

Company: ENCANA OIL & GAS (USA) INC

Well: HAGEN 22-3B (PC22)

Field: SOUTH PARACHUTE

County: GARFIELD

State: COLORADO

RESERVOIR SATURATION LOG  
SIGMA MODE  
GAMMA RAY-CCL

County: GARFIELD

Field: SOUTH PARACHUTE

Location: SHL: 584 FNL & 1740 FWL

Well: HAGEN 22-3B (PC22)

Company: ENCANA OIL & GAS (USA) INC

LOCATION			
SHL: 584 FNL & 1740 FWL	Elev.: K.B.	6543.00 ft	
BHL: 540 FNL & 1534 FWL	G.L.	6521.00 ft	
	D.F.	6542.00 ft	
Permanent Datum:	GROUND LEVEL	Elev.: 6521.00 ft	
Log Measured From:	KELLY BUSHING	22.00 ft above Perm. Datum	
Drilling Measured From:	KELLY BUSHING		
API Serial No.	Section	Township	Range
05-045-22017-0C	22	7S	95W

	Run 1	Run 2	Run 3
PVT DATA			
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	14-Sep-2013		
Run Number	1		
Depth Driller	7760 ft		
Schlumberger Depth	7642 ft		
Bottom Log Interval	7608 ft		
Top Log Interval	2000 ft		
Casing Fluid Type	FRESH WATER		
Salinity			
Density	8.4 lbm/gal		
Fluid Level	50 ft		
BIT/CASING/TUBING STRING			
Bit Size	8.750 in		
From	22 ft		
To	7760 ft		
Casing/Tubing Size	4.500 in		
Weight	11.6 lbm/ft		
Grade	S-80		
From	22 ft		
To	7724 ft		
Maximum Recorded Temperatures	216 degF		
Logger On Bottom	14-Sep-2013	Time	8:45
Unit Number	Location	338 GRAND JUNCTION	
Recorded By	KIRSTIE BUNTING		
Witnessed By	ANDY HILL		

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: 14-AUG-2013 11:54:57

## Depth System Equipment

Depth Measuring Device		Tension Device		Logging Cable	
Type:	IDW-JB	Type:	CMTD-B/A	Type:	1-25ZT
Serial Number:	6349	Serial Number:	3421	Serial Number:	112136
Calibration Date:	7-31-2013	Calibration Date:	14-AUG-201	Length:	19000 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:	-5	Calibration RMS:	3		
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
Stretch Correction:	
Tool Zero Check At Surface:	

## Depth Control Remarks

1. ALL SCHLUMBERGER DEPTH CONTROL PROCEDURES USED
2. IDW USED AS PRIMARY DEPTH REFERENCE
3. SPWT DRUM COUNTER USED AS SECONDARY DEPTH REFERENCE
- 4.
- 5.
- 6.

## DISCLAIMER

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OTHER SERVICES1	OTHER SERVICES2
OS1: SLIM CEMENT MAPPING	OS1:
OS2: LOG	OS2:
OS3: CBL-VDL	OS3:
OS4:	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: 08:15	
TIME ON BOTTOM: 08:45	
EXIT: 11:00	

MAXIMUM RECORDED TEMPERATURE: 216 DEG F	
MAXIMUM RECORDED PRESSURE: 3247 PSIA	
SHORT JOINTS: 5564 FT & 6753 FT	
SANDSTONE MATRIX USED	
CREW: KBUNTING, KJOHNS, JMANN	
THANK YOU FOR CHOOSING E&P WIRELINE. A SCHLUMBERGER COMPANY	

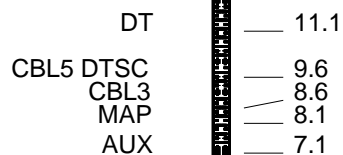
RUN 1 SERVICE ORDER #: CGF9-00138 PROGRAM VERSION: 19C0-187 FLUID LEVEL: 50 ft			RUN 2 SERVICE ORDER #: PROGRAM VERSION: FLUID LEVEL:		
LOGGED INTERVAL	START	STOP	LOGGED INTERVAL	START	STOP

	EQUIPMENT	DESCRIPTION	
RUN 1			RUN 2

SURFACE EQUIPMENT		
WITM-A		
PSC_16MHZ		

DOWNHOLE EQUIPMENT			
MH-22			53.3
MH-22			
Detail MT			
AH-38	TelStatus		51.7
PSPT	CTEM		51.5
PSC-A			51.5
PSPT-B 928			
PSTC-A			
PBMS-B	GR		47.8
CQG_F_Mano			
RTD_Thermometer			
GR	Well_Temp		44.7
CCL	CQG Manom		44.4
PBMS	CCL		44.0
	PBMS PSTC		43.2
RST-C			43.2
RSCH-A 197			
RSC-E			
RSS-A 255			
RSXH-A 425			
RSX-E			
	RSC-A Far		34.1
	RSC-A PNG		
	RSC-A Nea		
	RSX-A PNG		33.6

20.2



0.0

0.2

MAXIMUM STRING DIAMETER 1.72 IN  
MEASUREMENTS RELATIVE TO TOOL ZERO  
ALL LENGTHS IN FEET

# Schlumberger

## MAIN PASS RST SIGMA

MAXIS Field Log

## Input DLIS Files

DEFAULT	SCMT_RST_PSP_039LUP	FN:37	PRODUCER	14-Sep-2013 08:46	7644.5 FT	2.5 FT
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## Output DLIS Files

DEFAULT	SCMT_RST_PSP_042PUP	FN:40	PRODUCER	14-Sep-2013 10:51	7646.5 FT	-40.0 FT
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**OP System Version: 19C0-187**

SCMT-CB	19C0-187	RST-C	19C0-187
PSPT	19C0-187		

## PIP SUMMARY

**Time Mark Every 60 S**

**Crossover in sand**  
From RST CIRF FIL to RST CIRN FIL

## WINR Gas Flag

### From WINR to RST CIRF FIL

RST Weighted Inelastic Ratio (WINR\_RST)

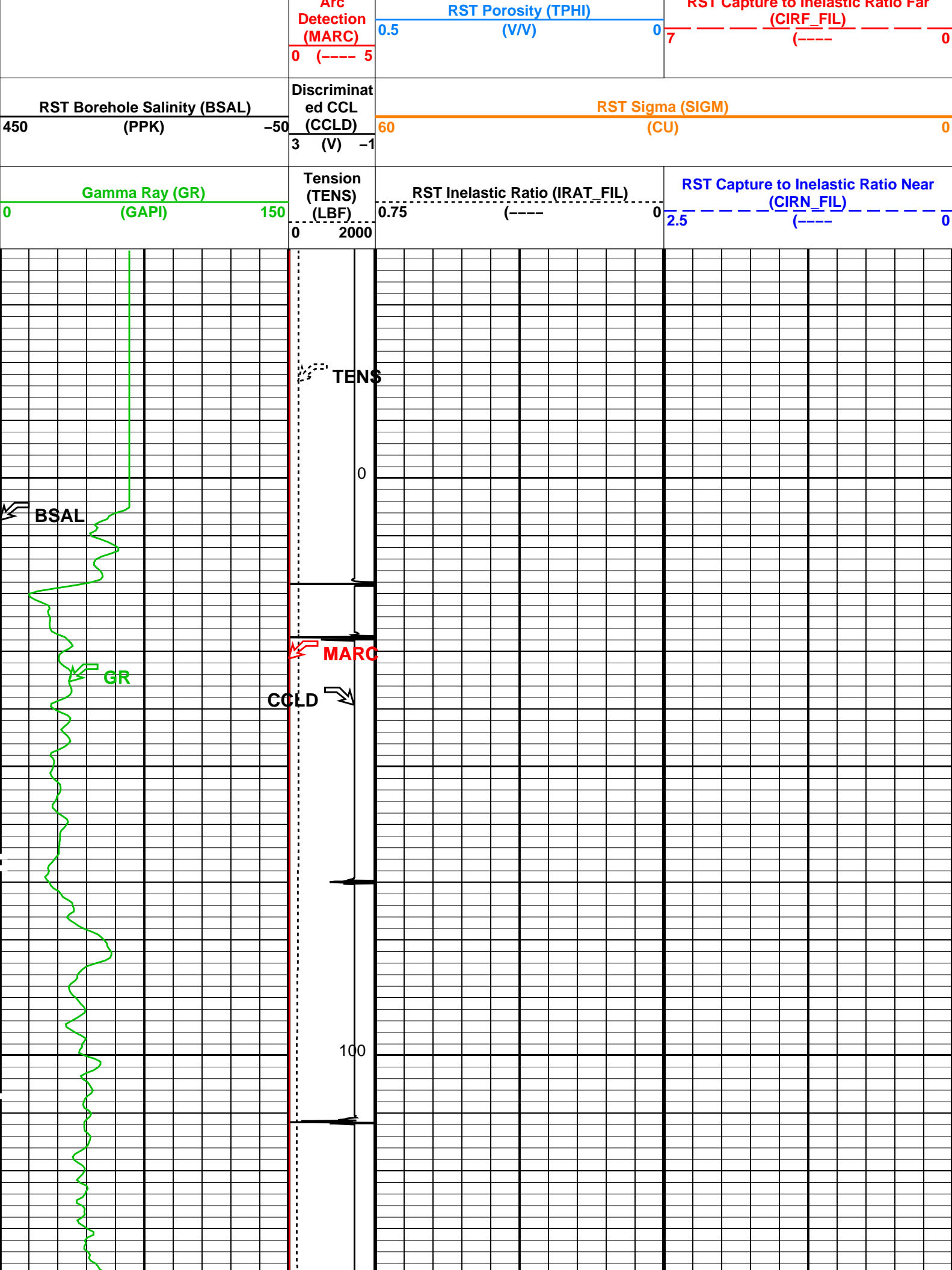
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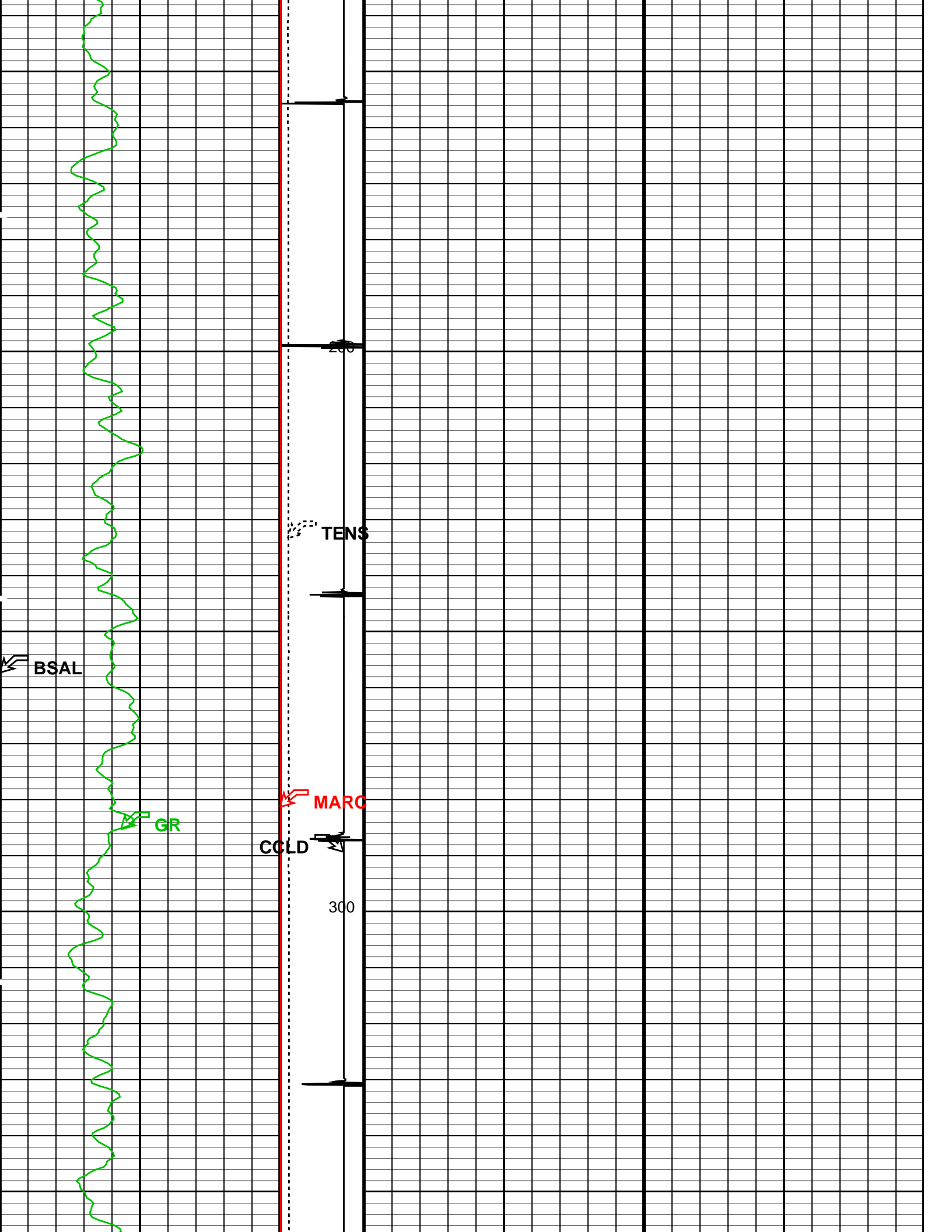
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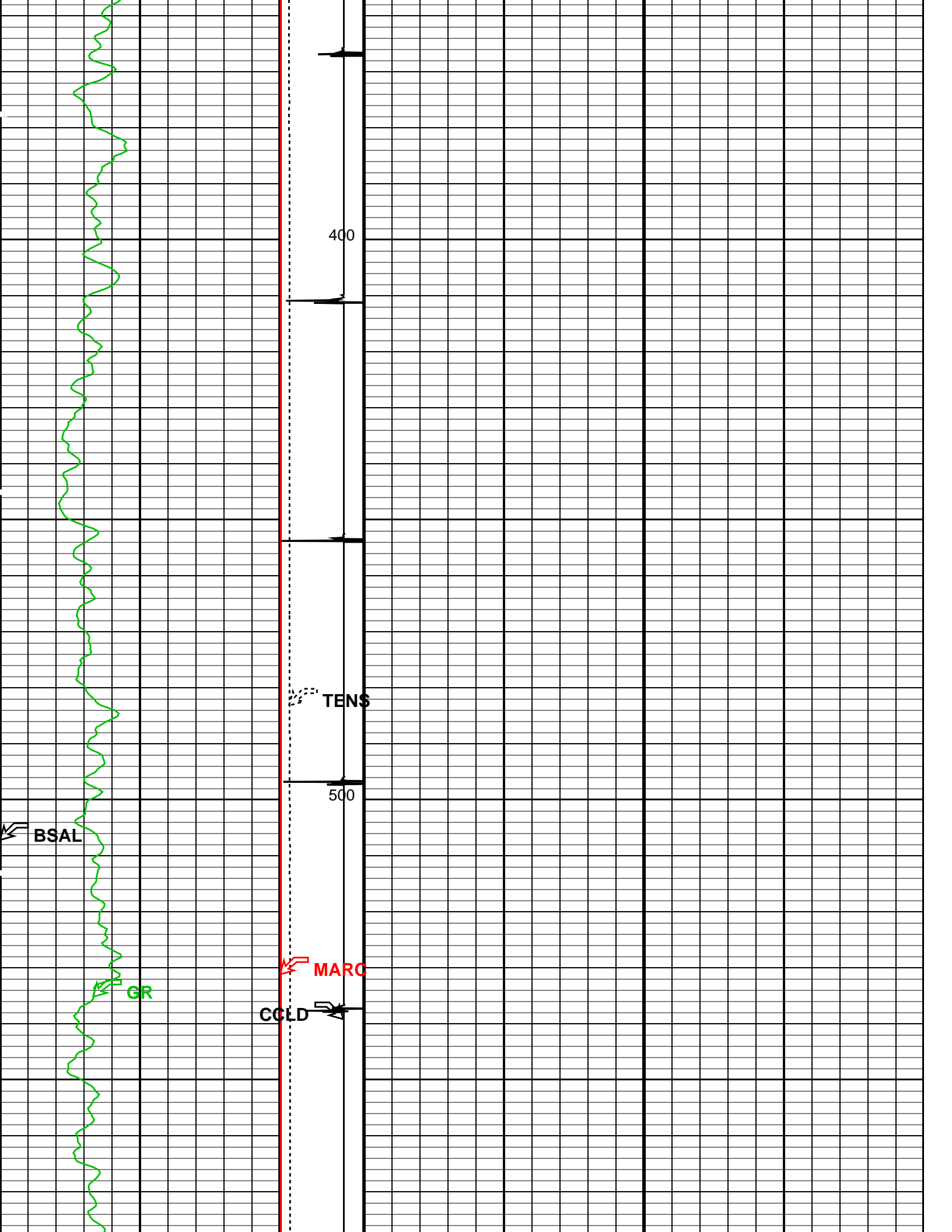
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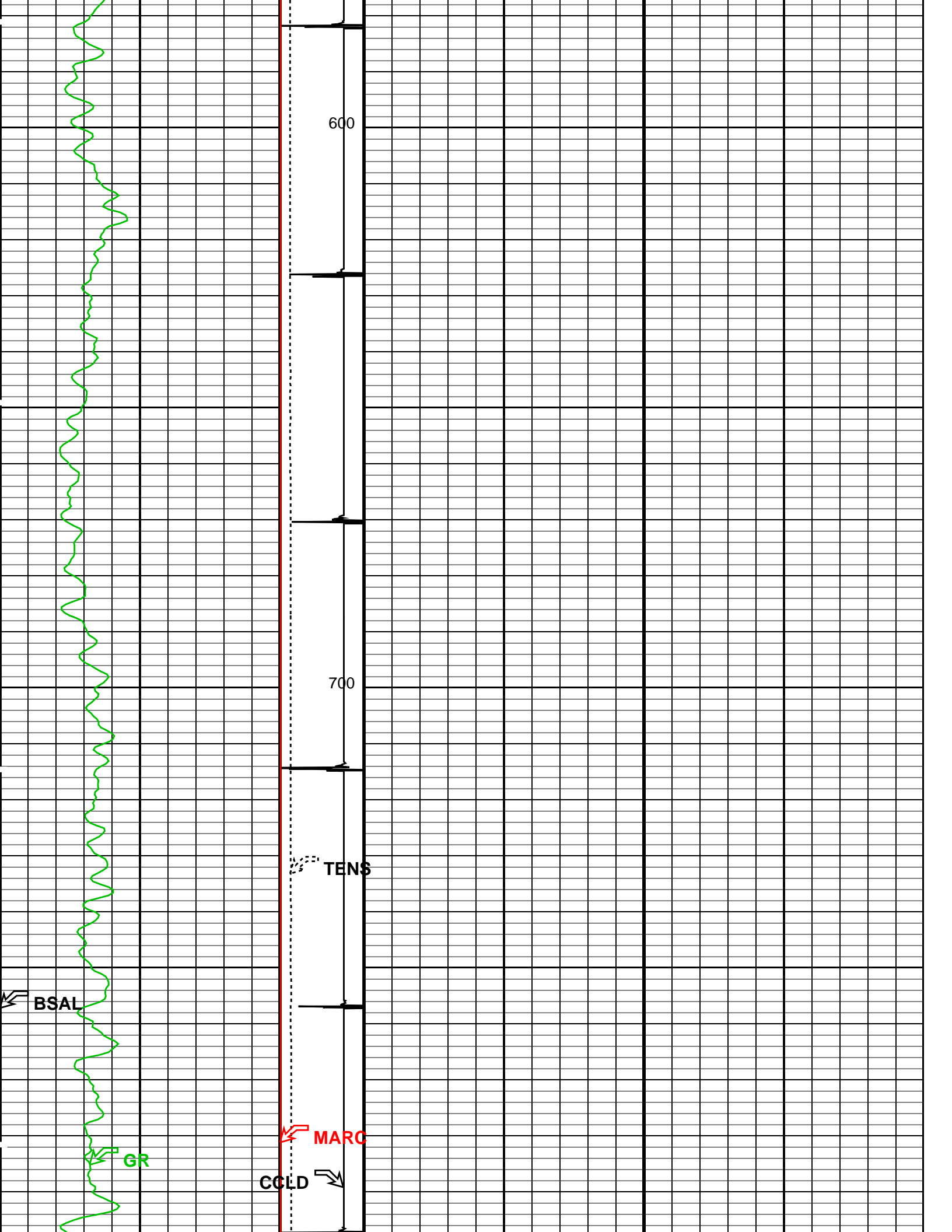
## Minitron

### BST Capture to Inelastic Ratio For

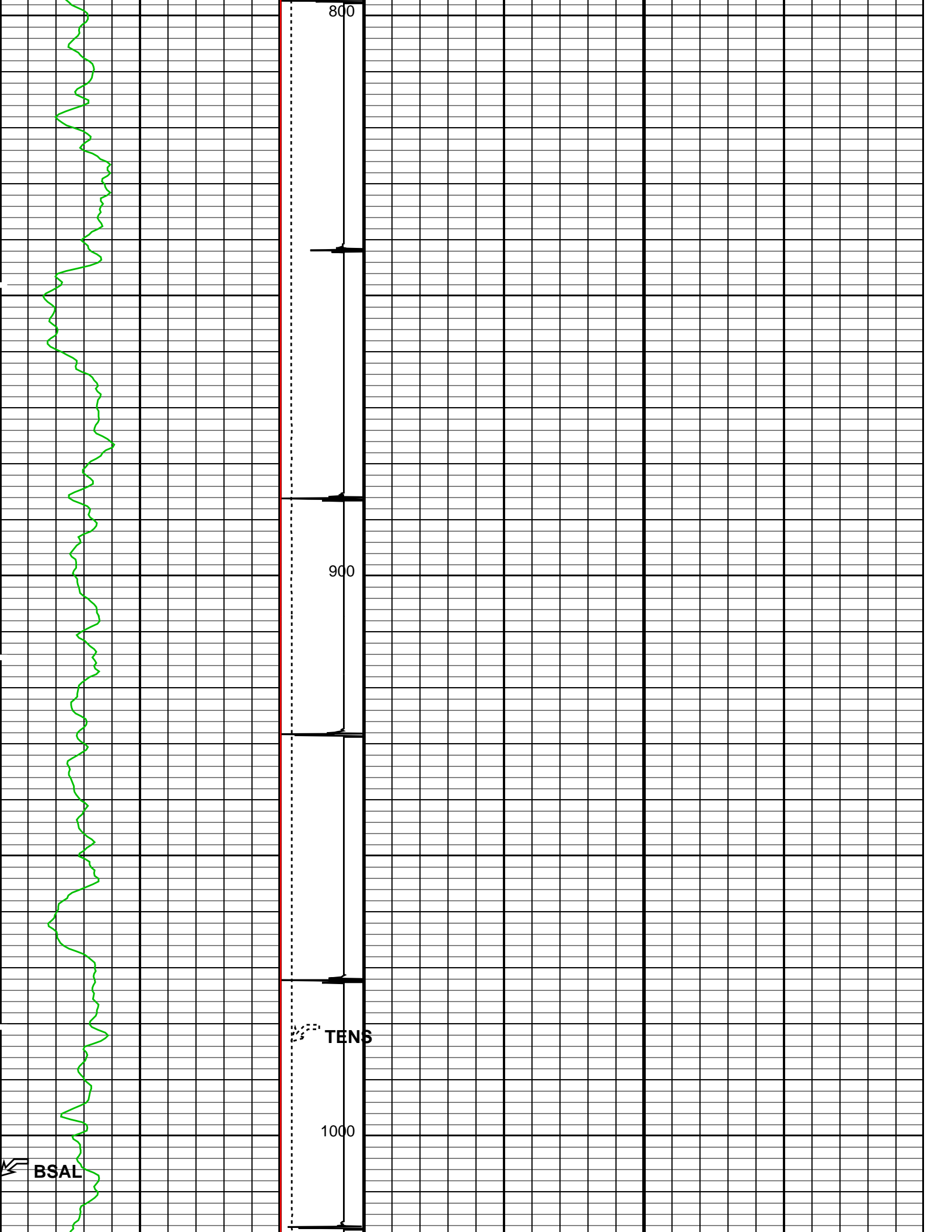


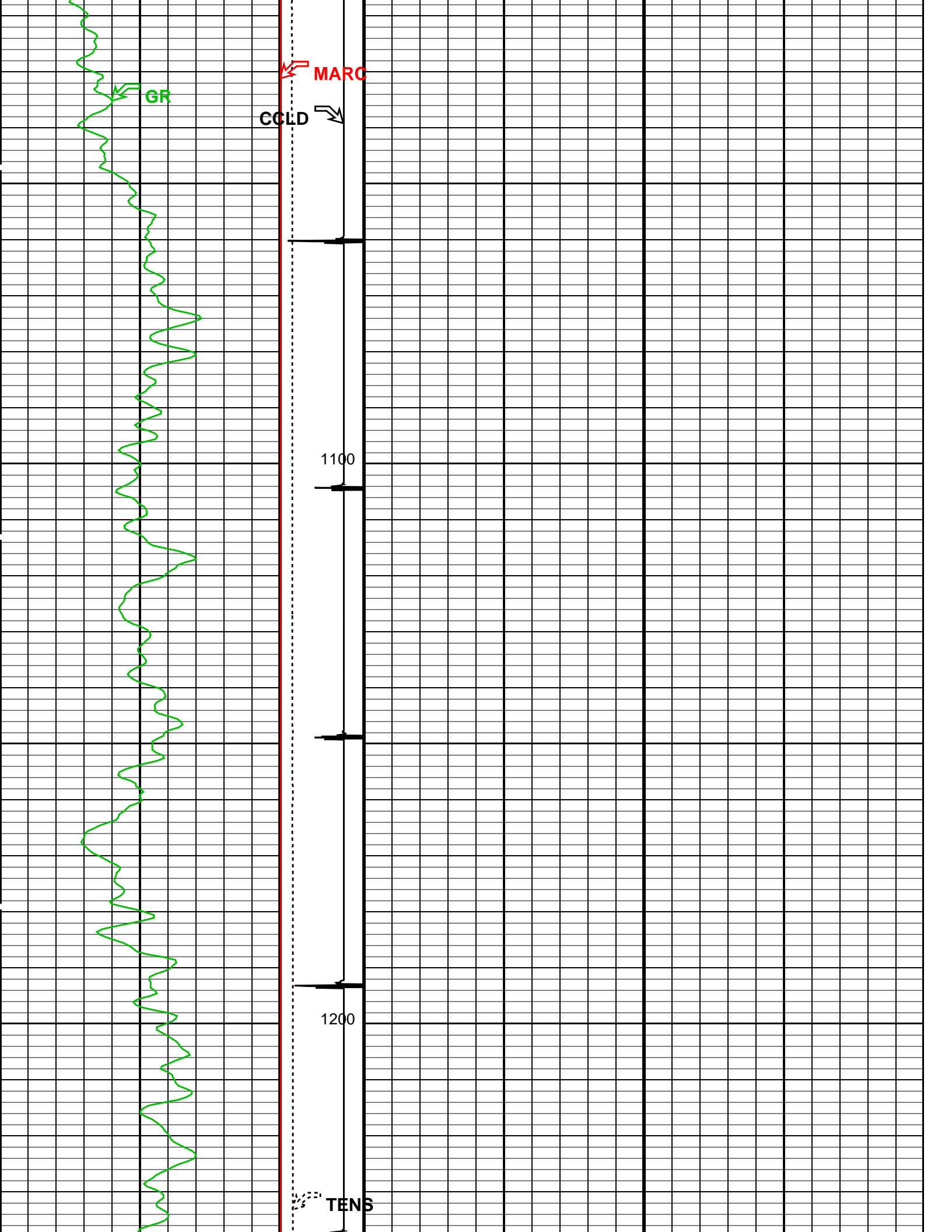


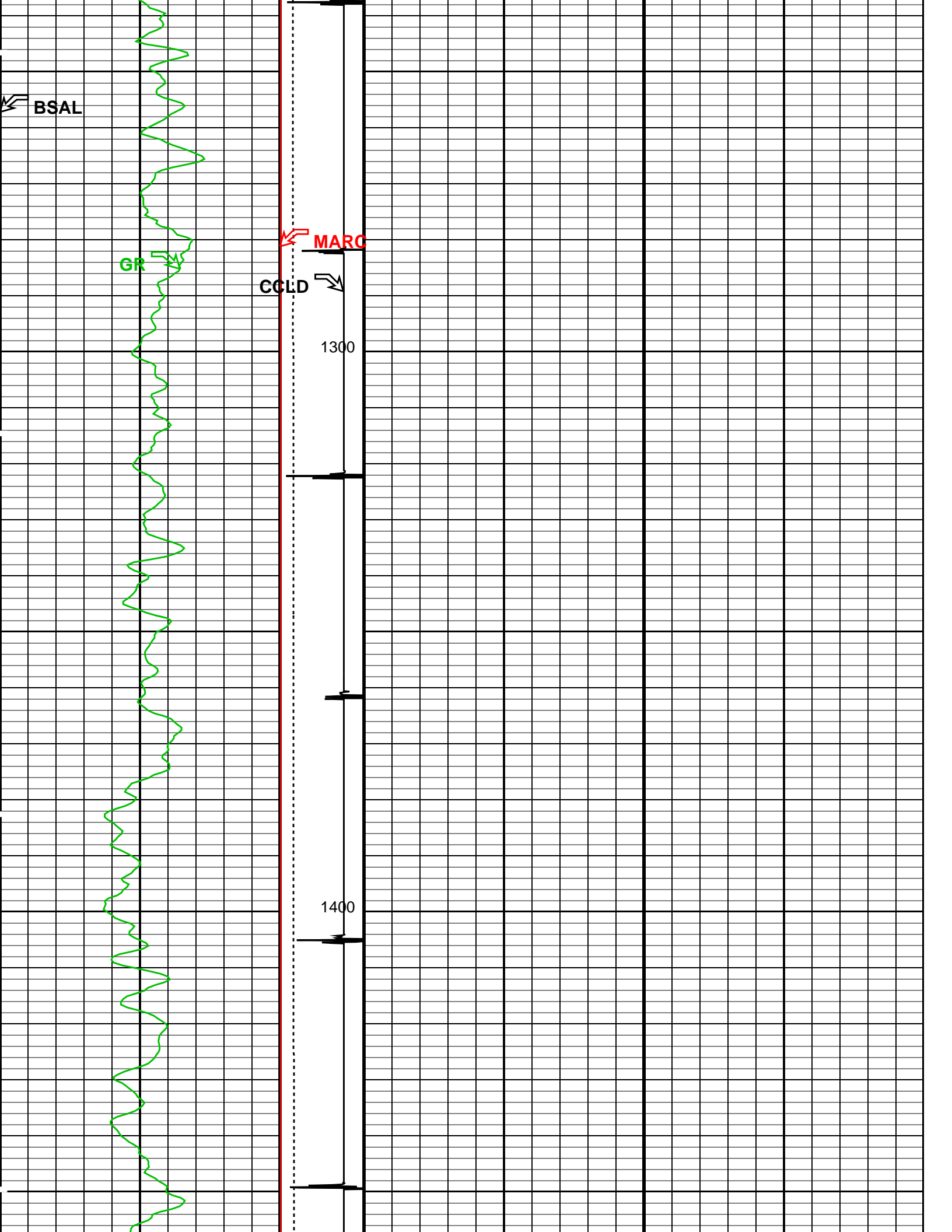


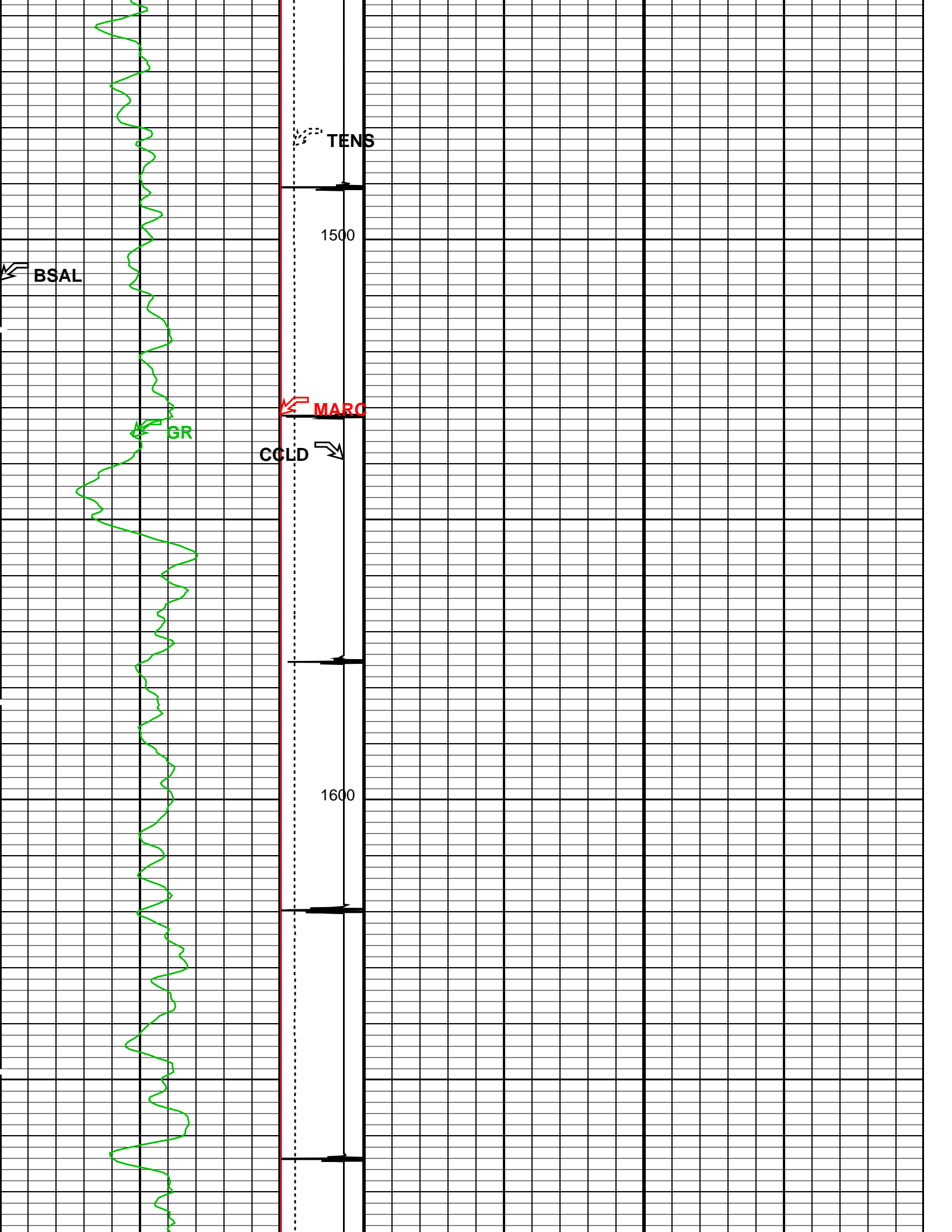


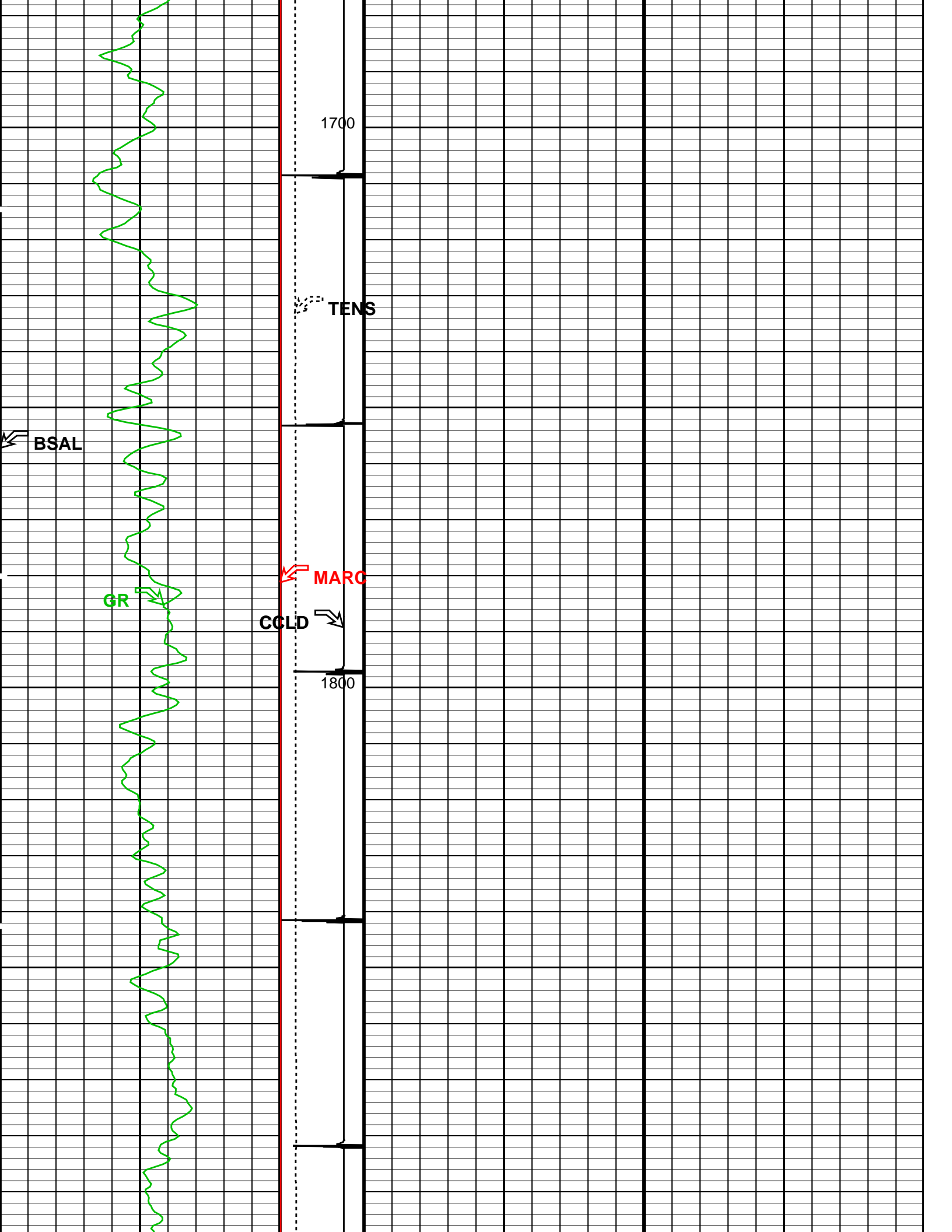


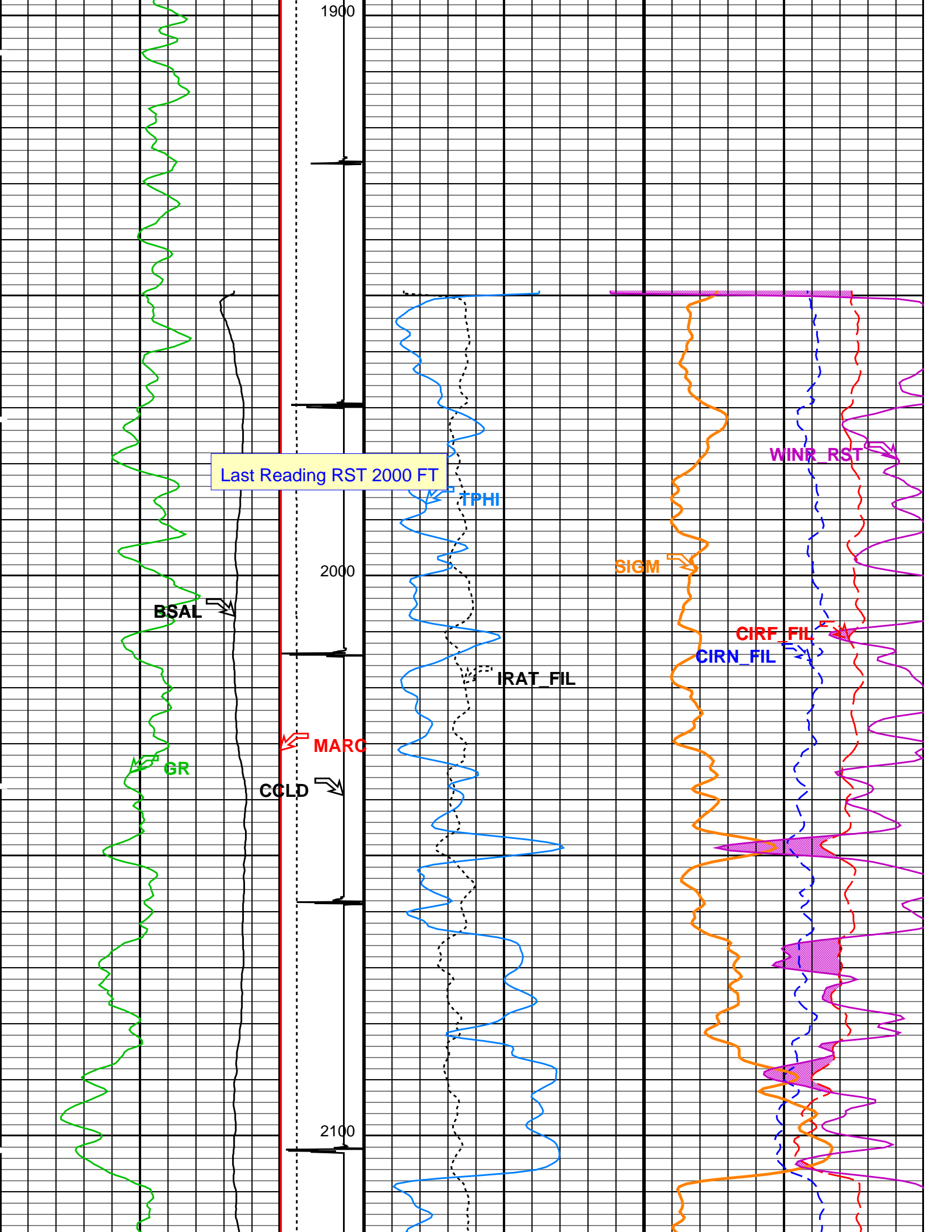


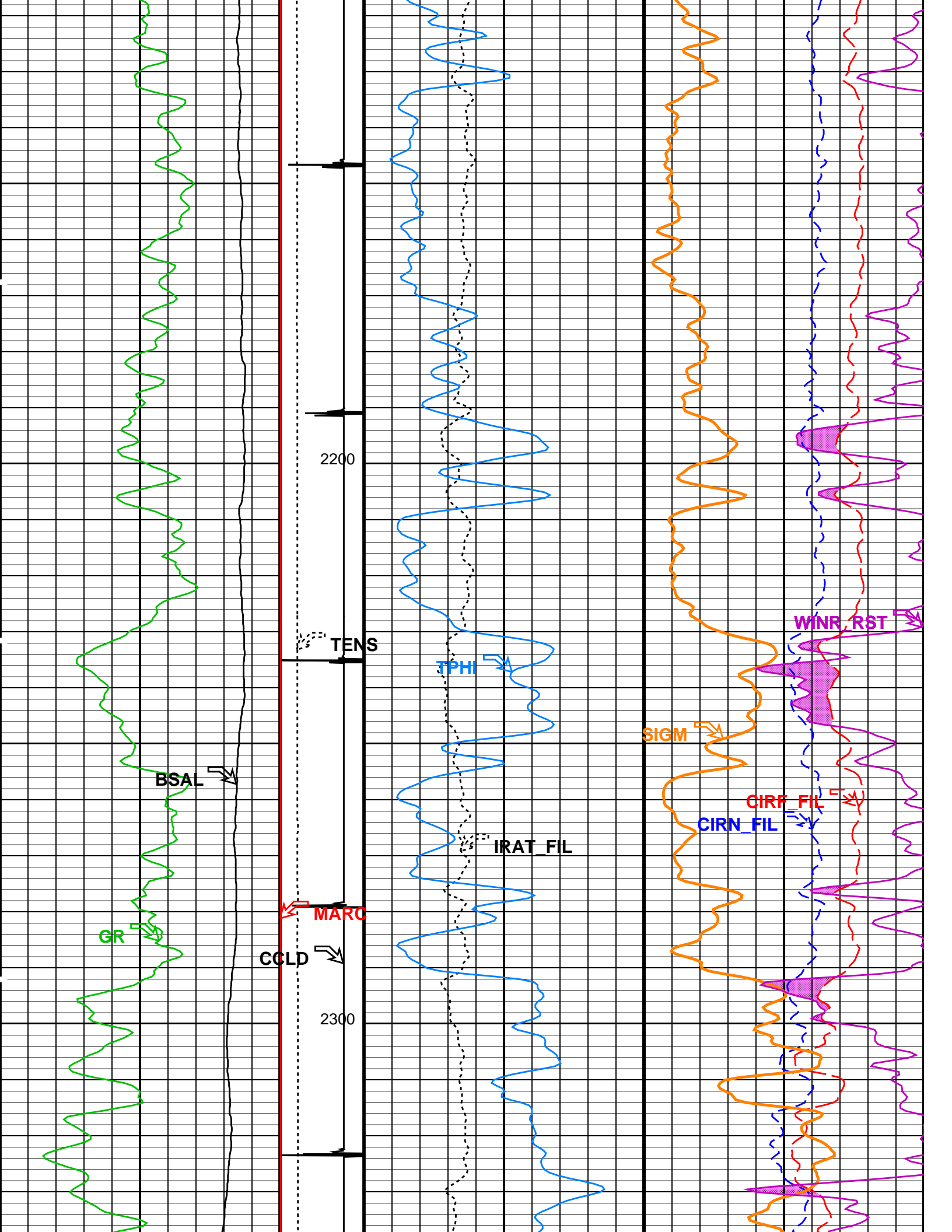


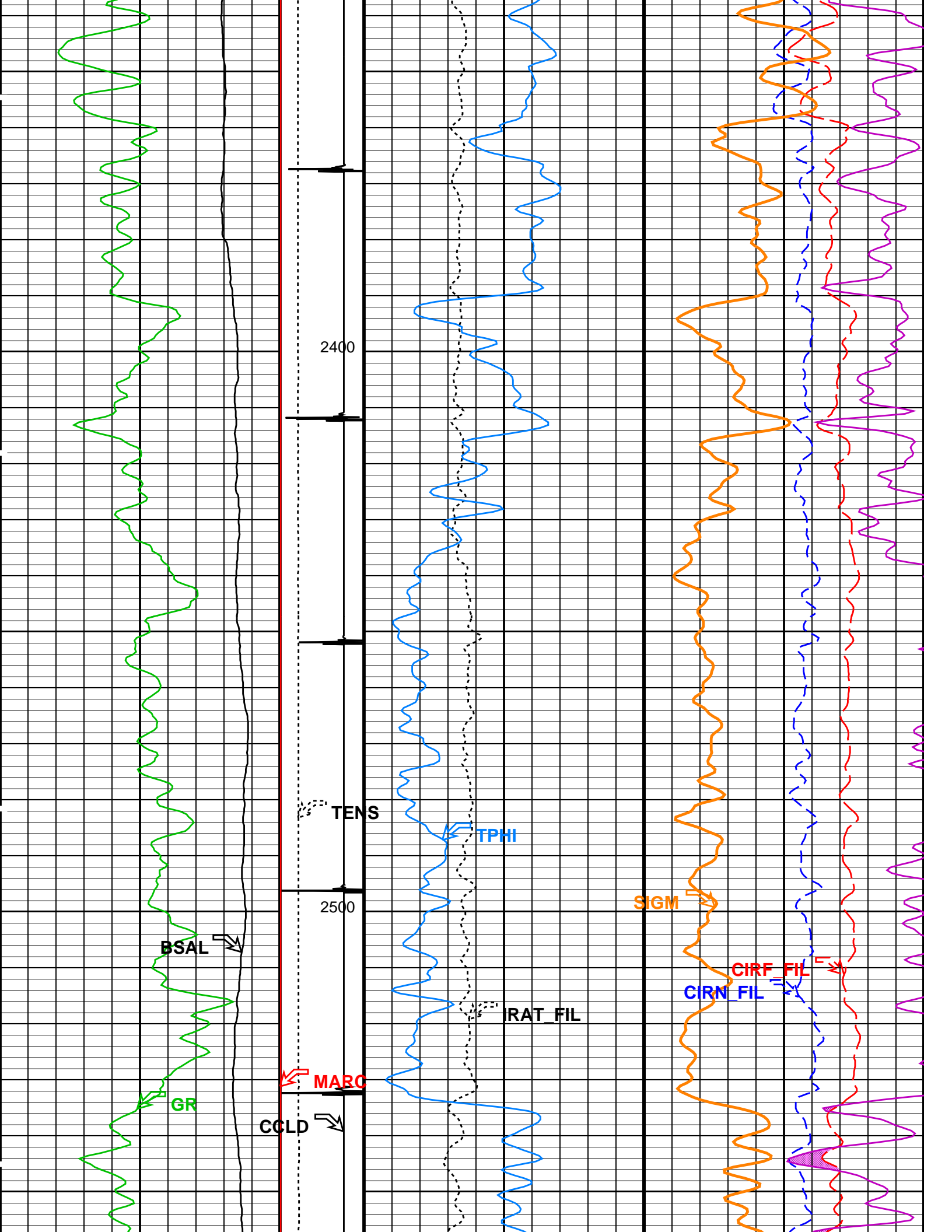




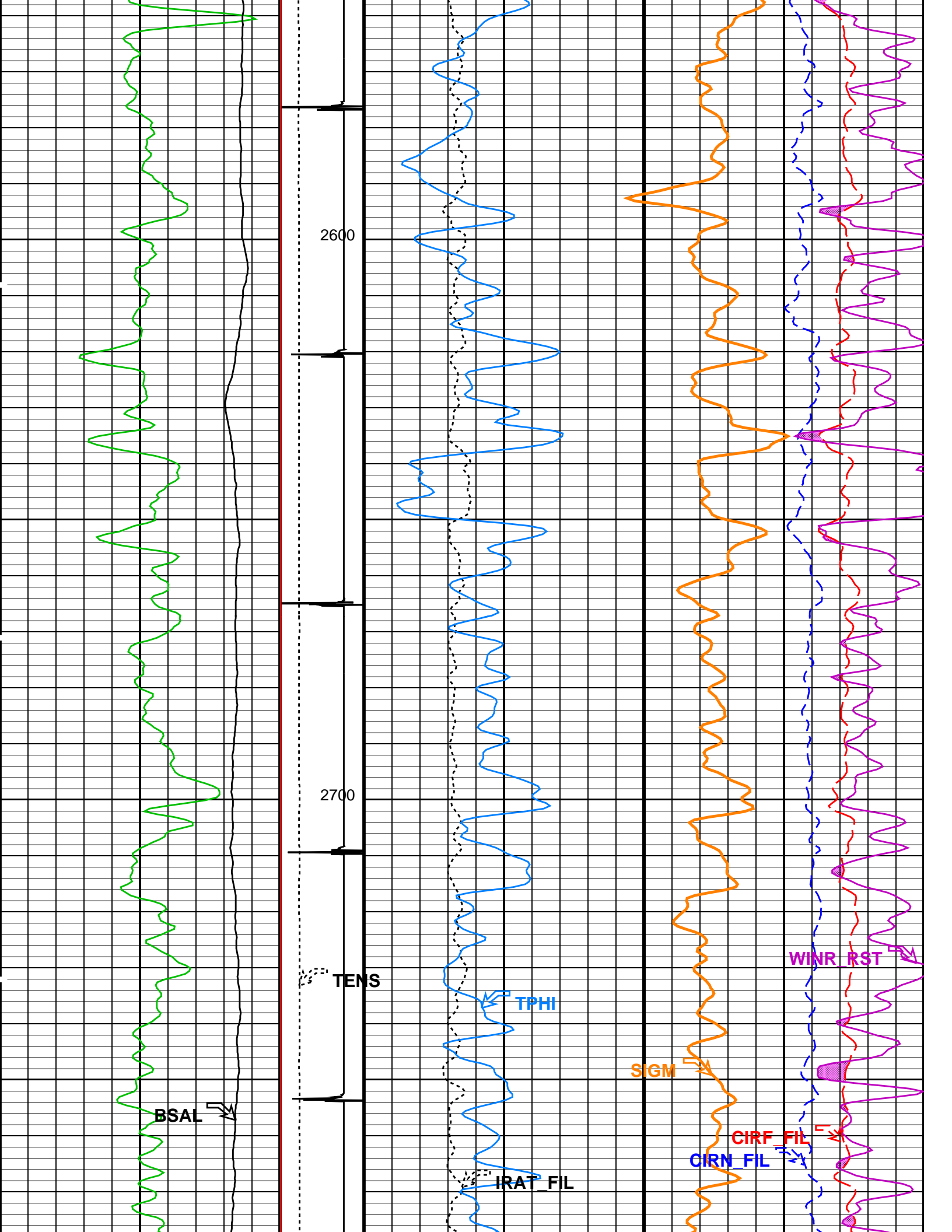


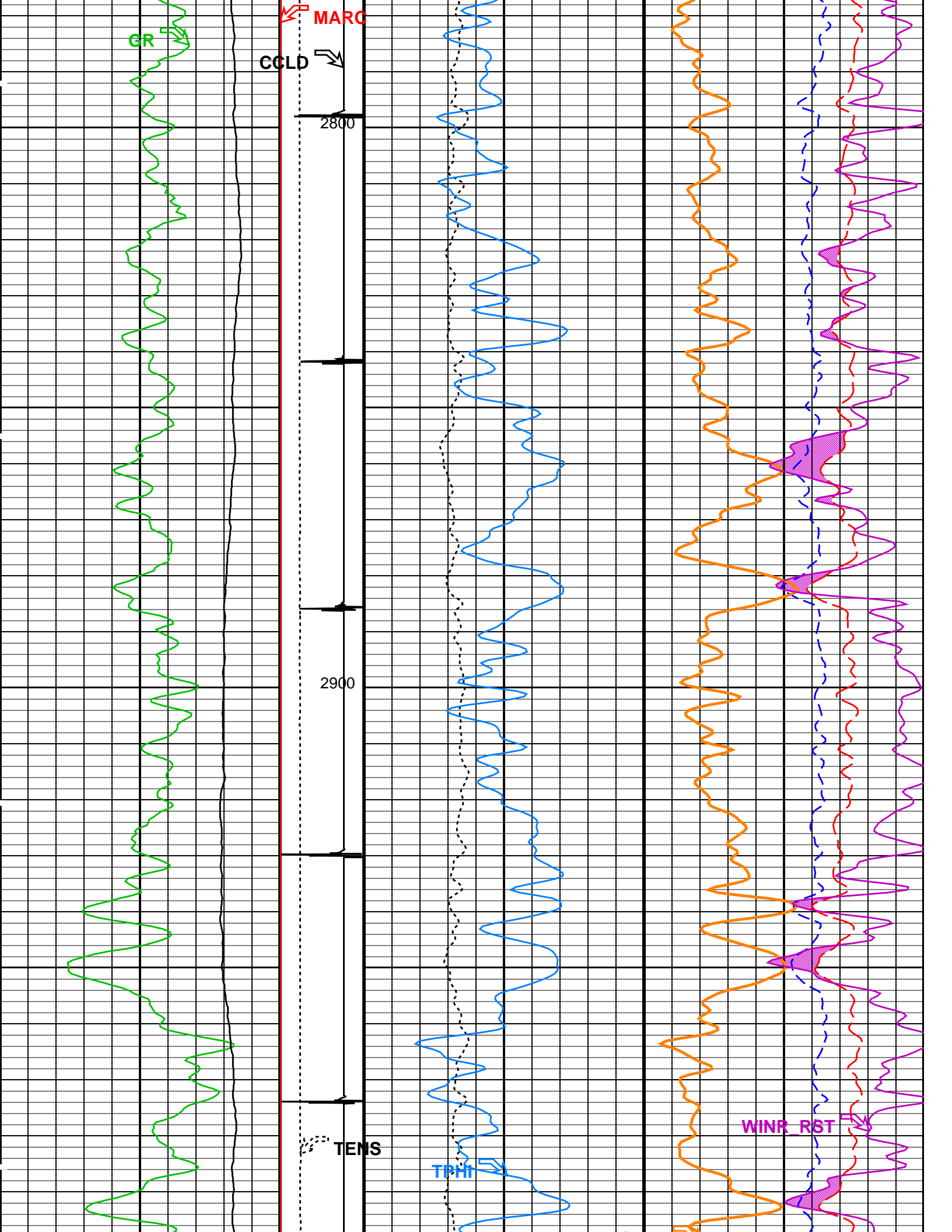


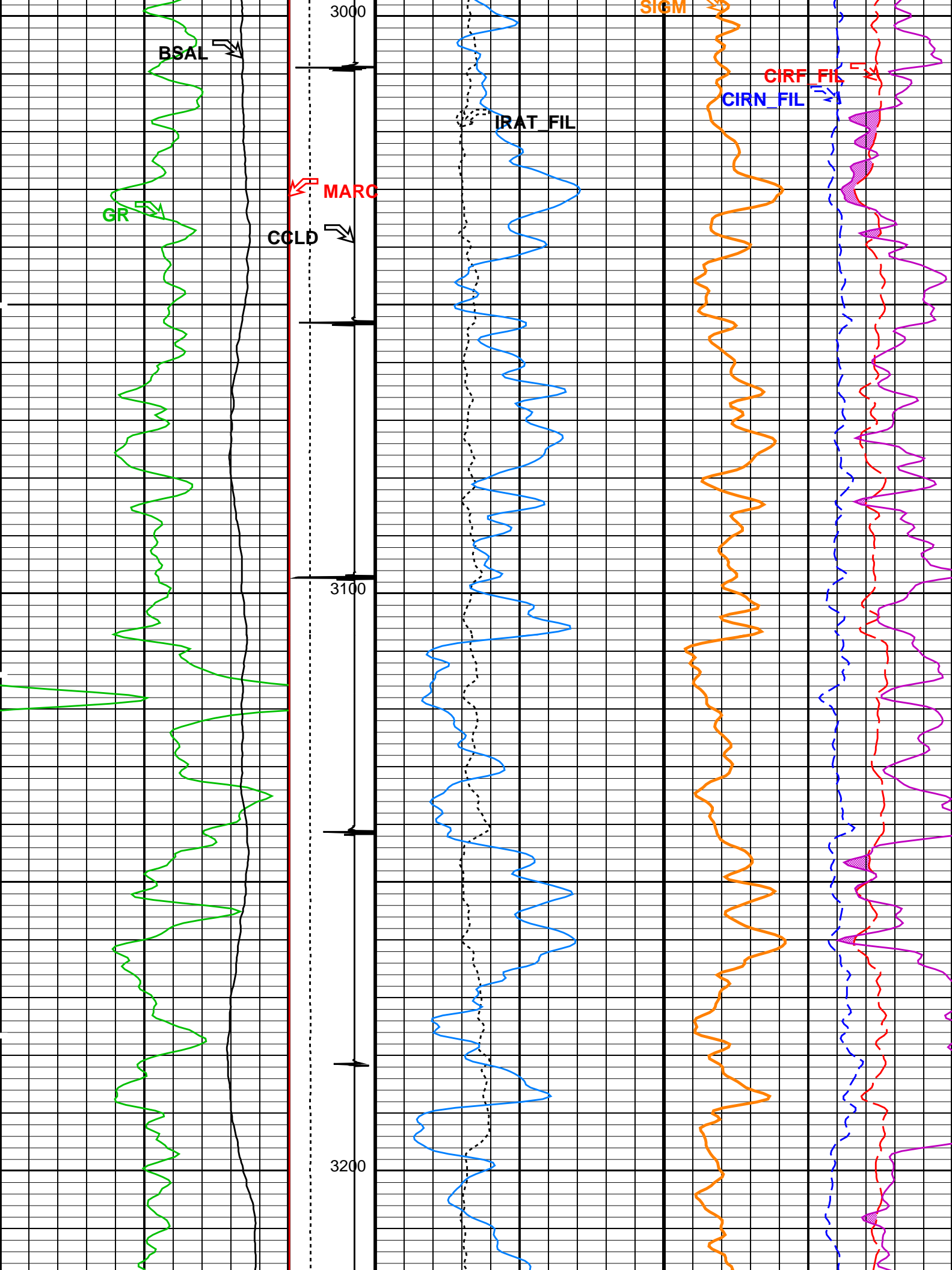


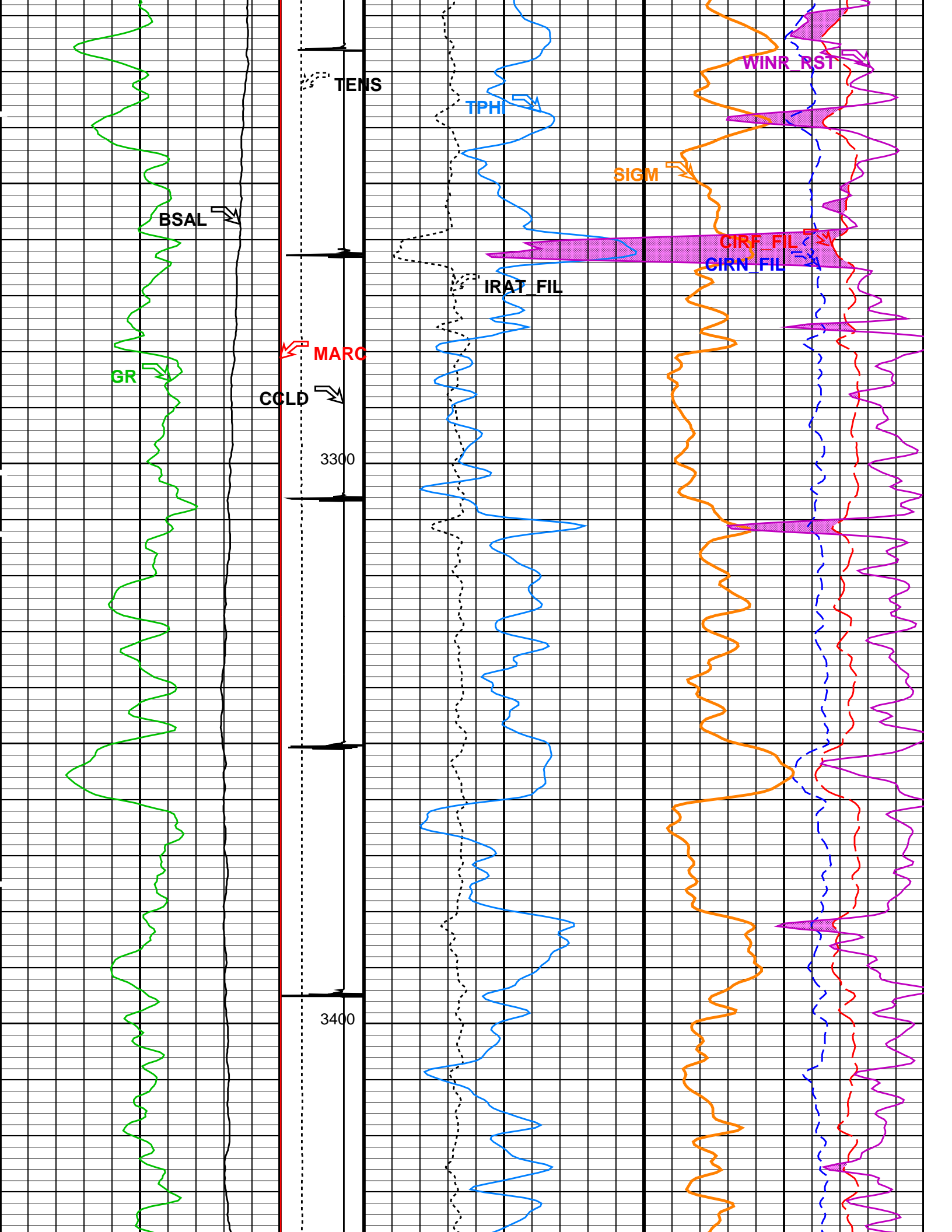


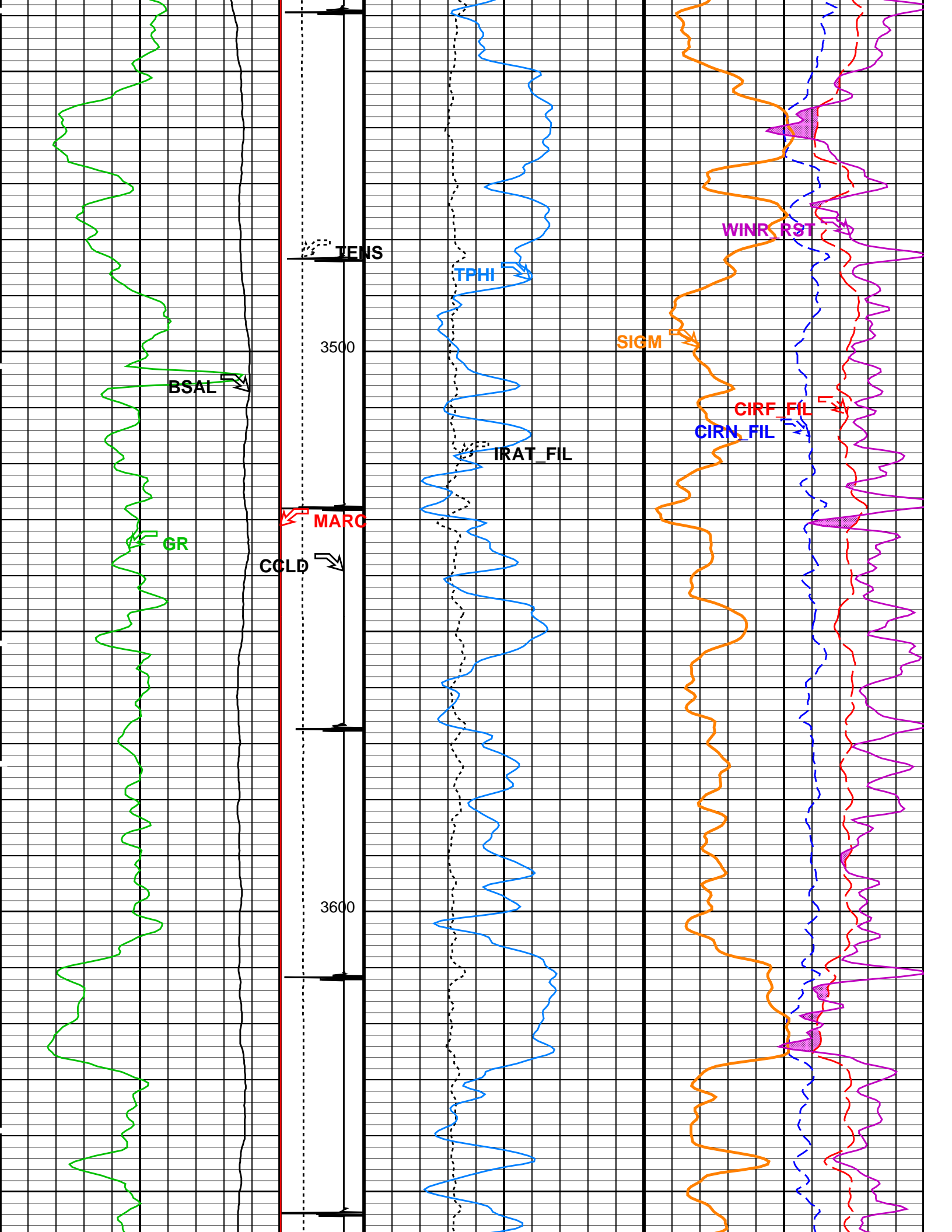


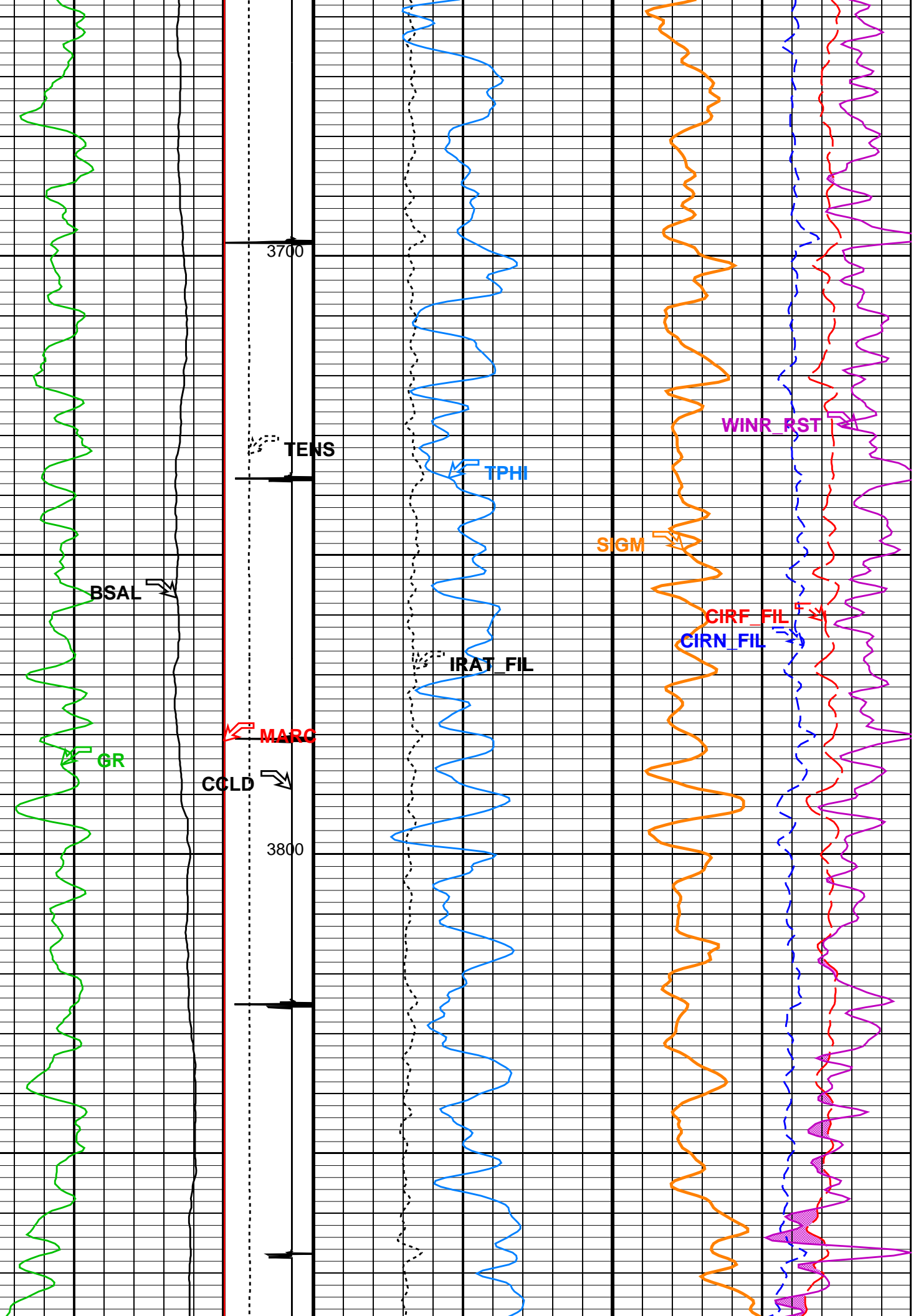


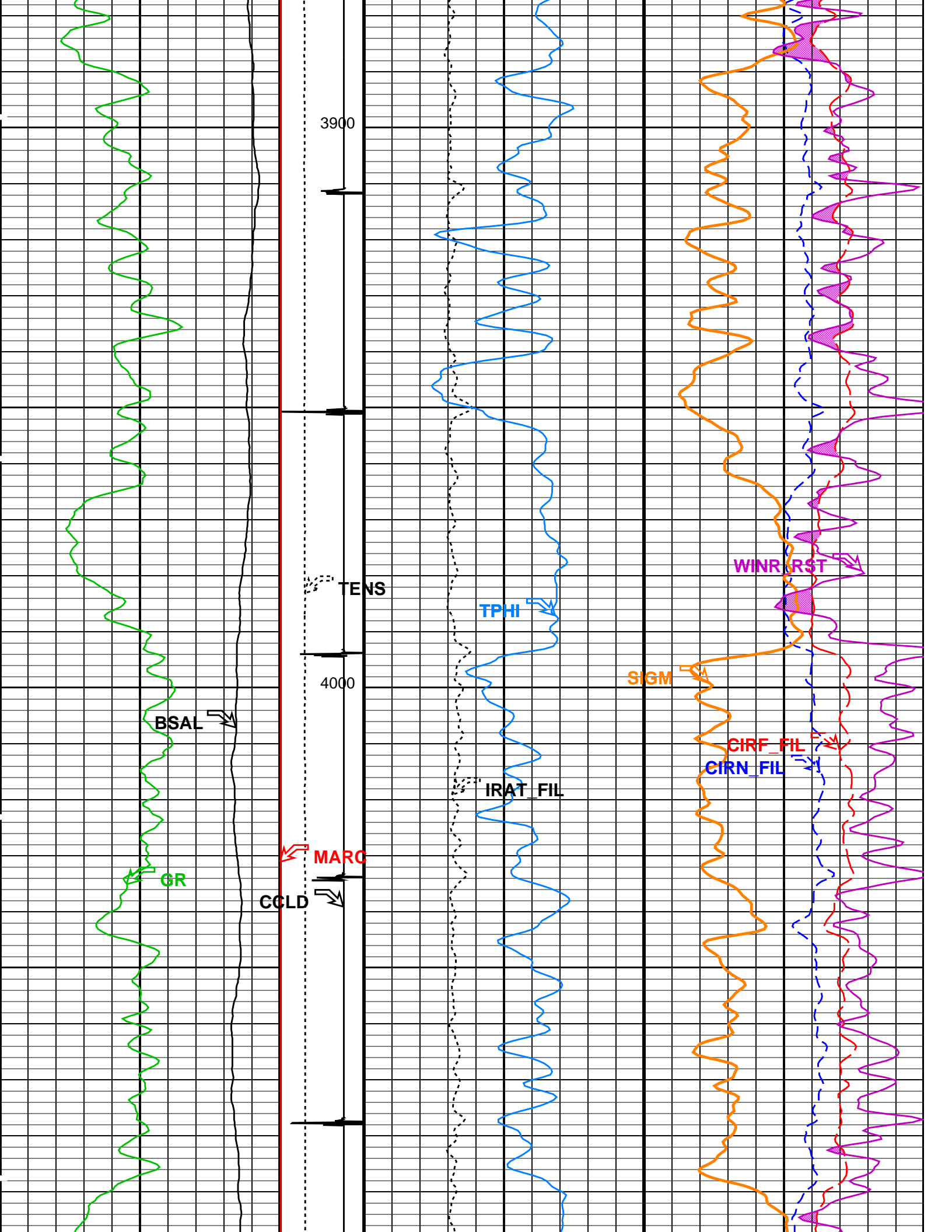


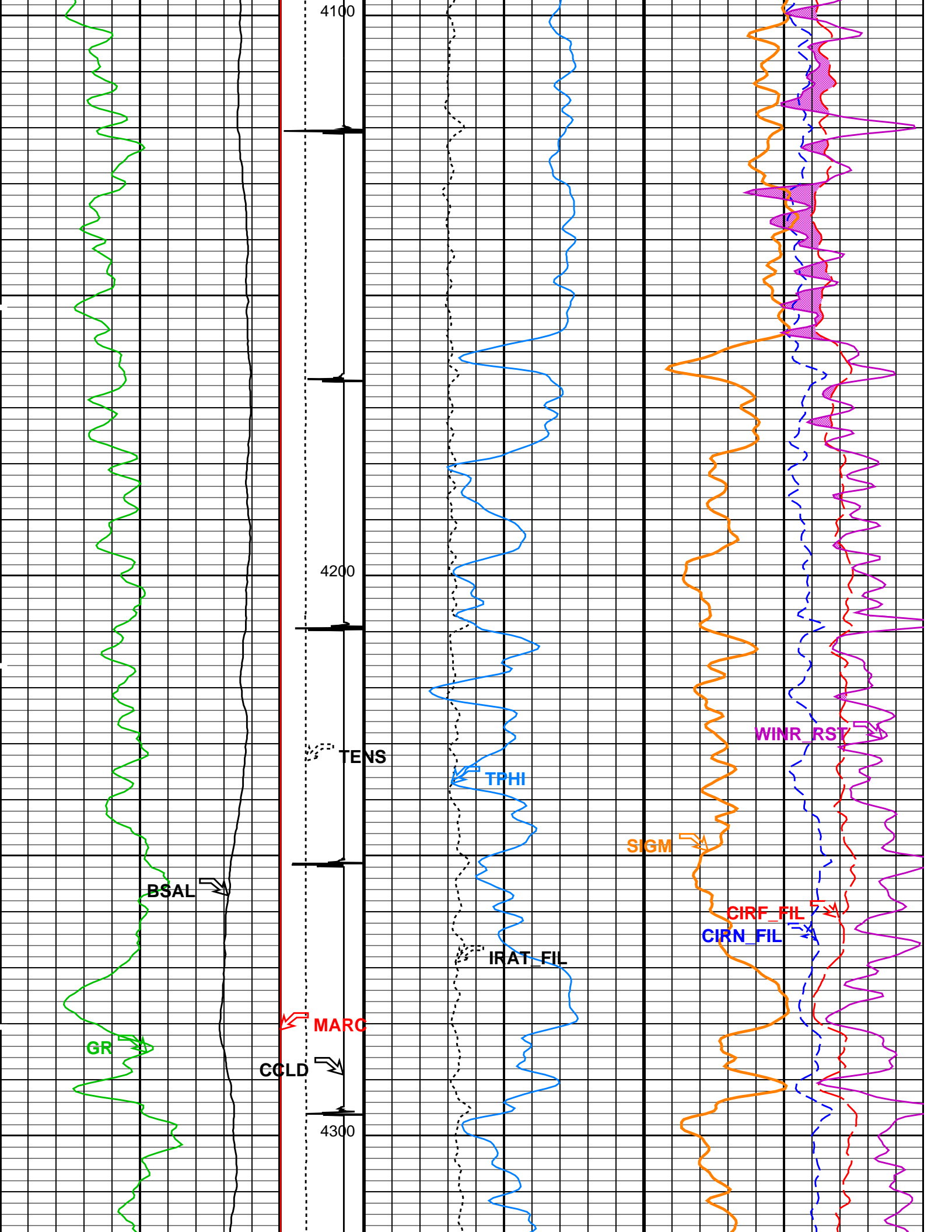




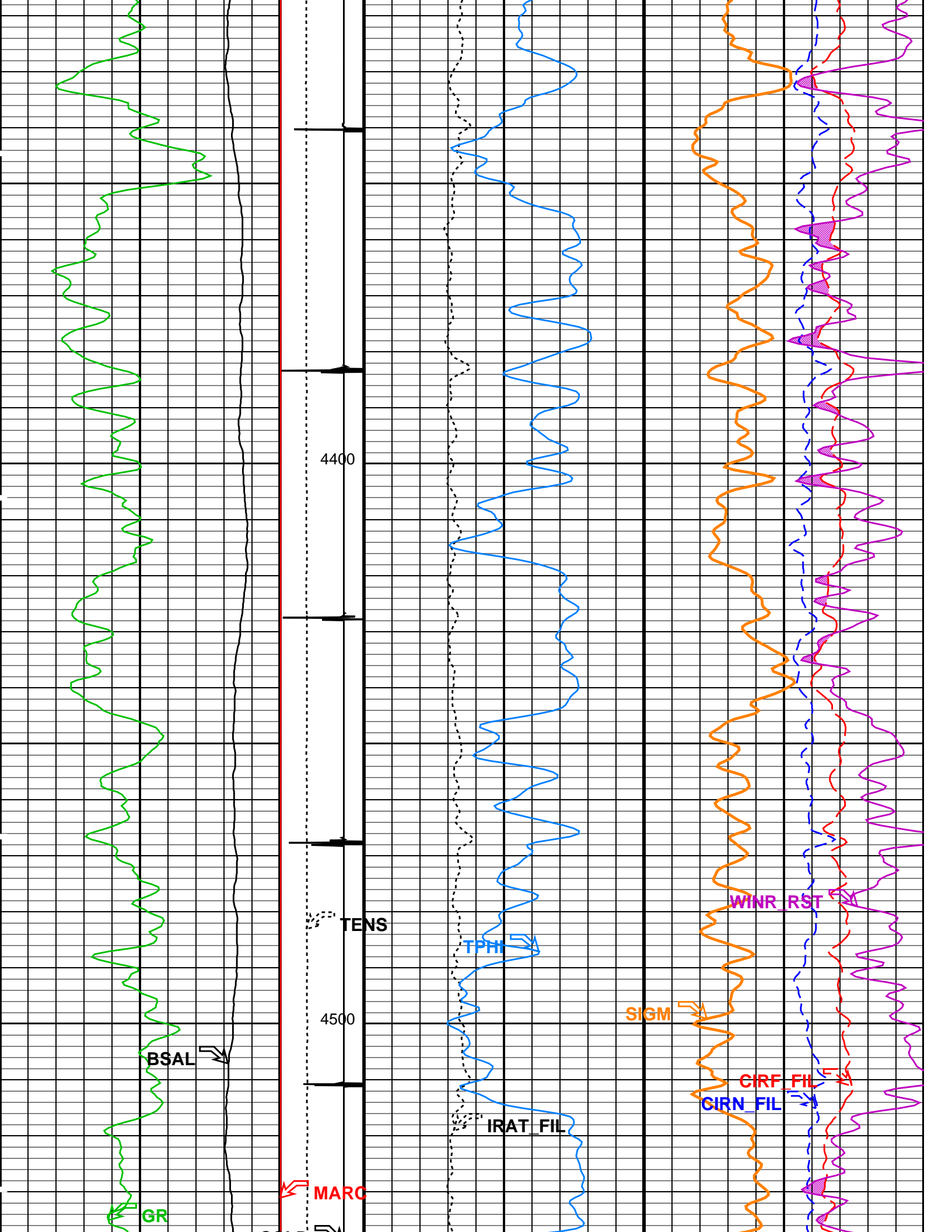


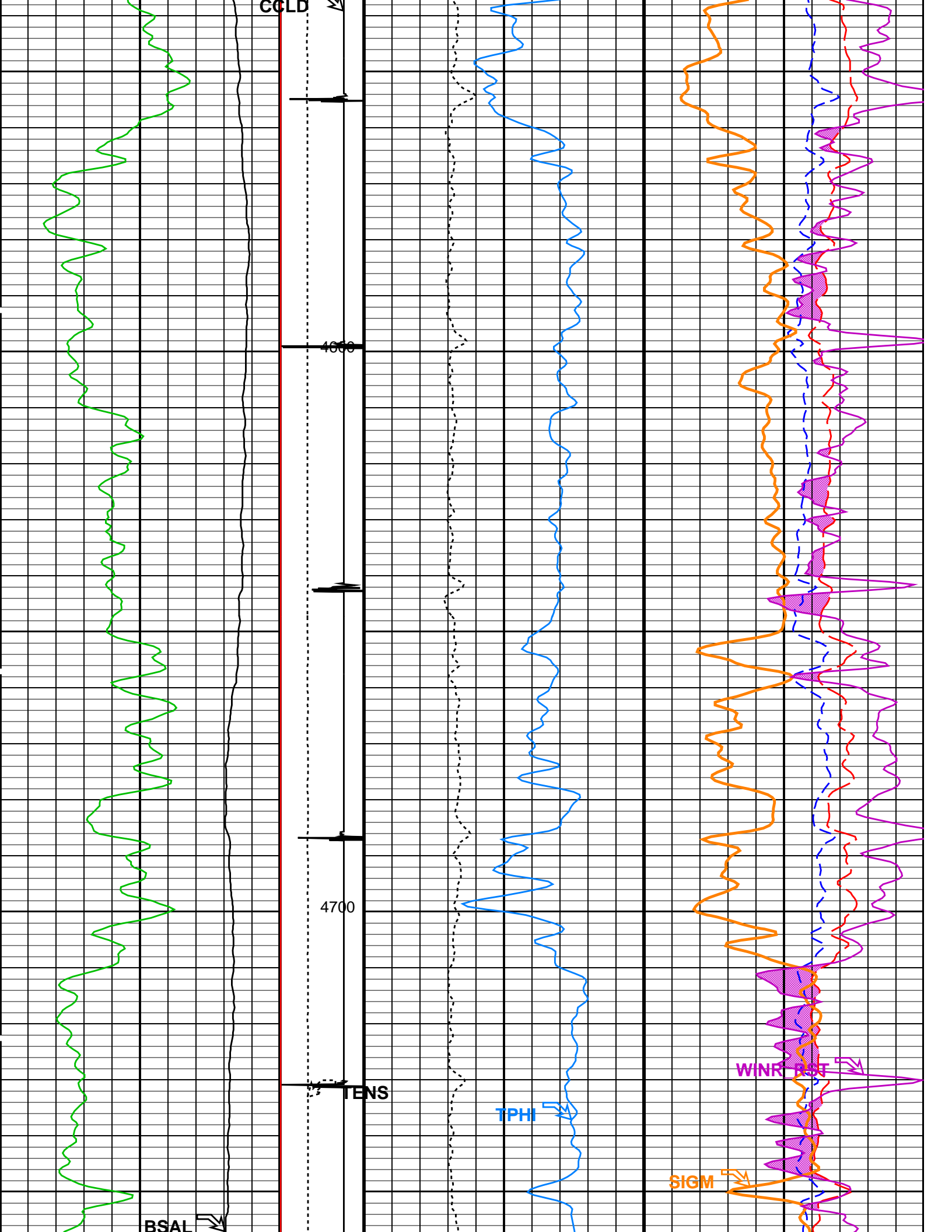


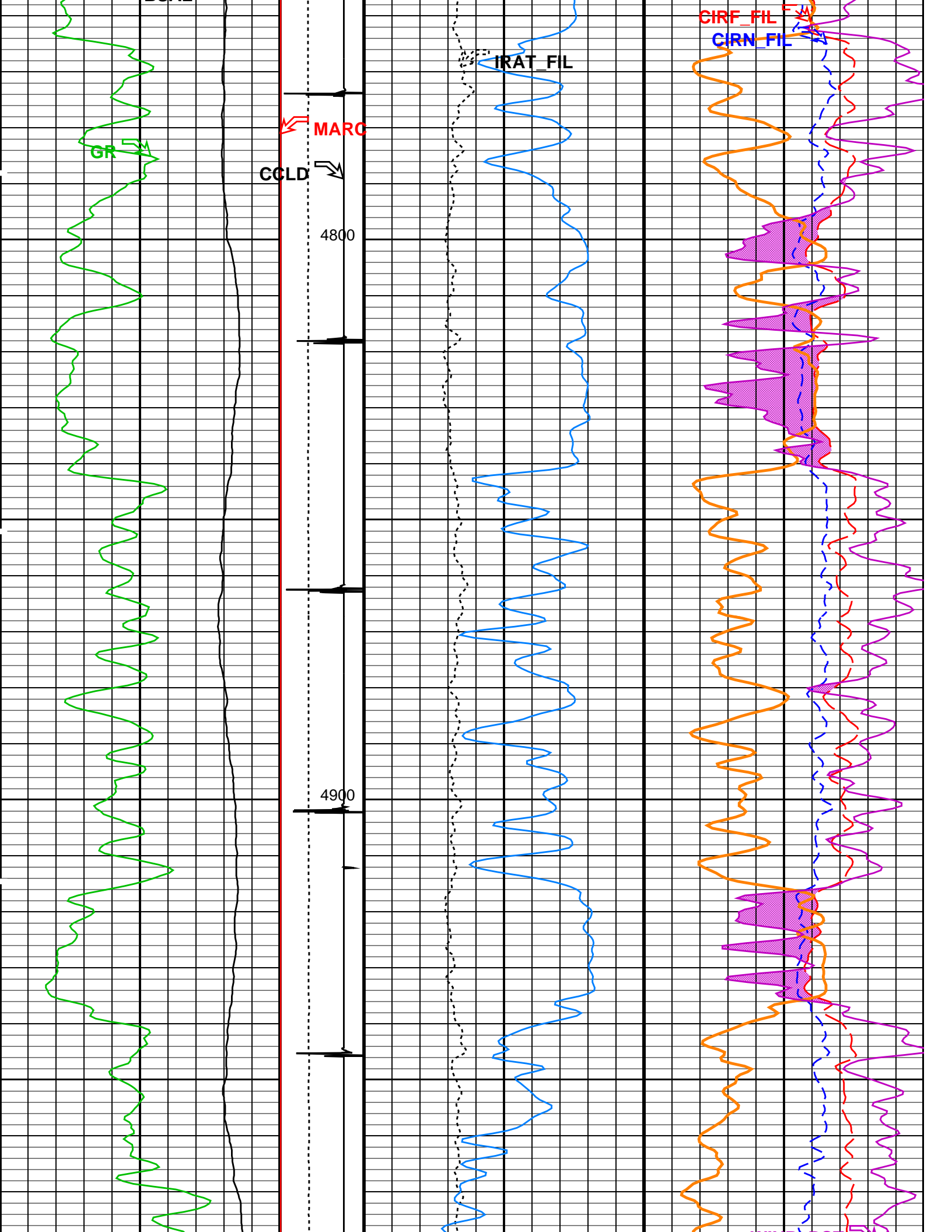


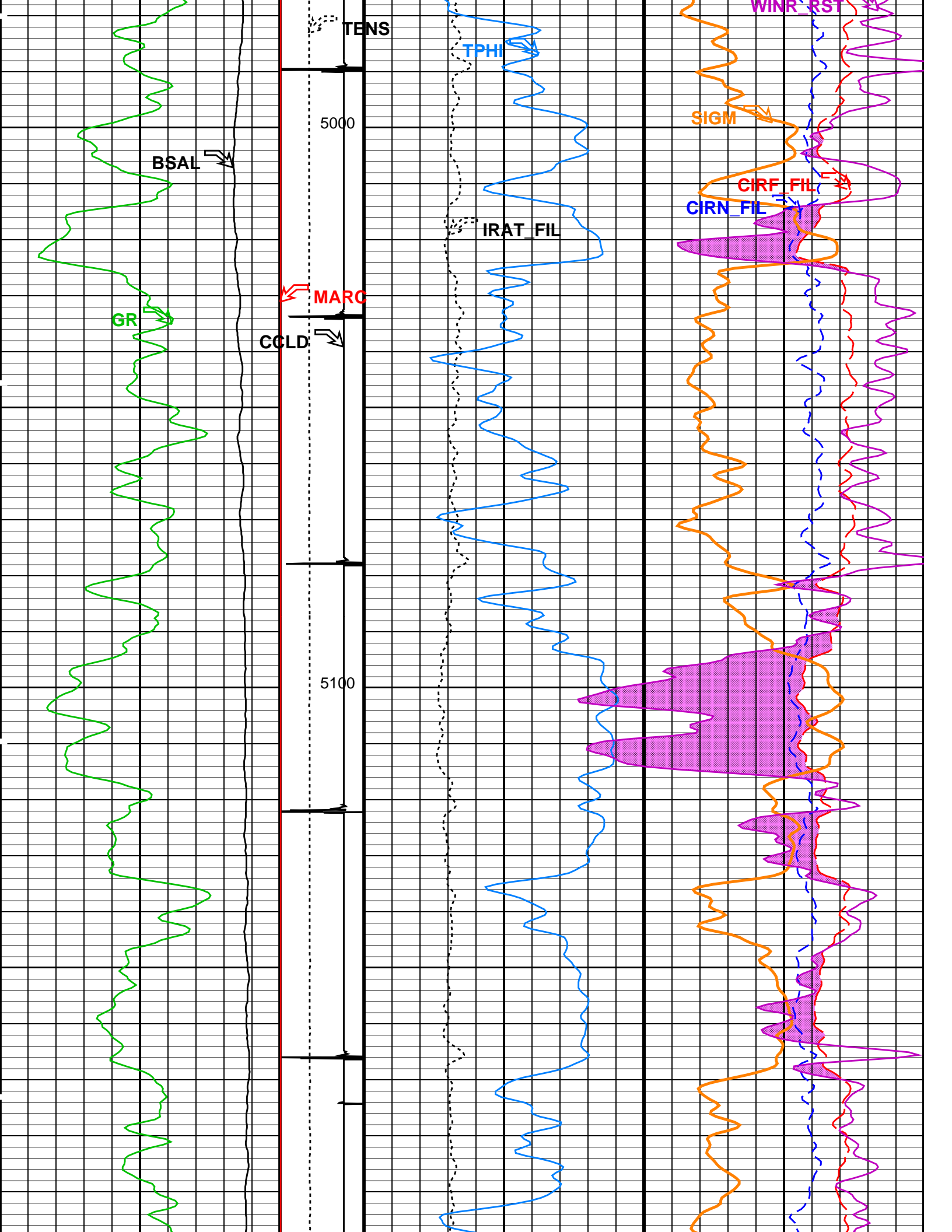


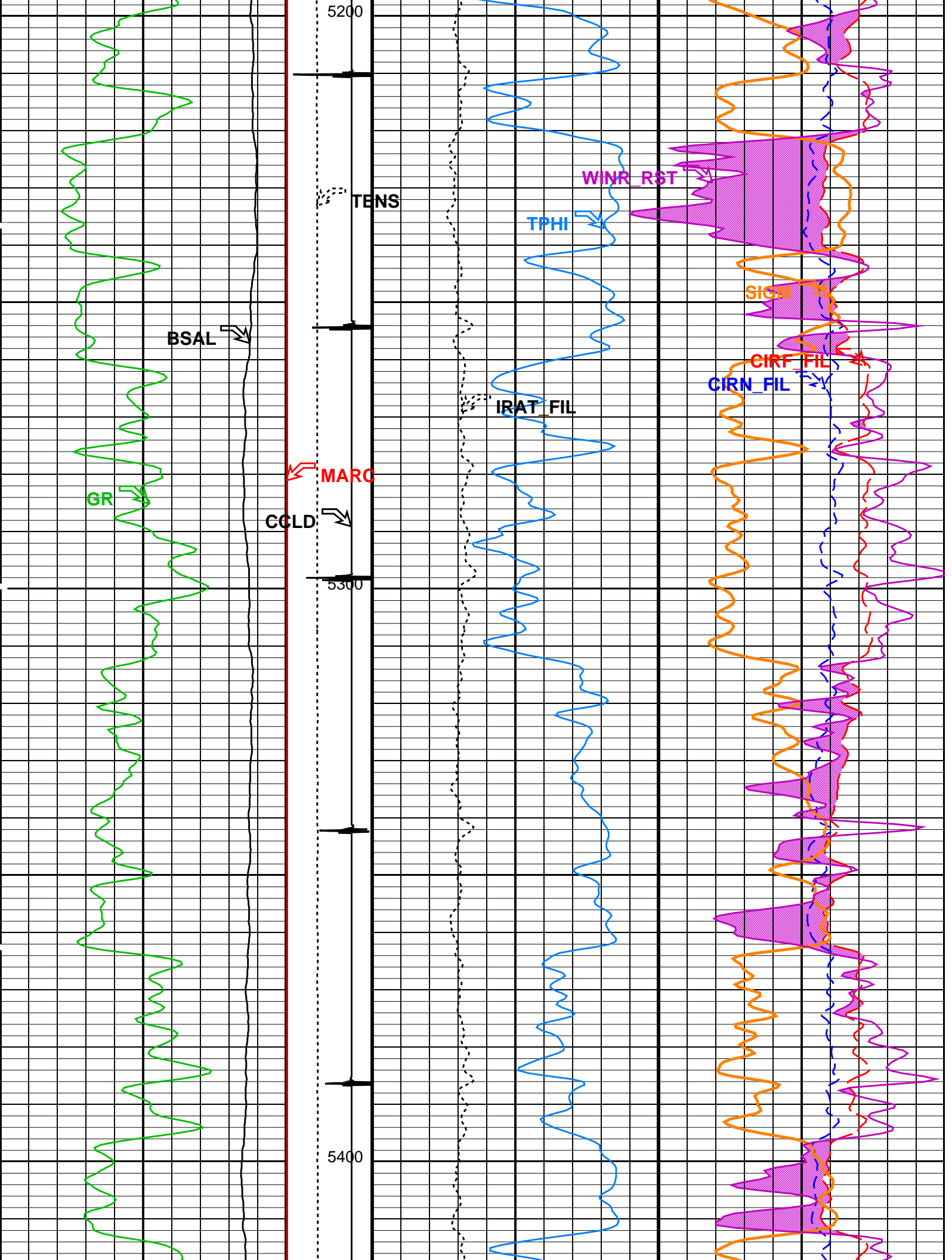


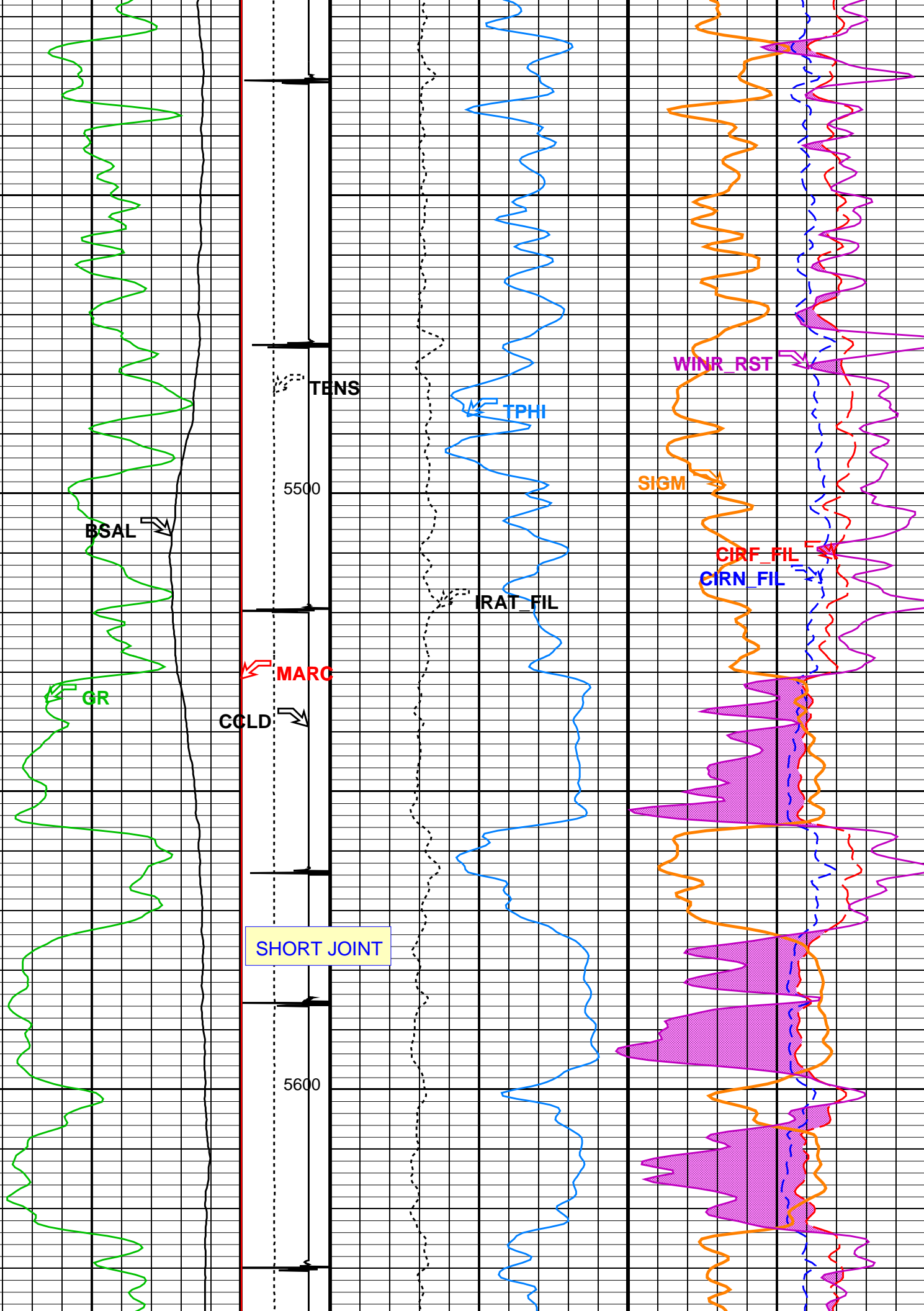


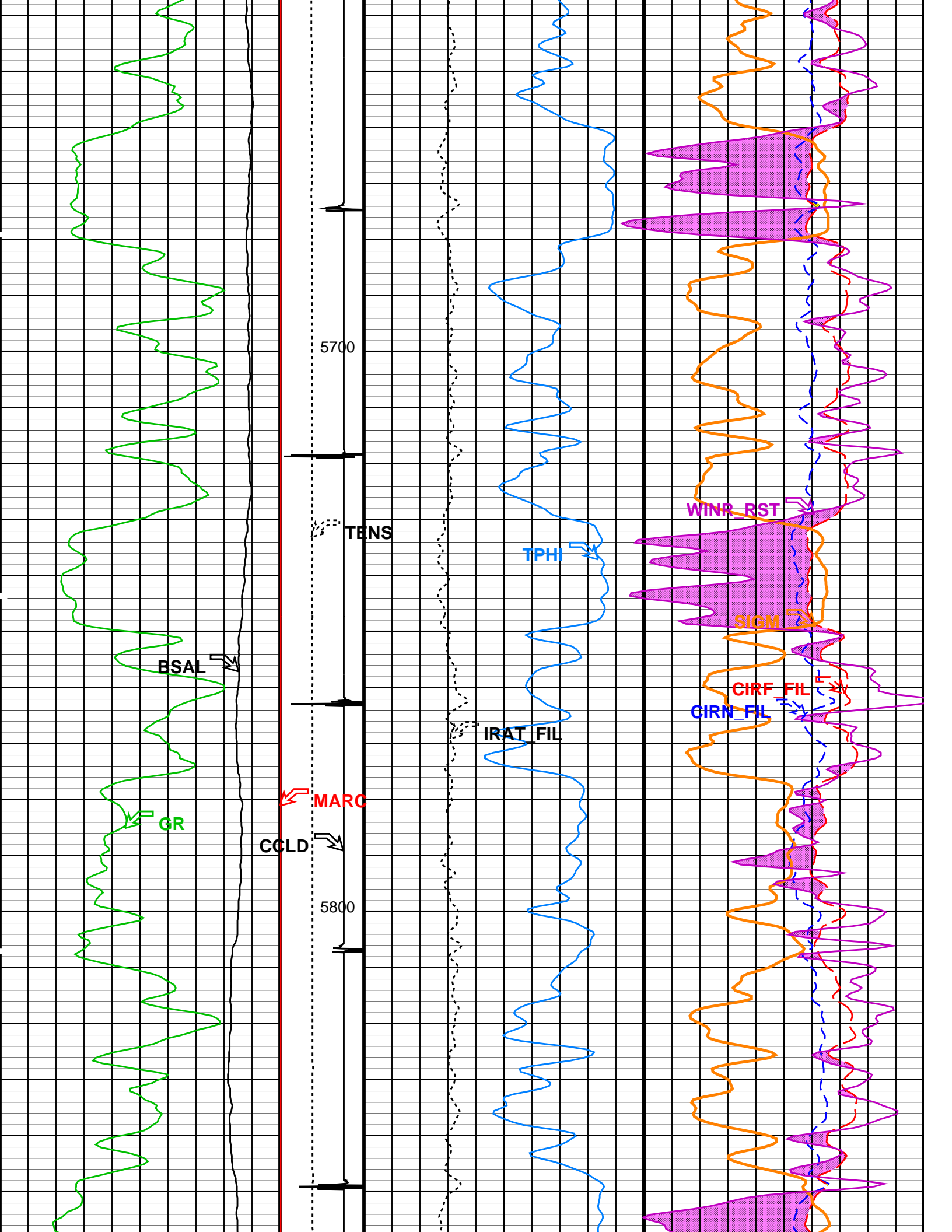




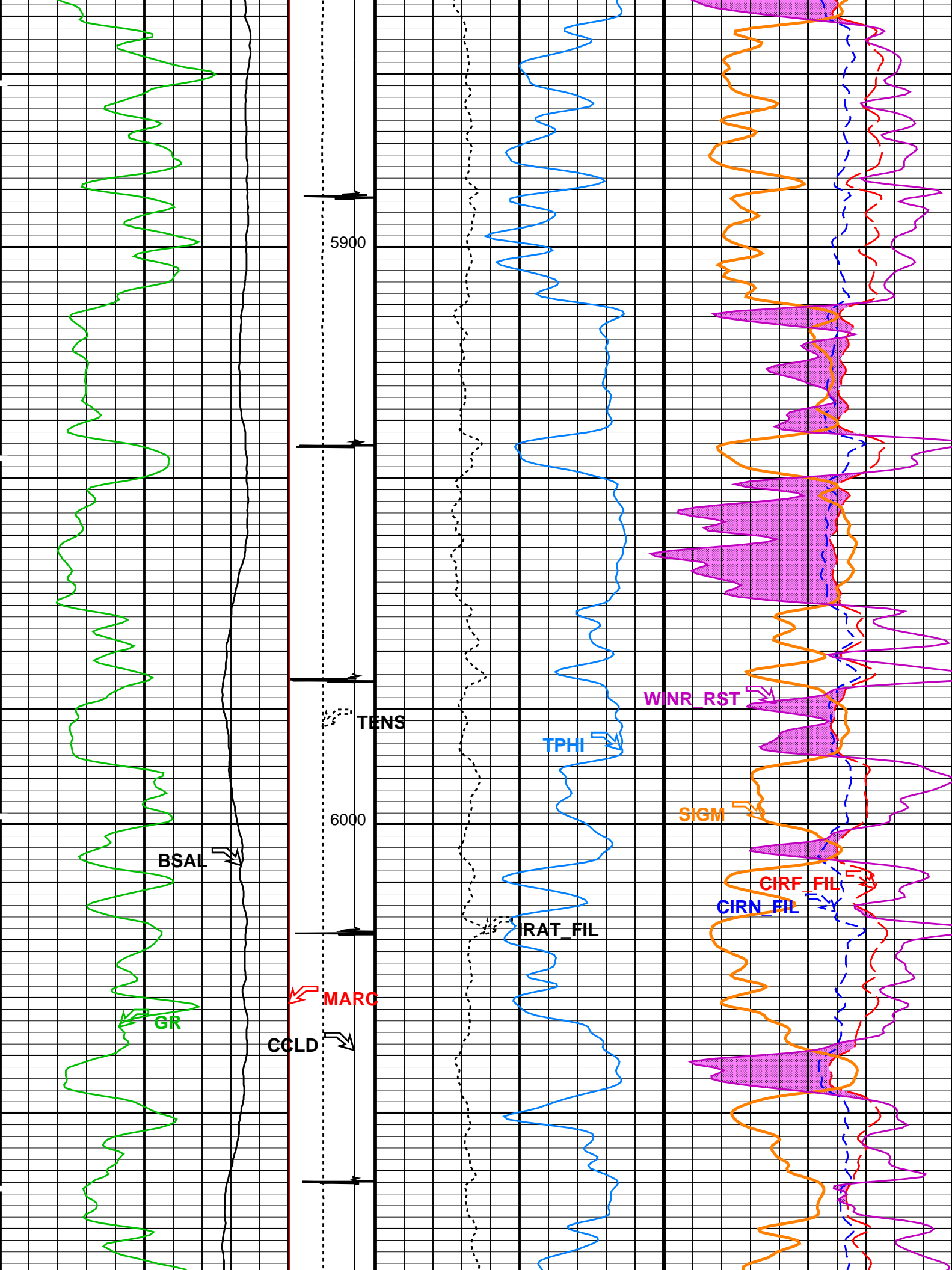




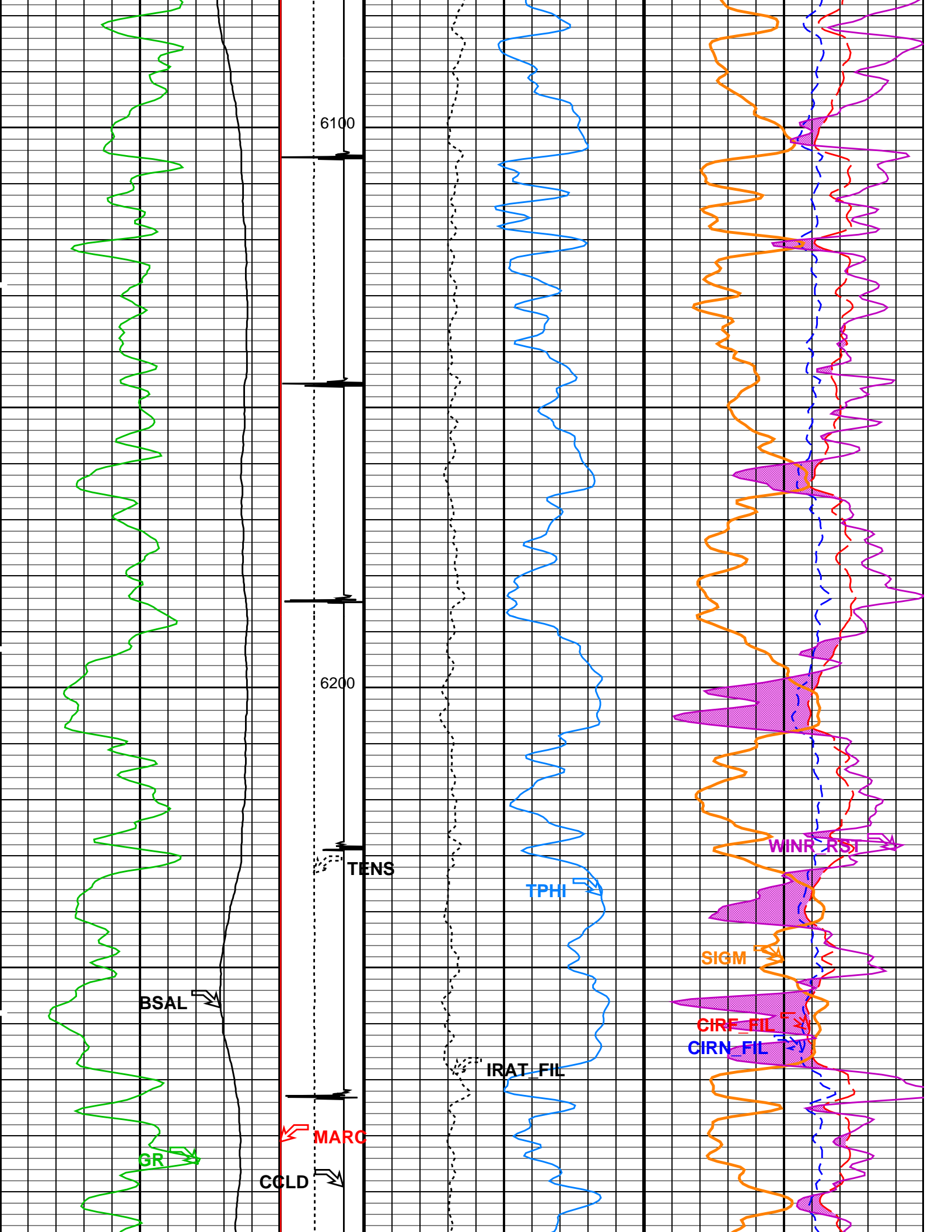


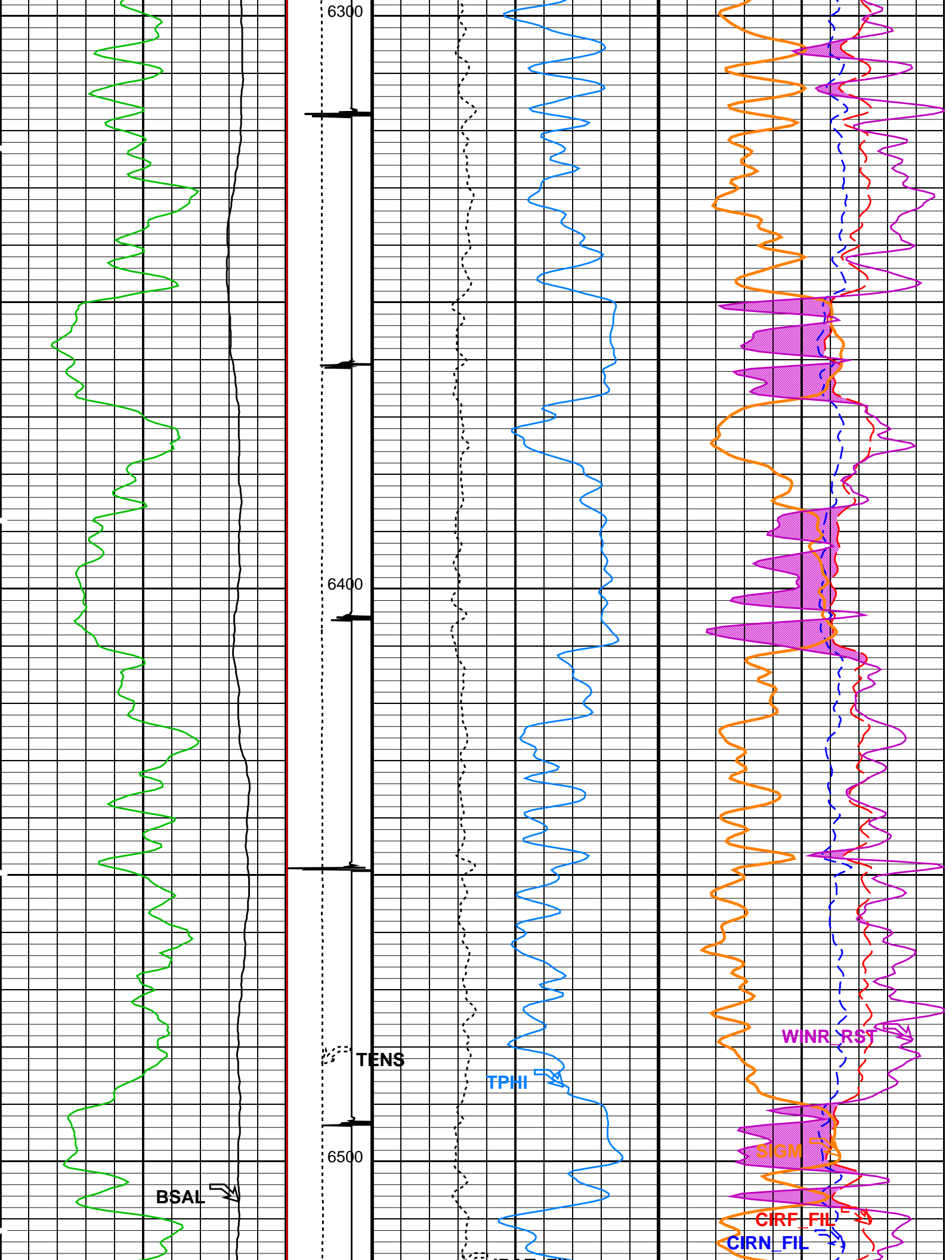


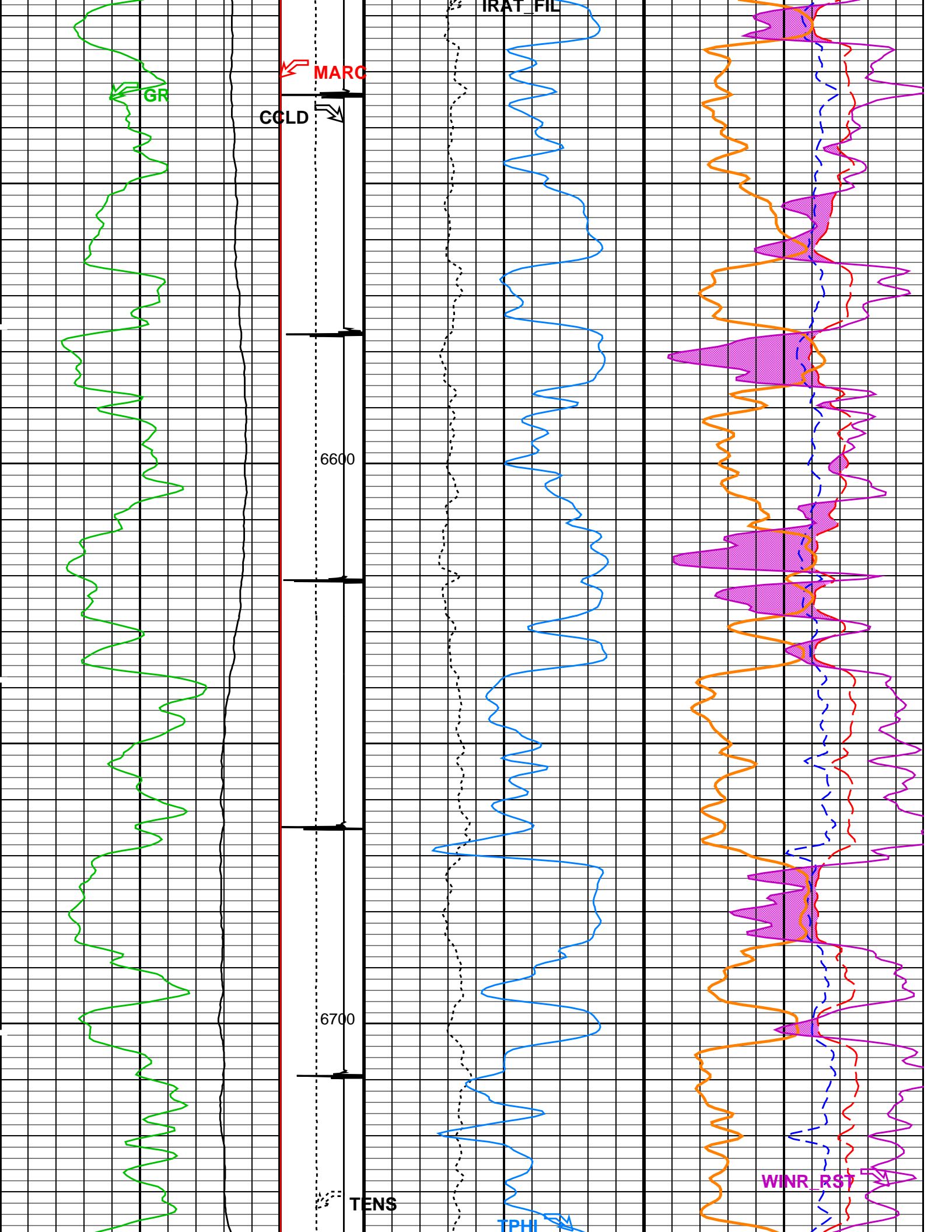


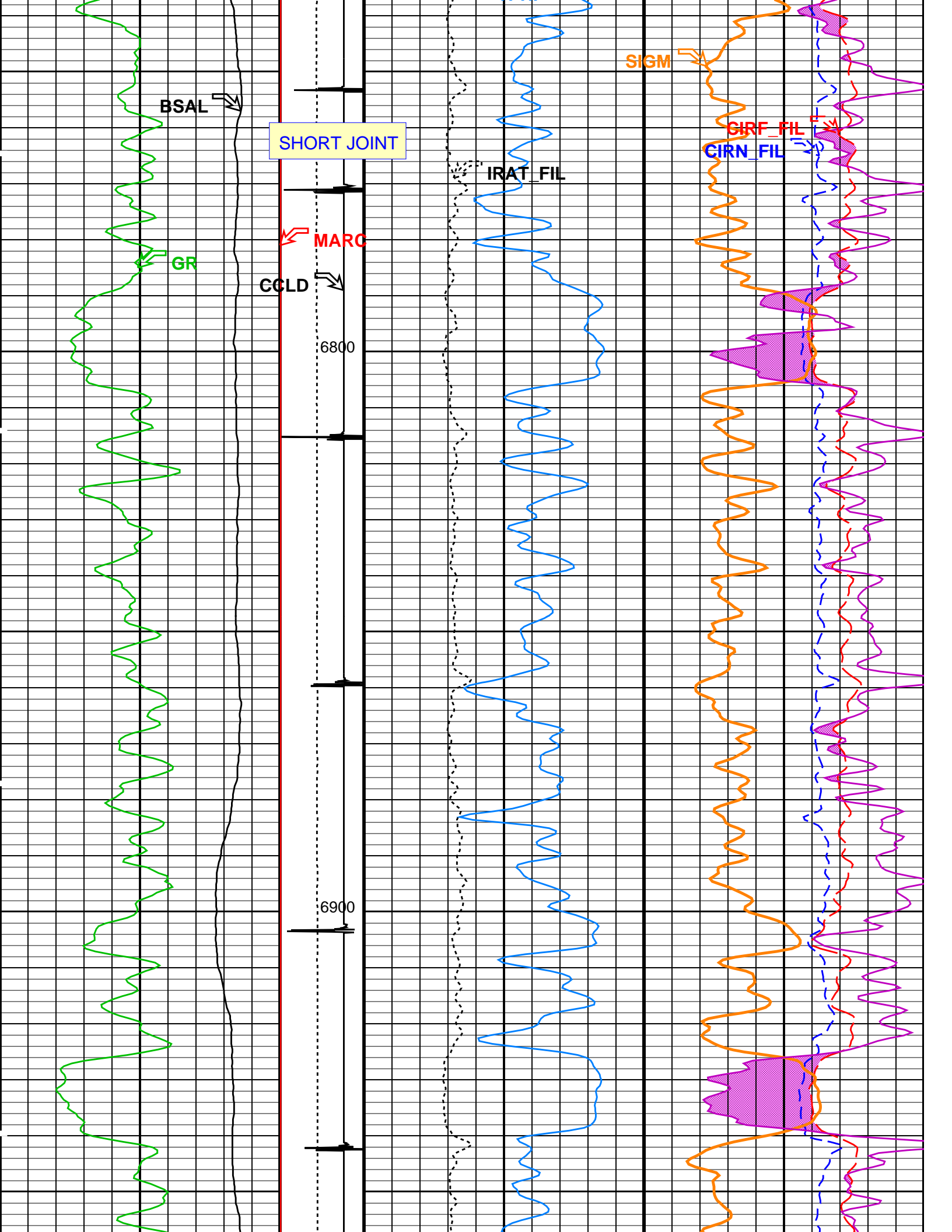


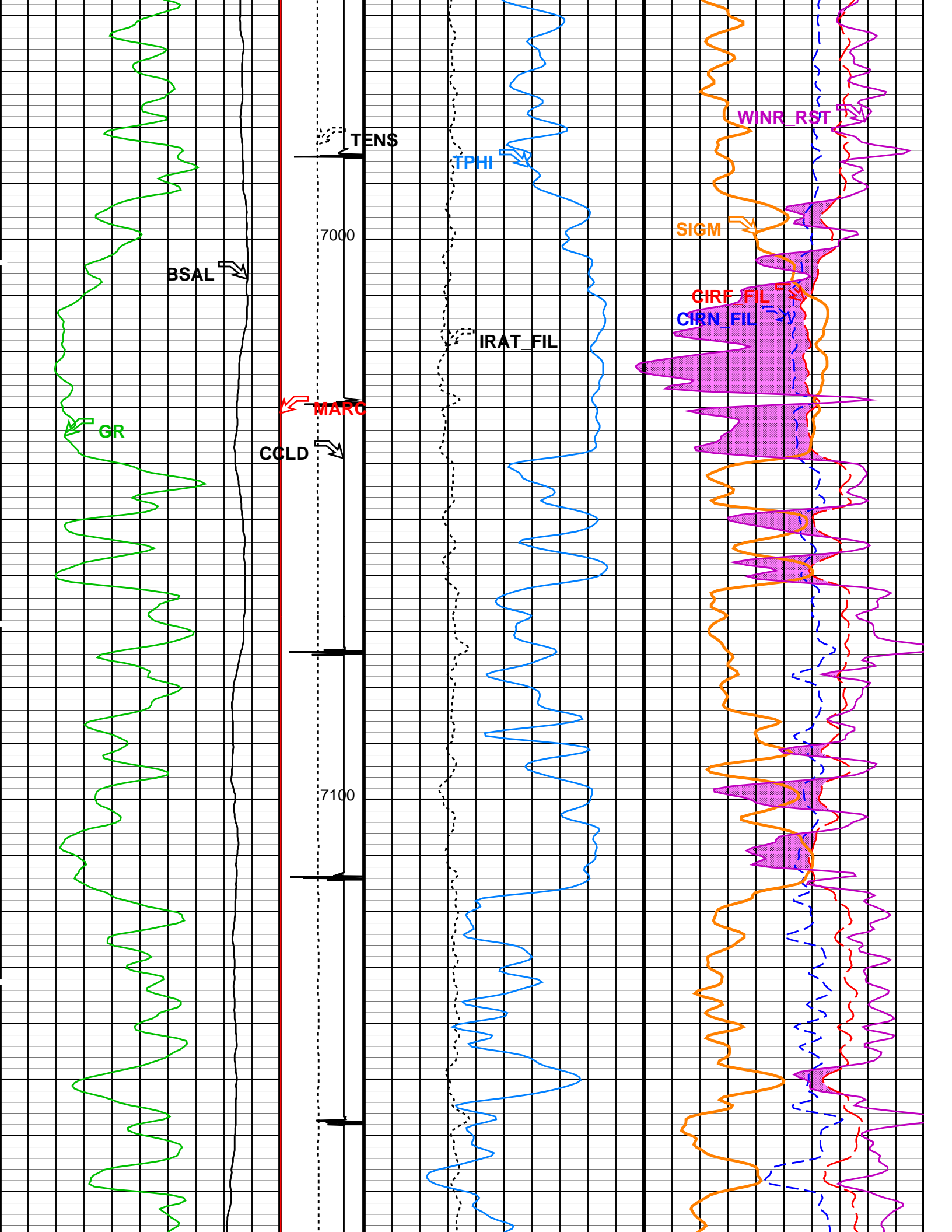


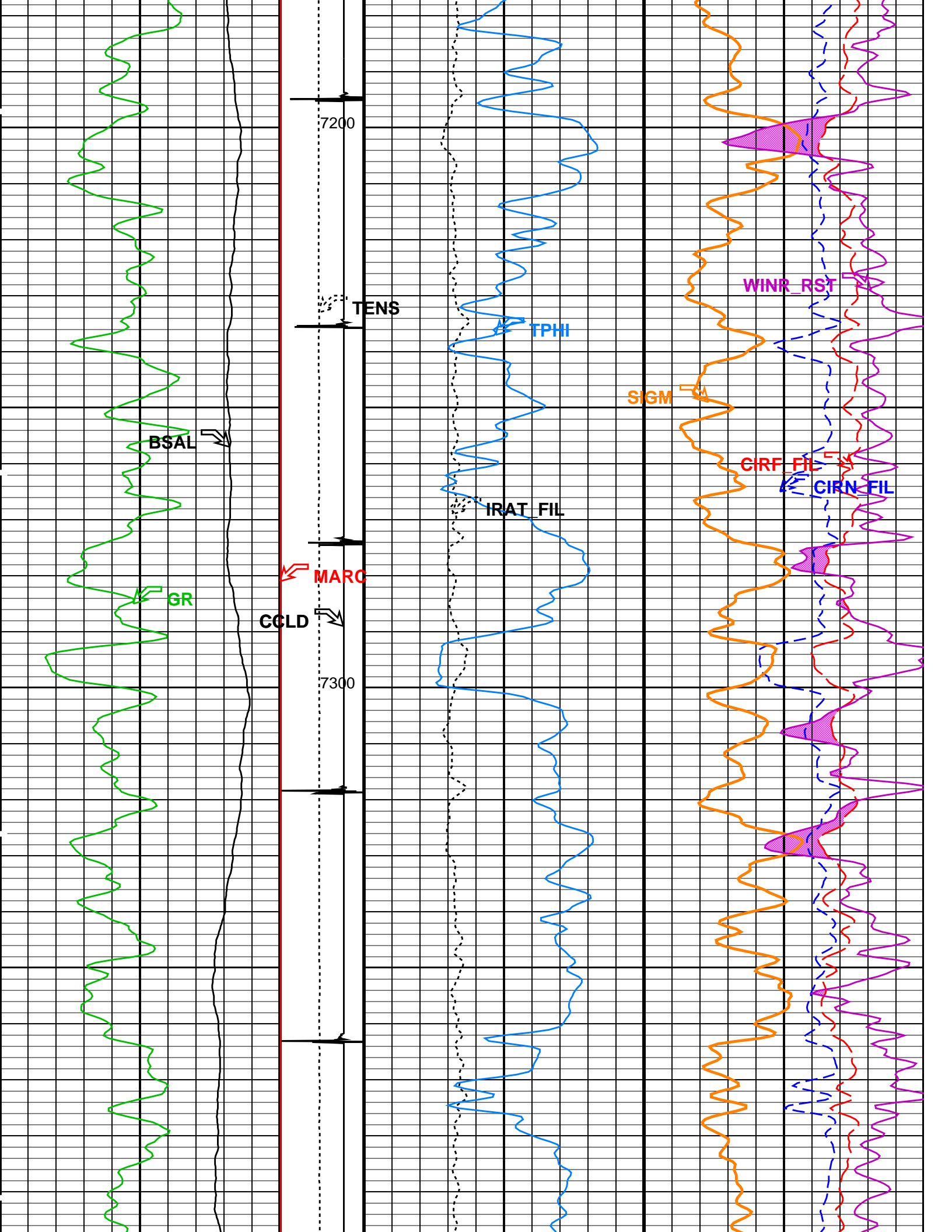


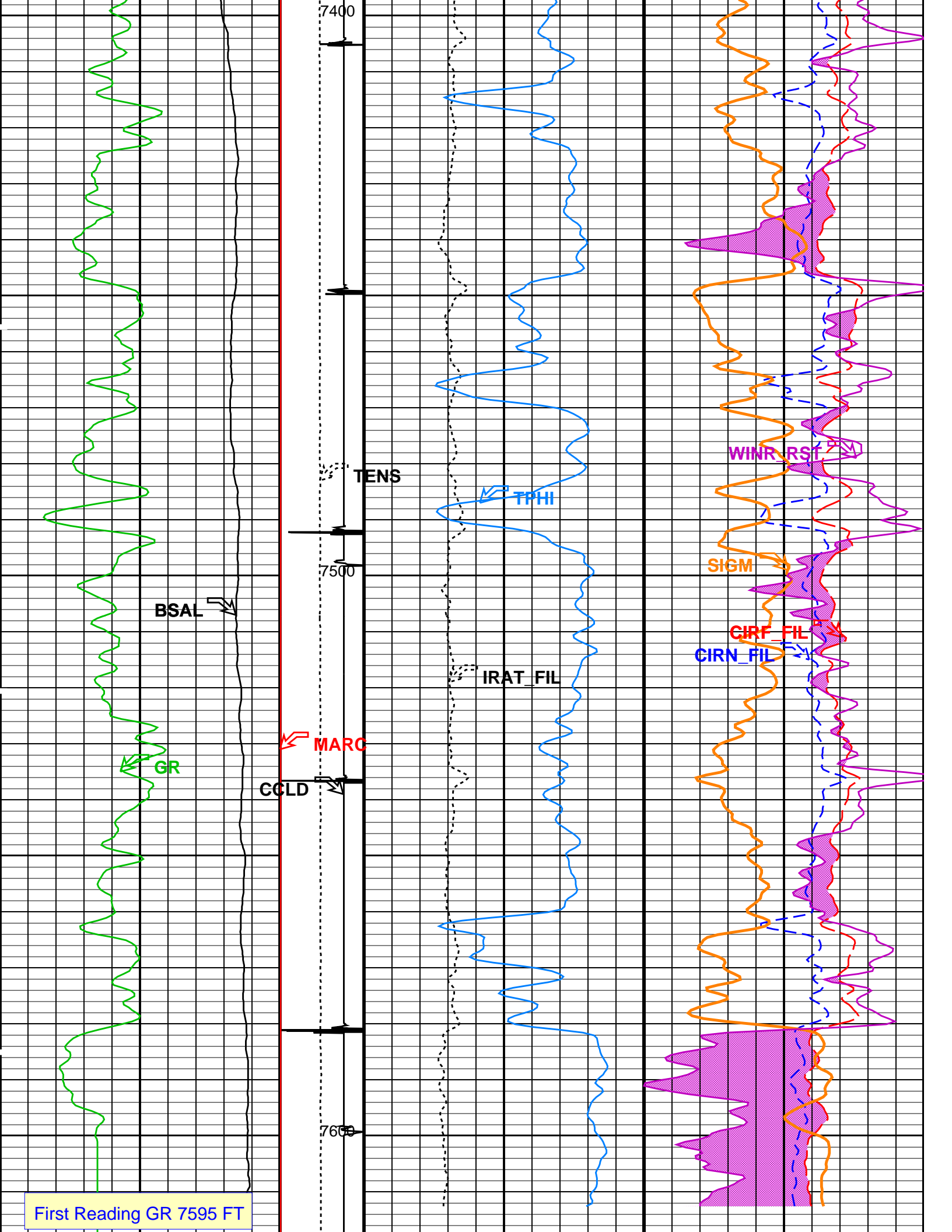






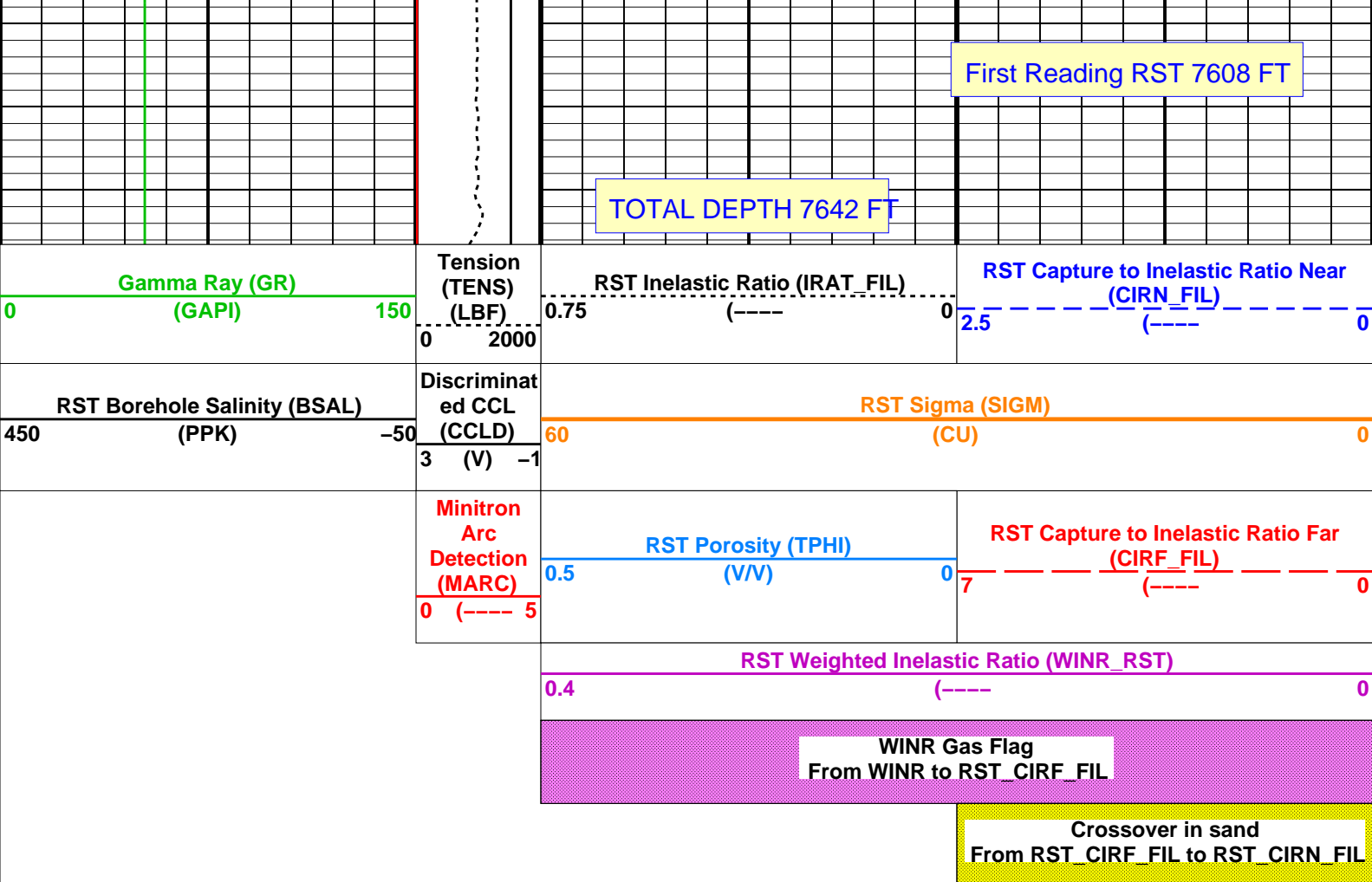






First Reading GR 7595 FT





### 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		
	Tractor Available in Tool String	NO



AIRB	RST Air Borehole	No	
BHS	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.	4	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.	4	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	2.0	FT
FLEV	Fluid Level	50.00	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	7642	FT
TDD	Total Depth - Driller	7760.00	FT
TDL	Total Depth - Logger	7642.00	FT
TWS	Temperature of Connate Water Sample	100.00	DEGF

Format: RST\_SIGMA\_S5    Vertical Scale: 5" per 100'    Graphics File Created: 14-Sep-2013 10:51

## OP System Version: 19C0-187

SCMT-CB	19C0-187	RST-C	19C0-187
PSPT	19C0-187		

### Input DLIS Files

DEFAULT	SCMT_RST_PSP_039LUP	FN:37	PRODUCER	14-Sep-2013 08:46	7644.5 FT	2.5 FT
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### Output DLIS Files

DEFAULT	SCMT_RST_PSP_042PUP	FN:40	PRODUCER	14-Sep-2013 10:51
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## MAXIS Field Log

## Input DLIS Files

DEFAULT	SCMT_RST_PSP_037LUP	FN:35	PRODUCER	14-Sep-2013 08:34	5783.0 FT	5457.0 FT
DEFAULT	SCMT_RST_PSP_042PUP	FN:40	PRODUCER	14-Sep-2013 10:51	7646.5 FT	-40.0 FT

## Output DLIS Files

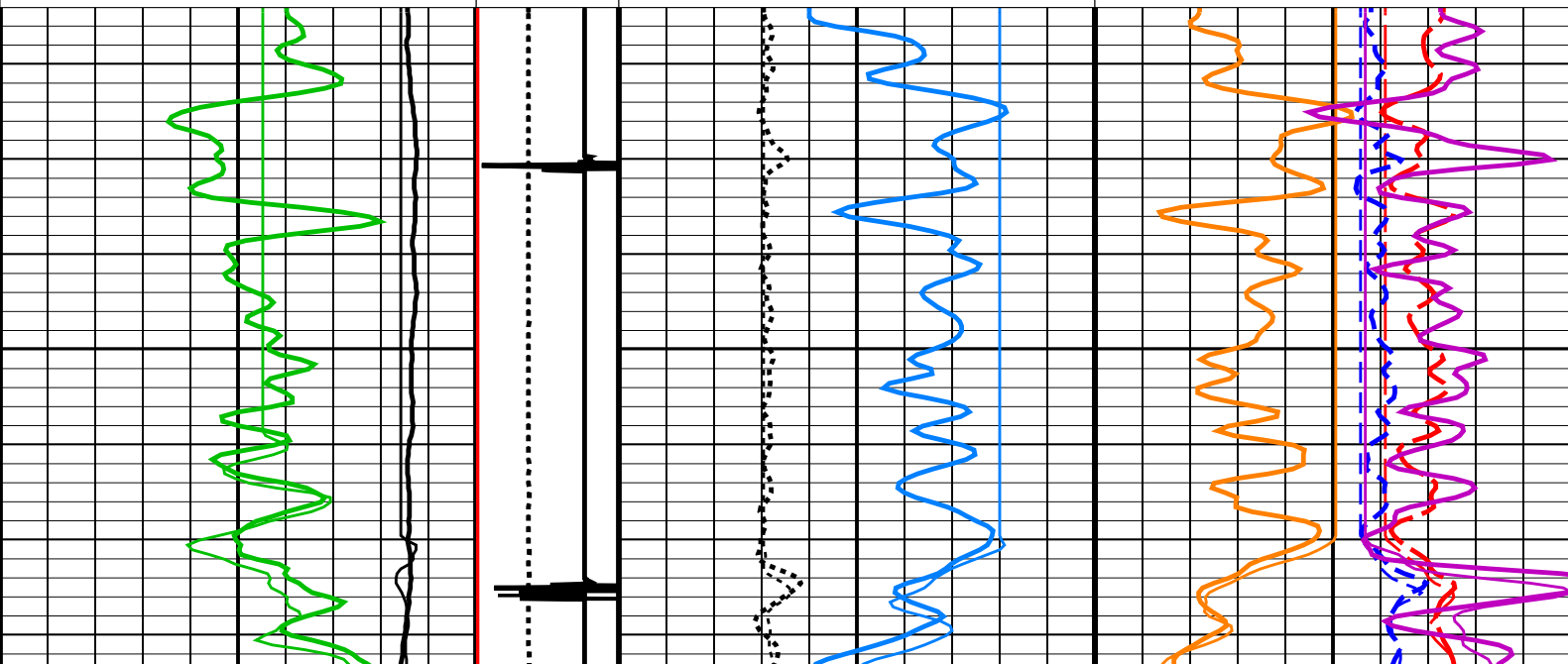
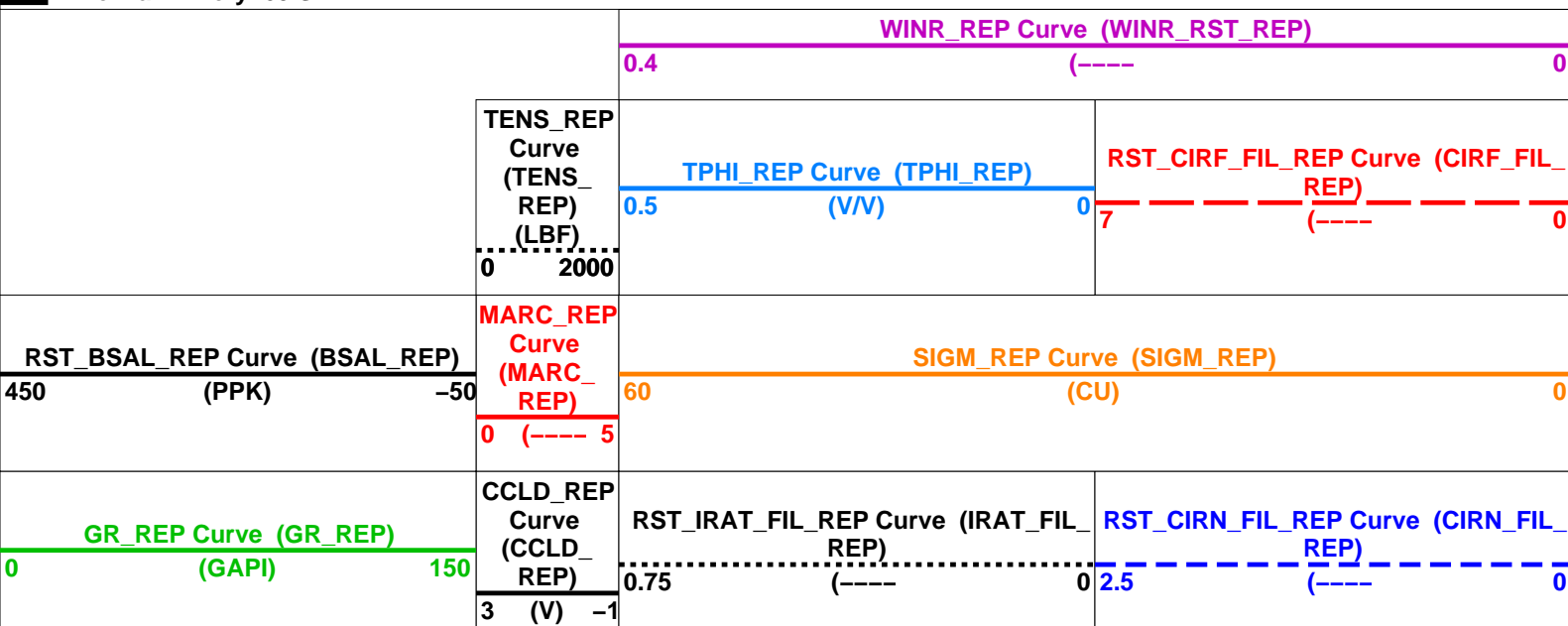
DEFAULT	SCMT_RST_PSP_044PUP	FN:42	PRODUCER	14-Sep-2013 10:59	5784.0 FT	5413.5 FT
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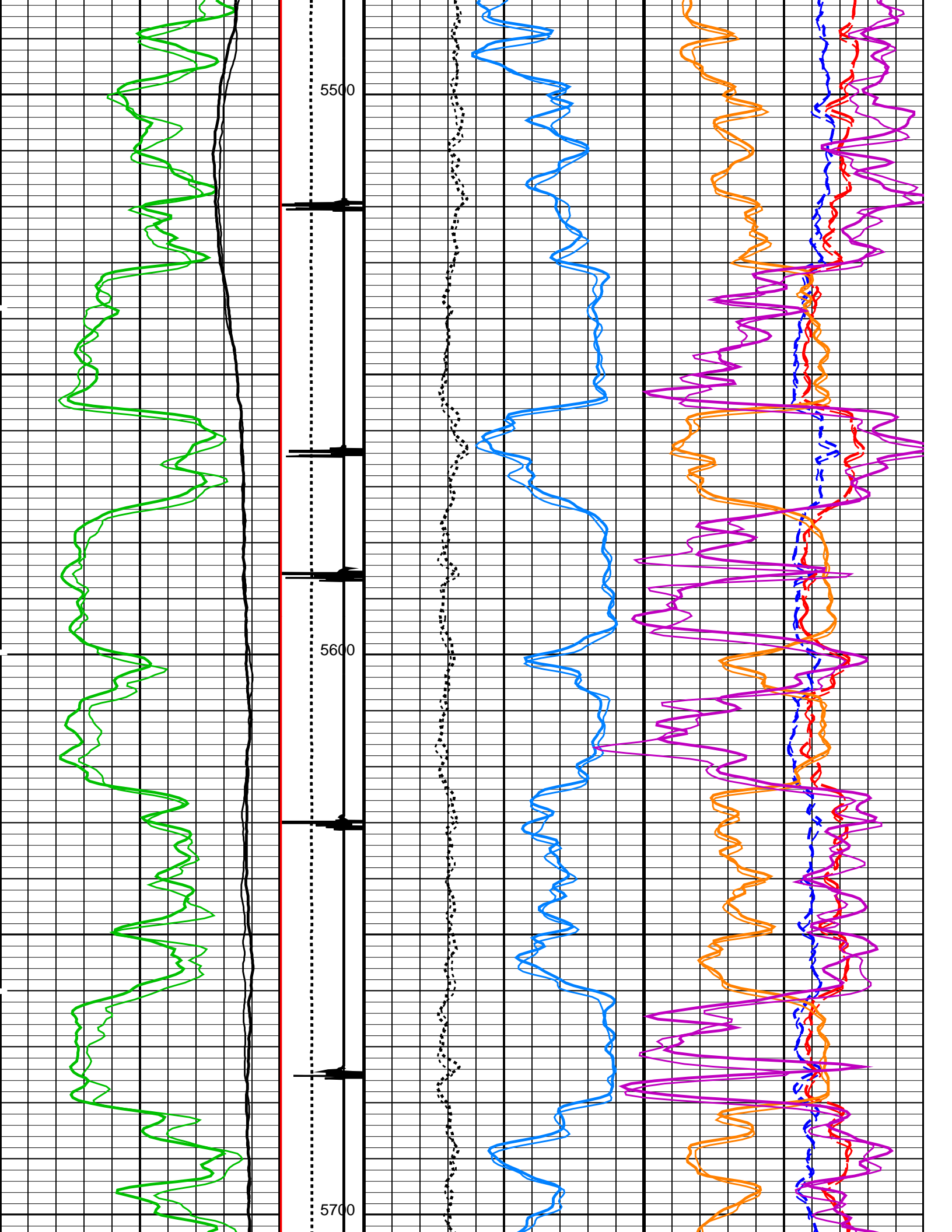
## OP System Version: 19C0-187

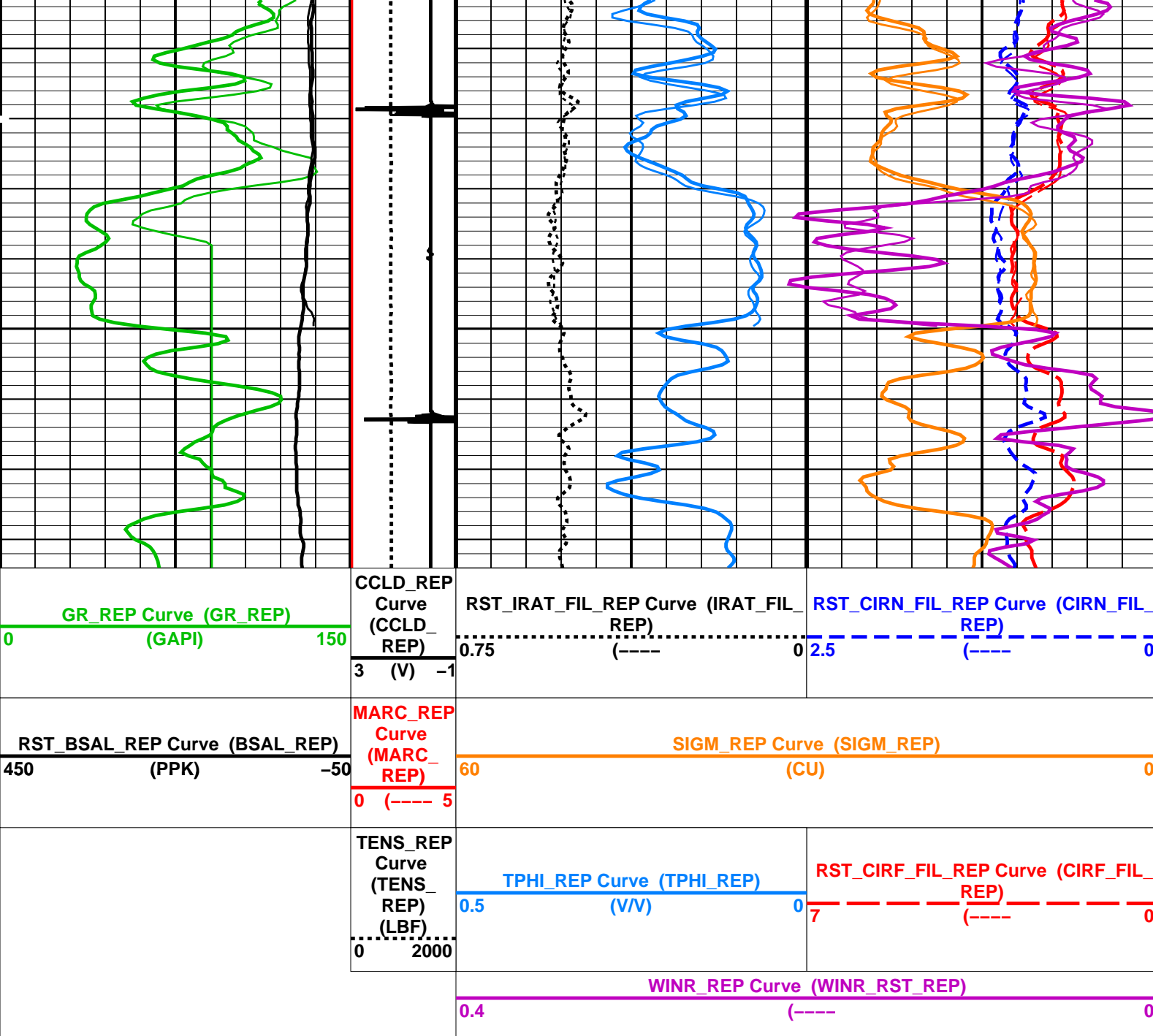
SCMT-CB	19C0-187	RST-C	19C0-187
PSPT	19C0-187		

## 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	
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			
	Tractor Available in Tool String	NO	
AIRB	RST Air Borehole	No	
BHS	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.	4	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.	4	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			
ALTDPCHAN	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	50.00	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	7642	FT
TDD	Total Depth - Driller	7760.00	FT
TDL	Total Depth - Logger	7642.00	FT
TWS	Temperature of Connate Water Sample	100.00	DEGF
Format: RST_SIGMA_S5_REP Vertical Scale: 5" per 100' Graphics File Created: 14-Sep-2013 10:59			

## OP System Version: 19C0-187

SCMT-CB	19C0-187	RST-C	19C0-187
PSPT	19C0-187		

## Input DLIS Files

DEFAULT	SCMT_RST_PSP_037LUP	FN:35	PRODUCER	14-Sep-2013 08:34	5783.0 FT	5457.0 FT
DEFAULT	SCMT_RST_PSP_042PUP	FN:40	PRODUCER	14-Sep-2013 10:51	7646.5 FT	-40.0 FT

## Output DLIS Files

DEFAULT	SCMT_RST_PSP_044PUP	FN:42	PRODUCER	14-Sep-2013 10:59
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**Schlumberger**

## PBMS COEFFICIENTS

MAXIS Field Log

Client: ENCANA OIL & GAS (USA) INC  
Field: SOUTH PARACHUTE  
Well: HAGEN 22-3B (PC22)  
Run date: 14-Sep-2013

Tool: PSP  
Sub Type: PBMS  
Sensor: GR

### PBMS Gamma Ray

Sonde Serial NB	RESISTORS FOR GR SENSOR N.33223, TOOL PBMS-BA0928. SENSOR S/N:
Sensor Serial NB	33223
Calib Date ddmmyy	090800
Matrix Size	12
Coeff CRC	CFE2

### GR HV Rt

Rt\*\*0

Rt\*\*1

Rt\*\*0

+.182000000000e+04

+.332000000000e+04

Client: ENCANA OIL & GAS (USA) INC  
Field: SOUTH PARACHUTE  
Well: HAGEN 22-3B (PC22)

Tool: PSP  
Sub Type: PBMS  
Sensor: WellTemp RTD

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	-.391987973189E+03	+.191346892512E+03	-.440920753451E+02
	Tt**3	Tt**4	Tt**5
Tt**0	+.957191300908E+01	-.711421725686E+00	0.0

Client: ENCANA OIL & GAS (USA) INC

Field: SOUTH PARACHUTE

Well: HAGEN 22-3B (PC22)

Run date: 14-Sep-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

Fc**0	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 928  
 Calib Date ddmmyy 280612  
 Matrix Size 66  
 Coeff CRC 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



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
(Fb'-Fc')**0	-.124387135327E-12	+713102327208E-16	-.316084316842E-20

Company: ENCANA OIL & GAS (USA) INC

Schlumberger

Well: HAGEN 22-3B (PC22)  
Field: SOUTH PARACHUTE  
County: GARFIELD  
State: COLORADO

RESERVOIR SATURATION LOG  
SIGMA MODE  
GAMMA RAY-CCL