

Company: Esso Australia Pty Ltd.

Well: FORTESCUE A28B

Field: Fortescue

Rig: Prod 2

Country: Australia

Prod 2

Fortescue

Bass Strait

FORTESCUE A28B

Esso Australia Pty Ltd.

2-1/8" Ph. Enerjet

Perforating Record

5-Jun-2010

Bass Strait

Permanent Datum: _____

Log Measured From: _____

Drilling Measured From: _____

Elev.: K.B. 39.60 m

G.L. -69.00 m

D.F. 39.60 m

LOCATION

State: Victoria

Max. Well Deviation 64.06 deg

Longitude 148°16'41.498"E

Latitude 38°24'25.477"S

PVT DATA			
Oil Density	Run 1	Run 2	Run 3
Water Salinity			
Gas Gravity			
Bo			
Bw			
1/Bg			
Bubble Point Pressure			
Bubble Point Temperature			
Solution GOR			
Maximum Deviation	64.06 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 Date5-Jun-2010

Run Number2

Depth Driller4028 m

Schlumberger Depth3951 m

Bottom Log Interval3927 m

Top Log Interval3926 m

Casing Fluid TypeProduced Fluids

Salinity

Density1 g/cm3

Fluid Level710 m

BIT/CASING/TUBING STRING

Bit Size8.500 in

From1507.5 m

To4028 m

Casing/Tubing Size7.000 in

Weight26 lbm/ft

GradeL-80

From20.92 m

To4016.45 m

Maximum Recorded Temperatures225 degF

Logger On Bottom5-Jun-2010

Unit Number3827

LocationAUSL

Recorded ByO.Darby / C.Rowand

Witnessed ByD.Broomfield / G.Rimmer

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			
Location			
Recorded By			
Witnessed By			

DEPTH SUMMARY LISTING

Date Created: 4-JUN-2010 23:12:18

Depth System Equipment

Depth Measuring Device		Tension Device		Logging Cable	
Type:	IDW-H	Type:	CMTD-B/A	Type:	2-32ZT
Serial Number:	797	Serial Number:	1711	Serial Number:	207309
Calibration Date:	1-Mar-2010	Calibration Date:	22-May-2010	Length:	6180 M
Calibrator Serial Number:	30	Calibrator Serial Number:	1167	Conveyance Method: Wireline Rig Type: Offshore Fixed	
Calibration Cable Type:	2-32ZT	Number of Calibration Points:	10		
Wheel Correction 1:	-1	Calibration RMS:	16		
Wheel Correction 2:	-2	Calibration Peak Error:	391		

Depth Control Parameters

Log Sequence:	Subsequent Trip To the Well
Reference Log Name:	Fortescue A28b
Reference Log Run Number:	
Reference Log Date:	15-Jun-2008
Subsequent Trip Down Log Correction:	-6.00 M

Depth Control Remarks

1. Correlated to Esso provided Fortescue A28B solar composite log
2. Tool Zero referenced to the well schematic Tubing Hanger depth.
3. Rigged up on the well utilising the platform crane.
- 4.
- 5.
6. Tension Calibration: $A=1.012E-5$, $B=0.954$ & $C=-213.1$

DISCLAIMER

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OTHER SERVICES1	OTHER SERVICES2
OS1: MWP-GR-CCL	OS1:
OS2: RST	OS2:
OS3:	OS3:
OS4:	OS4:
OS5:	OS5:

REMARKS: RUN NUMBER 1

Correlated to the client provided Fortescue A28B solar composite log.

Objective: perforate the well with 1.0m of 2-1/8" Ph. Powerlet charges. Include MWPT to record the

SBHP / SBHT, 300 psi underbalance and FBHP / FBHT data.

2-1/8" Ph. Enerjet:








Penetration = 27.2"; EH = 0.32"; Phasing = +/- 45 degs; 6 spf; Explosive = HMX

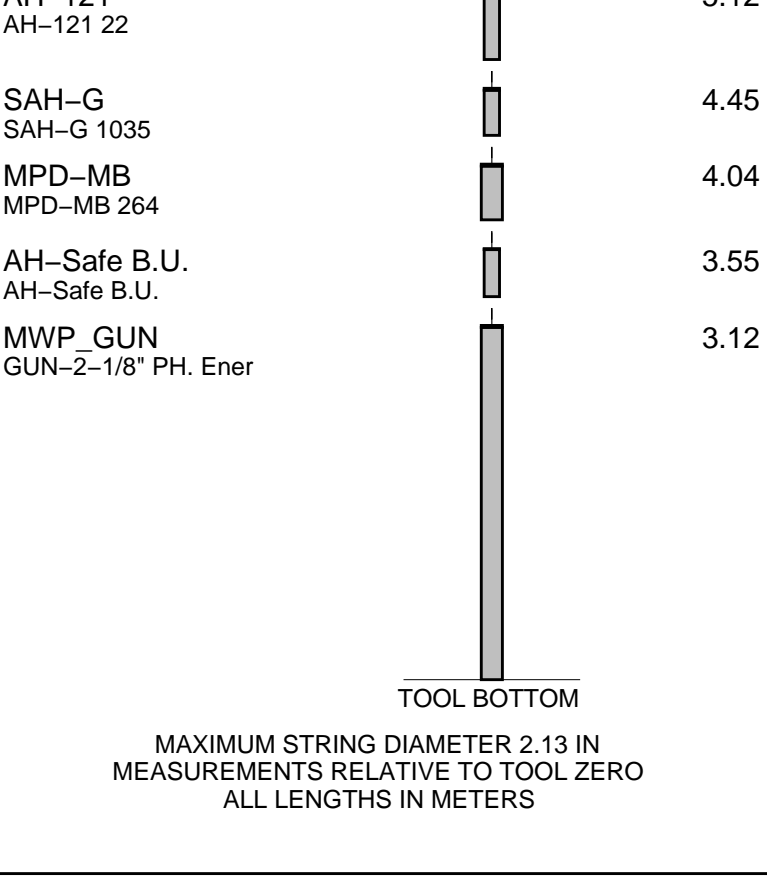
Perforation Interval = 3926–3927m
SAFE firing system utilised.
MWPT recorded data, at perforation depth:
SBHP = 2862.8 psia / SBHT = 224.8 DegF
FBHP = 2863.1 psia / FBHT = 225.5 DegF

RUN 1			RUN 2		
SERVICE ORDER #:			SERVICE ORDER #:		
PROGRAM VERSION:			PROGRAM VERSION:		
FLUID LEVEL:			FLUID LEVEL:		
LOGGED INTERVAL	START	STOP	LOGGED INTERVAL	START	STOP

EQUIPMENT DESCRIPTION					
RUN 1			RUN 2		

SURFACE EQUIPMENT		
MWPM–A 3005		

DOWNHOLE EQUIPMENT		
MH–22		13.14
MH–22		
AH–38		12.66
EQF–43		12.58
EQF–43		
EQF–43		10.75
EQF–43		
MWGT–AA		8.92
MWPG–AA 24029		
MWGH–AA 69	MWPG GR	2.41
MWPT–CA		7.94
MWPH–AA 74		
MWPS–AA 74		
	CCL	
	SMWP Pres	
	SMWP Temp	
	Tension	
	TOOL ZERO	
AH–121		5.12



Client: Esso Australia Pty Ltd

Well: FORTESCUE A28B

Field: Fortescue

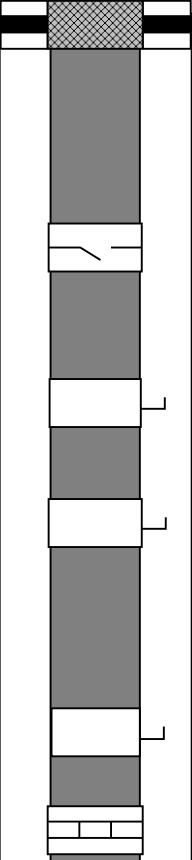
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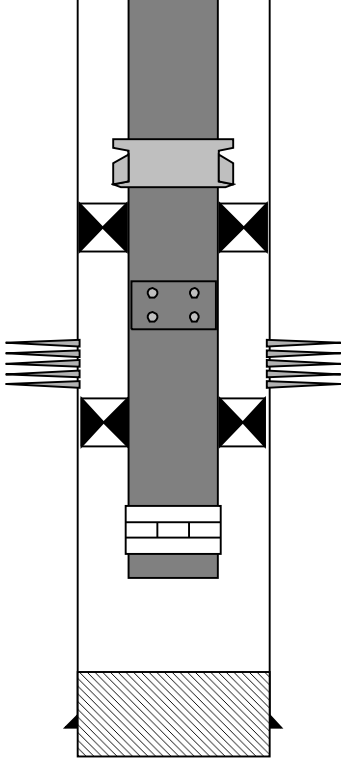
Country: Australia

Rig Name: Prod 2

Reference Datum: Mean Sea Level

Elevation: 39.6 m

Production String	(in)		(m)	Well Schematic	(m)		(in)	Casing String
	OD	ID	MD		MD	OD	ID	
Tubing Hanger	7.000	3.500	20.1		21.9	7.000	26.000	Casing String
Tubing	3.500	2.992						
SSSV	3.500	2.750	453.0					
Side Pocket Mandrel	3.500	2.920	741.0					
Side Pocket Mandrel	3.500	2.920	1485.0					
					1507.5	10.750		Casing Shoe
Side Pocket Mandrel	3.500	2.920	2197.0					
Nipple	3.500	2.750	2214.0					

PBR	3.500	2.880	3755.0					
Packer	7.000	3.500	3767.0					
Sliding Sleeve – Closed	3.500	2.750	3774.0					
Packer	7.000	3.500	3808.0		3793.0 3803.5			Perforation Zone Perforation Zone Bottom
Nipple	3.500	2.635	3813.0					
Tubing Bottom	3.500	2.992	3817.2					
					4000.0 4016.4	7.000	26.000	Wash out depth Casing Shoe



2–1/8 Ph. Enerjet
Log Out of Position

MAXIS Field Log

Company: Esso Australia Pty Ltd. Well: FORTESCUE A28B

Output DLIS Files			
DEFAULT	PERFO_041LUP	FN:75	PRODUCER 05–Jun–2010 05:07

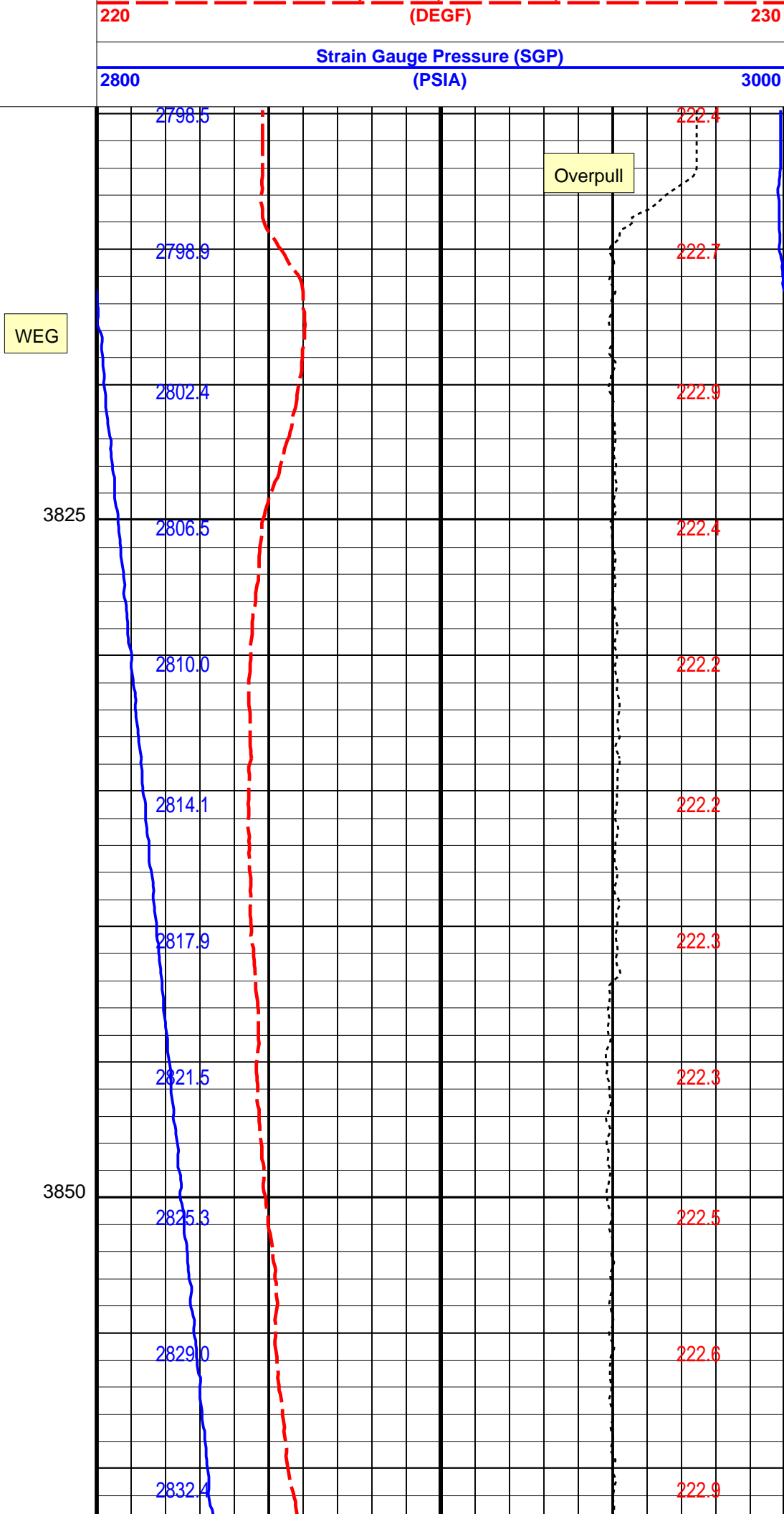
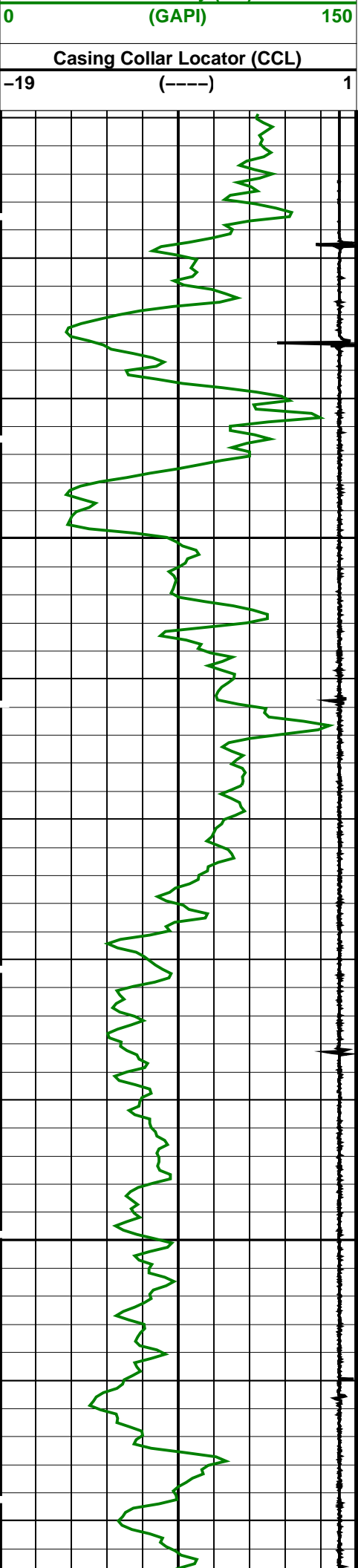
OP System Version: 18C0–147			
MWP_GUN	SRPC–3972–Q1_2010_OP18	MWPT–CA	SRPC–3972–Q1_2010_OP18
MWGT–AA	SRPC–3972–Q1_2010_OP18		

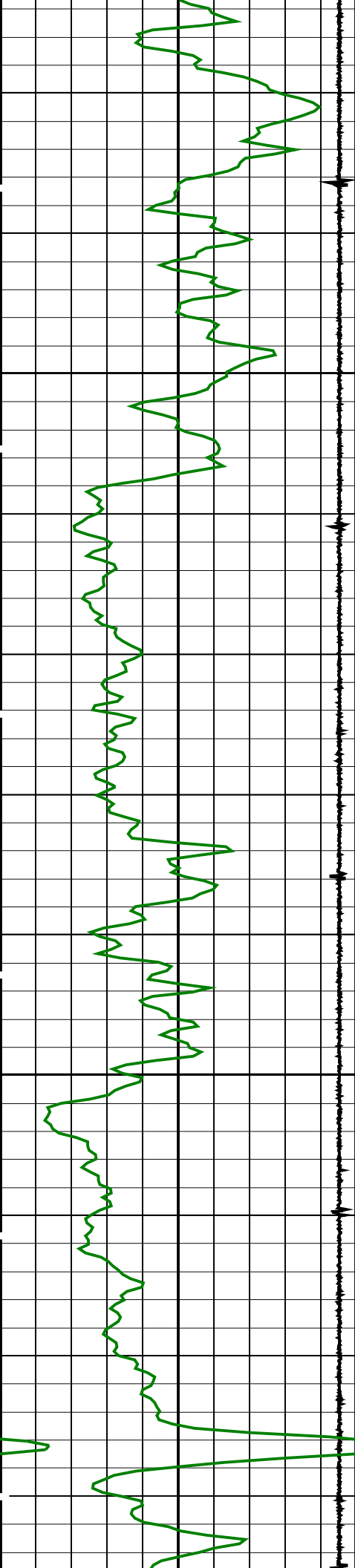
PIP SUMMARY	
 Time Mark Every 60 S	

		Tension (TENS)	
		1000	3000
		(LBF)	

Gamma Ray (GR)

Temperature (TEMP_MWPT)





3875

3900

2836.5

2839.9

2844.2

2848.0

2851.6

2854.7

2858.9

2862.7

2866.3

2870.1

2874.0

223.0

223.3

223.5

223.7

223.8

224.1

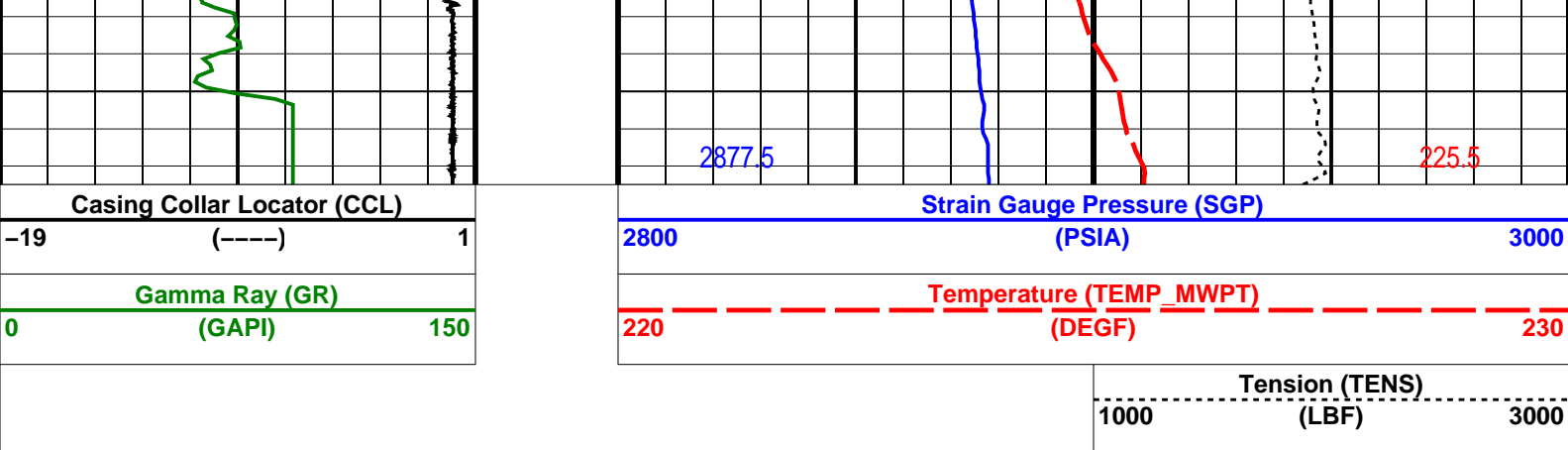
224.2

224.3

224.5

224.6

224.8



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: 05-Jun-2010 05:07

OP System Version: 18C0-147			
MWP_GUN	SRPC-3972-Q1_2010_OP18	MWPT-CA	SRPC-3972-Q1_2010_OP18
MWGT-AA	SRPC-3972-Q1_2010_OP18		

Output DLIS Files			
DEFAULT	PERFO_041LUP	FN:75 PRODUCER	05-Jun-2010 05:07



2-1/8 Ph. Enerjet
Shooting Record

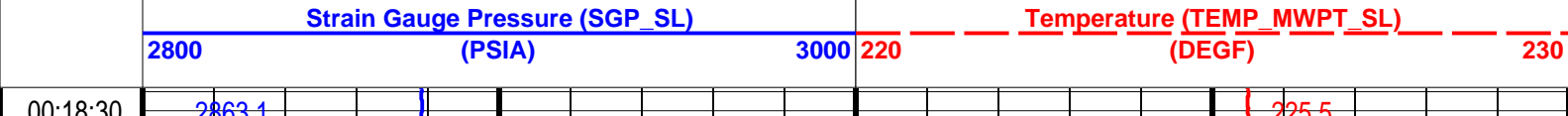
MAXIS Field Log

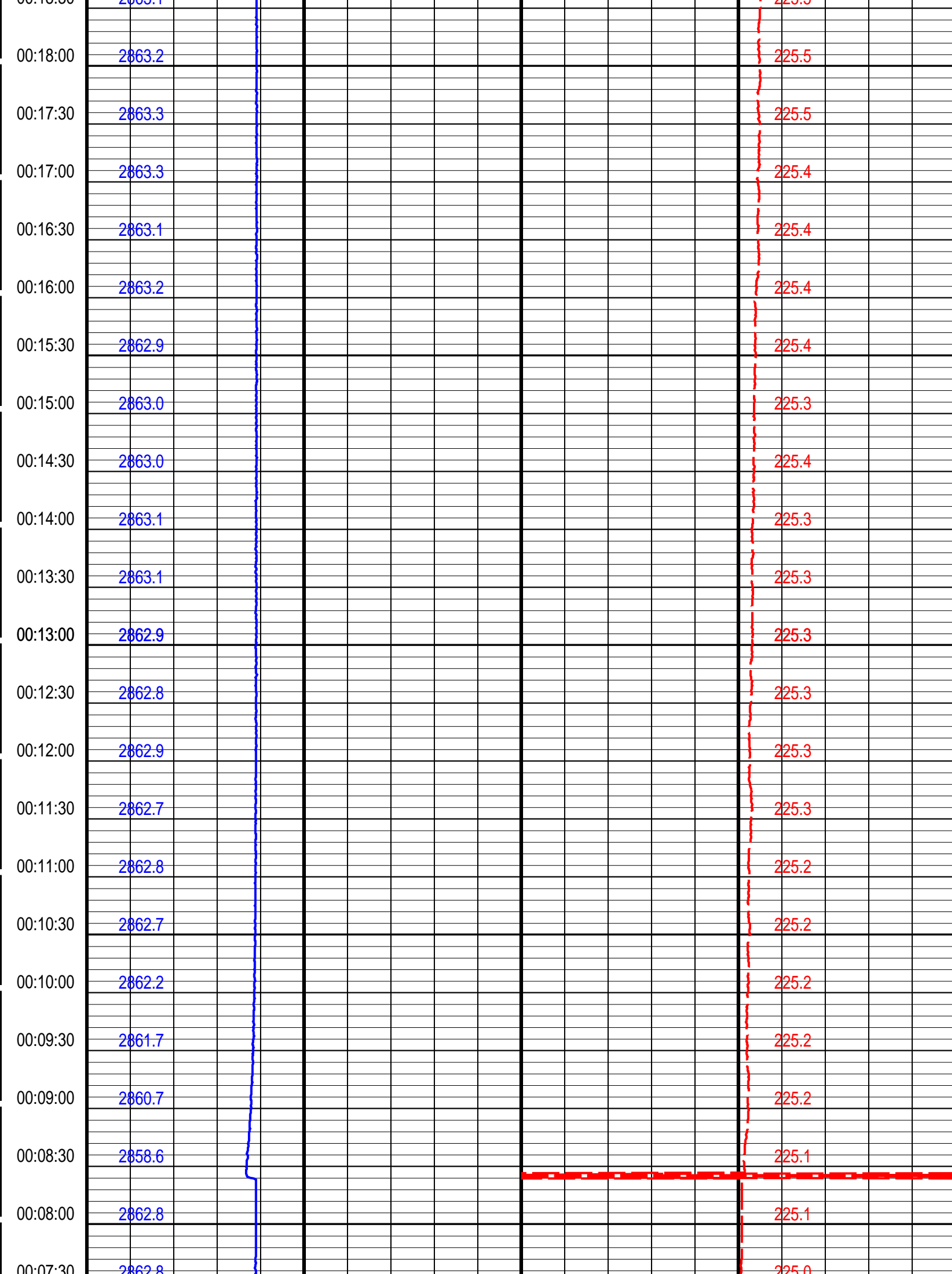
Company: Esso Australia Pty Ltd. Well: FORTESCUE A28B

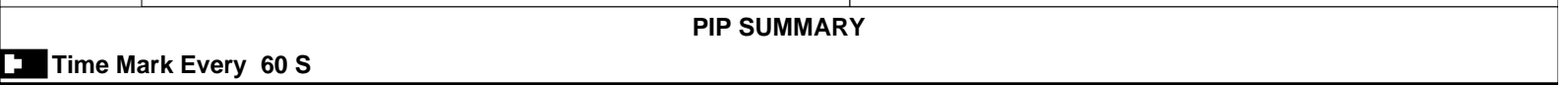
Output DLIS Files			
DEFAULT	PERFO_040LTP	FN:74 PRODUCER	05-Jun-2010 04:48 3922.5 M
OP System Version: 18C0-147			
MWP_GUN	SRPC-3972-Q1_2010_OP18	MWPT-CA	SRPC-3972-Q1_2010_OP18
MWGT-AA	SRPC-3972-Q1_2010_OP18		

PIP SUMMARY

Time Mark Every 60 S







MWP_GUN	SRPC-3972-Q1_2010_OP18	MWPT-CA	SRPC-3972-Q1_2010_OP18
MWGT-AA	SRPC-3972-Q1_2010_OP18		

Output DLIS Files

DEFAULT

PERFO_040LTP

FN:74

PRODUCER

05-Jun-2010 04:48

Schlumberger

2-1/8 Ph. Enerjet Log Into Position

MAXIS Field Log

Company: Esso Australia Pty Ltd.

Well: FORTESCUE A28B

Output DLIS Files

DEFAULT

PERFO_039LUP

FN:73

PRODUCER

05-Jun-2010 04:44

3947.6 M

3920.2 M

OP System Version: 18C0-147

MWP_GUN
MWGT-AA

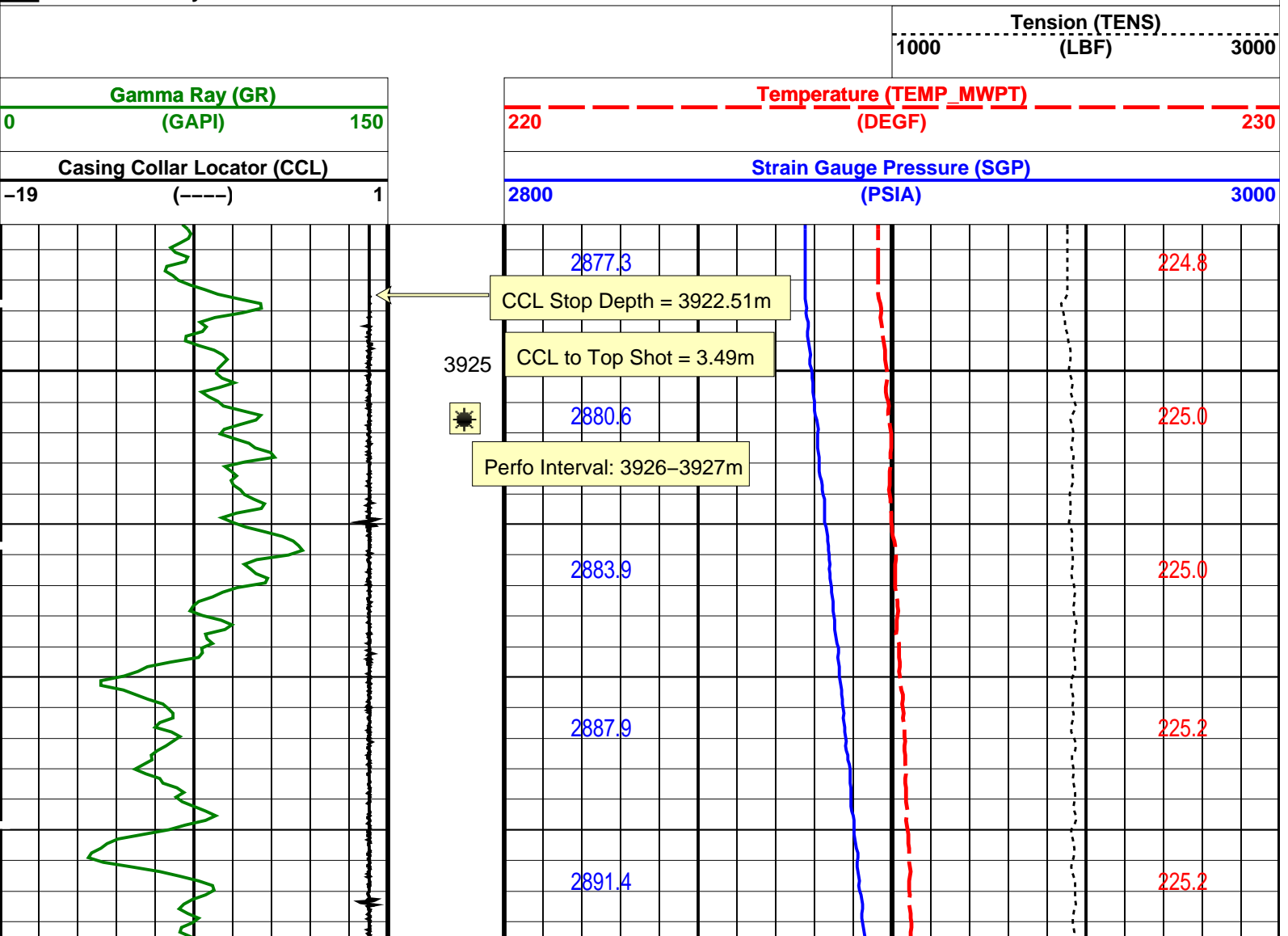
SRPC-3972-Q1_2010_OP18
SRPC-3972-Q1_2010_OP18

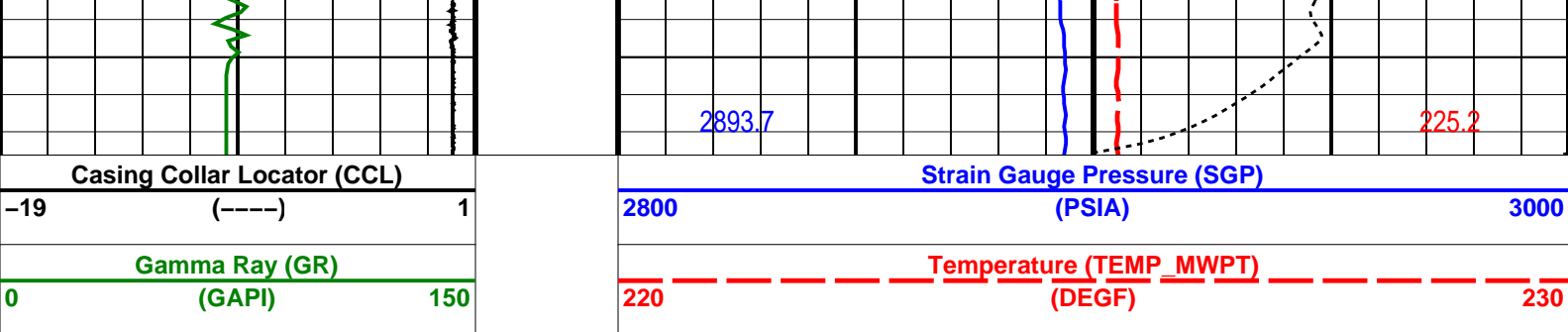
MWPT-CA

SRPC-3972-Q1_2010_OP18

PIP SUMMARY

Time Mark Every 60 S





		Tension (TENS)	
		(LBF)	
		1000	3000


PIP SUMMARY	
Time Mark Every 60 S	

Parameters		Value	
DLIS Name	Description		
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: 05-Jun-2010 04:44
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OP System Version: 18C0-147			
MWP_GUN	SRPC-3972-Q1_2010_OP18	MWPT-CA	SRPC-3972-Q1_2010_OP18
MWGT-AA	SRPC-3972-Q1_2010_OP18		

Output DLIS Files			
DEFAULT	PERFO_039LUP	FN:73	PRODUCER 05-Jun-2010 04:44



2-1/8 Ph. Enerjet Correlation

MAXIS Field Log

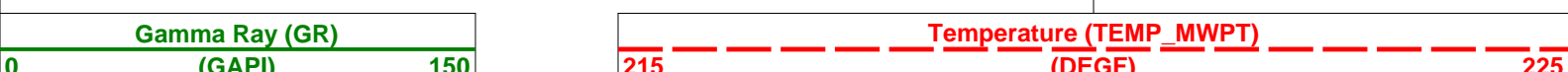
Company: Esso Australia Pty Ltd.	Well: FORTESCUE A28B
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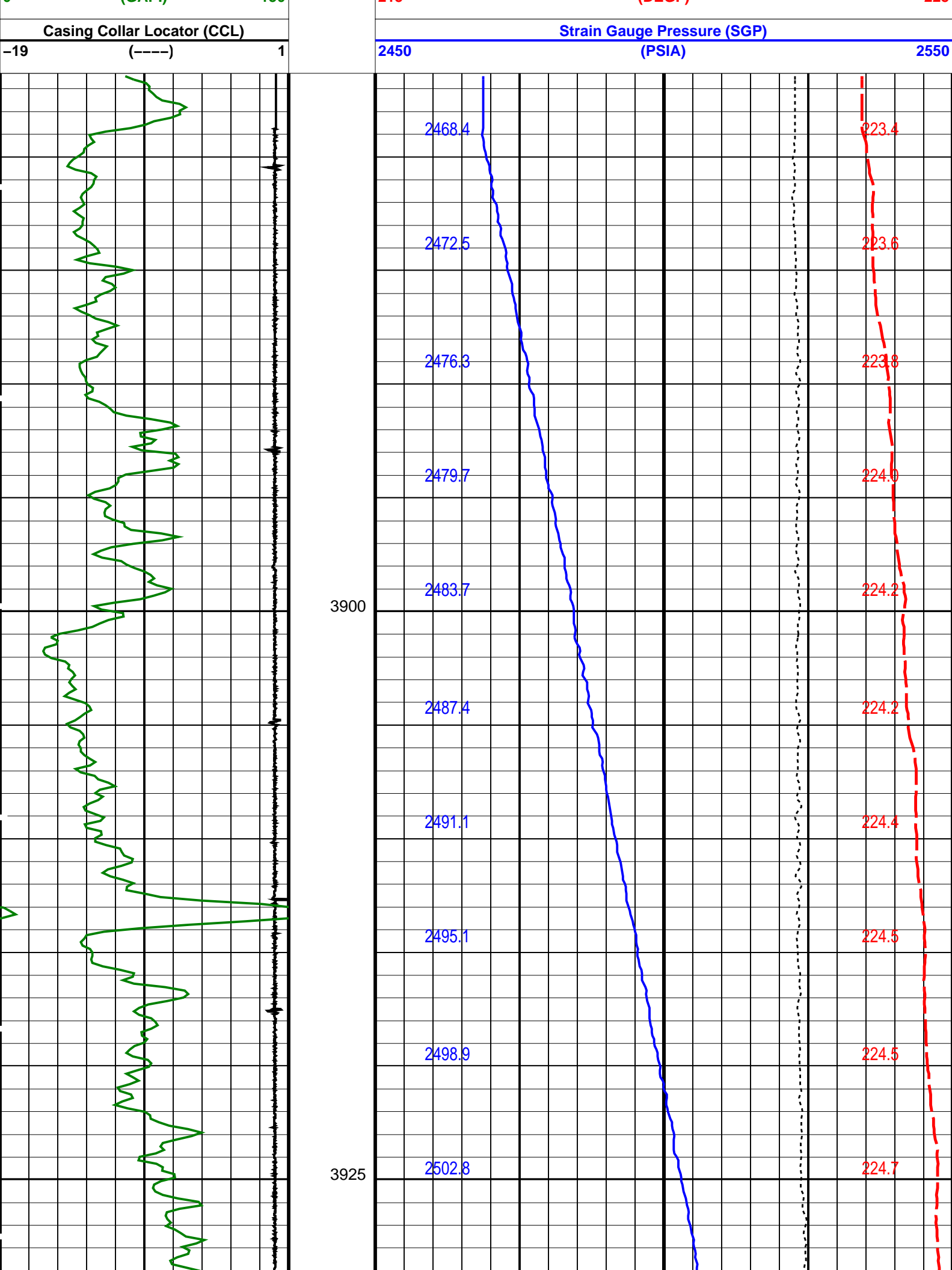
Output DLIS Files			
DEFAULT	PERFO_031LUP	FN:65	PRODUCER 05-Jun-2010 03:14

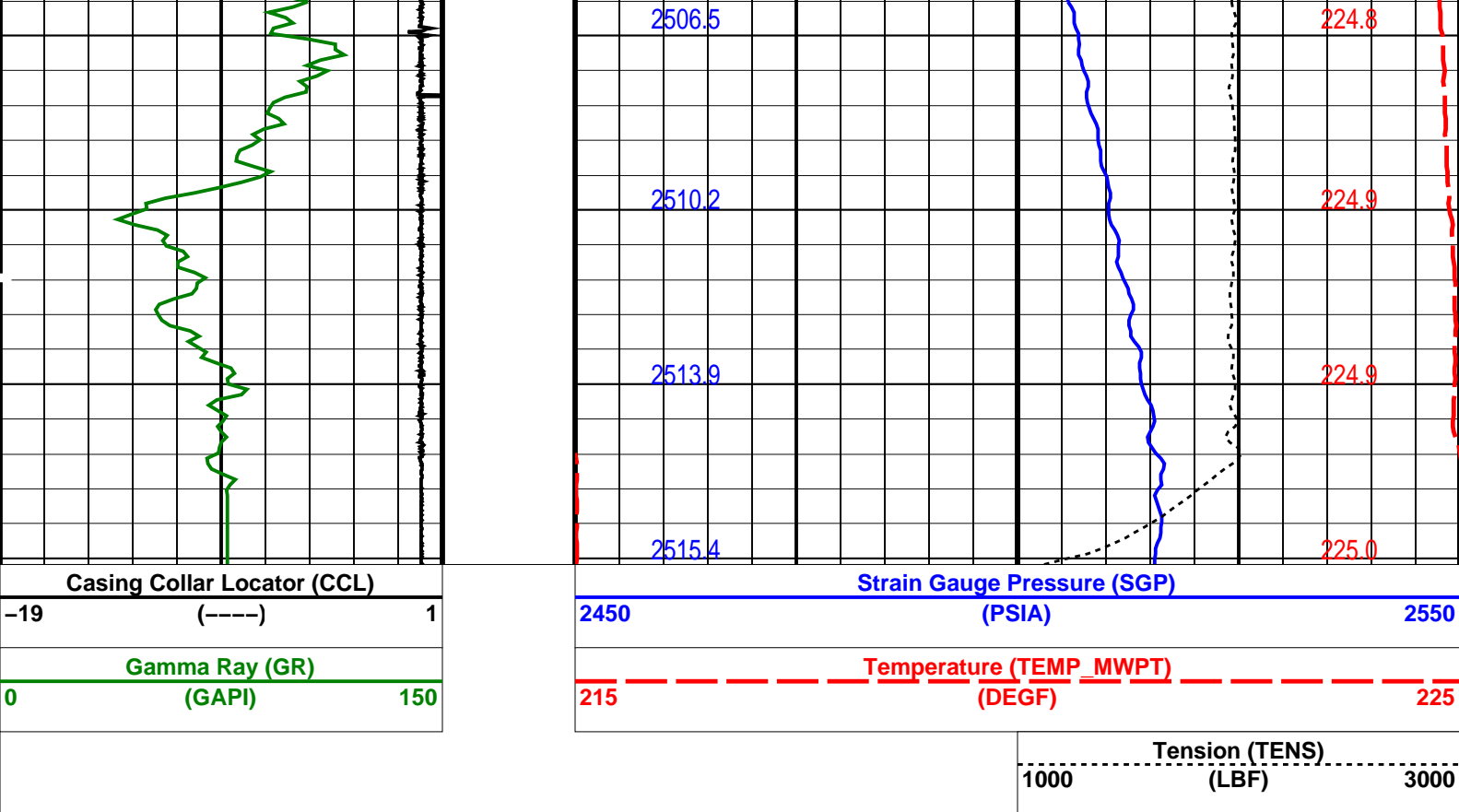
OP System Version: 18C0-147			
MWP_GUN	SRPC-3972-Q1_2010_OP18	MWPT-CA	SRPC-3972-Q1_2010_OP18
MWGT-AA	SRPC-3972-Q1_2010_OP18		

PIP SUMMARY	
Time Mark Every 60 S	

		Tension (TENS)	
		(LBF)	
		1000	3000







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: 05-Jun-2010 03:14

OP System Version: 18C0-147

MWP_GUN	SRPC-3972-Q1_2010_OP18	MWPT-CA	SRPC-3972-Q1_2010_OP18
MWGT-AA	SRPC-3972-Q1_2010_OP18		

Output DLIS Files

DEFAULT	PERFO_031LUP	FN:65	PRODUCER	05-Jun-2010 03:14
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Schlumberger

**Before Survey
Calibration**

MAXIS Field Log

Measurement	Nominal	Master	Before	After	Change	Limit	Units
MEASUREMENT WHILE PERFORATING GAMMA RAY TOOL Wellsite Calibration – Detector Calibration							
Before: 5–Jun–2010 0:40							
Gamma Ray (Signal) Background	30.00	N/A	5.597	N/A	N/A	N/A	GAPI
Gamma Ray (Jig – Background)	145.7	N/A	145.7	N/A	N/A	13.24	GAPI
Gamma Ray (Calibrated)	165.0	N/A	165.0	N/A	N/A	15.00	GAPI

MEASUREMENT WHILE PERFORATING GAMMA RAY TOOL / Equipment Identification

Primary Equipment:

GAMMA RAY CARTRIDGE

MWPG – AA

24029

Auxiliary Equipment:

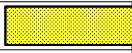


GAMMA RAY HOUSING

MWGH – AA

69

MEASUREMENT WHILE PERFORATING GAMMA RAY TOOL Wellsite Calibration

Detector Calibration

Phase	Gamma Ray (Signal) Background	GAPI	Value	Phase	Gamma Ray (Jig – Background)	GAPI	Value	Phase	Gamma Ray (Calibrated)	GAPI	Value
Before			5.597	Before			145.7	Before			165.0
	0 (Minimum)	30.00 (Nominal)	120.0 (Maximum)		132.4 (Minimum)	145.7 (Nominal)	158.9 (Maximum)		150.0 (Minimum)	165.0 (Nominal)	180.0 (Maximum)
Before: 5–Jun–2010 0:40											

Company: **Esso Australia Pty Ltd.****Schlumberger**Well: **FORTESCUE A28B**Field: **Fortescue**Rig: **Prod 2**Country: **Australia**

2–1/8" Ph. Enerjet
Perforating Record
5–Jun–2010