



Company : Apache

Well : Elver-1

Interval : 3238.00 - 5185.46 meters

Created : 11/Jan/2009 8:37:19 AM

INTEQ

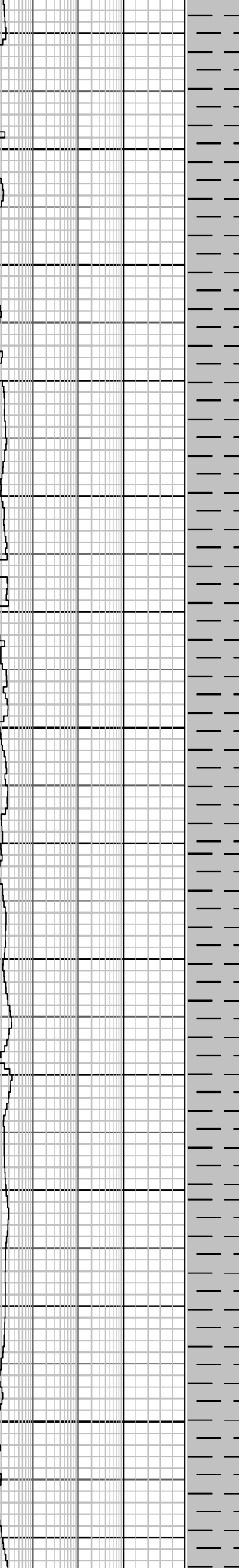
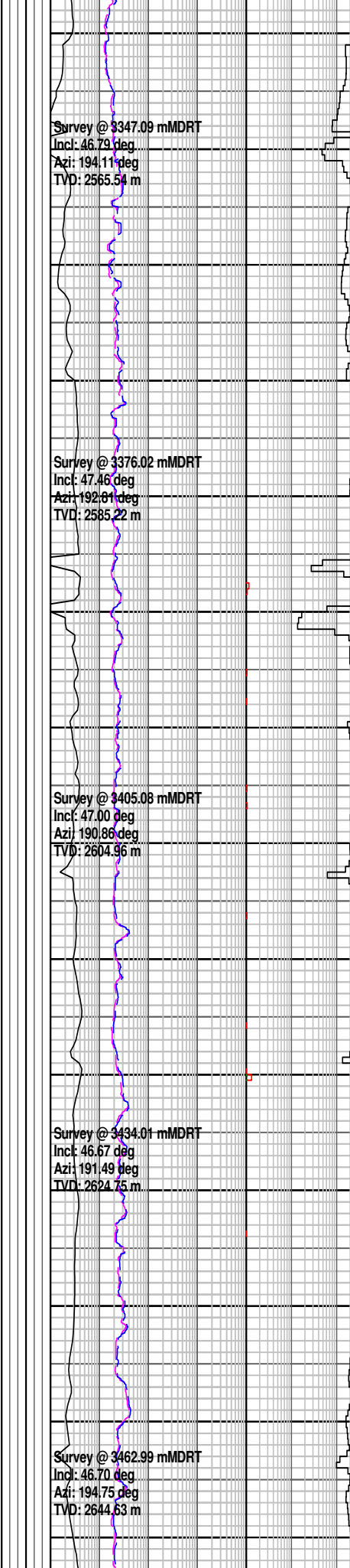
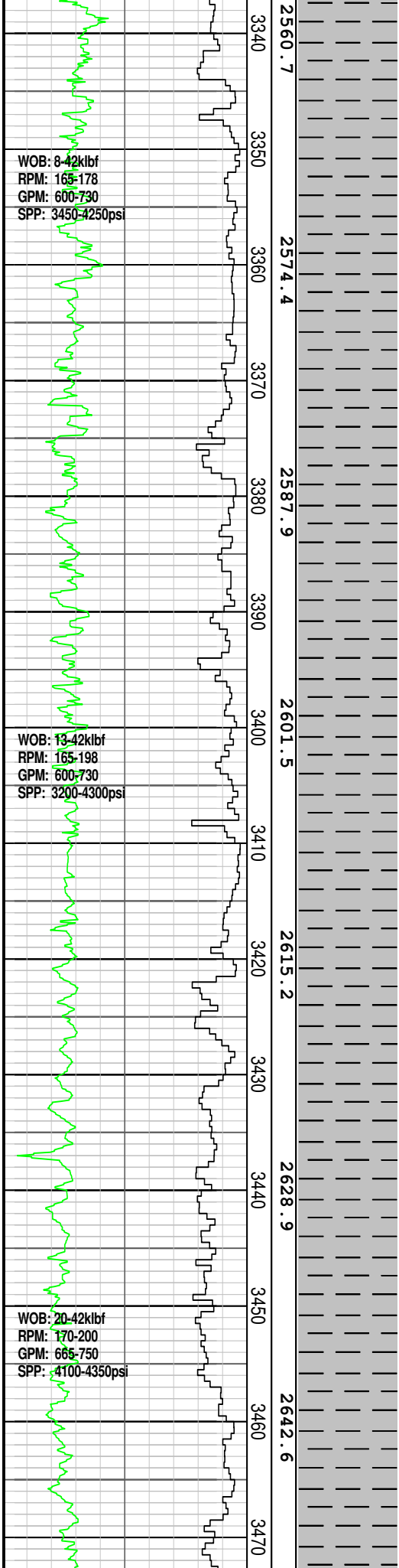
### FORMATION EVALUATION LOG

Drilling Rate		MD meters	TVDRT meters	Cuttings Lithology	Visual Inferred Porosity	Oil Show	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	3240	2492.0				0.1   1   10   100	1	100000	1	100000	100000	244mm (9 5/8") casing shoe @ 3243.9 mMDRT
180	180	3250	3250.0	NB4 Smith Mi716 216 mm (8 1/2") Jets: 7x13 Depth In: 3248.9 mMDRT Depth Out: 3252.0 mMDRT Drilled: 3.1 m in 0.3 hrs Grade: 0-1-BT-Z-X-I-PN-DT			Resistivity Shallow ohm.m	1	1000	1	100000	100000	Reached 311mm (12 1/4") section TD @ 3248.9 mMDRT @ 1300 hrs on 29th December 2008
160	160	3260	2505.6	4RR1 Smith Mi716 216mm (8 1/2") Jets: 7x13 Depth In: 3252.0 mMDRT Depth Out: 4433.0 mMDRT Drilled: 1181.0 m in 63.7 hrs Grade: 3-1-CT-A-X-IN-BU-TQ			Resistivity Deep ohm.m	1	1000	1	100000	100000	Conducted FIT to 1.60 sg EMW @ 3252.0 mMDRT using 1.13 sg mud
140	140	3270	3270.0							1	100000	100000	POOH @ 3252.0 mMDRT to change the failed MWD tool
120	120	3280	2519.2							1	100000	100000	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 dissem pyr, tr ang qtz, tr microfos, sft-firm, amor-sbblky
100	100	3290	3290.0							1	100000	100000	CALCAREOUS CLAYSTONE: med gy-med lt gy, lt olv gy, abdt calc grd to MARL, tr micmic, tr v f glauc, tr v f-med carb spks, tr dissem pyr, tr ang qtz, tr microfos, sft-firm, amor-sbblky
80	80	3300	2533.0	WOB: 8.41klbf RPM: 68-178 GPM: 351-779 SPP: 1712-4280psi						1	100000	100000	CALCAREOUS CLAYSTONE: med gy-med lt gy, lt olv gy, abdt calc grd to MARL, tr micmic, tr v f glauc, tr v f-med carb spks, tr dissem pyr, tr ang qtz, tr microfos, sft-firm, amor-sbblky
60	60	3310	3310.0							1	100000	100000	CALCAREOUS CLAYSTONE: med gy-med lt gy, lt olv gy, abdt calc grd to MARL, tr micmic, tr v f glauc, tr v f-med carb spks, tr dissem pyr, tr ang qtz, tr microfos, sft-firm, amor-sbblky
40	40	3320	2546.9							1	100000	100000	CALCAREOUS CLAYSTONE: med gy-med lt gy, lt olv gy, abdt calc grd to MARL, tr micmic, tr v f glauc, tr v f-med carb spks, tr dissem pyr, tr ang qtz, tr microfos, sft-firm, amor-sbblky
20	20	3330	3330.0							1	100000	100000	CALCAREOUS CLAYSTONE: med gy-med lt gy, lt olv gy, abdt calc grd to MARL, tr micmic, tr v f glauc, tr v f-med carb spks, tr dissem pyr, tr ang qtz, tr microfos, sft-firm, amor-sbblky

Survey @ 3258.55 mMDRT  
Incl: 47.16 deg  
Azi: 192.38 deg  
TVD: 2504.60 m

Survey @ 3269.21 mMDRT  
Incl: 46.61 deg  
Azi: 190.79 deg  
TVD: 2525.55 m

Survey @ 3818.02 mMDRT  
Incl: 45.91 deg  
Azi: 191.02 deg  
TVD: 2545.47 m



micmic, tr v f glauc, tr v f-med carb spks, tr dissem pyr, tr ang qtz, tr microfos, sft-frm, amor-sbblky

**CALCAREOUS CLAYSTONE:**  
med gy-med lt gy, lt olv gy, tr micmic, tr v f glauc, tr v f-med carb spks, tr pyr nod, tr ang qtz, tr microfos, sft-frm, amor-sbblky, sbfiss i/p

**CALCAREOUS CLAYSTONE:**  
med gy-med lt gy, lt olv gy, tr micmic, tr v f glauc, tr v f-med carb spks, tr pyr nod, tr ang qtz, tr microfos, sft-frm, amor-sbblky, sbfiss i/p

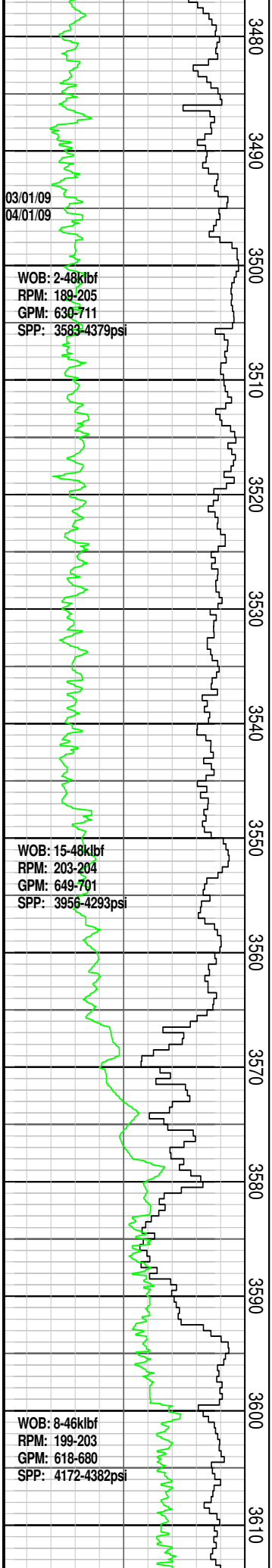
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med gy-med lt gy, lt olv gy, tr micmic, tr f aren, tr v f glauc, tr v f-med carb spks, tr pyr nod, tr ang qtz, tr microfos, sft-frm, amor-sbblky, sbfiss i/p

**CALCAREOUS CLAYSTONE:**  
med lt gy-med dk gy, lt olv gy-lt gnsh gy, mod calc, slt i/p, tr imcmic, tr v f glauc, tr v f aren, tr v f carb spks, dom frm-mod hd, amor-sbblky, tr sbfiss i/p

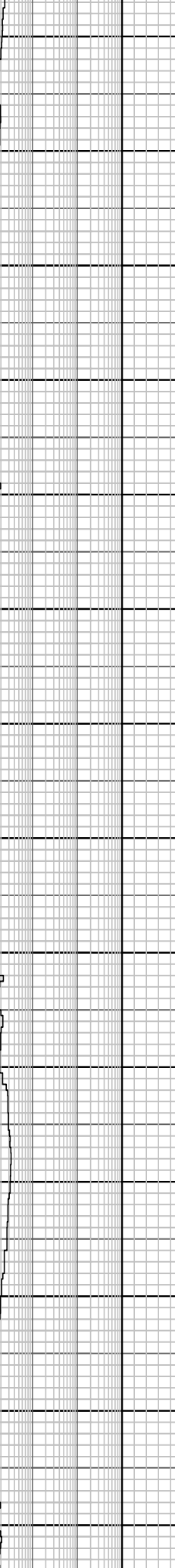
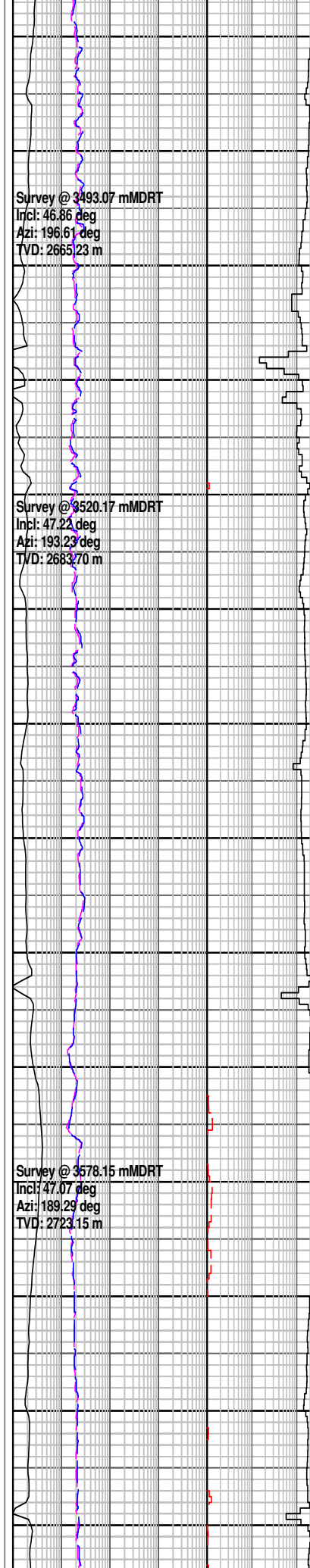
**CALCAREOUS CLAYSTONE:**  
med lt gy-med dk gy, lt olv gy-lt gnsh gy, mod calc, slt i/p, tr imcmic, tr v f glauc, tr v f aren, tr v f carb spks, tr nod-dissem pyr, dom frm-mod hd, amor-sbblky

**CALCAREOUS CLAYSTONE:**  
med lt gy-med dk gy, lt olv gy-lt gnsh gy, mod calc, slt i/p, tr imcmic, tr v f glauc, tr v f aren, tr v f carb spks, tr dissem pyr, dom frm-mod hd, amor-sbblky

**CALCAREOUS CLAYSTONE:**  
med lt gy-med dk gy, lt olv gy-lt gnsh gy, mod calc, slt



2656.3  
3480  
3490  
2670.0  
3500  
3510  
2683.6  
3520  
3530  
2697.2  
3540  
3550  
2710.8  
3560  
3570  
2724.4  
3580  
3590  
2738.0  
3600  
3610



gy, lt gnsht gy, mod calc, silt  
i/p, tr imcmic, tr v f glauc, tr v  
f aren, tr v f carb spks, tr  
dissem pyr, dom frm-mod hd,  
amor-sbblky

**CALCAREOUS CLAYSTONE:**  
med lt gy-med dk gy, lt olv  
gy-lt gnsht gy, mod calc, silt  
i/p, tr imcmic, tr v f glauc, tr v  
f aren, tr v f carb spks, tr  
dissem pyr, dom frm-mod hd,  
amor-sbblky

MW: 1.15	FV: 70
PV: 19	YP: 31
pH: 10.0	CK: 6.0
GELS: 6/8/11	CL: 53000

**CALCAREOUS CLAYSTONE:**  
med lt gy-med dk gy, lt olv  
gy-lt gnsht gy, mod calc, silt  
i/p, tr imcmic, tr v f glauc, tr v  
f aren, tr v f carb spks, tr  
dissem pyr, dom frm-mod hd,  
amor-sbblky

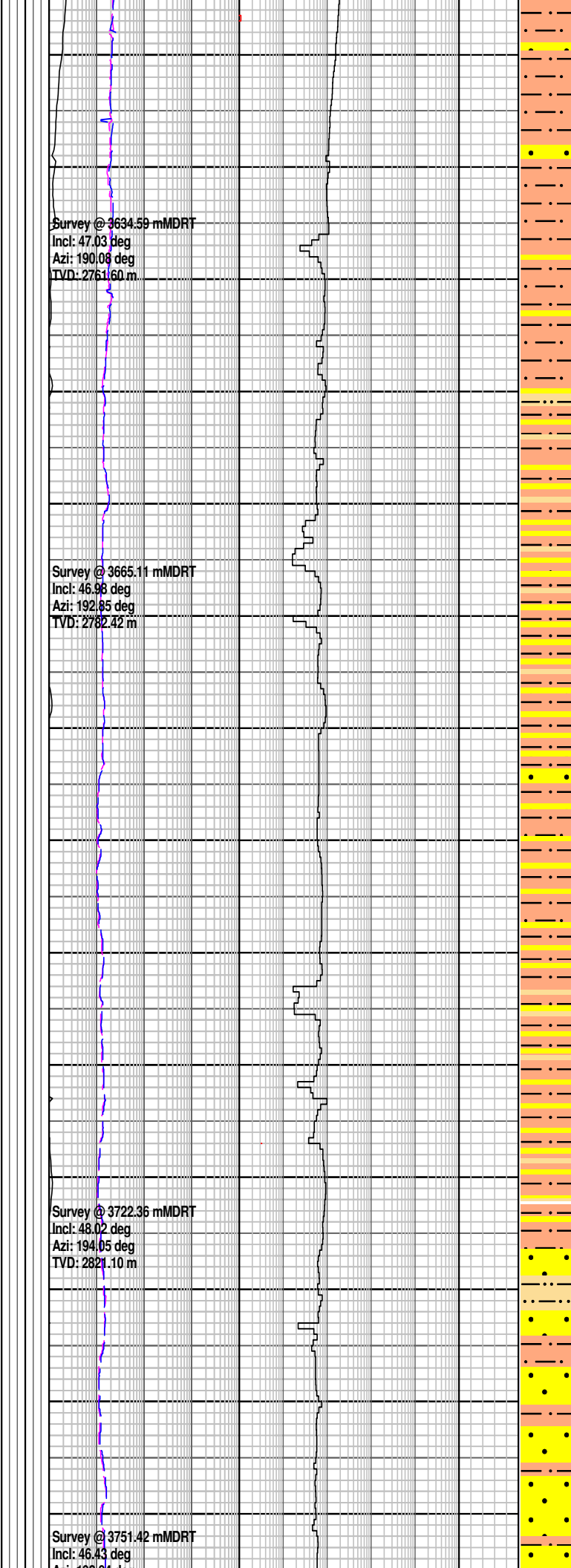
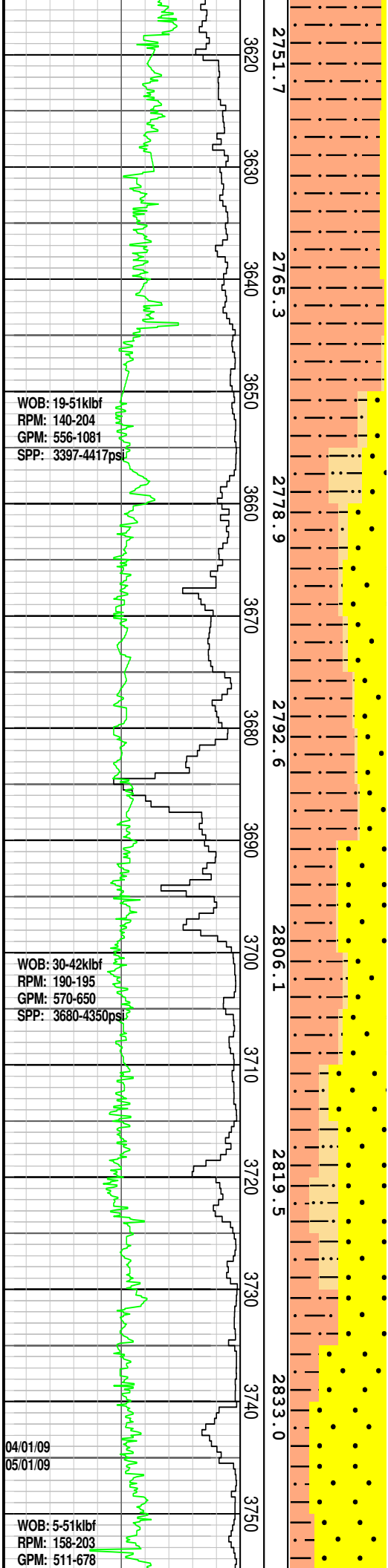
**CALCAREOUS CLAYSTONE:**  
med lt gy-med dk gy, lt olv  
gy, lt gnsht gy, mod calc, v silt,  
tr imcmic, tr v f glauc, com v f  
aren grd to SDY  
SLTST, tr v f carb spks, dom  
frm-mod hd, amor-sbblky

**SANDY SILTSTONE:** clr-trnsl,  
dom v f-f, wl srt, dom  
sbrndd-rnnd, abdt silt mtx  
sft-frm agg, tr v f glauc, tr  
calc, p vis por, no hydc fluor

**SILTSTONE:** gy brn-dus brn,  
n calc, v aren grd to SANDY  
SILTSTONE, tr-com micmic,  
tr glauc, frm, dom  
sbfiss-sbblky

**SANDSTONE:** clr-trnsl, lt olv  
gy-pl yel brn, v f-dom f, tr  
med-crs, mod srt, dom  
sbrndd-rnnd, occ sft-frm agg  
wt silt mtx, tr v f glauc, tr pyr  
nod, dom lse,p-fr vis por, no  
hydc fluor

**SILTSTONE:** gy brn-dus brn,  
dk olv gy, n calc, v aren  
grd to SANDY SILTSTONE,  
tr-com micmic, tr glauc, frm,  
dom sbfiss-sbblky



**SILTSTONE:** gy brn-dus brn, dk olv gy, n calc, v aren grd to **SANDY SILTSTONE**, tr-com micmic, tr glauc, frm, dom sbfiss-sbblyky

**SANDSTONE:** clr-trnsl, lt olv gy-pl yelsh brn, v f-dom f, tr med & crs, mod srt, dom sbrndd-rnnd, occ sft-frm agg w/ v disp argl mtrx, tr-com v f glauc grd i/p to **GLUAC SST**, tr pyr nod, dom lse, p-fr por vis, no hydc fluor

**GLAUCONITIC SANDSTONE:** clr-trnsl, lt gnsh gy, dom v f-f, wl srt, dom sbrndd-rnnd, sft to frm agg w/v disp argl & glauc mtrx, com to abdt v f glauc & glauc pel, occ lse, p vis por, no hydc fluor

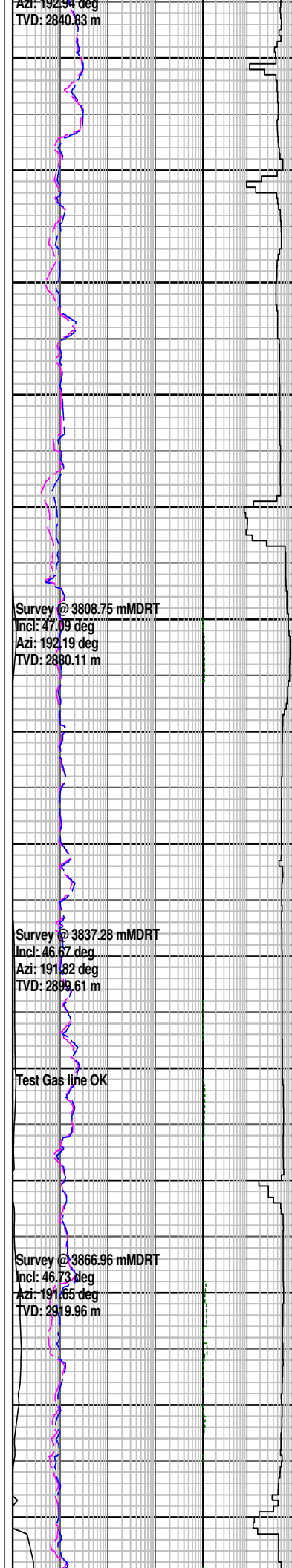
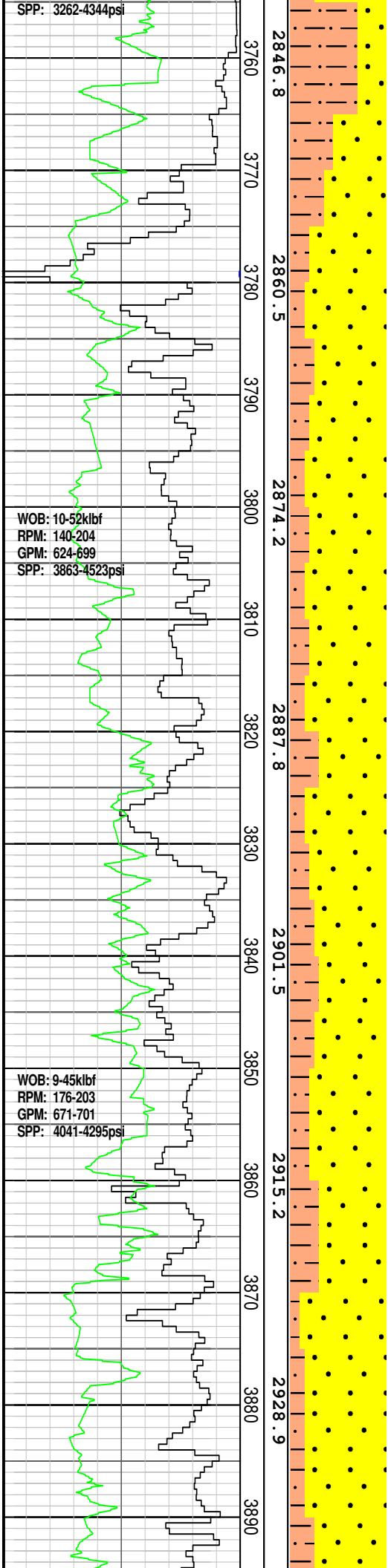
**SILTSTONE:** gysh brn-dsky olv gy, non calc, v aren, grd to **SDY SLTST**, tr disse pyr, tr pyr nod, tr-com micmic, tr-com glauc grd to **GLAUC SLTST**, frm, dom sbfiss-sbblyky

**SANDY SILTSTONE:** off wh-v lt gy, lt gnsh gy, com v f aren grs grd i/p to **SLTY SST**, tr calc, tr v f glauc, tr micmic, sft-dom frm, sbfiss-sbblyky

**GLAUCONITIC SANDSTONE:** clr-trnsl, lt gnsh gy, dom v f-f, wl srt, dom sbrndd-rnnd, sft to frm agg w/ v disp lt gy-dk gnsh gy glauc argl mtrx, com-abdt v f-med glauc grs, occ lse, p vis por, no hydc fluor

**SILTSTONE:** olv gy-lt gy, gysh brn-dsky brn, non calc, v aren, grd to **SDY SLTST**, tr disse pyr, tr pyr nod, tr-com micmic, tr-com glauc grd to **GLAUC SLTST**, frm, dom sbfiss-sbblyky

**GLAUCONITIC SANDSTONE:** clr-trnsl, lt gnsh gy, dom v f-f, tr crs grs, wl srt, dom sbrndd-rnnd, sft to frm agg w/ v disp lt gy-dk gnsh gy glauc



argl mtrx, com-abdt v f-med glauc grs, occ lse, p vis por, no hydc fluor

SILTSTONE: olv gy-dk olv gy, gysh brn-dsky brn, non calc, v aren grd to SDY SLTST, tr pyr nod, tr-com micmic, tcom f com glauc grd to GLAUC SLTST, frm, dom sbfiss-sbblky

SANDSTONE: clr-trnsl, tr frs, med-v crs, dom crs, mod srt, ang-sbang, r sbrnrd, clr, lse, p-fr por, no hydc fluor

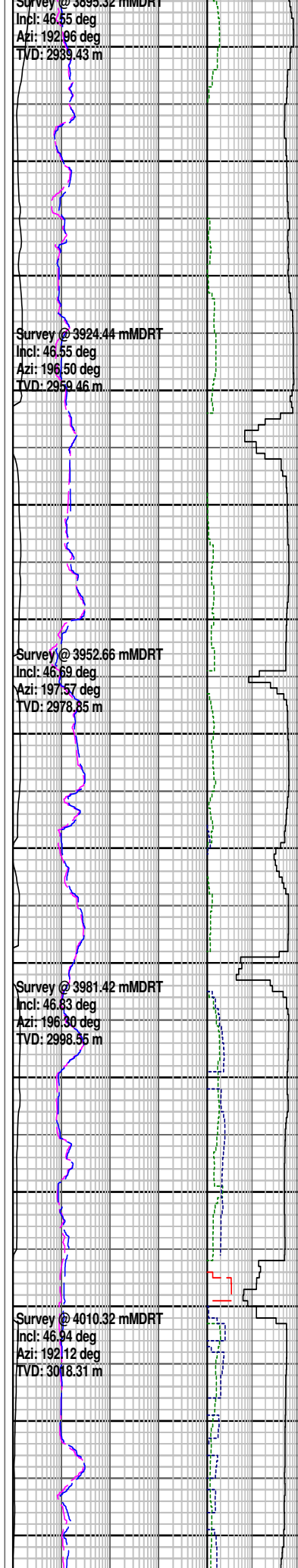
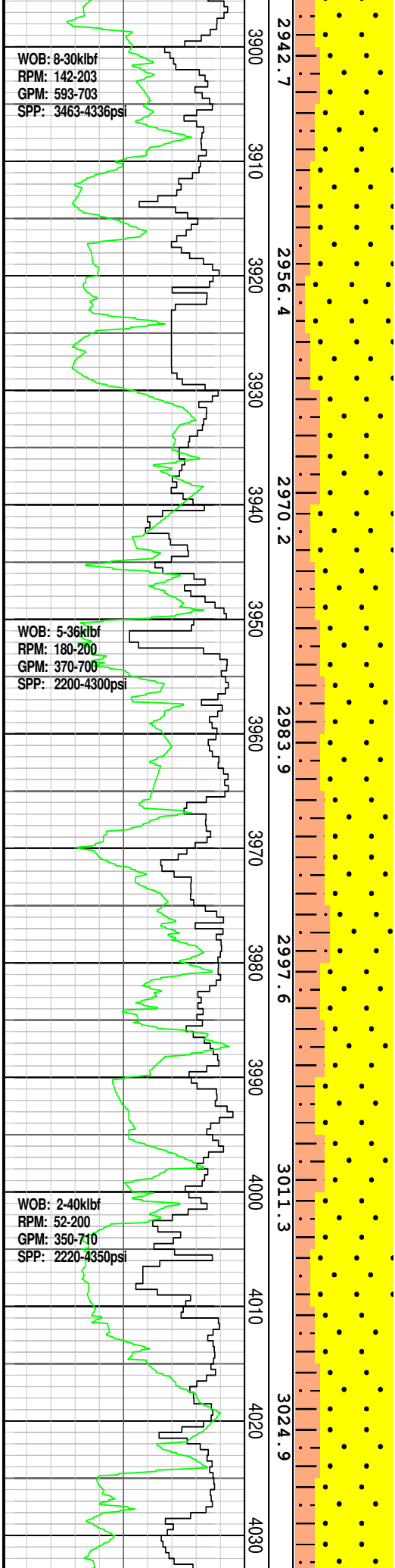
SANDSTONE: clr-trnsl, tr lt gy, tr frs, dom crs-v crs, mod srt, ang-sbang, r sbrnrd, clr, lse, tr pyt nod, p-fr por, no hydc fluor

SILTSTONE: olv gy-dk olv gy, gysh brn-dsky brn, non calc, v aren grd to SDY SLTST, tr pyr nod, tr-com micmic, tcom f com glauc grd to GLAUC SLTST, frm, dom sbfiss-sbblky

SANDSTONE: clr-trnsl, tr v lt gy, tr fros, med-v crs, dom crs-v crs, wl srt, ang-dom sbang, r sbrnrd, wk sil cmt, wk pyr cmt, tr pyr nod, cln, lse, pr-fr inf por, no hydc fluor

SILTSTONE: olv gy-dk olv gy, med gy, gysh brn, non calc, tr v f aren, tr-com micmic, tr disse pyr, tr nod pyr, frm, dom sbfiss-sbblky

SANDSTONE: clr-trnsl, tr v lt gy, tr fros, v f-v crs, com v f-f, com v crs, p srt, ang-dom sbang, r sbrnrd, dom sbrnrd, wk sil cmt, wk pyr cmt on crs grs, tr pyr nod, cln, lse, pr-fr inf por, no hydc fluor



SILTSTONE: olv gy-dk olv gy, med gy, gysh brn, non calc, tr v f aren, tr-com micmic, tr dissep pyr, tr nod pyr, frm, dom sbfiss-sbblyky

SANDSTONE: clr-trnsl, tr v lt gy, tr fros, v f-v crs, com v f-f, com v crs, p srt, ang-dom sbang, r sbrndd, dom sbrndd, wk sil cmt, wk pyr cmt tr pyr nod, cln, lse, p-fr inf por, no hydc fluor

SILTSTONE: olv gy-dk olv gy, med gy, gysh brn, non calc, tr v f aren, tr-com micmic, tr dissep pyr, sft-dom frm, dom sbfiss-sbblyky

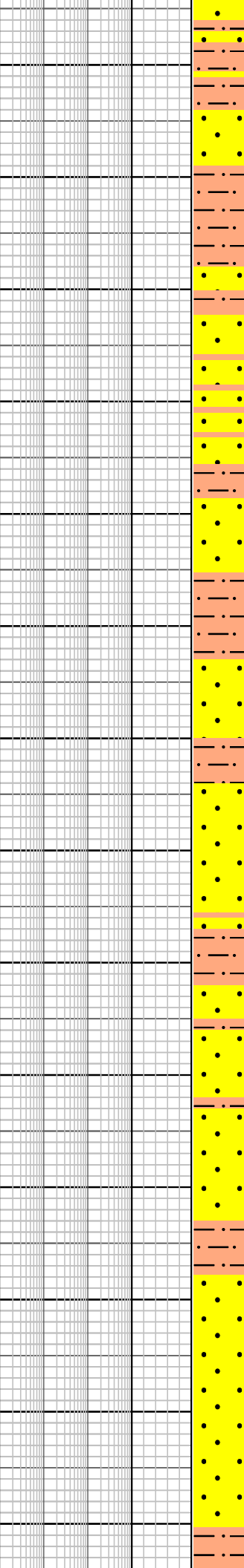
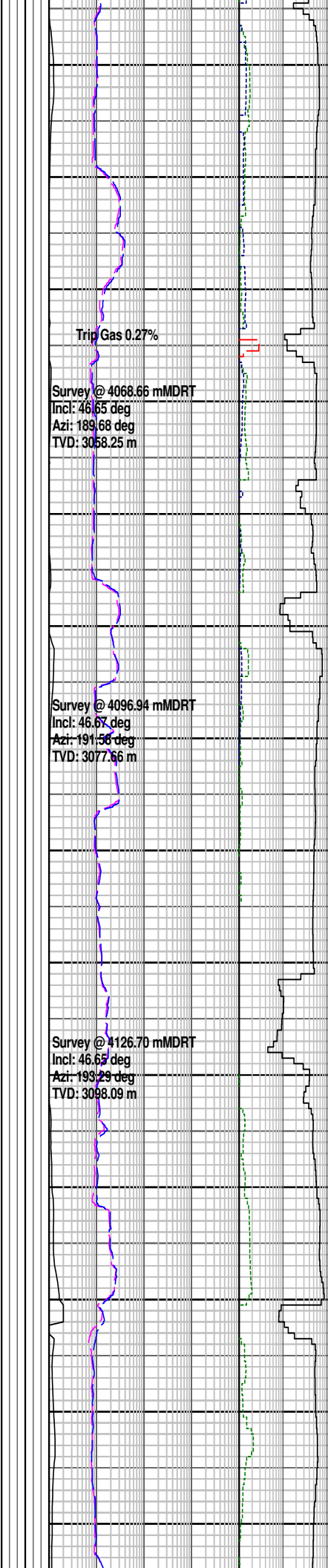
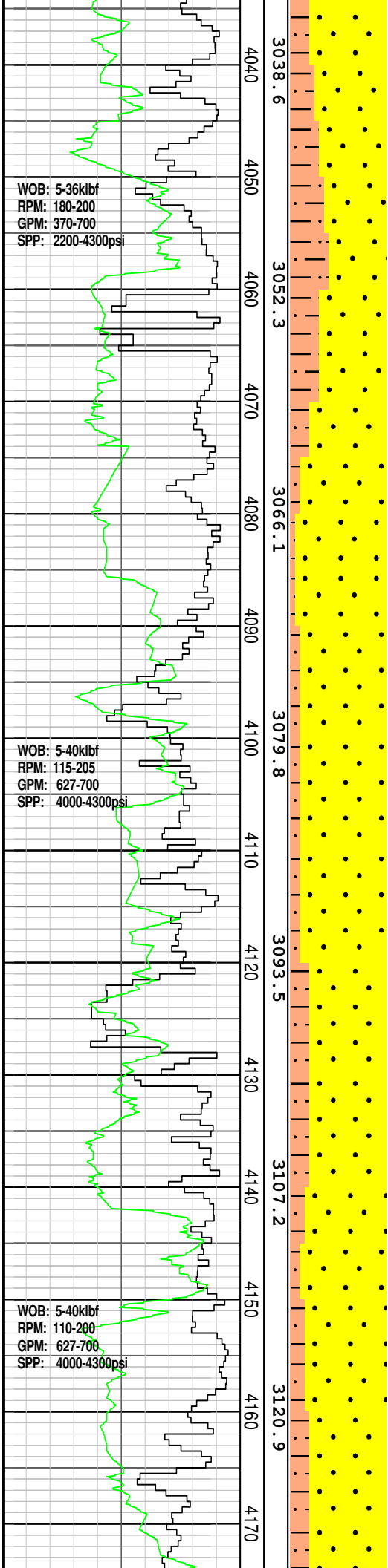
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SILTSTONE: olv gy-dk olv gy, med gy, gysh brn, non calc, tr v f aren, tr-com micmic, tr dissep pyr, sft-dom frm, dom sbfiss-sbblyky

SANDSTONE: clr-trnsl, tr v lt gy, tr fros, med-v crs, r med, com v crs, mod srt, ang-dom sbang, r sbrndd, dom sbrndd, wk sil cmt, wk pyr cmt, tr pyr nod, cln, lse, p-fr inf por, no hydc fluor

SILTSTONE: olv gy-dk olv gy, med gy, gysh brn, non calc, tr v f aren, tr-com micmic, tr dissep pyr, sft-dom frm, dom sbfiss-sbblyky

SANDSTONE: clr-trnsl, com pl yelsh gy, tr fros, f-v crs,



com f, com v crs, p srt, ang-dom sbang, r sbrnrd, dom sbrnrd, wk sil cmt, wk pyr cmt, tr pyr nod, cln, lse, p-fr inf por, no hydc fluor

SILTSTONE: olv gy-dk gnsh gy, med dk gy, non calc, tr v f aren, tr-com micmic, tr disse pyr, tr v f glauc grs, sft-dom frm, dom sbfiss-sbblky

SANDSTONE: clr-trnsl, com pl yelsh gy-pl yelsh or, tr fros, med-v crs, dom crs-v crs, mod srt, ang-dom sbang, r sbrnrd, dom sbrnrd, wk sil cmt, wk pyr cmt, cln, lse, p-fr inf por, no hydc fluor

SILTSTONE: olv gy-dk gnsh gy, med dk gy, non calc, tr v f aren, tr-com micmic, tr disse pyr, tr v f glauc grs, sft-dom frm, dom sbfiss-sbblky

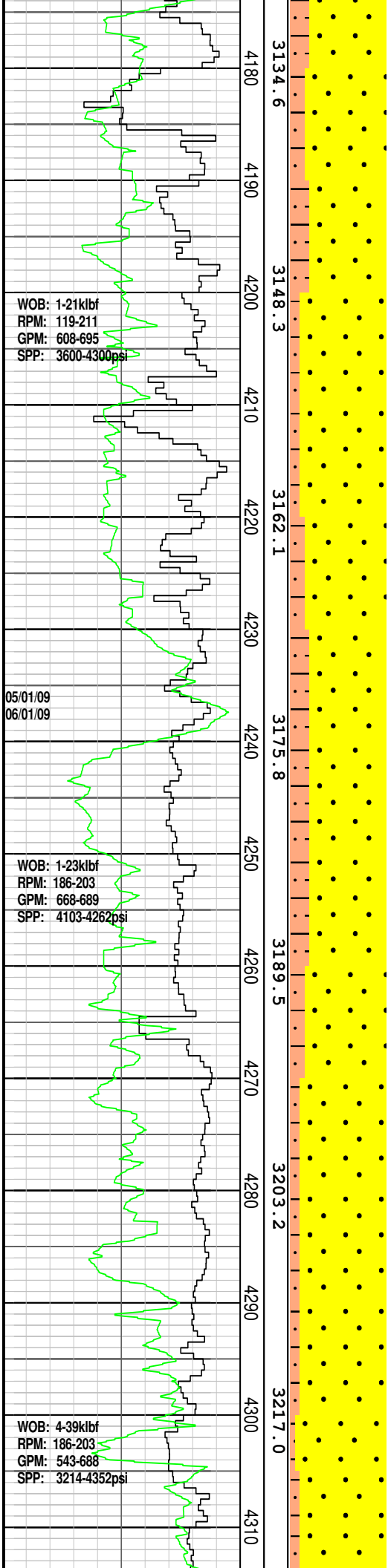
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SILTSTONE: olv gy-dk gnsh gy, med dk gy, non calc, tr v f aren, tr-com micmic, tr disse pyr, tr v f glauc grs, sft-dom frm, dom sbfiss-sbblky

SANDSTONE: clr-trnsl, r pl yelsh gy-pl yelsh or, tr fros, med-v crs, dom crs-v crs, mod srt, ang-dom sbang, r sbrnrd, wk sil cmt, wk pyr cmt, cln, lse, p-fr inf por, no hydc fluor

SANDSTONE: clr-trnsl, r pl yelsh gy-pl yelsh or, tr fros, med-v crs, dom crs-v crs, mod srt, ang-dom sbang, r sbrnrd, wk sil cmt, wk pyr cmt, tr nod pyr, cln, lse, p-fr inf por, no hydc fluor

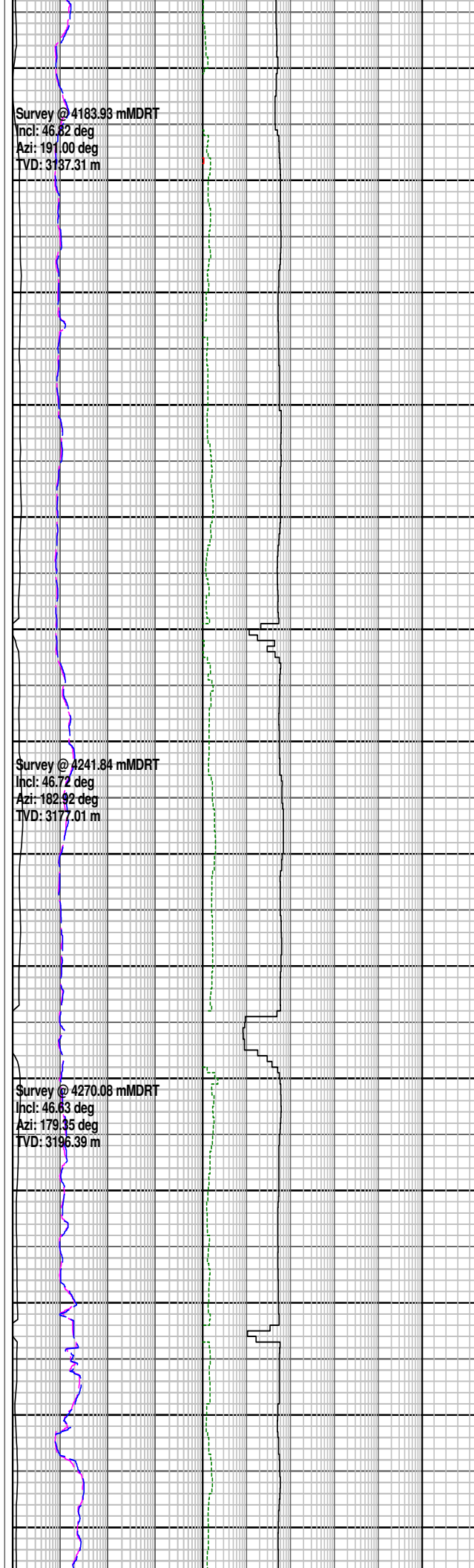
SILTSTONE: olv gy-dk gnsh gy, med dk gy, non calc, tr v f



Survey @ 4183.93 mMDRT  
Incl: 46.82 deg  
Azi: 191.00 deg  
TVD: 3137.31 m

Survey @ 4241.84 mMDRT  
Incl: 46.72 deg  
Azi: 182.92 deg  
TVD: 3177.01 m

Survey @ 4270.08 mMDRT  
Incl: 46.63 deg  
Azi: 179.35 deg  
TVD: 3196.39 m



aren, tr-com micmic, tr dissemin pyr, tr v f glauc grs, sft-dom frm, dom sbfiss-sbbilky

**SANDSTONE:** clr-trnsl, r pl yelsh gy-pl yelsh or, tr fros, f-v crs, dom crs-v crs, tr f, p srt, ang-dom sbang, r sbrndd, wk sil cmt, wk pyr cmt, tr nod pyr, cln, lse, p-fr inf por, no hydc fluor

**SILTSTONE:** olv gy-dk gnsh gy, med dk gy, non calc, tr v f aren, tr-com micmic, tr dissemin pyr, tr v f glauc grs, sft-dom frm, dom sbfiss-sbbilky

**SANDSTONE:** clr-trnsl, r pl yelsh gy-pl yelsh or, tr fros, f-v crs, dom crs-v crs, tr f, p srt, ang-dom sbang, r sbrndd, wk sil cmt, wk pyr cmt, tr nod pyr, cln, lse, p-fr inf por, no hydc fluor

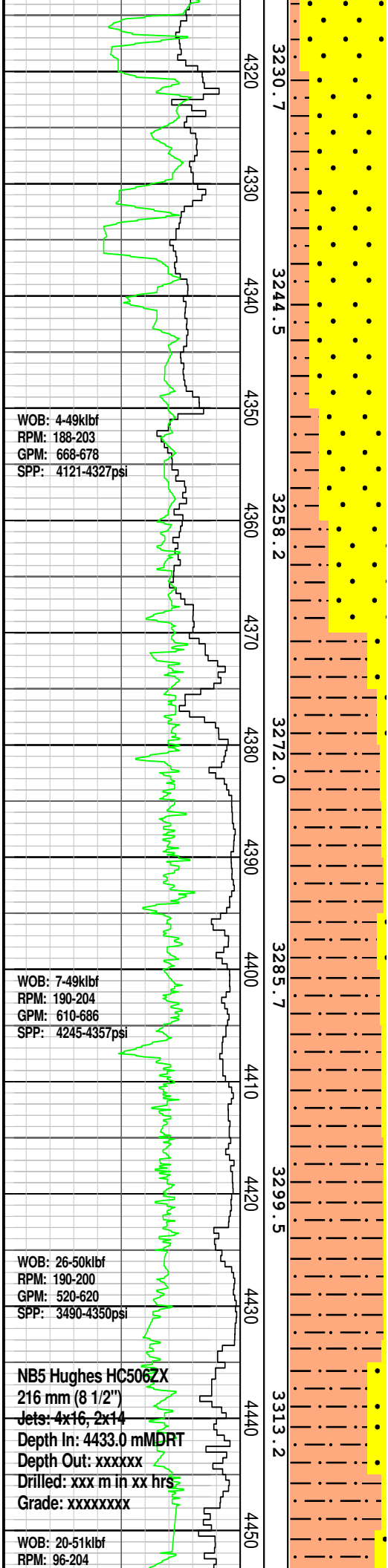
**SANDSTONE:** clr-trnsl, r pl yelsh gy-pl yelsh or, tr fros, f-v crs, dom crs-v crs, tr f, p srt, ang-dom sbang, r sbrndd, wk sil cmt, wk pyr cmt, tr nod pyr, cln, lse, p-fr inf por, no hydc fluor

**SANDSTONE:** clr-trnsl, tr fros, f-v crs, com f, com v crs, tr f, p srt, ang-dom sbang, r sbrndd, wk sil cmt, wk pyr cmt, cln, lse, p-fr inf por, no hydc fluor

**SANDSTONE:** clr-trnsl, tr fros, f-v crs, min f, com v crs, p srt, ang-dom sbang, r sbrndd, wk sil cmt, wk pyr cmt, tr nod pyr, cln, lse, p-fr inf por, no hydc fluor

**SILTSTONE:** olv gy-dk gnsh av. med dk av. non calc. tr v f





WOB: 4-49klbf  
 RPM: 188-203  
 GPM: 668-678  
 SPP: 4121-4327psi

WOB: 7-49klbf  
 RPM: 190-204  
 GPM: 610-686  
 SPP: 4245-4357psi

WOB: 26-50klbf  
 RPM: 190-200  
 GPM: 520-620  
 SPP: 3490-4350psi

**NB5 Hughes HC506ZX**  
 216 mm (8 1/2")  
 Jets: 4x16, 2x14  
 Depth In: 4433.0 mMDRT  
 Depth Out: xxxxxx  
 Drilled: xxx m in xx hrs  
 Grade: xxxxxxxx

WOB: 20-51klbf  
 RPM: 96-204

Survey @ 4327.69 mMDRT  
 Incl: 46.56 deg  
 Azi: 188.66 deg  
 TVD: 3235.99 m

Survey @ 4385.94 mMDRT  
 Incl: 46.61 deg  
 Azi: 189.08 deg  
 TVD: 3276.04 m

Test Gas line OK

gy, tr-mnr micmic, tr  
 aren, tr-mnr micmic, tr  
 disse pyr, tr v f glauc grs,  
 sft-dom frm, dom  
 sbfiss-sbblky

SANDSTONE: clr-trnsl, tr  
 fros, med-v crs, dom crs-v  
 crs, tr f, mod srt, ang-dom  
 sbang, mnr sbrndd, wk sil  
 cmt, wk pyr cmt, cln, tr pyr  
 nod, lse, p-fr inf por, no hydc  
 fluor

SANDSTONE: clr-trnsl, tr  
 fros, med-v crs, dom crs-v  
 crs, tr f, mod srt, ang-dom  
 sbang, mnr sbrndd, wk sil  
 cmt, wk pyr cmt, cln, r pyr  
 nod, lse, p-fr inf por, no hydc  
 fluor

SILTSTONE: olv gy-dk gnsh  
 gy, med dk gy, non calc, tr v f  
 aren, tr-mnr micmic, tr v f  
 glauc grs, sft-dom frm, dom  
 sbfiss-sbblky

SILTSTONE: lt gy-med gy,  
 med dk gy-tr gy blk, non calc,  
 tr v f aren, tr-mnr micmic,  
 tr-com disse pyr, tr-com pyr  
 nod, tr v f glauc, sft-dom frm,  
 dom sbfiss-sbblky

SILTSTONE: lt gy-med gy,  
 med dk gy-tr gy blk, non calc,  
 tr v f aren, tr-mnr micmic,  
 tr-com disse pyr, tr-com pyr  
 nod, tr v f glauc, sft-dom frm,  
 dom sbfiss-sbblky

SILTSTONE: lt gy-med gy,  
 med dk gy-tr gy blk, non calc,  
 tr v f aren, tr-mnr micmic,  
 tr-com disse pyr, tr-com pyr  
 nod, tr v f glauc, sft-dom frm,  
 dom sbfiss-sbblky

SANDSTONE: clr-trnsl, tr  
 fros, med-v crs, dom crs-v  
 crs, tr f, mod srt, ang-dom  
 sbang, mnr sbrndd, wk sil  
 cmt, wk pyr cmt, cln, r pyr  
 nod, lse, p-fr inf por, no hydc  
 fluor

POOH @ 4433.0 mMDRT to pick up  
 drill pipe & change Bit

SILTSTONE: lt gy-med gy,  
 med dk gy-tr gy blk, com dsk  
 brn, non calc, tr v f aren,  
 tr-mnr micmic, tr-com disse  
 pyr, tr-com pyr nod, tr v f  
 glauc, sft-dom frm, dom  
 sbfiss-sbblky

GPM: 448-709  
SPP: 2616-4633psi

WOB: 20-52klbf  
RPM: 145-204  
GPM: 500-780  
SPP: 3000-4300psi

WOB: 6-52klbf  
RPM: 190-204  
GPM: 566-662  
SPP: 3204-4341psi

3326.9  
4460  
4470  
4480  
4490  
4500  
4510  
4520  
4530  
4540  
4550  
4560  
4570  
4580  
4590

3340.7  
3354.4  
3368.2  
3381.9  
3395.5  
3409.2

Survey @ 4506.38 mMDRT  
Incl: 46.59 deg  
Azi: 190.45 deg  
TVD: 3358.79 m

Survey @ 4535.67 mMDRT  
Incl: 46.85 deg  
Azi: 191.17 deg  
TVD: 3378.87 m

Survey @ 4564.36 mMDRT  
Incl: 46.71 deg  
Azi: 193.05 deg  
TVD: 3398.52 m

SILTSTONE: lt gy-med gy, med dk gy-gy blk gy, com dsky brn, non calc, tr v f aren, tr-mnr micmic, tr dissem pyr, tr pyr nod, tr v f glauc, sft-dom frm, r mod hd, disp, sbfiss-sbblky, amor i/p

SANDSTONE: 1:3% clr-trnsl, tr v lt gy, dom v f-f, wl srt, dom sbrn-dd-sbang, v f-f grs, occ w/ v disp lt gy argl mtrx that is washed out, p-fr inf por, no hydc fluor

SANDSTONE: 2:3% (possible cavings), clr-trnsl, tr v lt gy, crs-v crs, wl srt, dom sbang-sbrn-dd, wl sil cmt & wk pyr cmt on crs grs, tr nod pyr cln, lse, p-fr inf por, no hydc fluor

SILTSTONE: med lt gy-gy blk, tr brnsh blk, tr gnsh gy, non calc, tr v f aren, tr-mnr micmic, tr dissem pyr, tr pyr nod, tr v f glauc, sft-dom frm, sbfiss-sbblky, amor i/p

SILTSTONE: med lt gy-gy blk, tr brnsh blk, tr gnsh gy, non calc, tr v f aren, tr-mnr micmic, tr dissem pyr, tr pyr nod, tr v f glauc, sft-dom frm, r mod hd, disp, sbfiss-sbblky, amor i/p

SILTSTONE: med lt gy-gy blk, tr brnsh blk, tr gnsh gy, non calc, tr v f aren, tr-mnr micmic, tr dissem pyr, tr pyr nod, tr v f glauc, sft-dom frm, r mod hd, disp, sbfiss-sbblky, amor i/p

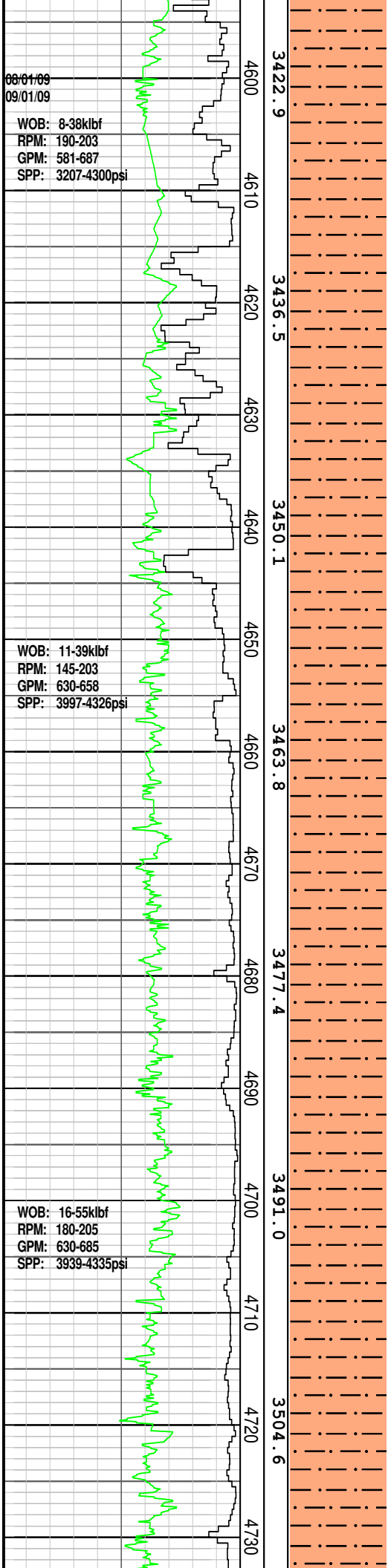
SILTSTONE: med lt gy-gy blk, tr brnsh blk, tr dk gnsh gy, non calc, tr-r v f aren, tr-mnr micmic, tr nod&dissem pyr, tr v f glauc, sft-dom frm, r mod hd, amor-sbblky, sbfiss i/p

08/01/09  
09/01/09

WOB: 8-38klbf  
RPM: 190-203  
GPM: 581-687  
SPP: 3207-4300psi

WOB: 11-39klbf  
RPM: 145-203  
GPM: 630-658  
SPP: 3997-4326psi

WOB: 16-55klbf  
RPM: 180-205  
GPM: 630-685  
SPP: 3939-4335psi



3422.9  
3436.5  
3450.1  
3463.8  
3477.4  
3491.0  
3504.6

Survey @ 4595.29 mMDRT  
Incl: 47.07 deg  
Azi: 194.94 deg  
TVD: 3419.66 m

Survey @ 4624.10 mMDRT  
Incl: 47.09 deg  
Azi: 195.12 deg  
TVD: 3439.28 m

Survey @ 4650.29 mMDRT  
Incl: 46.88 deg  
Azi: 195.02 deg  
TVD: 3457.14 m

Survey @ 4680.43 mMDRT  
Incl: 47.13 deg  
Azi: 194.25 deg  
TVD: 3477.70 m

Survey @ 4708.89 mMDRT  
Incl: 47.11 deg  
Azi: 193.59 deg  
TVD: 3497.06 m

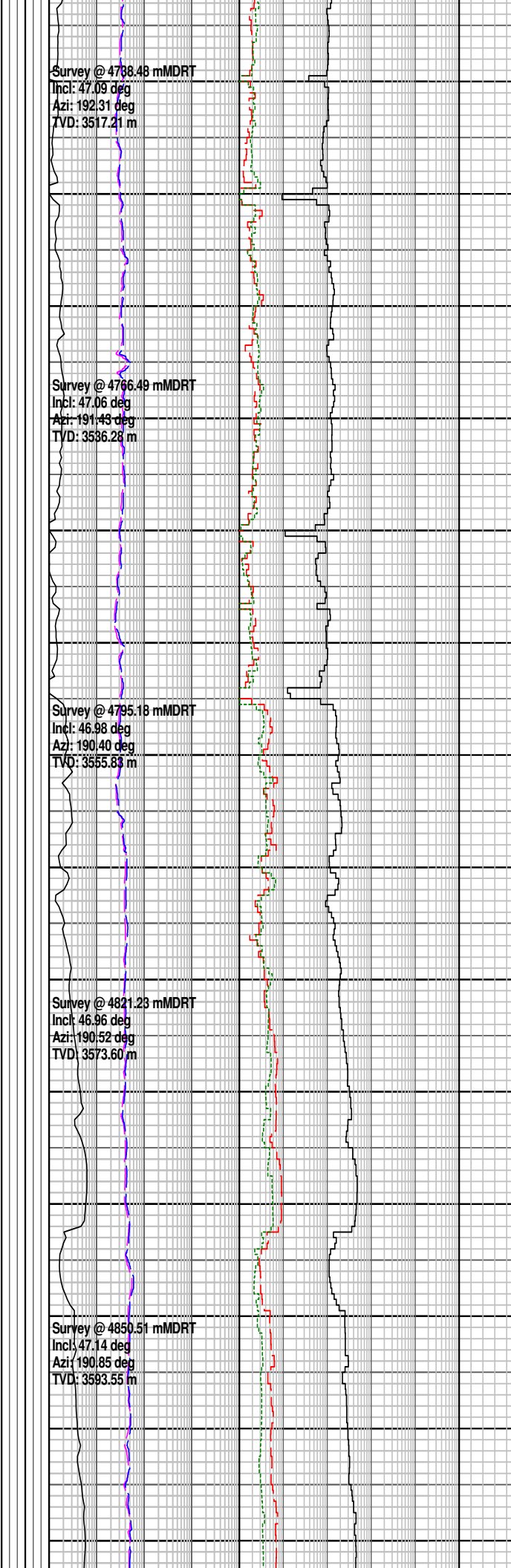
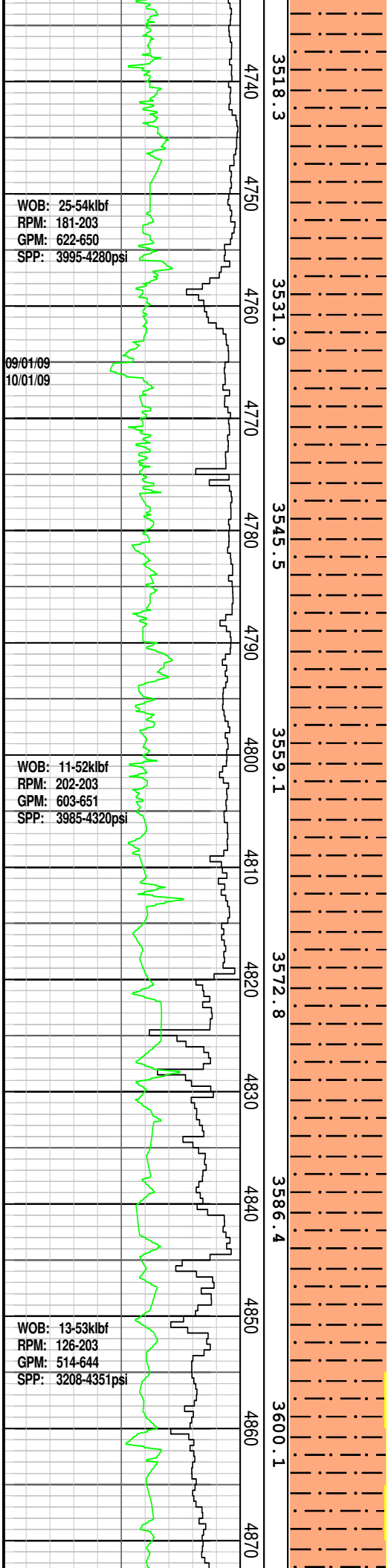
SILTSTONE: med lt gy-gy blk, tr brnsh blk, tr dk gnsh gy, non calc, tr-r v f aren, tr micmic, tr disse pyr, tr v f glauc, sft-dom frm, r mod hd, amor-sbblky, sbfiss i/p

SILTSTONE: med lt gy-gy blk, tr brnsh blk, tr dk gnsh gy, non calc, tr-r v f aren, tr micmic, mnr v f lse qtz grs, tr disse pyr, tr v f glauc, sft-dom frm, r mod hd, amor-sbblky, sbfiss i/p

SILTSTONE: med lt gy-gy blk, tr brnsh blk, tr dk gnsh gy, non calc, tr-r v f aren, tr micmic, tr disse pyr, tr v f glauc, sft-dom frm, r mod hd, amor-sbblky, sbfiss i/p

SILTSTONE: med lt gy-gy blk, tr brnsh blk, r-mnr dk gnsh gy, non calc, tr v f aren, tr v f lse qtz grs, arg grd to SLTY CLYST i/p, tr micmic, tr disse pyr, tr v f glauc, tr glauc cl pel, sft-dom frm, r mod hd, amor-sbblky, sbfiss i/p

SILTSTONE: med lt gy-olv gy, tr brnsh blk, r-mnr dk gnsh gy, non calc, tr v f aren, tr v f lse qtz grs, arg grd to SLTY CLYST i/p, tr micmic, tr disse pyr, tr v f glauc, tr glauc cl pel, sft-dom frm, r mod hd, amor-sbblky, sbfiss i/p



SILTSTONE: med lt gy-dk gnsn gy, tr brnsh blk,non calc, tr v f aren, arg grd to SLTY CLYST i/p, tr micmic, tr disse pyr, tr v f glauc, tr glauc cl pel, sft-dom frm, r mod hd, amor-sbblky, sbfiss i/p

SILTSTONE: med lt gy-dk gnsn gy, tr brnsh blk,non calc, tr v f aren, arg grd to SLTY CLYST i/p, tr micmic, tr disse pyr, tr v f glauc, tr glauc cl pel, sft-dom frm, r mod hd, amor-sbblky, sbfiss i/p

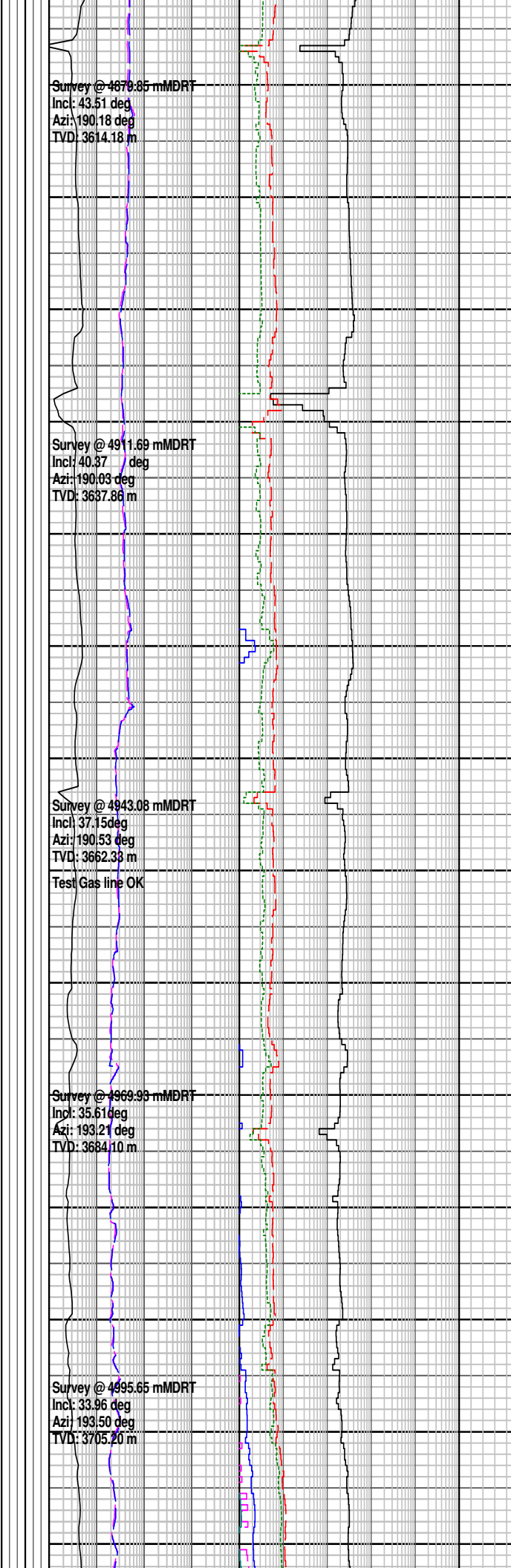
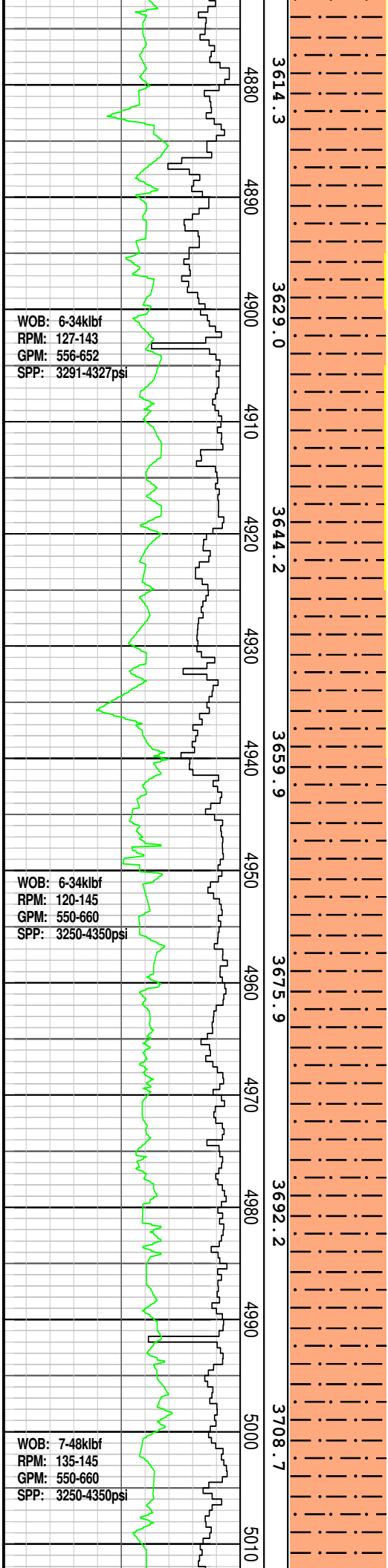
SILTSTONE: med lt gy-dk gnsn gy, tr brnsh blk,non calc, tr v f aren, arg grd to SLTY CLYST i/p, tr micmic, tr nod-dissem pyr, tr v f glauc, tr glauc cl pel, sft-dom frm, r mod hd, amor-sbblky, sbfiss i/p

SILTSTONE: med lt gy-dk gnsn gy, tr brnsh blk,non calc, tr v f aren, bcm sd, tr micmic, tr disse pyr, tr v f glauc, sft-dom frm, r mod hd, amor-sbblky, sbfiss i/p

SILTSTONE: dom olv gy-med lt gy, tr brnsh blk,non calc, tr v f aren, tr micmic, tr disse pyr, tr v f glauc, sft-dom frm, r mod hd, amor-sbblky, sbfiss i/p

SILTSTONE: dom olv gy-med lt gy, tr brnsh blk,non calc, tr v f aren, tr micmic, tr disse pyr, tr v f glauc, sft-dom frm, r mod hd, amor-sbblky, sbfiss i/p

SANDSTONE: clr-trnsl, tr lt brnsh gy, dom v f-f, wl srt, dom sbang-sbrnnd, v sft agg w/ disp lt brnsh gy argl mtrx, p inf por, no hydc fluor



SILTSTONE: dom olv gy-med lt gy, tr brnsh blk, non calc, tr v f aren, argl i/p grd to SLTY CLYST, tr micmic, tr dissem pyr, tr v f glauc, sft-dom frm, r mod hd, amor-sbblky, sbfiss i/p

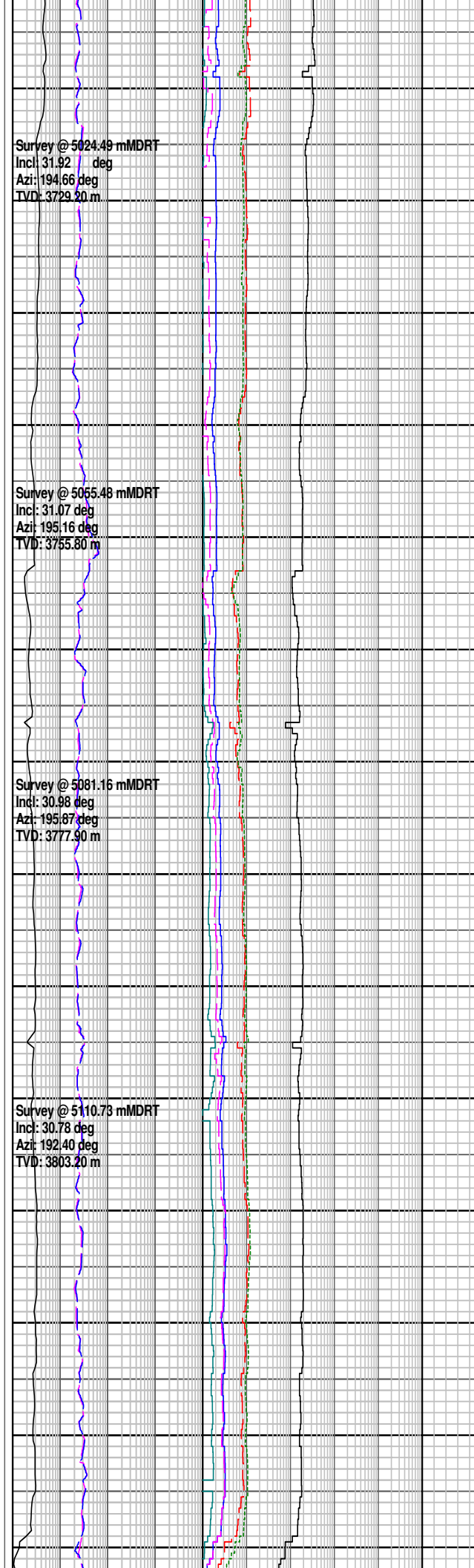
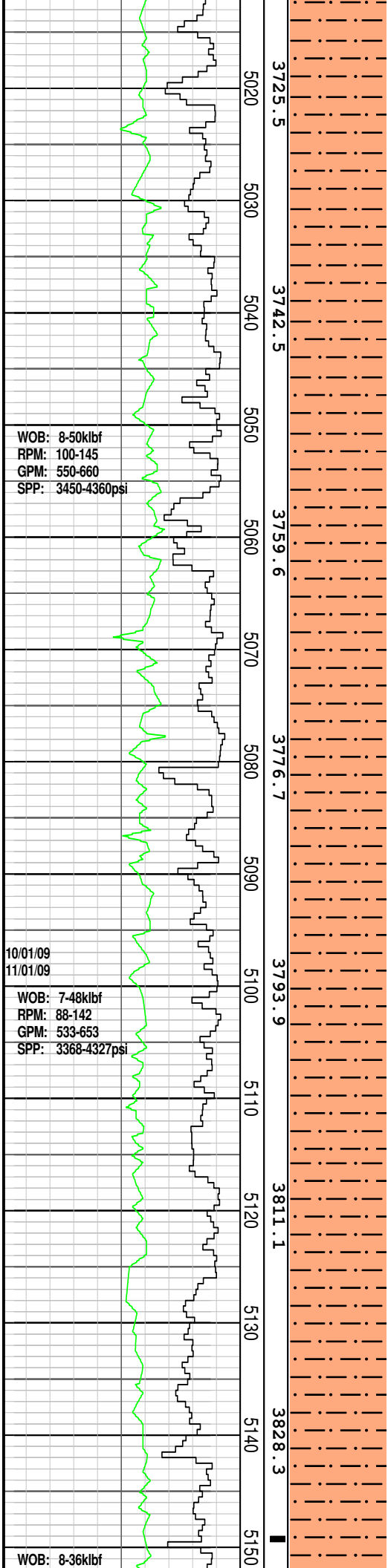
SILTSTONE: dom olv gy-med lt gy, tr brnsh blk, non calc, tr v f aren, argl i/p grd to SLTY CLYST, tr micmic, tr dissem pyr, tr v f glauc, sft-dom frm, r mod hd, amor-sbblky, sbfiss i/p

SANDSTONE: clr-trnsl, tr lt brnsh gy, dom v f-f, r med, wl srt, dom sbang-sbrnnd, v sft agg w/ disp lt brnsh gy argl mtrx, p inf por, no hydc fluor

SILTSTONE: dom olv gy-lt brnsh gy, tr med lt gy, non calc, tr v f aren, argl i/p grd to SLTY CLYST, tr gysh blk carb spks, tr micmic, tr dissem pyr, sft-dom frm, r mod hd, amor-sbblky, sbfiss i/p

SILTSTONE: dom olv gy-lt brnsh gy, tr med lt gy, non calc, tr v f aren, argl i/p grd to SLTY CLYST, tr gysh blk carb spks, tr micmic, tr dissem pyr, sft-dom frm, r mod hd, amor-sbblky, sbfiss i/p

SILTSTONE: dom olv gy-lt brnsh gy, tr med lt gy, non calc, tr v f aren, argl i/p grd to SLTY CLYST, tr gysh blk carb spks, tr micmic, tr dissem pyr, sft-dom frm, r mod hd, amor-sbblky, sbfiss i/p



SILTSTONE: dom olv gy-lt brnsh gy, tr med lt gy, non calc, tr v f aren, argl i/p grd to SLTY CLYST, tr gysh blk carb spks, tr v f glauc, tr micmic, tr dissem pyr, sft-dom frm, r mod hd, amor-sbblky, sbfiss i/p

SILTSTONE: dom olv gy-brnsh gy, tr med lt gy, non calc, tr v f aren, argl i/p grd to SLTY CLYST, tr gysh blk carb spks, tr v f glauc, tr micmic, tr dissem pyr, sft-dom frm, r mod hd, amor-sbblky, sbfiss i/p

SILTSTONE: dom olv gy-brnsh gy, tr med lt gy, non calc, tr v f aren, arg i/p grd to SLTY CLYST, tr gysh blk carb spks, tr v f glauc grs, tr micmic, tr dissem pyr, sft-dom frm, r mod hd, amor-sbblky, sbfiss i/p

SILTSTONE: dom olv gy-brnsh gy, tr med lt gy, non calc, tr v f aren, arg i/p grd to SLTY CLYST, tr gysh blk carb spks, tr v f glauc grs, tr micmic, tr dissem pyr, sft-dom frm, r mod hd, amor-sbblky, sbfiss i/p

SILTSTONE: dom olv gy-brnsh gy, tr med lt gy, non calc, tr v f aren, arg i/p grd to SLTY CLYST, tr gysh blk carb spks, tr v f glauc grs, tr micmic, tr dissem pyr, sft-dom frm, r mod hd, amor-sbblky, sbfiss i/p

SILTSTONE: dom olv gy-brnsh gy, tr med lt gy, non calc, tr v f aren, arg i/p grd to SLTY CLYST, tr gysh blk carb

