MASTERLOG
WKF W-31A

Esso

Geoservices logging

GENERAL	SURFACE POSITON	HOLE / CASING INFO	DATE / DEPTH	ENGINEERS
Country : AUSTRALIA	Longitude : 148 06 19.408E	8-1/2" Hole to 3450.0m MDRT	Spud Date : 21-06-2006	Steve Oades
Permit : VIC L8	Latitude : 38 35 34.800S		Total Depth Date : 03-07-2006	Mark Smith
Field : Kingfish	MGA Co-ord X : 596265.03mE	13-3/8" Surface Csg 1300.0m MDRT	Total Depth : 3450.0m MDRT	Noel Elliott
Basin : GIPPSLAND	MGA Co-ord Y : 5727807.76mN	7" Production Csg at	True Vertical Depth : 2373.2m TVDRT	Nick Abolins
Well Type : DEVELOPMENT	RT to MSL : 33.43m		Log Scale : 1/ 500	
Rig Name : NABORS 453	RT to Sea Bed : 109.56m			

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
SLIDING BAR
DEPTH (m) (TVD)
CUTTINGS LITHOLOGY % 0 100
RESERVAL GAS DATA
C1, C2, C3, iC4, nC4, iC5, nC5, TG
Total Gas in Units Chromatograph in PPM
.5 5 50 500 5K | 100 1K 10K 100K 1000K
CUT FLUOR good fair poor
DIRECT FLR good fair poor
LITHOLOGY DESCRIPTIONS and REMARKS

1280
1290
1300 (975.1)
1310
1320 (986.6)
1330

SLIDING INDICATED BY VERTICAL BAR IN DEPTH COLUMN.

MW: 8.95
FV: 50
PV: 19
YP: 26
Gel:8/11
WL: 4.2
pH: 9.5
Cl: 40k

22-06-06
WOB:5-8
TDRPM:50
MWRPM:174

Tie in Survey:1300.00mMD (975.11mTVD)
57.11°inc 269.74°az

BIT #1 8 1/2"
Smith S73HPX
Jets: 5x18, 3x16
In : 1300.0m MDRT
Out : 2794.0m MDRT
Run : 1494.0m
Hrs : 52.7
Cond: 1-3-BT-S/T-X-1/16-CT-HP

96 / 1 / 1 / 1 / 1

PREVIOUS WELL HISTORY
Plugged & Abandoned in June, 2006
13-3/8" Surface Csg 1300.0m MDRT
9-5/8" Production Csg cut and pulled from 1372.0m MDRT
Kick-off plug at 1277.0m MDRT

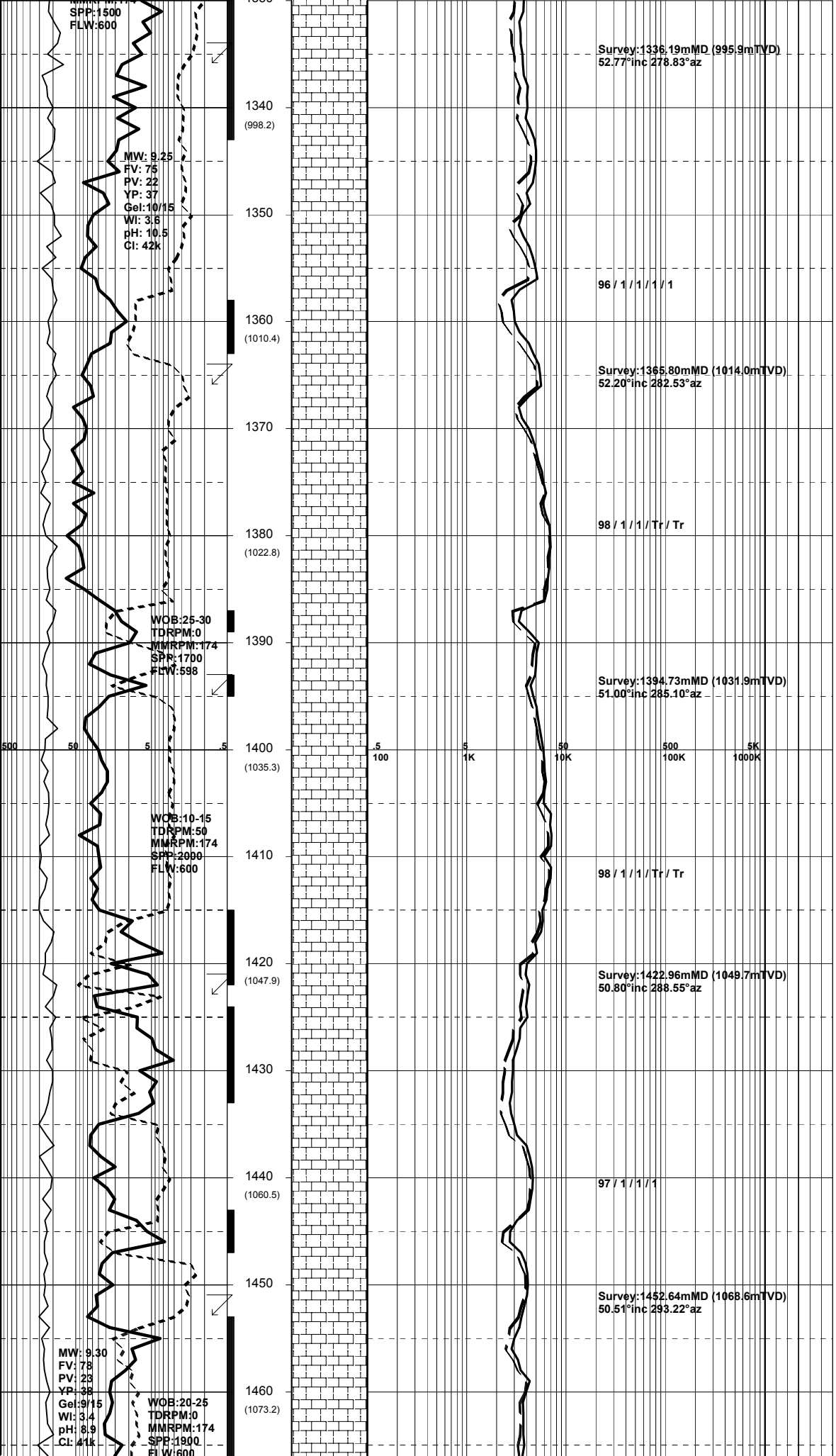
West Kingfish W-31A kick-off at 19:00 hours on 21-06-2006 from 1300.0m MDRT

Drill with 8% KCl/PHPA/Polymer Glycol-CP mud system.

Drilled to 1367.0 mMDRT (1014.7 mTVDRT)
PIT at 1300.0m MDRT 975.1 mTVDRT 660 psi 9.2 ppg EMW:13.0 ppg

CALCILUTITE:v lt gy-lt gy,slty i/p,tr foss frag,disp,sft,amor.

SLIDING INDICATED BY VERTICAL BAR IN DEPTH COLUMN.



CALCILUTITE:v lt gy-lt gy,slty i/p,tr foss frag,disp,sft,amor.

CALCILUTITE:v lt gy-lt gy,slty i/p,tr foss frag,disp,sft,amor.

CALCILUTITE:v lt gy-lt gy, slty i/p,tr foss frag,rr carb mat,occ disp,sft-frm,sbblky, occ amor.

CALCILUTITE:v lt gy-lt gy, slty i/p,tr foss frag,rr carb mat,occ disp,sft-frm,sbblky, occ amor.

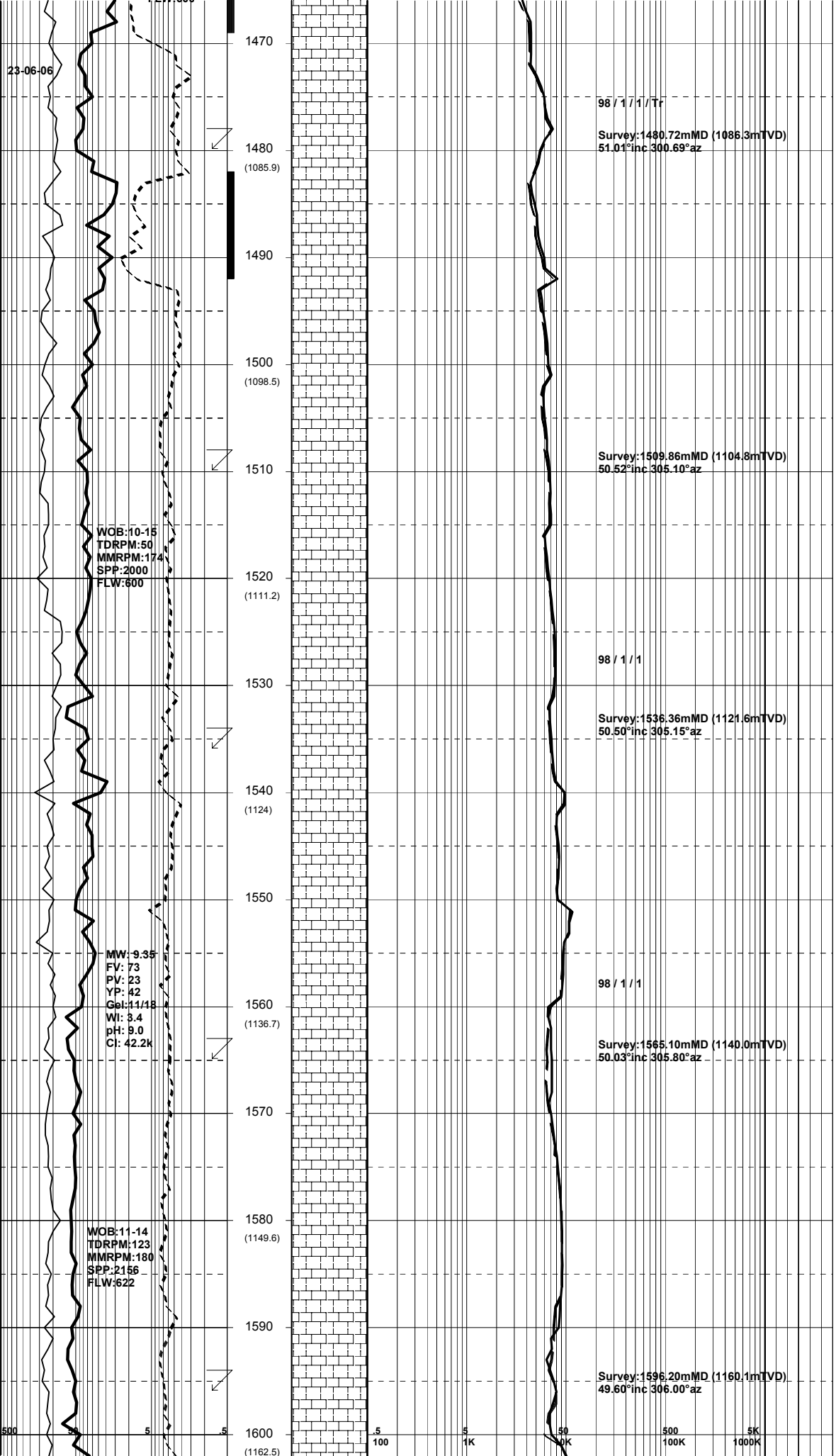
1300 mMDRT to 1410 mMDRT
Heavily cement contaminated
100% to 40% cement,
decreasing with depth

CALCILUTITE:v lt gy-lt gy, slty i/p,tr foss frag,tr carb mat,disp,sft-frm,amor-sbblky.

CALCILUTITE:70% v lt gy-lt gy, slty i/p,tr foss frag,tr carb mat,disp,sft-frm,amor-sbblky.

CALCISILTITE:30% med gy-lt bnsh gy aren i/p,frm-mod hd,sbfiss-sbblky.

CALCILUTITE:40% v lt gy-lt gy, slty i/p,tr foss frag,tr carb



mat,disp,sft-frm,amor-sbblky.

CALCISILTITE:60% med gy-lt bnsh gy aren i/p,tr carb mat,frm-mod hd, sbfiss-sbblky.

CALCILUTITE:50% v lt gy-lt gy, slty i/p,tr foss frag,tr carb mat,disp,sft-frm,amor-sbblky.

CALCISILTITE:50% med gy-lt bnsh gy aren i/p,tr carb mat,tr foss frag, frm-mod hd,sbfiss-sbblky.

CALCILUTITE:60% v lt gy-lt gy, slty i/p,tr foss frag,tr carb mat,disp,sft-frm,amor-sbblky.

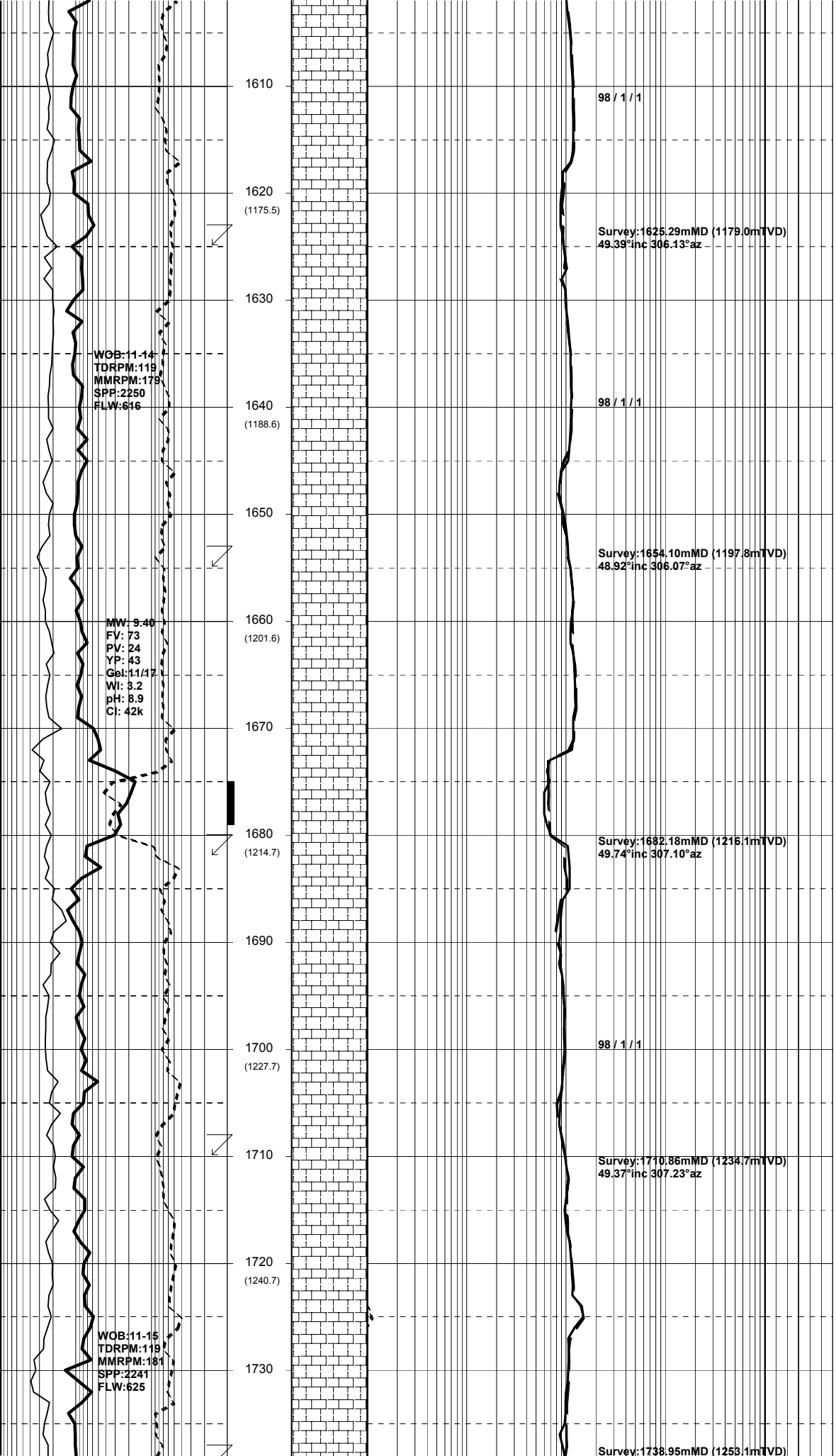
CALCISILTITE:40% med gy-lt bnsh gy aren i/p,tr carb mat,tr foss frag, frm-mod hd,sbfiss-sbblky.

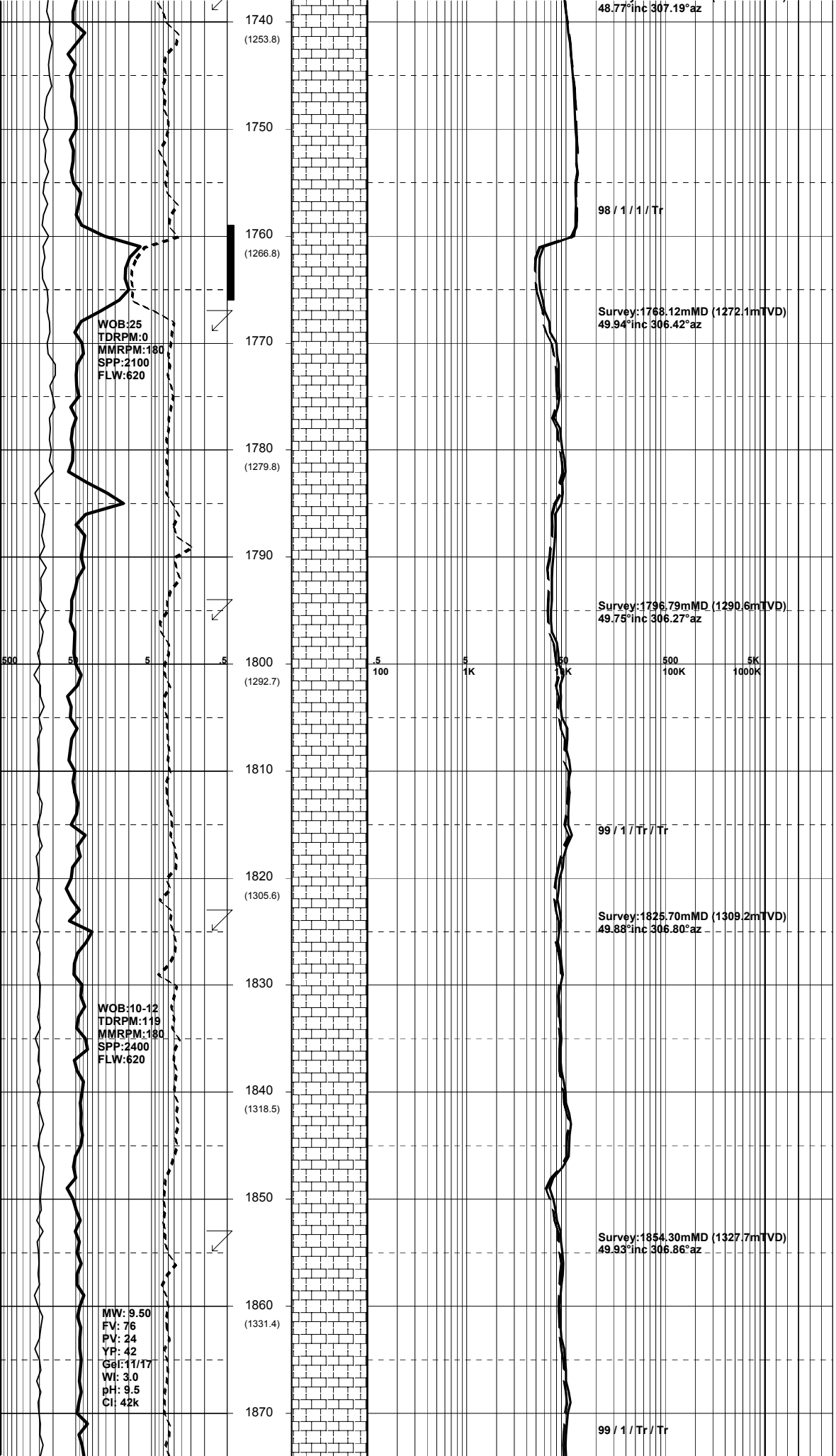
CALCILUTITE:40% v lt gy-lt gy, slty i/p,tr foss frag,tr carb mat,disp,sft-frm,amor-sbblky.

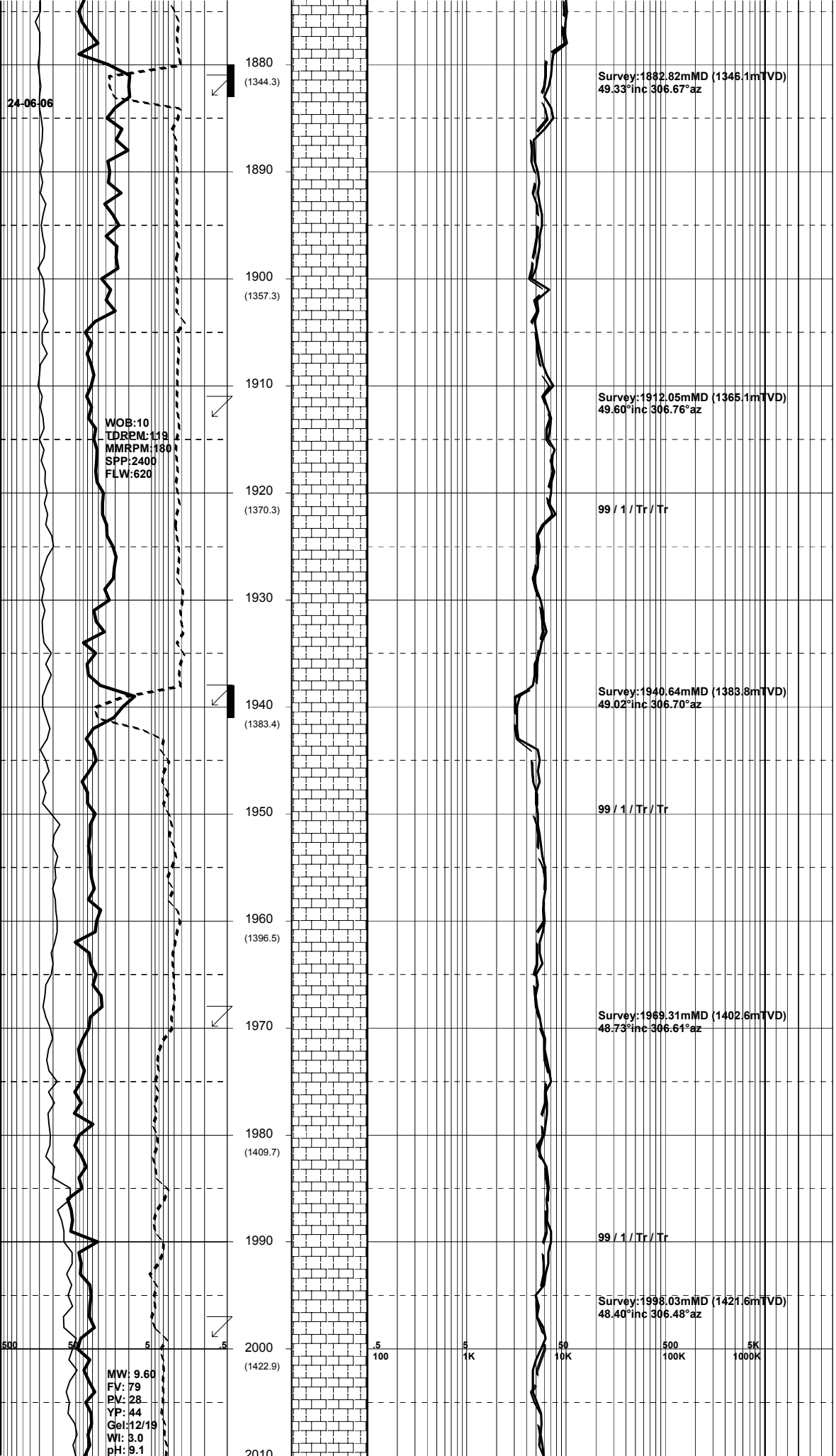
CALCISILTITE:60% med gy-lt bnsh gy aren i/p,tr carb mat,tr foss frag, frm-mod hd,sbfiss-sbblky.

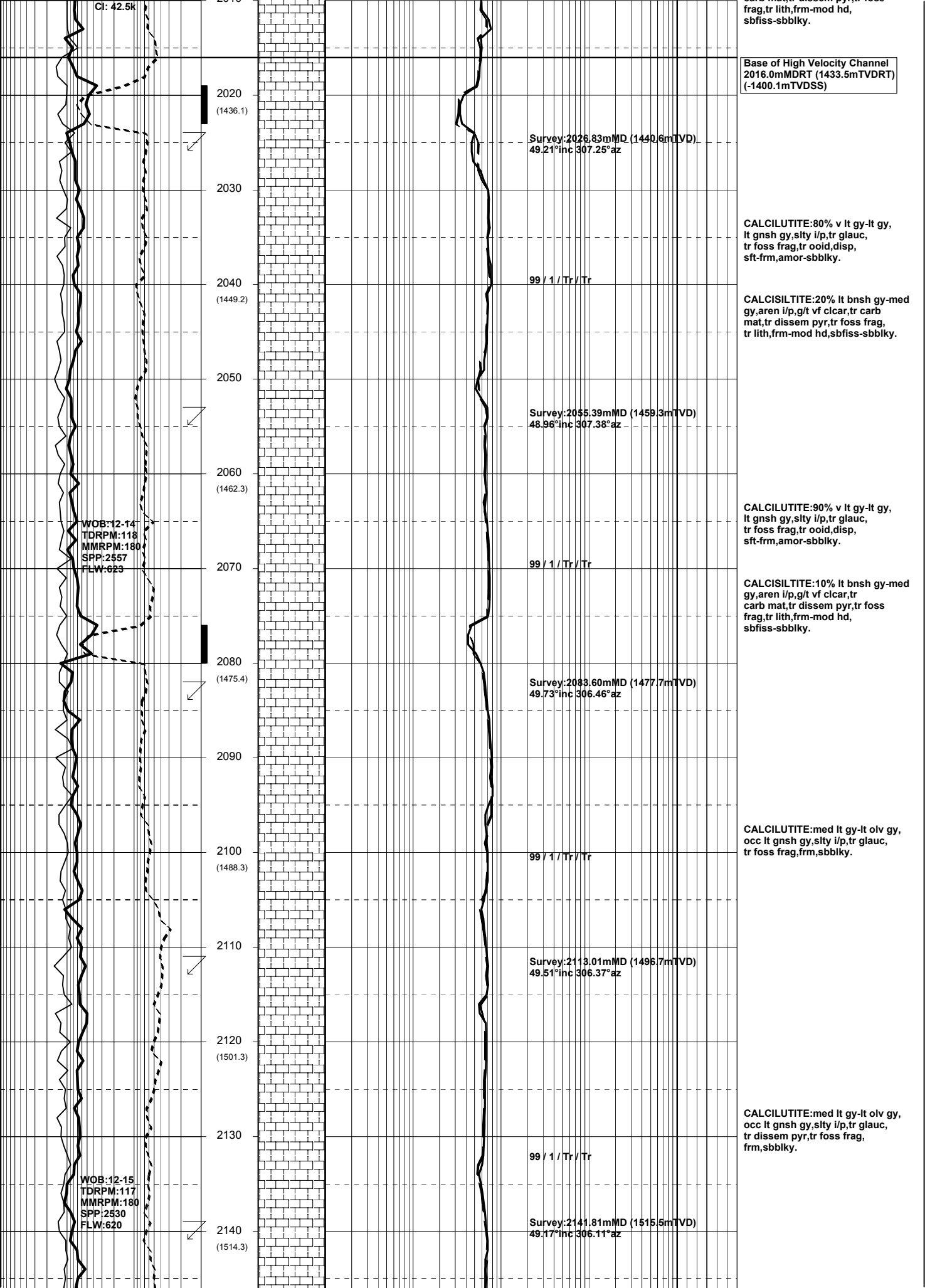
CALCILUTITE:30% v lt gy-lt gy, slty i/p,tr foss frag,tr carb mat,disp,sft-frm,amor-sbblky.

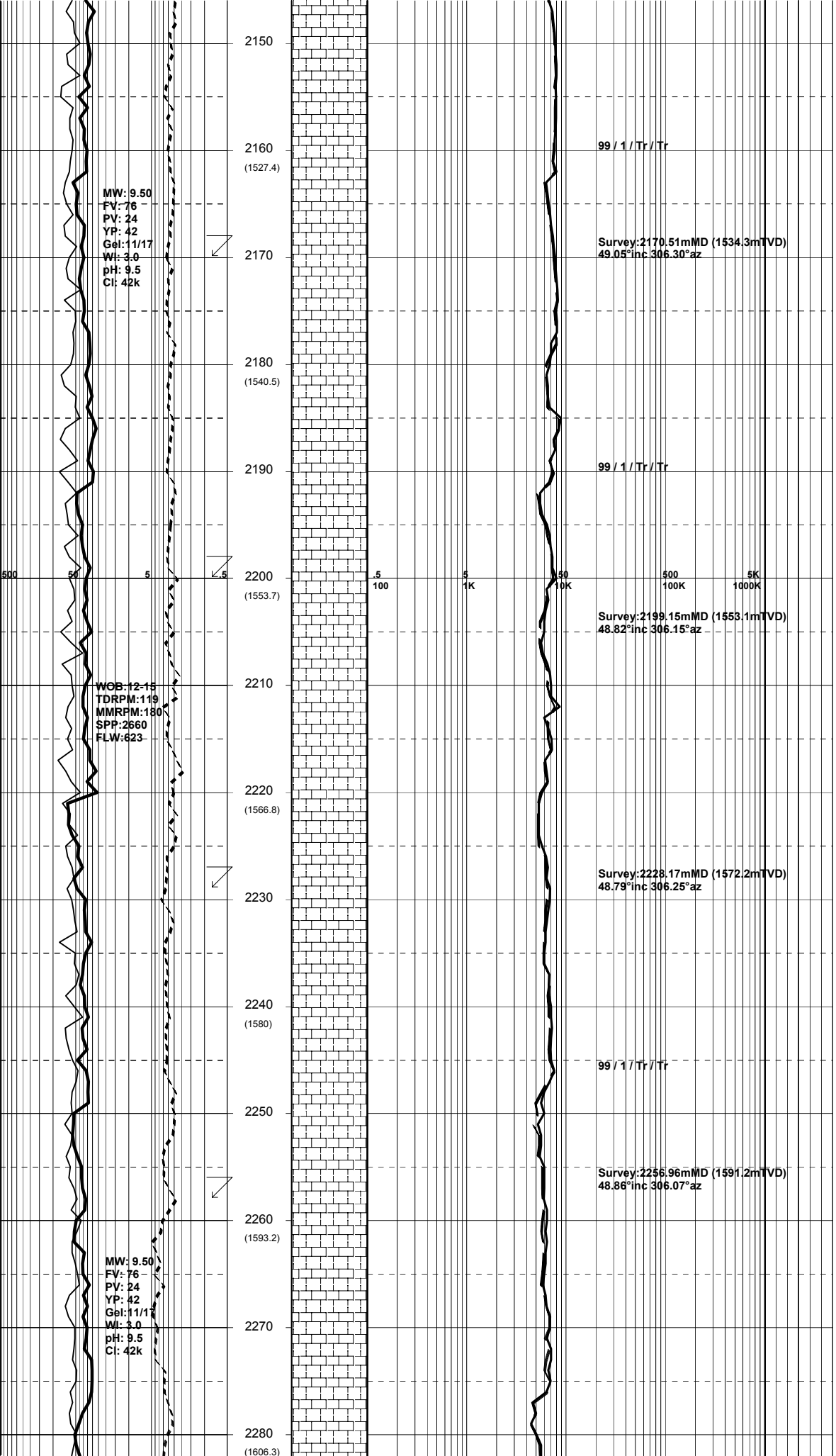
CALCISILTITE:70% lt bnsh gy,occ med gy,aren i/p g/t vf clcar, tr carb mat,tr foss frag,frm-mod hd, sbfiss-sbblky.


1610
98 / 1 / 1
CALCILUTITE:40% v lt gy-lt gy, slty i/p,tr foss frag,tr carb mat,disp,sft-frm,amor-sbblky.
1620
(1175.5)
CALCISILTITE:60% lt bnsh gy,occ med gy,aren i/p g/t vf clcar,tr carb mat,tr foss frag,frm-mod hd, sbblky-sbfiss.
Survey:1625.29mMD (1179.0mTVD)
49.39°inc 306.13°az
1630
WOB:11-14
TDRPM:119
MMRPM:179
SPP:2250
FLW:616
1640
(1188.6)
98 / 1 / 1
CALCILUTITE:60% v lt gy-lt gy, slty i/p,tr foss frag,tr carb mat,disp,sft-frm,amor-sbblky.
1650
CALCISILTITE:40% lt bnsh gy,occ med gy,aren i/p g/t vf clcar,tr carb mat,tr foss frag,frm-mod hd, sbblky-sbfiss.
Survey:1654.10mMD (1197.8mTVD)
48.92°inc 306.07°az
1660
(1201.6)
MW: 9.40
FV: 73
PV: 24
YP: 43
Gel:11/17
WI: 3.2
pH: 8.9
Cl: 42k
1670
CALCISILTITE:30% lt bnsh gy,occ med gy,aren g/t vf clcar,tr dissem pyr,tr carb mat,tr foss frag, frm-mod hd,sbblky-sbfiss.
1680
(1214.7)
Survey:1682.18mMD (1216.1mTVD)
49.74°inc 307.10°az
CALCILUTITE:70% v lt gy-lt gy, slty i/p,tr foss frag,tr carb mat,disp,sft-frm,amor-sbblky.
1690
1700
(1227.7)
98 / 1 / 1
CALCILUTITE:60% v lt gy-lt gy, slty i/p,tr foss frag,tr carb mat,disp,sft-frm,amor-sbblky.
1710
Survey:1710.86mMD (1234.7mTVD)
49.37°inc 307.23°az
CALCISILTITE:40% lt bnsh gy,occ med gy,aren g/t vf clcar,tr carb mat,tr foss frag,tr dissem pyr, frm-mod hd,sbblky-sbfiss.
1720
(1240.7)
WOB:11-15
TDRPM:119
MMRPM:181
SPP:2241
FLW:625
1730
CALCILUTITE:50% v lt gy-lt gy, slty i/p,tr foss frag,tr carb mat,disp,sft-frm,amor-sbblky.
Survey:1738.95mMD (1253.1mTVD)


1740
(1253.8)
1750
1760
(1266.8)
1770
1780
(1279.8)
1790
1800
(1292.7)
1810
1820
(1305.6)
1830
1840
(1318.5)
1850
1860
(1331.4)
1870
500
50
5
.5
.5
5
50
500
5K
100
1K
10K
100K
1000K
48.77°inc 307.19°az
98 / 1 / 1 / Tr
Survey:1768.12mMD (1272.1mTVD)
49.94°inc 306.42°az
Survey:1796.79mMD (1290.6mTVD)
49.75°inc 306.27°az
99 / 1 / Tr / Tr
Survey:1825.70mMD (1309.2mTVD)
49.88°inc 306.80°az
Survey:1854.30mMD (1327.7mTVD)
49.93°inc 306.86°az
99 / 1 / Tr / Tr
WOB:25
TDRPM:0
MMRPM:180
SPP:2100
FLW:620
WOB:10-12
TDRPM:119
MMRPM:180
SPP:2400
FLW:620
MW: 9.50
FV: 76
PV: 24
YP: 42
Gel:11/17
WI: 3.0
pH: 9.5
Cl: 42k
CALCISILTITE:50% lt bnsh gy,occ med gy,aren g/t vf clcar,tr carb mat,tr foss frag,tr dissem pyr, frm-mod hd,sbblky-sbfiss.
CALCILUTITE:60% v lt gy-lt gy, slty i/p,tr foss frag,tr carb mat,disp,sft-frm,amor-sbblky.
CALCISILTITE:40% lt bnsh gy-med gy,aren g/t vf clcar,tr lith, tr carb mat,tr foss frag,frm-mod hd,sbfiss-sbblky.
CALCILUTITE:70% v lt gy-lt gy, slty i/p,tr foss frag,tr carb mat,disp,sft-frm,amor-sbblky.
CALCISILTITE:30% lt bnsh gy-med gy,aren g/t vf clcar,tr lith, tr carb mat,tr foss frag,frm-mod hd,sbfiss-sbblky.
CALCILUTITE:70% v lt gy-lt gy, slty i/p,tr foss frag,tr carb mat,tr glauc,disp,sft-frm, amor-sbblky.
CALCISILTITE:30% lt bnsh gy-med gy,aren g/t vf clcar,tr lith, tr carb mat,tr foss frag,frm-mod hd,sbfiss-sbblky.
CALCILUTITE:80% v lt gy-lt gy, slty i/p,tr foss frag,tr carb mat,disp,sft-frm,amor-sbblky.
CALCISILTITE:20% lt bnsh gy-med gy,aren g/t vf clcar,tr lith, tr carb mat,tr foss frag,frm-mod hd,sbfiss-sbblky.


24-06-06
1880
(1344.3)
1890
1900
(1357.3)
1910
1920
(1370.3)
1930
1940
(1383.4)
1950
1960
(1396.5)
1970
1980
(1409.7)
1990
2000
(1422.9)
2010
WOB:10
TDRPM:119
MMRPM:180
SPP:2400
FLW:620
MW: 9.60
FV: 79
PV: 28
YP: 44
Gel:12/19
WI: 3.0
pH: 9.1
500
50
5
.5
.5
100
5
1K
50
10K
500
100K
5K
1000K
Survey:1882.82mMD (1346.1mTVD)
49.33°inc 306.67°az
Survey:1912.05mMD (1365.1mTVD)
49.60°inc 306.76°az
99 / 1 / Tr / Tr
Survey:1940.64mMD (1383.8mTVD)
49.02°inc 306.70°az
99 / 1 / Tr / Tr
Survey:1969.31mMD (1402.6mTVD)
48.73°inc 306.61°az
99 / 1 / Tr / Tr
Survey:1998.03mMD (1421.6mTVD)
48.40°inc 306.48°az
CALCILUTITE:90% v lt gy-lt gy, slty i/p,tr foss frag,tr carb mat,disp,sft-frm,amor-sbblky.
CALCISILTITE:10% lt bnsh gy-med gy,aren g/t vf clcar,tr lith, tr carb mat,tr foss frag,frm-mod hd,sbfiss-sbblky.
CALCILUTITE:80% v lt gy-lt gy, slty i/p,tr foss frag,tr carb mat,disp,sft-frm,amor-sbblky.
CALCISILTITE:20% lt bnsh gy-med gy,aren g/t vf clcar,tr lith, tr carb mat,tr foss frag,frm-mod hd,sbfiss-sbblky.
CALCILUTITE:70% v lt gy-lt gy, slty i/p,tr foss frag,tr carb mat,disp,sft-frm,amor-sbblky.
CALCISILTITE:30% lt bnsh gy-med gy,aren g/t vf clcar,tr lith, tr carb mat,tr foss frag,frm-mod hd,sbfiss-sbblky.
CALCILUTITE:70% v lt gy-lt gy, slty i/p,tr foss frag,tr carb mat,disp,sft-frm,amor-sbblky.
CALCISILTITE:30% lt bnsh gy-med gy,aren g/t vf clcar,tr lith, tr carb mat,tr foss frag,frm-mod hd,sbfiss-sbblky.
CALCILUTITE:60% v lt gy-lt gy, lt gnsh gy,slty i/p,tr glauc, tr foss frag,tr ooid,disp, sft-frm,amor-sbblky.
CALCISILTITE:40% lt bnsh gy-med gy,aren i/p,g/t vf clcar,tr carb mat,tr dissem pyr,tr foss


Cl: 42.5k
frag,tr lith,frm-mod hd,
sbfiss-sbblky.
Base of High Velocity Channel
2016.0mMDRT (1433.5mTVDRT)
(-1400.1mTVDSS)
2020
(1436.1)
Survey:2026.83mMD (1440.6mTVD)
49.21°inc 307.25°az
2030
CALCILUTITE:80% v lt gy-lt gy,
lt gnsh gy,slty i/p,tr glauc,
tr foss frag,tr ooid,disp,
sft-frm,amor-sbblky.
2040
(1449.2)
99 / 1 / Tr / Tr
CALCISILTITE:20% lt bnsh gy-med
gy,aren i/p,g/t vf clcar,tr carb
mat,tr dissem pyr,tr foss frag,
tr lith,frm-mod hd,sbfiss-sbblky.
2050
Survey:2055.39mMD (1459.3mTVD)
48.96°inc 307.38°az
2060
(1462.3)
CALCILUTITE:90% v lt gy-lt gy,
lt gnsh gy,slty i/p,tr glauc,
tr foss frag,tr ooid,disp,
sft-frm,amor-sbblky.
WOB:12-14
TDRPM:118
MMRPM:180
SPP:2557
FLW:623
2070
99 / 1 / Tr / Tr
CALCISILTITE:10% lt bnsh gy-med
gy,aren i/p,g/t vf clcar,tr
carb mat,tr dissem pyr,tr foss
frag,tr lith,frm-mod hd,
sbfiss-sbblky.
2080
(1475.4)
Survey:2083.60mMD (1477.7mTVD)
49.73°inc 306.46°az
2090
2100
(1488.3)
CALCILUTITE:med lt gy-lt olv gy,
occ lt gnsh gy,slty i/p,tr glauc,
tr foss frag,frm,sbblky.
99 / 1 / Tr / Tr
2110
Survey:2113.01mMD (1496.7mTVD)
49.51°inc 306.37°az
2120
(1501.3)
2130
CALCILUTITE:med lt gy-lt olv gy,
occ lt gnsh gy,slty i/p,tr glauc,
tr dissem pyr,tr foss frag,
frm,sbblky.
99 / 1 / Tr / Tr
WOB:12-15
TDRPM:117
MMRPM:180
SPP:2530
FLW:620
2140
(1514.3)
Survey:2141.81mMD (1515.5mTVD)
49.17°inc 306.11°az



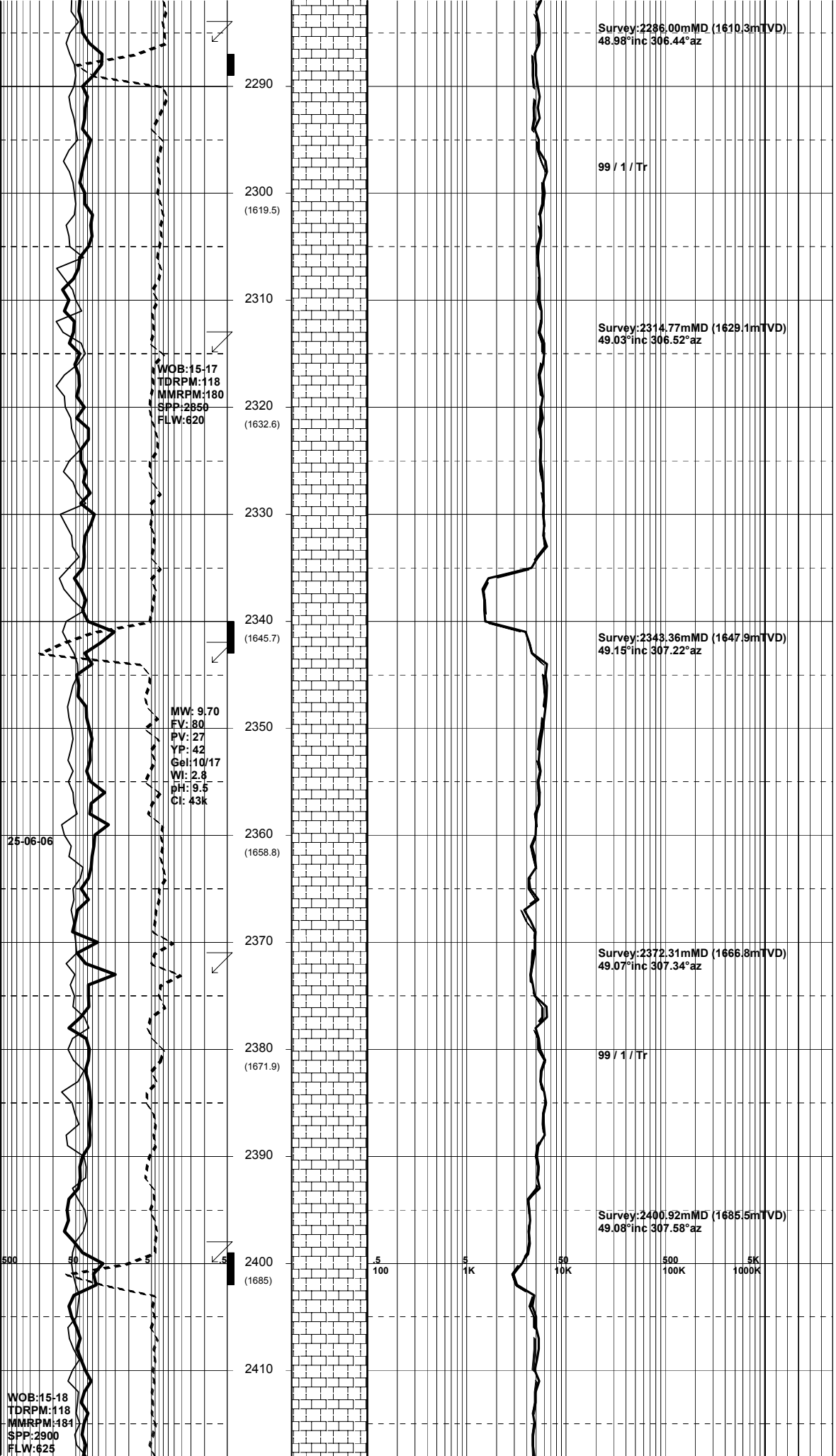
CALCILUTITE:med lt gy-lt olv gy, lt bnsh gy,slty i/p,tr glauc, tr dissem pyr,tr pyr nod,tr foss frag,tr gastropod,sft-frm, sbblky.

CALCILUTITE:med lt gy-lt olv gy, lt bnsh gy,slty i/p,tr glauc, tr dissem pyr,tr nod pyr,tr foss frag,tr gastropod,sft-frm, sbblky.

CALCILUTITE:med lt gy-lt olv gy, lt bnsh gy,slty i/p,tr glauc, tr dissem pyr,tr foss frag,tr tr gastropod,sft-frm,sbblky.

CALCILUTITE:med lt gy-lt olv gy, lt bnsh gy,slty i/p,tr glauc, tr dissem pyr,tr nod pyr,tr carb mat,tr foss frag,tr gastropod, sft-frm,sbblky.

CALCILUTITE:med lt gy-lt olv gy, lt bnsh gy,slty i/p,tr glauc,tr carb mat,tr dissem pyr,tr nod pyr,tr lith,tr foss frag,sft-frm,sbblky.



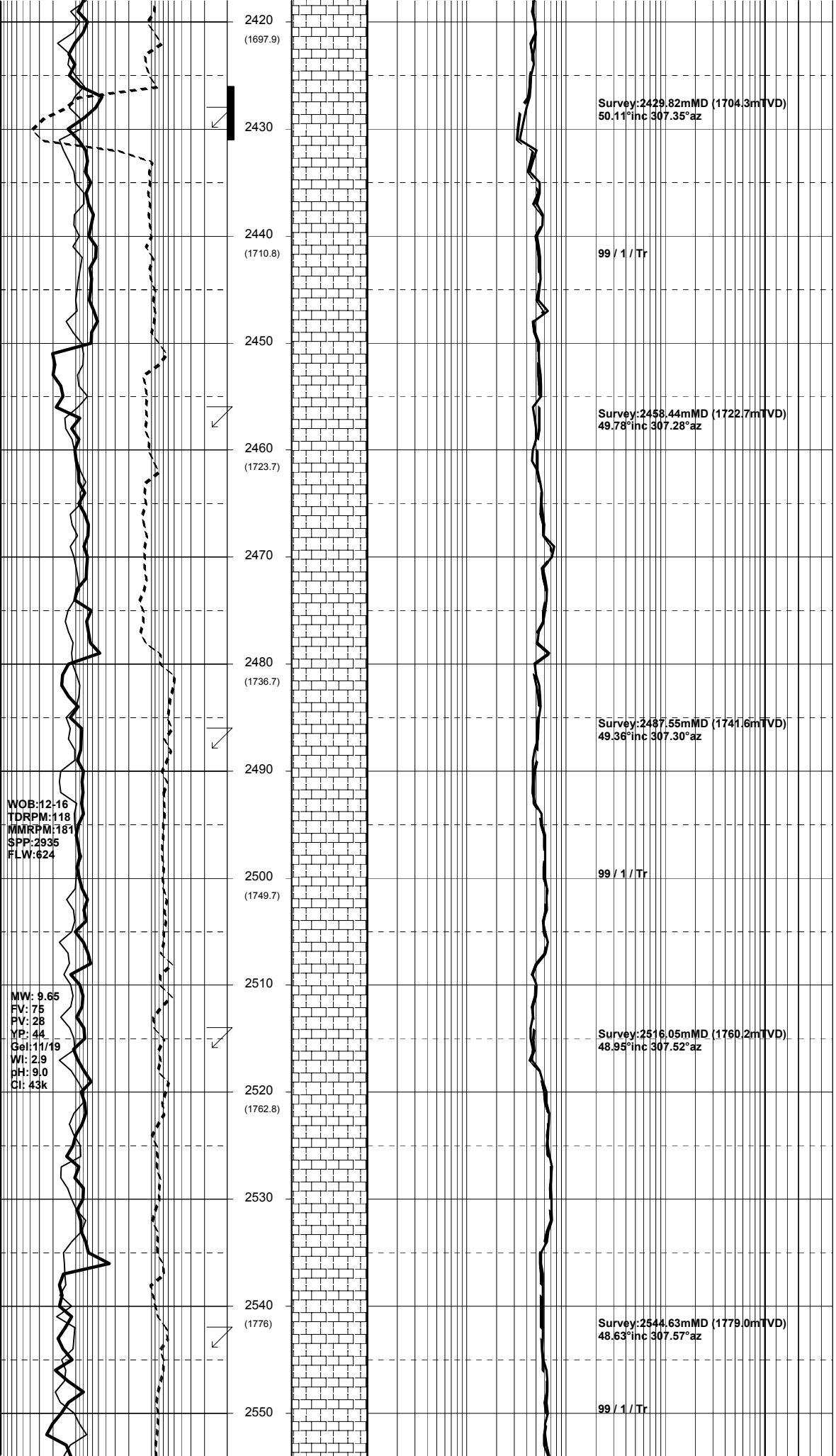
CALCILUTITE:med lt gy-lt olv gy, rr slty,tr glauc,tr dissem pyr,tr carb mat,tr nod pyr,tr foss frag,tr gastropod,sft-frm,sbblky.

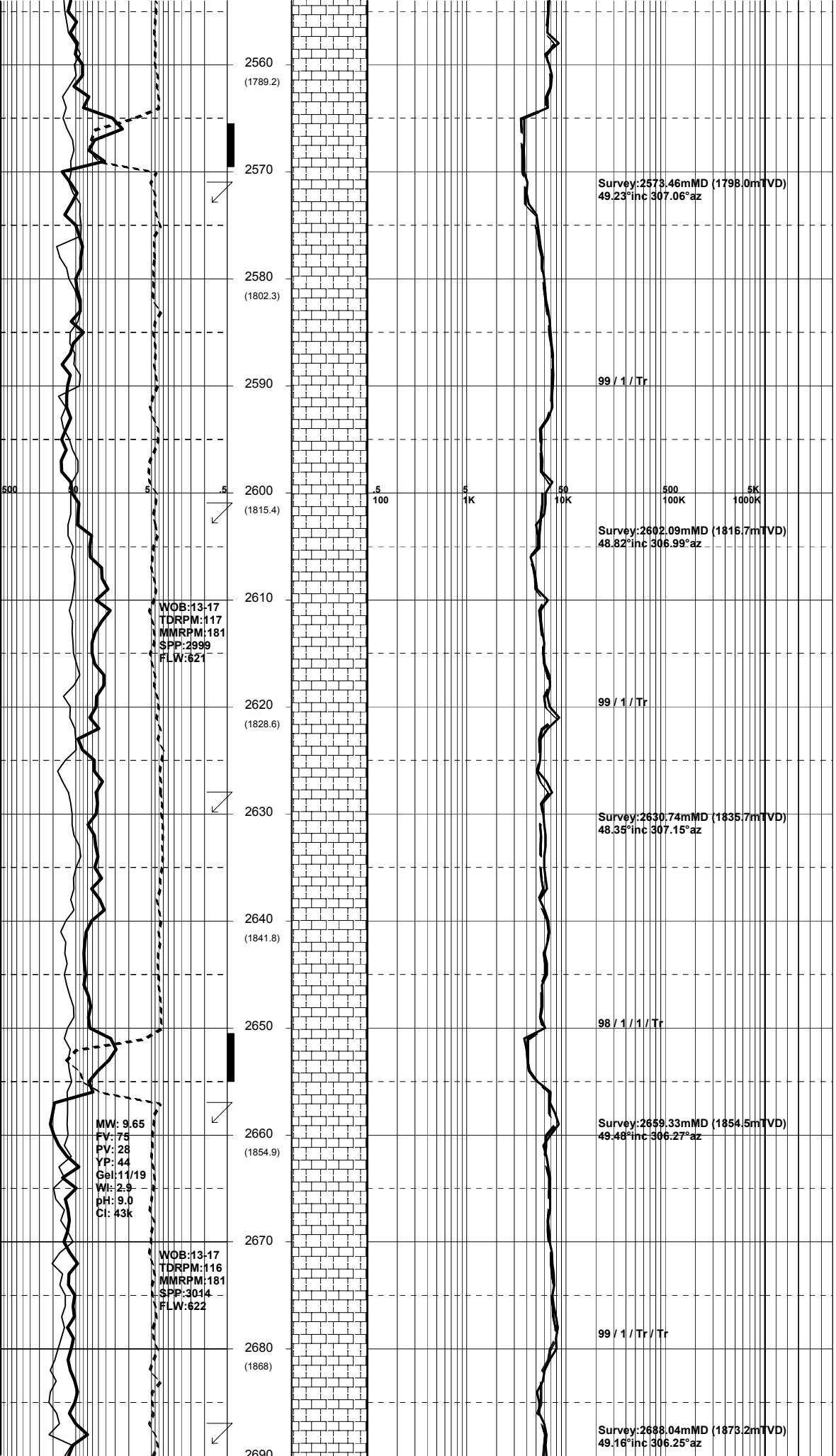
LOSSES OVER SHAKERS, REDUCED PUMP RATE

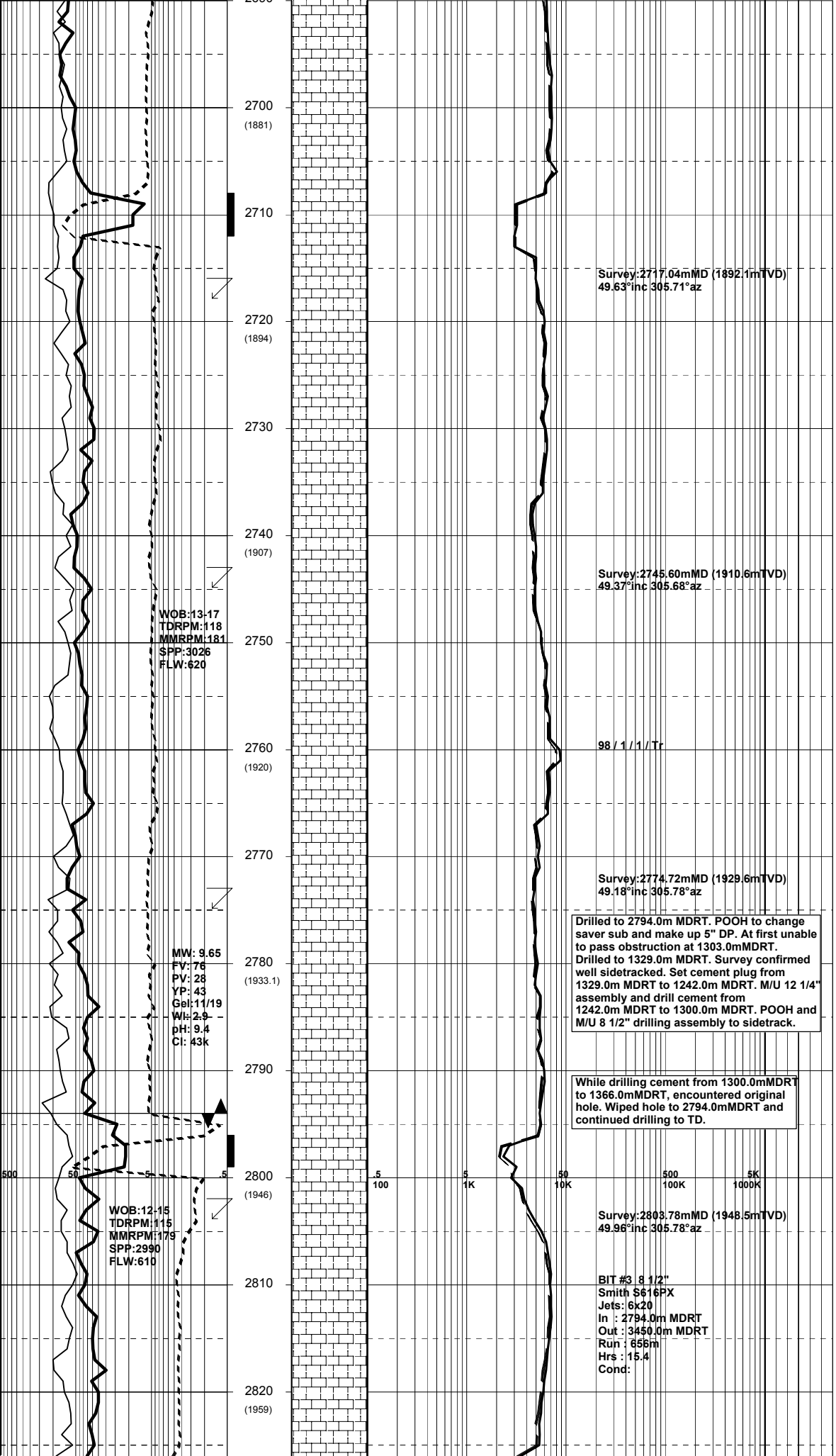
CALCILUTITE:med lt gy-lt olv gy, slty i/p,tr glauc,tr dissem pyr,tr foss frag,tr gastropod,tr carb mat, sft-frm,sbblky.

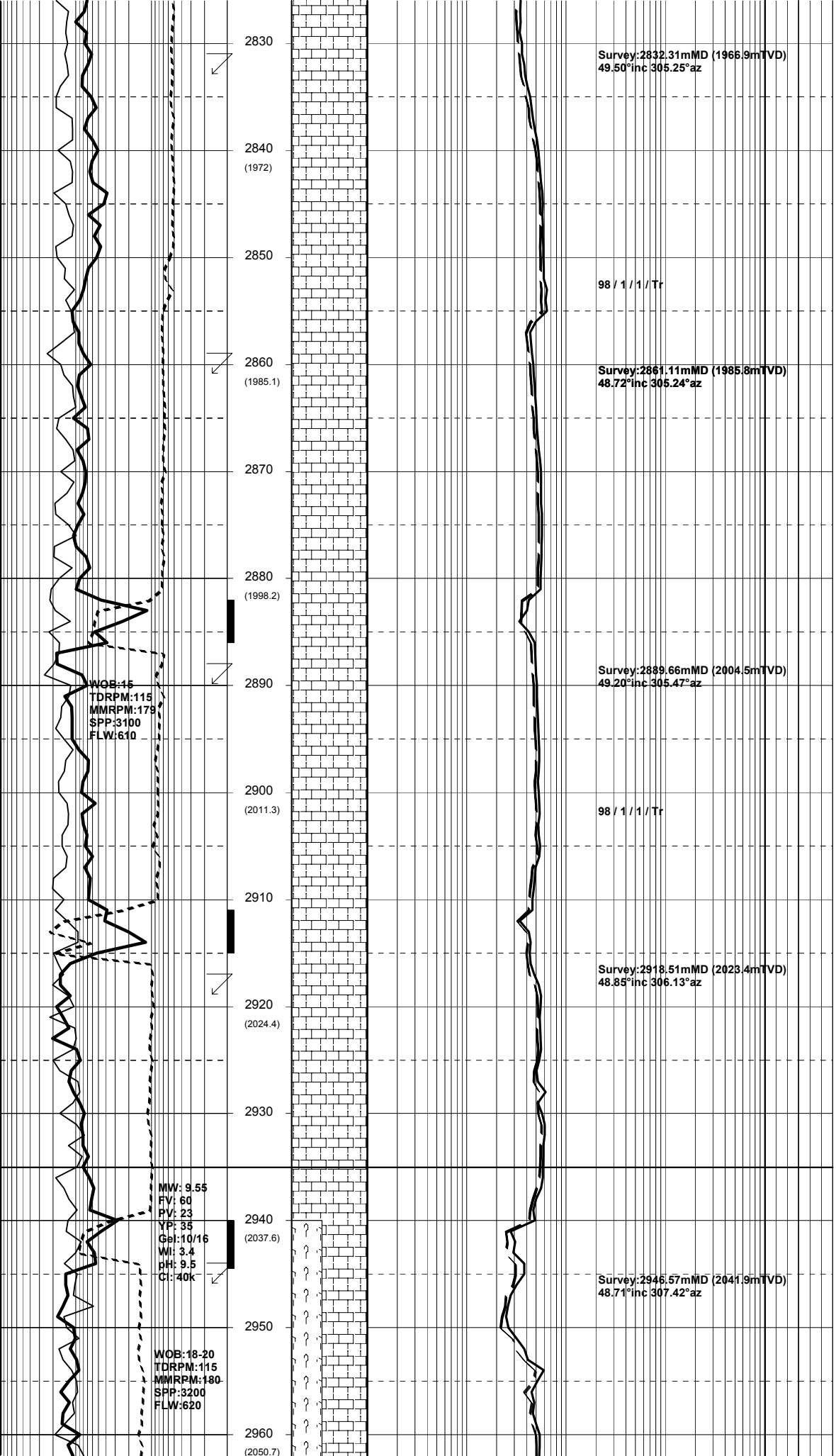
CALCILUTITE:med lt gy-lt olv gy, slty i/p,tr glauc,tr dissem pyr, tr foss frag,tr gastropod,tr lith, sft-frm,sbblky.

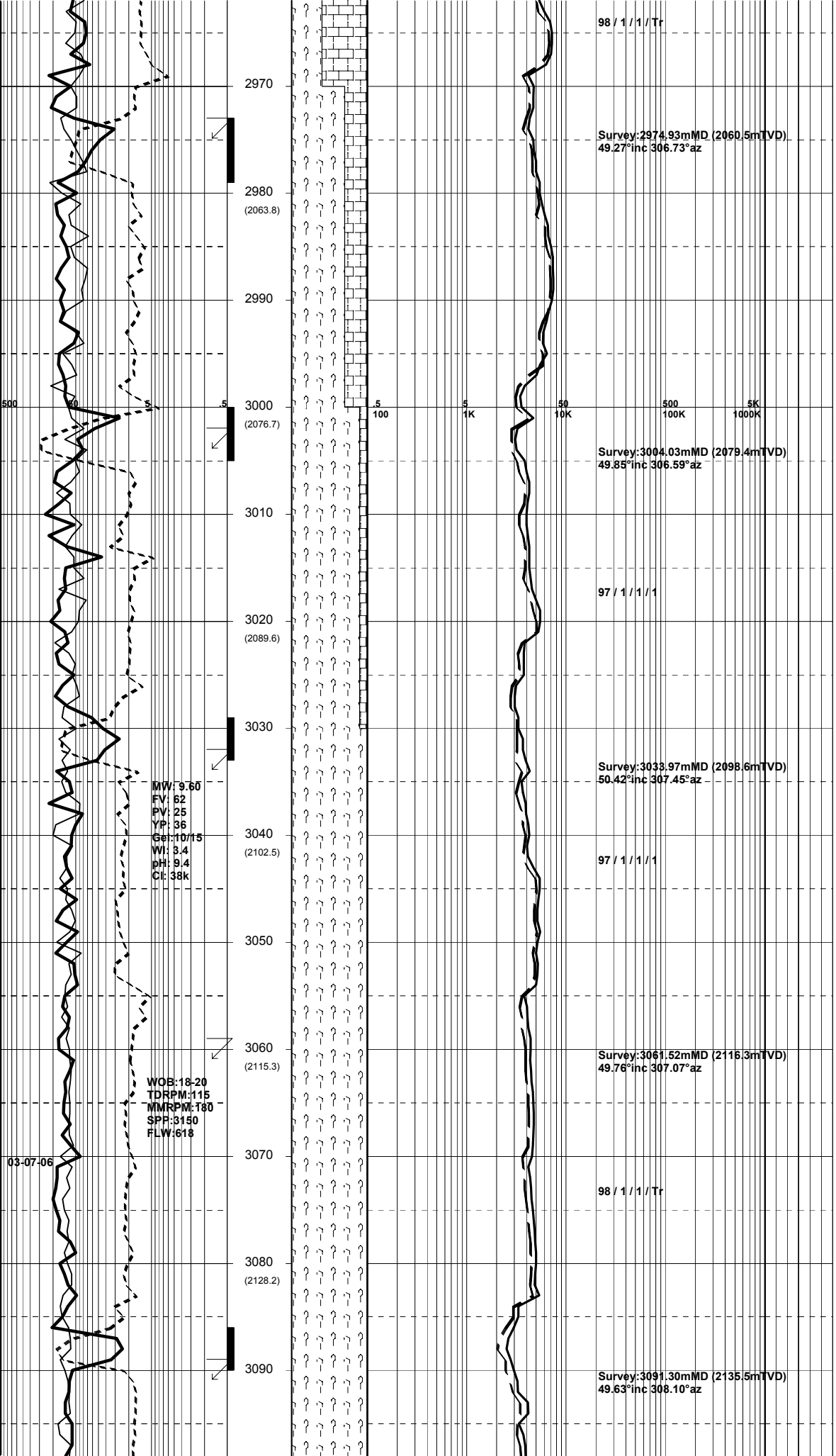
CALCILUTITE:med lt gy-lt olv gy, slty i/p,tr glauc,tr dissem pyr, tr foss frag,tr lith,sft-frm, sbblky.


2420
(1697.9)
2430
2440
(1710.8)
2450
2460
(1723.7)
2470
2480
(1736.7)
2490
2500
(1749.7)
2510
2520
(1762.8)
2530
2540
(1776)
2550
WOB:12-16
TDRPM:118
MMRPM:181
SPP:2935
FLW:624
MW: 9.65
FV: 75
PV: 28
YP: 44
Gel:11/19
WI: 2.9
pH: 9.0
Cl: 43k
Survey:2429.82mMD (1704.3mTVD)
50.11°inc 307.35°az
99 / 1 / Tr
Survey:2458.44mMD (1722.7mTVD)
49.78°inc 307.28°az
Survey:2487.55mMD (1741.6mTVD)
49.36°inc 307.30°az
99 / 1 / Tr
Survey:2516.05mMD (1760.2mTVD)
48.95°inc 307.52°az
Survey:2544.63mMD (1779.0mTVD)
48.63°inc 307.57°az
99 / 1 / Tr
CALCILUTITE:med lt gy-lt olv gy, slty i/p,tr dissem pyr,tr foss frag,tr lith,sft-frm,sbblky.
CALCILUTITE:med lt gy-lt olv gy, slty i/p,tr dissem pyr,tr foss frag,tr lith,sft-frm,sbblky.
CALCILUTITE:med lt gy-lt olv gy, slty i/p,tr dissem pyr,tr pyritized foss frag,tr lith, sft-frm,sbblky.
CALCILUTITE:med lt gy-lt olv gy, slty i/p,tr dissem pyr,tr foss frag,tr lith,sft-frm,sbblky.
CALCILUTITE:med lt gy-lt olv gy, slty i/p,tr dissem pyr,tr foss frag,tr lith,sft-frm,sbblky.


2560
(1789.2)
2570
2580
(1802.3)
2590
2600
(1815.4)
2610
2620
(1828.6)
2630
2640
(1841.8)
2650
2660
(1854.9)
2670
2680
(1868)
2690
500
50
5
.5
.5
100
5
1K
50
10K
500
100K
5K
1000K
Survey:2573.46mMD (1798.0mTVD)
49.23°inc 307.06°az
99 / 1 / Tr
Survey:2602.09mMD (1816.7mTVD)
48.82°inc 306.99°az
99 / 1 / Tr
Survey:2630.74mMD (1835.7mTVD)
48.35°inc 307.15°az
98 / 1 / 1 / Tr
Survey:2659.33mMD (1854.5mTVD)
49.48°inc 306.27°az
99 / 1 / Tr / Tr
Survey:2688.04mMD (1873.2mTVD)
49.16°inc 306.25°az
WOB:13-17
TDRPM:117
MMRPM:181
SPP:2999
FLW:621
WOB:13-17
TDRPM:116
MMRPM:181
SPP:3014
FLW:622
MW: 9.65
FV: 75
PV: 28
YP: 44
Gel:11/19
WL: 2.9
pH: 9.0
Cl: 43k
CALCILUTITE:med lt gy-lt olv gy,
slty i/p,tr dissem pyr,tr foss
frag,tr glauc,tr lith,sft-frm,
occ mod hd,sbblky.
CALCILUTITE:med lt gy-lt olv gy,
slty i/p,tr dissem pyr,tr foss
frag,tr glauc,tr lith,sft-frm,
occ mod hd,sbblky.
CALCILUTITE:med lt gy-lt olv gy,
slty i/p,tr dissem pyr,tr lith,
tr foss frag,sft-frm,occ mod hd,
sbblky.
CALCILUTITE:lt olv gy-lt bnsh gy,
slty i/p,tr dissem pyr,tr lith,
tr foss frag,sft-frm,occ mod hd,
sbblky.


2700
(1881)
2710
2720
(1894)
2730
2740
(1907)
2750
2760
(1920)
2770
2780
(1933.1)
2790
2800
(1946)
2810
2820
(1959)
WOB:13-17
TDRPM:118
MMRPM:181
SPP:3026
FLW:620
MW: 9.65
FV: 76
PV: 28
YP: 43
Gel:11/19
WL: 2.9
pH: 9.4
Cl: 43k
WOB:12-15
TDRPM:115
MMRPM:179
SPP:2990
FLW:610
500
50
5
.5
.5
100
1K
10K
100K
1000K
Survey:2717.04mMD (1892.1mTVD)
49.63°inc 305.71°az
Survey:2745.60mMD (1910.6mTVD)
49.37°inc 305.68°az
98 / 1 / 1 / Tr
Survey:2774.72mMD (1929.6mTVD)
49.18°inc 305.78°az
Drilled to 2794.0m MDRT. POOH to change saver sub and make up 5" DP. At first unable to pass obstruction at 1303.0mMDRT. Drilled to 1329.0m MDRT. Survey confirmed well sidetracked. Set cement plug from 1329.0m MDRT to 1242.0m MDRT. M/U 12 1/4" assembly and drill cement from 1242.0m MDRT to 1300.0m MDRT. POOH and M/U 8 1/2" drilling assembly to sidetrack.
While drilling cement from 1300.0mMDRT to 1366.0mMDRT, encountered original hole. Wiped hole to 2794.0mMDRT and continued drilling to TD.
Survey:2803.78mMD (1948.5mTVD)
49.96°inc 305.78°az
BIT #3 8 1/2"
Smith S616PX
Jets: 6x20
In : 2794.0m MDRT
Out : 3450.0m MDRT
Run : 656m
Hrs : 15.4
Cond:
CALCILUTITE:lt olv gy-lt bnsh gy, slty i/p,tr dissem pyr,tr lith,tr nod pyr,tr foss frag,sft-frm,occ mod hd, sbblky.
CALCILUTITE:lt olv gy-lt bnsh gy, slty i/p,tr dissem pyr,tr lith, tr foss frag,sft-frm,occ mod hd, sbblky.
CALCILUTITE:lt olv gy-lt bnsh gy, slty i/p,tr dissem pyr,tr lith, tr foss frag,sft-frm,occ mod hd, sbblky.
CALCILUTITE:lt olv gy,occ lt gy & lt gnsh gy,slty i/p,tr dissem pyr, tr glauc,tr lith,tr foss frag,sft-frm, occ mod hd,amor-sbblky.
CALCILUTITE:lt olv gy-lt bnsh gy, lt gnsh gy,slty i/p,tr dissem pyr, tr glauc,tr lith,tr foss frag, frm-mod hd,sbblky.
CALCILUTITE:lt olv gy-lt bnsh gy, gnsh gy,slty,tr lith,tr glauc, tr foss frag,frm-mod hd,sbblky.


2830
2840
(1972)
2850
2860
(1985.1)
2870
2880
(1998.2)
2890
2900
(2011.3)
2910
2920
(2024.4)
2930
2940
(2037.6)
2950
2960
(2050.7)
Survey:2832.31mMD (1966.9mTVD)
49.50°inc 305.25°az
98 / 1 / 1 / Tr
Survey:2861.11mMD (1985.8mTVD)
48.72°inc 305.24°az
Survey:2889.66mMD (2004.5mTVD)
49.20°inc 305.47°az
98 / 1 / 1 / Tr
Survey:2918.51mMD (2023.4mTVD)
48.85°inc 306.13°az
Survey:2946.57mMD (2041.9mTVD)
48.71°inc 307.42°az
WOB:15
TDRPM:115
MMRPM:179
SPP:3100
FLW:610
MW: 9.55
FV: 60
PV: 23
YP: 35
Gel:10/16
WI: 3.4
pH: 9.5
Cl: 40k
WOB:18-20
TDRPM:115
MMRPM:180
SPP:3200
FLW:620
CALCILUTITE:lt olv gy-lt bnsh gy, gnsh gy,occ v lt gy,slty,tr lith, tr glauc,tr foss frag,occ sft, frm-mod hd,occ amor-sbblky.
CALCILUTITE:lt olv gy-lt bnsh gy, gnsh gy,slty,tr glauc,tr dissem pyr, tr foss frag,tr lith,frm-mod hd, sbblky.
CALCILUTITE:lt olv gy-lt bnsh gy, gnsh gy,slty,tr glauc,tr dissem pyr, tr foss frag,tr lith,frm-mod hd, sbblky.
CALCILUTITE:lt olv gy-lt bnsh gy, gnsh gy,slty,tr glauc,tr dissem pyr, tr foss frag,tr lith,frm-mod hd, sbblky.
Lakes Entrance
2935.5mMDRT 2034.6mTVDRT
(-2001.2mTVDSS)
CALCILUTITE:lt olv gy-lt bnsh gy,slty,tr glauc,tr dissem pyr, tr foss frag,tr lith,frm-mod hd, sbblky.
CALCAREOUS CLAYSTONE:med lt gy-med gy,slty,mod calc,tr dissem pyr,mod hd,sbblky.



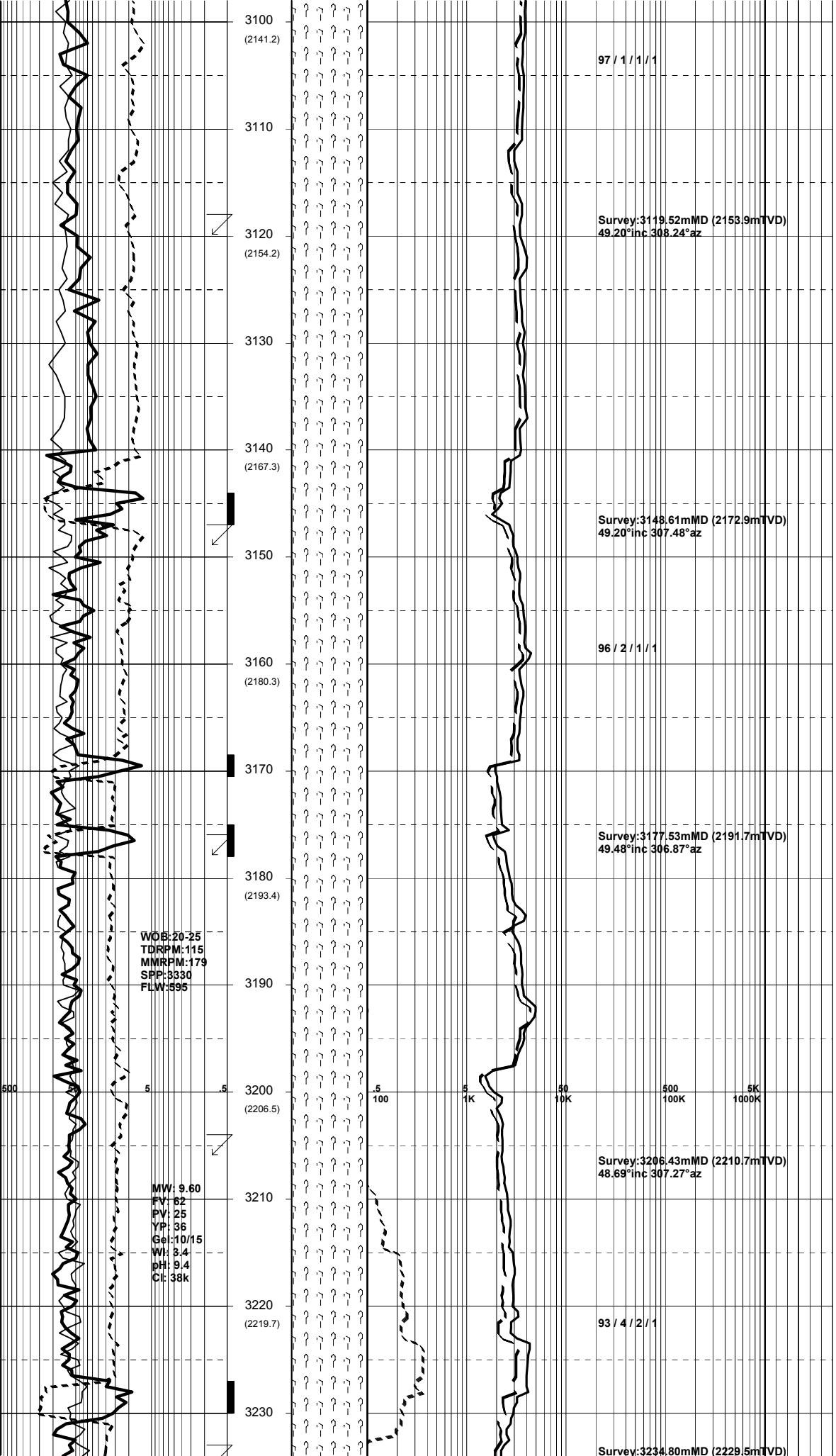
CALCILUTITE:lt olv gy-lt bnsh gy,slty,tr glauc,tr dissem pyr, tr foss frag,tr lith,frm-mod hd, sbblky.

CALCAREOUS CLAYSTONE:med lt gy-med lt olv gy,slty i/p,tr dissem pyr & nod pyr,rr glauc,frm, sbblky-blky.

CALCAREOUS CLAYSTONE:med lt gy-med lt olv gy,rr slty,tr dissem pyr,tr foss frag,rr glauc, tr lith,sft-frm occ disp,sbblky-blky.

CALCAREOUS CLAYSTONE:med lt gy-med lt olv gy,rr slty,tr dissem pyr,com foss frag,rr glauc, com lith,sft-frm disp i/p, sbblky-blky.

CALCAREOUS CLAYSTONE:med lt gy-med lt olv gy,rr slty,tr dissem pyr,com foss frag,rr glauc, com lith,sft-frm disp i/p, sbblky-blky.

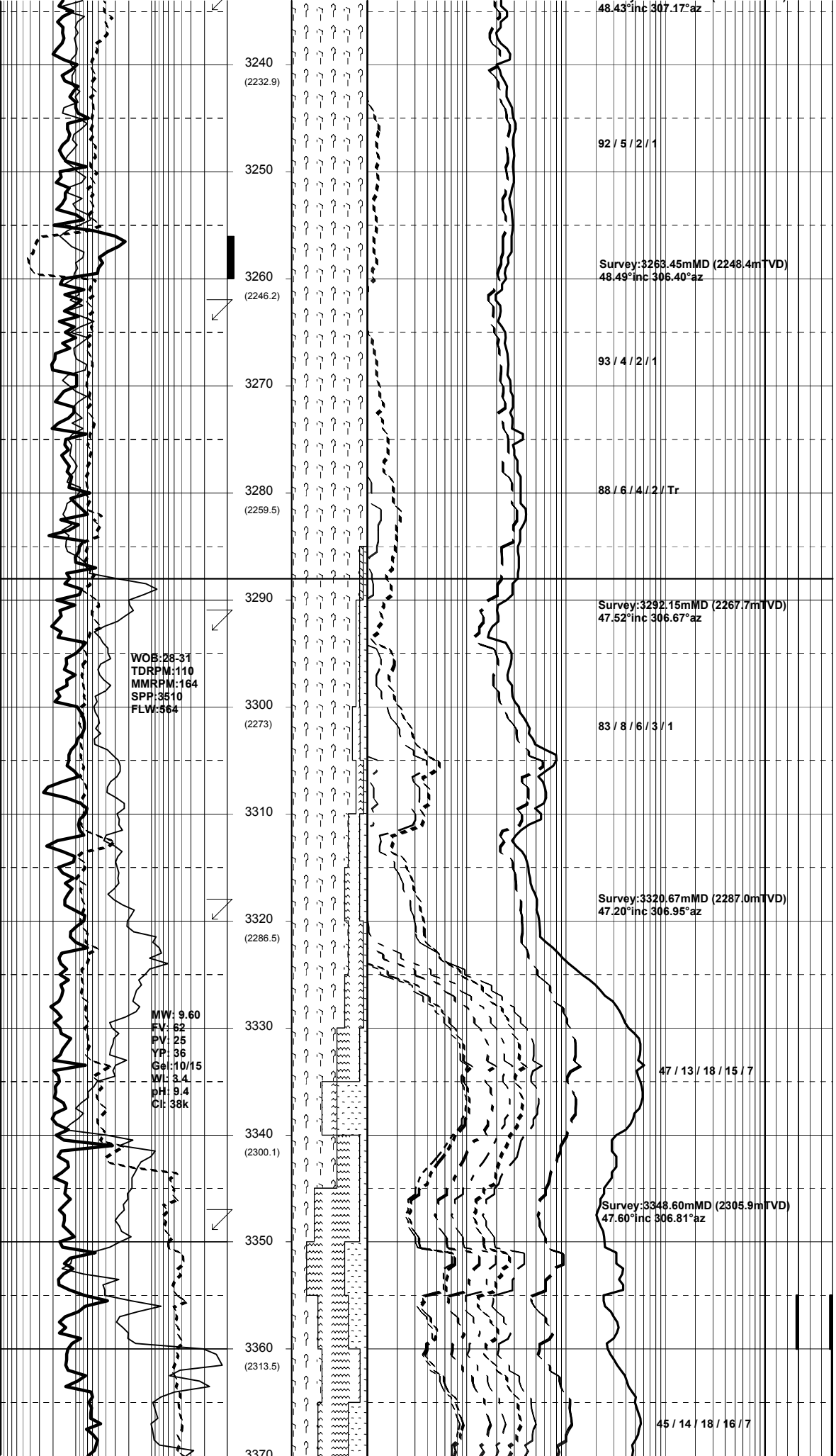


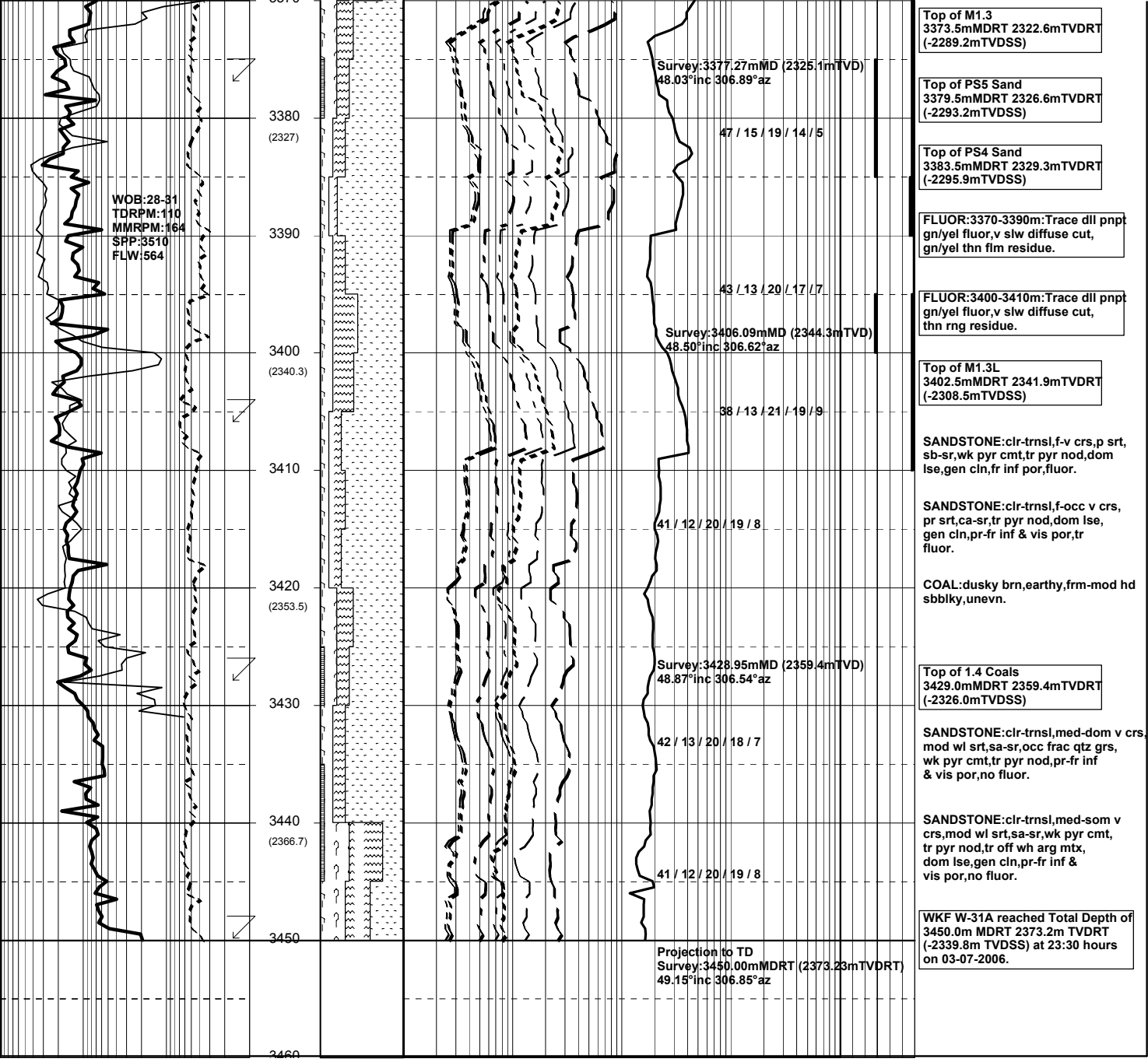
CALCAREOUS CLAYSTONE:med lt gy-med lt olv gy,rr slty,tr dissem pyr,com foss frag,rr glauc, com lith,sft-frm disp i/p, sbblky-blky.

Carbide Lag check at 3169.0 mMDRT
Theoretical 11320 stks
Actual 12817 stks
Difference 1497 stks
OPEN HOLE OVERGAUGE: 30%

CALCAREOUS CLAYSTONE:med lt gy-med lt olv gy,rr slty,tr dissem pyr,com foss frag,rr glauc, com lith,sft-frm disp i/p, sbblky-blky.

CALCAREOUS CLAYSTONE:med lt gy-med lt olv gy,rr slty,tr dissem pyr,com foss frag,rr glauc, com lith,sft-frm disp i/p, sbblky-blky.


48.43°inc 307.17°az
3240
(2232.9)
92 / 5 / 2 / 1
3250
Survey:3263.45mMD (2248.4mTVD)
48.49°inc 306.40°az
3260
(2246.2)
93 / 4 / 2 / 1
3270
CALCAREOUS CLAYSTONE:lt bnsh gy-med lt gy,slty i/p,mod calc,tr dissem pyr,tr lith,sft-mod hd,amor-sbblky.
3280
(2259.5)
88 / 6 / 4 / 2 / Tr
Top of Latrobe
3288.0mMDRT 2264.9mTVDRT
(-2231.5mTVDSS)
3290
Survey:3292.15mMD (2267.7mTVD)
47.52°inc 306.67°az
SILTSTONE: pl bn-dk yellsh bn, aren g/t vf SST,tr micmic,tr glauc, frm-mod hd,sbfiss-sbblky.
WOB:28-31
TDRPM:110
MMRPM:164
SPP:3510
FLW:564
3300
(2273)
83 / 8 / 6 / 3 / 1
SANDSTONE:wh-pl gn,dom vf-f, mod w srt,sa-sr,tr glauc mtx,hd agg,ti vis/inf por,no fluor.
CLAYSTONE:off wh-v pl gy,tr glauc pels,sft-frm,disp,amor.
3310
SILTSTONE:1)pl bn-dk yellsh bn, v aren g/t vf SST,tr micmic,tr glauc,com rock flour,frm-mod hd, sbfiss-sbblky.
SANDSTONE:wh-pl gn,dom vf-f, mod w srt,sa-sr,tr glauc mtx,hd aggs,ti vis/inf por,no fluor.
3320
(2286.5)
Survey:3320.67mMD (2287.0mTVD)
47.20°inc 306.95°az
SILTSTONE:2)med gy-med dk gy, v aren g/t vf SST,com micro pyr mtx,mod hd-hd,sbfiss-sbblky.
Top of P1.1 Sand
3328.0mMDRT 2291.9mTVDRT
(-2258.5mTVDSS)
MW: 9.60
FV: 62
PV: 25
YP: 36
Gel:10/15
WL: 3.4
pH: 9.4
Cl: 38k
3330
47 / 13 / 18 / 15 / 7
SANDSTONE:clr-trnsl,f-rrv crs, p srt,sa-sr,wk pyr cmt,tr pyr nod, dom lse,occ frac qtz grns,occ hd aggs,pr-fr vis/inf por,no fluor.
Base of P1.1 Sand
3340.0mMDRT 2300.0mTVDRT
(-2266.6mTVDSS)
3340
(2300.1)
SANDSTONE:clr-trnsl,med occ vcrs dom crs,mod w srt,sa-sr,wk pyr cmt,tr pyr nod,dom lse,cln,fr inf/vis por,no fluor.
Survey:3348.60mMD (2305.9mTVD)
47.60°inc 306.81°az
3350
FLUOR:3355-3360m:Trace dll pnpt gn/yel fluor,v slw diffuse crsh cut,thn flm residue.
Top of M1.2L
3357.0mMDRT 2311.5mTVDRT
(-2278.1mTVDSS)
3360
(2313.5)
Base of M1.2 L
3364.0mMDRT 2316.2mTVDRT
(-2282.8mTVDSS)
45 / 14 / 18 / 16 / 7
3370


3380
(2327)
3390
3400
(2340.3)
3410
3420
(2353.5)
3430
3440
(2366.7)
3450
3460
WOB:28-31
TDRPM:110
MMRPM:164
SPP:3510
FLW:564
Survey:3377.27mMD (2325.1mTVD)
48.03°inc 306.89°az
47 / 15 / 19 / 14 / 5
43 / 13 / 20 / 17 / 7
Survey:3406.09mMD (2344.3mTVD)
48.50°inc 306.62°az
38 / 13 / 21 / 19 / 9
41 / 12 / 20 / 19 / 8
Survey:3428.95mMD (2359.4mTVD)
48.87°inc 306.54°az
42 / 13 / 20 / 18 / 7
41 / 12 / 20 / 19 / 8
Projection to TD
Survey:3450.00mMDRT (2373.23mTVDRT)
49.15°inc 306.85°az
Top of M1.3
3373.5mMDRT 2322.6mTVDRT
(-2289.2mTVDSS)
Top of PS5 Sand
3379.5mMDRT 2326.6mTVDRT
(-2293.2mTVDSS)
Top of PS4 Sand
3383.5mMDRT 2329.3mTVDRT
(-2295.9mTVDSS)
FLUOR:3370-3390m:Trace dll pnpt
gn/yel fluor,v slw diffuse cut,
gn/yel thn flm residue.
FLUOR:3400-3410m:Trace dll pnpt
gn/yel fluor,v slw diffuse cut,
thn rng residue.
Top of M1.3L
3402.5mMDRT 2341.9mTVDRT
(-2308.5mTVDSS)
SANDSTONE:clr-trnsl,f-v crs,p srt,
sb-sr,wk pyr cmt,tr pyr nod,dom
lse,gen cln,fr inf por,fluor.
SANDSTONE:clr-trnsl,f-occ v crs,
pr srt,ca-sr,tr pyr nod,dom lse,
gen cln,pr-fr inf & vis por,tr
fluor.
COAL:dusky brn,earthy,frm-mod hd
sbblky,unevn.
Top of 1.4 Coals
3429.0mMDRT 2359.4mTVDRT
(-2326.0mTVDSS)
SANDSTONE:clr-trnsl,med-dom v crs,
mod wl srt,sa-sr,occ frac qtz grs,
wk pyr cmt,tr pyr nod,pr-fr inf
& vis por,no fluor.
SANDSTONE:clr-trnsl,med-som v
crs,mod wl srt,sa-sr,wk pyr cmt,
tr pyr nod,tr off wh arg mtx,
dom lse,gen cln,pr-fr inf &
vis por,no fluor.
WKF W-31A reached Total Depth of
3450.0m MDRT 2373.2m TVDRT
(-2339.8m TVDSS) at 23:30 hours
on 03-07-2006.