



Company: Esso Australia Pty Ltd.

Well: A-20A  
Field: Bream A  
Rig : Prod4 / Crane  
Country: Australia

Prod4 / Crane  
Bream A  
Gippsland  
A-20A  
Esso Australia Pty Ltd.

RST-C Sigma Survey		LOCATION	
		Gippsland	
		Basin	
		Bass Strait	
Permanent Datum:		Elev.: K.B. 32.82 m	
Log Measured From:		G.L. -59.00 m	
Drilling Measured From:		D.F. 32.82 m	
State : Victoria	Max. Well Deviation 57 deg	Longitude 147 46'15"E	Latitude 038 30'04"S
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			
Unit Number			
Recorded By			
Witnessed By			

				Run 1
PVT DATA				
Oil Density				
Water Salinity				
Gas Gravity				
Bo				
Bw				
1/Bg				
Bubble Point Pressure				
Bubble Point Temperature				
Solution GOR				
Maximum Deviation				57 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				
Unit Number				
Recorded By				
Witnessed By				

## DEPTH SUMMARY LISTING

Date Created: 15-OCT-2008 16:00:40

### Depth System Equipment

Depth Measuring Device		Tension Device		Logging Cable	
Type:	IDW-EB	Type:	PSDS/OSDS	Type:	2-32ZT
Serial Number:	6373	Serial Number:	325357	Serial Number:	208196
Calibration Date:	04-JAN-2007	Calibration Date:	20-Sep-2008	Length:	7315 M
Calibrator Serial Number:	9	Calibrator Serial Number:	1174	Conveyance Method: Wireline Rig Type: Offshore_Fixed	
Calibration Cable Type:	2-23ZT	Calibration Gain:	0.94		
Wheel Correction 1:	-2	Calibration Offset:	0.00		
Wheel Correction 2:	-4				

### Depth Control Parameters

Log Sequence:	Subsequent Log In the Well
Reference Log Name:	Solar Composite Log
Reference Log Run Number:	
Reference Log Date:	.

### Depth Control Remarks

1. IDW used as primary depth control.
2. Z-chart used as secondary backup
3.
4.
5.
6.

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OTHER SERVICES1
OS1: 2 1/8" Powerjet
OS2: Mwpt Perforation
OS3: 7" Mpbt Plug

REMARKS: RUN NUMBER 1	REMARKS: RUN NUMBER 2
Log correlated to ExxonMobil composite supplied with logging program.	
Maximum well deviation = 57deg @ 869.3m MDKB.	
RST-C Sigma survey from HUD 2227m to 2200m MDKB. Making two passes at 900 ft/hr	
Following this survey the well will be re-perforated and watered out zone	
plugged off with a 7" MPBT plug.	
SBHP = 2615 psia.	
SBHT = 206 degf.	
HUD - completed at 2207m MDKB	

HUD was tagged at 2227m MDKB.

Crew : J Light & G Martin.

RUN 1  
SERVICE ORDER #: AUSL08602238  
PROGRAM VERSION: 16C0-147  
FLUID LEVEL: 1195 m

LOGGED INTERVAL	START	STOP

EQUIPMENT DESCRIPTION

RUN 1	
SURFACE EQUIPMENT	
WITM-A PSC_16MHZ	
DOWNHOLE EQUIPMENT	
AH-SWBS-B 789	13.30
AH-SWBS-B 788	12.61
AH-SWBS-B 787	11.93
AH-SWBS-B 786	11.24
AH-SWBS-B 785	10.55
MH-SWHS-A 759	9.87
PSPT-B	9.54
PSC-A 827	
PSPT-B 827	
PSTC 806	
PBMS-B 827	
CQG_F_Mano 827	8.41
RTD Thermometer 827	
GR 827	
CCL 827	7.48
PBMS 827	7.37
	7.25
	7.02
RSCH-A 98	7.02
RSC-C 116	
RSS-A 93	
RSXH-A 179	
RSX-C 101	

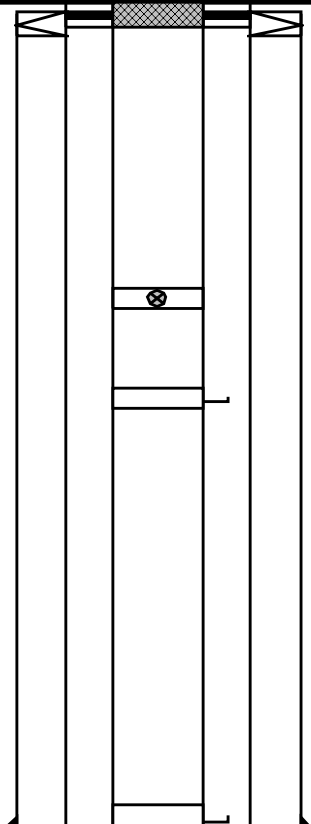
RSC-A Far  
RSC-A PNG  
RSC-A Nea  
RSX-A PNG

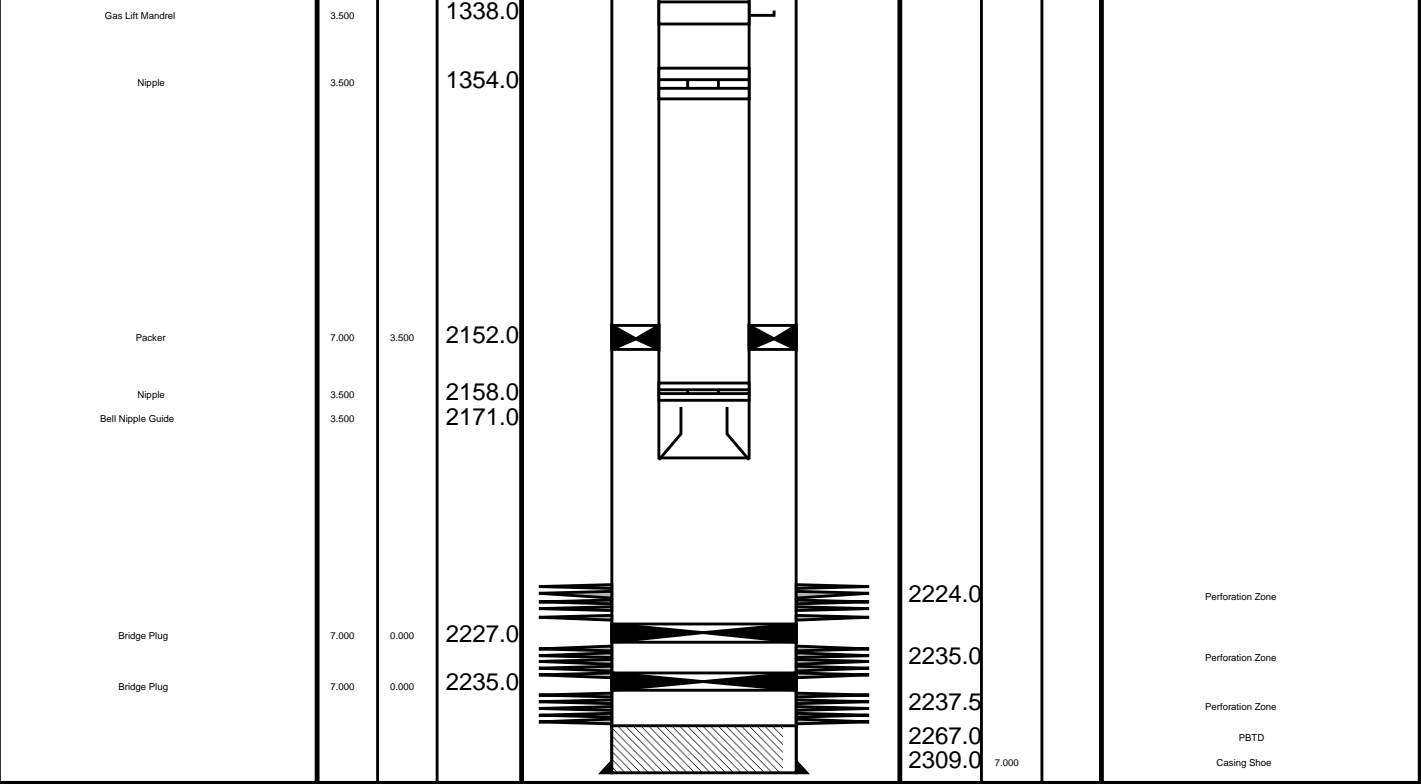
4.24

4.09

Tension HV 0.00  
TOOL ZERO

MAXIMUM STRING DIAMETER 1.72 IN  
MEASUREMENTS RELATIVE TO TOOL ZERO  
ALL LENGTHS IN METERS

Production String	(in)		(m)	Well Schematic	(m)	(in)		Casing String
	OD	ID	MD		MD	OD	ID	
Tubing	3.500		11.0		12.9	10.750		Casing String
Tubing Hanger	7.000	3.500	10.0		12.2	7.000		Casing String
					12.2	10.750	7.000	Liner Hanger
Shutin Valve	3.500		450.0					
Gas Lift Mandrel	3.500		595.0					
Gas Lift Mandrel	3.500		1154.0		1123.1	10.750		Casing Shoe



# Job Event Summary

MAXIS Field Log

Schlumberger Job Event Summary						
Time		Elapsed Time	Depth (M)		File	
Log Pass (down)	20-Oct-2008 12:52	000:25	100.7	- 2229.2	RST_PSP_005LDP	
Log Pass (up)	20-Oct-2008 13:18	000:08	2233.1	- 2160.7	RST_PSP_006LUP	
Log Pass (up)	20-Oct-2008 13:33	000:10	2227.2	- 2180.2	RST_PSP_008LUP	
Log Pass (up)	20-Oct-2008 13:44	000:11	2228.8	- 2184.3	RST_PSP_009LUP	

Company: Esso Australia Pty Ltd.

Well: A-22ST1

## Output DLIS Files

DEFAULT

RST\_PSP\_009LUP

FN:8

PRODUCER

20-Oct-2008 13:44

## OP System Version: 16C0-147

MCM

RST-C

16C0-147

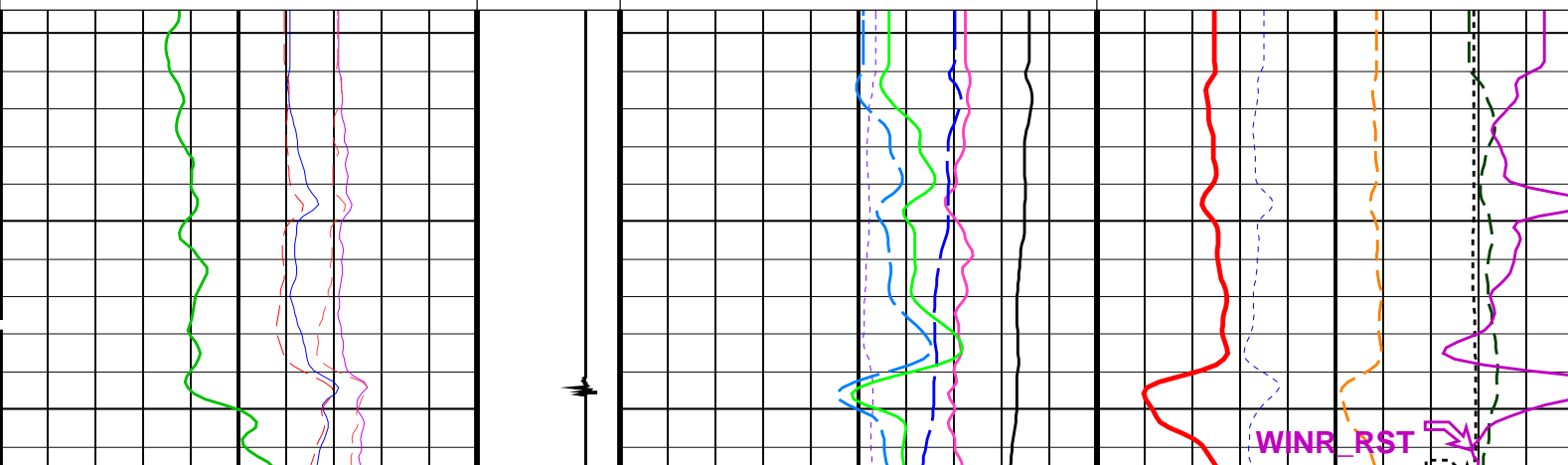
PSPT-B

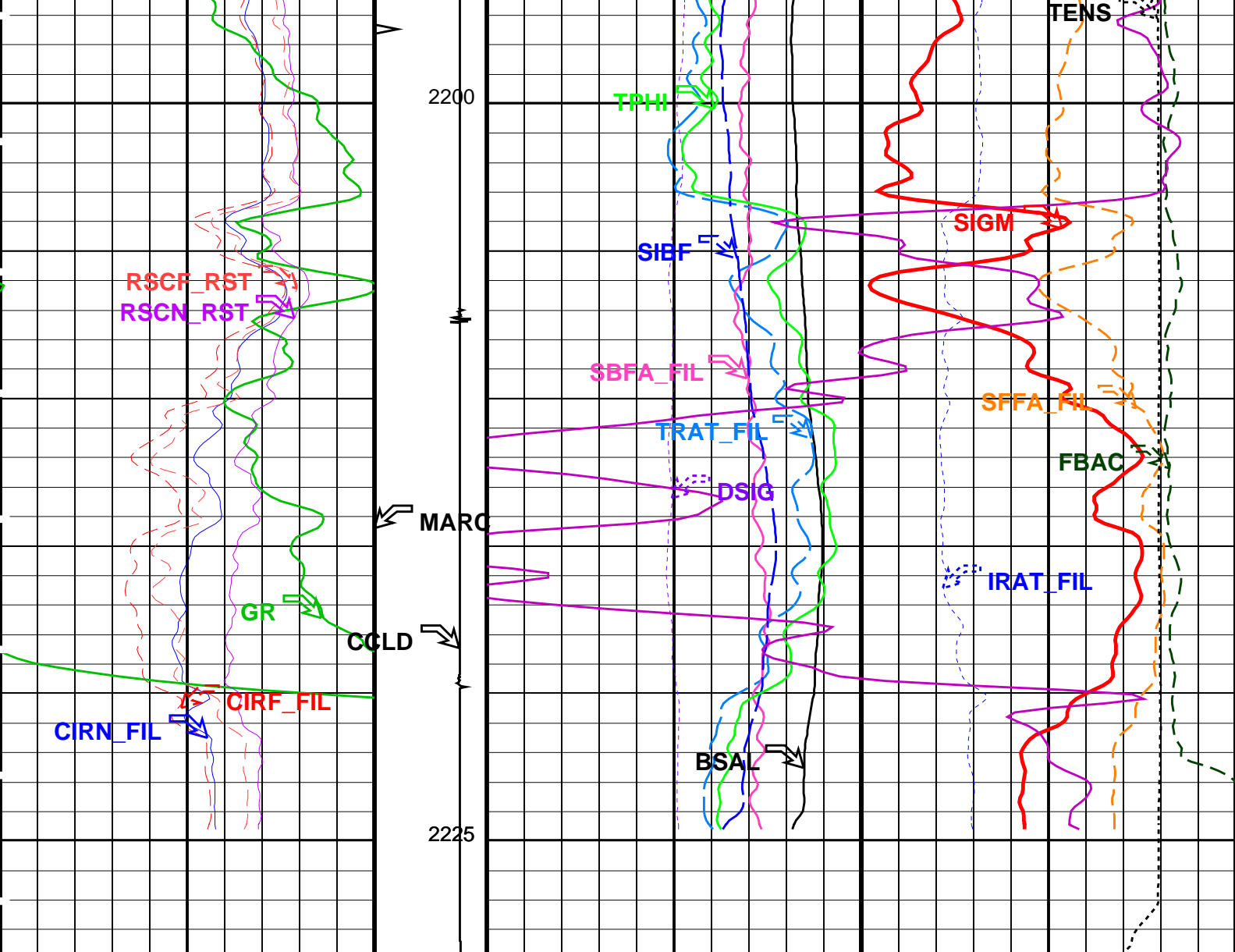
16C0-147

## PIP SUMMARY

Time Mark Every 60 S

		<b>RST Sigma (SIGM)</b>	
		60 (CU)	0
		<b>RST Weighted Inelastic Ratio (WINR_RST)</b>	
		0.4 (----	0
		<b>RST Porosity (TPHI)</b>	
		0.6 (V/V)	0
<b>RST Far Effective Capture CR (RSCF_RST)</b>		<b>RST Sigma Borehole Fluid (SIBF)</b>	
45 (----	0	100 (CU)	0
<b>RST Near Effective Capture CR (RSCN_RST)</b>		<b>Sigma Borehole Far Apparent (SBFA_FIL)</b>	
45 (----	0	150 (CU)	0
<b>RST Capture to Inelastic Ratio Far (CIRF_FIL)</b>		<b>RST Capture Ratio (TRAT_FIL)</b>	<b>Sigma Formation Far Apparent (SFFA_FIL)</b>
5 (----	0	1.5 (----	0.5 60 (CU)
<b>RST Capture to Inelastic Ratio Near (CIRN_FIL)</b>		<b>RST Sigma Difference (DSIG)</b>	<b>MCS Far Background (filtered) (FBAC)</b>
2.5 (----	0	-30 (CU)	30 0 5000 (CPS)
<b>Gamma Ray (GR)</b>		<b>RST Borehole Salinity (BSAL)</b>	<b>RST Inelastic Ratio (IRAT_FIL)</b>
0 (GAPI)	150	450 (PPK)	-50 0.75 (----
			0

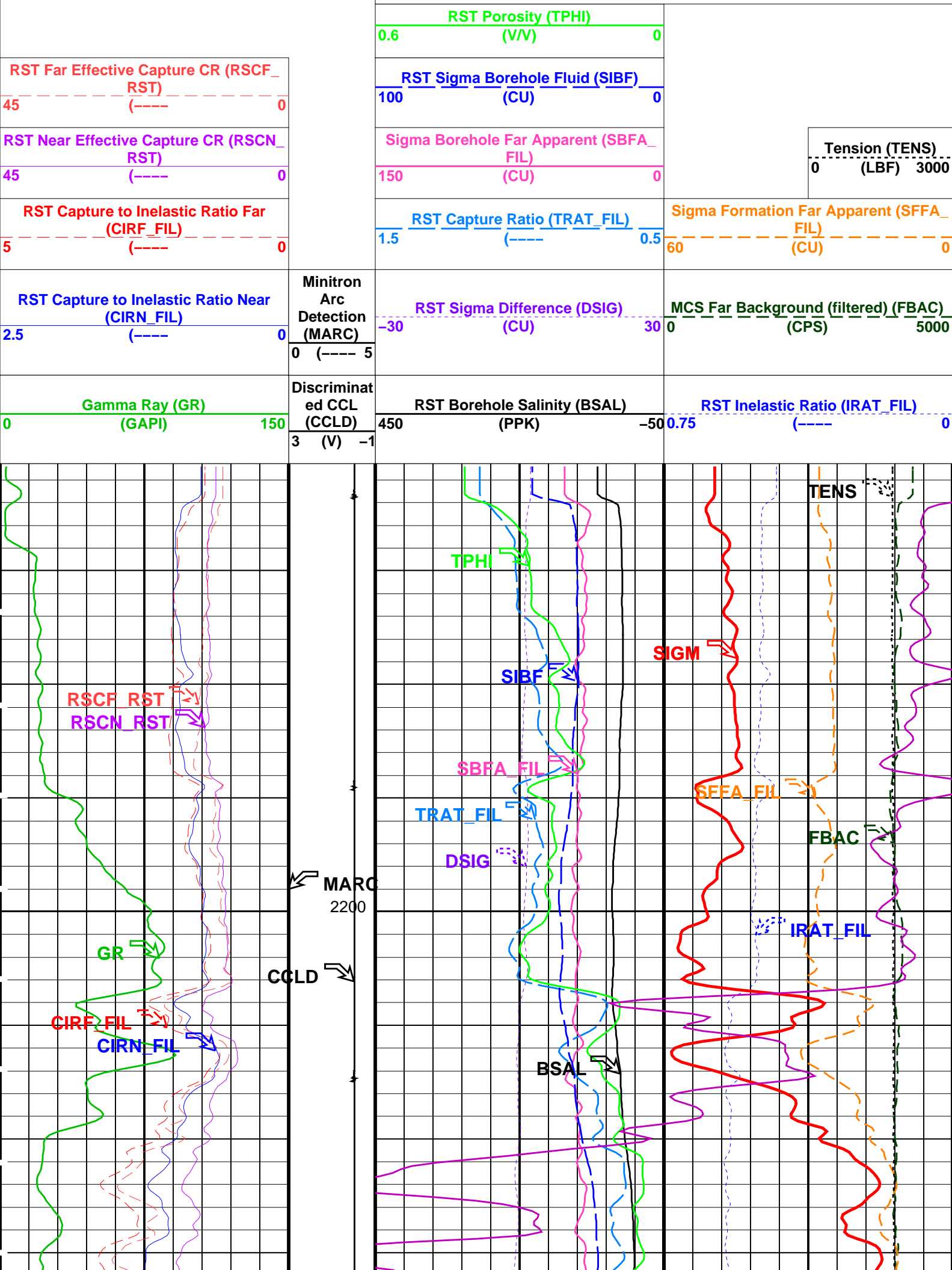


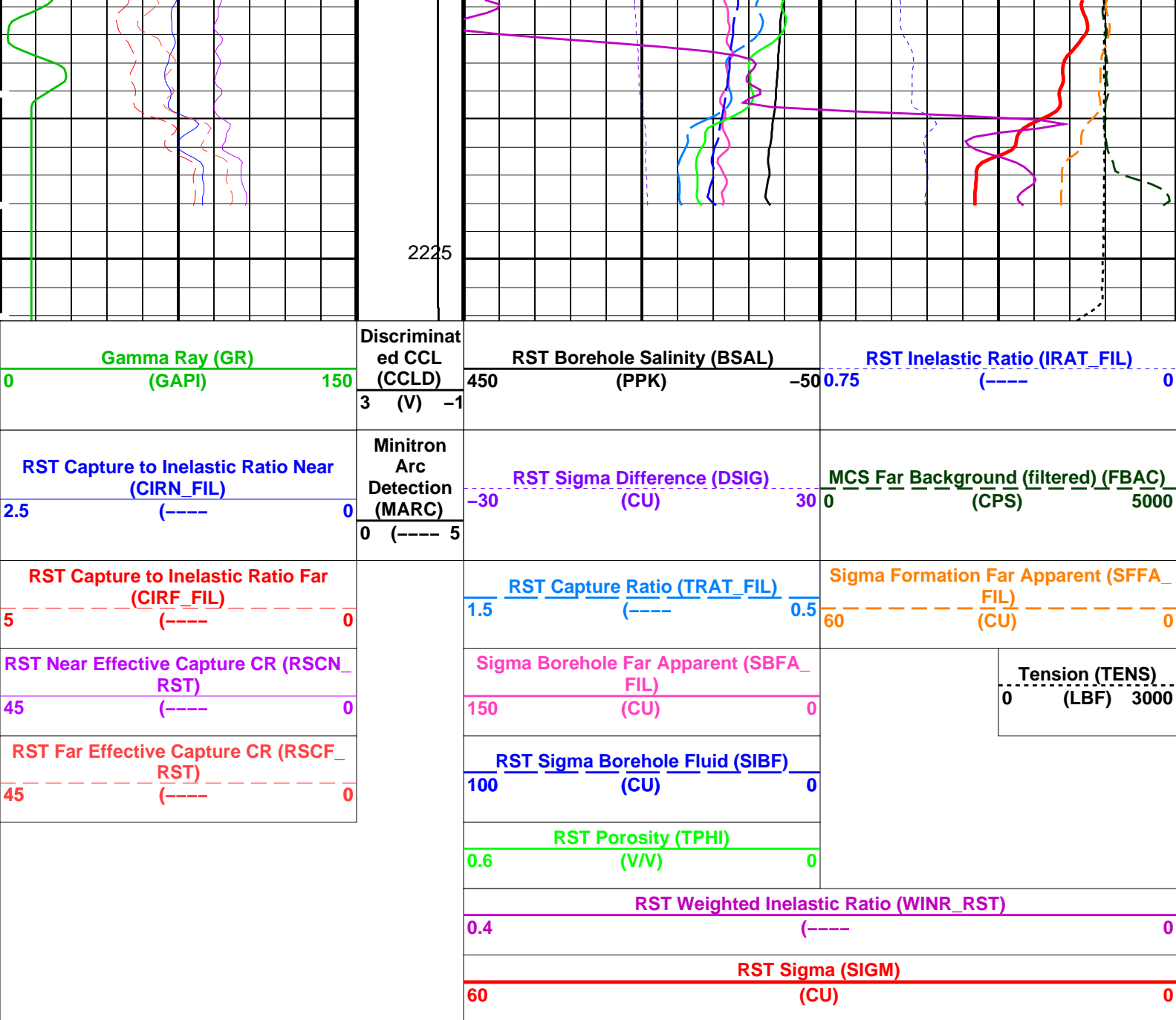


<div>Gamma Ray (GR) (GAPI)</div> <div>0150</div>	<div>Discriminat ed CCL (CCLD)</div> <div>3 (V) -1</div>	<div>RST Borehole Salinity (BSAL) (PPK)</div> <div>450-50</div>	<div>RST Inelastic Ratio (IRAT_FIL) (----</div> <div>0.750</div>
<div>RST Capture to Inelastic Ratio Near (CIRN_FIL)</div> <div>2.5 (----) 0</div>	<div>Minitron Arc Detection (MARC)</div> <div>0 (---- 5</div>	<div>RST Sigma Difference (DSIG) (CU)</div> <div>-3030</div>	<div>MCS Far Background (filtered) (FBAC) (CPS)</div> <div>05000</div>
<div>RST Capture to Inelastic Ratio Far (CIRF_FIL)</div> <div>5 (----) 0</div>		<div>RST Capture Ratio (TRAT_FIL) (----</div> <div>1.50.5</div>	<div>Sigma Formation Far Apparent (SFFA_ FIL) (CU)</div> <div>600</div>
<div>RST Near Effective Capture CR (RSCN_ RST)</div> <div>45 (----) 0</div>		<div>Sigma Borehole Far Apparent (SBFA_ FIL) (CU)</div> <div>1500</div>	<div>Tension (TENS) (LBF) 3000</div>
<div>RST Far Effective Capture CR (RSCF_ RST)</div> <div>45 (----) 0</div>		<div>RST Sigma Borehole Fluid (SIBF) (CU)</div> <div>1000</div>	
		<div>RST Porosity (TPHI) (V/V)</div> <div>0.60</div>	
		<div>RST Weighted Inelastic Ratio (WINR_RST) (----</div> <div>0.40</div>	
		<div>RST Sigma (SIGM)</div>	



		60	(CU)		0
PIP SUMMARY					
Time Mark Every 60 S					
Parameters					
DLIS Name		Description		Value	
RST-C: Reservoir Saturation Pro Tool C					
AIRB	RST Air Borehole		No		
BHS	Borehole Status		CASED		
BSALOPT	RST Borehole Salinity Option		Unknown		
BSFL	RST Borehole Salinity Filter Length		51		
DFPC	RST Depth Filter Processing Constant		One		
DFPC_TDTL	RST Depth Filter Processing Constant (TDT-like)		Two		
MATR	Rock Matrix for Neutron Porosity Corrections		SANDSTONE		
NORM_IRAT_RST	RST Normalized Inelastic Ratio		0.48		
NORM_SIGM_RST	RST Normalized Sigma		30 CU		
RGAI	Near/Far Gain Calibration Ratio		1		
TIER_SIGM	RST Sigma Acquisition Mode		0_RST_Sigma		
PSPT-B: Production Services Logging Platform					
BHS	Borehole Status		CASED		
MATR	Rock Matrix for Neutron Porosity Corrections		SANDSTONE		
System and Miscellaneous					
BS	Bit Size		8.500 IN		
BSAL	Borehole Salinity		-50000.00 PPM		
CSIZ	Current Casing Size		7.000 IN		
CWEI	Casing Weight		26.00 LB/F		
Format: RST_SIG_ANSW		Vertical Scale: 1:200		Graphics File Created: 20-Oct-2008 13:44	
OP System Version: 16C0-147					
MCM					
RST-C	16C0-147	PSPT-B	16C0-147		
Output DLIS Files					
DEFAULT	RST_PSP_009LUP	FN:8	PRODUCER	20-Oct-2008 13:44	
Schlumberger					
Sigma Pass # 1					
MAXIS Field Log					
Company: Esso Australia Pty Ltd.					
Well: A-22ST1					
Output DLIS Files					
DEFAULT	RST_PSP_008LUP	FN:7	PRODUCER	20-Oct-2008 13:33	
OP System Version: 16C0-147					
MCM					
RST-C	16C0-147	PSPT-B	16C0-147		
PIP SUMMARY					
Time Mark Every 60 S					
		RST Sigma (SIGM)			
		60	(CU)		0
		RST Weighted Inelastic Ratio (WINR_RST)			
		0.4	(----		0





PIP SUMMARY

Time Mark Every 60 S

Parameters			
DLIS Name	Description	Value	
RST-C: Reservoir Saturation Pro Tool C			
AIRB	RST Air Borehole	No	
BHS	Borehole Status	CASED	
BSALOPT	RST Borehole Salinity Option	Unknown	
BSFL	RST Borehole Salinity Filter Length	51	
DFPC	RST Depth Filter Processing Constant	One	
DFPC_TDTL	RST Depth Filter Processing Constant (TDT-like)	Two	
MATR	Rock Matrix for Neutron Porosity Corrections	SANDSTONE	
NORM_IRAT_RST	RST Normalized Inelastic Ratio	0.48	
NORM_SIGM_RST	RST Normalized Sigma	30	CU
RGAI	Near/Far Gain Calibration Ratio	1	
TIER_SIGM	RST Sigma Acquisition Mode	0_RST_Sigma	
PSPT-B: Production Services Logging Platform			
BHS	Borehole Status	CASED	
MATR	Rock Matrix for Neutron Porosity Corrections	SANDSTONE	
System and Miscellaneous			
BS	Bit Size	8.500	IN
BSAL	Borehole Salinity	-50000.00	PPM
CSIZ	Current Casing Size	7.000	IN
CWEI	Casing Weight	26.00	LB/F

Format: RST_SIG_ANSW		Vertical Scale: 1:200		Graphics File Created: 20-Oct-2008 13:33	
OP System Version: 16C0-147					
MCM					
RST-C	16C0-147	PSPT-B		16C0-147	
Output DLIS Files					
DEFAULT	RST_PSP_008LUP	FN:7	PRODUCER	20-Oct-2008 13:33	



## Gamma-Ray Pass

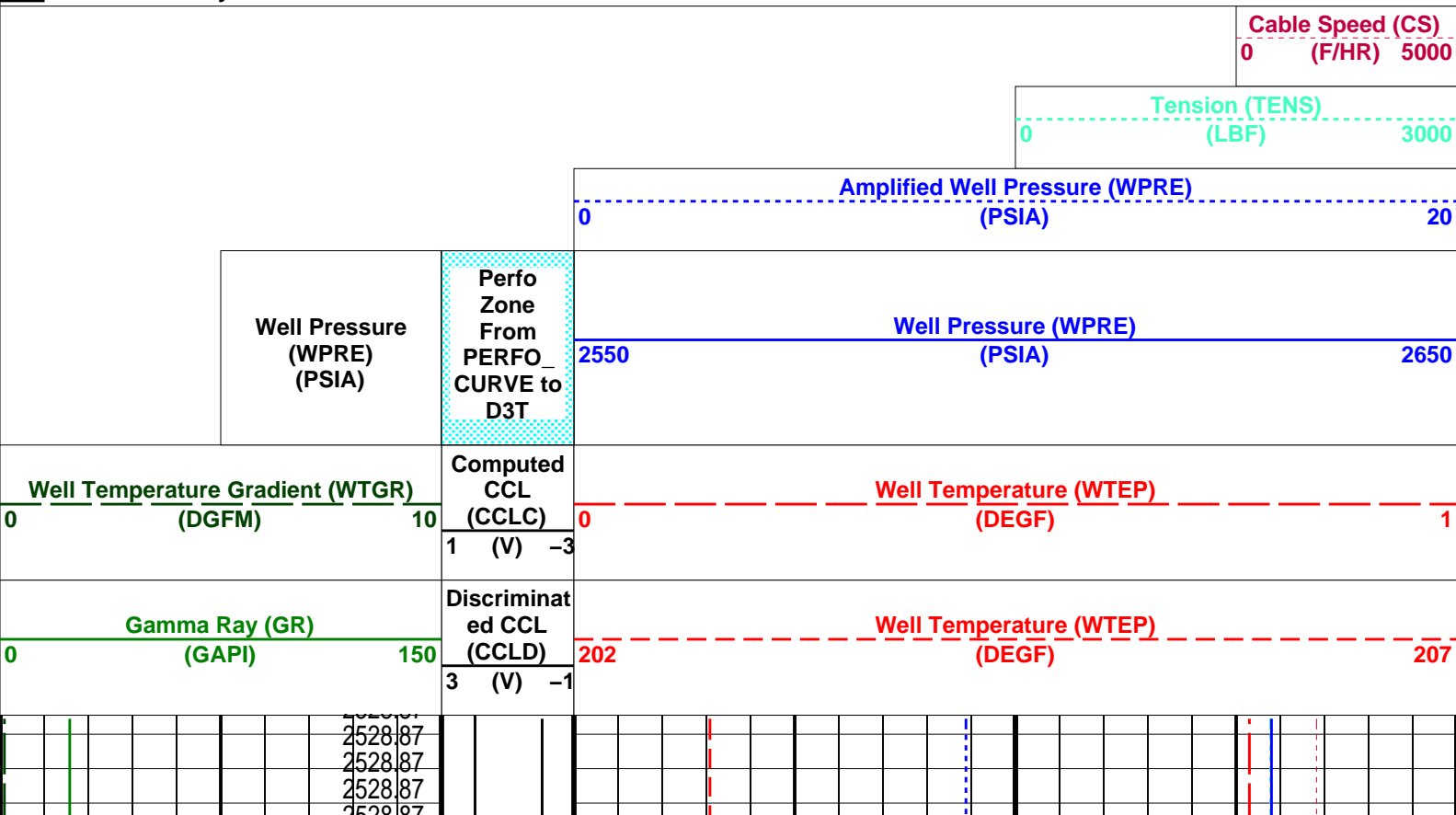
MAXIS Field Log

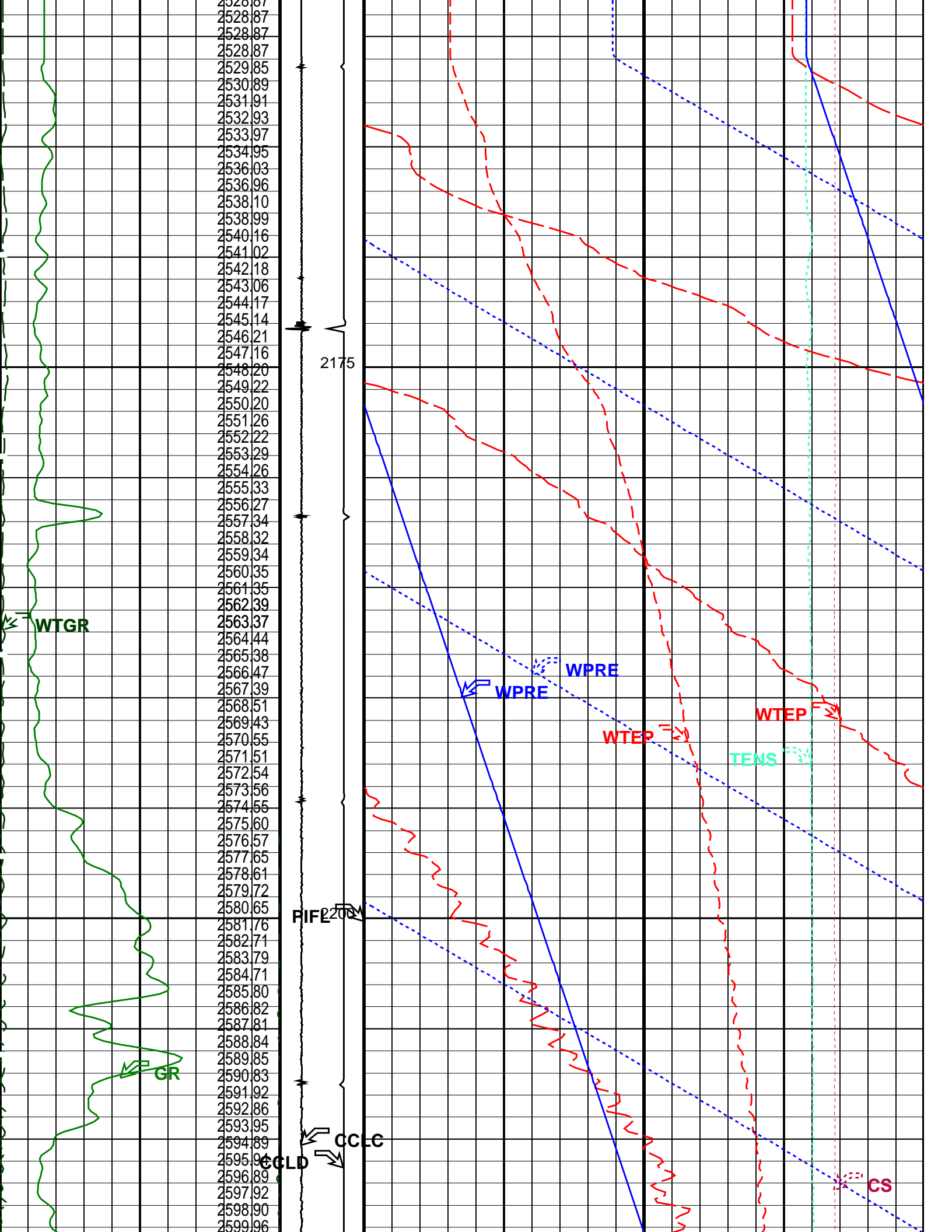
Input DLIS Files					
DEFAULT	RST_PSP_006LUP	FN:5	PRODUCER	20-Oct-2008 13:18	2233.1 M
Output DLIS Files					
DEFAULT	RST_PSP_007PUP	FN:6	PRODUCER	20-Oct-2008 13:27	2233.3 M
2160.7 M					
2155.4 M					

OP System Version: 16C0-147					
MCM					
RST-C	16C0-147	PSPT-B		16C0-147	

### PIP SUMMARY

Time Mark Every 60 S







Gamma Ray (GR) (GAPI)		Discriminat ed CCL (CCLD)	Well Temperature (WTEP) (DEGF)	
0	150	3 (V) -1	202	207
Well Temperature Gradient (WTGR) (DGFM)		Computed CCL (CCLC)	Well Temperature (WTEP) (DEGF)	
0	10	1 (V) -3	0	1
Well Pressure (WPRE) (PSIA)		Perfo Zone From PERFO_ CURVE to D3T	Well Pressure (WPRE) (PSIA)	
			2550	2650
			Amplified Well Pressure (WPRE) (PSIA)	
			0	20
			Tension (TENS) (LBF)	
			0	3000
			Cable Speed (CS) (F/HR)	
			0	5000

PIP SUMMARY

Time Mark Every 60 S

Format: PSP\_1\_1 Vertical Scale: 1:200 Graphics File Created: 20-Oct-2008 13:27

OP System Version: 16C0-147  
MCM  
RST-C 16C0-147 PSPT-B 16C0-147

Parameters		
DLIS Name	Description	Value
DO PP	System and Miscellaneous Depth Offset for Playback Playback Processing	0.1 M NORMAL

Input DLIS Files						
DEFAULT	RST_PSP_006LUP	FN:5	PRODUCER	20-Oct-2008 13:18	2233.1 M	2160.7 M

# Output DLIS Files

DEFAULT

RST\_PSP\_007PUP

FN:6

PRODUCER

20-Oct-2008 13:27

Company: **Esso Australia Pty Ltd.**

**Schlumberger**

Well: **A-20A**

Field: **Bream A**

Rig : **Prod4 / Crane**

Country: **Australia**

RST-C

Sigma

Survey