MASTERLOG
BMA A1A

Esso

Geoservices logging

GENERAL

Country : AUSTRALIA
Permit : VIC L13
Field : Bream
Basin : GIPPSLAND
Well Type : DEVELOPMENT
Rig Name : NABORS 453

POSITION

GDA Co-ord X : 147 46 19.983 E
GDA Co-ord Y : 38 29 58.755 S
MGA Co-ord X : 567336.50mE
MGA Co-ord Y : 5738462.46mN
RT to MSL : 32.82m
RT to Sea Bed : 92.22m

HOLE / CASING INFO

8-1/2" Hole to 2294.0m MDRT
13-3/8" Surface Csg at 854.0m MDRT
9-5/8" Production Csg at 1495.6m MDRT
(Top of Milled Window)
7" Production Csg at 2287.0m MDRT

DATE / DEPTH

Kick Off Date : 04-11-2005
Total Depth Date : 07-11-2005
Total Depth : 2294.0m MDRT
True Vertical Depth : 2033.9m TVDRT
Log Scale : 1/ 500

ENGINEERS

Mark Smith
Steve Oades

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, BRYOZOA, CARB FRAGMENT
SILTSTONE, LIMESTONE, RADIOLARITES, QUARTZITE
SST: F - V FINE, DOLOMITE, ECHINOIDS, INTRUSIVES
SST: MEDIUM, CHERT, CORALS, GLAUCONITE
SST: COARSE, CONGLOMERATE, FORAMINIFERA, PYRITE
SHALE, COAL, LITHIC FRAGMENT, CEMENT

ENGINEERING LEGEND

CASING SHOE, WIRELINE LOGS
LINER HANGER, MDT POINTS:
BIT CHANGE, PRESSURE ONLY
DEVIA. SURVEY, SAMPLE
SWC UNRECOV, SEAL FAILURE
SIDEWALL CORE, TIGHT
CORE

ROP (m/hr) 500 50 5 .5
WOB (tons) 50 25 0
MWD Gamma Ray (api) 0 100 200

DEPTH (m) (TVD)

CUTTINGS LITHOLOGY % 0 100

TOTAL GAS & CHROMATOGRAPH DATA
C1, C2, C3, iC4, nC4, iC5, nC5, TG
Total Gas in Units .5 5 50 500 5K
Chromatograph in Percent .01 .1 1 10 100

CUT FLUOR: good fair poor
DIRECT FLR: good fair poor

LITHOLOGY DESCRIPTIONS and REMARKS

Window Depth 1495.6 to 1501.8m MDRT
Start Miling Window at 03:45 hours on 01-11-2005

05-11
MW: 9.9
FV: 63
PV: 18
YP: 28
Gel:7/11
WI: 3.0
pH: 11.35
Cl: 39k

WOB:2-10
TDRPM:0
MMRPM:174
SPP:1800
FLW:600

1490
1500
1510 (1295.5)
1520
1530 (1309.9)
1540

Tie in Survey:1500.00mMD (1288.29mTVD)
43.98°inc 264.77°az

BIT #1RR 8 1/2"
Smith S73PX
Jets: 6x20
In : 1509.0m MDRT
Out : 1523.0m MDRT
Run : 14.0m
Hrs : 2.0
Cond: 1-6-S-BT-S-X-IN-PN-HP
BIT #2RR 8 1/2"
Smith GFi11YODV
Jets: 3x24
In :1500.0m MDRT
Out :1500.0m MDRT
Run :0.0m
Hrs :0.0m
Cond:1-1-WT-A-E-E-E-1/16-NO-HP

Survey:1531.94mMD (1311.9mTVD)
40.72°inc 253.98°az

100 / Tr / Tr

PREVIOUS WELL HISTORY
Plugged & Abandoned in October, 2005.
13-3/8" Surface Csg 894.0m KB
9-5/8" Intermediate Csg 2338.0m KB
5-1/2" Production Liner 3074.0m KB

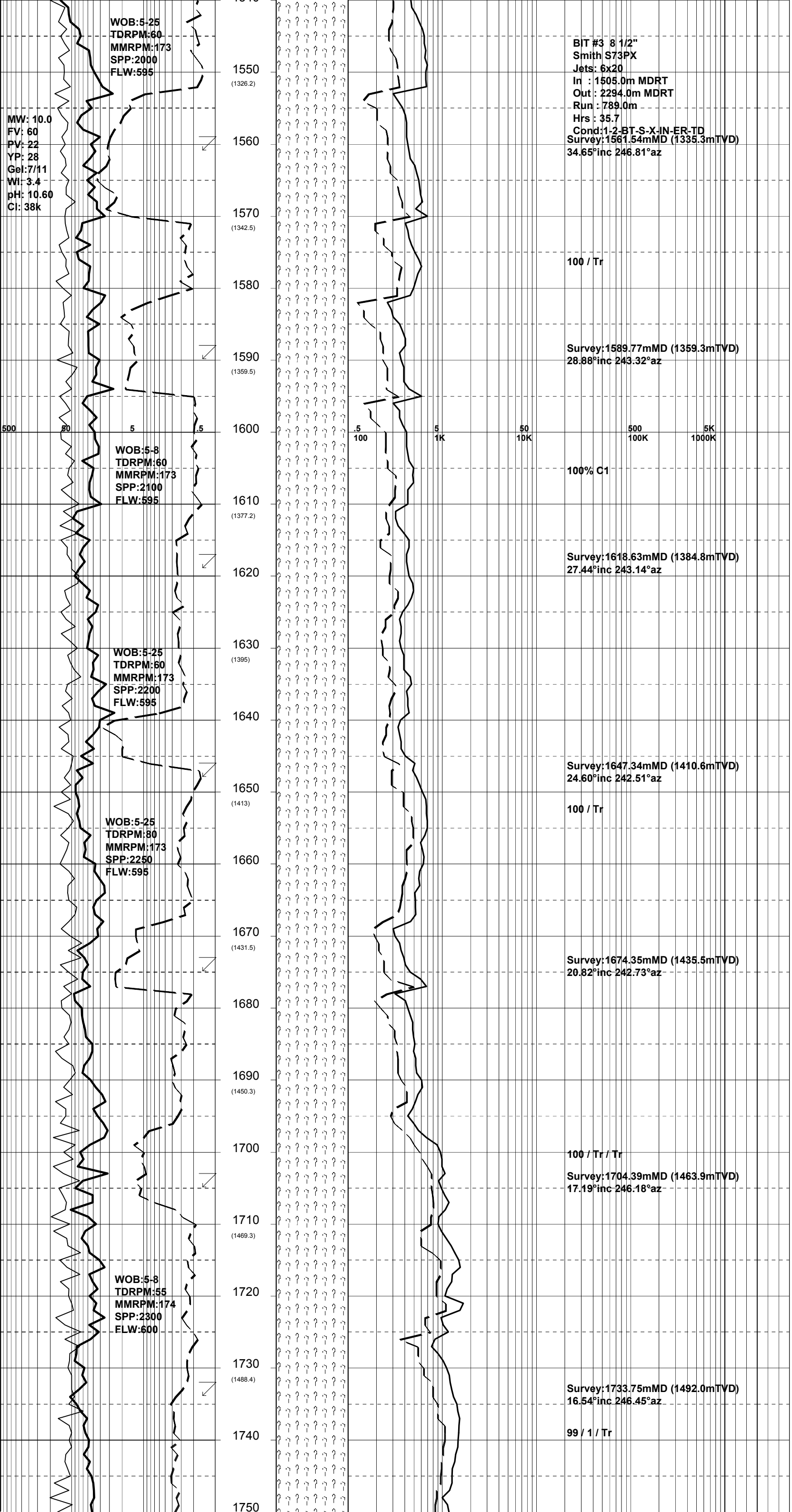
Top of Bridge Plug (EZSV): 1503.3m MDRT
Top of Window at 1495.6m MDRT
Bottom of Window at 1501.8m MDRT
8-1/2" Mill from 1495.6m MDRT to 1509.0m MDRT. Rat hole:7.2m

Drilled from 1509.0m MDRT to 1523.0m MDRT without kick-off. Plug back to 1498.5m MDRT. Drill out to 1500.0m MDRT. Obstruction at 1500.0m MDRT. No Go. Mill from 1500.0m MDRT to 1505.0m MDRT

CALCAREOUS CLAYSTONE:med gy-med dk gy,slty,mod calc,tr dissem pyr,rr foss frag,frm-mod hd, sbblky-blky.

Bream A1A kick-off at 21:40 hours on 04-11-2005 from 1505.0m MDRT

At 1523.0m MDRT 1304.9m TVDRT



PIT:669 psi 10.0 ppg EMW:13.0 ppg

Drill with KCl/Glycol/PHPA mud system.

No H2S or CO2 Detected

CALCAREOUS CLAYSTONE:med gy-med dk gy,slty,mod calc,tr dissem pyr,rr foss frag,frm-mod hd, sbblky-blky.

GAS ANALYSIS BY GEOSERVICES GP-FID SYSTEM, FGP/FCP GAS PANELS. GZ11 DEGASSER IN POSSUM BELLY from 1505.0m MDRT

CALCAREOUS CLAYSTONE:med gy-med dk gy,slty,mod calc,tr dissem pyr,tr foss frag,rr glauc,frm-mod hd, sbblky-blky.

CALCAREOUS CLAYSTONE:med lt gy-med gy,slty,mod calc,tr dissem pyr,rr foss frag,frm-mod hd, sbblky-blky.

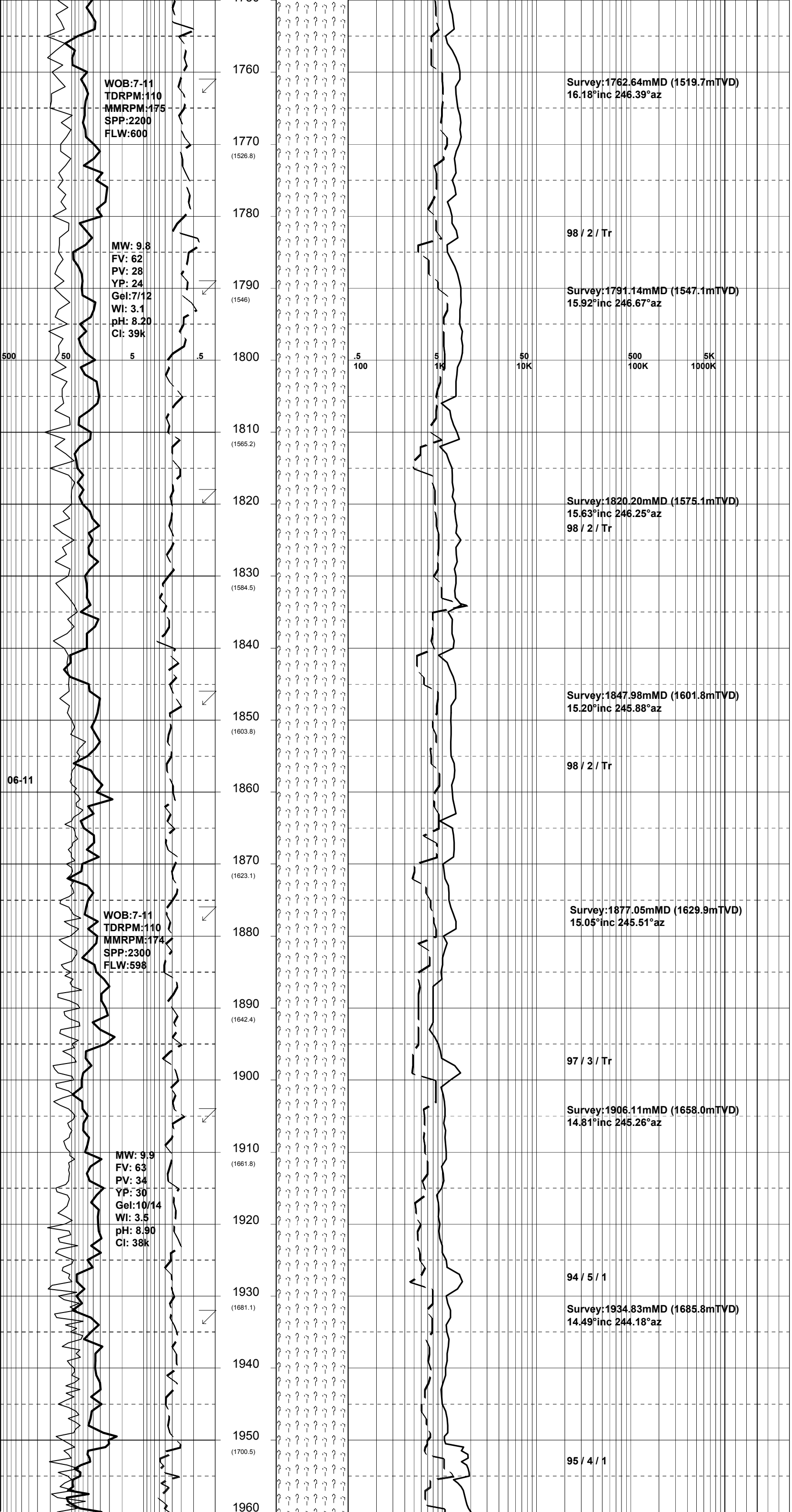
CALCAREOUS CLAYSTONE:med lt gy-med gy,slty,mod calc,tr dissem pyr,rr foss frag,frm-mod hd, sbblky-blky.

CALCAREOUS CLAYSTONE:med lt gy-med gy,slty,mod calc,tr dissem pyr,rr foss frag,frm-mod hd, sbblky-blky.

GAS ANALYSIS BY GEOSERVICES GP-FID SYSTEM, FGP/FCP GAS PANELS. GZG DEGASSER IN FLOW TROUGH FROM 1698.0m MDRT.

CALCAREOUS CLAYSTONE: lt bnsh gy-med gy,slty,mod calc,tr dissem pyr,rr foss frag,frm-mod hd, sbblky-blky.

CALCAREOUS CLAYSTONE:lt bnsh gy-med gy,slty,mod calc,tr dissem pyr,rr foss frag,frm-mod hd, sbblky-blky.



CALCAREOUS CLAYSTONE:lt bnsh gy-med gy,slty,mod calc,tr dissem pyr,rr foss frag,frm-mod hd, sbblky-blky.

CALCAREOUS CLAYSTONE:lt bn gy, med gy,slty,mod calc,tr dissem pyr,rr foss frag,frm-mod hd, sbblky-blky.

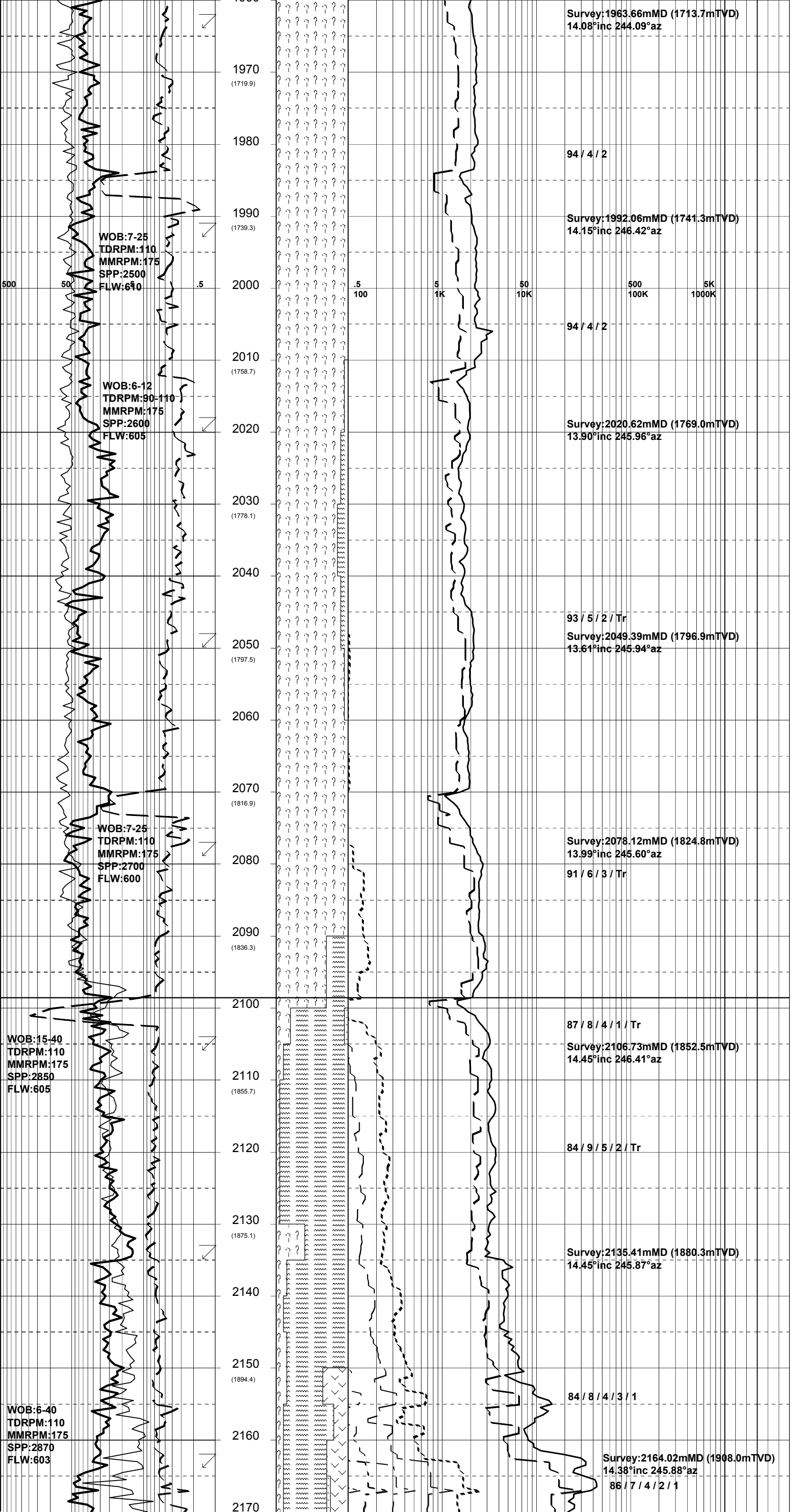
CALCAREOUS CLAYSTONE:lt bnsh gy-med gy,occ med dk gy,slty,mod calc,tr dissem pyr,rr nod pyr,rr ooid, rr gastropods,sft-frm,sbblky.

CALCAREOUS CLAYSTONE:lt bnsh gy-med gy,occ med dk gy,slty,mod calc,tr dissem pyr,rr nod pyr,rr ooid, rr gastropods,sft-frm,sbblky.

CALCAREOUS CLAYSTONE:lt bnsh gy-med gy,occ med dk gy,slty,mod calc,tr dissem pyr,rr nod pyr,rr ooid, rr gastropods,sft-frm,sbblky.

CALCAREOUS CLAYSTONE:lt bnsh gy-med gy,occ med dk gy,slty,mod calc,tr dissem pyr,rr nod pyr,rr ooid,tr gastropods,sft-frm,sbblky.

CALCAREOUS CLAYSTONE:lt bnsh gy-med gy,slty,mod calc,tr dissem pyr,rr foram,rr ooid,rr nod pyr, sft-frm,sbblky.



CALCAREOUS CLAYSTONE:lt bnsh gy-med gy,slty,mod calc,tr dissem pyr,rr foram,rr ooid,rr nod pyr, sft-frm,sbblky.

CALCAREOUS CLAYSTONE:lt bnsh gy-occ med gy,slty,mod calc,tr dissem pyr,rr nod pyr,rr foram,rr ooid,sft-frm,sbblky.

CALCAREOUS CLAYSTONE:lt bnsh gy-med gy,slty,mod calc,tr dissem pyr,rr nod pyr,rr ooid,sft-frm sbblky.

SILTSTONE:pl yelsh bn,v aren g/t vf SST,sli calc,frm-mod hd, sbblky.

CALCAREOUS CLAYSTONE:lt bnsh gy-med gy,slty,mod calc,tr dissem pyr,rr foram,rr ooid,sft-frm sbblky.

SILTSTONE:pl-mod yelsh bn,v aren g/t vf SST,sli calc,frm-mod hd, sbblky.

CALCAREOUS CLAYSTONE:lt bnsh gy-med gy,slty,mod calc,tr dissem pyr,rr foram,rr ooid,rr glauc, sft-frm,sbblky.

CALCAREOUS CLAYSTONE:lt bnsh gy-med gy,slty,mod calc,com foram, tr dissem pyr,rr ooid,sft-frm, sbblky.

CALCAREOUS CLAYSTONE:lt bnsh gy-med gy,slty,mod calc,com foram, tr dissem pyr,rr ooid,rr vf glauc, sft-frm,sbblky.

Top of Latrobe
2098.5m MDRT 1844.5m TVDRT
(-1811.7m TVDSS)

CLAYSTONE:(1) as above
CLAYSTONE:(2) v lt gy,sli calc,sft-frm,amor-sbblky.
SILTSTONE:dk yelsh bn-mod bn,v aren g/t vf SST,com pell glauc,tr micmic,frm-mod hd,sbblky.
SANDSTONE:wh-pl gn,vf,mod wl srt, sa-sr,com sil cmt,wk glauc mtx,hd agg,ti vis por,no fluor.

SILTSTONE:dk yelsh bn-mod bn,v aren g/t vf SST,com pell glauc,tr micmic,frm-mod hd,sbblky.

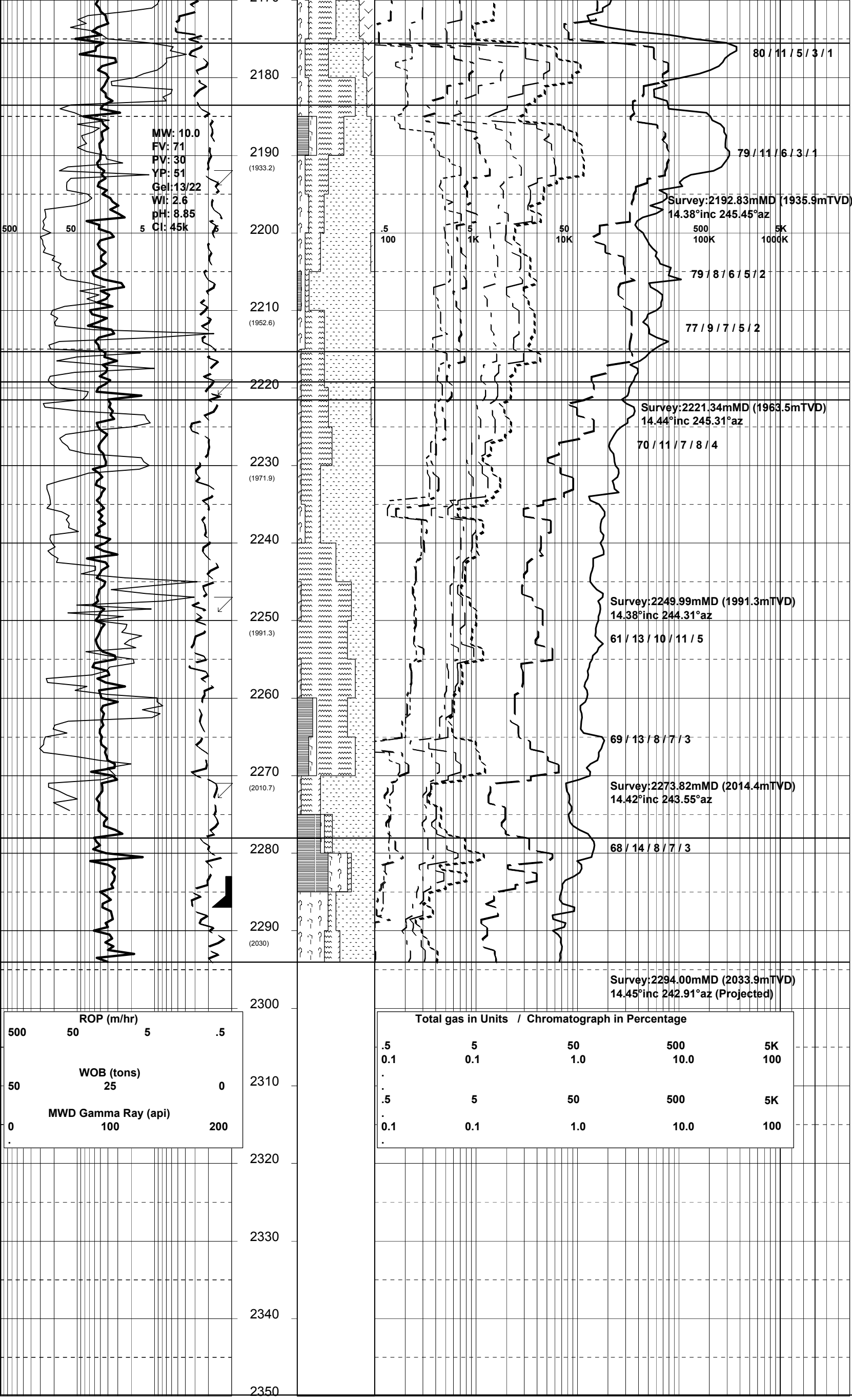
CLAYSTONE:v lt gy-lt gy,sli calc, frm-mod hd.

SILTSTONE:mod bn-gysh bn,v aren g/t vf SST,com pell glauc,tr nod pyr,tr micmic,frm-mod hd,sbblky.

VOLCANICS:pl gn-gnsh gy,occ dk yel bn,dom chloritic,hd,xln.

SILTSTONE:mod bn-gysh bn,v aren g/t vf SST,com pell glauc,tr nod pyr,tr micmic,frm-mod hd,sbblky.

CLAYSTONE:(1) v lt gy-lt gy,sli calc, frm-mod hd.
CLAYSTONE:(2)mod yel,non calc,sft, amor.



TCC (N-1 Reservoir)
2175.5m MDRT 1919.1m TVDRT
(-1886.3m TVDSS)

SANDSTONE:clr-trnsl,v crs,mod wl srt,sa-sr,com frac qtz grn,cln, lse,fr-gd inf & vis por,no fluor.

Base of Waste Rock (BWST)
2184.8m MDRT 1928.2m TVDRT
(-1895.4m TVDSS)

SANDSTONE:clr-transl,crs-v crs, dom v crs,com frac qtz grn,mod wl srt,sa-sr,com nod pyr,wk pyr cmt, dom lse,gen cln,fr inf & vis por, no fluor.
COAL:dsky bn-bnsh blk,slty i/p, g/t CARB SLTST,sbblky,ang, wdy tex.
CLAYSTONE:lt gy,non calc,mod hd, occ hd,blky.
SILTSTONE:mod bn,dk yelsh bn, v aren g/t v f SST,rr pell glauc, tr micmic,frm-mod hd,sbblky.

CbF2 horizon (Cobalt sand)
2215.3m MDRT 1958.0m TVDRT
(-1925.2m TVDSS)

CbF1
2219.2m MDRT 1961.8m TVDRT
(-1929.0m TVDSS)

Cbsb Horizon
2221.5m MDRT 1963.8m TVDRT
(-1931.0m TVDSS)

SANDSTONE:clr-trnsl,crs-v crs, mod wl srt,sa-sr,wk pyr cmt,rr pyr nod,lse,cln,fr inf & vis por,no fluor.
SILTSTONE:mod bn-dk yelsh bn, v aren g/t vf SST,tr micmic, frm-mod hd,sbblky.
SANDSTONE:clr-trnsl,rr v pl org, med-dom v crs,mod wl srt,sr-sa, wk pyr cmt,tr nod pyr,lse,cln, fr-gd inf & vis por,no fluor.
SILTSTONE:mod bn-dk yellsh bn, v aren g/t vf SST,tr micmic, frm-mod hd,sbblky.
SANDSTONE:clr-trnsl,med-dom v crs,occ frac qtz grn,mod wl srt,sa-sr,wk pyr cmt,rr pyr nod, lse,cln,fr inf & vis por, no fluor.
COAL:dsky bn-bnsh blk,slty i/p, g/t CARB SLTST,mod hd,sbblky, unevn,wdy tex.
CLAYSTONE:lt gy,non calc,mod hd, occ hd,blky.
SANDSTONE:clr-trnsl,med-dom v crs,mod wl srt,sa-sr,wk pyr cmt, rr pyr nod,lse,cln,fr inf & vis por, no fluor.

P. asperopolus Coal
2278.0m MDRT 2018.4m TVDRT
(-1985.6m TVDSS)

COAL:dsky bn-bnsh blk,slty i/p, g/t CARB SLTST,mod hd,sbblky, unevn,wdy tex.
SANDSTONE:clr-trnsl,rr gysh pnk, crs-dom v crs,mod wl srt,sa-sr, cln,lse,fr-gd inf & vis por, no fluor.

7" Casing Liner shoe set at 2287.0m MDRT

Bream A1A reached Total Depth of 2294.0m MDRT 2033.9m TVDRT at 04:30 hours on 07-11-2005

Run Precision Energy Services compact shuttle logging from 2291.0m MDRT to 1490.0m MDRT MCG-MDN-MPD-MDL-MSS-MAI