

Company: ENCANA OIL & GAS (USA) INC

Well: FEDERAL 22-13BB (PJ21)

Field: PARACHUTE

County: GARFIELD

State: COLORADO

County: GARFIELD

Field: PARACHUTE

Location: SHL: 2112 FSL & 2030 FEL

Well: FEDERAL 22-13BB (PJ21)

Company: ENCANA OIL & GAS (USA) INC

RESERVOIR SATURATION LOG

SIGMA MODE

GR-CCL

SHL: 2112 FSL & 2030 FEL  
BHL: 897 FSL & 310 FWL

Elev.: K.B. 6325.00 ft  
G.L. 6303.00 ft  
D.F. 6324.00 ft

LOCATION

Permanent Datum: GROUND LEVEL  
Log Measured From: KELLY BUSHING  
Drilling Measured From: KELLY BUSHING

Elev.: 6303.00 ft  
22.00 ft above Perm. Datum

API Serial No. 05-045-21287-0C

Section 21

Township 7S

Range 95W

PVT DATA			Run 1	Run 2	Run 3
Oil Density					
Water Salinity					
Gas Gravity					
Bo					
Bw					
1/Bg					
Bubble Point Pressure					
Bubble Point Temperature					
Solution GOR					
Maximum Deviation					
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 30-Mar-2013

Run Number 1

Depth Driller 8110 ft

Schlumberger Depth 8018 ft

Bottom Log Interval 7984 ft

Top Log Interval 2000 ft

Casing Fluid Type FRESH WATER

Salinity

Density 8.4 lbm/gal

Fluid Level 60 ft

BIT/CASING/TUBING STRING

Bit Size 8.750 in

From 22 ft

To 8110 ft

Casing/Tubing Size 4.500 in

Weight 11.6 lbm/ft

Grade S-80

From 22 ft

To 8063 ft

Maximum Recorded Temperatures 219 degF

Logger On Bottom 30-Mar-2013

Unit Number 391

Location GRAND JUNCTION

Recorded By KIRSTIE BUNTING

Witnessed By BILLY MEYERS

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: 14-MAR-2013 10:41:08

## Depth System Equipment

Depth Measuring Device		Tension Device		Logging Cable	
Type:	IDW-B	Type:	CMTD-B/A	Type:	1-25ZT
Serial Number:	6214	Serial Number:	3421	Serial Number:	112136
Calibration Date:	24-APR-2012	Calibration Date:	20-FEB-2011	Length:	19500 FT
Calibrator Serial Number:		Calibrator Serial Number:	174878	<div>Conveyance Method: Wireline</div> <div>Rig Type: LAND</div>	
Calibration Cable Type:	1-25ZT	Number of Calibration Points:	10		
Wheel Correction 1:	-3	Calibration RMS:	4		
Wheel Correction 2:	-4	Calibration Peak Error:	8		

## Depth Control Parameters

Log Sequence:	First Log In the Well
Rig Up Length At Surface:	0.00 FT
Rig Up Length At Bottom:	0.00 FT
Rig Up Length Correction:	0.00 FT
<b>Stretch Correction:</b>	
Tool Zero Check At Surface:	

## Depth Control Remarks

1. ALL SCHLUMBERGER DEPTH CONTROL POLICIES APPLIED
2. IDW USED AS PRIMARY DEPTH REFERENCE
3. SWPT DRUM COUNTER USED AS SECONDARY DEPTH REFERENCE
- 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	OTHER SERVICES2
OS1: SLIM CEMENT MAPPING	OS1:
OS2: LOG	OS2:
OS3: CBL-VDL	OS3:
OS4: GR-CCL	OS4:
OS5:	OS5:
REMARKS: RUN NUMBER 1	REMARKS: RUN NUMBER 2
FIRST RUN IN HOLE CORRELATED TO DOWN LOG	
TOOL RAN AS PER TOOL SKETCH	
ENTRANCE TIME: 23:30	
TIME AT TD: 00:00	
EXIT TIME: 02:15	

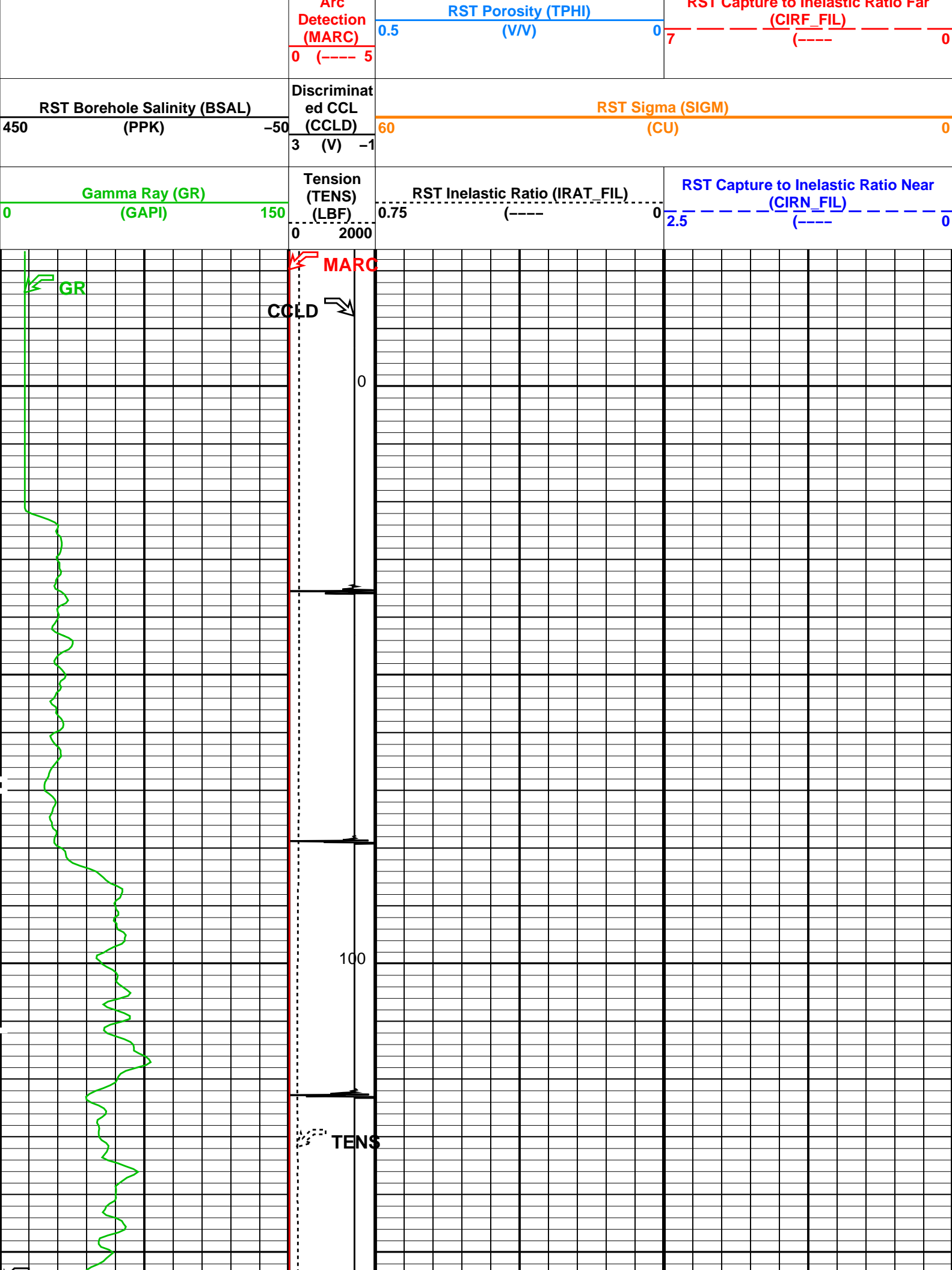
MAXIMUM RECORDED TEMPERATURE: 219 DEG F					
MAXIMUM RECORDED PRESSURE: 3109 PSIA					
SHORT JOINTS: 5659 FT & 6656 FT					
SANDSTONE MATRIX USED					
THANK YOU FOR CHOOSING E&P WIRELINE, A SCHLUMBERGER COMPANY					
CREW: KBUNTING WAZIZ JMANN					
<div> <div>RUN 1</div> <div> <div>SERVICE ORDER #:</div> <div>PROGRAM VERSION:</div> <div>FLUID LEVEL:</div> </div> <div> <div>CGF9-00020</div> <div>19C0-187</div> <div>60 ft</div> </div> </div>			<div> <div>RUN 2</div> <div> <div>SERVICE ORDER #:</div> <div>PROGRAM VERSION:</div> <div>FLUID LEVEL:</div> </div> </div>		
LOGGED INTERVAL	START	STOP	LOGGED INTERVAL	START	STOP

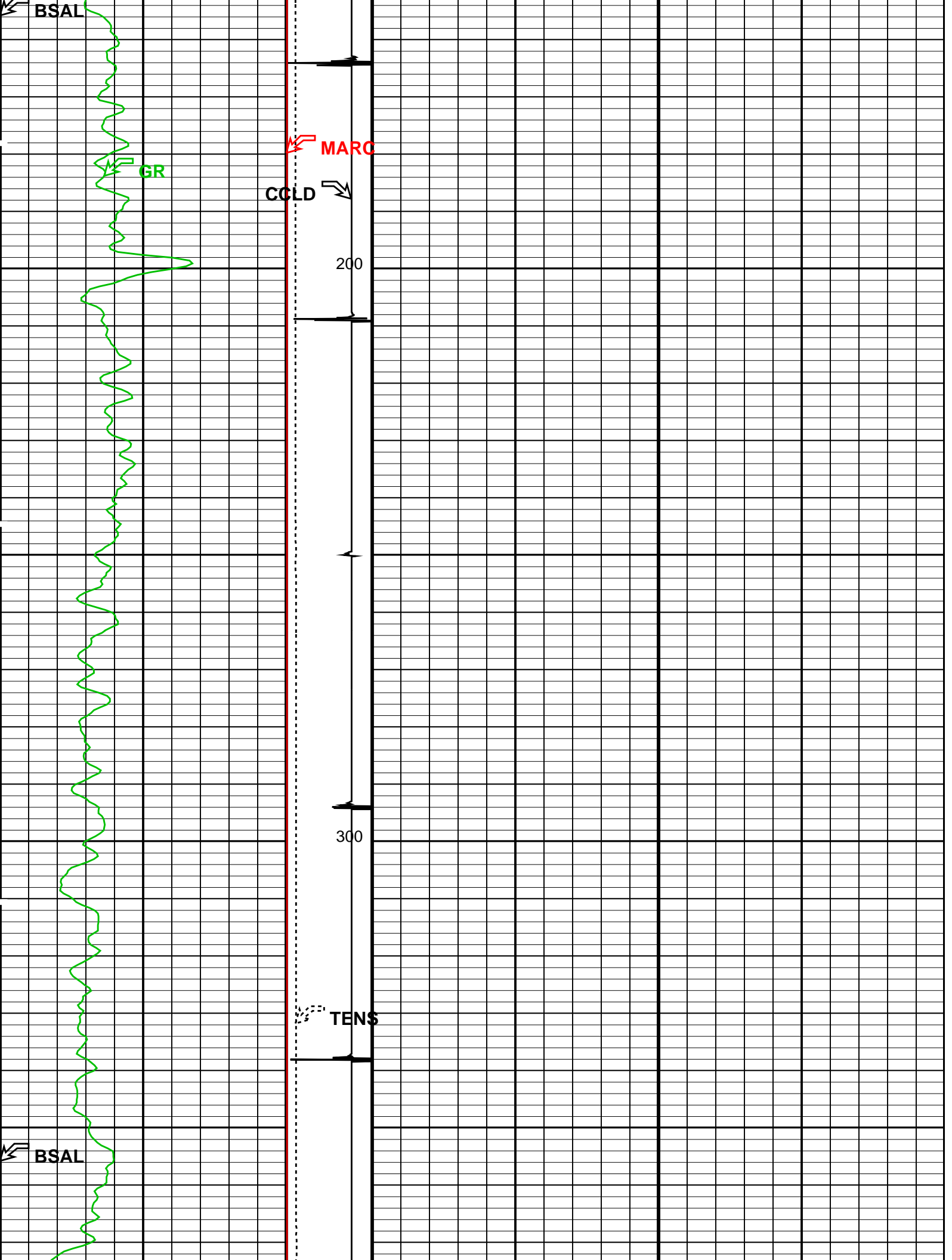
	EQUIPMENT	DESCRIPTION	
RUN 1			RUN 2

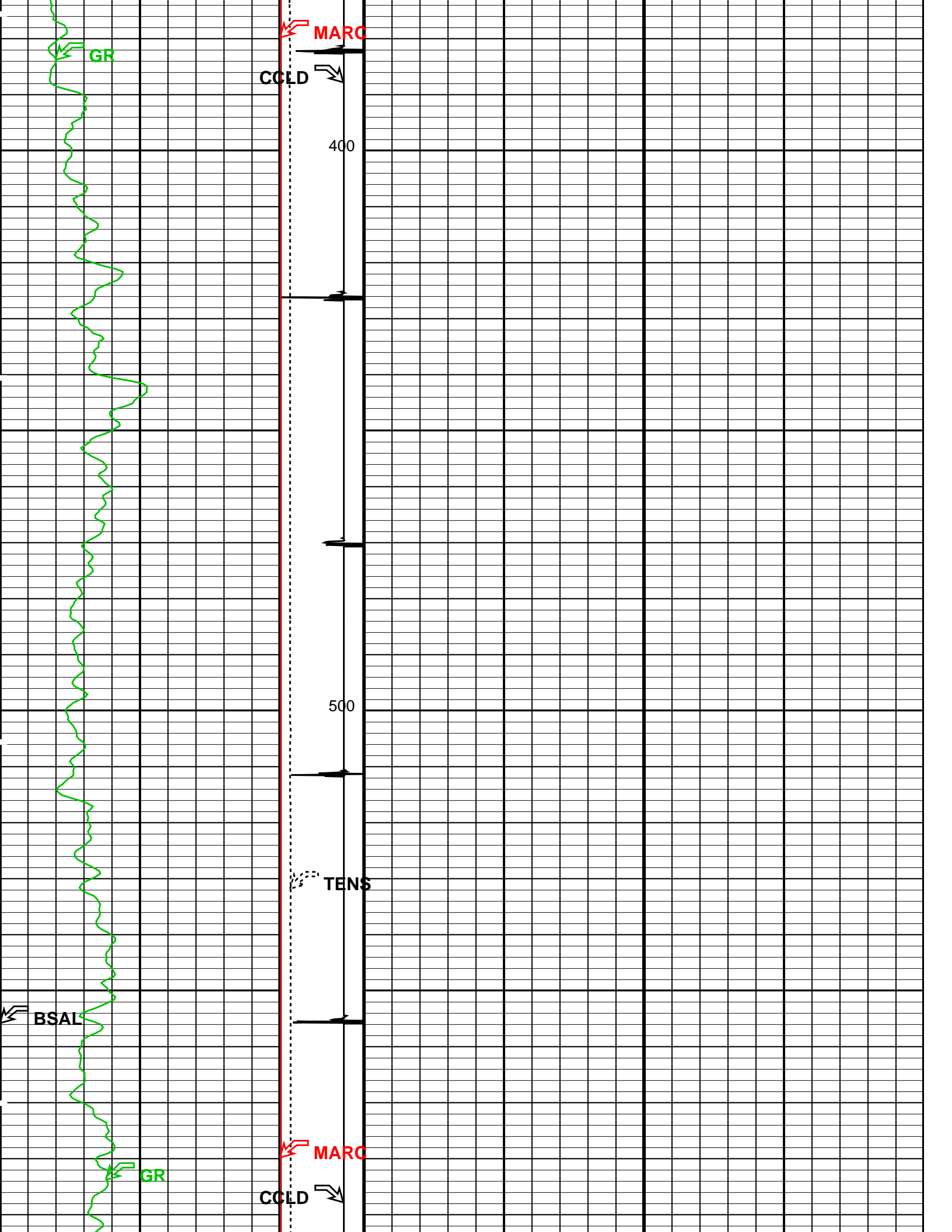
SURFACE EQUIPMENT	
WITM-A PSC_16MHZ	

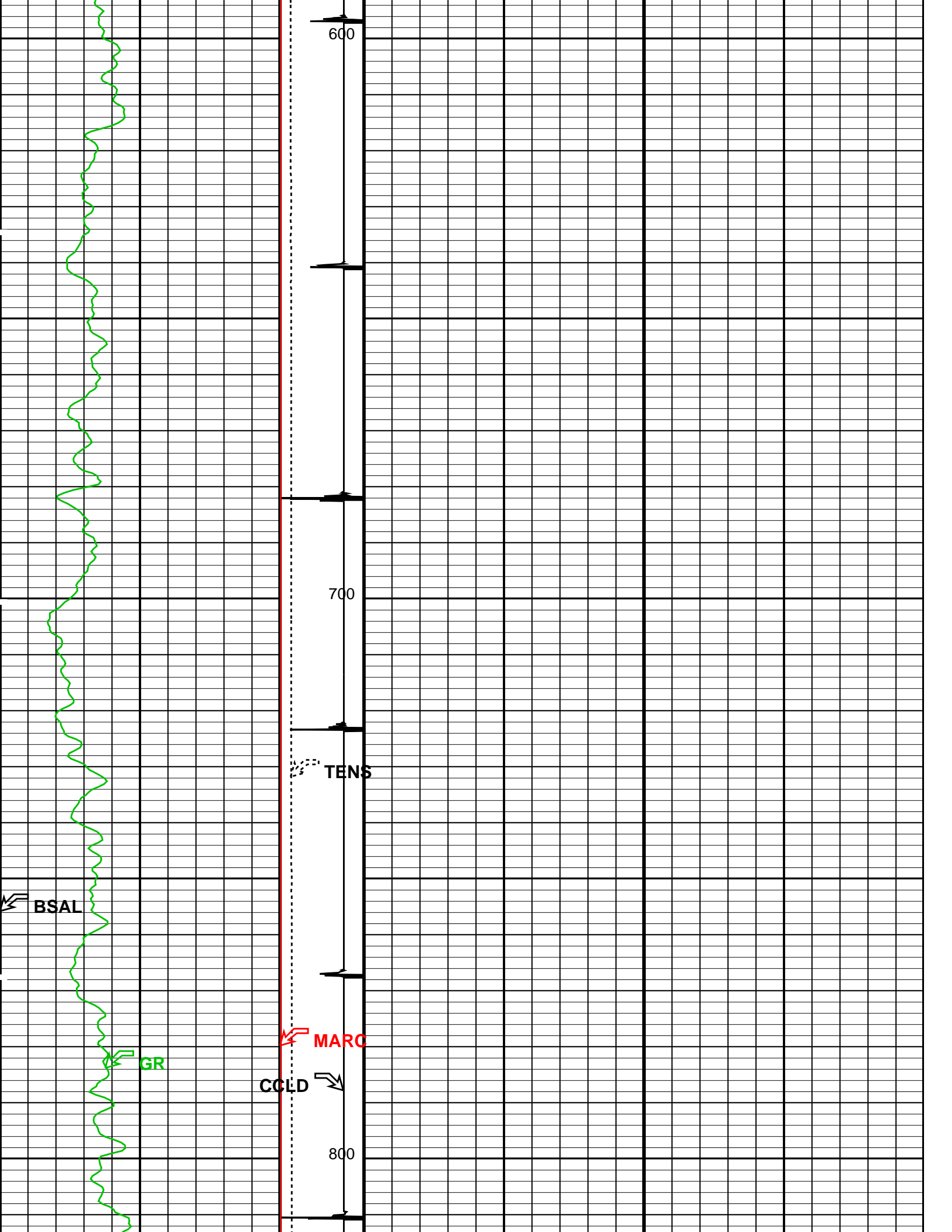
DOWNHOLE EQUIPMENT			
MH-22			53.4
MH-22			
Detail MT			
AH-38	TelStatus		51.8
PSPT	CTEM		51.5
PSC-A			51.5
PSPT-B 928			
PSTC-A 928			
PBMS-B 928	GR		47.8
CQG_F_Mano			
RTD_Thermometer			
GR	Well_Temp		44.8
CCL	CQG Manom		44.5
PBMS 928	CCL		44.0
	PBMS PSTC		43.3
RST-C			43.3
RSCH-A 469			
RSC-E			
RSS-A 461			
RSXH-A 493			
RSX-E			
	RSC-A Far		34.2
	RSC-A PNG		
	RSC-A Nea		
	RSX-A PNG		33.7

### BST Capture to Inelastic Ratio For

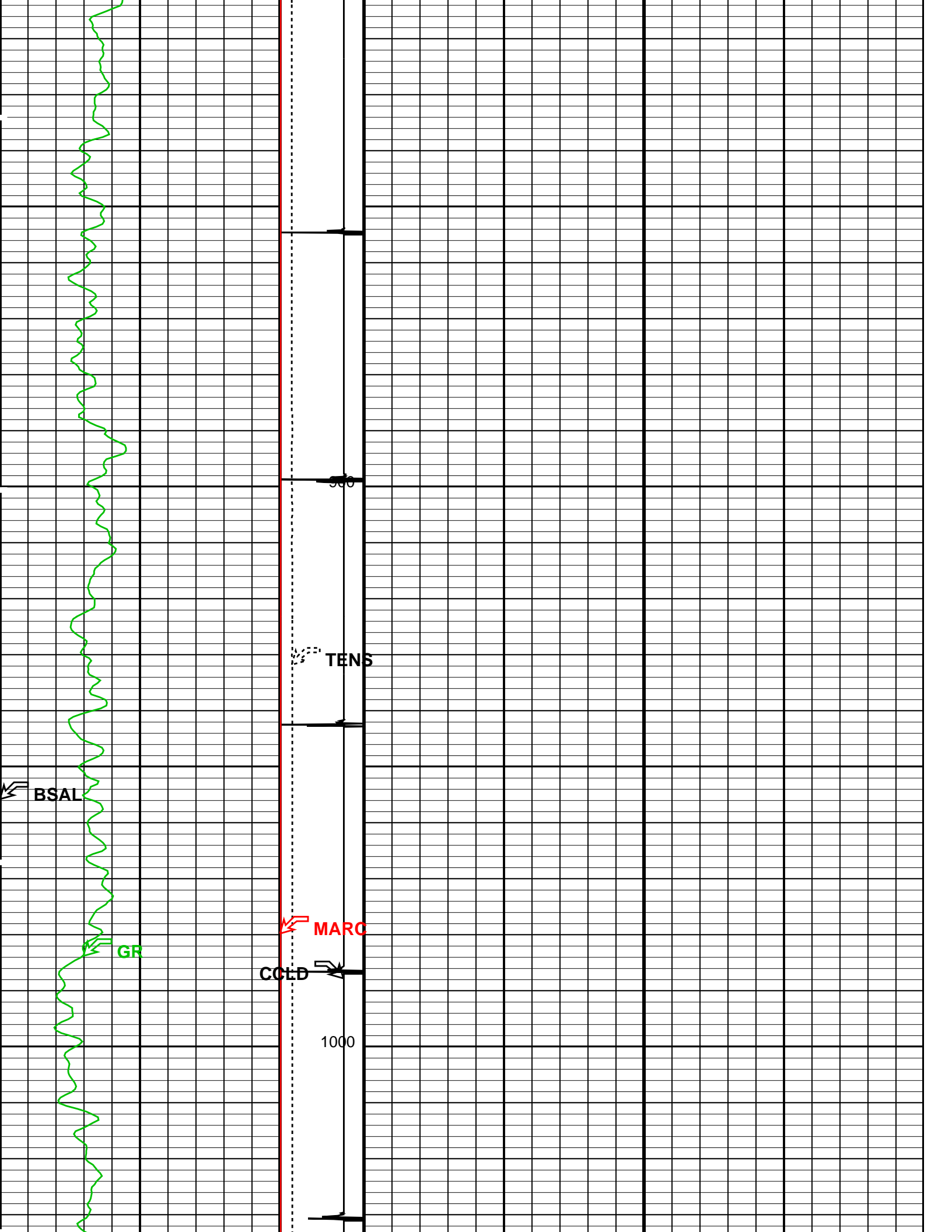


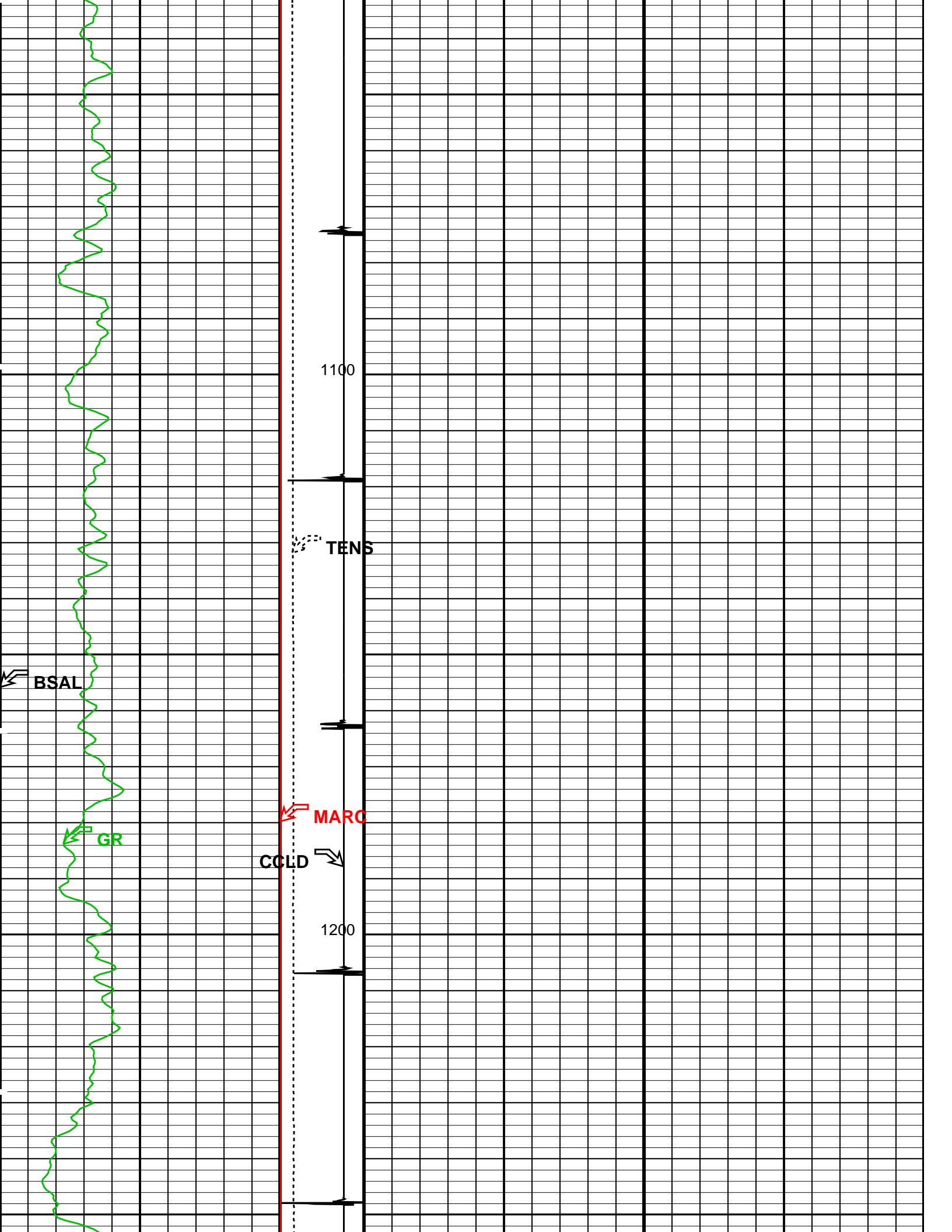


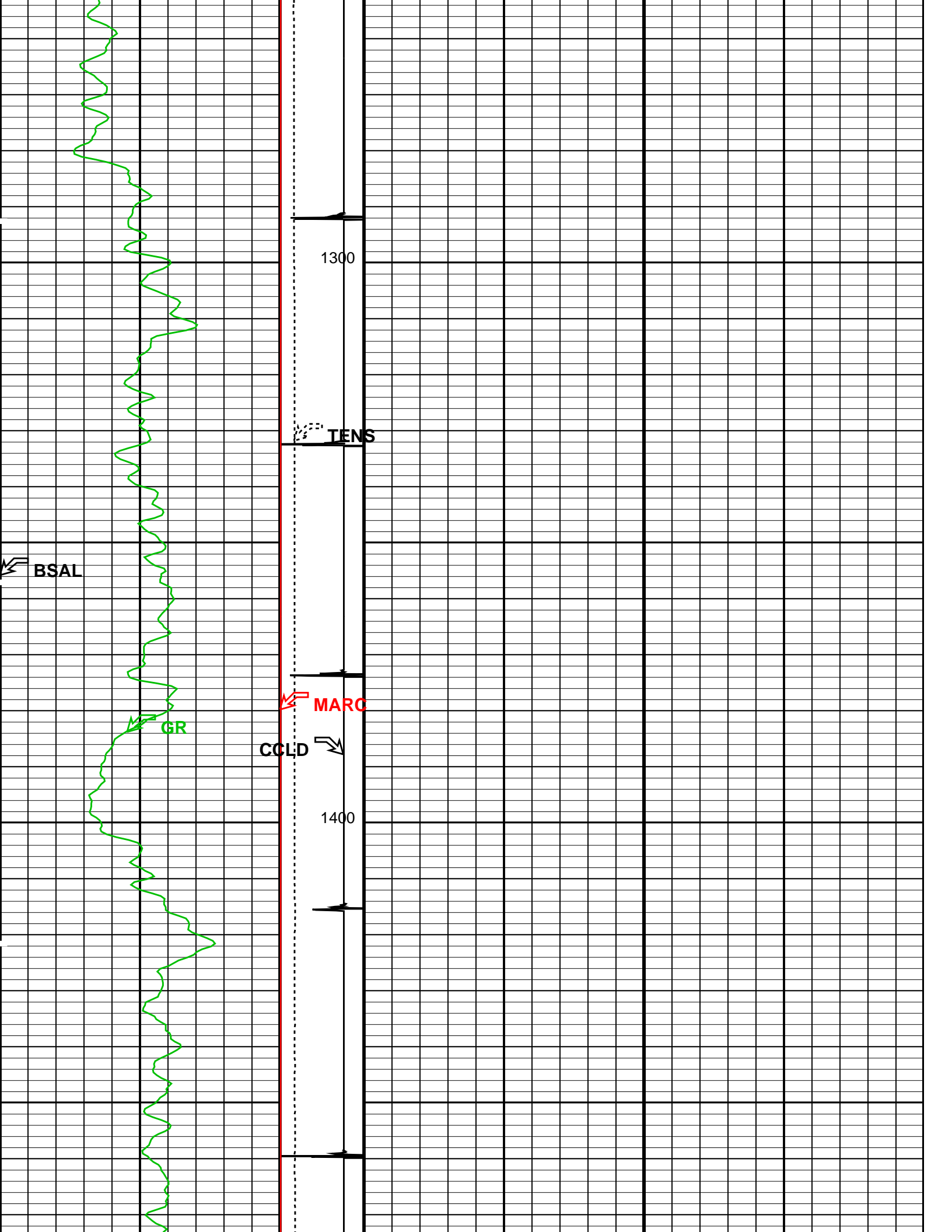


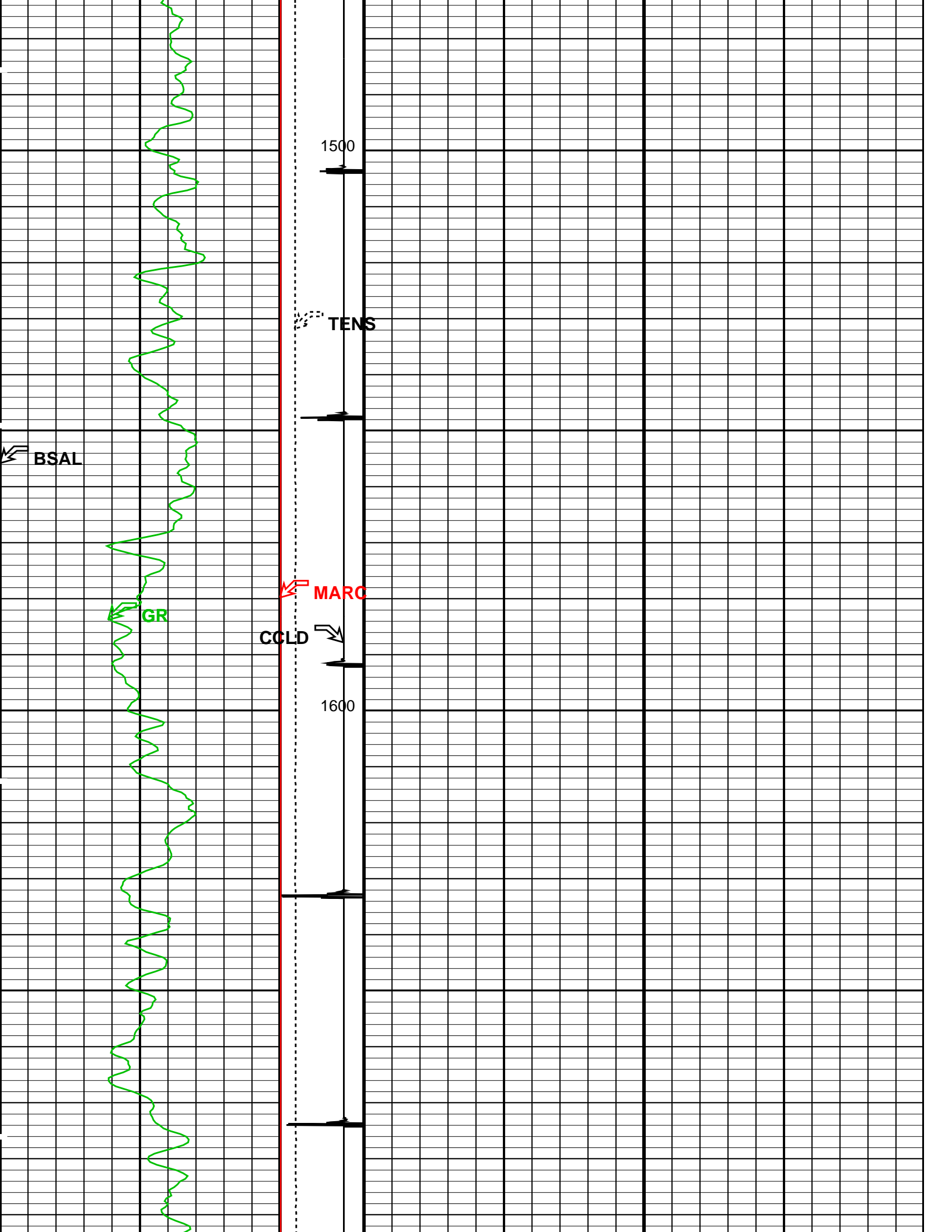


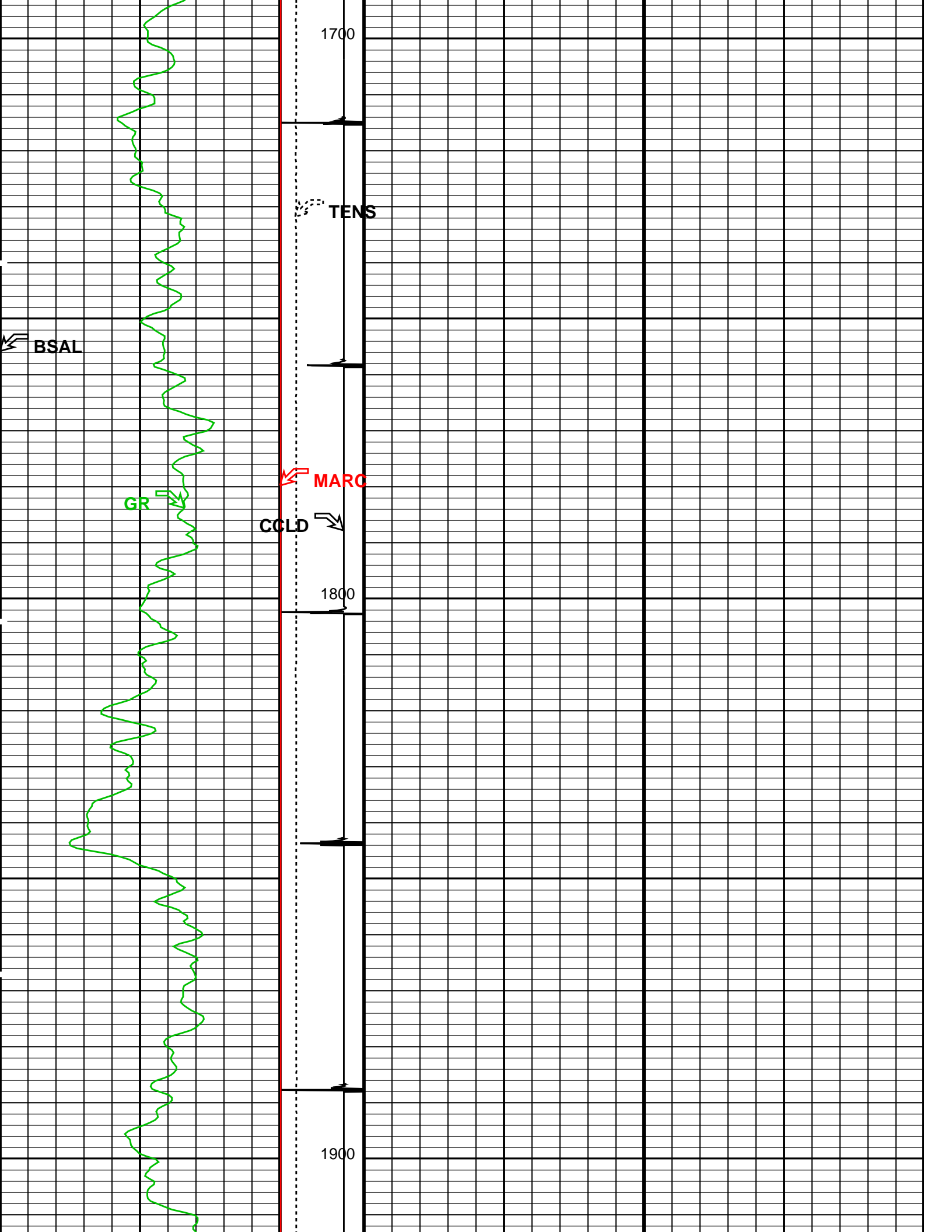


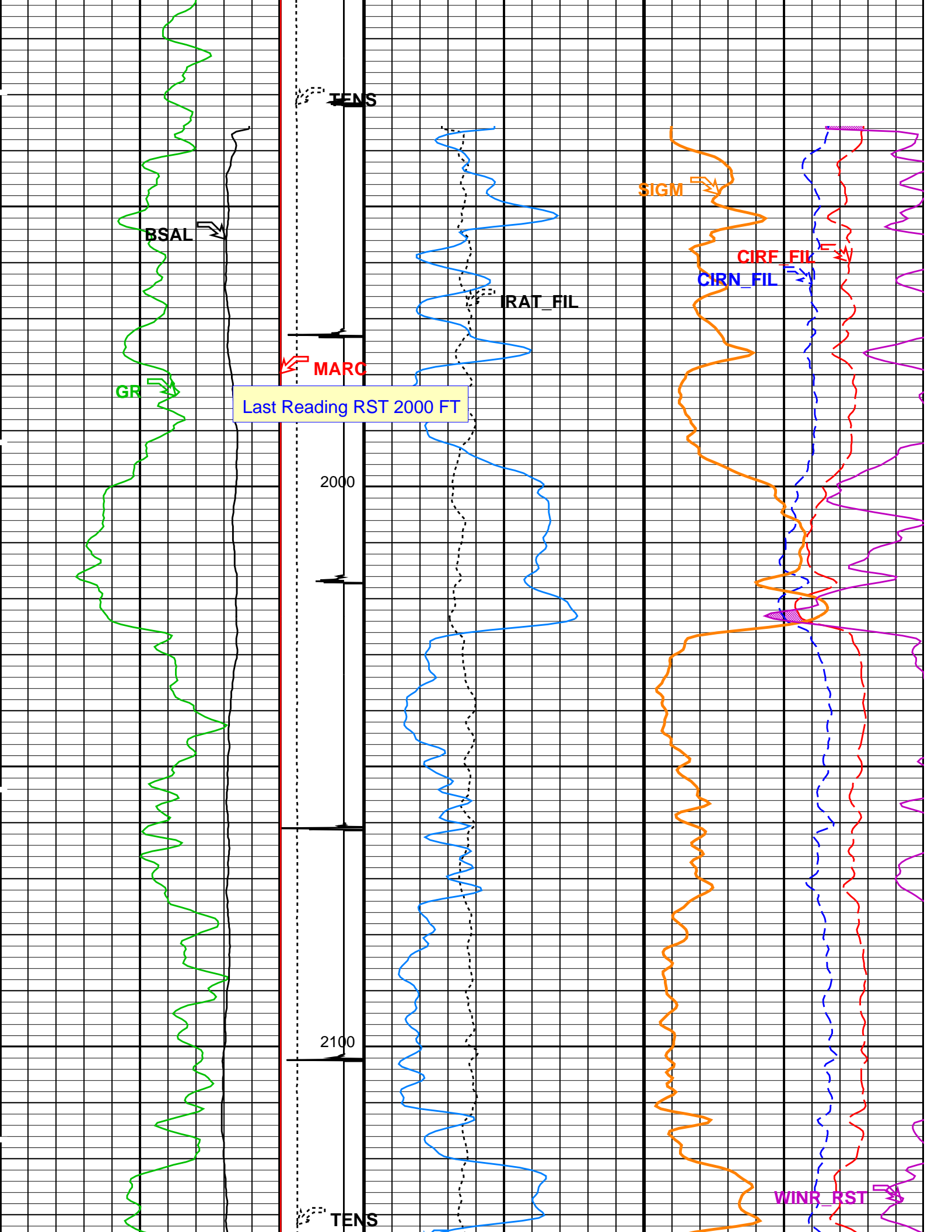


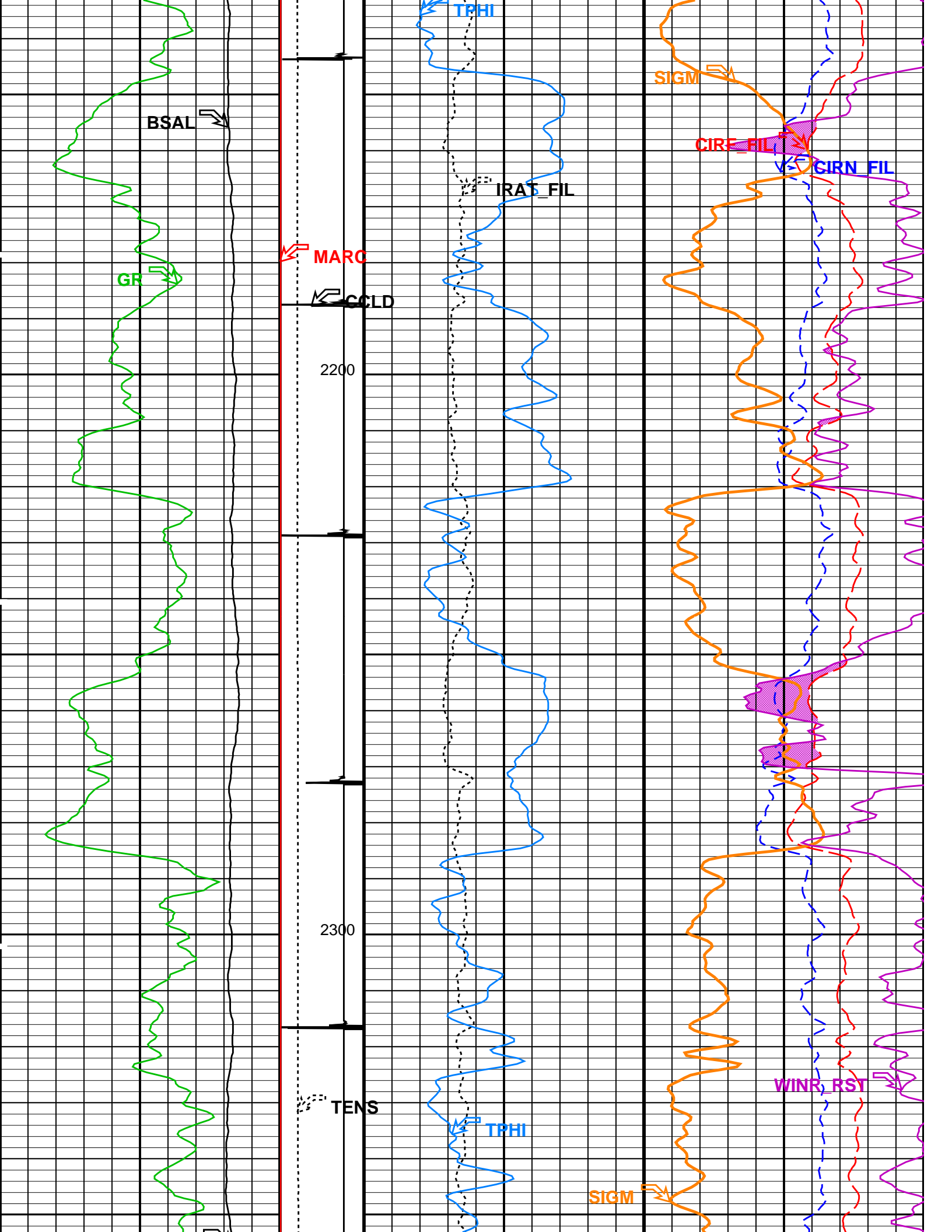


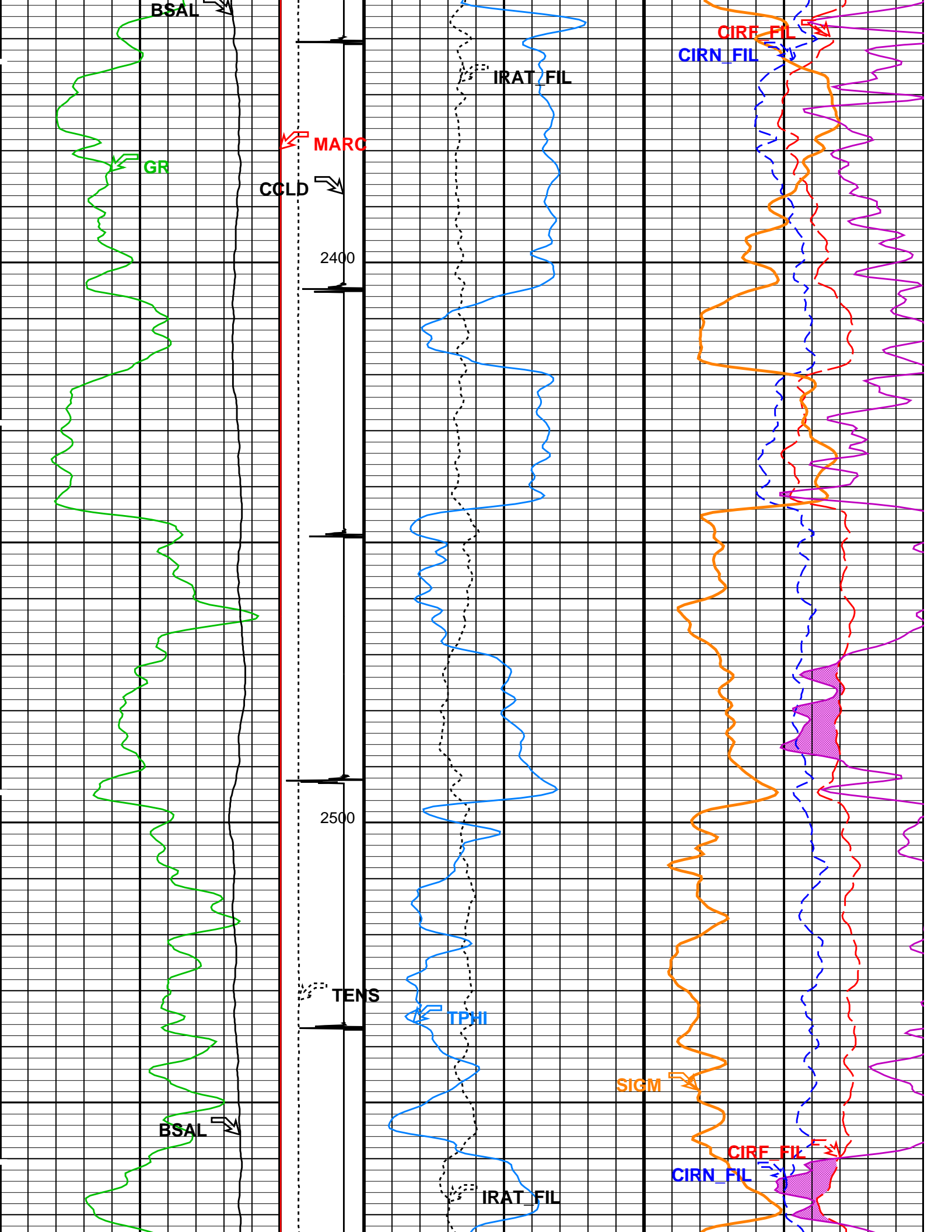




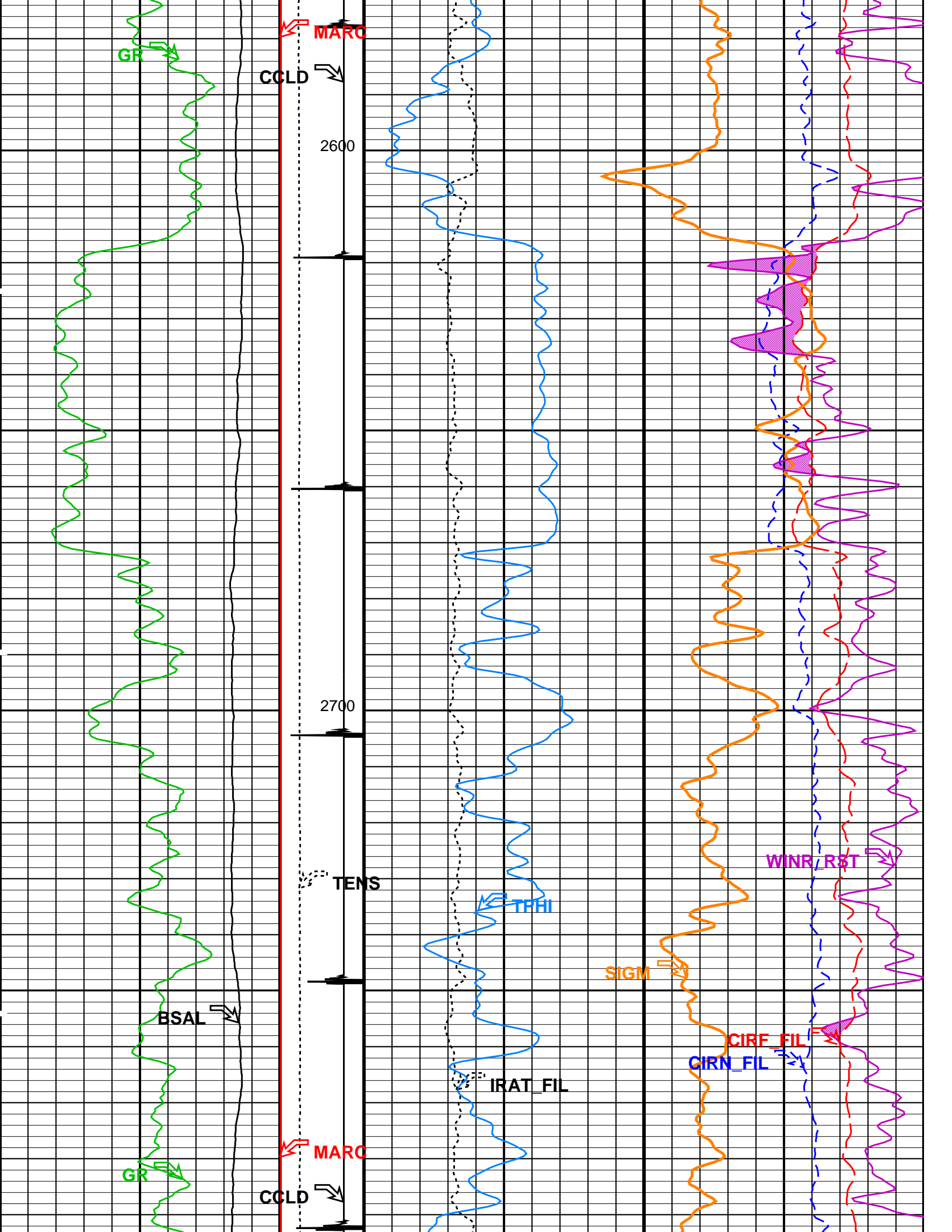


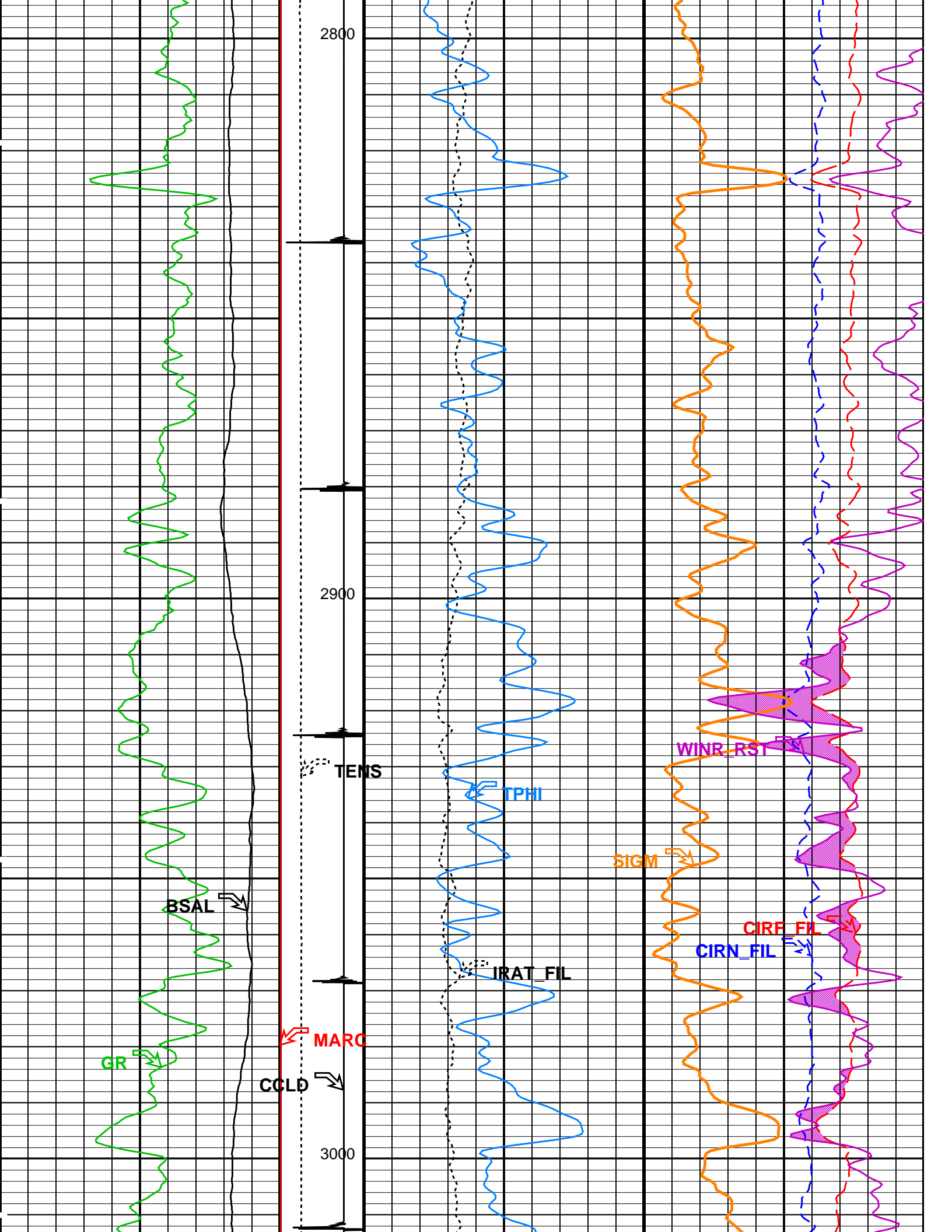


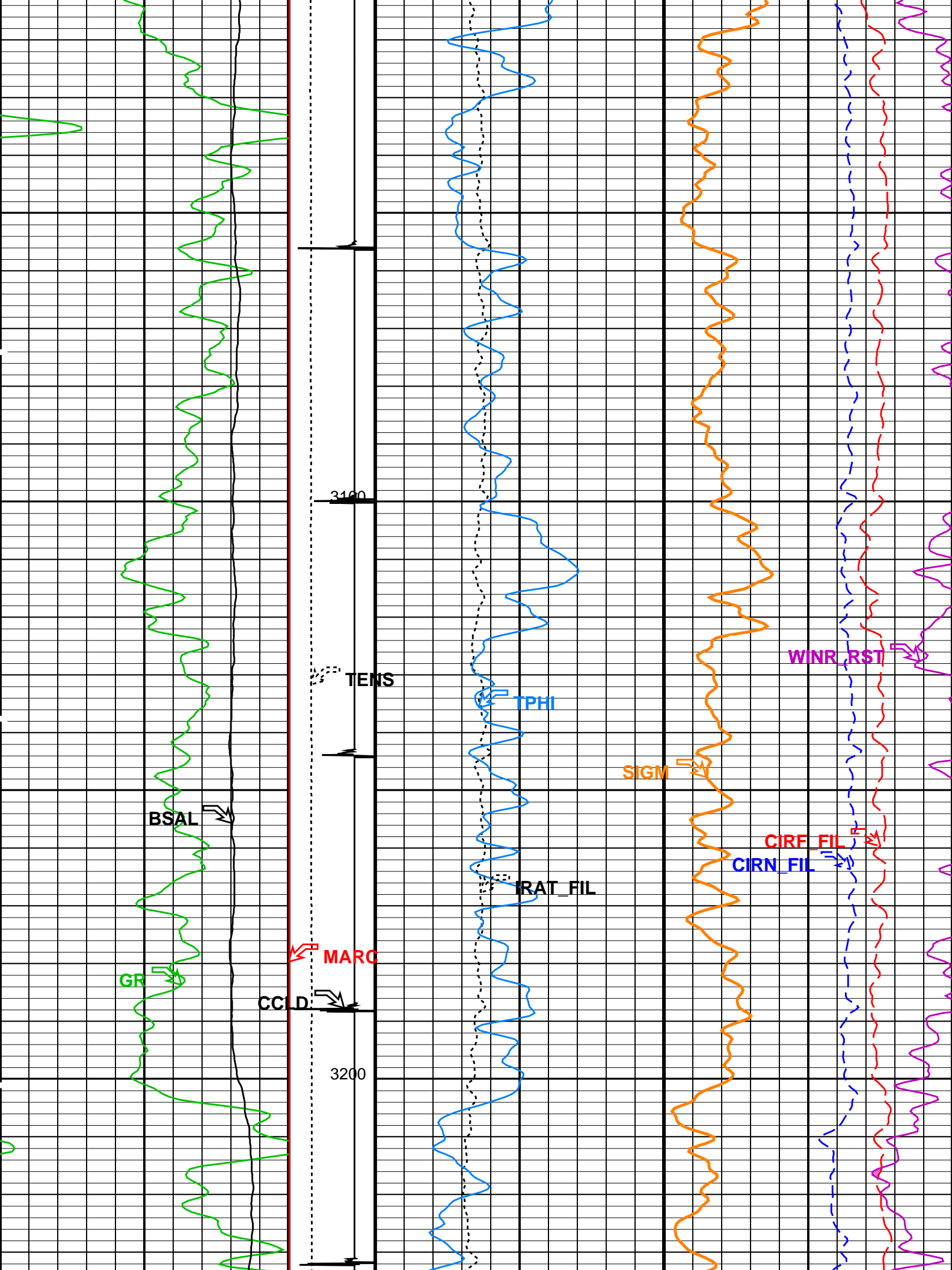


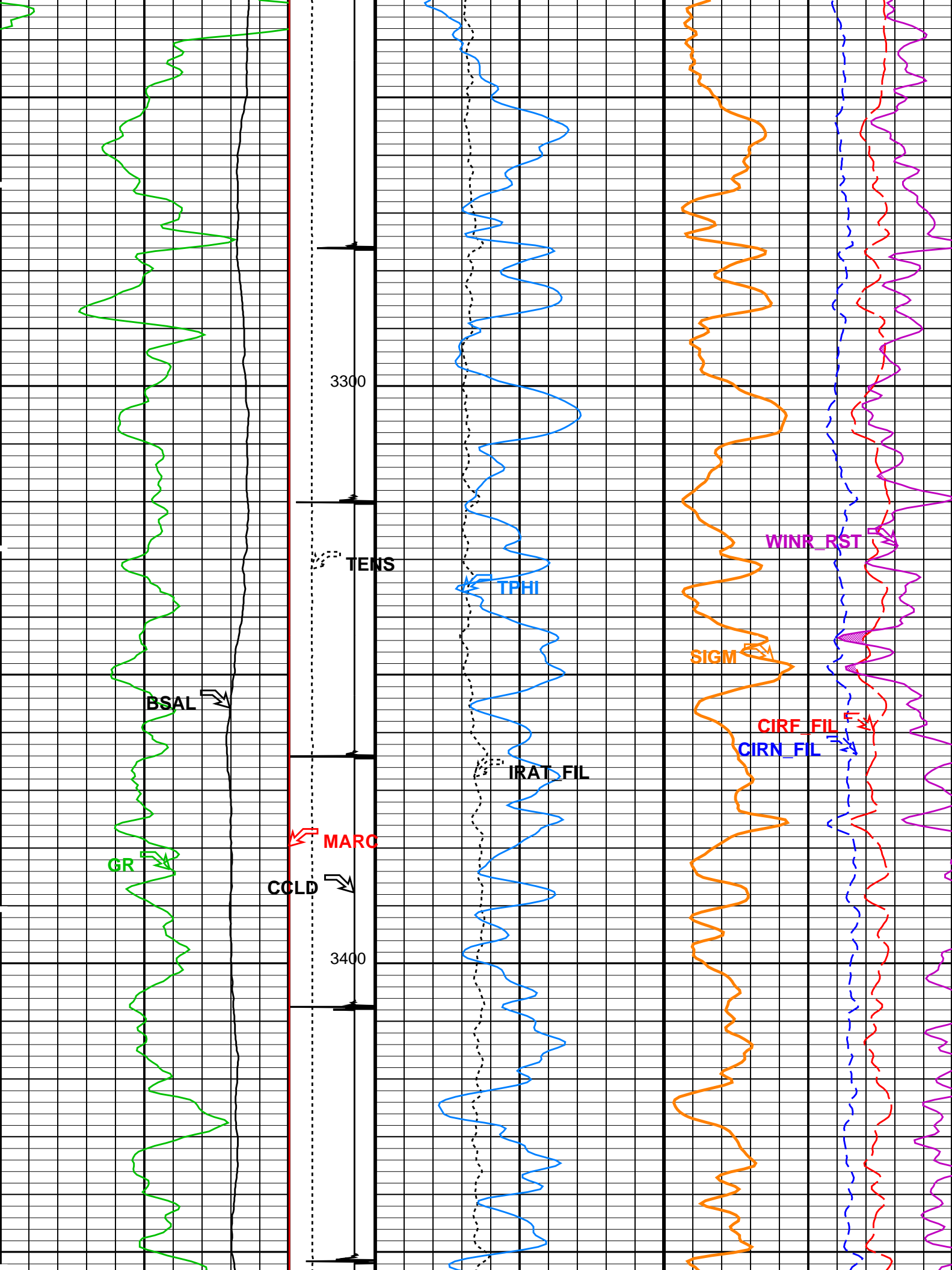


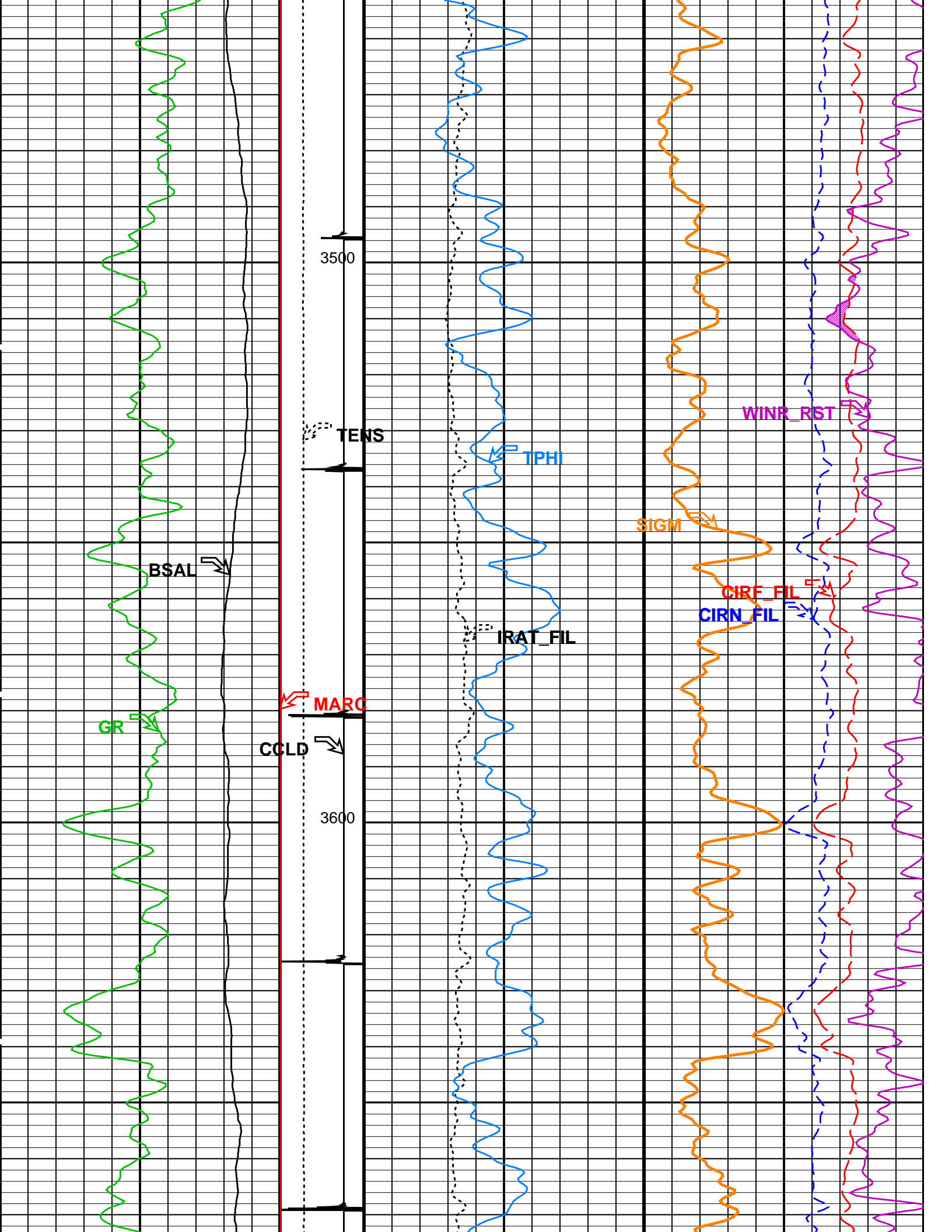


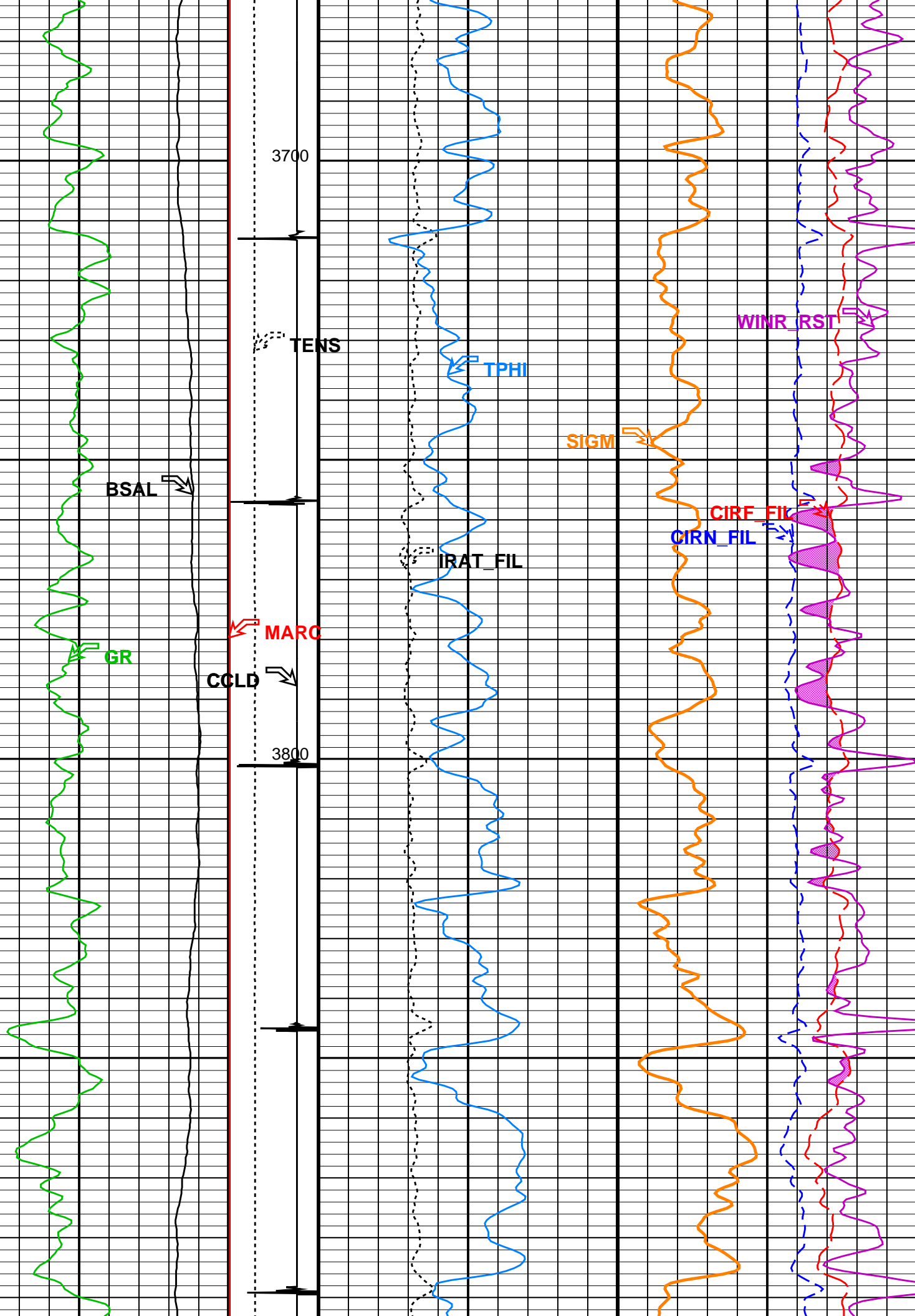


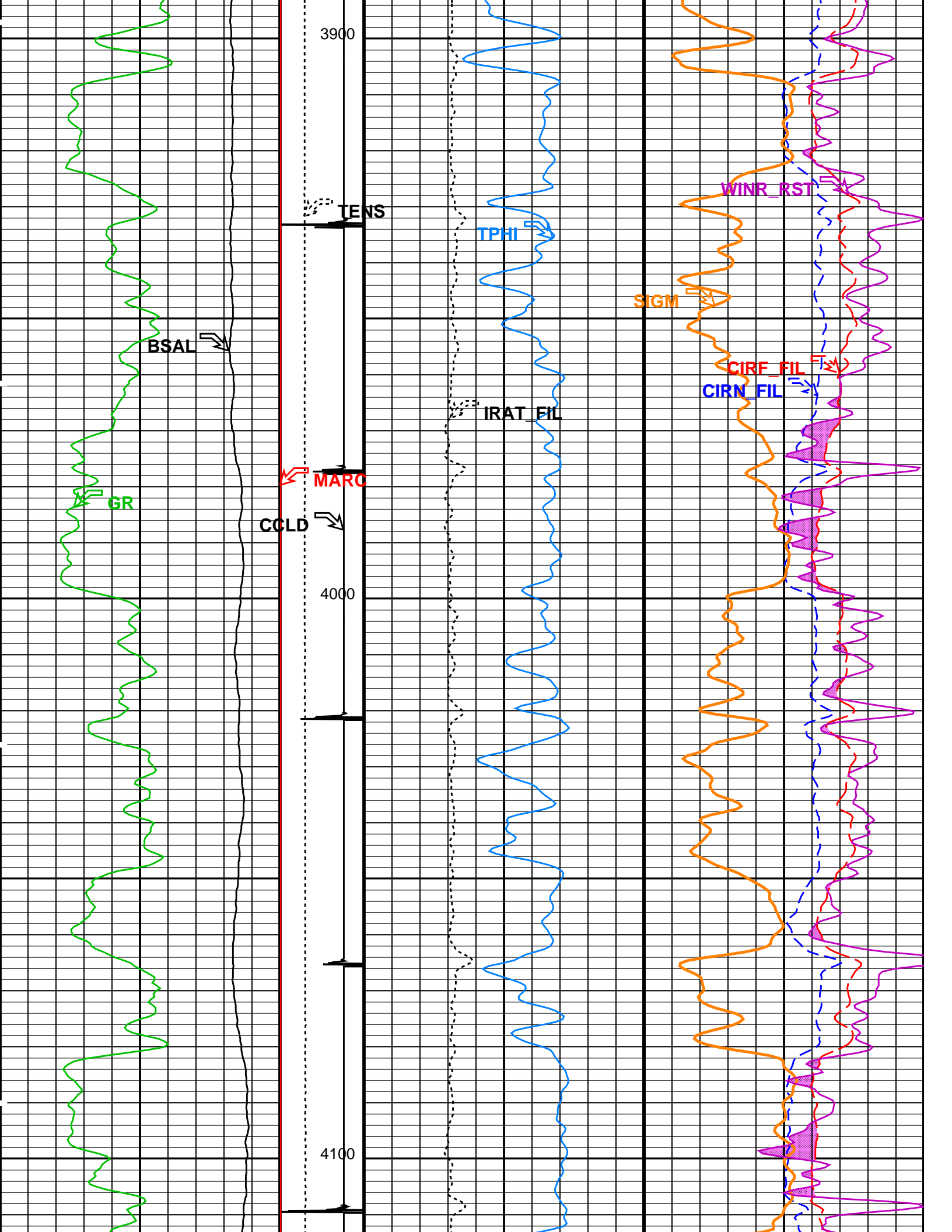


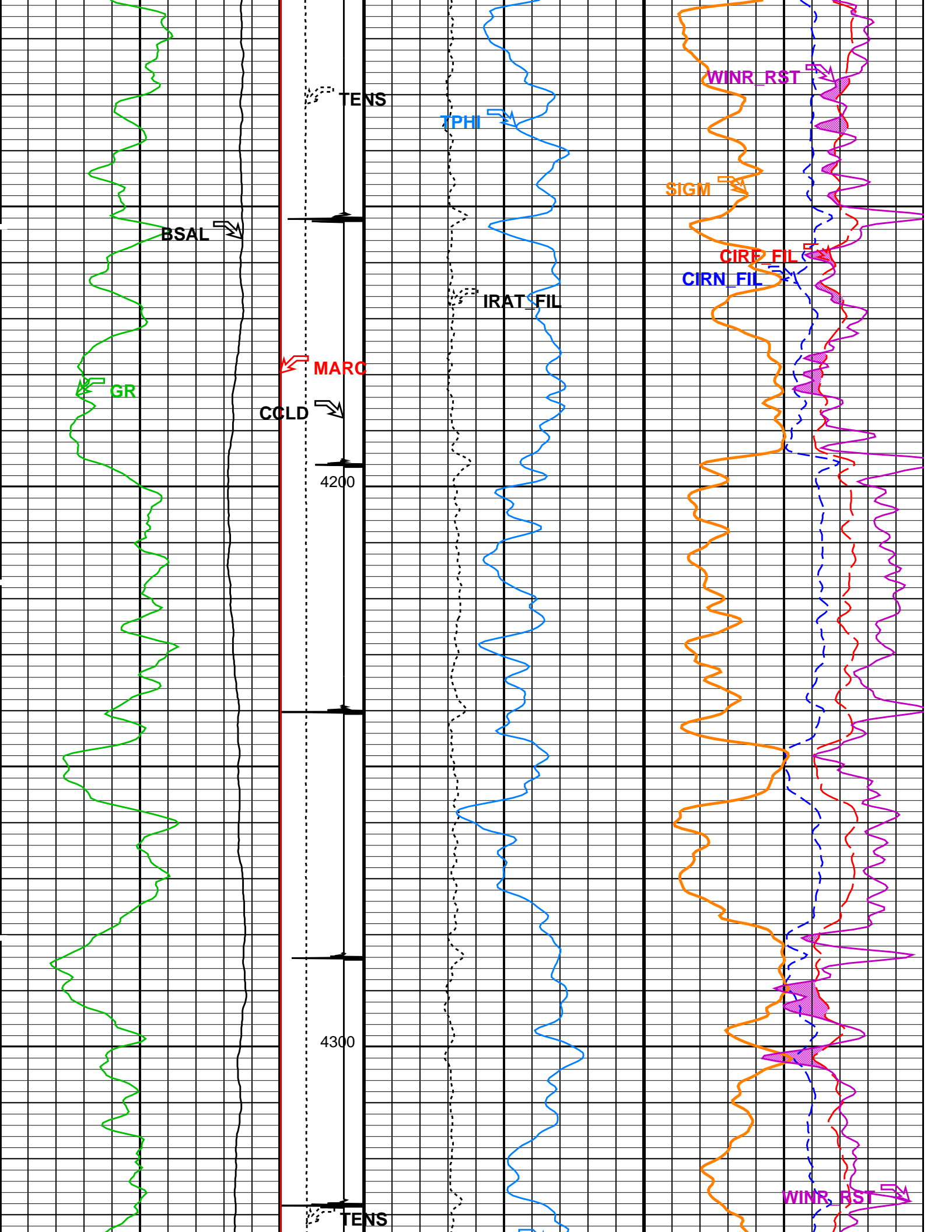




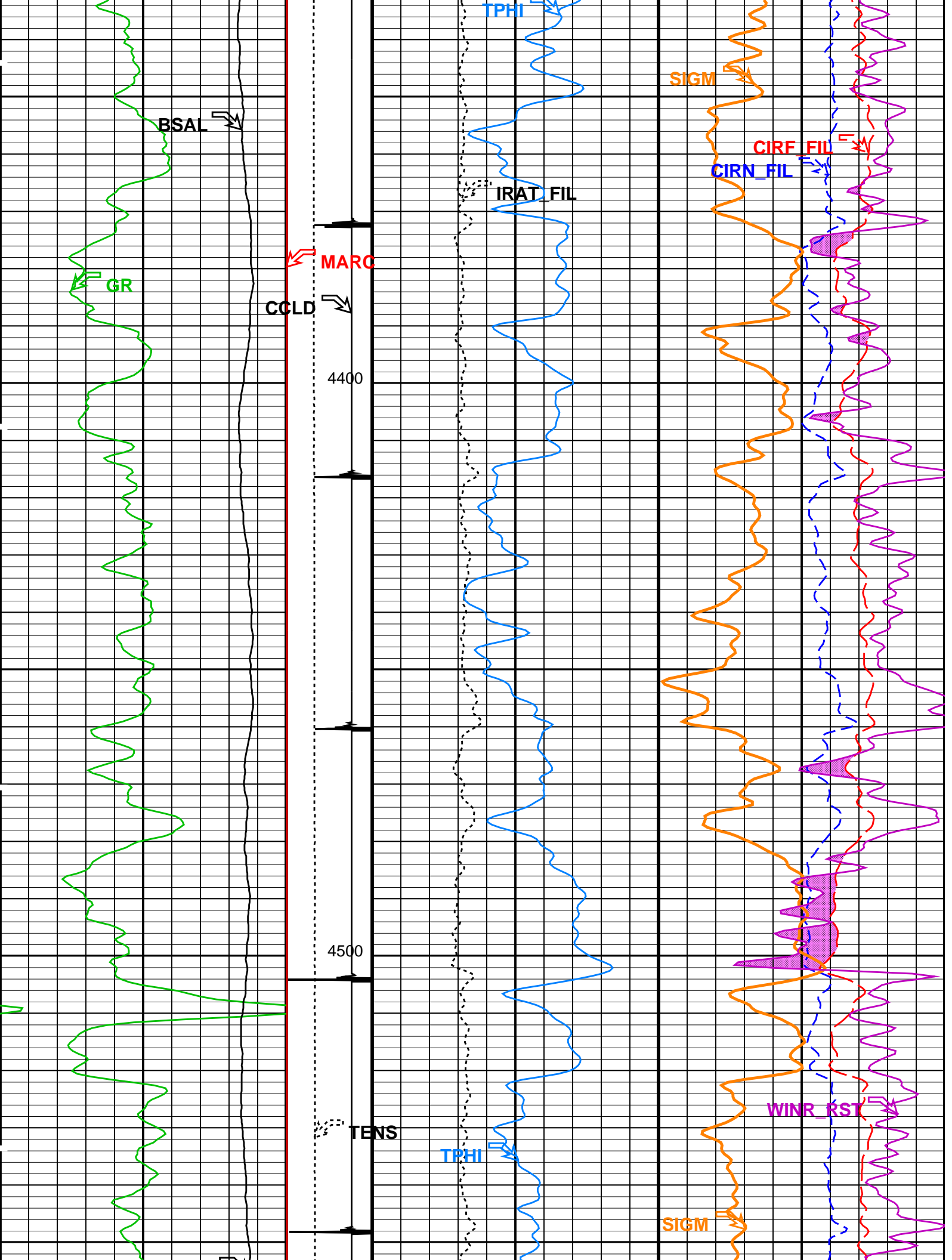


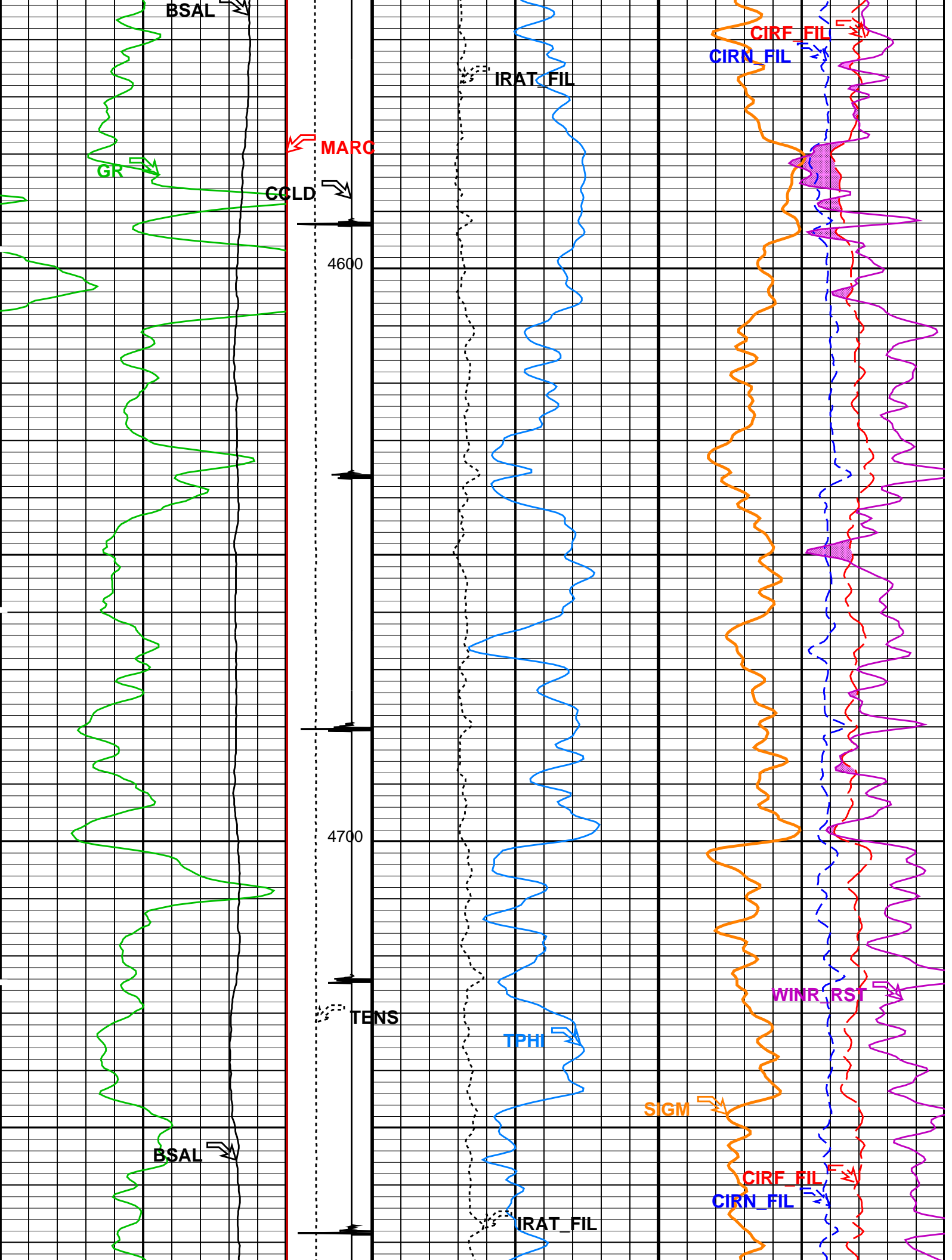


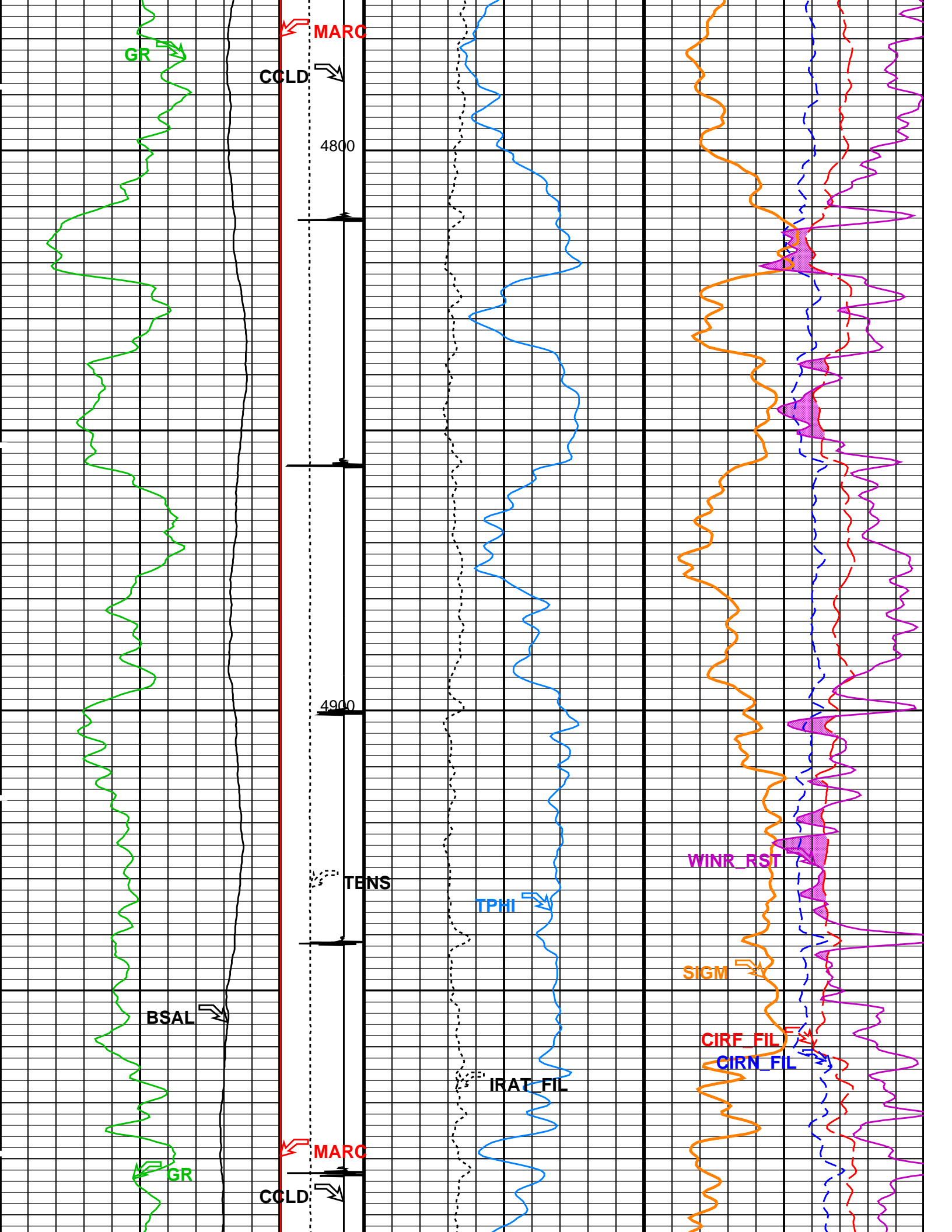


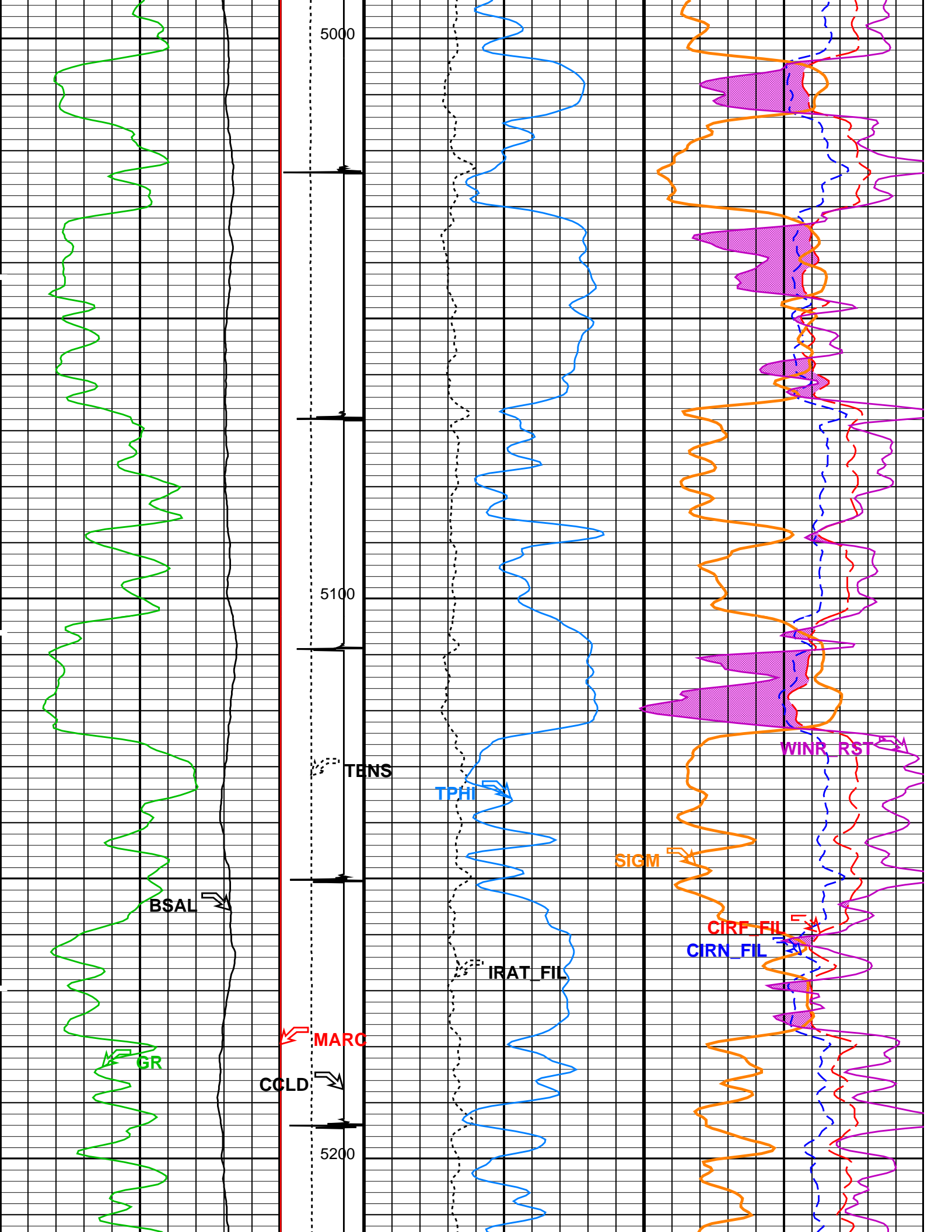


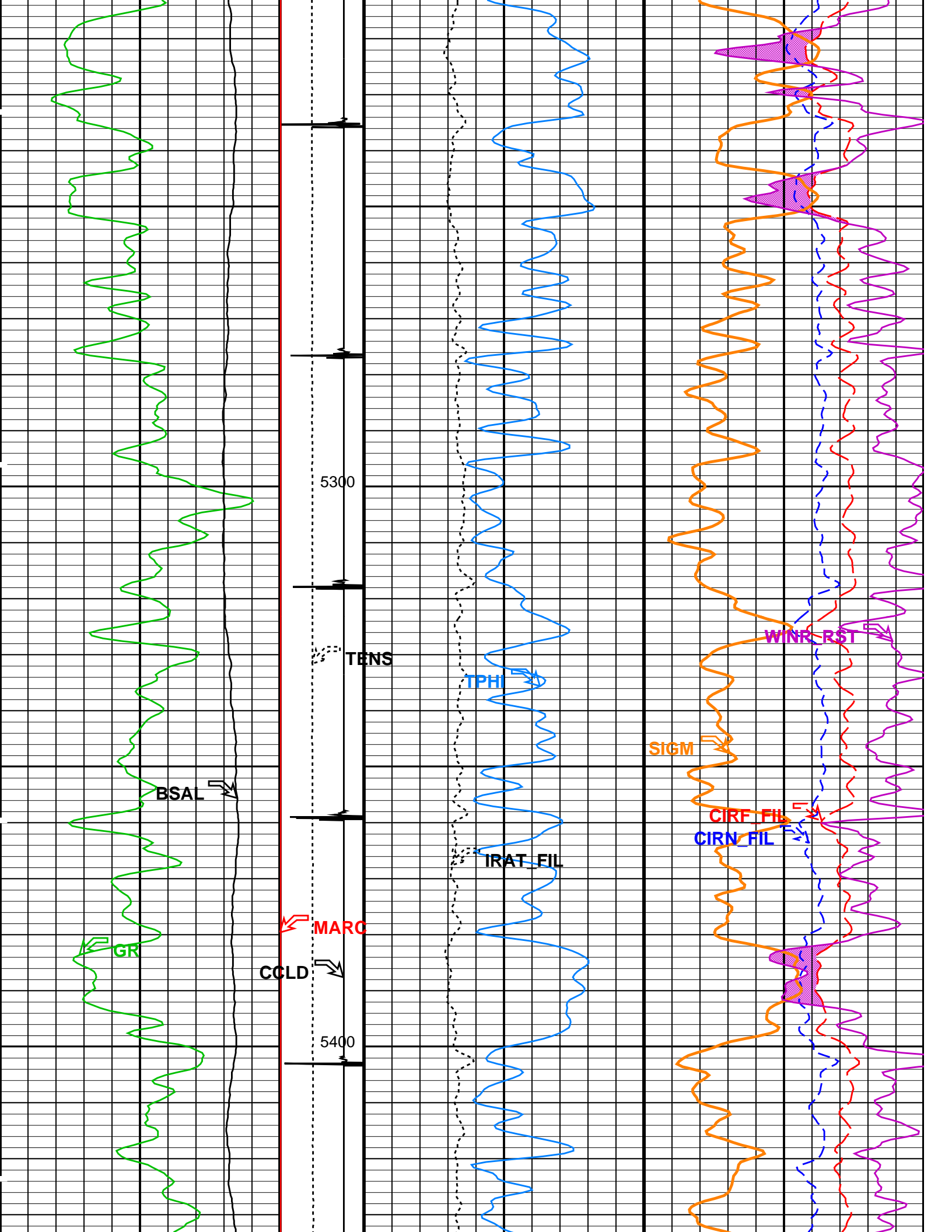


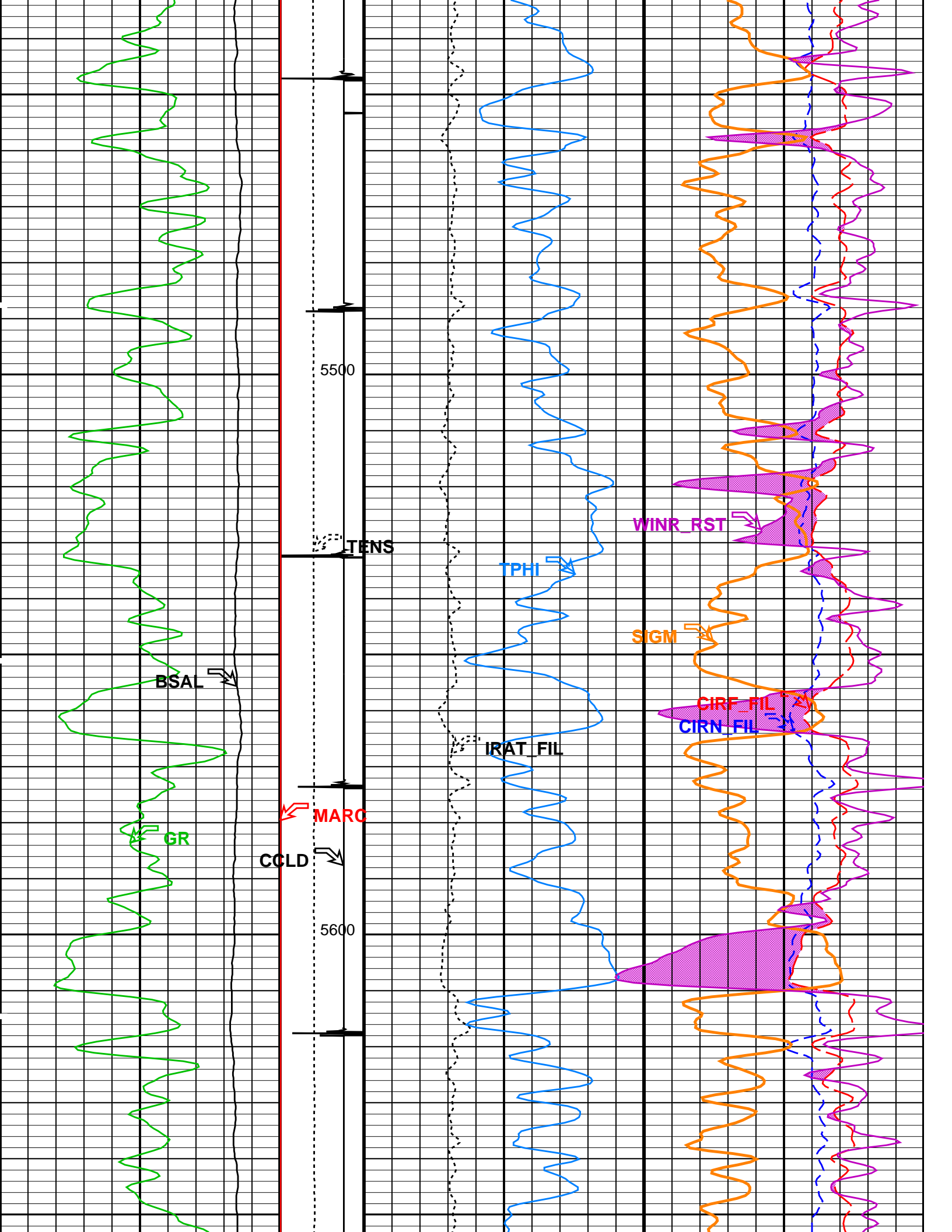












SHORT JOINT

5700

TENS

TPHI

WINR\_RST

SIGM

CIRF\_FIL

CIRN\_FIL

IRAT\_FIL

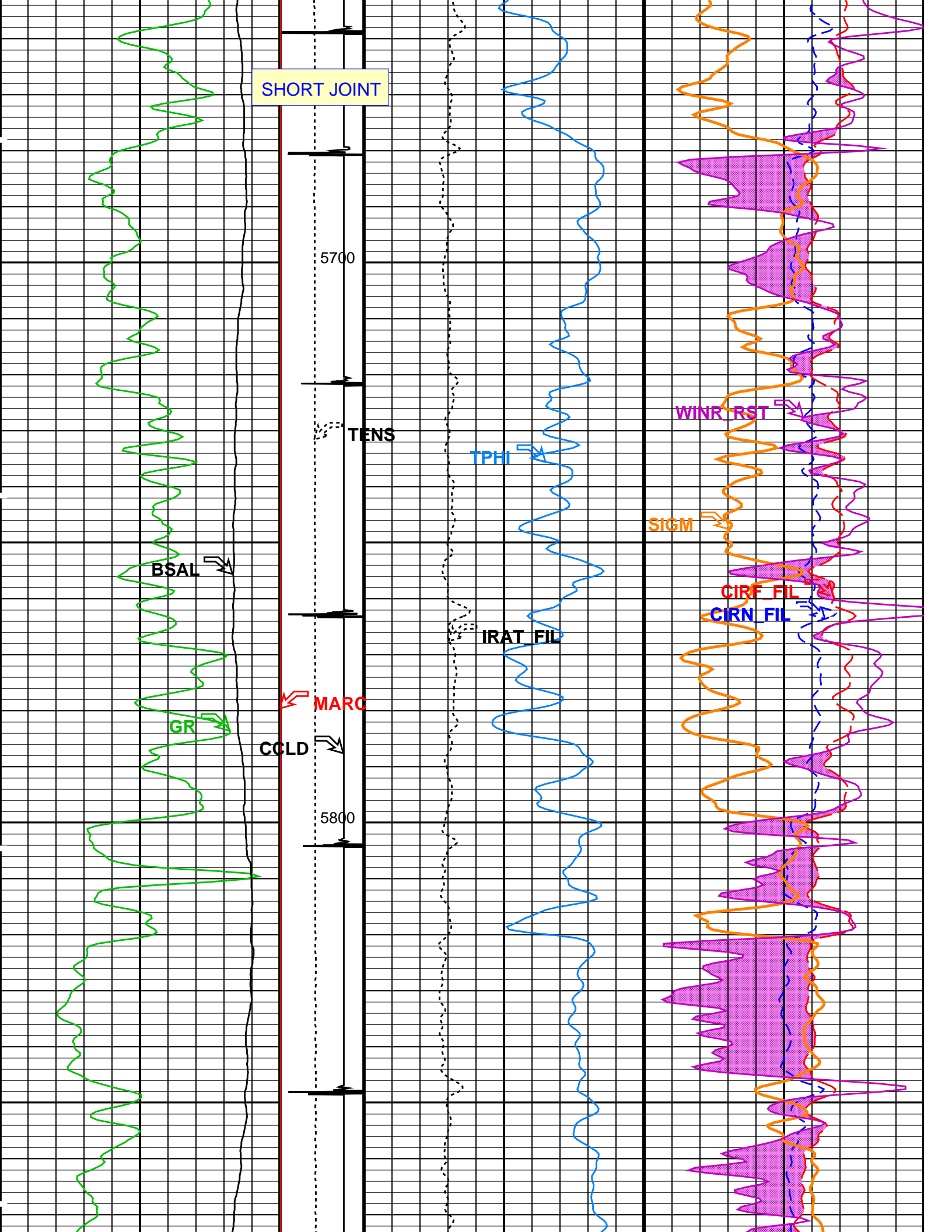
BSAL

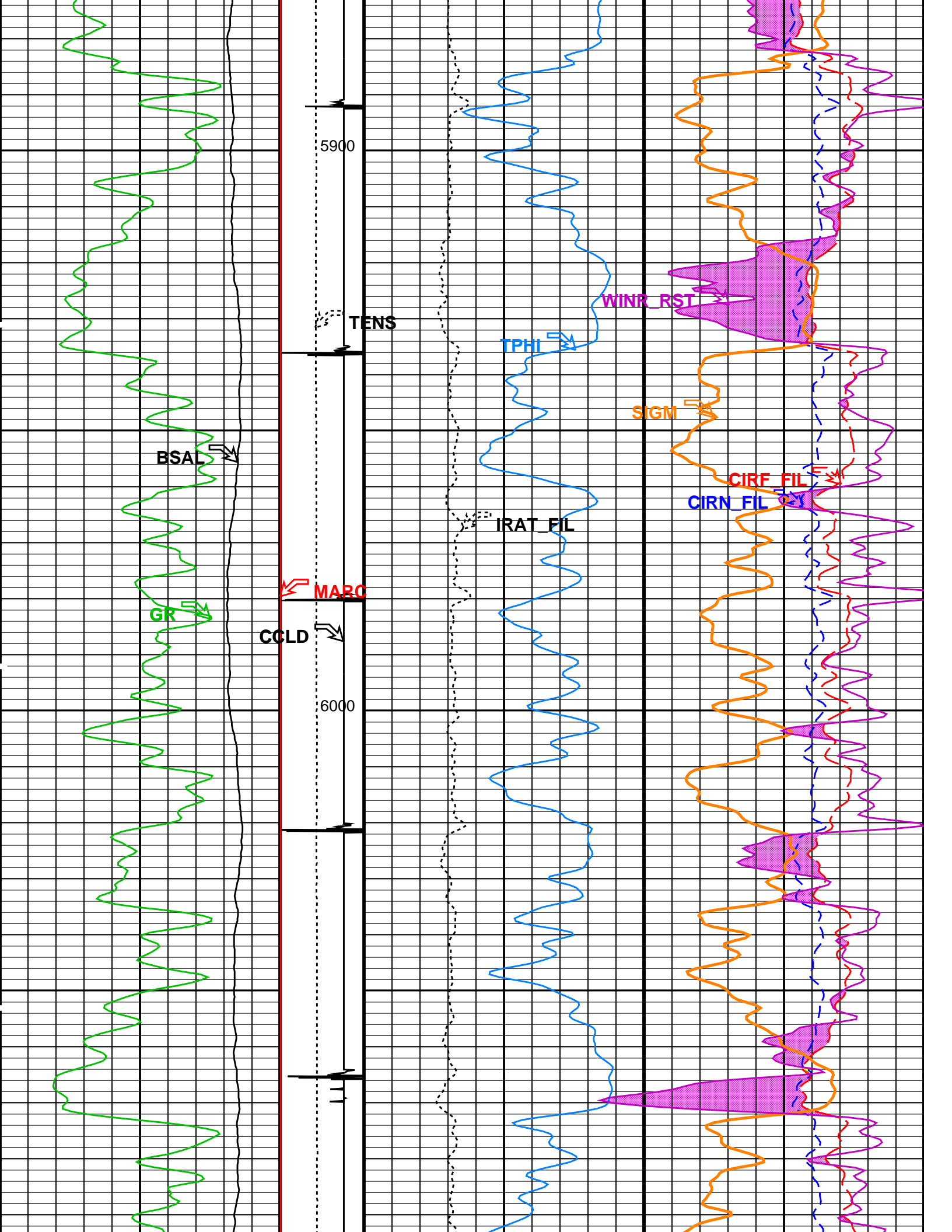
GR

CGLD

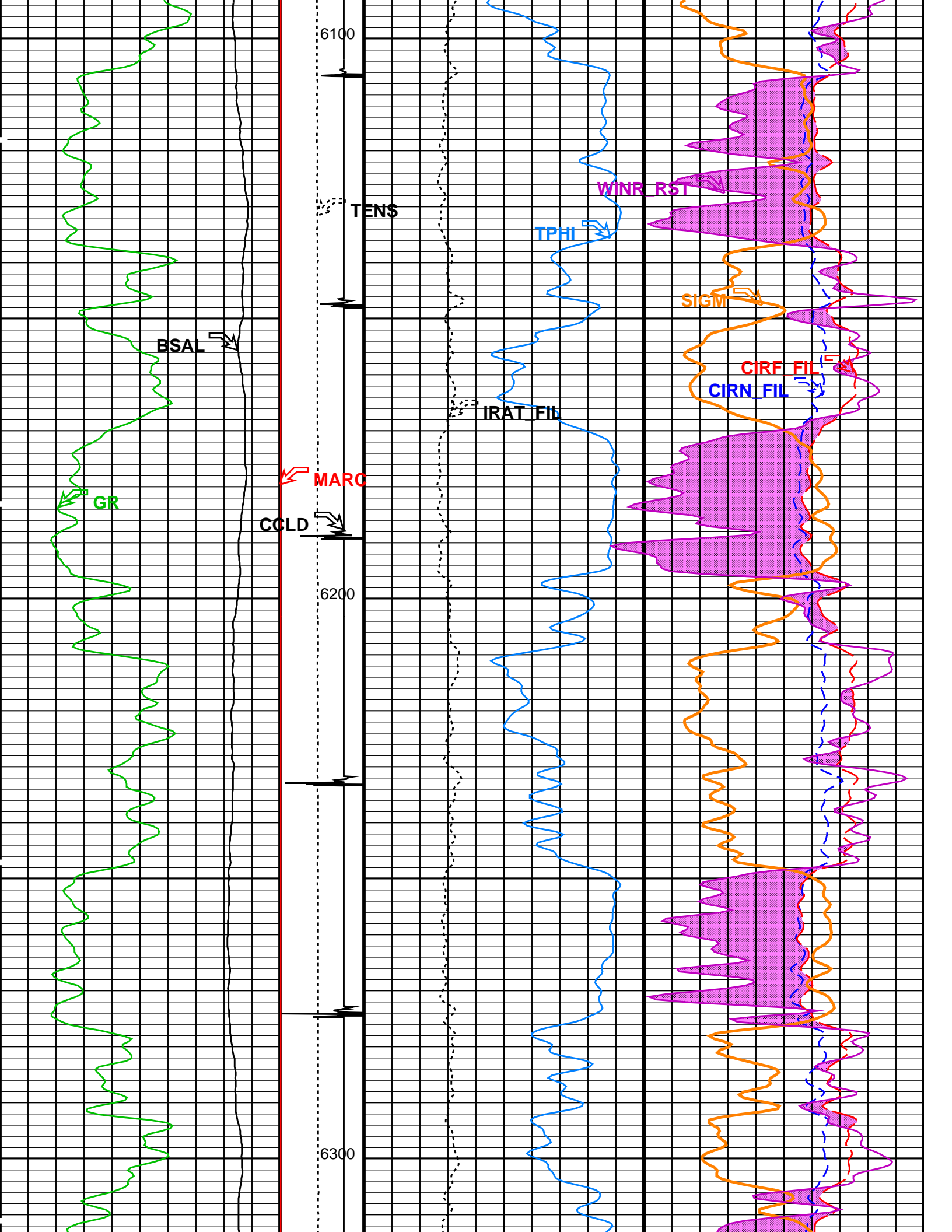
MARC

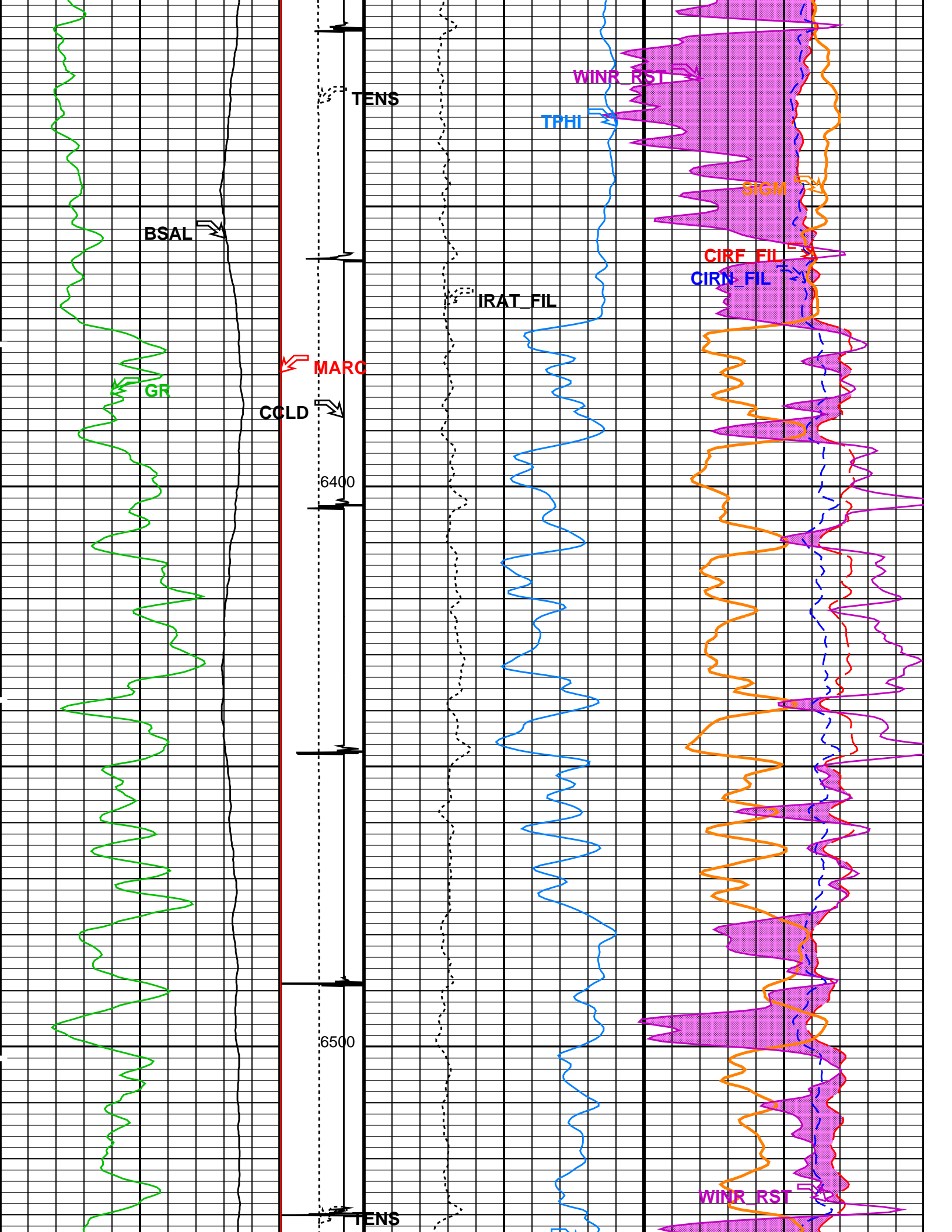
5800

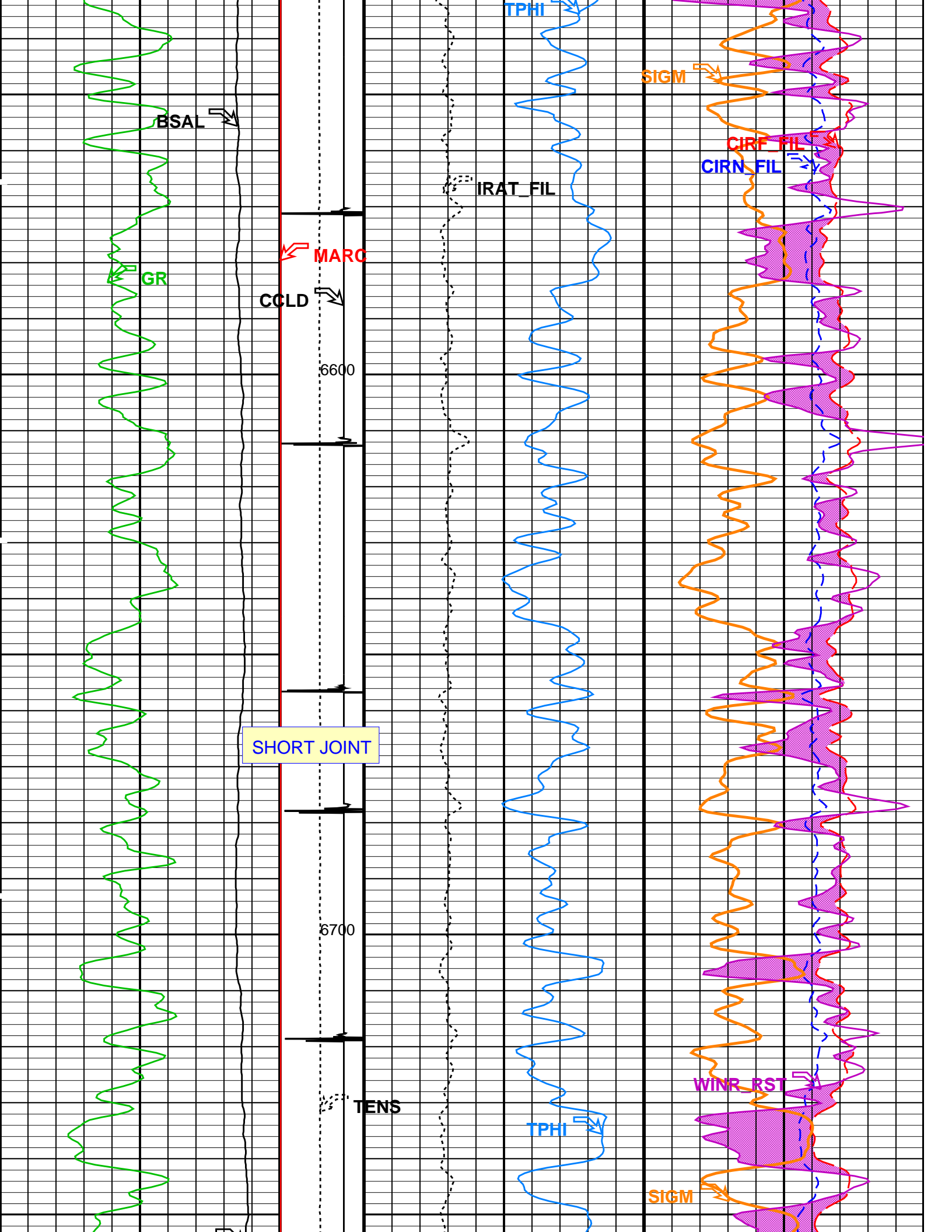


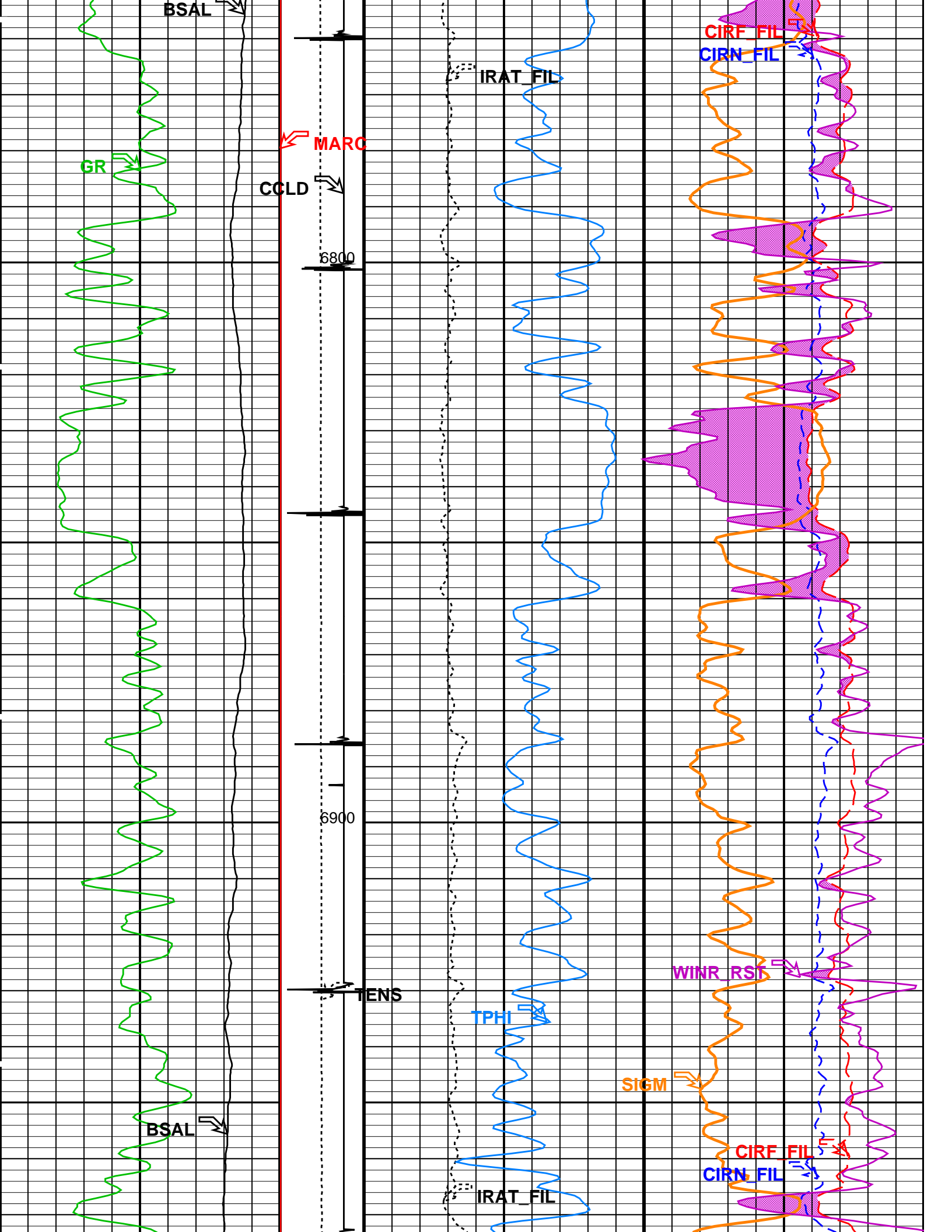


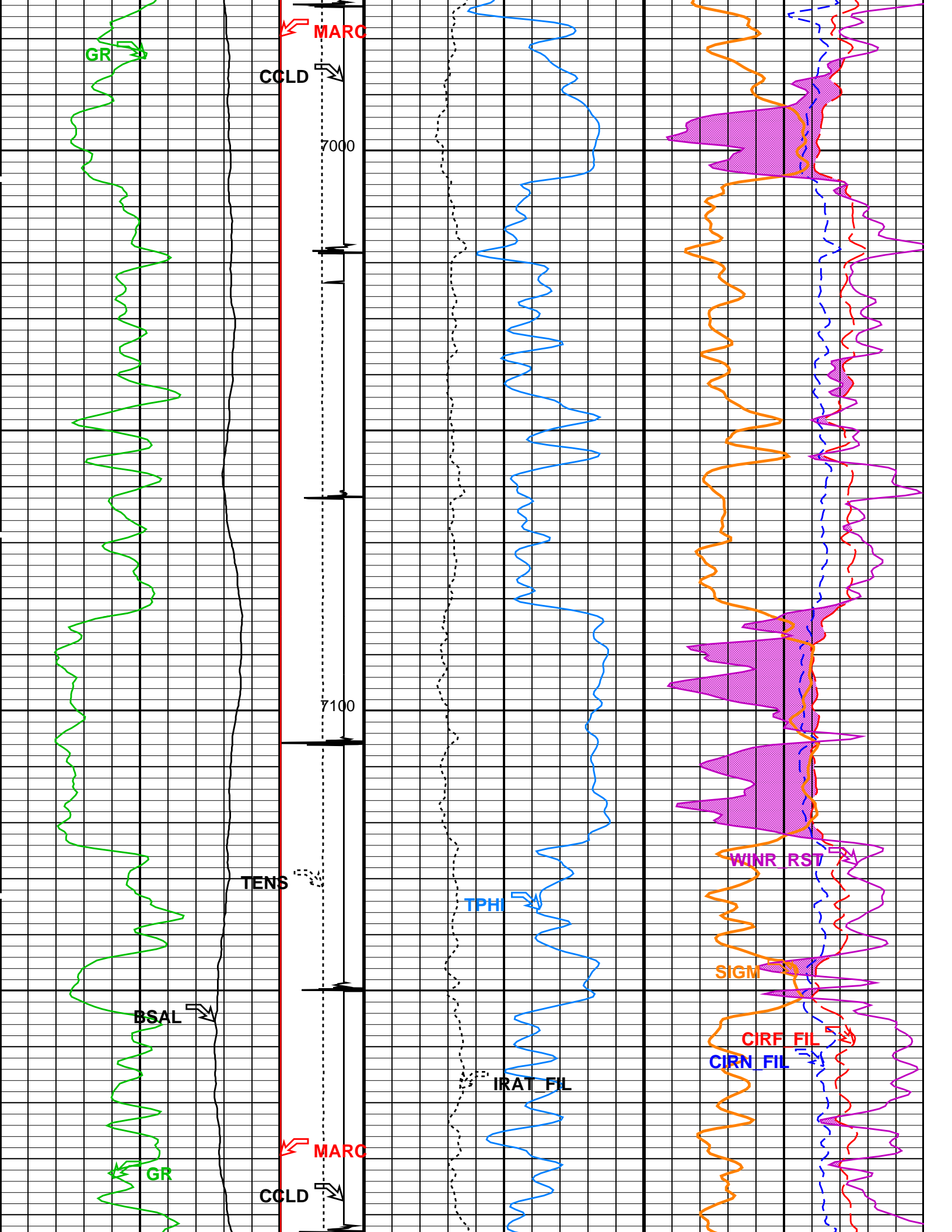


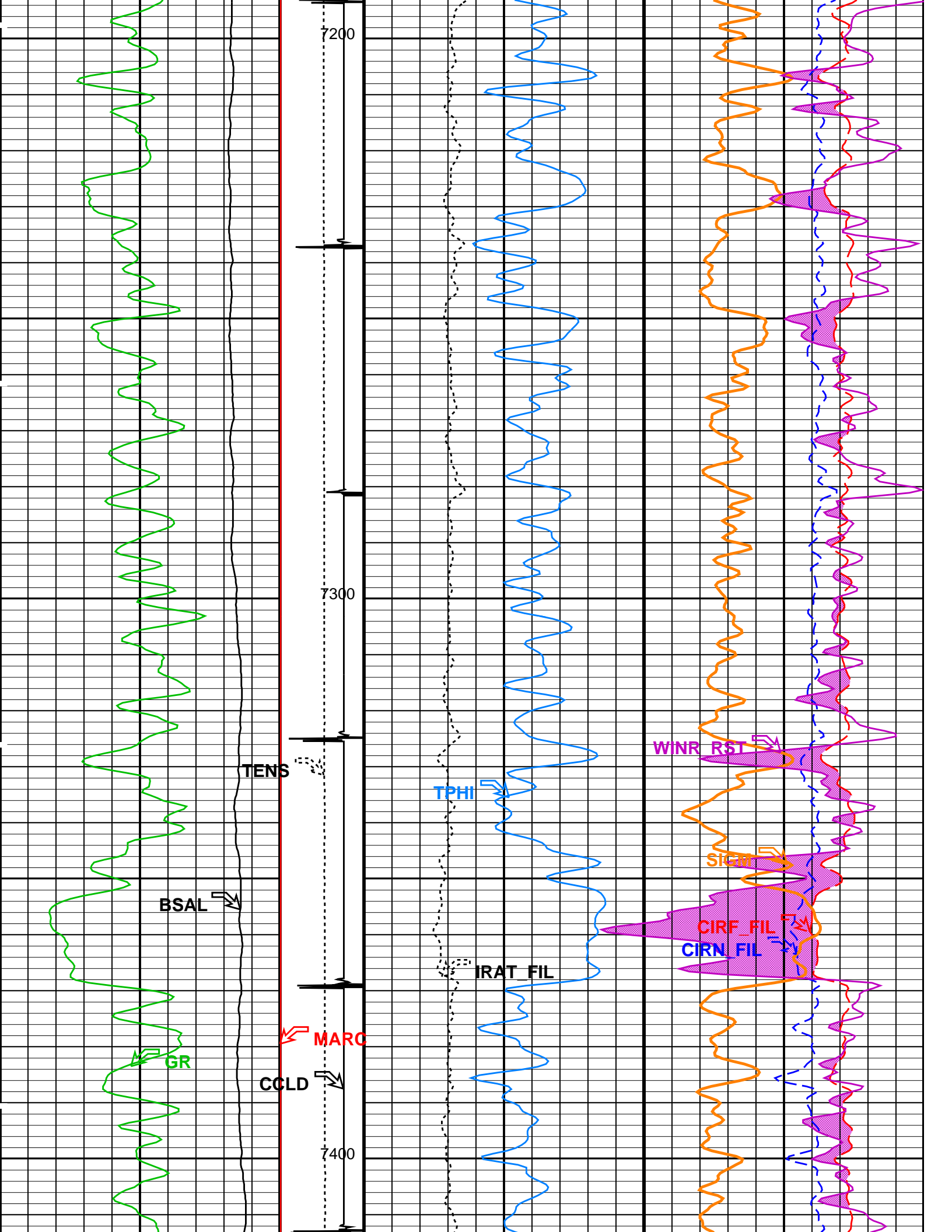




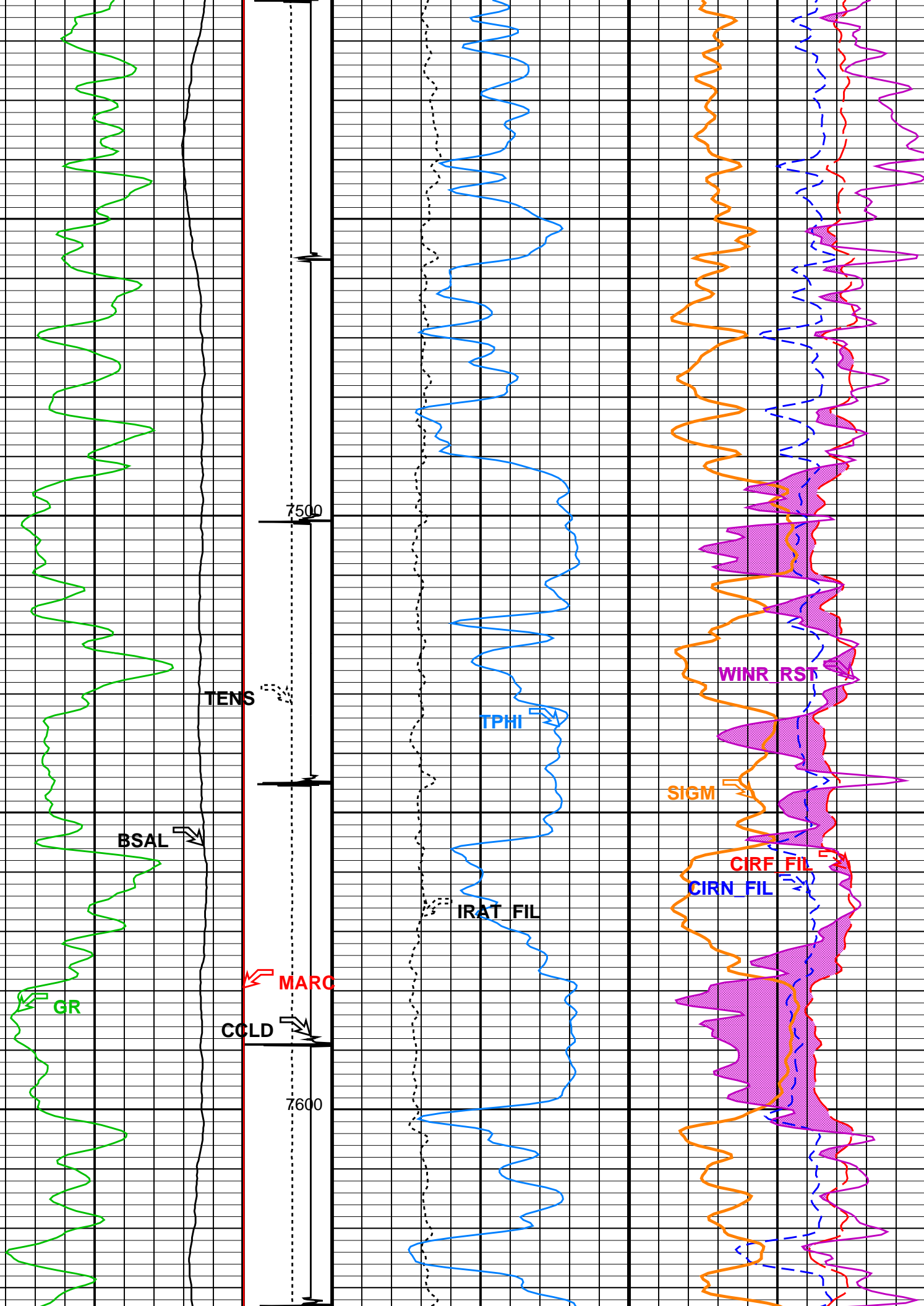


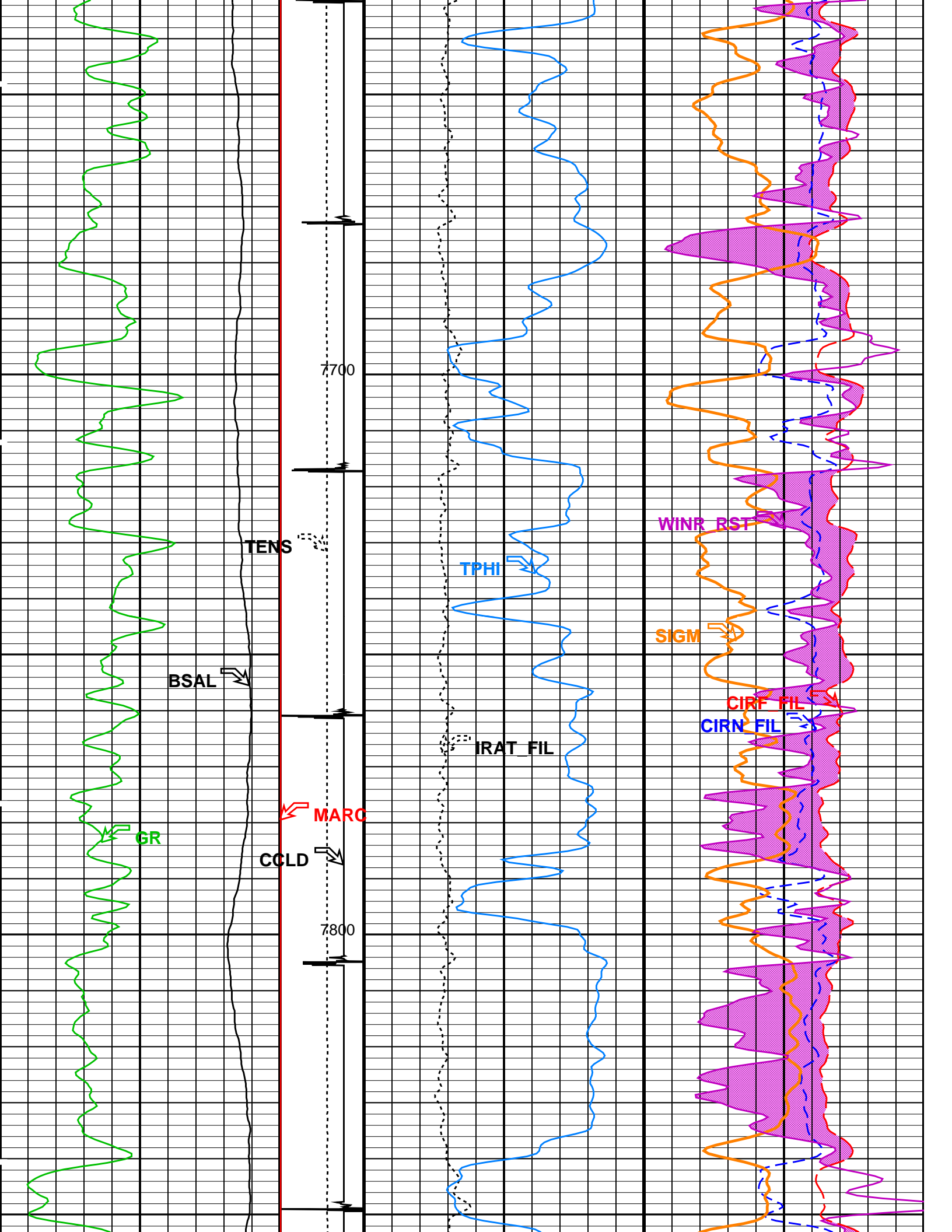




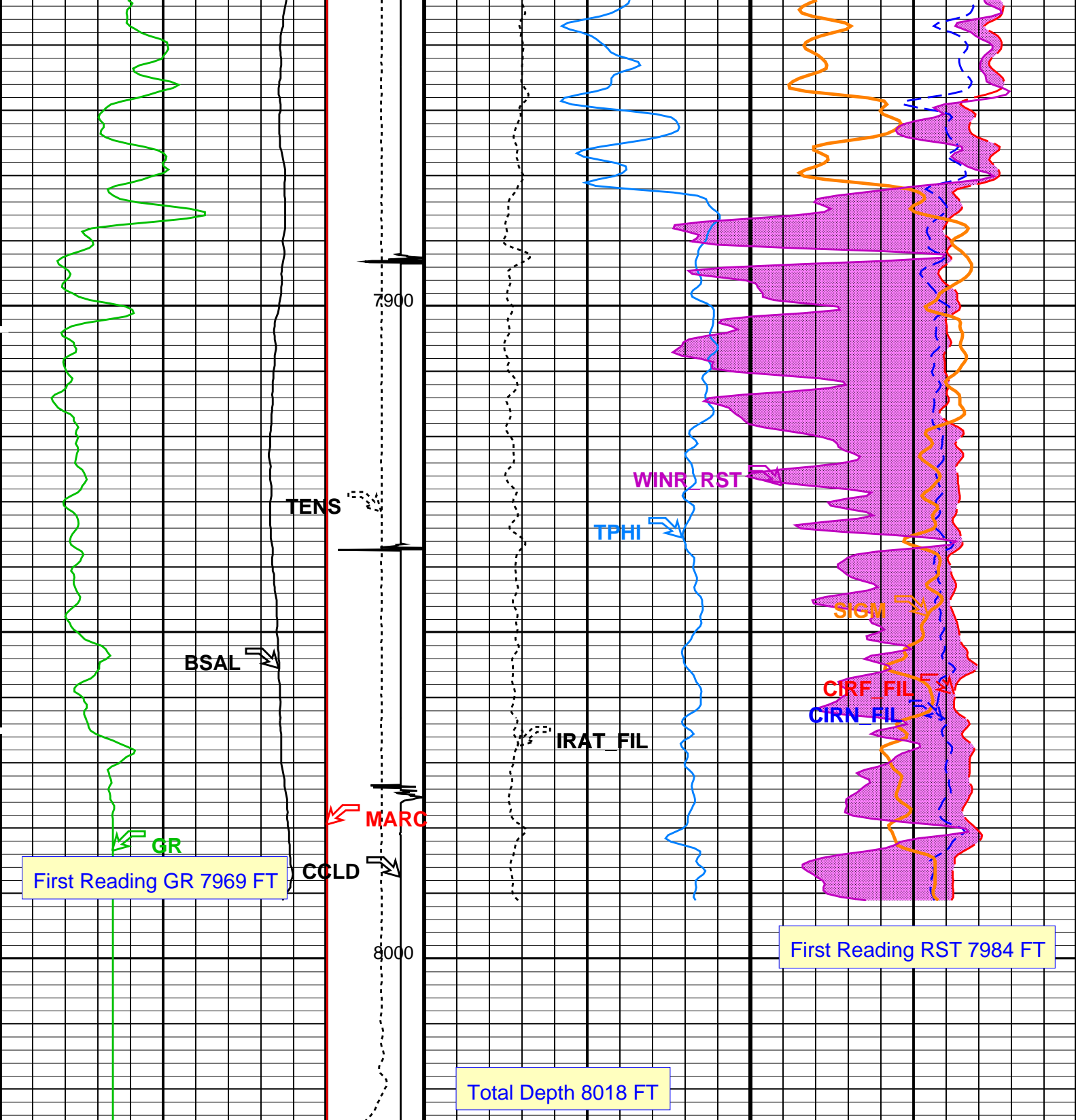












<div>Gamma Ray (GR)</div> <div>(GAPI)</div> <div>0150</div>		<div>Tension</div> <div>(TENS)</div> <div>(LBF)</div> <div>02000</div>	<div>RST Inelastic Ratio (IRAT_FIL)</div> <div>(-----)</div> <div>0.750</div>		<div>RST Capture to Inelastic Ratio Near</div> <div>(CIRN_FIL)</div> <div>(-----)</div> <div>2.50</div>	
<div>RST Borehole Salinity (BSAL)</div> <div>(PPK)</div> <div>450-50</div>		<div>Discriminat</div> <div>ed CCL</div> <div>(CCLD)</div> <div>3(V)-1</div>	<div>RST Sigma (SIGM)</div> <div>(CU)</div> <div>600</div>			
		<div>Minitron</div> <div>Arc</div> <div>Detection</div> <div>(MARC)</div> <div>0(-----)5</div>	<div>RST Porosity (TPHI)</div> <div>(V/V)</div> <div>0.50</div>		<div>RST Capture to Inelastic Ratio Far</div> <div>(CIRF_FIL)</div> <div>(-----)</div> <div>70</div>	

		RST Weighted Inelastic Ratio (WINR_RST)	
0.4		(-----)	
		0	
WINR Gas Flag From WINR to RST_CIRF_FIL			
		Crossover in sand From RST_CIRF_FIL to RST_CIRN_FIL	
PIP SUMMARY			
Time Mark Every 60 S			
Parameters			
DLIS Name	Description	Value	
SCMT-CB: Slim Cement Mapping Tool, 1-11/16 OD			
BILI	Bond Index Level for Zone Isolation	0.8	
BISS	Bond Index Source Selection for BIQL	BI	
CB3D	SCMT CBL 3 ft Peak Detection Mode	PEAK	
CB3G	SCMT CBL 3 ft Peak Detection T0_Delay and Noise Gate	224.559	US
CB3T	SCMT CBL 3 ft Fixed Threshold Level	20	MV
CB5D	SCMT CBL 5 ft Peak Detection Mode	PEAK	
CB5G	SCMT CBL 5 ft Peak Detection T0_Delay and Noise Gate	338.559	US
CB5T	SCMT CBL 5 ft Fixed Threshold Level	20	MV
CBLG	CBL Gate Width	45	US
CBRA	CBL LQC Reference Amplitude in Free Pipe	80	MV
CMCF	CBL Cement Type Compensation Factor	1	
CMTC	SCMT Slow Channel Multiplexer Mode	SCAN	
CMTM	SCMT Operating Mode	LOG	
CMTF	SCMT Tool position on CAN	5	
CSCS	SCMT Slow Channel Index	VCC	
CTHI	Casing Thickness	0.255617	IN
DTF	Delta-T Fluid	189	US/F
FATT	Acoustic Attenuation due to Fluid	0	DB/F
FCF	CBL Fluid Compensation Factor	0.924277	
GOBO	Good Bond	1.55185	MV
MAPD	SCMT MAP Peak Detection Mode	PEAK	
MAPG	SCMT MAP Peak Detection T0_Delay and Noise Gate	167.559	US
MAPT	SCMT MAP Fixed Threshold Level	30	MV
MATT	Maximum Attenuation	16.5449	DB/F
MCCF	MAP Cement Type Compensation Factor	1	
MCI	Minimum Cemented Interval for Isolation	1.25	FT
MMSA	MAP Minimum Sonic Amplitude	4.32284	MV
MSA	Minimum Sonic Amplitude	0.579149	MV
PEDE	Peak Detection On/Off Switch in Playback	OFF	
RBC	Relative Bearing Correction Allow/Disallow	ALLOW	
VDLG	VDL Manual Gain	5	
ZCMT	Acoustic Impedance of Cement	6.8	MRAY
RST-C: Reservoir Saturation Pro Tool C			
AIRB	Tractor Available in Tool String	NO	
BHS	RST Air Borehole	No	
BHT	Borehole Status	CASED	
BHALOPT	Bottom Hole Temperature (used in calculations)	212	DEGF
BSALOPT	RST Borehole Salinity Option	Unknown	
BSFL	RST Borehole Salinity Filter Length	51	
CSID	Casing Size I.D.	3.998	IN
DFPC	RST Depth Filter Processing Constant	One	
DFPC_TDTL	RST Depth Filter Processing Constant (TDT-like)	Two	
GCSE	Generalized Caliper Selection	BS	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
GRSE	Generalized Mud Resistivity Selection	CHART_GEN_9	
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE	
ISSBAR	Barite Mud Switch	NOBARITE	
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
PTIER	RST Tiered Presentation Selection	0_Customer	
PVL_PSNT_PRST	PVL Peak Signal/Noise Threshold	3	
RGAI	Near/Far Gain Calibration Ratio	1	
SHT	Surface Hole Temperature	68	DEGF
TIER_IC	RST IC Acquisition Mode	0_CO_Yield_and_Spectrolith	
TIER_SIGM	RST Sigma Acquisition Mode	0_RST_Sigma	
WOFSL_PRST	RST WFL-Off Subcycle Length	0	
WONSL_PRST	RST WFL-On Subcycle Length	0	
WSCOM_PRST	RST Station Log Comment		
PSPT: Production Services Logging Platform			
BHS	Borehole Status	CASED	
BHT	Bottom Hole Temperature (used in calculations)	212	DEGF
CSID	Casing Size I.D.	3.998	IN

GCSE	Casing Size (in)	3.538	IN
GDEV	Generalized Caliper Selection	BS	
GGRD	Average Angular Deviation of Borehole from Normal	0	DEG
GRSE	Geothermal Gradient	0.01	DF/F
GTSE	Generalized Mud Resistivity Selection	CHART_GEN_9	
ISSBAR	Generalized Temperature Selection	LINEAR_ESTIMATE	
MATR	Barite Mud Switch	NOBARITE	
PBPO	Rock Matrix for Neutron Porosity Corrections	SANDSTONE	
PCCG	PBMS Tool position on CAN	2	
PSTP	PBMS CCL Gain	DB0	
SHT	PSTC Tool Position on CAN Bus	1	
	Surface Hole Temperature	68	DEGF
System and Miscellaneous			
ALTDPCCHAN	Name of alternate depth channel	SpeedCorrectedDepth	
BS	Bit Size	8.750	IN
BSAL	Borehole Salinity	-50000.00	PPM
CSIZ	Current Casing Size	4.500	IN
CWEI	Casing Weight	11.60	LB/F
DFD	Drilling Fluid Density	8.40	LB/G
DO	Depth Offset for Playback	4.0	FT
FLEV	Fluid Level	60.00	FT
MST	Mud Sample Temperature	-50000.00	DEGF
PBVSADP	Use alternate depth channel for playback	NO	
PP	Playback Processing	RECOMPUTE	
RMFS	Resistivity of Mud Filtrate Sample	-50000.0000	OHMM
RW	Resistivity of Connate Water	1.0000	OHMM
TD	Total Depth	8018	FT
TDD	Total Depth - Driller	8110.00	FT
TDL	Total Depth - Logger	8018.00	FT
TWS	Temperature of Connate Water Sample	100.00	DEGF

Format: RST\_SIGMA\_S5    Vertical Scale: 5" per 100'    Graphics File Created: 30-Mar-2013 01:57

## OP System Version: 19C0-187

SCMT-CB      SRPC-5214-H2-2012-OP1!      RST-C      SRPC-5214-H2-2012-OP1!  
PSPT      SRPC-5214-H2-2012-OP1!

### Input DLIS Files

DEFAULT      SCMT\_RST\_PSP\_022LUP      FN:21    PRODUCER    29-Mar-2013 23:47    8021.0 FT      16.5 FT

### Output DLIS Files

DEFAULT      SCMT\_RST\_PSP\_025PUP      FN:24    PRODUCER    30-Mar-2013 01:57

**Schlumberger**

**REPEAT ANALYSIS RST SIGMA**

MAXIS Field Log

### Input DLIS Files

DEFAULT      SCMT\_RST\_PSP\_020LUP      FN:19    PRODUCER    29-Mar-2013 23:31    5843.5 FT      5526.0 FT  
DEFAULT      SCMT\_RST\_PSP\_025PUP      FN:24    PRODUCER    30-Mar-2013 01:57    8025.0 FT      -24.0 FT

### Output DLIS Files

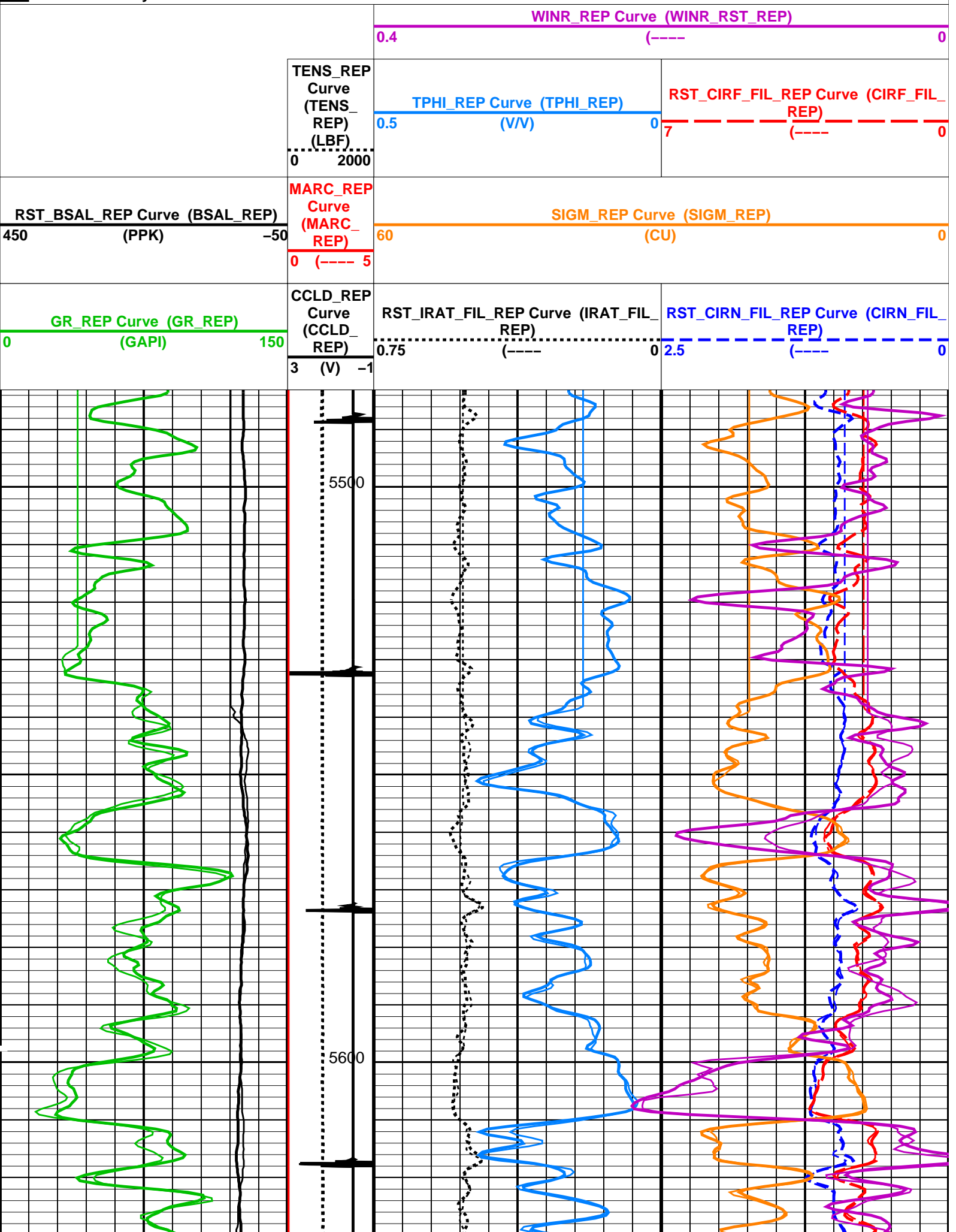
DEFAULT      SCMT\_RST\_PSP\_026PUP      FN:25    PRODUCER    30-Mar-2013 02:05    5844.5 FT      5482.5 FT

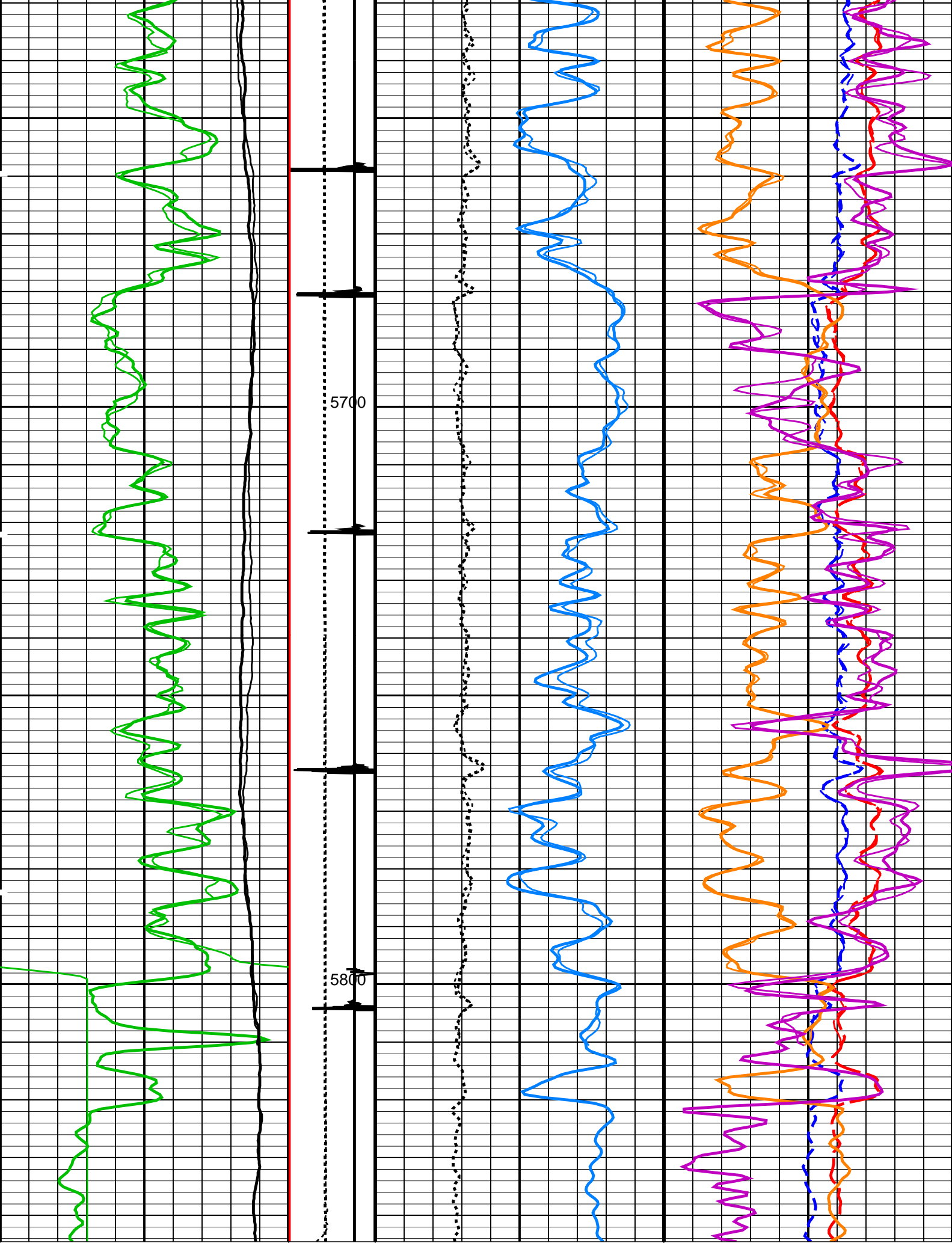
## OP System Version: 19C0-187

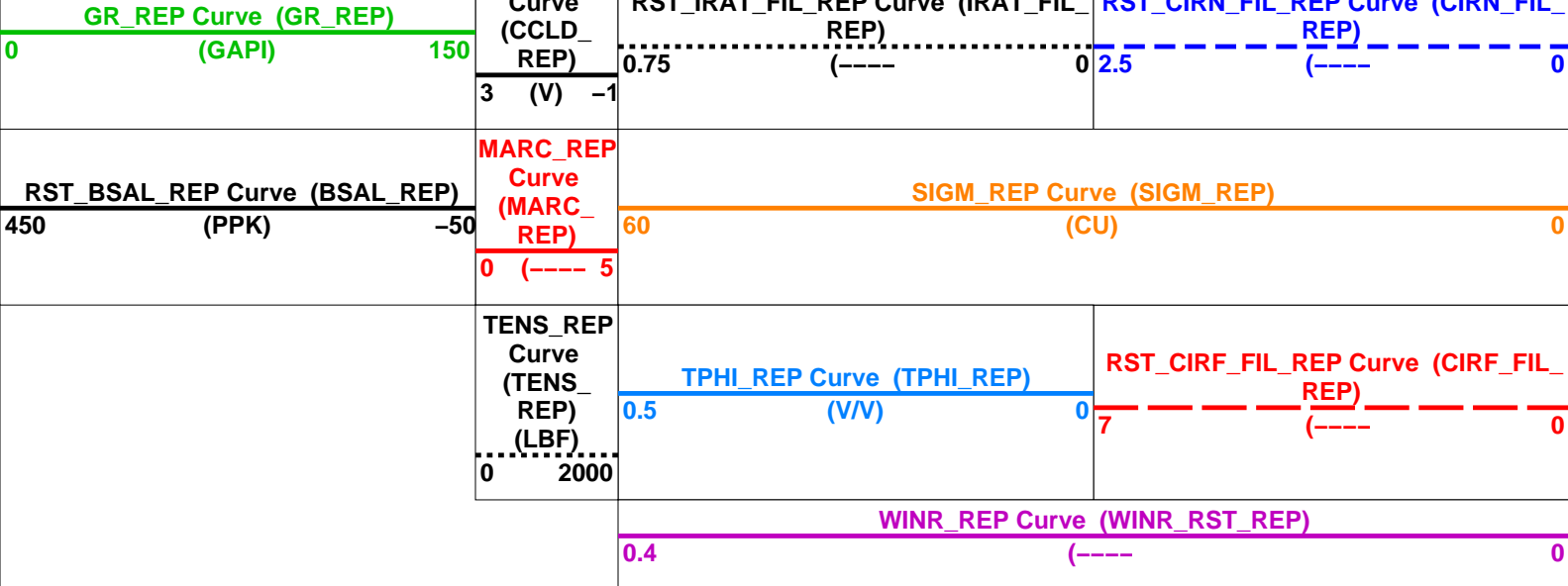
SCMT-CB      SRPC-5214-H2-2012-OP1!      RST-C      SRPC-5214-H2-2012-OP1!  
PSPT      SRPC-5214-H2-2012-OP1!

PIP SUMMARY

Time Mark Every 60 S







PIP SUMMARY

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value	
SCMT-CB: Slim Cement Mapping Tool, 1-11/16 OD			
BILI	Bond Index Level for Zone Isolation	0.8	
BISS	Bond Index Source Selection for BIQL	BI	
CB3D	SCMT CBL 3 ft Peak Detection Mode	PEAK	
CB3G	SCMT CBL 3 ft Peak Detection T0_Delay and Noise Gate	224.559	US
CB3T	SCMT CBL 3 ft Fixed Threshold Level	20	MV
CB5D	SCMT CBL 5 ft Peak Detection Mode	PEAK	
CB5G	SCMT CBL 5 ft Peak Detection T0_Delay and Noise Gate	338.559	US
CB5T	SCMT CBL 5 ft Fixed Threshold Level	20	MV
CBLG	CBL Gate Width	45	US
CBRA	CBL LQC Reference Amplitude in Free Pipe	80	MV
CMCF	CBL Cement Type Compensation Factor	1	
CMTC	SCMT Slow Channel Multiplexer Mode	SCAN	
CMTM	SCMT Operating Mode	LOG	
CMTT	SCMT Tool position on CAN	5	
CSCS	SCMT Slow Channel Index	VCC	
CTHI	Casing Thickness	0.255617	IN
DTF	Delta-T Fluid	189	US/F
FATT	Acoustic Attenuation due to Fluid	0	DB/F
FCF	CBL Fluid Compensation Factor	0.924277	
GOBO	Good Bond	1.55185	MV
MAPD	SCMT MAP Peak Detection Mode	PEAK	
MAPG	SCMT MAP Peak Detection T0_Delay and Noise Gate	167.559	US
MAPT	SCMT MAP Fixed Threshold Level	30	MV
MATT	Maximum Attenuation	16.5449	DB/F
MCCF	MAP Cement Type Compensation Factor	1	
MCI	Minimum Cemented Interval for Isolation	1.25	FT
MMSA	MAP Minimum Sonic Amplitude	4.32284	MV
MSA	Minimum Sonic Amplitude	0.579149	MV
PEDE	Peak Detection On/Off Switch in Playback	OFF	
RBC	Relative Bearing Correction Allow/Disallow	ALLOW	
VDLG	VDL Manual Gain	5	
ZCMT	Acoustic Impedance of Cement	6.8	MRAY
RST-C: Reservoir Saturation Pro Tool C			
AIRB	Tractor Available in Tool String	NO	
BHS	RST Air Borehole	No	
BHT	Borehole Status	CASED	
BHT	Bottom Hole Temperature (used in calculations)	212	DEGF
BSALOPT	RST Borehole Salinity Option	Unknown	
BSFL	RST Borehole Salinity Filter Length	51	
CSID	Casing Size I.D.	3.998	IN
DFPC	RST Depth Filter Processing Constant	One	
DFPC_TDTL	RST Depth Filter Processing Constant (TDT-like)	Two	
GCSE	Generalized Caliper Selection	BS	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
GRSE	Generalized Mud Resistivity Selection	CHART_GEN 9	
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE	
ISSBAR	Barite Mud Switch	NOBARITE	
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



PTIER	RST Tiered Presentation Selection	0_Customer	3	
PVL_PSNT_PRST	PVL Peak Signal/Noise Threshold		1	
RGAI	Near/Far Gain Calibration Ratio		68	DEGF
SHT	Surface Hole Temperature			
TIER_IC	RST IC Acquisition Mode	0_CO_Yield_and_Spectrolith		
TIER_SIGM	RST Sigma Acquisition Mode	0_RST_Sigma	0	
WOFSL_PRST	RST WFL-Off Subcycle Length		0	
WONSL_PRST	RST WFL-On Subcycle Length		0	
WSCOM_PRST	RST Station Log Comment			
PSPT: Production Services Logging Platform				
BHS	Borehole Status	CASED		
BHT	Bottom Hole Temperature (used in calculations)	212		DEGF
CSID	Casing Size I.D.	3.998		IN
GCSE	Generalized Caliper Selection	BS		
GDEV	Average Angular Deviation of Borehole from Normal	0		DEG
GGRD	Geothermal Gradient	0.01		DF/F
GRSE	Generalized Mud Resistivity Selection	CHART_GEN_9		
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE		
ISSBAR	Barite Mud Switch	NOBARITE		
MATR	Rock Matrix for Neutron Porosity Corrections	SANDSTONE		
PBPO	PBMS Tool position on CAN	2		
PCCG	PBMS CCL Gain	DB0		
PSTP	PSTC Tool Position on CAN Bus	1		
SHT	Surface Hole Temperature	68		DEGF
System and Miscellaneous				
ALTDPCCHAN	Name of alternate depth channel	SpeedCorrectedDepth		
BS	Bit Size	8.750		IN
BSAL	Borehole Salinity	-50000.00		PPM
CSIZ	Current Casing Size	4.500		IN
CWEI	Casing Weight	11.60		LB/F
DFD	Drilling Fluid Density	8.40		LB/G
DO	Depth Offset for Playback	1.0		FT
DORL	Depth Offset for Repeat Analysis	0.0		FT
FLEV	Fluid Level	60.00		FT
MST	Mud Sample Temperature	-50000.00		DEGF
PBVSDAP	Use alternate depth channel for playback	NO		
PP	Playback Processing	RECOMPUTE		
RMFS	Resistivity of Mud Filtrate Sample	-50000.0000		OHMM
RW	Resistivity of Connate Water	1.0000		OHMM
TD	Total Depth	8018		FT
TDD	Total Depth - Driller	8110.00		FT
TDL	Total Depth - Logger	8018.00		FT
TWS	Temperature of Connate Water Sample	100.00		DEGF

Format: RST\_SIGMA\_S5\_REP      Vertical Scale: 5" per 100'      Graphics File Created: 30-Mar-2013 02:05

## OP System Version: 19C0-187

SCMT-CB	SRPC-5214-H2-2012-OP1	RST-C	SRPC-5214-H2-2012-OP1
PSPT	SRPC-5214-H2-2012-OP1		

### Input DLIS Files

DEFAULT	SCMT_RST_PSP_020LUP	FN:19	PRODUCER	29-Mar-2013 23:31	5843.5 FT	5526.0 FT
DEFAULT	SCMT_RST_PSP_025PUP	FN:24	PRODUCER	30-Mar-2013 01:57	8025.0 FT	-24.0 FT

### Output DLIS Files

DEFAULT	SCMT_RST_PSP_026PUP	FN:25	PRODUCER	30-Mar-2013 02:05
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**Schlumberger**

**PBMS COEFFICIENTS**

MAXIS Field Log

Client: ENCANA OIL & GAS (USA) INC  
Field: PARACHUTE

Tool: PSP  
Sub Type: PBMS

PBMS Gamma Ray

Sonde Serial NB

Sensor Serial NB

Calib Date ddmmyy

Matrix Size

Coeff CRC

RESISTORS FOR GR SENSOR N.33223,TOOL PBMS-BA0928. SENSOR S/N:  
33223  
090800  
12  
CFE2

GR HV Rt

	Rt**0	Rt**1
Rt**0	+1.1820000000000e+04	+1.3320000000000e+04

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Client:	ENCANA OIL & GAS (USA) INC	Tool:	PSP
Field:	PARACHUTE	Sub Type:	PBMS
Well:	FEDERAL 22-13BB (PJ21)	Sensor:	WellTemp RTD
Run date:	30-Mar-2013		

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PBMS RTD Well Thermometer

Sonde Serial NB

Sensor Serial NB

Calib Date ddmmyy

Matrix Size

Coeff CRC

COEFFICIENTS FOR RTD THERMOMETER PBMS-B.928 S/N:  
928  
280612  
16  
A24E

WTemp Coeff

	Tt**0	Tt**1	Tt**2
Tt**0	-1.391987973189E+03	+1.191346892512E+03	-1.440920753451E+02
	Tt**3	Tt**4	Tt**5
Tt**0	+1.957191300908E+01	-1.711421725686E+00	0.0

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Client: ENCANA OIL & GAS (USA) INC

Field: PARACHUTE

Well: FEDERAL 22–13BB (PJ21)

Run date: 30–Mar–2013

Tool: PSP

Sub Type: PBMS

Sensor: CQG

PBMS Quartz Gauge type F

Sonde Serial NB

Sensor Serial NB

Calib Date ddmmyy

Matrix Size

Coeff CRC

COEFFICIENTS FOR CQG PBMS–B.928 S/N:

928

280612

66

9DC3

Pres Coeff

	Fb**0	Fb**1	Fb**2
Fc**0	+.714463802232E+04	+.183434658655E–01	–.156620073569E–06
Fc**1	–.100638308957E+01	–.119899563644E–04	–.912155899025E–10
Fc**2	+.936268101283E–06	+.423898071451E–10	+.958076371919E–15
Fc**3	+.185123362373E–11	+.203107925433E–15	0.0
Fc**4	0.0	0.0	0.0
Fc**5	0.0	0.0	0.0

	Fb**3	Fb**4	Fb**5
Fc**0	–.746577997611E–10	–.588773826860E–15	–.622250441458E–19
Fc**1	–.120636521092E–15	+.400325894750E–19	0.0
Fc**2	0.0	0.0	0.0
Fc**3	0.0	0.0	0.0
Fc**4	0.0	0.0	0.0
Fc**5	0.0	0.0	0.0

PBMS Quartz Gauge type F

Sonde Serial NB

Sensor Serial NB

Calib Date ddmmyy

Matrix Size

Coeff CRC

:

928

280612

66

283B

Temp Coeff

	Fc**0	Fc**1	Fc**2
Fb**0	+.117016867873E+03	−.284359629614E−03	+.604391180345E−08
Fb**1	−.598309140812E−02	+.182731130848E−07	+.160166486172E−12
Fb**2	−.307621454576E−07	+.300601550309E−12	+.311233548560E−17
Fb**3	−.419658736767E−12	+.117473708647E−16	0.0
Fb**4	0.0	0.0	0.0
Fb**5	0.0	0.0	0.0

	Fc**3	Fc**4	Fc**5
Fb**0	+.114322792679E−12	+.153807711176E−17	−.736714260866E−21
Fb**1	−.528037875456E−18	−.220337637519E−21	0.0
Fb**2	0.0	0.0	0.0
Fb**3	0.0	0.0	0.0
Fb**4	0.0	0.0	0.0
Fb**5	0.0	0.0	0.0

PBMS Quartz Gauge type F

Sonde Serial NB :  
Sensor Serial NB 928  
Calib Date ddmmyy 280612  
Matrix Size 16  
Coeff CRC 093F

Clock Freq Coeff

	(Fb'−Fc')**0	(Fb'−Fc')**1	(Fb'−Fc')**2
(Fb'−Fc')**0	+.310874009898E+05	+.288920923041E−02	+.697940727038E−06

	(Fb'−Fc')**3	(Fb'−Fc')**4	(Fb'−Fc')**5
(Fb'−Fc')**0	−.657432344763E−10	−.412920638782E−15	+.213369826099E−20

PBMS Quartz Gauge type F

Sonde Serial NB :  
Sensor Serial NB 928  
Calib Date ddmmyy 280612  
Matrix Size 16  
Coeff CRC 8419

Clock Temp Coeff

	(Fb'−Fc')**0	(Fb'−Fc')**1	(Fb'−Fc')**2
(Fb'−Fc')**0	+.115369519827E+03	−.565338877075E−02	−.333717531829E−07

	(Fb'−Fc')**3	(Fb'−Fc')**4	(Fb'−Fc')**5
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(Fb -Fc )\*\*3

(Fb -Fc )\*\*4

(Fb -Fc )\*\*5

(Fb'-Fc')\*\*0

-.124387135327E-12

+.713102327208E-16

-.316084316842E-20

Company: ENCANA OIL & GAS (USA) INC

Schlumberger

Well: FEDERAL 22-13BB (PJ21)

Field: PARACHUTE

County: GARFIELD

State: COLORADO

RESERVOIR SATURATION LOG  
SIGMA MODE  
GR-CCL