

Company: Esso Australia Pty Ltd.

Well: A-7
Field: Snapper
Rig: Prod4 / Ausl

Country: Australia

RST-C Sigma Survey		LOCATION	
		Gippsland Basin Bass Strait	Elev.: K.B. 34.7 m G.L. -55 m D.F. 34.7 m
		Permanent Datum: _____ Log Measured From: _____ Drilling Measured From: _____	M.S.L. _____ D.F. _____ D.F. _____
		State: Victoria	Max. Well Deviation 66 deg
		Longitude 148 10'26.72"E	Latitude 038 11'43.23"S
Logging Date	7-Nov-2006		
Run Number	One		
Depth Driller	2195 m		
Schlumberger Depth	2195 m		
Bottom Log Interval	2175 m		
Top Log Interval	1940 m		
Casing Fluid Type	Production Fluids		
Salinity			
Density			
Fluid Level	2009 m		
BIT/CASING/TUBING STRING			
Bit Size	9.875 in		
From			
To			
Casing/Tubing Size	7.625 in		
Weight	26.4 lbm/ft		
Grade	K-55		
From	15.59 m		
To	2364.41 m		
Maximum Recorded Temperatures	179 degF		
Logger On Bottom	7-Nov-2006	Time	22:30
Unit Number	899	Location	Prod4
Recorded By	G Wright / S gilbert.		
Witnessed By	B White / G Rimmer.		

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

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Depth Measuring Device		Tension Device		Logging Cable	
Type:	IDW-EB	Type:	CMTD-B/A	Type:	2-32ZT
Serial Number:	6373	Serial Number:	949	Serial Number:	24425
Calibration Date:	28-SEP-2006	Calibration Date:	02-NOV-2006	Length:	6600.00 M
Calibrator Serial Number:	1009	Calibrator Serial Number:	1074	Conveyance Method:	Wireline
Calibration Cable Type:	2-32ZT	Calibration Gain:	1.01	Rig Type:	Offshore_Mobile
Wheel Correction 1:	-2	Calibration Offset:	162.00		
Wheel Correction 2:	-2				

Depth Control Parameters	
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Depth Control Remarks	
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1. Correlated to Solar composite log supplied with program.
2. IDW-EB 6373 used as primary depth control.
3. Z-chart used as back-up.
- 4.
- 5.
- 6.

DISCLAIMER

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

REMARKS: RUN NUMBER 1
Log correlated to ExxonMobil composite supplied with logging program.
Maximum well deviation = 66 degrees at 2217m MDKB.
Objective : Complete two passes with RST-C in Sigma mode
over the interval HUD to 1940m MDKB.
HUD = 2195m MDKB
SBHP = 1966 psia
SBHT = 179 degf

SBHT = 179 deaf

Crew : J Light,C Shiells,K Kerr,A Hall.

RUN 1					
SERVICE ORDER #:			AusI06328205		
PROGRAM VERSION:			14C0-302		
FLUID LEVEL:			2009 m		
LOGGED INTERVAL	START	STOP	LOGGED INTERVAL	START	STOP

EQUIPMENT DESCRIPTION

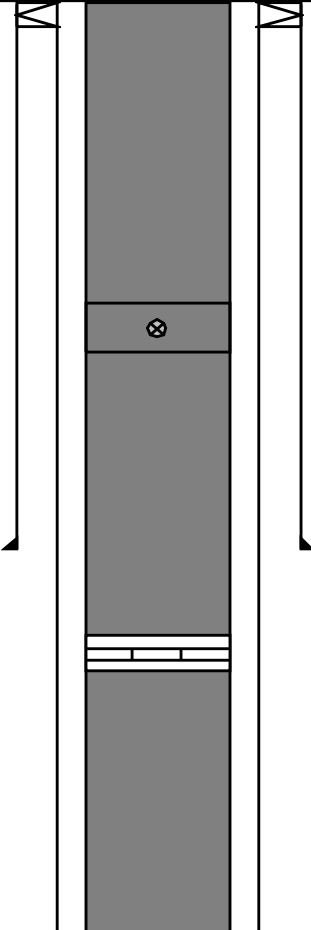
RUN 1			RUN 2		
SURFACE EQUIPMENT					
WITM-A 827 PSC_16MHZ 827					
DOWNHOLE EQUIPMENT					
SWBS 763		12.64			
SWBS 762		11.95			
SWBS 761		11.26			
SWBS 731		10.58			
MH-SWHS MH-SWHS 726	Detail MT TelStatus CTEM	9.89			
PSPT-B PSC-A 806 PSPT-B 827 PSTC 806 PBMS-B 827 CQG_F_Mano 827 RTD Thermometer 827 GR 827 CCL 827 PBMS 827	GR	9.54			
		9.54			
		8.41			
	Well_Temp CQG Manom CCL PBMS PSTC	7.48 7.37 7.25 7.02			
RST-C RSCH-A 45 RSC-C 57 RSS-A 45 RSXH-A 63 RSX-C 59		7.02			

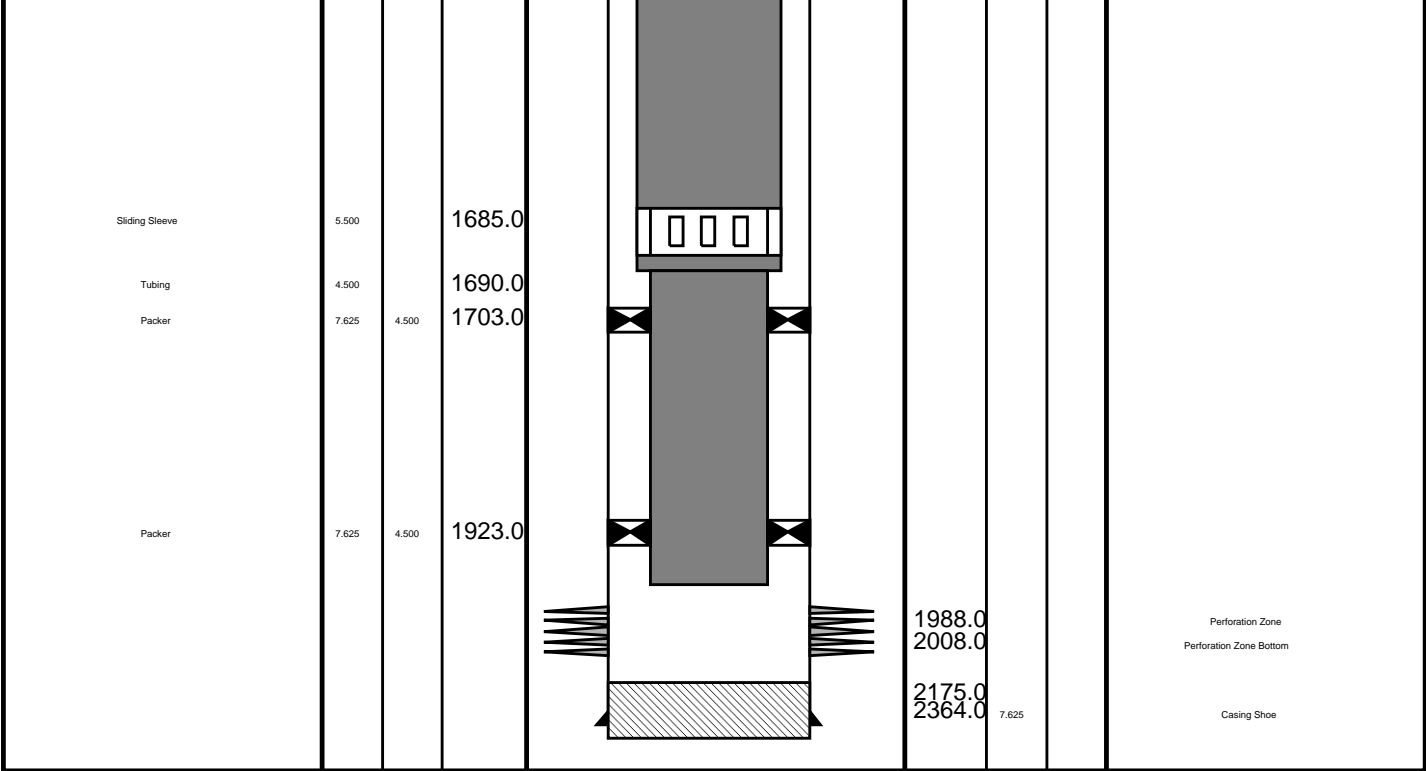
RSC-A Far
RSC-A PNG
RSC-A Nea
RSX-A PNG

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	5.500		14.0		16.4	10.750		Casing String
					15.6	7.625		Casing String
					15.6	10.750	7.625	Liner Hanger
SSSV	5.500		468.0					
					723.0	10.750		Casing Shoe
Nipple	5.500		1076.0					



Job Events Summary

MAXIS Field Log

Schlumberger Job Event Summary

	Time	Elapsed Time	Depth (M)	File
Log Pass (up)	7-Nov-2006 20:21	000:30	2200.7 – 1919.3	RST_PSP_017LUP
Log Pass (up)	7-Nov-2006 21:10	000:59	2196.1 – 1929.8	RST_PSP_019LUP
Log Pass (up)	7-Nov-2006 22:22	000:60	2185.1 – 1917.8	RST_PSP_021LUP



RST-C Sigma

MAXIS Field Log

Company: Esso Australia Pty Ltd.

Well: A-7

Input DLIS Files

DEFAULT	RST_PSP_021LUP	FN:20	PRODUCER	07-Nov-2006 22:22	2185.1 M	1917.8 M
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Output DLIS Files

DEFAULT	RST_PSP_026PUP	FN:25	PRODUCER	08-Nov-2006 00:25	2185.1 M	1912.8 M
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OP System Version: 14C0-302

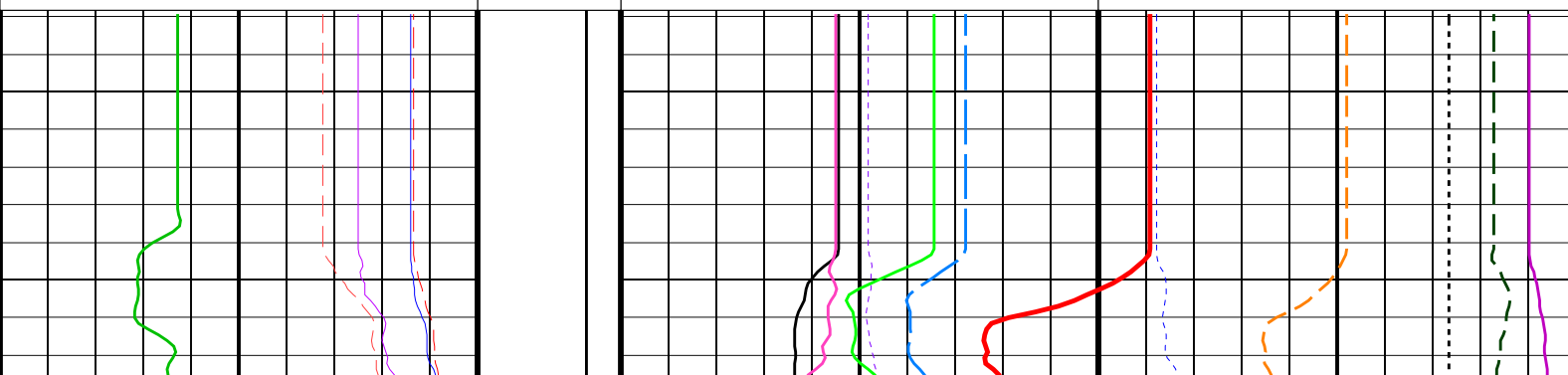
MCM

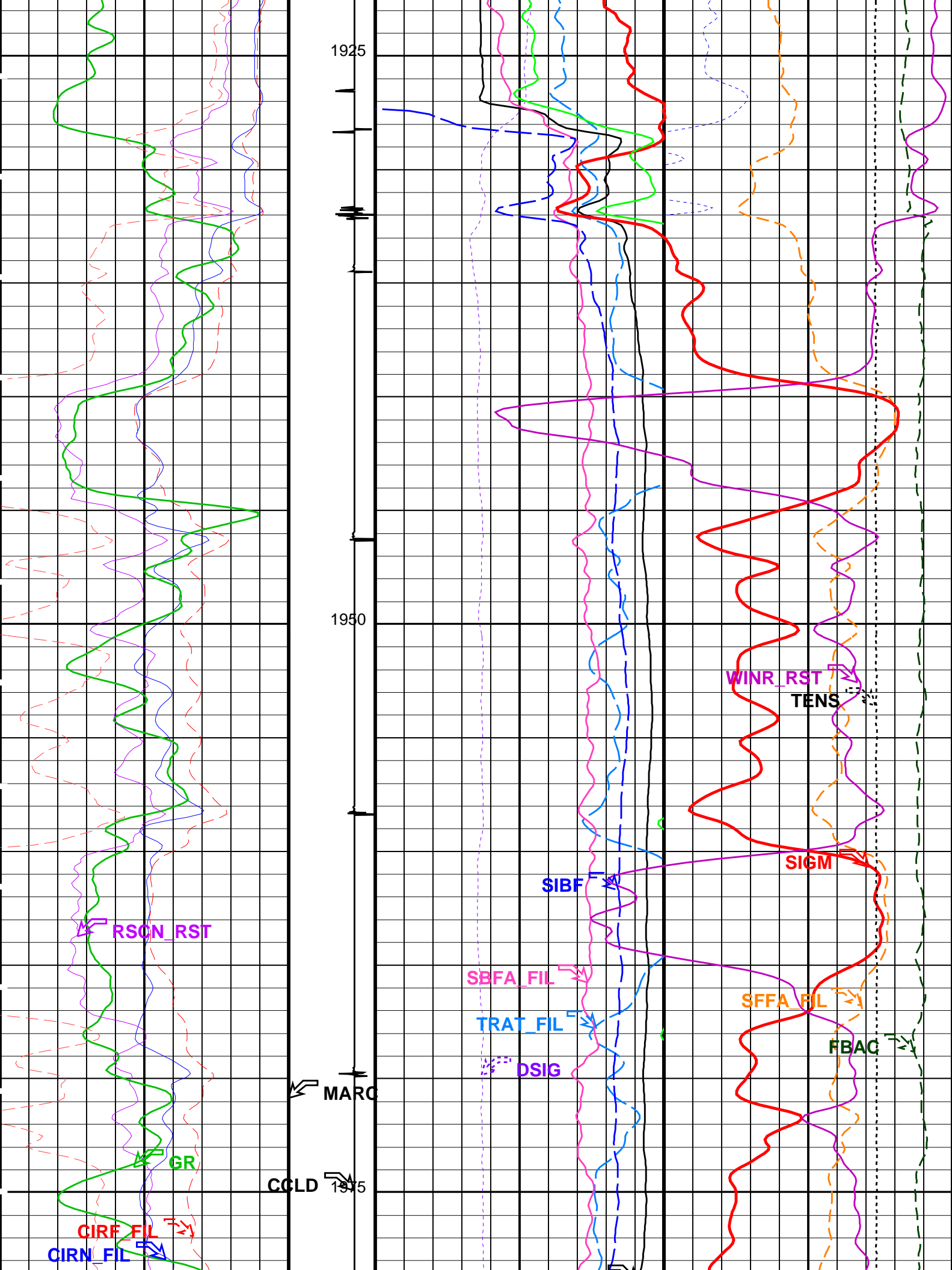
RST-C	14C0-302	PSPT-B	14C0-302
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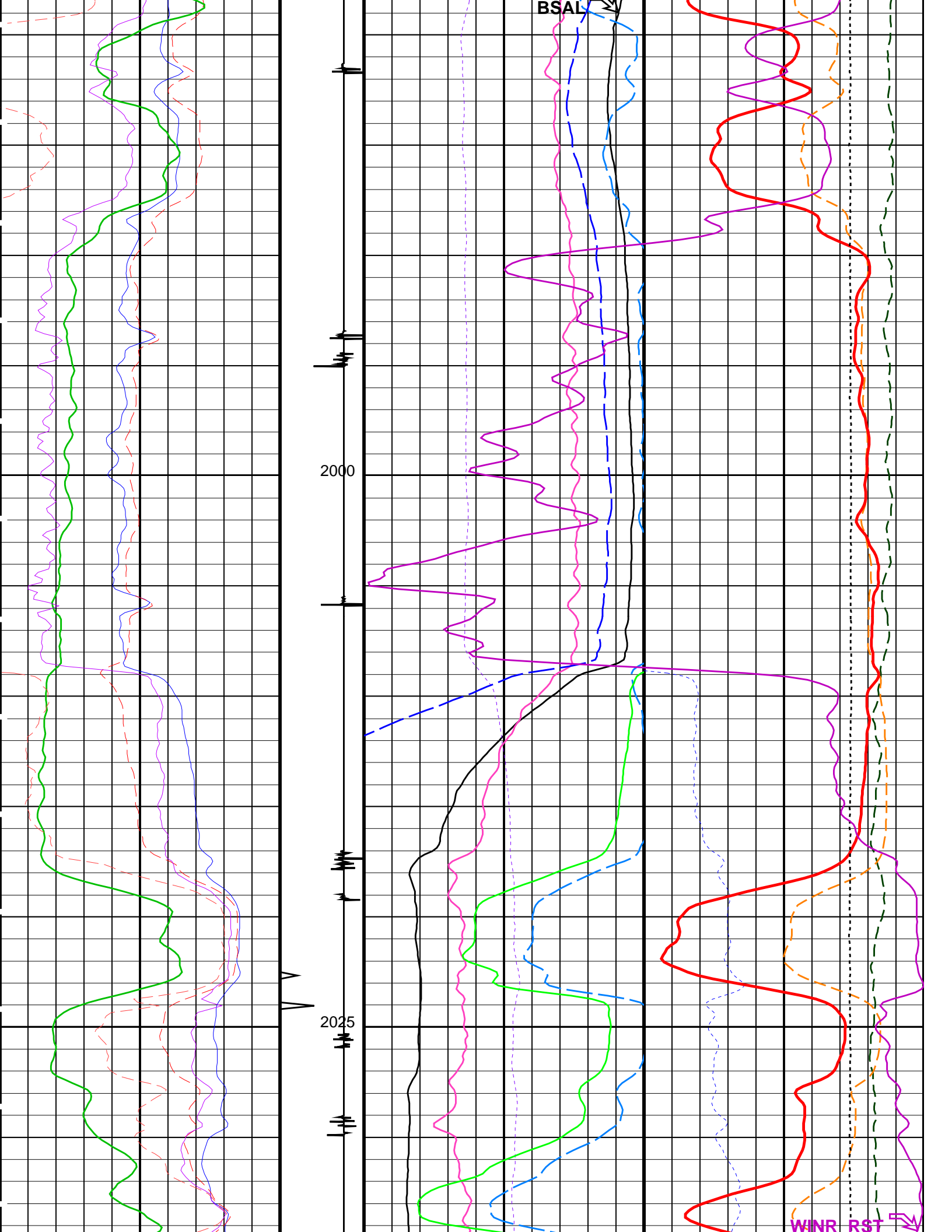
PIP SUMMARY

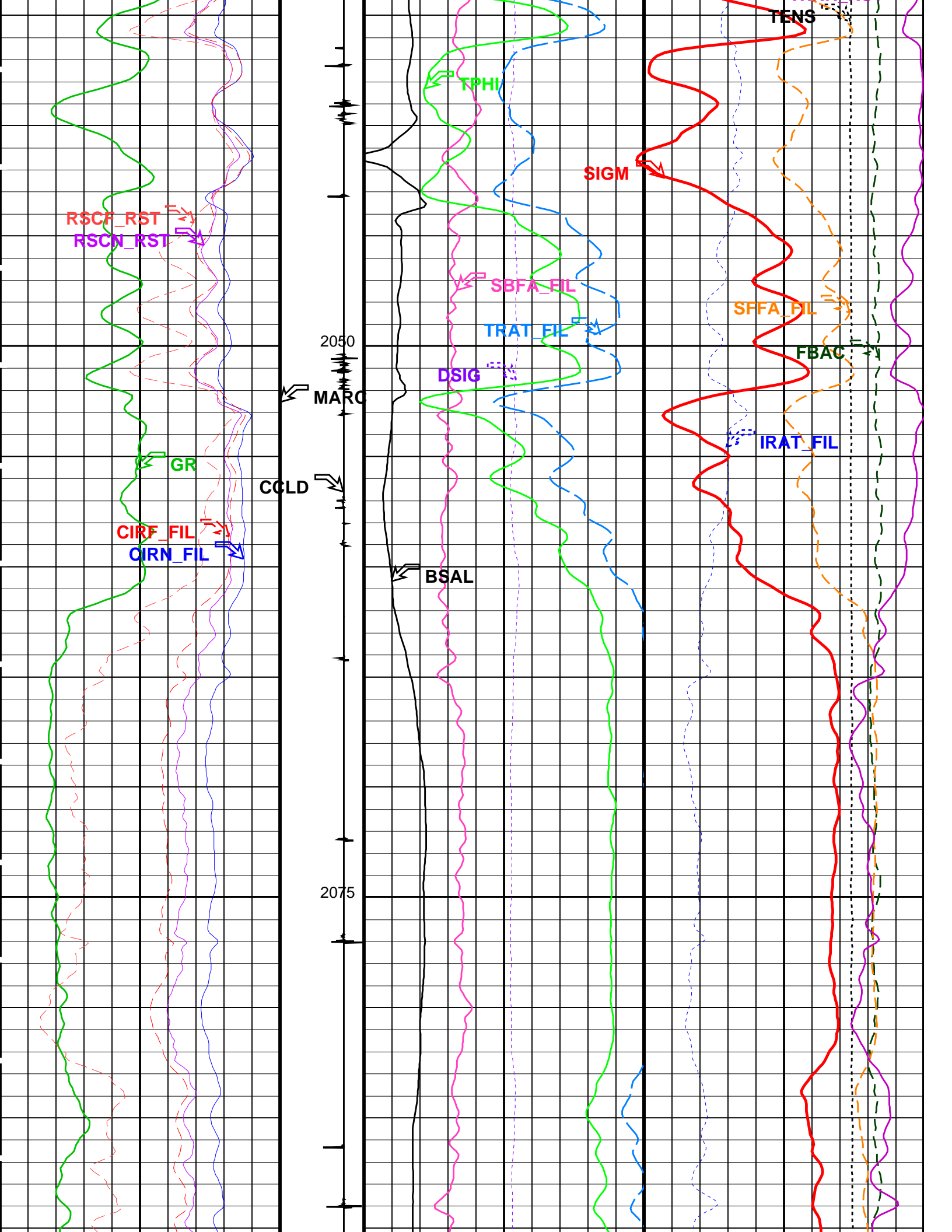
Time Mark Every 60 S

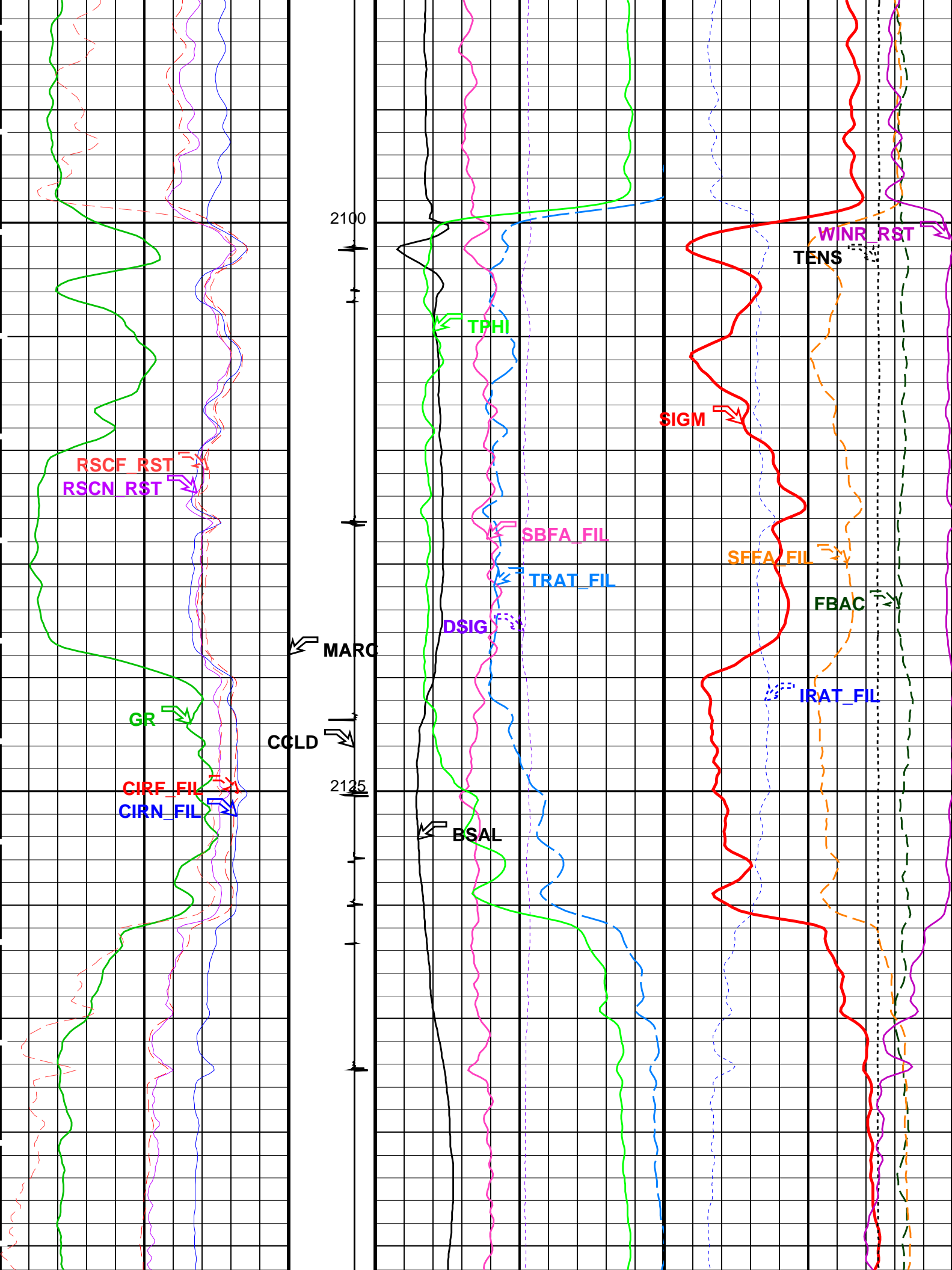
		RST Sigma (SIGM)	
60		(CU)	0
		RST Weighted Inelastic Ratio (WINR_RST)	
4		(----	0
		RST Porosity (TPHI)	
0.6		(V/V)	0
		RST Sigma Borehole Fluid (SIBF)	
100		(CU)	0
		Sigma Borehole Far Apparent (SBFA_FIL)	
150		(CU)	0
		Tension (TENS)	
0		(LBF)	3000
		RST Far Effective Capture CR (RSCF_RST)	
45		(----	0
		RST Near Effective Capture CR (RSCN_RST)	
45		(----	0
		RST Capture to Inelastic Ratio Far (CIRF_FIL)	
5		(----	0
		RST Capture Ratio (TRAT_FIL)	
1.5		(----	0.5
		Sigma Formation Far Apparent (SFFA_FIL)	
60		(CU)	0
		RST Capture to Inelastic Ratio Near (CIRN_FIL)	
2.5		(----	0
		Minitron Arc Detection (MARC)	
0		(----	5
		RST Sigma Difference (DSIG)	
-30		(CU)	30
		MCS Far Background (filtered) (FBAC)	
0		(CPS)	5000
		Gamma Ray (GR)	
0		(GAPI)	150
		Discriminat	
3		(V)	-1
		RST Borehole Salinity (BSAL)	
450		(PPK)	-50
		RST Inelastic Ratio (IRAT_FIL)	
0.75		(----	0

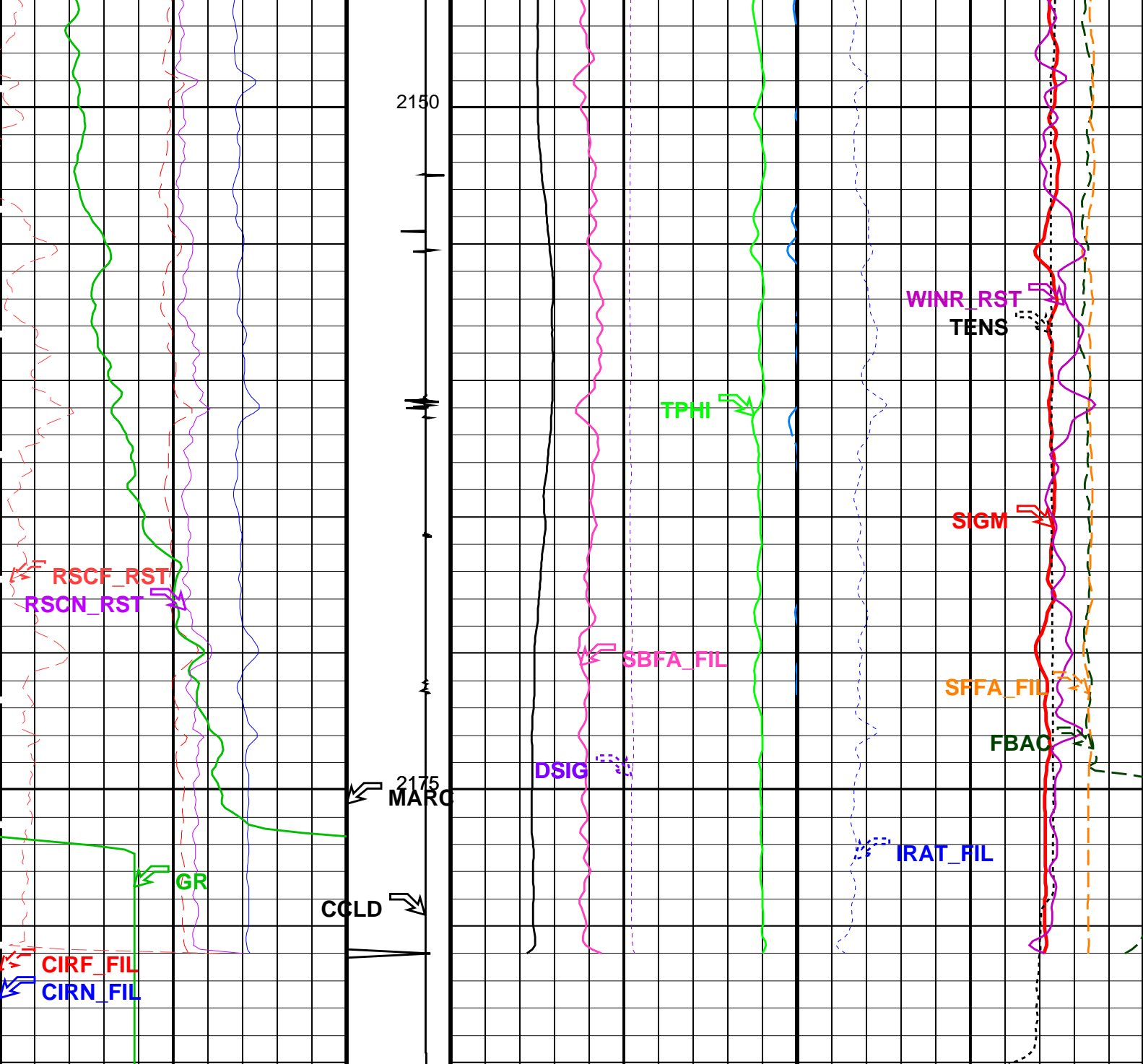












<div>Gamma Ray (GR)</div> <div>(GAPI)</div> <div>0150</div>	<div>Discriminat</div> <div>ed CCL</div> <div>(CCLD)</div> <div>3 (V) -1</div>	<div>RST Borehole Salinity (BSAL)</div> <div>(PPK)</div> <div>450-50</div>	<div>RST Inelastic Ratio (IRAT_FIL)</div> <div>(----</div> <div>0.750</div>
<div>RST Capture to Inelastic Ratio Near</div> <div>(CIRC_FIL)</div> <div>2.5 (----</div> <div>00</div>	<div>Minitron</div> <div>Arc</div> <div>Detection</div> <div>(MARC)</div> <div>0 (---- 5</div>	<div>RST Sigma Difference (DSIG)</div> <div>(CU)</div> <div>-3030</div>	<div>MCS Far Background (filtered) (FBAC)</div> <div>(CPS)</div> <div>05000</div>
<div>RST Capture to Inelastic Ratio Far</div> <div>(CIRF_FIL)</div> <div>5 (----</div> <div>00</div>		<div>RST Capture Ratio (TRAT_FIL)</div> <div>(----</div> <div>1.50.5</div>	<div>Sigma Formation Far Apparent (SFFA_FIL)</div> <div>(CU)</div> <div>600</div>
<div>RST Near Effective Capture CR (RSCN_RST)</div> <div>(----</div> <div>450</div>		<div>Sigma Borehole Far Apparent (SBFA_FIL)</div> <div>(CU)</div> <div>1500</div>	<div>Tension (TENS)</div> <div>(LBF) 3000</div>
<div>RST Far Effective Capture CR (RSCF_RST)</div> <div>(----</div> <div>450</div>		<div>RST Sigma Borehole Fluid (SIBF)</div> <div>(CU)</div> <div>1000</div>	

	RST Porosity (TPHI)	
0.6	(V/V)	0
	RST Weighted Inelastic Ratio (WINR_RST)	
4	(----	0
	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
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-B: Production Services Logging Platform		
BHS	Borehole Status	CASED
MATR	Rock Matrix for Neutron Porosity Corrections	SANDSTONE
System and Miscellaneous		
BS	Bit Size	9.875 IN
BSAL	Borehole Salinity	-50000.00 PPM
CSIZ	Current Casing Size	7.625 IN
CWEI	Casing Weight	26.40 LB/F
DO	Depth Offset for Playback	0.0 M
PP	Playback Processing	NORMAL

Format: RST_SIG_ANSW	Vertical Scale: 1:200	Graphics File Created: 08-Nov-2006 00:25
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OP System Version: 14C0-302			
MCM			
RST-C	14C0-302	PSPT-B	14C0-302

Input DLIS Files						
DEFAULT	RST_PSP_021LUP	FN:20	PRODUCER	07-Nov-2006 22:22	2185.1 M	1917.8 M
Output DLIS Files						
DEFAULT	RST_PSP_026PUP	FN:25	PRODUCER	08-Nov-2006 00:25		

		<div>RST-C Sigma Pass # 1</div>
		MAXIS Field Log

Company: Esso Australia Pty Ltd.	Well: A-7
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Input DLIS Files

Output DLIS Files

DEFAULT	RST PSP 025PUP	FN:24	PRODUCER	08-Nov-2006 00:19	2196.1 M	1924.8 M
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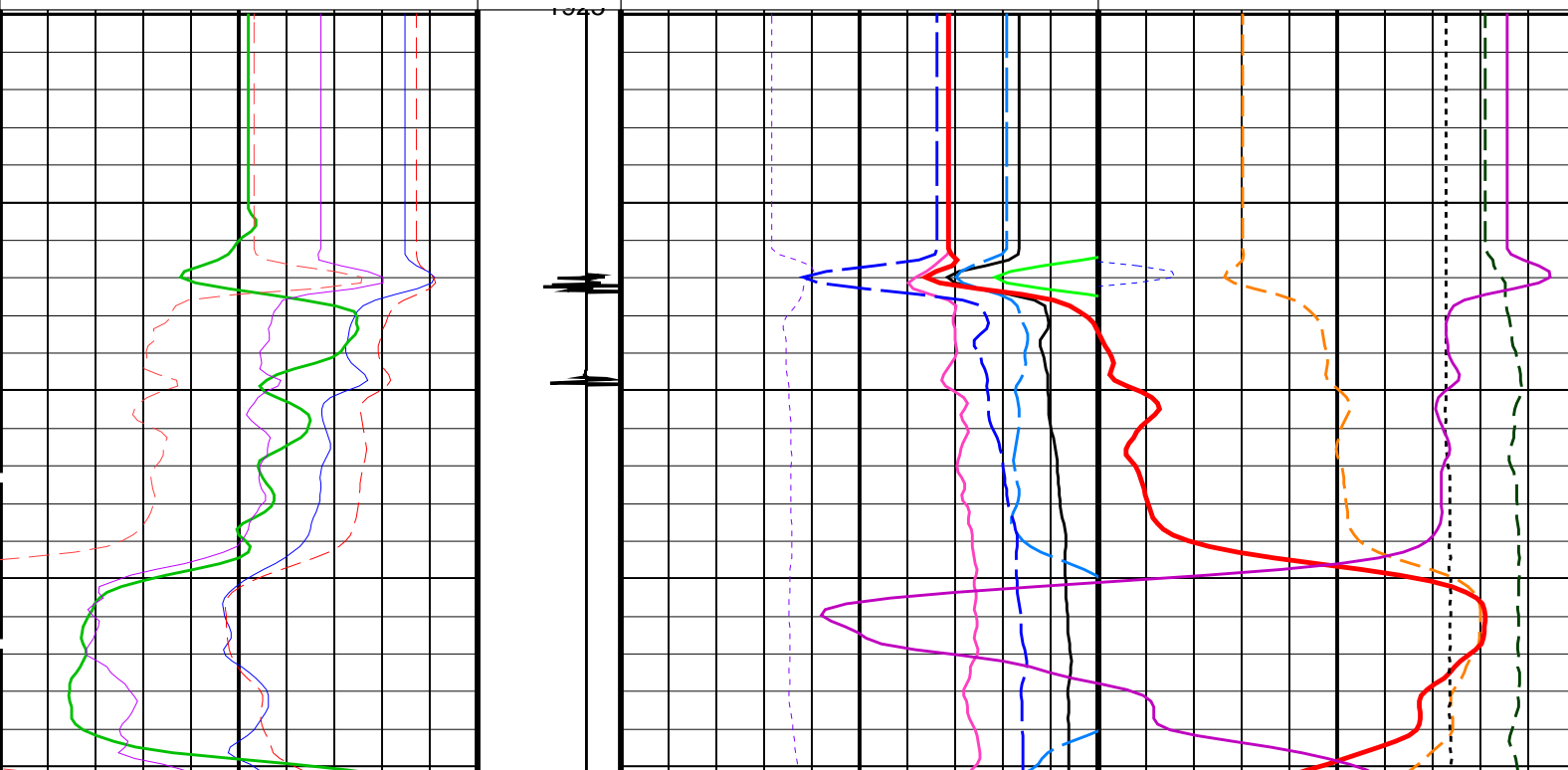
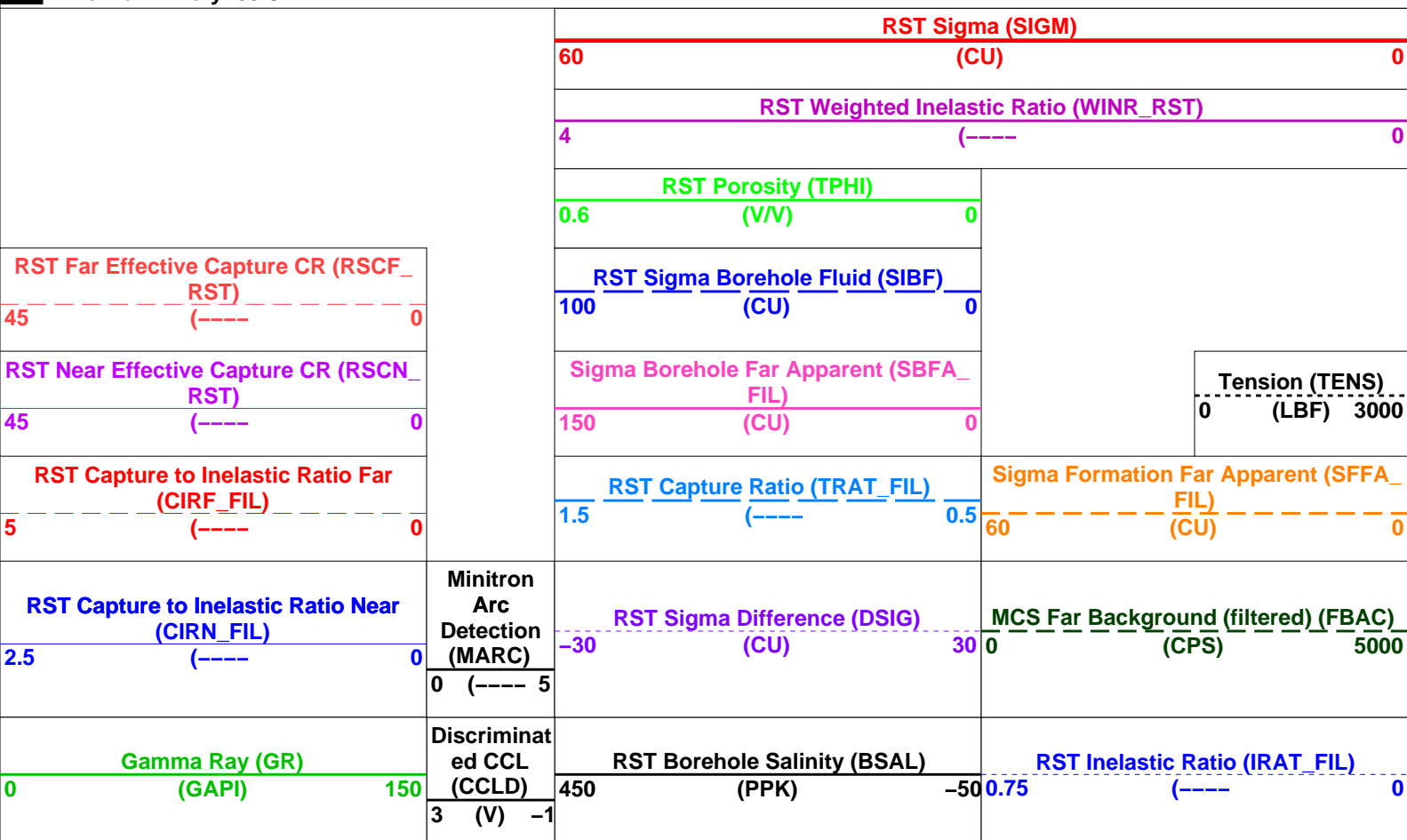
OP System Version: 14C0-302

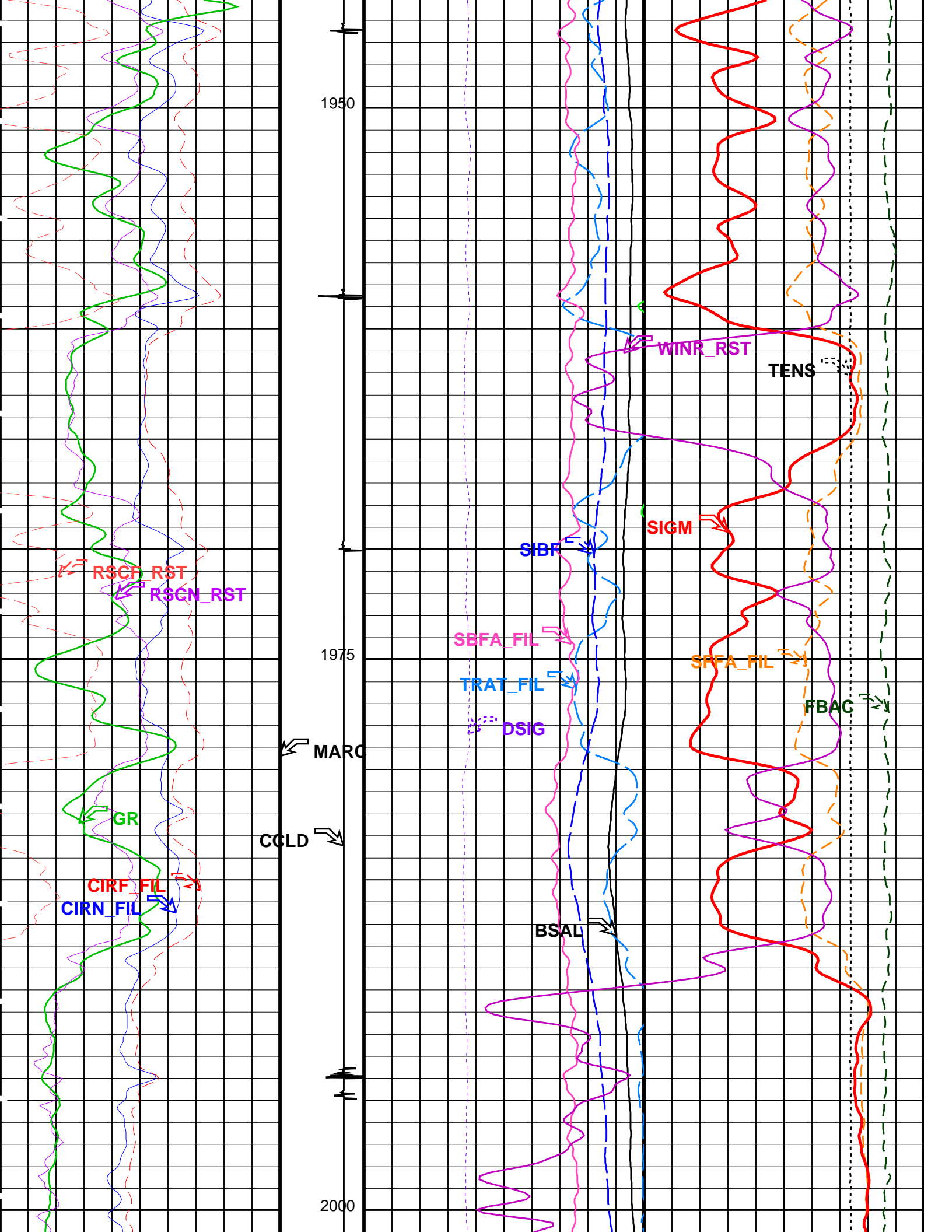
MCM

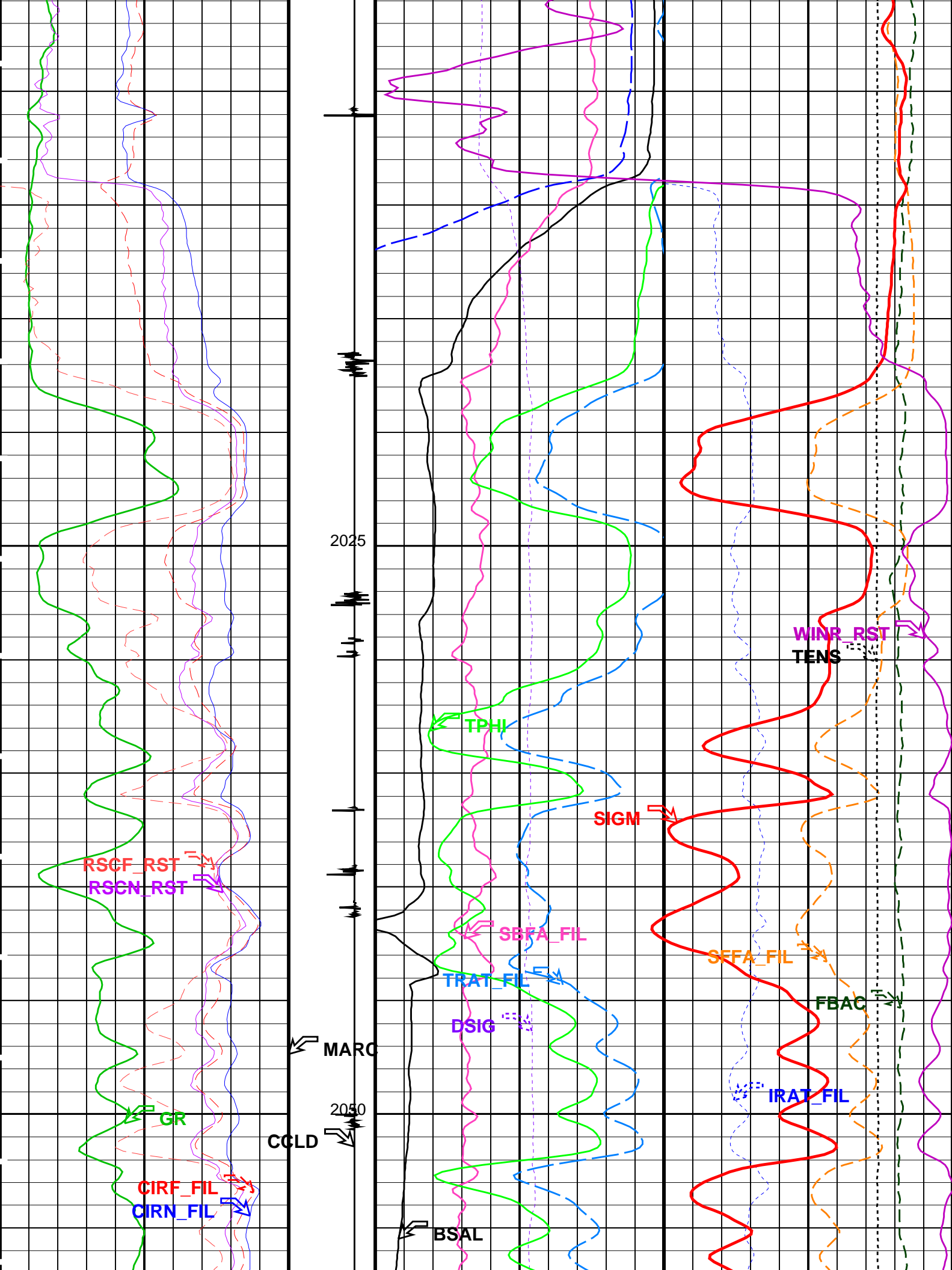
RST-C	14C0-302	PSPT-B	14C0-302
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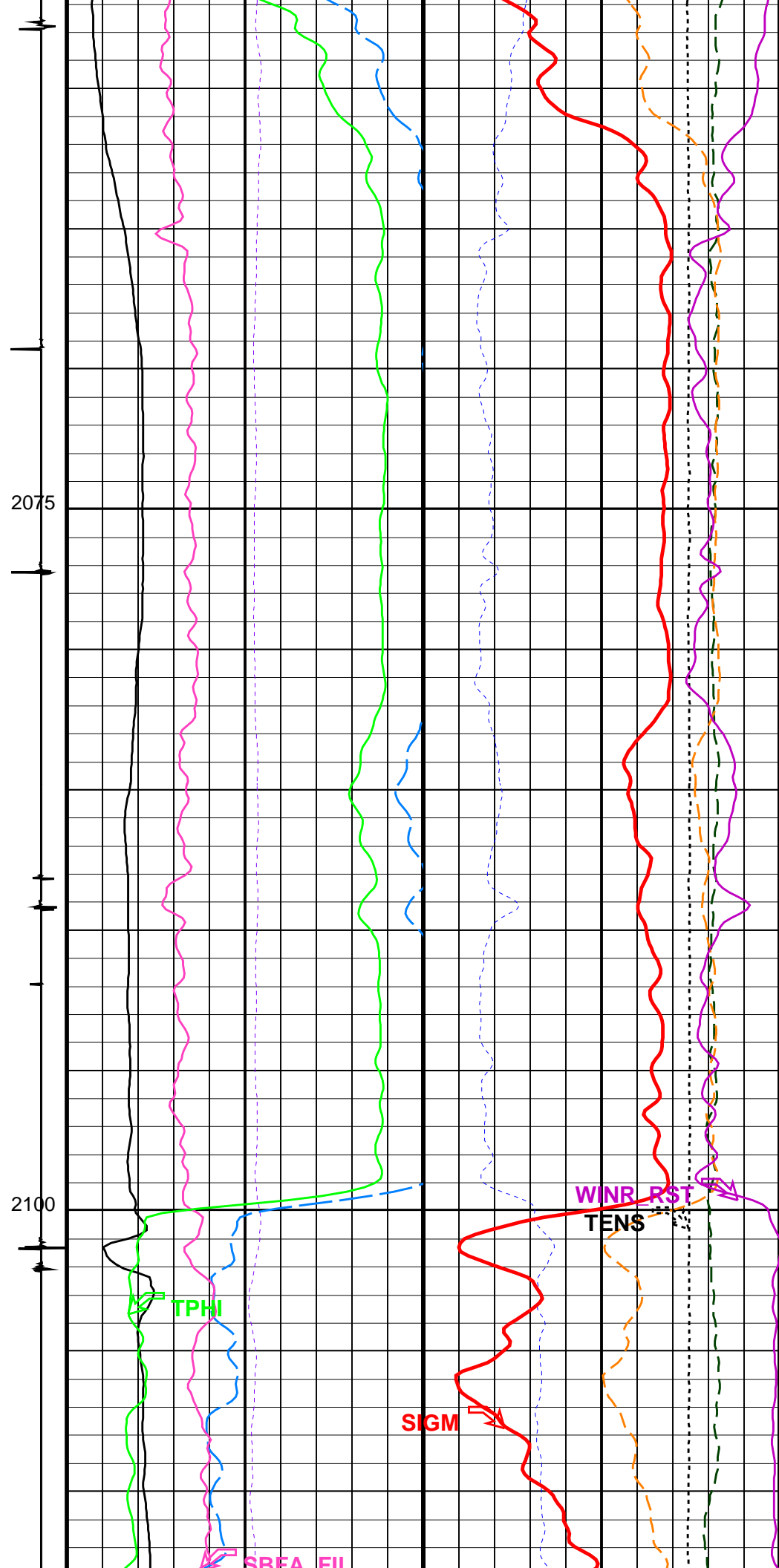
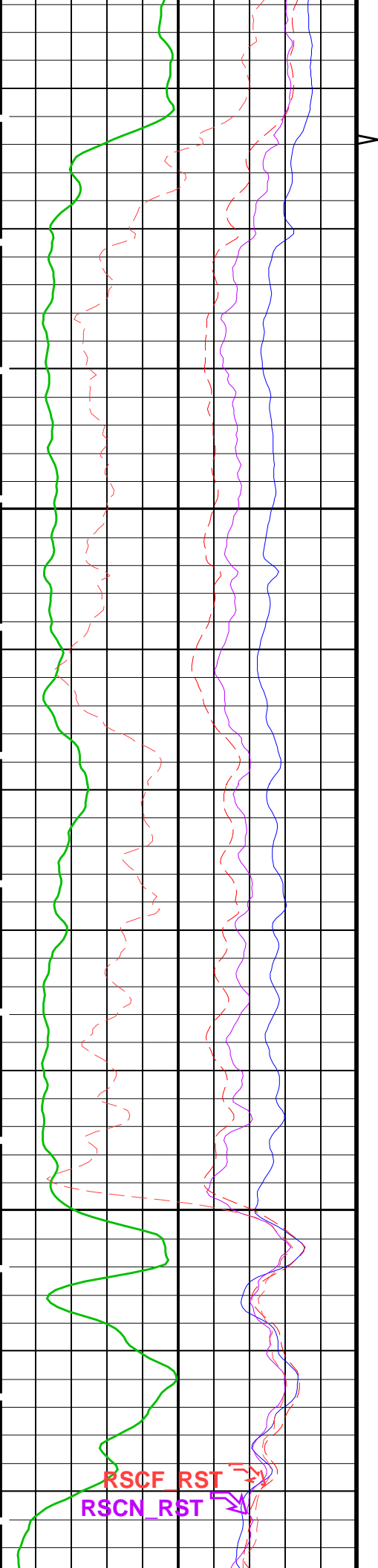
PIP SUMMARY

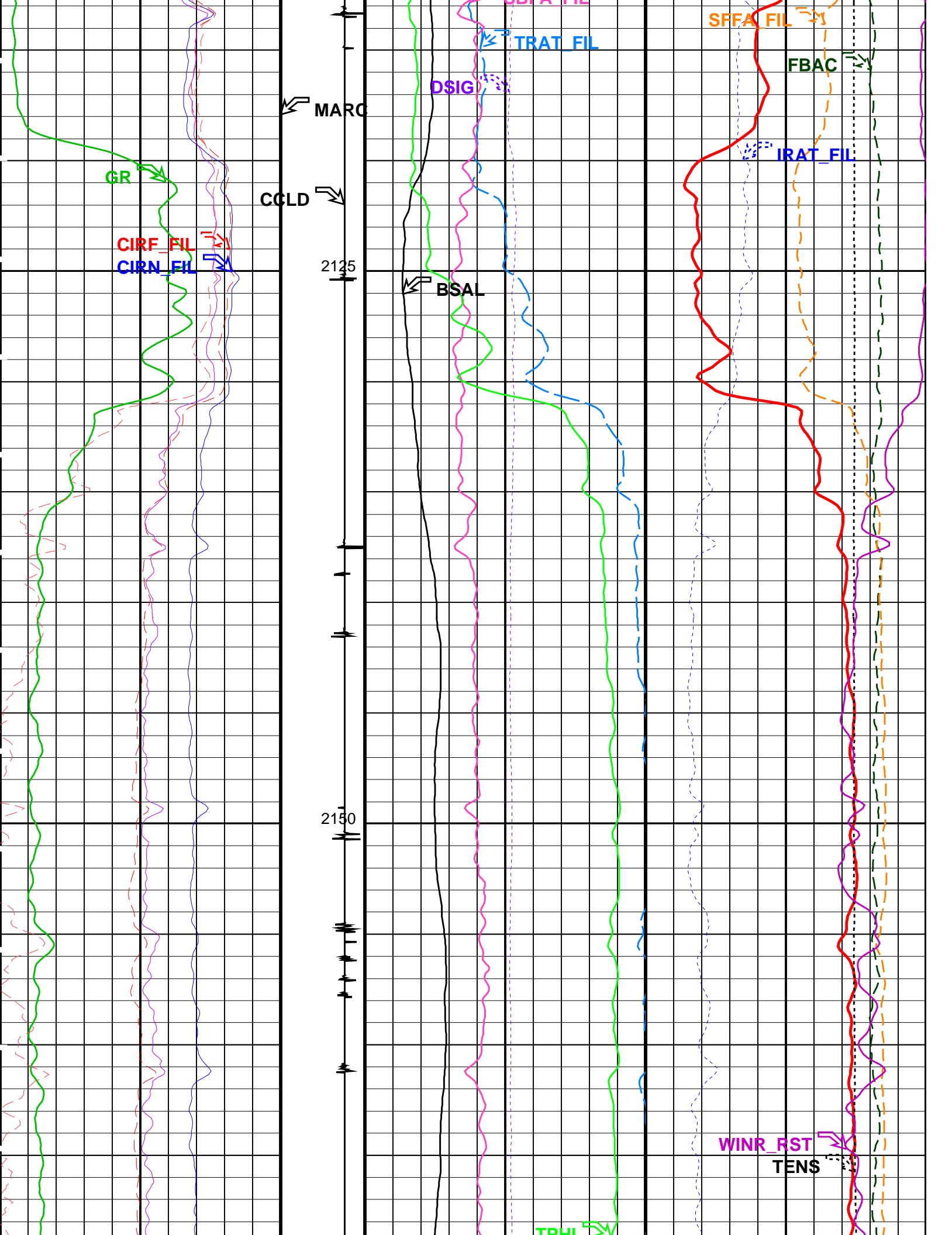
Time Mark Every 60 S

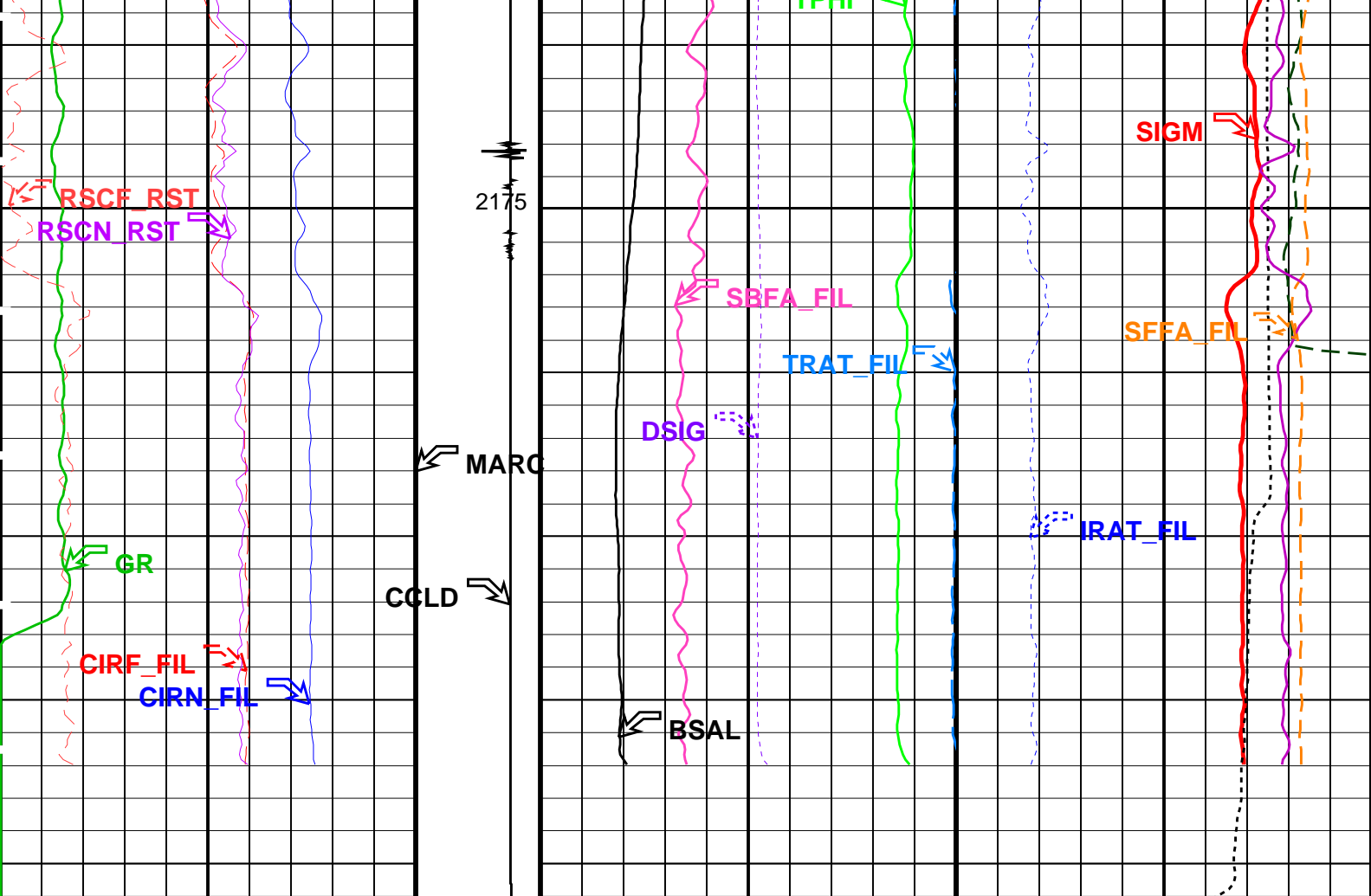













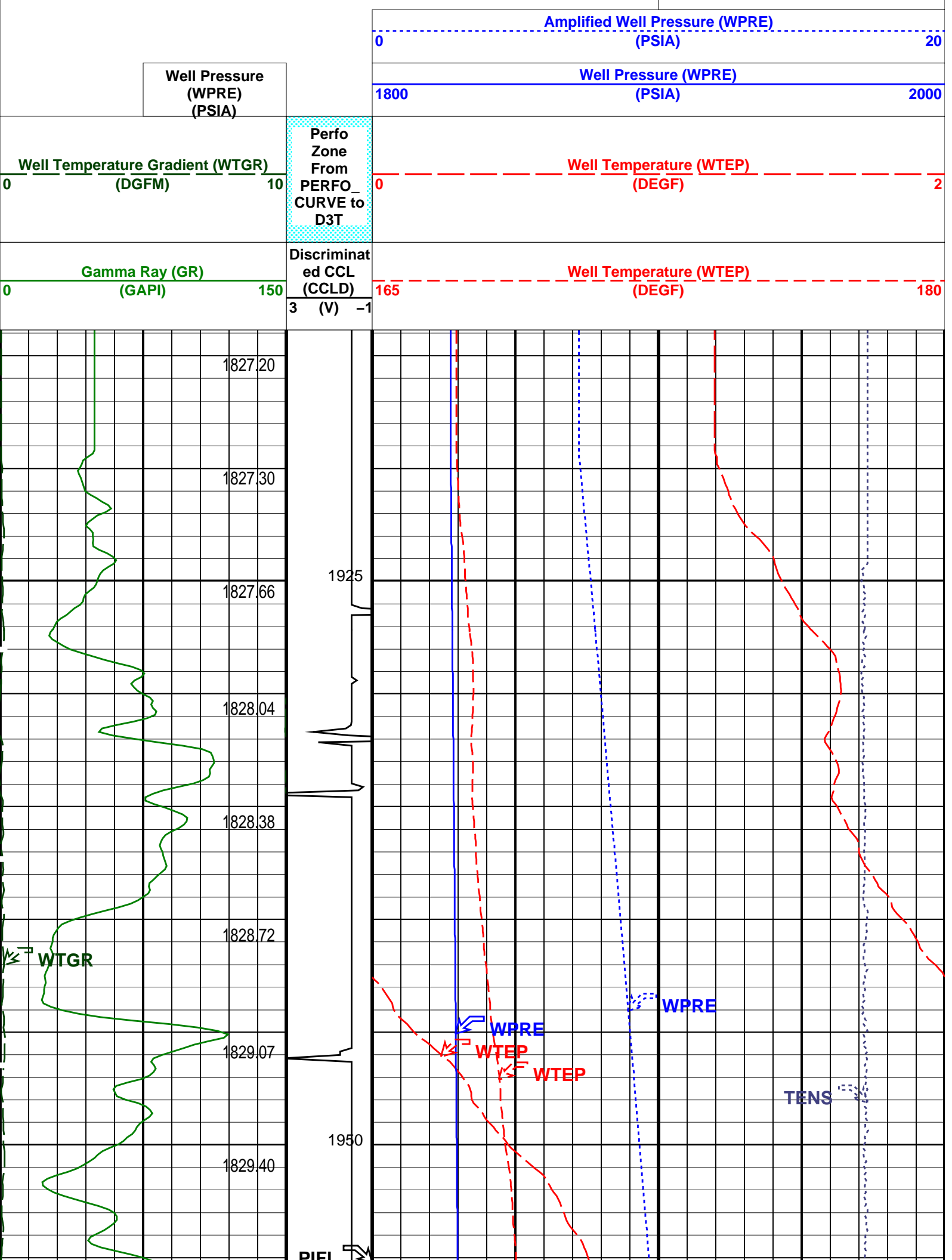
<div>Gamma Ray (GR) (GAPI)</div> <div>0150</div>	<div>Discriminat ed CCL (CCLD)</div> <div>3 (V) -1</div>	<div>RST Borehole Salinity (BSAL) (PPK)</div> <div>450-50</div>	<div>RST Inelastic Ratio (IRAT_FIL) (----</div> <div>0.750</div>
<div>RST Capture to Inelastic Ratio Near (CIRN_FIL)</div> <div>2.50</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>50</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>450</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>450</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>40</div>	
		<div>RST Sigma (SIGM) (CU)</div> <div>600</div>	

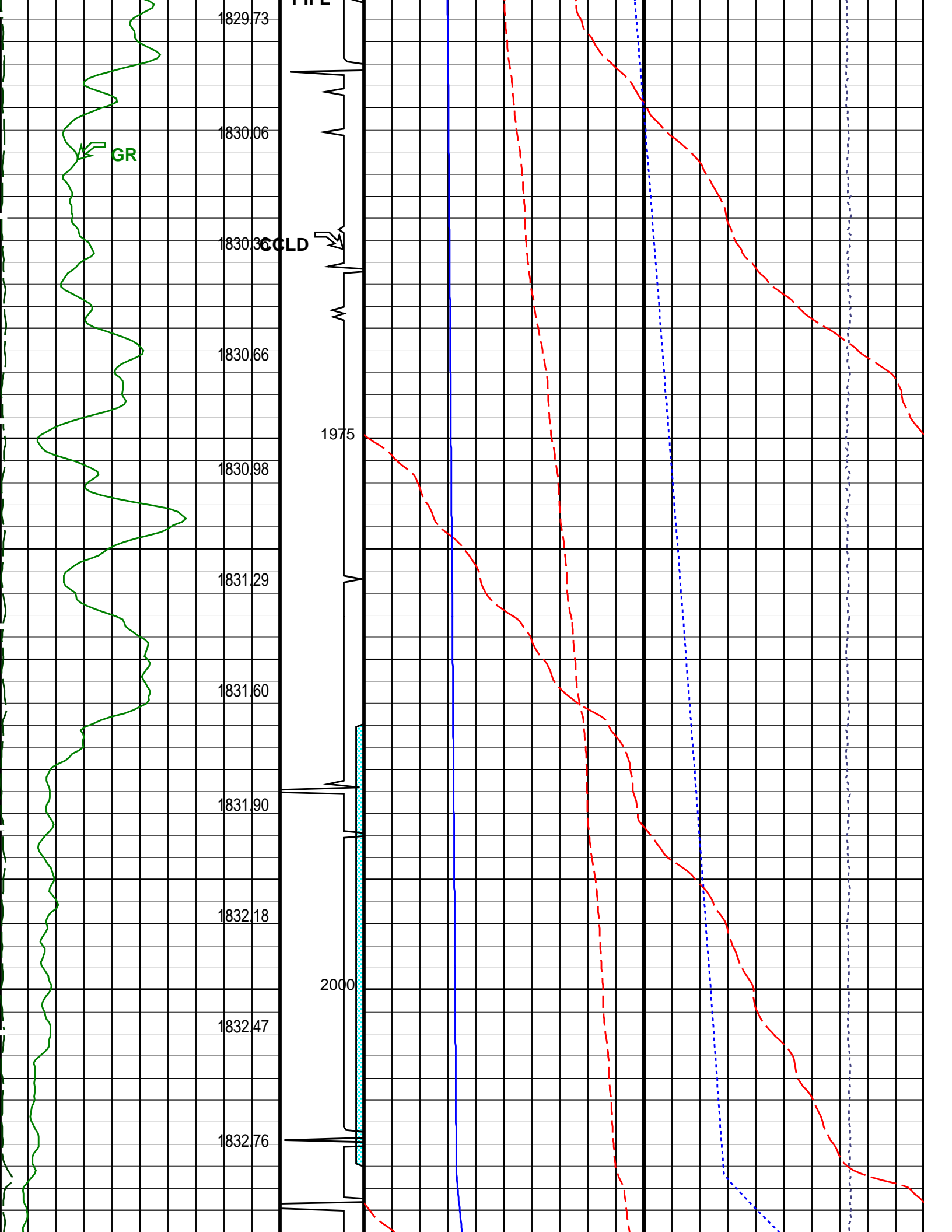
PIP SUMMARY

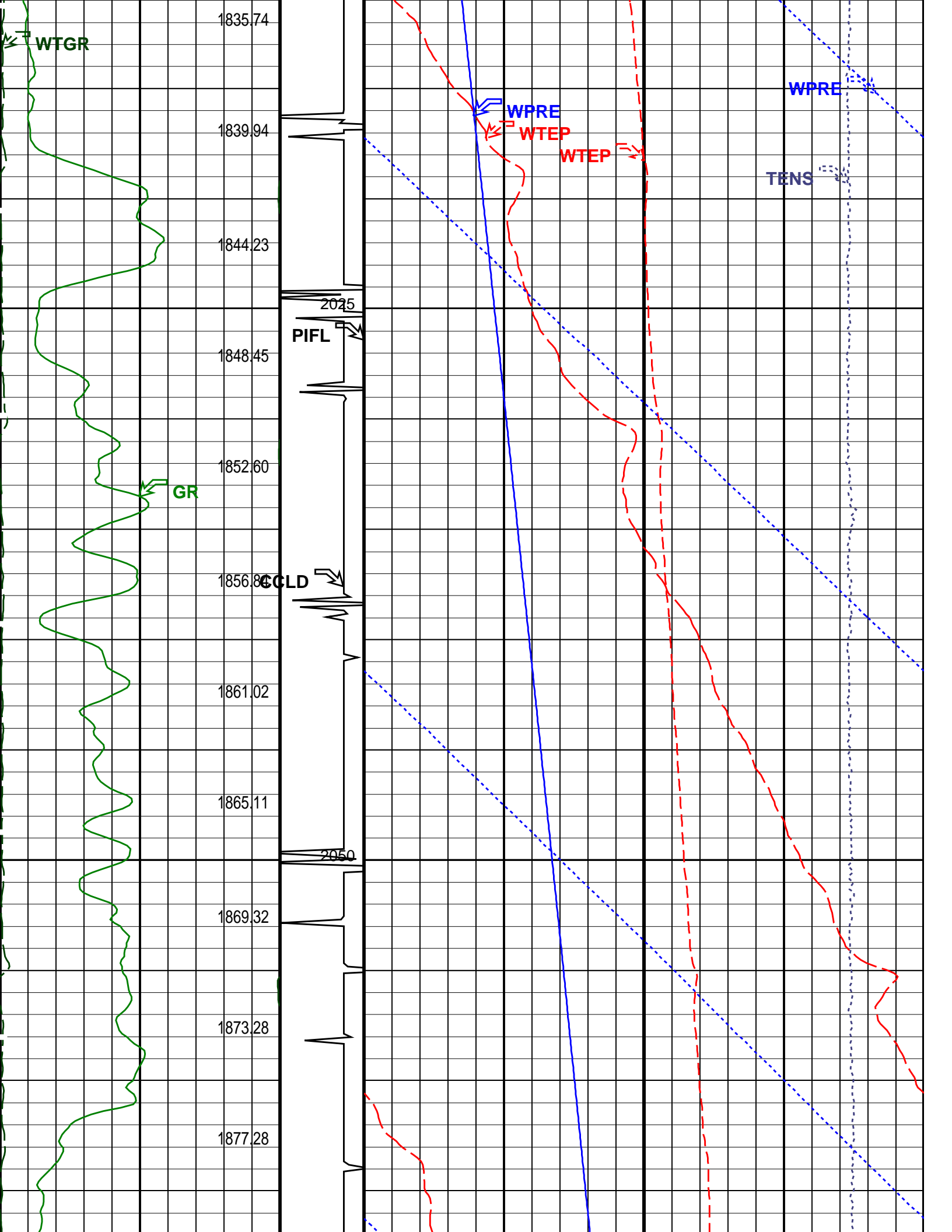
Time Mark Every 60 S

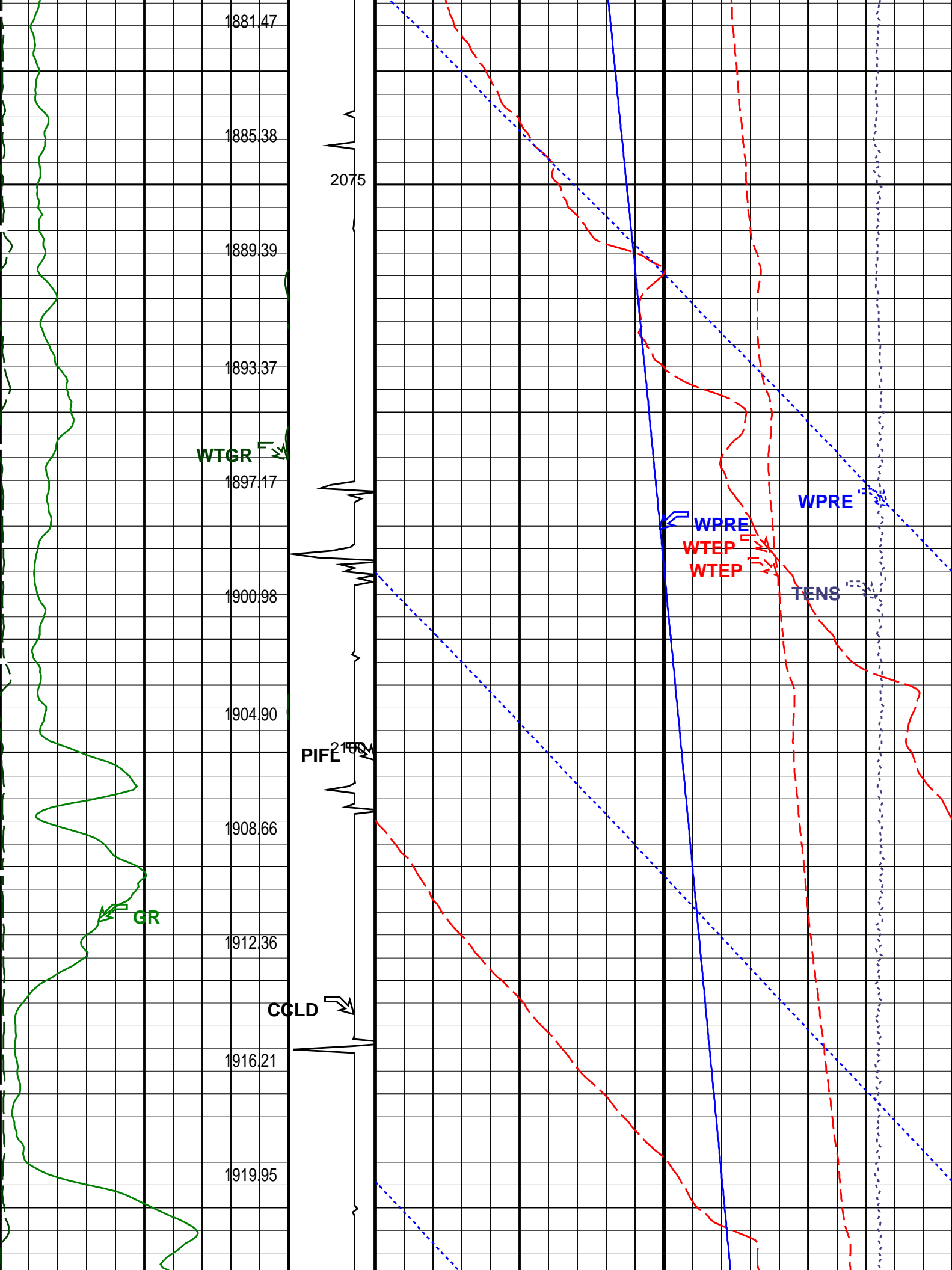
Parameters

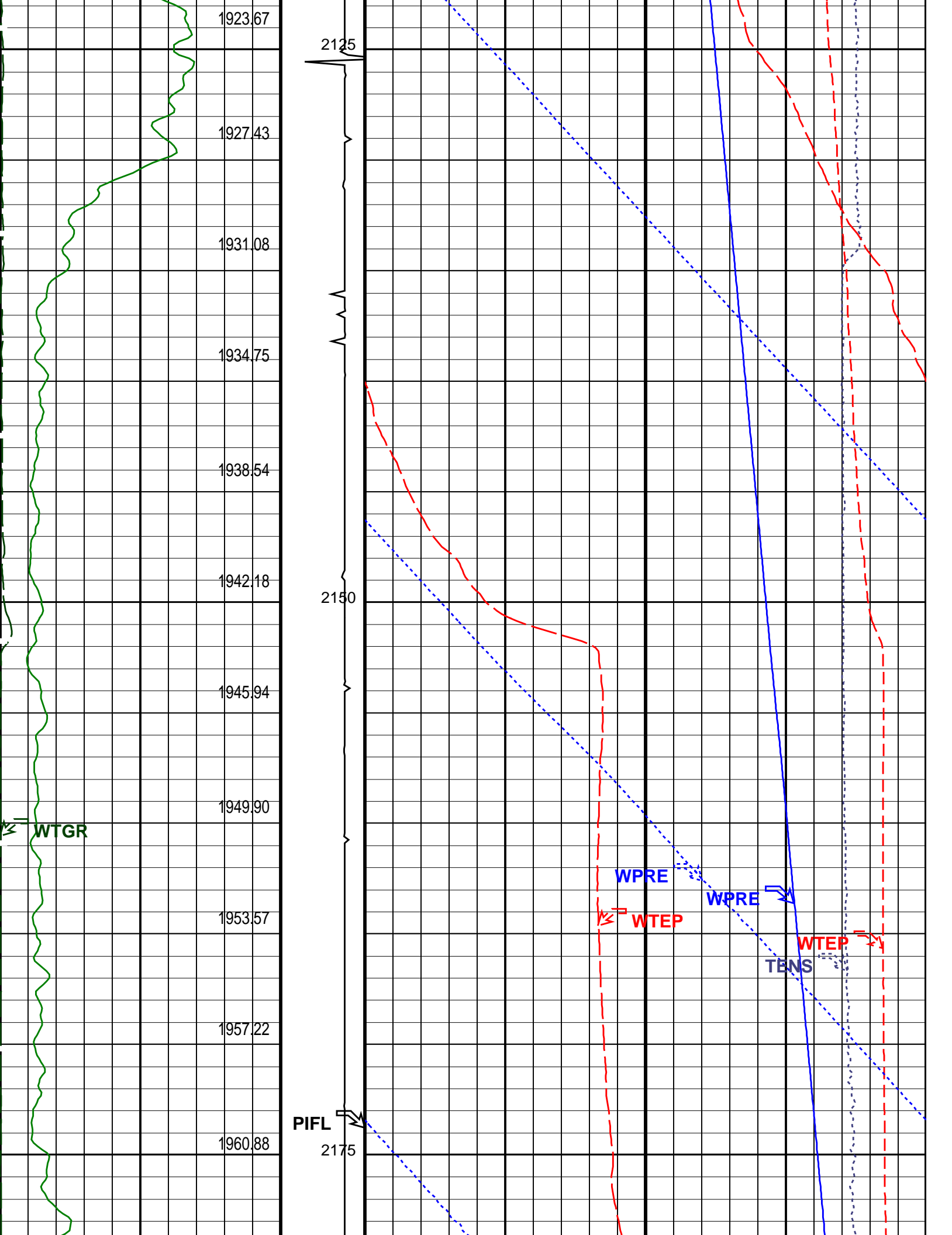
DLIS Name		Description		Value	
RST-C: Reservoir Saturation Pro Tool C					
AIRB		RST Air Borehole		No	
BHS		Borehole Status		CASED	
BSALOPT		RST Borehole Salinity Option		Unknown	
BSFL		RST Borehole Salinity Filter Length		51	
DFPC		RST Depth Filter Processing Constant		One	
DFPC_TDTL		RST Depth Filter 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-B: Production Services Logging Platform					
BHS		Borehole Status		CASED	
MATR		Rock Matrix for Neutron Porosity Corrections		SANDSTONE	
System and Miscellaneous					
BS		Bit Size		9.875	IN
BSAL		Borehole Salinity		-50000.00	PPM
CSIZ		Current Casing Size		7.625	IN
CWEI		Casing Weight		26.40	LB/F
DO		Depth Offset for Playback		0.0	M
PP		Playback Processing		NORMAL	
Format: RST_SIG_ANSW		Vertical Scale: 1:200		Graphics File Created: 08-Nov-2006 00:19	
OP System Version: 14C0-302					
MCM					
RST-C	14C0-302	PSPT-B	14C0-302		
Input DLIS Files					
DEFAULT	RST_PSP_019LUP	FN:18	PRODUCER	07-Nov-2006 21:10	2196.1 M 1929.8 M
Output DLIS Files					
DEFAULT	RST_PSP_025PUP	FN:24	PRODUCER	08-Nov-2006 00:19	
<div><div><div></div><div><div>RST-C</div><div>Correlation Pass</div></div></div><div>MAXIS Field Log</div></div>					
Input DLIS Files					
DEFAULT	RST_PSP_017LUP	FN:16	PRODUCER	07-Nov-2006 20:21	2200.7 M 1919.3 M
Output DLIS Files					
DEFAULT	RST_PSP_024PUP	FN:23	PRODUCER	08-Nov-2006 00:14	2200.2 M 1913.8 M
OP System Version: 14C0-302					
MCM					
RST-C	14C0-302	PSPT-B	14C0-302		
PIP SUMMARY					
Time Mark Every 60 S				Tension (TENS)	
				(LBF)	
				0	2000

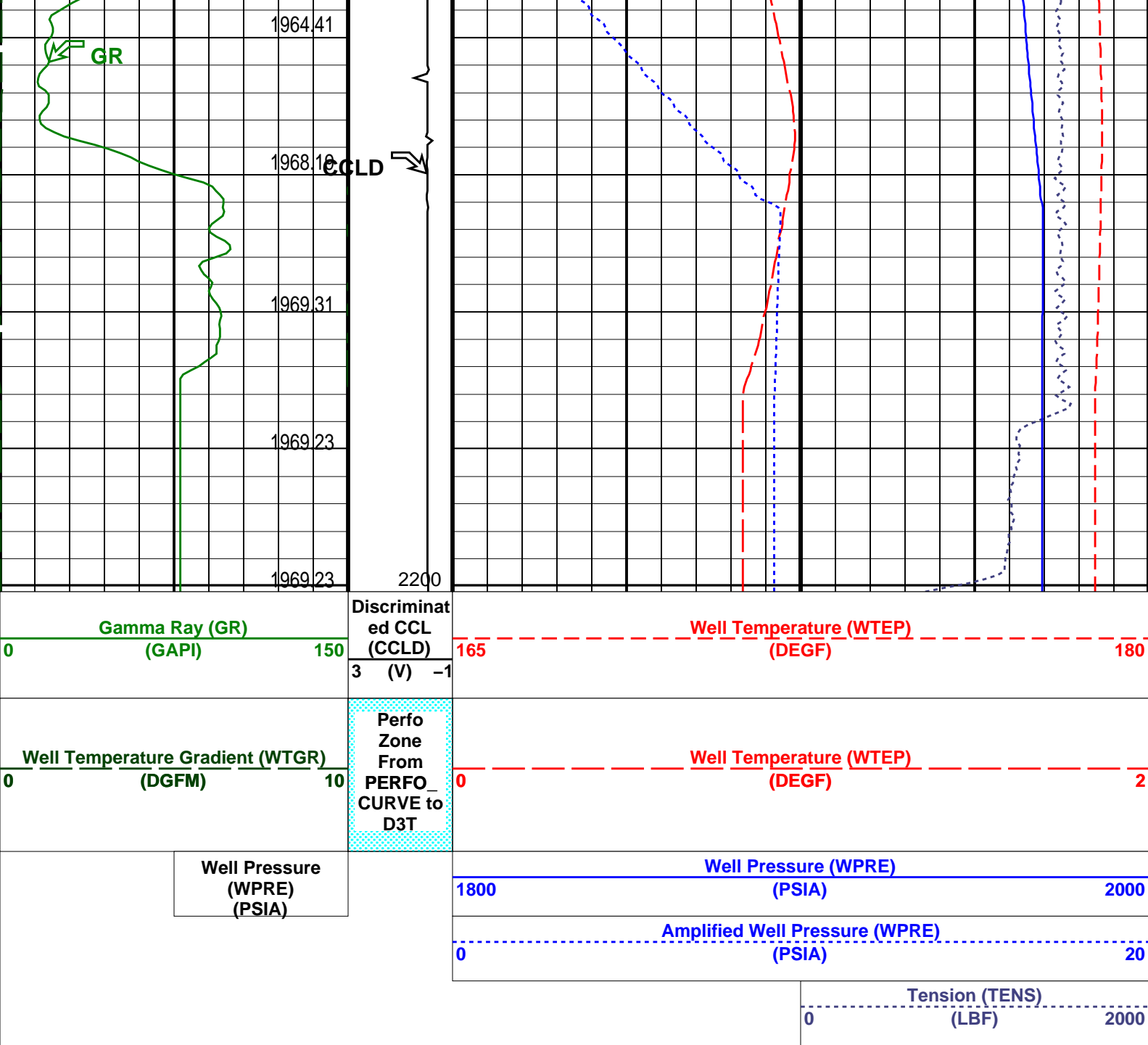












PIP SUMMARY

Time Mark Every 60 S

Format: PSP_1_1 Vertical Scale: 1:200 Graphics File Created: 08-Nov-2006 00:14

OP System Version: 14C0-302

MCM

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

Parameters		
DLIS Name	Description	Value
DO	System and Miscellaneous	
PP	Depth Offset for Playback	-0.5 M
	Playback Processing	NORMAL

Input DLIS Files					
DEFAULT	RST_PSP_017LUP	FN:16	PRODUCER	07-Nov-2006 20:21	2200.7 M 1919.3 M

Output DLIS Files

Company: Esso Australia Pty Ltd.

Schlumberger

Well: A-7

Field: Snapper

Rig: Prod4 / Ausl

Country: Australia

RST-C

Sigma

Survey