REC'D OCT 14 2011

Schlumberger

Company: **OXY US LA BASIN**

CONFIDENTIAL

Well: **DOM-001**
Field: **Dominguez**
County: **Los Angeles** State: **California**

County: Los Angeles
Field: Dominguez
Location: SURFACE LAMBERT COORDIN
Well: DOM-001
Company: OXY US LA BASIN

ELECTRON CAPTURE SPECTROSCOPY
GAMMA RAY TIE IN

LOCATION

SURFACE LAMBERT COORDINATES		Elev.: K.B.	194.09 ft
N: 4 062 754.8		G.L.	168.97 ft
E: 4 214 067.32		D.F.	194.09 ft
Permanent Datum:	GROUND LEVEL	Elev.:	168.97 ft
Log Measured From:	DERRICK FLOOR	25.03 ft	above Perm. Datum
Drilling Measured From:	DERRICK FLOOR		

API Serial No.	Section	Township	Range
037-27124	33	3S	13W

	Run 1	Run 2	Run 3
Logging Date	11-Dec-2010		
Run Number	TWO		
Depth Driller	8508 ft		
Schlumberger Depth	8517 ft		
Bottom Log Interval	8511 ft		
Top Log Interval	1995 ft		
Casing Driller Size @ Depth	13.375 in @ 1997 ft	@	@
Casing Schlumberger	1995 ft		
Bit Size	12.250 in		
Type Fluid In Hole	8% KCL - GELITE		
MUD Density / Viscosity	10 lbm/gal / 48 s		
MUD Fluid Loss / PH	4.2 cm3 / 7.6		
MUD Source Of Sample	FLOWLINE		
RM @ Measured Temperature	0.107 ohm.m @ 91 degF	@	@
RMF @ Measured Temperature	0.103 ohm.m @ 84 degF	@	@
RMC @ Measured Temperature	0.177 ohm.m @ 84 degF	@	@
Source RMF / RMC	MUD PRESS / MUD PRESS		
RM @ MRT / RMF @ MRT	0.051 @ 198 / 0.046 @ 198	@ / @	@ / @
Maximum Recorded Temperatures	198 degF		
Circulation Stopped / Time	10-Dec-2010 / 22:00		
Logger On Bottom / Time	11-Dec-2010 / 11:28		
Unit Number / Location	2363 / BAKERSFIELD		
Recorded By	JARROD LONG		
Witnessed By	MARIEKE GAUDET		

DEPTH SUMMARY LISTING

Date Created: 11-DEC-2010 17:49:06

Depth System Equipment

Depth Measuring Device		Tension Device		Logging Cable	
Type:	IDW-B	Type:	CMTD-B/A	Type:	7-48A SUS
Serial Number:	5905	Serial Number:	1377	Serial Number:	708176
Calibration Date:	02-DEC-2010	Calibration Date:	02-DEC-2010	Length:	20300 FT
Calibrator Serial Number:	33	Calibrator Serial Number:	6250	Conveyance Method:	Wireline
Calibration Cable Type:	7-48A SUS	Number of Calibration Points:	10	Rig Type:	LAND
Wheel Correction 1:	-5	Calibration RMS:	23		
Wheel Correction 2:	-5	Calibration Peak Error:	37		

Depth Control Parameters

Log Sequence:	Subsequent Trip To the Well
Reference Log Name:	PLATFORM EXPRESS
Reference Log Run Number:	ONE
Reference Log Date:	14-NOV-2010
Subsequent Trip Down Log Correction:	2.00 FT

Depth Control Remarks

1. ALL SCHLUMBERGER DEPTH CONTROL PROCEDURES FOLLOWED.
2. IDW USED AS PRIMARY DEPTH REFERENCE, Z-CHART USED AS SECONDARY.
3. RULS AND RULB NOT PERFORMED DUE TO SHALLOW CASING DEPTH.
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: PEX-HGNS	OS1:
OS2: FMI-MSIP	OS2:
OS3: CMR-XPT	OS3:
OS4: CST	OS4:
OS5:	OS5:
REMARKS: RUN NUMBER 1	REMARKS: RUN NUMBER 2
SUBSEQUENT TRIP TO WELL	
LOG CORRELATED TO PLATFORM EXPRESS	
DATED 14-NOV-2010	

ECS COOLED TO -15 DEG C
MATRIX: SANDSTONE DENSITY: 2.65 G/CC
TOTAL CHLORIDES: 39400 PPM
MAX TEMP = 198 DEGF
ICV CALCULATED USING FCD = 9.625"

RIG: H&P 262
THANK YOU FOR USING SCHLUMBERGER!

RUN 1			RUN 2		
SERVICE ORDER #:		AUYB-00225	SERVICE ORDER #:		
PROGRAM VERSION:		18C0-147	PROGRAM VERSION:		
FLUID LEVEL:			FLUID LEVEL:		
LOGGED INTERVAL	START	STOP	LOGGED INTERVAL	START	STOP

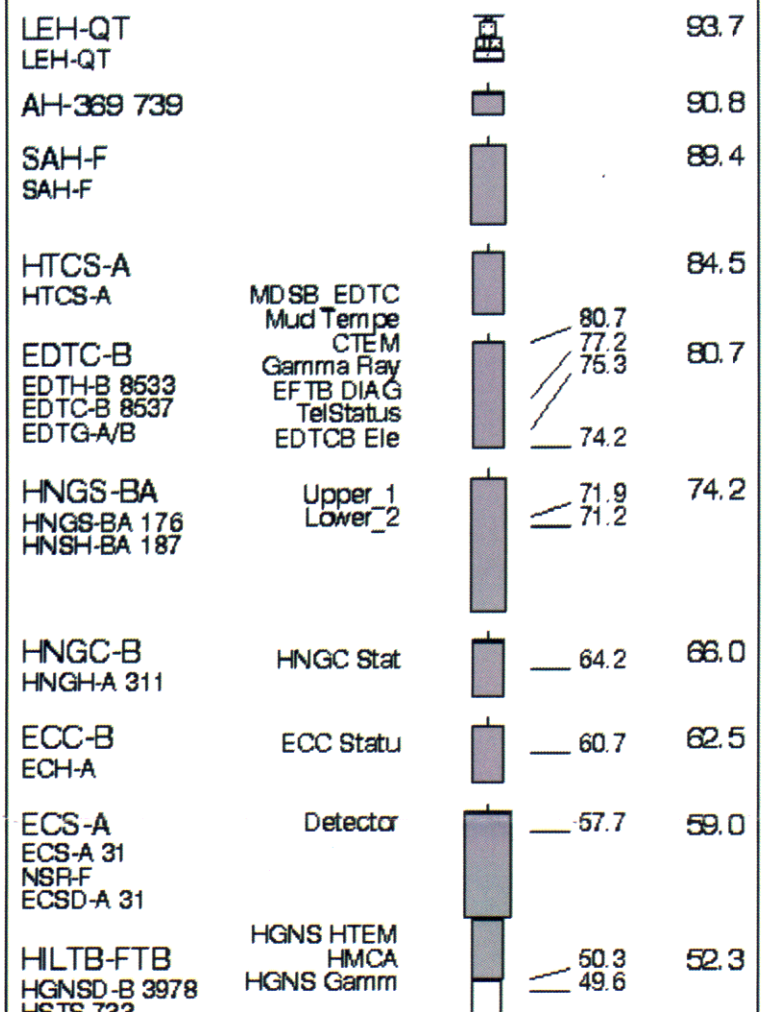
EQUIPMENT DESCRIPTION

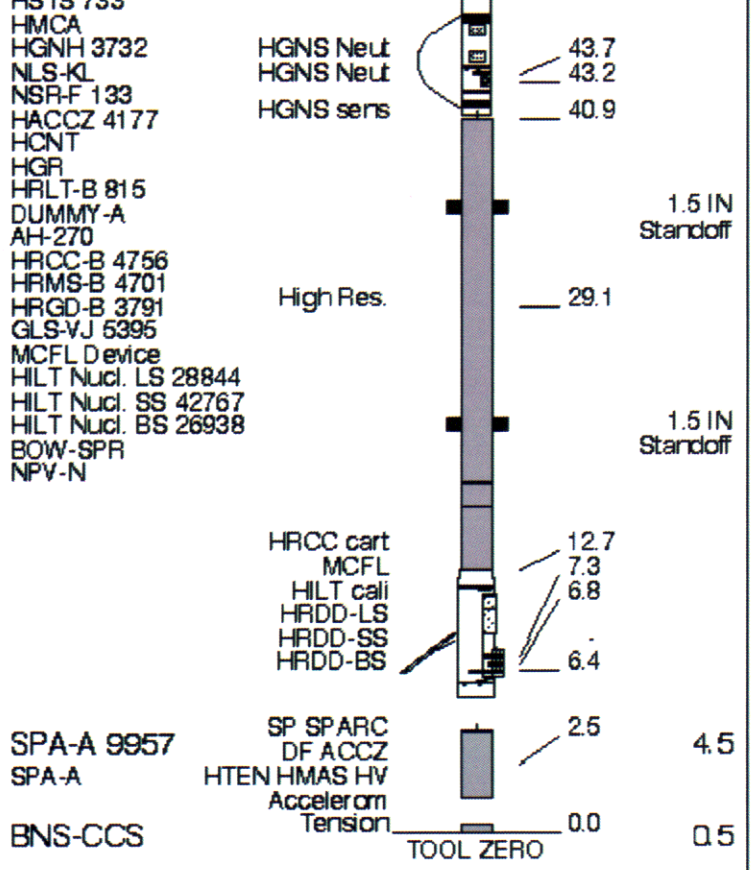
RUN 1 | RUN 2

SURFACE EQUIPMENT

WITM (EDTS)-A
GSR-U/Y
NCT-B
CNB-AB
NCS-VB
GSR-U

DOWNHOLE EQUIPMENT





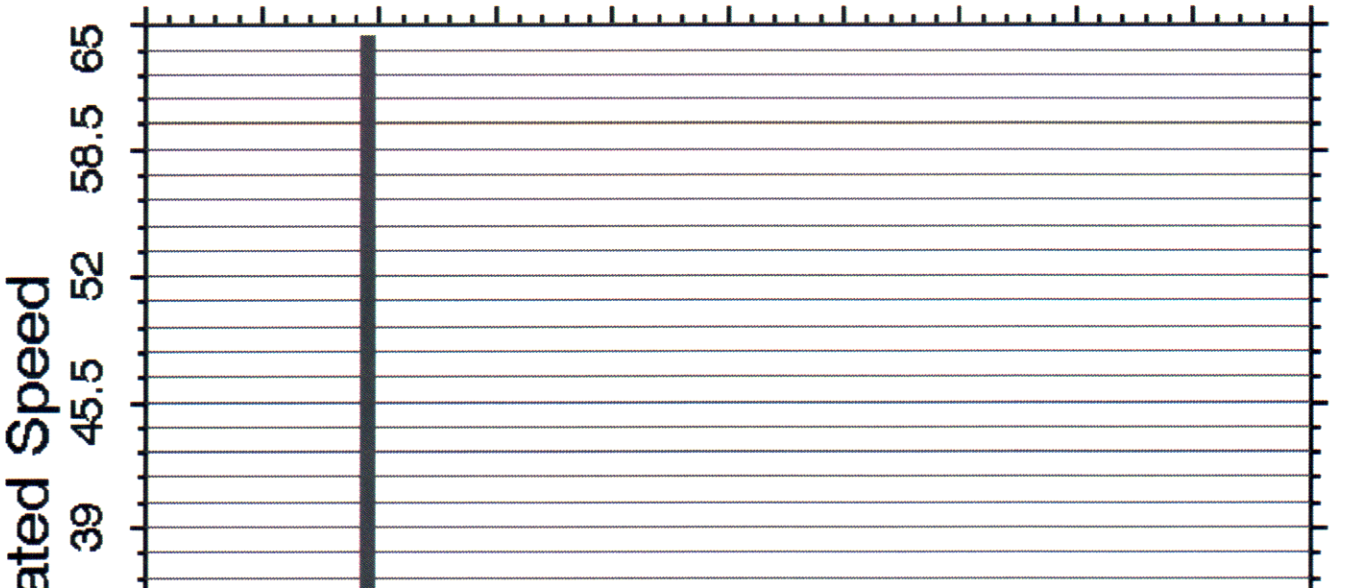
MAXIMUM STRING DIAMETER 6.63 IN
MEASUREMENTS RELATIVE TO TOOL ZERO
ALL LENGTHS IN FEET

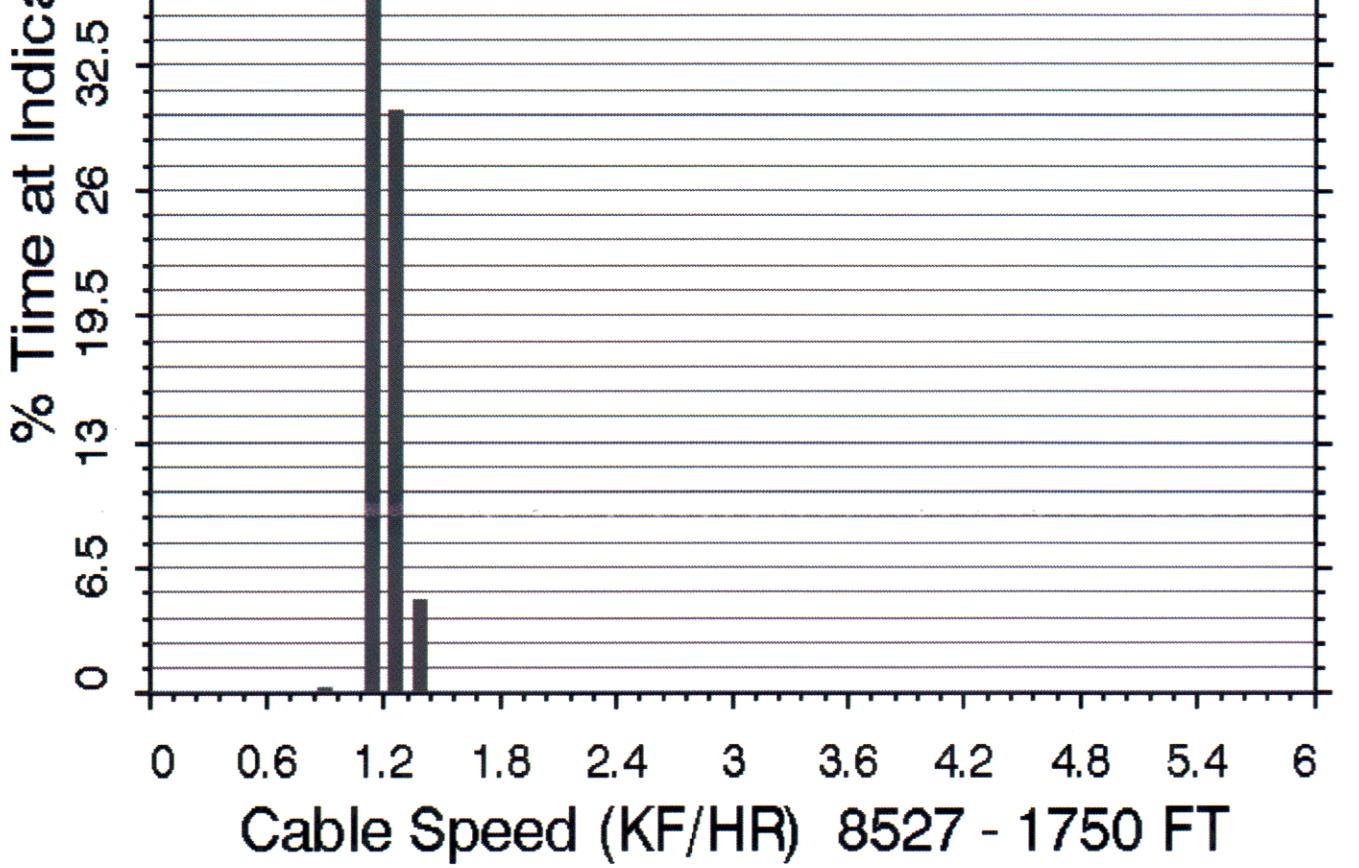
Production String	(in) OD	(in) ID	(ft) MD	Well Schematic	(ft) MD	(in) OD	(in) ID	Casing String
					0.0	13.375		Casing String
					1997.0	13.375		Casing Shoe
					1997.0	12.250		Borehole Segment

						8508.0	12.260		Borehole Segment Bottom

ALL DEPTHS ARE DRILLER'S DEPTHS

Sequence # 045 (Dec 11 19:48:33 2010)





Schlumberger

ECS SPECROLITH

MAXIS Field Log

Input DLIS Files

DEFAULT	TLD_MCFL_CNL_ECS_041PUP	FN:62	PRODUCER	11-Dec-2010 19:05	8520.0 FT	1488.0 FT

Output DLIS Files

DEFAULT	TLD_MCFL_CNL_ECS_045PUP	FN:66	PRODUCER	11-Dec-2010 19:43	8527.5 FT	1750.0 FT

OP System Version: 18C0-147

SPA-A	18C0-147	HILTB-FTB	18C0-147
ECS-A	18C0-147	ECC-B	18C0-147
HNGC-B	18C0-147	HNGS-BA	18C0-147
EDTC-B	18C0-147		

PIP SUMMARY

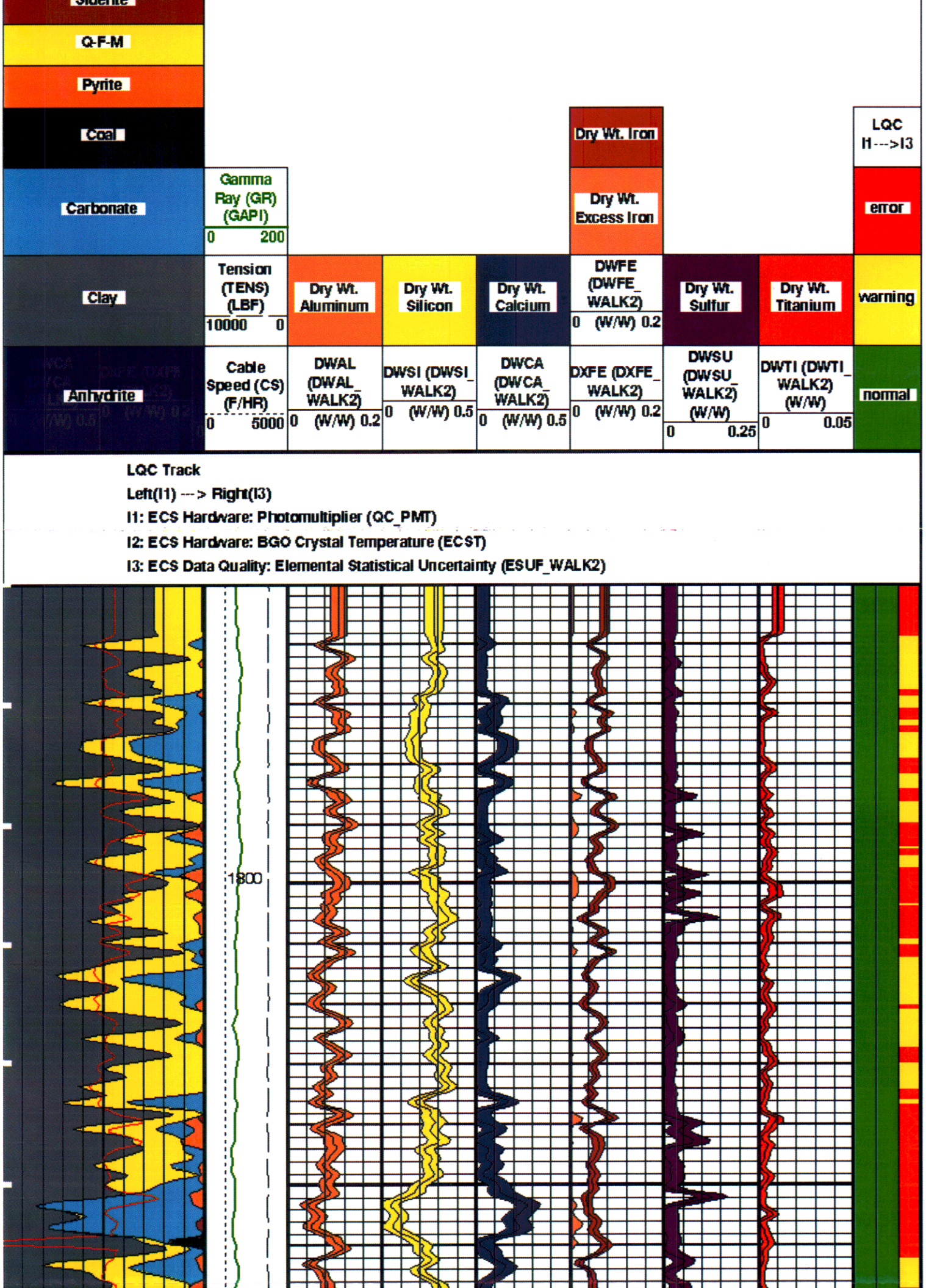
Time Mark Every 60 S

Matrix Density (RHGE_WALK2)

2.5 (G/C3) 3

Salt

Siderite



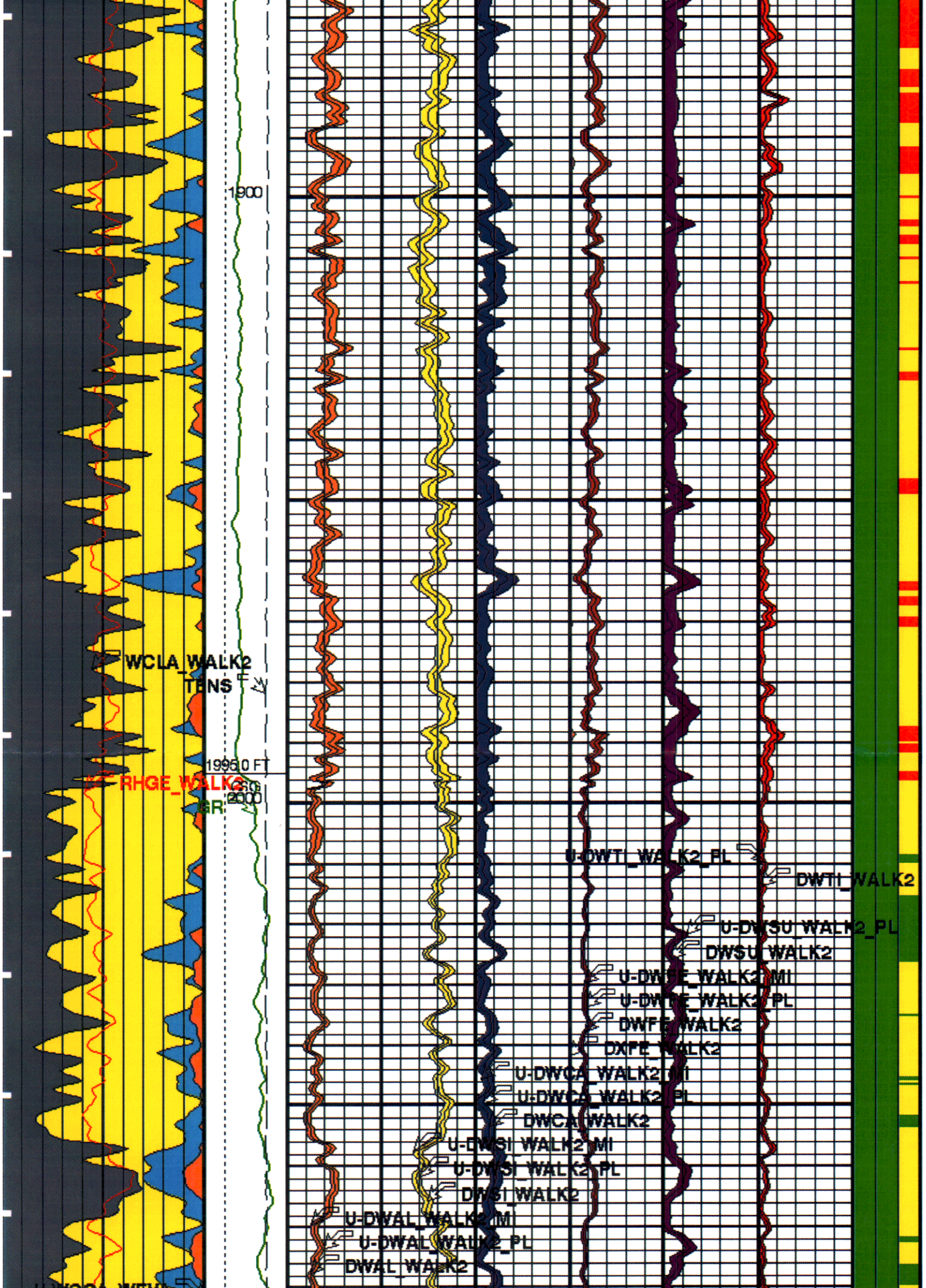
LQC Track

Left(I1) ---> Right(I3)

I1: ECS Hardware: Photomultiplier (QC_PMT)

I2: ECS Hardware: BGO Crystal Temperature (ECST)

I3: ECS Data Quality: Elemental Statistical Uncertainty (ESUF_WALK2)



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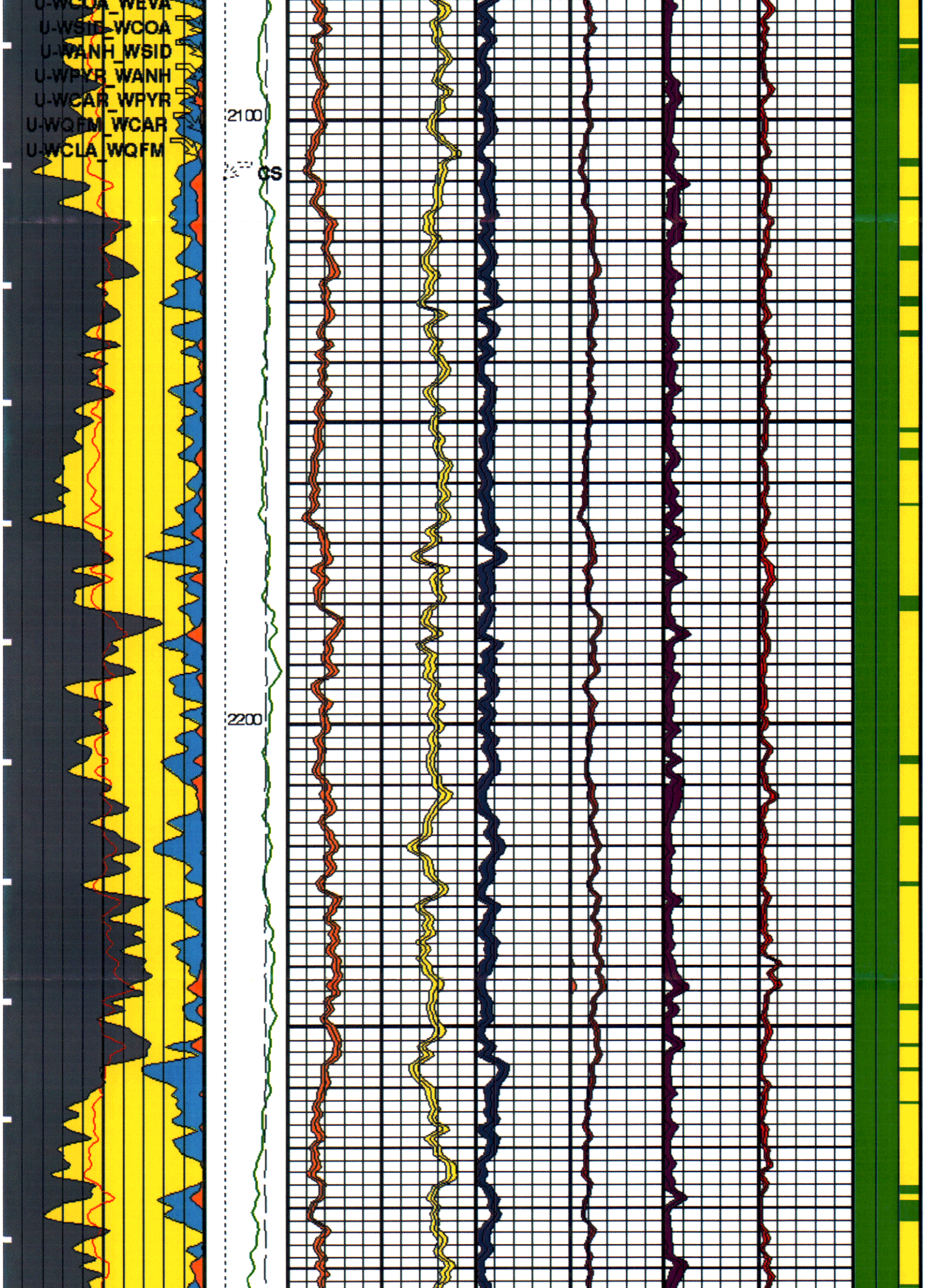
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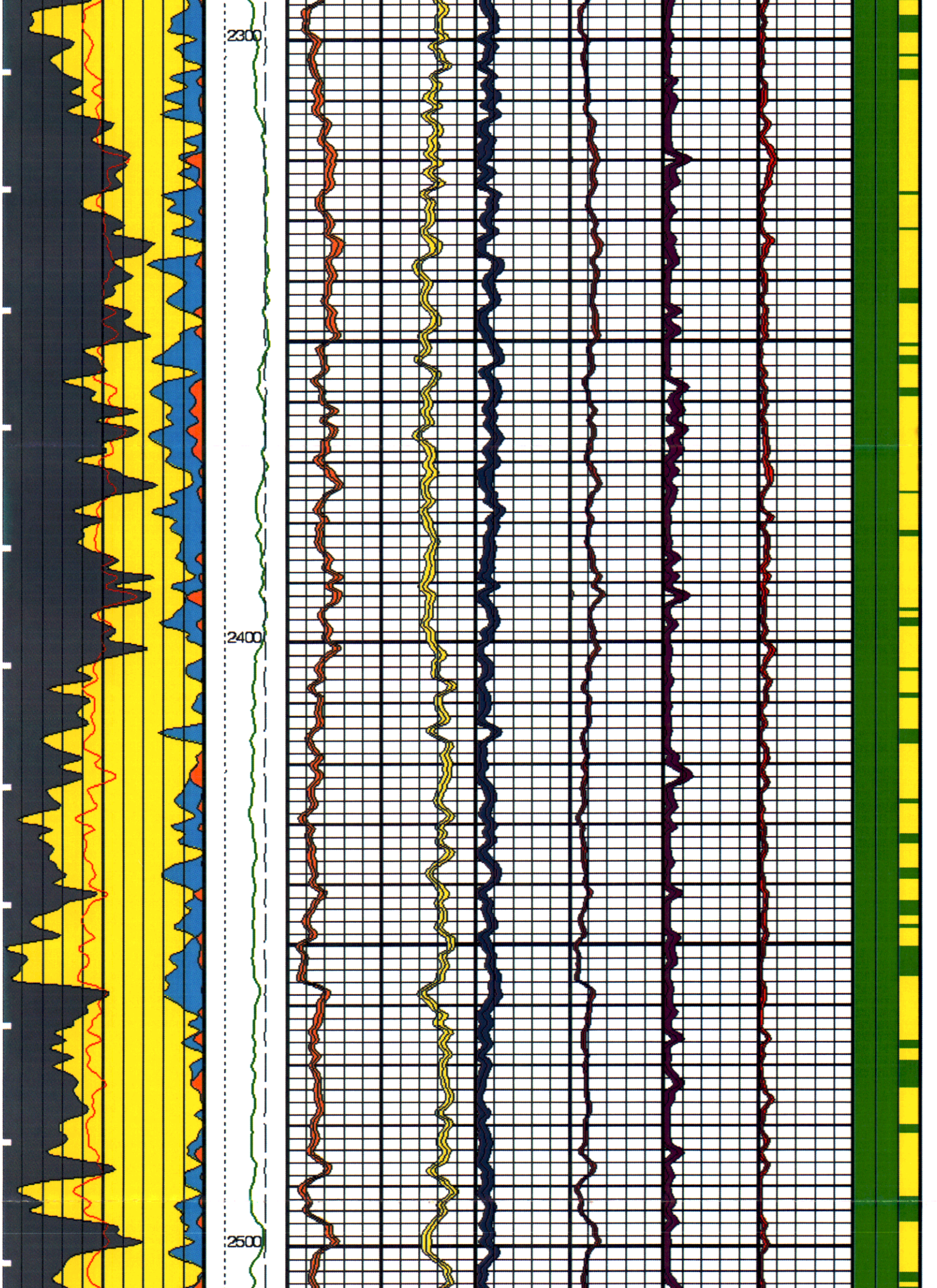
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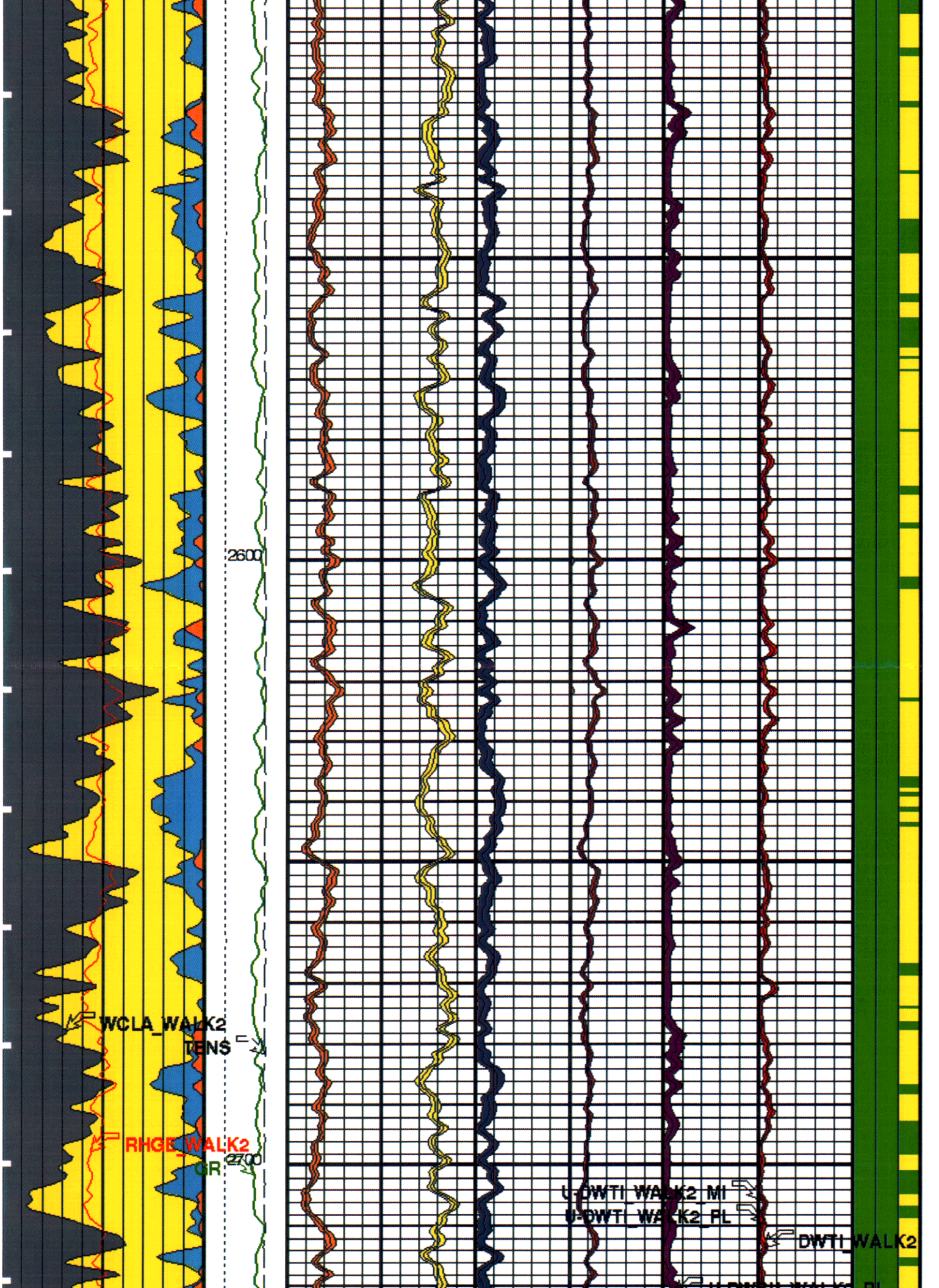
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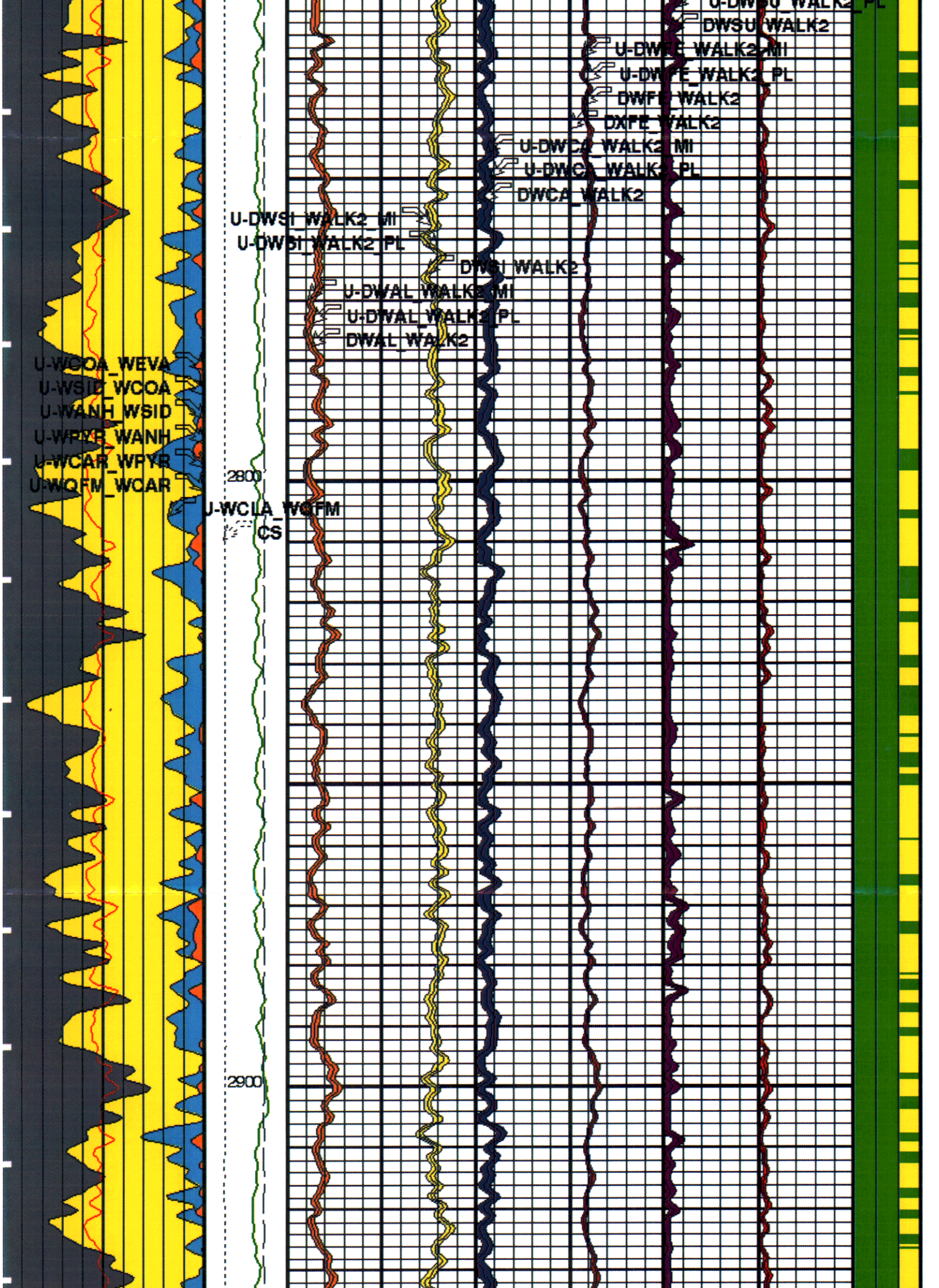
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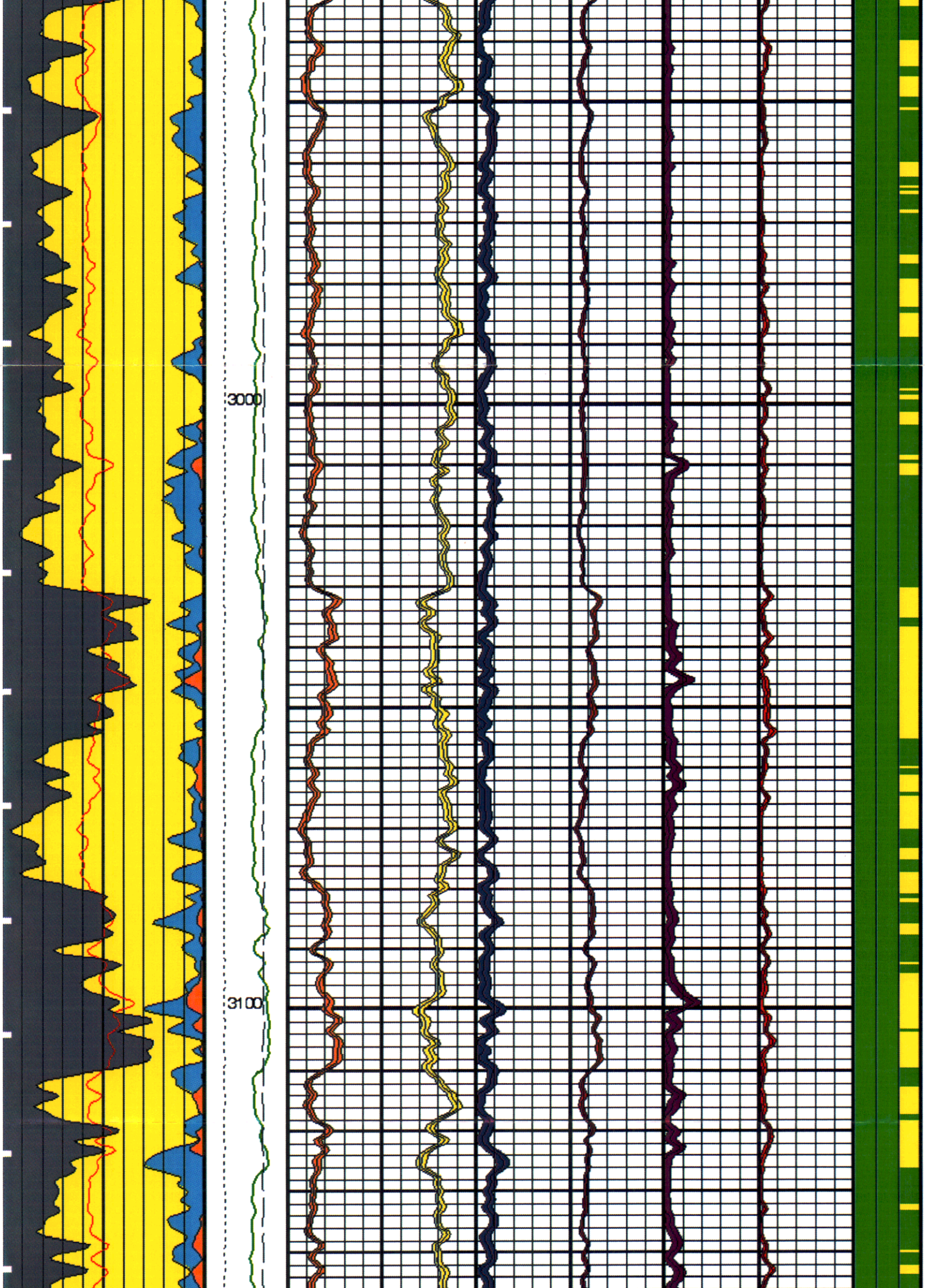
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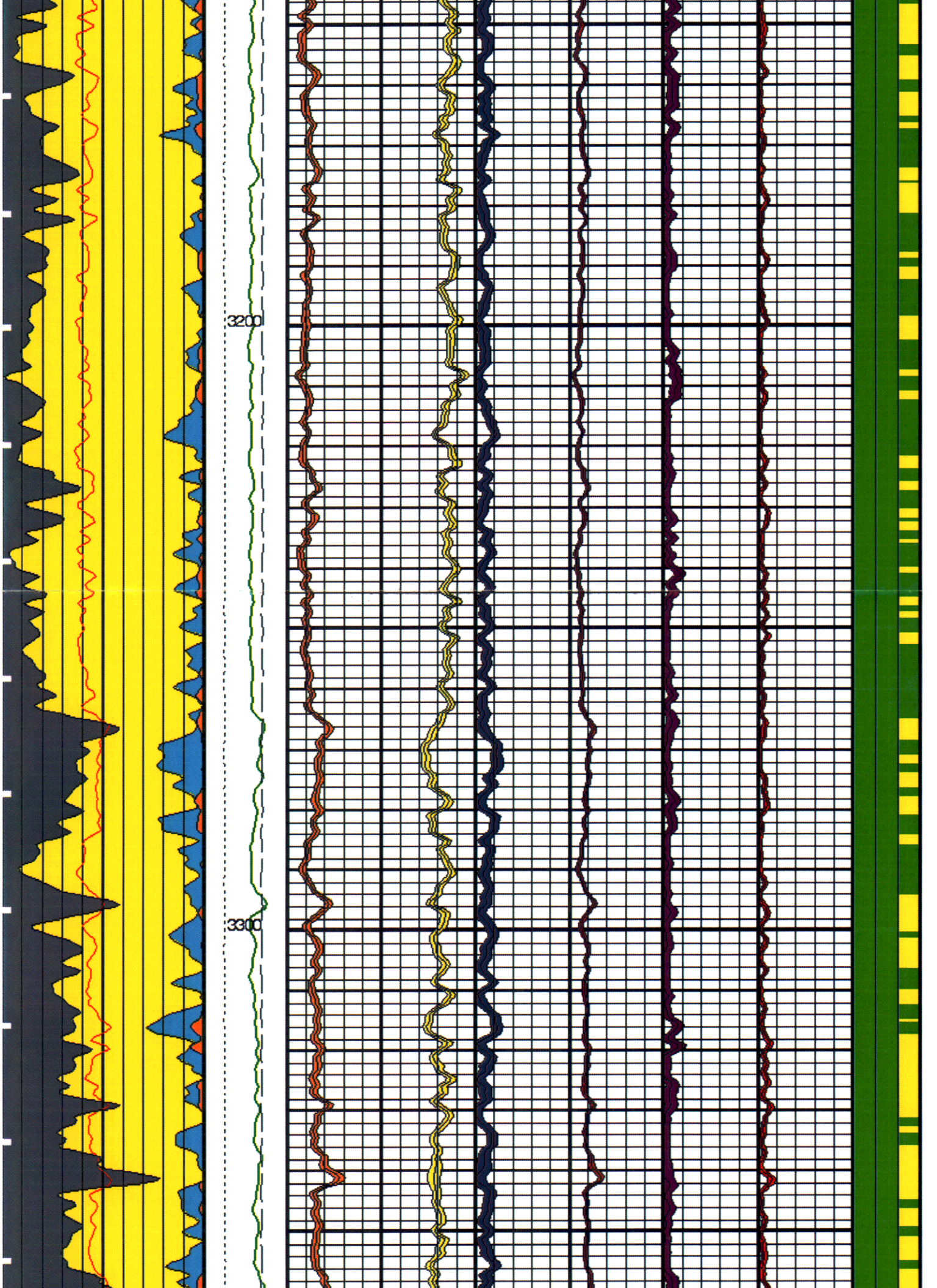
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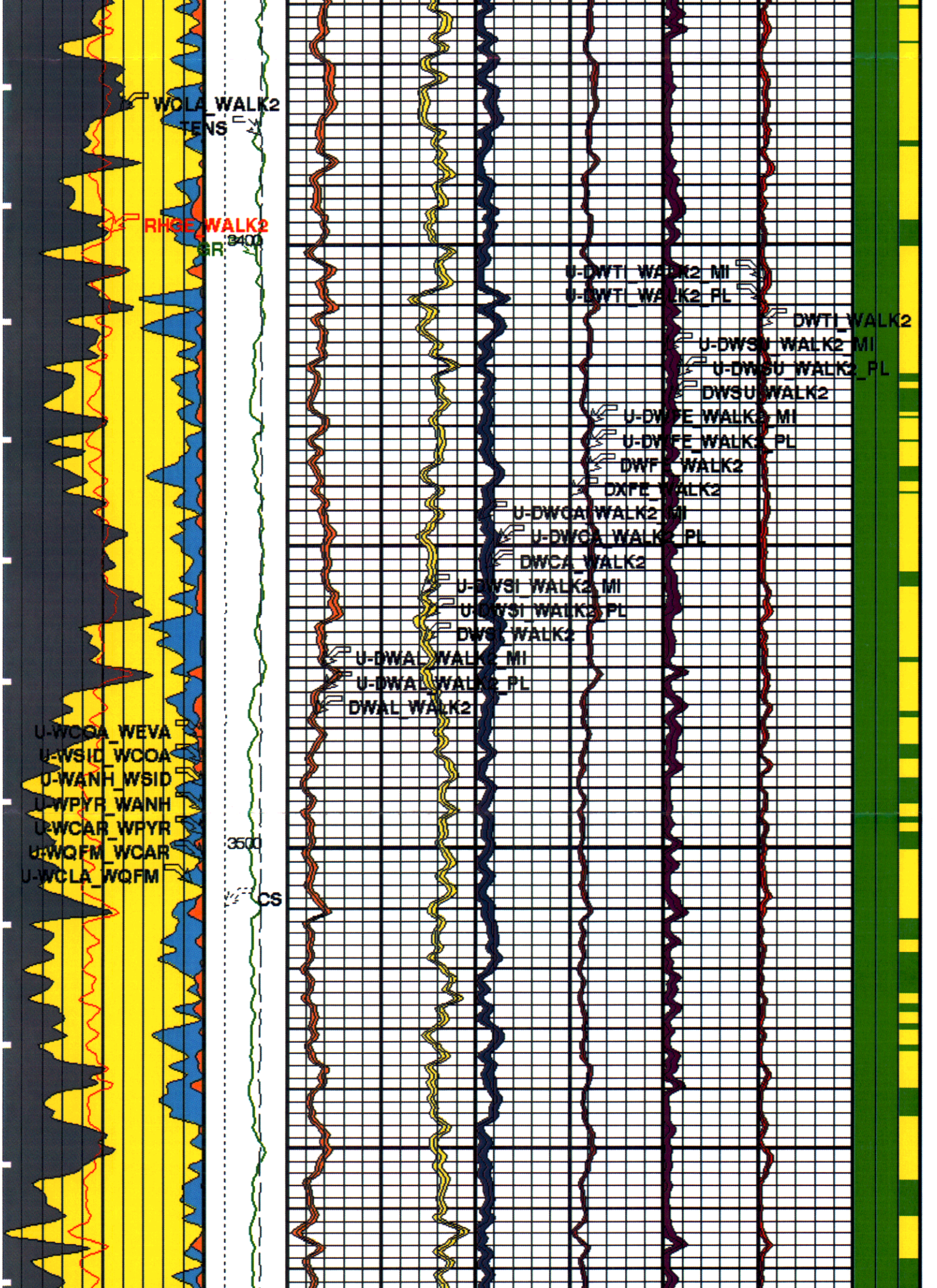
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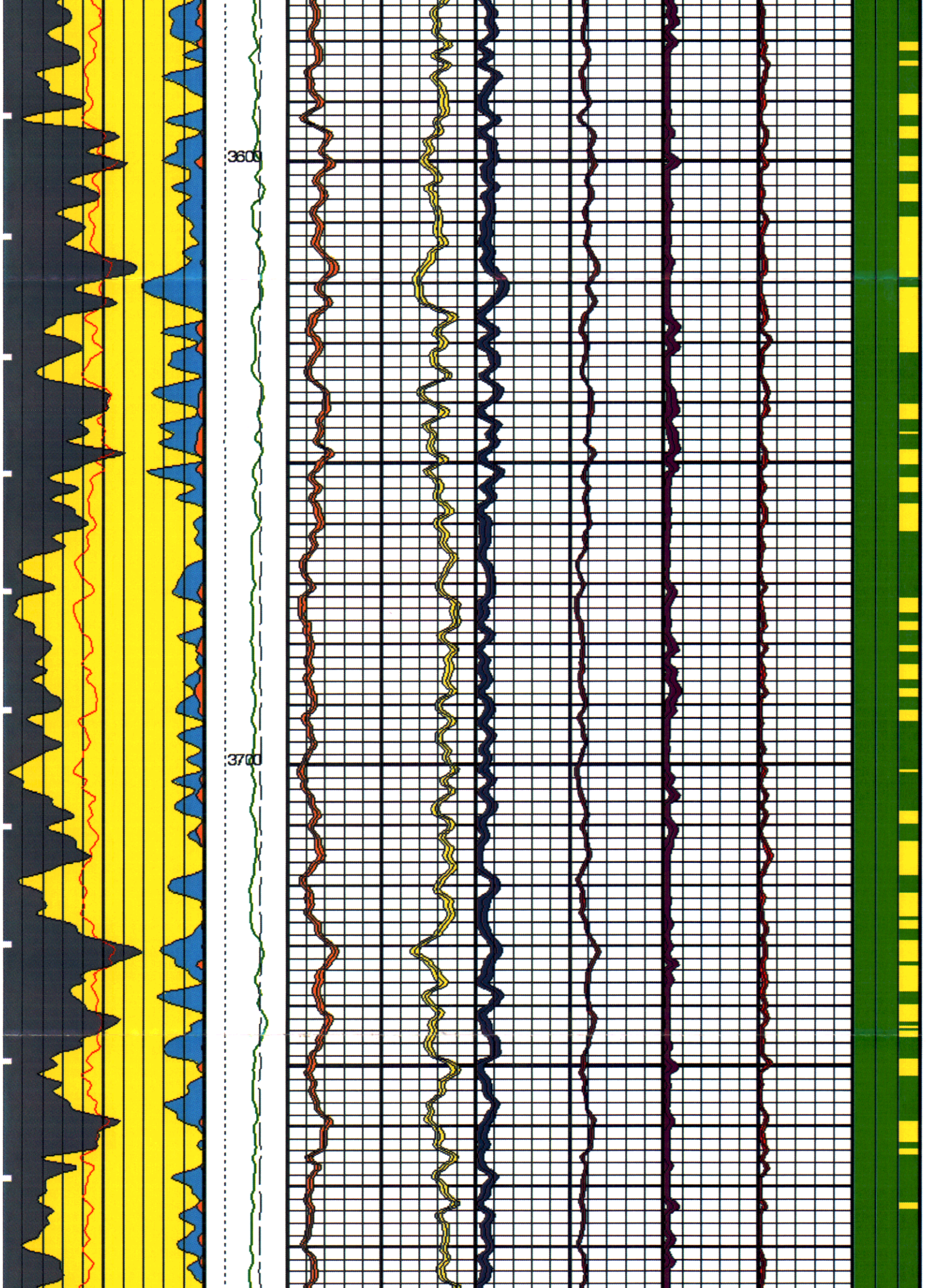
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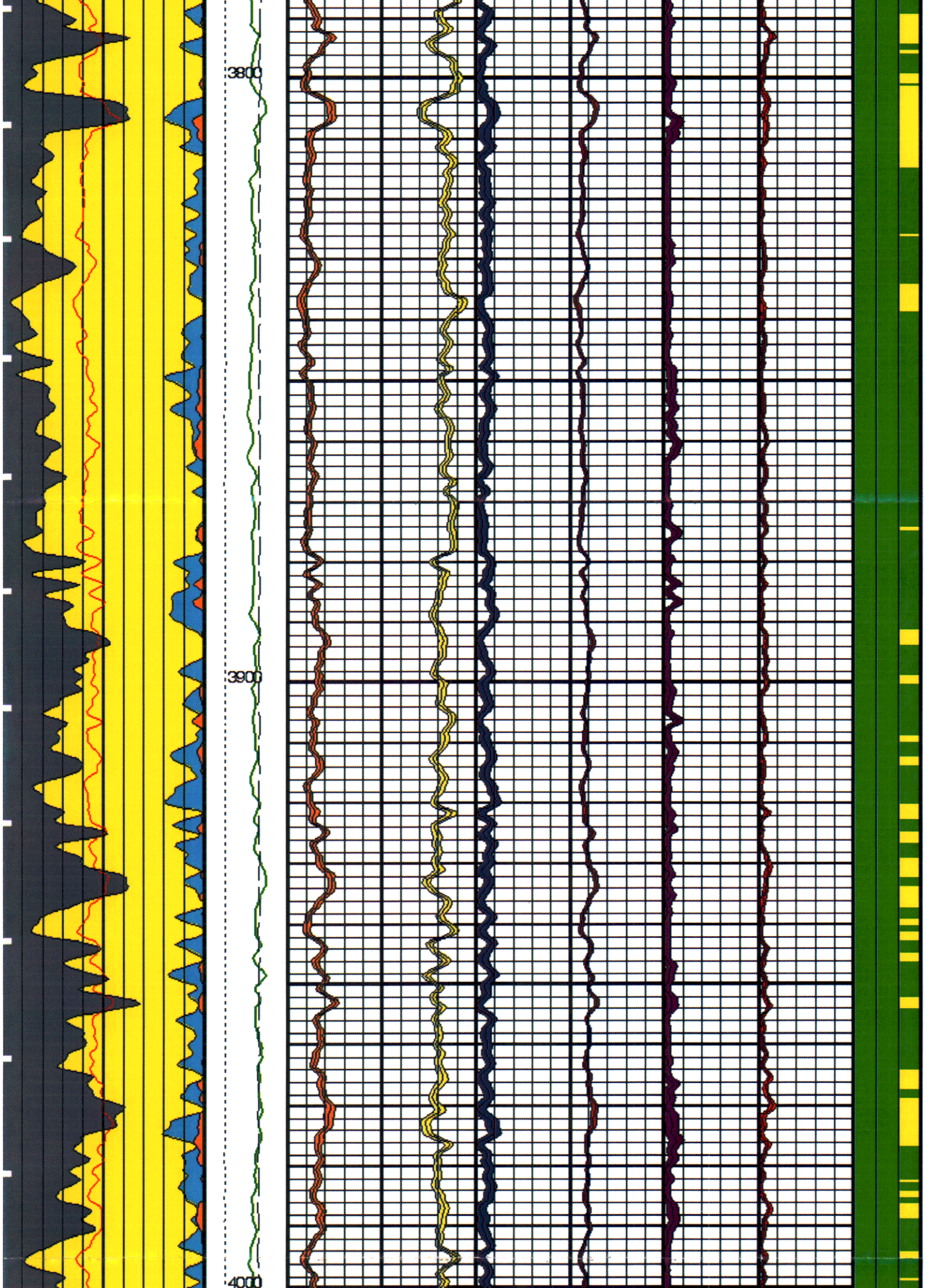
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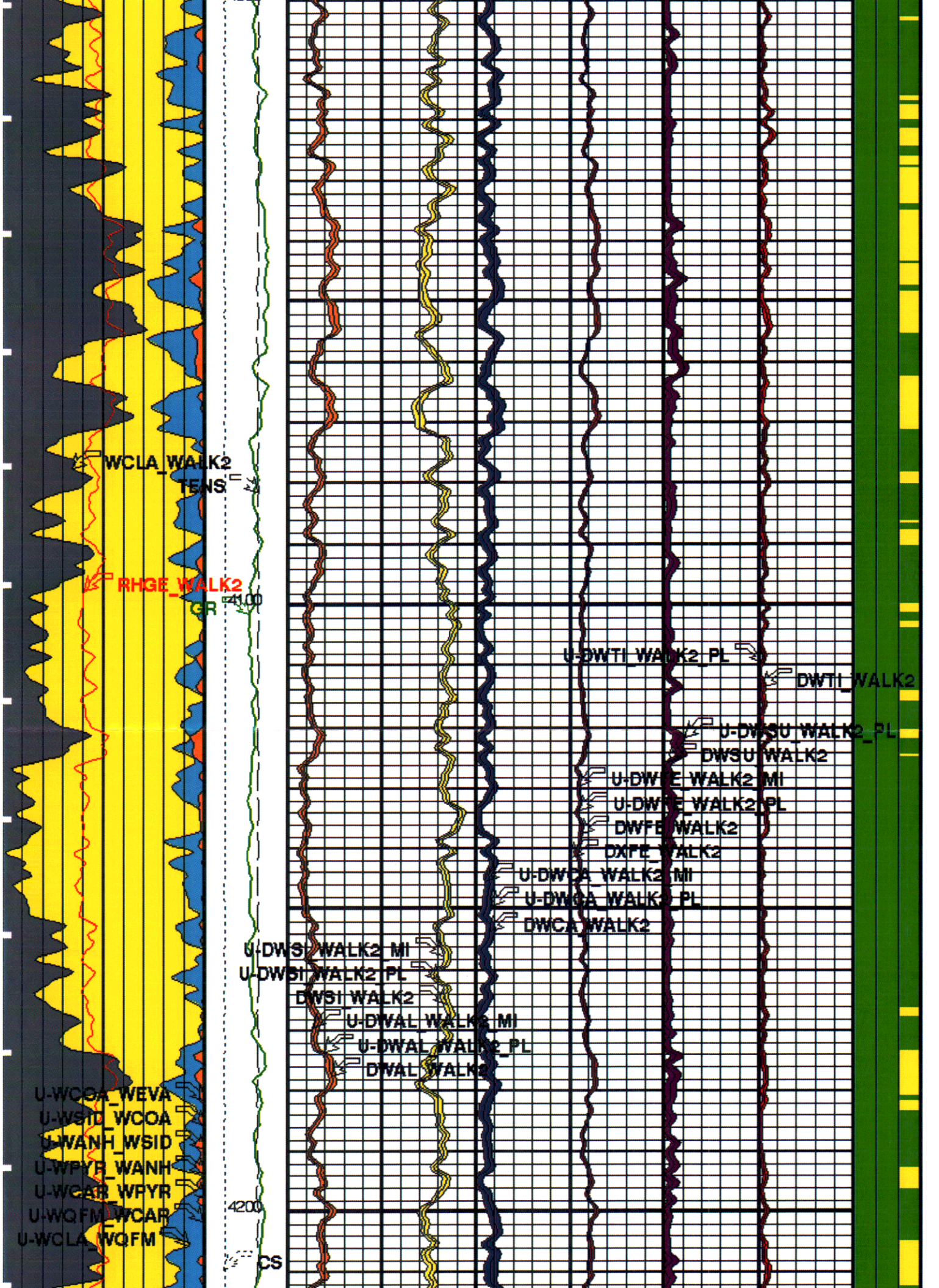
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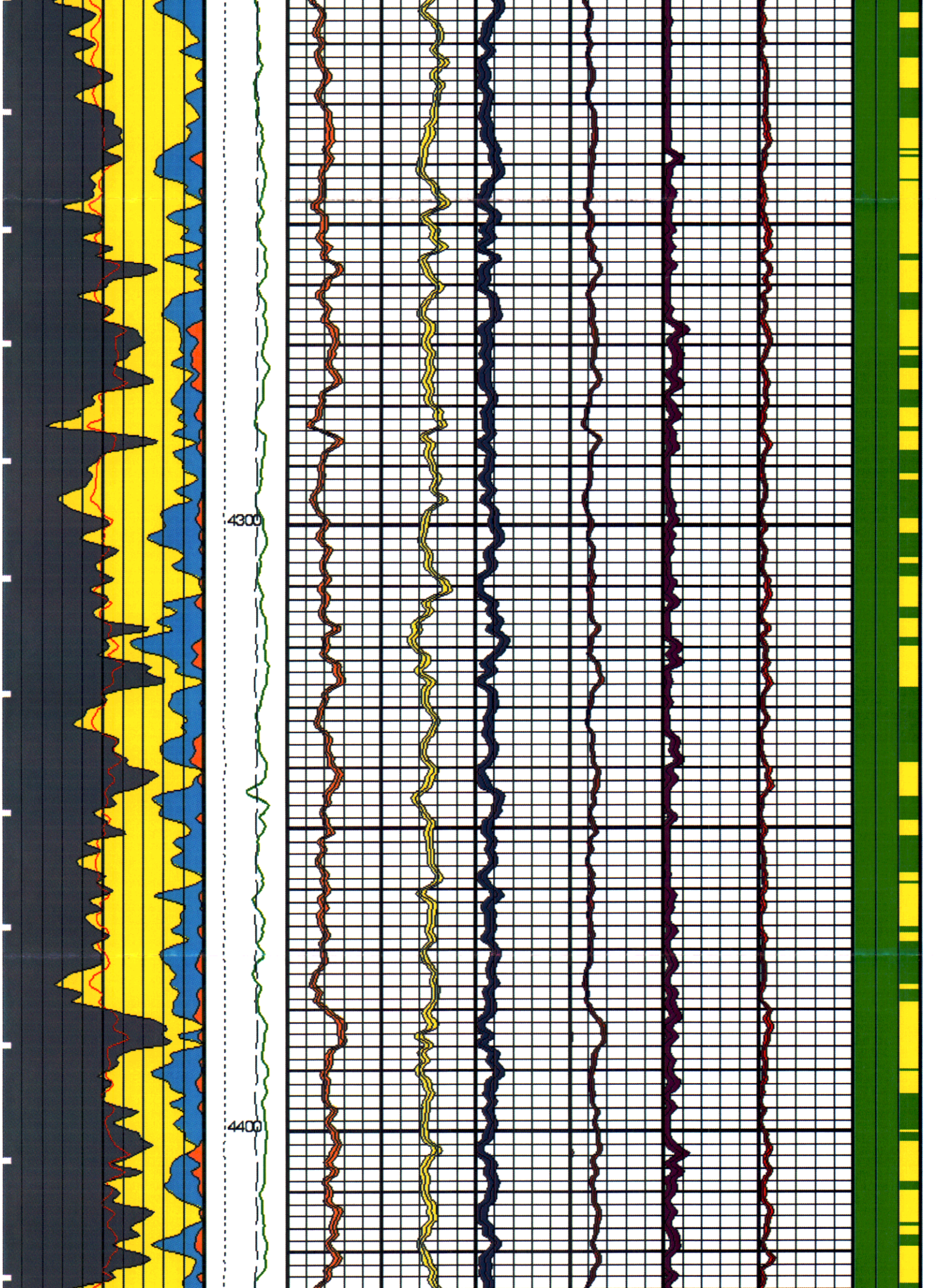
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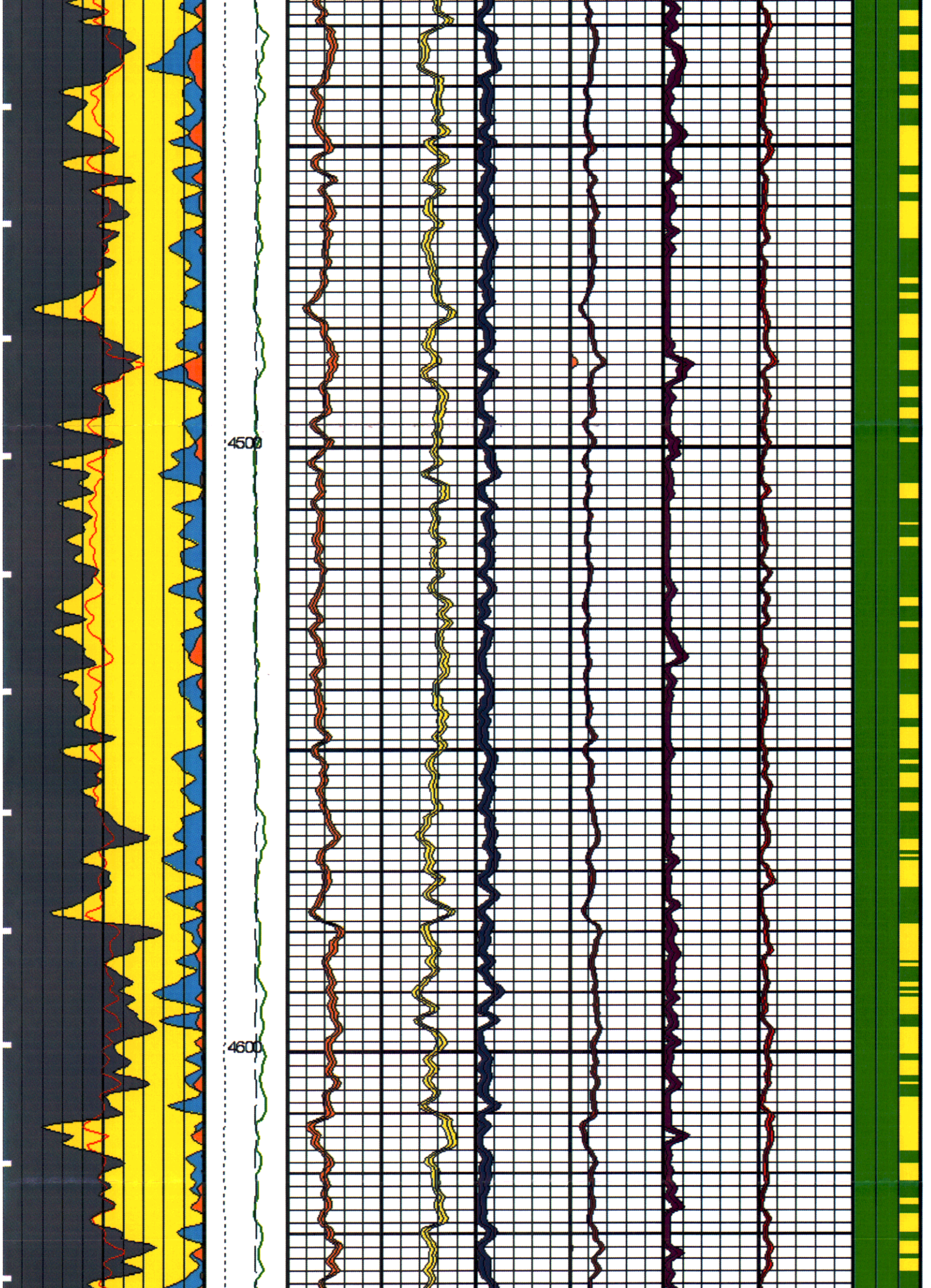
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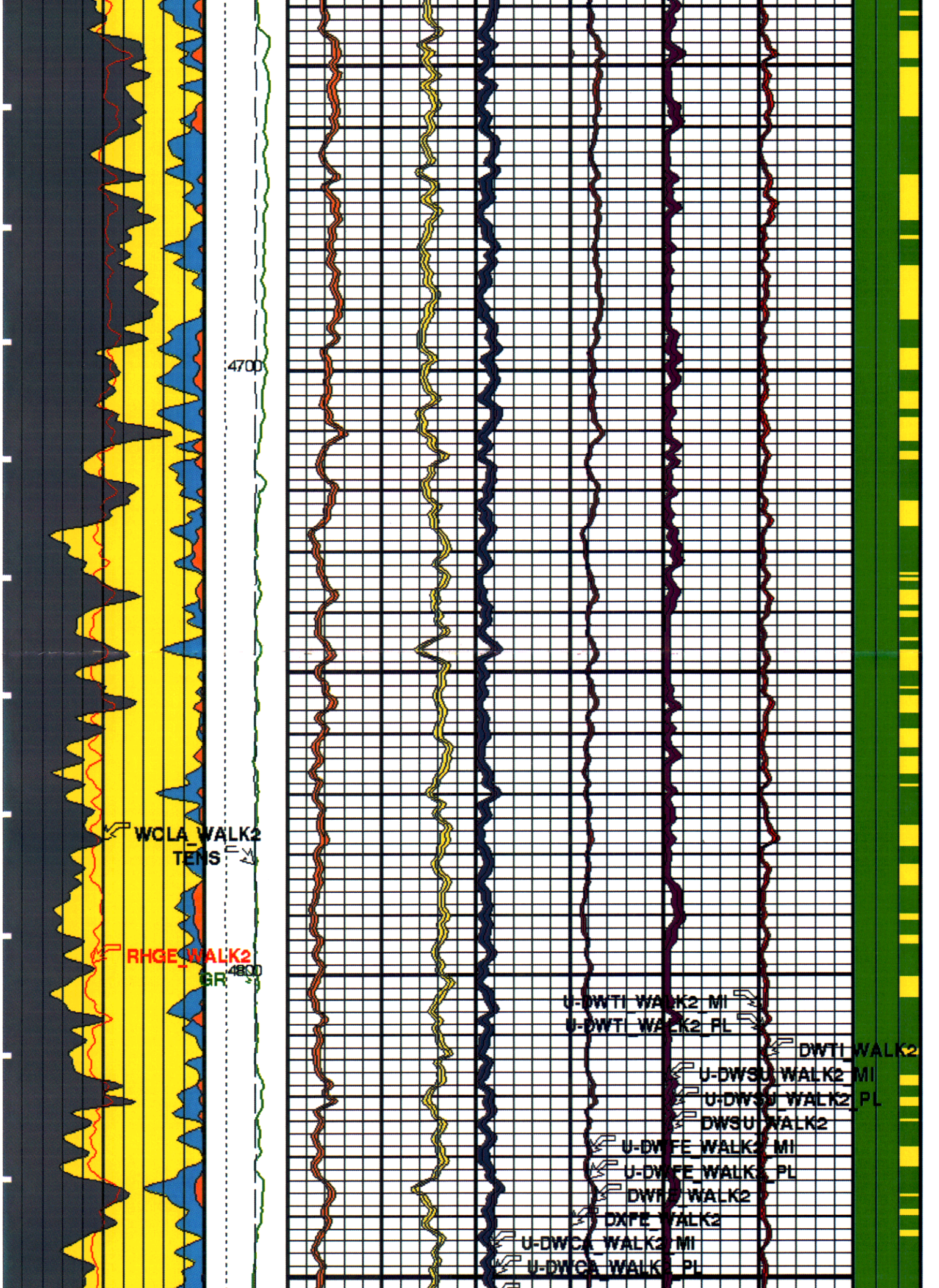
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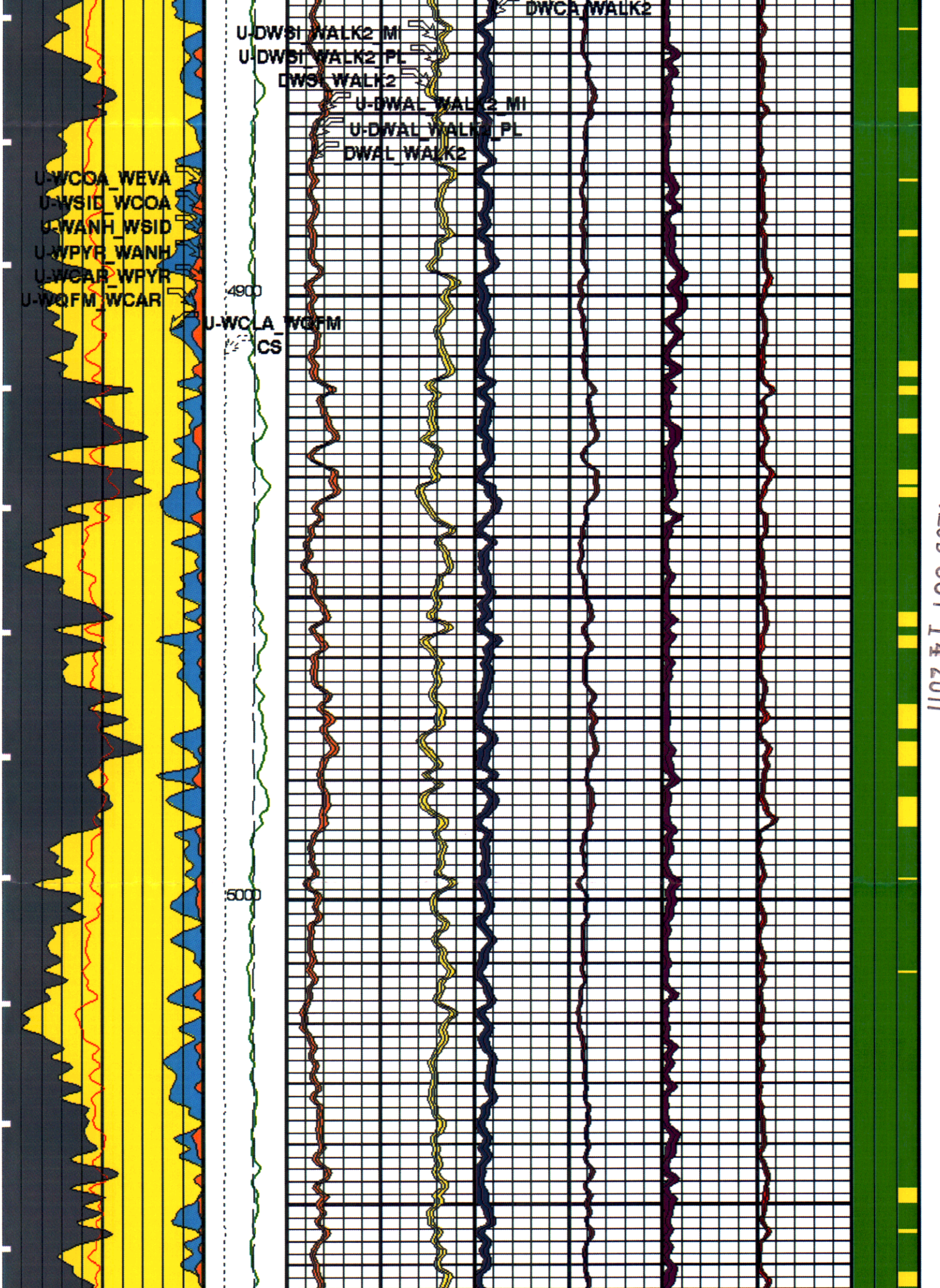

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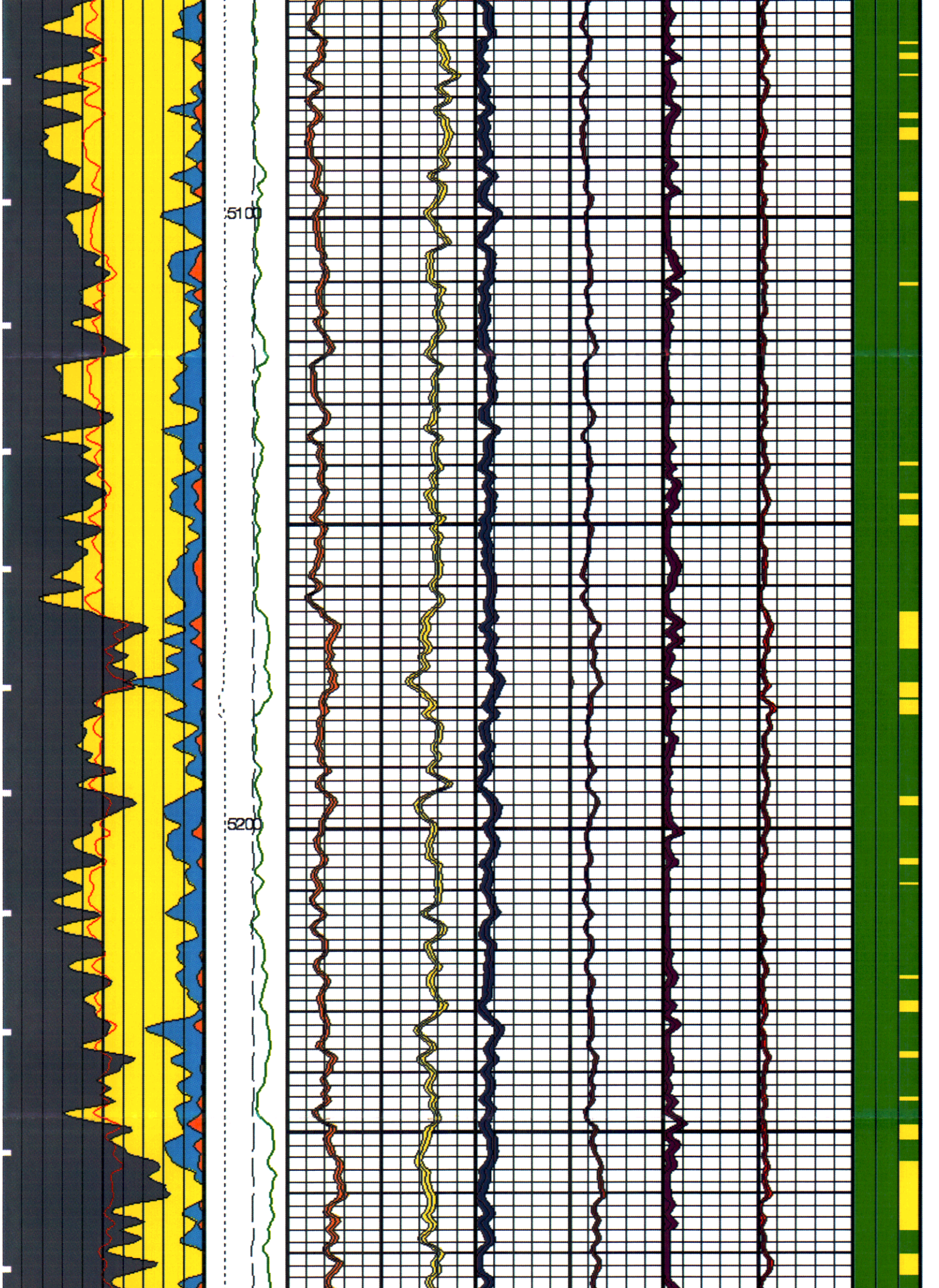
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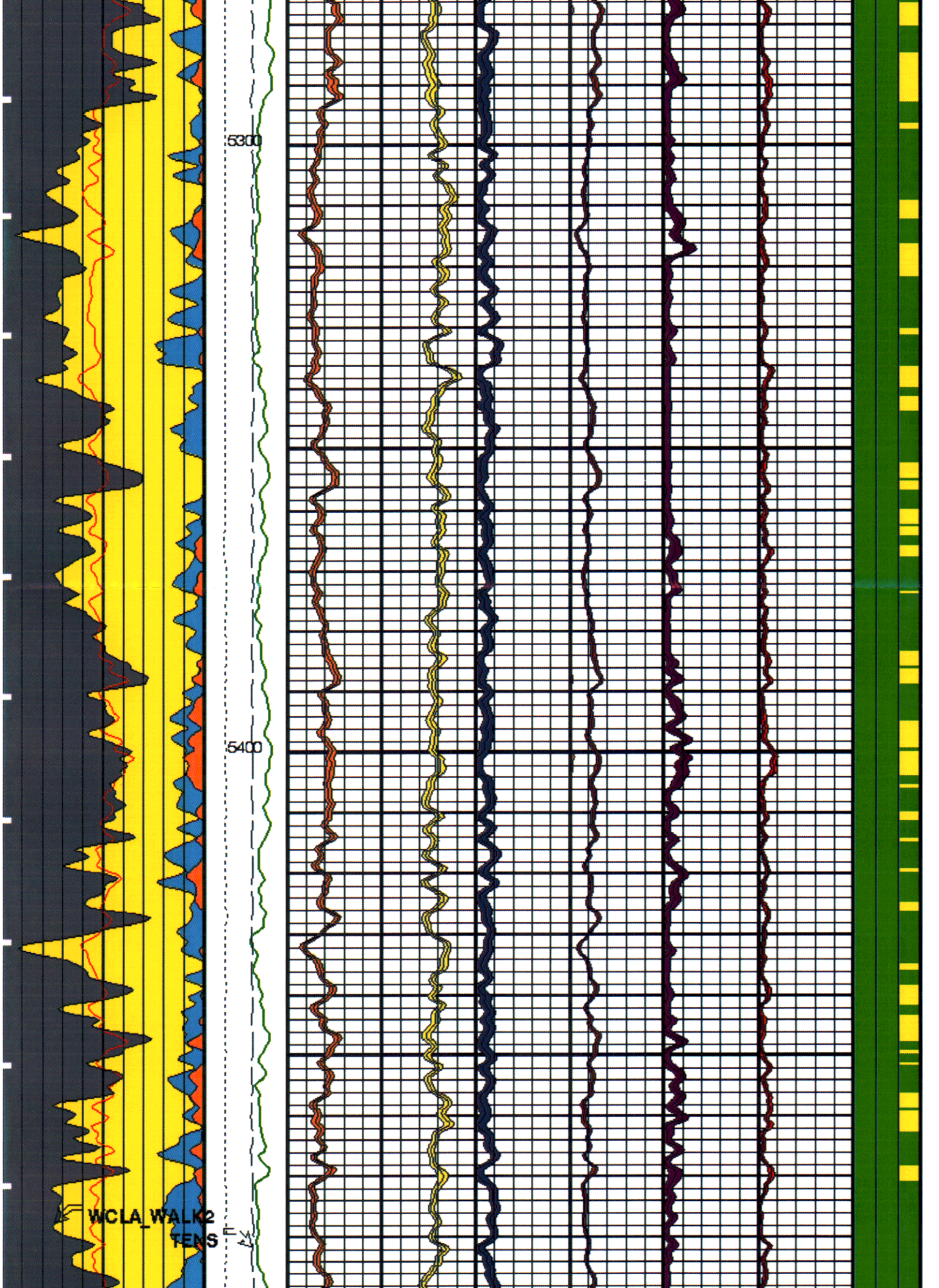
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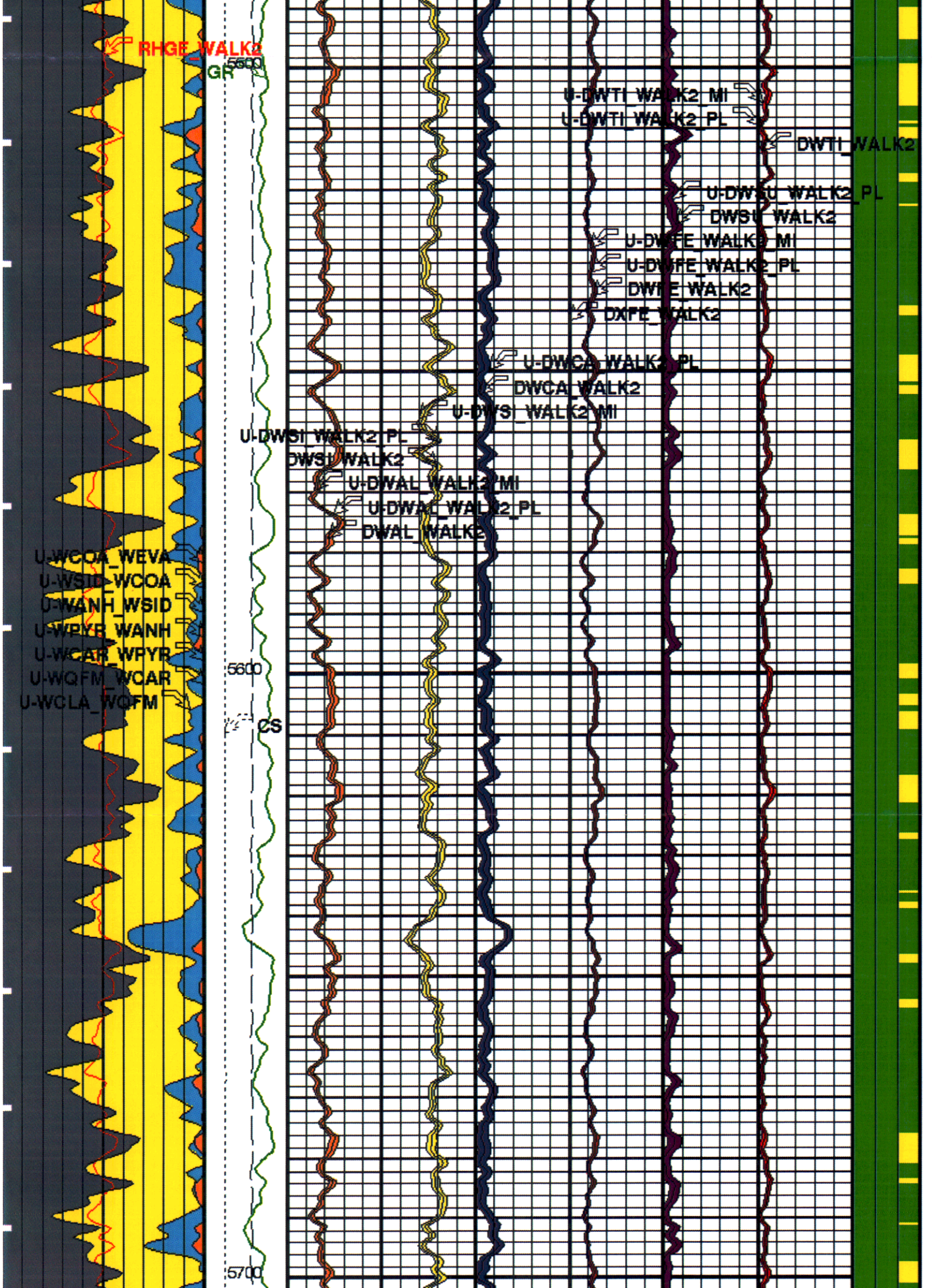
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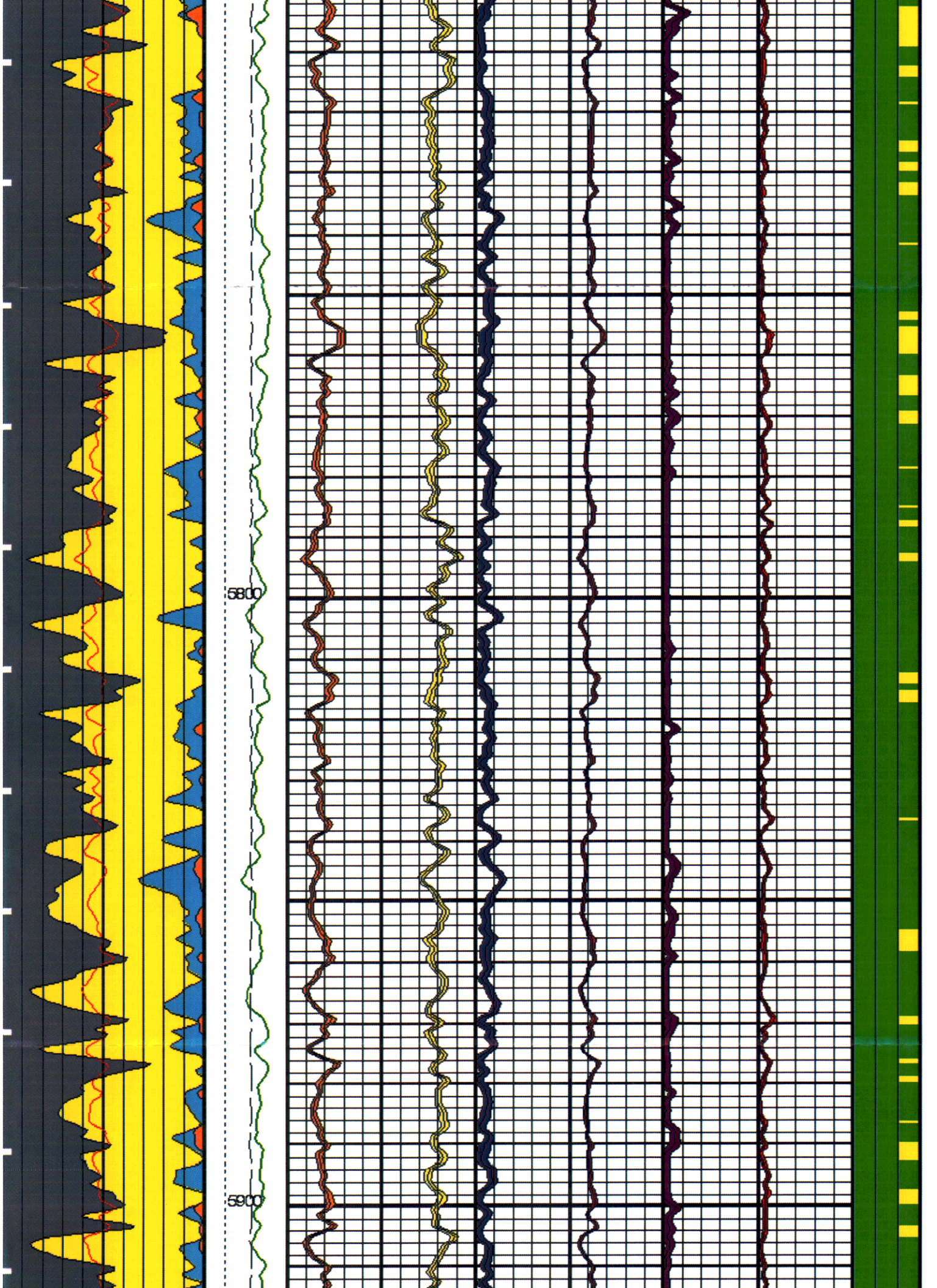
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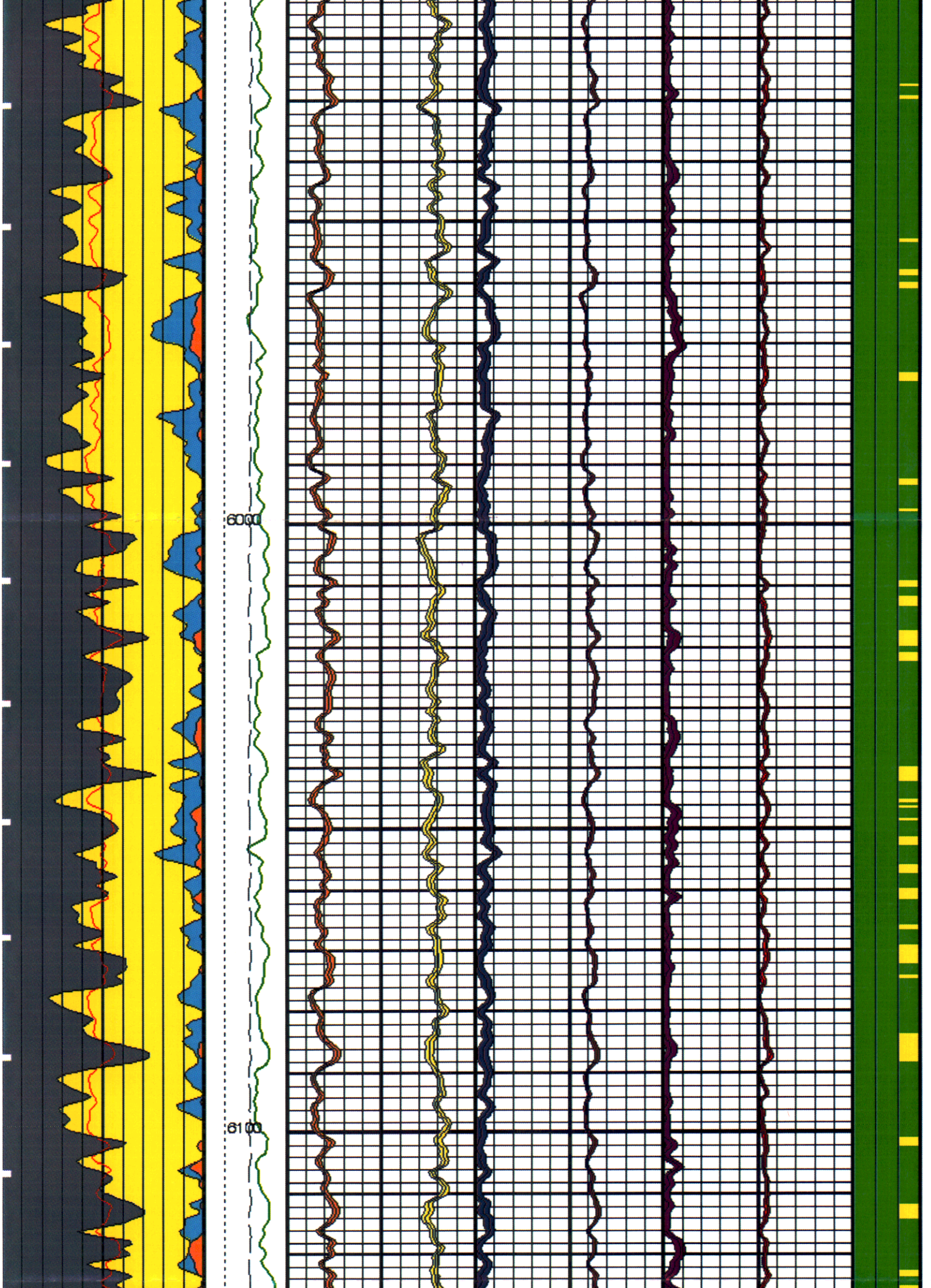
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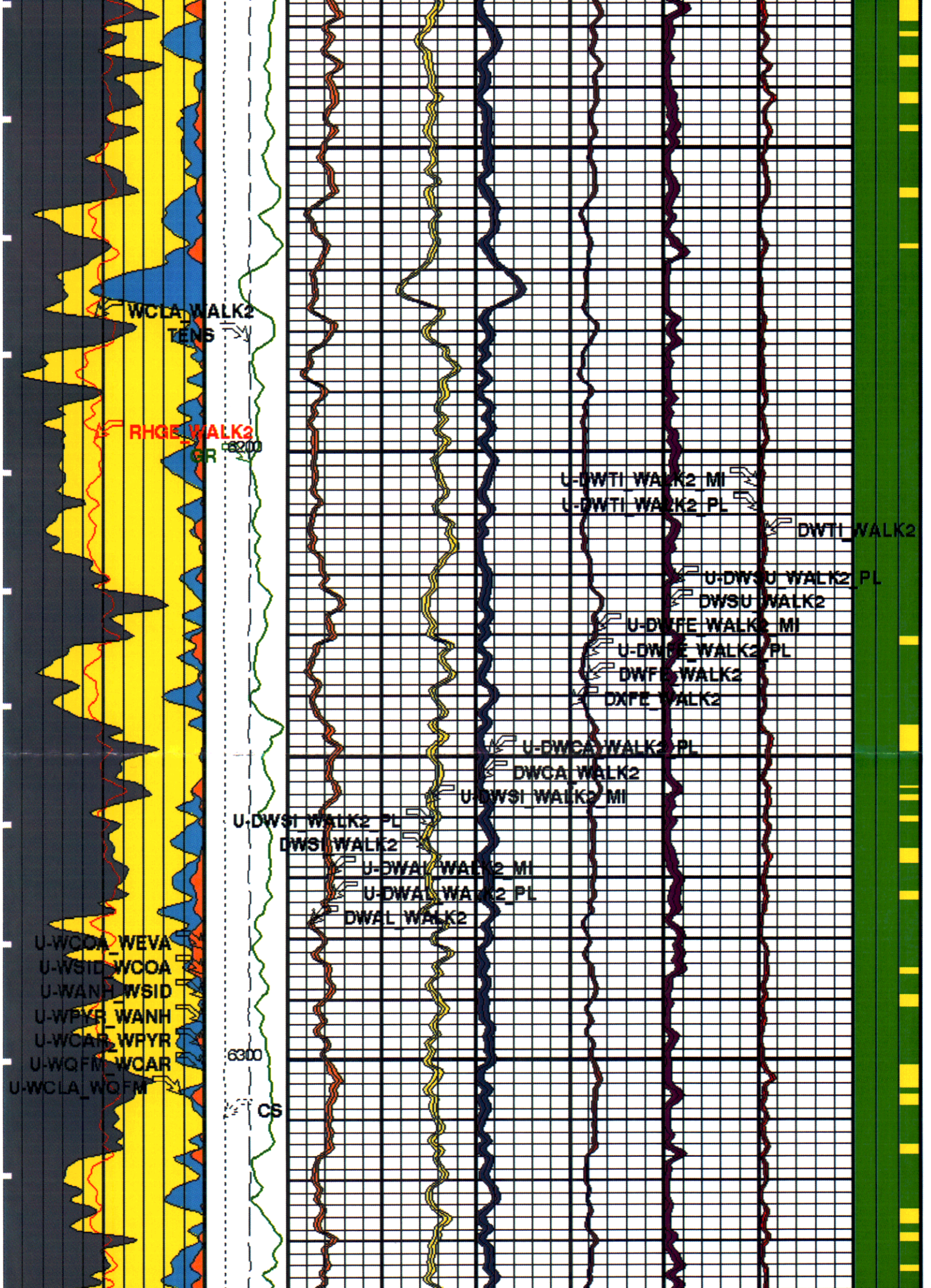
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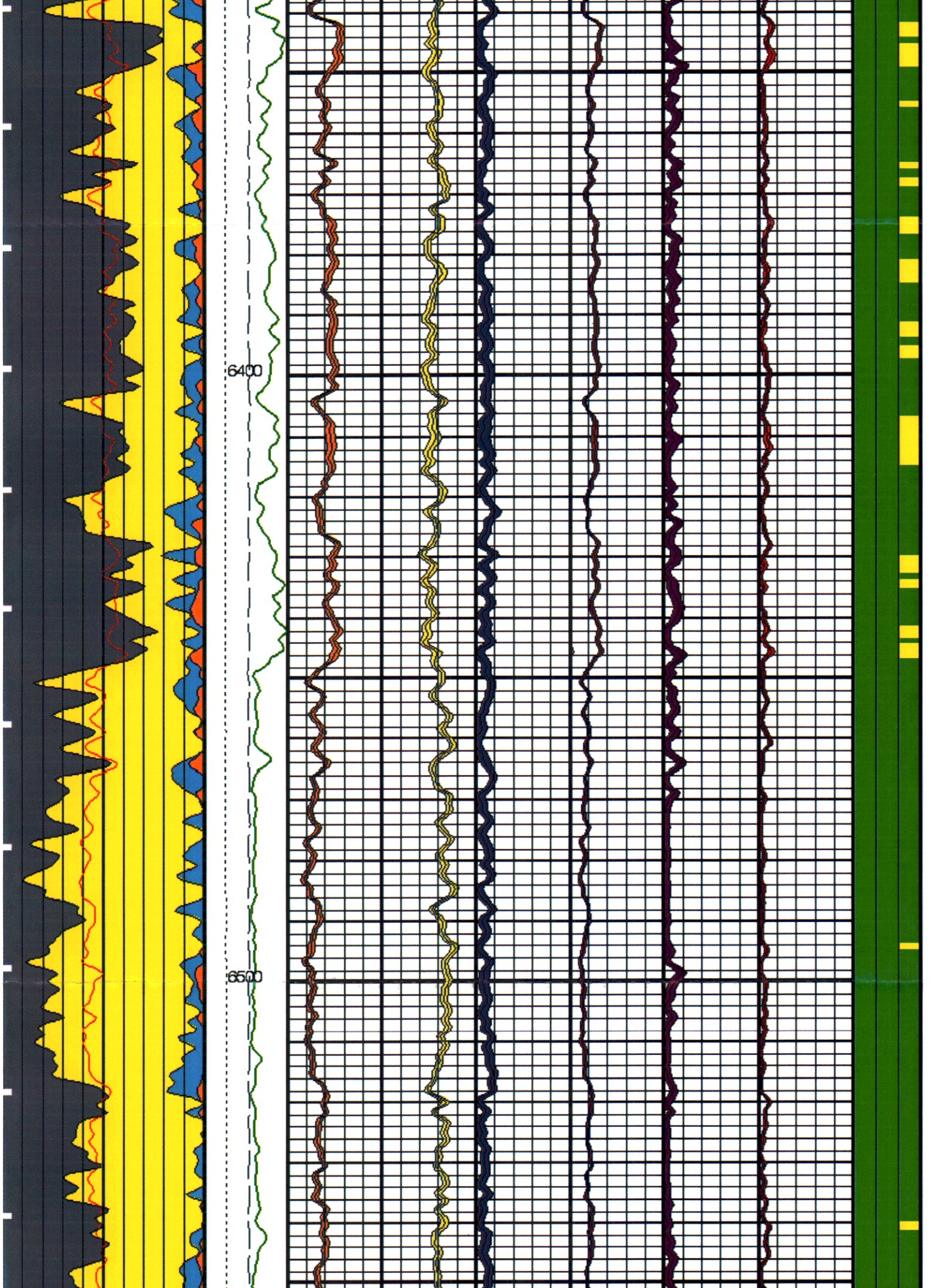
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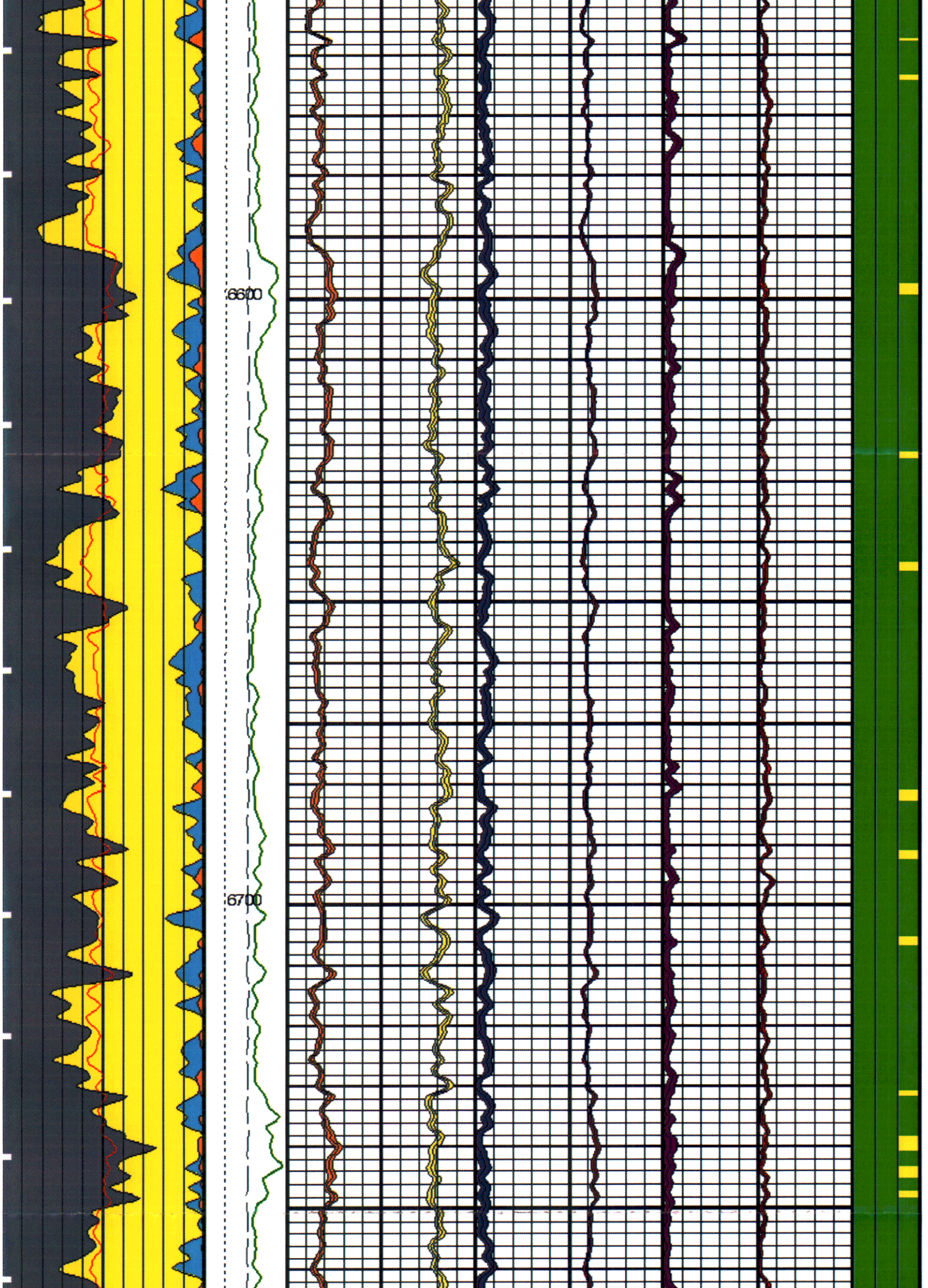
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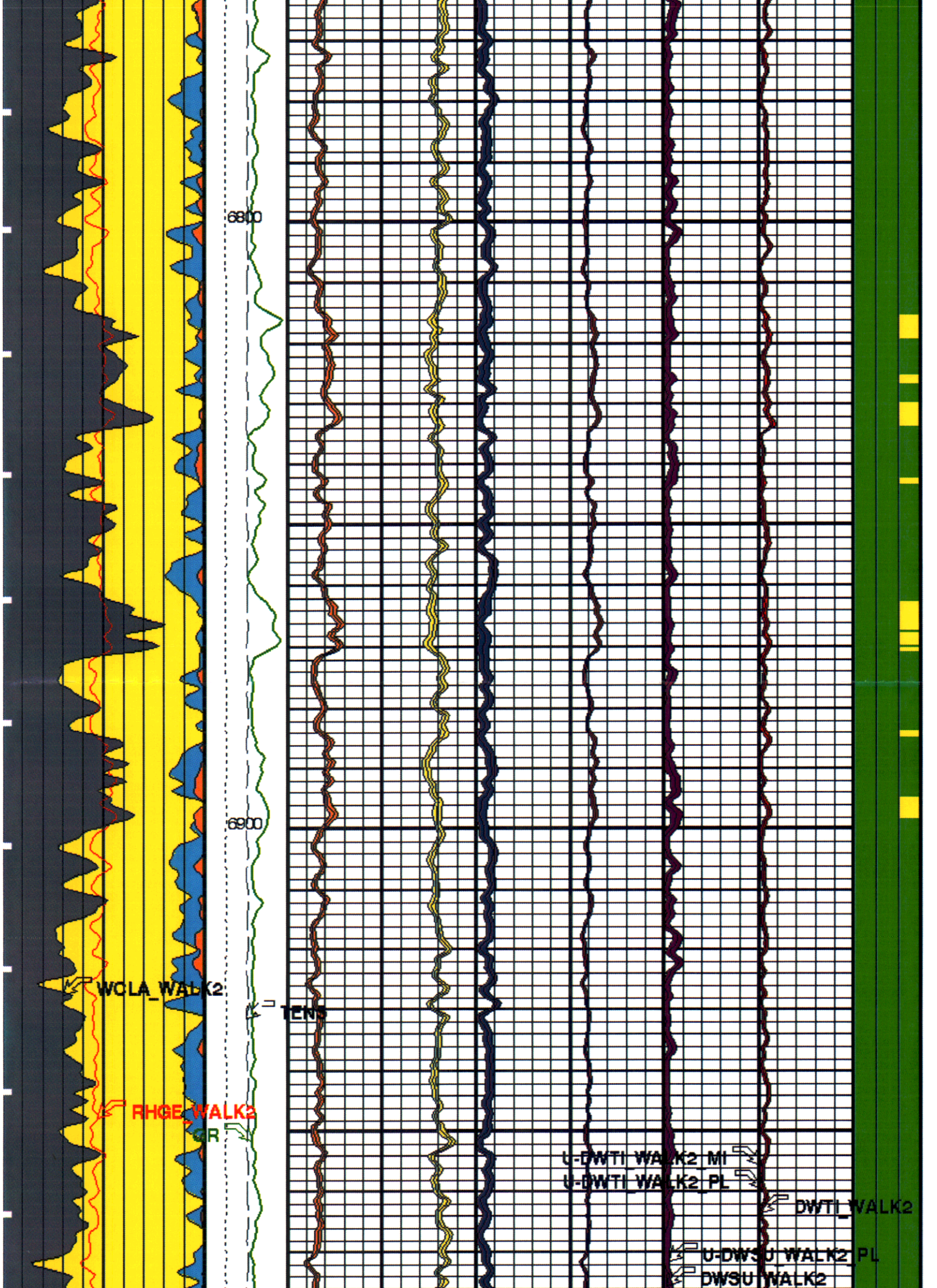
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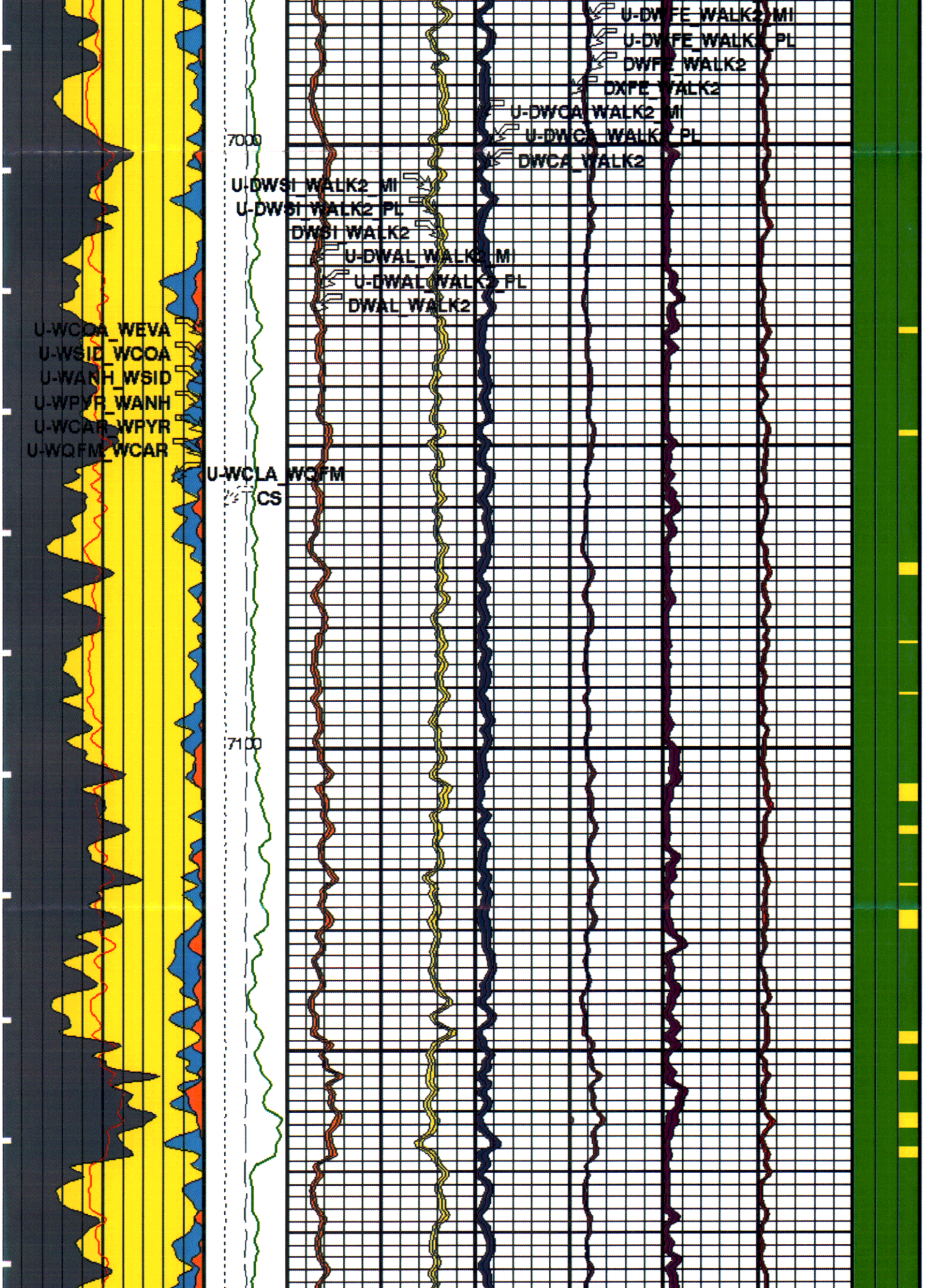
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CS
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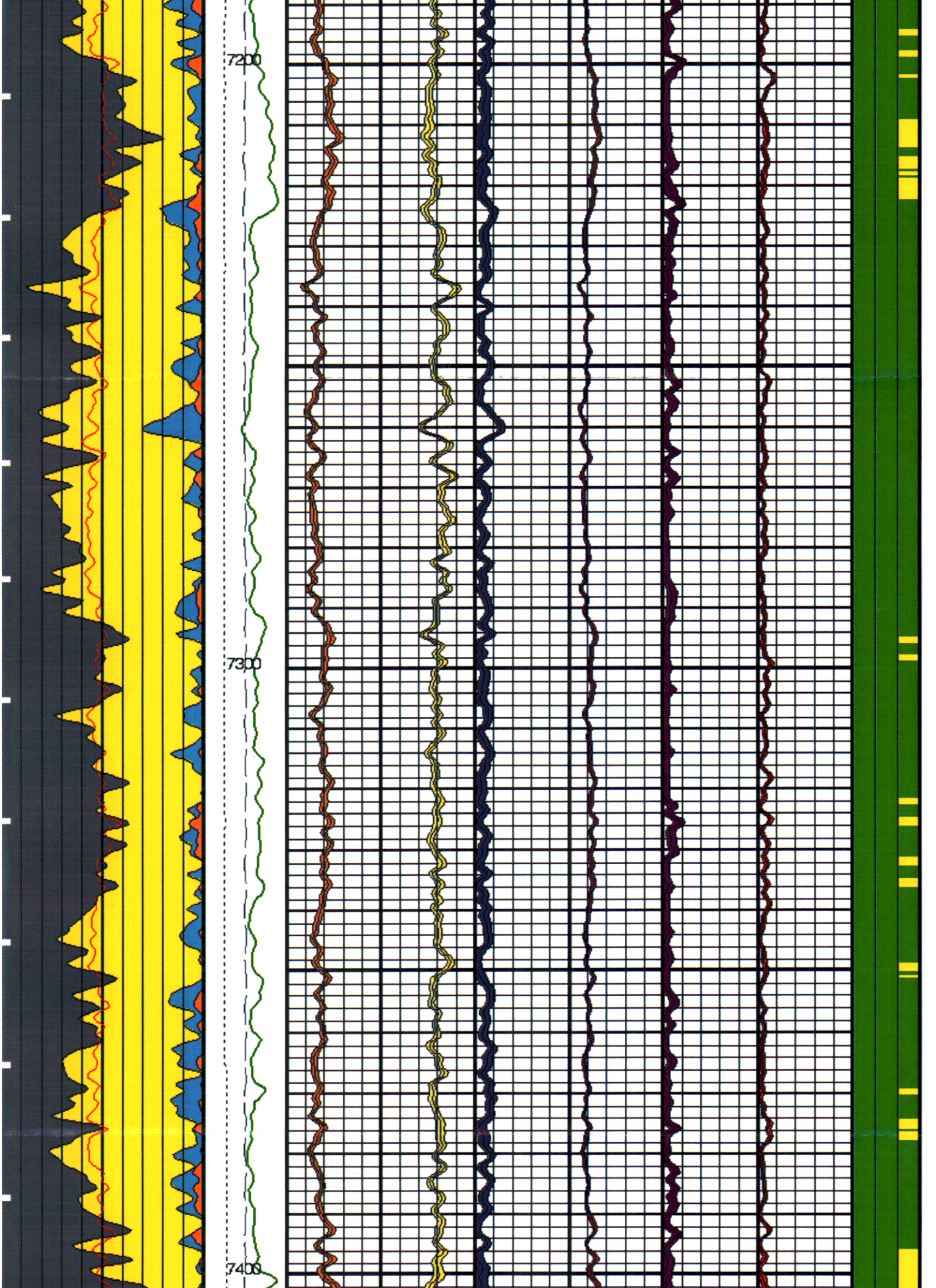
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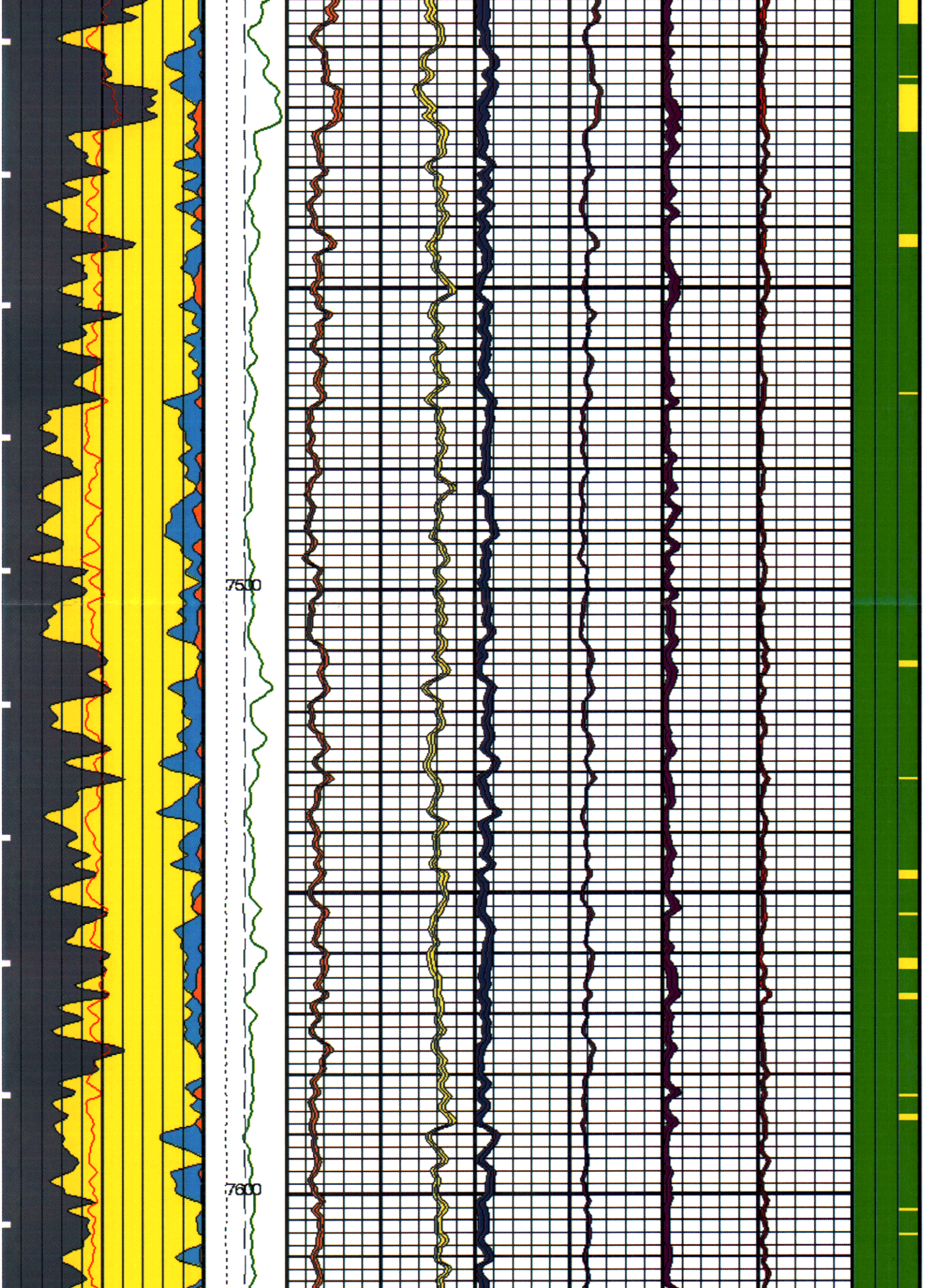
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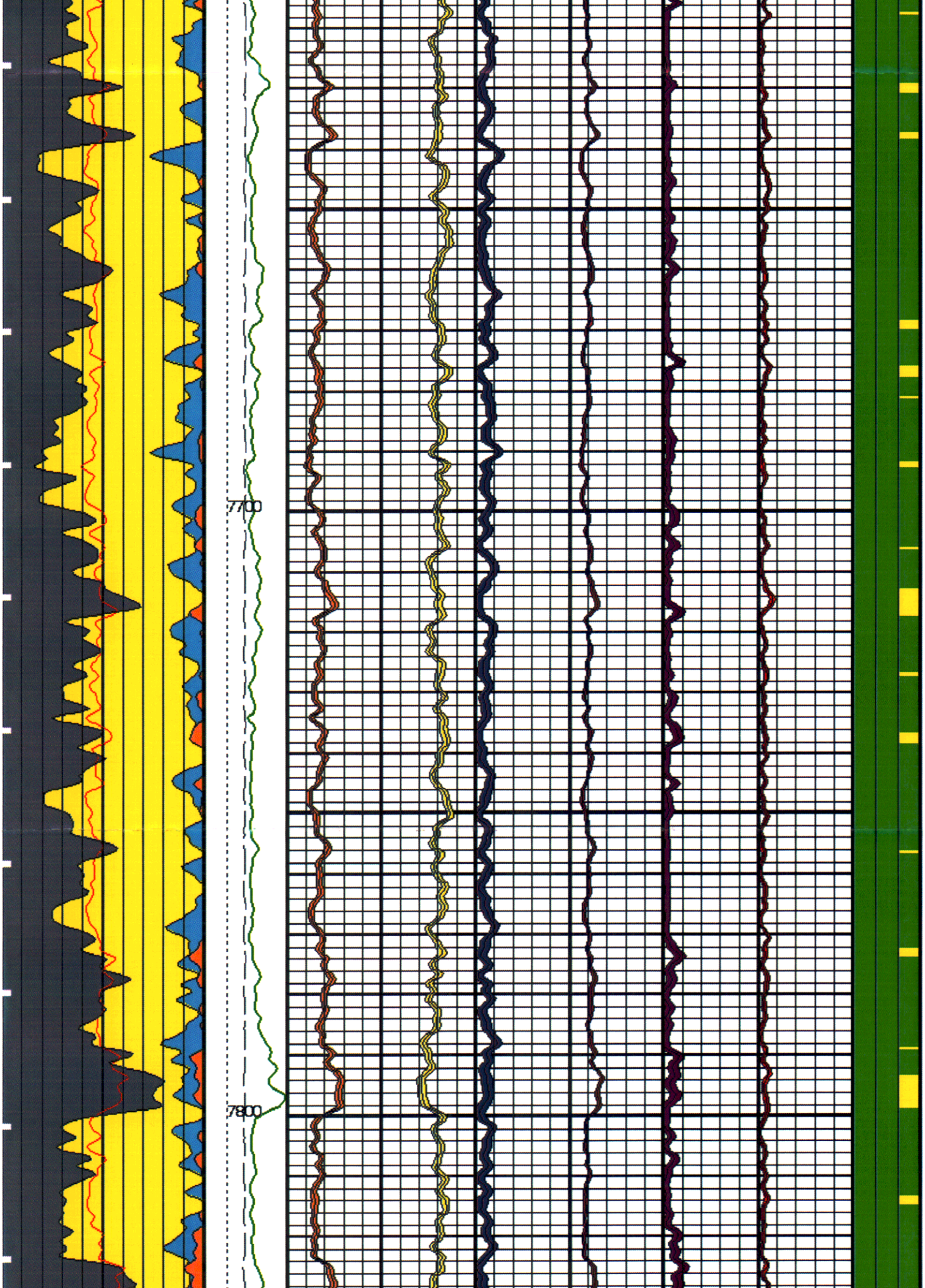
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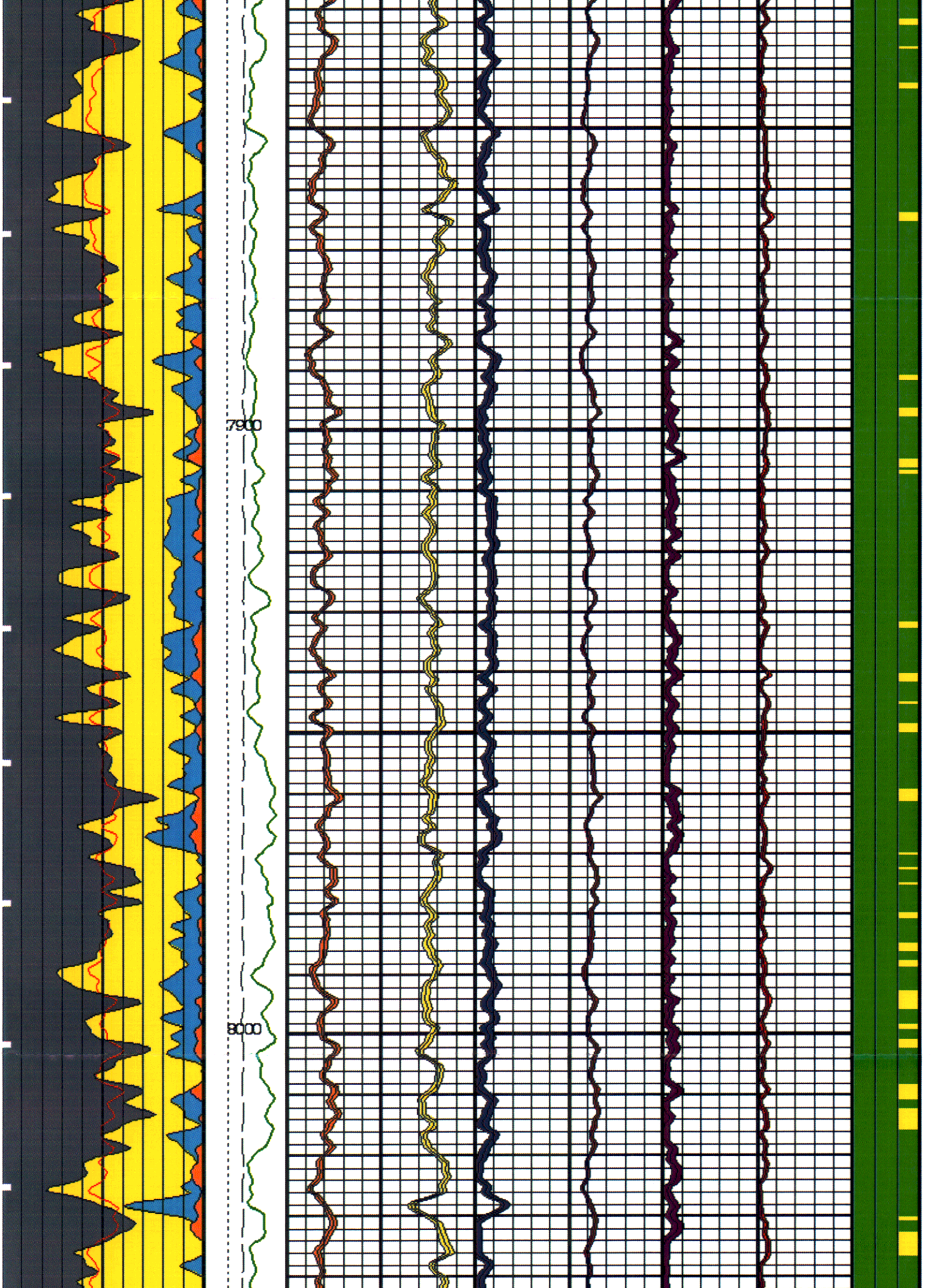
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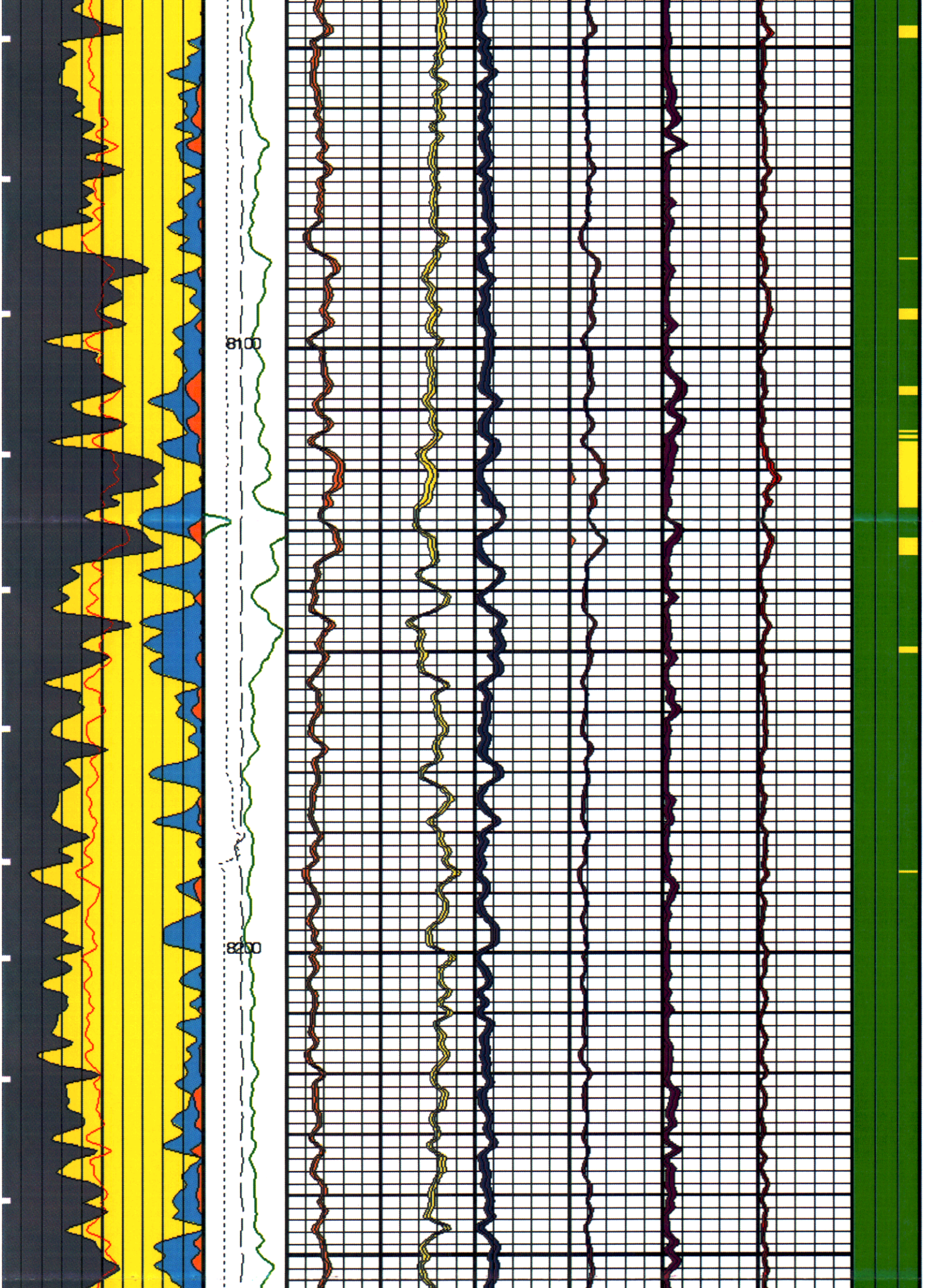
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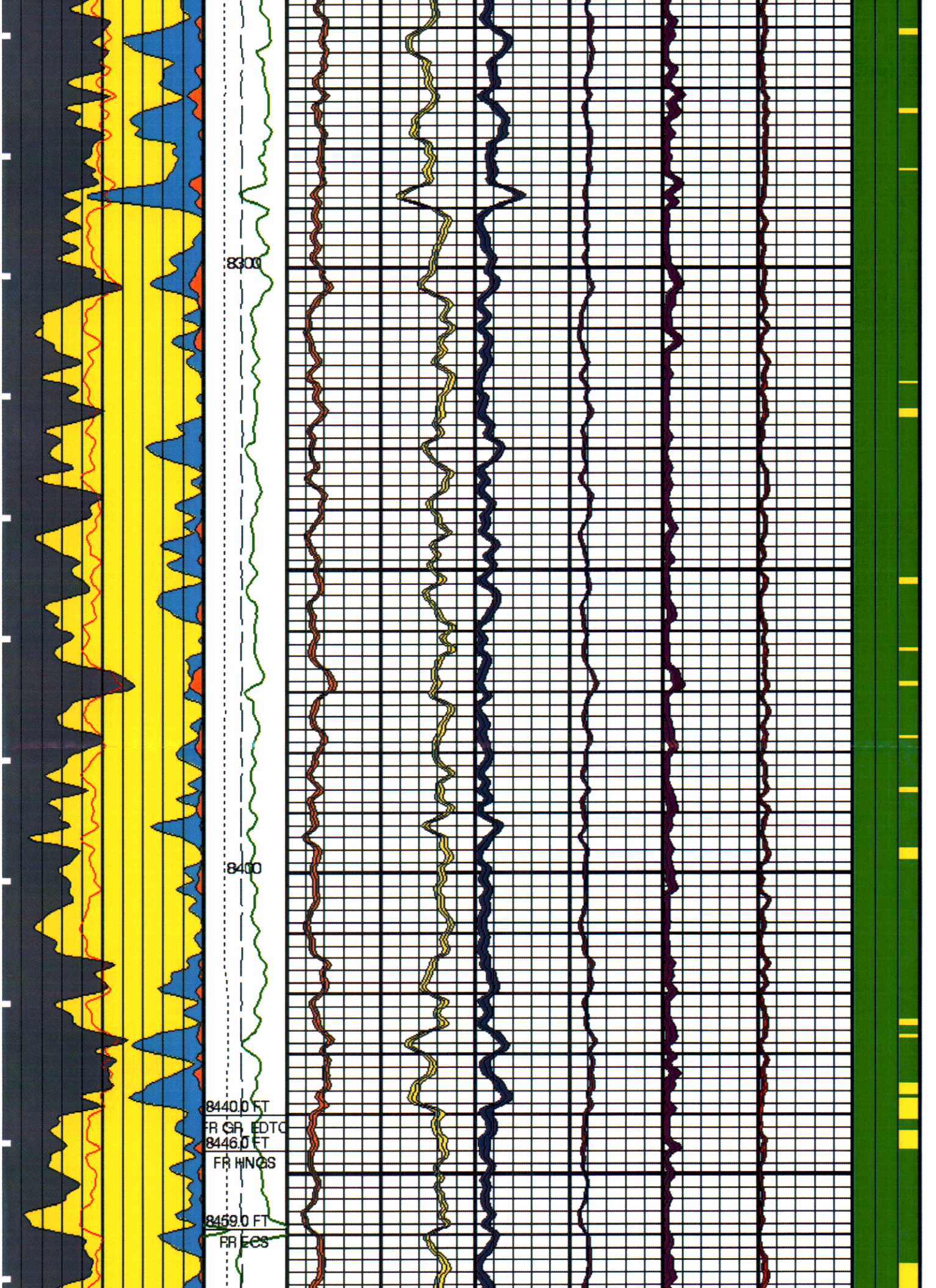
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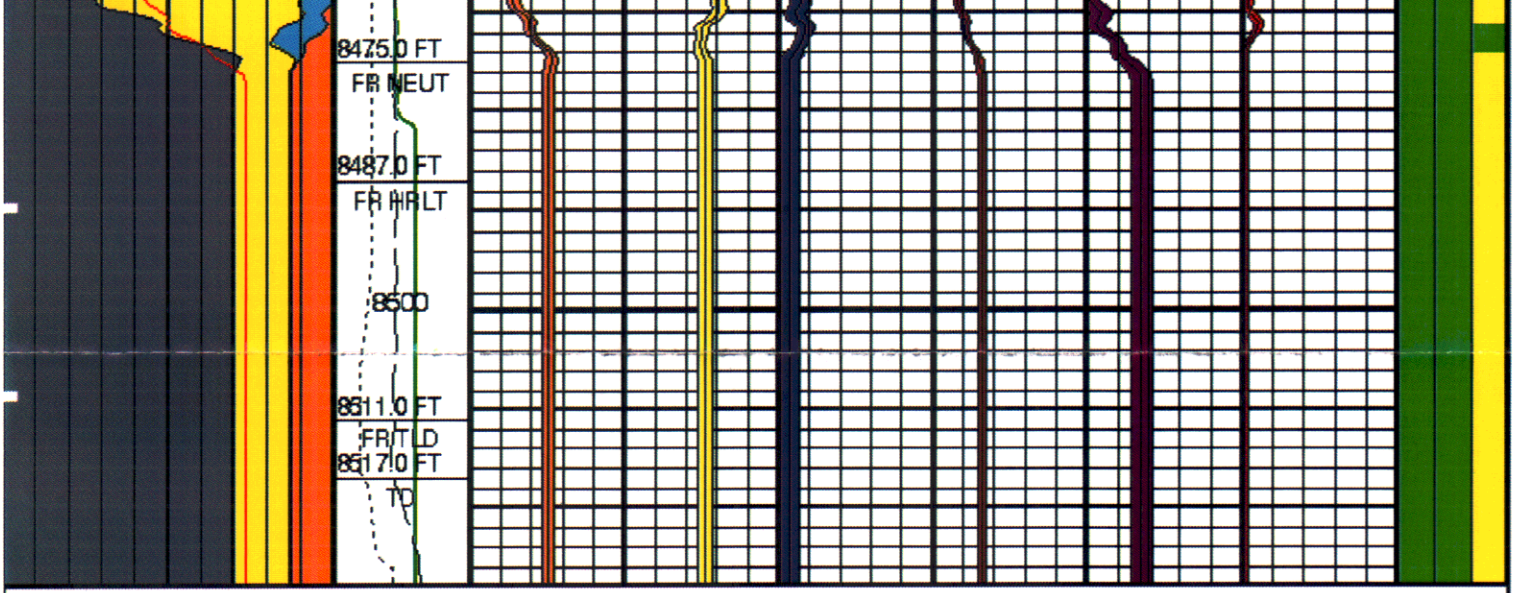
8400
8440.0 FT
FR GR, EDTC
8446.0 FT
FR HNGS
8459.0 FT
FR ECS



LQC Track

Left(I1) ---> Right(I3)

I1: ECS Hardware: Photomultiplier (QC_PMT)

I2: ECS Hardware: BGO Crystal Temperature (ECST)

I3: ECS Data Quality: Elemental Statistical Uncertainty (ESUF_WALK2)

Anhydrite	Cable Speed (CS) (F/HR) 0 5000	DWAL (DWAL_WALK2) 0 (W/W) 0.2	DWSI (DWSI_WALK2) 0 (W/W) 0.5	DWCA (DWCA_WALK2) 0 (W/W) 0.5	DXFE (DXFE_WALK2) 0 (W/W) 0.2	DWSU (DWSU_WALK2) (W/W) 0 0.25	DWTI (DWTI_WALK2) (W/W) 0 0.05	normal
Clay	Tension (TENS) (LBF) 10000 0	Dry Wt. Aluminum	Dry Wt. Silicon	Dry Wt. Calcium	DWFE (DWFE_WALK2) 0 (W/W) 0.2	Dry Wt. Sulfur	Dry Wt. Titanium	warning
Carbonate	Gamma Ray (GR) (GAPI) 0 200				Dry Wt. Excess Iron			error
Coal					Dry Wt. Iron			LQC I1--->I3
Pyrite								
Q-F-M								
Siderite								
Salt								
Matrix Density (RHGE_WALK2) 2.5 (G/C3) 3								

PIP SUMMARY

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value	
	ECS-A: Elemental Capture Spectroscopy Tool		
SPEC_BARITE_MUD_FLAG	Barite Mud Flag for Spectroscopy Processing	On	
SPEC_CSG_DEPTH	Casing Depth for Spectroscopy Processing	1995.5	FT
SPEC_ELE_STD_SHFT_FAC	Calibration Factor for Elemental Spectral Standards	1.21474	
SPL_CLAY_MODEL	Spectrolith Clay Model	Sub-Arkose	

SPL_SEAT_MODEL	SpectroLith Stay Model	Sub Anhse	
SPL_SULFUR_MINERAL	SpectroLith Sulfur Mineral Option	Pyrite	
System and Miscellaneous			
DO	Depth Offset for Playback	7.0	FT
PP	Playback Processing	RECOMPUTE	

Format: ECS_SpectroLith_PB Vertical Scale: 5" per 100' Graphics File Created: 11-Dec-2010 19:43

OP System Version: 18C0-147

SPA-A	18C0-147	HILTB-FTB	18C0-147
ECS-A	18C0-147	ECC-B	18C0-147
HNGC-B	18C0-147	HNGS-BA	18C0-147
EDTC-B	18C0-147		

Input DLIS Files

DEFAULT	TLD_MCFL_CNL_ECS_041PUP	FN:62	PRODUCER	11-Dec-2010 19:05	8520.0 FT	1488.0 FT

Output DLIS Files

DEFAULT	TLD_MCFL_CNL_ECS_045PUP	FN:66	PRODUCER	11-Dec-2010 19:43

Schlumberger

ECS YIELDS

MAXIS Field Log

Input DLIS Files

DEFAULT	TLD_MCFL_CNL_ECS_041PUP	FN:62	PRODUCER	11-Dec-2010 19:05	8520.0 FT	1488.0 FT

Output DLIS Files

DEFAULT	TLD_MCFL_CNL_ECS_045PUP	FN:66	PRODUCER	11-Dec-2010 19:43	8527.5 FT	1750.0 FT

OP System Version: 18C0-147

SPA-A	18C0-147	HILTB-FTB	18C0-147
ECS-A	18C0-147	ECC-B	18C0-147
HNGC-B	18C0-147	HNGS-BA	18C0-147
EDTC-B	18C0-147		

PIP SUMMARY

Time Mark Every 60 S

Oxides Closure Normalization Factor (FY2W_WALK2)		
0	(---)	5
Elemental Statistical Uncertainty Factor (ESUF_WALK2)		
0	(---)	5
ECS Marquardt Gain (ECMG_20)		
0.95	(---)	1.05

Spectral Count Rate (ch.40-240) (ESSR_20) 10000 (CPS) 30000											
Offset Correction Factor (EOCF_20) -5 (---) 5											
ECS Temperature (ECST) -20 (DEGF) 130											
RDF (ERDF_20) 0 (---) 10	LQC I1--->I5										
(HCAL) 10 (IN) 20	manual										IC
Bit Size (BS) 10 (IN) 20	error	Gamma Ray (GR) (GAPI) 0 200									CHY
Washout	warning	Tension (TENS) (LBF) 10000 0	CSI	CCA	CFE	CSUL	CTI	CGD	CCHL		IC (IC_WALK2) (---) 0.25 0
MudCake	normal	Cable Speed (CS) (F/HR) 0 5000	CSI (CSI_WALK2) (---) 0 0.5	CCA (CCA_WALK2) (---) 0 0.5	CFE (CFE_WALK2) (---) 0 0.5	CSUL (CSUL_WALK2) (---) 0 0.25	CTI (CTI_WALK2) (---) 0 0.5	CGD (CGD_WALK2) (---) 0 0.5	CCHL (CCHL_WALK2) 0 (---) 1		CHY (CHY_WALK2) 0 (---) 1

LQC Track

Left(I1) ---> Right(I5)

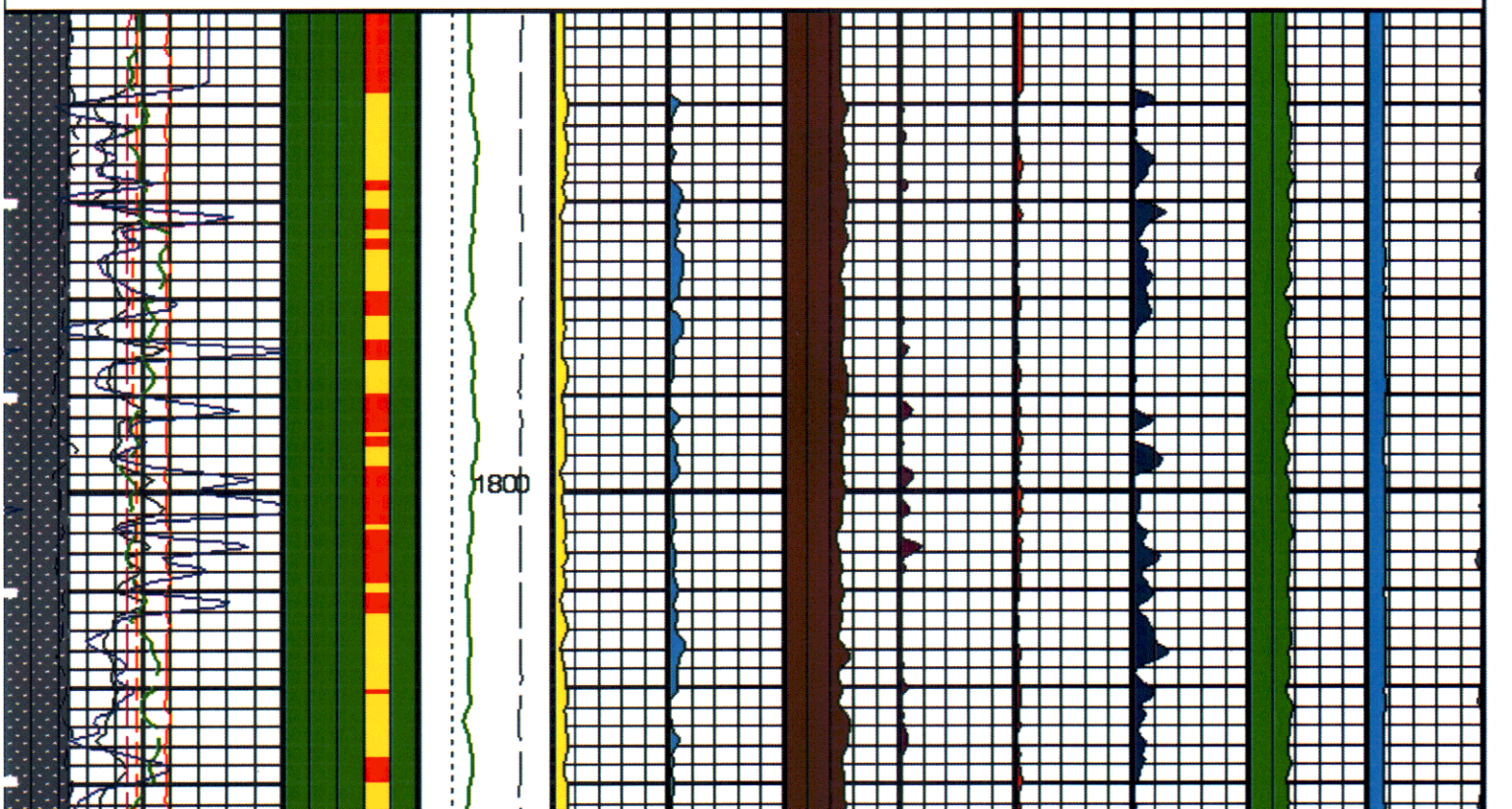
I1: ECS Hardware: Photomultiplier (QC_PMT)

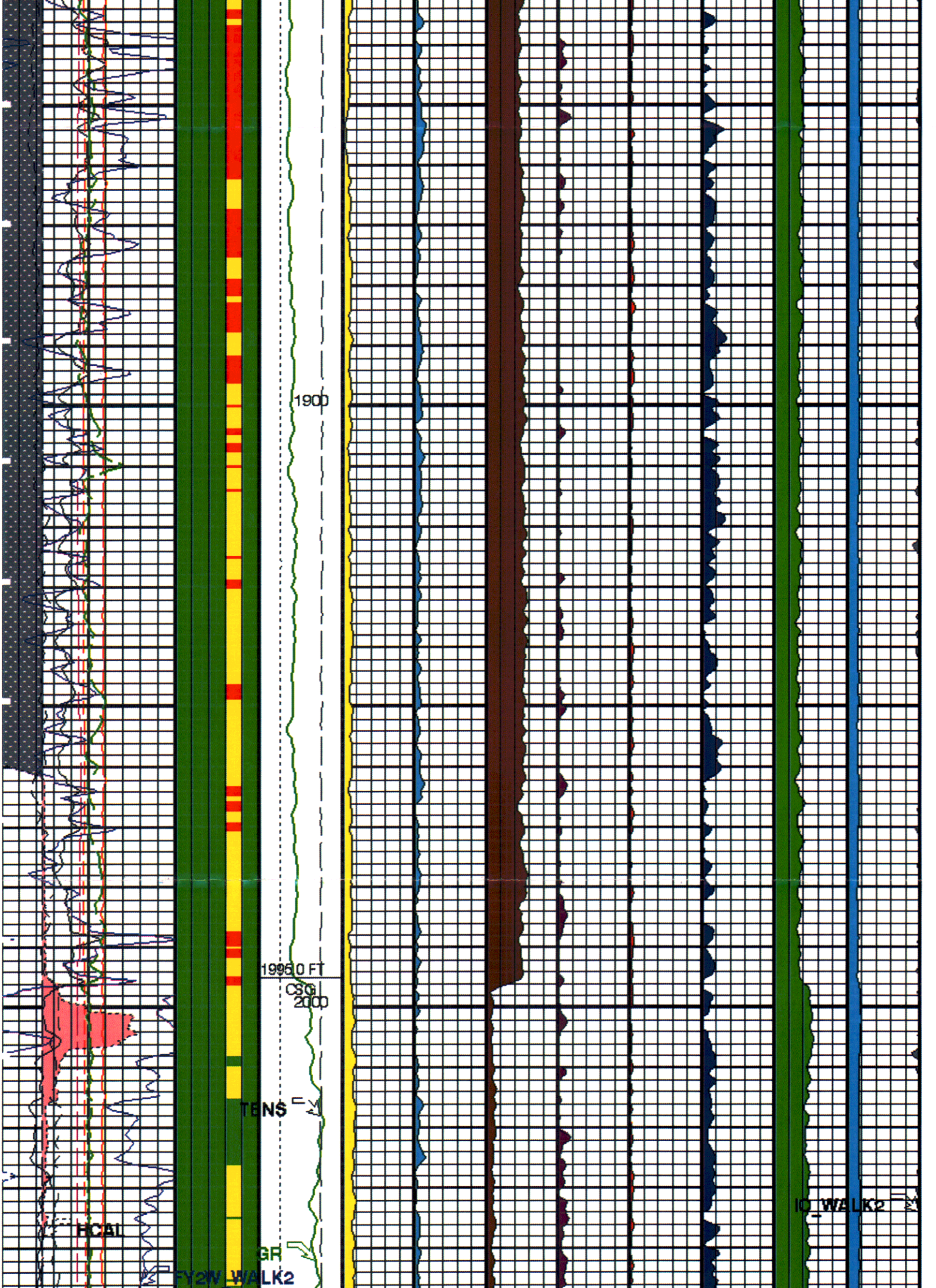
I2: ECS Hardware: BGO Crystal Temperature (ECST)

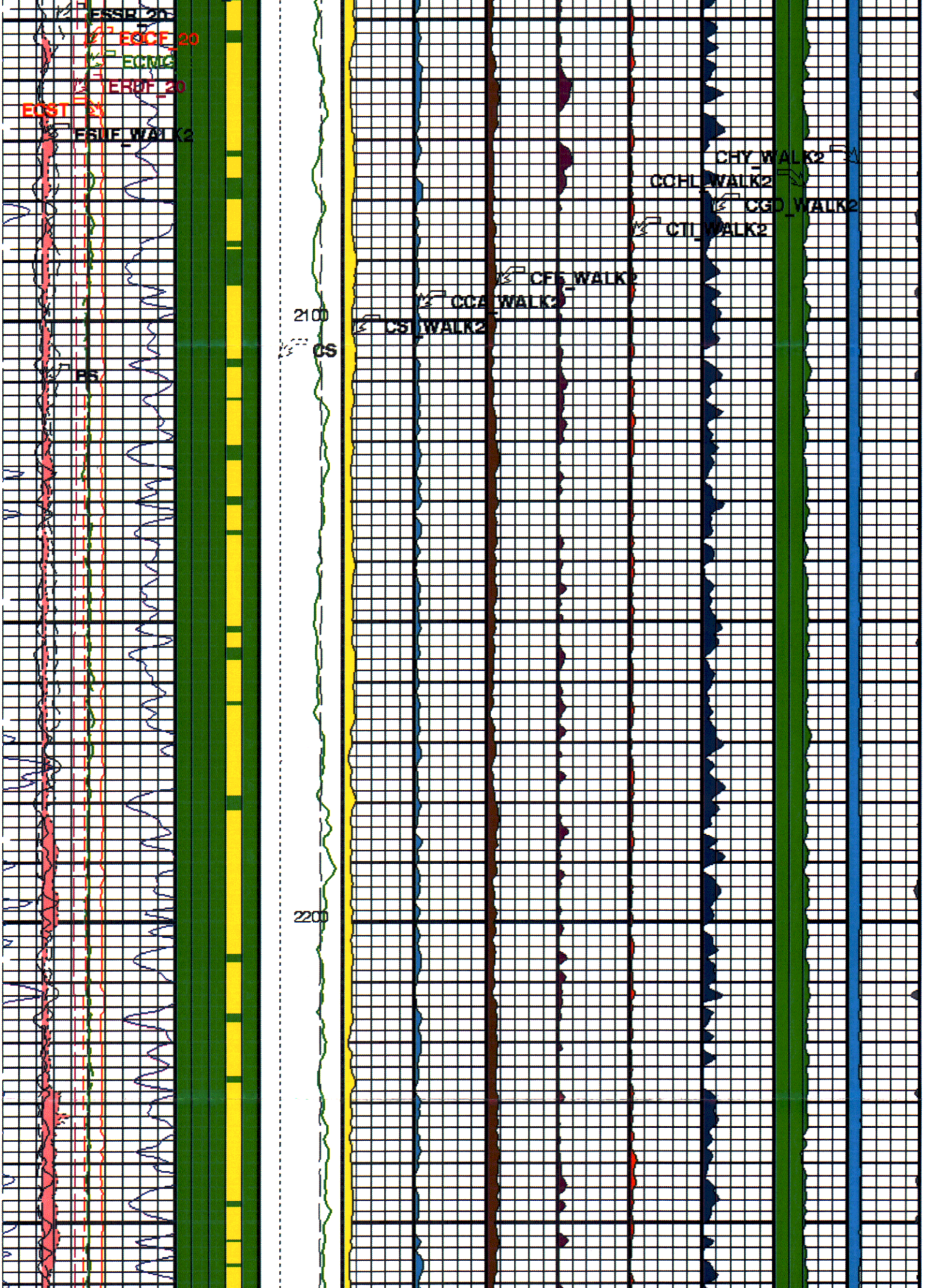
I3: ECS Hardware: Control Loop (HV Loop OR PSC LOOP)

I4: ECS Data Quality: Elemental Statistical Uncertainty (ESUF_WALK2)

I5: ECS Data Quality: Marquardt Chisq (EMC2)




1900
19960 FT
CSG
2000
TENS
HCAL
GR
FY2W_WALK2
IO_WALK2


ESSR_20
EDCF_20
ECMG
ERDF_20
ECST
FSUF_WALK2
CHY_WALK2
CCHL_WALK2
CGD_WALK2
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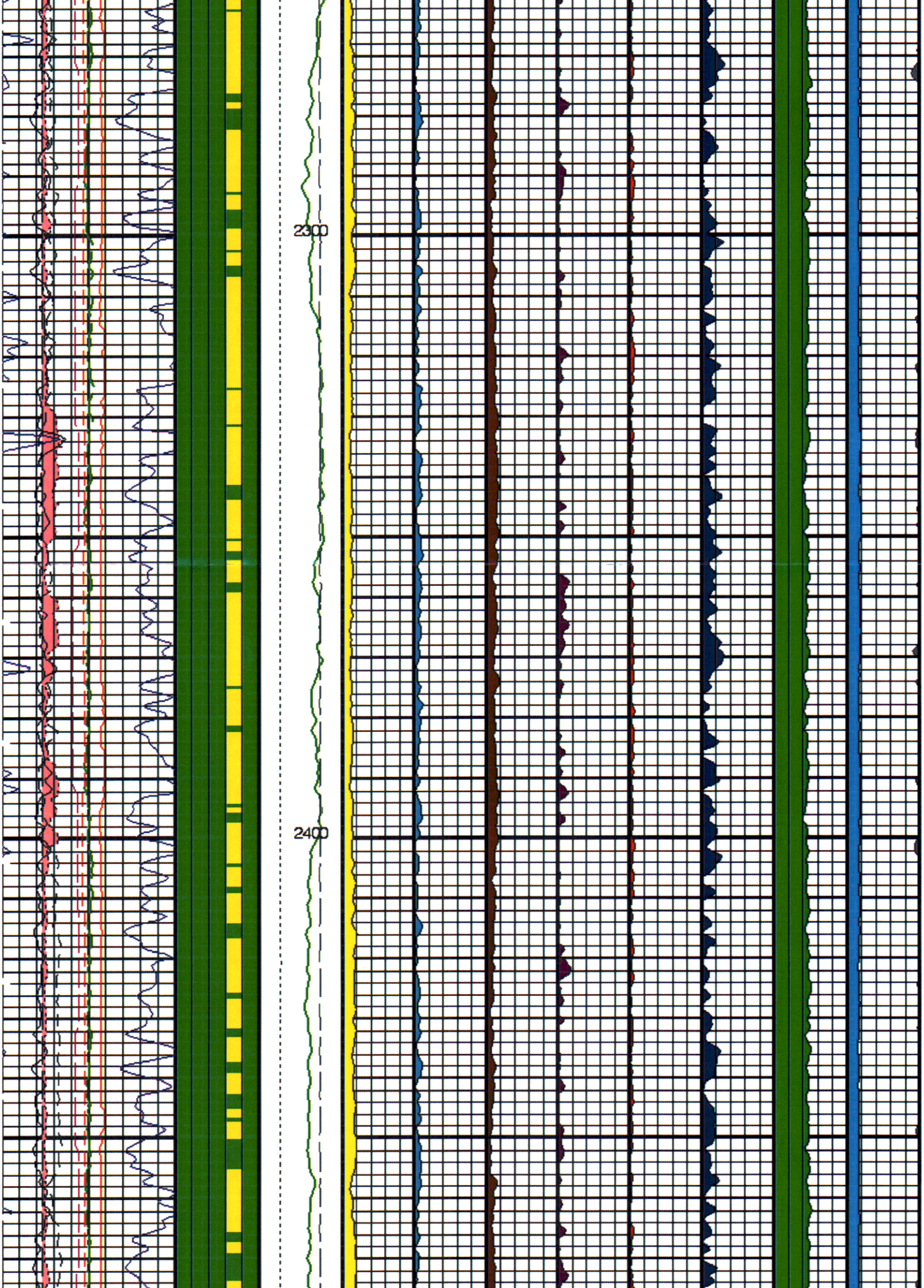
2100
CSI_WALK2
CS
PS
2200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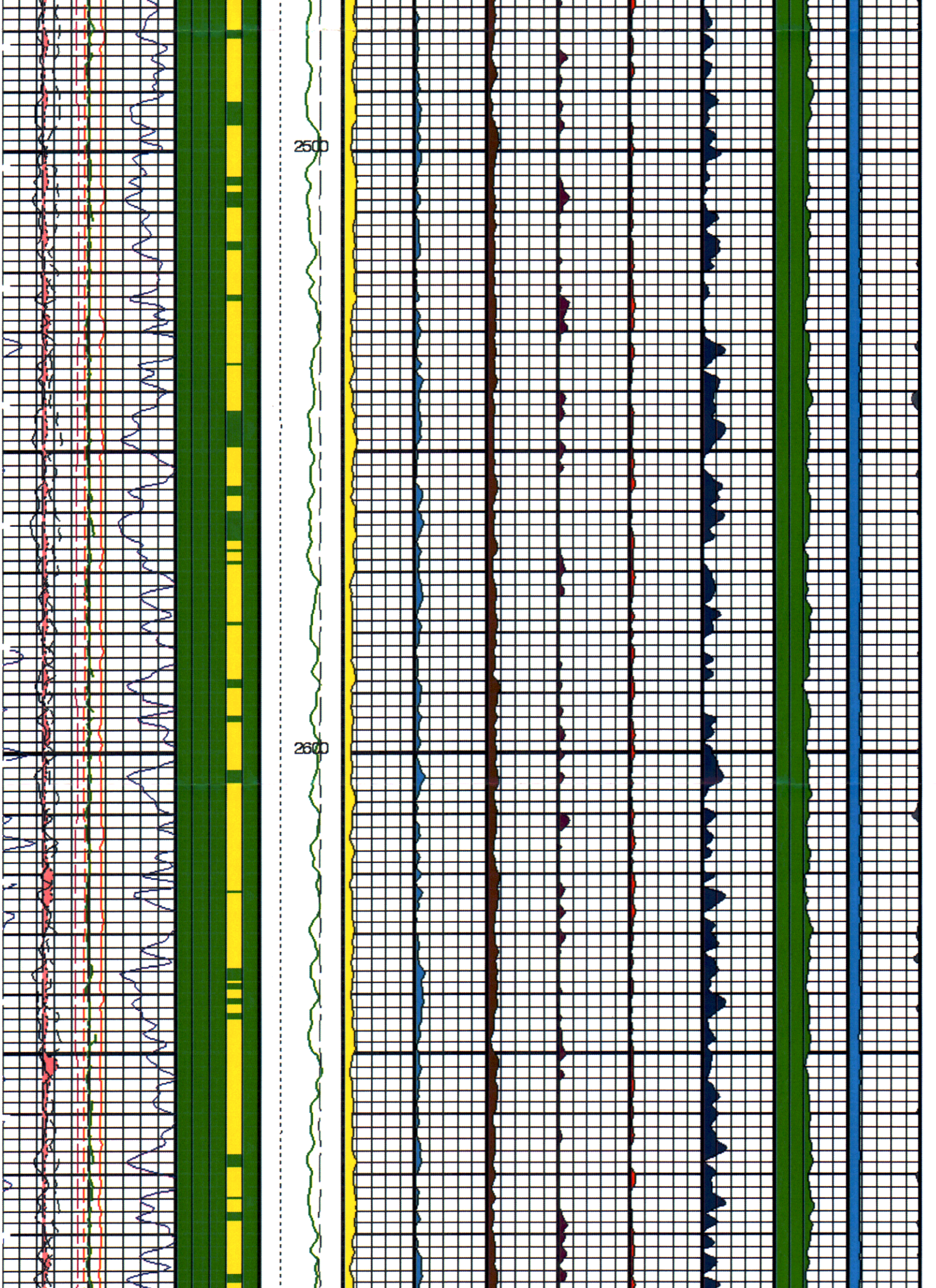
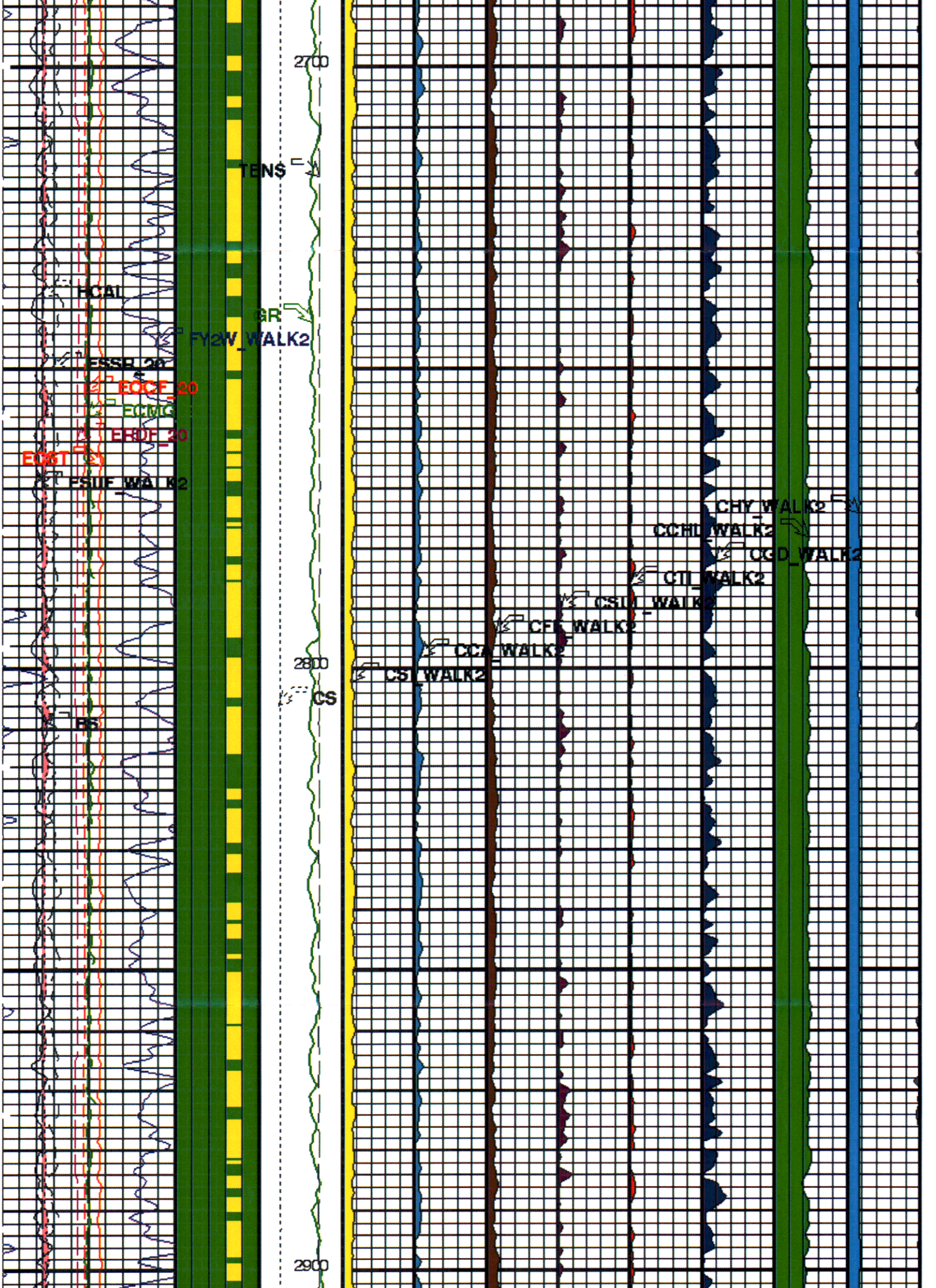
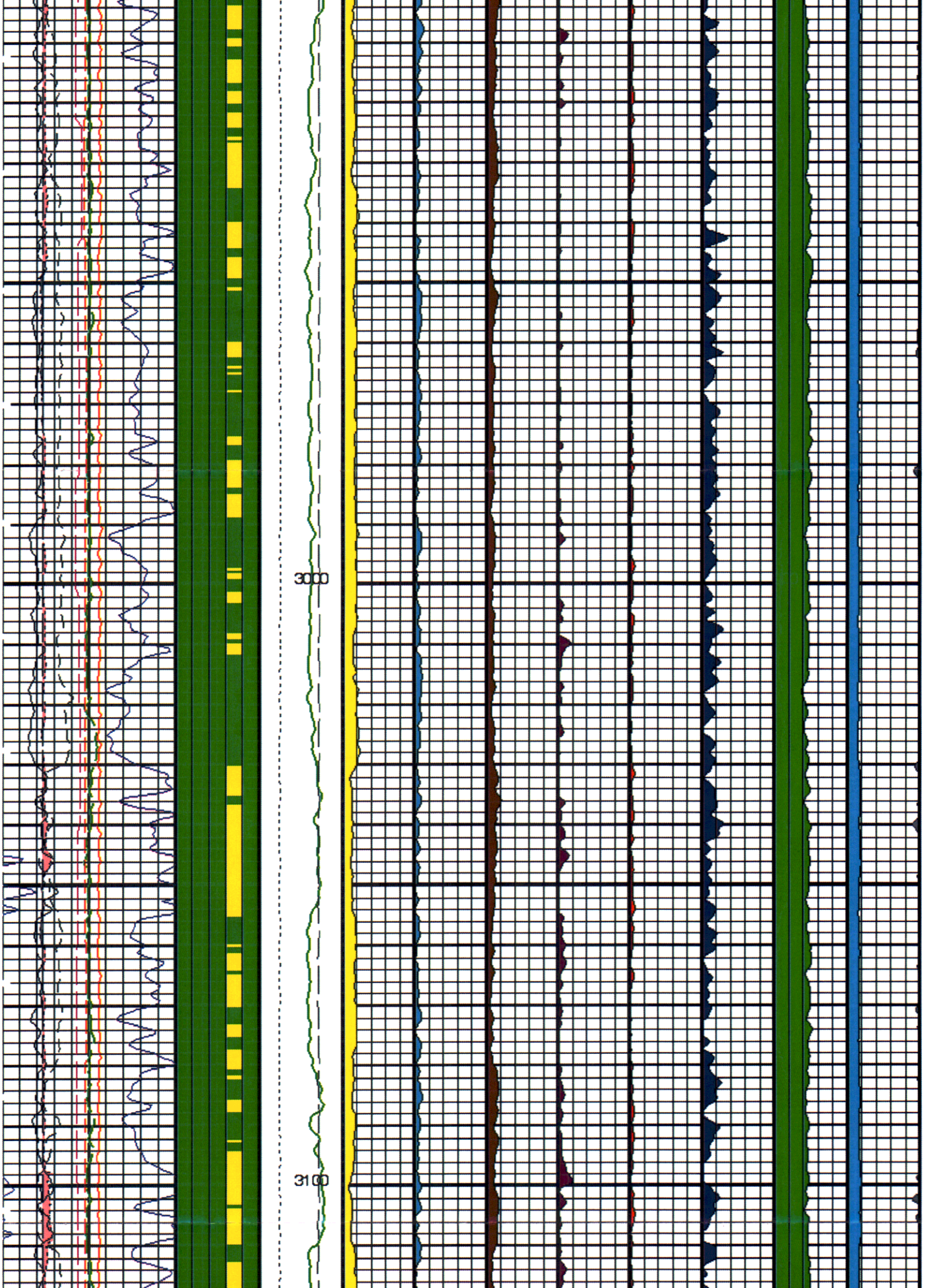
2400


2500
2600


2700
TENS
HCAL
GR
FY2W_WALK2
ESSR_20
EOCF_20
ECMG
ERDF_20
EOST
FSUF_WALK2
CHY_WALK2
CCHD_WALK2
CGD_WALK2
CTL_WALK2
CSLM_WALK2
CFK_WALK2
CCA_WALK2
2800
CSL_WALK2
CS
R6
2900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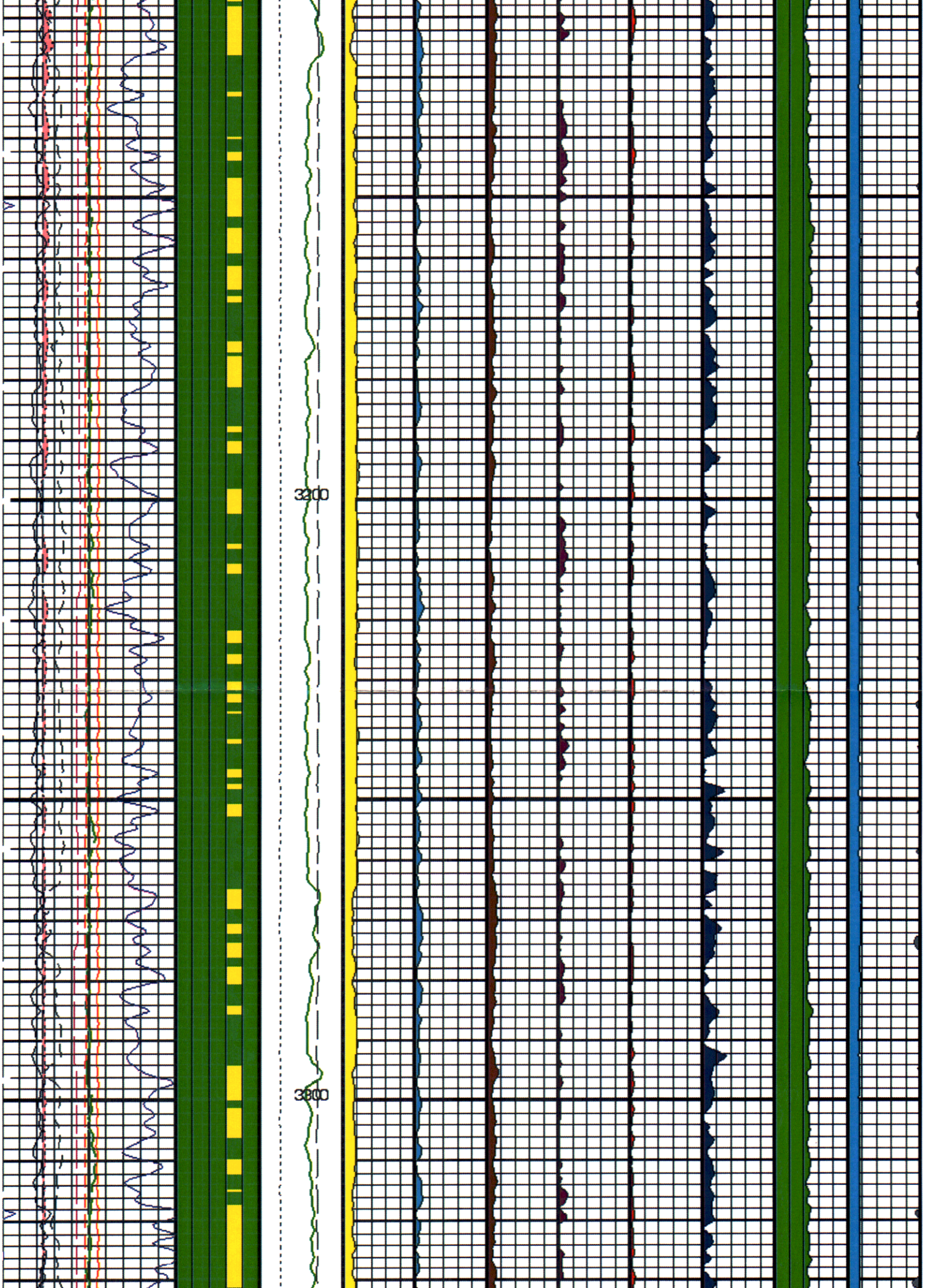
3100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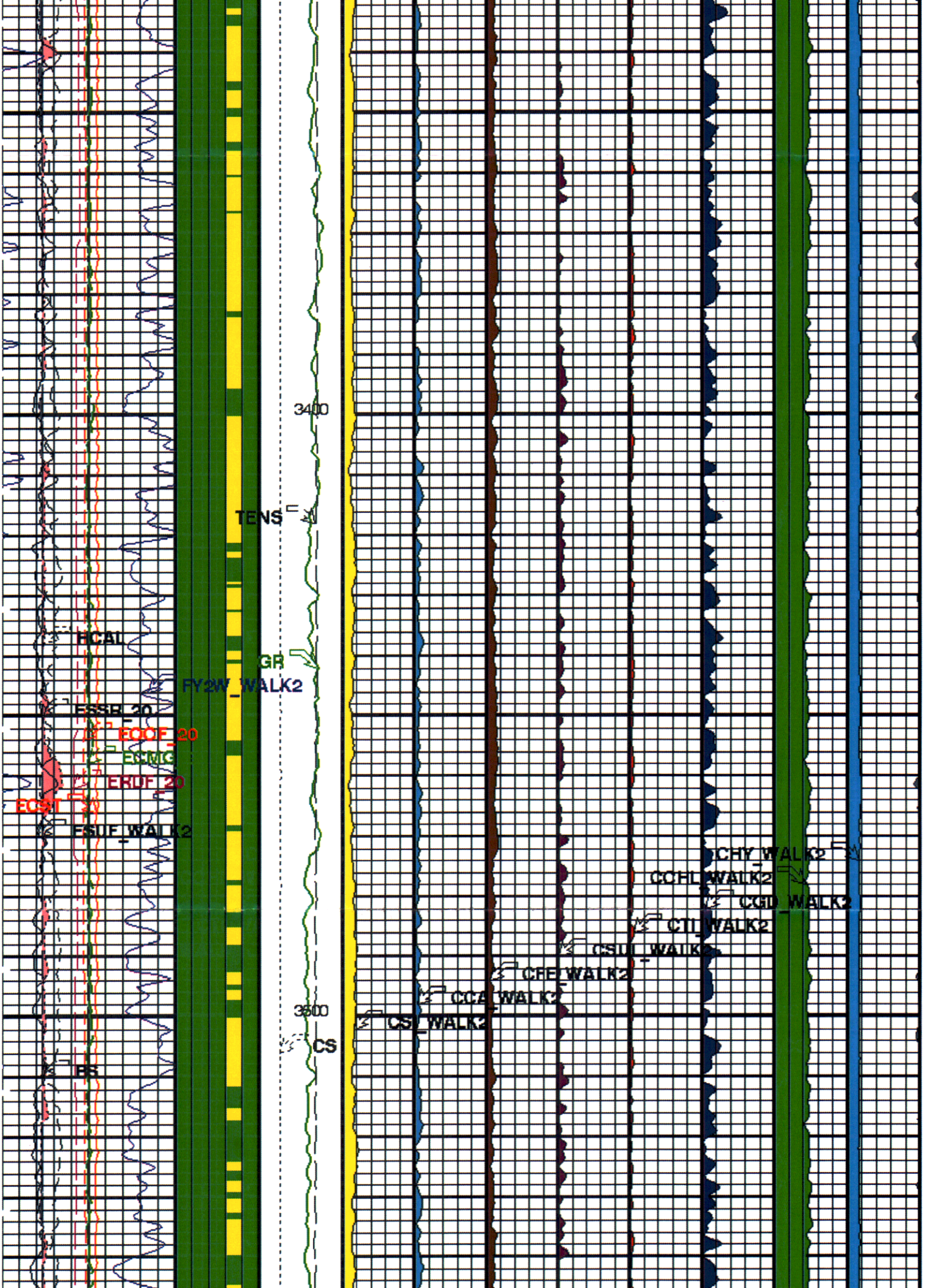
3300


3400
TENS
HCAL
GR
FY2W_WALK2
ESSB_20
ECCF_20
ECMG
ERDF_20
ECST
ESUF_WALK2
CHY_WALK2
CCHL_WALK2
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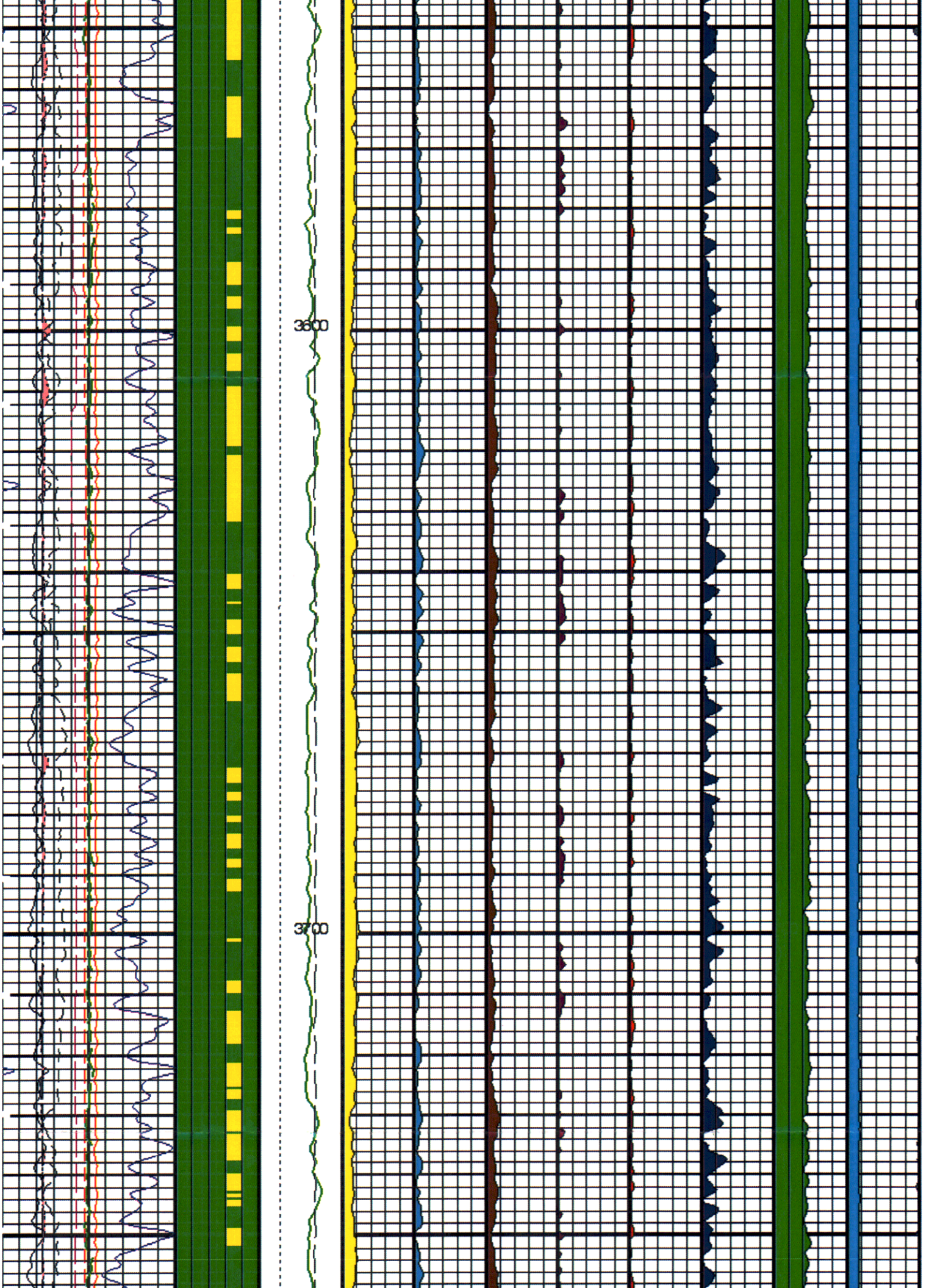
3500
CSI_WALK2
CS
BS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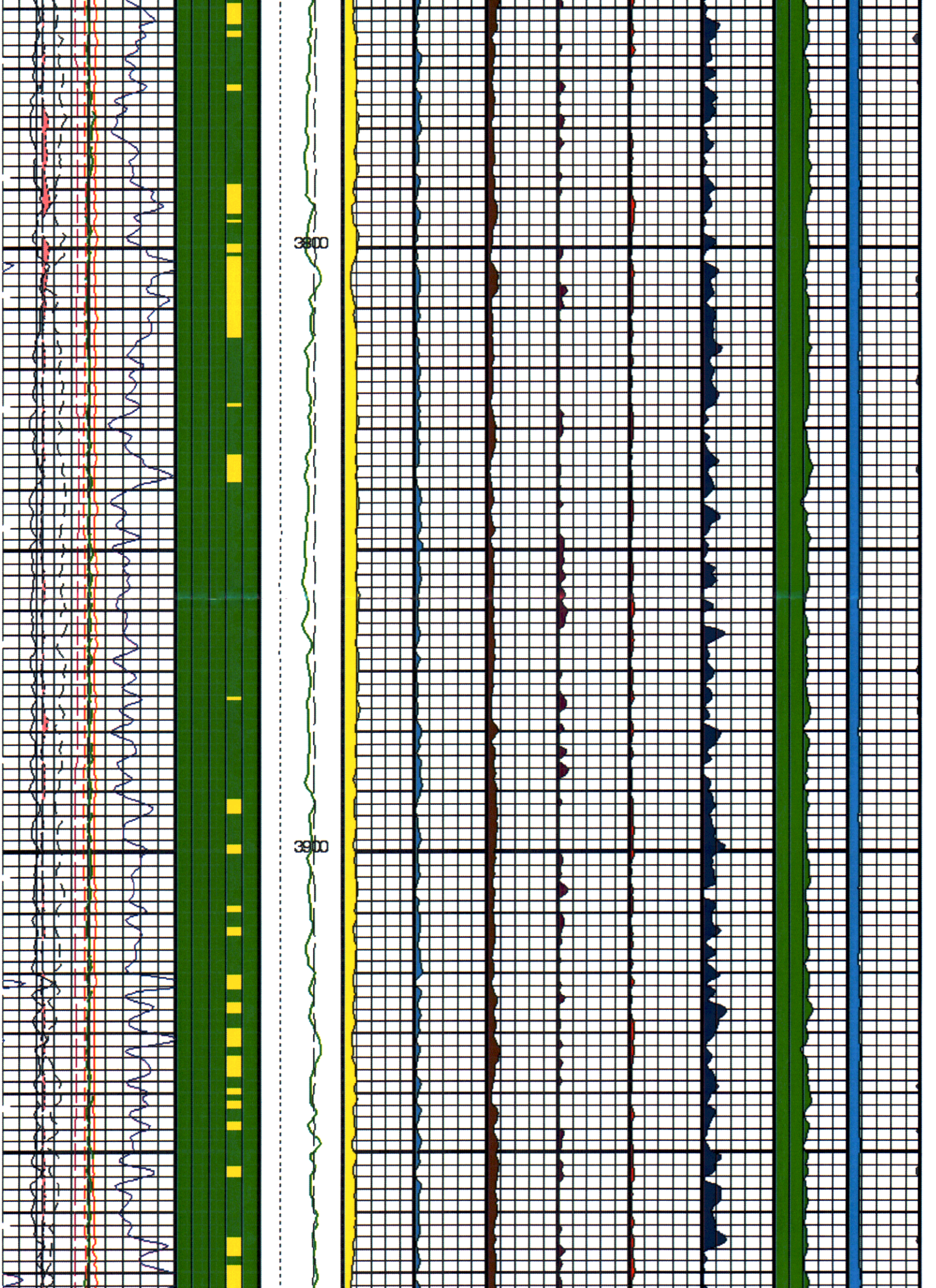
3700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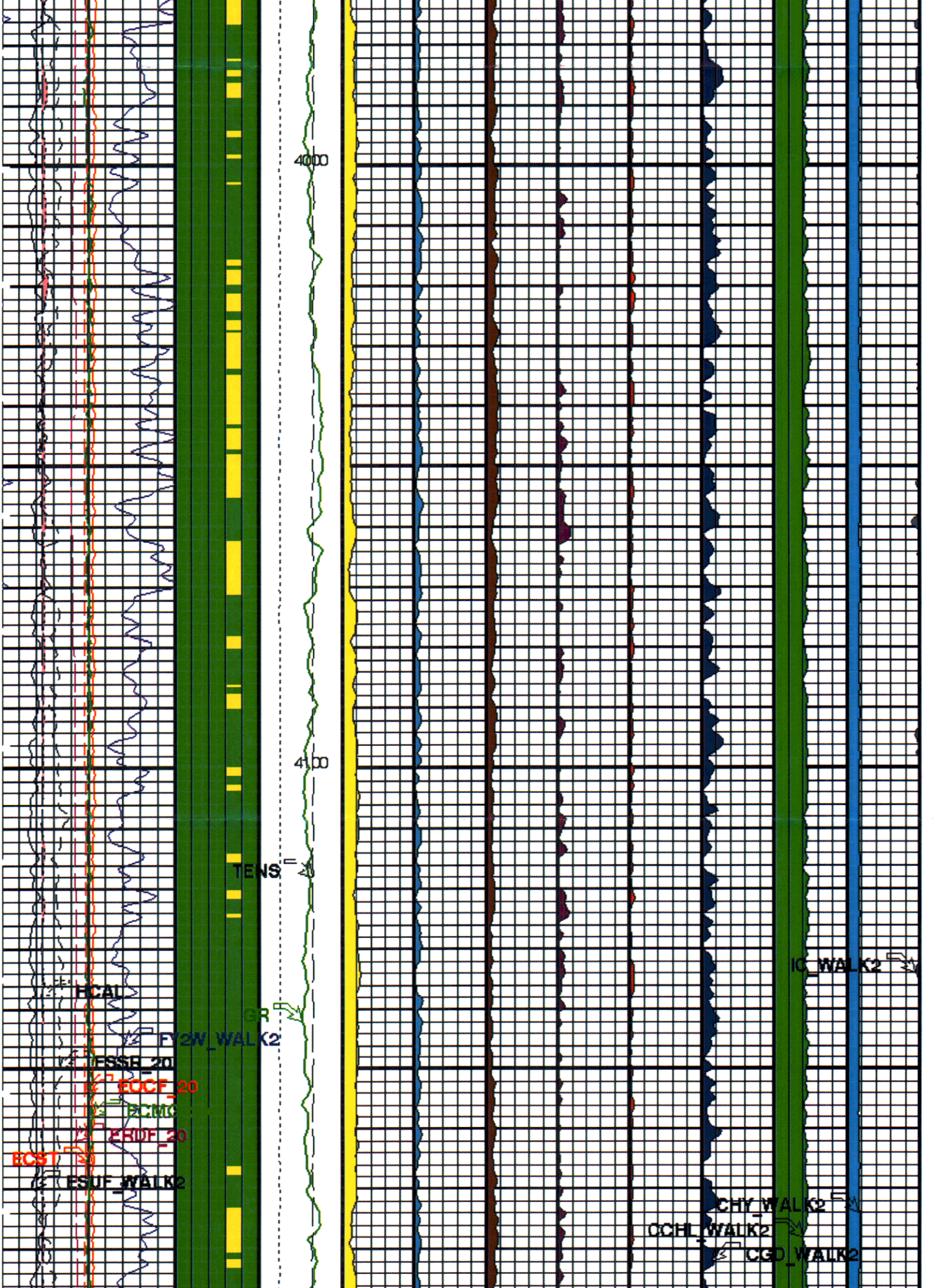
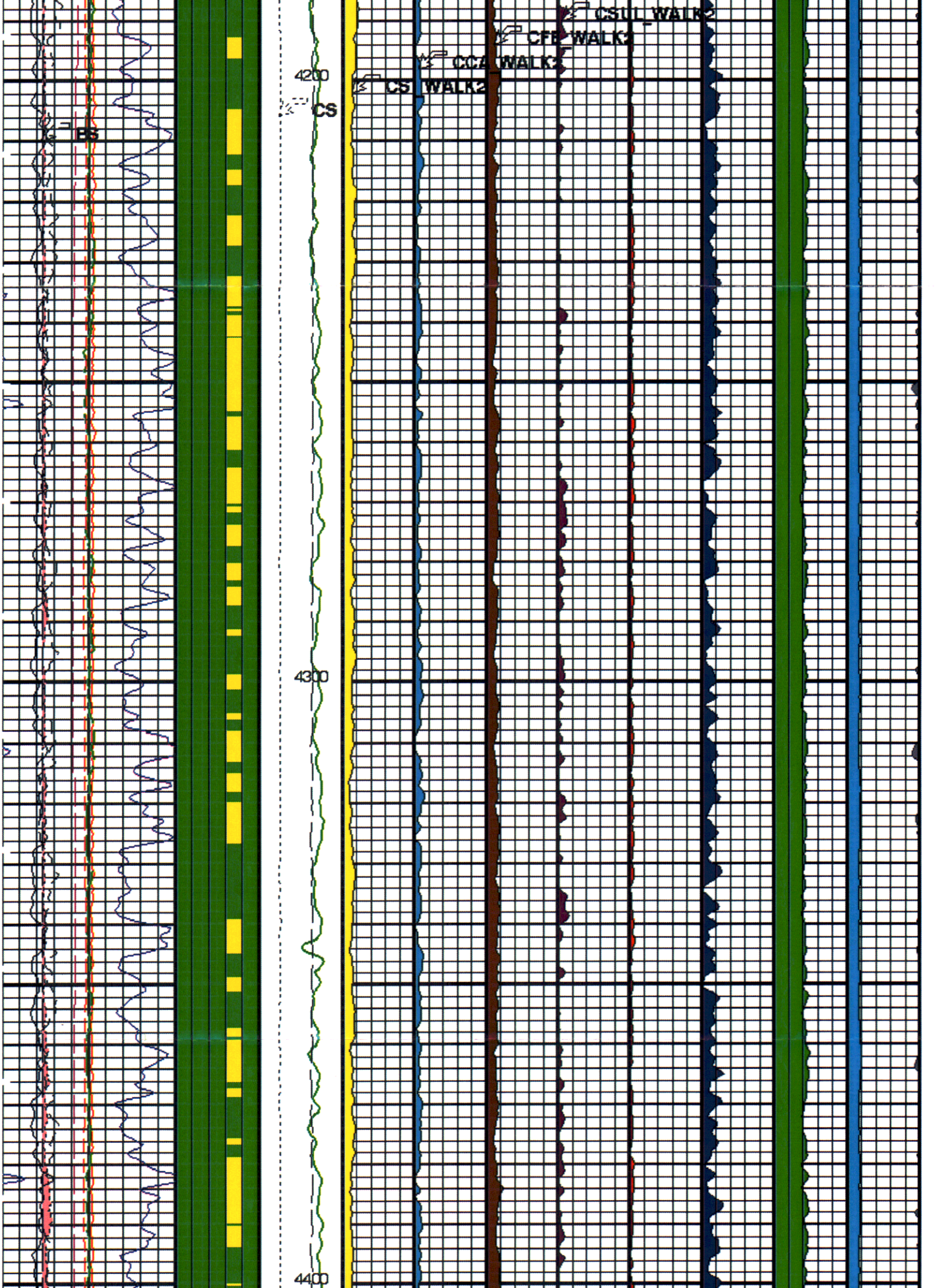
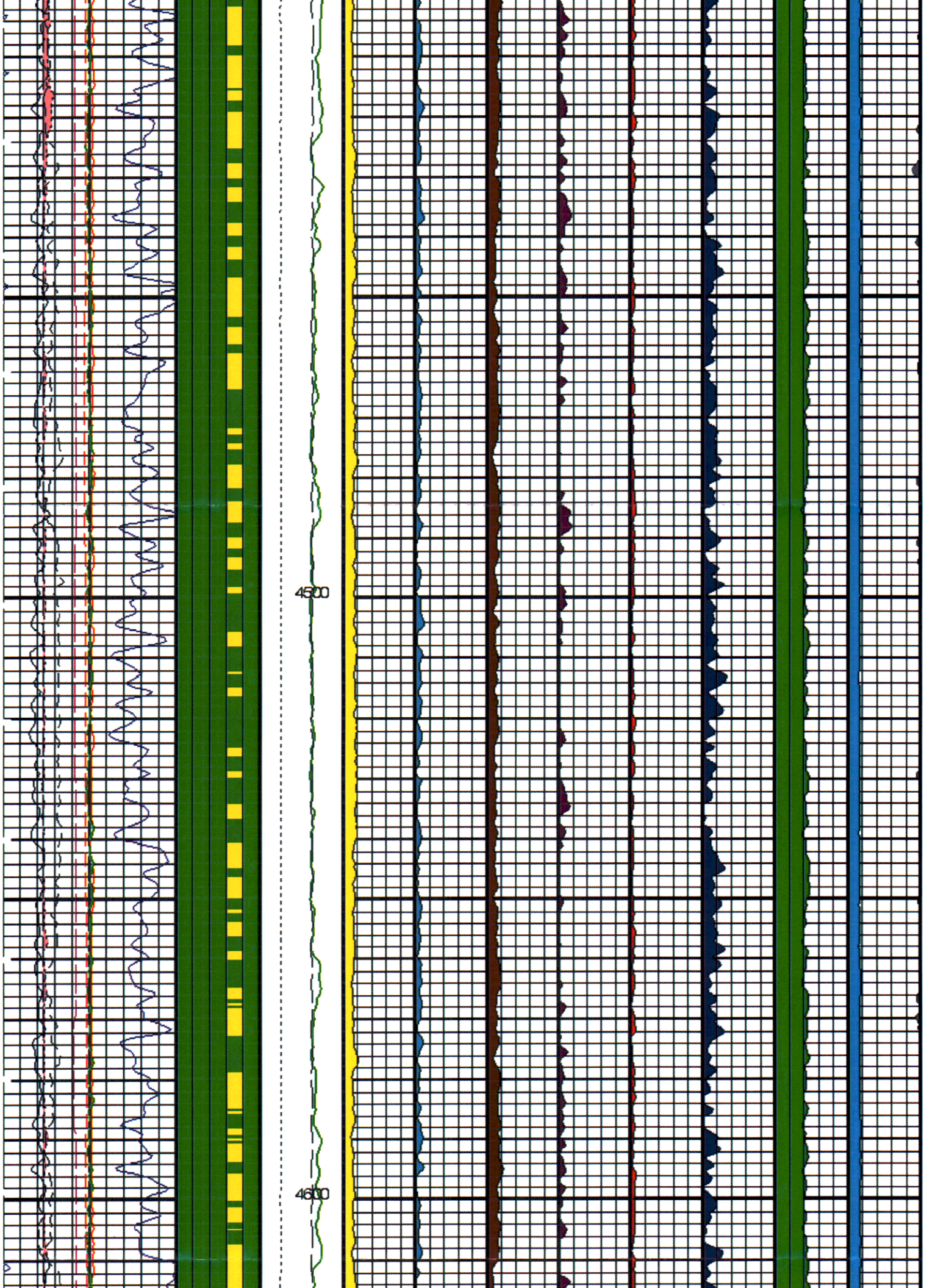

4000
4100
TENS
HCAL
GR
FY2N_WALK2
FSSR_20
EOCF_20
ECMC
ERDF_20
ECST
ESUF_WALK2
IC_WALK2
CHY_WALK2
CCHL_WALK2
CGD_WALK2


CSUL_WALK2
CFE_WALK2
CCA_WALK2
CS_WALK2
4200
CS
BS
4300
4400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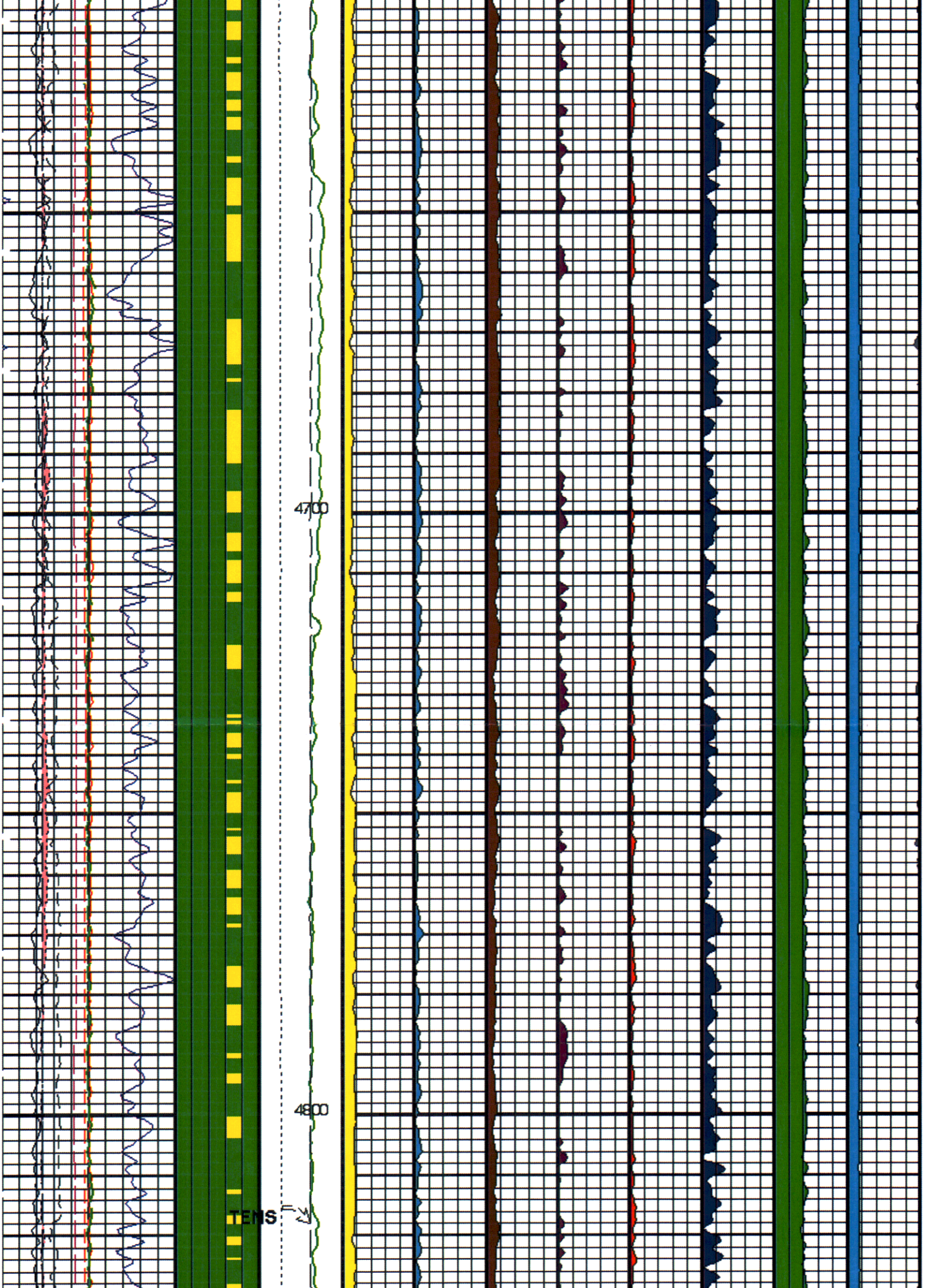
4600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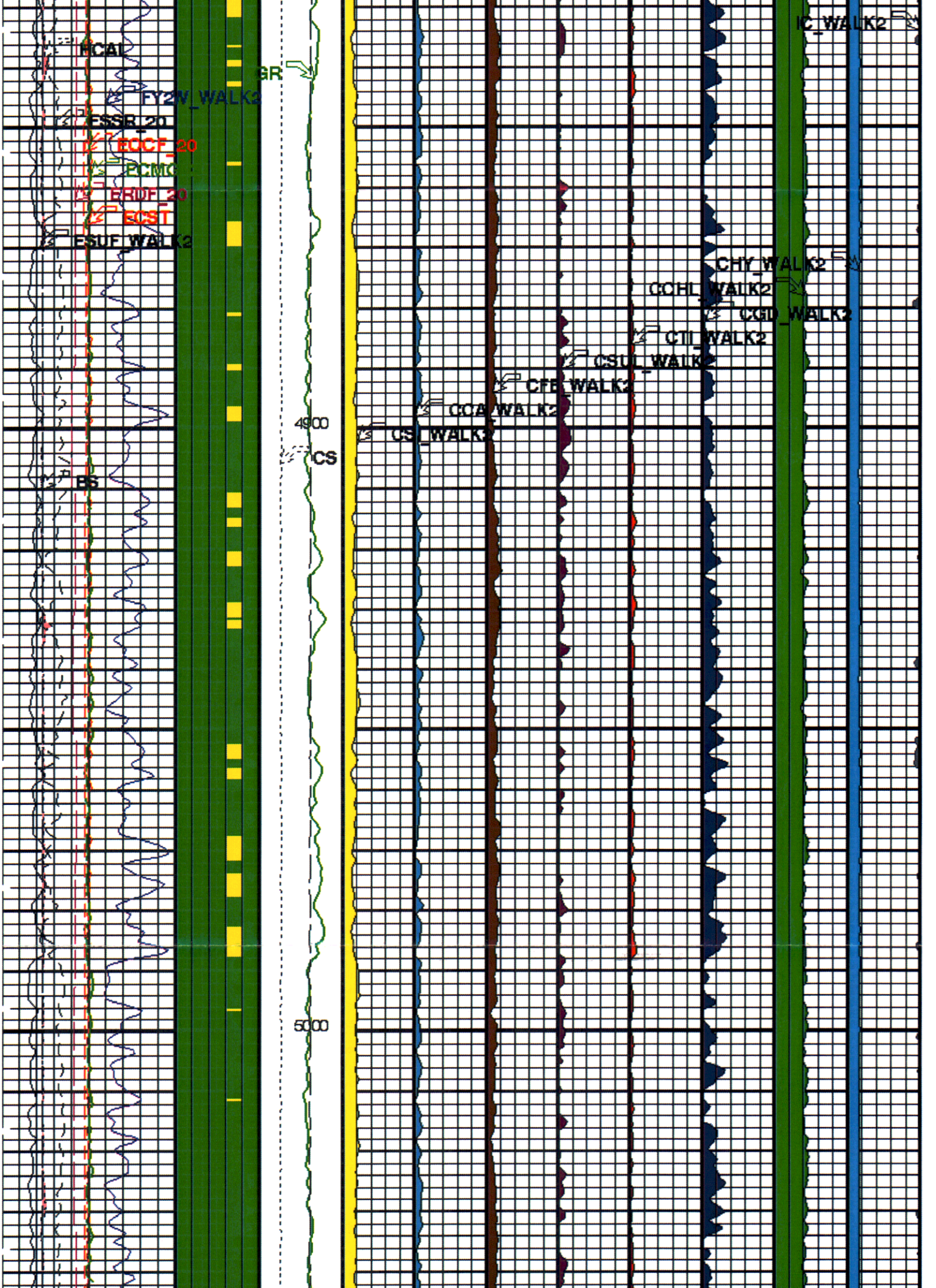
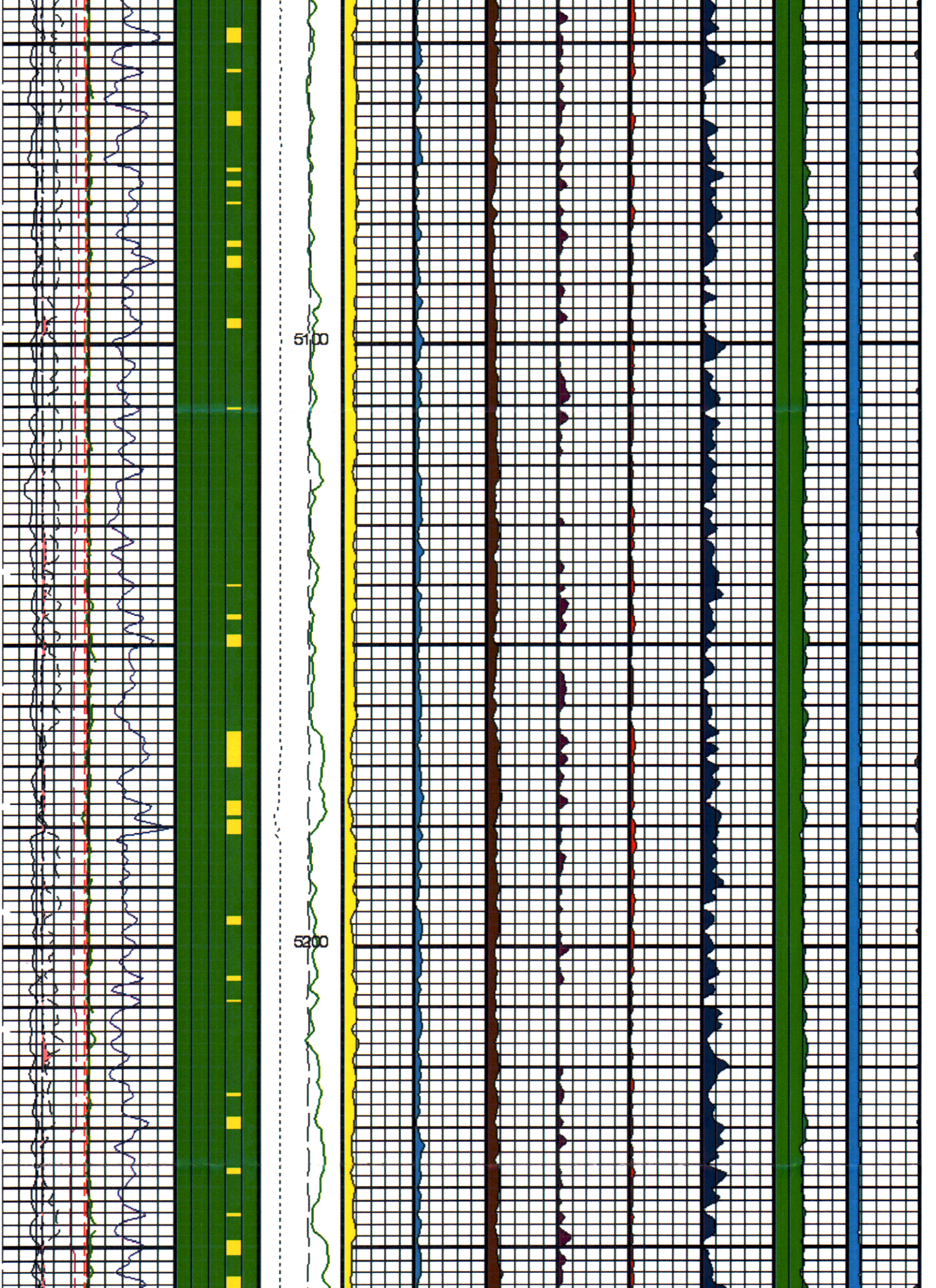
4800
TENS


HCAL
GR
FY2V_WALK2
ESSB_20
ECCF_20
PCMC
ERDF_20
ECST
ESUF_WALK2
IC_WALK2
CHY_WALK2
CCHL_WALK2
CGD_WALK2
CTI_WALK2
CSUL_WALK2
CFB_WALK2
CCA_WALK2
CSI_WALK2
4900
CS
BS
5000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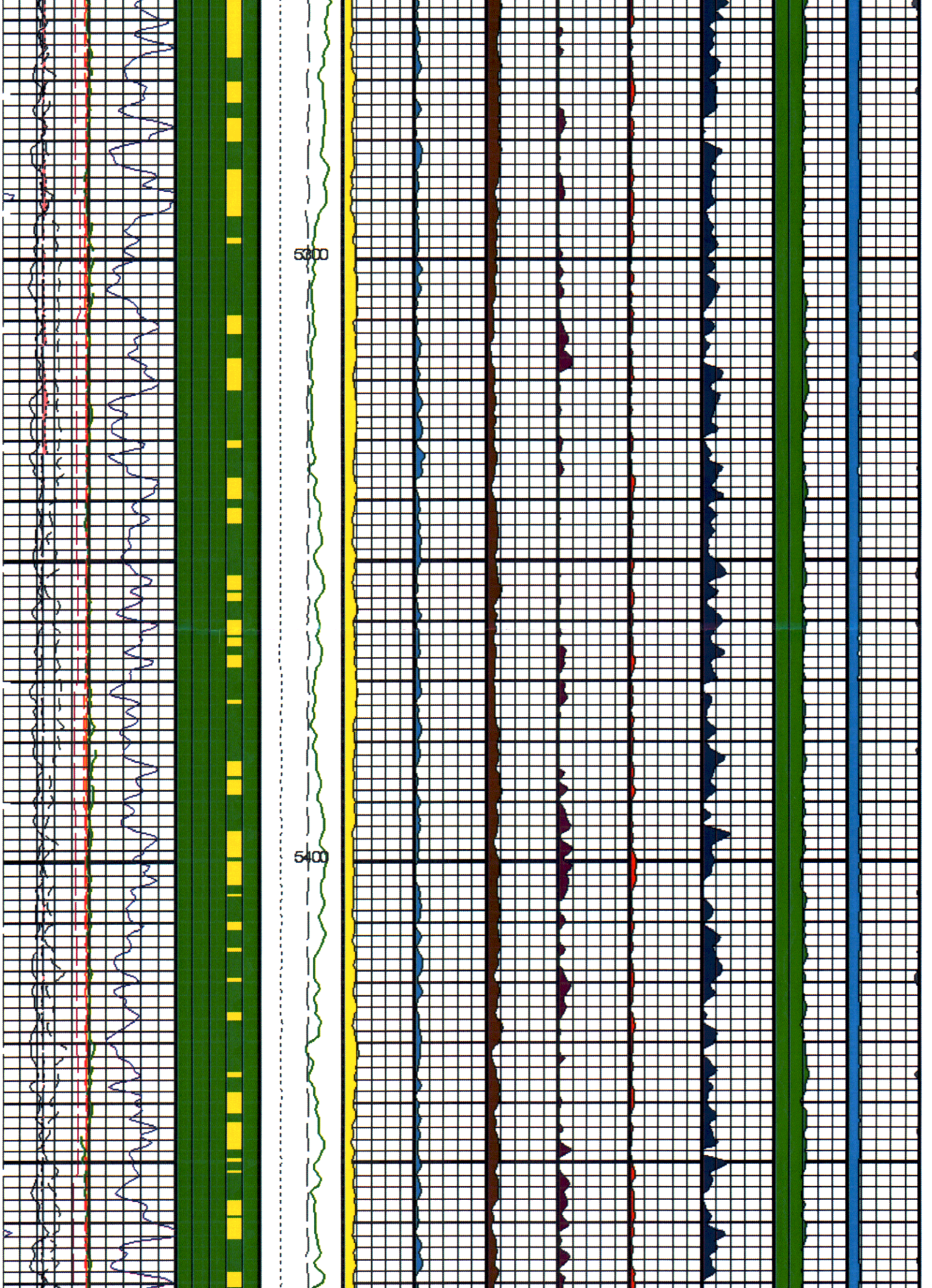
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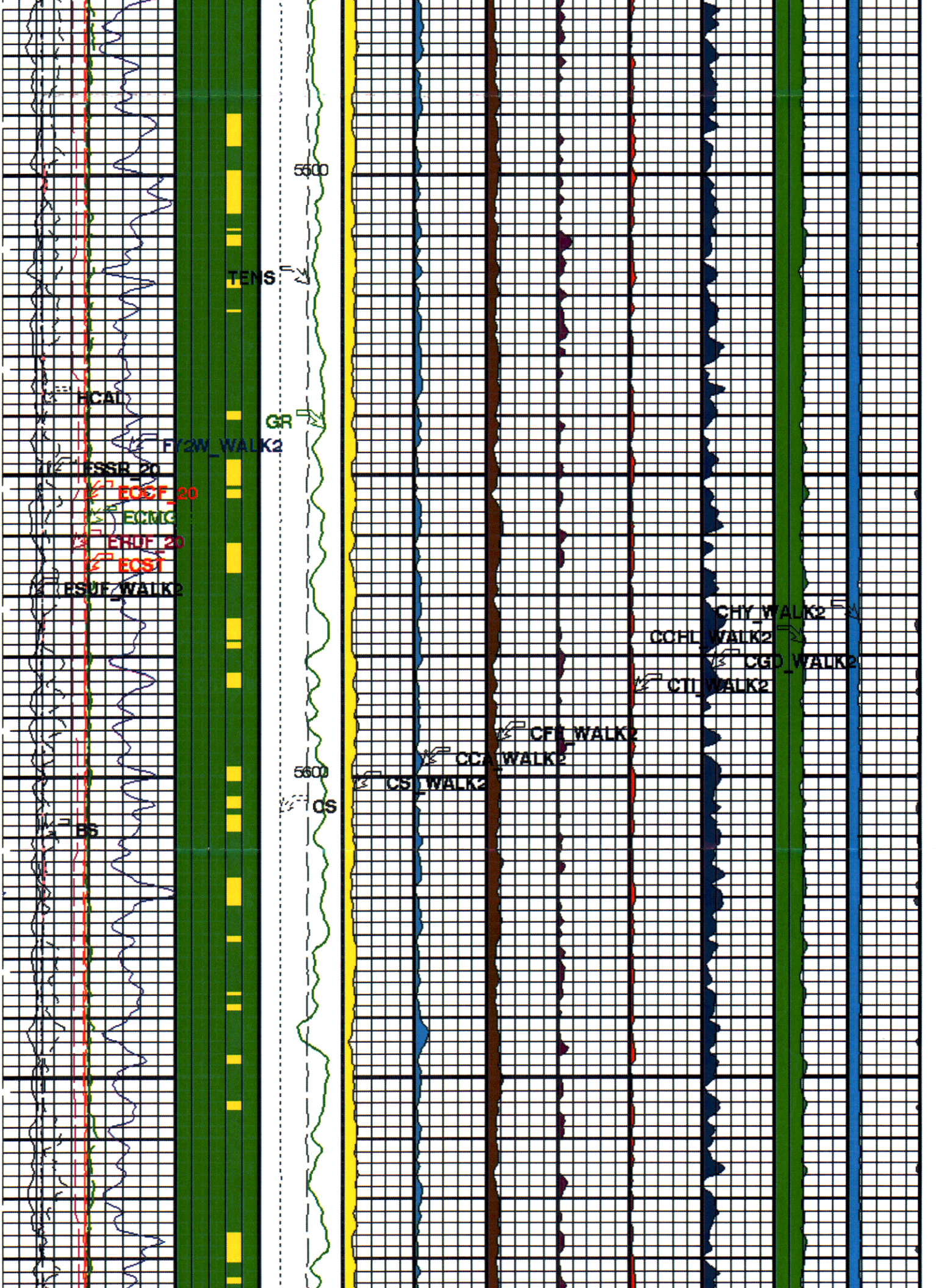
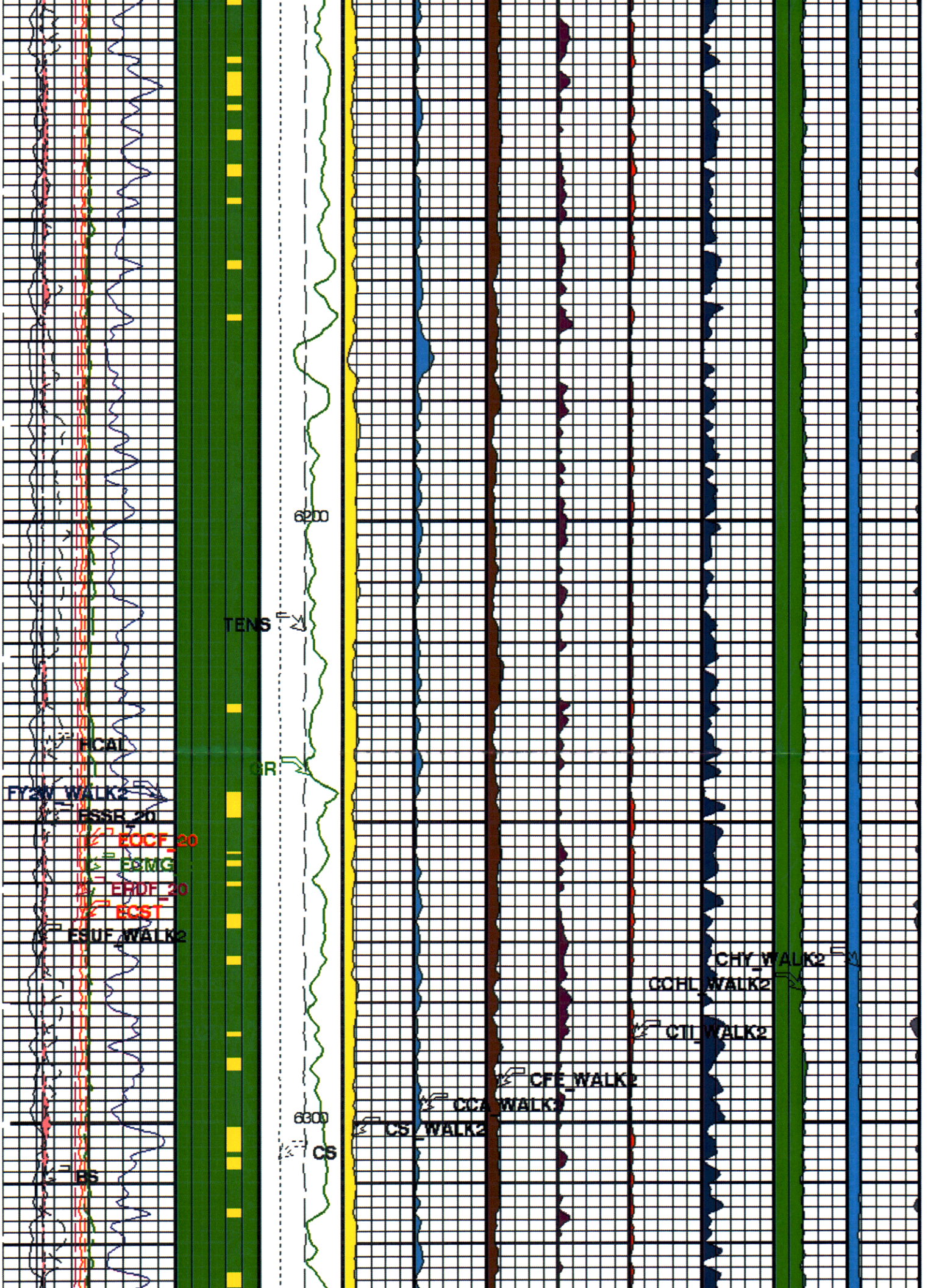

5500
TENS
HCAL
GR
FY2W_WALK2
FSSR_20
ECCF_20
ECMG
ERDF_20
ECST
FSUF_WALK2
CHY_WALK2
CCHL_WALK2
CGD_WALK2
CTL_WALK2
CFL_WALK2
CCA_WALK2
5600
CS_WALK2
CS
BS

REC

D OCT 14 2011


6200
TENS
HCAL
GR
FY2W_WALK2
ESSB_20
EOCF_20
EOMG
ERDF_20
ECST
ESUF_WALK2
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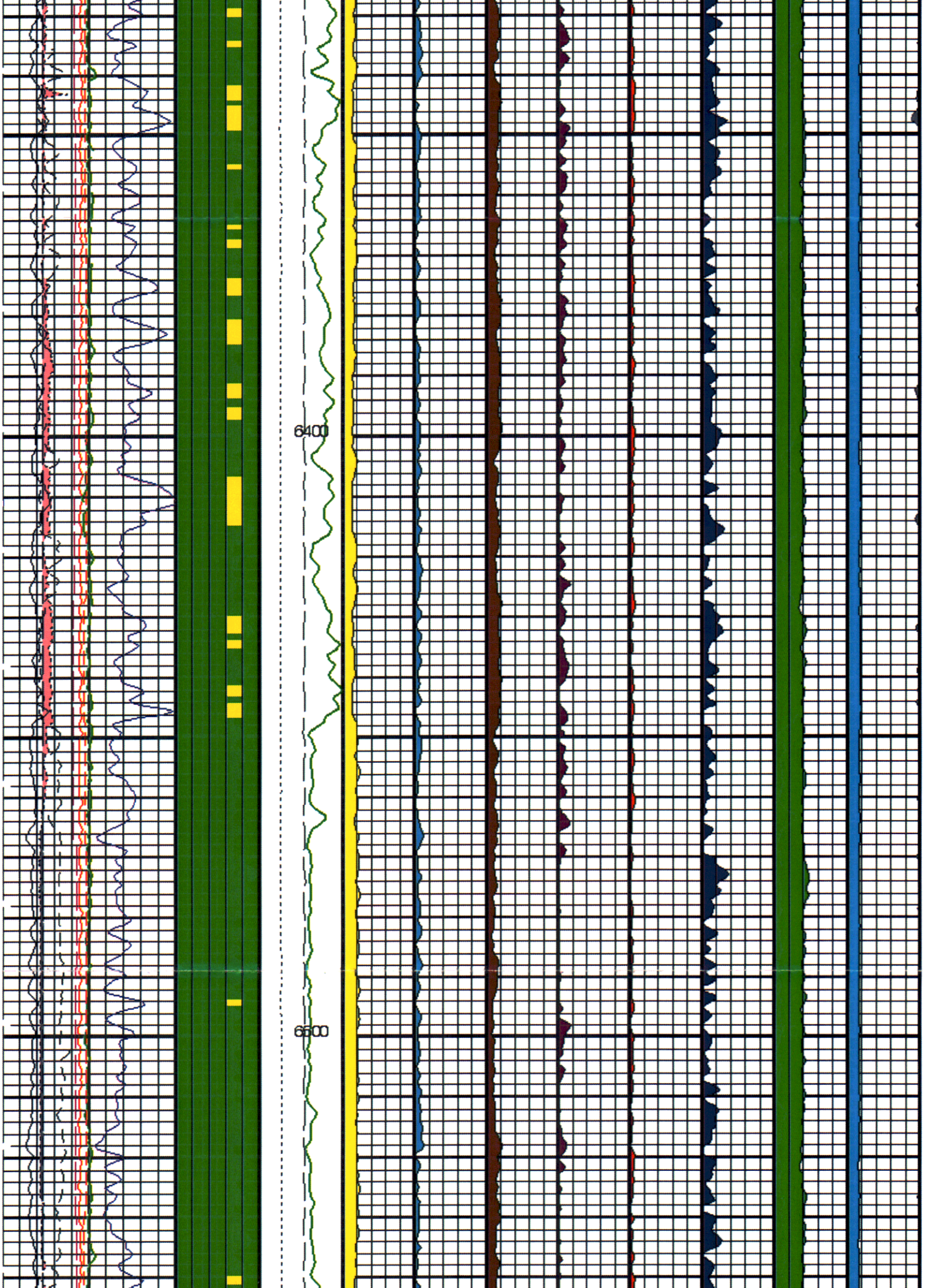
6300
CS_WALK2
CS
BS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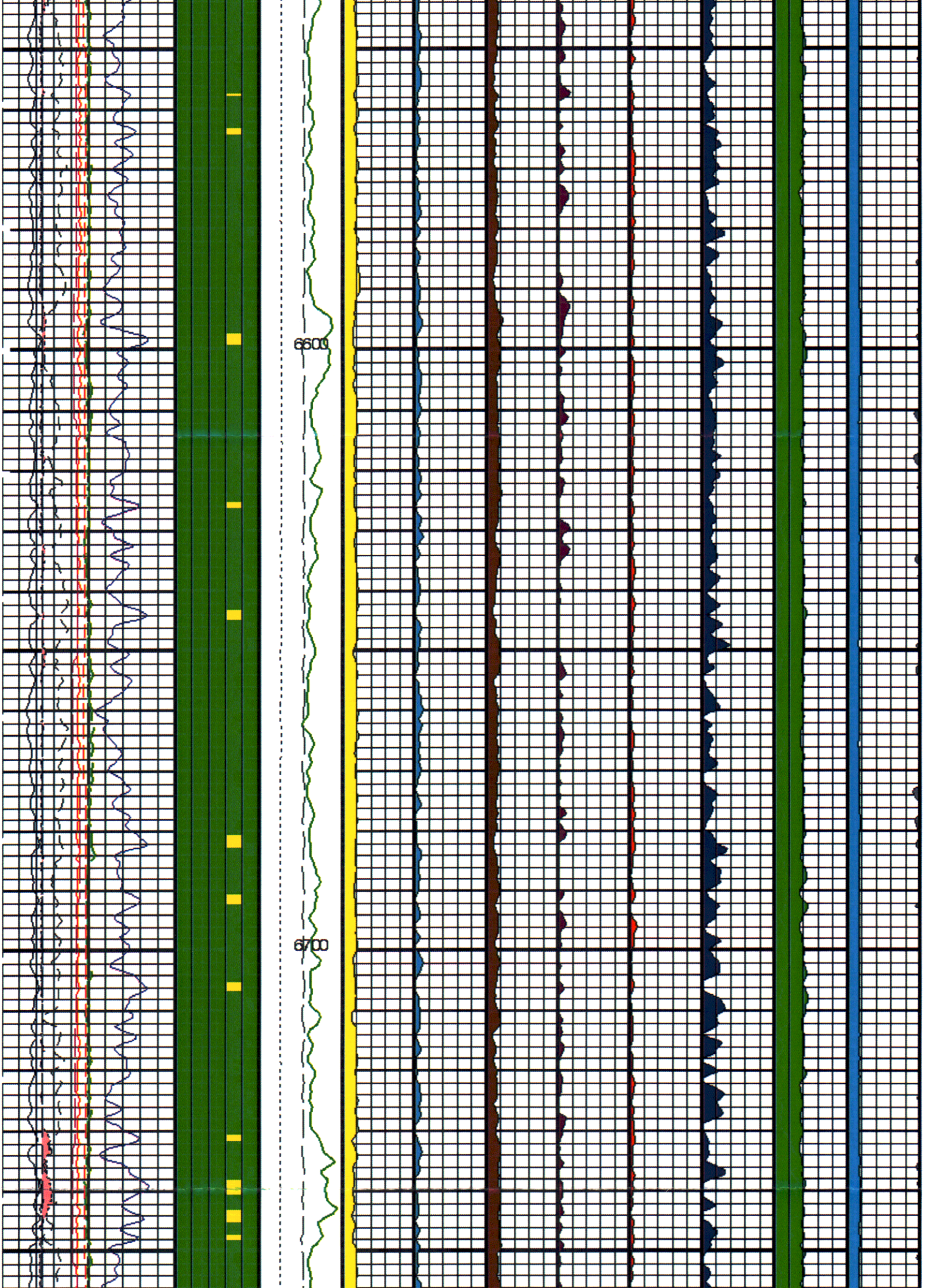
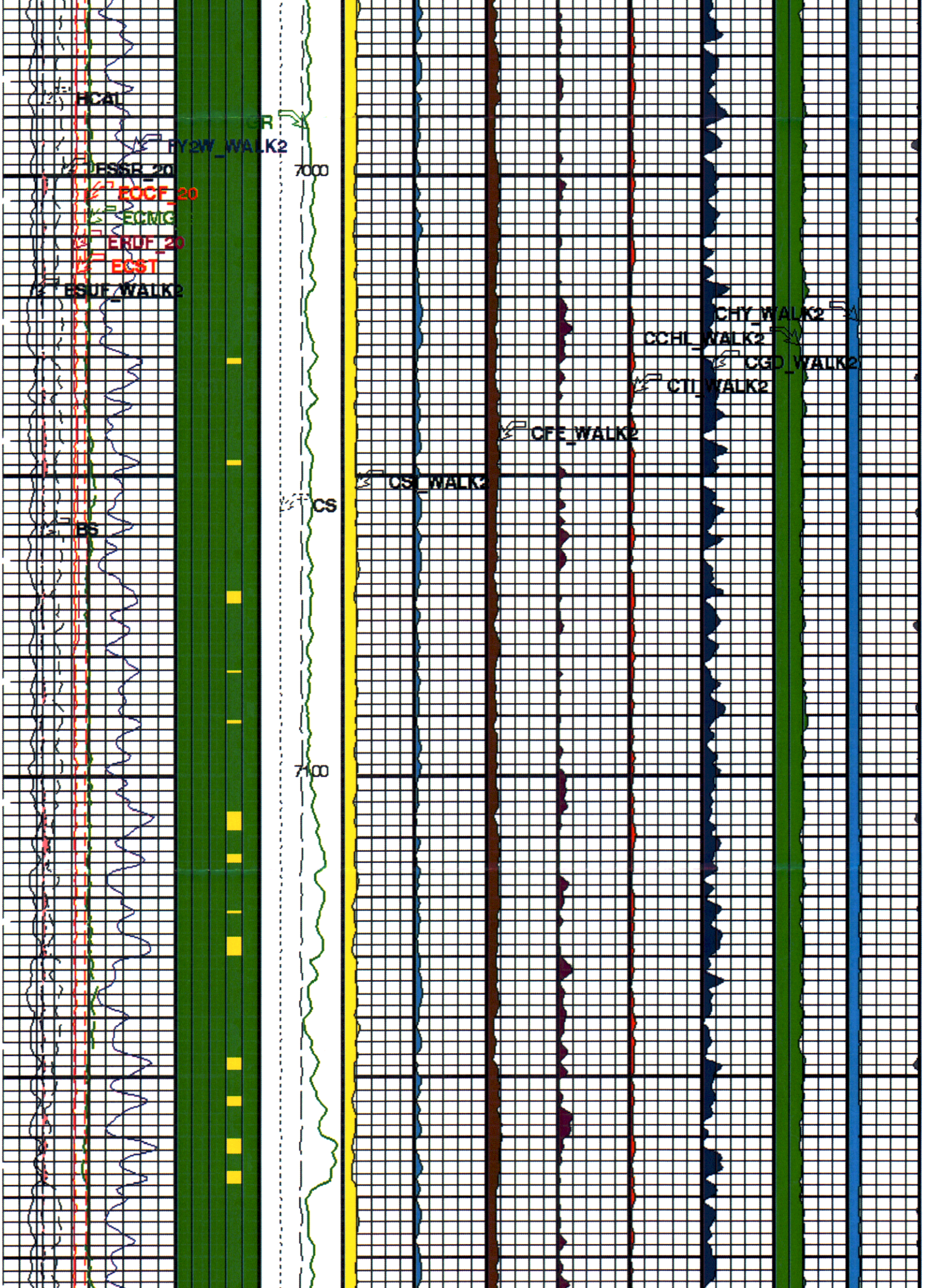

6600
6700

REC'D OCT 14 2011


HCAL
GR
RY2W_WALK2
ESSR_20
ECCF_20
ECMG
ERUF_20
ECST
ESUF_WALK2
7000
CHY_WALK2
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CGD_WALK2
CTL_WALK2
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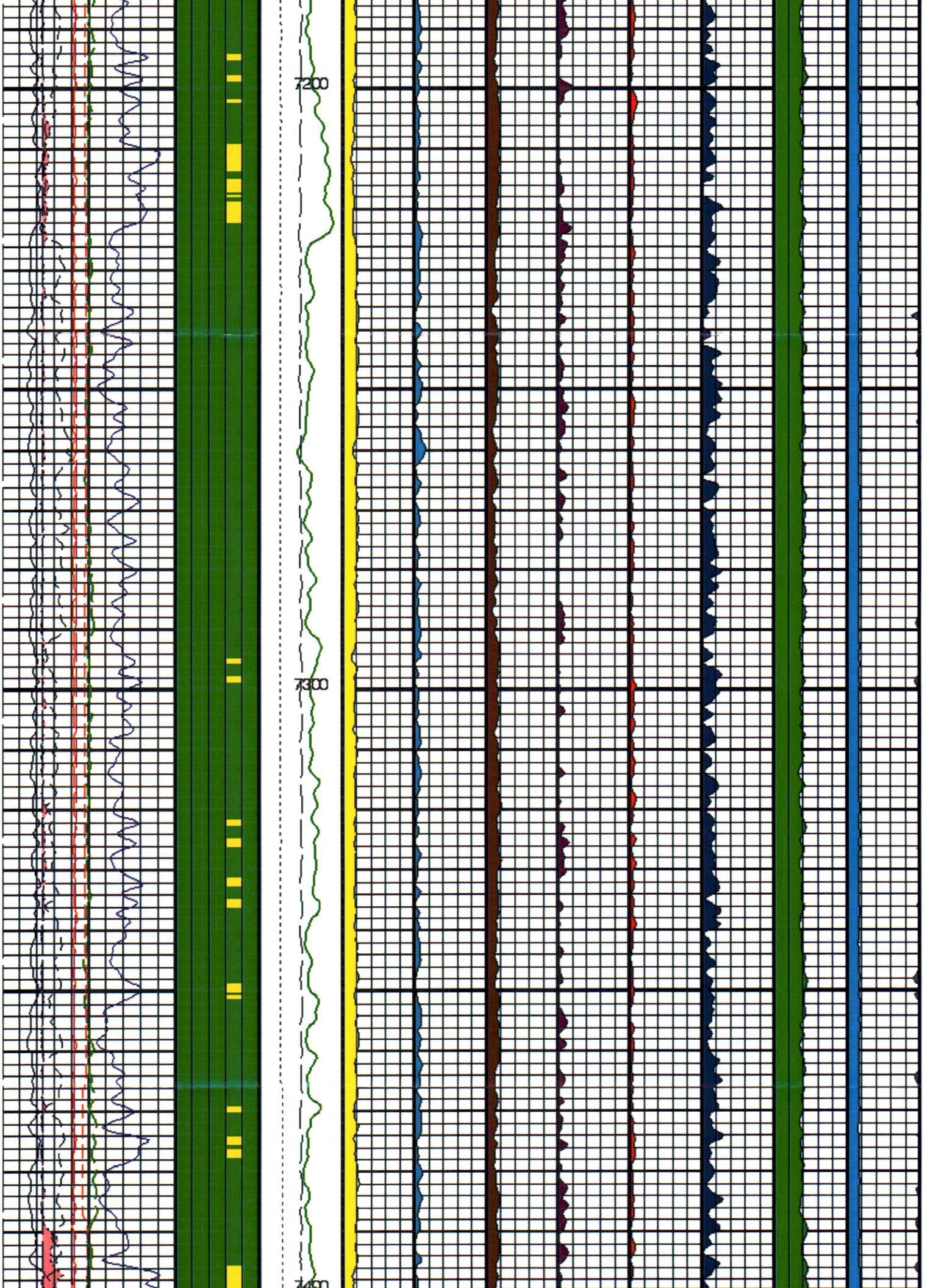
CS_WALK2
CS
BS
7100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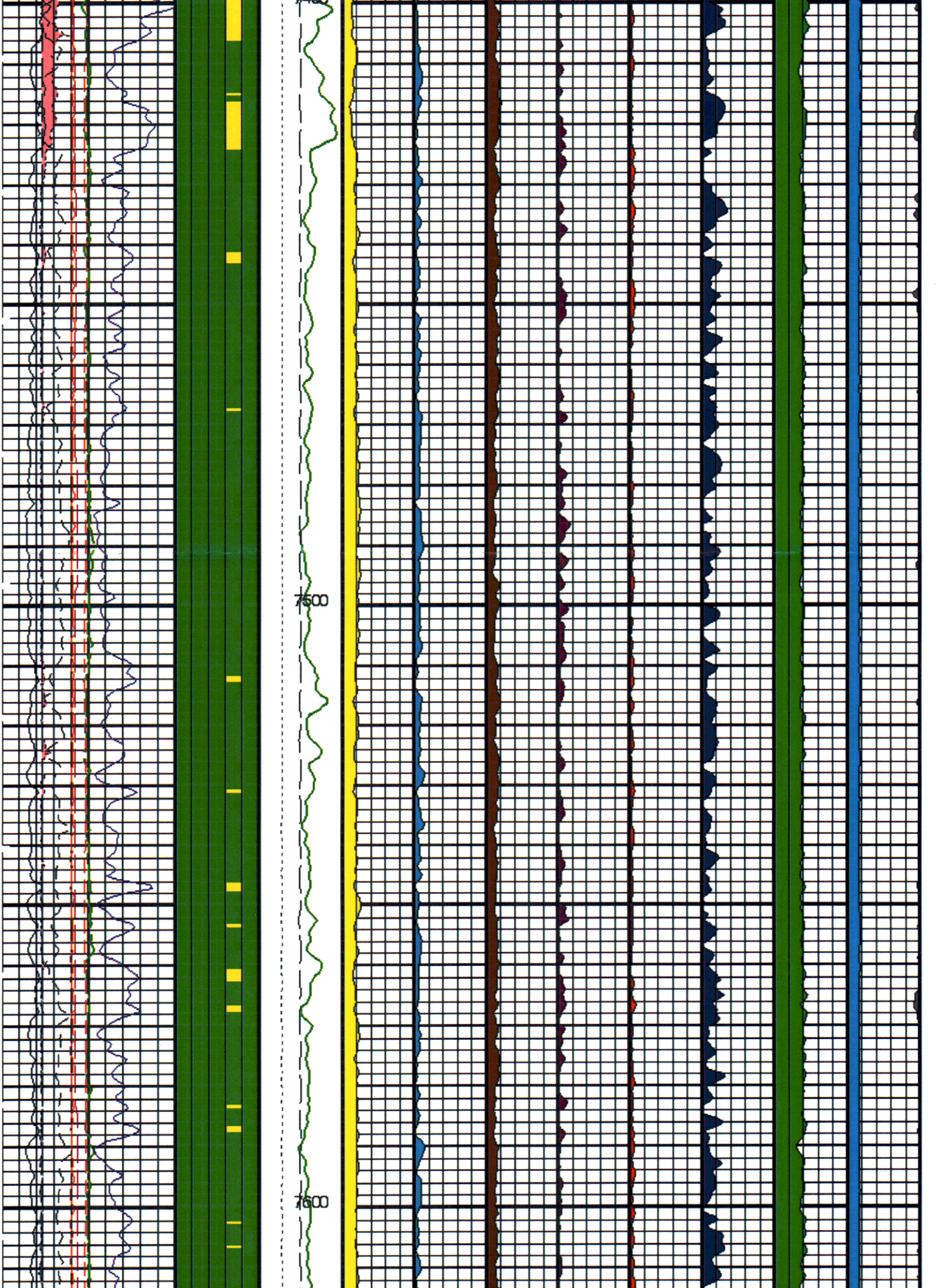
7400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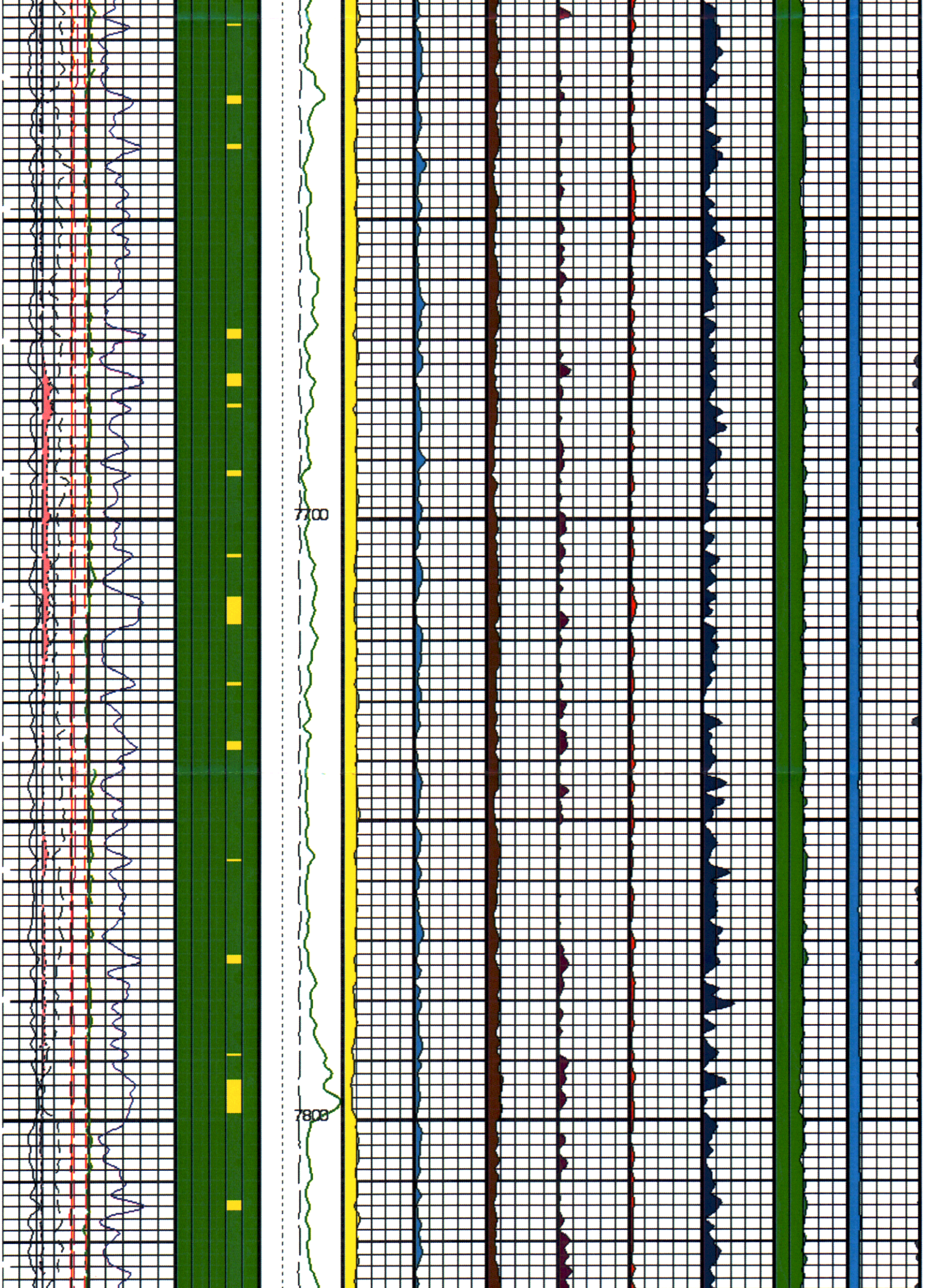
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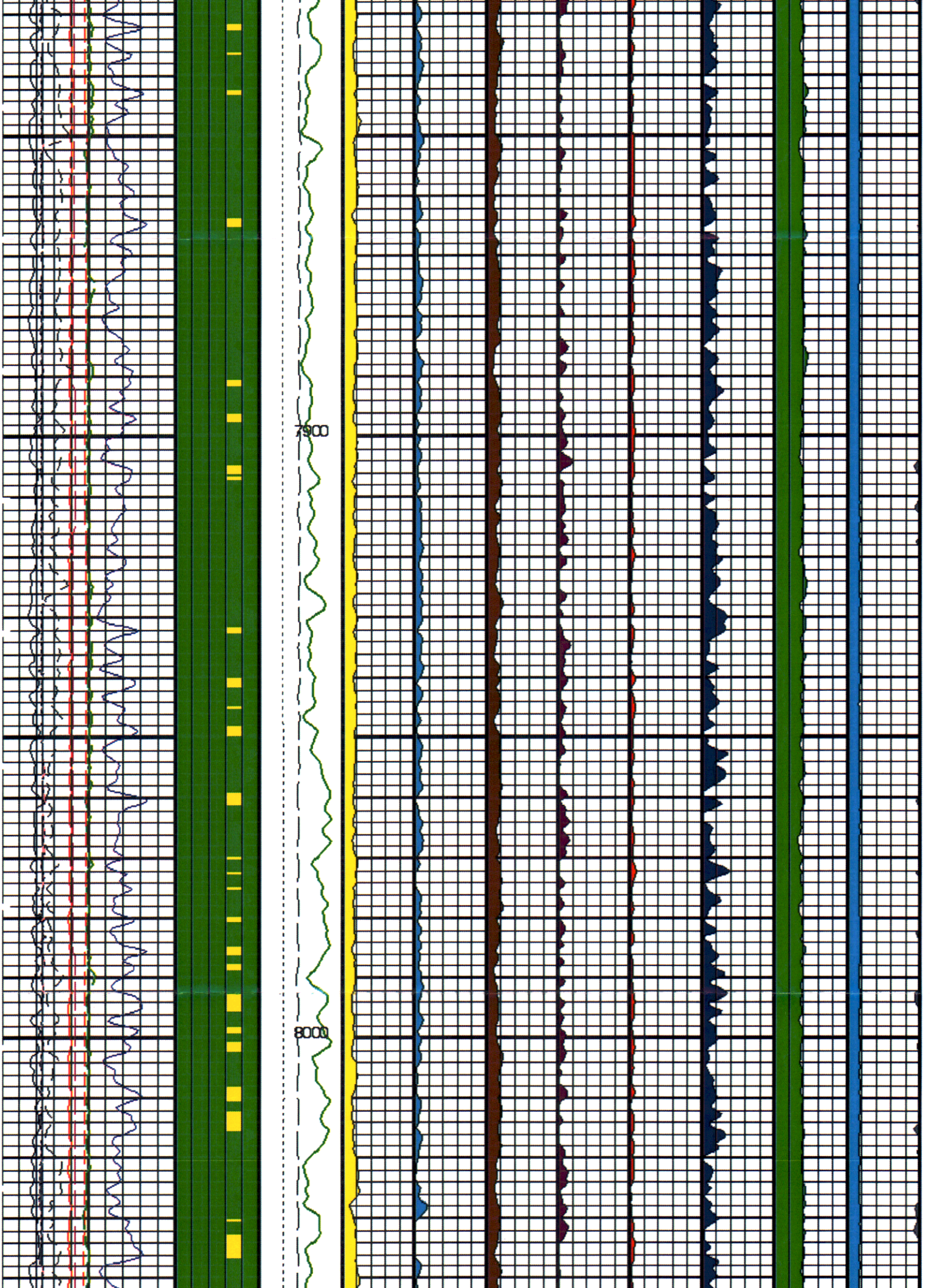
7800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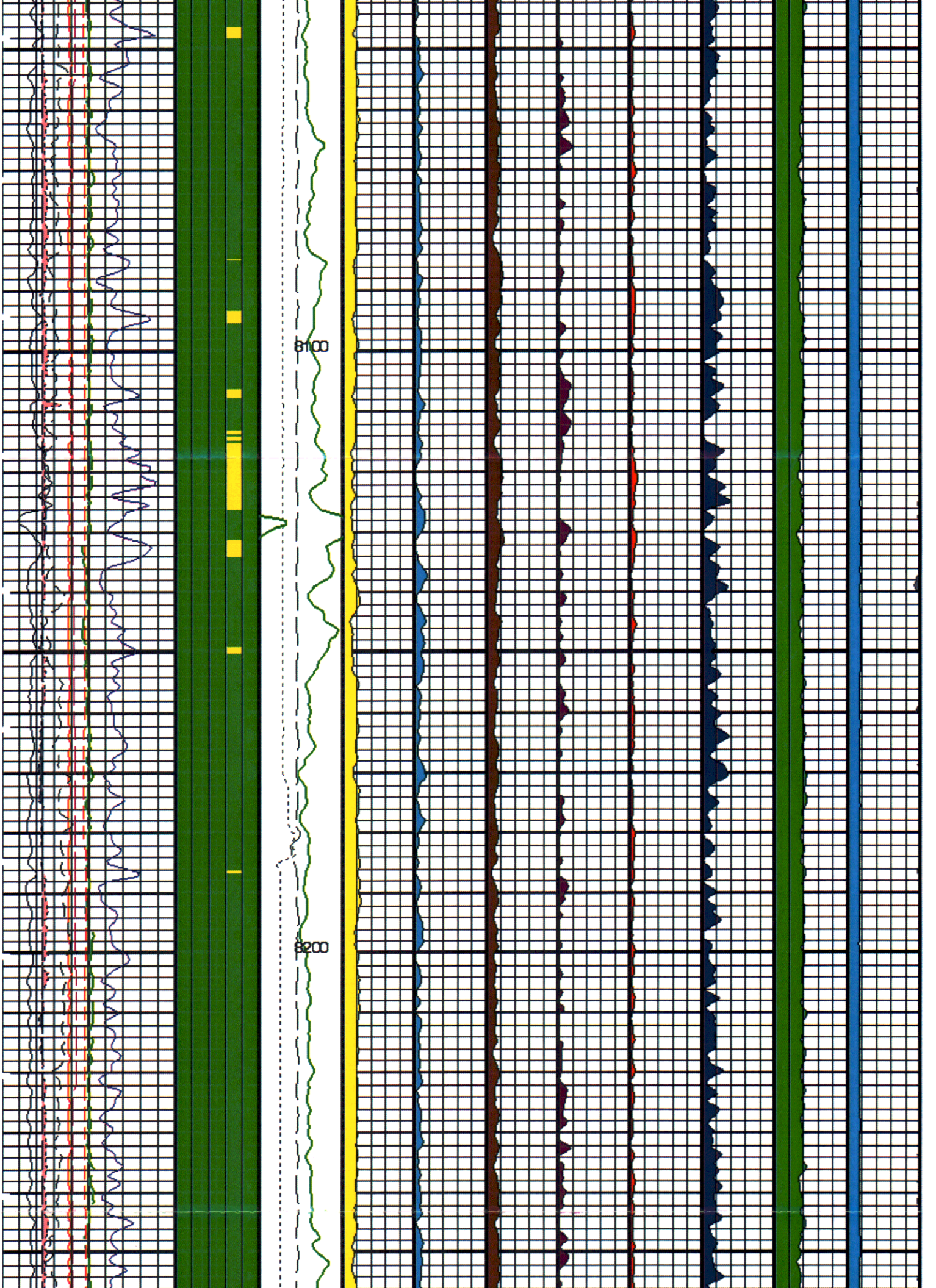
8000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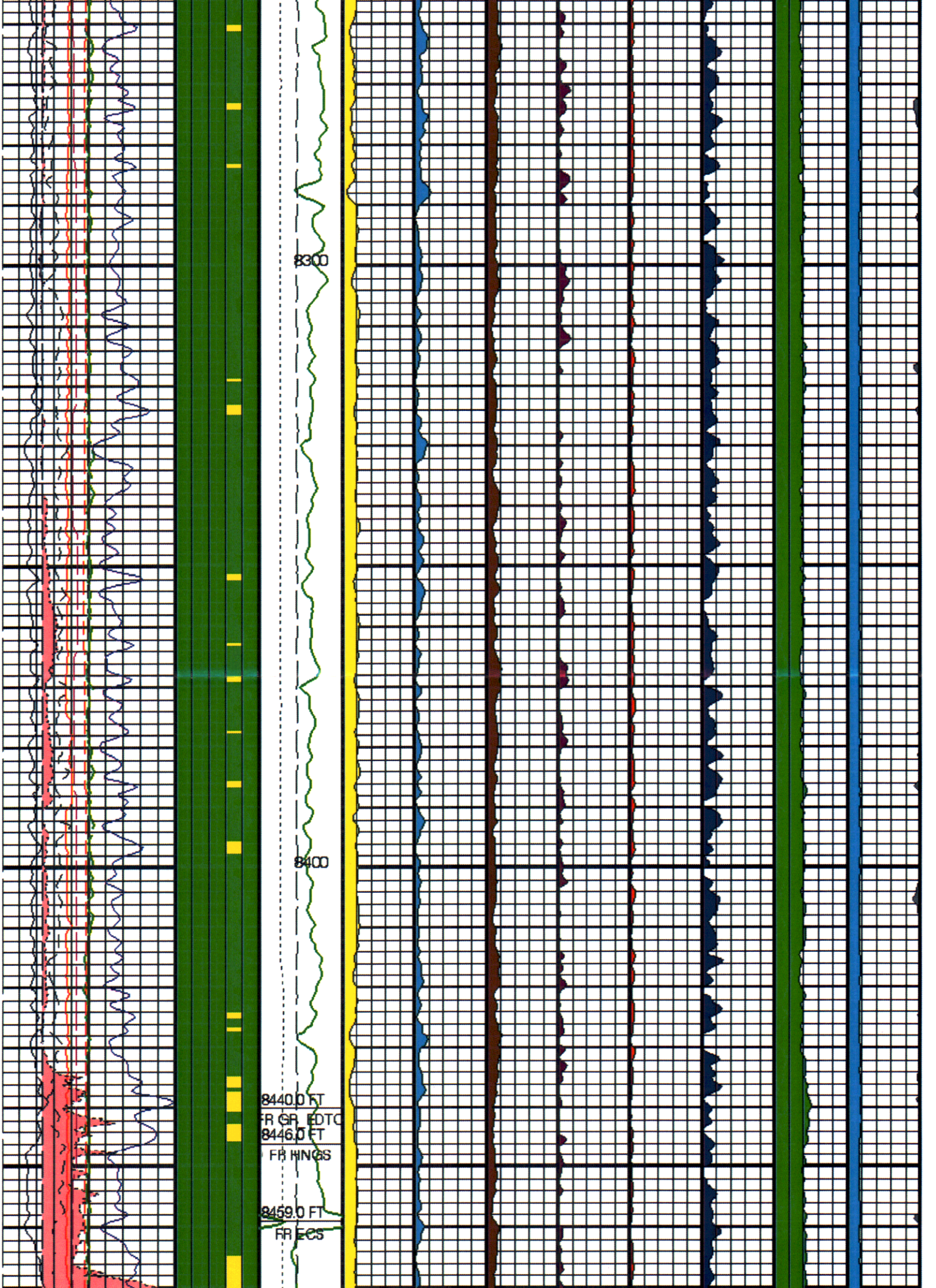
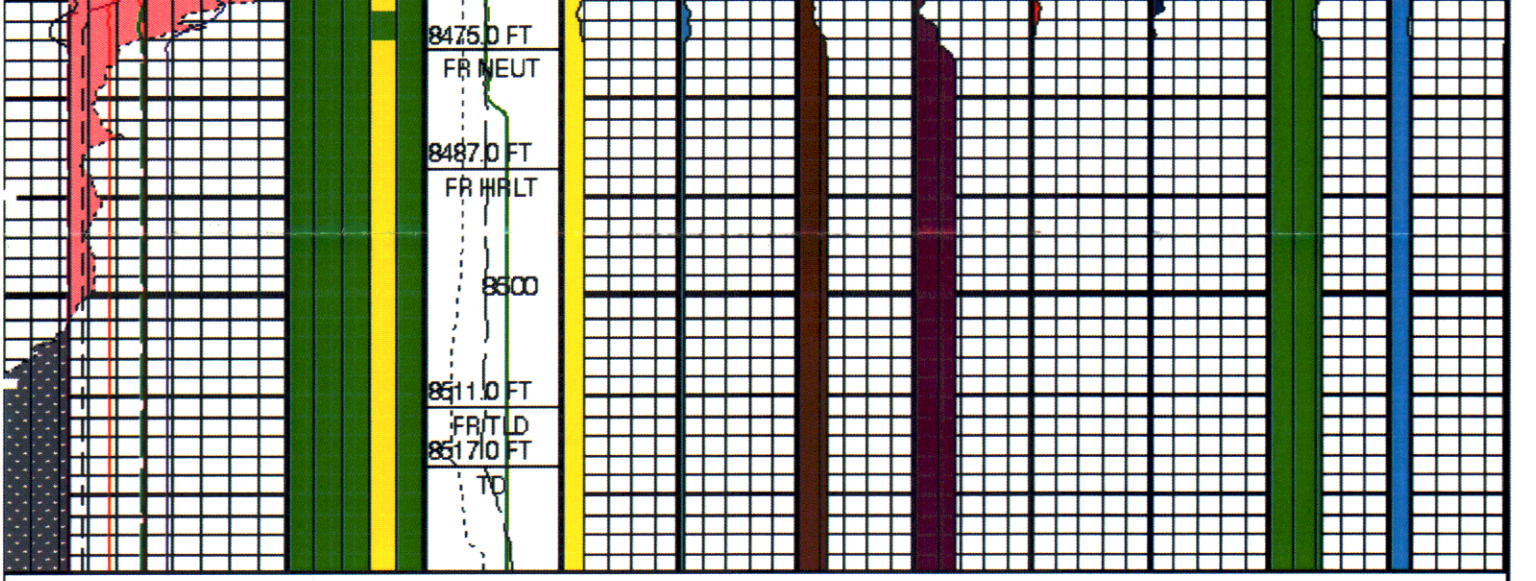
8200


8300
8400
8440.0 FT
FR GR, EDTC
8446.0 FT
FR HINGS
8459.0 FT
FR ECS



LQC Track

Left(I1) ---> Right(I5)

I1: ECS Hardware: Photomultiplier (QC_PMT)

I2: ECS Hardware: BGO Crystal Temperature (ECST)

I3: ECS Hardware: Control Loop (HV Loop OR PSC LOOP)

I4: ECS Data Quality: Elemental Statistical Uncertainty (ESUF_WALK2)

I5: ECS Data Quality: Marquardt Chisq (EMC2)

MudCake	normal	Cable Speed (CS) (F/HR) 0 5000	CSI (CSI_WALK2) (----) 0 0.5	CCA (CCA_WALK2) (----) 0 0.5	CFE (CFE_WALK2) (----) 0 0.5	CSUL (CSUL_WALK2) (----) 0 0.25	CTI (CTI_WALK2) (----) 0 0.5	CGD (CGD_WALK2) (----) 0 0.5	CCHL (CCHL_WALK2) 0 (----) 1	CHY (CHY_WALK2) 0 (----) 1
Washout	warning	Tension (TENS) (LBF) 10000 0	CSI	CCA	CFE	CSUL	CTI	CGD	CCHL	IC (IC_WALK2) (----) 0.25 0
Bit Size (BS) 10 (IN) 20	error	Gamma Ray (GR) (GAPI) 0 200								CHY
(HCAL) 10 (IN) 20	manual									IC
RDF (ERDF_20) 0 (----) 10	LQC I1--->I5									
ECS Temperature (ECST) -20 (DEGF) 130										
Offset Correction Factor (EOCF_20) -5 (----) 5										
Spectral Count Rate (ch.40-240) (ESSR_20) 10000 (CPS) 30000										
ECS Marquardt Gain (ECMG_20) 0.95 (----) 1.05										
Elemental Statistical Uncertainty Factor (ESUF_WALK2) 0 (----) 5										

Oxides Closure Normalization Factor (FY2W_WALK2)
0 (----) 5

PIP SUMMARY

Time Mark Every 60 S

Format: ECS_Yields_LQC Vertical Scale: 5" per 100' Graphics File Created: 11-Dec-2010 19:43

OP System Version: 18C0-147

SPA-A	18C0-147	HILTB-FTB	18C0-147
ECS-A	18C0-147	ECC-B	18C0-147
HNGC-B	18C0-147	HNGS-BA	18C0-147
EDTC-B	18C0-147		

Input DLIS Files

DEFAULT	TLD_MCFL_CNL_ECS_041PUP	FN:62	PRODUCER	11-Dec-2010 19:05	8520.0 FT	1488.0 FT

Output DLIS Files

DEFAULT	TLD_MCFL_CNL_ECS_045PUP	FN:66	PRODUCER	11-Dec-2010 19:43

Schlumberger

Calibrations

MAXIS Field Log

Calibration and Check Summary

Measurement	Nominal	Master	Before	After	Change	Limit	Units
High resolution Integrated Logging Tool-DTS Wellsite Calibration - Stab Measurement Summary							
Before: 10-Dec-2010 16:14							
BS Window Ratio	0.7487	N/A	0.7508	N/A	N/A	N/A	
BS Window Sum	23070	N/A	23070	N/A	N/A	N/A	CPS
SS Window Ratio	0.4806	N/A	0.4818	N/A	N/A	N/A	
SS Window Sum	11200	N/A	11180	N/A	N/A	N/A	CPS
LS Window Ratio	0.2973	N/A	0.2979	N/A	N/A	N/A	
LS Window Sum	1177	N/A	1170	N/A	N/A	N/A	CPS
High resolution Integrated Logging Tool-DTS Wellsite Calibration - Photo-multiplier High Voltages Calibrations							
Before: 10-Dec-2010 16:14							
BS PM High Voltage (Command)	1526	N/A	1524	N/A	N/A	N/A	V
SS PM High Voltage (Command)	1558	N/A	1564	N/A	N/A	N/A	V
LS PM High Voltage (Command)	1299	N/A	1299	N/A	N/A	N/A	V
High resolution Integrated Logging Tool-DTS Wellsite Calibration - Crystal Quality Resolutions Calibration							
Before: 10-Dec-2010 16:14							
BS Crystal Resolution	10.84	N/A	10.78	N/A	N/A	N/A	%
SS Crystal Resolution	9.097	N/A	9.174	N/A	N/A	N/A	%
LS Crystal Resolution	8.110	N/A	8.212	N/A	N/A	N/A	%
High resolution Integrated Logging Tool-DTS Wellsite Calibration - MCFL Calibration							
Before: 10-Dec-2010 16:15							
Raw B0 Resistivity	3875	N/A	3865	N/A	N/A	N/A	OHMM
Raw B1 Resistivity	3830	N/A	3819	N/A	N/A	N/A	OHMM

Raw B1 Resistivity	3830	N/A	3819	N/A	N/A	N/A	OHMM
Raw B2 Resistivity	3830	N/A	3820	N/A	N/A	N/A	OHMM

High resolution Integrated Logging Tool-DTS Wellsite Calibration - HILT Caliper Calibration
Before: 10-Dec-2010 16:09

HILT Caliper Zero Measurement	8.000	N/A	7.634	N/A	N/A	N/A	IN
HILT Caliper Plus Measurement	12.00	N/A	11.89	N/A	N/A	N/A	IN

High resolution Integrated Logging Tool-DTS Wellsite Calibration - HRLT M01
Before: 11-Dec-2010 11:27

HRLT M0-M1 Voltage Plus - 0	0	N/A	-318.7	N/A	N/A	9.681	UV
HRLT M0-M1 Voltage Plus - 1	0	N/A	-337.8	N/A	N/A	9.681	UV
HRLT M0-M1 Voltage Plus - 2	0	N/A	-336.2	N/A	N/A	9.681	UV
HRLT M0-M1 Voltage Plus - 3	0	N/A	-333.1	N/A	N/A	9.681	UV
HRLT M0-M1 Voltage Plus - 4	0	N/A	-323.3	N/A	N/A	9.681	UV
HRLT M0-M1 Voltage Plus - 5	0	N/A	-324.4	N/A	N/A	9.681	UV
HRLT M0-M1 Voltage Plus - 6	0	N/A	330.0	N/A	N/A	9.681	UV
HRLT M0-M1 Voltage Plus - 7	0	N/A	-322.7	N/A	N/A	9.681	UV

High resolution Integrated Logging Tool-DTS Wellsite Calibration - HRLT M12
Before: 11-Dec-2010 11:27

HRLT M1-M2 Voltage Plus - 0	0	N/A	1769	N/A	N/A	53.42	UV
HRLT M1-M2 Voltage Plus - 1	0	N/A	1873	N/A	N/A	53.42	UV
HRLT M1-M2 Voltage Plus - 2	0	N/A	1870	N/A	N/A	53.42	UV
HRLT M1-M2 Voltage Plus - 3	0	N/A	1843	N/A	N/A	53.42	UV
HRLT M1-M2 Voltage Plus - 4	0	N/A	1790	N/A	N/A	53.42	UV
HRLT M1-M2 Voltage Plus - 5	0	N/A	1798	N/A	N/A	53.42	UV
HRLT M1-M2 Voltage Plus - 6	0	N/A	-1837	N/A	N/A	53.42	UV
HRLT M1-M2 Voltage Plus - 7	0	N/A	1781	N/A	N/A	53.42	UV

High resolution Integrated Logging Tool-DTS Wellsite Calibration - HRLT M23
Before: 11-Dec-2010 11:27

HRLT M2-M3 Voltage Plus - 0	0	N/A	1749	N/A	N/A	53.42	UV
HRLT M2-M3 Voltage Plus - 1	0	N/A	1861	N/A	N/A	53.42	UV
HRLT M2-M3 Voltage Plus - 2	0	N/A	1861	N/A	N/A	53.42	UV
HRLT M2-M3 Voltage Plus - 3	0	N/A	1838	N/A	N/A	53.42	UV
HRLT M2-M3 Voltage Plus - 4	0	N/A	1780	N/A	N/A	53.42	UV
HRLT M2-M3 Voltage Plus - 5	0	N/A	1789	N/A	N/A	53.42	UV
HRLT M2-M3 Voltage Plus - 6	0	N/A	-1814	N/A	N/A	53.42	UV
HRLT M2-M3 Voltage Plus - 7	0	N/A	1781	N/A	N/A	53.42	UV

High resolution Integrated Logging Tool-DTS Wellsite Calibration - HRLT V34
Before: 11-Dec-2010 11:27

HRLT A3-A4 Voltage Plus - 0	0	N/A	69040	N/A	N/A	2100	UV
HRLT A3-A4 Voltage Plus - 1	0	N/A	73380	N/A	N/A	2100	UV
HRLT A3-A4 Voltage Plus - 2	0	N/A	73650	N/A	N/A	2100	UV
HRLT A3-A4 Voltage Plus - 3	0	N/A	72920	N/A	N/A	2100	UV
HRLT A3-A4 Voltage Plus - 4	0	N/A	70530	N/A	N/A	2100	UV
HRLT A3-A4 Voltage Plus - 5	0	N/A	70850	N/A	N/A	2100	UV
HRLT A3-A4 Voltage Plus - 6	0	N/A	-70470	N/A	N/A	2100	UV
HRLT A3-A4 Voltage Plus - 7	0	N/A	70000	N/A	N/A	2100	UV

High resolution Integrated Logging Tool-DTS Wellsite Calibration - HRLT V45
Before: 11-Dec-2010 11:27

HRLT A4-A5 Voltage Plus - 0	0	N/A	68710	N/A	N/A	2100	UV
HRLT A4-A5 Voltage Plus - 1	0	N/A	73240	N/A	N/A	2100	UV
HRLT A4-A5 Voltage Plus - 2	0	N/A	73500	N/A	N/A	2100	UV
HRLT A4-A5 Voltage Plus - 3	0	N/A	72740	N/A	N/A	2100	UV
HRLT A4-A5 Voltage Plus - 4	0	N/A	70330	N/A	N/A	2100	UV
HRLT A4-A5 Voltage Plus - 5	0	N/A	70640	N/A	N/A	2100	UV
HRLT A4-A5 Voltage Plus - 6	0	N/A	-70300	N/A	N/A	2100	UV
HRLT A4-A5 Voltage Plus - 7	0	N/A	70000	N/A	N/A	2100	UV

High resolution Integrated Logging Tool-DTS Wellsite Calibration - HRLT V56
Before: 11-Dec-2010 11:27

HRLT A5-A6 Voltage Plus - 0	0	N/A	68740	N/A	N/A	2100	UV
HRLT A5-A6 Voltage Plus - 1	0	N/A	73210	N/A	N/A	2100	UV
HRLT A5-A6 Voltage Plus - 2	0	N/A	73450	N/A	N/A	2100	UV
HRLT A5-A6 Voltage Plus - 3	0	N/A	72670	N/A	N/A	2100	UV
HRLT A5-A6 Voltage Plus - 4	0	N/A	70250	N/A	N/A	2100	UV
HRLT A5-A6 Voltage Plus - 5	0	N/A	70550	N/A	N/A	2100	UV
HRLT A5-A6 Voltage Plus - 6	0	N/A	-70310	N/A	N/A	2100	UV
HRLT A5-A6 Voltage Plus - 7	0	N/A	70000	N/A	N/A	2100	UV

High resolution Integrated Logging Tool-DTS Wellsite Calibration - HRLT VTP
Before: 11-Dec-2010 11:27

HRLT Torpedo-M0 Voltage - 0	0	N/A	-68490	N/A	N/A	2100	UV
HRLT Torpedo-M0 Voltage - 1	0	N/A	-73220	N/A	N/A	2100	UV
HRLT Torpedo-M0 Voltage - 2	0	N/A	-73530	N/A	N/A	2100	UV
HRLT Torpedo-M0 Voltage - 3	0	N/A	-72820	N/A	N/A	2100	UV

HRLT Torpedo-M0 Voltage - 4	0	N/A	-70480	N/A	N/A	2100	UV
HRLT Torpedo-M0 Voltage - 5	0	N/A	-70780	N/A	N/A	2100	UV
HRLT Torpedo-M0 Voltage - 6	0	N/A	70240	N/A	N/A	2100	UV
HRLT Torpedo-M0 Voltage - 7	0	N/A	-70000	N/A	N/A	2100	UV

High resolution Integrated Logging Tool-DTS Wellsite Calibration - HRLT VBD
Before: 11-Dec-2010 11:27

HRLT Bridle#9-M0 Voltage - 0	0	N/A	-68440	N/A	N/A	2100	UV
HRLT Bridle#9-M0 Voltage - 1	0	N/A	-73120	N/A	N/A	2100	UV
HRLT Bridle#9-M0 Voltage - 2	0	N/A	-73430	N/A	N/A	2100	UV
HRLT Bridle#9-M0 Voltage - 3	0	N/A	-72750	N/A	N/A	2100	UV
HRLT Bridle#9-M0 Voltage - 4	0	N/A	-70420	N/A	N/A	2100	UV
HRLT Bridle#9-M0 Voltage - 5	0	N/A	-70740	N/A	N/A	2100	UV
HRLT Bridle#9-M0 Voltage - 6	0	N/A	70130	N/A	N/A	2100	UV
HRLT Bridle#9-M0 Voltage - 7	0	N/A	-70000	N/A	N/A	2100	UV

High resolution Integrated Logging Tool-DTS Wellsite Calibration - HRLT ISO
Before: 11-Dec-2010 11:27

HRLT Source Current Plus - 0	0	N/A	285.5	N/A	N/A	8.520	UA
HRLT Source Current Plus - 1	0	N/A	281.1	N/A	N/A	8.520	UA
HRLT Source Current Plus - 2	0	N/A	281.1	N/A	N/A	8.520	UA
HRLT Source Current Plus - 3	0	N/A	281.1	N/A	N/A	8.520	UA
HRLT Source Current Plus - 4	0	N/A	281.1	N/A	N/A	8.520	UA
HRLT Source Current Plus - 5	0	N/A	281.1	N/A	N/A	8.520	UA
HRLT Source Current Plus - 6	0	N/A	281.1	N/A	N/A	8.520	UA
HRLT Source Current Plus - 7	0	N/A	281.1	N/A	N/A	8.520	UA

High resolution Integrated Logging Tool-DTS Wellsite Calibration - HRLT MV
Before: 11-Dec-2010 11:27

HRLT Vertical Voltage PI - 0	0	N/A	-322.0	N/A	N/A	9.681	UV
HRLT Vertical Voltage PI - 1	0	N/A	-333.2	N/A	N/A	9.681	UV
HRLT Vertical Voltage PI - 2	0	N/A	-332.4	N/A	N/A	9.681	UV
HRLT Vertical Voltage PI - 3	0	N/A	-326.1	N/A	N/A	9.681	UV
HRLT Vertical Voltage PI - 4	0	N/A	-313.3	N/A	N/A	9.681	UV
HRLT Vertical Voltage PI - 5	0	N/A	-329.8	N/A	N/A	9.681	UV
HRLT Vertical Voltage PI - 6	0	N/A	339.3	N/A	N/A	9.681	UV
HRLT Vertical Voltage PI - 7	0	N/A	-322.7	N/A	N/A	9.681	UV

High resolution Integrated Logging Tool-DTS Wellsite Calibration - Detector Calibration
Before: 10-Dec-2010 16:10

Gamma Ray Background	30.00	N/A	60.47	N/A	N/A	N/A	GAPI
Gamma Ray (Jig - Bkgd)	165.0	N/A	168.2	N/A	N/A	15.00	GAPI

High resolution Integrated Logging Tool-DTS Wellsite Calibration - Zero Measurement
Master: 21-Nov-2010 19:16 Before: 10-Dec-2010 16:10

CNTC Background	26.02	26.02	27.25	N/A	N/A	3.903	CPS
CFTC Background	26.66	26.66	27.29	N/A	N/A	3.999	CPS

High resolution Integrated Logging Tool-DTS Wellsite Calibration - Ratio Measurement
Master: 21-Nov-2010 19:16

Thermal Near Corr. (Tank)	5800	5176	N/A	N/A	N/A	N/A	CPS
Thermal Far Corr. (Tank)	2400	2207	N/A	N/A	N/A	N/A	CPS
CNTC/CFTC (Tank)	2.159	2.345	N/A	N/A	N/A	N/A	

High resolution Integrated Logging Tool-DTS Wellsite Calibration - Accelerometer Calibration
Before: 11-Dec-2010 9:58

Z-Axis Acceleration	32.19	N/A	32.06	N/A	N/A	N/A	F/S2

High resolution Integrated Logging Tool-DTS Master Calibration - Inversion results
Master: 30-Nov-2010 17:28

Rho Aluminum	2.596	2.600	–	–	–	–	G/C3
Rho Magnesium	1.686	1.688	–	–	–	–	G/C3
Pe Aluminum	2.570	2.482	–	–	–	–	
Pe Magnesium	2.650	2.651	–	–	–	–	

High resolution Integrated Logging Tool-DTS Master Calibration - Deviation Summary
Master: 30-Nov-2010 17:28

BS Average Deviation	0	0.2090	–	–	–	–	%
BS Max Deviation	0	0.3927	–	–	–	–	%
SS Average Deviation	0	0.4163	–	–	–	–	%
SS Max Deviation	0	1.776	–	–	–	–	%
LS Average Deviation	0	0.6055	–	–	–	–	%
LS Max Deviation	0	2.041	–	–	–	–	%

Hostile Natural Gamma Ray Sonde Wellsite Calibration - Detector 1 Check
Before: 10-Dec-2010 16:16

Na 511 Peak Loc	40.00	N/A	39.53	N/A	N/A	1.000	
Na 511 Peak Res	15.50	N/A	16.62	N/A	N/A	2.000	%
High Voltage	1150	N/A	1065	N/A	N/A	N/A	V

Na 1785 Peak Loc	142.6	N/A	141.9	N/A	N/A	7.000	
Na 1785 Peak Res	8.500	N/A	9.008	N/A	N/A	2.000	%
Temperature	59.90	N/A	61.61	N/A	N/A	N/A	DEGF
Na Count Rate	45.00	N/A	16.74	N/A	N/A	8.000	CPS

Hostile Natural Gamma Ray Sonde Wellsite Calibration - Detector 2 Check
Before: 10-Dec-2010 16:16

Na 511 Peak Loc	40.00	N/A	40.42	N/A	N/A	1.000	
Na 511 Peak Res	15.50	N/A	15.22	N/A	N/A	2.000	%
High Voltage	1150	N/A	1040	N/A	N/A	N/A	V
Na 1785 Peak Loc	142.6	N/A	143.3	N/A	N/A	7.000	
Na 1785 Peak Res	8.500	N/A	9.137	N/A	N/A	2.000	%
Temperature	59.90	N/A	62.57	N/A	N/A	N/A	DEGF
Na Count Rate	45.00	N/A	17.05	N/A	N/A	8.000	CPS

Hostile Natural Gamma Ray Sonde Wellsite Calibration - Ratio Of Detector 1 To Detector 2
Before: 10-Dec-2010 16:16

Coincidence Count Rate Ratio	1.000	N/A	0.9811	N/A	N/A	0.05000	

Enhanced DTS Cartridge Wellsite Calibration - EDTC Accelerometer Calibration
Before: 11-Dec-2010 9:58

EDTC Z-Axis Acceleration	32.19	N/A	32.09	N/A	N/A	N/A	F/S2

Enhanced DTS Cartridge Wellsite Calibration - Detector Calibration
Before: 10-Dec-2010 16:12

Gamma Ray (Jig - Bkg)	150.1	N/A	150.1	N/A	N/A	13.65	GAPI
Gamma Ray (Calibrated)	165.0	N/A	165.0	N/A	N/A	15.00	GAPI

The GLS-VJ source activity is acceptable.

The HGNS Neutron Master Calibration was done with the following parameters :

NCT-B Water Temperature	55.0	DEGF.
Thermal Housing Size	3.374	IN.
NSR-F serial number	133	

High resolution Integrated Logging Tool-DTS / Equipment Identification

Primary Equipment:			
HILT high-Resolution Mechanical Sonde	HRMS - B		
HILT Rxo Gamma-ray Device	HRGD - B		
HILT Micro Cylindrically Focused Log Dev	MCFL -		
GR Logging Source	GLS - VJ	5395	
HILT High Res. Control Cartridge	HRCC - B	4756	4756
High Resolution Laterolog Array - B	HRLT - B	815	815
HRLT IP Dummy Cartridge	DUMM - A		
HILT Gamma-Ray Neutron Sonde-DTS	HGNS - B	3978	3978
Auxiliary Equipment:			
HGNS Housing	HGNH -	3732	3732
Neutron Calibration Tank	NCT - B		
Gamma Source Radioactive	GSR - U/Y		

High resolution Integrated Logging Tool-DTS Wellsite Calibration
Stab Measurement Summary

Phase	BS Window Ratio			Value	Phase	SS Window Ratio			Value	Phase	LS Window Ratio			Value
Before				0.7508	Before				0.4818	Before				0.2979
0.7113 (Minimum)		0.7487 (Nominal)		0.7861 (Maximum)	0.4566 (Minimum)		0.4806 (Nominal)		0.5047 (Maximum)	0.2825 (Minimum)		0.2973 (Nominal)		0.3122 (Maximum)
Phase	BS Window Sum CPS			Value	Phase	SS Window Sum CPS			Value	Phase	LS Window Sum CPS			Value
Before				23070	Before				11180	Before				1170
21920 (Minimum)		23070 (Nominal)		24220 (Maximum)	10640 (Minimum)		11200 (Nominal)		11760 (Maximum)	1118 (Minimum)		1177 (Nominal)		1236 (Maximum)

Before: 10-Dec-2010 16:14

High resolution Integrated Logging Tool-DTS Wellsite Calibration
Photo-multiplier High Voltages Calibrations

Phase	BS PM High Voltage (Command) V	Value	Phase	SS PM High Voltage (Command) V	Value	Phase	LS PM High Voltage (Command) V	Value
Before		1524	Before		1564	Before		1299
1426 (Minimum)	1526 (Nominal) 1626 (Maximum)		1458 (Minimum)	1558 (Nominal) 1658 (Maximum)		1199 (Minimum)	1299 (Nominal) 1399 (Maximum)	

Before: 10-Dec-2010 16:14

High resolution Integrated Logging Tool-DTS Wellsite Calibration

Crystal Quality Resolutions Calibration

Phase	BS Crystal Resolution %	Value	Phase	SS Crystal Resolution %	Value	Phase	LS Crystal Resolution %	Value
Before		10.78	Before		9.174	Before		8.212
9.836 (Minimum)	10.84 (Nominal) 11.84 (Maximum)		8.097 (Minimum)	9.097 (Nominal) 10.10 (Maximum)		7.110 (Minimum)	8.110 (Nominal) 9.110 (Maximum)	

Before: 10-Dec-2010 16:14

High resolution Integrated Logging Tool-DTS Wellsite Calibration

MCFL Calibration

Phase	Raw B0 Resistivity OHMM	Value	Phase	Raw B1 Resistivity OHMM	Value	Phase	Raw B2 Resistivity OHMM	Value
Before		3865	Before		3819	Before		3820
3565 (Minimum)	3875 (Nominal) 4185 (Maximum)		3524 (Minimum)	3830 (Nominal) 4136 (Maximum)		3524 (Minimum)	3830 (Nominal) 4136 (Maximum)	

Before: 10-Dec-2010 16:15

High resolution Integrated Logging Tool-DTS Wellsite Calibration

HILT Caliper Calibration

Phase	HILT Caliper Zero Measurement IN	Value	Phase	HILT Caliper Plus Measurement IN	Value
Before		7.634	Before		11.89
6.000 (Minimum)	8.000 (Nominal) 10.00 (Maximum)		9.000 (Minimum)	12.00 (Nominal) 15.00 (Maximum)	

Before: 10-Dec-2010 16:09

High resolution Integrated Logging Tool-DTS Wellsite Calibration

HFLT M01

Idx	Phase	HFLT M0-M1 Voltage Plus UV	Value	Nominal	Maximum	Minimum
0	Before		-318.7	-322.7	-280.7	-379.7
1	Before		-337.8	-322.7	-280.7	-379.7
2	Before		-338.2	-322.7	-280.7	-379.7
3	Before		-333.1	-322.7	-280.7	-379.7
4	Before		-323.3	-322.7	-280.7	-379.7
5	Before		-324.4	-322.7	-280.7	-379.7
6	Before		330.0	322.7	379.7	280.7
7	Before		-322.7	-322.7	-280.7	-379.7
		(Minimum) (Nominal) (Maximum)				

Before: 11-Dec-2010 11:27

High resolution Integrated Logging Tool-DTS Wellsite Calibration

HFLT M12

Idx	Phase	HFLT M1-M2 Voltage Plus UV	Value	Nominal	Maximum	Minimum
0	Before		1769	1781	2095	1549
1	Before		1873	1781	2095	1549
2	Before		1870	1781	2095	1549
3	Before		1843	1781	2095	1549
4	Before		1790	1781	2095	1549
5	Before		1798	1781	2095	1549
6	Before		-1837	-1781	-1549	-2095
7	Before		1781	1781	2095	1549

(Minimum) (Nominal) (Maximum)

Before: 11-Dec-2010 11:27

High resolution Integrated Logging Tool-DTS Wellsite Calibration

HRLT M23

Idx	Phase	HRLT M2-M3 Voltage Plus UV	Value	Nominal	Maximum	Minimum
0	Before		1749	1781	2095	1549
1	Before		1861	1781	2095	1549
2	Before		1861	1781	2095	1549
3	Before		1838	1781	2095	1549
4	Before		1780	1781	2095	1549
5	Before		1789	1781	2095	1549
6	Before		-1814	-1781	-1549	-2095
7	Before		1781	1781	2095	1549

(Minimum) (Nominal) (Maximum)

Before: 11-Dec-2010 11:27

High resolution Integrated Logging Tool-DTS Wellsite Calibration

HRLT V34

Idx	Phase	HRLT A3-A4 Voltage Plus UV	Value	Nominal	Maximum	Minimum
0	Before		69040	70000	82360	60900
1	Before		73380	70000	82360	60900
2	Before		73650	70000	82360	60900
3	Before		72920	70000	82360	60900
4	Before		70530	70000	82360	60900
5	Before		70850	70000	82360	60900
6	Before		-70470	-70000	-60900	-82360
7	Before		70000	70000	82360	60900

(Minimum) (Nominal) (Maximum)

Before: 11-Dec-2010 11:27

High resolution Integrated Logging Tool-DTS Wellsite Calibration

HRLT V45

Idx	Phase	HRLT A4-A5 Voltage Plus UV	Value	Nominal	Maximum	Minimum
0	Before		68710	70000	82360	60900
1	Before		73240	70000	82360	60900
2	Before		73500	70000	82360	60900
3	Before		72740	70000	82360	60900
4	Before		70330	70000	82360	60900
5	Before		70640	70000	82360	60900
6	Before		-70300	-70000	-60900	-82360
7	Before		70000	70000	82360	60900

(Minimum) (Nominal) (Maximum)

Before: 11-Dec-2010 11:27

High resolution Integrated Logging Tool-DTS Wellsite Calibration

HRLT V56

Idx	Phase	HRLT A5-A6 Voltage Plus UV	Value	Nominal	Maximum	Minimum
0	Before		68740	70000	82360	60900
1	Before		73210	70000	82360	60900

2	Before		73450	70000	82360	60900
3	Before		72670	70000	82360	60900
4	Before		70250	70000	82360	60900
5	Before		70550	70000	82360	60900
6	Before		-70310	-70000	-60900	-82360
7	Before		70000	70000	82360	60900
	(Minimum)	(Nominal) (Maximum)				

Before: 11-Dec-2010 11:27

High resolution Integrated Logging Tool-DTS Wellsite Calibration

HRLT VTP

Idx	Phase	HRLT Torpedo-M0 Voltage Plus UV	Value	Nominal	Maximum	Minimum
0	Before		-68490	-70000	-60900	-82360
1	Before		-73220	-70000	-60900	-82360
2	Before		-73530	-70000	-60900	-82360
3	Before		-72820	-70000	-60900	-82360
4	Before		-70480	-70000	-60900	-82360
5	Before		-70780	-70000	-60900	-82360
6	Before		70240	70000	82360	60900
7	Before		-70000	-70000	-60900	-82360
	(Minimum)	(Nominal) (Maximum)				

Before: 11-Dec-2010 11:27

High resolution Integrated Logging Tool-DTS Wellsite Calibration

HRLT VBD

Idx	Phase	HRLT Bridle#9-M0 Voltage Plus UV	Value	Nominal	Maximum	Minimum
0	Before		-68440	-70000	-60900	-82360
1	Before		-73120	-70000	-60900	-82360
2	Before		-73430	-70000	-60900	-82360
3	Before		-72750	-70000	-60900	-82360
4	Before		-70420	-70000	-60900	-82360
5	Before		-70740	-70000	-60900	-82360
6	Before		70130	70000	82360	60900
7	Before		-70000	-70000	-60900	-82360
	(Minimum)	(Nominal) (Maximum)				

Before: 11-Dec-2010 11:27

High resolution Integrated Logging Tool-DTS Wellsite Calibration

HRLT ISO

Idx	Phase	HRLT Source Current Plus UA	Value	Nominal	Maximum	Minimum
0	Before		285.5	284.0	334.1	247.0
1	Before		281.1	281.1	330.7	244.4
2	Before		281.1	281.1	330.7	244.4
3	Before		281.1	281.1	330.7	244.4
4	Before		281.1	281.1	330.7	244.4
5	Before		281.1	281.1	330.7	244.4
6	Before		281.1	281.1	330.7	244.4

7	Before	281.1	281.1	330.7	244.4
	(Minimum) (Nominal) (Maximum)				

Before: 11-Dec-2010 11:27

High resolution Integrated Logging Tool-DTS Wellsite Calibration

HFLT MV

Idx	Phase	HFLT Vertical Voltage Plus UV	Value	Nominal	Maximum	Minimum
0	Before		-322.0	-322.7	-280.7	-379.7
1	Before		-333.2	-322.7	-280.7	-379.7
2	Before		-332.4	-322.7	-280.7	-379.7
3	Before		-326.1	-322.7	-280.7	-379.7
4	Before		-313.3	-322.7	-280.7	-379.7
5	Before		-329.8	-322.7	-280.7	-379.7
6	Before		339.3	322.7	379.7	280.7
7	Before		-322.7	-322.7	-280.7	-379.7
	(Minimum) (Nominal) (Maximum)					

Before: 11-Dec-2010 11:27

High resolution Integrated Logging Tool-DTS Wellsite Calibration

Detector Calibration

Phase	Gamma Ray Background GAPI	Value	Phase	Gamma Ray (Jig - Bkgd) GAPI	Value
Before		60.47	Before		168.2
	0 (Minimum) 30.00 (Nominal) 120.0 (Maximum)			157.1 (Minimum) 165.0 (Nominal) 206.3 (Maximum)	

Before: 10-Dec-2010 16:10

High resolution Integrated Logging Tool-DTS Wellsite Calibration

Zero Measurement

Phase	CNTC Background CPS	Value	Phase	CFTC Background CPS	Value
Master		26.02	Master		26.66
Before		27.25	Before		27.29
	5.000 (Minimum) 26.02 (Nominal) 40.00 (Maximum)			5.000 (Minimum) 26.66 (Nominal) 40.00 (Maximum)	

Master: 21-Nov-2010 19:16 Before: 10-Dec-2010 16:10

High resolution Integrated Logging Tool-DTS Wellsite Calibration

Ratio Measurement

Phase	Thermal Near Corr. (Tank) CPS	Value	Phase	Thermal Far Corr. (Tank) CPS	Value	Phase	CNTC/CFTC (Tank)	Value
Master		5176	Master		2207	Master		2.345
	4700 (Minimum) 5800 (Nominal) 6900 (Maximum)			1900 (Minimum) 2400 (Nominal) 2900 (Maximum)			2.120 (Minimum) 2.159 (Nominal) 2.540 (Maximum)	

Master: 21-Nov-2010 19:16

High resolution Integrated Logging Tool-DTS Wellsite Calibration

Accelerometer Calibration

Phase	Z-Axis Acceleration F/S2	Value
Before		32.06
	31.53 (Minimum) 32.19 (Nominal) 32.84 (Maximum)	

Before: 11-Dec-2010 9:58

High resolution Integrated Logging Tool-DTS Master Calibration

Inversion results

Phase	Rho Aluminum G/C3	Value	Phase	Rho Magnesium G/C3	Value
Master		2.600	Master		1.688
	2.586 (Minimum) 2.596 (Nominal) 2.606 (Maximum)			1.676 (Minimum) 1.686 (Nominal) 1.696 (Maximum)	

Phase	Pe Aluminum	Value	Phase	Pe Magnesium	Value
Master		2.482	Master		2.651
2.470 (Minimum)	2.570 (Nominal)	2.670 (Maximum)	2.550 (Minimum)	2.650 (Nominal)	2.750 (Maximum)

Master: 30-Nov-2010 17:28

High resolution Integrated Logging Tool-DTS Master Calibration

Deviation Summary

Phase	BS Average Deviation %	Value	Phase	SS Average Deviation %	Value	Phase	LS Average Deviation %	Value
Master		0.2090	Master		0.4163	Master		0.6055
-0.6000 (Minimum)	0 (Nominal)	0.6000 (Maximum)	-1.000 (Minimum)	0 (Nominal)	1.000 (Maximum)	-1.500 (Minimum)	0 (Nominal)	1.500 (Maximum)
Phase	BS Max Deviation %	Value	Phase	SS Max Deviation %	Value	Phase	LS Max Deviation %	Value
Master		0.3927	Master		1.776	Master		2.041
-1.600 (Minimum)	0 (Nominal)	1.600 (Maximum)	-2.500 (Minimum)	0 (Nominal)	2.500 (Maximum)	-3.500 (Minimum)	0 (Nominal)	3.500 (Maximum)

Master: 30-Nov-2010 17:28

High resolution Integrated Logging Tool-DTS Master Calibration

Zero Measurement

Phase	CNTC Background CPS	Value	Phase	CFTC Background CPS	Value
Master		26.02	Master		26.66
5.000 (Minimum)	26.02 (Nominal)	40.00 (Maximum)	5.000 (Minimum)	26.66 (Nominal)	40.00 (Maximum)

Master: 21-Nov-2010 19:16

High resolution Integrated Logging Tool-DTS Master Calibration

Tank Measurement

Phase	Thermal Near Corr. (Tank) CPS	Value	Phase	Thermal Far Corr. (Tank) CPS	Value	Phase	CNTC/CFTC (Tank)	Value
Master		5176	Master		2207	Master		2.345
4700 (Minimum)	5800 (Nominal)	6900 (Maximum)	1900 (Minimum)	2400 (Nominal)	2900 (Maximum)	2.120 (Minimum)	2.159 (Nominal)	2.540 (Maximum)

Master: 21-Nov-2010 19:16

Elemental Capture Spectroscopy Tool / Equipment Identification

Primary Equipment:		
ECS Sonde	ECS - A	31
ECS Detector Package	ECSD - A	31
ECS AmBe Source	NSR - F	
Auxiliary Equipment:		
ECS Sonde Housing	ECSH - A	31

Elemental Capture Cartridge - B / Equipment Identification

Primary Equipment:		
ECC Cartridge	ECC - B	281
Auxiliary Equipment:		
ECC Housing	ECH - A	

Hostile Natural Gamma Ray Cartridge - B / Equipment Identification

Primary Equipment:		
HNGC Cartridge	HNGC - B	366
Auxiliary Equipment:		
HNGC Housing	HNGH - A	311

Hostile Natural Gamma Ray Sonde / Equipment Identification

Primary Equipment:		
HNGS Sonde	HNGS - BA	176
Auxiliary Equipment:		
HNGS Sonde Housing	HNSH - BA	187
Gamma Source Radioactive	GSR - U	

Hostile Natural Gamma Ray Sonde Wellsite Calibration

Detector 1 Check

Phase	Na 511 Peak Loc	Value	Phase	Na 511 Peak Res %	Value	Phase	High Voltage V	Value
Before		39.53	Before		16.62	Before		1065
37.50 (Minimum)	40.00 (Nominal)	43.50 (Maximum)	12.00 (Minimum)	15.50 (Nominal)	19.00 (Maximum)	900.0 (Minimum)	1150 (Nominal)	1600 (Maximum)
Phase	**Na 1785 Peak Loc**	**Value**	**Phase**	**Na 1785 Peak Res %**	**Value**	**Phase**	**Temperature DEGF**	**Value**
Before		141.9	Before		9.008	Before		61.61
135.0 (Minimum)	142.6 (Nominal)	150.3 (Maximum)	7.000 (Minimum)	8.500 (Nominal)	11.00 (Maximum)	-20.00 (Minimum)	59.90 (Nominal)	140.0 (Maximum)
Phase	**Na Count Rate CPS**	**Value**						
Before		16.74						
10.00 (Minimum)	45.00 (Nominal)	100.0 (Maximum)						

Before: 10-Dec-2010 16:16

Hostile Natural Gamma Ray Sonde Wellsite Calibration

Detector 2 Check

Phase	Na 511 Peak Loc	Value	Phase	Na 511 Peak Res %	Value	Phase	High Voltage V	Value
Before		40.42	Before		15.22	Before		1040
37.50 (Minimum)	40.00 (Nominal)	43.50 (Maximum)	12.00 (Minimum)	15.50 (Nominal)	19.00 (Maximum)	900.0 (Minimum)	1150 (Nominal)	1600 (Maximum)
Phase	**Na 1785 Peak Loc**	**Value**	**Phase**	**Na 1785 Peak Res %**	**Value**	**Phase**	**Temperature DEGF**	**Value**
Before		143.3	Before		9.137	Before		62.57
135.0 (Minimum)	142.6 (Nominal)	150.3 (Maximum)	7.000 (Minimum)	8.500 (Nominal)	11.00 (Maximum)	-20.00 (Minimum)	59.90 (Nominal)	140.0 (Maximum)
Phase	**Na Count Rate CPS**	**Value**						
Before		17.05						
10.00 (Minimum)	45.00 (Nominal)	100.0 (Maximum)						

Before: 10-Dec-2010 16:16

Hostile Natural Gamma Ray Sonde Wellsite Calibration

Ratio Of Detector 1 To Detector 2

Phase	Coincidence Count Rate Ratio	Value
Before		0.9811
0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)

Before: 10-Dec-2010 16:16

Enhanced DTS Cartridge / Equipment Identification

Primary Equipment:			
EDTC Gamma Ray Detector	EDTG - A/B		
Enhanced DTS Cartridge	EDTC - B	8537	8537
Auxiliary Equipment:			
EDTC Housing	EDTH - B	8533	8533

Enhanced DTS Cartridge Wellsite Calibration

EDTC Accelerometer Calibration

Phase	EDTC Z-Axis Acceleration F/S2	Value
Before		32.09
31.53	32.19	32.84

(Minimum)	(Nominal)	(Maximum)

Before: 11-Dec-2010 9:58

Enhanced DTS Cartridge Wellsite Calibration

Detector Calibration

Phase	Gamma Ray Background GAPI	Value	Phase	Gamma Ray (Jig - Bkg) GAPI	Value	Phase	Gamma Ray (Calibrated) GAPI	Value
Before		53.13	Before		150.1	Before		165.0
0 (Minimum)	30.00 (Nominal) 120.0 (Maximum)		136.5 (Minimum)	150.1 (Nominal) 163.7 (Maximum)		150.0 (Minimum)	165.0 (Nominal) 180.0 (Maximum)	

Before: 10-Dec-2010 16:12

Company: OXY US LA BASIN

Schlumberger

Well: DOM-001
Field: Dominguez
County: Los Angeles
State: California

ELECTRON CAPTURE SPECTROSCOPY
GAMMA RAY TIE IN