

AYRFORD 1

WELL HYDROCARBON LOG

Company Name Line 1	ESSENTIAL PETROLEUM RESOURCES LTD
Well Name	AYRFORD 1
Field	Gas Exploration
Township	Port Campbell
Country	Australia
State	Victoria
County or Rig name	ADS Rig 6
Field Location	Heytesbury 3D survey lines 10506 / 2557
Permanent Datum	MSL
Elevation of PD	.00 M
Elevation of KB	74.00 M
Elevation Ground lv	70.00 M
Elevation Log Zero	74.00 M
Log measured from	KB
Drill measured from	KB
Well class	Gas Exploration
Basin	Otway
Tenement/Concession	PEP 168
Geographic datum	GDA 94
Spud Date	4/04/2008
Date plotted	17-04-2008
Time plotted	06:00:56

PETROLOG SOFTWARE Revision 9.50

CROCKER
DATA PROCESSING

LITHOLOGIES



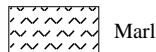
Shales



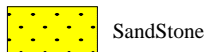
Clay



Silty LS



Marl



SandStone



Silt/Siltstone

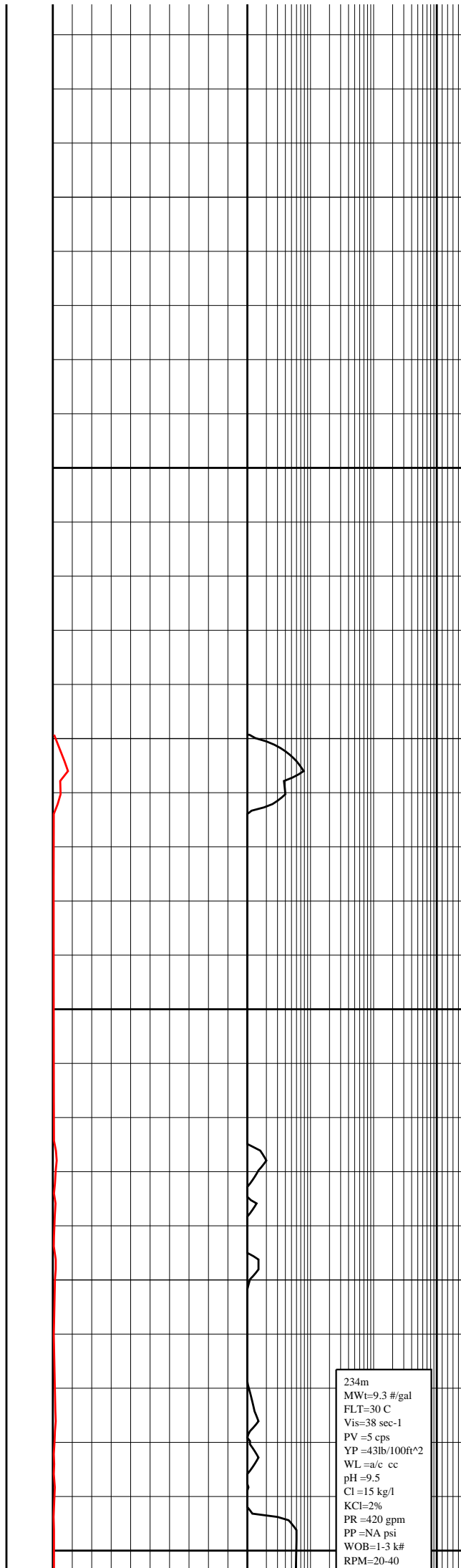
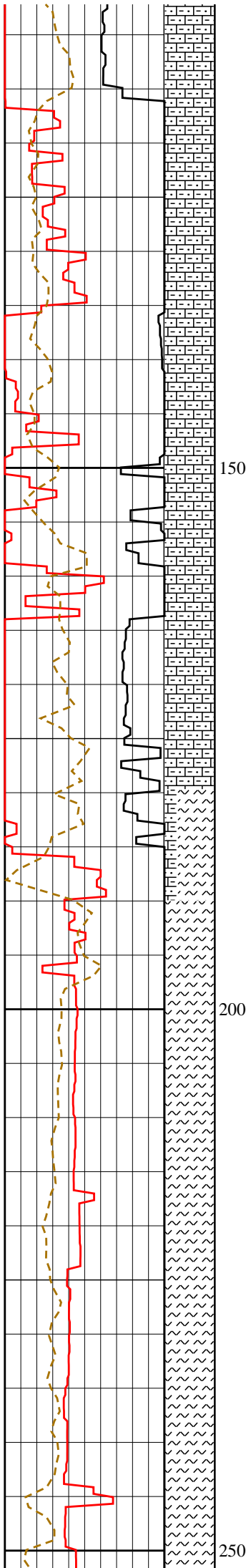


Claystone

SYMBOL LEGEND

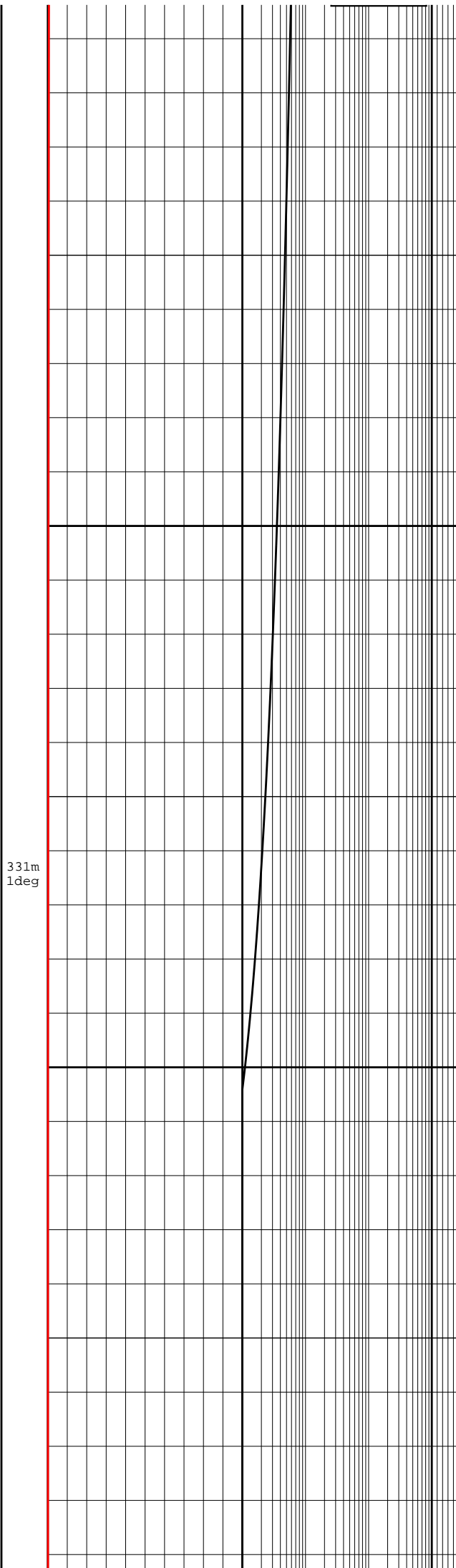
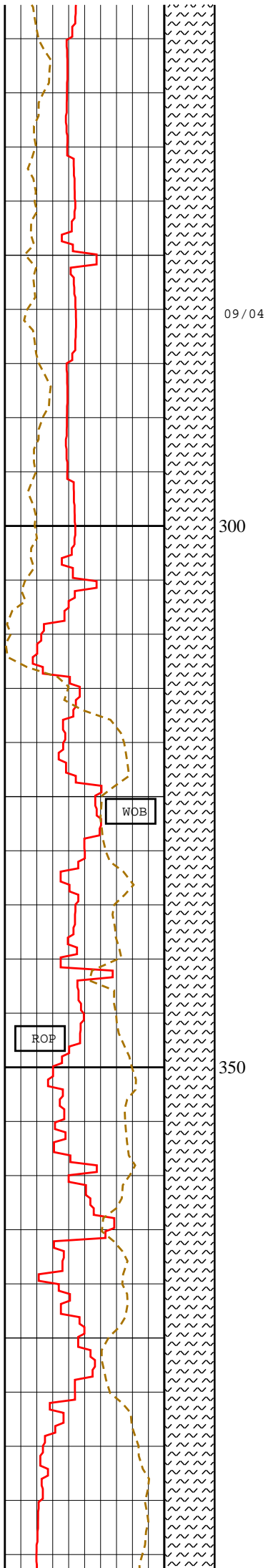
Drill Parameters	LITHO	DEPTH M	Symbol	Total Gas		Component Gas			HS	REMARKS
ROP 50.0 (M/H) 0.0		1:500		Gas 0.0 (U) 50.0	C1 0.001 (%) 1.0					
ROP 100.0 (M/H) 50.0					C2 0.001 (%) 1.0					
Bit Wt 0.0 (k.lb) 20.0					C3 0.001 (%) 1.0					
					C4 0.001 (%) 1.0					
<p>KB-GL=4.2m</p> <p>9m</p> <p>13 3/8" Conductor</p> <p>Bit #2</p> <p>12 1/4" Stealth</p> <p>Type JST 11 XC</p> <p>3x16 + 1x14 jets</p> <p>551m in 17.3 hrs</p>		<p>50</p> <p>100</p>					<p>Ayrford 1</p> <p>Spud @ 03:30 hr 08 April 2008</p> <p>40 - 100m</p> <p>CALCARENITE: pale yellowish grey, in part mottled grey, to yellowish grey, very fine to medium grain, poorly sorted, patchy clear calcareous cement, silty matrix.</p> <p>100 - 180m</p> <p>CALCARENITE: light grey very fine to fine grained, silty, poor to very poorly sorted, soft, part friable. Common fossil</p>			

fragments, occasional trace glauconite, occasional stringers of cleaner calcarenite as above (40-100m)

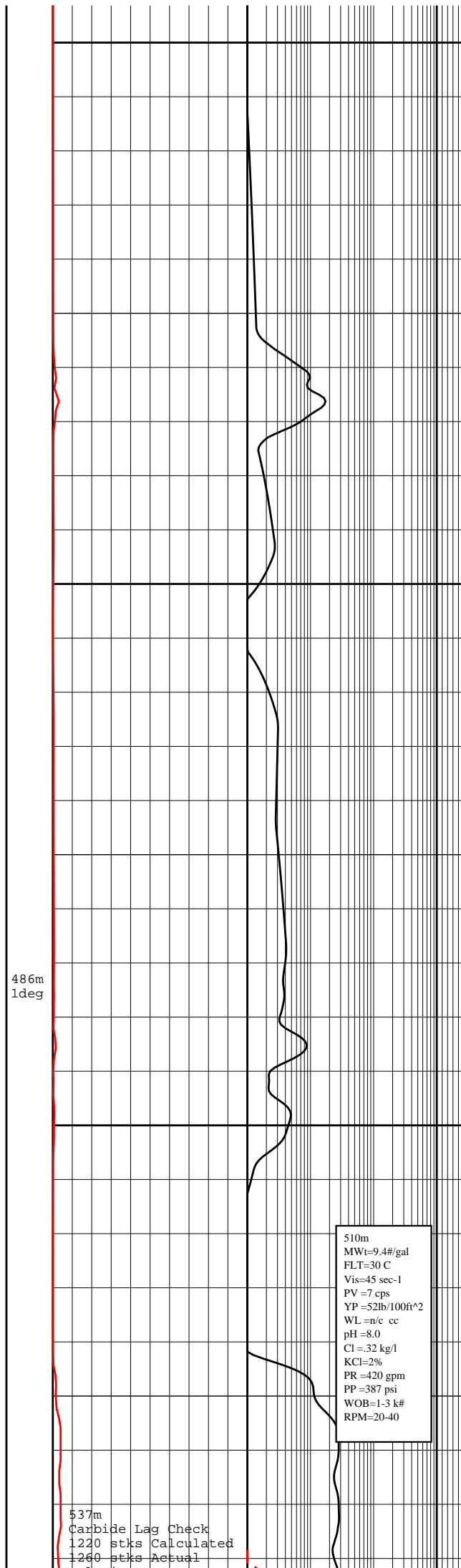
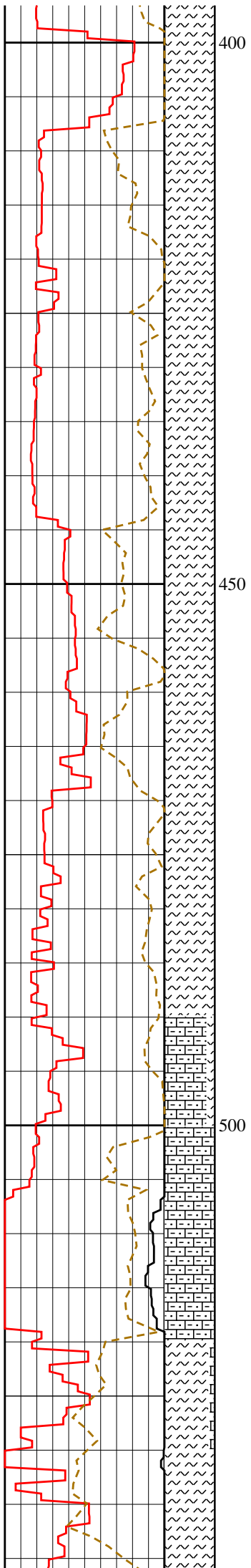


180 - 285m
MARL
light to medium grey, predominantly light grey, part with very fine white speckles, soft sticky amorphous, occasional blocky, trace pyrite, trace glauconite, stringers of coarse grain, yellow brown, traces of yellow brown calcide.

234m
Mwt=9.3 #/gal
FLT=30 C
Vis=38 sec-1
PV =5 cps
YP =43lb/100ft^2
WL =a/c cc
pH =9.5
Cl =15 kg/l
KCl=2%
PR =420 gpm
PP =NA psi
WOB=1-3 k#
RPM=20-40



285 - 490m
 MARL:
 light to medium grey, predominantly light grey,
 frequently silty, abundant fossil remnants, (bryzoan
 fragments, echinoid spines, forams), occasional pyrite ,
 occasional bright yellow and dull yellow brown mineral
 fluorescence, no hydrocarbon shows



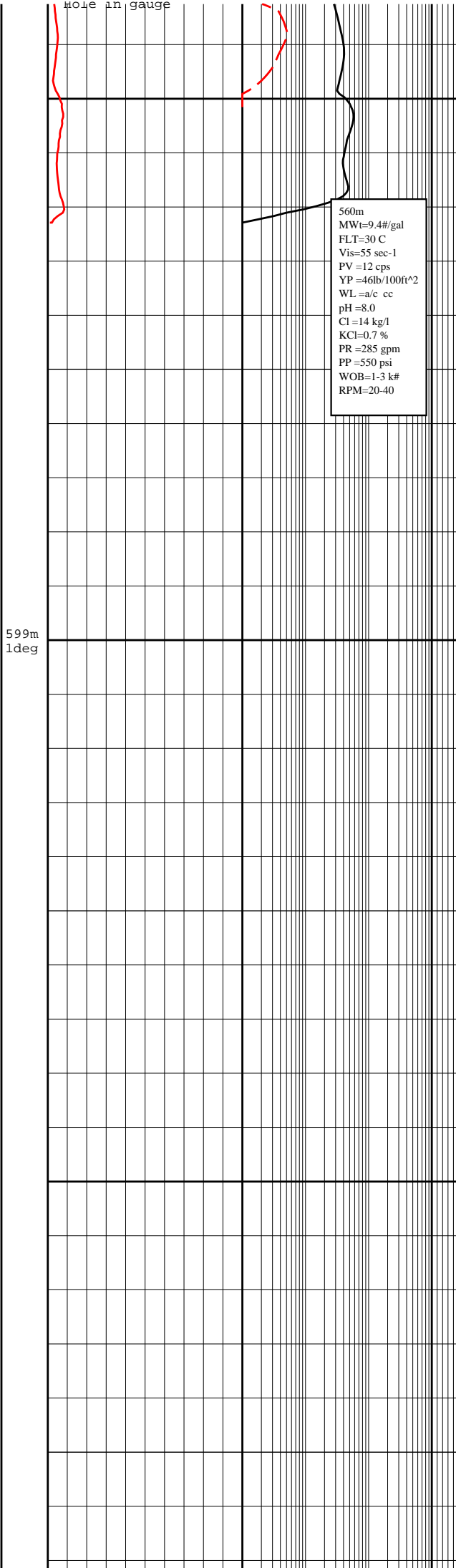
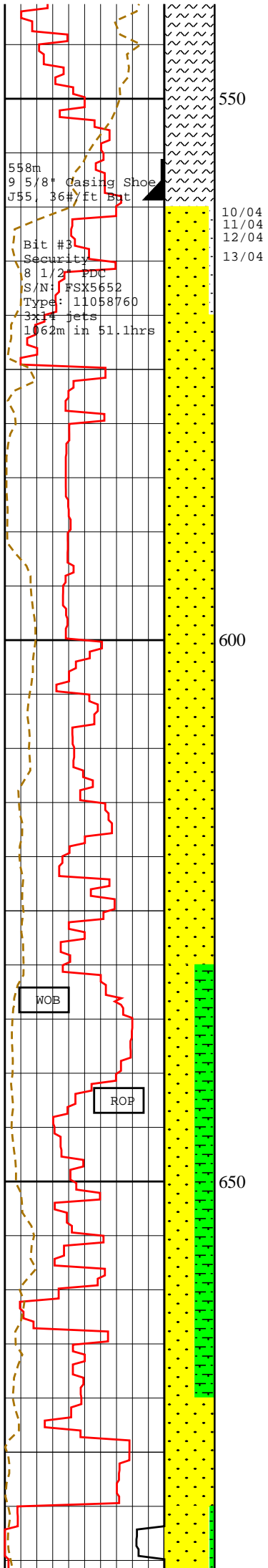
486m
1deg

510m
 MWt=9.4#/gal
 FLT=30 C
 Vis=45 sec-1
 PV =7 cps
 YP =52lb/100ft²
 WL =n/c cc
 pH =8.0
 Cl =.32 kg/l
 KCl=2%
 PR =420 gpm
 PP =387 psi
 WOB=1-3 k#
 RPM=20-40

537m
 Carbide Lag Check
 1220 stks Calculated
 1260 stks Actual
 Hole in gauge

490 - 520m
CALCARENITE:
 yellow brown, fine to coarse weathered grains, abundant calc fossil fragments, abundant quartz crystals (frequently smooth round coarse to medium grain brown quartz, frequently grains with crystal form) of volcanogenic origin, common amber, light calc cement, brittle, excellent inter granular porosity, common bright yellow mineral fluorescence from calc fragments, common brown to dull yellow fluorescence from amber grains, no hydrocarbon shows.

520 - 560m
MARL:
 medium to occasionally dark grey greyish brown, very finely sandy, speckled with very fine sand and fossil fragments, and fine glauconite and carbonaceous material, trace very fine quartz grains, blocky, soft, friable, common coarse fossil material including ?fish teeth



560 - 564m

SANDSTONE:

clear to translucent, moderate to dark greyish yellow, yellow, fine to very coarse predominantly medium, poorly sorted, subangular, loose, slight calcareous cement adhering to grains, trace reworked pyrite, trace fossil frags, trace lithics (volcanics and chert), inferred porosity very good.

SILTSTONE:

light grey speckled green, very finley sandy, soft, trace glauconite.

564 - 650m

SANDSTONE:

Clear/translucent to medium dark greyish yellow, to yellow. Very coarse to fine, pred med. Poorly sorted, sa. Occ very well rounded grains. Predom loose. Slight calc or ferruginous cement adhering to grains. Trace reworked pyrite nodules, pyritised chamosite and fossil material, and lithic grains.

SILTSTONE:

Light greyish green, speckled, very finely sandy, soft, trace glauconite.

650 - 860m

SANDSTONE:

clear to very light grey, pred coarse to very coarse grained, loose quartz grains, stained moderate yellowish brown (limonitic clay), polished with a pearly lustre, commonly pitted, common composite quartz grains (reworked quartzite) sr-well rounded, very well sorted . And 2. Medium grey to brownish grey, vf-fn grained, silty, calcareous cement ip, trace pyrite and rounded glauconite pellets.

SILTSTONE:

Brownish grey, sandy ip, soft, carbonaceous matter ip.

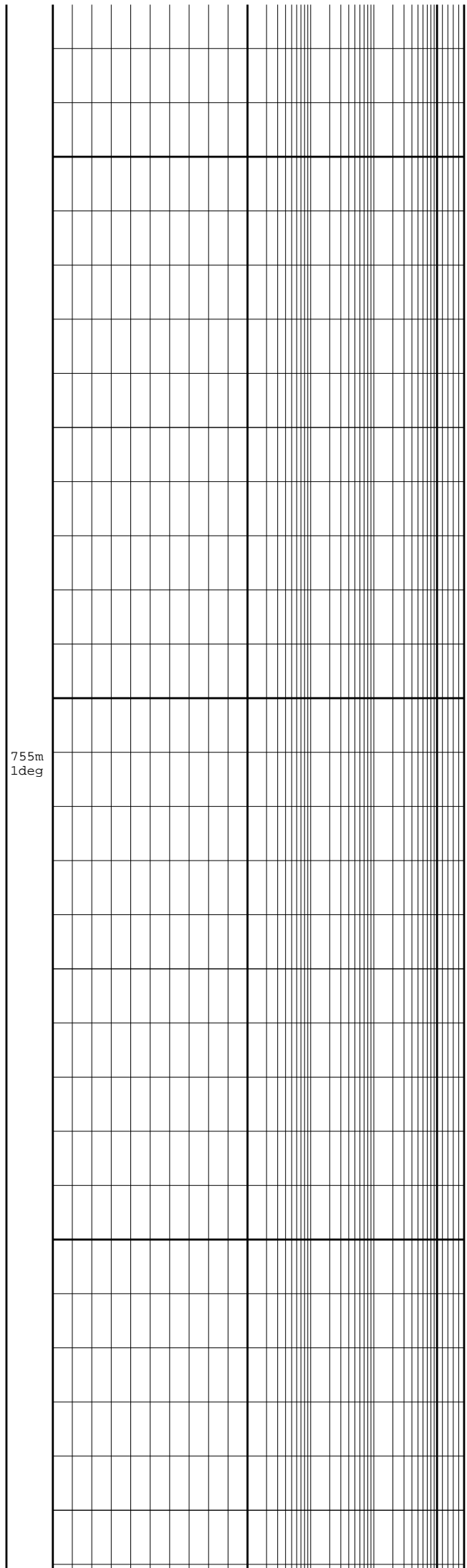
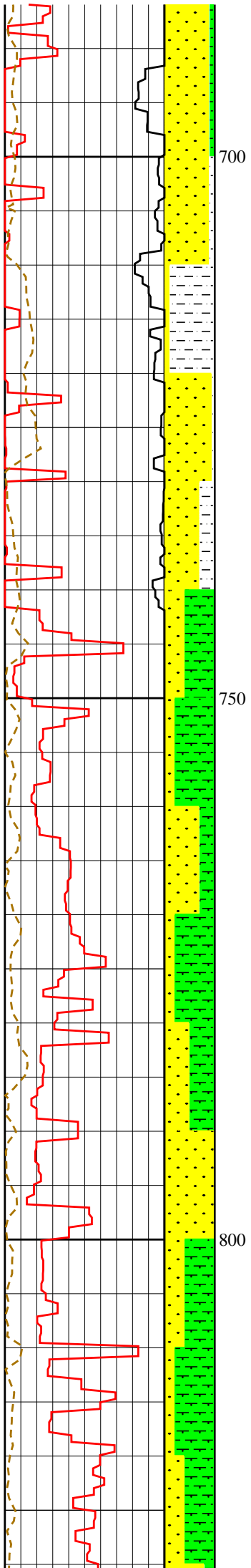
560m
 MWt=9.4#/gal
 FLT=30 C
 Vis=55 sec-1
 PV =12 cps
 YP =46lb/100ft^2
 WL =a/c cc
 pH =8.0
 Cl =14 kg/l
 KCl=0.7 %
 PR =285 gpm
 PP =550 psi
 WOB=1-3 k#
 RPM=20-40

599m
 1deg

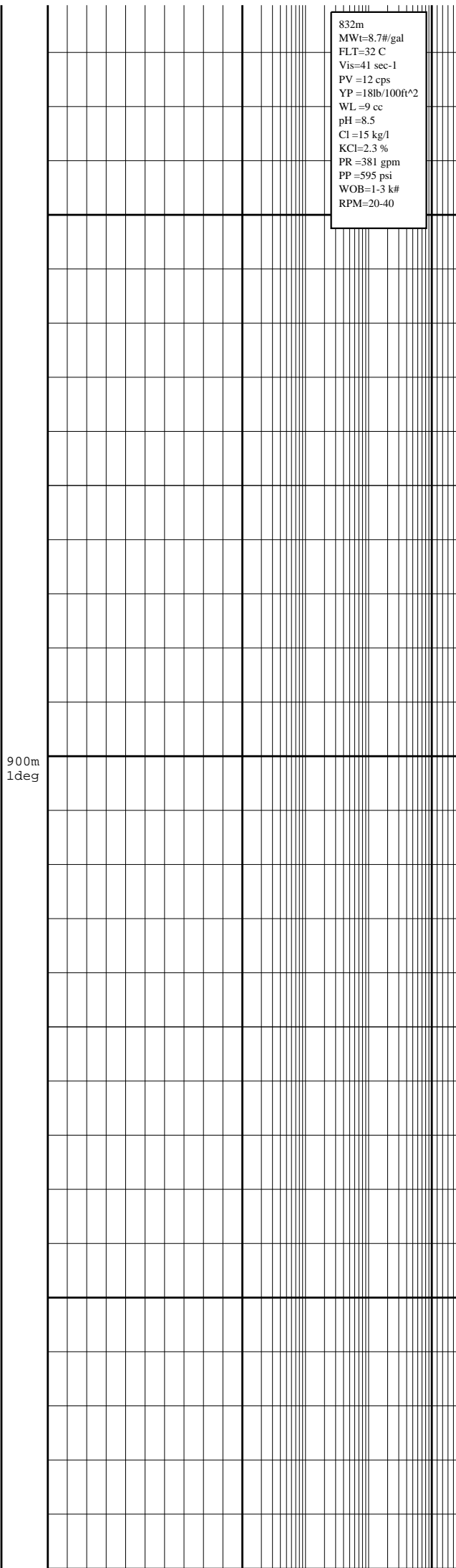
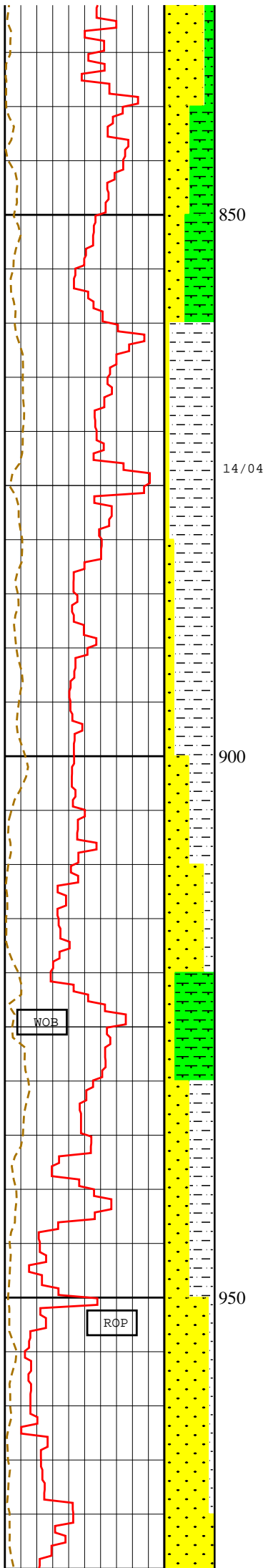
WOB

ROP

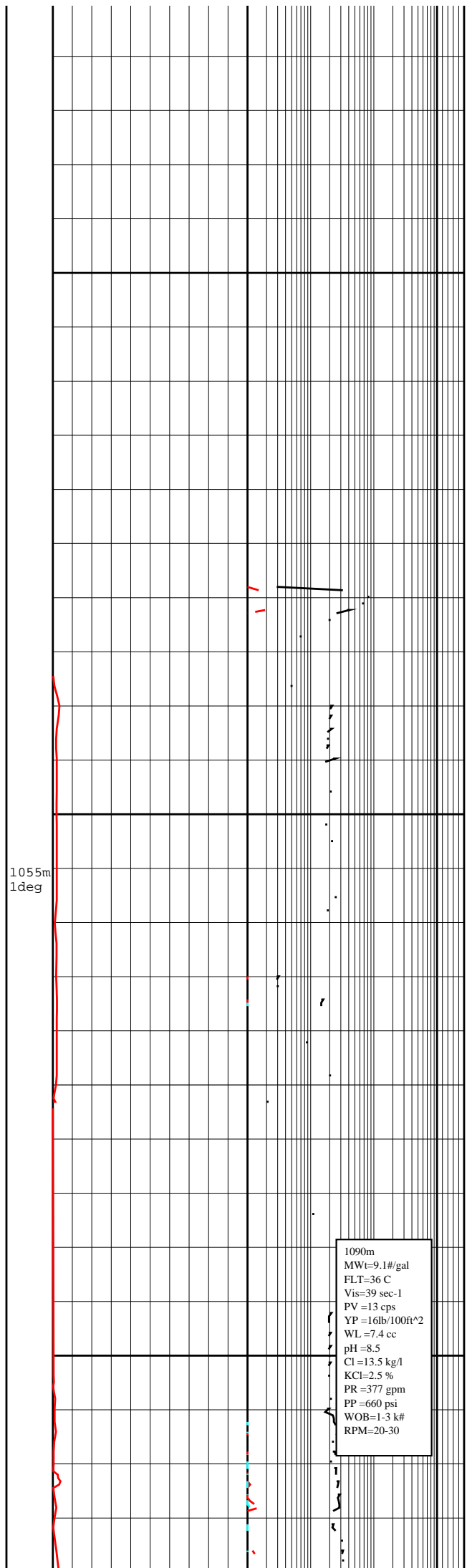
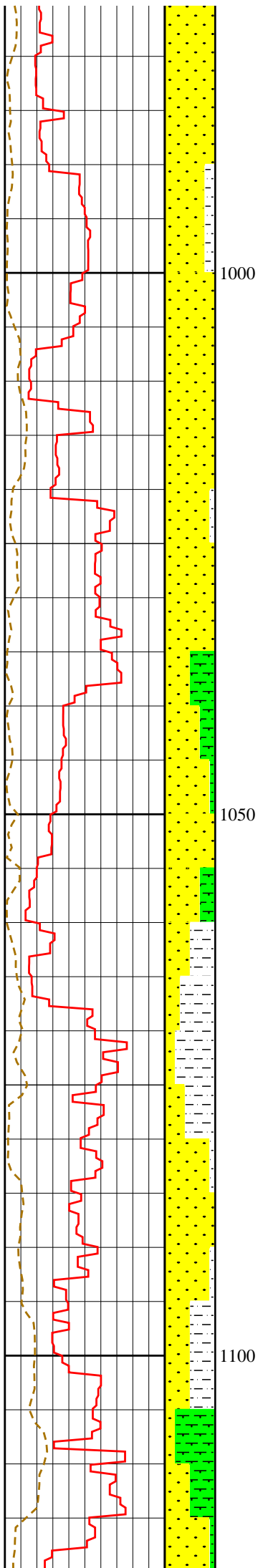
hole in gauge



832m
 MWt=8.7#/gal
 FLT=32 C
 Vis=41 sec-1
 PV =12 cps
 YP =18lb/100ft^2
 WL =9 cc
 pH =8.5
 Cl =15 kg/l
 KCl=2.3 %
 PR =381 gpm
 PP =595 psi
 WOB=1.3 k#
 RPM=20-40

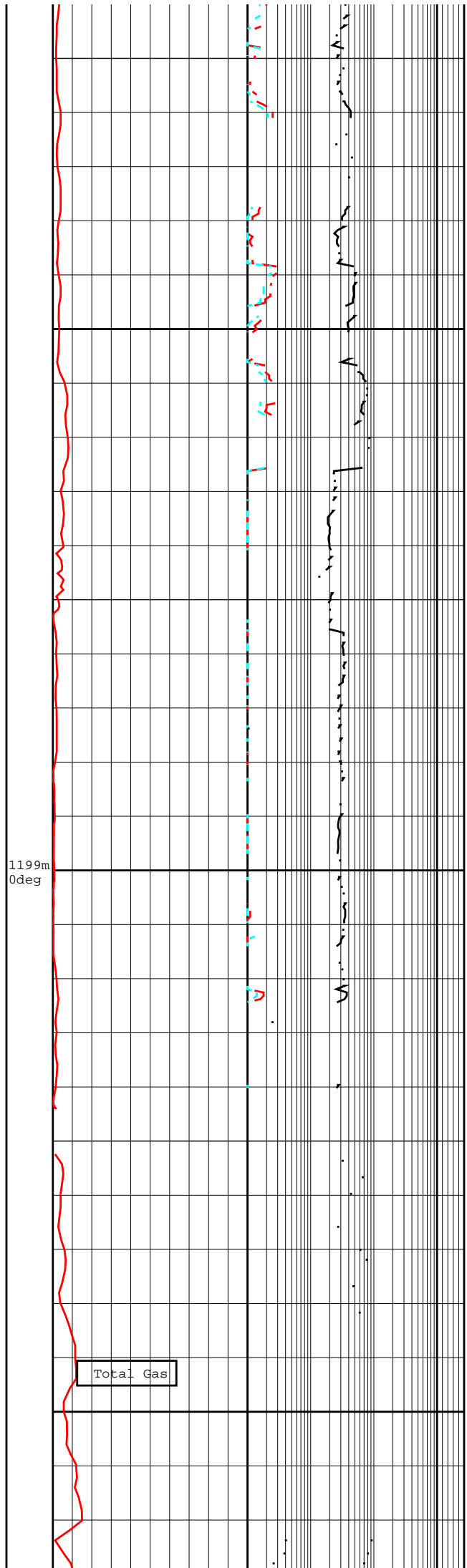
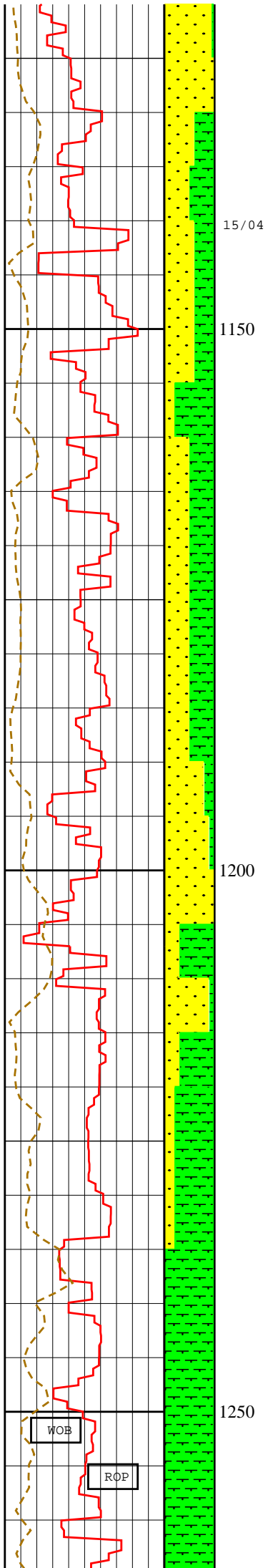


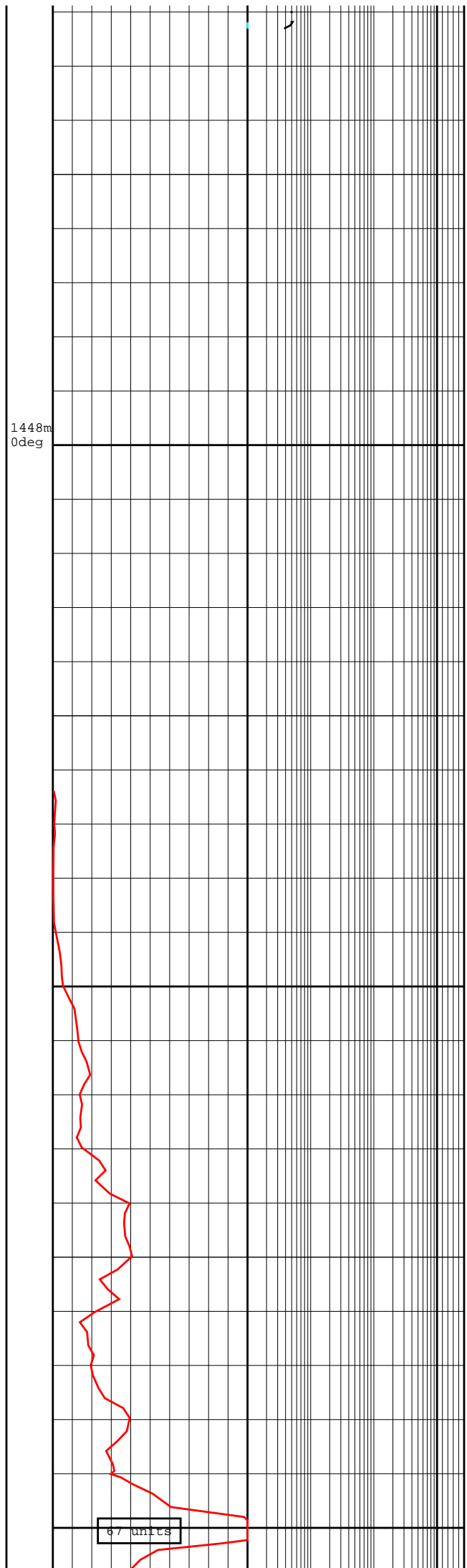
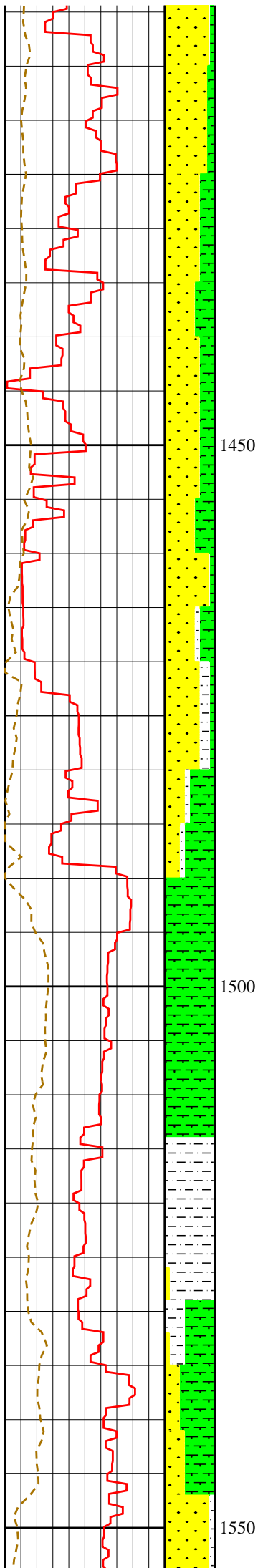
860 - 873m
MUDSTONE:
 brownish grey to dark greenish grey, firm, very glauconitic, sandy in part, common floating sand grains in silty glauconitic matrix, common chamosite pisolites, glauc clay and pyrite cement. Trace fossil fragments.
SANDSTONE:
 clear very coarse grained angular to subrounded, polycrystalline composite quartz grains with glauconitic clay matrix adhering. Trace mica.

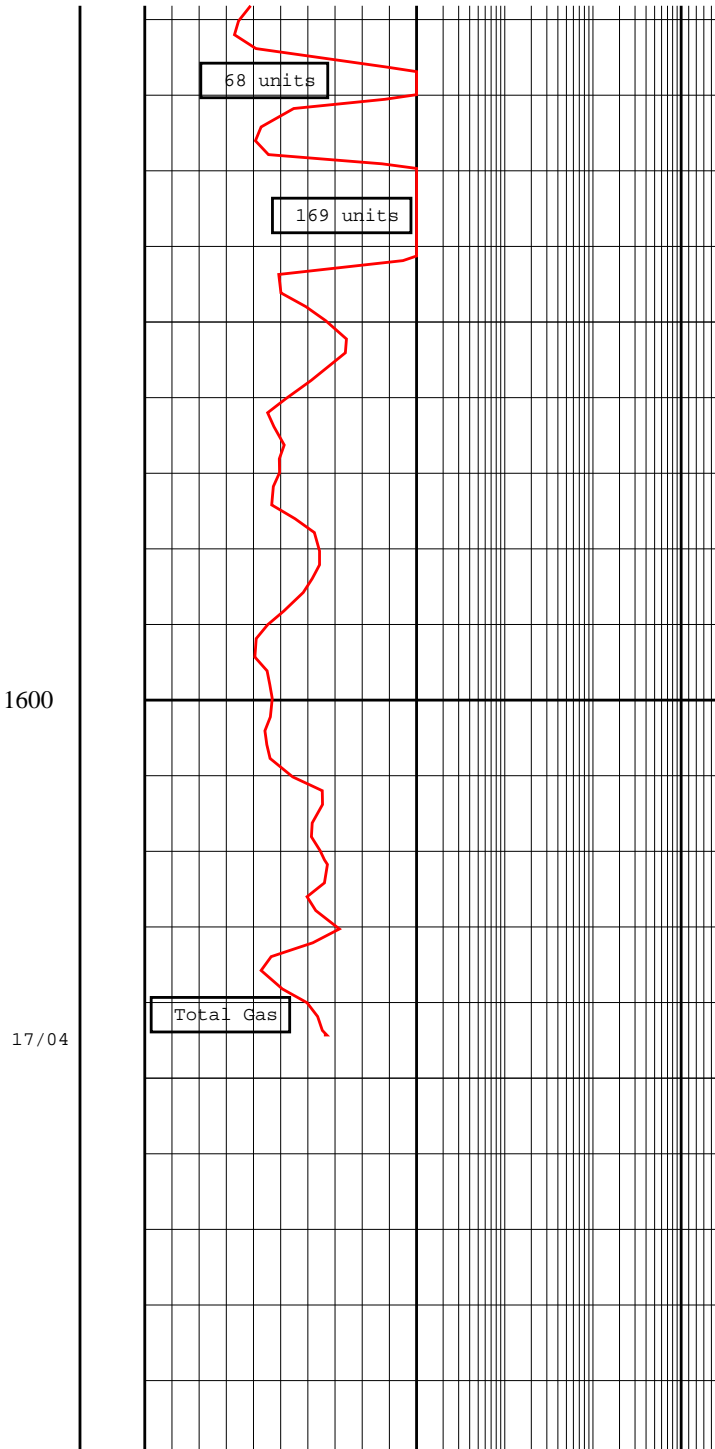
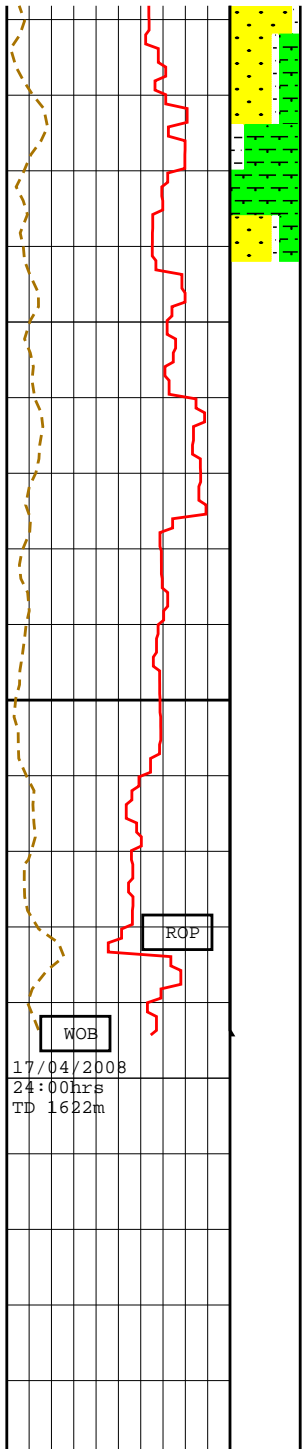


1055m
1deg

1090m
 MWt=9.1#/gal
 FLT=36 C
 Vis=39 sec-1
 PV =13 cps
 YP =16lb/100ft²
 WL =7.4 cc
 pH=8.5
 Cl=13.5 kg/l
 KCl=2.5 %
 PR =377 gpm
 PP =660 psi
 WOB=1-3 k#
 RPM=20-30







Drill Parameters	LITHO	DEPTH	Symbol	Total Gas	Component Gas	HS	REMARKS
ROP				Gas	C1		
50.0 (M/H) 0.0				0.0 (U) 50.0	0.001 (%) 1.0		
ROP					C2		
100.0 (M/H) 50.0					0.001 (%) 1.0		
Bit Wt					C3		
0.0 (k.lb) 20.0					0.001 (%) 1.0		
					C4		
					0.001 (%) 1.0		
					C5		
					0.001 (%) 1.0		

LOG DESCRIPTION

- ROP Rate of Penetration (m/hr)
- ROP Rate of Penetration (m/hr)
- Bit Wt Weight on Bit (klbs)
- Gas 50 Units = 1% Methane in Air
- C1 % Methane

C1	% methane
C2	% Ethane
C3	% Propane
C4	% (i-Butane + n-Butane)/2
C5	% Pentanes