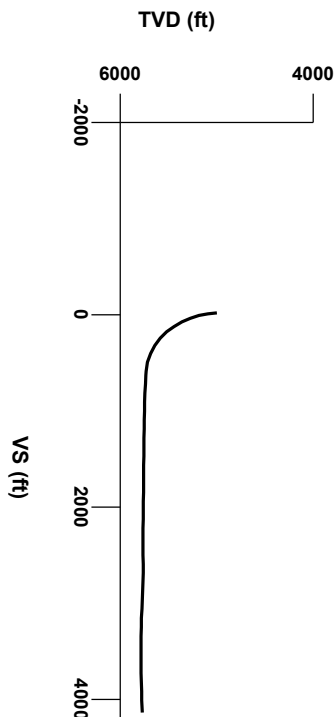


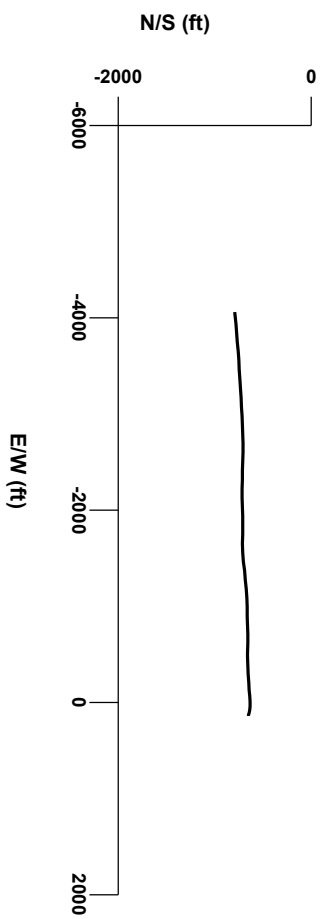
LOG created using L PLOT VH Version 3.0, September 29, 2013, Copyright (C) 1999-2009 Pason Systems Corp.

**OPERATOR:** NOBLE ENERGY INC  
**WELL:** ROHN STATE LD09-69HN  
**LOCATION:** SESE SEC 4 T9N R58W  
**COUNTY:** WELD  
**STATE:** COLORADO  
**SPOT:** 661' FSL; 480' FEL  
**ELEVATION:** 4712' GL; 4736' KB  
**FIELD:** WILDCAT  
**SPUD DATE:** 09/22/2013  
**TD DATE:** 09/29/2013  
**DATES LOGGED:** 09/24/2013 - 09/29/2013  
**DEPTHS LOGGED:** 5039' - 9710' MD  
**LOGGERS:** LAURA KELLOGG; CONOR PESICKA  
**DRILLING FLUID:** LSND  
**DRILLING RIG:** H&P 273  
**API:** 05-123-37472  
**LOG TYPE:** HORIZONTAL  
**SCALE:** 1:240 (5 inches per 100 feet)  
**REMARKS:** WELLSITE GEOLOGICAL SERVICES  
PROVIDED BY COLUMBINE LOGGING INC.

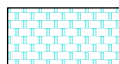


Survey Elevation

# Survey Plan



6000



Chalk



Marl



Silty Shale

### ENGINEERING SYMBOLS



Casing



Casing



Connection



Connection Gas



Midnight Depth

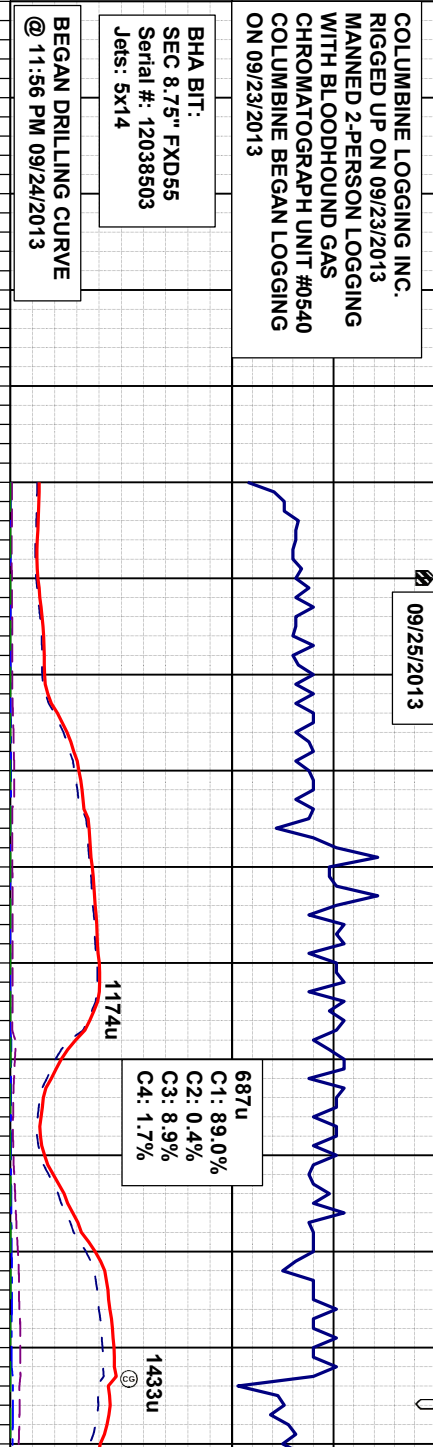
GAS		
0	UNITS	3000
0	C1	300000
0	PPM	300000
0	C2	300000
0	PPM	300000
0	C3	300000
0	PPM	300000
0	C4	300000
0	PPM	300000

**ROP**  
 FT/HR 500  
 COLUMBINE LOGGING INC.  
 RIGGED UP ON 09/23/2013  
 MANNED 2-PERSON LOGGING  
 WITH BLOODHOUND GAS  
 CHROMATOGRAPH UNIT #0540  
 COLUMBINE BEGAN LOGGING  
 ON 09/23/2013

**BHA BIT:**  
 SEC 8.75" FXD55  
 Serial #: 12038503  
 Jets: 5x14

**BEGAN DRILLING CURVE**  
 @ 11:56 PM 09/24/2013

DEPTH (FEET)



09/25/2013

687u  
 C1: 89.0%  
 C2: 0.4%  
 C3: 8.9%  
 C4: 1.7%

1174u

1433u

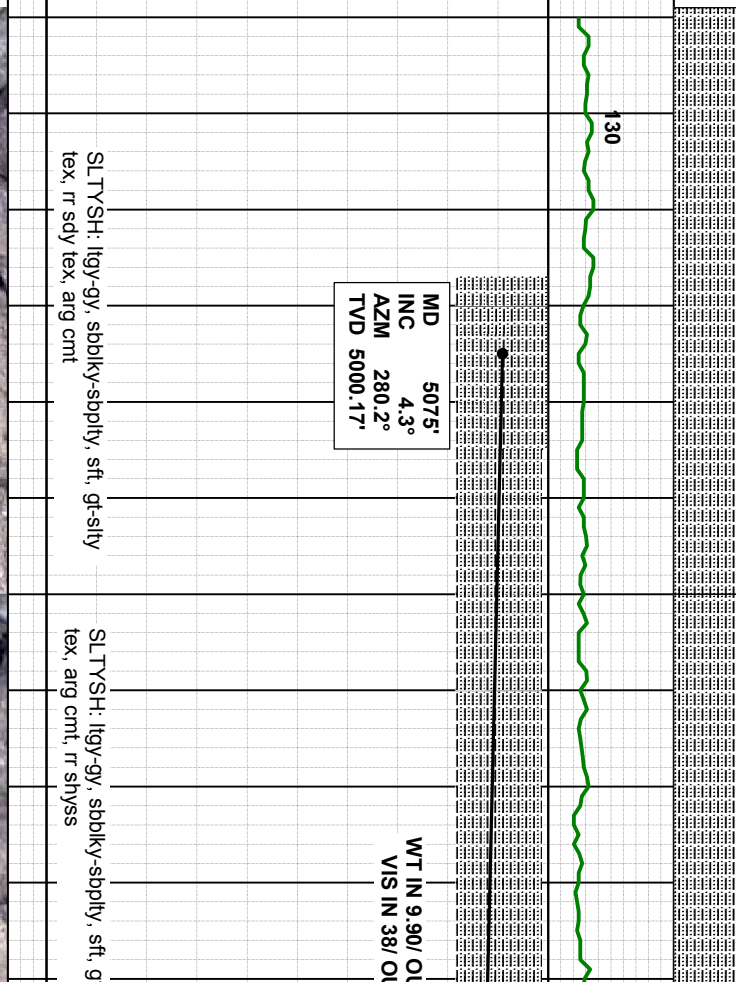
CUTTINGS LITHOLOGY

**GAMMA RAY**  
 40 API 300

**TVD**  
 ft 4800

OIL SHOWS

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** 5075'  
**INC** 4.3°  
**AZM** 280.2°  
**TVD** 5000.17'

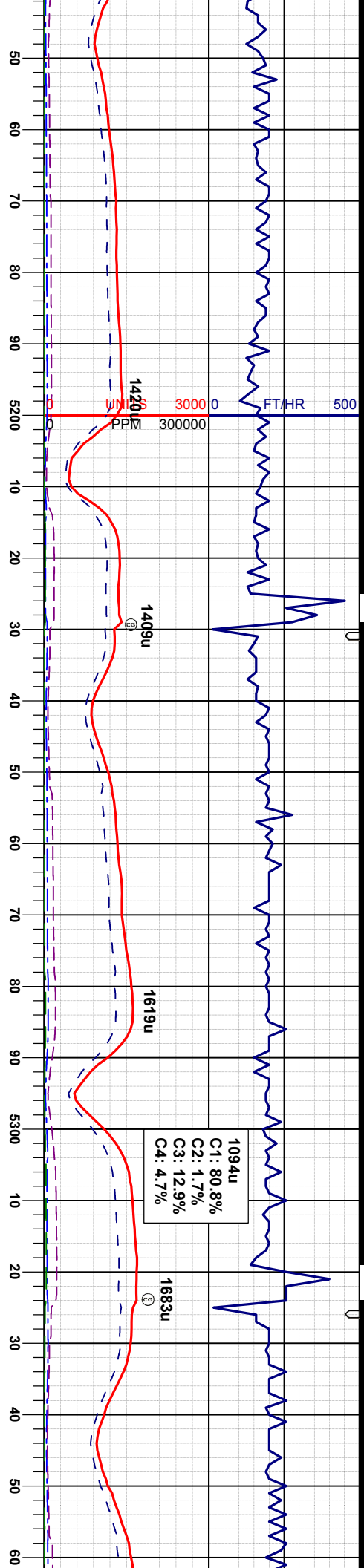
SLTYSH: lgy-gy, sbblky-sbply, sft, gt-sily  
 tex, rr sdy tex, arg cmt

SLTYSH: lgy-gy, sbblky-sbply, sft, gt-  
 tex, arg cmt, rr shyss

WT IN 9.90/OU  
 VIS IN 38/OU

SAMPLE PHOTOS





MD 5169'  
 INC 8.3°  
 AZM 282.8°  
 TVD 5093.58'

MD 5264'  
 INC 16.4°  
 AZM 281.6°  
 TVD 5186.31'

MD  
 INC 2  
 AZM  
 TVD 527

SLTYSH: lgy-gy, sbblky-sbply, sft, gt-sily  
 tex, arg cnt, rr shyss

SLTYSH: lgy-gy, rr dkgy, sbblky-sbply, sft,  
 gt-sily tex, arg cnt, rr shyss

SLTYSH: lgy-gy, rr dkgy, sbblky-sbply, sft,  
 gtsily tex, arg cnt, rr shyss

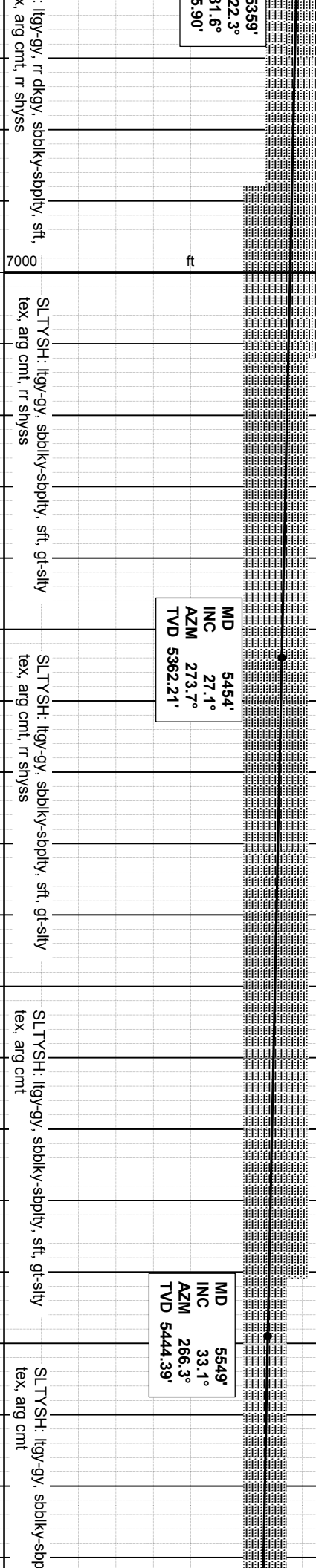
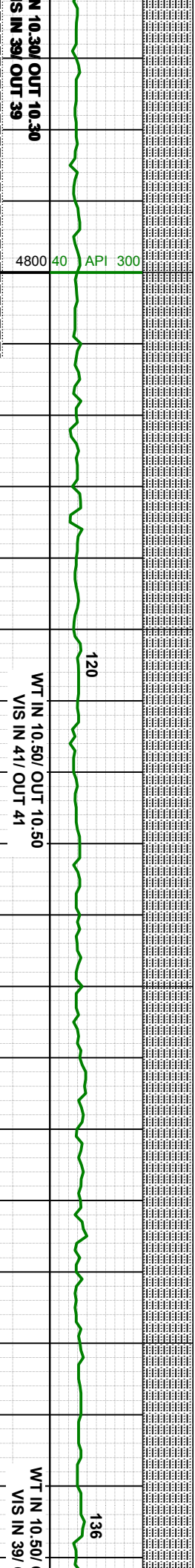
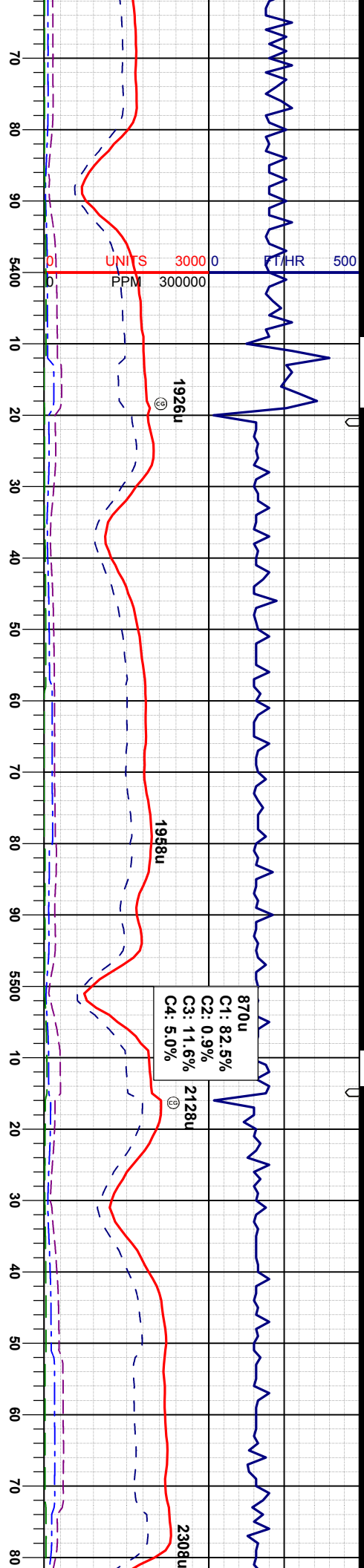
SLTYSH: lgy-gy, rr dkgy, sbblky-sbply, sft,  
 gt-sily tex, arg cnt, rr shyss

SLTYSH: lgy-gy, rr dkgy, sbblky-sbply, sft,  
 gtsily tex, arg cnt, rr shyss

WT IN 10.10/ OUT 10.10  
 VIS IN 40/ OUT 40

WT V





3359'

MD 5454'  
INC 27.1°  
AZM 273.7°  
TVD 5362.21'

MD 5549'  
INC 33.1°  
AZM 266.3°  
TVD 5444.39'

SLTYSH: Itgy-gy, r' dkgv, sbblky-sbply, sft, arg cmt, r' shys

SLTYSH: Itgy-gy, sbblky-sbply, sft, gt-sily  
tex, arg cmt, r' shys

SLTYSH: Itgy-gy, sbblky-sbply, sft, gt-sily  
tex, arg cmt, r' shys

SLTYSH: Itgy-gy, sbblky-sbply, sft, gt-sily  
tex, arg cmt

SLTYSH: Itgy-gy, sbblky-sbply, sft, gt-sily  
tex, arg cmt

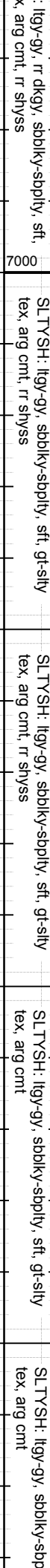
N 10.30/ OUT 10.30  
S IN 39/ OUT 39

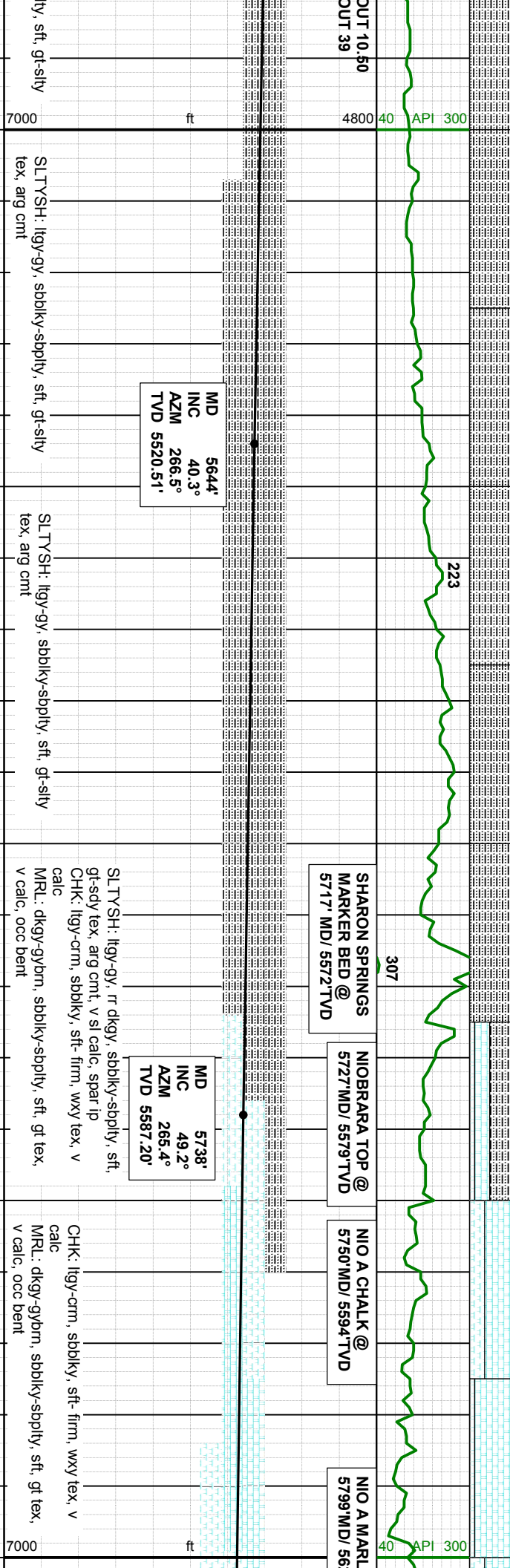
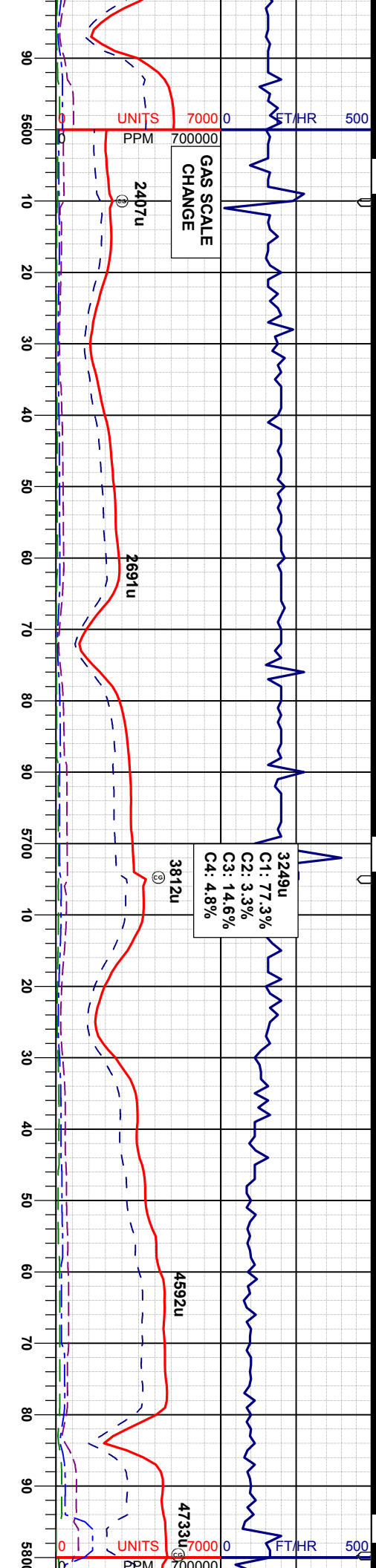
WT IN 10.50/ OUT 10.50  
VIS IN 41/ OUT 41

WT IN 10.50/  
VIS IN 39/

7000 ft

4800 40 API 300





MD 5644'  
INC 40.3°  
AZM 266.5°  
TVD 5520.51'

MD 5738'  
INC 49.2°  
AZM 265.4°  
TVD 5587.20'

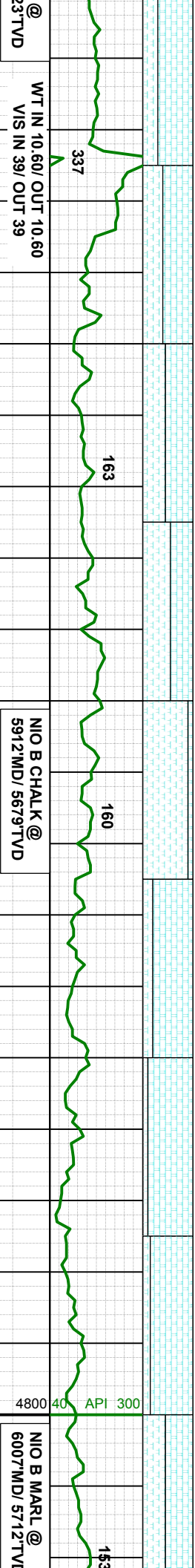
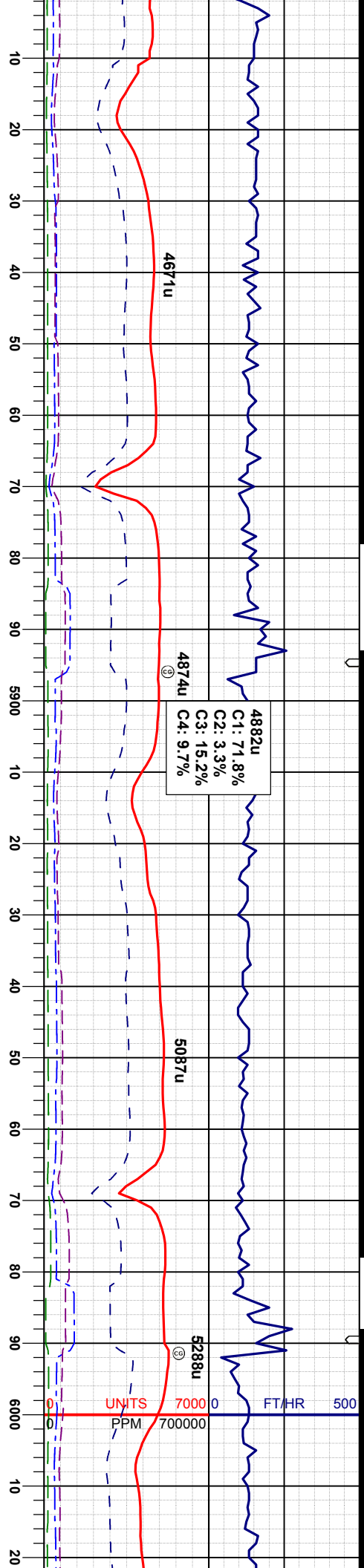
SLTYSH: ltgy-gy, sbblky-sbply, sft, gt-sily  
tex, arg cmt

SLTYSH: ltgy-gy, sbblky-sbply, sft, gt-sily  
tex, arg cmt

SLTYSH: ltgy-gy, rr dky, sbblky-sbply, sft, gt-sily, arg cmt, v sl calc, spar ip  
CHK: ltgy-crm, sbblky, sft- firm, wxy tex, v calc  
MRL: dgy-gvbm, sbblky-sbply, sft, gt tex, v calc, occ bent

CHK: ltgy-crm, sbblky, sft- firm, wxy tex, v calc  
MRL: dgy-gvbm, sbblky-sbply, sft, gt tex, v calc, occ bent





MD 5833'  
INC 58.4°  
AZM 267.0°  
TVD 5643.25'

MD 5928'  
INC 66.6°  
AZM 266.3°  
TVD 5687.08'

MD INC  
AZM  
TVD

CHK: lgy-crm, sbbkly, sft- mod firm, wxy  
tex, v calc  
MRL: dkgv-gybrn, sbbkly-sbply, sft, gt tex,  
v calc, tr bent

CHK: lgy-crm, sbbkly, sft- mod firm, wxy  
tex, v calc  
MRL: dkgv-gybrn, sbbkly-sbply, sft, gt tex,  
v calc, tr bent

MRL: dkgv-gybrn, sbbkly-sbply, sft, gt tex,  
v calc  
CHK: lgy-crm, sbbkly, sft- mod firm, wxy  
tex, v calc

CHK: lgy-crm, sbbkly, sft- mod firm, wxy  
tex, v calc  
MRL: dkgv-gybrn, sbbkly-sbply, sft, gt tex,  
v calc

MRL: dkgv-gybrn,  
v calc, calc incl, tr  
CHK: lgy-crm, sbbkly,  
tex, v calc

NIO B MARL @  
6007MD/ 5712'TVD

@  
337TVD

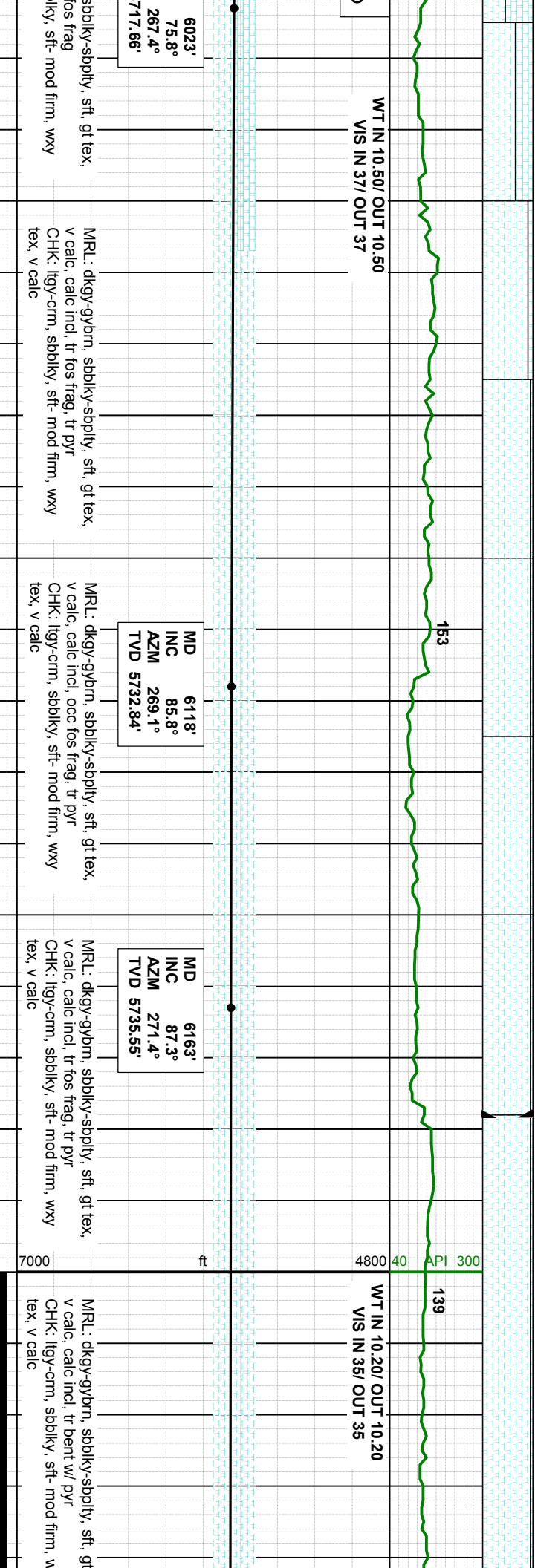
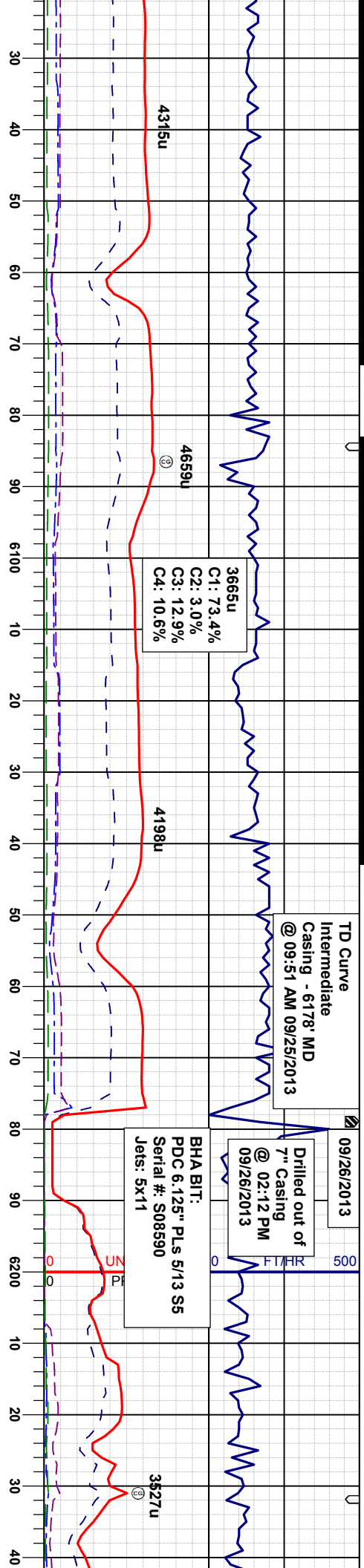
NIO B CHALK @  
5912'MD/ 5679'TVD

WT IN 10.50/ OUT 10.50  
VIS IN 39/ OUT 39

WT IN 10.60/ OUT 10.60  
VIS IN 39/ OUT 39

7000 ft 4800 40 API 300

UNITS 7000 0 FT/HR 500  
PPM 700000



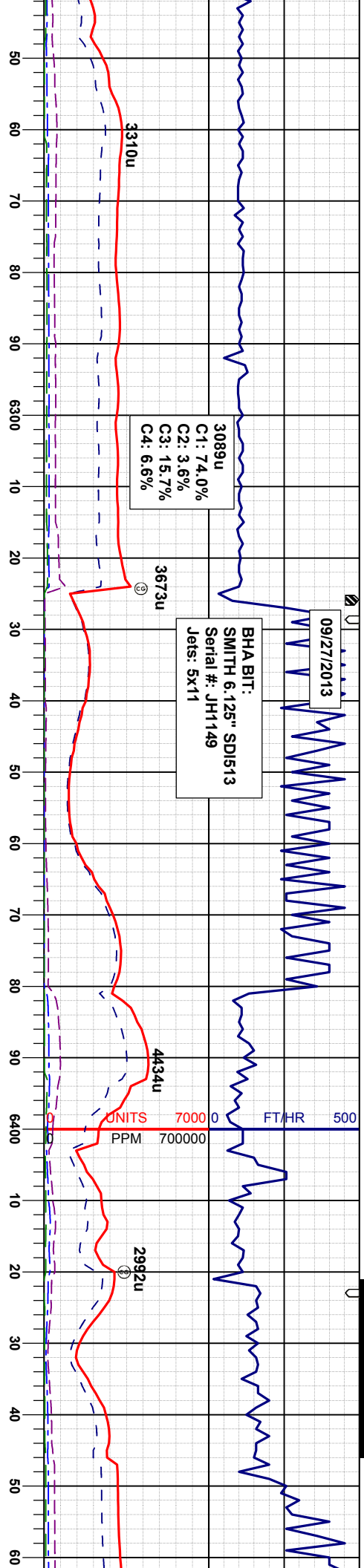
6023'	75.8°	267.4°	717.66'
MD	INC	AZM	TVD
6118'	85.8°	269.1°	5732.84'

MRL: dkgy-gybrn, sbblky-sbply, sft, gt tex,  
v calc, calc incl, tr fos frag, tr pyr  
CHK: lgy-crm, sbblky, sft- mod firm, wxy  
tex, v calc

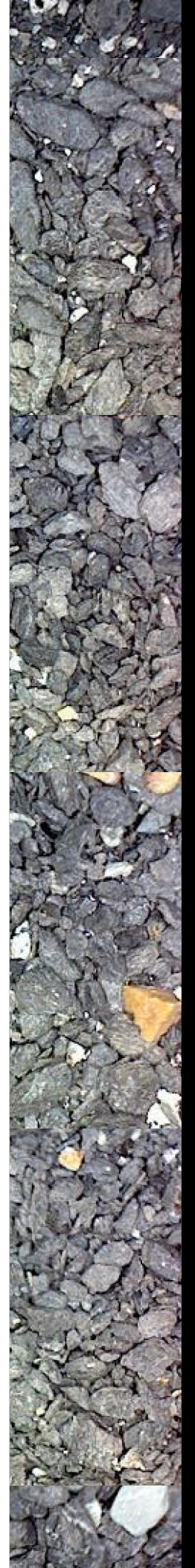
6163'	87.3°	271.4°	5735.55'
MD	INC	AZM	TVD

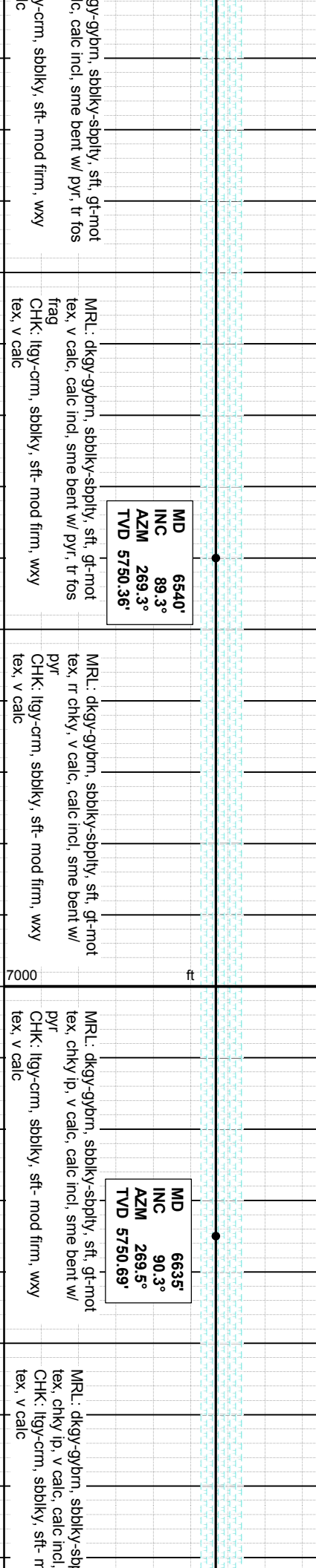
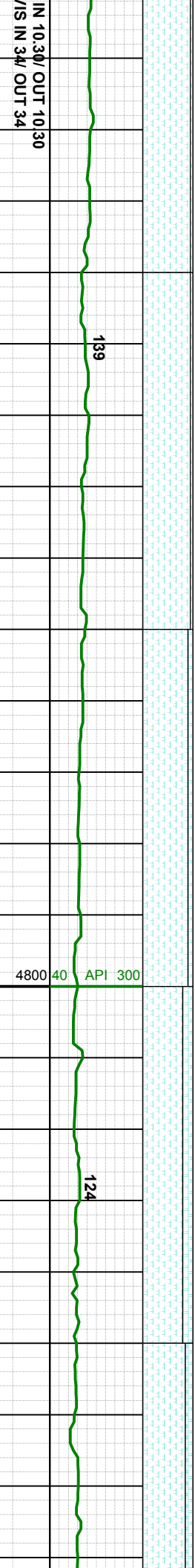
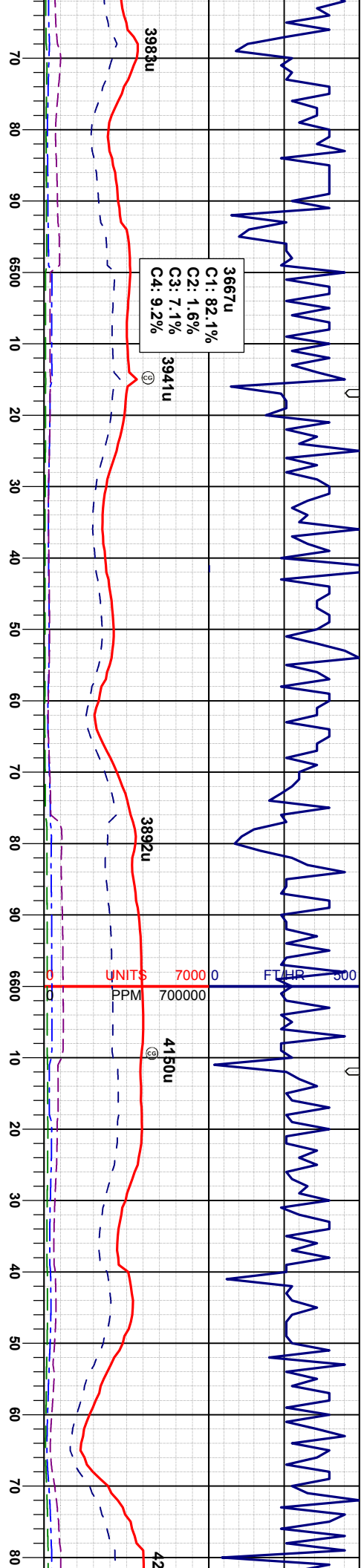
MRL: dkgy-gybrn, sbblky-sbply, sft, gt tex,  
v calc, calc incl, tr fos frag, tr pyr  
CHK: lgy-crm, sbblky, sft- mod firm, wxy  
tex, v calc





MD	INC	AZM	TVD	MRL	CHK
6256'	87.4°	270.5°	5741.03'	dkgy-gybrn, sbblky-sbply, sft, gt tex, v calc, calc incl, tr bent w/ pyr	lgy-crm, sbblky, sft- mod firm, wxy tex, v calc
6351'	86.7°	269.3°	5744.74'	dkgy-gybrn, sbblky-sbply, sft, gt-mot tex, v calc, calc incl, tr bent w/ pyr	lgy-crm, sbblky, sft- mod firm, wxy tex, v calc
6446'	88.6°	267.4°	5748.64'	dkgy-gybrn, sbblky-sbply, sft, gt-mot tex, v calc, calc incl, sme bent w/ pyr, tr tos frag	lgy-crm, sbblky, sft- mod firm, wxy tex, v calc



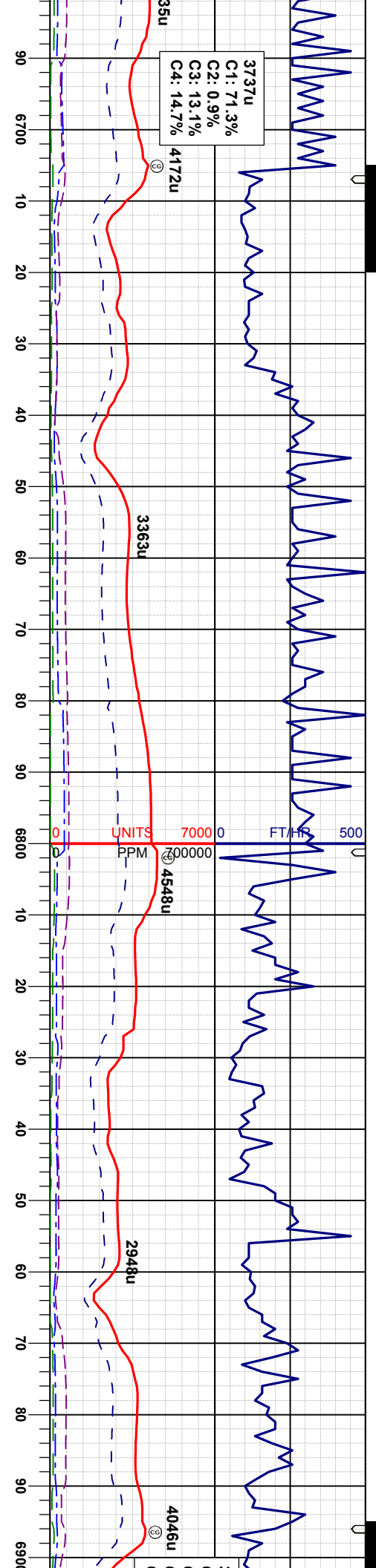


MRL: dkgy-gybrn, sbblky-sbply, sft, gt-mot  
tex, v calc, calc incl, sme bent w/ pyf, tr fos  
frag  
CHK: lgy-crm, sbblky, sft- mod firm, wxy  
tex, v calc

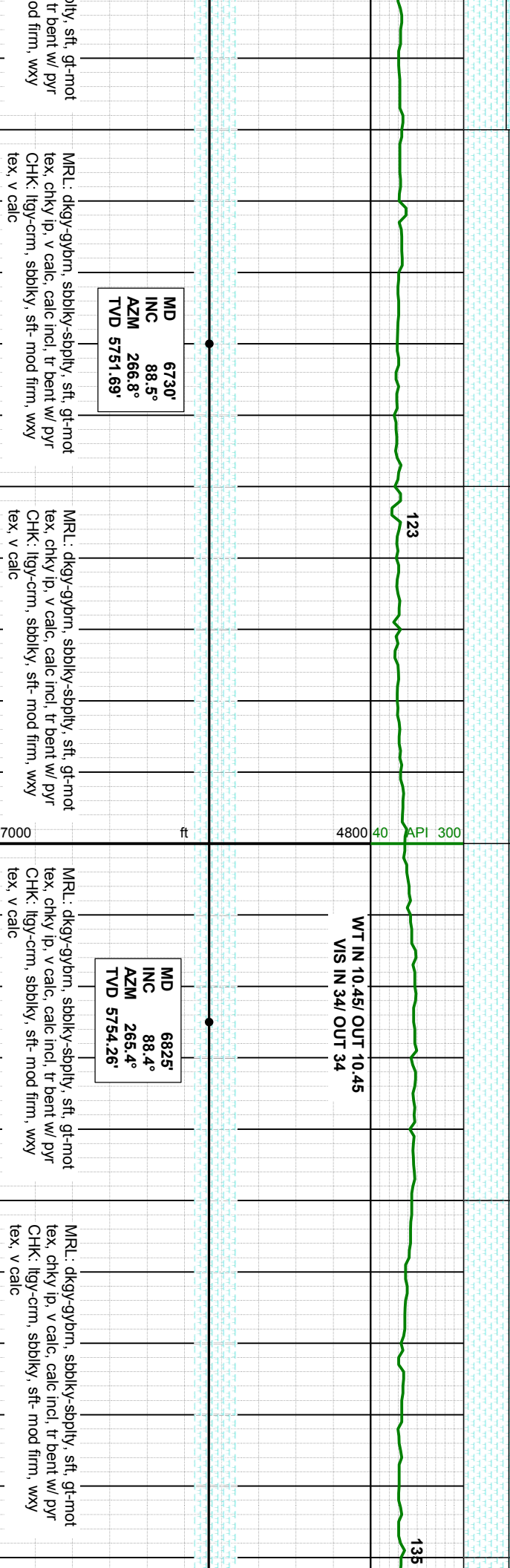
MRL: dkgy-gybrn, sbblky-sbply, sft, gt-mot  
tex, rr chky, v calc, calc incl, sme bent w/  
pyf  
CHK: lgy-crm, sbblky, sft- mod firm, wxy  
tex, v calc

MRL: dkgy-gybrn, sbblky-sbply, sft, gt-mot  
tex, chky lp, v calc, calc incl, sme bent w/  
pyf  
CHK: lgy-crm, sbblky, sft- mod firm, wxy  
tex, v calc

MRL: dkgy-gybrn, sbblky-sbply, sft, gt-mot  
tex, chky lp, v calc, calc incl, sme bent w/  
pyf  
CHK: lgy-crm, sbblky, sft- mod firm, wxy  
tex, v calc



3737u  
 C1: 71.3%  
 C2: 0.9%  
 C3: 13.1%  
 C4: 14.7%



MD 6730'  
 INC 88.5°  
 AZM 266.8°  
 TVD 5751.69'

MRL: dkgy-gybrn, sbblky-sbply, sft, gt-mot  
 tex, chky ip, v calc, calc incl, tr bent w/ pyr  
 CHK: lgy-crm, sbblky, sft- mod firm, wxy  
 tex, v calc

MRL: dkgy-gybrn, sbblky-sbply, sft, gt-mot  
 tex, chky ip, v calc, calc incl, tr bent w/ pyr  
 CHK: lgy-crm, sbblky, sft- mod firm, wxy  
 tex, v calc

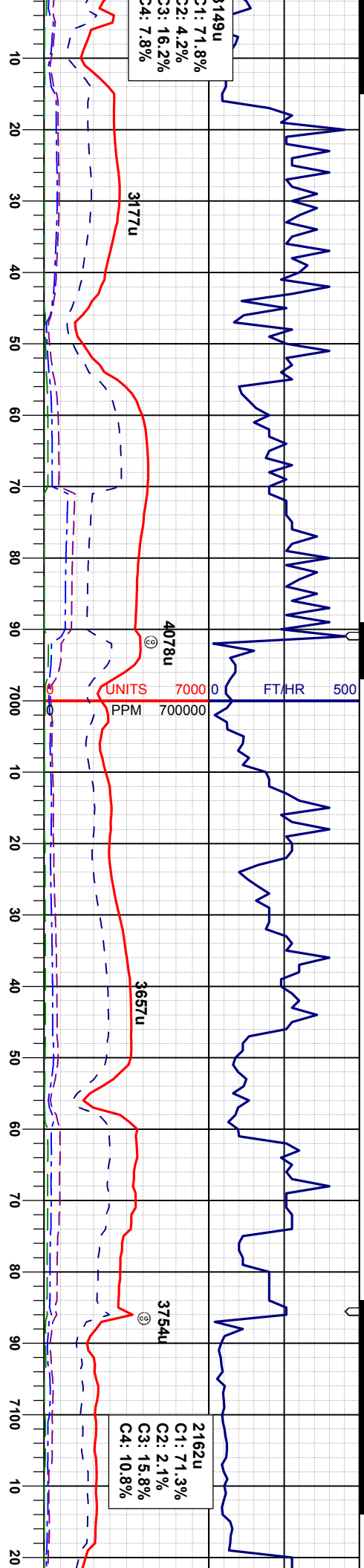
MD 6825'  
 INC 88.4°  
 AZM 265.4°  
 TVD 5754.26'

MRL: dkgy-gybrn, sbblky-sbply, sft, gt-mot  
 tex, chky ip, v calc, calc incl, tr bent w/ pyr  
 CHK: lgy-crm, sbblky, sft- mod firm, wxy  
 tex, v calc

MRL: dkgy-gybrn, sbblky-sbply, sft, gt-mot  
 tex, chky ip, v calc, calc incl, tr bent w/ pyr  
 CHK: lgy-crm, sbblky, sft- mod firm, wxy  
 tex, v calc

WT IN 10.45/ OUT 10.45  
 VIS IN 34/ OUT 34





WT IN 10.40/ OUT 10.40  
 VIS IN 34/ OUT 34

MD	6919'
INC	89.3°
AZM	265.4°
TVD	5756.14'

MRL: dkgy-gybrn, sbbkly-sbply, sft, gt-mot  
 tex, chky ip, v calc, calc incl  
 CHK: llyg-crm, sbbkly, sft- mod firm, wxy  
 tex, v calc

WT IN 10.30/ OUT 10.30  
 VIS IN 35/ OUT 35

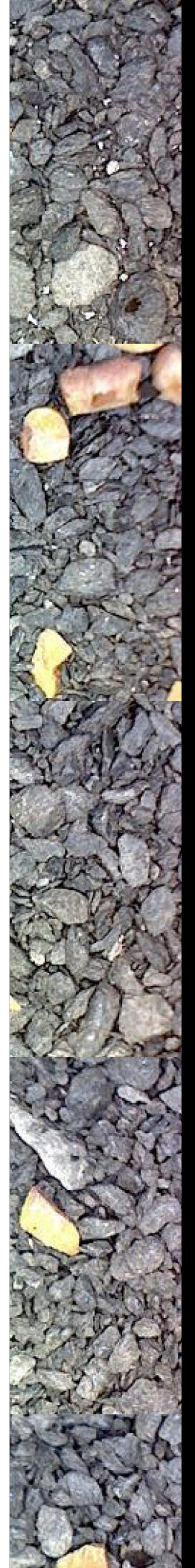
MD	7014'
INC	89.7°
AZM	265.4°
TVD	5756.14'

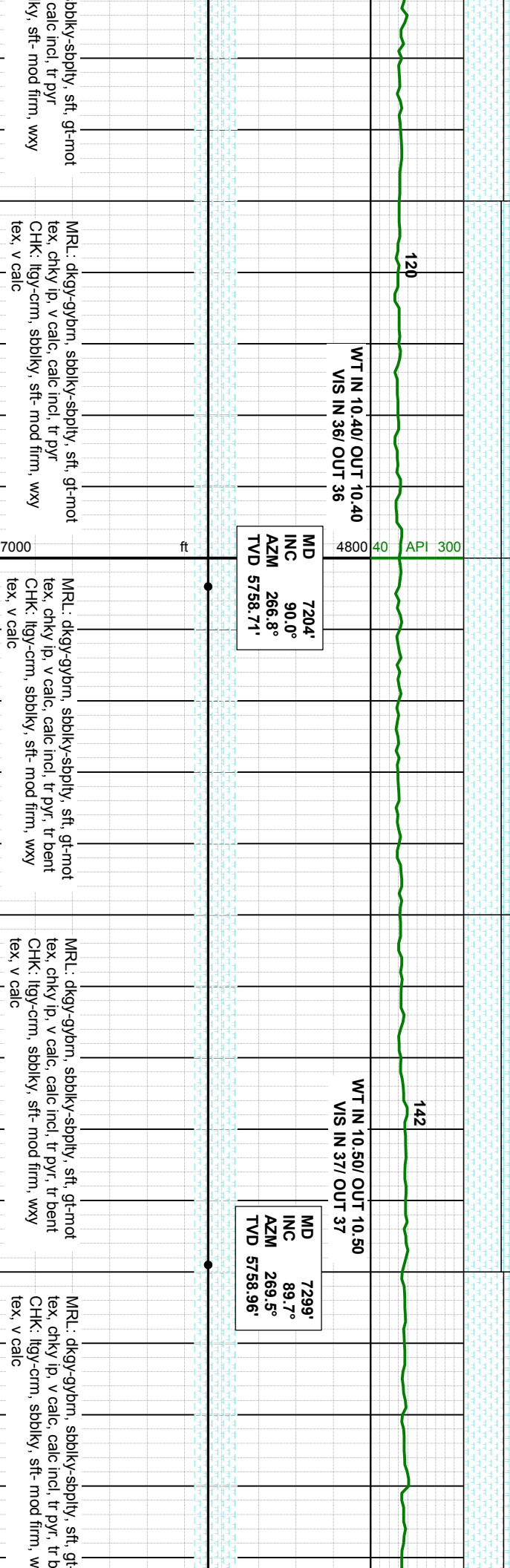
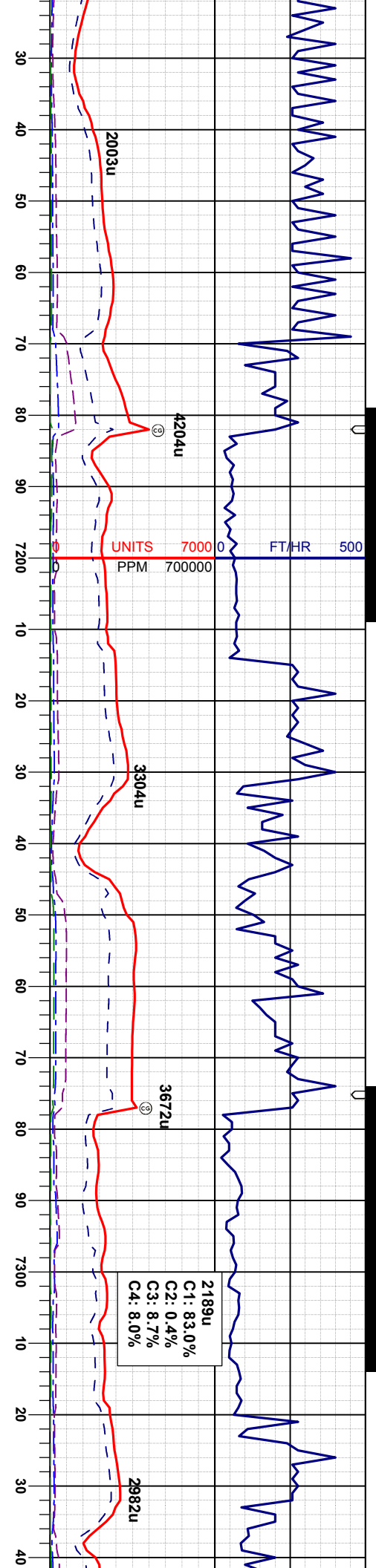
MRL: dkgy-gybrn, sbbkly-sbply, sft, gt-mot  
 tex, chky ip, v calc, calc incl  
 CHK: llyg-crm, sbbkly, sft- mod firm, wxy  
 tex, v calc

WT IN 10.40/ OUT 10.40  
 VIS IN 34/ OUT 34

MD	7109'
INC	89.1°
AZM	264.9°
TVD	5757.97'

MRL: dkgy-gybrn, sbbkly-sbply, sft, gt-mot  
 tex, chky ip, v calc, calc incl  
 CHK: llyg-crm, sbbkly, sft- mod firm, wxy  
 tex, v calc





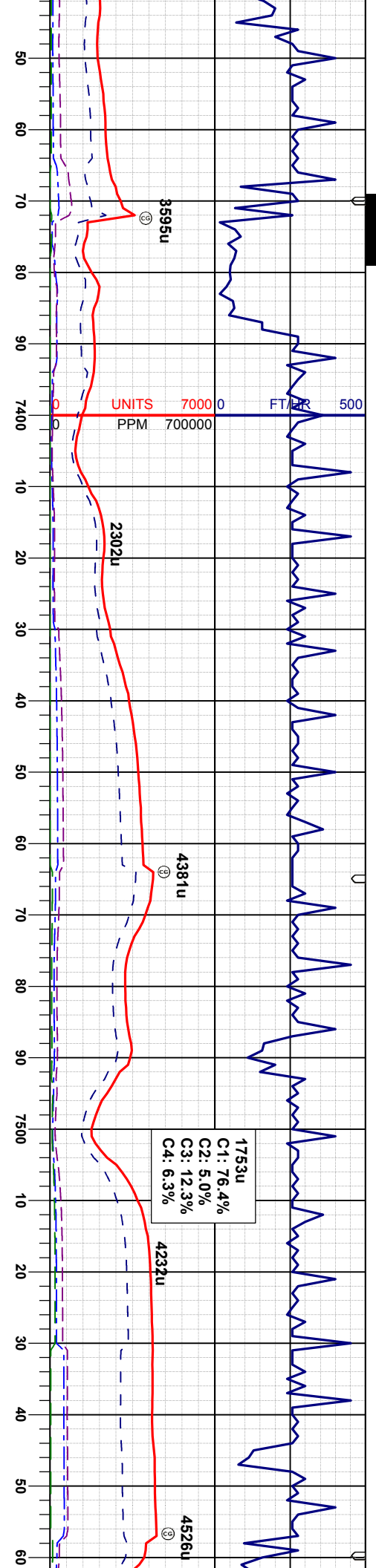
MRU: dkgy-gybrn, sbblky-sbply, sft, gt-mot  
 tex, chky ip, v calc, calc incl, tr pyr  
 CHK: ltgy-crm, sbblky, sft- mod firm, wxy  
 tex, v calc

MRU: dkgy-gybrn, sbblky-sbply, sft, gt-mot  
 tex, chky ip, v calc, calc incl, tr pyr, tr bent  
 CHK: ltgy-crm, sbblky, sft- mod firm, wxy  
 tex, v calc

MRU: dkgy-gybrn, sbblky-sbply, sft, gt-mot  
 tex, chky ip, v calc, calc incl, tr pyr, tr bent  
 CHK: ltgy-crm, sbblky, sft- mod firm, wxy  
 tex, v calc

MRU: dkgy-gybrn, sbblky-sbply, sft, gt-mot  
 tex, chky ip, v calc, calc incl, tr pyr, tr b  
 CHK: ltgy-crm, sbblky, sft- mod firm, wxy  
 tex, v calc





WT IN 10.30/ OUT 10.30  
VIS IN 37/ OUT 37

MD 7393'  
INC 89.1°  
AZM 270.9°  
TVD 5759.95'

MD 7488'  
INC 89.9°  
AZM 271.1°  
TVD 5760.78'

1753u  
C1: 76.4%  
C2: 5.0%  
C3: 12.3%  
C4: 6.3%

MRL: dkgy-gybrn, sbblky-sbply, sft, gt-mot  
tex, chky ip, v calc, calc incl, tr pyr, tr bent,  
tr fos frag  
CHK: lgy-crm, sbblky, sft- mod firm, wxy  
tex, v calc

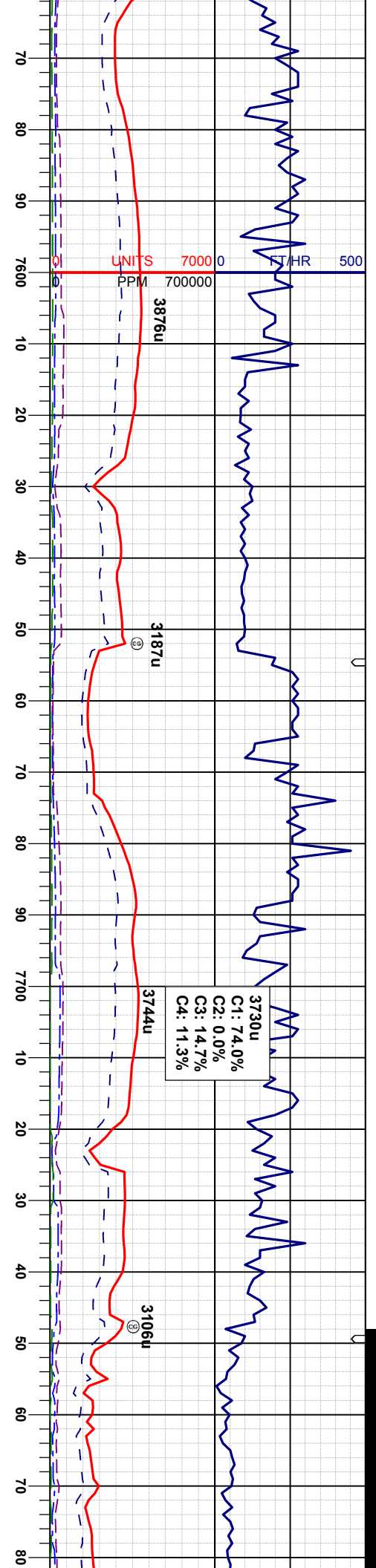
MRL: dkgy-gybrn, sbblky-sbply, sft, gt-mot  
tex, chky ip, v calc, calc incl, tr pyr, tr bent,  
tr fos frag  
CHK: lgy-crm, sbblky, sft- mod firm, wxy  
tex, v calc

MRL: dkgy-gybrn, sbblky-sbply, sft, gt-mot  
tex, chky ip, v calc, calc incl, tr pyr, tr bent,  
tr fos frag  
CHK: lgy-crm, sbblky, sft- mod firm, wxy  
tex, v calc

MRL: dkgy-gybrn, sbblky-sbply, sft, gt-mot  
tex, chky ip, v calc, calc incl, tr pyr, tr bent,  
tr fos frag  
CHK: lgy-crm, sbblky, sft- mod firm, wxy  
tex, v calc

MRL: dkgy-gybrn, sbblky-sbply, sft, gt-mot  
tex, chky ip, v calc, calc incl, tr pyr, tr bent,  
tr fos frag  
CHK: lgy-crm, sbblky, sft- mod firm, wxy  
tex, v calc





WT IN 10.40/ OUT 10.40  
 VIS IN 35/ OUT 35

MD	7583'
INC	89.4°
AZM	269.5°
TVD	5761.36'

MRL: dkgy-gybrn, sbblky-sbply, sft, gt-mot  
 tex, chky ip, v calc, calc incl, tr pyr, tr bent  
 CHK: lgy-crm, sbblky, sft-firm, wxy tex, v  
 calc

WT IN 10.40/ OUT 10.40  
 VIS IN 36/ OUT 36

MD	7678'
INC	89.3°
AZM	267.2°
TVD	5762.43'

MRL: dkgy-gybrn, sbblky-sbply, sft, gt-mot  
 tex, chky ip, v calc, calc incl, tr pyr, tr bent  
 CHK: lgy-crm, sbblky, sft-firm, wxy tex, v  
 calc

WT IN 10.40/ OUT 10.40  
 VIS IN 36/ OUT 36

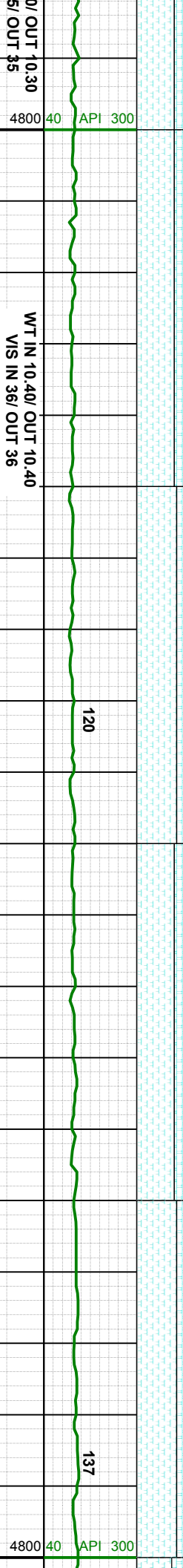
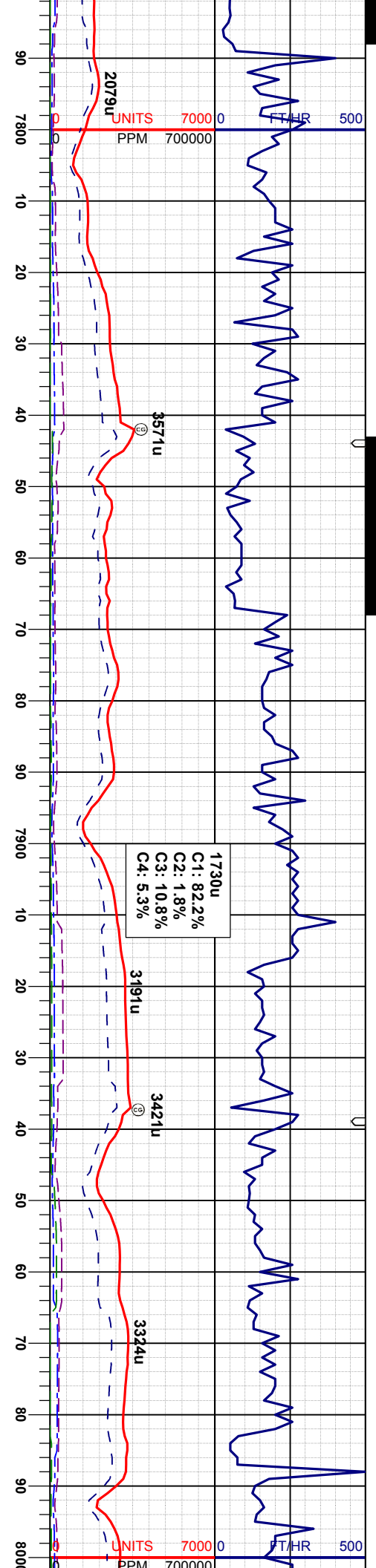
MRL: dkgy-gybrn, sbblky-sbply, sft, gt-mot  
 tex, chky ip, v calc, calc incl, tr pyr, tr bent  
 CHK: lgy-crm, sbblky, sft-firm, wxy-mot  
 tex, v calc

WT IN 10.3  
 VIS IN 3

MD	7773'
INC	88.6°
AZM	267.2°
TVD	5764.18'

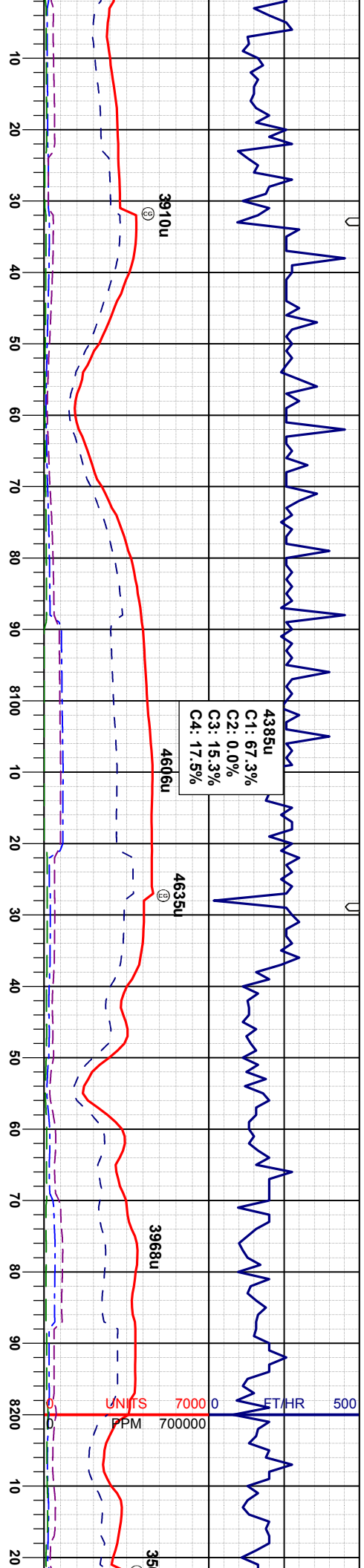
MRL: dkgy-gybrn, sbblky-sbply  
 tex, chky ip, v calc, calc incl,  
 & pyr  
 CHK: lgy-crm, sbblky, sft-firm  
 tex, v calc





Depth (ft)	WT IN	WT OUT	VIS IN	VIS OUT	MID	INC	AZM	TVD	MRL
10.30	10.30	10.30	10.30	10.30	7868'	89.9°	271.8°	5765.42'	dkgy-gybrn, sbblky-sbply, sft, gt-mot tex, chky ip, v calc, calc incl, tr bent w/ pyr CHK: lgy-crm, sbblky, sft-firm, wxy-mot tex, v calc
10.40	10.40	10.40	10.40	10.40	7962'	90.7°	271.9°	5764.93'	dkgy-gybrn, sbblky-sbply, sft, gt-mot tex, chky ip, v calc, calc incl, tr bent w/ pyr CHK: lgy-crm, sbblky, sft-firm, wxy-mot tex, v calc





WT IN 10.45/ OUT 10.45  
VIS IN 36/ OUT 36

MD 8057'  
INC 90.2°  
AZM 271.1°  
TVD 5764.18'

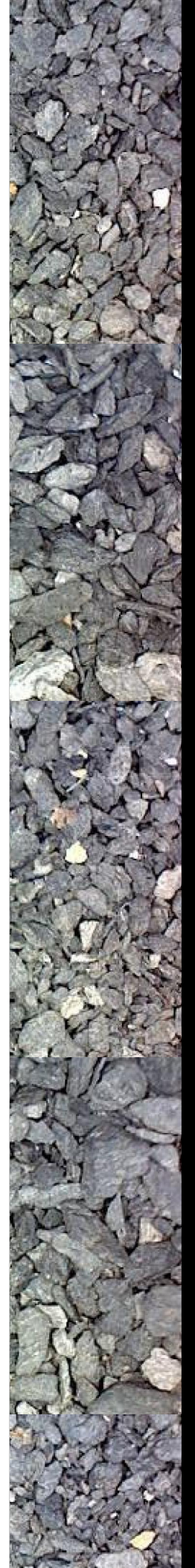
MD 8152'  
INC 90.4°  
AZM 272.3°  
TVD 5763.68'

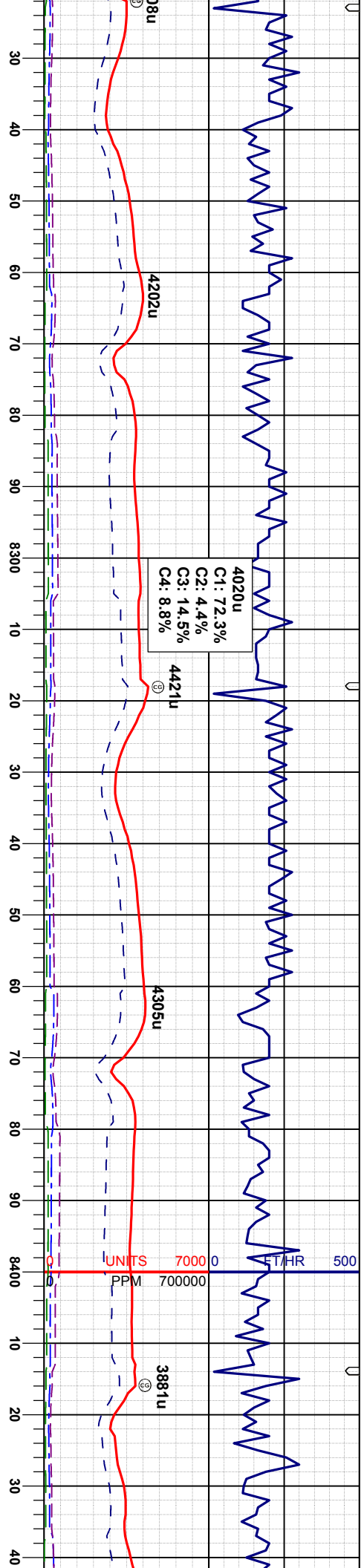
MRL: dkgy-gybrn, sbbiky-sbply, sft, gt-mot  
tex, chky ip, v calc, calc incl, tr bent w/ pyr  
CHK: lgy-crm, sbbiky, sft-firm, wxy-mot  
tex, v calc

MRL: dkgy-gybrn, sbbiky-sbply, sft, gt-mot  
tex, v chky, v calc, calc incl, tr bent w/ pyr  
CHK: lgy-crm, sbbiky, sft-firm, wxy-mot  
tex, v calc

MRL: dkgy-gybrn, sbbiky-sbply, sft, gt-mot  
tex, chky ip, v calc, calc incl, sme bent w/ pyr  
CHK: lgy-crm, sbbiky, sft-firm, wxy-mot  
tex, v calc

MRL: dkgy-gybrn, sbbiky-sbply, sft, gt-mot  
tex, chky ip, v calc, calc incl, sme bent w/ pyr  
CHK: lgy-crm, sbbiky, sft-firm, wxy-mot  
tex, v calc





MD 8247'  
 INC 89.7°  
 AZM 271.2°  
 TVD 5763.60'

WT IN 10.55/ OUT 10.55  
 VIS IN 38/ OUT 38

MRL: dkg-y-gybrn, sbbkly-sbply, sft, gt-mot  
 tex, chky ip, v calc, calc incl, tr bent w/ pyr  
 CHK: lgy-crm, sbbkly, sft-firm, wxy-mot  
 tex, v calc, calc incl

MD 8341'  
 INC 88.6°  
 AZM 268.3°  
 TVD 5765.00'

MRL: dkg-y-gybrn, sbbkly-sbply, sft, gt-mot  
 tex, v calc, calc incl, tr bent w/ pyr, tr xl qtz  
 w/ pyr  
 CHK: lgy-crm, sbbkly, sft-firm, wxy-mot  
 tex, v calc, calc incl

MD 843'  
 INC 87°  
 AZM 267°  
 TVD 5767.9'

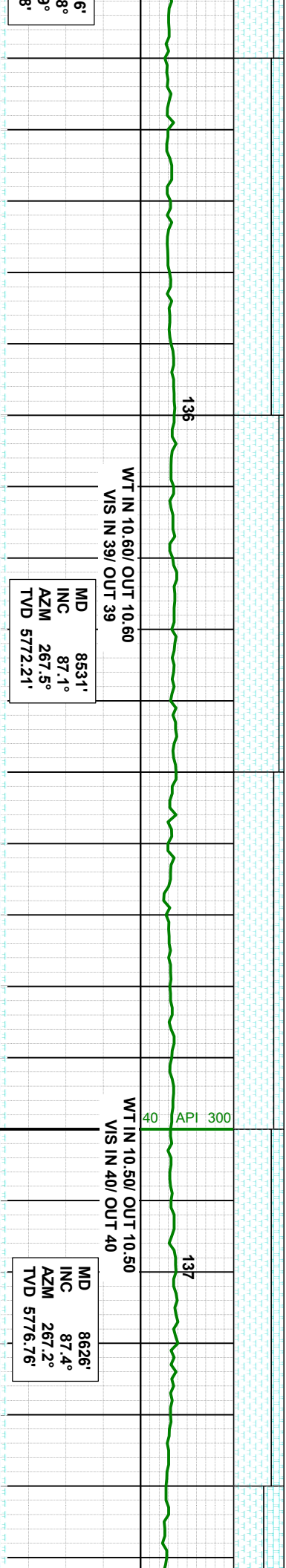
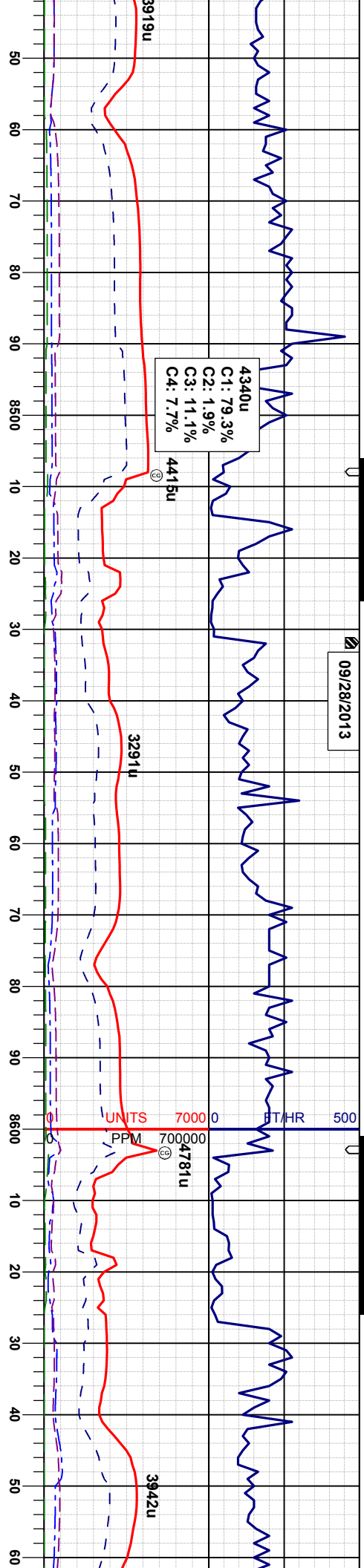
WT IN 10.60/ OUT 10.60  
 VIS IN 39/ OUT 39

MRL: dkg-y-gybrn, sbbkly-sbply, sft, gt-mot  
 tex, v calc, calc incl, tr bent w/ pyr, tr fr  
 frag  
 CHK: lgy-crm, sbbkly, sft-firm, wxy-mot  
 tex, v calc, calc incl



7000 ft 4800 40 API 300 134

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WT IN 10.60/ OUT 10.60	WT IN 10.50/ OUT 10.50
VIS IN 39/ OUT 39	VIS IN 40/ OUT 40
MD 8531'	MD 8626'
INC 87.1°	INC 87.4°
AZM 267.5°	AZM 267.2°
TVD 5772.21'	TVD 5776.76'

MRL: dkgy-gybrn, sbblky-sbply, sft, gt-mot  
 tex, v calc, calc incl, tr bent w/ pyr, tr fos  
 frag  
 CHK: lgy-crm, sbblky, sft-firm, wxy-mot  
 tex, v calc, calc incl

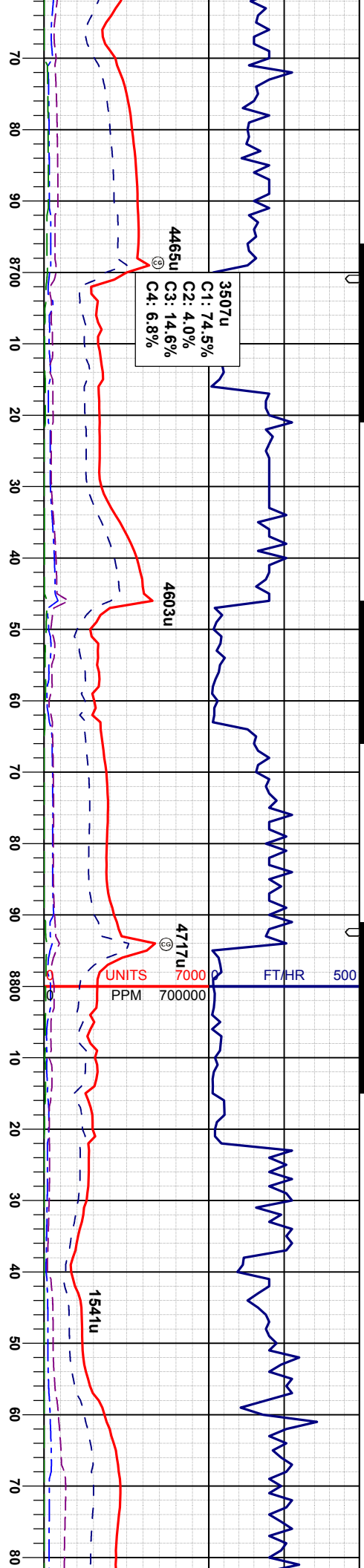
MRL: dkgy-gybrn, sbblky-sbply, sft, gt-mot  
 tex, v calc, calc incl, tr bent w/ pyr, tr fos  
 frag, tr pyr  
 CHK: lgy-crm, sbblky, sft-firm, wxy-mot  
 tex, v calc, calc incl

MRL: dkgy-gybrn, sbblky-sbply, sft, gt-mot  
 tex, v calc, calc incl, tr bent w/ pyr, tr fos  
 frag  
 CHK: lgy-crm, sbblky, sft-firm, wxy-mot  
 tex, mty ip, v calc, calc incl

MRL: dkgy-gybrn, sbblky-sbply, sft, gt-mot  
 tex, v chky, v calc, calc incl  
 CHK: lgy-crm, sbblky, sft-firm, wxy-mot  
 tex, ip, v calc, calc incl

MRL: dkgy-gybrn, sbblky-sbply, sft, gt-mot  
 tex, v chky, v calc, calc incl  
 CHK: lgy-crm, sbblky, sft-firm, wxy-mot  
 tex, v calc, calc incl





WT IN 10.55/ OUT 10.55  
VIS IN 42/ OUT 42

MD	8721'
INC	87.7°
AZM	266.8°
TVD	5780.82'

WT IN 10.65/ OUT 10.65  
VIS IN 41/ OUT 41

MD	8816'
INC	88.9°
AZM	267.5°
TVD	5783.64'

gy-gybrn, sbblky-sbply, sft, gt-mot  
ky, v calc, calc incl  
y-crm, sbblky, sft-firm, wxy-sub vit  
c, calc incl

MRL: dkgy-gybrn, sbblky-sbply, sft, gt-mot  
tex, v chky, v calc, calc incl, tr fos frag  
CHK: lly-crm, sbblky, sft-firm, wxy tex,  
sub vit sstr, v calc, calc incl

CHK: lly-crm, sbblky, sft-firm, wxy tex,  
sub vit sstr, v calc, calc incl  
MRL: dkgy-gybrn, sbblky-sbply, sft, gt-mot  
tex, v chky, v calc, calc incl

CHK: lly-crm, sbblky, sft-firm, wxy tex,  
sub vit sstr, v calc, calc incl  
MRL: dkgy-gybrn, sbblky-sbply, sft, gt-mot  
tex, v chky, v calc, calc incl

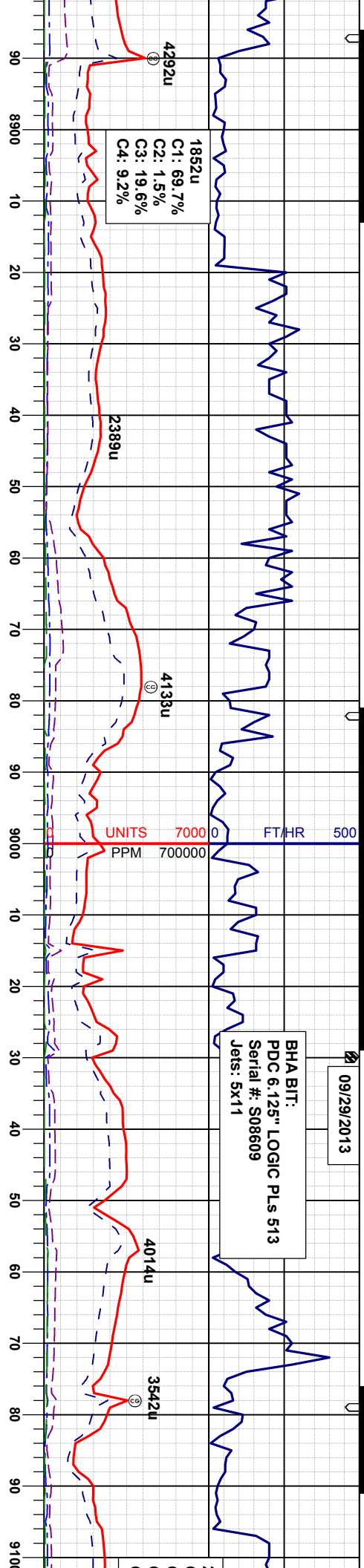
CHK: lly-crm, sbblky, sft-firm  
sub vit sstr, v calc, calc incl  
MRL: dkgy-gybrn, sbblky-sbply  
tex, v chky, v calc, calc incl



7000 ft 4800 40 API 300

09/29/2013

BHA BIT:  
PDC 6.125" LOGIC PLS 513  
Serial #: S08609  
Jets: 5x11



WT IN 10.50/ OUT 10.50  
VIS IN 41/ OUT 41

MD	8911'
INC	89.7°
AZM	265.8°
TVD	5784.80'

WT IN 10.50/ OUT 10.50  
VIS IN 42/ OUT 42

WT IN 10.50/ OUT 10.50  
VIS IN 42/ OUT 42

MD	9015'
INC	89.3°
AZM	266.7°
TVD	5785.71'

WT IN 10.55/ OUT 10.55  
VIS IN 40/ OUT 40

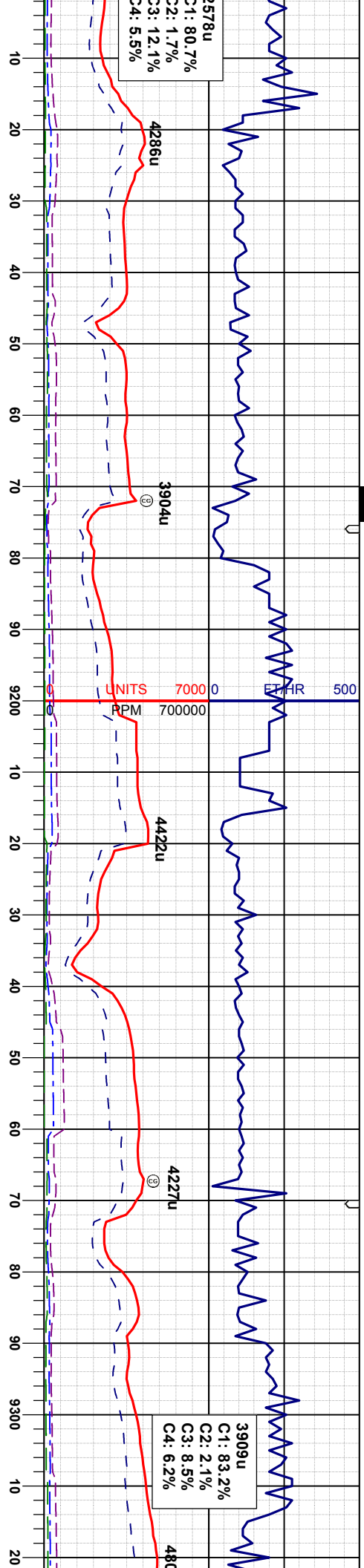
n, wxy tex, sub vit str, v calc, calc incl  
CHK: lgy-crm, sbblky, sft-firm, wxy tex, sub vit str, v calc, calc incl  
MRL: dkgv-gybrn, sbblky-sbply, sft, gt-mot tex, v chky, v calc, calc incl

MRL: dkgv-gybrn, sbblky-sbply, sft, gt-mot tex, v chky, v calc, calc incl, tr bent  
CHK: lgy-crm, sbblky, sft-firm, wxy tex, sub vit str, v calc, calc incl

MRL: dkgv-gybrn, sbblky-sbply, sft, gt-mot tex, v chky, v calc, calc incl, tr bent  
CHK: lgy-crm, sbblky, sft-firm, wxy tex, sub vit str, v calc, calc incl

MRL: dkgv-gybrn, sbblky-sbply, sft, gt-mot tex, v chky, v calc, calc incl, tr bent  
CHK: lgy-crm, sbblky, sft-firm, wxy tex, sub vit str, v calc, calc incl





MD	INC	AZM	TVD
9109'	90.0°	266.7°	5786.29'
WT IN 10.50/ OUT 10.50 VIS IN 39/ OUT 39			
160			
WT IN 10.55/ OUT 10.55 VIS IN 39/ OUT 39			
4800	40	API 300	
9204'	90.6°	266.5°	5785.79'
WT IN 10.55/ OUT 10.55 VIS IN 39/ OUT 39			
108			
9299'	91.0°	265.6°	5784.46'

MRL: dkgy-gybrn, sbblky-sbply, stf, gt-mot  
 tex, v chky, v calc, calc incl  
 CHK: lgy-crm, sbblky, stf-firm, wxy tex,  
 sub vit lstr, v calc, calc incl

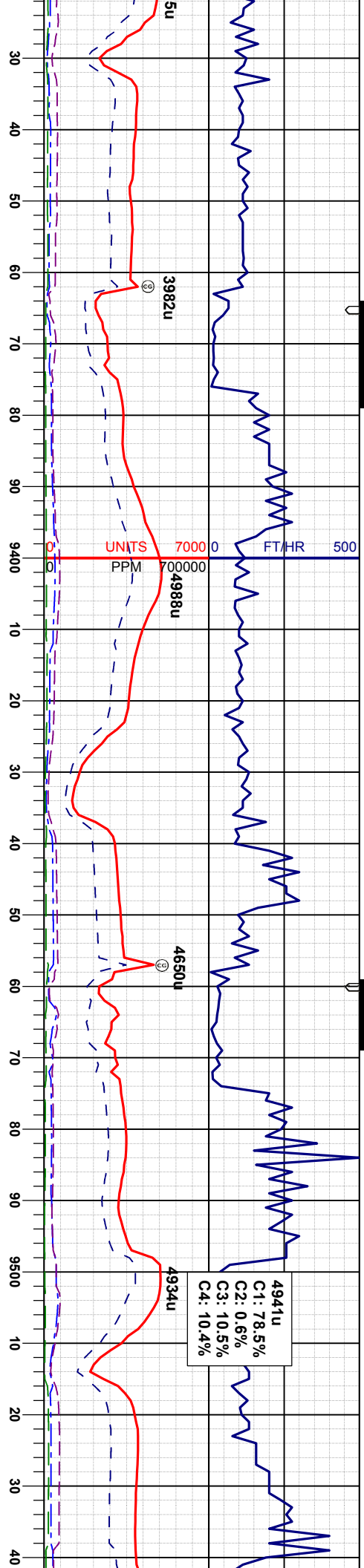
MRL: dkgy-gybrn, sbblky-sbply, stf, gt-mot  
 tex, v chky, v calc, calc incl  
 CHK: lgy-crm, sbblky, stf-firm, wxy tex,  
 sub vit lstr, v calc, calc incl

MRL: dkgy-gybrn, sbblky-sbply, stf, gt-mot  
 tex, v chky, v calc, calc incl  
 CHK: lgy-crm, sbblky, stf-firm, wxy tex,  
 sub vit lstr, v calc, calc incl

MRL: dkgy-gybrn, sbblky-sbply, stf, gt-mot  
 tex, v chky, v calc, calc incl  
 CHK: lgy-crm, sbblky, stf-firm, wxy tex,  
 sub vit lstr, v calc, calc incl

MRL: dkgy-gybrn, sbblky-sbply, stf, gt-mot  
 tex, v chky, v calc, calc incl  
 CHK: lgy-crm, sbblky, stf-firm, wxy tex,  
 sub vit lstr, v calc, calc incl





WT IN 10.50/ OUT 10.50  
VIS IN 40/ OUT 40

MD 9394'  
INC 91.4°  
AZM 265.4°  
TVD 5782.47'

WT IN 10.50/ OUT 10.50  
VIS IN 40/ OUT 40

MD 9488'  
INC 91.1°  
AZM 265.3°  
TVD 5780.42'

sbblky-sbply, sft, gt-mot  
calc incl  
calc incl  
calc incl

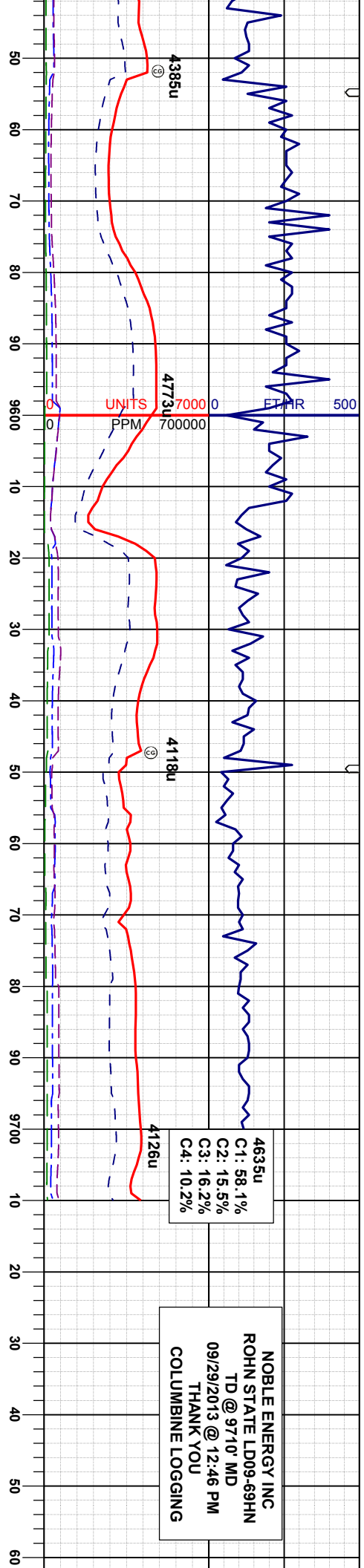
MRU: dkgy-gybrn, sbblky-sbply, sft-mod  
firm, gt-mot tex, v chky, v calc, calc incl, tr  
dism pyr  
CHK: llyg-crm, sbblky, sft-firm, wxy tex,  
sub vit istr, v calc, calc incl

MRU: dkgy-gybrn, sbblky-sbply, sft-mod  
firm, gt-mot tex, v chky, v calc, calc incl, tr  
dism pyr  
CHK: llyg-crm, sbblky, sft-firm, wxy tex,  
sub vit istr, v calc, calc incl

MRU: dkgy-gybrn, sbblky-sbply, sft-mod  
firm, gt-mot tex, v chky, v calc, calc incl, tr  
dism pyr  
CHK: llyg-crm, sbblky, sft-firm, wxy tex,  
sub vit istr, v calc, calc incl

MRU: dkgy-gybrn, sbblky-sbply, sft-mod  
firm, gt-mot tex, v chky, v calc, calc incl, tr  
dism pyr  
CHK: llyg-crm, sbblky, sft-firm, wxy tex,  
sub vit istr, v calc, calc incl





4635u  
 C1: 58.1%  
 C2: 15.5%  
 C3: 16.2%  
 C4: 10.2%

NOBLE ENERGY INC  
 ROHN STATE LD09-69HN  
 TD @ 9710' MD  
 09/29/2013 @ 12:46 PM  
 THANK YOU  
 COLUMBINE LOGGING

MD 9583'  
 INC 92.2°  
 AZM 265.3°  
 TVD 5777.69'

MRI: dkgy-gybrn, sbblky-sbply, sft-mod  
 firm, gt-mot tex, v calc, calc incl  
 CHK: lly-crm, sbblky, sft-firm, wxy tex,  
 sub vit lstr, v calc, calc incl

MD 9645'  
 INC 92.4°  
 AZM 264.2°  
 TVD 5775.20'

MRI: dkgy-gybrn, sbblky-sbply, sft-mod  
 firm, gt-mot tex, v calc, calc incl  
 CHK: lly-crm, sbblky, sft-firm, wxy tex,  
 sub vit lstr, v calc, calc incl

WT IN 10.50/ OUT 10.50  
 VIS IN 42/ OUT 42

PROJECTED  
 MD 9710'  
 INC 92.4°  
 AZM 264.2°  
 TVD 5772.48'

MRI: dkgy-gybrn, sbblky-sbply, sft-mod  
 firm, gt-mot tex, v calc, calc incl  
 CHK: lly-crm, sbblky, sft-firm, wxy tex,  
 sub vit lstr, v calc, calc incl

NOBLE ENERGY INC  
 ROHN STATE LD09-69HN  
 TD @ 9710' MD  
 09/29/2013 @ 12:46 PM



