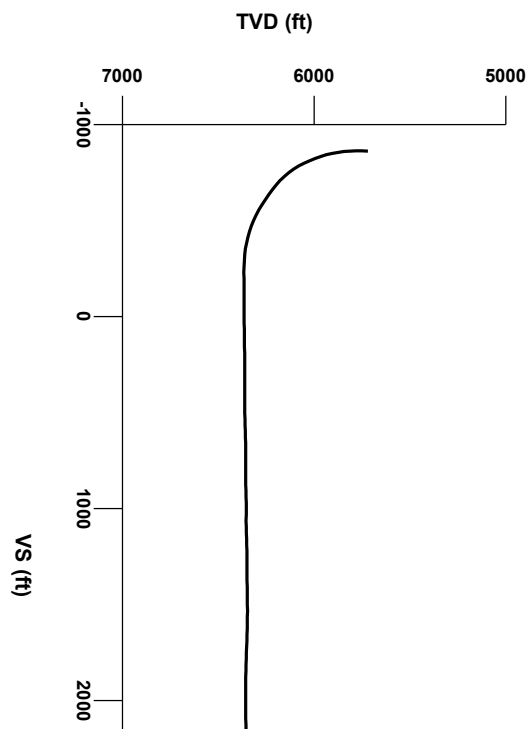




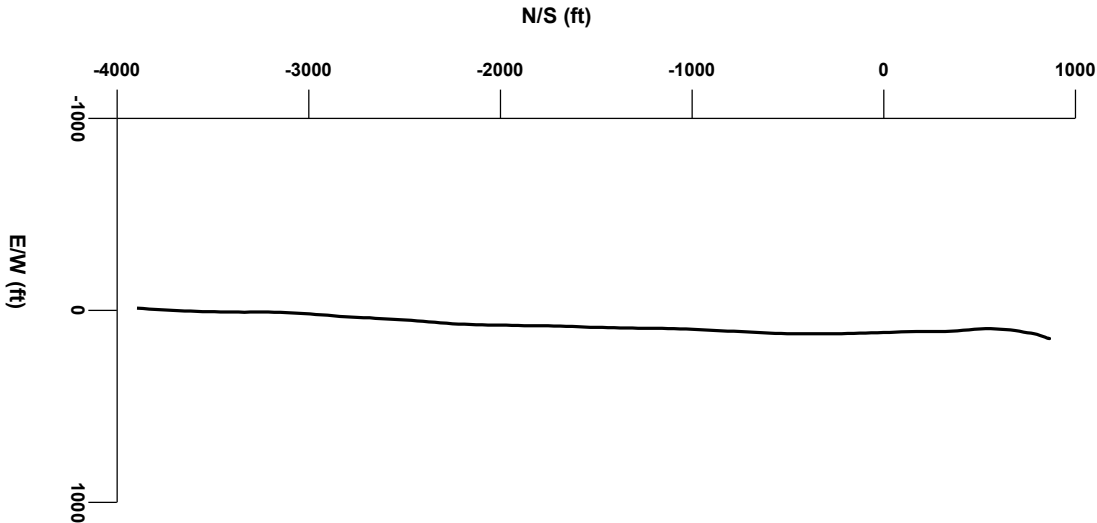
LOG created using LPLOT VH Version 3.0, October 19, 2012, Copyright (C) 1999-2009 Pason Systems Corp.

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



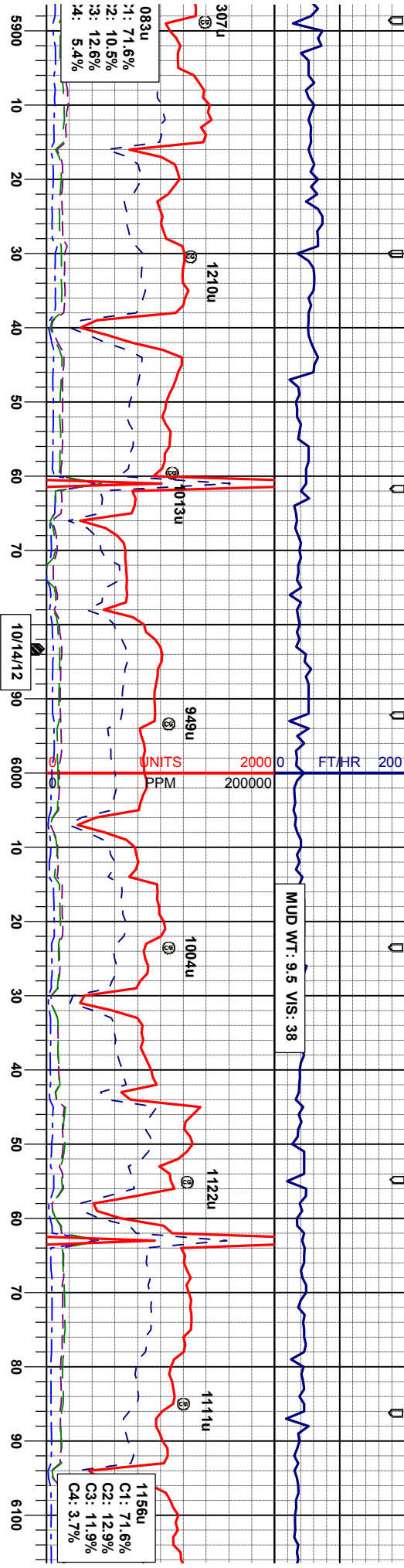
Survey Elevation

Survey Plan



3000

4000



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, silty-aren, sl-n calc, tr inbd/ ss, occ pyr ct, grdg to sh
30% SHY: SS: lt-mgy, occ s&p, vf-mt gr, sbang-sbrd, mod sft-fr, modst- pstr, arg cnt, calc, phlog, tr ss, tr sh

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

80% SLTY: SH: lty-mgy, occ gybrn, modst-si firm, brt, sbply-sbply, silty-aren, sl-n calc, tr modst- pstr, arg cnt, calc, sme ss
occ s&p, vf-mt gr, sbang-sbrd, mod sft-fr, modst- pstr, arg cnt, calc, sme ss

ly-lygy, modst-si firm, sbply-si-n calc, tr inbd/ ss, occ pyr mgy, occ s&p, vf-mt gr, sbang-modst- pstr, arg cnt, calc, calcite, tr sh

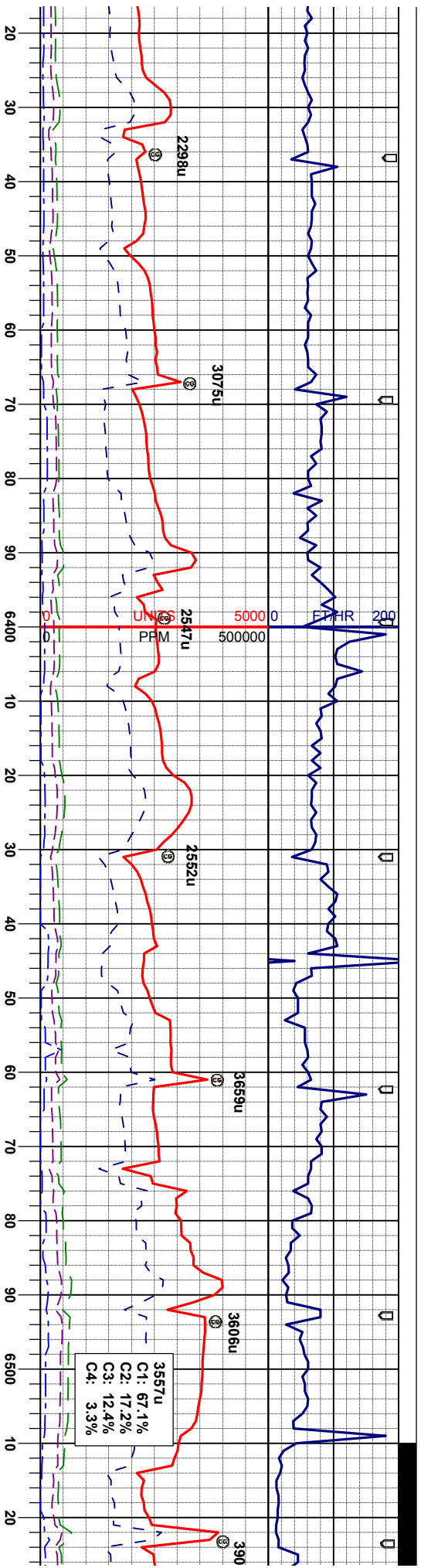
80% SLTY: SH: mgy-lygy, modst-si firm, sbply-sbply, silty-aren, sl-n calc, tr inbd/ ss, occ pyr ct, grdg to sh
20% SHY: SS: lt-mgy, occ s&p, vf-mt gr, sbang-sbrd, mod sft-fr, modst- pstr, arg cnt, calc, phlog, tr ss

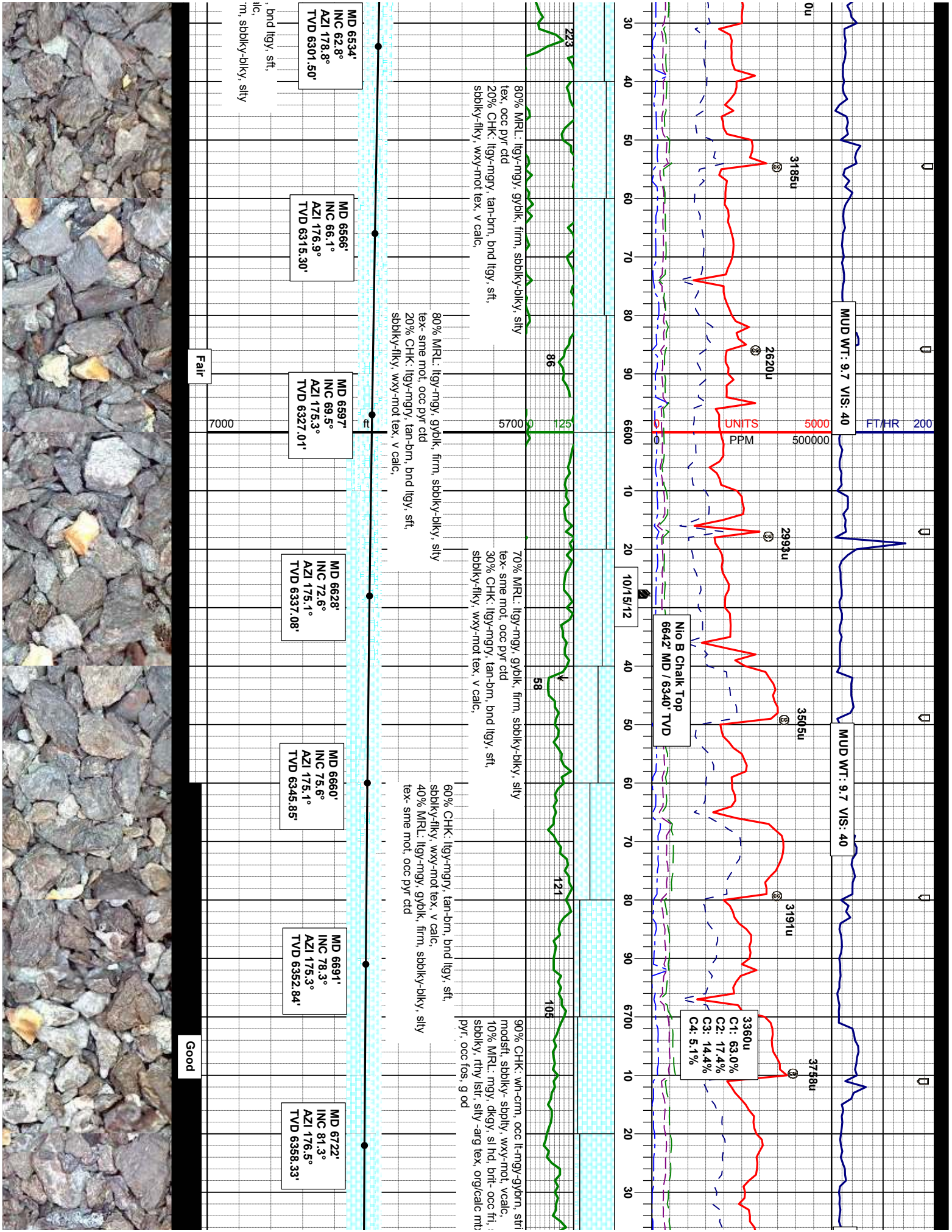
75% SLTY: SH: mgy-lygy, modst-si firm, sbply-sbply, silty-aren, sl-n calc, tr inbd/ ss, occ pyr ct, grdg to sh
25% SHY: SS: lt-mgy, occ s&p, vf-mt gr, sbang-sbrd, mod sft-fr, modst- pstr, arg cnt, calc, phlog, sme ss

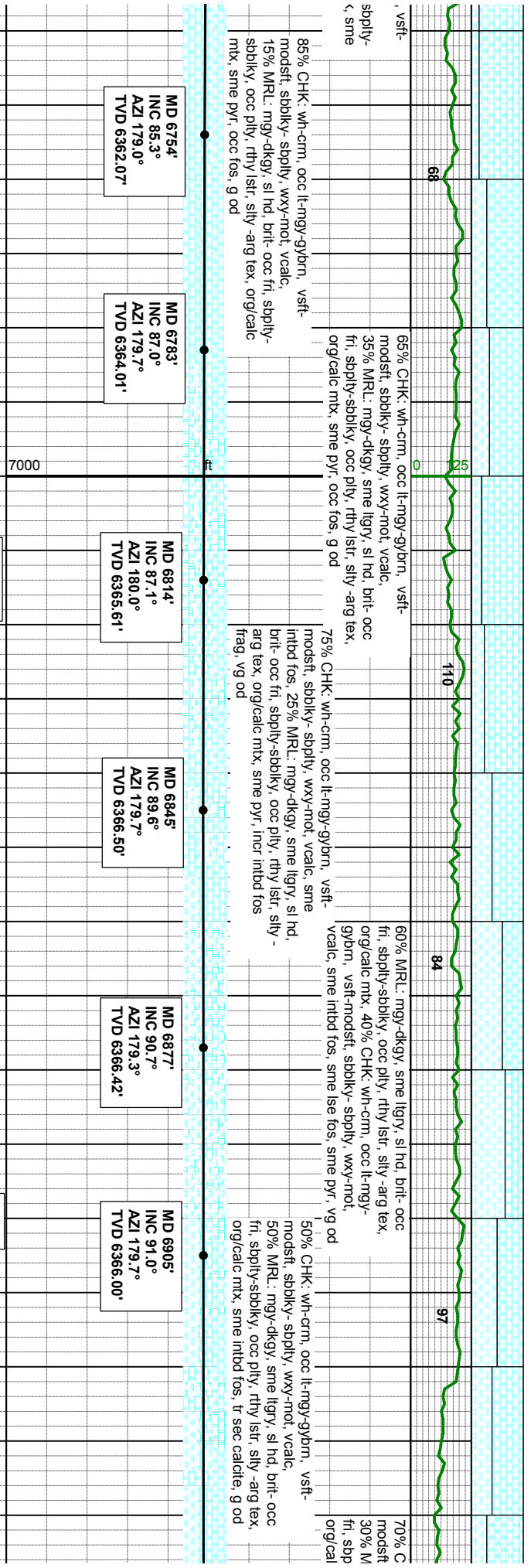
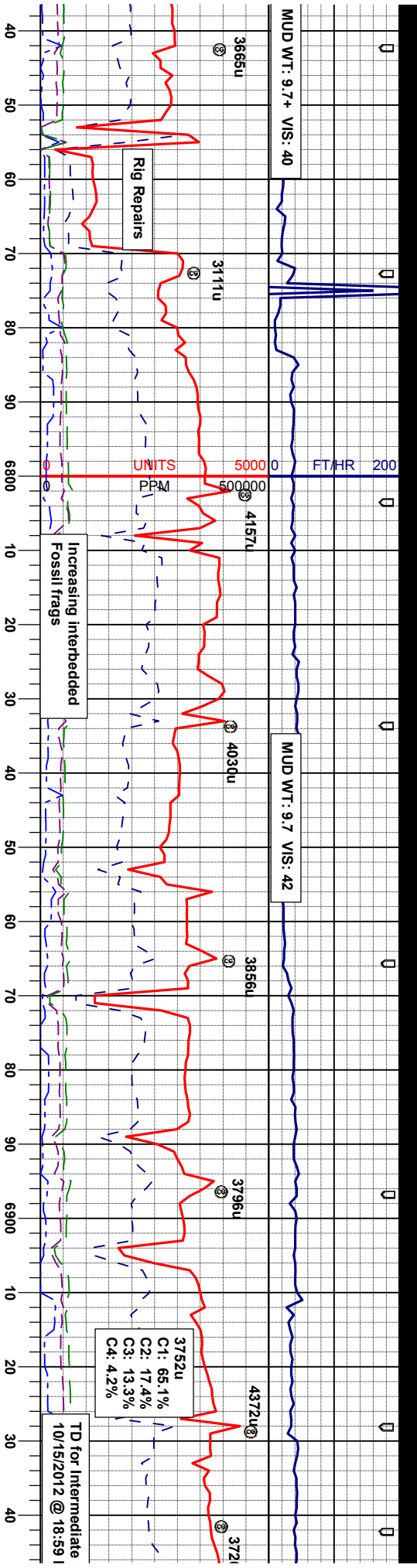
85% S firm, b dism p occ s& modst

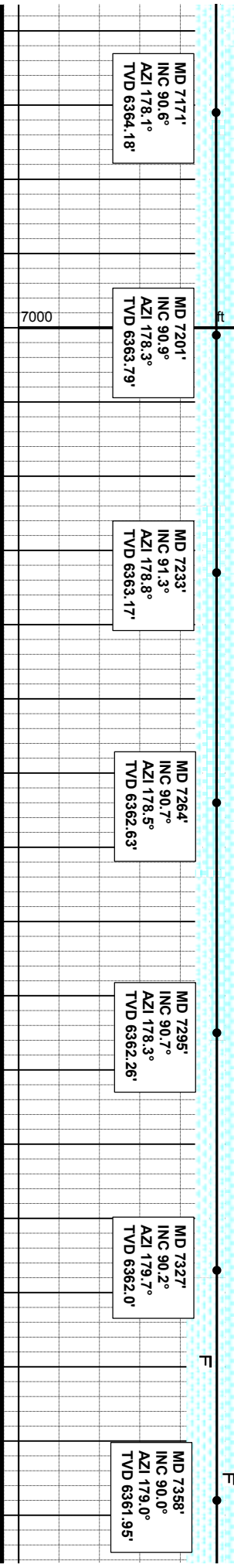
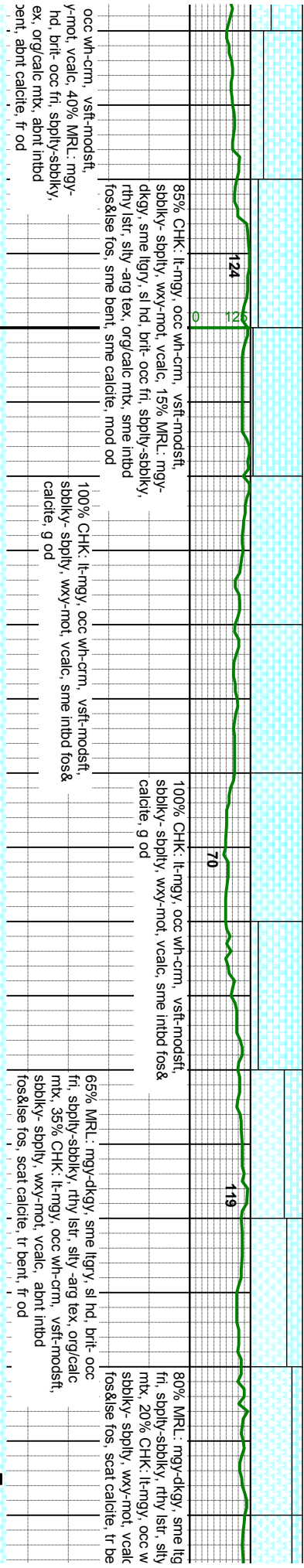
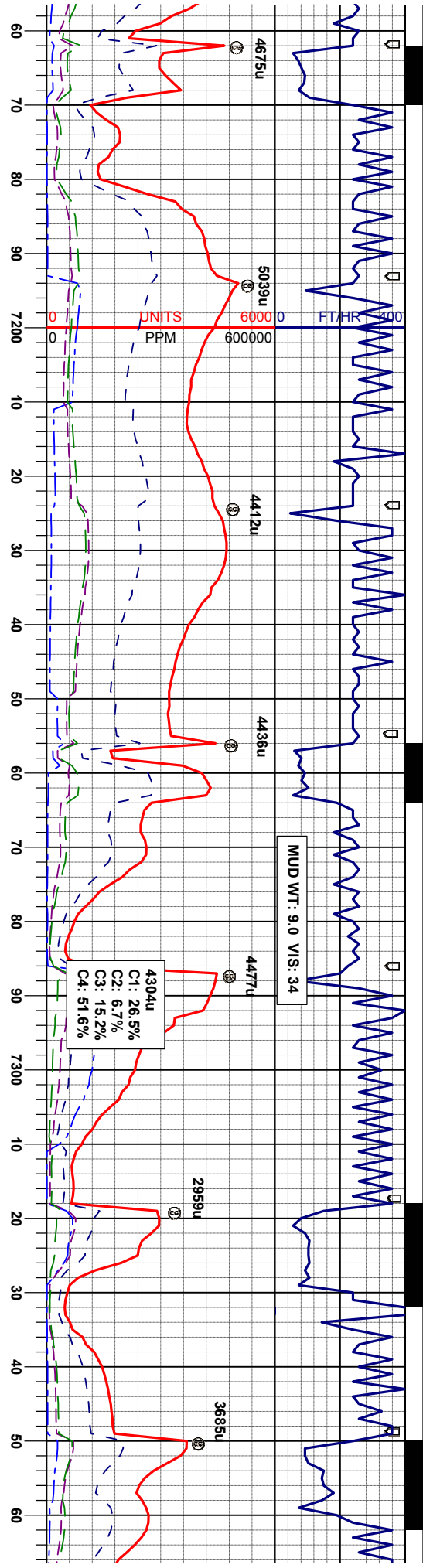
Slight Trace

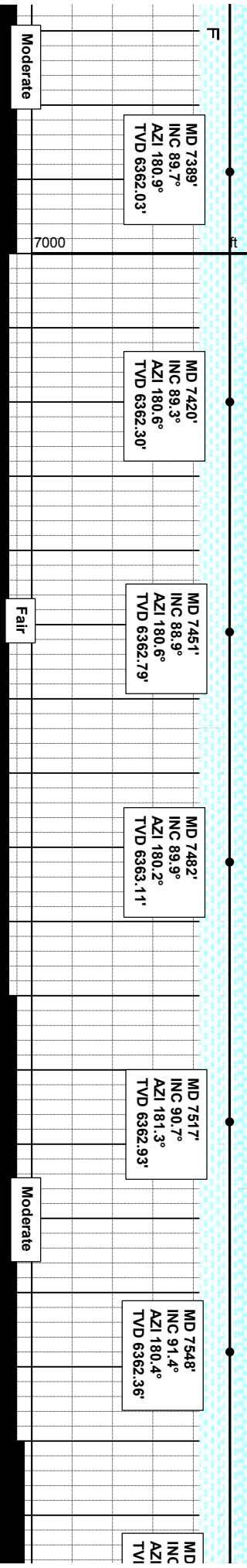
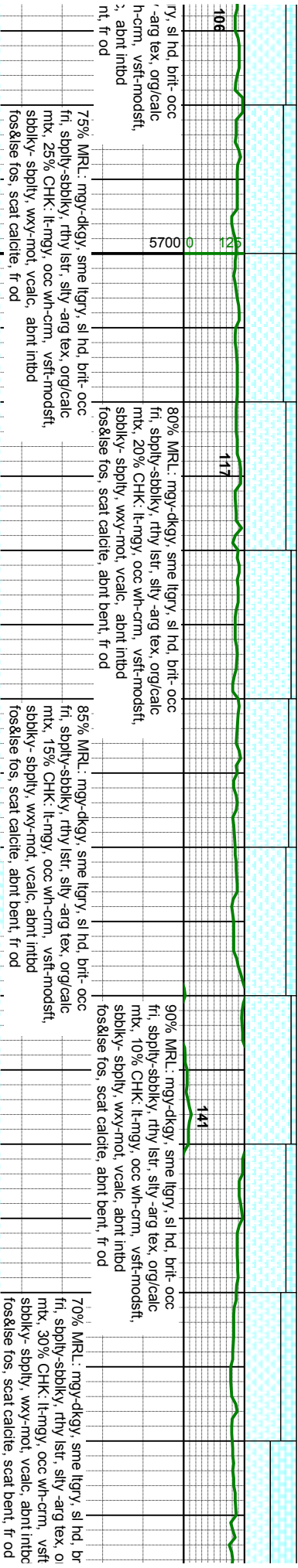
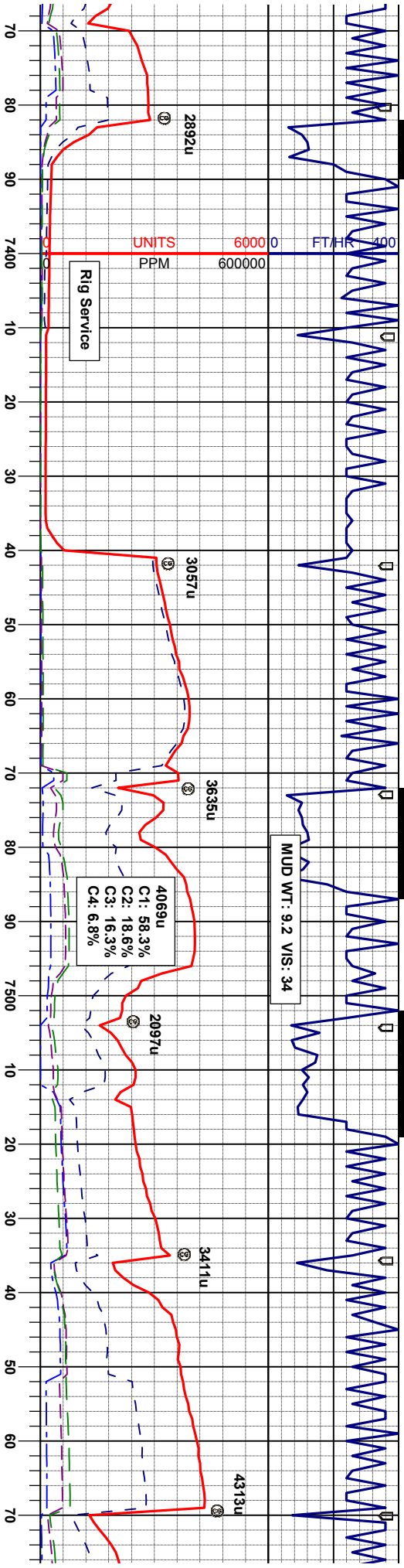


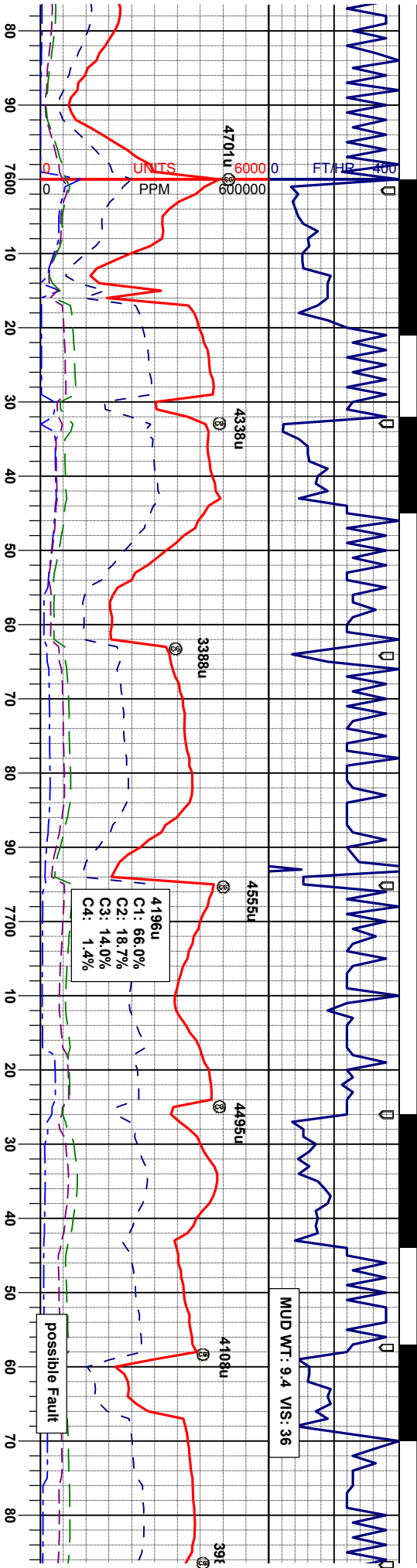










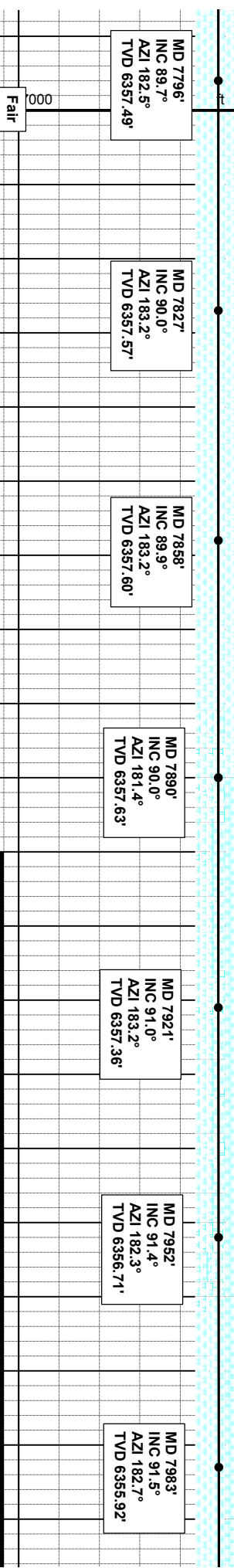
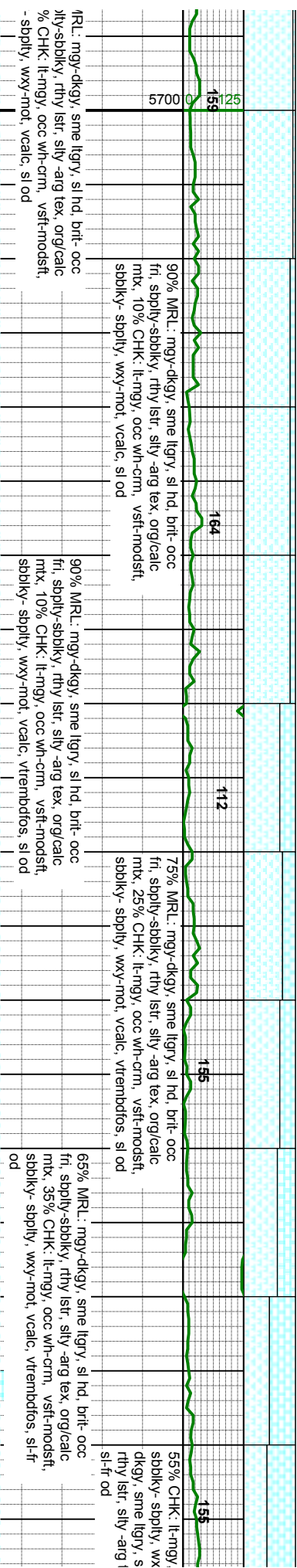
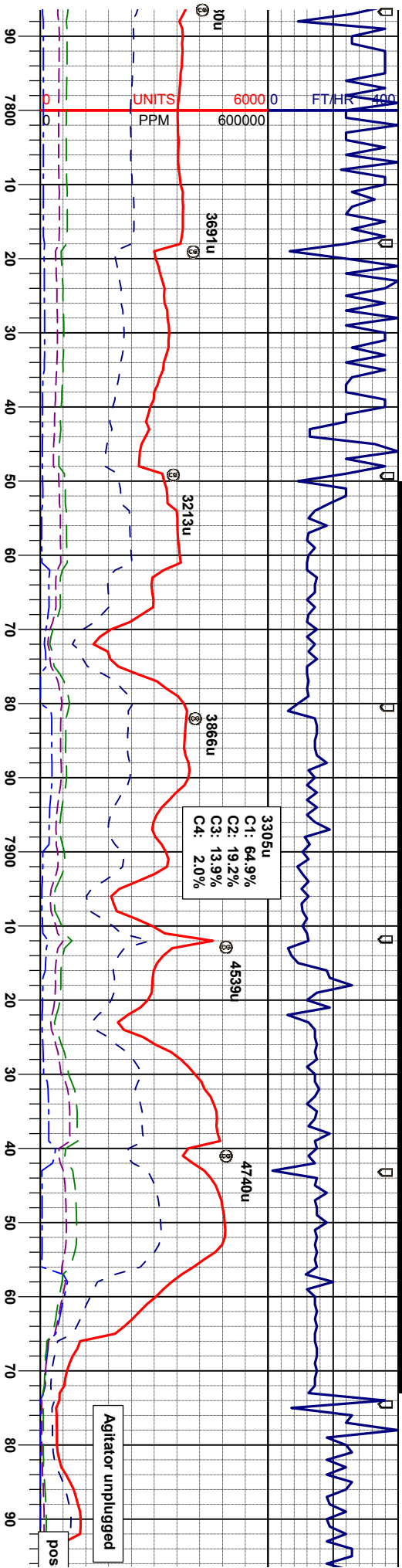


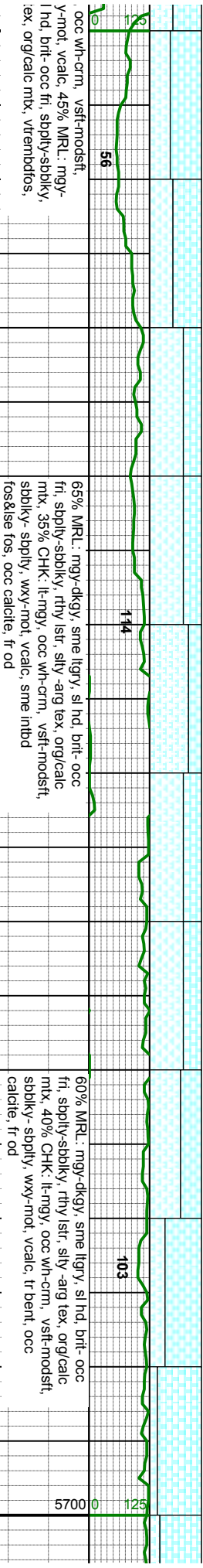
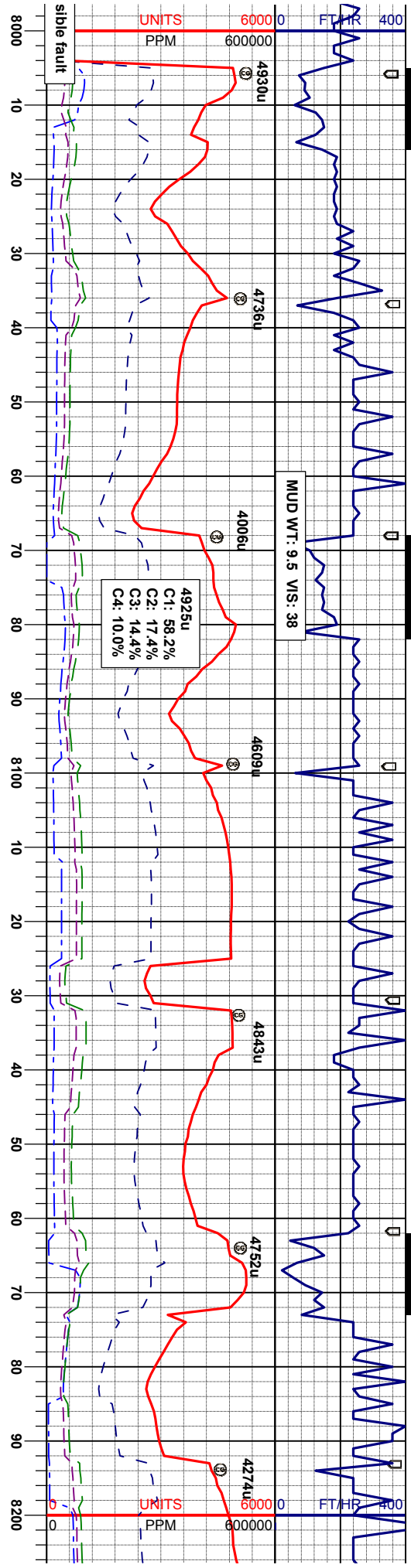
65% CHK: lt-mgy, occ wh-crm, vsft-modstf, sbblky-sbply, wxy-mot, vcalc, 35% MRL: mgy-dkgy, sme ltgy, sl hd, brlt-occ fn, sbply-sbblky, rthy lstr, silty-arg tex, orgcalc mtx, sme inbtd fos&lse fos, tr bent, sme calcite, g od	65% CHK: lt-mgy, occ wh-crm, vsft-modstf, sbblky-sbply, wxy-mot, vcalc, 35% MRL: mgy-dkgy, sme ltgy, sl hd, brlt-occ fn, sbply-sbblky, rthy lstr, silty-arg tex, orgcalc mtx, sme inbtd fos&lse fos, tr bent, sme calcite, g od	65% CHK: lt-mgy, occ wh-crm, vsft-modstf, sbblky-sbply, wxy-mot, vcalc, 35% MRL: mgy-dkgy, sme ltgy, sl hd, brlt-occ fn, sbply-sbblky, rthy lstr, silty-arg tex, orgcalc mtx, sme inbtd fos&lse fos, tr bent, sme calcite, g od	85% MRL: mgy-dkgy, sme ltgy, sl hd, brlt-occ fn, sbply-sbblky, rthy lstr, silty-arg tex, orgcalc mtx, 15% CHK: lt-mgy, occ wh-crm, 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 ltgy, sl hd, brlt-occ fn, sbply-sbblky, rthy lstr, silty-arg tex, orgcalc mtx, 10% CHK: lt-mgy, occ wh-crm, vsft-modstf, sbblky-sbply, wxy-mot, vcalc, sme inbtd fos&lse fos, sme calcite, sme bent, fr od	95% N fr, sbp mtx, 5 sbblky
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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 88.5° AZI 182.5° TVD 6357.28'
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Good

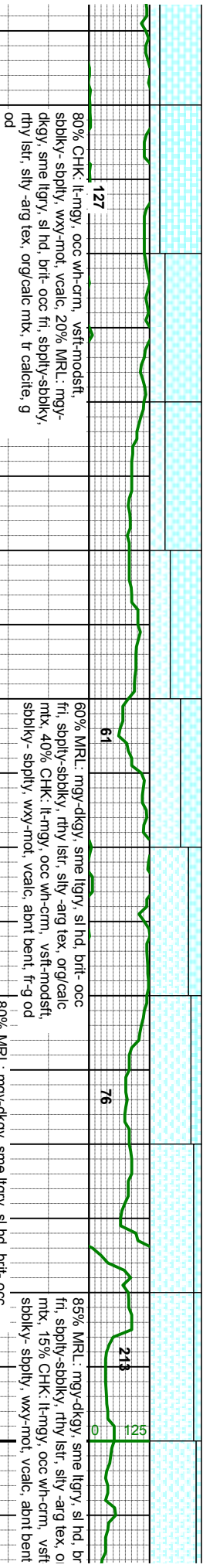
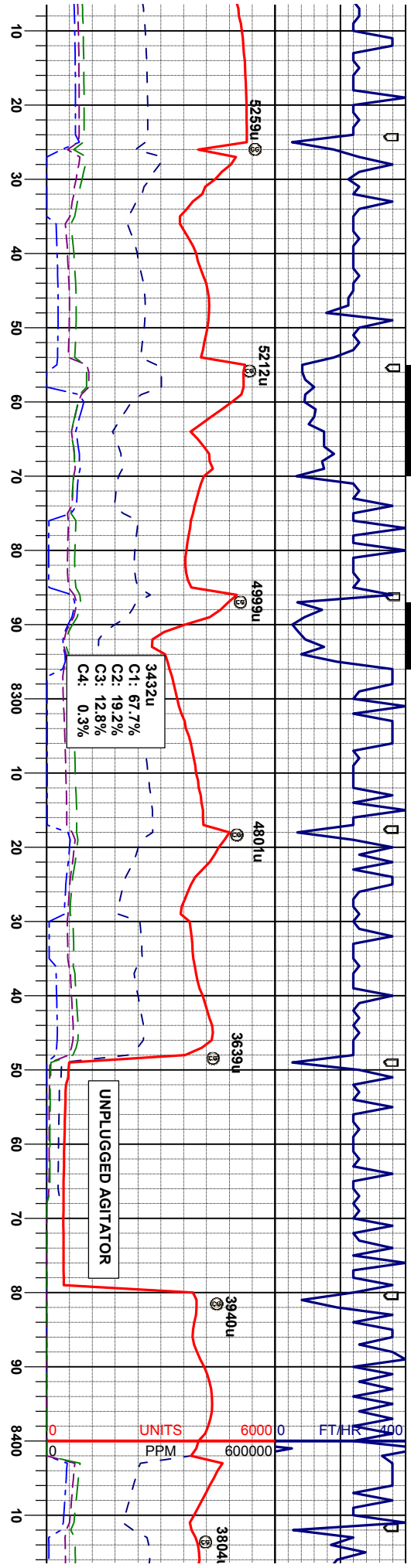






MD 8015° INC 91.1° AZI 183.2° TVD 6355.20'	MD 8046° INC 91.1° AZI 182.5° TVD 6354.60'	MD 8077° INC 89.7° AZI 183.2° TVD 6354.39'	MD 8108° INC 89.4° AZI 182.7° TVD 6354.63'	MD 8140° INC 89.7° AZI 181.8° TVD 6354.86'	MD 8171° INC 90.7° AZI 181.1° TVD 6354.77'	MD 8202° INC 92.2° AZI 182.3° TVD 6353.99'
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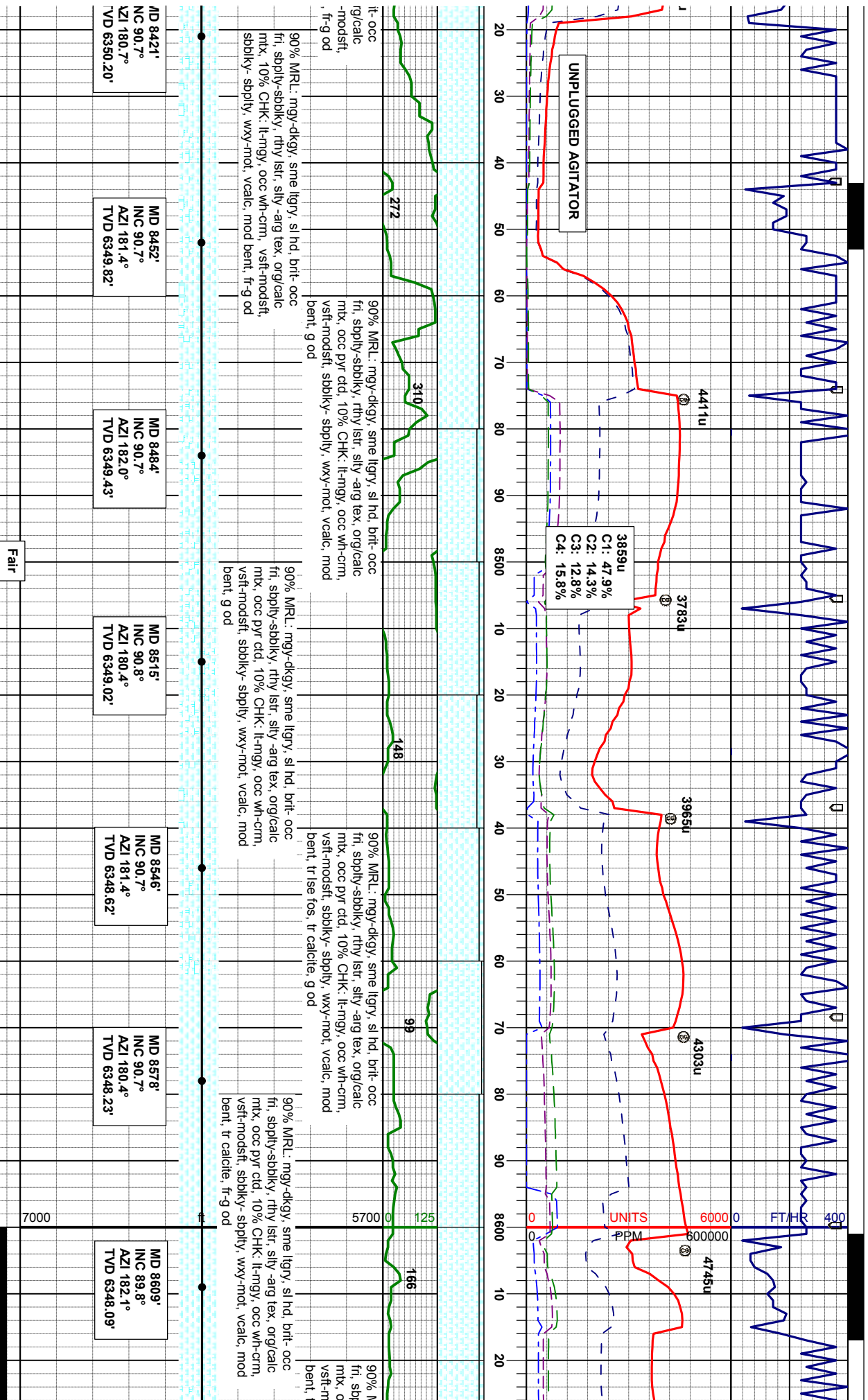


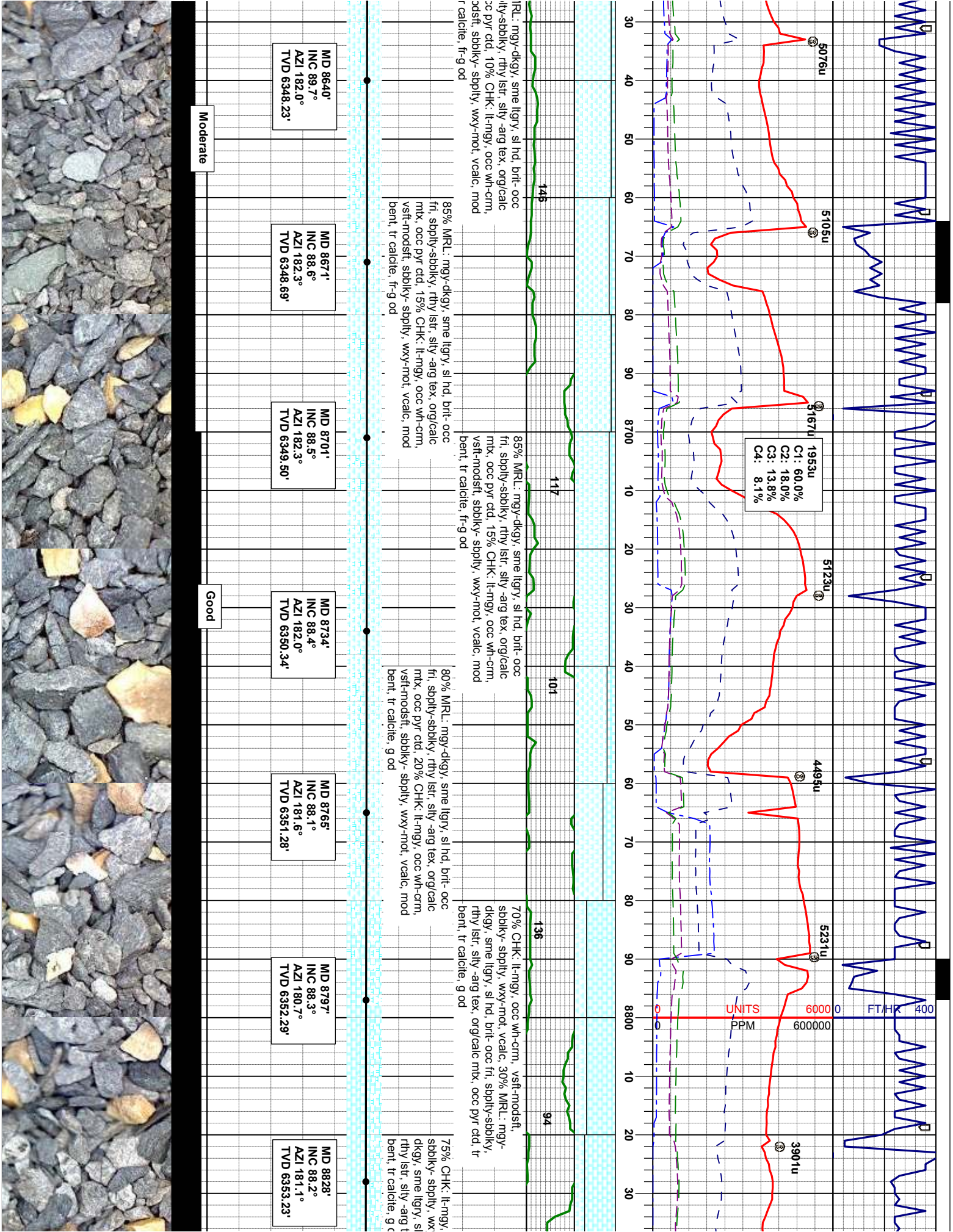
MD 8233'	INC 92.2°	AZI 180.0°	TVD 6352.80'
MD 8264'	INC 91.3°	AZI 181.1°	TVD 6351.85'
MD 8296'	INC 90.6°	AZI 180.4°	TVD 6351.32'
MD 8327'	INC 90.2°	AZI 180.0°	TVD 6351.10'
MD 8358'	INC 90.5°	AZI 181.1°	TVD 6350.91'
MD 8389'	INC 90.7°	AZI 181.1°	TVD 6350.59'

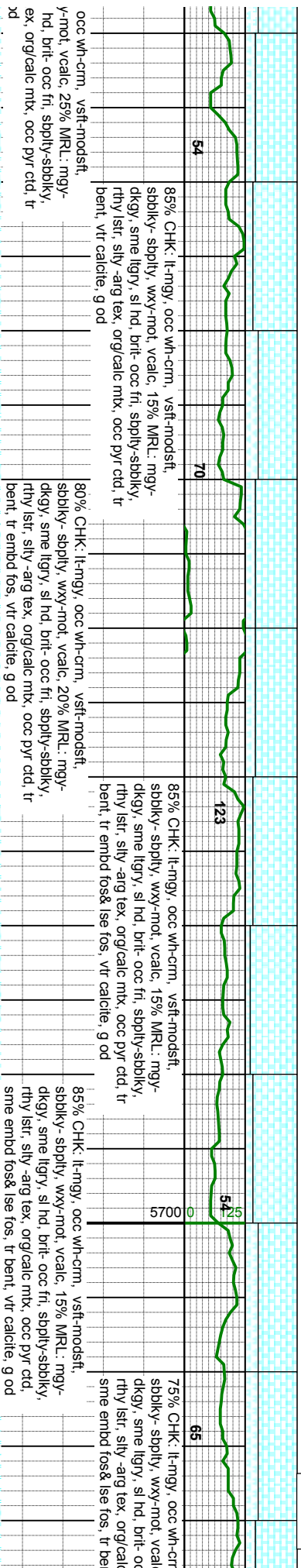
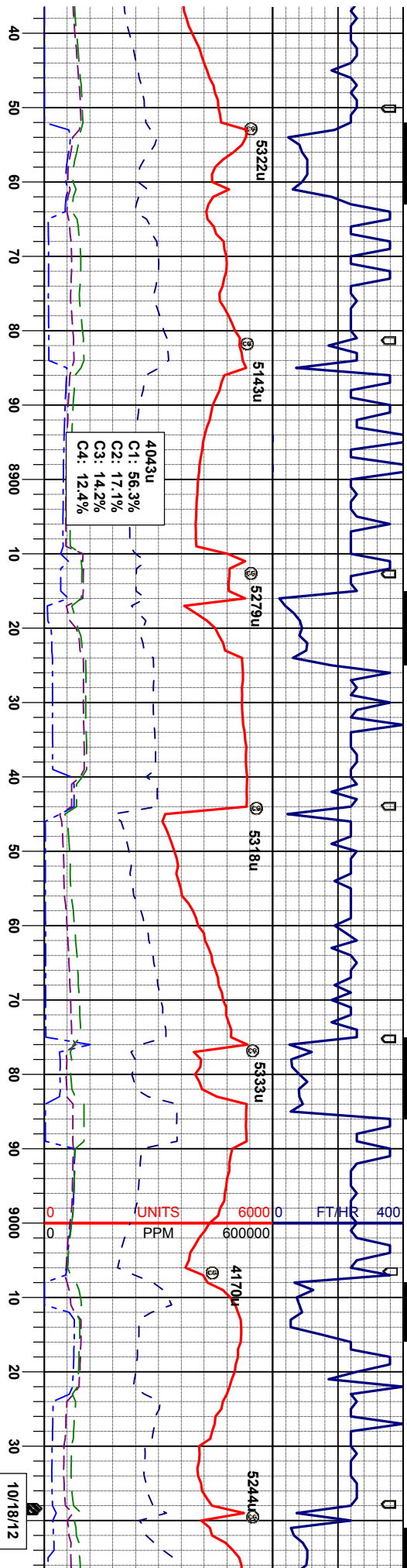
Good

Moderate









MD 8859'
INC 88.5°
AZI 179.9°
TVD 6354.13'

MD 8890'
INC 88.3°
AZI 181.1°
TVD 6354.99'

MD 8922'
INC 88.5°
AZI 180.2°
TVD 6355.89'

MD 8953'
INC 88.4°
AZI 181.3°
TVD 6356.72'

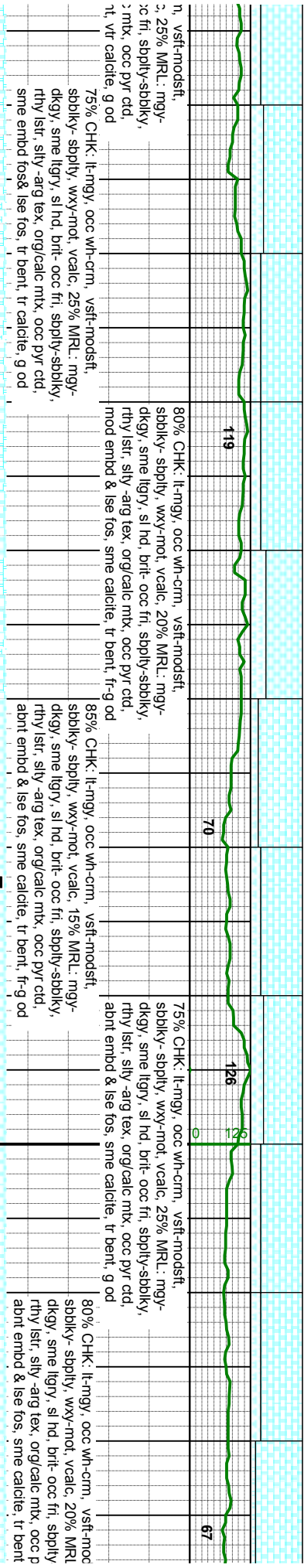
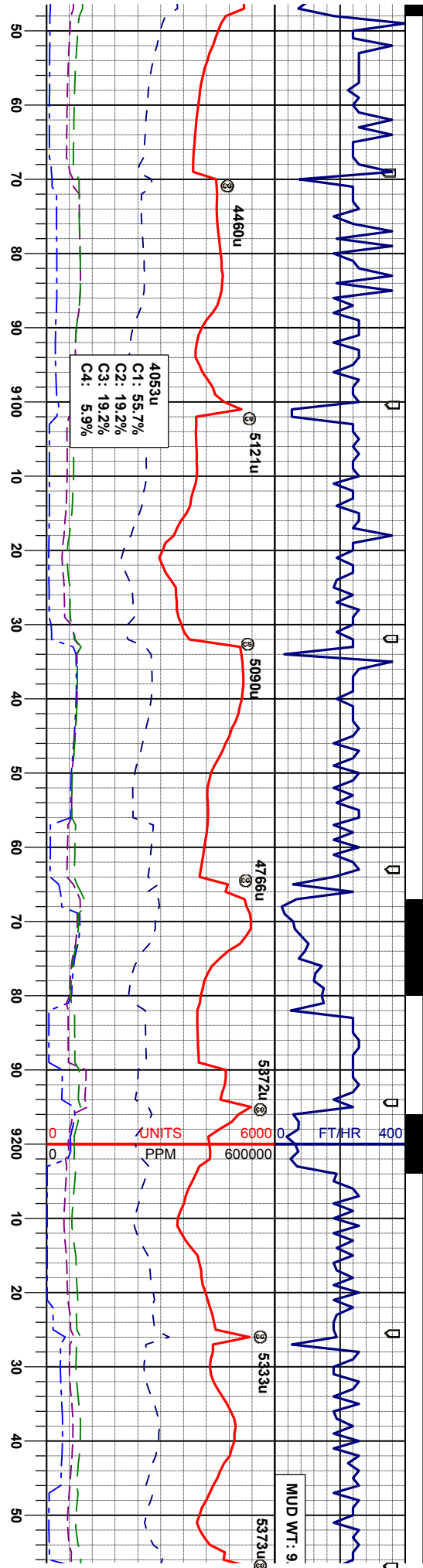
MD 8984'
NC 89.0°
AZI 181.3°
TVD 6357.43'

MD 9016'	
NC 89.6°	
AZI 181.4°	
TVD 6357.82'	

VD 6

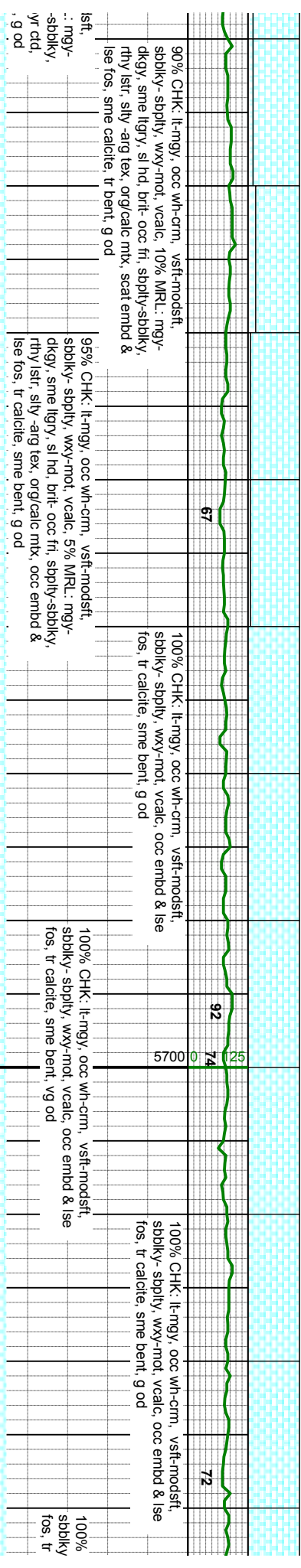
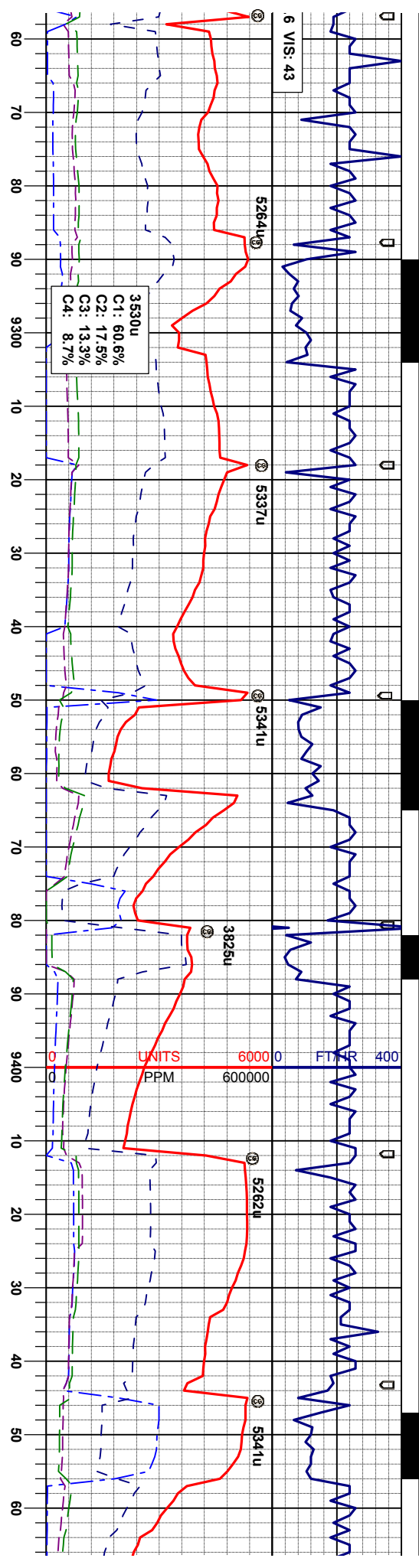
Good





MD 9078'	INC 90.4°	AZI 181.1°	TVD 6357.66'
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'





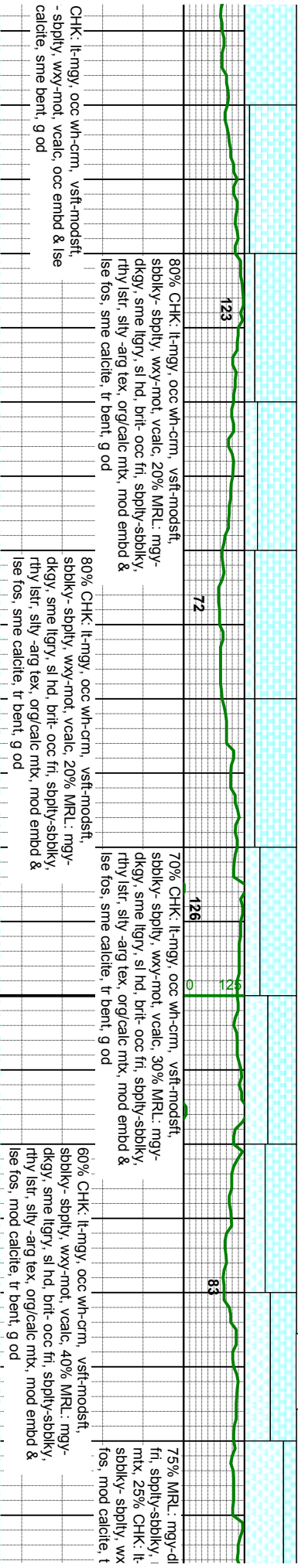
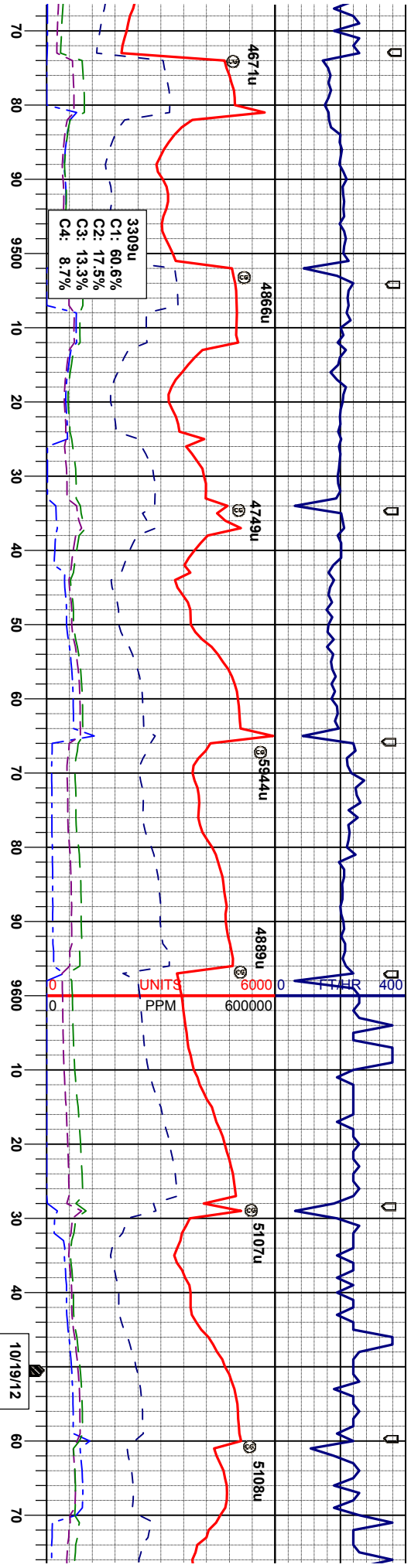
MD 9265° INC 91.5° AZI 182.0° TVD 6355.19'	MD 9296° INC 91.2° AZI 182.3° TVD 6354.46'	MD 9327° INC 91.1° AZI 183.7° TVD 6353.83'	MD 9358° INC 90.5° AZI 184.6° TVD 6353.40'	MD 9390° INC 89.9° AZI 185.1° TVD 6353.29'	MD 9420° INC 90.2° AZI 184.6° TVD 6353.26'	MD 9451° INC 89.4° AZI 184.6° TVD 6353.37'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

Moderate

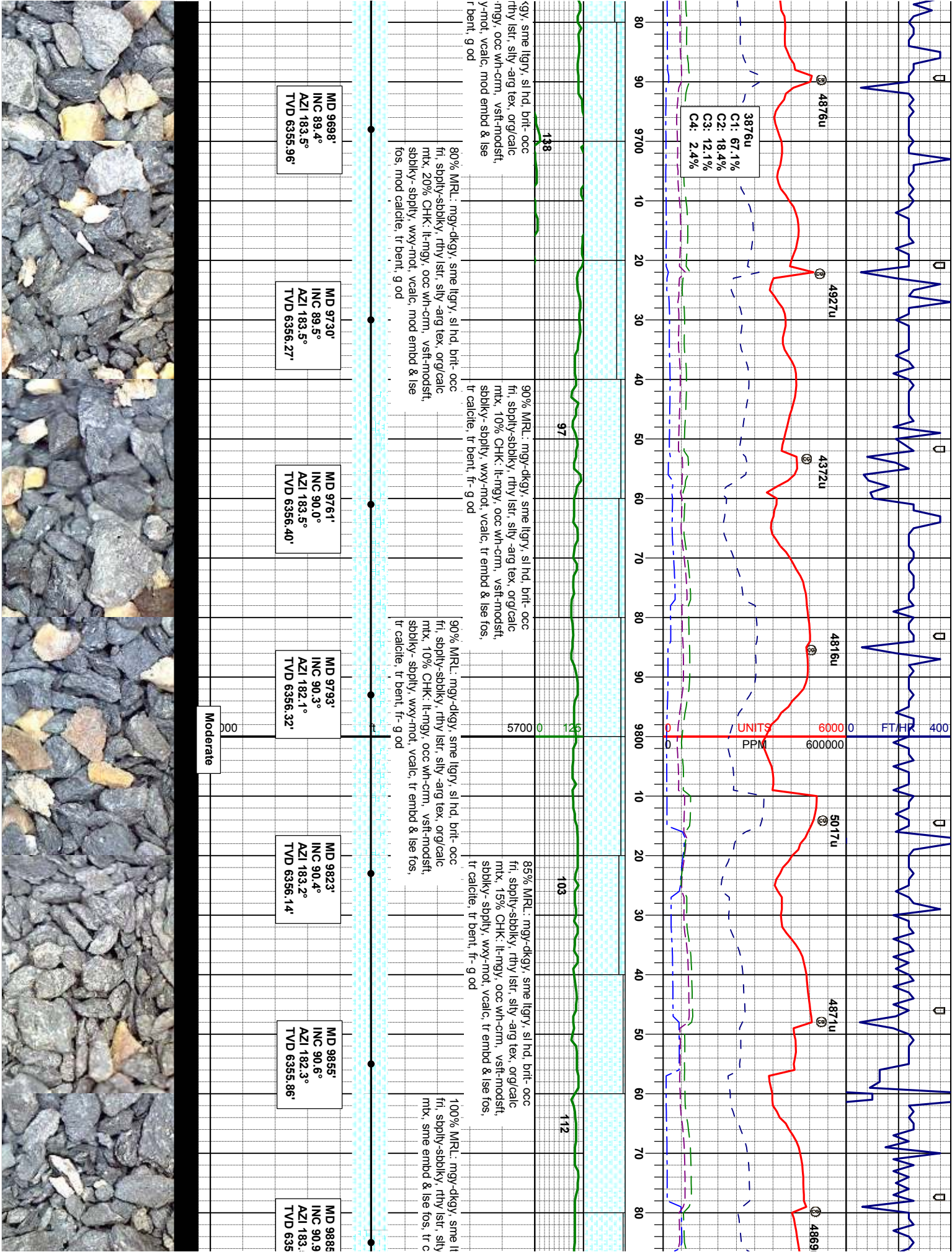
Fair

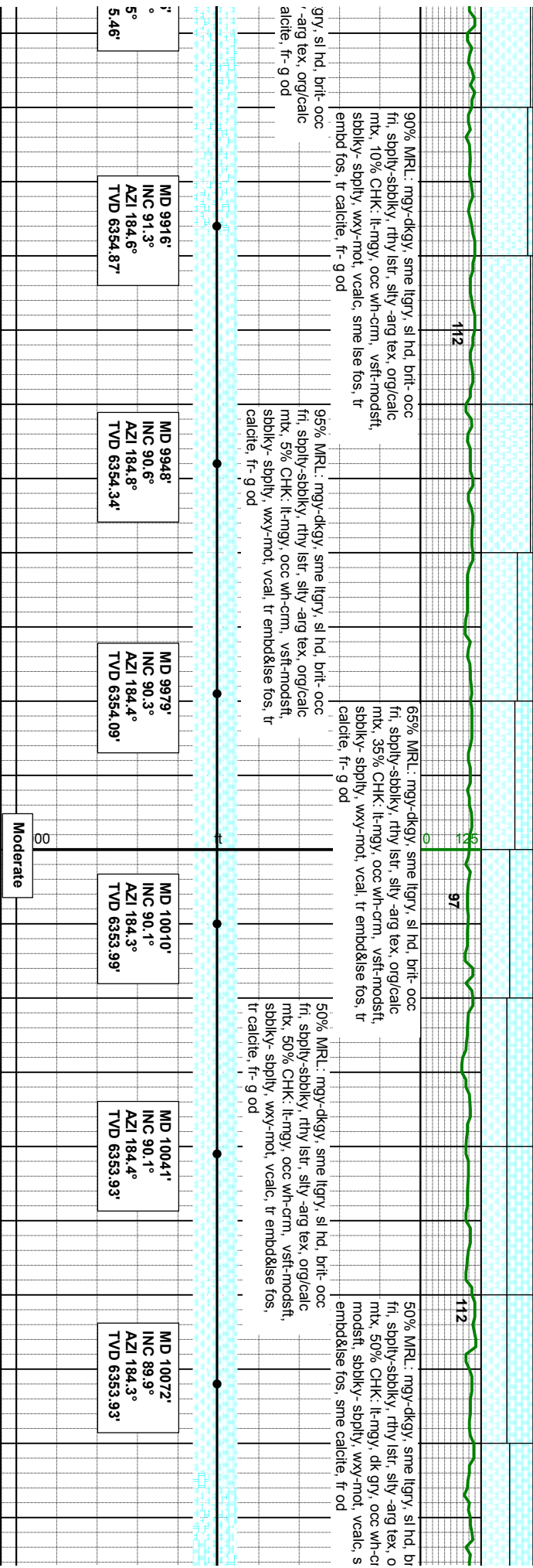
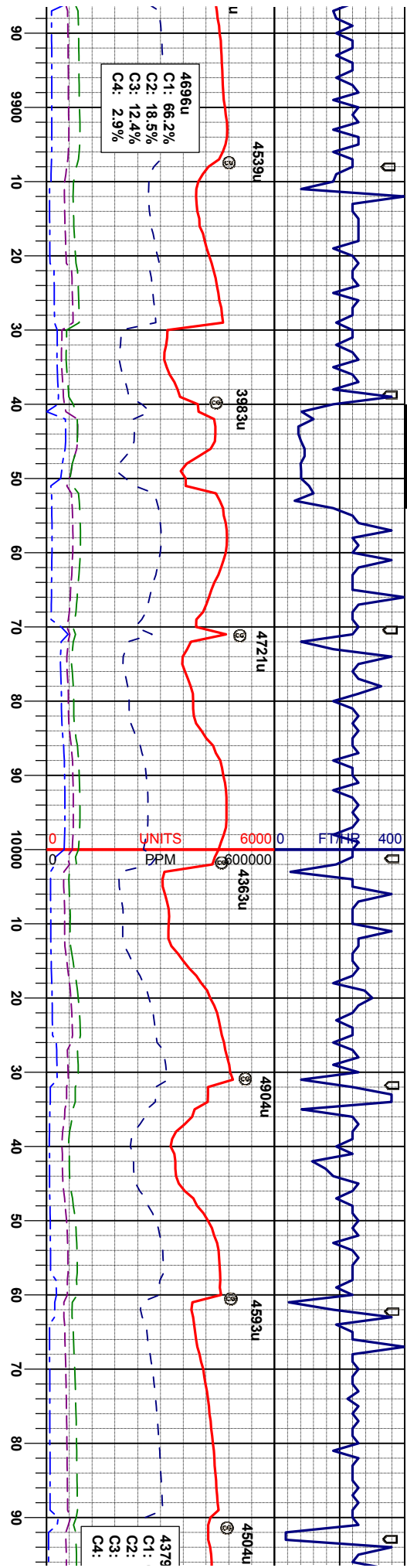


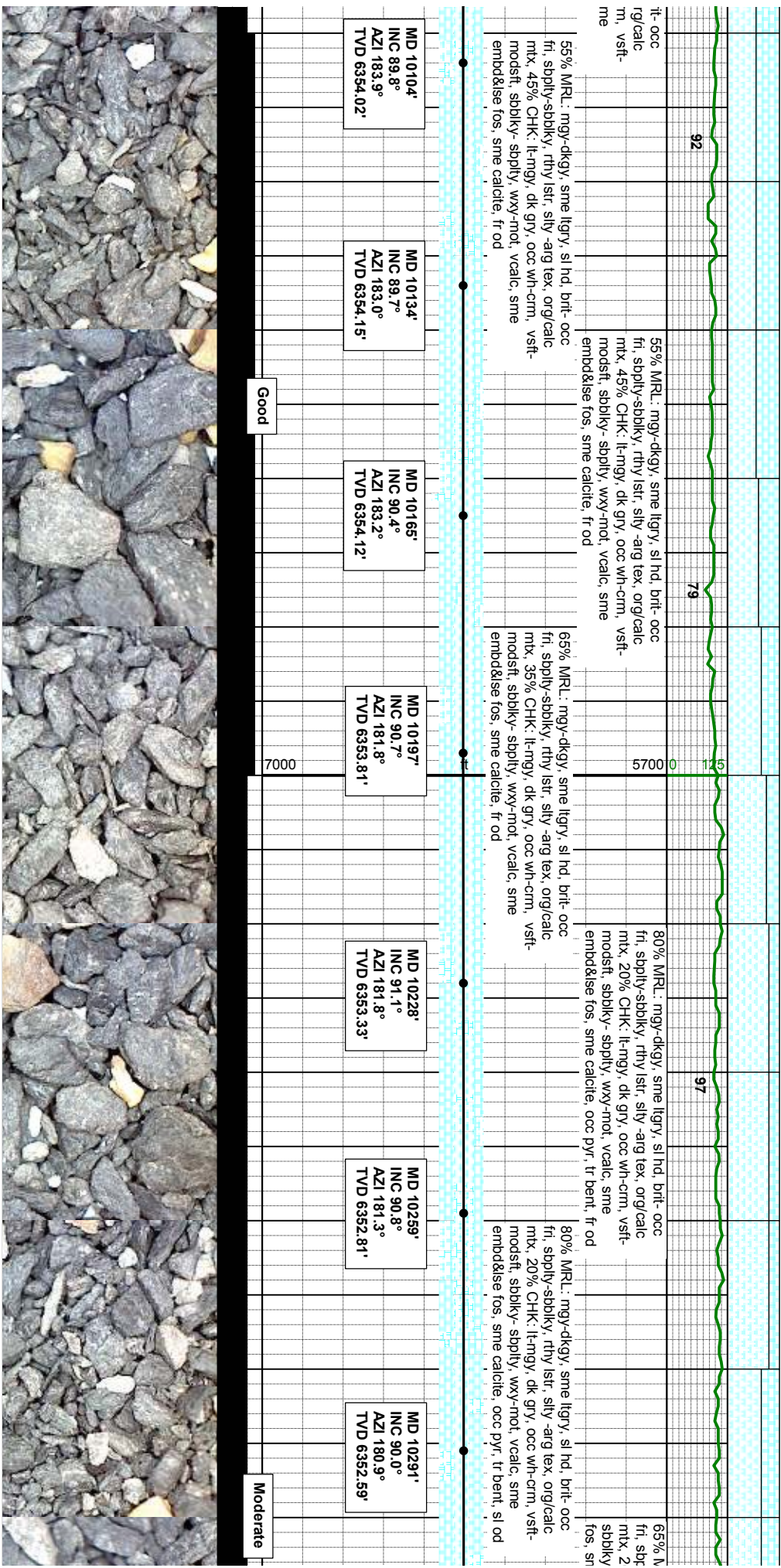
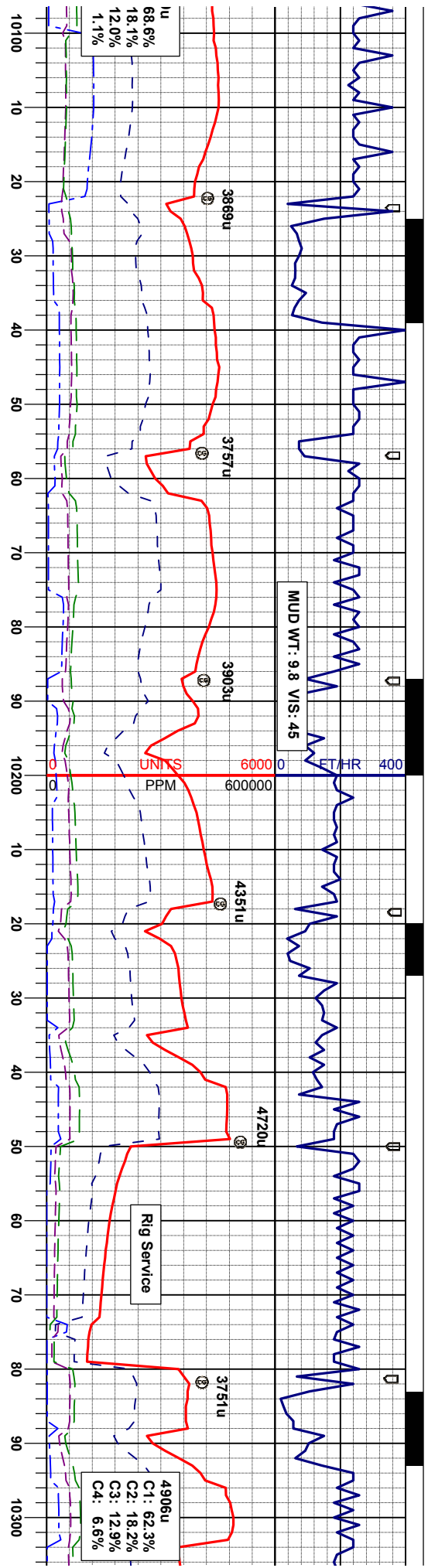


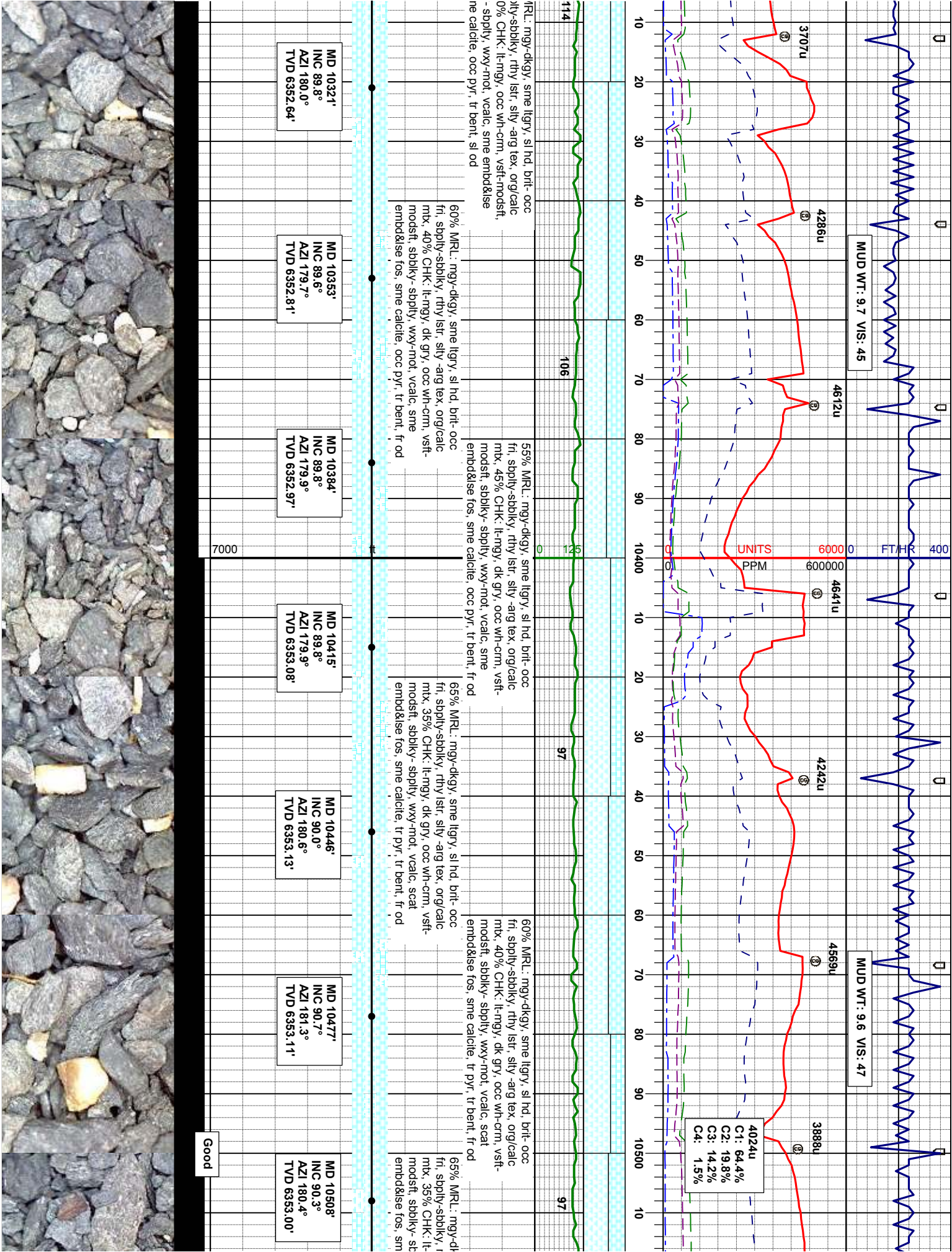
CHK: lt-mgy, occ wh-cm, vsft-mosft, -sbply, wxy-mot, vcalc, occ embd & lse calcte, sme bent, g od	
MD 9481' INC 89.0° AZI 184.6° TVD 6353.79'	MD 9512' INC 89.1° AZI 183.5° TVD 6354.30'
MD 9544' INC 89.5° AZI 184.6° TVD 6354.70'	MD 9575' INC 89.3° AZI 183.4° TVD 6355.02'
MD 9606' INC 89.7° AZI 183.7° 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'	

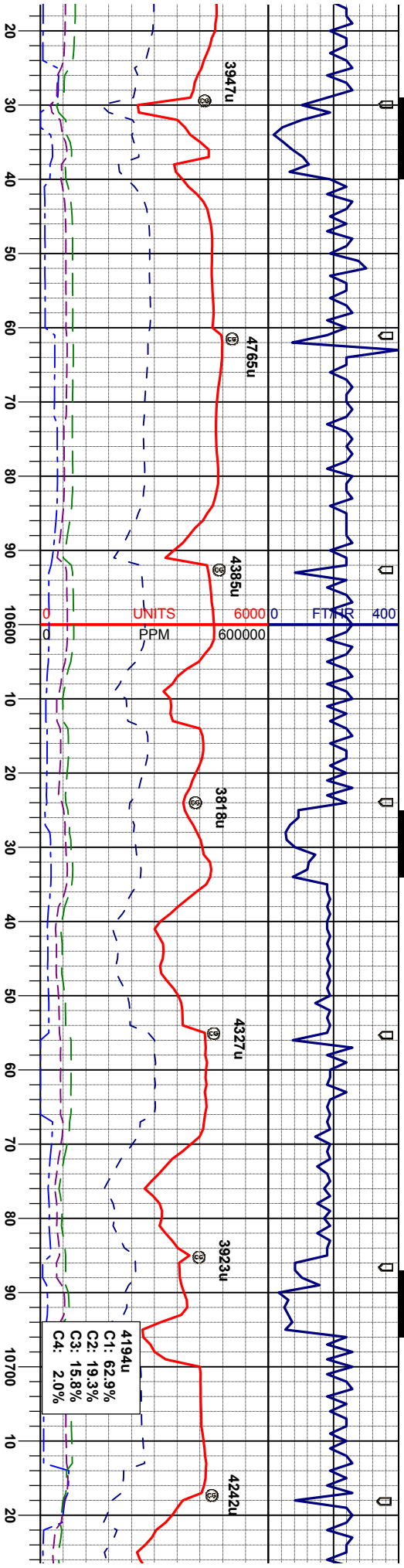












70% MRL: mgy-dkgy, sme llygy, sl hd, brlt- occ fri, sbply-sbblky, rthy istr, sily -arg tex, orgcalc mtx, 30% CHK: lt-mgy, dk gry, sme wh-crm, vsft- modstf, sbblky-sbply, wxy-mot, vcalc, scat embdlse fos, sme calcite, tr bent, fr od	65% MRL: mgy-dkgy, sme llygy, sl hd, brlt- occ fri, sbply-sbblky, rthy istr, sily -arg tex, orgcalc mtx, 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% MRL: mgy-dkgy, sme llygy, sl hd, brlt- occ fri, sbply-sbblky, rthy istr, sily -arg tex, orgcalc mtx, 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% MRL: mgy-dkgy, sme llygy, sl hd, brlt- occ fri, sbply-sbblky, rthy istr, sily -arg tex, orgcalc mtx, 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% MRL: mgy-dkgy, sme llygy, sl hd, brlt- occ fri, sbply-sbblky, rthy istr, sily -arg tex, orgcalc mtx, 40% CHK: lt-mgy, dk gry, sme wh-crm, vsft- modstf, sbblky-sbply, wxy-mot, vcalc, occ w sbblky-sbply, wxy-mot, vcalc fos, sme calcite, tr bent, tr py
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MD 10539' 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
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