

8 5/8" Surface Casing set @ 477'
5 1/2" Production Casing Ran xx/xx/xx

1) Drilling Contractor: Xcell; Rig #10
Toolpusher: Max

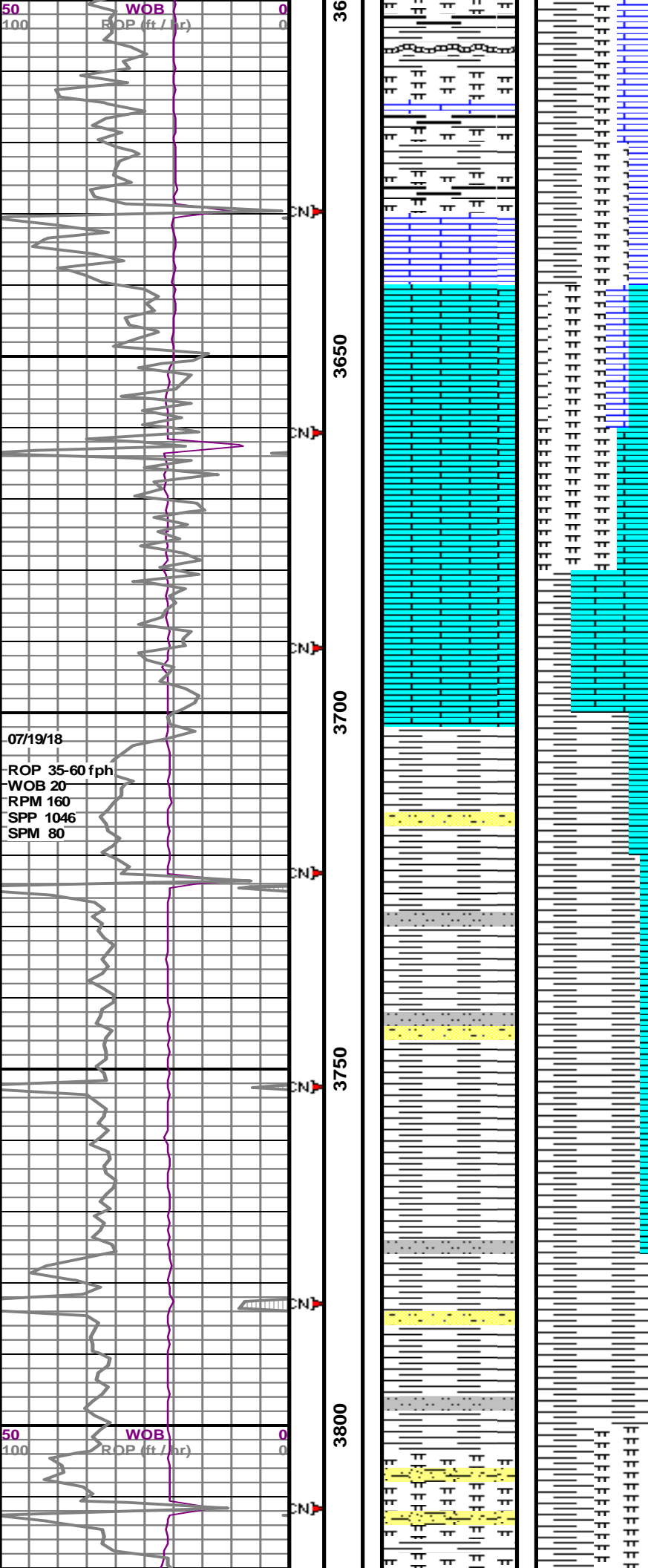
2) Company Man: Tom Thomas

	Bent		Ls		Ss		Arg dol
	Arg ss		Mrlst		Chlk		Clybasedsltst
	Cht		Sh		Mdtn		Carb sh
	Clyst		Shcol		Fracture		Carb chalk
	Coal		Shgy		Anhyd		Arg lmy ss
	Congl		Ss		Mdtn		
	Dol		Cement		Ss		
	Gyp		Sltst		Sltly sh		

MINERAL		Minxl		Crin		Gyp	
	Anhy		Nodule			Ls	
	Arggrn		Phos			Mrst	
	Arg		Pyr			Sltstrg	
	Bent		Salt			Ssstrg	
	Bit		Sandy				
	Brecfrag		Silt				
	Calc		Sil			TEXTURE	
	Carb		Sulphur				Boundst
	Chtdk		Tuff				Chalky
	Chtlit						Cryxln
	Dol	FOSIL					Earthy
	Feldspar		Algae				Finexln
	Ferrpel		Amph				Grainst
	Ferr		Belm				Lithogr
	Glau		Bioclst				Microxln
	Gyp		Brach				Mudst
	Hvymin		Bryozoa				Packst
	Kaol		Cephal				Wackest
	Marl		Coral				
				STRINGER		Anhy	
						Arg	
						Bent	
						Coal	
						Dol	

POROSITY TYPE	SORTING	OIL SHOWS	EVENTS
Earthy	Well	Uniform	Trip_point
Fenest	Moderate	Spotted	New bit
Fracture	Poor	Quiescent	Connection(cn)
Inter		Dead	Survey(mwd)
Moldic	ROUNDING	Patchy	Survey(dropped)
Organic	Rounded	Vspotty	Survey(wireline)
Pinpoint	Subrnd		Casing_shoe(1)
Vuggy	Subang	INTERVALS	Off bottom
	Angular	Core	Sidewall core
		Dst	

ROP,GR WOB ROP (ft / hr)		Events	Depth DST Inrvl.	Lithology	%Lith	Di o	Geological Descriptions
50 100	WOB ROP (ft / hr)		35				<p><<<<<<<<Shallower Zones of Interest >> >>>>>>>></p> <p>Niobrara 3213'</p> <p>-----</p> <p>Drilling w/ Bit #2, 7 7/8", STC, F12Y, 3X16's, wiper trip at 3598', short trip Niobrara to 3050'</p> <p>-----</p> <p>CHLKY MARL: mttld dk gy - off wht - crm, spttd wht ip, chlky txt, blkly - chnky, frm - mod hd, grdg to arg chlk, foss ip w/ iridesc shell frag as inocerimus, arag needles & spttd w/ wht imbdd cocoliths, infer chlk por, NSFOC</p> <p>MW 9.1 / 31</p> <p>CHLKY MARL: As Above w/ sme gy bent, tr pyrtc, infer chlk por, NSFOC</p> <p>MW 9.0 / 31</p>



SH: dk gy, fn smth txt, chnky - plty, frm, sb carb, no fluor, no cut, non calc

MARL: dk gy, fn smth txt, chnky - plty, frm, v calc w/ est. 30% micrite, NSFOC

FT HAYS 3630' MD, 973' SL

LS: off wht, amorph - sbchlky, tab, dns, hd, cln, no vis por, occ mnrl fluor, no cut

LS: off wht, crm, amorph - sbchlky, tab, dns, hd, cln, no vis por, occ mnrl fluor, no cut

MW 8.9 / 32

CARLILE 3702' MD, 901' SL

SH: med dk gy, fn smth - sl slty txt, blk, frm, sme arg vf ss - arg slt, pred non - sl calc

SH: med dk gy, fn smth - sl slty txt, blk, frm, sme arg vf ss - arg slt, pred non - sl calc

MW 9.0 / 32

SH: med dk gy, fn smth - sl slty txt, blk, frm, sme arg vf ss - arg slt, pred non - sl calc
MW 9.1 / 33

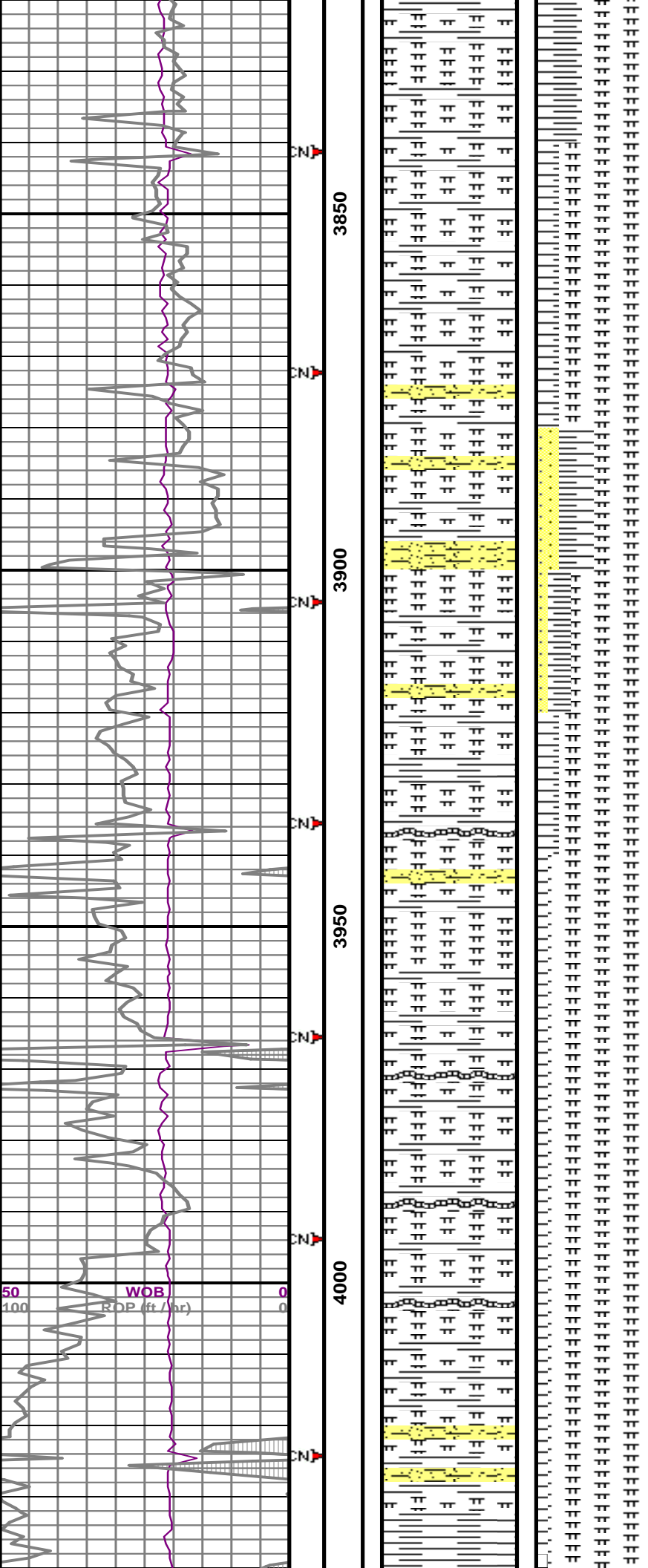
SH: med dk gy, fn smth - sl slty txt, blk, frm, sme arg vf ss - arg slt, pred non - sl calc

SH: med dk gy, fn smth - sl slty txt, blk, frm, sme arg vf ss - arg slt, pred non - sl calc

GREENHORN 3803' MD, 800' SL

MW 9.0 / 33

SH: med dk gn gy, fn smth - sl slty txt, blk, frm, sme arg vf ss - arg slt, pred non - sl calc



MARL: med dk gn gy, fn - rgh txt, blk, frm, occ vf gr
arg ss, v calc, NSFOC

MW 8.9 / 31

MARL: med dk gn gy, fn - rgh txt, blk, frm, occ vf gr
arg ss, v calc, NSFOC

MARL: med dk gn gy, fn - rgh txt, blk, frm, occ vf gr
arg ss, v calc, NSFOC

MW 9.0 / 35

ARG SLTY SS: med lt gy, L - U vf gr - slt, mod w cons,
calc cmt, cly & slt mt, est 16% vis por, NSFOC

MARL: med dk gn gy, fn - rgh txt, blk, frm, occ vf gr
arg ss, v calc, NSFOC

ARG SLTY SS: med lt gy, L - U vf gr - slt, mod w cons,
calc cmt, cly & slt mt, est 16% vis por, NSFOC

MARL: med dk gn gy, fn - rgh txt, blk, frm, occ vf gr
arg ss, v calc, NSFOC

MW 9.1 / 33

BENT: med gy - tn, v vf smth txt, sb wxy lstr, plty, frm -
mod hd, mnrl fluor ip

MARL: med dk gn gy, fn - rgh txt, blk, frm, occ vf gr
arg ss, v calc, NSFOC

MARL: med dk gn gy, fn - rgh txt, blk, frm, occ vf gr
arg ss, v calc, NSFOC

BENT: med gy - tn, v vf smth txt, sb wxy lstr, plty, frm -
mod hd, mnrl fluor ip

MW 9.3 / 35

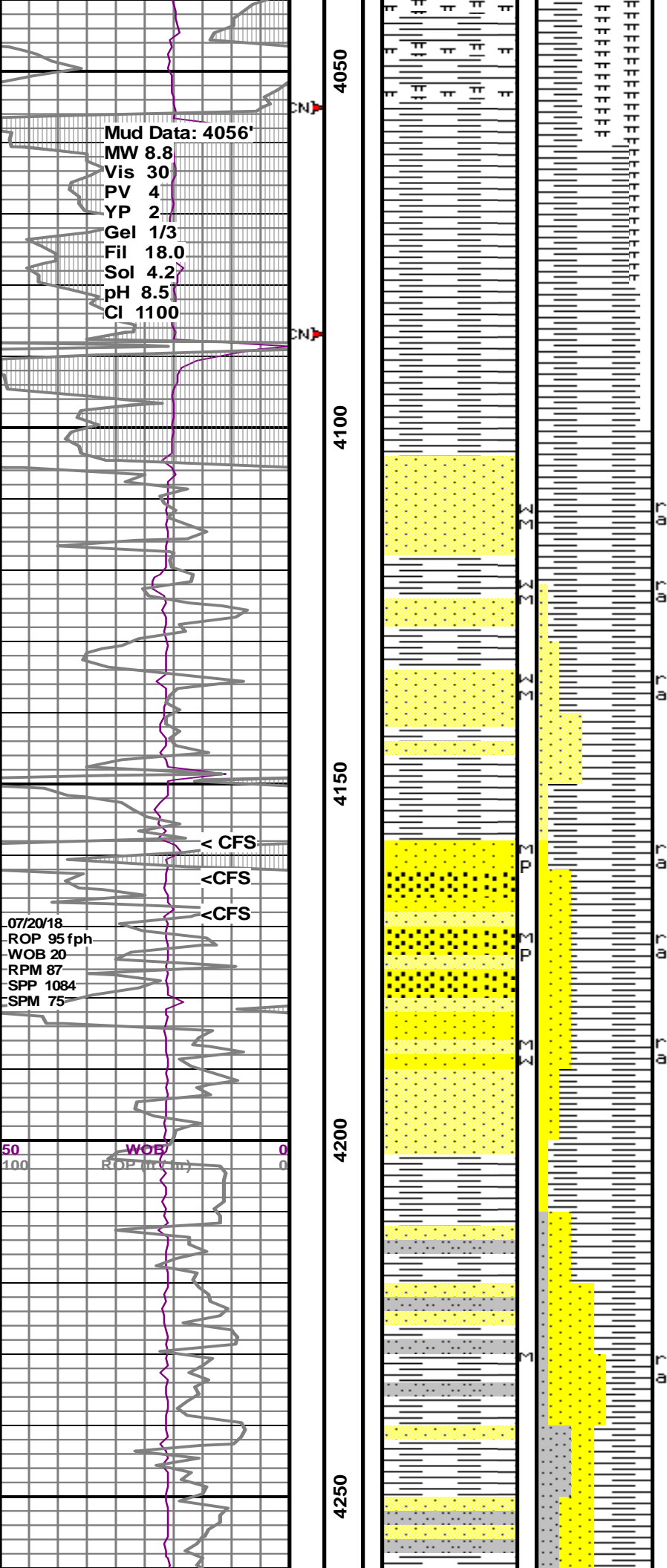
MARL: med dk gn gy, fn - rgh txt, blk, frm, occ vf gr
arg ss, v calc, NSFOC

X BENTONITE 4003' MD, 600' SL

BENT: med gy - tn, v vf smth txt, sb wxy lstr, plty, frm -
mod hd, mnrl fluor ip

MARL: med dk gn gy, fn - rgh txt, blk, frm, occ vf gr
arg ss, v calc, NSFOC

MARL: med dk gn gy, fn - rgh txt, blk, frm, occ vf gr
arg ss, v calc, NSFOC



MW 9.1 / 31

Wiper Trip at 4056', Niobrara Short Trip to 3087', condition mud

MW 9.0 / 42

SH: dk gy, fn smth txt, plty - blk, frm, non calc

SH: dk gy, fn smth txt, plty - blk, frm, non calc

SH: dk gy, fn smth txt, plty - blk, frm, non calc

D SAND 4105' MD, 498' SL

MW 9.0 / 40

tr SS: (p smpl - mstly up hole cvgs) trns l gy - lt brn gy, u vf - l fn gr, w-mod srt, sbrnd - sbang, mod cons - fri, p sil cmt, cly fl ip, tr intrgran por, est. 13%, NSFOC

SS: (p smpl - mstly up hole cvgs) trns l gy - lt brn gy, u vf - l fn gr, w-mod srt, sbrnd - sbang, mod cons - fri, p sil cmt, cly fl ip, tr intrgran por, est. 13%, NSFOC

SS: trns l lt brn gy, u vf - l fn gr, sbrnd - sbang, mod w srt, mod cons - fri ip, v p sil cmt, cly w/ sme cly fl, est 15% vis por, NSFOC

HUNTSMAN 4146' MD, 457' SL

SH: dk gy, fn smth txt, plty - sb blk, frm - sft, non calc

MW 9.0 / 41

J SAND 4158' MD, 445' SL

SS: mtlld v lt gy - gy wht - blk - lt brn gy, pred l - u fn gr, u vf gr, tr l med gr, sbrnd - sbang, mod srt - p srt ip, mod cons - fri, v p sil cmt - occ pryt cmt, cly - cly fl ip, tr blk carb strks, est 16 - 22% vis por, NSFOC

SS: trns l lt gy, lt brngy, off wht, pred l - u fn gr, u vf gr, tr l med gr, pred sbrnd - sbang, mod srt - p srt ip, mod cons - fri, mostly p sil - abndt calc cmt ip, cly - cly fl ip, est 16-20% vis por, NSFOC

SS: trns l lt gy, pred l - u fn gr, l mrd gr, u vf gr, pred sbrnd - sbang, mod srt - mod w srt, mod cons - fri - uncons, p sil - tr abndt calc cmt, cly - cly fl ip, est 16-22% vis por, NSFOC

SKULL CREEK 4203' MD, +400' SL

SH: dk gy, fn smth txt, plty - sbblk - chnky, frm, non - sl calc ip

SLTSTN: med - med dk gy, sndy ip, arg, sl calc, tr bent

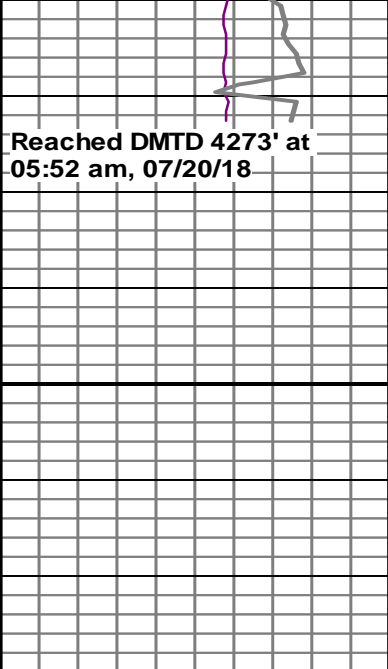
MW 8.8 / 45

SS: trns l, gy - gywht, l - u fn - u vf gr, sbrnd - sbang, mod srt, mod cons - fri - uncons, p sil cmt, cly - wht cly fl ip, est 22% vis por, NSFOC

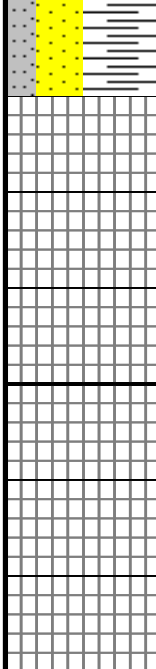
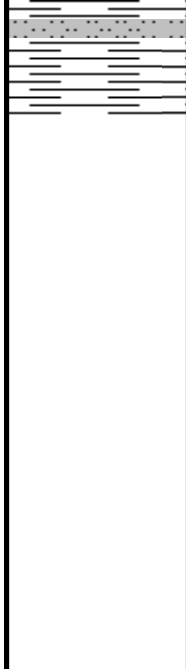
MW 8.8 / 43

SH: dk gy - blk, fn smth txt, plty - blk, frm, sb carb, non - sl calc

SLTSTN: m - dk gy, sndy, arg, sl calc, intrbdd w/ sh



4300



MW 8.8 / 44
SH: dk gy - blk, fn smth txt, plty - blk, frm, sb carb,
non - sl calc

Condition Hole, Strap Out for Logs

SAMPLE LOG TOPS BELOW

	MD	SSD
FT HAYS	3630'	+973
CARLILE	3702'	+901
GREENHORN	3803'	+800
X BENTONITE	4003'	+600
D SAND	4105'	+498
J SAND	4158'	+445
SKULL CREEK	4203'	+400

THANK YOU!!!
Phillip Willcox, Goolsby Brothers