

**Well Information**

Operator: Vulcan Minerals Inc
Well Name: Vulcan Investcan Robinsons 1
Location: Bay St. George Carboniferous SubBasin
UWI: Robinsons 1
Pool: Wildcat
Field: Robinsons
Province / State: Newfoundland
Country: Canada

Elevations

Reference: gd **Ground:** 169 m
Cut(-) / Fill(+): -0 m **Kelly Bushing:** 175.3 m
K.B. to Ground: 6 m **Casing Flange:** m

Total Depth

Measurement Type	Measured Depth	True Vertical Depth
Drillers TD (Tally)	3560 m	3548.55 m
Drillers TD (Strap or SLM)	m	m
Loggers TD	3557.2 m	3545.82 m

Surface Co - Ordinates

Well Type: Straight

158 degs 37 mins 8.10511 secs

N / S Co - Ordinates: North 5343046.987

48 degs 13 mins 52.36136 secs

E / W Co - Ordinates: West 379774.568

Bottom Hole Co - Ordinates

Longitude: _____

N / S Co - Ordinates: _____

Latitude: _____

E / W Co - Ordinates: _____

Well Summary

Spud Date: Jun 30, 2009 @ 12:30hrs
TD Date: Oct 2, 2009 @ 15:00hrs
Rig Release Date: Oct 15, 2009 @ 12:00hrs
Contractor: Stoneham Rig # 11

Drilling Fluid Summary

Fluid Type	From	To
Gel / Chem	0 m	829 m
Polymere	829 m	3560 m

Casing Summary

Type	Hole Size	Casing Size	Landed
Conductor	660 mm	508 mm	88 m
Surface	445 mm	340 mm	829 m
Intermediate	311 mm	244.5 mm	2058.3 m
Production	216 mm	177.8 mm	3547.6 m

Work Schedule

Contractor
 JDS Consultants

Geologist
 Michael Smith (403-589-4998 c)

Log Interval
 88 m - 3560 m

Dates Logged
 Jul 2, 2009 - Oct 11, 2009

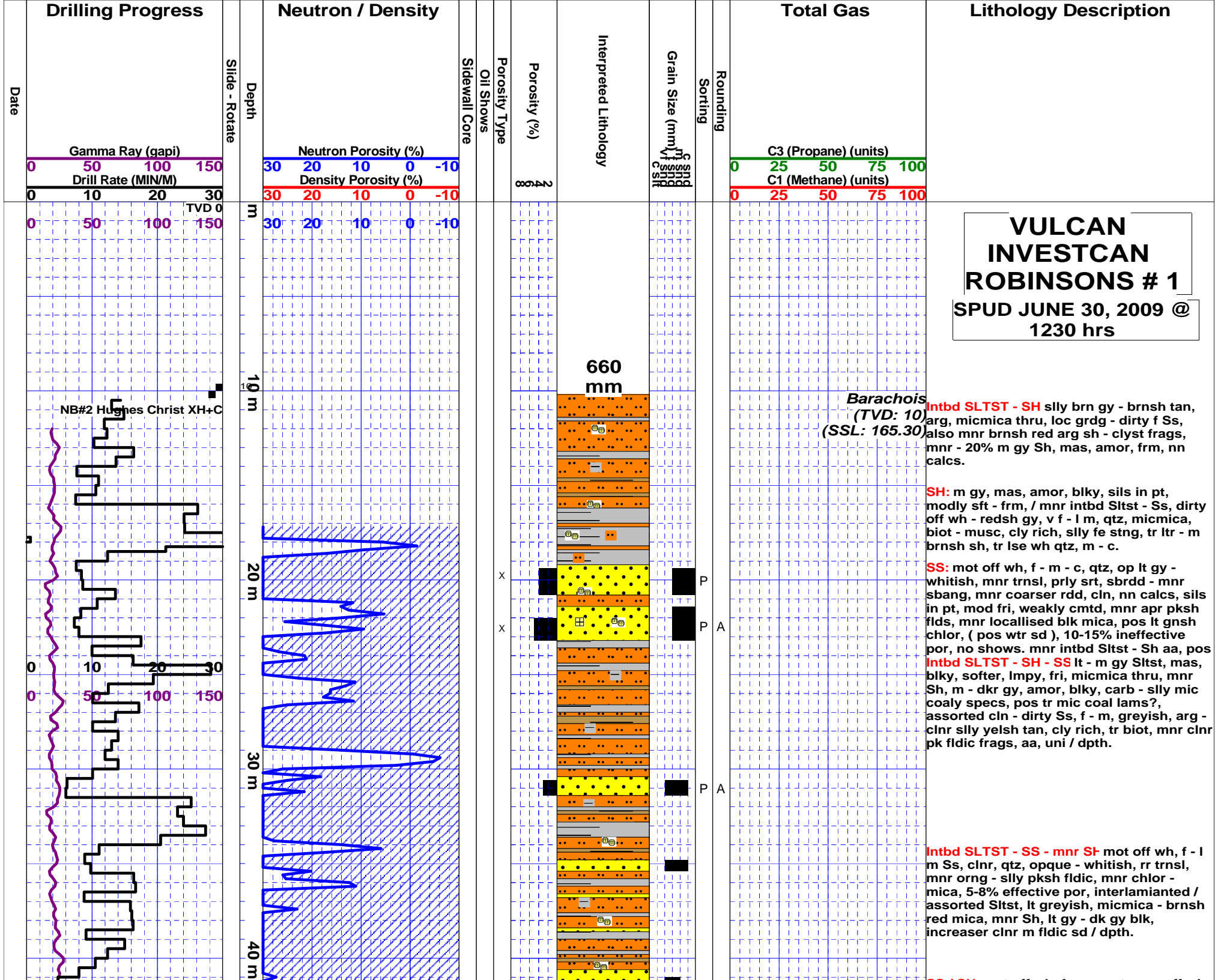
Remarks

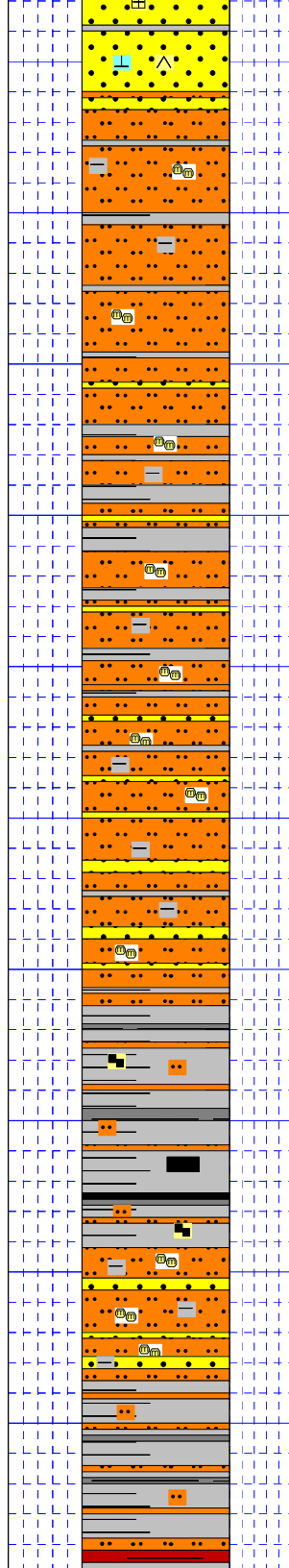
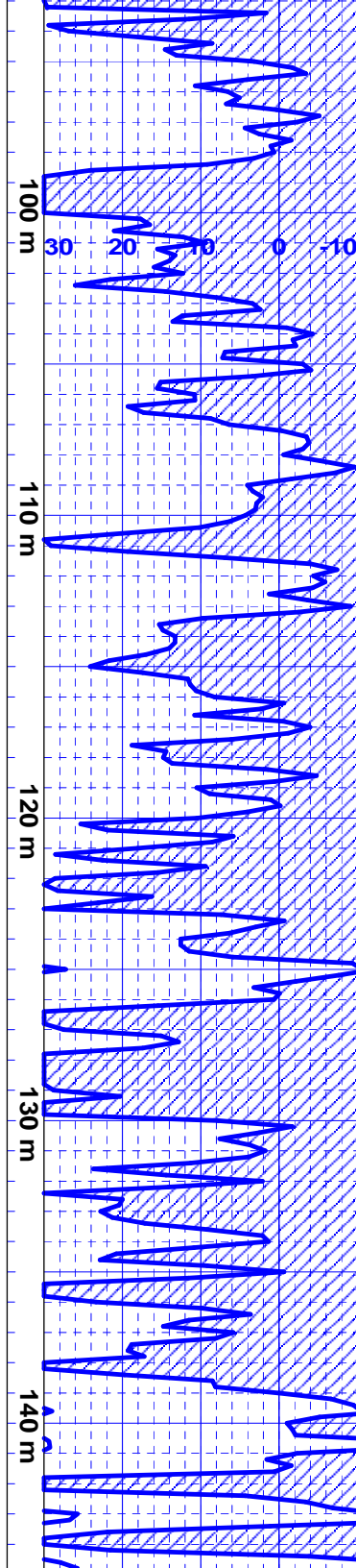
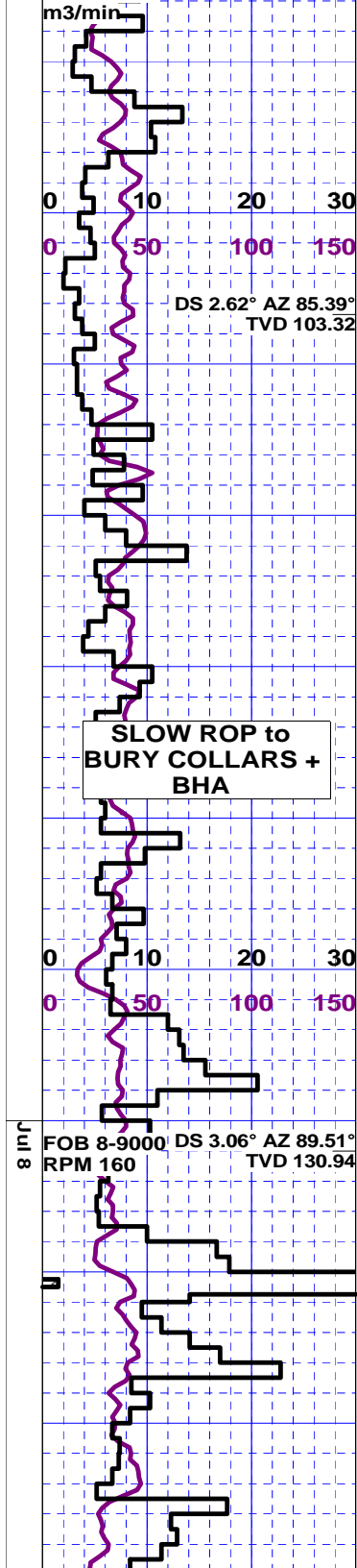
REPORT / STRIPLOG PREPARED FOR
 PATRICK LARACY, President, Vulcan Minerals Inc

Legend

	Anhydrite primary (Rock)		Clay colored (Grain)
	Arkosic Sandstone (Rock)		Coal (Grain)
	Conglomerate (Rock)		Feldspar (Grain)
	Claystone gray (Rock)		Gypsum (Grain)
	Coal (Rock)		Shale red (Grain)
	Limestone mud supported (Rock)		Questionable oil staining (Oilshow)
	Marlstone calcareous (Rock)		Anhydritic (Accessory)
	Red Sandstone (Rock)		Argillaceous (Accessory)
	Redbeds (Rock)		Calcareous (Accessory)
	Salt (Rock)		Carbonaceous (Accessory)
	Shale black (Rock)		Chalky (Texture)
	Shale Brown (Rock)		Clayey (Accessory)
	Shale red (Rock)		Crptocrystalline (Texture)
	Shale light gray (Rock)		Dolomitic (Accessory)
	Shale medium gray (Rock)		Fracture (Accessory)
	Siltstone (Rock)		Lithic grain (Accessory)
	Sandstone (Rock)		Micromicaceous (Accessory)
	Conglomerate mixed rock type (Stringers)		Microcrystalline (Texture)
	Claystone gray (Stringers)		Pyritic (Accessory)
	Coal (Stringers)		Sandy (Accessory)
	Shale gray (Stringers)		Siliceous (Accessory)
	Siltstone (Stringers)		Slickenside (Accessory)
	Conglomerate (Clasts)		Silty (Accessory)
	Conglomerate (Pebbles)		
	Chert varicolored (Pebbles)		
	Quartz (Pebbles)		
	argillaceous red (Matrix)		
X	Intercrystalline - interfragmental - intergranular (Porosity)		
▲	Chert dark (Grain)		

* Abundance: Trace Occasional Common Abundant No Indication





(rr tr cmt only from drillout.)

Intbd SLTST / SH m brn - slly redsh brn v micas Slstst, frm, sft, weakly cmtd, nn calcs, arg / f - micmica musc / redsh mica?, grdg thru - abnt less micas lams, greyish brn - greyish, mnr finer sands, arg, intbd / mnr - 10% m - dkr gy Sh, frm, amor, nn calcs, and mnr slly orng fldic f poorer Sandstones, uni / dpth.

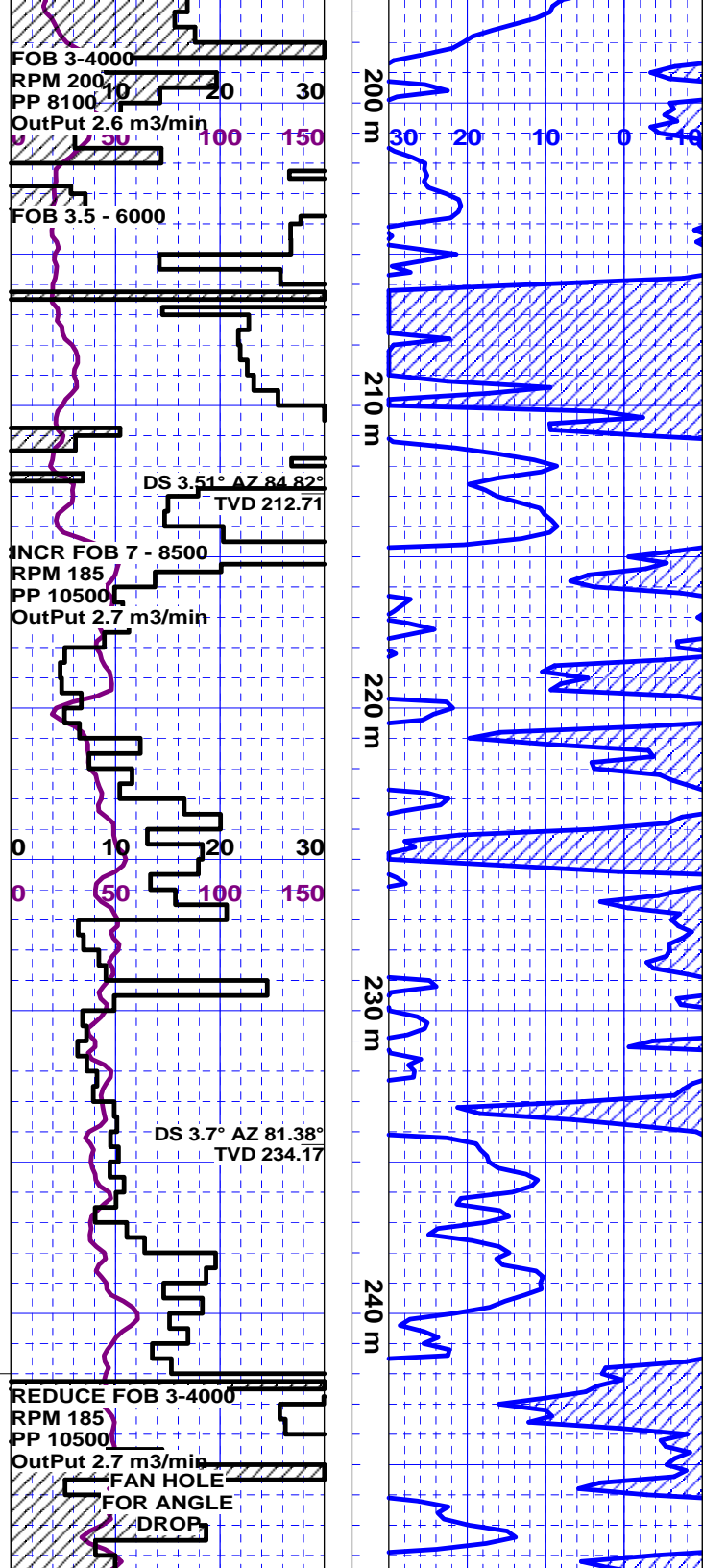
Intbd SLTST - SS / mnr Sh m brnsh micas Slstst, as abv grdg - incrg intbd v f - f micas dirty brnsh - greyish Ss, nn calcs, arg, competent but weakly cmtd, easily crushable, mnr intlam - bdd Sh, m gy - dk gy, v slly redsh m brn, mnr micmica only, sft, nn calcs.

SH / tr Coal predly dkr gy, mas, amor, plty, competent but v sft, crushable, mnr greyish blk, apr trs poorer mic lams - mic Inss of Coal, blk - dull blk, semi vit, some coal ptgs, tr f micas v f - l f greyish arg Ss lams ? - thn intbds, Inss ?.

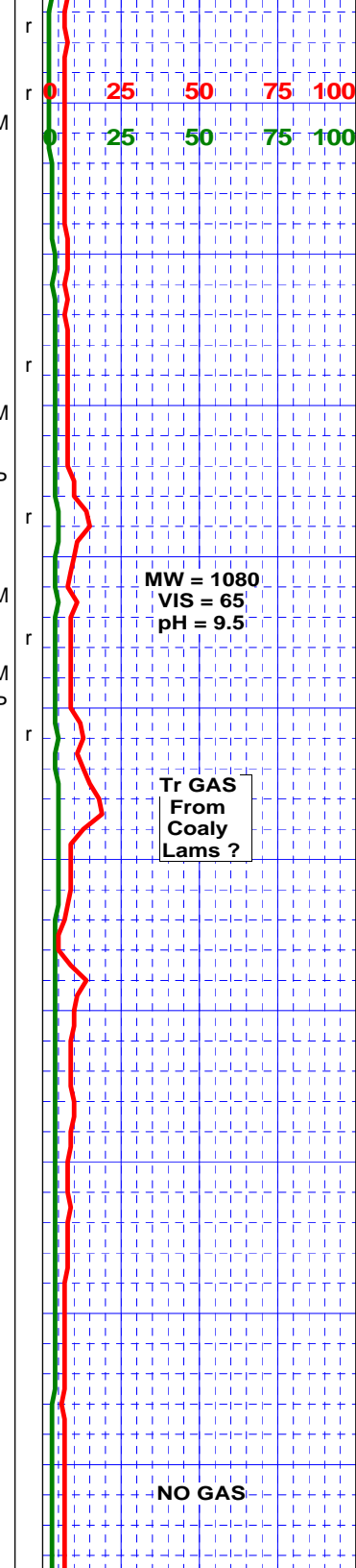
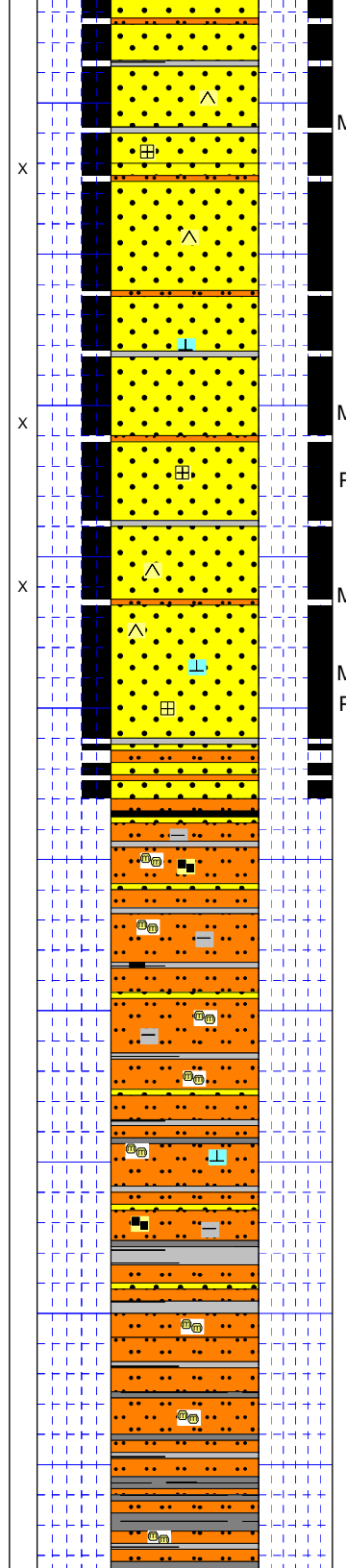
SS - SLTST ltr greyish, micas - micmica, v f - f, mica rich, qtz, op, mod srt, ltr cly - arg mtz in pt, nn calcs, frm, weaker cmtd, nn calcs, rr tr brnsh sh only.

SH: m gy, mas, amor, blk, frm but easily crushed, nn calcs, loc slty, mnr tr micmica, intlam / dkr gy blk, slly carb - coaly in pt, / apx 30% m brnsh (slly redsh tinge) Sh, mas, blk, nn - slly slty, amor, cly rich, nn calcs, no sands.

Jul 9



Jul 10



flks, nn calcs, genly lse frags, fraccd, mo cmtd but crushable, mod srt, sbrdd - rdd, some coarser rdd - fraccd, mnr tr blk slty Sh interlams?, no shows, no gas.

SS: mot off wh, l - u m / l c, qtz, op, wh, mnr semi trns, mnr apr orng fids, tr gy blk arg lit - sh frags, cln, mas, predly lse grs, / mnr crushable frags, weaker cmtd, sils in pt / tr calcs cmpt, mod srt, sbrdd - abnt rdd qtz grs, mnr crushed - fraccd c, finer - slty sil inflg, pos mnr whitish sils cly? / tr calcs, no vis por, higher relief, 4-5% effective por?, no shows, no cut. / 20% greyish Sltst, micas in pt, arg, and brnsh - v silly redsh Sh - slty Sh, assuming lams - v thn bdg within Sd. (see x20 photo)

SS grdg - SLTST off wh l - u m qtz rich, cln Ss, as abv, grdg - incrg dirty lt - m gy mic micas u Sltst - v f Ss / dpth, tr l f micas, arg, sils in pt, weaker cmtd, crushable, rr Sh, tr convd - distort vit blk coaly frags. (Cnx @ 242 meters had tt hole and 3 hours were spent reaming around 226.5 meters dpth). No shows.

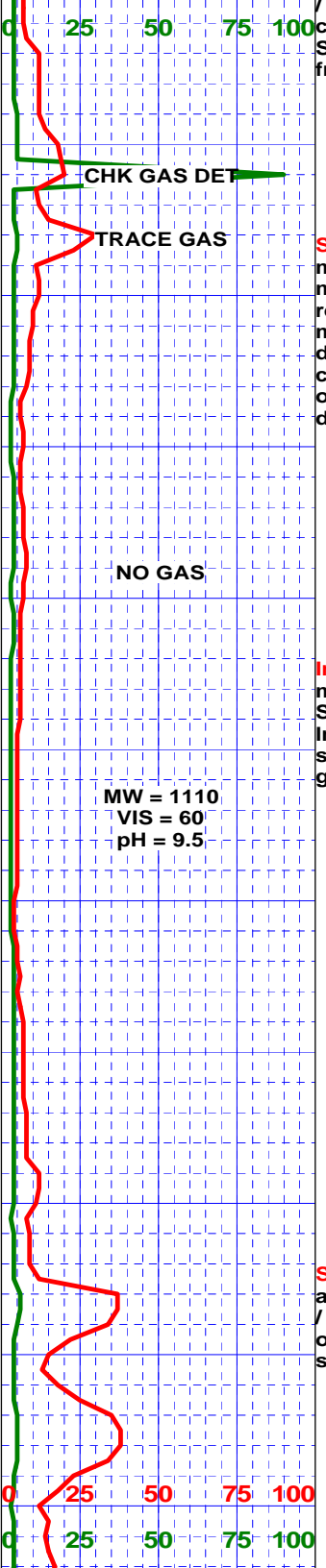
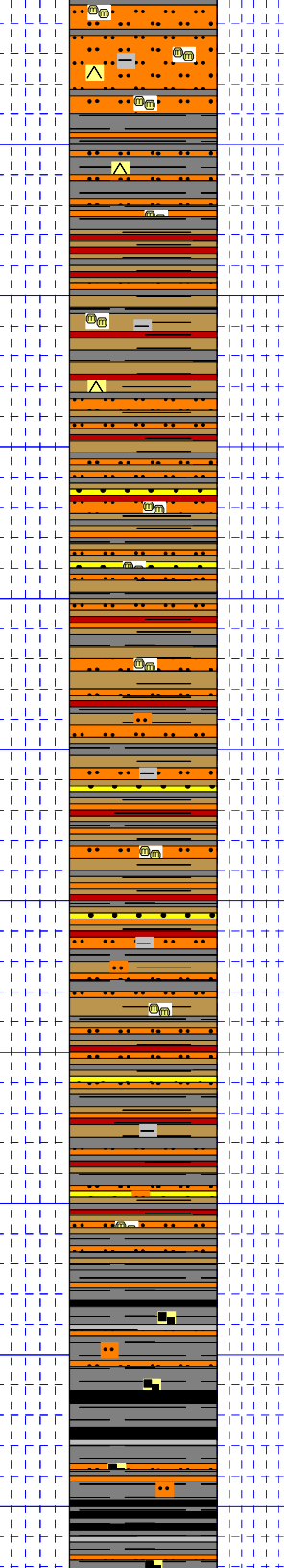
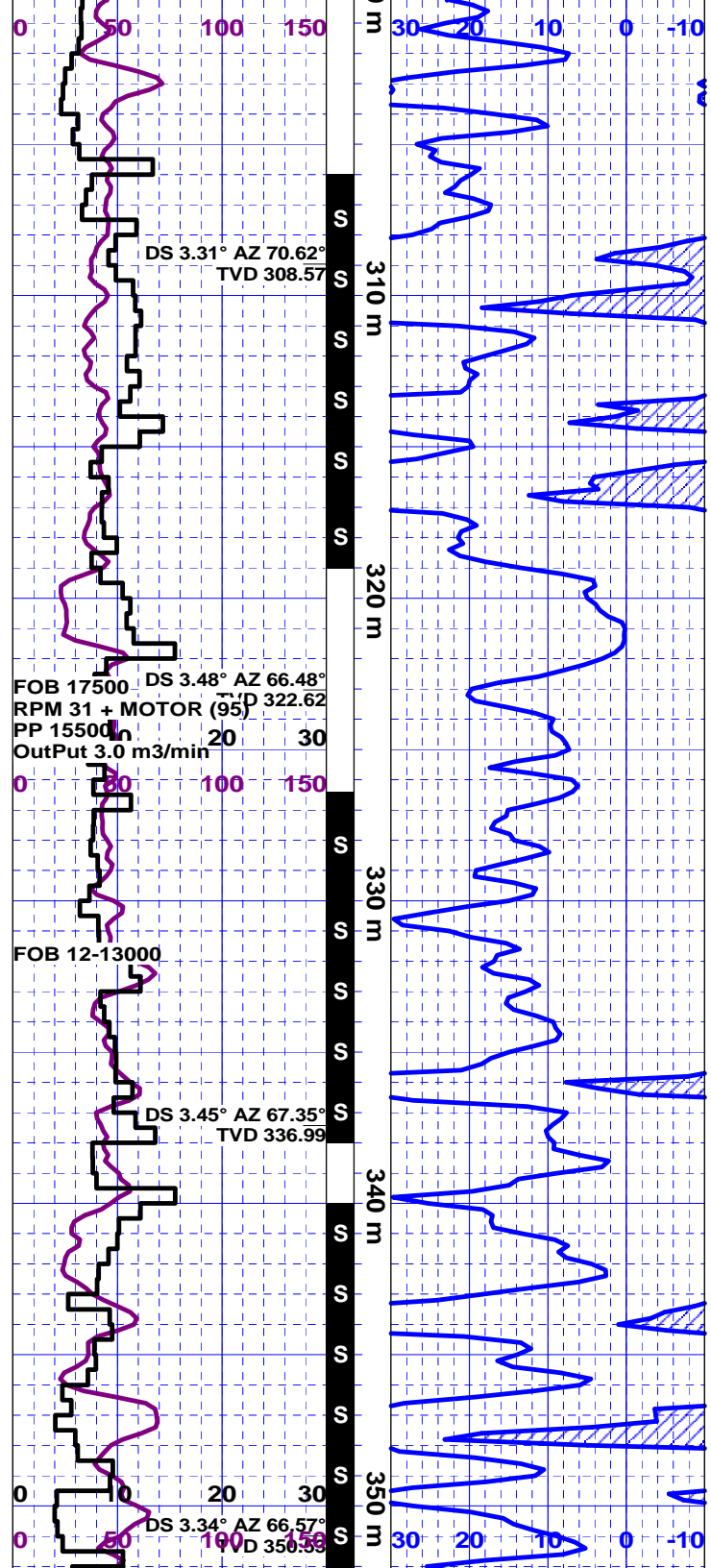
SLTST: ltr - loc m gy micmica - micas Sltst - v f Ss, arg, mnr carb - pos mic coaly ? specs through dkr frags, blk, competent but softer, crushable, uni, mnr Sh, m gy, blk, frm, rr micmica, tr redsh brn Sh, silly micmica, rr tr coaly frags - v f sdy / micro coaly lams thru.

SLTST grdg - SH m - loc dkr gy Sltst, m - u slt grdg - abnt v f Ss, arg, dirty, micmica - micas, sils in pt, nn calcs, frm, competent, blk, crushable, / mnr intlam Sh and pos v f - u f fidic clnr Ss lams, grdg and fng down / dpth - predominantly Sh, dkr gy - silly gy blk, mas, amor, blk, frm, crushable, nn calcs, amor - silly micmica, mnr slty - silly sdy.

MW = 1080
VIS = 65
pH = 9.5

Tr GAS
From
Coaly
Lams ?

NO GAS

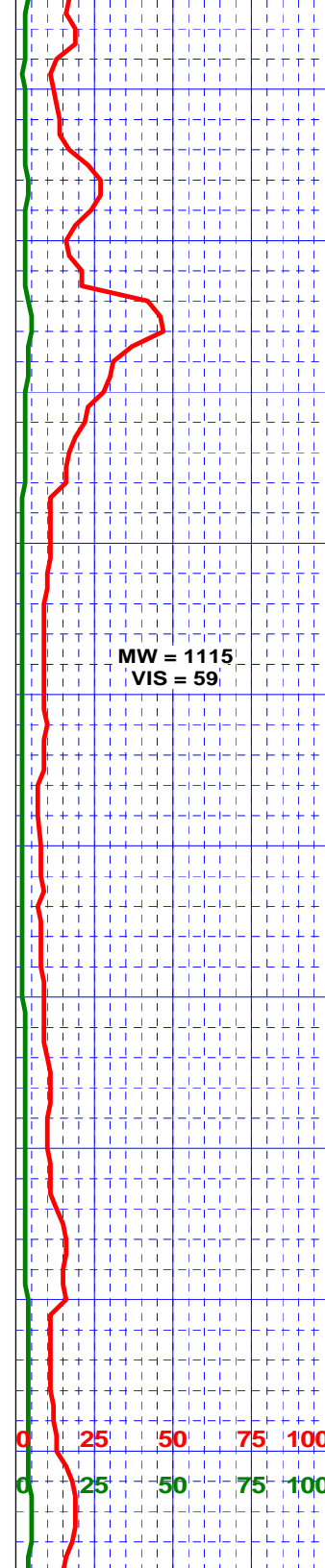
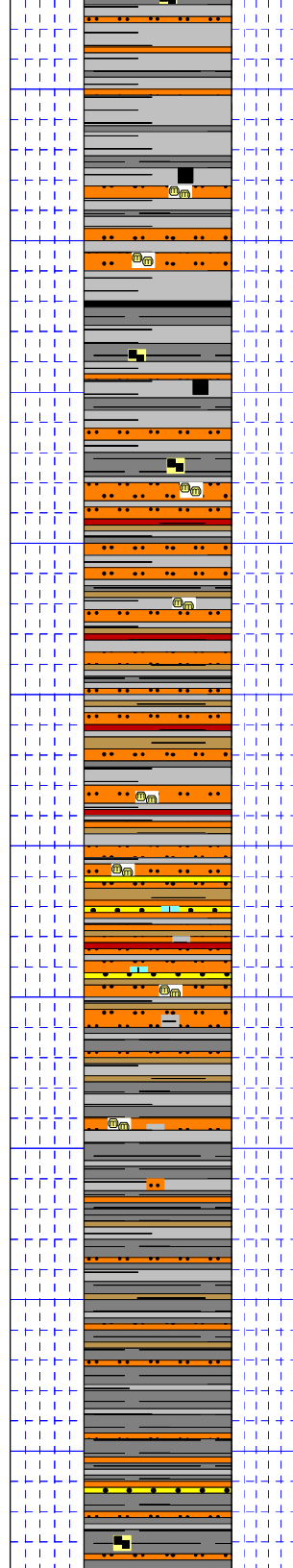
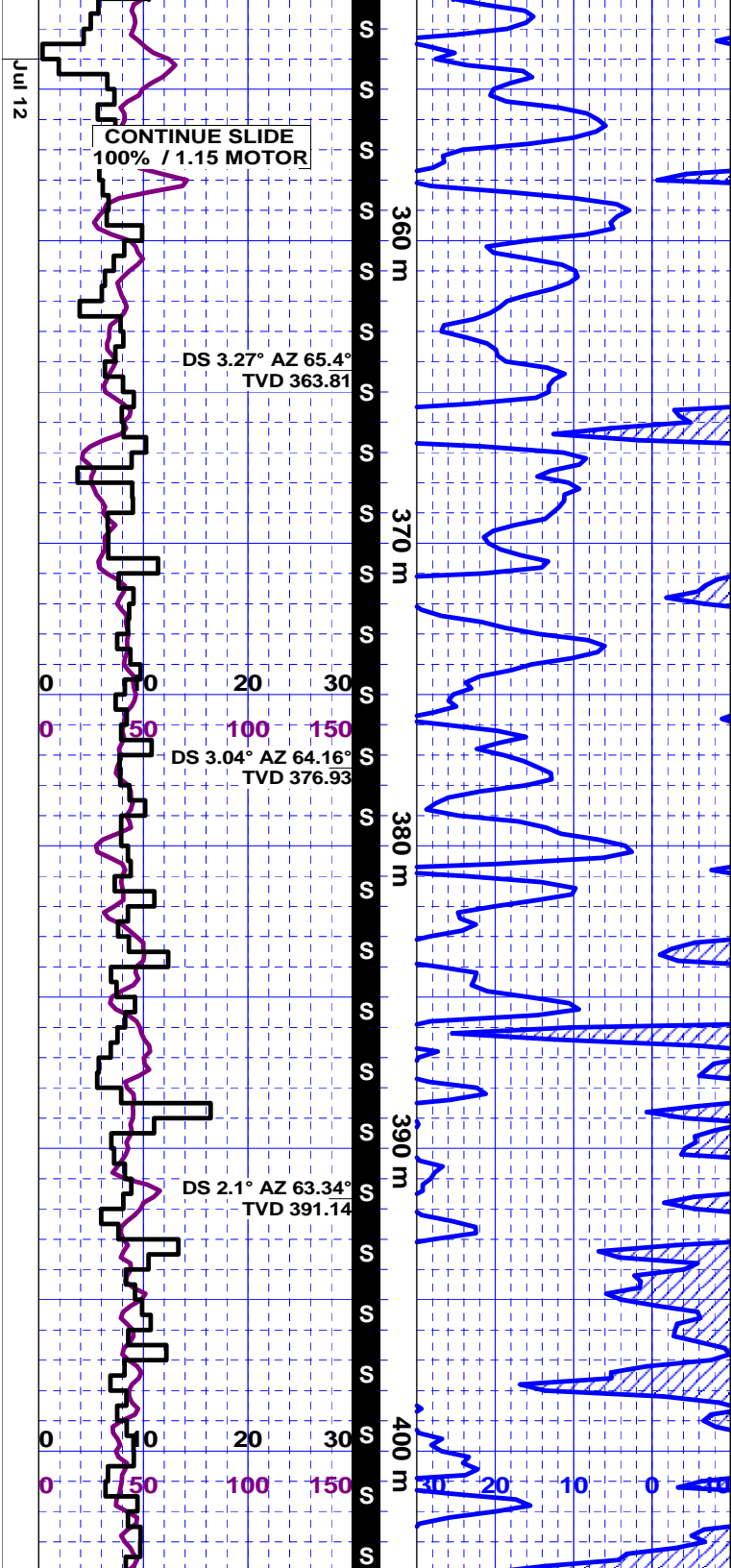


/ dpth, dkr gy - gy blk, mas, amor, blk, n
calcs, sils in pt, v frm, crushable, hdr than
Slst, mntr slty, tr coaly ptgs / several coal
frags, pos v thn lams.

SH / mntr SLTST brnsh / v slly redsh tinge,
mas, amor, blk, v frm, nn - loc mntr
micmica, grdg - incrg micmica brnsh (redsh),
Slst, mntr apr hdr crpxl frags, pos
mntr frag, calcs - sidic?, intlam / 25-10%
dkr gy Sh, mas, amor, blk, mntr apr u
coaly frags - pos coaly ptgs, decrg / dpth,
overall slly cng / dpth - mntr micmica v f
dirty Ss.

Intbd SLTST - SH slly redsh brn, nn -
micmica Slst - lt - m gy micas Slst - v f
Ss, intbd - intlam / mntr v f - f fldic clnr Ss
Inss, v slly calcs, - intlam dkr gy - gy blk
shales / dpth, mxd up - varied spls thru, no
gas, no shows.

SH / COAL predly dkr gy blk mas Sh,
amor, blk, frm, loc carb - mic coaly specs,
/ intbd Coal beds up - 1.5 meters thk based
on ROP, max gas apx 40 units only, mntr
slty - v arg m gy Slst Inss?.



SH / mnrt SLTST - tr Coa m gy, mas, blk, nn calcs, frm, crushable, mnrt slty - rr micmica, mnrt - 15% gy blk, carb in pt, mnrt coaly ptgs - lams, tr blk vit fracd Coal frags, intbd / apx 25% ltr - m gy mic - micas Slst, arg, dirty, sft, , mnrt tr micas f slly dirty Ss

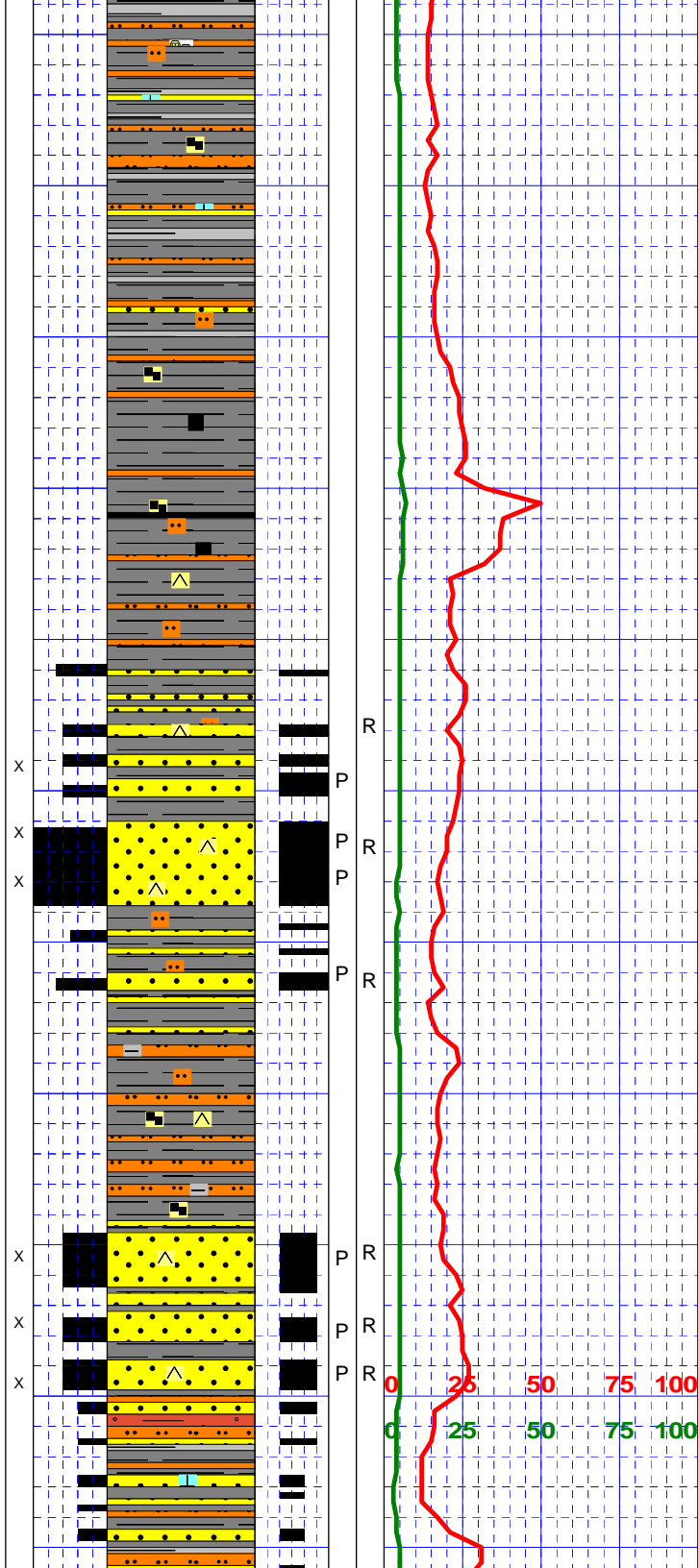
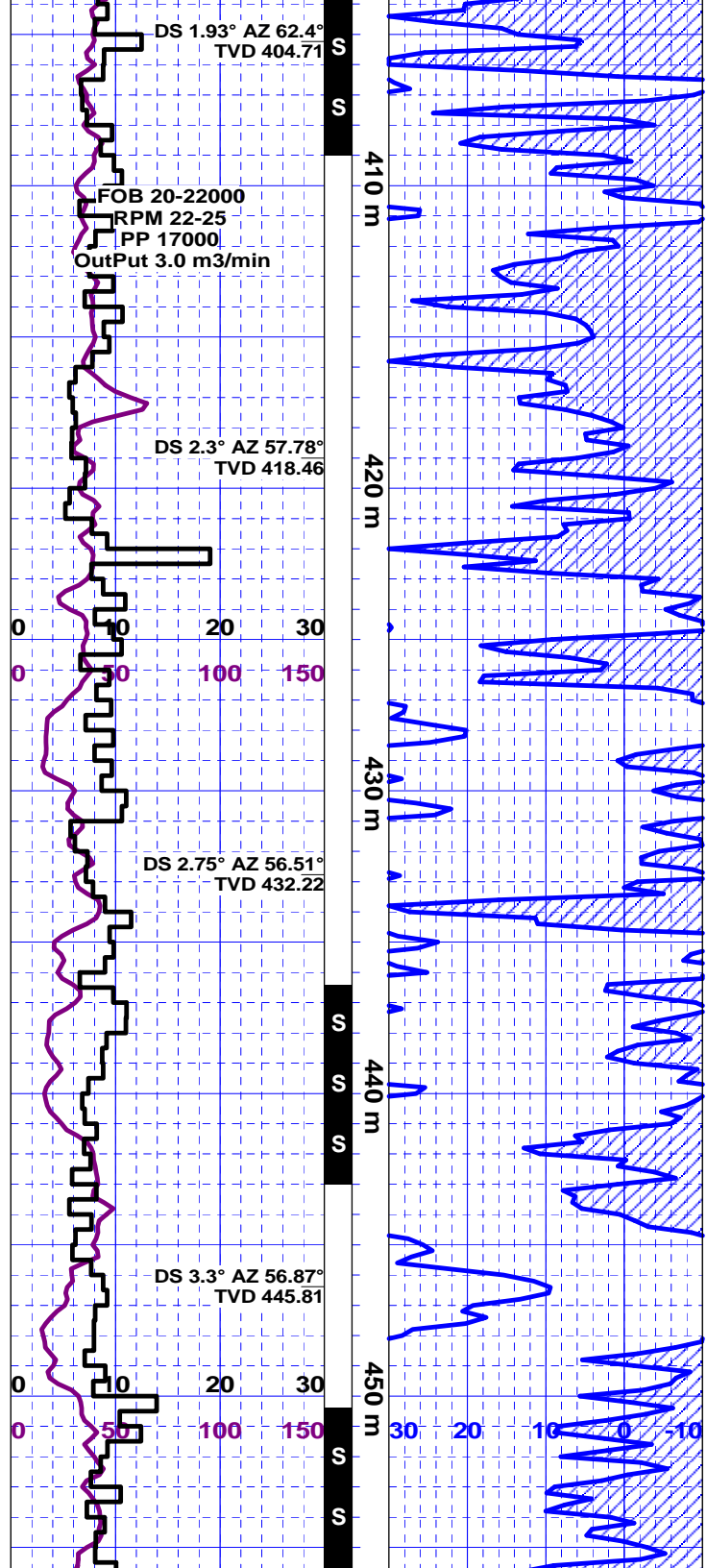
Intbd SLTST - Sh lt - m gy, mas, amor - micmica - v micas u slt - v f Ss, arg - dirty, nn calcs, sft, fri, intbd / 20% brnsh Sh, (sl redsh tinge), mas, amor, blk, frm, nn calcs, loc slty, rr micmica, mnrt dkr gy - gy blk sh, rr tr coaly frags, uni / dpth.

MW = 1115
VIS = 59

Intbd SLTST - SS lt - m gy, arg, dirty, blk, mica - micmica, frm, crushable, mnrt mot off wh f slly fldic clnr Sands as lns ?, sils, rr tr v slly calcs only, mnrt redsh brn micmica Shales and also dkr gy blk, slly carb, rr tr coaly frags.

SH / mnrt SLTST predly dkr gy - incrg gy blk / dpth, mas, amor, blk, frm, crushable, nn calcs, mnrt intlam brnsh - v slly redsh brn Sh, slly micmica, mnrt ltr gy Slst, as abv, sft in gen, mnrt hdr sils frags / dpth, slly carb?.

Intbd SLTST - SH ltr gy, micas - micmica, qtz, sft, crushable, nn calcs, carb - mic coaly lams, mnrt apr intbd clnr Sands, v f - l m, off wh, mod cmtd, mod srt sbrdd, calcs in pt, bdd / Sh, gy blk, mas, amor, blk, nn calcs, carb in pt

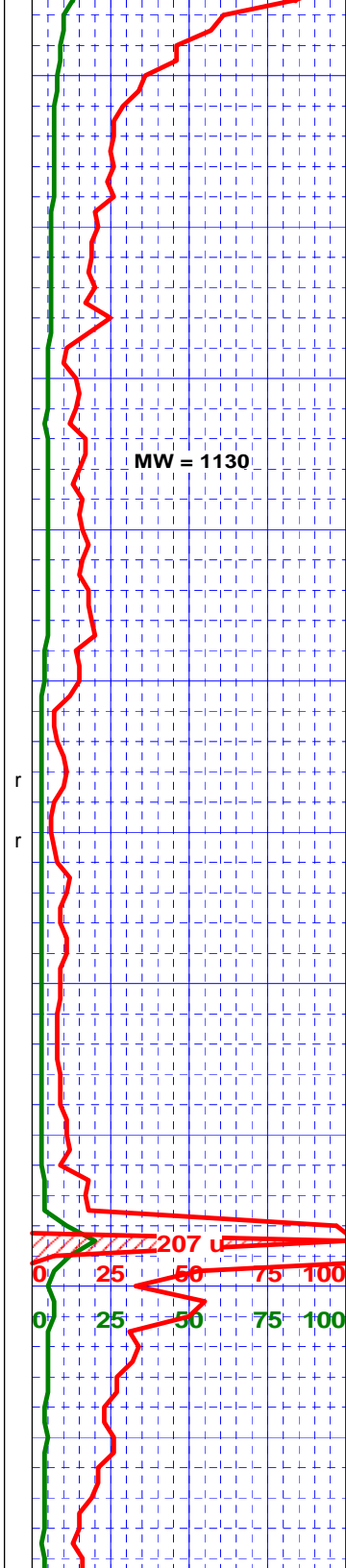
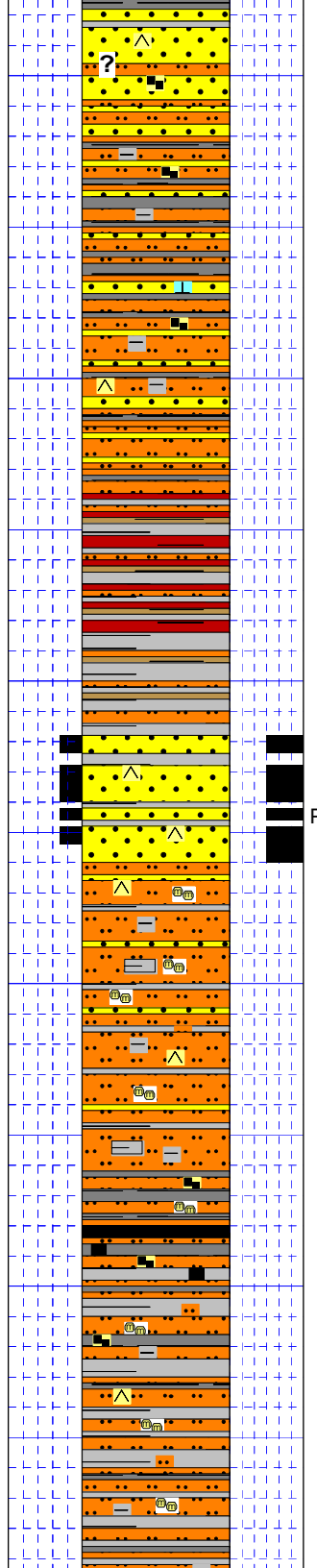
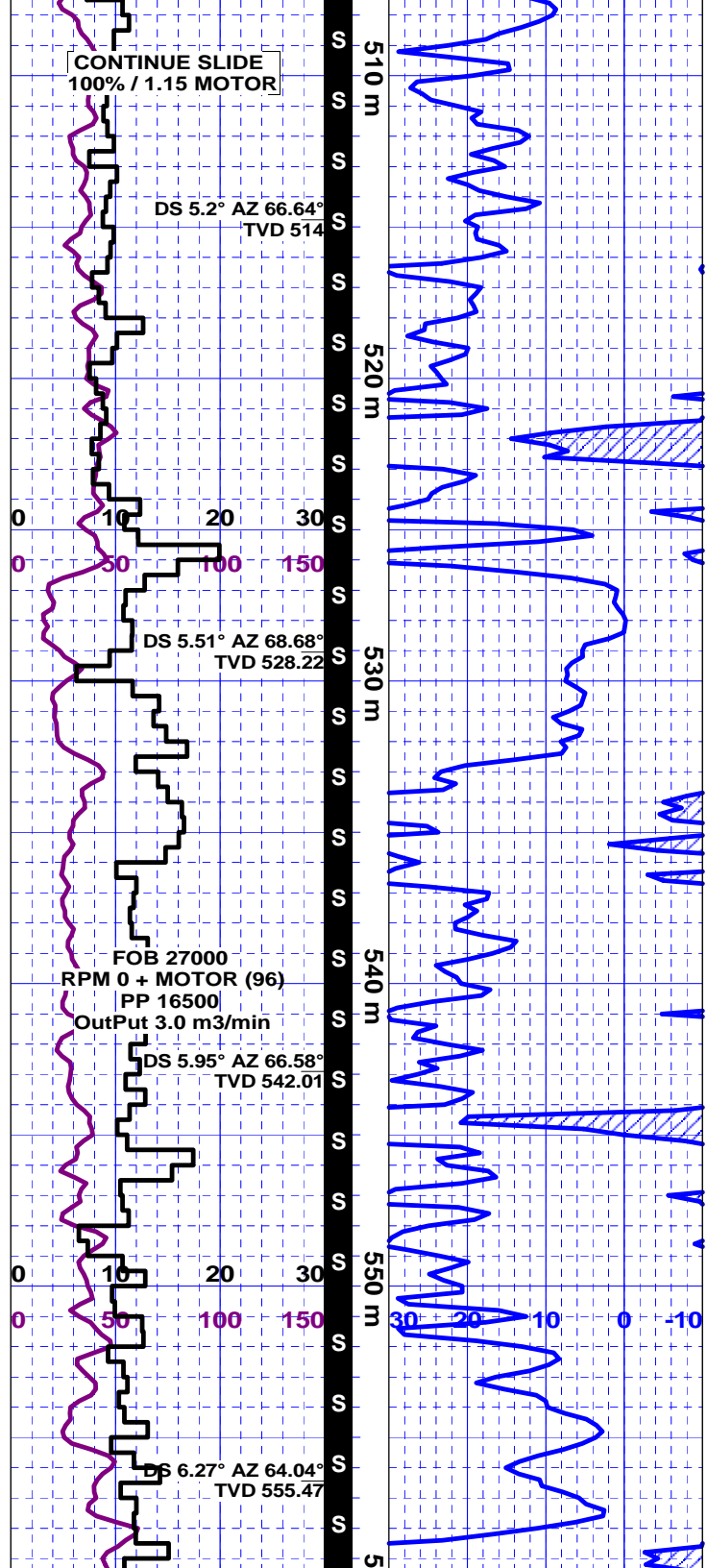


SH / mnr COAL dkr gy - gy blk, mnr blk, mas, amor, blk, frm, crushable, abnt mic coaly lams, some carb, mnr blk coaly frags thru, assuming v thn intbds, mnr intlam Slstst, m gy, arg, blk, nn calcs, loc v slly carb - mic coaly specs, no sands.

SS: off wh, l - u m - v c, qtz, op, wh, trns, v cln, mas, genly lse, weaker cmtd, sils in pt / mnr tr calcs cmpt, mod prly srt, sbrdd - w rdd, frags v hi relief, g sec rexln - qtz ovghts, app weaker slty sil inflg, 10-12% effective por?, incrg mtz, grdg / dpth - off wh clnr v f Ss - u Slstst, mod w cmtd, sils, v slly calcs only, apr intlam Sh / dpth, No Shows.

SH: m - dkr gy, gy blk, mas, amor, blk, tr carb, rr mic coaly lams?, / mnr micmica Slstst.

SS: off wh, l - u m / c, mas, slty - slly chky, v f qtz mtz inflg, v cln, blk, abnt lse, sils in pt, mnr calcs cmpt incrg / dpth, , mnr apr sec rexln - ovghts, tighter than abv, 4-6% effective por, intbd Sh (20%) / dpth, gy blk, dk gray, slly carb, as abv, mnr interlams of Slstst / Sh, No Shows.



SS: off wh, v f - l - u m / slty - sils mtx cmt, predly frags, cln, qtz, op, wh, trnsl, mod prly srt, sbang - sbrdd, rr tr lit, rr tr pyr, mnr slly pale orng stnd grs, v slly calcs only, mnr Sh in spls, no shows.

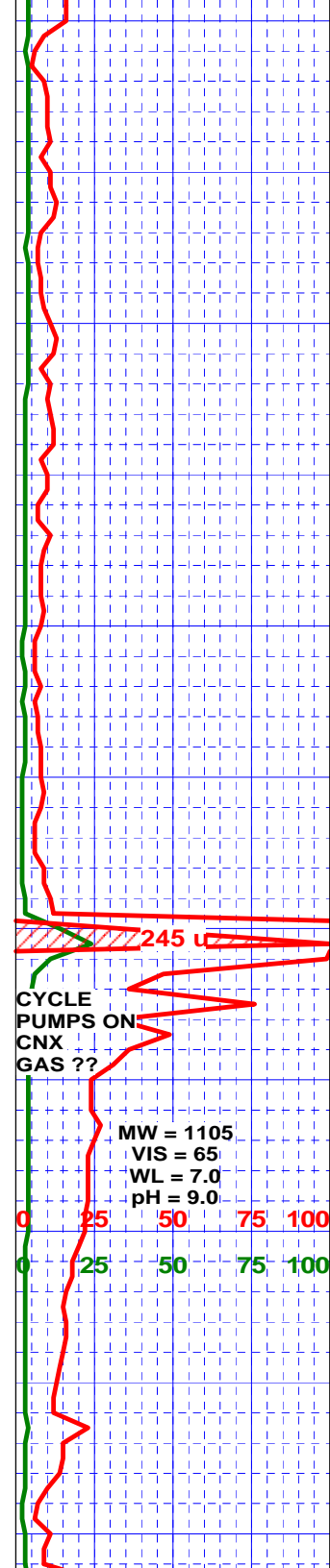
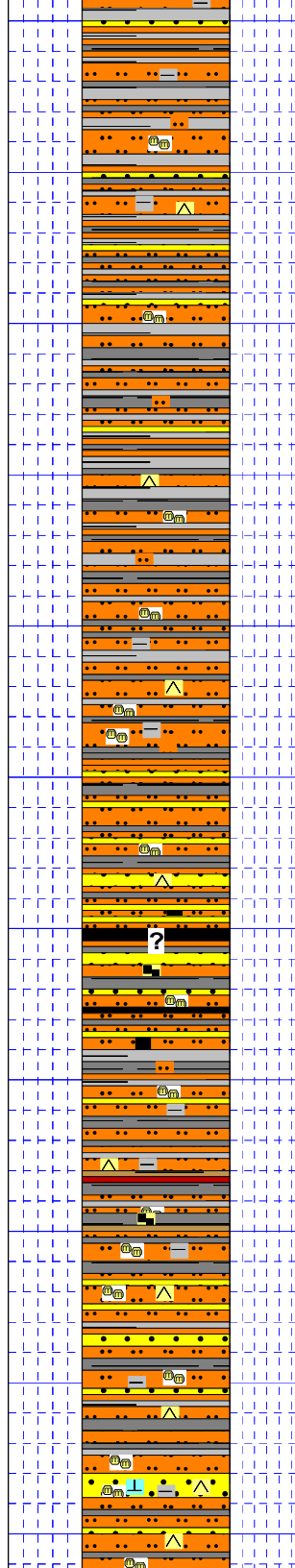
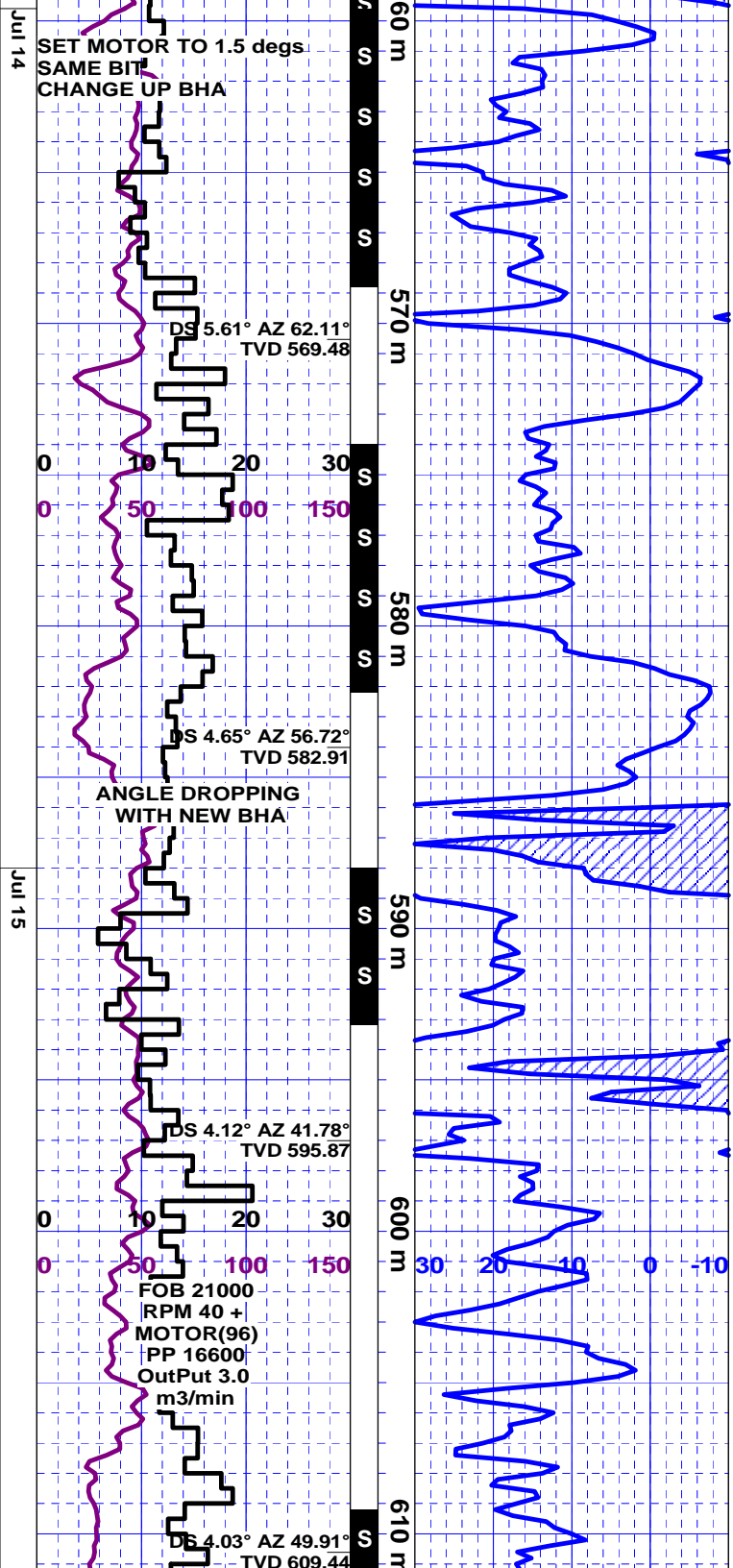
Intbd SLTST - SS lt - m gy Slstst, l - u slt, qtz, micas, overall arg - dirty, frm, crushable, nn calcs, abnt loczd carb, loc grd - slty Sh, gy blk, intbd / l - u f Ss, off wh, mod - v cln, qtz, ltr orng flds?, rr - no lit, rr mica flks, slty - sils mtx cmt, nn - loc v slly calcs, predly frags, tighter, l relief, 2 -4% effective por?, no Shows.

SH: predly brnsh - slly redsh brn, mas, amor, blk, mnr slty, mnr greyish micas Slstst, grd / dpth - a m - dkr gy, mas, amor, blk, frm, crushable, nn calcs, mnr intlam Slstst, 10% clnr intlam SS / dpth, off wh. cln, as per below.

SS: off wh, V Cln, l - predly u m, c, mas, lse - frags, qtz, op, wh, trnsl, mnr tr v slly gnsh cly frags, rr blk - redsh lit, mod prly srt, sbang - rdd, mod cmt, sils - / slty sils mtx in pt, rr tr v slly calcs, mod - l relief, no vis por, 3-4% effective due - cmt, no Shows.

SLTST / Ss m - abnt dkr gy, l - u slt grd - v f Ss, arg, dirty, loc mnr carb, qtz, lithics, micmica - micas, blk, frm - slly hdr, crushable, mnr Sh, m - dkr gy, sils in pt, nn calcs, intbd / mnr - 10% clnr off wh Ss, f - u m, rr c, as abv, mnr u f - l m slly fldic Ss, uni - uni ROP / Dpth, No Shows, No Gas.

Intbd SLTST/ SH - mnr Ss m - dkr gy, mas, arg, dirty, carb in pt, qtz, micmica - micas, frm blk, sils in pt, crushable, as abv, / incrg m - dkr gy Sh interlams, continued apr thn Ss bdg thru ?, (as abv), decrg / dpth. mnr u Coal frags, apr thn 0.5 meters ? Coal seam @ 547 meters / apx 200 units Gas shw. POOH @ 560 meters - crank up Motor as hole continues - build / 1.15 deg bend).



Intbd SLTST / SH - mntr Ss predly dkr - m gy, mas, blk, l - u slt, qtz, arg - dirty, micmica in pt, nn calcs, sils in pt, v frm, competent, crushable, loc carb?, intlam / Sh, dkr gy - mntr gy blk, mas, amor, plty, mntr thinner intbds Ss, off wh, dirty lt gy, v f - mntr l f, qtz, wh, op, mntr trnsil, micas, sils in pt, crushable, no shows.

SLTST / SH grdg - Ss dkr gy, m gy, mas, blk, qtz, op, micas, biot / musc ?, pos tr carb ?, v frm, sils in pt, crushable, intbd / Sh, dkr gy, mas, amor, mntr slty, intlam / v f Ss, off wh, slly dirty, mas, blk, qtz, micas in pt, grdg / dpth - v f - f, cln, off wh - lt greyish, mas, blk, sils / loc tr calcs, - slly arg cmpt, v micas, biot, no shows.

SS / COAL ? off wh, cln, u f - predominantly l m, qtz, wh, trnsil, slty sil mntx - cmt, tighter, sils, nn calcs, mod srt, sbrdd, l relief, frags, 3-4% effective?, no Shows, mntr lt - m gy micas Slst, tr blk vit Coal frags, G gas shw @ 590 meters. Assuming gas shw from COAL.

SS / SLTST grdg - Sh lt - m gy dirty Slst, micas, as abv, / abnt v f - l f clnr Ss Lams - thn bdg, qtz, sils, mod w cmt, 2-3% effective por?, mntr u coal frags, grdg - incrg Sh / dpth, dkr gy, mas, amor, plty, mntr slty, incrg redsh brn shy frags, slty in pt.

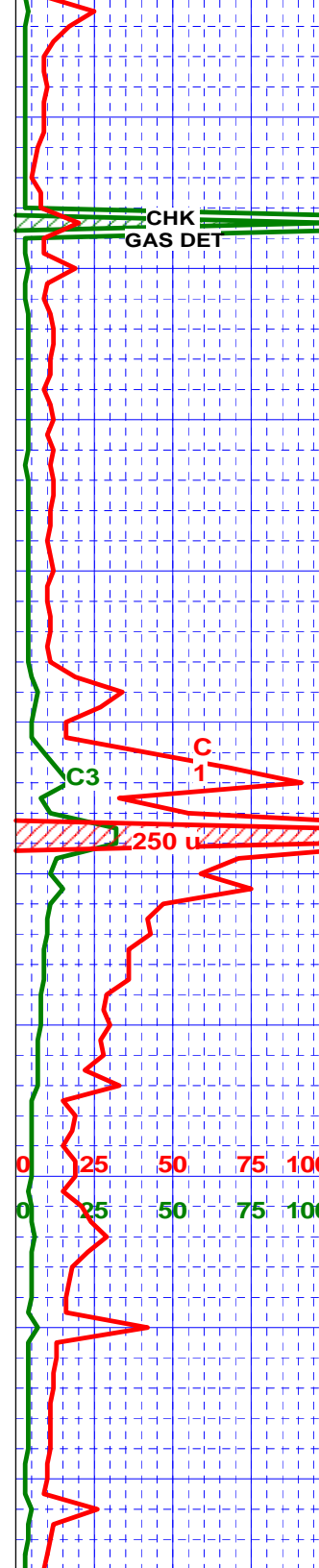
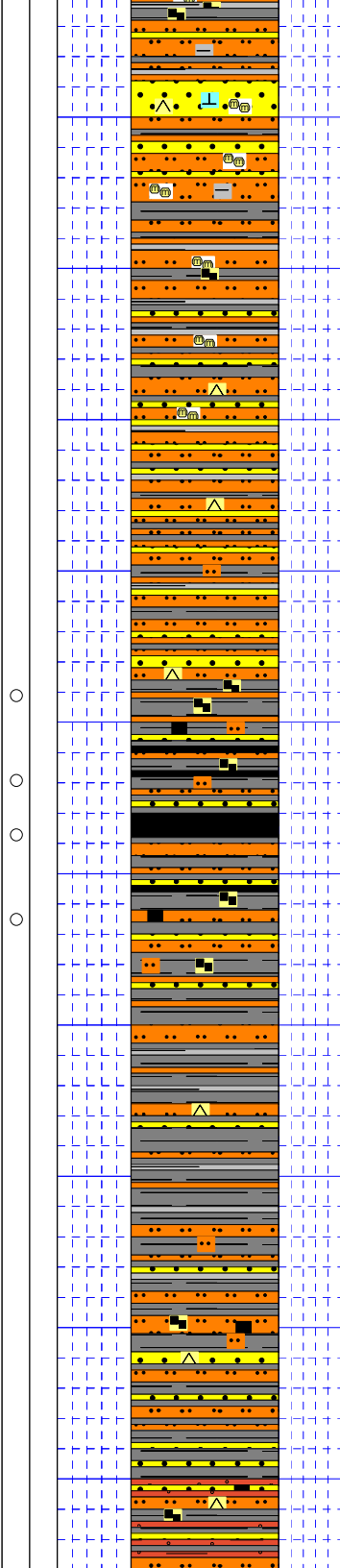
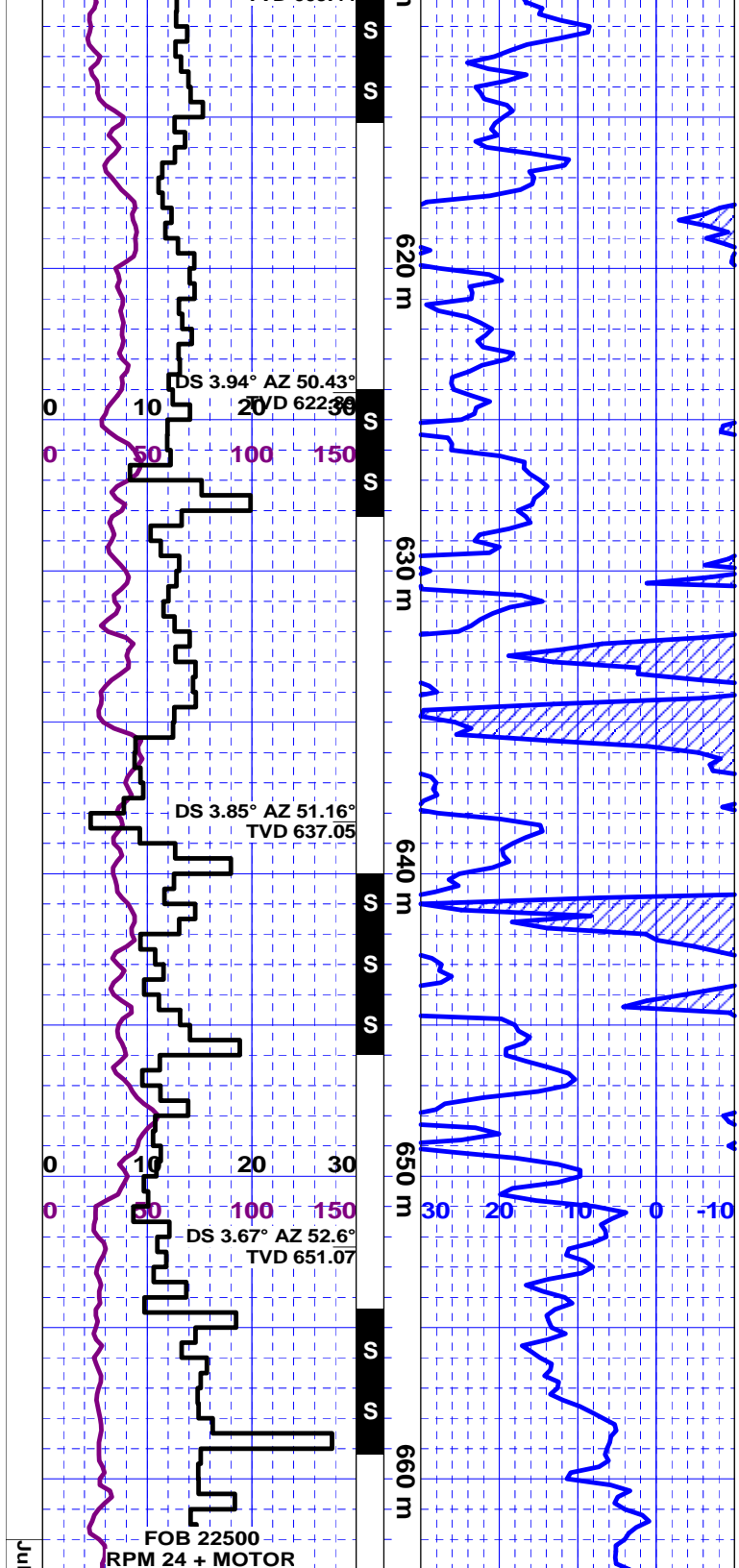
Intbd SLTST / Ss predly ltr - m gy, dirty, arg, qtz, micas thru, frm - blk, competent but crushable, mntr apr carb ptgs?, mic lams, tr lgr Coal frags, mntr dkr gy Sh, intbd / Ss, off wh, clnr, v f, mas, blk, qtz, tr micmica, sils / v slly calcs cmpt, w cmt, no - mntr por, no shows.

POOH @ 560 m to
SET UP MOTOR

MW = 1105
VIS = 65
WL = 7.0
pH = 9.0

CYCLE
PUMPS ON
CNX
GAS ??

245 u



SS: ltr gy v f - f, rr m, qtz, op, gy, wh, blk micas, overall silty arg, abnt grdg - Sltst, intbd / cln Ss, mot off wh, vf - m, qtz, tr blk mica, mnr org flds?, sils / mnr calcs cmpt, tighter, hdr, better cmtd, no vis por, no shows

SLTST / SH m - dkr gy, mas, blk, frm, competent, qtz, micas - micmica, arg - dirty mtx, nn calcs, intbd / mnr dkr gy - silty gy blk Sh, mnr pos thn lns f micas Ss, v uni ROP, thinly lamd thru ?, no shows,

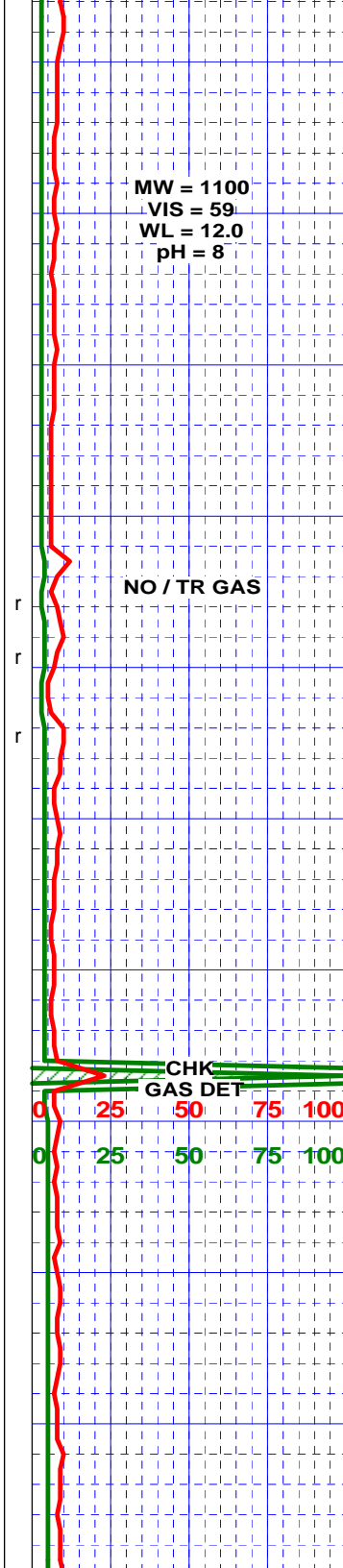
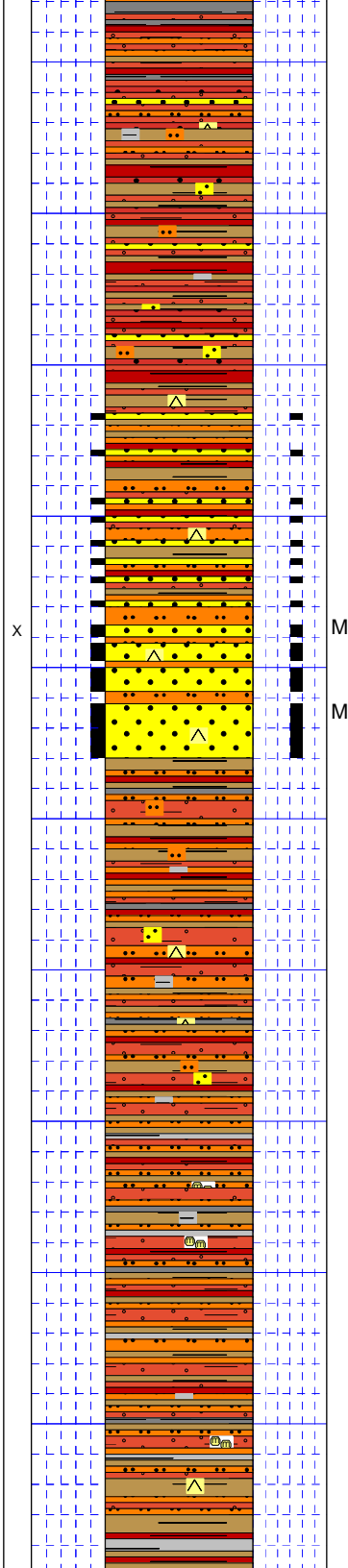
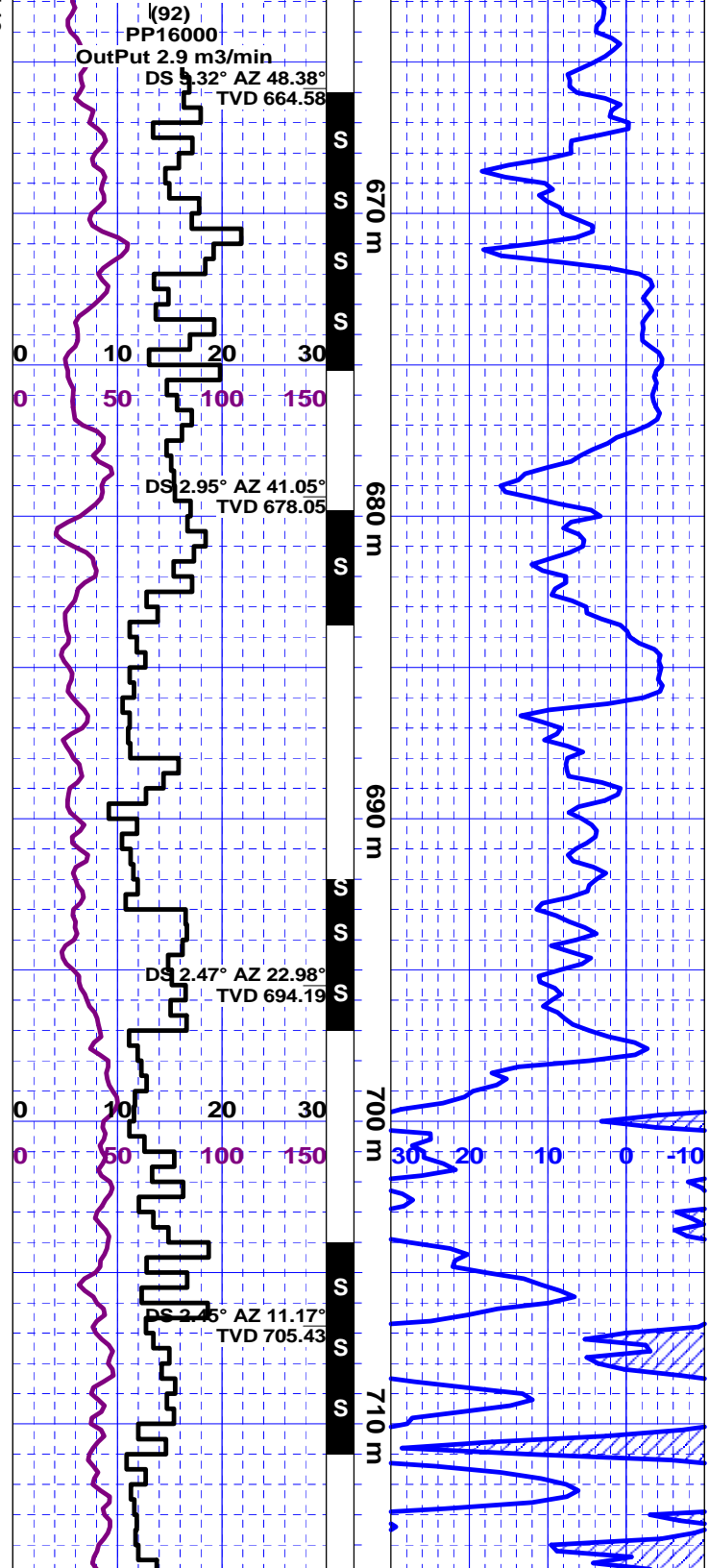
SLTST - SS v lt - loc m gy, mas, blk, qtz, micmica, frm, crushable, arg - silty dirty, grdg - intbd / Ss, v f - f, mot ltr gy, silty gy wh, micas, biot, musc, fairly cln, mnr arg, rr tr carb ?, mod cmtd - weaker sils mtx, crushable, rr tr calcs.

SLTST - SH / COAL, mnr SS m - ltr gy, micas, as abv, dirty, grdg - dkr gy - gy blk Sh, mas, blk, plty, sils, carb, coaly, intbd - lamd Coal beds, vit - bri blk Vitrain, conch frag, vis mic lams and/or fld fracs ? of wh calc within Coal frags, abnt lt gy Sltst, as abv in spls, cvgs or pos lams - thn bdg / coals, No Flor, V slow resdl mod bri yelsh cut over 5 minutes, Cut vis on Shales - Sltst and f Ss frags, (Abnt Coal @ shakers - Gas shw of 250 units.).

SLTST / SH - mnr SS / Coa m - dkr gy Sltst, dirty, mas, blk, sils in pt, crushable, micmica - micas, some carb, intbd / dkr gy Shales, mas, amor, nn calcs, mnr slty, mnr Ss, silty dirty off wh, lt gy, v f - mnr f interlams?, nn - rr tr v silty calcs, qtz, tr carb, micas, continued Coal frags, pos thn lams - intbds or cvgs from lrg beds abv. No shows.

SLTST - SS ltr gy - off wh Ss, v f in gen, abnt slty, clnr, frm, competent but fri, qtz, wh, semi trns, micas, nn - loc mnr silty calcs (slty), intbd / dirtier lt gy Sltst, micmica, sft, nn calcs, rr sh, mnr tr redsh sltst.

Intbd SS - SLTST Redbeds brnsh - predly

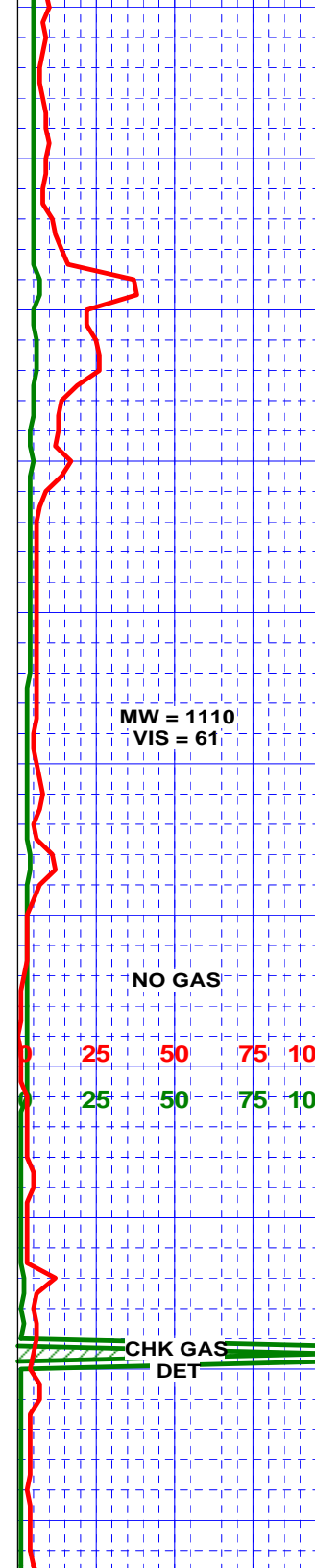
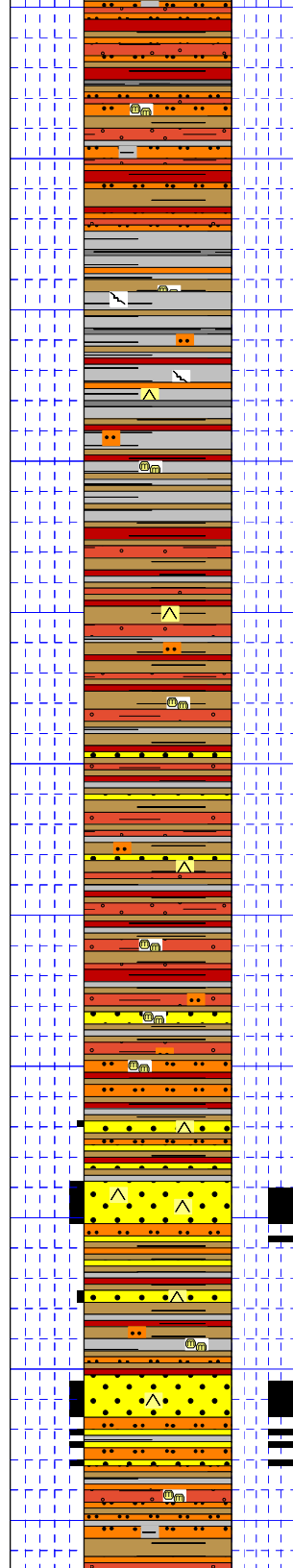
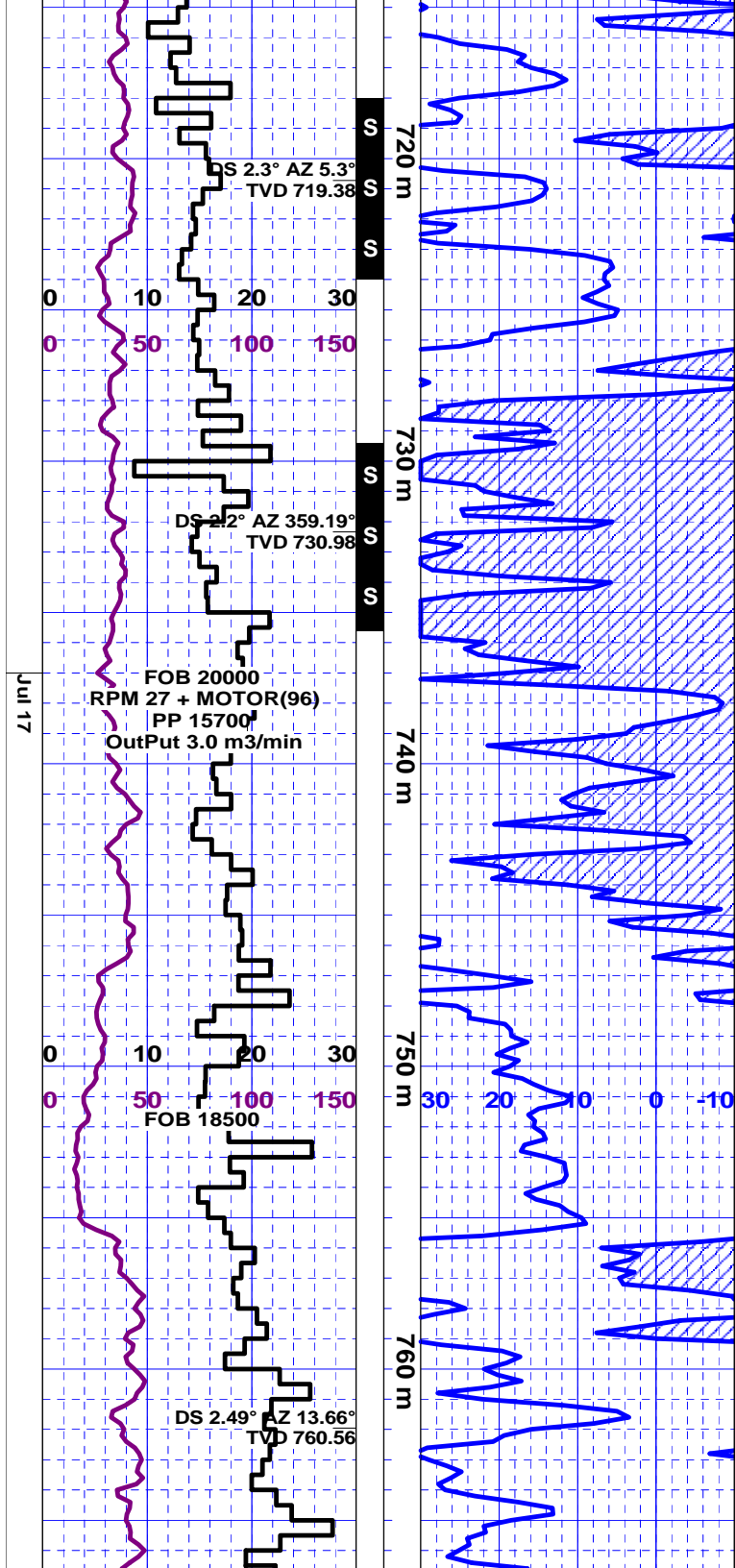


silly itr redsh brn, silly mot org brn, v f i
gen, mnr l f, qtz, op, redsh arg cmpt, xln
tex in pt, pos mnr v f - slty org flds?,
micmica in pt - mnr f micas, sils in pt, frm -
mnr silly hdr but predly v easily crushed,
intbd / mnr redsh brn Sh, (destroyed by
drlg or washing), and mnr Ss, v f, off wh,
clnr, silly fldic, (easily drilled / a PDC ?)
Slower ROP apx 4 m/hr, No shows.

SS: 40-50% redsh brn - brnsh gy Sltst / gy
Sltst, micas intbd and grdg - mas Ss /
dpth, l - u m, mot off wh, qtz, op, trnsil, wh,
g tr org flds?,, mnr tr mica, rr tr fib coaly
frags, mod srt, sbang - sbrdd, mod w
cmtd, sils, nn - rr tr loc frags v silly calcs,
mod l relief, no vis por, no Shows, no Gas.

Intbd SILTST / Ss silly redsh brn - brnsh -
brnsh gy, mas, blkly, micmica - micas, frm -
v frm, blkly, competent, crushable, sils in
pt, nn calcs, arg, dirty, loc grdg - and intbd
- intlam / Ss, gen silly redsh wh, v f - rr f,
mas, blkly, sils in pt, qtz, micas, mnr
greyish Shales, nn - silly slty, uni / dpth. No
Shows.

SLTST Redbeds / mnr SH - Ss predly
brnsh - m brnsh / v silly redsh tinge, mnr
greyish brn, mas, blkly, l - u slt grdg - v f
Ss, arg, dirty, cly rich in pt, micmica - mica
/ coarser lnss - intbds, frm, competent, nn
calcs, sils in pt, sltst weaker cmtd due -
clays / v f Ss mod frm - rr hdr, g tr brnsh
Shales - thru, assuming Shales lams - bdg
being destroyed while drlg, uni / dpth, no
shows, no gas.



SH: lt - m gy, mas, amor, blkly, - plty, abnt convd - wvy - vis "shear" typ ptgs - sfcs, nn calcs, slly sils - v frm, competent, crushable, / 20% redsh brn Sh, mnr slty, also some "shear" textures, Pos Shear zn, Mnr Gas shw from zn ?, no sands, no coals.

SH - REDBEDS redsh brn - m brnsh, mas, amor, blkly, frm, competent, loc mnr slty, intbd / m gy Sh, amor, blkly, nn calcs, rr slty, continued mnr frags convd, sheared ?, tr wh v f - f qtz - off wh sils Ss, pos v thn lams, no shows.

SH / mnr SS redsh brn - greyish Shales, mas, blkly, amor, nn calcs, g tr convd - distort "shear" typ sfcs especially within redsh Sh, mnr blkly vit stri ptgs within gy frags, mnr SS, off wh, cln, qtz, off wh, trnsi, v f - m, slty sil cmt - mtx, v prly srt, sbang - sbrdd, tt, no vis por, mnr chky frags, no shows, no gas.

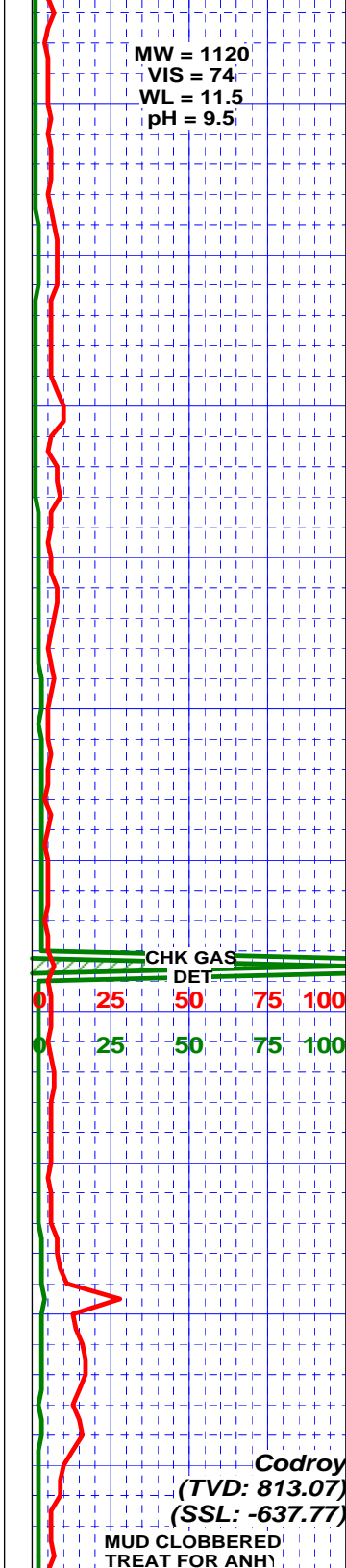
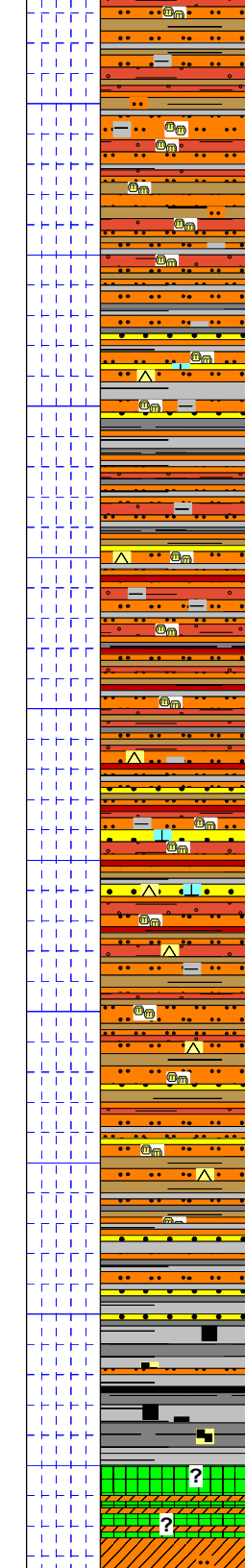
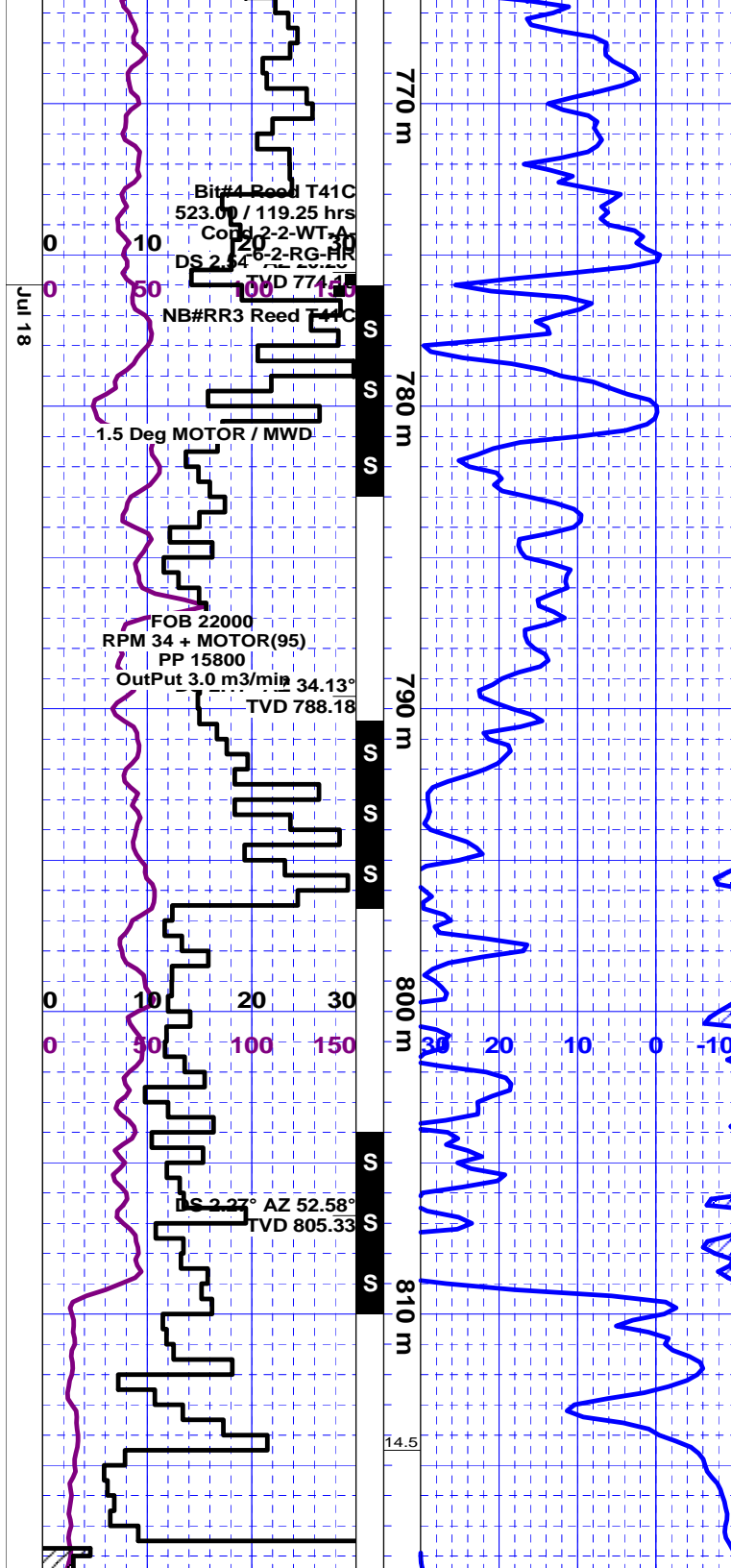
SH / REDBEDS / mnr SS predly brnsh - slly redsh brn, mas, amor, blkly, frm, competent, crushable, micmica - loc v f micas, abnt grdg - l - u Slst, mnr dkr gy sh, / dpth 15% lse / frags Ss, off wh, l - u f, mnr c, qtz, op, wh, trnsi, w cmt, sils mtx - cmt, v cln, thn bdg - lams?, (V brn - red brn @ shakers), no shows, no gas.

SLTST grdg - SS redsh brn - brnsh Slst - Sh grdg - mas SS, off wh, v cln, qtz, trnsi, off wh, l - u m, sbrdd - rdd, abnt c gred - mnr smaller pbls? qtz, trnsi, fracd grs, loc intbd or pos mtx l - u m frags slly fldic, overall cln, mod w cmt, sils, loc mnr tr v slly calcs, pos tr calc frac infig ? tr chky wh slty frags, drillbit - shear gg ?, l relief, no vis por, pos 1-2% effective?, no shows, no gas.

SH - REDBEDS brnsh - slly redsh brn, mas, amor, blkly, frm, nn calcs, mnr slty, mnr apr convd - distort redsh sh frags, mnr dkr gy sh interlams, also tr distort frags, several apr fracd lit - chty pbls?, 5% Ss cvgs from abv.

SS: off wh, v cln, l - u m, c, qtz, trnsi, off wh, mnr loc finer pale orng flds ?, rr tr lit, poorer srt, sbrdd - rdd, abnt fracd c qtz, abnt w cmt finer mtx ? frags, mod w cmt, sils, nn - loc frags v slly calcs only, low relief, no vis por, pos 2-3% effective?, 10-15% dkr gy sh interlams / pos same redsh brn sh, no shows, no gas.

SLTST - SS Redbeds brnsh - v slly redsh brn, mas, blkly, frm, arg, micmica - micas, frm, easily



crushable, qtz, l - u silt - v f Ss, dirty, arg, intlam
10-15% m gy Sh, frm, plty, blkly, amor, apx 5%
clnr wh sily fldic Ss as abv, thn lns or cvgs?.,
ROP under 3 m/hr, no shows.

Intbd SLTST / SS and Sh lt - m dirty brnsh, (r
redsh tinge decrg / dpth), grdg - brnsh gy -
greyish / dpth, intbd Sltst, micmica and v f Ss,
genly v micas, mnr - 5% intlam SH, dkr gy, mas,
amor, some distort - convd frags thru, mnr v f
sily softer fldic Sd lams, overall spls v uni,
softer, ROP incrd - over 3 m/hr, pos due - micas
cmpt, no shows, no Gas, POOH @ 776 meters
for drillbit.

POOH @ 776 m for BIT

Intbd SLTST / SS - mnr Sh ltr - m gy Sltst, mas,
blkly, qtz, pos tr lit, v frm, blkly, mod cmt, dirty,
arg, sil in pt, micmica in pt, intlam / mnr dkr gy
Sh, mas, plty, abnt thinly intbd - intlam Ss, v f - l
f, off wh, dirty lt gy, tr orng fldic, loc v micas,
pos tr lit, sils, w cmt / tr calcs cmpt, pos 10-15%
brnsh Sltst - sily sh interlams?, micas (overall
greyer spls).

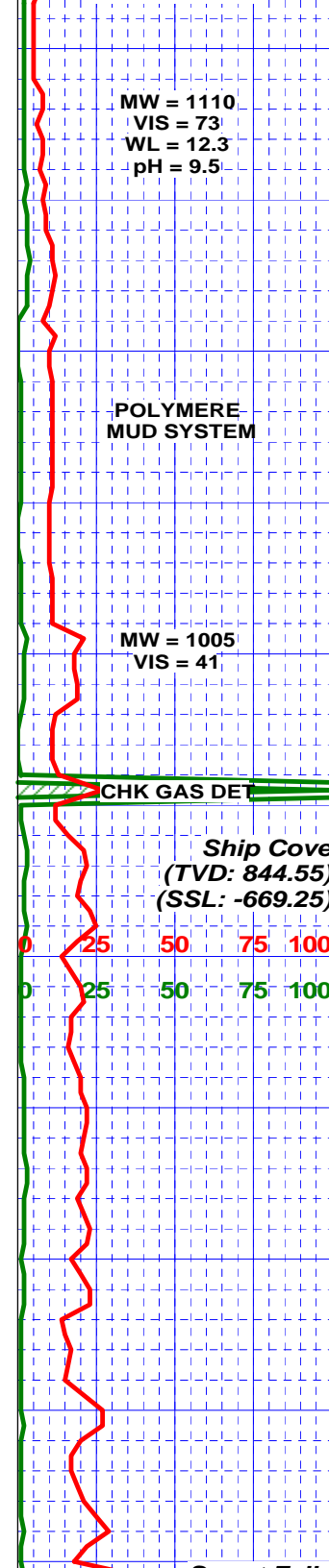
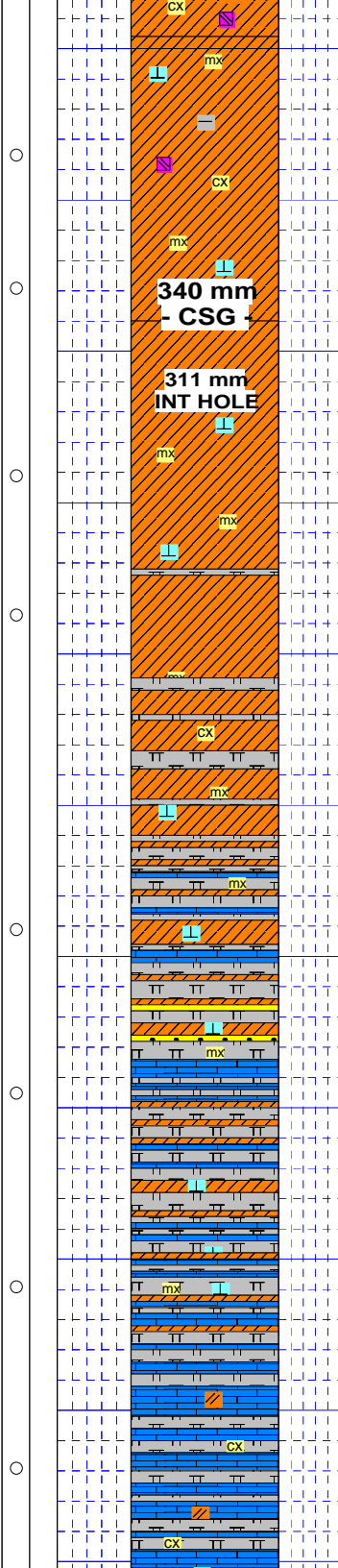
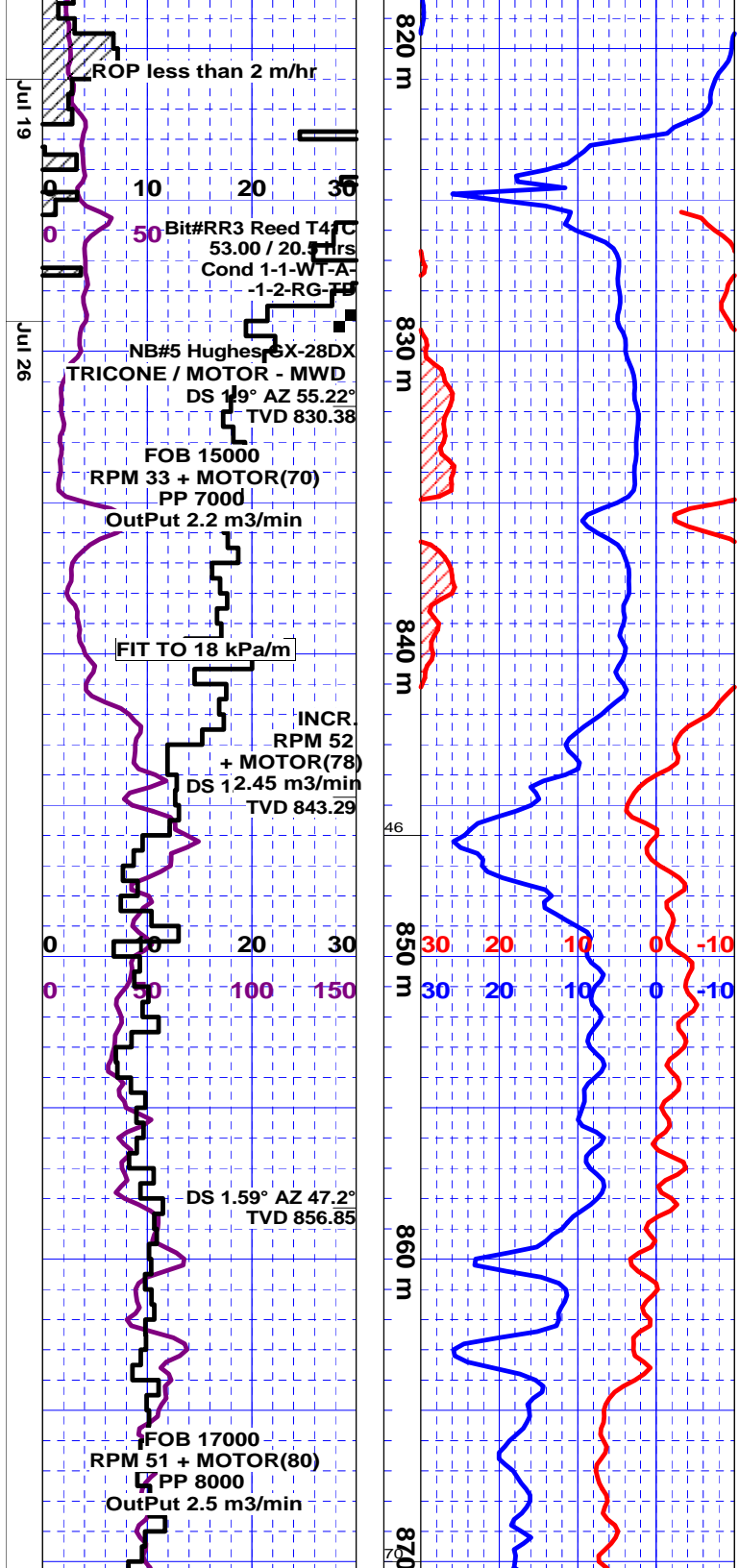
Intbd SLTST / mnr SS Redbed: greyish brn -
abnt sily redsh brn Sltst, arg in pt, mnr - v micas,
intlam / v f Ss, mot greyish - some sily redsh
tinge, qtz, mnr blk mica, mod cln, sils - mod w
cmt / sily calcs cmpt, mnr f sily stnd micas Ss,
pos thn arg Shy lams, m gy - redsh ?, pos mnr
off w f - m clnr qtz Ss lams thru 795 meter intv.

SS: intlam?, mot of wh - v lt gy, qtz, pos tr lit,
mnr tr blk mica, pos v pale orng flds?, mod w
cmt, sils / sl calcs cmpt thru, apr mic calc fld
frac?, mod w srt, sbang - sbrdd, low relief, no
vis por, tt, hdr, slower drig while sliding, abnt
dirty Sltst micas interlams, g tr wh chky softer
gg frags.

SLTST / SH brnsh, greyish brn, Sltst, l - u
silt - v f micas, arg, cly rich, mnr l f micas
Ss Inss, intbd / mnr brnsh - sily redsh brn
sily sily shales and mnr greyish shales, tr
mot whitish v f Ss Inss, uni / dpth, no gas.

SH / mnr COAL apr u Inss Ss, v f clnr -
sily dirty - micas, calcs in pt, grdg - softer
dkr gy - gy blk Sltst - gy blk - dkr gy SH,
mas, amor, blkly, sils in pt, abnt sily, sily
carb, tr / incrg Coaly frags, pos thn Inss,
poorer sily arg - dull frags, some coal
ptgs?, some distort convd sfcs, tr gas only.

Codroy ANHY: G drl brk, mas lgr thumb sz + frags
@ sfc, chky wh softer - v dns hdr "coke
bottle" op - sily brnsh bl gy, tr mic calcic
lams, Mud clobbered instly on bottoms up
from 817 meters, Fast ROP indicates pos
intlam SA2, or ord karst etc (98% cys i



Initial SA r, or ersi karst etc. (98% cvgs 1
spl) other than lgr frgs @ shakers.

ANHY: off wh, v cln, mas, blk, competent,
micxl, rr chky, tr - 5% mic calcs replt?, mic
- mas bndg assumed / v dns, hdr, insolb
"coke bottle" op - slly dirty brnsh gy - gy
bl?, pos tr micxl - v f xln gypsum frgs,
ROP under 2 m/hr, No gas, uni / dpth. pos
tr resdl pale wh cut, POOH @ 829 meters
for 340 mm Csg.

340 mm CSG PT @ 829 m

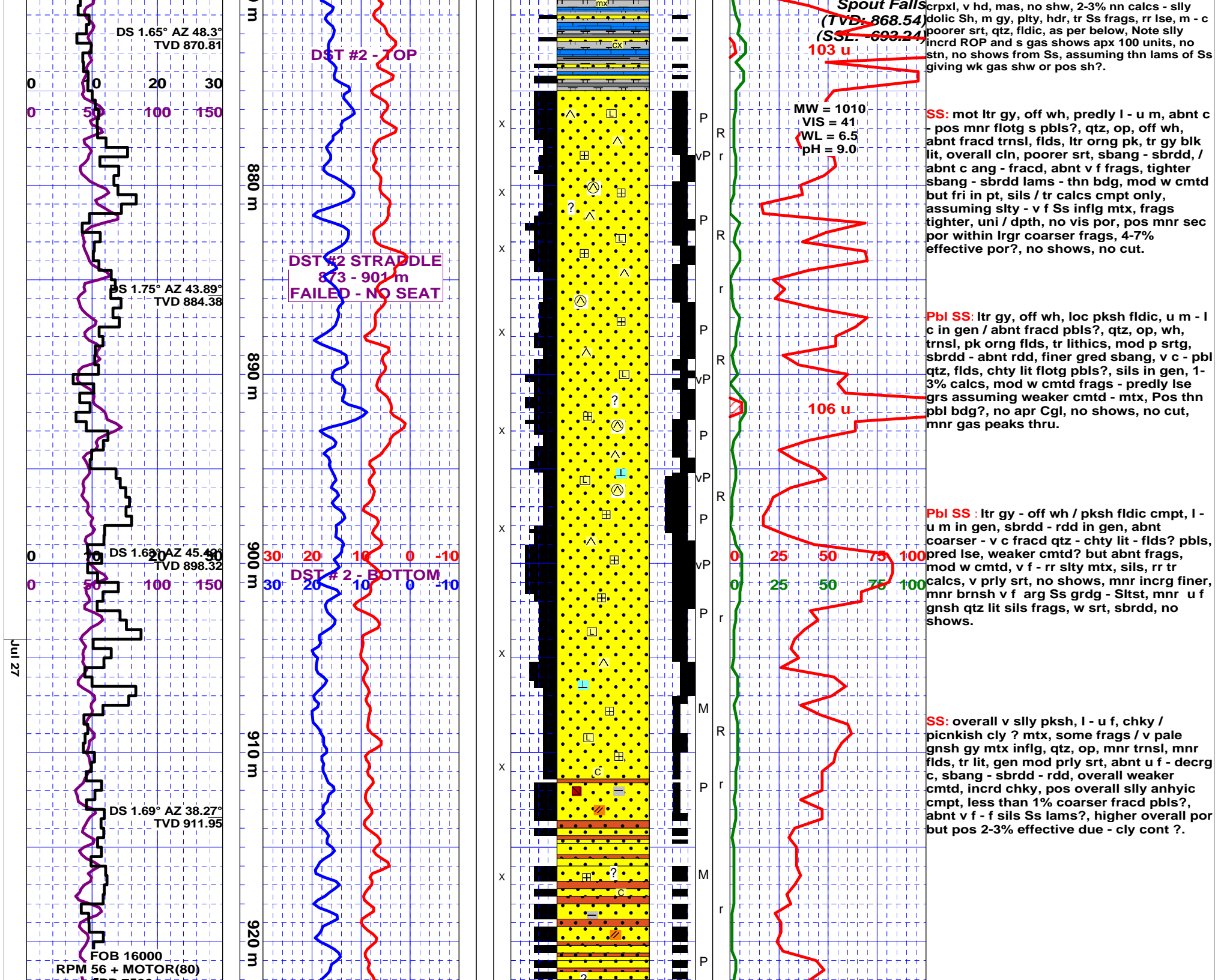
ANHY: off wh, micxl, loc slly chky, blk,
frm, overall calcs cmpt, 2-5% calc cmpt,
mot blotchy replt or prim ?, (Alizarin Red
stng), apr mic - mas bndg, mic - lgr bndg
?, gysh slly bf, crpxl, hdr, No Flor, v slow
but stronger resdl bri wh cut, no stng, (sl
su smell - spls when acid added, / dpth
mnr intlam v dirty gy blk slty, arg mrlst ?,
limey Sh?.

Intlam ANHY / MRLST Mdst (1A), lt - m gy,
micxl, mas, blk, hd, 50-60% resdl Sl - arg
cont, g calcs, vis frgs / intlam - bred ?
anhyic Ls - Mrlst, anhy off wh, chky - calcs
cmpt in gen - thn lams / inclcs of v cln micxl
- fy xln pure Anhy. overall pale wh slow
resdl cut from Anhy, No flor, no cut from
Mrlst.

Intlam MRLST - LS / ANHY 40-60% ltr gy -
slly mot greyish brn Mrlst, micxl - crpxl tex
/ 50-60% arg - slty resdl mt, hd, mas, no
cut, / abnt intlam Anhy ?, mnr pure fy xln
but genly v calcs, mnr slty cmpt, - v lmy -
sft chky clnr Ls ?, no flor, slow uni resdl
paler wh cut from softer Anhy ? - pos
anhyic chky Ls ?. (ROP indicates thinly
bdd - lamd). Mnr v f - u Sl Ss in 852 spl,
off wh, qtz, cln, tr lit, 5% calcs cmpt.

LS / mnr MRLST Mdst, (1/11A), 60-80% off
wh, softer, chky in pt, abnt micxl, v calcs /
loczd mnr ptchy apr anhy, frm, blk - lmpy,
5-10% l - m qtz ? slty cmpt, apr cln, intbd /
20-30% Mrlst, as abv, greyish, mas, calcs,
micxl, slly greyish bf, crpxl, 50%+ slty -
dirty cmpt, mnr - less than 1% fy xln cln
Anhy frgs - fracs fld within Ls, No flor,
overall slow pale wh resdl cut, bcmng
stronger - brighter over time thru clnr Ls,
no stng, steady ROP, tr gas only.

TRANSITION TOP ? 870 meter no spl, 873 spl
predly chky - micxl clnr Ls, Mdst, pos mnr mic
pels ?, pale wh slow cut, incrg 40% Mrlst, gy t



Spout Falls
(TVD: 868.54)
(SSL: 693.24)
scrpxl, v hd, mas, no shw, 2-3% nn calcs - silty dolc Sh, m gy, plty, hdr, tr Ss frags, rr lse, m - c poorer srt, qtz, fldic, as per below, Note silty incrd ROP and s gas shows apx 100 units, no stn, no shows from Ss, assuming thn lams of Ss giving wk gas shw or pos sh?.

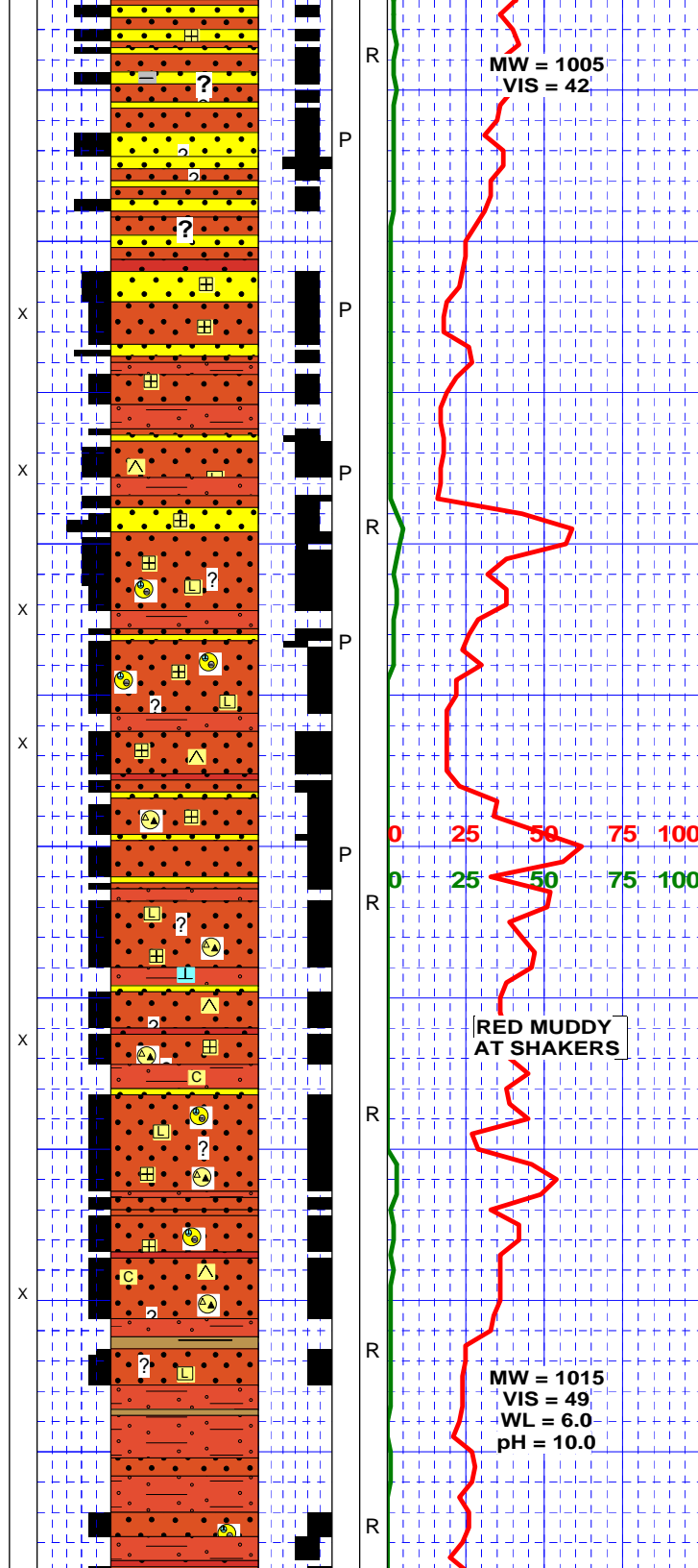
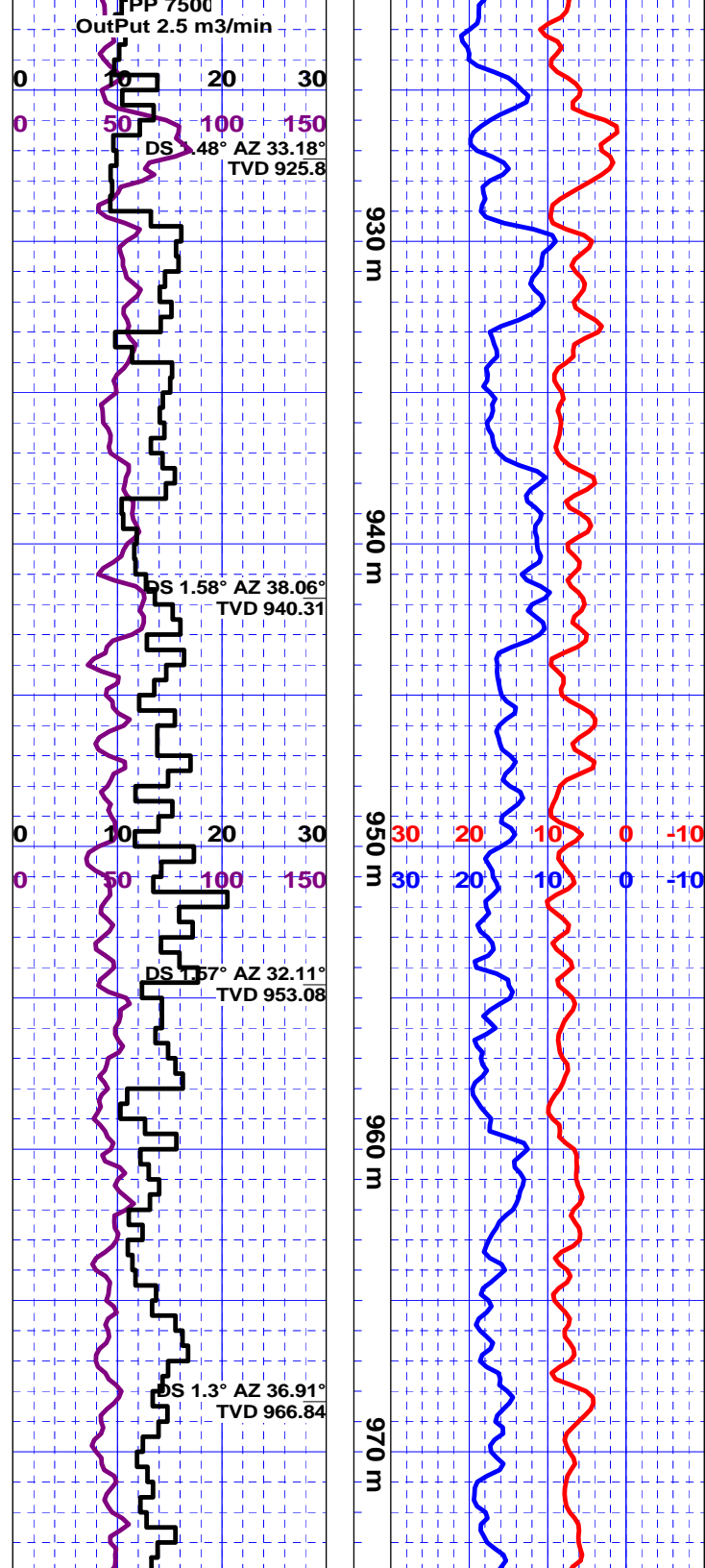
MW = 1010
VIS = 41
WL = 6.5
pH = 9.0

SS: mot ltr gy, off wh, predly l - u m, abnt c - pos mnr flotg s pbls?, qtz, op, off wh, abnt fracd trnsi, flds, ltr orng pk, tr gy blk lit, overall cln, poorer srt, sbang - sbrdd, / abnt c ang - fracd, abnt v f frags, tighter sbang - sbrdd lams - thn bdg, mod w cmtd but fri in pt, sils / tr calcs cmpt only, assuming slty - v f Ss inflg mtz, frags tighter, uni / dpth, no vis por, pos mnr sec por within lgr coarser frags, 4-7% effective por?, no shows, no cut.

Pbl SS: ltr gy, off wh, loc pksh fldic, u m - l c in gen / abnt fracd pbls?, qtz, op, wh, trnsi, pk orng flds, tr lithics, mod p srtg, sbrdd - abnt rdd, finer gred sbang, v c - pbl qtz, flds, chty lit flotg pbls?, sils in gen, 1-3% calcs, mod w cmtd frags - predly lse grs assuming weaker cmtd - mtz, Pos thn pbl bdg?, no apr Cgl, no shows, no cut, mnr gas peaks thru.

Pbl SS: ltr gy - off wh / pksh fldic cmpt, l - u m in gen, sbrdd - rdd in gen, abnt coarser - v c fracd qtz - chty lit - flds? pbls, pred lse, weaker cmtd? but abnt frags, mod w cmtd, v f - rr slty mtz, sils, rr tr calcs, v prly srt, no shows, mnr incrg finer, mnr brnsh v f arg Ss grdg - Stst, mnr u f gnsh qtz lit sils frags, w srt, sbrdd, no shows.

SS: overall v silty pksh, l - u f, chky / picnkish cly ? mtz, some frags / v pale gnsh gy mtz inflg, qtz, op, mnr trnsi, mnr flds, tr lit, gen mod prly srt, abnt u f - decrg c, sbang - sbrdd - rdd, overall weaker cmtd, incrd chky, pos overall silty anhyic cmpt, less than 1% coarser fracd pbls?, abnt v f - f sils Ss lams?, higher overall por but pos 2-3% effective due - cly cont ?.



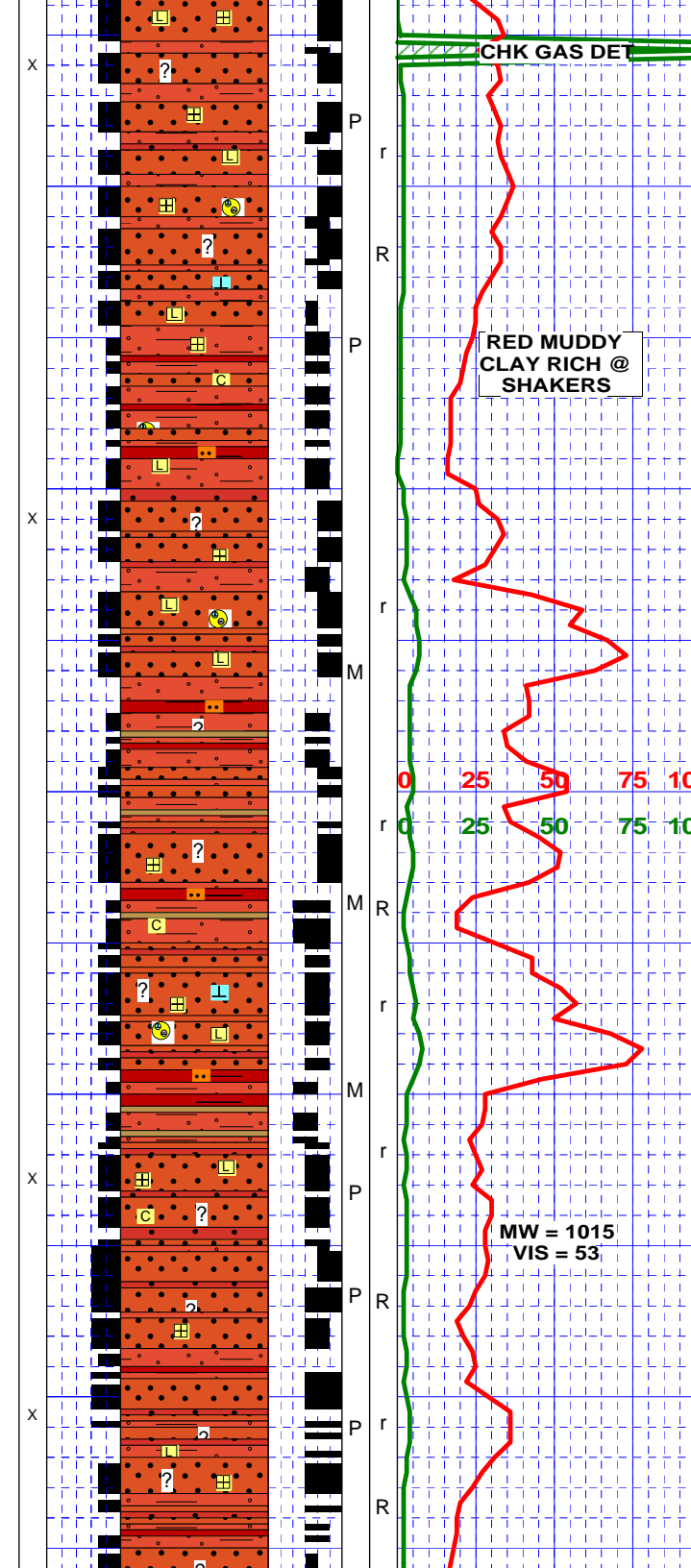
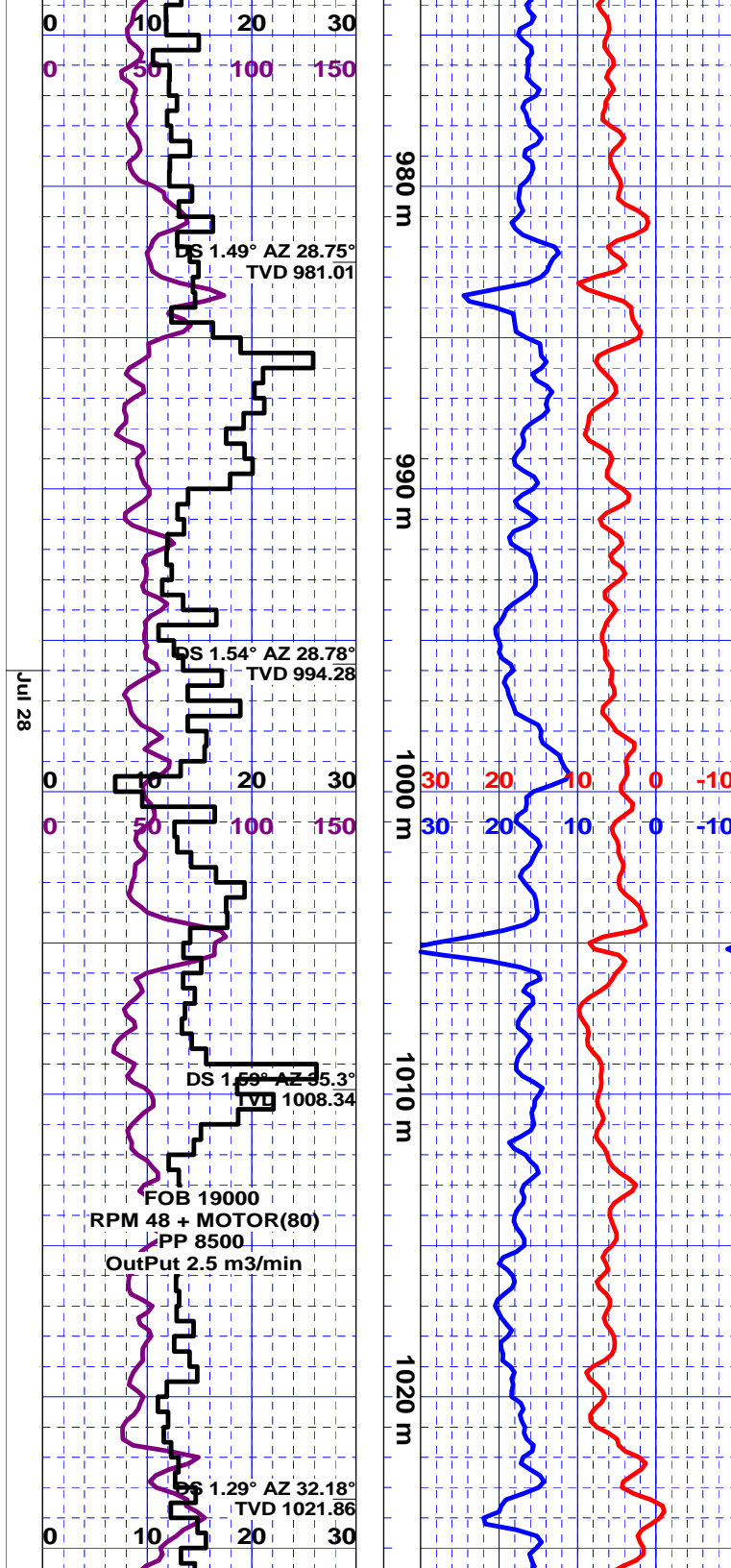
ANHY ?: predominantly off wh, chky,
softer / pure cln micxl Anhy, / softer Ss, v f
- u f, slly redsh mtg?, anhyic?, softer cmt,
mod srt, sbrdd - rdd, no shows.

SS: predly ise, overall sily redsh brn - brnsh @ shakers, cly rich?, destroyed by drlg and clays washed out, mdl - u m, qtz, op, semi trnsl, tr yel stnd, mnr tr sily gnsch, mnr flds, tr lithics, weaker cmdt, sils - cly rich ?, mod str, sbrdd - rdd, mnr finer frags / pale gnsch wh cly inflg, continued mnr fracd lit pbls, pos mnr anhyic ?, no shows.

SS grdg - pbl CGL ? Arkic, lse, mot slly pksh
brn?, m - l c qtz, op, trnsf, gmc rdd, shakers
and prewashed spls redsh brn mdy, g tr pksh flds, tr
lithics, mnr frags only, m , hi relief, sils - slly
chky softer clnr mtz, mnr flds, lithics, blk mica,
grdg - overall coarser, 20% fracd pbbs, qtz, trnsf,
op, tr yel, pksh flds - lithics, gy sils chty, tr
brnsh tan, dk gy, ang fracd shards - frags up - 3
mm, pos pbl cgl? / m - l c rdd qtz mtz ?, overall
weaker cmdt based on lack of frags, no flor, no
cut, assuming poorer - no effective por, (cly rich
mtz destroyed by drlg ?)

CBL CGL ? - PBL SS Arkic, predly lse mdl
- u m - l c Ss, qtz, trnsl - op, mod srt, rdd -
sbrdd, slyl pksh arg stng ? , fldic, lit, / flotg
pbis of gy blk - redsh, tan - mot red blk lit,
fracd, also apr prly srt - f - l c v w cmtd sils
lit Ss pbis? - cbis?, Pos thinner cbl Cgls or
more uni pbl Ss ?, genly weaker cmtd
based on lse rdd qtz grs, spls @ shakers v
mdy (red brn), indicating a pos red cly
cmt - mtx in pt, mnr apr clnr v f - f tt Ss
lams?, tr calcs, no vis por, Effective por ? .
no shows.

PBL SS : Arkic, predly lse l - u m - l c, qtz, op, trnsl, sily apr redsh stnd, some flds, orng pk, mnr lit, blk, / fracd c - v f pbl frags, varied lit, pksh fldic, qtz, ss frags, dk gy blk chty, mot gy red chty "grnt" lit pbls?, mnr p srt m Ss / v lt gn cly inflg, continued v "red brn" mdy @ shakers and prewashed spls, assuming red cly cmpt, no shows, tr gas only.



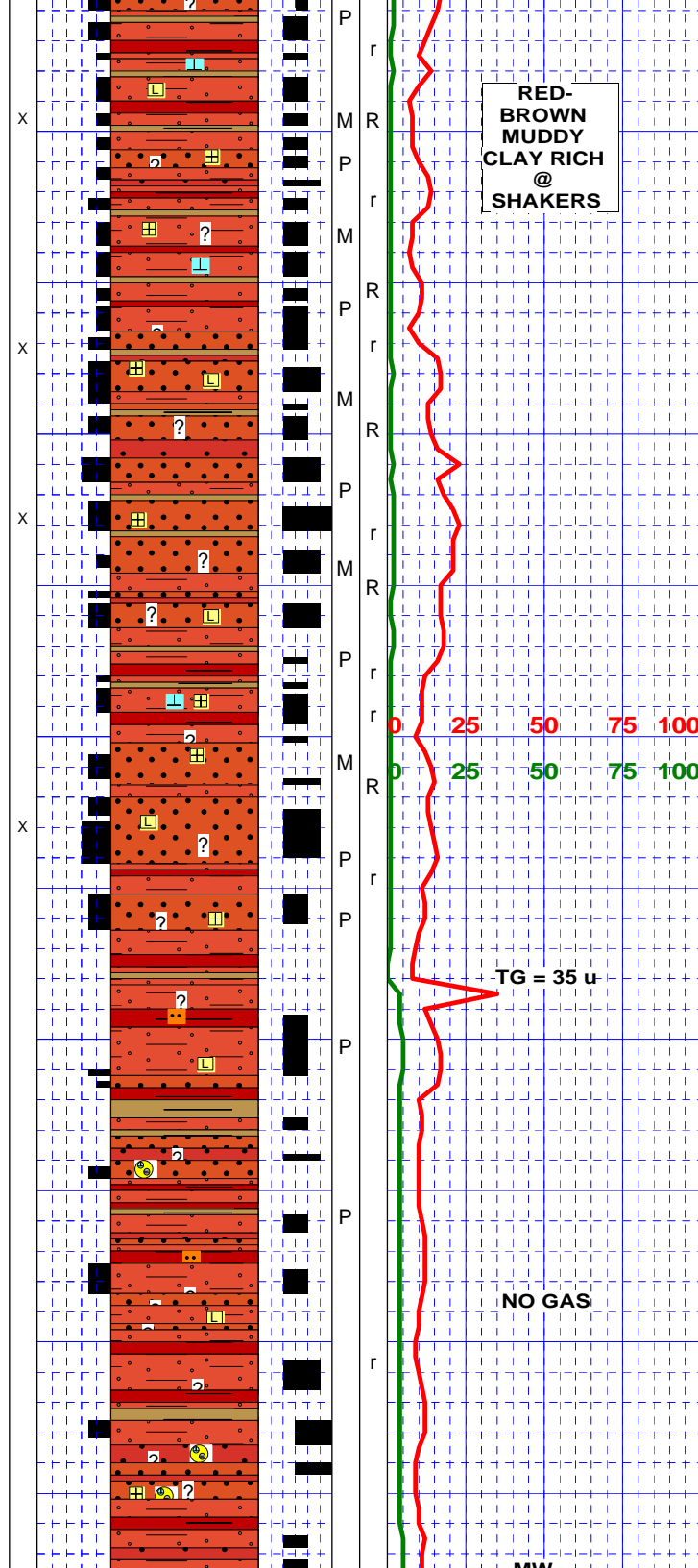
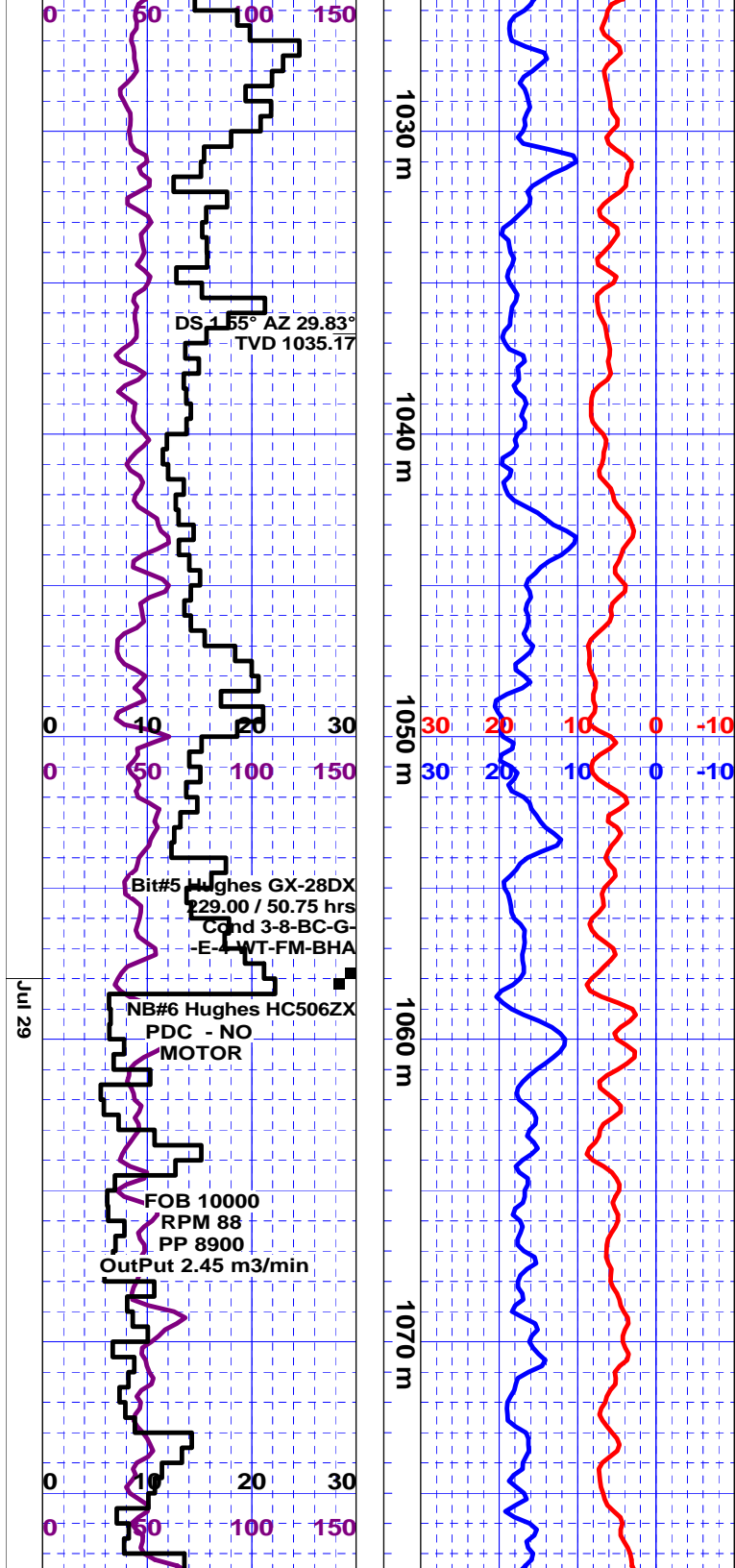
PBL SS: predly lse, l - u m, l c, arkic, predly qtz, op, whitish, overall v silly pale yel pk stng?, sbrdd - rdd, mnr flds, mnr lithics, mnr frags silly chky xln, clnr, v lt gy - abnt v silly gnsh cly mtx inflg, silly calcs, overall softer cmt - mtx, mnr pos lit - chty - qtz - fldic flotg pbls ?, v red mdy @ shakers, assuming intlrm red clays - v sft mtx within bdd softer sands.

SDY REDBEDS ? red mdy - cly rich @ shakers, (lost during drlg and spl washing ?), remaining dried spls f - m lse qtz, op, mnr trns, apr mnr lt yelsh - pksh stng, tr lithics, rr flds, mnr c frags, mnr - no frags that are v fri, assuming v hi lost red mdy cly cmpt, ROP down - 3 m/hr.

SS: lse, l - u m - l c, mnr pos flotg pbls?, continued overall redsh - redsh brn coloured, mdy @ shakers and pre washed spls, (continued assuming clays lost during drlg and washing), qtz, op, mnr trns, some redsh - yelsh pale stng, clnr than abv, mnr lithics - flds, sbrdd - rdd, mnr frags mot off wh, qtz - lithics - flds, prly srt, fri, softer whitish - loc v silly alt pale gnsh cly inflg, silly calcs, tr brnsh - brnsh gy arg - slty frags, thn lams ?. mnr gas shows - 75 units.

SS: lse, u f - u m / reduc l c, arkic, clnr than abv?, qtz, op, mnr semi trns, continued v pale pos redsh - yelsh stng from clays?, mnr orng flds, tr lithics, mnr lit pos pbls, as abv, overall sbang - sbrdd - abnt rdd, weakly cmtd by roundness of grs, continued mnr frags, prly srt / softer alt pale gnsh clays, mnr calcs, tr brnsh slty - arg lams, tr f gr ss frags, silly gnsh, silly calcs - cly mtx - cmt, assuming continued mdy cly (lams) cmpt, mnr gas shows - peaks thru. (Mnr "True Edge" lig mud additive in spls)

SS: lse, l - pred u m, mnr l c, mnr f, qtz, op, semi trns, some apr redsh - yelsh stng from cly, sbrdd - rdd, mnr lit, mnr flds, sft cly red mtx assumed, mnr c - s pbls thru, mnr Ss frags only, mot off wh, p srt, softer whitish - silly pale gnsh inflg mtx, overall sft v weakly cmtd, cly rich, loc silly calcs frags, no shows.



**RED-
BROWN
MUDDY
CLAY RICH
@
SHAKERS**

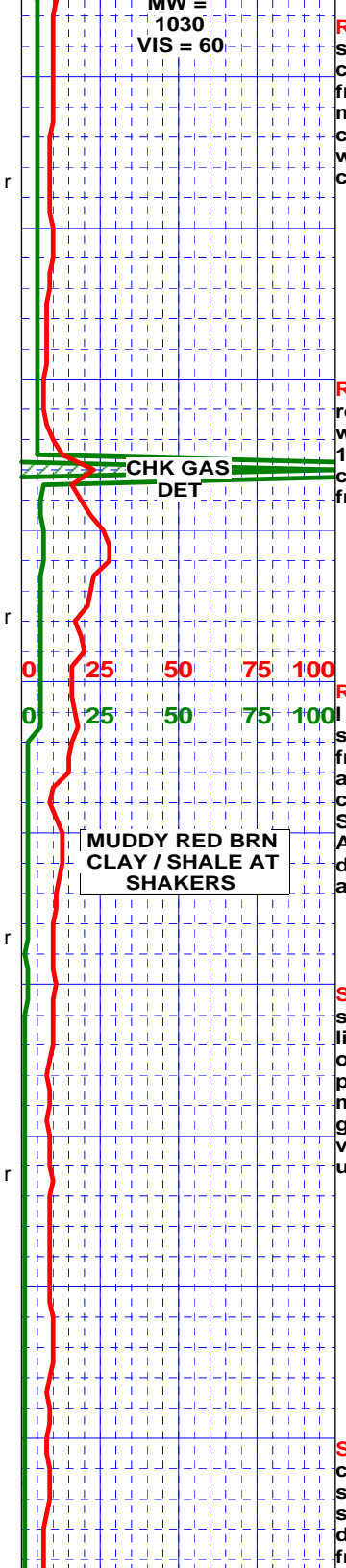
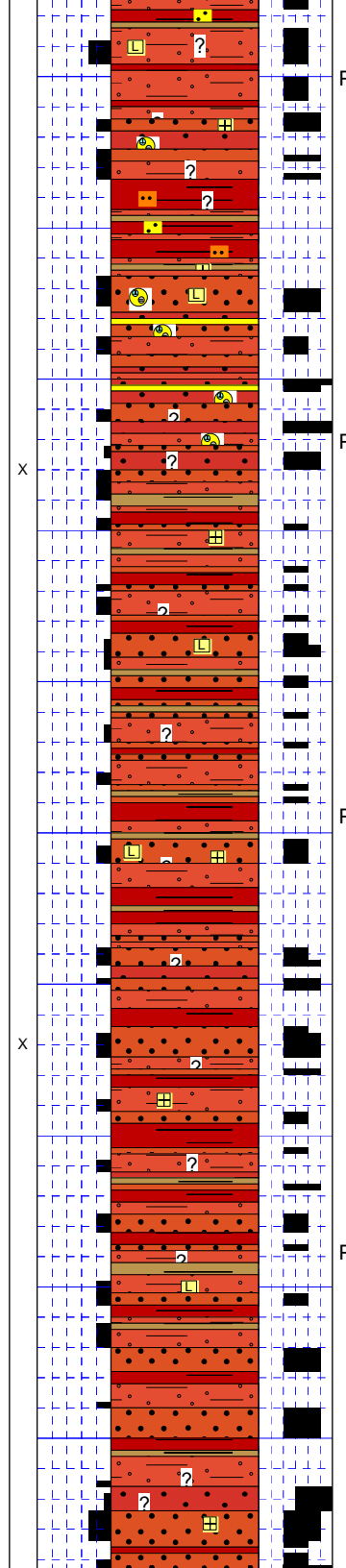
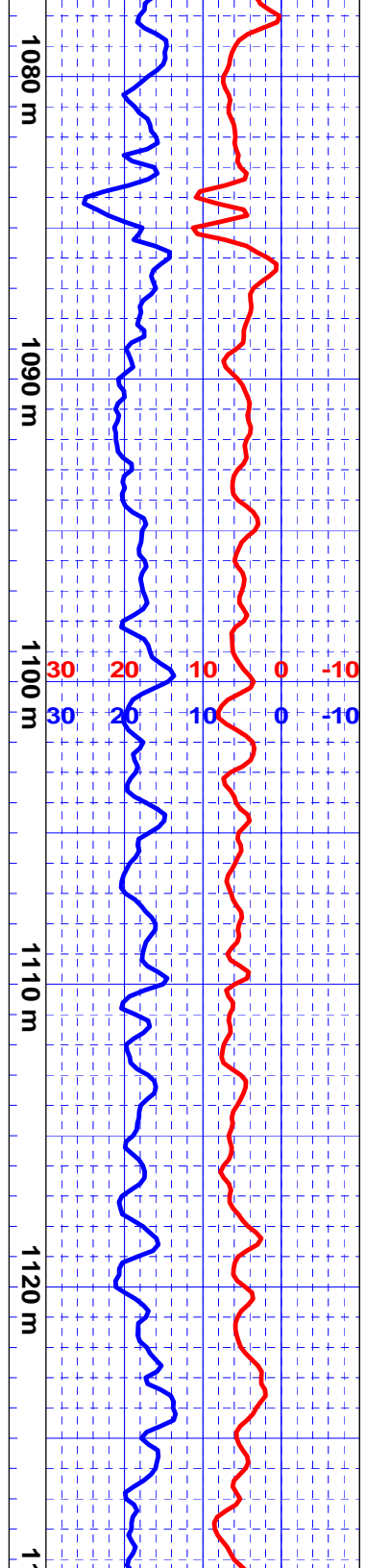
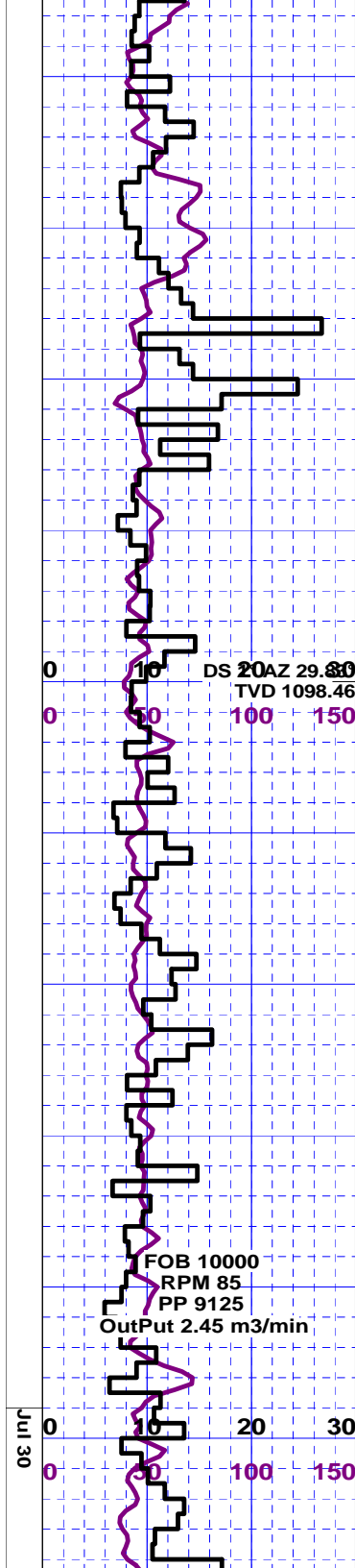
**SHALES - CLAYS
DESTROYED DURING
DRILLING - WASHING OF
SAMPLES**

SS REDBEDS lse, v red mdy - cly rich @ shakers, (clays lost - destroyed by drlg - washing spls), u f - u m in gen, pred qtz, sbrdd - rdd, no - mnfr frags only, mod srt, mnfr assumed flotg c - pbl qtz - flds - rr chty lithics, uni spl / dpth due - drlg - washing away of cly intbds - lams - mtz, weakly cmtd, slower ROP due - spinning on richer red cly - shy intvs, ROP down - 3 m/hr, no shows.

SS - pbl SS predly lse, v abnt mdy - red cly rich thru, v mdy @ shakers, l - u m - c, qtz, op, pale redsh stnd, mnr lithics, mnr - 5% coarser fracd flotg pbls?, lit, varied tan - gy chty?, v f mot ss, tr mica, op qtz frags, mot red blk lit pbls?, thicker bdd coarser clnr / finer - arg - cly rich Arkic ss, no shows, no gas, POOH @ 1058 meters for BHA Change.

**POOH FOR BHA CHANGE
OUTSIDE ROW OF TRICONE INSERTS
FRACTURED**

PEB SS / REDBEDS v mdy red brn (sft clays) @ shakers, washed spls predly l - u m / abnt c - mnr f qtz, op, semi trnsl, v pale lt yelsh - pksh stng, g tr lithics, varied coloured, pk - gy - yel - blk, pk mot flds, v uni spls thru, mod - poorer srt, sbdrd - abnt rdd, (grs slly more fracd / PDC, 2% coarser - 2 mm fracd - partial fracd lit pbls, over all predly red cly rich mtx . (ROP indicates pos 1 meter coarser pos Pbl Cgls ? .



REDBEDS - SS v mdy - cly rich @ shakers, washed spls predly lse, f - m, m l c, qtz, op, semi trns, abnt v silty stnd, apr frags, f, pksh wh, v fri, qtz, cly - slty softer mt, ?, mnr loczd hdr off wh f frags, qtz, lit, calcs mt, overall spls more chky - arg (washed less ?), apps overall finer - more cly rich / dpth.

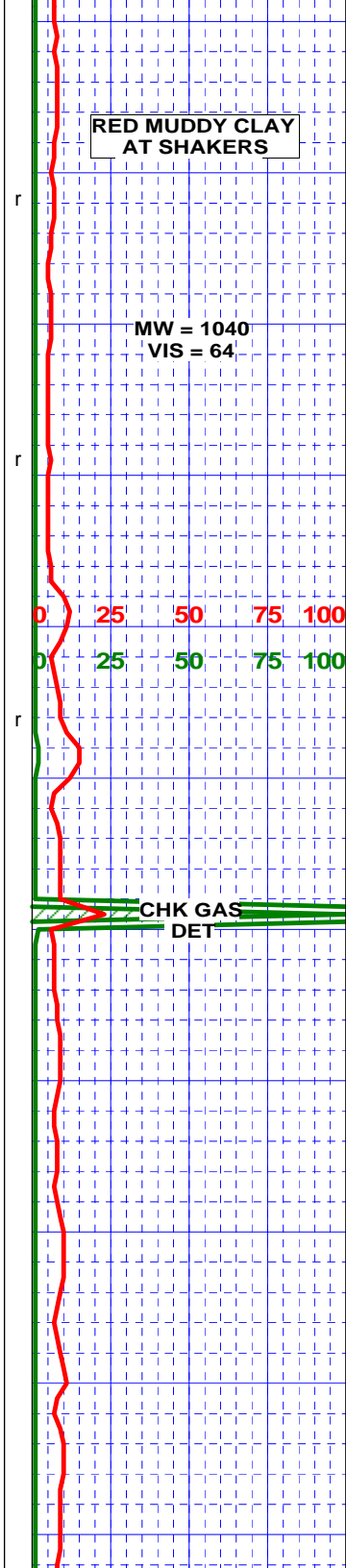
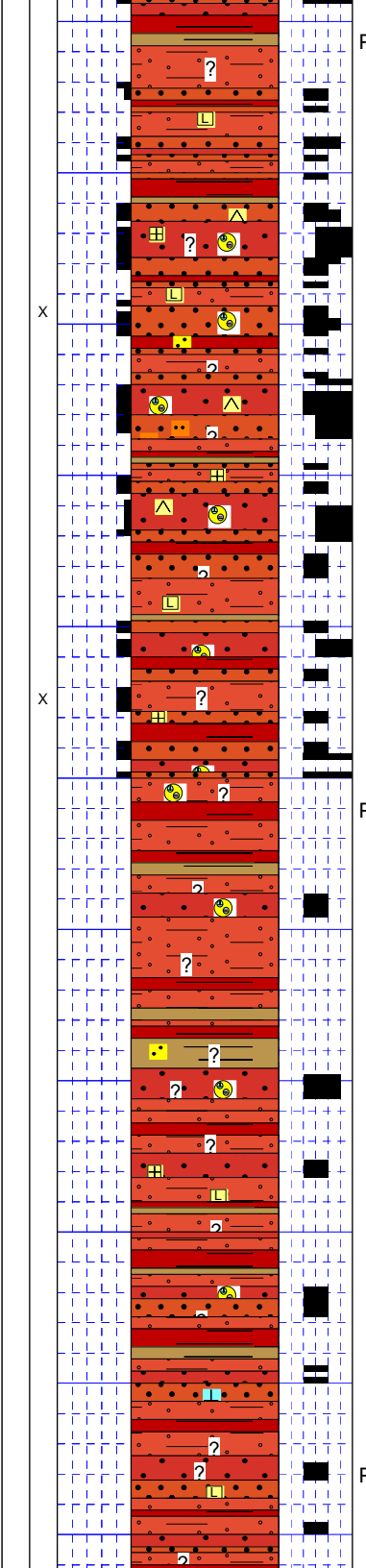
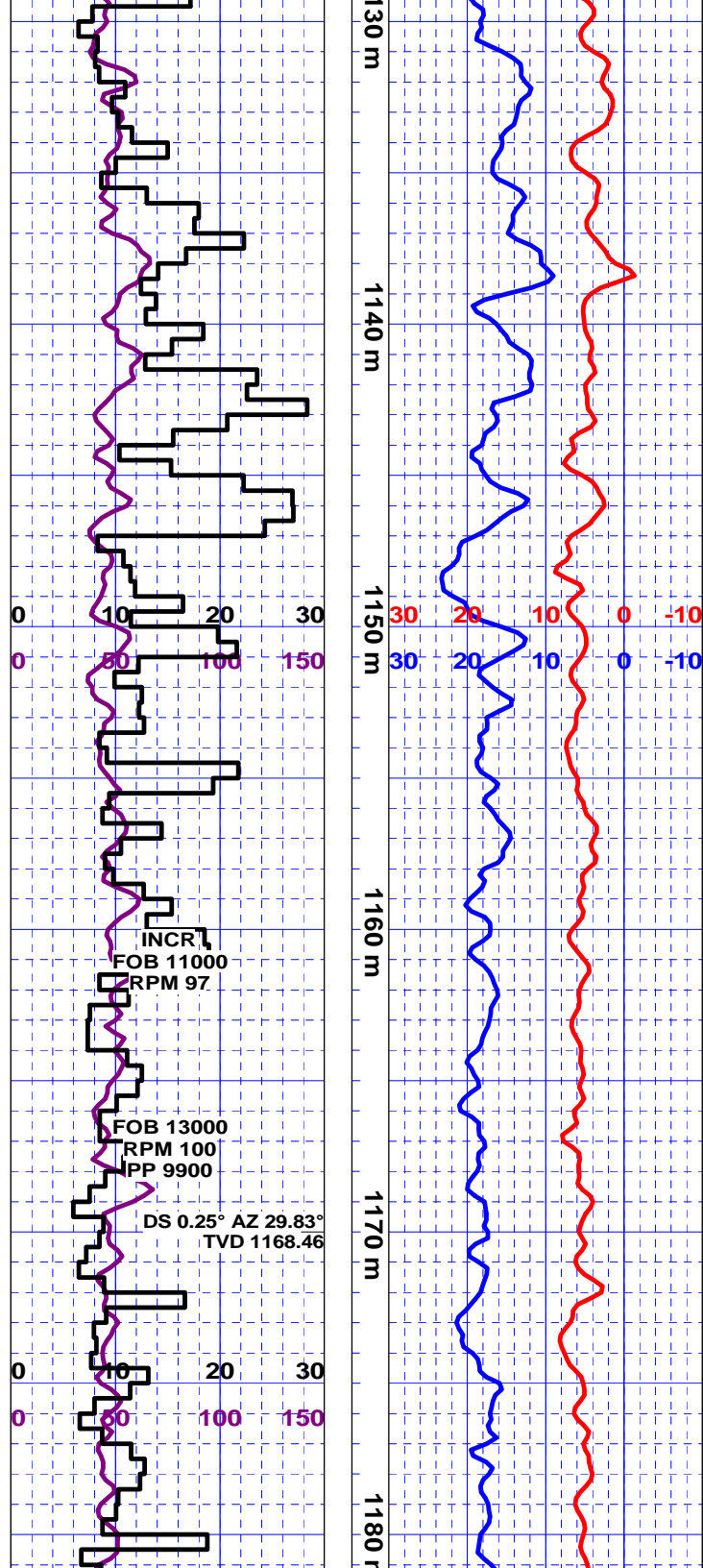
REDBEDS / SS ? V red cly rich, v f - f mot red brn - off wh Ss, qtz, tr lit, rr flds, chky wh - redish cly mt, abnt grdg - arg Sltst, 10-15% red brn - m brn silty micas Sh, continued 50-70% m rdd lse Qtz, mnr c, tr fracd, assuming clays destroyed by drlg.

REDBEDS / SS predly lse in washed spls, l - u m / mnr l c, qtz, op, semi trns, overall silty yelsh stng, (spls v cly rich), mnr frags f Ss, predly qtz, yelsh stnd, tr flds, apps mod cln, tr v silty gn cly? mt, v silty calcs, 5-7% brnsh slty - sdy - micas Shales, tr coarser fracd grs only, Assuming faster ROP apx 6 m/hr finer dirtier v cly rich Sands - Sh intvs - bdg, no apr pbl bndg - bdg.

SS: Cly rich mdy spls, lse l - u m qtz, op, semi trns, v silty yelsh stnd, tr flds, rr lithics, mod srt, sbrdd - rdd grs, mnr fracd only, less than 2% coarser qtz, rr tr fracd pbls, mnr frags only, gen f, mnr prly srt f - m, qtz, silty yelsh stnd, silty sils - apr v lt gnsh cly inflg, rr tr calcs frags, continued v mdy cly rich m gred mod srt Ss ?, fairly uni ROP. no gas.

FORMATION HARDER THAN CLAYS AT SHAKERS INDICATE

SS: cly rich, predly lse l - u m / f cmpt, mnr c only, tr fracd pbls?, continued qtz, op, semi trns, overall v silty yelsh - tr pksh stnd, mod srt, sbrdd - rdd, weakly cmtd due - roundness of grs, cly mt?, mnr - tr frags, mod srt qtz Ss, f - m, hi relief, sils in



RED MUDDY CLAY
AT SHAKERS

MW = 1040
VIS = 64

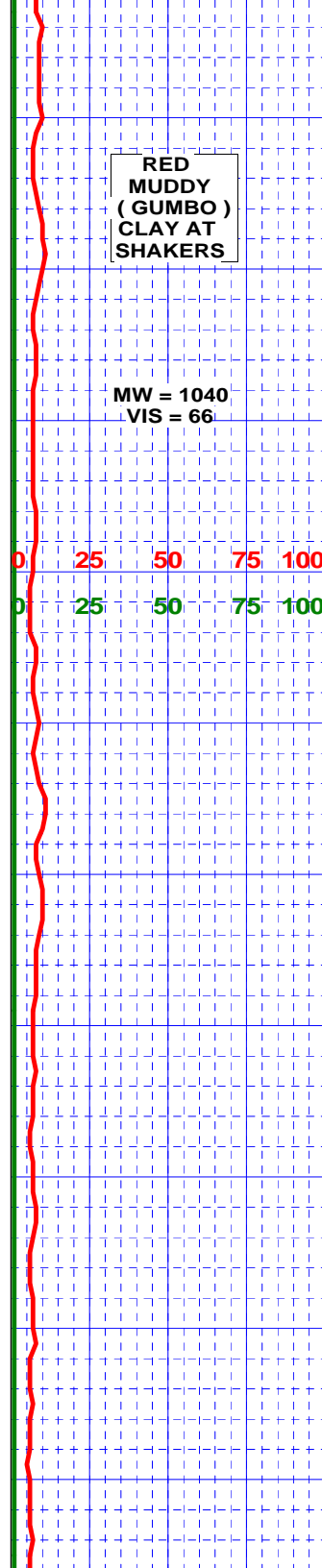
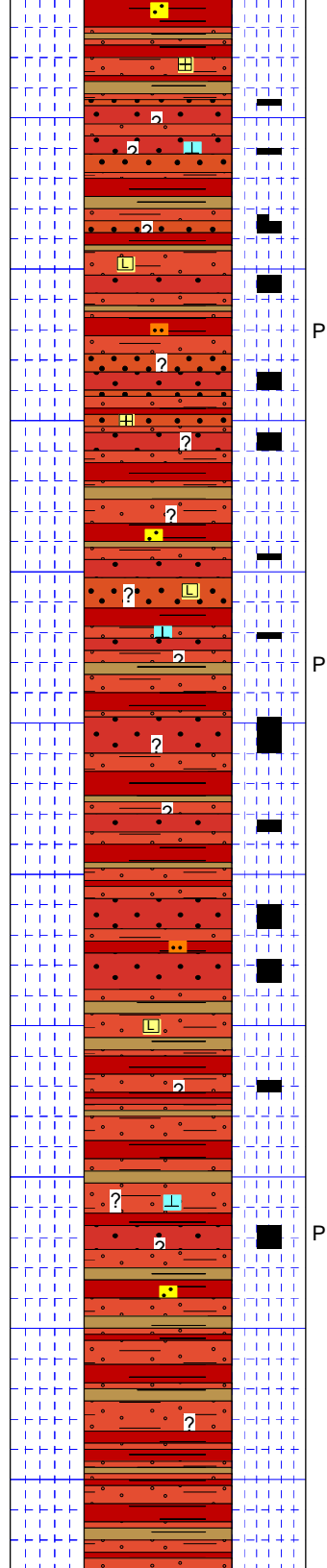
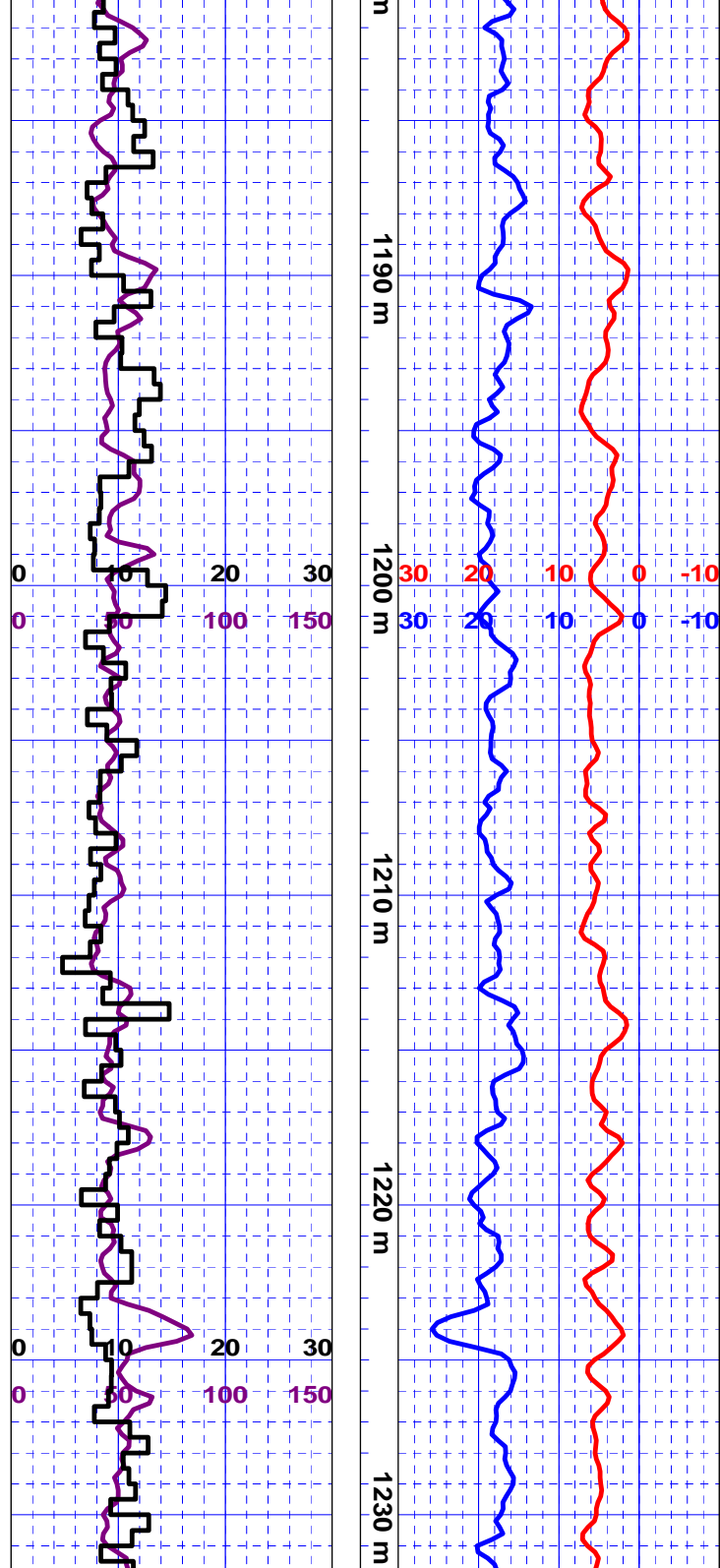
CHK GAS
DET

pt, fri, silly gnsh cly inflg, nn calcs, mr
brnsh Sh - micas Slstst, uni / dpth, no gas.

PBL SS / SS predly lse, l - u m / f - abnt l c,
10-15% fracd c - v c pbls?, clnr overall, qtz,
op, silly yelsh stnd, mnfr flds, lithics,
continued sbrdd - rdd sd mtx, continued v
mdy cly @ shakers, Assumed better cmtd
clnr pbl Ss and or pos thn pbl Cgls /
continued intbdt dirty cly rich f - m arg
Sands - Redbeds, ROP down - 2.5 m/hr
within hdr - coarser Sands?, no gas.

PBL SS - SS pred lse, m - l c, qtz, op, semi
trnsi, v lightly pksh - yel stng, tr flds, mnfr
lithics, mod srt ?, sbrdd - rdd, mnfr frags,
poorer srt, v hi relief, weakly cmtd, sils -
mnfr v silly pale gnsh inflg, loc mod srt off
wh, clnr, sils - v silly calcs, pos thinner lams
- mic bdd, 4-6% lgr fracd lit - chty pbls,
assumed flotg within the finer mtx,
continued abnt red cly (gumbo sft) @
shakers, assuming destroyed and washed
out by drlg, incrd FOB and RPM has
overall improved and smoothed out drlg,
no gas.

SS / REDBEDS predly red cly rich @
shakers, lse, u f - u m / mnfr c, qtz, op. semi
trnsi, abnt v lightly pksh - yelsh stng, mnfr
lithics, tr flds only, mod srt, sbrdd - rdd,
mnfr - less than 1% coarser fracd qtz - lit
frags, pos tr pbls only, v uni, mnfr frags
only, v f - u m, prly srt, predly silly stnd qtz,
rdd - sbrdd, tr lithics, sils - v silly tr calcs
mtx / apr chky ? v silly pale gn cly inflg.
ROP smoothed out, probly thinly bdd clnr
Ss and v arg Redbeds - cly rich shales ?,
all solid clays destroyed by drlg.



SS - REDBEDS v cly rich - mdy, dried spls predly lse l - u m, qtz, op, sily yelsh stnd, tr lithics, rr tr flds only, mnr l c, no pbls, mod p - mod srt, sbrdd - rdd, v cly rich, mnr frags v lt mot gy, v f - f, qtz, lithics, mod hi relief, sils - chky - v sily calcs, overall sily calcs cmpt - spls, Clays - Redbeds wash out - destroyed by drlg, no gas.

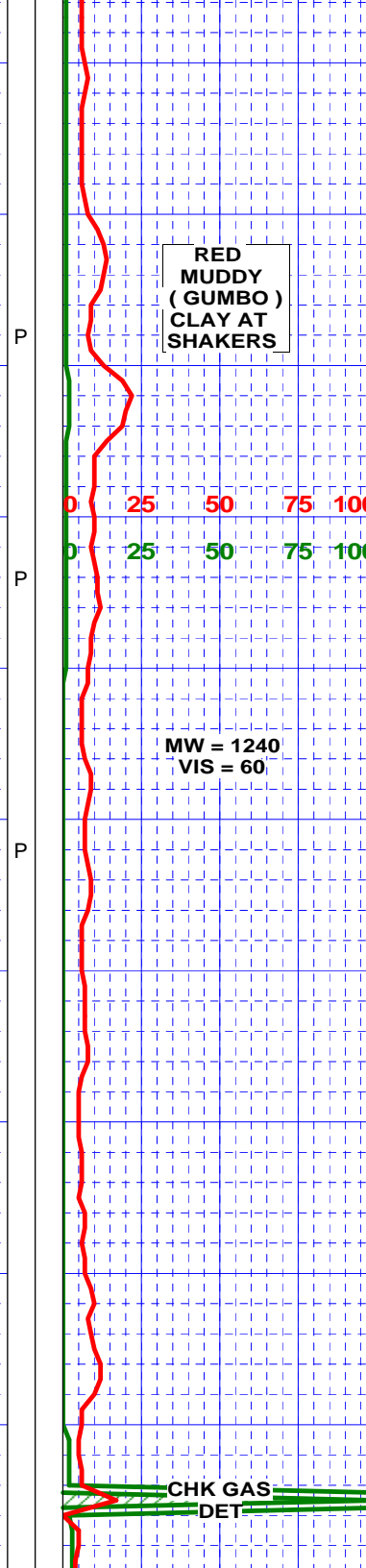
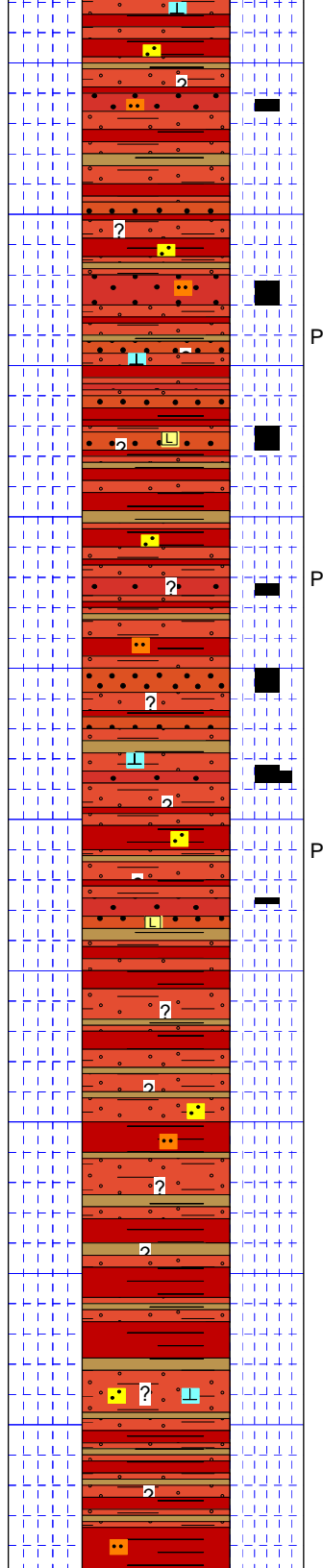
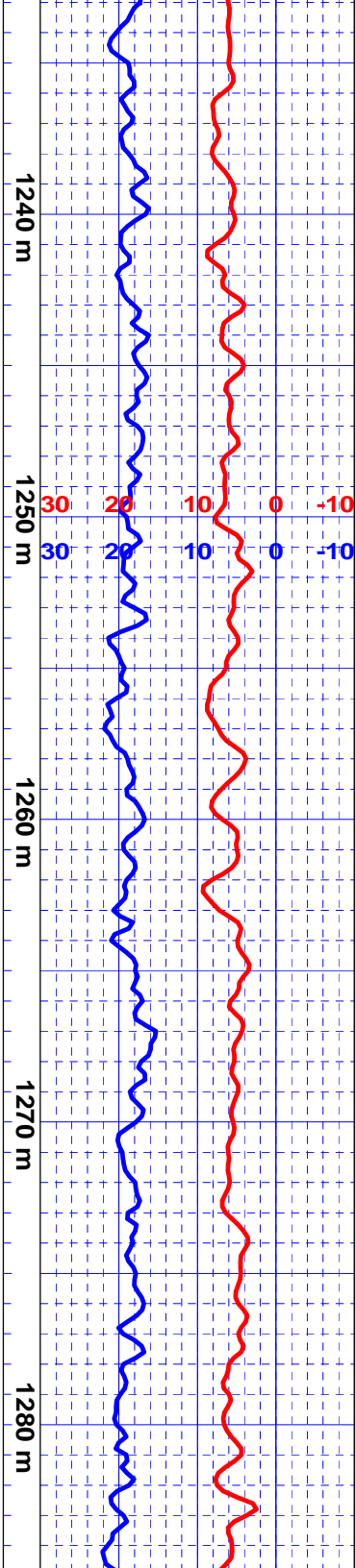
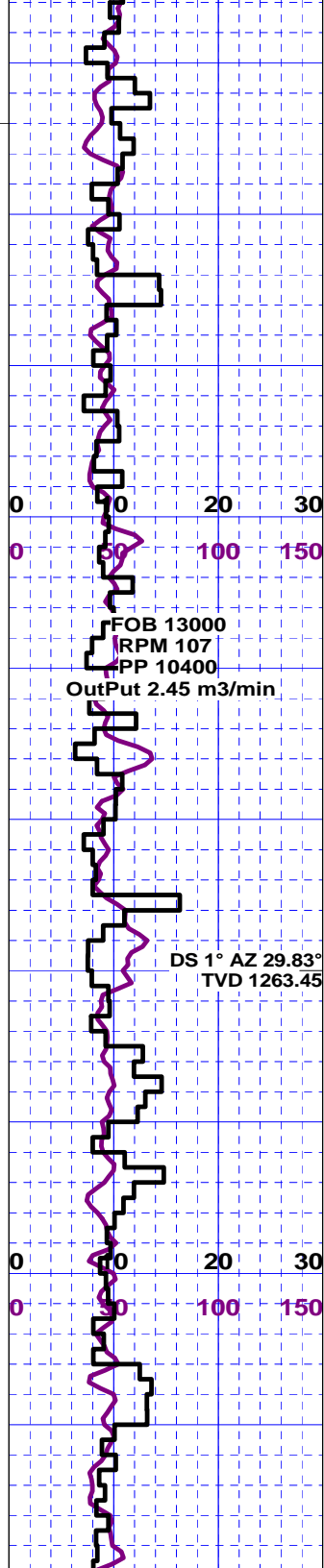
MW = 1040
VIS = 66

REDBEDS - SS ? cly rich, thk gumbo - sft red cly @ shakers, spls have l - u m qtz, op, trns l, sily stnd only, tr lithics, mod srt, sbrdd - rdd, mnr frags, v f - f - rr m, weakly cmtd, sily sils - calcs / continued v pale gnsh cly inflg, uni, mdy, no gas, ROP over 6 m/hr.

SDY REDBEDS cly @ shakers, spls 70% washed away during prep, remaining is f - m qtz, op, trns l, sily stnd, sbrdd - rdd, as abv, mnr frags, v f - f, sils, cly rich - c Sltst, v sft, chky in pt, assuming sdv redbeds - cly - sh intbds thru, uni - v mdy / dpth, no gas.

SDY REDBEDS / SH - CLYST 80 % sft red clays in spl bags, (washed away during prep), v uni thru, remaining spl, lse f - u m qtz, op, semi trns l, sily mnr stng, tr lithics, mnr pos flds, mnr frags as per abv, v f - f - mnr m, qtz, tr lithics, weakly cmtd, hi relief, sils / tr calcs, abnt v lt pale gn cly inflg, overall chky - dusty - powdery sily calcs spls, no gas, uni ROP abv 6 m/hr steady, ROP indicates thinly bdd - intlam shales - clays and sdv clnr? - sdv redbeds?.

Jul 31



RED CLAYSTONE /
SOFT SHALES OVER
SHAKERS - ROP
INDICATES
FORMATION HARDER
THAN ROCK OVER
SHAKERS

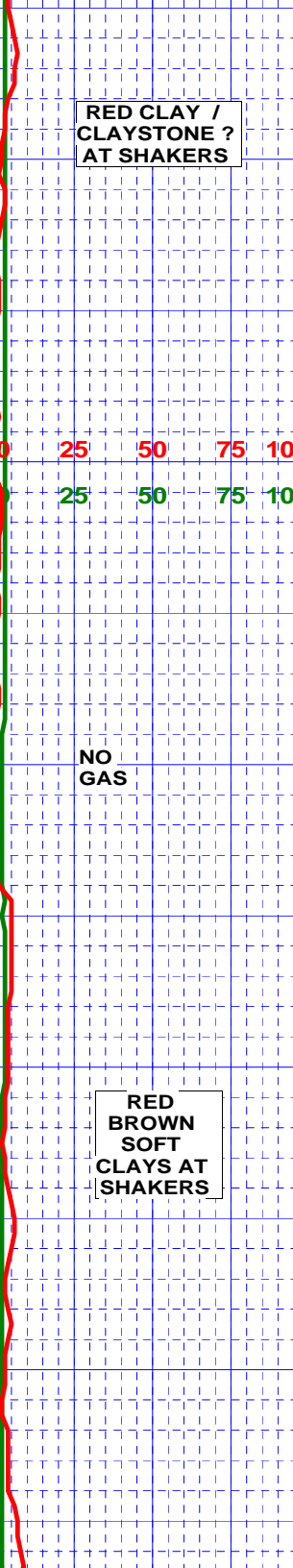
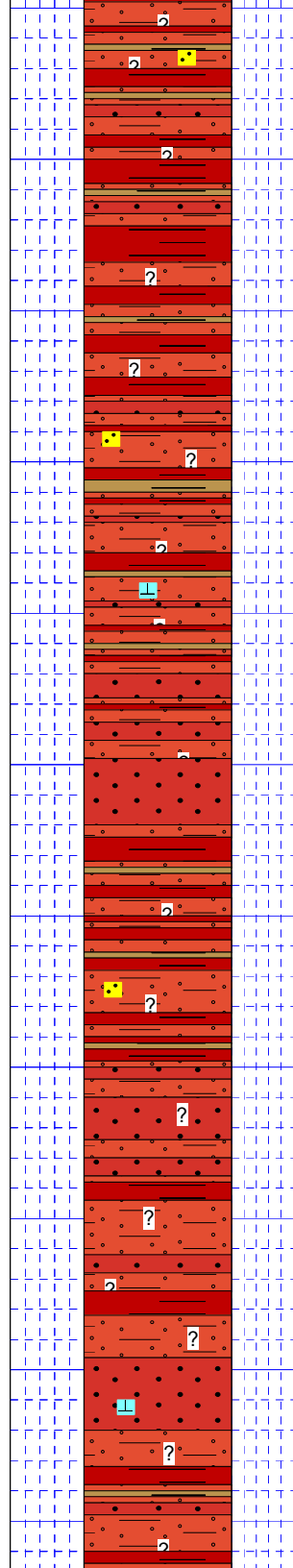
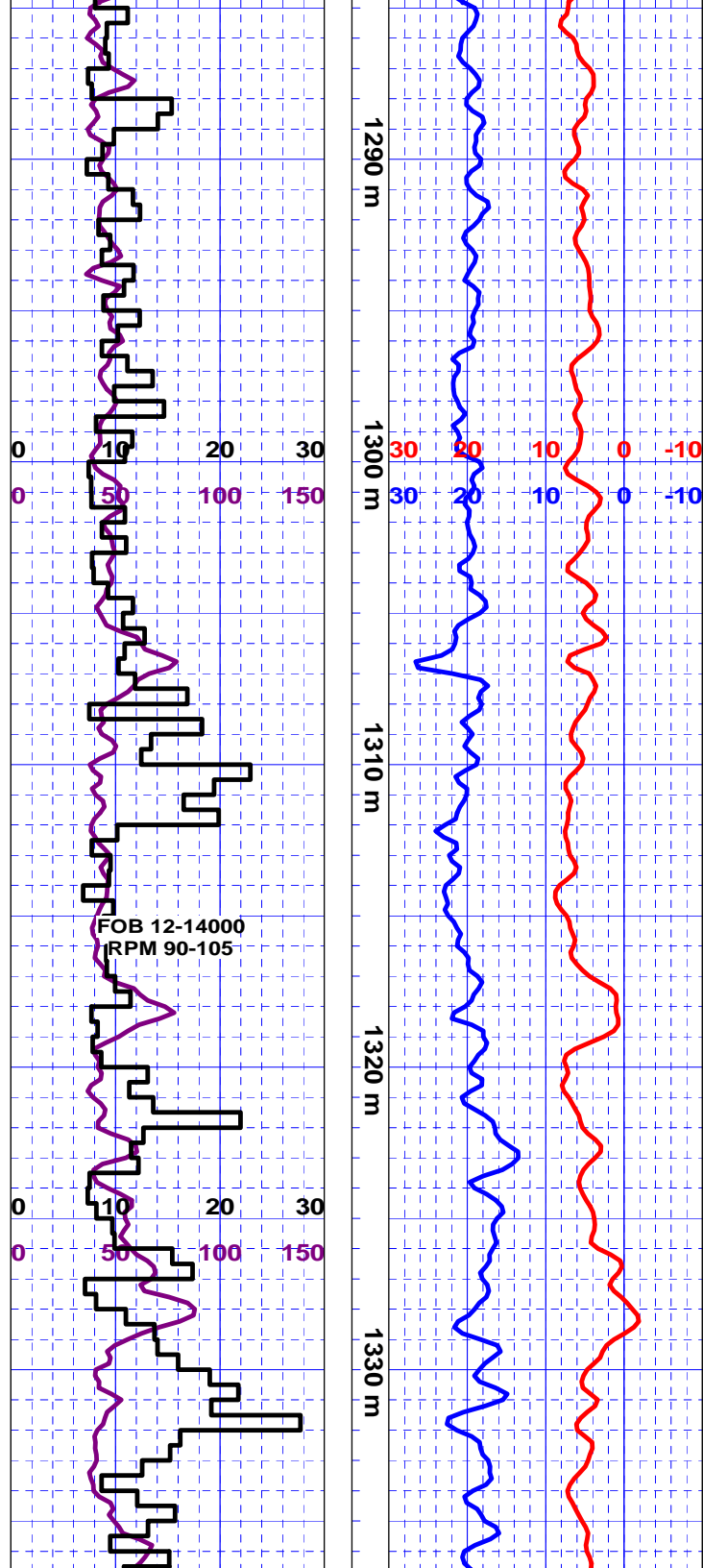
RED
MUDDY
(GUMBO)
CLAY AT
SHAKERS

SDY REDBEDS / SH ? AS ABV, predly
mud - red clays in spl bags and @
shakers, 30% remaining aft washing
continued lse qtz, (cvgs or sdy shales -
redbeds ?), op, semi trns, sily stnd only,
mnr lithics, tr - no flds, mnr frags, v f - f,
qtz, sils - v sily calcs, sily pale gnsh cly
infg, as abv, uni spls and ROP / dpth, no
gas.

MW = 1240
VIS = 60

REDBEDS - CLYST ? / SH ? 95% + RED
SFT "Gumbo" typ Clays over shakers,
assuming fm hdr based on ROP of apx 7
m/hr. Remaining washed spl AS ABV, lse,
f - m - mnr l c, qtz op, trns, sily stnd, mod
srt, sbrdd - rdd, mnr frags v f - f - m, poorer
srt, loc tr calcs - sils, weakly cmtd, hi
relief, g v sily pale gn cly infg, no gas,
ROP indicates thinly intbd - lamd.

CHK GAS
DET



REDBEDS / mnR SS Red sft clays @ shakers, as abv, uni / dpth, pos 20% Ss?, lse, l - u m in gen, qtz, op, semi trnsi, silly stnd, tr lithics, rr flds, mnR l c, no pbis, mnR frags mot off wh, clnr, v f - f, tighter, thn bdg - lams thru more arg cly rich slty - sdy Redbeds?, steady ROP, no gas.

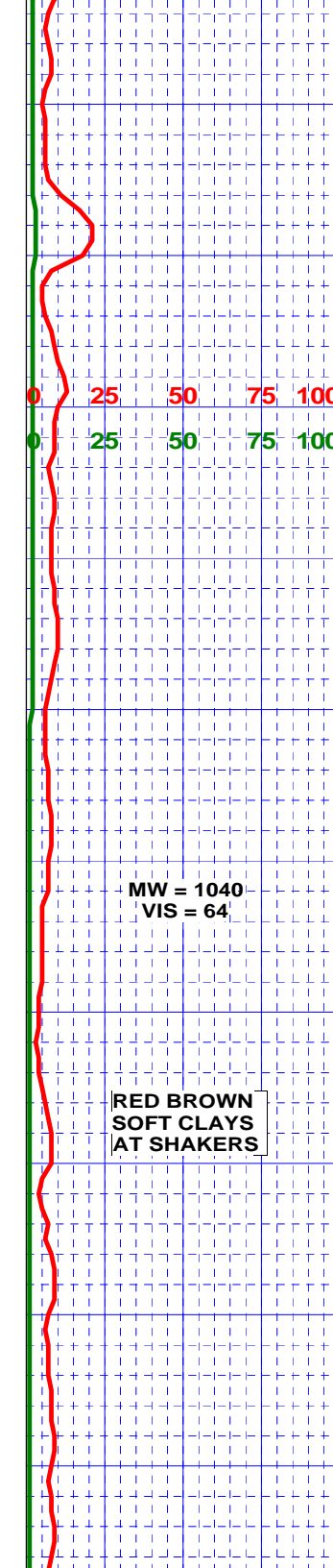
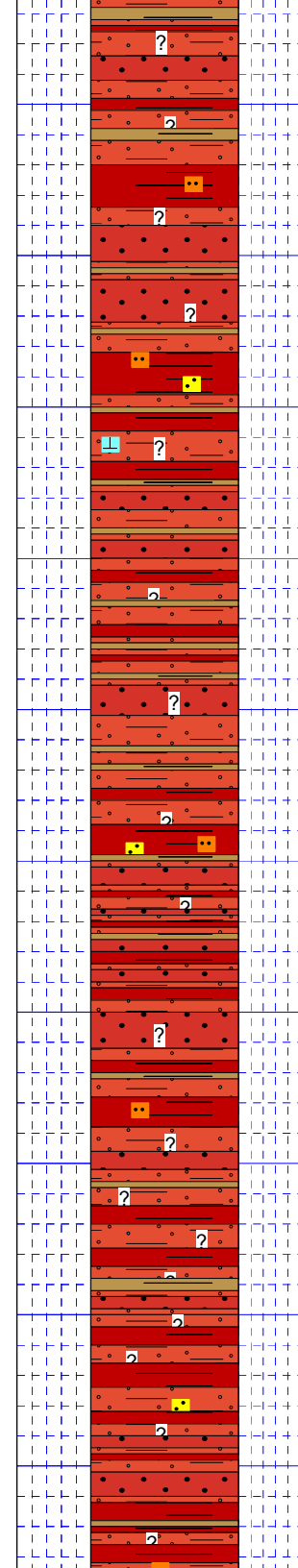
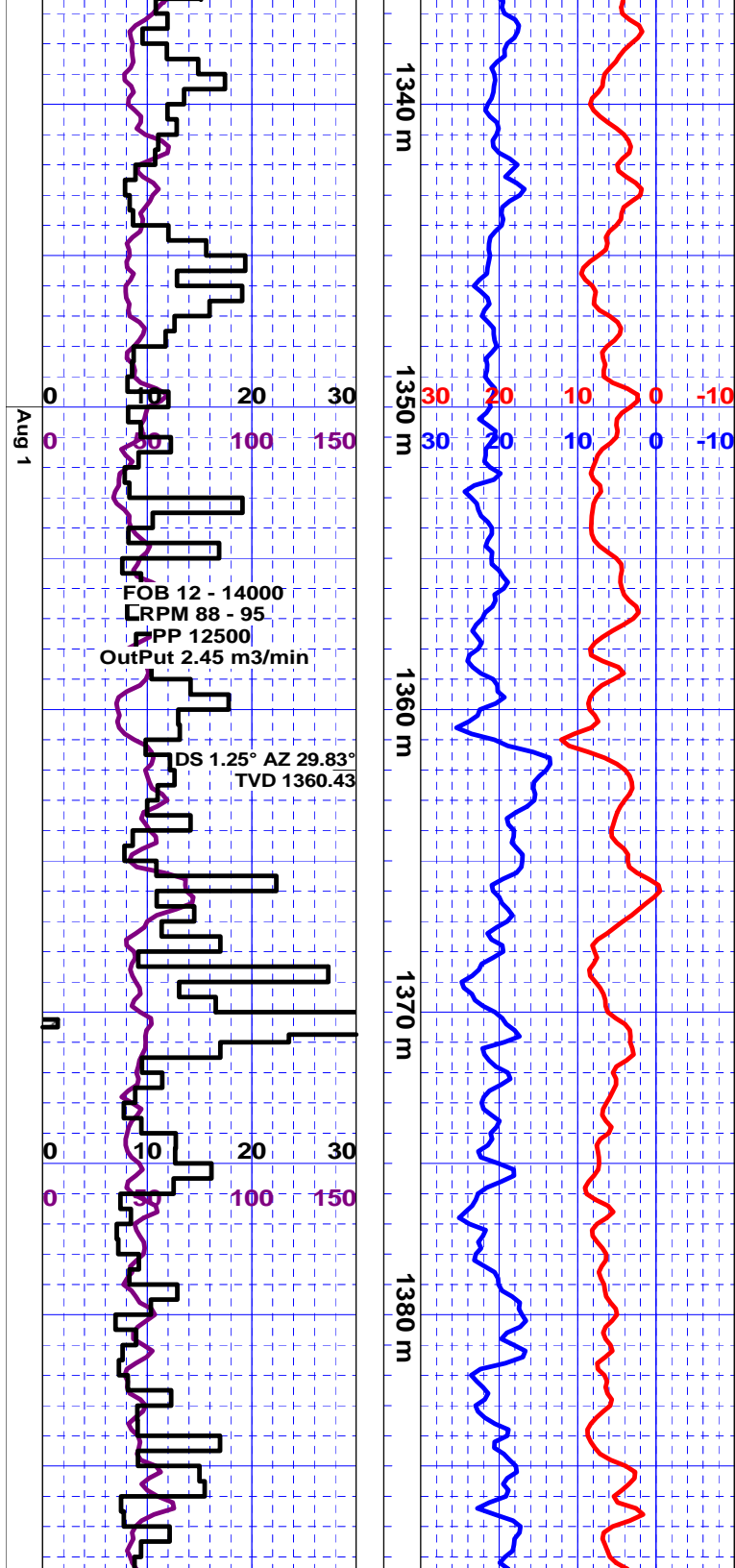
RED CLAY / CLAYSTONE ? AT SHAKERS

REDBEDS / SS ? Thk mas red brn Sft Cly frags @ shakers, assuming mnR Sands only?, dried washed spls Sands only, lse, l - u m, l c, qtz, op, silly stnd, mod srt, sbrdd - rdd, assuming genly wk cmtd, mnR frags only, tr brnsh Sh frags, predly thk sdy Redbeds, cly rich ?, no gas. ROP indicates some ss bdg / slower ROP. (See photo from shakers of Clays.)

NO GAS

MASSIVE RED BROWN SOFT CLAYS AT SHAKERS (SEE PHOTO FROM SHAKER)

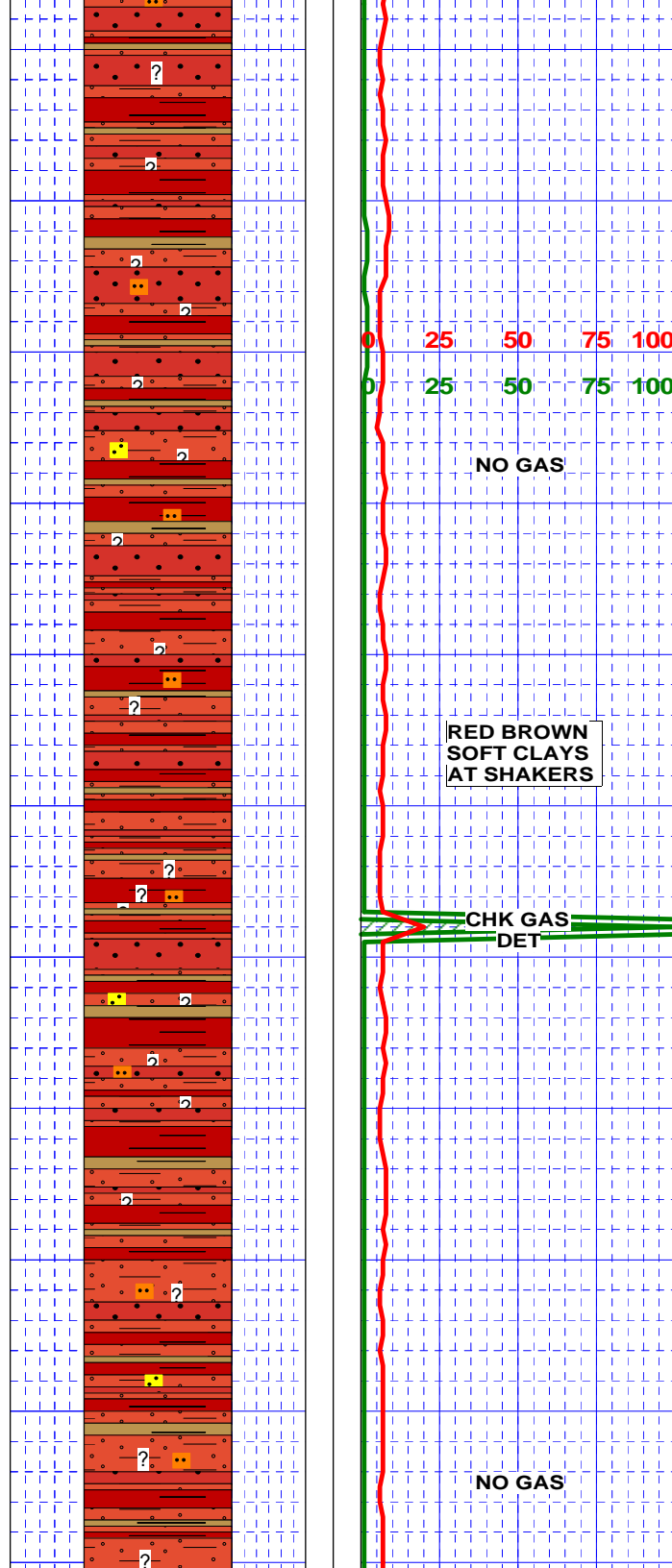
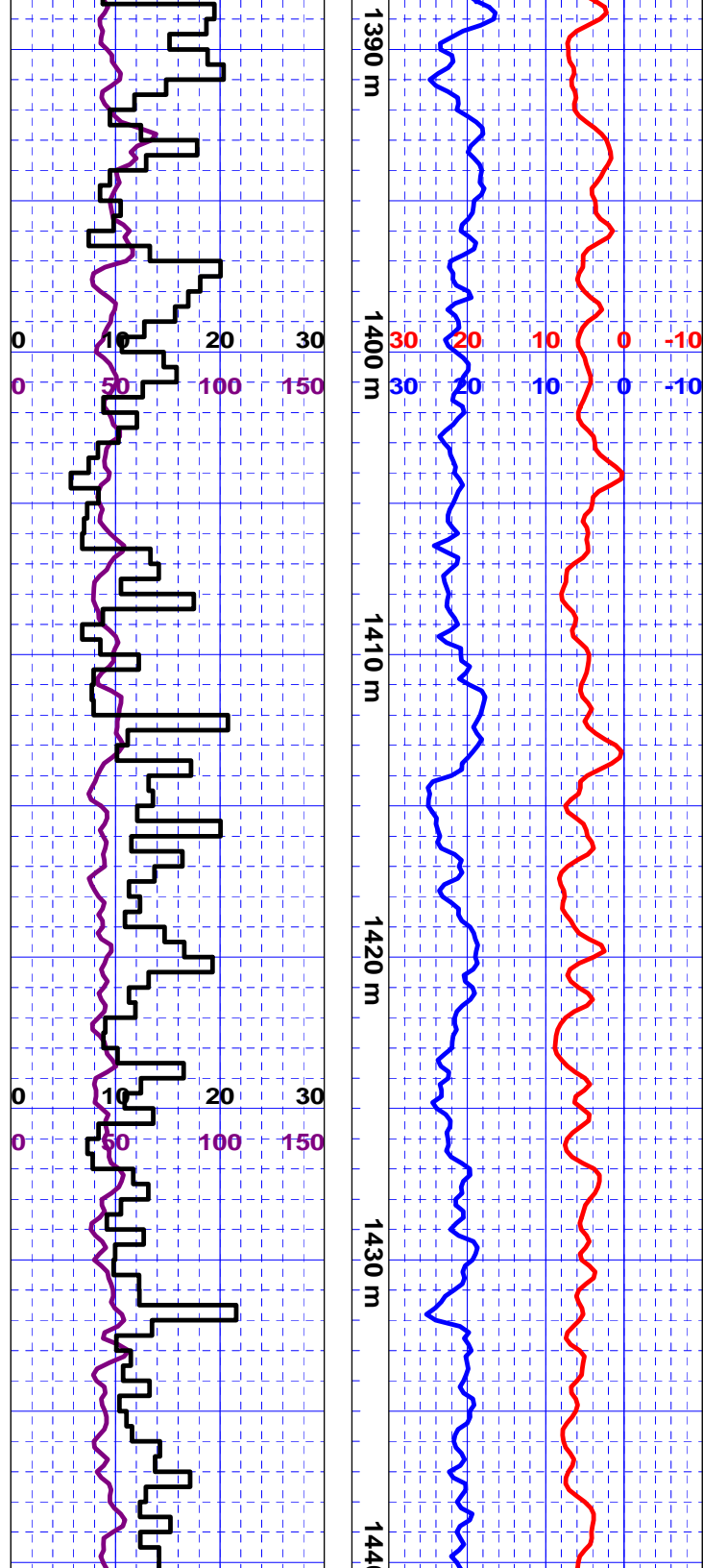
REDBEDS / SS ? Red Brn sft Sh - Clyst equiv @ shakers, remaining washed spls lse, f - m, qtz, op, semi trnsi, silly yelsh - pksh stnd, AS ABV, tr lithics, rr flds, sbrdd - rdd - apr sbang - mnR fracd, mnR brnsh - slty Shy lams?, rr frags, overall v uni spls / dpth, Varied ROP suggest 20% coarser better cmtd bdd clnr Ss, no apr pbis or cgl, no gas.



REDBEDS - SH ? / mnrr SS ? 99% sft red
 Cly frags @ shakers, 99% lse f - m sands /
 qtz in washed and dried spls, AS ABV,
 assuming mas sdy Redbeds and or softer
 Shales?, (fm HDR than spls indicate based
 on avg ROP of 6 m/hr. Dried spls lse qtz,
 op, silty stnd, mod srt, sbrdd - sbang / mnrr
 l c fracd, pos tr pbils, Overall "dusty" spls
 due - clays, (Note -- if spls fully washed
 and dried, spls would app v cln / no clays
), steady ROP, no gas.

REDBEDS / mnrr SS AS ABV, Continued
 hvy Clyst equiv @ shakers, dried spls uni
 lse, f - u m, tr c Qtz, op, silty yelsh - redsh
 stnd, mod poorer - mod srt, sbrdd - rdd in
 gen, silty sils, weakly cmtd, vis lt greyish -
 v lt gnsh ? gy cly inflg, mnrr dkr brnsh
 frags, pos lams?, uni / dpth, mnrr apr
 coarser Sands based on ROP, no gas.

REDBEDS / SS ? 80% + Sft clays in
 bagged spls + washed away in attempt -
 cln through screen, 100% mas sft red brn
 Clyst @ shakers, v uni, AS ABV, dried
 spls, as abv, f - u m, mnrr l c, tr fracd pbils,
 genly qtz, op, stnd redsh - silty yelsh in pt,
 mnrr lithics, rr flds, mnrr m gy slty lams?,
 frags, continued mnrr softer prly srt cly
 rich sdy frags, ROP indicates some
 sandier ? coarser ? bdg not picked up in
 spls, no gas.



REDBEDS - CLYST / mnR SS Clyst @
shakers, washed and dried spls as abv,
lse, f - m, mnR l c. qtz, op, semi trnsl, abnt
silly redsh - yelsh stnd, uni, mnR lithics, r
flds, mnR - incrg frags in 1420 spls, as abv,
prly srt sbRDD - rdd cly mtx, v fri, weakly
cmtd, incrd - 1% brnsh sh frags / flotg rdd
qtz, mnR apr Sands based on ROP, no gas.

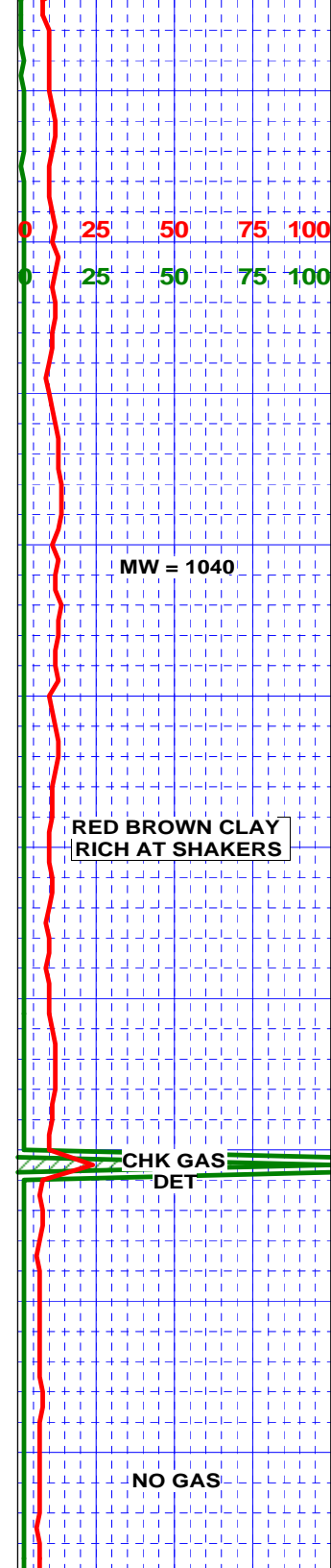
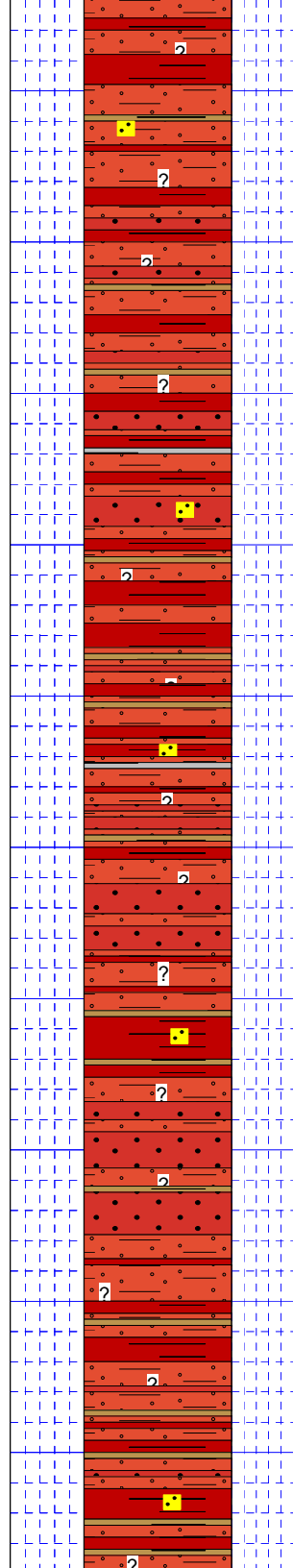
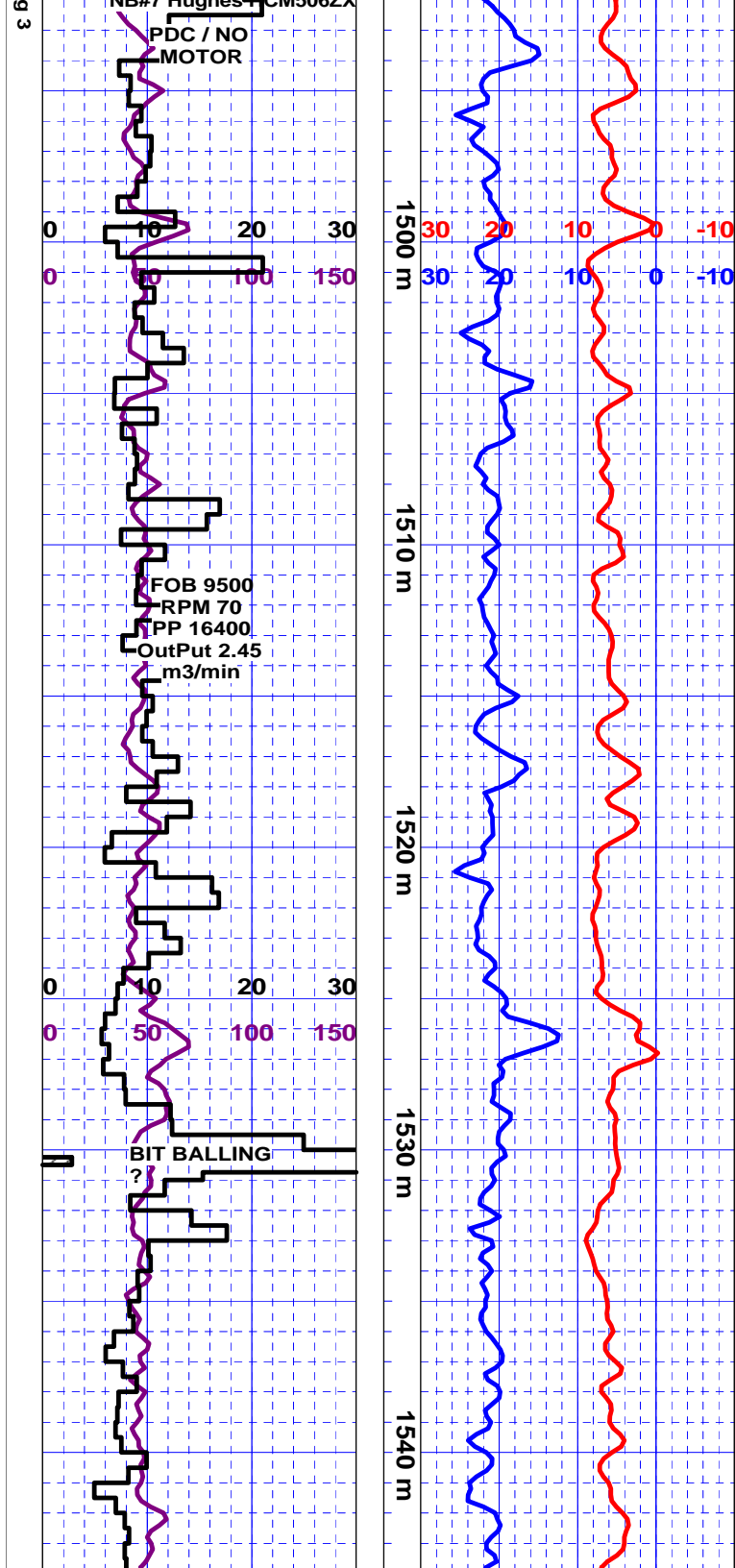
RED BROWN SOFT CLAYS AT SHAKERS

CHK GAS
DET

REDBEDS - CLYST ? AS ABV, 100% Cyst
 - sft red brn clays @ shakers ?, dried spls
 f - m Qtz, op, trnsl, mnr stng, tr lithics, v
 mdy, prly drying spls due - mas clays, uni
 ROP apx 6 m/hr, mnr Sands ?, no gas.

**MASSIVE RED
CLAYSTONE -
GUMBO AT
SHAKERS - AS PER
1320 m PHOTO**

NO GAS



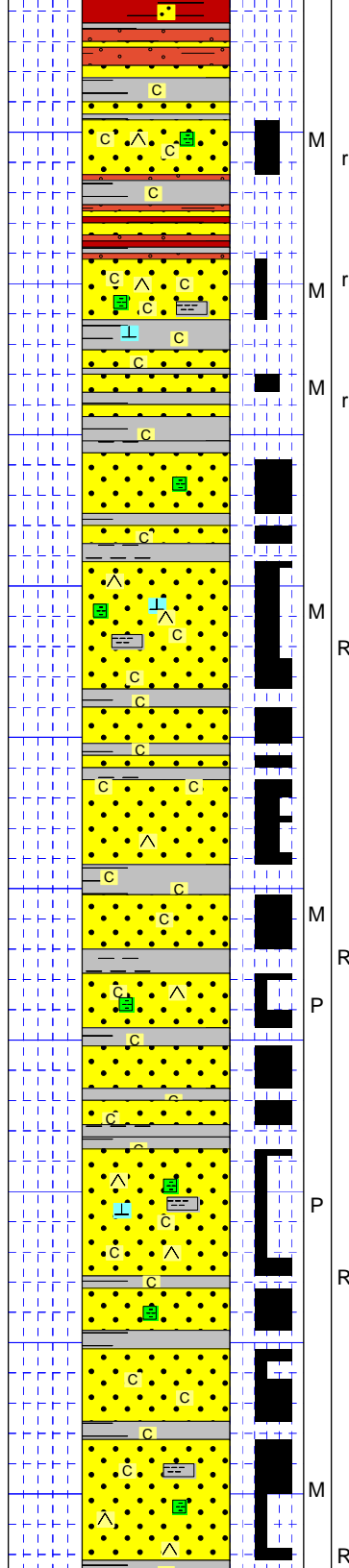
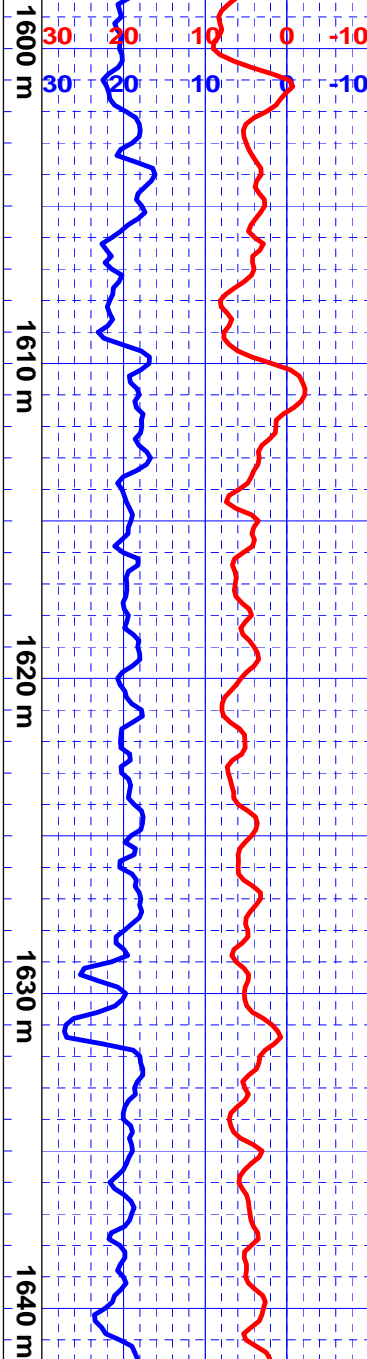
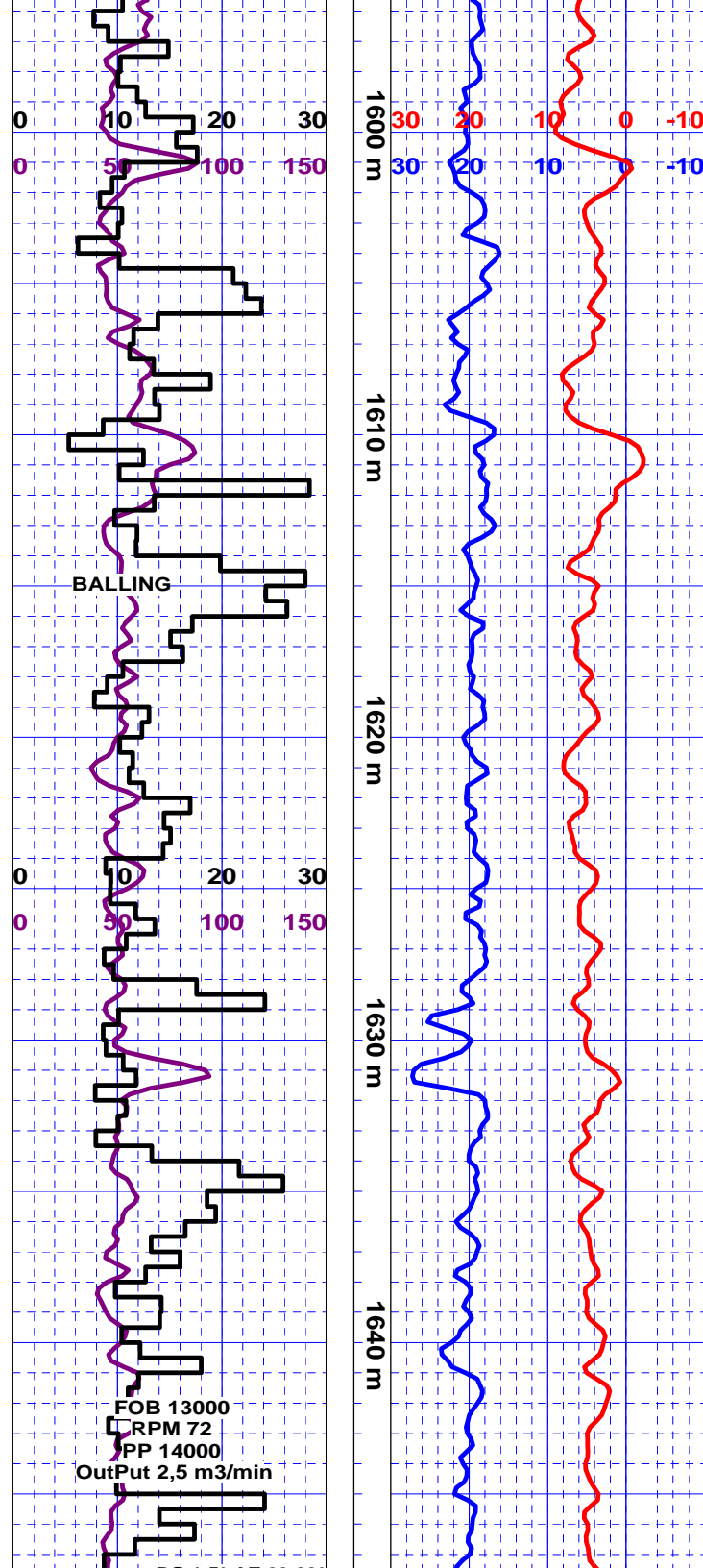
REDBEDS / mnR SS Pred sft red brn CLY @ shakers, dried spls lse, f - u m / mnR c, qtz, op, slly redsh - yelsh stnd from clays?, rr lithics, no - rr tr flds, mod srt, sbrdd - rdd, weaker cmtd, nn calcs, arg mtX Ss - sd cly rich Shales - Redbeds, mnR - 5% firmer plty Sh, rd brn - m brn, nn calcs, micmica in pt, G ROP / new PDC Drillbit apx 7 m/hr, no gas.

REDBEDS / mnr SS Continued v cly rich, 80% of clays from spl bags wash out during prep and drying, Red Clyst equiv @ shakers, dried spls lse, f - u m, tr c, qtz, op, lightly red - yelsh stnd, sbrdd - rdd, cly mtx, mnr frags only, v f - u f, slly redsh, sbang - sbrdd, sft, fri, slly chky, mnr f - m cly rich frags, no - fracd c lit - qtz, no apr pbbs, as abv, uni / dpth, no gas.

REDBEDS / CLYST ? Cly @ shakers, apr
dkr gy frags / clays ?, continued 80-90%
clays washed out of spls, dried spls
continued lse, f - u m, mnr c, qtz, op, std,
as abv, tr lithics, tr - no flds, g tr - 5%
brnsh micmica slly slty Sh, (ROP up - 10
m/hr ?,) mnr frags only, f - m, slly redsh,
qtz, prly srt, fri, no gas.

SS - REDBEDS Slower ROP @ 1530
meters down - 2 m/hr, Predly continued
red brn Clyst equiv @ shakers, silly sdy
tex, dried spls continued lse, f - m - u m,
mnr fracd pbly lit - qtz - cht grs ?, as abv,
10-15% frags, silly mot redsh wh, v f -
abt l m, qtz, op, silly redsh brn stng,
overall finer gred but abnt m frags, nn
calcs, silly sils, vis cly inflg, mod relief, silly
better cmtd, nn calcs, no gas.

REDBEDS / SH ? Steady incrg ROP - 8 m/hr, 95% Clyst equiv @ shakers but grty, dried spls as abv, lse, v f - f - m, rr c, qtz, op, lightly redsh stnd, tr lit only, no - tr fids, mod srt, sbrdd - rdd, weakly arg cmted?, mnfr frags f - m, v slly sils / weaker cly inflg?, no vis pbbs, assuming uni v cly rich intv, no gas.



GREY WHITE
HEAVY CLAYS AT
SHAKERS

CHK GAS
DET

NO GAS

MW = 1050
VIS = 59

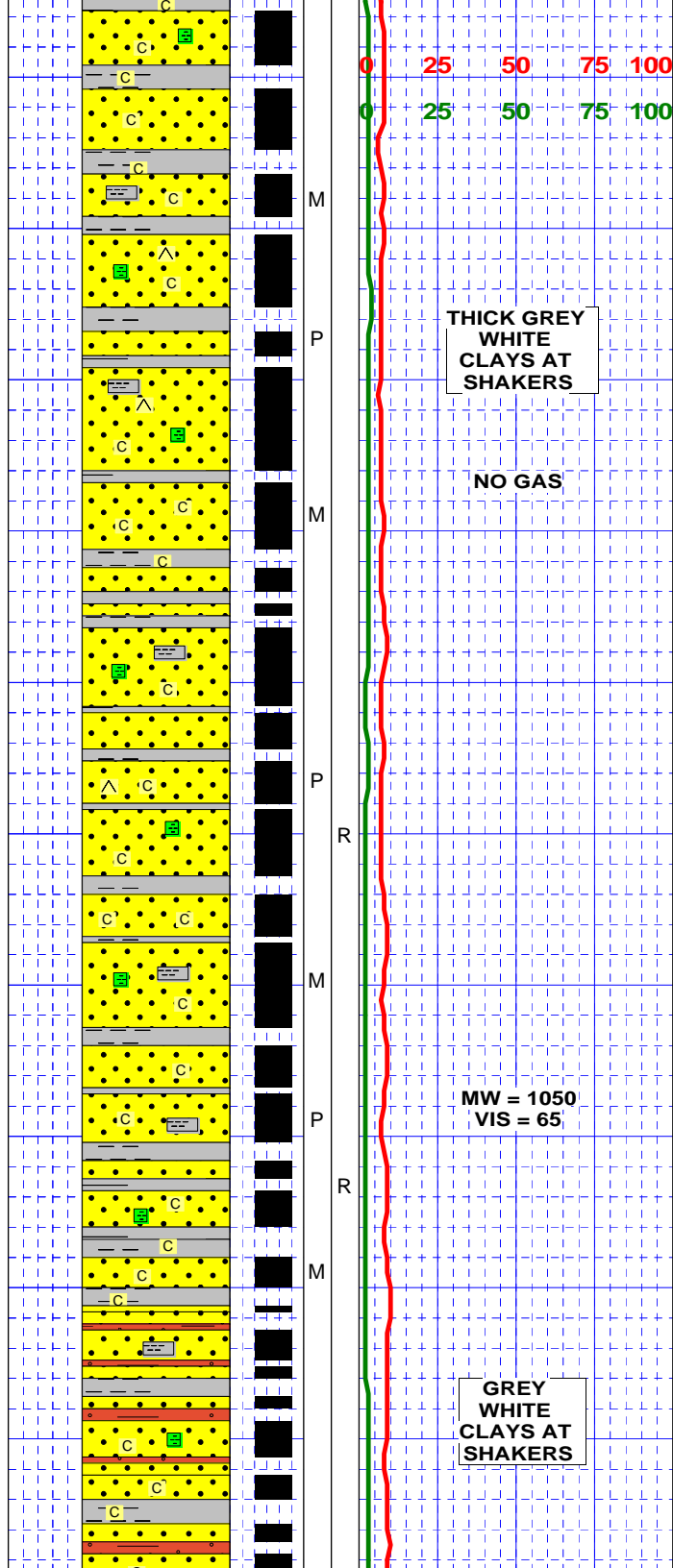
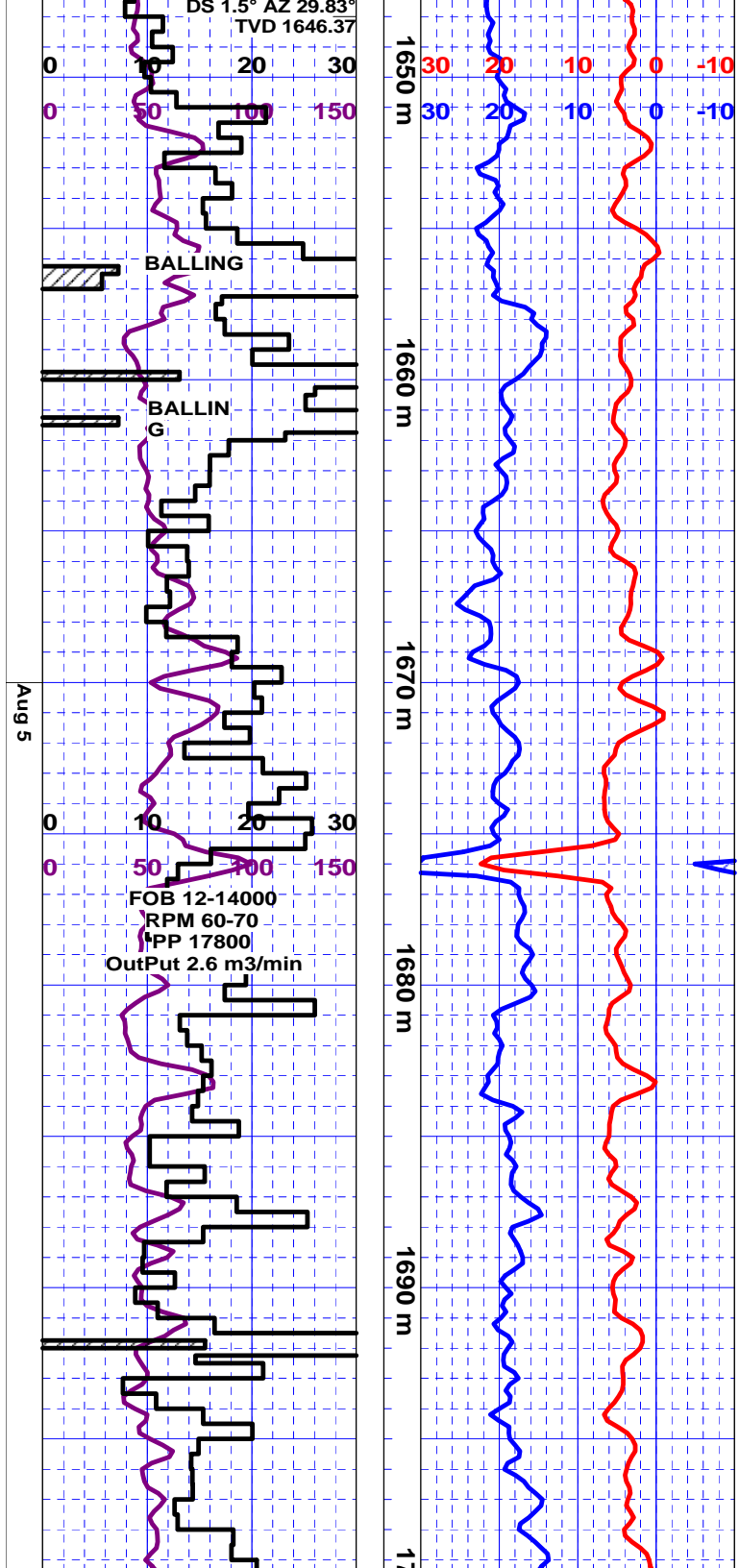
FULL TRANSITION
OUT OF REDBEDS

SS / wh Cly ? overall v lt greyish - off wh dried spls, (No redbeds - no red clays), lse, f - u m, mnrl c, qtz, off wh, op, semi trns, no stng, abnt apr wh chky matl - clumps from drying ?, nn calcs - rr calcs, no anhy, mod srt, sbrdd / abnt rdd - mnrbang, abnt v sft chky wh frags / qtz but apps - be from drying?, pos some competent weakly cmtd frags / qtz - cly mtx - inflg, (see photos), no gas, no shows.

CLY RICH SS v lt gy - off wh chky ? Clays @ shakers, bagged spls v gy wh mdy, Dried and viald spls lse, l - m - l c, pred qtz, cln op, wh, trns, qtz, sbrdd - rdd / abnt l m - u f rdd - sbang - mnrbang, rr tr blk lit, mnrbang v lt pale marn gn cly frags and red brn shy - slty frags in 1630 spl, tr frags, weakly cmtd, qtz, v fri, hi relief, slly chky, nn calcs, mnrbang v slly gnsh cly inflg, no hd frags, uni, no gas.

SS: 5% in spl, off wh, f, xln, blk, qtz, op, wh, semi trns, v cln - frags / tr blk lit, red sh ? lit and apr brn blk mica?, sils in pt, v slly calcs, mod srt, sbang - ang - f rdd, p relief, tt, pos slower ROP ?, mnrbang m - l c frags, higher relief, cln, cmtd in pt, fri, tr l - u m frags / rdd stnd qtz grs in a clnr sils wh mtx, abnt - continued lse f - m qtz, as abv, chky overall wet spl.

CLY SS ? 95% Mdy gy wh clays @ shakers, some grty, dried spls v chky "dusty" / lse f - u m, l c qtz, op, wh, semi trns, sbrdd - rdd grs / finer grs rdd - sbang, overall v cln wh, tr redsh brn sh - pos sbang lithics, tr frags only, wealy cmtd qtz, / tr redsh lithics, v lt gnsh cly inflg - slty sils - v slly tr calcs mtx, overall weaker cmtd than finer tighter sands abv, uni / dpth, assuming slower ROP @ 1645 meters due - finer xln cln qtz Ss, no gas, no shows



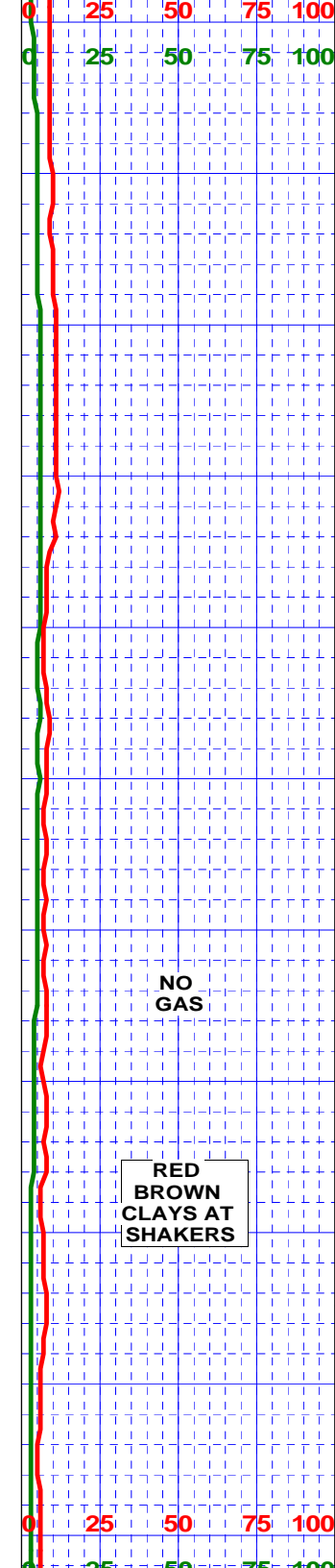
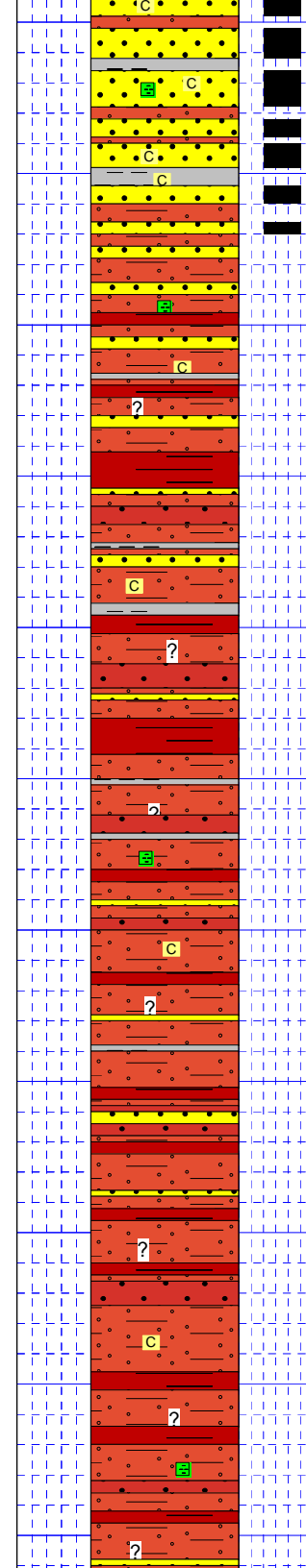
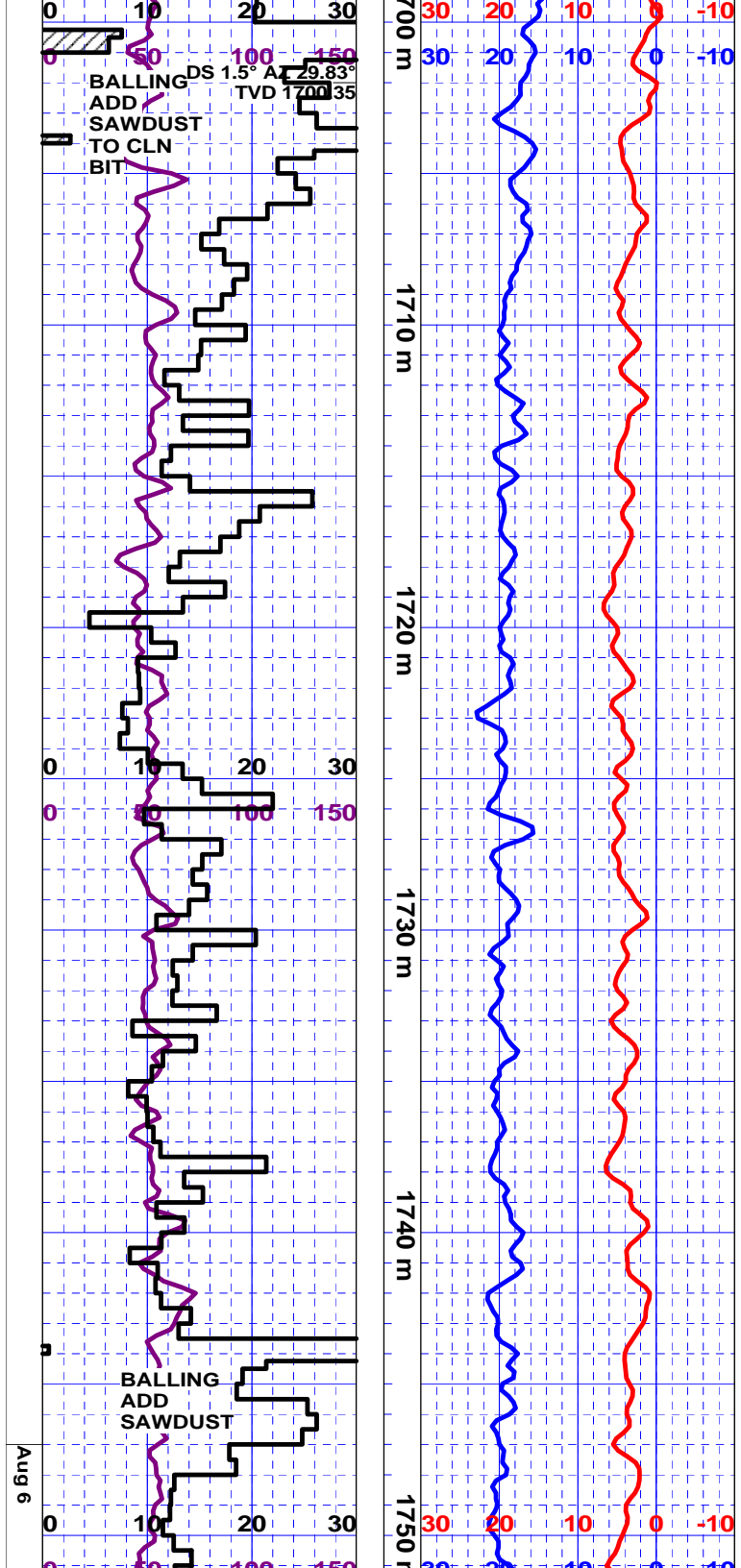
SS ? or CLY ? Mas gy wh Clyst equiv @ shakers for ROP @ 1.3 m/hr, Drillbit balling and added sawdust - c/n drillbit, dried spls lse qtz as abv, abnt assorted frags due - slow ROP, some frags Ss, (see photo), off wh - v silly gnsh tinge due - gnsh cly inflg, c/n, qtz, trnsf in gen, l - u f, rdd - sbrdd, hi relief, v silly sils mtz / cly, fri, no shows, mnr hdr v silly calcs f frags, better cmtd, Slow ROP Clays or Sands ?

CLY SS ? Spl bags v cly rich, dried spls lse, f - u m, qtz, semi trnsf, op wh, c/n, mod srt, sbrdd - rdd, mnr fracd - sbang, v mnr frags, v f - f hdr - m, fri, as abv, silly gnsh cly inflg, assorted red brn cvgs - frags, no pbls, assuming overall weakly cmtd wh - silly gnsh cly rich mtz inflg - rdd grs indicate sft wk cmt, no gas, no shows.

SS ? or CLY ? Hvy Cly @ shaker, dried spls abnt frags, l - u f, w srt, sft qtz rich / cly, micmica, v silly calcs tr, - l - u m, qtz, op. trnsf, mod srt, rdd - sbrdd, weakly cmtd, silly sils - silly gnsh cly inflg, rr c frags ?, 5-7% slty micas redbeds - cvgs due - slow ROP, more apr frags due - slower drlg ?

CLY SS ? dried spls lse, qtz, op, trnsf, f, w srt, frm but easily crushable, cly rich, - l - u m / m c, mod - mod p srt, sbrdd - rdd, "dusty" spls, mnr frags, v f - f, v silly micas - weakly cmtd cly rich, v silly gnsh cly inflg, no hd frags, ROP up - 6 m/hr, no shows, no gas.

CLY SS ? pred lse, f - u m / l c, qtz, op, semi trnsf, whitish ?, rr tr mafics, apr c/n, overall v "dusty" spl from clays, some frags, l - u f, qtz, c/n, weaker cmtd, v silly sils ?, mod w srt, sbang - sbrdd, v silly pale gnsh tinge, also mnr poorer srt f - m v weakly cmtd, qtz, only, sbrdd - sbang - abnt rdd, nn calcs, 2-3% redsh brn slty Shales?, cvgs?, / dpth grdg - lse, chky, no gas.



SS: Slow ROP under 2 m/hr incrg - 3 m/hr / dpth, 1705 spl 80% added sawdust, remaining rk apps v mxd - predly cvgs from slow drlg, / dpth v chky spl, lse qtz, op, semi trnsl, off wh, as abv, apps v sily redsh cly cmpt, mnr redsh stnd rdd qtz, tr sily gnsh v f - f cly rich Ss, fri, no shows, no gas.

REDBEDS / SS ? incrg - predly ltr redsh clays / dpth, dried spls lse, l - u m - l c qtz, op, sily redsh stnd, trnsl, mnr lithics, blk - gnsh, some apr chty? fracd c, pos mnr pbls ?, abnt clnr nn stnd qtz as per gy beds, Pos intbd red and gy Cly rich Sands - loc v sdy Clyst equiv, more uni ROP due - incrd sands in bdd Redbeds ?, no gas.

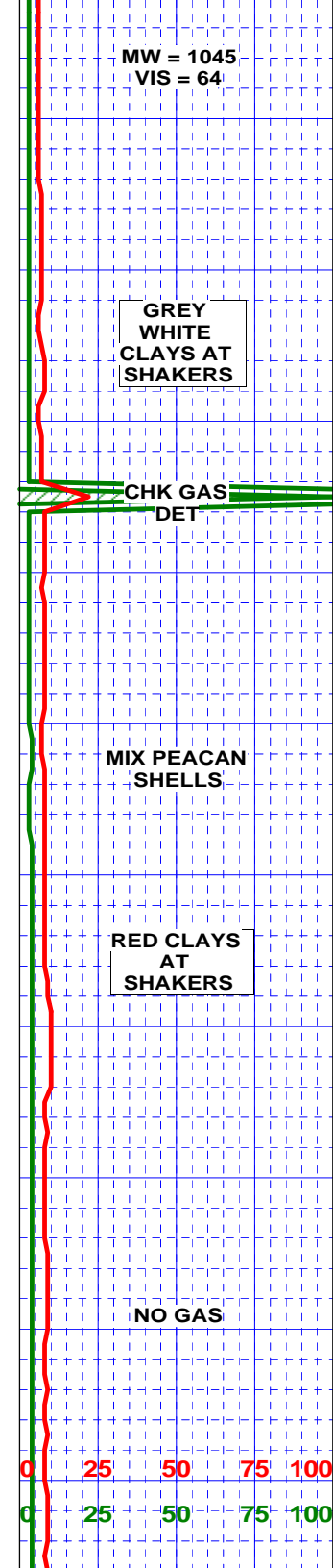
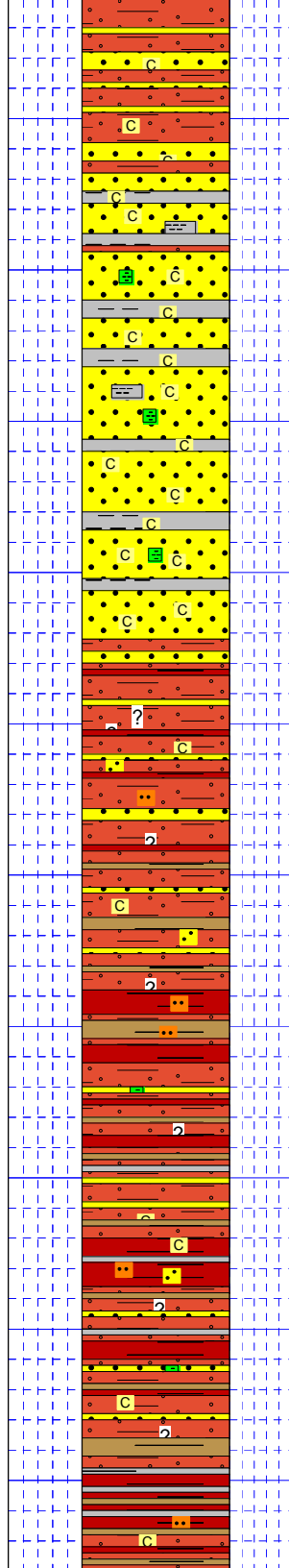
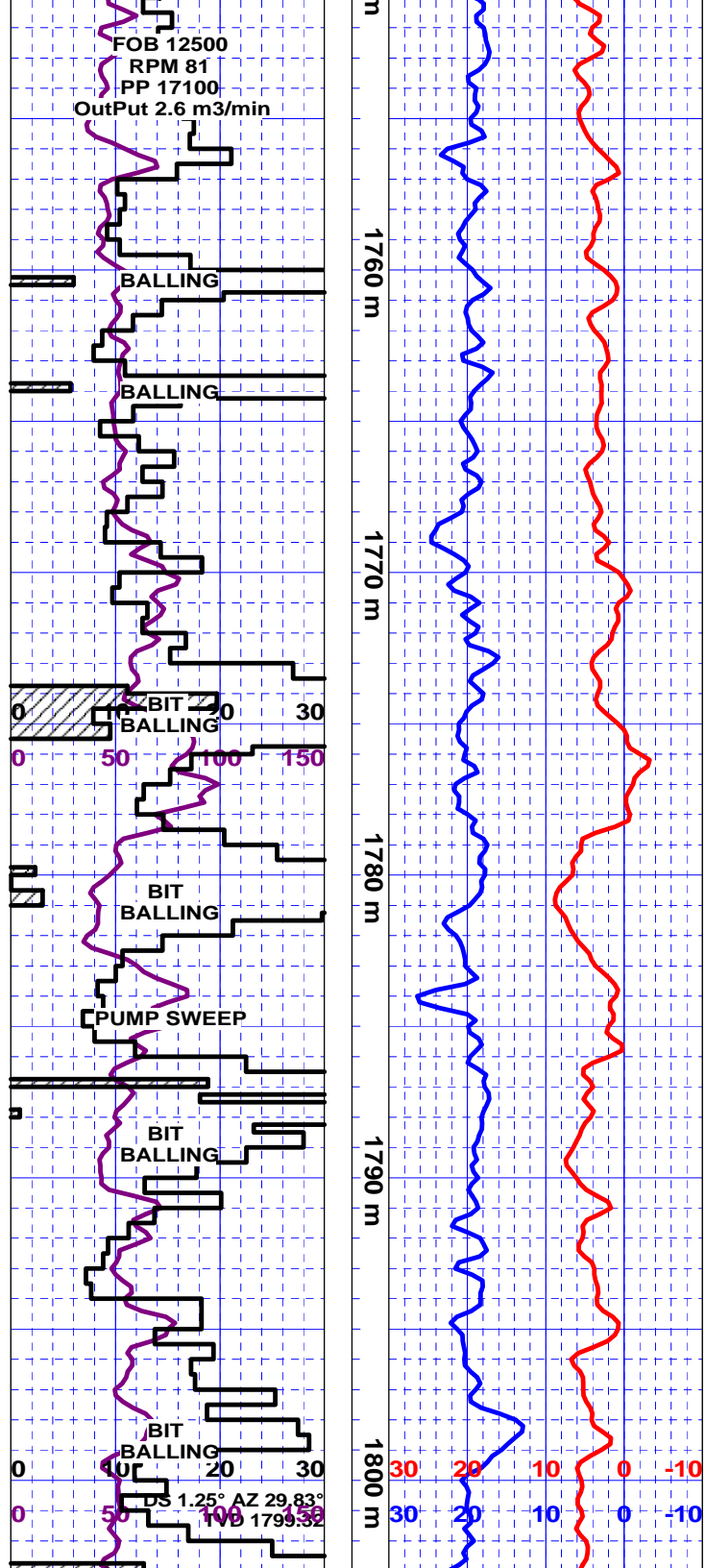
REDBEDS / CLY SS ? predly red brn clays @ shakers, lt red brn mdy bagged spls, 10-20% remaining spl dried is lse, f - u m / mnr c, pos tr lse flotg chty pbls?, qtz, 60-70% lightly redsh stnd, 20%+ clnr trnsl - wh qtz, tr blk lithics, "dusty" spls due - clays, mnr f - m v sily gnsh competent but fri weakly cmtd Ss frags, uni ROP apx 5 m/hr, no shows, no gas.

NO GAS

RED BROWN CLAYS AT SHAKERS

REDBEDS Red Cly @ shakers, Bagged spls mdy red brn, dried spls / Clays washed away are lse, u f - u m / abnt l c, rr tr fracd lithics - chty s pbls?, qtz, predly sily redsh - orng stnd thru, gen mod srt, sbrdd - rdd / mnr sbang cmpt, mnr cln nn stnd, tr lithics only, mnr frags, weakly cmtd, mot redsh, m, qtz, - v sily gnsh, qtz rich, pos lt gnsh cly cmt, nn calcs, uni ROP, no gas.

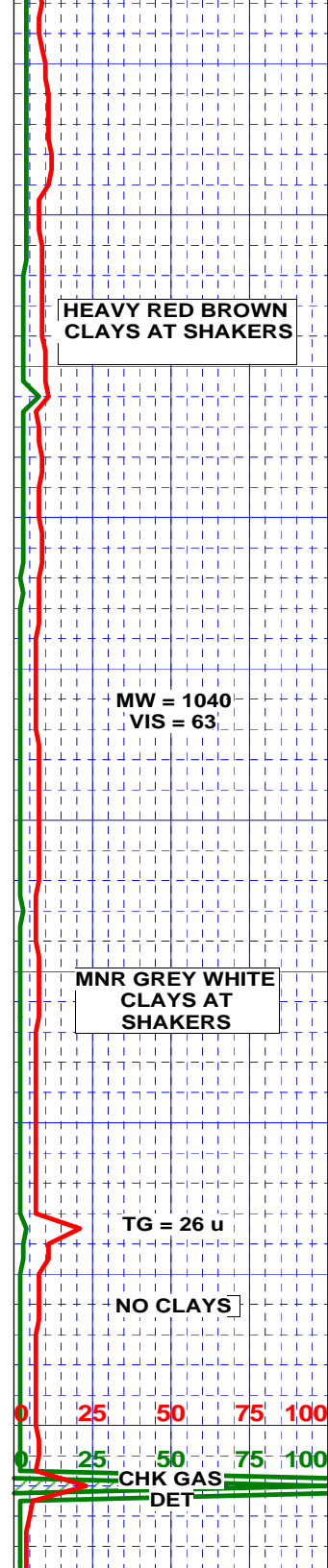
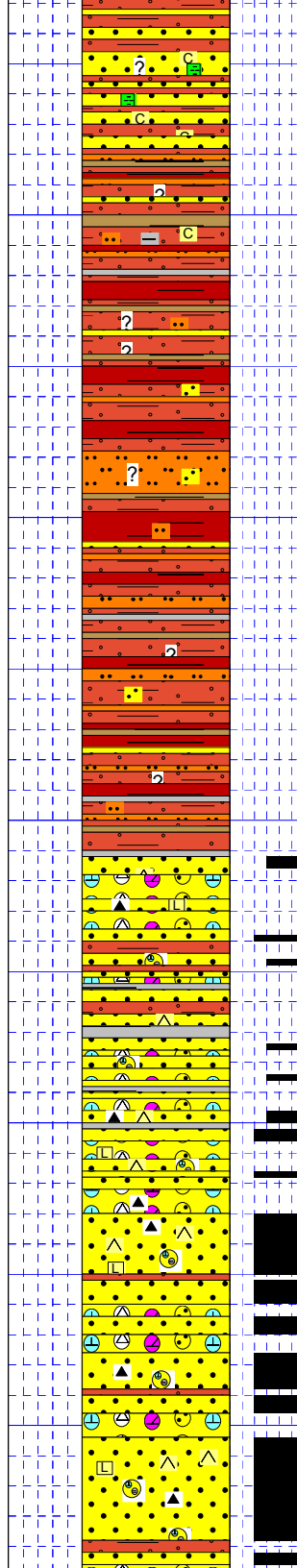
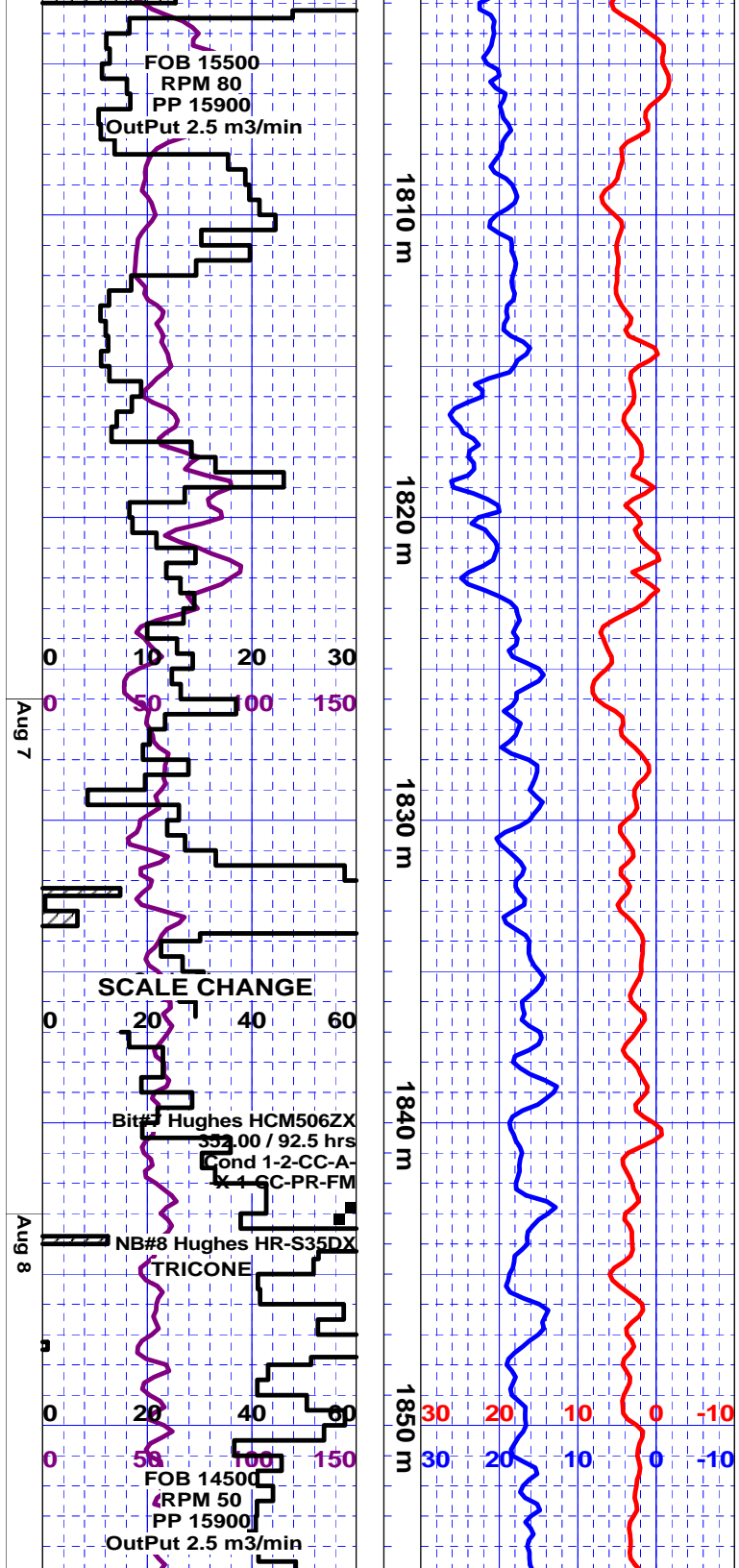
CLY SS ? Red brn Mud @ shakers but washed cly ctas predly greyish wh. sll



washed cly clgs predly greyish wh, sh
grty, bagged spls cly rich "snowball",
washed out clays and dried spl, lse, cln,
qtz, op, trns, no stng, u f - m, l c, sbrdd /
abnt rdd - finer sbang, 10% lightly redsh -
orng stnd, mnr frags v cln, m, mod cmtd
but fri, nn calcs, qtz, op - trns, tr v slly
gnsh, sils mtz cmt in pt, (Lots of Sawdust
being added - "UNBALL" drillbit from
clays drilled. Slow ROP due - Drillbit
Balling.

REDBEDS predly v red mdy bagged spls,
dried spls overall v lt redsh, v f - abnt
softer mot v lt redsh chky Slst, cln - nn
stnd f - m wh - trns, qtz / stnd f - m qtz, clnr
slly gnsh cly infld Ss - redsh semi xln slly
lit Ss grdg predominantly - softer chky Slty
- Slst / dpth, 1780 spl 90% Pecan Shells
added due - drillbit balling, 1785 spl apps
chky mot nn - v slly calcs, v weakly cmtd
cly rich Slst, V ragged ROP and p spls
due - shl additive. (mnr brnsh - gy brn Sh
frags incrg / dpth, slly slty - rr sdy.)

REDBEDS / SH ? v red mdy spls, dried
spls intermixed, m gy brn - brnsh shales,
frm, plty, slty, slly micmica, competent, nn
calcs, abnt lse cln - stnd f - m qtz, abnt slty
mot redsh Slst, chky, sft, - f - m clnr qtz
Ss / overall v pale gnsh tinge from cly
infg, some cln whitish Ss, Pos
interfingred red arg cly rich sdy Shales -
sh and bdd clnr sands?, (first intvs /
competent shales. Continued p - ragged
ROP due - drillbit mechanics ? or fm ?.



SS: chky gy wh bagged spls, dried spls predly lse clnr qtz, op, trnsi, mod srt, sbang - sbrdd / abnt rdd, weakly cmtd / abnt cly?, also silly redsh stnd qtz, sbrdd - rdd, trs silly gnsh cly infild Ss - mot redsh stnd Ss, tr pos sils - chky wh, micxl gg ?. ROP up - 10 m/hr, no gas, no shows.

REDBEDS - SH / SLTST mot redsh brn, slty, frm, blk, competent, micmica in pt, qtz, tr lithics, loc grd - v f Ss, micmica, also redsh brn Sh, amor, - flotg f qtz, apx 20% lse f - m stnd - nn stnd qtz, mnr frags from abv.

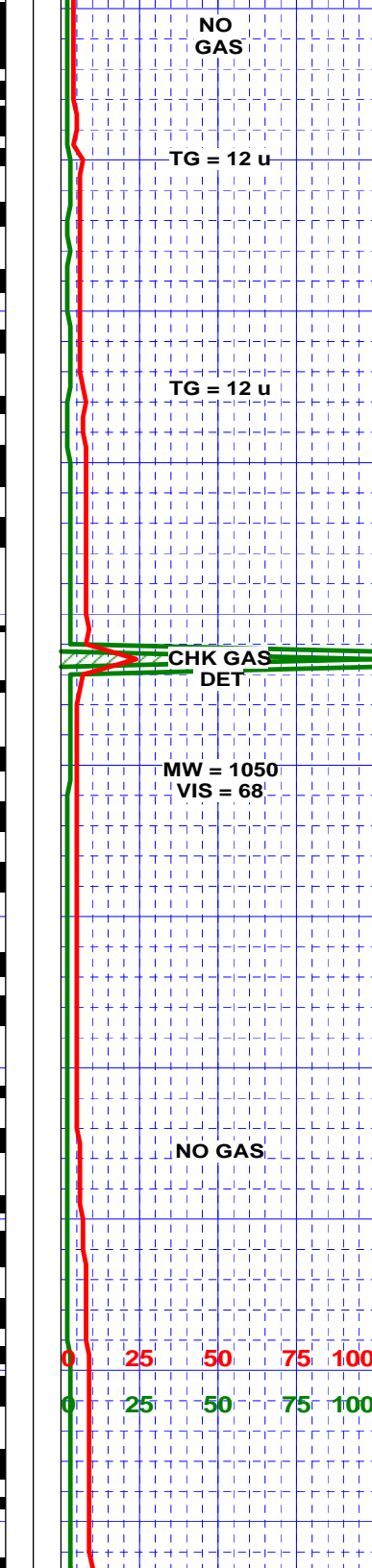
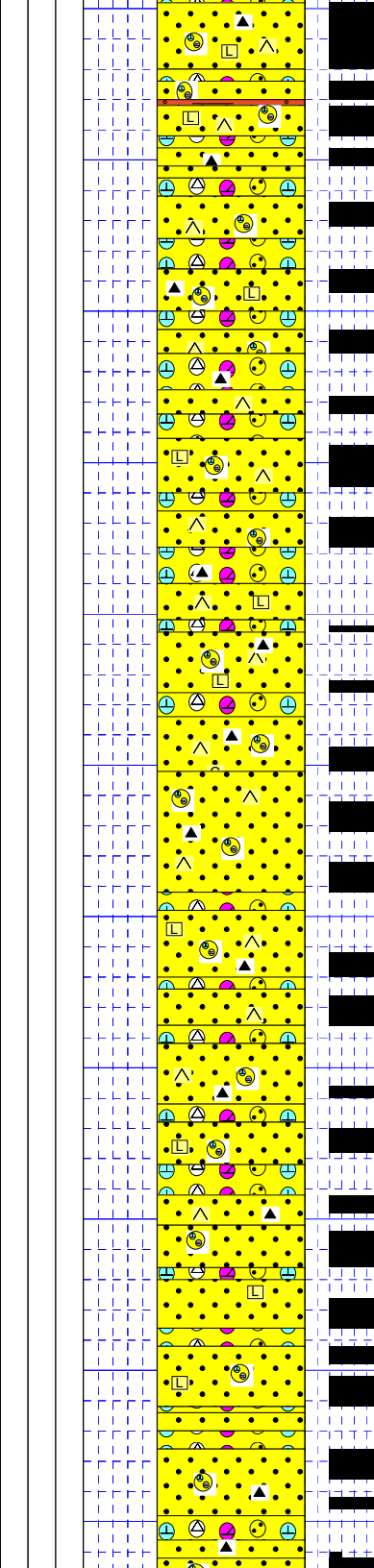
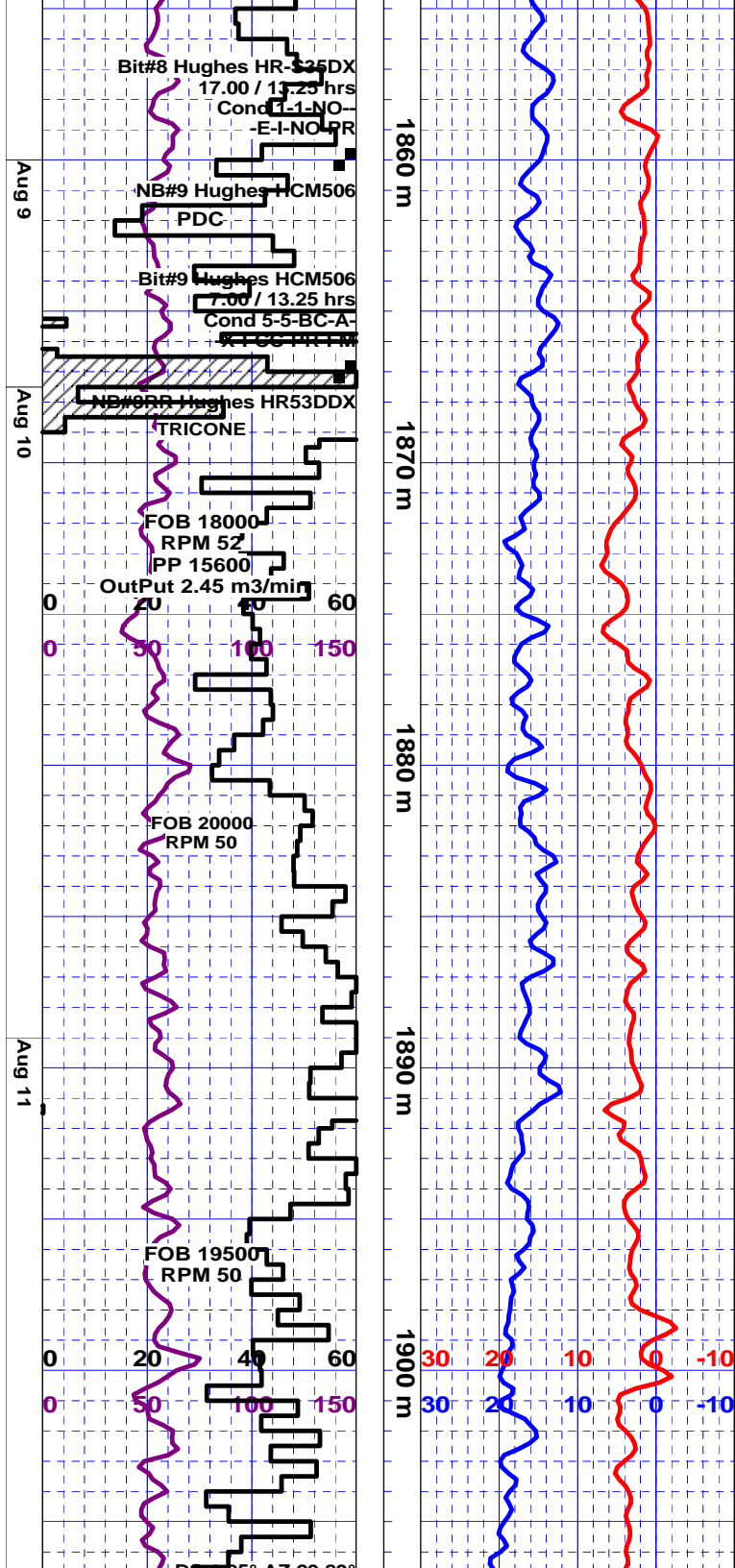
SLTST - REDBEDS Mot redsh wh slty - v f Slstst - Ss, arg in pt, nn calcs, silly sils, frm - competent frags, qtz, pos tr flds?, orng stnd, w srt, sbang - sbrdd, / intbd red brn Sh, slty - micmica, g tr brnsh - silly greyish brn, rr greyish frags, tr whitish micxl hdr blk frags, apr Slstst, sils - v silly calcs, g tr fracd coarser lithics, qtz, chty grs - frags - flotg pbls?, continued varied lse qtz ss - tr silly gnsh ss frags from abv, pos interfingred Redbeds / clnr gy wh cly Ss?. (Bagged spls still red mdy), better uni ROP apx 5 m/hr, no gas.

PBL SS - PBL CGL ? clnr overall spls, mnr clays @ shakers only, no redbeds, varied frags, trnsi qtz, orng - redsh qtz - flds frags, mnr dkr lithics, greyish - lt crmy chty frags, m - c fracd - splty cmpt, mnr lse qtz only, sbrdd - rdd, mnr weaker p srt Ss, f - u m, sils in pt, overall apps like Pbl Cgl, Bottoms up spl had shards - splty qtz frags up - 1 cm in length, assuming a sils silly chky - slty off wh - silly gnsh mtz inflg / assorted poorer srt ss, mod cmtd, ROP slow down - 1.5 m/hr. POOH @ 1843 meters - check PDC. (see Photos)

POOH @ 1843 m for BIT

PBL SS / CGL ? predly frags, varied coloured, mot redsh, off wh, lit, f - m, qtz, op, trnsi / redsh stnd, blk - gy lithics, brnsh - yel - crmy gy chty, clnr v f - f sils frags - v crappy v prly srt lit / softer sils - silly gnsh cly inflg, as abv, g tr c rdd qtz, silly stnd, prly srt f - m - c mtz, genly sils frags, abnt fracd qtz - varied coloured cht, mnr "grnt" fracd Pbls thru, abnt fracd pbls @ shaker up - 1 cm, wh qtz, varied coloured cht, blk - red lithics, tr gn, hdr better cmtd Ss. ROP 1-1.5 m/hr.

PBL SS / CGL ? pred lse, m - l c, qtz, op wh - redsh stnd, sbrdd - rdd, mnr sbang, mnr - 10% frags, redsh - gnsh, mot, v f - f - v prly srt m, continued abnt fracd varied cold lit chty pbls - frags thru, crm, gnsh, whitish, bf gy, some - degra qtz, overall inty app. be a weaker app



decry qtz, overall mtv app - be a weaker cml
coarser Ss (lse rdd grs), / abnt flotg varied lit -
qtz pbls?, some lgr fracd frags, coarser pbls?,
pos smaller cbls?, overall ss mtx. ROP under 1.5
m/hr . POOH / Bit @ 1860 meters.

POOH @ 1860 m for Bit

PBL SS - CGL ? varied cold qtz - lit m - c Ss ? , from apr Ss mtx consisting of red stnd rdd qtz / softer cly sils cmt - hd sils gnsh f - m - v f off wh sils v hd lams?, 20% fracd c pbls?, qtz, wh, trnsi, lit cht, qg, crm, orgn, gnsh, tr blksh, (rdd stnd qtz pos cvgs?), ROP for Tricone and PDC apr 1.5 m/hr, v hd cmt fm, sils, chty, pbls - pbl cgl?, no clays, ROP down - 0.3 m/hr / PDC, POOH @ 1867.5 meters due - no ROP.

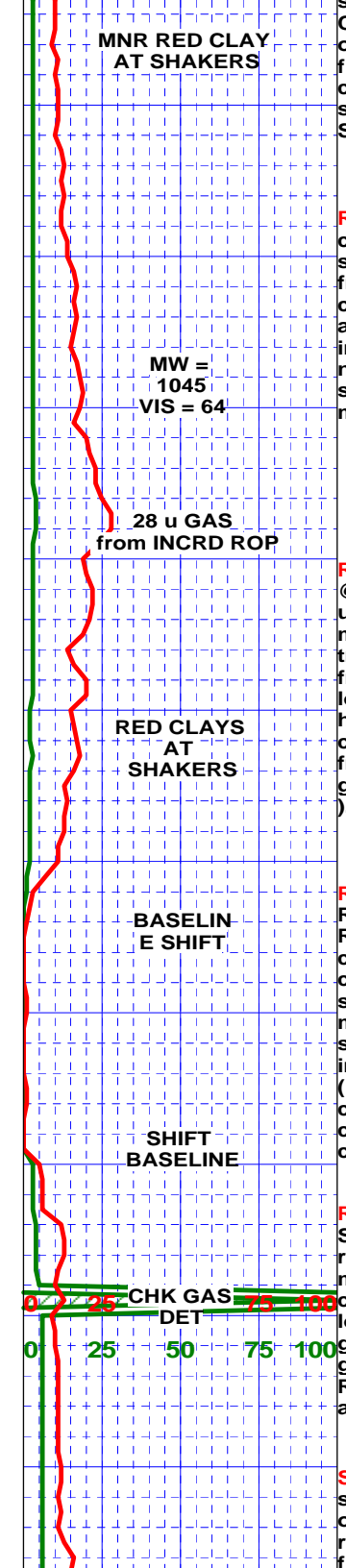
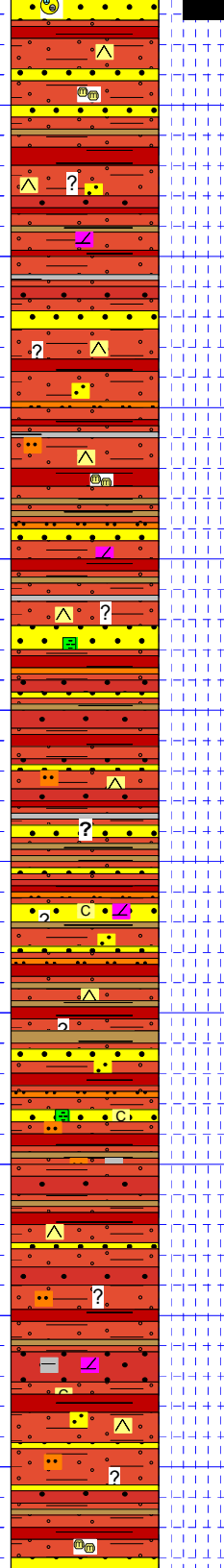
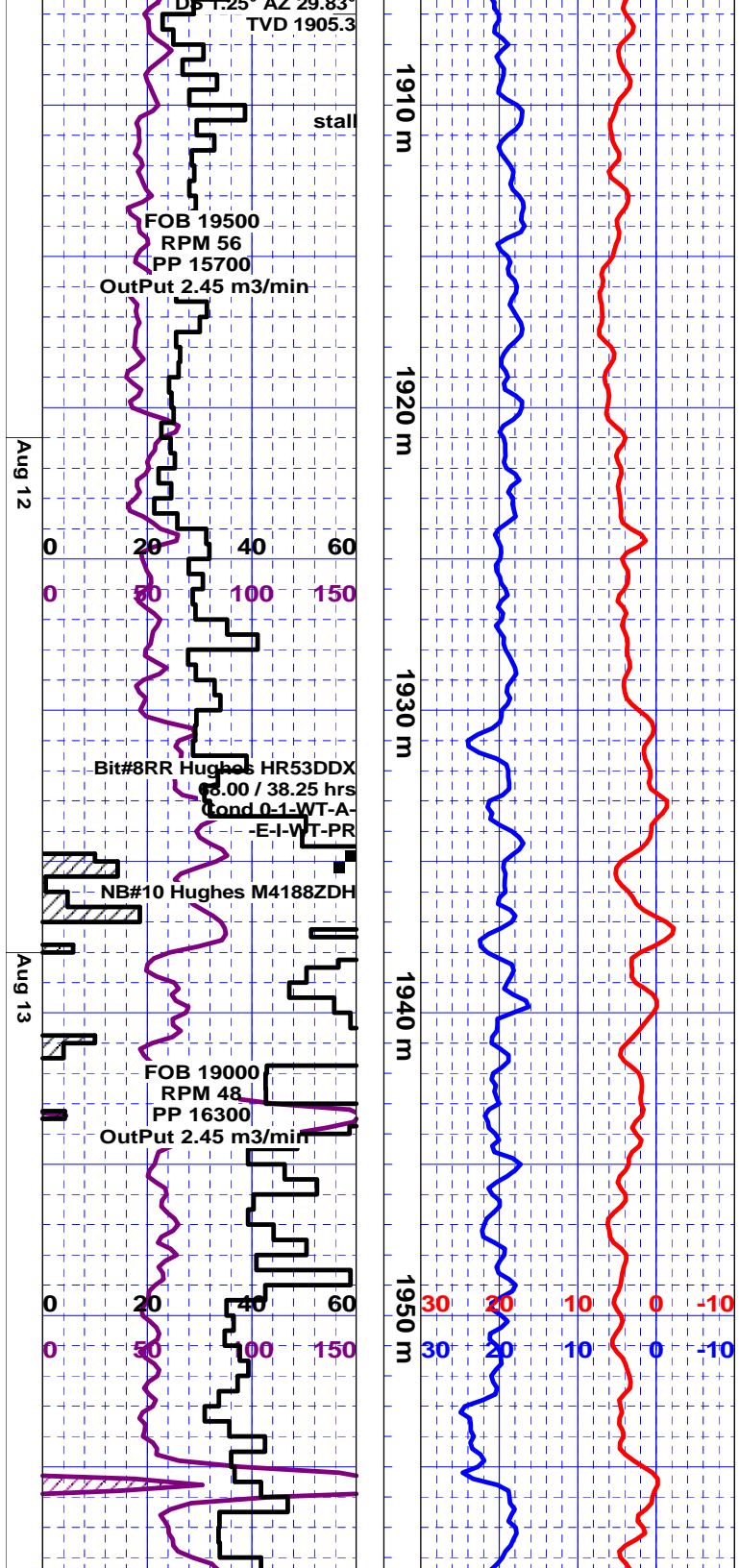
POOH @ 1867.5 m

PBL SS / CGL ? AS ABV, overall continued redsh col - spils, lse l - u m qtz, wh, trnsl - abnt sils redsh stnd, abnt varied cmtd Ss, off wh, v f - slty, sils - gnsh, sils, poorer str f - m predly wh sils mtx / rdd stnd, qtz grs in ctc / red cht frags, continued fracd chty frags, crm, gy, wh qtz, some orgng fracd fls?, apr coloured lit rk frags, fracd frags up - 1 cm @ shakers, ROP 1 - 2 m/hr, assuming v cmtd Ss / pbls - pos cbils and hdr finer sils bdq.

SS / PBL CGL ? Continued uni / abv,
predly lse m - l c qtz, rdd, stnd but
assuming mostly cvgs from u softer
Redbeds, multiple Frags varied, prly srt
qtz rich, stnd rdd - off wh, silly fracd, f - m,
sils, w cmtdd, / c - v c lit chty - qtz frags,
clnr apr off wh silts - dolc v hd sdy Sltst,
continued mnrr gnsht v hd slty ? sils, - silly
gnsht f - u m softer silly gnsht cly inflg (
cvgs), continued Lithics - cht, greyish, bf,
crmy, qtz, whitish, mnrr trnsl, redsh,
assuming fracd pbbs, less indications of
Cgl, ltl ctgs @ shakers, overall intermixed
samps due - cvgs?, continued w cmtdd Ss /
flotg cht - qtz - lit pbbs - pos cbbs - frags,
ROP apx 1 m/hr.

PBL SS / mnr CGL AS ABV, abnt lse m
rd sly stnd qtz, mnr frags thru, f - m,
poorer str, qtz, tr lithics, chty, mnr redsh -
gnsh clays, sils in pt / mnr dolic cmpt, gen
mod relief, mod w cmted, continued varied
fract Lithics - Pbls, greyish, crmy - redsh
Cht, mnr qtz, tr gnsh cht - qtz?, mnr deep
red - fldic lithics, ROP incrd - 1.5 m/hr, sly
less cmted - less Cal Pbls ?.

Transition From CGL Incrg lse m - l c
 ebrdd rdd ally redob atnd atz. Continue



sbrdd - rdd sily redsh stnd Qtz, Continued Cht frags, purp - crmy, greyish, mnr Qtz only, some gnsh - blksh lithics, mnr frags, f - m, mod cmdt, sily redsh stnd, Qtz, v sily calcs, (mnr Dolc frags, wh, cln, sily sils, sily slty, ROP incrg, Mnr Red Clays @ Shakers.

REDBEDS / SS 90% lse sbrdd - rdd l m - l c sily redsh - orng stnd Qtz in dried vialed spls, mnr 5% frags, f - m, varied coloured from mot gnsh red - blksh - whitish, mod cmdt, sils / sily tr dolc, poorer srt, sbang - ang - coarser rdd, sils in pt, mnr gnsh cly inflg, continued mnr chty frags thru only, no c cht @ shakers, Roughnecks report some clays @ shakers. ROP up - apx 2.5 m/hr, sl incr in background gas - 25 units.

FORMATION HARDER THAN SAMPLES INDICATE ?

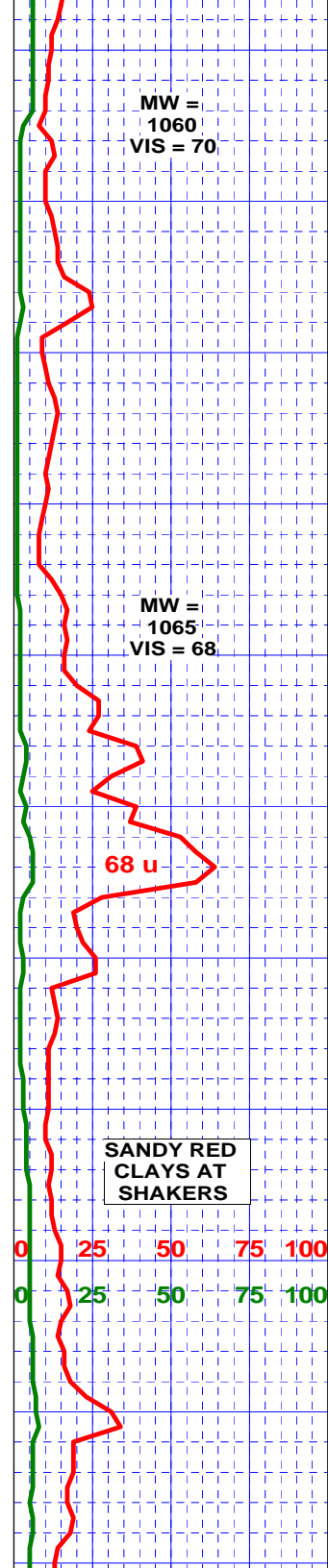
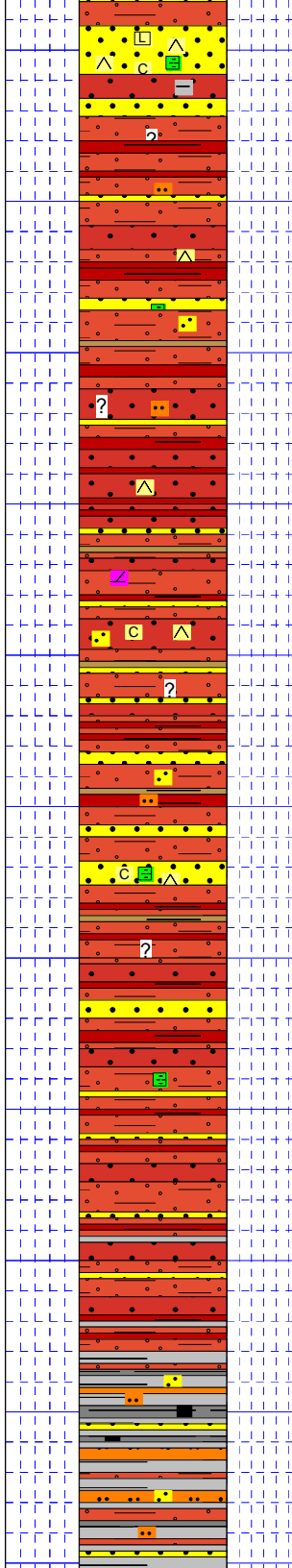
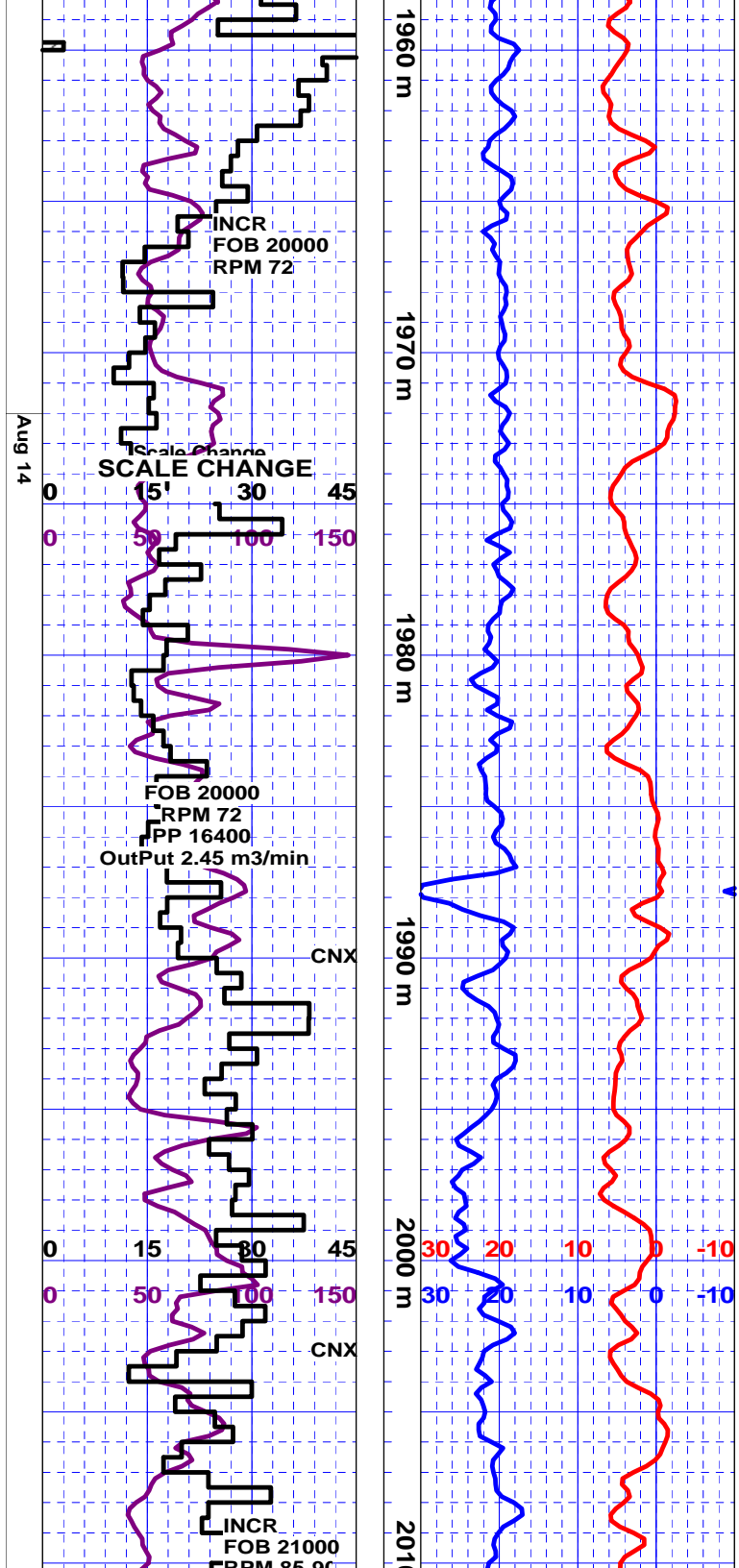
REDBEDS / SS Abnt Red - Mot red wh Cly @ shakers from 1934 spl, predly lse Qtz, l - u m, mnr l c, v sily stnd, abnt frags, f - m, mot whitish - v sily redsh, Qtz, op, wh, trns, mnr blk lithics, rr tr mica flks, mnr frags / apr red shy ? frags, mod w cmdt, low relief, sils, whitish, hd, tr v sily dolc, - higher relief, weaker cmdt / apr mnr gnsh cly inflg, mnr coarser fracd Qtz, no - tr cht frags only in dried spls, mnr ang fracd gnsh lithics in c spls @ shakers, (No c cht). POOH @ 1935 meters for Drillbit.

POOH @ 1935 m

REDBEDS / SS Predly Sdy - Slty Redbeds, abnt micas, frm, blkly - plty, abnt Redsh brn Sh, nn - micmica, sils in pt, nn crbnt, incrg redbeds / dpth, intbd or lamd / clnr off wh mot Ss, Qtz, off wh, some redsh stnd, mnr greyish, overall higher relief / mnr sils - wh - gnsh cly inflg, loc hdr v f sils Ss, nn calcs, mnr chky " gg" like frags in 1945 spl, nn calcs - fracd Qtz, slty - sdy, (from drillbit ?), - tr chty frags from abv, C cmpt @ shakers 50% softer redsh wh lmpy clays and slty - sdy sily fri Redbeds, No cht - hd lithics @ shakers.

REDBEDS / SS redsh brn - brnsh, v f - arg Slty Redbeds, predly u f - l m, prly srt mot redsh wh, Qtz, tr lithics, some loczd blk micas, sils in pt, v sily calcs - dolc, sily chky - gnsh cly inflg, abnt lse m, also loczd clnr sils, better cmdt lams, tr sily gnsh wh v cln Slst, sils - sily dolc, rr apr greyish shy frags, Predly slty - f sdy Redbeds / 10% gnsh sdy frags @ shakers, apx 10% cly @ shakers in c shaker spl.

SS / REDBEDS 50% lse Qtz, l - u m, Qtz, sbrdd - rdd, v sily stnd - clnr no stng, wh, op, abnt semi trns, rr tr lithics, abnt mot redsh wh frags v f - slty, v sily sils chky - u f - l m, Qtz rich, tr micas, rr redsh lit ar.



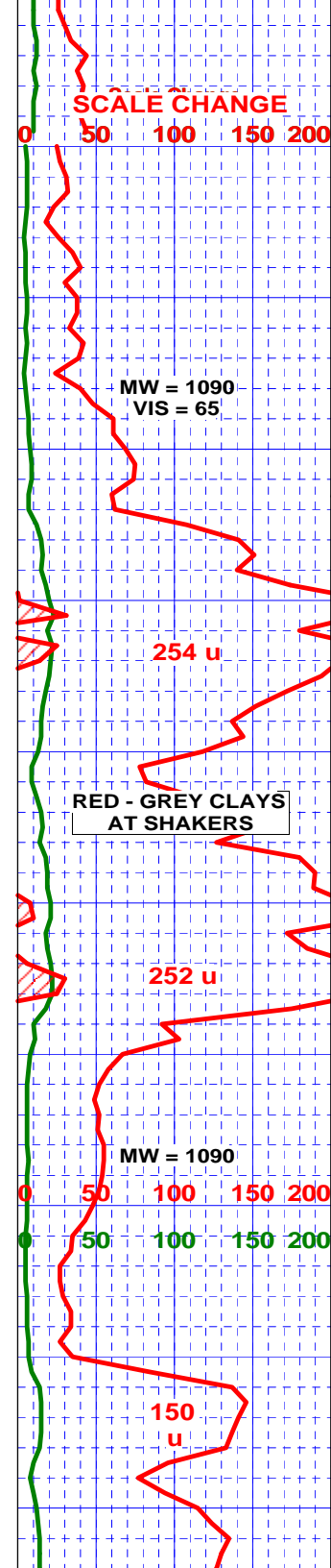
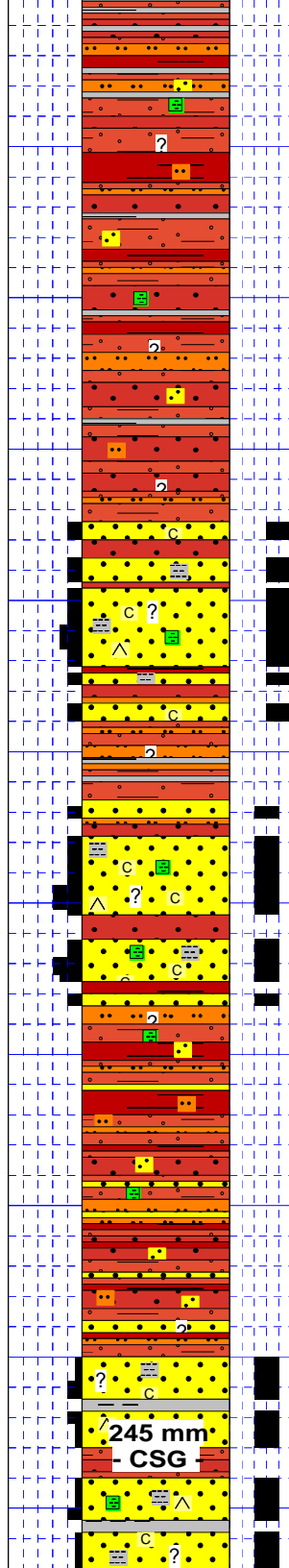
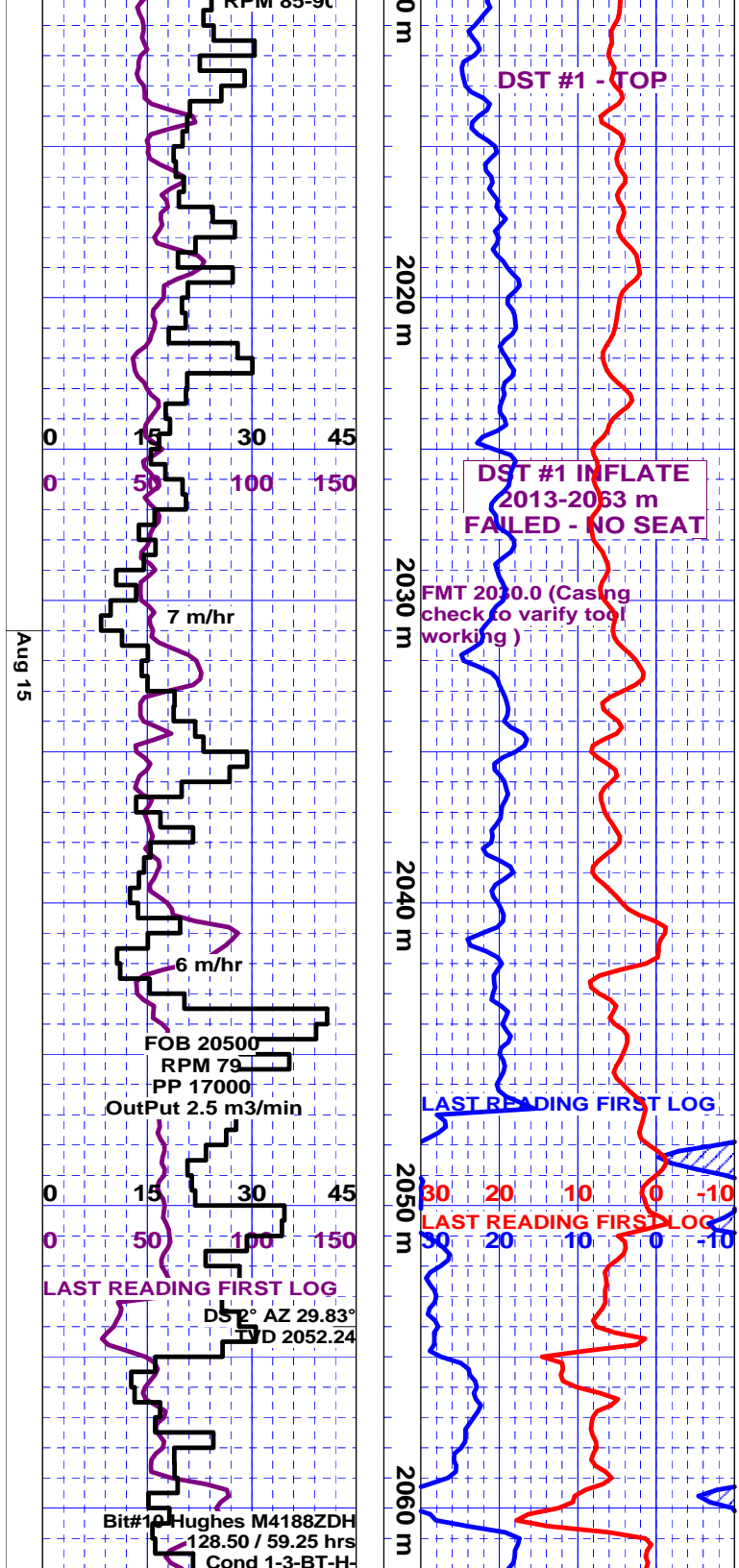
mnr loczd sily gnsh mtz, continued mnr v sily gnsh wh Sltst, sils - v sily dolc / micmica, tr clnr qtz Ss frags, sily gnsh, assuming thinner bdg thru, mnr Redbed frags, slty - micmica - v f sdy, predly redbed frags @ shakers, mnr cly only.

REDBEDS / SS 60-70% lse qtz grs, as abv, f - u m, qtz, sily stnd - clnr, off wh, trnsf, sbrdd - rdd in gen, (3% Cly @ shakers only), g competent frags redsh mot Ss, f, mnr m, qtz, stnd - mnr cln, tr red lit grs, rr dkr lithics, sils in pt - tr dolc only, softer chky - mnr gnsh gy cly inflg, mnr clnr off wh f sils tighter - sily gnsh wh - sily micmica Ss lams?, 10-15% redbed frags in spls, amor red sh - redsh brn slty - f sdy, loc sily micmica, tr c fracd wh qtz and tr chky slty - sdy wh sft "gg" in 1980 spl, ROP inchr due - inchr RPM.

SS / REDBEDS inchr lse qtz in dried spls, pred l - u m / m l c, qtz, op, wh, trnsf, clnr, abnt continued sily stnd, redsh stnd frags sbrdd - rdd, clnr qtz sily less rdd sbang - sbrdd, mnr tr coarser qtz, tr fracd, rr tr fracd c lit - chty frags, softer mtz, mnr frags / qtz are chky off wh, clnr, clays - sily sils, (destroyed by drlg), continued mot redsh brn Redbeds, f - m, frm, fri, sils in pt / tr dolc, qtz, tr red sh frags, cln qtz, mnr arg - greyish gn cly inflg, ROP constant @ apx 3 m/hr, Gas Shw 68 units from 1987 meters (chky wh Ss ?), No shows, no cut. C Rk @ shakers 90% Redbeds, 5% gnsh Ss / Sltst. 5% clays.

REDBEDS / SS redsh brn arg Shales - Sltst, sily micmica, - f - m poorer srt mot redsh wh qtz Ss, sily redsh stnd, op, semi trnsf, sily chky, fri, as abv, / intbd clnr poorer srt off wh sils Sands, qtz rich, clr - trnsf, sils - v sily dolc, mnr sily gnsh wh cly inflg, abnt l - u m, mnr l c lse qtz, sbrdd - rdd, mnr hdr semi xln Sltst, off wh - sily gnsh, sils in pt / sily dolc cmpt, rr tr greyish - gnsh frags - sh, intlam - intbd thru ?.

SHALES - SLTSTS / mnr SS Greyish Shales - Sltst @ shakers, Dried spls m gy Sh, mas, blk - plty, loc sily micmica, frm, competent, mnr slty, rr tr mic dism pyr, mnr Blk Shales / mic blk lamd Coal, / intbd - lamd Sltst, off wh, qtz, micmica in pt, blk, sily sils - dolc, v cln, loc v sily gnsh, mnr v f - f qtz - micas Ss, poorer srt but cln, continued varied lt mot redsh wh frags Ss, v f - f, poorer srt, qtz, sily stnd, rr red lit frags, sily chky, 10-15% looser m - l c lse qtz, pos sands or cvgs, Predominantly Gy frags @ shakers, / greyish - wh sft



"gumbo" Impy clay clumps. Top of Friar Cove ?.

REDBEDS / SS redsh brn slty - sdy redbeds as abv, / softer bdd Ss, mot redsh wh, f - l m, qtz, redsh stnd - op wh, semi trnsi, sils in pt / tr red arg - g silly gnsh gy cly inflg, mnr clnr silly gnsh sltsts, blkly, hdr, and clnr off wh f - m mod w cmdt qtz Ss, overall silly mdy red bagged spls, some gnsh wh - redsh cly @ shakers, abnt lse qtz thru, l - u m, mnr l c, silly redsh stnd - clnr, sbrdd - rdd, assuming softer cly mtz, uni / dpth. (mnr gy Shales only).

SS: predly lse qtz, (greyish silly mdy bagged spls, some apr greyish clays @ shakers), l - u m / m l c, qtz, v silly redsh stnd - clnr off wh, semi trnsi - trnsi, abnt f - m mot redsh frags, as abv, mnr but clnr off wh - silly gnsh Ss frags, qtz, off wh - trnsi, mnr v silly gnsh, mnr silly redsh stnd, tr pos lithics, softer mtz, slty - whitish cly?, - g silly gnsh semi wxy cly inflg, Assuming ROP brk of 7 m/hr and Gas shw of 254 units from clnr whitish cly fldd Ss. No effective Por or perm due - clays?, Pos log por up - 15%, No Shows, no cut.

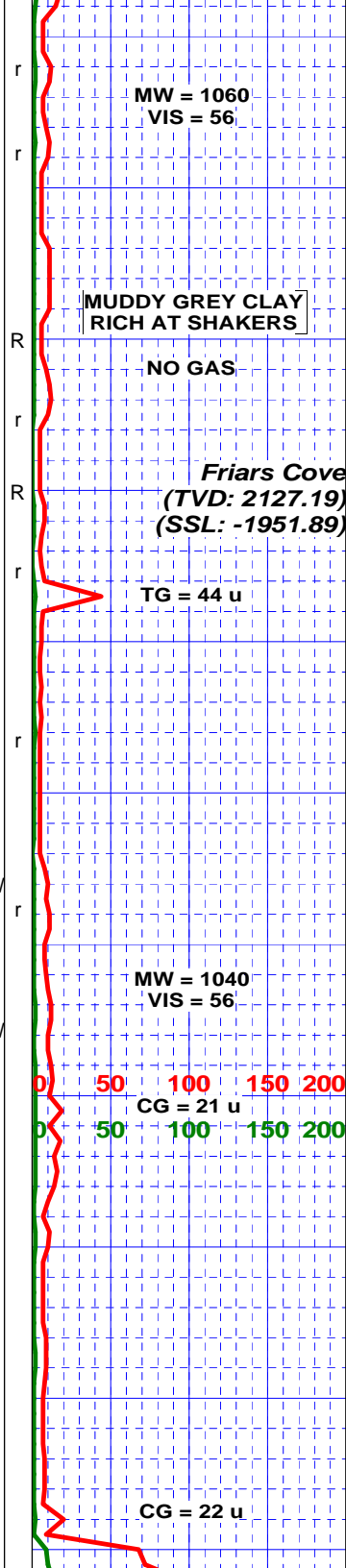
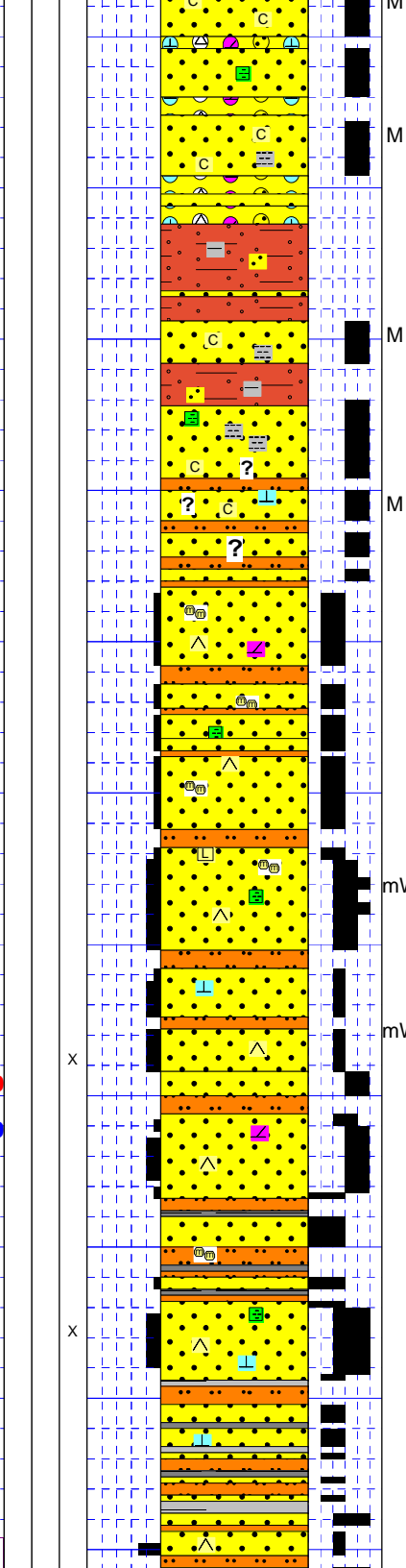
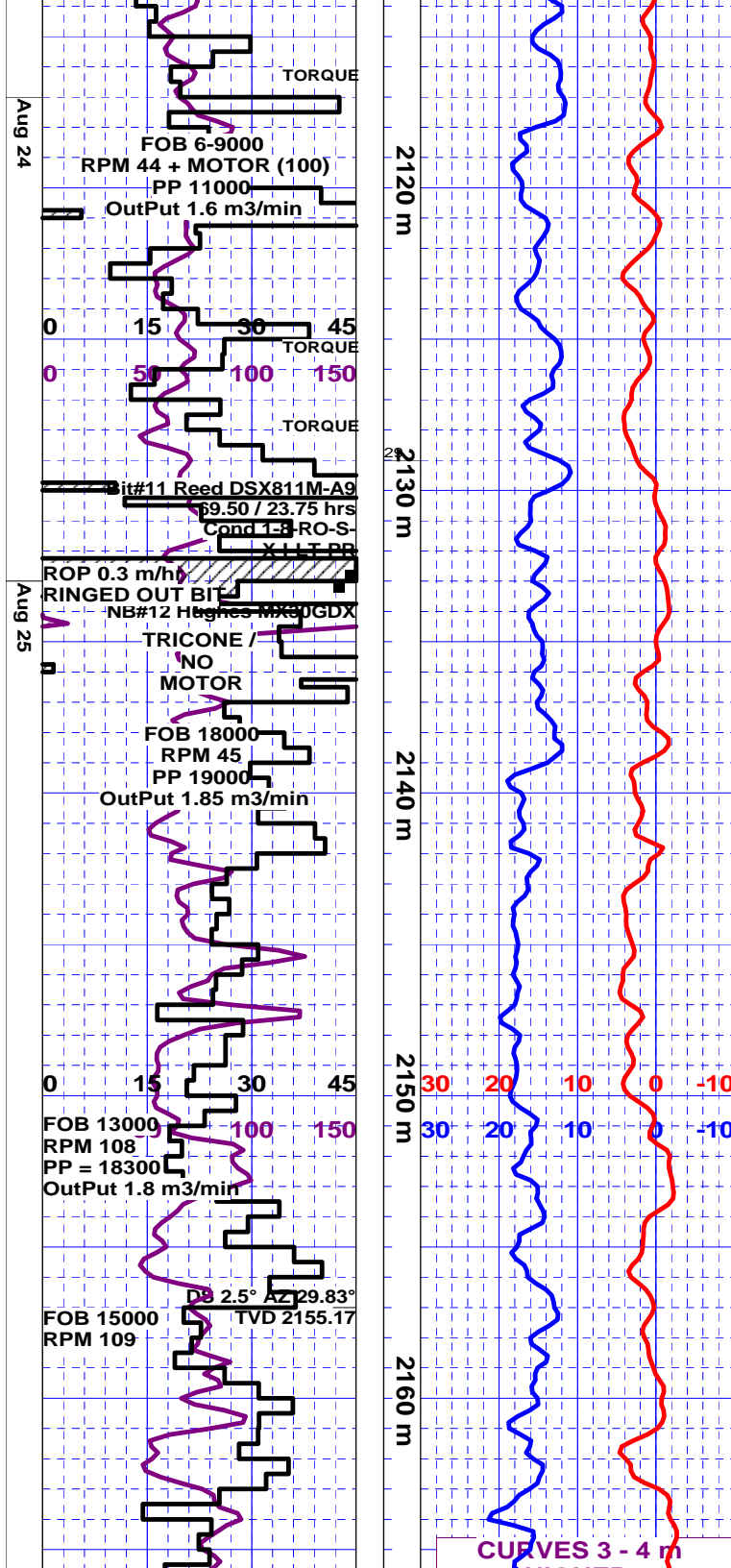
REDBEDS - SS Slower ROP, spls as abv, assuming tighter redsh cly rich sltst - Chky softer Ss.

SS: predly lse qtz, (silly mdy greyish spls), f - u m - mnr c, op, wh, trnsi, cln, abnt silly redsh stnd, as abv, overall finer than abv from 2030 meters, mnr frags are mot redsh, f in gen / mnr m, redsh stnd qtz, chky in pt, as abv / some clnr silly gnsh wh f Ss, op wh - trnsi cln - silly stnd rdd qtz, f in gen, apr lrg coaly gr in one frag, mnr frac qtz - pos lithics, pos mnr flotg pbls ?, ROP up - 6 m/hr, Gas shw 252 units. No effective por due - clays, Prob 10-15% on logs, NO shows, no cut.

REDBEDS / SS predly lse qtz, as abv, redsh stnd - op wh, trnsi, f - u m, m c, sbrdd - abnt rdd - sbang, mnr assorted frags from mot silly redsh - clnr silly gnsh, mnr hdr gnsh wh sltst, mnr silly better cmdt - sils / chky cly cmpt, Slower ROP.

REDBED S/SS as abv, predly lse qtz, f - u m, abnt l c, op, wh, trnsi, lightly redsh stnd, abnt cln, sbang - sbrdd, mnr frag, abnt rdd, mod - prly srt, abnt frags varied coloured, f - m, mod cmdt, mot redsh wh - redsh gnsh - silly gnsh, mxd, qtz, op - clr - silly stnd, mnr tr lit, mod cmdt sils in pt, loc mnr dolc, some gnsh cly inflg, mnr sltst, mnr slty - sdy - Redbeds - Sh, (incrg apr fracd Chky - qtz - pksh lithics flotg Pbls ?) mnr gnsh wh - redsh clays @ shakers.

SS: lse, f - m, qtz, op, wh, trnsi, silly redsh - orng stng, mod srt, sbrdd - abnt rdd, also sbang - mnr fracd only, mnr softer slty - f frags only, sft, fri, chky cmpt, (g redsh - gnsh wh chky lumps @ shakers for 2057 spl, / dpth continued lse / incrg frags, prly srt gnsh - silly mot redsh v f - slty - prly srt f - m, mod cmdt, apr chky - gnsh inflg, mnr hdr silly sils clnr gnsh frags, 10% hdr redbeds - silly brnsh gy slty Sh frags, silly micmica, No apr Por - cly rich due - lse rdd grs ? ROP - 4 m/hr. Gas shows of 150 unit



over 4 m/hr, assuming predly chalkier - cl rich Ss, no gas.

FORMATION HARDER THAN SAMPLES INDICATE ?

PBL SS - CGL ? slower ROP, incrdr fracd lithics, qtz - chty frags, Ss frags as abv.

REDBEDS: v red mdy bagged spl, brnsh - red brn slty - v f Sdy frags, 5% lse qtz f - m, op, wh, mnr hdr gnsh gy - softer redsh Ss frags, tr lithics - chty frags only, no gas.

REDBEDS ? pos thinner slty - sdy Redbeds as abv, continued frags gnsh cly inflg - mnr mot redsh, mnr tr lithics - chty frags only.

Chky - Cly SS ? predly lse qtz / dpth, wh, cln, trnsi, mod srt, sbrdd - rdd, mnr ang - sbang, tr frags only, as abv, mdy gy clays @ shakers, g tr sft cly - chky frags, overall sily calcs cmpt, slow ROP dropping down - 0.5 m/hr, Low motor differential, No apr lithics - qtz frags, no Cgl apr. BIT Ringed Out.

POOH @ 2133 m for BIT RINGED OUT

SS: lt gysh - sily gnsh gy v f - f, qtz, cln, op, whitish, trnsi, apr v sily gnsh, no - rr tr f blk lit, micas, mnr - abnt varied mica, blk - gnsh blk biot, wh - trnsi - redsh ? musc, mnr coarser m sands / coarser blk - wh mica, thn lams gnsh sltst, nn - sily micmica, rr cly inflg, xln, sils in pt - 2-3% dolc cmpt, 5% lse cln wh qtz cmpt, mnr sily stdn qtz, cvgs?, low relief, no vis por, No Cgl, rr tr fracd c qtz frag.

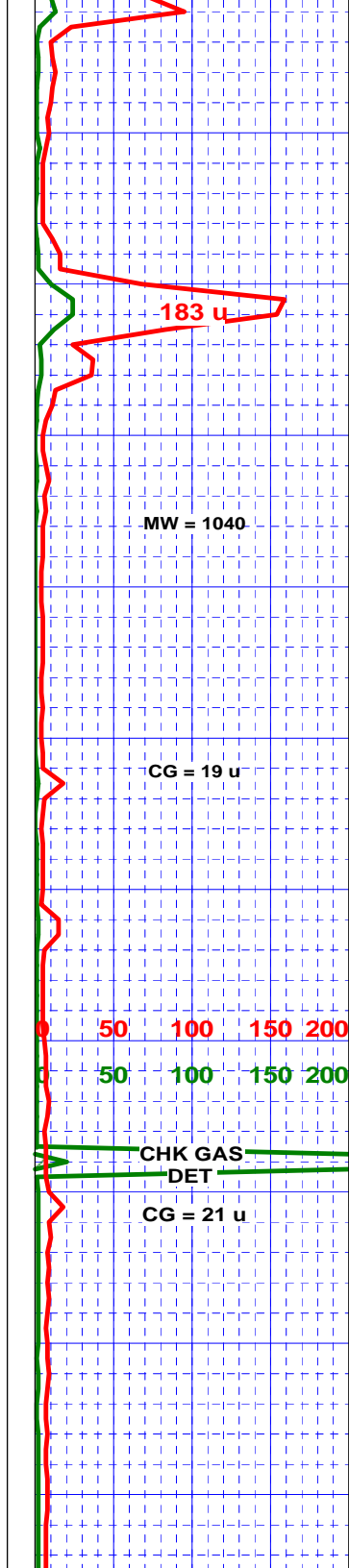
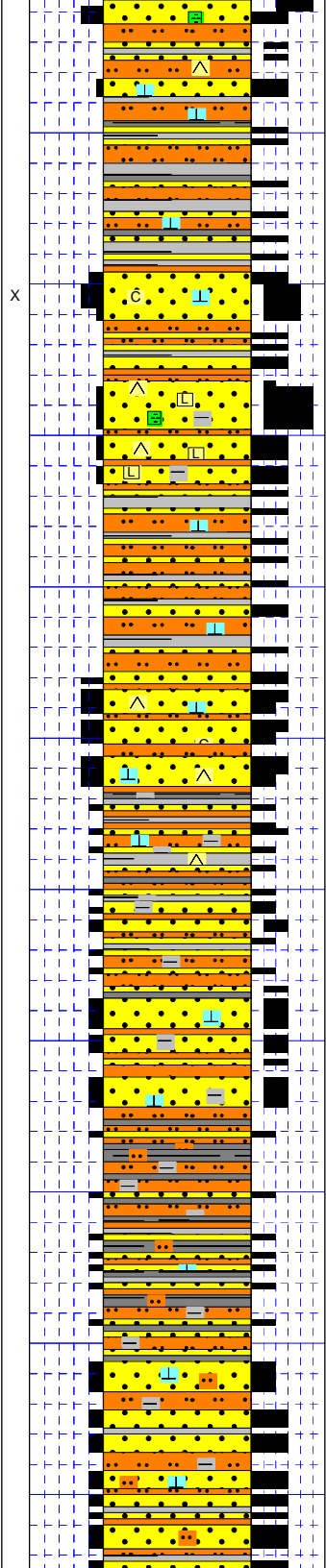
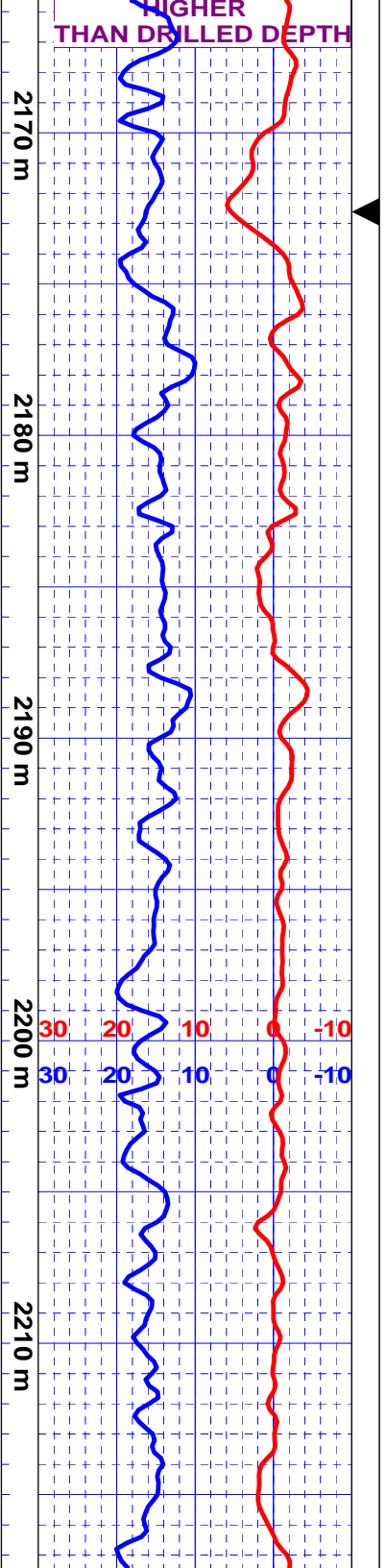
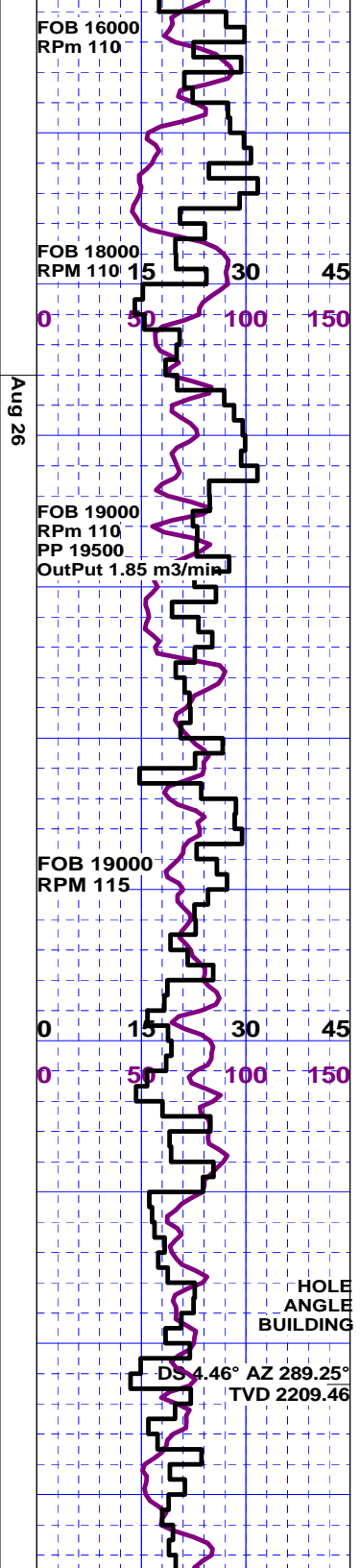
SS: cng down sequence ?, cln off wh - overall sily gnsh wh l - u m Ss, mas, blk, qtz, op, trnsi, whitish, rr tr gnsh cly lithics - redsh m lit frags, rr but loc tr wh mica, xln, sils / v sily tr calc - mnr loczd gnsh cly inflg through coarser frags, abnt lse rdd m - l c qtz, overall mod srt, sbang - sbrdd - rdd, grdg overall - v f - f cln Ss, frags, mnr lose qtz only, qtz, op, wh, trnsi, v cln, rr tr gnsh - blksh lit, mod w cmt, sils - v sily dolc, mod srt, sbang - sbrdd, ant rdd, tr gnsh cly frags, overall v lt gnsh wh - gy, (wet spls gnsh gy), rr trs p mic - m coaly pyric frags, no vis por, 2-3% ineffective, no shows, no cut.

SS: predly lse, f - m, l c, qtz, cln, wh, mnr op, trnsi, mod poorer srt., sbang - sbrdd, coarser grs rdd, intermixed within a v f qtz sily gnsh mtz and Ss, overall lt gnsh spls when wet, rr tr lithics, blk - sily org, pos mnr wh mica, softer - weaker cmt, rr tr pyric mic inflg within arg mtz surrounding qtz grs, sils - tr calcs only, mnr v sily lt gnsh cly inflg.

SLTST - SS / mnr SH overall sily gnsh wh - gnsh gy, v f - u slty, qtz, cln, frags, mod cmt, tighter - hdr than m sands, tr sils blksh gy sh lams, sily slty, blk, slower ROP.

SS: lse l - u m, l c qtz, trnsi, op, sbrdd - rdd, abnt weaker cmt m, cln, no lithics, tr sily gnsh cly inflg mtz, mnr tr calcs, faster ROP / coarser gred Ss.

Intlam SS - SLTST overall v f - l f Ss, v sily gnsh wh - gnsh lt gy wet spls, cln, qtz, rr tr lit grs, loc wh mica - micas, mnr blk biot, mod cmt, l relief, sils / overall mnr calcs cmpt, intlamd - thinly bdd / poorer srt m Sands, qtz, op, wh, trnsi, sbrdd - mnr sbang, abnt rdd, rr tr sily gnsh - org qtz?, finer slty mtz in pt, sily calcs, also v f - u sltst, grdg overall fng down / dpth - predly sltst, overall v lt sily gnsh wh, mas, blk, competent, sils / calcs cmpt, mnr micmica, pos mnr gnsh cly inflg thru, uni / dpth. Note mnr drlg brks



gas shows of apx 100 units @ 2166 meters. No apr effective por, no shows, no cut.

Intlam SLTST / SH off wh, cln, l - u slt - v f Ss, qtz, sily wh micmica, v sily calcs micxl and dkr cold - mod calcs sily chky off wh, mnr chky v calcs frags, mnr f - l lse qtz, intlamd / 15-20% Sh, lt greyish, v sily gnsh gy, competent, plty, v frm - hdr, sily crpxl tex but easily crushable, sils - v sily tr pos dolc / calcs, apr mnr micmica, tt, no gas. (wet bagged spls gnsh).

SS / SH: as abv, f - l m qtz rich off wh cons Sands, mod cln, qtz, op, wh, trnsil, sily calcs, predly v f Ss - Slstst / intbd Sh, as abv, ROP up - 4 m/hr, Gas shw 183 units, No shows, no cut.

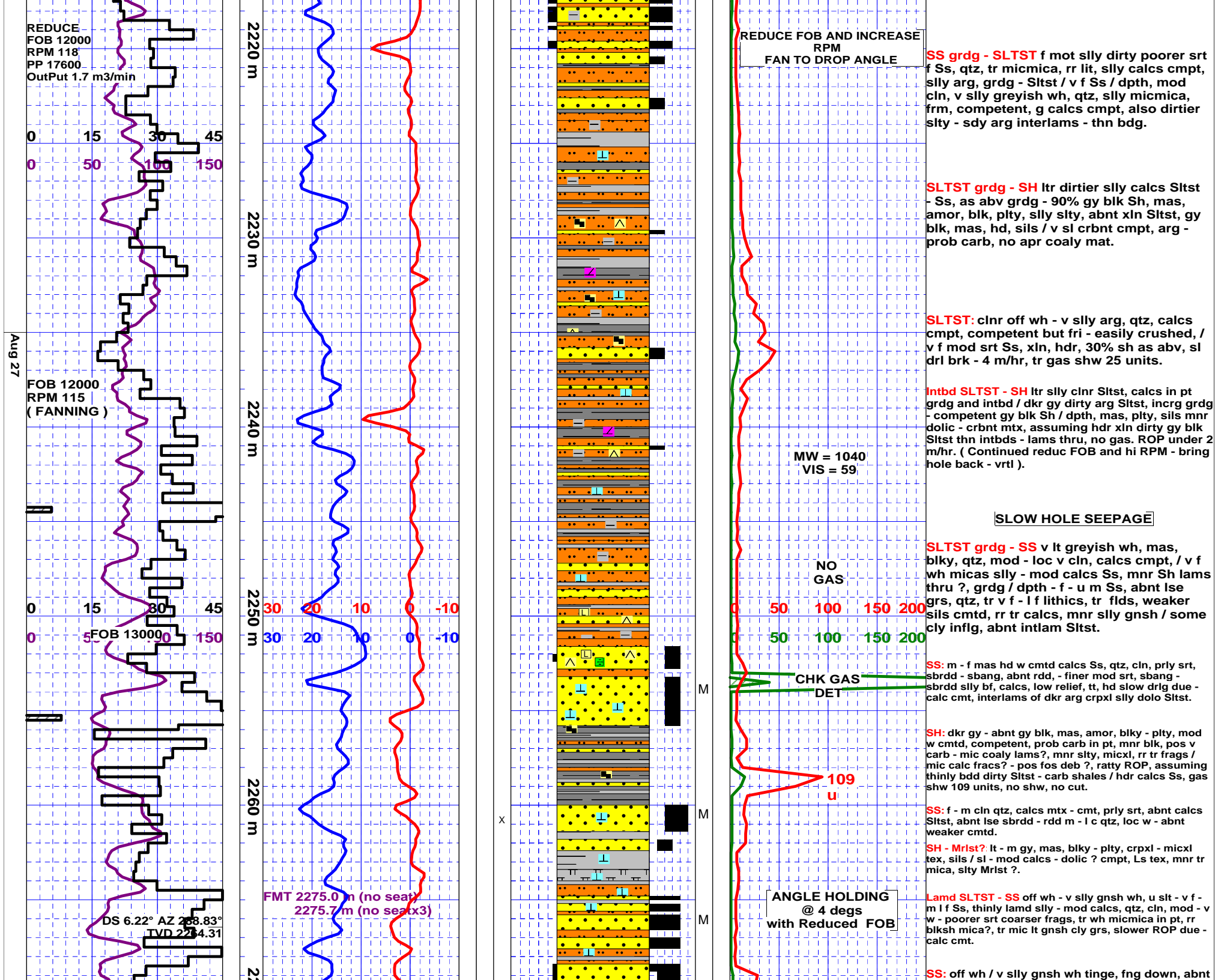
SS / SLTST and SH sa and pepper 3 meter cap of poorer srt f gr whitish sily calcs Ss, qtz rich, as abv but / abnt "foreign" transported w rdd varied bf - greyish, op, f - m qtz, assorted arg lithics, w cmttd, mnr apr sily lt bf stng but no cut, no flor, pos sl alteration, rr tr pyr, grdg below - intlam - bdd Sh - Slstst, mas plty greyish - dirty hd xln arg Slstst frag / clnr ltr greyish wh micas calcs Slstst - v f Ss, mnr chky frags.

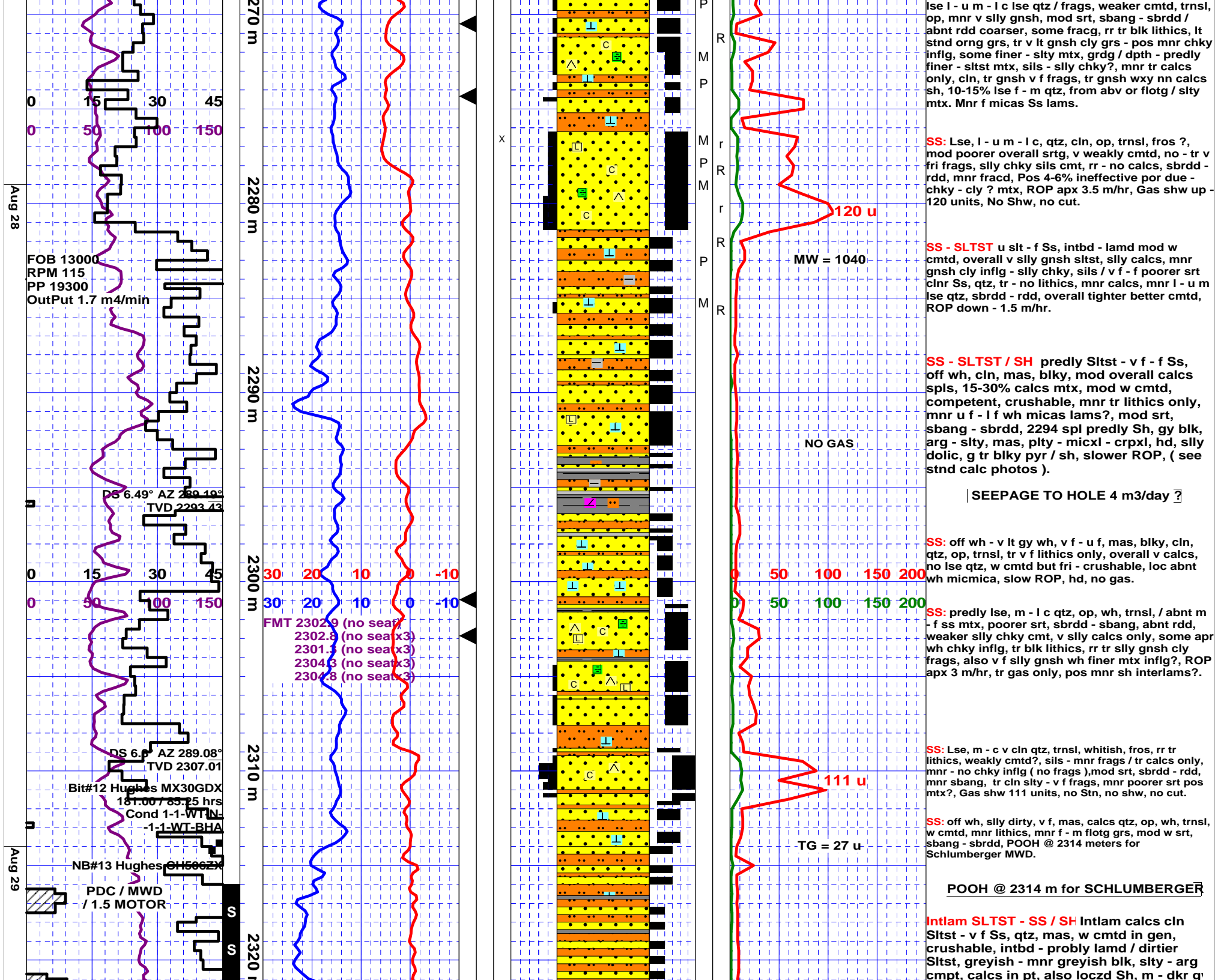
SS: lse - weakly cmttd frags, f - u m qtz, cln, rr tr lithics, frags sily sils / calcs cmpt, some sily chky tex, genly lse, mnr v f - f - Slstst frags interlams, mnr chky calcs frags, (drillbit ?), tr dism - inflg pyr around qtz grs, mod - mod p srt, sbang - sbRDD / abnt rdd, overall poorer srt softer weaker cmttd cln Ss

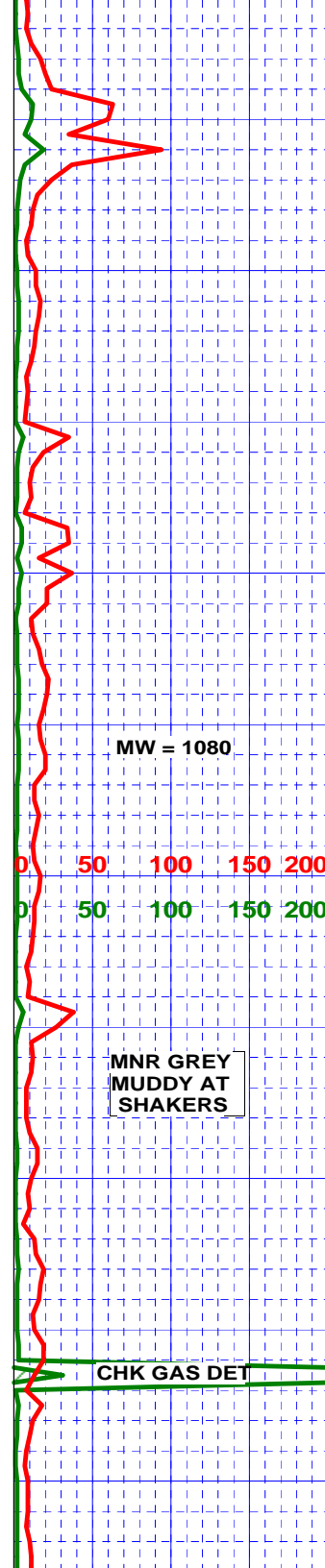
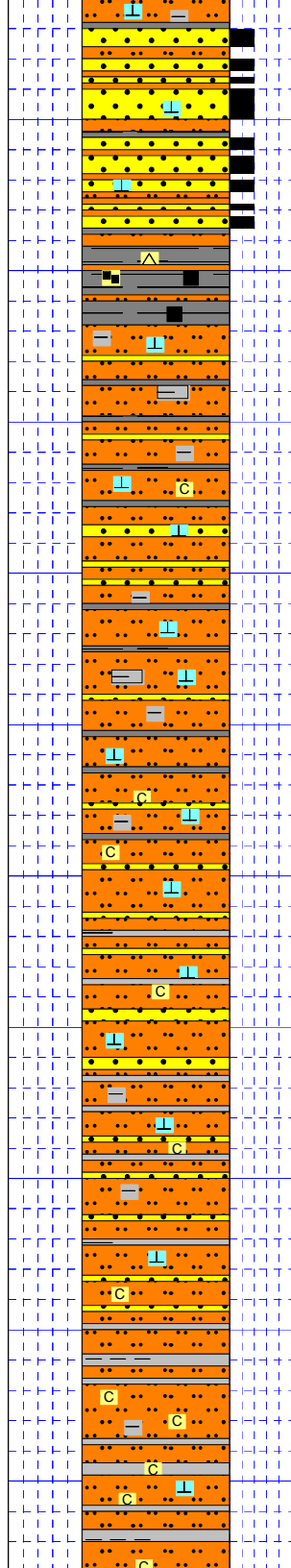
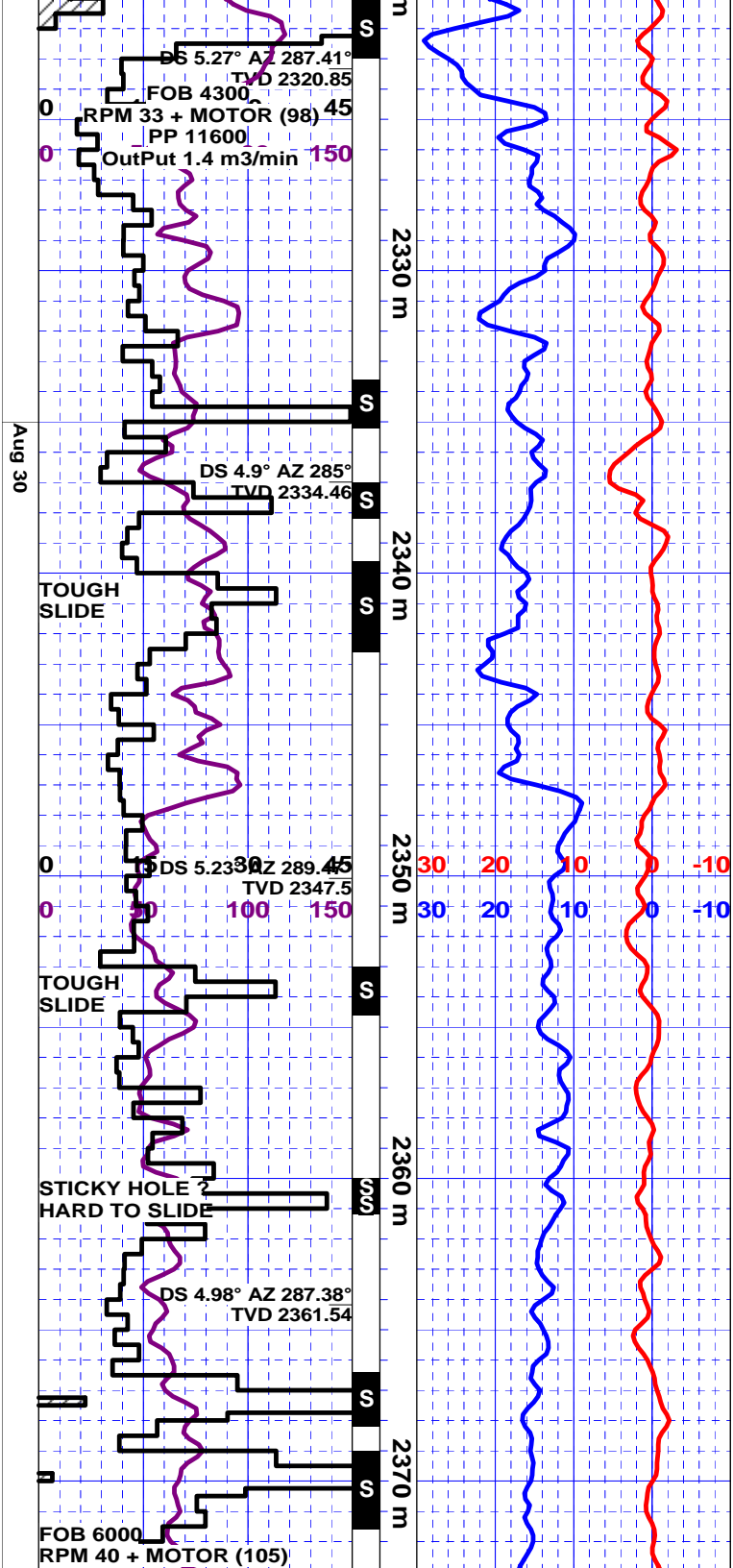
Intlam SLTST dirty greyish arg l - u slt - v f Ss, qtz rich, sily calcs only, intbd / cln calcs Slstst, blk, competent, rr chky, easily crushed, grdg / dpth - incrg clnr f - v f Ss, mnr blk lithics - tr biot, mnr wh micas thru, mod - loc v calcs, rr tr pyr, abnt clnr sily micas fri Slstst intlam ?, overall spl dkr - dirty, tr sh frags only. (overall wet bagged samps lt grnsh gy).

SLTST: 60% dkr gy blk, mas, mot in pt, l - u slt loc grdg - v f, mas, ang blk - plty blk w cmttd frags, overall xln tex, qtz, blk arg mtX, blk - wh micmica, mnr plty amor crpxl blk sh frags - thn lams, sils / mnr sily dolc cmpt, mnr frags / calcic frac inflg?, intbd / dirty but clnr lt gy mod calcs Slststs and 10% clnr v calcs softer weaker cmttd Slstst, mnr chky calcs frags, No sands.

Intbd SLTST - SS lt greyish - off wh, dirty in pt, softer chky Slstst - sily xln, hdr, v calcs, intbd and grdg - predly v f - loc f sily dirty calcs Ss, qtz, rr lithics, mnr wh - blk mica, predly f Ss / dpth, clnr, off wh / lamd blk mica, rr lithics, overall mod calcs - loc v calcs frags, uni ROP / dpth, no gas. (Overall lt gnsh gy wet bagged spls, lt gy dried spls).







mas, plty, fis, micxl - crpxl in pt, sily calcs - dolc, Mrly, thn dirty Ls Inss?, overall v uni / dpth, no lse c sands.

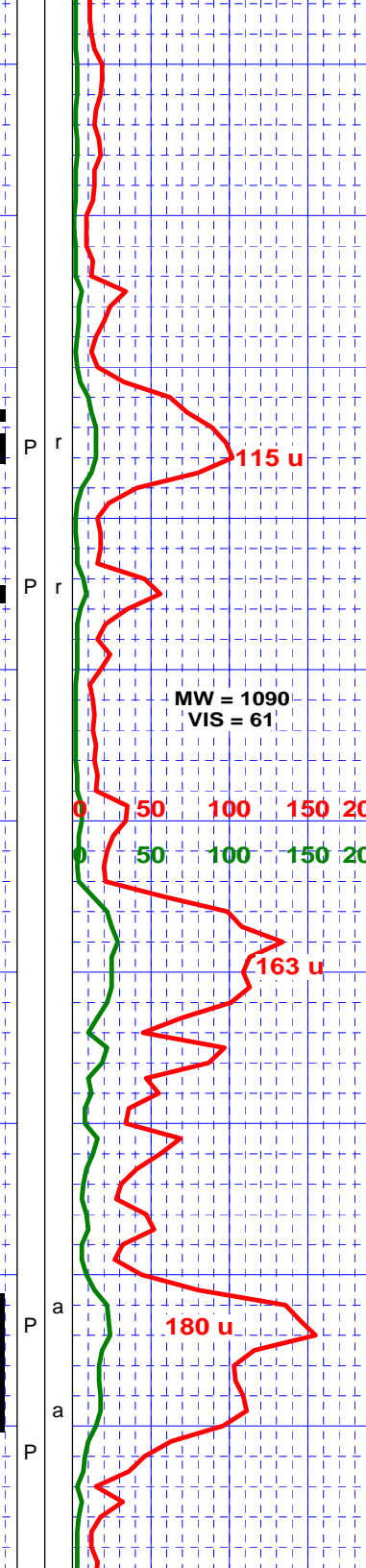
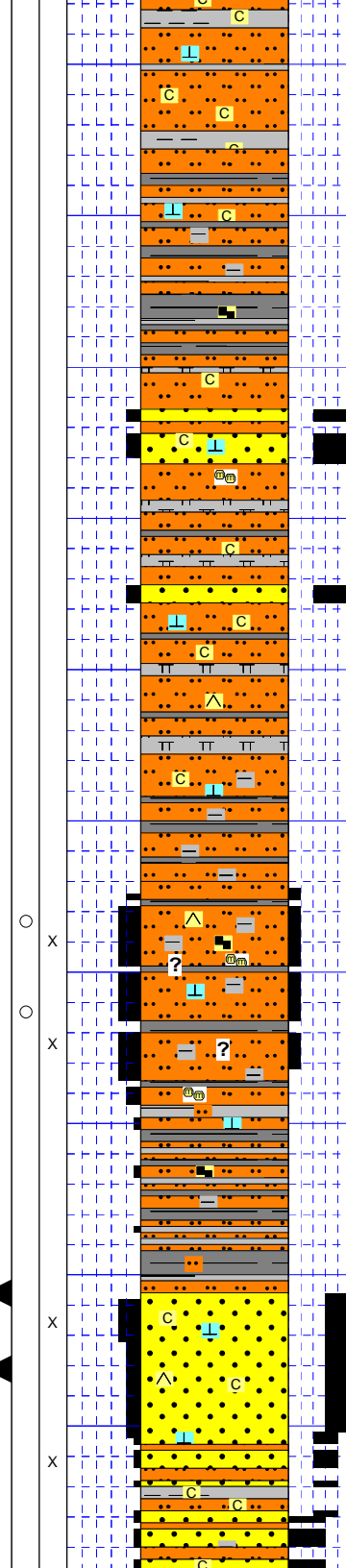
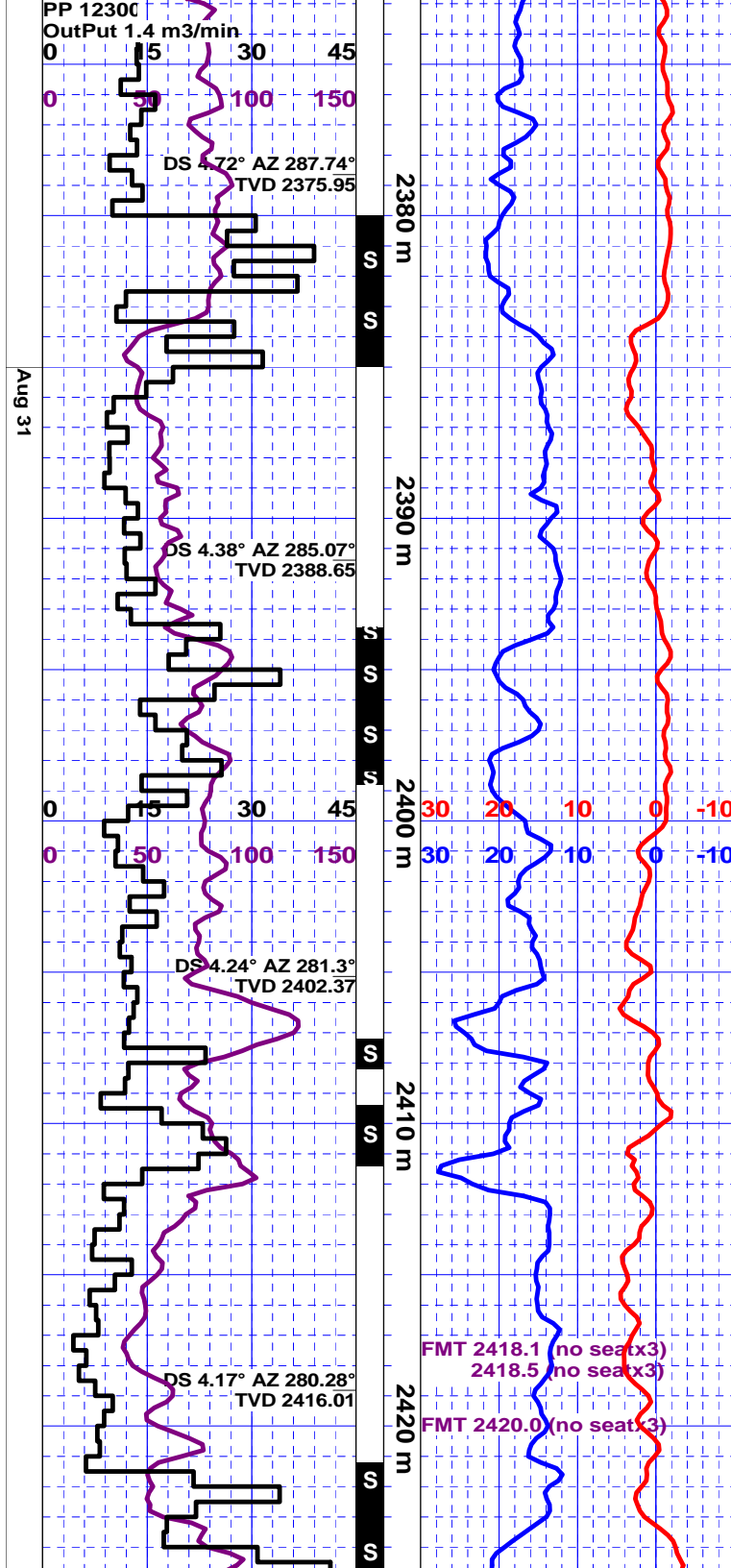
SH / mic Coal mot gy blk, frm, sft, blk, carb - loczd coaly?, slty in pt, apr mic calcic vng ?, abnt vit - shine "Shear" lamd sfcs - or pos coal ptgs - microlams sheared from drillbit, (some apr reworked softer chky calc within blk carb or coaly frags, Pos mnr flt activated due - softer bdg plane? No drl brk, no gas. no shw.

SLTST: predly off wh, mod - loc v cln, qtz, rr tr lithics, rr tr carb specs?, mas, blk, w but mod weaker cmtd from sily softer chky ? - micxl calc mtz, intbd / loczd dirty - sily arg hdr micxl Slstst, rr tr sily micas, mnr Sh interlams thru, dkr gy blk, pos carb or cvgs from abv, uni / dpth, no sands.

Intlam SLTST / mnr SH AS ABV, uni / dpth, intlam clnr off wh - v lt greyish wh uni qtz calcs Slstst and dirtier greyish - greyish blk arg Slstst, mnr apr f coaly frags / dirty Slstst, loc - 15% Sh interlams thru, blk - gy blk, mas, amor, nn - slty, sils - loc tr calcs only, some slty, v uni thru / dpth, steady even ROP, no Gas, no shows.

SLTST - SS sily mdy gray spls @ shakers / mnr redsh clays @ shakers?, dried spls overall v cln lamd Slstst - v f - f Ss, qtz, op, wh, rr greyish, overall mod w cmtd, calcs thru, xln in pt, incrg - abnt chky, spls @ shakers pos more cly rich ?, pos softer intlam shales - calcs Slstst - Ss, uni ROP, tough sliding due - sticky hole ?.

SLTST / CLYST ? overall v sft spls, chky, (gy mdy @ shakers), off wh l - u slt, mas, blk, competent but weakly cmtd, fri, 10-15% calcs cmpt only, v uni slty, xln in pt, loc ? abnt apr softer chky wh cly inflg, mnr softer v f Ss lams ?, rr shy lams?, overall sft spls, 2372 spl v sft - cly rich (dried powdery ?).



SH / bdd SLTST 20% grdg - 60% gy blk, mas, amor, blk - pty, (gen nn calcs), mntr loczd calcs cmpt only, frm, hdr but crushable, tr micmica only, intlamd / decrg Slstst, off wh - v lt dirty gy wh, sft, chky, calcs cmpt, as abv.

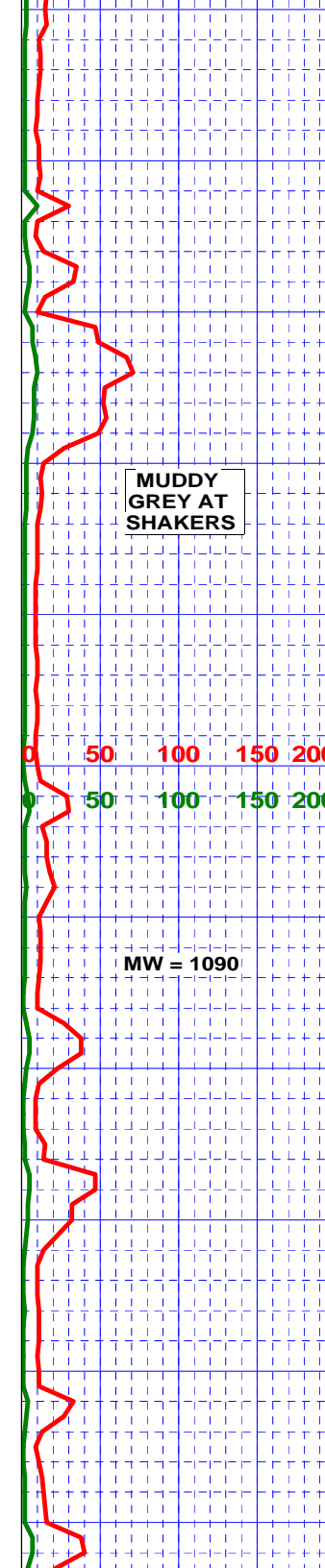
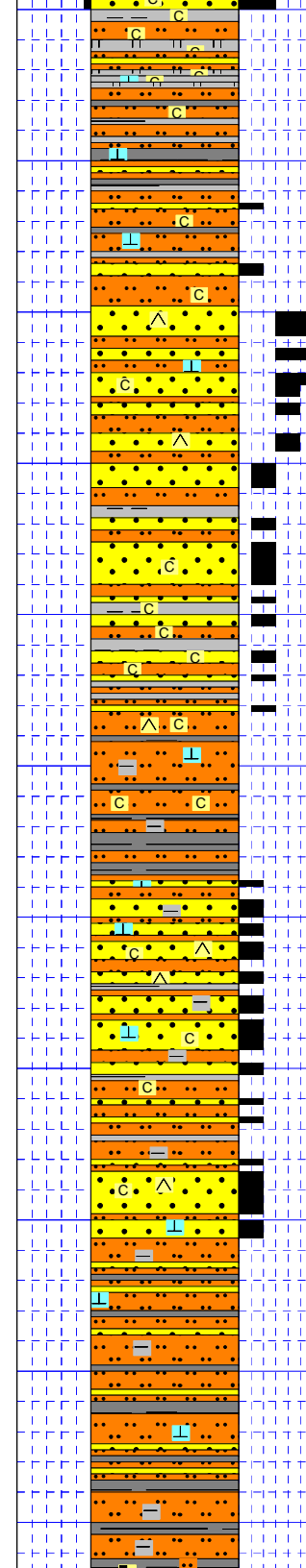
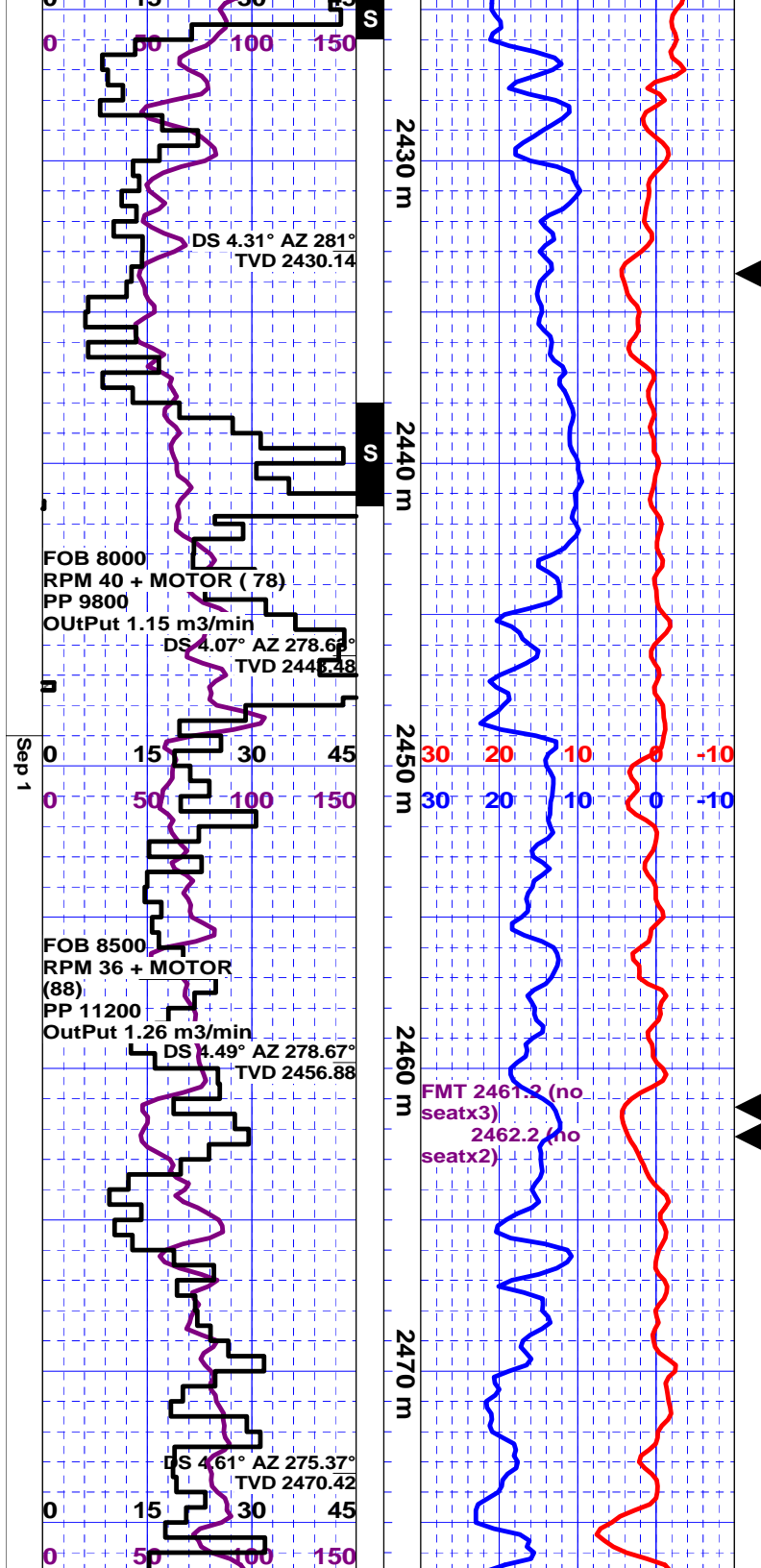
SS / SLTST 5-10% lse m - l c rdd - sbrdd qtz only, mntr poorer srt m qtz Ss, calcs in pt, v cln, qtz, op, wh, trns, mntr greyish, smaller gas shw of 115 units, overall softer chky mod calcs Slstst, / slty - v f - mntr poorer srt intlamd Ss, mntr - 5% pos dkr gy Sh lams?. No shows, no cut.

SLTST: dirty, mot lt gy Slstst, mas, blk, sly calcs, pos tr carb, arg, mntr tr micmica, overall softer, fri, intbd / up - 20% clnr off wh Slstst, mntr m - dkr gy Sh only.

SLTST grdg - SH lt - m mot gy - sly greyish tan, mas, blk, sft, weakly cmdtd, qtz, tr lithics, gy - gy blk arg mtx, pos mntr wh flds?, mod w srt, sbang - sbrdd, (Pos v wk resld cut ?), pos mntr carb ? / mic coaly frags - specs, tr wh micmica, some blk mica, , 10-15% max calcs cmpt, fairly chky in pt, some sec mic xln calc ?, overall v uni, mntr grdg - v f dirty Ss, incrg and grdg - Sh / dpth, basal 5 meters intbd dkr arg Shales and clnr / transition - cln calcs Slstst, also chky, mntr v f - f qtz. Gas shw apx 160 units, No flor, pos ? v wk cut ? . (Cut and flor from sawdust).

SS: off wh, predly lse qtz, l - u m, rr lithics, mod srt, sbang - abnt sbrdd, mntr rdd sphr c, some c fracd, mntr frags only, prly srt, slty - v f - f mtx, chky, some more xln, 10-15% calcs only, incr frags / dpth, abnt v f - slty, calcs, some chky, rr tr pyric frags, mntr Sh, as abv, ROP up - 10 m/hr / gas shw of 180 units @ 2417 meters. no shows, no cut.

Chky SLTST / SS ? v sft, chky powdery dried



spl, off wh, calcs in pt, lse l - u f qtz, trns whitish, op, abnt v sft chky sltst, off wh, v calcs, mnr sh only.

Intlam SLTST overall dirty lt gy spls, softer arg l - u Sltst, loc wh micmica, intlam - thinly bdd / clnr calcs Sltst, off wh - silly mot greyish wh, micmica in pt, 10-15% calcs cmpt, qtz, rr tr lit, abnt chky - semi xln, off wh v f Ss - v silly greyish mod cmt d f Ss frags, grdg clnr / dpth, apr mic coaly lams ? within clnr v f Ss / dpth. 10-15% sils - v silly dolc Sh, decrg / dpth.

SS: predly lse, qtz, op, wh, mnr greyish, semi trns l - u m - c, mod srt, sbang - sbrdd / rdd, abnt fracd thru, mnr slty frags, grdg - u f - l c / dpth, fng down ?, inrcd v f - tr f - slty calcs frags / dpth, ROP up - 10 m/hr, mnr gas shw only apx 45 units., no Shw, no cut.

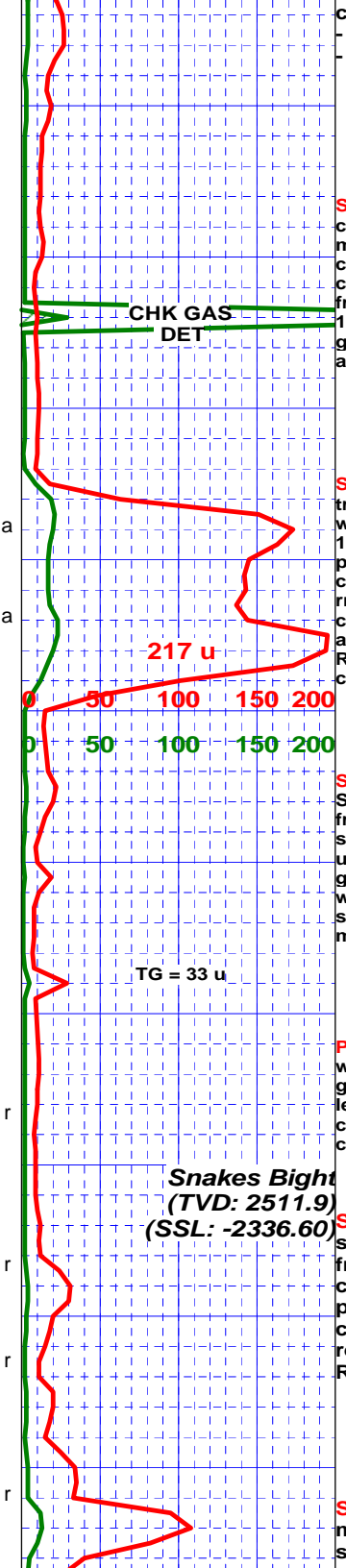
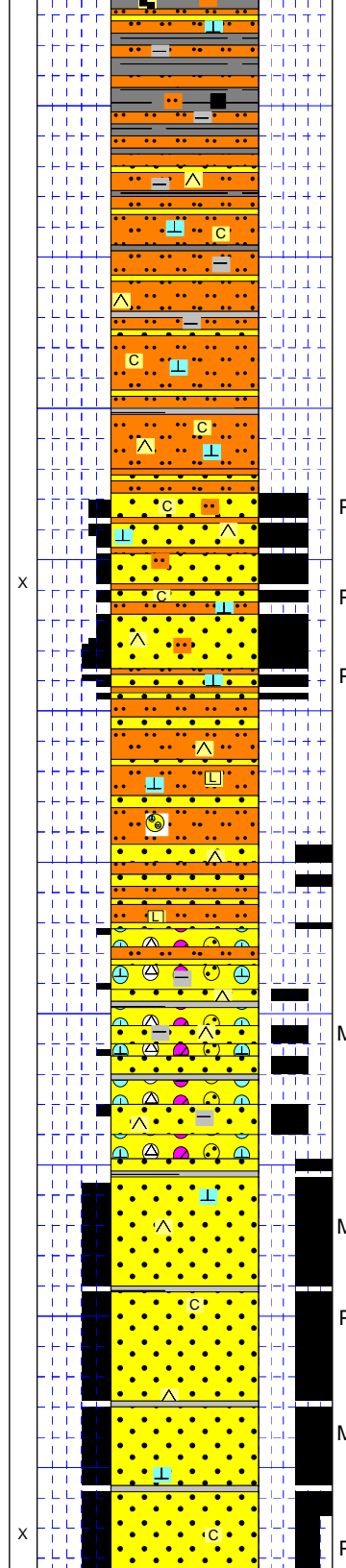
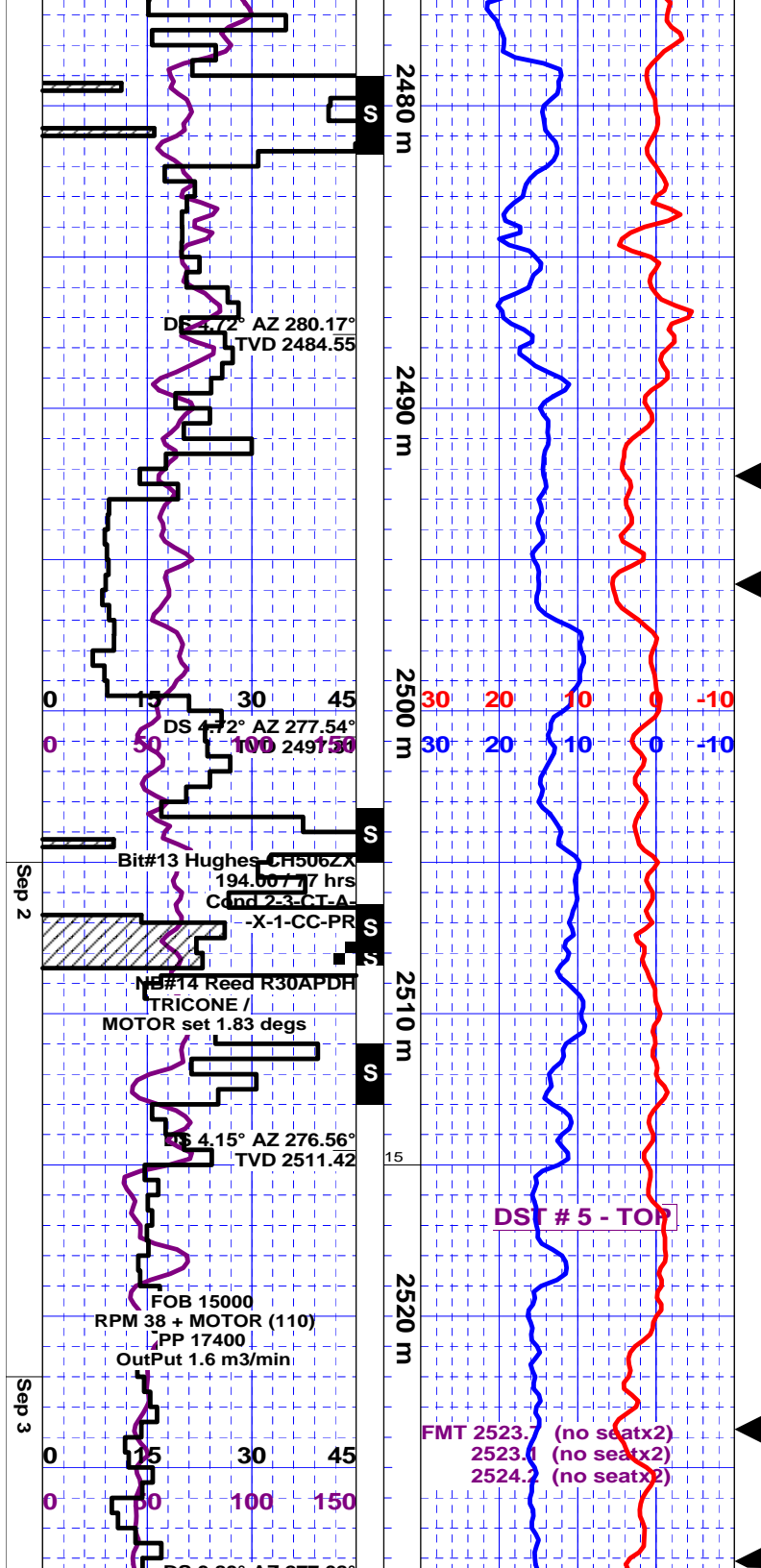
SS - SLTST off wh, chky, f - v f, mas, blk, 10-20% calcs cmpt, qtz, abnt lse m, grdg - v f Ss - u Sltst, mot off wh, chky, sft, mod srt, qtz, wh - greyish, rr tr lit, rr xln, competent but fri, calcs cmpt, Mdy gy Cly ? @ shakers, dried spls clnr off wh, chky in pt, assuming softer cly rich - chky intv, ROP down - 2 m/hr, Assuming Drillbit balling up ?, some pecan shells in spls.

SLTST - SH mot off wh - dirty lt gy, intlam clnr - silly dirty calcs Sltst, rr tr Sh, grdg - m - dkr gy SH basal bdg / dpth, mas, amor, mnr slty, sils in pt, tr - mnr calcs, mnr gy blk, some silly carb?, tr mic calc filg ?

SLTST - SS intlam off wh clnr v f Ss - Sltst, 10-15% calcs, qtz, mas, mod w cmt d, ltr greyish Sltst - Ss, v silly - nn calcs, sils in pt, Mdy @ shakers - greyish mdy bagged spls, Extra clays washed out by drlg ?, rr sh frags, uni / dpth.

SLTST - SS gen off wh, clnr, mas, blk, frags, qtz, op greyish, wh, some trns l, mod srt, m - u slt - v f Ss, 10% calcs cmpt, silly chky ?, mnr sils, overall weaker cmt d ?, mnr lamd ltr silly dirty gy Sltst, rr Sh, uni / dpth.

SH / SLTST silly dirty Sltst grdg - dkr gy arg Sltst grdg - Sh / dpth, m gy, mas, amor, pty - blk, mnr pos mic coaly lams in 2480 spl, mnr v f slty arg frags, sils in pt, overall sils, rr silly calcs, mnr u shales micxl



crpxl, hd, sils - tr dolc?, mnr intland ltr gy
- off wh silly calcs Sltsts, Predly dkr arg Sh
- Sltst / dpth.

SLTST: dirty arg Sltst / mnr Sh grdg / dpth into
clnr Sltst, off wh, m - u slt - mnr v f micas Ss,
mod w srt, qtz, op, wh, rr tr lit, 10% calcs cmpt,
competent, mod hd, fri, easily crushable, predly
clnr Sltst / dpth, overall calcs spls, mnr chky
frags, 10-15% calcs cmpt - Sltts, mnr lithics, 10-
15% lamd v f Ss - u Sltst, silly dirty, pos tr carb
grs, tr sh - dirty sltst lams only, uni, steady ROP
apx 3 m/hr, no gas.

SS / SLTST lse l - u m qtz, cln, wh, op, semi
trnsi, silly fros ?. abnt Sltst - v f - mnr f Ss, off
wh, v cln, qtz, rr tr lithics, blkly but weakly cmtd,
10% calcs cmpt, xln but loc silly chky, mnr
poorer srt frags m Ss, cln, sbang - sbrdd, weakly
cmtd, mnr vis flotg rdd m qtz within Sltst frags,
rr c - v c qtz grs, Pos mnr Ss / predly weakly
cmtd cln Sltst / flotg m - rr c qtz thru ?,
assuming 2-3% effective por? only due - cmtd,
ROP 8 m/hr, GAS shw 217 units, No shows, no
cut.

SLTST - PBL SS off wh m - u slt - v f calcs cln
Sltst - Ss, qtz, 10-15% calcs mtz?, frm - hdr but
fri, crushable, rr tr flotg m qtz within mtz, tr qtz
shards incrg / dpth - 10%+ c fracd qtz, shards,
up - 3 mm in length, wh, crm, silly gysh, rr silly
gnsh, pos mnr Cht frags, pos flds lithics, mnr m
w cmtd silly calcs tt Ss, abnt lse m qtz, / pbls -
some cbls ?. ROP under 1 m/hr, POOH @ 2508
meters due - ROP.

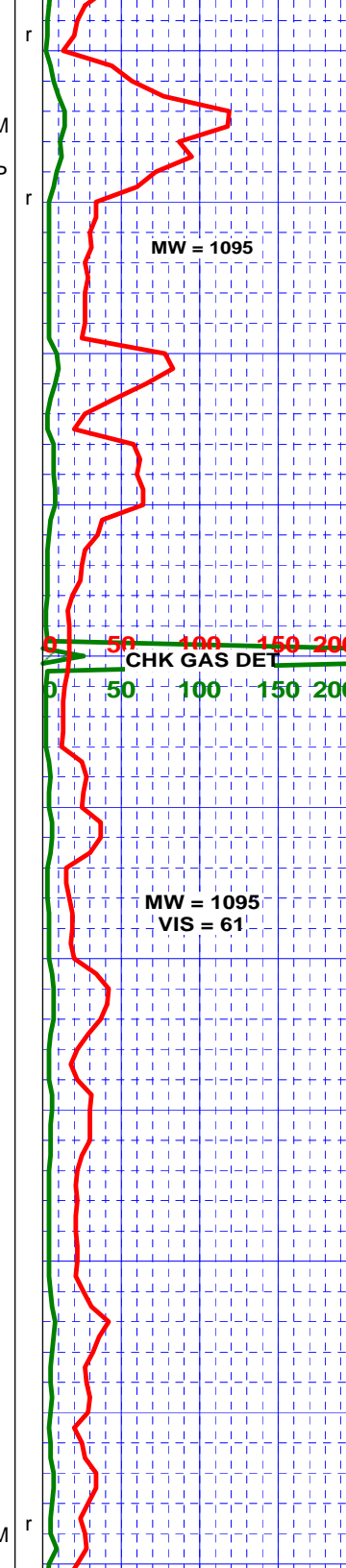
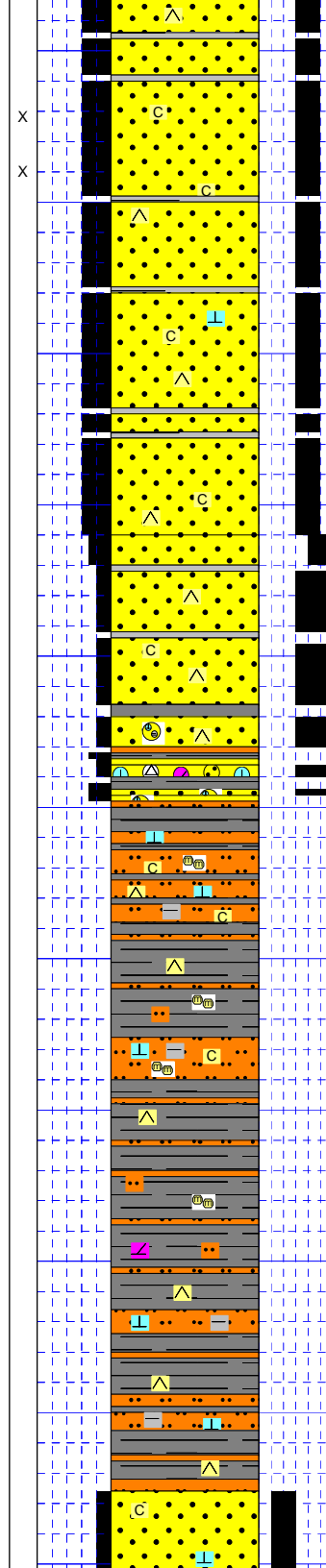
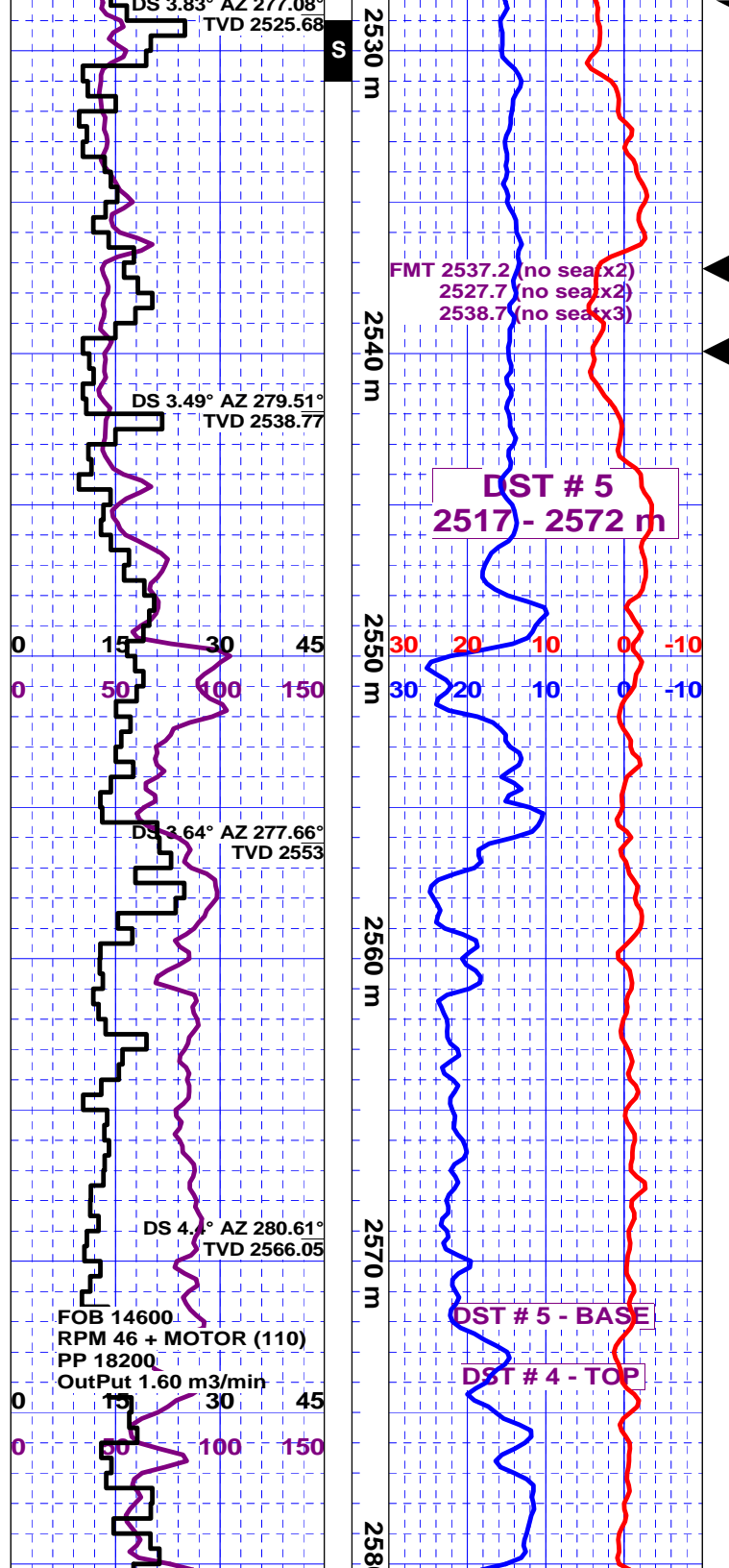
POOH @ 2508 m

PBL CGL / SS varied coloured qtz, gnsh, crm,
wh, greyish, some varied lithics, redsh - blksh
gy, pos tr jas, ang fracd frags apx 3 mm in
length, no lse qtz, varied hdr v f - u f, mnr m w
cmtd sils gysh qtz Ss, mnr calc, some chky
calcs frags, overall w cmtd thru.

Snakes Bight
(TVD: 2511.9)
(SSL: -2336.60)

SS: 90% + lse qtz, m - c, mod - mod poorer
srt, off wh, op, rr trnsi, mnr softer chky
frags, mnr frags overall, v f - c poorer srt w
cmtd qtz Ss / mnr blk arg lithics, tr dism
pyr, overall tr calcs cmpt only, 1-2%
coarser fracd grs, assuming flotg pbls,
redsh - wh qtz, overall uni / dpth, steady
ROP @ apx 4 m/hr, tr gas only / dpth.

SS: 95% lse, qtz, wh, op, no cmtd, m - l c -
mnr coarser rdd - fracd, overall possibly
silly finer overall - predly m, mod srt, sbrdd



- rdd - abnt sbang, incrd overall apr chk cmpt in dried spls, chky frags silly calcs only, assuming sils cly inflg ?, mnr gas shows - apx 130 units, probly chky cly richer than tighter sils cmdt u Ss, abnt Pecan Shells in intvs from sliding, No Shows, no cut.

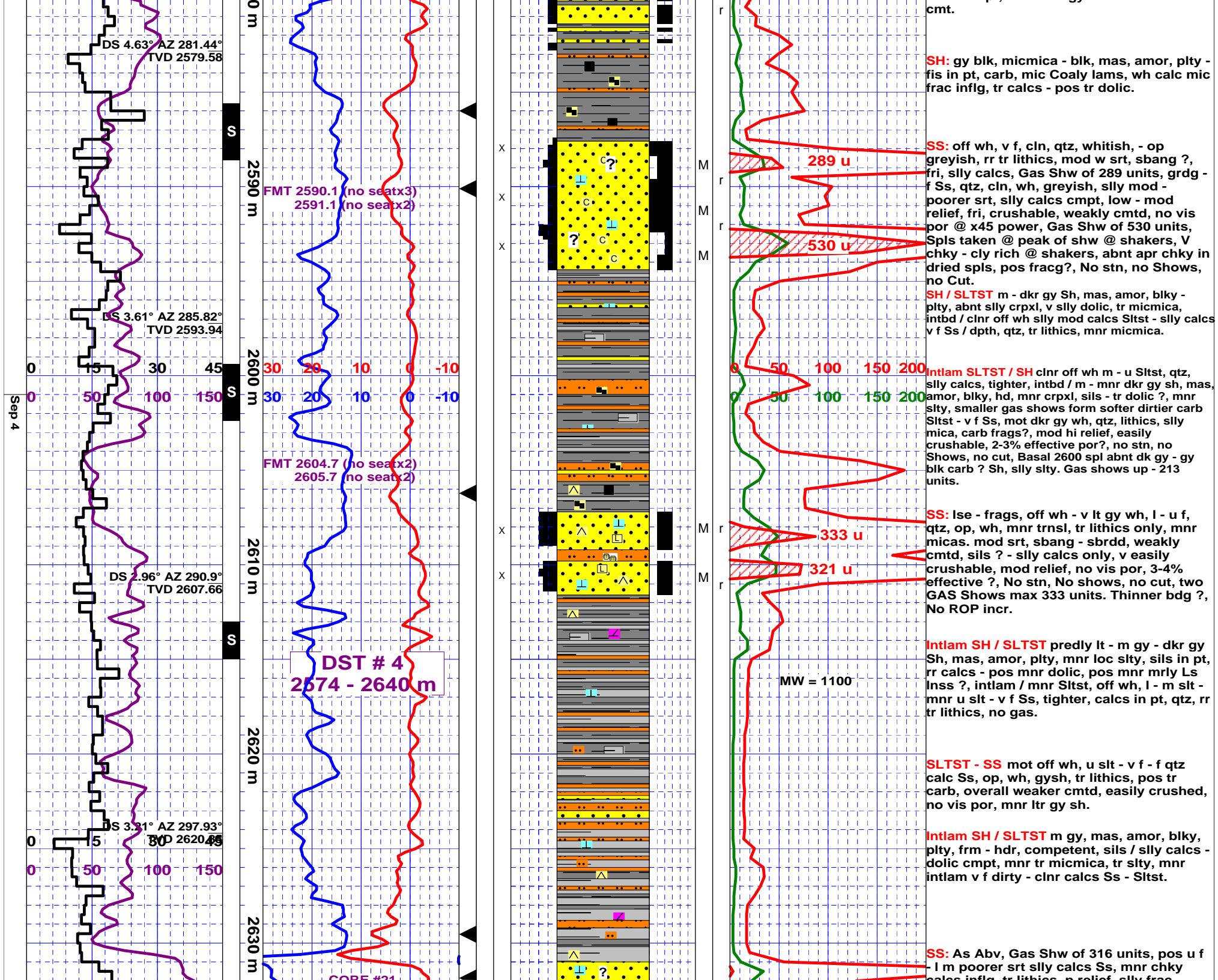
SS: 85% lse, qtz, wh, op, no cmt, m - l c, mod srt, sbrdd - sbang, abnt coarser rdd, as abv, incrg but mnr frags, v f - f sils - silly calcs poorer srt Ss / coarser flotg Qtz, continued weaker cmdt overall, vis chky inflg thru frags, Continued smaller gas shows under 100 units from sands, No shows, no cut.

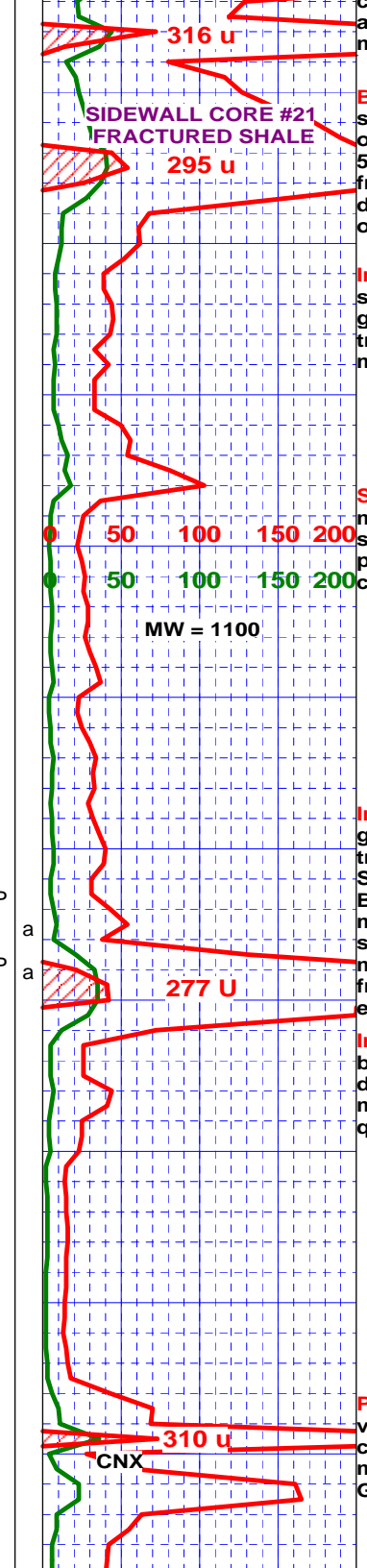
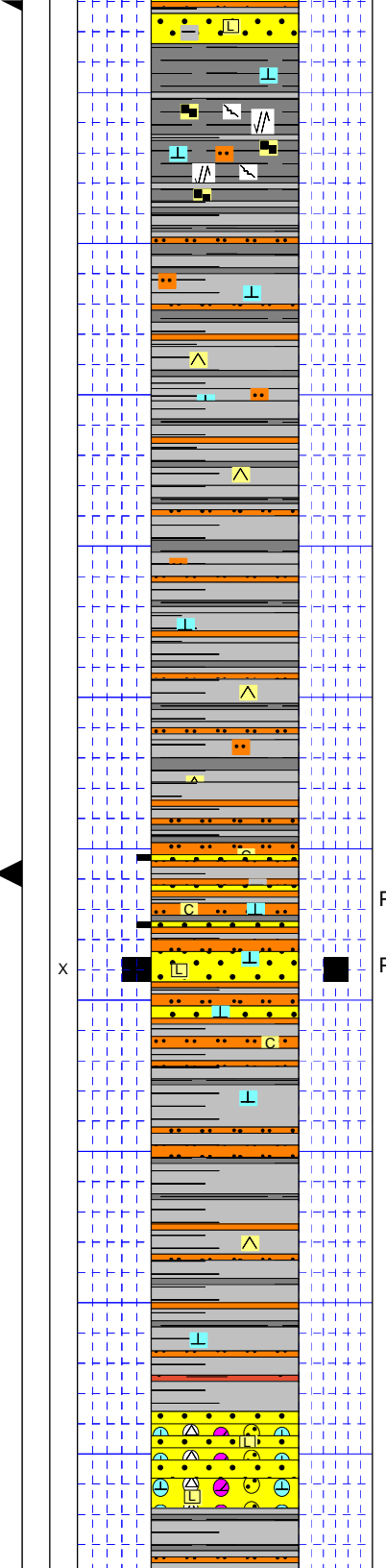
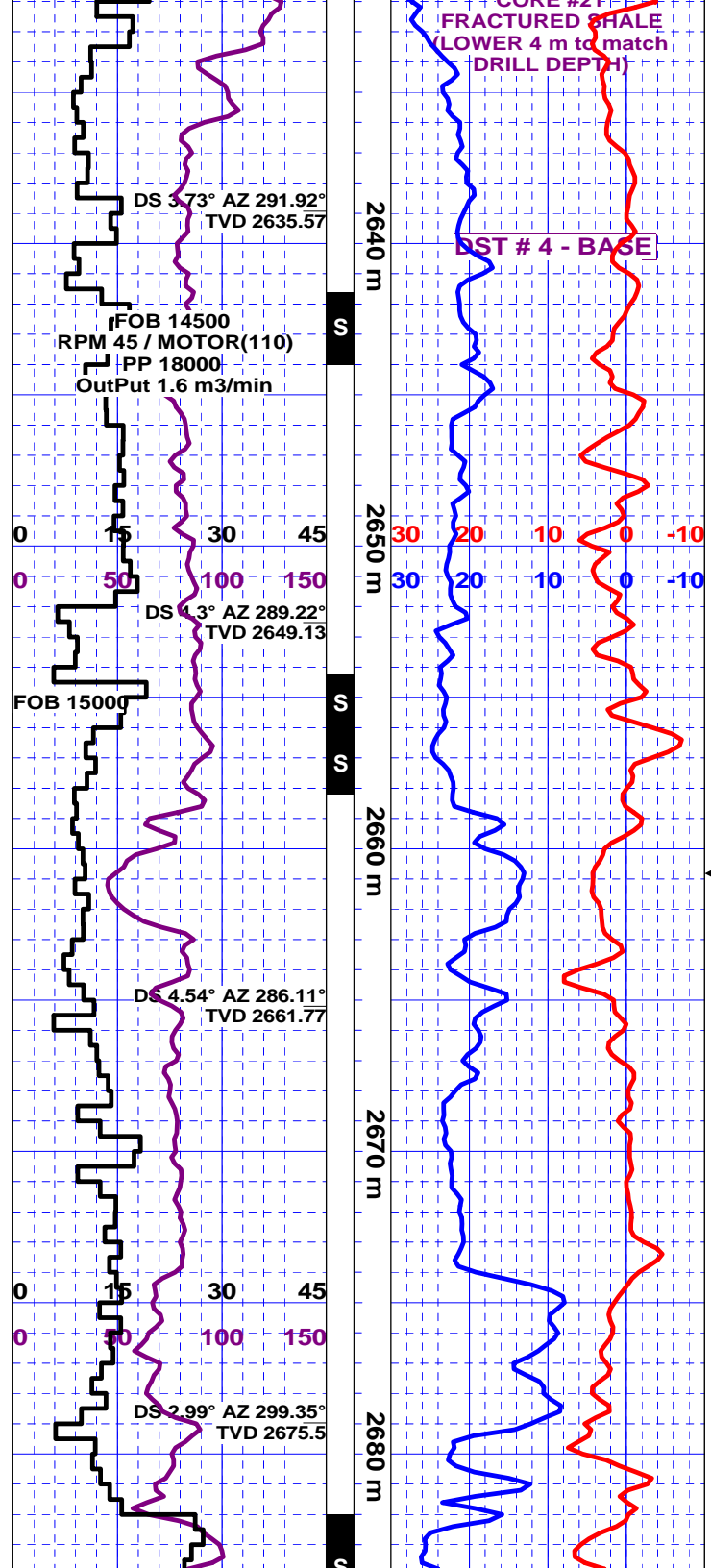
SS grdg - CGL ? lse cln m - c qtz, wh, op, semi trns, as abv, abnt chky frags, mnr semi xln qtz - lit v prly srt frags, silly calcs only, grdg - a pos thn bdd basal Pbl Cgl - Pbl Ss, f - m prly srt silly sils - rr calcs cmt, qtz, op, wh, gysh, blk lithics, abnt fracd qtz, wh, lt gysh, tr gnsh, op gy?, mnr trns, qtz, tr blk lithics, sils overall, apx 10% gy blk Sh frags, lams?, grdg - Sh / dpth.

SS grdg - SH apx 60% SH grdg - 90% / dpth, dk gy - gy blk, mas, blk - plty, hd, blk micmica in pt, carb ? cmpt, lse m - c qtz / mnr fracd pbls?, grdg - v f - f mot calcs lit qtz Ss, silly chky, calcs, grdg - predly Sh / dpth, overall sils / mnr tr calcs - pos dolc cmpt, tr calcic frac inflg.

Intlam SH / SLTST predly gy blk, blksh, mas, amor, blk - plty, xln in pt, abnt micmica - slty micas, prob carb cmpt, sils in pt / apr mnr dolc cmpt, overall v competent, hdr, mnr dirty gy blk u slt - v f Ss, rr off wh calcs Slst / dpth only, v uni spls, even ROP apx 5 m/hr, tr gas only.

SS: mot off wh - dirty wh, l - u f, qtz, blk lithics, brn micas, mod srt, sbang - sbrdd / abnt rdd l m - u f qtz - blk lit frags, mod cln, abnt semi xln but fri - weaker cmt, mod easily crushable, pos some chky, 10-15% calcs cmpt, overall lt qvsh col / fr calc





carls mng, tr lithics, p relier, sily trac
appnc due - calc inflg ?, tr intstl arg - pos
mic carb mat, predly Sh / mnr Slstst in spl.

BLK SH: blk - m gray, mas, blkly - plty, loc
sily micmica, competent, frm - sily hdr
only, easily crushed, abnt apr carb ?, mnr -
5% dk blk pos sily coaly only, mnr trs calc
frac inflg, overall sily calcs (frags brk
down in acid), tr ltr gy sh lams, Gas Shw
of 295 units, no sands.

Intlam SH mot lt - m gy - mnr dkr gy, mas,
softer sily chky lt gy - firmer hdr m - dkr
gy, overall sily calcs thru, mnr loczd slty,
tr blkly pyr, 10-15% ltr greyish - off wh sily
micmica calcs Slstst, uni / dpth.

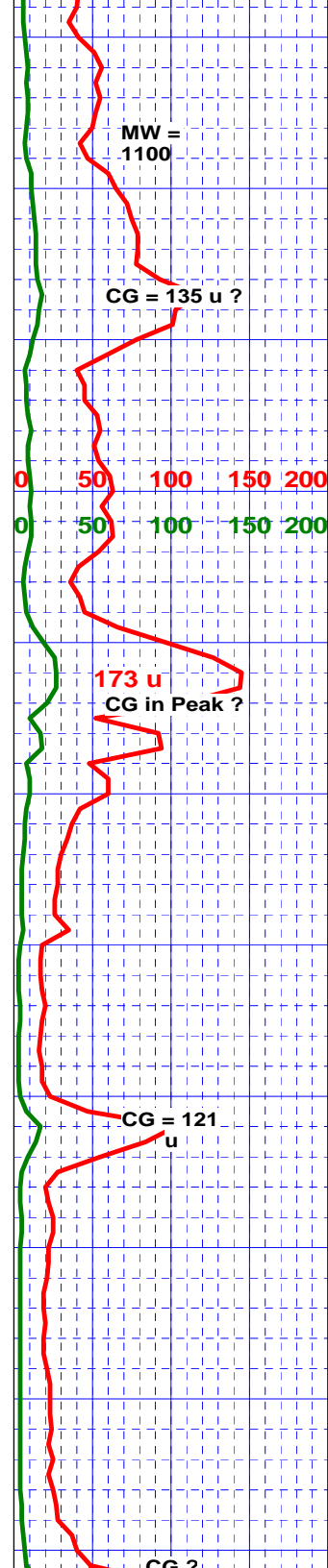
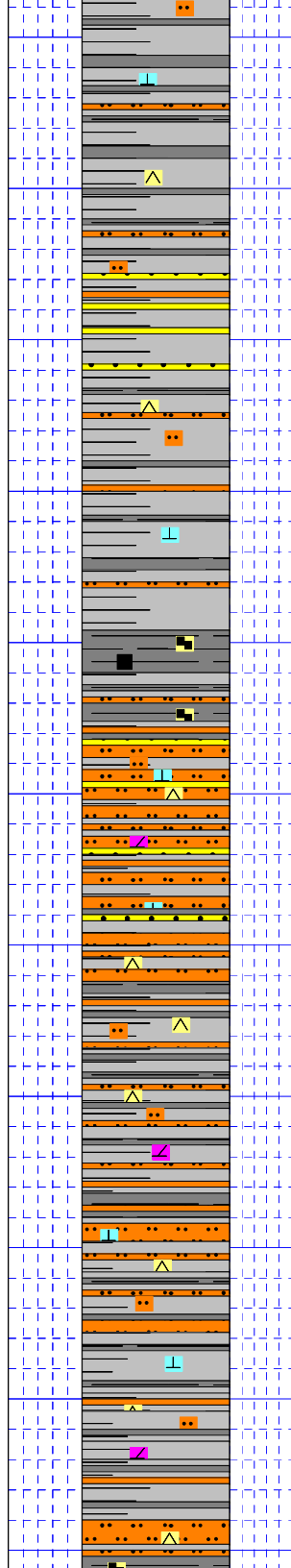
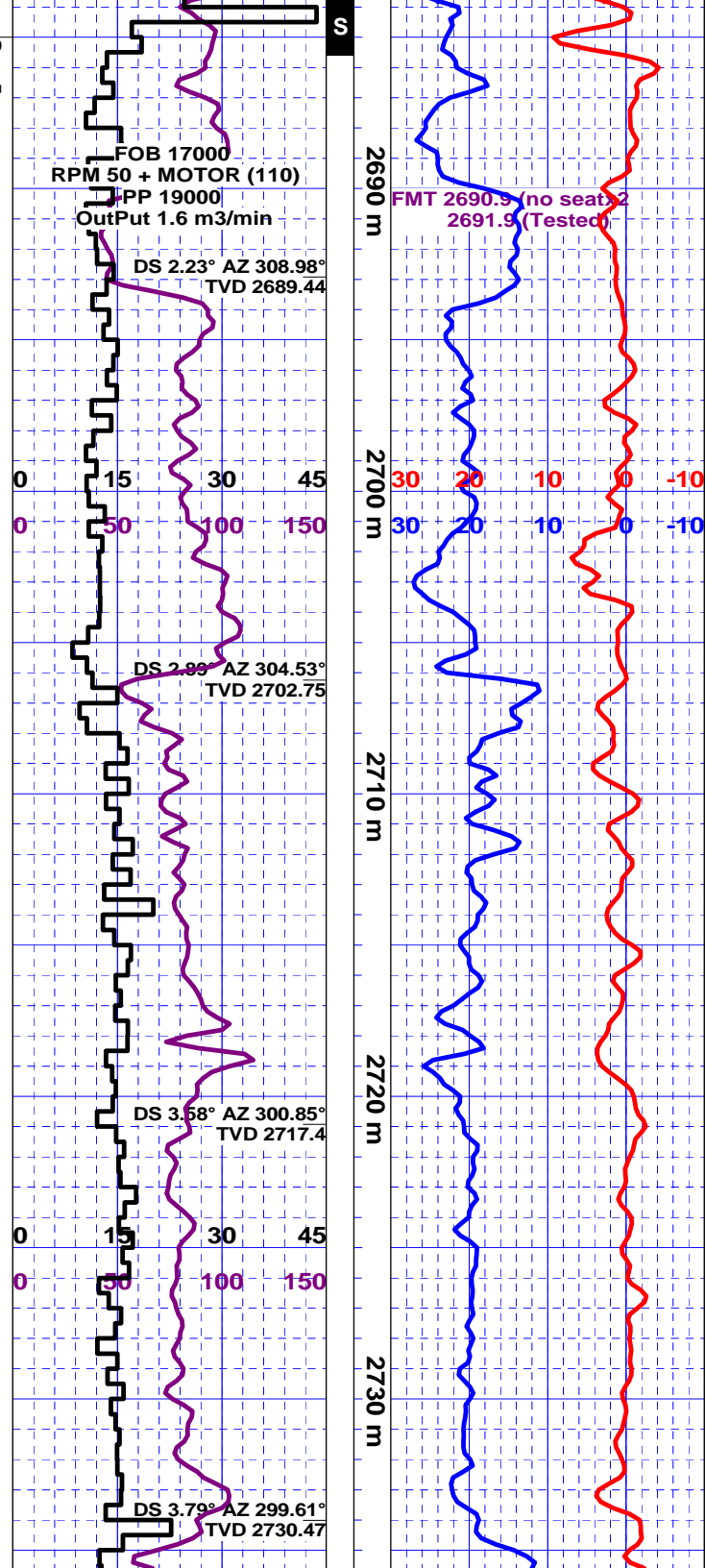
SH / mnr SLTST intlam lt gy, mas, amor,
mod sft, sily chky, calcs in pt, mnr loczd
slty, / m - sily dkr gy Sh, mas, amor, blkly -
plty, hdr, sils - sily calcs thru, mnr slty,
crushable but v competent, No Sands.

Intbd SLTST - SH / basal Ss off wh - v lt
gy, l - u slt - v f, rr f, qtz, op, wh, mnr trnsi,
tr lithics, sily chky thru, mnr greyish hdr
Slstst, intlam / mnr SH, lt - m gy, mas, amor,
Basal 1 meter Ss, off wh, f - m, qtz, op, wh,
mnr lithics, prly srt, sbang - mnr ang,
sbrdd, tr micmica, tr calcs, also finer
micas v f calcs Ss, apx 5% lse qtz, f - m,
from weaker cmtd Ss ?, mod relief, 3-4 %
effective por, No shows, no cut.

Intlam SH / SLTST m - dkr gy, mas, amor,
blkly, competent, hdr, xln in pt, sils / tr
dolc, intbd / ltr gy softer cly rich Slstst, l -
m slt, and u slt - v f - rr f off wh calcs Ss,
qtz, tr lit, micmica in pt, tr pyr, uni / dpth.

PBL CGL: fracd m - v c qtz, trnsi, wh, gy,
varied lithics, ig red flds, greyish chty, tr
crm, rr gnsh, predly wh qtz, frags up - 3
mm, abnt fracd f - m qtz, tr - rr Ss frags.
Gas shw 310 units. No Shows, no cut.

Sep 5



SH: predly dkr gy, abnt gy blk, mas, amor, blk, sils in pt, silly calcs - dolc?, mnr slty, mnr intlam softer ltr gy Sh, Abnt lse qtz, l - u m, trnsi - wh, decrg / dpth, mnr carb blk shales, tr calc fld fracg ?, Abnt Pecan Shells in spls from sliding.

SS: off wh, l - u m, l c, abnt lse, qtz, op, wh, trnsi, blk lithics - pos coaly - v carb frags, tr mica, abnt v prly srt Ss frags, apr wh cly chky inflg, fri, calcs in pt, no vis por, mnr gas shw only, pos thinly lamd - bdd within dkr gy shales.

SH: m gy, dkr gy, mas, amor, blk - plty, loc slty lams, overall silly calcs, mnr ltr gy lams, loczd prob gy blk carb lams, incrg / dpth, uni ROP apx 5 m/hr steady.

Carb SH: dkr gy - gy blk, mas, amor, blk, silly calcs, mnr calc frags - rr tr calc fld fracg ?, mnr apr flky coaly lams, no sands, Gas shw 173 units.

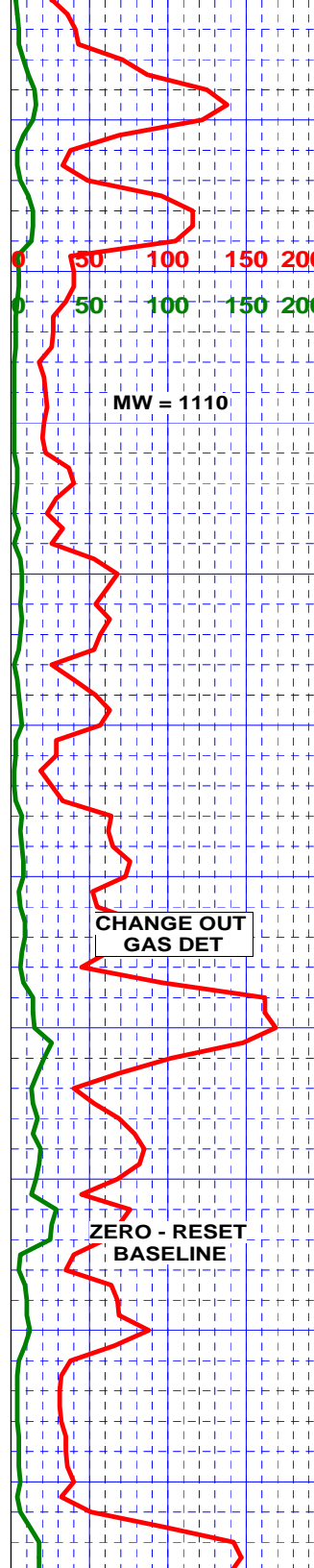
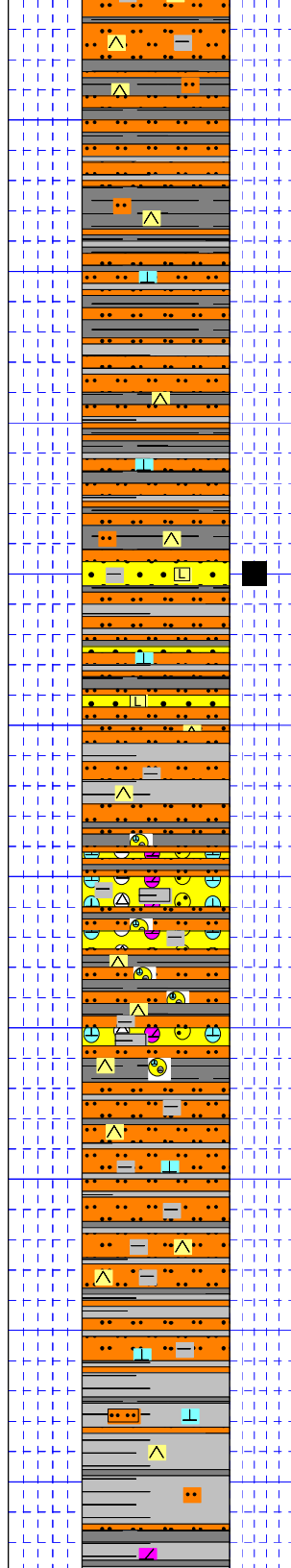
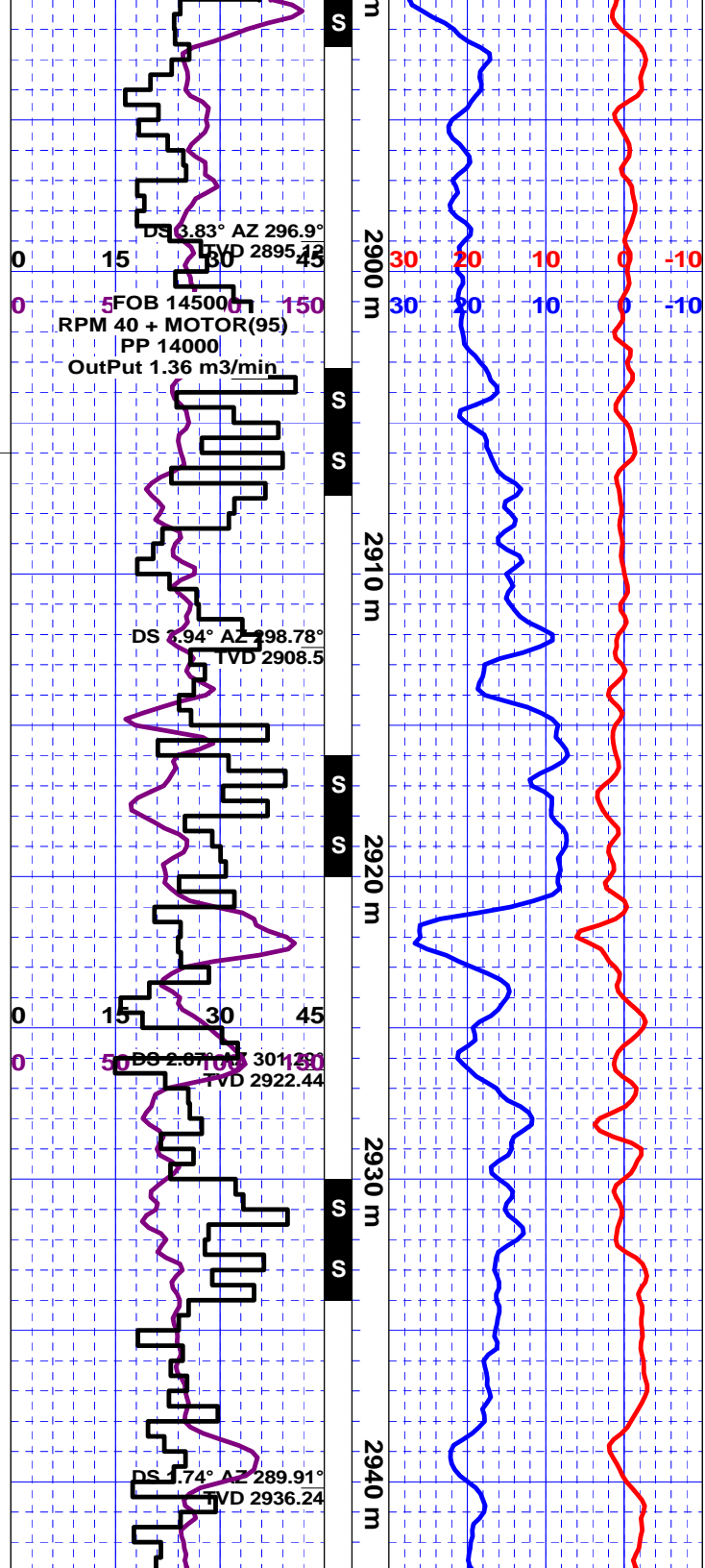
Intlam SLTST / SS mot off wh sft chky Slst, mod calcs - loc nn calcs?, intlam / v cln wh v f Ss, qtz, op, wh, calcs, w cmtd, also mnr silly dirty v lt gy Slst - v f Ss, qtz, silly micmica, 10-15% pos lamd lt - dkr gy shales, no lse qtz.

Intlam SH Bdd - lamd ltr - m gy, mas, amor, blk, hdr, silly crpxl tex - silly slty, silly calcs - dolc, - m - dkr gy silly softer, tr micmica, mnr mic lns softer silly chky - micmica silly calcs Slst thru, uni ROP and spls / dpth.

Intlam SH / SLTST lt - m gy, mas, amor, blk - plty, loc softer, silly chky?, calcs, mnr slty / lamd m - silly dkr gy Sh, mas, amor, hdr, silly calcs - pos mnr dolc, mnr v f - u slt micmica Ss interlams?, uni / dpth, as abv, steady ROP.

Carb SH ? gy blk - blk, mas, amor, blk, v frr

Sep 10



Intlam SH / SLTST dkr gy - gy blk Sh, mas, amor, blk - plty, loc silty slty, mnr micmica, pos mnr carb, hdr, sils in pt, silty calcs - pos mnr dolc, intlam / apx 20% varied SLtst, ltr gy, softer, silty chky, calcs, - hdr, dkr gy, sils in pt, tr pyr, mnr chky calcs - rr calc frags thru, Gas shows under 150 units / ROP apx 3.5 m/hr, no sands.

SH / mnr SLTST dkr gy - gy blk lamd / ltr - m gy Sh, mas, amor, blk, dkr v frm - hdr / ltr softer, calcs, loczd slty, tr micmica, mnr intlam softer SLtst, silty chky, calcs in pt.

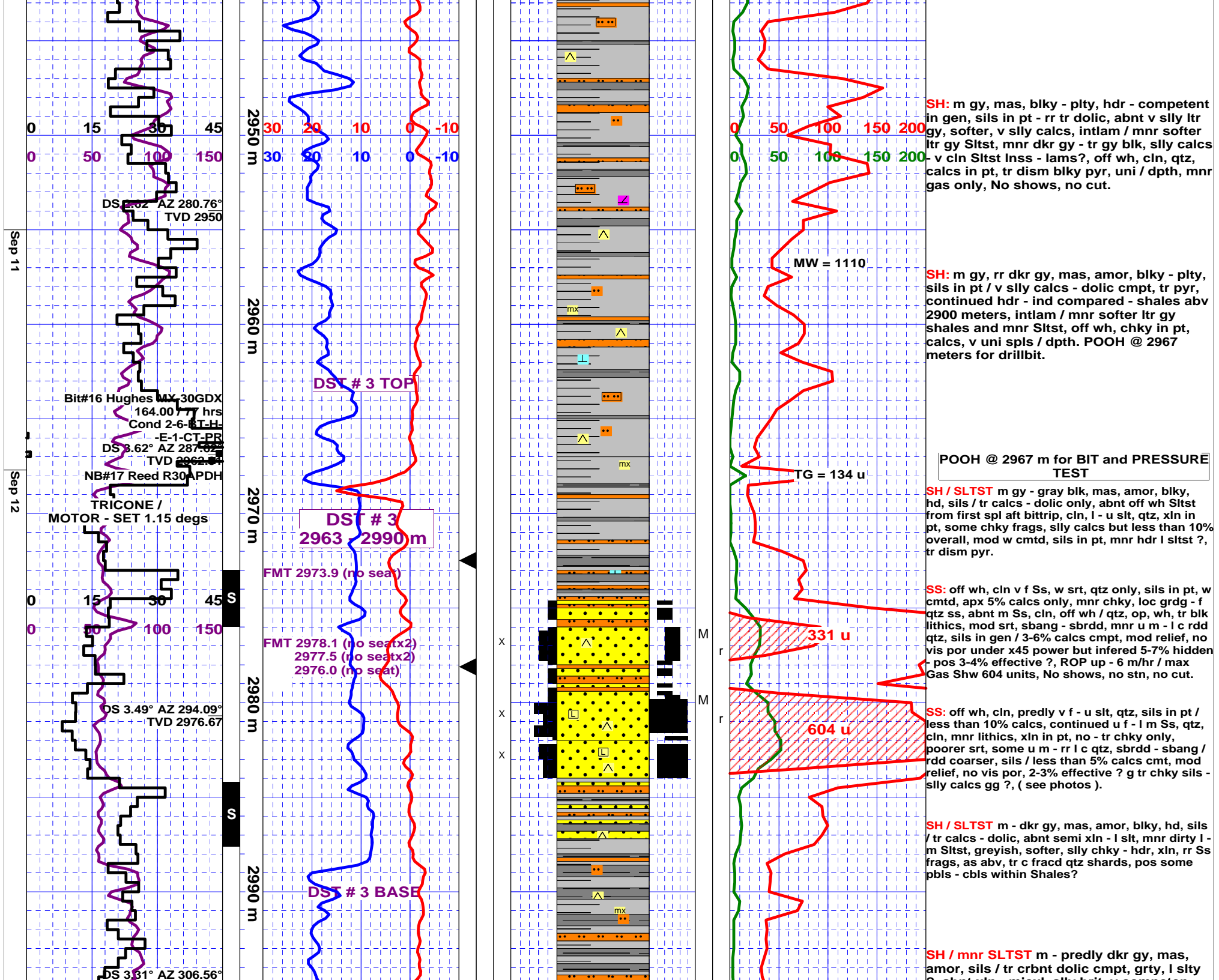
SLTST - mnr SS lamd SLtst, ltr - m gy, mas, blk, softer, calcs in pt, micmica, / lamd f Ss, mot ltr gy, qtz, lit, dirty, mod srt, sbang, mnr calcs, / m - dkr gy lamd sh, slty, sils in pt, / mnr calcs cmpt, rr tr dism pyr, mnr c fracd gy - op qtz / dpth, pos flotg pbls within shy - slty mtx.

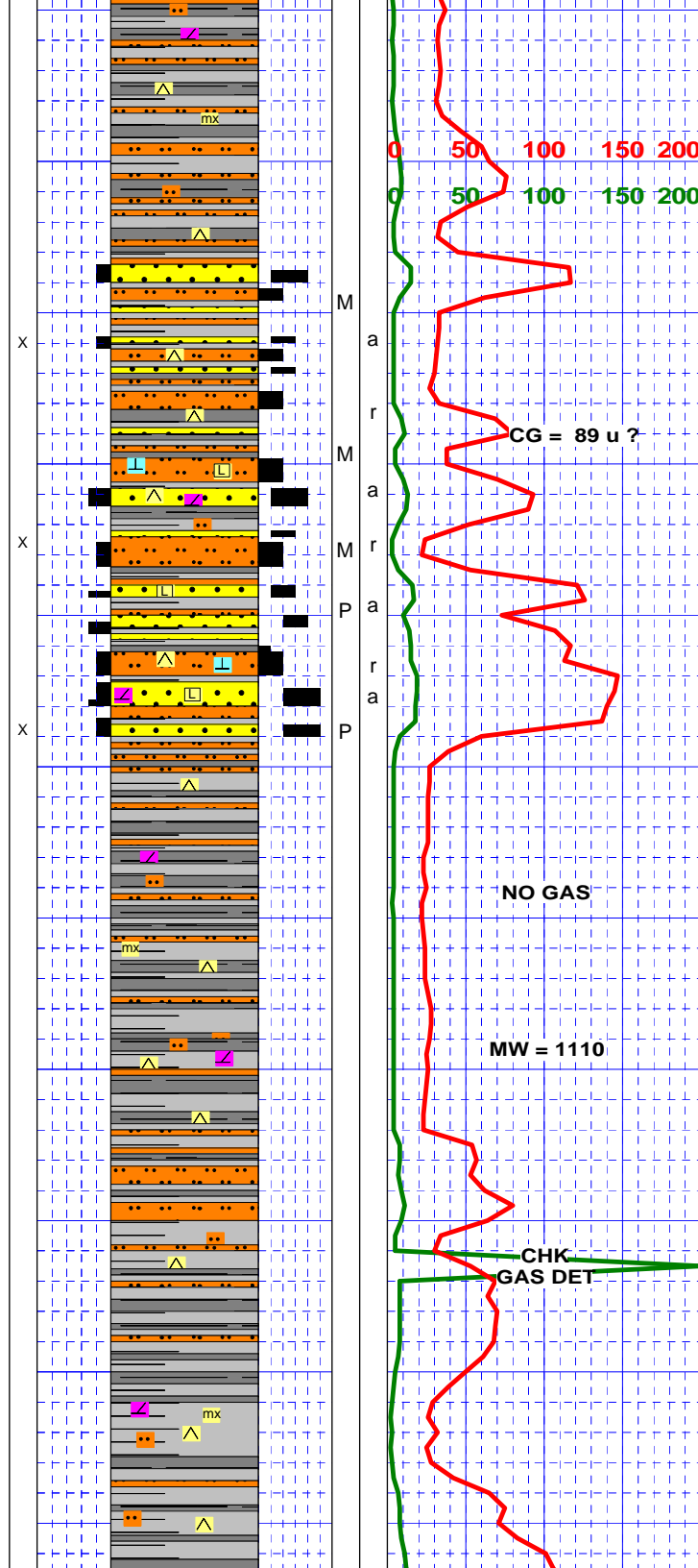
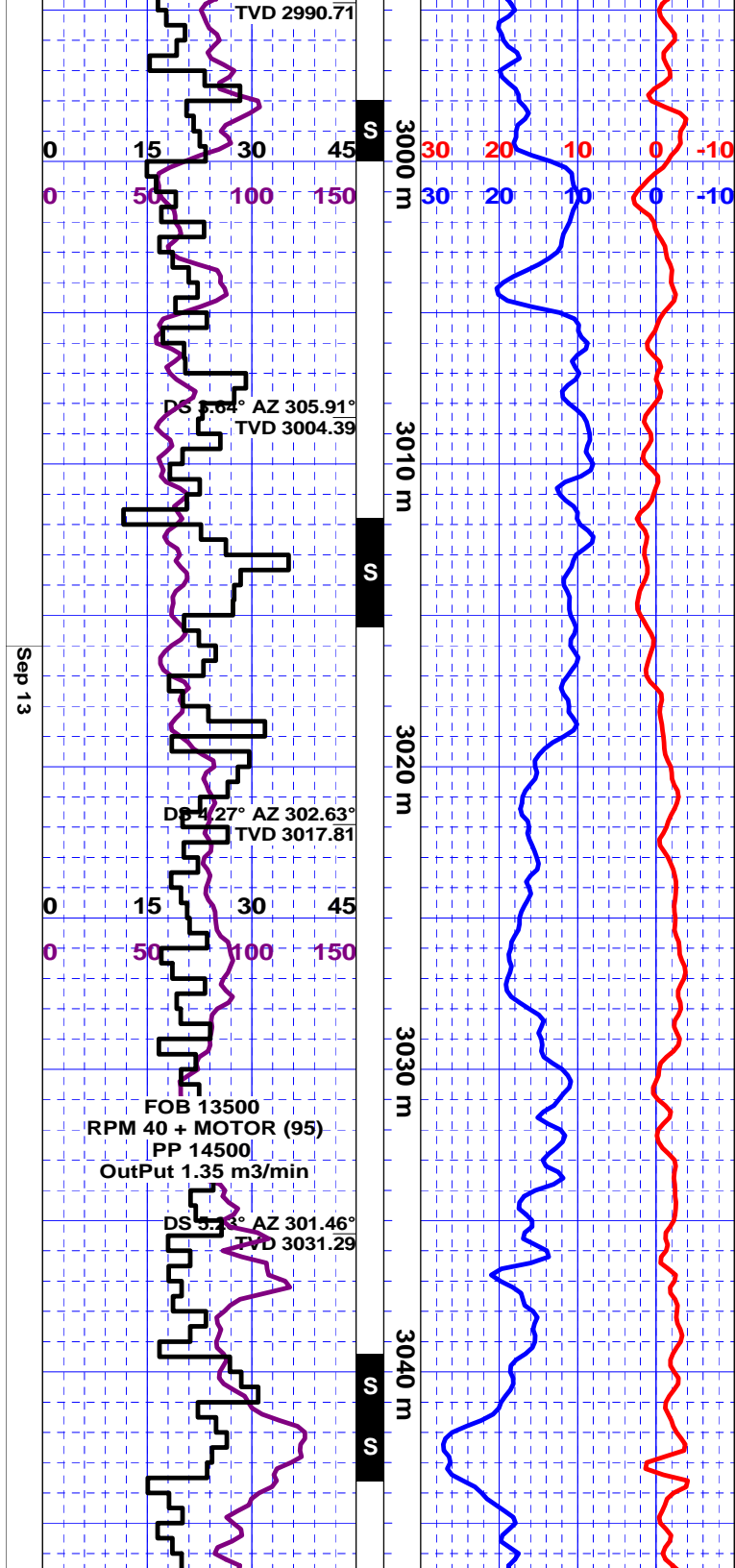
Arg CGL ? no lse sands or rdd qtz, 5-10% up - 25% (2921sample) fracd qtz shards - frags, qtz, op gysh, wh, rr gnsh, rr tr redsh lithics, mnr blk - dkr gy crpxl lit, mnr frags f - m lit qtz Ss, poorer srt, sbang - sbrdd, sils / tr calcs, rr tr dism blk pyr, abnt blk hdr Sh (mtx assumed), sils - tr dolc, mnr apr mic calc frac inflg, mnr chky wh calcs frags thru, Assuming Lit - Qtz pbls - cbils within a sh mtx sup ?.

CGL grdg - SLTST ? fracd frags as abv, no lse sd qtz grs, Pos flotg pbls - cbils decrg / dpth within a mxd dkr gy blk Sh, sils - nn calcs and a softer ltr gy calcs SLtst (fng down ?), abnt softer chky calcs frags, Gas shw 190 units.

Intlam SLTST / SH 70% ltr gy mas SLtst, frm - mnr hdr / abnt apr softer, dirty silty chky, l - m slt, 10% calcs ? cmpt, intlam / m gy frm Sh, nn - v silty calcs only, mnr - 5% dkr gy blk Sh, tr wh chky calcs frags, uni / dpth.

Intlam SH / mnr SLTST predly m gy, mas, amor, plty, blk, hdr, v competent, v silty calcs - pos silty dolc, sils in pt, Sh bcmng hdr and more sils than abv, 20-30% ltr gy, silty softer, mod calcs, cly rich, l - m slt only.





?, abnt xln - micxl, slly brit, v competen
hd - crush or brk, mntr pyric blkly - dism
frags, mntr - 10% ltr gy sh - slty lams thru,
uni ROP, no gas.

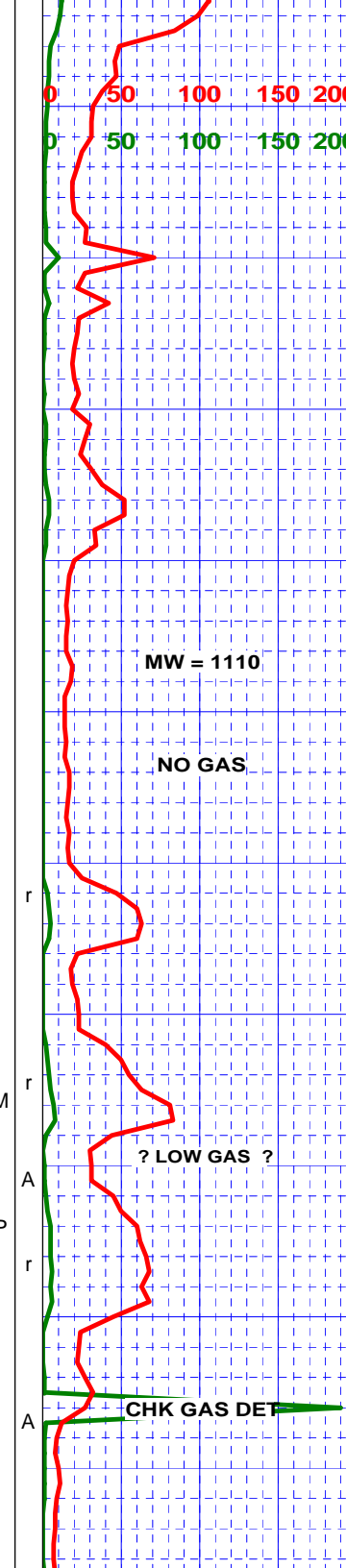
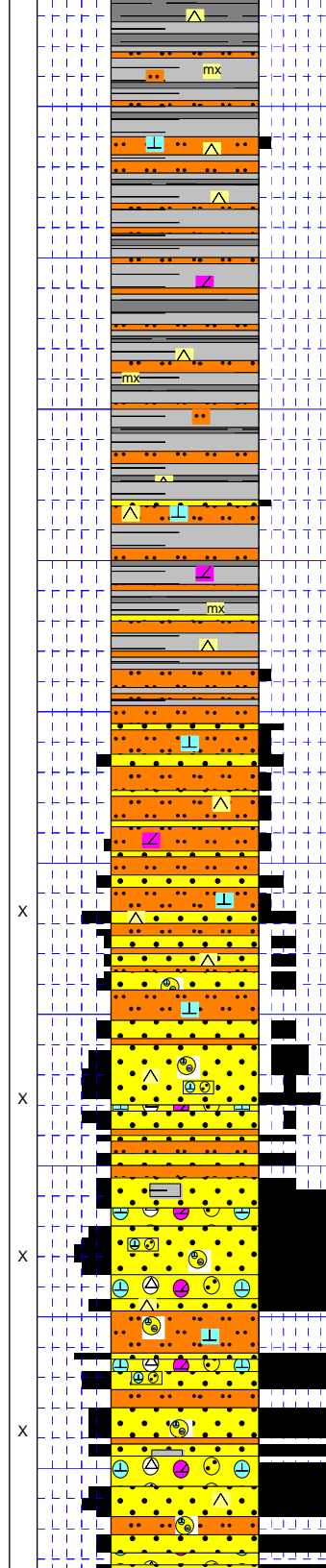
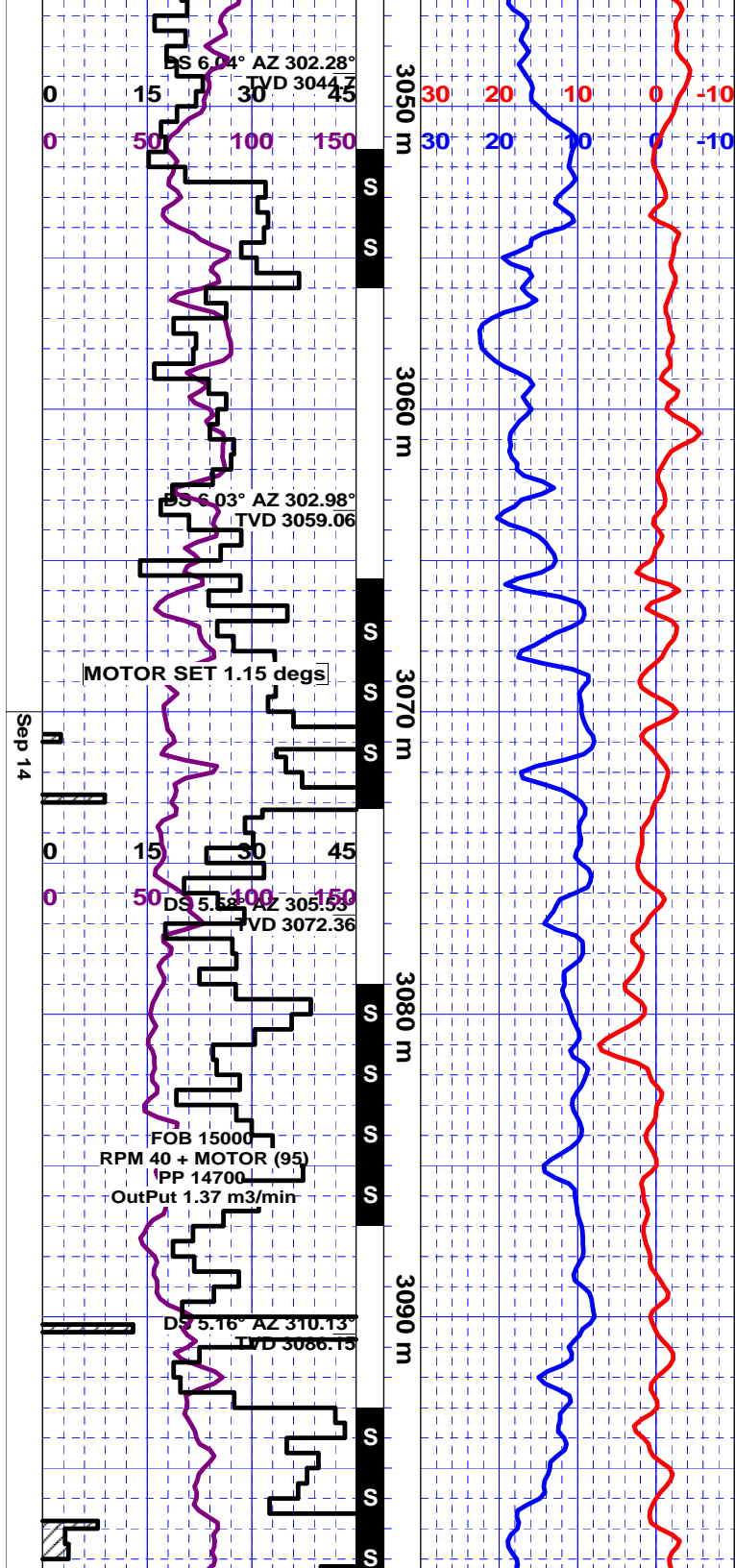
SLTST grdg - SS off wh - v lt gy, gen cln,
10-15% calcs cmt, pred u slt, competent, w
cmt d but crushable, mntr slly dirty hdr sils
xln lams?, / dpth grdg - and intlams / f Ss,
qtz, op, gy, blk arg lithics, mod srt, sbdrd -
sbang, w cmt d, calcs in pt, poorer relief, tr
- mntr c fracd qtz thru, pos lithics,
assuming poorer srt flotg qtz pbils? within
a better srt f Ss, no vis por, 10-15% Sh
lams?, tr gas only, No shows, no cut.

SLTST - SS predly u Slstst - v f Ss, off wh,
v slly sa and pepper, qtz, clr - op, mntr
gysh, g tr blk arg lithics, 10-15% calcs
cmpt, genly w cmt d, l relief, / dpth loczd f -
mntr l m poorer srt qtz Ss, tr lithics, sbang -
sbdrd, mntr coarser flotg qtz within finer
mtx, Apr coarser flotg pbils ? - coarser
cmpt within top of intv, Basal Gas Shw 180
units, tighter 2-3% effective por ?, No
shows, no cut.

Intlam SH - SLTST m - - dkr gy Sh, intlams
slly softer ltr gy, mntr calcs - hdr semi xln -
micxl slly grty - l slty sils / tr dolc cmpt, v
competent, hdr - crush, / mntr slly dirty mot
calcs Slstst - mntr v f Ss lams thru, uni /
dpth, no gas, No shows.

SLTST grdg - SH 20-30% gysh slly dirty
softer Slstst, arg in pt (rr dkr m gy - lit), /
mntr v cln off wh qtz calcs Slstst, intlams / m -
dkr gy Sh, mas, blkly, v frm - loc hd, sils / v
slly calcs - dolc cmpt, mntr softer chky sils
- slly - v calcs mechanical "bitgouge" typ
frags. s incrd gas background from Silts?.

SH: m - dkr gy - incrg greyish blk, mas,
amor, loczd micmica, genly mod hd,
competent, sils / slly calcs - mntr dolc
cmpt, mntr intlams grdd dirty blksh micxl
Slstst, rr tr mic calcs frac fldd, 3047 spls has
indications of stris - shearing from drillbit
? or fm ?.mntr tr ltr gy Slstst, pos v thn lams
- lams?. No Shows, no cut.



Intlam SLTST / SH 30-40% clnr off wh u
Slstst grdg - v f Ss, qtz, rr lithics, w srt,
sbang, calcs, w cmtd, - abnt softer silly
calcs chky, rr tr pyr, intlam - thinly bdd /
Sh, m gy, mas, amor, blk, mod hd, some
micxl, rr crpxl, mnr v hd, brit, sils - loczd
dolic cmpt, loczd dkr gy, mnr grdg - u
slstst, uni / dpth, low - no gas.

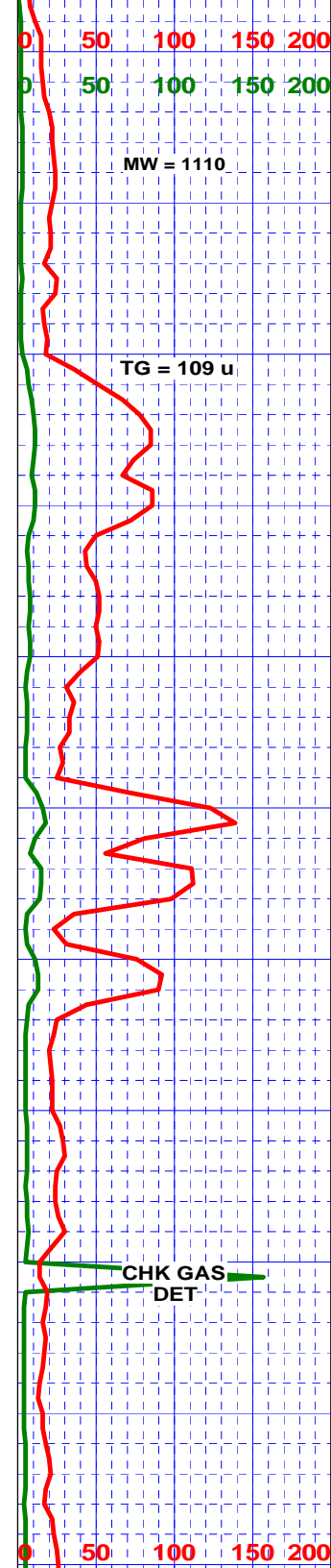
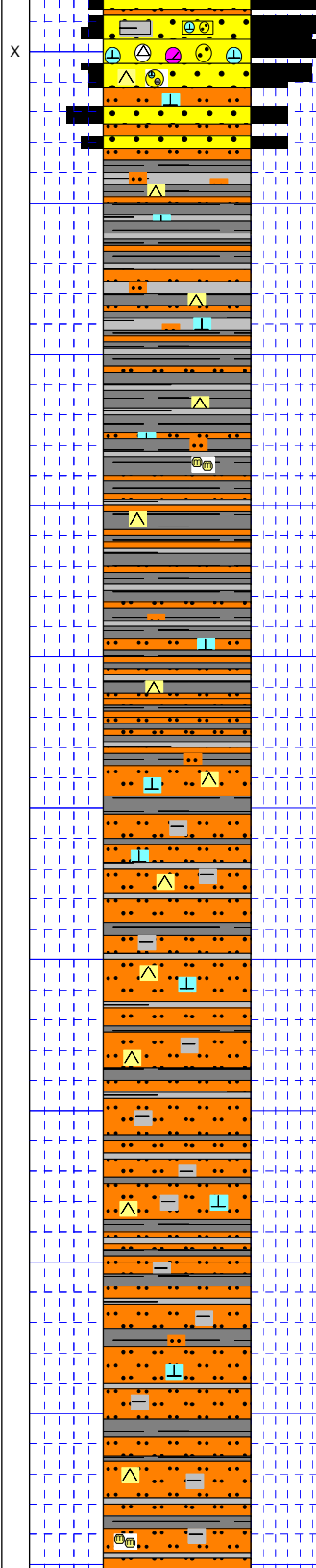
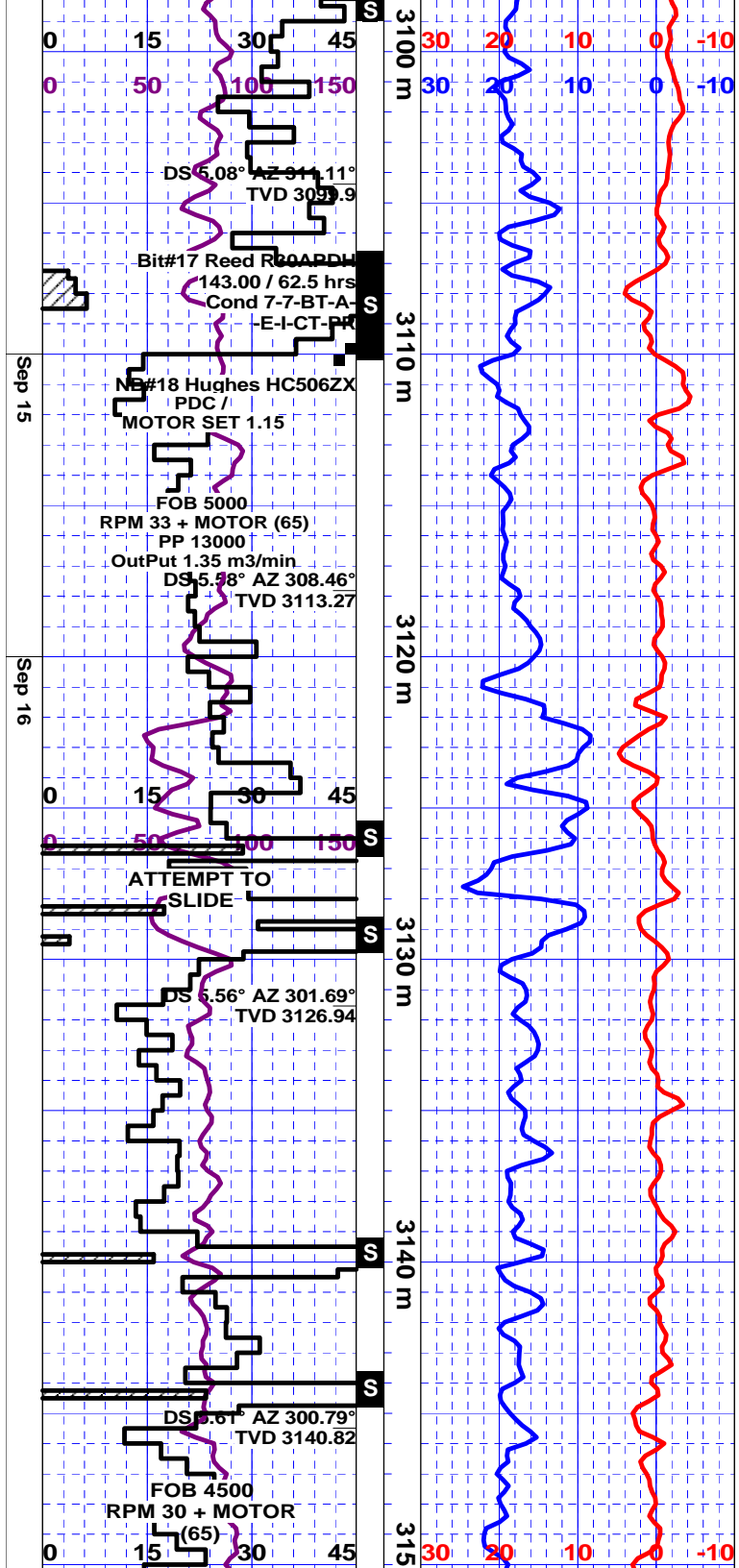
Intlam SLTST / SH as abv, incrg clnr Slstst
grdg - v f - rr l f Ss / dpth, overall cln,
whitish, qtz, rr lithics, mnr mica / l f Sands,
g calcs cmpt, tt, no vis por, intlam / Sh, m
gy, mas, amor, blk - plty, hdr, mnr micxl
tex, sils / silly dolic cmpt, rr tr pyr, no tr gas
only, No shows, no cut.

SLTST - SS v l t gy - off wh, m - u slt, cln, mas,
calcs in pt, v silly dirty?, intlam / grdg - incrg v f -
l f Ss thru and / dpth, f Ss predly qtz, off wh,
semi trns, mnr greyish, rr tr blk lithics, v rr tr
redsh orng flds grs, mnr loczd micas, stnd spls
indicate 5% calcs cmpt, over all spls mod calcs,
abnt softer chky calcs frags thru, no - tr gas
only, No Shows, no cut.

SS / SLTST 50-60% u slt - v f mod w cmtd Slstst -
Ss, calcs in pt, overall incrg f - tr l m Ss / dpth,
abnt lse qtz, abnt frags, u f Ss qtz, op, whitish,
semi trns, apr fros ?, mod srt lse qtz, sbdd -
sbang, m qtz rdd, frags weakly cmtd, sils / less
than 3% calc, tr pos chky, poorer srt, sbang - rr
ang frags, gen sbdd, tr flotg m - occ lse c qtz,
no vis por but mod relief, thn Bdg - lams?, 5-7%
hidden por ?, pos 3-4% effective, tr gas only, No
shows, no cut.

SS / CGL predly lse l - u m, l c qtz, fracd - sbang
- sbdd, abnt lse rdd u m - c, weaker cmtd, 10-
20% fracd lithics - shards of qtz, op, wh, v silly
gnsh, varied gray, rr tr pksh - redsh, no apr cht,
v mnr poorer srt frags, qtz, tr blk arg ? lithics, rr
tr mica, abnt v f Ss - Slstst thru, w srt, calcs in pt,
rr tr lithics, rr orng frags, w cmtd, continued /
dpth, ang shards thru, incrg better cmtd u m qtz
frags / dpth, sils / frags fracd through qtz grs,
(cmtd), sils, other frags 5% calcs, 5-7% hidden
por ?, effective ? (Assuming a lamd m poorer
srt Ss / flotg pbls - cbis and or thinner Cgl bndg,
some apr Slstst bdg?, p ROP, no Gas. (Drillbit
wearing out ?). Lse Qtz indicates some por ?
but p ROP and tr Gas only ? (wet ?)

SS / CGL As abv, lse m - u f qtz + coarser
fracd Shards, apr incrg finer Ss - v f - u slt
calcs Slstst / dpth, mnr incrg Sh, transition



into shy l unit / dpth

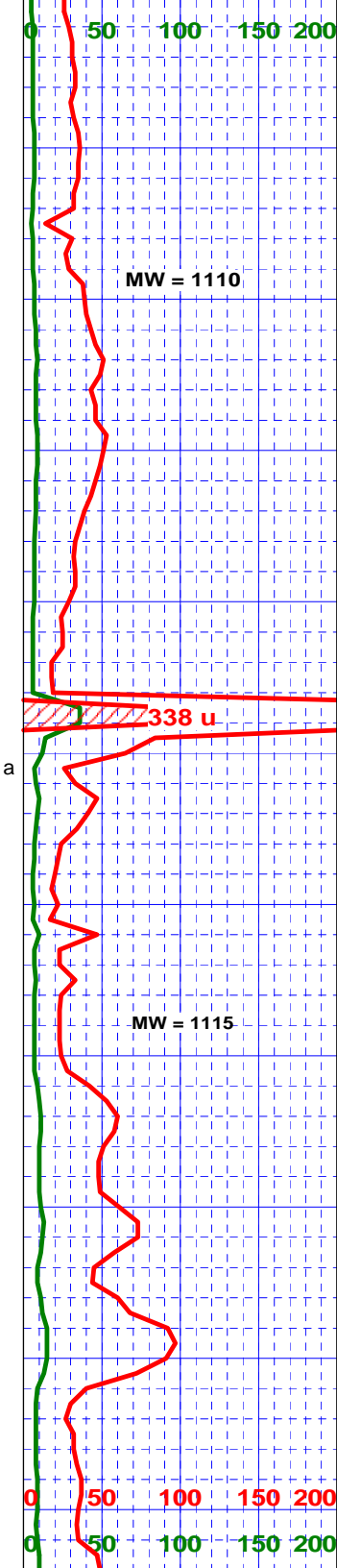
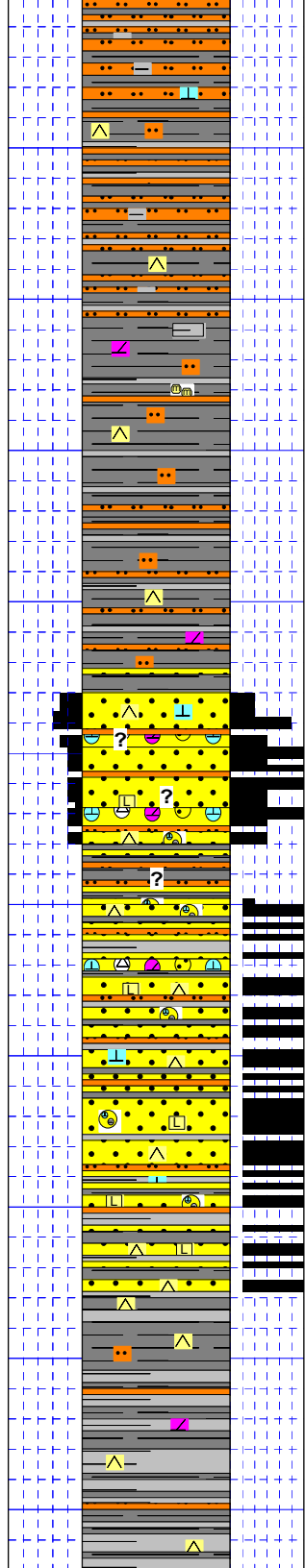
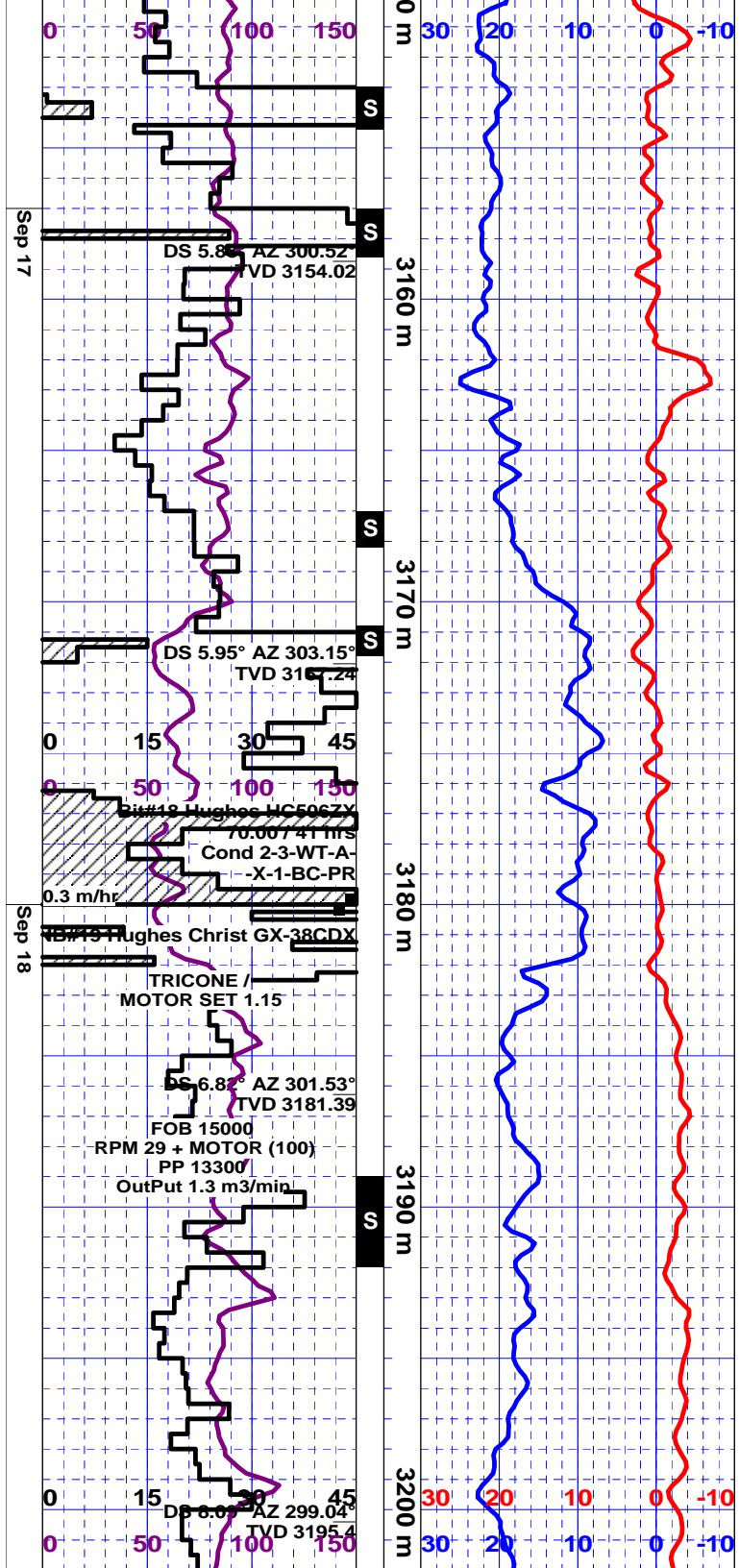
Intlam SH - SLTST 20-30% hdr gy blk mas Sh, v competent, sils / tr dolc?, / intlam softer ltr gy cly? rich Slstst, gen v arg, silly calcs, incrg Slstst - softer slty greyish Shales - clays / dpth, mnr softer slty / micmica - tr dism pyr, rr coarser qtz shards, cvgs?, no lse sands, slower ROP, drillbit dull ?. POOH @ 3110 meters due - slow ROP.

POOH @ 3110 for Bit

Intlam SH - SLTST m - dkr gy, mas, amor, loc micmica, blkly, plty, sils in pt / mnr tr calcs, hd, competent, loc grdg - l slt, some dkr gy - ltr gy v hd, sils, abnt softer silly slty lams, grdg - l Slstst, incrd calcs, intlam / clnr Slstst, off wh, v lt gy, qtz, op wh, mnr greyish, tr - v rr blk lit specs, sils cmpt / 5 -10% calcs, grdg from apx 10% - 40% / dpth, v uni, no Sands, No shows, no cut, (ROP slowing / dpth from start of PDC run).

Intlam SLTST ltr gy - off wh, mas, l - m slt - rr u slt, no sands, qtz, rr tr lit specs, silly - 10% max calcic cmpt, sils in pt, intlam / ltr - m mot gy slty Sh - arg Slstst, mas, amor, blkly, hd, mnr micxl, silly calcs, grdg / dpth - predly ltr gey silly arg Slstst, sils / silly calcs cmpt, hd, abnt silly micxln, mnr clnr off wh calcs lns? , v uni / dpth, steady ROP apx 3.5 m/hr.

Intlam SLTST / mnr SH As abv, ltr gy - loc m gy, arg, dirty, mas, sils / tr calcs only, mnr micmica, intlam / clnr Slstst, off wh - v lt mot gy, qtz, rr tr blk lithics, pos tr mic carb - coaly lams, 5-10% calcs cmpt, (g fizz but dies quickly) - overall mod sils nn calcs cmt ?, dirtier / dpth, mnr incrg apr slty Sh / dpth, dkr gy, blkly, mas, hdr, sils in pt, rr calcs, Uni ROP apx 3.5 m/hr, no - tr Gas background only, v P slide attempts.



SH / mnr SLTST grdg - 80% Sh / dpth, dk gy - silty gy blk, mas, amor, plty - blk, hdr, sils in pt / tr dolc only, mnr intial weakly calcs ?, mnr slty thru, tr micmica, intlaml / dirty - cln v lt gy - off wh l - m Slstst, qtz, slly calcs only, no sands, slly incrg Gas background / dpth.

SH / mnr SLTST m - dkr gy thru, mas, amor, blk, plty, hdr, v frm, sils in gen / v slly calcs - tr dolc cmpt, abnt slly l - m slty cmpt, genly slly blk micmica, rr m Slstst, v dirty, arg, apr mic lams dkr arg Sh / pos slly ltr greyish v slly calcs softer Slstst ?, less than 3% off wh calcs Slstst as abv, cvgs or tr mic lams - lams, rr tr mic calc fld fracs ?, rr tr apr slly coaly mic ptgs ?. Gas background up - 60 units, ROP steady apx 3.5 m/hr. (No sands). Mnr brn walnut shells in spls added when sliding.

SH / mnr SLTST dkr gy - mnr gy blk, mas, amor, blk, plty, hd, slty in pt, loc grdg - l - m Slstst, v dirty, arg, tr dism pyr, mnr clnr off wh qtz Slst - v f Ss, w cmt, sils / v mnr calcs, rr u f w cmt frags, P ROP aft slide.

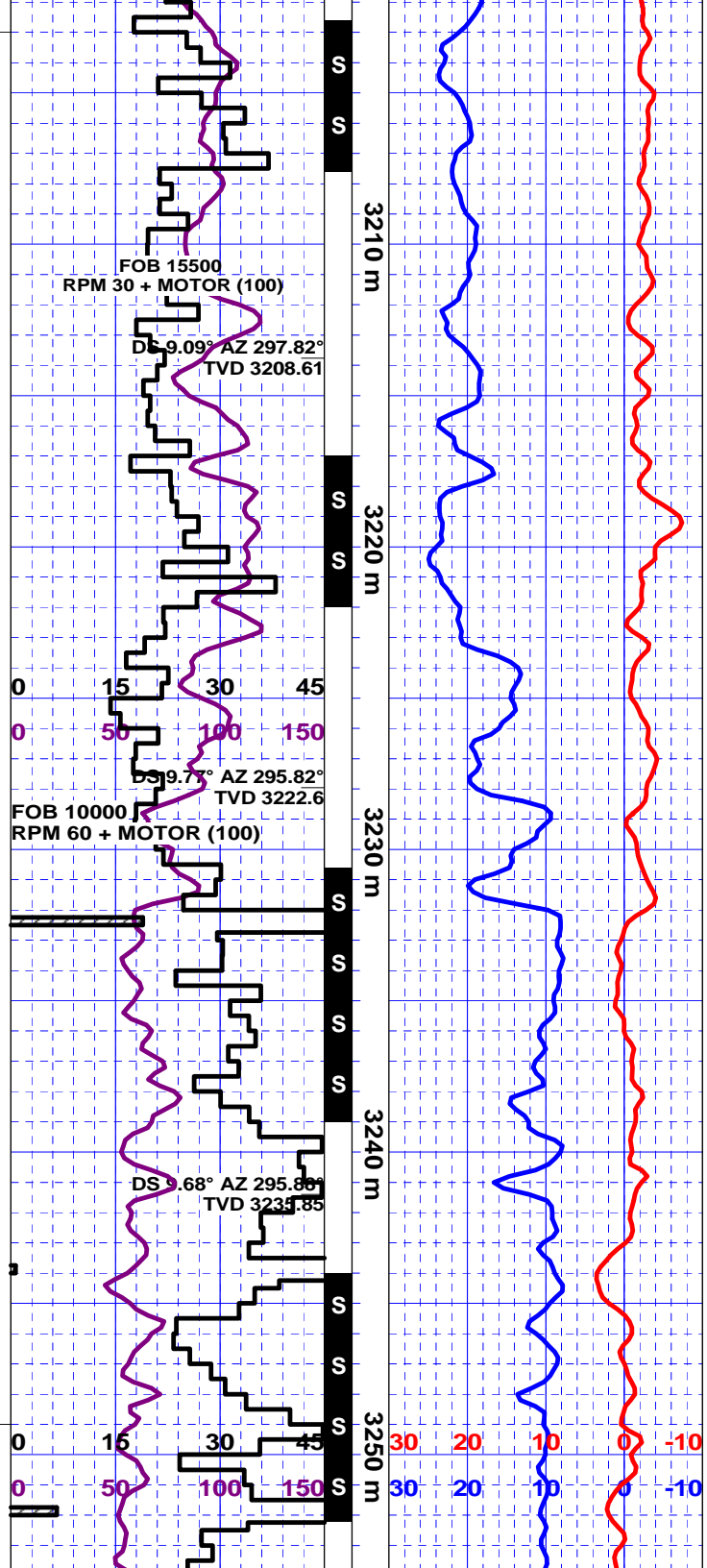
SS: mot off wh v f - u f w cmt qtz, rr tr lithics, mod srt, abnt hd w cmt Slstst, mnr poorer srt u f - m lithics Ss frags / dpth, mnr - 1% c - fracd pbl qtz Shards, no lse qtz or sd grs, predly flky w cmt Ss - Slstst frags, abnt s waffer thn frags, continued Sh, 10-20%, hd, slty in pt, grdg back into Sh / dpth - 80% hd mas gy blk, sils / tr calcs - dolc only, rr tr pyr. Gas shw @ 3174 meters of 338 units. Slow ROP under 1 m/hr down - 0.3 m/hr. POOH for Drillbit.

POOH @ 3180 m

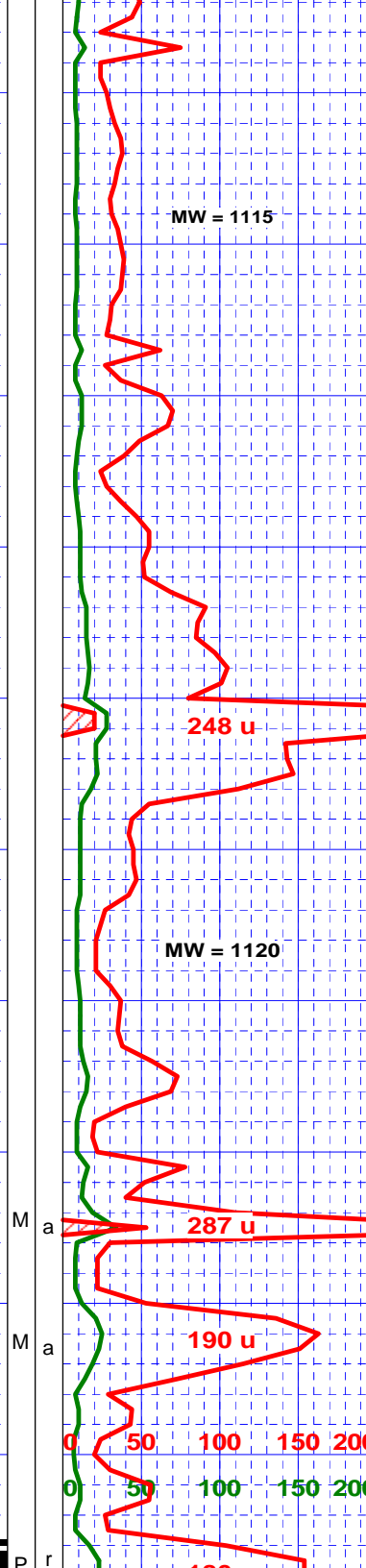
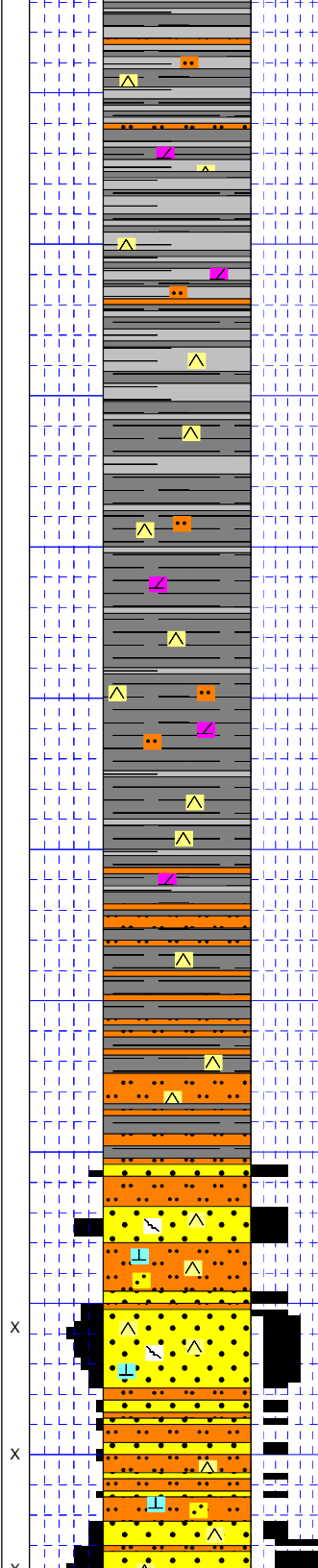
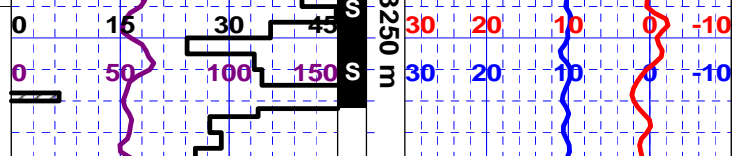
Pbl SS / SH off wh - slly sa and pepper, v f - f - m frags / fracd qtz shards pbls ?, abnt u slt, qtz, cln, op, wh, trns, g tr blk sh lithics, poorer srt, ang - sbdd, w cmt, sils / 5 - 10% calcic cmt, loc mod relief, no vis por, 3-4% effective, abnt lamd sils hdr slly calcs u Slstst - v f Ss, intlaml / Sh, m - dkr gy - gy blk, mas, amor, blk, micxl, hd, sils / v slly tr dolc, incrg blk Sh / dpth, v hd, sils, tr dolc, rr slty, tr micmica.

Intlaml SH m - dkr gy, mas, amor, plty - blk, hd - loc v hd, v competent but genly crushable, loc l slty, abnt slly micxl - rr crpxl, sils / v slly calcs - mnr dolc cmpt, loc micmica - slly micas, mnr - rr mico calcic fld fracs - ptgs, mnr intlaml slly softer greyish slty shales - slly calcs off wh - v lt gy calcs chky Slstst, uni / dpth, No Shows, no cut.

Sep 19



Sep 20



Intlam SH predly dkr gy, mas, amor, blkly - plty, v hd - hd, competent, crushable in pt, mnr interlamainted ltr - dkr gy blk slty - amor SH, uni / dpth, as abv, sils / slly calcs - dolc cmpt, (genly remaining cpct aft sitting in acid), No shows, no cut.

SH: dkr gy, intlam / and - predly gy blk - blksh / dpth, mas, amor, blkly - plty, hd - abnt v hd, loc l slty cmpt, mnr tr calc fld mic fracs ?, v uni, gy blk Sh slly carb thru ?, sils, tr dolc, ROP apx 3.5 m/hr, slty cmpt / tr por ?, Gas shw 248 units, No Shows, no cut.

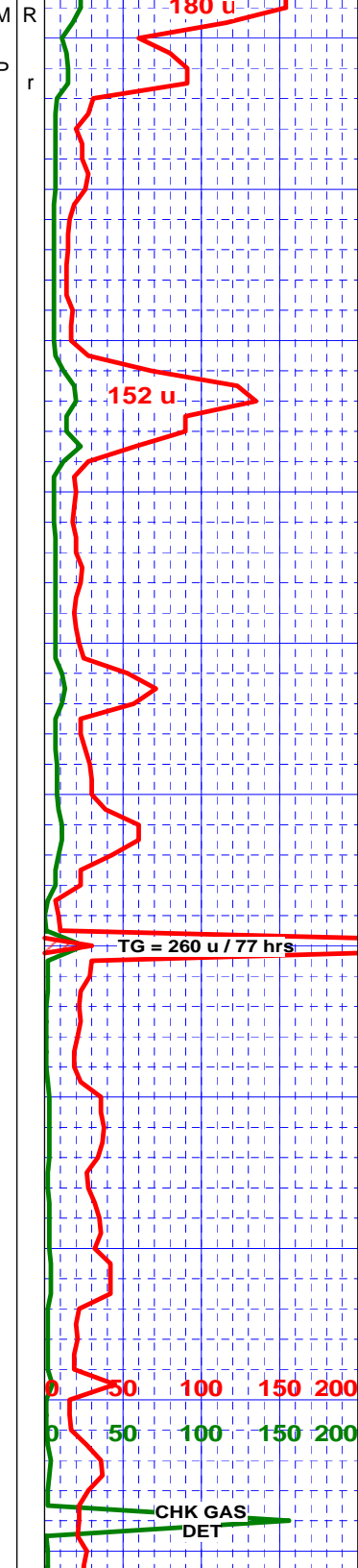
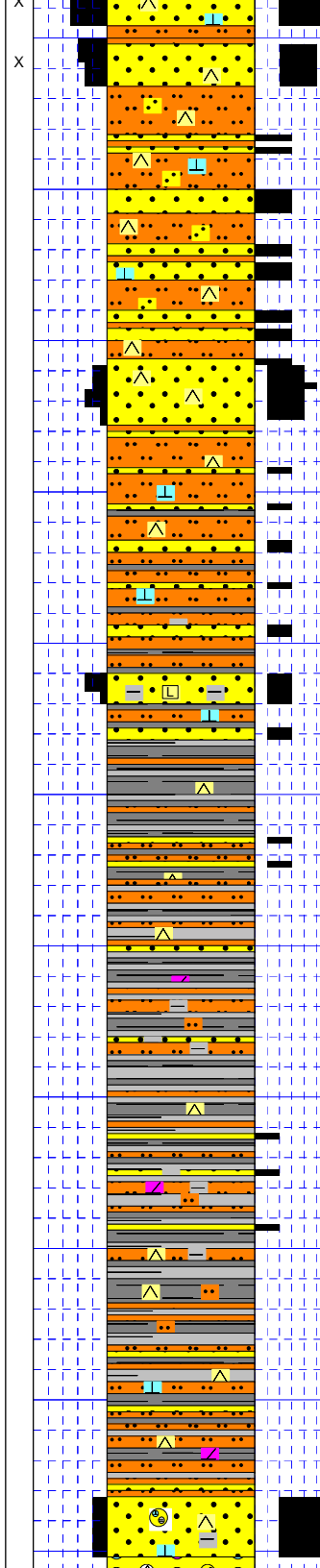
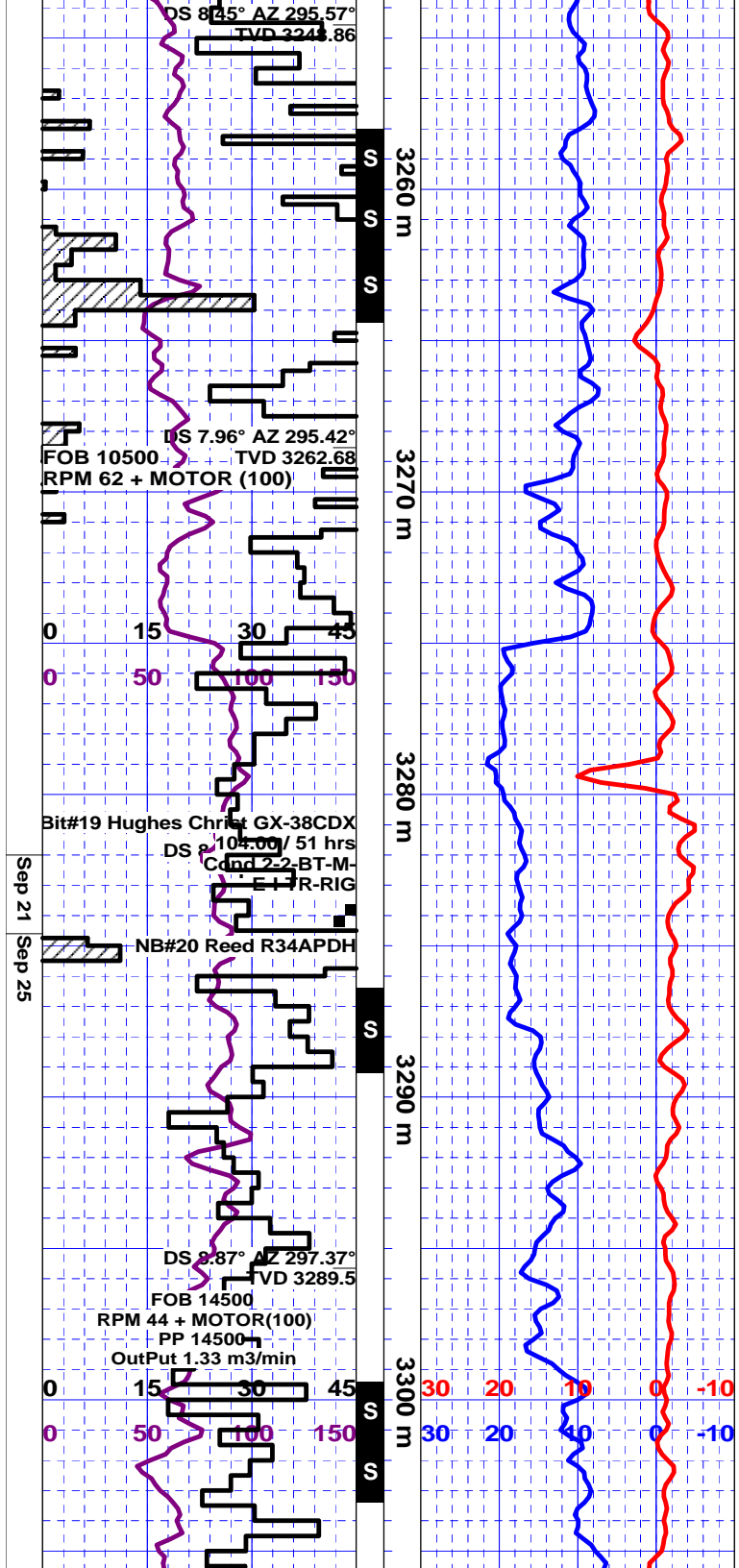
SH grdg - bdd SLTST gy blk - blk, as abv, grdg - m gy, mas, amor, blkly, hd - v hd, some crpxl, sils / tr dolc, intlam / v lt gy l - m Slstst, slly rthy tex, calcs in pt / clnr off wh, Slstst incrg - 70% / dpth, off wh, mas, blkly, l - u slt - abnt v f - m f Ss, qtz, cln, tr blk sh lithics, tr micmica, rr tr pyr, mod srt, sbrrd - sbang, w cmtd, sils / 10% calcs cmpt, no vis por, 1-2% effective?, No shows, no cut.

SLTST - SS predly v lt gy - off wh Slstst, xln - slly chky, overall cln, qtz, tr lithics, sils / 10% calcs cmpt, - softer mod calcs frags, mod w srt, sbang - sbrrd, loc v f, micmica, mnr f - l m Ss / dpth, gen w cmtd, mod - l relief, qtz, tr lithics, sils - 5% calcs, no vis por, 2-3% effective?, Gas shw 3242 meters of 287 units, pos thn Ss or frac ?, P ROP, No shows, no cut.

SS: predly v f - f mod w cmtd Ss, off wh, qtz, tr lithics, rr tr dism pyr, rr micmica, sils / mnr calcs, abnt u Slstst, abnt sft Chky frags, calcs, gg?, mnr f - u m Ss frags, cln, tr lithics, mod p srt, sils / 5% calcs, mod cmtd, p - mod relief, 4-5% effective strky por, pos frags, tr Calc rhmbs, abnt pos gg ? pos fltg ?.

SLTST - SS w cmtd cln off wh - v lt gy l - u Slst - lamd v f - l f Ss, sils / 15-15% calcs, qtz, tr lithics, rr micmica, mnr coarser frags, rr c ang qtz, tt, no vis por.

SS: off wh - v lt gy, f - u m / c, abnt lse qtz, sbrrd - w rdd l c, mnr c fracd shards, frags f - u m poorer srt in gen, qtz, cln, mnr finer - slty mtx



only, gr sup, sbrdd - sbang, abnt rdd, mod cmt mod relief, sils / 5-10% calcs cmt, pos 6-8% nn vis por, 4-5% effective, Gas shw 180 units, Better cln Ss quality overall, ROP apx 2.5 m/hr assuming tighter but interesting, No Shows, no cut.

Intlam SLTST - SS off wh, cln, mas, m - u slt, intlam / v f - abnt f Ss, qtz, op, trns, tr blk lithics only, mnr tr pyr, mnr micmica - spsly micas, overall w cmt, sils / 10-15% calcs cmt, abnt softer chky - calcs - silly calcs frags, gg like, mnr u f - m mod cmt frags, pos cvgs or thn bdg?, slow ROP apx 1 m/hr or less while sliding and no gas, No shows, no cut.

SS: off wh, cln, l - u m, rr ang c, qtz, op, trns, gy, tr blk lithics, mod w cmt, sils - 5 - 10% calcs, mod - poorer srt, sbang - sbrdd, mnr rdd, gr sup and xln - gr sup / finer - sity mtx inflg, no lse qtz, frags fracd through and around qtz grs, some silly weaker cmt / mod relief, no vis por, 2-3% effective, continued abnt u Slst - w cmt v f - f Ss, Gas shw 152 units.

Intlam SLTST - SS off wh - v lt gy mas w cmt Slst, gen v cln, qtz, sils / mnr calcs cmt, intlam - thinly bdd v f - f mod w - w cmt Ss, overall cln, off wh, qtz, op, trns, mnr gysh, tr lithics, tr diss pyr, sils / 10% calcs cmt, mnr silly dirty arg Slst, tr gysh blk Shales, cvgs - thn lams ?.

SS grdg - SH dirty mot m gy v f - u f Ss, arg, qtz, op, wh, trns, sh lithics - intsl arg matl, mnr calcs, weaker cmt, gen g relief, mod poorer srt, sbrdd - sbang - rdd, softer frags app - have calc rept ?, assuming overall 7-10% ineffective por, grdg - m - dkr gy Sh, mas, amor, micmica in pt, pty, sils / silly calcs - dolc, tr diss pyr. POOH due - failure of Swivel.

**POOH @ 3284 m
SWIVEL FAILURE**

SLTST / SH mnr ltr gy clnr v f - u Slst, off wh, xln in pt, qtz, grdg - dirty arg m - u Slst, greyish blk - dk gy, hd, qtz, micmica - micas, sils / mnr - nn calcs, mnr flotg f - m qtz, trns, intbd / and incrg / dpth - mas Sh, m - dkr gy, hd - mnr v hd, sils, mnr crpxl - micxl, v hd, brit, mnr interlaminated dkr gy blk, silly carb ?, frm - silly softer, mnr sity.

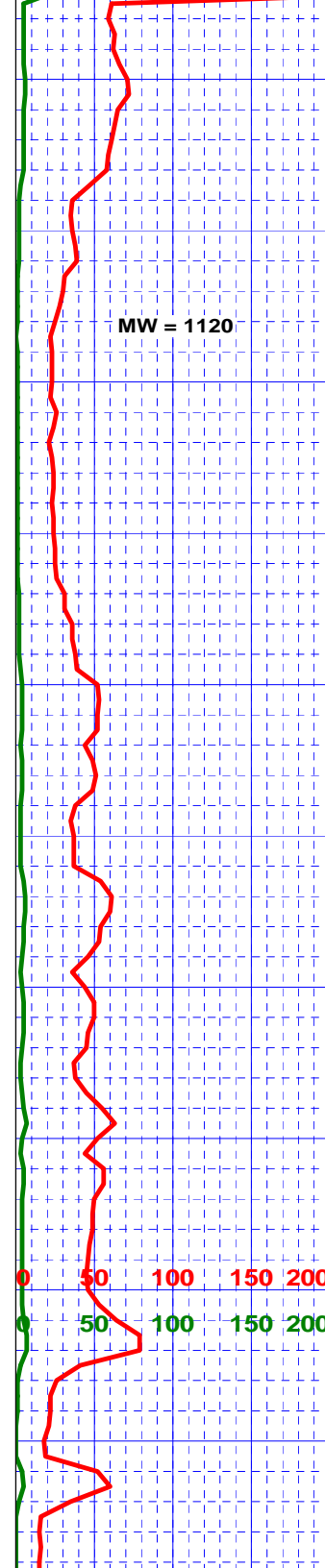
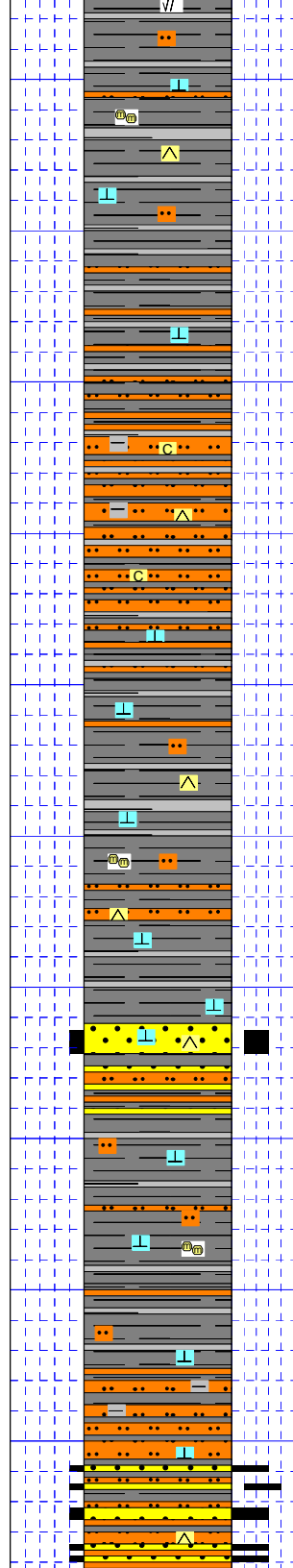
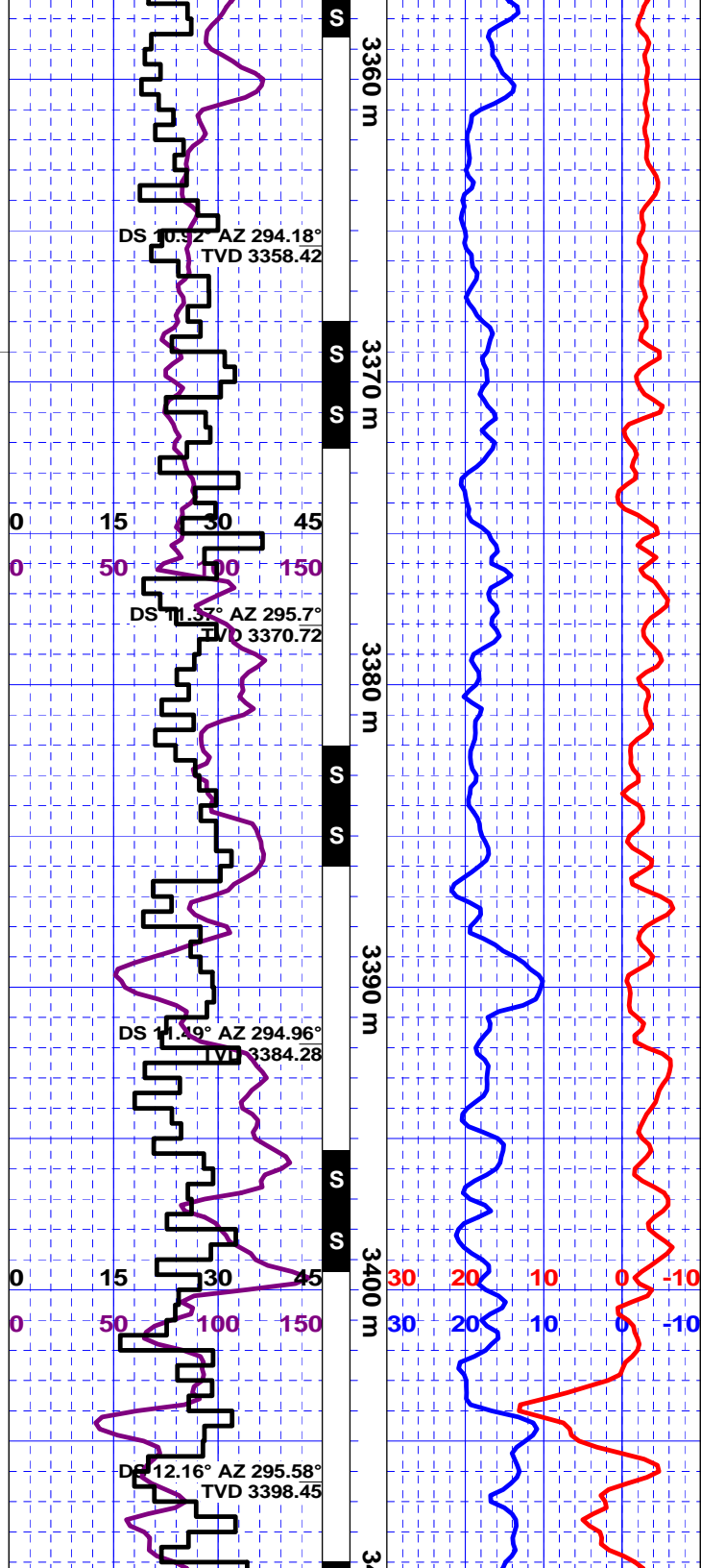
SH / intlam SLTST - SS m - loc dkr gy, mas, amor, blk, hd, sils / tr dolc ?, intlam / dirty m - dkr gy Slst - v f Ss, mnr gy blk, qtz, arg mtx, micmica - micas, hd, xln in pt, sils. mnr tr calcs, uni, No Shows, no cut.

SLTST / SH off wh - dirty mot gy, mas, amor, blk - pty, calcs - clnr, micas, w cmt / mnr - grdg - v hd xln u slt - v f Ss, lt greyish, sils - silly calcs - dolc, gy blk mas Sh, as abv, decrg / dpth, no gas.

Pbl SS / CGL u sa and pepper Ss, f - l m, qtz, trns, off wh, op, blk sh lithics, mas, blk, w cmt, sils - calcs cmt, poorer srt, sbang - ang - mnr sbrdd, / qtz pbls, varied gysh, mnr v silly tan onch, trnk fldic, fragd chds up - 2 mm inc.

CHK GAS
DET

Sep 27



mic lams - pos frac infig, tr "distor black sh frags". pos mnr shear - fltg? or pos fracs?, ROP steady, Gas Shw 370 units @ 3357 meters, Gas background apx 70 units.

SH: Intlam m - dkr gy Sh, as abv, mas, amor, blk - plty, calcs in pt, / ltr gy softer slty Cyst grdg - softer chky Slst, mnr calcs only, grdg / dpth - u Slst, semi xln, hdr, slly calcs, qtz, tt, no Shows, no gas.

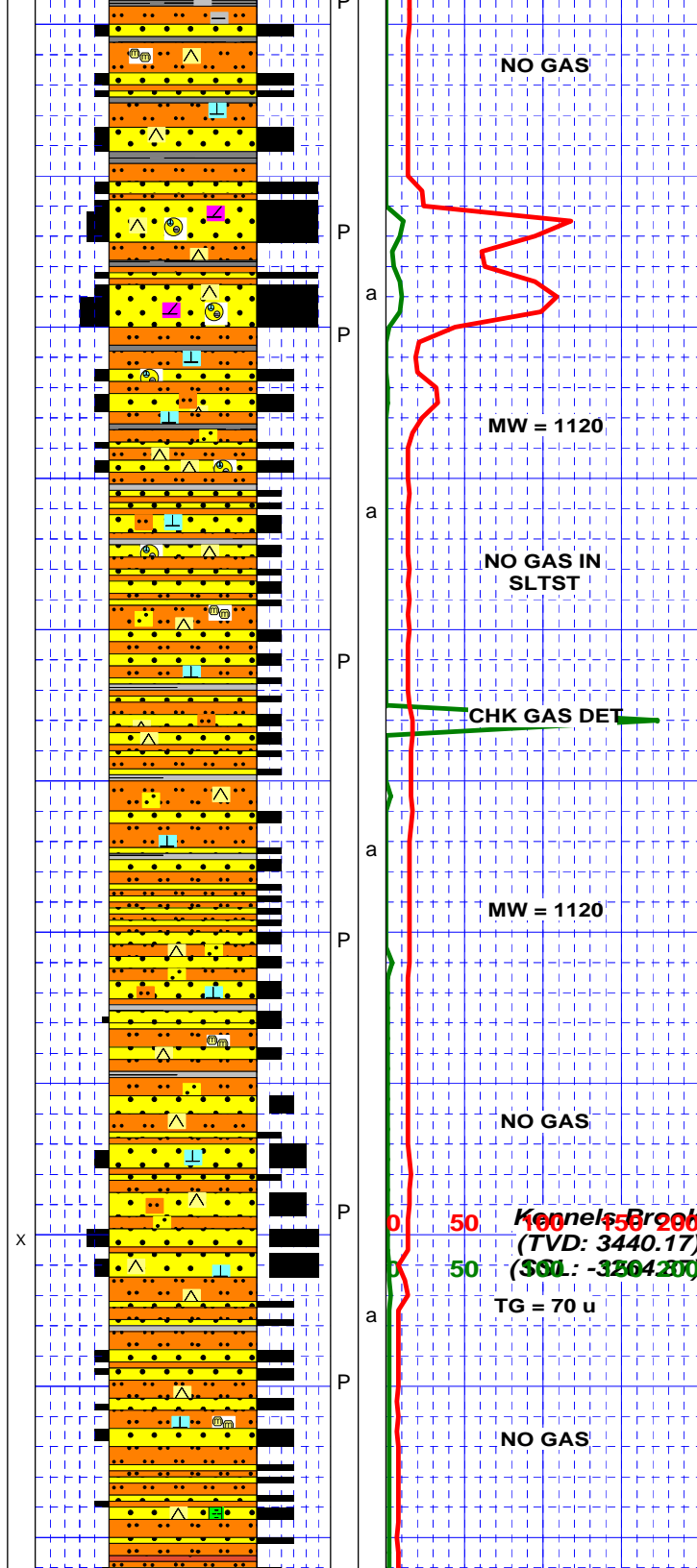
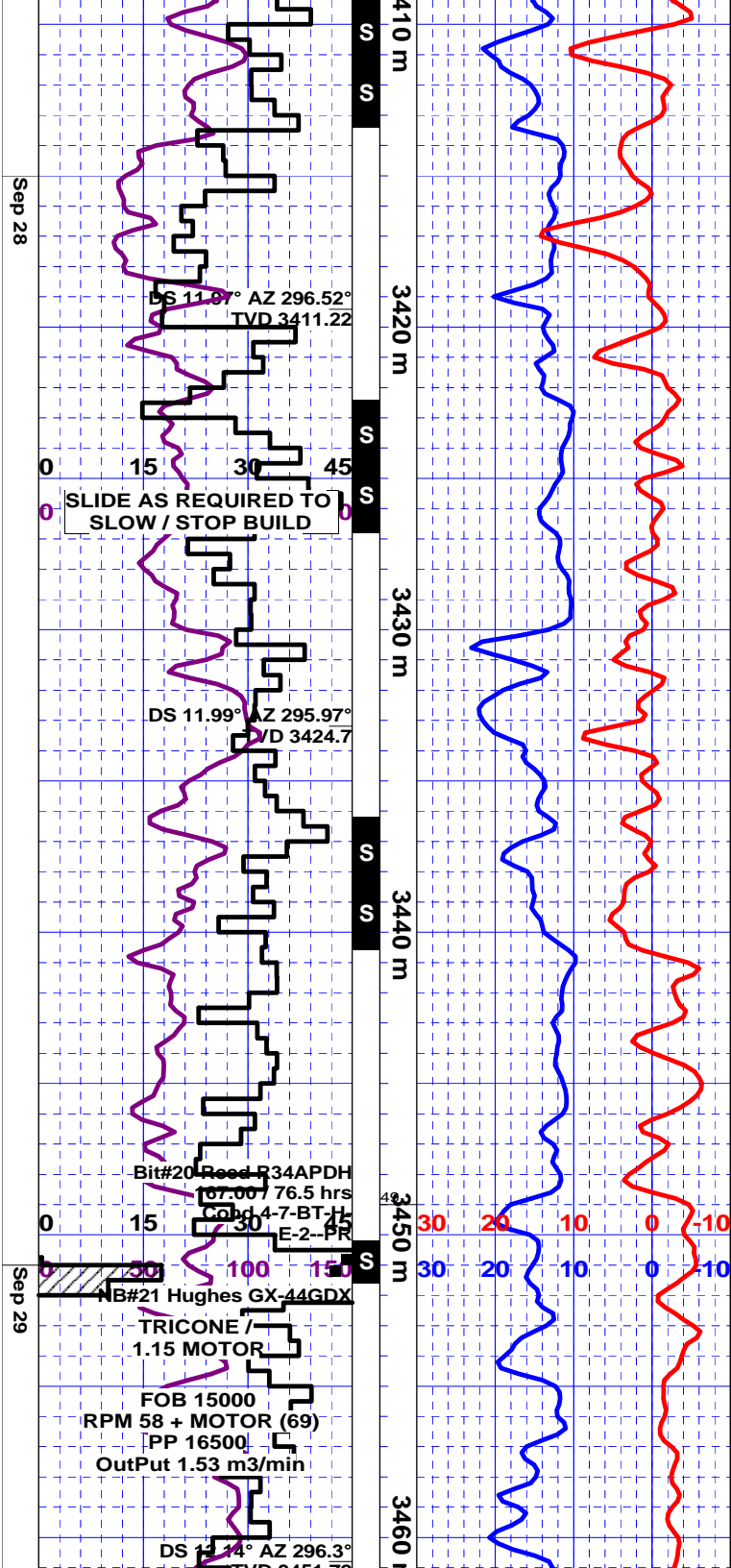
Intlam SLTST / SH ltr gy, l - u slt, qtz, op, trnsi, tr blk lit only, nn - loc micmica - mnr micas, v frm - mod hd, easily crushable, slly chky - softer in pt, mnr calcs only, rr tr dism pyr, mnr xln v f Ss, intlam / Sh, m - dkr gy, mas, amor, blk, plty, rr slty, hd, g calcs cmpt, no Shows, no Gas, Steady ROP.

BLK SH: dkr gy - gy blk, mas, amor, blk, lgr frgs, rr slty, mnr gy blk - blk l Slst, slly carb, mnr m gy Sh only, lams?, rr tr wh calc, uni / dpth, No Shows, no cut.

SS: off wh, slly mot gy wh, v f - u f, qtz, trnsi, op, wh, rr tr blk lit - rr intsl arg mat, overall cln, mod w cmtd, crushable, sils / mnr - 10% calcs, rr tr slly chky frgs, xln in pt, no vis por, no gas, grdg - v f - Slst - Sh / dpth, No Shows, no cut.

BLK SH: dkr gy - gy blk, mas, amor, blk - plty, hd - v frm, mnr v hd - tr brit, loc slly micmica, mnr carb only, loczd l slty, sils / fr calcs cmpt, mnr - 10% blk pos carb lams, mnr thn ltr gy calcs Inss?, uni / dpth, No Shows, no cut.

Intlam SLTST / SS lt gy - dirty off wh Slst, softer, mas, blk, slly chky, calcs in pt, / lamd Sh ?, as abv, decrg / dpth, incrg clnr Slst, off wh, m - u slt, chky in pt - more xln, mnr calcs cmpt, qtz, tr mica only, rr tr blk lithics, grdg - intlam v f - tr f Ss, off wh, cln, mas, blk, xln, qtz, wh, gy, slty sils - slly calcs mtz, mod srt, sbang - sbrdd, rr tr u f qtz rdd. w cmtd. (a tr chky softer frag:



silly calcs), no vis por, No Shows, no cut, No gas, tt.

SLTST / SS pred m - u Slstst, v lt gy - off wh, cln, mas, blk, sils / silly dolc cmpt, / Ss, off wh, f - u m - c, qtz, op, wh, trns, cln, abnt mtz sup, sils - silly calcs inflg, prly srt, sbrdd - sbang, w rdd c - fracd flotg v c - pbls?, no vis por, w cmtd but crushable weaker cmt, no vis por, No shows, no cut, Gas shw 120 units.

SLTST / SS Continued v lt gy - off wh Slstst - v f Ss, as abv, U Ss bcmng hdr and better cmtd / dpth, v lt gy, f - l m qtz sils - v silly dolc mtz, w cmtd, (frags fracs through grs), tt, mod srt, sbrdd - sbang, continued mnr c rdd and fracd pbls?, ROP slowdown, No gas, No shows.

Intlam SS / SLTST v lt gy, off wh, v f - u slt, rr m l f, mas, blk, competent, qtz, op, wh, tr gy, hd - v frm, genly easily crushable, sils / 3-10% calcs cmt, mnr l - u f Ss Inss - lams?, poorer srt, sbang - sbrdd / rdd f qtz, w cmtd, no vis por, tt, mnr v silly greenish tinge to some frags, Pos mnr m - ltr gy silly calcs Sh lams, No shows, no cut, No Gas, uni / dpth.

SLTST grdg - SS v lt gy - off wh, m - u slt, qtz, cln, sils / mnr - 10% calcs, frm, fri - easily crushable, rr micmica, intlam / v f f qtz Ss grdg - f - m poorer srt Ss / dpth, competent, frm - hd, crushable, sils / 5-10% calcs cmt, gen l relief, mnr coarser Ss / mod relief, mnr flotg c rdd qtz, rr tr lit, rr mica flks, (loc v silly gnsh tinge), overall silly calcs poorer srt f - c Ss, mod weaker cmtd, No Shw, no cut, no gas, (SI su smell - spls when acid added) POOH @ 3452 meters for drillbit.

SLTST - SS intlam off wh - v lt gy - greyish Slstst, mas, amor, blk, pty, mnr micmica, hd, sils / 5-10% calcs, / thn Ss bdg ?, v f - u f, qtz, cln, rr tr lit, mod srt, sbang - sbrdd, mod w cmtd in gen, sils - 3-5% calcs, (frags gen broken through qtz grs), low relief, crushable, mnr u m poorer srt qtz Ss, tr red fld lithics, mnr lse rdd flotg c qtz ?, loc tr gnsh mtz ?, mod w cmtd, crushable, mnr f brnsh micas rich, tr blk sh only, No shows, no cut, Zero Gas.

SLTST - SS / Redbeds ? predly v lt gy - off wh clnr Slstst qtz op wh greyish mas, blk, sils

[illegible]