Schlumberger

Company: **Esso Australia Pty Ltd.**

Well: **A−2b**
Field: **Halibut**
Rig: **Crane** Country: **Australia**

2−1/8" Phased
Powerjet MWPT
Perforation

Rig: Crane
Field: Halibut
Location: Gippsland
Well: A−2b
Company: Esso Australia Pty Ltd.

LOCATION

Gippsland	Elev.:	K.B.	29.45 m
Basin		G.L.	−73 m
Bass Strait		D.F.	29.45 m

Permanent Datum:	M.S.L	Elev.:	0 m
Log Measured From:	K.B	29.5 m	above Perm. Datum
Drilling Measured From:	K.B		

State:	Max. Well Deviation	Longitude	Latitude
Victoria	56 deg	148*19' 07.62"E	38*24' 20.36"S

Logging Date		12−Jan−2008					
Run Number		One					
Depth Driller		3312 m					
Schlumberger Depth		3255 m					
Bottom Log Interval		3255 m					
Top Log Interval		3190 m					
Casing Fluid Type		Production Fluid					
Salinity							
Density							
Fluid Level		1485 m					
BIT/CASING/TUBING STRING							
Bit Size		8.500 in					
From							
To							
Casing/Tubing Size		7.000 in					
Weight		26 lbm/ft					
Grade		L−80					
From		11.26 m					
To		3328.78 m					
Maximum Recorded Temperatures		225 degf					
Logger On Bottom	Time	12−Jan−2008	16:00				
Unit Number	Location	889	Prod 4 / AUSL				
Recorded By		G Wright, R Sani					
Witnessed By		G Rimmer					

		Run 1
PVT DATA	Oil Density	
	Water Salinity	
	Gas Gravity	
	Bo	
	Bw	
	1/Bg	
	Bubble Point Pressure	
	Bubble Point Temperature	
	Solution GOR	
	Maximum Deviation	56 deg
	CEMENTING DATA	
	Primary/Squeeze	Primary
	Casing String No	
	Lead Cement Type	
	Volume	
	Density	
	Water Loss	
	Additives	
	Tail Cement Type	
	Volume	
	Density	
	Water Loss	
	Additives	
	Expected Cement Top	

Logging Date		
Run Number		
Depth Driller		
Schlumberger Depth		
Bottom Log Interval		
Top Log Interval		
Casing Fluid Type		
Salinity		
Density		
Fluid Level		
BIT/CASING/TUBING STRING		
Bit Size		
From		
To		
Casing/Tubing Size		
Weight		
Grade		
From		
To		
Maximum Recorded Temperatures		
Logger On Bottom	Time	
Unit Number	Location	
Recorded By		
Witnessed By		

DEPTH SUMMARY LISTING

Date Created: 12−JAN−2008 10:31:44

Depth System Equipment

Depth Measuring Device		Tension Device		Logging Cable	
Type:	IDW−EB	Type:	PSDS/OSDS	Type:	2−32ZT
Serial Number:	6273	Serial Number:	325357	Serial Number:	24425
Calibration Date:	04−Jan−2007	Calibration Date:	26−Dec−2007	Length:	5299.86 M
Calibrator Serial Number:	9	Calibrator Serial Number:	1174	Conveyance Method:	Wireline
Calibration Cable Type:	2−23ZT	Calibration Gain:	0.88	Rig Type:	Rigless
Wheel Correction 1:	−2	Calibration Offset:	176.00		
Wheel Correction 2:	−4				

Depth Control Parameters

Log Sequence: Subsequent Trip To the Well

Reference Log Name: ExxonMobil Petrophysical Analysis

Reference Log Date: 14−Jan−2007

Depth Control Remarks

1. IDW used as primary depth control.
2. Z−Chart used as back−up.

DISCLAIMER
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OTHER SERVICES1
OS1: None
OS2:
OS3:
OS4:
OS5:

REMARKS: RUN NUMBER 1 REMARKS: RUN NUMBER 2

Log correlated to ExxonMobil Composite supplied with program.
Maximum well deviation = 56 deg at 3311m MDKB.
2−1/8" Phased Powerjet at 6spf used for this perforation.
Zone perforated at 3217m to 3219m MDKB.
SBHP = 2885 psia.
SBHT= 224 degf.
After firing gun:

SBHP = 3201 psia.

SBHT = 225 degf.

Schlumberger Crew: P Lawrence, C Shiells

RUN 1

SERVICE ORDER #:	AUSL 08589239
PROGRAM VERSION:	14C0−302
FLUID LEVEL:	1485 m

LOGGED INTERVAL	START	STOP

EQUIPMENT DESCRIPTION

RUN 1

SURFACE EQUIPMENT

MWPM−AA

DOWNHOLE EQUIPMENT

MH−22 — 11.52
MH−22

AH−38 — 11.04
AH−38

EQF−43 — 10.74
EQF−43

AH−124 7002 — 8.91
AH−124

MWGT−AA — 8.60
MWPG−AA 24029
MWGH−AA 69
MWPG GR — 2.41

MWPT−CA — 7.62
MWPH−AA 74
MWPS−AA 74
CCL
SMWP Pres
SMWP Temp
Tension — TOOL ZERO

AH−121 — 4.80
AH−121 42

SAH−G 4.50
SAH−G 1035

MPD−MD 3.55
MPD−MD 268

AH−ESIC 3.05
AH−ESIC 15042002

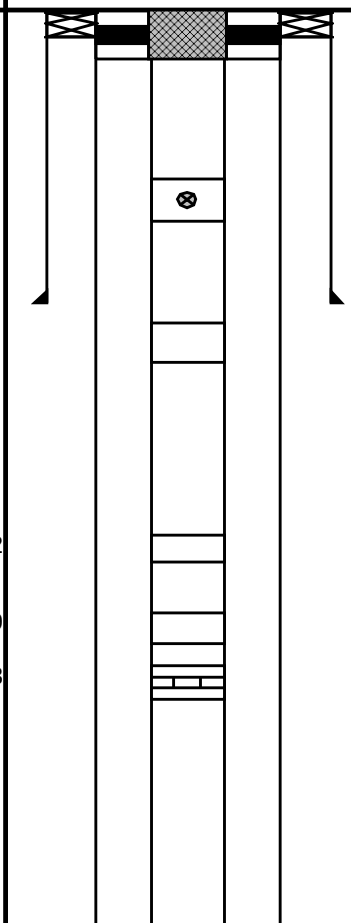
MWP_GUN 2.75
GUN−2m 2−1/8" Powerjet Gun

TOOL BOTTOM

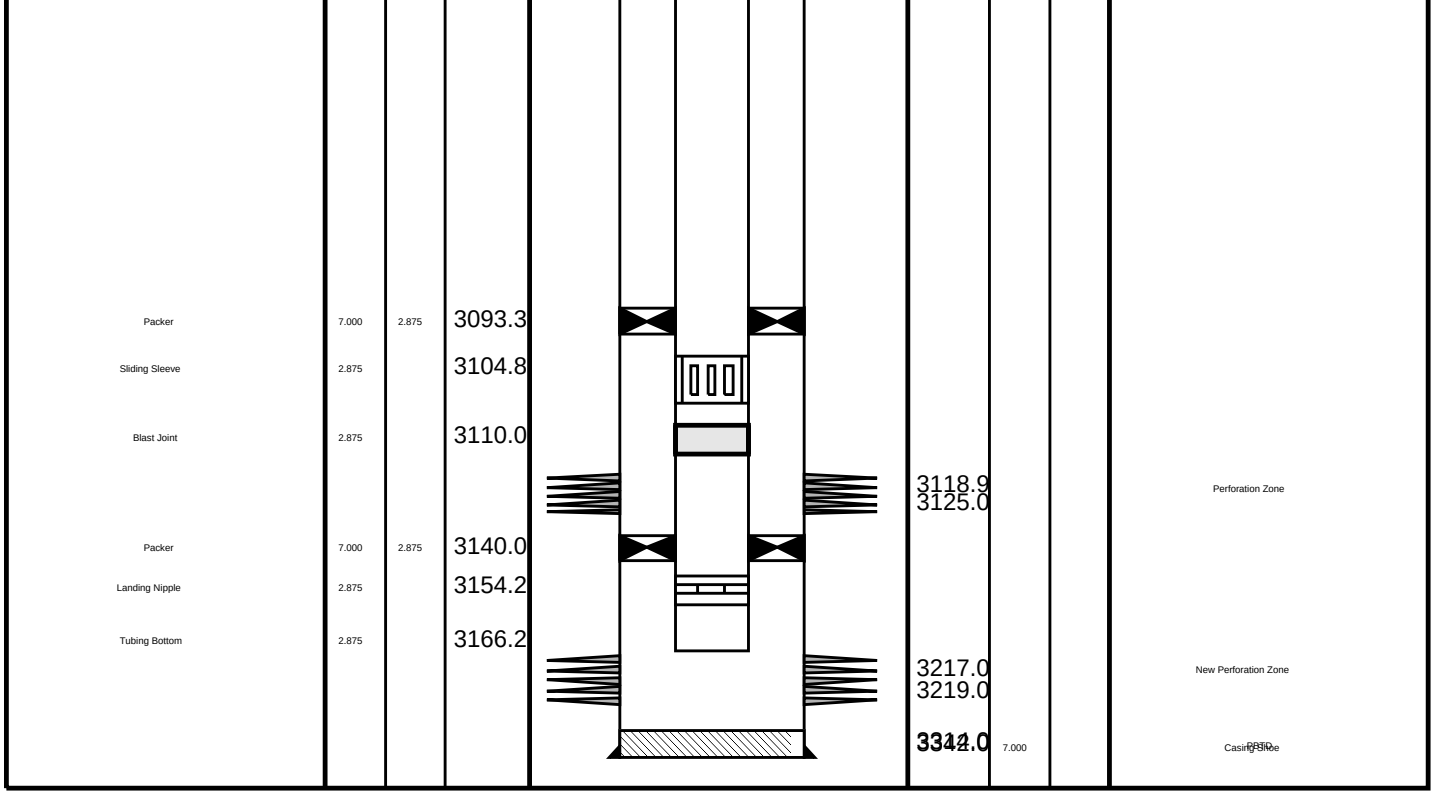
MAXIMUM STRING DIAMETER 2.10 IN
MEASUREMENTS RELATIVE TO TOOL ZERO
ALL LENGTHS IN METERS

Production String	(in) OD	(in) ID	(m) MD
Tubing Hanger	7.000	2.950	12.2
Tubing	2.875		12.2
SSSV	2.875		143.2
Side Pocket Mandrel	2.875		776.2
Side Pocket Mandrel	2.875		1294.2
Side Pocket Mandrel	2.875		1484.9
Landing Nipple	2.875		1502.3

Well Schematic



(m) MD	(in) OD	(in) ID	Casing String
11.0	10.750		Casing String
11.0	7.000	10.750	Liner Hanger
11.3	7.000		Casing String
11.3	10.750	7.000	Liner Hanger
645.7	10.750		Casing Shoe



Schlumberger

Job Event Summary

MAXIS Field Log

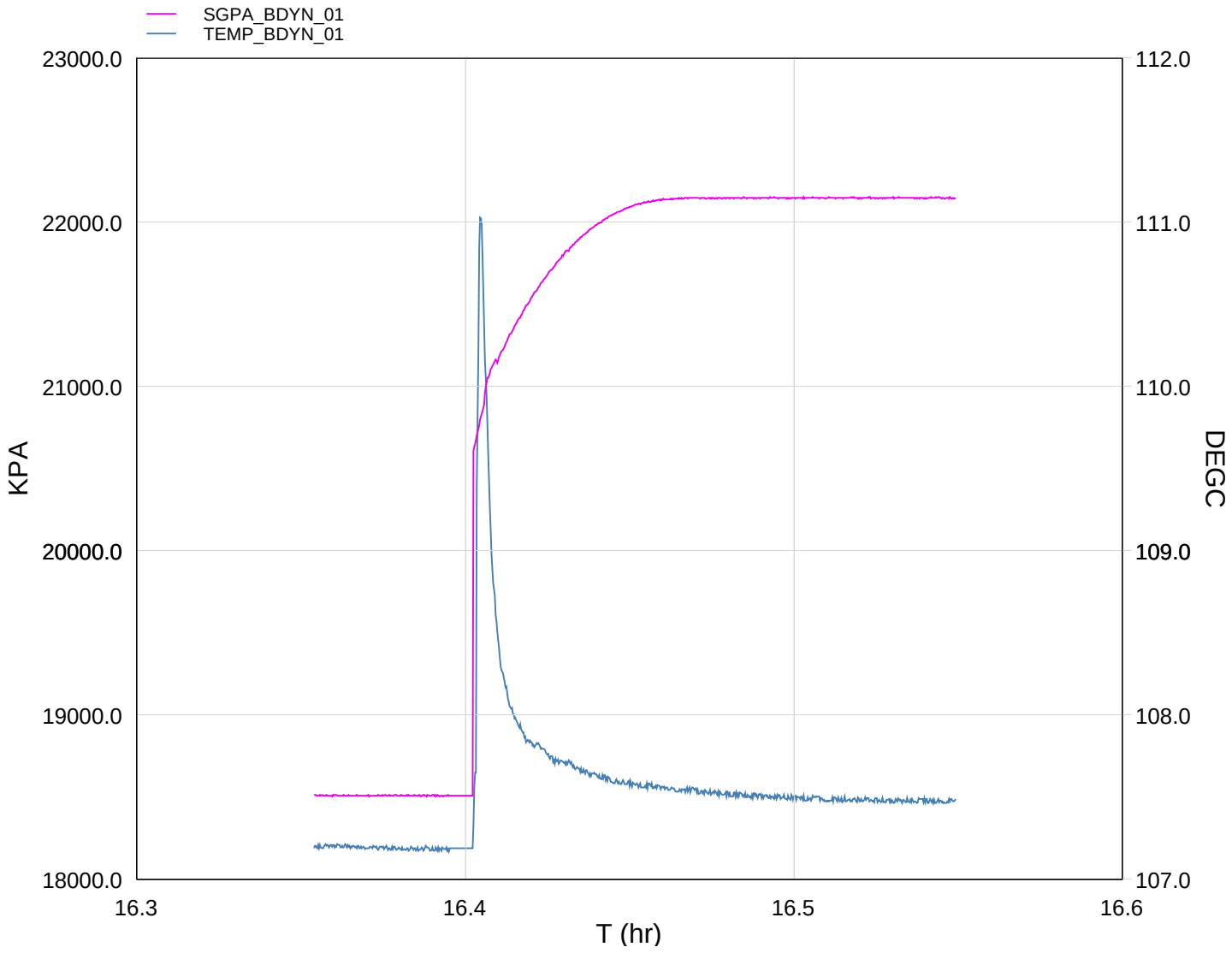
Schlumberger Job Event Summary

	Time	Elapsed Time	Depth (M)		File
Log Pass (down)	12−Jan−2008 15:13	000:50	795.7 −	3255.4	PERFO_006LDP
Log Pass (up)	12−Jan−2008 16:04	000:06	3255.4 −	3197.4	PERFO_007LUP
Log Pass (up)	12−Jan−2008 16:15	000:19	3253.6 −	3195.8	PERFO_009LUP
Station Log	12−Jan−2008 16:21	000:12	3213.5 −	1.8	PERFO_010LTP

Schlumberger

Bordyn Plot

MAXIS Field Log



TIME	DEGF	PSIA
4740.0	225.47	3211.988
4680.0	225.46	3212.485
4620.0	225.50	3212.439
4560.0	225.48	3212.927
4500.0	225.51	3212.038
4440.0	225.62	3211.672
4380.0	225.68	3199.667
4320.0	225.90	3160.761
4260.0	226.65	3086.328
4200.0	224.94	2684.690
4140.0	224.92	2684.760

4080.0	224.97	2684.977
4020.0	224.97	2684.977

Schlumberger

2−1/8" Powerjet Gun
Shooting Pass

MAXIS Field Log

Company: Esso Australia Pty Ltd. **Well: A−2b**

Output DLIS Files

DEFAULT	PERFO_009LUP	FN:8	PRODUCER	12−Jan−2008 16:15	3253.6 M	3195.8 M

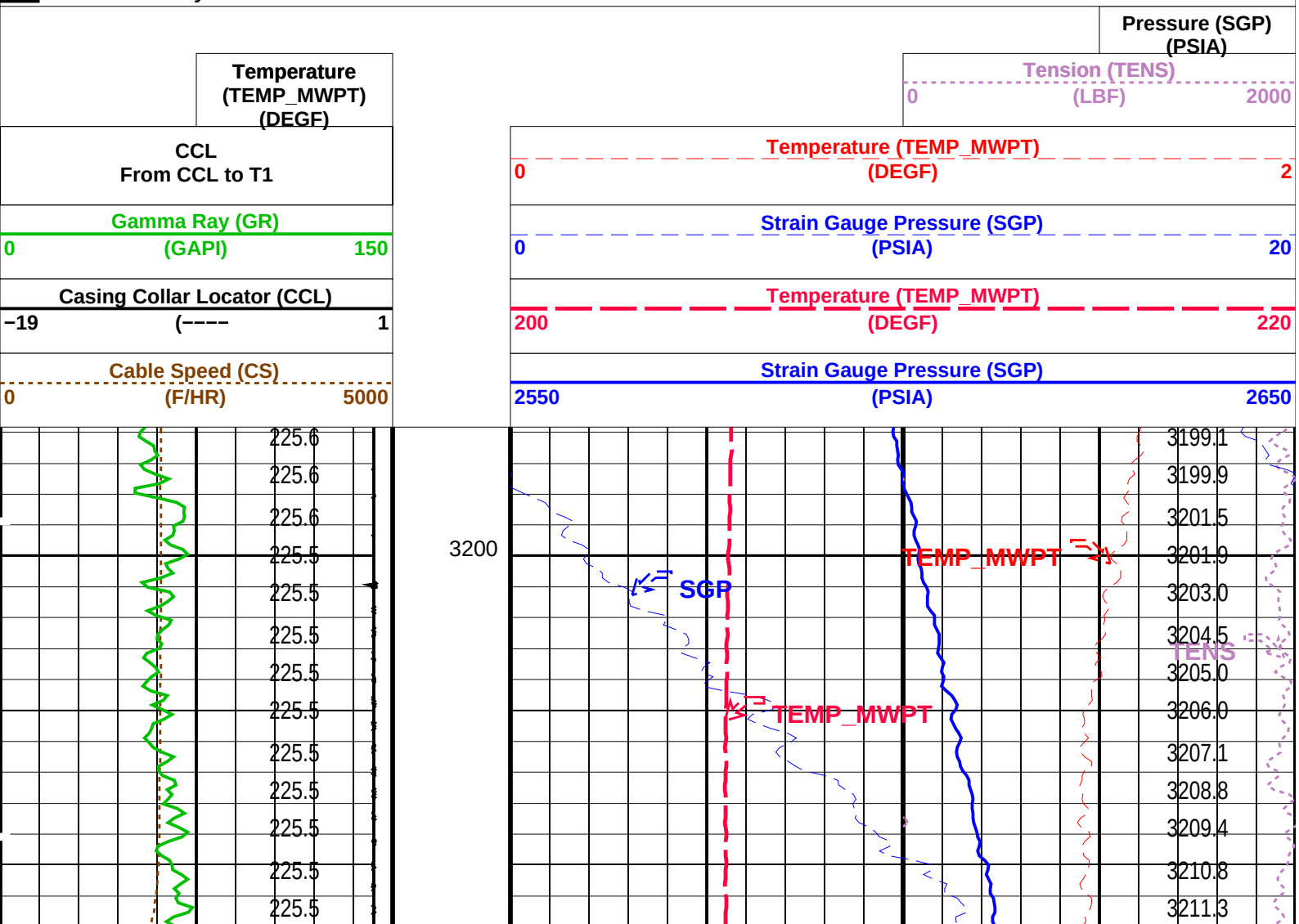
OP System Version: 14C0−302

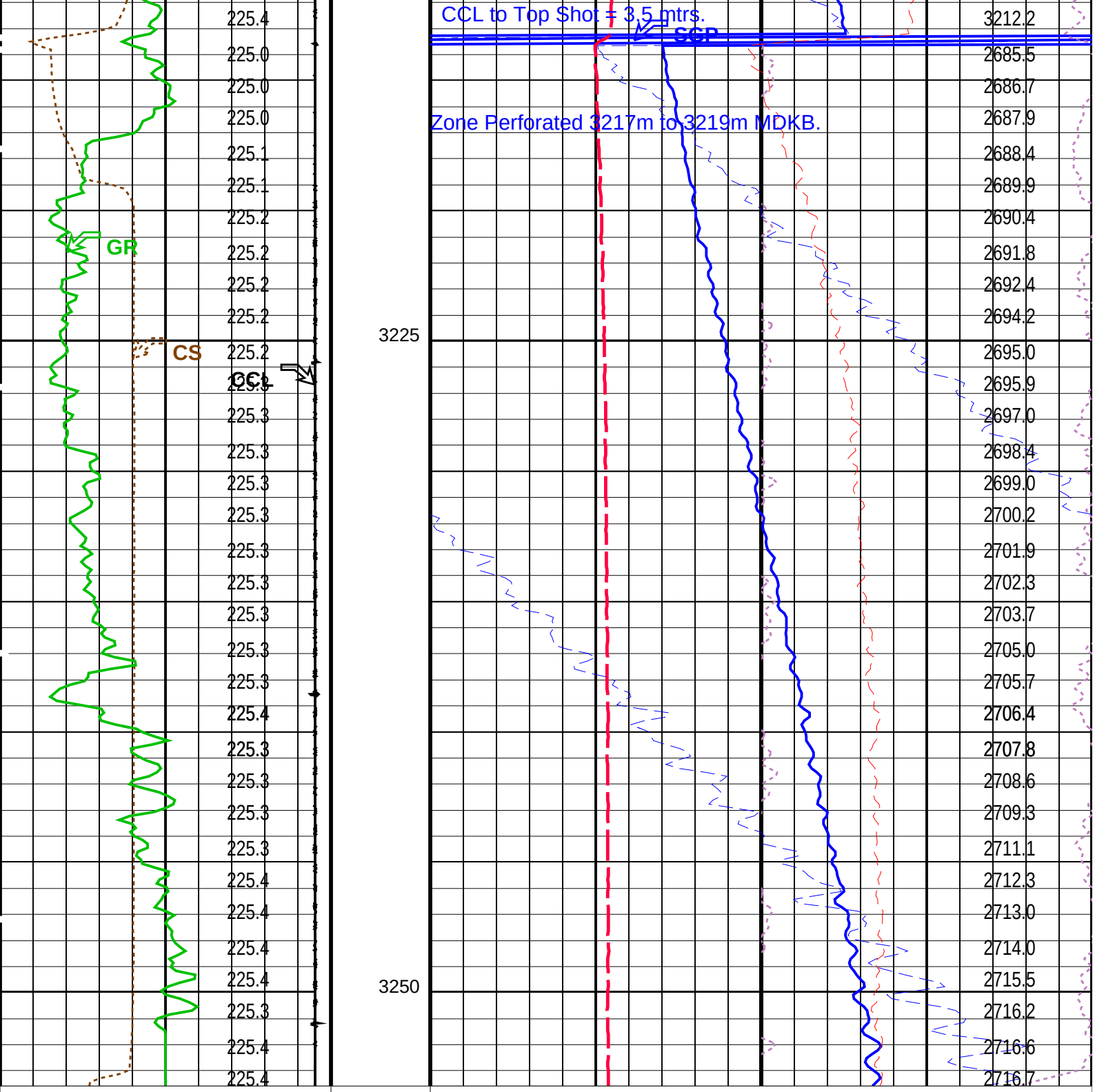
MCM

MWP_GUN	14C0−302	MWPT−CA	14C0−302
MWGT−AA	14C0−302		

PIP SUMMARY

Time Mark Every 60 S





Cable Speed (CS)
0 (F/HR) 5000

Strain Gauge Pressure (SGP)
2550 (PSIA) 2650

Casing Collar Locator (CCL)
−19 (−−−− 1

Temperature (TEMP_MWPT)
200 (DEGF) 220

Gamma Ray (GR)
0 (GAPI) 150

Strain Gauge Pressure (SGP)
0 (PSIA) 20

CCL
From CCL to T1

Temperature (TEMP_MWPT)
0 (DEGF) 2

Temperature (TEMP_MWPT) (DEGF)

Tension (TENS)
0 (LBF) 2000

Pressure (SGP) (PSIA)

PIP SUMMARY

PIP SUMMARY

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value	
MWPT−CA: MEASUREMENT WHILE PERFORATING TOOL			
DEVI_FL_CORR	Deviation Angle for Flow Line Correction	0	DEG
FLD	Flow Line Density	1	G/C3
MWPT_NULL_SOURCE	MWPT NULL Temperature Source	TEMS	
MWPT_NULL_TEMP	MWPT NULL Temperature	0.0	DEGC

Format: MWP Vertical Scale: 1:200 Graphics File Created: 12−Jan−2008 16:15

OP System Version: 14C0−302

MCM

MWP_GUN	14C0−302	MWPT−CA	14C0−302
MWGT−AA	14C0−302		

Output DLIS Files

DEFAULT	PERFO_009LUP	FN:8	PRODUCER	12−Jan−2008 16:15	

Schlumberger

2−1/8" Powerjet Gun Correlation Pass

MAXIS Field Log

Company: Esso Australia Pty Ltd. Well: A−2b

Input DLIS Files

DEFAULT	PERFO_007LUP	FN:6	PRODUCER	12−Jan−2008 16:04	3255.4 M	3197.4 M

Output DLIS Files

DEFAULT	PERFO_008PUP	FN:7	PRODUCER	12−Jan−2008 16:11	3253.6 M	3196.0 M

OP System Version: 14C0−302

MCM

MWP_GUN	14C0−302	MWPT−CA	14C0−302
MWGT−AA	14C0−302		

PIP SUMMARY

Time Mark Every 60 S

Pressure (SGP) (PSIA)

Temperature (TEMP_MWPT) (DEGF)

Tension (TENS)
0 (LBF) 2000

CCL
From CCL to T1

Temperature (TEMP_MWPT)
0 (DEGF) 2

Gamma Ray (GR)
0 (GAPI) 150

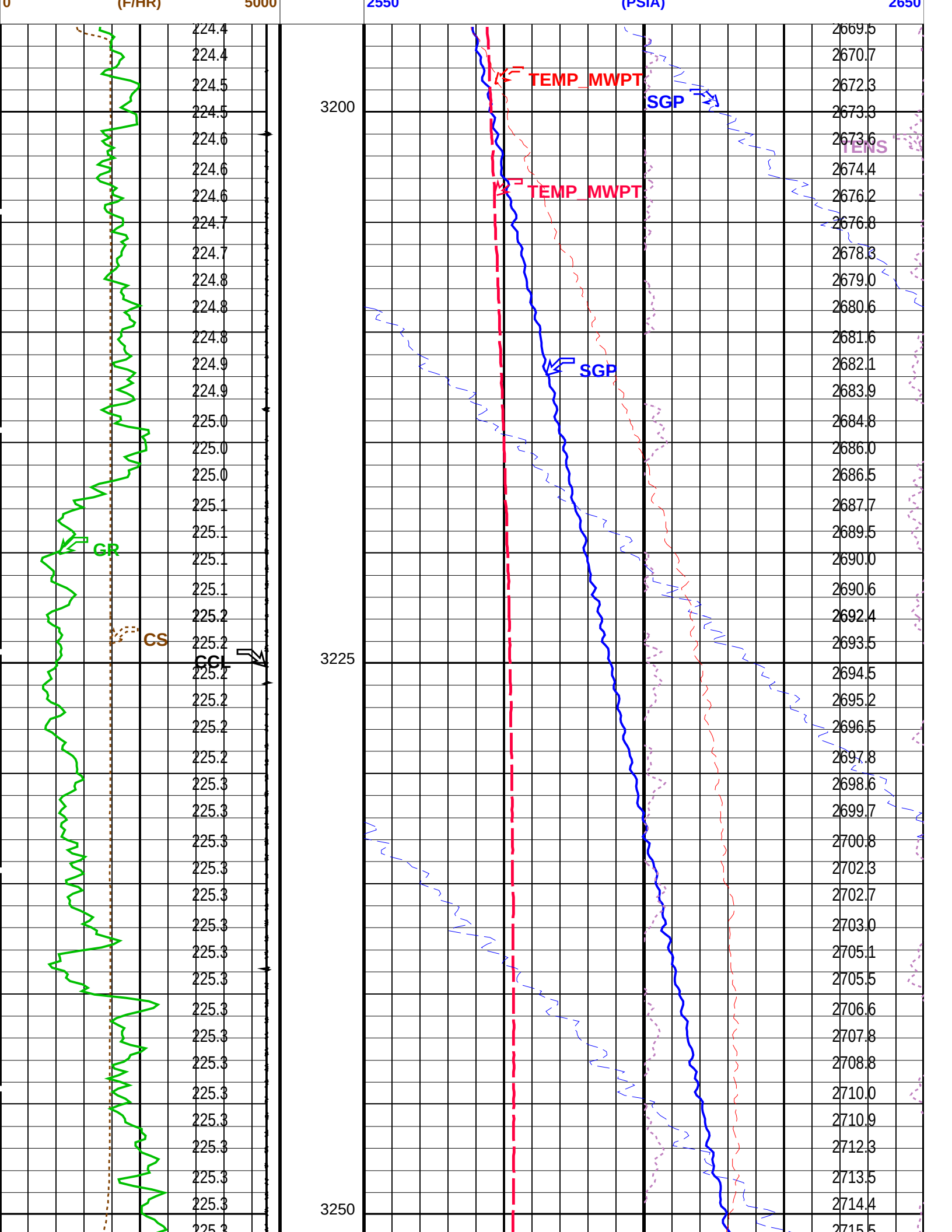
Strain Gauge Pressure (SGP)
0 (PSIA) 20

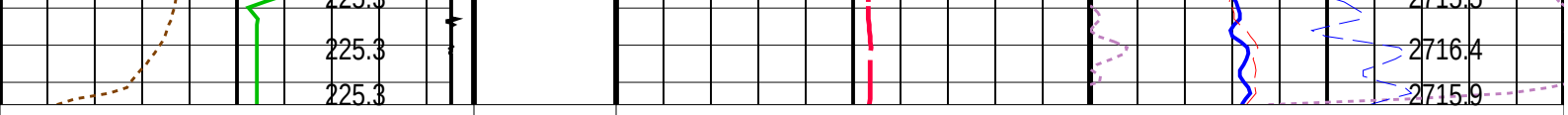
Casing Collar Locator (CCL)
−19 (−−−− 1

Temperature (TEMP_MWPT)
200 (DEGF) 220

Cable Speed (CS)
0 (F/HR) 5000

Strain Gauge Pressure (SGP)
3550 (PSIA) 3650


0
(F/HR)
5000
2550
(PSIA)
2650
3200
3225
3250
GR
CS
CCL
TEMP_MWPT
TEMP_MWPT
SGP
SGP
TENS



Cable Speed (CS)	0 (F/HR) 5000	Strain Gauge Pressure (SGP) 2550 (PSIA) 2650
Casing Collar Locator (CCL)	−19 (−−−− 1	Temperature (TEMP_MWPT) 200 (DEGF) 220
Gamma Ray (GR)	0 (GAPI) 150	Strain Gauge Pressure (SGP) 0 (PSIA) 20
CCL From CCL to T1		Temperature (TEMP_MWPT) 0 (DEGF) 2
Temperature (TEMP_MWPT) (DEGF)		Tension (TENS) 0 (LBF) 2000
		Pressure (SGP) (PSIA)

PIP SUMMARY

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value	
MWPT−CA: MEASUREMENT WHILE PERFORATING TOOL			
DEVI_FL_CORR	Deviation Angle for Flow Line Correction	0	DEG
FLD	Flow Line Density	1	G/C3
MWPT_NULL_SOURCE	MWPT NULL Temperature Source	TEMS	
MWPT_NULL_TEMP	MWPT NULL Temperature	0.0	DEGC
System and Miscellaneous			
DO	Depth Offset for Playback	−1.8	M
PP	Playback Processing	NORMAL	

Format: MWP Vertical Scale: 1:200 Graphics File Created: 12−Jan−2008 16:11

OP System Version: 14C0−302

MCM

MWP_GUN	14C0−302	MWPT−CA	14C0−302
MWGT−AA	14C0−302		

Input DLIS Files

DEFAULT	PERFO_007LUP	FN:6	PRODUCER	12−Jan−2008 16:04	3255.4 M	3197.4 M

Output DLIS Files

DEFAULT	PERFO_008PUP	FN:7	PRODUCER	12−Jan−2008 16:11

Company: **Esso Australia Pty Ltd.**

Schlumberger

Well: **A−2b**
Field: **Halibut**
Rig: **Crane**
Country: **Australia**

2−1/8" Phased
Powerjet MWPT
Perforation