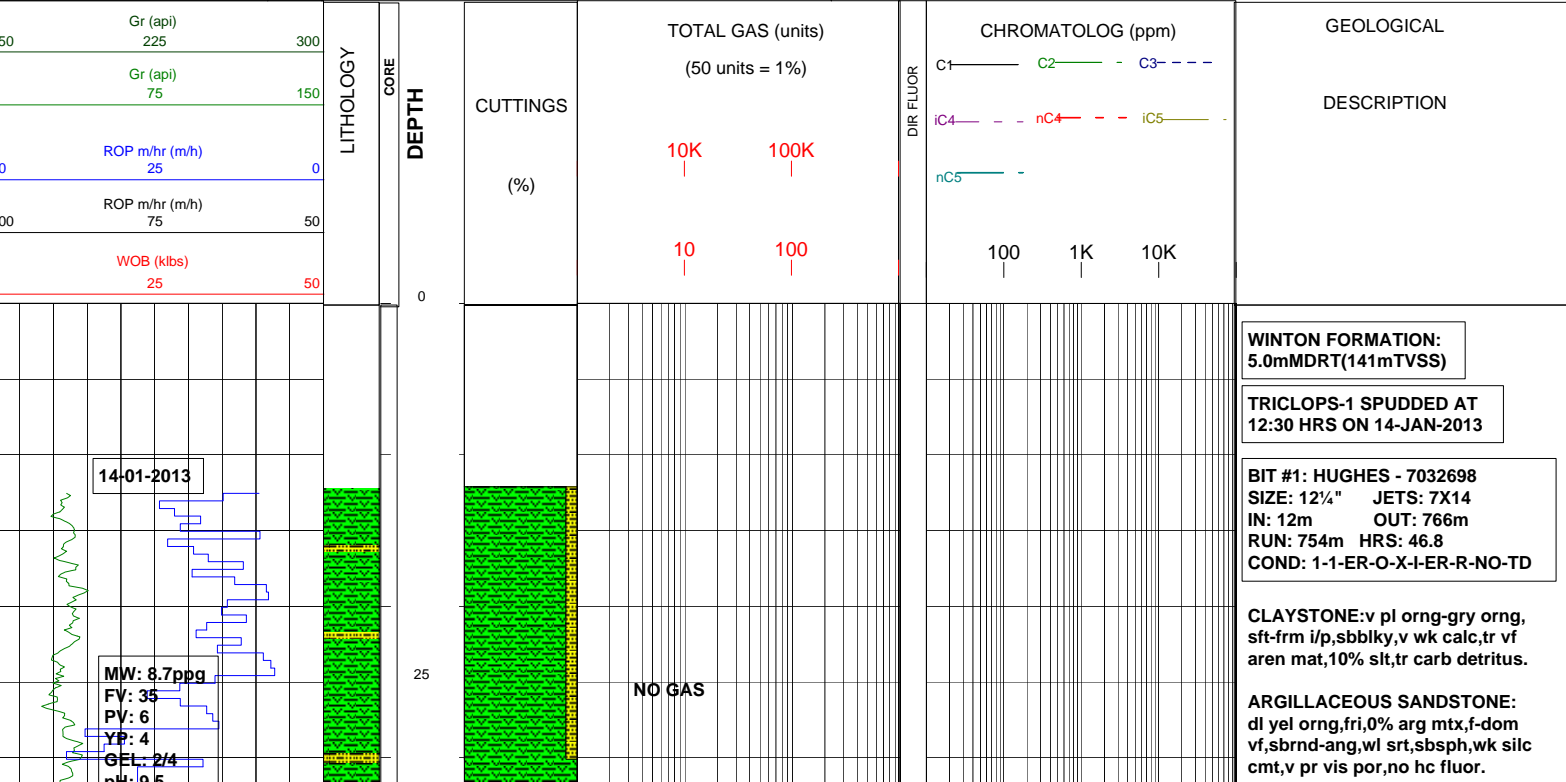
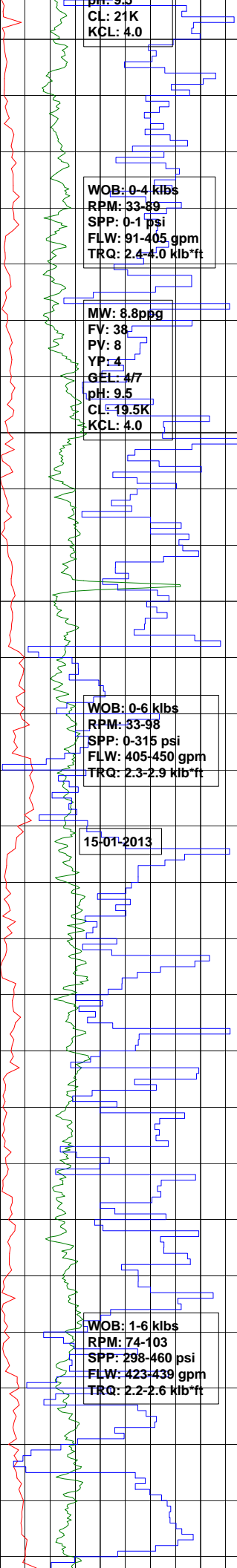


| | | | | | |
|---------------------|--------------------------------|------------------------------------|---------------|----------------|----------------------|
| Field : EXPLORATION | Rotary Table : 140.0 m 146.20m | Rig : ENSIGN 918 | Open Hole: | Cased Hole: | Loggers : DUC NGUYEN |
| Permit : ATP 539 | Ground Level : 135.0 m | Spud Date : 14-01-2013 | 12-1/4"766.0m | 9-5/8" 762.61m | JOSHUA MARDEN |
| State : QLD | Datum: GDA 94 | TD Date : 28-01-2013 | 8.5" 1926.5m | | MATHEW TOWNSEND |
| Country : AUSTRALIA | Lat. : 25° 59' 43.4"S | Total Depth : 1926.5m | | | DENIS MALIZANI |
| Scale: 1/ 500 | Long. : 141° 14' 40.4"E | Final Status : PLUGGED & ABANDONED | | | |

| | | | |
|---|---|--|--|
| LITHOLOGY Sandstone Siltstone Claystone Shale Limestone Dolomite Coal Mudstone Evaporite Calcarenite Cement | ACCESSORIES Pyrite Glauconite Mica Chert Pyrite Fossils Iron Breccia Calcareous Carbonaceous Foraminifera | DRILLING DATA Casing shoe Deviation survey Dst Core Sidewall core MUD DATA MW - Mud Weight (lb/gal) FV - Funnel Viscosity (s/qt) PV - Plastic Viscosity (cps) YP - Yield Point (lb/100ftsq) Gel - Gel Strength (10sec) WL - Water Loss (cc/30min) pH - Acidity / Alkalinity Ck - Cake (32nd/inch) Sol - Solids (% vol) Cl - Chlorides (mg/l) | ABBREVIATIONS BOPD - Barrels of Oil Per Day BWPD - Barrels of Water Per Day CG - Connection Gas CO - Circulate Out COND - Condensate c/c - Crush Cut DST - Drill Stem Test FLOW - Flow Rate (gal/min) GCM - Gas Cut Mud GCW - Gas Cut Water GTS - Gas To Surface INJ - Injection of Mist (bbls/hr) LCM - Lost Circulation Material MMCFD - Million Cubic Feet / Day NGTS - No Gas To Surface NOTS - No Oil To Surface NR - No Returns OCM - Oil Cut Mud OG - Over Gauge OH - Open Hole OTS - Oil To Surface Q - Flow Rate REC - Recovery Rmf - Resistivity mud filtrate ROP - Rate Of Penetration RPM - Revolutions Per Minute RTSTM - Rate Too Small To Measure Rw - Resistivity water r/r - Ring Residue SCFM - Standard Cubic Ft/Min (air) SGCM - Slightly Gas Cut Mud SPM - Strokes Per Minute SPP - Stand Pipe Pressure SWC - Side-Wall Core TG - Trip Gas WOB - Weight On Bit |
|---|---|--|--|





WOB: 0.4 klbs
RPM: 33-89
SPP: 0-1 psi
FLW: 91-405 gpm
TRQ: 2.4-4.0 klb*ft

MW: 8.8ppg
FV: 38
PV: 8
YP: 4
GEL: 4/7
pH: 9.5
CL: 19.5K
KCL: 4.0

WOB: 0-6 klbs
RPM: 33-98
SPP: 0-315 psi
FLW: 405-450 gpm
TRQ: 2.3-2.9 klb*ft

15-01-2013

WOB: 1-6 klbs
RPM: 74-103
SPP: 298-460 psi
FLW: 423-439 gpm
TRQ: 2.2-2.6 klb*ft

SURVEY @ 33.0mRT INC: 0.5°

CLAYSTONE:grn gry-lt olv gry, sft-frm,sbblky,10% slt,tr carb detritus.

ARGILLACEOUS SANDSTONE: med lt gry-grn gry,fri-frm i/p,40% arg mtx supp,f-dom vf,sbang-dom rnd,wl srt,sbsph-sbelong,wk silc cmt,up to 3% lith frags,tr carb detritus,v pr vis por,no hc fluor.

SURVEY @ 61.0mRT INC: 0.5°

ARGILLACEOUS SANDSTONE: med lt gry-grn gry,bcmg com lt gry, fri-frm i/p,40% arg mtx supp,f-dom vf,sbang-dom rnd,wl srt,sbsph-sbelong,wk silc cmt,up to 3% lith frags,tr carb detritus,v pr vis por,no hc fluor.

SURVEY @ 79.0mRT INC: 0.5°

ARENACEOUS SILTSTONE: lt gry-lt grn gry,frm,sbblky,wkly calc,10% cly mat & up to 40% vf-mnr f snd,sbang,wl srt,tr-mnr lith frags,tr carb detritus.

SANDSTONE:lt gry-lt grn gry aggs,fri-mod hd,mnr arg mtx,vf-f, dom med,sbang-and,mod srt, sbelong,wkly calc i/p,tr mic flks & lith frags,v pr vis por,no hc shws.

SURVEY @ 105.0mRT INC: 0.5°

CLAYSTONE:yI gry-v lt brn gry, sft-frm i/p,sbblky,slt stly w/ up to 10% vf qtz grs,tr carb spks & brn blk coaly frags w/ wdy tex.

SANDSTONE:lt gry-lt grn gry aggs,fri-mod hd,mnr arg mtx,vf-f, dom med,sbang-and,mod srt, sbelong,wkly calc i/p,tr mic flks & lith frags,loc crs carb flks & detritus,v pr vis por,no hc shws.

SURVEY @ 130.0mRT INC: 0.5°

ARGILLACEOUS SANDSTONE: lt gry-v lt grn gry,fri,30% v lt gry arg mtx,vf-f,10% med,sbang-ang, mod-wl srt,sbsphr,wk sil cmt,abdt gry grn lith frags,v pr vis por, no hc shws.

CLAYSTONE:yI gry-v lt brn gry, sft-v sft,sbblky,5% stly mat,tr carb detritus,tr micmic.

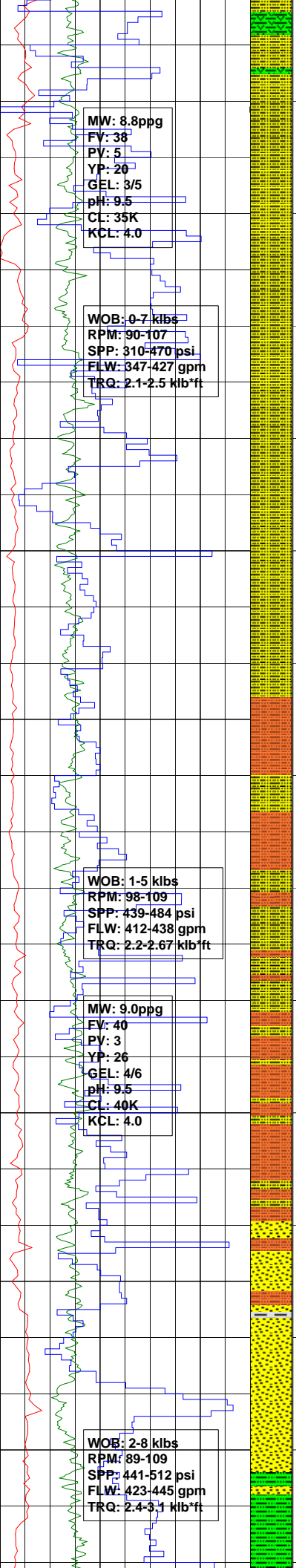
SURVEY @ 159.0mRT INC: 0.5°

ARGILLACEOUS SANDSTONE: lt gry-v lt grn gry,fri,30% v lt gry arg mtx,vf-f,10% med,sbang-ang, mod-wl srt,sbsphr,wk sil cmt,abdt gry grn lith frags,v pr vis por, no hc shws.

NO GAS

NO GAS

NO GAS



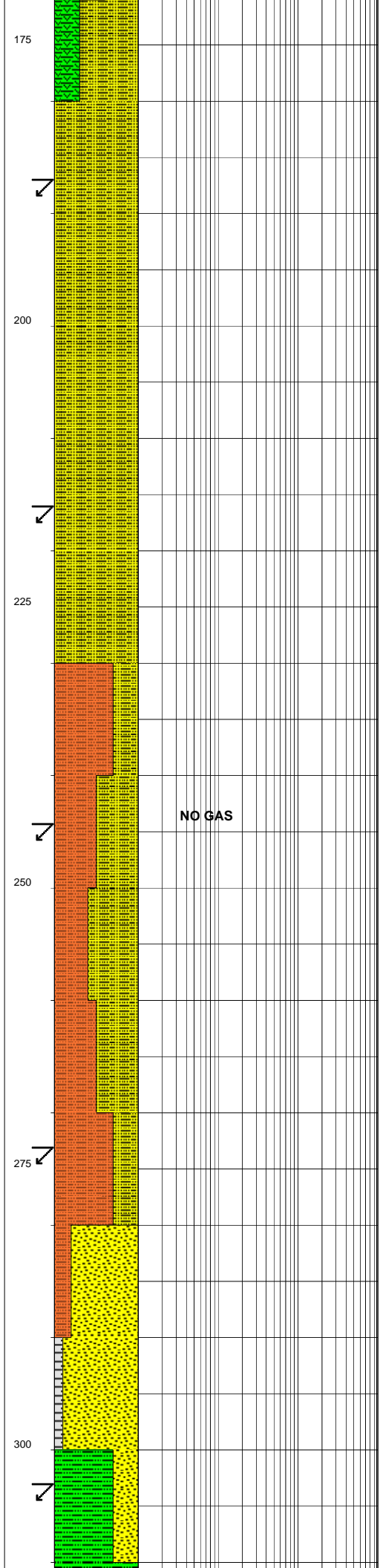
MW: 8.8ppg
 FV: 38
 PV: 5
 YP: 20
 GEL: 3/5
 pH: 9.5
 CL: 35K
 KCL: 4.0

WOB: 0-7 klbs
 RPM: 90-107
 SPP: 310-470 psi
 FLW: 347-427 gpm
 TRQ: 2.1-2.5 kib*ft

WOB: 1-5 klbs
 RPM: 98-109
 SPP: 439-484 psi
 FLW: 412-438 gpm
 TRQ: 2.2-2.67 kib*ft

MW: 9.0ppg
 FV: 40
 PV: 3
 YP: 26
 GEL: 4/6
 pH: 9.5
 CL: 40K
 KCL: 4.0

WOB: 2-8 klbs
 RPM: 89-109
 SPP: 441-512 psi
 FLW: 423-445 gpm
 TRQ: 2.4-3.1 kib*ft



NO GAS

CLAYSTONE: yel gry-v lt brn gry, sft-v sft, sbbly, 5% slty mat, tr carb detritus, tr micmic.

SURVEY @ 187.0mRT INC: 0.5°

ARGILLACEOUS SANDSTONE: lt gry-v lt grn gry, lt olv i/p, fri, 30-40% v lt gry arg mtx, f-dom vf, sbang-ang, wl srt, sbsph, wk silc cmt, tr lith frag, tr carb spks, v pr vis por, no hc shws.

CLAYSTONE: yel gry-v lt brn gry, sft-v sft, sbbly, 5% slty mat, tr carb detritus, tr micmic.

SURVEY @ 216.0mRT INC: 0.5°

ARGILLACEOUS SILTSTONE: v lt gry-lt grn gry, mnr pl brn, sft-mnr frm, 30-40% arg mat, tr vf carb spks & f carb wps, loc mnr coaly detritus, tr micmic.

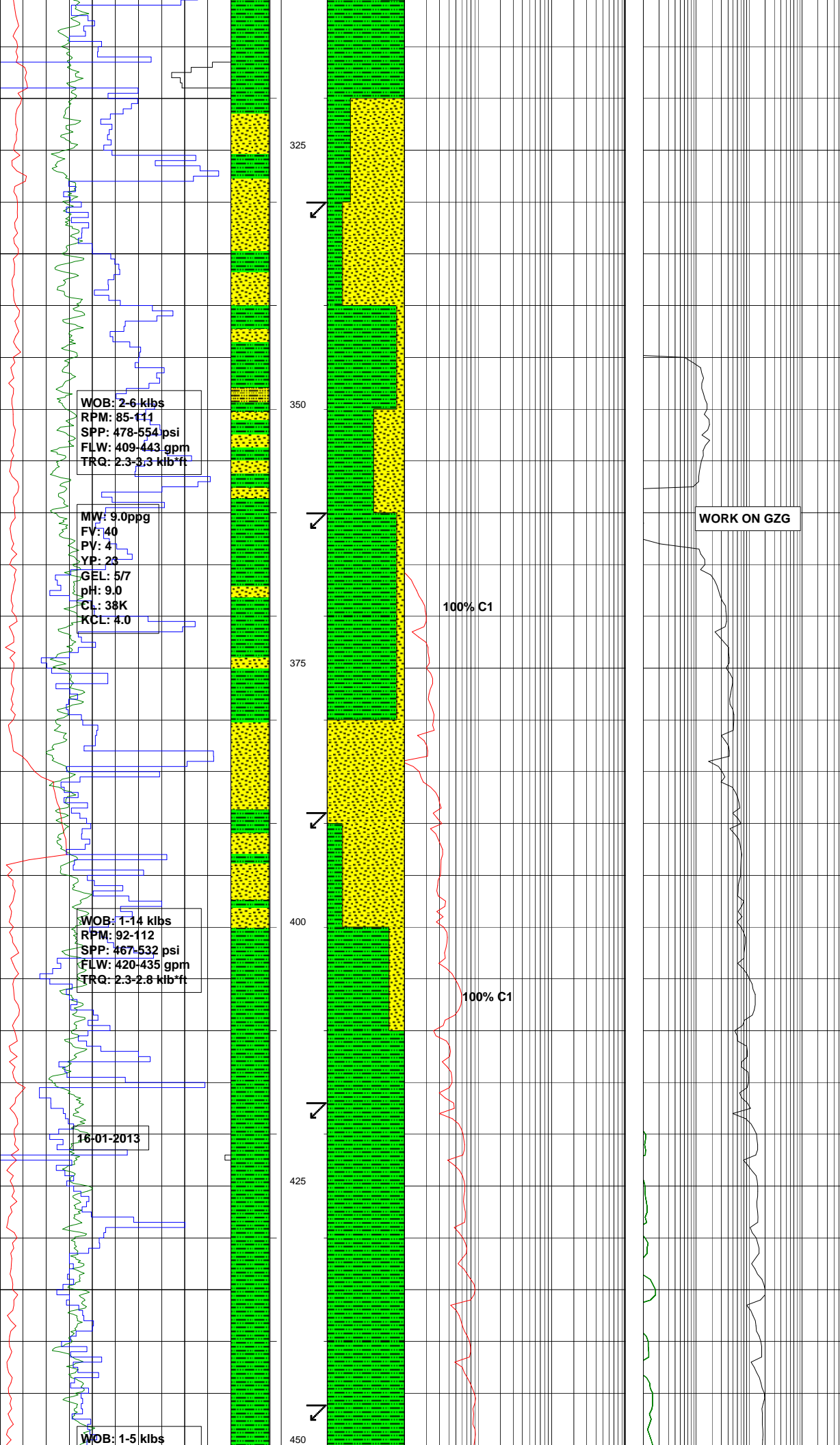
SURVEY @ 244.0mRT INC: 0.5°

ARGILLACEOUS SANDSTONE: lt gry-v lt grn gry, lt olv i/p, fri, 30-40% v lt gry arg mtx, f-dom vf, sbang-ang, wl srt, sbsph, wk silc cmt, tr lith frag, tr carb spks, v pr vis por, no hc shows.

SURVEY @ 273.0mRT INC: 0.5°

SANDSTONE: mott v lt gry-lt grn gry, fri, 10-15% arg mtx, vf-f, sbang-dom ang, wl srt, sbsph, mnr wk calc-dom wk silc cmt, 20-30% grn gry liths, tr micmic, v pr vis por, no hc fluor.

SURVEY @ 303.0mRT INC: 0.5°



SILTY CLAYSTONE:lt olv gry-lt brn gry,sft,sbbkly-wkly amor & stky,20-50% qtz slt,up to 5% vf snd,tr carb spks & detritus, tr micmic.

SURVEY @ 330.0mRT INC: 0.5°

SANDSTONE:mott v lt gry-lt grn gry,fri-mod hd,mnr v lt gry-wh arg mtx,mnr vf grn-dom f-med,ang-sbrnd,wl srt,mnr wk silc cmt-dom mod strg calc cmt,20-25% grn gry lith frags,tr mic flks,v pr vis por,no hc fluor.

SURVEY @ 360.0mRT INC: 0.5°

SILTY CLAYSTONE:lt olv gry -lt brn gry,v pl grn gry i/p, sft bcmg domly frm,sbbkly,20-25% qtz slt,tr carb spks & detritus, tr micmic.

SURVEY @ 389.0mRT INC: 0.5°

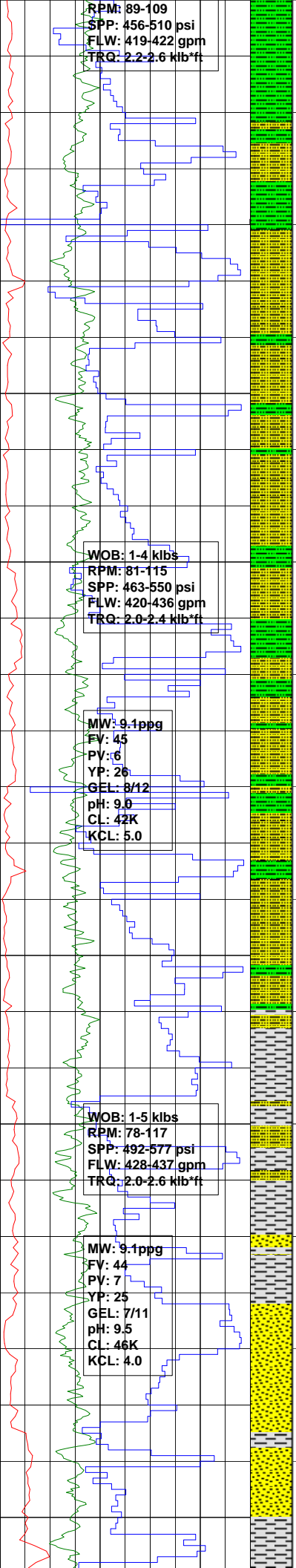
SANDSTONE:mott v lt gry-lt grn gry,fri-mod hd,up to 15% v lt gry arg mtx,mnr vf grn-dom f-med,ang-sbrnd,wl srt,mnr wk silc cmt-dom mod strg calc cmt,20-25% grn gry lith frags,tr rd & pl orgng std qtz grs,tr mic flks,v pr vis por, no hc fluor.

SURVEY @ 417.0mRT INC: 0.5°

SILTY CLAYSTONE:v lt gry-pl brn, up to 30% qtz slt,loc 20-40% vf qtz g/t Aren Clyst,tr carb detritus.

SURVEY @ 446.0mRT INC: 0.5°

SILTY CLAYSTONE:v lt gry-pl brn,



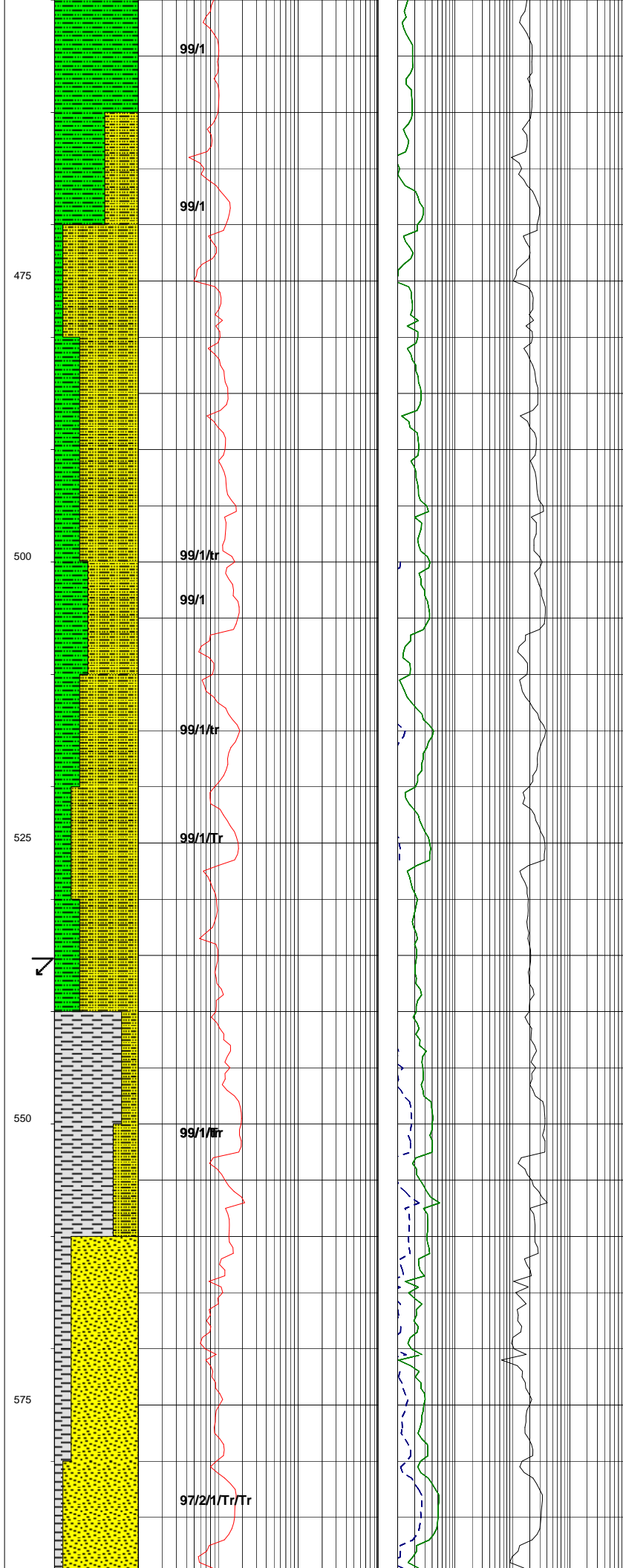
RPM: 89-109
 SPP: 456-510 psi
 FLW: 419-422 gpm
 TRQ: 2.2-2.6 klb*ft

WOB: 1-4 klbs
 RPM: 81-115
 SPP: 463-550 psi
 FLW: 420-436 gpm
 TRQ: 2.0-2.4 klb*ft

MW: 9.1ppg
 FV: 45
 PV: 6
 YP: 26
 GEL: 8/12
 pH: 9.0
 CL: 42K
 KCL: 5.0

WOB: 1-5 klbs
 RPM: 78-117
 SPP: 492-577 psi
 FLW: 428-437 gpm
 TRQ: 2.0-2.6 klb*ft

MW: 9.1ppg
 FV: 44
 PV: 7
 YP: 25
 GEL: 7/11
 pH: 9.5
 CL: 46K
 KCL: 4.0



99/1

99/1

475

99/1/tr

99/1

500

99/1/tr

99/1/Tr

525



99/1/Tr

550

97/2/1/TrTr

575

up to 30% qtz silt, loc 20-40% vf qtz
 g/t Aren Clyst, up to 5% crs
 calcite (vn/frac infill) frags, 5-10%
 brn pl-mod brn frags w/ abdt coaly
 detritus.

ARGILLACEOUS SANDSTONE:
 v lt gry, fri-mnr mod hd aggs, com
 wh arg mtx, vf-f, sbang-dom sbrnd,
 wl srt, sbsphr, wk sil cmt-dom
 loc stg calc cmt, 5% pl grn liths, tr
 carb detritus, v pr vis por, no hc
 fluor.

SILTY CLAYSTONE: pl brn-mod
 brn, v lt gry i/p, sft frm, mnr mod
 hd, mnr-loc com carb detritus & rr
 vf coaly lams.

ARGILLACEOUS SANDSTONE:
 v lt gry, fri-mnr mod hd aggs, com
 wh arg mtx, vf-f, sbang-dom sbrnd,
 wl srt, sbsphr, wk sil cmt-dom
 loc stg calc cmt, 5% pl grn liths, tr
 carb detritus, v pr vis por, no hc
 fluor.

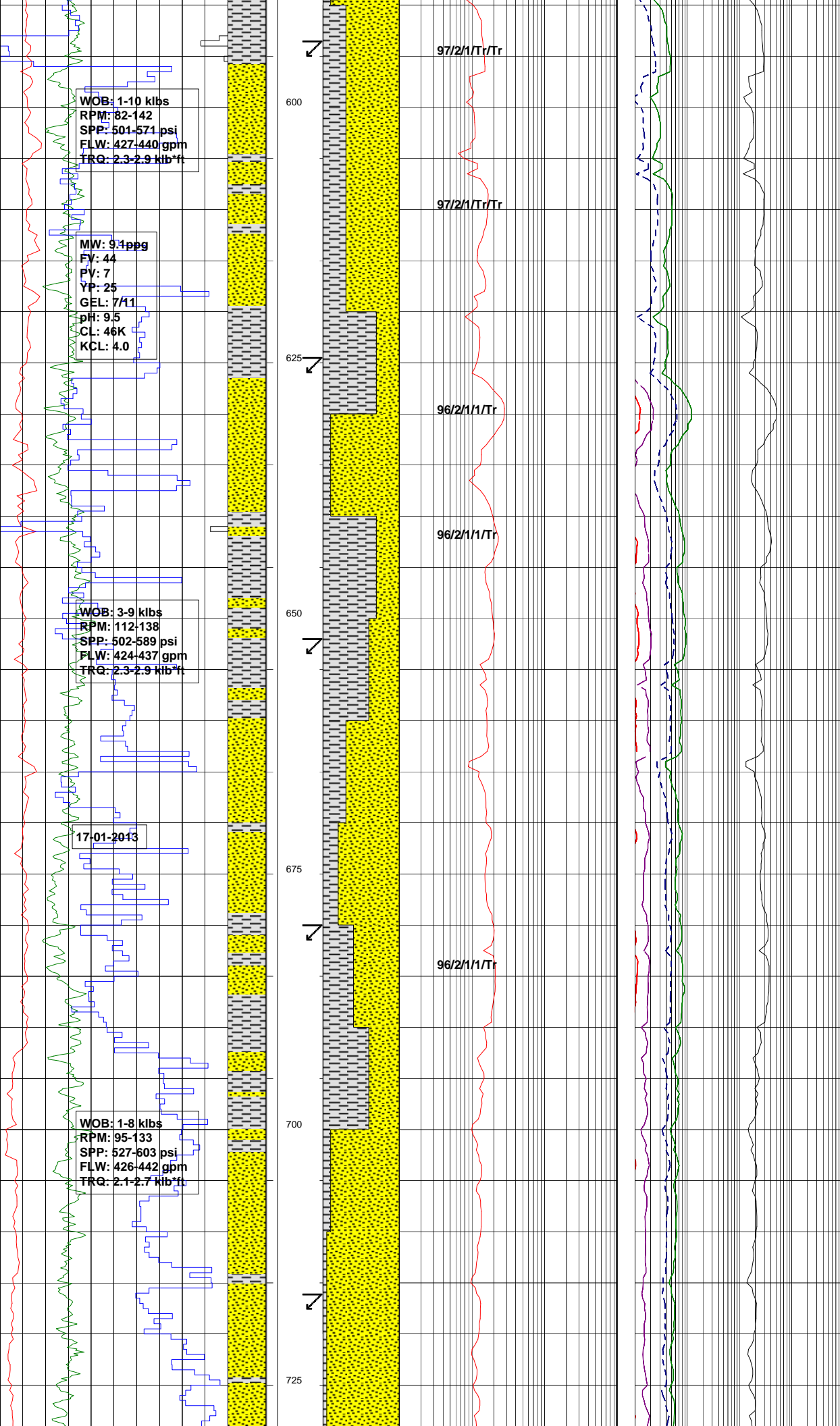
SILTY CLAYSTONE: pl brn-mod
 brn, v lt gry i/p, sft frm, mnr mod
 hd, mnr-loc com carb detritus & rr
 vf coaly lams, tr liths, tr felds
 frags.

SURVEY @ 535.0mRT INC: 0.5°

SILTSTONE: lt olv gry-pl brn,
 mnr v lt gry, sft-dom frm, mnr mod
 hd, sbblky, 10% vf qtz grs, 10% liths,
 tr-loc mnr micmic, tr uni distrb
 vf carb detritus, rr f coaly lams.

SILTSTONE: lt olv gry-pl brn,
 mnr v lt gry, sft-dom frm, mnr mod
 hd, sbblky, 10% vf qtz grs, 10% liths,
 tr-loc mnr micmic, tr uni distrb
 vf carb detritus, rr f coaly lams.

SANDSTONE: mott lt gry/wh/grn
 gry, fri-dom mod hd, loc hd, 5-10%
 arg mtx, vf, mnr f-med, wl srt, sbsphr,
 mod strng-strng calc cmt, com liths
 & carb detritus, tr f felds frags,
 v pr vis por, no hc fluor.



SURVEY @ 593.0mRT INC: 0.5°

SANDSTONE:mott lt gry/wh/grn gry,fri-dom mod hd,loc hd,5-10% arg mtx,vf,mnr f-med,wl srt, sbsphr,vari calc cmt wk-strng, com liths & carb detritus, tr f felds frags,v pr vis por,no hc fluor.

SURVEY @ 624.0mRT INC: 0.5°

SILTSTONE:med gry-lt brn gry, mnr brn gry,sft-dom frm,sbblky-blky,15-20% cly loc g/t Arg Siltst & sli stky,tr vf carb w/ps & coaly lams,tr-loc com micmic.

SURVEY @ 652.0mRT INC: 0.5°

SILTSTONE:olv gry-mnr brn gry, 10% cly,tr vf carb detritus-uni tex.

SANDSTONE:mott wh/v lt gry/ grn gry,mod hd-dom fri,10% wh arg mtx,vf-f,sbang-dom sbrnd,wl srt,sbsphr,wk sil cmt-pervasive wk -loc mod strg calc cmt,5-10% liths & f felds frags,tr carb detritus, v pr vis por,no hc fluor.

SURVEY @ 680.0mRT INC: 0.5°

SILTSTONE:olv gry-mnr brn gry, 10% cly,tr vf carb detritus-uni tex, loc com vf carb lams.

SANDSTONE:mott lt gry/lt grn gry,fri-loc hd,5% arg mtx,vf-mnr grn,v wl srt,sbang-dom sbrnd, sbsph,strg calc cmt,10% vf-f lith & felds frags,tr carb wps,v pr-no vis por,no hc fluor.

SURVEY @ 716.0mRT INC: 0.75°

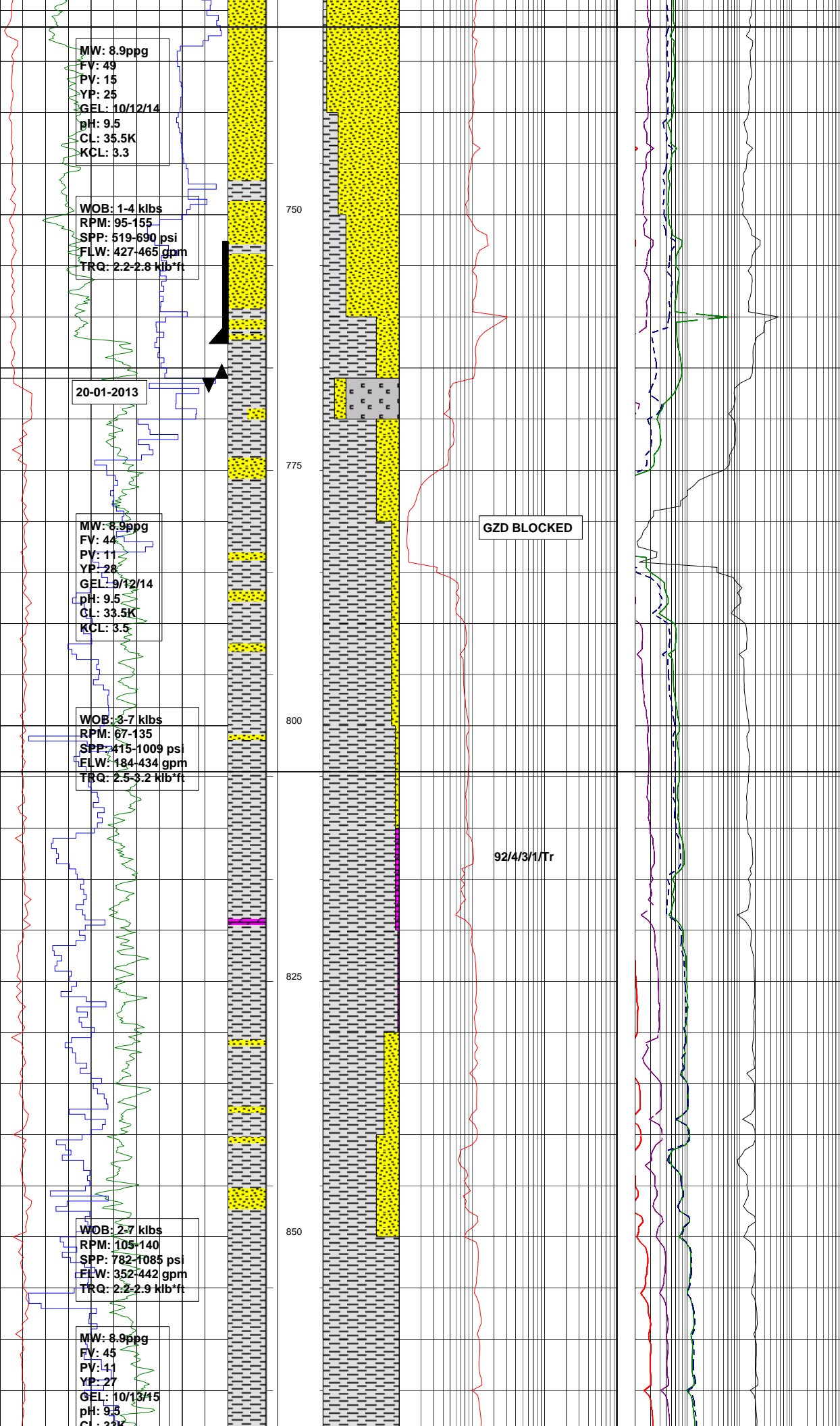
WOB: 1-10 klbs
RPM: 82-142
SPP: 501-571 psi
FLW: 427-440 gpm
TRQ: 2.3-2.9 klb*ft

MW: 9.1ppg
FV: 44
PV: 7
YP: 25
GEL: 7/11
pH: 9.5
CL: 46K
KCL: 4.0

WOB: 3-9 klbs
RPM: 112-138
SPP: 502-589 psi
FLW: 424-437 gpm
TRQ: 2.3-2.9 klb*ft

17-01-2013

WOB: 1-8 klbs
RPM: 95-133
SPP: 527-603 psi
FLW: 426-442 gpm
TRQ: 2.1-2.7 klb*ft



MACKUNDA FORMATION:
731.64mMDRT (-585.64mTVDSS)

SILTSTONE:lt olv gry-mnr pl brn,frm-mod hd,sbblky,10-20% vf qtz grs loc g/t Aren Stst,5-10% vf liths & felds frags,tr-1% micmic, tr carb wps & v tn coaly lams.

Carbide Lag Check @ 759mMDRT
Average Hole Size: 12.48"

9-5/8" CASING SHOE
SET AT 762.61mMDRT

LOT @ 769mMDRT
EMW = 16.7PPG

BIT #2: HUGHES - Q505F
SIZE: 8½" JETS: 5X12
IN: 766m OUT: 1138m
RUN: 372m HRS: 16
COND:1-2-CT-S-X-1-RR-BHA

SANDSTONE:lt gry-mnr med gry, mod hd,vf-mnr f grn-sltly i/p g/t Sltly Sst,v wl srt,sbang,sbsph, strng calc cmt,5-10% vf-f liths & felds frags,tr carb spks,no vis por,no hc fluor.

ALLARU MUDSTONE:
804.5mMDRT (-658.5mTVDSS)

SILTSTONE:med lt gry bcmg dom med gry,frm-mod hd i/p,sbblky-mnr blkly,up to 20% vf snd g/t i/p to Aren Stst,bcmg sli arg w/ assoc tr micmic,tr liths & f carb detritus,tr pyr,tr calc vn frags.

DOLOMITE:olv gry-brn gry,v hd, sbfiss-fiss,crypto-micrxln,gen homogenous-tr vf carb/blk mnrl spks(?) & isolated pyr grs.

SANDSTONE:med lt gry-med gry, mod hd,vf,slty g/t Sltly Sst,v wl srt, sbang-ang,sbsph,strng calc cmt, 5-10% vf-mnr felds & liths,tr uni distrb carb spks.

SILTSTONE:med gry-dom med dk gry,mod hd-dom frm,sbblky-mnr sbfiss,10-15% vf arg,uni tex w/ tr dissem pyr & vf carb spks, tr micmic.

MW: 8.9ppg
FV: 49
PV: 15
YP: 25
GEL: 10/12/14
pH: 9.5
CL: 35.5K
KCL: 3.3

WOB: 1-4 klbs
RPM: 95-155
SPP: 519-690 psi
FLW: 427-465 gpm
TRQ: 2.2-2.8 klb*ft

20-01-2013

MW: 8.9ppg
FV: 44
PV: 11
YP: 28
GEL: 9/12/14
pH: 9.5
CL: 33.5K
KCL: 3.5

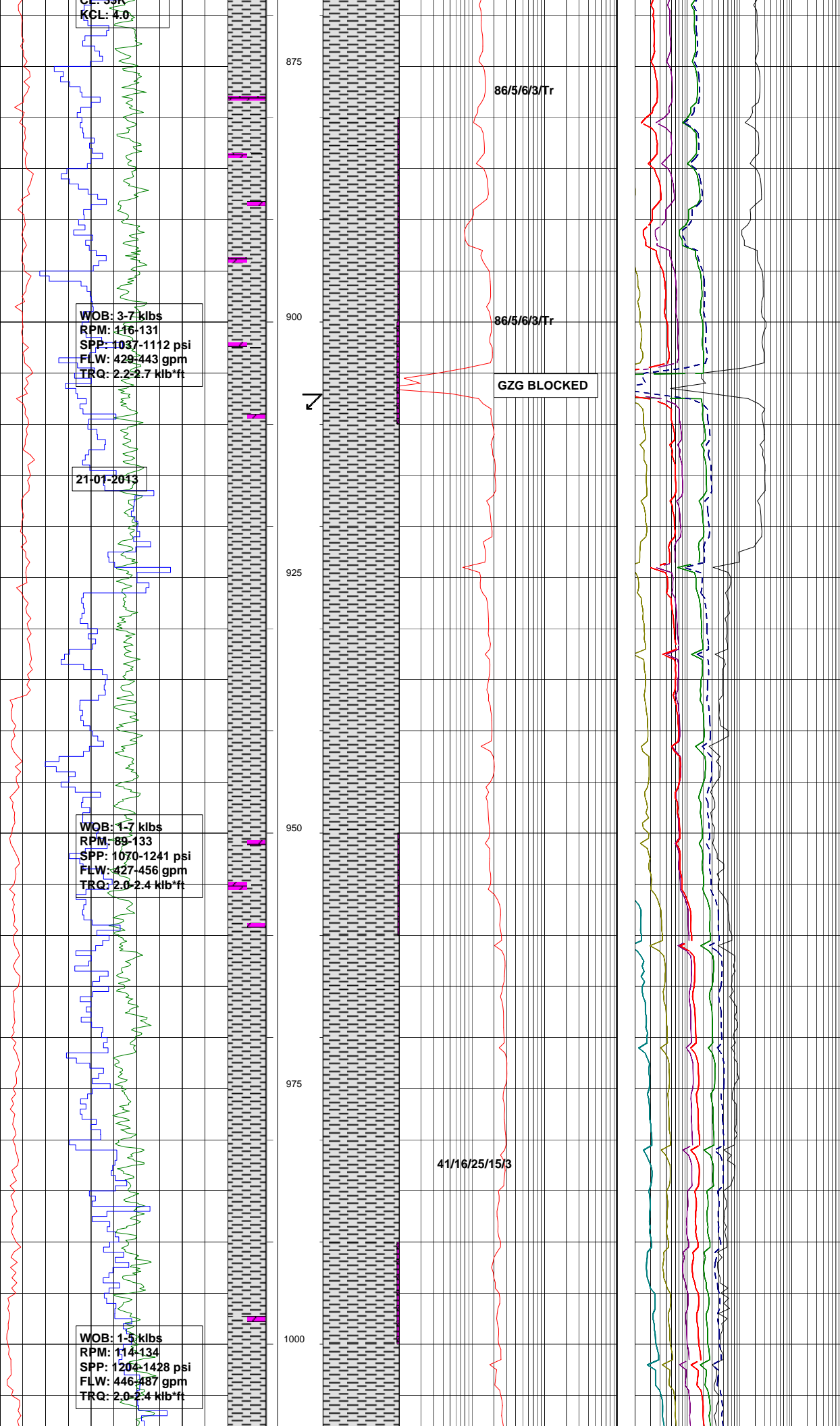
WOB: 3-7 klbs
RPM: 67-135
SPP: 415-1009 psi
FLW: 184-434 gpm
TRQ: 2.5-3.2 klb*ft

WOB: 2-7 klbs
RPM: 105-140
SPP: 782-1085 psi
FLW: 352-442 gpm
TRQ: 2.2-2.9 klb*ft

MW: 8.9ppg
FV: 45
PV: 11
YP: 27
GEL: 10/13/15
pH: 9.5
CL: 33.5K
KCL: 3.3

GZD BLOCKED

92/4/3/1/Tr



SILTSTONE: med gry-dom med dk gry, mod hd-dom frm, sbblky-mnr sbfiss, 10-15% vf arg, tr calc vn foss? frags, uni tex w/ tr dissem pyr & vf carb spks, tr micmic.

DOLOMITE: olv gry-brn gry, v hd, sbfiss-fiss, crypto-micrxln, gen homogenous-tr vf carb/blk mnrl spks(?) & isolated pyr grs.

SURVEY @ 907.0mRT INC: 0.5°

SILTSTONE: med gry-dom med dk gry, mod hd-dom frm, sbblky-mnr sbfiss, bcmg vf aren & sli arg i/p, tr calc vn foss? frags, uni tex w/ tr dissem pyr & vf carb spks, tr micmic.

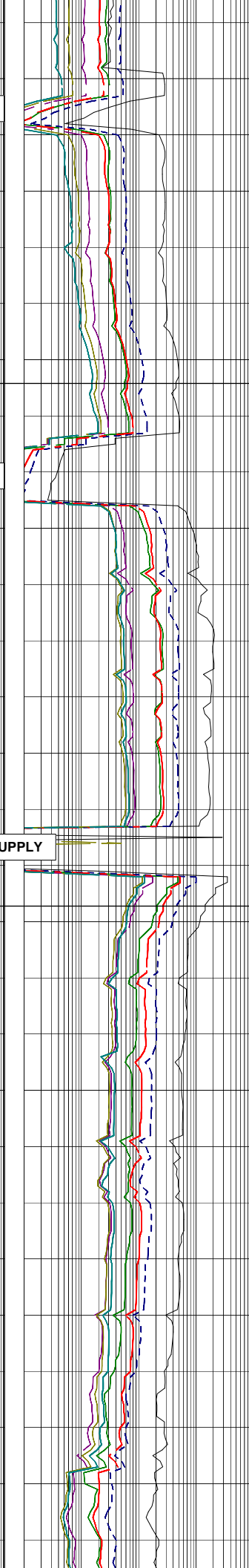
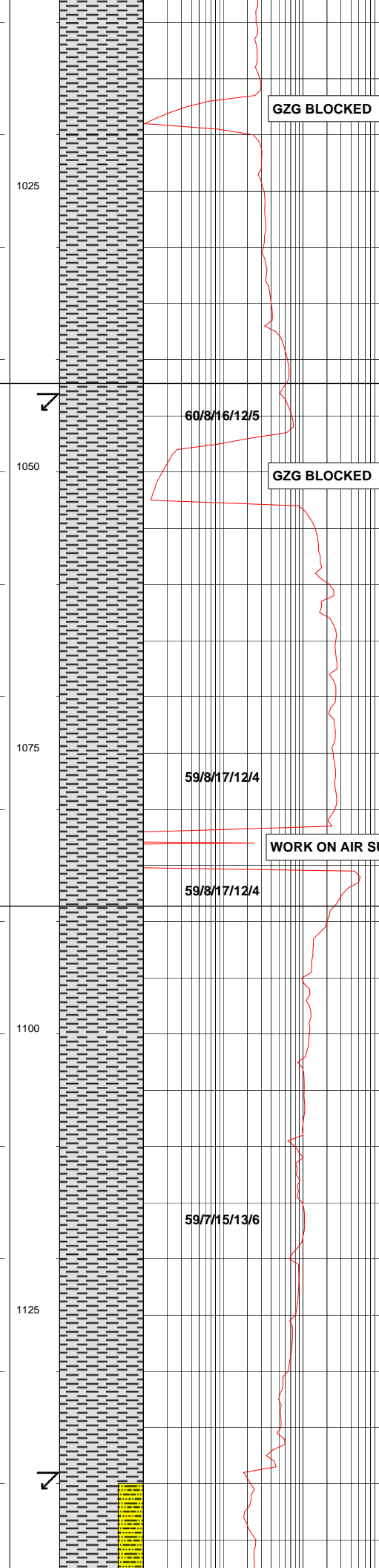
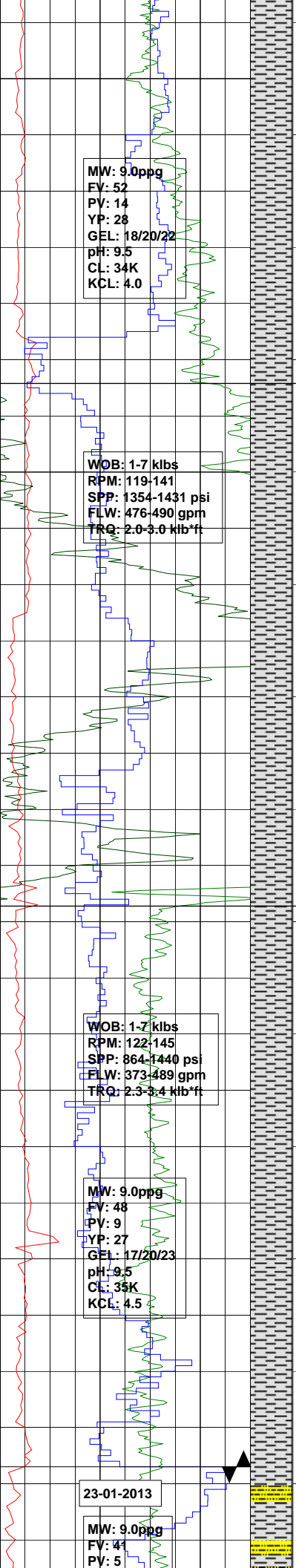
C1 PEAK DETECTION WINDOW SHIFTED FROM 919-1021m

SILTSTONE: med dk gry, bcmg com med gry, frm, sbblky-dom sbfiss, mnr fiss, gen uni tex-sli arg i/p, wkly calc, tr carb spks.

DOLOMITE: olv gry-brn gry, v hd, sbfiss-fiss, crypto-micrxln, gen homogenous-tr vf carb/blk mnrl spks(?) & isolated pyr grs.

SILTSTONE: med dk gry, dom med gry, frm, sbblky-dom sbfiss, gen uni tex-bcmg vf arg, wkly calc, tr carb detritus, tr shll frags.

DOLOMITE: olv gry-brn gry, v hd, sbfiss-fiss, crypto-micrxln, gen homogenous-tr vf carb/blk mnrl spks(?) & isolated pyr grs.



SILTSTONE: med gry, frm-mnr mod hd, sbfiss-fiss i/p, uni text, tr carb spks.

C1 PEAK DETECTION WINDOW CORRECTED.

SILTSTONE: gry-blk-olv blk, mnr brn blk, frm-mod blk, frm-mod hd, sbfiss-fiss, strg calc-uni vf aren, 5% inoceramus frags, tr pyr.

TOOLEBUC FORMATION: 1042.1mMDRT (-896.1mTVDSS)

SURVEY @ 1043.0mRT INC: 1.75°

SILTSTONE: gry-blk-olv blk, mnr brn blk, frm-mod blk, frm-mod hd, sbfiss-fiss, strg calc-uni vf aren, 5% inoceramus frags, tr pyr.

SILTSTONE: md dk gry-dom dk gry, frm-dom-mod hd, sbfiss-fiss, strg calc, loc 5-10% vf qtz gns, tr micmic.

WALLUMBILLA FORMATION: 1088.6mMDRT (-942.6mTVDSS)

SILTSTONE: md dk gry, mod hd, sbblky-sbfiss, gen wk calc w/ 5% mod brn carb frags, uni 15-20% vf aren g/t Aren Slst i/p w/ assoc tr vf glauc, tr micmic & pyr strks.

SILTSTONE: md dk gry, mod hd, sbblky-sbfiss, gen wk calc w/ 5% mod brn carb frags, f aren i/p g/t Aren Slst w/ up to 10% glauc, tr micmic & pyr strks.

SURVEY @ 1139.0mRT INC: 2.25°

BIT #2RR: HUGHES - Q505F
SIZE: 8½" JETS: 5X12
IN: 1138m OUT: 1296m

MW: 9.0ppg
 FV: 52
 PV: 14
 YP: 28
 GEL: 18/20/22
 pH: 9.5
 CL: 34K
 KCL: 4.0

WOB: 1-7 klbs
 RPM: 119-141
 SPP: 1354-1431 psi
 FLW: 476-490 gpm
 TRQ: 2.0-3.0 klb*ft

WOB: 1-7 klbs
 RPM: 122-145
 SPP: 864-1440 psi
 FLW: 373-489 gpm
 TRQ: 2.3-3.4 klb*ft

MW: 9.0ppg
 FV: 48
 PV: 9
 YP: 27
 GEL: 17/20/23
 pH: 9.5
 CL: 35K
 KCL: 4.5

23-01-2013

MW: 9.0ppg
 FV: 41
 PV: 5

GZG BLOCKED

GZG BLOCKED

WORK ON AIR SUPPLY

60/8/16/12/5

59/8/17/12/4

59/8/17/12/4

59/7/15/13/6

1025

1050

1075

1100

1125

Log plot details and annotations at the bottom of the page.

SURVEY @ 1148.0mRT INC: 2.75°

SURVEY @ 1158.0mRT INC: 2.5°

SURVEY @ 1168.0mRT INC: 2.75°

SILTSTONE:md dk gry-dom
dk gry,frm,sbblky-dom sbfiss,
loc vf aren Sity Sst,mnr
micmic,pyr strks.

SURVEY @ 1186.0mRT INC: 3.00°

SILTSTONE:md dk gry-dom
dk gry,frm,sbblky-dom sbfiss,
loc vf aren Sity Sst,mnr
micmic,pyr strks.

SURVEY @ 1207.0mRT INC: 3.5°

SILTSTONE:dk gry,frm-mod
hd,fiss-mnr sbfiss,gen uni txt
w/ tr mic,loc,vf aren g/t Sity
Sst-occ ctngs w/ f slt &
snd lams assoc w/ 5-10% glauc
& inc pyr aggs.

SURVEY @ 1226.0mRT INC: 3.0°

SILTY SANDSTONE:mott wh
/v lt gry,5-loc 10% grn glauc,
vf, wl srt,sbang-sbrnd,sbsph,
strg calc cmt,com f wh liths,
vpr vis por,no hc fluor.

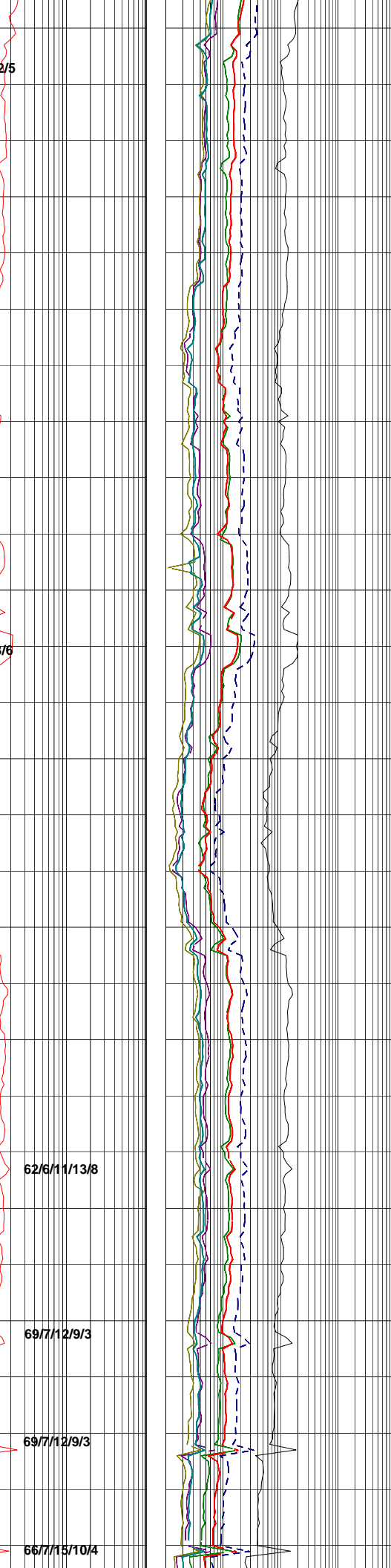
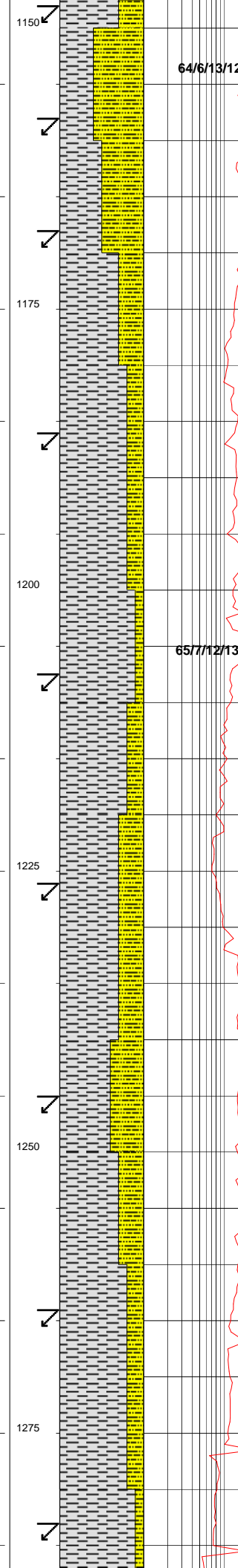
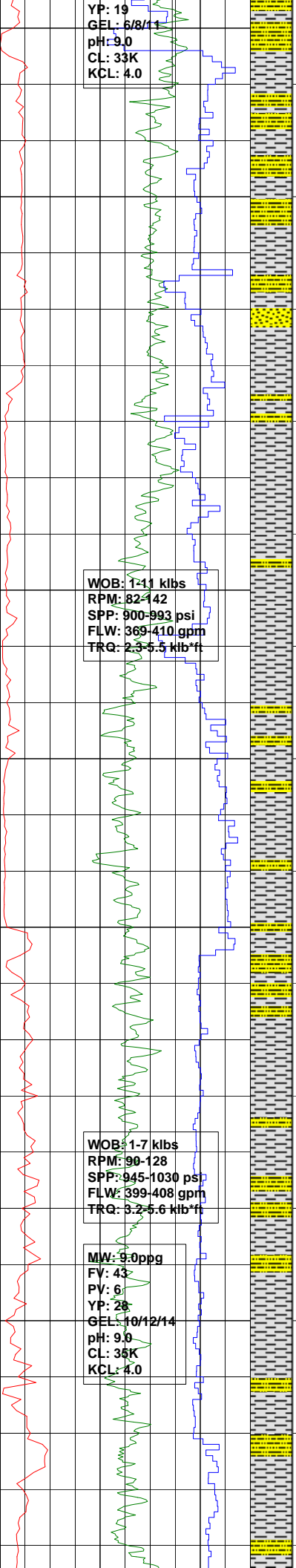
SURVEY @ 1245.0mRT INC: 2.75°

SILTSTONE:dk gry,frm-mod
hd,fiss-mnr sbfiss,gen uni txt
w/ tr mic,loc,vf aren g/t Sity
Sst-occ ctngs w/ fn slt &
snd lams assoc w/ 5-10% glauc
& inc pyr aggs.

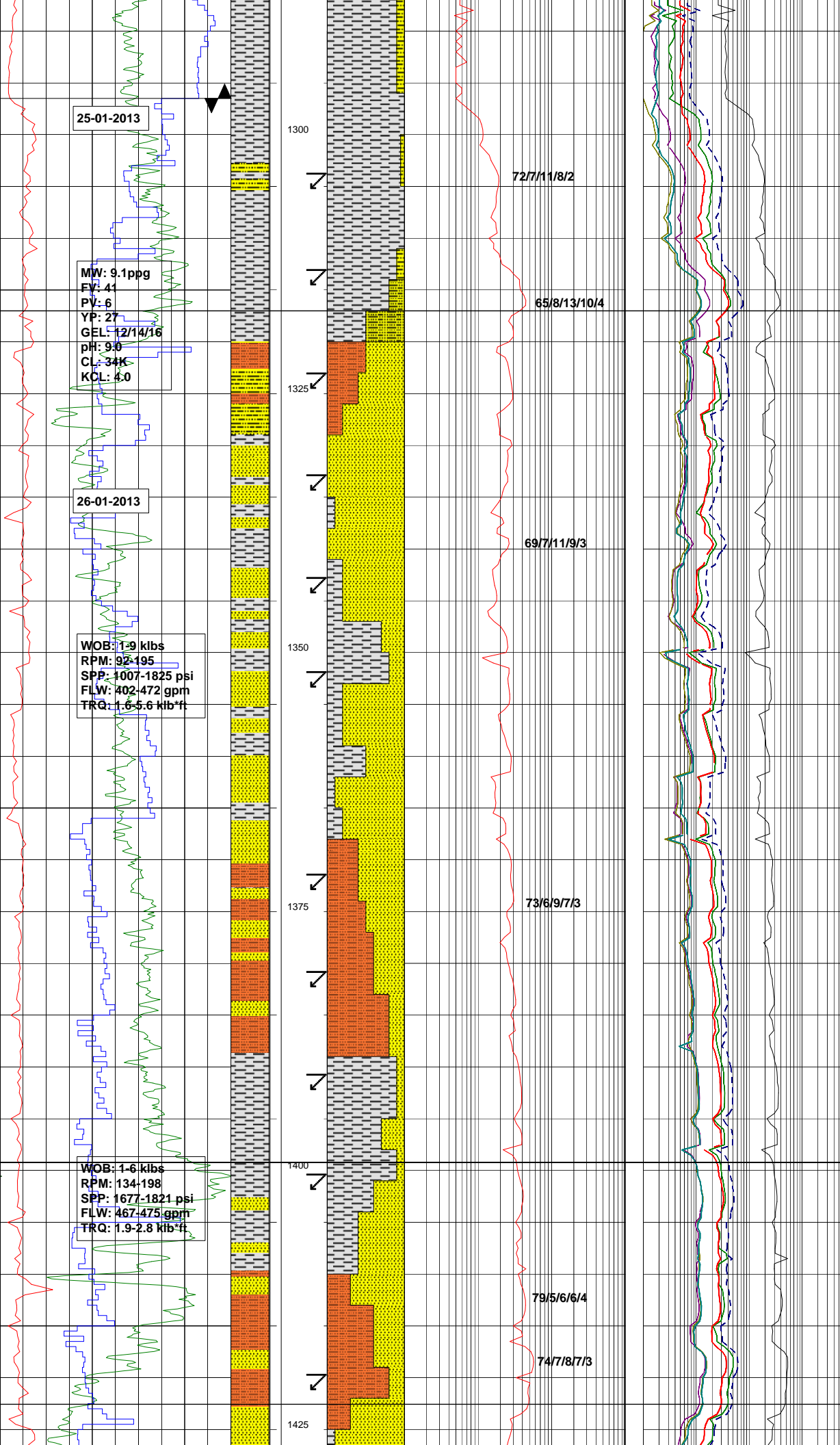
SURVEY @ 1264.0mRT INC: 2.75°

SILTY SANDSTONE:mott wh
/v lt gry,5-loc 10% dsk grn glauc,
vf, wl srt,sbang-sbrnd,sbsph,
strg calc cmt,com f wh liths,
v pr vis por,no hc fluor.

SURVEY @ 1283.0mRT INC: 3.0°



Log plot showing various parameters: YP, GEL, pH, CL, KCL, WOB, RPM, SPP, FLW, TRQ, MW, FV, PV, YP, GEL, pH, CL, KCL. The plot is on a grid with depth markers at 1150, 1175, 1200, 1225, 1250, and 1275.



25-01-2013

MW: 9.1ppg
 FY: 41
 PV: 6
 YP: 27
 GEL: 12/14/16
 pH: 9.6
 CL: 34K
 KCL: 4.0

26-01-2013

WOB: 1.9 klbs
 RPM: 92-195
 SPP: 1007-1825 psi
 FLW: 402-472 gpm
 TRQ: 1.6-5.6 klb*ft

WOB: 1.6 klbs
 RPM: 134-198
 SPP: 1677-1821 psi
 FLW: 467-475 gpm
 TRQ: 1.9-2.8 klb*ft

Directional drilling assembly
 from 1296.0m

BIT #3: HUGHES - Q505F
 SIZE: 8½" JETS: 5X12
 IN: 1296m OUT: 1926.5m
 RUN: 630.5m HRS:46.6
 COND:2-7-RO-S-X-I-BT-PR

SILTSTONE:dk gry-dom olv blk,
 dsky yel brn i/p,frm-dom mod hd,
 sbfiss-dom fiss,gen unif tex loc
 vf aren w/ assoc mnr micmic,
 tr pyr agg.

CADNA-OWIE FORMATION:
 1317mMDRT (-1171mTVDSS)

SANDSTONE:gen wh-v lt gry gry,
 30-40% as dis-agg lse clr-trnsl
 grns,vf-f,com med-crs,mod srt,
 sbang i/p-dom sbrnd-rnd,sbsph-
 sbelong,10-15% wh arg mtx,mod-
 calc loc strng cmt,mnr f carb lam,
 pr inf por,no hc fluor.

SILTSTONE:dsky yel brn-brn gry,
 mod hd-hd,sbfiss-mnr fiss,uni
 vf Aren Siltst.

SANDSTONE:gen wh-v lt gry gry,
 30-40% as dis-agg lse clr-trnsl
 grns,vf-f,com med-crs,mod srt,
 sbang i/p-dom sbrnd-rnd,sbsph-
 sbelong,10-15% wh arg mtx,mod-
 calc loc strng cmt,mnr f carb lam,
 pr inf por,no hc fluor.

ARENACEOUS SILTSTONE:
 dsky yel brn-dom brn gry,hd,
 sbfiss-fiss,20-40% vf Aren Sily
 Sst,tr carb spks & micmic.

SANDSTONE:gen wh-v lt gry,
 30-40% as dis-agg lse clr-trnsl
 grns,vf-f,com med-crs,mod srt,
 sbang i/p-dom sbrnd-rnd,sbsph-
 sbelong,10-15% wh arg mtx,mod-
 calc loc strng cmt,mnr f carb lam,
 pr inf por,sacch text,no hc fluor.

MURTA FORMATION:
 1399.2mMDRT (-1253.2mTVDSS)

SILTSTONE:med dk gry-dk gry,
 mod hd,fiss-dom sbfiss,uni
 txt,vf aren i/p,tr carb detritus,
 tr-loc mnr micmic.

ARENACEOUS SILTSTONE:dk
 gry,frm-mod hd i/p,sbblky-dom
 sbfiss,mnr f lith frags,tr carb
 detritus & micmic.

NAMUR SANDSTONE:
 1422.56mMDRT (-1276.56mTVDSS)

72/7/11/8/2

65/8/13/10/4

69/7/11/9/3

73/6/9/7/3

79/5/6/6/4

74/7/8/7/3

1300

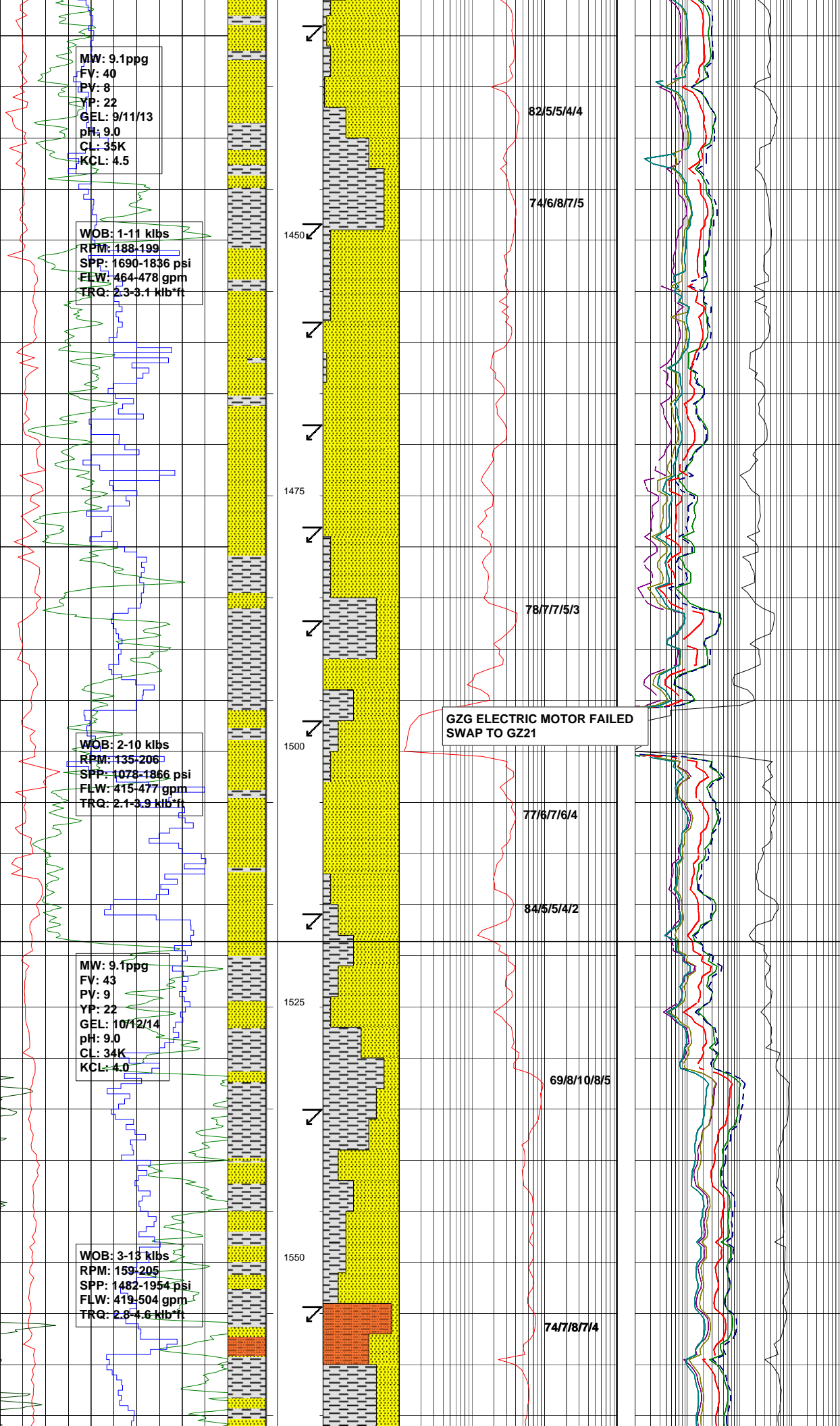
1325

1350

1375

1400

1425



MW: 9.1ppg
 FV: 40
 PV: 8
 YP: 22
 GEL: 9/11/13
 pH: 9.0
 CL: 35K
 KCL: 4.5

WOB: 1-11 klbs
 RPM: 188-199
 SPP: 1690-1836 psi
 FLW: 464-478 gpm
 TRQ: 2.3-3.1 klb*ft

WOB: 2-10 klbs
 RPM: 135-206
 SPP: 1078-1866 psi
 FLW: 415-477 gpm
 TRQ: 2.1-3.9 klb*ft

MW: 9.1ppg
 FV: 43
 PV: 9
 YP: 22
 GEL: 10/12/14
 pH: 9.0
 CL: 34K
 KCL: 4.0

WOB: 3-13 klbs
 RPM: 159-205
 SPP: 1482-1954 psi
 FLW: 419-504 gpm
 TRQ: 2.8-4.6 klb*ft

82/5/5/4/4

74/6/8/7/5

78/7/7/5/3

GZG ELECTRIC MOTOR FAILED
 SWAP TO GZ21

77/6/7/6/4

84/5/5/4/2

69/8/10/8/5

74/7/8/7/4

SANDSTONE:lt gry agg-vf,50% f-dom med trnsi-clr dis-agg grs, fri-mod hd,mod-wl srt,sbang-dom sbrndd,rndd i/p,sbelong-dom sbsph,5-10% wh arg mtx,wk calc cmt,pr vis-fr inf por,no hc fluor.

SILTSTONE:med dk gry-dk gry, mod hd,fiss-dom sbfiss,uni txt,vf aren i/p,tr carb detritus, tr-loc mnr micmic.

SANDSTONE:mnr v lt gry aggs -dom as brkn/di-sagg trnsi-clr grn,f-dom md rr crs,w/s,sbang -ang,sbsph-sbelng,v wk calc,wk sil cmt,tr wh arg mtx,pr vis-dom fr inf por,5% dl grn pnpt fluor in ti Sst agg,no crsh ct,v thn r/r fluor,no vis res.

SILTSTONE:gry blk,frm-med hd, sbfiss,v f aren,mod-v carb,tr micmic.

SANDSTONE:wh-v pl brn aggs, 30-40% as dis-agg clr-trnsi grs, fri,med-dom f,rr crs,mod-wl srt, sbang-mnr sbrnd,sbsph, string calc cmt,15-20% wh arg mtx i/p g/t arg Sst,v pr vis por,no hc fluor.

FLUORESCENCE:20%-mod bri grn yel scat fluor in ti Sst aggs,slw diff dll bl crsh ct,v thn r/r,no vis res.

WESTBOURNE FORMATION:
 1518.6mMDRT (-1372.6mTVDSS)

SILTSTONE:yel brn bcmg dom brn gry,frm-mod hd,sbbkly-sbfiss, uni vf aren,mnr micmic & tr vf carb spks.

SANDSTONE:lt gry-yel grn i/p, fri-mod hd,vf-f-uni sacch txt, wl srt,sbang-ang,sbsph-sph,5-10% wh arg mtx,wk calc-mod sil cmt,tr carb spks-rr brn gry stly lams,v pr vis por,tr pnpt dll mod bri yel fluor,v wk slw dll bl wh diff crsh ct,v thn dl bl wh r/r,no vis res.

SILTSTONE:dsky yel brn bcmg dom brn gry,frm-mod hd,sbbkly-sbfiss,uni vf Aren Stst,mnr micmic & tr vf carb spks.

ARENACEOUS SILTSTONE:uni brn gry,frm-mod hd i/p,sbfiss-mnr sbbkly,40-50% v f qtz grns Stly Sst,no calc,tr carb spks,loc com micmic.

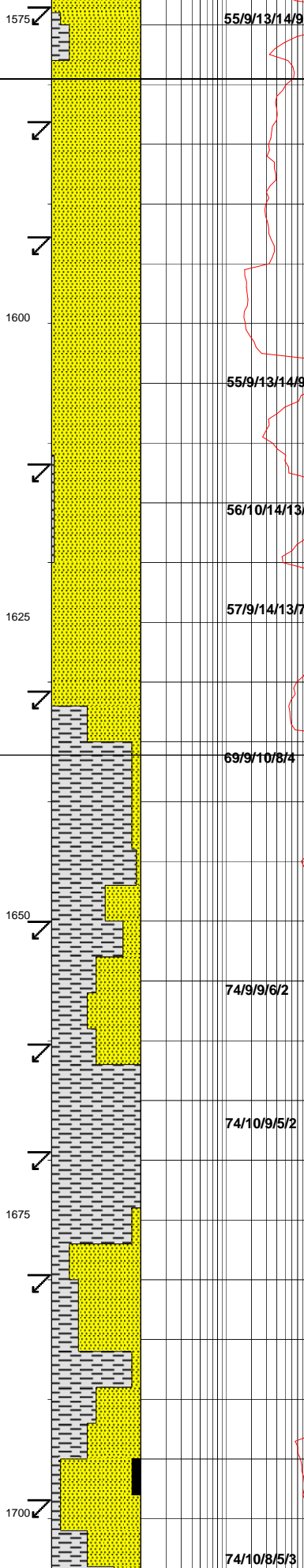
SANDSTONE:dom trnsi-mnr clr di-sagg atz grns mnr v lt gry

27-01-2013

WOB: 3-17 klbs
RPM: 138-187
SPP: 1376-1831 psi
FLW: 396-480 gpm
TRQ: 2.2-3.0 kib/ft

WOB: 3-19 klbs
RPM: 124-165
SPP: 1398-1872 psi
FLW: 400-493 gpm
TRQ: 1.0-2.9 kib/ft

WOB: 5-12 klbs
RPM: 124-165
SPP: 1419-1605 psi
FLW: 385-421 gpm
TRQ: 2.1-3.5 kib/ft



agg, fri-mnr mod hd, f-mnr med, wl srt, sbang-dom sbrnd, sbsph-sph, wk sil cmt, pr vis-fr inf por. FLUORESCENCE: 100% sol br yel grn fluor, slw diff grn wh ct-ins bri grn wh crsh ct w/sec strmg grs, thk mod bri grn wh r/r, no vis res.

ADORI SANDSTONE:
1579.54mMDRT (-1433.54mTVDSS)

SANDSTONE: wh, hd-fri i/p, vf dom f grns, wl srt, sbang-ang, mod strng sil cmt w/mnr qtz, ovghts, tr carb spks, v pr vis por, tr pnpt fluor.

SANDSTONE: v lt gry, mnr v pl brn stng, f, dom med-crs, mod-wl srt, ang-com brkn grns, sbsph-sbelong, mod-loc strng sil cmt w/occ qtz ovghts, pr vis por, tr intgran blk bitu stng, 70% pchy brt grn wh fluor, inst diff dl grn wh ct-slw strmg mod brt bl wh ct, thk grn wh r/r, no vis res.

BIRKHEAD FORMATION:
1636.1mMDRT (-1490.1mTVDSS)

SILTSTONE: brn gry-brn blk, frm, sbbly-dom sbfiss, gen uni txt-loc mod aren, mod carb i/p- tr carb detritus & micmic.

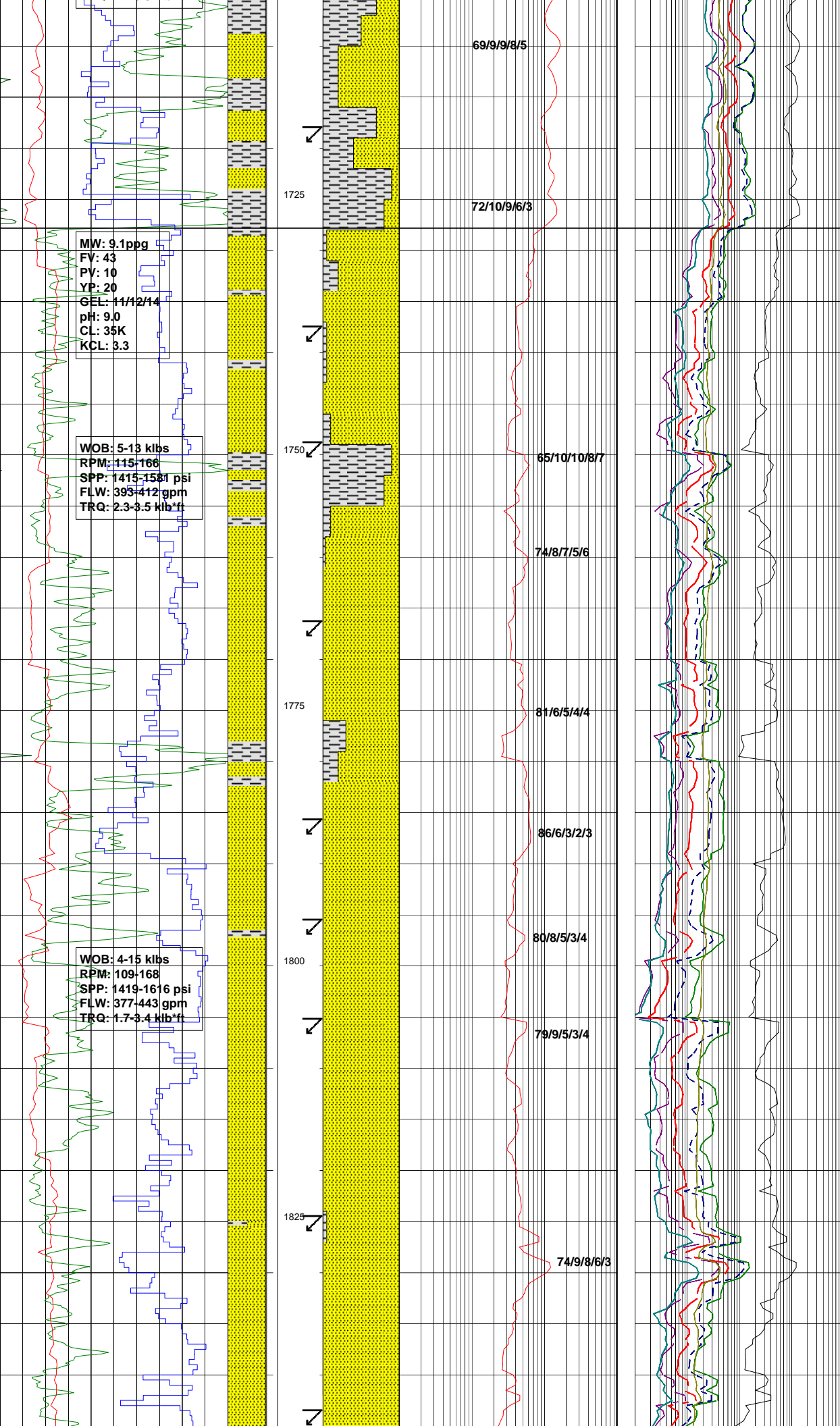
SANDSTONE: wh-v lt gry, trnsi-clr lse indvd grs, fri, vf-f, rr med, wl srt, sbang-ang, sbsph, wk calc, tr arg mtz, tr f liths, pr inf por, no hc fluor.

SILTSTONE: dk gry-brn blk, sbbly-dom sbfiss, frm-mod hd, gen vf aren-sli arg i/p, loc mod carb.

SANDSTONE: wh-v lt gry, trnsi-clr lse indvd grs, fri-mnr hd aggs, vf-dom f, v wl srt, sbang-sbrnd, sbsph, mod calc cmt, tr-mnr arg mtz, tr f liths, pr inf por, 100% sol mod bri-dll grn wh fluor, slw dl blwh strmg ct, thn bl wh r/r, no vis res.

COAL: blk, ea-sbvit, blk.

SILTSTONE: dk gry-brn blk, sbbly-dom sbfiss, frm-mod hd, gen vf aren-sli ara i/p, loc mod carb.



MW: 9.1ppg
 FV: 43
 PV: 10
 YP: 20
 GEL: 11/12/14
 pH: 9.0
 CL: 35K
 KCL: 3.3

WOB: 5-13 klbs
 RPM: 115-166
 SPP: 1415-1581 psi
 FLW: 393-412 gpm
 TRQ: 2.3-3.5 klb*ft

WOB: 4-15 klbs
 RPM: 109-168
 SPP: 1419-1616 psi
 FLW: 377-443 gpm
 TRQ: 1.7-3.4 klb*ft

69/9/9/8/5

72/10/9/6/3

65/10/10/8/7

74/8/7/5/6

81/6/5/4/4

86/6/3/2/3

80/8/5/3/4

79/9/5/3/4

74/9/8/6/3

SANDSTONE:wh-v lt gry,fri,f,
 v wl srt,sbang-dom sbrnd,sbsph,
 mnr wh arg mtx,wk-loc mod sil
 cmt,tr liths,v pr vis por,50% scat
 v dll grn wh fluor in no vis por
 aggs,slw v dll bl wh crsh ct,v thn
 r/r,no vis res.

HUTTON SANDSTONE:
 1727.8mMDRT (-1581.8mTVDSS)

SANDSTONE:wh-v lt gry,fri,f,
 v wl srt,sbang-dom sbrnd,sbsph,
 mnr wh arg mtx,wk-loc mod sil
 cmt,tr liths,v pr vis por,50% scat
 v dll grn wh fluor in no vis por
 aggs,slw v dll bl wh crsh ct,v thn
 r/r,no vis res.

SILTSTONE:olv blk,frm,
 sbbiky,f aren w/ tr liths/fields
 frags,loc com carb detritus.

UNUSUAL IC5 CONCENTRATION
 POTENTIALLY DUE TO ORGANIC
 MUD ADDITIVES.

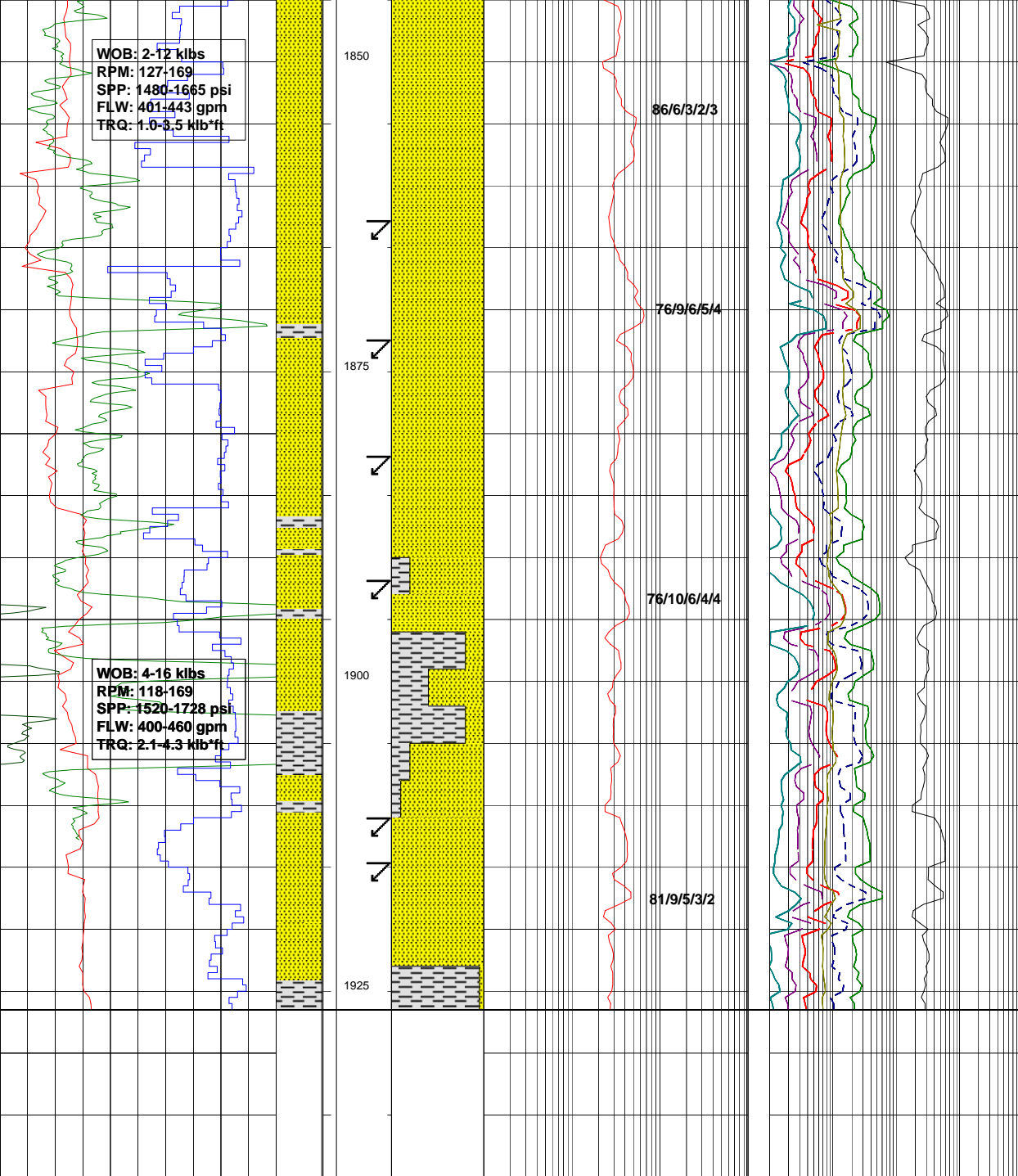
SANDSTONE:v lt gry-dom dis
 agg trnsi agg,mnr agg w/tr wh
 arg mtx,f-med i/p,dom crs-v crs,
 mod-pr srt,ang-mnr cryst faces,
 sbelong-elong,com qtz ovghts,tr pl
 org garnet frags,pr-fr inf por,tr
 ppt dl-brt yel fluor,v slw dl bl wh
 strmg ct,thn dl grn res rng,no vis
 res.

SILTSTONE:brn blk-dk gry,frm,
 sbbiky,f aren w/ tr liths/fields
 frags,loc com carb detritus.

SANDSTONE:v lt gry,dom disag
 milky-trnsi grns,occ mod hd agg,
 med-dom crs,mnr f & v crs,mod-pr
 srt,ang-sbang,mnr sbrnd,sbelong-
 elong,tr brkn cryst faces,wk calc,
 loc mod strng sil cmt w/tr qtz
 ovghts,tr pl org garnet frags,
 fr inf por,tr bitumen staining,
 no hc fluor.

SILTSTONE:gry blk,mod hd,
 sbfiss,carb.

SANDSTONE:v lt gry,dom disag
 milky-trnsi grns,occ mod hd agg,
 med-dom crs,mnr f & v crs,mod-pr
 srt,ang-sbang,mnr sbrnd,sbelong-
 elong,tr brkn xln faces,mod calc,
 mnr qtz ovghts,tr pl org garnet
 frags,fr inf por,tr btm stng,
 no hc fluor.



WOB: 2-12 klbs
 RPM: 127-169
 SPP: 1480-1665 psi
 FLW: 401-443 gpm
 TRQ: 1.0-3.5 klb*ft

WOB: 4-16 klbs
 RPM: 118-169
 SPP: 1520-1728 psi
 FLW: 400-460 gpm
 TRQ: 2.1-4.3 klb*ft

86/6/3/2/3

76/9/6/5/4

76/10/6/4/4

81/9/5/3/2

SANDSTONE:v lt gry-lt gry,mnr v pl brn stn aggs,dom as disagg clr-trnsl/mnr mlky qtz grs,fri-mod hd in aggs,med grn,mnr f & crs,wl srt,sbrnd-sbang,mnr ang, sbsph-sbelong,wk calc-mnr qtz ovghts,tr wh arg mtx,fr inf por, no hc fluor.

SANDSTONE:v lt gry-lt gry,mnr v pl brn stn aggs,dom as disagg clr-trnsl/mnr mlky qtz grs,fri-mod hd in aggs,med grn,mnr f & crs,wl srt,sbrnd-ang,mnr ang, sbsph-sbelong,mod calc-mnr qtz ovghts,tr wh arg mtx,fr inf por, no hc fluor.

SILTSTONE:dk gry,frm,sbfiss-fiss,gen uni txt-loc v f aren,tr liths & carb spks.

SANDSTONE:lt gry-dom as disagg trnsl-mlky qtz grs,fri,f-dom med,occ crs,wl srt,ang-sbang, sbrnd,sbsph-dom sbelong,tr-mnr loc 10% wh arg mtx,wk calc,wk-mod sil cmt w/ mnr qtz ovghts, pr-fr inf por,no hc fluor.

B/UP SAMPLE @1926.5m
SILTSTONE:gry blk-brn blk,frm-mod hd,sbfiss-fiss i/p,tr vf aren mat,loc mod carb w/ tr-5% coally lams/frags,tr mic pyr aggs.

TRICLOPS-1 REACHED TD @ 18:00 HRS ON 28-01-2013

Wireline Logs:
 Run1:PBX-HRLA-HNGS-ADT-SP
 Run2:GPIT-SONIC-SCANNER