



Company : Apache

Well : Elver-1

Interval : 1724.00 - 3255.20 meters

Created : 29/Dec/2008 2:35:37 PM

INTEQ

FORMATION EVALUATION LOG

Drilling Rate		MD meters	TVDRT meters	Cuttings Lithology	Visual Inferred Porosity	Gas Data		Chromatograph Data		Calcmetry	Interpreted Lithology	Lithology Description
ROP (m/hr)	ROP (m/hr)					Gas Hydrocarbon Avg %	Methane ppm	Ethane ppm	Propane ppm			
200	200	1730	1484.3			0.1 1 10 100	1	100000	1	100000		340mm (13 3/8") casing shoe @ 1735.9 mMDRT
180	180	1740	1496.7			0.1 1 10 100	1	100000	1	100000		Reached 406mm (16") Section TD @ 1741.7m at 22:50 hrs on 22/12/2008
160	160	1750	1509.2			0.1 1 10 100	1	100000	1	100000		WOB: 5-35klbf RPM: 66-105 GPM: 990-1020 SPP: 2800-4050psi
140	140	1760	1521.8			0.1 1 10 100	1	100000	1	100000		22/12/08 26/12/08
120	120	1770	1534			0.1 1 10 100	1	100000	1	100000		WOB: 5-34klbf RPM: 66-105 GPM: 649-1020 SPP: 1624-4058psi
100	100	1780				0.1 1 10 100	1	100000	1	100000		NB3 Smith MDJ619-LBI 311 mm (12 1/4") Jets: 6x15 Depth In: 1741.7m Depth Out: 3248.9m Drilled: 1507.2m in 36.9 hrs Grade: xxxxxxxxxxxx
80	80	1790				0.1 1 10 100	1	100000	1	100000		Survey @ 1753.96 mMDRT Incl: 51.77 deg Azi: 191.53 deg TVD: 1492.70 m
60	60	1800				0.1 1 10 100	1	100000	1	100000		Survey @ 1783.97 mMDRT Incl: 50.98 deg Azi: 190.78 deg TVD: 1511.40 m
40	40	1810				0.1 1 10 100	1	100000	1	100000		MW: 1.15 FV: 65 PV: 15 YP: 30 pH: 11.3 CK: 5.9 GELS: 5/7/9 CL: 48000
20	20	1820				0.1 1 10 100	1	100000	1	100000		CALCARENITE: v lt gy-lt gnsh gy, off wh-pl yel org, tr f-crs sbang qtz grs, sfty i/p grd to CLSLT, tr v f glauc gr, frm-mod hd, pr vis por, no hydc fluor

340mm (13 3/8") casing shoe @ 1735.9 mMDRT

Reached 406mm (16") Section TD @ 1741.7m at 22:50 hrs on 22/12/2008

CALCARENITE: v lt gy-lt gnsh gy, off wh-pl yl or, tr med-crs sbang qtz grs, sly i/p grd to CLSLT, tr v f glauc gr, frm-mod hd, p vis por, no hydc fluor

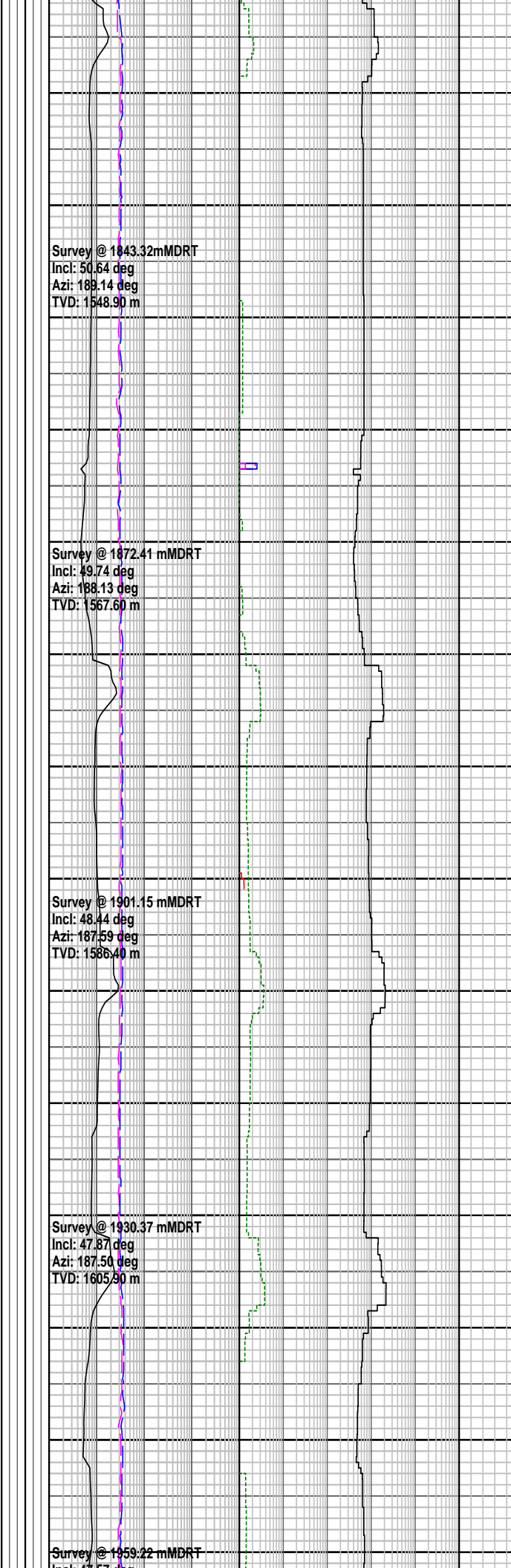
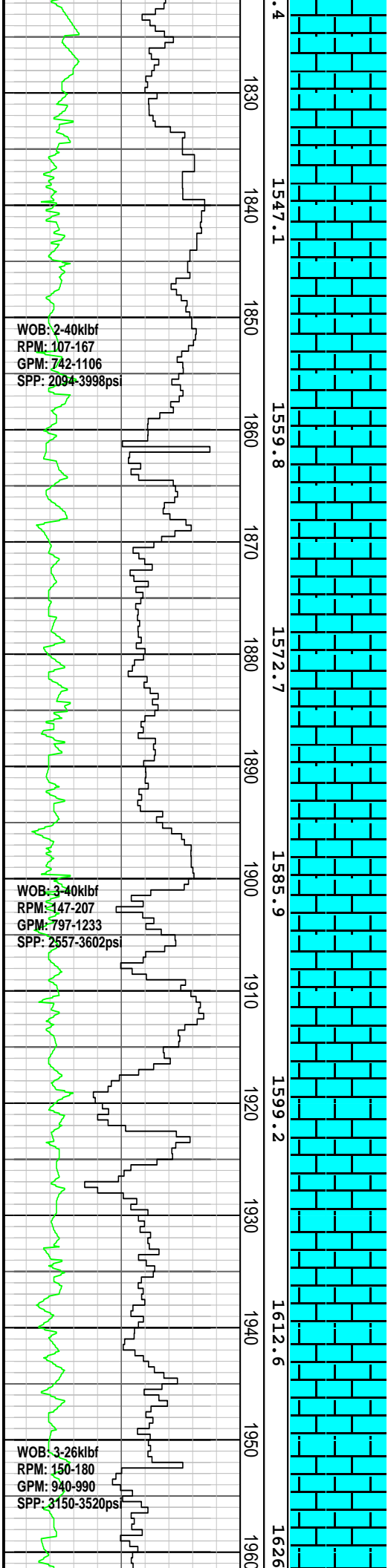
DOLOMITE: lt brn, dk yelsh brn, xln, v calc, grd to DOL LST, mod hd-hd, brit

CALCILUTITE: v lt gy-lt gnsh gy, off wh, sly i/p, grd to CLSLT, tr v f glauc, tr lt brn hd dol frags, sft-frm, amor-sbbly, sbfiss i/p

MW: 1.15 FV: 65
PV: 15 YP: 30
pH: 11.3 CK: 5.9
GELS: 5/7/9 CL: 48000

CALCISILTITE: med lt gy-lt olv gy, lt gnsh gy, argl i/p grd to CLCLT, tr v f sd grs, tr v f glauc, tr micmic, sft-frm, sbfiss-sbbly

CALCARENITE: v lt gy-lt gnsh gy, off wh-pl yel org, tr f-crs sbang qtz grs, sfty i/p grd to CLSLT, tr v f glauc gr, frm-mod hd, pr vis por, no hydc fluor



CALCILUTITE: v lt gy-lt gnsh gy, off wh, slty i/p grd to CLSLT, tr v f glauc grs, tr forams, tr oo, sft-frm, amor-sbblky

CALCISILTITE: med lt gy-lt olv gy, lt gnsh gy, argl i/p grd to CLCLT, tr v f sd grs, tr v f glauc, tr micmic, sft-frm, sbfiss-sbblky

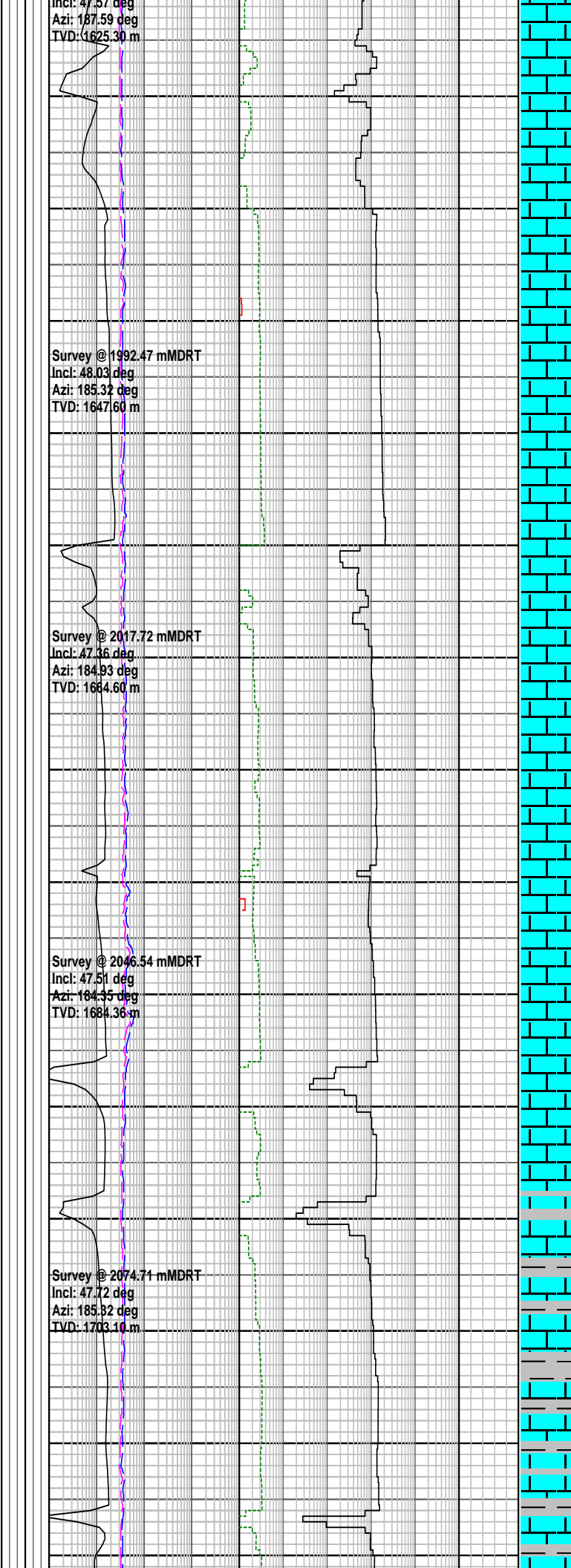
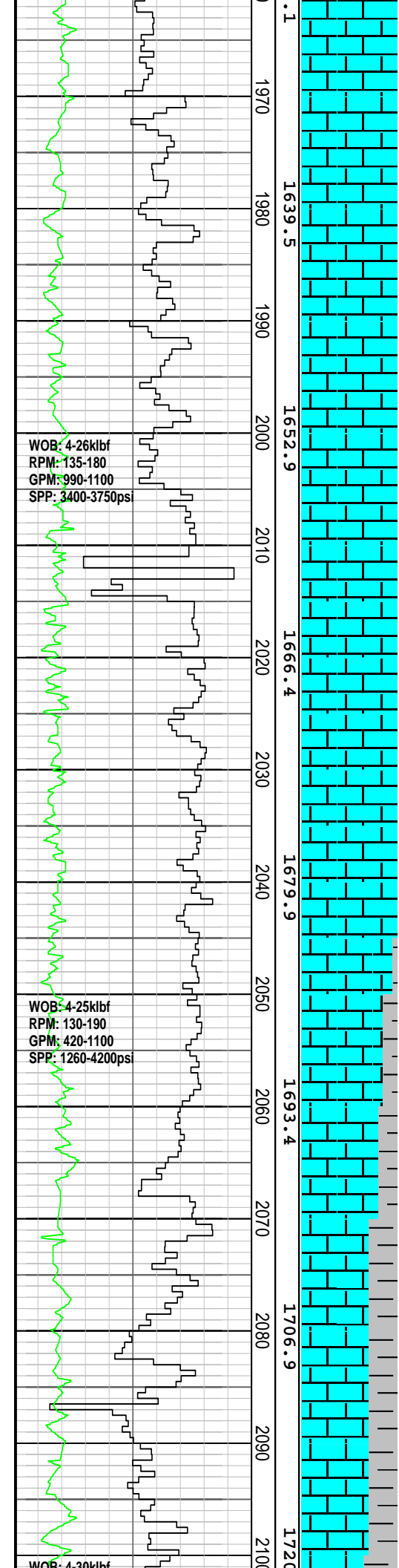
CALCILUTITE: v lt gy-lt gnsh gy, off wh, slty i/p grd to CLSLT, tr v f glauc grs, tr forams, tr oo, sft-frm, amor-sbblky

CALCARENITE: v lt gy-lt gnsh gy, off wh-pl yel org, tr f-crs sbang qtz grs, slty i/p grd to CLSLT, tr v f glauc grs, frm-mod hd, pr vis por, no hydc fluor

CALCISILTITE: med lt gy-lt olv gy, lt gnsh gy, argl i/p grd to CLCLT, tr v f sd grs, tr v f glauc, tr micmic, sft-frm, sbfiss-sbblky

CALCARENITE: v lt gy-lt gnsh gy, off wh-pl yel org, tr f-crs sbang qtz grs, slty i/p grd to CLSLT, tr v f glauc grs, frm-mod hd, pr vis por, no hydc fluor

CALCISILTITE: med lt gy-lt olv gy, lt gnsh gy, argl i/p grd to CLCLT, tr v f sd grs, tr v f glauc, tr micmic, sft-frm, sbfiss-sbblky



CALCARENITE: v lt gy-lt gnsh gy, off wh-pl yel org, tr f-crs sbang qtz grs, slty i/p grd to CLSLT, tr v f glauc grs, frm-mod hd, pr vis por, no hydc fluor

CALCILUTITE: v lt gy-lt gnsh gy, off wh, slty i/p grd to CLSLT, tr v f glauc grs, tr forams, tr oo, sft-frm, amor-sbblky

CALCARENITE: v lt gy-lt gnsh gy, off wh-pl yel org, tr f-crs sbang qtz grs, slty i/p grd to CLSLT, tr v f glauc grs, frm-mod hd, pr vis por, no hydc fluor

CALCILUTITE: v lt gy-lt gnsh gy, off wh, slty i/p grd to CLSLT, tr v f glauc grs, tr forams, tr oo, sft-frm, amor-sbblky

MW: 1.15	FV: 69
PV: 15	YP: 34
pH: 11.2	CK: 6.0
GELS: 8/9/11	CL: 48000

CALCAREOUS CLAYSTONE: med gy- lt olv gy, v calc grd to CLCLT, tr micmic, tr v f glauc, slty, sft-dom frm, sbblky-blky

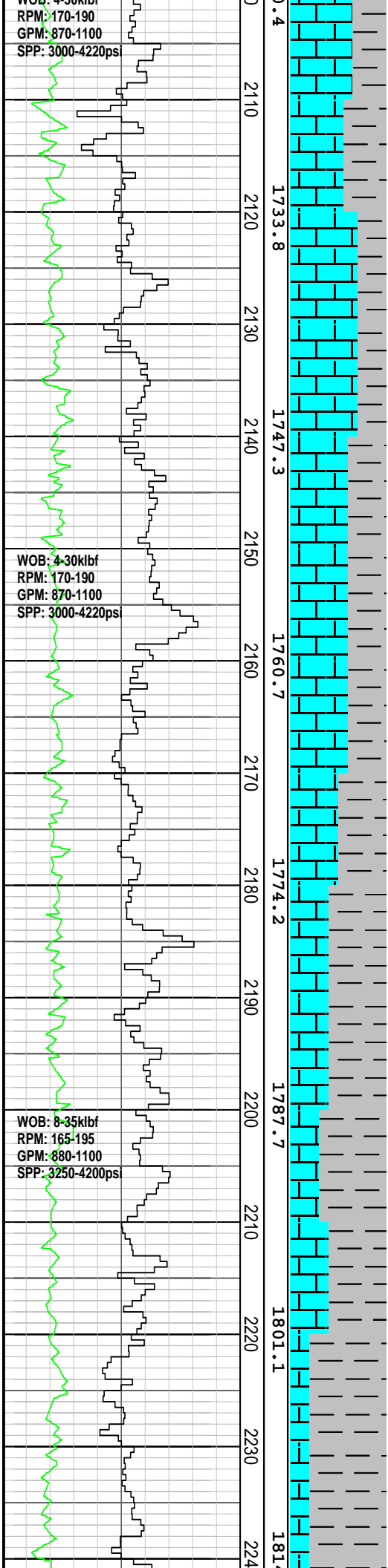
CALCILUTITE: v lt gy-lt gnsh gy, off wh, slty i/p grd to CLSLT, tr v f glauc grs, tr forams, tr oo, sft-frm, amor-sbblky

CALCISILTITE: med lt gy-lt olv gy, lt gnsh gy, argl i/p grd to CLCLT, tr v f sd grs, tr v f glauc, tr micmic, sft-frm, sbfiss-sbblky

WOB: 4-30klbf
RPM: 170-190
GPM: 870-1100
SPP: 3000-4220psi

WOB: 4-30klbf
RPM: 170-190
GPM: 870-1100
SPP: 3000-4220psi

WOB: 8-35klbf
RPM: 165-195
GPM: 880-1100
SPP: 3250-4200psi



Survey @ 2103.75 mMDRT
Incl: 47.75 deg
Azi: 184.46 deg
TVD: 1722.60 m

Survey @ 2133.30 mMDRT
Incl: 47.75 deg
Azi: 183.67 deg
TVD: 1742.50 m

Survey @ 2162.82 mMDRT
Incl: 47.65 deg
Azi: 185.81 deg
TVD: 1762.30 m

Survey @ 2191.69 mMDRT
Incl: 47.68 deg
Azi: 185.19 deg
TVD: 1781.80 m

Survey @ 2220.09 mMDRT
Incl: 47.62 deg
Azi: 186.38 deg
TVD: 1800.90 m

CALCAREOUS CLAYSTONE:
med gy- lt olv gy, v calc grd
to CLCLT, tr v f
glauc, slty, sft-dom frm,
sbbkly-blky

CALCISILTITE: med lt gy-lt
olv gy, lt gnsh gy, argl i/p grd
to CLCLT, tr v f sd grs, tr v f
glauc, tr micmic, sft-frm,
sbfiss-sbbkly

CALCAREOUS CLAYSTONE:
med gy- lt olv gy, abdt calc
grd to CLCLT, tr micmic, tr v f
glauc, tr v f carb spks, sft-
frm, sbbkly-blky

CALCISILTITE: med lt gy-lt
olv gy, lt gnsh gy, com slty,
argl i/p grd to CLCLT, tr v f sd
grs, tr v f glauc, tr micmic,
sft-frm, sbfiss-sbbkly

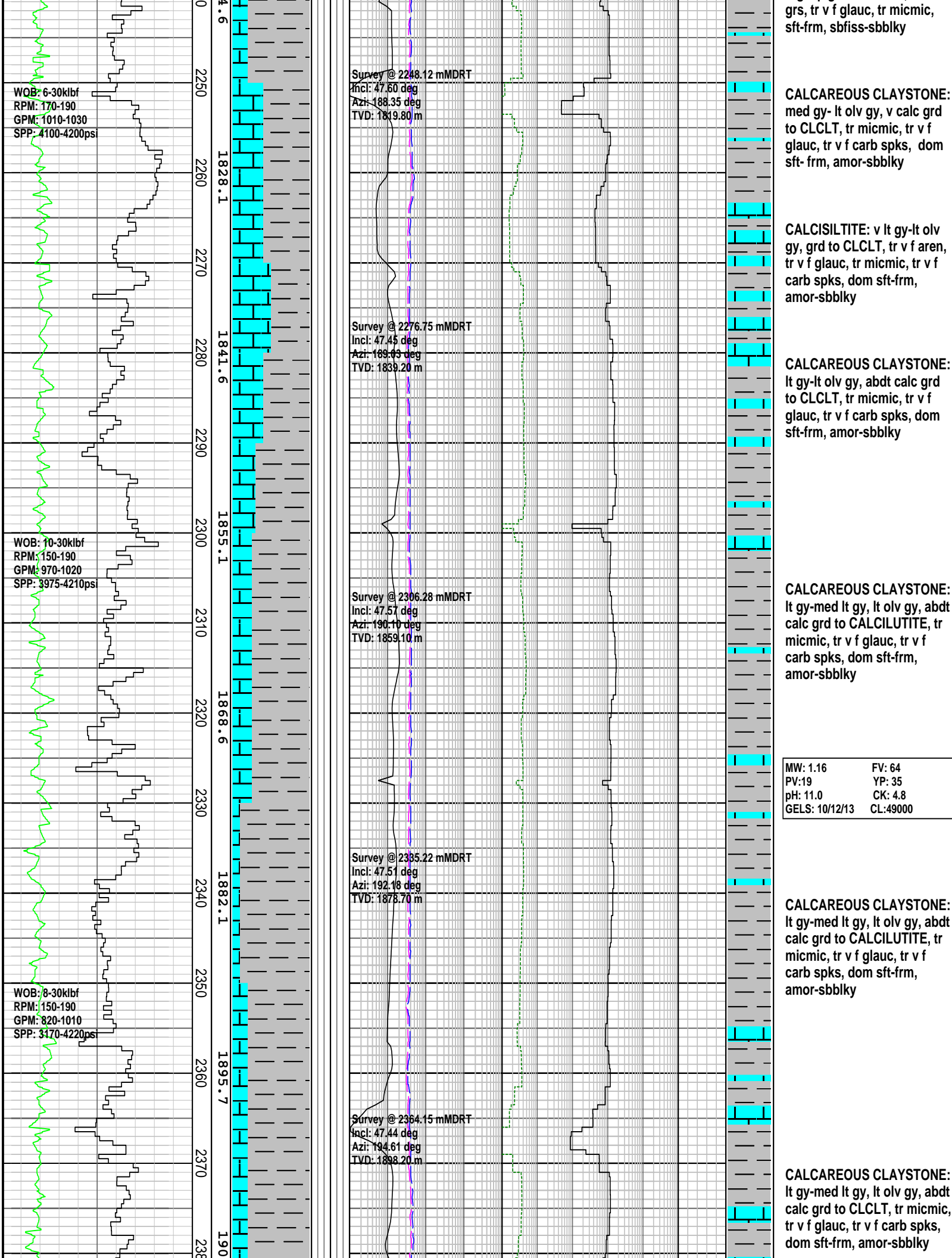
CALCILUTITE: v lt gy-lt gnsh
gy, off wh, slty i/p grd to
CLSLT, argl i/p grd to CALC
CLYST, tr v f glauc grs, tr v f
carb spks, sft-frm,
amor-sbbkly

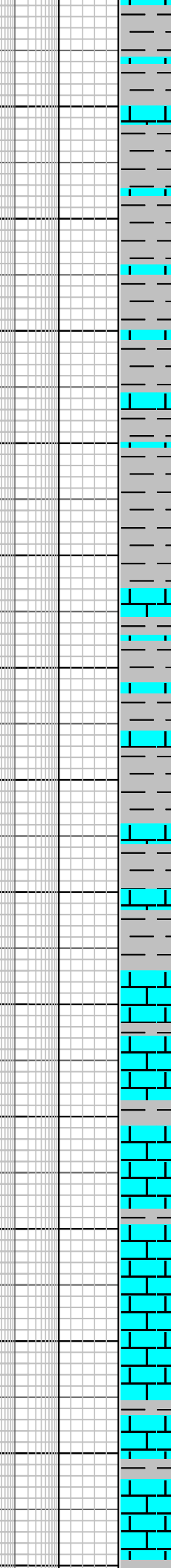
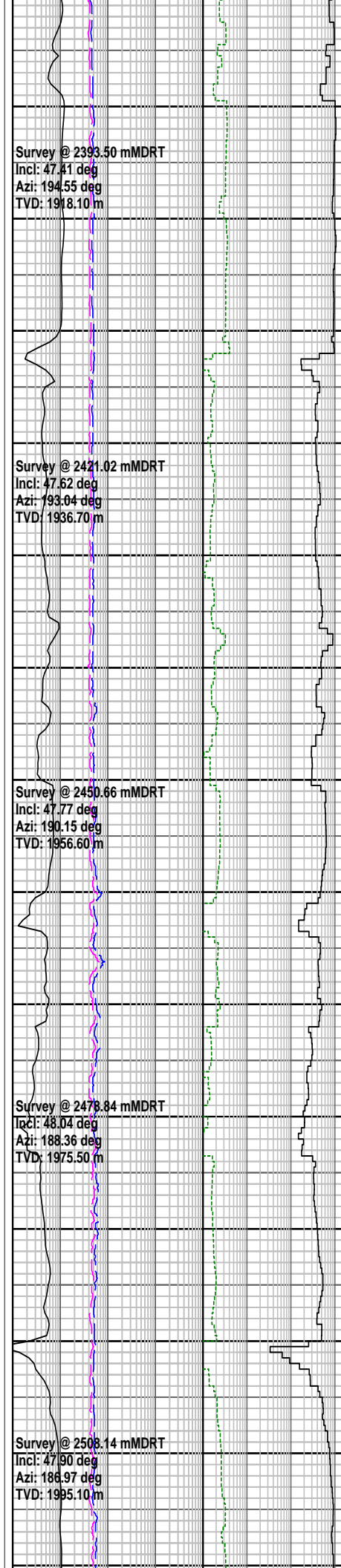
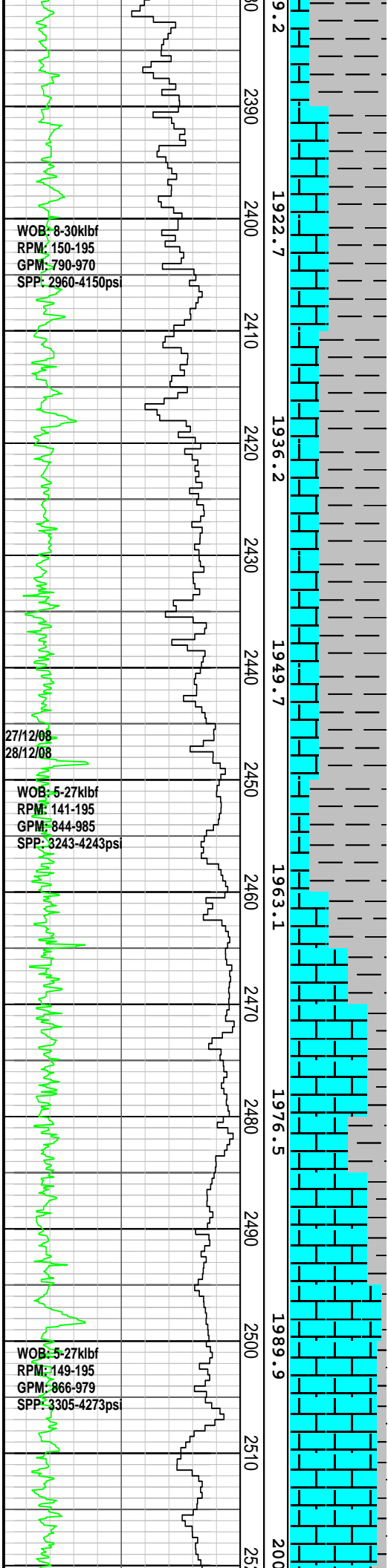
CALCAREOUS CLAYSTONE:
lt gy- lt olv gy, abdt grd to
CLCLT, tr micmic, tr v f
glauc, tr v f carb spks, dom
sft-fr, amor-sbbkly

CALCISILTITE: med lt gy-lt
olv gy, lt gnsh gy, com slty,
argl i/p grd to CLCLT, tr v f sd
grs, tr v f glauc, tr micmic,
sft-frm, sbfiss-sbbkly

CALCAREOUS CLAYSTONE:
med gy- lt olv gy, v calc grd
to CLCLT, tr micmic, tr v f
glauc, tr v f carb spks, dom
sft-frm, amor-sbbkly

CALCISILTITE: med lt gy-lt
olv gy, lt gnsh gy, com slty,
argl i/p grd to CLCLT, tr v f sd





SILTY CALCISILTITE: v lt gy-lt olv gy, grd to Argillaceous SILTSTONE, tr v f aren, tr v f glauc, tr micmic, tr v f carb spks, dom sft frm, amor-sbbkly

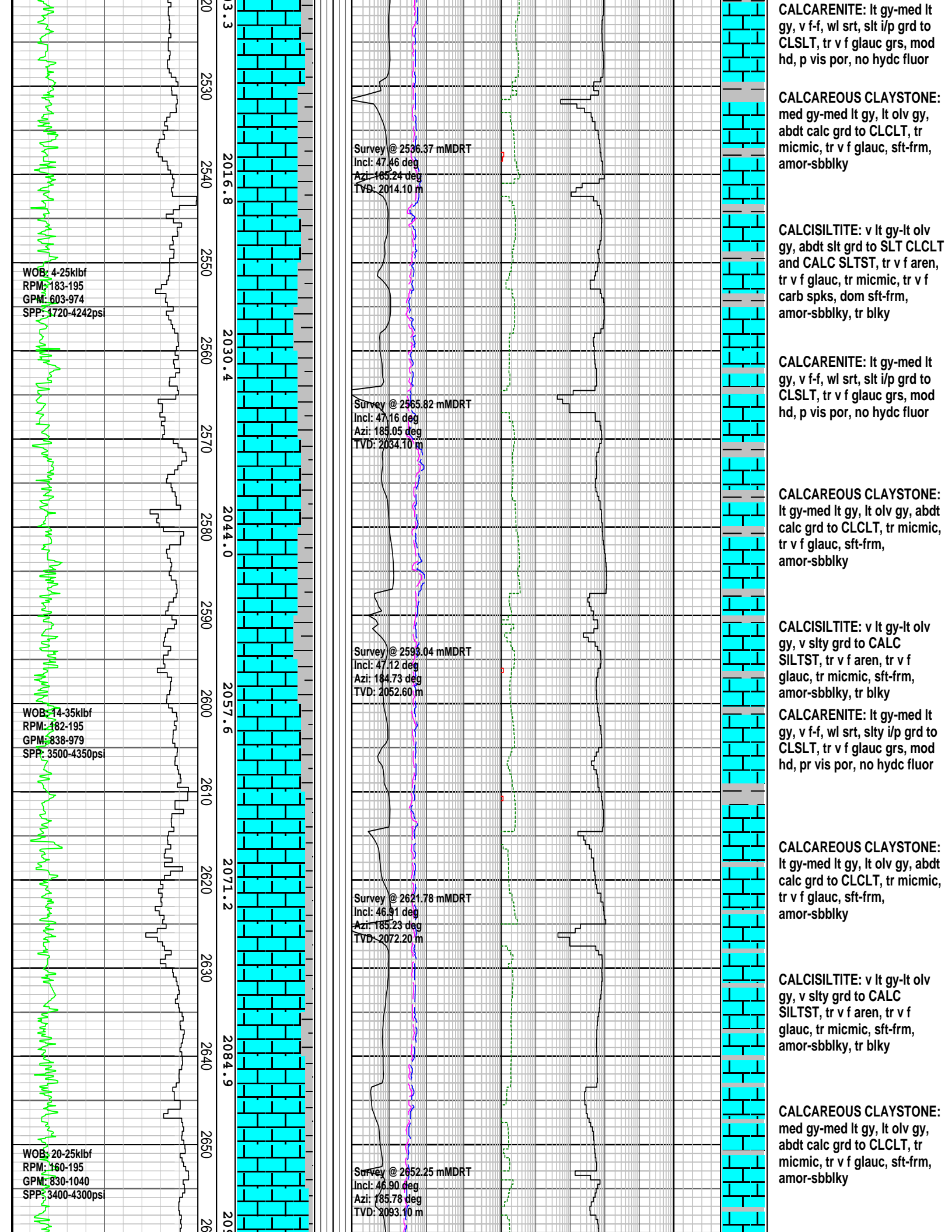
CALCAREOUS CLAYSTONE: lt gy-med lt gy, lt olv gy, abdt calc grd to CLCLT, tr micmic, tr v f glauc, tr v f carb spks, dom sft frm, amor-sbbkly

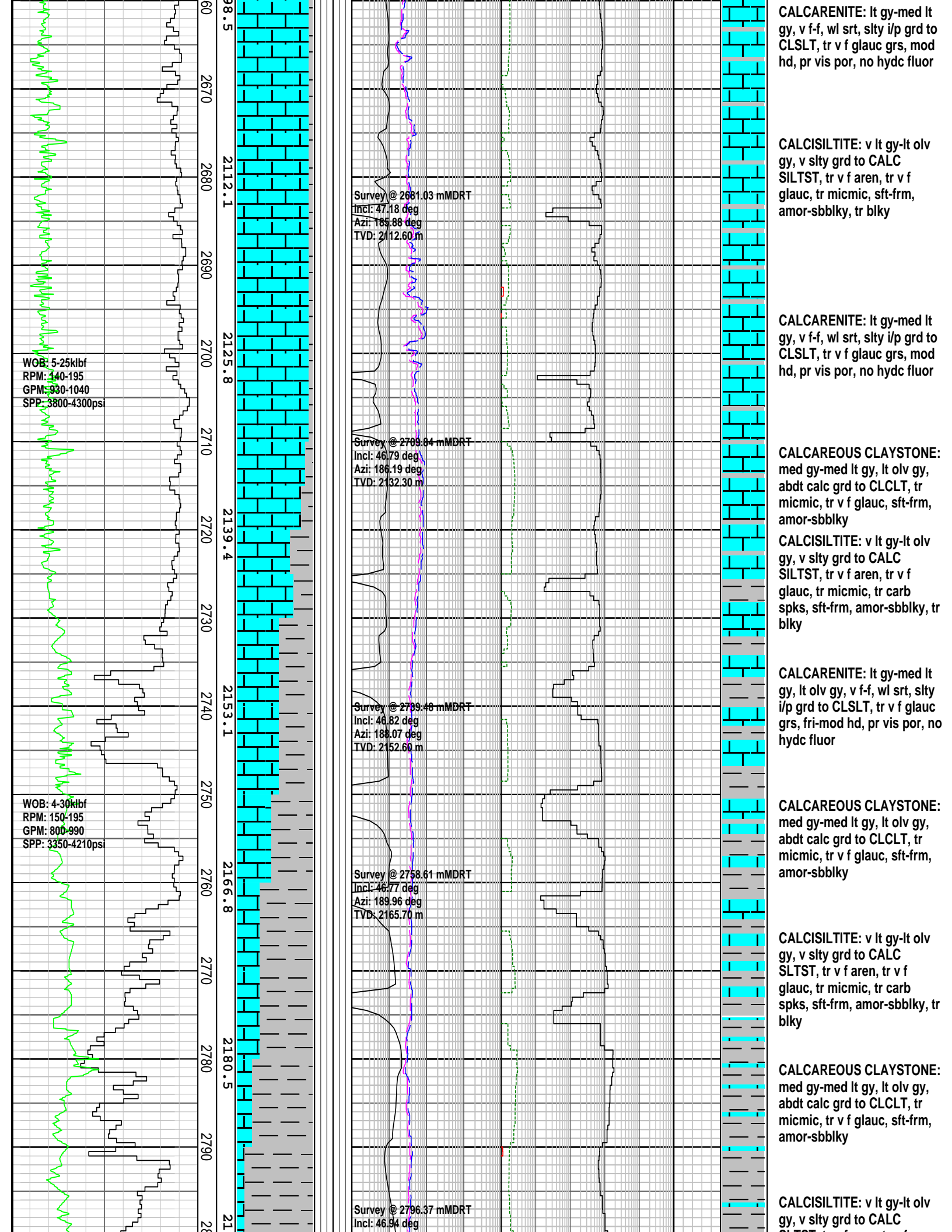
MW: 1.15	FV: 69
PV: 19	YP: 35
pH: 11.0	CK: 4.8
GELS: 10/12/13	CL: 49000

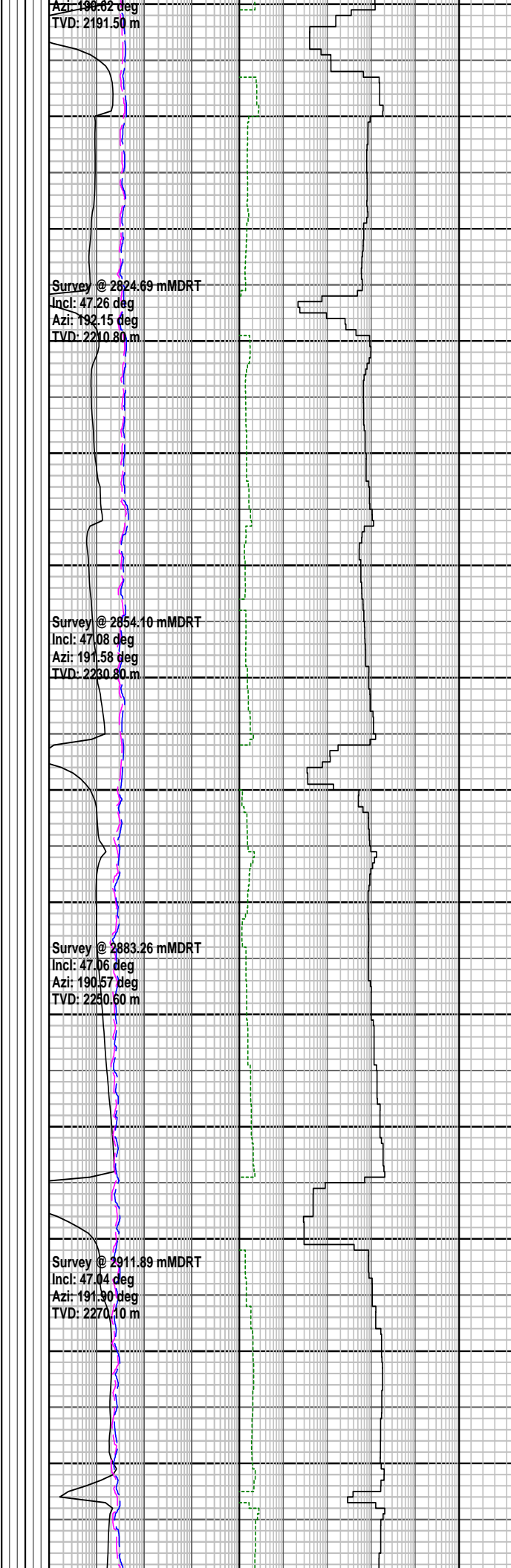
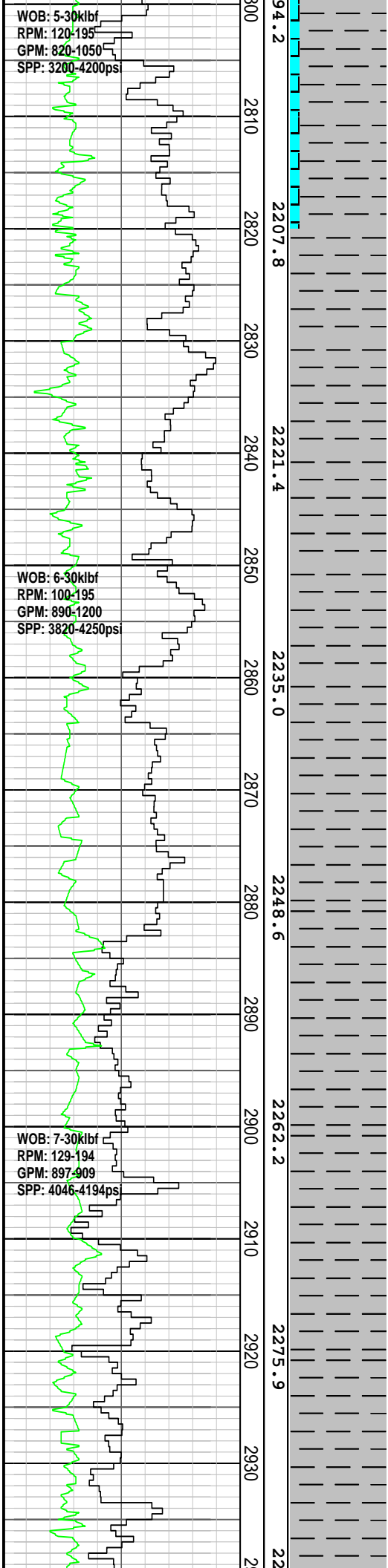
CALCARENITE: lt gy-med lt gy, v f-f, wl srt, slt i/p grd to CLSLT, tr v f glauc grs, mod hd, p vis por, no hydrc fluor

CALCISILTITE: v lt gy-lt olv gy, grd to SLT CLCLT and CALC SLTST, tr v f aren, tr v f glauc, tr micmic, tr v f carb spks, dom sft frm, amor-sbbkly, tr blkly

CALCISILTITE: v lt gy-lt olv gy, grd to SLT CLCLT and CALC SLTST, tr v f aren, tr v f glauc, tr micmic, tr v f carb spks, dom sft frm, amor-sbbkly, tr blkly







SLT S1, tr v f aren, tr v f glauc, tr micmic, tr carb spks, sft frm, amor-sbblky, tr blkly

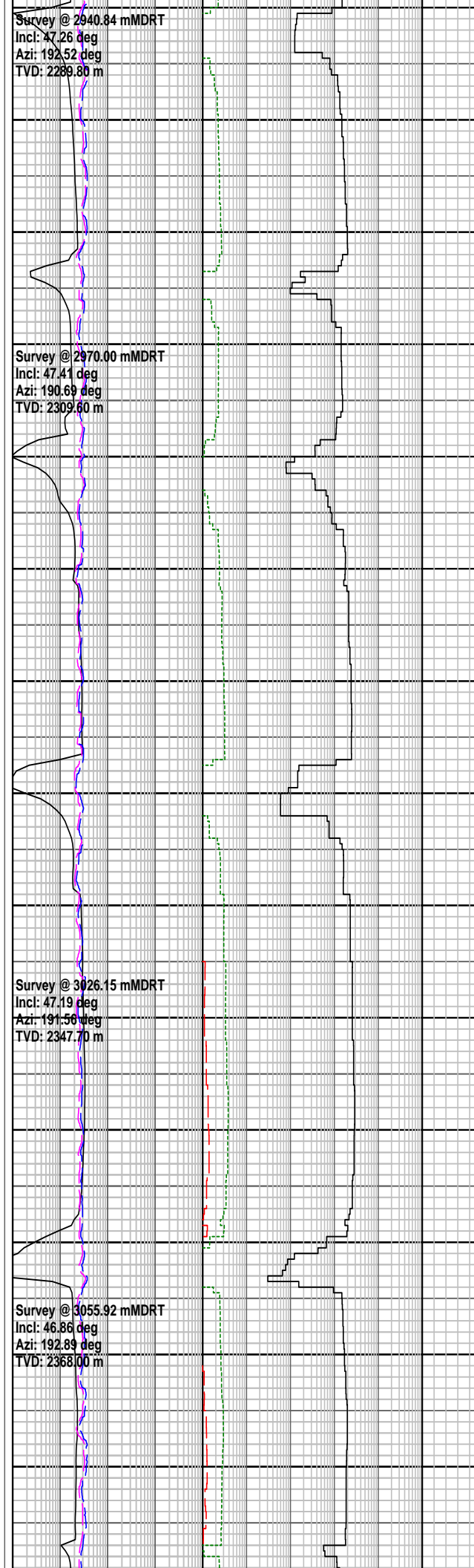
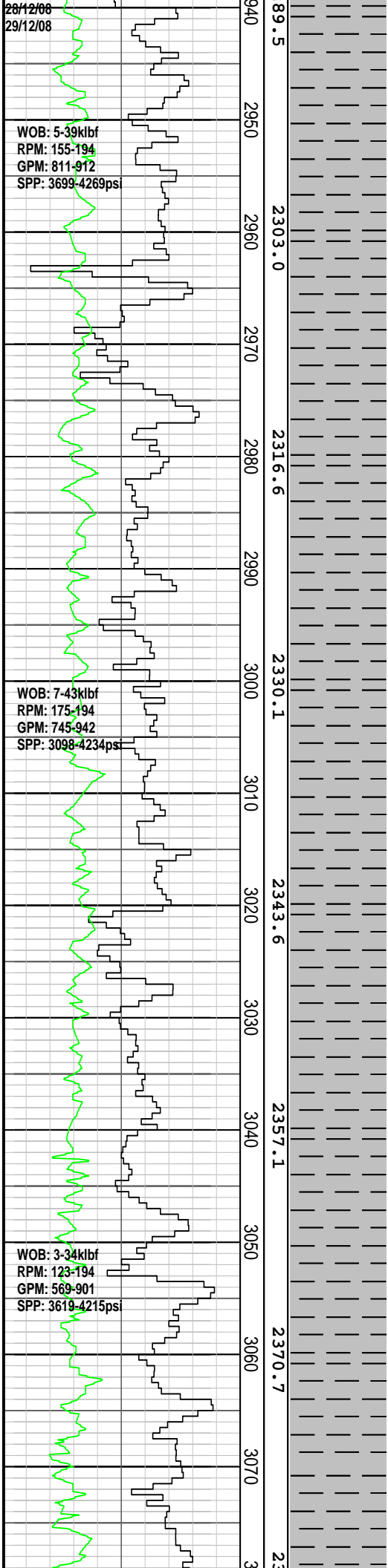
CALCAREOUS CLAYSTONE:
med gy-med lt gy, lt olv gy, abdt calc grd to CLCLT, tr micmic, tr v f glauc, sft frm, amor-sbblky

CALCAREOUS CLAYSTONE:
med gy-med lt gy, lt olv gy, abdt calc grd to CLCLT, tr micmic, tr v f glauc, tr v f carb spks, sft frm, amor-sbblky

CALCAREOUS CLAYSTONE:
med gy-med lt gy, lt olv gy, abdt calc grd to CLCLT, tr micmic, tr v f glauc, tr v f carb spks, sft frm, amor-sbblky

CALCAREOUS CLAYSTONE:
med gy-med lt gy, lt olv gy, abdt calc grd to CLCLT, tr micmic, tr v f glauc, tr v f carb spks, sft frm, amor-sbblky

MW: 1.16 FV: 61
PV: 19 YP: 30
pH: 10.8 CK: 6.0
GELS: 9/12/15 CL: 51000



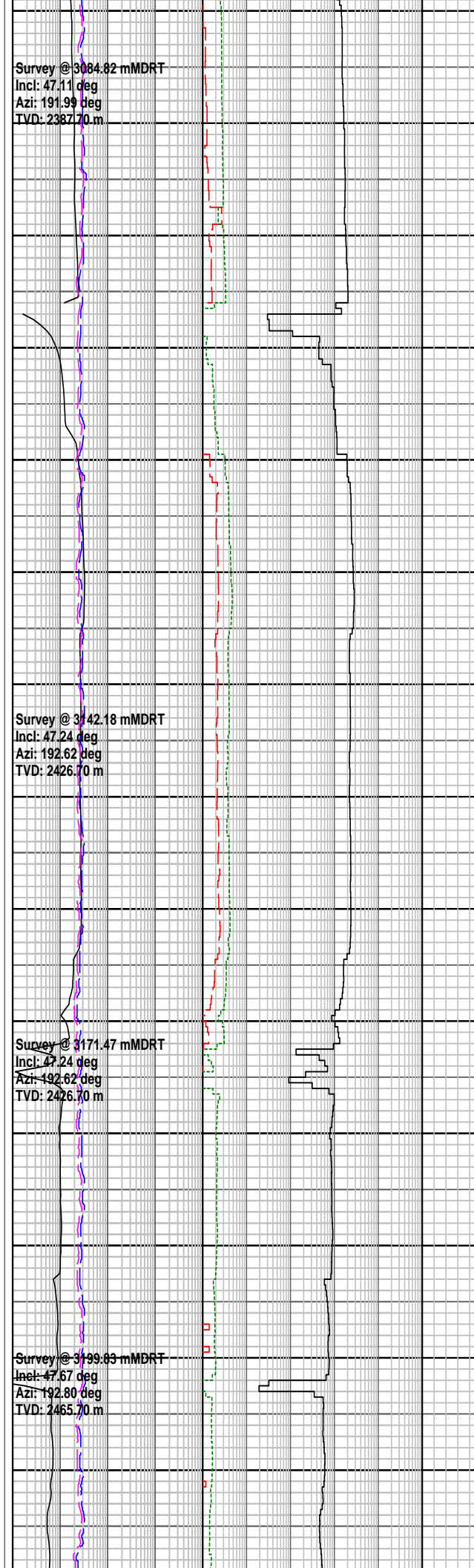
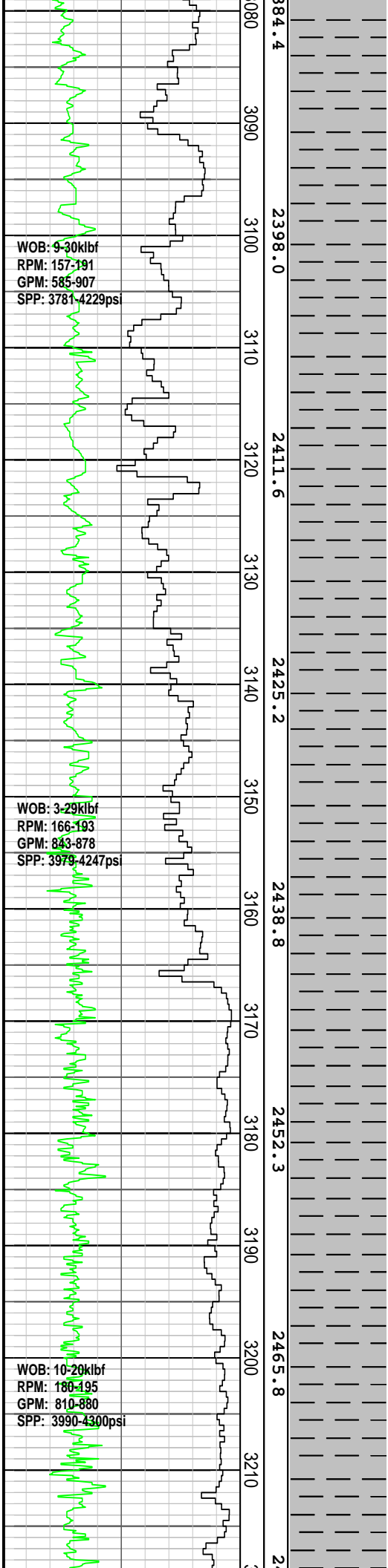
CALCAREOUS CLAYSTONE:
med gy-med lt gy, lt olv gy,
abdt calc grd to CLCLT, tr
micmic, tr v f glauc, tr v f
carb spks, sft-frm,
amor-sbblky

CALCAREOUS CLAYSTONE:
med gy-med lt gy, lt olv gy,
abdt calc grd to CLCLT, tr
micmic, tr v f glauc, tr v f
carb spks, sft-frm,
amor-sbblky

CALCAREOUS CLAYSTONE:
med gy-med lt gy, lt olv gy,
abdt calc grd to CLCLT, tr
micmic, tr v f glauc, tr v f
carb spks, sft-frm,
amor-sbblky

CALCAREOUS CLAYSTONE:
med gy-med lt gy, lt olv gy,
abdt calc grd to CLCLT, tr
micmic, tr v f glauc, tr v f
carb spks, sft-frm,
amor-sbblky

CALCAREOUS CLAYSTONE:
med gy-med lt gy, lt olv gy,
abdt calc grd to CLCLT, tr
micmic, tr v f glauc, tr v f
carb spks, sft-frm,
amor-sbblky



med carb spks, sft frm, amor-sbblky

CALCAREOUS CLAYSTONE:
med gy-med lt gy, lt olv gy, abdt calc grd to CLCLT, tr micmic, tr v f glauc, tr v f-med carb spks, sft frm, amor-sbblky

CALCAREOUS CLAYSTONE:
med gy-med lt gy, lt olv gy, abdt calc grd to CLCLT, tr micmic, tr v f glauc, tr v f-med carb spks, tr microfos, sft frm, amor-sbblky,

CALCAREOUS CLAYSTONE:
med gy-med lt gy, lt olv gy, abdt calc grd to CLCLT, tr micmic, tr v f glauc, tr v f-med carb spks, tr microfos, sft frm, amor-sbblky,

CALCAREOUS CLAYSTONE:
med gy-med lt gy, lt olv gy, abdt calc grd to CLCLT, tr micmic, tr v f glauc, tr v f-med carb spks, tr microfos, sft frm, amor-sbblky,

CALCAREOUS CLAYSTONE:
med gy-med lt gy, lt olv gy, abdt calc grd to CLCLT, tr micmic, tr v f glauc, tr v f-med carb spks, tr microfos, sft frm, amor-sbblky,

