

Company: ENCANA OIL & GAS (USA) INC

Well: HMU 6-13D (J6SEB)

Field: MAMM CREEK

County: GARFIELD

State: COLORADO

RESERVOIR SATURATION LOG
SIGMA MODE
GAMMA RAY-CCL

County: GARFIELD

Field: MAMM CREEK

Location: SHL: 1933 FSL & 1896 FEL

Well: HMU 6-13D (J6SEB)

Company: ENCANA OIL & GAS (USA) INC

LOCATION		Elev.:	
SHL: 1933 FSL & 1896 FEL		K.B.	7166.00 ft
BHL: 472 FSL & 818 FWL		G.L.	7144.00 ft
		D.F.	7165.00 ft

Permanent Datum: _____

GROUND LEVEL _____

Elev.: 7144.00 ft _____

Log Measured From: _____

KELLY BUSHING _____

22.00 ft above Perm. Datum _____

Drilling Measured From: _____

KELLY BUSHING _____

API Serial No. _____

Section _____

Township _____

Range _____

05-045-21943-000C

6

8S

92W

	Run 1	Run 2	Run 3
Oil Density			
Water Salinity			
Gas Gravity			
Bo			
Bw			
1/Bq			
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			
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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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		
Calibration Cable Type:	1-25ZT	Number of Calibration Points:	10	Conveyance Method:	Wireline
Wheel Correction 1:	-5	Calibration RMS:	3	Rig Type:	LAND
Wheel Correction 2:	-4	Calibration Peak Error:	8		

Depth Control Parameters	
Depth (m)	10
Depth (m)	20
Depth (m)	30
Depth (m)	40
Depth (m)	50
Depth (m)	60
Depth (m)	70
Depth (m)	80
Depth (m)	90
Depth (m)	100
Depth (m)	110
Depth (m)	120
Depth (m)	130
Depth (m)	140
Depth (m)	150
Depth (m)	160
Depth (m)	170
Depth (m)	180
Depth (m)	190
Depth (m)	200
Depth (m)	210
Depth (m)	220
Depth (m)	230
Depth (m)	240
Depth (m)	250
Depth (m)	260
Depth (m)	270
Depth (m)	280
Depth (m)	290
Depth (m)	300
Depth (m)	310
Depth (m)	320
Depth (m)	330
Depth (m)	340
Depth (m)	350
Depth (m)	360
Depth (m)	370
Depth (m)	380
Depth (m)	390
Depth (m)	400
Depth (m)	410
Depth (m)	420
Depth (m)	430
Depth (m)	440
Depth (m)	450
Depth (m)	460
Depth (m)	470
Depth (m)	480
Depth (m)	490
Depth (m)	500
Depth (m)	510
Depth (m)	520
Depth (m)	530
Depth (m)	540
Depth (m)	550
Depth (m)	560
Depth (m)	570
Depth (m)	580
Depth (m)	590
Depth (m)	600
Depth (m)	610
Depth (m)	620
Depth (m)	630
Depth (m)	640
Depth (m)	650
Depth (m)	660
Depth (m)	670
Depth (m)	680
Depth (m)	690
Depth (m)	700
Depth (m)	710
Depth (m)	720
Depth (m)	730
Depth (m)	740
Depth (m)	750
Depth (m)	760
Depth (m)	770
Depth (m)	780
Depth (m)	790
Depth (m)	800
Depth (m)	810
Depth (m)	820
Depth (m)	830
Depth (m)	840
Depth (m)	850
Depth (m)	860
Depth (m)	870
Depth (m)	880
Depth (m)	890
Depth (m)	900
Depth (m)	910
Depth (m)	920
Depth (m)	930
Depth (m)	940
Depth (m)	950
Depth (m)	960
Depth (m)	970
Depth (m)	980
Depth (m)	990
Depth (m)	1000

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	
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| <ol style="list-style-type: none">1. ALL SCHLUMBERGER DEPTH CONTROL PROCEDURES USED2. IDW USED AS PRIMARY DEPTH REFERENCE3. SPWT DRUM COUNTER USED AS SECONDARY DEPTH REFERENCE4.5.6. |
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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 CORRLEATED TO DOWN LOG	
TOOL RAN AS PER TOOL SKETCH	
ENTRANCE: 04:45	
TIME ON BOTTOM: 05:45	
EXIT: 08:30	

MAXIMUM RECORDED TEMPERATURE: 271 DEGF	
MAXIMUM RECORDED PRESSURE: 4137 PSIA	
SHORT JOINTS: 6930 FT & 7945 FT	
SANDSTONE MATRIX USED	
CREW: KBUNTING, WAZIZ, KJOHNS, KBOZARTH	
THANK YOU FOR CHOOSING E&P WIRELINE, A SCHLUMBERGER COMPANY	

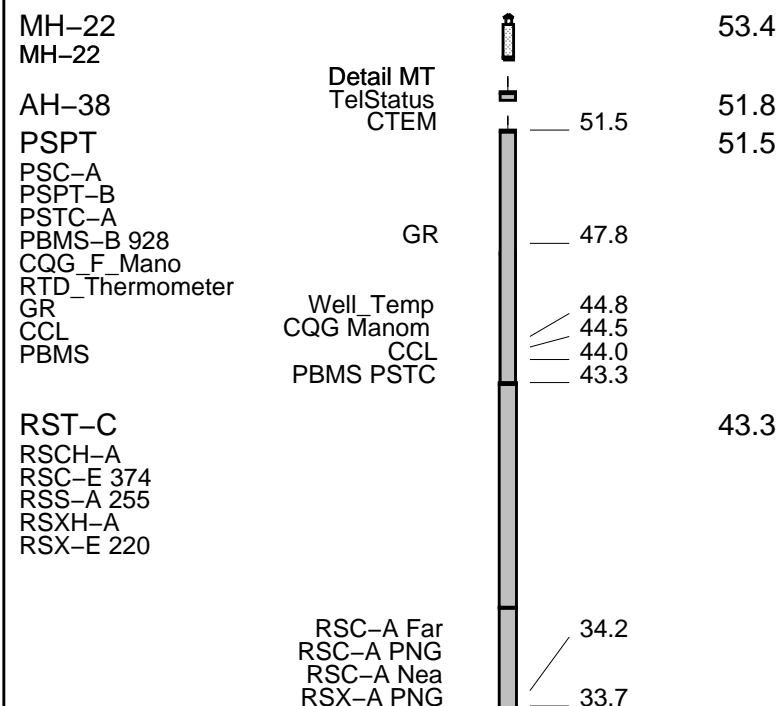
RUN 1 SERVICE ORDER #: PROGRAM VERSION: FLUID LEVEL:			RUN 2 SERVICE ORDER #: PROGRAM VERSION: FLUID LEVEL:		
LOGGED INTERVAL	START	STOP	LOGGED INTERVAL	START	STOP

EQUIPMENT	DESCRIPTION

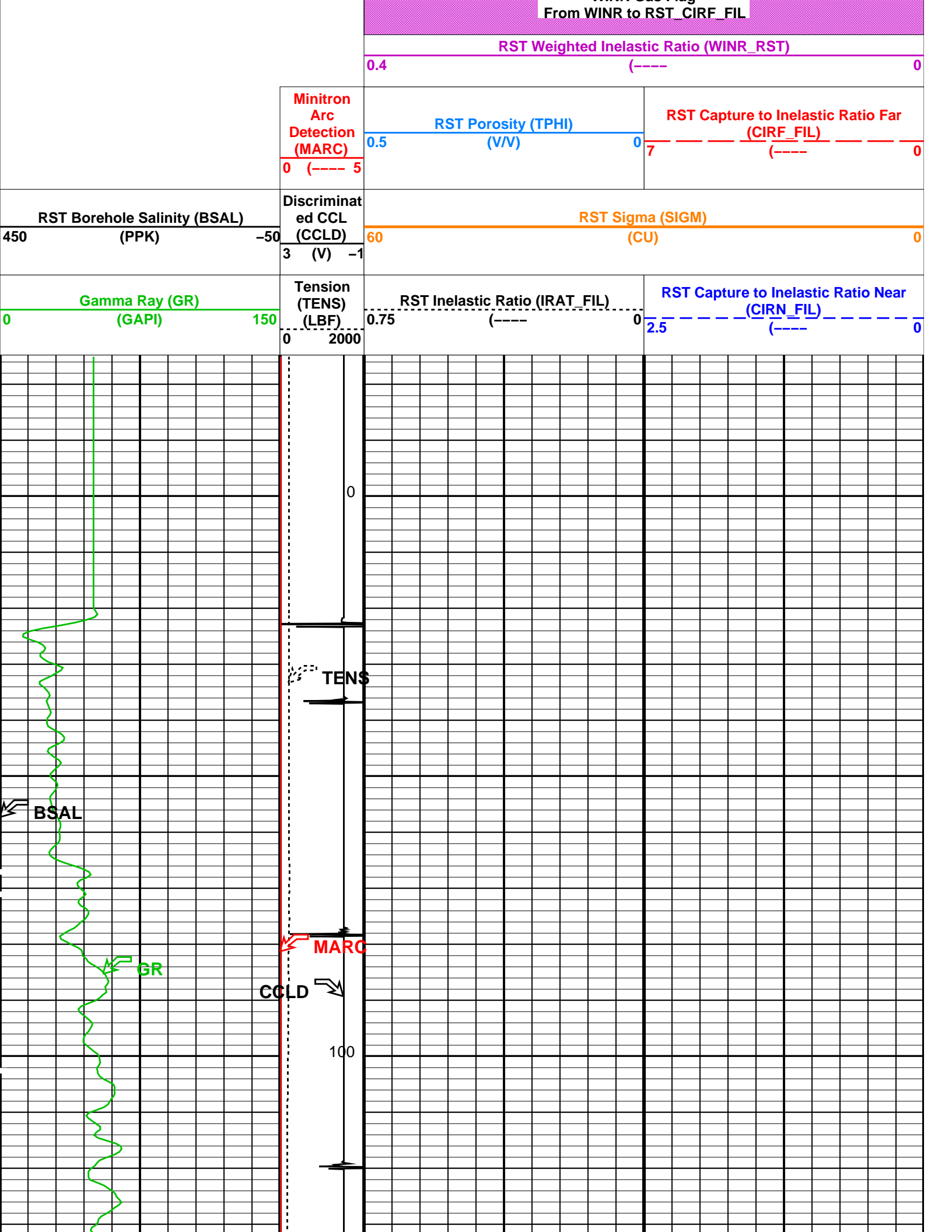
	RUN 1	RUN 2
1	1	1
2	1	1
3	1	1
4	1	1
5	1	1
6	1	1
7	1	1
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9	1	1
10	1	1
11	1	1
12	1	1
13	1	1
14	1	1
15	1	1
16	1	1
17	1	1
18	1	1
19	1	1
20	1	1
21	1	1
22	1	1
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26	1	1
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88	1	1
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99	1	1
100	1	1

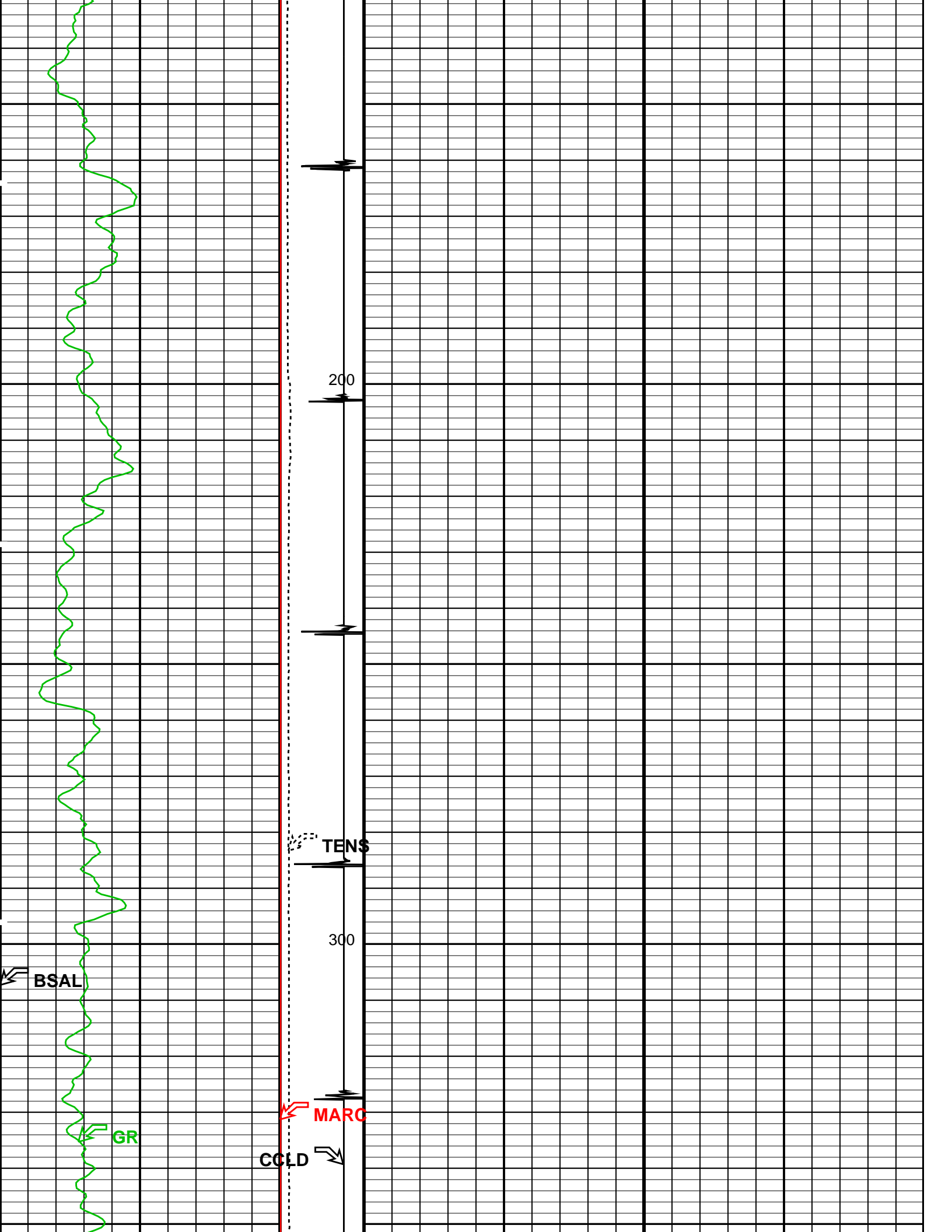
WITM-A PSC_16MHZ	SURFACE EQUIPMENT	
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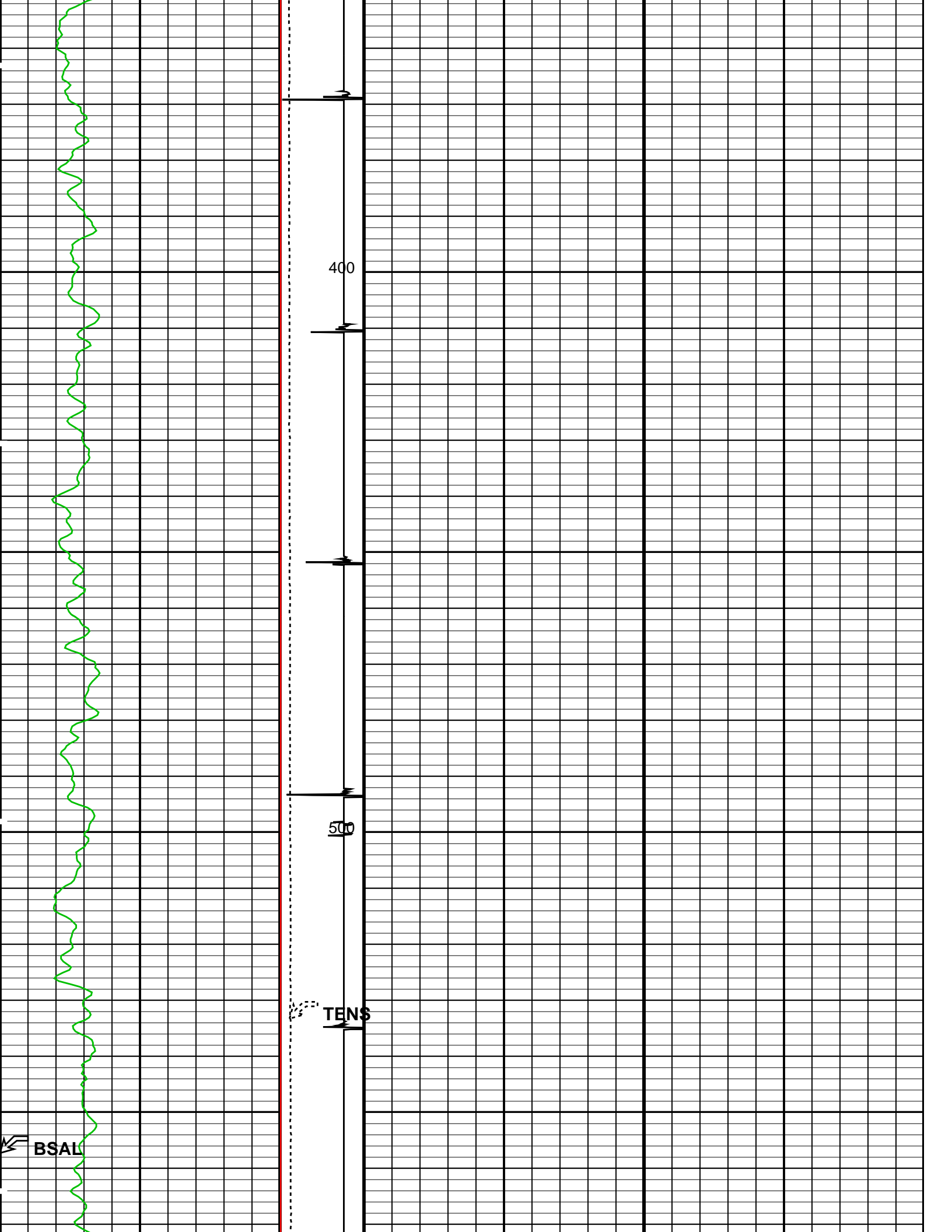
DOWNHOLE EQUIPMENT

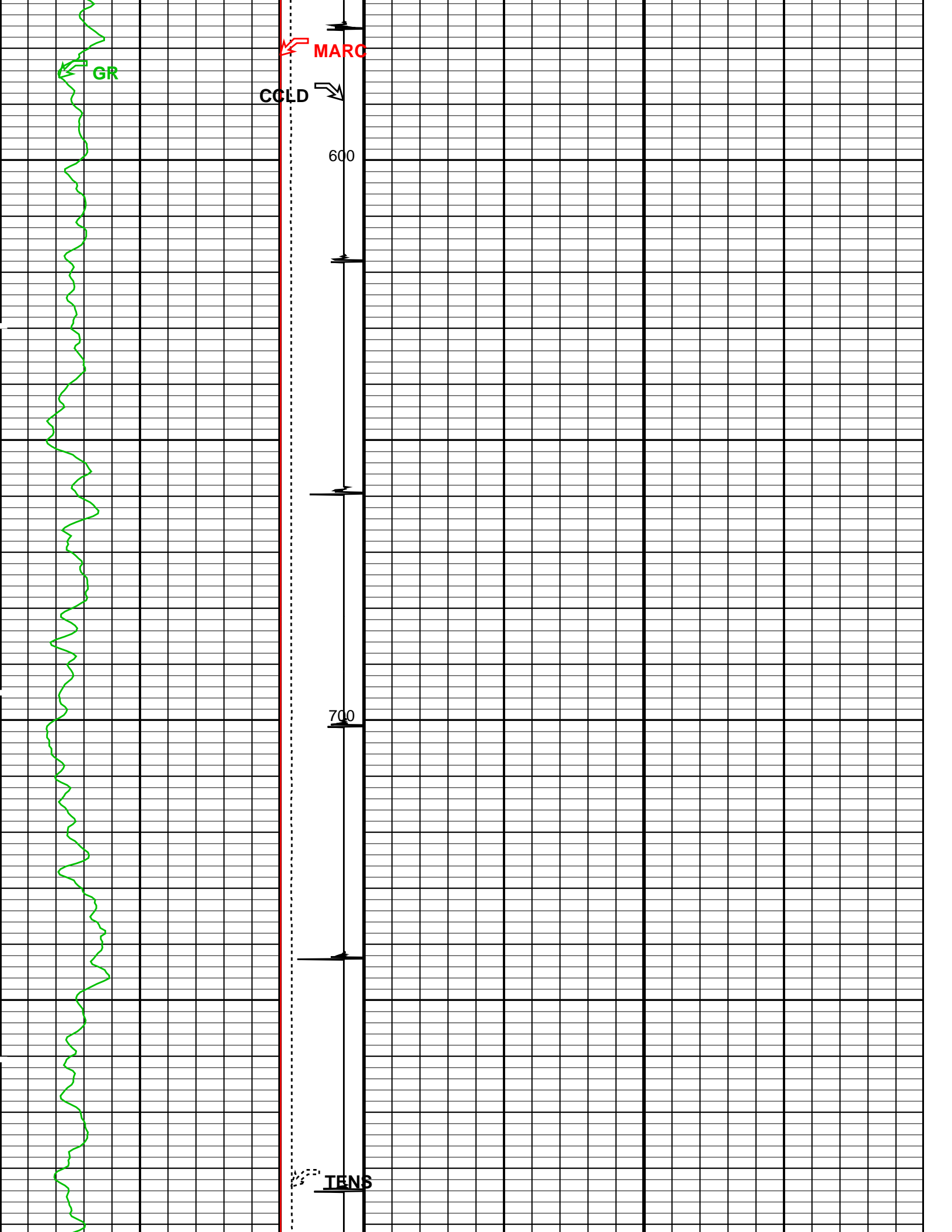


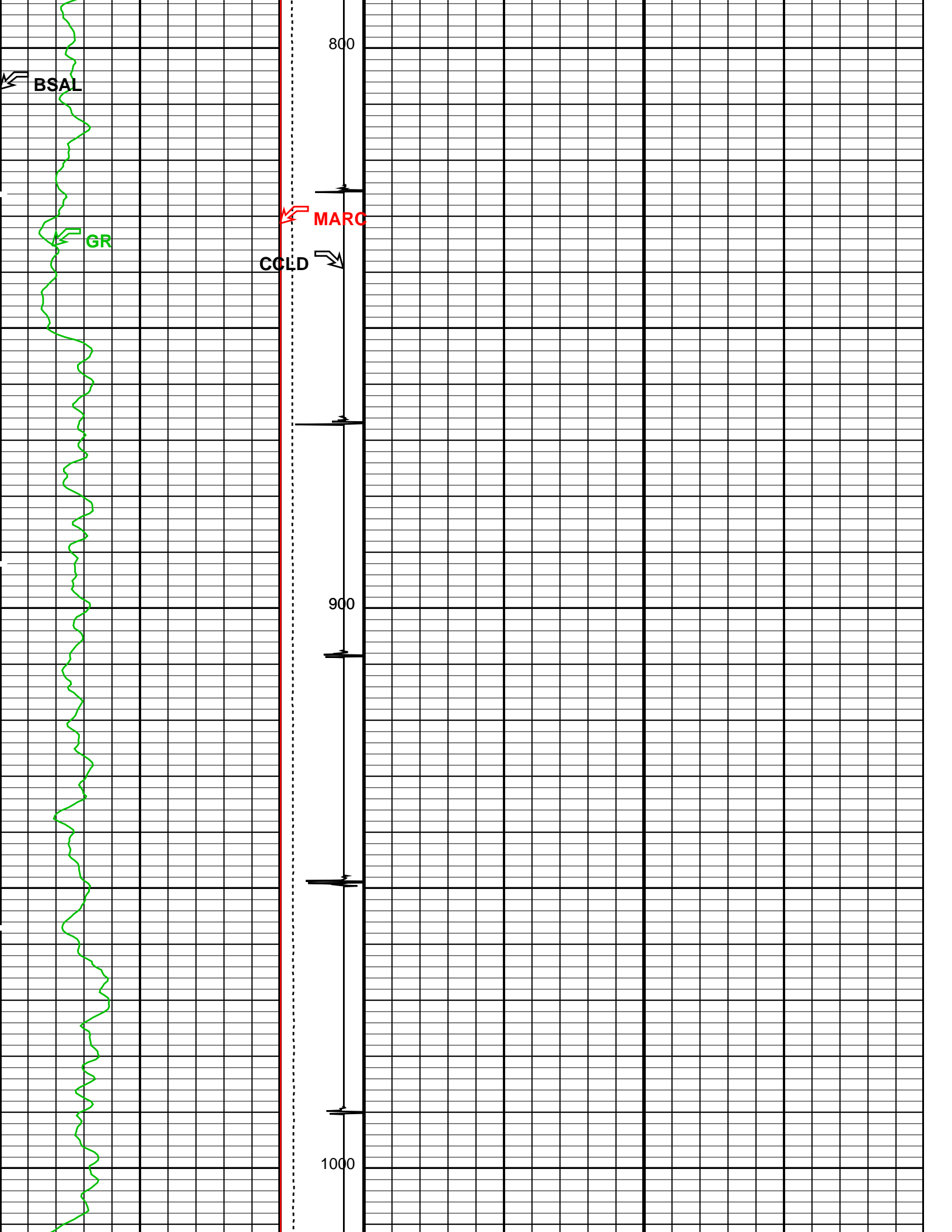
WINR Gas Flag

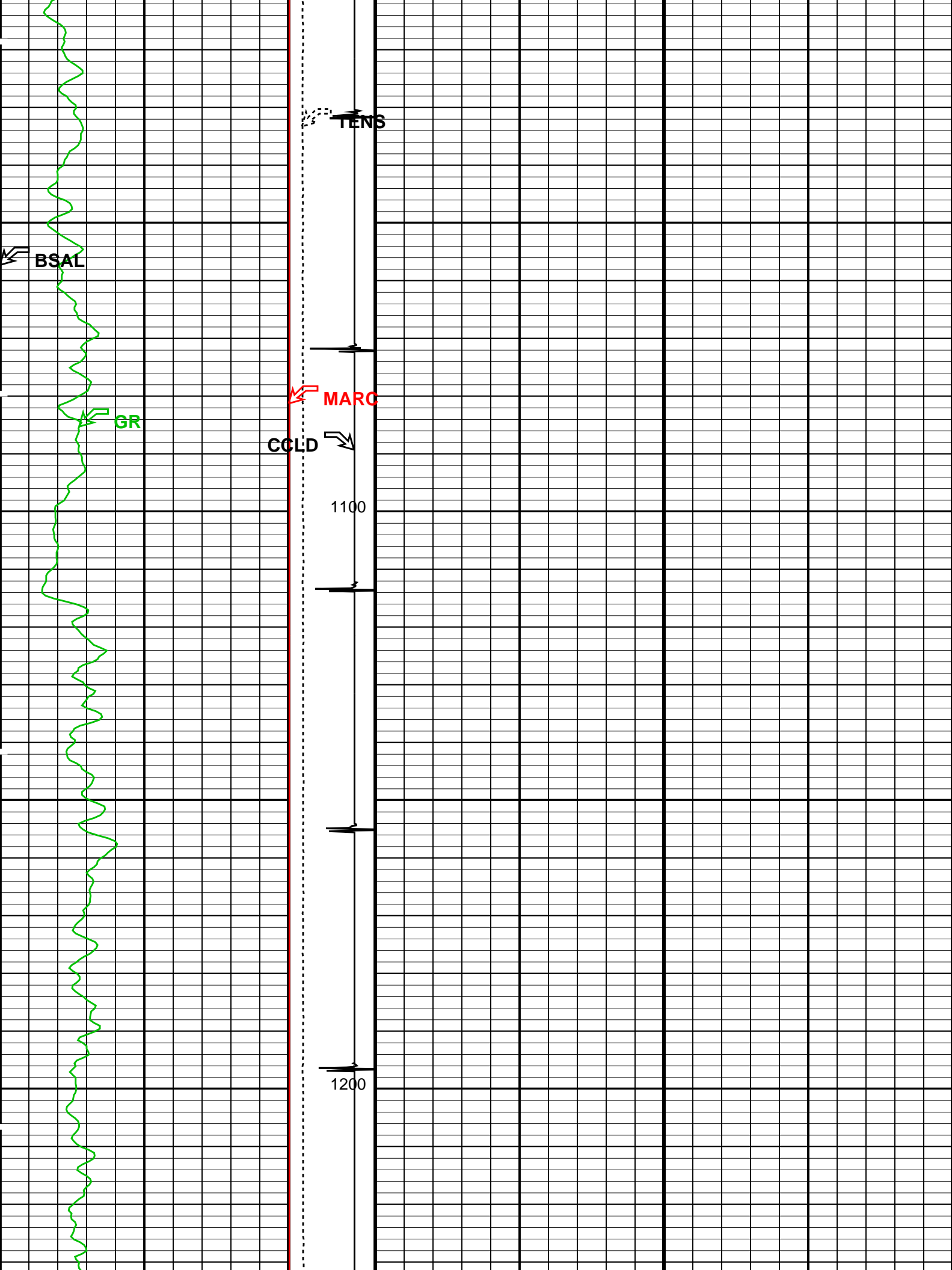


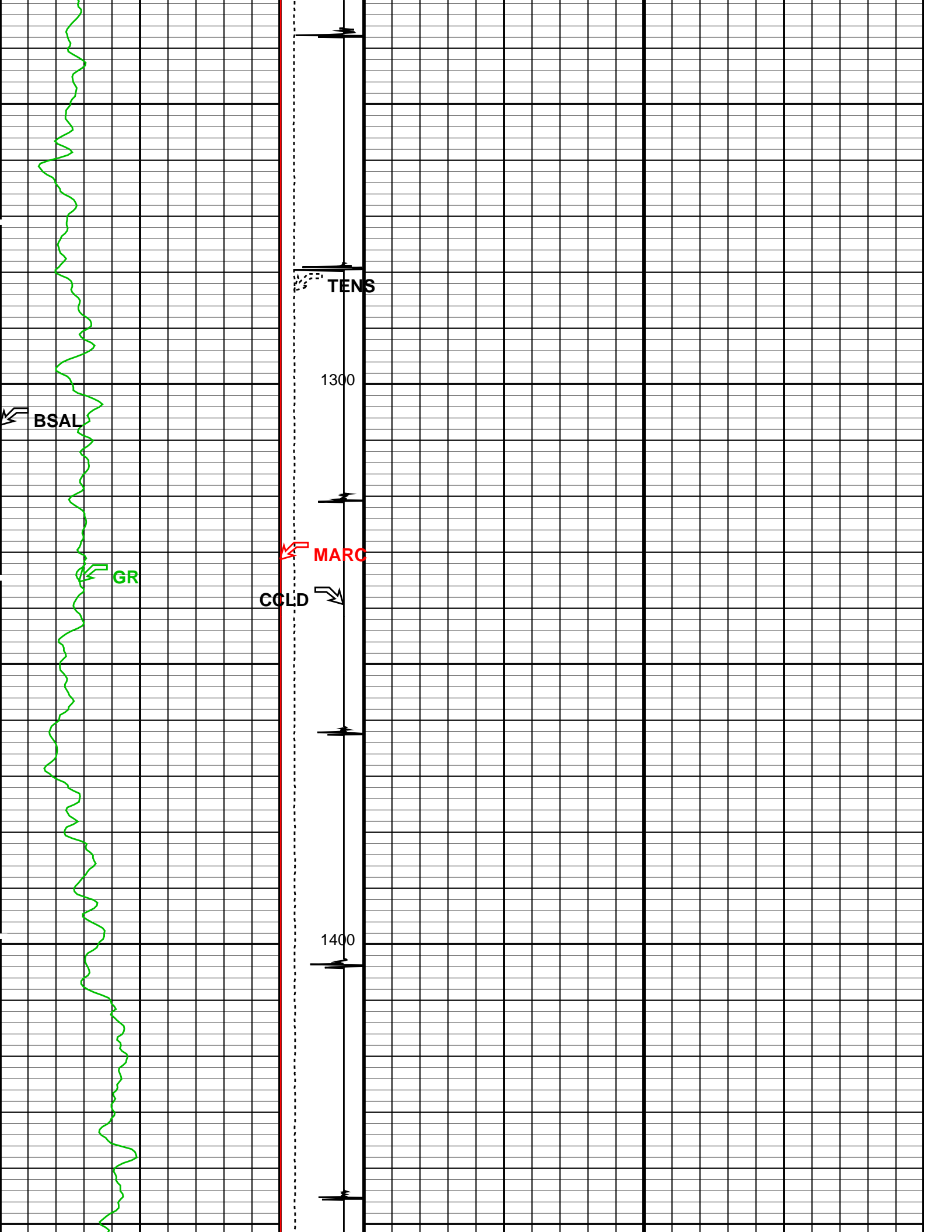


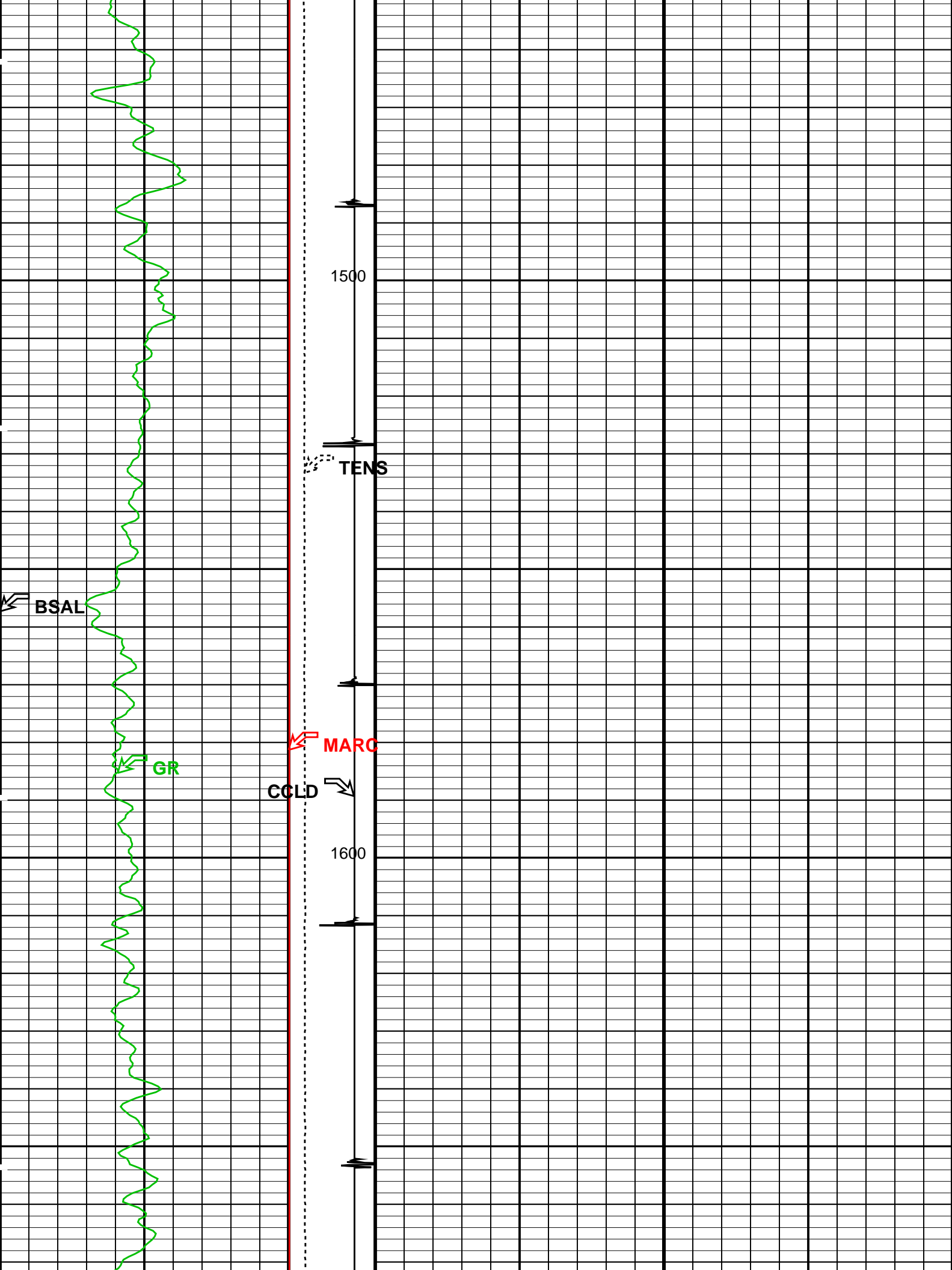


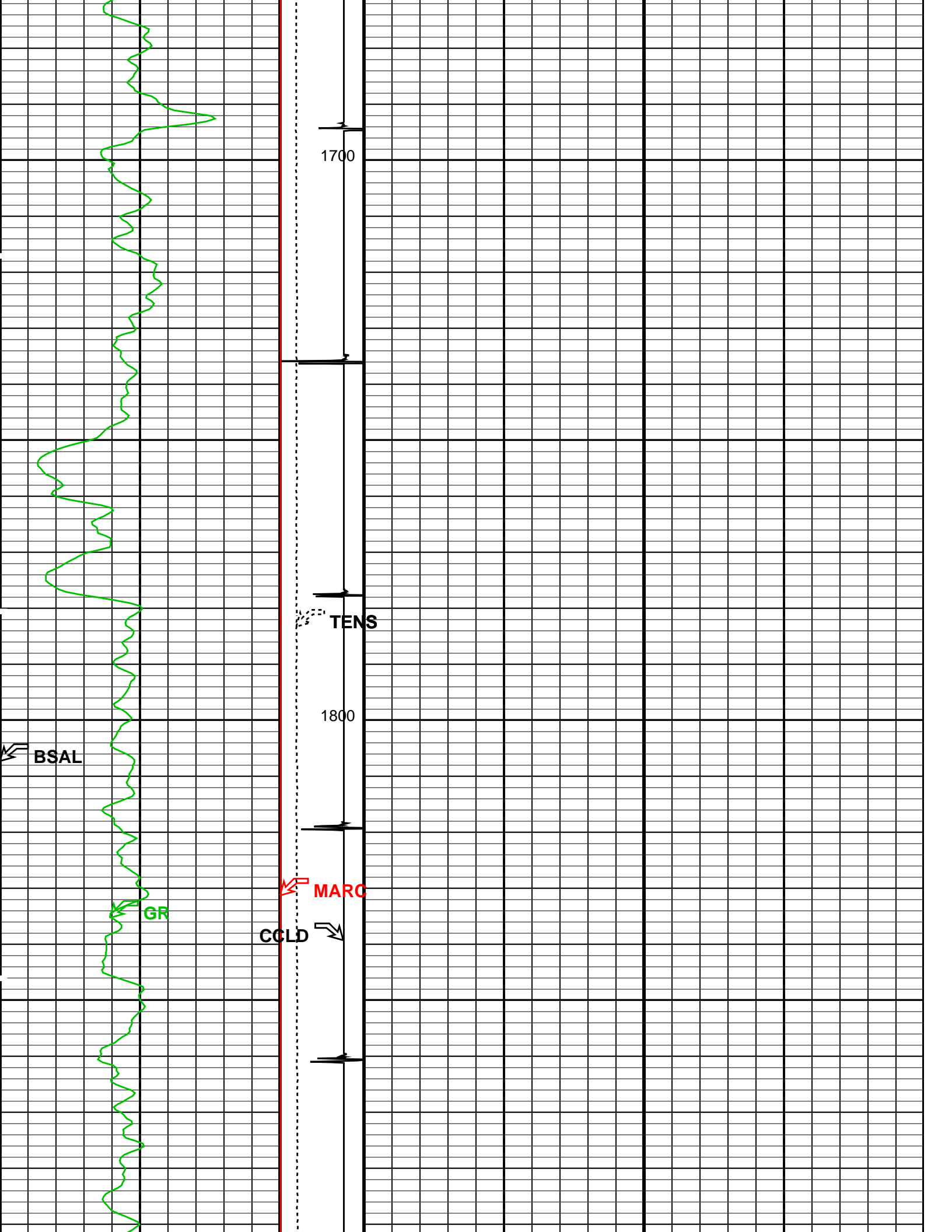


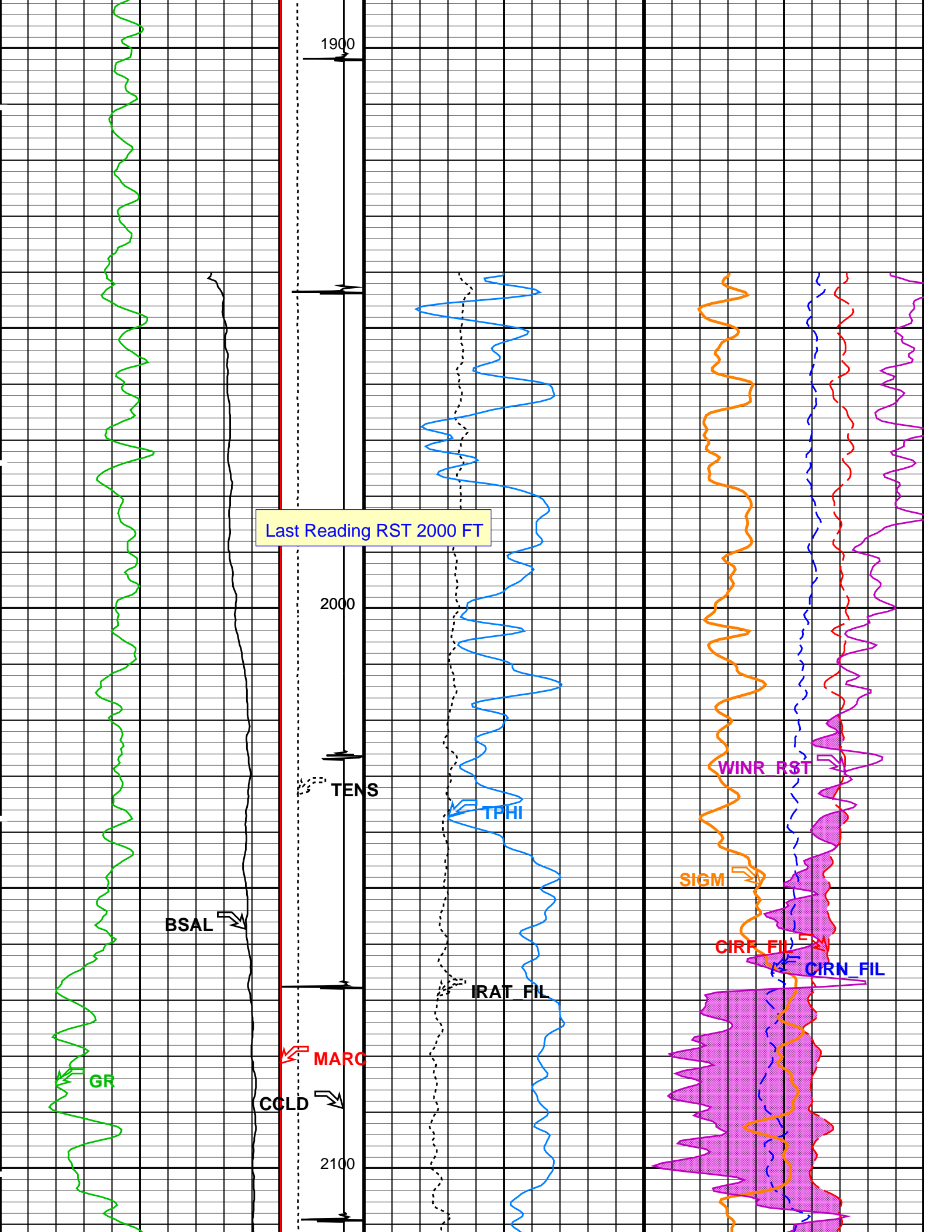


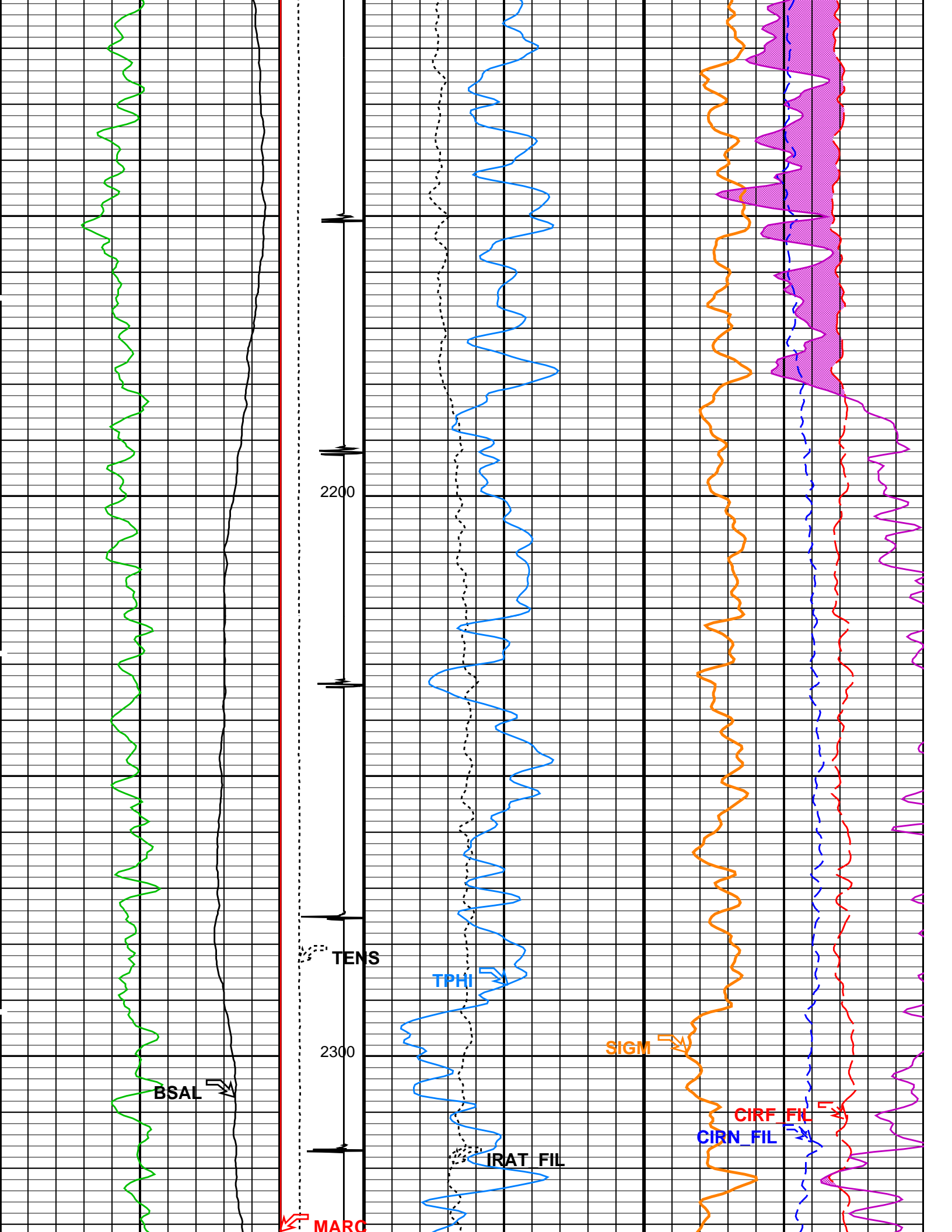


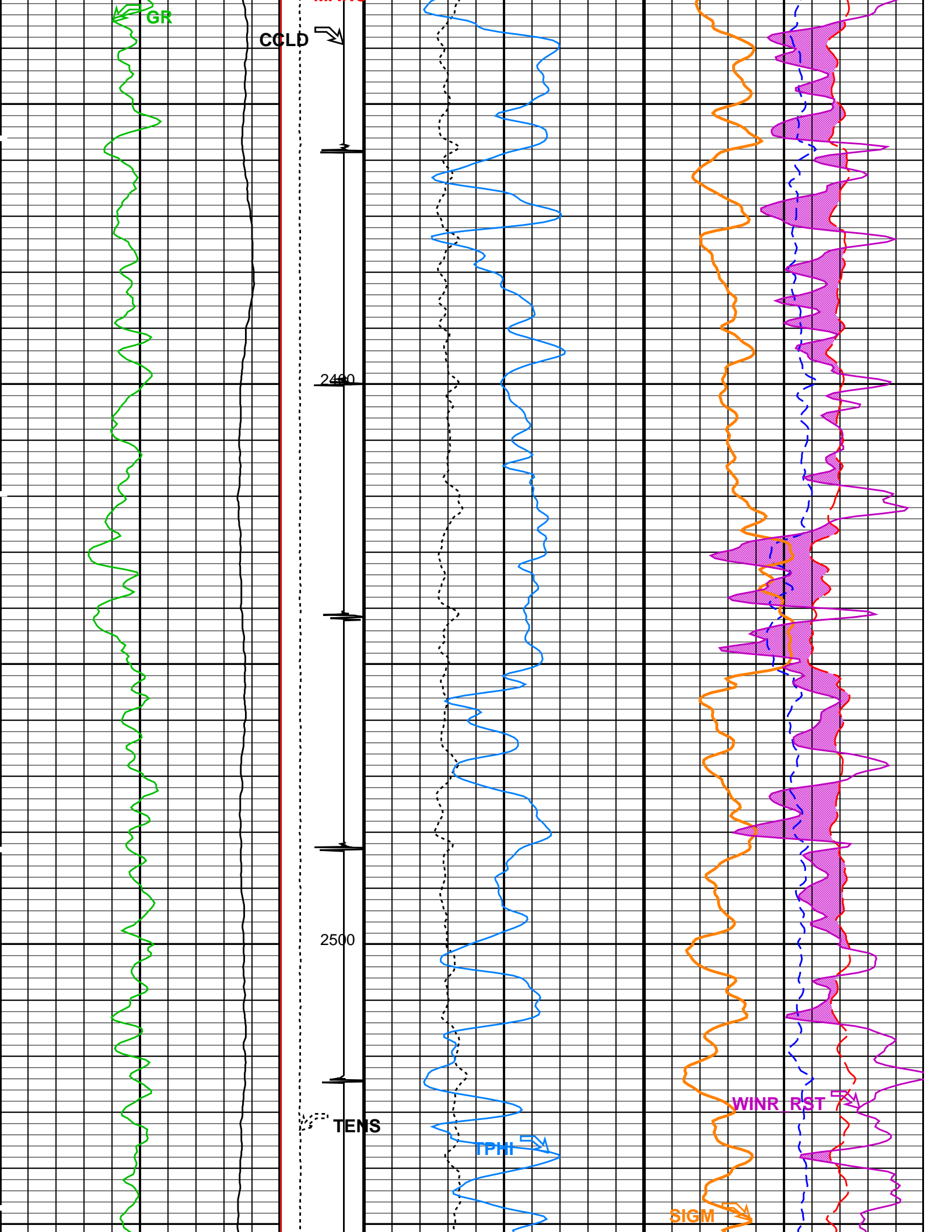


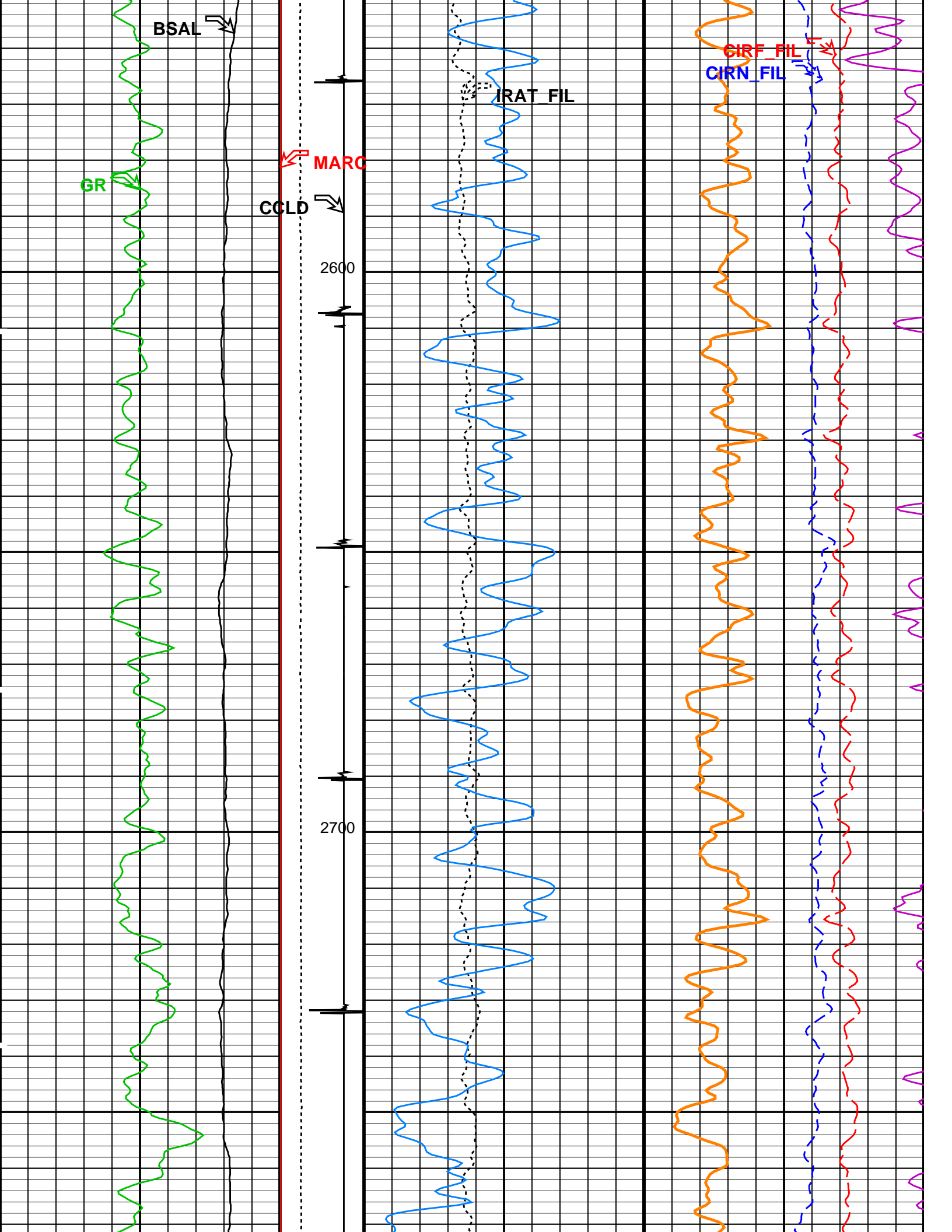


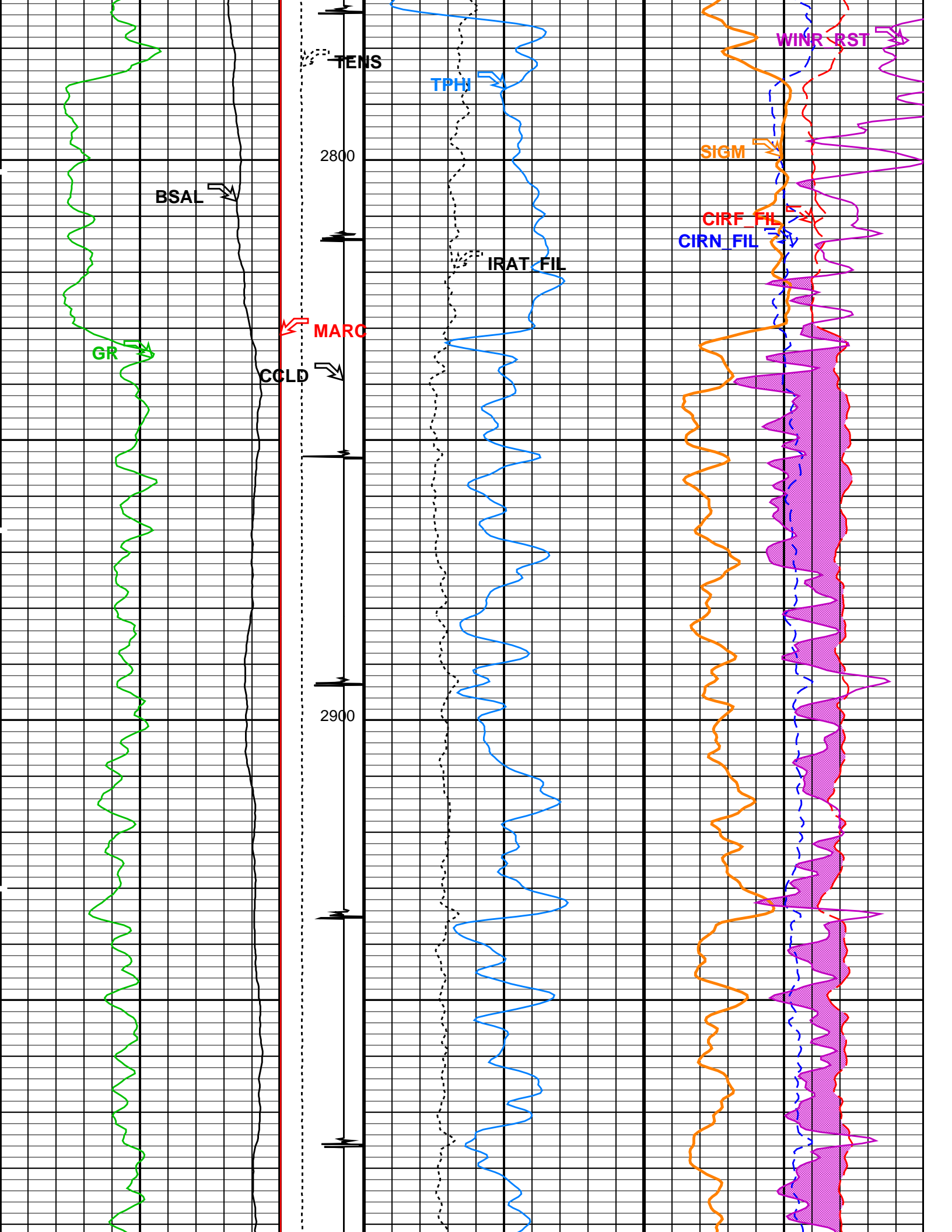


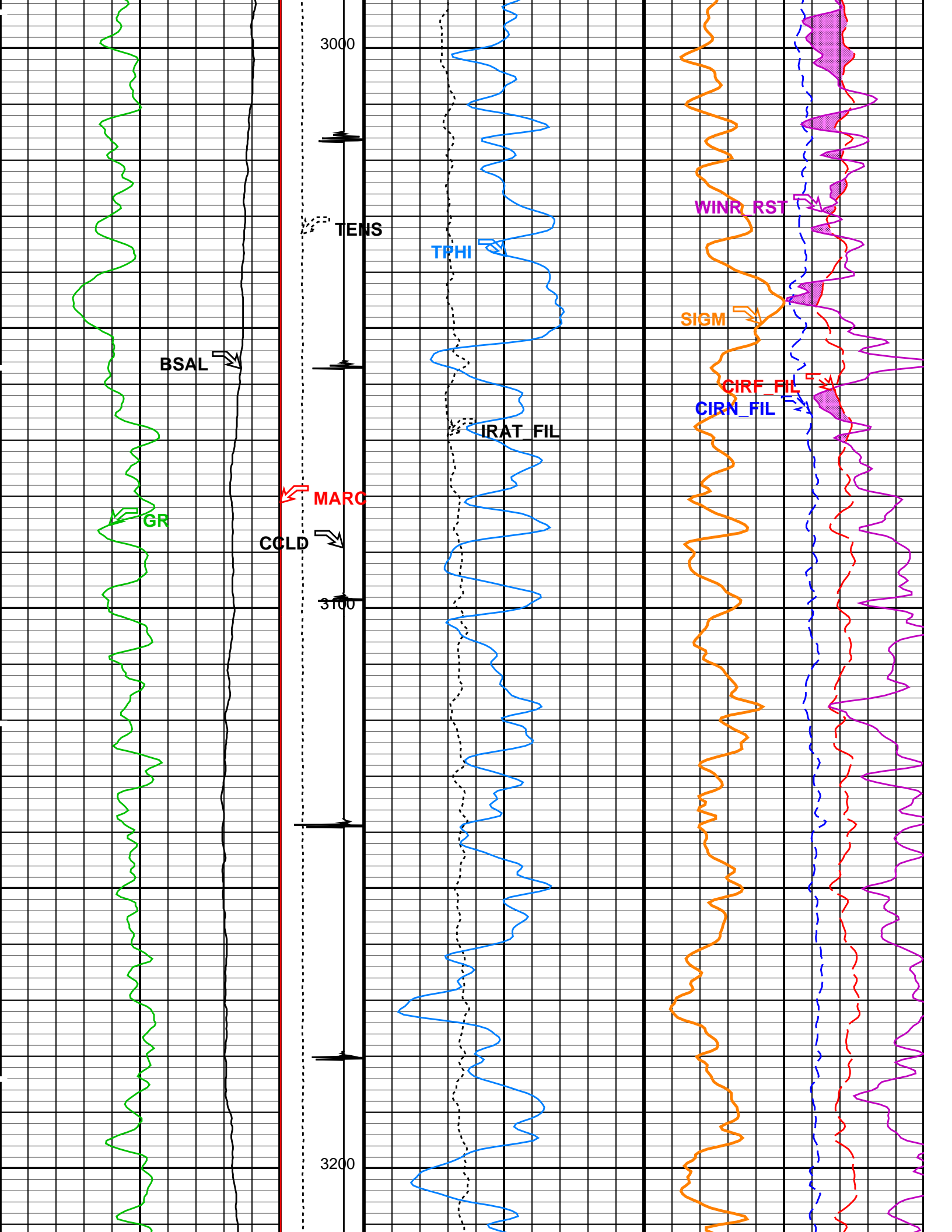


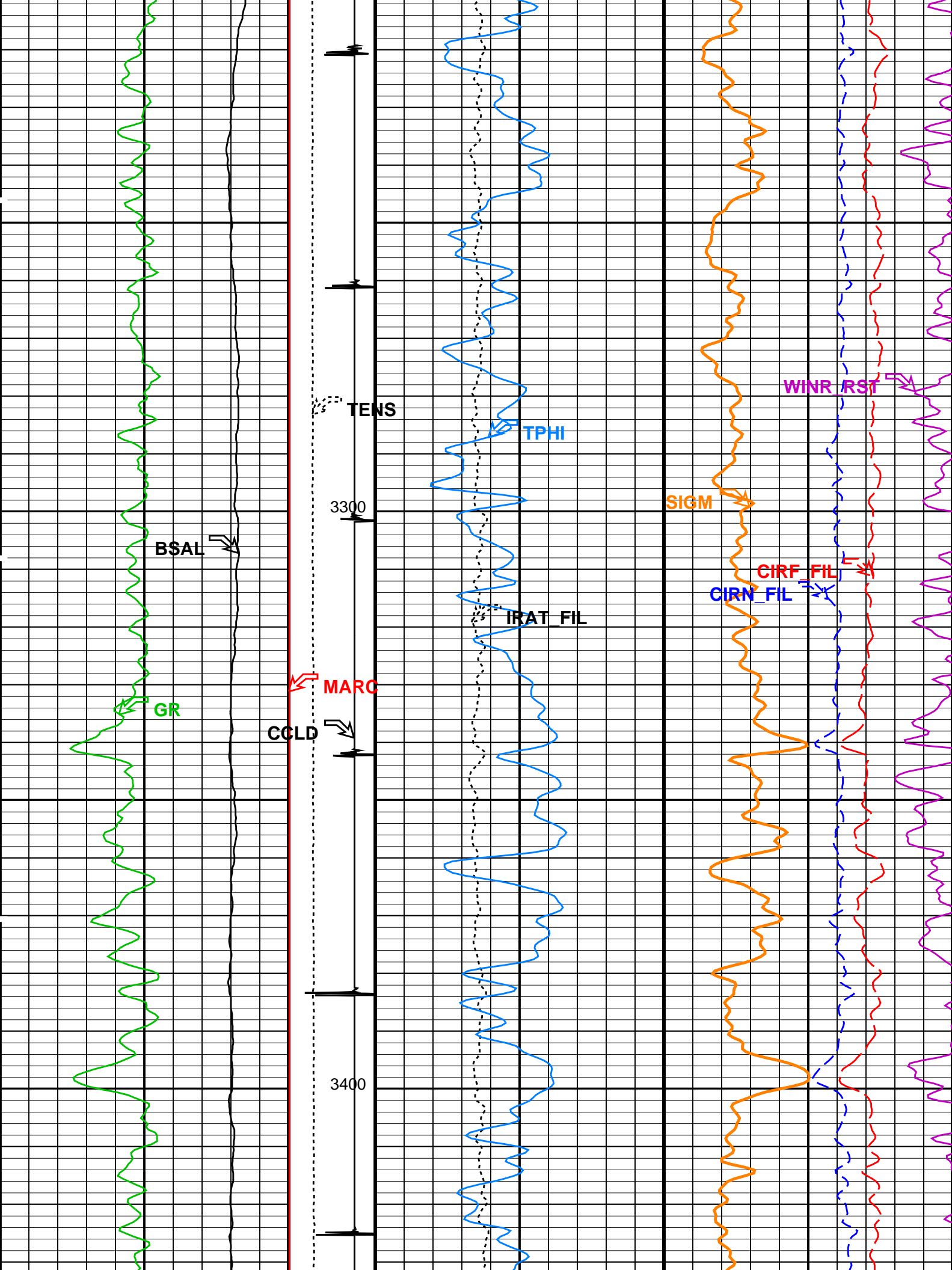


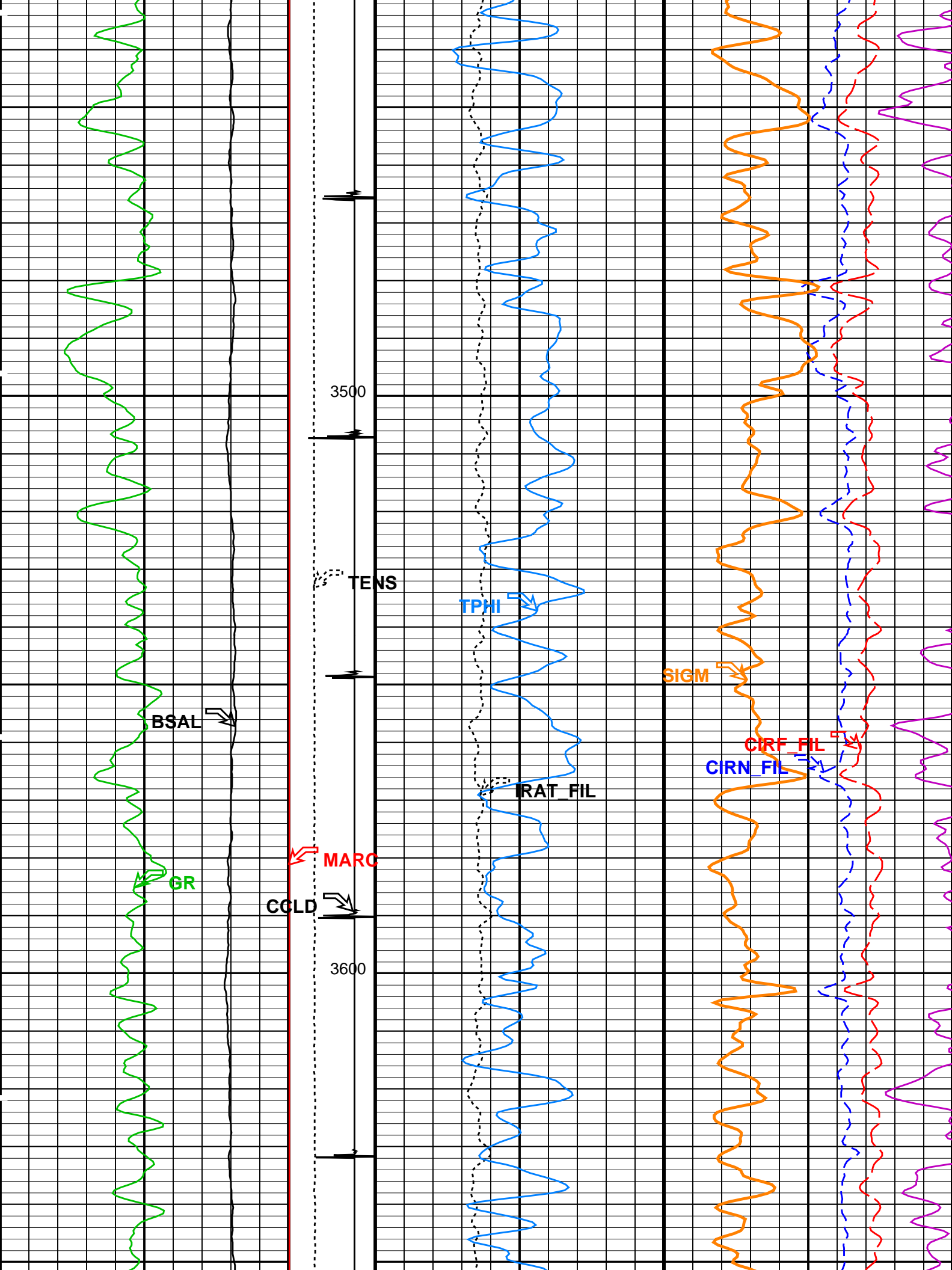


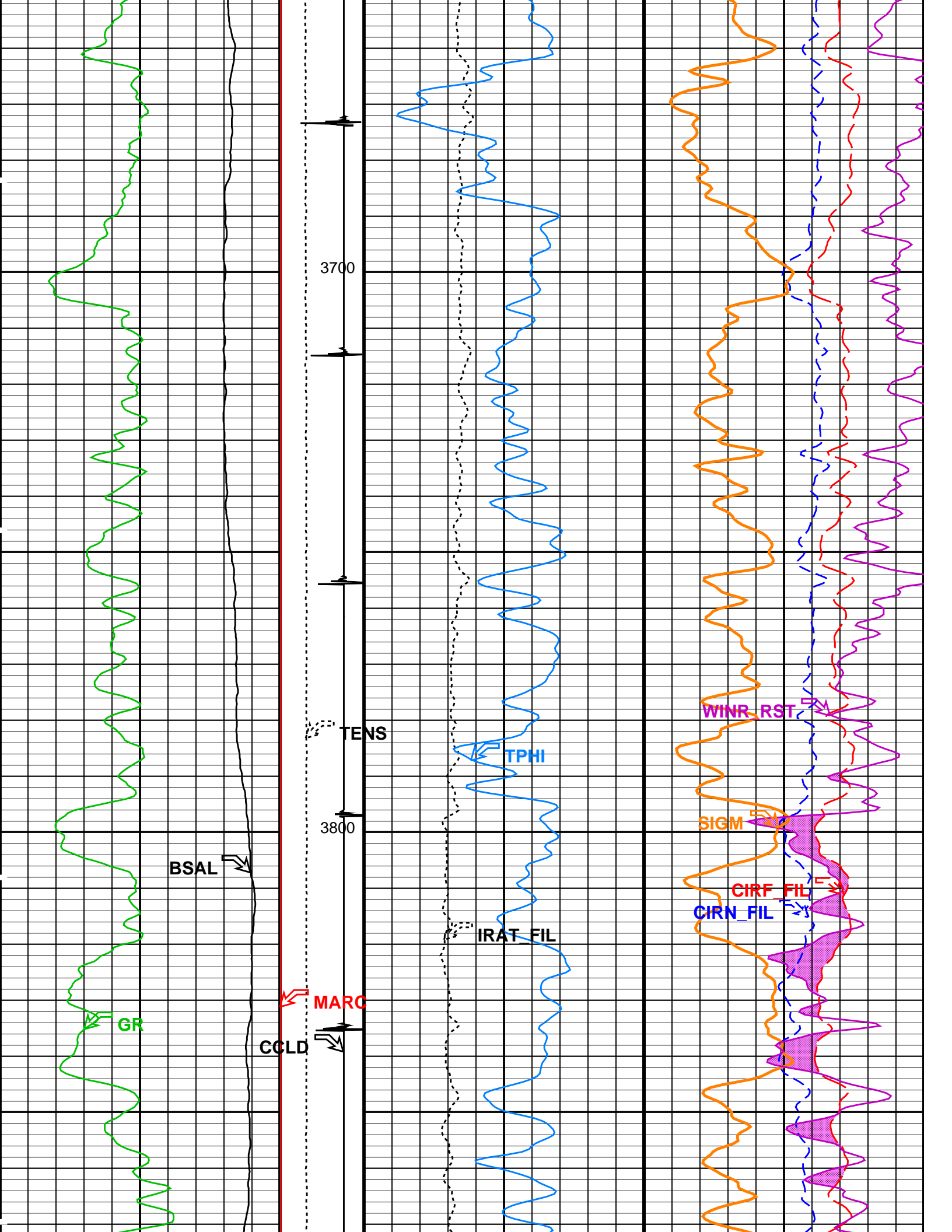


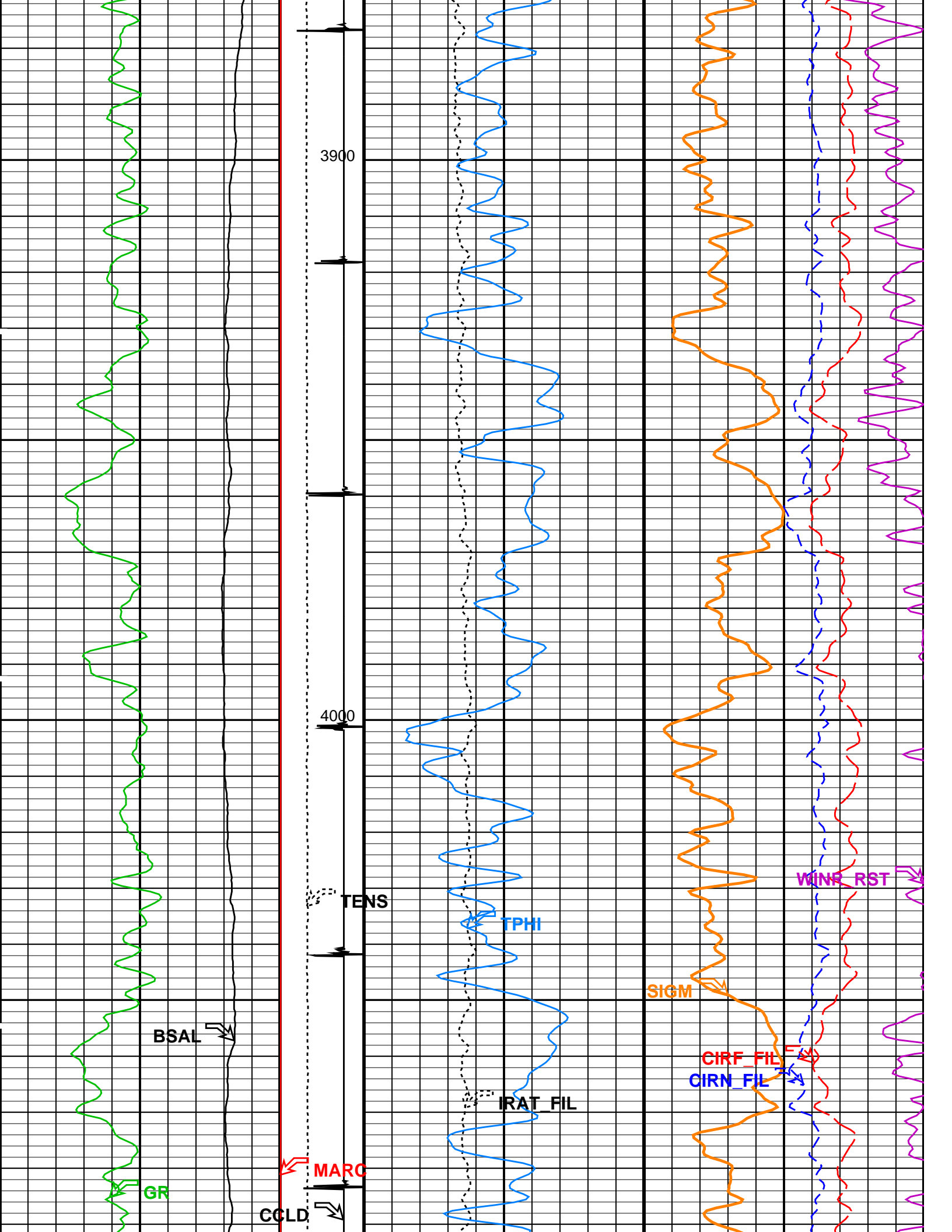


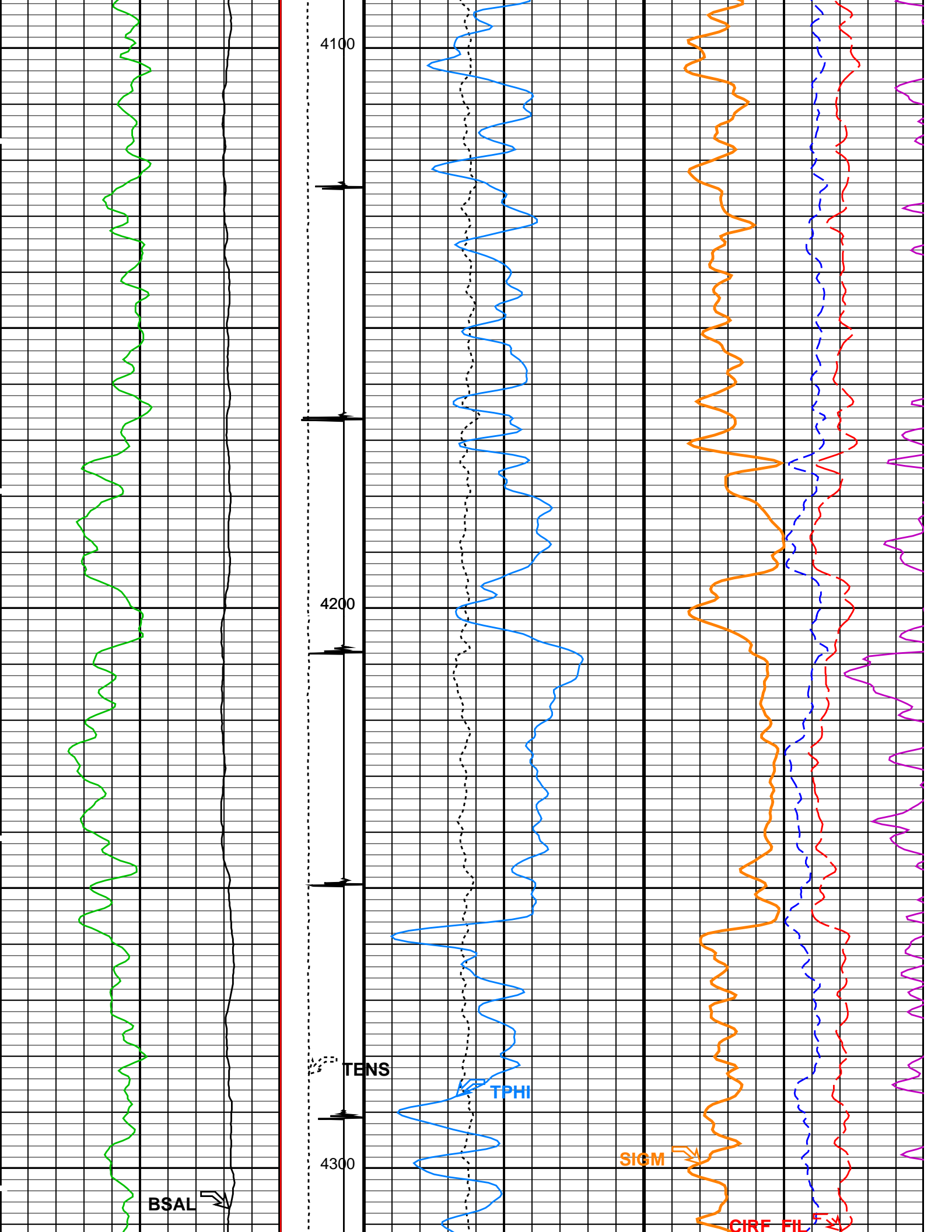


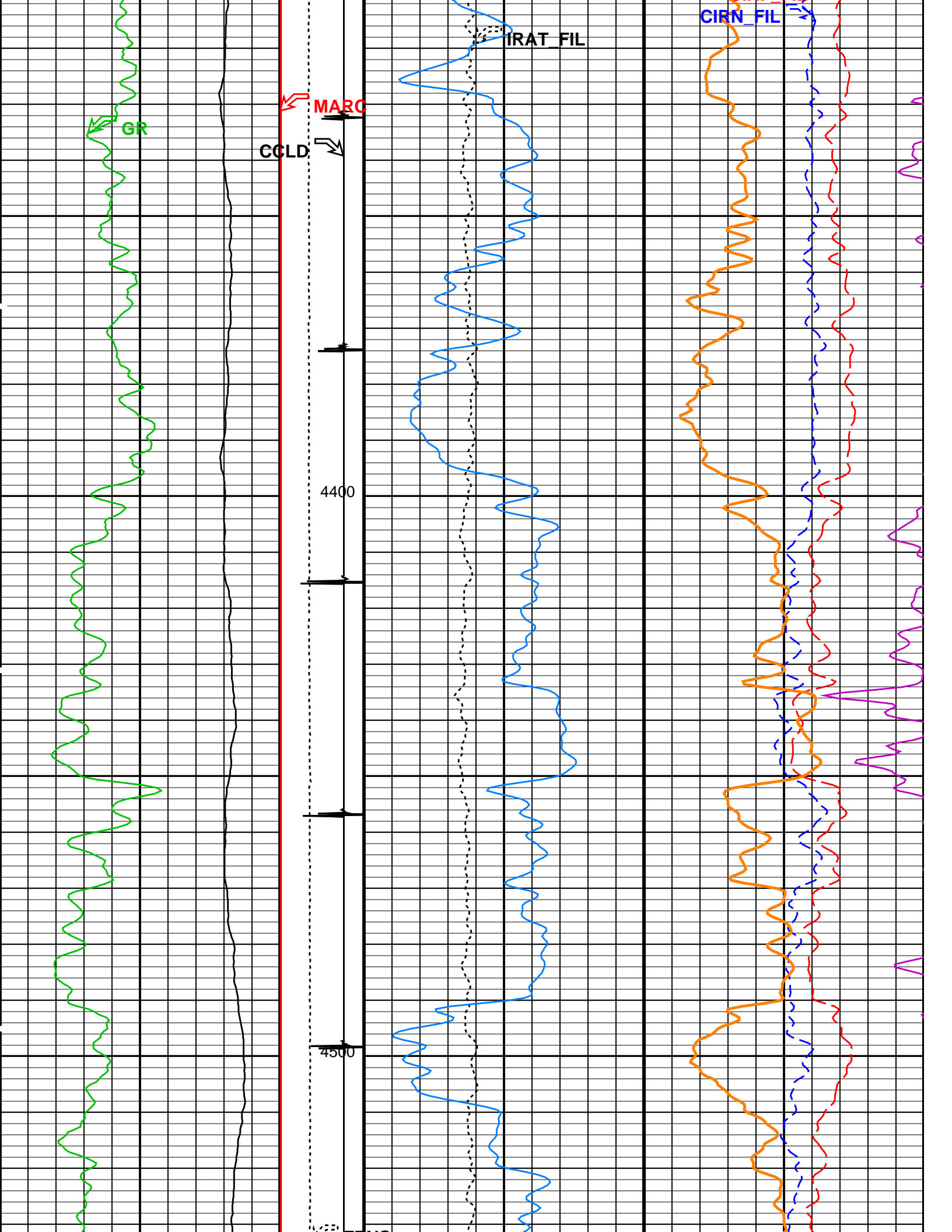


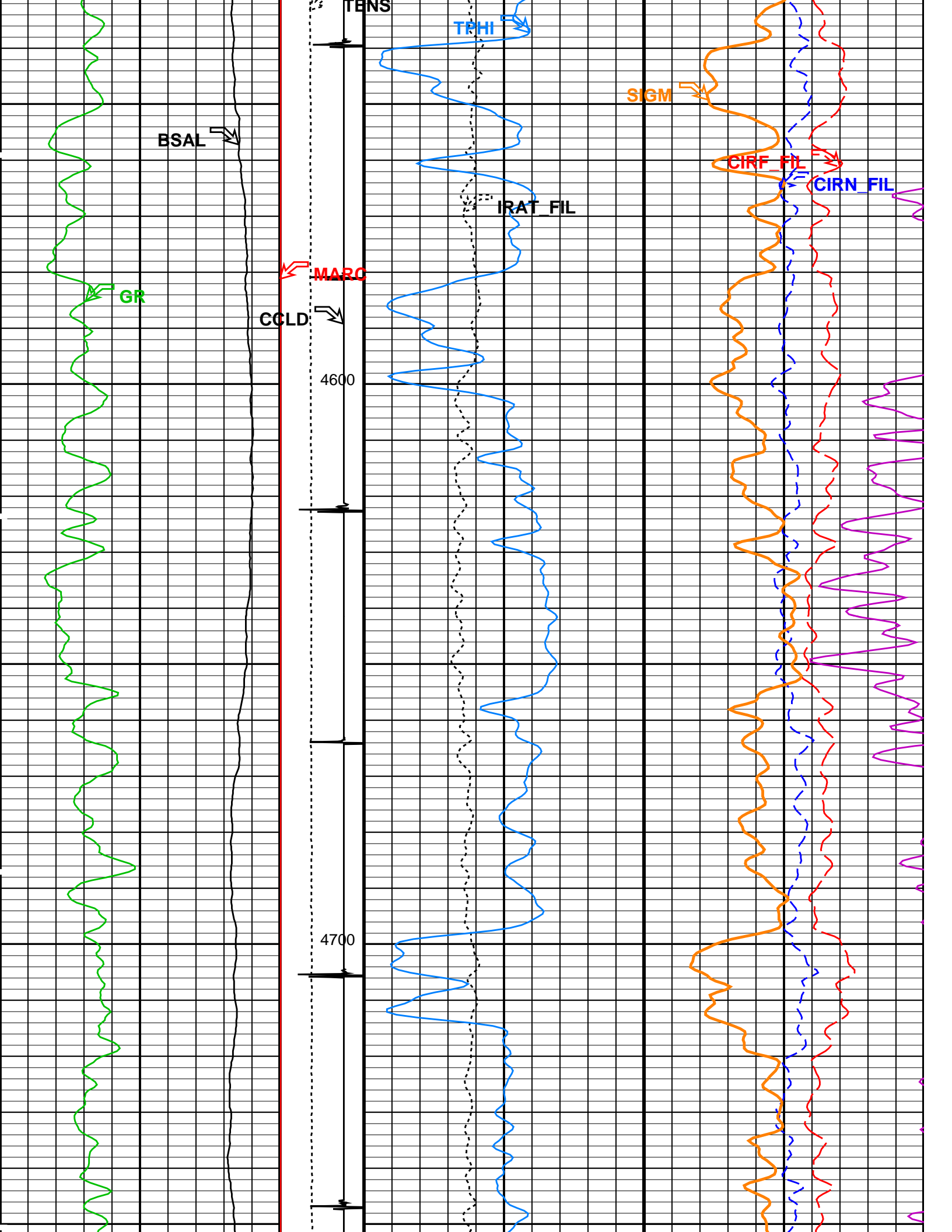


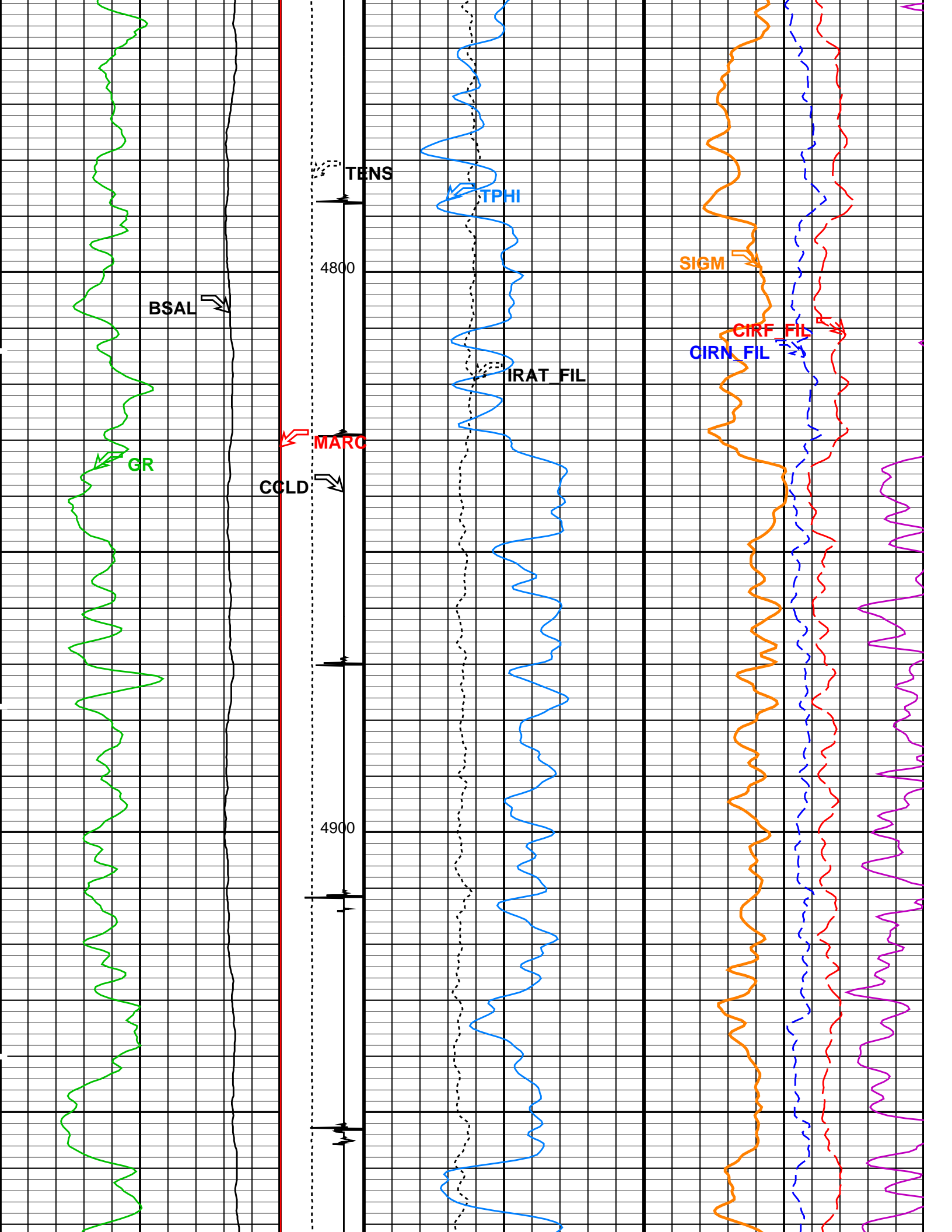


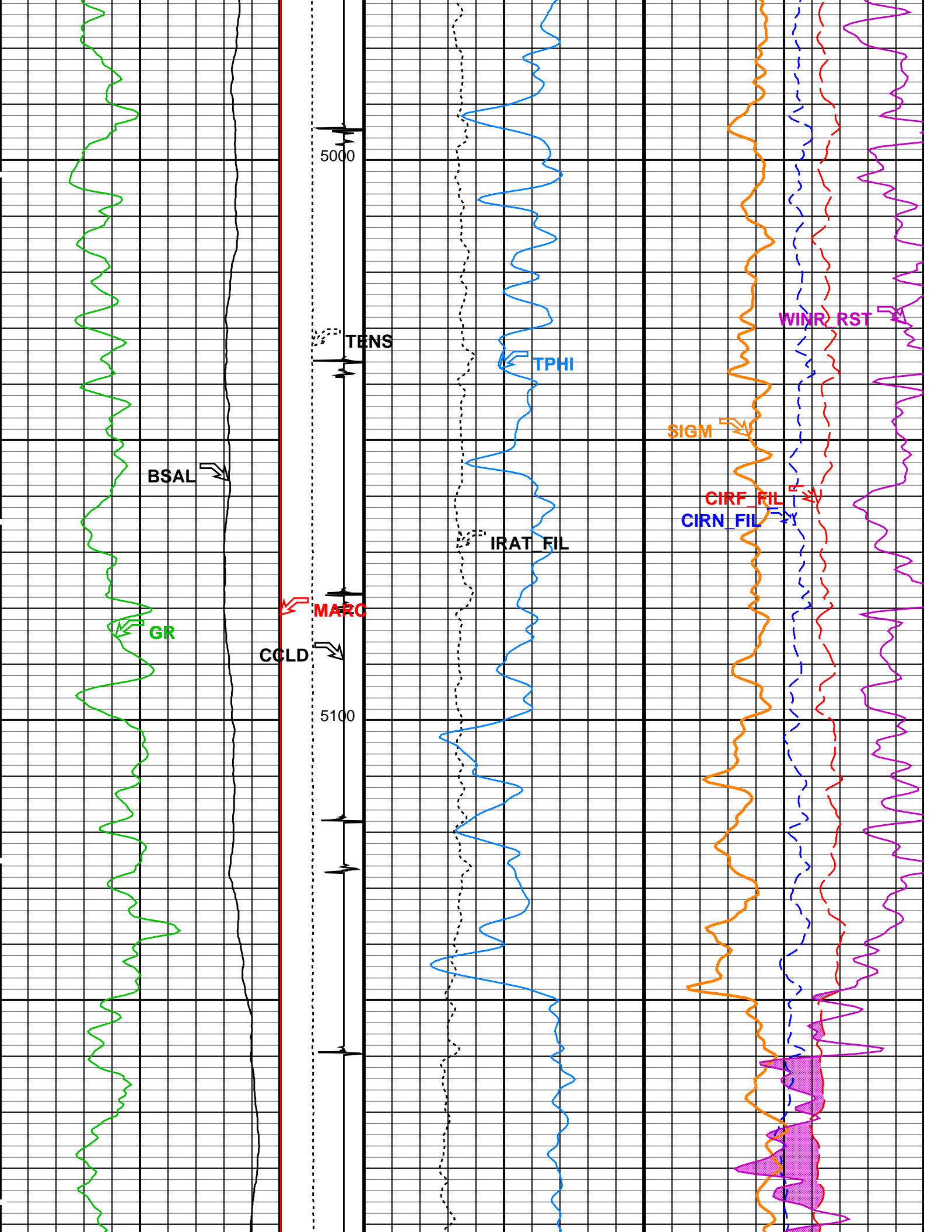


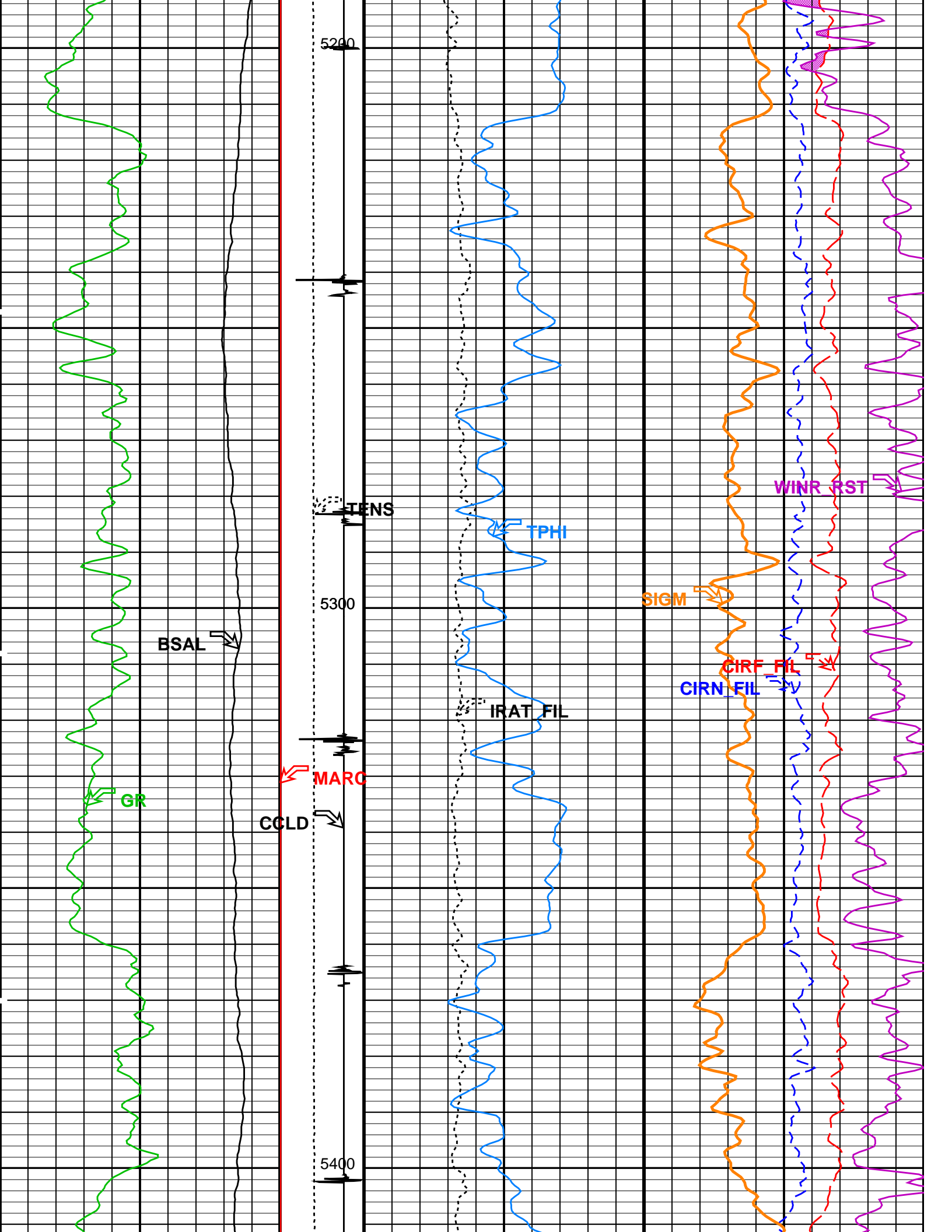


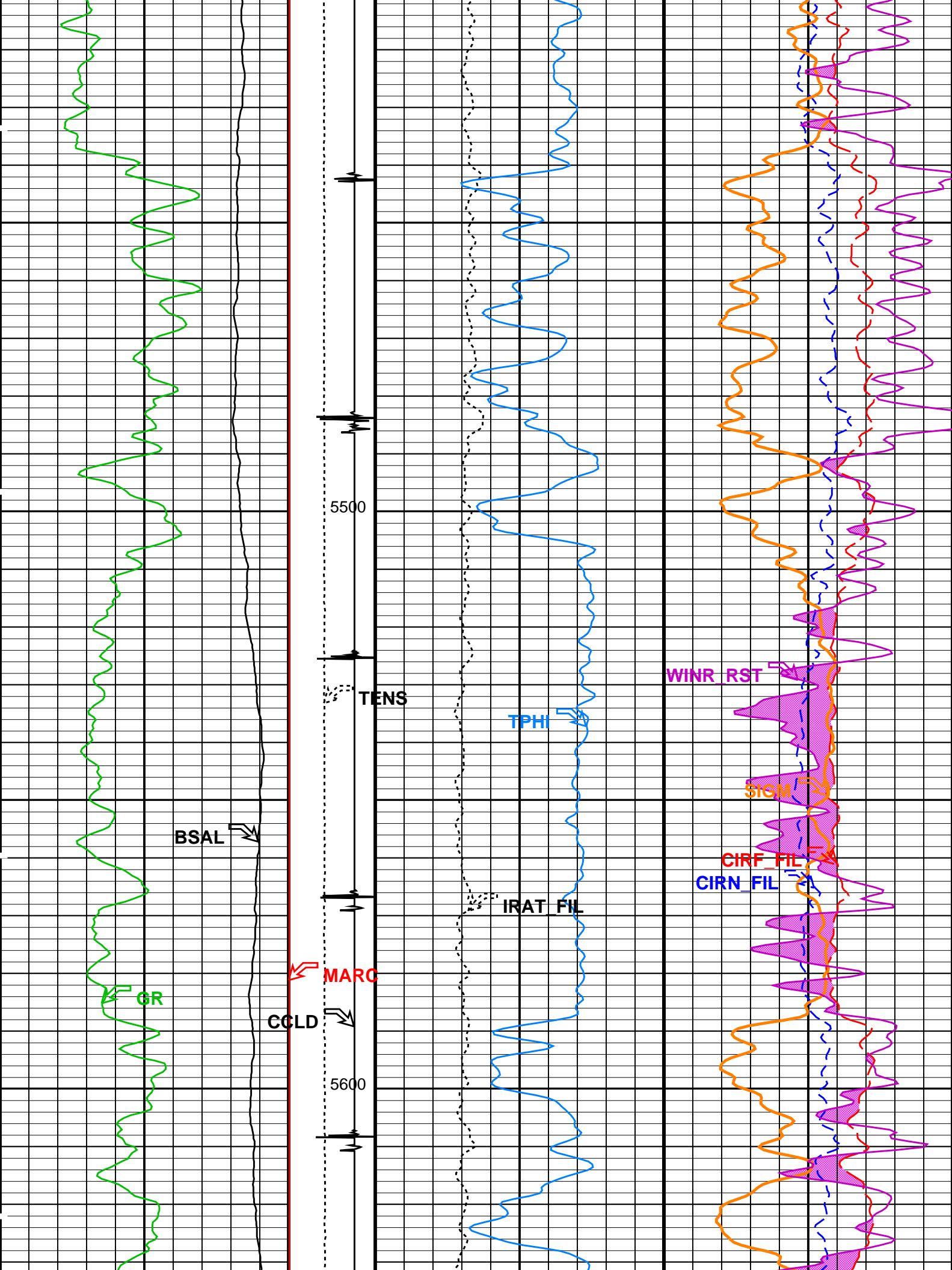


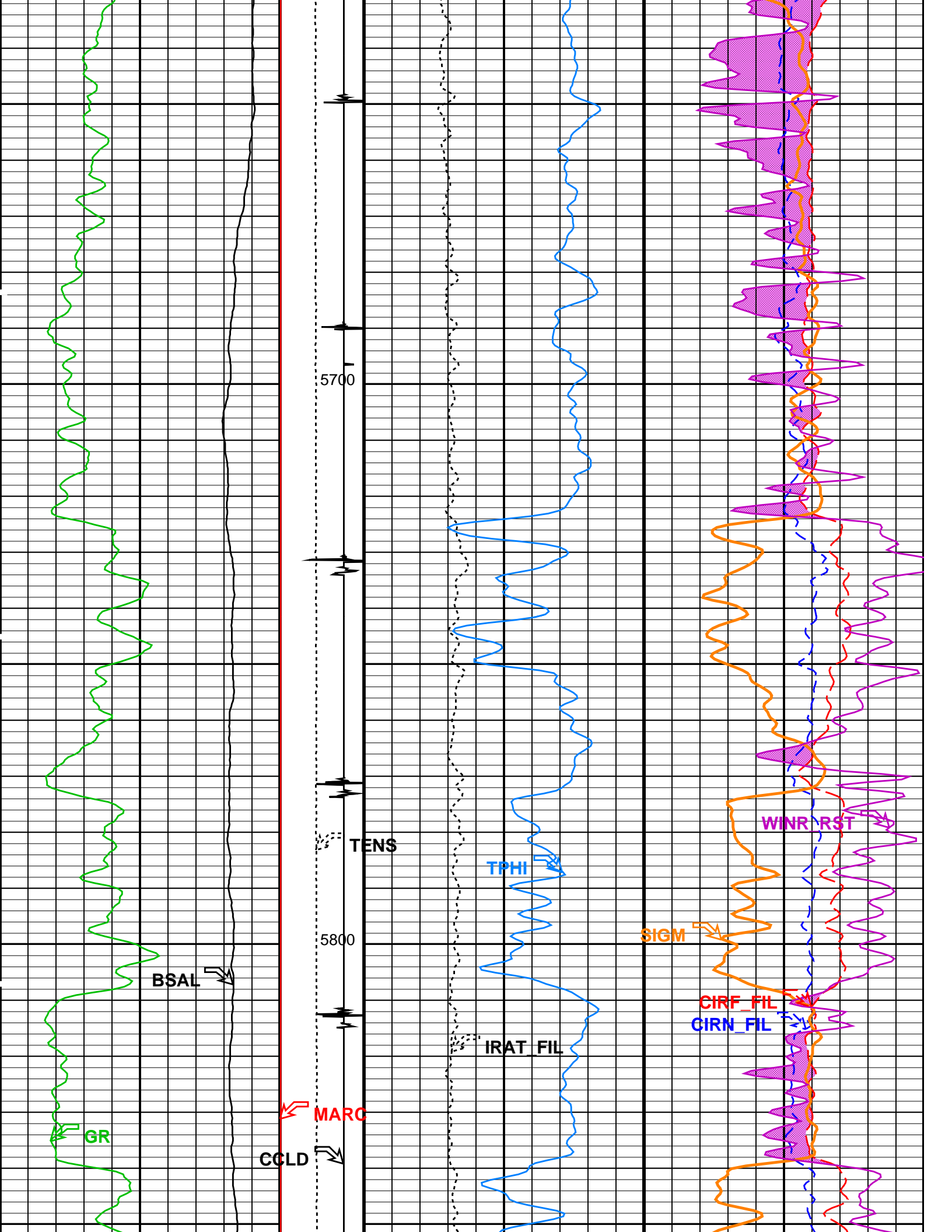


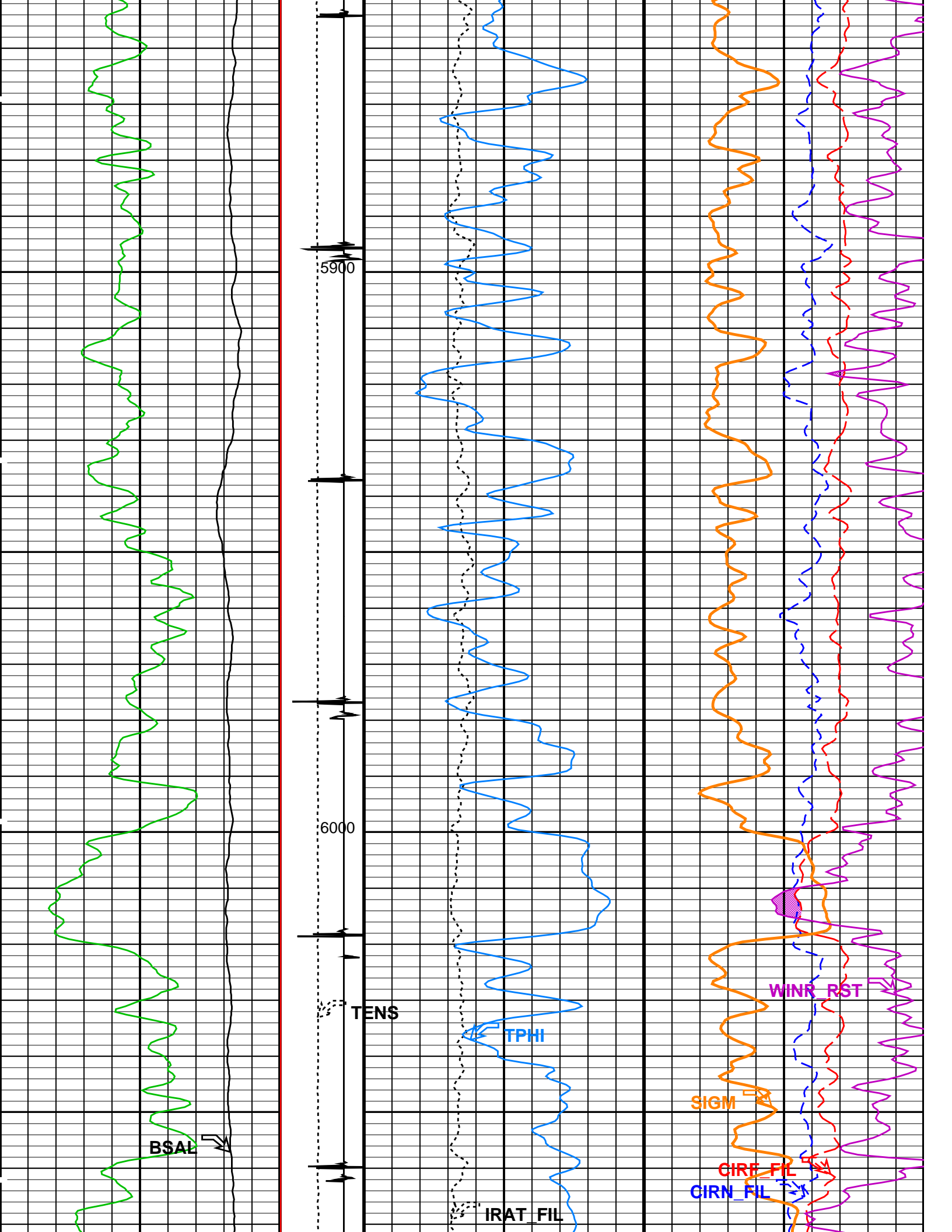


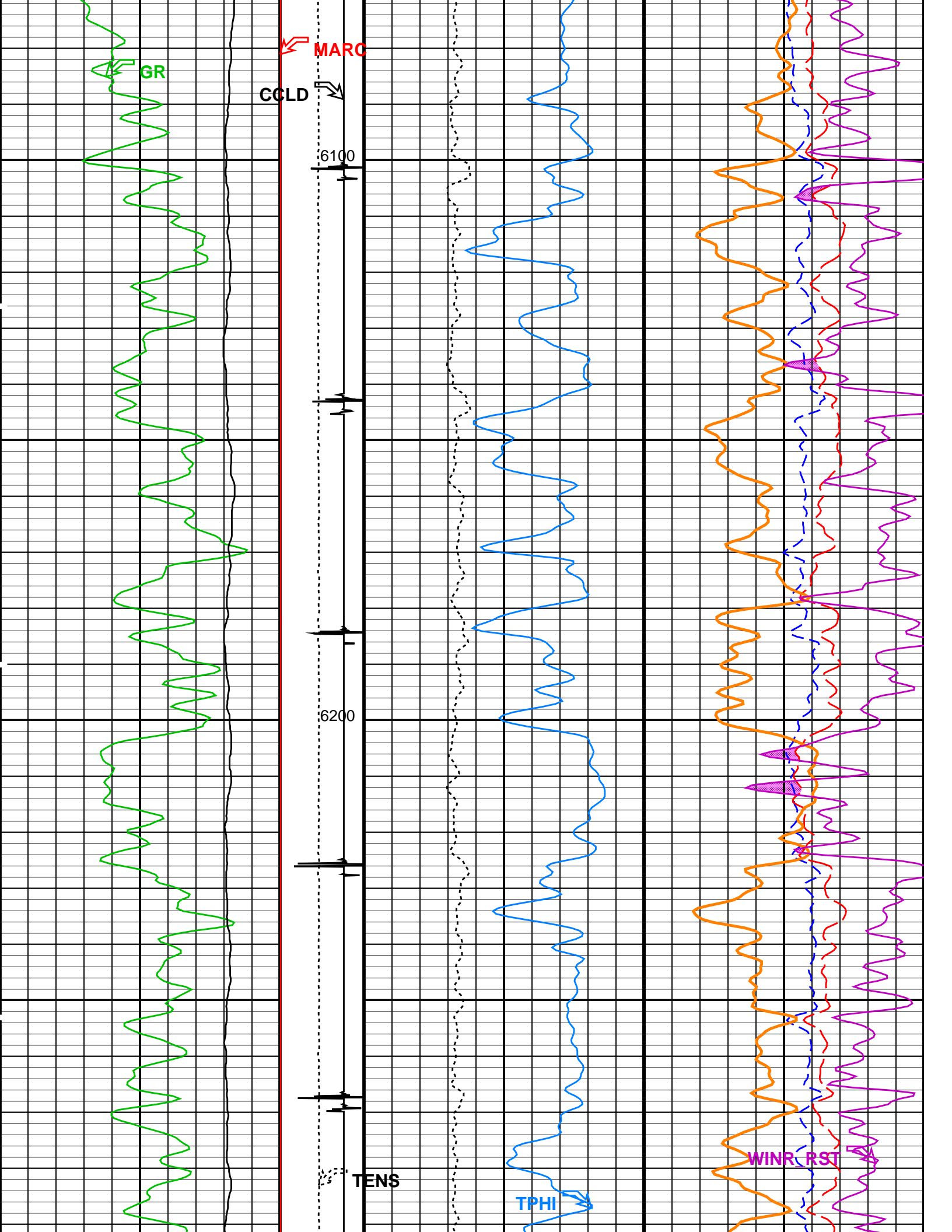


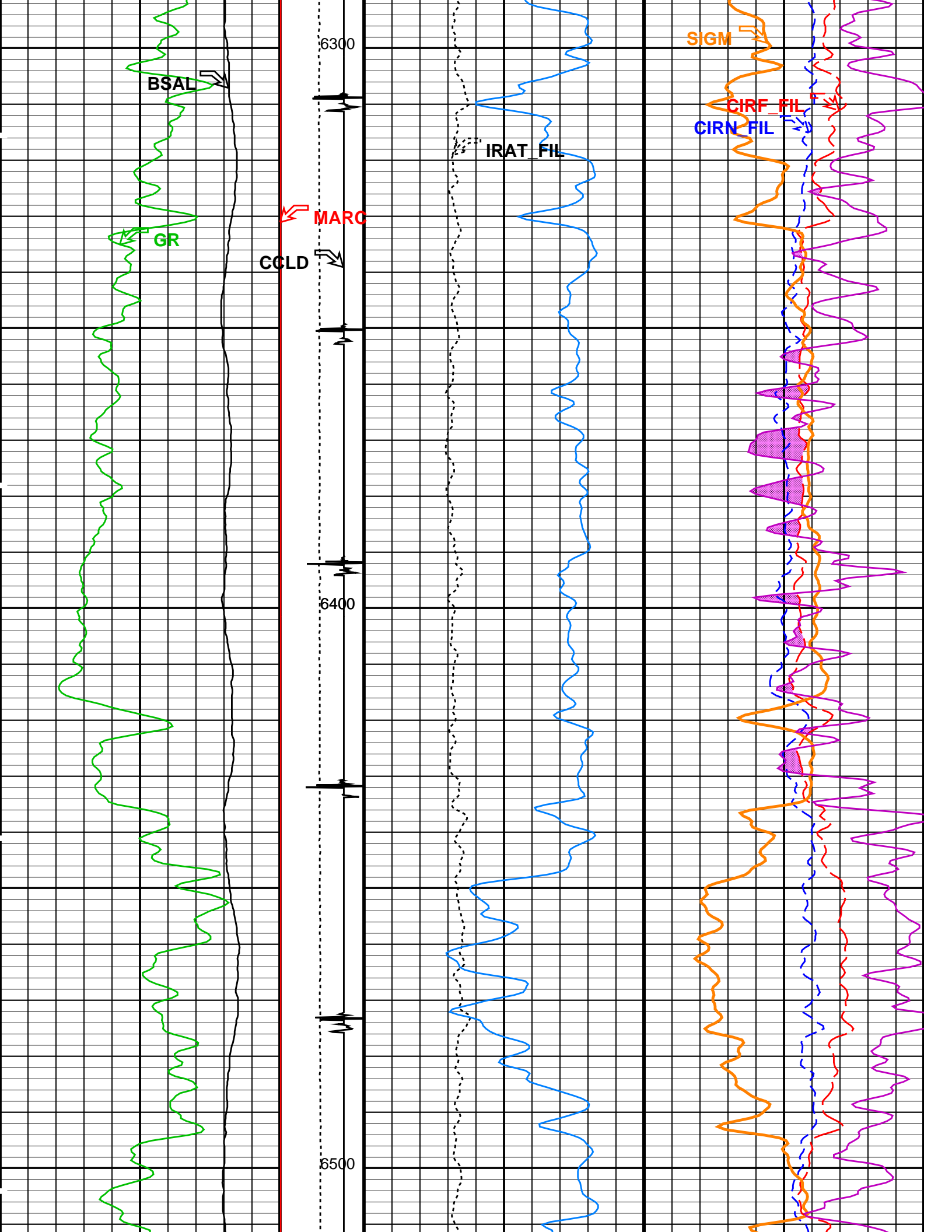


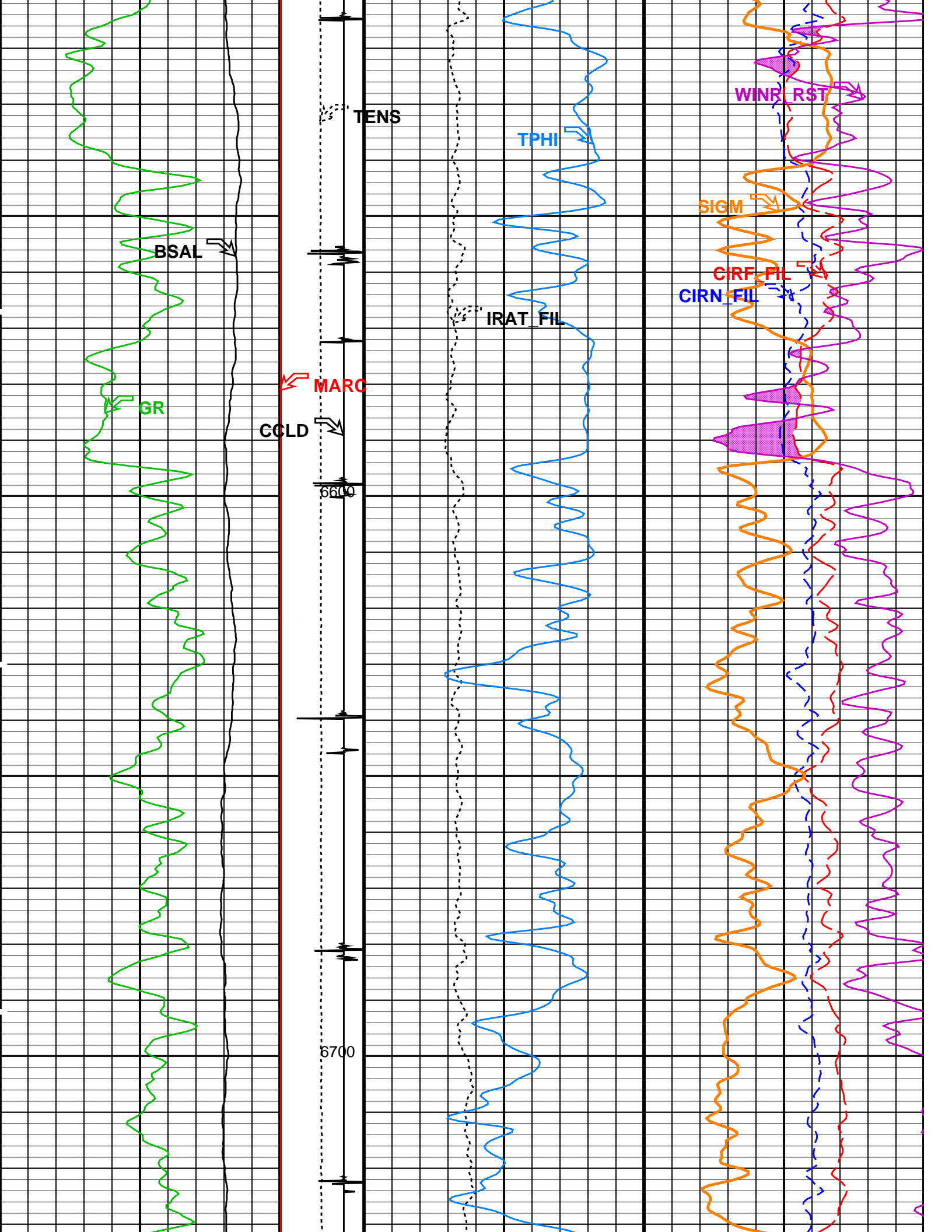


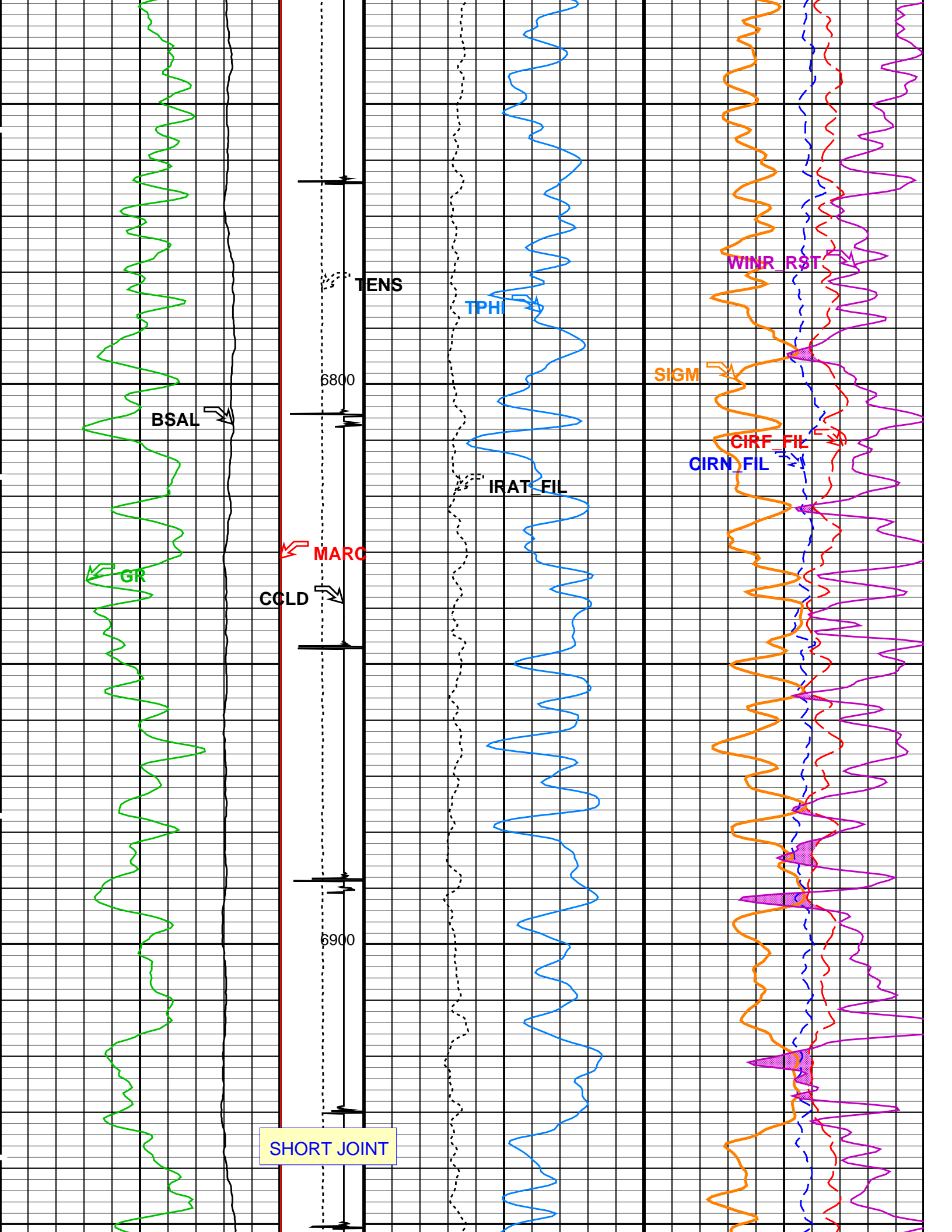


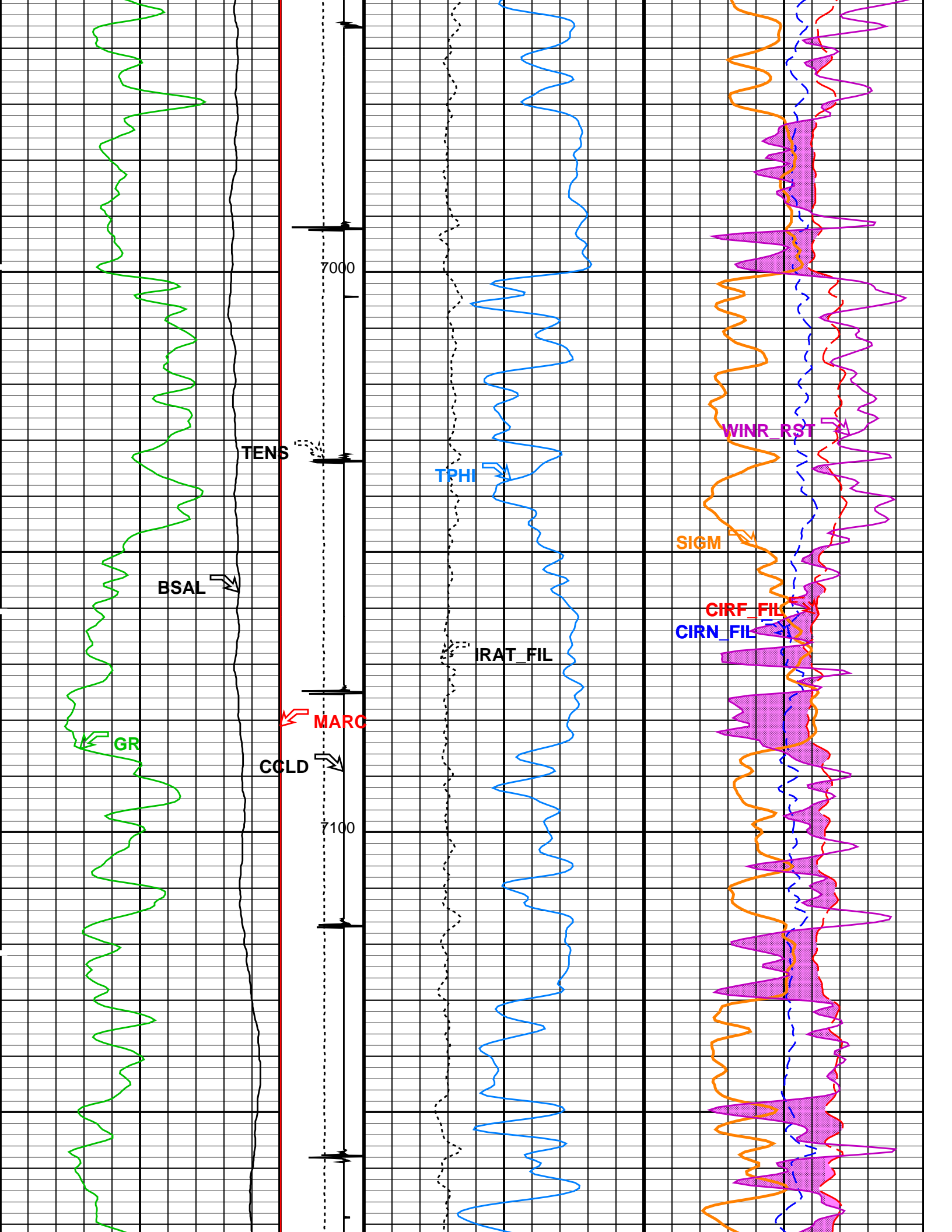


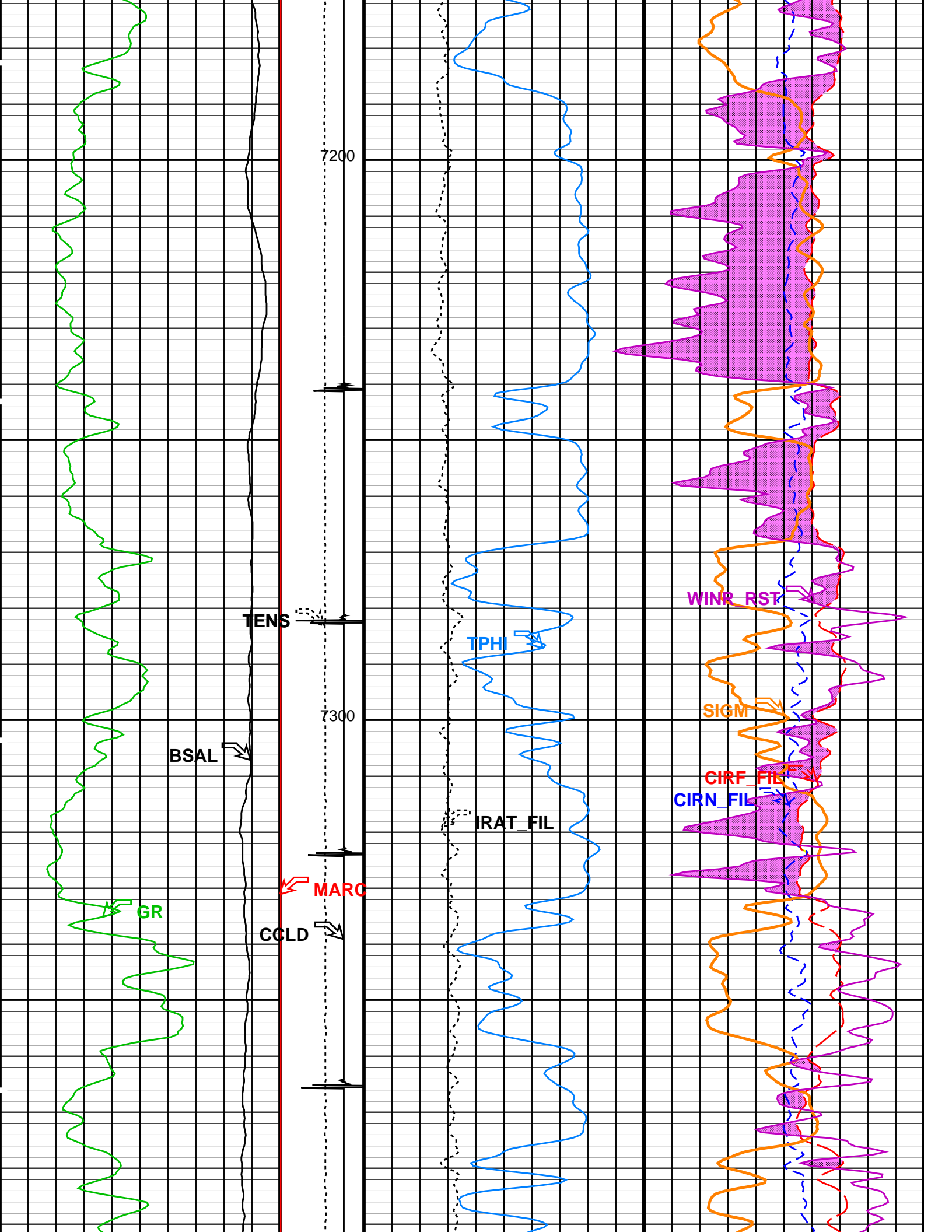


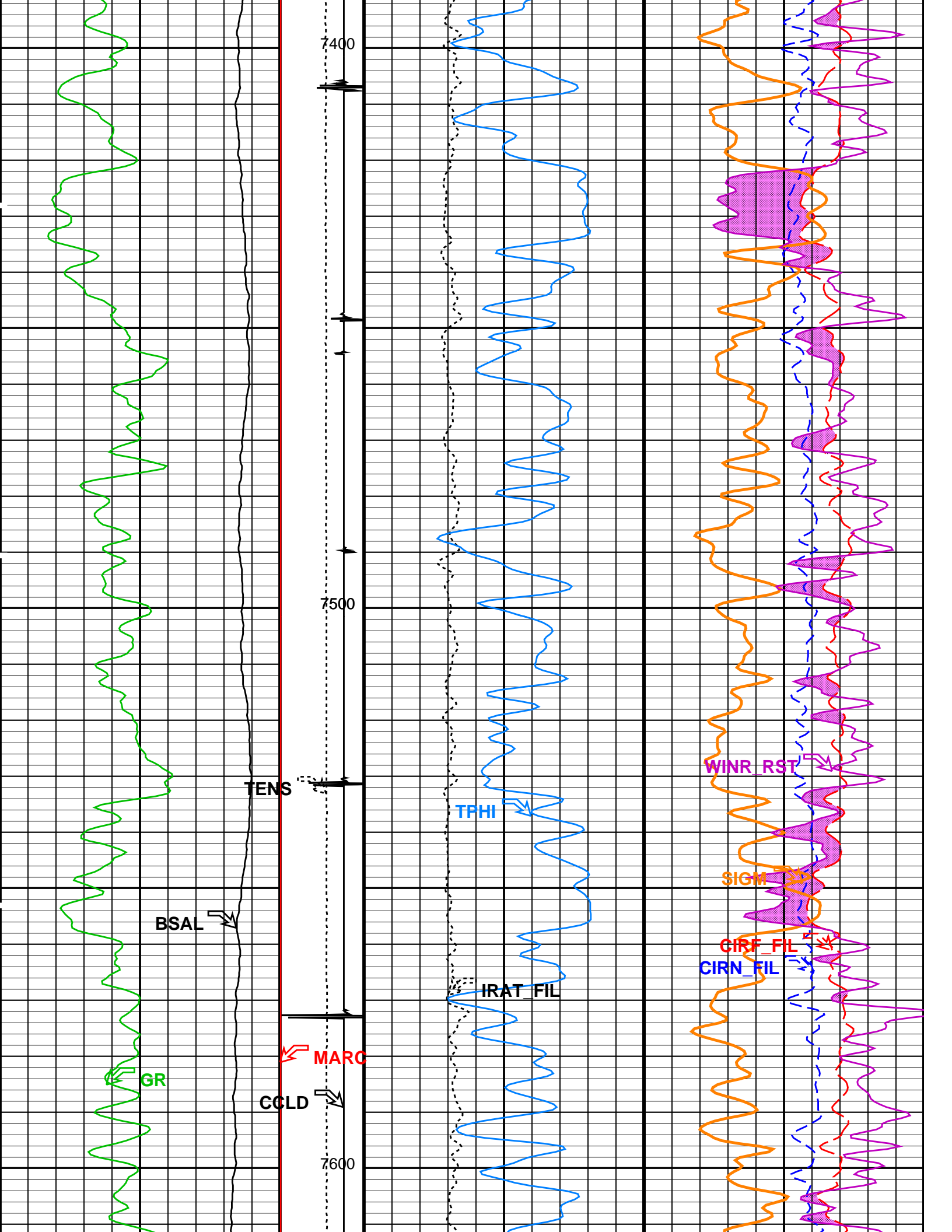


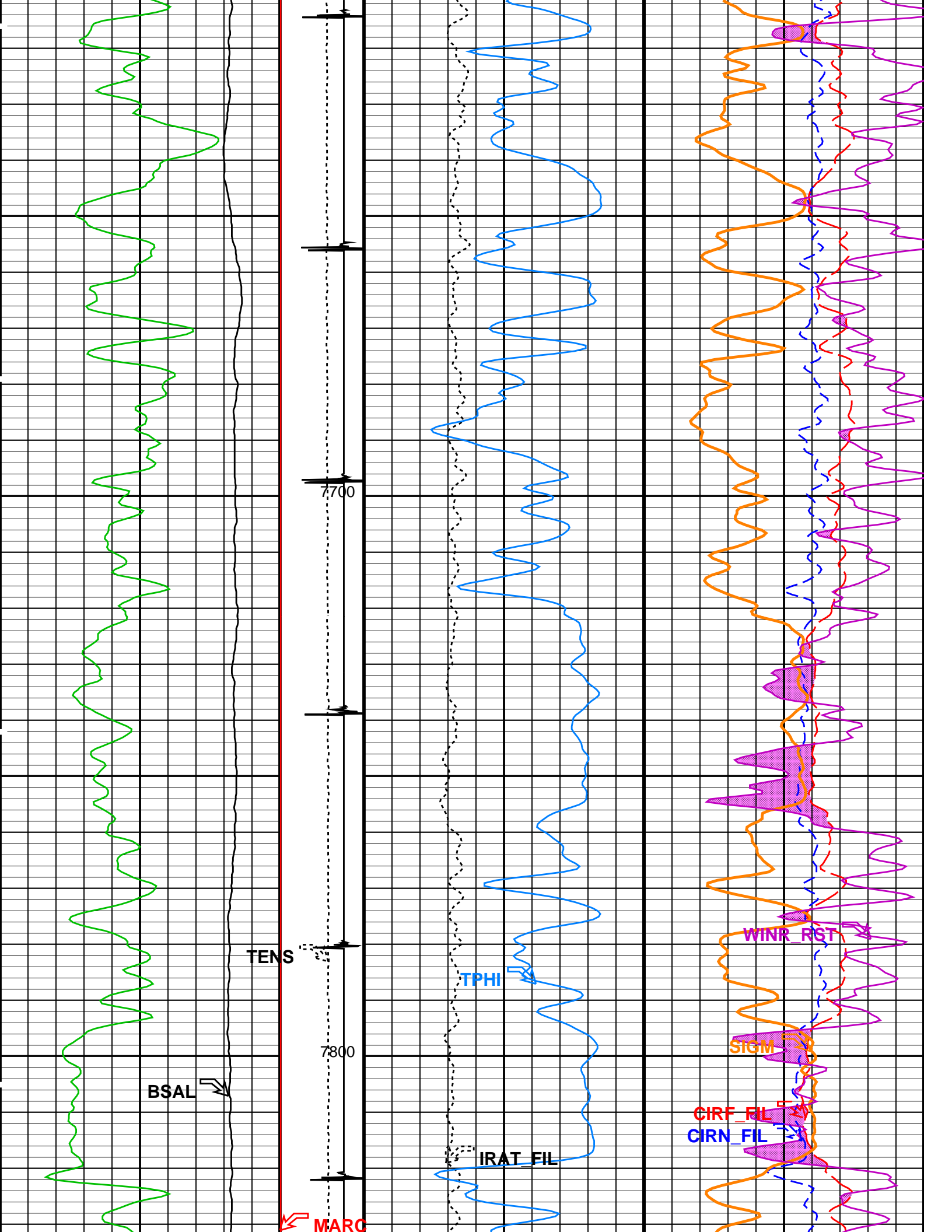


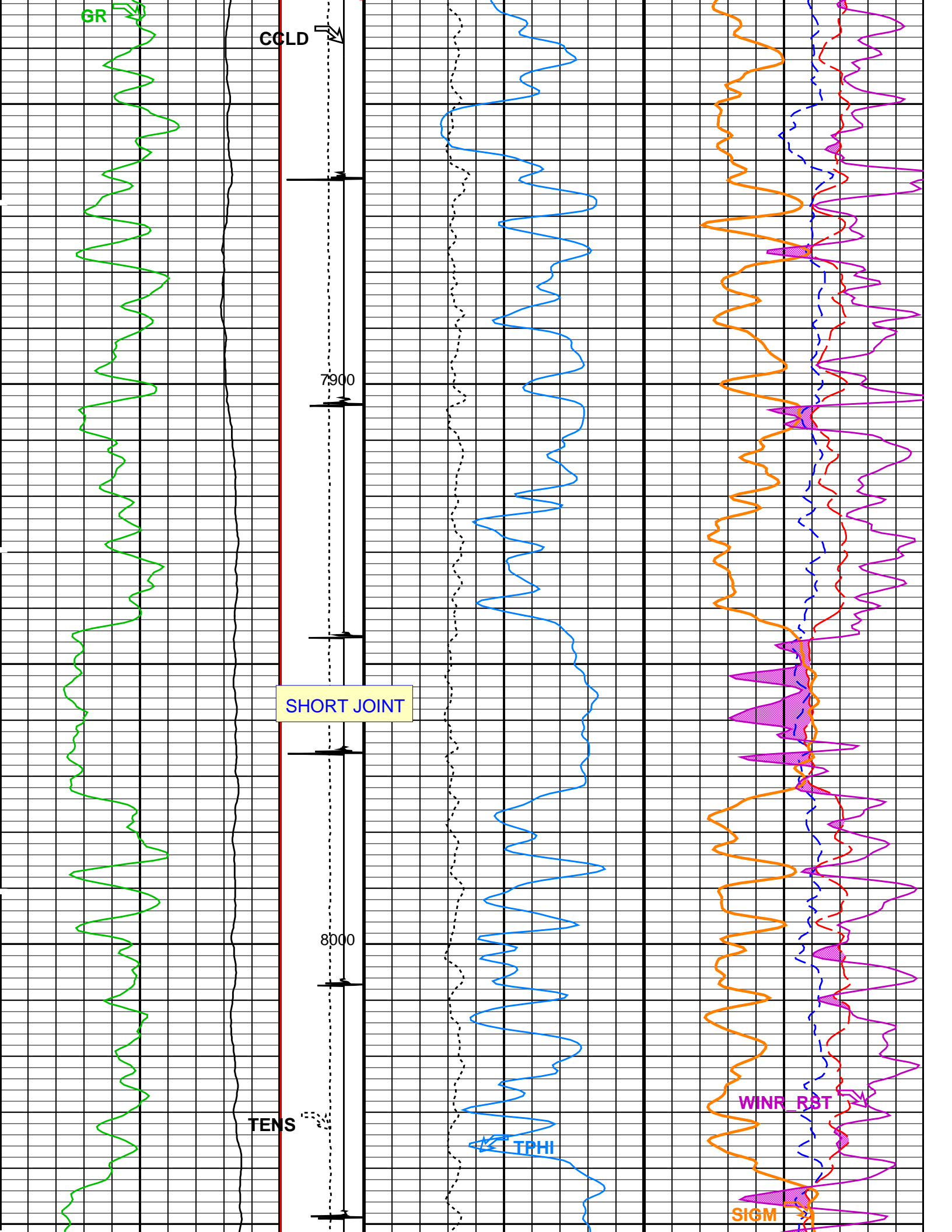


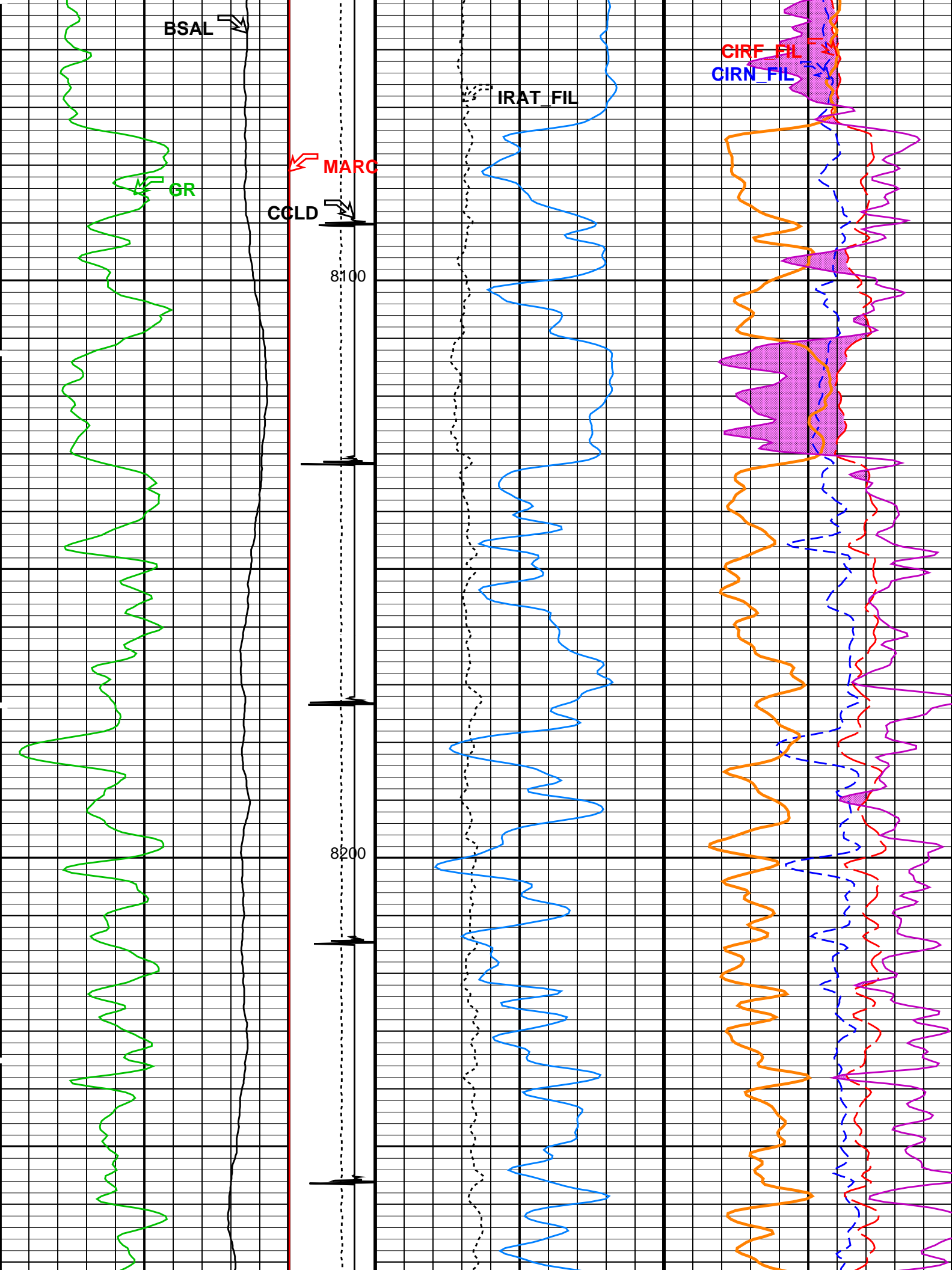


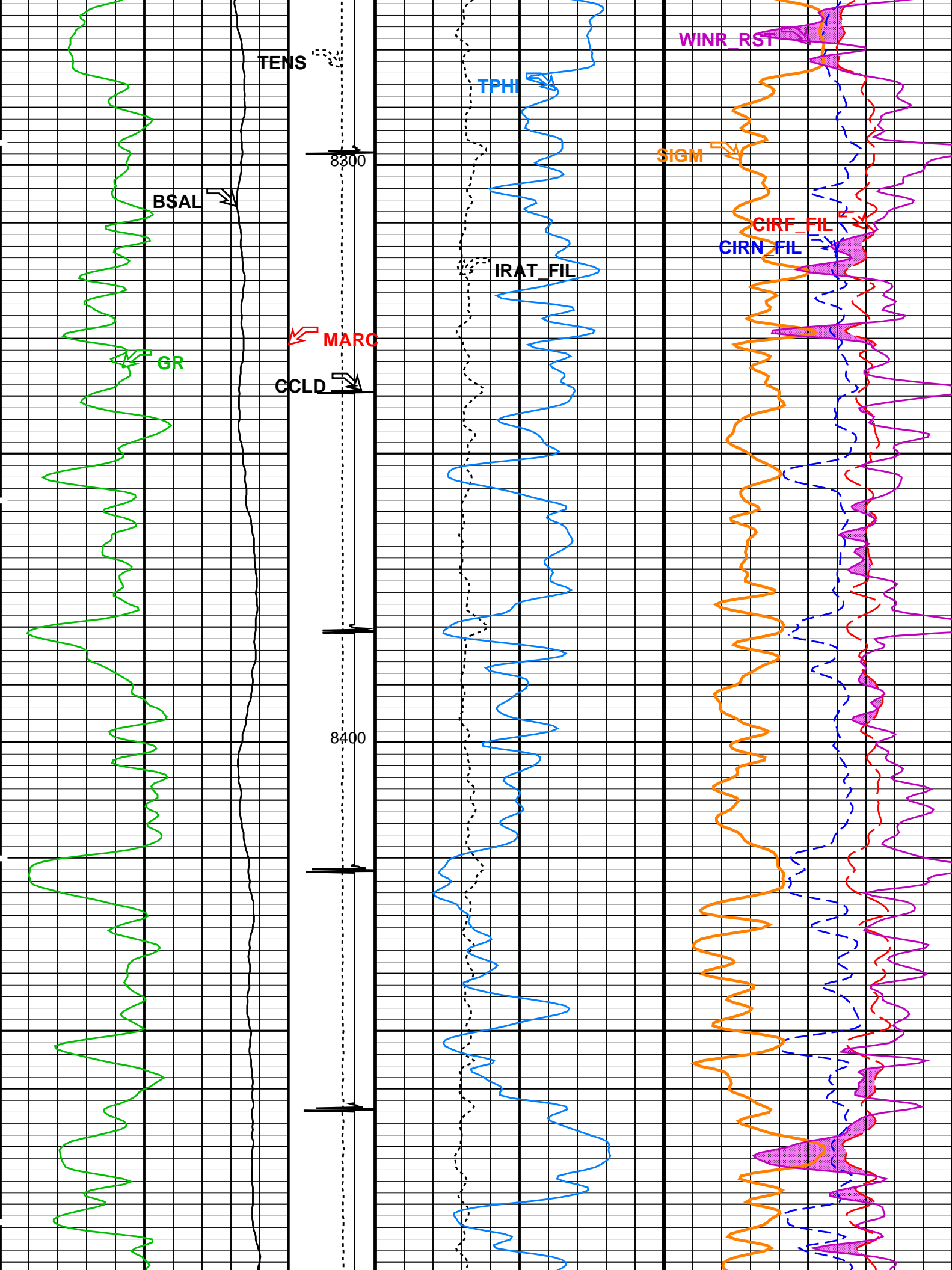


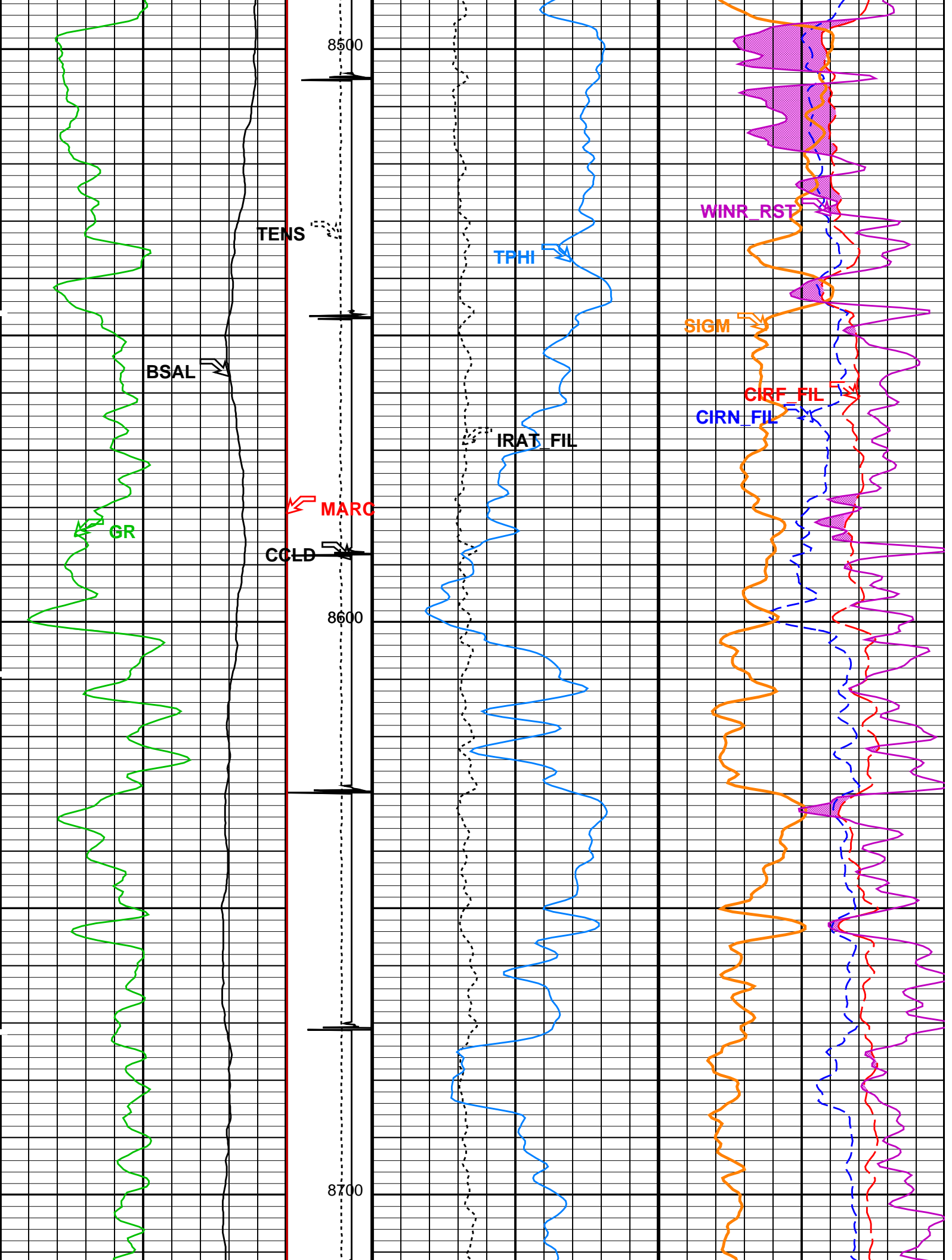


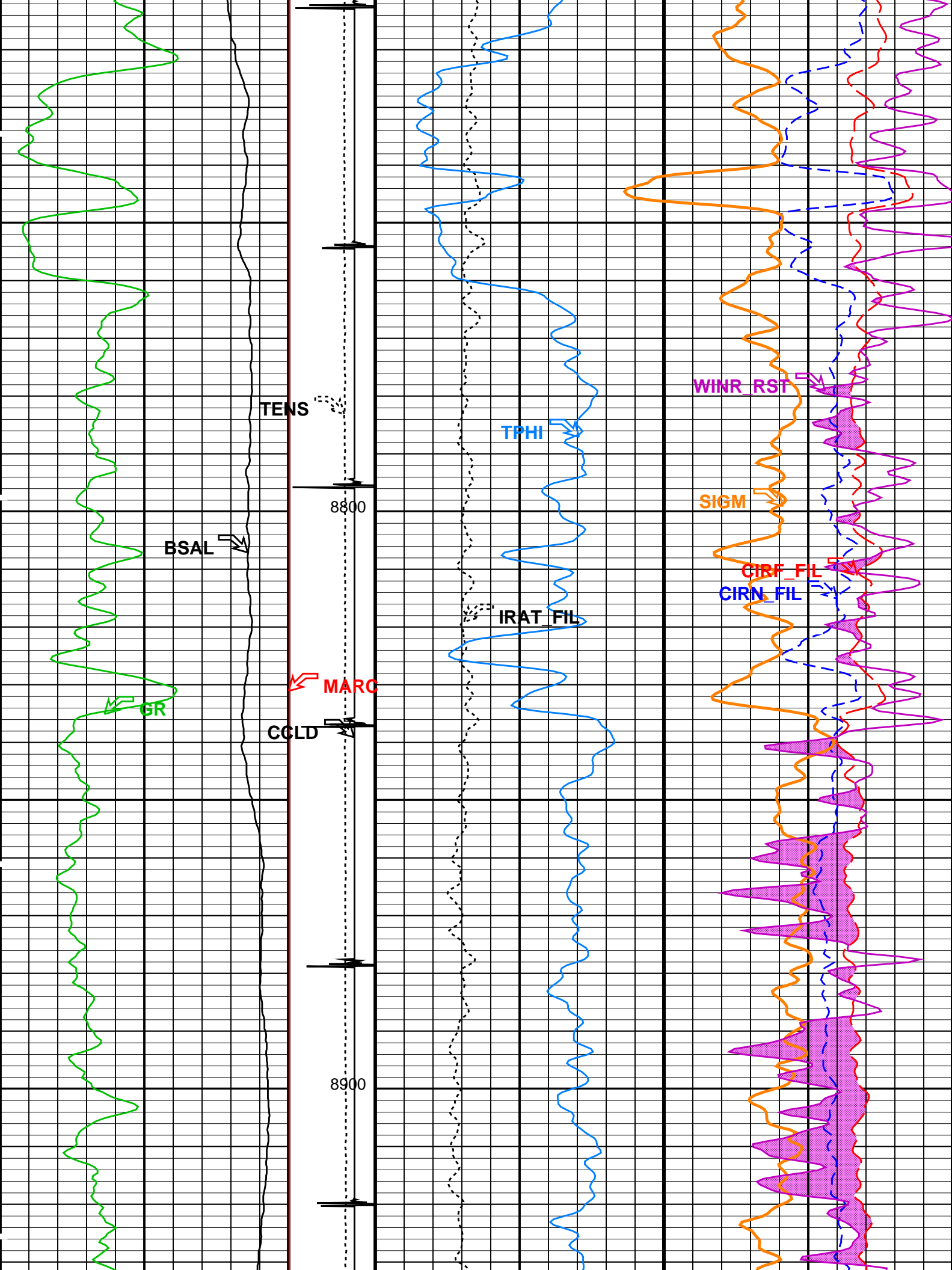


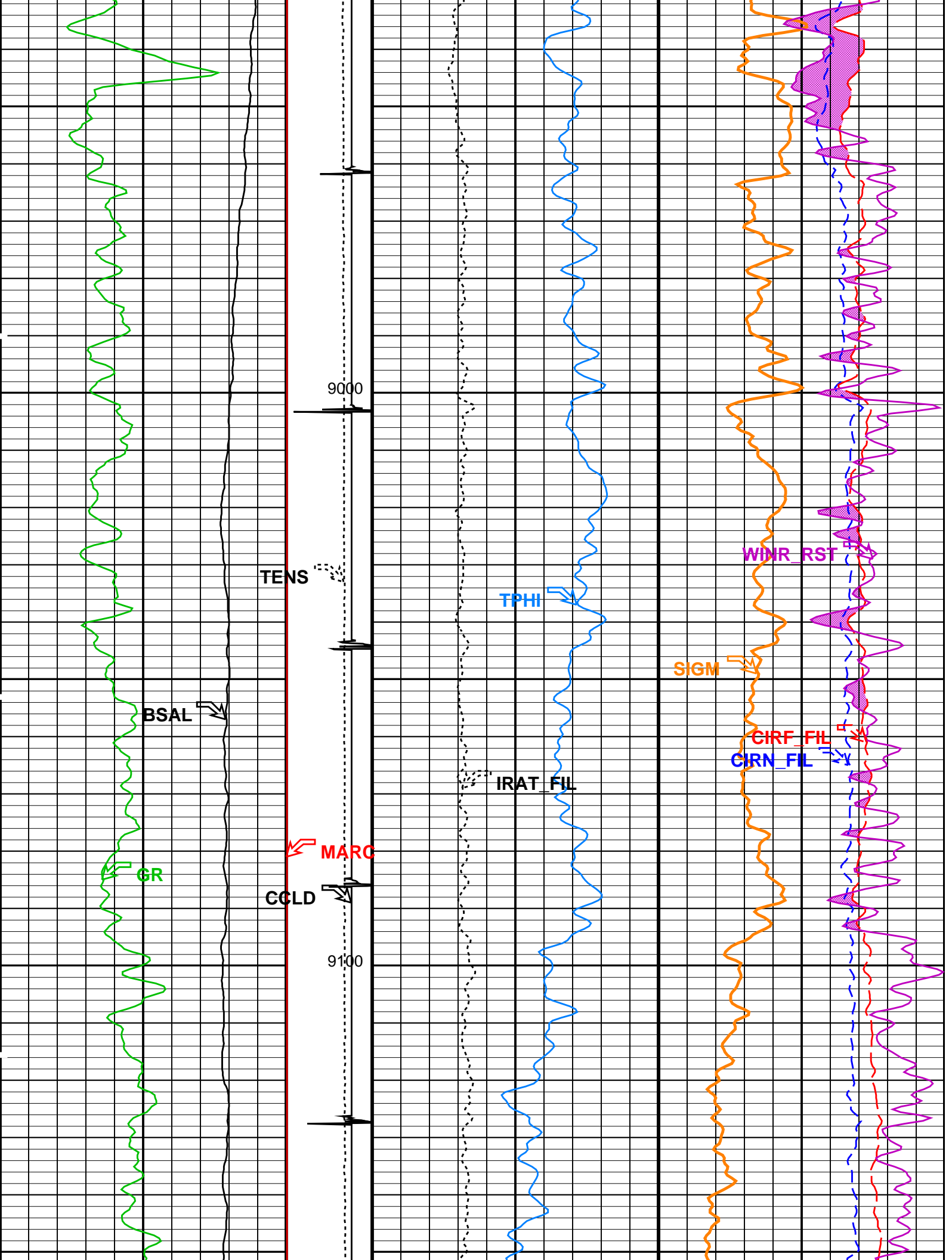


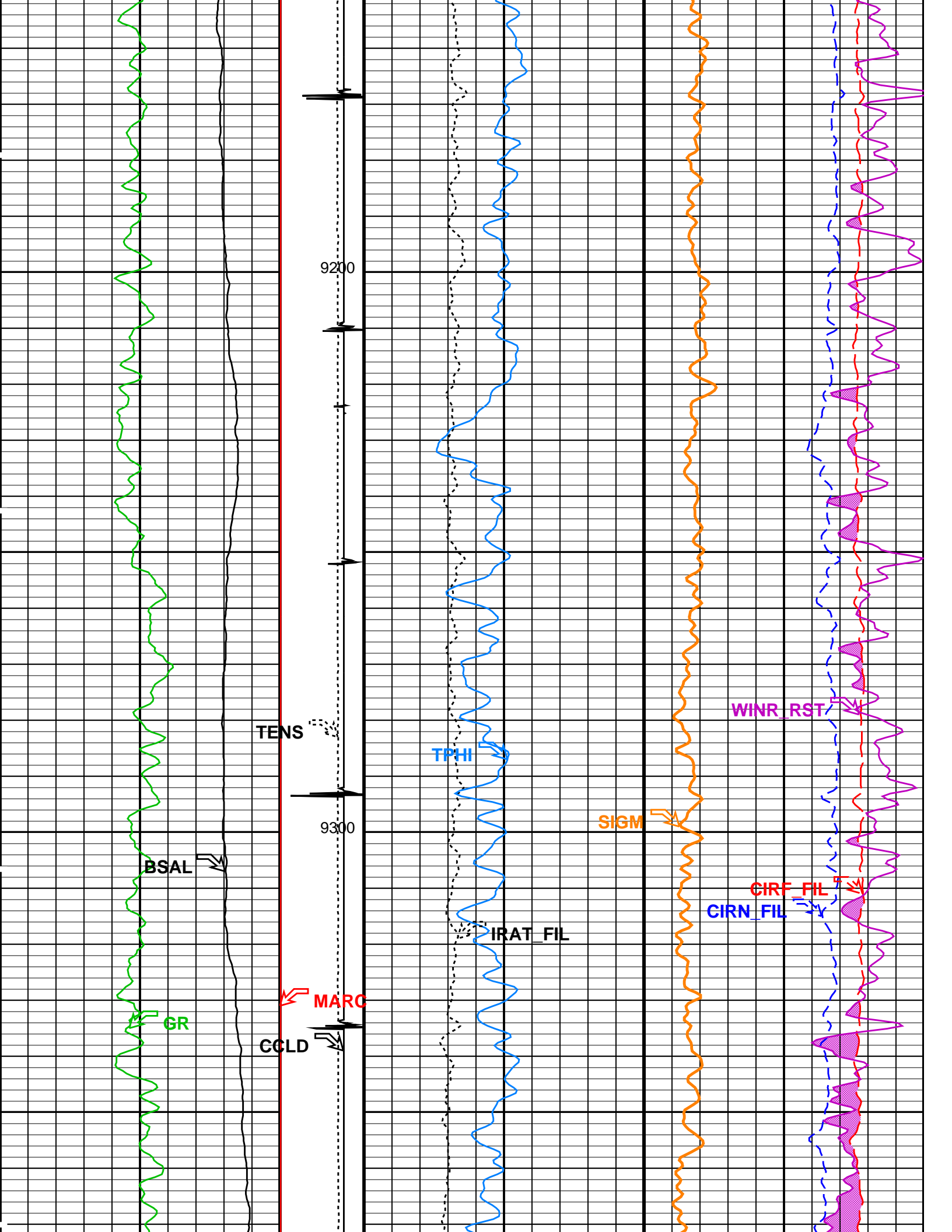


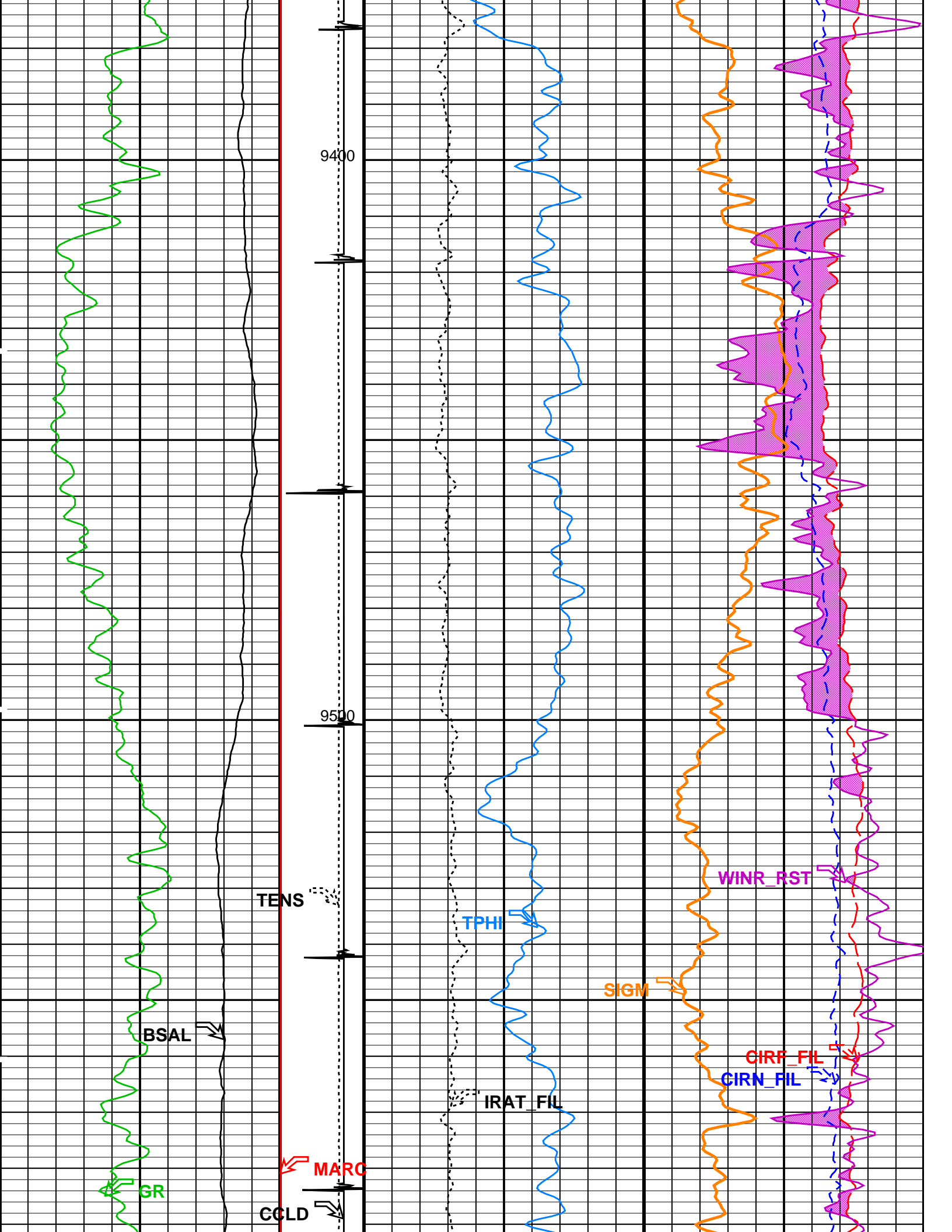


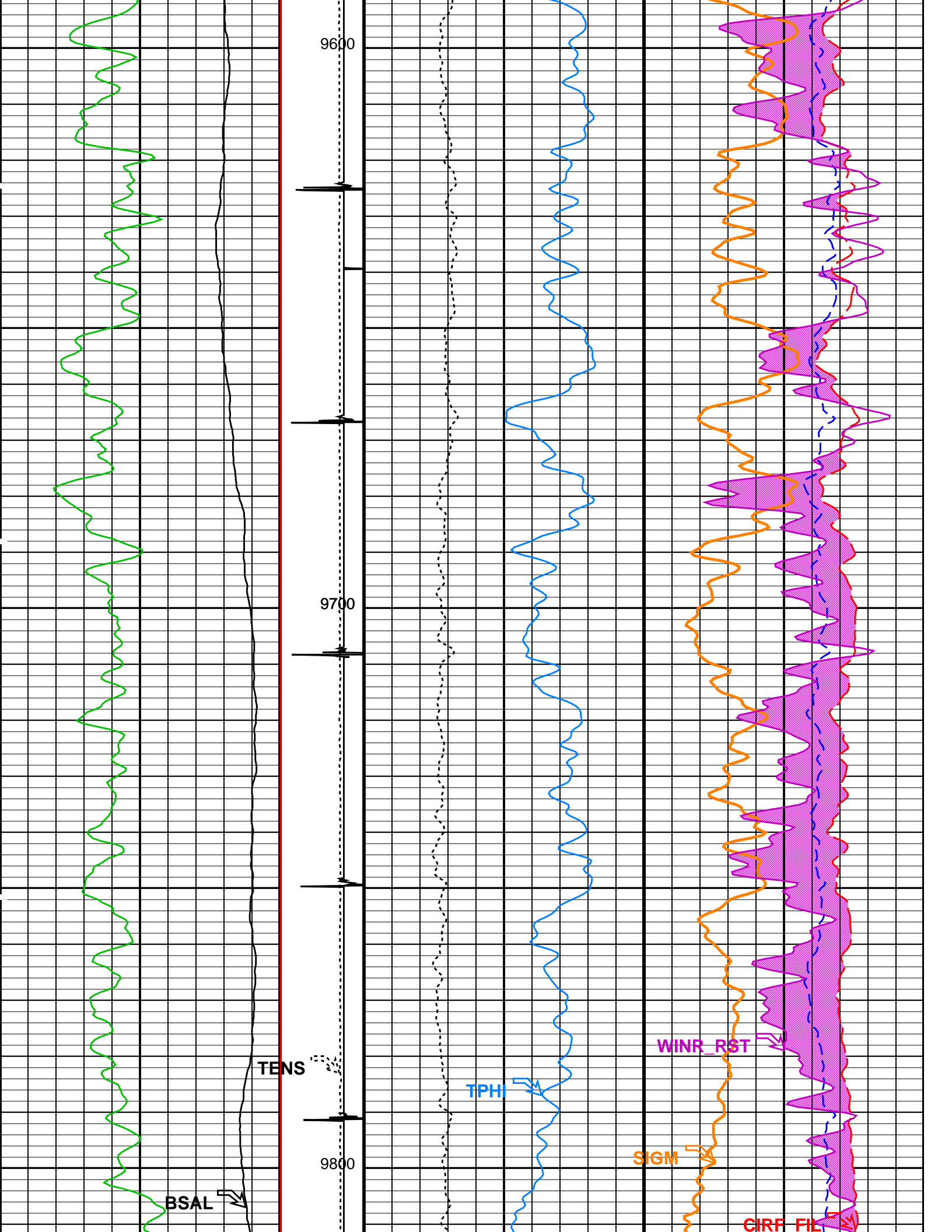


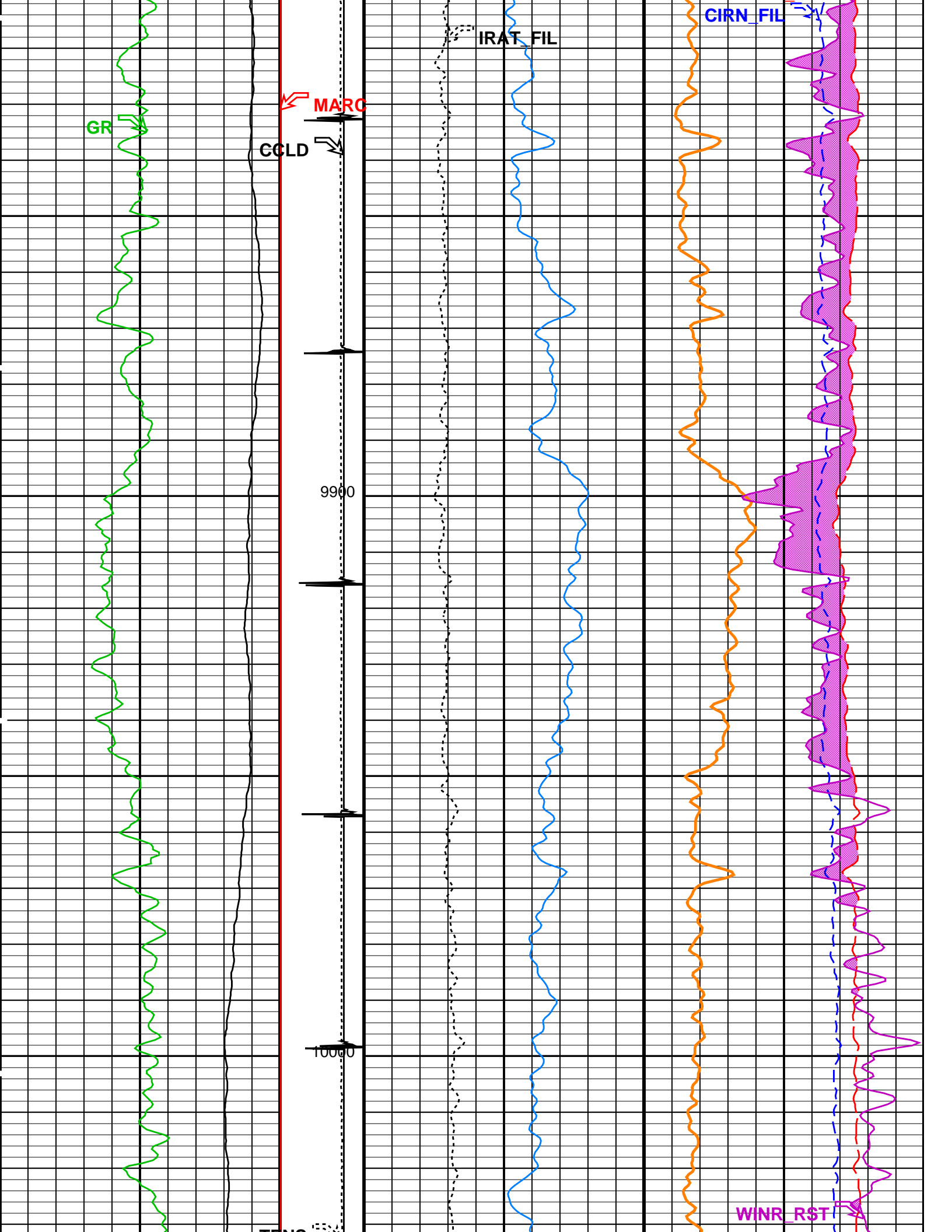


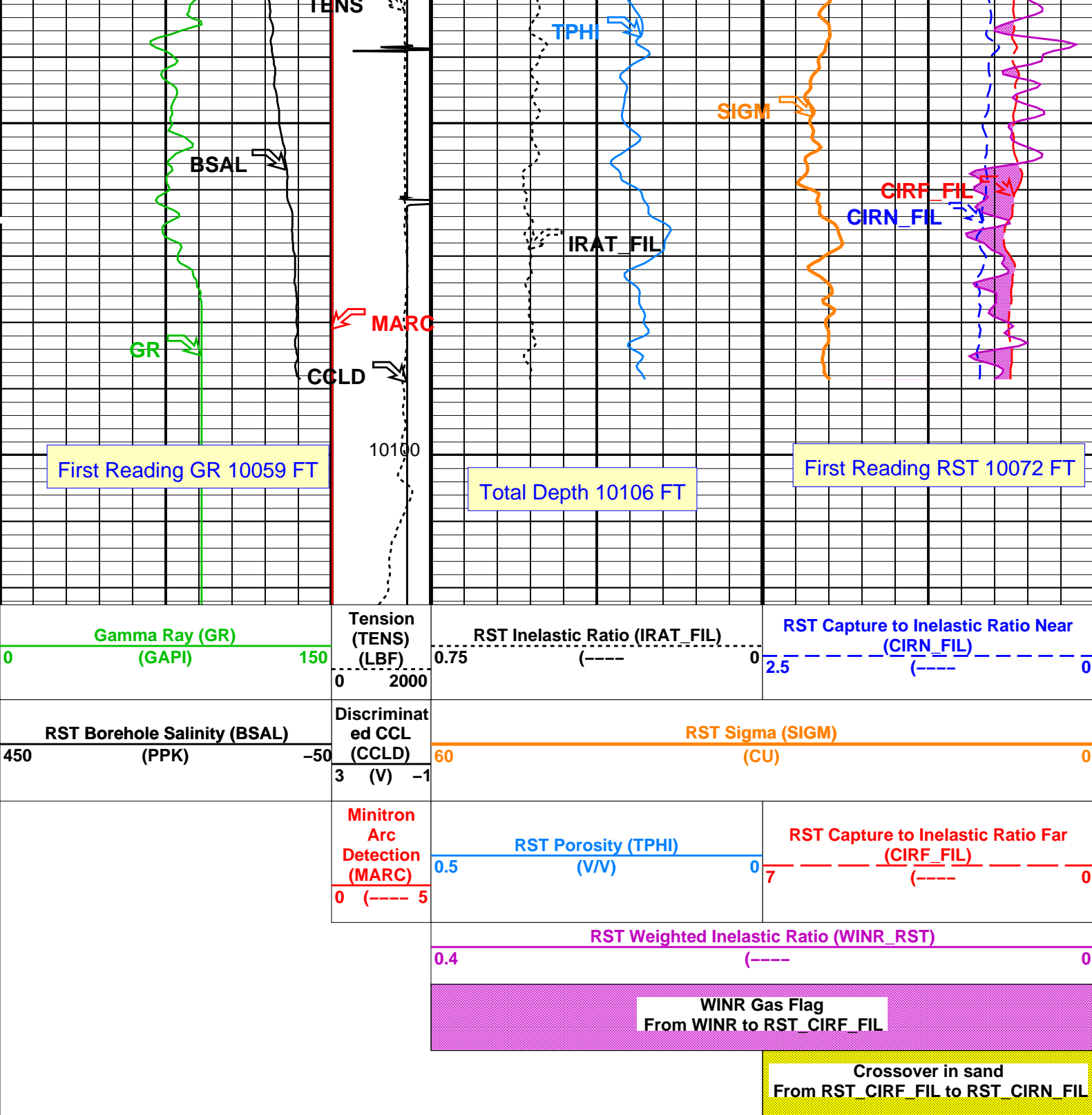












PIP SUMMARY

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		
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			
ALTDPCCHAN	Name of alternate depth channel	SpeedCorrectedDepth	
BS	Bit Size	7.875	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	6.0	FT
FLEV	Fluid Level	70.00	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	10106	FT
TDD	Total Depth - Driller	10171.00	FT
TDL	Total Depth - Logger	10106.00	FT
TWS	Temperature of Connate Water Sample	100.00	DEGF

OP System Version: 19C0-187

SCMT-CB
PSPT

SRPC-5214-H2-2012-OP1!
SRPC-5214-H2-2012-OP1!

RST-C

SRPC-5214-H2-2012-OP1!

Input DLIS Files

DEFAULT

SCMT_RST_PSP_068LUP

FN:65

PRODUCER

26-Nov-2013 05:41

10116.5 FT

13.0 FT

Output DLIS Files

DEFAULT

SCMT_RST_PSP_072PUP

FN:69

PRODUCER

26-Nov-2013 08:27



REPEAT ANALYSIS RST SIGMA

MAXIS Field Log

Input DLIS Files

DEFAULT

SCMT_RST_PSP_066LUP

FN:63

PRODUCER

26-Nov-2013 05:18

7128.0 FT

6804.5 FT

DEFAULT

SCMT_RST_PSP_072PUP

FN:69

PRODUCER

26-Nov-2013 08:27

10122.5 FT

-25.5 FT

Output DLIS Files

DEFAULT

SCMT_RST_PSP_073PUP

FN:70

PRODUCER

26-Nov-2013 08:33

7131.0 FT

6763.0 FT

OP System Version: 19C0-187

SCMT-CB
PSPT

SRPC-5214-H2-2012-OP1!
SRPC-5214-H2-2012-OP1!

RST-C

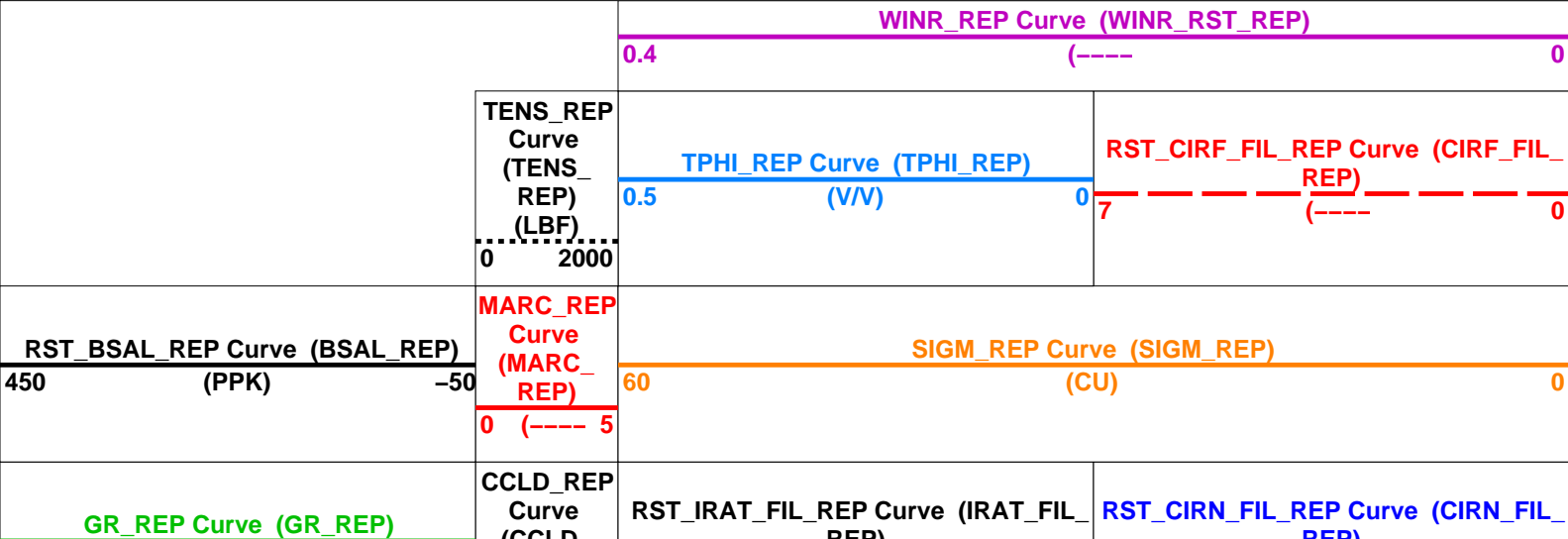
SRPC-5214-H2-2012-OP1!

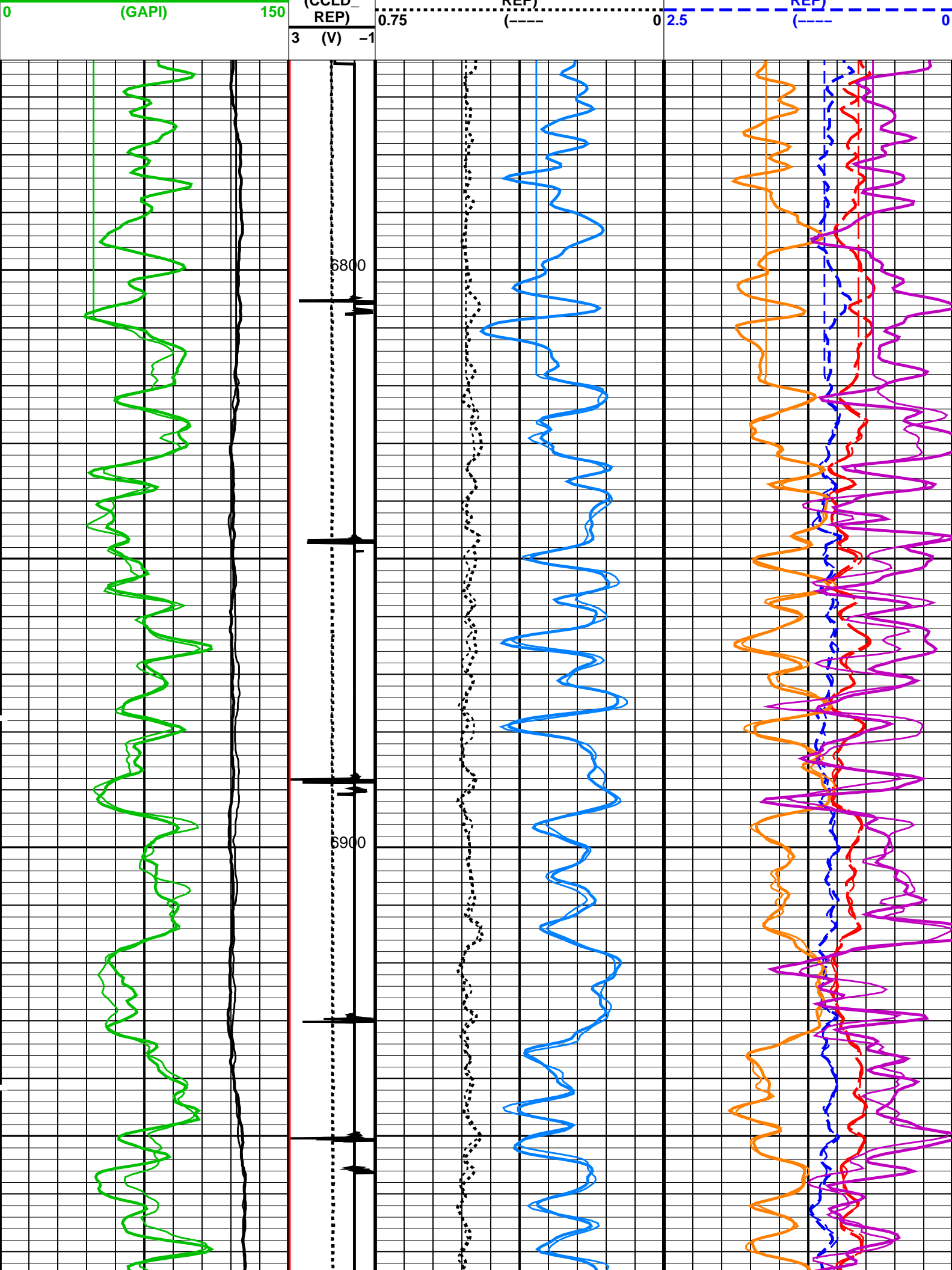
Changed Parameter Summary

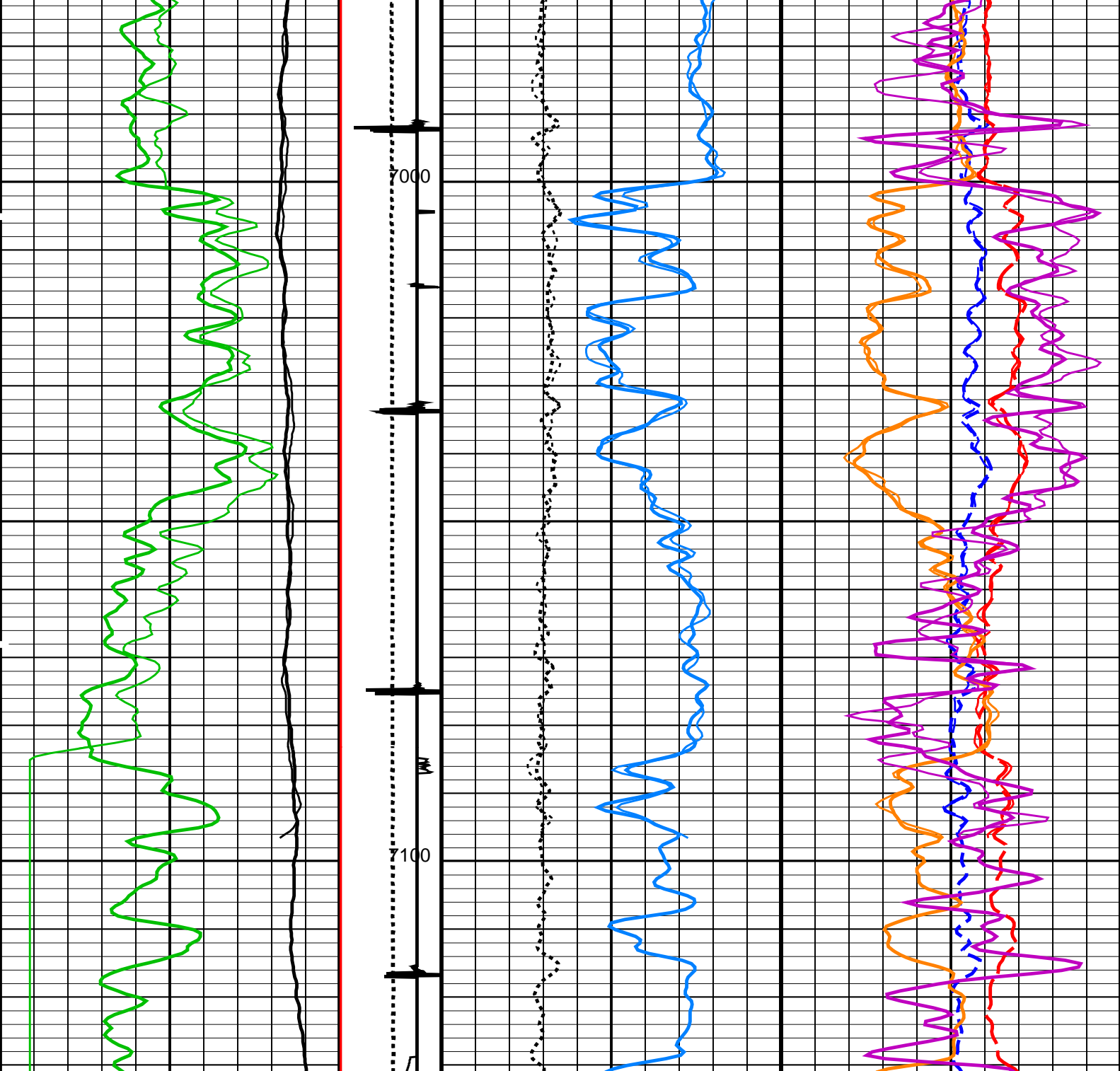
DLIS Name	New Value	Previous Value	Depth & Time
BS	8.750 IN	8.750 IN	7131.0 08:33:09

PIP SUMMARY

Time Mark Every 60 S







<p>GR_REP Curve (GR_REP) (GAPI)</p> <p>0 150</p>	<p>CCLD_REP Curve (CCLD_REP)</p> <p>3 (V) -1</p>	<p>RST_IRAT_FIL_REP Curve (IRAT_FIL_REP) (----</p> <p>0.75 0</p>	<p>RST_CIRN_FIL_REP Curve (CIRN_FIL_REP) (----</p> <p>0 2.5 0</p>
<p>RST_BSAL_REP Curve (BSAL_REP) (PPK)</p> <p>450 -50</p>	<p>MARC_REP Curve (MARC_REP)</p> <p>0 (---- 5</p>	<p>SIGM_REP Curve (SIGM_REP) (CU)</p> <p>60 0</p>	
	<p>TENS_REP Curve (TENS_REP) (LBF)</p> <p>0 2000</p>	<p>TPHI_REP Curve (TPHI_REP) (V/V)</p> <p>0.5 0</p>	<p>RST_CIRF_FIL_REP Curve (CIRF_FIL_REP) (----</p> <p>7 0</p> <p>WINR_REP Curve (WINR_RST_REP)</p>

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			
ALTDCHAN	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	3.0	FT
DORL	Depth Offset for Repeat Analysis	0.0	FT
FLEV	Fluid Level	70.00	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	10106	FT
TDD	Total Depth - Driller	10171.00	FT
TDL	Total Depth - Logger	10106.00	FT
TWS	Temperature of Connate Water Sample	100.00	DEGF

Format: RST_SIGMA_S5_REP Vertical Scale: 5" per 100' Graphics File Created: 26-Nov-2013 08:33

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_066LUP	FN:63	PRODUCER	26-Nov-2013 05:18	7128.0 FT	6804.5 FT
DEFAULT	SCMT_RST_PSP_072PUP	FN:69	PRODUCER	26-Nov-2013 08:27	10122.5 FT	-25.5 FT

Output DLIS Files

DEFAULT	SCMT_RST_PSP_073PUP	FN:70	PRODUCER	26-Nov-2013 08:33
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Schlumberger

PBMS COEFFICIENTS

MAXIS Field Log

Client:	ENCANA OIL & GAS (USA) INC	Tool:	PSP
Field:	MAMM CREEK	Sub Type:	PBMS
Well:	HMU 6-13D (J6SEB)	Sensor:	GR
Run date:	26-Nov-2013		

PBMS Gamma Ray

Sonde Serial NB

Sensor Serial NB

Calib Date ddmmyy

Matrix Size

Coeff CRC

GR HV Rt

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

33223

090800

12

CFE2

Rt**0

Rt**1

+.332000000000e+04

0.0

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

Company: ENCANA OIL & GAS (USA) INC



Well: HMU 6-13D (J6SEB)
Field: MAMM CREEK
County: GARFIELD
State: COLORADO

RESERVOIR SATURATION LOG

SIGMA MODE

GAMMA RAY-CCL