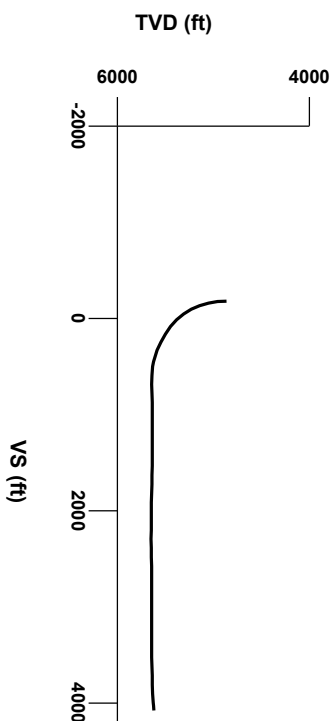




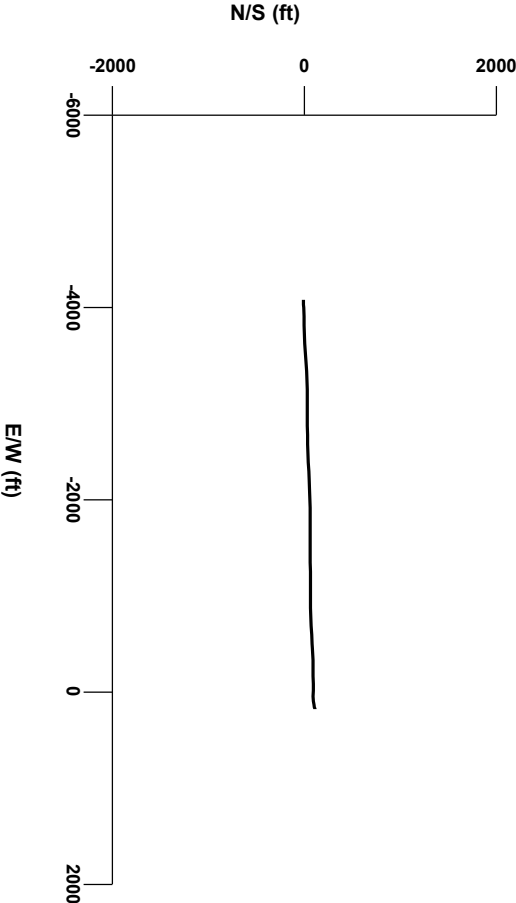
LOG created using LPLOT VH Version 3.0, July 09, 2013, Copyright (C) 1999-2009 Pason Systems Corp.

**OPERATOR:** NOBLE ENERGY INC  
**WELL:** ROHN STATE LD04-67-1HN  
**LOCATION:** SEC 4 T9N R58W  
**COUNTY:** WELD  
**STATE:** COLORADO  
**SPOT:** 1750' FNL, 480' FEL  
**ELEVATION:** 4707' GL; 4731' KB  
**FIELD:** WILDCAT  
**SPUD DATE:** 07/04/2013  
**TD DATE:** 07/09/2013  
**DATES LOGGED:** 07/05/2013 - 07/09/2013  
**DEPTHS LOGGED:** 4862' - 9583' MD  
**LOGGERS:** LAURA KELLOGG; CONOR PESICKA  
**DRILLING FLUID:** LSND  
**DRILLING RIG:** H&P 273  
**API:** 05-123-37480  
**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





## ENGINEERING SYMBOLS



## Casing



## Casing



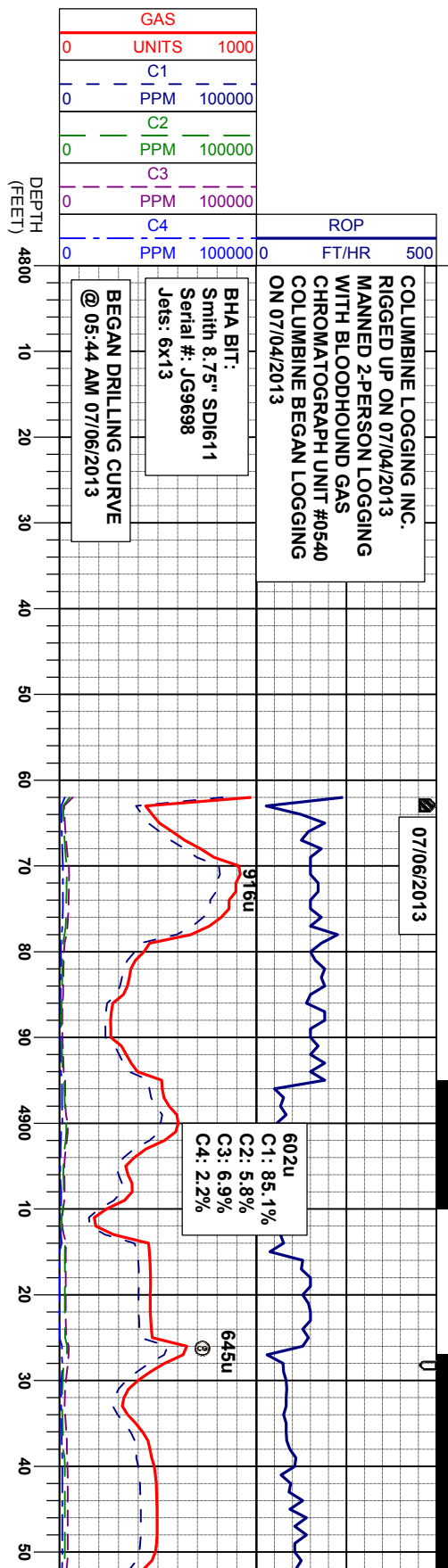
## Connection



Connection Gas



## Midnight Depth

CUTTINGS  
LITHOLOGY

GAMMA RAY		
40	API	300

TVD
ft

OIL SHOWS

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.

SLTYSH: Itgy-gy-gybrn, sbblky-sbply, gtsly tex, arg cmt, v sl calc

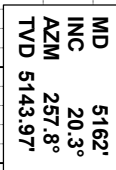
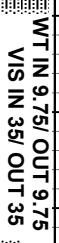
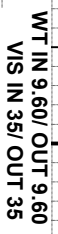
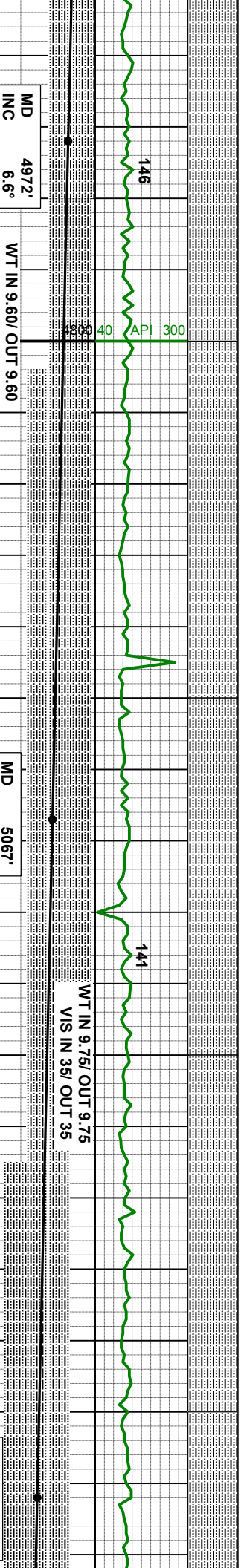
SLTYSH: Itgy-gy-gybrn, sbbkly-sbply, gt-silty tex, arg cmt, v sl calc

MD	4877'
INC	0.2°
AZM	200.9°
TVD	4864.58'

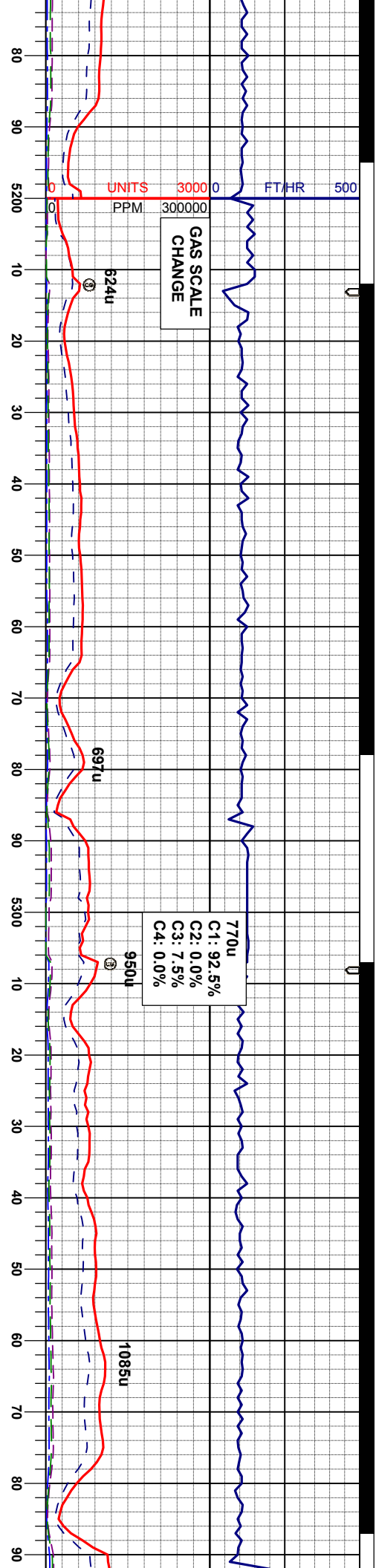
WT IN 9.50/ OUT 9.50  
VIS IN 35/ OUT 35



## SAMPLE PHOTOS

SLTYSH: Itgy-gy-g  
silty tex, arg cmt, w





141  
WT IN 9.90/ OUT 9.90  
VIS IN 36/ OUT 36

WT IN 10.10/ OUT 10.10  
VIS IN 35/ OUT 35

136

MD 5257'  
INC 26.9°  
AZM 263.5°  
TVD 5230.99'

MD 5352'  
INC 35.1°  
AZM 269.6°  
TVD 5312.37'

slty tex. arg cnt. v sl calc  
SLTVSH: lty-gy-gybrn, sbblky-sbply, gt-  
slty tex. arg cnt. v sl calc

slty tex. arg cnt. v sl calc  
SLTVSH: lty-gy-gybrn, sbblky-sbply, gt-

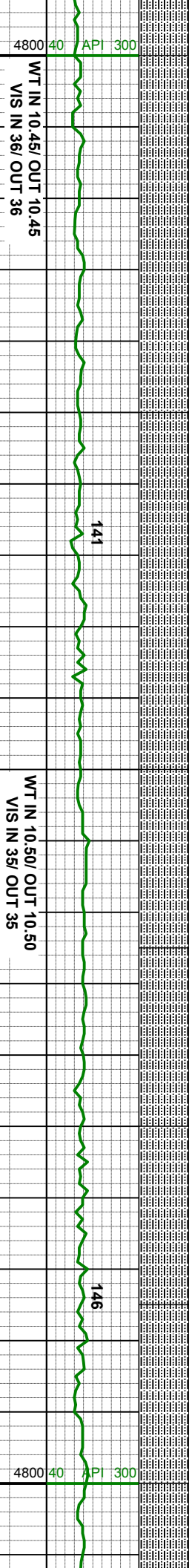
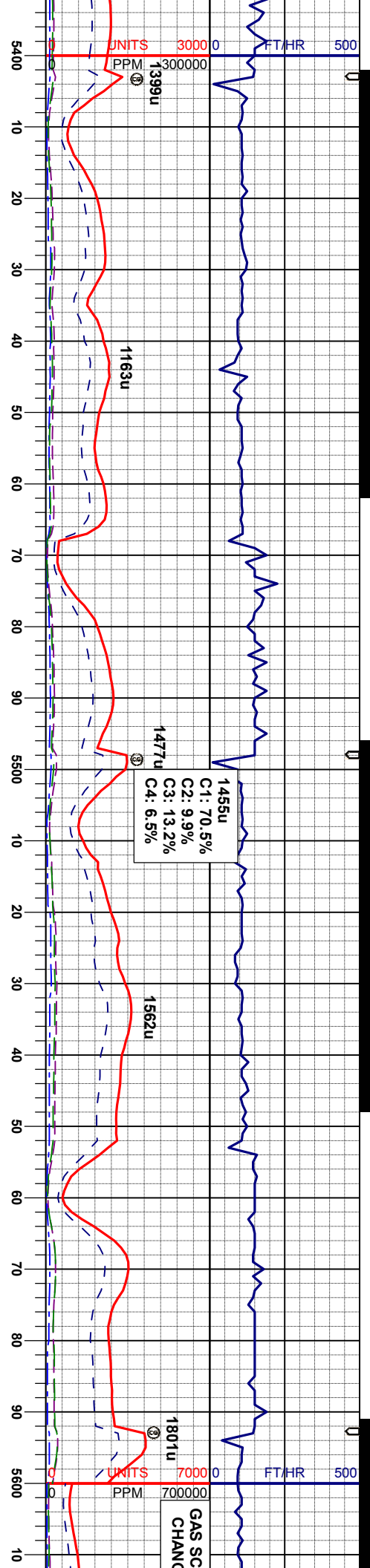
slty tex. arg cnt. v sl calc  
SLTVSH: lty-gy-gybrn, sbblky-sbply, gt-

slty tex. arg cnt. v sl calc  
SLTVSH: lty-gy-gybrn, sbblky-sbply, gt-

slty tex. arg cnt. v sl calc  
SLTVSH: lty-gy-gybrn, sbblky-sbply,







MD 5446'  
INC 44.6°  
AZM 271.7°  
TVD 5384.46'

MD 5541'  
INC 52.4°  
AZM 269.5°  
TVD 5447.36'

SLTYSH: lly-gy-gybrn, sbblky-sbpity, gt-  
sily tex, arg cnt, v si calc, tr bent

SLTYSH: lly-gy-gybrn, sbblky-sbpity, gt-  
sily tex, arg cnt, v si calc, tr bent

SLTYSH: lly-gy-gybrn, sbblky-sbpity, gt-  
sily tex, arg cnt, v si calc

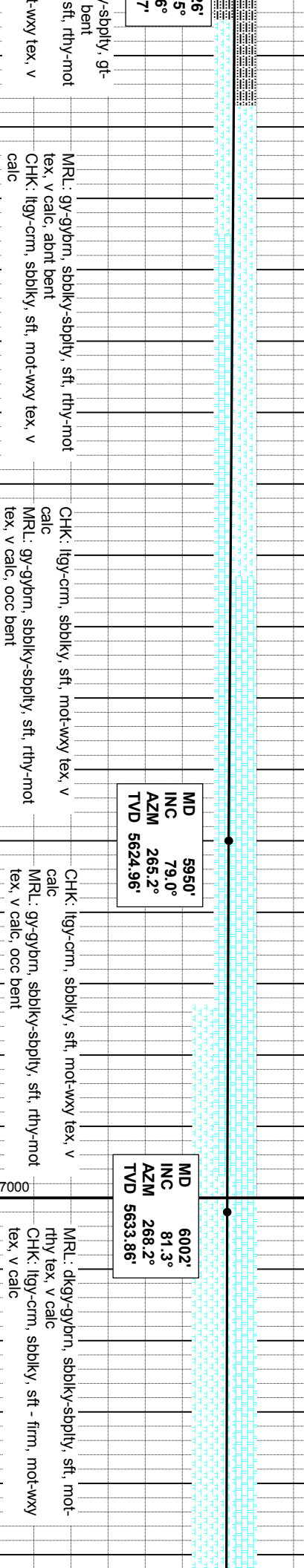
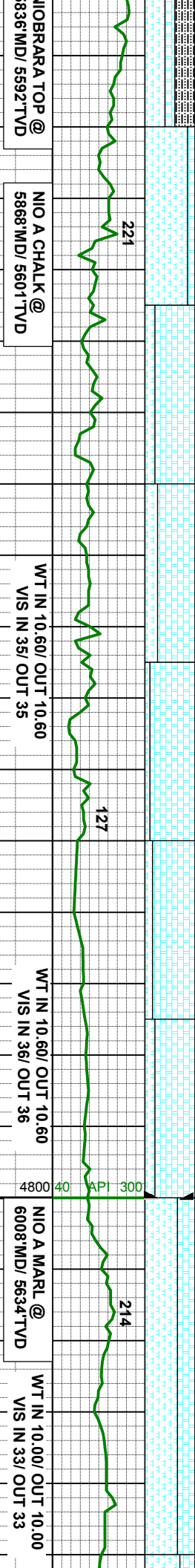
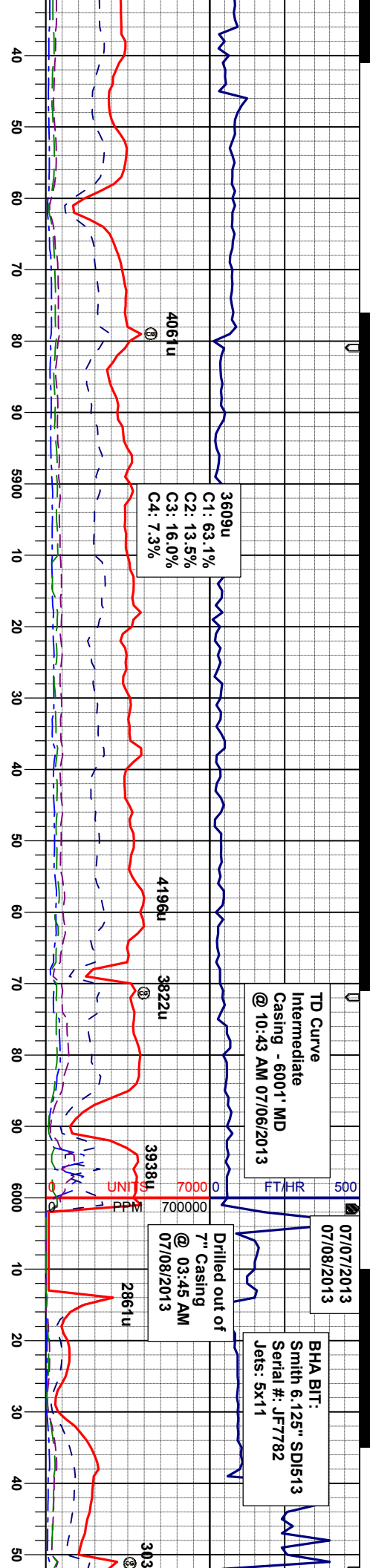
SLTYSH: lly-gy-gybrn, sbblky-sbpity, gt-  
sily tex, arg cnt, v si calc

SLTYSH: lly-gy-gybrn, sbblky-sbpity, gt-  
sily tex



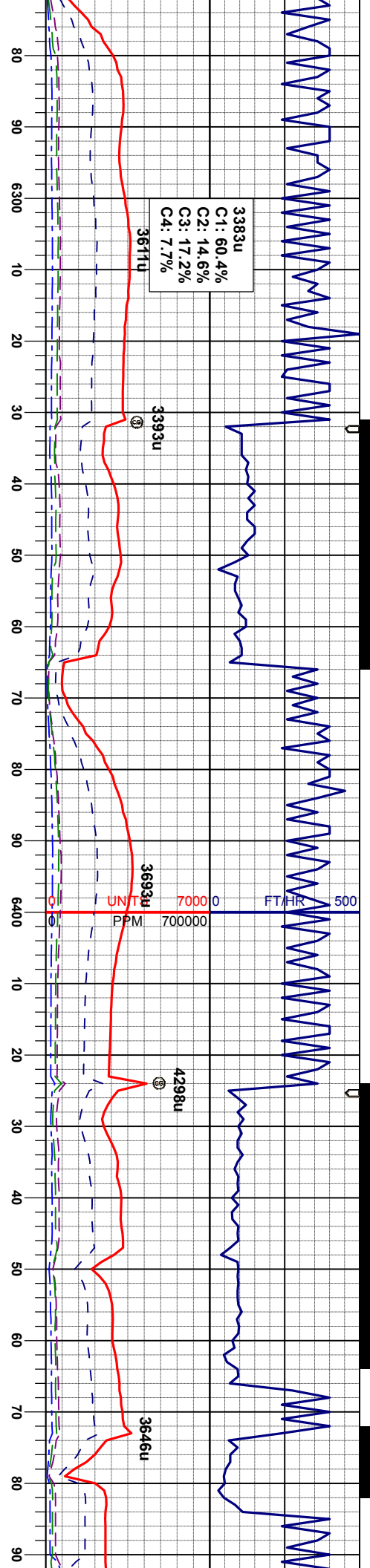












MD 6279'  
INC 92.3°  
AZM 267.9°  
TVD 5640.88'

sbdkly-sbply, sft, mot-  
rthy tex, v calc  
CHK: ilgy-crm, sbdkly, sft - firm, mot-wxy  
tex, v calc

MD 6374'  
INC 91.7°  
AZM 268.9°  
TVD 5637.56'

MR.L: dkgy-gybrn, sbdkly-sbply, sft, mot-  
rthy tex, v calc  
CHK: ilgy-crm, sbdkly, sft - firm, mot-wxy  
tex, v calc

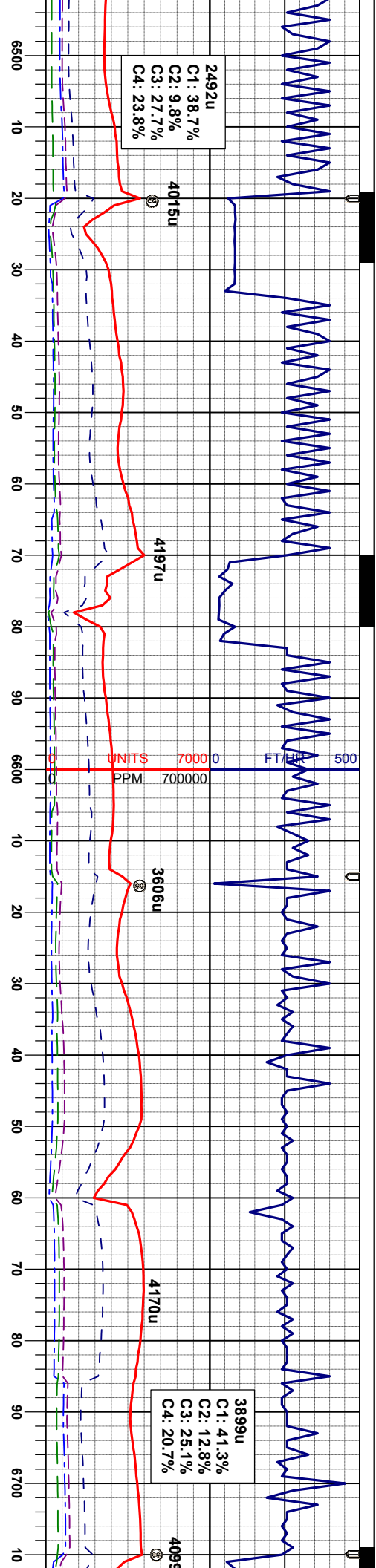
MD 6469'  
INC 89.5°  
AZM 269.6°  
TVD 5636.57'

MR.L: dkgy-gybrn, sbdkly-sbply, sft, mot-  
rthy tex, v calc  
CHK: ilgy-crm, sbdkly, sft - firm, mot-wxy  
tex, v calc, tr bent

WT IN 10.00/ OUT 10.00  
VIS IN 33/ OUT 33







WT IN 10.00/ OUT 10.00  
VIS IN 33/ OUT 33

MD 6564'  
INC 88.6°  
AZM 269.1°  
TVD 5638.14'

MRL: dkgy-gybrn, sbblky-sbply, sft, mot-  
rthy tex, v calc  
CHK: lgy-crm, sbblky, sft - firm, mot-wxy  
tex, v calc, tr bent

MRL: dkgy-gybrn, sbblky-sbply, sft, mot-  
rthy tex, v calc  
CHK: lgy-crm, sbblky, sft - firm, mot-wxy  
tex, v calc, tr bent

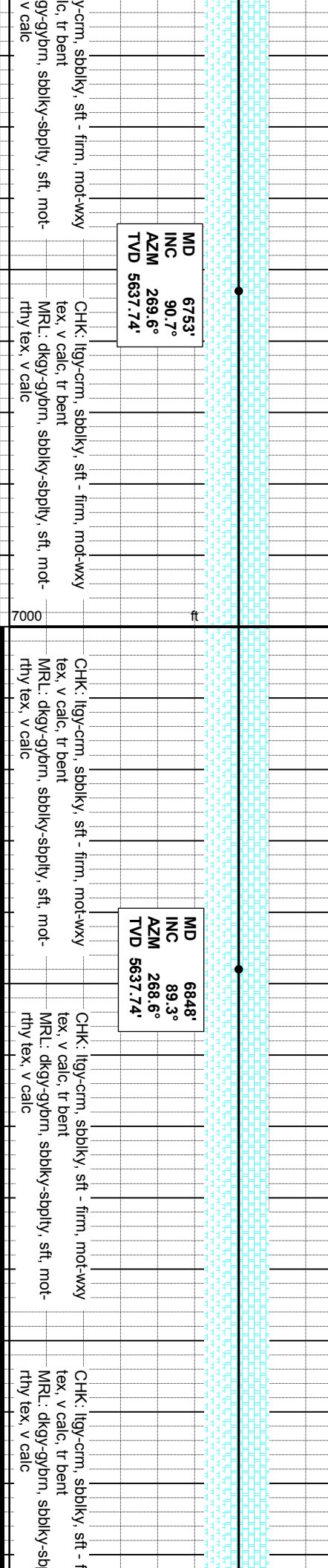
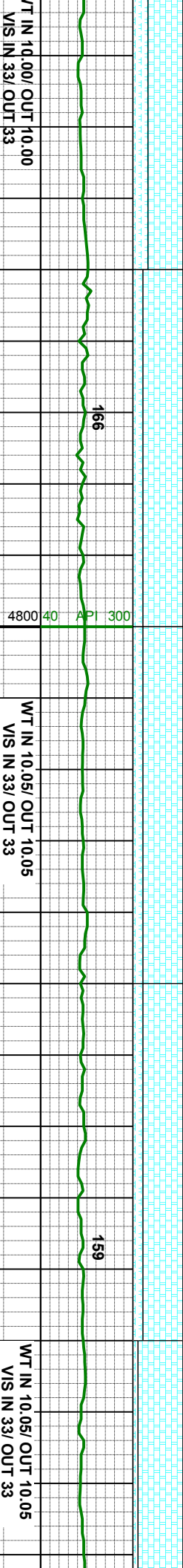
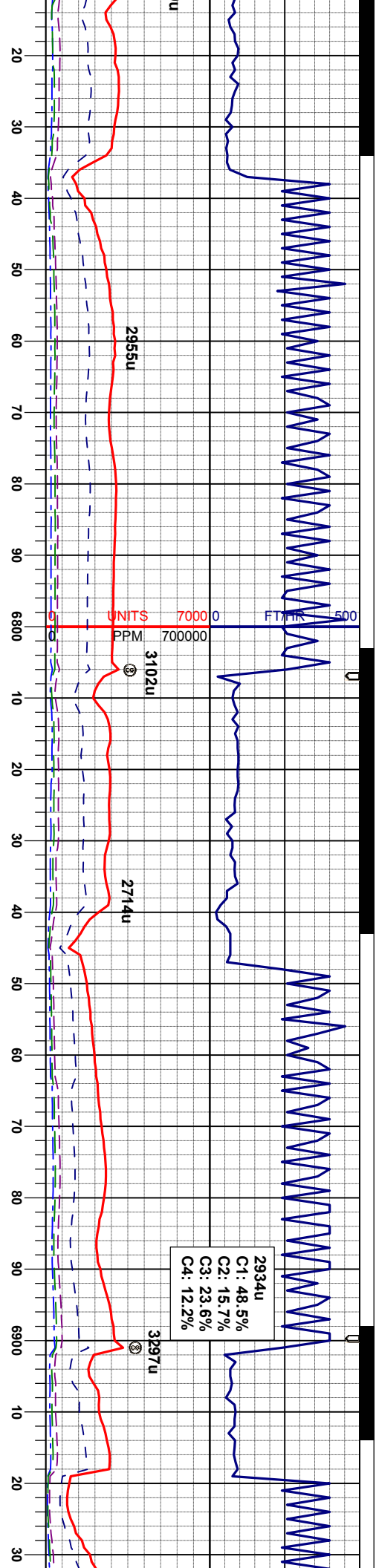
MD 6659'  
INC 90.6°  
AZM 270.9°  
TVD 5638.80'

MRL: dkgy-gybrn, sbblky-sbply, sft, mot-  
rthy tex, v calc  
CHK: lgy-crm, sbblky, sft - firm, mot-wxy  
tex, v calc, tr bent

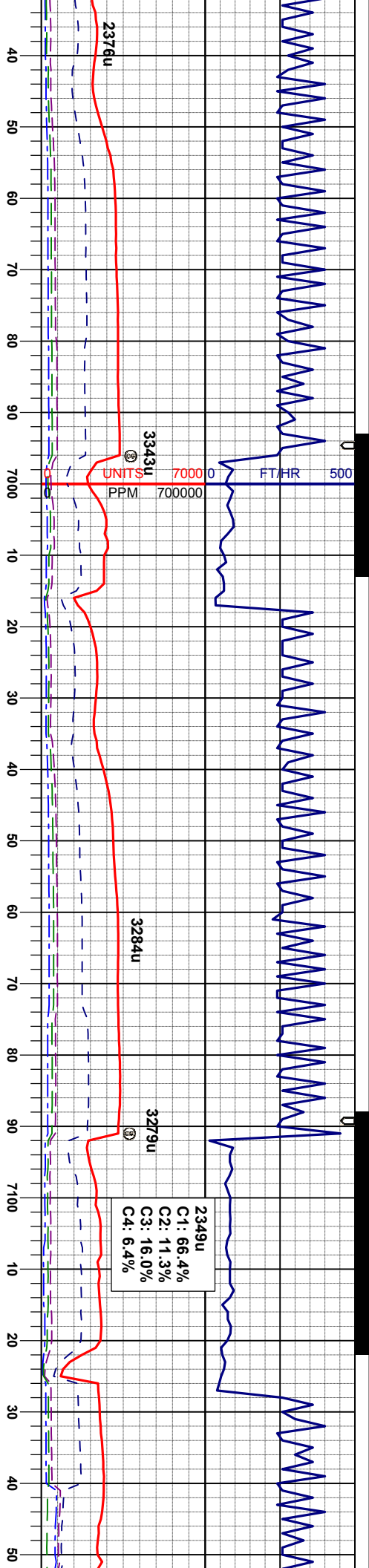
CHK: lgy-crm, sbblky, sft - firm, mot-wxy  
tex, v calc, tr bent  
MRL: dkgy-gybrn, sbblky-sbply, sft, mot-  
rthy tex, v calc

CHK: lgy-crm, sbblky, sft - firm, mot-wxy  
tex, v calc, tr bent









2349u  
C1: 66.4%  
C2: 11.3%  
C3: 16.0%  
C4: 6.4%

WT IN 10.05/ OUT 10.05  
VIS IN 33/ OUT 33

WT IN 10.10/ OUT 10.10  
VIS IN 33/ OUT 33

MD 6943'  
INC 89.4°  
AZM 270.9°  
TVD 5638.82'

MD 7038'  
INC 90.1°  
AZM 270.3°  
TVD 5639.23'

MD 7133'  
INC 88.7°  
AZM 269.6°  
TVD 5640.23'

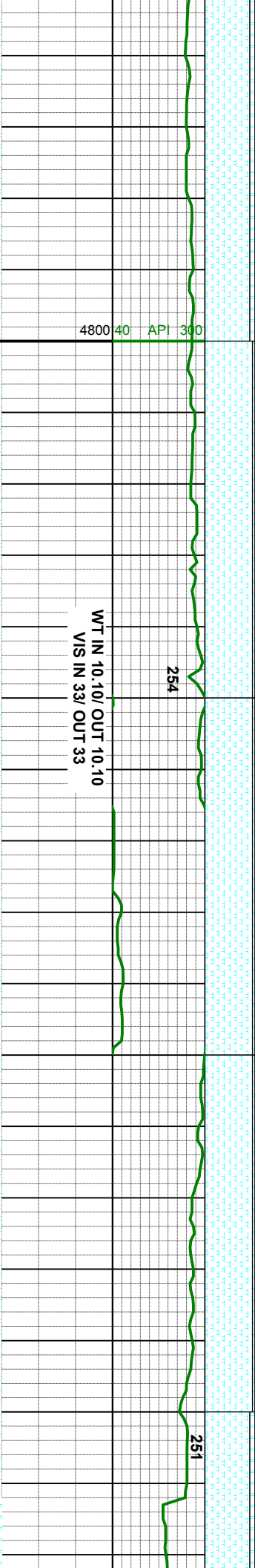
rm, mot-wxy  
sblly, sft, mot-  
CHK: lly-crm, sblly, sft - firm, mot-wxy  
tex, v calc, tr bent  
MRL: dky-gy/brn, sblly-sply, sft, mot-  
rthy tex, v calc

CHK: lly-crm, sblly, sft - firm, mot-wxy  
tex, v calc, tr bent  
MRL: dky-gy/brn, sblly-sply, sft, mot-  
rthy tex, v calc

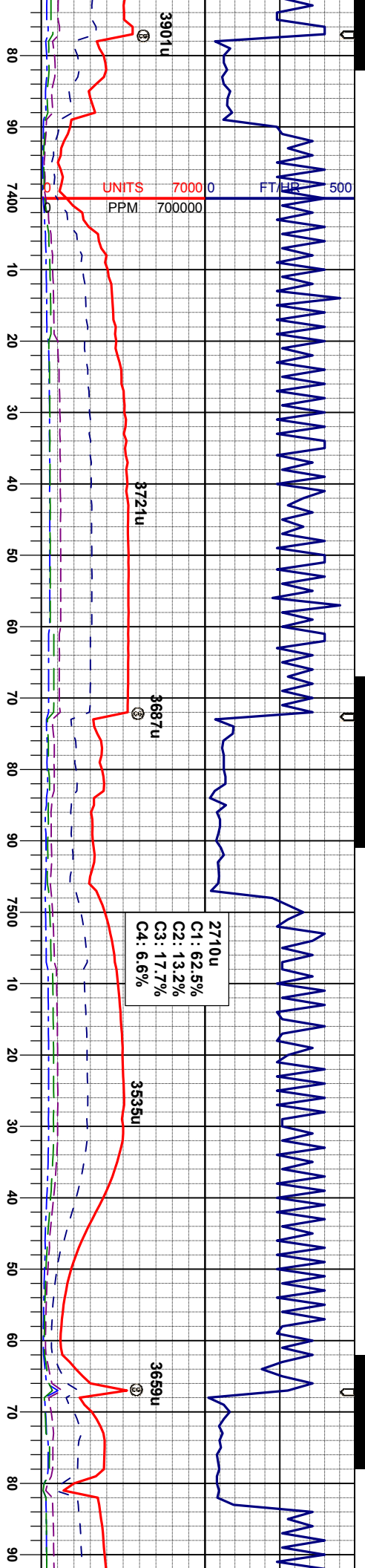
MRL: dky-gy/brn, sblly-sply, sft, mot-  
rthy tex, v calc  
CHK: lly-crm, sblly, sft - firm, mot-wxy  
tex, v calc, tr bent

MRL: dky-gy/brn, sblly-sply, sft, mot-  
rthy tex, v calc  
CHK: lly-crm, sblly, sft - firm, mot-wxy  
tex, v calc, tr bent









4800 40 API 300

WT IN 10.20/ OUT 10.15  
VIS IN 33/ OUT 33

WT IN 10.20/ OUT 10.20  
VIS IN 32/ OUT 32

MD 7417'  
INC 89.3°  
AZM 269.5°  
TVD 5647.17'

MD 7512'  
INC 89.3°  
AZM 267.3°  
TVD 5648.33'

sbblky-sbply, sft, mot-  
bly, sft - firm, mot-wxy

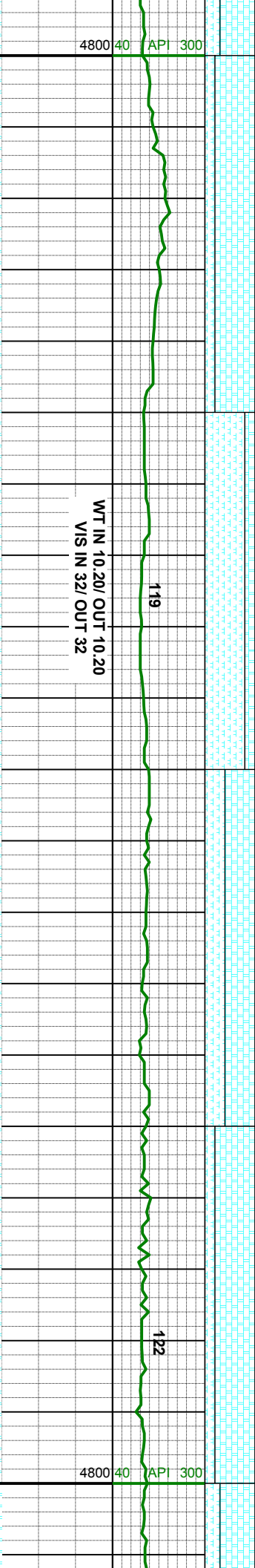
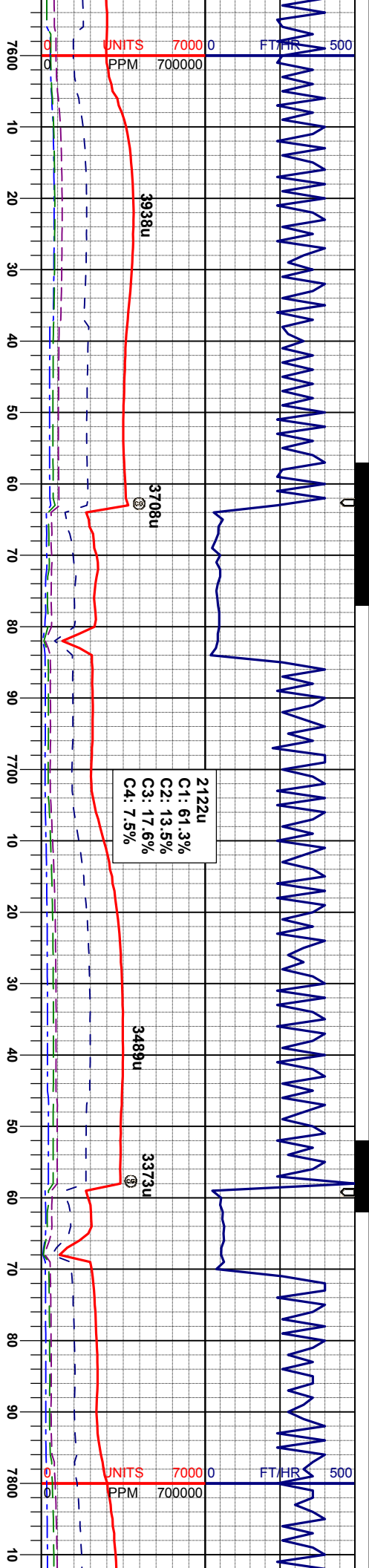
MRL: dkgy-gybrn, sbblky-sbply, sft, mot-  
rthy tex, v calc  
CHK: lgy-crm, sbblky, sft - firm, mot-wxy  
tex, v calc

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

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

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

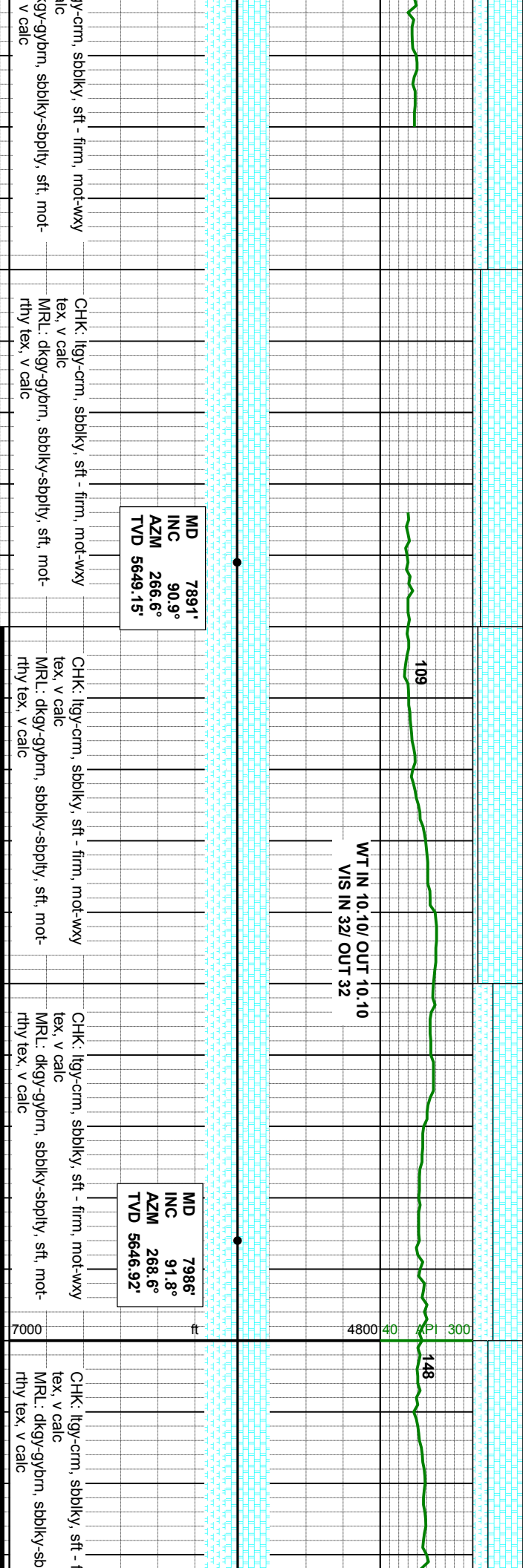
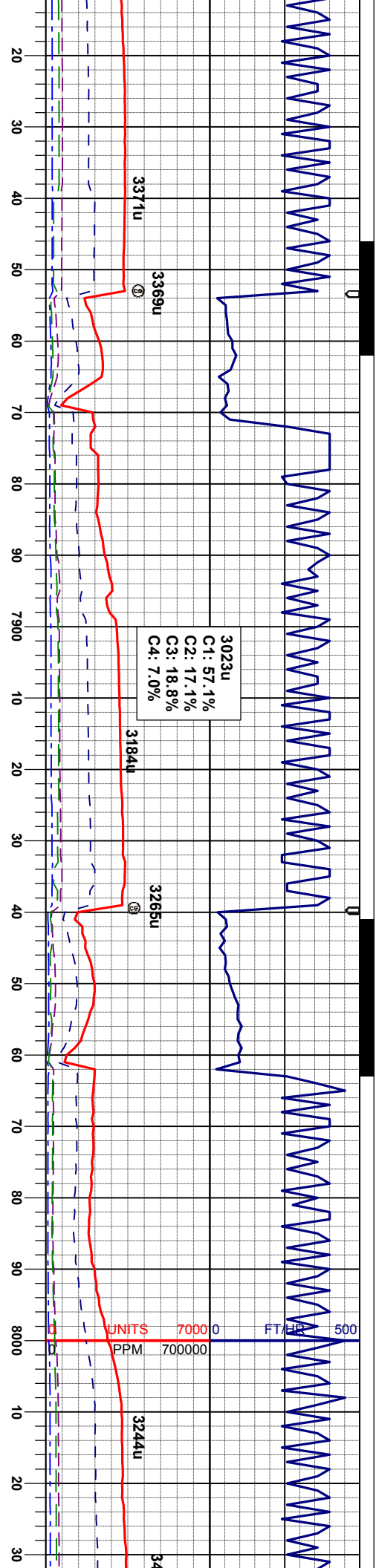




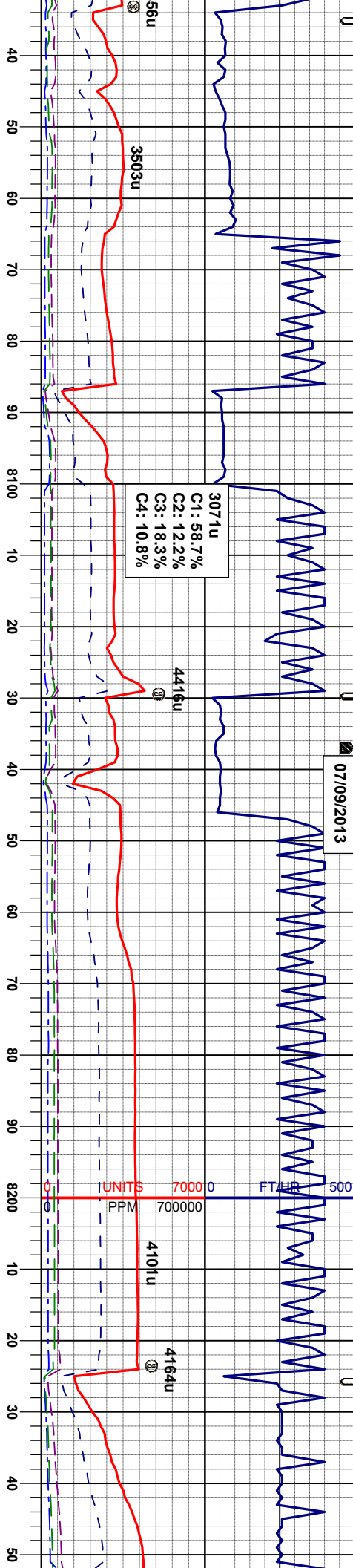
<div>MD 7607'<div>INC 89.9°</div><div>AZM 268.2°</div><div>TVD 5648.99'</div></div>		CHK: lly-crm, sblky, sft - firm, mot-wxy tex, v calc MRL: dky-gybrn, sblky-sply, sft, mot- rthy tex, v calc, tr bent w/ pyr	<div>MD 7705'<div>INC 89.5°</div><div>AZM 267.9°</div><div>TVD 5649.50'</div></div>		CHK: lly-crm, sblky, sft - firm, mot-wxy tex, v calc MRL: dky-gybrn, sblky-sply, sft, mot- rthy tex, v calc	<div>MD 7796'<div>INC 90.0°</div><div>AZM 266.6°</div><div>TVD 5649.90'</div></div>		CHK: lly-crm, sblky, sft - firm, mot-wxy tex, v calc MRL: dky-gybrn, sblky-sply, sft, mot- rthy tex, v calc
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07/09/2013



WT IN 10.10/ OUT 10.10  
VIS IN 32/ OUT 32

WT IN 10.10/ OUT 10.10  
VIS IN 33/ OUT 33

MD 8081'  
INC 90.4°  
AZM 268.9°  
TVD 5645.09'

MD 8176'  
INC 89.1°  
AZM 269.5°  
TVD 5645.51'

firm, mot-wxy  
rthy tex, v calc  
CHK: lgy-crm, sbblky, sft - firm, mot-wxy  
tex, v calc

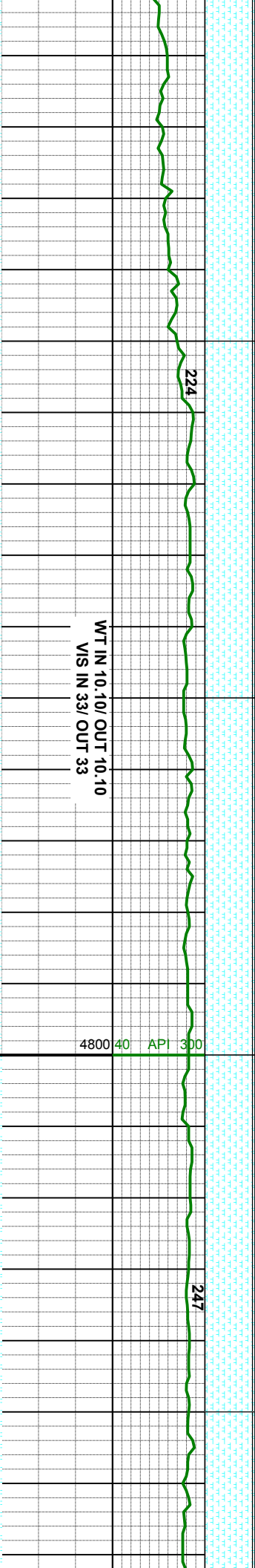
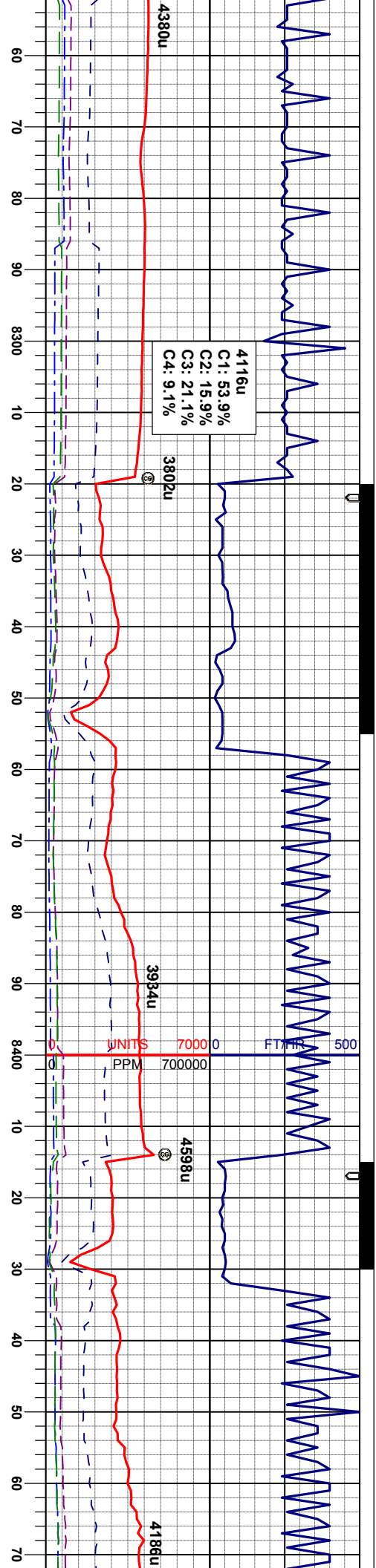
firm, mot-wxy  
rthy tex, v calc  
CHK: lgy-crm, sbblky, sft - firm, mot-wxy  
tex, v calc

firm, mot-wxy  
rthy tex, v calc  
CHK: lgy-crm, sbblky, sft - firm, mot-wxy  
tex, v calc

firm, mot-wxy  
rthy tex, v calc, tr bent w/ pyr  
CHK: lgy-crm, sbblky, sft - firm, mot-wxy  
tex, v calc

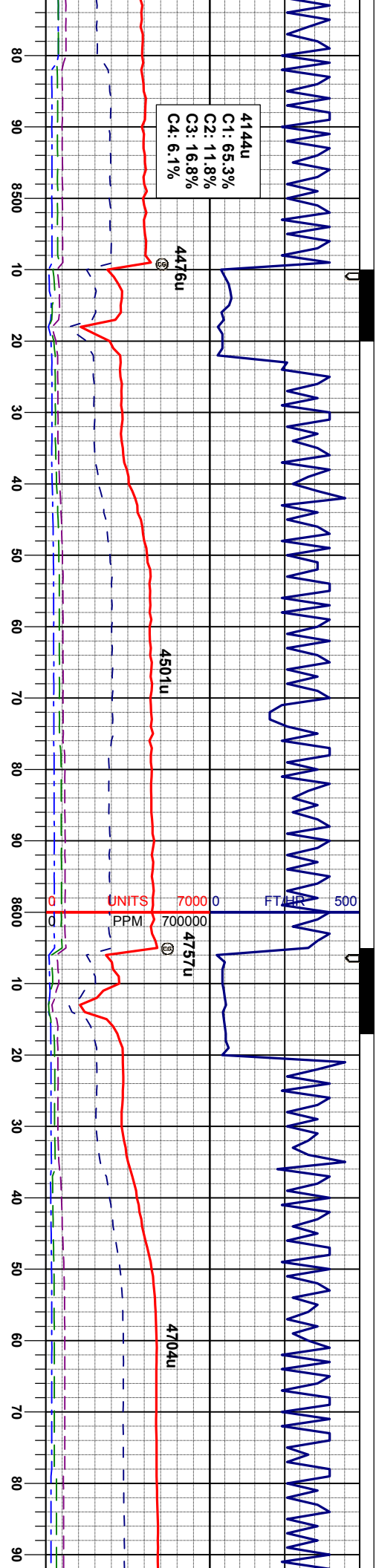






MD INC AZM TVD	8270' 91.5° 269.6° 5645.01'	MRL: dkgy-gybrn, sbbiky-sbply, sft, mot- rthy tex, v calc, tr bent w/ pyr CHK: lgy-crm, sbbiky, sft - firm, mot-wxy tex, v calc
MD INC AZM TVD	8365' 89.9° 270.0° 5643.85'	MRL: dkgy-gybrn, sbbiky-sbply, sft, mot- rthy tex, v calc, tr bent w/ pyr CHK: lgy-crm, sbbiky, sft - firm, mot-wxy tex, v calc
MD INC AZM TVD	8460' 89.3° 270.3° 5644.52'	MRL: dkgy-gybrn, sbbiky-sbply, sft, mot- rthy tex, v calc, tr bent w/ pyr CHK: lgy-crm, sbbiky, sft - firm, mot-wxy tex, v calc





4144u  
C1: 65.3%  
C2: 11.8%  
C3: 16.8%  
C4: 6.1%

4476u

4501u

4757u

4704u

WT IN 10.20/ OUT 10.20  
VIS IN 33/ OUT 33

WT IN 10.20/ OUT 10.20  
VIS IN 36/ OUT 36

MD 8555'  
INC 89.6°  
AZM 260.8°  
TVD 5644.43'

MD 8650'  
INC 89.3°  
AZM 268.4°  
TVD 5646.34'

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

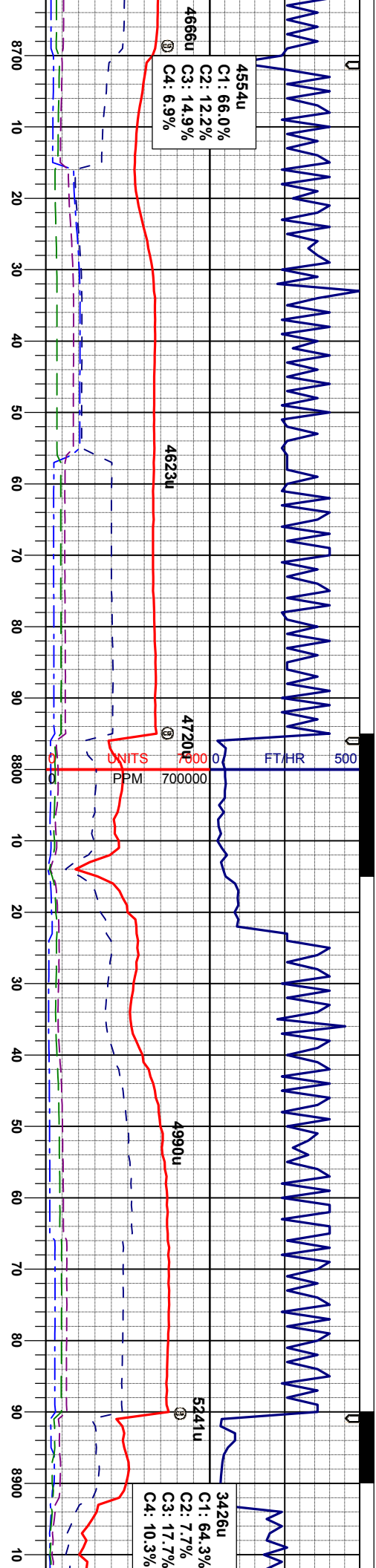
MRL: dkgy-gybrn, sbblky-sbply, sft, mot-  
rthy tex, v calc, tr bent w/ pyr  
CHK: lgy-crm, sbblky, sft - firm, mot-wxy  
tex, v calc

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

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







MD 8745'  
INC 90.6°  
AZM 267.2°  
TVD 5646.42'

MRL: dkgy-gybrn, sbblky-sbply, sft, mot-  
rthy tex, v calc, tr bent w/ pyr  
CHK: lly-crm, sbblky, sft - firm, mot-wxy  
tex, v calc

MD 8840'  
INC 89.9°  
AZM 267.3°  
TVD 5646.01'

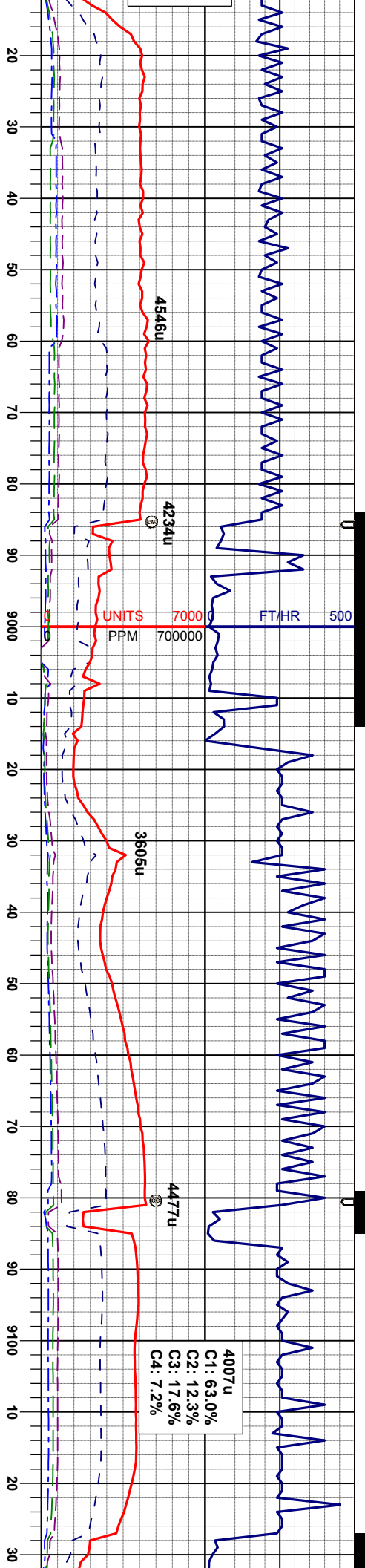
MRL: dkgy-gybrn, sbblky-sbply, sft, mot-  
rthy tex, v calc, tr bent w/ pyr  
CHK: lly-crm, sbblky, sft - firm, mot-wxy  
tex, v calc

MRL: dkgy-gybrn, sbblky-sbply, sft, mot-  
rthy tex, v calc, tr bent w/ pyr  
CHK: lly-crm, sbblky, sft - firm, mot-wxy  
tex, v calc

MRL: dkgy-gybrn, sbblky-sbply, sft, mot-  
rthy tex, v calc, tr bent w/ pyr  
CHK: lly-crm, sbblky, sft - firm, mot-wxy  
tex, v calc

WT IN 10.20/ OUT 10.20  
VIS IN 34/ OUT 34





WT IN 10.20/ OUT 10.20  
VIS IN 35/ OUT 35

WT IN 10.20/ OUT 10.20  
VIS IN 35/ OUT 35

WT IN 10.20/ OUT 10.20  
VIS IN 35/ OUT 35

MD 8934'  
INC 90.8°  
AZM 266.5°  
TVD 5645.43'

MD 9029'  
INC 91.0°  
AZM 266.1°  
TVD 5643.94'

MD 9124'  
INC 92.2°  
AZM 266.6°  
TVD 5641.29'

MRL: dkgy-gybrn, sbblky-sbply, sft, mot-  
rthy tex, v calc, tr bent w/ pyr  
CHK: llyy-crm, sbblky, sft - firm, mot-wxy  
tex, v calc

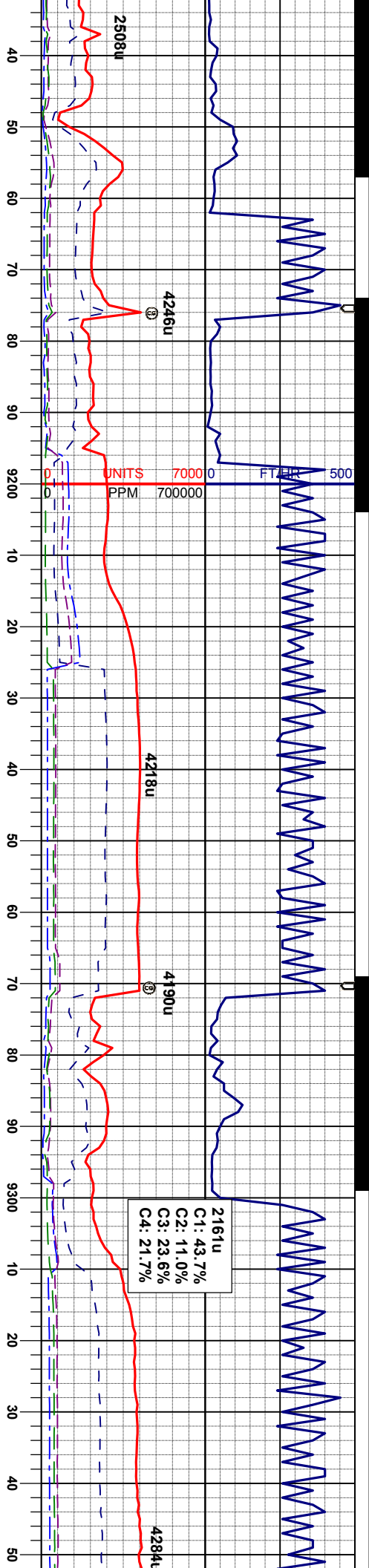
MRL: dkgy-gybrn, sbblky-sbply, sft, mot-  
rthy tex, v calc, tr bent w/ pyr  
CHK: llyy-crm, sbblky, sft - firm, mot-wxy  
tex, v calc

CHK: llyy-crm, sbblky, sft - firm, mot-wxy  
tex, v calc  
MRL: dkgy-gybrn, sbblky-sbply, sft, mot-  
rthy tex, v calc, tr bent w/ pyr

CHK: llyy-crm, sbblky, sft - f - firm, mot-wxy  
tex, v calc  
MRL: dkgy-gybrn, sbblky-sbply, sft, mot-  
rthy tex, v calc, tr bent w/ pyr







WT IN 10.20/ OUT 10.20  
VIS IN 35/ OUT 35

4800 40 API 300

180

WT IN 10.20/ OUT 10.20  
VIS IN 36/ OUT 36

MD 9219'  
INC 91.0°  
AZM 268.4°  
TVD 5638.64'

MD 9314'  
INC 91.5°  
AZM 268.4°  
TVD 5636.56'

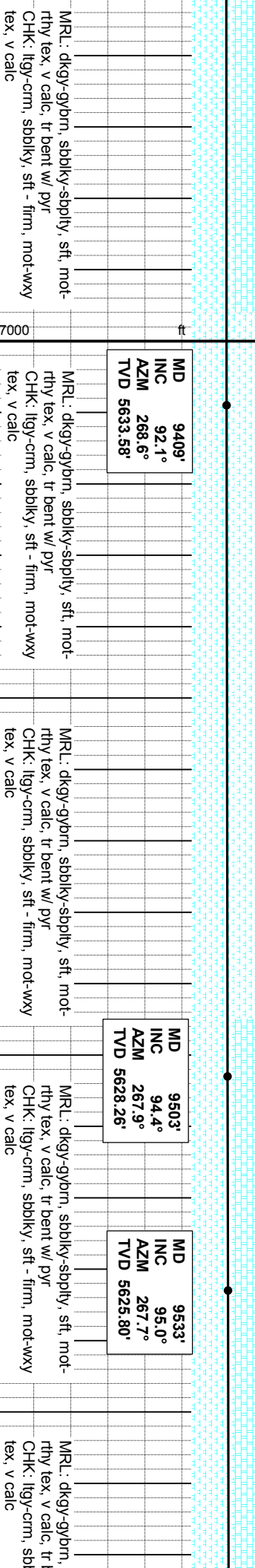
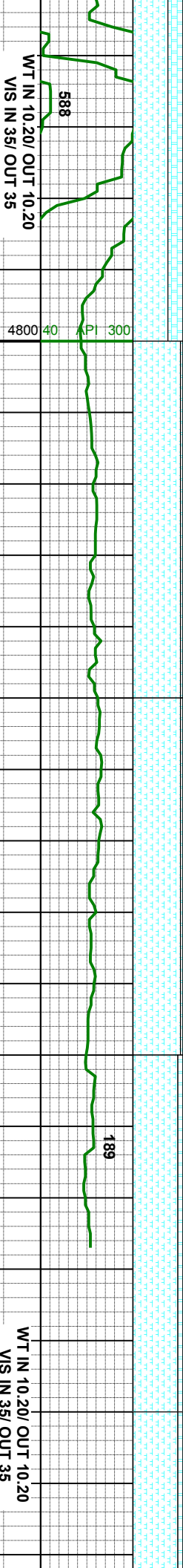
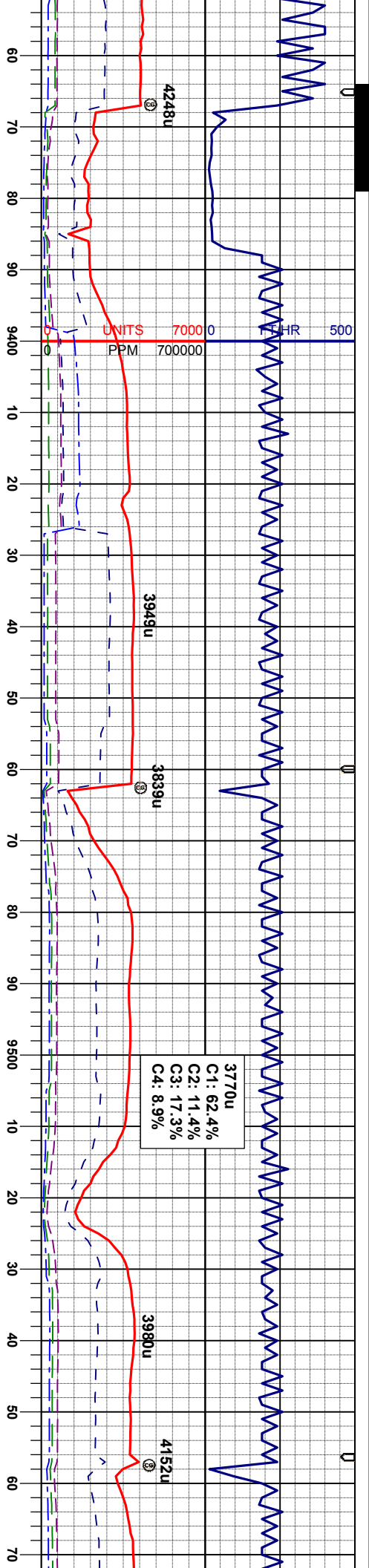
CHK: lgy-crm, sbblky, sft - firm, mot-wxy  
tex, v calc  
MRL: dkgy-gybrn, sbblky-sbply, sft, mot-  
rthy tex, v calc, tr bent w/ pyr

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

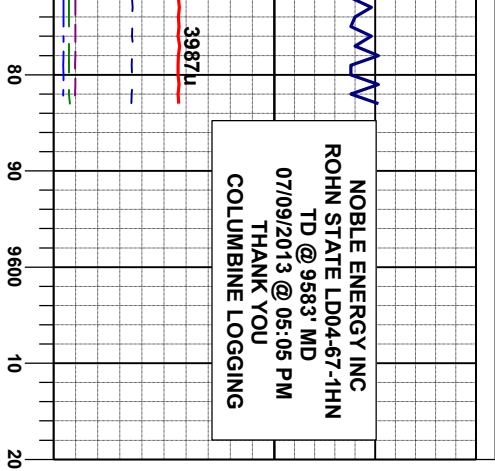
CHK: lgy-crm, sbblky, sft - firm, mot-wxy  
tex, v calc  
MRL: dkgy-gybrn, sbblky-sbply, sft, mot-  
rthy tex, v calc, tr bent w/ pyr

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









NOBLE ENERGY INC  
ROHN STATE LD04-67-1HN  
TD @ 9583' MD  
07/09/2013 @ 05:05 PM

PROJ TO BIT  
MD 9583'  
INC 95.0°  
AZM 267.7°  
TVD 5621.45'

assembly-sbply, sft, mot-  
ent w/ pyr  
illy, sft - firm, mot-wxy

