MASTERLOG
LONGTOM-3(PILOT)

GENERAL	POSITION	HOLE / CASING INFO	DATE / DEPTH	ENGINEERS
Country : AUSTRALIA	Latitude : 38°05'34.63"S	914mm(36") hole to: 111.8m	Spud Date : 11-07-2006	T. N. KYAW
Permit : VIC/P54	Longitude : 148°18'41.52"E	559mm(22") hole to: 1005m	Total Depth Date : 30-07-2006	A. DUNN
Field : LONGTOM	UTM Co-ord X (m E): 615006	241mm(9 1/2") hole to: 3485m	Total Depth (mMDRT): 3485m	A. RODRIGUS
Basin : GIPPSLAND	UTM Co-ord Y (m N): 5783059.3	762mm(30") Cond. to: 110.8m	True Vertical Depth (mTVDSS): 2585.23m	D. ADDERLEY
Well Type : APPRAISAL	RT to LAT (m): 21.5	406mm(16") Csg. to: 995.32m	Log Scale : 1/ 500	
Rig: OCEAN PATRIOT	RT to Sea Bed (m): 78.2		Final Status : Plugged	

ABBREVIATIONS

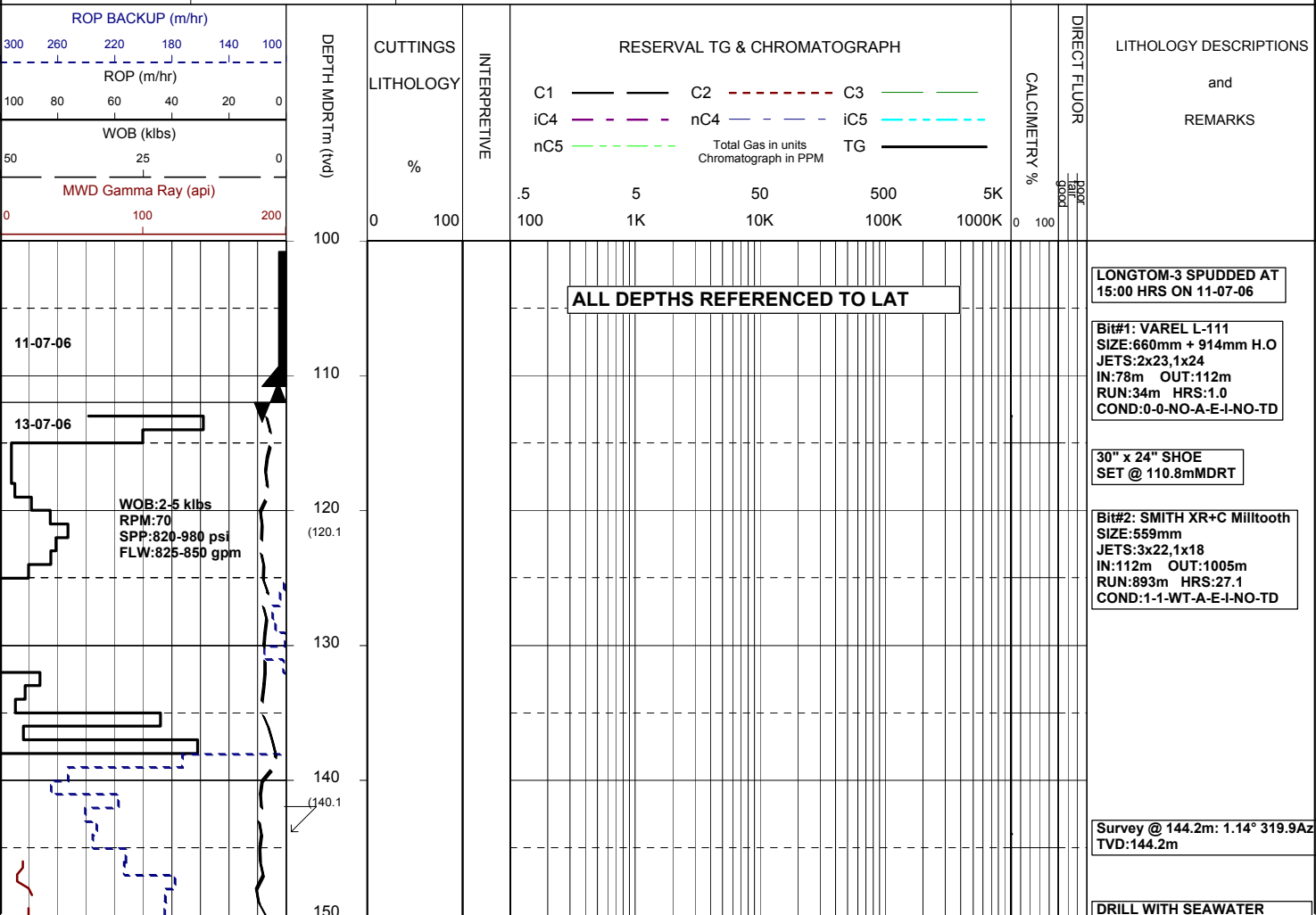
MW	Mud Weight	WOB	Weight on Bit (klbs)
FV	Funnel Viscosity	RPM	Rotations Per Min
PV	Plastic Viscosity	FLW	Flow Rate (gpm)
YP	Yield Point	SPP	Pump Pressure (psi)
Gel	Gel Strength	RR	Re-Run Bit
WL	Water Loss	TG	Trip Gas
KCl	Potassium Chloride	CG	Connection Gas
Cl	Chlorides	BG	Background Gas
Incl	Inclination	DGP	Drilled Gas Peak
Az	Azimuth	MM	Mud Motor

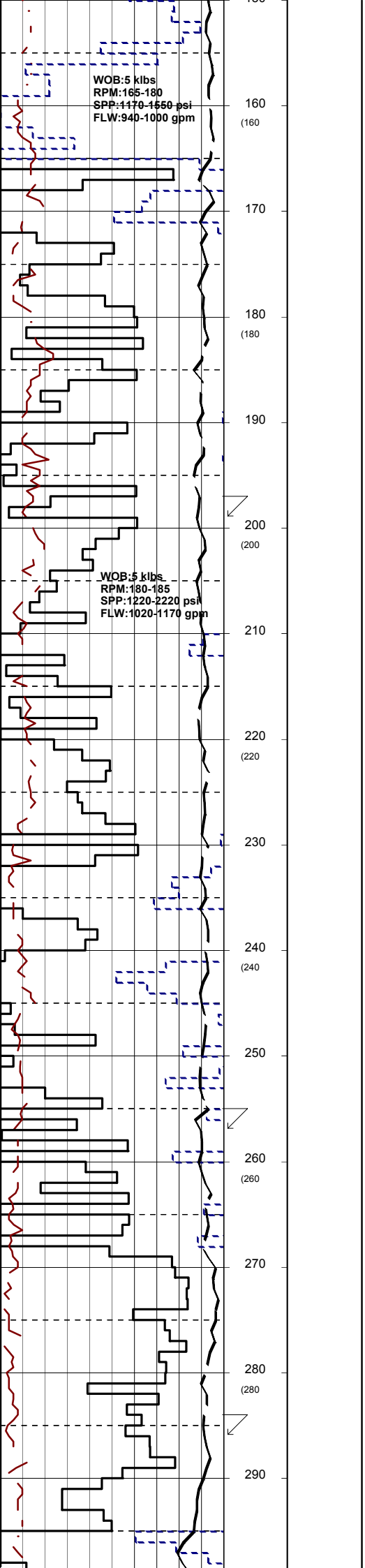
LITHOLOGY LEGEND

Claystone, Marl, Lithic Fragment, Cement
Siltstone, Clay, Limestone, Foraminifera, Glauconite
Shale, Limestone, Fossils, Pyrite
Fine SST, Dolomite, Bryozoa, Iron Minerals
Medium SST, Coal, Sponges, Mica
Coarse SST, Volcanic, Brachiopoda, Siderite

ENGINEERING LEGEND

Shoe, DOLOMITE
Deviation survey, RFT
DST, FIT
Test, Mud loss
Sidewall Core, Mud gain
Core





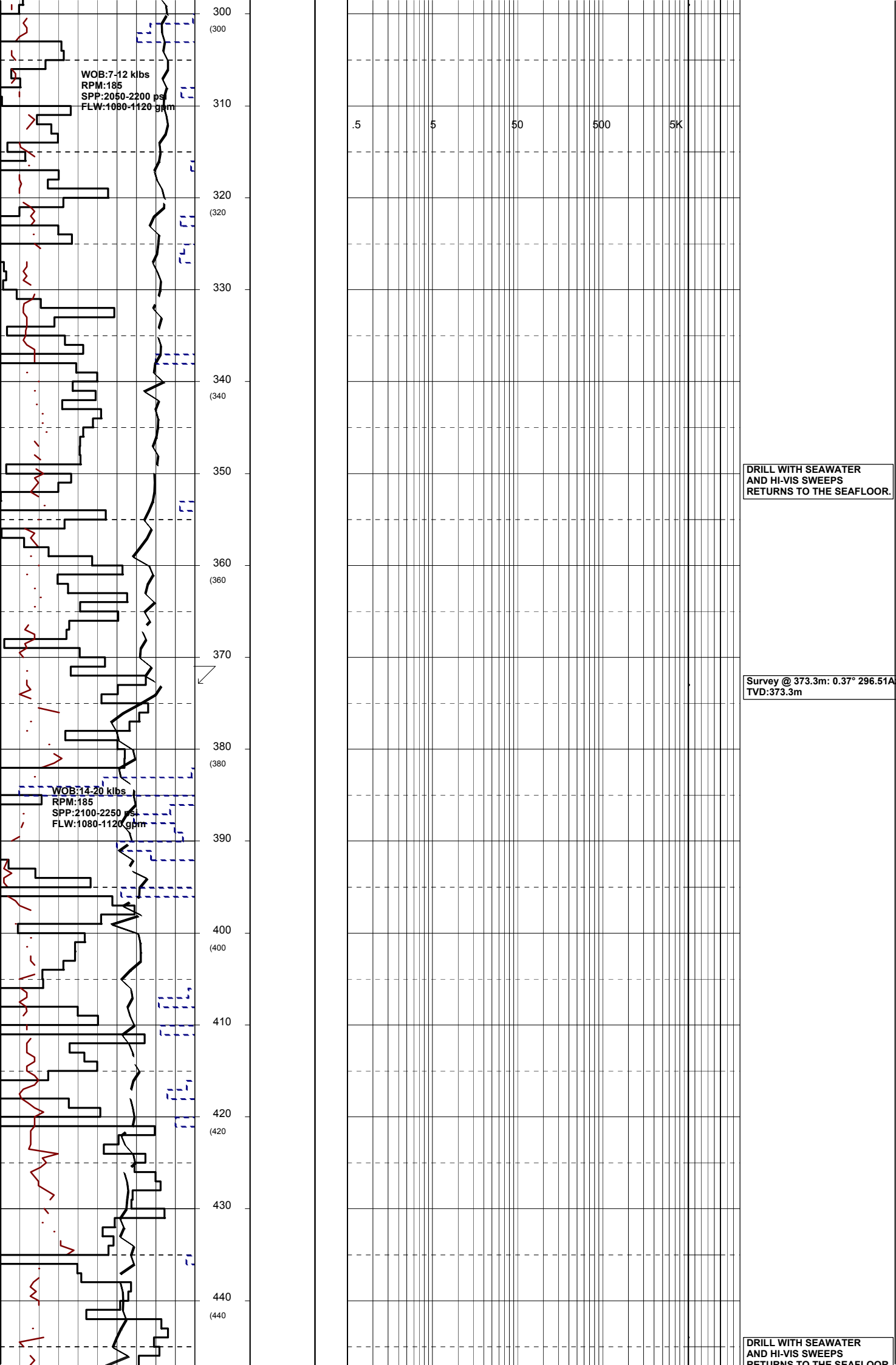
AND HI-VIS SWEEPS
RETURNS TO THE SEAFLOOR.

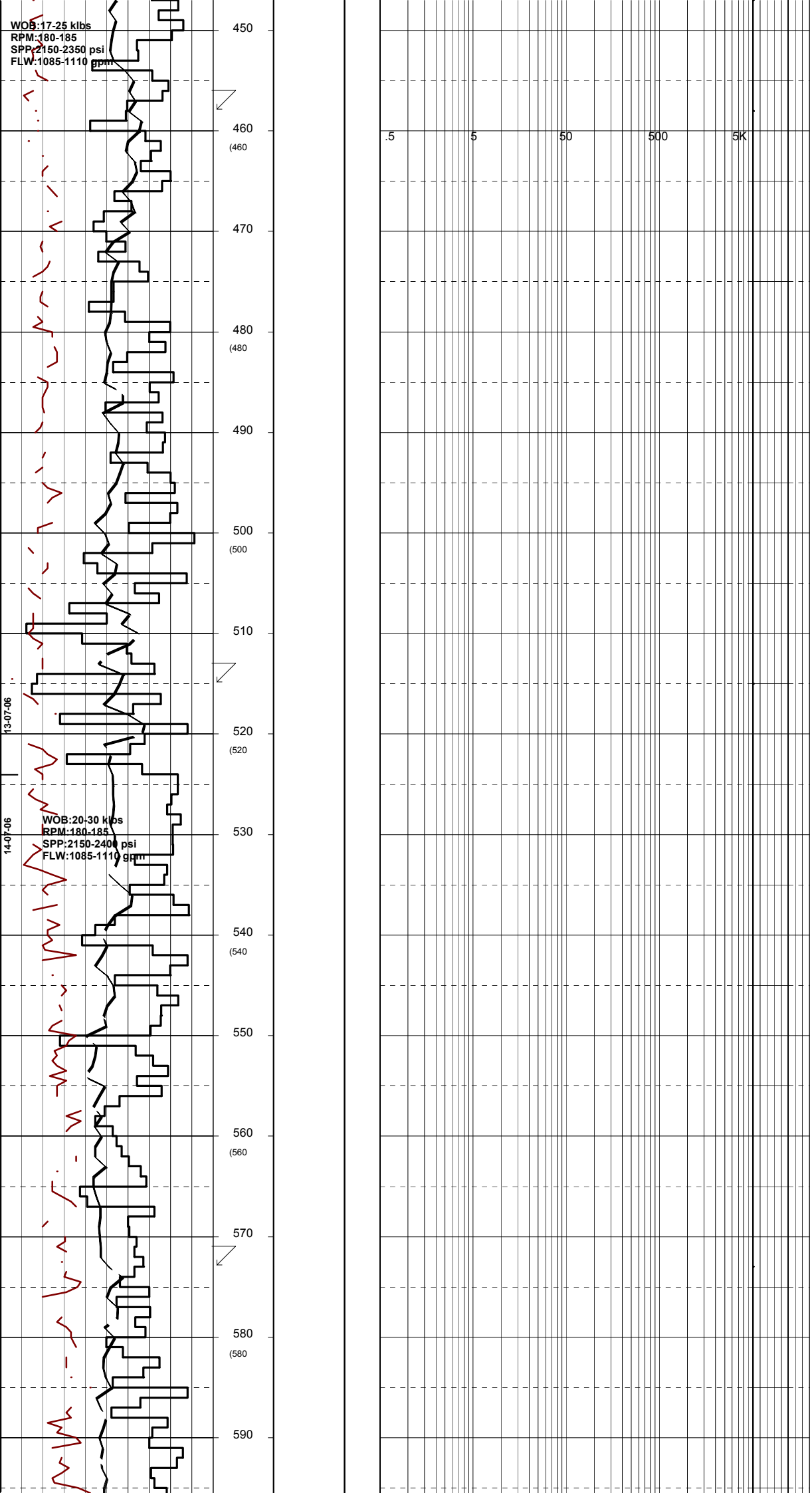
Survey @ 199.1m: 1.01° 317.8Az
TVD:199.1m

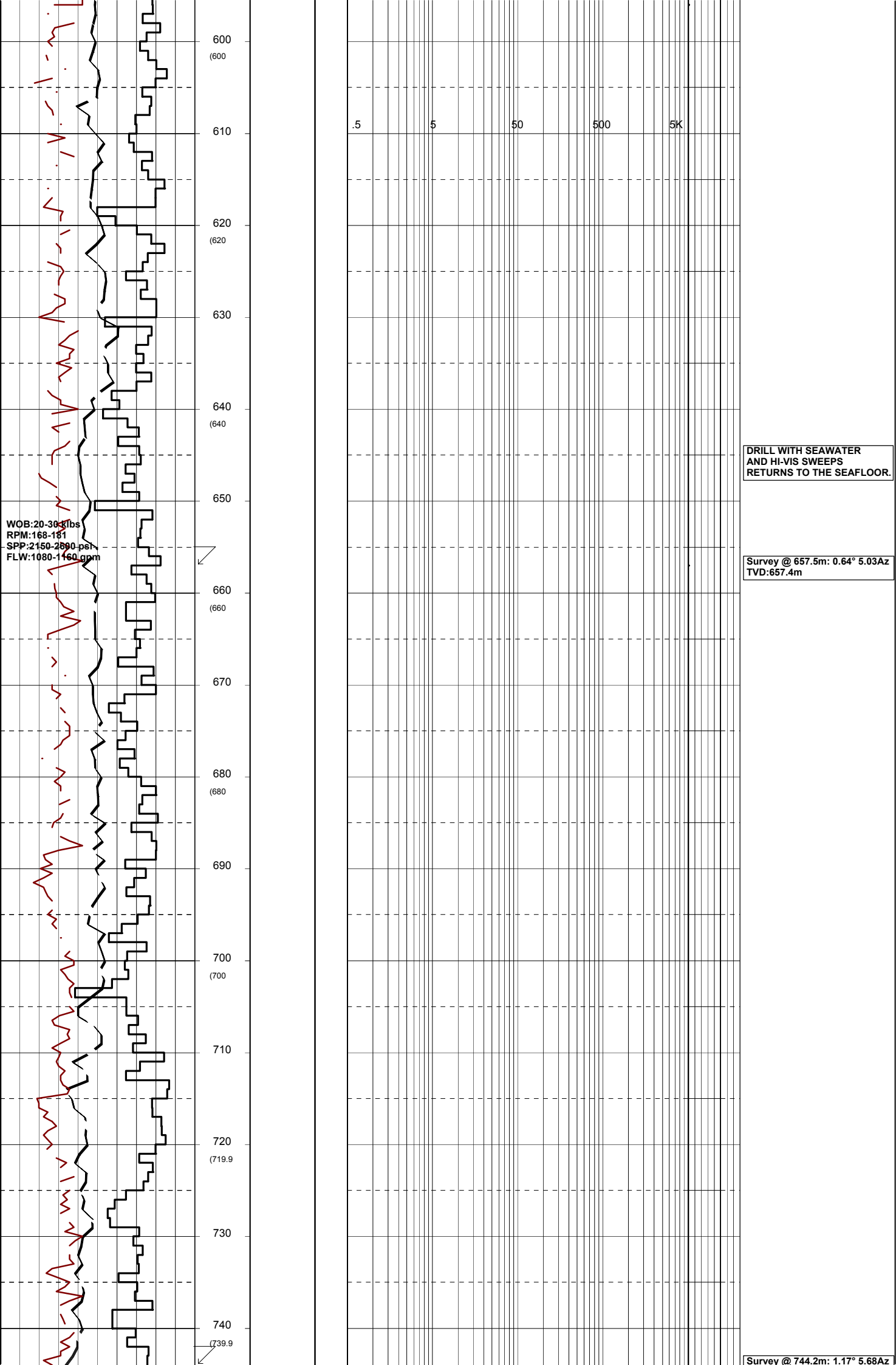
DRILL WITH SEAWATER
AND HI-VIS SWEEPS
RETURNS TO THE SEAFLOOR.

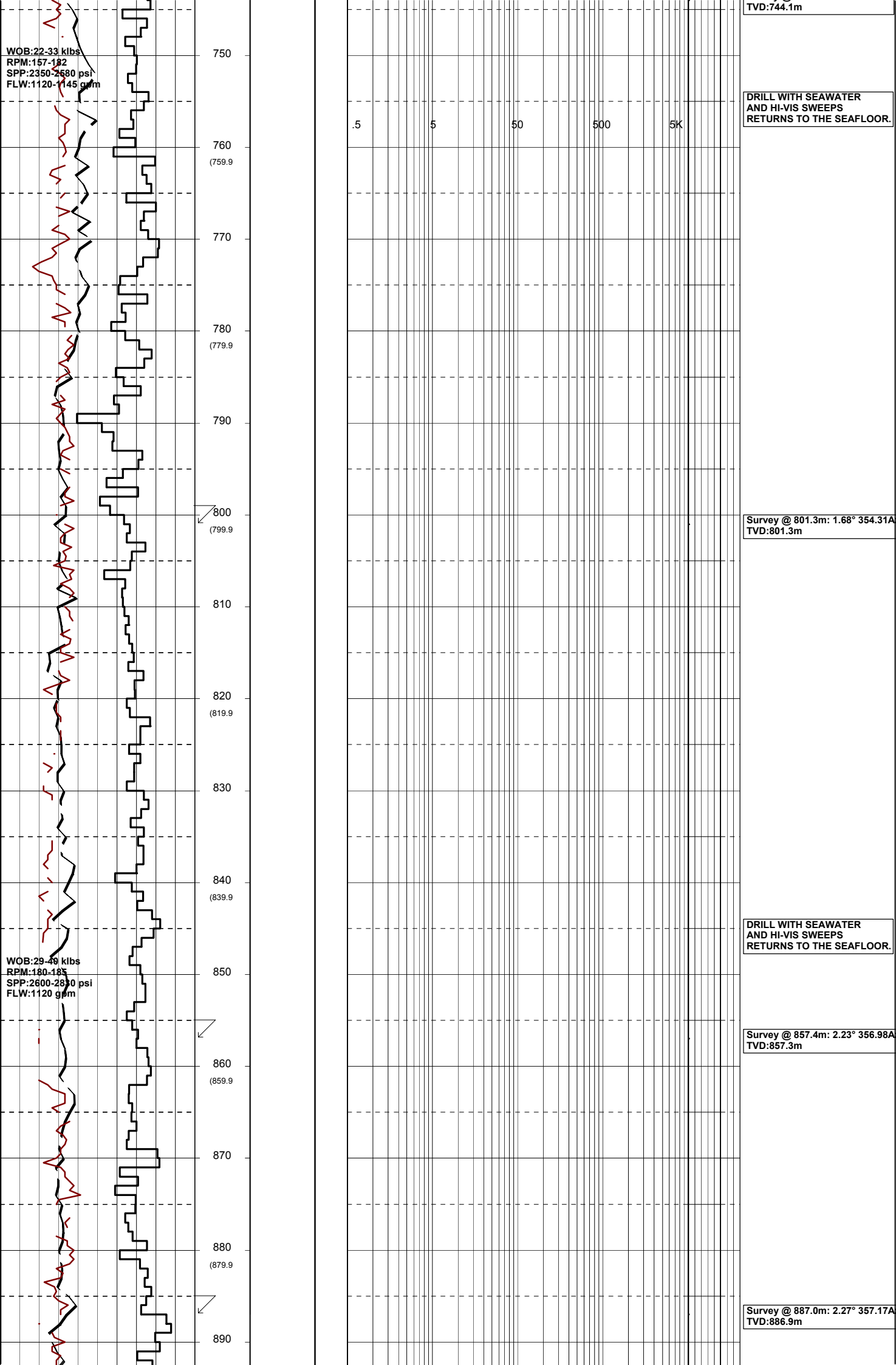
Survey @ 256.9m: 1.02° 314.1Az
TVD:256.9m

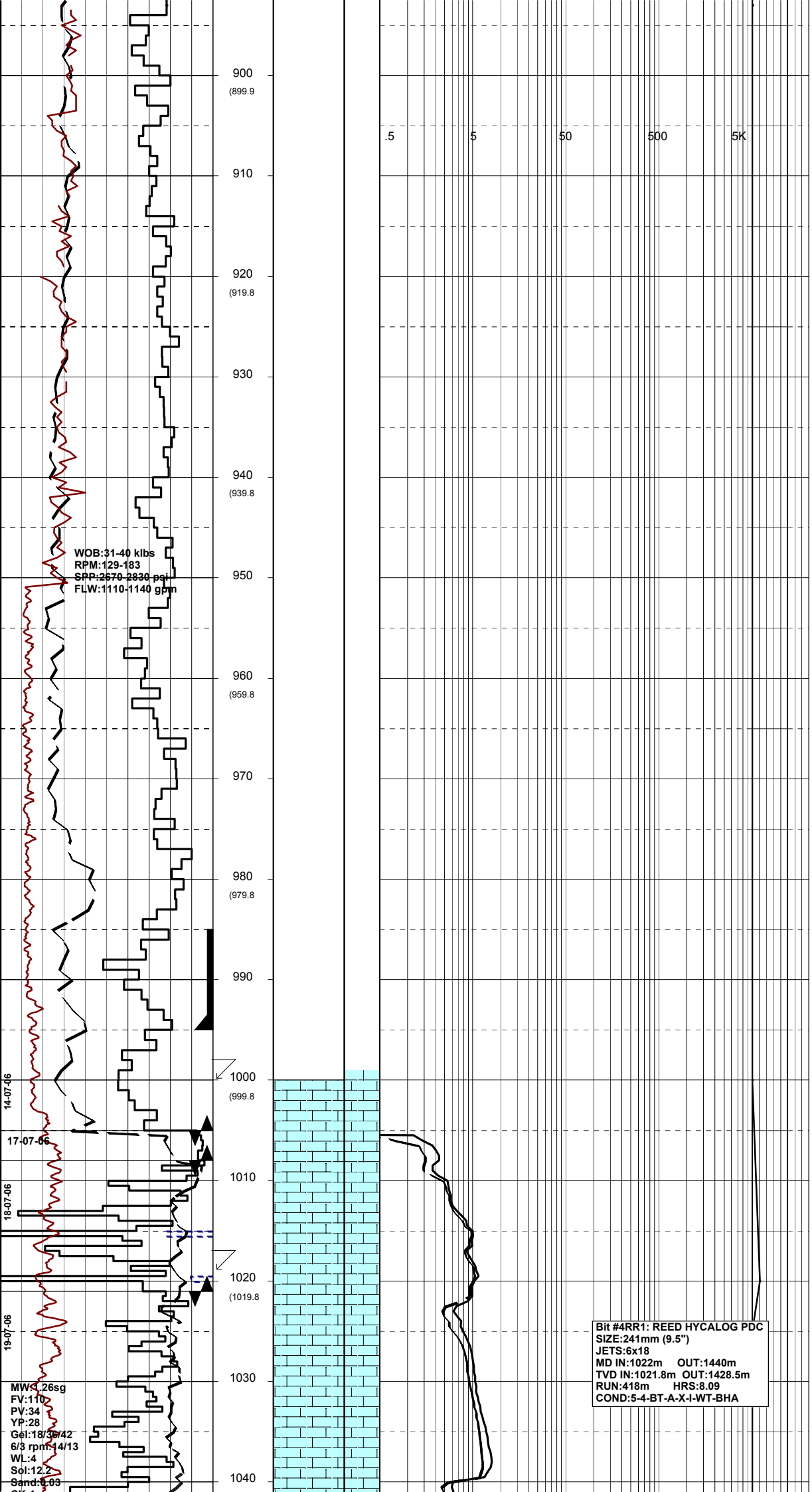
Survey @ 285.5m: 0.76° 323.69A
TVD:285.5m

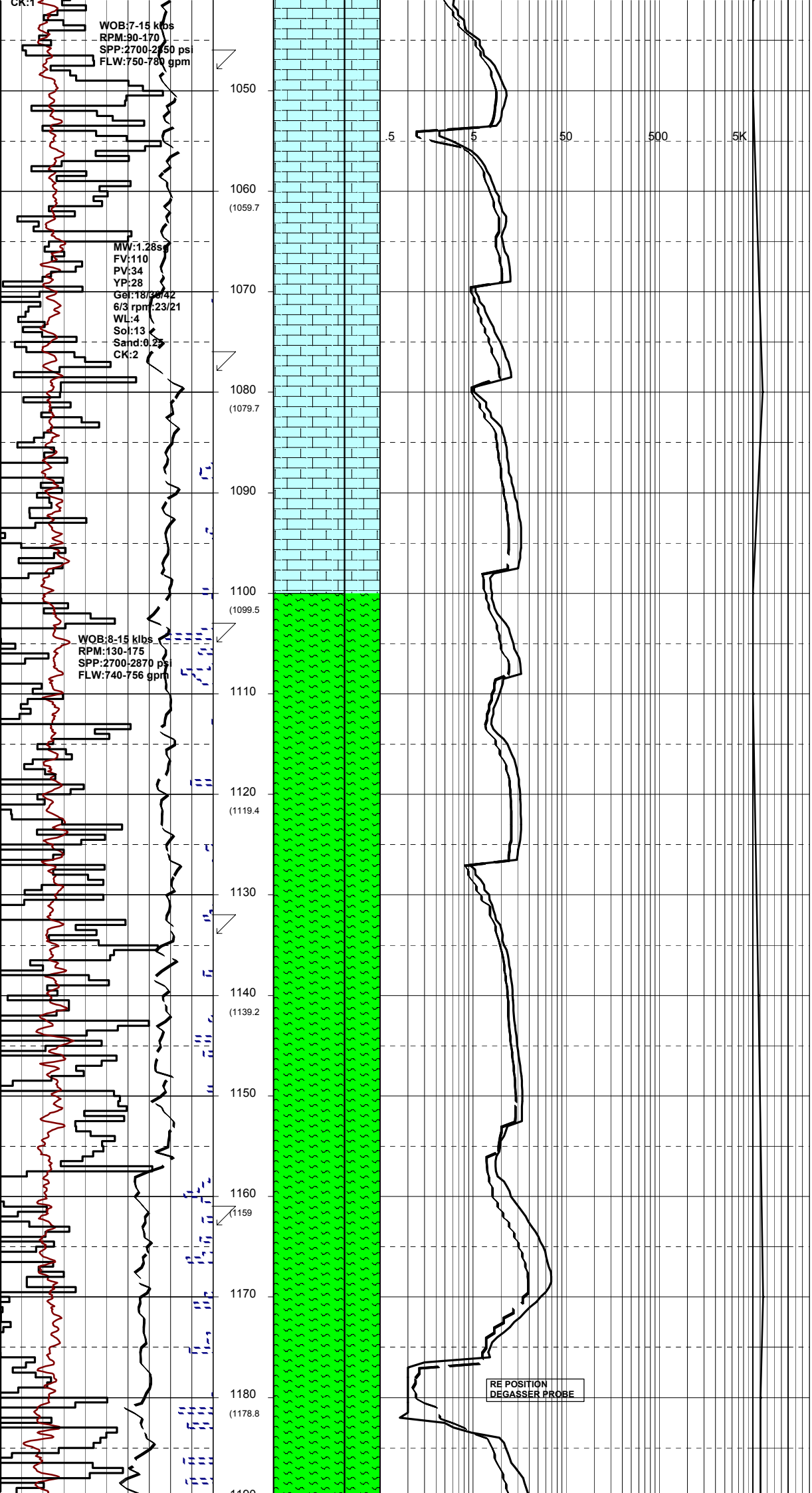

300
(300
WOB:7-12 klbs
RPM:185
SPP:2050-2200 psi
FLW:1080-1120 gpm
310
.5
5
50
500
5K
320
(320
330
340
(340
350
DRILL WITH SEAWATER
AND HI-VIS SWEEPS
RETURNS TO THE SEAFLOOR.
360
(360
370
Survey @ 373.3m: 0.37° 296.51A
TVD:373.3m
380
(380
WOB:14-20 klbs
RPM:185
SPP:2100-2250 psi
FLW:1080-1120 gpm
390
400
(400
410
420
(420
430
440
(440
DRILL WITH SEAWATER
AND HI-VIS SWEEPS
RETURNS TO THE SEAFLOOR.

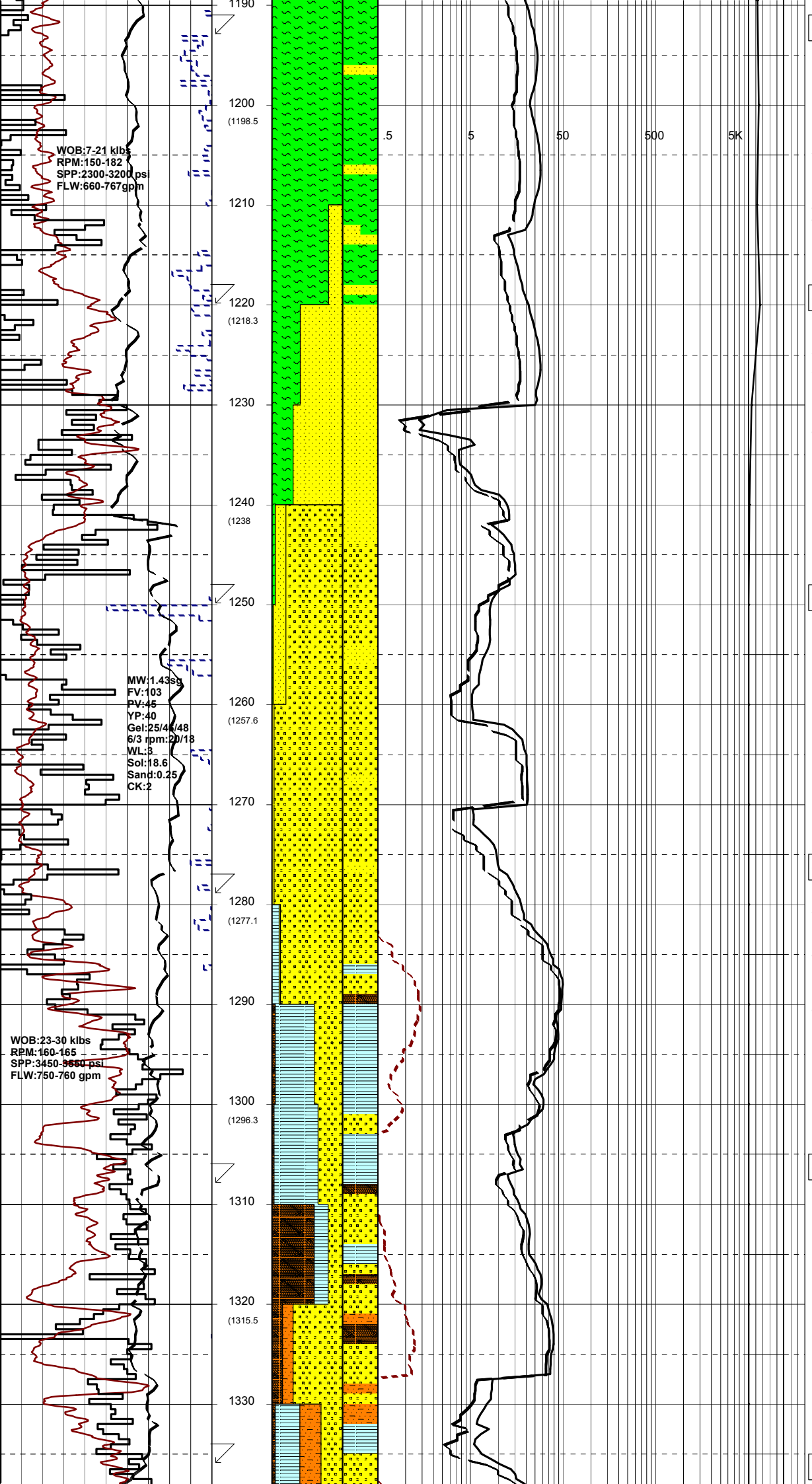

WOB:17-25 klbs
RPM:180-185
SPP:2150-2350 psi
FLW:1085-1110 gpm
450
460
(460
470
480
(480
490
500
(500
510
520
(520
530
540
(540
550
560
(560
570
580
(580
590
13-07-06
14-07-06
WOB:20-30 klbs
RPM:180-185
SPP:2150-2400 psi
FLW:1085-1110 gpm
.5
5
50
500
5K
RETURNS TO THE SEAFLOOR.
Survey @ 457.6m: 0.62° 341.09A
TVD:457.6m
Survey @ 514.66m: 0.23° 237.37
TVD:514.6m
DRILL WITH SEAWATER
AND HI-VIS SWEEPS
RETURNS TO THE SEAFLOOR.
Survey @ 573.4m: 0.45° 70.54Az
TVD:573.3m

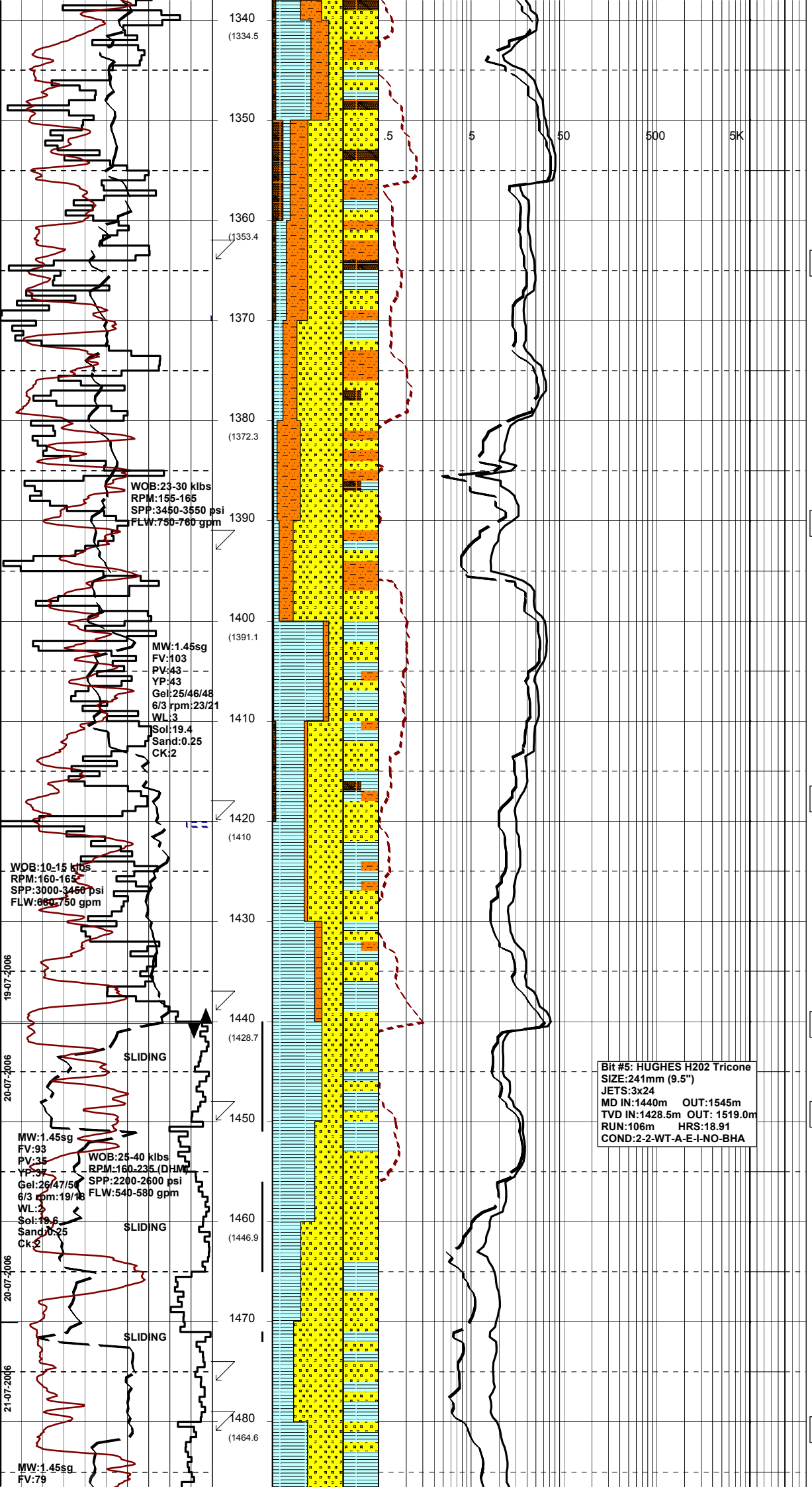

600
(600
610
620
(620
630
640
(640
650
660
(660
670
680
(680
690
700
(700
710
720
(719.9
730
740
(739.9
.5
5
50
500
5K
WOB:20-30 klbs
RPM:168-181
SPP:2150-2690 psi
FLW:1080-1160 gpm
DRILL WITH SEAWATER
AND HI-VIS SWEEPS
RETURNS TO THE SEAFLOOR.
Survey @ 657.5m: 0.64° 5.03Az
TVD:657.4m
Survey @ 744.2m: 1.17° 5.68Az


TVD:744.1m
WOB:22-33 klbs
RPM:157-182
SPP:2350-2680 psi
FLW:1120-1145 gpm
750
760
(759.9
770
780
(779.9
790
800
(799.9
810
820
(819.9
830
840
(839.9
850
860
(859.9
870
880
(879.9
890
.5
5
50
500
5K
DRILL WITH SEAWATER
AND HI-VIS SWEEPS
RETURNS TO THE SEAFLOOR.
Survey @ 801.3m: 1.68° 354.31A
TVD:801.3m
DRILL WITH SEAWATER
AND HI-VIS SWEEPS
RETURNS TO THE SEAFLOOR.
WOB:29-49 klbs
RPM:180-185
SPP:2600-2830 psi
FLW:1120 gpm
Survey @ 857.4m: 2.23° 356.98A
TVD:857.3m
Survey @ 887.0m: 2.27° 357.17A
TVD:886.9m


900
(899.9
910
920
(919.8
930
940
(939.8
950
960
(959.8
970
980
(979.8
990
1000
(999.8
1010
1020
(1019.8
1030
1040
.5
5
50
500
5K
WOB:31-40 klbs
RPM:129-183
SPP:2670-2830 psi
FLW:1110-1140 gpm
14-07-06
17-07-06
18-07-06
19-07-06
MW:1.26sg
FV:110
PV:34
YP:28
Gel:18/36/42
6/3 rpm:14/13
WL:4
Sol:12.2
Sand:0.03
DRILL WITH SEAWATER
AND HI-VIS SWEEPS
RETURNS TO THE SEAFLOOR.
16" SHOE set @ 995.3 mMDRT
(995.1 mTVDRT)
Survey @ 999.9m: 2.36° 353.4Az
TVD: 999.7m
Bit #3: REED MILLTOOTH
SIZE:374mm (14.75")
JETS:3x20
MD IN:1005m OUT:1008m
TVD IN:1004.8m OUT:1007.8m
RUN:3m HRS:0.45
COND:0-0-NO-A-E-I-NO-BHA
LOT @ 1008 mMDRT (1007.78mT
EMW: 13.5 ppg
Bit #4: REED HYCALOG PDC
SIZE:241mm (9.5")
JETS:6x18
MD IN:1008m OUT:1022m
TVD IN:1007.8m OUT:1021.8m
RUN:14m HRS:2.08
COND:0-0-NO-A-X-I-NO-DTF
DISPLACE HOLE WITH SBM
: PETROFREE
Bit #4RR1: REED HYCALOG PDC
SIZE:241mm (9.5")
JETS:6x18
MD IN:1022m OUT:1440m
TVD IN:1021.8m OUT:1428.5m
RUN:418m HRS:8.09
COND:5-4-BT-A-X-I-WT-BHA
ARGILLACEOUS CALCILUTITE:
lt-med brnsh gry,lt olv gry
-lt grnsh gry,aren i/p,tr pyr,
tr carb spks,sft-frm,amorph
-sbblky.
ARGILLACEOUS CALCILUTITE:
lt-med off wh-gry,lt olv gry-lt


CK:1
WOB:7-15 klbs
RPM:90-170
SPP:2700-2850 psi
FLW:750-780 gpm
1050
1060
(1059.7
MW:1.28sg
FV:110
PV:34
YP:28
Gel:18/38/42
6/3 rpm:23/21
WL:4
Sol:13
Sand:0.25
CK:2
1070
1080
(1079.7
1090
1100
(1099.5
WOB:8-15 klbs
RPM:130-175
SPP:2700-2870 psi
FLW:740-756 gpm
1110
1120
(1119.4
1130
1140
(1139.2
1150
1160
(1159
1170
1180
(1178.8
5
5
50
500
5K
RE POSITION
DEGASSER PROBE
grnsh gry,aren i/p,sft-frm,
amorph-sbblky.
Survey @ 1047.0m: 1.01° 290.3A
TVD: 1046.8m
ARGILLACEOUS CALCILUTITE:
lt-med off wh-gry,lt olv gry-lt
grnsh gry,aren i/p,frm-sft,
blky-sbfiss,tr amorph.
Survey @ 1077.0m: 6.03° 203.5A
TVD: 1076.7m
ARGILLACEOUS CALCILUTITE:
lt-med gry-off wh,lt olv gry-lt
grnsh gry,aren i/p,frm-sft,
blky-sbblky,tr amorph.
Survey @ 1105.8m: 7.59° 191.5A
TVD: 1105.3m
MARL: lt-med gry,occ lt olv gry-
occ lt grnsh gry,g/t ARG CLCLT
i/p,tr vf pyr,tr micfoss,tr carb
mat,stky i/p,v sft-sft,sbblky.
Survey @ 1134.2m: 8.42° 183.6A
TVD: 1133.4m
MARL: lt-med gry,occ lt olv gry-
occ lt grnsh gry,g/t ARG CLCLT
i/p,tr vf pyr,tr micfoss,tr carb
mat,stky i/p,v sft-sft,sbblky.
Survey @ 1162.7m: 7.78° 184.3A
TVD: 1161.6m
MARL: lt-med gry,occ lt olv gry,
occ lt grnsh gry,g/t ARG CLCLT
i/p,tr xln calcite,tr micfoss
(forams),tr vf pyr,rr vf carb spks,
stky i/p,v sft-sft,sbblky.


1190
1200
(1198.5
1210
1220
(1218.3
1230
1240
(1238
1250
1260
(1257.6
1270
1280
(1277.1
1290
1300
(1296.3
1310
1320
(1315.5
1330
.5
5
50
500
5K
WOB:7-21 klbs
RPM:150-182
SPP:2300-3200 psi
FLW:660-767gpm
MW:1.43sg
FV:103
PV:45
YP:40
Gel:25/46/48
6/3 rpm:20/18
WL:3
Sol:18.6
Sand:0.25
CK:2
WOB:23-30 klbs
RPM:160-165
SPP:3450-3650 psi
FLW:750-760 gpm
Survey @ 1192.1m: 8.75° 184.3A
TVD: 1190.7m
ARGILLACEOUS SANDSTONE: lt olv gry,vf-f,g/t SLTST i/p, mod srt,sbang-rnd,v wk sil cmt, calc cmt i/p,com arg mtx,com carb spks,rr gry-wh liths,lse-fri,v pr vis & pr inf por,no fluor.
Survey @ 1220.4m: 9.47° 189.5A
TVD: 1218.7m
ARGILLACEOUS SANDSTONE: brn blk-dsky brn,dk gry i/p,pl yel orng,olv gry,f-med,dom med, mod srt,sbang-rnd,dom sbrnd,w calc cmt,dom arg mtx,com disse pyr & carb spks,rr gry-wh liths, lse-fri,mod-gd inf & vis por,no fluor.
Survey @ 1249.7m: 10.96° 194.4
TVD: 1247.5m
SANDSTONE: lt gry,clr-trnsl i/p,med-v crs,dom crs,rr f,mod srt,sbang-sbrnd,dom sbang,v w sil cmt,tr arg mtx,com pyr nods,dom lse,fri aggs i/p,gd inf & vis por,no fluor.
Survey @ 1278.5m: 14.31° 197.4
TVD: 1275.6m
ARGILLACEOUS CLAYSTONE: dom dk gry-blk,pl yel gry i/p, occ med gry slty grs,dom carb, lams i/p,tr vf dissem pyr,sft-frm,sbblky-blky.
COAL: dk gry-blk,sbvit,arg i/p, tr vf pyr strks,frm,sbblky-blky, sbconch frac.
SILTY CLAYSTONE:lt-med gry, brn,rr yelsh brn,rr aren g/t SLTST i/p,micmic,carb spks, mod hd,blky.
Survey @ 1307.3m: 16.74° 194.0
TVD: 1303.4m
SANDSTONE: lt gry,clr-trnsl i/p,med-v crs,dom crs,mod srt, sbang-wl rnd,dom sbrnd,v wk si cmt,com arg mtx,rr pyr nods,do lse,rr fri aggs,pr vis por, no fluor.
COAL: dk gry-blk,sbvit-vit,arg i/p,loc mnr pyr lams,frm,sbblky-blky,sbconch frac.
Survey @ 1336.2m: 18.51° 192.1
TVD: 1330.9m



SILTY CLAYSTONE:lt-med gry, brn,rr yelsh brn,aren i/p,tr-com micmic,carb spks i/p,mod hd,blky.

SILTSTONE:med gry-dk gry,dom arg,tr aren,tr miclams,frm-mod h sbblky.

SANDSTONE:lt gry,clr-trnsl,med crs,mod srt,wl rnd-sbang,dom r v wk sil cmt,tr arg mtx,dom lse, rr fri aggs,fr vis & gd inf por, no fluor.

Survey @ 1364.0m: 19.19° 191.6
TVD: 1357.2m

SILTSTONE:med gry-dk gry,dom arg,tr aren,tr miclams,frm-mod h sbblky.

COAL:dk gry-blk,sbvit-vit,arg i/p,loc mnr pyr lam,frm,sbblky-blky,sbfiss i/p,sbconch frac.

SANDSTONE:lt gry,clr-trnsl,med crs,mod srt,wl rnd-sbang,dom r v wk sil cmt,tr arg mtx,dom lse, rr fri aggs,fr vis & gd inf por, no fluor.

Survey @ 1392.0m: 19.64° 193.7
TVD: 1383.6m.

SILTSTONE:med gry- dk gry,dom arg,occ g/t SLTY CLYST,tr aren, tr miclams,frm-mod hd,sbblky.

SILTY CLAYSTONE:v lt-med gry, med brn,occ slty i/p,com micmic rr carb spks,sft-mod hd,blky-sbblky.

SANDSTONE:lt gry,clr-trnsl,med crs,mod srt,wl rnd-sbang,dom r v wk sil cmt,tr arg mtx,dom lse-rr fri aggs,fr vis & gd inf por, no fluor.

Survey @ 1420.2m: 20.00° 193.9
TVD: 1410.1m.

SILTSTONE:med-dk gry,dom arg tr aren,tr miclams,frm-mod hd, sbblky.

SILTY CLAYSTONE:v lt-med gry brn gry,occ slty i/p,com micmic, rr carb spks,frm-mod hd,occ sft, blky-sbblky.

SANDSTONE:lt gry,clr-trnsl,med crs,mod srt,wl rnd-sbang,dom r v wk sil cmt,tr arg mtx,lse-rr fri aggs,gd inf & fr vis por,no fluor.

Survey @ 1438.4m: 20.70° 193.9
TVD: 1427.2m.

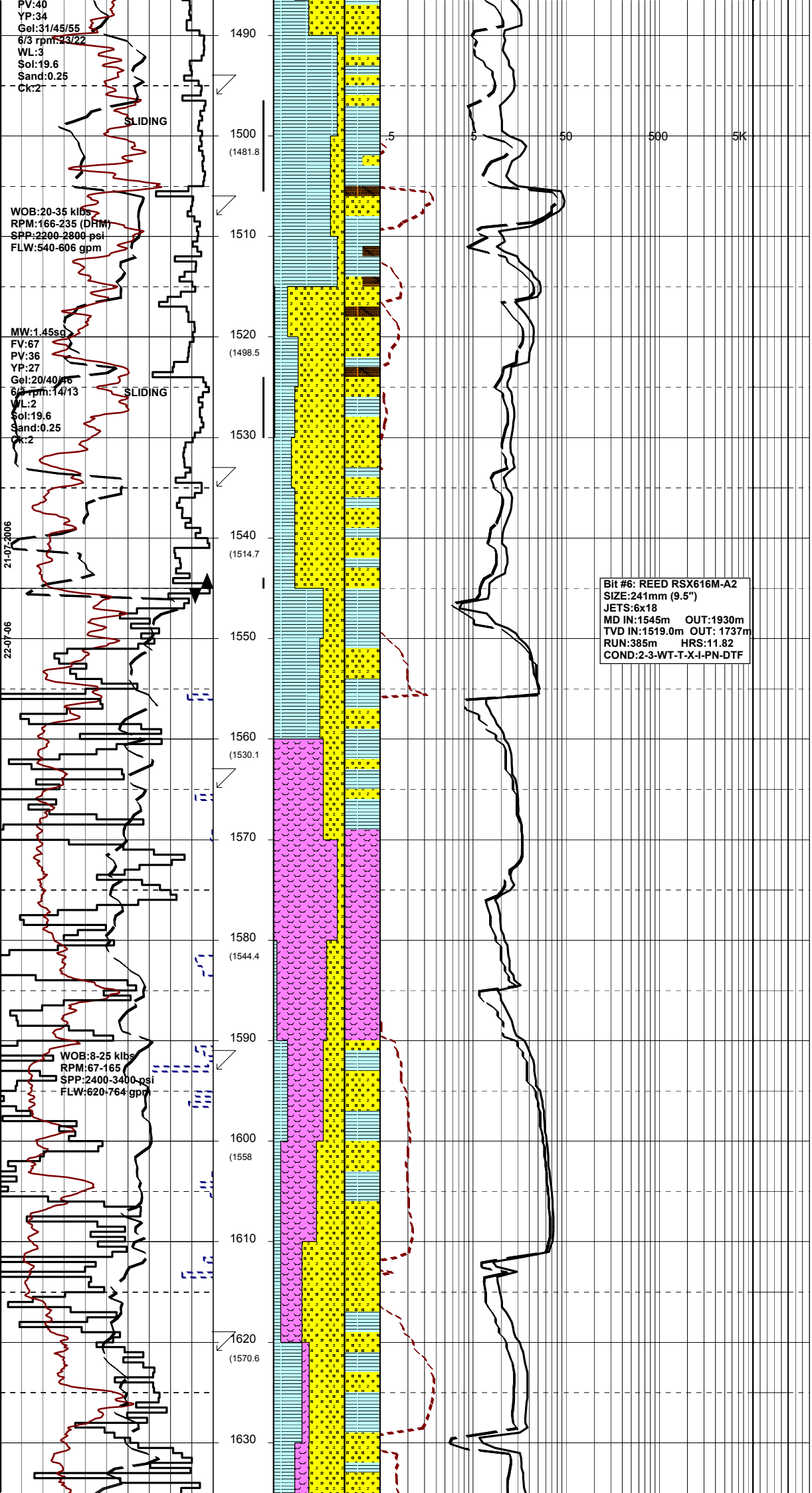
Survey @ 1449.9m: 23.64° 192.6
TVD: 1437.7m.

ARGILLACEOUS SANDSTONE: clr-trnsl,wh,med-crs,occ f aggs, mod srt,sbang-rnd,5-80% arg mt com f carb spks,tr f pyr i/p,lse-fri,pr-fr inf & vis por,no fluor.

CLAYSTONE:dk gry-brnsh gry grysh blk,v slty i/p,tr-com carb spks,occ vf dissem pyr,v sft, sbblky.

SANDSTONE:pl gry-lt gry,occ off wh,trsl-clr,vf-f,occ crs-v crs, mod srt,sbrnd-sbang,tr-com arg mtx,tr-com dissem pyr,lse,tr-com fri,fr inf & vis por,no fluor.

Survey @ 1476.9m: 30.11° 190.5
TVD: 1461.8m.



Survey @ 1481.3m: 30.35° 190.4
TVD: 1465.6m.

SILTY CLAYSTONE:dk gry-brnsl
gry.grysh blk,v slty i/p,tr-
com carb spks,sft-frm,sbblky.

Survey @ 1496.5m: 31.27° 188.8
TVD: 1478.6m.

COAL (Tr):blk,sbvit-dll,slty &
arg i/p,hckly-sbconch frac.

Survey @ 1507.95m: 32.61° 185.
TVD: 1488.3m.

SANDSTONE:clr-trnsl,f-med,rr
crs,mod-wl srt,sbrnd-sbang,tr ca
spks,lse,gd inf por,no fluor.

COAL:blk,sbvit-dll,slty &
arg i/p,hckly-sbconch frac.

SILTY CLAYSTONE:med-dk brns
gry,dk gry,tr carb lams,tr micmic
tr pyr,sft-frm,sbblky.

SANDSTONE:lt gry,clr-trnsl,
off wh,f-crs grs,sbang-sbrnd,
wk calc cmt,off wh-lt gry
arg mtx,tr liths,tr carb spks,
fr-gd inf por,no fluor.

Survey @ 1535.4m: 36.53° 180.2
TVD: 1510.9m.

ARGILLACEOUS SANDSTONE:
lt gry,clr-trnsl,off wh,f-crs,dom
f-med,mod srt,sbang-sbrnd,wk c
cmt,off wh-lt gry arg mtx,tr
carb frags,tr liths,fr-gd inf
por,no fluor.

SILTY CLAYSTONE:med-dk brns
gry,dk gry,dom arg,aren i/p,g/t
SLTST i/p,tr carb spks,sft-frm,
blky-sbblky.

Survey @ 1564.5m: 43.00° 182.3
TVD: 1533.2m.

VOLCANIC:off wh-lt grnsh wh,oc
mott v lt yelsh brn-off wh-lt grn,
com weathered to CLYST.com f-
med qtz grs,tr wethrd feldspar &
grn pyroxene,tr chlorite,vague re
of xin i/p.

SANDSTONE:lt gry,clr-trnsl,
off wh,f-crs grs,pr srt,sbrnd-v
ang,wk calc cmt,mnr arg mtx,tr
liths,tr carb spks,lse-fri,fr-gd
inf & vis por,no fluor.

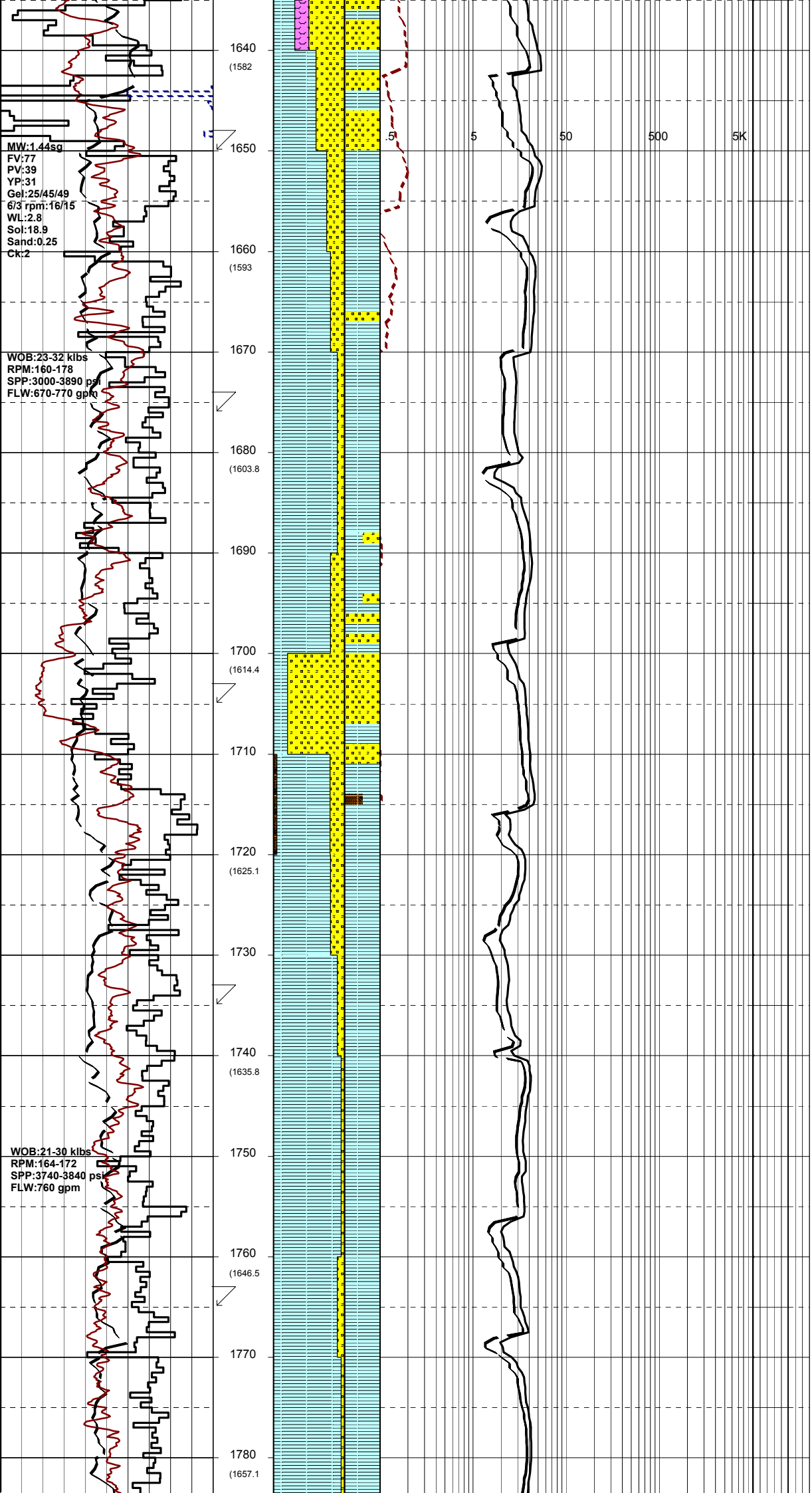
Survey @ 1592.9m: 47.93° 186.0
TVD: 1553.2m.

SILTY CLAYSTONE:med-dk brns
gry,dk gry,dom arg,aren i/p,g/t
SLTST i/p,tr carb spks,sft-frm,
blky-sbblky.

SANDSTONE:lt gry,clr-trnsl,
off wh,f-crs grs,pr srt,sbrnd-v
ang,wk calc cmt,mnr arg mtx,tr
liths,tr carb spks,lse-fri,fr-gd
inf & vis por,no fluor.

Survey @ 1621.4m: 53.5° 189.8A
TVD: 1571.2m.

SILTY CLAYSTONE:med-dk brns
gry,dk gry,dom arg,aren i/p,g/t
SLTST i/p,tr carb spks,sft-frm,
blky-sbblky.


1640
(1582
1650
1660
(1593
1670
1680
(1603.8
1690
1700
(1614.4
1710
1720
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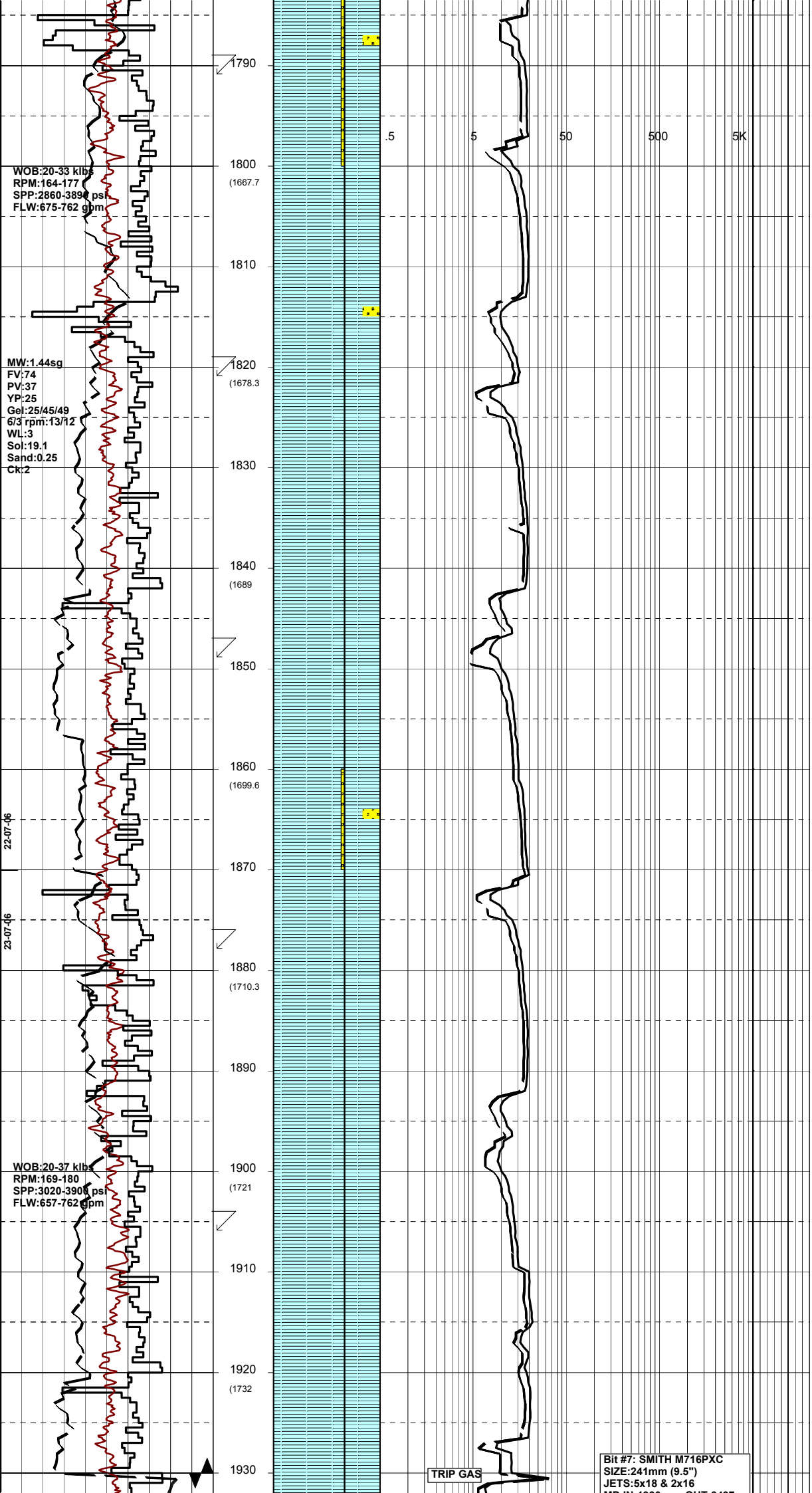
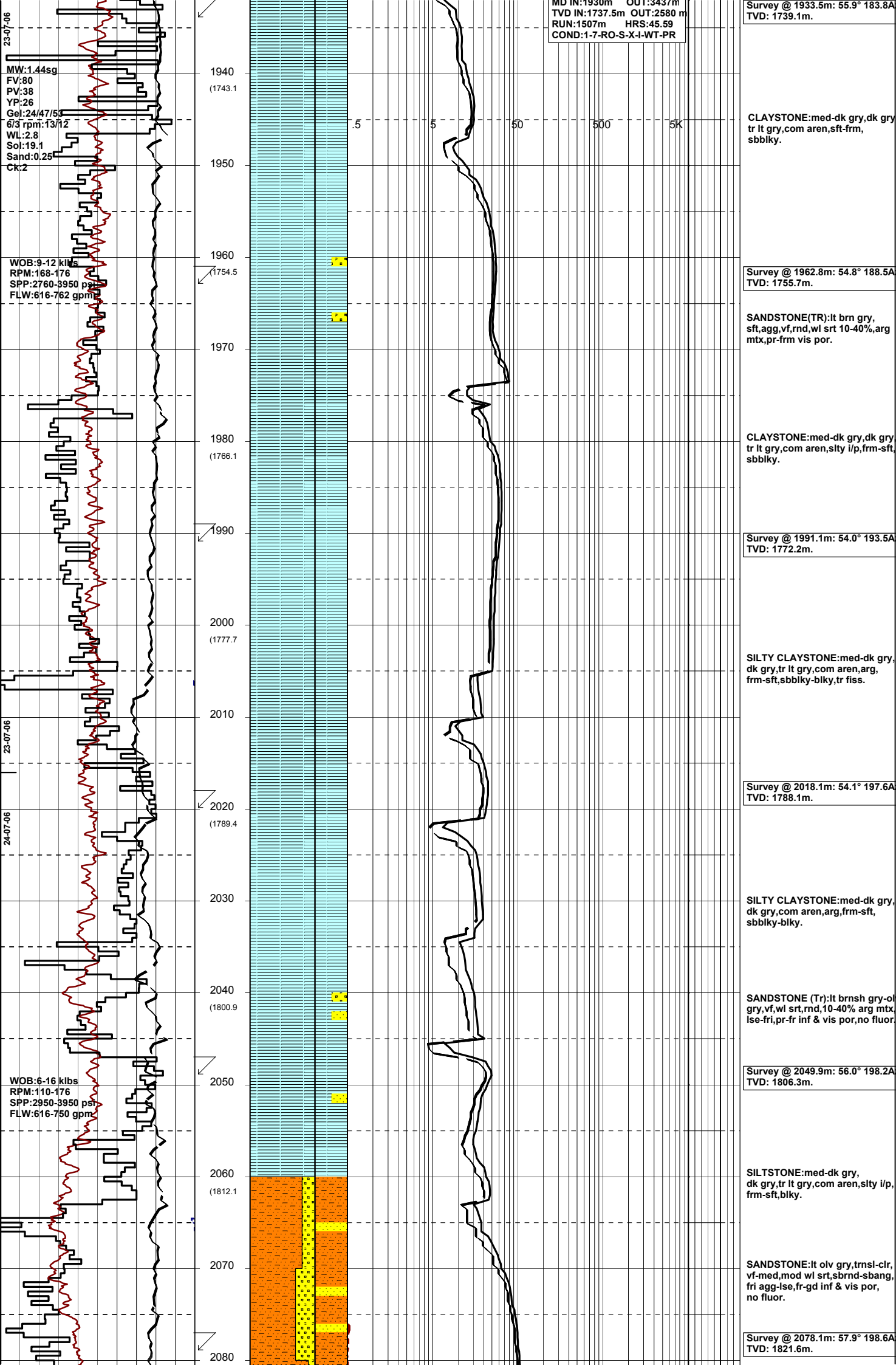
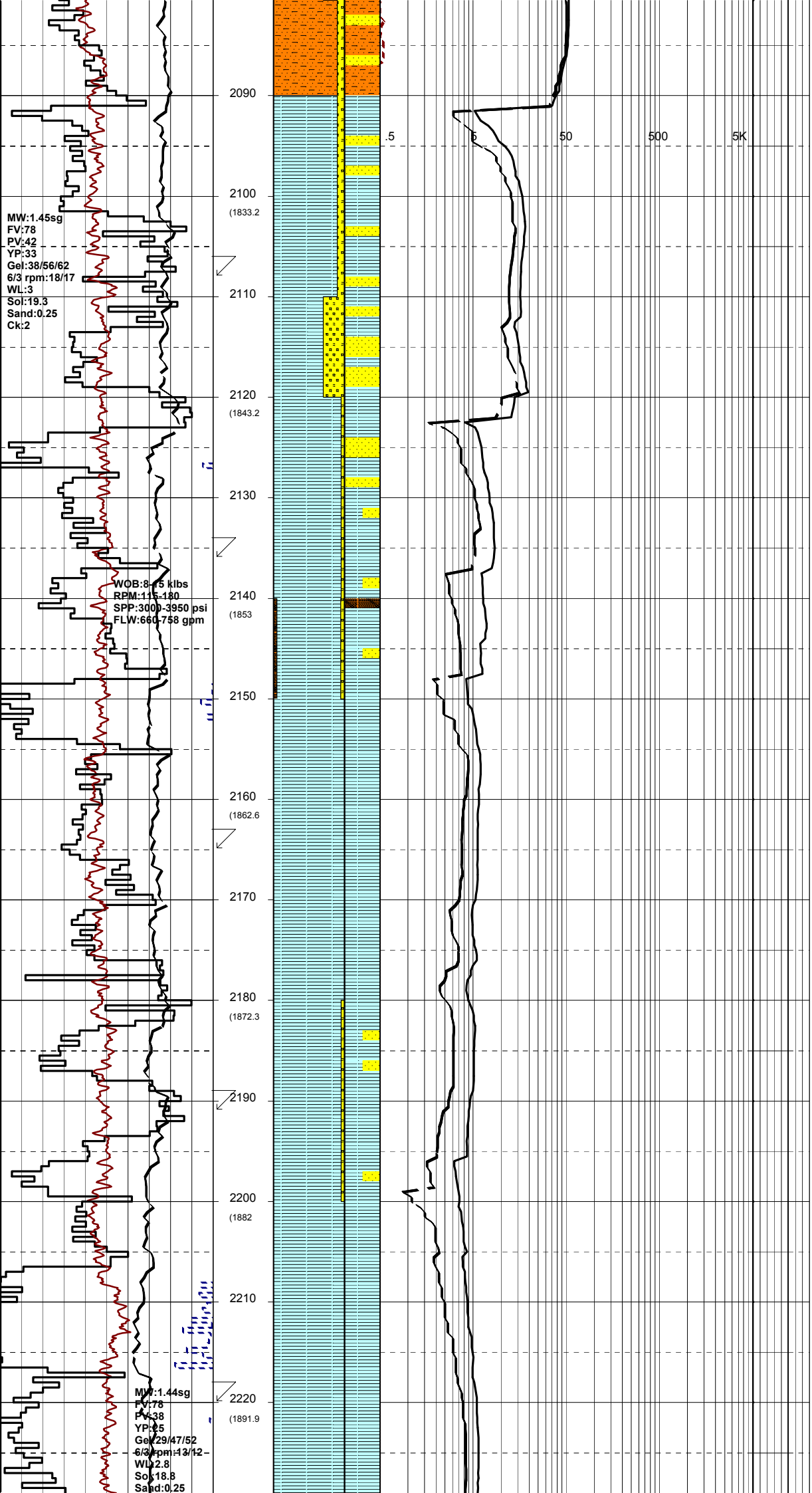
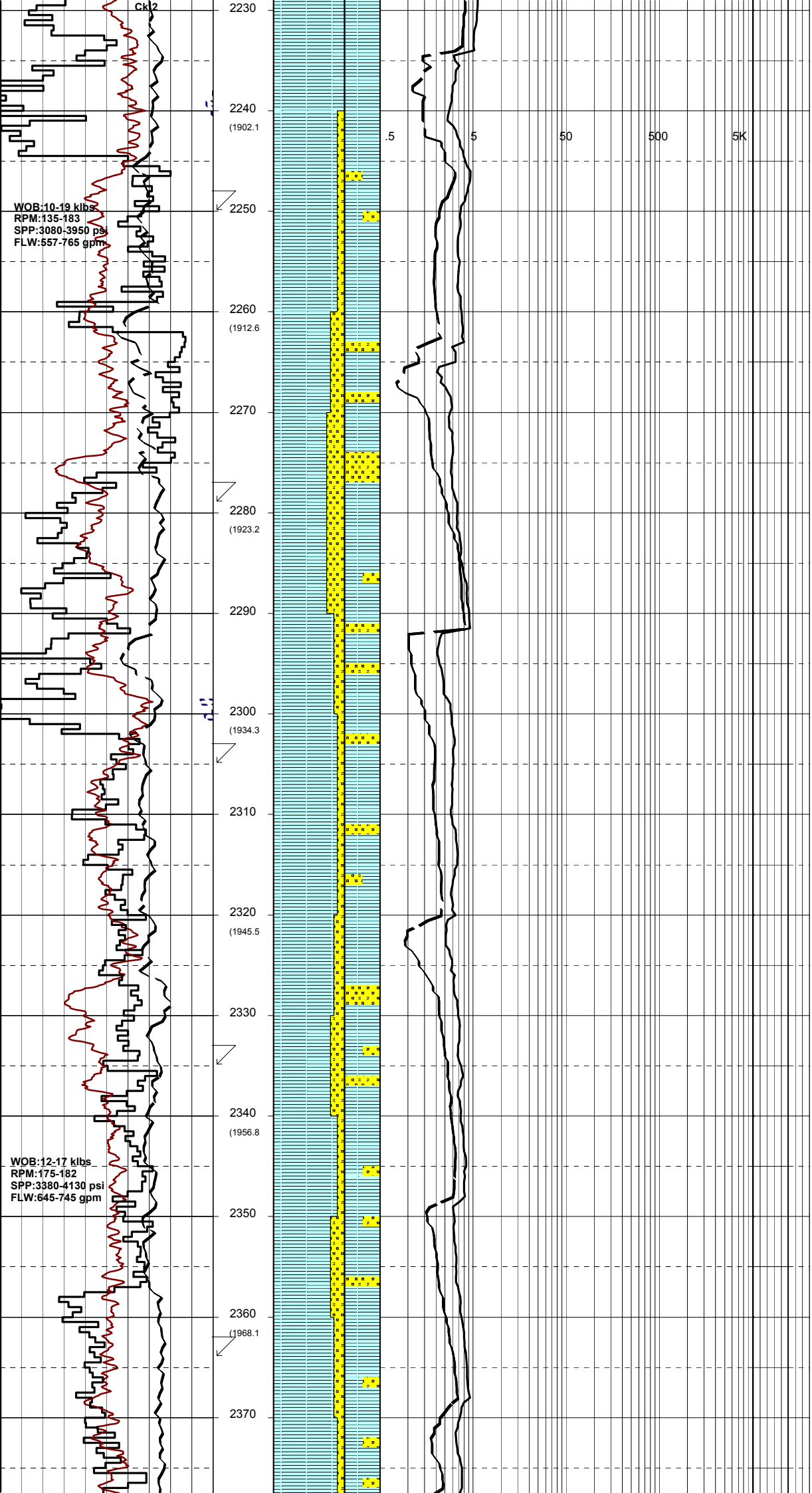
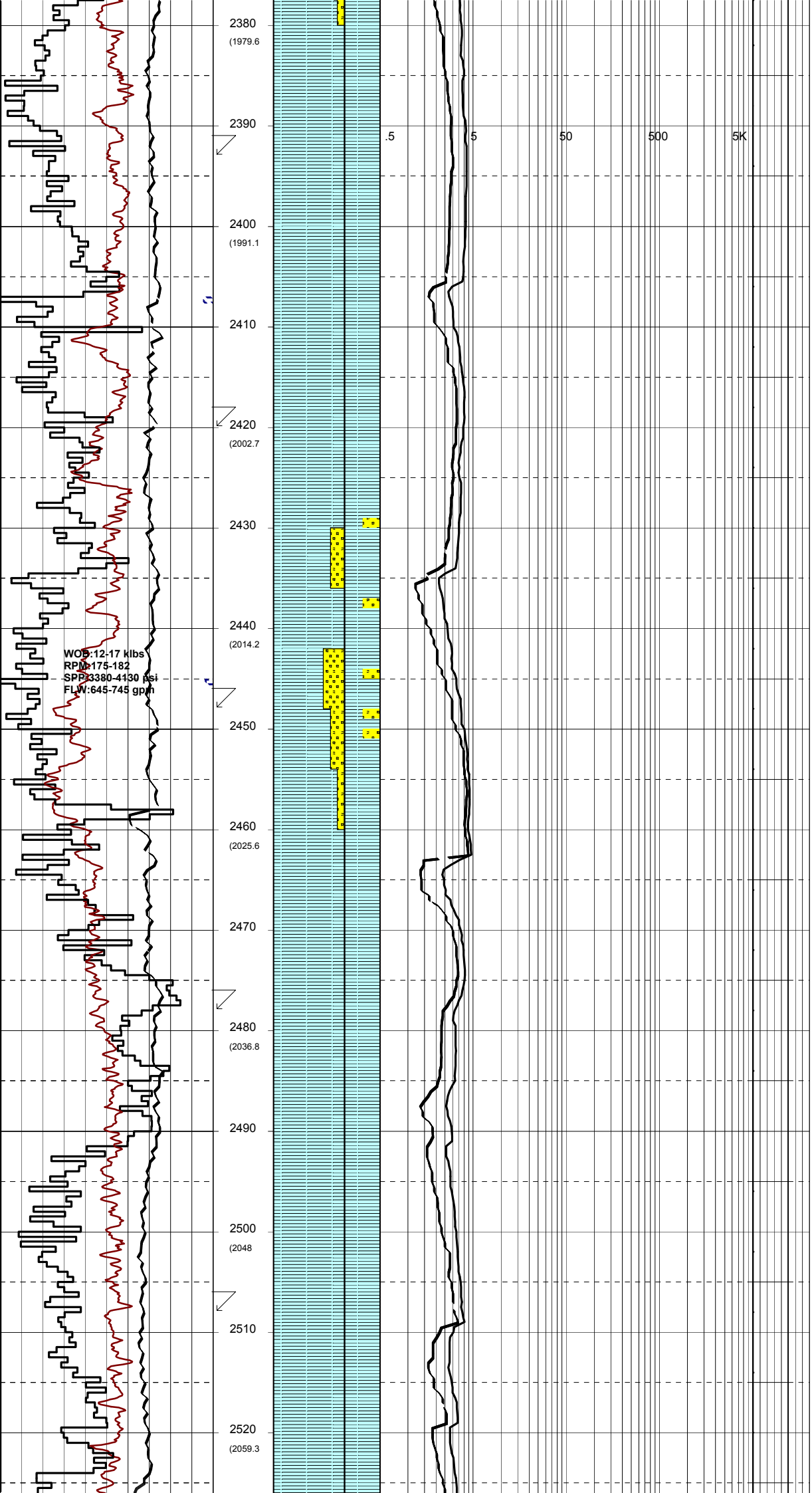
1730
1740
(1635.8
1750
1760
(1646.5
1770
1780
(1657.1
.5
5
50
500
5K
MW:1.44sg
FV:77
PV:39
YP:31
Gel:25/45/49
6/3 rpm:16/15
WL:2.8
Sol:18.9
Sand:0.25
Ck:2
WOB:23-32 klbs
RPM:160-178
SPP:3000-3890 psi
FLW:670-770 gpm
WOB:21-30 klbs
RPM:164-172
SPP:3740-3840 psi
FLW:760 gpm
SANDSTONE:lt gry,clr-trnsl,off wh,med-v crs grs,pr srt,sbrnd-v ang,wk sil cmt,mnr arg mtx,tr pyr,tr carb lams,tr liths,com g/t ARG SST,lse-fri,fr-gd inf & vis por,no fluor.
Survey @ 1649.1m: 57.52° 191.9
TVD: 1586.9m.
CLAYSTONE:brnsh gry,sft-frm sbblky-blky,aren,arg,tr carb spks
Survey @ 1676.2m: 57.60° 191.2
TVD: 1601.5m.
SILTY CLAYSTONE:med-brnsh gry,dk gry,dom arg,aren i/p, g/t SLTST i/p,tr carb spks, sft-frm,blky-sbblky.
Survey @ 1705.3m: 57.87° 191.1
TVD: 1617m.
SANDSTONE:lt gry,clr-trnsl,off wh,med-v crs grs,pr srt,sbrnd-v ang,wk sil cmt,mnr arg mtx,tr pyr,tr carb lams,tr liths,dom lse-fri,fr-gd inf & vis por,no fluor.
COAL:blk,sbvit-dll,slty & arg i/p,hckly-sbconch frac.
Survey @ 1735.7m: 57.57° 191.1
TVD: 1633.21m.
SILTY CLAYSTONE:med-dk brns gry,dk gry,dom arg,aren i/p,g/t SLTST i/p,tr carb spks,sft-frm, blky-sbblky.
Survey @ 1765m: 57.99° 190Az
TVD: 1648.8m.
SILTY CLAYSTONE:med-dk brns gry,dk gry,dom arg,aren i/p,g/t SLTST i/p,tr carb spks,sft-frm, blky-sbblky.

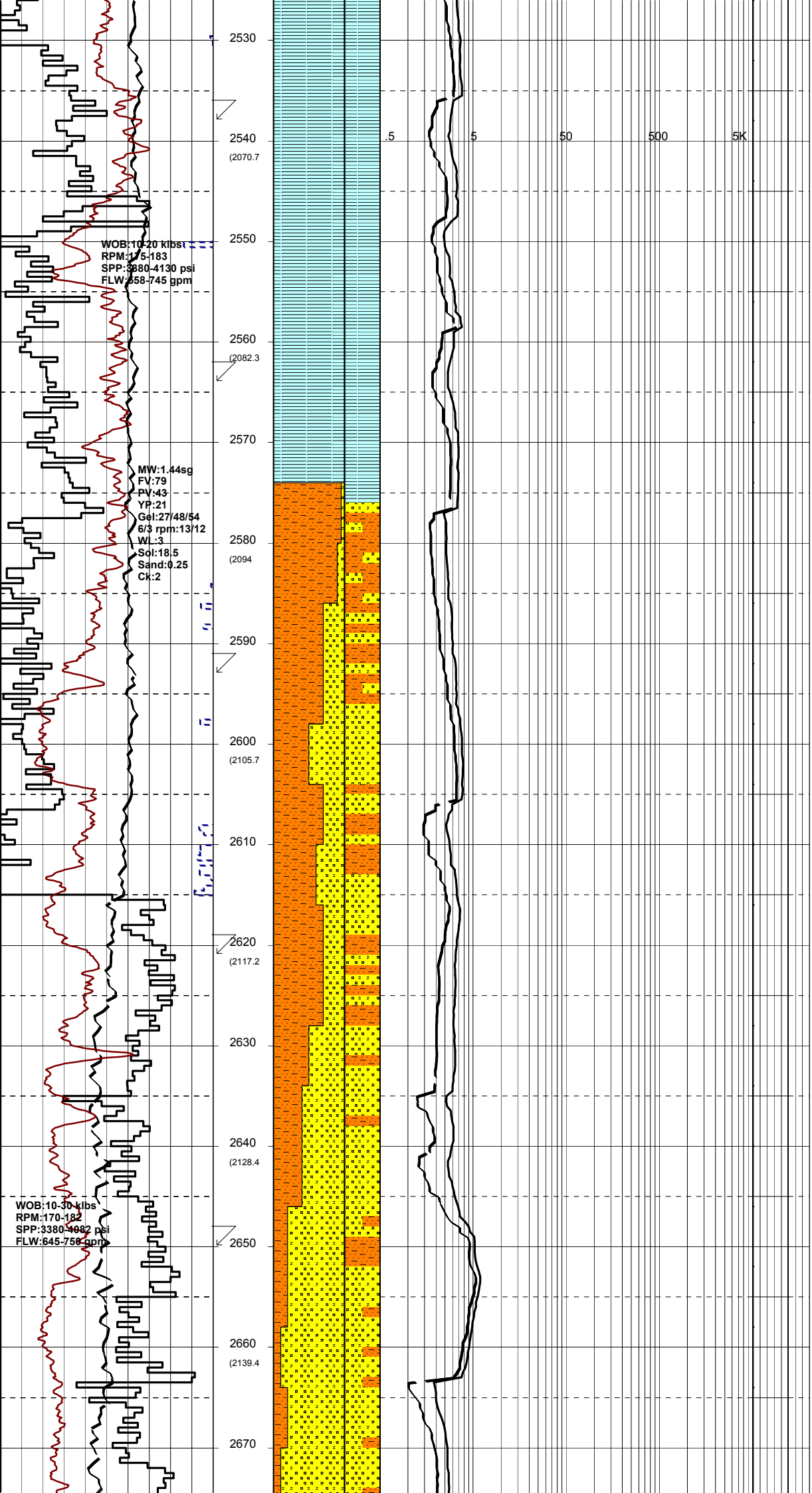

1790
1800
(1667.7
1810
1820
(1678.3
1830
1840
(1689
1850
1860
(1699.6
1870
1880
(1710.3
1890
1900
(1721
1910
1920
(1732
1930
.5
5
50
500
5K
WOB:20-33 klbs
RPM:164-177
SPP:2860-3890 psi
FLW:675-762 gpm
MW:1.44sg
FV:74
PV:37
YP:25
Gel:25/45/49
6/3 rpm:13/12
WL:3
Sol:19.1
Sand:0.25
Ck:2
WOB:20-37 klbs
RPM:169-180
SPP:3020-3900 psi
FLW:657-762 gpm
22-07-06
23-07-06
TRIP GAS
Survey @ 1791.8m: 57.9° 188.9A
TVD: 1663.1m.
SANDSTONE:wh-lt gry,med-crs,
mod srt,sbrnd-sbang,arg mtx,do
lse,fr-gd inf por,no fluor.
SILTY CLAYSTONE:med-dk gry,
dom arg,aren i/p,SLTST i/p,
tr carb spks,tr liths,sft-frm,
sbblky,sbfiss i/p.
Survey @ 1821.3m: 57.9° 186.25
TVD: 1678.7m.
CLAYSTONE:med-dk gry,dom a
aren i/p,tr carb spks,tr liths,
sft-frm,sbblky,sbfiss i/p.
Survey @ 1849.2m: 57.9° 182.8A
TVD: 1693.6m.
SANDSTONE:clr-trnsl,vf-f,tr
crs,mod wl srt,sbrnd-sbang,
dom fri aggs,com lse,pr inf
por,no fluor.
Survey @ 1877.5m: 57.9° 182.4A
TVD: 1708.6m.
CLAYSTONE:med-dk gry,dk gry
tr lt gry,com aren,g/t Slty CLYST
frm,sbblky-blky,com-tr fiss.
Survey @ 1906.2m: 57.15° 180.9
TVD: 1724.0m.
CLAYSTONE:med-dk gry,dk gry
tr lt gry,com aren,frm,sbblky-
blky.
Bit #7: SMITH M716PXC
SIZE:241mm (9.5")
JETS:5x18 & 2x16

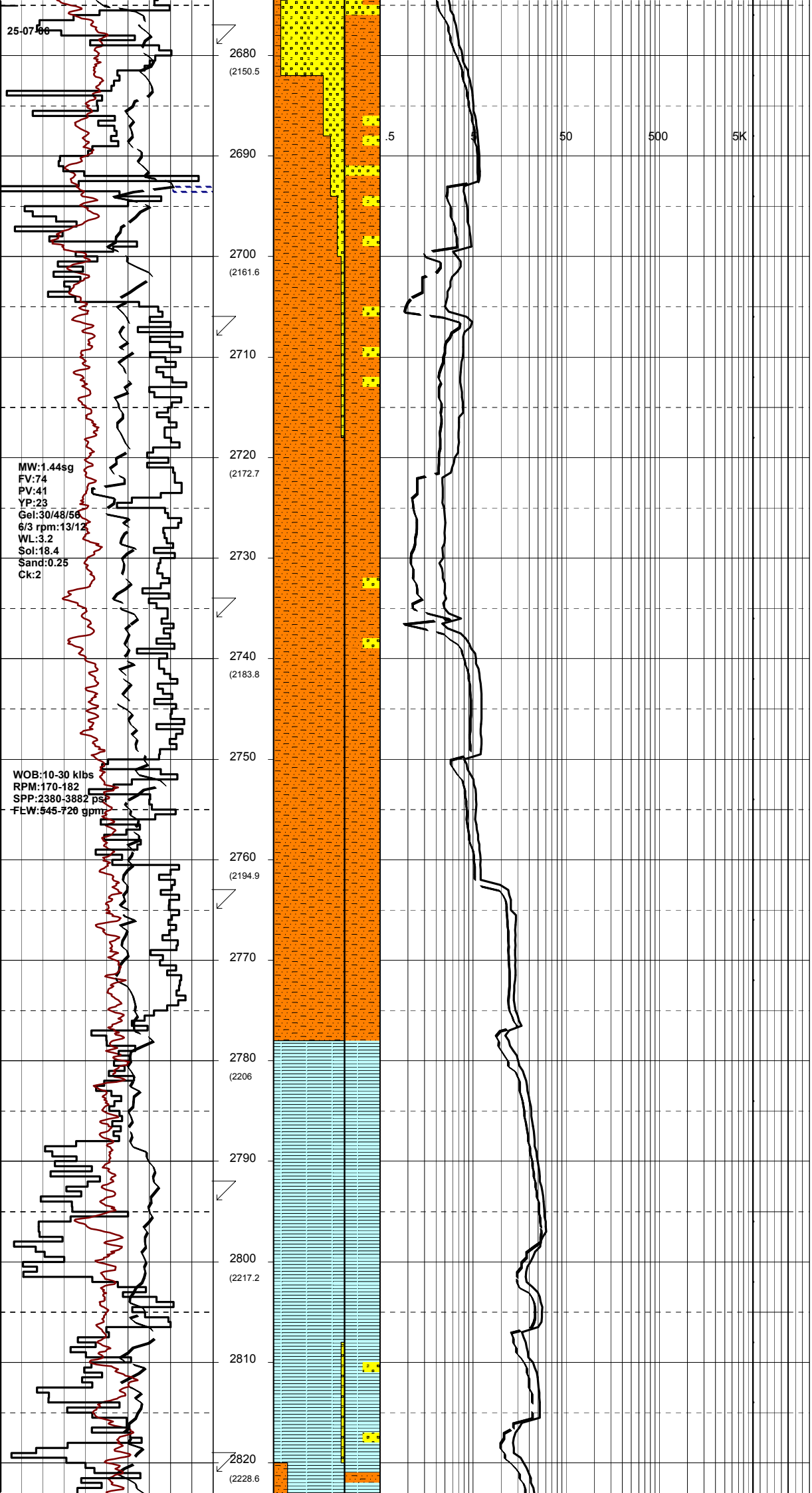

MD IN:1930m OUT:3437m
TVD IN:1737.5m OUT:2580 m
RUN:1507m HRS:45.59
COND:1-7-RO-S-X-I-WT-PR
23-07-06
MW:1.44sg
FV:80
PV:38
YP:26
Gel:24/47/53
6/3 rpm:13/12
WL:2.8
Sol:19.1
Sand:0.25
Ck:2
1940
(1743.1
1950
1960
(1754.5
WOB:9-12 klbs
RPM:168-176
SPP:2760-3950 psi
FLW:616-762 gpm
1970
1980
(1766.1
1990
2000
(1777.7
2010
23-07-06
2020
(1789.4
24-07-06
2030
2040
(1800.9
WOB:6-16 klbs
RPM:110-176
SPP:2950-3950 psi
FLW:616-750 gpm
2050
2060
(1812.1
2070
2080
.5
5
50
500
5K
Survey @ 1933.5m: 55.9° 183.8A
TVD: 1739.1m.
CLAYSTONE:med-dk gry,dk gry
tr lt gry,com aren,sft-frm,
sbblky.
Survey @ 1962.8m: 54.8° 188.5A
TVD: 1755.7m.
SANDSTONE(TR):lt brn gry,
sft,agg,vf,rnd,wl srt 10-40%,arg
mtx,pr-frm vis por.
CLAYSTONE:med-dk gry,dk gry
tr lt gry,com aren,slty i/p,frm-sft,
sbblky.
Survey @ 1991.1m: 54.0° 193.5A
TVD: 1772.2m.
SILTY CLAYSTONE:med-dk gry,
dk gry,tr lt gry,com aren,arg,
frm-sft,sbblky-blky,tr fiss.
Survey @ 2018.1m: 54.1° 197.6A
TVD: 1788.1m.
SILTY CLAYSTONE:med-dk gry,
dk gry,com aren,arg,frm-sft,
sbblky-blky.
SANDSTONE (Tr):lt brnsh gry-ol
gry,vf,wl srt,rnd,10-40% arg mtx,
lse-fri,pr-fr inf & vis por,no fluor.
Survey @ 2049.9m: 56.0° 198.2A
TVD: 1806.3m.
SILTSTONE:med-dk gry,
dk gry,tr lt gry,com aren,slty i/p,
frm-sft,blky.
SANDSTONE:lt olv gry,trnsl-clr,
vf-med,mod wl srt,sbrnd-sbang,
fri agg-lse,fr-gd inf & vis por,
no fluor.
Survey @ 2078.1m: 57.9° 198.6A
TVD: 1821.6m.

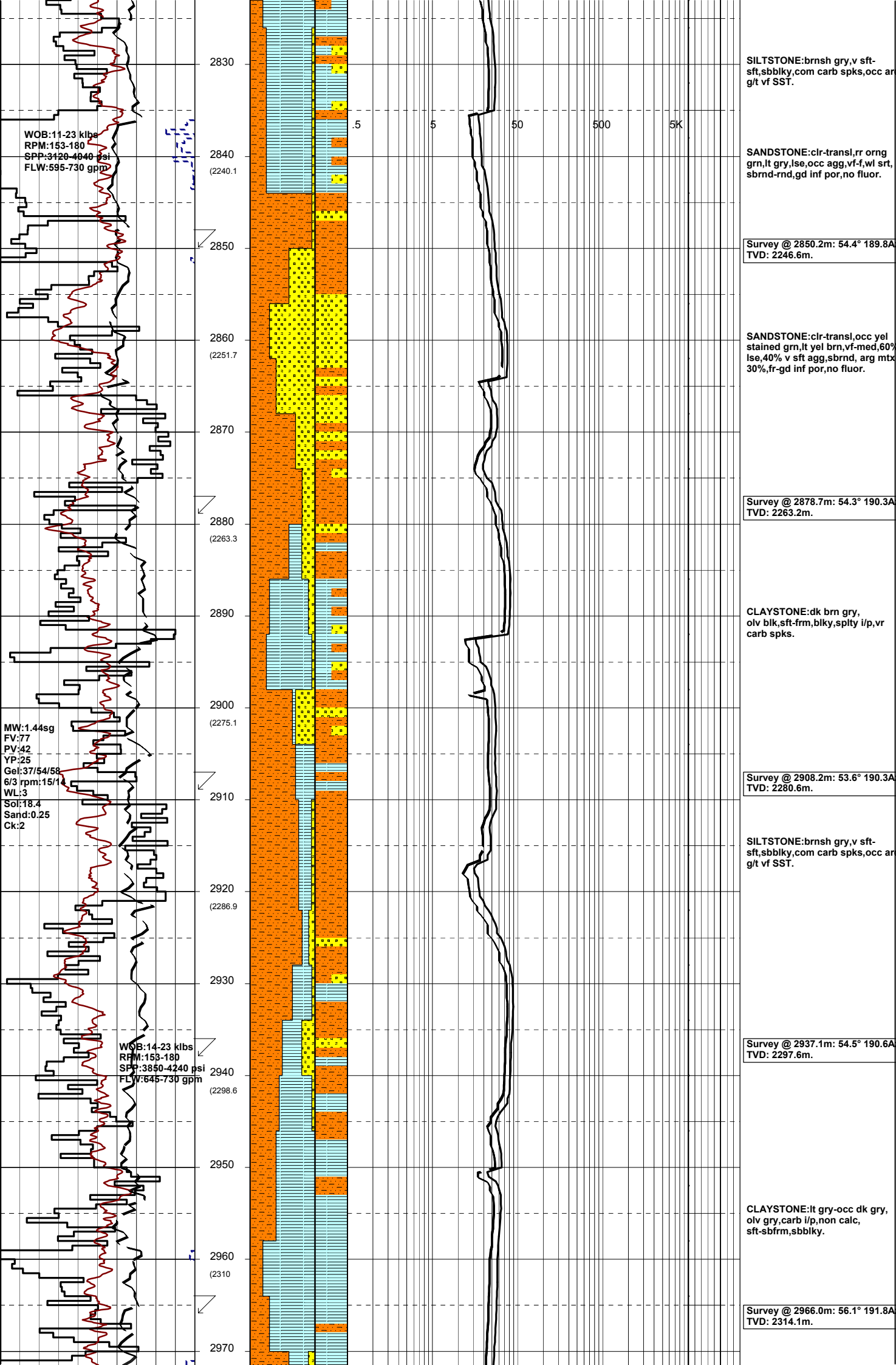

2090
2100
(1833.2
2110
2120
(1843.2
2130
2140
(1853
2150
2160
(1862.6
2170
2180
(1872.3
2190
2200
(1882
2210
2220
(1891.9
.5
5
50
500
5K
MW:1.45sg
FV:78
PV:42
YP:33
Gel:38/56/62
6/3 rpm:18/17
WL:3
Sol:19.3
Sand:0.25
Ck:2
WOB:8-15 klbs
RPM:115-180
SPP:3000-3950 psi
FLW:660-758 gpm
MW:1.44sg
FV:78
PV:38
YP:25
Gel:29/47/52
6/3 rpm:13/12
WL:2.8
Sol:18.8
Sand:0.25
CLAYSTONE:med-dk gry, tr lt gry,com aren,slty i/p, frm-sft,blky.
Survey @ 2107.7m: 60.1° 198.2A
TVD: 1836.9m.
SANDSTONE:lt olv gry,tr trnsl-cl
vf-f,wl srt,sbrnd-sbang,slty mtx,
fri agg-lse,fr inf & vis por,no fluo
CLAYSTONE:med-dk gry, com aren,slty i/p,frm-sft, blky,tr fiss.
Survey @ 2136.3m: 61.1° 197.3A
TVD: 1850.9m.
COAL:blk,vit,bri-frm,blky,hckly.
SANDSTONE (Tr):lt olv gry,tr trn
clr,vf-f,wl srt,sbrnd-sbang,slty m
fri agg-lse,fr inf & vis por,no fluo
Survey @ 2165.3m: 61.3° 194.6A
TVD: 1864.9m.
CLAYSTONE:med-dk gry, com aren,slty i/p,frm-sft,blky-fis
Survey @ 2191.8m: 61.2° 192.77
TVD: 1877.7m.
CLAYSTONE:med-dk gry,tr lt gry,com aren,slty i/p,g/t SLTST, frm-sft,blky-fiss.
Survey @ 2221.1m: 59.3° 191.6A
TVD: 1892.2m.

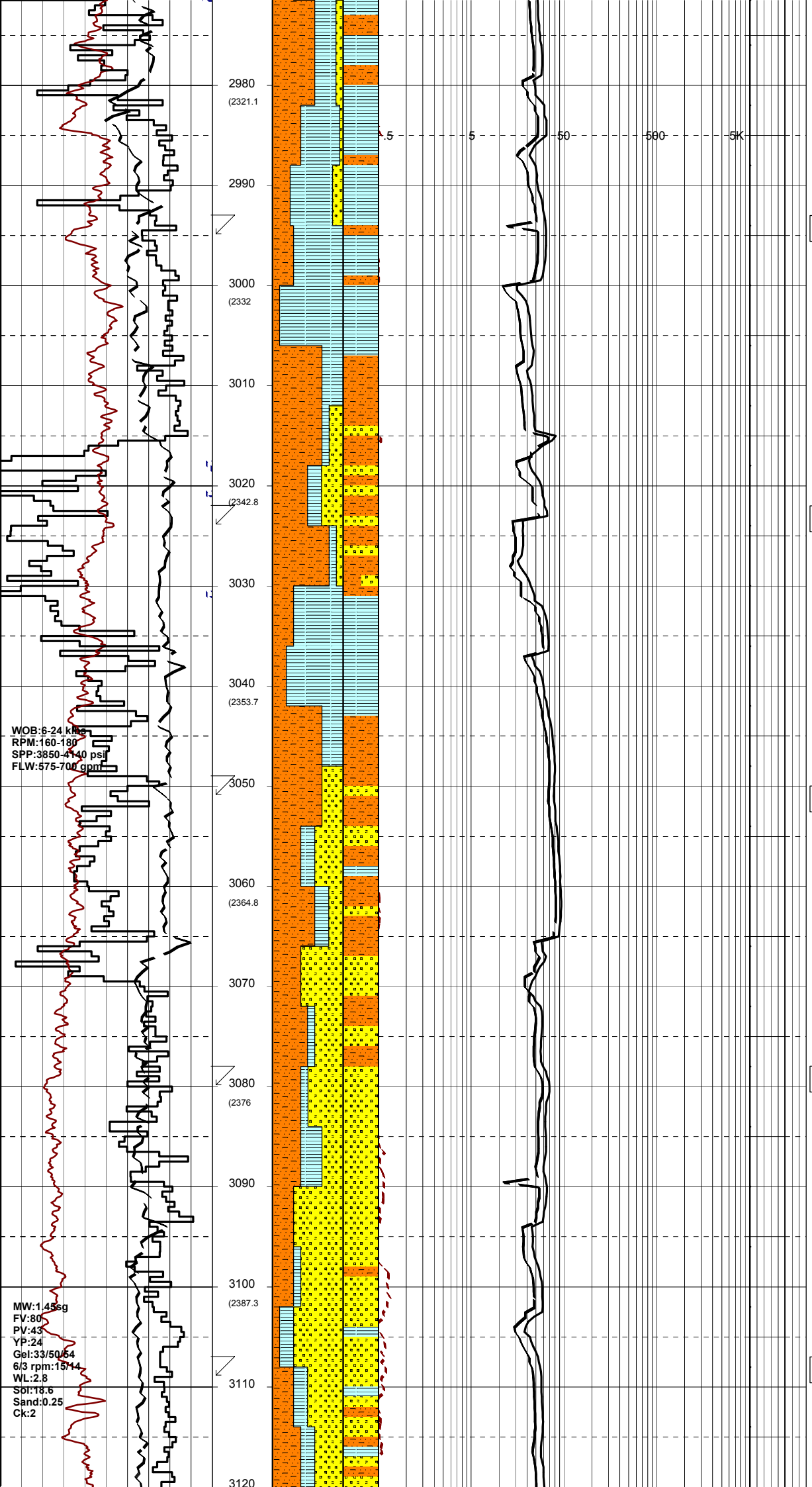

Ck12
2230
2240
(1902.1
2250
2260
(1912.6
2270
2280
(1923.2
2290
2300
(1934.3
2310
2320
(1945.5
2330
2340
(1956.8
2350
2360
(1968.1
2370
.5
5
50
500
5K
WOB:10-19 klbs
RPM:135-183
SPP:3080-3950 psi
FLW:557-765 gpm
WOB:12-17 klbs
RPM:175-182
SPP:3380-4130 psi
FLW:645-745 gpm
CLAYSTONE:med-dk gry,tr lt gry,com aren,g/t SLTST,tr carb spks,sft-frm,blky-fiss.
Survey @ 2250.0m: 57.1° 191.0A
TVD: 1907.4m.
CLAYSTONE:lt brn gry, brn gry,v sft-frm,blky-sbblky,rr f slty,carb grn & lam.
Survey @ 2279.1m: 56.5° 189.9A
TVD: 1923.4m.
SANDSTONE:lt olv gry,tr trnsl-clr,vf-f,wl srt,sbrnd-sbang,slty m
fri-lse,fr inf & vis por,no fluor.
Survey @ 2305.7m: 55.9° 190.8A
TVD: 1938.2m.
SILTY CLAYSTONE:lt gry, com brnsh gry-lt brnsh gry,rr dk
gry,v sft-frm,blky-sbblky,aren,co
carb spks,rr carb lams,g/t clay
stone i/p.
SANDSTONE:lt gry-trnsl,tr-clr, vf-f,mod wl srt,sbrnd-sbang,wk
cmt,tr slty mtx,lse-fri,fr inf & vis por,no fluor.
Survey @ 2305.7m: 55.9° 190.5A
TVD: 1954.63.2m.
SILTSTONE:lt-dk gry,occ brnsh gry,sft-med,sbblky-blky, rr f sand,rr carb spks.
SANDSTONE:lt gry-trnsl,yelsh g
wh,f-med grs,mod srt,sbang-sbr
wk sil cmt,tr pyr,lse-fri,pr vis por,no fluor.
Survey @ 2363.3m: 55.3° 190.1A
TVD: 1970.7m.
SILTSTONE:lt gry,com brnsh

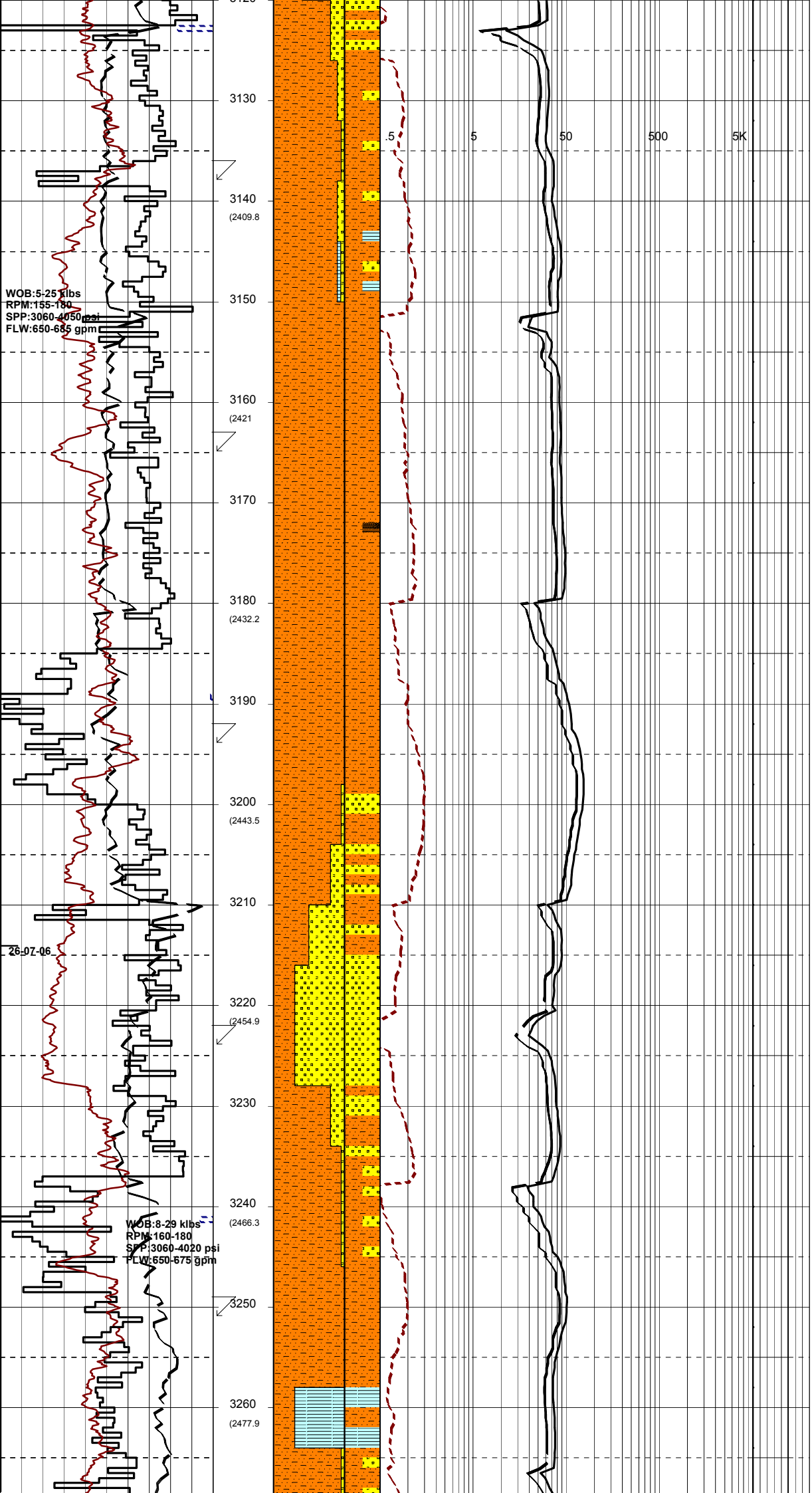

2380
(1979.6
2390
2400
(1991.1
2410
2420
(2002.7
2430
2440
(2014.2
2450
2460
(2025.6
2470
2480
(2036.8
2490
2500
(2048
2510
2520
(2059.3
.5
5
50
500
5K
WOB:12-17 klbs
RPM:175-182
SPP:3380-4130 psi
FLW:645-745 gpm
gry-lt brnsh gry,rr dk gry,v sft-
frm,sbblky-blky,aren,com carb s
rr carb,lamina g/t siltstone i/p.
Survey @ 2392.1m: 54.7° 190.4A
TVD: 1987.2m.
CLAYSTONE:lt-dk gry,brnsh gry
v sft-sft,blky-sbblky,rr med-f sar
rr carb spks.
Survey @ 2420.6m: 54.1° 190.3A
TVD: 2003.8m.
SANDSTONE:lt gry-wh,v sft agg
tr lse,med grn,sbrnd,mod srt,tr p
arg,wk sil cmt,pr vis por,g/t
claystone i/p,no fluor.
Survey @ 2450.1m: 55.9° 190.7A
TVD: 2020.7m.
SANDSTONE:lt gry-trnsl,yel gry,
wh,tr clr,f-med grs,mod srt,
sbang-sbrnd,wk sil cmt, tr slty
mtx,tr liths,tr pyr,lse-fri,
pr vis por,no fluor.
CLAYSTONE:lt gry-wh,rr brnsh
gry,v sft-sft,blky-sbblky,com f-vf
sand lam,rr carb spks & lam.
Survey @ 2478.7m: 55.9° 190.7A
TVD: 2036.7m.
CLAYSTONE:dk gry,med-hd,
blky-sbblky,com f sand,rr carb s
Survey @ 2507.9m: 55.6° 190.4A
TVD: 2053.1m.
CLAYSTONE:med gry,occ lt gry,
med-hd,blky,rr carb spks.


2530
2540
(2070.7
2550
2560
(2082.3
2570
2580
(2094
2590
2600
(2105.7
2610
2620
(2117.2
2630
2640
(2128.4
2650
2660
(2139.4
2670
.5
5
50
500
5K
WOB:10-20 klbs
RPM:175-183
SPP:3380-4130 psi
FLW:658-745 gpm
MW:1.44sg
FV:79
PV:43
YP:21
Gel:27/48/54
6/3 rpm:13/12
WL:3
Sol:18.5
Sand:0.25
Ck:2
WOB:10-30 klbs
RPM:170-182
SPP:3380-4082 psi
FLW:645-756 gpm
Survey @ 2536.5m: 55.0° 190.6A
TVD: 2069.4m.
CLAYSTONE:dk gry.occ lt gry,
med-hd,blky,rr carb spks.
Survey @ 2564.1m: 54.3° 191.0A
TVD: 2085.3m.
SANDSTONE:clr-trnsl,lt gry-
wh,yel gry in agg,dom lse,occ sf
agg,f-med,sbrnd-sbang,mod wl
tr carb spks,arg,wk sil cmt,pr vis
por in agg,gd inf por in lse,
no fluor.
Survey @ 2593.1m: 53.6° 191.1A
TVD: 2102.4m.
SILTSTONE:lt gry,dk gry,sft,
sbblky-blky,diss f sand,mnr carb
spks.
Survey @ 2622.0m: 56.0° 189.8A
TVD: 2119m.
SANDSTONE:off wh,lt yelsh gry,
80% sft agg,20% lse,vf-med,mod
srt,sbang-rnd,40-80%,arg mtx,
com lith & carb grn,tr feld grn,
pr inf por,no fluor.
Survey @ 2650.4m: 56.5° 189.7A
TVD: 2134.8m.
SILTSTONE:brnsh gry,brnsh
blk,v sft-frm,sbblky-blky,sbfiss
i/p,tr carb spks,occ v carb,
intercalated with vf sand i/p.


25-07-06
2680
(2150.5
2690
2700
(2161.6
2710
2720
(2172.7
2730
2740
(2183.8
2750
2760
(2194.9
2770
2780
(2206
2790
2800
(2217.2
2810
2820
(2228.6
.5
5
50
500
5K
MW:1.44sg
FV:74
PV:41
YP:23
Gel:30/48/56
6/3 rpm:13/12
WL:3.2
Sol:18.4
Sand:0.25
Ck:2
WOB:10-30 klbs
RPM:170-182
SPP:2380-3882 psi
FLW:545-720 gpm
Survey @ 2679.3m: 56.5° 190.4A
TVD: 2150.8m.
SANDSTONE:off wh-lt yelsh gry
60% sft agg,40% lse,vf-med,dom
med,mod srt,sbang-rnd,40-80%
mtx,com lith & carb grn,feld grn,
occ interlam silt,pr vis por,
no fluor.
Survey @ 2707.9m: 56.1° 189.9A
TVD: 2166.6m.
SILTSTONE:dk brnsh gry,
sft-frm,sbblky-blky,com carb sp
occ v carb arg i/p.
Survey @ 2737.1m: 56.3° 190.1A
TVD: 2182.9m.
SILTSTONE:brnsh gry,dk brn gr
v sft-frm,blky,com carb spks,occ
sand lam,arg i/p,occ g/t vf slty
sand.
Survey @ 2765.7m: 56.3° 190.1A
TVD: 2198.7m.
SILTSTONE:dk brnsh gry,
brnsh/blk,sft-frm,sbblky-blky,oc
splty,tr carb spks,rr brnsh gry
aren.
Survey @ 2794.3m: 55.9° 190.3A
TVD: 2214.66m.
CLAYSTONE:dk brn gry,
olv blk,sft-frm,blky,splty i/p,vr
carb spks.
Survey @ 2821.3m: 55.2° 190.3A
TVD: 2230.0m.


2830
2840
(2240.1
2850
2860
(2251.7
2870
2880
(2263.3
2890
2900
(2275.1
2910
2920
(2286.9
2930
2940
(2298.6
2950
2960
(2310
2970
.5
5
50
500
5K
WOB:11-23 klbs
RPM:153-180
SPP:3120-4040 psi
FLW:595-730 gpm
MW:1.44sg
FV:77
PV:42
YP:25
Gel:37/54/58
6/3 rpm:15/14
WL:3
Sol:18.4
Sand:0.25
Ck:2
WOB:14-23 klbs
RPM:153-180
SPP:3850-4240 psi
FLW:645-730 gpm
SILTSTONE:brnsh gry,v sft-sft,sbblky,com carb spks,occ ar
g/t vf SST.
SANDSTONE:clr-transl,rr orng grn,lt gry,lse,occ agg,vf-f,wl srt, sbrnd-rnd,gd inf por,no fluor.
Survey @ 2850.2m: 54.4° 189.8A
TVD: 2246.6m.
SANDSTONE:clr-transl,occ yel stained grn,lt yel brn,vf-med,60% lse,40% v sft agg,sbrnd, arg mtx 30%,fr-gd inf por,no fluor.
Survey @ 2878.7m: 54.3° 190.3A
TVD: 2263.2m.
CLAYSTONE:dk brn gry, olv blk,sft-frm,blky,splty i/p,vr carb spks.
Survey @ 2908.2m: 53.6° 190.3A
TVD: 2280.6m.
SILTSTONE:brnsh gry,v sft-sft,sbblky,com carb spks,occ ar
g/t vf SST.
Survey @ 2937.1m: 54.5° 190.6A
TVD: 2297.6m.
CLAYSTONE:lt gry-occ dk gry, olv gry,carb i/p,non calc, sft-sbfrm,sbblky.
Survey @ 2966.0m: 56.1° 191.8A
TVD: 2314.1m.


2980
(2321.1
2990
3000
(2332
3010
3020
(2342.8
3030
3040
(2353.7
3050
3060
(2364.8
3070
3080
(2376
3090
3100
(2387.3
3110
3120
.5
5
50
500
5K
WOB:6-24 klbs
RPM:160-180
SPP:3850-4140 psi
FLW:575-700 gpm
MW:1.45sg
FV:80
PV:43
YP:24
Gel:33/50/54
6/3 rpm:15/14
WL:2.8
Sol:18.6
Sand:0.25
Ck:2
SILTSTONE:lt gry-dk gry,arg, tr carb spks,sft,sbblky
Survey @ 2994.9m: 57.4° 191.7A
TVD: 2329.9m.
CLAYSTONE:lt gry-med gry,rr brnsh gry,yelsh gry,massive, splintery,sft-frm,blky-sbblky.
SILTSTONE:lt gry-med gry,dk gry,arg,tr carb spks,tr liths frags,com carb spks & lams, sft,frm i/p,sbblky.
SANDSTONE:lt gry,off wh, dom sft agg 70%,lse 30%,vf-f,occ med grn,mod-wl srt,sbrnd-rnd,a mtx(20-30%),f-gd vis por.
Survey @ 3023.9m: 57.1° 190.4A
TVD: 2345.6m.
SILTSTONE:dk-med gry,v sft, blky,arg,aren i/p,tr carb spks.
CLAYSTONE:lt gry,frm,blky-sbblky,homogenous.
Survey @ 3051.3m: 56.2° 190.2A
TVD: 2360.6m.
SANDSTONE:lt gry-wh,dom agg vf-f,occ med,wl srt,rnd,arg, fr-gd vis por,no fluor.
SILTSTONE:med gry,v sft,blky, arg,aren i/p,tr carb spks.
Survey @ 3079.7m: 55.6° 189.9A
TVD: 2376.5m.
CLAYSTONE:lt-dk gry,com brn gry,olv gry,splty,frm,blky-sbblky.
SANDSTONE:lt olv gry, mot lt grnsh gry/olv gry,dom v s agg,vf-f,occ med,wl srt,sbrnd-rn 40-70% arg mtx,tr carb grn,feld grn,tr chlorite stained mtx,pr-f vis por.
Survey @ 3108.82m: 55.9° 189.2
TVD: 2392.9m.
SILTSTONE:med gry,v sft, blky,arg,aren i/p,tr carb spks.


3130
3140
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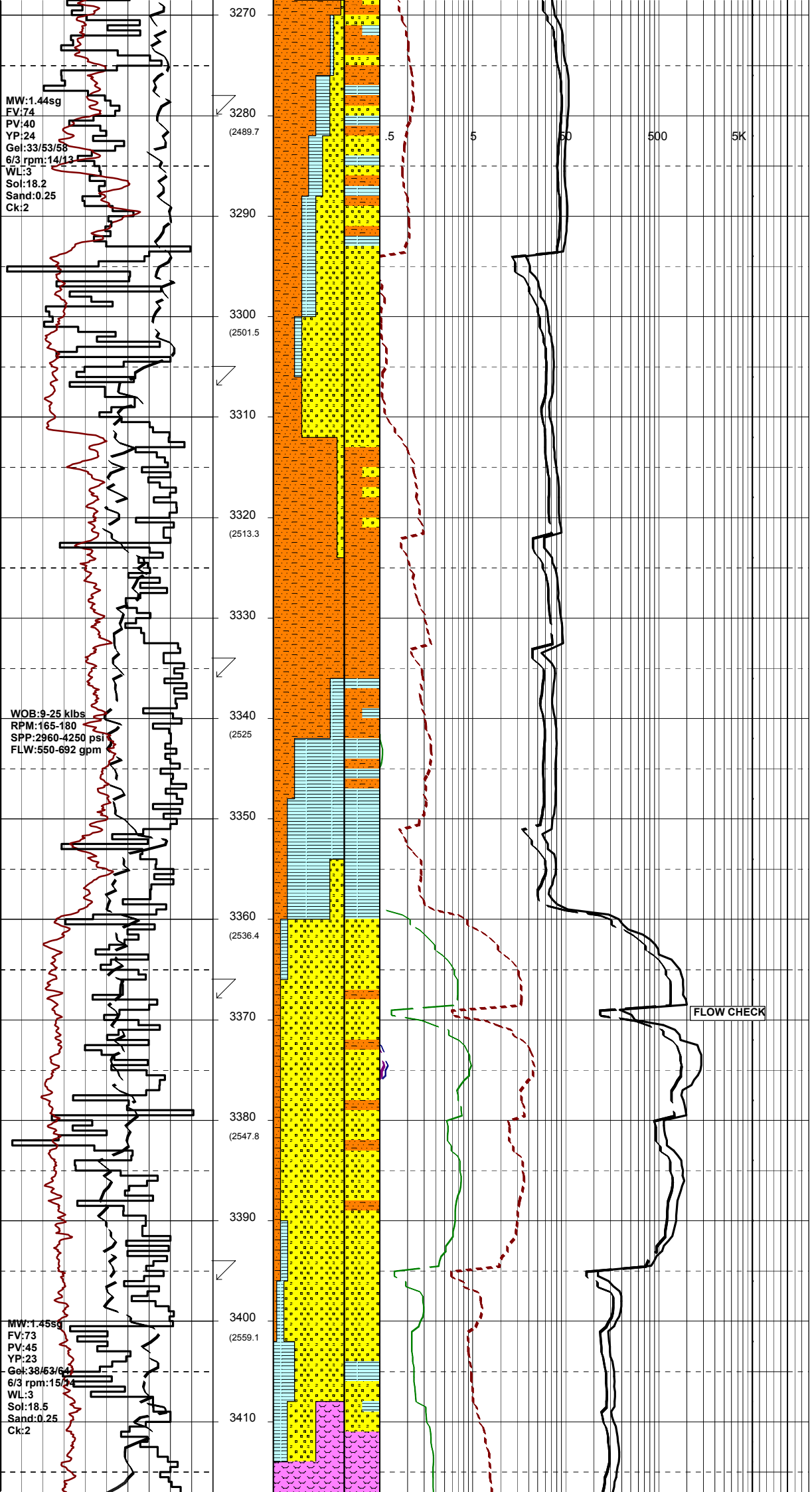
50
500
5K
WOB:5-25 klbs
RPM:155-180
SPP:3060-4050 psi
FLW:650-685 gpm
26-07-06
WOB:8-29 klbs
RPM:160-180
SPP:3060-4020 psi
FLW:650-675 gpm
CLAYSTONE:lt-med gry,sft-frm,sbblky-blky,arg,tr carb spks.
Survey @ 3136.7m: 55.7° 189.7A
TVD: 2408.6m.
SILTSTONE:dk gry,sft-frm, sbblky-blky,arg,tr carb spks.
Survey @ 3165.7m: 55.9° 189.7A
TVD: 2424.8m.
COAL(TR):dl blk,blky,frm, hckly,arg i/p.
Survey @ 3194.4m: 55.4° 188.9A
TVD: 2441.0m.
SILTSTONE:dk brn gry, brnsh gry,sft-frm,com carb spks v arg.
SANDSTONE:clr-trnsl,occ grnsh grn,lt gry/brn,v sft agg,60
lse,vf-f,occ med,sbrnd-rnd,wl sft
10-90% arg mtx,tr carb grn,f-gd inf por.
Survey @ 3224.2m: 55.4° 188.7A
TVD: 2457.9m.
SILTSTONE:brnsh gry,brnsh/ blk,v sft-sft,sbblky-blky,tr-com carb spks,v carb i/p,dom aren-arg i/p,occ vf sand bands.
Survey @ 3251.1m: 54.6° 188.6A
TVD: 2473.4m.
SILTSTONE:brnsh gry,brnsh/ blk,v sft-sft,sbblky-blky,tr carb spks,v aren,rr g/t ARG SST.
CLAYSTONE:grnsh gry,brnsh g
frm,blky,splty i/p,rr carb spks.


3270
3280
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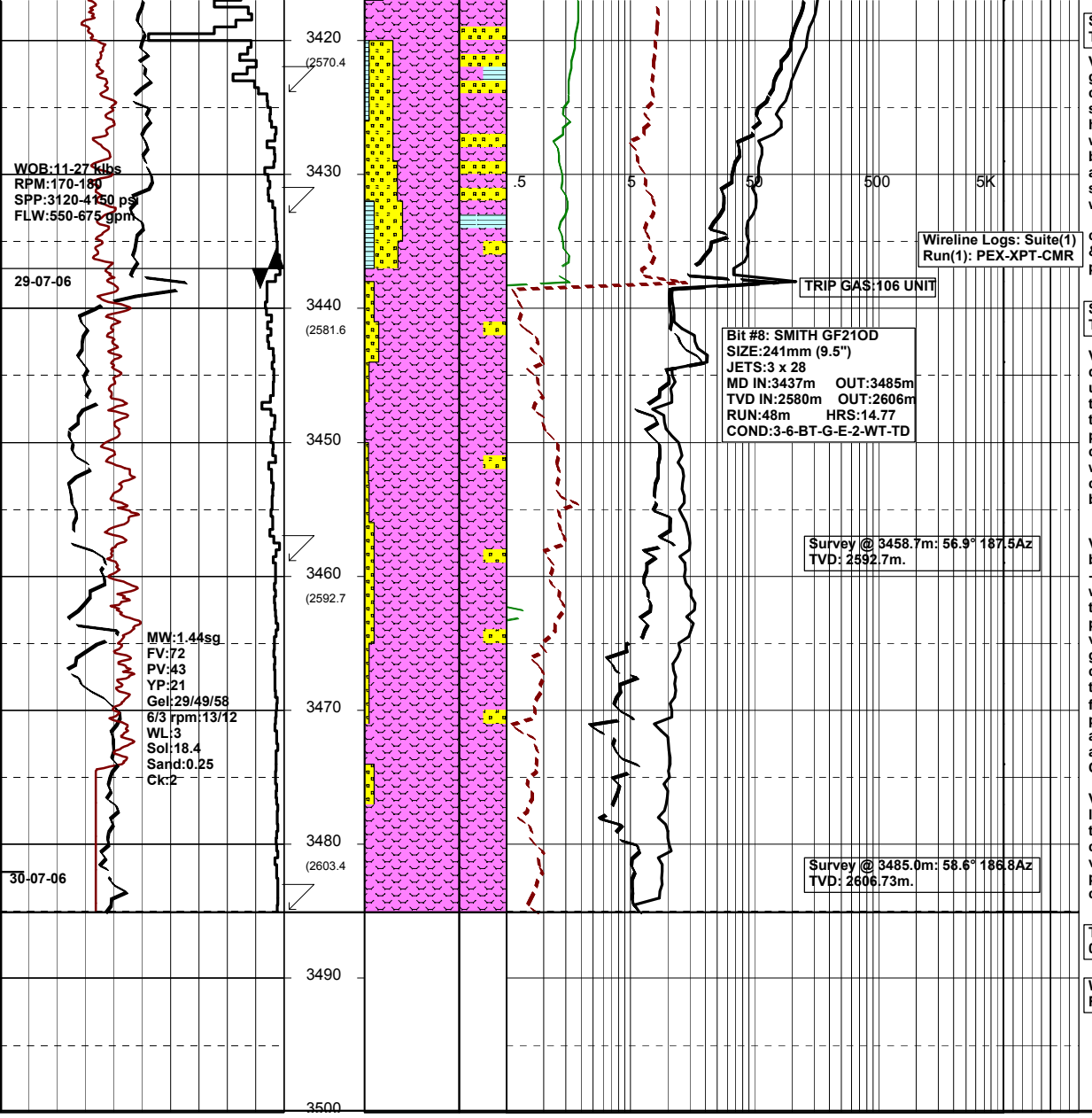
5
50
500
5K
MW:1.44sg
FV:74
PV:40
YP:24
Gel:33/53/58
6/3 rpm:14/13
WL:3
Sol:18.2
Sand:0.25
Ck:2
WOB:9-25 klbs
RPM:165-180
SPP:2960-4250 psi
FLW:550-692 gpm
MW:1.45sg
FV:73
PV:45
YP:23
Gel:38/53/64
6/3 rpm:15/14
WL:3
Sol:18.5
Sand:0.25
Ck:2
FLOW CHECK
Survey @ 3280.7m: 53.5° 188.7A
TVD: 2490.7m.
SANDSTONE:lt grnsh gry,off wh
clr-trnsl,lse,80% agg,sft-fri,vf-f,
g/t SLTST i/p,rnd,wl srt,com
carb spks,com-occ lith,10-40% a
mtx,fr inf por.
CLAYSTONE:brnsh gry,grnsh g
frm,blky,sptly i/p,rr carb spks i/p
Survey @ 3309.4m: 53.5° 188.5A
TVD: 2507.8m.
SANDSTONE:off wh,clr-trnsl,
lse,com sft-fri agg,vf-f,wl srt,
com carb grn,com-occ lith grn,1
40% arg mtx,f inf por.
SILTSTONE:brn gry,sft-frm,
blky,aren,tr carb spks.
Survey @ 3338.3m: 54.9° 188.6A
TVD: 2524.7m.
CLAYSTONE:brnsh gry,v sft-
sft,blky,splty i/p,mass & unf.
CLAYSTONE:grnsh gry,sft-frm,
splty,elg,mass & unf.
Survey @ 3367.2m: 55.3° 188.8A
TVD: 2541.2m.
SANDSTONE:clr-trnsl,orng brn,
v pl grn,90% lse,10% fri aggs,
f-crs,dom med-crs,rr v crs,
sbrnd-ang,mod srt,10-30% arg
mtx,com liths grs,gd inf por.
SANDSTONE:clr-trnsl,orng brn,
v pl grn,90% lse,10% fri aggs,
f-crs,dom med-crs,rr v crs grs,
sbrnd-ang,mod srt,10-30% arg m
tr Qtz shards,com liths grs,
gd inf por.
Survey @ 3396.1m: 55.9° 188.6A
TVD: 2557.6m.
CLAYSTONE:lt grn g/t wh,trnsl i
sft-hd,blky-ang.
SILTSTONE:brnsh gry,aren,carb
spks,sft-frm,blky.
VOLCANICS:lt grn,
orng brn,mott grn/brn,sly redsh
brn,olv gry/grn,com weathd to s
clay occ g/t frm vol w/discernab
xln struc,com Qtz grs.



Survey @ 3423.7m: 55.6° 188.4A
TVD: 2573.1m.

VOLCANICS:grn,mot grn,
grn spkld blk,brn,com weathere
clay with no discernable crystal
structure,un-weathered sample
hd,micrxin or vf-f xin & com qtz,
wh feld com weathered-clay & tr
blk mafic minerals,v rr they disp
an indistinct flow structure,
secondary clay become more co
with weathering & the mafic

component disappears,qtz shar
& orng brn chalcedony shards a
present.

Survey @ 3432.4m: 55.3° 188.1A
TVD: 2578.0m.

VOLCANICS:rd/brn,lt/dk brn,grn
dom rd/brn,com lt/olv/brn & gry/
unweathered cuttings consist of
trnsl grn/yel,wh,blk minerals w/-
tr opq blk,opq rd.f xin,massive,t
phenocrysts,rr weathered frac
com v dk gry,cryxln,dll conch fra
w/- sharp edges.com ang shards
chalcedony(rd/orng),agate(colou
bands)

VOLCANIC(100-85%):grnsh gry,
brn,orng brn,lt brn,purple,micrxl
-f holoxln & equigranular,Qtz ric
w/grn pyroxene & lt occ off wh f
tr vf tabular blk ilmenite? occ
present.occ blk & basaltic.the
volcanic mostly weathed to grns
gry,brnsh gry,off wh clay w/weat
components often reconstituted
together w/v strg sil cmt.tr min
filled fracs,v rr amygdales w/
pyrite fill.com orng brn,brn/blk,
ang conch frac chalcedony,tr ba
agate Qtz.com clr,yel/orng,rose
Qtz shards.

VOLCANICS SAND(0-15%):clr-tr
lse,com lt grn,rr mod-v hd aggs,
trnsl,Qtz,blk/grn pyroxene,f-v
crs,dom crs,sbrnd-v ang,pr srt,
v aren,rr v strg sil cmt,gd inf
por in lse fraction,no por in sil
cmt aggs.

TD @ 3485mMDRT(2606.73mTVD
01:00 Hr on 30-07-06

Wireline log: Suite (2)
Run(1): GR-DSI-AIT