

MORCO GEOLOGICAL SERVICES, INC

P. O. BOX 2136
 CARLSBAD, NM 88221
 800-748-2340

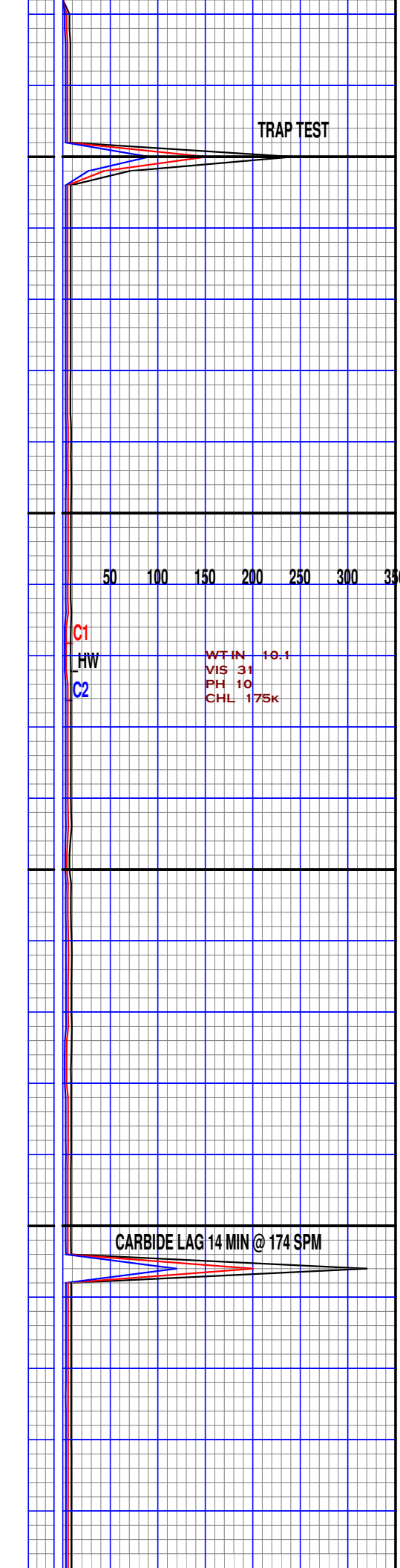
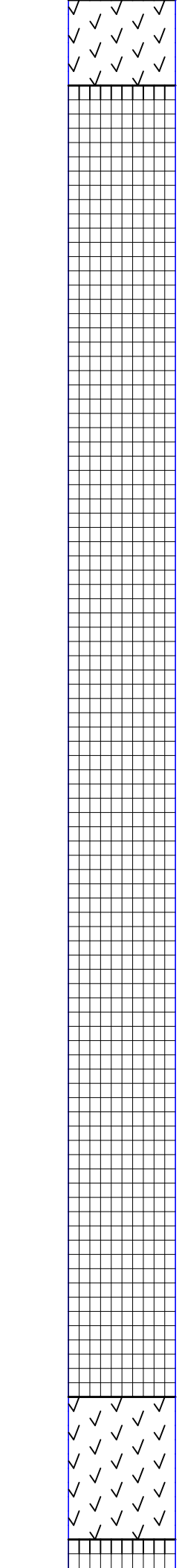
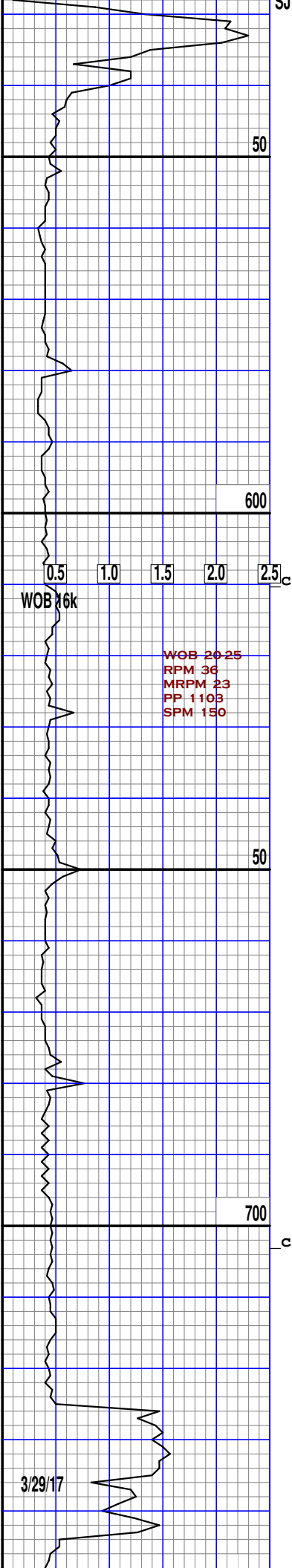
COMPANY: MESQUITE SWD
 WELL: SCOTT B SWD #001
 FIELD: _____ COUNTY: EDDY STATE: NEW MEXICO
 LOCATION: SEC. 23-T24S-R28E
274' FSL & 2165' FWL
 Interval Logged: 528' To: 15212' G.L.: 2954' K.B.: 2980'
 Date Logged: 3-28-17 To: 4-27-17 Spud Date: 3-26-17
 Rig: PRECISION 590 Unit No.: 3
 Loggers: BROWN/JOHNSON/REED/WENDT
 Api No.: 30-015-44061
 Filename: scottbswd001.mlw
 Geologist: _____

Created By MainLog

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|--|--|--------------|--|-------------|--|---------|--|-----------|--|-------|--|-----------|--|----------|--|--------------|--|-----------|--|------|--|-------|--|-----------|--|------------|--|--------------|--|-------------|--|--------|--|--------|--|----------|--|----------|--|----------|--|----------|--|----------|--|----------|--|----------|---|
| <p>Abbreviations:</p> <p>NB...New Bit CO...Circ Out NR...No Returns TG...Trip Gas WOB...Wt on Bit RPM...Rev/Min SG...Survey Gas</p> <p>DST...Drill Stem Test DS...Directional Survey CG...Connection gas LAT...Logged After Trip PP...Pump Pressure SPM...Strokes/Min DTG...Down Time Gas</p> <p>Mud Data</p> <p>WT..Weight PH..Acidity CHL..Chlorides</p> <p>V..Viscosity F..Filtrate SC..Solids Content</p> | <p>Lithology Symbols:</p> <table border="0"> <tr> <td></td><td>Anhydrite</td> <td></td><td>Salt</td> <td></td><td>Granite</td> </tr> <tr> <td></td><td>Siltstone</td> <td></td><td>Chert</td> <td></td><td>Sandstone</td> </tr> <tr> <td></td><td>Dolomite</td> <td></td><td>Conglomerate</td> <td></td><td>Limestone</td> </tr> <tr> <td></td><td>Coal</td> <td></td><td>Shale</td> <td></td><td>Bentonite</td> </tr> <tr> <td></td><td>Carb Shale</td> <td></td><td>Granite Wash</td> <td></td><td>Quartz Wash</td> </tr> <tr> <td></td><td>Red Sh</td> <td></td><td>Org Sh</td> <td></td><td>Green Sh</td> </tr> <tr> <td></td><td>Cust Sh1</td> <td></td><td>Cust Sh2</td> <td></td><td>Cust Sh3</td> </tr> <tr> <td></td><td>Cust Sh4</td> <td></td><td>Cust Sh5</td> <td></td><td>Cust Sh6</td> </tr> </table> <p>Accessories</p> <p> Glauconite Pyrite Fossils Oolites</p> <p> Fractures Cement</p> | | Anhydrite | | Salt | | Granite | | Siltstone | | Chert | | Sandstone | | Dolomite | | Conglomerate | | Limestone | | Coal | | Shale | | Bentonite | | Carb Shale | | Granite Wash | | Quartz Wash | | Red Sh | | Org Sh | | Green Sh | | Cust Sh1 | | Cust Sh2 | | Cust Sh3 | | Cust Sh4 | | Cust Sh5 | | Cust Sh6 | <p>Gas Chromatograph Analysis:</p> <p>HW _____</p> <p>C1 _____</p> <p>C2 _____</p> <p>C3 _____</p> <p>IC4 _____</p> <p>NC4 _____</p> <p>IC5 _____</p> <p>NC5 _____</p> |
| | Anhydrite | | Salt | | Granite | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Siltstone | | Chert | | Sandstone | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Dolomite | | Conglomerate | | Limestone | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Coal | | Shale | | Bentonite | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Carb Shale | | Granite Wash | | Quartz Wash | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Red Sh | | Org Sh | | Green Sh | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Cust Sh1 | | Cust Sh2 | | Cust Sh3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Cust Sh4 | | Cust Sh5 | | Cust Sh6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| Drilling Rate MIN/FT | Vis Por | Lithology | % Oil Flu | Cut Tr / pfg | Total Gas/Chromatograph | Descriptions/Remarks |
|-------------------------|------------|-----------|-----------------|--------------------|-------------------------|----------------------|
|-------------------------|------------|-----------|-----------------|--------------------|-------------------------|----------------------|

| | | | | | | |
|--------------------------|----------------|--|-------|-----|----------------------------|--|
| 0.5 1.0 1.5 2.0 2.5 | Tr / p g | | p f g | pfg | 50 100 150 200 250 300 350 | DRILLING CONTRACTOR PRECISION #590 SET 20" CASING @ 528' 500 COMMENCE THREE MAN LOGGING 3/28/17 DRILLING W/ CLOSED LOOP SYSTEM |
| NB #2 17.5 ULTERRA U813S | C1 | | | | | |



ANHY:wht,off wht,lt gry
crm,hd

HALITE

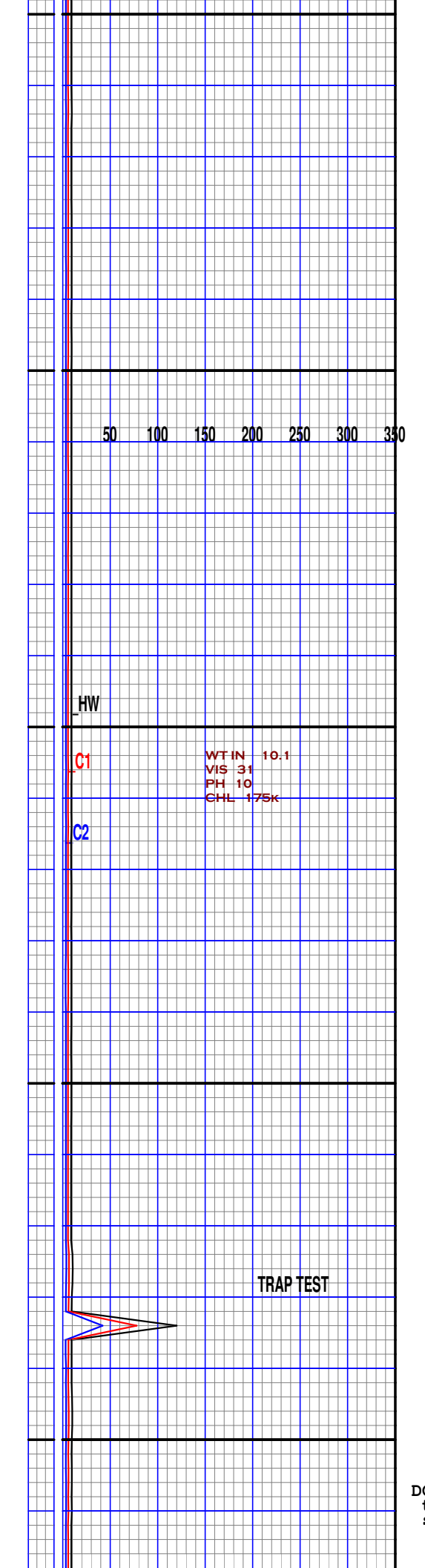
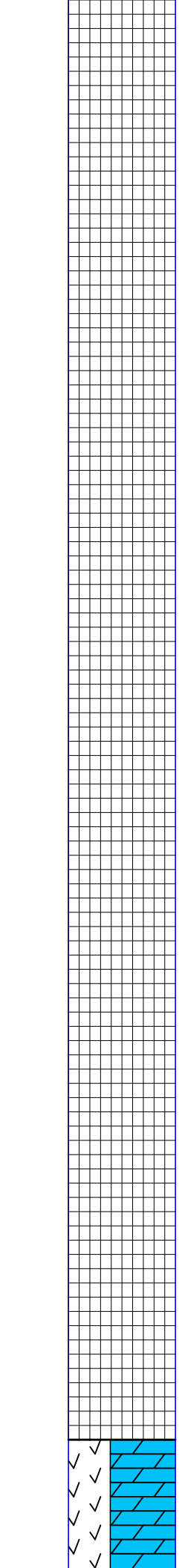
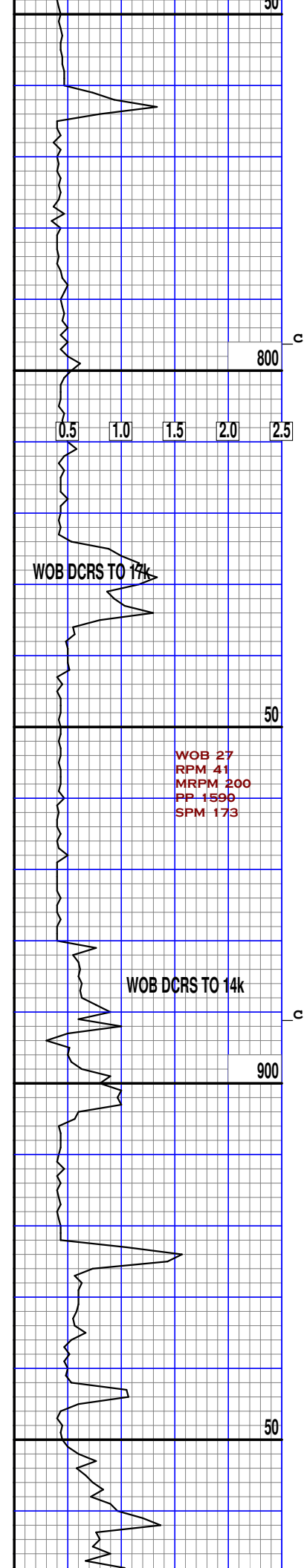
HALITE

HALITE

HALITE

HALITE

ANHY:wht,off wht,clr
mod hd-hd,tr sft



50

800

0.5 1.0 1.5 2.0 2.5

WOB DCRS TO 17k

50

WOB 27
RPM 41
MRPM 200
PP 1590
SPM 173

WOB DCRS TO 14k

900

50

50 100 150 200 250 300 350

HALITE

HALITE

HALITE

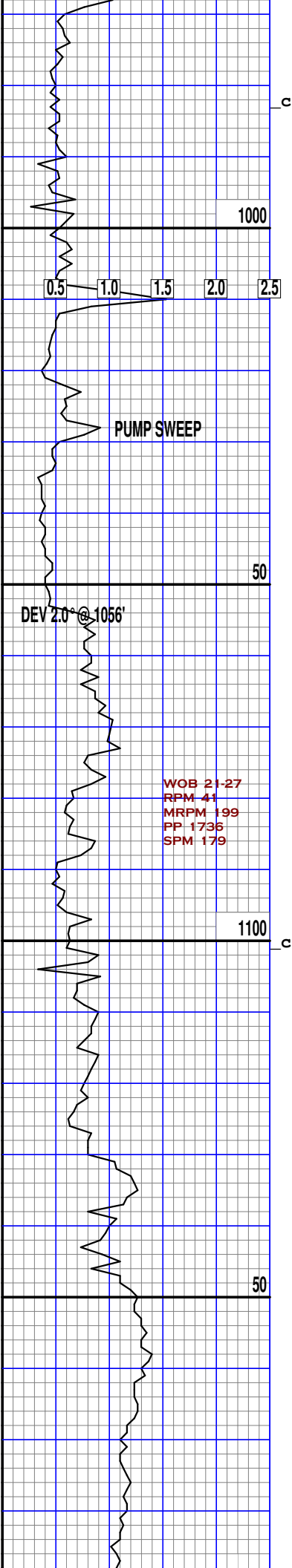
HALITE

HALITE

TRAP TEST

HALITE

DOLO:wht,off wht,crm
trans,vfn-micro xln
sft,abndt sucro



c

1000

0.5 1.0 1.5 2.0 2.5

PUMP SWEEP

50

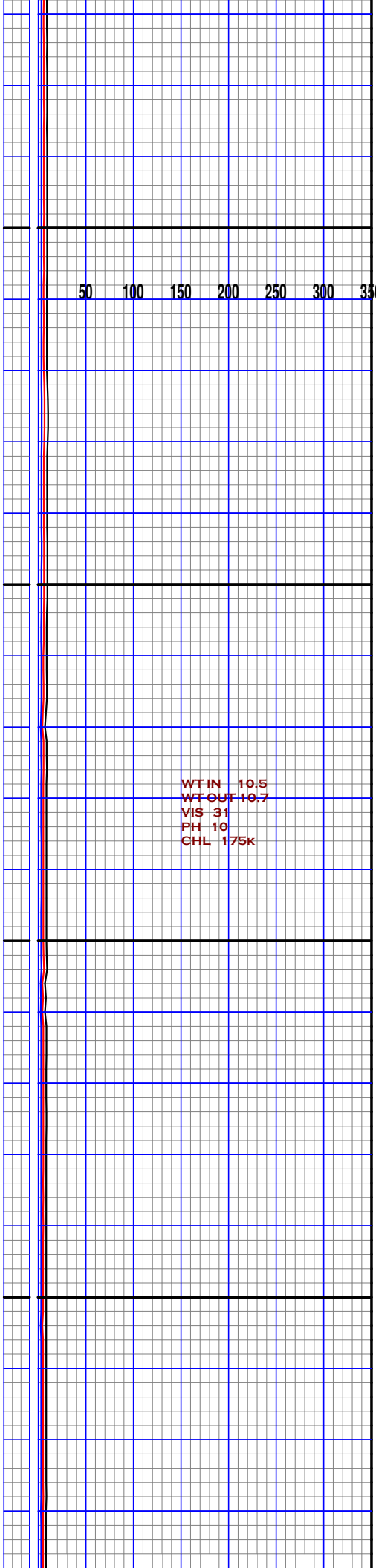
DEV 2.0° @ 1056'

WOB 21-27
RPM 41
MRPM 199
PP 1736
SPM 179

1100

c

50



50 100 150 200 250 300 350

OSH:org,lt org,lt gry
blky-sbblky,sft-v/sft
rthy,gmyy

ANYH:wht,off wht,clr
mlky,hd-v/hd,occ dolo

OSH:org,drk org,lt org
lt gry,sbblky,v/sft
gmyy

HALITE

ANYH:wht,off wht,clr
frm-mod hd,occ dolo

WTIN 10.5
WTOUT 10.7
VIS 31
PH 10
CHL 175k

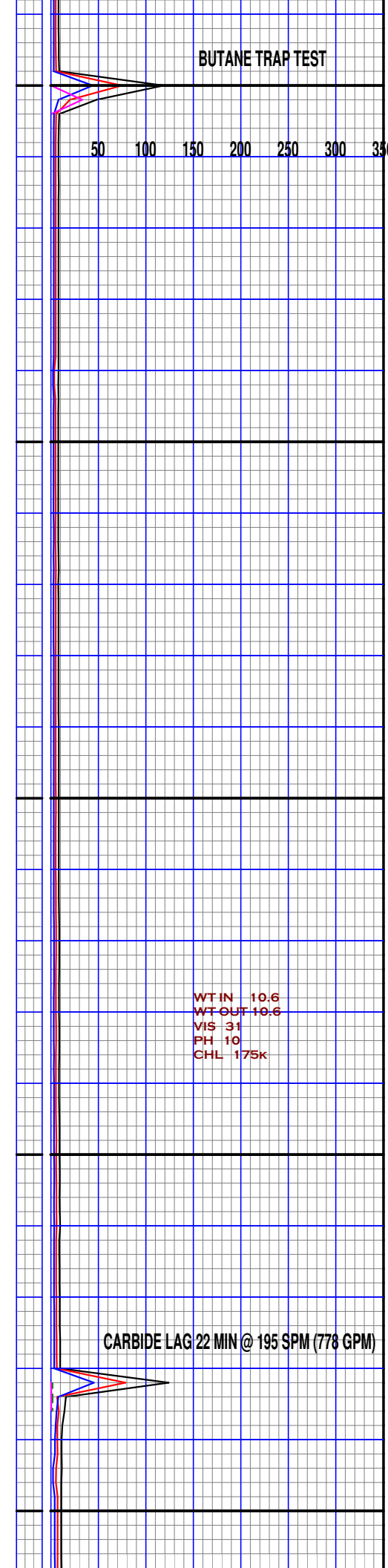
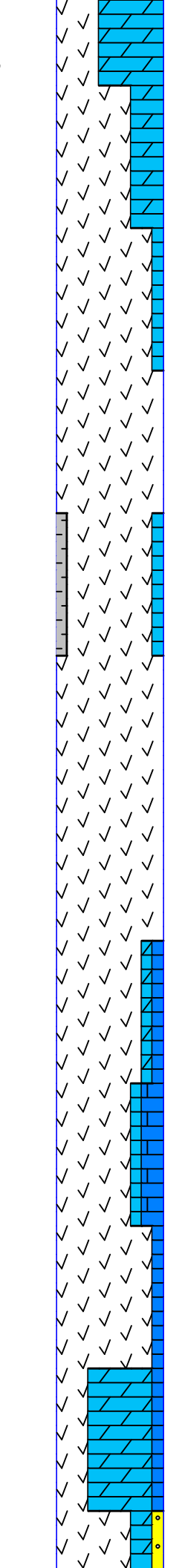
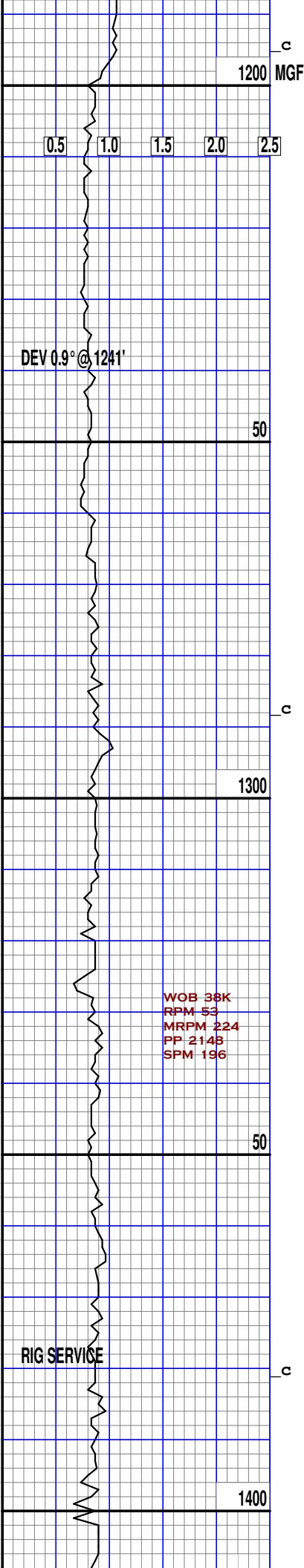
DOLO:wht,trans,off wht
vfn xln,sft,sucro

ANYH:wht,off wht,lt gry
clr,hd

ANYH:clr,wht,off wht
lt gry,mod frm-hd,occ
dolo

DOLO:crm,wht,trans,off
wht,vfn xln,sft,occ
frm,abndt sucro

ANYH:wht,off wht,clr
hd



DOLO: off wht, wht, crm
vfn-micro xln, frm, abndt
sucro

ANYH: clr, wht, off wht
frm, hrd, abndt gyp

ANYH: clr, wht, off wht
frm-hrd, abndt gyp

SH: blk, v/drk gry, blk
sb blk, frm, rthy, tr
mic

ANYH: wht, clr, off wht
tn, crm ip, frm, sli
hrd ip, sme gyp

ANYH: clr, wht, off wht
tn, frm, sme gyp

LS: crm, off wht, vfn
xln, frm, dns, abndt
anhy thru

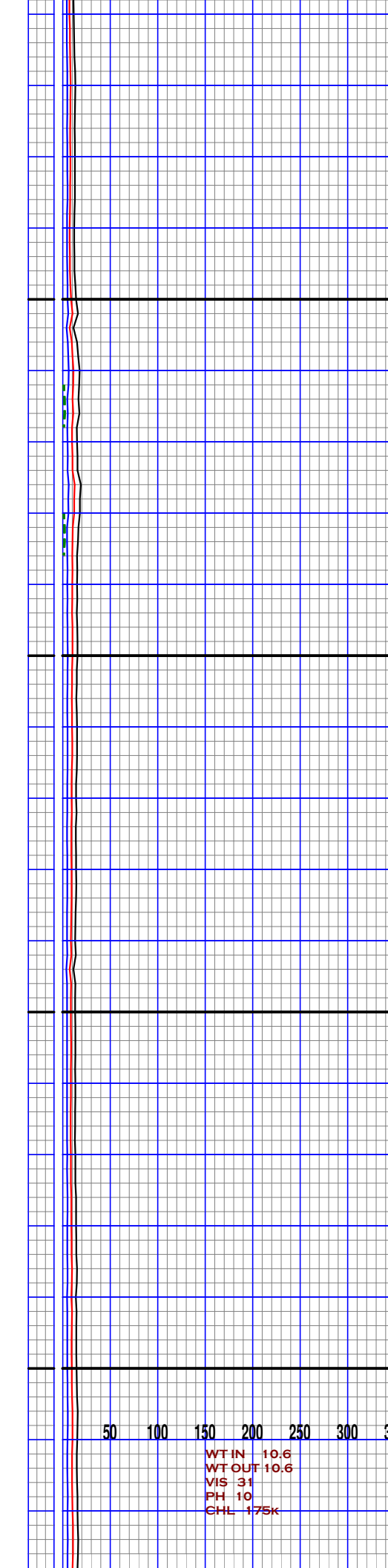
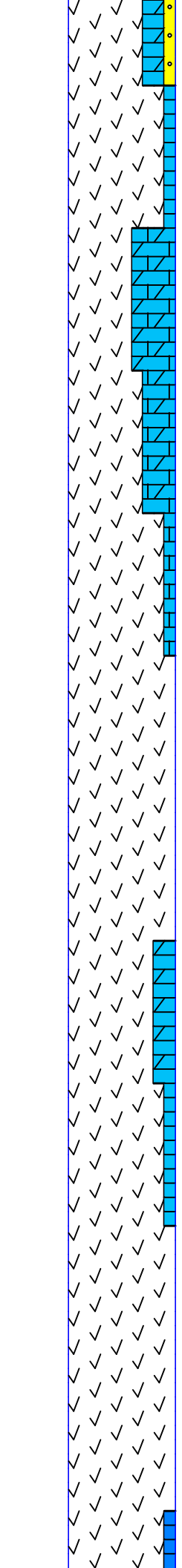
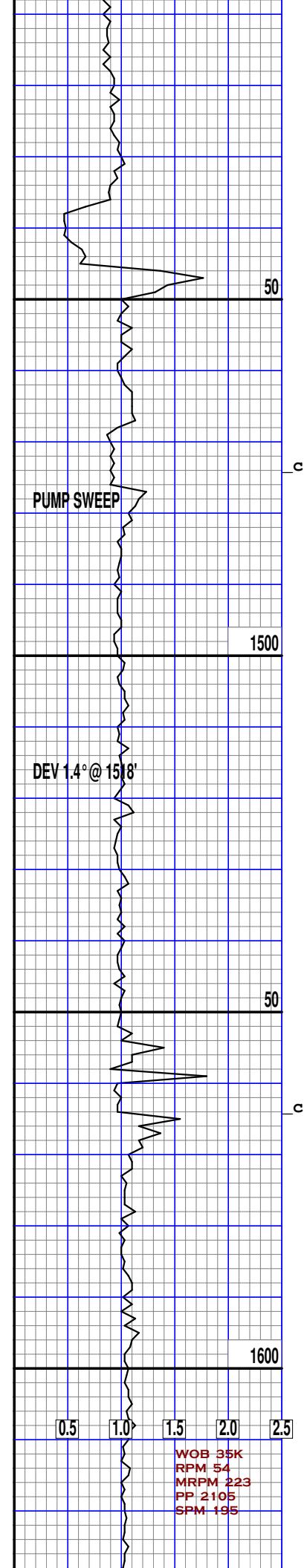
WT IN 10.6
WT OUT 10.6
VIS 31
PH 10
CHL 175k

DOLO: crm-off wht, wht
tn, vfn-fn xln, frm
dns, sme anhy

ANYH: clr, off wht-wht
crm, tn, frm, abndt gyp

LS: crm, tn, off wht-wht
vfn xln, frm, dns, abndt
anhy thru

DOLO: crm, lt brn, off wht
tn, vfn-fn xln, frm, sli
hrd, dns, v/anhy thru
sme lmy



SS: off wht, lt gry, mlky
 clr, vfn-fn gr, sb rnd-
 sb ang, calc cmtd, prly
 srtd, slty lamin

ANYH: clr, off wht, wht
 mlky, frm, sli hrd, abndt
 gyp

DOLO: crm, tn, lt brn, off
 wht-wht, vfn xln, frm
 dns, v/calc, abndt anhy

ANYH: wht-off wht, clr
 mlky, tn, crm, frm, v/
 calc thru

DOLO: crm, tn, off wht
 lt brn, wht, vfn xln
 frm, sli hrd, dns, v/
 lmy thru, abndt anhy

ANYH: clr, wht, crm, off
 wht, mlky, frm, sme
 calc

ANYH: clr, crm, wht-off
 wht, mlky, frm, sli hrd
 ip, abndt calc, sme gyp

DOLO: crm, off wht, lt brn
 wht, mlky, vfn-fn xln
 frm, dns, sme anhy, tr
 calc

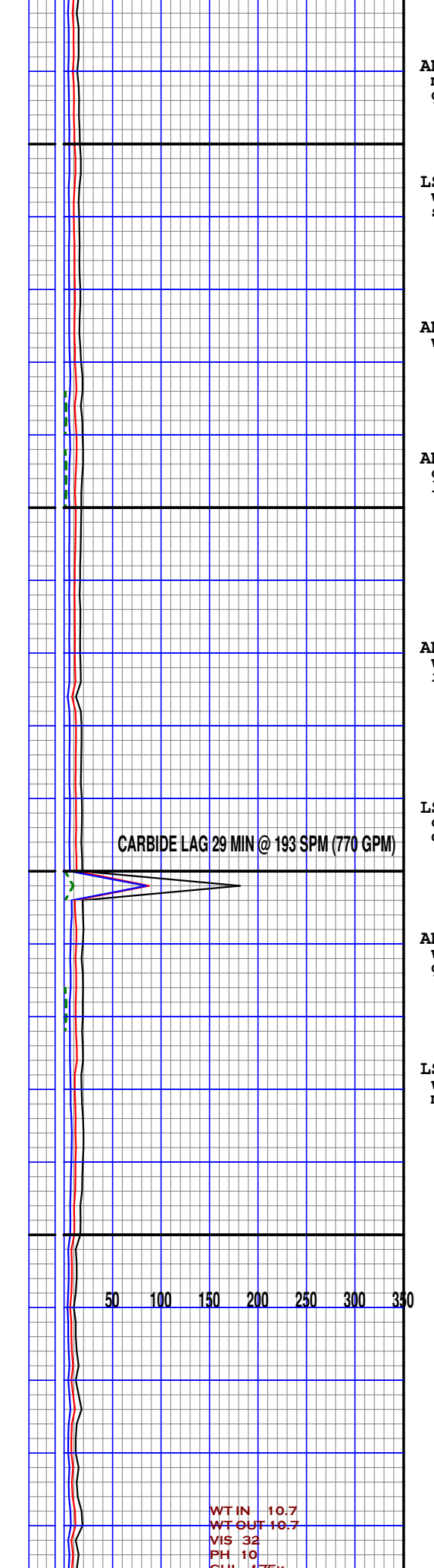
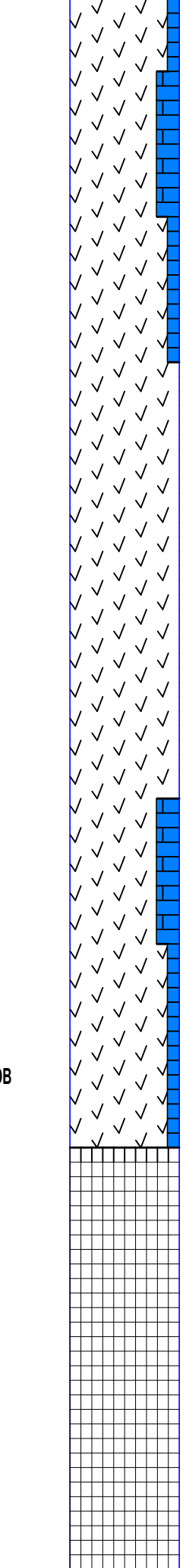
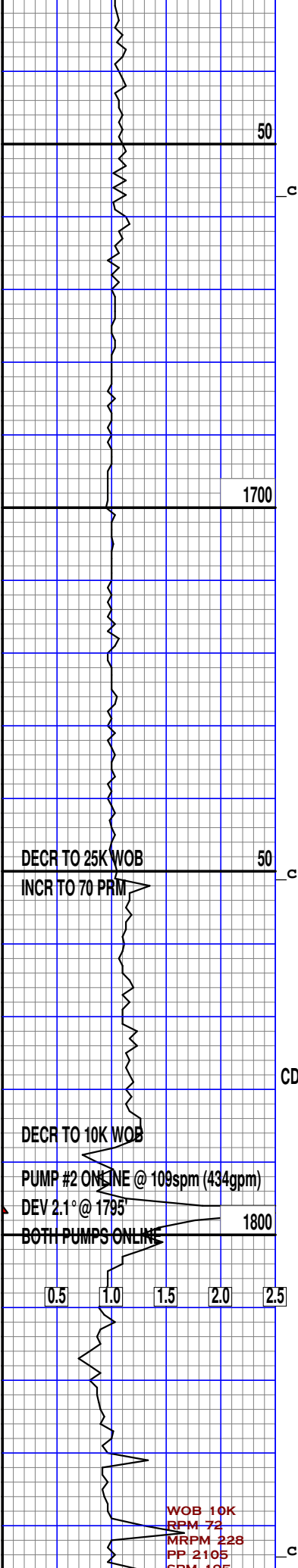
ANYH: clr, mlky, wht-off
 wht, frm, sme calc, gyp

ANYH: clr, wht, mlky, off
 wht, frm, abndt gyp, sme
 calc

WOB 35K
 RPM 54
 MRPM 223
 PP 2105
 SPM 195

WTIN 10.6
 WTOUT 10.6
 VIS 31
 PH 10
 CHL 175K

LS: crm, lt brn-brn, off
 wht, tn, vfn-fn xln, frm
 dns, sme anhy



ANHY:wht,clr,off wht-mlky,crm,frm,abndt gyp,calc

LS:crm,lt brn-brn,off wht,vfn-fn xln,frm,dns sme anhy

ANHY:clr,mlky,wht-off wht,frm,sme lmy,gyp

ANHY:clr,mlky,crm,wht-off wht,lt brn,frm,sme lmy,gyp

ANHY:mlky,clr,wht-off wht,crm-tn,frm,sli hrd ip,sme gyp,calc

LS:crm,bff,lt brn-brn off wht,fn-vfn xln,frm dns,sme anhy,gyp

ANHY:clr,mlky,wht-off wht,frm,v/calc thru gyp

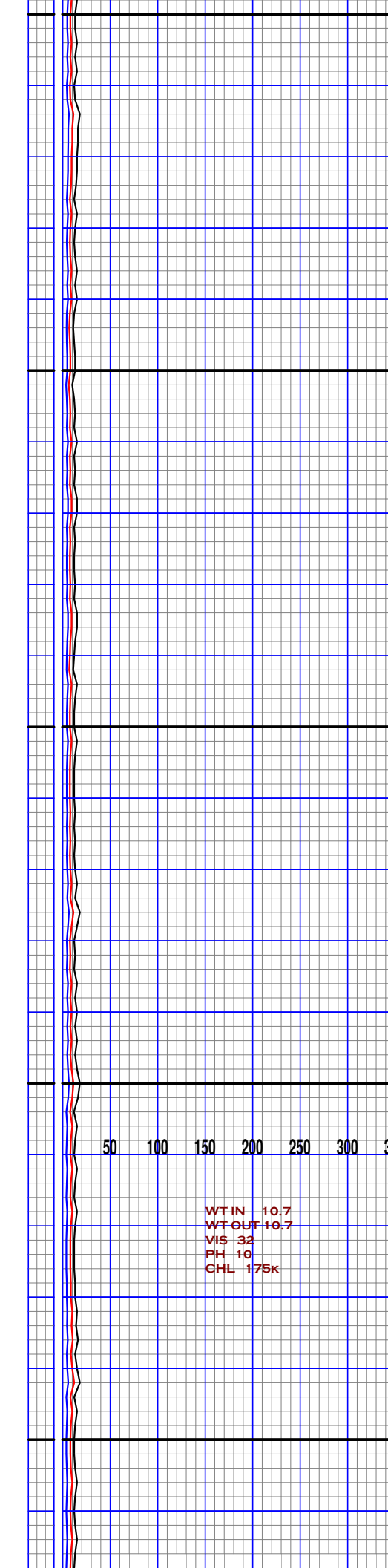
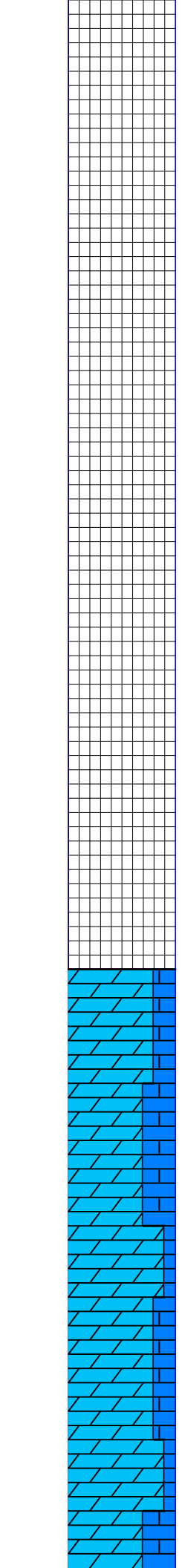
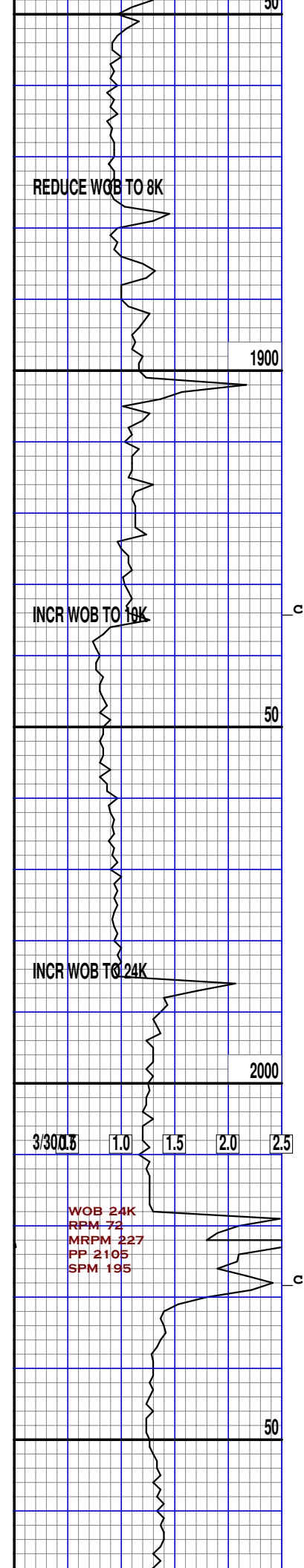
LS:tn,crm,brn,off wht,wht,vfn xln,frm,sme mod hrd,mott,sme silic

HALITE

HALITE

WOB 10K
RPM 72
MRPM 228
PP 2105
SPM 195

WT IN 10.7
WT OUT 10.7
VIS 32
PH 10
CHL 175K



HALITE

HALITE

HALITE

HALITE

HALITE

DOLO:tn,crm,wht,off wht
vfn xln,frm,sme mod
hrd,mott,sme sucros,
tr lmy

LS:off wht,wht,crm,tn,
vfn xln,frm,mott,sme
silic

DOLO:tn,crm,off wht,wht
vfn xln,frm,sme mod
hrd,mott,sucros,sme
lmy

LS:wht,off wht,vfn xln,
frm,mott,sme silic,
dolo ip

DOLO:tn,crm,off wht,wht

WTIN 10.7
WTOUT 10.7
VIS 32
PH 10
CHL 175k

3/300.3 1.0 1.5 2.0 2.5

50 100 150 200 250 300 350

DEV .3° @ 2073'

REDUCE WOB TO 10K

PUMP #2 ONLINE

2100

c

50

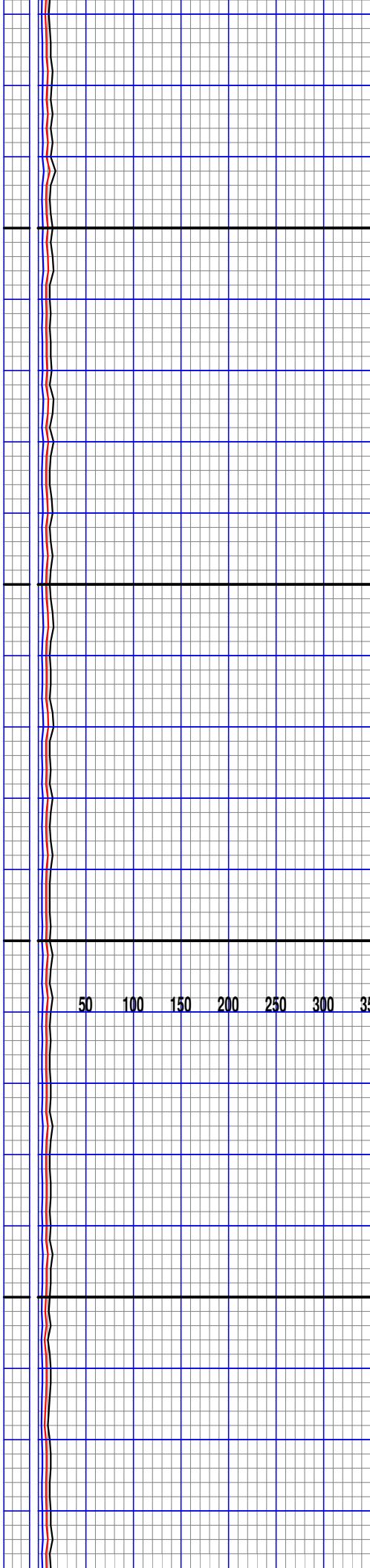
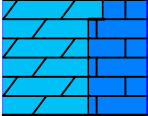
BOTH PUMPS ONLINE

2200

0.5 1.0 1.5 2.0 2.5

c

50



vfn xln frm sme mod
hrd,mott,sucros,sme
clr gyp

HALITE

HALITE

HALITE

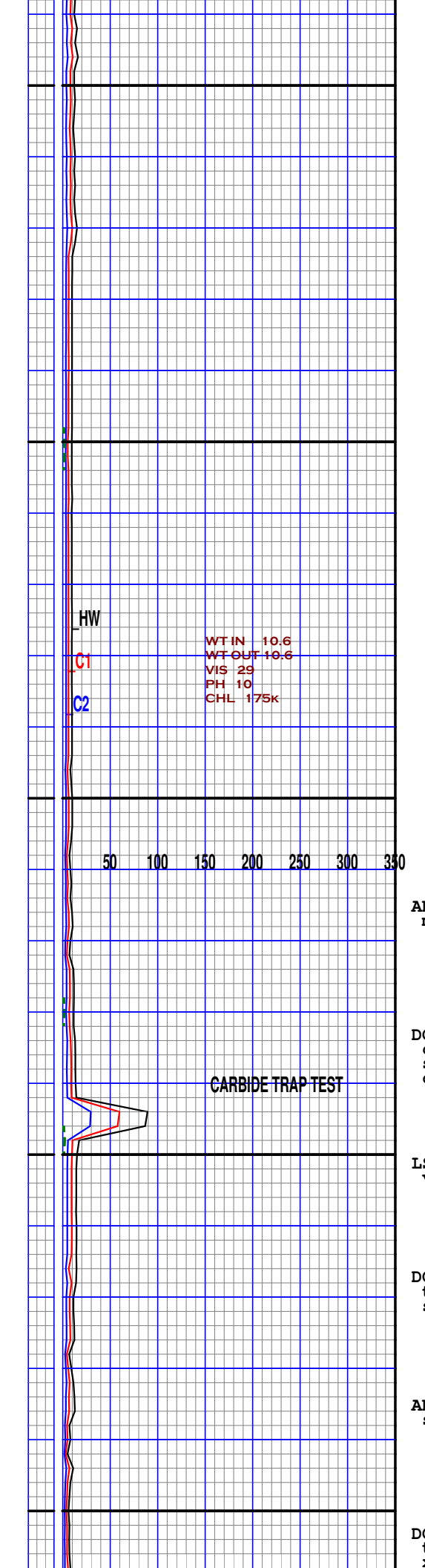
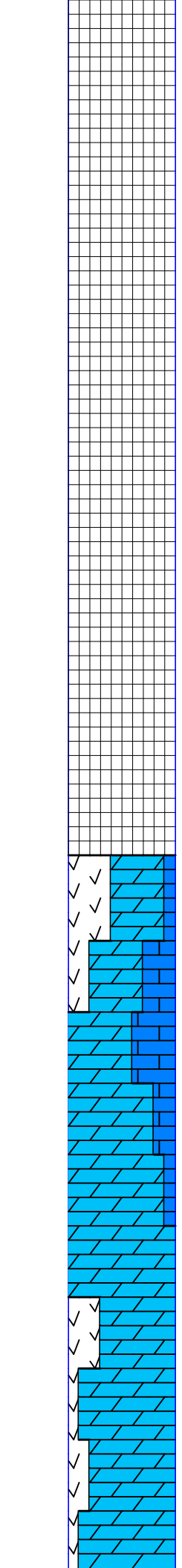
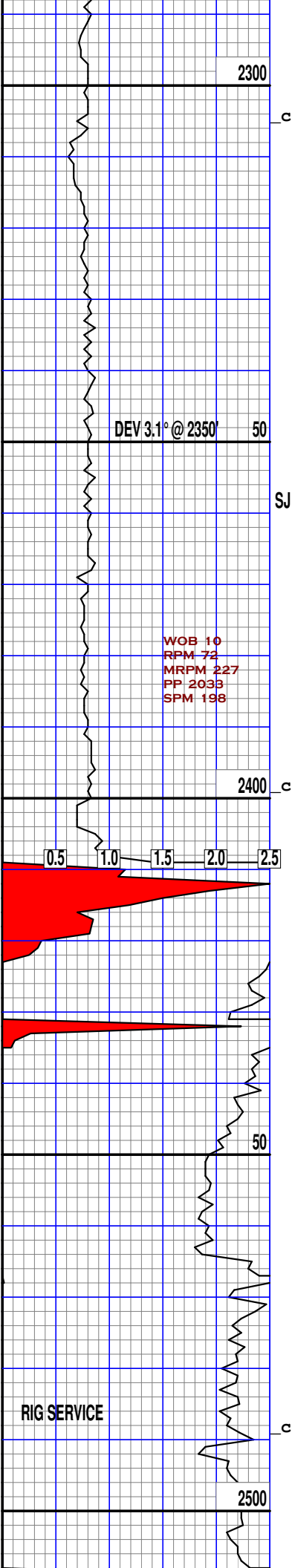
HALITE

HALITE

50 100 150 200 250 300 350

HALITE

HALITE



HALITE

HALITE

HALITE

WTIN 10.6
WTOUT 10.6
VIS 29
PH 10
CHL 175k

HALITE

ANHY:wht,off wht,clr
mlky,hd,occ lmy ip

DOLO:wht,off wht,trans
crm,vfn xln,sft,abndt
sucro,occ lmy ip,tr
clr gyp

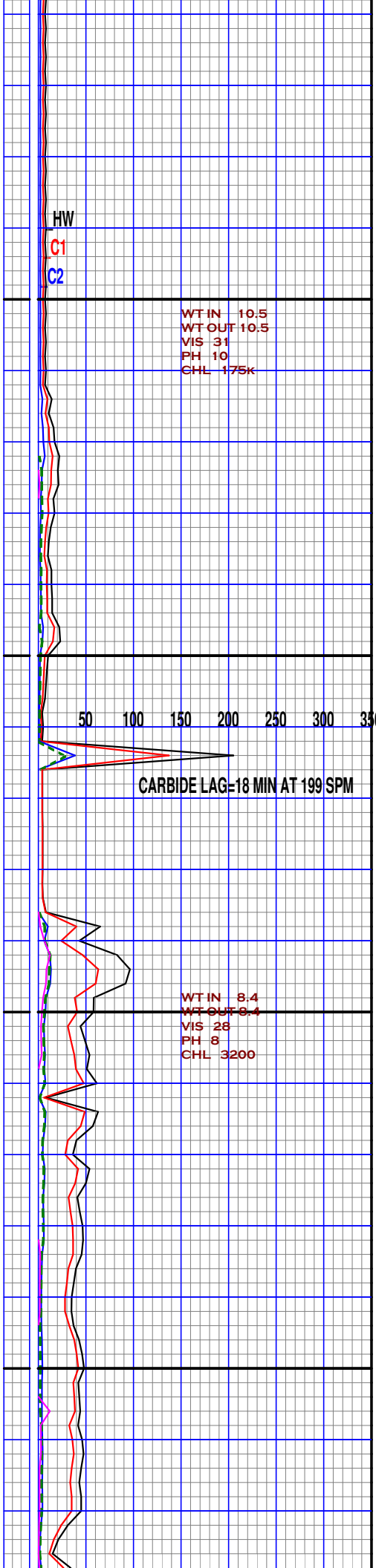
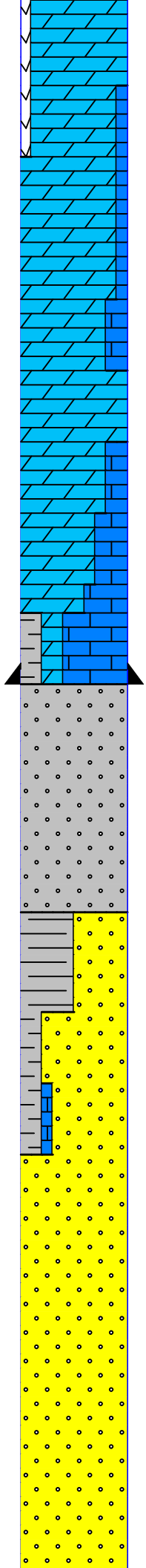
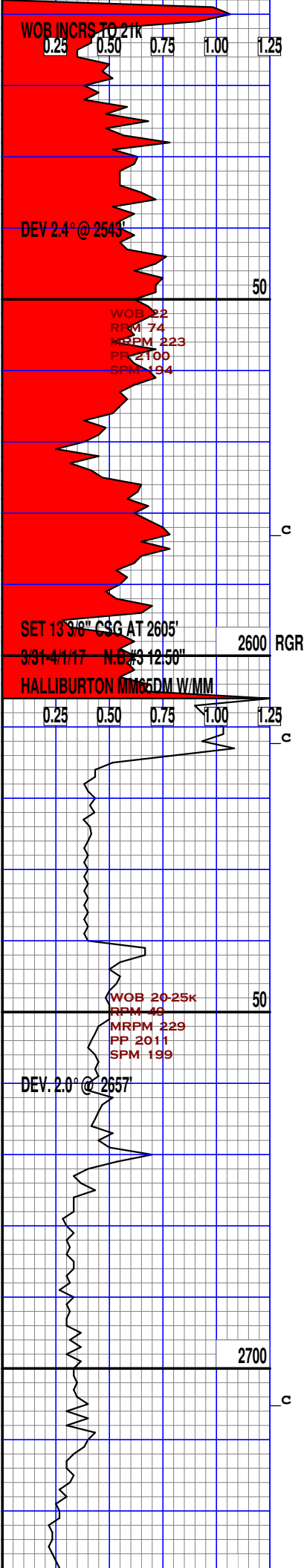
CARBIDE TRAP TEST

LS:brn,drk brn,crm,bff
vfn-micro xln,hd

DOLO:wht,off wht,crm
trans,vfn xln,sft
sucro,abndt blk spkld

ANHY:clr,wht,off wht
sft-mod hd

DOLO:wht,off wht,crm
trans,brn,lt brn,vfn
xln,sft,occ hd,abndt



sucro, tr lmy inclus

LS: drk brn, brn, crm, off wht, micro xln, hd, dns

HW

C1

C2

DOLO: wht, off wht, trans crm, tn, vfn xln, sft sucro, occ lmy inclus

DOLO: crm, off wht, tn, lt brn, wht, trans, vfn xln sft, abndt sucro, occ lmy inclus

SH: blk, drk gry, drk brn blk, sft-mod frm, rthy sme lmy ip

100% CEMENT

CARBIDE LAG=18 MIN AT 199 SPM

100% CEMENT

SH: drk brn, vry drk brn, sme vry drk gry, blk, mod frm, frm, dull, erthy carb, sli calc

SS: gry, lt gry, sm off wht, vfn gr, lsly consl arg, sme shly in prt, subrndd-rndd, well srted

LS: lt brn, tn, crm, vfn-micro xln, dns, frm, cln

SS: clr, mlky, lt gry, sme off wht, vfn gr, unconsl subrndd-rndd, sm lsly consl, arg, sli calc, wel srted

SS: clr, mlky, lt gry, vfn gr, unconsl, subrndd-rnd well srted, sli calc, sme lsly consl, arg cmt

SS: clr, mlky, sm lt gry, pred unconsl, subrndd-rndd, well srted, sli calc, sm lsly consl, arg

WOB INCRS TO 21K

DEV 2.4° @ 2543'

WOB 22
RPM 74
MRPM 223
PP 2109
SPM 194

SET 1 3/8" CSG AT 2605'
3/31-4/1/17 N.D.#3 12:50"
HALLIBURTON MM65DM W/MM

WOB 20-25K
RPM 48
MRPM 229
PP 2011
SPM 199

DEV 2.0° @ 2657'

WTIN 10.5
WTOUT 10.5
VIS 31
PH 10
CHL 175K

CARBIDE LAG=18 MIN AT 199 SPM

WTIN 8.4
WTOUT 8.4
VIS 28
PH 8
CHL 3200

50

c

2600 RGR

c

50

2700

c

HW

C1

C2

DOLO: wht, off wht, trans crm, tn, vfn xln, sft sucro, occ lmy inclus

DOLO: crm, off wht, tn, lt brn, wht, trans, vfn xln sft, abndt sucro, occ lmy inclus

SH: blk, drk gry, drk brn blk, sft-mod frm, rthy sme lmy ip

100% CEMENT

100% CEMENT

SH: drk brn, vry drk brn, sme vry drk gry, blk, mod frm, frm, dull, erthy carb, sli calc

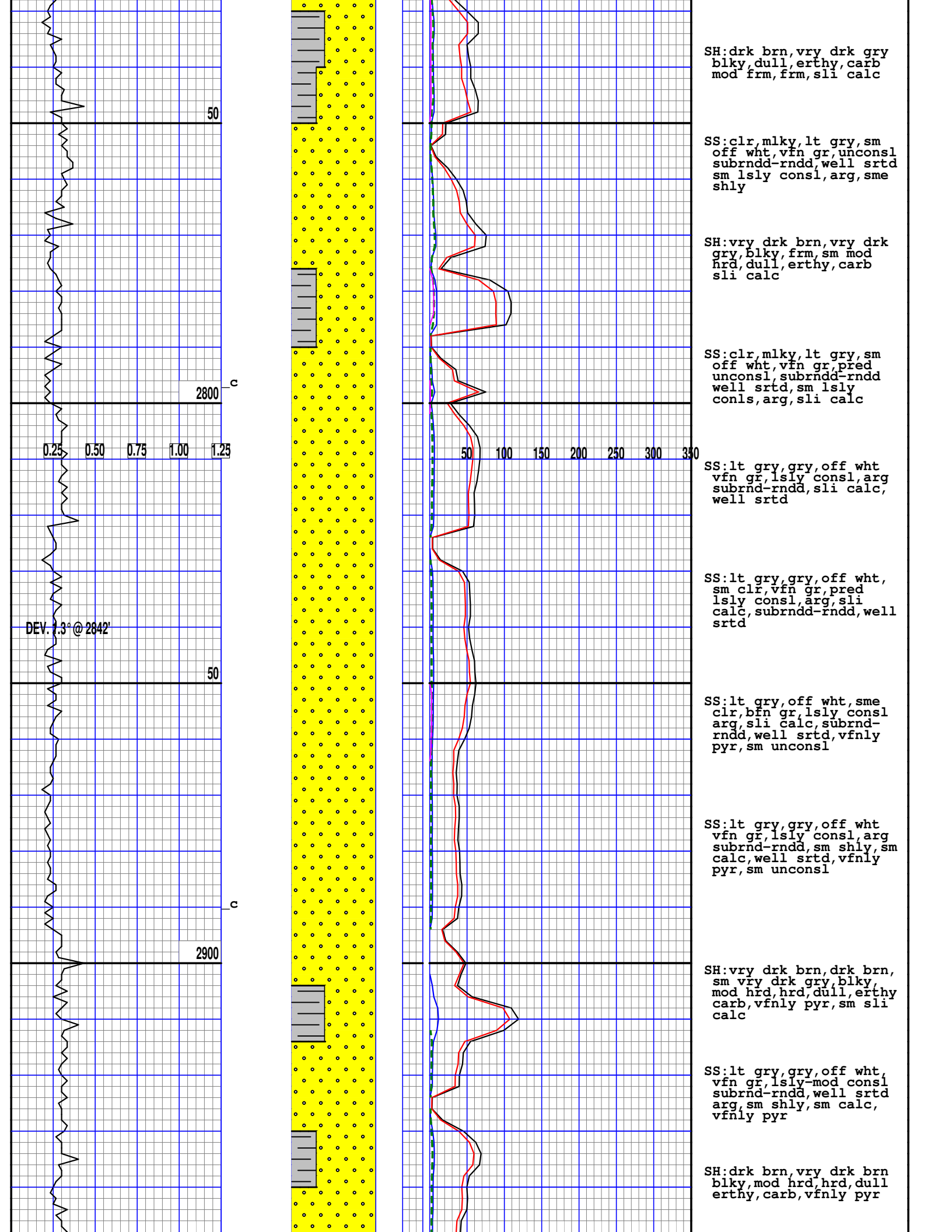
SS: gry, lt gry, sm off wht, vfn gr, lsly consl arg, sme shly in prt, subrndd-rndd, well srted

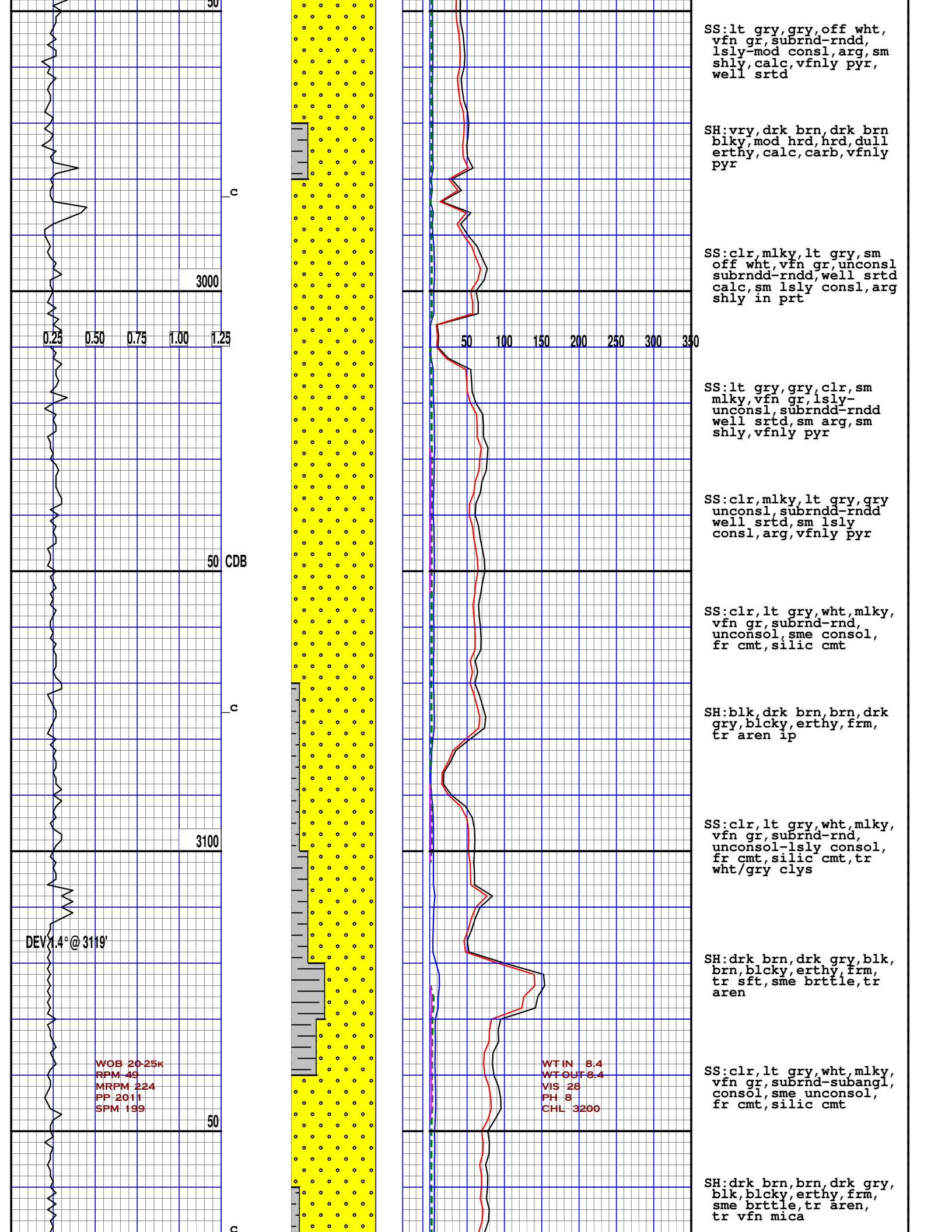
LS: lt brn, tn, crm, vfn-micro xln, dns, frm, cln

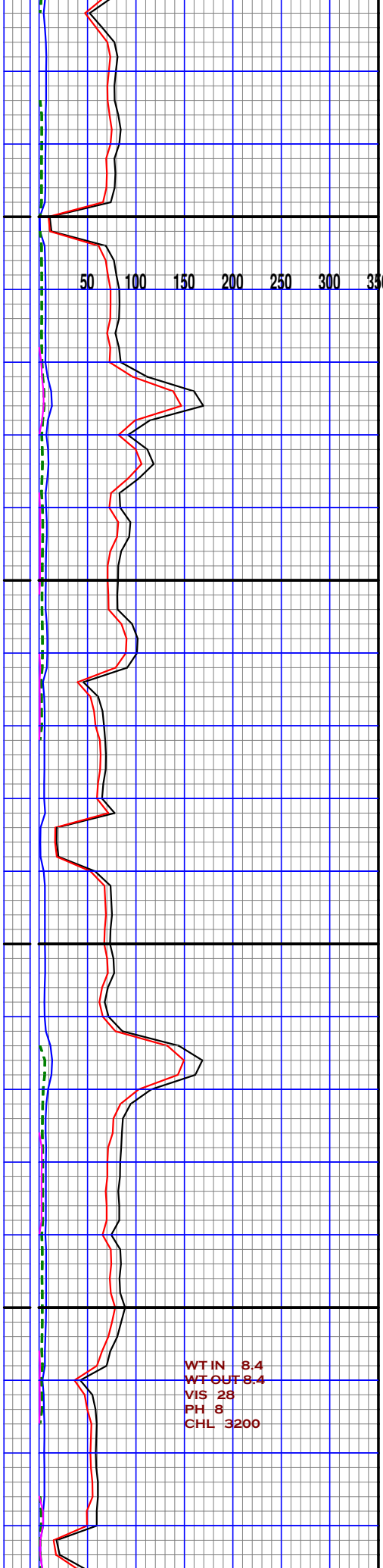
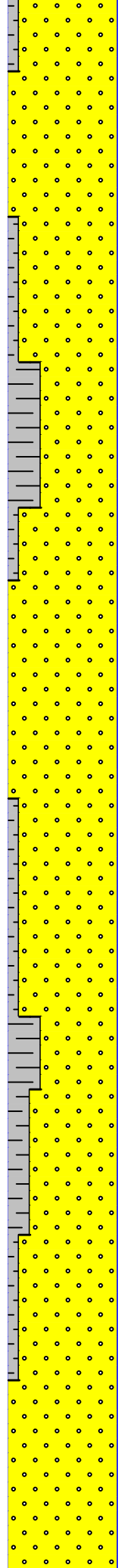
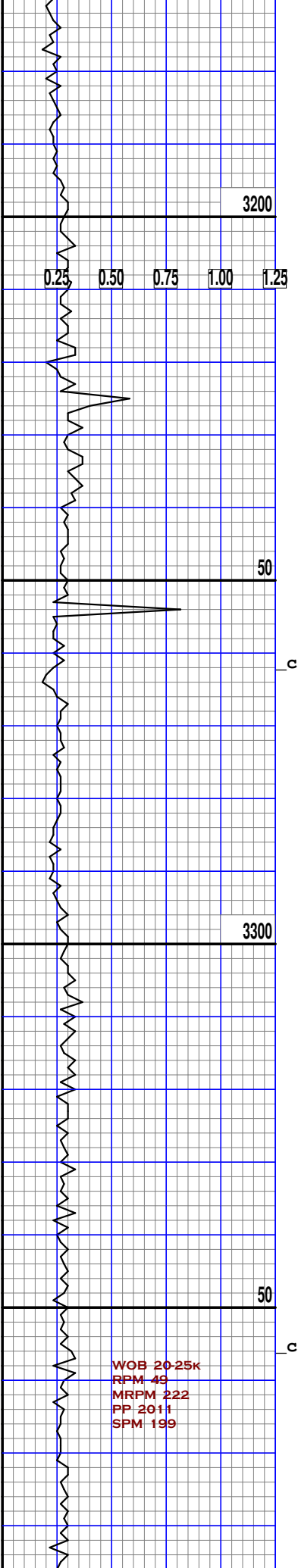
SS: clr, mlky, lt gry, sme off wht, vfn gr, unconsl subrndd-rndd, sm lsly consl, arg, sli calc, wel srted

SS: clr, mlky, lt gry, vfn gr, unconsl, subrndd-rnd well srted, sli calc, sme lsly consl, arg cmt

SS: clr, mlky, sm lt gry, pred unconsl, subrndd-rndd, well srted, sli calc, sm lsly consl, arg







SS:clr,lt gry,wht,mlky,
vfn gr,subrnd-subangl,
unconsol,sme consol,
fr cmt,silic cmt,tr
wht/gry clys

SH:blk,drk gry,gry,drk
brn,blcky,erthy,frm,
sme aren,tr vfn mica

SS:clr,lt gry,wht,mlky,
vfn gr,subrnd-subangl,
unconsol,sme lsly
consol,fr cmt,silic
cmt

SH:drk gry,drk brn,brn,
blcky,erthy,frm,sme
brttle,tr aren,tr vfn
mica

SS:clr,lt gry,wht,mlky,
vfn gr,subrnd-rnd,
unconsol,tr lsly
consol,fr cmt,silic
cmt

SS:clr,lt gry,wht,mlky,
vfn gr,subrnd-rnd,
unconsol,tr wht/gry
clys

SH:blk,drk brn,drk gry,
blcky,erthy,frm,sme
sft,tr brttle,sme
aren,tr vfn mica

SS:clr,lt gry,wht,mlky,
vfn gr,subrnd-rnd,
unconsol,sme consol,
fr cmt,silic cmt

SH:drk brn,brn,drk gry,
blk,blcky,erthy,frm,
tr aren,tr vfn mica

SS:clr,lt gry,wht,mlky,
vfn gr,subrnd-rnd,
unconsol,sme lsly
consol,fr cmt,silic
cmt

SS:clr,lt gry,wht,mlky,
vfn gr,subrnd-rnd,
consol,sme unconsol,
fr cmt,silic cmt

WTIN 8.4
WTOUT 8.4
VIS 28
PH 8
CHL 3200

DEV 11' @ 3397'

3400

0.25 0.50 0.75 1.00 1.25

SS:clr,lt gry,wht,mlky,
vfn gr,subrnd-rnd,
consol,sme unconsol,
fr cmt,silic cmt,tr
wht/gry clys

50 100 150 200 250 300 350

SS:clr,lt gry,wht,mlky,
vfn gr,subrnd-rnd,
consol,fr cmt,silic
cmt

CARBIDE LAG 22 MIN @ 200 SPM

LS:brn,tn,crm,vfn xln,
frm,sme mod hrd,mott,
sme silic

c

50

SH:drk brn,brn,drk gry,
blk,blcky,erthy,frm,
tr aren,tr vfn mica,
tr pyr

SS:clr,lt gry,wht,mlky,
vfn gr,subrnd-rnd,
consol,tr unconsol,fr
cmt,silic cmt

3500

SS:clr,lt gry,wht,mlky,
vfn gr,subrnd-rnd,
consol,sme unconsol,
fr cmt,silic cmt

DOLO:tn,crm,brn,off wht
wht,vfn xln,frm,sme
mod hrd,mott,sme sucro
tr aren

SH:blk,drk brn,brn,drk
gry,blcky,erthy,frm,
sme sft,tr brittle,
aren ip

c

50

SS:clr,lt gry,wht,mlky,
vfn gr,subrnd-rnd,
consol,sme unconsol,
fr cmt,silic cmt

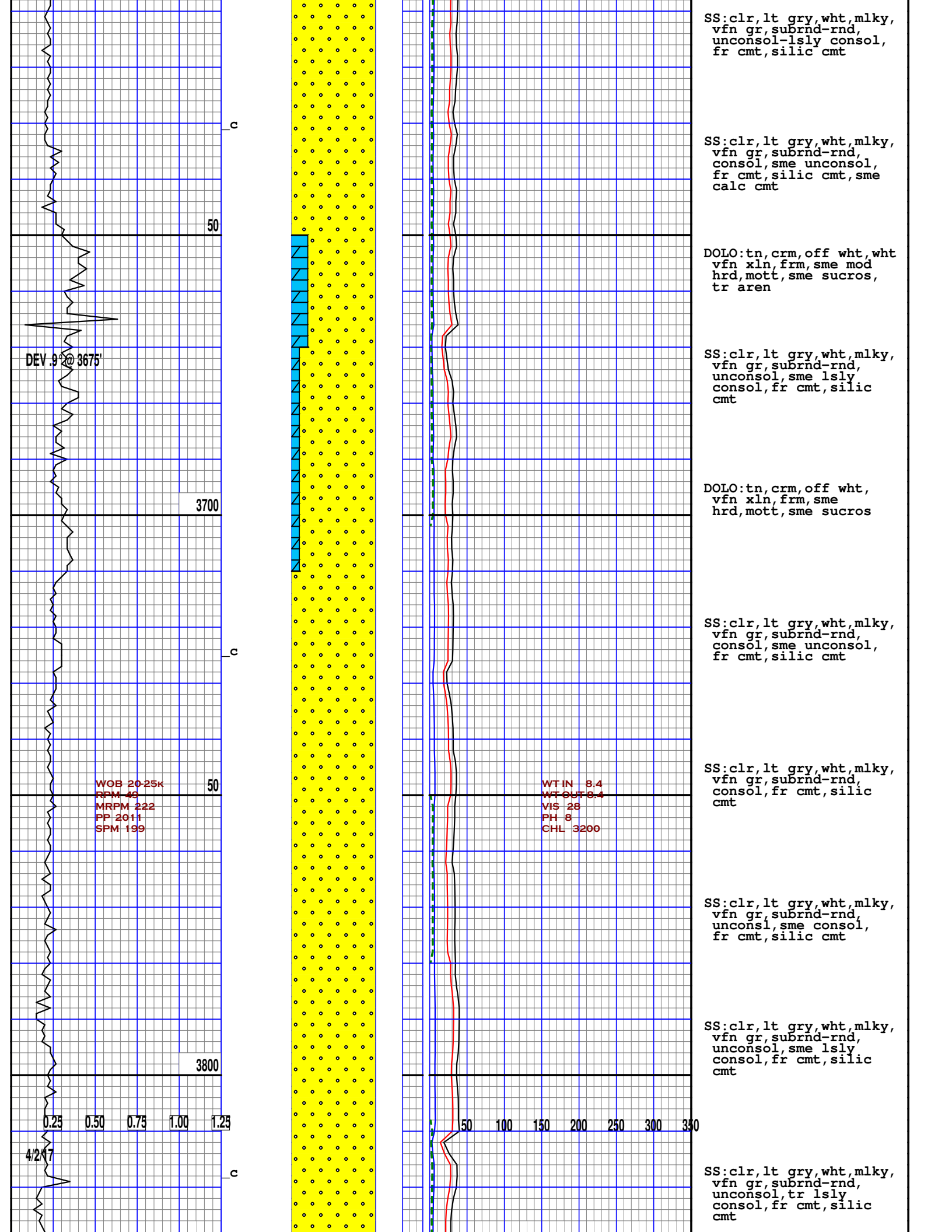
WOB 20-25k
RPM 49
MRPM 222
PP 2011
SPM 199

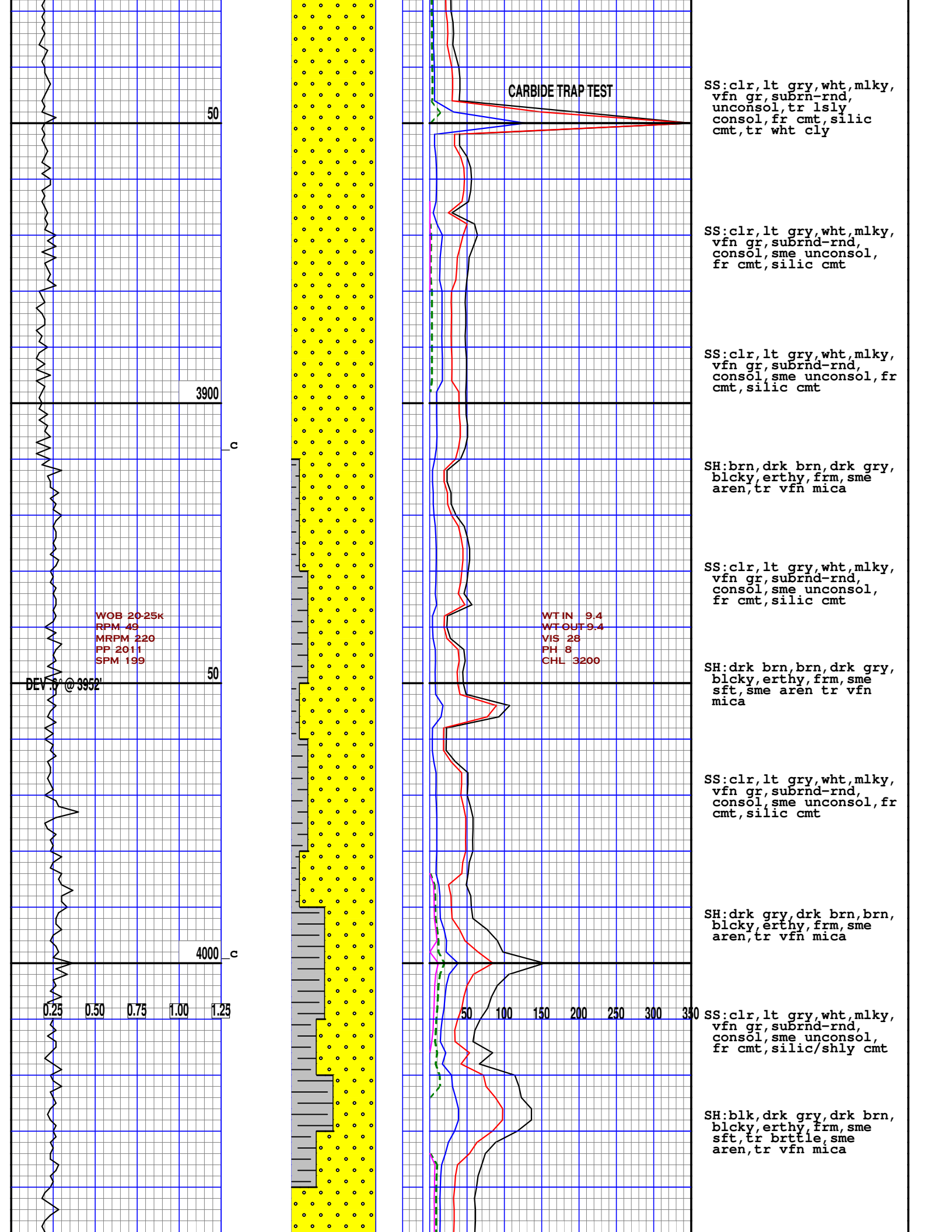
WT IN 8.4
WT OUT 8.4
VIS 28
PH 8
CHL 3200

SS:clr,lt gry,wht,mlky,
vfn gr,subrnd-rnd,
unconsol,sme lsly
consol,fr cmt,silic
cmt

3600

SS:clr,lt gry,wht,mlky,
vfn gr,subrnd-rnd,
consol,sme unconsol,
fr cmt,silic cmt,tr
wht/gry clys





50

CARBIDE TRAP TEST

SS:clr,lt gry,wht,mlky,
vfn gr,subbrn-rnd,
unconsol,tr lsly
consol,fr cmt,silic
cmt,tr wht cly

3900

SS:clr,lt gry,wht,mlky,
vfn gr,subrnd-rnd,
consol,sme unconsol,
fr cmt,silic cmt

c

SS:clr,lt gry,wht,mlky,
vfn gr,subrnd-rnd,
consol,sme unconsol,fr
cmt,silic cmt

SH:brn,drk brn,drk gry,
blcky,erthy,frm,sme
aren,tr vfn mica

WOB 20-25k
RPM 49
MRPM 220
PP 2011
SPM 199

WTIN 9.4
WTOUT 9.4
VIS 28
PH 8
CHL 3200

50

DEV. 31 @ 3952

SS:clr,lt gry,wht,mlky,
vfn gr,subrnd-rnd,
consol,sme unconsol,
fr cmt,silic cmt

SH:drk brn,brn,drk gry,
blcky,erthy,frm,sme
sft,sme aren tr vfn
mica

SS:clr,lt gry,wht,mlky,
vfn gr,subrnd-rnd,
consol,sme unconsol,fr
cmt,silic cmt

SH:drk gry,drk brn,brn,
blcky,erthy,frm,sme
aren,tr vfn mica

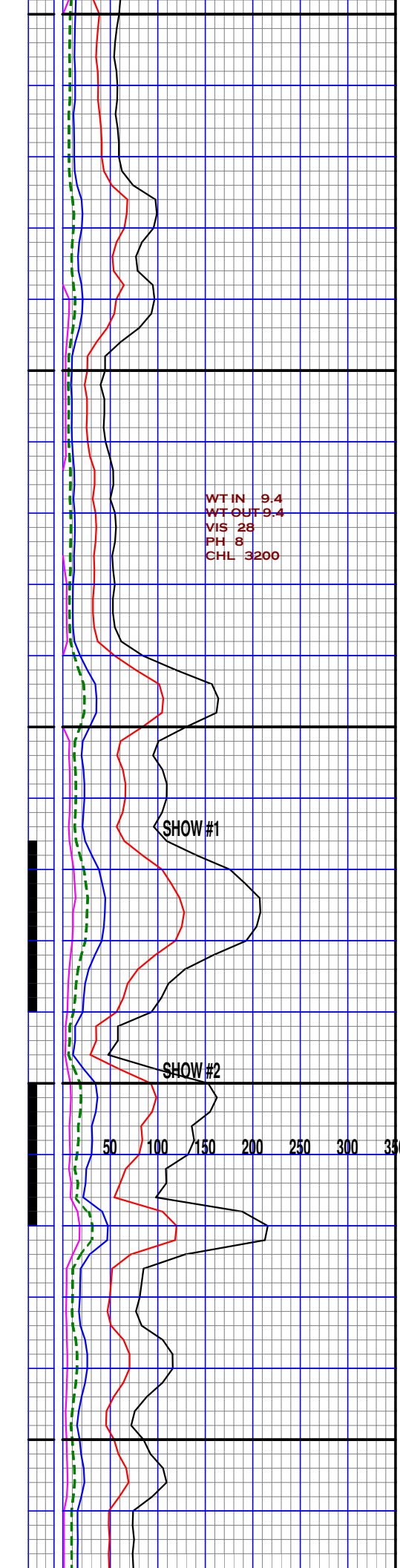
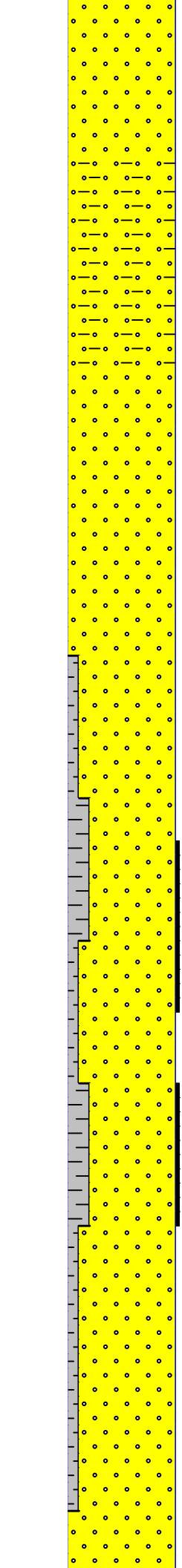
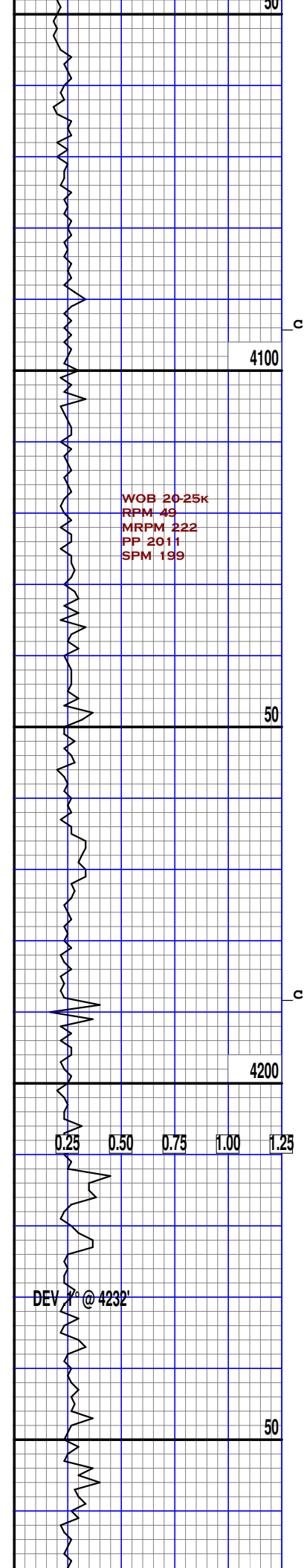
4000 c

0.25 0.50 0.75 1.00 1.25

50 100 150 200 250 300 350

SS:clr,lt gry,wht,mlky,
vfn gr,subrnd-rnd,
consol,sme unconsol,
fr cmt,silic/shly cmt

SH:blk,drk gry,drk brn,
blcky,erthy,frm,sme
sft,tr brittle,sme
aren,tr vfn mica



SS:clr,lt gry,wht,mlky,
vfn,gr,subrnd-rnd,
consol,sme unconsol,
fr cmt,silic cmt

SS:clr,lt gry,wht,mlky,
vfn gr,subrnd-rnd,
consol,sme unconsol,
fr cmt,silic/shly
cmt

SS:clr,lt gry,wht,mlky,
vfn gr,subrnd-rndd,
consol,tr unconsol,
fr cmt,silic cmt,sme
shly

SS:clr,lt gry,wht,mlky,
vfn gr,subrnd-rnd,
consol,fr cmt,silic
cmt

SS:clr,lt gry,wht,mlky,
vfn gr,subrnd-rndd,
consol,tr unconsol,
fr cmt,silic cmt

SH:drk brn,brn,drk gry,
blcky,erthy,frm,sme
brttle,sme aren,tr
vfn mica

SS:clr,lt gry,wht,mlky,
vfn gr,subrnd-rnd,
consol,fr cmt,silic
cmt,tr-10% pale ylw
/grn fluor,tr-pr slw
mlky grn wet cut

SS:clr,lt gry,wht,mlky,
vfn gr,subrnd-rnd,
consol,tr unconsol,fr
cmt,silic cmt

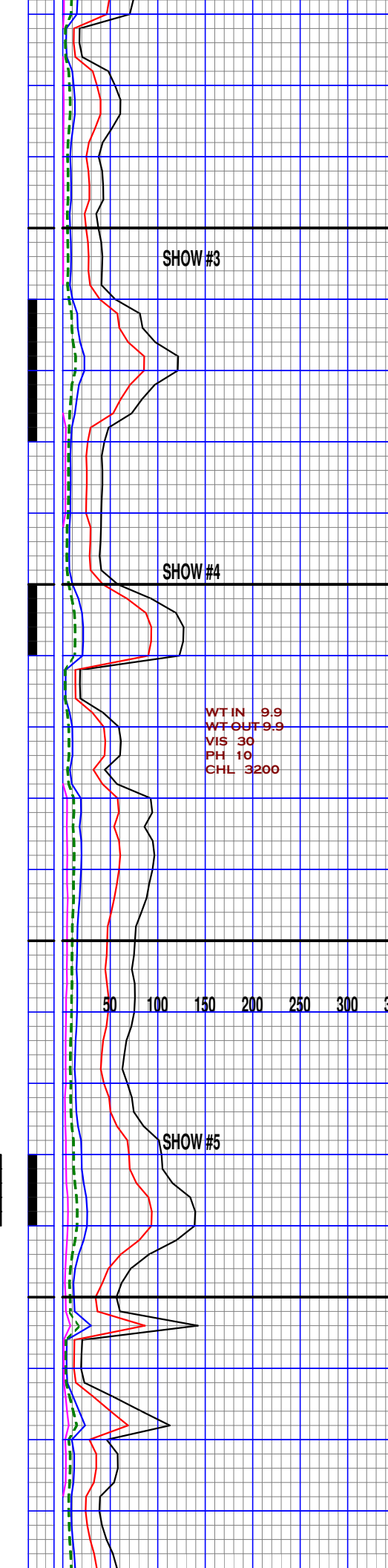
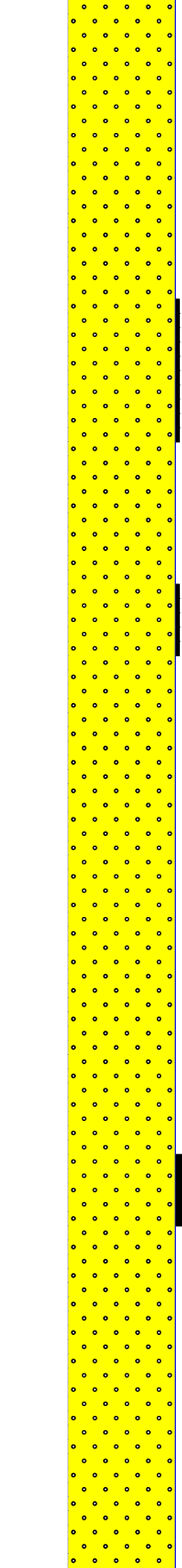
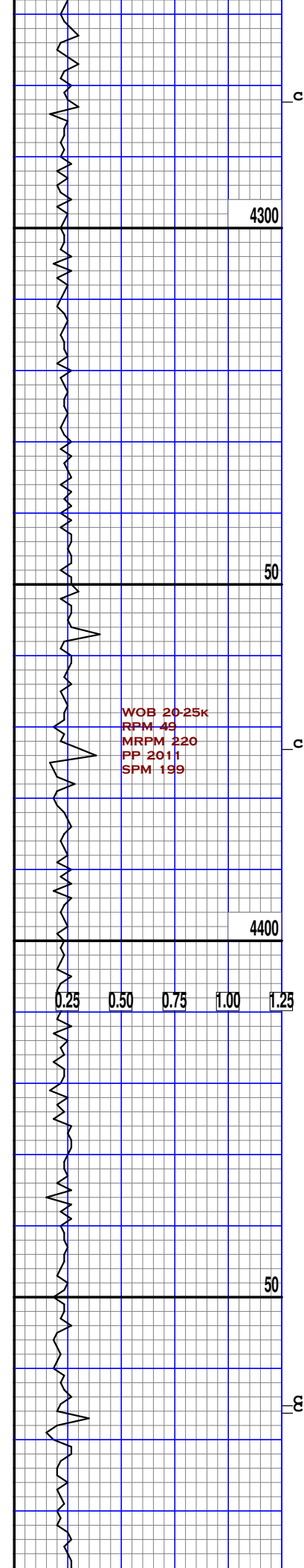
SS:clr,wht,mlky,lt gry,
vfn gr,subrnd-rnd,
unconsol,sme lsly
consol,fr cmt,silic/
shly cmt,10% pale
ylw fluor,pr slw mlky
grn wet cut

SS:clr,lt gry,wht,mlky,
vfn gr,subrnd-rnd,
consol,sme unconsol,
fr cmt,silic cmt

SH:drk brn,brn,drk gry,
occ blk,blcky,erthy,
frm,sme sft,aren,tr
vfn mica

WOB 20-25k
RPM 49
MRPM 222
PP 2011
SPM 199

WTIN 9.4
WTOUT 9.4
VIS 28
PH 8
CHL 3200



SS:clr,lt gry,wht,mlky,
vfn gr,subrnd-rnd,
unconsol,tr lsly conso
fr cmt,silic cmt

SS:clr,lt gry,wht,mlky,
vfn gr,subrnd-rnd,
unconsol,sme lsly
consol,fr cmt,silic
cmt

SS:clr,lt gry,wht,mlky,
vfn gr,subrnd-rnd,
unconsol,tr lsly
consol,fr cmt,silic
cmt,tr-10% pale ylw
fluor,pr slw mlky grn
wet cut

SS:clr,lt gry,wht,mlky,
vfn gr,subrnd-rnd,
unconsol-lsly consol,
fr cmt,silic cmt,

SS:lt gry,clr,mlky,wht,
vfn gr,subrnd-subangl,
consol,sme unconsol,fr
cmt,silic cmt,10%
pale ylw fluor,pr slw
mlky grn wet cut

SS:clr,lt gry,wht,mlky,
vfn gr,subrnd-rnd,
unconsol,tr wht clys

SS:clr,lt gry,wht,mlky,
vfn gr,subrnd-rnd,
unconsol,sme lsly
consol,fr cmt,silic
cmt

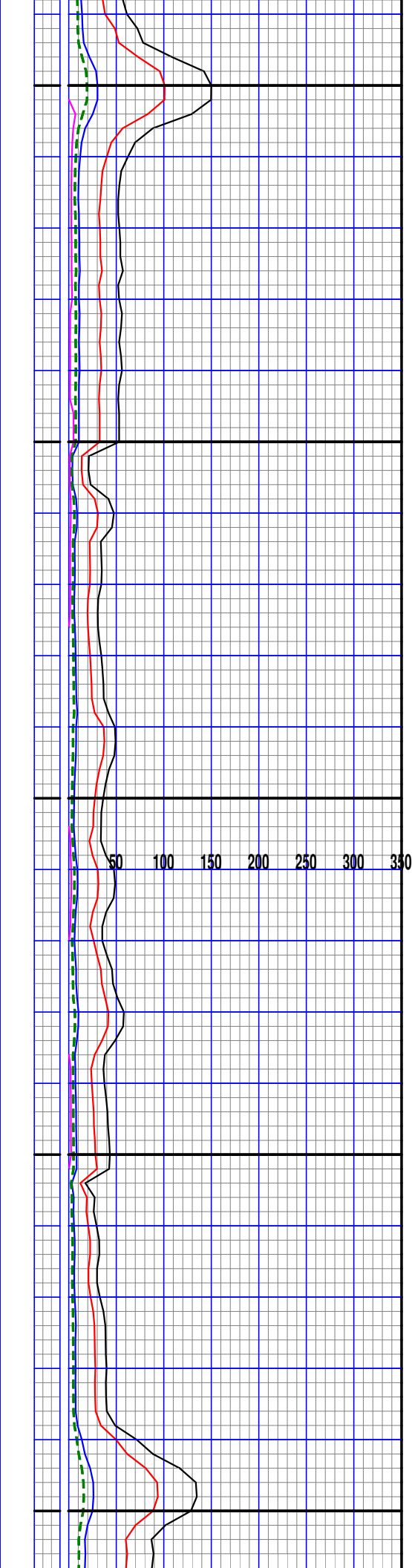
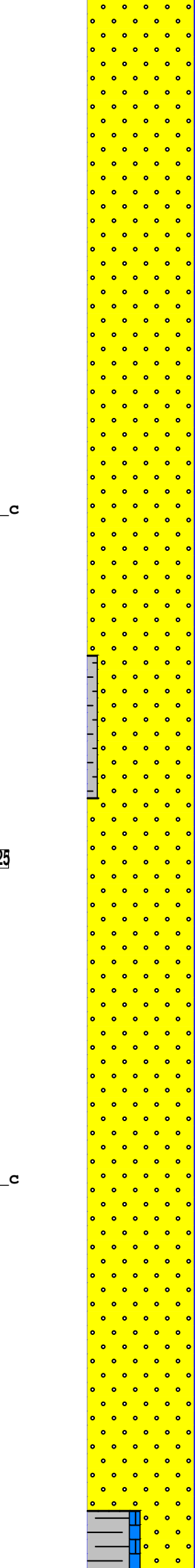
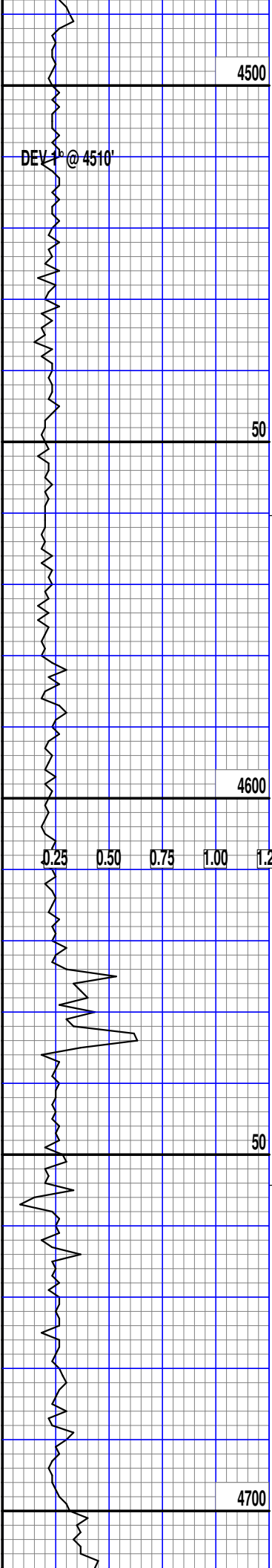
SS:clr,lt gry,wht,mlky,
vfn gr,subrnd-subangl,
unconsol,tr lsly
consol,fr cmt,silic
cmt,10-20% pale ylw
fluor,pr slw mlky
grn wet cut

SS:clr,lt gry,wht,mlky,
vfn gr,subrnd-rnd,
consol,tr unconsol,
fr cmt,silic cmt

SS:clr,lt gry,wht,mlky,
vfn gr,subrnd-rnd,
consol,sme unconsol,
fr cmt,silic cmt,

WOB 20-25k
RPM 49
MRPM 220
PP 2011
SPM 199

WTIN 9.9
WTOUT 9.9
VIS 30
PH 10
CHL 3200



SS:clr,lt gry,wht,mlky,
vfn gr,subrnd-rnd,
unconsol-lsly consol,
fr cmt,silic cmt

SS:clr,lt gry,wht,mlky,
vfn gr,subrnd-rnd,
unconsol,sme lsly
consol,fr cmt,silic
cmt

SS:clr,lt gry,wht,mlky,
vfn gr,subrnd-rnd,
consol,sme unconsol,
fr cmt,silic cmt

SS:clr,lt gry,wht,mlky,
vfn gr,subrnd-rnd,
unconsol,sme lsly
consol,fr cmt,silic
cmt

SH:drk brn,brn,drk gry,
blcky,erthy,frm,sme
brttle,sme aren,tr vfn
mica

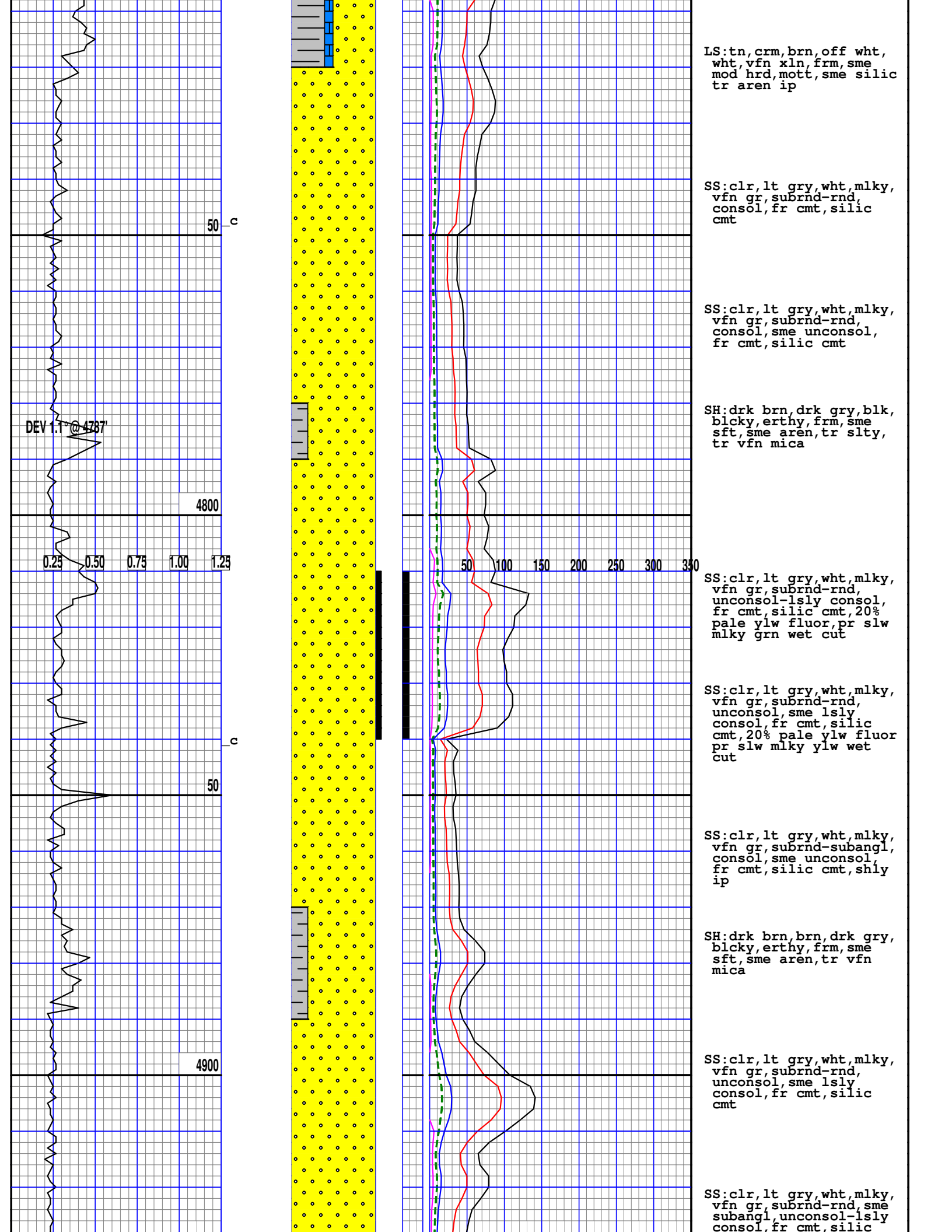
SS:clr,lt gry,wht,mlky,
vfn gr,subrnd-rnd,
consol,sme unconsol,
fr cmt,silic cmt

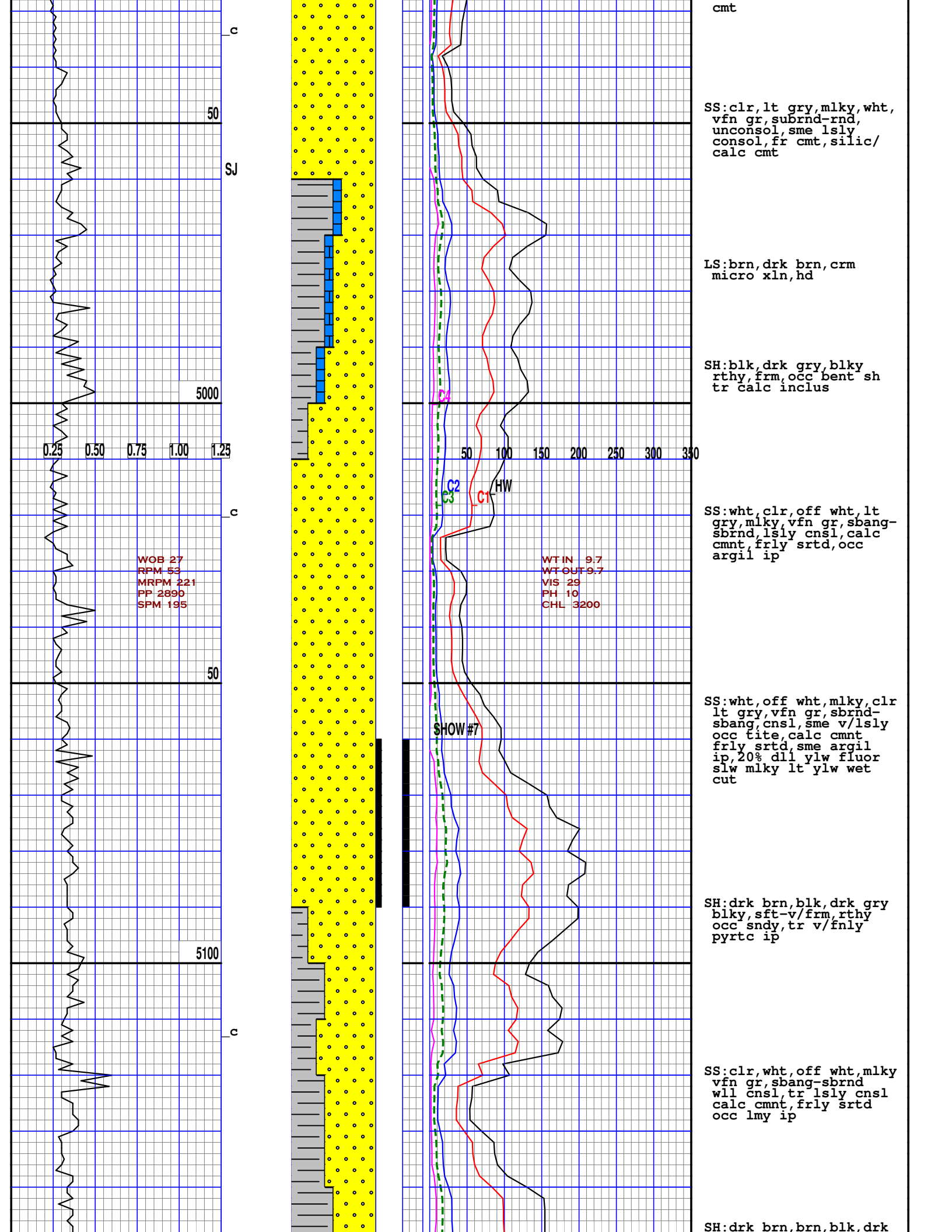
SS:clr,lt gry,wht,mlky,
vfn gr,subrnd-rnd,
consol,fr cmt,silic
cmt

SS:clr,lt gry,wht,mlky,
vfn gr,subrnd-rnd,
unconsol,sme lsly
consol,fr cmt,silic
cmt

SS:clr,lt gry,wht,mlky,
vfn gr,subrnd-rnd,
consol,sme unconsol,
fr cmt,silic cmt

SH:drk brn,brn,drk gry,
blcky,erthy,frm,sme
aren,tr vfn mica





c

50

SJ

5000

0.25 0.50 0.75 1.00 1.25

c

50

5100

c

WOB 27
RPM 53
MRPM 221
PP 2890
SPM 195

WTIN 9.7
WTOUT 9.7
VIS 29
PH 10
CHL 3200

C2
C3
C1
HW

SHOW #7

cmt

SS:clr,lt gry,mlky,wht,
vfn gr,subrnd-rnd,
unconsol,sme lsly
consol,fr cmt,silic/
calc cmt

LS:brn,drk brn,crm
micro xln,hd

SH:blk,drk gry,blky
rthy,frm,occ bent sh
tr calc inclus

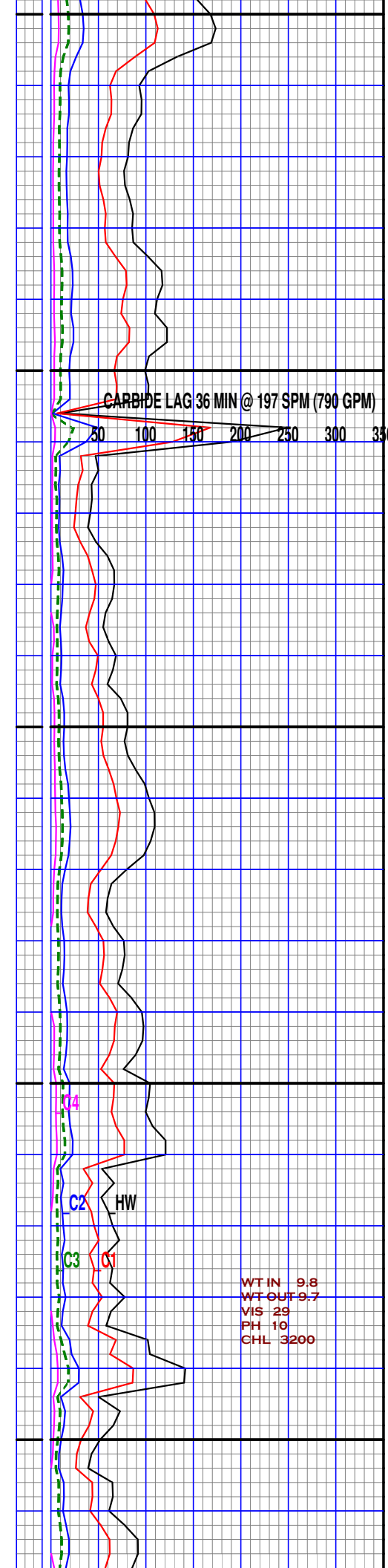
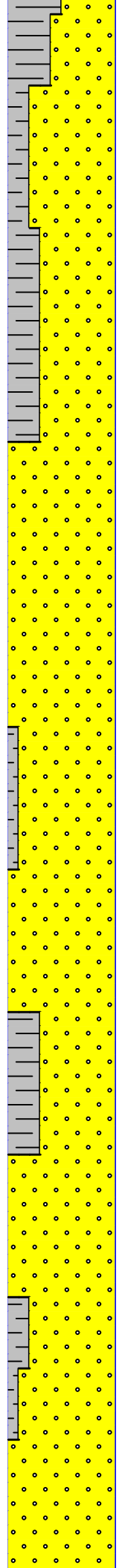
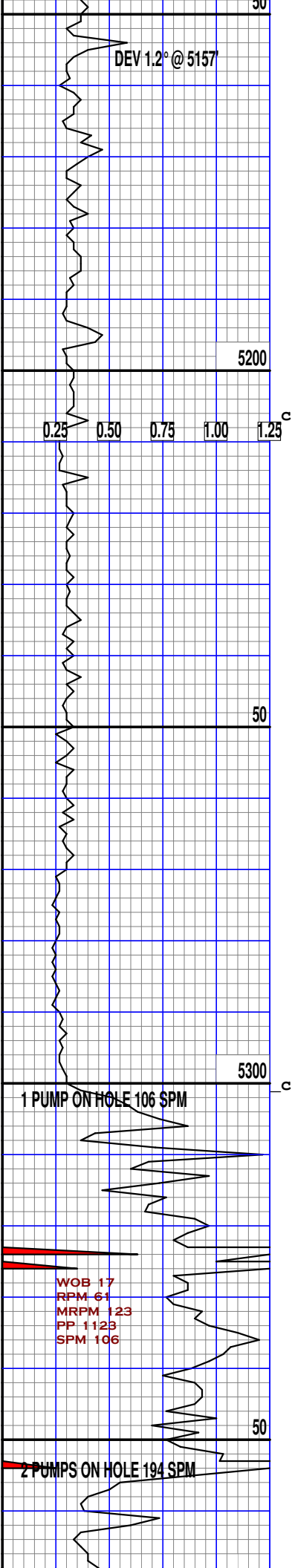
SS:wht,clr,off wht,lt
gry,mlky,vfn gr,sbang-
sbrnd,lsly cns1,calc
cmnt,frly srtd,occ
argil ip

SS:wht,off wht,mlky,clr
lt gry,vfn gr,sbrnd-
sbang,cns1,sme v/lsly
occ tite,calc cmnt
frly srtd,sme argil
ip,20% dll ylw fluor
slw mlky lt ylw wet
cut

SH:drk brn,blk,drk gry
blky,sft-v/frm,rthy
occ sndy,tr v/fnly
pyrtc ip

SS:clr,wht,off wht,mlky
vfn gr,sbang-sbrnd
wll cns1,tr lsly cns1
calc cmnt,frly srtd
occ lmy ip

SH:drk brn,brn,blk,drk



gry, blk, sbblky, frm
rthy, occ slty txt, tr
calc inclus

SS: wht, off wht, clr, mlky
vfn gr, sbrnd-sbang
frly-mod wll cns1, occ
tite, calc cmnt, occ
argil ip, frly srted
tr frstd

SH: blk, drk gry, blk, frm
rthy, occ sndy

SS: clr, mlky, wht, off wht
vfn gr, sbang, occ sbrnd
uncns1, frly-wll srted
occ slty, mod cln

SH: blk, drk brn, blk, sft
rthy

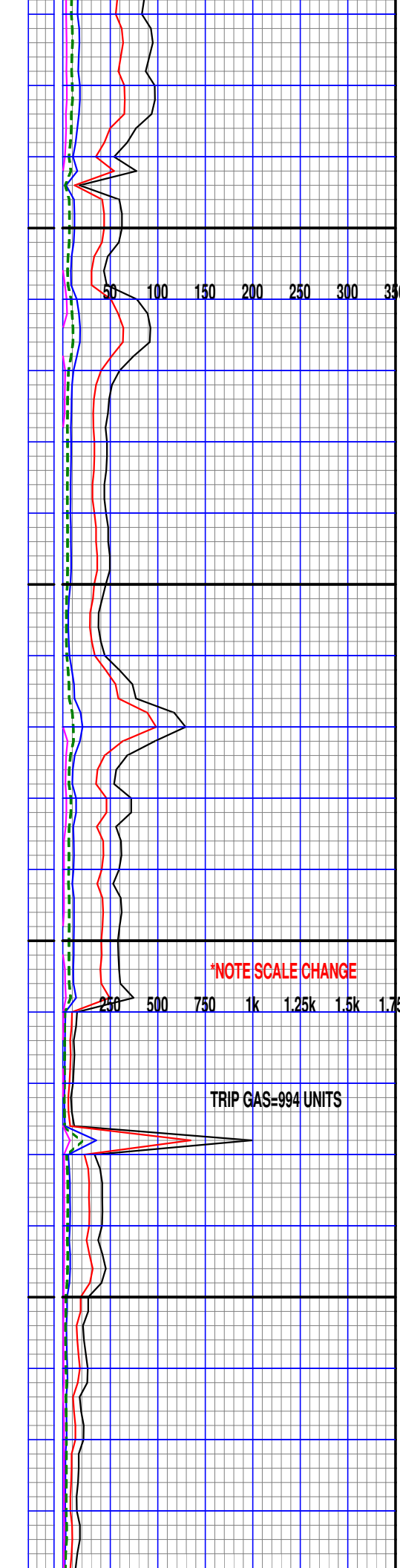
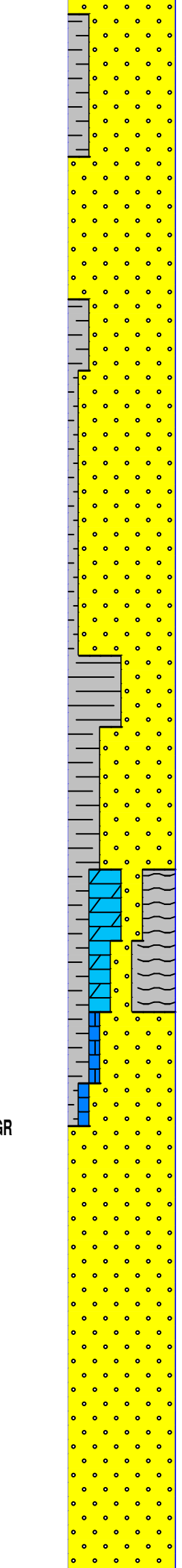
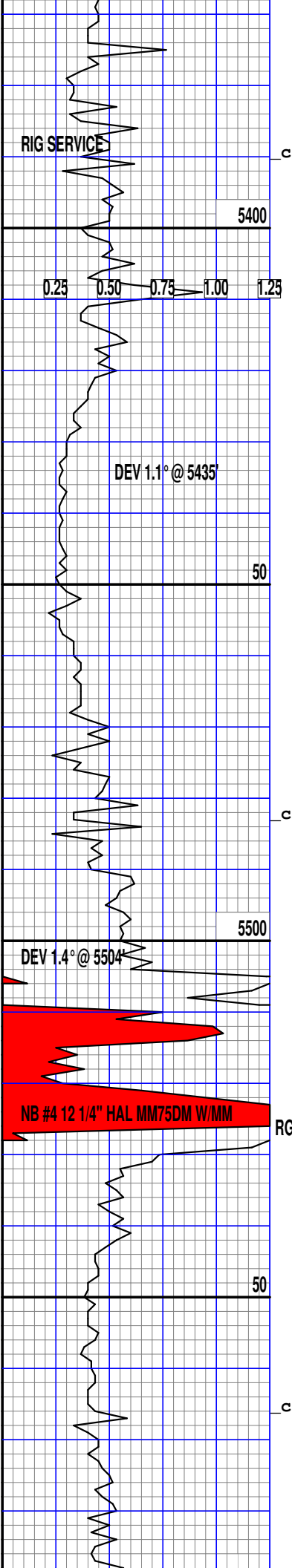
SS: wht, off wht, clr, mlky
vfn gr, sbrnd-sbang
v/lsly cns1, calc cmnt
frly srted, occ argil ip
tr frstd, sme fre blk
clys

SS: clr, wht, mlky, off wht
vfn gr, sbang, uncns1, tr
lsly cns1, calc cmnt
frly-wll srted, occ
argil, tr fre gry clys

SH: drk brn, blk, blk, sft
rthy, occ sndy

SS: clr, mlky, wht, off
wht, vfn gr, sbang-sbrnd
occ ang, lsly-wll cns1
calc cmnt, frly srted
abndt tite, sme argil

WT-IN 9.8
WT-OUT 9.7
VIS 29
PH 10
CHL 3200



includ, no vis fluor
no wet cut

SH:brn, drk brn, blk, blk
sft-mod frm, rthy, occ
silty txt

SS:wht, off wht, mlky, clr
vfn-fn gr, sbang-sbrnd
lsly consl, calc cmnt
occ v/wll consl, tite
frly srted, abndt frstd
occ fre wht/gry clys
tr argil ip

SH:drk brn, drk gry, blk
blk, frm, rthy, sme silty
txt, occ sndy ip

SS:clr, wht, off wht, mlky
vfn gr, sbang, occ sbrnd
wll consl, calc cmnt, sme
argil inclus, frly srted
occ fre wht/gry clys
sme frstd

BE:lt grn, lt blu, grn
pltty, smth/wxy, occ
blk spkls, occ lmy ip

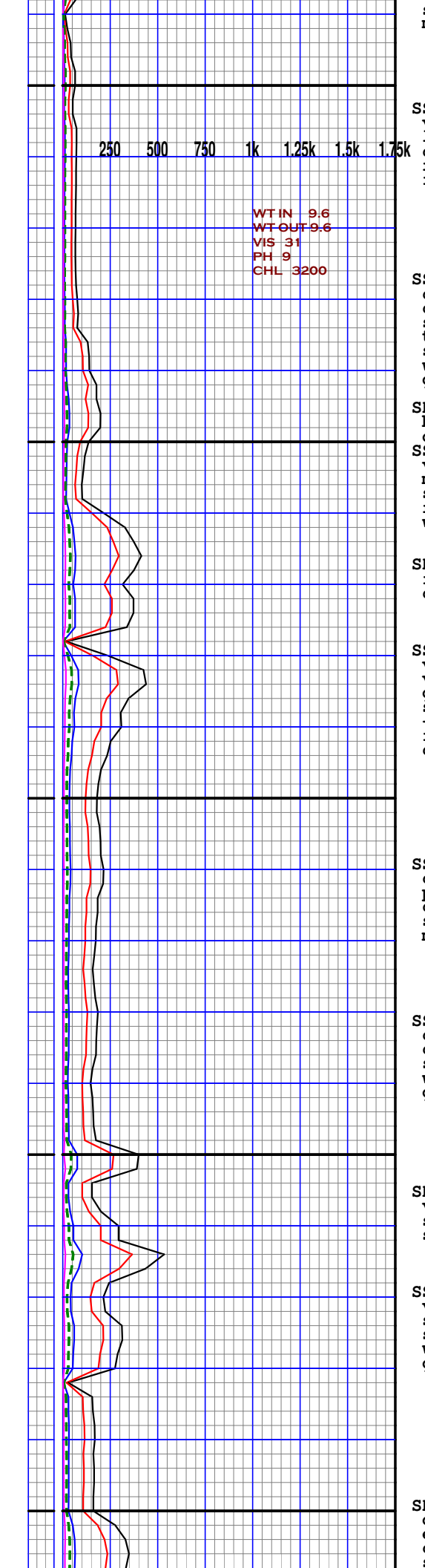
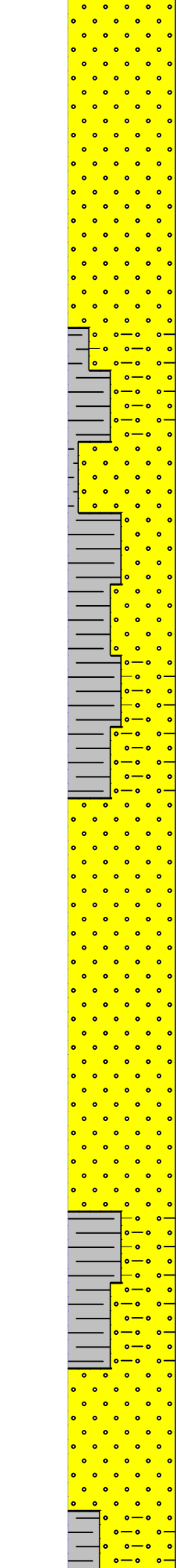
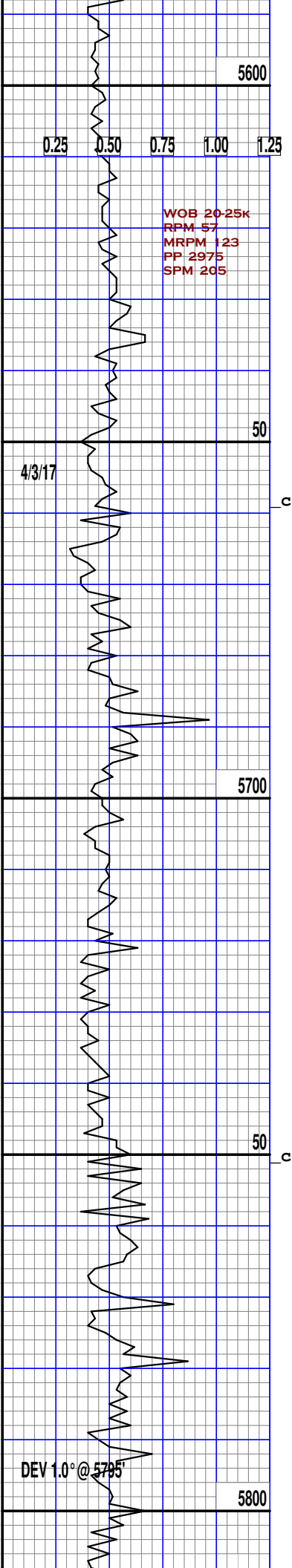
*NOTE SCALE CHANGE

LS:brn, tn, crm, micro xln
hd, tr silic

SS:lt gry, gry, off wht,
vfn gr, lsly-mod consl
arg, subrndd-rnnd, sme
sli calc, sm shly to
vry shly, tr wht-gry
mott clay, NO VIS FLUOR
OR CUT

SS:lt gry, gry, off wht,
clr, vfn gr, lsly-mod
consl, pred arg, sme
shly, subrnnd-rnnd, well

SS:lt gry, gry, off wht,
clr, vfn gr, lsly-mod
consl, pred arg, sme
shly, subrnnd-rnnd, well



srtd, tr free wht-gry mott clay

SS: lt gry, off wht, clr vfn gr, occ fn gr, mod-lsly consl, arg, sli calc, sm shly, subrnd-rnnd, well srtd, tr free wht clay

SS: lt gry, gry, off wht, clr, vfn gr, lsly-mod consl, pred shly to vry shly, dirty, sm grding to sandy shale, sm arg sli calc, subrnd-rnnd well srtd, tr free wht-gry mott clay

SH: drk brn, vry drk brn blk, mod frm, frm, carb dull, erthy

SS: lt gry, off wht, clr vfn gr, lsly consl, sm mod consl, pred arg, sm shly, sli calc, subrnd-rnnd, well srtd, tr free wht-gry mott clay

SH: brn, drk brn, blk, frm, sft, dull, erthy, carb, sm vry slty

SS: lt gry, gry, off wht vfn gr, mod-lsly consl vry shly, vry dirty, sm grding to sandy shale sm arg, sli calc, subrnd-rnnd, well srtd, tr free med-drk gry mott clay

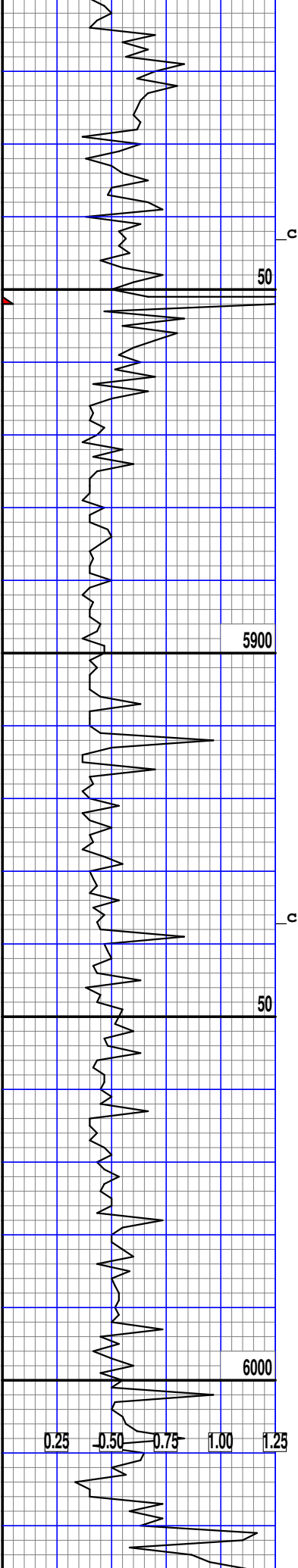
SS: lt gry, gry, off wht clr, vfn gr, lsly consl pred arg, sm shly, sli calc, subrnd-rnnd, well srtd, tr free wht-gry mott clay

SS: lt gry, gry, off wht, clr, vfn gr, lsly-mod consl, pred arg, sm shly subrnd-rnnd, sli calc well srtd, sm free wht-gry clay

SH: drk brn, brn, sme vry drk brn, blk, frm sft, carb, dull, erthy, sme vry slty

SS: lt gry, gry, off wht vfn gr, lsly consl, arg sme vry shly, dirty, sli calc, subrnd-rnnd well srtd, tr free wht gry mott clay

SH: drk brn, brn, sme vry drk brn, blk, sft, frm erthy, dull, carb, sme calc in prt, sme vry slty



c

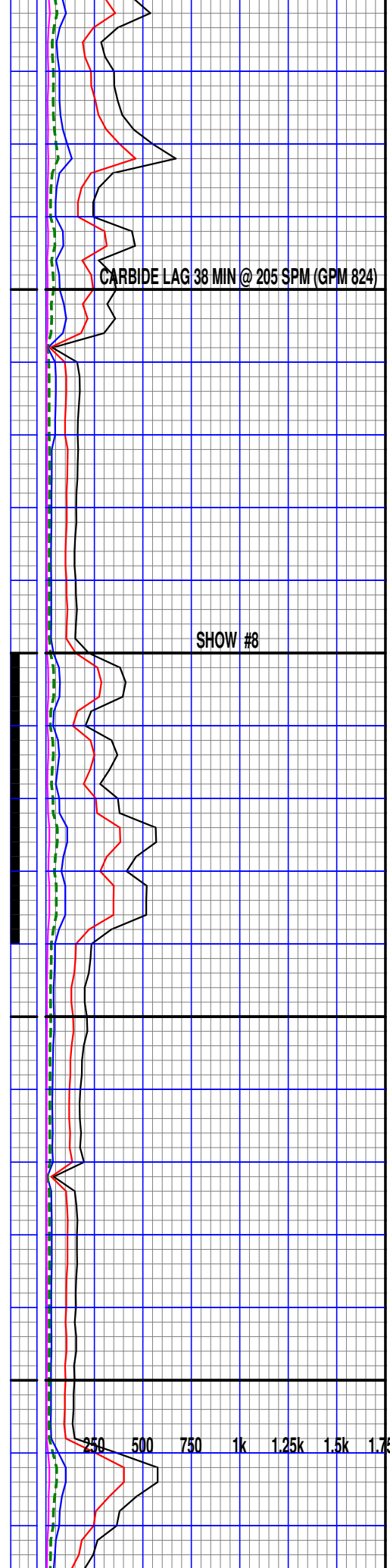
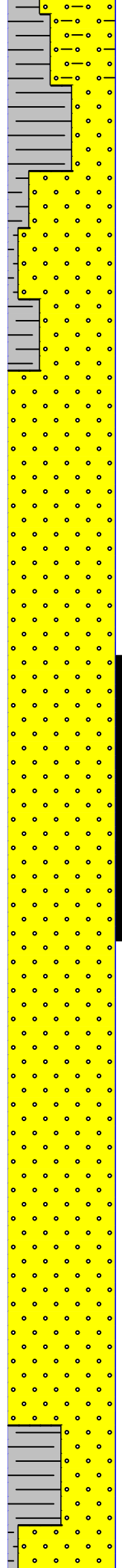
50

5900

c

50

6000



CARBIDE LAG 38 MIN @ 205 SPM (GPM 824)

SHOW #8

SH: drk brn, vry drk brn, brn, blk, erthy, carb, dull, sft, frm, sm slty

SS: lt gry, gry, mlky, clr, vfn gr, lsly-mod consl, arg, sli calc, subrnd-rndd, sm shly, dirty, well srted, tr free wht-gry clay

SH: drk brn, vry drk brn, brn, blk, erthy, dull, sft, frm, sli calc, sm slty

SS: lt gry, mlky, clr, sm off wht, vfn gr, lsly-mod consl, arg, sm sli calc, subrnd-rndd, well srted, tr free wht clay

SS: lt gry, mlky, clr, sme off wht, vfn gr, lsly-unconsl, subrnd-rndd, sm subang, arg, sm shly, well srted, tr free wht clay, 30-40% dull yell fluor, tr slo even pale yellow wet cut

SS: lt gry, off wht, mlky, clr, vfn gr, lsly-mod consl, arg, sli calc, subrnd-rndd, sm subang, sm unconsl, well srted, tr free wht gry clay, 30-40% brt yellow-grn fluor, poor slw even pale grn wet cut

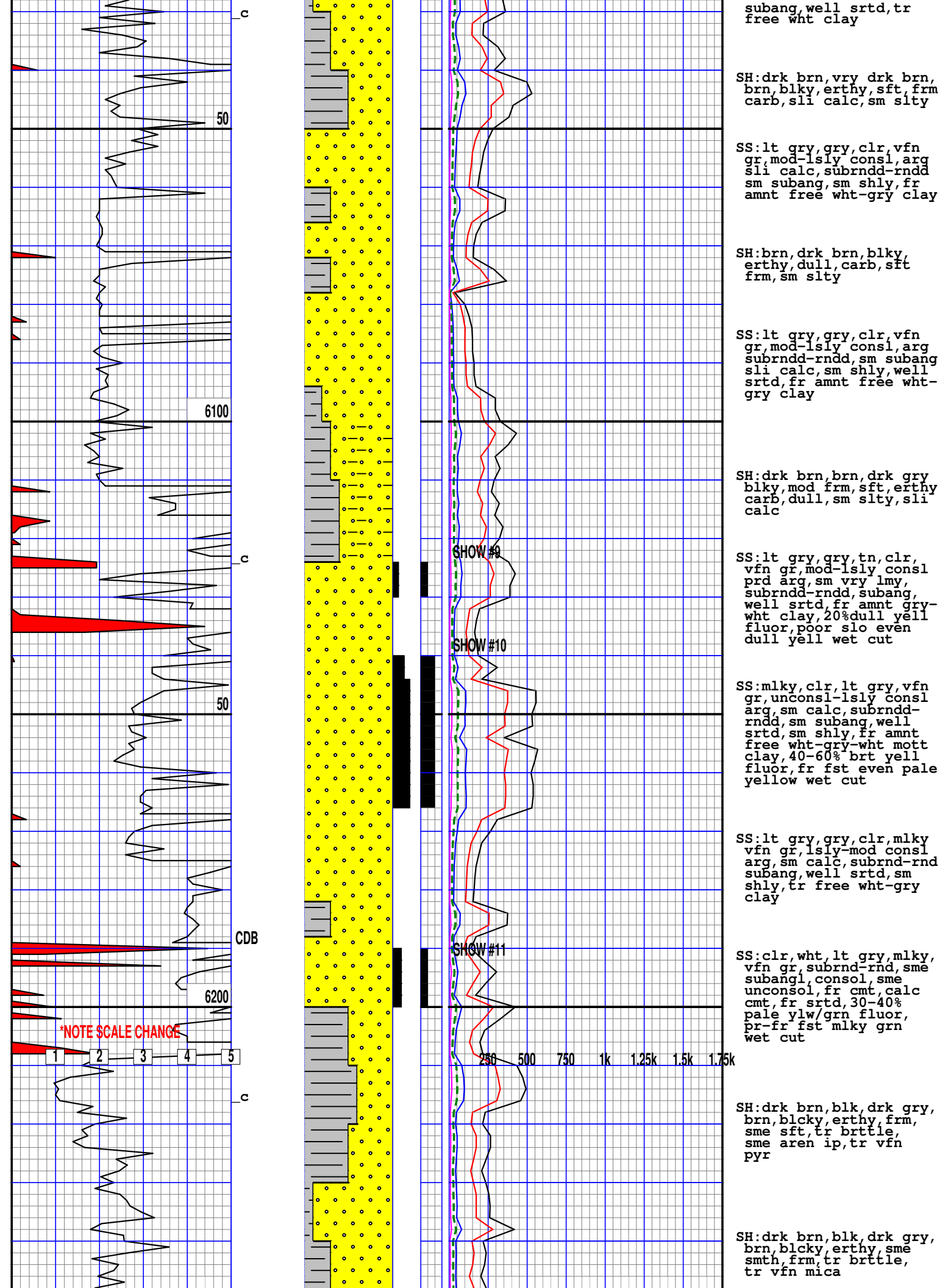
SS: lt gry, mlky, clr, vfn gr, prd arg, sli calc, mod consl, subrnd-rndd, subang, well srted, sm shly, tr free wht clay

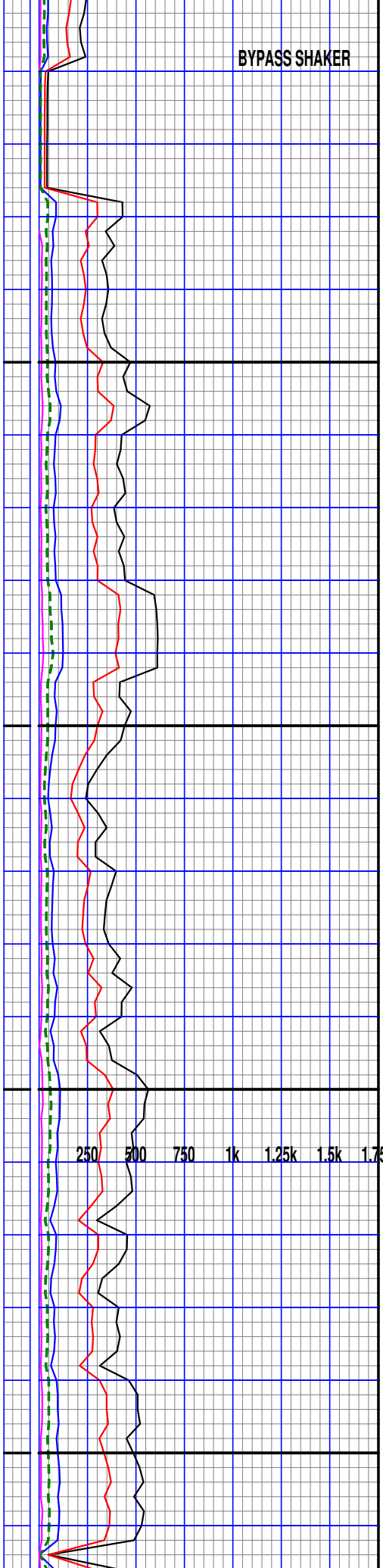
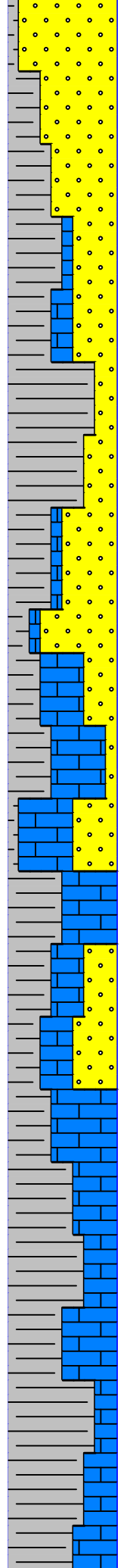
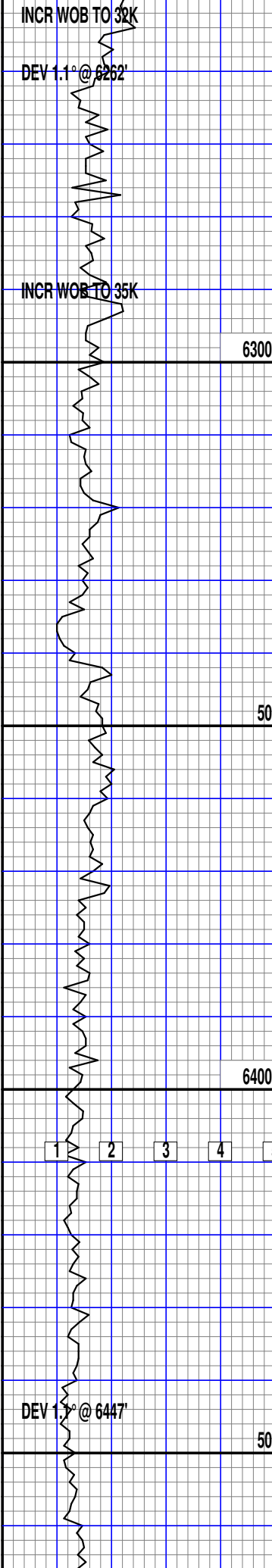
SS: lt gry, mlky, clr, vfn gr, lsly consl, subrnd-rndd, arg, sli calc, well srted, tr free wht-gry mmott clay

SH: brn, drk brn, sme vry drk brn, blk, sft, frm, erthy, dull, carb, sli calcs, sm slty

SS: lt gry, off wht, clr, sm mlky, vfn gr, mod-lsly consl, arg, sli calc, subrnd-rndd, sme

250 500 750 1k 1.25k 1.5k 1.75k





SS:clr,lt gry,wht,mlky,
vfn gr,subrnd-rnd,sme
subangl,consol,fr cmt,
calc cmt,sme wht/gry
clys

SH:drk gry,gry,drk brn,
blk,blcky,erthy,frm,sm
sft,tr brittle,sme aren
tr vfn mica

LS:wht,off wht,tn,crm,
vfn xln,frm,sme mod
hrd,mott,sme silic

SH:drk brn,brn,blk,
blcky,erthy,frm,sme
brittle,tr aren,tr
vfn mica

SS:clr,lt gry,wht,mlky,
vfn gr,subrnd-rnd,
consol,fr cmt,calc
cmt,sme wht/gry clys

SH:blk,drk brn,drk gry,
blcky,erthy,frm,sme
sft,tr aren,tr lmy

LS:tn,crm,brn,off wht,
wht,vfn xln,frm,sme
hrd,mott,sme silic,
tr aren ip

SH:drk brn,drk gry,blk,
blcky,erthy,frm,sme
sft,tr lmy,tr vfn
mica

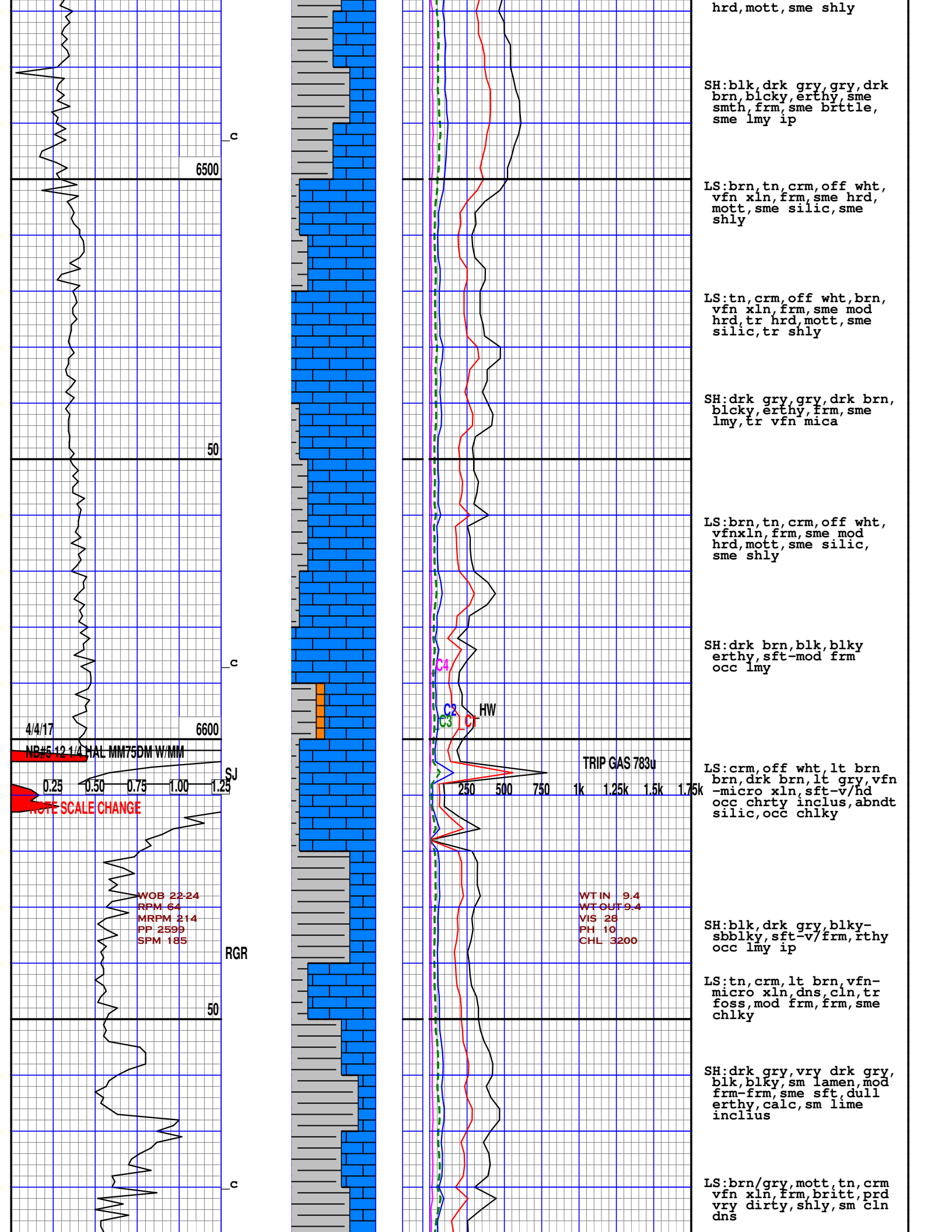
SS:clr,lt gry,wht,mlky,
vfn gr,subrnd-subangl,
consol,fr cmt,calc/
shly cmt,abnt wht/gry
clys

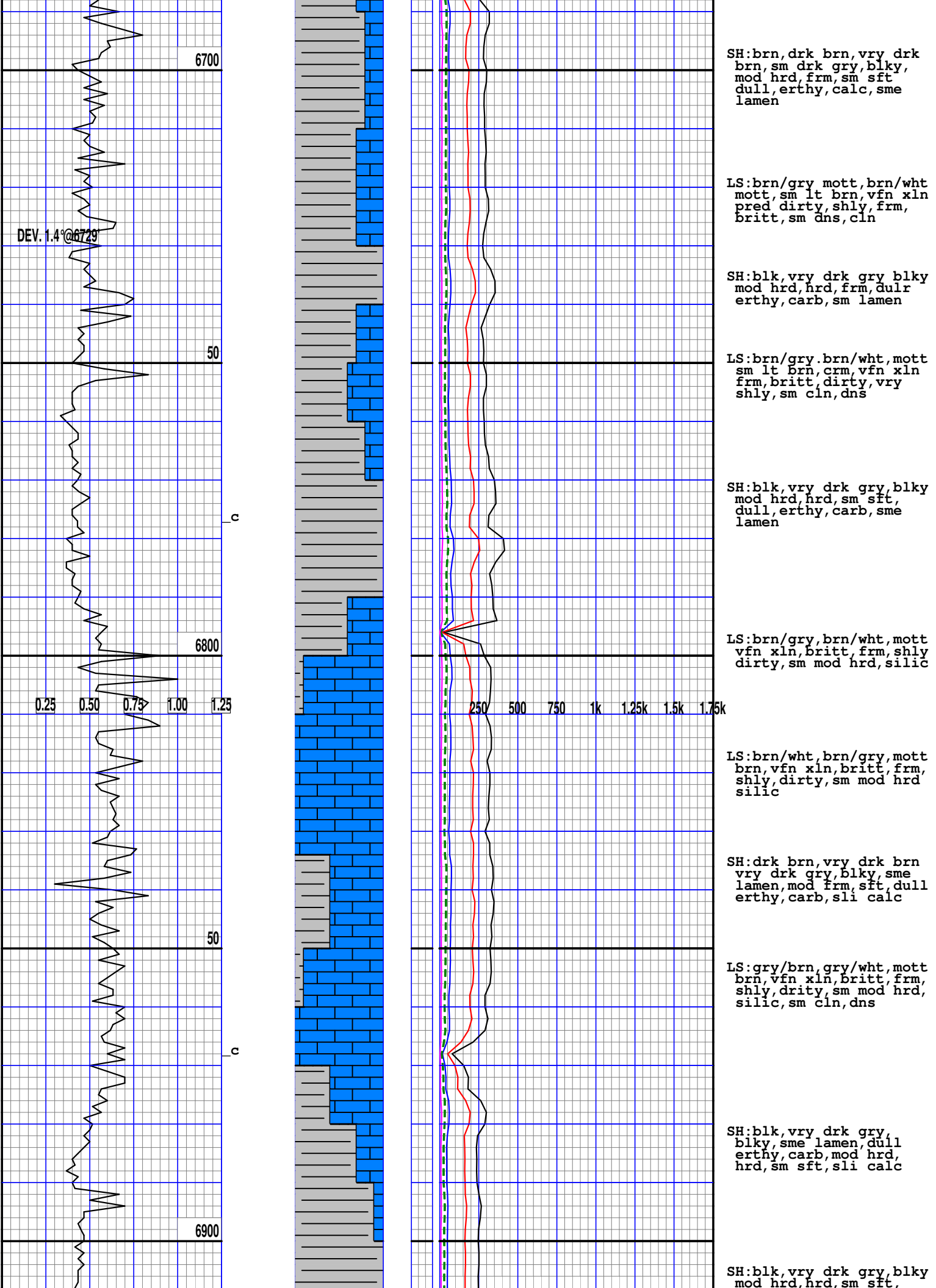
LS:brn,tn,crm,off wht,
wht,vfn xln,frm,sme
mod hrd,mott,sme
silic,sme shly

SH:blk,drk gry,gry,drk
brn,blcky,erthy,frm,
sme sft,tr lmy,tr
vfn mica

SH:blk,drk gry,drk brn,
blcky,erthy,frm,sme
brittle,tr sft,sme
lmy,tr vfn mica

LS:tn,crm,brn,off wht,
vfn xln,frm,sme mod





6700

SH:brn, drk brn, vry drk brn, sm drk gry, blk, mod hrd, frm, sm sft dull, erthy, calc, sme lamn

LS:brn/gry mott, brn/wht mott, sm lt brn, vfn xln pred, dirty, shly, frm, britt, sm dns, cln

DEV. 1.4° @ 6729

SH:blk, vry drk gry, blk, mod hrd, hrd, frm, dull, erthy, carb, sm lamn

50

LS:brn/gry, brn/wht, mott sm lt brn, crm, vfn xln frm, britt, dirty, vry shly, sm cln, dns

c

SH:blk, vry drk gry, blk, mod hrd, hrd, sm sft, dull, erthy, carb, sme lamn

6800

LS:brn/gry, brn/wht, mott vfn xln, britt, frm, shly dirty, sm mod hrd, silic

0.25 0.50 0.75 1.00 1.25

250 500 750 1k 1.25k 1.5k 1.75k

LS:brn/wht, brn/gry, mott brn, vfn xln, britt, frm, shly, dirty, sm mod hrd, silic

SH:drk brn, vry drk brn, vry drk gry, blk, sme lamn, mod frm, sft, dull erthy, carb, sli calc

50

LS:gry/brn, gry/wht, mott brn, vfn xln, britt, frm, shly, drity, sm mod hrd, silic, sm cln, dns

c

SH:blk, vry drk gry, blk, sme lamn, dull erthy, carb, mod hrd, hrd, sm sft, sli calc

6900

SH:blk, vry drk gry, blk, mod hrd, hrd, sm sft,

WOB 20k
RPM 65
MRPM 212
PP 2750
SPM 186

WT-IN 9.4
WT-OUT 9.4
VIS 31
PH 10

dull, erthy, carb, sli
calc, sm lamen, sme free
pyr inclus

SH: blk, vry drk gry, blk
dull, erthy, sm lamen,
mod hrd, hrd, sm sft
carb, sli calc, sme free
pyr

LS: crm/brn, brn, off wht/
brn, mott, brn, vfn xln,
sft, britt, fnly pyr, sme
dns, shale inclus, sme
free pyr

CARBIDE LAG=48 MIN AT 191 SPM(766 GPM)

SH: drk brn, vry drk brn
drk gry, sm blk, blk,
erthy, dull, carb, sme
lamen, mod hrd, hrd, sme
sft

SH: drk brn, drk gry, sme
brn, blk, blk, erthy,
dull, sm lamen, mod hrd-
hrd, sm sft, sli calc,
carb

LS: lt brn, gry, brn/gry
brn/wht, mott, vfn xln
mod frm, frm, sm britt
shly, sme vry drity, sm
dns, tr foss, fnly pyr

SH: vry drk brn, drk gry,
sme blk, blk, dull,
erthy, carb, sli calc
mod hrd, hrd, sm sft,
lamen, sm free pyr

LS: brn/wht, br/gry, mott,
lt brn, vfn xln, britt,
frm, sm shly, sm dns, cln
fnly pyr

SH: vry drk gry, drk gry,
blk, drk brn, blk, dull,
erthy, carb, mod hrd, hrd
sm sft, lamen, tr free
pyr

SH: drk gry, vry drk gry
drk brn, blk, blk, carb
erthy, dull, mod hrd, hrd
sli calc, tr free pyr,
sm sft, lamen

50

c

7000

DEV. 1.13 @ 7006'

0.25 0.50 0.75 1.00 1.25

250 500 750 1k 1.25k 1.5k 1.75k

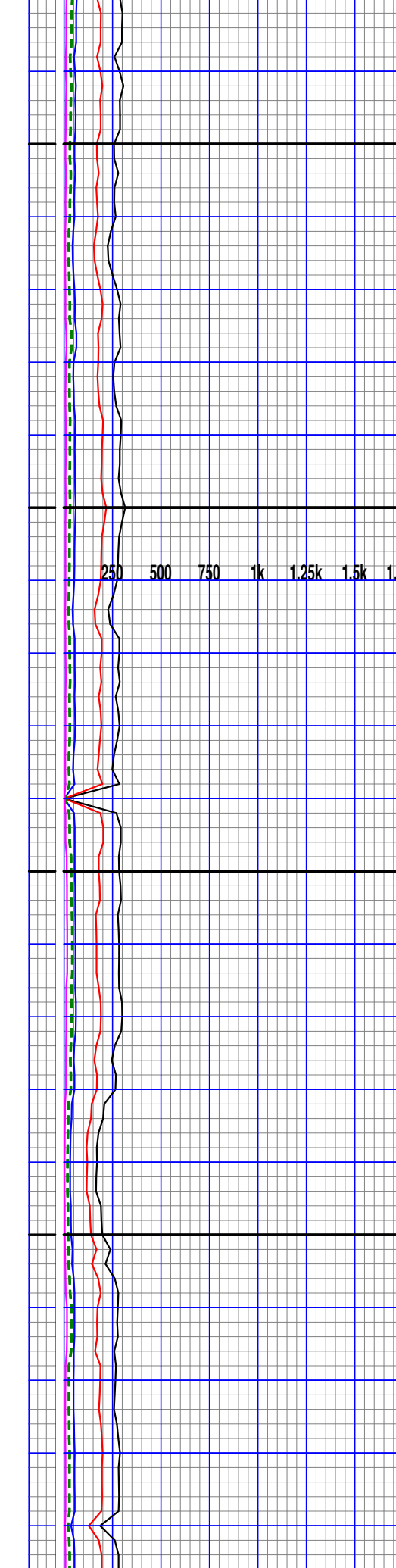
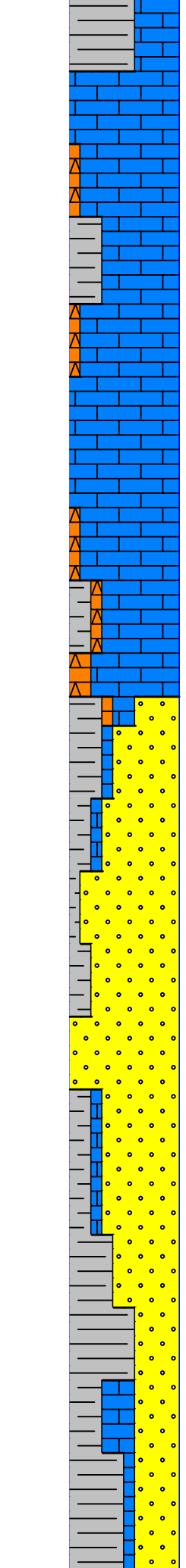
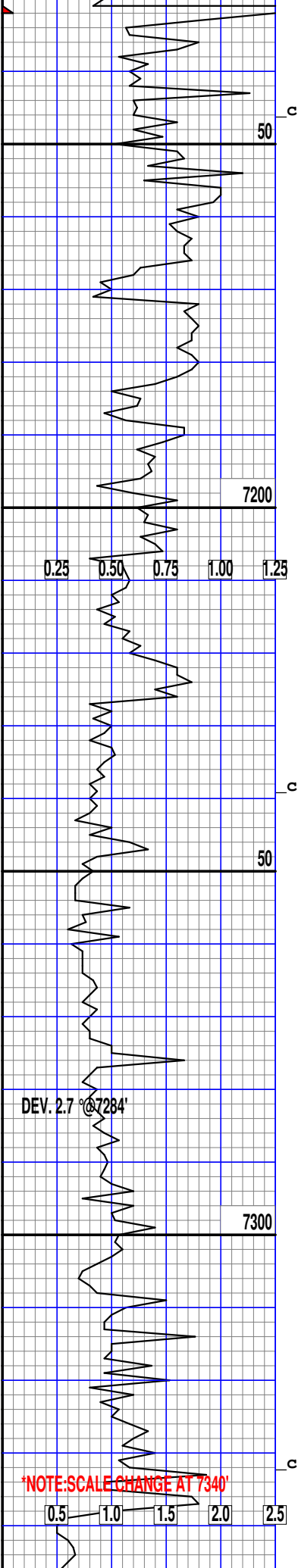
50

ONE PUMP ON HOLE 106 SPM

c

7100

BOTH PUMPS ON HOLE AT 190 SPM



LS:brn, gry, brn/gry mott
vfn xln, britt, frm, tr
foss, tr free pyr, sme
dns, cln, tr shly

CHRT: drk brn, brn, opa
sharp, ang, lmy

SH: drk brn, drk gry, sme
blk, blk, mod frm, hrd,
erthy, dull, sme lamn
sft

LS: brn, gry, brn/gry, brn/
wht, mott, lt brn, vfn
xln, britt, frm, sm wht
calc inclus, tr foss, sm
shly, sm dns

CHRT: drk brn, brn, shrp,
ang, opa, lmy

LS: brn/gry, gry, gry/wht,
mott, brn, vfn xln, britt
frm, tr free pyr, sm
shly, sm dns

SS: gry, lt gry, lt brn, vf
gr, consl, lmy, sm shly,
grding to slty, subrnnd
-rnnd, sm subang, well
srted, vfnly pyr

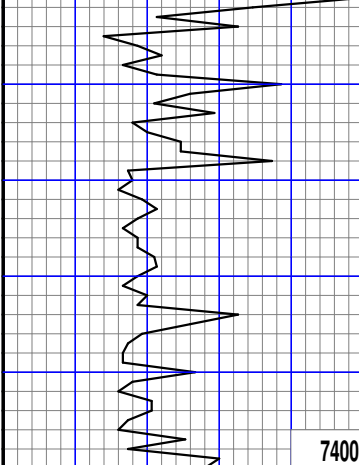
SH: drk gry, drk brn, blk
mod frm, frm, dull, erthy
carb, sm sft, lamn, calc
sm vry slty

SS: clr, mlky, vfn-fn gr,
unconsl-lsly consl, lmy
sm arg, subrnnd-rnnd, sm
subang, well srted, tr
bldng gas bubbles, sm
mod consl, sm shly,
dirty, NO VIS FLUOR OR
CUT

SH: drk brn, vry drk brn
drk gry, blk, erthy, sm
gritty, mod frm, frm, sm
sft, lamn, sme vry slty
calc

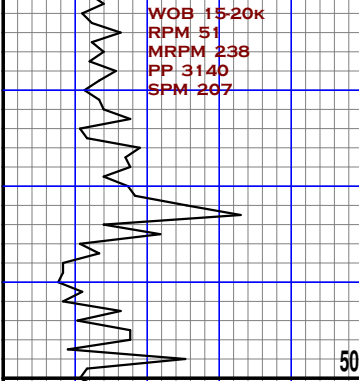
SS: lt gry, mlky, clr, vfn
gr, mod-lsly consl, vry
dirty, shaly, sm lmy
subrnnd-subang, mod
srted

SH: drk brn, brn, drk gry
blk, mod frm-frm, dull
gritty, sm ethy, carb,
sm vry slty, sm sft
lamn, sli calc

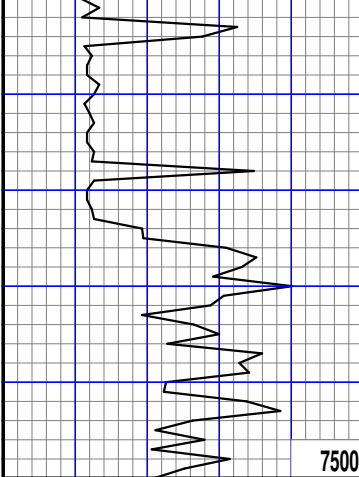


7400

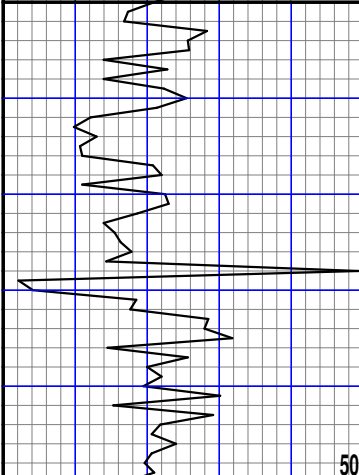
*NOTE SCALE CHANGE



50

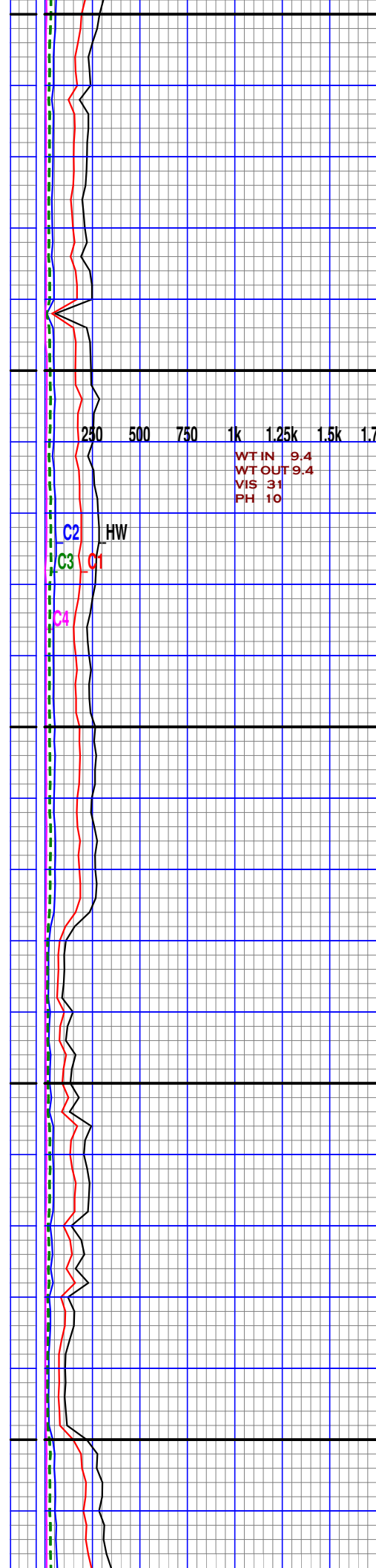
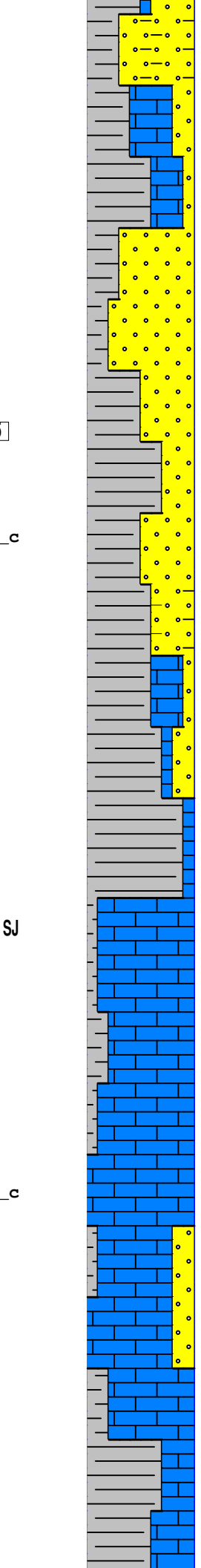


7500



50

DEV 2.9° @ 7561'



250 500 750 1k 1.25k 1.5k 1.75k

C2 HW
C3 C1
C4

SS:lt gry,mlky,sme clr,
vfn gr,consl,mod-lsly
consl,vry shly,dirty,
sme lmy,subrnd-rndd,
subang,mod srted

LS:brn,gry,brn/gry,brn/
wht,mott,vfn xln,britt
frm,tr foss prd cln,
dns,tr free pyr

SS:mlky,clr,lt gry,vfn
gr,mod consl,lmy,sme
shly,sm arg,subrnd-
rndd,sm subang,mod
srted

SH:brn,drk brn,sme drk
gry,lamen,sft,sm blk
erthy,carb,dull frm,
sli calc

SS:lt gry,clr,mlky,vfn
gr,consl,fria,shly,
dirty,sm lmy,subrnd-
rndd,subang,well srted

LS:crm,lt brn,brn/gry,
brn/wht,mott,vfn xln,
frm,britt,tr mica,sm
dns,cln

SH:drk gry,blk,blk
mod hrd,hrd,erthy,dull
sme sft,lamen

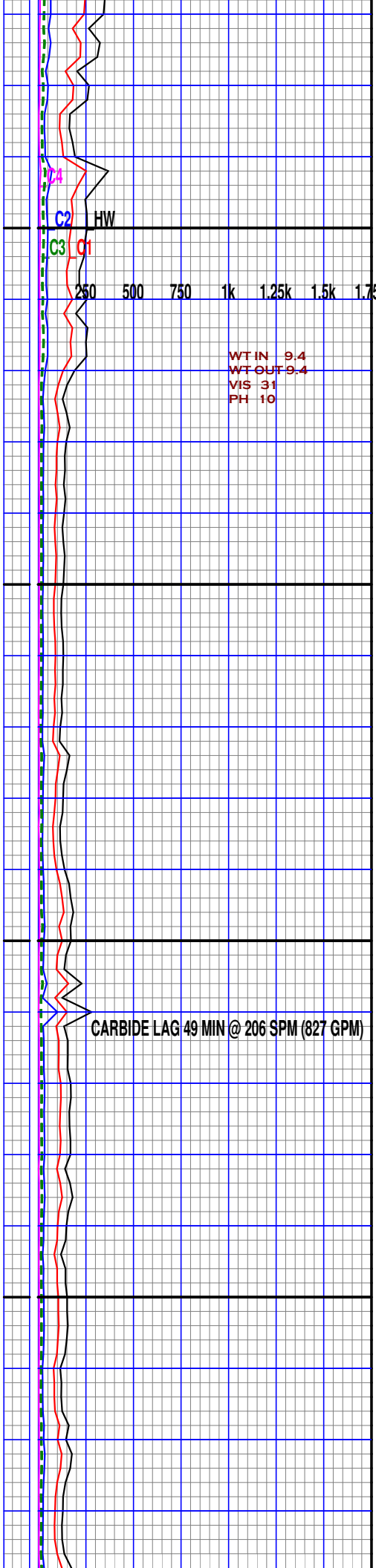
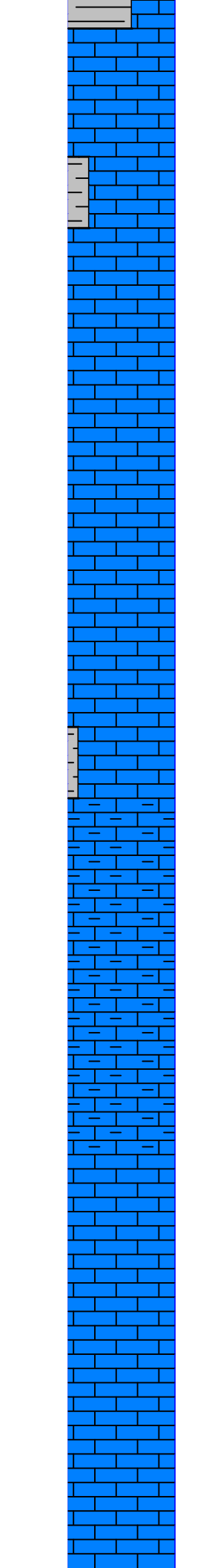
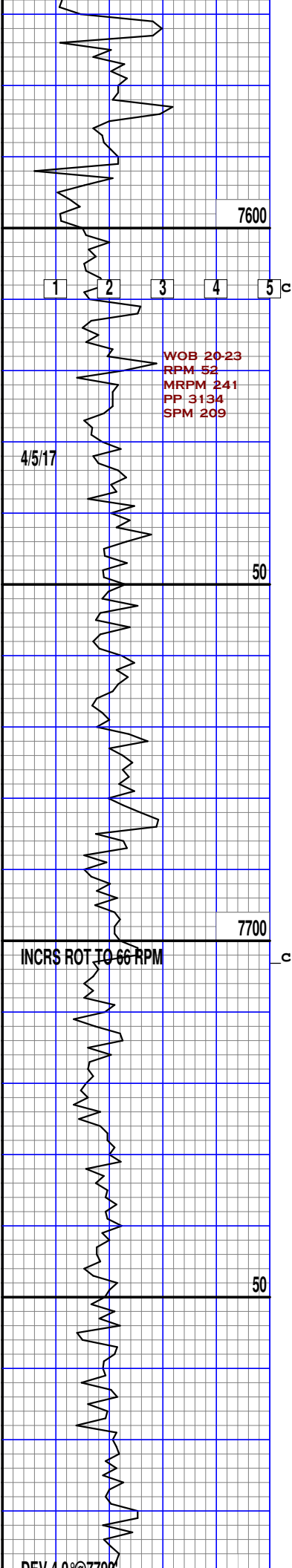
LS:tn,gry,lt brn,vfn-
micro xln,britt,frm,
prd cln,sme shly,tr
mica

SH:drk gry,blk,blk,frm
rthy,dil,occ lmy ip

LS:lt brn,brn,crm,tn,lt
gry,gry,brn/crm mott
vfn-micro xln,hd,occ
brttl,sme silic,tr
shly

SS:clr,mlky,wht,off wht
vfn gr,subang,uncnsl,tr
lsly cnsl,calc cmnt
frly srted

SH:drk brn,blk,brn,drk
gry,blk,sft-v/frm
abndt lmy ip,occ



v/fnly pyrtc ip

LS:lt gry,lt brn,crm
brn,gry,vfn-micro xln
sft,abndt shly ip,drty

LS:gry,lt gry,brn,lt
brn,brn/gry mott,micro
xln,sft-mod hd,v/shly
ip,drty,occ silic,tr
fre pyrt

LS:lt brn,brn,lt gry
crm,bff,tn,brn/lt gry
/crm mott,micro xln
sft,drty,occ shly ip
tr mica inclus

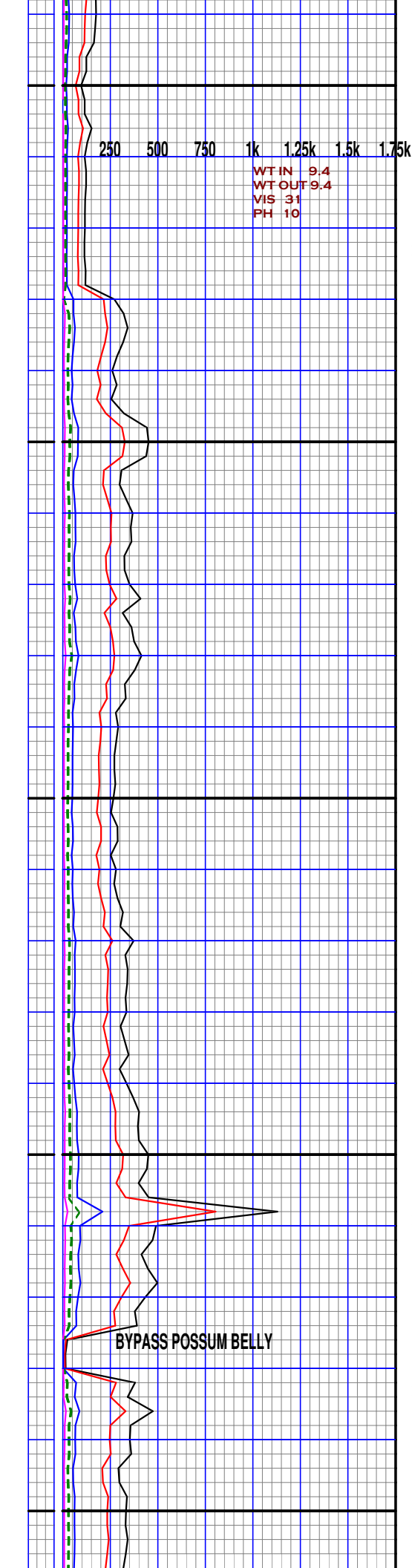
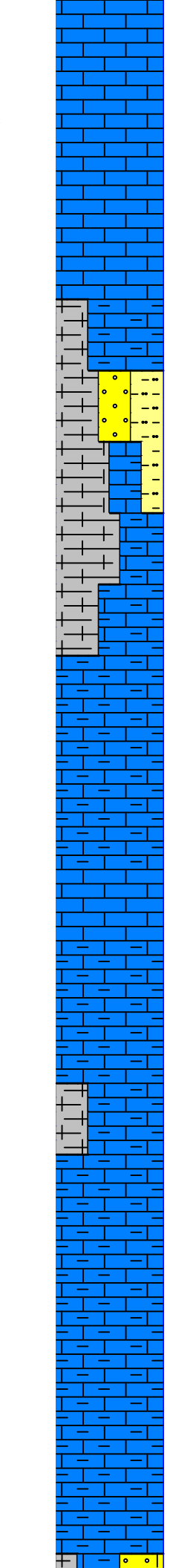
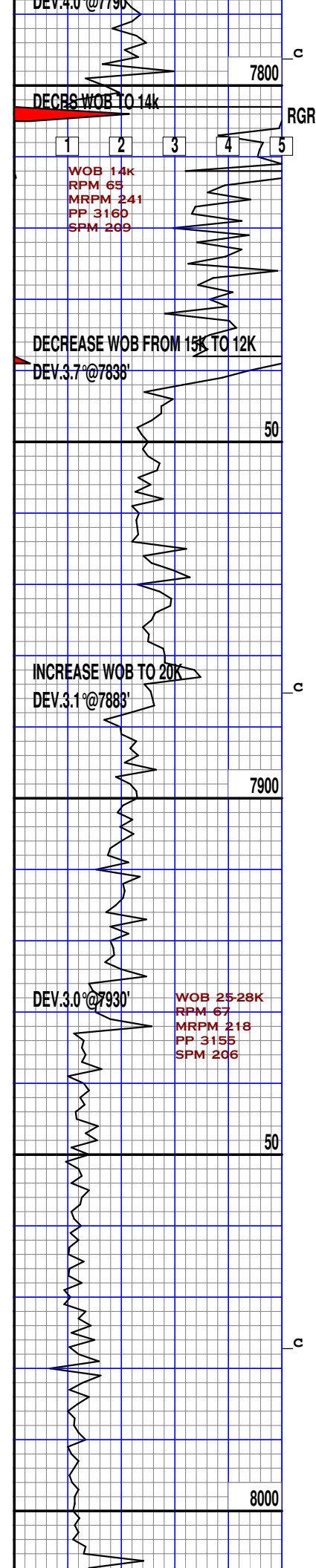
SH:blk,blky,sft,rthy
v/lmy ip

LS:brn,gry,lt gry,lt
brn,drk gry,drk brn
crm,brn/gry mott,micro
xln,sft,occ v/frm
abndt shly ip,occ mica
inclus,drty

LS:brn,lt brn,drk brn
crm,gry,lt gry,bff
brn/crm/gry mott,vfn-
micro xln,sft-v/hd
occ chrty inclus,argil
occ mica inclus

LS:lt brn,brn,crm,lt
gry,drk brn,brn/crm
mott,vfn-micro xln
sft,occ hd,occ shly
ip,tr pyrtc inclus

LS:lt brn,brn,crm,gry
lt gry,drk brn,vfn-
micro xln,dns,sft,occ
v/hd,occ argil ip



LS: brn, lt brn, crm, lt gry, gry, bff, brn/crm mott, vfn xln, sft, sme fre blk clys, occ shly ip

LS: lt brn, med gry, brn/gry mott, vfn xln, mod frm, britt, sm shly, sme wht calc inclus

LS: brn, gry, brn/gry gry/wht, mott, vfn xln frm, britt, sm vry shly dirty, sme wht calc inclus, sm aren

SH: drk gryk, gry, vry drk gry, blk, erthy, vry lmy grding to shaly lime, vry slty in prt, frm, sft, vfnly pyr

LS: brn/wht, brn, gry, mott crm, vfn xln, britt, frm, sme vry drity, shly, sm dns, vfnly pyr

LS: brn, gry, brn/gry, brn/wht, mott, vfn xln, frm, britt, sm vry shly, dirty, sm dns, vfnly pyr

LS: brn, brn/wht, brn/gry mott, vfn xln, frm, britt pred vry dirty, shly, vfnly pyr

LS: brn/gry, brn/wht, mott med gry, vfn xln, britt frm, vry shly, vfnly pyr

SH: vry drk gry, drk gry, blk, dull, erthy, carb, mod frm, frm, sm vry lmy

LS: brn, gry, brn/wht, brn/gry, mott, vfn xln, britt frm, vry drity, vry shly grding lmy shale, vfnly pyr

LS: brn, gry, brn/gry, brn/wht, mott, vfn xln britt, frm, drity, vry shly grding to lmy shale, vfnly pyr, sme wht calc inclus

SS: gry, brn, mlky, vfn gr mod consl, lmy, shly, vry dirty, subrndd-subang, mod srt

DEV 2.5° @ 8023'

ONE PUMP ON HOLE @ 108 SPM

50

BOTH PUMPS ON HOLE 208 SPM

c

8100

DEV 2.6° @ 8115'

SJ

50

1 PUMP ON HOLE 104 SPM

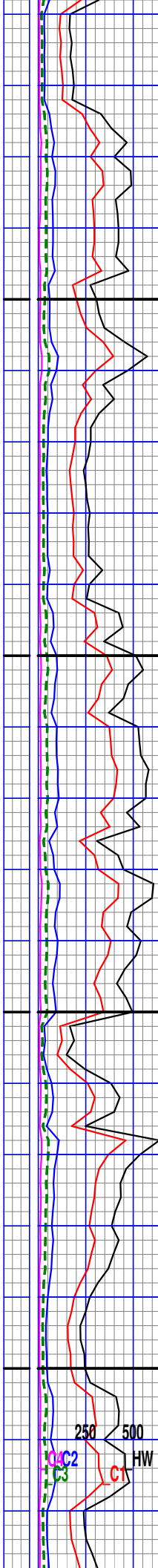
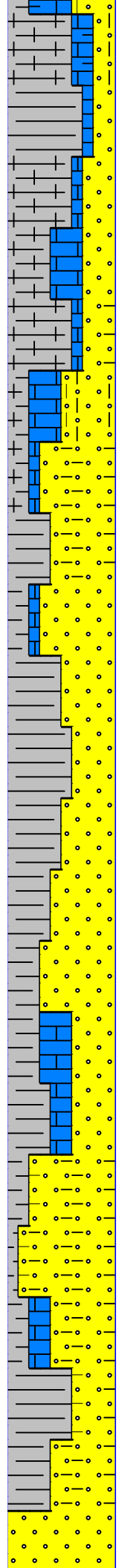
2 PUMPS ON HOLE 208 SPM

8200

DEV 1.7° @ 8206'

1 2 3 4 5

WOB 22



250 500 750 1k 1.25k 1.5k 1.75k

C2 C3 HW

SH: vry drk gry, drk gry, sm blk, frm, britt, sm sli sft, carb, erthy, dull, calc, sm vry slty

SS: lt brn, gry, sm clr vfn gr, consl, vry shly, vry lmy, subrnd-subang mod srttd

SH: drk gry, vry drk gry, drk brn, blk, erthy, dull, carb, vry lmy grding to shaly lime, mod frm, frm, sm sft, sm vry slty

SS: lt gry, mlky, clr, brn vfn gr, mod consl, vry shly, dirty, vry lmy, subrndd-subang, mod srttd

SS: lt gry, gry, off wht, mlky, clr, vfn gr, mod consl, arg, sme vry shly lmy in prt, subrndd-subang, mod srttd, tr free wht-gry clay

SH: vry drk brn, drk brn, sm drk gry, blk, erthy, dull, carb, sft-frm, sm lamen, sme vry slty

SS: wht, lt gry, off wht clr, mlky, vfn gr, vfn gr frly-wll consl, calc cmnt, frly srttd, sme v/shly ip, occ fre blk clys

SH: blk, drk gry, drk brn blk, sft-mod frm, rthy occ calc inclus, tr slty txt

LS: brn, drk brn, crm, lt brn, micro xln, sft, occ hd, sme shly ip

SS: lt gry, lt brn, off wht, wht, clr, vfn-fn gr sbang, lsly consl, calc cmnt, sme v/shly ip prly srttd, drty, occ lmy

SH: brn, drk brn, gry, drk gry, blk, blk, frm, rthy occ slty txt, occ lmy ip, dll, tr arean

LS: brn, crm, drk brn, vfn

WTIN 9.4

RPM 76
MRPM 240
PP 3148
SPM 208

WT 9.4
VIS 31
PH 10

xln,hd,occ chlky
argil

SHOW #12

SS:wht,off wht,mlky,clr
vfn gr,sbang,lsly cnsl
calc cmnt,frly srted
clean,tr shly inclus
30% dll ylw fluor,mod
fst clr brt lt ylw wet
cut

DECRS WOB TO 17k

INCRS WOB TO 22k

SS:wht,off wht,clr,mlky
vfn gr,sbang-sbrnd
frly-wll cnsl,calc
cmnt,occ uncns1,frly
srted,tr argil inclus
mod clean,30% dll brt
ylw fluor,mod fst clr
lt ylw wet cut

50

8300

DEV 1.6° @ 8301'

SH:blk,drk brn,drk gry
brn,biky-sbblky,sft-
v/frm,rthy,occ lmy ip
tr slty txt

4/6/17

LS:brn,crm,off wht,vfn
xln,sft,shly

SS:wht,clr,off wht,lt
gry,vfn gr,sbang-ang
v/wll cns1,calc cmnt
tr shly

50

SH:brn,drk brn,blk,blky
sft-v/frm,rthy,occ
arean,sme lmy inclus

DEV 2.3° @ 8393'

SS:lt gry,off wht,clr
mlky,wht,vfn gr,sbang
frly-wll cns1,calc
cmnt,frly srted,occ
shly ip

8400

LS:brn,crm,drk brn,lt
brn,micro xln,sft,occ
argil ip

1 2 3 4 5

250 500 750 1k 1.25k 1.5k 1.75k

DEV 2.5° @ 8425'

WOB 22
RPM 71
MRPM 240
PP 3227
SPM 209

WTIN 9.4
WTOUT 9.4
VIS 31
PH 10

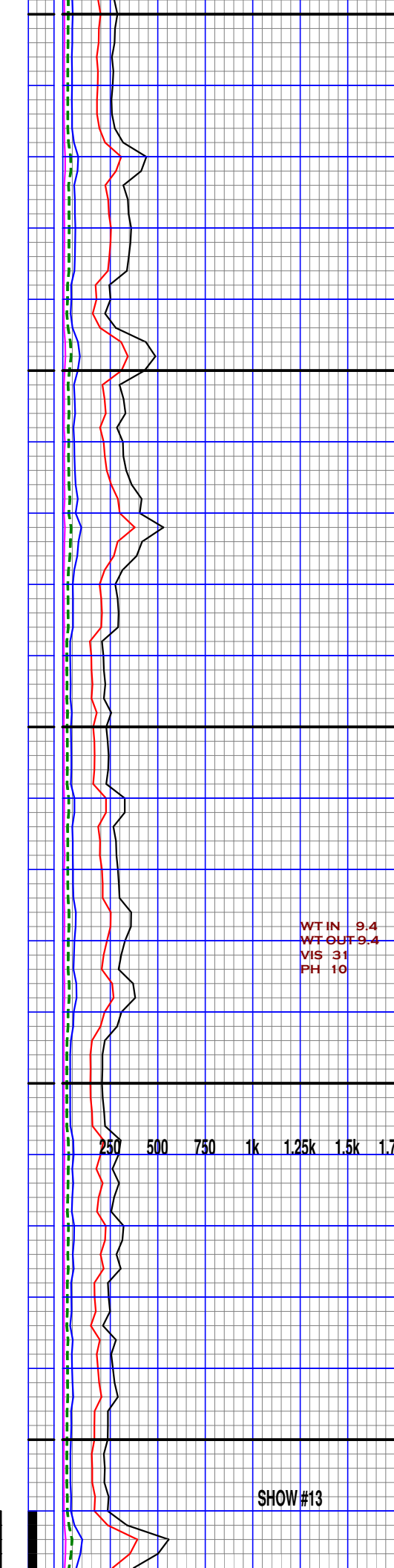
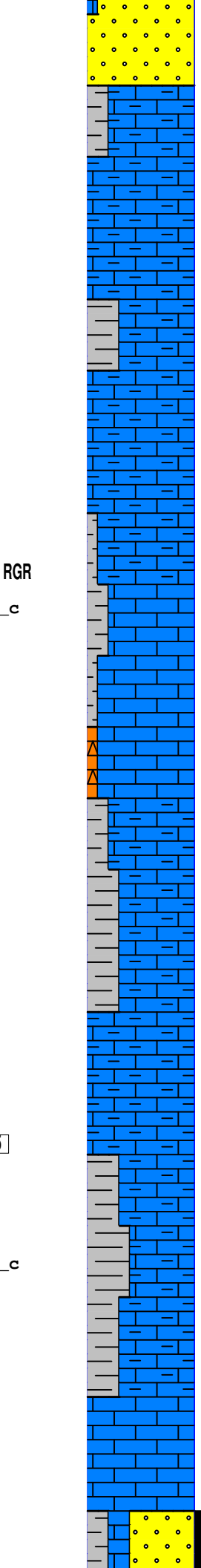
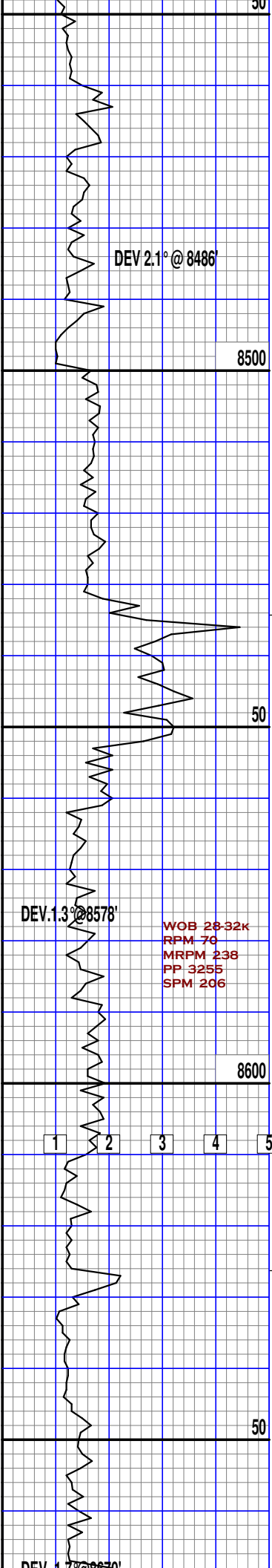
SS:clr,wht,off wht,mlky
vfn gr,sbang,v/wll
cns1,calc cmnt,frly
srted,occ shly ip,tr
lmy

c

LS:brn,crm,drk brn,lt
gry,micro xln,hd
chlky,argil

CC2 HW

CC3 CI



SH: drk brn, blk, blk, frm
rthy, tr gmy, v/lmy

LS: gry, lt gry, drk gry
brn, drk brn, crm, micro
xln, sft-v/frm, abndt
shly ip, v/drty

SH: blk, drk brn, drk gry
blk, sft, rthy, v/lmy ip

LS: gry, lt gry, drk gry
brn, lt brn, crm, off wht
gry/brn/off wht mott
micro xln, dns, sft-mod
hd, v/shly

LS: gry, gry/wht, gry/brn
mott, vfn xln, mod hrd,
frm, sm sft, sm vry shly
dirty, sme silic

CHRT: brn, dr brn, opaq,
lmy, sharp, ang

SH: drk brn, brn, med gry
blk, mod frm, britt,
carb, ethy, sme dull,
lmy in prt

LS: gry, gry/wht, mott, brn
vfn xln, mod frm, frm, sm
sft, vry dirty, shly, sm
wht calc inclus

LS: gry, med gry, brn/wht
brn/gry, mott, vfn xln
mod frm, frm, britt, sm
sft, sm vry shly, dirty
vfnly pyr

SH: brn, drk gry, med gry
blk, erthy, sm dull,
carb, lmy, mod frm, frm
sme sft lamens

LS: gry, lt brn, off wht,
sm brn/gry, mott, vfn-
micro xln, more cln,
less dirty, less shly,
mod frm, britt, sm chky

SS: mlky, clr, lt gry, gry
vfn gr, occ fn gr, lsly-
unconsl, sm shly, sme
lmy, prd arg, subrndd-

WT-IN 9.4
WT-OUT 9.4
VIS 31
PH 10

SHOW #13

DEV. 1.1 @ 8870

8700

c

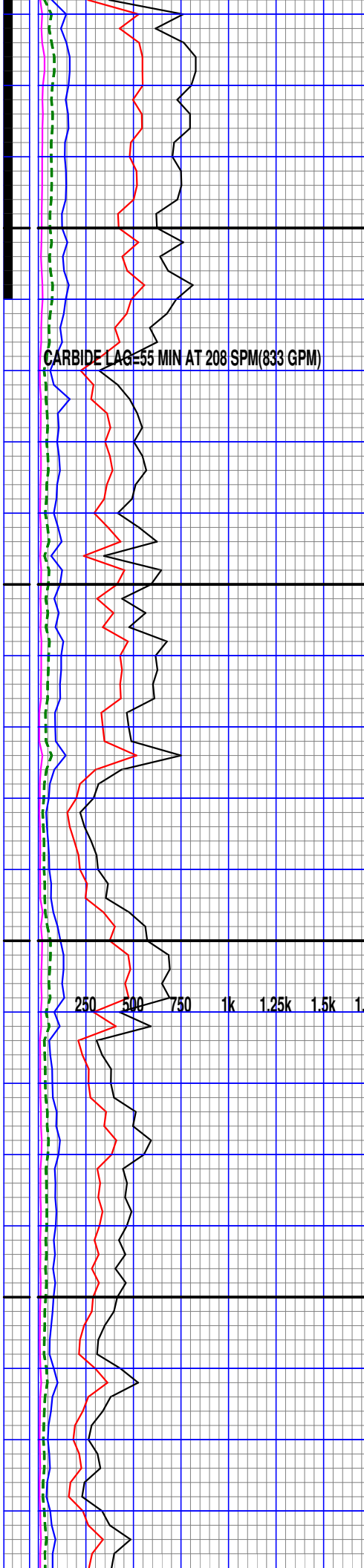
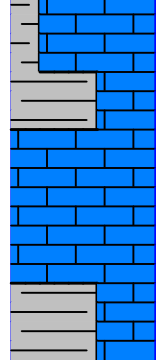
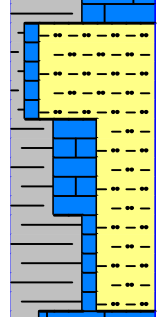
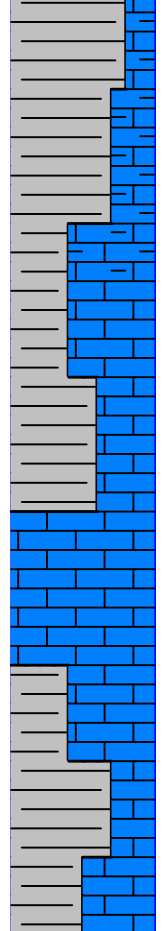
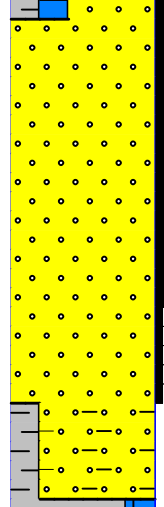
50

8800

1 2 3 4 5 c

50

DEV. 0.2 @ 8855



CARBIDE LAG=55 MIN AT 208 SPM(833 GPM)

rndd, well srtd, vfny pyr, fr amnt free gry clay, sm fltng grs, 20%dull yellow fluor slo poor even pale yellow wet cut

SS:lt gry, gry, off wht, mlky, clr, vfn gr, mod-lsly consl, subrndd-rnd sm subang, arg, sm vry shly, sm lmy, vfny pyr mod srtd, tr free gry clay, 20%dull yell fluor, poor slo even pale yell wet cut

SH:vry drk brn, drk gry, brn, blk, vry slty in prt, erthy, dull, mod frm sft, carb, vfny pyr,

SH:drk brn, brn, sme drk gry, blk, mod hrd, hrd, erthy, dull, silic in prt, sm sft, lamn

LS:crm, lt brn, brn/wht mott, vfn xln, britt, frm sm dns, tr foss, vfny pyr

SH:drk brn, vry drk brn drk gry, blk, erthy, sm gritty, carb, md hrd-frm, sm sft, lamn

LS:lt brn, brn, crm, sme gry, vfn-micro xln, mod hrd, hrd, sm britt, cln sm dns

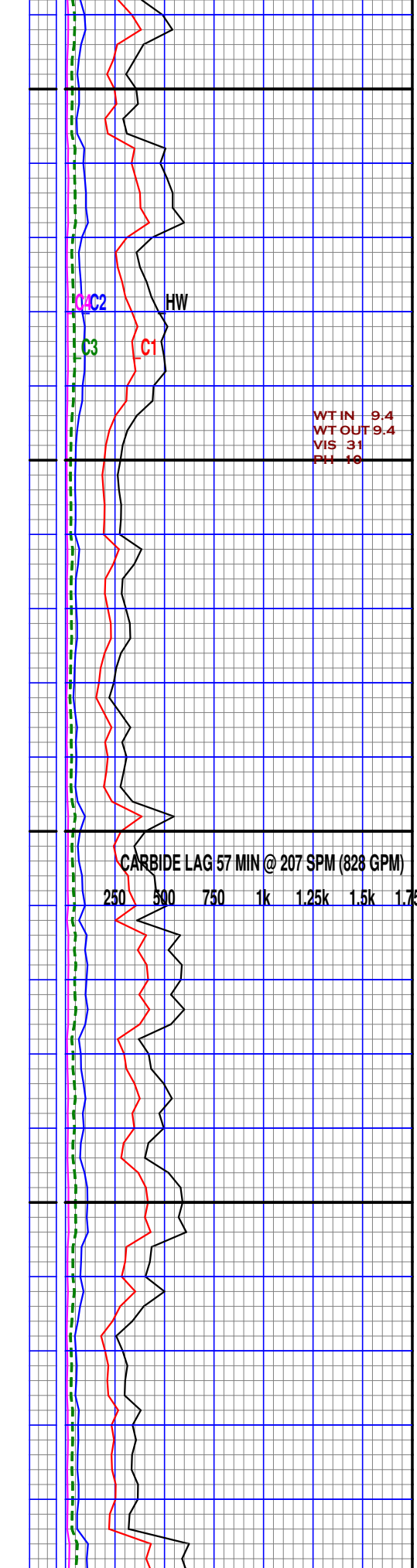
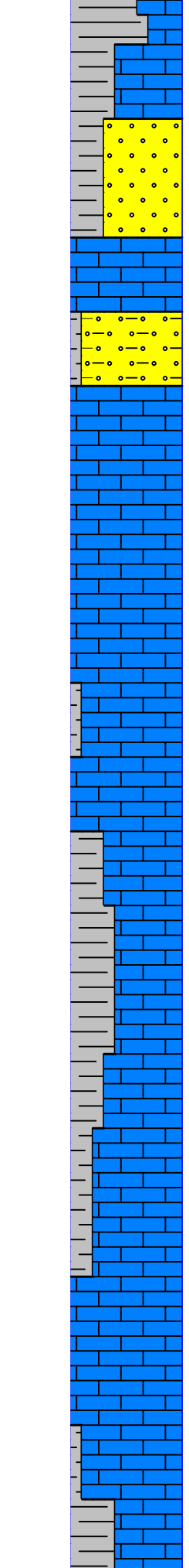
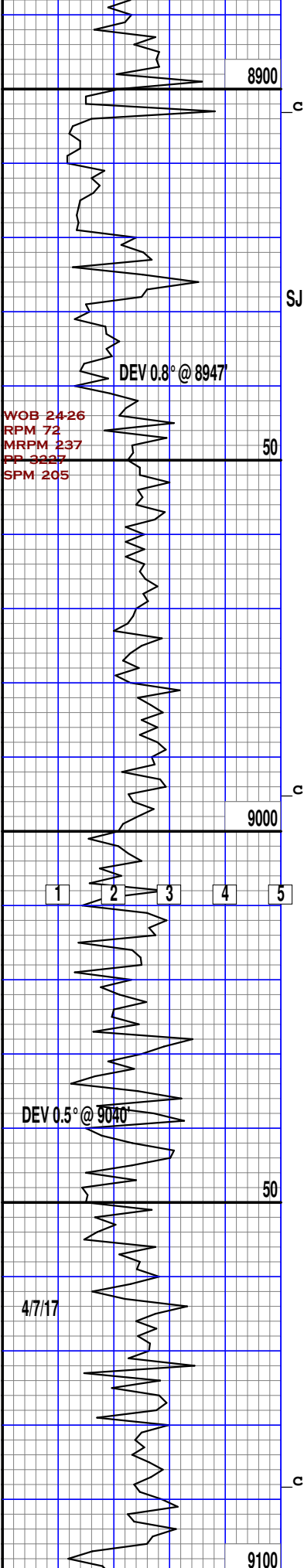
SH:drk brn, brn, sme drk gry, blk, erthy, sm dull carb, sli calc, mod hrd-frm, sm sft, lamn

SLTSTNE:med gry, gry, brn vry dirty, shly, slt gr lmy in prt, subrndd-rnnd, vfny pyr, sm grding to slty shale

SH:drk gry, gry, sme vry drk gry, blk, mod frm, frm, sm sft, erthy, sme vry slty, grding to sltstone

LS:gry, lt brn, brn/gry, gry/wht, mott, vfn xln, britt, frm, sm chky, prd cln, sm dns, sm shly tr foss

SH:drk gry, gry, sme blk blk, sft, sm frm, dull erthy, carb sli calc



vfnly pyr

LS:brn/wht,brn/gry,mott
brn,sm gry,off wht,vfn
xln,britt,frm,sm sft,
chlky,vfnly pyr,pred
cln,sm shly

SS:mlky,lt gry,clr,vfn
gr,lsly-mod consl,vry
lmy,sm vry shly,dirt,
sm arg,subrddd-subang
mod srted,vfnly pyr,NO
VIS FLUOR OR CUT

LS:brn,lt brn,drk brn
lt gry,crm,off wht
brn/crm mott,vfn xln
mod hd,tr sft,chlky
tr pyrtc inclus,occ
shly ip

WTIN 9.4
WTOUT 9.4
VIS 31
PH 18

LS:brn,lt brn,crm,off
wht,drk brn,lt gry
brn/crm mott,vfn xln
sft-mod hd,occ chlky
tr silic,mod cln

SH:blk,drk brn,blky,sft
rthy,v/lmy

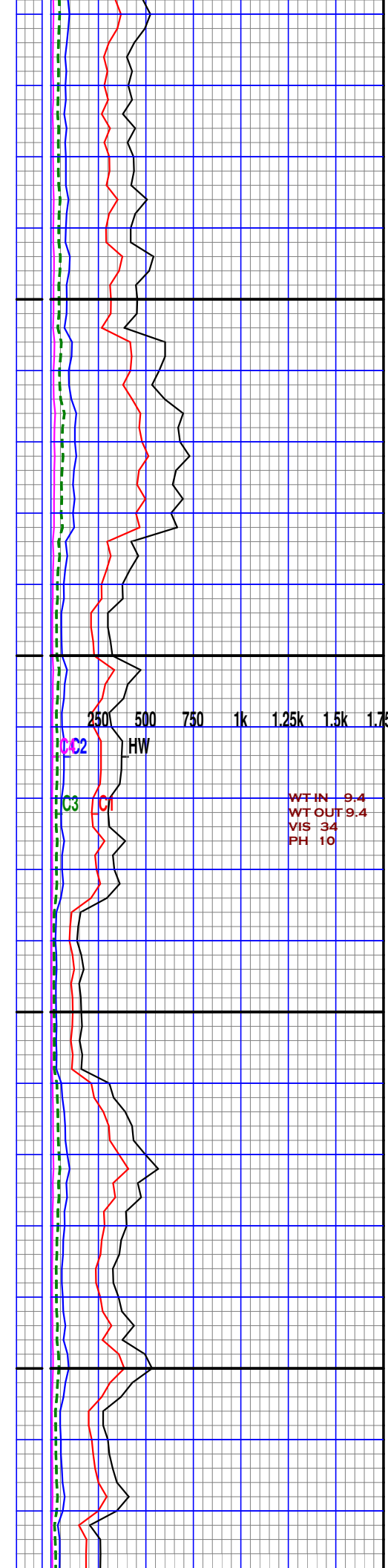
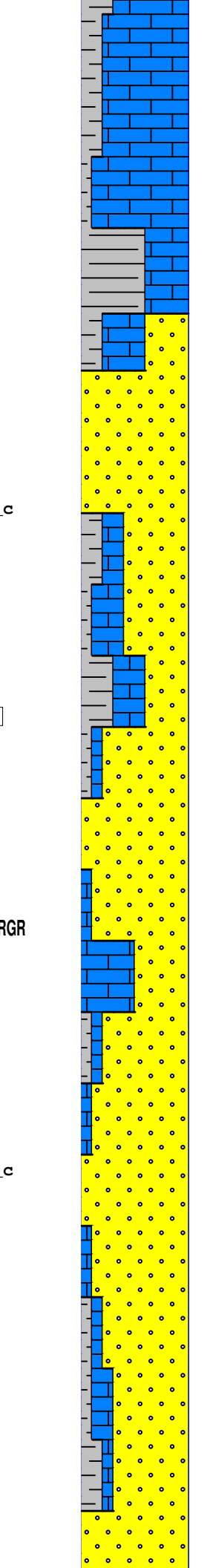
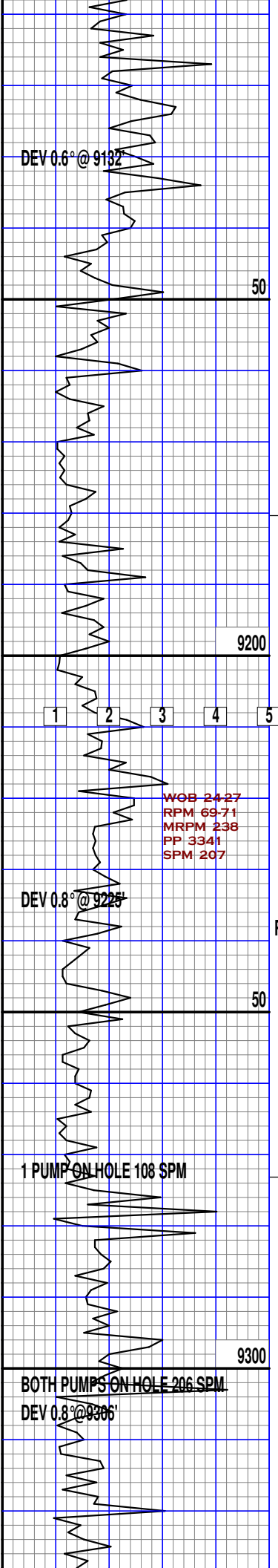
LS:lt brn,brn,crm,off
wht,drk brn,gry,bff
brn/crm/off wht mott
vfn-micro xln,sft
abndt chlky,tr shly
ip

SH:blk,blky,sft-frm
rthy,occ slty,sme
calc inclus

LS:crm,off wht,wht,lt
brn,bff,brn,drk brn
micro xln,sft,abndt
chlky,mod cln,occ
shly inclus,tr pyrtc
inclus

SH:blk,drk brn,blky,sft
rthy,tr lmy ip

LS:lt gry,gry,crm,lt
brn,brn,off wht,brn/lt
gry/crm mott,vfn xln
sft-mod frm,abndt blk
clys,occ pyrtc inclus



SH:blk,drk brn,blk,y,sft
rthy,occ calc inclus

LS:crm,lt brn,bff,off
wht,lt gry,brn,vfn xln
sft,abdnt chlky,tr hd
occ silic,occ shly ip

SS:clr,mlky,wht,off wht
vfn gr,sbang,v/lsly
cns1,calc cmnt,frly
srt'd,occ lmy ip

SH:blk,blk,y,frm,rthy
v/slty

LS:lt brn,brn,drk brn
crm,vfn-micro xln,hd
occ sft/chlky,cln

SS:wht,off wht,mlky,clr
vfn gr,lsly cns1,calc
cmnt,frly-wll srt'd,tr
lmy ip,abdnt fre gry/
wht clys,no vis fluor
no wet cut

LS:crm,brn,off wht,vfn
xln,hd

LS:lt brn,crm,brn,brn/
wht mott,vfn-fn xln,
britt,frm,sm embeded
fn gr sand,tr foss,sli
tr shly

SS:mlky,clr,lt gry,gry,
vfn gr,mod-well consl,
sm fria,arg,sm lmy,sme
vry shly,subrnd-subang
mod srt'd,fnly pyr,tr
free gry clay,NO VIS
FLUOR OR CUT

LS:brn,brn/wht,mott,sm
crm,vfn xln,britt,frm
dns,sm shly in prt

SS:mlky,clr,lt gry,vfn
gr,mod-lsly consl,sme
well consl,arg,lmy,sme
vry shly,dirtly,vfnly
pyr,tr free gry clay

SH:drk brn,brn,blk,y,
vry slty,dull,erthy,
mod frm,frm,sli calc

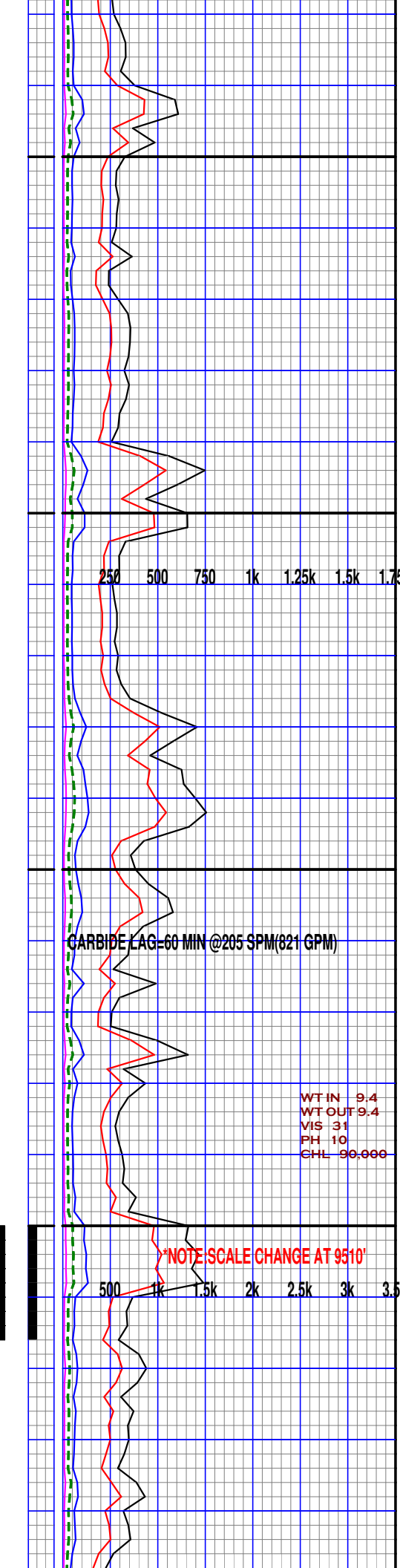
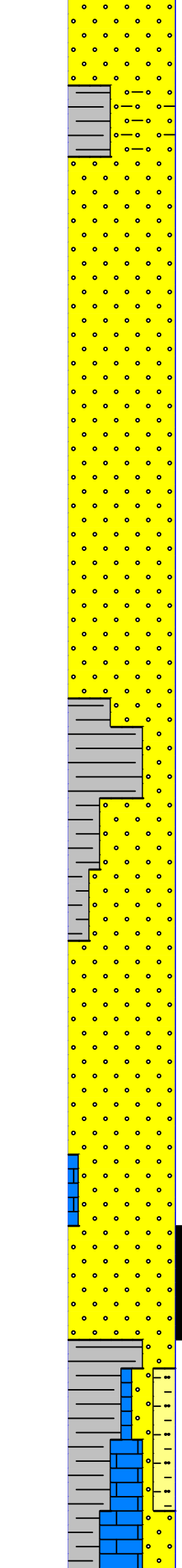
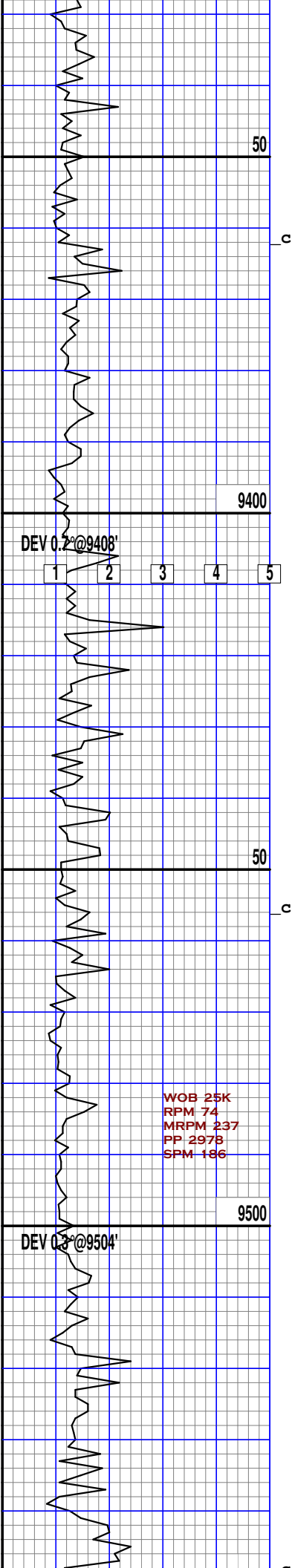
SS:mlky,clr,lt gry,vfn
gr,lsly consl,arg,sli
lmy,tr shly-vry shly,

WOB 2427
RPM 69-71
MRPM 238
PP 3341
SPM 207

WT-IN 9.4
WT-OUT 9.4
VIS 34
PH 10

1 PUMP ON HOLE 108 SPM

BOTH PUMPS ON HOLE 206 SPM
DEV 0.8° @ 9306'



sm mod-well cmtd, vfnly pyr, subrnnd-subang, mod cmtd, tr free clay

SH: brn, drk brn, blk, frm britt, sm sft, lamn, dull, erthy, carb, sli calc

SS: mlky, clr, lt gry, vfn gr, lsly consl, prd arg sm lmy, sm vry shly, dirty, tr well cmtd, lmy subrnnd-rnnd, sm subang well srted, tr free gry clay

SS: mlky, clr, lt gry, vfn gr, lsly consl, prd arg sm lmy, sm shly, tr well cmtd w/clay, subrnnd-rnnd, sm subang, well srted, tr free gry clay NO VIS FLUOR OR CUT

SS: clr, mlky, lt gry, vfn gr, lsly-mod consl, prd arg, sm shly, sm well cmtd, with lime, subrnnd-rnnd, subang, well srted tr free gry clay

SH: vry drk brn, drk brn, drk gry, blk, lamn, sft frm, dull, vry slty, grdng to sltstne, vfnly pyr

SS: mlky, clr, lt gry, sme off wht, vfn gr, lsly-mod consl, prd arg, sm vry shly, sm limy, subrnnd-rnnd, subang, well srted, tr free gry clay

SS: off wht, lt gry, mlky, clr, vfn gr, mod-lsly consl, arg, sm shly, sli calc, subrnnd-rnnd, sme subang, well srted, fr amnt free wht-gry clay NO VIS FLUOR OR CUT

SS: mlky, clr, lt gry, gry, off wht, vfn gr, lsly consl, prd arg, sm lmy, tr shly, subrnnd-rnnd, occ subang, well srted tr fee wht clay, 30% pale yellow fluor, slo even pale yellow wet cut

SH: drk brn, brn, vry drk brn, blk, erthy, dull, frm, britt, sft, sm lamn sli calc, vfnly pyr

LS: brn, crm, brn/wht, brn/gry, mott, vfn xln, britt frm, sm sft, sme cin, dns prd shly, dirty

WOB 25K
RPM 74
MRPM 237
PP 2973
SPM 186

WTIN 9.4
WTOUT 9.4
VIS 31
PH 10
CHL 96.000

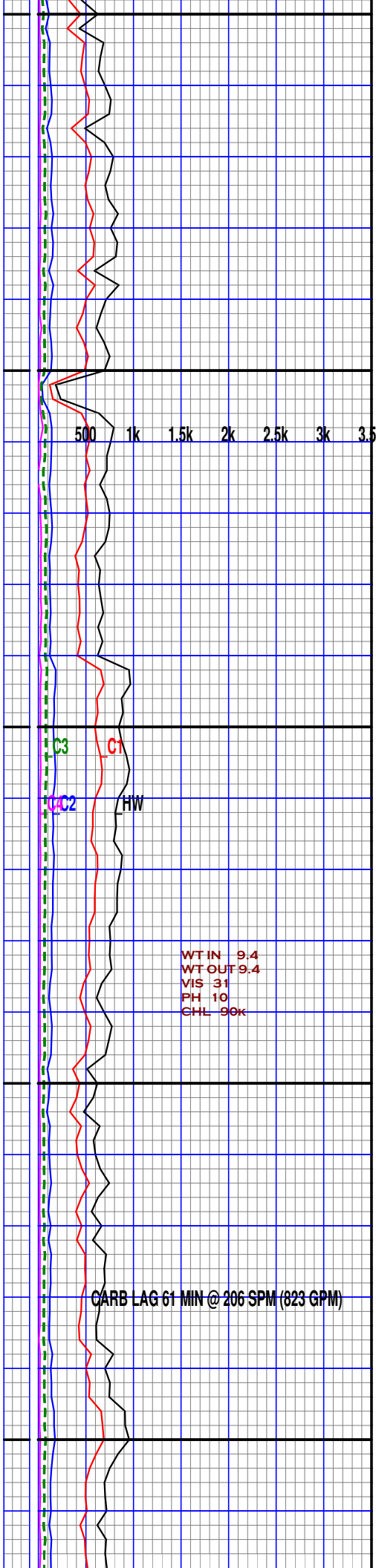
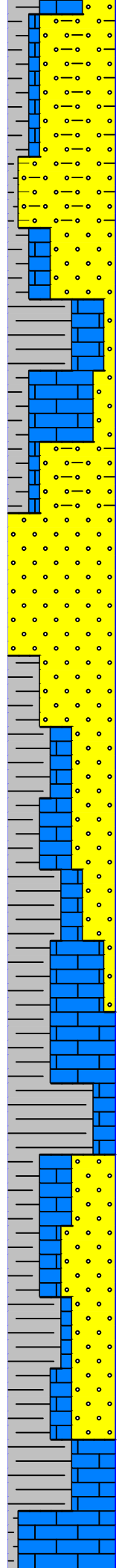
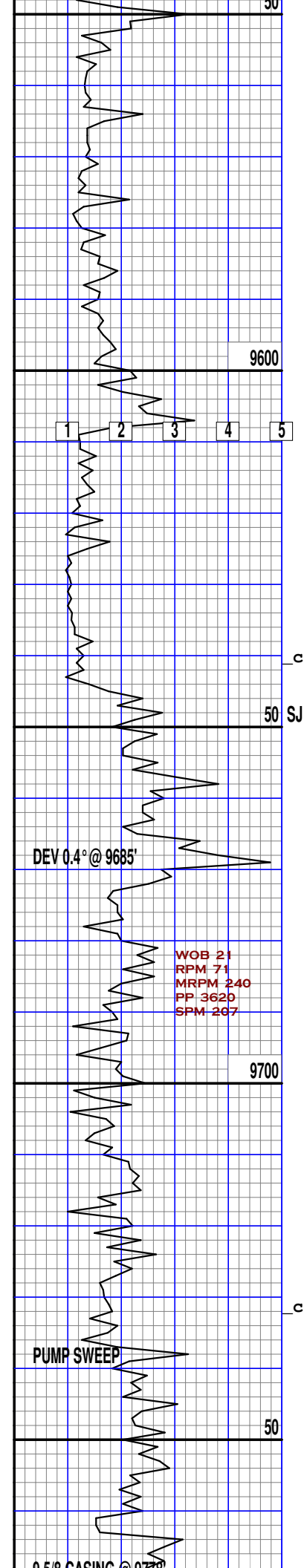
GARBIDE LAG-60 MIN @205 SPM(821 GPM)

NOTE SCALE CHANGE AT 9510

DEV 0.2\"/>

1 2 3 4 5

DEV 0.3\"/>



SS: gry, lt gry, off wht, mlky, clr, vfn gr, mod-lsly consl, prd vry shly, dirty, sm lmy, tr arg, subrnd-rndd, sme subang, vfnly pyr, tr free wht-gry clay, NO VIS FLUOR OR CUT

LS: brn, crm, brn/crm mott vfn xln, frm, britt, sme sft, sme vry shly, sme embedded sand grs, fnly pyr

SS: gry, off wht, mlky, clr vfn gr, mod-lsly consl, vry shly, sm arg, sme lmy-vry lmy, subrnd-rndd, subang, vfnly pyr well srted, tr free gry clay, NO VIS FLUOR OR CUT

SS: mlky, clr, tn, gry, vfn gr, lsly consl, vry lmy, sm arg, sm shly, subrndd subang, mod srted, vfnly pyr, tr mod cmted, tr free clay, NO VIS FLUOR OR CUT

SH: blk, drk gry, drk brn gry, blk, sft-mod frm rthy, sme lmy ip, tr arean, tr pyrctc inclus

LS: brn, crm, off wht, vfn xln, sft, chlky, abndt shly ip

SH: drk brn, brn, blk, blk sft, rthy, v/lmy ip

SS: clr, mlky, wht, vfn gr sbang-sbrnd, frly-wll consl, calc cmnt, frly srted, occ lmy ip

LS: crm, brn, off wht, vfn xln, hd, chlky, occ shly ip

LS: wht, off wht, crm, lt brn, bff, brn, lt gry vfn xln, sft, occ chlky mod cln, tr shly ip

WTIN 9.4
WTOUT 9.4
VIS 31
PH 10
CHL 90k

9 3/8 CASING @ 9710

4/8-11/17

NB#7 8 1/2 MM55D W/MM

WOB 10K
RPM 35
MRPM 237
PP 1080
SPM 90

RGR

9800

1 2 3 4 5

CCW

50

NOTE SCALE CHANGE

0.5 1.0 1.5 2.0 2.5

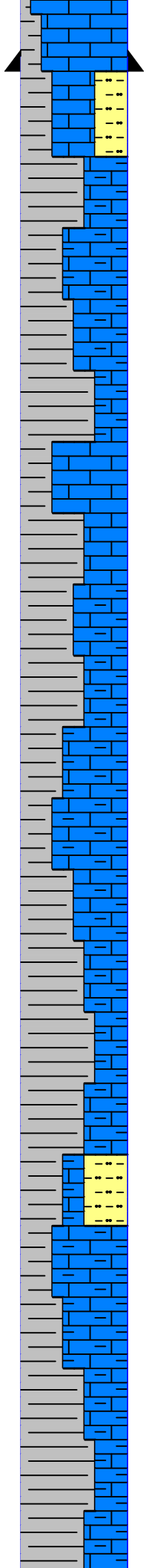
c

9900

DBV 1.4° @ 9910'

50

c



WTIN 9.3
WTOUT 9.3
VIS 31
PH 9
CHL 102K

500 1k 1.5k 2k 2.5k 3k 3.5k

SLTSTNE: gry, brn, vry shly, sm arg, subrnnd-rndd

SH: vry drk gry, drk gry, sm charcoal, blk, frm britt, sm mod hrd, dull erthy, carb, sli calc, vfnly pyr

LS: brn, lt brn, crm, brn/wht, mott, britt, frm, sme cln, dns, sm shly dirty, tr foss, fnly pyr

SH: vry drk gry, drk gry, blk-sblk, mod frm-frm, tr mod hrd, dull erthy, lmy ip, carb v/fnly pyrct

LS: crm, lt brn, off wht mott ip, brttl, mod frm-frm, sm sli hrd, tr cln dns, sm foss incl, fnly pyrct

SH: vry drk gry, drk gry occly drk brn, tr blk blk-sblk, frm-mod frm brttl, calc, fnly pyrct

LS: brn, lt brn, off wht tr wht, mott, v/fn-fn xln, mod frm-frm, tr sft, brttl, fnly pyrct shly ip, calc, occ foss

SH: drk gry, vry drk gry tr brn, tr blk, sblk-blky, mod frm-frm, brttl dl erthy lstr, calc fnly pyrct

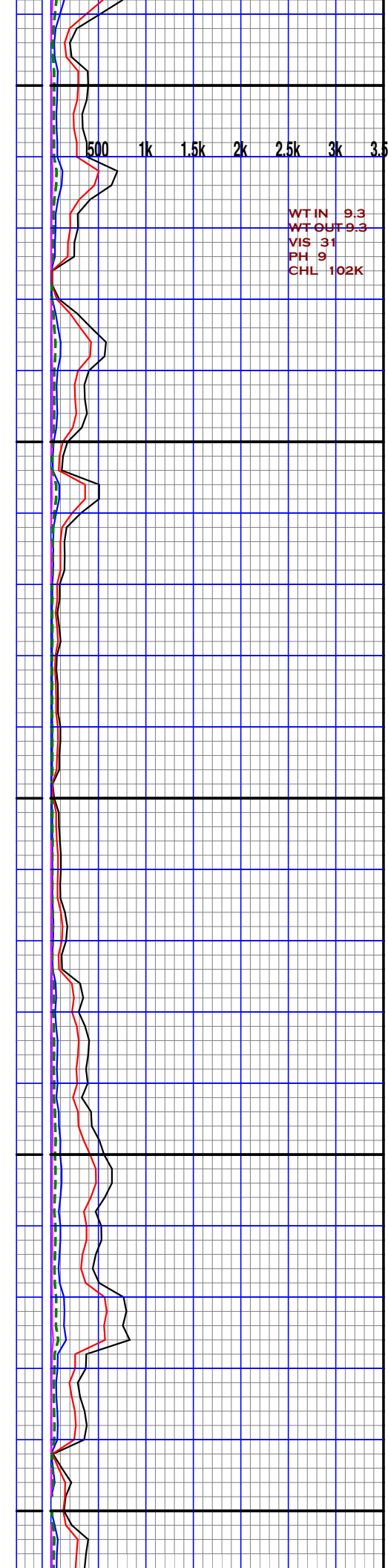
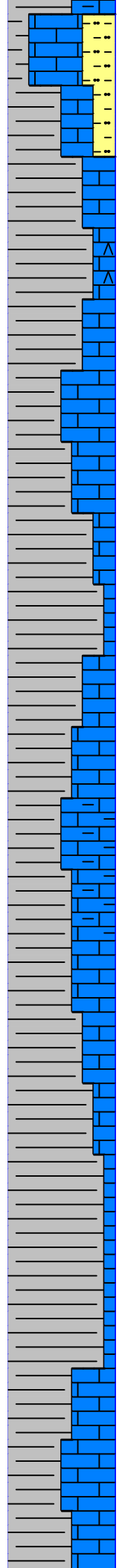
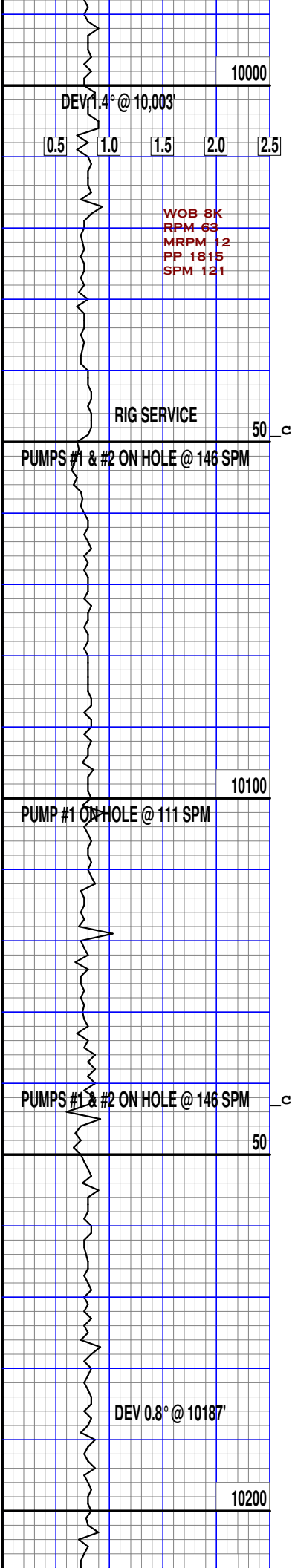
SH: v/drk gry, drk gry occly drk brn, blk-sblk, mod frm-frm brtt erthy dl lstr, calc ip fnly pyrct

SLT: lt gry, gry, off wht v/fn gr, v/wll rnd mod frm-v/frm, pred calc cmnt, v/wll cmntd tr calc incl, occ ss incl, no vis fluor or cut

LS: brn, lt br, buff, off wht, mott, frm-mod frm brttl, fn xln, mod dns, shly ip, fnly pyrct -pyrct lam, tr dolc txt

SH: drk gry, vry drk gry tr v/drk brn, blk-sblk, brttl, mod frm-frm, erthy dl lstr calc, slty ip, fnly pyrct

LS: tn, brn, off wht, tr gry, dns, frm-mod frm tr hrd, fn-v/fn xln shly ip, occly slty fnly pyrct



SLT: gry, lt gry, tr off
wht, v/wll ind, frm-mod
frm, pred calc cmt,
wll cmtd, tr calc inclc

SH: gry, lt gry, grysh wht
blk- sbky, mod frm-frm
rthy txt, dll lstr, pred
calc, slty ip, fnly
pyrtc ip

SH: gry, lt gry, off wht
tr blk-vry drk brn
sbbky-blky tr fiss
mod frm-frm, erthy txt
dll lstr, pred calc
slty, occlly fnly pyrtc

LS: brn, tn, buff, off wht
mott, frm-v/frm, fn-v/
fn xln, mod dns-dns
shly ic, foss ip, fnly
pyrtc ip,

SH: drk gry, gry, lt gry
grysh wht, blk- sbky
mod frm-frm, erthy txt
dll lstr, pred calc
slty, fnly pyrtc ip

LS: brn, lt brn, off wht
mott, v/fn-fn xln
dns-mod dns, brttl
shly ip, tr chlky

SH: drk gry, gry, off wht
blk- sbky, mod frm-
frm, rthy smth txt, dll
lstr, pred calc, fnly
pyrtc

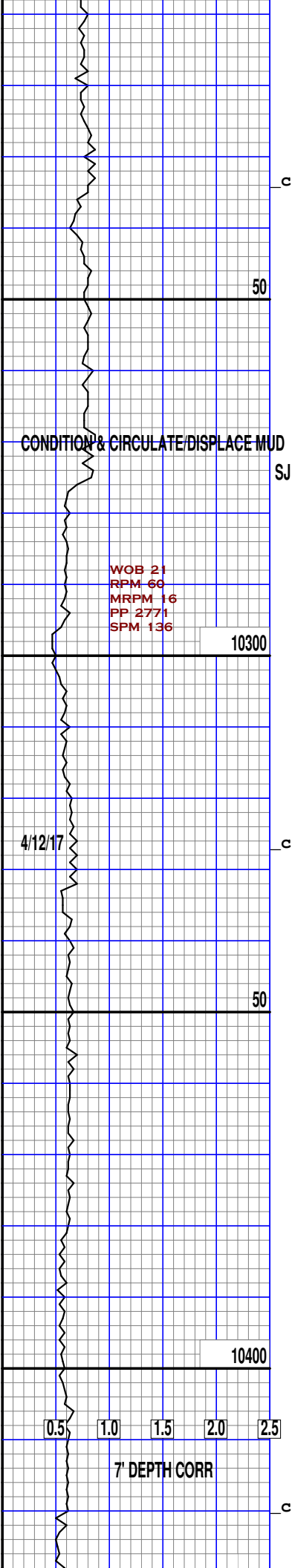
LS: brn, off wht, buff
crm, lt tn, mod frm-frm
brttl, v/fn-fn xln
shly occlly, chlky ip
fnly pyrtc, tr foss

SH: vry drk brn, drk brn
occlly blk, blk- sbky
occlly fiss, mod frm-v/
frm, rthy smth txt, dll
lstr, occlly lmy, fnly
pyrtc

SH: v/drk brn, v/drk gry
drk gry, sbky-blky, mod
frm-frm, rthy smth txt
dll lstr, calc, fnly
pyrtc

LS: drk brn, off wht, mott
sm drk gry, v/fn-fn xln
mod dns-dns, v/frm-frm
tr hrd, shly ip, fnly
pyrtc

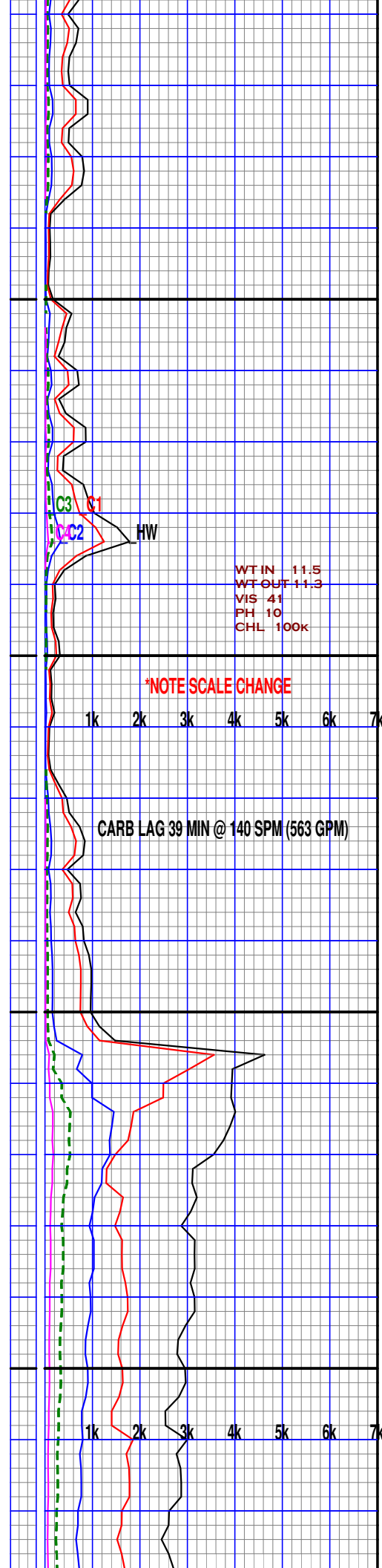
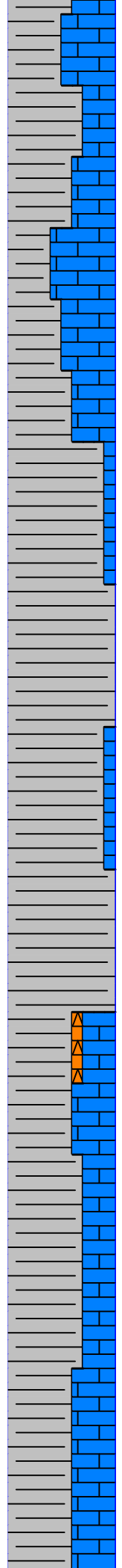
SH: gry, drk gry, off wht
tr blk, sbky-blky, mod
frm-frm, rthy smth txt
dll lstr, pred lmy
slty, fnly pyrtc



CONDITION & CIRCULATE/DISPLACE MUD

WOB 21
RPM 60
MRPM 16
PP 2771
SPM 136

4/12/17



LS:brn, drk brn, off wht
mott, mod frm-frm, mod
frm-frm, dns-mod dns
brttl, shly ip, fnly
pyrtc ip

SH:lt gry, gry, off wht
sbbly-blky, frm-mod frm
rthy smth txt, dll lstr
slty ip, fnly pyrtc
ocly slty

LS:brn, lt brn, off wht
lt tn, fn-v/fn xln, dns
-mod dns, frm-v/frm
slty, shly ip, fnly
pyrtc, tr chrty

SH:gry, drk gry, lt gry
blk, brn, blk-sbblky
sft-v/frm, rthy, dll
occ slty ip, tr lmy

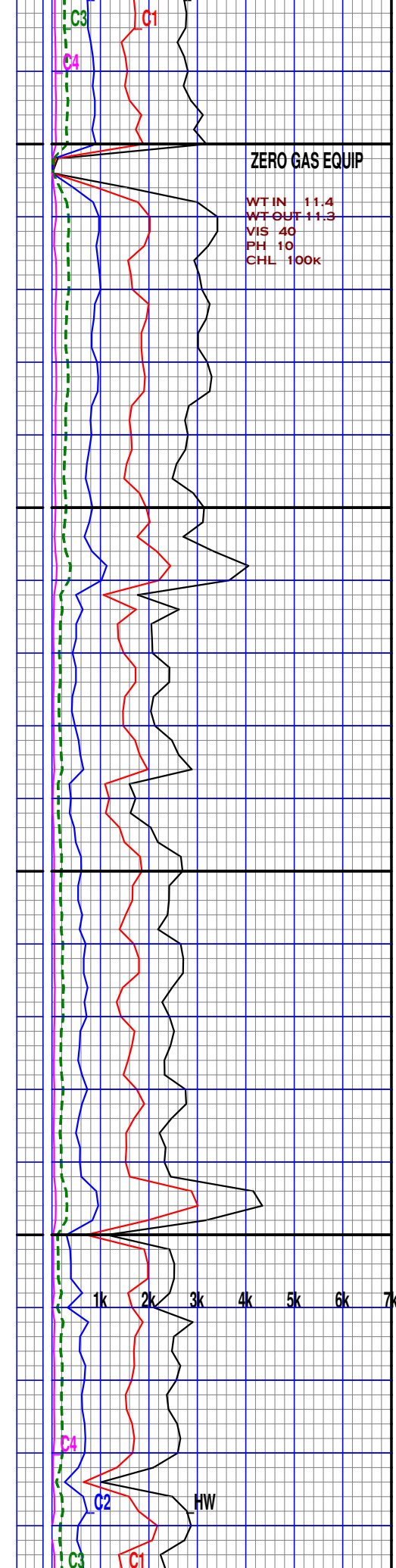
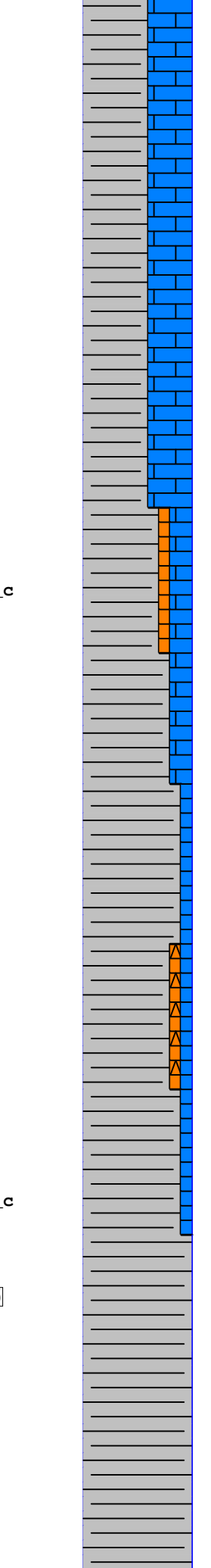
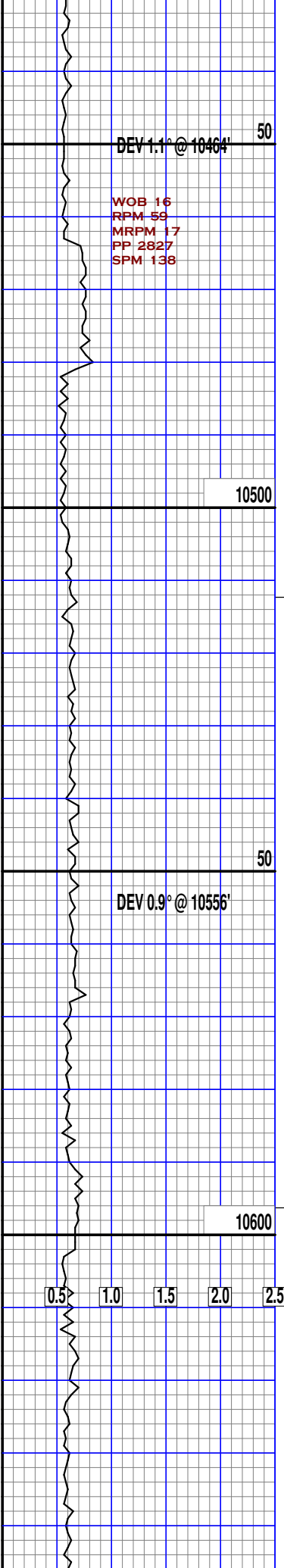
LS:off wht, lt brn, brn
vfn xln, hd, occ silic

SH:blk, drk gry, gry, lt
gry, drk brn, blk, sft-
v/frm, rthy, abndt slty
txt, sme lmy ip, abndt
pyrtc inclus

CHRT:smky, gry, lt gry
opq, blk, v/hd, shrp
anglr

LS:wht, off wht, crm, brn
lt brn, vfn xln, sft-
v/hd, occ chrty, sme
pyrtc inclus, occ sm
ools, occ dolo inclus

SH:blk, drk brn, gry, lt
gry, drk gry, blk, sft
occ frm, rthy, occ lmy
ip, sme v/fnly pyrtc
fst clr lt grn wet
cut



LS: brn, lt brn, wht, off wht, crm, brn/wht/crm mott, vfn-micro xln, hd occ chky, occ dolo inclus, tr shly ip, tr pyrtc inclus
 SH: blk, drk gry, gry, blk, sft, rthy, occ lmy ip, occ fre pyrt
 LS: brn, crm, wht, mott, fn-vfn xln, hd, chrty
 CHRT: blk, smky, opq, hd shrp
 SH: drk gry, blk, gry, blk, sft-v/frm, rthy, tr lmy ip, occ fre pyrt
 LS: wht, off wht, brn, crm, vfn-micro xln, hd, occ chky
 CHRT: gry, blk, opq, smky, v/hd, shrp, occ lmy ip
 SH: blk, drk gry, blk, sbblky, sft, occ lmy ip, tr pyrtc inclus, fst, clr lt grn wet cut
 SH: blk, drk gry, gry, drk brn, blk, sft, rthy, occ slty txt, tr lmy inclus
 SH: blk, drk brn, drk gry, blk, blk, sft, rthy, occ lmy ip

WOB 17-20
RPM 66
MRPM 17
PP 2812
SPM 137

WTIN 11.5
WTOUT 11.3
VIS 42
PH 10
CHL 100k
FIL 45

LS: crm, lt brn, bff, off
wht, vfn xln, hd, occ
chrty inclus

SH: blk, drk gry, drk brn
gry, blk, sft-mod frm
rthy, occ lmy ip, occ
v/blk, shny

CHRT: opq, smky, wht, blk
v/hd, shrp, anglr

LS: crm, off wht, lt brn
bff, brn, drk brn, mott
fn-vfn xln, sft-hd
abndt pyrctc inclus, occ
dolo inclus

SH: blk, drk gry, gry, lt
gry, blk, sft, rthy, occ
lmy ip, tr v/fnly pyrctc
ip

CHRT: gry, drk gry, blk
opq, smky, off wht, v/hd
anglr, occ shly ip

LS: off wht, crm, brn, lt
brn, vfn xln, hd, chrty
abndt pyrctc inclus

SH: blk, drk gry, drk brn
blk, sft-v/frm, rthy
dll, occ slty txt, sme
lmy ip

LS: wht, off wht, crm, brn
drk gry, vfn xln, hd
sme chrty inclus, sme
shly ip

LS: wht, brn/wht, mott, gry
vfn xln, frm, britt, sme
chky, sm cln, dns, sme
dirty, shly, tr foss

10700

50

10800

0.5 1.0 1.5 2.0 2.5

1k 2k 3k 4k 5k 6k 7k

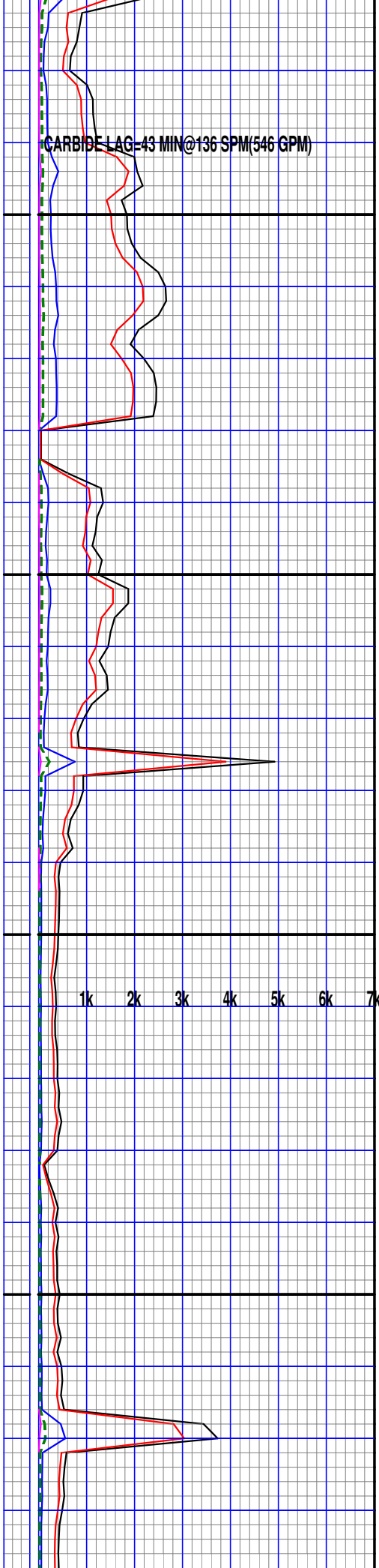
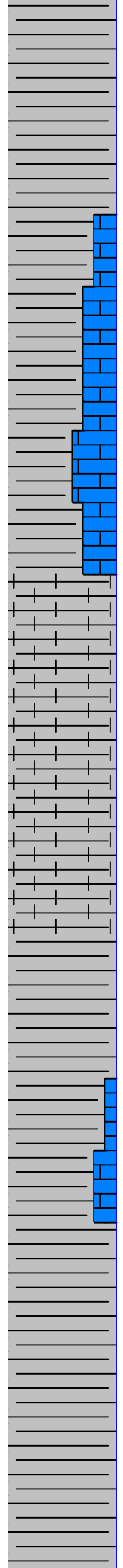
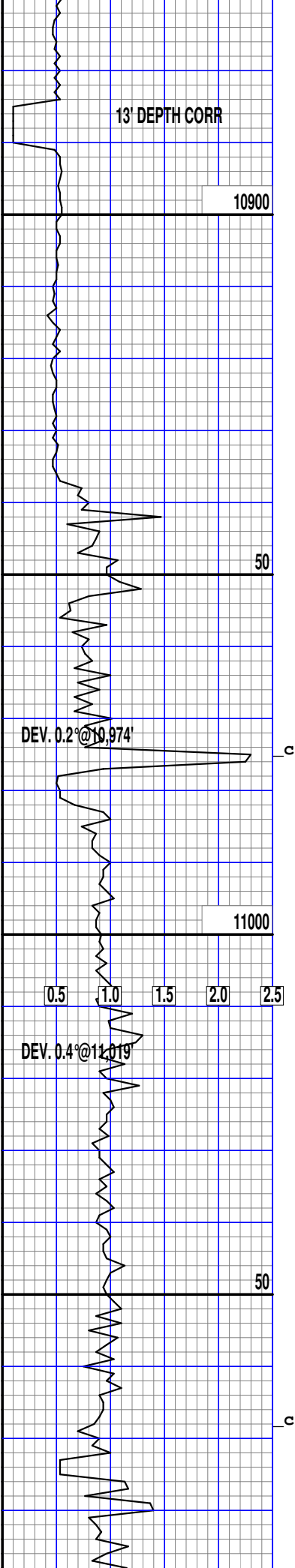
c

c

50

RGR

c



SH: drk gry, vry drk gry, blk, sme gry, blk, frm, sft, sme lamn, carb, sli calc

SH: drk gry, vry drk gry, blk, gry, blk, frm, sft carb, erthy, dull, sme lamn, vfny pyr

LS: brn, lt brn, wht, sme brn/wht mott, vfn xln, britt, mod frm, sme chlky, tr foss, fnly pyr sm shale inclus

SH: drk gry, vry drk gry, charcoal, blk, blk, dull erthy, carb, frm, sft, sli calc, vfny pyr

SH: gry, med gry, drk brn sm drk gry, blk, sft, sm frm-britt, dull, erthy, sme vry lmy grding to shly lime

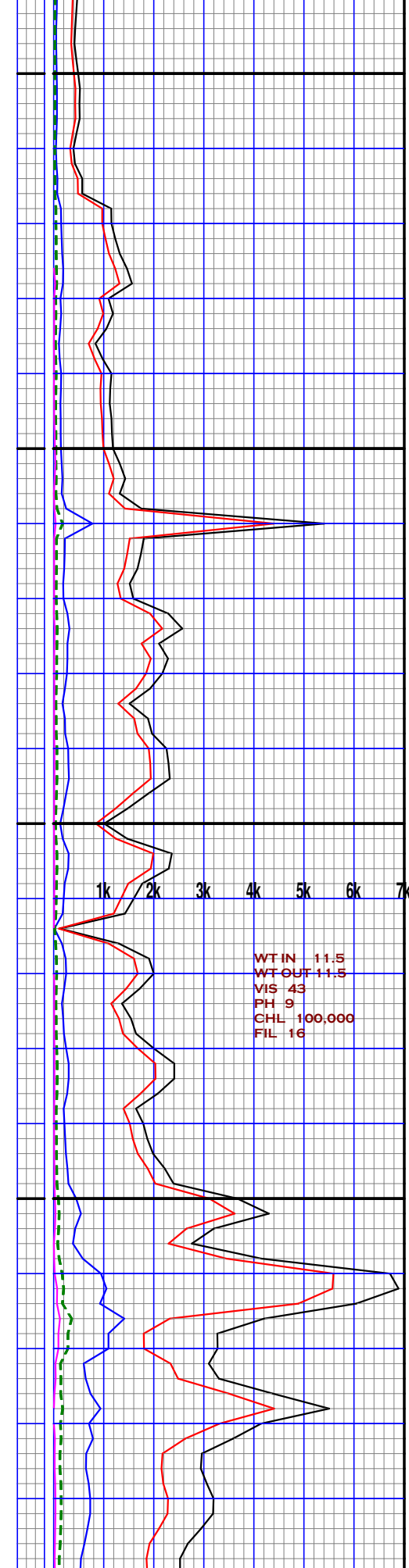
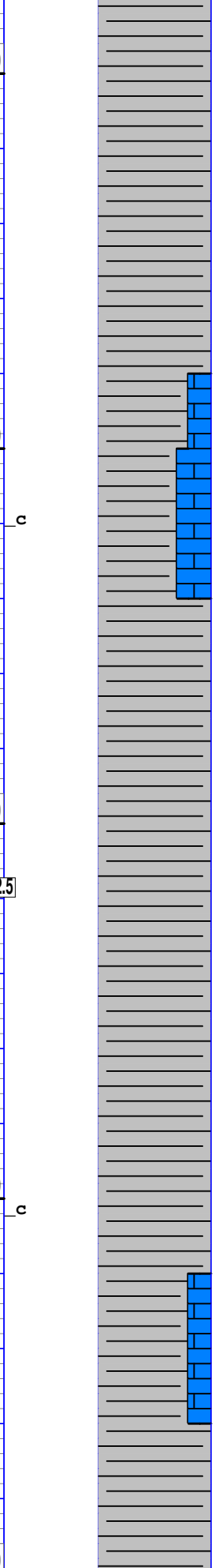
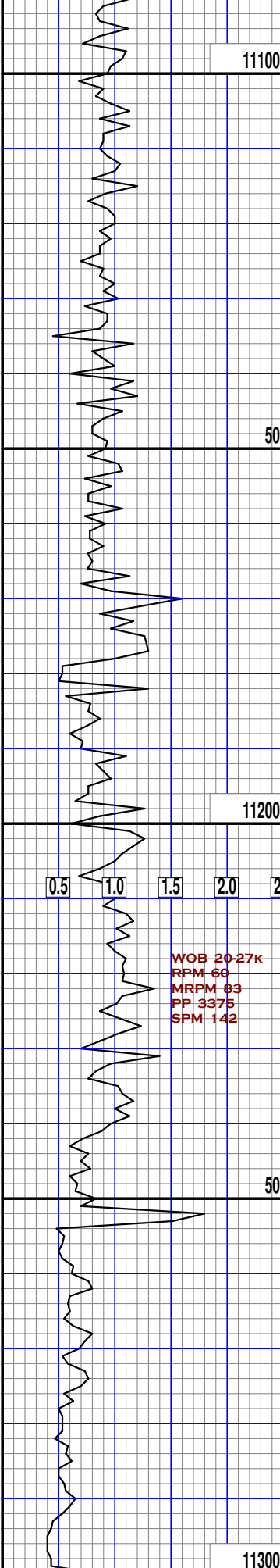
SH: gry, med gry, sm lt gry, drk gry, blk, frm, sft-britt, erthy, dull vry lmy grding to shly lime

SH: gry, lt gry, med gry sm brn, blk, erthy, dull sft-frm, sm sli calc, scalloped

LS: brn, wht, brn/wht, mott vfn xln, britt, sft, sm dns, sm shly, tr foss, vfny pyr

SH: med gry, gry, drk gry, sm vry drk gry, blk, dull, erthy, sm gritty sft, frm, sm brittle sme calc

SH: med gry, gry, drk gry, sm lt gry, blk, frm, sft britt, erthy, dull, calc vfny pyr



SH: gry, med gry, drk gry, sme lt gry, blk, sft, sme britt, frm, erthy, dull, sm lam, sli calc, vfnly pyr

SH: vry drk gry, drk gry, blk, sft, frm, sm britt, erthy, dull, carb, calc, vfnly pyr, sm lam

SH: drk gry, gry, med gry, blk, sft, sme frm, britt, dull, erthy, carb, sli calc, vfnly pyr

LS: brn, wht, mott, brn, vfn xln, britt, sft, sme vry shly, sm dns, tr foss, vfnly pyr

SH: med gry, gry, drk gry, sm blk, blk, erthy, dull, carb, sli calc, sft, sme britt, frm, vfnly pyr

SH: drk gry, gry, sme vry drk gry, blk-subblk, erthy, dull, sft, sm frm-britt, carb, vfnly pyr, tr lam

WT-IN 11.5
WT-OUT 11.5
VIS 43
PH 9
CHL 100,000
FIL 16

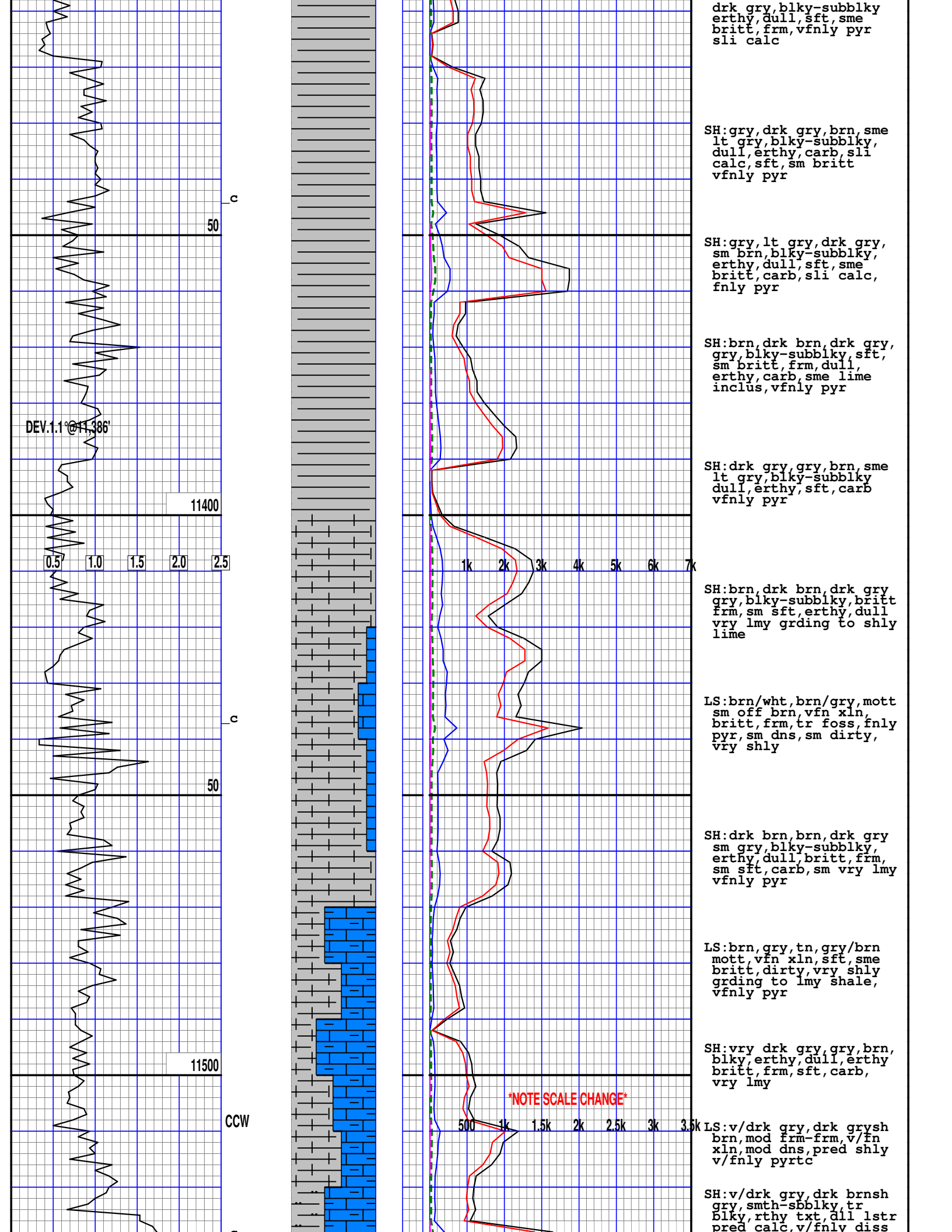
SH: gry, med gry, drk gry, sm vry drk gry, blk, subblk, carb, erthy, dull, sft, sm britt, vfnly pyr

SH: gry, drk gry, vry drk gry, blk, sft, carb, sm britt, frm, calc, vfnly pyr

LS: brn, brn/wht, brn/gry, mott, vfn xln, britt, sft, tr foss, sm vry shly dirty

SH: drk gry, gry, med gry, sm brn, vly-subblk, erthy, dull, sft, carb, sm britt-frm

SH: gry, drk gry, sme vry



WOB 8-23K
RPM 60
MRPM 85
PP 3349
SPM 142

INCREASE WOB 1/22-26K 50

DEV 1.2° @ 11573'

11600

0.5 1.0 1.5 2.0 2.5

c

50

DEV 1.7° @ 11666'

11700

NOTE SCALE CHANGE

1 2 3 4 5

c

WTIN 11.5
WTOUT 11.4
VIS 43
PH 9
CHL 100,000
FIL 16
SOL 2.0

pyrtc

LS:v/drk brn,v/drk gry
grysh brn,mod frm-frm
occly sli sft,v/fn xln
mod dns,v/shly,slty ip

SH:v/drk brn,drk grysh
brn,smth-sbblky,occly
blk,erthy txt,dll
lstr,pred v/lmy,fnly
pyrtc ip

LS:off wht,pred mott
v/fn xln,mod dns,frm
-sli sft,tr v/frm
chlky,argil ip

LS:gry,lt gry,med gry
v/fn xln,mod dns,occly
dns,mod frm-frm,argil
-slty

500 1k 1.5k 2k 2.5k 3k 3.5k

SH:gry,lt gry,med gry
occly blksh gry,sbblky
-blk, tr fiss,rthy
txt,dll lstr,smth ip
pred calc,fnly pyrtc
ip

LS:med gry,tnsh gry
off wht,v/fn xln,mod
dns,brttl ip,mod frm
-frm,pred argil

SH:v/drk brnsh blk,vry
drk gry,med gry,sblky
-blk,occly smth,rthy
txt,dll lstr,tr sbwxy
pred calc,slty ip,vry
fnly pyrtc ip

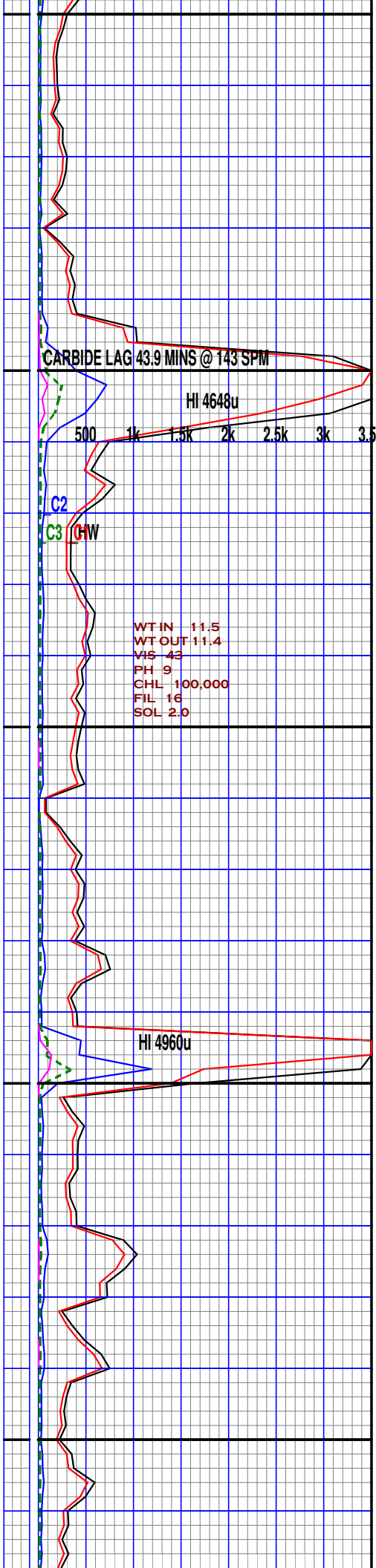
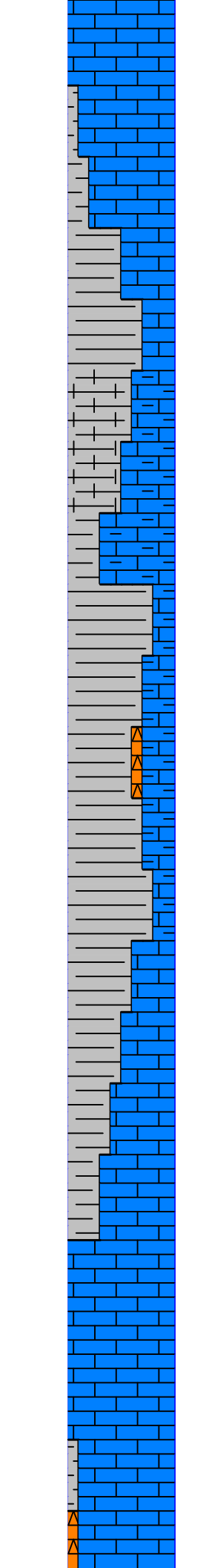
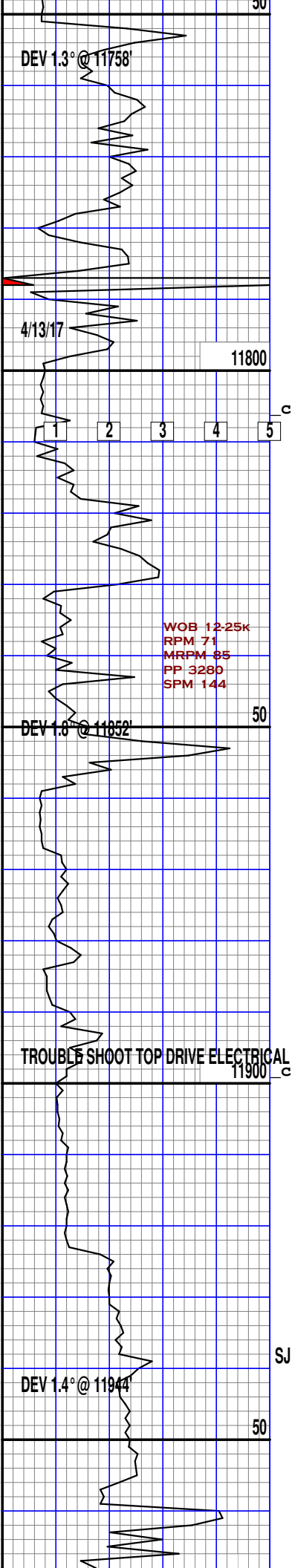
LS:v/drk gry,brnsh gry
brnsh blk,v/fn xln,mod
dns,mod frm-frm,brttl
pred vry shly,fnly
pyrtc ip

SH:gry,off wht,lt gry
med gry,sbblky-blky
mod frm-frm,rthy txt
sm smth txt,dll lstr
vry calc,slty ip,v/fn
-ly pyrtc

LS:drk brnsh gry,med
gry,occly brn,tr off
wht,mott ip,v/fn-fn
xln,mod dns-dns,pred
vry shly,slty ip

LS:off wht,wht,vry lt
gry,tr med gry,tr tn
micro-v/fn xln,dns
clean,occly slty

LS:off wht,wht,lt tn
occly med gry,gry
micro-v/fn xln,dns,occ
mod dns,frm-v/frm
foss incl,v/fnly
pyrtc ip



LS:off wht, wht, med gry
tr tn, v/fn-micro xln
dns, occlly mod dns, frm
-sli hrd, tr sft, clean

SH:blk, vry drk brn, drk
brn, occlly brnsh blk
sblky-blky tr fiss
mod frm-frm, erthy txt
dll lstr, slty, vry lmy
ip

SH:v/drk brn, drk grysh
brn, sblky, occlly fiss
tr blk, mod frm-sft
rthy smth txt, dll lstr
v/lmy ip, fnly pyrtc

LS:v/drk gry, drk gry
mott w/off wht incl
v/fn-fn xln, mod dns
frm-mod frm, pred vry
shly, slty ip, fnly
pyrtc

SH:v/drk brn, drk brn
brnsh blk, sblky, occlly
fiss, tr blk, sft-mod
frm, erthy smth txt, dll
lstr, slty ip, occlly lmy
fnly pyrtc

SH:vry drk gry, drk gry
grysh brn, sblky-blky
tr fiss, mod frm-sli
sft, erthy smth txt, dll
lstr, fnly pyrtc, occlly
lmy

LS:vry drk gry, drk gry
off wht, mott ip, v/fn
-fn xln, mod dns-dns
mod frm-occlly hrd
pred argil, tr chrt

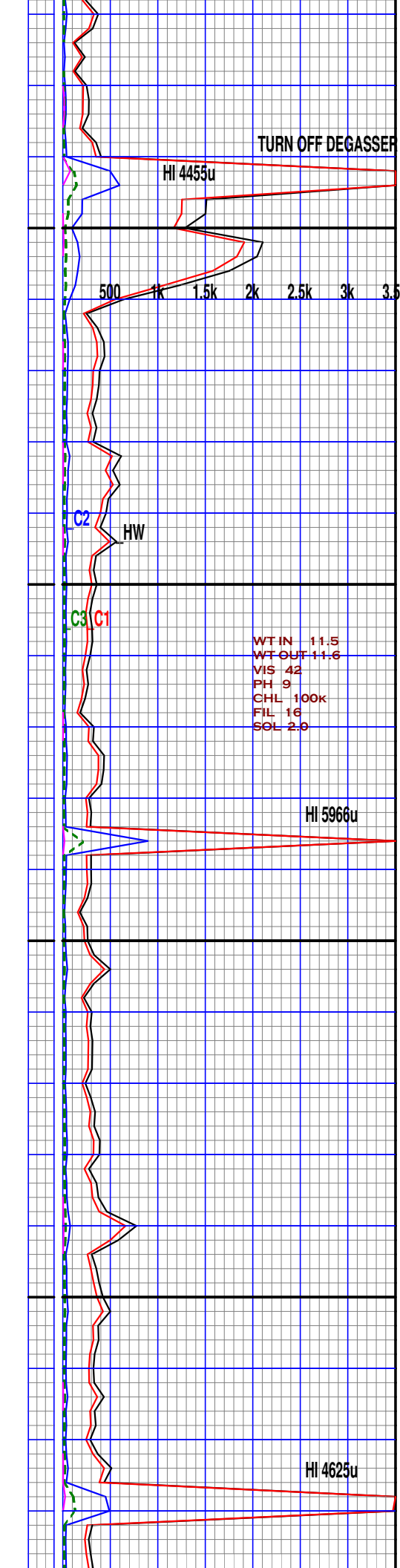
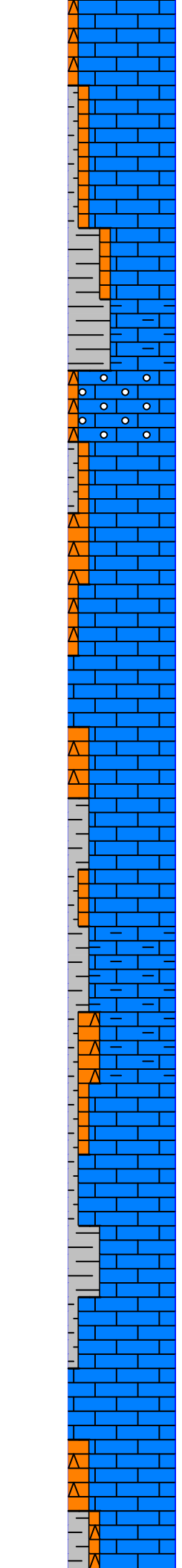
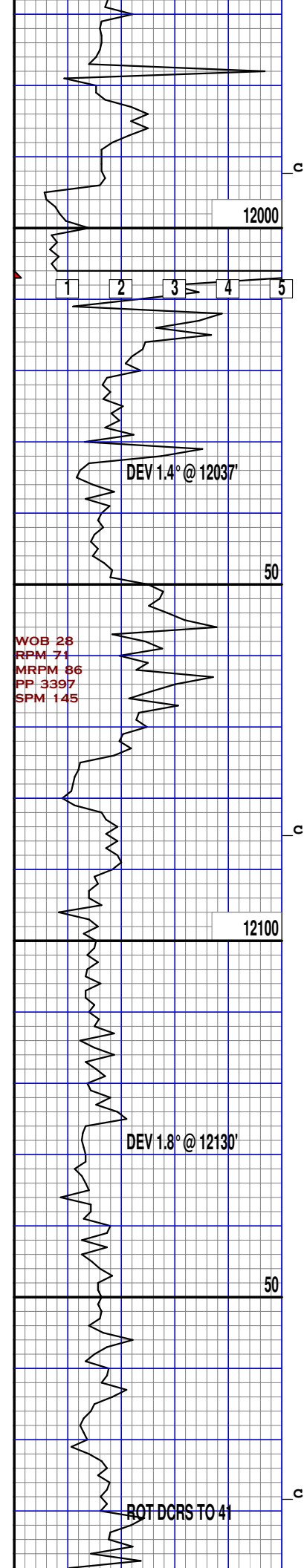
SH:drk gry, v/drk gry
blksh gry, sbbly-blky
mod frm-frm, occlly sft
erthy smth txt, dll
lstr, sm calc, fnly
pyrtc

LS:off wht, wht, lt tn
occ v/lt gry, vry fn
xln, mod dns-dns, v/frm
-sli hrd, brttl, occlly
chky, pred clean, tr
argil, foss incl ip

LS:wht, off wht, buff, crm
tr lt gry, micro-v/fn
xln, dns, occlly mod dns
hrd-mod frm, brttl, foss
ip

LS:wht, off wht, crm, bff
micro xln, hd, tr chky
occ foss, cin

SH:blk, dk brn, blk, frm
mod/hd, smth, occ rthy,
sli calc, tr vfnly pyr



CHRT:blk,blksh gry blu hd,trs pyr

LS:lt gry,gry,off wht,fn/xln,frm-mod/hd,silic,argl,occ chlky tr 2ndry xln,tr free chrt,sme sm ools

SH:gry,drk gry,blk blk,y,dll,sft,abdnt calc inclus

LS:off wht,wht,crm,bff micro xln,sft,chlky abdnt sm ools,tr foss

CHRT:drk gry,drk brn blk,opq,hd,shrp

LS:lt gry,off wht,wht gry,drk brn,mott,fn xln,mod hd-hd,sme chlky,silic,argil,occ 2ndry xln,occ chrt'y inclus

SH:drk brn,blk,blk,y,sft rthy,dll,v/calc ip

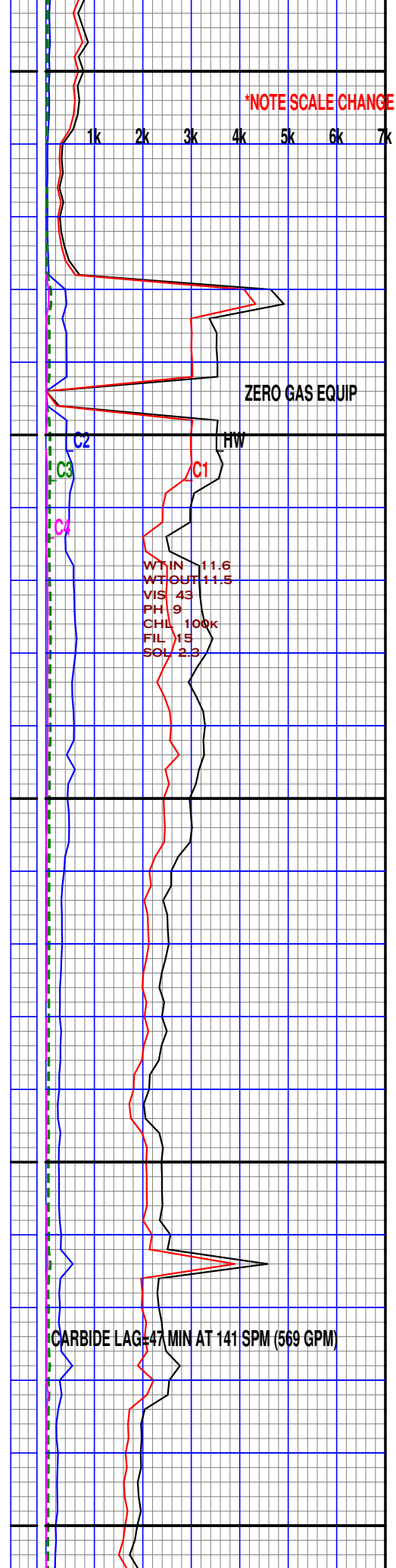
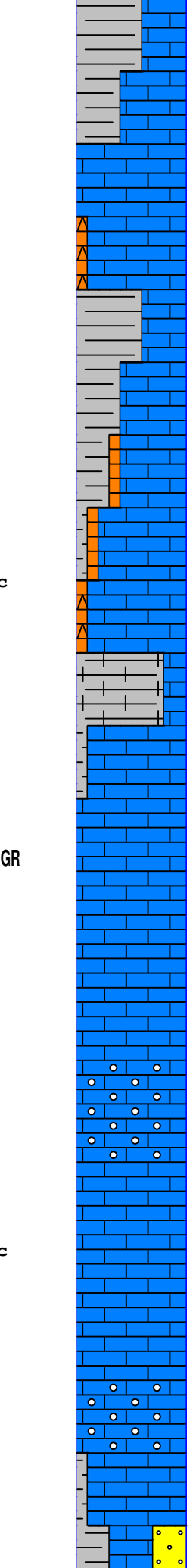
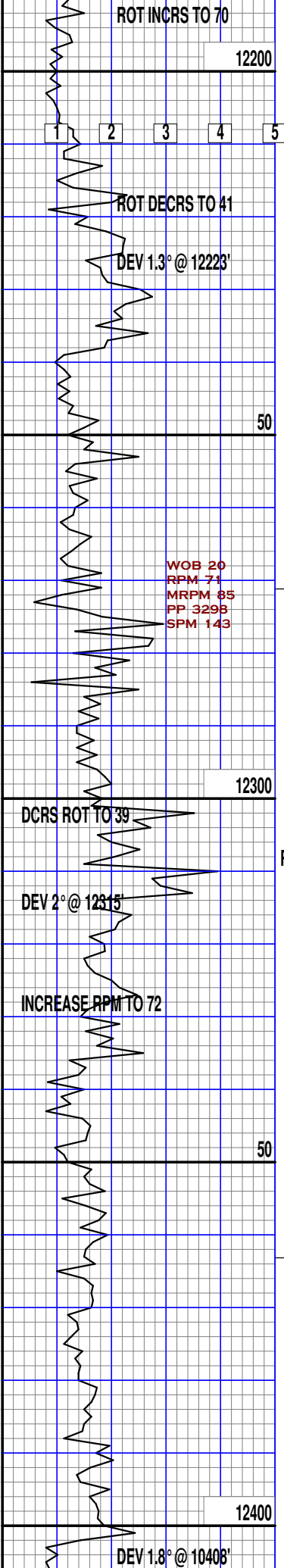
LS:gry,lt gry,drk gry off wht,crm,brn,mott vfn-micro xln,sft,occ hd/chrt'y,abdnt chlky abdnt shly ip,drty,occ pyrtc inclus,occ 2ndry xln

SH:gry,lt gry,drk gry smth,dll,occ gmyy,tr calc ip

LS:wht,off wht,lt gry crm,gry,lt brn,fn-vfn xln,sft-v/hd,occ chrt'y inclus,abdnt argil ip tr pyrtc inclus,tr silic

CHRT:blk,crm,opq,gry v/hd,anglr,sme lmy inclus

WTIN 11.5
WTOUT 11.6
VIS 42
PH 9
CHL 100k
FIL 16
SOL 2.0



SH: blk, drk brn, brn, blk
rthy, occ smth, tr gmm
abndt lmy ip

LS: wht, off wht, gry, lt
gry, crm, bff, vfn-micro
xln, sft-hd, sme chrty
includ, occ chlky, occ
argil ip, tr pyrct
includ

SH: gry, brn, lt gry, drk
gry, sft-v/sft, occ frm
blk, occ fssl, occ
gmm, tr v/fnly pyrct
ip

CHRT: smky, drk gry, blk
opq, v/hd, shrp

LS: wht, off wht, crm, bff
lt gry, brn, vfn-micro
xln, frm-mod hd, sme
chrty includ, occ chlky
tr shly ip, tr foss

SH: gry, drk gry, blk, blk
-sbblk, sft-mod frm
rthy, v/lmy ip
tr v/fnly pyrct ip, tr
gmm

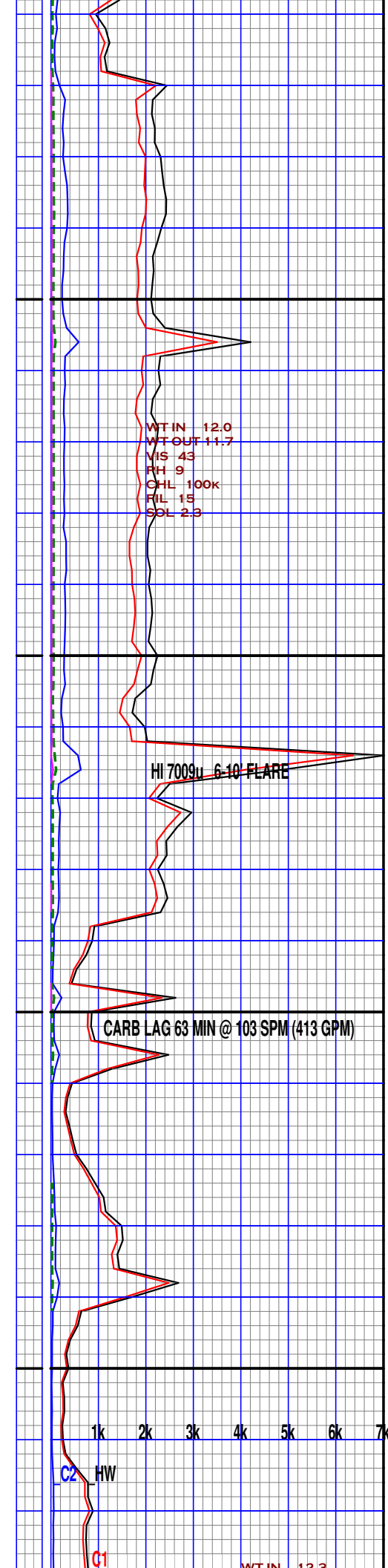
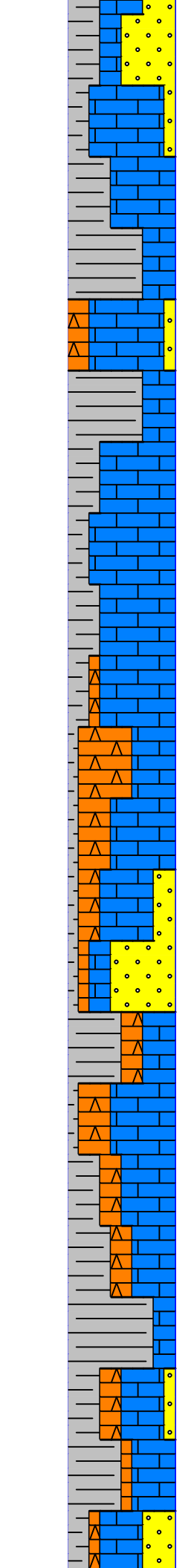
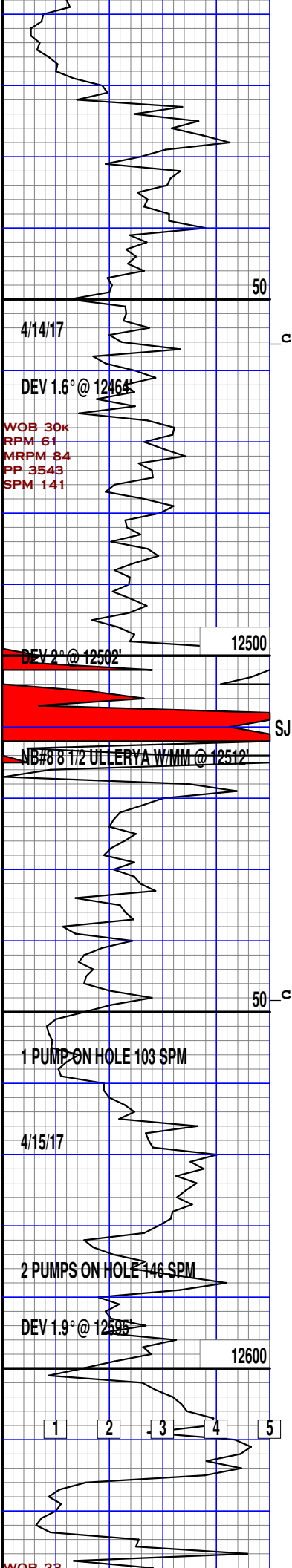
LS: lt gry, gry, gry/wht,
gry/drk gry mott, vfn
xln, britt, cln, sm' shly
in prt

LS: gry, brn, brn/gry, mott
vfn xln, britt, frm,
abndt fn-med ool, sme
pisol, cln

LS: gry, med gry, brn, brn/
gry mott, vfn xln, britt
frm, sm fn-med ool, pred
cln

LS: gry, med gry, gry/brn
mott, sm brn, vfn xln,
britt, frm, sm fn-med
ool, sm shale includ

SS: mlky, clr, med-crse gr
pred unconsol, sm lmy
sm clay coating, fnly
pyr, subrndd-subang, sme
rnnd, sm free pyr, sme



consl, silic in prt

SH: drk gry, drk brn, sme blk, blk, britt, frm, erthy, dull, vfnly pyr, carb, silic calc

LS: gry, med gry, gry/brn mott, brn, vfn xln, britt frm, fr amnt fn-med ool vfnly pyr

SH: brn, drk brn, blk-subblk, frm, britt, sm sft, erthy, dull

CHRT: smky gry, gry, lt brn, transl, sme opa, shrp, ang, lmy

LS: gry, brn, off wht, brn/gry mott, vfn xln, britt frm, sm hrd, silic, tr fn ool, sm chky, pred cln sm dirty, vry shly

CHRT: smky, gry, gry, brn shrp, ang, transl, sm opa, lmy

LS: lt gry, lt brn, wht off wht, gry, brn, mott vfn-micro xln, hd, occ sft, chky, occ silic argil, abndt ools, sm to lg

SS: clr, mlky, wht, 40%fn gr, pred uncons, 20%med gr, uncons, sm cons, silic, sm cly coating, 40%crse gr, uncons, subrnd-rndd, occ subang, fnly pyr

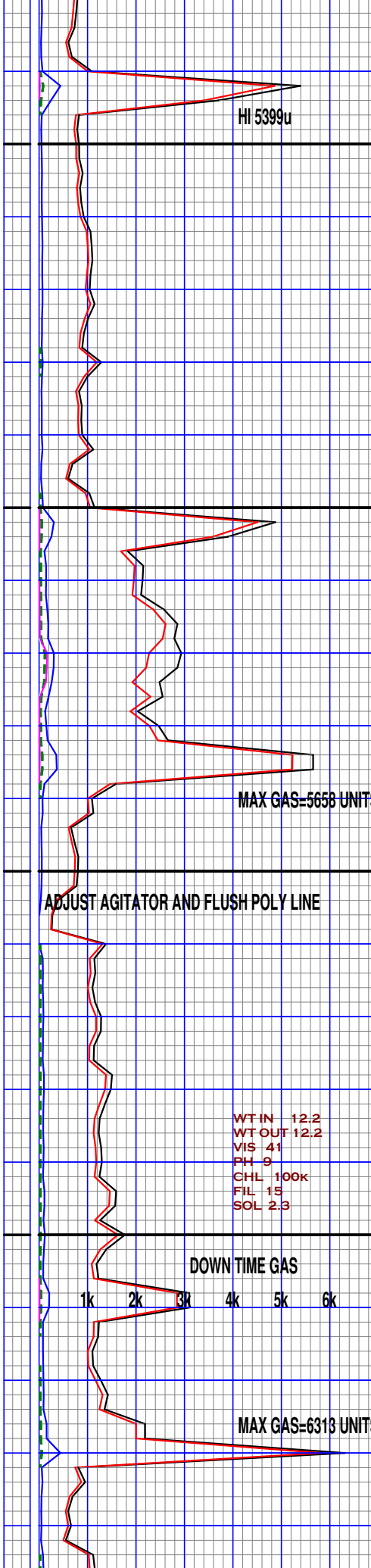
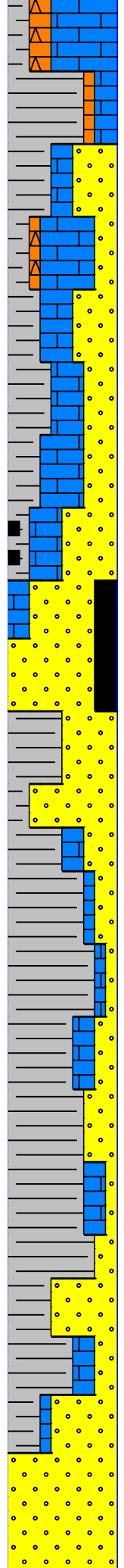
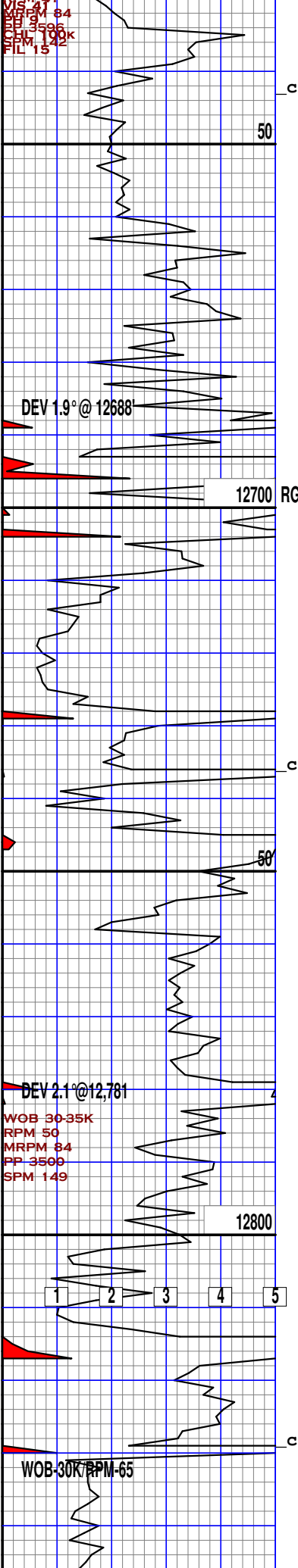
SH: blk, blk, sft, rthy occ v/fnly pyrtc ip tr lmy

LS: gry, lt gry, lt brn crm, off wht, wht, vfn xln, hd, occ sft, chky abndt shly ip, drty chrt

CHRT: gry, smky, opa, brn blk, v/hd, shrp, sme lmy inclus, tr pyrtc inclus

SH: blk, drk gry, blk-sbbly, sft, rthy, occ slty txt, sme calc inclus

SS: clr, mlky, wht, fn-vfn gr, occ crs gr, ang-sbang, uncons, prly srtd occ frstd, occ fre pyrt



LS: crm, lt gry, off wht
 brn, gry, vfn-micro xln
 sft, occ hd/chrty, sme
 chlky, occ pyrte inclus
 sme v/shly ip

SH: blk, drk gry, gry, blk
 sft-v/fm, rthy, dll, occ
 smth, v/lmy ip, tr arean

CHRT: gry, drk gry, drk
 brn, opq, v/hd, shrp, occ
 pyrte ip

SS: clr, wht, off wht, mlky
 lt gry, fn gr, sme crs
 gr, consl, calc cmnts, occ
 silic, prly srted, occ
 argil

SS: mlky, clr, vfn-fn gr,
 consl, clay matrix, sm
 lmy, subrnd-rndd, tr fn
 tr med gr, unconsl, rndd
 fnly pyr, tr free coal

SS: mlky, clr, 60%vfn-fn
 gr, consl, vry, lmy, mod-
 well cmtd, sm silic,
 vfnly pyr, subrnd-rndd
 20%med-crse gr, consl
 silic, subrnd-rndd, sm
 subang, sm clay coating
 10%med gr, unconsl, rndd
 10%crse gr, unconsl,
 rndd-subrndd

SS: mlky, clr, 70%vfn gr,
 consl, lmy, sm silic, mod-
 well cmtd, subrnd-rndd
 subang, 20%fn-med gry,
 consl, silic cmt, subrdd
 -subang, 10%crse gr,
 unconsl, subrnd-rndd
 tr free pyr

SH: drk gry, drk brn, brn
 sft, gmy, sm blk, frm
 erthy, dull, sm water
 soluble

LS: brn, gry, brn/gry, mott
 sm off wht, vfn xln, frm
 britt, sm chlky, tr fm-
 med ool, sm shale inclu

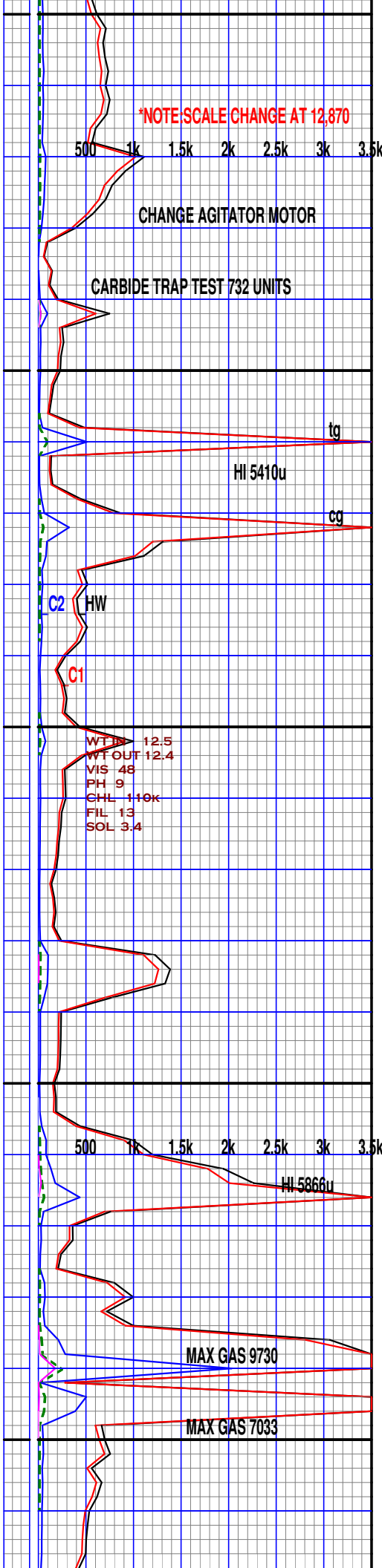
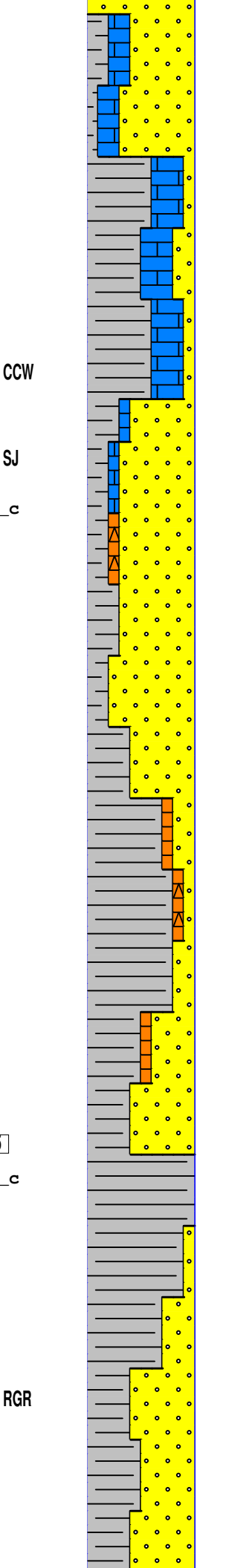
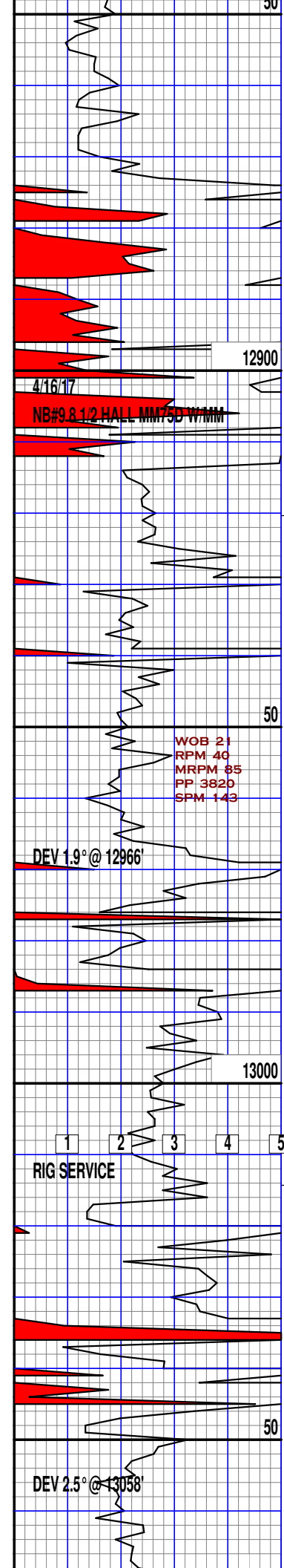
SS: mlky, clr, vfn gr, occ
 fn gr, consl, lmy, sme
 silic, mod-well cmtd,
 subrnd-subang, well
 srted, fnly pyr

SS: mlky, clr, lt brn, vfn
 gr, mod-lsly consl, vry
 lmy, subrnd-rndd, well
 srted, vfnly pyr

SH: drk rbn, drk gry, brn
 sft, gmy, sm blk, dull
 erthy, vfnly pyr

SS: mlky, clr, 20%vfn gr
 consl, lmy, rndd, 30%fn
 gr, consl, mod-well cmtd
 silic, subrnd-subang,
 20%med gr, unconsl, rndd
 -subrndd, well srted, tr
 clay coating, 30%med gr
 consl, silic, subrnd-
 subang, clay coating,
 fnly pyr, tr crse gr
 unconsl, subrnd-rndd

WFIN 12.2
 WFOUT 12.2
 VIS 41
 PH 9
 CHL 100K
 FIL 15
 SOL 2.3



SS:mlky,clr,30%vfn gr,mod-lsly consl,lmy,sm silic,fnly pyr,subrddd 50%fn gr,unconsl,sme lsly consl,lmy,subrddd rddd,subang,20%med gr unconsl,rrddd-subrddd

SH:brn,drk brn,gry,drk gry,blky-subblky,dull erthy,mod frm,britt,sm sft,vfnly pyr

SH:v/drk brn,drk brn brn,sbblky-blky,mod-frm-frm,rthy txt,dll lstr,brttl,tr sft occly fnly pyrtc

LS:brn,crm,lt gry,off wht,micro xln,hd

CHRT:blk,drk gry,opq v/hd,shrp,anglr

SS:clr,mlky,wht,off wht vfn-fn gr,sbang,mod-lsly consl,calc cmnt occ silic,frly-wll srted,occ lmy inclus tr amt crs gr,tr fre pyrt

SH:drk gry,gry,blk,blky sft,rthy,tr gmyy,tr fssle,occ arean

SS:wht,clr,off wht,vfn gr,sbang-sbrnd,lsly consl,calc cmnt,frly srted

CHRT:blk,drk brn,smky v/hd,occ v/fnly pyrtc ip

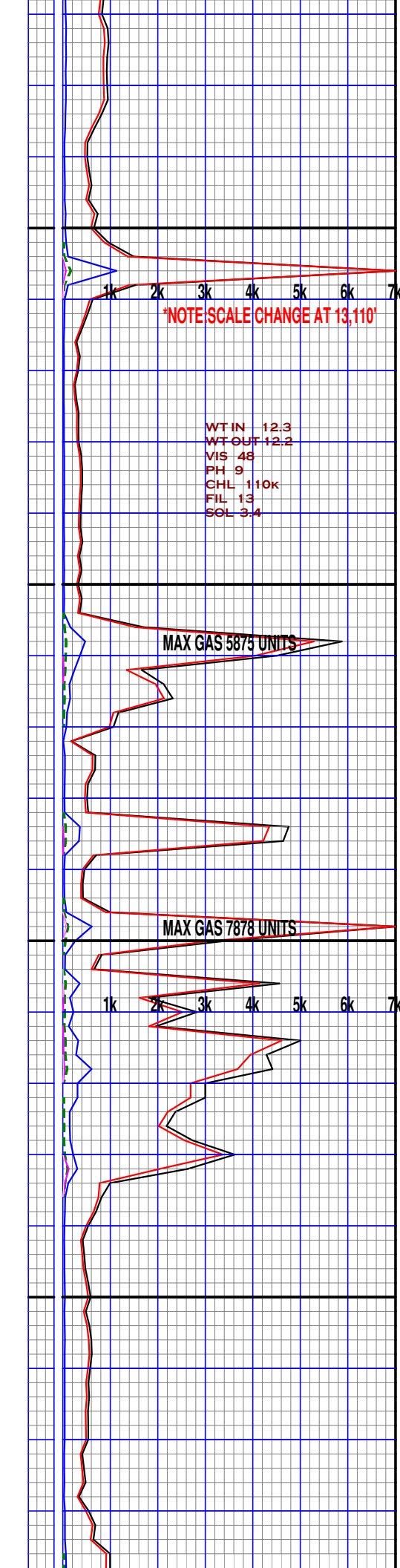
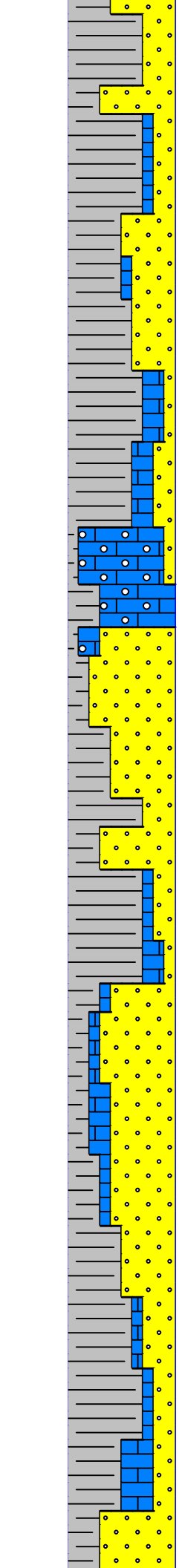
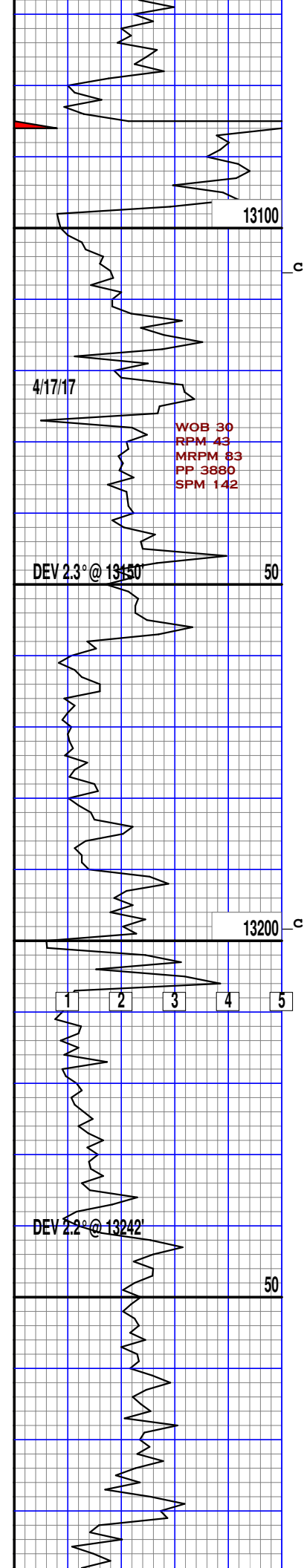
SH:gry,drk gry,blk,blky sft,rthy,occ slty txt tr calc inclus

SS:wht,clr,mlky,off wht vfn gr,sbang-sbrnd,wll consl,calc cmnt,frly srted,occ lmy ip,occ argil

SS:mlky,clr,vfn gr,mod-well cmt,d,clay cmt,sm lmy,sm fria,subrddd-rnd subang,mod srted,fnly pyr

SH:drk gry,gry,blky,vry slty,grding to sltstne sft,erthy,vfnly pyr

SS:mlky,clr,vfn gr,consl,mod-well cmt,d,sme fria clusters,arg sme lmy,subrddd-rddd,sm



subang, vfnly pyr

SH: drk gry, gry, blk
sft, sme gmy, dull,
erthy, sm vry slty,
vfnly pyr

SS: mlky, clr, lt gry, vfn
gr, consl, mod-well cmtd
sm fria clusters, arg
sm lmy, subrnd-rnnd, sme
subang, vfnly pyr

SH: gry, lt gry, sm drk
gry, blk, sft, erthy
dull, sme vry slty
vfnly pyr

LS: lt brn, wht, mott, vfn
xln, britt, frm, tr foss
tr ool, vfnly pyr

LS: brn, lt brn, tn, wht
vfn xln, britt, sm sft
sm mod hrd, abndt fn-
med ool, tr large ool

SS: mlky, clr, lt gry, vfn-
fn gr, lsly consl, sme
mod consl, arg, sm lmy
sm shly, subrnd-rnnd
well srted, vfnly pyr

SS: mlky, clr, lt gry, vfn
gr, mod consl, arg, shly
sme lmy, subrnd-rnnd
sm fria clusters

SH: gry, drk gry, blk,
dull, erthy, sm vry
slty, frm, sft, vfnly
pyr

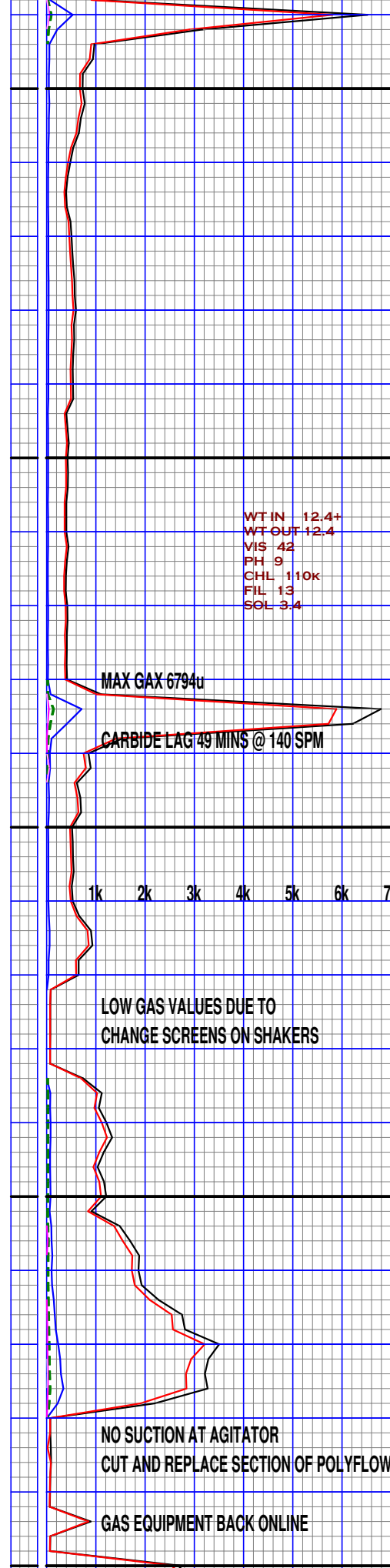
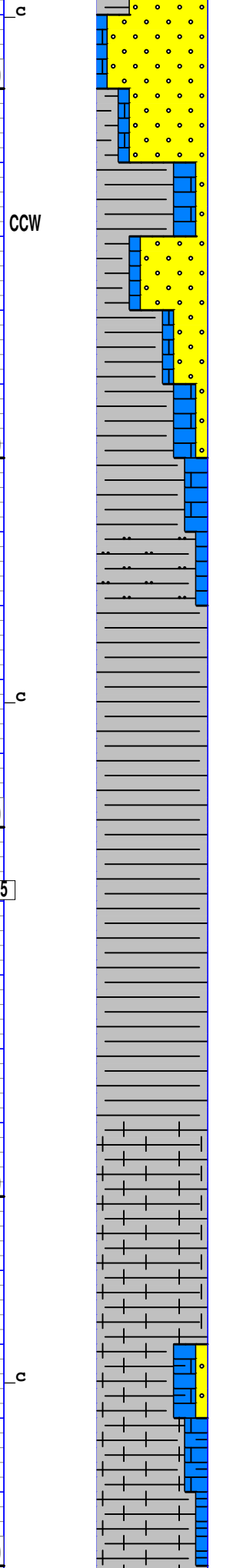
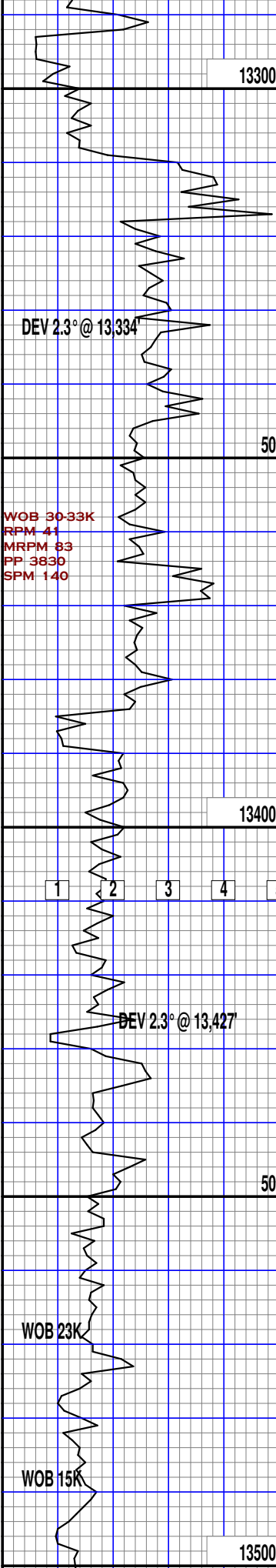
SS: lt gry, clr, vfn gr
lsly consl, vry shly
dirty, sm arg, sm lmy
subrnd-rnnd, sm fria
clusters, vfnly pyr

SH: gry, med gry, brn,
blk, frm, sft, dull
erthy, gritty, sme
vry slty

SS: lt gry, gry, clr, vfn
gr, lsly consl, arg, sm
lmy, tr shly, dirty,
subrnd-rnnd, well srted
vfnly pyr

SH: gry, lt gry, drk gry
blk, sft, off frm, dull
erthy, gritty, sm vry
slty

LS: brn, brn/gry, brn/wht
mott, vfn xln, britt, frm
tr foss, tr fn-med ool
vfnly pyr



SS:lt gry,clr,mlky,vfn gr,lsly-mod consl,lmy, arg,sm vry shly,subrnd rndd,vfnly pyr

SH:lt gry,gry,drk gry sbblky-blky,mod frm -frm,erthy txt,dull lmy ip,fnly pyrte silic incls ip

SS:lt tn,lt brn,lt gry -gry,fn-v/fn gr,sbrnd mod-lsly consl,pred calc mtrix,occlly v/shly v/fnly pyrte

SH:v/drk gry,drk gry occlly med gry,sbblky-blky,mod frm-frm,rthy txt,occlly smth,dll lstr,lmy incls ip,fnly pyrte

LS:drk gry,off wht,occ mott,v/fn xln,mod dns -dns,v/frm-mod frm slty,shly ip,tr silic incls,fnly pyrte

SH:drk gry,v/drk gry med gry,pred sbblky occlly fiss,tr blk mod frm-frm,rthy txt occlly smth,slty ip sm lmy,fnly pyrte

SH:v/drk gry,med gry drk gry,sbblky-blky occlly fiss,mod frm-frm sm sft,rthy txt,dll lstr,slty ip,occ lmy incls,fnly pyrte

SH:drk gry,v/drk gry med gry,brnsh gry,blk -sblky,mod frm-frm,occ sft,rthy txt,dll lstr slty,calc incls ip fnly pyrte

SH:v/drk gry,drk gry brnsh gry,sbblky-blky occlly tab,slf frm-mod sft,tr gmmy,rthy txt occlly smth,dll lstr slty,occlly lmy,fnly pyrte

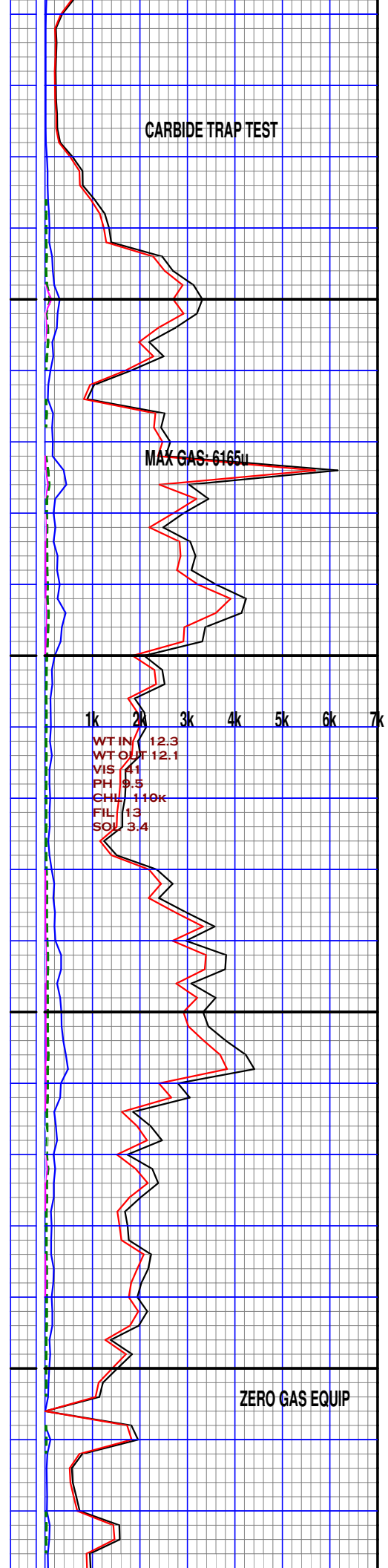
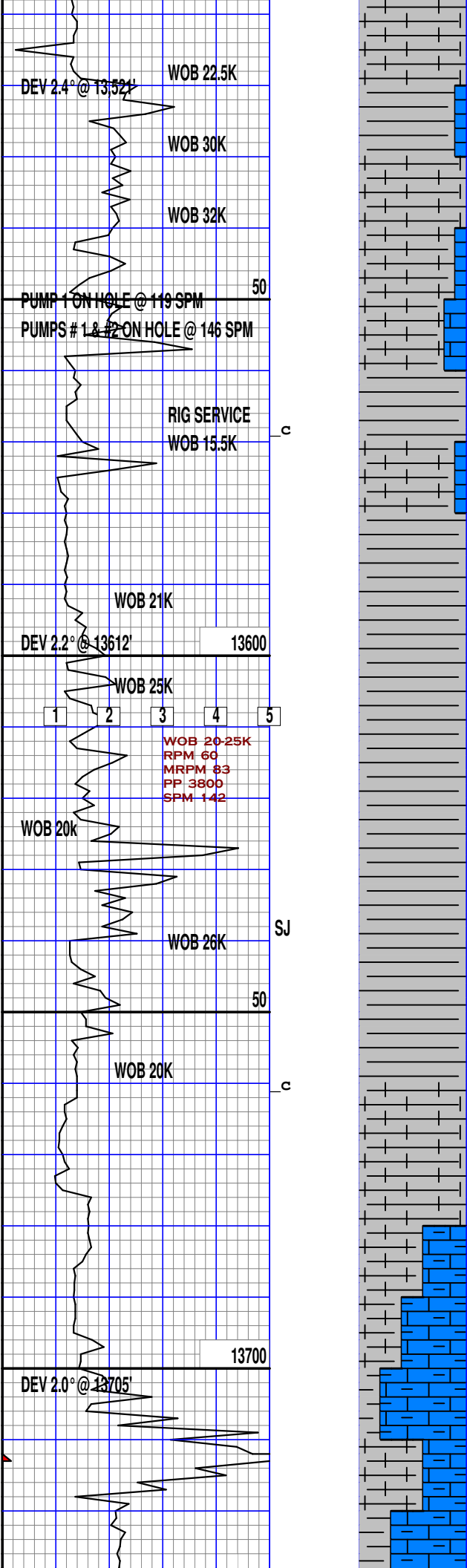
SH:v/drk gry,drk gry drk brnsh gry,blk-sbblky,mod frm occlly sli sft,rthy smth txt dll lstr,pred calc slty,fnly pyrte ip

SH:v/drk gry,blk,blksh gry,blk-sbblky occlly tab,mod frm-occlly sft tr v/frm,rthy smth txt dll lstr,calc incls ip fnly pyrte

LS:v/drk gry,gry,off wht,v/fn-fn xln,mod dns,slf frm-frm,brrtl v/shly,slty ip,fnly pyrte

SH:v/drk gry,drk gry occlly blk,sbblky-blky mod frm-sli sft,rthy txt,occlly smth,dll lstr,pred lmy,fnly pyrte,occ calc incls

SH:v/drk gry,med gry



brnsh gry, sbblky-blky
 mod frm-sft, rthy txt
 dll lstr, pred calc
 fnly pyrtc, tr calc
 inclis

LS: drk gry, off wht, occ
 mott, v/fn xln, mod dns
 frm-mod frm, brttl, shly
 ip, sm fre pyrtc, fnly
 pyrtc, occly slty

SH: v/drk gry, med gry
 drk gry, sbly-blky, occ
 tab, mod frm-sli sft
 occly v/sft, tr gmmy
 rthy smth txt, dll lstr
 pred lmy, fnly pyrtc
 slty ip

LS: v/drk brn, drk gry
 off wht, occly mott
 v/fn xln, mod dns, frm
 -mod frm, shly, slty
 fnly pyrtc

SH: blk, v/drk gry, drk
 gry, blk-sbly, mod frm
 frm, occly sli sft, rthy
 txt, dll lstr, fnly pyrtc

LS: v/drk gry, drk gry
 off wht, occly mott, v/
 fn xln, mod dns, frm-sli
 sft, pred shly, slty ip
 fnly pyrtc

SH: blk, v/drk gry, drk
 gry, blk-mod, frm-frm
 rthy txt, dll lstr
 fnly pyrtc, tr fre pyrtc

SH: blk, v/drk gry, drk
 gry, blk-sbly, occ
 tab, frm-sli sft, occly
 frm, rthy txt, dll-swxy
 slty ip, tr lmy inclis
 fnly pyrtc

SH: blksh gry, v/drk gry
 gry, chrcol, blk-sbly
 mod frm-sft, occly frm
 rthy txt, dll-sbwx
 lstr, slty occly, tr lmy
 fnly pyrtc

SH: blk, drk brn, drk gry
 brn, blk, plty, rthy
 sme wxy, occ carb
 tr lmy inclis

SH: drk brn, blk, brn, blk
 -sbly, sft-v/sft, tr
 frm, rthy, occ wxy, occ
 slty

SH: drk gry, gry, drk brn
 blk, blk-sbly, frm
 occ sft, rthy, occ calc
 inclis

LS: gry, lt gry, off wht
 wht, drk gry, micro xln
 sft, shly ls grdng to
 lmy shale, v/drty

SH: blk, blk, sft, rthy
 occ lmy ip

SH: drk gry, blk, gry, drk
 brn, blk-sbly, sft-
 mod frm, rthy, occ wxy
 sme lmy ip, occ bldng
 bbls

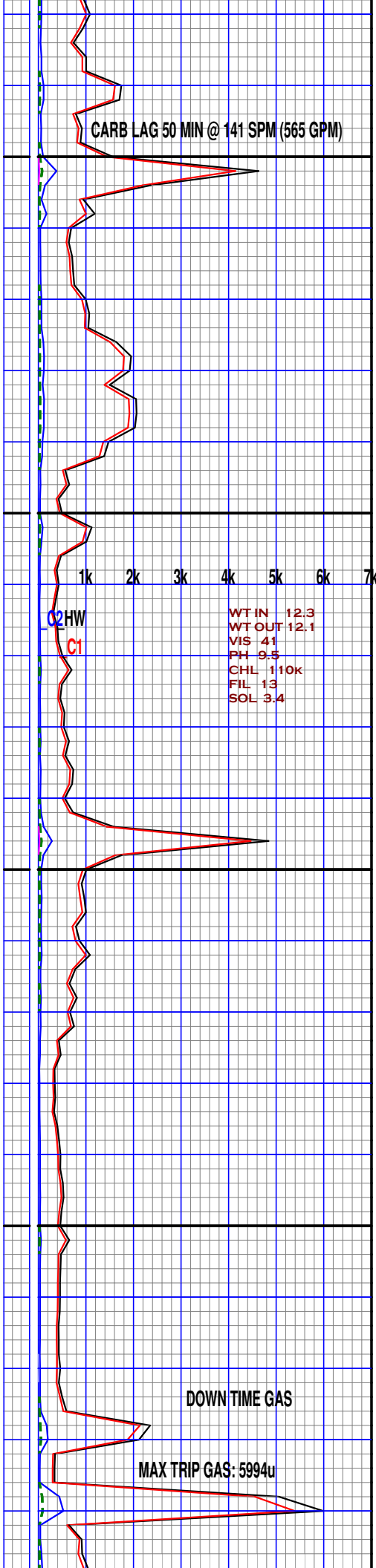
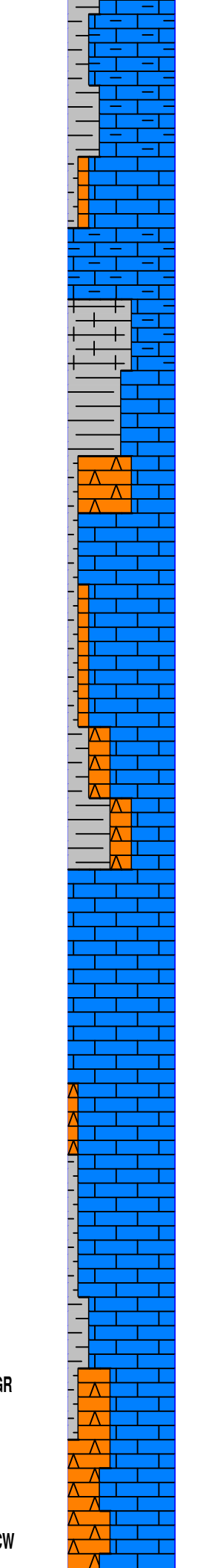
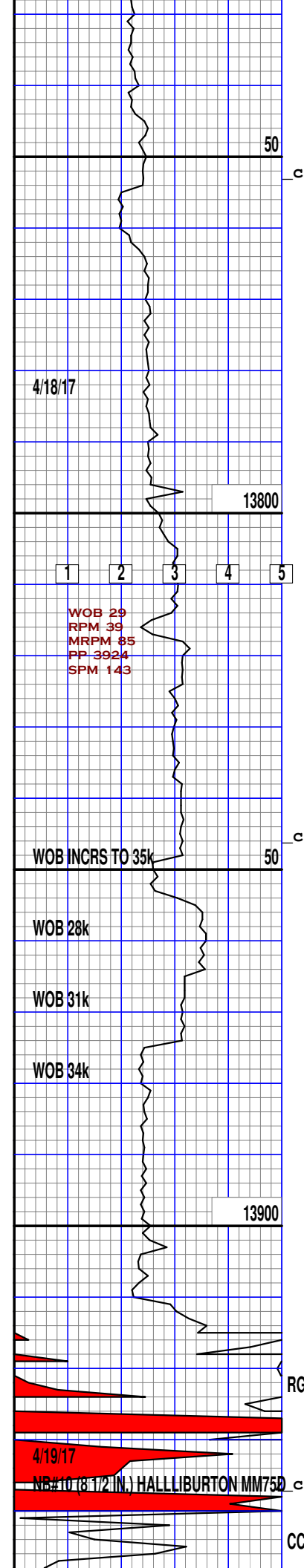
LS: gry, lt gry, wht, off

WTIN 12.3
 WFOUT 12.1
 VIS 41
 PH 9.5
 CHL 110K
 FIL 13
 SOL 3.4

CARBIDE TRAP TEST

MAX GAS: 6165u

ZERO GAS EQUIP



wht, lt brn, brn, gry/wht
mott, micro xln, sft
abndt chky, v/shly
drty

SH: blk, drk gry, gry, blk
-sbbky, frm, rthy, sme
slyt txt, v/lmy ip, tr
v/fnly pyrtc ip

LS: gry, lt gry, lt brn
brn, off wht, wht, mott
micro xln, sft-hd, occ
chky, abndt argil ip
tr chrty inclus, drty

SH: drk gry, gry, blk
blkly-sbbky, frm, rthy
occ slyt txt, abndt lmy
ip, lmy shale grdng to
shly lime

LS: wht, off wht, crm, lt
gry, lt brn, gry, brn
vfn xln, sft-mod hd
occ chky, occ v/argil
ip, tr chrty inclus, tr
foss

CHRT: smky-gry, lt gry, lt
brn, trns1, sme opq, shrp
anglr, lmy, v/fnly pyrtc

SH: blk, blkly, sft, rthy
occ lmy ip

LS: wht, off wht, bff, lt
brn, brn, lt gry, vfn-
micro xln, sft-hd, tr
chrty inclus, occ
argil, mod cin

CHRT: drk brn, blk, opq
smky, v/hd, shrp, anglr
sme lmy inclus

SH: blk, drk gry, gry
blkly, sft-mod frm, dll
rthy, v/lmy ip

LS: off wht, crm, wht, lt
brn, lt gry, brn, drk brn
vfn-micro xln, sft, occ
hd/chrty, occ shly ip
tr pyrtc inclus, tr
glauc

LS: wht, off wht, crm, tn
bff, lt gry, lt brn, vfn-
micro xln, sft, chky
occ argil ip, tr pyrt

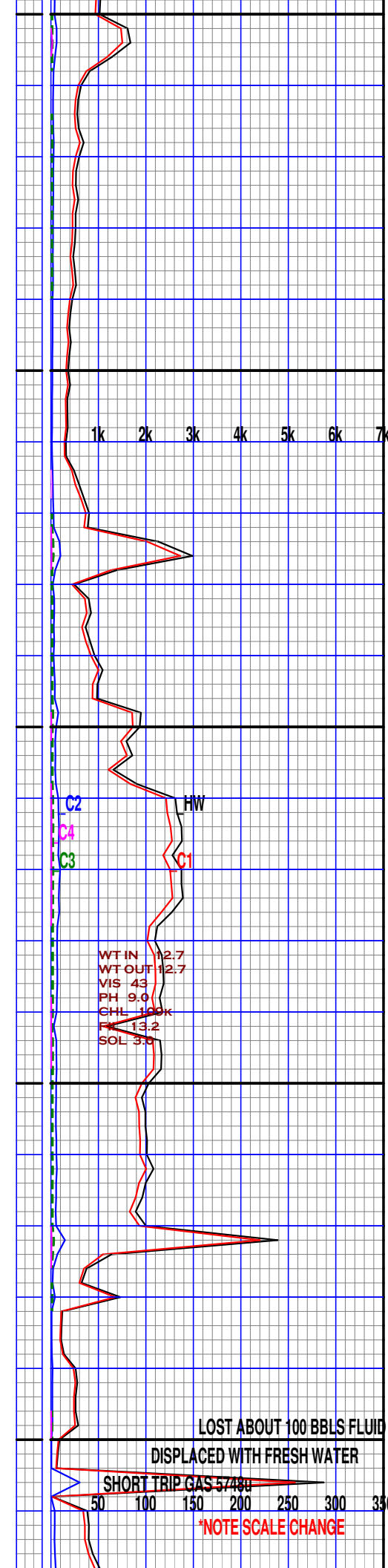
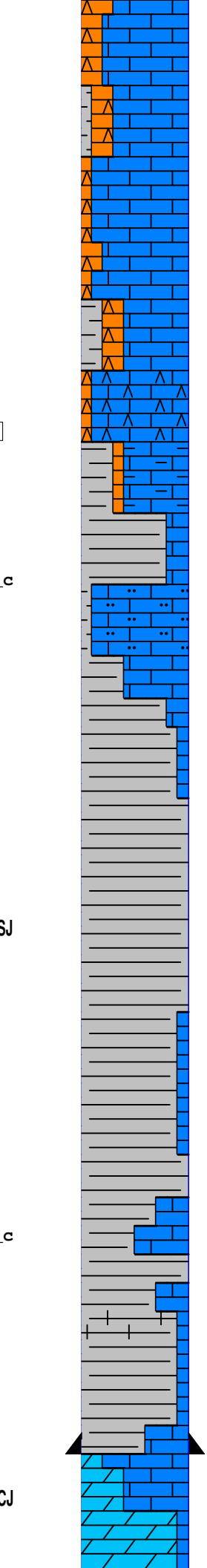
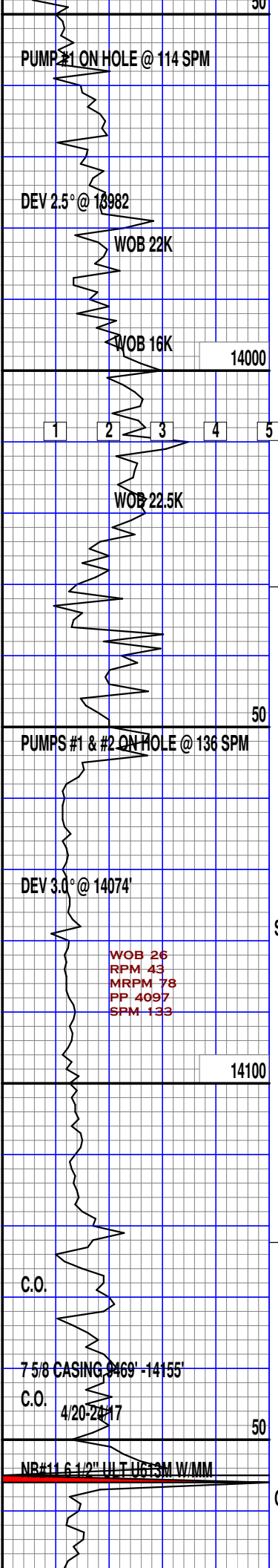
CHRT: drk brn, blk, opq
smky, v/hd, shrp

SH: blk, blkly, frm, rthy
v/lmy ip

LS: tn, gry, lt brn, brn/
gry mott, vfn xln, sft,
britt, cin, sm drk brn
silic

CHRT: smky-gry, gry, brn
transl, tr opa, shrp
ang, lmy

LS: lt brn, off wht, brn
occlly mott, v/fn xln
mod dns-dns, frm-mod
frm, chky ip, slyt



ip, occlly chrty, fnly pyrtc

CHRT: drk brn, brn, mott
off wht, occlly transl
tr opq, ang-shrp, hrd
chnchdl frctr, lmy
inclc ip, sm fnly pyrtc

LS: off wht, lt tn, occlly
lt brn, fn-v/fn xln
mod dns, occlly dns
frm-v/frm, britt, fnly
pyrtc, chrty ip

CHRT: smky gry, drk brn
occlly transl, tr opq
ang-shrp, occlly lmy
fnly pyrtc ip

LS: mott off wht drk gry
drk gry, v/fn-fn xln
dns-mod dns, v/frm-hrd
argil inclc, sm silic
tr chky

SH: v/drk gry, blksh gry
occlly blk, blkly-sblkly
mod frm-v/frm, tr hrd
rthy txt, dll lstr
sm sli lmy, silic ip
fnly pyrtc

SH: blksh gry, v/drk gry
sblkly-blky, mod frm-frm
rthy txt, dll lstr, slty
lmy ip, fnly pyrtc

LS: lt gry, lt brn, mott
off wht, fn-v/fn xln
mod dns, frm-mod frm
tr sli hrd, argil inclc
occlly shly, tr chrty

SH: v/drk brn, drk grysh
brn, tr blk, blkly-sbblkly
mod frm-sli sft, tr v/
frm, rthy txt, dll lstr
sm smth, tr lmy, fnly
pyrtc

SH: v/drk gry, drk gry
blksh brn, sbblkly-blky
mod frm-sli sft, tr v/
frm, rthy smth txt, dll
lstr, slty ip, tr lmy
fnly pyrtc

SH: v/drk gry, drk gry
brnsh gry, blkly-sbbly
mod frm-sli frm, occlly
sft, rthy txt, sm smth
dll lstr, fnly pyrtc

LS: tn, lt brn, vfn-micro
xln, britt, frm, sm sft,
cln, dns

SH: drk gry, drk brn, brn
sme vry drk gry, blkly,
sft, dull, erthy, carb
sm lamn, sm britt, fnly
pyr, sm free pyr

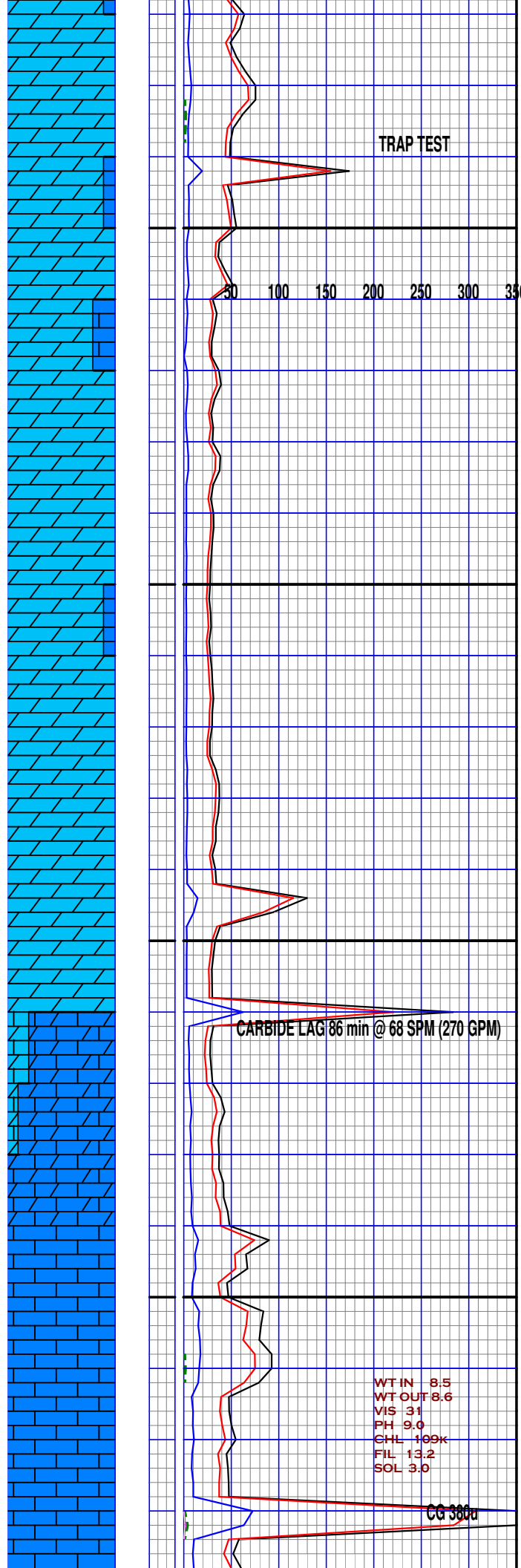
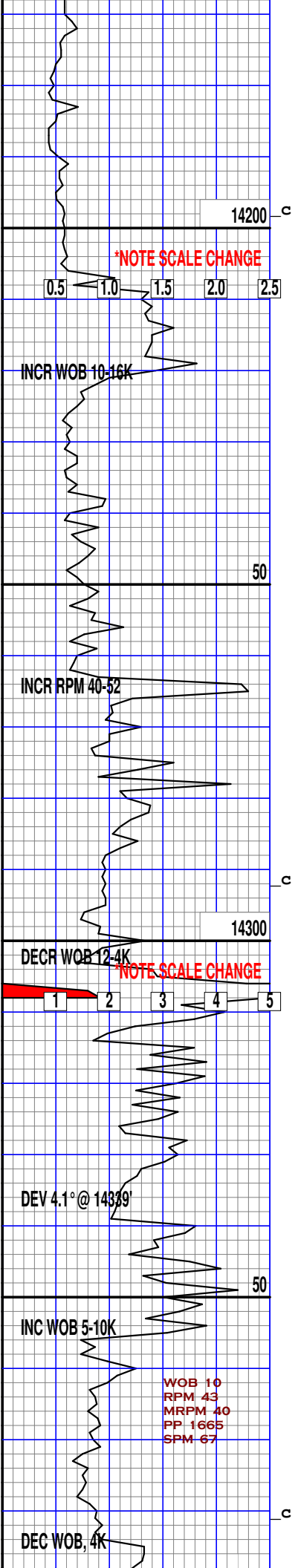
LS: brn, lt brn, crm, sme
brn/gry, mott, vfn xln
britt, sm sft, vfnly pyr
tr chrt

SH: brn, drk brn, drk gry
sm blk, blkly, sft, sme
frm, erthy, dull, sme
lamn, tr free pyr

LS: brn, lt gry, tn, gry/
brn, mott, vfn xln, sft,
sm britt, sm shly

LS: wht, off wht, vfn xln
sft, chky, cln

LS: wht, off wht, micro
vfn xln, sft, sme chky
dns, cln



DOLO:trns1,mlky,wht,off wht,lt gry,micro-vfn xln,sft-mod frm,tr lmy

DOLO:off wht,trns1,mlky tn,brn,micro-fn xln frm,tr sucro,tr lmy tr sh

TRAP TEST

LS:off wht,wht,tn,micro vfn xln,mod sft-mod frm,sme chlky,dns,tr dolo

DOLO:off wht,mlky,trns1 wht,brn,micro-fn xln frm,tr mod hd,dns,tr sucro,tr lmy

DOLO:wht,off wht,trns1 mlky,micro-vfn xln,mod frm-frm,dns,tr sucro

DOLO:off wht,wht,trns1 micro-vfn xln,mod frm frm,dns,tr lmy

DOLO:wht,off wht,trns1 micro-vfn xln,frm-mod hd,sme hd,dns,tr lmy

LS:wht,off wht,mlky,vfn micro xln,frm-hd,dns

DOLO:wht,trns1,off wht crm,micro-vfn xln,frm hd,tr v/hd,dns,tr lmy

DOLO:wht,off wht,trns1 lt gry,micro-vfn xln mod hd-hd,dns,tr sucro incr tr lmy

DOLO:off wht,wht,trns1 mlky,micro-vfn xln,mod hd-hd,dns,tr lmy

LS:brn,tn,gry,off wht micro-fn xln,frm-hd dns,tr dolo incl

DOLO:off wht,wht,tn,brn lt gry,micro-vfn xln frm-hd,lmy thru,argil

LS:gry,lt gry,off wht brn,dk gry,dk brn,mott micro-vfn xln,frm-hd sme v/hd,dns,tr dolo tr dk gry/brn cly incl

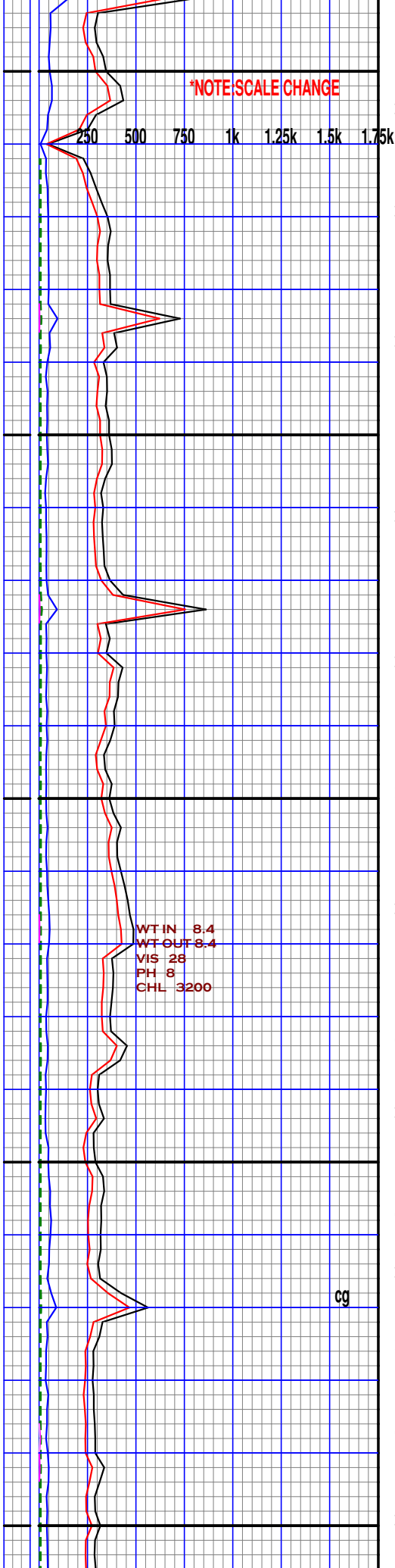
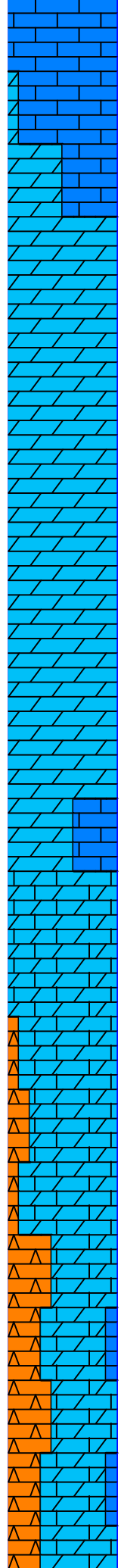
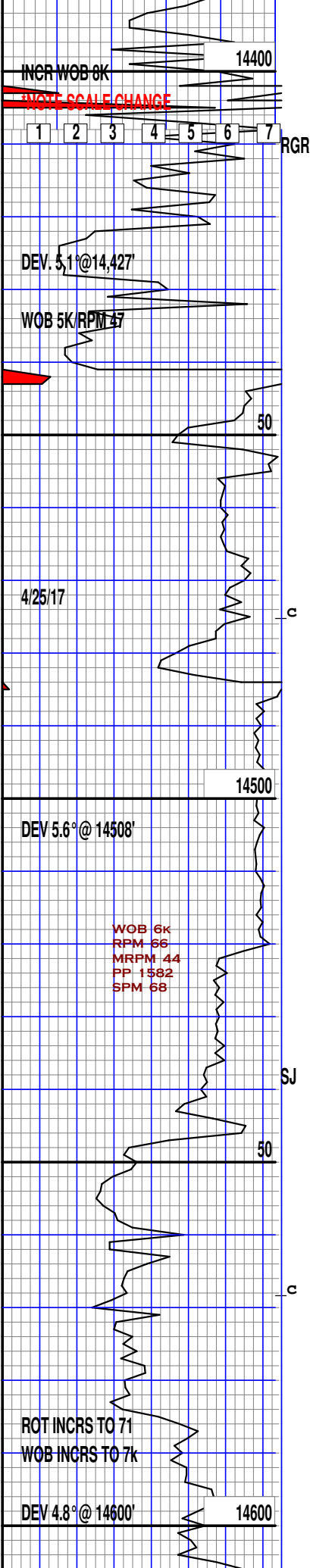
LS:lt gry,gry,off wht dk gry,mott,micro xln mod frm-frm,sme v/hd tr dk gry/brn cly incl tr calc vns,tr silic tr blk sh

LS:off wht,lt gry,gry tn,crm,mott,micro xln mod frm-mod hd,sme hd tr argil,tr blk sh

LS:lt gry,gry,off wht tn,brn,dk gry,mott micro-vfn xln,mod frm mod hd,sme dns,tr shly incl

CG 380u

WTIN 8.5
WFOU 8.6
VIS 31
PH 9.0
CHL 109K
FIL 13.2
SOL 3.0



LS:lt gry, off wht, gry crm, dk gry, wht, micro vfn xln, mod frm-hd, occ v/hd, sme dns, tr argil

DOLO:translu, off wht, vfn xln, britt, frm, vry lmy

DOLO:tn, crm, tranlsu, sm off wht, sm brn, vfn-fn xln, britt, frm, sm hrd, silic, tr broken rhombs

DOLO:off wht, wht, transl tn, vfn-fn xln, britt, sm mod hrd, sm dns, sme rexln

DOLO:wht, off wht tranls vfn-fn xln, britt, sme frm, sm rexln, sm frm-mod hrd, sm fnly sucro

DOLO:tn, wht, off wht, sm trnalsu, vfn-fn xln, britt, sm mod hrd, frm, sm rexln, sm dns

LS:tn, crm, lt brn, vfn-micro xln, britt, frm, sm chlky

DOLO:lt gry, tn, off wht brn/gry mott, sm tranls vfn-micro xln, britt frm, vry lmy

CHRT:smky blue, mlky, tranlsu, shrp, ang

DOLO:wht, trans, off wht tr lt brn, vfn-micro xln, sft-mod frm, v/lmy

CHRT:smky blu, mlky, trns hd, shrp, anglr

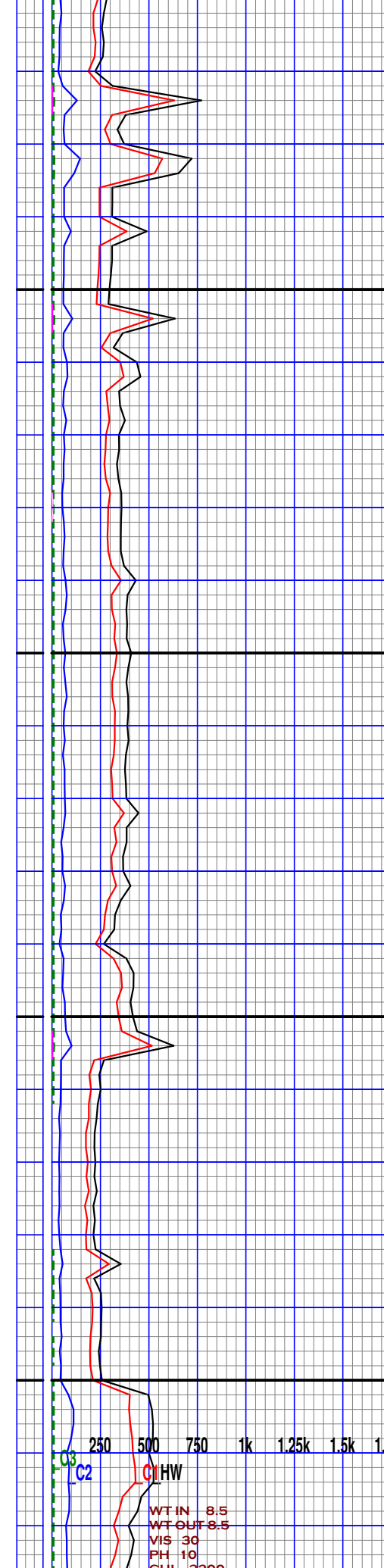
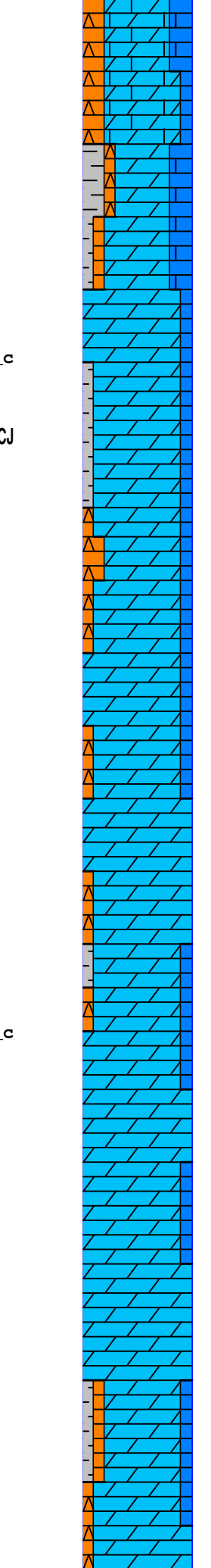
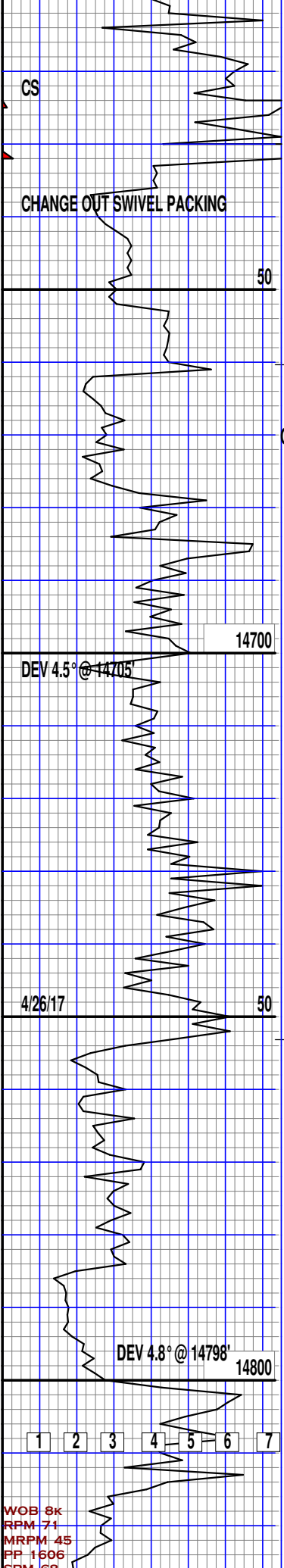
DOLO:wht, trans, off wht vfn xln, sft-mod frm occ britt, v/lmy

LS:crm, lt brn, micro xln hd, chrt, occ fre pyrt

CHRT:trans, smky, crm, off wht, hd, shrp, anglr, occ lmy inclus

DOLO:wht, off wht, trans crm, vfn-micro xln, dns sft-mod hd, occ chrt, v/lmy

cg



LS: brn, lt brn, crm, vfn-
micro xln, hd, occ chlky
tr pyrtc inclus

CHRT: off wht, crm, trans
smky, drk brn, shrp
anglr, sme pyrtc inclus
occ lmy inclus

SH: blk, blk, sft, rthy

LS: crm, lt brn, brn, off
wht, micro xln, dns, hd
occ chrty

DOLO: wht, off wht, trans
vfn xln, sft, occ brttl

SH: drk gry, blk, blk, sft
v/lmy ip

LS: tn, lt brn, crm, micro
xln, frm-hd, dns, tr
chrty, tr fre pyrt

CHRT: off wht, crm, brn
trnsl, tr lmy incl

DOLO: off wht, mlky, trnsl
wht, micro-vfn xln, frm
mod hd, tr lmy, tr chrty
tr sh

LS: tn, brn, off wht, crm
micro-vfn xln, frm-v/hd
brttl, tr silic

CHRT: mlky, clr, tn, trnsl
cln-spk, tr lmy

DOLO: off wht, wht, mlky
trnsl, micro-vfn xln
frm-mod hd, tr lmy, tr
mics

SH: blk, v/dk gry, sb/blk
sft-frm, rthy, tr carb

LS: tn, brn, off wht, crm
micro xln, frm-hd, dns

DOLO: crm, off wht, mlky
wht, trnsl, micro-vfn
xln, frm-hd, tr ls, tr sh

LS: tn, lt brn, off wht
micro-vfn xln, frm-hd
tr dolo

DOLO: off wht, mlky, wht
trnsl, micro-vfn xln
frm-hd, dns, rel cln, tr
ls

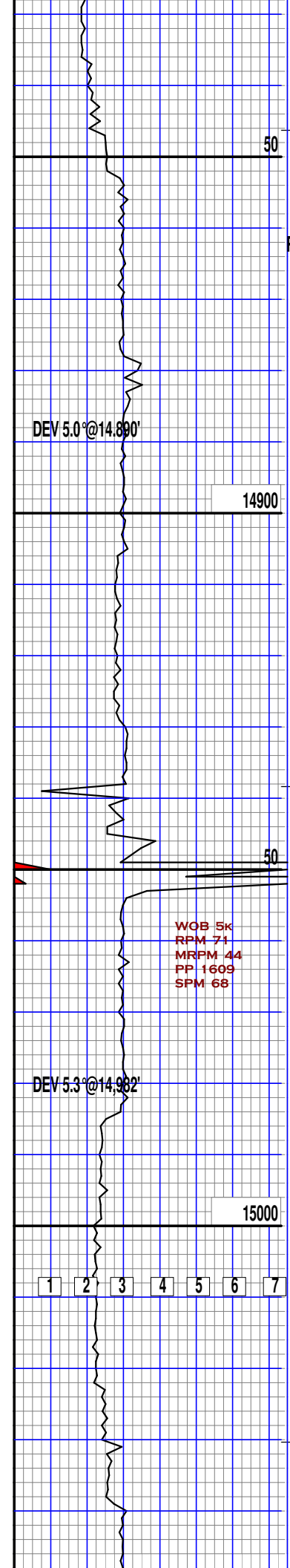
SH: blk, dk gry, sb/blk
tab, sft-frm, rthy, no
vis show

CHRT: trnsl, smky, mlky
brn, spk, sme lmy

DOLO: mlky, off wht, trnsl
wht, micro-fn xln, frm
lmy

WOB 8k
RPM 71
MRPM 45
PP 1606
SPM 68

WTIN 8.5
WTOUT 8.5
VIS 30
PH 10
CHL 3200



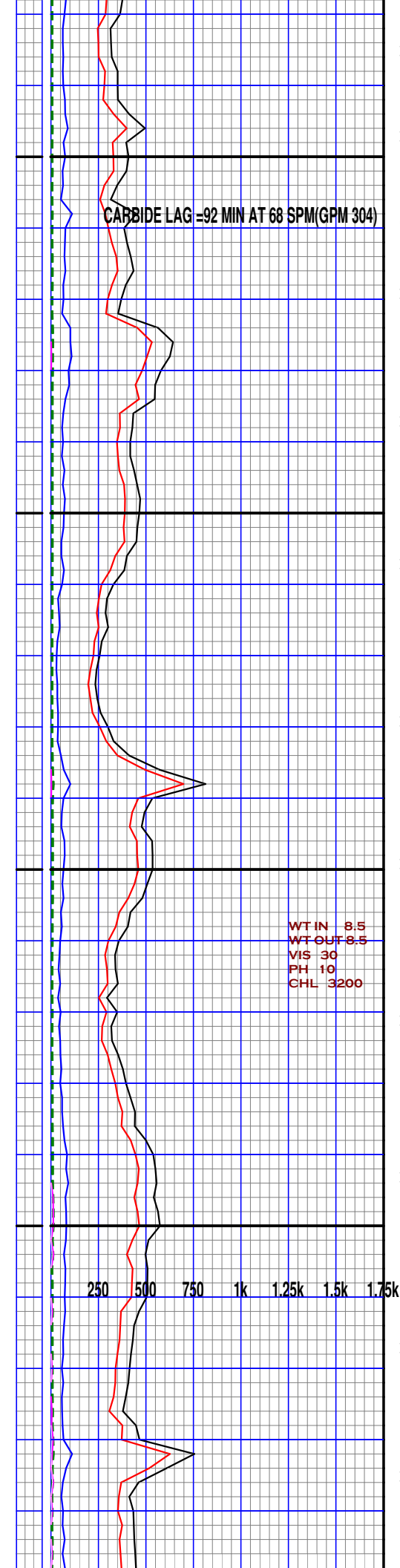
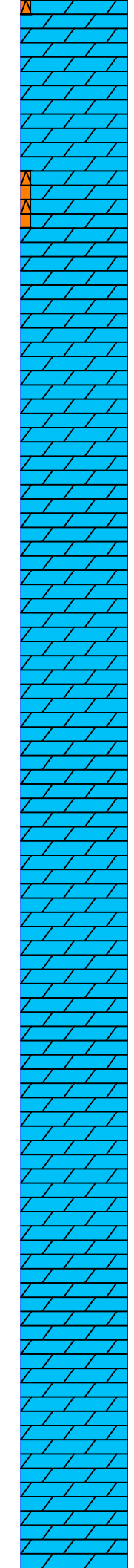
c

RGR

c

c

c



DOLO:off wht,wht,trnsl
mlky,micro-fn xln,frm
tr lmy thru

DOLO:trnsl,wht,off wht
mlky,micro-fn xnl,frm
mod hd,tr lmy,tr sh

CHRT:mlky,trnsl,tr lmy

DOLO:translu,wht,off
wht,vfn-fn xln,sm med
xln,britt,frm,sme sft,
sm dns,

DOLO:tranlsu,off wht,
wht,vfn-fn xln,britt-
frm,cln,sm 2ndary xln
sm chlky,fnly pyr

DOLO:tranlu,off wht,sm
wht,mlky,vfn-fn xln,
britt,frm,sm 2ndary
xln,sm sft,chlky,dns

DOLO:translu,wht,off
wht,sm mlky,vfn-fn
xln,britt,frm,sme dns
sft,chlky,sme 2ndary
xtls

DOLO:tranlsu,wht,mlky,
off wht,britt,frm,sm
fnly sucro,sm dns,sme
sft,chlky,vfnly pyr

DOLO:tranlu,wht,mlky
off wht,vfn-fn xln,
britt,sm frm,sme
2ndary xtls,sm dns,
sm sft,chlky,vfnly
pyr

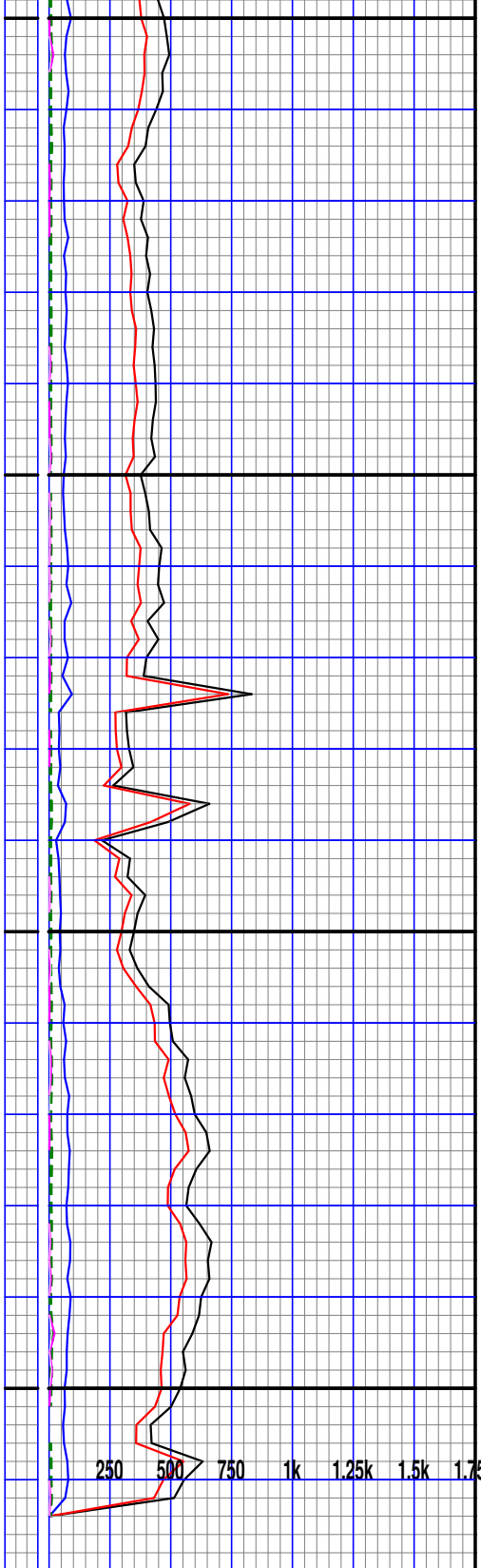
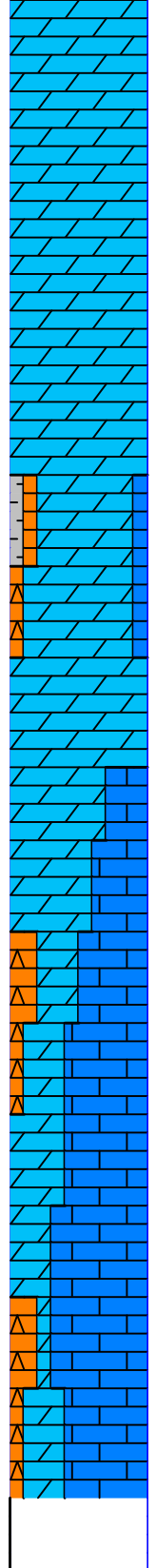
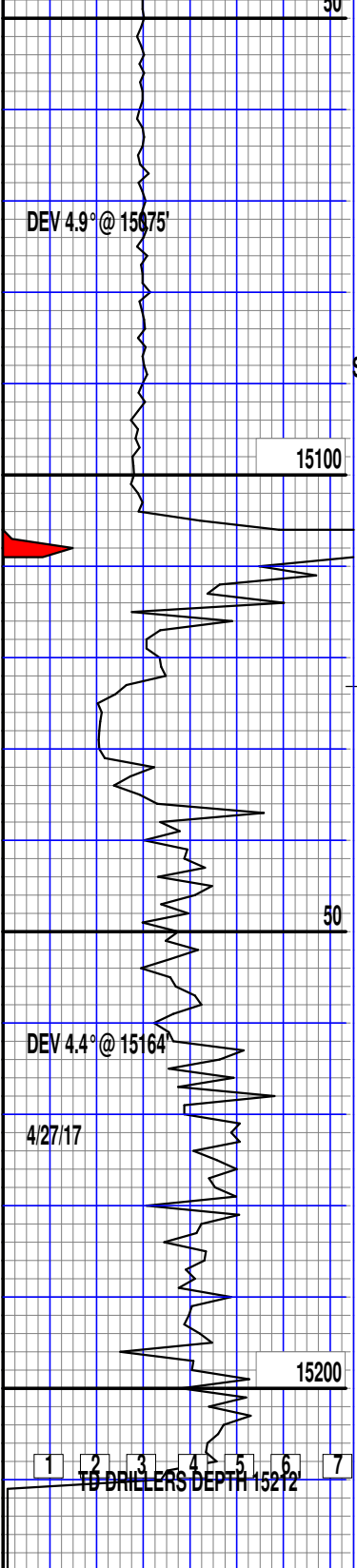
DOLO:translu,mlky,wht
off wht,vfn-fn xln
britt,sm dns,sm frm
tr 2ndary xtn,sme
chlky,sft

DOLO:translu,off wht,
wht,vfn-fn xln,britt
smd dns,frm,sm sft,
chlky,tr rexln

DOLO:translu,off wht,
wht,vfn-fn xln,britt
sm dns,frm,sucro,sme
sft,chlky

WT-IN 8.5
WT-OUT 8.5
VIS 30
PH 10
CHL 3200

WOB 5k
RPM 71
MRPM 44
PP 1609
SPM 68



DOLO:translu,off wht, wht,vfn xln,britt, sm fn, xln,dns,frm sm sft,chlky

DOLO:translu,wht,sme off wht,vfn-fn xln britt,sm sft,chlky sucro,sm dns,frm

DOLO:transl,wht,vfn-fn xln,britt1,occ sft sucro,occ chlky

LS:lt brn,gry,brn,crm micro xln,dns,hd,chrty

CHRT:smky,lt gry,hd shrp,anglr

LS:crm,tn,bff,lt brn brn,off wht,vfn-micro xln,hd,occ chrty inclus,sme fre pyrt

DOLO:wht,trans,off wht fn-vfn xln,sft,britt1 occ sucro

LS:crm,bff,tn,lt brn vfn xln,sft-mod hd occ chlky

CHRT:brn,lt gry,opq hd,shrp,anglr

DOLO:trans,wht,lt brn vfn xln,sft,sucro occ britt1

LS:lt gry,gry,brn,crm bff,vfn-micro xln,dns frm-v/frm,argil,occ chlky,tr chrty inclus

CHRT:drk brn,brn,crm off wht,shrp,anglr tr pyrtc inclus

LS:brn,lt brn,crm,bff tn,off wht,vfn-micro xln,frm-hd,occ chlky dns,occ mott,occ argil