

Company: Esso Australia Pty Ltd.

Well: A-7a

Field: Halibut

Rig: Crane

Country: Australia

RST-C Sigma
2-1/8" Phased
Powerjet MWPT

Crane
Halibut
Gippsland
A-7a
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. _____
Log Measured From:	K.B. _____
Drilling Measured From:	K.B. _____
State: Victoria	Max. Well Deviation 43 deg
	Longitude 148°19' 07.62"E
	Latitude 38° 24' 20.36"S

Logging Date	14-Jan-2008		
Run Number	1		
Depth Driller	3034 m		
Schlumberger Depth	2950 m		
Bottom Log Interval	2950 m		
Top Log Interval	2790 m		
Casing Fluid Type	Production Fluids		
Salinity			
Density			
Fluid Level	402 m		
BIT/CASING/TUBING STRING			
Bit Size	8.500 in		
From	515 m		
To	3038 m		
Casing/Tubing Size	7.000 in		
Weight	26 lbn/ft		
Grade	L-80		
From	-1.32 m		
To	3034 m		
Maximum Recorded Temperatures	227 deg F		
Logger On Bottom	14-Jan-2008	Time	9:00
Unit Number	889	Location	Prod 4 / AUSL
Recorded By	G Wright, R Sani, S Gilbert		
Witnessed By	G Rimmer		

	Run 1
Oil Density	
Water Salinity	
Gas Gravity	
Bo	
Bw	
1/Bg	
Bubble Point Pressure	
Bubble Point Temperature	
Solution GOR	
Maximum Deviation	43 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: 13-JAN-2008 7:48:36

Depth System Equipment

Depth Measuring Device	Tension Device	Logging Cable
Type: IDW-EB Serial Number: 6373 Calibration Date: 04-Jan-2007 Calibrator Serial Number: 9 Calibration Cable Type: 2-32ZT Wheel Correction 1: -2 Wheel Correction 2: -4	Type: PSDS/OSDS Serial Number: 325357 Calibration Date: 26-Dec-2007 Calibrator Serial Number: 1174 Calibration Gain: 0.88 Calibration Offset: 176.00	Type: 2-32ZT Serial Number: 24425 Length: 5299.86 M Conveyance Method: Wireline Rig Type: Rigless

Depth Control Parameters

Log Sequence:	Subsequent Trip To the Well
Reference Log Name:	ExxonMobil Petrophysical Analysis

Depth Control Remarks

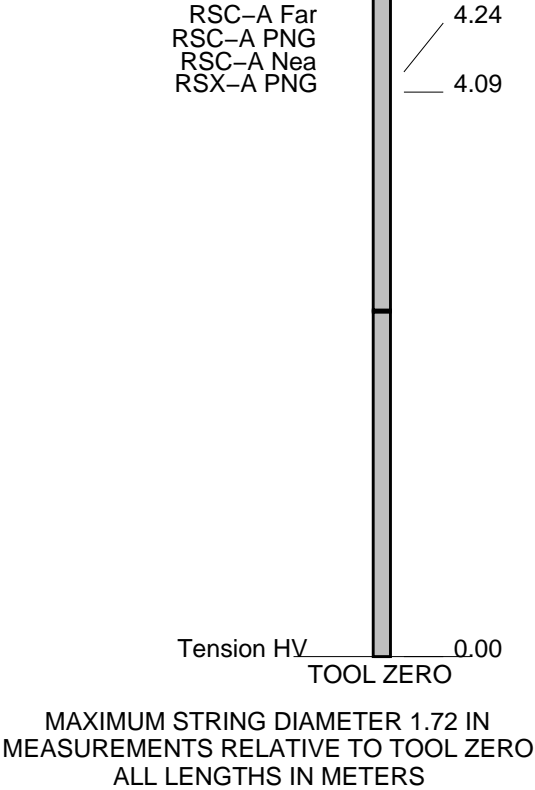
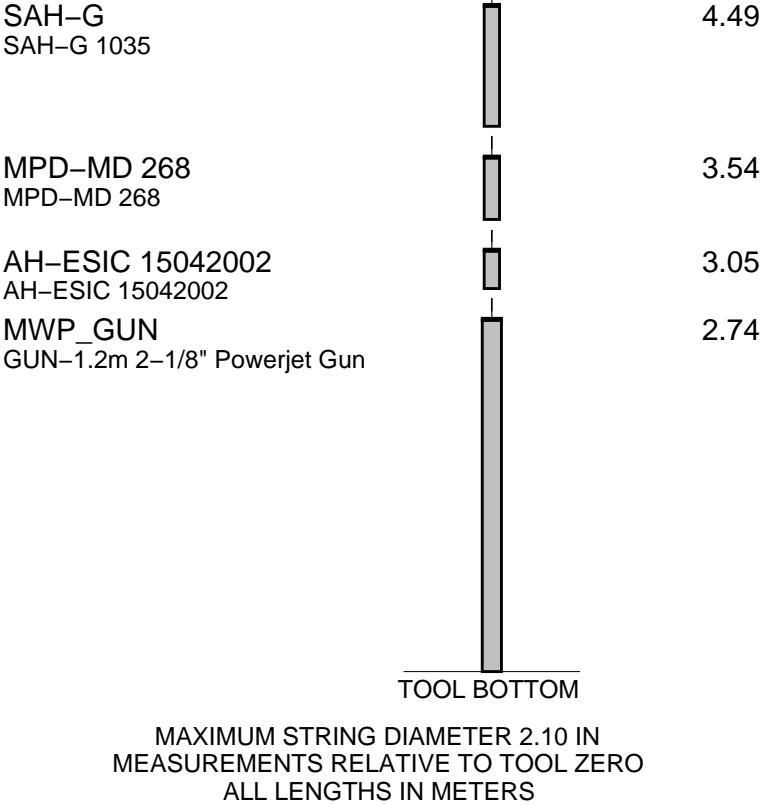
1. IDW used as primary depth control. 2. Z-Chart used as back-up. 3. 4. 5. 6.

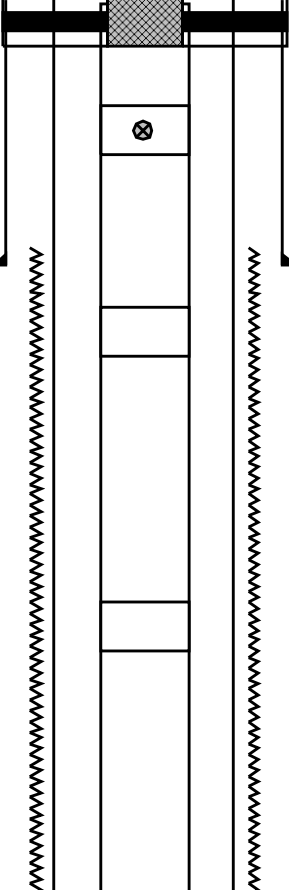
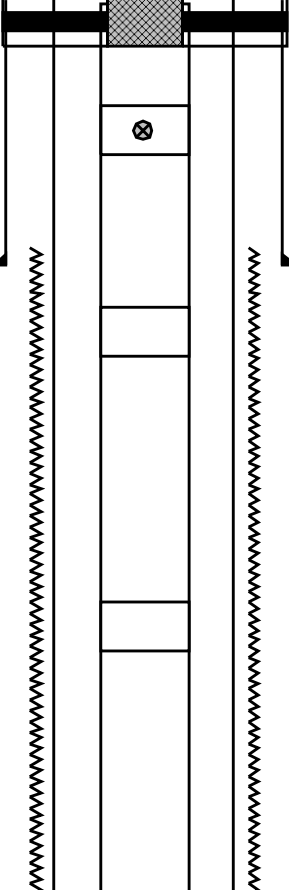
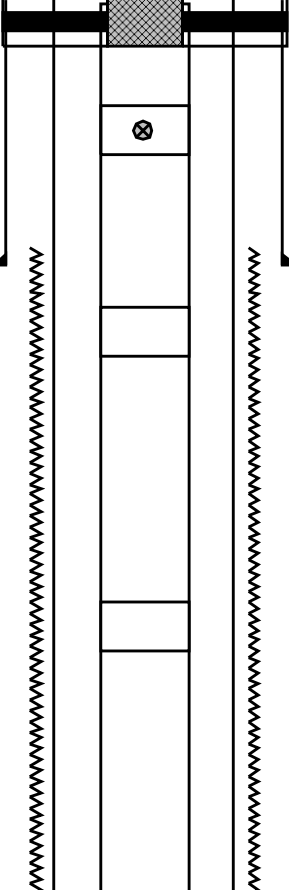
DISCLAIMER

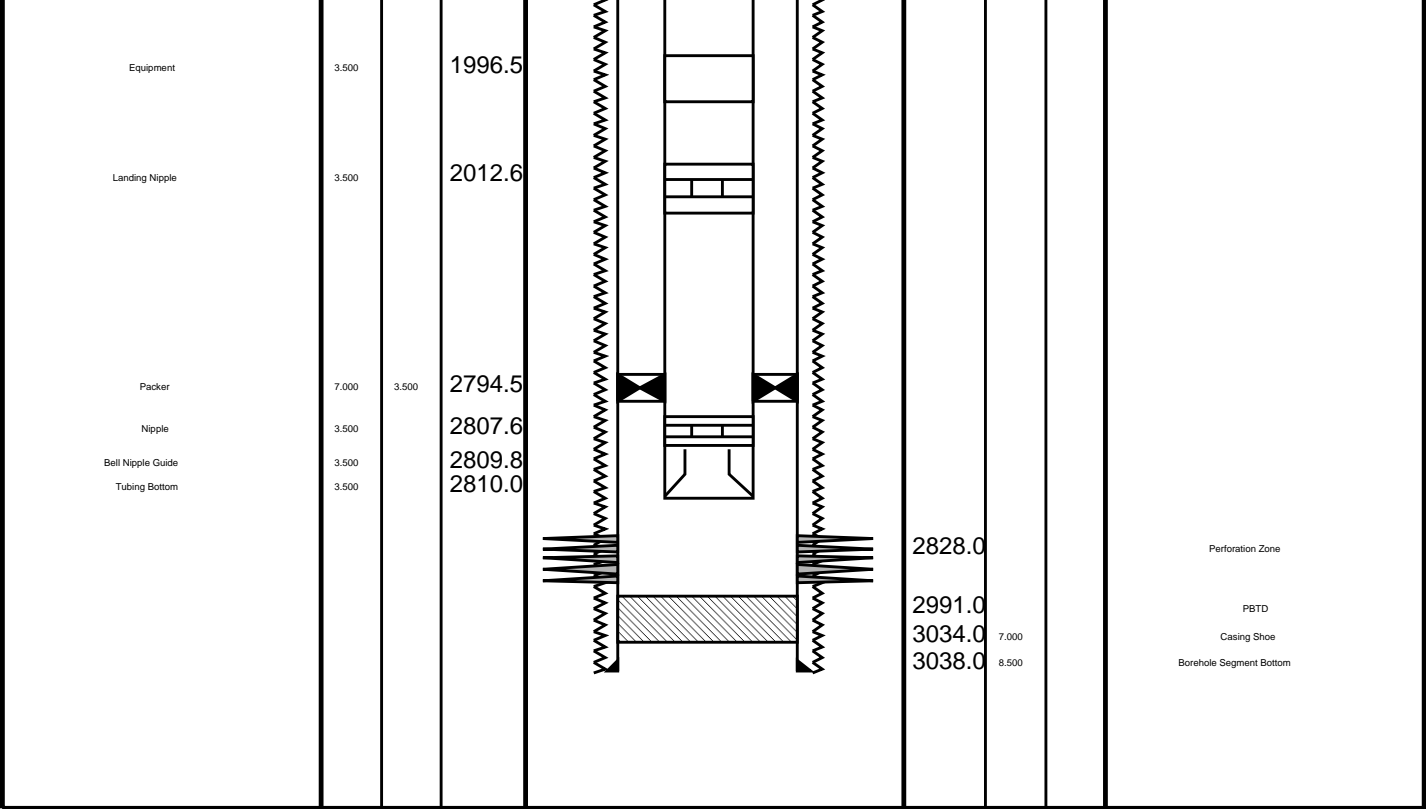
THE USE OF AND RELIANCE UPON THIS RECORDED-DATA BY THE HEREIN NAMED COMPANY (AND ANY OF ITS AFFILIATES, PARTNERS, REPRESENTATIVES, AGENTS, CONSULTANTS AND EMPLOYEES) IS SUBJECT TO THE TERMS AND CONDITIONS AGREED UPON BETWEEN SCHLUMBERGER AND THE COMPANY, INCLUDING: (a) RESTRICTIONS ON USE OF THE RECORDED-DATA; (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.

OTHER SERVICES1 OS1: OS2: OS3: OS4: OS5:
REMARKS: RUN NUMBER 1
Log correlated to Solar Composite log supplied with logging program.
Maximum well deviation = 43 deg at 1557m MDKB.
RST-C Sigma Survey with the well shut-in at 900ft/hr.
SBHT = 227.8 degF
SBHP = 3244.7 psia
Well was flowed approximately
RST-C Sigma survey with the well flowing at 900 ft/hr.

Category	Value
RST-C	7.02
RSCH-A 111	
RSC-CA 132	
RSS-A 106	
RSXH-A 108	
RSX-CA 132	



Production String	(in)		(m)	Well Schematic	(m)	(in)		Casing String
	OD	ID	MD		MD	OD	ID	
Tubing Tubing Hanger	3.500		12.3		0.0	10.750		Casing String
	11.000	2.992	12.3		-1.3	7.000		Casing String
Shut-in Valve	3.500		143.7					
Equipment	3.500		742.9		552.2 515.0	10.750 8.500		Casing Shoe Borehole Segment
Equipment	3.500		1350.7					



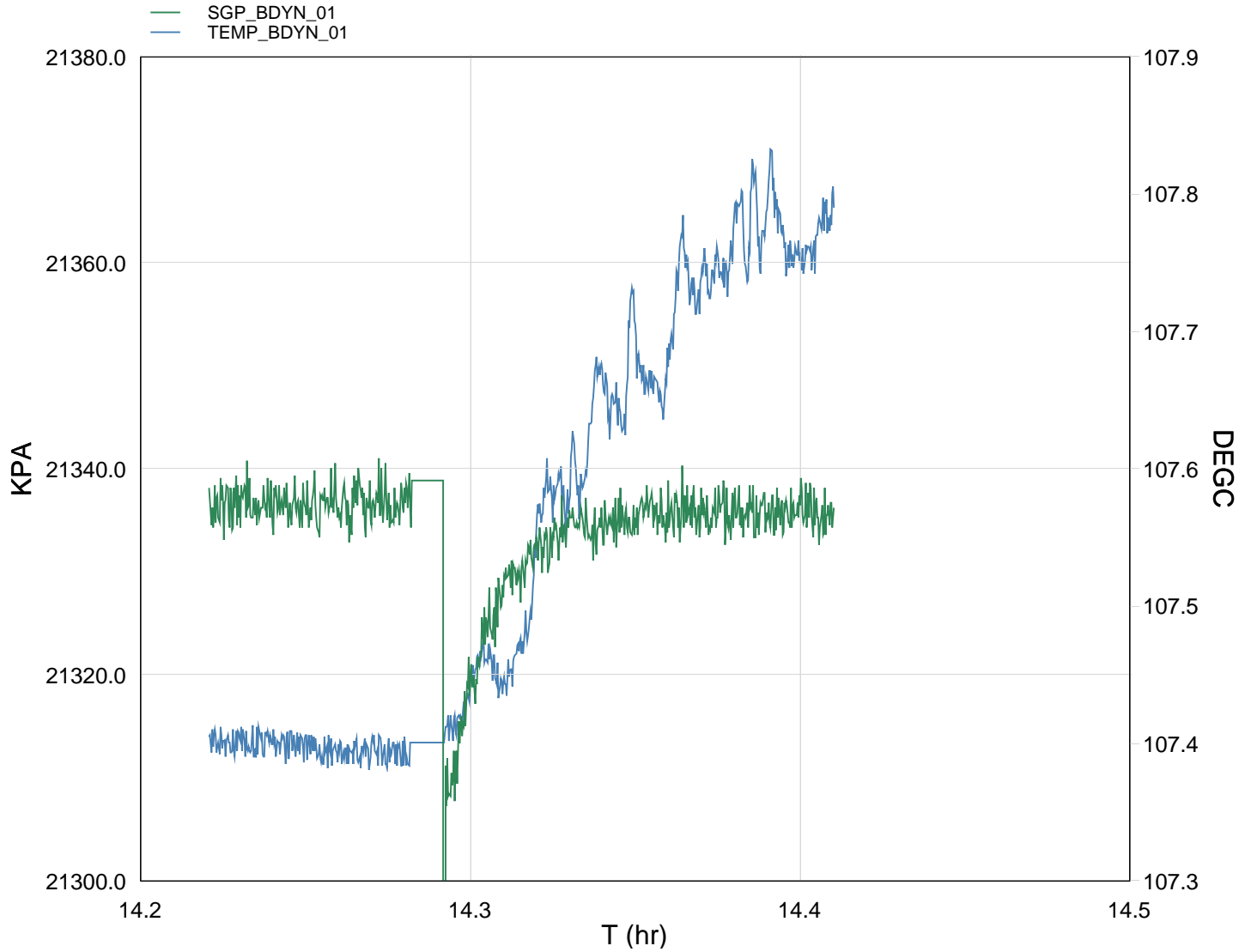
Job Event Summary

MAXIS Field Log

Schlumberger Job Event Summary

Time	Elapsed Time	Depth (M)	File
Log Pass (up)	14-Jan-2008 8:11 000:42	2962.2 - 2774.9	RST_PSP_008LUP
Station Log	14-Jan-2008 9:01 000:57	2957.4 - 8.6	RST_PSP_009LTP
Log Pass (up)	14-Jan-2008 10:03 000:29	2955.2 - 2814.5	RST_PSP_010LUP
Log Pass (up)	14-Jan-2008 13:56 000:06	2869.5 - 2817.3	PERFO_027LUP
Log Pass (up)	14-Jan-2008 14:07 000:19	2870.9 - 2814.5	PERFO_028LUP
Station Log	14-Jan-2008 14:13 000:12	2821.5 - 1.7	PERFO_029LTP

MAXIS Field Log



TIME	Deg F	PSIA
3180.0	225.33	3094.692
3240.0	225.33	3094.614
3300.0	225.31	3094.695
3360.0	225.31	3094.660
3420.0	225.32	3094.945
3480.0	225.43	3092.570
3540.0	225.64	3094.174
3600.0	225.80	3094.520
3660.0	225.80	3094.412
3720.0	225.96	3094.560
3780.0	225.95	3094.496
3840.0	225.95	3094.195



Gun Shooting Pass

MAXIS Field Log

Company: Esso Australia Pty Ltd. Well: A-7a

Output DLIS Files

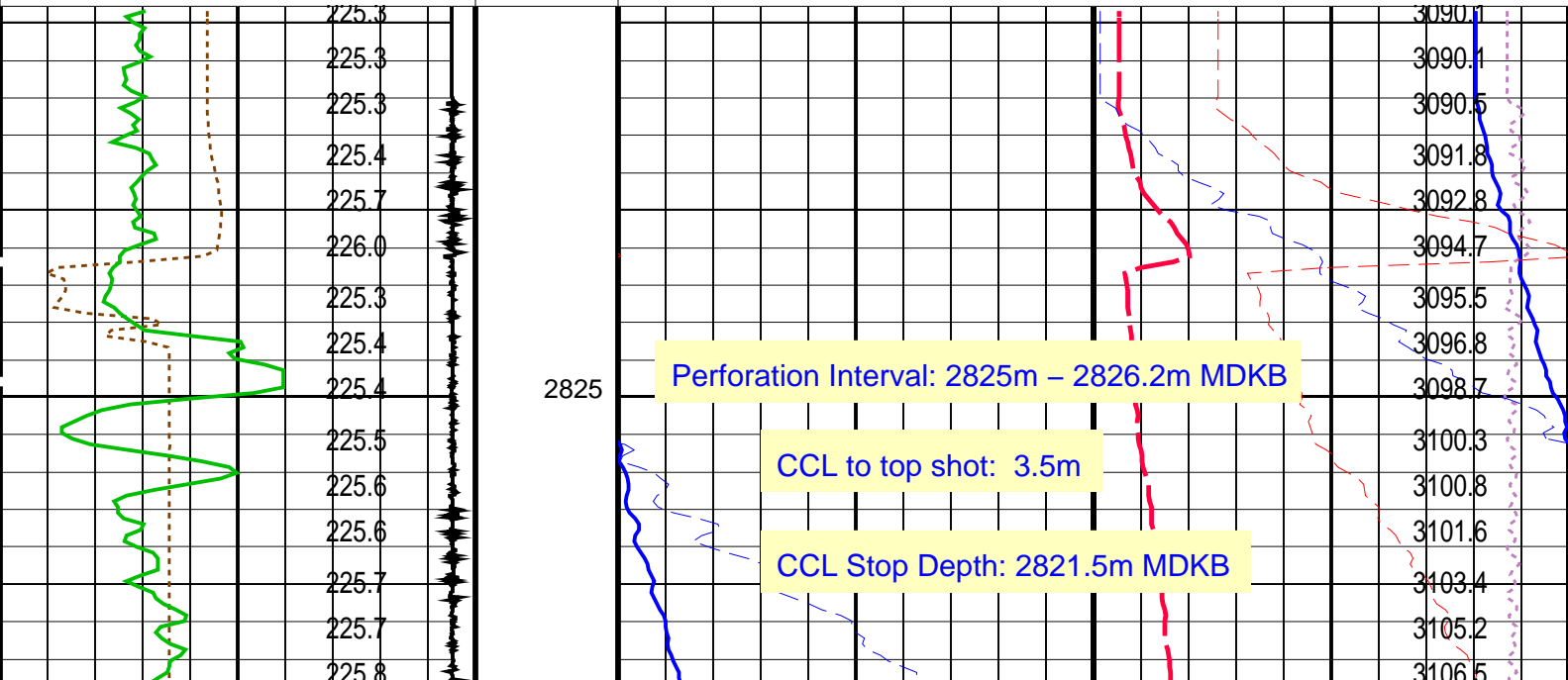
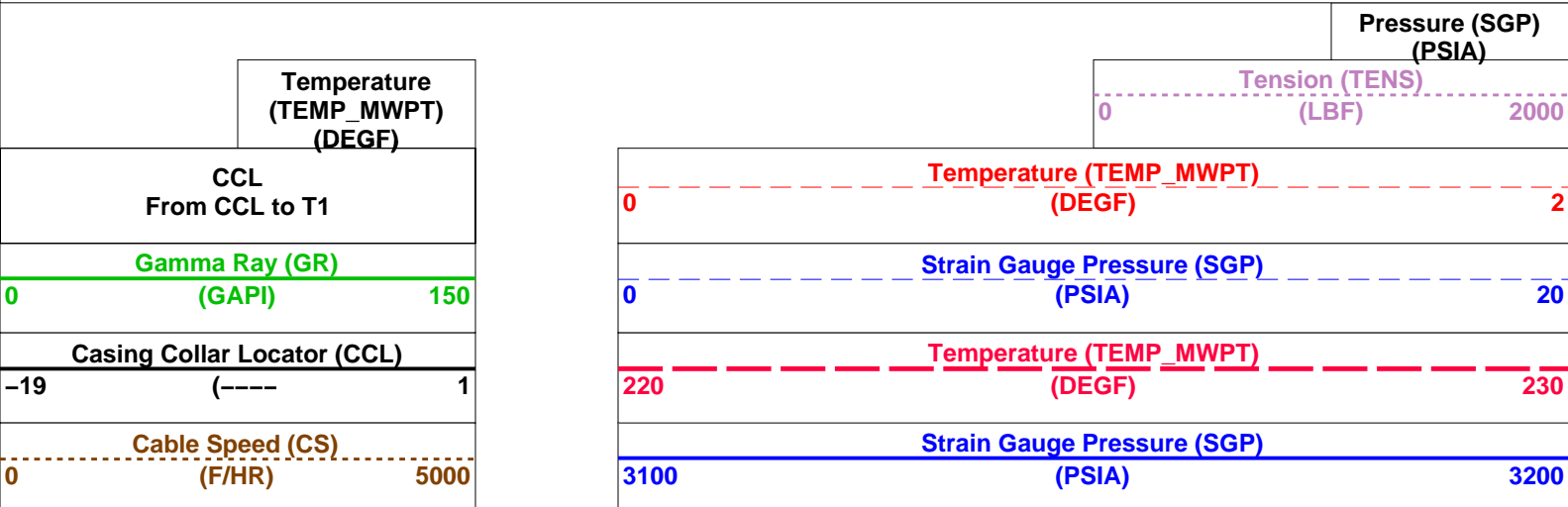
DEFAULT PERFO_028LUP FN:27 PRODUCER 14-Jan-2008 14:07 2870.9 M 2814.5 M

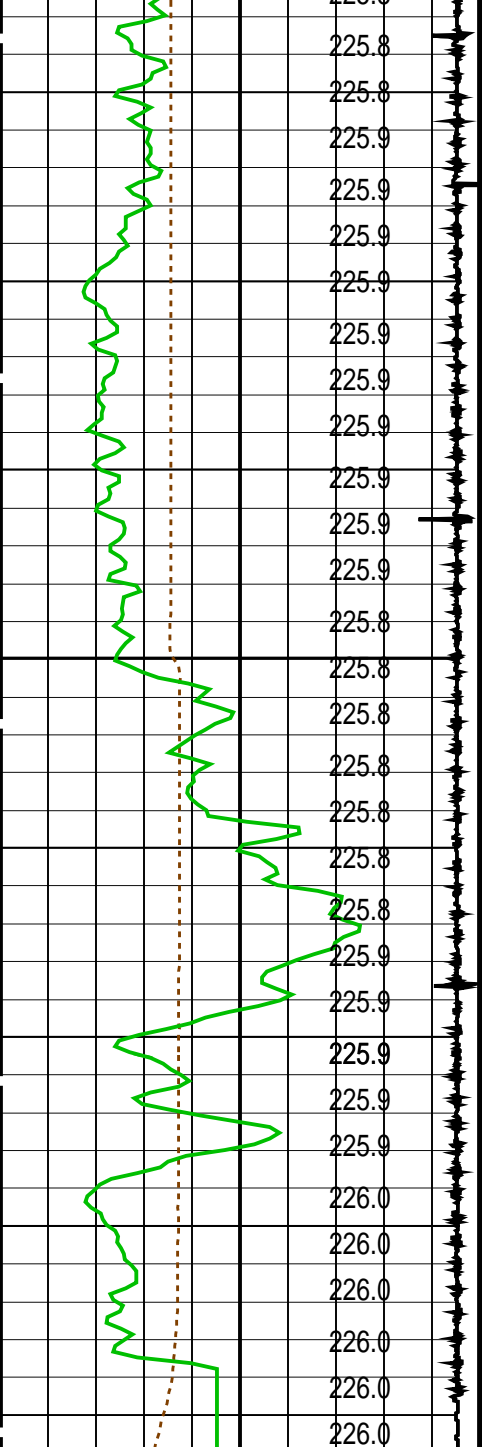
OP System Version: 14C0-302
MCM

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

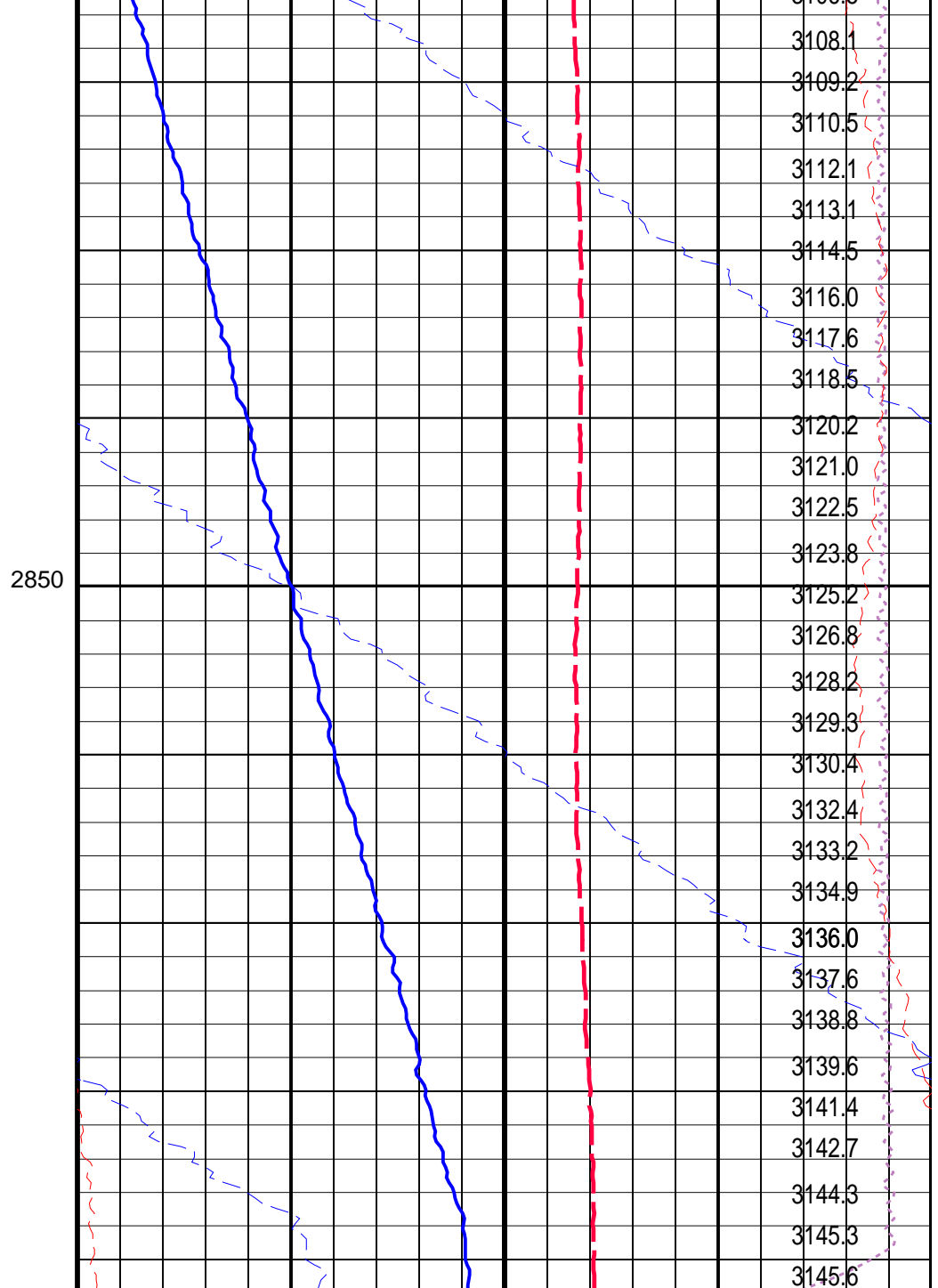
PIP SUMMARY

Time Mark Every 60 S





Cable Speed (CS) (F/HR)	
0	5000
Casing Collar Locator (CCL) (----	
-19	1
Gamma Ray (GR) (GAPI)	
0	150
CCL From CCL to T1	
Temperature (TEMP_MWPT) (DEGF)	

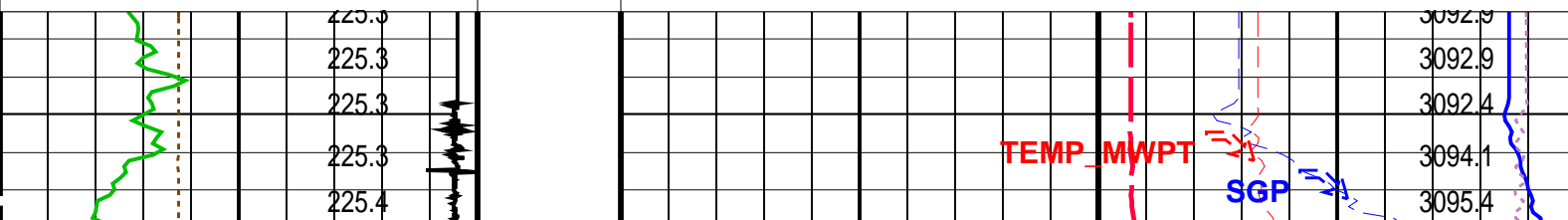


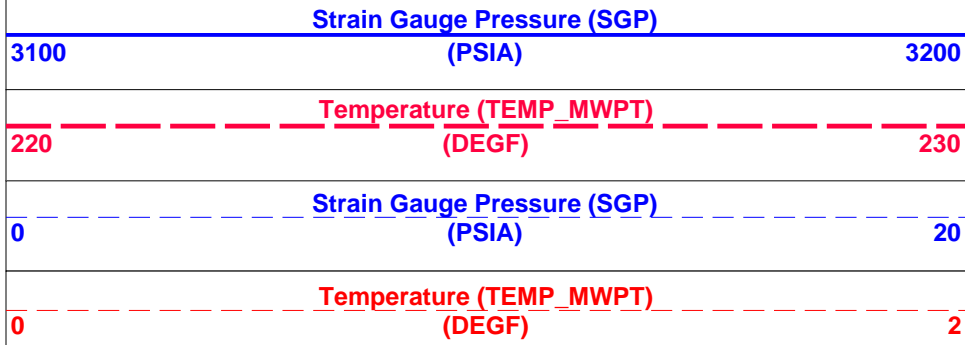
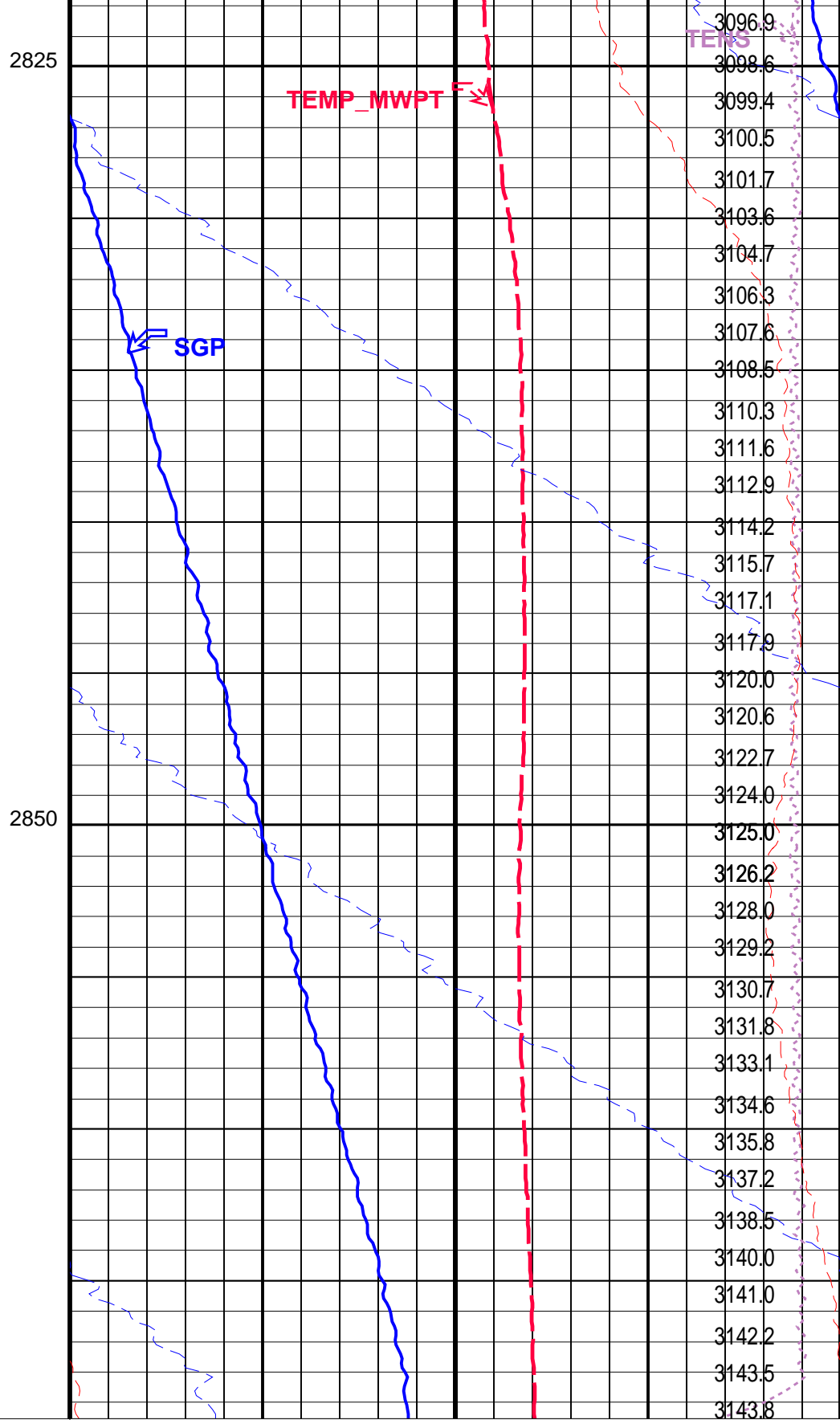
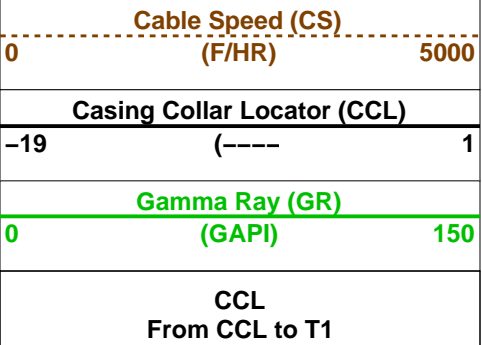
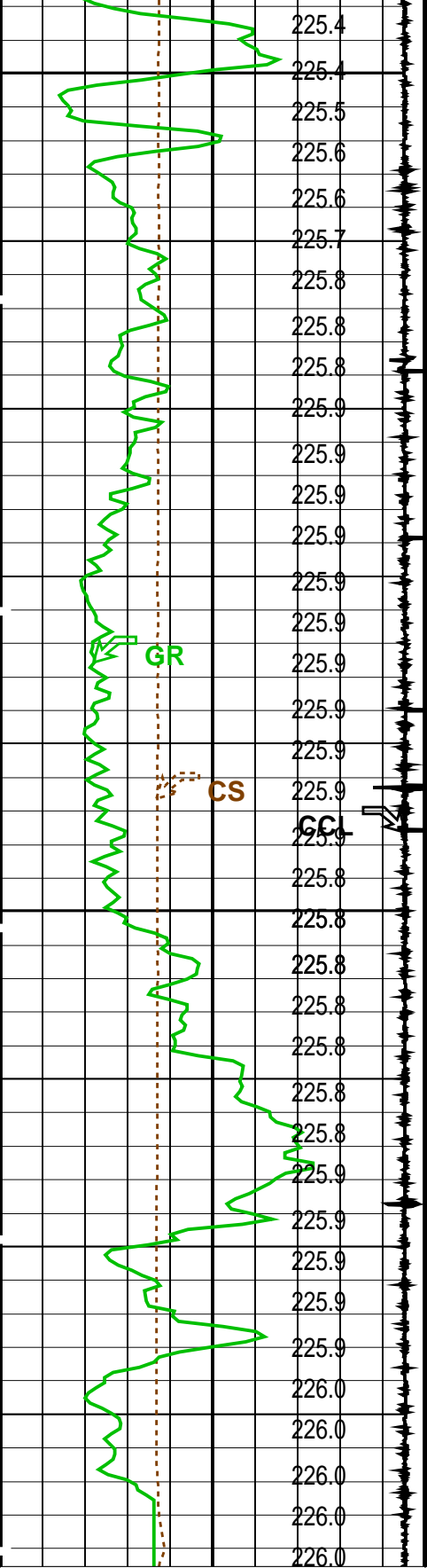
Strain Gauge Pressure (SGP) (PSIA)	
3100	3200
Temperature (TEMP_MWPT) (DEGF)	
220	230
Strain Gauge Pressure (SGP) (PSIA)	
0	20
Temperature (TEMP_MWPT) (DEGF)	
0	2
Tension (TENS) (LBF)	
0	2000
Pressure (SGP) (PSIA)	

Time Mark Every 60 S

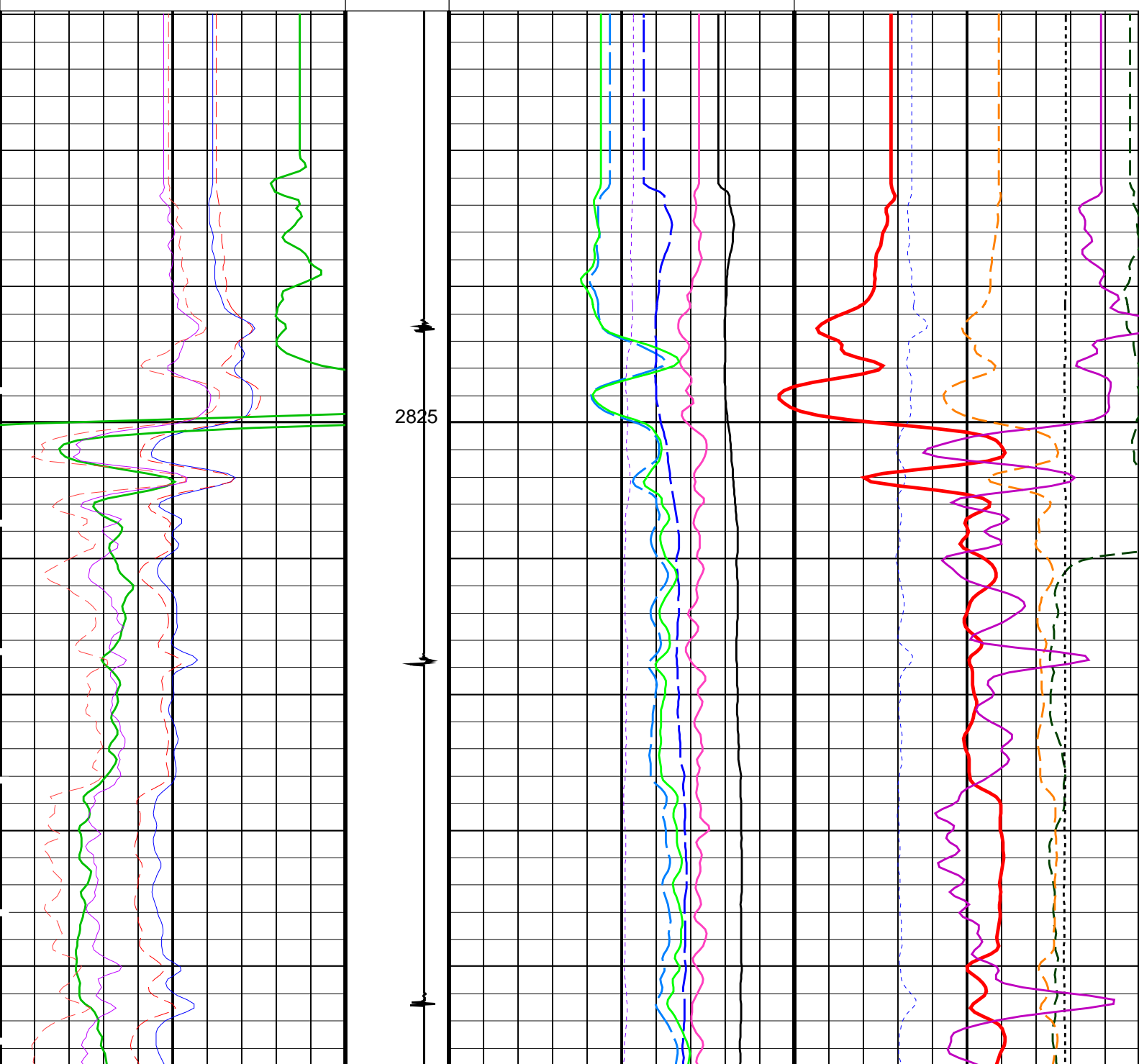
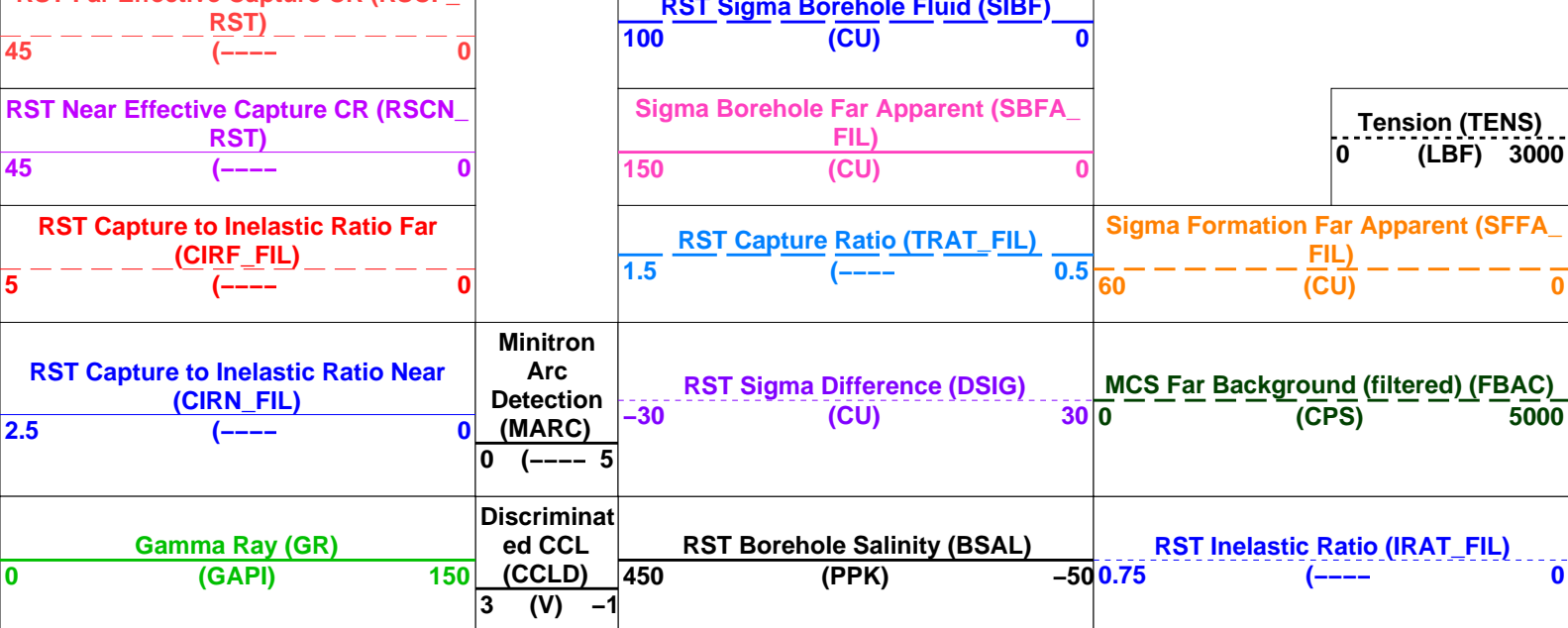
PIP SUMMARY

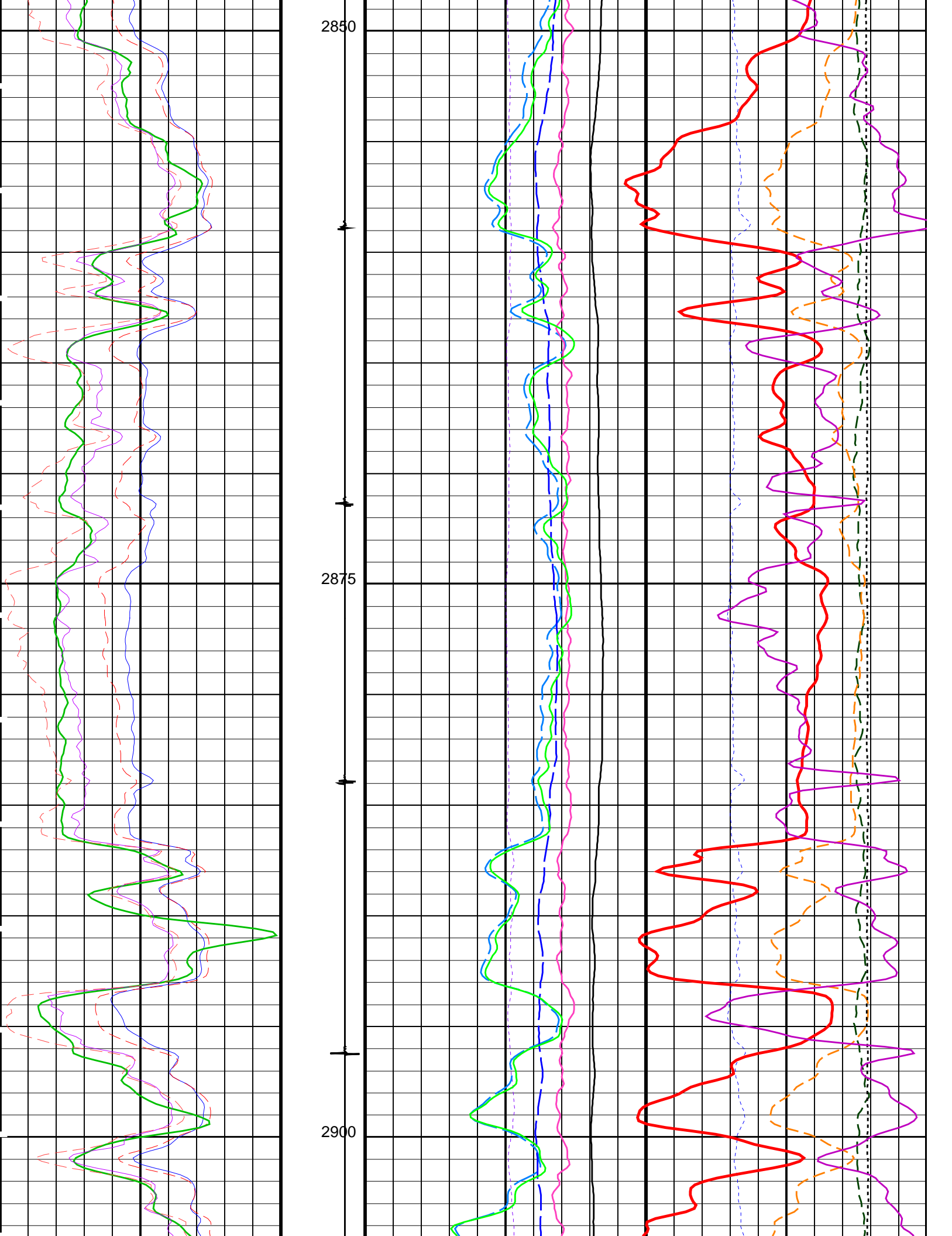
Parameters

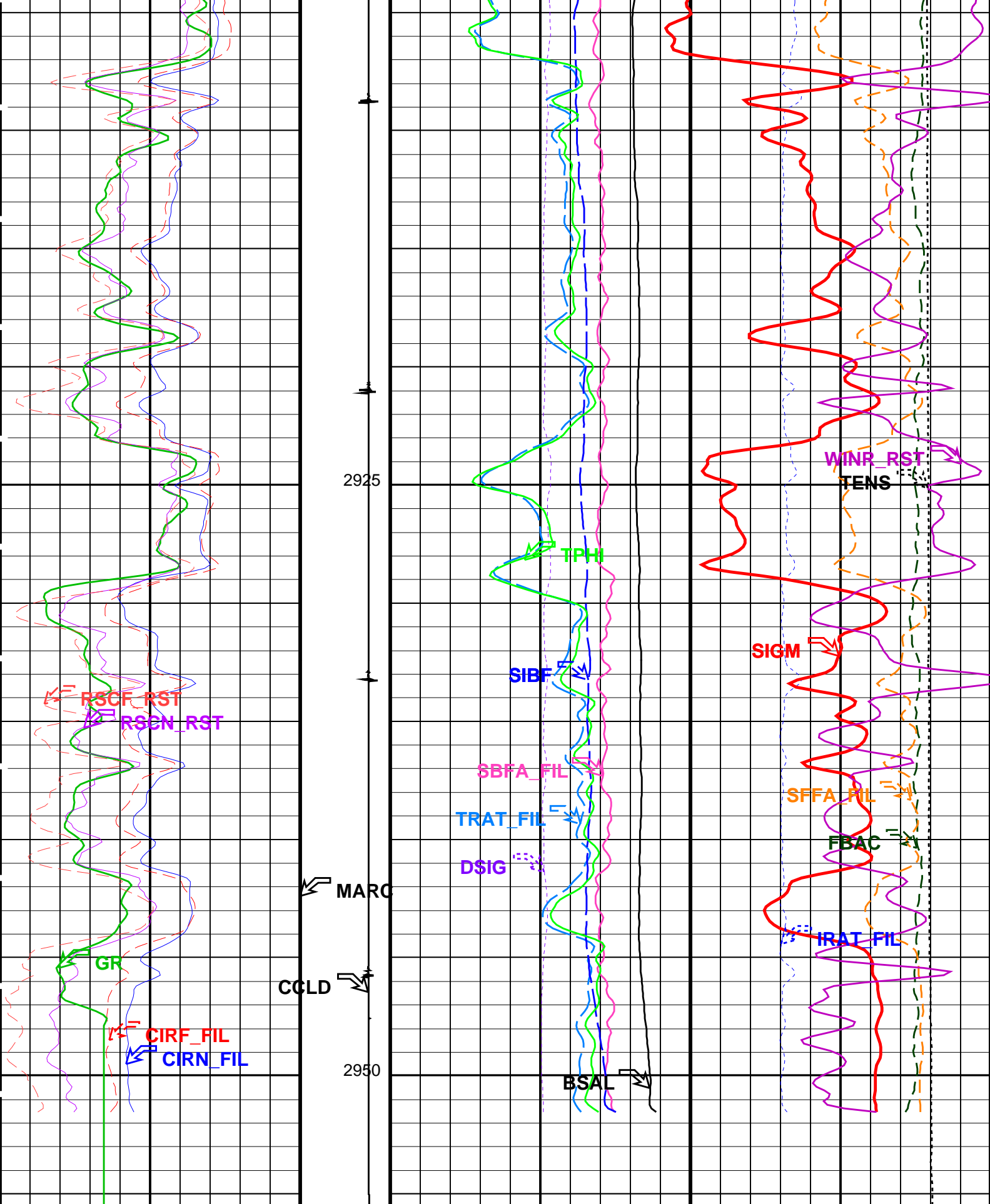




Temperature (TEMP_MWPT) (DEGF)				Tension (TENS) (LBF)		02000	
Pressure (SGP) (PSIA)							
PIP SUMMARY							
Time Mark Every 60 S							
Parameters							
DLIS Name		Description			Value		
MWPT-CA: MEASUREMENT WHILE PERFORATING TOOL							
DEVI_FL_CORR		Deviation Angle for Flow Line Correction			0 DEG		
FLD		Flow Line Density			1 G/C3		
MWPT_NULL_SOURCE		MWPT NULL Temperature Source			TEMS		
MWPT_NULL_TEMP		MWPT NULL Temperature			0.0 DEGC		
Format: MWP		Vertical Scale: 1:200		Graphics File Created: 14-Jan-2008 13:56			
OP System Version: 14C0-302							
MCM							
MWP_GUN		14C0-302		MWPT-CA		14C0-302	
MWGT-AA		14C0-302					
Output DLIS Files							
DEFAULT		PERFO_027LUP		FN:26 PRODUCER		14-Jan-2008 13:56	
<div><div>Schlumberger</div><div>RST-C Sigma Flowing Pass#2 @900ft/hr</div></div>							
MAXIS Field Log							
Company: Esso Australia Pty Ltd.							
Well: A-7a							
Input DLIS Files							
DEFAULT		RST_PSP_010LUP		FN:9 PRODUCER		14-Jan-2008 10:03 2955.2 M 2814.5 M	
Output DLIS Files							
DEFAULT		RST_PSP_014PUP		FN:13 PRODUCER		14-Jan-2008 10:38 2955.5 M 2809.8 M	
OP System Version: 14C0-302							
MCM							
RST-C		14C0-302		PSPT-A/B		14C0-302	
PIP SUMMARY							
Time Mark Every 60 S							
		RST Sigma (SIGM)					
60		(CU) 0					
		RST Weighted Inelastic Ratio (WINR_RST)					
0.4		(----) 0					
		RST Porosity (TPHI)					
0.6		(V/V) 0					
RST Far Effective Capture CR (RSCE)		RST CR - RST CR - RST CR (RST)					







Gamma Ray (GR) (GAPI)	Discriminat ed CCL (CCLD) 3 (V) -1	RST Borehole Salinity (BSAL) (PPK)	RST Inelastic Ratio (IRAT_FIL) (----)
0 150		450 -50	0.75 0
	Minitron		

RST Capture to Inelastic Ratio Near (CIRN_FIL) 2.5 (----) 0	Arc Detection (MARC) 0 (---- 5	RST Sigma Difference (DSIG) (CU) -30 30	MCS Far Background (filtered) (FBAC) (CPS) 0 5000
RST Capture to Inelastic Ratio Far (CIRF_FIL) 5 (----) 0		RST Capture Ratio (TRAT_FIL) (----) 0.5	Sigma Formation Far Apparent (SFFA_ FIL) (CU) 60 0
RST Near Effective Capture CR (RSCN_ RST) 45 (----) 0		Sigma Borehole Far Apparent (SBFA_ FIL) (CU) 150 0	Tension (TENS) (LBF) 0 3000
RST Far Effective Capture CR (RSCF_ RST) 45 (----) 0		RST Sigma Borehole Fluid (SIBF) (CU) 100 0	
		RST Porosity (TPHI) (V/V) 0.6 0	
		RST Weighted Inelastic Ratio (WINR_RST) (----) 0	
		RST Sigma (SIGM) (CU) 60 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	
SMBMO	RST Sigma Mode Background Minitron Off	No	
TIER_SIGM	RST Sigma Acquisition Mode	0_RST_Sigma	
PSPT-A/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
DO	Depth Offset for Playback	0.3	M
PP	Playback Processing	NORMAL	

Format: RST_SIG_ANSW

Vertical Scale: 1:200

Graphics File Created: 14-Jan-2008 10:38

OP System Version: 14C0-302

MCM

RST-C 14C0-302 PSPT-A/B 14C0-302

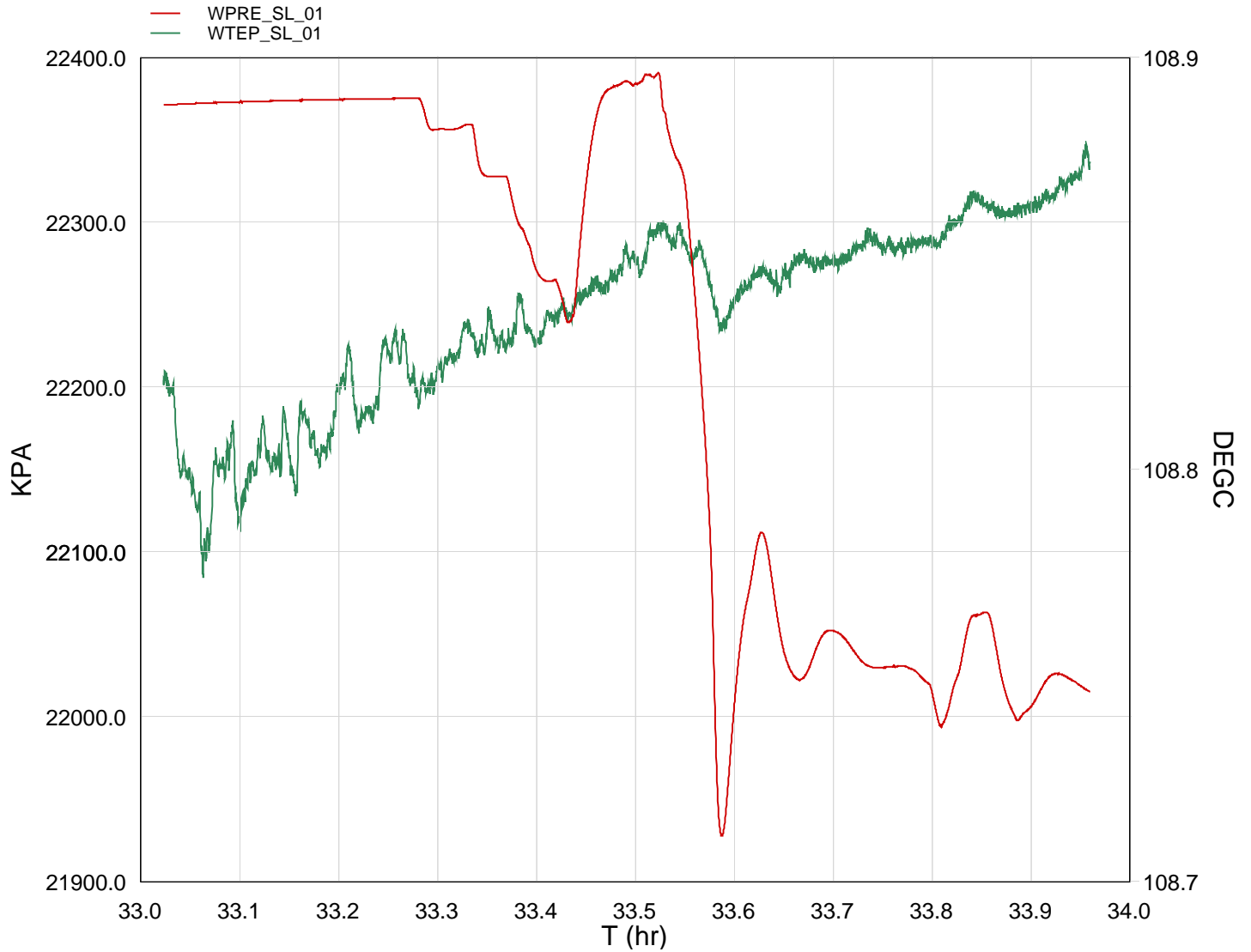
Input DLIS Files

DEFAULT RST_PSP_010LUP FN:9 PRODUCER 14-Jan-2008 10:03 2955.2 M 2814.5 M

Output DLIS Files

DEFAULT RST_PSP_014PUP FN:13 PRODUCER 14-Jan-2008 10:38

MAXIS Field Log



TIME	Time	deg F	psia
3600.0000	33.0374	227.8484	3244.7498
3720.0000	33.0707	227.8140	3244.8754
3840.0000	33.1041	227.8282	3244.9726
3960.0000	33.1374	227.8419	3245.0487
4080.0000	33.1707	227.8533	3245.1236
4200.0000	33.2041	227.8792	3245.1820
4320.0000	33.2374	227.8668	3245.2321
4440.0000	33.2707	227.8816	3245.2801
4560.0000	33.3041	227.8829	3242.5900
4680.0000	33.3374	227.8979	3242.0174
4800.0000	33.3707	227.8963	3238.2455
4920.0000	33.4041	227.8997	3229.5546
5040.0000	33.4374	227.9107	3226.1496
5160.0000	33.4707	227.9215	3245.8999

5100.0000	33.4707	227.9215	3243.8333
5280.0000	33.5041	227.9262	3246.6451
5400.0000	33.5374	227.9409	3241.0236
5520.0000	33.5707	227.9295	3215.2168
5640.0000	33.6041	227.9163	3195.5133
5760.0000	33.6374	227.9228	3203.4811
5880.0000	33.6707	227.9354	3194.3482
6000.0000	33.7041	227.9293	3198.2920
6120.0000	33.7374	227.9447	3195.2783
6240.0000	33.7707	227.9368	3195.3089
6360.0000	33.8041	227.9385	3191.4178
6480.0000	33.8374	227.9555	3199.0597
6600.0000	33.8707	227.9546	3194.2305
6720.0000	33.9041	227.9555	3192.2564
6840.0000	33.9374	227.9669	3194.3099

Schlumberger

RST-C Sigma Shut-in
Pass #1 @ 900ft/hr

MAXIS Field Log

Company: Esso Australia Pty Ltd.

Well: A-7a

Input DLIS Files

DEFAULT	RST_PSP_008LUP	FN:7	PRODUCER	14-Jan-2008 08:11	2962.2 M	2774.9 M
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Output DLIS Files

DEFAULT	RST_PSP_013PUP	FN:12	PRODUCER	14-Jan-2008 10:36	2962.5 M	2770.2 M
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OP System Version: 14C0-302

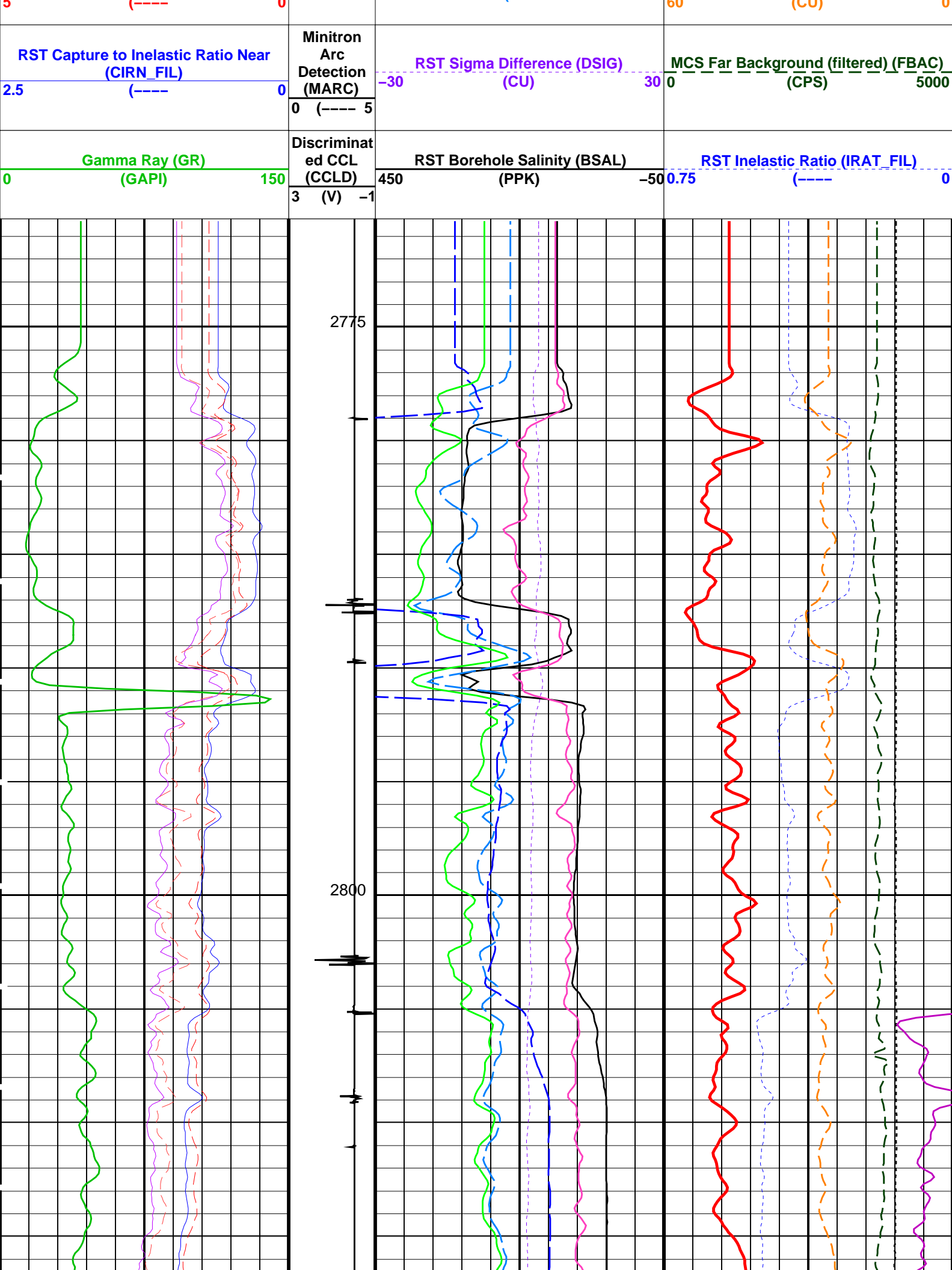
MCM

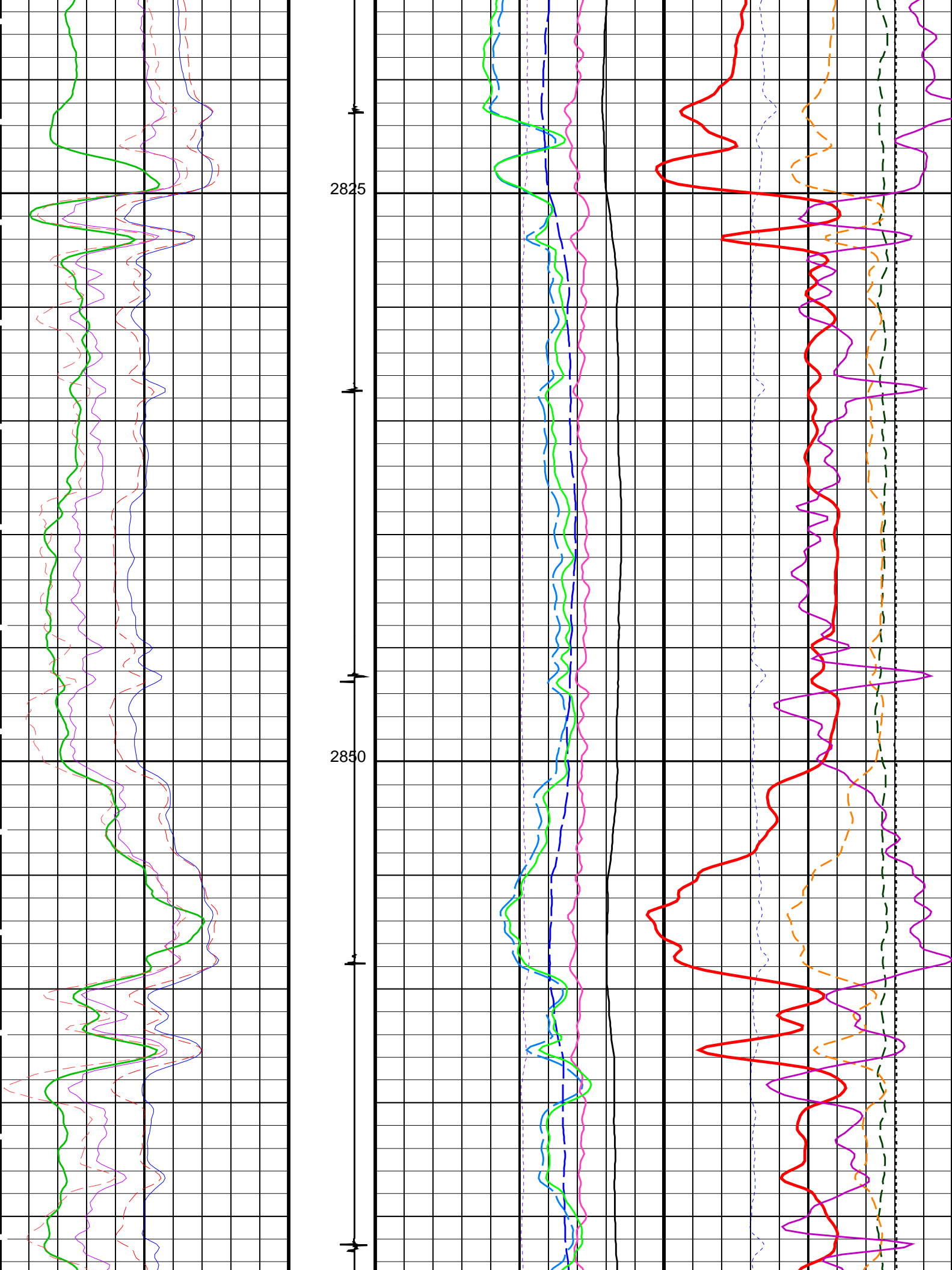
RST-C	14C0-302	PSPT-A/B	14C0-302
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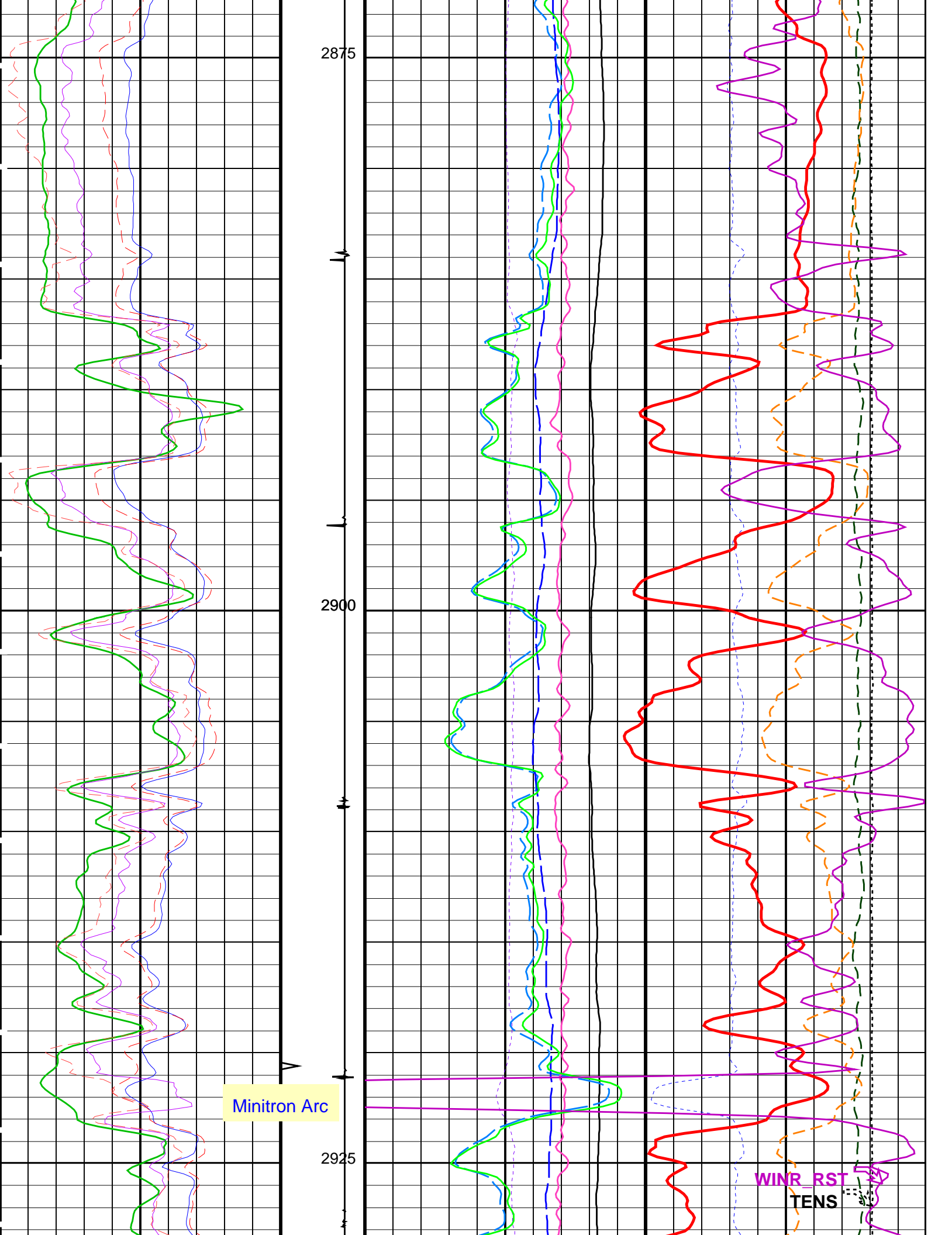
PIP SUMMARY

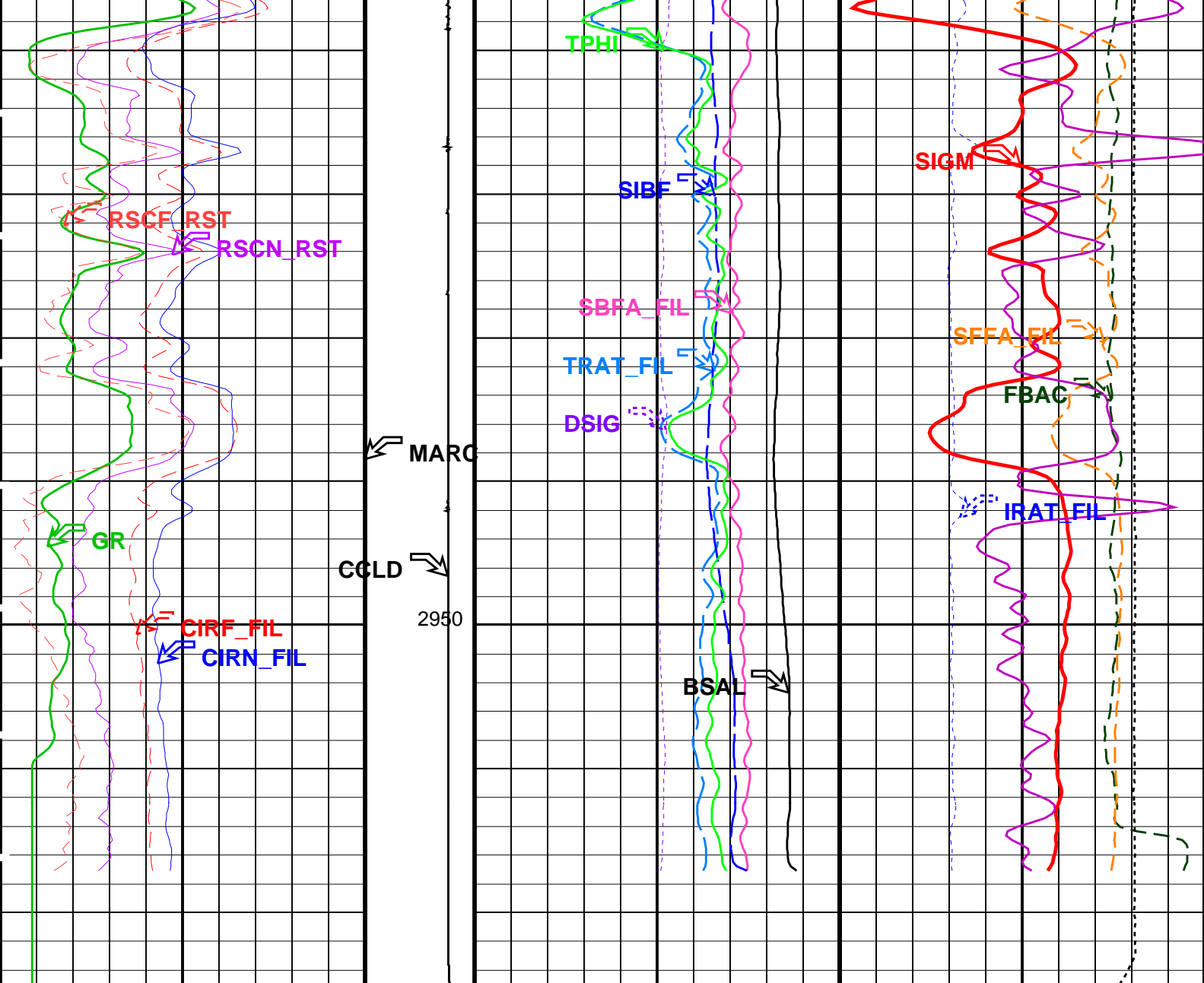
Time Mark Every 60 S

		RST Sigma (SIGM)	
		60 (CU)	0
		RST Weighted Inelastic Ratio (WINR_RST)	
		0.4 (----	0
		RST Porosity (TPHI)	
		0.6 (V/V)	0
RST Far Effective Capture CR (RSCF_RST) 45 (----) 0		RST Sigma Borehole Fluid (SIBF) 100 (CU) 0	
		Sigma Borehole Far Apparent (SBFA_FIL) 150 (CU) 0	
RST Near Effective Capture CR (RSCN_RST) 45 (----) 0		Tension (TENS) 0 (LBF) 3000	
		RST Capture to Inelastic Ratio Far (CIRF_FIL) 1.5 (----) 0.5	
		Sigma Formation Far Apparent (SFFA_FIL) 60 (CU) 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)</div> <div>450 (PPK) -50</div>	<div>RST Inelastic Ratio (IRAT_FIL)</div> <div>0.75 (----) 0</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)</div> <div>-30 (CU) 30</div>	<div>MCS Far Background (filtered) (FBAC)</div> <div>0 (CPS) 5000</div>
<div>RST Capture to Inelastic Ratio Far (CIRF_FIL)</div> <div>5 (----) 0</div>		<div>RST Capture Ratio (TRAT_FIL)</div> <div>1.5 (----) 0.5</div>	<div>Sigma Formation Far Apparent (SFFA_ FIL)</div> <div>60 (CU) 0</div>
<div>RST Near Effective Capture CR (RSCN_ RST)</div> <div>45 (----) 0</div>		<div>Sigma Borehole Far Apparent (SBFA_ FIL)</div> <div>150 (CU) 0</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)</div> <div>100 (CU) 0</div>	
		<div>RST Porosity (TPHI)</div> <div>0.6 (V/V) 0</div>	
		<div>RST Weighted Inelastic Ratio (WINR_RST)</div> <div>0.4 (----) 0</div>	

	0.4		
		RST Sigma (SIGM)	
	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	CU
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	
RGAI	Near/Far Gain Calibration Ratio	1	
SMBMO	RST Sigma Mode Background Minitron Off	No	
TIER_SIGM	RST Sigma Acquisition Mode	0_RST_Sigma	
PSPT-A/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
DO	Depth Offset for Playback	0.3	M
PP	Playback Processing	NORMAL	

Format: RST_SIG_ANSW	Vertical Scale: 1:200	Graphics File Created: 14-Jan-2008 10:36
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OP System Version: 14C0-302			
MCM			
RST-C	14C0-302	PSPT-A/B	14C0-302

Input DLIS Files					
DEFAULT	RST_PSP_008LUP	FN:7	PRODUCER	14-Jan-2008 08:11	2962.2 M 2774.9 M
Output DLIS Files					
DEFAULT	RST_PSP_013PUP	FN:12	PRODUCER	14-Jan-2008 10:36	

		Correlation Pass @ 1800 ft/hr
MAXIS Field Log		

Company: Esso Australia Pty Ltd.	Well: A-7a
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Input DLIS Files					
DEFAULT	RST_PSP_008LUP	FN:7	PRODUCER	14-Jan-2008 08:11	2962.2 M 2774.9 M
Output DLIS Files					
DEFAULT	RST_PSP_013PUP	FN:12	PRODUCER	14-Jan-2008 10:36	2962.5 M 2770.2 M

OP System Version: 14C0-302

MCM

RST-C

14C0-302

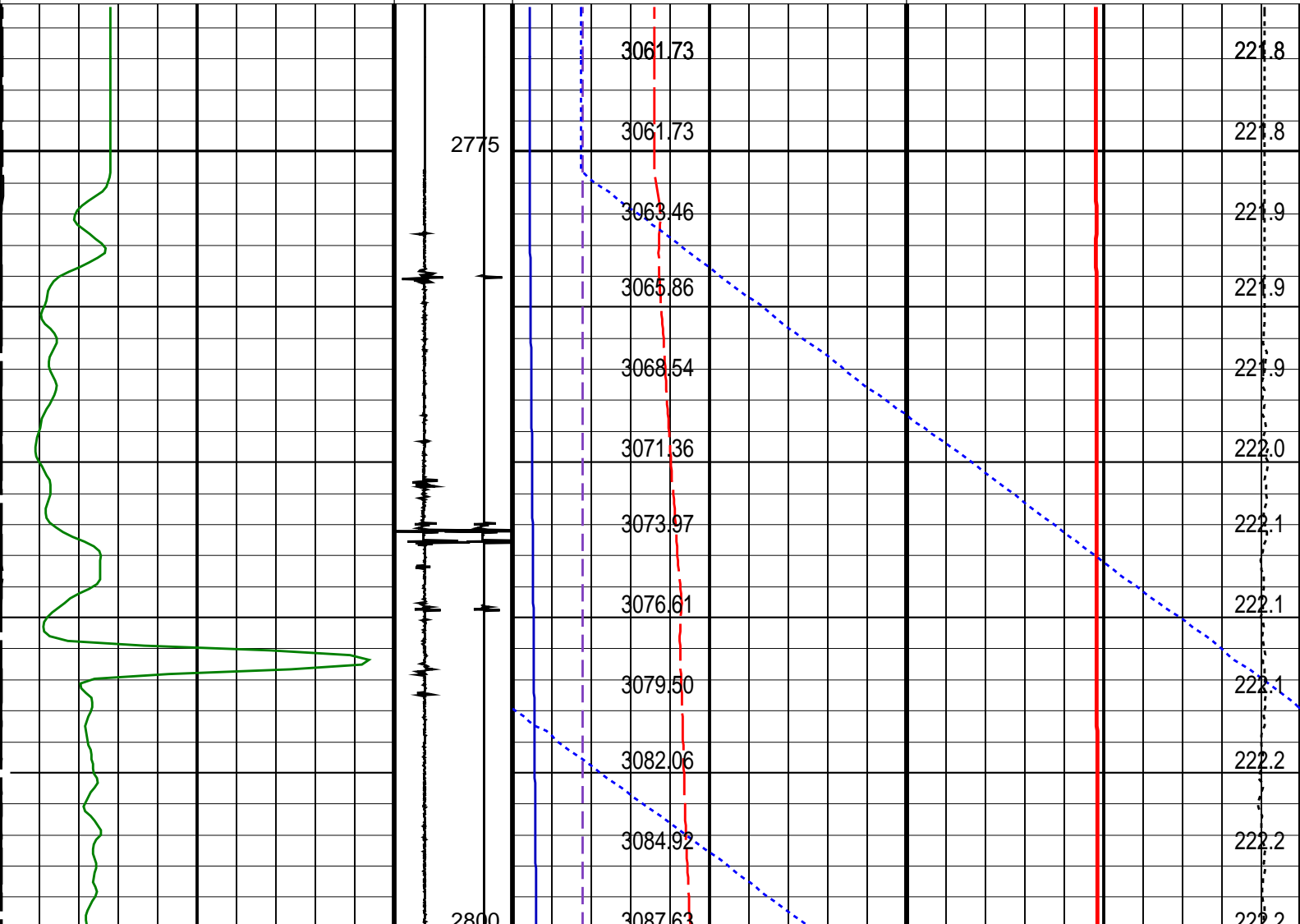
PSPT-A/B

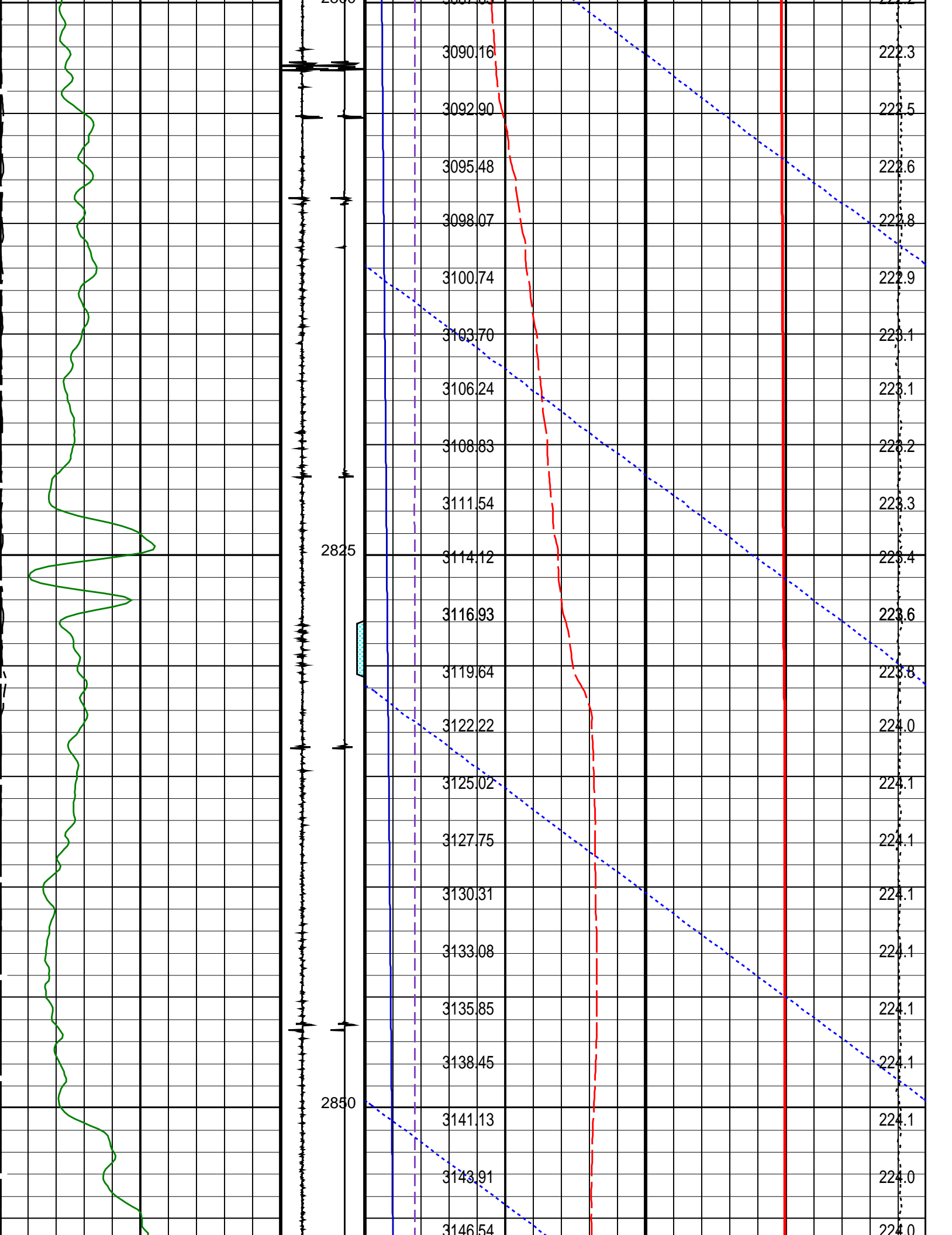
14C0-302

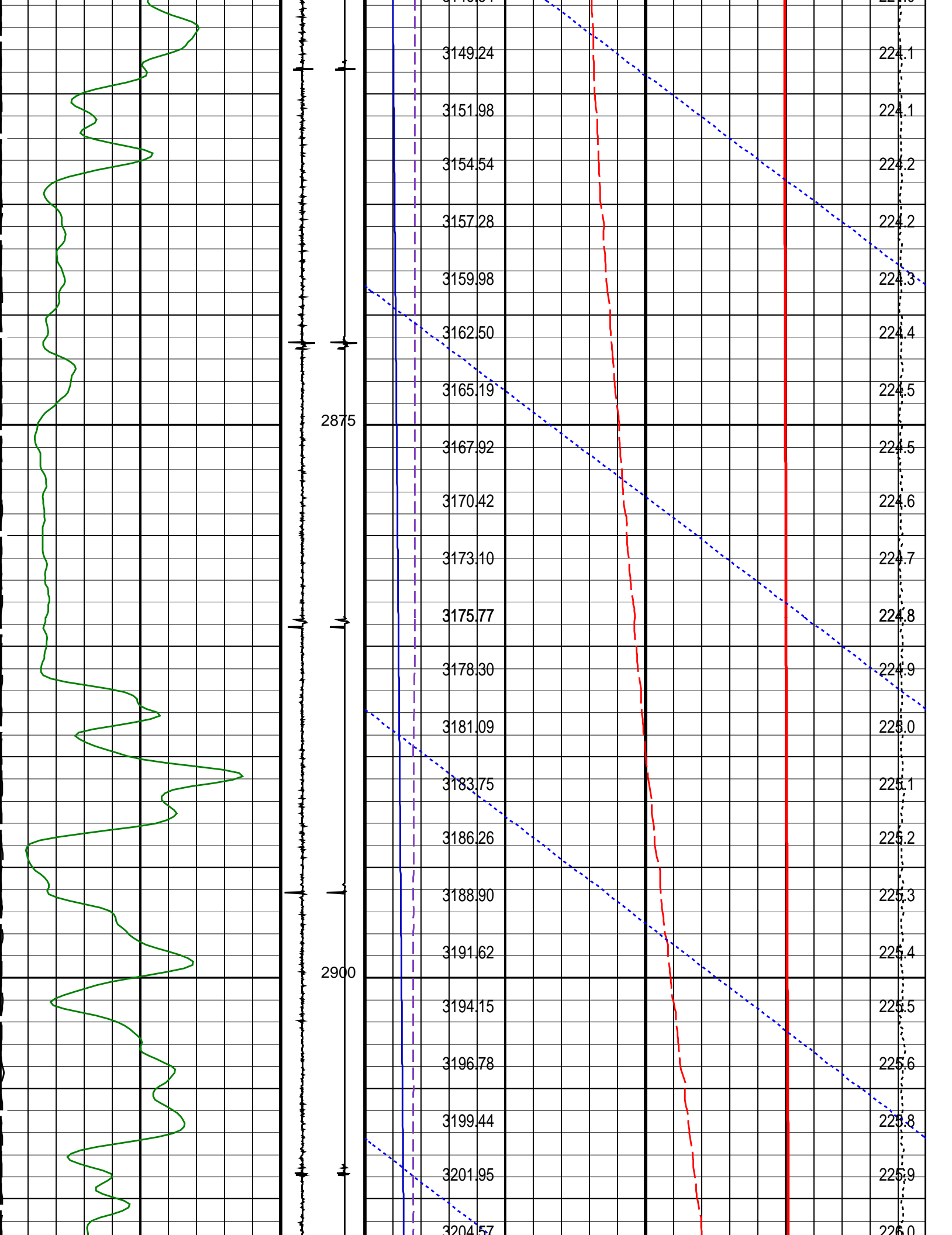
PIP SUMMARY

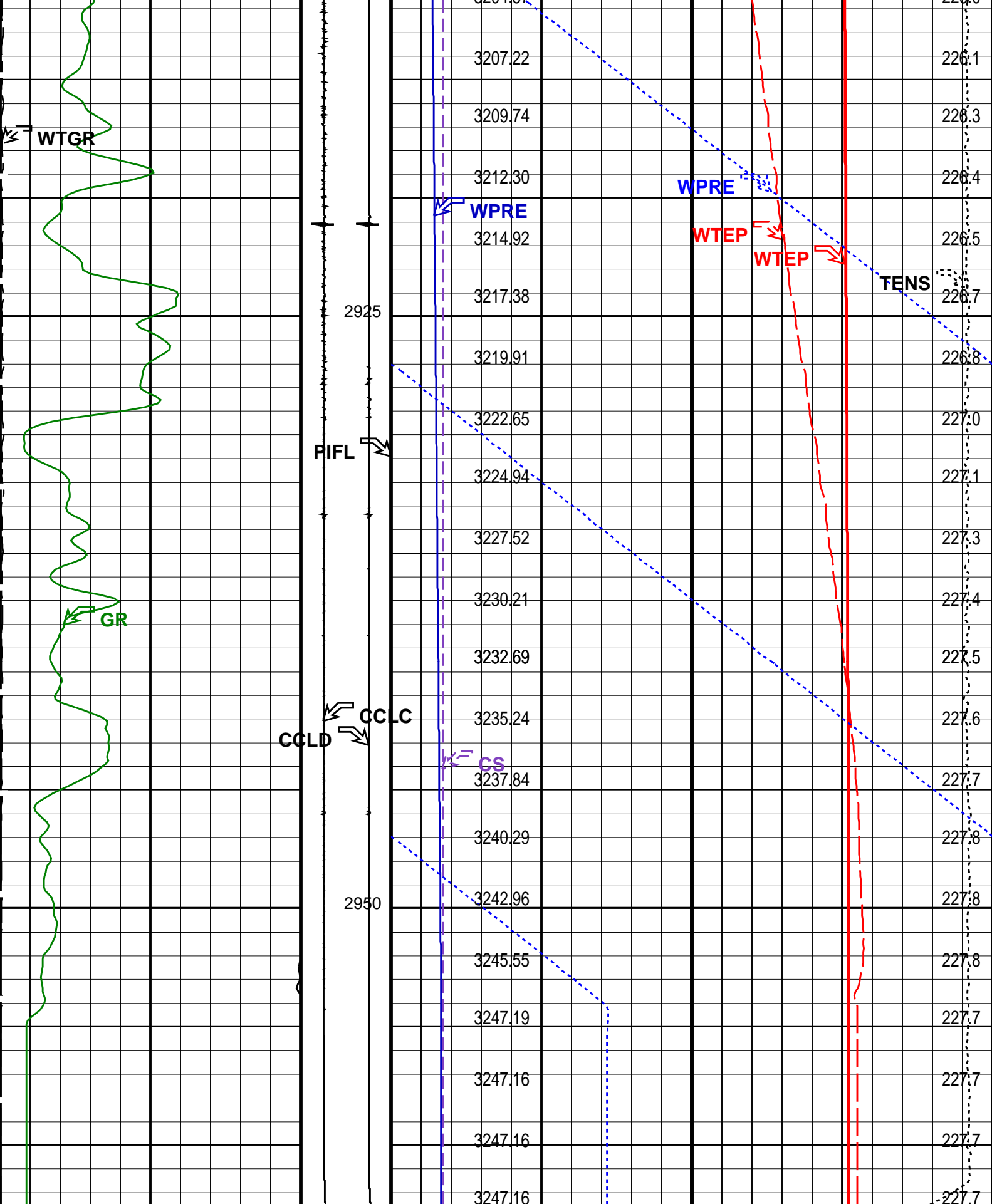
Time Mark Every 60 S

		Amplified Well Pressure (WPRE) (PSIA)		0	20
		Well Pressure (WPRE) (PSIA)		0	3000
		Well Pressure (WPRE) (PSIA)		Temperature (WTEP) (DEGF)	
		Well Temperature (WTEP) (DEGF)		0	10
		Well Temperature (WTEP) (DEGF)		0	300
Well Temperature Gradient (WTGR) (DC/M)		Computed CCL (CCLC) (V)			
0		1			
150		3			
Gamma Ray (GR) (GAPI)		Discriminated CCL (CCLD) (V)	Cable Speed (CS) (F/HR)		Tension (TENS) (LBF)
0		3	0		0
			5000		2000









Gamma Ray (GR) (GAPI)	Discriminat ed CCL (CCLD)	Cable Speed (CS) (F/HR)	Tension (TENS) (LBF)
0 150	3 (V) -1	0 5000	0 2000
WTGR (GAPI)	Computed CCL	WTCS (F/HR)	WTENS (LBF)

Well Temperature Gradient (WIGR)		CCL		Well Temperature (WTEP)	
0	(DC/M)	10	(CCLC)	0	300
		1	(V) -3		
		Perfo Zone From PERFO_ CURVE to D3T	Well Temperature (WTEP)		
			(DEGF)		
			0	10	
			Well Pressure (WPRE)		
			(PSIA)		
			Temperature (WTEP)		
				(DEGF)	
		Well Pressure (WPRE)			
		0		3000	
				Amplified Well Pressure (WPRE)	
		0		20	
				(PSIA)	

PIP SUMMARY									
Time Mark Every 60 S									
Format: PSP_1		Vertical Scale: 1:200				Graphics File Created: 14-Jan-2008 10:36			
OP System Version: 14C0-302									
MCM									
RST-C		14C0-302		PSPT-A/B		14C0-302			
Parameters									
DLIS Name		Description				Value			
DO		System and Miscellaneous				0.3			
PP		Depth Offset for Playback				M			
		Playback Processing				NORMAL			
Input DLIS Files									
DEFAULT		RST_PSP_008LUP		FN:7		PRODUCER		14-Jan-2008 08:11 2962.2 M 2774.9 M	
Output DLIS Files									
DEFAULT		RST_PSP_013PUP		FN:12		PRODUCER		14-Jan-2008 10:36	

Company:	Esso Australia Pty Ltd.	Schlumberger
Well:	A-7a	
Field:	Halibut	
Rig:	Crane	
Country:	Australia	
RST-C Sigma		
2-1/8" Phased		
Powerjet MWPT		