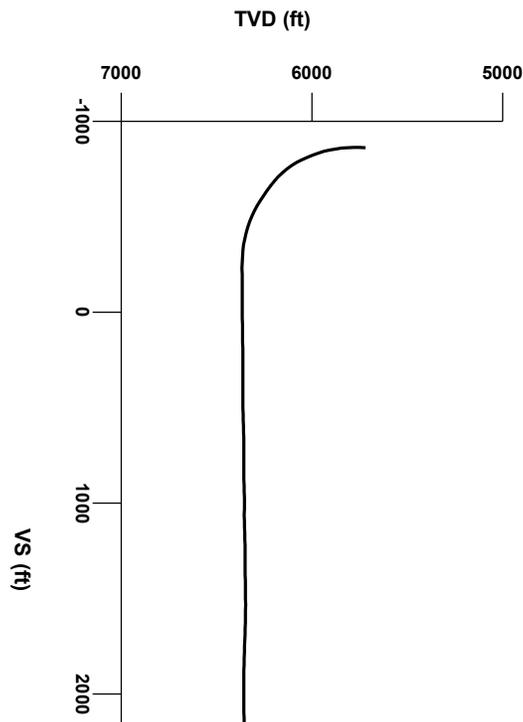


LOG created using LPLOT VH Version 3.0, October 19, 2012, Copyright (C) 1999-2009 Pason Systems Corp.

OPERATOR: BONANZA CREEK ENERGY INC.
WELL: ANTELOPE-41-44-31HZ
LOCATION: NENE Sec 31 T5N R62W
COUNTY: WELD
STATE: COLORADO
SPOT: 776 FNL X 1548 FEL
ELEVATION: 4604GL 4619KB
FIELD: WATTENBERG
SPUD DATE: 10/10/2012
TD DATE: 10/19/2012
DATES LOGGED: 10/13/2012- 10/19/2012
DEPTHS LOGGED: 5,840' - 11,050'
LOGGERS: KEVIN GERAGHTY, RYAN SHILLING
DRILLING FLUID: LSND
DRILLING RIG: ENSIGN 128
API: 05-123-36105-00
LOG TYPE: HORIZONTAL
SCALE: 1:240 (5 inches per 100 feet)
REMARKS: Wellsite Geological Services Provided By Columbine Logging Inc.
LAT: 40.36128, 104.35891



Survey Elevation

3000

4000

N/S (ft)

-4000

-3000

-2000

-1000

0

1000

-1000

E/W (ft)

0

1000

Survey Plan



Chalk



Marl



Shaly Sandstone



Silty Shale

LITHOLOGIES

MODIFIERS

B Bentonite

F Fossils

ENGINEERING SYMBOLS

▲ Casing

▶ Casing

□ Connection

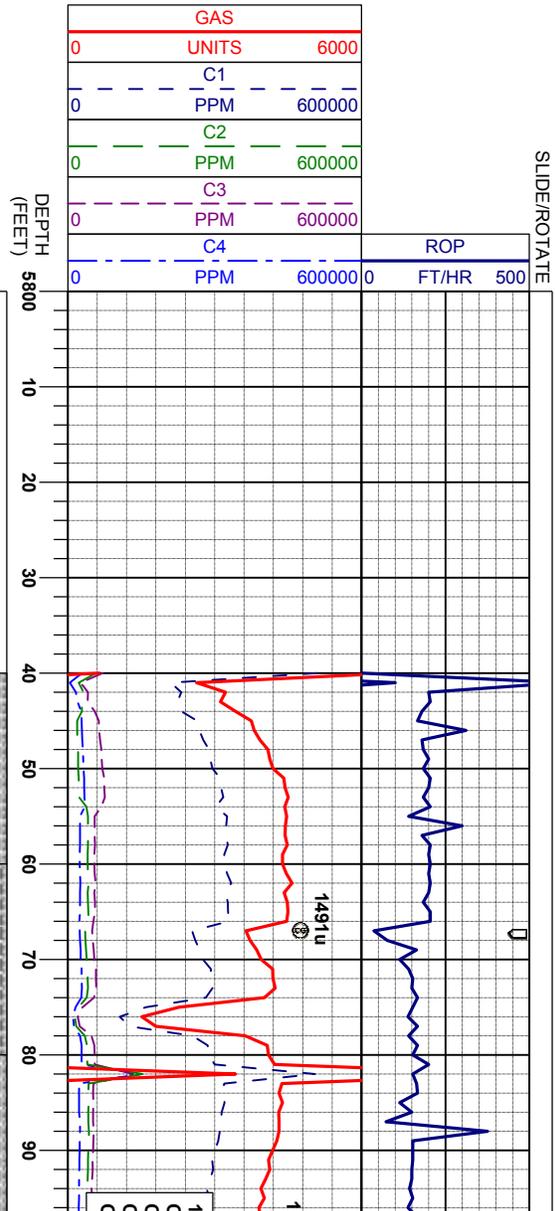
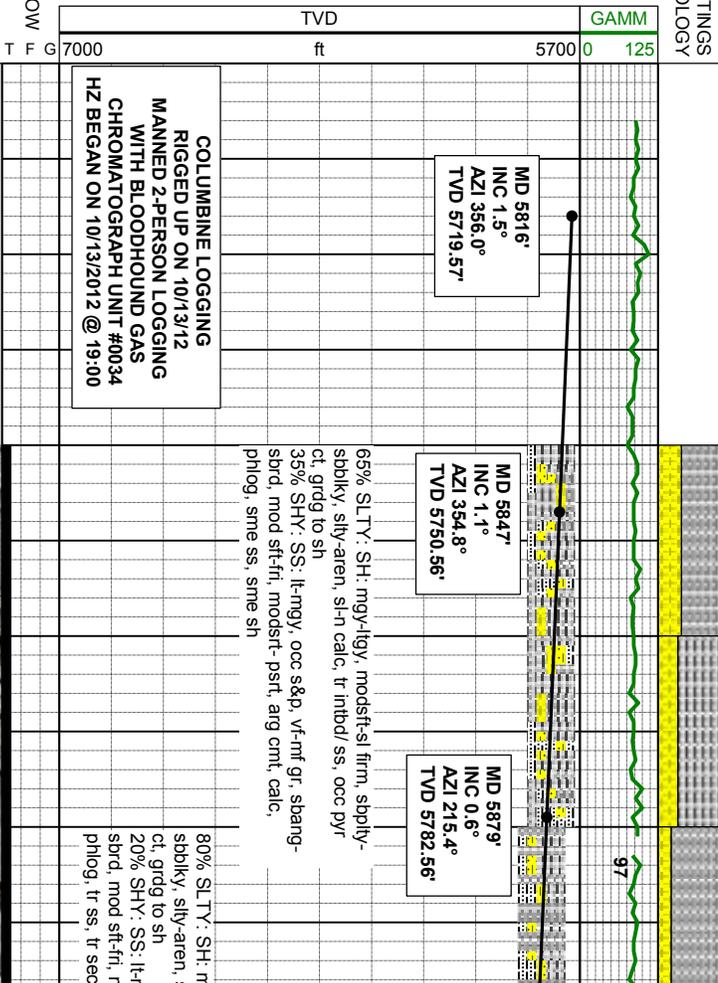
⊕ Connection Gas

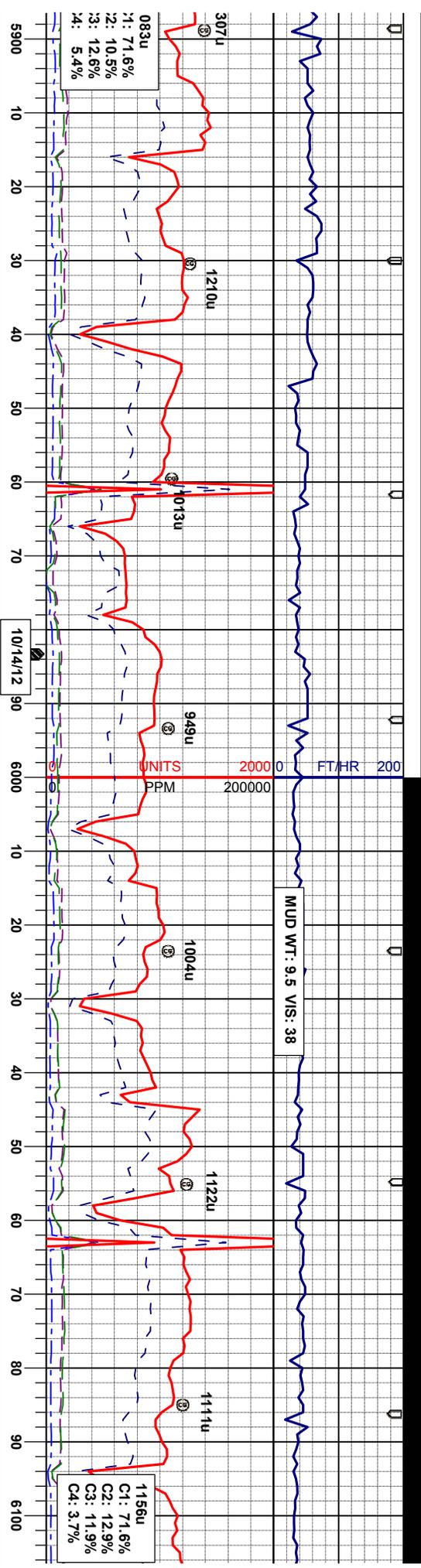
↑ Arrow

⬇️ Midnight Depth

SAMPLE PHOTOS

OIL SHOW





083u
 1: 71.6%
 2: 10.5%
 3: 12.6%
 4: 5.4%

1156u
 C1: 71.6%
 C2: 12.9%
 C3: 11.9%
 C4: 3.7%

MD 5910'
 INC 3.2°
 AZI 200.6°
 TVD 5813.54'

MD 5941'
 INC 6.2°
 AZI 196.4°
 TVD 5844.43'

MD 5972'
 INC 9.2°
 AZI 195.5°
 TVD 5875.15'

MD 6003'
 INC 12.3°
 AZI 197.4°
 TVD 5905.60'

MD 6035'
 INC 15.6°
 AZI 198.5°
 TVD 5936.65'

MD 6066'
 INC 18.9°
 AZI 199.4°
 TVD 5966.25'

MD 6097'
 INC 21.7°
 AZI 200.1°
 TVD 5995.33'

70% SLTY: SH: mgy-lygy, modst-si firm, sbply-sbply, sily-aren, sl-n calc, tr inbd/ ss, occ pyr
 ct, grdg to sh
 30% SHY: SS: lk-mgy, occ s&p, vf-ntf gr, sbang-sbrd, mod sft-frt, modst- prst, arg cnt, calc, phlog, tr ss, tr sh

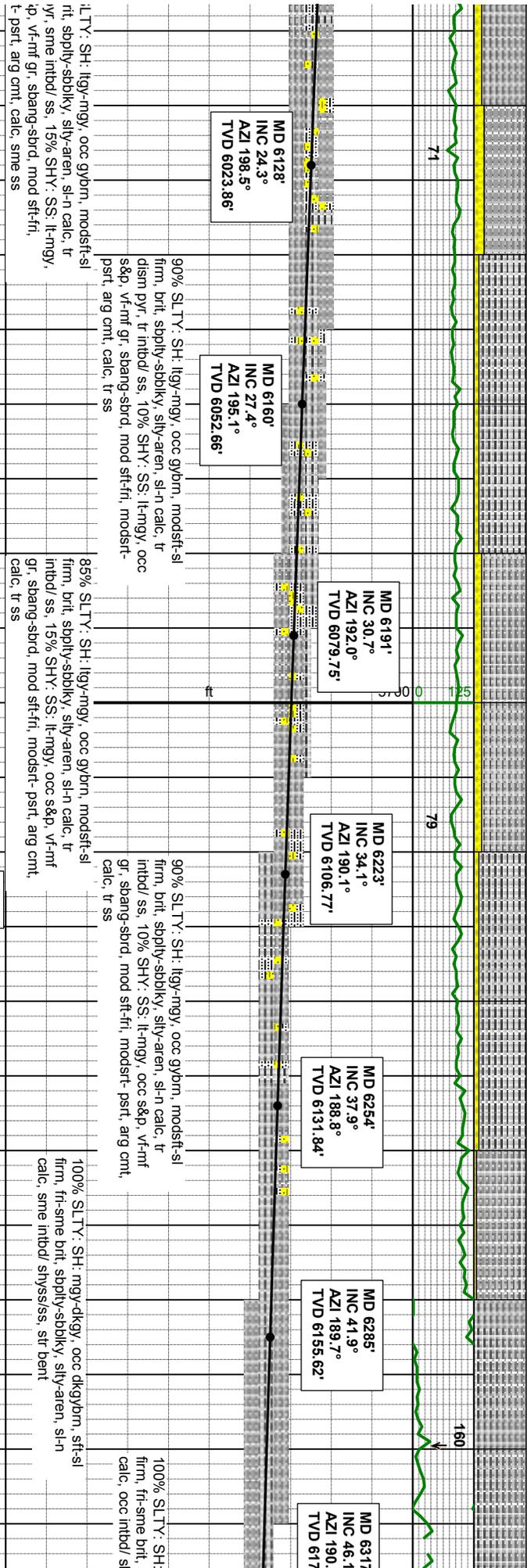
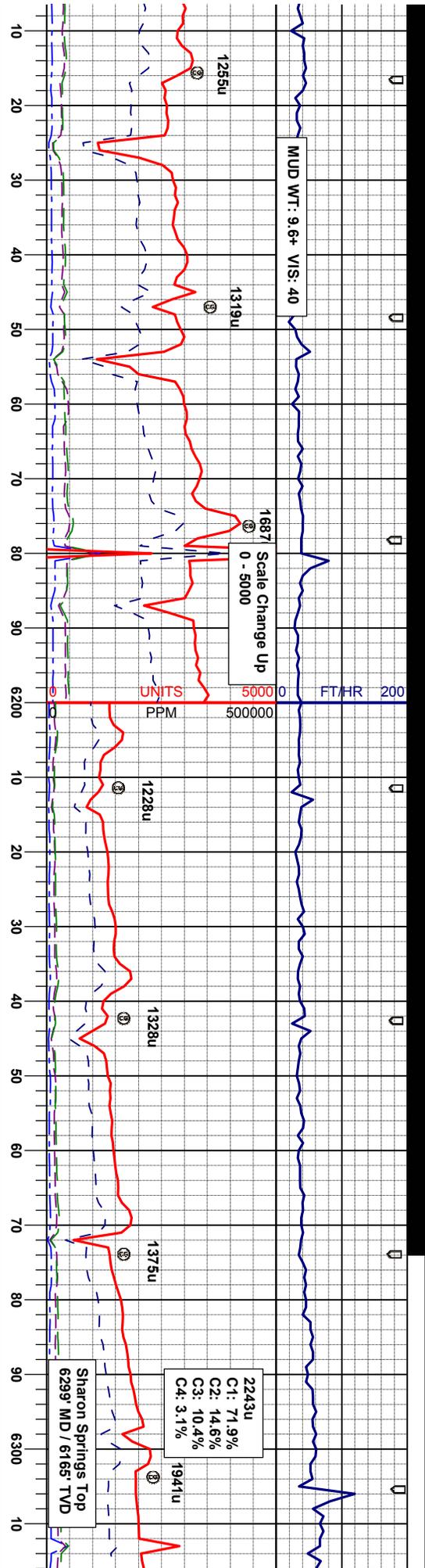
75% SLTY: SH: mgy-lygy, modst-si firm, sbply-sbply, sily-aren, sl-n calc, tr inbd/ ss, occ pyr
 ct, grdg to sh
 25% SHY: SS: lk-mgy, occ s&p, vf-ntf gr, sbang-sbrd, mod sft-frt, modst- prst, arg cnt, calc, phlog, tr ss, vt sec calcite

75% SLTY: SH: mgy-lygy, modst-si firm, sbply-sbply, sily-aren, sl-n calc, tr inbd/ ss, occ pyr
 ct, grdg to sh
 25% SHY: SS: lk-mgy, occ s&p, vf-ntf gr, sbang-sbrd, mod sft-frt, modst- prst, arg cnt, calc, phlog, sme ss

85% S firm, b
 20% SHY: SS: lk-mgy, occ s&p, vf-ntf gr, sbang-sbrd, mod sft-frt, modst- prst, arg cnt, calc, phlog, sme ss

Slight Trace





L.T.Y.: SH: lgy-mgy, occ gybn, modstf-si
 rti, sbply-sbdky, silv-aren, si-n calc, tr
 yr, sme inbd/ ss, 15% SHY: SS: lk-mgy,
 sp, vf-mf gr, sbang-sbrd, mod stf-fr,
 t- prst, arg cnt, calc, sme ss

90% SLTY: SH: lgy-mgy, occ gybn, modstf-si
 firm, brt, sbply-sbdky, silv-aren, si-n calc, tr
 dism pyr, tr inbd/ ss, 10% SHY: SS: lk-mgy, occ
 s&p, vf-mf gr, sbang-sbrd, mod stf-fr, modstf-
 prst, arg cnt, calc, tr ss

85% SLTY: SH: lgy-mgy, occ gybn, modstf-si
 firm, brt, sbply-sbdky, silv-aren, si-n calc, tr
 inbd/ ss, 15% SHY: SS: lk-mgy, occ s&p, vf-mf
 gr, sbang-sbrd, mod stf-fr, modstf- prst, arg cnt,
 calc, tr ss

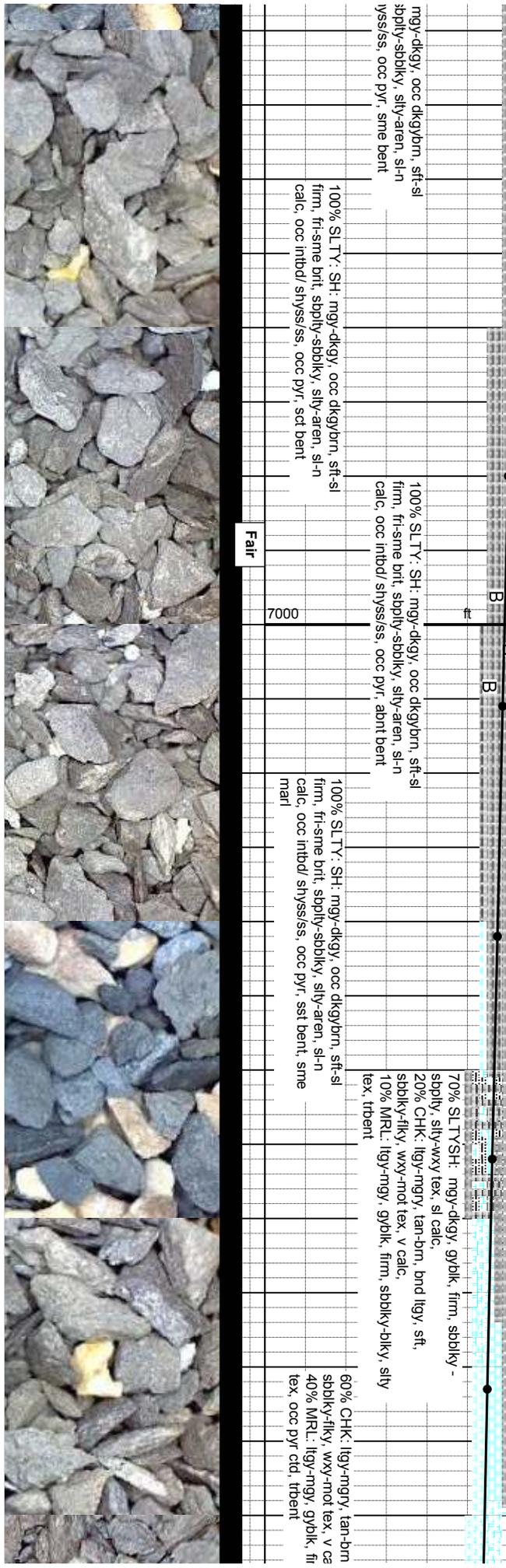
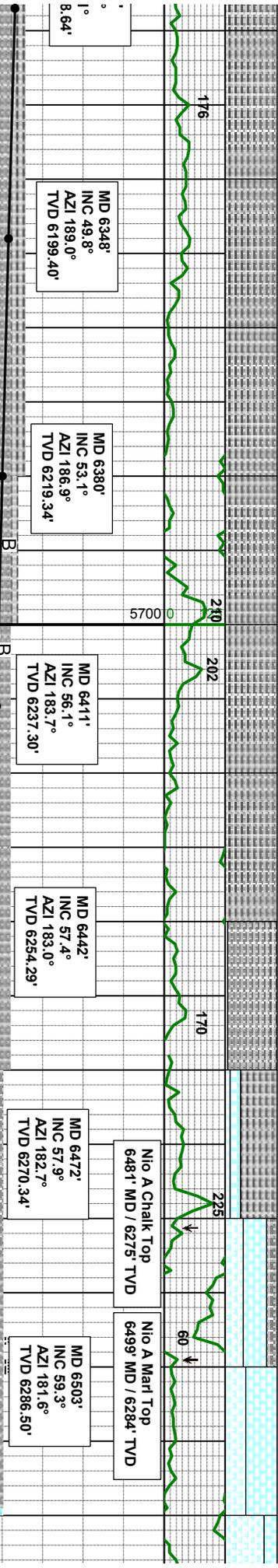
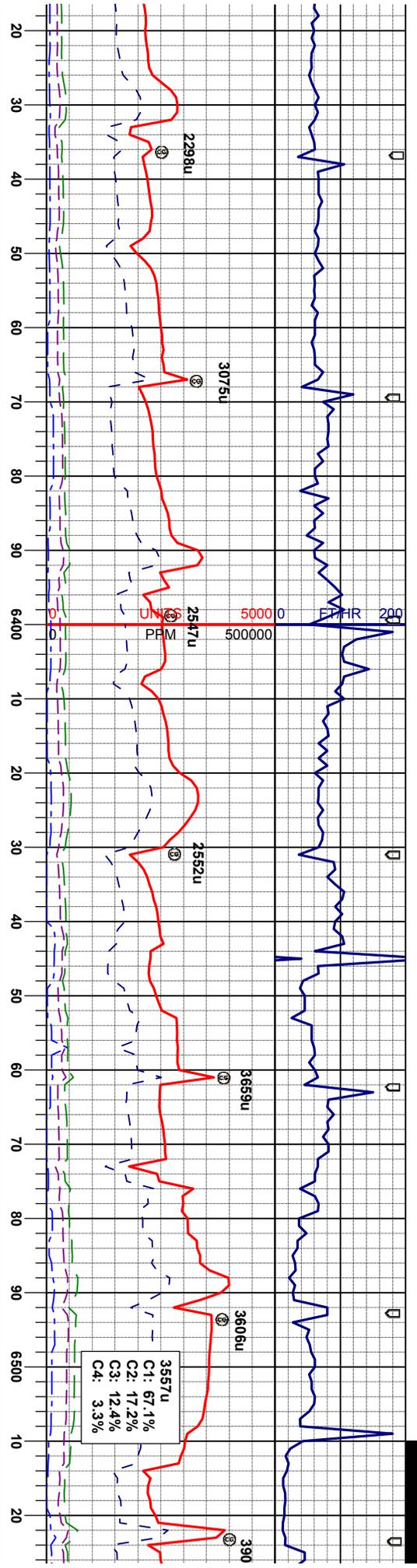
90% SLTY: SH: lgy-mgy, occ gybn, modstf-si
 firm, brt, sbply-sbdky, silv-aren, si-n calc, tr
 inbd/ ss, 10% SHY: SS: lk-mgy, occ s&p, vf-mf
 gr, sbang-sbrd, mod stf-fr, modstf- prst, arg cnt,
 calc, tr ss

100% SLTY: SH: mgy-dky, occ dkybn, stf-si
 firm, fr-sme brt, sbply-sbdky, silv-aren, si-n
 calc, sme inbd/ shys/ss, str bent

100% SLTY: SH:
 firm, fr-sme brt, s
 calc, occ inbd/ sh

MD 6128' INC 24.3° AZI 198.5° TVD 6023.86'
 MD 6160' INC 27.4° AZI 195.1° TVD 6052.66'
 MD 6191' INC 30.7° AZI 192.0° TVD 6079.15'
 MD 6223' INC 34.1° AZI 190.1° TVD 6106.77'
 MD 6254' INC 37.9° AZI 188.8° TVD 6131.84'
 MD 6285' INC 41.9° AZI 189.7° TVD 6155.62'
 MD 6317' INC 46.1° AZI 190.° TVD 6177.

Trace



100% SLTY: SH: mgy-dkgy, occ dkgybrn, sft-si
 firm, fr-sme brt, sbply-sbblky, silv-aren, sl-n
 calc, occ intbd shysss, occ pyr, sct bent

100% SLTY: SH: mgy-dkgy, occ dkgybrn, sft-si
 firm, fr-sme brt, sbply-sbblky, silv-aren, sl-n
 calc, occ intbd shysss, occ pyr, abnt bent

100% SLTY: SH: mgy-dkgy, occ dkgybrn, sft-si
 firm, fr-sme brt, sbply-sbblky, silv-aren, sl-n
 calc, occ intbd shysss, occ pyr, sst bent, sme
 marl

70% SLTY: SH: mgy-dkgy, gyblk, firm, sbblky -
 sbply, silv-wxy tex, sl calc,
 20% CHK: lly-ngry, tan-brn, bnd lly, sft,
 sbblky-illy wxy-mot tex, v calc,
 10% MRL: lly-ngy, gyblk, firm, sbblky-blky, silv
 tex, tlbent

60% CHK: lly-ngry, tan-brn
 sbblky-illy, wxy-mot tex, v ce
 40% MRL: lly-ngy, gyblk, fr
 tex, occ pyr cld, tlbent

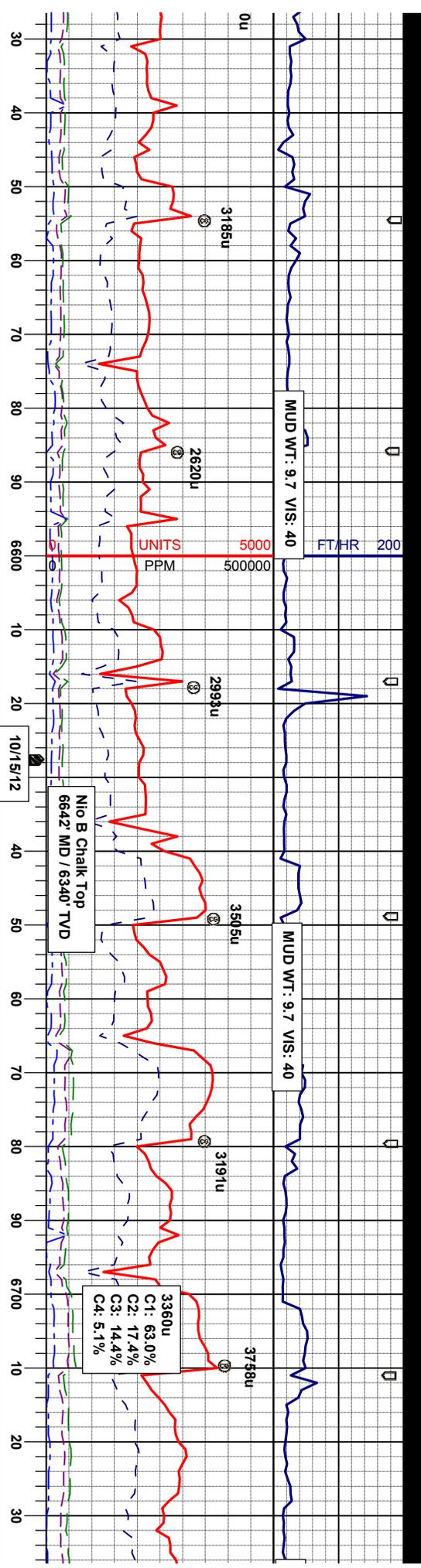
mgy-dkgy, occ dkgybrn, sft-si
 sbply-sbblky, silv-aren, sl-n
 wssss, occ pyr, sme bent

MD 6348' INC 49.8° AZI 189.0° TVD 6199.40'
 MD 6380' INC 53.1° AZI 186.9° TVD 6219.34'
 MD 6411' INC 56.1° AZI 183.7° TVD 6237.30'
 MD 6442' INC 57.4° AZI 183.0° TVD 6254.29'
 MD 6472' INC 57.9° AZI 182.7° TVD 6270.34'
 MD 6503' INC 59.3° AZI 181.6° TVD 6286.50'

Nio A Chalk Top 6481' MD / 6275' TVD
 Nio A Marl Top 6499' MD / 6284' TVD

3557u C1: 67.1%
 C2: 17.2%
 C3: 12.4%
 C4: 3.3%

Fair



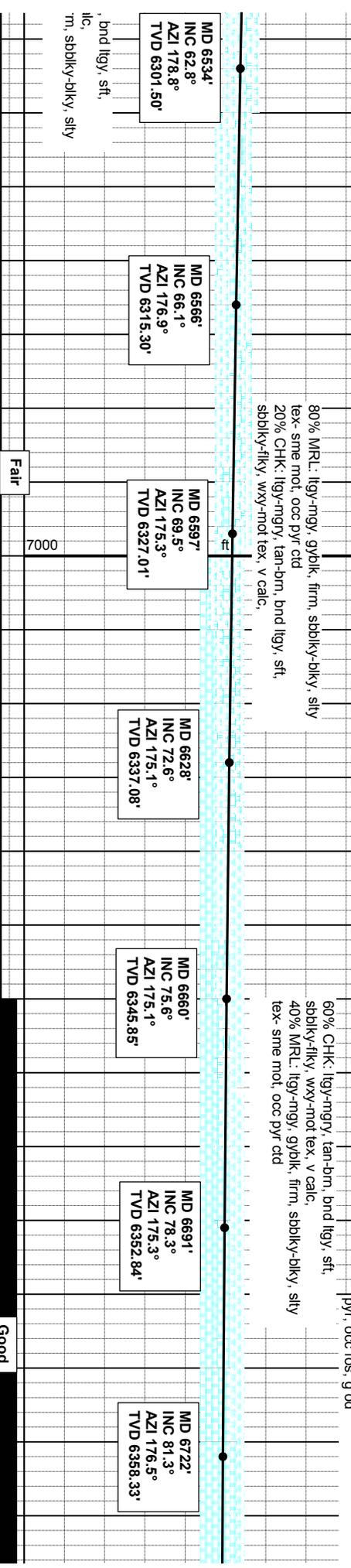
80% MRL: lgy-mgy, gyblk, firm, sbbky-blky, silty
 tex, occ pyr cld
 20% CHK: lgy-mgy, tan-brn, bnd lgy, sft.
 sbbky-flky, wxy-mot tex, v calc.

80% MRL: lgy-mgy, gyblk, firm, sbbky-blky, silty
 tex- sme mot, occ pyr cld
 20% CHK: lgy-mgy, tan-brn, bnd lgy, sft.
 sbbky-flky, wxy-mot tex, v calc.

70% MRL: lgy-mgy, gyblk, firm, sbbky-blky, silty
 tex- sme mot, occ pyr cld
 30% CHK: lgy-mgy, tan-brn, bnd lgy, sft.
 sbbky-flky, wxy-mot tex, v calc.

60% CHK: lgy-mgy, tan-brn, bnd lgy, sft.
 sbbky-flky, wxy-mot tex, v calc.
 40% MRL: lgy-mgy, gyblk, firm, sbbky-blky, silty
 tex- sme mot, occ pyr cld

90% CHK: wh-cm, occ l-mgy-gybrn, sft
 modstf, sbbky-sbply, wxy-mot, vcalc,
 10% MRL: mgy, dgy, sl hd, brit- occ fr,
 sbbky, rthy str, silty- arg tex, orgcalc mtb
 pyr, occ tos, g od



MD 6534' INC 62.8° AZI 178.8° TVD 6301.50'

MD 6566' INC 66.1° AZI 176.9° TVD 6315.30'

MD 6597' INC 69.5° AZI 175.3° TVD 6327.01'

MD 6628' INC 72.6° AZI 175.1° TVD 6337.08'

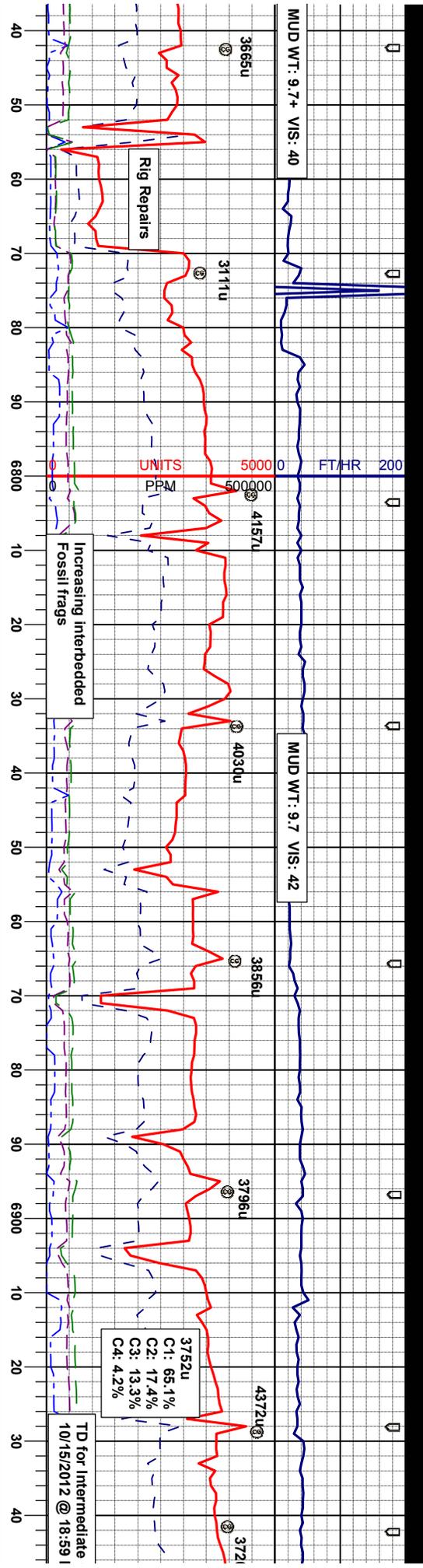
MD 6660' INC 75.6° AZI 175.1° TVD 6345.85'

MD 6691' INC 78.3° AZI 175.3° TVD 6352.84'

MD 6722' INC 81.3° AZI 176.5° TVD 6358.33'

Fair

Good



68 65% CHK: wh-crm, occ lt-mgy-gybrn, vsft- modstf, sbblky- sbply, wxy-mot, vcalc, 35% MRL: mgy-dkgy, sme ligr, sl hd, brt- occ fri, sbply-sbblky, occ ply, rthy lstr, silty -arg tex, org/calc; mx, sme pyr, occ fos, g od

75% CHK: wh-crm, occ lt-mgy-gybrn, vsft- modstf, sbblky- sbply, wxy-mot, vcalc, sme intbd fos, 25% MRL: mgy-dkgy, sme ligr, sl hd, brt- occ fri, sbply-sbblky, occ ply, rthy lstr, silty -arg tex, org/calc; mx, sme pyr, incr intbd fos frag, vg od

84 60% MRL: mgy-dkgy, sme ligr, sl hd, brt- occ fri, sbply-sbblky, occ ply, rthy lstr, silty -arg tex, org/calc; mx, 40% CHK: wh-crm, occ lt-mgy-gybrn, vsft-modstf, sbblky- sbply, wxy-mot, vcalc, sme intbd fos, sme ise fos, sme pyr, vg od

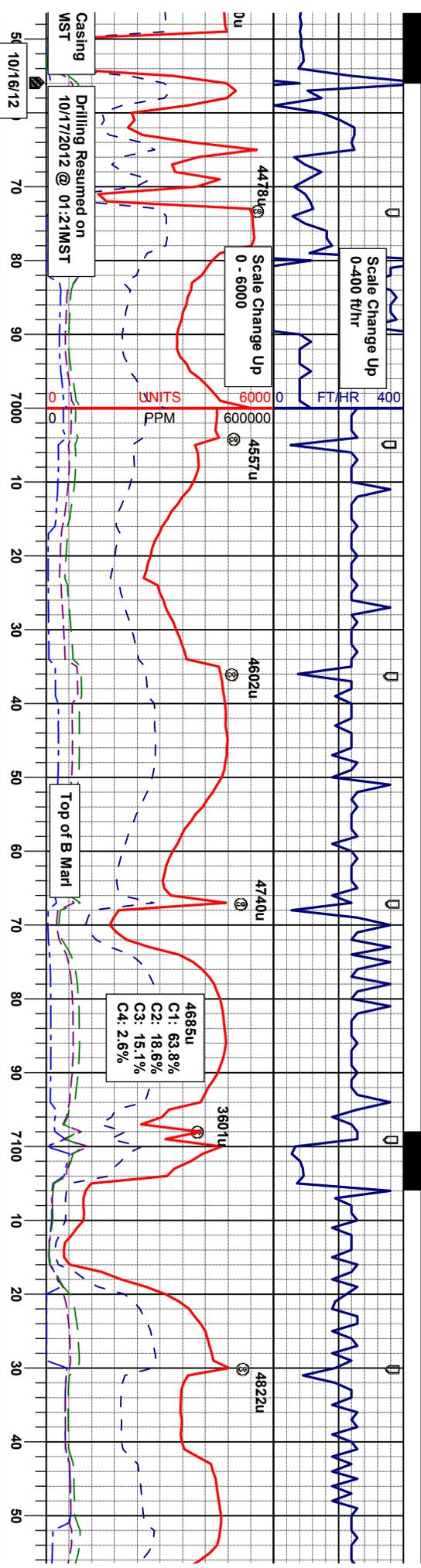
97 50% CHK: wh-crm, occ lt-mgy-gybrn, vsft- modstf, sbblky- sbply, wxy-mot, vcalc, 50% MRL: mgy-dkgy, sme ligr, sl hd, brt- occ fri, sbply-sbblky, occ ply, rthy lstr, silty -arg tex, org/calc; mx, sme intbd fos, tr sec calcite, g od

MD 6754'	INC 85.3°	AZI 179.0°	TVD 6362.07'
MD 6783'	INC 87.0°	AZI 179.7°	TVD 6364.01'
MD 6814'	INC 87.1°	AZI 180.0°	TVD 6365.61'
MD 6845'	INC 89.6°	AZI 179.7°	TVD 6366.50'
MD 6877'	INC 90.7°	AZI 179.3°	TVD 6366.42'
MD 6905'	INC 91.0°	AZI 179.7°	TVD 6366.00'



Moderate

Good



HK: wh-cm, occ ll-mgy-gybrn, vsft-
 , sbdkly-sbply, wxy-mot, vcalc,
 R: mgy-dkgy, sme ltgry, sl hd, brt- occ
 lly-sbdkly, occ ply, rthy lstr, sily -arg tex,
 c mtx, sme inbtd fos, g od

55% CHK: ll-mgy, occ wh-crm, vsft-modstf,
 sbdkly-sbply, wxy-mot, vcalc, 45% MRL: mgy-
 dkgy, sme ltgry, sl hd, brt- occ fri, sbply-sbdkly,
 rthy lstr, sily -arg tex, orgcalc mtx, abnt inbtd
 fos&lse fos, abnt calcite, mod od

50% CHK: ll-mgy, occ wh-crm, vsft-modstf,
 sbdkly-sbply, wxy-mot, vcalc, 50% MRL: mgy-
 dkgy, sme ltgry, sl hd, brt- occ fri, sbply-sbdkly,
 rthy lstr, sily -arg tex, orgcalc mtx, abnt inbtd
 fos&lse fos, abnt calcite, fr od

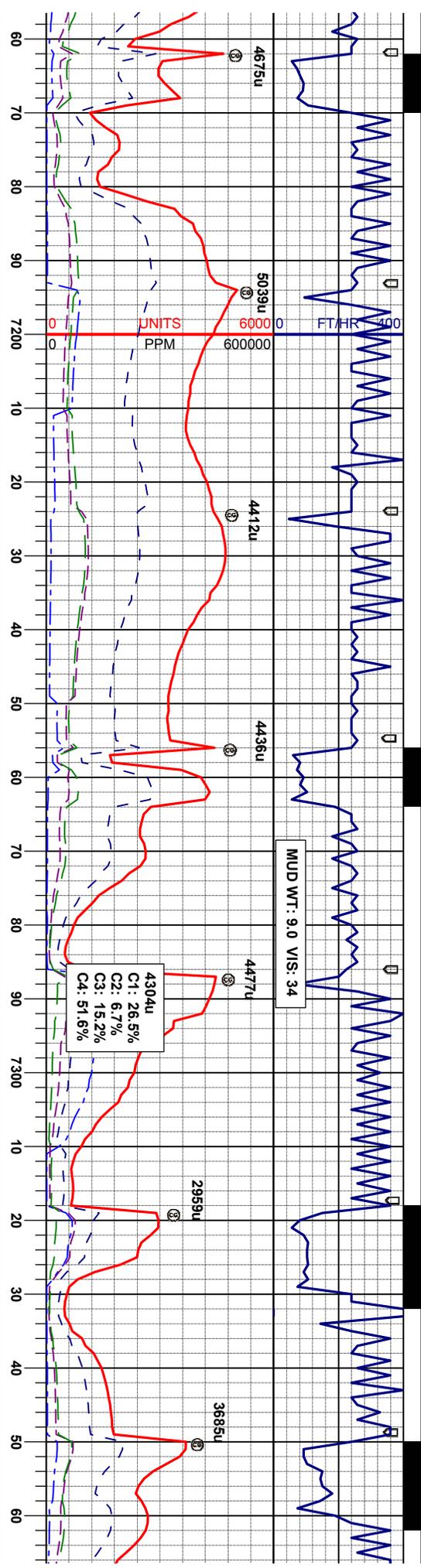
50% CHK: ll-mgy, occ wh-crm, vsft-modstf,
 sbdkly-sbply, wxy-mot, vcalc, 50% MRL: mgy-
 dkgy, sme ltgry, sl hd, brt- occ fri, sbply-sbdkly,
 rthy lstr, sily -arg tex, orgcalc mtx, abnt inbtd
 fos&lse fos, abnt calcite, fr od

55% MRL: mgy-dkgy, sme ltgry, sl hd, brt- occ
 fri, sbply-sbdkly, rthy lstr, sily -arg tex, orgcalc
 mtx, 45% CHK: ll-mgy, occ wh-crm, vsft-modstf,
 sbdkly-sbply, wxy-mot, vcalc, abnt inbtd
 fos&lse fos, abnt calcite, abnt bent, fr od

60% CHK: ll-mgy,
 sbdkly-sbply, wx-
 dkgy, sme ltgry, sl
 rthy lstr, sily -arg t
 fos&lse fos, abnt t

MD	INC	AZI	TVD
MD 6983'	INC 89.7°	AZI 177.6°	TVD 6365.53'
MD 7014'	INC 89.8°	AZI 178.6°	TVD 6365.66'
MD 7046'	INC 89.8°	AZI 177.9°	TVD 6365.77'
MD 7077'	INC 90.1°	AZI 178.5°	TVD 6365.8'
MD 7108'	INC 91.1°	AZI 179.2°	TVD 6365.48'
MD 7140'	INC 91.5°	AZI 177.7°	TVD 6364.75'





85% CHK: Il-mgy, occ wh-cm, vsft-modstf, sbdkly-sbply, wxy-mot, vcalc, 15% MRL: mgy-dkgy, sme ltgy, sl hd, brit-occ fri, sbply-sbdkly, rthy lstr, slty -arg tex, org/calc mbx, sme inbd fos&se tos, sme bent, sme calcite, mod od

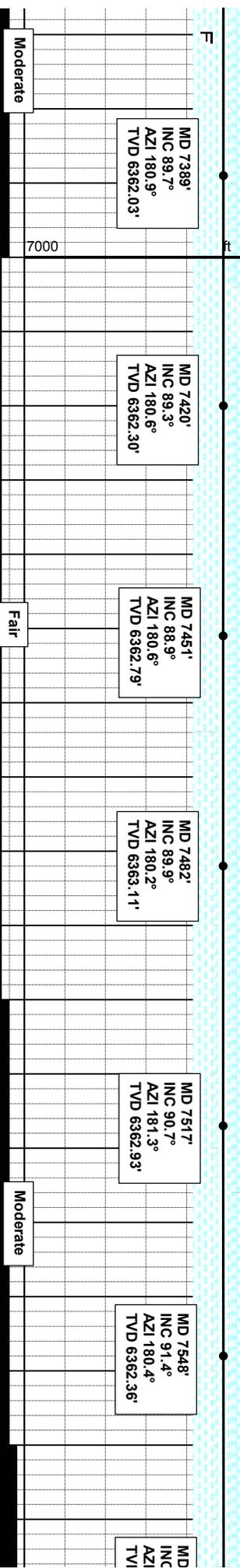
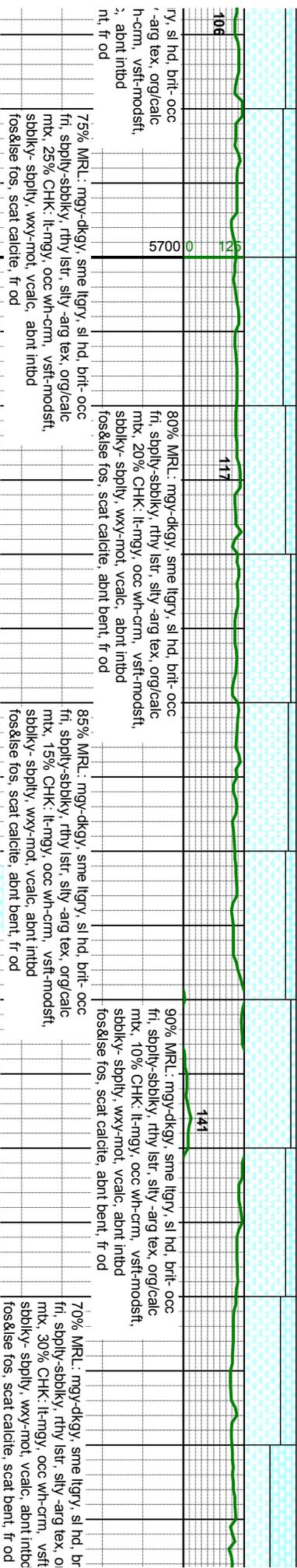
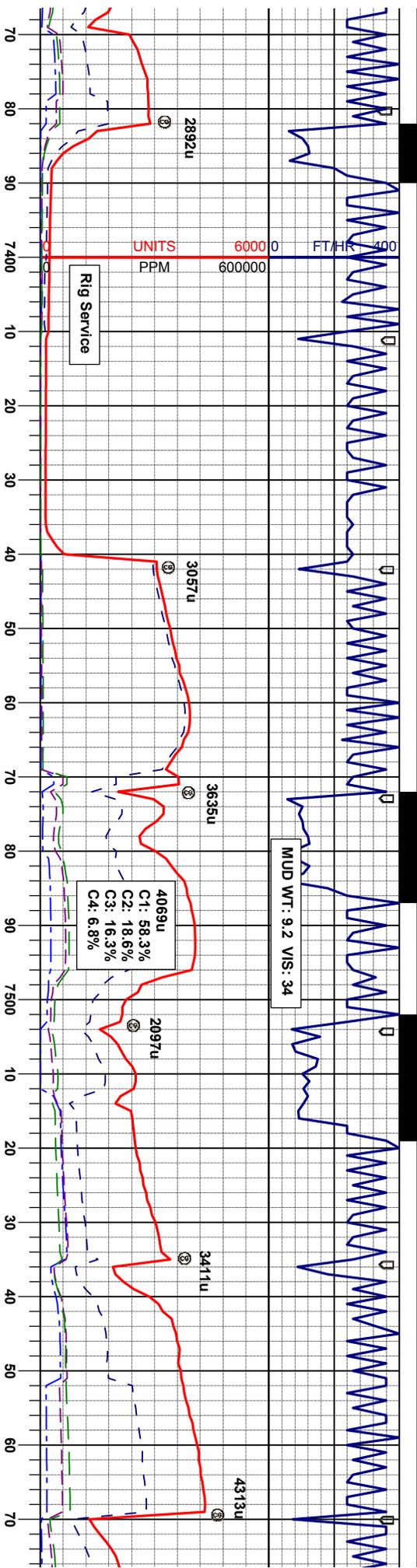
100% CHK: Il-mgy, occ wh-cm, vsft-modstf, sbdkly-sbply, wxy-mot, vcalc, sme inbd fos& calcite, g od

65% MRL: mgy-dkgy, sme ltgy, sl hd, brit-occ fri, sbply-sbdkly, rthy lstr, slty -arg tex, org/calc mbx, 35% CHK: Il-mgy, occ wh-cm, vsft-modstf, sbdkly-sbply, wxy-mot, vcalc, abnt inbd fos&se tos, scat calcite, tr bent, tr od

80% MRL: mgy-dkgy, sme ltgy fri, sbply-sbdkly, rthy lstr, slty mnx, 20% CHK: Il-mgy, occ wh-cm, vsft-modstf, sbdkly-sbply, wxy-mot, vcalc fos&se tos, scat calcite, tr bent

MD 7177-1 INC 90.6° AZI 178.1° TVD 6364.18'	MD 7201-1 INC 90.9° AZI 178.3° TVD 6363.79'	MD 7233-1 INC 91.3° AZI 178.8° TVD 6363.17'	MD 7264-1 INC 90.7° AZI 178.5° TVD 6362.63'	MD 7295-1 INC 90.7° AZI 178.3° TVD 6362.26'	MD 7327-1 INC 90.2° AZI 179.7° TVD 6362.0'	MD 7358-1 INC 90.0° AZI 179.0° TVD 6361.95'
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Moderate

Fair

Moderate

MD 7389'
INC 89.7°
AZI 180.9°
TVD 6362.03'

MD 7420'
INC 89.3°
AZI 180.6°
TVD 6362.30'

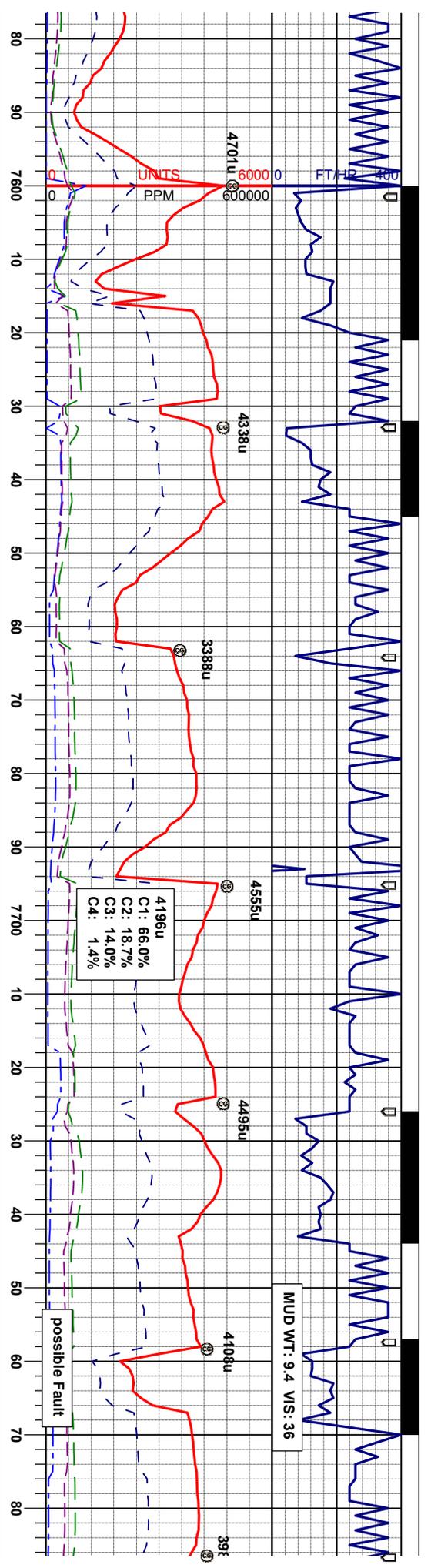
MD 7451'
INC 88.9°
AZI 180.6°
TVD 6362.79'

MD 7482'
INC 89.9°
AZI 180.2°
TVD 6363.11'

MD 7517'
INC 90.7°
AZI 181.3°
TVD 6362.93'

MD 7548'
INC 91.4°
AZI 180.4°
TVD 6362.36'

MD
INC
AZI
TVD



65% CHK: lt-mgy, occ wh-orm, vsft-modstf, sbblky-sbply, wxy-mot, vcalc, 35% MRL: mgy-dkgy, sme llgry, sl hd, brlt-occ fr, sbply-sbblky, rthy isr, sily -arg tex, orgcalc mtx, sme inbtd fos&lse fos, tr bent, sme calcite, g od

70% CHK: lt-mgy, occ wh-orm, vsft-modstf, sbblky-sbply, wxy-mot, vcalc, 30% MRL: mgy-dkgy, sme llgry, sl hd, brlt-occ fr, sbply-sbblky, rthy isr, sily -arg tex, orgcalc mtx, sme inbtd fos&lse fos, tr bent, sme calcite, g od

65% CHK: lt-mgy, occ wh-orm, vsft-modstf, sbblky-sbply, wxy-mot, vcalc, 35% MRL: mgy-dkgy, sme llgry, sl hd, brlt-occ fr, sbply-sbblky, rthy isr, sily -arg tex, orgcalc mtx, sme inbtd fos&lse fos, tr bent, sme calcite, g od

85% MRL: mgy-dkgy, sme llgry, sl hd, brlt-occ fr, sbply-sbblky, rthy isr, sily -arg tex, orgcalc mtx, 15% CHK: lt-mgy, occ wh-orm, vsft-modstf, sbblky-sbply, wxy-mot, vcalc, sme bent, fr od fos&lse fos, sme calcite, sme bent, fr od

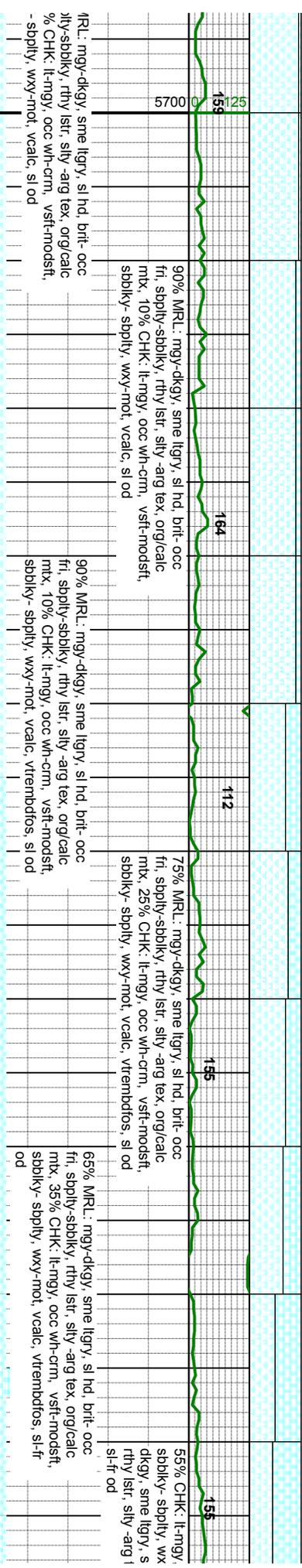
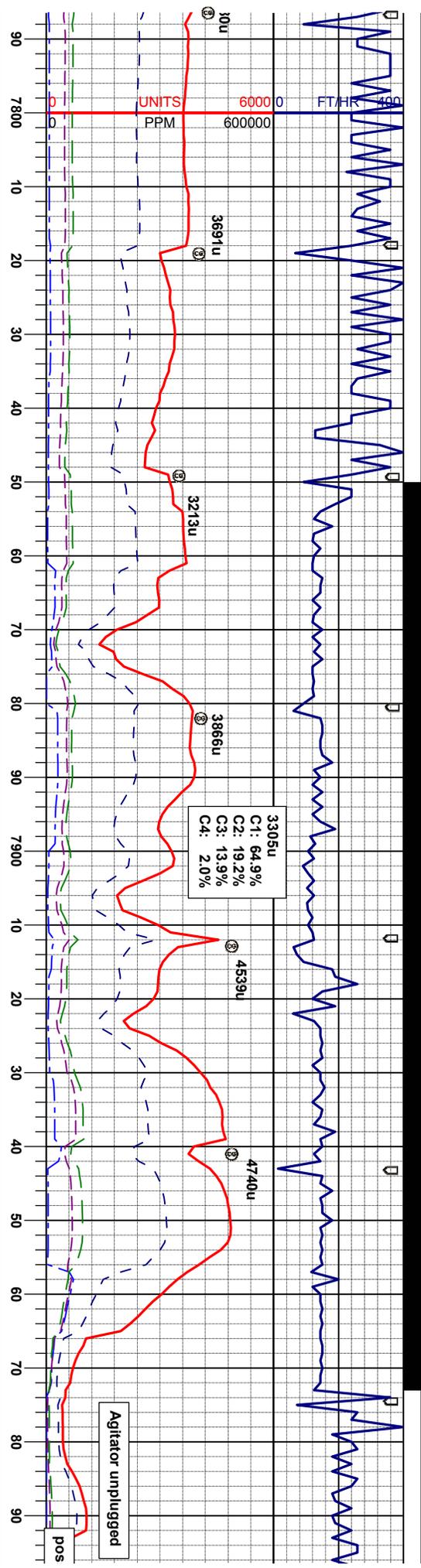
90% MRL: mgy-dkgy, sme llgry, sl hd, brlt-occ fr, sbply-sbblky, rthy isr, sily -arg tex, orgcalc mtx, 10% CHK: lt-mgy, occ wh-orm, vsft-modstf, sbblky-sbply, wxy-mot, vcalc, sme inbtd fos&lse fos, sme calcite, sme bent, fr od

95% N fri, sbp mtx, 5 sbblky

7579'	INC 91.7° AZI 179.7° D 6361.52'	MD 7611'	INC 91.4° AZI 181.8° TVD 6360.66'	MD 7642'	INC 90.9° AZI 182.0° TVD 6360.04'	MD 7673'	INC 91.6° AZI 183.7° TVD 6359.36'	MD 7704'	INC 92.2° AZI 183.9° TVD 6358.33'	MD 7733'	INC 91.2° AZI 182.5° TVD 6357.47'	MD 7765'	INC 89.5° AZI 182.5° TVD 6357.28'
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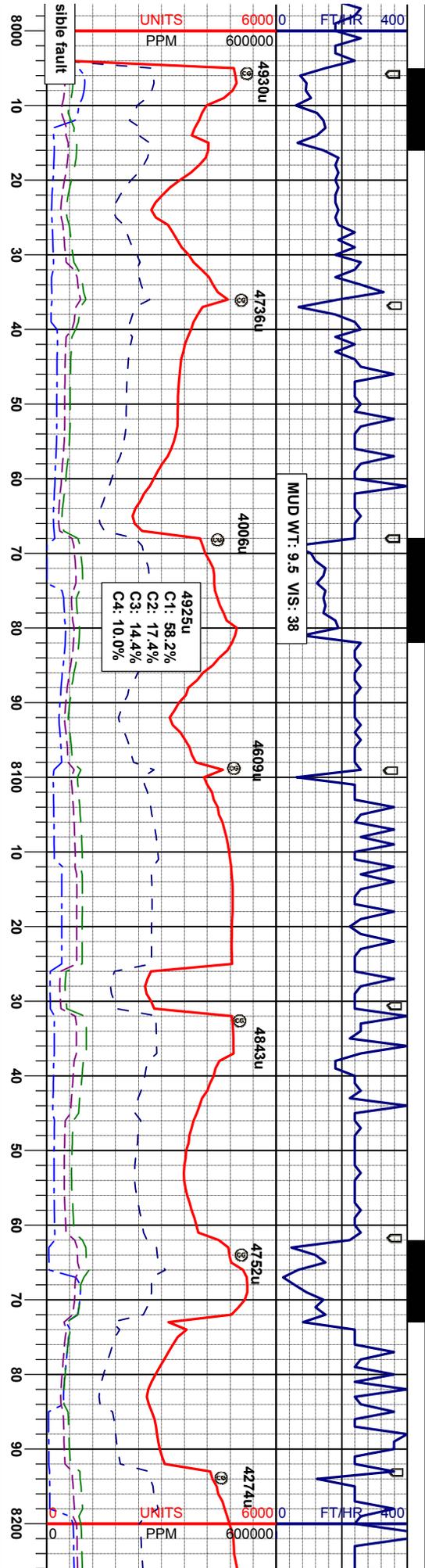
Good





MD	INC	AZI	TVD
MD 7796'	INC 89.7°	AZI 182.5°	TVD 6357.49'
MD 7827'	INC 90.0°	AZI 183.2°	TVD 6357.57'
MD 7858'	INC 89.9°	AZI 183.2°	TVD 6357.60'
MD 7890'	INC 90.0°	AZI 181.4°	TVD 6357.63'
MD 7921'	INC 91.0°	AZI 183.2°	TVD 6357.36'
MD 7952'	INC 91.4°	AZI 182.3°	TVD 6356.71'
MD 7963'	INC 91.5°	AZI 182.7°	TVD 6356.92'





occ wh-crm, vsft-modstf, y-mot, vcalc, 45% MRL: mgy-hd, brt-occ fr, sbspily-sbdky, tex, orgcalc mtx, vtrembdof, 55% CHK: lt-mgy, occwh-crm, vsft-modstf, sbdky - sbspily, wxy-mot, vcalc, 45% MRL: mgy-dkgy, sme ltgy, sl hd, brt-occ fr, sbspily-sbdky, rthy srt, sily-arg tex, orgcalc mtx, 35% CHK: lt-mgy, occ wh-crm, vsft-modstf, sbspily-sbdky, wxy-mot, vcalc, sme intbd fos&ise tos, occ calcite, fr od

65% MRL: mgy-dkgy, sme ltgy, sl hd, brt-occ fr, sbspily-sbdky, rthy srt, sily-arg tex, orgcalc mtx, 35% CHK: lt-mgy, occ wh-crm, vsft-modstf, sbspily-sbdky, wxy-mot, vcalc, sme intbd fos&ise tos, occ calcite, fr od

65% MRL: mgy-dkgy, sme ltgy, sl hd, brt-occ fr, sbspily-sbdky, rthy srt, sily-arg tex, orgcalc mtx, 35% CHK: lt-mgy, occ wh-crm, vsft-modstf, sbspily-sbdky, wxy-mot, vcalc, tr bent, occ calcite, fr od

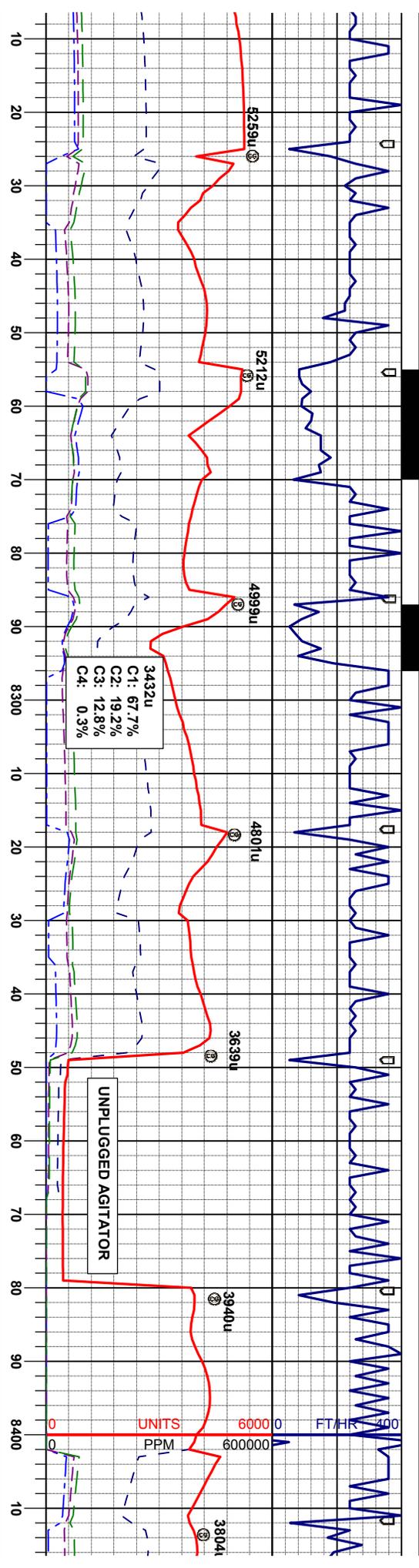
60% MRL: mgy-dkgy, sme ltgy, sl hd, brt-occ fr, sbspily-sbdky, rthy srt, sily-arg tex, orgcalc mtx, 40% CHK: lt-mgy, occ wh-crm, vsft-modstf, sbspily-sbdky, wxy-mot, vcalc, tr bent, occ calcite, fr od

85% CHK: lt-mgy, occ wh-crm sbspily-sbdky, wxy-mot, vcalc dkgy, sme ltgy, sl hd, brt-occ rthy srt, sily-arg tex, orgcalc vtr embd&ise tos, fr od

MD 8015'	INC 91.1°	AZI 183.2°	TVD 6355.20'	56
MD 8046'	INC 91.1°	AZI 182.5°	TVD 6354.60'	114
MD 8077'	INC 89.7°	AZI 183.2°	TVD 6354.39'	144
MD 8108'	INC 89.4°	AZI 182.7°	TVD 6354.63'	103
MD 8140'	INC 89.7°	AZI 181.8°	TVD 6354.88'	103
MD 8171'	INC 90.7°	AZI 181.1°	TVD 6354.77'	125
MD 8202'	INC 92.2°	AZI 182.3°	TVD 6353.99'	125



Moderate



3432u
 C1: 67.7%
 C2: 19.2%
 C3: 12.8%
 C4: 0.3%

UNPLUGGED AGITATOR

1, vsft-modstf,
 2, 15% MRL: mgy-
 c fri, sbply-sbply,
 : mnx, occ calcie.

80% CHK: ll-mgy, occ wh-crm, vsft-modstf,
 sbply-sbply, wxy-mot, vcalc, 20% MRL: mgy-
 dkgy, sme lqgy, sl hd, brt-occ fri, sbply-sbply,
 rthy istr, sily -arg tex, orgcalc mnx, tr calcie, g
 od

70% CHK: ll-mgy, occ wh-crm, vsft-modstf,
 sbply-sbply, wxy-mot, vcalc, 30% MRL: mgy-
 dkgy, sme lqgy, sl hd, brt-occ fri, sbply-sbply,
 rthy istr, sily -arg tex, orgcalc mnx, g od

60% MRL: mgy-dkgy, sme lqgy, sl hd, brt-occ
 fri, sbply-sbply, rthy istr, sily -arg tex, orgcalc
 mnx, 40% CHK: ll-mgy, occ wh-crm, vsft-modstf,
 sbply-sbply, wxy-mot, vcalc, abnt bent, fr-g od

80% MRL: mgy-dkgy, sme lqgy, sl hd, brt-occ
 fri, sbply-sbply, rthy istr, sily -arg tex, orgcalc
 mnx, 20% CHK: ll-mgy, occ wh-crm, vsft-modstf,
 sbply-sbply, wxy-mot, vcalc, abnt bent, fr-g od

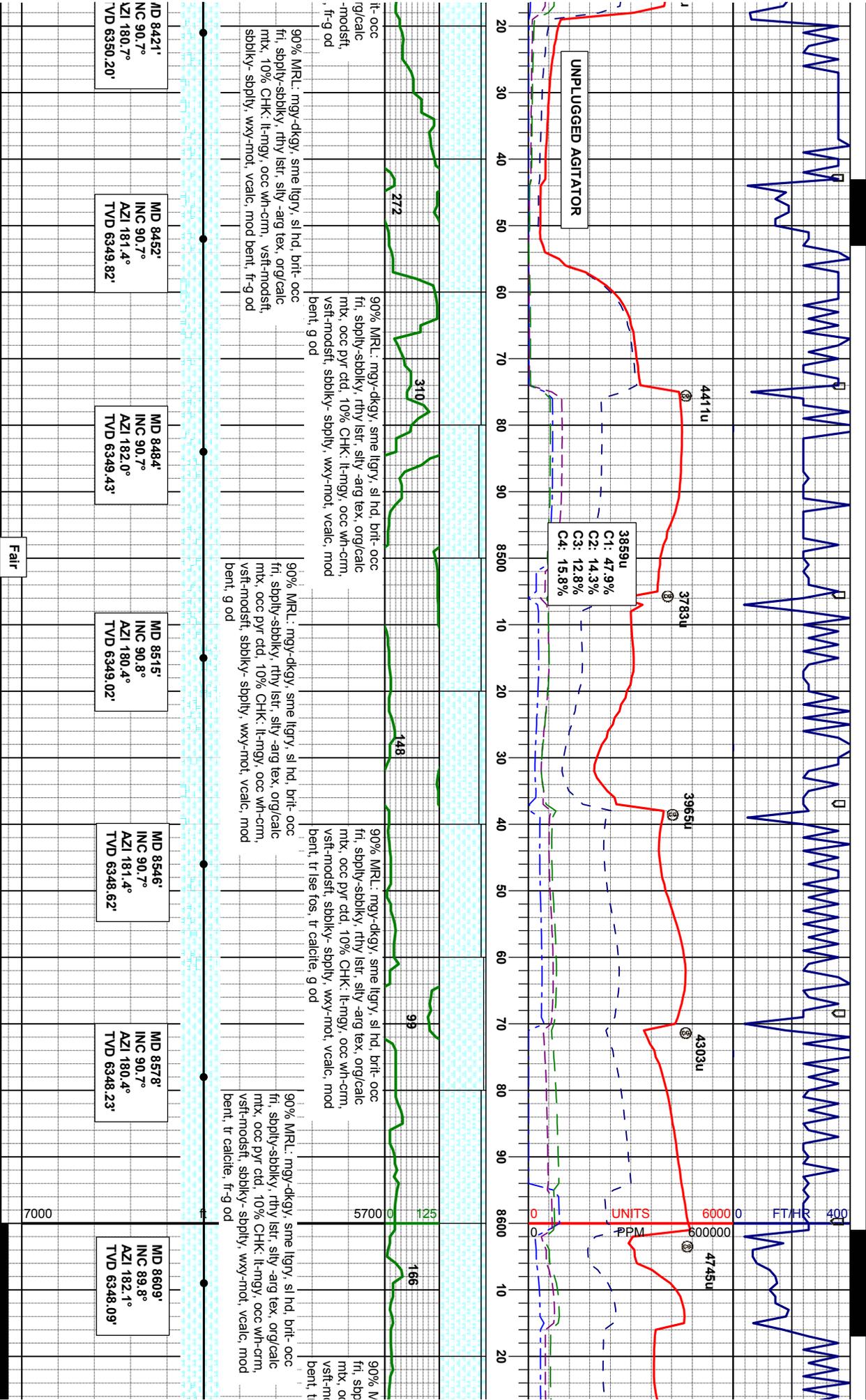
85% MRL: mgy-dkgy, sme lqgy, sl hd, br
 fri, sbply-sbply, rthy istr, sily -arg tex, o
 mnx, 15% CHK: ll-mgy, occ wh-crm, vsft
 sbply-sbply, wxy-mot, vcalc, abnt bent

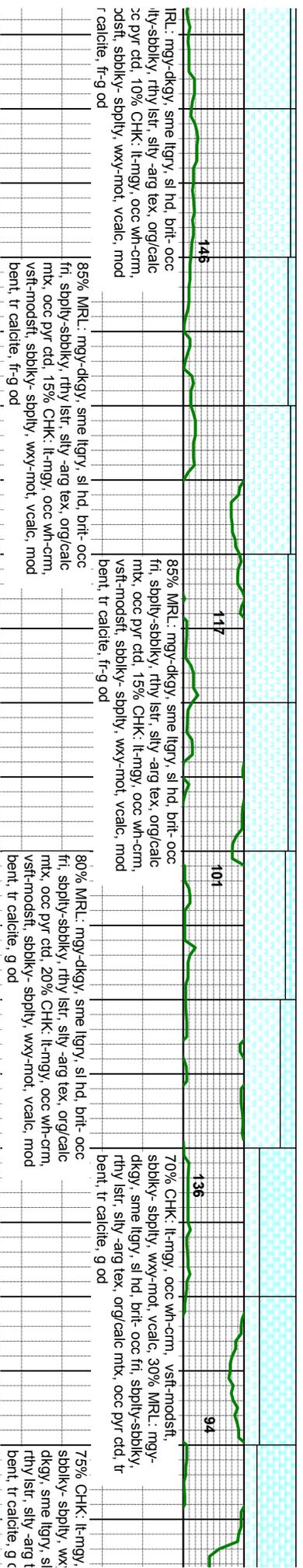
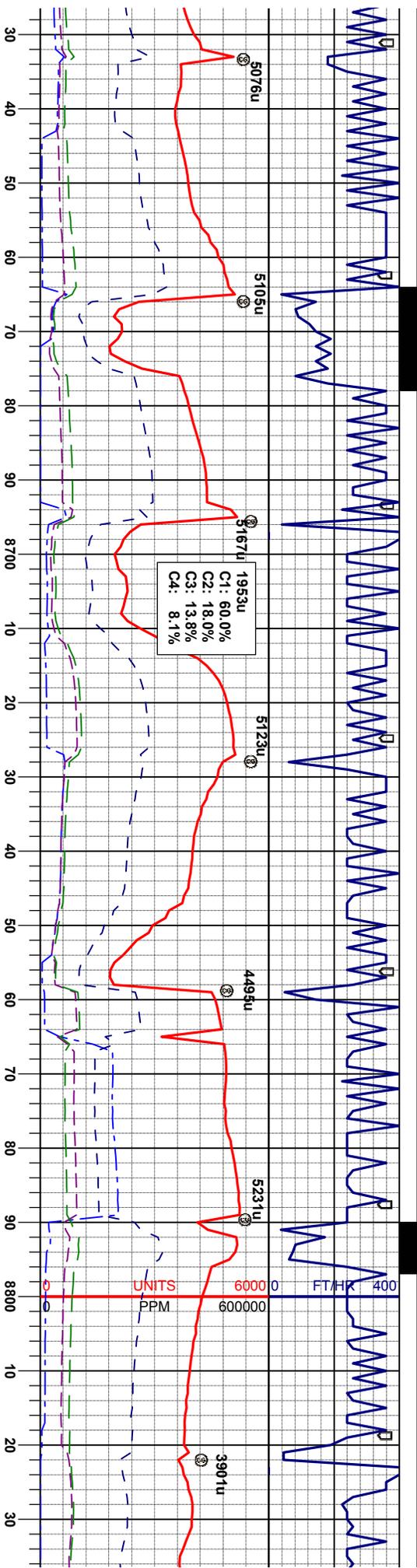
MD 8233' INC 92.2° AZI 180.0° TVD 6352.80'	MD 8264' INC 91.3° AZI 181.1° TVD 6351.85'	MD 8296' INC 90.6° AZI 180.4° TVD 6351.32'	MD 8327' INC 90.2° AZI 180.0° TVD 6351.10'	MD 8358' INC 90.5° AZI 181.1° TVD 6350.91'	MD 8389' INC 90.7° AZI 181.1° TVD 6350.59'
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Good

Moderate







MD 864.0'
INC 89.7°
AZI 182.0°
TVD 6348.23'

MD 867.1'
INC 88.6°
AZI 182.3°
TVD 6348.69'

MD 870.1'
INC 88.5°
AZI 182.3°
TVD 6349.50'

MD 873.4'
INC 88.4°
AZI 182.0°
TVD 6350.34'

MD 876.5'
INC 88.1°
AZI 181.6°
TVD 6351.28'

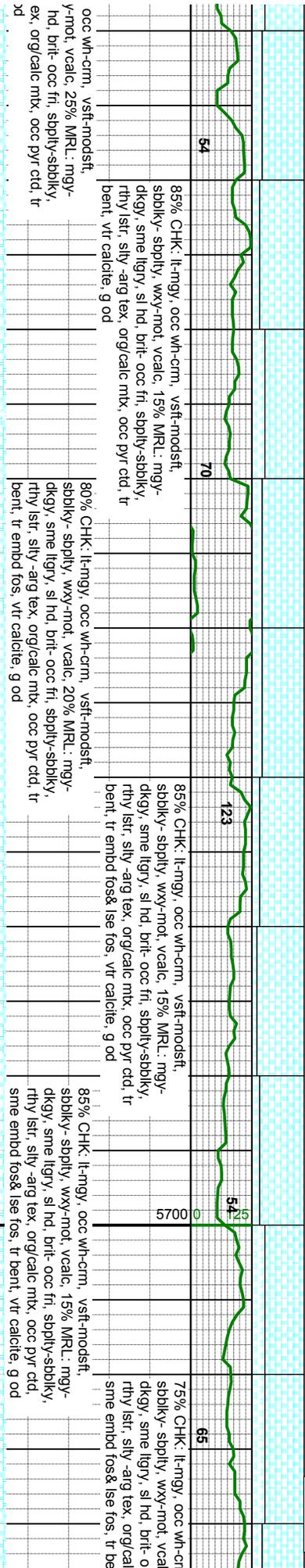
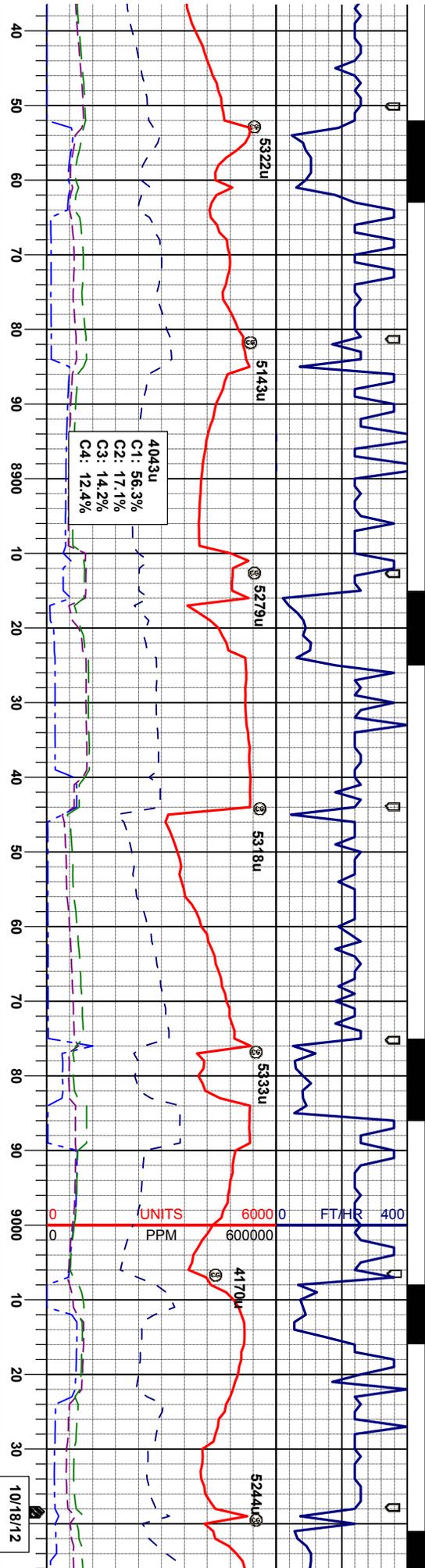
MD 879.7'
INC 88.3°
AZI 180.7°
TVD 6352.29'

MD 882.8'
INC 88.2°
AZI 181.1°
TVD 6353.23'

Moderate

Good





MD	INC	AZI	TVD	Notes
MD 8859'	INC 88.5°	AZI 179.9°	TVD 6354.13'	85% CHK: lt-mgy, occ wh-crm, vsft-modstf, sbblky-sbply, wxy-mot, vcalc, 15% MRL: mgy-dkgy, sme ltgry, sl hd, brt-occ frt, sbply-sbblky, rthy lstr, sily -arg tex, org/calc mtk, occ pyr ctd, tr bent, vtr calcite, g od
MD 8890'	INC 88.3°	AZI 181.1°	TVD 6354.99'	80% CHK: lt-mgy, occ wh-crm, vsft-modstf, sbblky-sbply, wxy-mot, vcalc, 20% MRL: mgy-dkgy, sme ltgry, sl hd, brt-occ frt, sbply-sbblky, rthy lstr, sily -arg tex, org/calc mtk, occ pyr ctd, tr bent, tr embd fos, vtr calcite, g od
MD 8922'	INC 88.5°	AZI 180.2°	TVD 6355.89'	85% CHK: lt-mgy, occ wh-crm, vsft-modstf, sbblky-sbply, wxy-mot, vcalc, 15% MRL: mgy-dkgy, sme ltgry, sl hd, brt-occ frt, sbply-sbblky, rthy lstr, sily -arg tex, org/calc mtk, occ pyr ctd, tr bent, tr embd fos& lse fos, vtr calcite, g od
MD 8953'	INC 88.4°	AZI 181.3°	TVD 6356.72'	85% CHK: lt-mgy, occ wh-crm, vsft-modstf, sbblky-sbply, wxy-mot, vcalc, 15% MRL: mgy-dkgy, sme ltgry, sl hd, brt-occ frt, sbply-sbblky, rthy lstr, sily -arg tex, org/calc mtk, occ pyr ctd, tr bent, tr embd fos& lse fos, vtr calcite, g od
MD 8984'	INC 89.0°	AZI 181.3°	TVD 6357.43'	85% CHK: lt-mgy, occ wh-crm, vsft-modstf, sbblky-sbply, wxy-mot, vcalc, 15% MRL: mgy-dkgy, sme ltgry, sl hd, brt-occ frt, sbply-sbblky, rthy lstr, sily -arg tex, org/calc mtk, occ pyr ctd, sme embd fos& lse fos, tr bent, vtr calcite, g od
MD 9016'	INC 89.6°	AZI 181.4°	TVD 6357.82'	75% CHK: lt-mgy, occ wh-crm, vsft-modstf, sbblky-sbply, wxy-mot, vcalc, 15% MRL: mgy-dkgy, sme ltgry, sl hd, brt-occ frt, sbply-sbblky, rthy lstr, sily -arg tex, org/calc mtk, occ pyr ctd, sme embd fos& lse fos, tr bent, vtr calcite, g od
MD 91	INC 91	AZI 18	TVD 6	

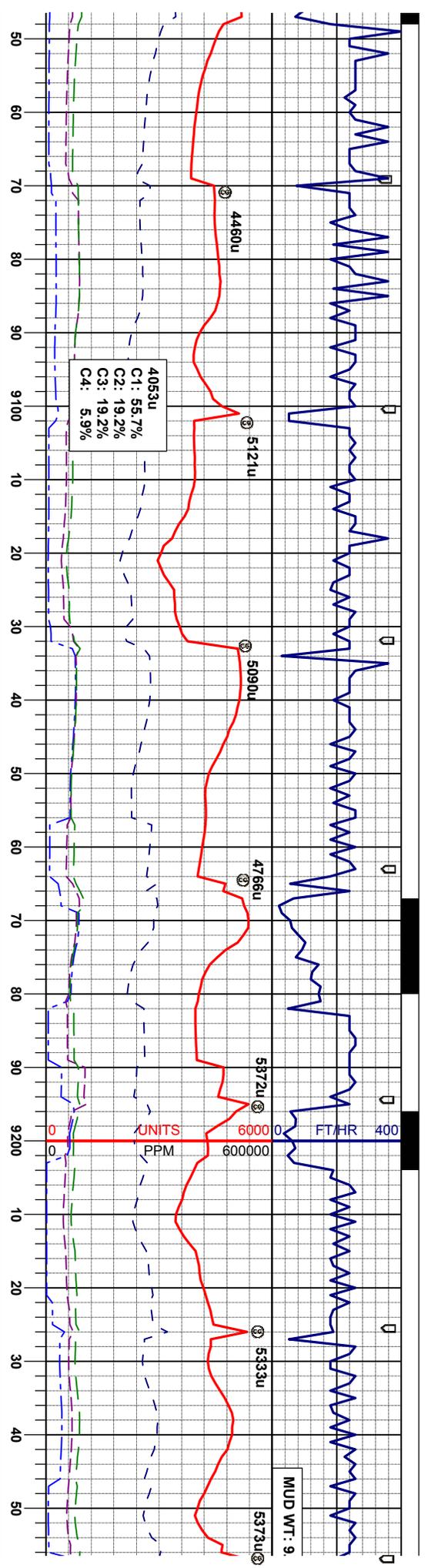


Good

7000

5700

10/18/12



n. vsft-mostf, 25% MRU: mgy-cc fri, sbply-sbply, rntx, occ pyr cid, tr vtr calctce, g od

75% CHK: ll-ngy, occ wh-cm, vsft-mostf, sbblky-sbply, wxy-mot, vcalc, 25% MRU: mgy-dkgy, sme llgy, sl hd, brit-occ fri, sbply-sbply, rthy istr, sily -arg tex, orgcalc mtx, occ pyr cid, sme embd fos& lse fos, tr bent, tr calctce, g od

80% CHK: ll-ngy, occ wh-cm, vsft-mostf, sbblky-sbply, wxy-mot, vcalc, 20% MRU: mgy-dkgy, sme llgy, sl hd, brit-occ fri, sbply-sbply, rthy istr, sily -arg tex, orgcalc mtx, occ pyr cid, mod embd & lse fos, sme calctce, tr bent, fr-g od

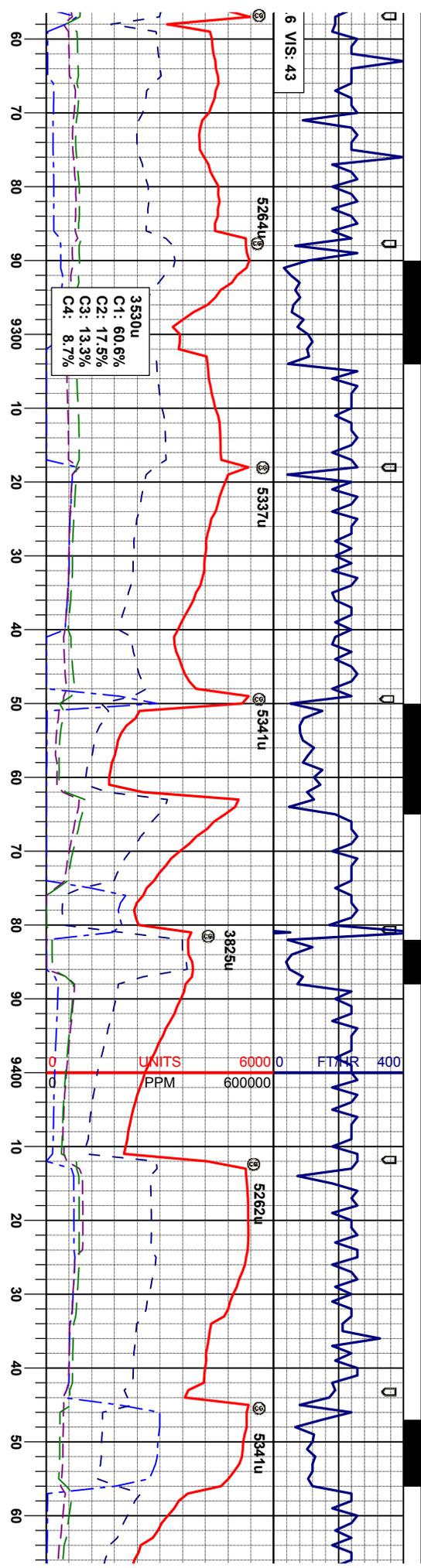
85% CHK: ll-ngy, occ wh-cm, vsft-mostf, sbblky-sbply, wxy-mot, vcalc, 15% MRU: mgy-dkgy, sme llgy, sl hd, brit-occ fri, sbply-sbply, rthy istr, sily -arg tex, orgcalc mtx, occ pyr cid, abnt embd & lse fos, sme calctce, tr bent, fr-g od

75% CHK: ll-ngy, occ wh-cm, vsft-mostf, sbblky-sbply, wxy-mot, vcalc, 25% MRU: mgy-dkgy, sme llgy, sl hd, brit-occ fri, sbply-sbply, rthy istr, sily -arg tex, orgcalc mtx, occ pyr cid, abnt embd & lse fos, sme calctce, tr bent, g od

80% CHK: ll-ngy, occ wh-cm, vsft-mostf, sbblky-sbply, wxy-mot, vcalc, 20% MRU: mgy-dkgy, sme llgy, sl hd, brit-occ fri, sbply-sbply, rthy istr, sily -arg tex, orgcalc mtx, occ p abnt embd & lse fos, sme calctce, tr bent

147'	MD 9078'	INC 90.4°	AZI 181.1°	TVD 6357.66'
0.3°				
30.9°				
1357.85'				
	MD 9110'	INC 90.5°	AZI 180.2°	TVD 6357.66'
	MD 9141'	INC 90.5°	AZI 181.1°	TVD 6357.13'
	MD 9172'	INC 90.6°	AZI 180.7°	TVD 6356.84'
	MD 9203'	INC 90.7°	AZI 182.3°	TVD 6356.48'
	MD 9234'	INC 91.3°	AZI 183.0°	TVD 6355.94'





90% CHK: lt-mgy, occ wh-crm, vsft-modsft, sbblky-sbply, wxy-mot, vcalc, 10% MRL: mgy-dkgy, sme ltgry, sl hd, brlt-occ fri, sbply-sbblky, rthy lstr, sily -arg tex, org/calc mtx, scat embd & lse fos, sme calcite, tr bent, g od

95% CHK: lt-mgy, occ wh-crm, vsft-modsft, sbblky-sbply, wxy-mot, vcalc, 5% MRL: mgy-dkgy, sme ltgry, sl hd, brlt-occ fri, sbply-sbblky, rthy lstr, sily -arg tex, org/calc mtx, occ embd & lse fos, tr calcite, sme bent, g od

100% CHK: lt-mgy, occ wh-crm, vsft-modsft, sbblky-sbply, wxy-mot, vcalc, occ embd & lse fos, tr calcite, sme bent, g od

100% CHK: lt-mgy, occ wh-crm, vsft-modsft, sbblky-sbply, wxy-mot, vcalc, occ embd & lse fos, tr calcite, sme bent, vg od

100% CHK: lt-mgy, occ wh-crm, vsft-modsft, sbblky-sbply, wxy-mot, vcalc, occ embd & lse fos, tr calcite, sme bent, g od

100% sbblky fos, tr

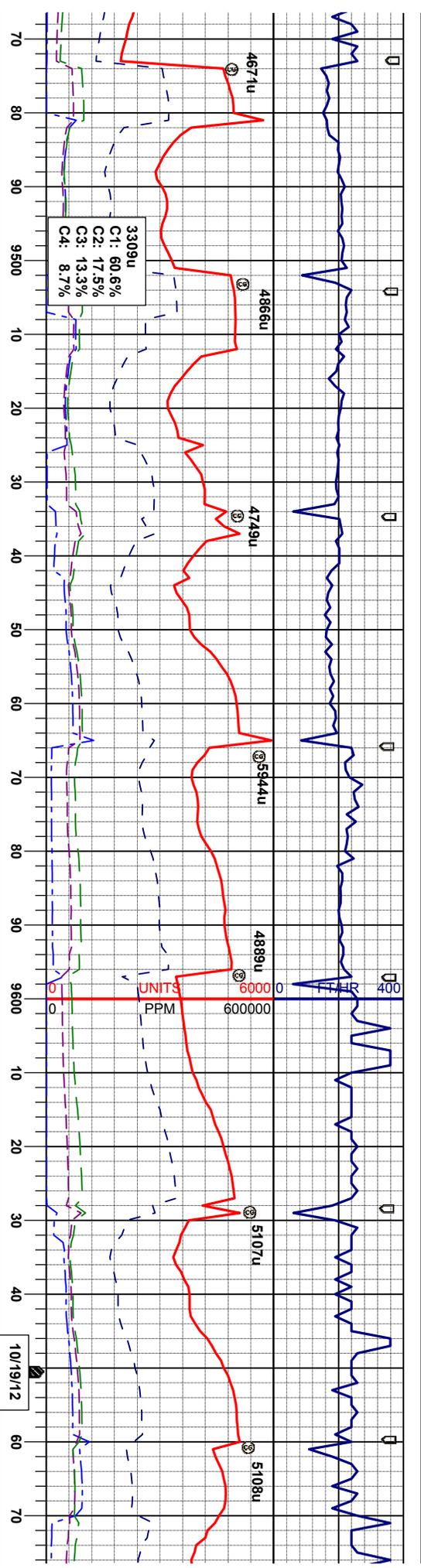
MD 9265° INC 91.5° AZI 182.0° TVD 6355.19'	MD 9296° INC 91.2° AZI 182.3° TVD 6354.46'	MD 9327° INC 91.1° AZI 183.7° TVD 6353.83'	MD 9358° INC 90.5° AZI 184.6° TVD 6353.40'	MD 9390° INC 89.9° AZI 185.1° TVD 6353.29'	MD 9420° INC 90.2° AZI 184.6° TVD 6353.26'	MD 9451° INC 89.4° AZI 184.6° TVD 6353.37'
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Good

Moderate

Fair



80% CHK: ll-mngy, occ wh-crm, vsft-modsft, sbblky- sbply, wxy-mot, vcalc, 20% MRL: mgy-dkgy, sme lqgy, sl hd, brt- occ fri, sbply-sbblky, rthy lstr, sily- arg tex, orgcalc mtb, mod embd & lse fos, sme calcite, tr bent, g od

80% CHK: ll-mngy, occ wh-crm, vsft-modsft, sbblky- sbply, wxy-mot, vcalc, 20% MRL: mgy-dkgy, sme lqgy, sl hd, brt- occ fri, sbply-sbblky, rthy lstr, sily- arg tex, orgcalc mtb, mod embd & lse fos, sme calcite, tr bent, g od

70% CHK: ll-mngy, occ wh-crm, vsft-modsft, sbblky- sbply, wxy-mot, vcalc, 30% MRL: mgy-dkgy, sme lqgy, sl hd, brt- occ fri, sbply-sbblky, rthy lstr, sily- arg tex, orgcalc mtb, mod embd & lse fos, sme calcite, tr bent, g od

60% CHK: ll-mngy, occ wh-crm, vsft-modsft, sbblky- sbply, wxy-mot, vcalc, 40% MRL: mgy-dkgy, sme lqgy, sl hd, brt- occ fri, sbply-sbblky, rthy lstr, sily- arg tex, orgcalc mtb, mod embd & lse fos, mod calcite, tr bent, g od

75% MRL: mgy-dl fri, sbply-sbblky, mtb, 25% CHK: ll-sbblky- sbply, wx fos, mod calcite, 1

MD 9481'
INC 89.0°
AZI 184.6°
TVD 6353.79'

MD 9512'
INC 89.1°
AZI 183.5°
TVD 6354.30'

MD 9544'
INC 89.5°
AZI 184.6°
TVD 6354.70'

MD 9575'
INC 89.3°
AZI 183.4°
TVD 6355.02'

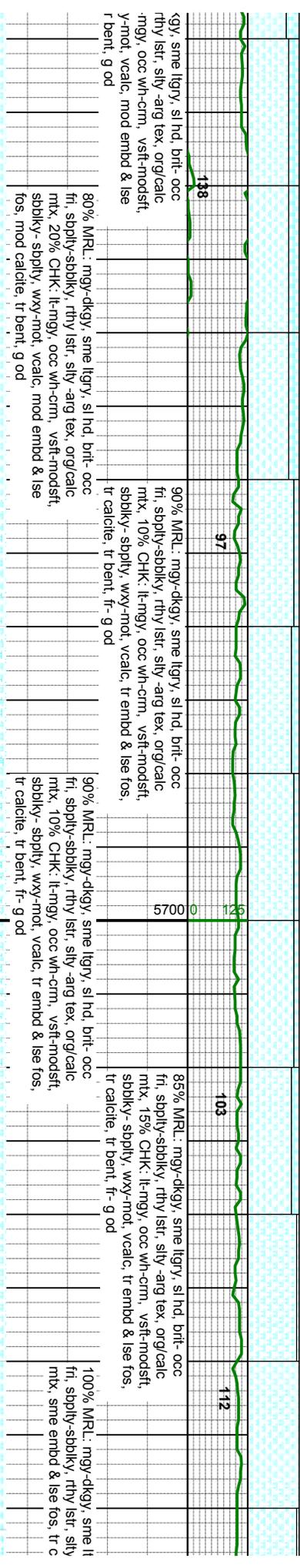
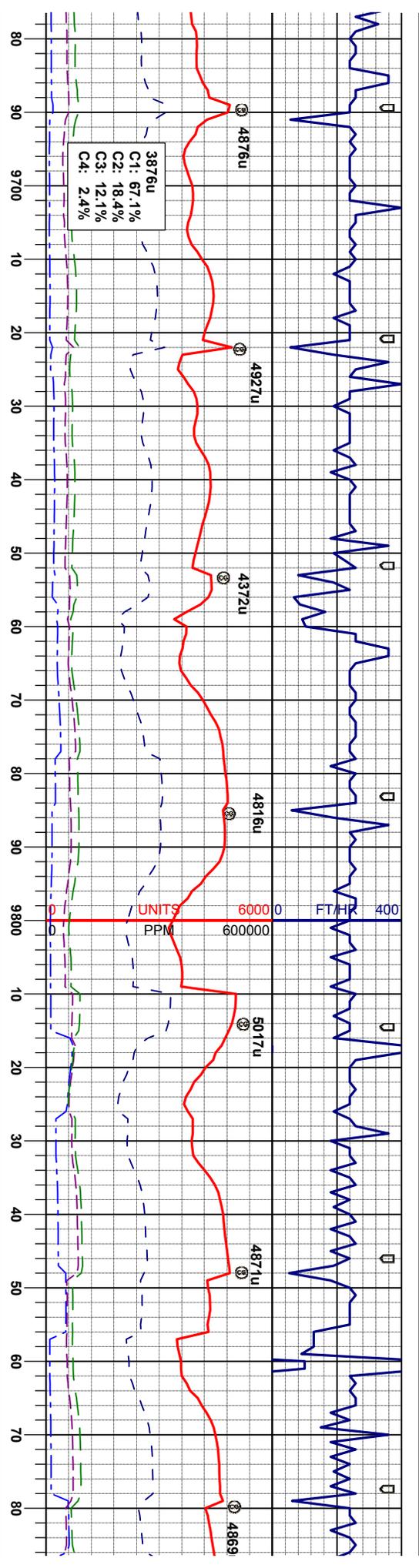
MD 9606'
INC 89.7°
AZI 183.7°
TVD 6355.29'

MD 9636'
INC 89.6°
AZI 182.8°
TVD 6355.47'

MD 9667'
INC 89.6°
AZI 183.5°
TVD 6355.69'

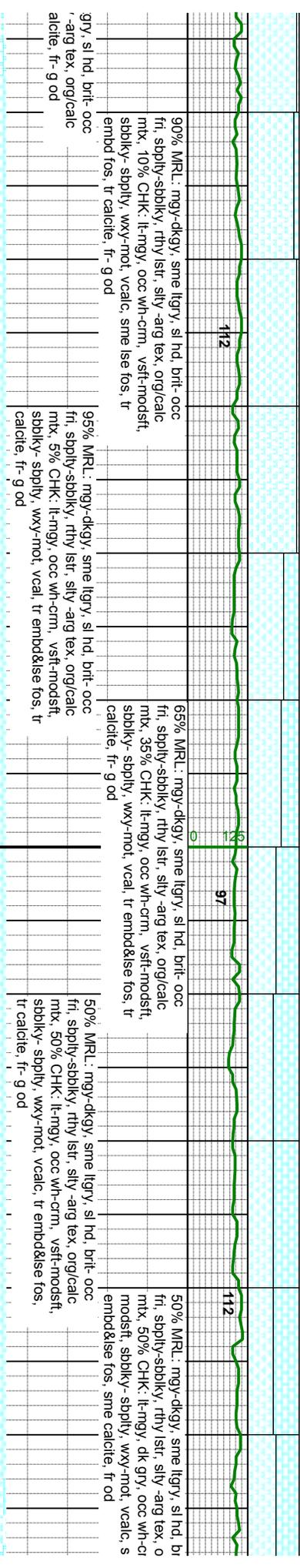
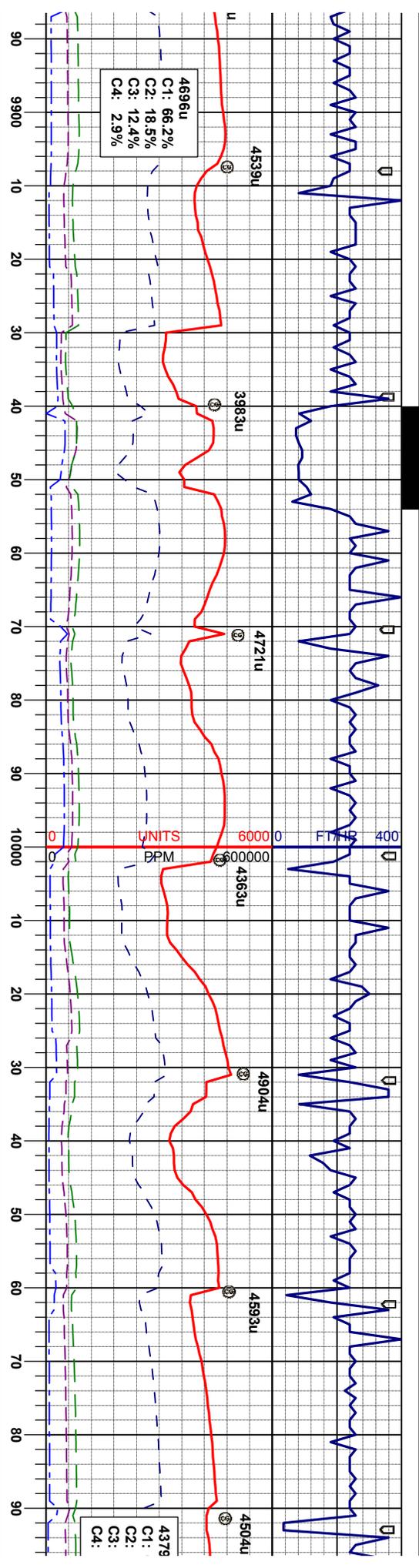
Moderate





MD 9698'	INC 89.4°	AZI 183.5°	TVD 6355.96'	80% MRL: mgy-dkgy, sme lgy, sl hd, brt- occ fr, sbply-sbply, rthy str, sily-arg tex, org/calc mtx, 20% CHK: ll-mgy, occ wh-cm, vsft-mosdft, sbply-sbply, wxy-mot, vcalc, mod embd & lse fos, mod calcie, tr bent, fr- g od
MD 9730'	INC 89.5°	AZI 183.5°	TVD 6356.27'	90% MRL: mgy-dkgy, sme lgy, sl hd, brt- occ fr, sbply-sbply, rthy str, sily-arg tex, org/calc mtx, 10% CHK: ll-mgy, occ wh-cm, vsft-mosdft, sbply-sbply, wxy-mot, vcalc, tr embd & lse fos, tr calcie, tr bent, fr- g od
MD 9761'	INC 90.0°	AZI 183.5°	TVD 6356.40'	90% MRL: mgy-dkgy, sme lgy, sl hd, brt- occ fr, sbply-sbply, rthy str, sily-arg tex, org/calc mtx, 10% CHK: ll-mgy, occ wh-cm, vsft-mosdft, sbply-sbply, wxy-mot, vcalc, tr embd & lse fos, tr calcie, tr bent, fr- g od
MD 9793'	INC 90.3°	AZI 182.1°	TVD 6356.32'	85% MRL: mgy-dkgy, sme lgy, sl hd, brt- occ fr, sbply-sbply, rthy str, sily-arg tex, org/calc mtx, 15% CHK: ll-mgy, occ wh-cm, vsft-mosdft, sbply-sbply, wxy-mot, vcalc, tr embd & lse fos, tr calcie, tr bent, fr- g od
MD 9823'	INC 90.4°	AZI 182.2°	TVD 6356.14'	100% MRL: mgy-dkgy, sme lgy, sl hd, brt- occ fr, sbply-sbply, rthy str, sily-arg tex, org/calc mtx, sme embd & lse fos, tr c
MD 9855'	INC 90.6°	AZI 182.3°	TVD 6355.86'	
MD 9885'	INC 90.9°	AZI 183.0°	TVD 6355.85'	

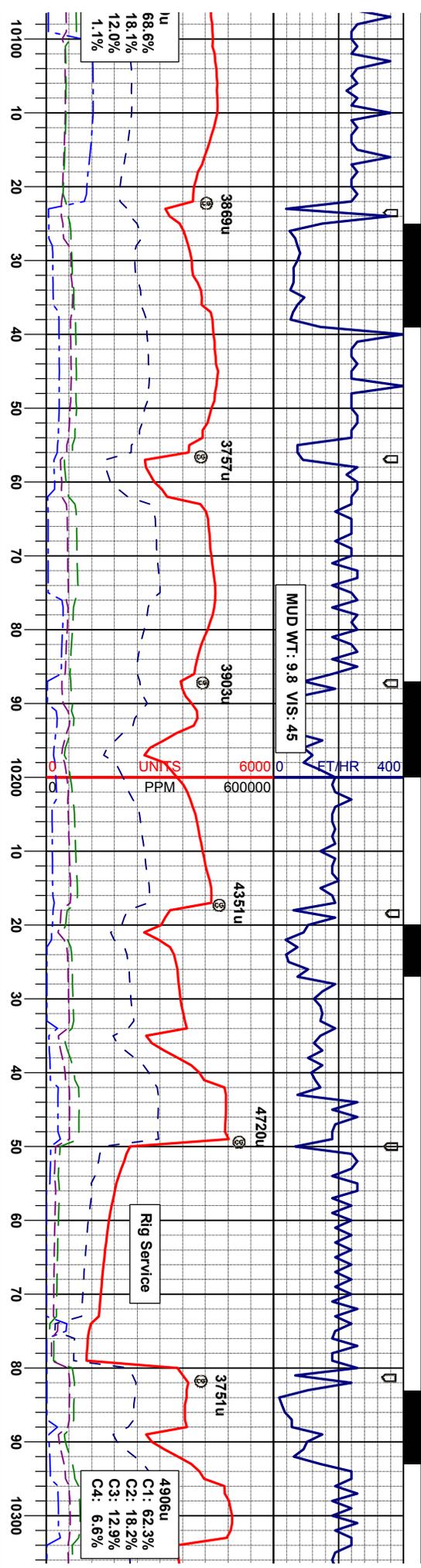




Depth (ft)	INC	AZI	TVD	Lithology	
5.46'	MD 9916'	INC 91.3°	AZI 184.6°	TVD 6354.87'	90% MR.L.: mgy-dkgy, sme lfgy, sl hd, brt-occ fri, sbply-sbblky, rthy istr, sily-arg tex, orgcalc mtx, 10% CHK: lt-mgy, occ wh-cm, vsft-modsft, sbblky-sbply, wxy-mot, vcalc, sme lse fos, tr embd fos, tr calcite, fr- g od
	MD 9948'	INC 90.6°	AZI 184.8°	TVD 6354.34'	
	MD 9979'	INC 90.3°	AZI 184.4°	TVD 6354.09'	95% MR.L.: mgy-dkgy, sme lfgy, sl hd, brt-occ fri, sbply-sbblky, rthy istr, sily-arg tex, orgcalc mtx, 5% CHK: lt-mgy, occ wh-cm, vsft-modsft, sbblky-sbply, wxy-mot, vcal, tr embd&lse fos, tr calcite, fr- g od
	MD 10010'	INC 90.1°	AZI 184.3°	TVD 6353.99'	
	MD 10041'	INC 90.1°	AZI 184.4°	TVD 6353.93'	65% MR.L.: mgy-dkgy, sme lfgy, sl hd, brt-occ fri, sbply-sbblky, rthy istr, sily-arg tex, orgcalc mtx, 35% CHK: lt-mgy, occ wh-cm, vsft-modsft, sbblky-sbply, wxy-mot, vcal, tr embd&lse fos, tr calcite, fr- g od
	MD 10072'	INC 89.9°	AZI 184.3°	TVD 6353.93'	
					50% MR.L.: mgy-dkgy, sme lfgy, sl hd, brt-occ fri, sbply-sbblky, rthy istr, sily-arg tex, orgcalc mtx, 50% CHK: lt-mgy, occ wh-cm, vsft-modsft, sbblky-sbply, wxy-mot, vcalc, tr embd&lse fos, tr calcite, fr- g od

Moderate





55% MRL: ngy-dkgy, sme lfgy, sl hd, brt- occ
fri, sbply-sbblky, rthy str, sily -arg tex, org/calc
mtx, 45% CHK: ll-mgy, dk gry, occ wh-crm, vsft-
modstf, sbblky-sbply, wxy-mot, vcalc, sme
embdlse fos, sme calcite, fr od

55% MRL: ngy-dkgy, sme lfgy, sl hd, brt- occ
fri, sbply-sbblky, rthy str, sily -arg tex, org/calc
mtx, 45% CHK: ll-mgy, dk gry, occ wh-crm, vsft-
modstf, sbblky-sbply, wxy-mot, vcalc, sme
embdlse fos, sme calcite, fr od

65% MRL: ngy-dkgy, sme lfgy, sl hd, brt- occ
fri, sbply-sbblky, rthy str, sily -arg tex, org/calc
mtx, 35% CHK: ll-mgy, dk gry, occ wh-crm, vsft-
modstf, sbblky-sbply, wxy-mot, vcalc, sme
embdlse fos, sme calcite, fr od

80% MRL: ngy-dkgy, sme lfgy, sl hd, brt- occ
fri, sbply-sbblky, rthy str, sily -arg tex, org/calc
mtx, 20% CHK: ll-mgy, dk gry, occ wh-crm, vsft-
modstf, sbblky-sbply, wxy-mot, vcalc, sme
embdlse fos, sme calcite, occ pyr, tr bent, fr od

80% MRL: ngy-dkgy, sme lfgy, sl hd, brt- occ
fri, sbply-sbblky, rthy str, sily -arg tex, org/calc
mtx, 20% CHK: ll-mgy, dk gry, occ wh-crm, vsft-
modstf, sbblky-sbply, wxy-mot, vcalc, sme
embdlse fos, sme calcite, occ pyr, tr bent, sl od

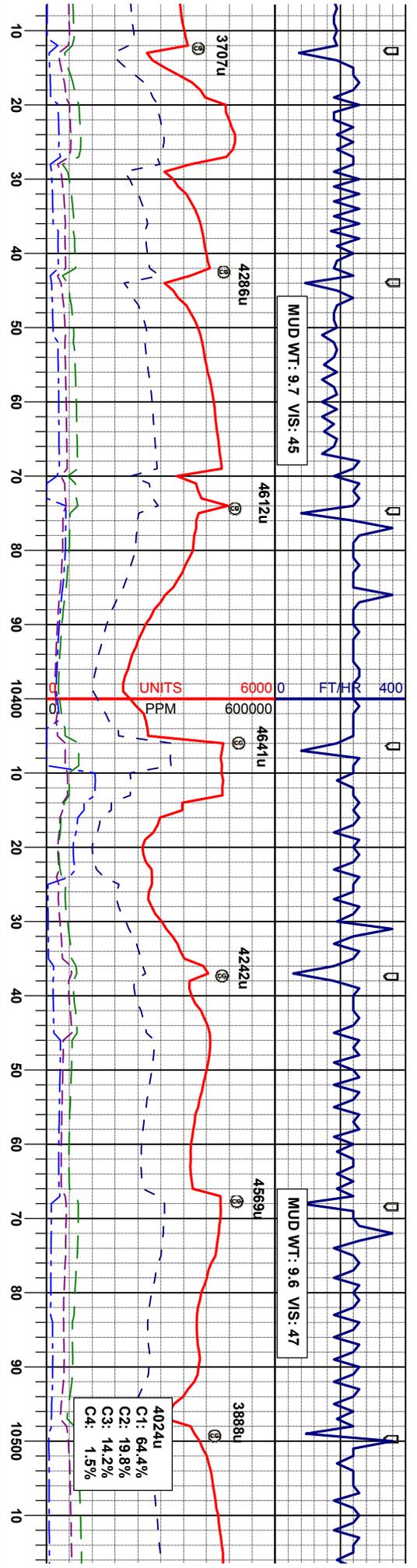
MD 10104' INC 89.8° AZI 183.9° TVD 6354.02'	MD 10134' INC 89.7° AZI 183.0° TVD 6354.15'	MD 10165' INC 90.4° AZI 183.2° TVD 6354.12'	MD 10197' INC 90.7° AZI 181.8° TVD 6353.81'	MD 10228' INC 91.1° AZI 181.8° TVD 6353.33'	MD 10259' INC 90.8° AZI 181.3° TVD 6352.81'	MD 10291' INC 90.0° AZI 180.9° TVD 6352.59'
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Good

7000

Moderate



RL: mgy-dqgy, sme lfgy, sl hd, brt: occ
 mly-sbbky, rthy istr, sily -arg tex, orgcalc
 0% CHK: il-mgy, occ wh-crm, vsft-modstf,
 -sbply, wxy-mot, vcalc, sme embdglse
 ne calcite, occ pyr, tr bent, sl od

60% MRL: mgy-dqgy, sme lfgy, sl hd, brt: occ
 fr, sbbly-sbbky, rthy istr, sily -arg tex, orgcalc
 mtb, 40% CHK: il-mgy, dk gry, occ wh-crm, vsft-
 modstf, sbbky-sbbly, wxy-mot, vcalc, sme
 embdglse fos, sme calcite, occ pyr, tr bent, fr od

55% MRL: mgy-dqgy, sme lfgy, sl hd, brt: occ
 fr, sbbly-sbbky, rthy istr, sily -arg tex, orgcalc
 mtb, 45% CHK: il-mgy, dk gry, occ wh-crm, vsft-
 modstf, sbbky-sbbly, wxy-mot, vcalc, sme
 embdglse fos, sme calcite, occ pyr, tr bent, fr od

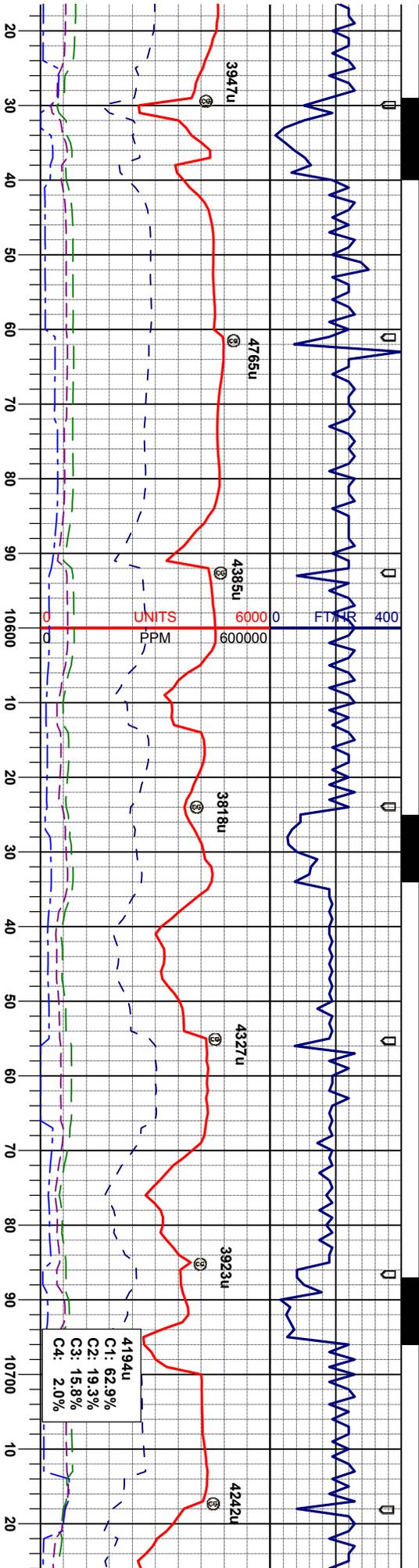
65% MRL: mgy-dqgy, sme lfgy, sl hd, brt: occ
 fr, sbbly-sbbky, rthy istr, sily -arg tex, orgcalc
 mtb, 35% CHK: il-mgy, dk gry, occ wh-crm, vsft-
 modstf, sbbky-sbbly, wxy-mot, vcalc, scat
 embdglse fos, sme calcite, tr pyr, tr bent, fr od

65% MRL: mgy-dqgy, sme lfgy, sl hd, brt: occ
 fr, sbbly-sbbky, rthy istr, sily -arg tex, orgcalc
 mtb, 35% CHK: il-mgy, dk gry, occ wh-crm, vsft-
 modstf, sbbky-sbbly, wxy-mot, vcalc, scat
 embdglse fos, sme calcite, tr pyr, tr bent, fr od

MD 10321' INC 89.8° AZI 180.0° TVD 6352.64'	MD 10353' INC 89.6° AZI 179.7° TVD 6352.81'	MD 10384' INC 89.8° AZI 179.9° TVD 6352.97'	MD 10415' INC 89.8° AZI 179.9° TVD 6353.08'	MD 10446' INC 90.0° AZI 180.6° TVD 6353.13'	MD 10477' INC 90.7° AZI 181.3° TVD 6353.11'	MD 10508' INC 90.3° AZI 180.4° TVD 6353.00'
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Good



70% M.R.L.: mgy-dkgy, sme lgry, sl hd, brt- occ
 fri, sbply-sbblky, rthy str, sily -arg tex, org/calc
 mtbx, 30% CHK: lt-mgy, dk gry, sme wh-crm, vsft-
 modstf, sbblky-sbply, wxy-mot, vcalc, scat
 embdlse fos, sme calcite, tr bent, fr od

65% M.R.L.: mgy-dkgy, sme lgry, sl hd, brt- occ
 fri, sbply-sbblky, rthy str, sily -arg tex, org/calc
 mtbx, 35% CHK: lt-mgy, dk gry, sme wh-crm, vsft-
 modstf, sbblky-sbply, wxy-mot, vcalc, scat
 embdlse fos, sme calcite, tr bent, fr od

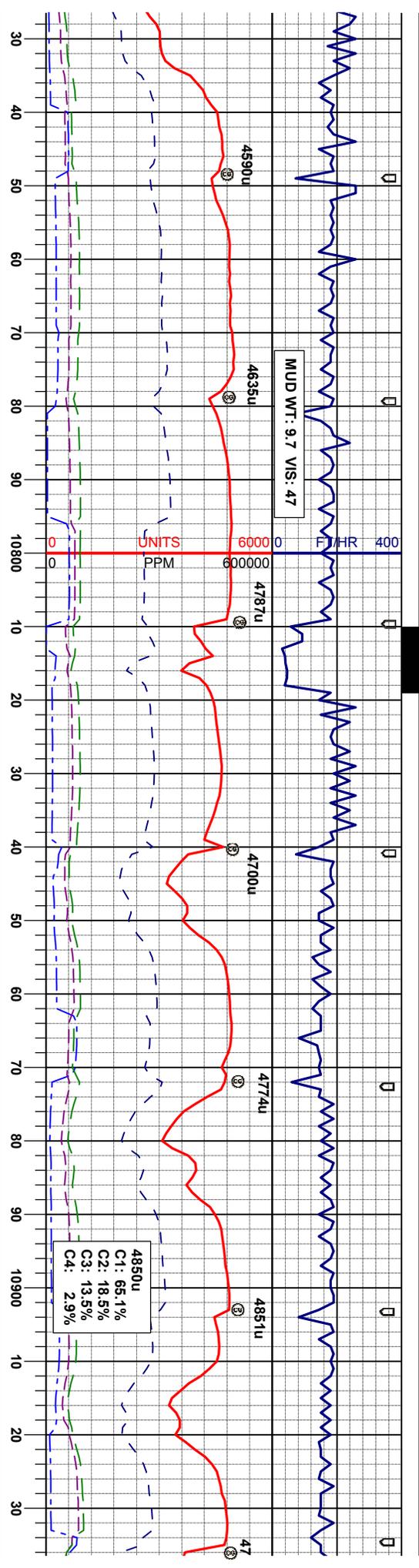
60% M.R.L.: mgy-dkgy, sme lgry, sl hd, brt- occ
 fri, sbply-sbblky, rthy str, sily -arg tex, org/calc
 mtbx, 40% CHK: lt-mgy, dk gry, sme wh-crm, vsft-
 modstf, sbblky-sbply, wxy-mot, vcalc, occ
 embdlse fos, sme calcite, tr bent, mod od

60% M.R.L.: mgy-dkgy, sme lgry, sl hd, brt- occ
 fri, sbply-sbblky, rthy str, sily -arg tex, org/calc
 mtbx, 40% CHK: lt-mgy, dk gry, sme wh-crm, vsft-
 modstf, sbblky-sbply, wxy-mot, vcalc, occ
 embdlse fos, sme calcite, tr bent, mod od

MD 10639'	INC 89.8°	AZI 180.7°	TVD 6352.97'
MD 10571'	INC 90.2°	AZI 180.7°	TVD 6352.97'
MD 10602'	INC 90.4°	AZI 181.6°	TVD 6352.81'
MD 10633'	INC 89.6°	AZI 181.3°	TVD 6352.81'
MD 10665'	INC 89.9°	AZI 182.1°	TVD 6352.95'
MD 10696'	INC 89.3°	AZI 182.8°	TVD 6353.16'
MD 1	INC 8	AZI 1	TVD



Moderate



ry, sl hd, brlt, occ
-arg tex, orgcalc
h-crm, vsft-modstf,
; occ embdlse
; mod od

55% CHK- ll-mgy, occ wh-crm, vsft-modstf,
sbblky- sbply, wxy-mot, vcalc, 45% MRL: mgy-
dkgy, sme ltgy, sl hd, brlt- occ frt, sbply-sbblky,
rthy istr, sily -arg tex, orgcalc mtx, occ
embdlse fos, tr calcite, tr bent, tr pyr, g od

65% CHK- ll-mgy, occ wh-crm, vsft-modstf,
sbblky- sbply, wxy-mot, vcalc, 35% MRL: mgy-
dkgy, sme ltgy, sl hd, brlt- occ frt, sbply-sbblky,
rthy istr, sily -arg tex, orgcalc mtx, sme
embdlse fos, tr calcite, g od

50% CHK- ll-mgy, occ wh-crm, vsft-modstf,
sbblky- sbply, wxy-mot, vcalc, 50% MRL: mgy-
dkgy, sme ltgy, sl hd, brlt- occ frt, sbply-sbblky,
rthy istr, sily -arg tex, orgcalc mtx, sme
embdlse fos, tr calcite, fr od

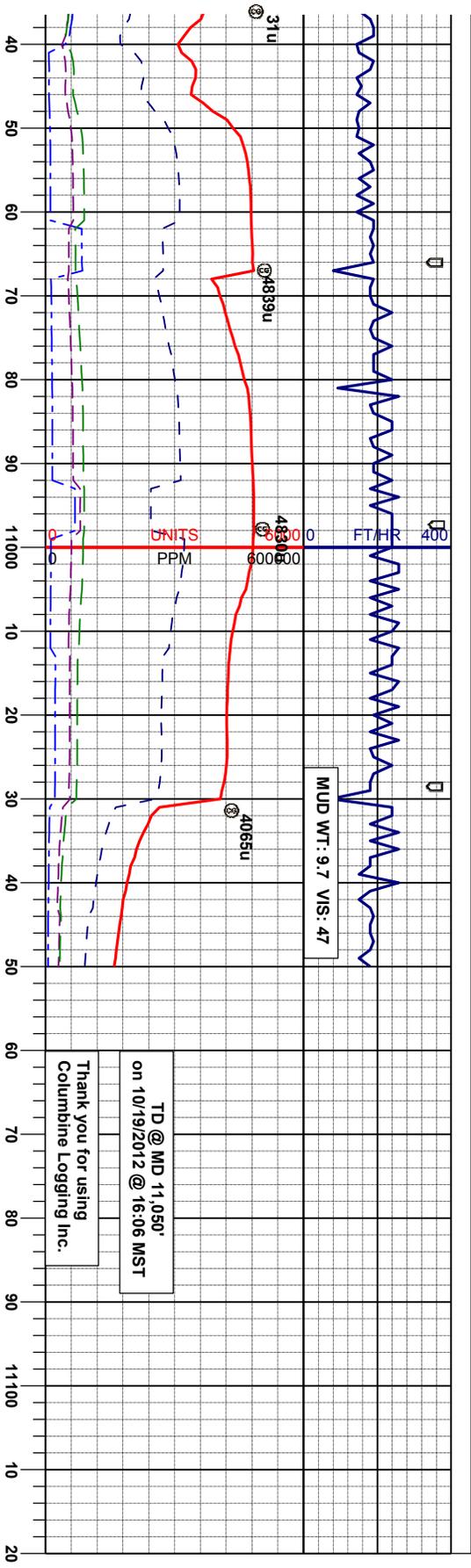
55% CHK- ll-mgy, occ wh-crm, vsft-modstf,
sbblky- sbply, wxy-mot, vcalc, 45% MRL: mgy-
dkgy, sme ltgy, sl hd, brlt- occ frt, sbply-
rthy istr, sily -arg tex, orgcalc mtx, sme
embdlse fos, tr bent, tr calcite, fr od

55% CHK- ll-mgy, occ wh-crm, vsft-modstf,
sbblky- sbply, wxy-mot, vcalc, 45% MRL
dkgy, sme ltgy, sl hd, brlt- occ frt, sbply-
rthy istr, sily -arg tex, orgcalc mtx, sme
embdlse fos, tr bent, tr calcite, fr od

0727'	INC 19.4°	MD 10757'	INC 89.8°	MD 10788'	INC 89.8°	MD 10819'	INC 88.8°	MD 10881'	INC 89.6°	MD 10913'	INC 89.6°	
82.0°	MD 10757'	INC 89.8°	MD 10788'	INC 89.8°	MD 10819'	INC 88.8°	MD 10881'	INC 89.5°	MD 10881'	INC 89.6°	MD 10913'	INC 89.6°
6353.52'	AZI 183.7°	AZI 183.9°	AZI 183.9°	AZI 181.8°	AZI 183.4°	AZI 183.5°	AZI 183.5°	AZI 183.9°	AZI 183.5°	AZI 183.9°	AZI 183.9°	AZI 183.9°
	TVD 6353.73'	TVD 6353.83'	TVD 6354.21'	TVD 6354.69'	TVD 6354.92'	TVD 6355.16'						

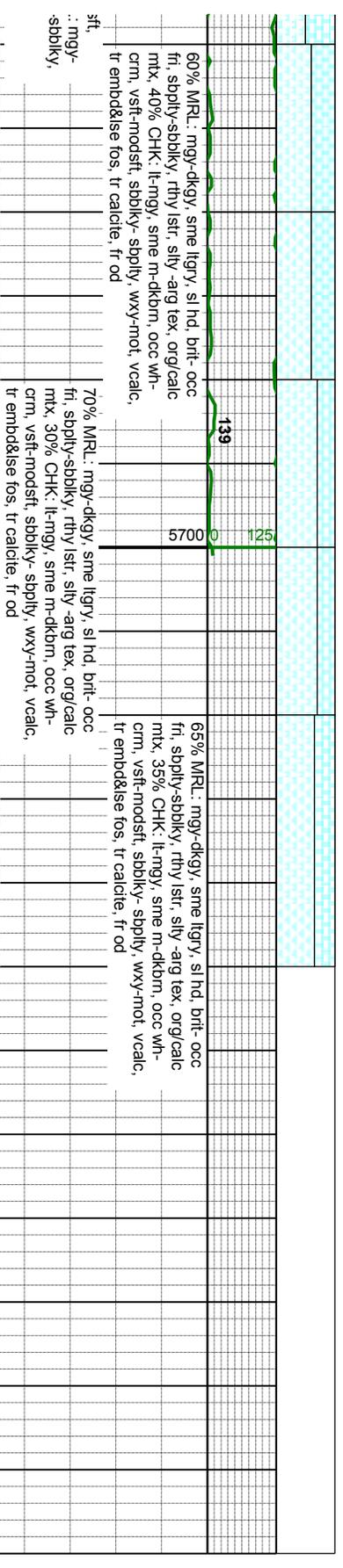
Good





TD @ MD 11,050'
on 10/19/2012 @ 16:06 MST

Thank you for using
Columbine Logging Inc.



MD 10944'
INC 90.0°
AZI 183.9°
TVD 6355.25'

MD 10975'
INC 89.7°
AZI 183.0°
TVD 6355.34'

MD 10998'
INC 89.3°
AZI 182.1°
TVD 6355.54'

7000

