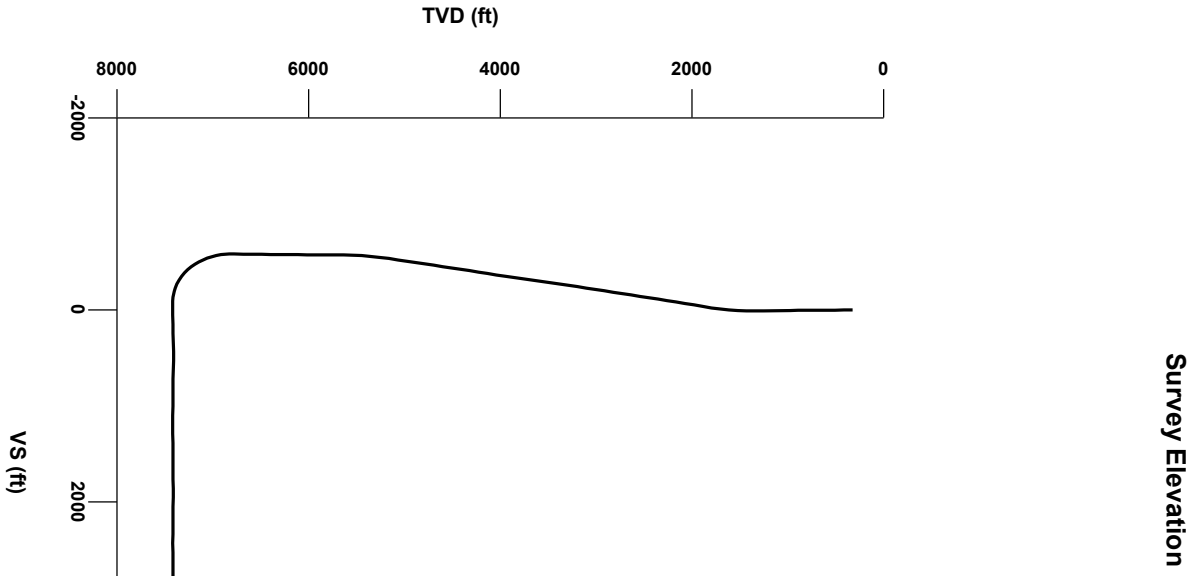
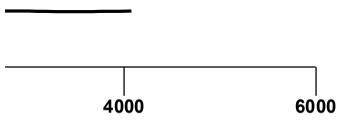
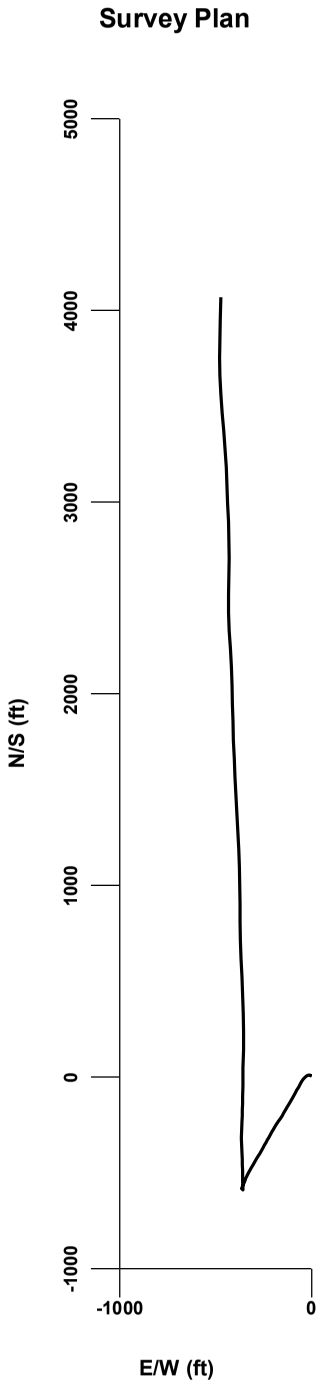
LOG created using LPLOT VH Version 3.0, July 23, 2013, Copyright (C) 1999-2009 Pason Systems Corp.

OPERATOR:	ANADARKO PETROLEUM CORPORATION
WELL:	USA FED 29C-35HZ
LOCATION:	SESW SEC 36, T3N, R66W
COUNTY:	WELD
STATE:	COLORADO
SPOT:	642 FSL, 1875 FWL
ELEVATION:	GR 5003', KB 5016'
FIELD:	WATTENBERG
SPUD DATE:	07/14/2013
TD DATE:	07/23/2013
DATES LOGGED:	07/17/2013 - 07/23/2013
DEPTHS LOGGED:	6894' MD - 11955' MD
LOGGERS:	SHANA SWIRIN, LIZ VAN DIEPEN
DRILLING FLUID:	FSLN
DRILLING RIG:	ENSIGN 132
API:	05-123-36848
LOG TYPE:	HORIZONTAL
SCALE:	1:240 (5 inches per 100 feet)
REMARKS:	WELLSITE GEOLOGICAL SERVICES PROVIDED BY COLUMBINE LOGGING INC.




4000
6000

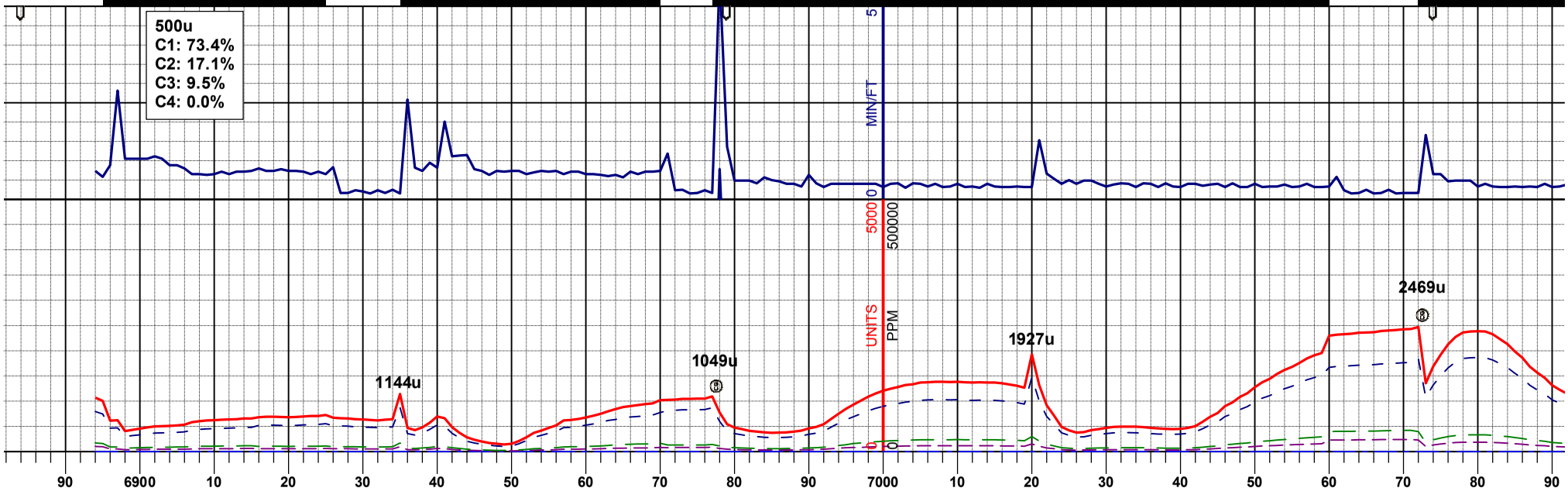

Survey Plan
5000
4000
3000
2000
1000
0
-1000
N/S (ft)
-1000
0
E/W (ft)

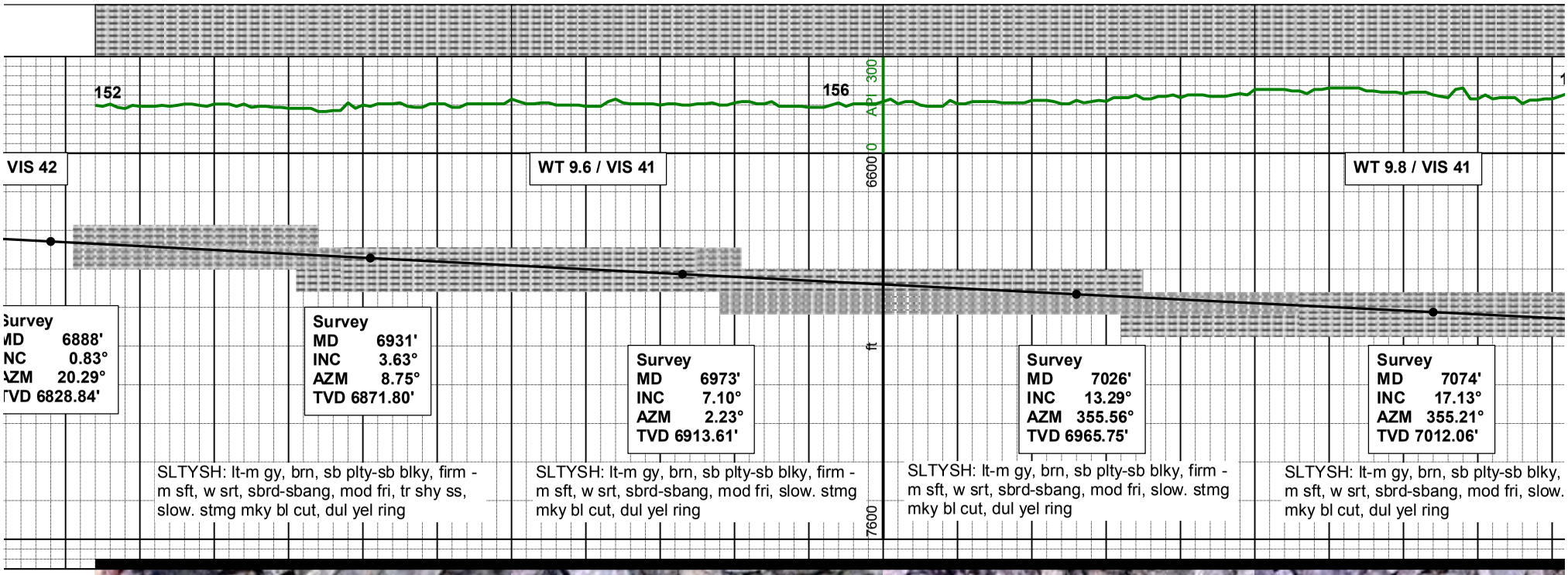
LITHOLOGIES

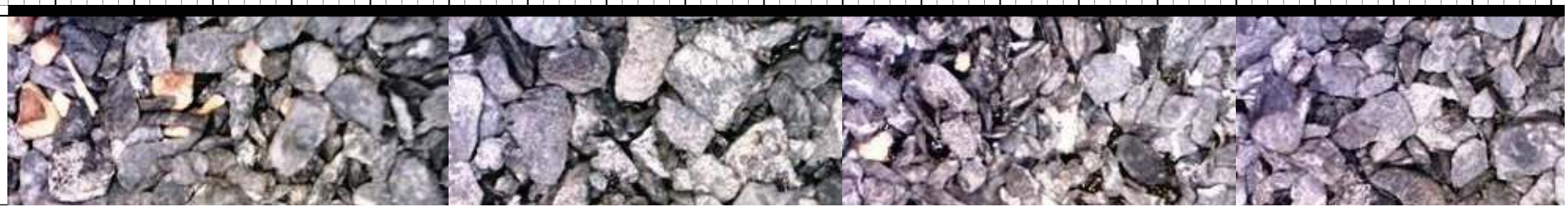
Chalk	Limestone	Marl
Sandstone	Shale	Silty Shale

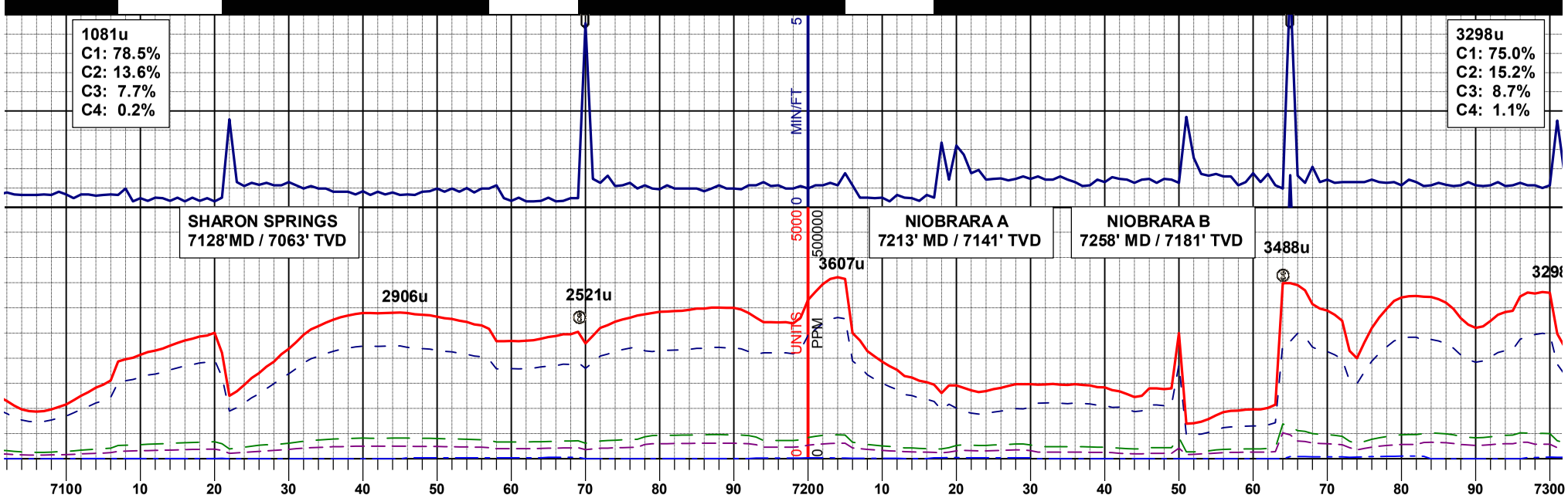
ENGINEERING SYMBOLS

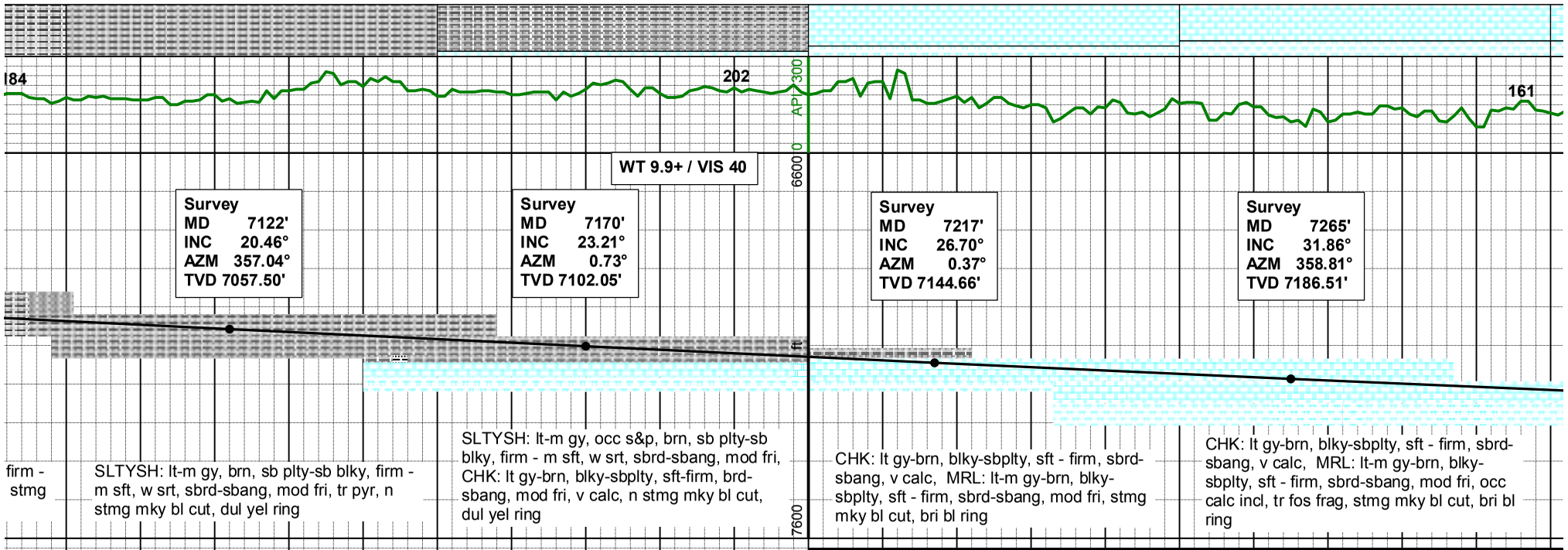
Casing	Casing	Connection
Connection Gas	Midnight Depth	Normal Fault

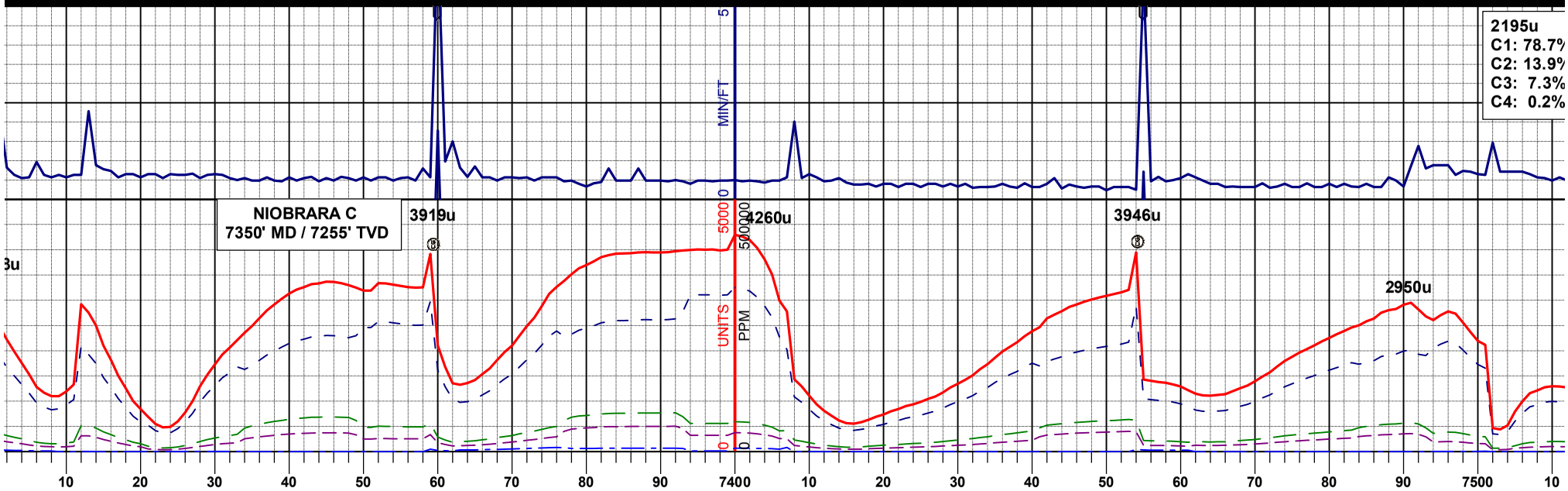

500u
C1: 73.4%
C2: 17.1%
C3: 9.5%
C4: 0.0%
MIN/FT
5
0
UNITS
5000
0
PPM
500000
0
1144u
1049u
1927u
2469u
90
6900
10
20
30
40
50
60
70
80
90
7000
10
20
30
40
50
60
70
80
90

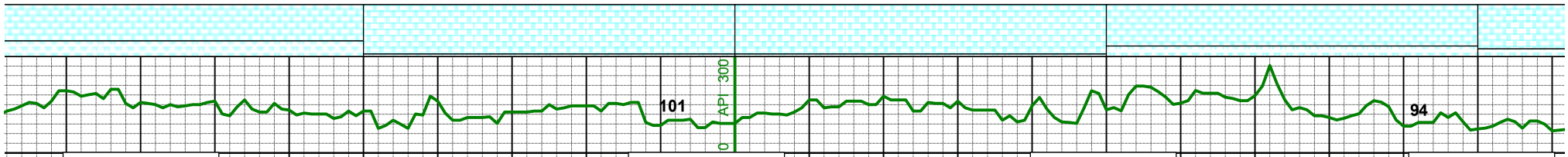

152
156
API
300
0
6600
ft
7600
VIS 42
WT 9.6 / VIS 41
WT 9.8 / VIS 41
Survey
MD 6888'
INC 0.83°
AZM 20.29°
TVD 6828.84'
Survey
MD 6931'
INC 3.63°
AZM 8.75°
TVD 6871.80'
Survey
MD 6973'
INC 7.10°
AZM 2.23°
TVD 6913.61'
Survey
MD 7026'
INC 13.29°
AZM 355.56°
TVD 6965.75'
Survey
MD 7074'
INC 17.13°
AZM 355.21°
TVD 7012.06'
SLTYSH: lt-m gy, brn, sb plty-sb blky, firm - m sft, w srt, sbrd-sbang, mod fri, tr shy ss, slow. stmg mky bl cut, dul yel ring
SLTYSH: lt-m gy, brn, sb plty-sb blky, firm - m sft, w srt, sbrd-sbang, mod fri, slow. stmg mky bl cut, dul yel ring
SLTYSH: lt-m gy, brn, sb plty-sb blky, firm - m sft, w srt, sbrd-sbang, mod fri, slow. stmg mky bl cut, dul yel ring
SLTYSH: lt-m gy, brn, sb plty-sb blky, m sft, w srt, sbrd-sbang, mod fri, slow. mky bl cut, dul yel ring




1081u
C1: 78.5%
C2: 13.6%
C3: 7.7%
C4: 0.2%
3298u
C1: 75.0%
C2: 15.2%
C3: 8.7%
C4: 1.1%
MIN/FT
5
0
SHARON SPRINGS
7128'MD / 7063' TVD
NIOBRARA A
7213' MD / 7141' TVD
NIOBRARA B
7258' MD / 7181' TVD
2906u
2521u
3607u
3488u
5000
500000
UNITS
PPM
0
7100
10
20
30
40
50
60
70
80
90
7200
10
20
30
40
50
60
70
80
90
7300


184
202
161
300
API
0
WT 9.9+ / VIS 40
6600
Survey
MD 7122'
INC 20.46°
AZM 357.04°
TVD 7057.50'
Survey
MD 7170'
INC 23.21°
AZM 0.73°
TVD 7102.05'
Survey
MD 7217'
INC 26.70°
AZM 0.37°
TVD 7144.66'
Survey
MD 7265'
INC 31.86°
AZM 358.81°
TVD 7186.51'
ft
7600
firm -
stmg
SLTYSH: lt-m gy, brn, sb plty-sb blky, firm - m sft, w srt, sbrd-sbang, mod fri, tr pyr, n stmg mky bl cut, dul yel ring
SLTYSH: lt-m gy, occ s&p, brn, sb plty-sb blky, firm - m sft, w srt, sbrd-sbang, mod fri, CHK: lt gy-brn, blky-sbplty, sft-firm, brd-sbang, mod fri, v calc, n stmg mky bl cut, dul yel ring
CHK: lt gy-brn, blky-sbplty, sft - firm, sbrd-sbang, v calc, MRL: lt-m gy-brn, blky-sbplty, sft - firm, sbrd-sbang, mod fri, stmg mky bl cut, bri bl ring
CHK: lt gy-brn, blky-sbplty, sft - firm, sbrd-sbang, v calc, MRL: lt-m gy-brn, blky-sbplty, sft - firm, sbrd-sbang, mod fri, occ calc incl, tr fos frag, stmg mky bl cut, bri bl ring





WT 10.0+ / VIS 40

WT 10.2+ / VIS 40

WT 10.1 / VIS 39

WT 10.2 / VIS 39

CHK: lt gy-brn, blky-sbplty, sft - firm, sbrd-sbang, v calc, MRL: lt-m gy-brn, blky-sbplty, sft - firm, sbrd-sbang, mod fri, occ fos frag, stmg mky bl cut, bri bl ring

CHK: lt gy-brn, blky-sbplty, sft - firm, sbrd-sbang, v calc, MRL: lt-m gy-brn, blky-sbplty, sft - firm, sbrd-sbang, mod fri, occ fos frag, stmg mky bl cut,

CHK: lt gy-brn, blky-sbplty, sft - firm, sbrd-sbang, v calc, MRL: lt-m gy-brn, blky-sbplty, sft - firm, sbrd-sbang, mod fri, tr pyr, stmg mky bl cut, dul bl ring

CHK: lt g
sbang, v
sbplty, s
stmg mk

Survey
MD 7312'
INC 36.83°
AZM 358.45°
TVD 7225.30'

Survey
MD 7360'
INC 41.93°
AZM 358.53°
TVD 7262.39'

Survey
MD 7407'
INC 47.76°
AZM 357.24°
TVD 7295.70'

Survey
MD 7455'
INC 54.04°
AZM 356.37°
TVD 7325.96'

Survey
MD 7502'
INC 60.98°
AZM 0.61°
TVD 7361.79'

ft

7600

CHK: lt gy-brn, blky-sbplty, sft - firm, sbrd-sbang, v calc, MRL: lt-m gy-brn, blky-sbplty, sft - firm, sbrd-sbang, mod fri, occ calc incl, stmg mky bl cut, dul bl ring

07/19/2013

1920u
C1: 71.7%
C2: 17.9%
C3: 9.8%
C4: 0.6%

MIN/FT

Bit #03
8-1/2
Baker Hughes VG-03
Serial: 5225012
Jets: 3x20

3904u

TOOH for Mud Motor
@ 2200hrs on 07/18/2013

Resumed Drilling
@ 1350hrs on 07/19/2013

FT. HAYS
7583' MD / 7388' TVD

CODELL
7654' MD / 7408' TVD

1922u

UNITS PPM

1747u

946u

2414u

20 30 40 50 60 70 80 90 7600 10 20 30 40 50 60 70 80 90 7700 10 20

API 300

38

128

WT 10.2 / VIS 39

WT 10.2 / VIS 40

WT 10.1 / VIS 38

WT 10.1 / VIS 38

gy-brn, blky-sbplty, sft - firm, sbrd-
calc, MRL: lt-m gy-brn, blky-
ft - firm, sbrd-sbang, mod fri, n
y bl cut, dul bl ring

LS: lt gy - brn, off. wh - crm, mod sft - mod hd, sbplty - sbblky, SH: blk - dk gy, sb plty-plty, firm to m sft, tr ss, tr pyr, n stmg mky bl cut, dul bl ring

LS: lt gy - brn, off. wh - crm, mod sft - mod hd, sbplty - sbblky, SH: blk - dk gy, sb plty-plty, firm to m sft, occ mod calc, n stmg mky bl cut, dul bl ring

SS: lt - m gy - brn, lse lit, clus, w srt, mod sft - hd, wrd, m gr, non-sl calc; LS: ltgy, off. wh - crm, mod hd, sbplty - sbblky, SH: blk - dk gy, sb plty-plty, firm to m sft, occ mod calc, n stmg mky bl cut, dul bl ring

SS: lt - m gy - brn,
sft - hd, wrd, m gr,
off. wh - crm, mod
blk - dk gy, sb plty-
calc, n stmg mky b

Survey
MD 7549'
INC 63.94°
AZM 2.85°
TVD 7374.27'

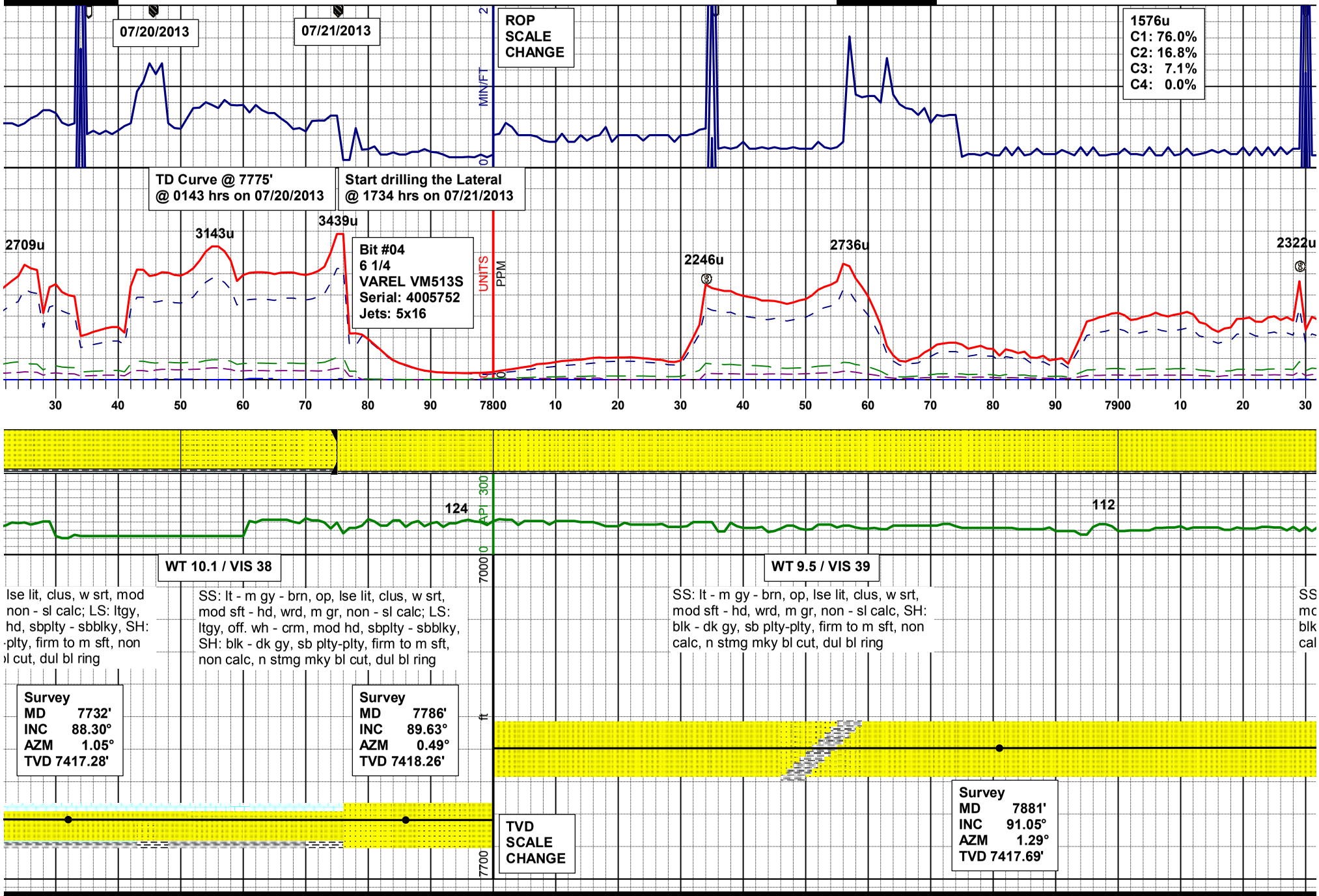
Survey
MD 7598'
INC 70.32°
AZM 3.19°
TVD 7393.39'

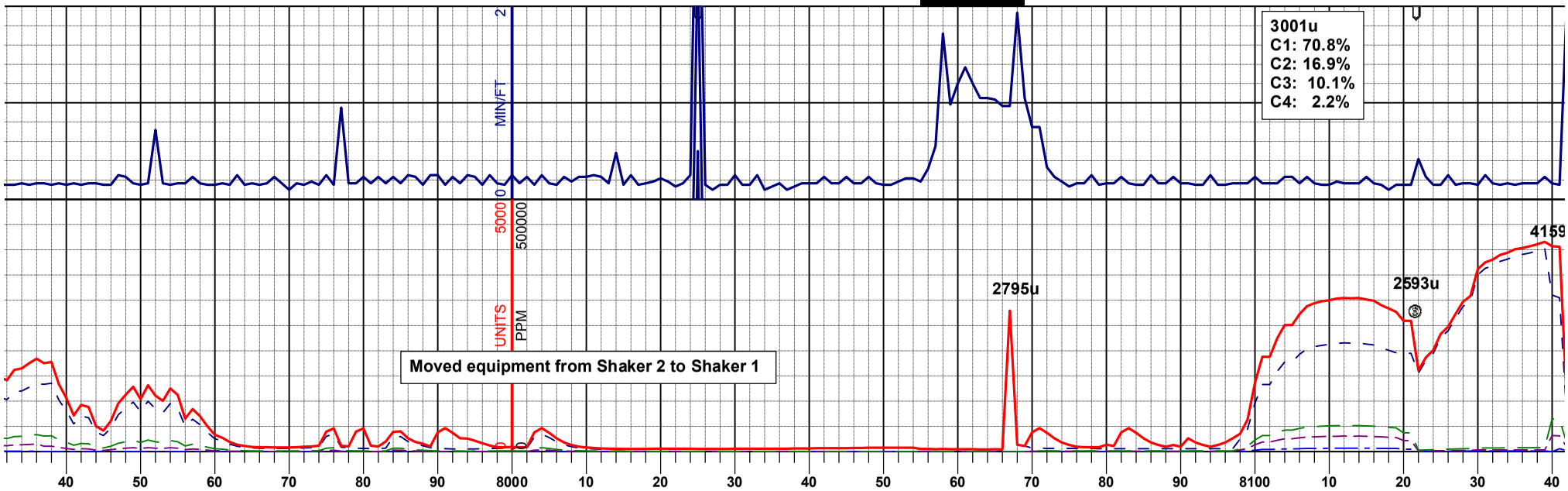
Survey
MD 7630'
INC 75.39°
AZM 2.49°
TVD 7402.82'

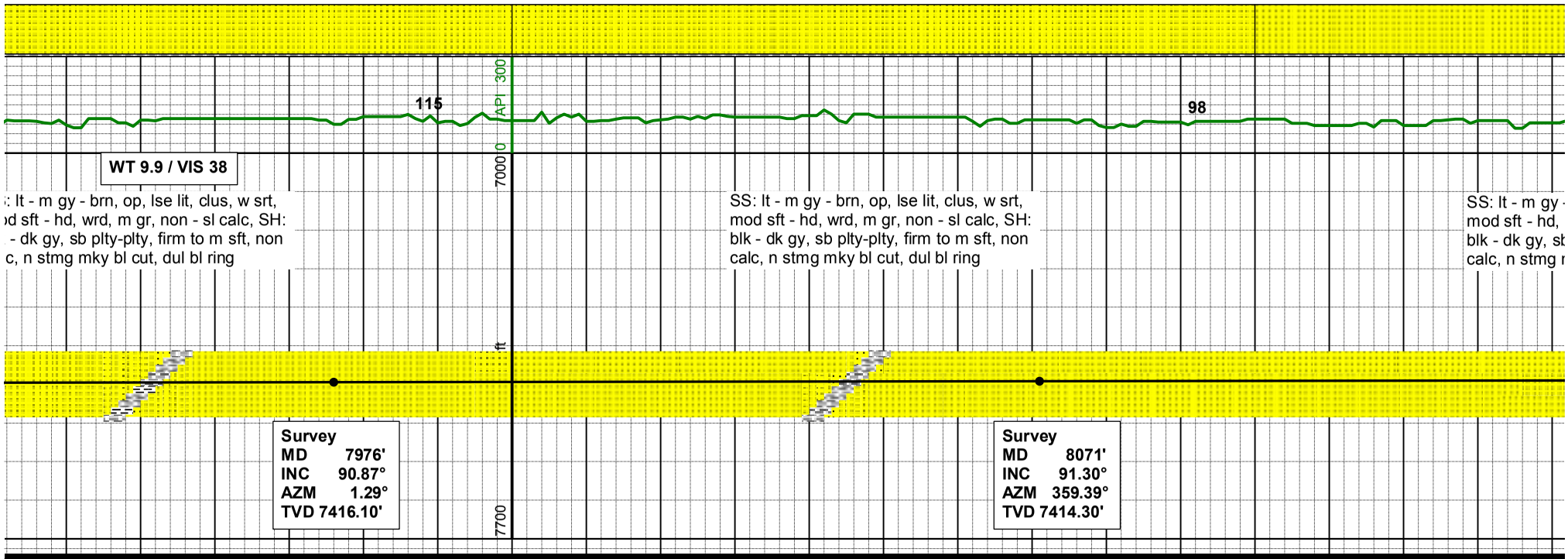
Survey
MD 7661'
INC 79.31°
AZM 0.83°
TVD 7409.61'

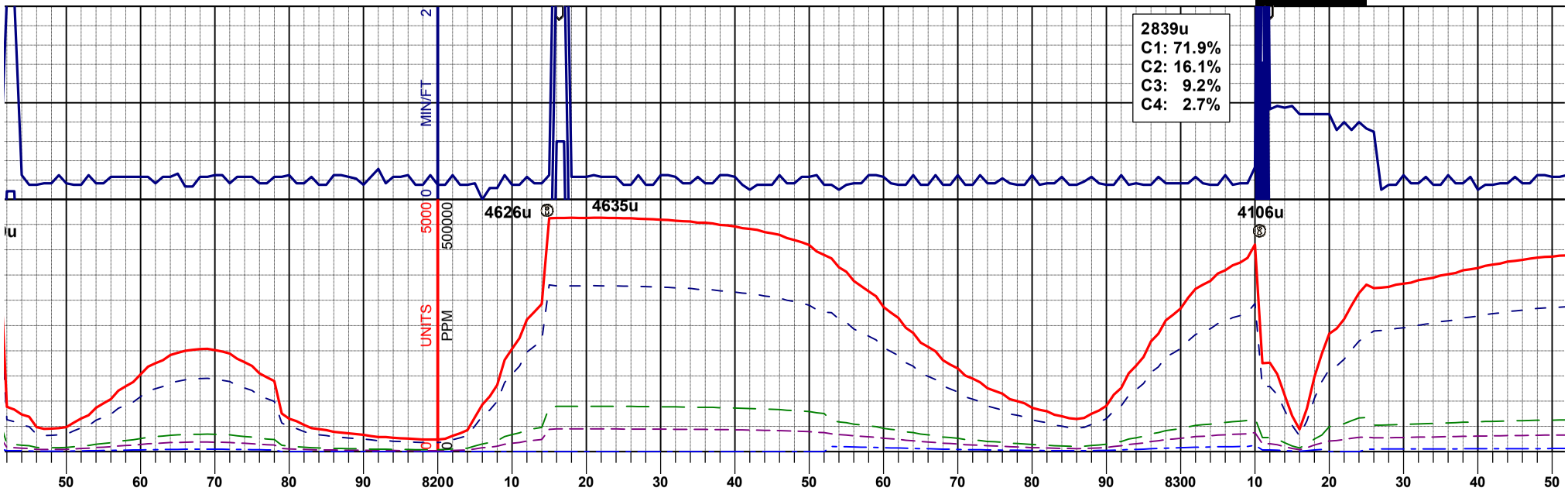
Survey
MD 7693'
INC 83.33°
AZM 0.90°
TVD 7414.44'

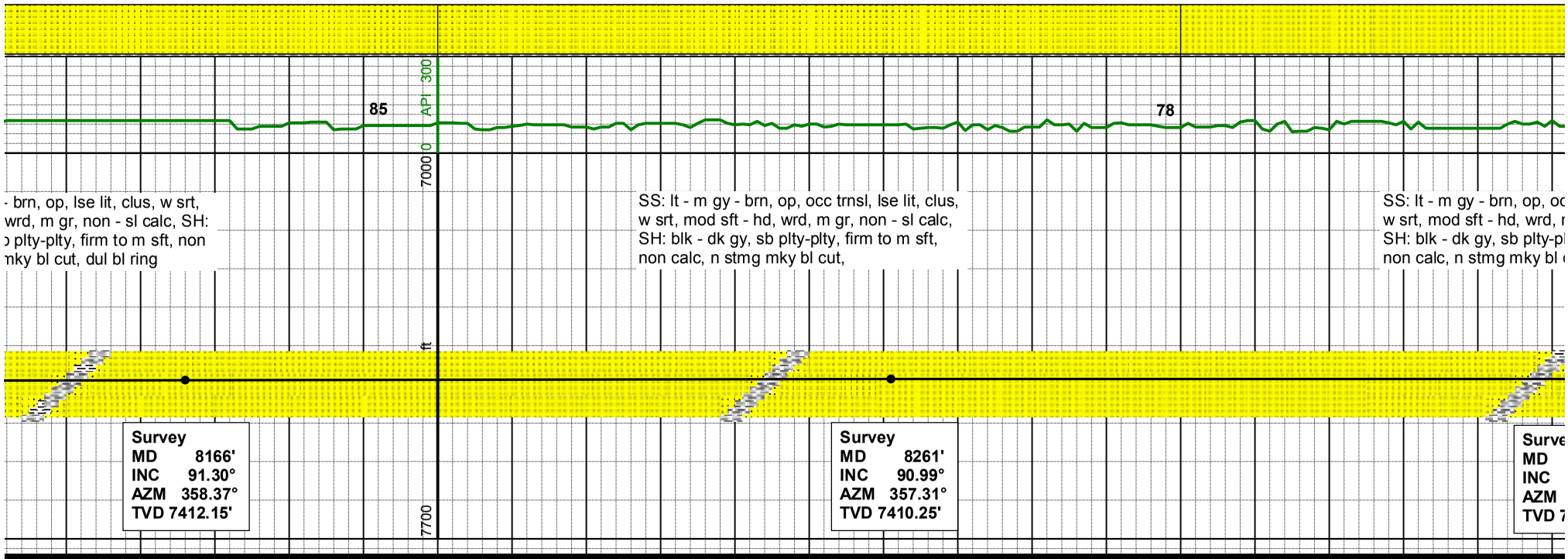
7600

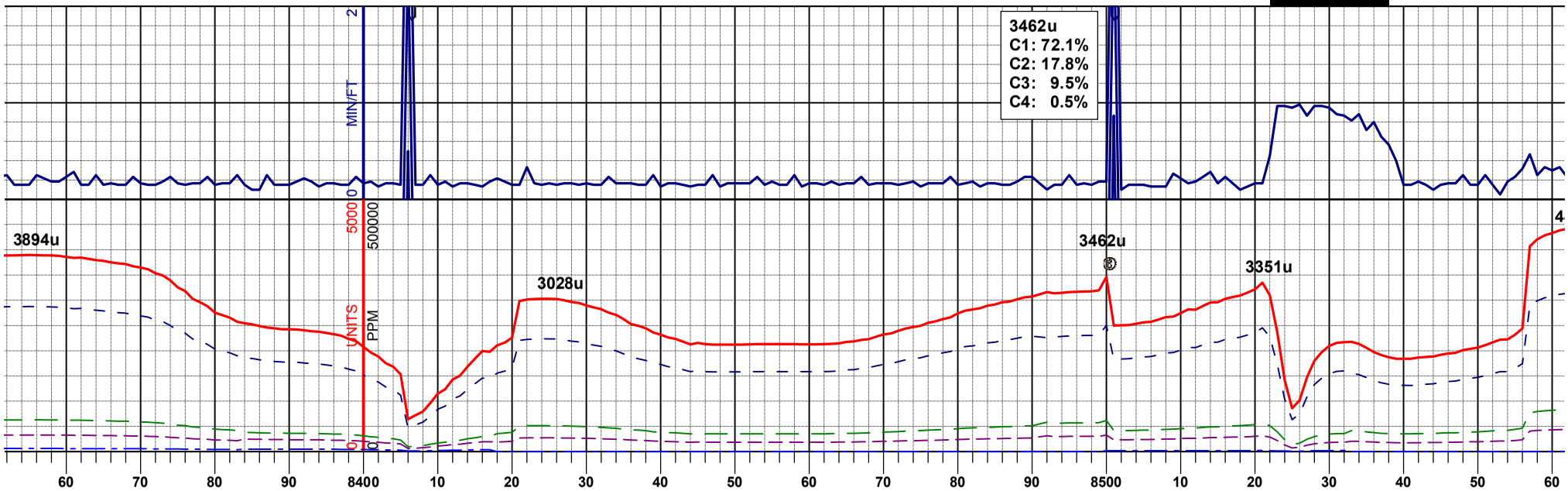

07/20/2013
07/21/2013
ROP
SCALE
CHANGE
MIN/FT
2
0
1576u
C1: 76.0%
C2: 16.8%
C3: 7.1%
C4: 0.0%
TD Curve @ 7775'
@ 0143 hrs on 07/20/2013
Start drilling the Lateral
@ 1734 hrs on 07/21/2013
2709u
3143u
3439u
Bit #04
6 1/4
VAREL VM513S
Serial: 4005752
Jets: 5x16
UNITS
PPM
2246u
2736u
2322u
30
40
50
60
70
80
90
7800
10
20
30
40
50
60
70
80
90
7900
10
20
30
124
API
300
0
112
WT 10.1 / VIS 38
7000
WT 9.5 / VIS 39
lse lit, clus, w srt, mod
non - sl calc; LS: ltgy,
hd, sbplty - sbblky, SH:
plty, firm to m sft, non
l cut, dul bl ring
SS: lt - m gy - brn, op, lse lit, clus, w srt,
mod sft - hd, wrd, m gr, non - sl calc; LS:
ltgy, off. wh - crm, mod hd, sbplty - sbblky,
SH: blk - dk gy, sb plty-plty, firm to m sft,
non calc, n stmg mky bl cut, dul bl ring
SS: lt - m gy - brn, op, lse lit, clus, w srt,
mod sft - hd, wrd, m gr, non - sl calc, SH:
blk - dk gy, sb plty-plty, firm to m sft, non
calc, n stmg mky bl cut, dul bl ring
Survey
MD 7732'
INC 88.30°
AZM 1.05°
TVD 7417.28'
Survey
MD 7786'
INC 89.63°
AZM 0.49°
TVD 7418.26'
ft
Survey
MD 7881'
INC 91.05°
AZM 1.29°
TVD 7417.69'
TVD
SCALE
CHANGE
7700

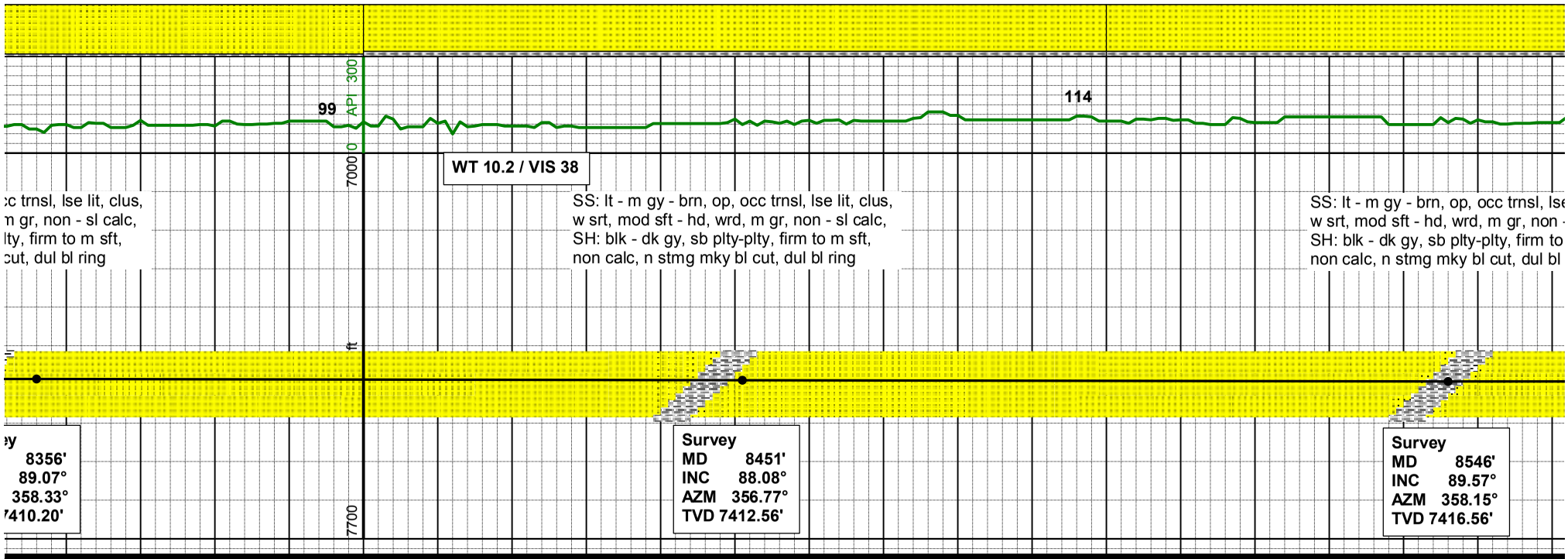

3001u
C1: 70.8%
C2: 16.9%
C3: 10.1%
C4: 2.2%
MIN/FT
2
0
5000
500000
UNITS
PPM
0
0
2795u
2593u
4159
Moved equipment from Shaker 2 to Shaker 1
40
50
60
70
80
90
8000
10
20
30
40
50
60
70
80
90
8100
10
20
30
40

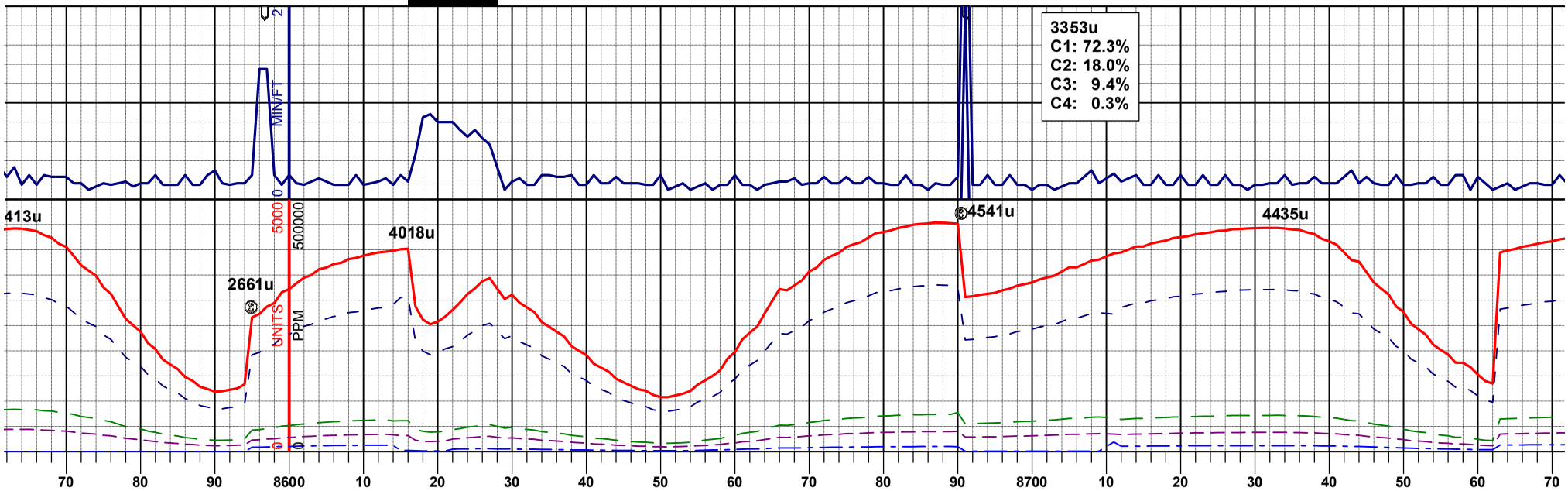

115
98
API
300
0
7000
ft
7700
WT 9.9 / VIS 38
: lt - m gy - brn, op, lse lit, clus, w srt,
d sft - hd, wrd, m gr, non - sl calc, SH:
- dk gy, sb plty-plty, firm to m sft, non
c, n stmg mky bl cut, dul bl ring
SS: lt - m gy - brn, op, lse lit, clus, w srt,
mod sft - hd, wrd, m gr, non - sl calc, SH:
blk - dk gy, sb plty-plty, firm to m sft, non
calc, n stmg mky bl cut, dul bl ring
SS: lt - m gy -
mod sft - hd,
blk - dk gy, sb
calc, n stmg r
Survey
MD 7976'
INC 90.87°
AZM 1.29°
TVD 7416.10'
Survey
MD 8071'
INC 91.30°
AZM 359.39°
TVD 7414.30'

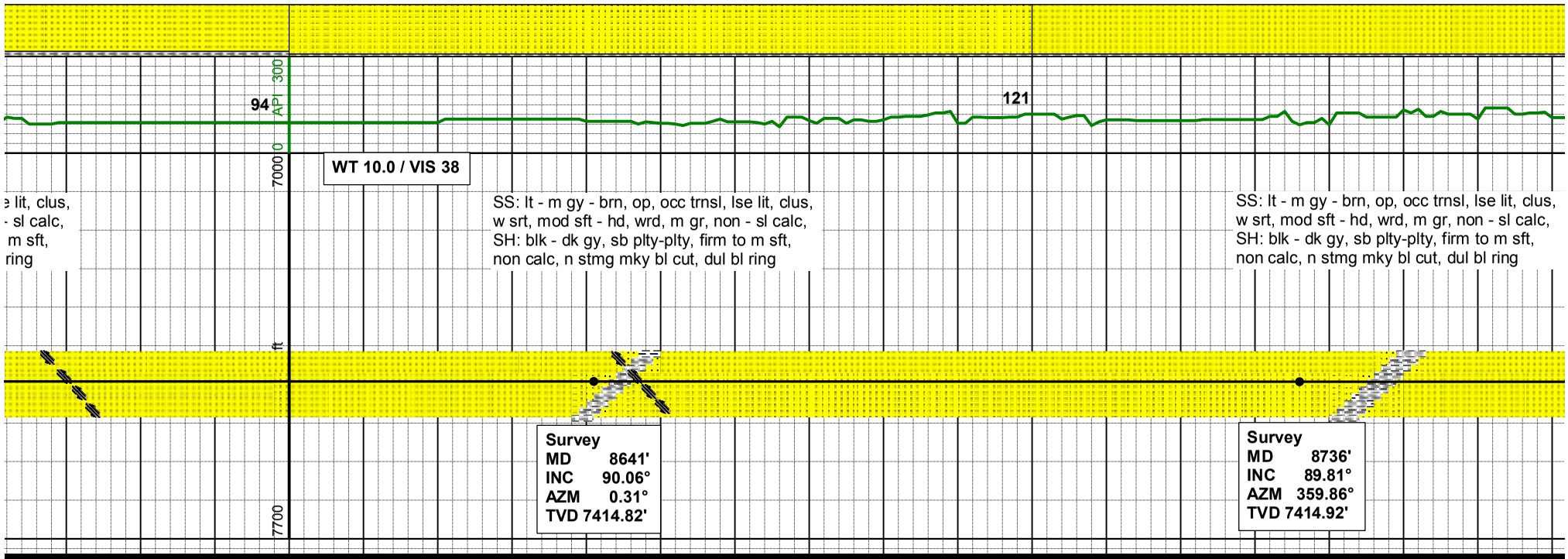

2839u
C1: 71.9%
C2: 16.1%
C3: 9.2%
C4: 2.7%
MIN/FT
2
0
5000
0
UNITS
500000
PPM
0
4626u
4635u
4106u
50
60
70
80
90
8200
10
20
30
40
50
60
70
80
90
8300
10
20
30
40
50

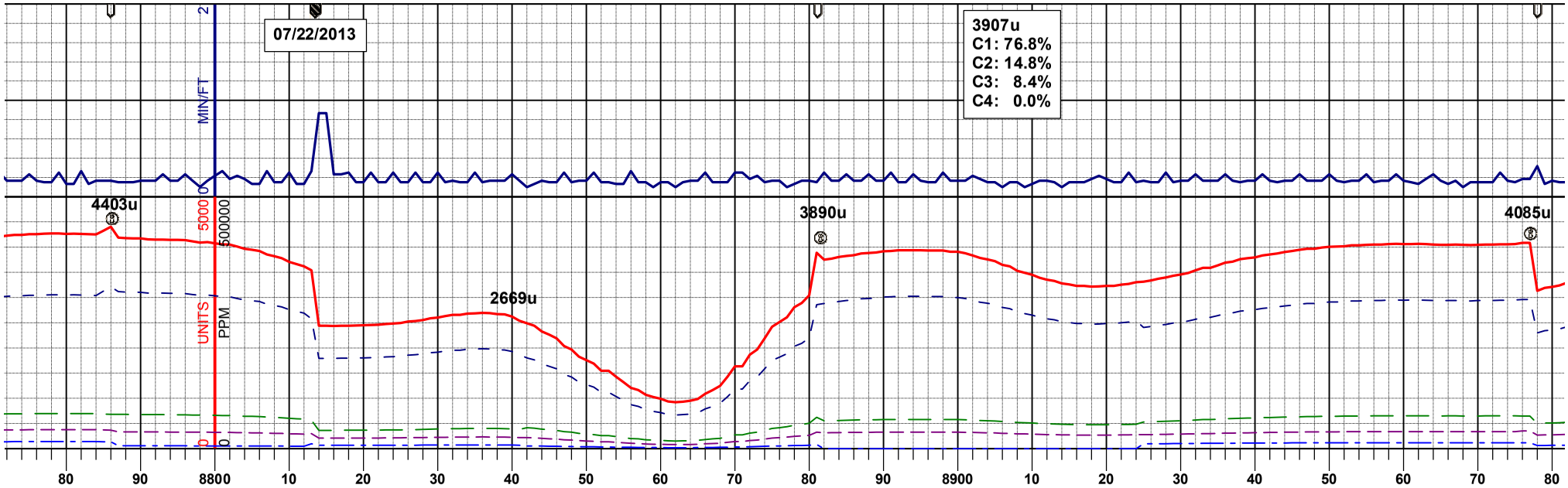

300
API
0
85
78
7000
ft
7700
- brn, op, lse lit, clus, w srt,
wrd, m gr, non - sl calc, SH:
plty-plty, firm to m sft, non
nky bl cut, dul bl ring
SS: lt - m gy - brn, op, occ trnsl, lse lit, clus,
w srt, mod sft - hd, wrd, m gr, non - sl calc,
SH: blk - dk gy, sb plty-plty, firm to m sft,
non calc, n stmg mky bl cut,
SS: lt - m gy - brn, op, oc
w srt, mod sft - hd, wrd, r
SH: blk - dk gy, sb plty-pl
non calc, n stmg mky bl
Survey
MD 8166'
INC 91.30°
AZM 358.37°
TVD 7412.15'
Survey
MD 8261'
INC 90.99°
AZM 357.31°
TVD 7410.25'
Surve
MD
INC
AZM
TVD 7


3462u
C1: 72.1%
C2: 17.8%
C3: 9.5%
C4: 0.5%
MIN/FT
2
0
5000
UNITS
500000
PPM
0
3894u
3028u
3462u
3351u
60
70
80
90
8400
10
20
30
40
50
60
70
80
90
8500
10
20
30
40
50
60


300
API
0
99
114
7000
ft
7700
WT 10.2 / VIS 38
cc trnsl, lse lit, clus,
n gr, non - sl calc,
lty, firm to m sft,
cut, dul bl ring
SS: lt - m gy - brn, op, occ trnsl, lse lit, clus,
w srt, mod sft - hd, wrd, m gr, non - sl calc,
SH: blk - dk gy, sb plty-plty, firm to m sft,
non calc, n stmg mky bl cut, dul bl ring
SS: lt - m gy - brn, op, occ trnsl, lse
w srt, mod sft - hd, wrd, m gr, non -
SH: blk - dk gy, sb plty-plty, firm to
non calc, n stmg mky bl cut, dul bl
ey
8356'
89.07°
358.33°
7410.20'
Survey
MD 8451'
INC 88.08°
AZM 356.77°
TVD 7412.56'
Survey
MD 8546'
INC 89.57°
AZM 358.15°
TVD 7416.56'


3353u
C1: 72.3%
C2: 18.0%
C3: 9.4%
C4: 0.3%
MIN/FT
2
0
413u
2661u
4018u
4541u
4435u
5000
0
UNITS
500000
PPM
0
70
80
90
8600
10
20
30
40
50
60
70
80
90
8700
10
20
30
40
50
60
70


300
94
API
0
121
7000
WT 10.0 / VIS 38
e lit, clus,
- sl calc,
m sft,
ring
SS: lt - m gy - brn, op, occ trnsl, lse lit, clus,
w srt, mod sft - hd, wrd, m gr, non - sl calc,
SH: blk - dk gy, sb plty-plty, firm to m sft,
non calc, n stmg mky bl cut, dul bl ring
SS: lt - m gy - brn, op, occ trnsl, lse lit, clus,
w srt, mod sft - hd, wrd, m gr, non - sl calc,
SH: blk - dk gy, sb plty-plty, firm to m sft,
non calc, n stmg mky bl cut, dul bl ring
ft
Survey
MD 8641'
INC 90.06°
AZM 0.31°
TVD 7414.82'
Survey
MD 8736'
INC 89.81°
AZM 359.86°
TVD 7414.92'
7700


07/22/2013
3907u
C1: 76.8%
C2: 14.8%
C3: 8.4%
C4: 0.0%
MIN/FT
2
0
4403u
5000
500000
3890u
4085u
2669u
UNITS
PPM
0
0
80
90
8800
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70
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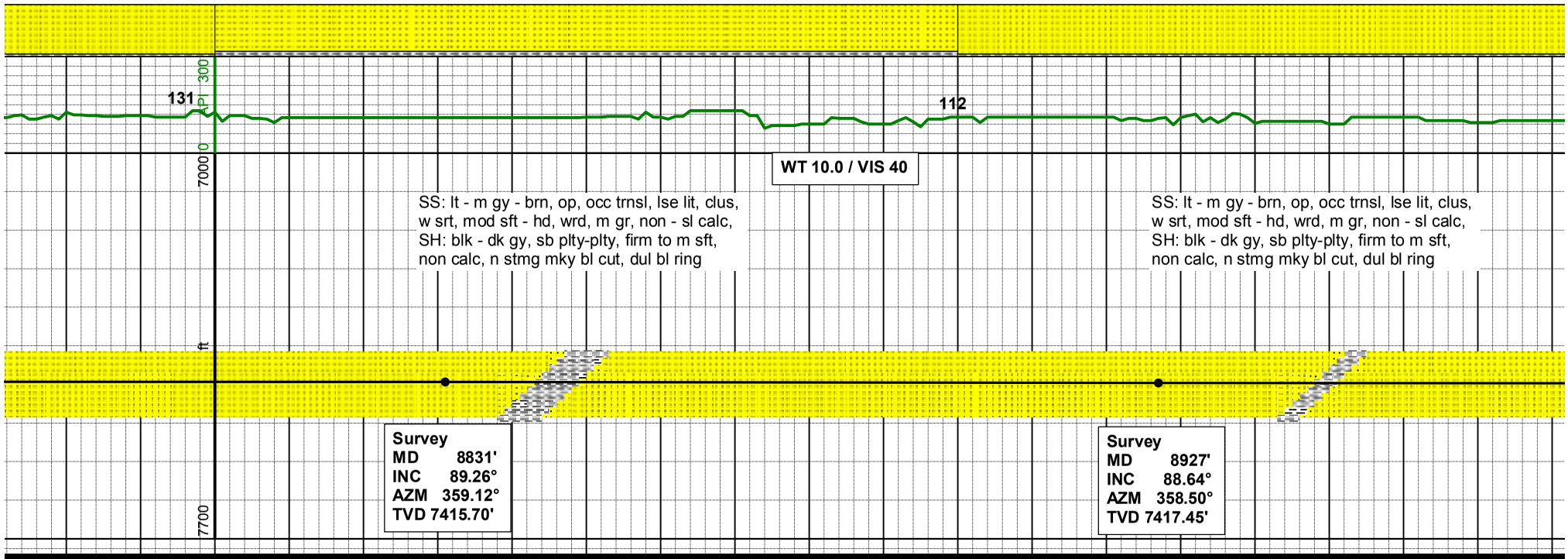
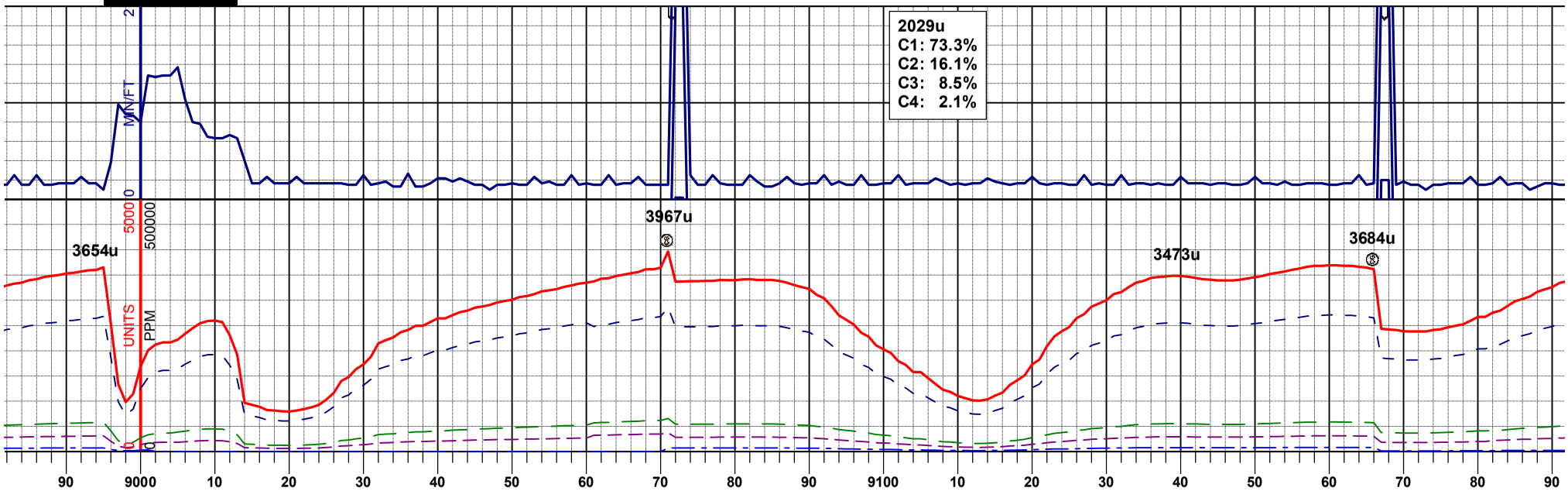

API
300
0
131
112
7000
ft
7700
WT 10.0 / VIS 40
SS: lt - m gy - brn, op, occ trnsl, lse lit, clus,
w srt, mod sft - hd, wrd, m gr, non - sl calc,
SH: blk - dk gy, sb plty-plty, firm to m sft,
non calc, n stmg mky bl cut, dul bl ring
SS: lt - m gy - brn, op, occ trnsl, lse lit, clus,
w srt, mod sft - hd, wrd, m gr, non - sl calc,
SH: blk - dk gy, sb plty-plty, firm to m sft,
non calc, n stmg mky bl cut, dul bl ring
Survey
MD 8831'
INC 89.26°
AZM 359.12°
TVD 7415.70'
Survey
MD 8927'
INC 88.64°
AZM 358.50°
TVD 7417.45'


2029u
C1: 73.3%
C2: 16.1%
C3: 8.5%
C4: 2.1%
MV/FT
2
0
5000
500000
UNITS
PPM
0
0
3654u
3967u
3473u
3684u
90
9000
10
20
30
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60
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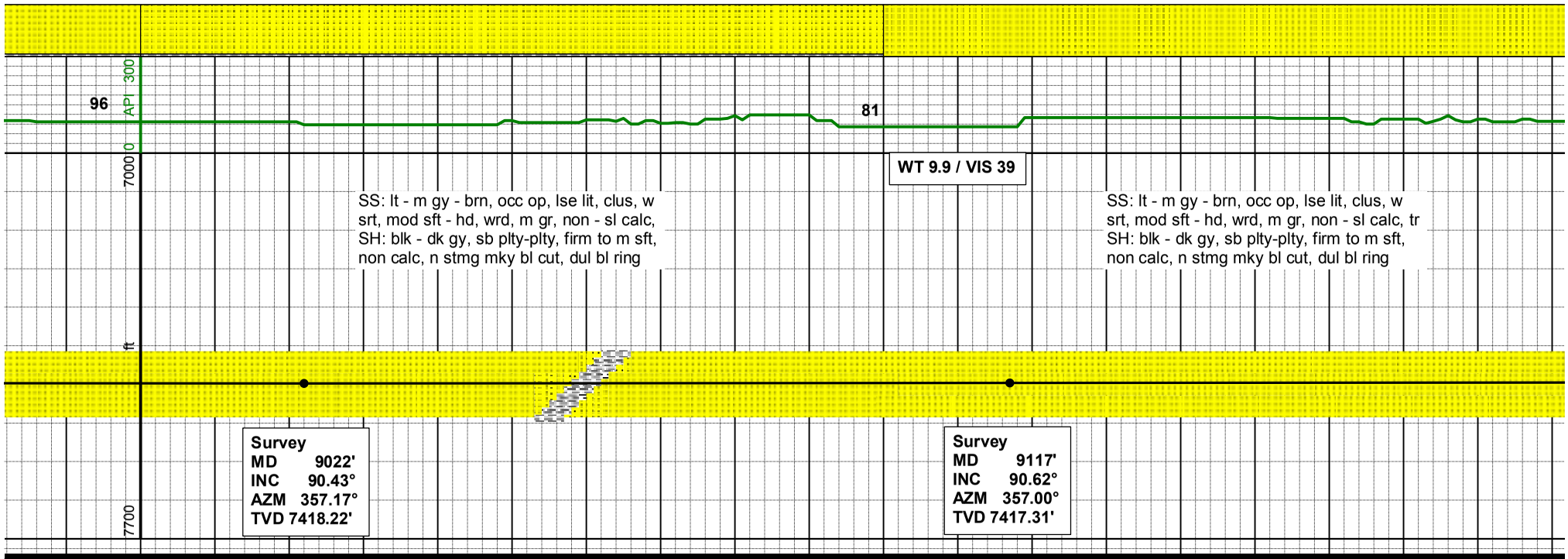
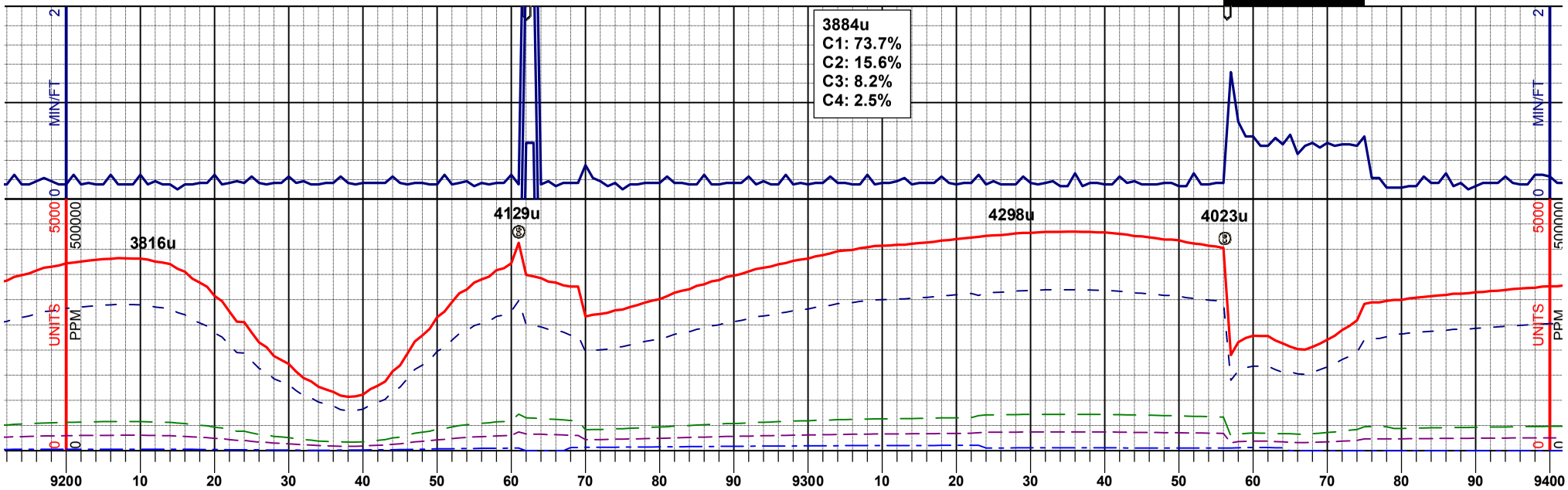
70
80
90


96
API
300
0
81
7000
ft
7700
WT 9.9 / VIS 39
SS: lt - m gy - brn, occ op, lse lit, clus, w srt, mod sft - hd, wrd, m gr, non - sl calc, SH: blk - dk gy, sb plty-plty, firm to m sft, non calc, n stmg mky bl cut, dul bl ring
SS: lt - m gy - brn, occ op, lse lit, clus, w srt, mod sft - hd, wrd, m gr, non - sl calc, tr SH: blk - dk gy, sb plty-plty, firm to m sft, non calc, n stmg mky bl cut, dul bl ring
Survey
MD 9022'
INC 90.43°
AZM 357.17°
TVD 7418.22'
Survey
MD 9117'
INC 90.62°
AZM 357.00°
TVD 7417.31'


3884u
C1: 73.7%
C2: 15.6%
C3: 8.2%
C4: 2.5%
3816u
4129u
4298u
4023u
MIN/FT
UNITS
PPM
9200
10
20
30
40
50
60
70
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90
9300
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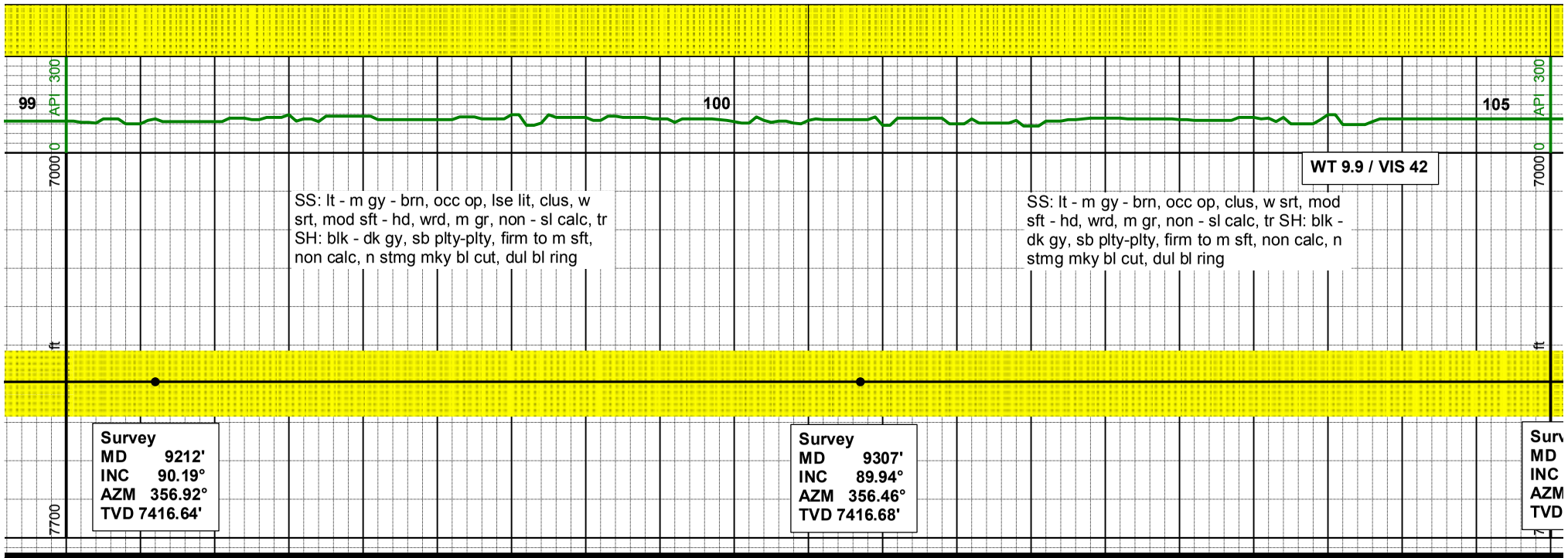
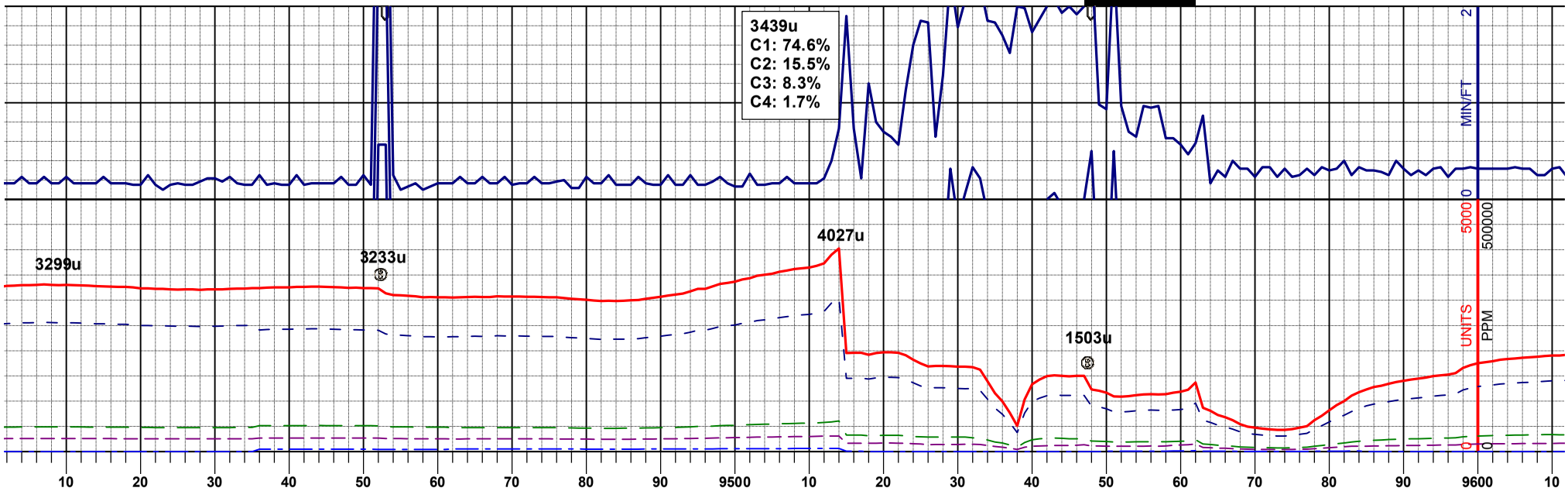
30
40
50
60
70
80
90
9400


99
100
105
API
ft
WT 9.9 / VIS 42
SS: lt - m gy - brn, occ op, lse lit, clus, w srt, mod sft - hd, wrd, m gr, non - sl calc, tr SH: blk - dk gy, sb plty-plty, firm to m sft, non calc, n stmg mky bl cut, dul bl ring
SS: lt - m gy - brn, occ op, clus, w srt, mod sft - hd, wrd, m gr, non - sl calc, tr SH: blk - dk gy, sb plty-plty, firm to m sft, non calc, n stmg mky bl cut, dul bl ring
Survey
MD 9212'
INC 90.19°
AZM 356.92°
TVD 7416.64'
Survey
MD 9307'
INC 89.94°
AZM 356.46°
TVD 7416.68'


3439u
C1: 74.6%
C2: 15.5%
C3: 8.3%
C4: 1.7%
MIN/FT
2
0
3299u
3233u
4027u
1503u
UNITS
5000
0
PPM
500000
0
10
20
30
40
50
60
70
80
90
9500
10
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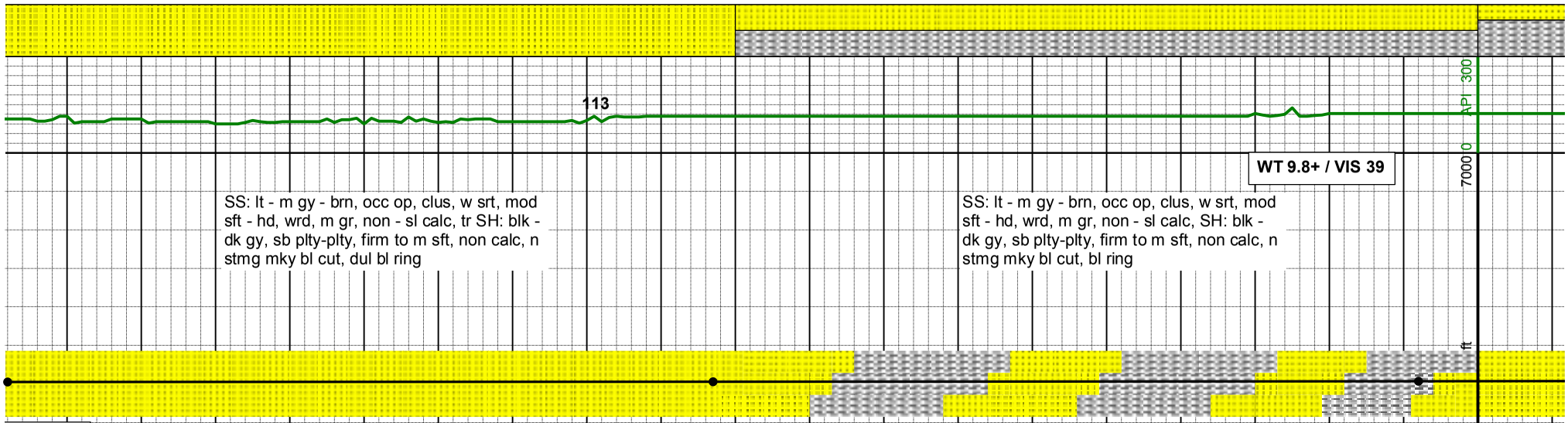
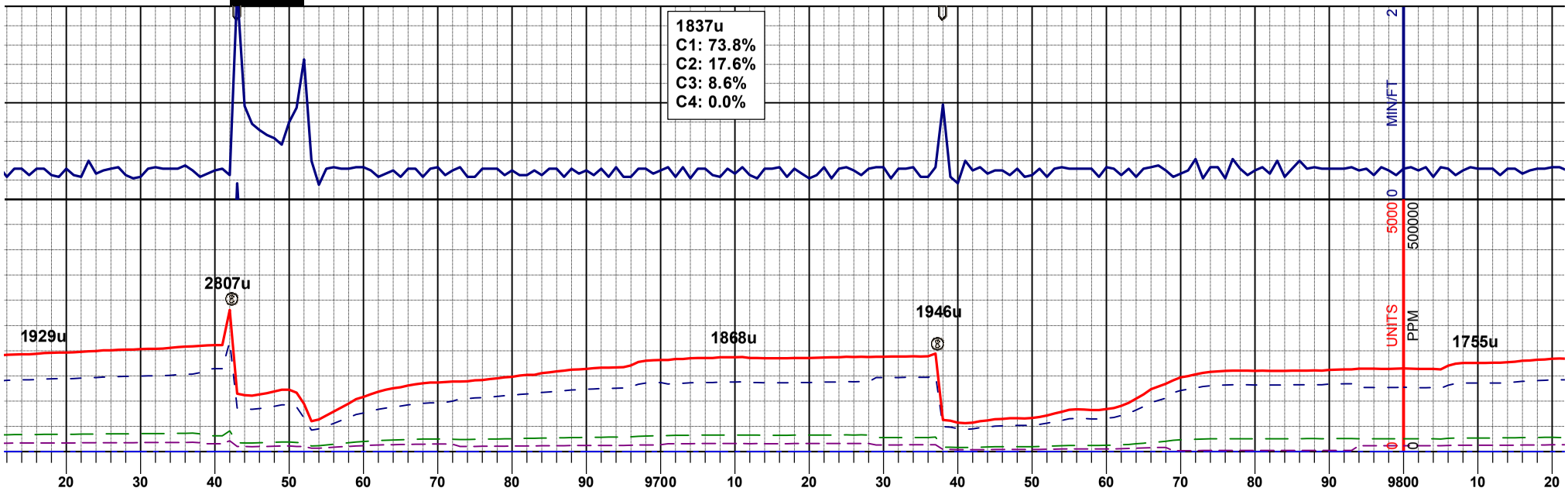
30
40
50
60
70
80
90
9600
10


113
API
300
0
7000
ft
WT 9.8+ / VIS 39
SS: lt - m gy - brn, occ op, clus, w srt, mod sft - hd, wrd, m gr, non - sl calc, tr SH: blk - dk gy, sb plty-plty, firm to m sft, non calc, n stmg mky bl cut, dul bl ring
SS: lt - m gy - brn, occ op, clus, w srt, mod sft - hd, wrd, m gr, non - sl calc, SH: blk - dk gy, sb plty-plty, firm to m sft, non calc, n stmg mky bl cut, bl ring
vey
9402'
90.31°
358.34°
7416.32'
Survey
MD 9497'
INC 90.00°
AZM 357.12°
TVD 7416.06'
Survey
MD 9592'
INC 91.11°
AZM 357.64°
TVD 7415.14'


1837u
C1: 73.8%
C2: 17.6%
C3: 8.6%
C4: 0.0%
MIN/FT
2
0
5000
UNITS
500000
PPM
0
2807u
1929u
1868u
1946u
1755u
20
30
40
50
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70
80
90
9700
10
20
30
40
50
60
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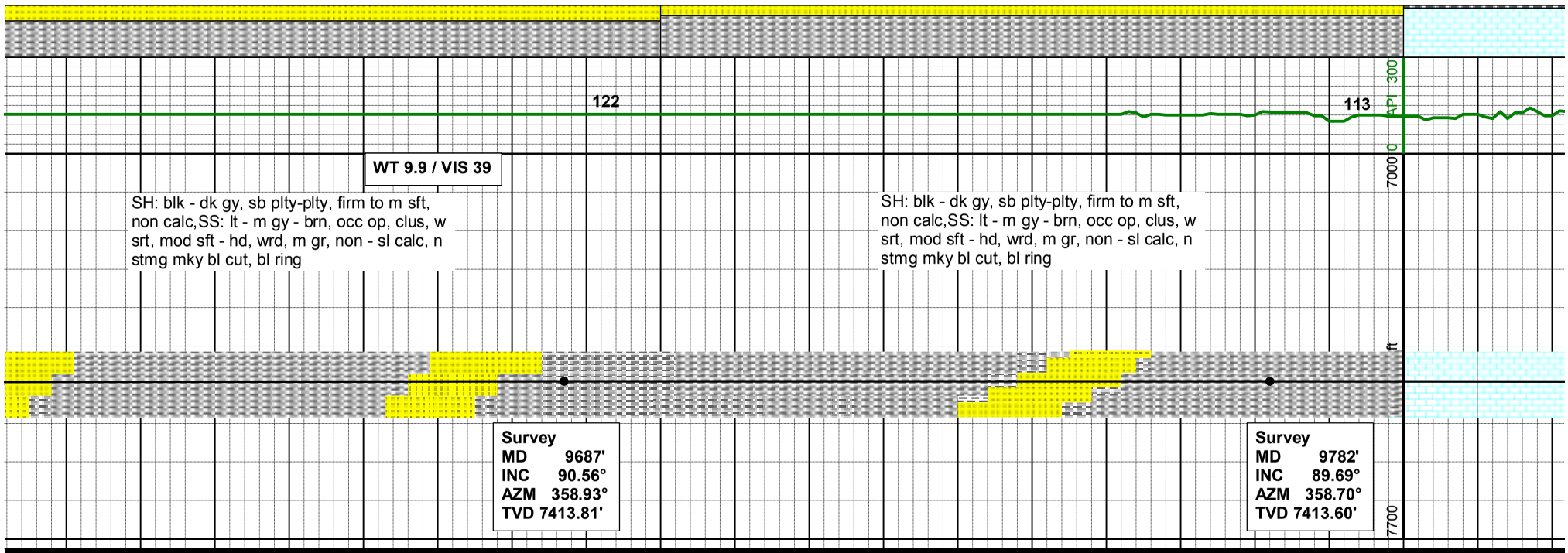
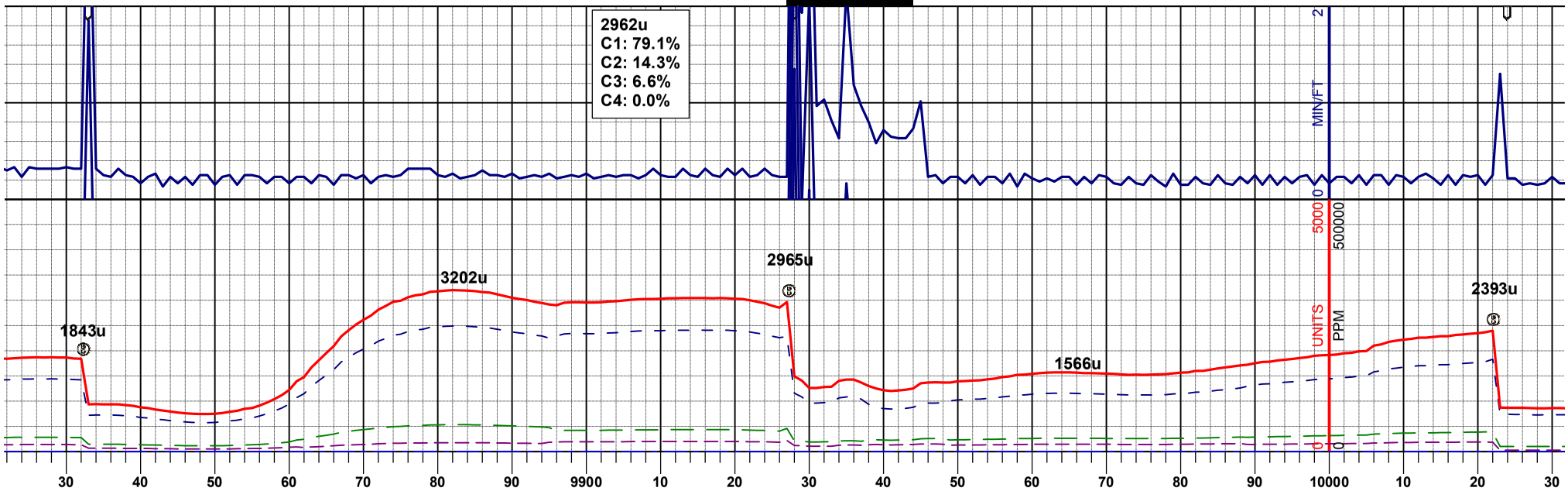
80
90
9800
10
20


122
113
API
300
0
7000
ft
7700
WT 9.9 / VIS 39
SH: blk - dk gy, sb plty-plty, firm to m sft, non calc,SS: lt - m gy - brn, occ op, clus, w srt, mod sft - hd, wrd, m gr, non - sl calc, n stmg mky bl cut, bl ring
SH: blk - dk gy, sb plty-plty, firm to m sft, non calc,SS: lt - m gy - brn, occ op, clus, w srt, mod sft - hd, wrd, m gr, non - sl calc, n stmg mky bl cut, bl ring
Survey
MD 9687'
INC 90.56°
AZM 358.93°
TVD 7413.81'
Survey
MD 9782'
INC 89.69°
AZM 358.70°
TVD 7413.60'


2962u
C1: 79.1%
C2: 14.3%
C3: 6.6%
C4: 0.0%
MIN/FT
2
0
5000
0
UNITS
500000
PPM
0
1843u
3202u
2965u
1566u
2393u
30
40
50
60
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80
90
9900
10
20
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60
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90
10000
10
20
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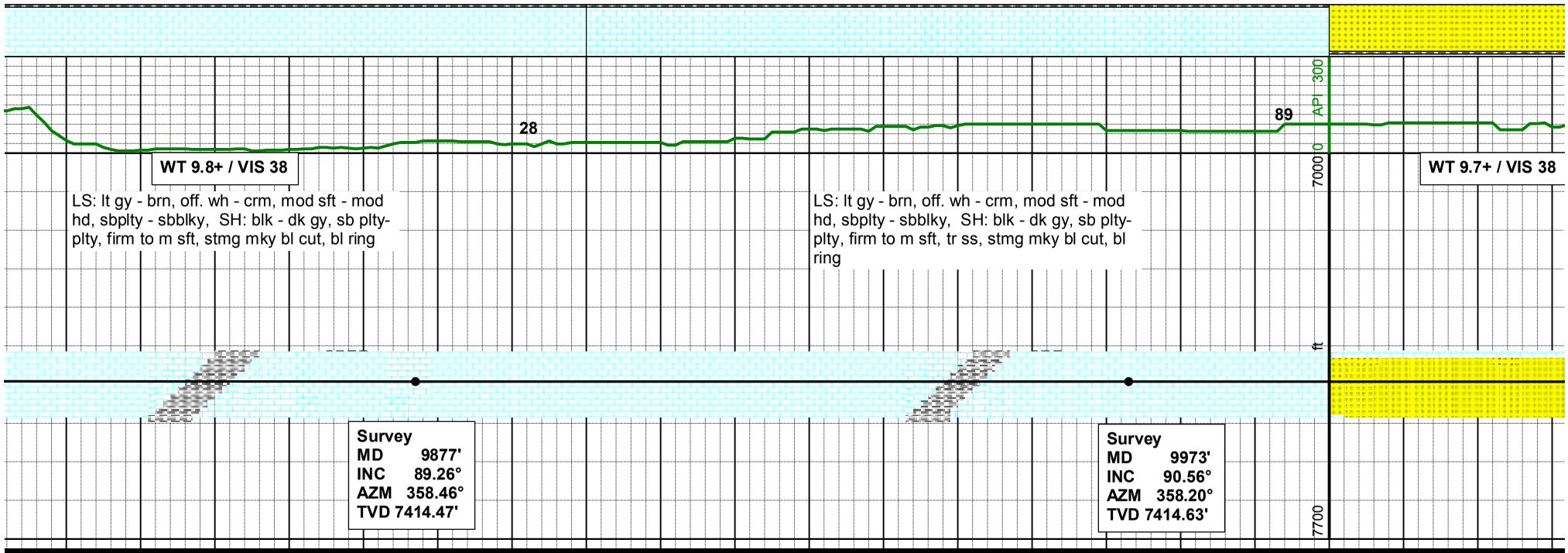
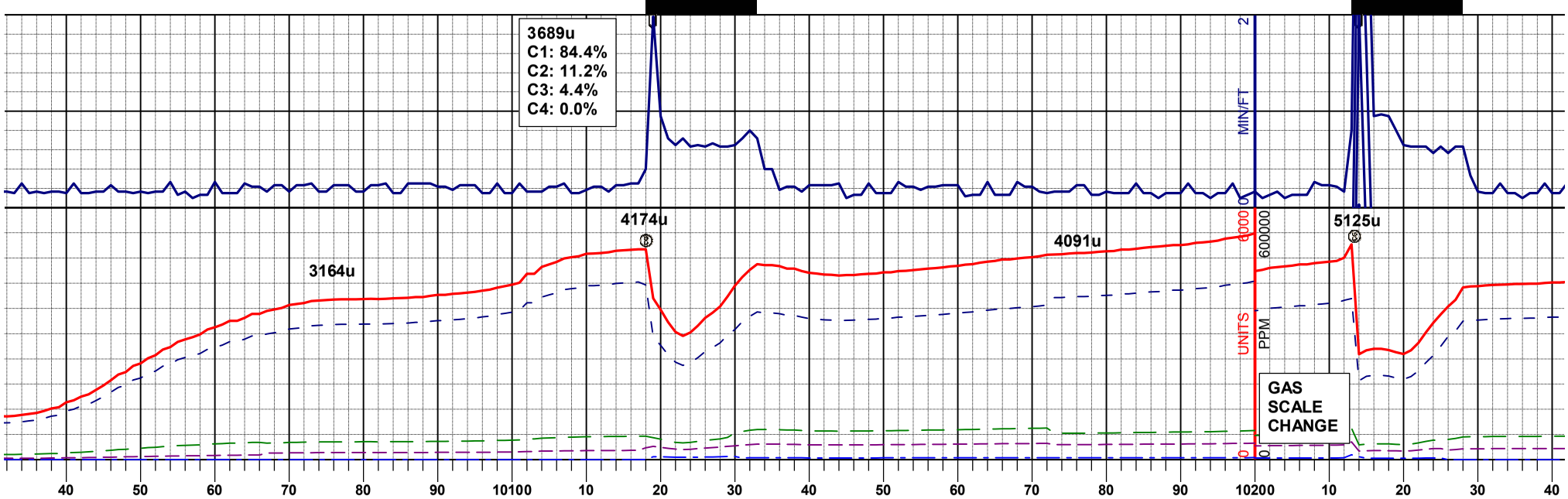

API
300
0
28
89
7000
ft
7700
WT 9.8+ / VIS 38
LS: lt gy - brn, off. wh - crm, mod sft - mod hd, sbplty - sbblky, SH: blk - dk gy, sb plty-plty, firm to m sft, stmg mky bl cut, bl ring
LS: lt gy - brn, off. wh - crm, mod sft - mod hd, sbplty - sbblky, SH: blk - dk gy, sb plty-plty, firm to m sft, tr ss, stmg mky bl cut, bl ring
WT 9.7+ / VIS 38
Survey
MD 9877'
INC 89.26°
AZM 358.46°
TVD 7414.47'
Survey
MD 9973'
INC 90.56°
AZM 358.20°
TVD 7414.63'


3689u
C1: 84.4%
C2: 11.2%
C3: 4.4%
C4: 0.0%
MIN/FT
2
0
4174u
4091u
5125u
3164u
6000
600000
UNITS
PPM
0
0
GAS
SCALE
CHANGE
40
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10100
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30
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80
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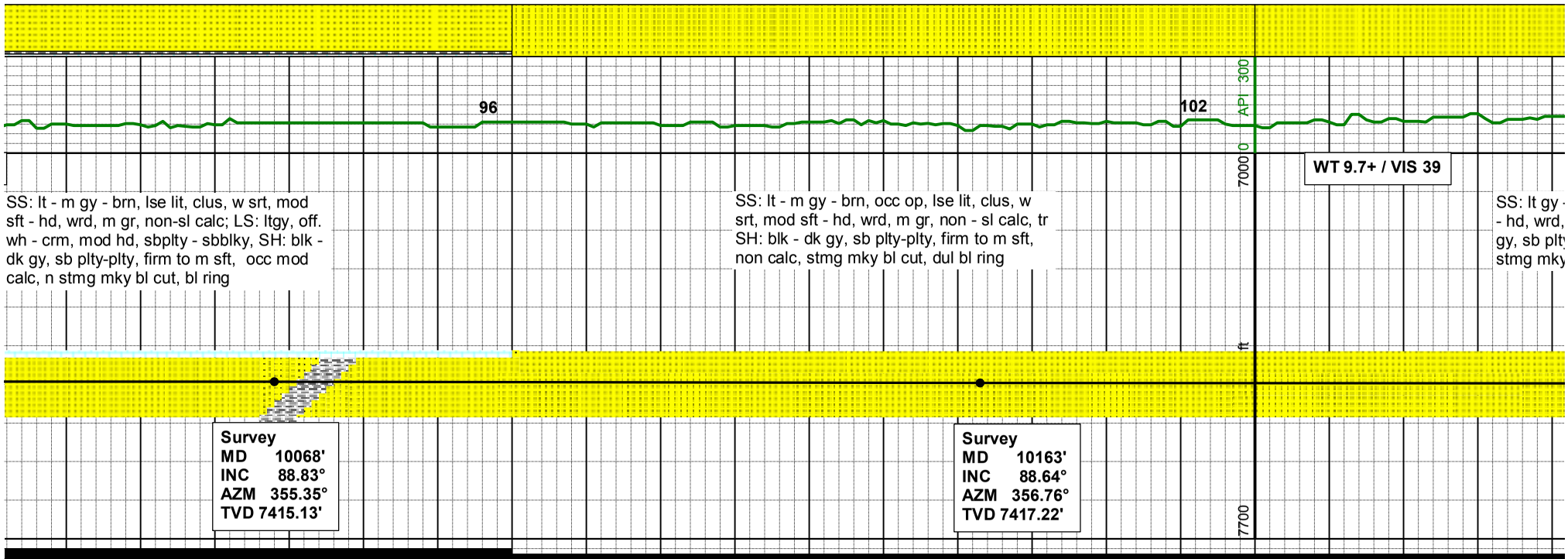
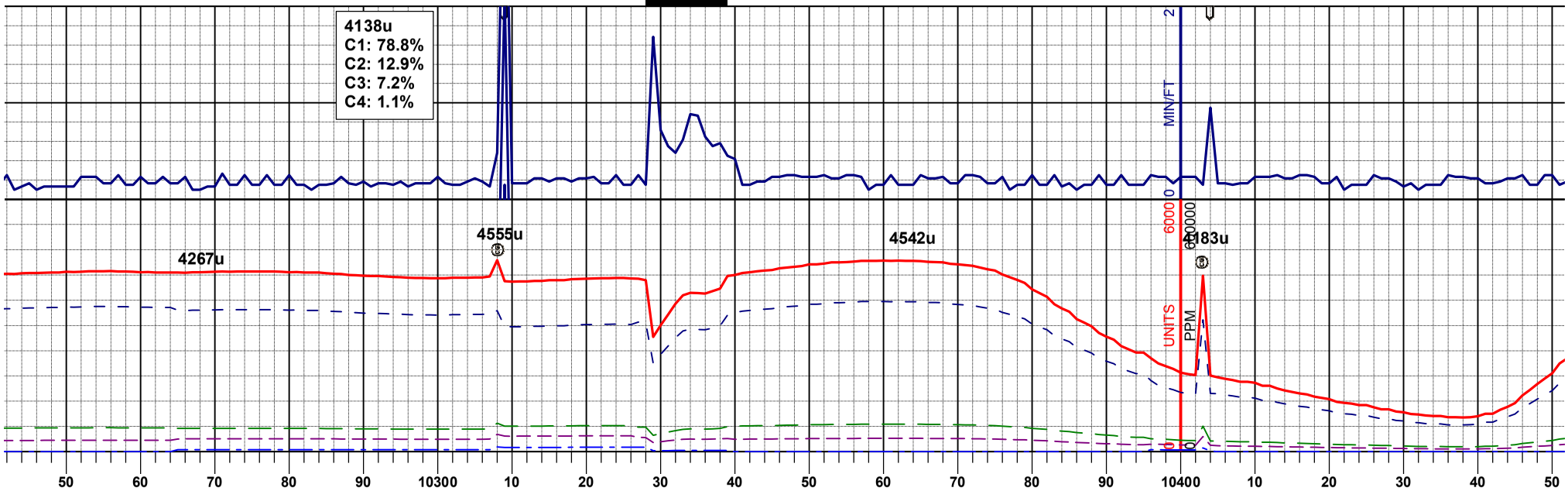
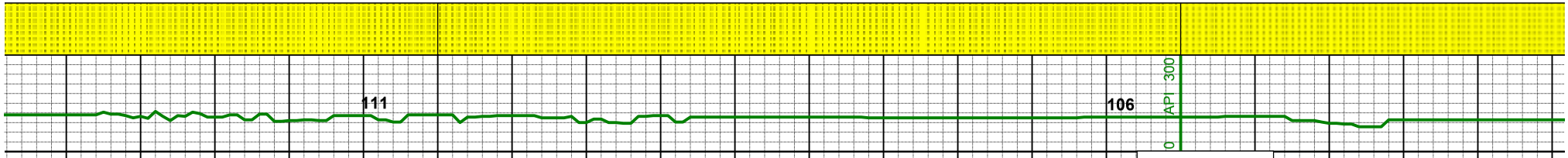

96
102
API
300
0
7000
WT 9.7+ / VIS 39
SS: lt - m gy - brn, lse lit, clus, w srt, mod sft - hd, wrd, m gr, non-sl calc; LS: ltgy, off. wh - crm, mod hd, sbplty - sbblky, SH: blk - dk gy, sb plty-plty, firm to m sft, occ mod calc, n stmg mky bl cut, bl ring
SS: lt - m gy - brn, occ op, lse lit, clus, w srt, mod sft - hd, wrd, m gr, non - sl calc, tr SH: blk - dk gy, sb plty-plty, firm to m sft, non calc, stmg mky bl cut, dul bl ring
SS: lt gy -
- hd, wrd,
gy, sb plt
stmg mky
ft
7700
Survey
MD 10068'
INC 88.83°
AZM 355.35°
TVD 7415.13'
Survey
MD 10163'
INC 88.64°
AZM 356.76°
TVD 7417.22'





WT 9.8 / VIS 38

- brn, occ op, lse lit, w srt, mod sft
m gr, non - sl calc, tr SH: blk - dk
y-plty, firm to m sft, non calc, n
bl cut, dul bl ring

SS: lt gy - brn, occ op, lse lit, w srt, mod sft
- hd, wrd, m gr, non - sl calc, tr SH: blk - dk
gy, sb plty-plty, firm to m sft, non calc, n
stmg mky bl cut, dul bl ring

SS: lt gy - brn, abnt
- hd, wrd, m gr, nor
gy, sb plty-plty, firm
stmg mky bl cut, du

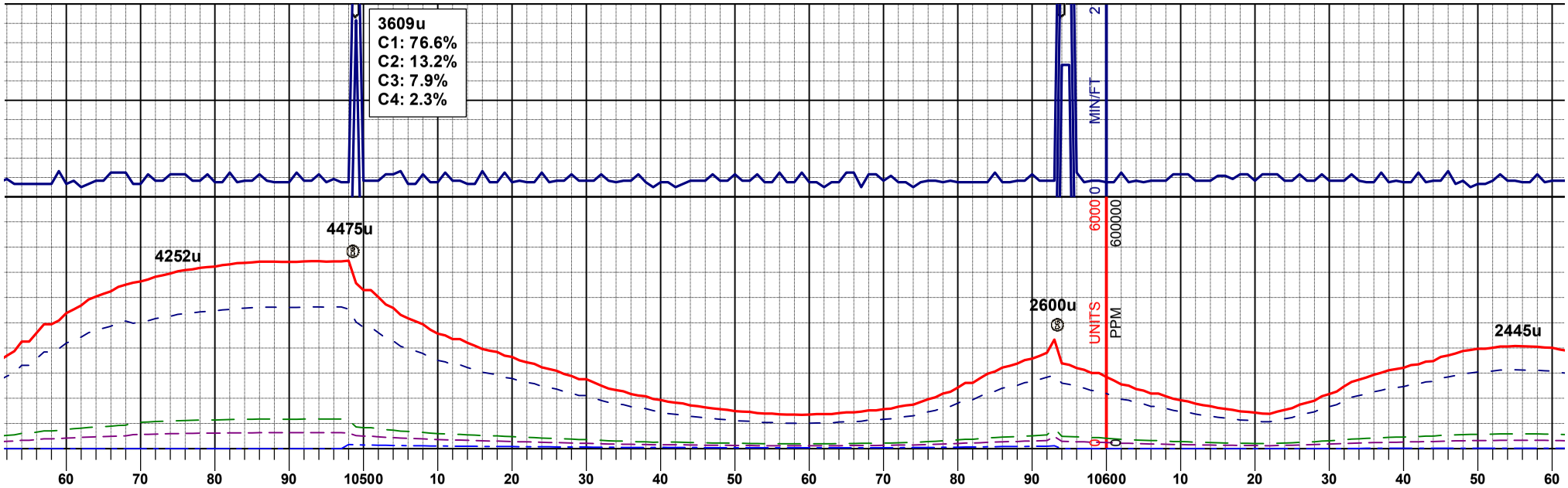
ft

7700

Survey
MD 10258'
INC 90.31°
AZM 358.67°
TVD 7418.10'

Survey
MD 10353'
INC 91.11°
AZM 1.48°
TVD 7416.80'

Survey
MD 1044
INC 90.7
AZM 1.3
TVD 7415.2


3609u
C1: 76.6%
C2: 13.2%
C3: 7.9%
C4: 2.3%
MIN/FT
2
0
6000
600000
UNITS
PPM
0
0
4252u
4475u
2600u
2445u
60
70
80
90
10500
10
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30
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50
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90
10600
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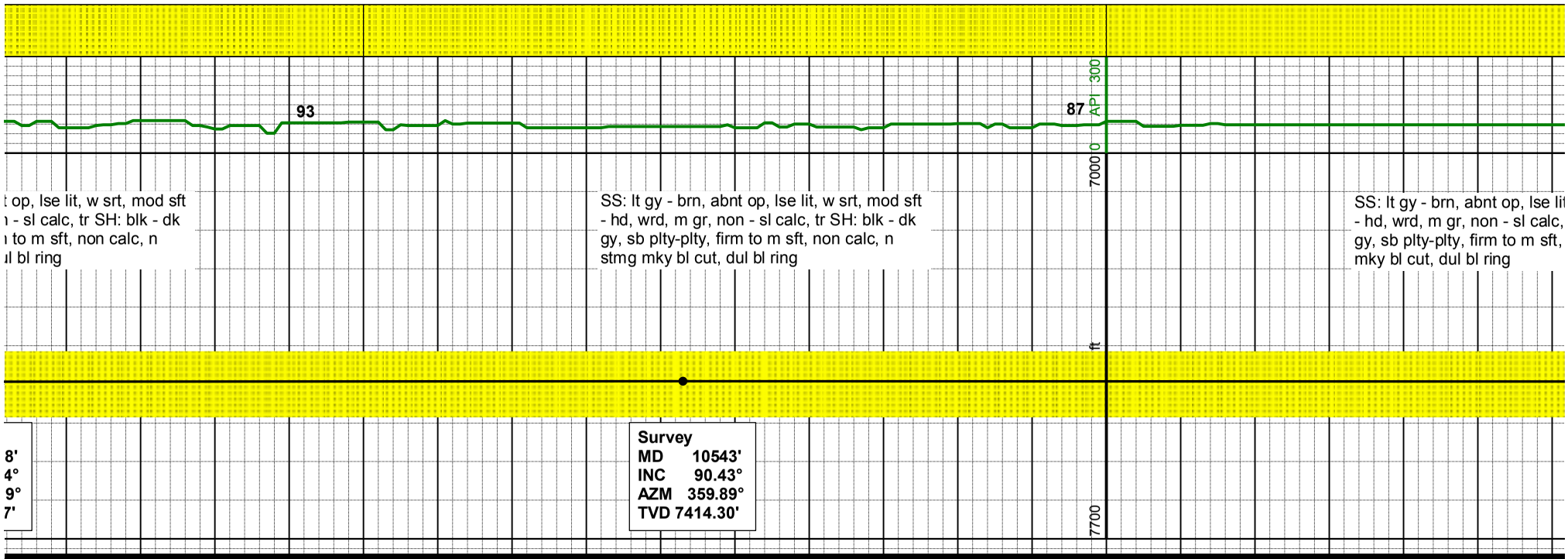
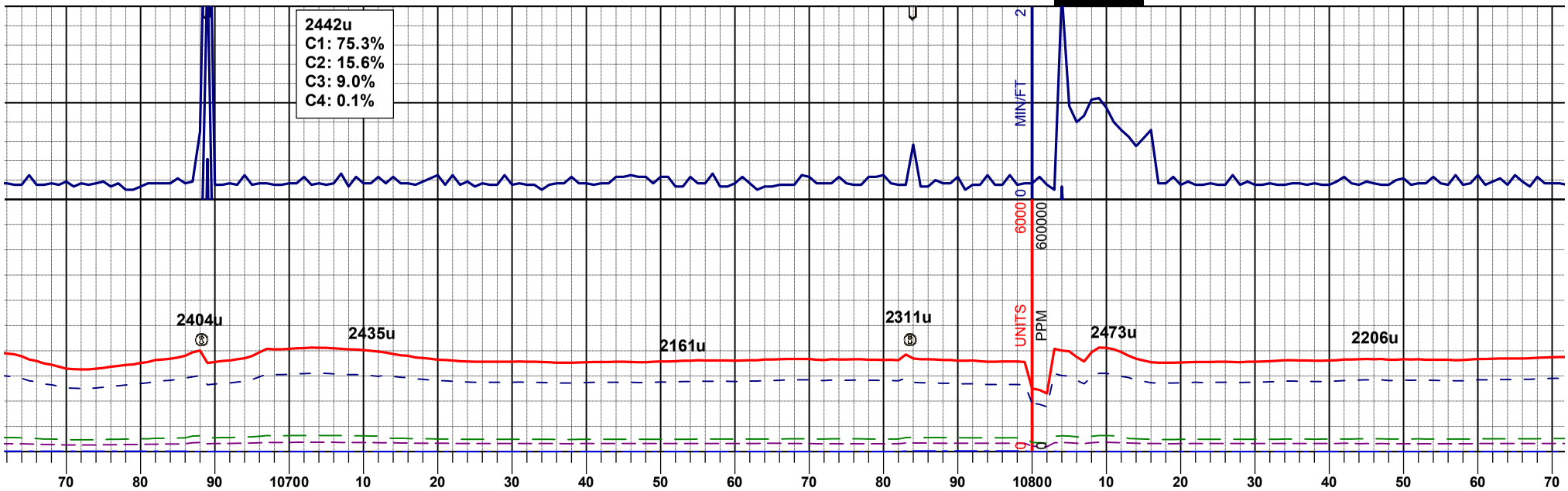
30
40
50
60


93
87
API
300
0
7000
ft
7700
t op, lse lit, w srt, mod sft
- sl calc, tr SH: blk - dk
to m sft, non calc, n
l bl ring
SS: lt gy - brn, abnt op, lse lit, w srt, mod sft
- hd, wrd, m gr, non - sl calc, tr SH: blk - dk
gy, sb plty-plty, firm to m sft, non calc, n
stmg mky bl cut, dul bl ring
SS: lt gy - brn, abnt op, lse lit
- hd, wrd, m gr, non - sl calc,
gy, sb plty-plty, firm to m sft,
mky bl cut, dul bl ring
8'
4°
9°
7'
Survey
MD 10543'
INC 90.43°
AZM 359.89°
TVD 7414.30'


2442u
C1: 75.3%
C2: 15.6%
C3: 9.0%
C4: 0.1%
MIN/FT
2
0
6000
600000
UNITS
PPM
0
0
2404u
2435u
2161u
2311u
2473u
2206u
70
80
90
10700
10
20
30
40
50
60
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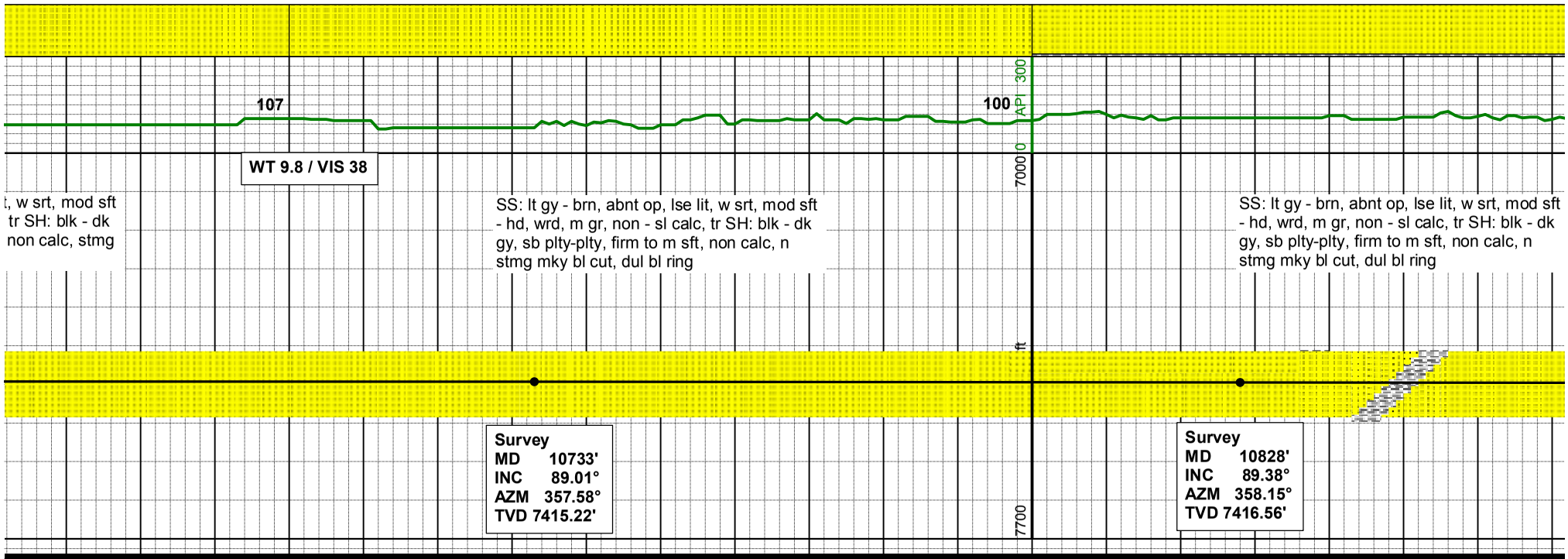
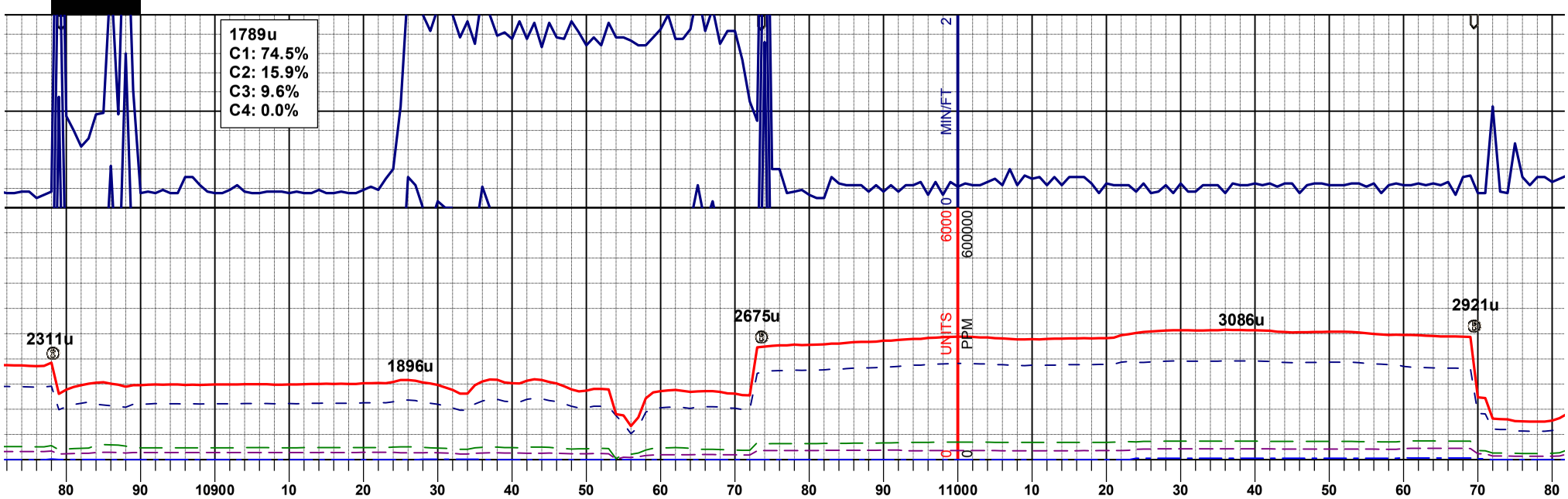

107
100
API
300
0
7000
ft
7700
WT 9.8 / VIS 38
t, w srt, mod sft
tr SH: blk - dk
non calc, stmg
SS: lt gy - brn, abnt op, lse lit, w srt, mod sft - hd, wrd, m gr, non - sl calc, tr SH: blk - dk gy, sb plty-plty, firm to m sft, non calc, n stmg mky bl cut, dul bl ring
SS: lt gy - brn, abnt op, lse lit, w srt, mod sft - hd, wrd, m gr, non - sl calc, tr SH: blk - dk gy, sb plty-plty, firm to m sft, non calc, n stmg mky bl cut, dul bl ring
Survey
MD 10733'
INC 89.01°
AZM 357.58°
TVD 7415.22'
Survey
MD 10828'
INC 89.38°
AZM 358.15°
TVD 7416.56'


1789u
C1: 74.5%
C2: 15.9%
C3: 9.6%
C4: 0.0%
MIN/FT
2
0
6000
600000
UNITS
PPM
0
0
2311u
1896u
2675u
3086u
2921u
80
90
10900
10
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40
50
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70
80
90
11000
10
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60
70
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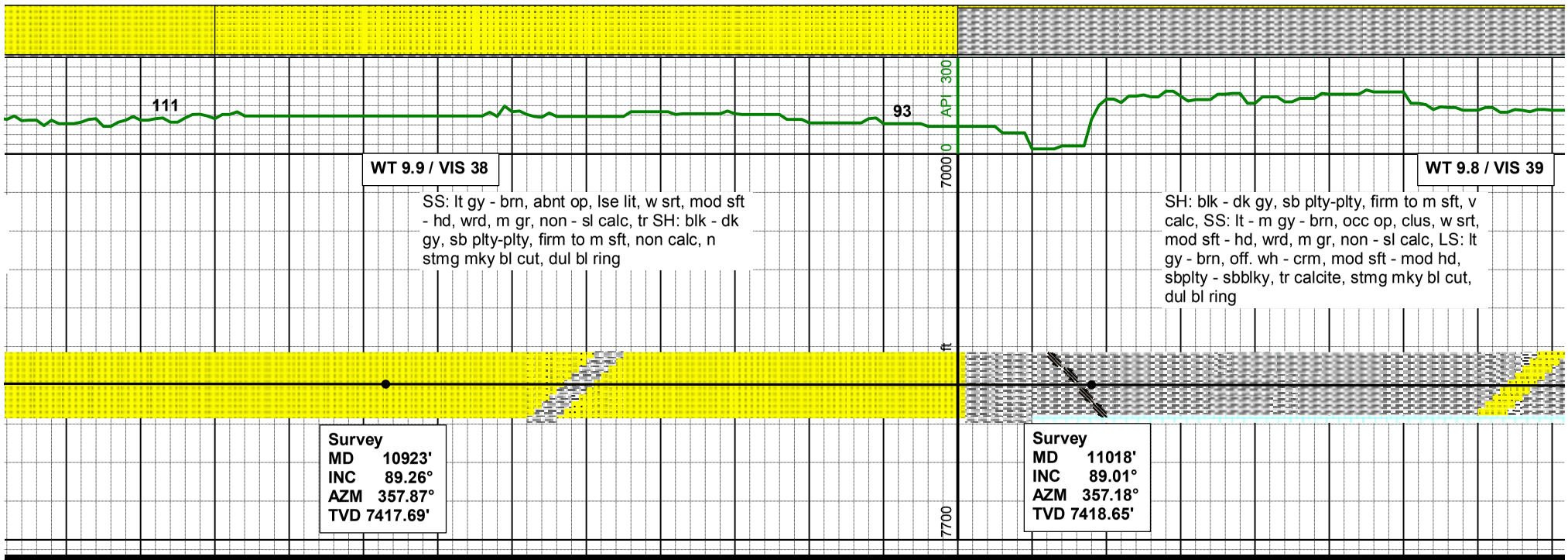
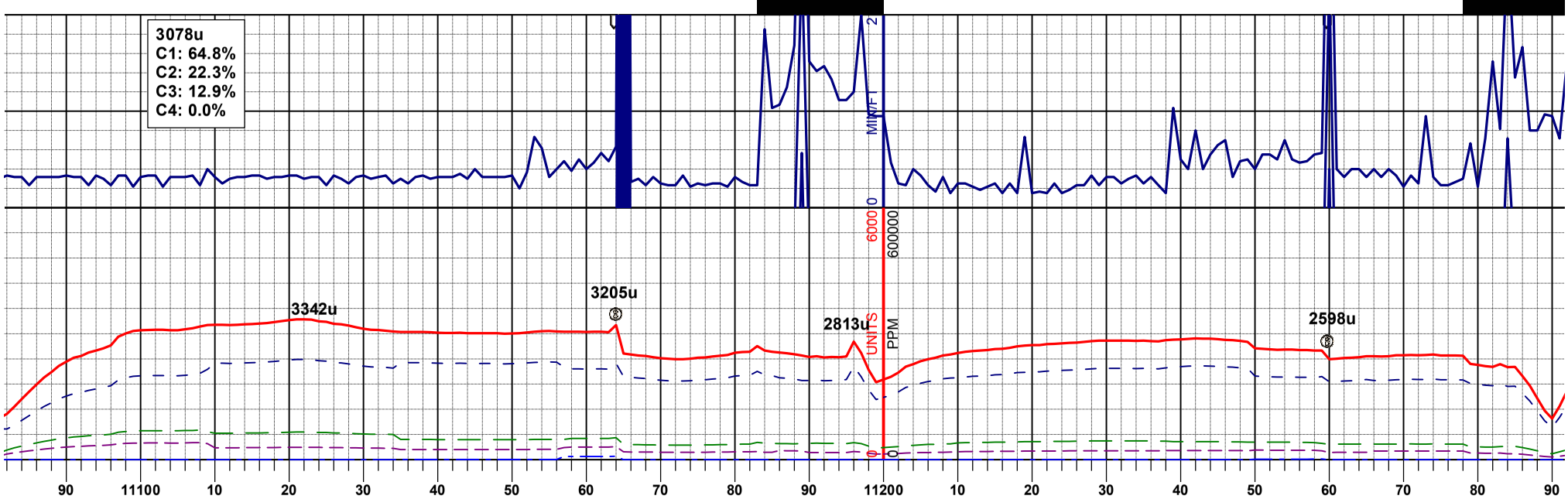
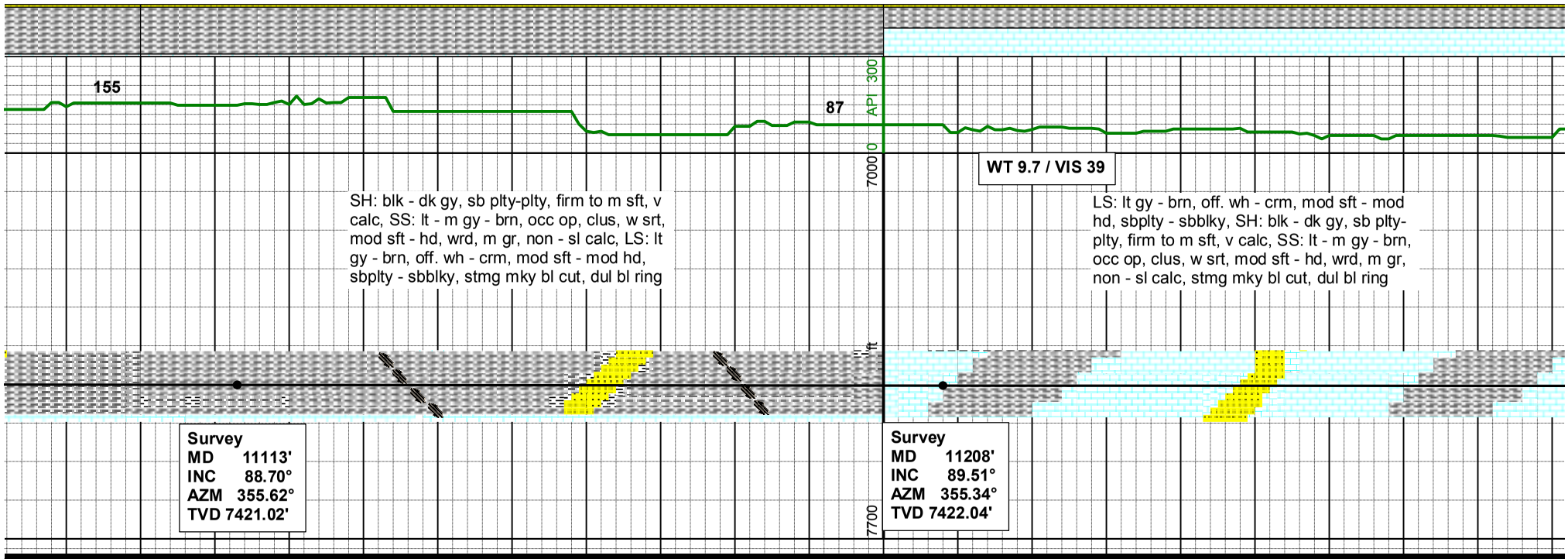
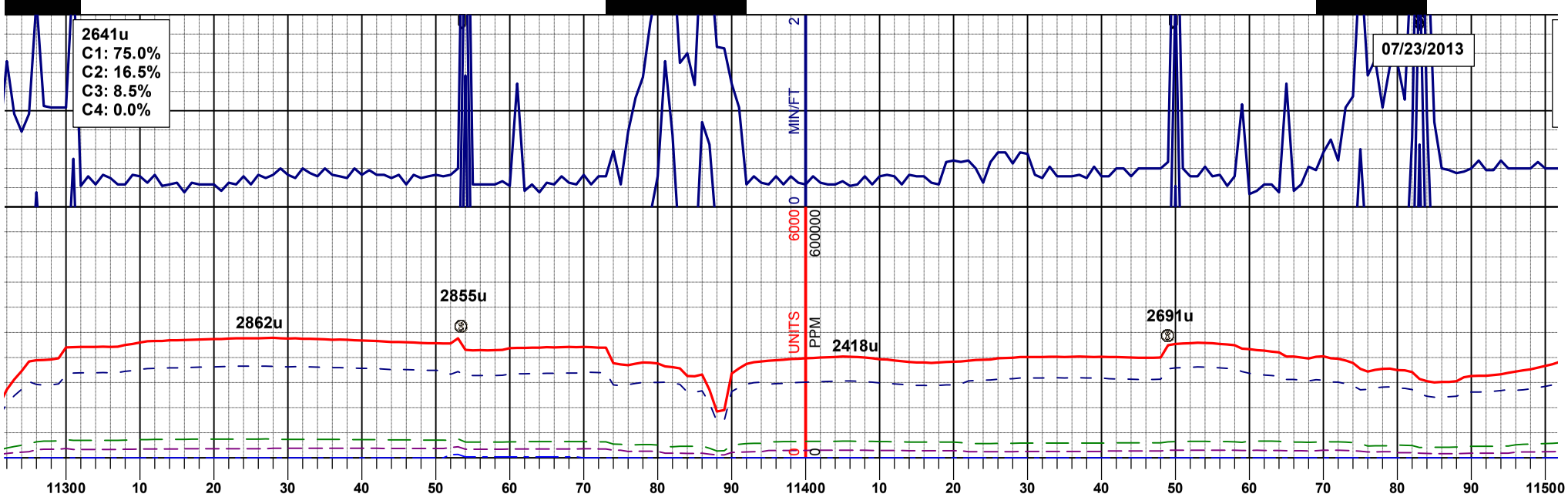

111
93
API
300
0
7000
ft
7700
WT 9.9 / VIS 38
SS: lt gy - brn, abnt op, lse lit, w srt, mod sft - hd, wrd, m gr, non - sl calc, tr SH: blk - dk gy, sb plty-plty, firm to m sft, non calc, n stmg mky bl cut, dul bl ring
WT 9.8 / VIS 39
SH: blk - dk gy, sb plty-plty, firm to m sft, v calc, SS: lt - m gy - brn, occ op, clus, w srt, mod sft - hd, wrd, m gr, non - sl calc, LS: lt gy - brn, off. wh - crm, mod sft - mod hd, sbplty - sbblky, tr calcite, stmg mky bl cut, dul bl ring
Survey
MD 10923'
INC 89.26°
AZM 357.87°
TVD 7417.69'
Survey
MD 11018'
INC 89.01°
AZM 357.18°
TVD 7418.65'


3078u
C1: 64.8%
C2: 22.3%
C3: 12.9%
C4: 0.0%
MINUTES
2
1
0
6000
UNITS
600000
PPM
0
0
3342u
3205u
2813u
2598u
90
11100
10
20
30
40
50
60
70
80
90
11200
10
20
30
40
50
60
70
80
90


155
87
API
300
0
7000
ft
7700
WT 9.7 / VIS 39
SH: blk - dk gy, sb plty-plty, firm to m sft, v calc, SS: lt - m gy - brn, occ op, clus, w srt, mod sft - hd, wrd, m gr, non - sl calc, LS: lt gy - brn, off. wh - crm, mod sft - mod hd, sbplty - sbblky, stmg mky bl cut, dul bl ring
LS: lt gy - brn, off. wh - crm, mod sft - mod hd, sbplty - sbblky, SH: blk - dk gy, sb plty-plty, firm to m sft, v calc, SS: lt - m gy - brn, occ op, clus, w srt, mod sft - hd, wrd, m gr, non - sl calc, stmg mky bl cut, dul bl ring
Survey
MD 11113'
INC 88.70°
AZM 355.62°
TVD 7421.02'
Survey
MD 11208'
INC 89.51°
AZM 355.34°
TVD 7422.04'


2641u
C1: 75.0%
C2: 16.5%
C3: 8.5%
C4: 0.0%
07/23/2013
MIN/FT
2
0
6000
UNITS
0
600000
PPM
0
2862u
2855u
2418u
2691u
11300
10
20
30
40
50
60
70
80
90
11400
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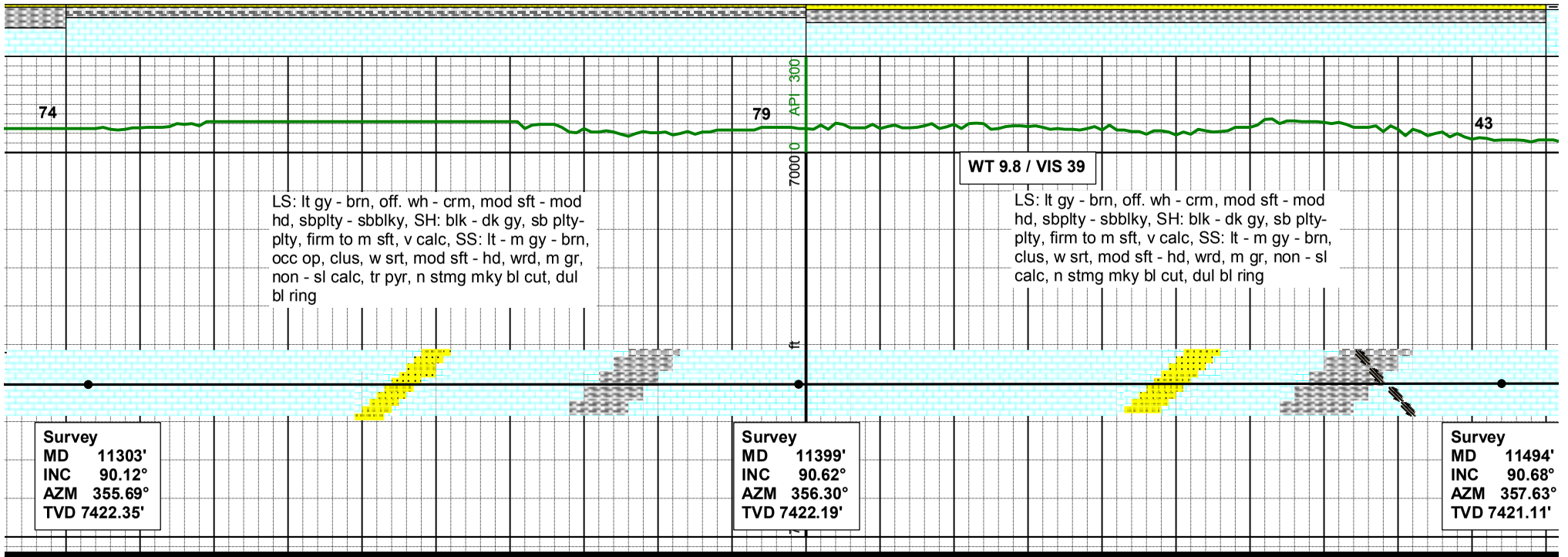
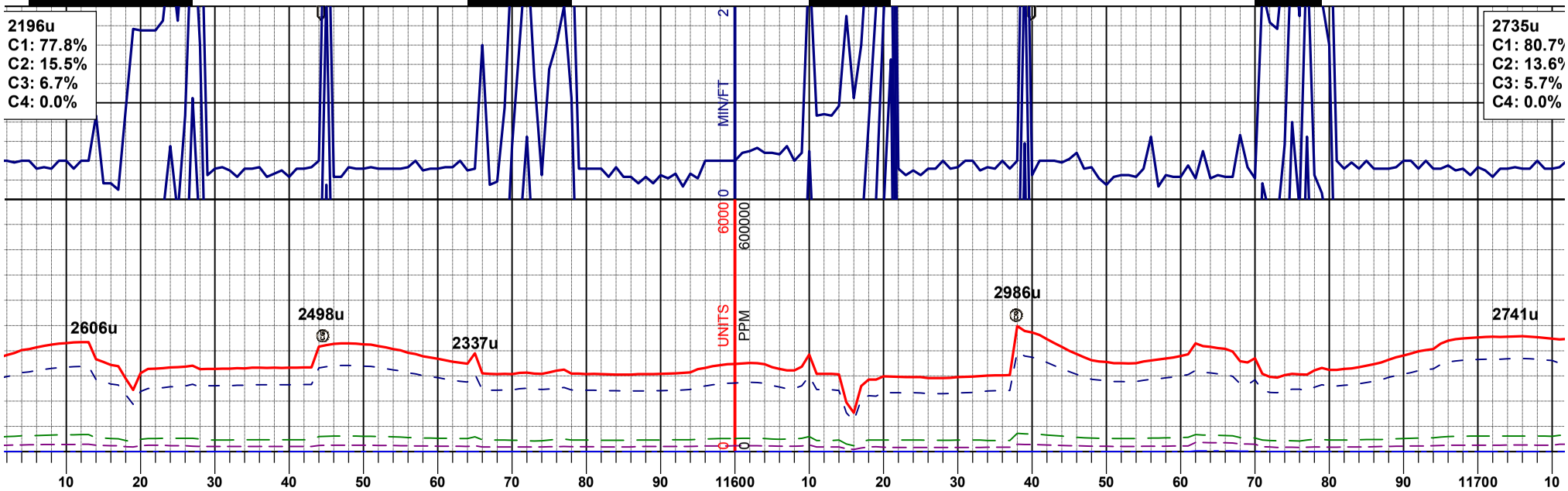

74
79
43
API
300
0
7000
ft
WT 9.8 / VIS 39
LS: lt gy - brn, off. wh - crm, mod sft - mod hd, sbplty - sbblky, SH: blk - dk gy, sb plty-plty, firm to m sft, v calc, SS: lt - m gy - brn, occ op, clus, w srt, mod sft - hd, wrd, m gr, non - sl calc, tr pyr, n stmg mky bl cut, dul bl ring
LS: lt gy - brn, off. wh - crm, mod sft - mod hd, sbplty - sbblky, SH: blk - dk gy, sb plty-plty, firm to m sft, v calc, SS: lt - m gy - brn, clus, w srt, mod sft - hd, wrd, m gr, non - sl calc, n stmg mky bl cut, dul bl ring
Survey
MD 11303'
INC 90.12°
AZM 355.69°
TVD 7422.35'
Survey
MD 11399'
INC 90.62°
AZM 356.30°
TVD 7422.19'
Survey
MD 11494'
INC 90.68°
AZM 357.63°
TVD 7421.11'


2196u
C1: 77.8%
C2: 15.5%
C3: 6.7%
C4: 0.0%
2735u
C1: 80.7%
C2: 13.6%
C3: 5.7%
C4: 0.0%
MIN/FT
2
0
6000
UNITS
0
600000
PPM
0
2606u
2498u
2337u
2986u
2741u
10
20
30
40
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20
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70
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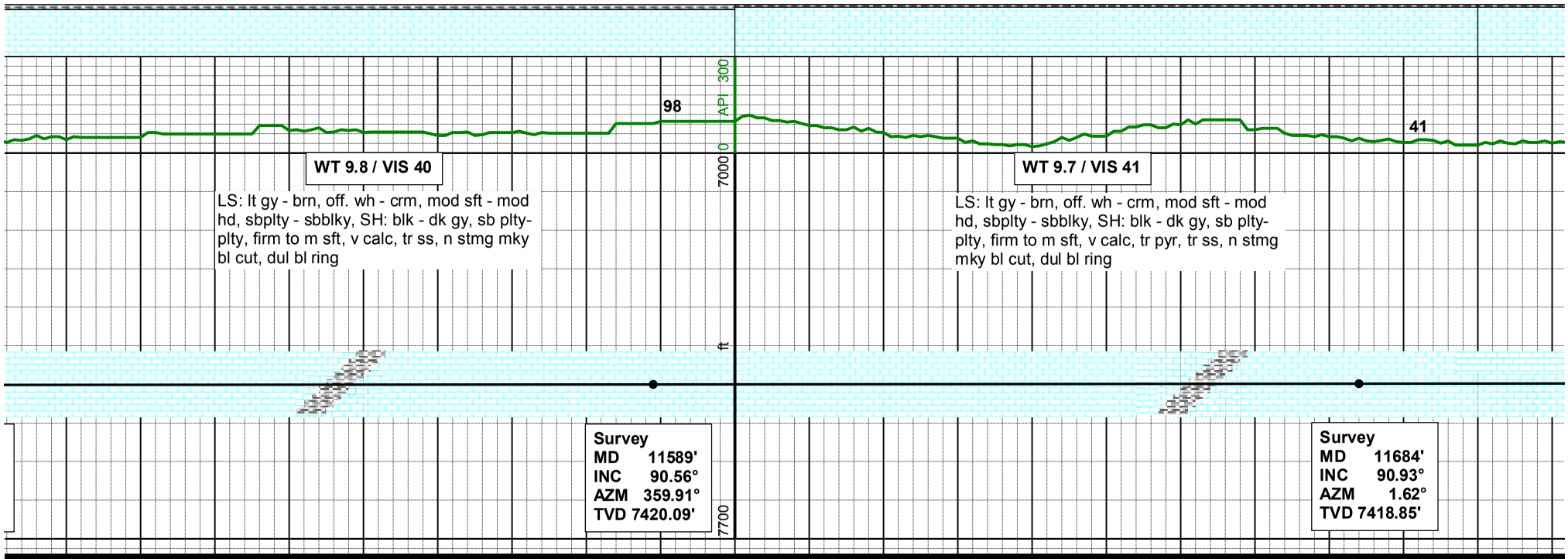
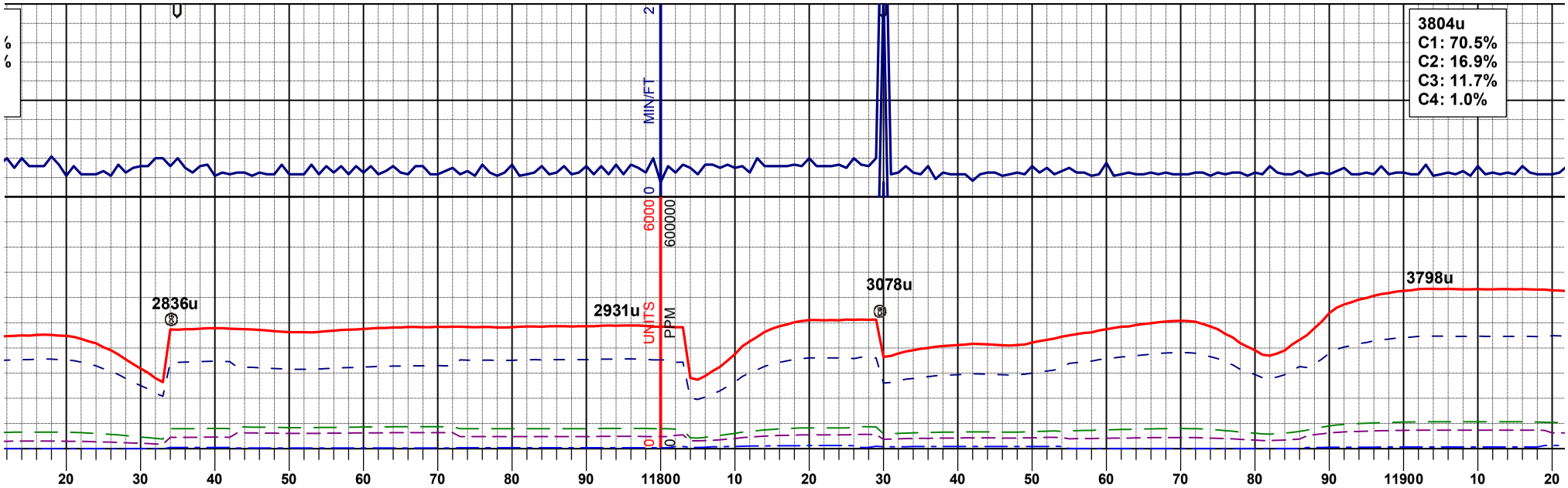
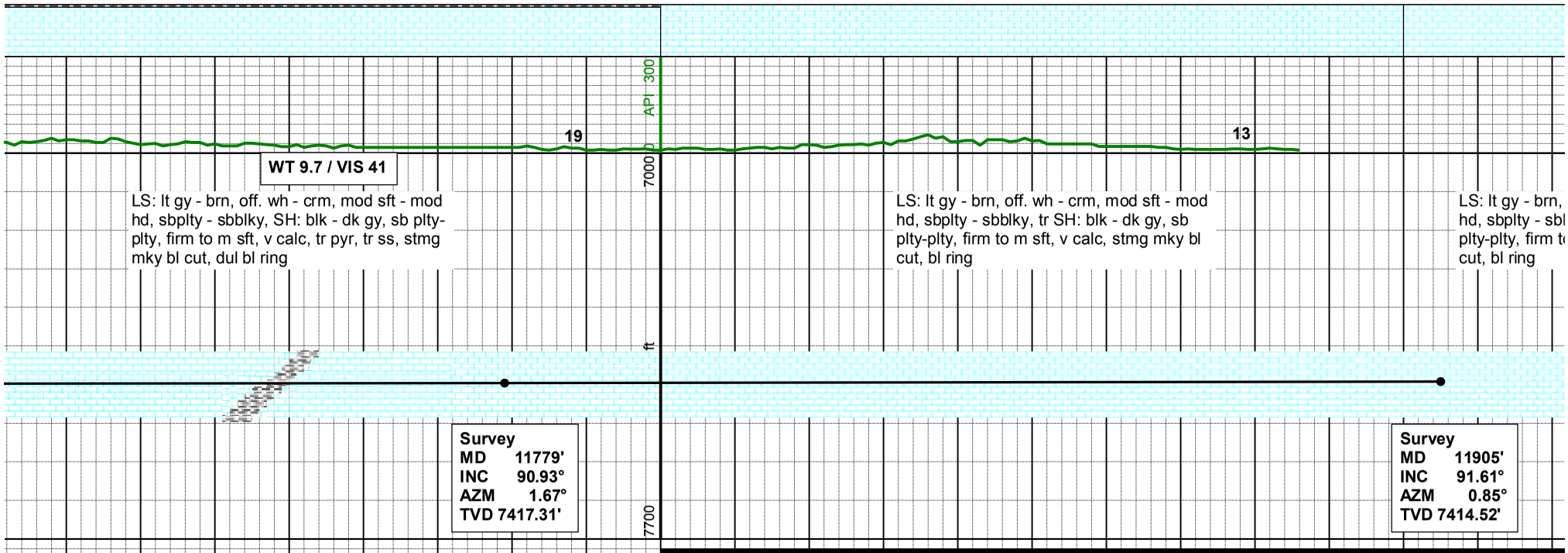
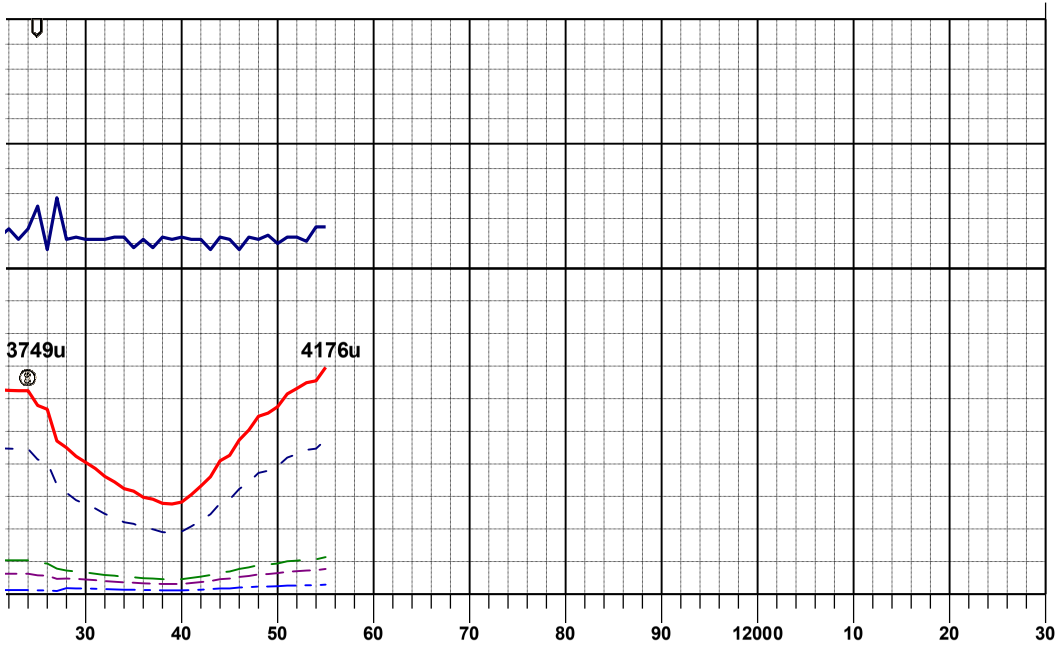
90
11700
10


API
300
0
98
41
7000
ft
7700
WT 9.8 / VIS 40
LS: lt gy - brn, off. wh - crm, mod sft - mod hd, sbplty - sbblky, SH: blk - dk gy, sb plty-plty, firm to m sft, v calc, tr ss, n stmg mky bl cut, dul bl ring
WT 9.7 / VIS 41
LS: lt gy - brn, off. wh - crm, mod sft - mod hd, sbplty - sbblky, SH: blk - dk gy, sb plty-plty, firm to m sft, v calc, tr pyr, tr ss, n stmg mky bl cut, dul bl ring
Survey
MD 11589'
INC 90.56°
AZM 359.91°
TVD 7420.09'
Survey
MD 11684'
INC 90.93°
AZM 1.62°
TVD 7418.85'


3804u
C1: 70.5%
C2: 16.9%
C3: 11.7%
C4: 1.0%
MIN/FT
2
0
6000
600000
UNITS
PPM
0
0
2836u
2931u
3078u
3798u
20
30
40
50
60
70
80
90
11800
10
20
30
40
50
60
70
80
90
11900
10
20


API
300
0
19
13
7000
ft
7700
WT 9.7 / VIS 41
LS: lt gy - brn, off. wh - crm, mod sft - mod hd, sbplty - sbblky, SH: blk - dk gy, sb plty-plty, firm to m sft, v calc, tr pyr, tr ss, stmg mky bl cut, dul bl ring
LS: lt gy - brn, off. wh - crm, mod sft - mod hd, sbplty - sbblky, tr SH: blk - dk gy, sb plty-plty, firm to m sft, v calc, stmg mky bl cut, bl ring
LS: lt gy - brn, hd, sbplty - sbl plty-plty, firm t cut, bl ring
Survey
MD 11779'
INC 90.93°
AZM 1.67°
TVD 7417.31'
Survey
MD 11905'
INC 91.61°
AZM 0.85°
TVD 7414.52'



WT 9.8 / VIS 38

off. wh - crm, mod sft - mod
blky, tr SH: blk - dk gy, sb
o m sft, v calc, stmg mky bl

ANADARKO
USA FED 29C-36HZ
WELL TD @ 11955' MD
ON 07/23/13 @ 0600 HRS

THANK YOU FOR USING
COLUMBINE LOGGING INC.