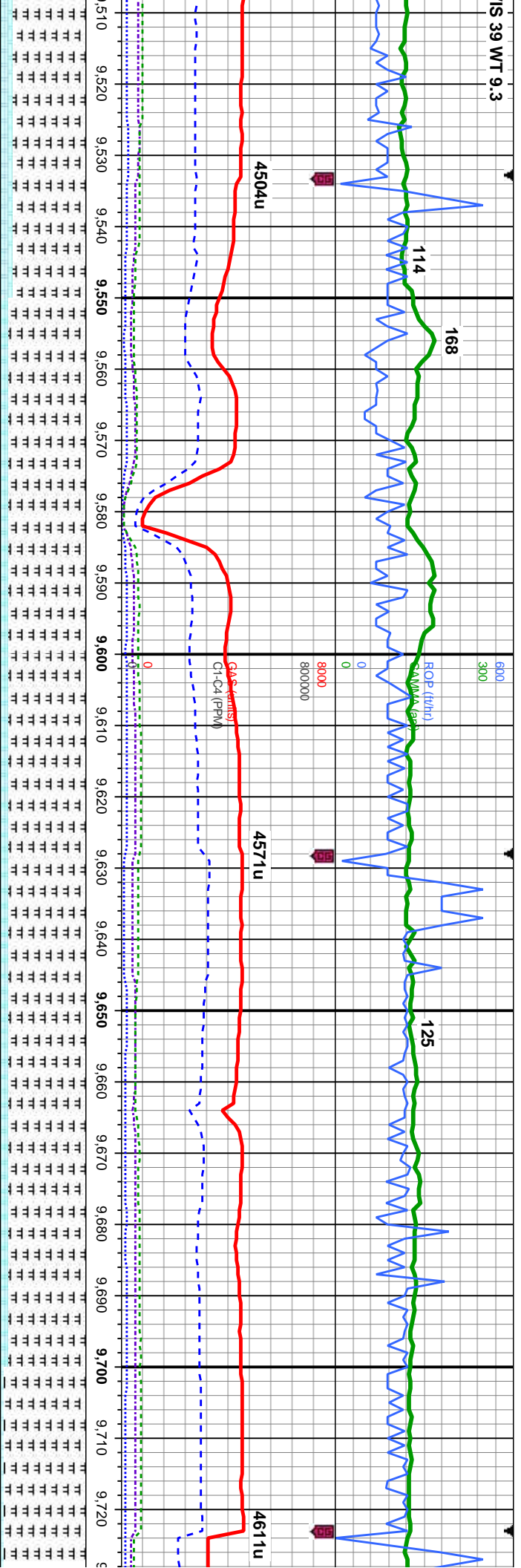
MD: 9,265'
Inclination: 90.03 °
Azimuth: 91.94 °
TVD: 6,348.86'
VS: 2,843.28'





MD: 9,359' Inclination: 90.03 ° Azimuth: 92.29 ° TVD: 6,348.81' VS: 2,936.3'		95% MRLST: dk gy, blk, sb pty-blky, sl frm-mod hd, arg-sily tex, 5% CHK: med gy, dk brn, occ lt gy, mot, sb pty-blky, sft- sl frm, rthy-sb wxy, tr ls cal: mod sting bri wh bl, even mod thk mod wh yel, mod yel brn stn	100% MRLST: dk gy, blk, sb pty-blky, sl frm-mod hd, arg-sily tex, tr ls cal: mod sting bri wh bl, even mod thk mod wh yel, mod yel brn stn	70% MRLST: med-dk gy, sb pty-blky, sl frm-mod sft, arg-sily tex, 30% CHK: lt-med gy, occ dk brn, mot, sb pty-blky, sft- sl frm, rthy-sb wxy, tr ls cal, tr fos frags, tr pyr, fr od: fast sting bri wh bl, even mod thk bri yel amb, mod yel brn stn	MD: 9,454' Inclination: 89.97 ° Azimuth: 92.36 ° TVD: 6,348.81' VS: 3,030.25'	75% MRLST: med-dk gy, sb pty-blky, sl frm-mod sft, arg-sily tex, 25% CHK: lt-med gy, occ dk brn, mot, sb pty-blky, sft- sl frm, rthy-sb wxy, tr ls cal, tr fos frags, fr od: fast sting bri wh bl, even mod thk bri yel anb, mod yel brn stn	85% MRLST: dk gy, blk, sb pty-blky, sl frm-mod hd, arg-sily tex, 5% CHK: med gy, dk brn, occ lt gy, mot, sb pty-blky, sft- sl frm, rthy-sb wxy, tr ls cal: mod sting bri wh bl, even mod thk mod wh yel, mod yel brn stn
--	--	--	--	--	---	--	--



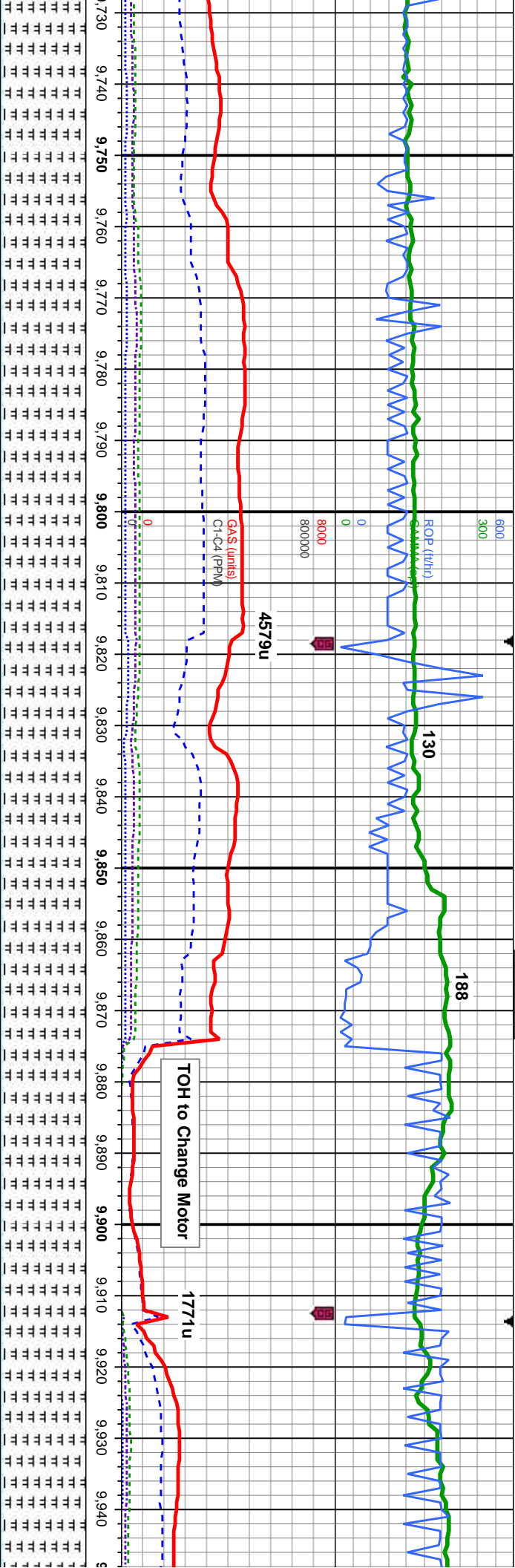


MD: 9,550'
Inclination: 89.57 °
Azimuth: 91.47 °
TVD: 6,349.19'
VS: 3,125.28'

MD: 9,645'
Inclination: 89.48 °
Azimuth: 90.95 °
TVD: 6,349.98'
VS: 3,219.49'

MRST: med-dk gy, sb ply-biky, sl	90% MRST: med-dk gy, sb ply-biky, sl	90% MRST: med-dk gy, occ lt gry, sb ply-biky, sl	90% MRST: med-dk gy, occ lt gry, sb ply-biky, sl	95% MRST: med-dk gy, sb ply-biky, sl
arg-sily tex, 15% CHK: lt-med	arg-sily tex, 10% CHK: lt-med	arg-sily tex, 10% CHK: lt-med	arg-sily tex, 10% CHK: lt-med	arg-sily tex, 10% CHK: lt-med
dk brn, mot, sb ply-biky, sft-si frm,	dk brn, mot, sb ply-biky, sft-si frm,	dk brn, mot, sb ply-biky, sft-si frm,	dk brn, mot, sb ply-biky, sft-si frm,	dk brn, mot, sb ply-biky, sft-si frm,
wxy, lt cal, tr fos frags; slow stng	wxy, lt cal, tr fos frags; slow stng	wxy, lt cal, tr fos frags; slow stng	wxy, lt cal, tr fos frags; slow stng	wxy, lt cal, tr fos frags; slow stng
brl wh bl, even mod thn mod wh yel, mod	brl wh bl, even mod thn mod wh yel, mod	brl wh bl, even mod thn mod wh yel, mod	brl wh bl, even mod thn mod wh yel, mod	brl wh bl, even mod thn mod wh yel, mod
stn	stn	stn	stn	stn





MD: 9,740'
Inclination: 89.69 °
Azimuth: 90.72 °
TVD: 6,350.67'
VS: 3,313.77'

occ lt gry, sb
arg-sily tex, 5%
ply-biky, sft-si frm,
wh bl, even mod
pbn stn

95% MRLST: med-dk gy, occ lt gry, sb
ply-biky, si frm-mod hd, arg-sily tex, 5%
CHK: lt-med gy, mot, sb ply-biky, sft-si frm,
rthy-sb wxy; fast sting bri wh bl, even mod
thk mod wh yel, mod yel brn stn

MD: 9,835'
Inclination: 89.26 °
Azimuth: 90.37 °
TVD: 6,351.54'
VS: 3,408.11'

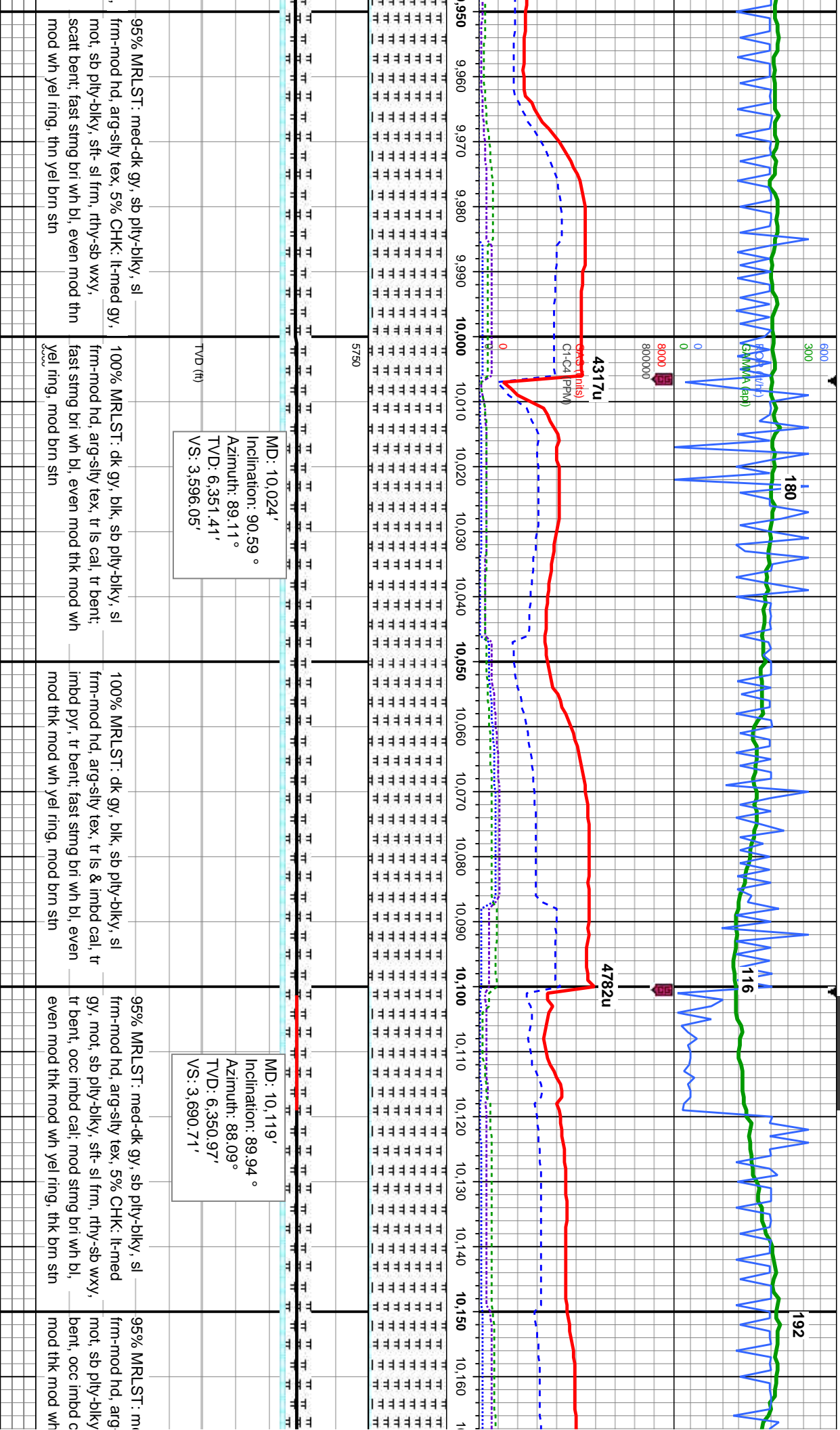
95% MRLST: med-dk gy, sb ply-biky, si
frm-mod hd, arg-sily tex, 5% CHK: lt-med
gy, mot, sb ply-biky, sft-si frm, rthy-sb wxy;
mod sting bri wh bl, even mod thn mod wh
yel ring, mod thn yel brn stn

95% MRLST: med-dk gy, sb ply-biky, si
frm-mod hd, arg-sily tex, 5% CHK: lt-med gy,
mot, sb ply-biky, sft-si frm, rthy-sb wxy, scat
bent; mod sting bri wh bl, even mod thn
mod wh yel ring, mod thn yel brn stn

MD: 9,929'
Inclination: 90.15 °
Azimuth: 89.96 °
TVD: 6,352.02'
VS: 3,501.52'

95% MRLST: med-dk gy, sb ply-biky, si
frm-mod hd, arg-sily tex, 5% CHK: lt-med gy,
mot, sb ply-biky, sft-si frm, rthy-sb wxy,
scatt bent; fast sting bri wh bl, even mod thn
mod wh yel ring, thn yel brn stn

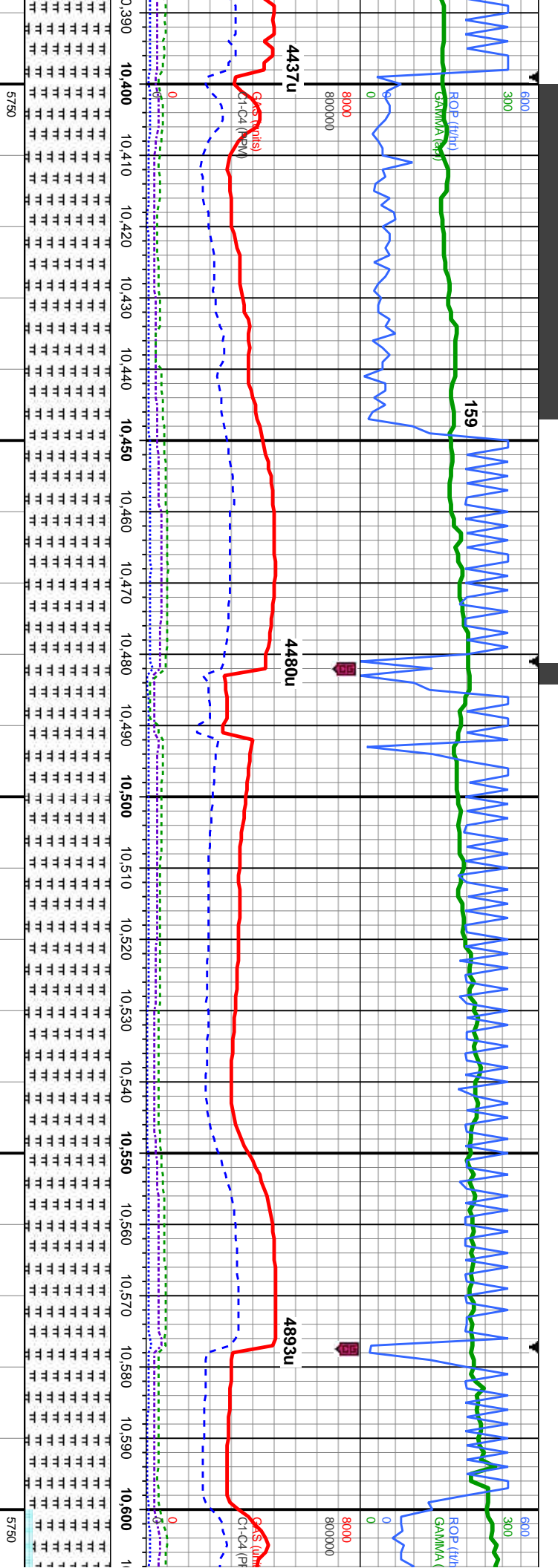




MD: 10,024'
Inclination: 90.59 °
Azimuth: 89.11 °
TVD: 6,351.41'
VS: 3,596.05'

MD: 10,119'
Inclination: 89.94 °
Azimuth: 88.09 °
TVD: 6,350.97'
VS: 3,690.71'





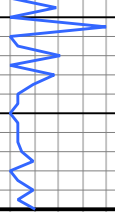
MD: 10,404'
Inclination: 90.34 °
Azimuth: 89.63 °
TVD: 6,350.79'
VS: 3,974.81'

MD: 10,499'
Inclination: 88.58 °
Azimuth: 91.41 °
TVD: 6,351.68'
VS: 4,069.15'

MD: 10,594'
Inclination: 88.28 °
Azimuth: 90.95 °
TVD: 6,354.29'
VS: 4,163.32'

100% MRLST: dk gy, blk, sb pty-blky, sl	100% MRLST: dk gy, blk, sb pty-blky, sl	100% MRLST: dk gy, blk, sb pty-blky, sl	100% MRLST: dk gy, blk, sb pty-blky, sl
frn-mod hd, arg-sily tex, tr imbd & is cal,	frn-mod hd, arg-sily tex, tr imbd & is cal,	frn-mod hd, arg-sily tex, tr is cal, fast stimg	frn-mod hd, arg-sily tex, tr is cal, tr pyr,
mod stimg bri wh bl, even mod thn mod wh	mod stimg bri wh bl, even mod thn mod wh	bri wh bl, even mod thn mod wh yel ring,	some bent, fast stimg bri wh bl, even mod
yel ring, fr brn stn	yel ring, fr brn stn	mod brn stn	thn mod wh yel ring, mod brn stn

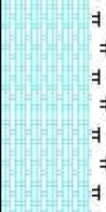




TD Reached @ 10,850' MD
14:16 MST on 5/14/2014

THANK YOU FOR USING
COLUMBINE LOGGING INC.

10,830 10,840 10,850 10,860 10,870 10,880 10,890 10,900



TT TT TT TT TT TT TT

t gry, mot, sb
b wxy, 20%:
sb pty-biky, sl
cal incl, g chk flr,
l, even thk wh yel

