

Company: Esso Australia Pty Ltd.

Well: A-3a
Field: Halibut
Rig: CWU / Prod 2

Country: Australia

Gamma Ray Survey
2-1/8" Phased Enerjet
MAXIS Operating System

LOCATION

Gippsland Basin
Bass Strait

Elev.: K.B. 29.32 m
G.L. -73 m
D.F. 29.32 m

Permanent Datum: _____
Log Measured From: _____
Drilling Measured From: _____

Mean Sea Level
Kelly Bushing
Kelly Bushing

Elev.: 0 m
29.3 m above Perm. Datum

Rig: CWU / Prod 2
Field: Halibut
Location: Gippsland
Well: A-3a
Company: Esso Australia Pty Ltd.

State: Victoria

Max. Well Deviation
54 deg

Longitude
148°19' 07.62"E

Latitude
38°24' 20.36"S

Logging Date	22-May-2006		23-May-2006	
Run Number	1	2		
Depth Driller	3060 m	3060 m		
Schlumberger Depth	3062.2 m	not tagged		
Bottom Log Interval	3061.7 m	3020 m		
Top Log Interval	2915 m	3016.5 m		
Casing Fluid Type	Production Fluids		Production Fluids	
Salinity				
Density	0.72 g/cm3			
Fluid Level				
BIT/CASING/TUBING STRING				
Bit Size	6.625 in	6.625 in		
From	2194 m	2194 m		
To	3154 m	3154 m		
Casing/Tubing Size	4.500 in	4.500 in		
Weight	12.6 lbm/ft	12.6 lbm/ft		
Grade	J-55	J-55		
From	2050 m	2050 m		
To	2862 m	2862 m		
Maximum Recorded Temperatures	107 degC			
Logger On Bottom	22-May-2006	23:35	23-May-2006	
Unit Number	3827	AUSL	3827	
Recorded By	O. Tahmisiic, P. Tarrant		O. Tahmisiic, P. Tarrant	
Witnessed By	B. Woodward, M. Wilson		B. Woodward, M. Wilson	

PVT DATA				Run 1	Run 2	R
Oil Density						
Water Salinity						
Gas Gravity						
Bo						
Bw						
1/Bg						
Bubble Point Pressure						
Bubble Point Temperature						
Solution GOR						
Maximum Deviation				54 deg	54 deg	
CEMENTING DATA						
Primary/Squeeze				Primary	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						

Run 4

Date Created: 26-MAY-2006 22:47:27

Logging Cable

Type:	2-32ZT
Serial Number:	24031
Length:	2699.92 M
Conveyance Method:	Wireline
Rig Type:	Offshore Fixed

Log Sequence:	Subsequent Trip To the Well
Reference Log Name:	"HALIBUT A3A Correlation Logs"
Reference Log Run Number:	
Reference Log Date:	
Subsequent Trip Down Log Correction:	2.00 M

1. All Schlumberger Depth Control Policies followed.
2. Gamma Ray response used for correlation.
3. Correlation log provided by Esso.
4. IDW used as Primary Depth Control.
5. Z-Chart used as Secondary Depth Control.
- 6.

THE USE OF AND RELIANCE UPON THIS RECORDED-DATA BY THE HEREIN NAMED COMPANY (AND ANY OF ITS AFFILIATES, PARTNERS, REPRESENTATIVES, AGENTS, CONSULTANTS AND EMPLOYEES) IS SUBJECT TO THE TERMS AND CONDITIONS AGREED UPON BETWEEN SCHLUMBERGER AND THE COMPANY, INCLUDING: (a) RESTRICTIONS ON USE OF THE RECORDED-DATA; (b) DISCLAIMERS AND WAIVERS OF WARRANTIES AND REPRESENTATIONS REGARDING COMPANY'S USE OF AND RELIANCE UPON THE RECORDED-DATA; AND (c) CUSTOMER'S FULL AND SOLE RESPONSIBILITY FOR ANY INFERENCE DRAWN OR DECISION MADE IN CONNECTION WITH THE USE OF THIS RECORDED-DATA.

OS1: Gamma Ray Survey
OS2:
OS3:
OS4:
OS5:















Correlated to: "HALIBUT A3A Correlation Logs" provided
by Esso. (no date provided)

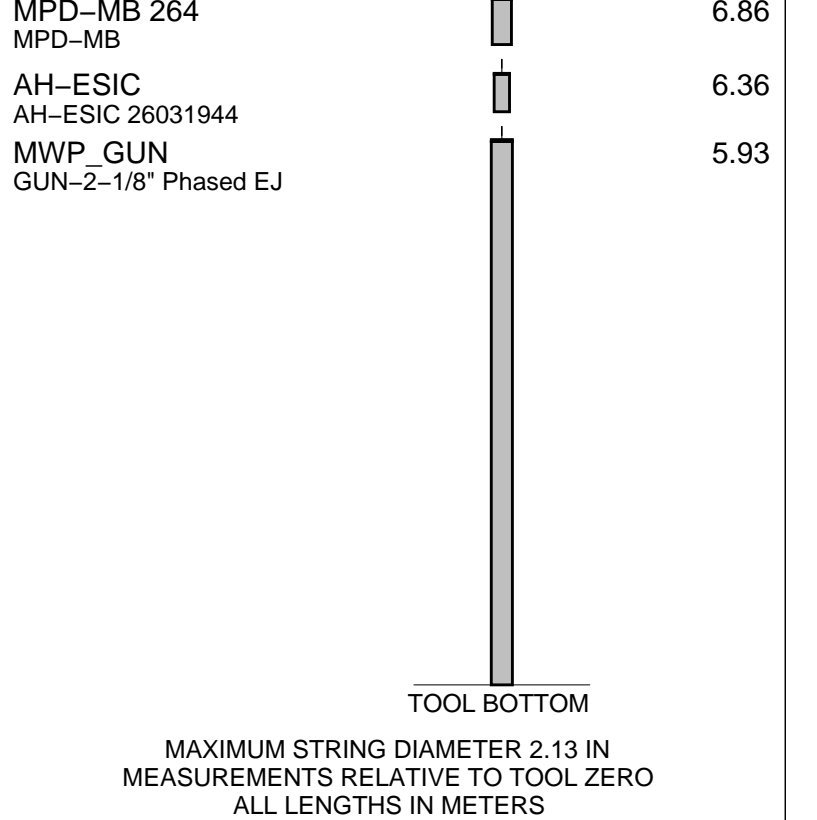
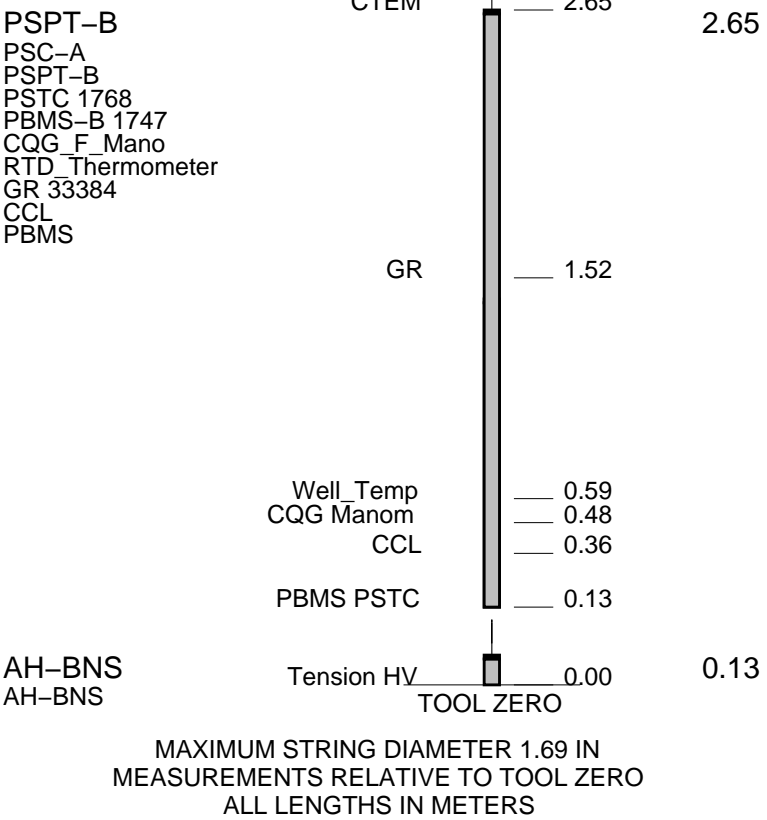
Pressure and temperature data gathered from PBMS sensors.	Gun used: 2-1/8" PowerSpirol HMX, 6spf, +/-45 deg
Tool string as per enclosed sketch.	API Data:
Well sketch copied out from workover program (5-May-2006)	Penetration: 27.2" Entrance Hole: 0.32"
Hang Up Depth = 3062m MDKB	Top Shot = 3016.5m MDKB
	CCL to Top Shot = 4.00m
Main pass logged from 3062m to 2910m MDKB.	CCL Stop Depth = 3012.5m MDKB
	Total Charges used = 70
Day crew: B. Glover and N. Simmons	Day crew: B. Glover and N. Simmons
Night crew: D. Stuckey and S. McGee	Night crew: D. Stuckey and S. McGee
Performed by Schlumberger.	Performed by Schlumberger.

RUN 1			RUN 2		
SERVICE ORDER #:	AUSL06185780		SERVICE ORDER #:	AUSL06185780	
PROGRAM VERSION:	14C0-302		PROGRAM VERSION:	14C0-302	
FLUID LEVEL:			FLUID LEVEL:		
LOGGED INTERVAL	START	STOP	LOGGED INTERVAL	START	STOP

EQUIPMENT DESCRIPTION					
RUN 1			RUN 2		

SURFACE EQUIPMENT			SURFACE EQUIPMENT		
WITM-A 415 PSC_16MHZ			MWPM-AA 3005		

DOWNHOLE EQUIPMENT			DOWNHOLE EQUIPMENT		
MH-SWHS-A MH-SWHS-A 754		6.70	MH-SWHS-A MH-SWHS-A 754		16.00
EQF-43 EQF-43 201		6.30	EQF-43 EQF-43		15.60
			EQF-43 EQF-43		13.77
			AH-124 VEA		11.94
			MWGT-AA		11.73
			MWPG-AA MWGH-BA	MWPG GR 	2.41
EQF-43 EQF-43 281		4.48	MWPT-CA MWPH-BA 10 MWPS-BA 93		10.75
			CCL SMWP Pres SMWP Temp Tension		TOOL ZERO
			AH-Tool Saver AH-Tool Saver 2		7.93
			AH-122		7.39
			AH-SAH-G AH-SAH-G 1220		7.26



Client: Esso Australia Pty Ltd.

Drawing Date: 5/27/2006

Well: A3a

Rig Name: CWU / Prod 2









Field: Halibut

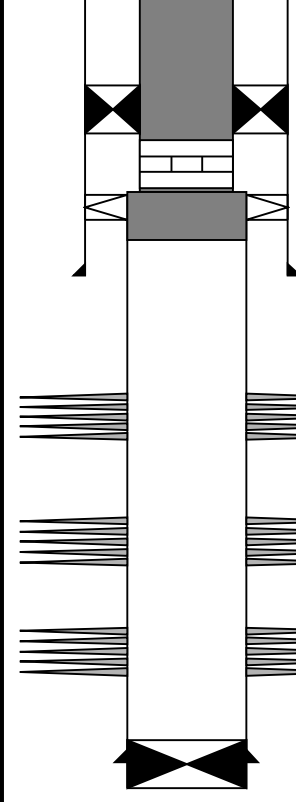
Reference Datum: Mean Sea Level

State: Victoria

Elevation: 29.3 m

Country: Australia

Production String	(in)		(m)	Well Schematic			(m)	(in)		Casing String	
	OD	ID	MD				MD	OD	ID		
Tubing, 9.3 lbs/ft, J-55	3.500	2.992	12.0				11.8	10.750	10.050	Casing String, 40.05 lbs/ft, J-55 Casing String, 29.7 lbs/ft, L-80	
							11.7	7.625	6.875		
Gas Lift Mandrel	3.500		724.4				533.1	10.750	10.050	Casing Shoe	
Gas Lift Mandrel	3.500		1217.2								
Gas Lift Mandrel	3.500		1429.5								

Packer	7.625	3.500	2011.0				
Nipple	3.500		2028.2				
Tubing Bottom	3.500	2.992	2036.1				
Tubing, 12.6 lbs/ft, J-55	4.500	3.958	2036.1		2043.0	4.500	3.958
Tubing Bottom	4.500	3.958	2046.1		2043.0	7.625	4.500
					2194.0	7.625	6.875
					2951.7		
					2964.8		
					3016.5		
Bridge Plug	4.500		3082.5		3104.0	4.500	3.958



Job Event Summary

MAXIS Field Log

Schlumberger Job Event Summary

Time	Elapsed Time	Depth (M)	File			
Rig Up Started	22-May-2006 19:00					
PBMS Tool String						
Descent 1: PSPT						
Begin Descent	22-May-2006 21:45					
Log Pass (up)	22-May-2006 23:27	000:05	3079.2 – 3025.3	PSP_014LUP		
Repeat Pass						
Log Pass (up)	22-May-2006 23:35	000:09	3065.7 – 2909.2	PSP_015LUP		
Main Pass						
Rig Up Started	23-May-2006 3:30					
2-1/8" Phased Enerjet						

Descent 2: GUN/MWPT/MWGT

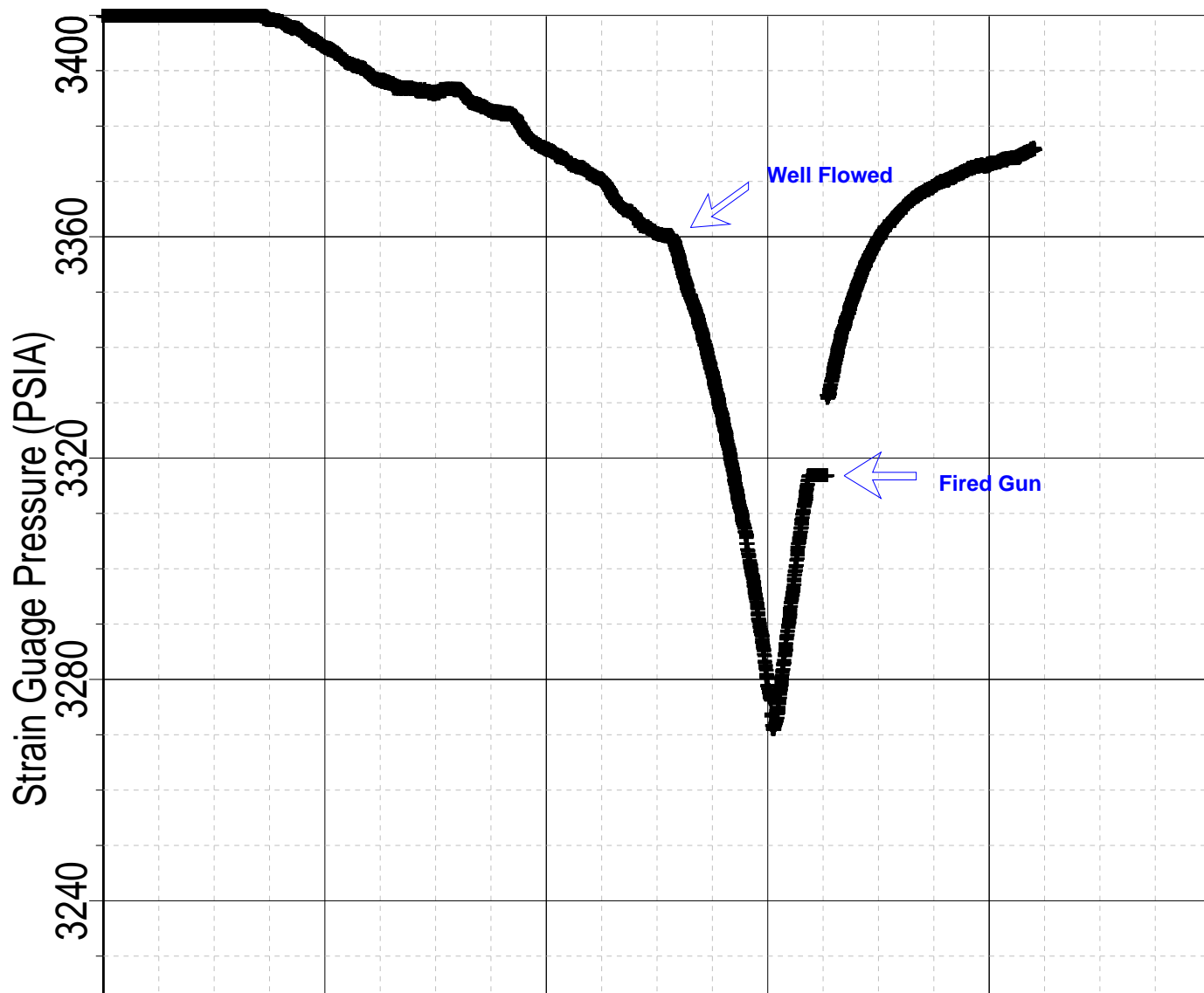
Begin Descent	23-May-2006 3:51			
Log Pass (up)	23-May-2006 5:03 000:07	3050.7 – 2980.0	PERFO_031LUP	
Correlation Log				
Log Pass (up)	23-May-2006 5:16 000:43	3050.0 – 2975.5	PERFO_032LUP	
Shoot Depth Log				
Station Log	23-May-2006 5:21 000:34	3012.5 – 5.1	PERFO_033LTP	
Shoot Time Log				
Rig Down Completed	23-May-2006 8:00			

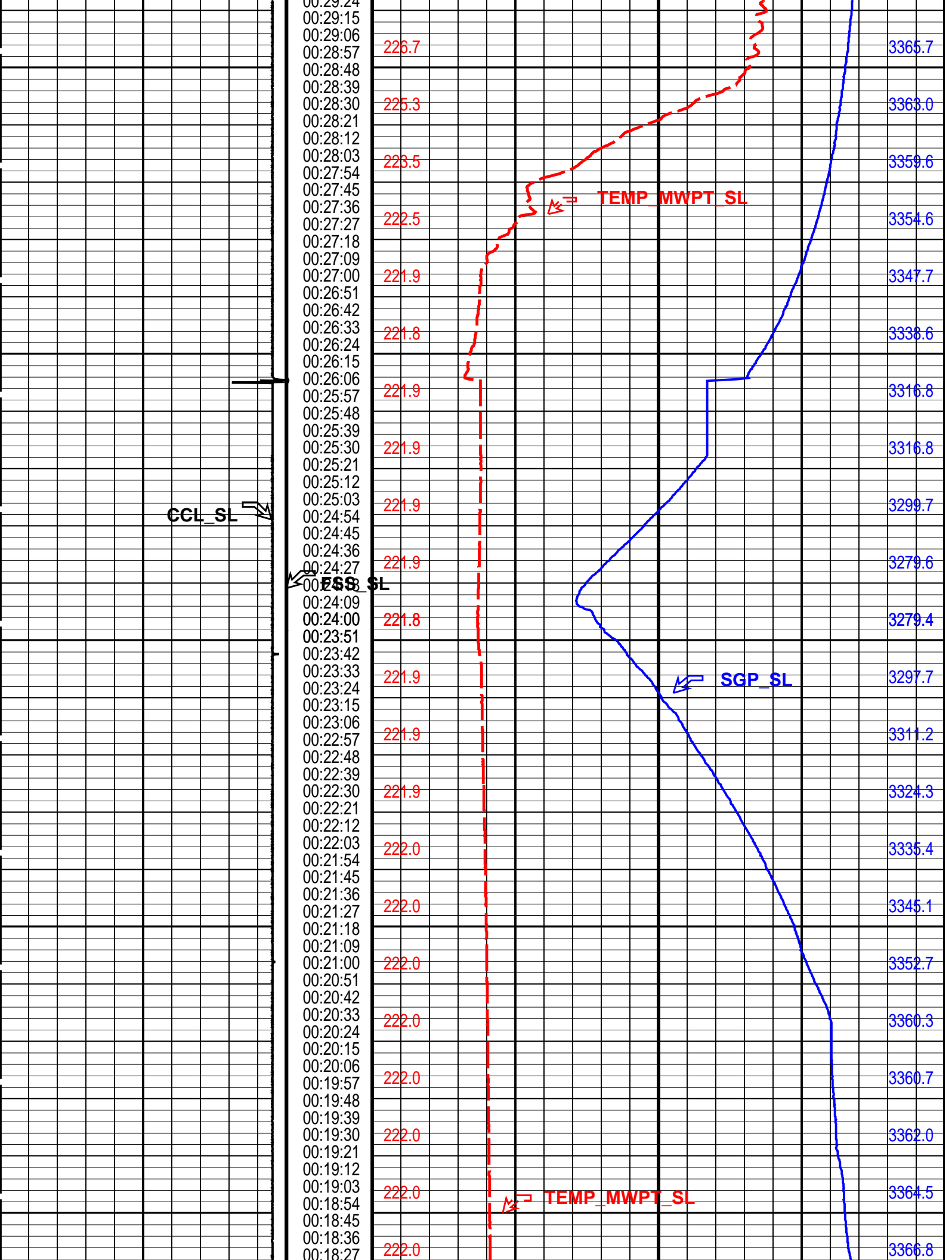
Schlumberger

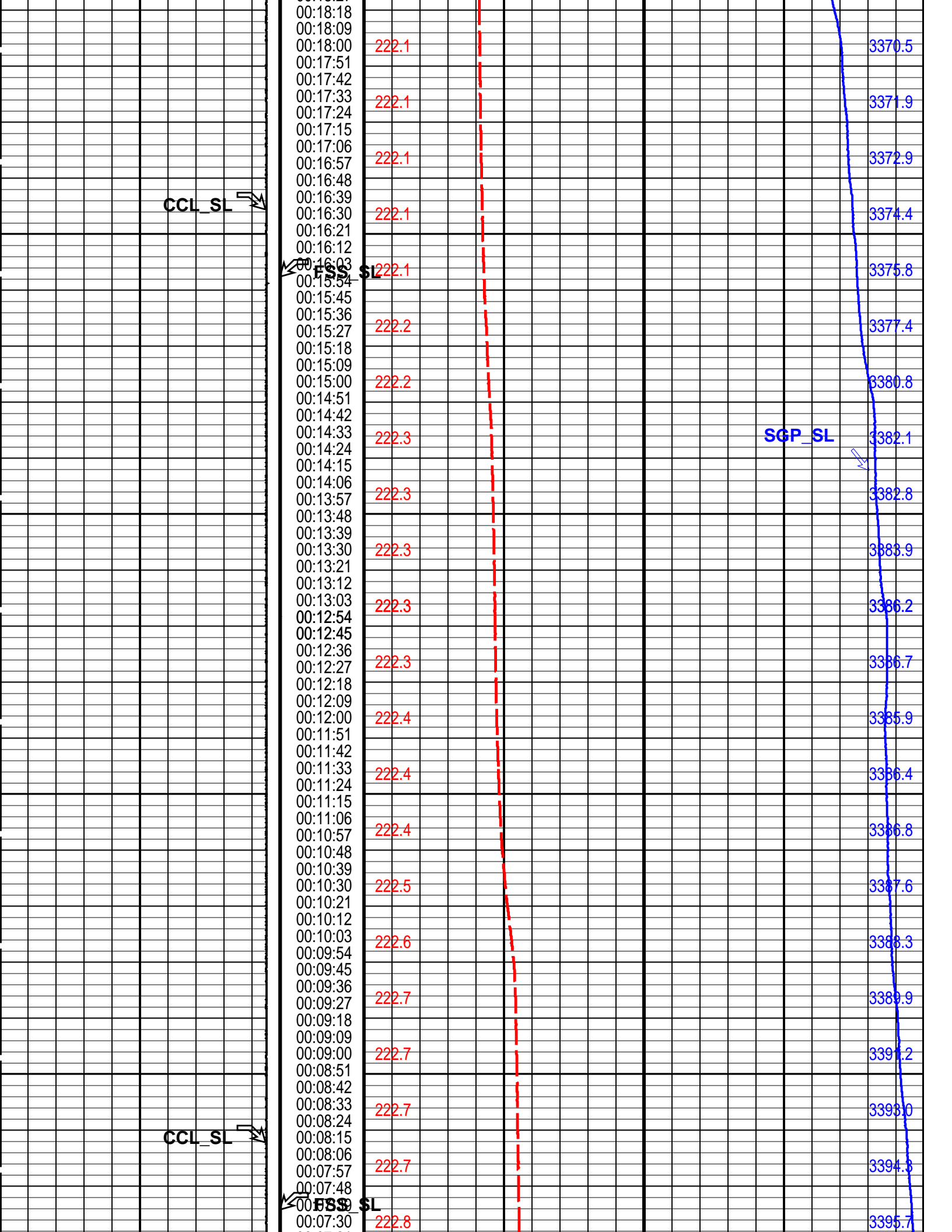
2-1/8" Enerjet Gun Station Log

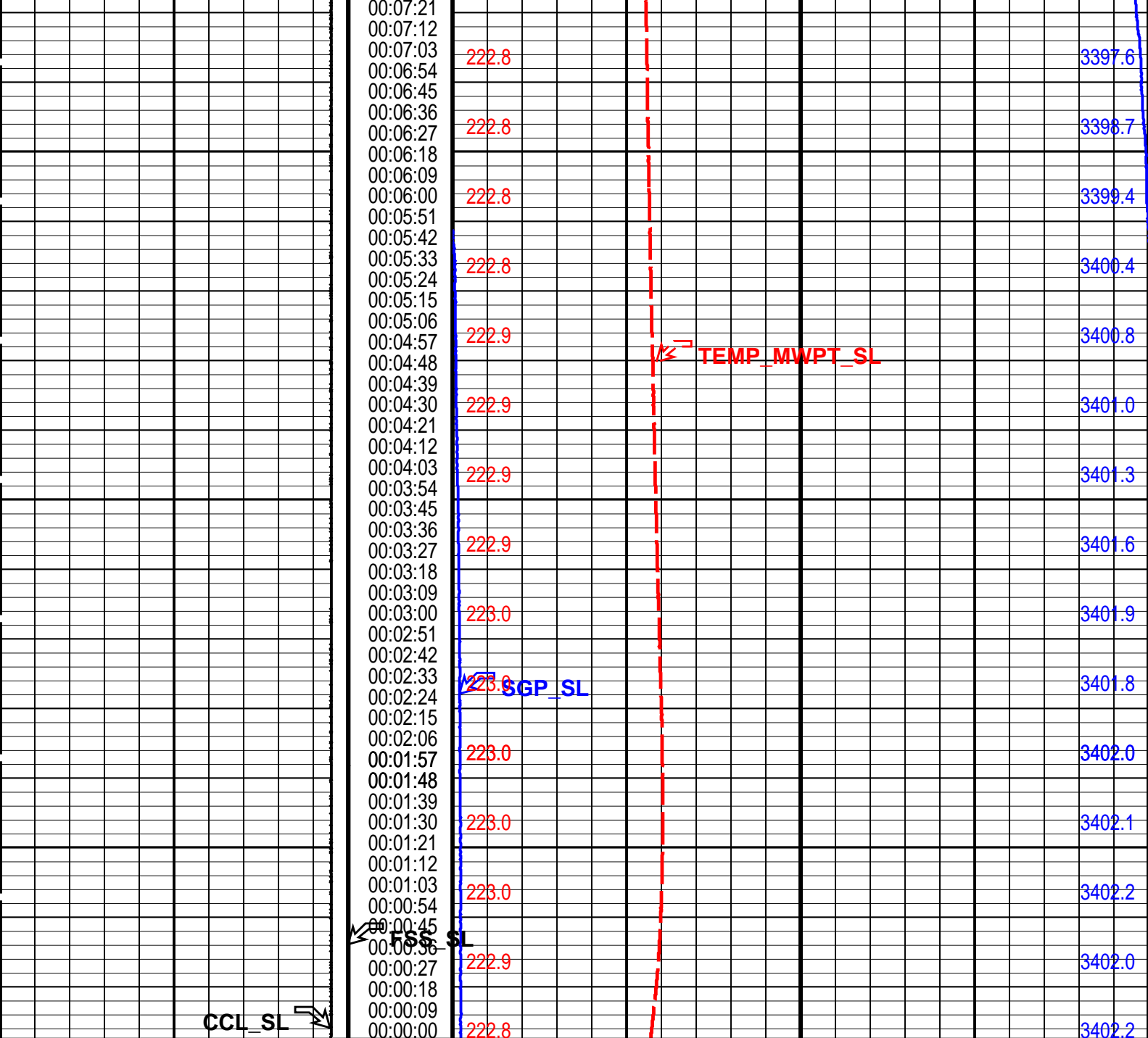
MAXIS Field Log

Index: 24038.6 – 34292.5 M









Casing Collar Locator (CCL_SL)		Elapsed Time (ETIM) (S)		Strain Gauge Pressure (SGP_SL) (PSIA)	
-19	(----	1		3200	3400
CCL From CCL to T1		Firing Sequence State (FSS SL) (----		Temperature (TEMP_MWPT_SL) (DEGF)	
		0 1024		220	230
		Temperature (TEMP_MWPT_SL) (DEGF)		Pressure (SGP_SL) (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	0.73 G/C2

FLD	Flow Line Density	0.75	G/GS
MWPT_NULL_SOURCE	MWPT NULL Temperature Source	TEMS	
MWPT_NULL_TEMP	MWPT NULL Temperature	0.0	DEGC
PP	System and Miscellaneous		
	Playback Processing		
		NORMAL	


Format: MWP_SL	Vertical Scale: 1" per 60S	Graphics File Created: 26-May-2006 23:46
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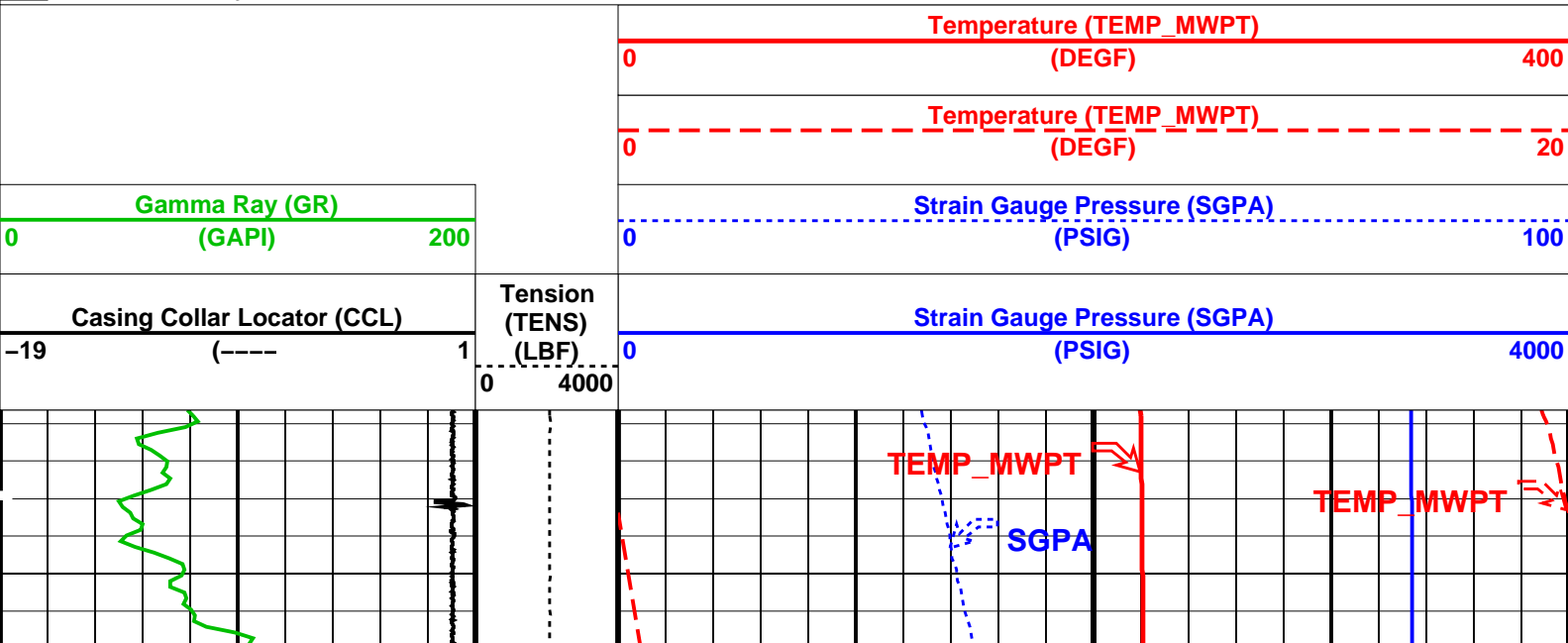
OP System Version: 14C0-302						
MCM						
MWP_GUN	14C0-302	MWPT-CA		14C0-302		
MWGT-AA	14C0-302					
Input DLIS Files						
DEFAULT	PERFO_033LTP	FN:32	PRODUCER	26-May-2006 22:25	3012.5 M	5.1 M
Output DLIS Files						
DEFAULT	PERFO_009PTP	FN:14	PRODUCER	26-May-2006 23:46		
CLIENT	PERFO_009PTC	FN:15	CUSTOMER	26-May-2006 23:46		

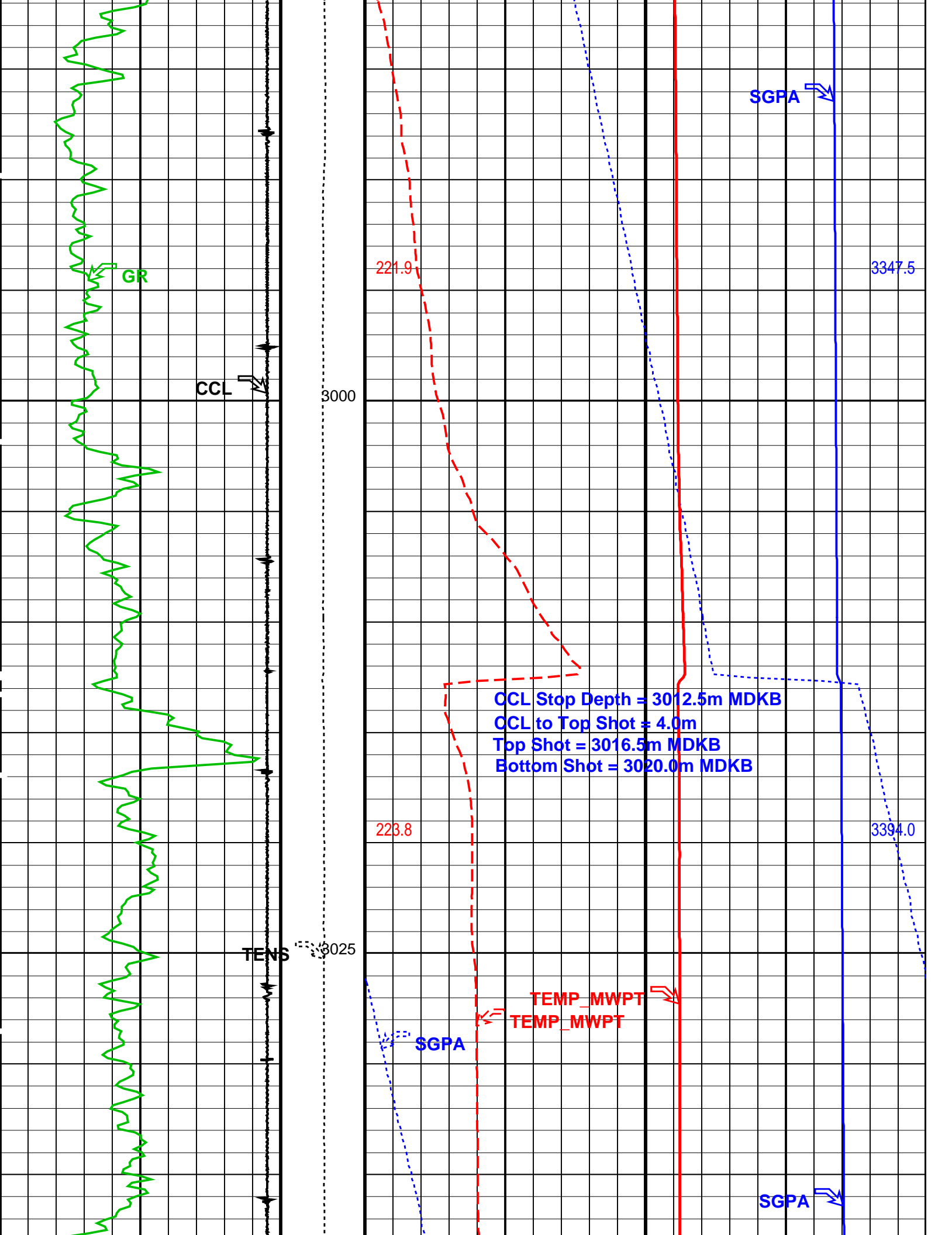
		<div>2-1/8" Enerjet Gun Shoot Log</div>			
		MAXIS Field Log			

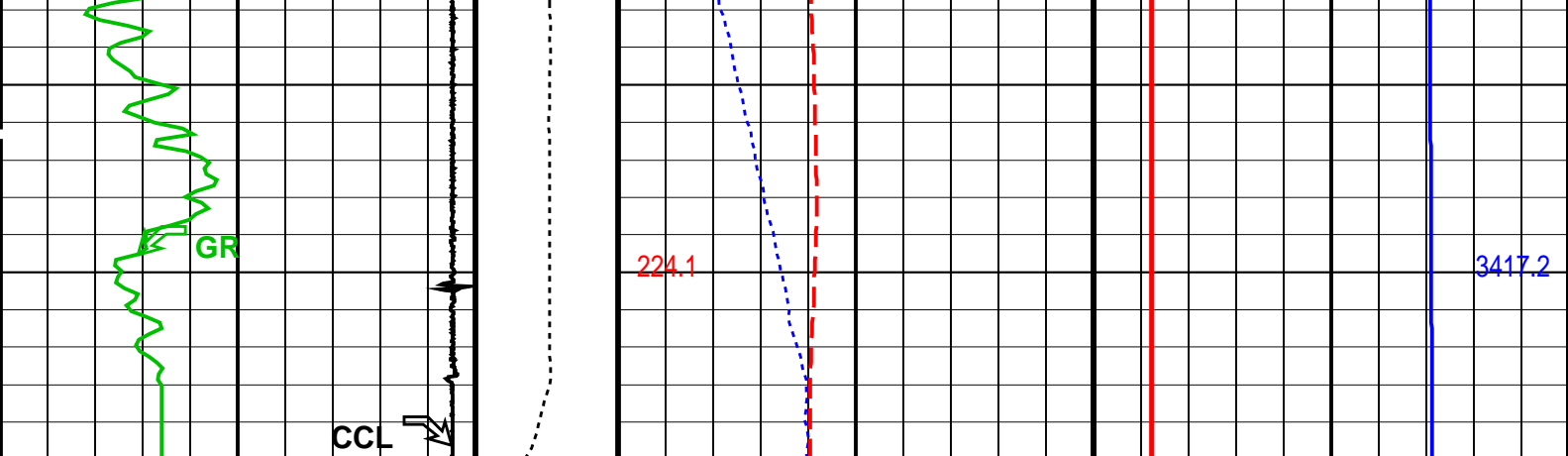
Company: Esso Australia Pty Ltd.	Well: A-3a
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Output DLIS Files						
DEFAULT	PERFO_032LUP	FN:31	PRODUCER	23-May-2006 05:16	3050.0 M	2975.5 M
OP System Version: 14C0-302						
MCM						
MWP_GUN	14C0-302		MWPT-CA	14C0-302		
MWGT-AA	14C0-302					

PIP SUMMARY	
 Time Mark Every 60 S	







Casing Collar Locator (CCL)		Tension (TENS) (LBF)		Strain Gauge Pressure (SGPA) (PSIG)	
-19	(----	1	0	4000	4000
Gamma Ray (GR) (GAPI)		200	Strain Gauge Pressure (SGPA) (PSIG)		100
0			0		
			Temperature (TEMP_MWPT) (DEGF)		20
			0		
			Temperature (TEMP_MWPT) (DEGF)		400
			0		

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: 23-May-2006 05:16

OP System Version: 14C0-302

MCM

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

Output DLIS Files

DEFAULT	PERFO_032LUP	FN:31	PRODUCER	23-May-2006 05:16
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Schlumberger

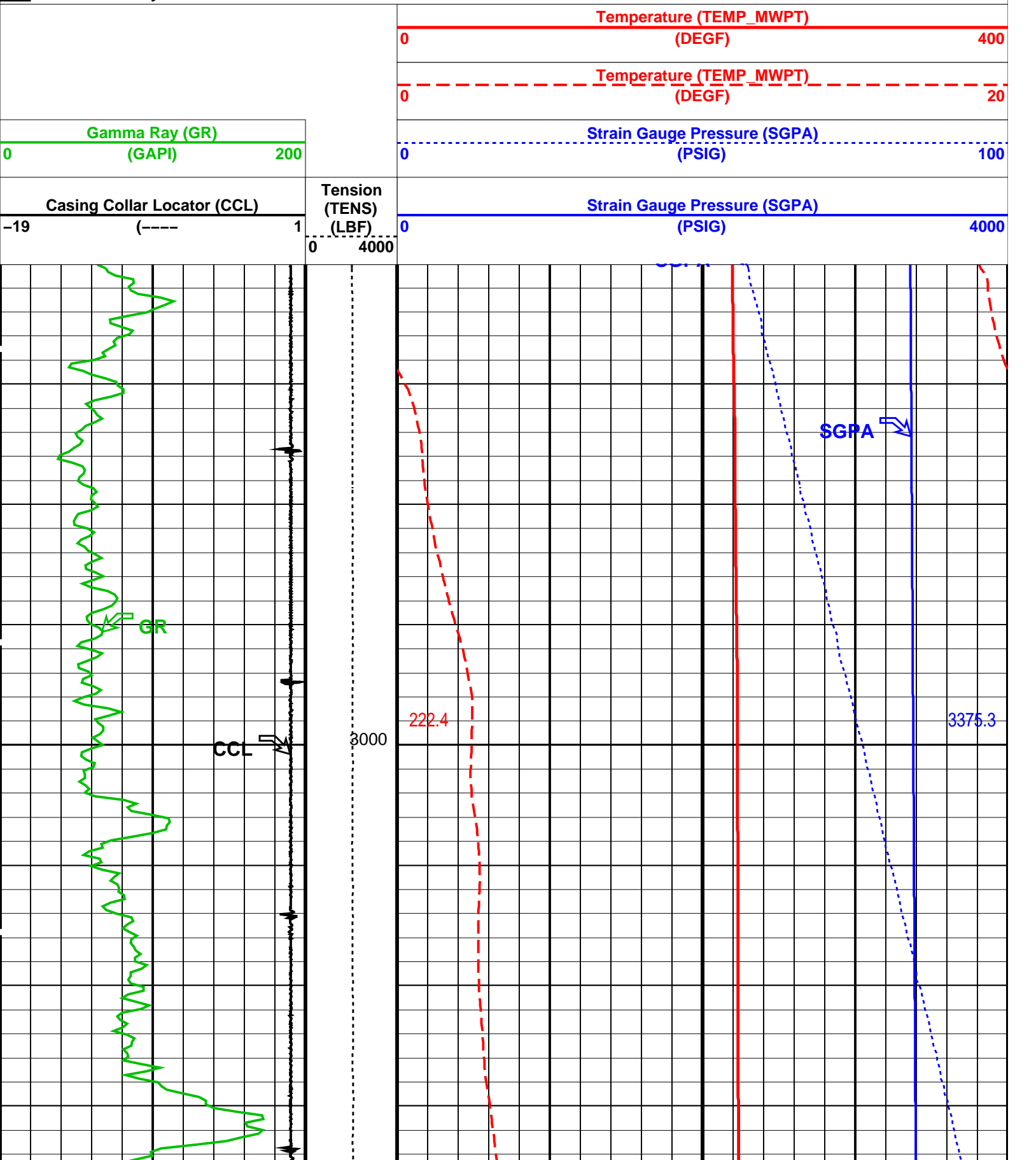
2-1/8" Enerjet Gun
Correlation Log

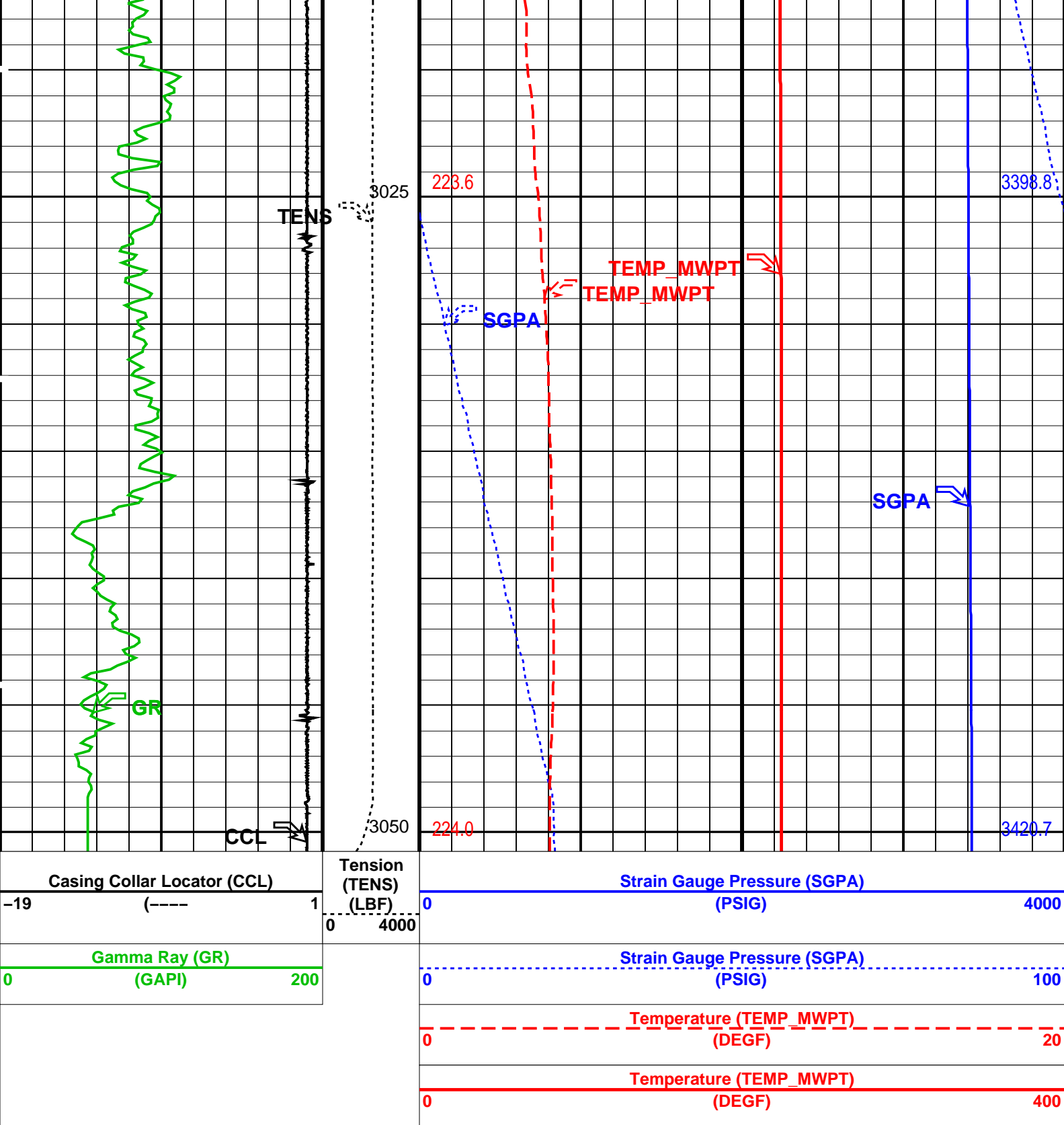
MAXIS Field Log

Output DLIS Files

PIP SUMMARY

Time Mark Every 60 S





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: 23-May-2006 05:03

MWP_GUN
MWGT-AA14C0-302
14C0-302

MWPT-CA

14C0-302

Output DLIS Files

DEFAULT

PERFO_031LUP

FN:30

PRODUCER

23-May-2006 05:03

SchlumbergerGamma Ray Survey
3062m to 2915m MDKB

MAXIS Field Log

Company: Esso Australia Pty Ltd.

Well: A-3a

Input DLIS Files

DEFAULT

PSP_015LUP

FN:14

PRODUCER

26-May-2006 22:24

3065.7 M

2909.2 M

Output DLIS Files

DEFAULT

PSP_002PUP

FN:1

PRODUCER

26-May-2006 22:58

3066.1 M

2910.1 M

CLIENT

PSP_002PUC

FN:2

CUSTOMER

26-May-2006 22:58

3066.1 M

2910.1 M

OP System Version: 14C0-302

MCM

PSPT-B

14C0-302

Gamma Ray (GR)

0 (GAPI) 200

Discriminated CCL (CCLD)

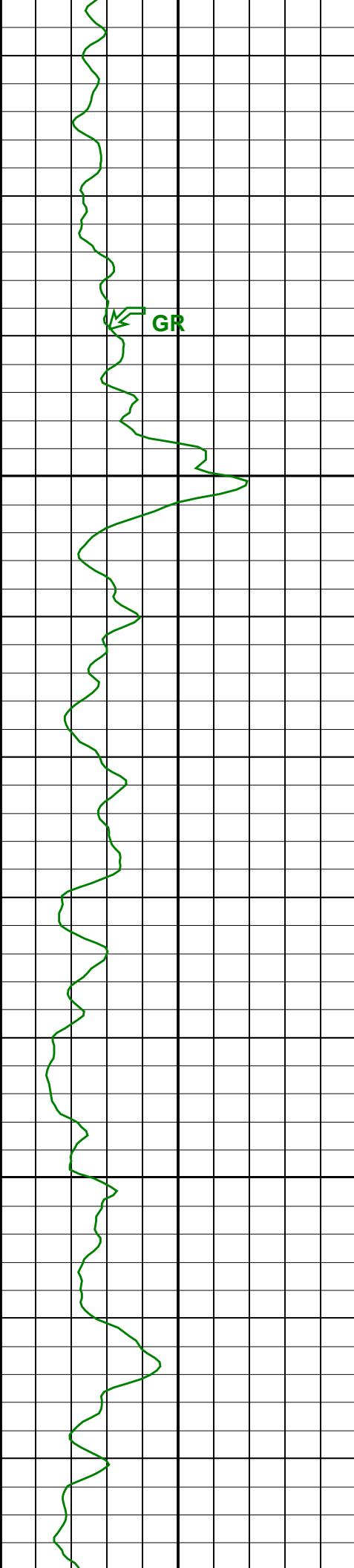
17 (V) -30

Tension (TENS)

(LBF) 4000

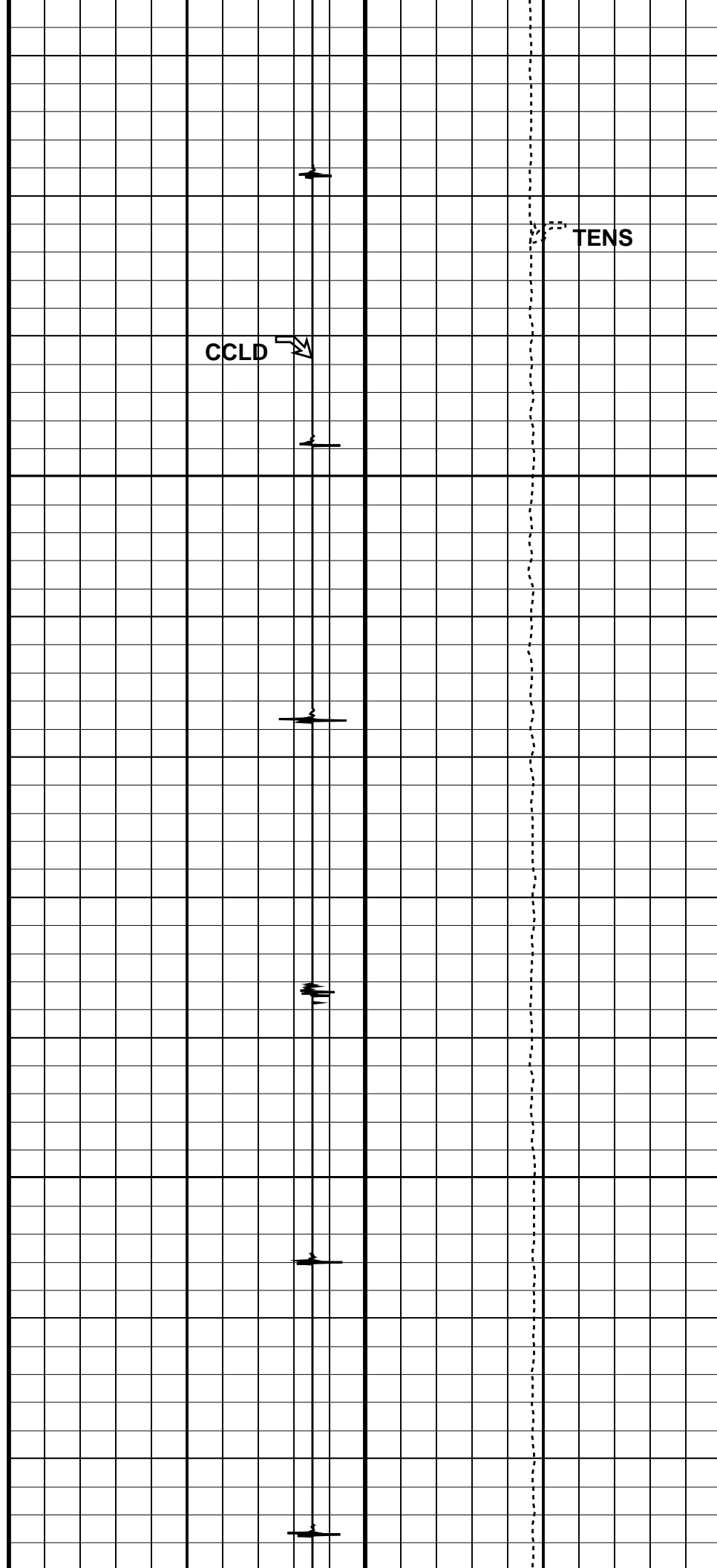
All readings valid below 2915m MDKB

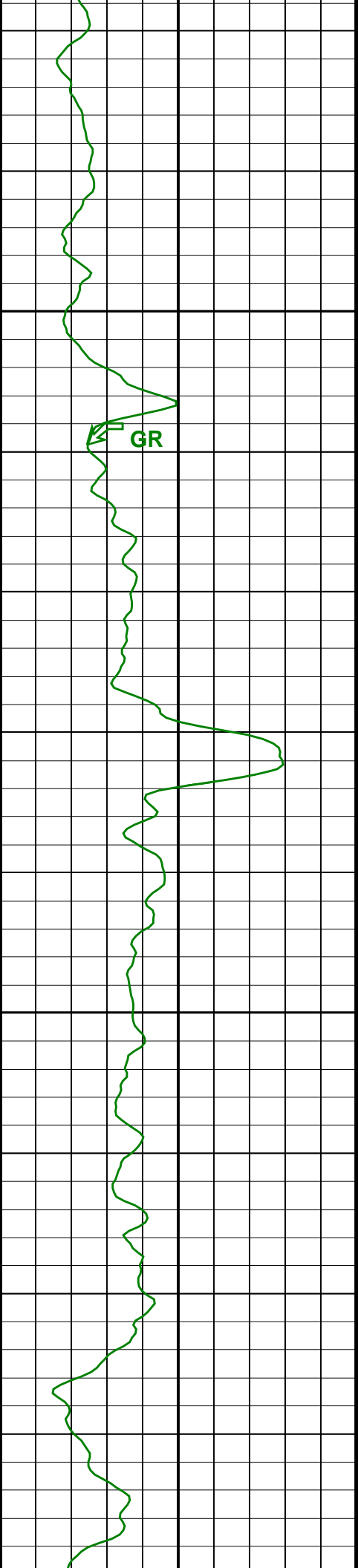
2925



2950

2975



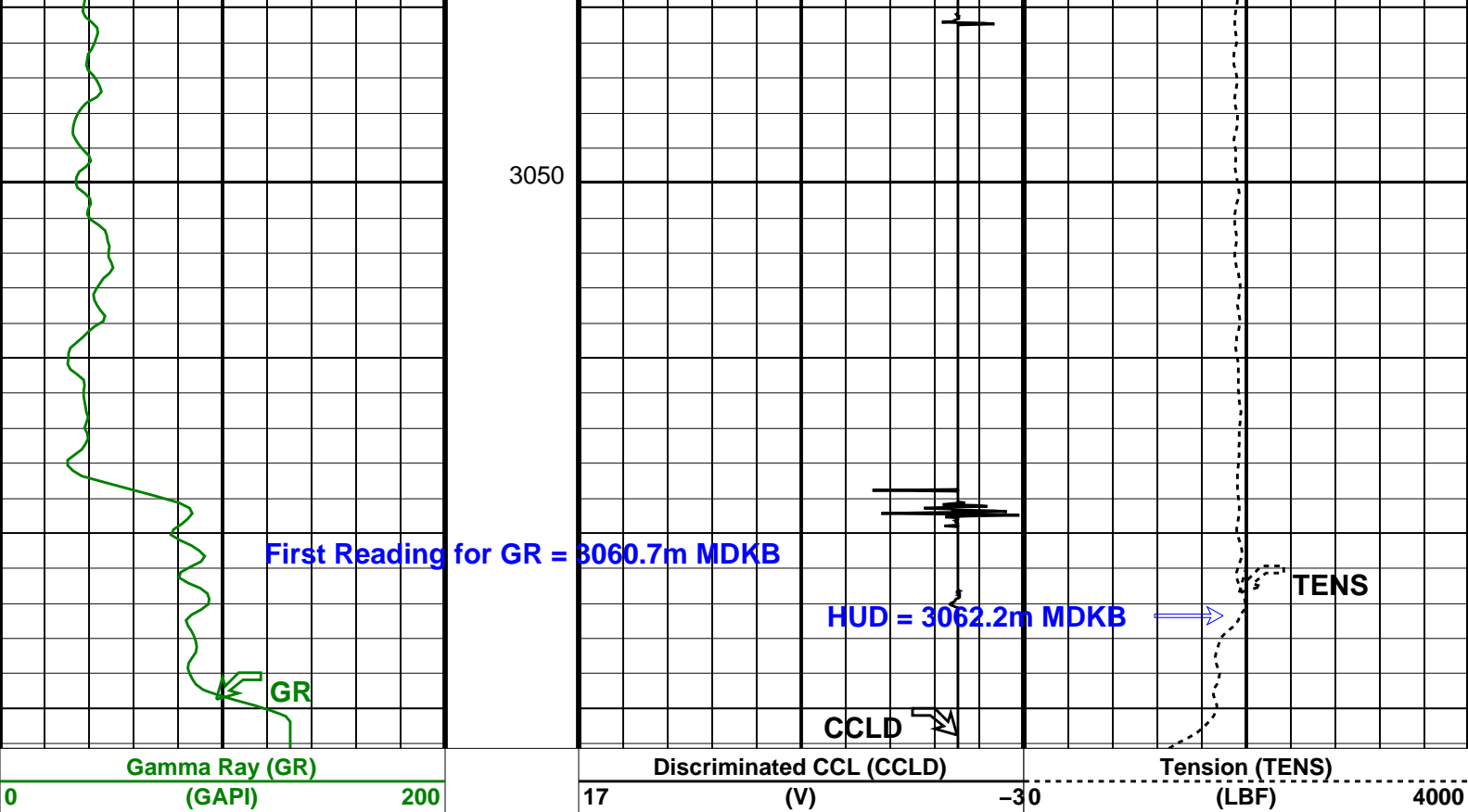


3000

3025

CCLD


TENS



Parameters		
DLIS Name	Description	Value
DO	System and Miscellaneous	
PP	Depth Offset for Playback	0.4 M
	Playback Processing	NORMAL
Format: CORRELATION Vertical Scale: 1:200		Graphics File Created: 26-May-2006 22:58

OP System Version: 14C0-302	
MCM	
PSPT-B	14C0-302

Input DLIS Files					
DEFAULT	PSP_015LUP	FN:14	PRODUCER	26-May-2006 22:24	3065.7 M 2909.2 M
Output DLIS Files					
DEFAULT	PSP_002PUP	FN:1	PRODUCER	26-May-2006 22:58	
CLIENT	PSP_002PUC	FN:2	CUSTOMER	26-May-2006 22:58	



Sensor Coefficients

MAXIS Field Log

Serial Number: 189247
Range: 10K
Calibration Date: 6May2003
Mean Quadratic Deviation: 0.4255
Offset: 0.0000 PSIA
Calibration Pressure Unit: PSIG
Calibration Temperature Unit: DEGF

	G	H	I	J
0	-3.687565e+002	1.009888e+000	-1.737092e-006	1.005052e-010
1	-5.634055e-002	-7.482262e-005	2.072535e-008	-1.702726e-012
2	7.015396e-004	8.893186e-008	-6.227954e-011	6.719183e-015
3	-1.903163e-006	8.005281e-010	-8.679423e-014	0.000000e+000

Client: Esso Australia Pty Ltd.
Field: Halibut
Well: A-3a
Run date: 22-May-2006

Tool: PSP
Sub Type: PBMS
Sensor: GR

PBMS Gamma Ray

Sonde Serial NB RESISTORS FOR GR SENSOR N.33384, TOOL PBMS-BA1747. SENSOR S/N:
Sensor Serial NB 33384
Calib Date ddmmyy 270901
Matrix Size 12
Coeff CRC AF18

GR HV Rt

	Rt**0	Rt**1
Rt**0	+1.171000000000e+04	+3.320000000000e+04

Company: Esso Australia Pty Ltd.

Schlumberger

Well: A-3a
Field: Halibut

Rig: **CWU / Prod 2**
Country: **Australia**

Gamma Ray Survey
2-1/8" Phased Enerjet
MAXIS Operating System