

Company: ENCANA OIL & GAS (USA) INC

Well: FEDERAL 21-2B (PH21)

Field: PARACHUTE

County: GARFIELD

State: COLORADO

County: GARFIELD

Field: PARACHUTE

Location: SHL: 1595 FNL & 741 FEL

Well: FEDERAL 21-2B (PH21)

Company: ENCANA OIL & GAS (USA) INC

RESERVOIR SATURATION LOG

SIGMA MODE

GAMMA-RAY-CCI

SHL: 1595 FNL & 741 FEL

BHL: 174 FNL & 2175 FEL

Elev.: K.B. 6336.00 ft

G.L. 6314.00 ft

D.F. 6335.00 ft

Permanent Datum: GROUND LEVEL

Elev.: 6314.00 ft

Log Measured From: KELLY BUSHING

22.00 ft above Perm. Datum

Drilling Measured From: KELLY BUSHING

API Serial No. 05-045-21330-0C

Section 21

Township 7S

Range 95W

PVT DATA			
Oil Density	Run 1	Run 2	Run 3
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 9-Jun-2013

Run Number 1

Depth Driller 7940 ft

Schlumberger Depth 7866 ft

Bottom Log Interval 7832 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 7.875 in

From 22 ft

To 7940 ft

Casing/Tubing Size 4.500 in

Weight 11.6 lbm/ft

Grade

From 22 ft

To 7920 ft

Maximum Recorded Temperatures 214 degF

Logger On Bottom 9-Jun-2013

Time 21:00

Unit Number 391

Location GRAND JUNCTION

Recorded By KIRSTIE BUNTING

Witnessed By EUGENE

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: 3-JUN-2013 9:46:48

## 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:	4-24-2012	Calibration Date:	6-3-2013	Length:	19500 FT
Calibrator Serial Number:		Calibrator Serial Number:	174878		
Calibration Cable Type:	1-25P	Number of Calibration Points:	10	Conveyance Method:	Wireline
Wheel Correction 1:	-3	Calibration RMS:	2	Rig Type:	LAND
Wheel Correction 2:	-4	Calibration Peak Error:	6		

## Depth Control Parameters

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

## Depth Control Remarks

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

## DISCLAIMER

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OTHER SERVICES1 OS1: SLIM CEMENT MAPPING OS2: LOG OS3: CBL-VDL OS4: OS5:	OTHER SERVICES2 OS1: OS2: OS3: OS4: OS5:
REMARKS: RUN NUMBER 1	REMARKS: RUN NUMBER 2
FIRST RUN IN HOLE CORRELATED TO DOWN LOG	
TOOL RUN AS PER TOOL SKETCH	
ENTRANCE: 20:30	
TIME ON BOTTOM: 21:00	
EXIT: 23:15	

MAXIMUM RECORDED TEMPERATURE: 214 DEGF					
MAXIMUM RECORDED PRESSURE: 3160 PSIA					
SHORT JOINTS: 5544 FT & 6531 FT					
SANDSTONE MATRIX USED					
THANK YOU FOR CHOOSING E&P WIRELINE, A SCHLUMBERGER COMPANY					
CREW: KBUNTING, JBARRY, WAZIZ, KJOHNS, BRANSBOTTOM					
<div> <div>RUN 1</div> <div> <div>SERVICE ORDER #:</div> <div>PROGRAM VERSION:</div> <div>FLUID LEVEL:</div> </div> <div> <div>CGF9-00072</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

[illegible]

	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
8	1	1
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
23	1	1
24	1	1
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91	1	1
92	1	1
93	1	1
94	1	1
95	1	1
96	1	1
97	1	1
98	1	1
99	1	1
100	1	1

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-A 3779			
PSTC-A			
PBMS-A 928	GR		47.8
10k_Sapphire_Mano			
RTD_Thermometer			
GR	Well_Temp		44.7
CCL	Manometer		44.6
PBMS 928	CCL		44.0
	PBMS PSTC		43.2
RST-C			43.2
RSCH-A			
RSC-E 469			
RSS-A 461			
RSXH-A			
RSX-E 493			
	RSC-A Far		34.1
	RSC-A PNG		
	RSC-A Nea		
	RSX-A PNG		33.6

SCMT-CB  
SCMC-CA 8120  
SECH-CA  
CMIR-AG  
SCMS-CB 8303  
SCMX-CA

20.2

DT 11.1  
CBL5 DTSC 9.6  
CBL3 8.6  
MAP 8.1  
AUX 7.1

20.2  
0.2  
AH-BNS  
Tension SCMT  
HV  
TOOL ZERO

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\_033LUP FN:32 PRODUCER 09-Jun-2013 21:06 7870.0 FT 4.0 FT

Output DLIS Files

DEFAULT SCMT\_RST\_PSP\_036PUP FN:35 PRODUCER 09-Jun-2013 23:14 7874.0 FT -36.5 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

Crossover in sand  
From RST\_CIRF\_FIL to RST\_CIRN\_FIL

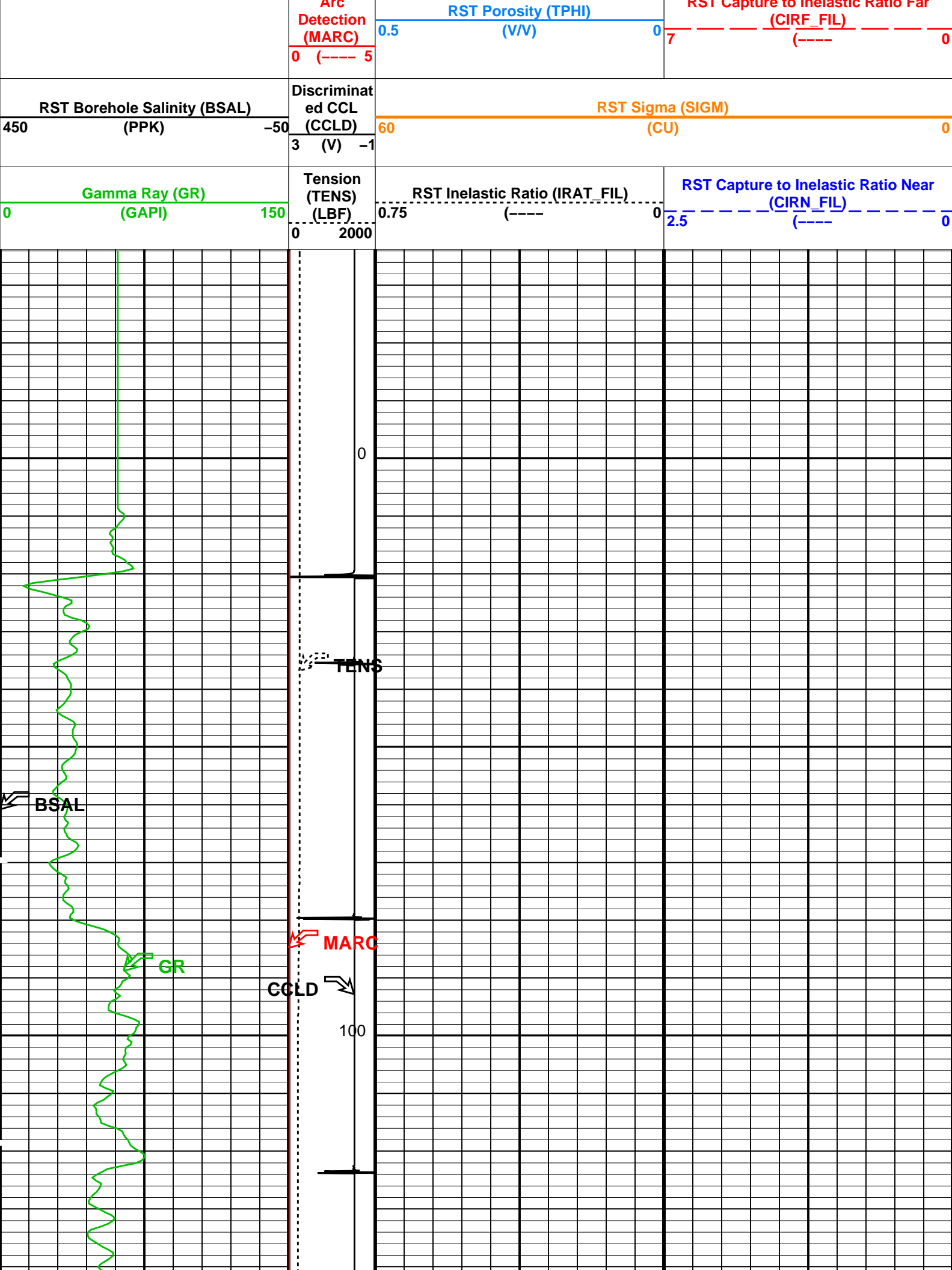
WINR Gas Flag  
From WINR to RST\_CIRF\_FIL

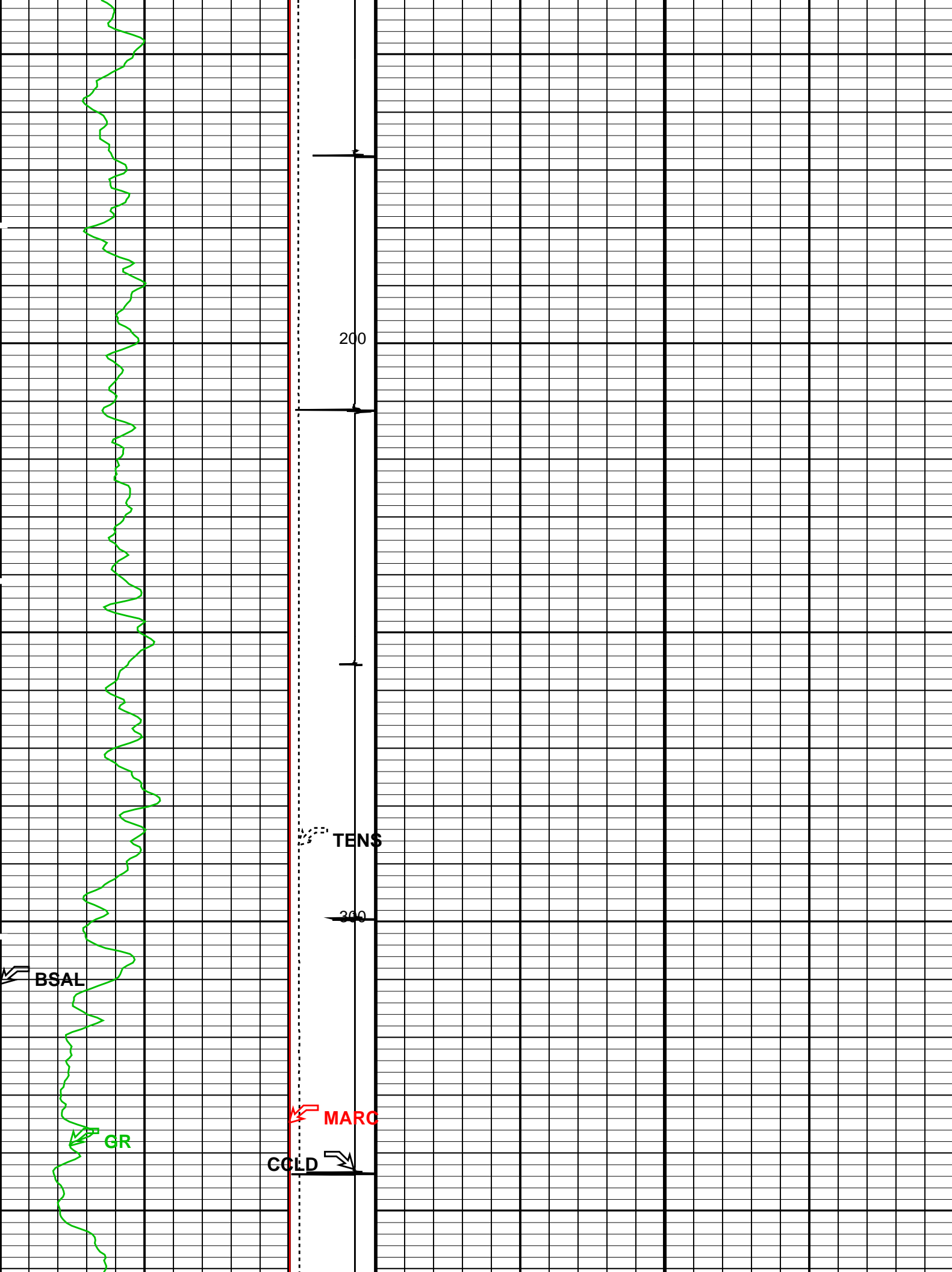
RST Weighted Inelastic Ratio (WINR\_RST)

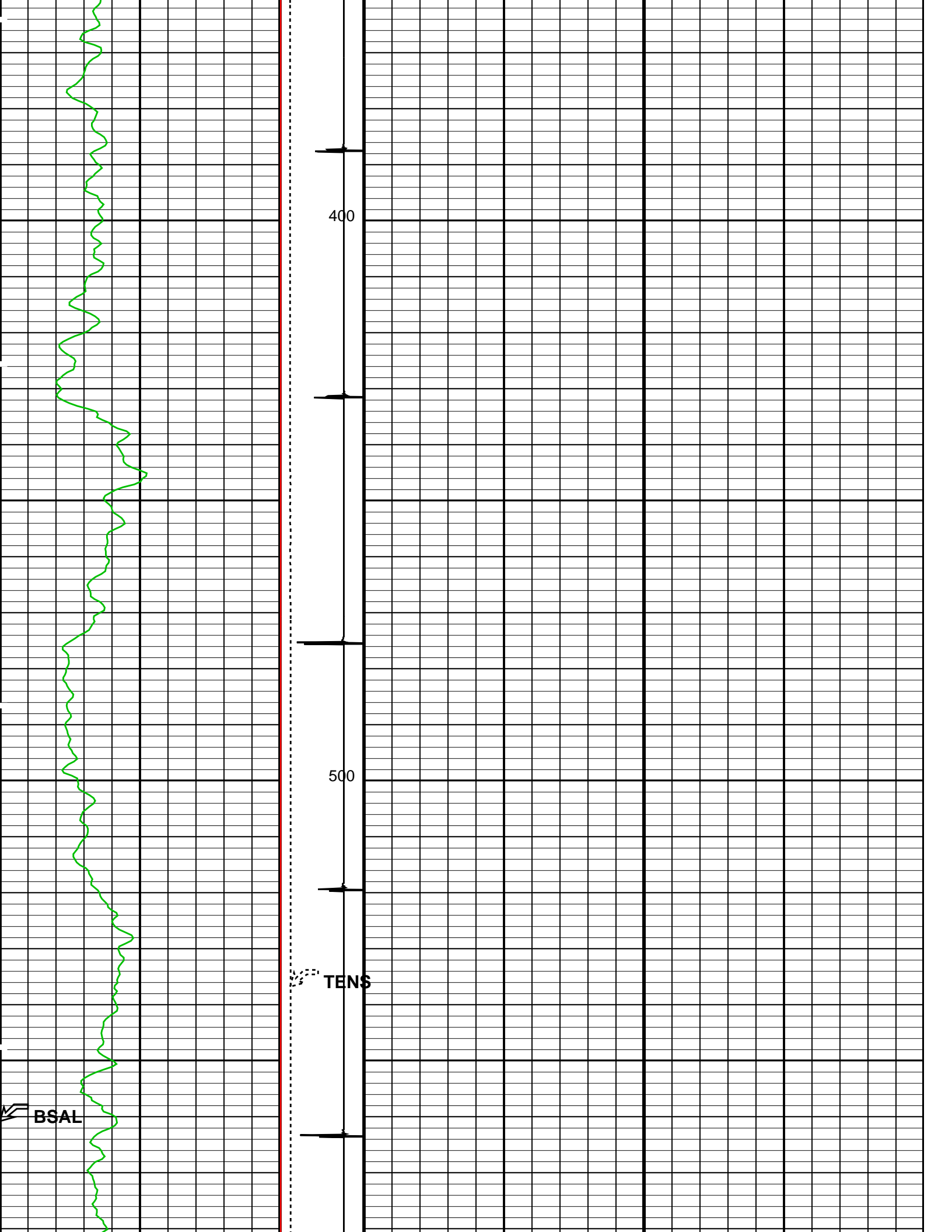
0.4 (----) 0

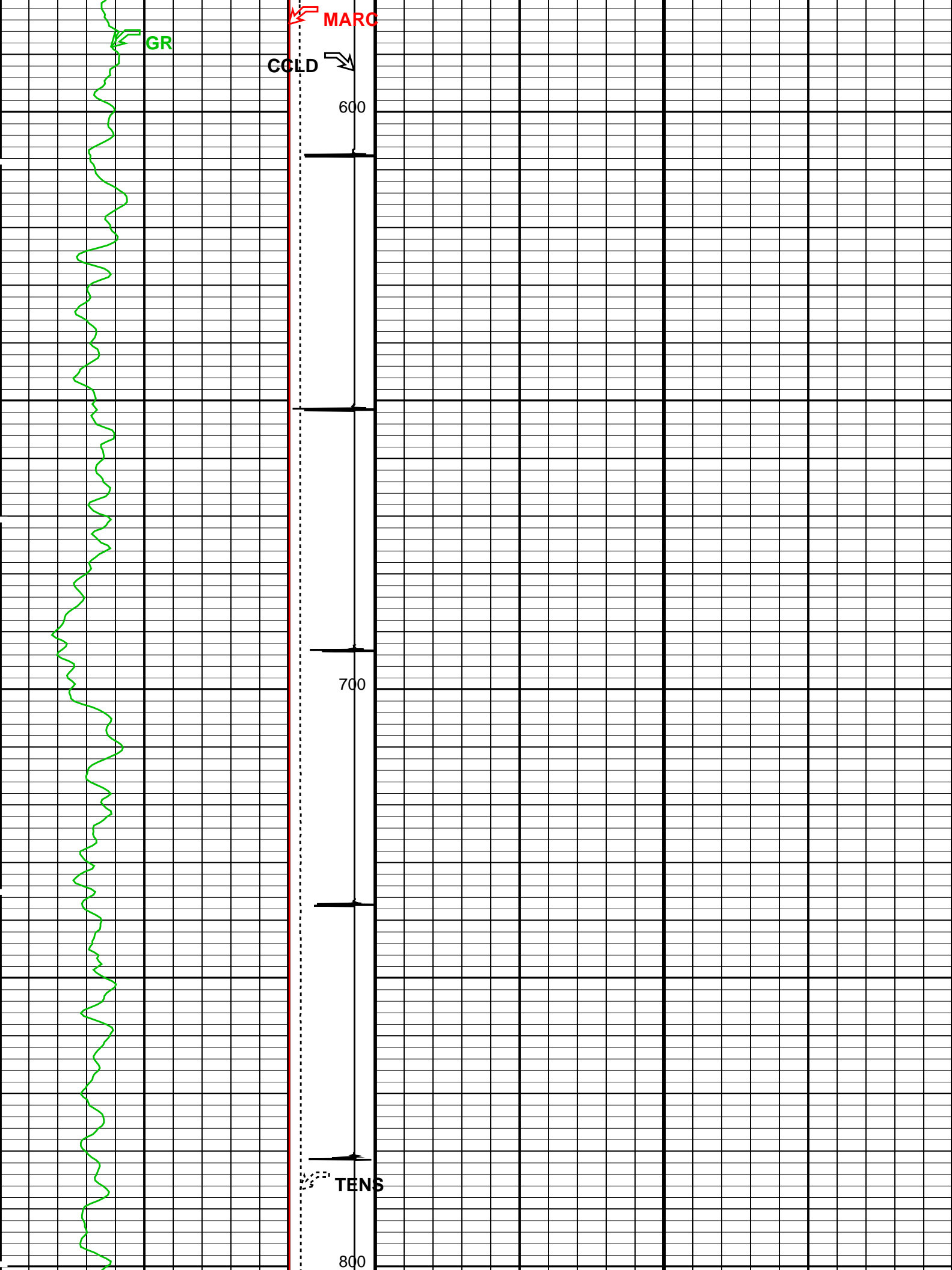
Minitron  
Are

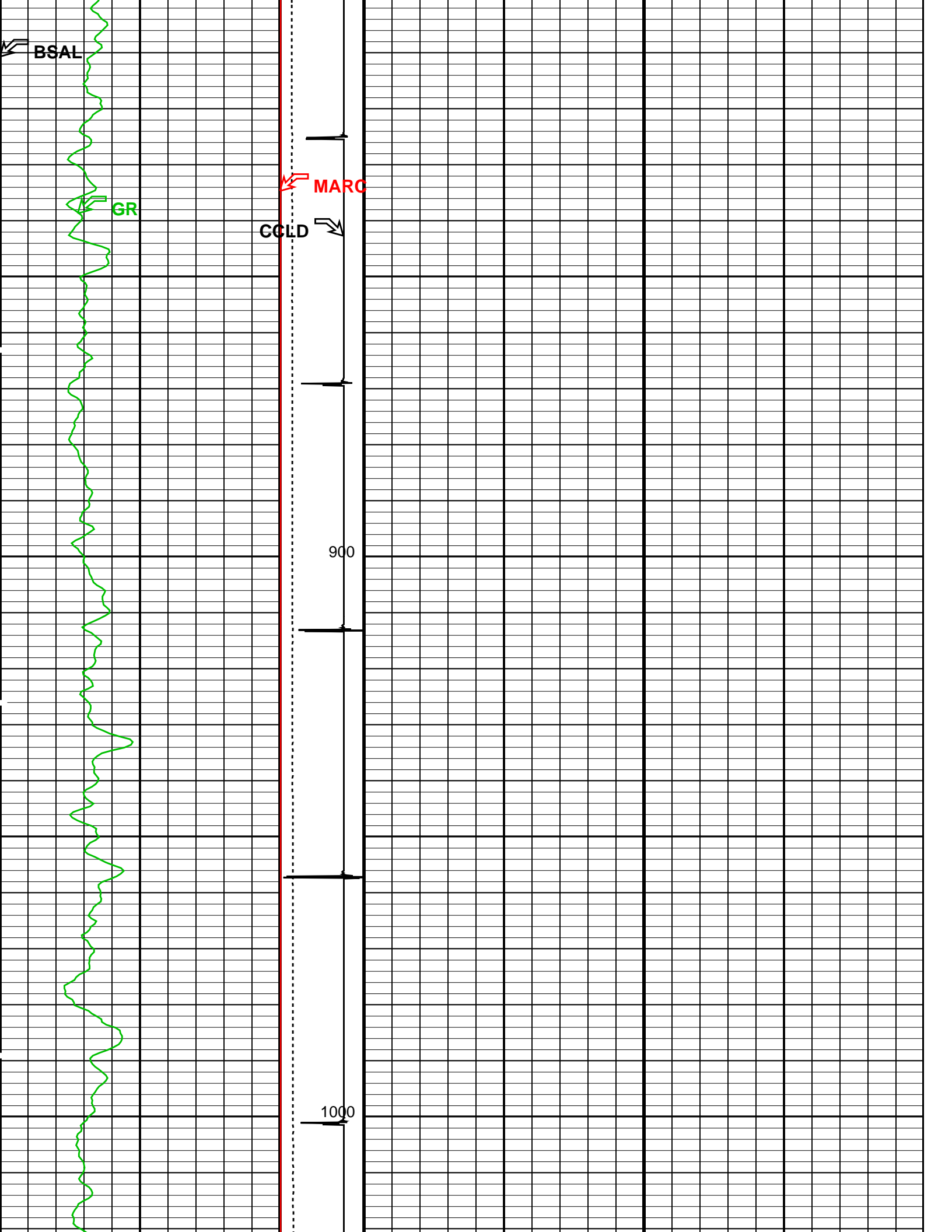
RST Capture to Inelastic Ratio For

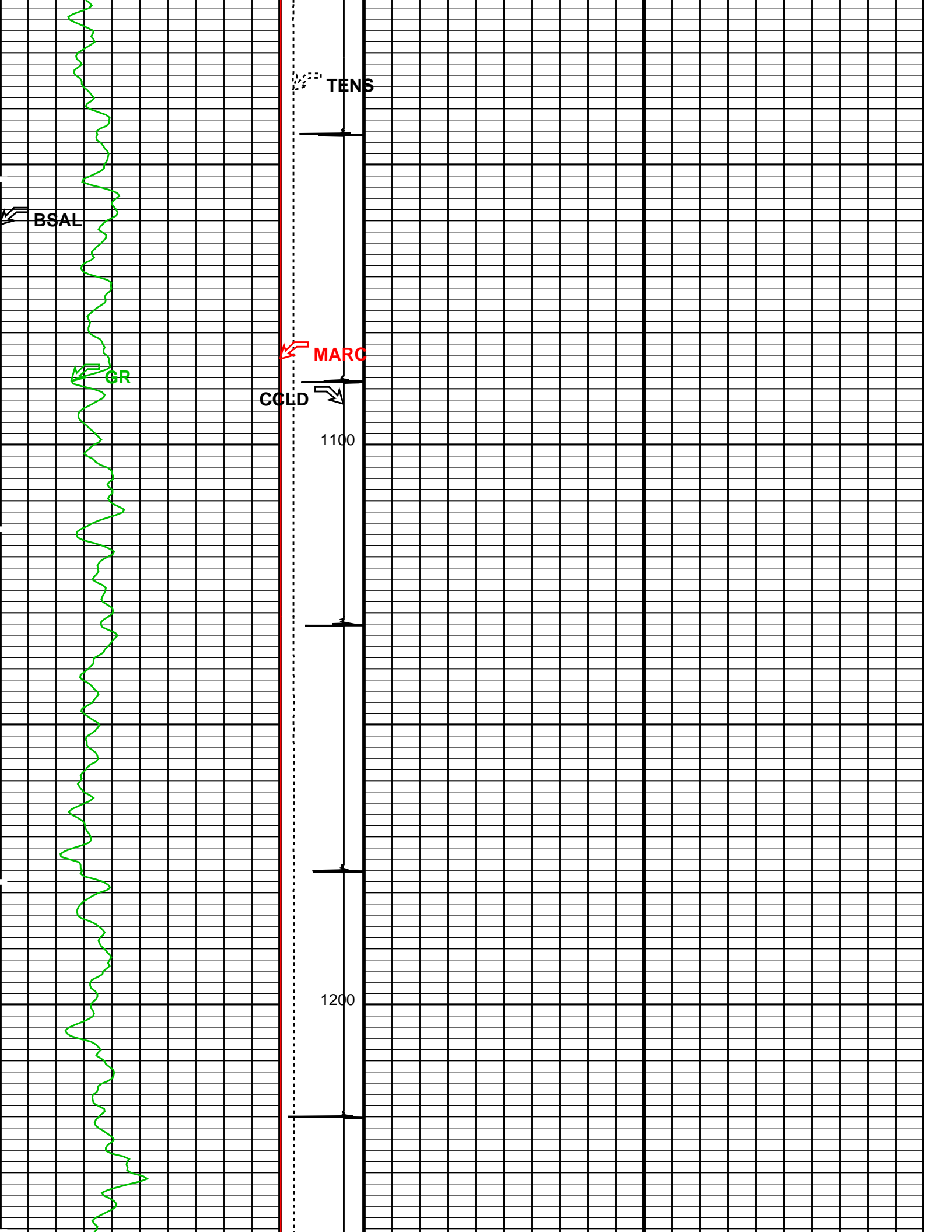


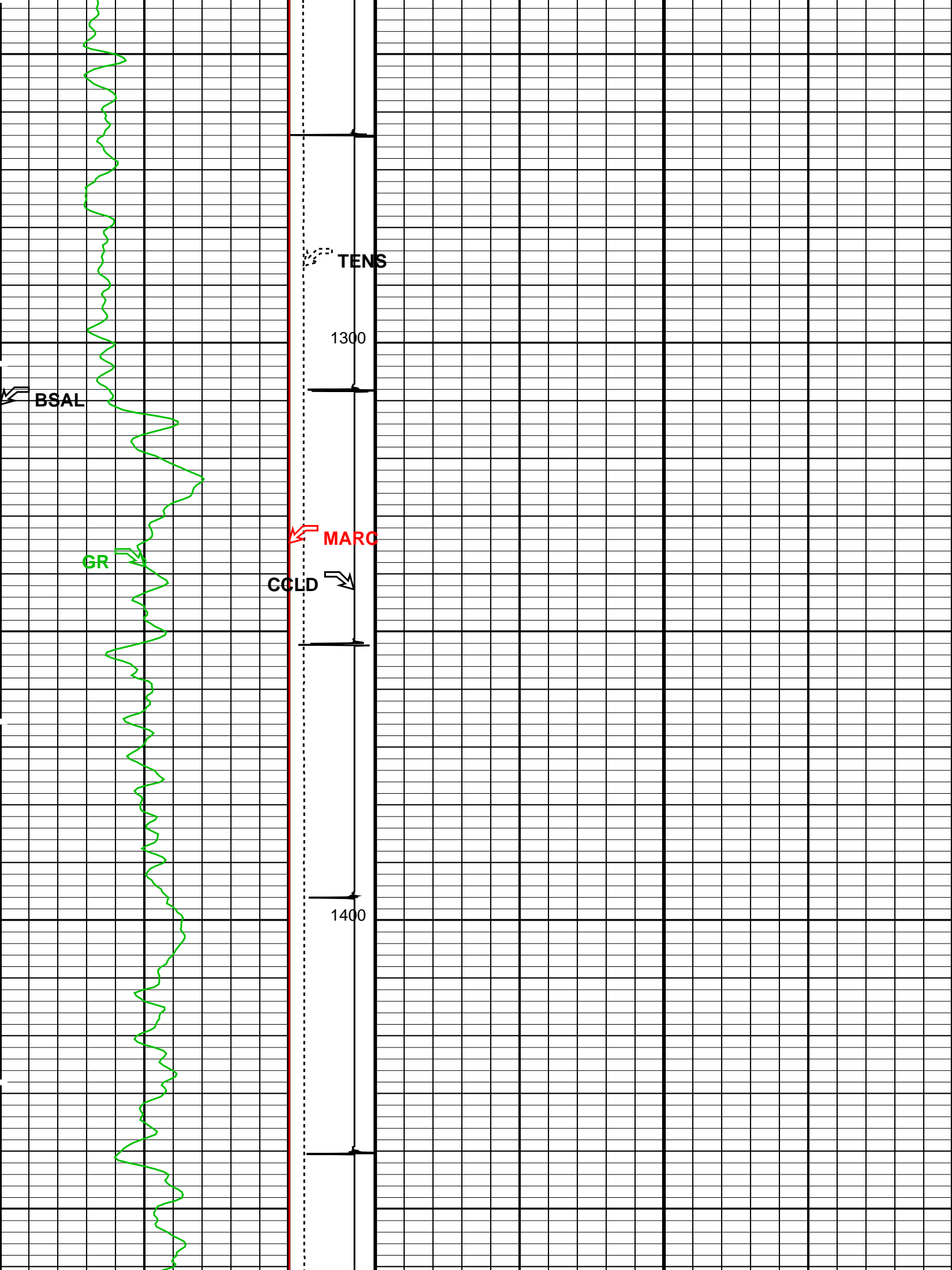


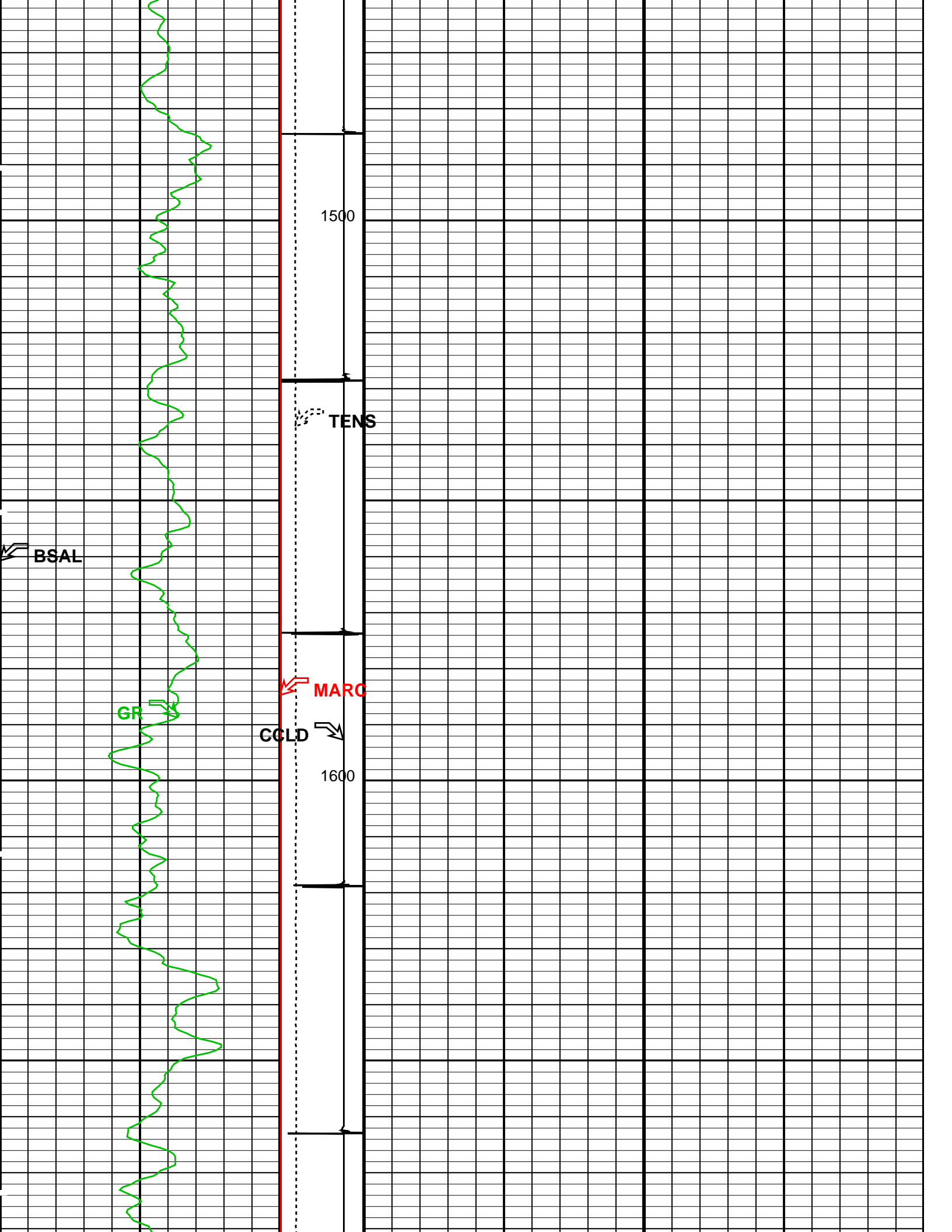


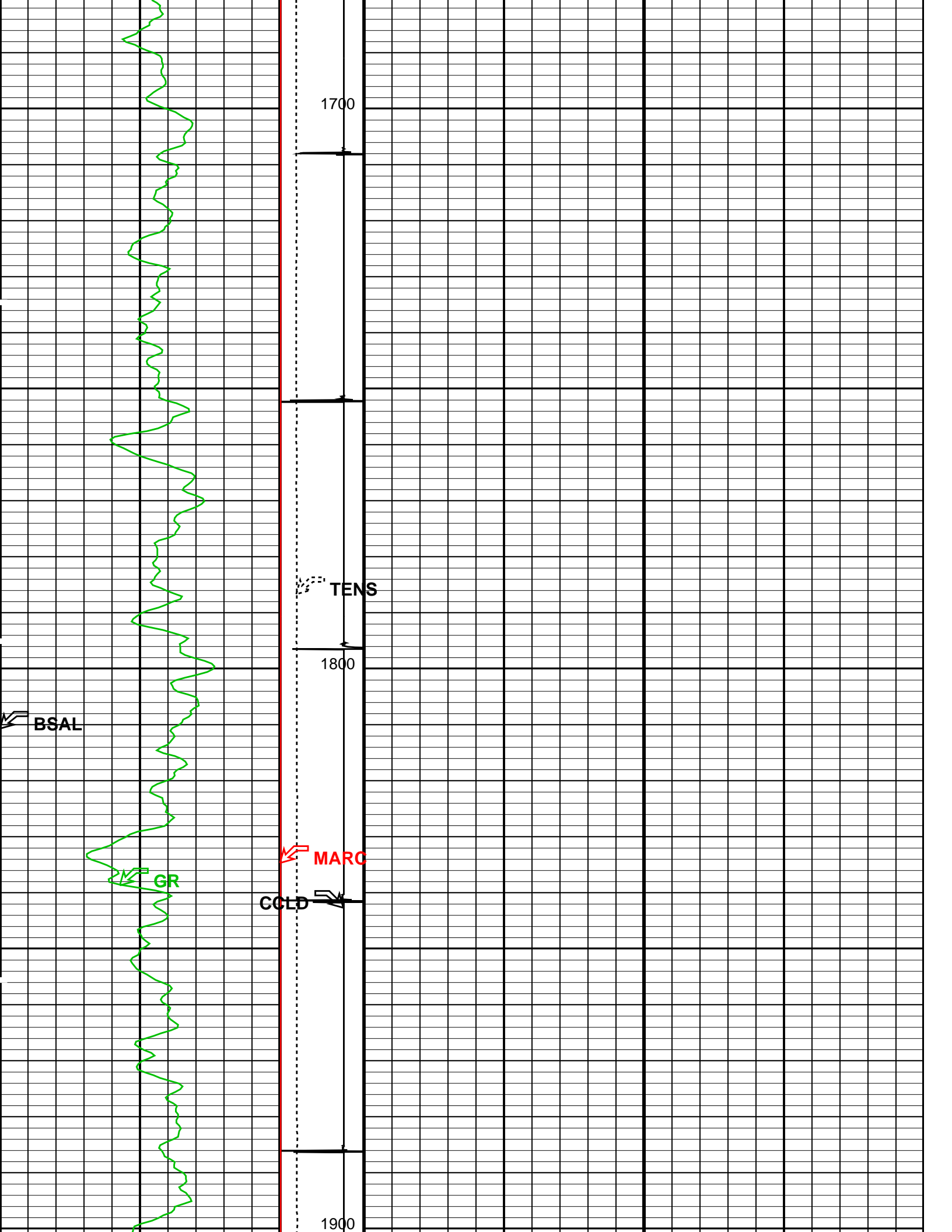


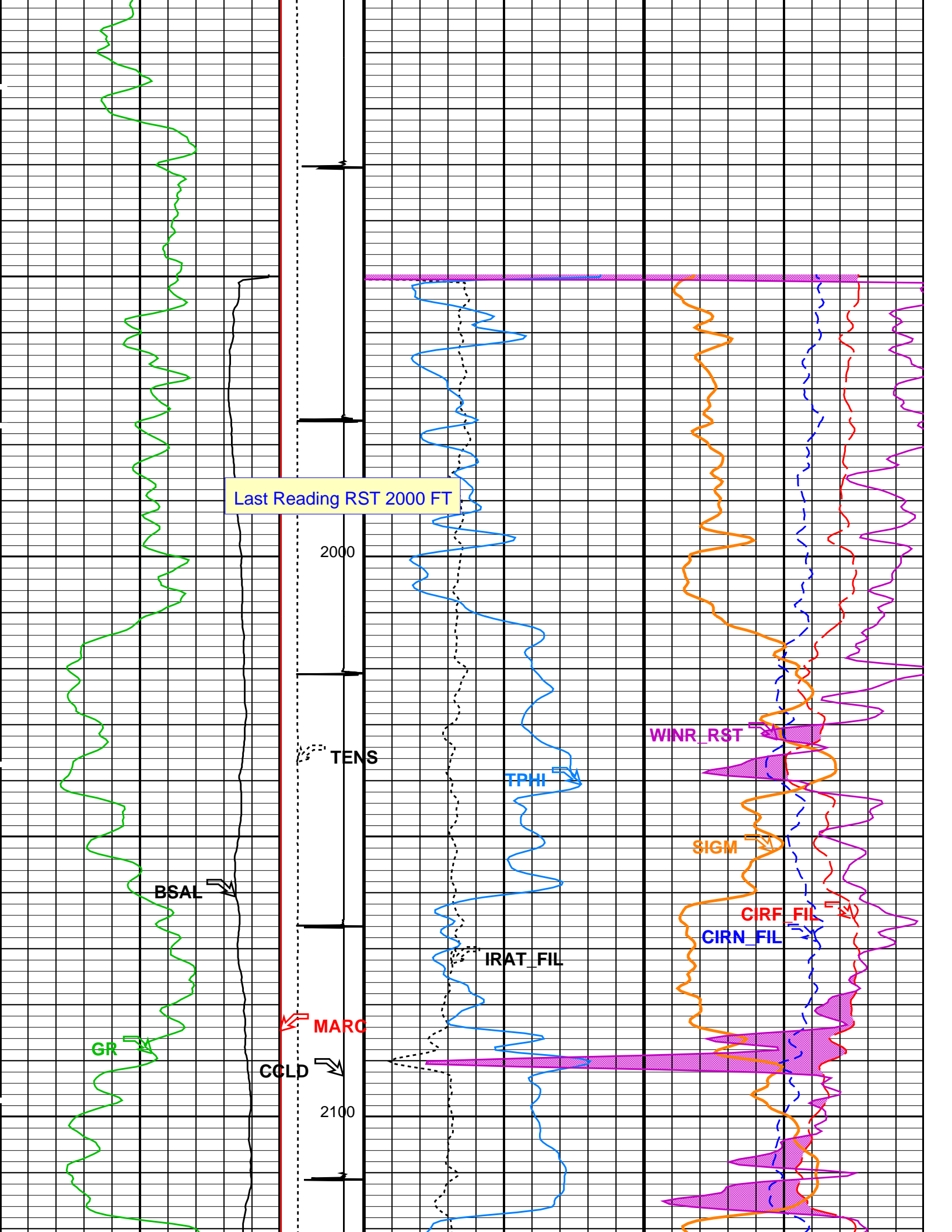


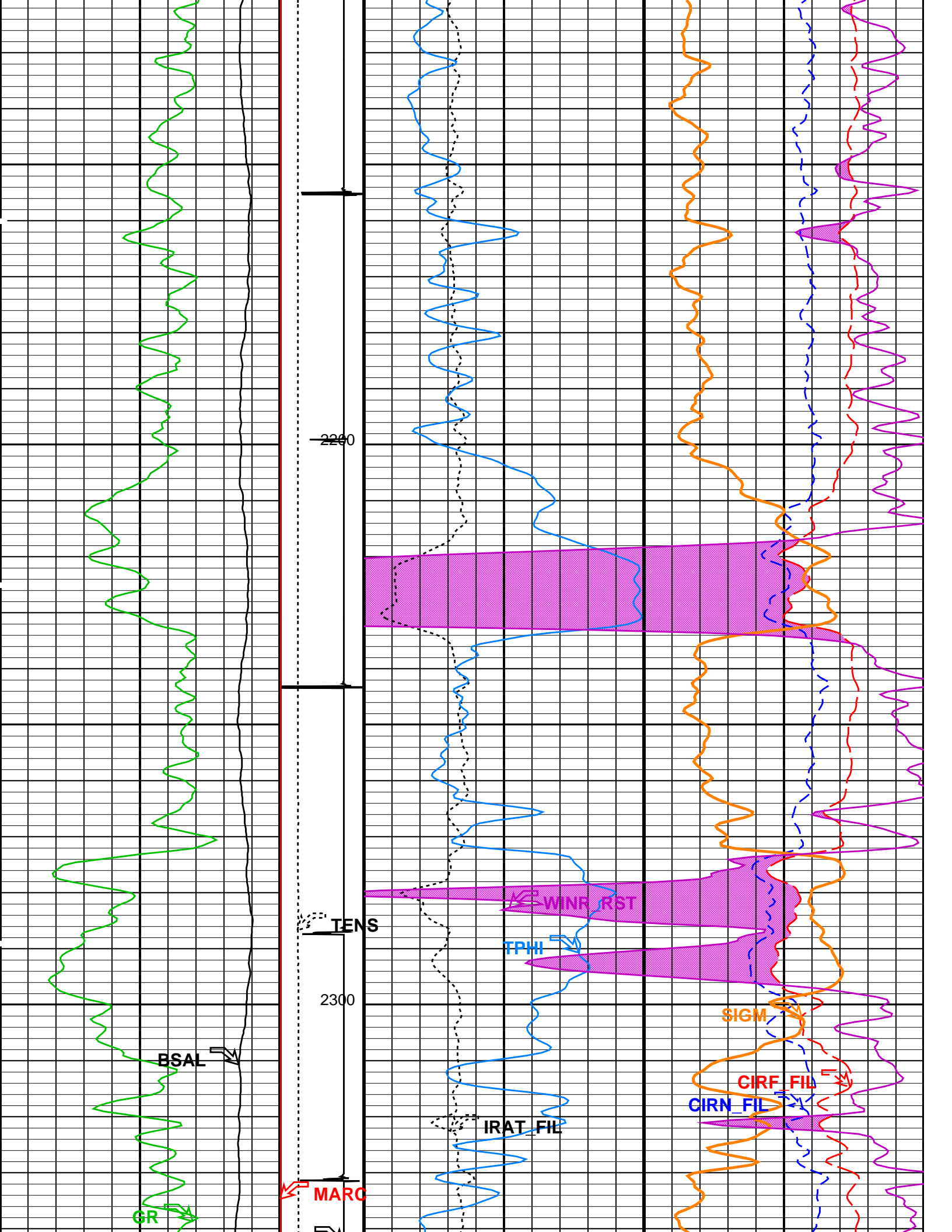


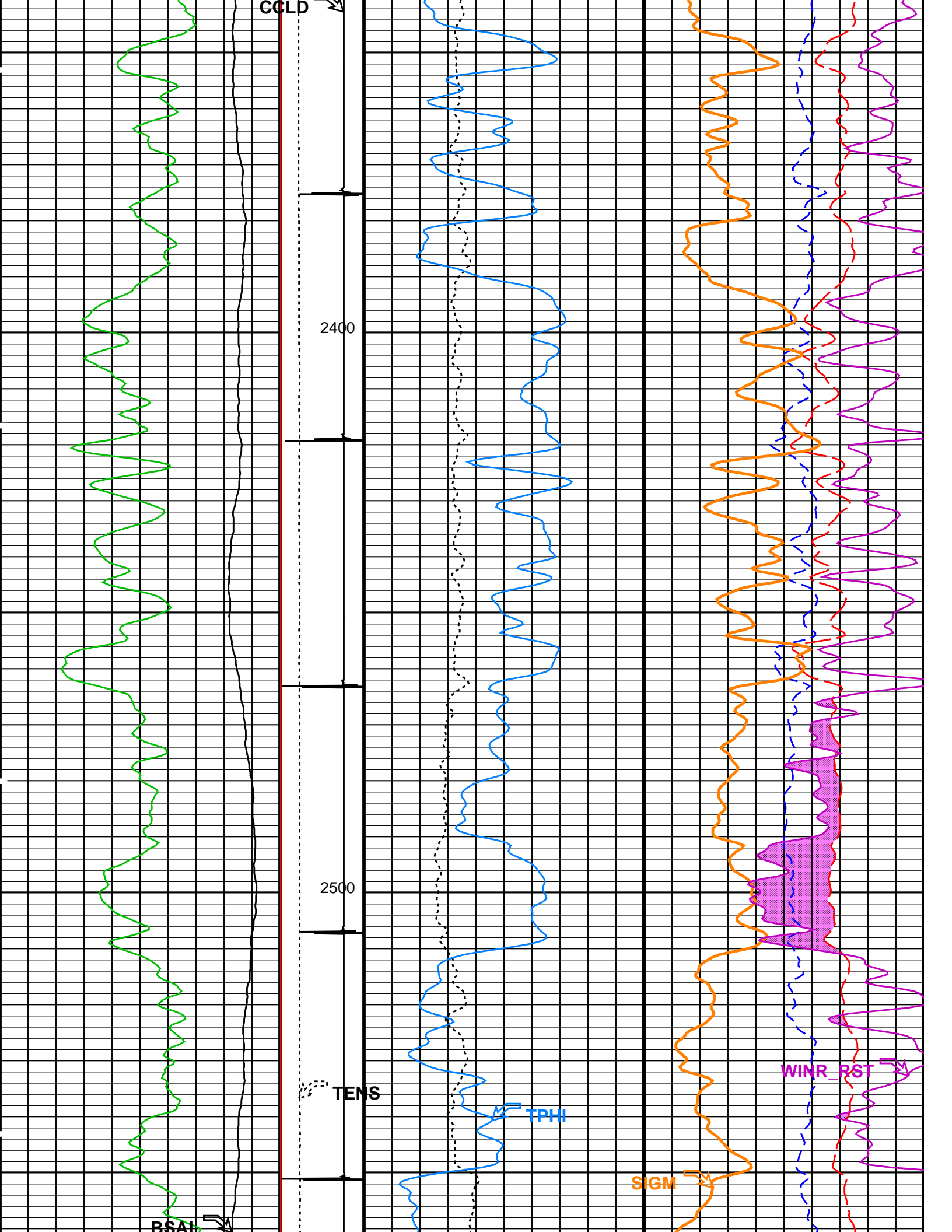


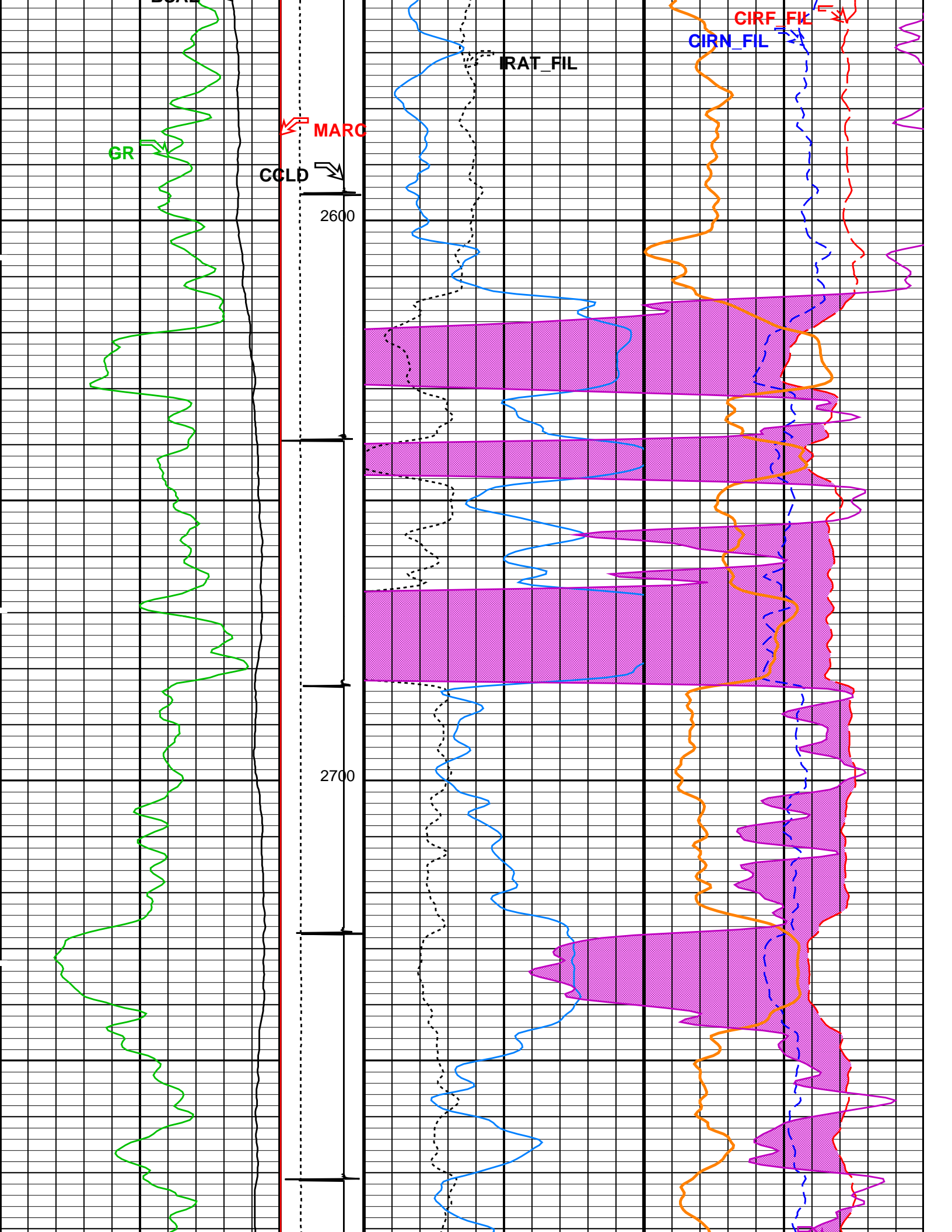


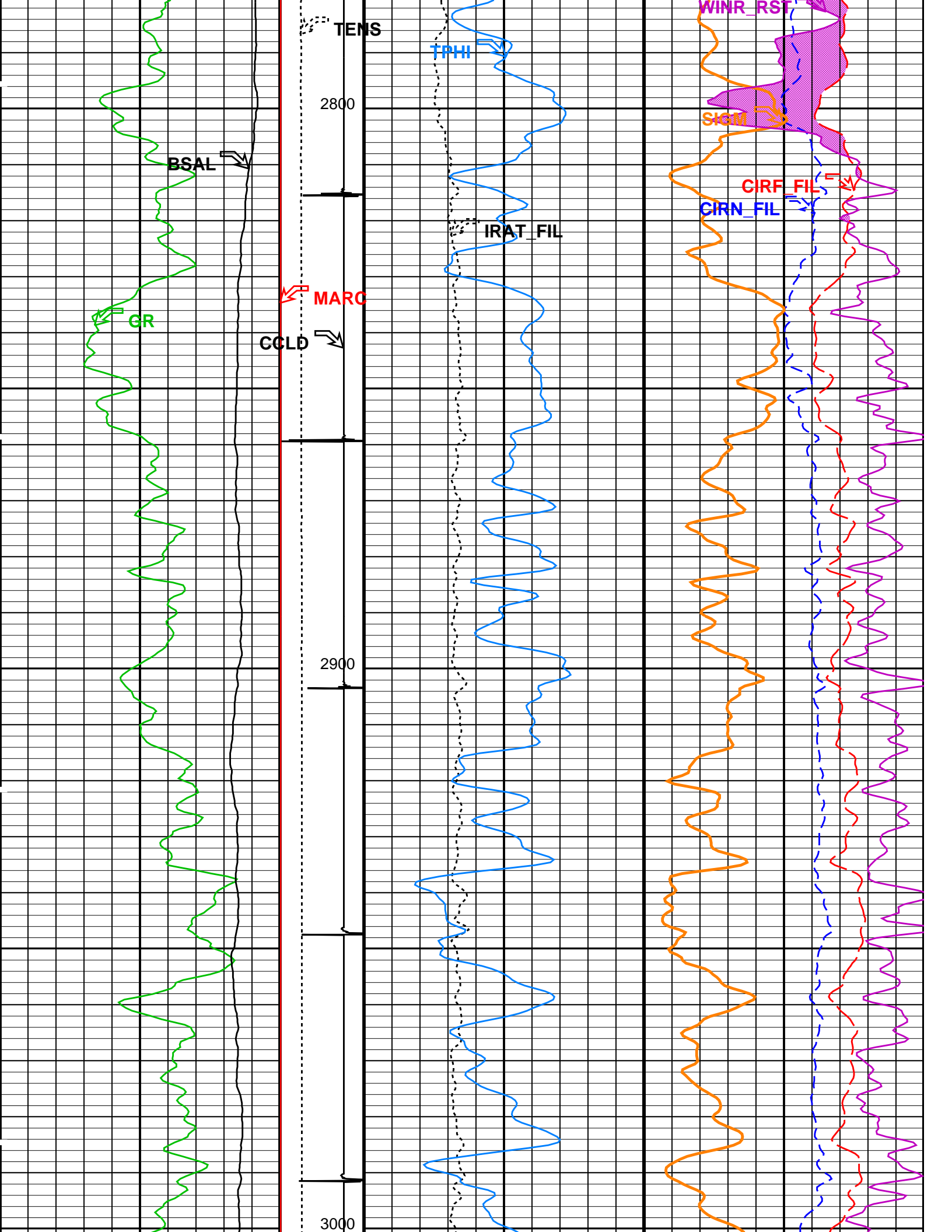


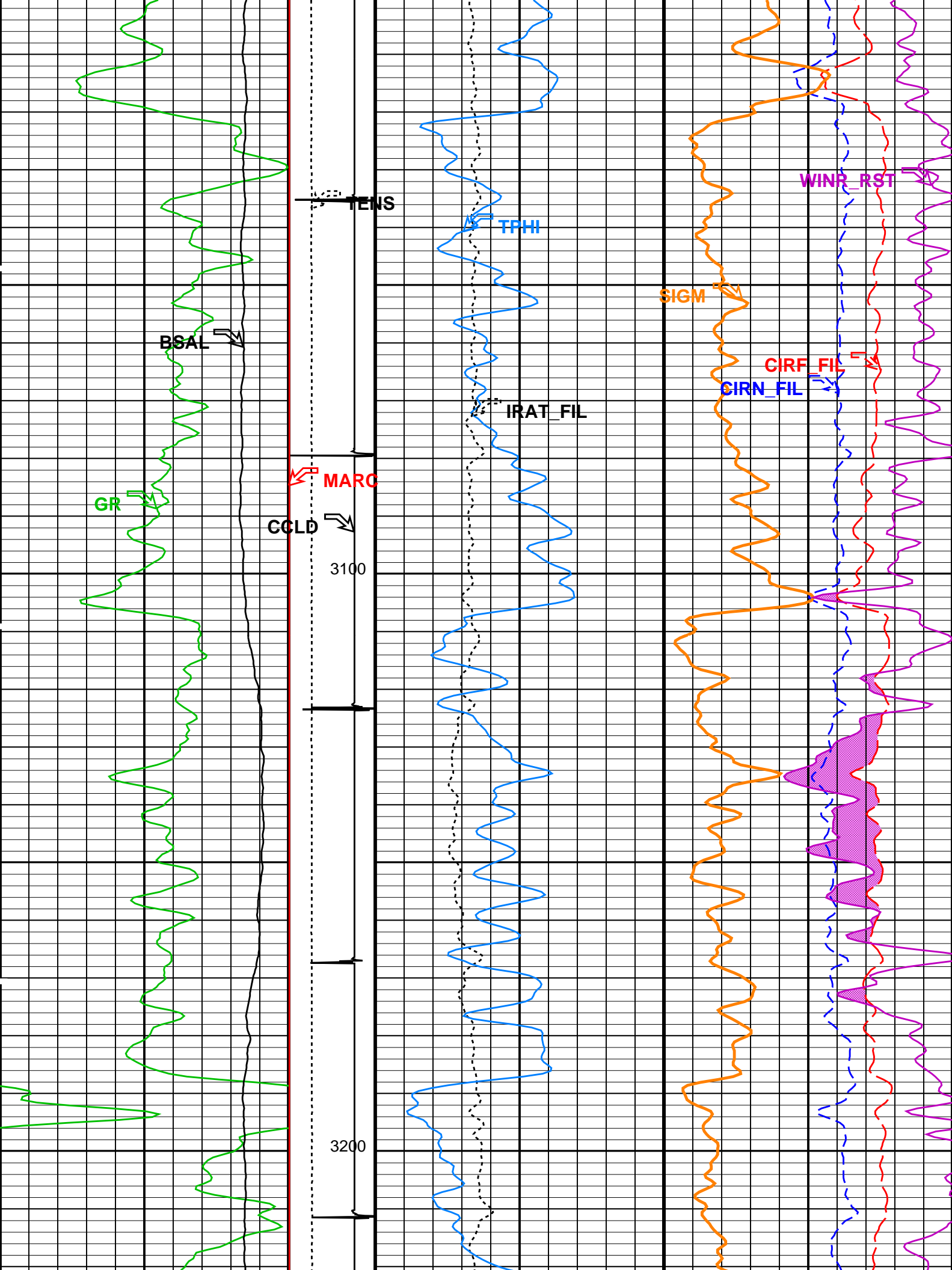


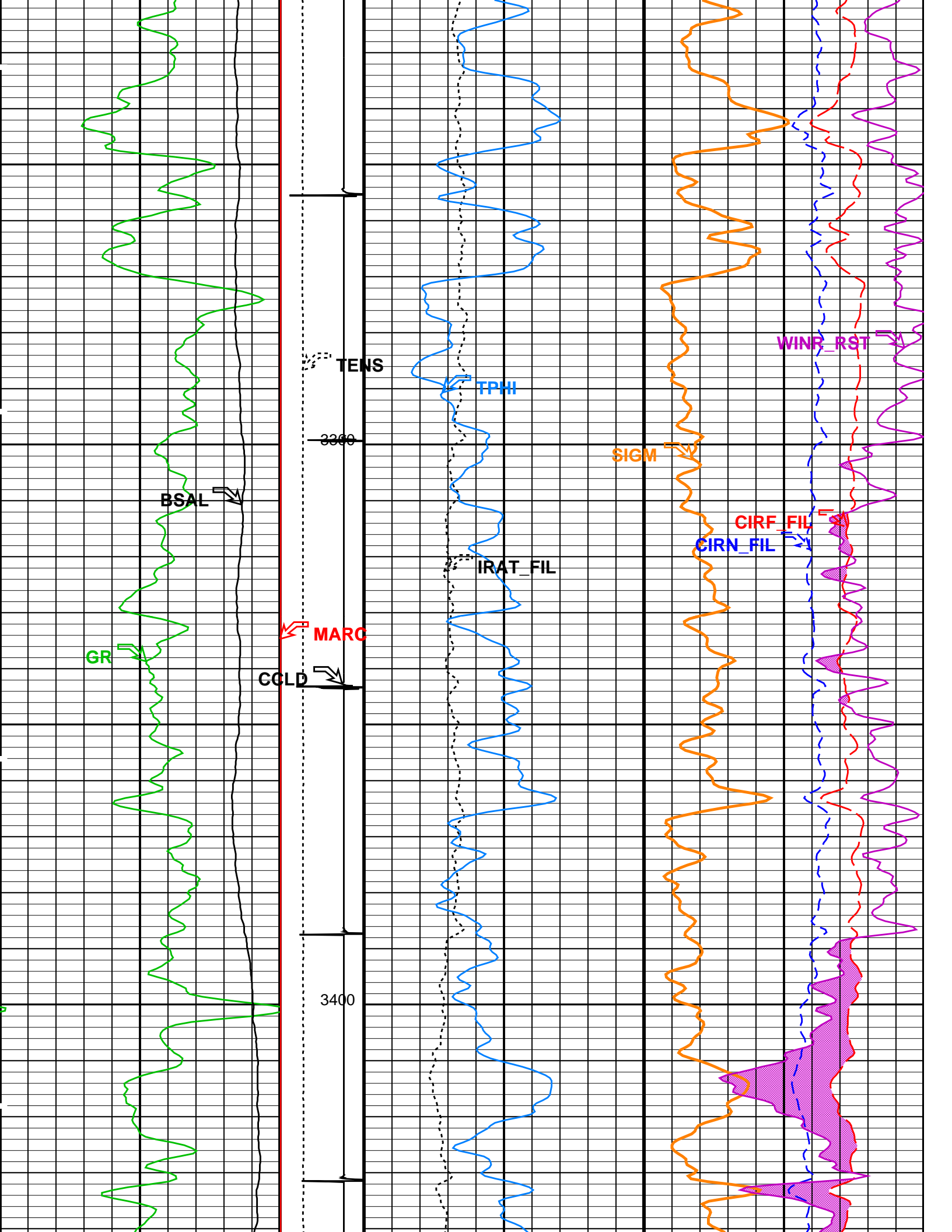


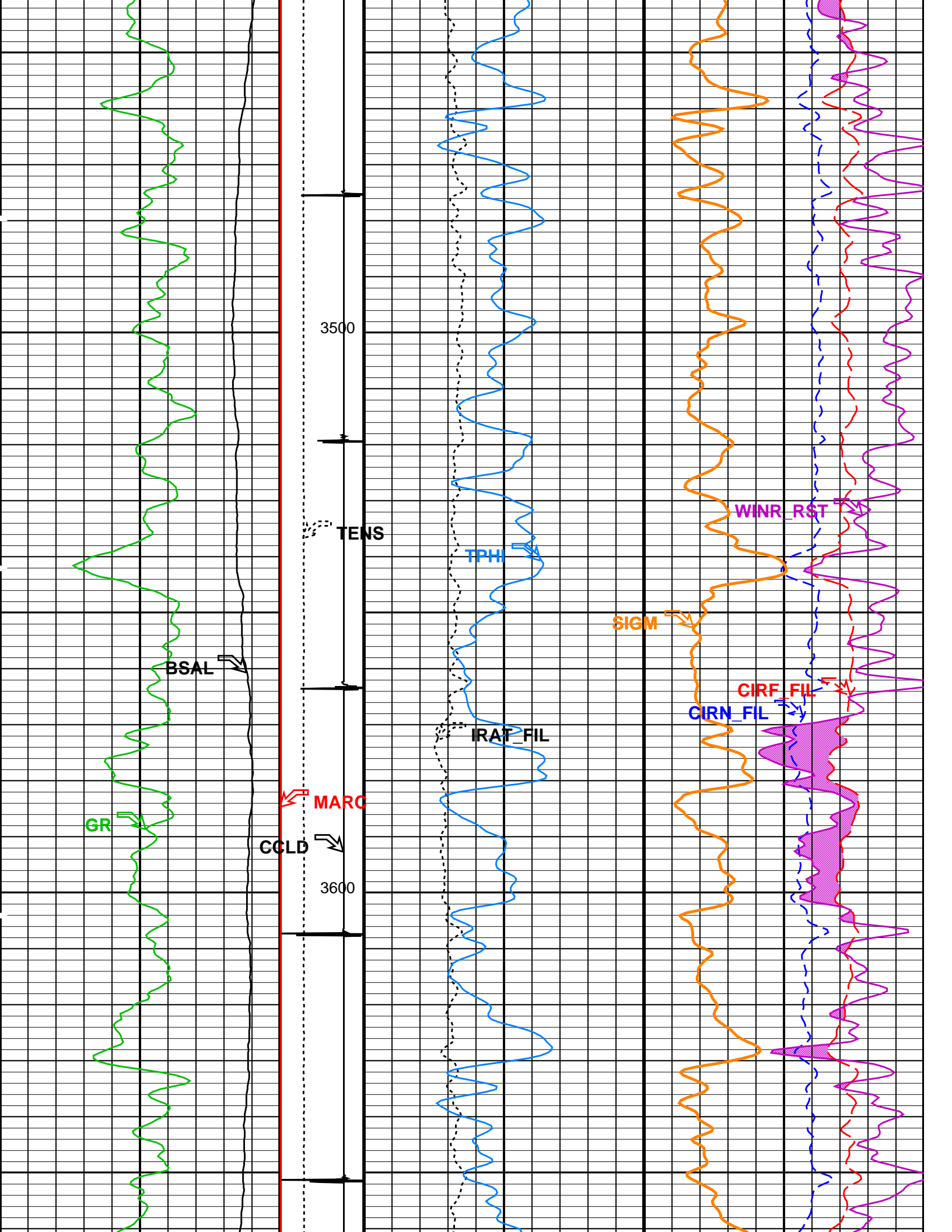


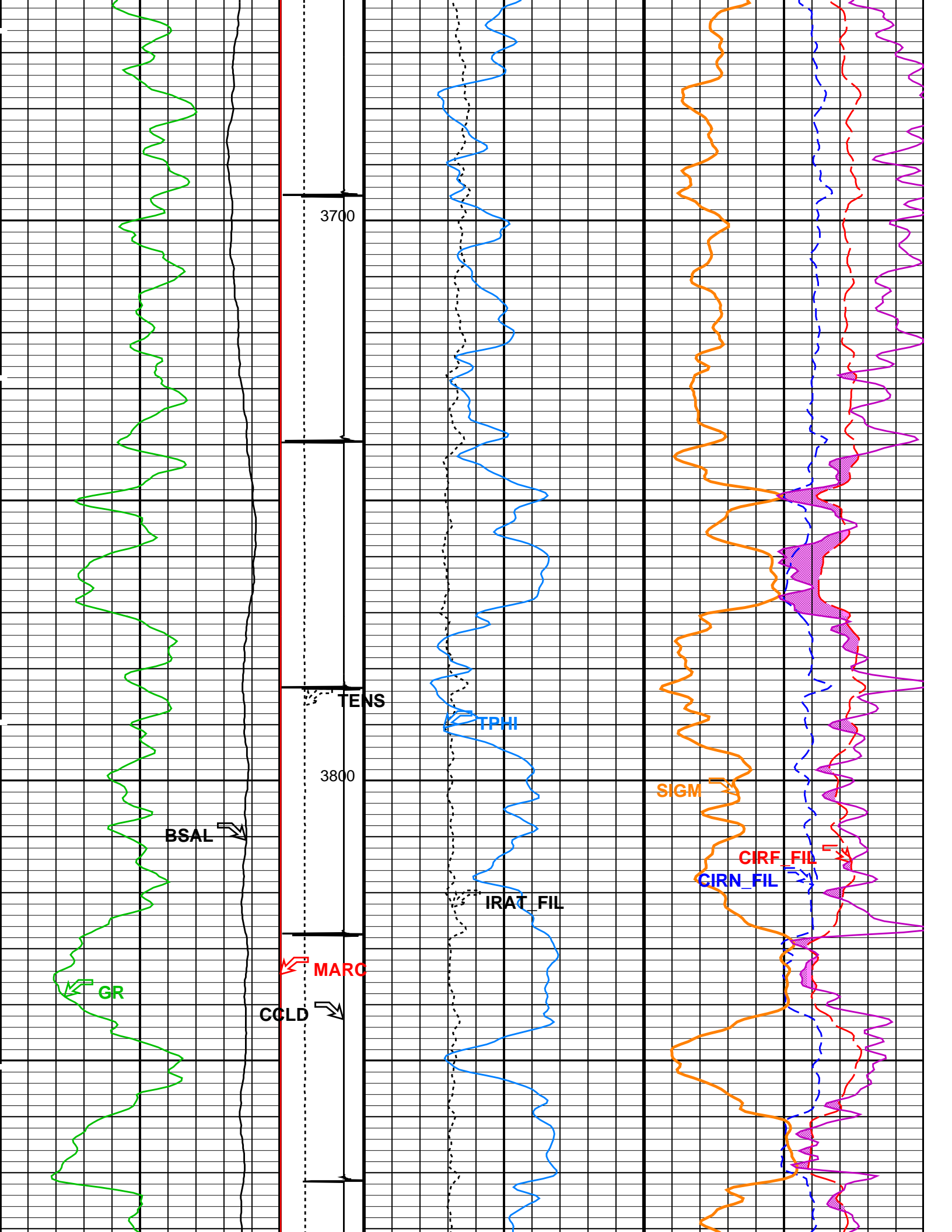


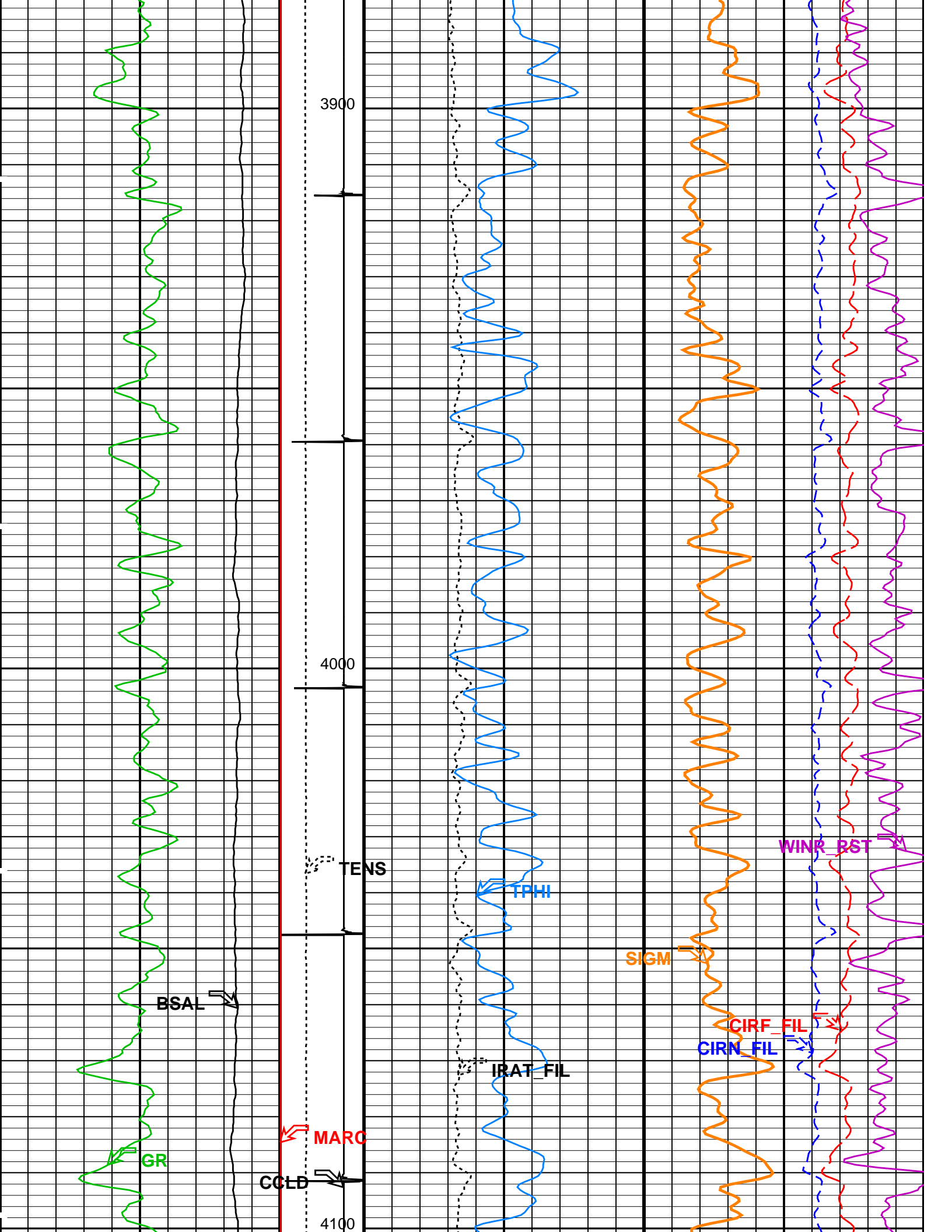


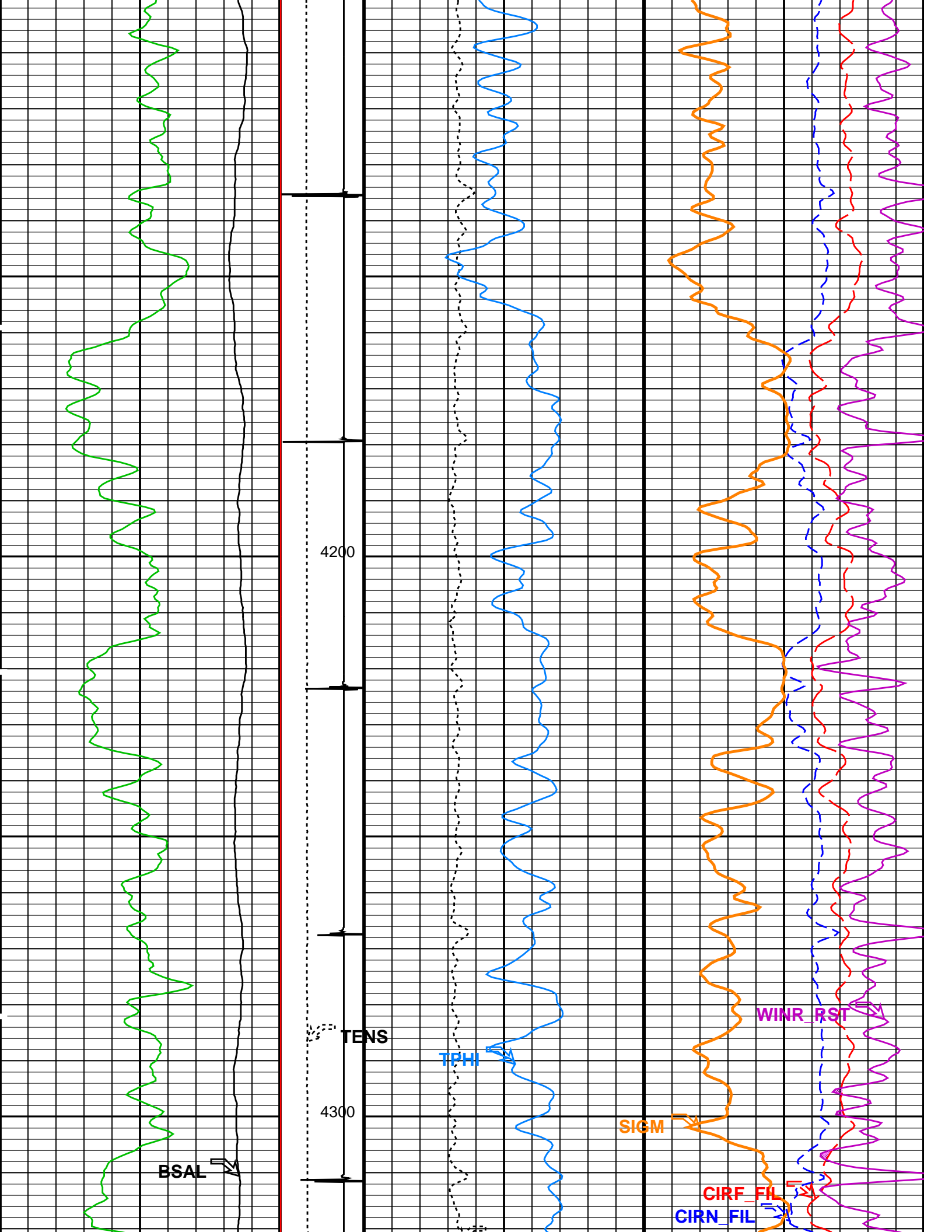


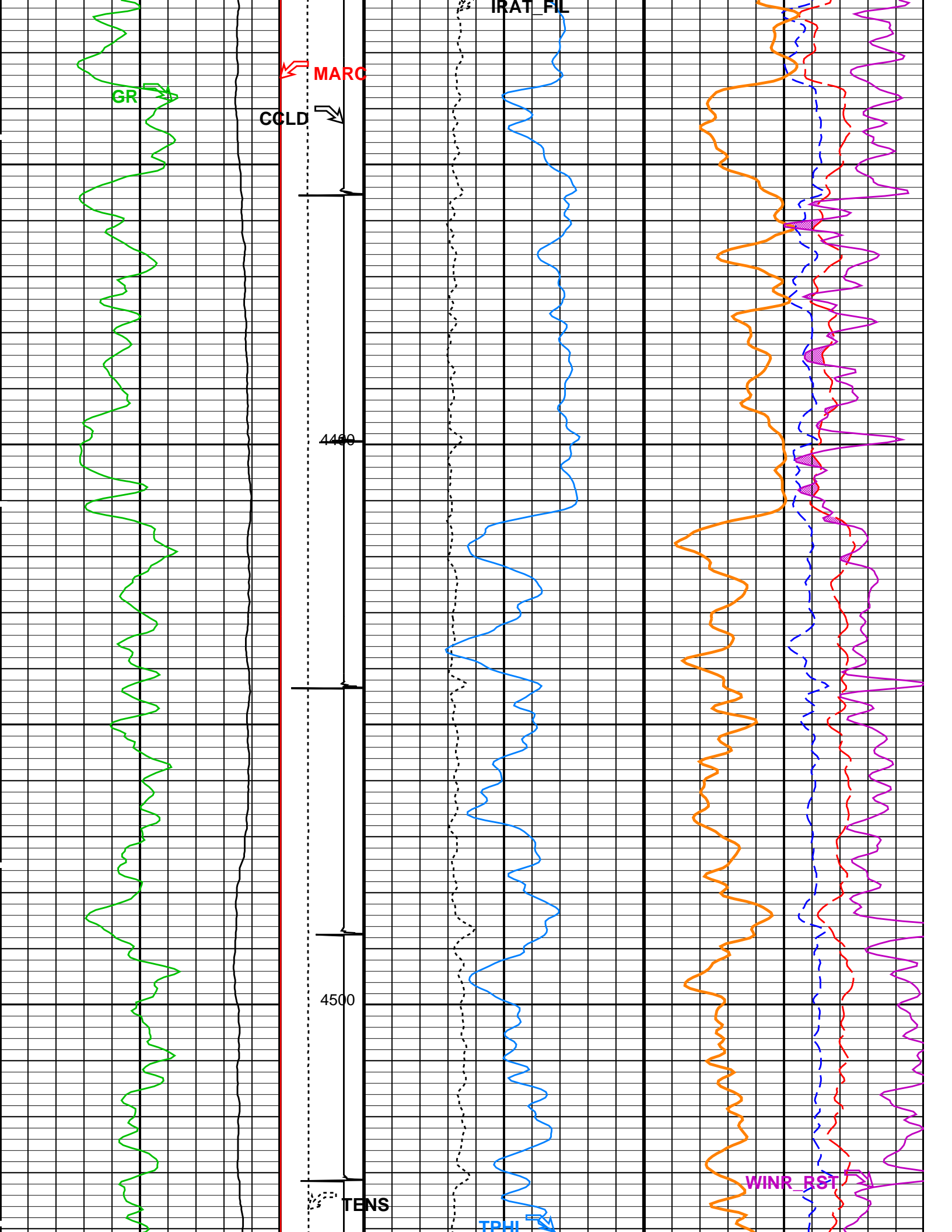


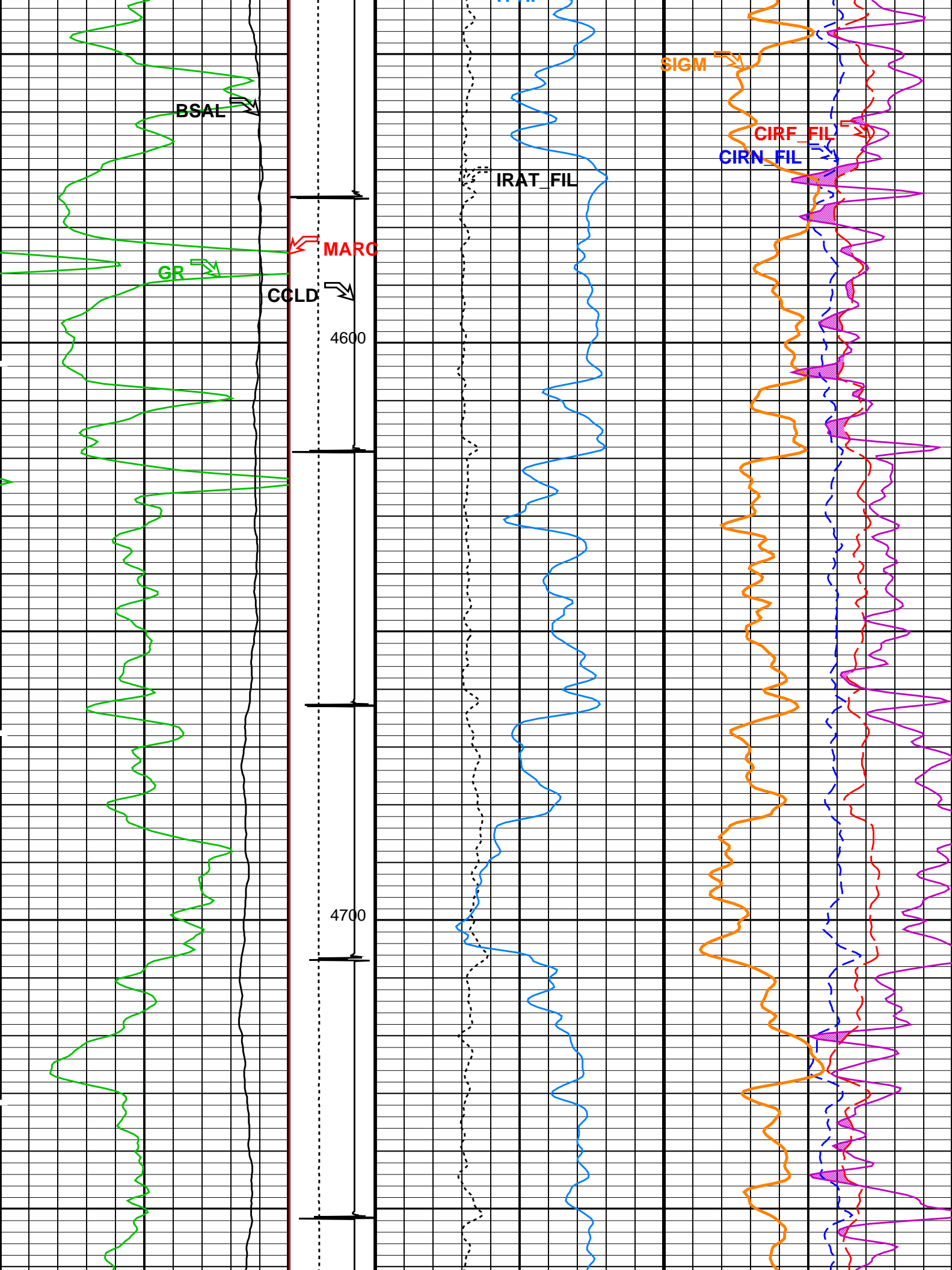


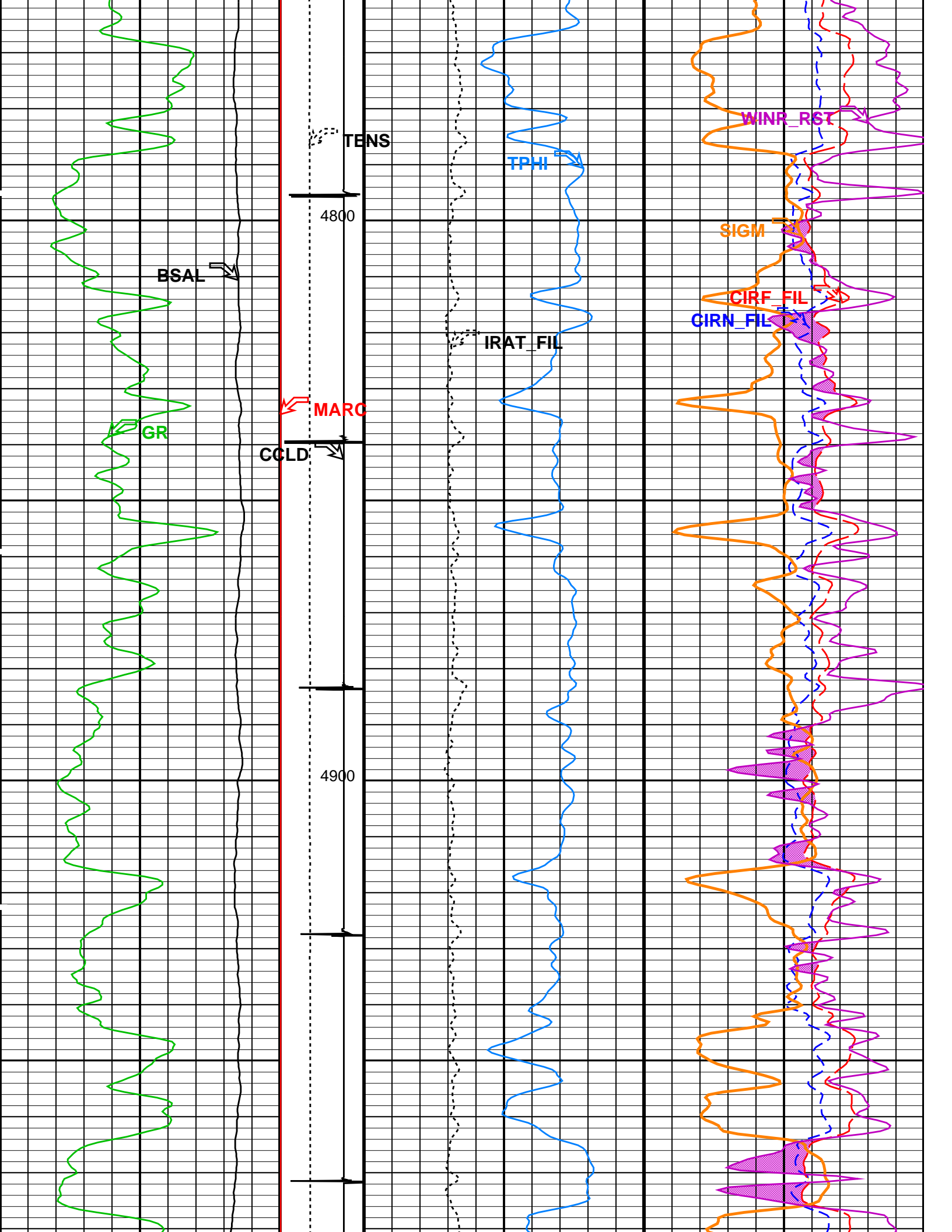


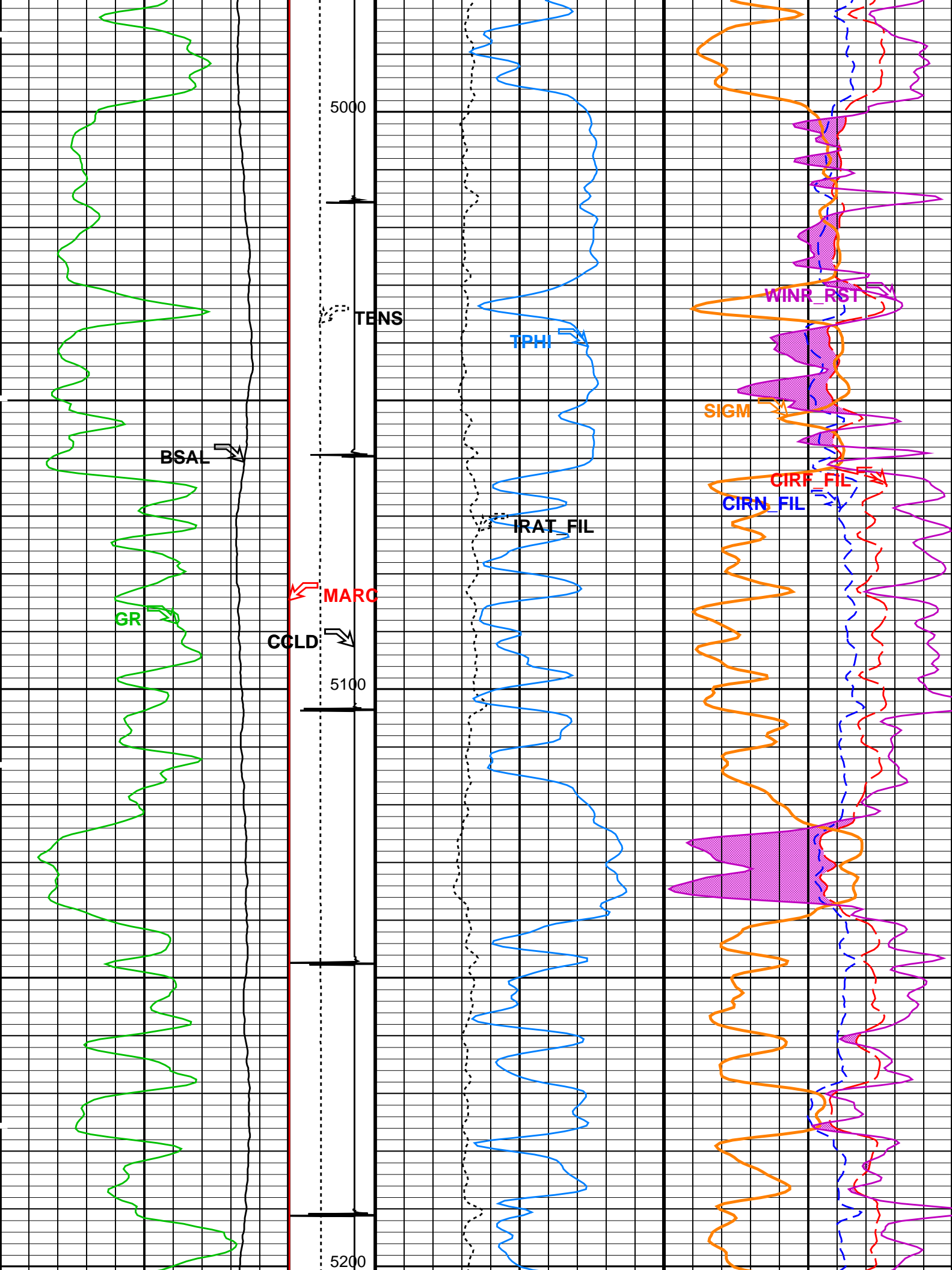


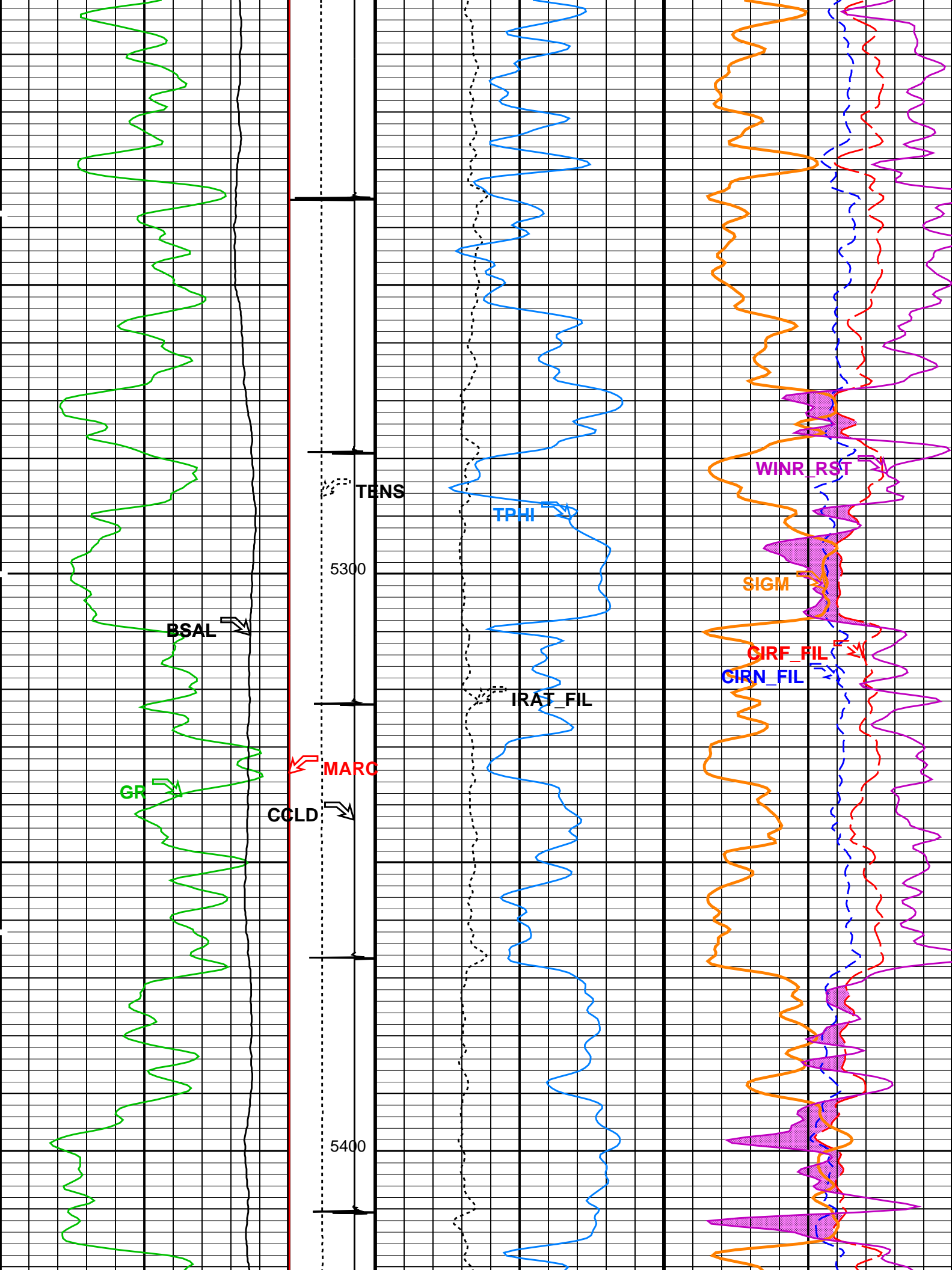


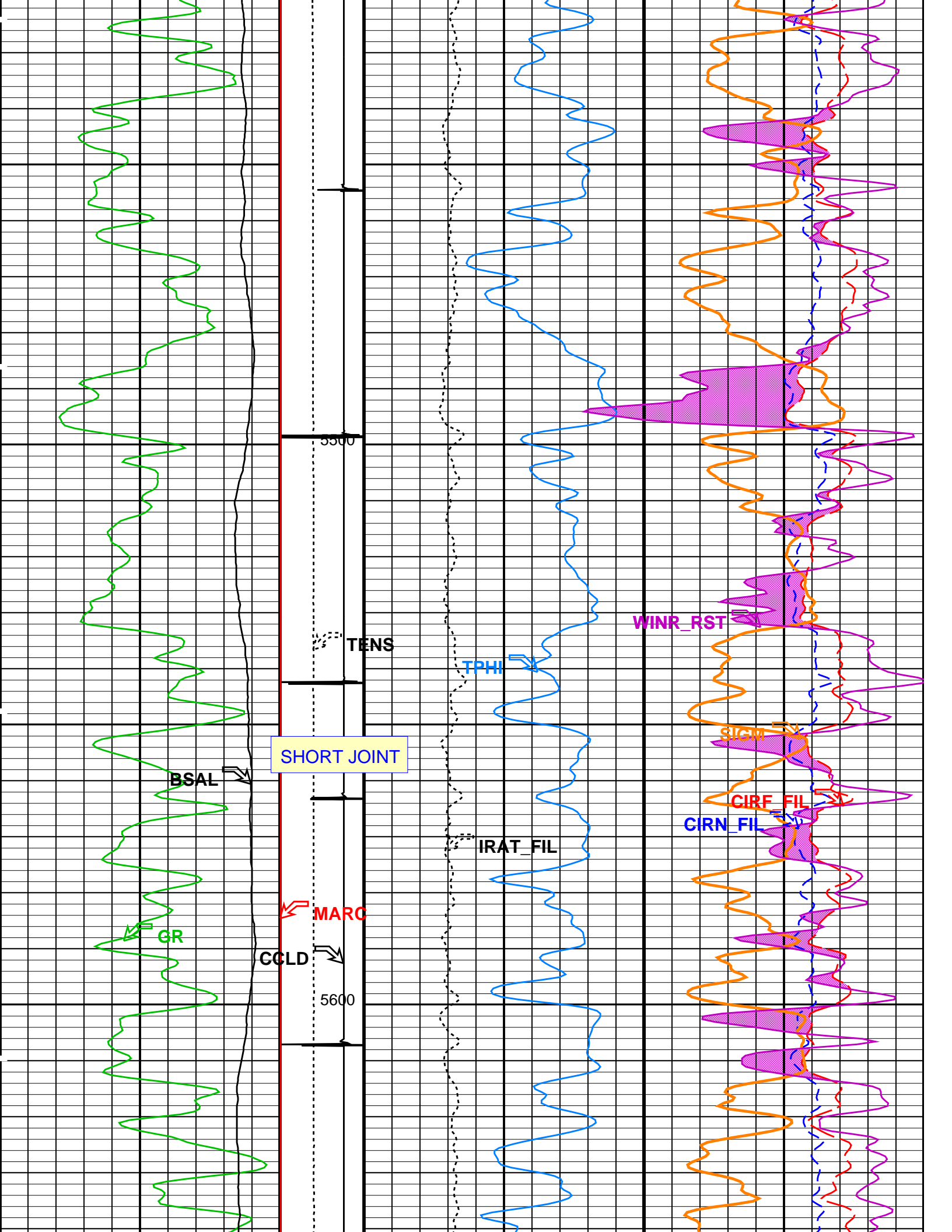


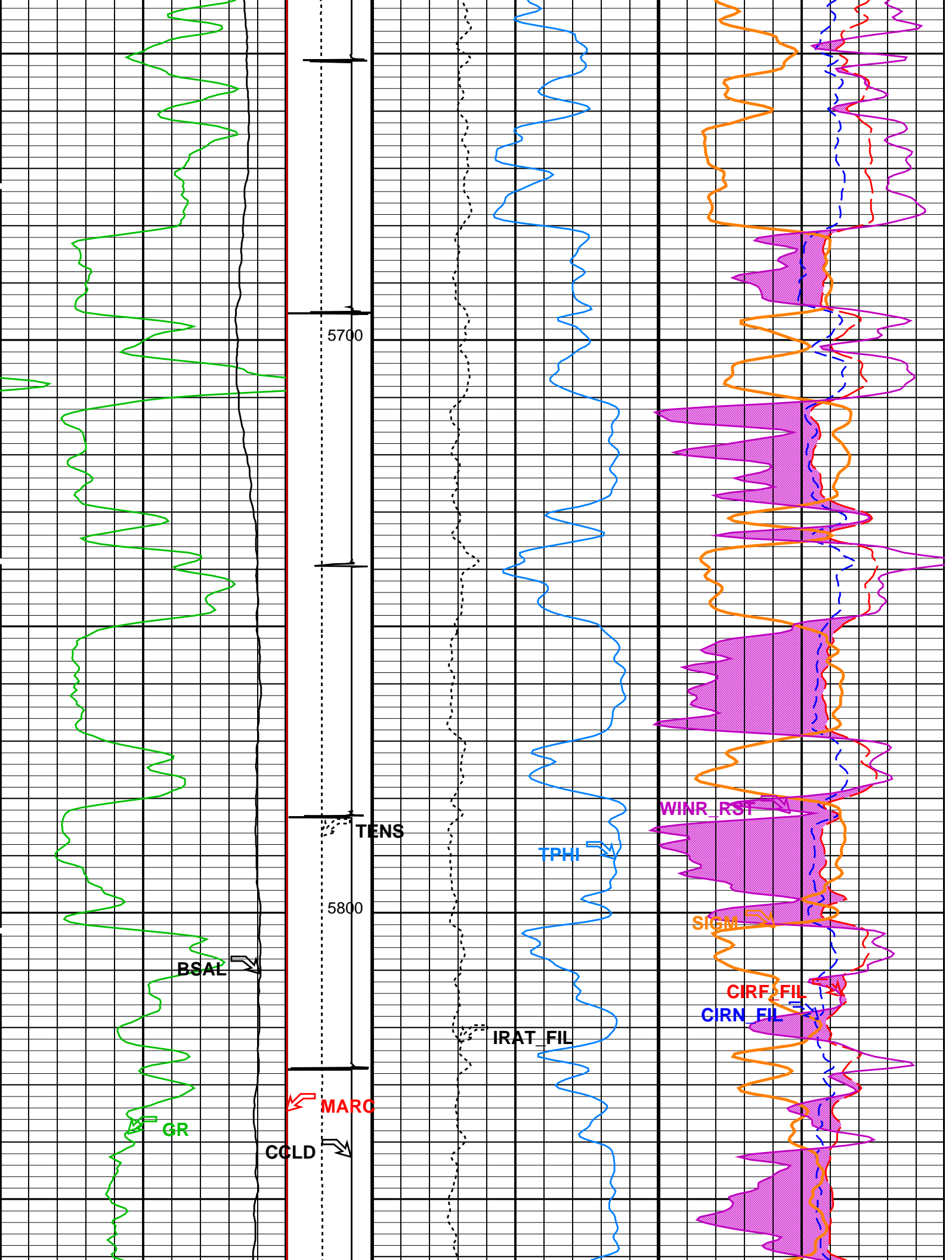


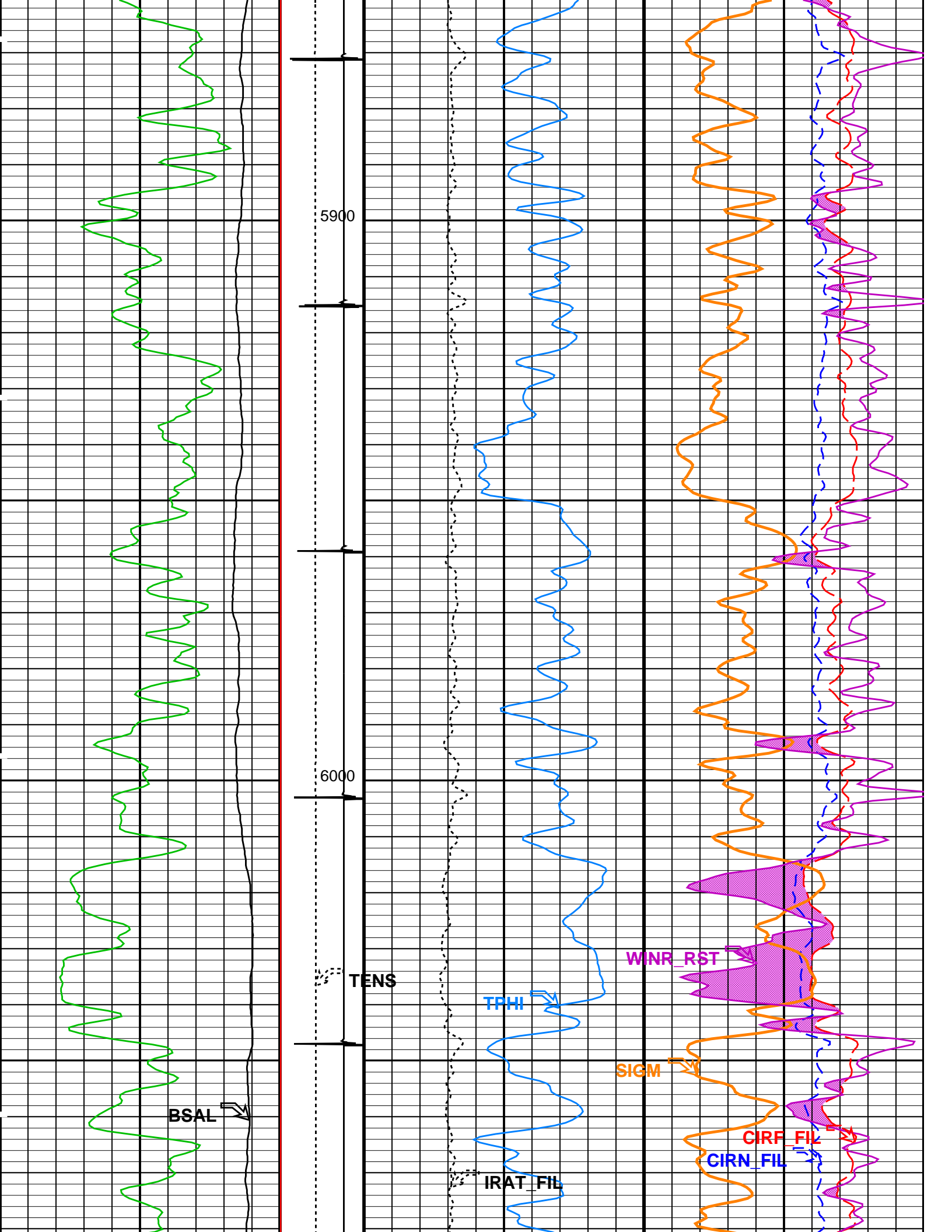


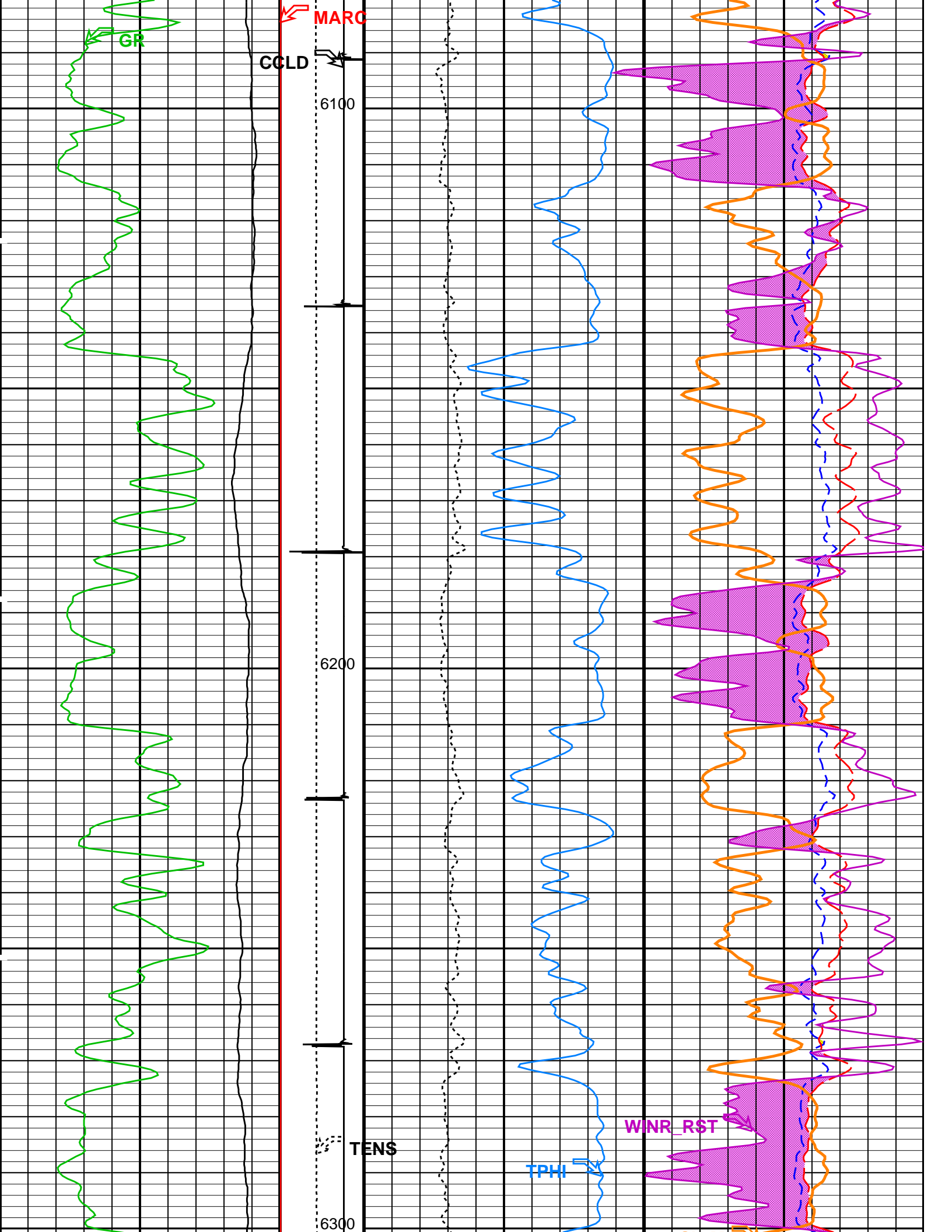


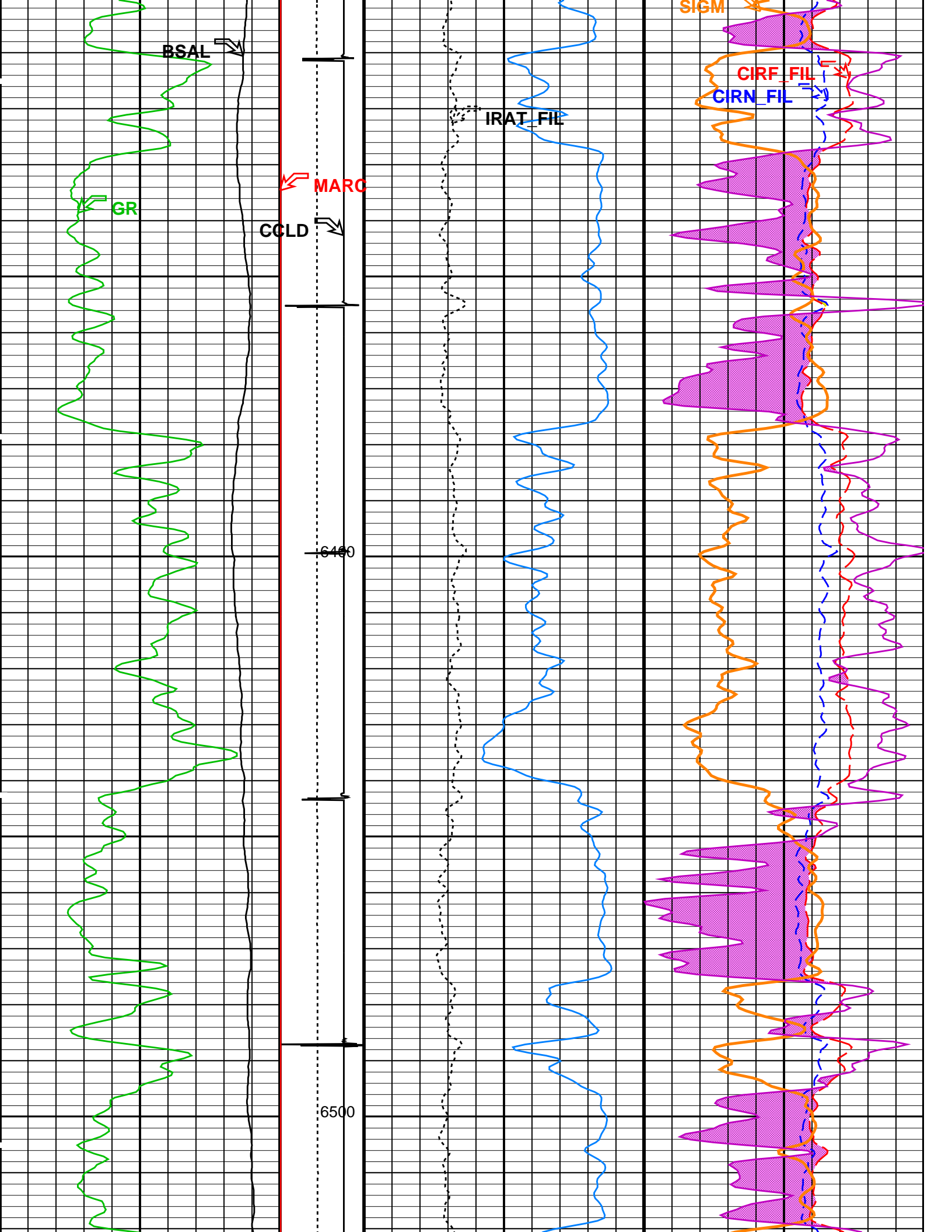


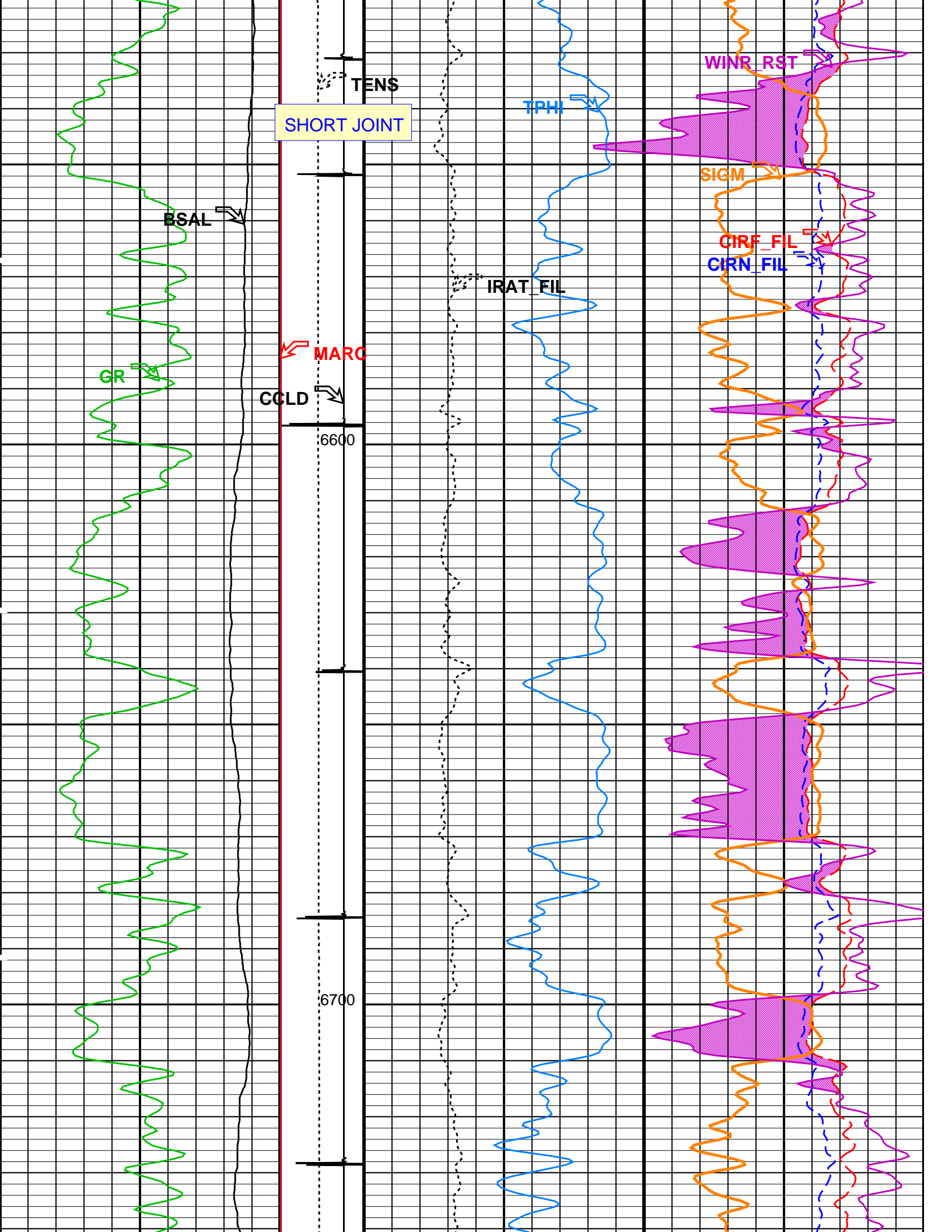


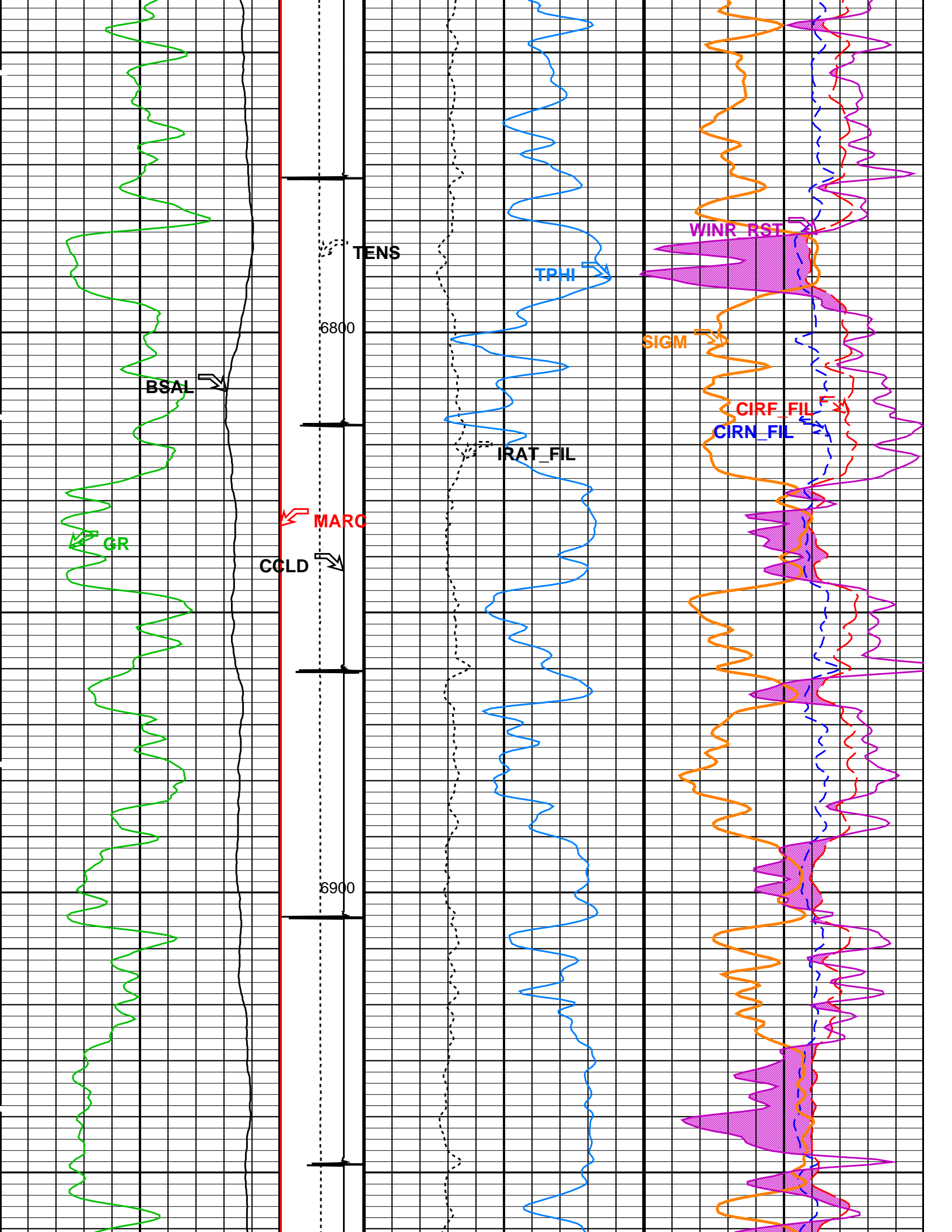


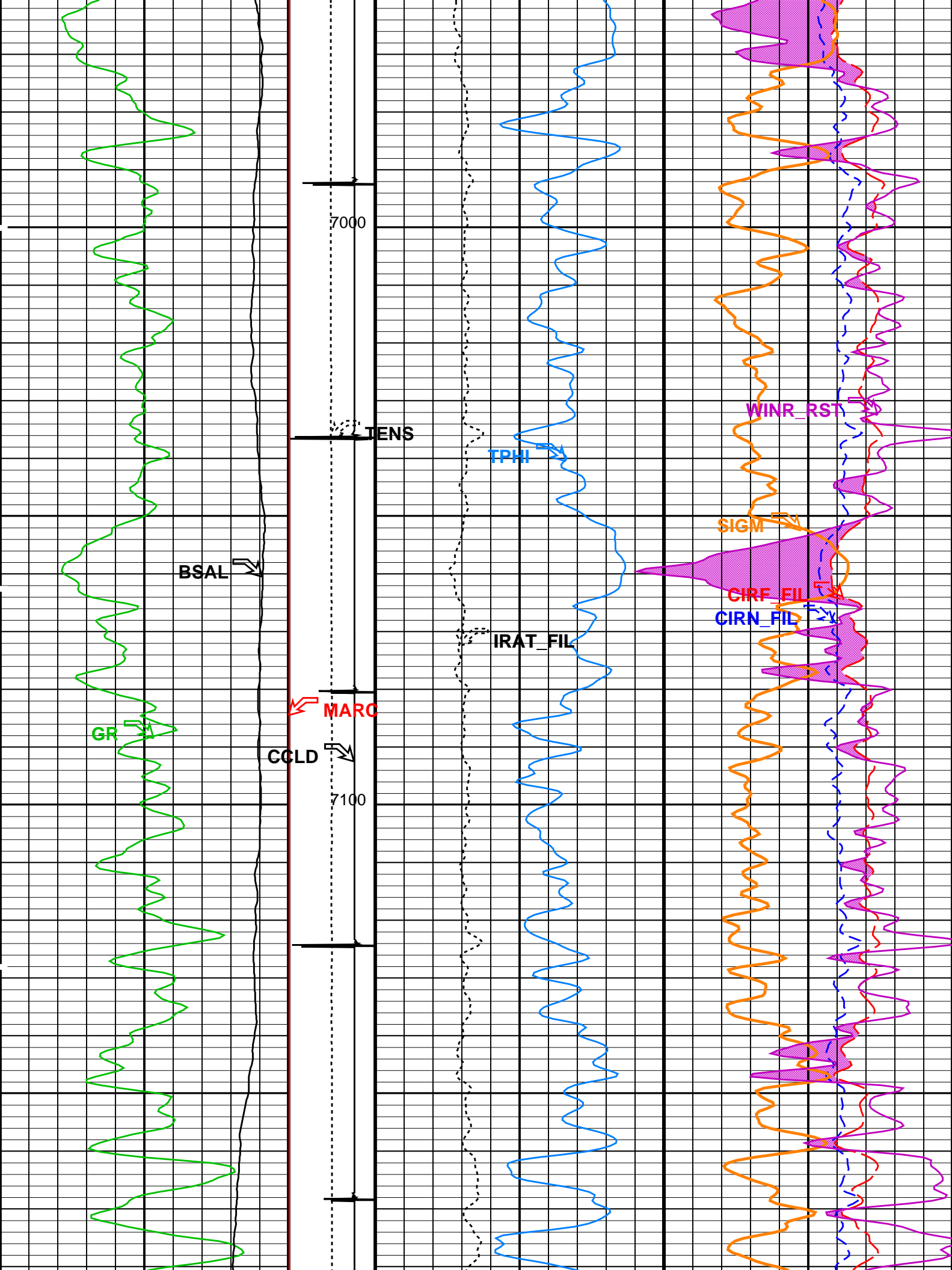


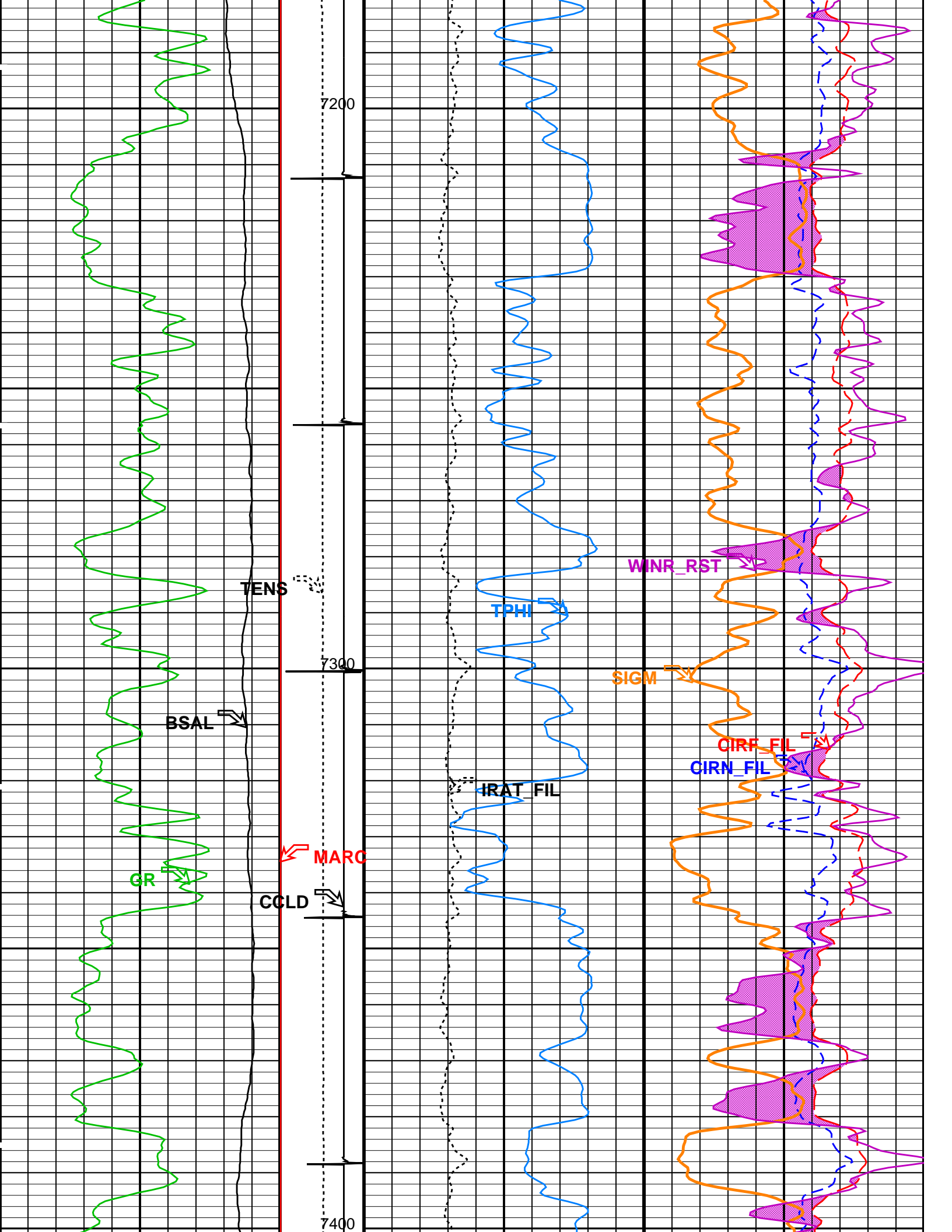


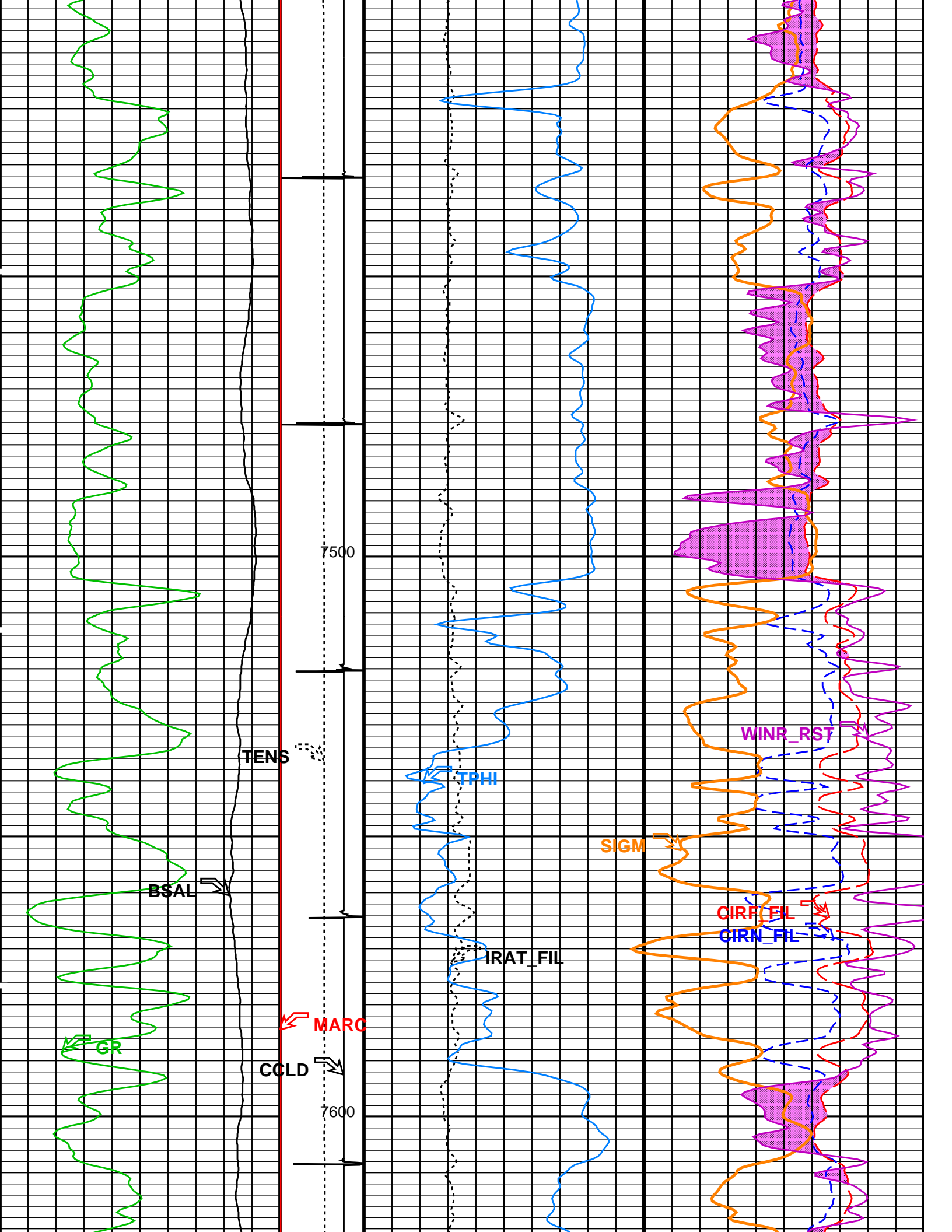


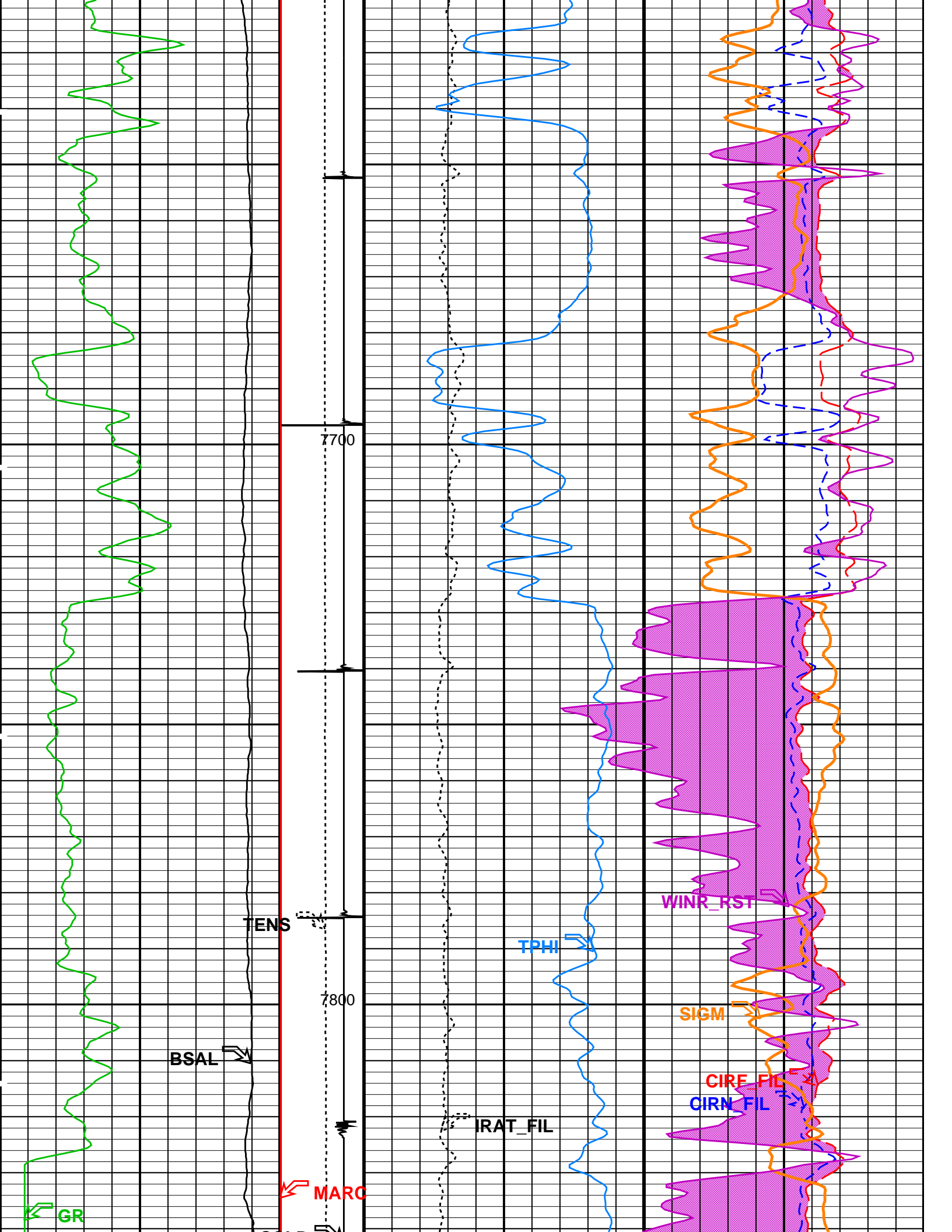


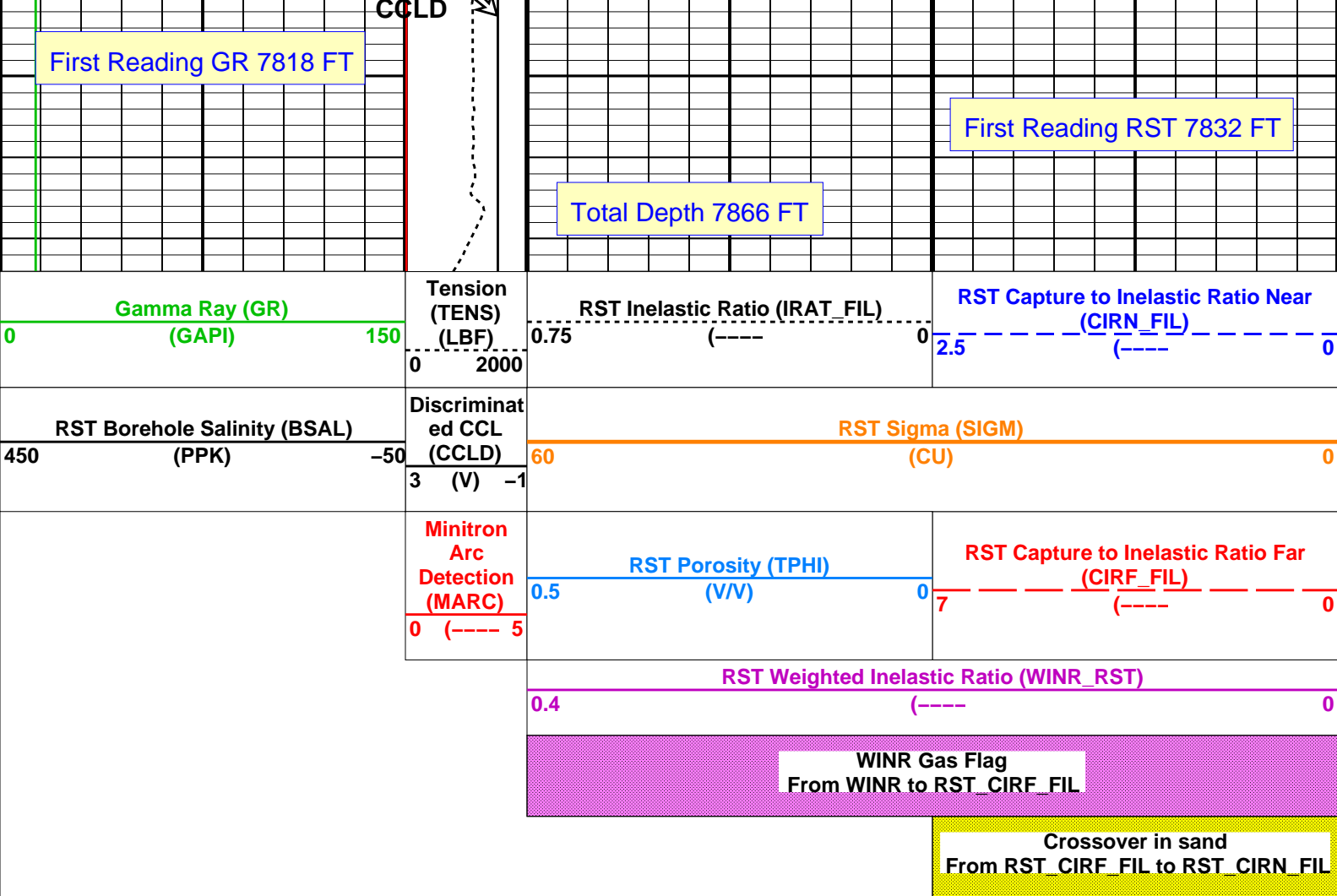












PIP SUMMARY

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	
CMTPT	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

AIRB	Tractor Available in Tool String	NO	
BHS	RST Air Borehole	No	
BHT	Borehole Status	CASED	
BSALOPT	Bottom Hole Temperature (used in calculations)	212	DEGF
BSFL	RST Borehole Salinity Option	Unknown	
CSID	RST Borehole Salinity Filter Length	51	
DFPC	Casing Size I.D.	3.998	IN
DFPC_TDTL	RST Depth Filter Processing Constant	One	
GCSE	RST Depth Filter Processing Constant (TDT-like)	Two	
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	
NORM_IRAT_RST	Rock Matrix for Neutron Porosity Corrections	SANDSTONE	
NORM_SIGM_RST	RST Normalized Inelastic Ratio	0.48	
PTIER	RST Normalized Sigma	30	CU
PVL_PSNT_PRST	RST Tiered Presentation Selection	0_Customer	
RGAI	PVL Peak Signal/Noise Threshold	3	
SHT	Near/Far Gain Calibration Ratio	1	
TIER_IC	Surface Hole Temperature	68	DEGF
TIER_SIGM	RST IC Acquisition Mode	0_CO_Yield_and_Spectrolith	
WOFSL_PRST	RST Sigma Acquisition Mode	0_RST_Sigma	
WONSL_PRST	RST WFL-Off Subcycle Length	0	
WSCOM_PRST	RST WFL-On Subcycle Length	0	
	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	DB12	
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	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	7866	FT
TDD	Total Depth - Driller	7940.00	FT
TDL	Total Depth - Logger	7866.00	FT
TWS	Temperature of Connate Water Sample	100.00	DEGF

Format: RST\_SIGMA\_S5 Vertical Scale: 5" per 100'

Graphics File Created: 09-Jun-2013 23:14

## 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\_033LUP FN:32 PRODUCER 09-Jun-2013 21:06 7870.0 FT 4.0 FT

## Output DLIS Files

DEFAULT SCMT\_RST\_PSP\_036PUP FN:35 PRODUCER 09-Jun-2013 23:14

MAXIS Field Log

## Input DLIS Files

DEFAULT	SCMT_RST_PSP_030LUP	FN:29	PRODUCER	09-Jun-2013 20:50	5740.0 FT	5431.0 FT
DEFAULT	SCMT_RST_PSP_036PUP	FN:35	PRODUCER	09-Jun-2013 23:14	7874.0 FT	-36.5 FT

## Output DLIS Files

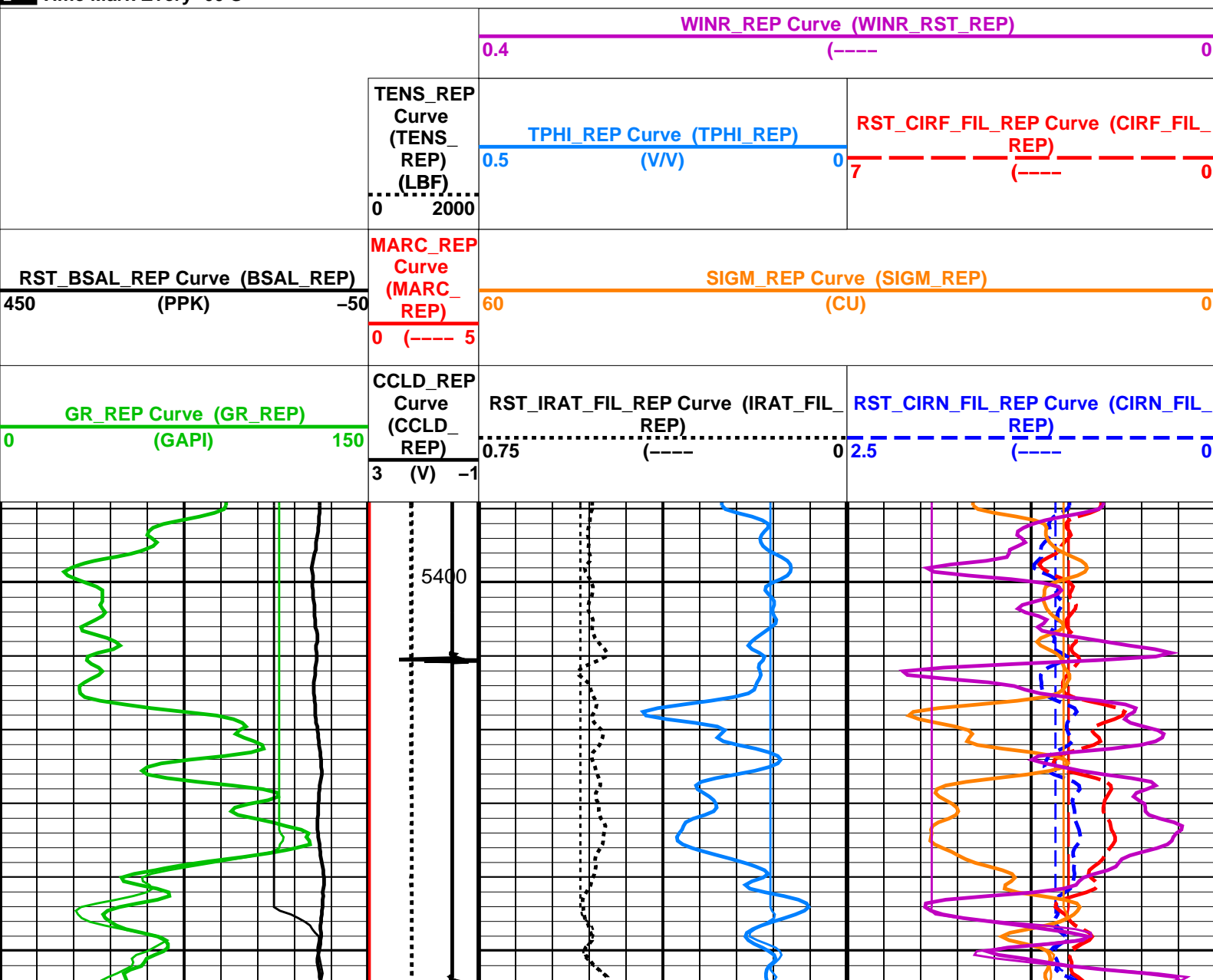
DEFAULT	SCMT_RST_PSP_039PUP	FN:38	PRODUCER	09-Jun-2013 23:22	5742.0 FT	5388.5 FT
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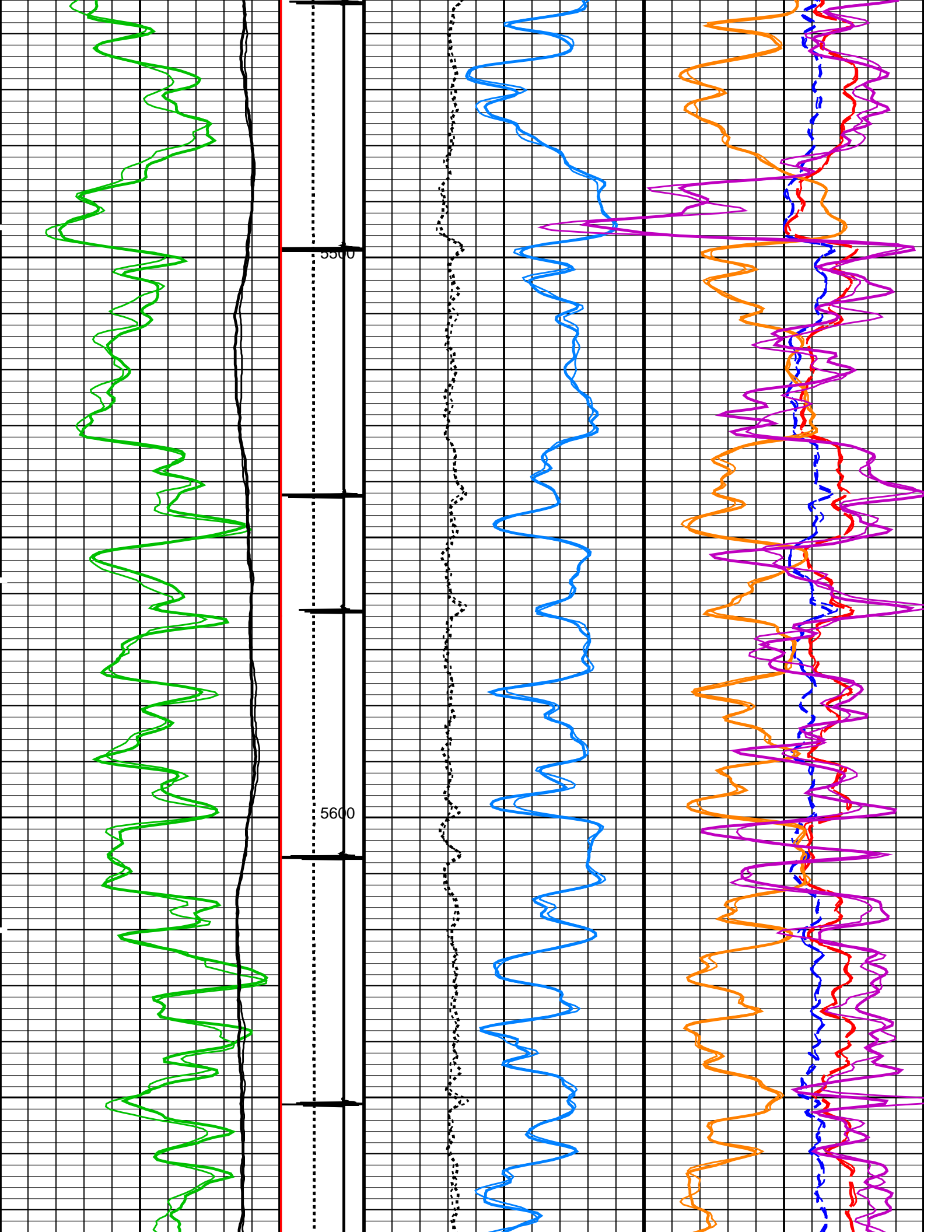
## OP System Version: 19C0-187

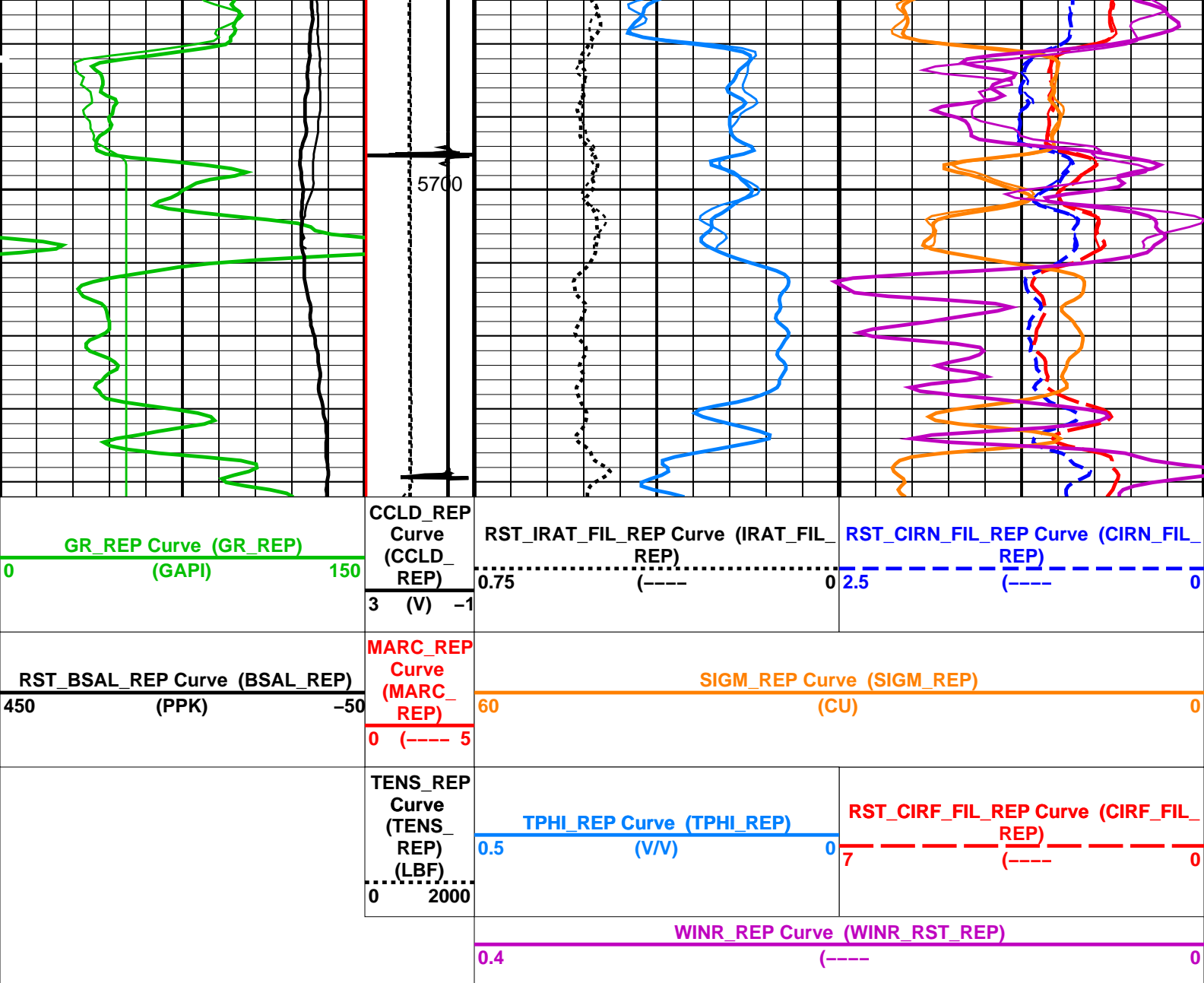
SCMT-CB PSPT	SRPC-5214-H2-2012-OP1; SRPC-5214-H2-2012-OP1;	RST-C	SRPC-5214-H2-2012-OP1;
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## PIP SUMMARY

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.	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	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	DB12	
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	2.0	FT
DORL	Depth Offset for Repeat Analysis	0.0	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	7866	FT
TDD	Total Depth - Driller	7940.00	FT
TDL	Total Depth - Logger	7866.00	FT
TWS	Temperature of Connate Water Sample	100.00	DEGF

Format: RST\_SIGMA\_S5\_REP      Vertical Scale: 5" per 100'      Graphics File Created: 09-Jun-2013 23:22

## 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\_030LUP      FN:29      PRODUCER      09-Jun-2013 20:50      5740.0 FT      5431.0 FT

Output DLIS Files



PBMS COEFFICIENTS

MAXIS Field Log

Client:ENCANA OIL & GAS (USA) INCField:PARACHUTEWell:FEDERAL 21-2B (PH21)Run date:9-Jun-2013

Tool:PSPSub Type:PBMSSensor:Clock Model

PBMS Digitalization Clock

Sonde Serial NB

Sensor Serial NB3779

Calib Date ddmmyy090107

Matrix Size16

Coeff CRCD285

Clock Coeff

	Temp**0	Temp**1	Temp**2
Temp**0	-.210501098404E+03	-.537713340627E+01	-.752421519422E-01
	Temp**3	Temp**4	Temp**5
Temp**0	+.630273975887E-03	+.266728381738E-05	0.0

PBMS Sapphire 10kPsi Gauge

Sonde Serial NB

Sensor Serial NB

Calib Date ddmmyy

Matrix Size

Coeff CRC

3779

090107

66

4C82

COEFFICIENTS FOR SAPPHIRE PBMS–A.3779 S/N:

Pres Coeff

	Tt**0	Tt**1	Tt**2
Tp**0	–.611876617639E+04	+.471061007964E+04	–.216447354932E+04
Tp**1	+.371836126905E+04	–.234756196935E+04	+.129149325686E+04
Tp**2	+.193143980957E+02	–.189348218853E+01	–.341812471126E+01
Tp**3	–.568815065386E+01	+.200079683569E+01	0.0
Tp**4	0.0	0.0	0.0
Tp**5	0.0	0.0	0.0
	Tt**3	Tt**4	Tt**5
Tp**0	+.380249508124E+03	–.247683004908E+02	0.0
Tp**1	–.227135245080E+03	+.146352372057E+02	0.0
Tp**2	0.0	0.0	0.0
Tp**3	0.0	0.0	0.0
Tp**4	0.0	0.0	0.0
Tp**5	0.0	0.0	0.0

PBMS Sapphire 10kPsi Gauge

Sonde Serial NB

Sensor Serial NB

Calib Date ddmmyy

Matrix Size

Coeff CRC

3779

090107

66

C39E

:

Temp Coeff

	Tp**0	Tp**1	Tp**2
Tt**0	–.278275571347E+03	+.251216271916E+01	–.820715649824E+00
Tt**1	+.598349067015E+02	–.107326373545E+01	+.652890183203E–01
Tt**2	+.109160002120E+02	+.262812193556E+00	–.450134240377E–02
Tt**3	–.673302171285E+00	–.213772918779E–01	0.0
Tt**4	0.0	0.0	0.0
Tt**5	0.0	0.0	0.0
	Tp**3	Tp**4	Tp**5
Tt**0	+.151507143209E+00	–.592670012996E–02	0.0

Tt**1	+.127486538512E-01	-.437897076104E-02	0.0
Tt**2	0.0	0.0	0.0
Tt**3	0.0	0.0	0.0
Tt**4	0.0	0.0	0.0
Tt**5	0.0	0.0	0.0

Client:	ENCANA OIL & GAS (USA) INC	Tool:	PSP
Field:	PARACHUTE	Sub Type:	PBMS
Well:	FEDERAL 21-2B (PH21)	Sensor:	GR
Run date:	9-Jun-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.34552,TOOL PBMS-AA3779. SENSOR S/N:

34552

030606

12

3AE5

Rt\*\*0

Rt\*\*1

Rt\*\*0

+.200000000000e+04

+.214000000000e+04

Client:	ENCANA OIL & GAS (USA) INC	Tool:	PSP
Field:	PARACHUTE	Sub Type:	PBMS
Well:	FEDERAL 21-2B (PH21)	Sensor:	WellTemp RTD
Run date:	9-Jun-2013		

PBMS RTD Well Thermometer			
Sonde Serial NB	COEFFICIENTS FOR RTD THERMOMETER PBMS-A.3779 S/N:		

Sensor Serial NB

3779

Calib Date ddmmyy

090107

Matrix Size

16

Coeff CRC

3846

WTemp Coeff

	Tt**0	Tt**1	Tt**2
Tt**0	+.492135102627E+02	-.278827553804E+03	+.142867554561E+03
	Tt**3	Tt**4	Tt**5
Tt**0	-.233378392336E+02	+.145553494493E+01	0.0

Company: ENCANA OIL & GAS (USA) INC

Schlumberger

Well: FEDERAL 21-2B (PH21)  
Field: PARACHUTE  
County: GARFIELD  
State: COLORADO

RESERVOIR SATURATION LOG  
SIGMA MODE  
GAMMA-RAY-CCI