BAKER HUGHES

HIGH DEFINITION INDUCTION LOG SM
GAMMA RAY LOG
CALIPER LOG

FILE NO:	
API NO:	05-055-06312
COMPANY	TABULA RASA ENERGY
WELL	CADDELL 2
FIELD	OAKDALE
COUNTY	HUEFANO
STATE	COLORADO
LOCATION:	SHL: 1349' FSL & 1306' FEL
SEC	4
TWP	29 S
RGE	69 W
OTHER SERVICES	ZDL/CN/CAL/GR
ELEVATIONS: KB	7844.5 FT
DF	7844.5 FT
GL	7830 FT
Ver. 3.87	
2"/100' SCALE	
5"/100' SCALE	

PERMANENT DATUM	GL
ELEVATION	7830 FT
LOG MEASURED FROM	KB
14.5 FT ABOVE P.D.	
DRILL. MEAS. FROM	KB

DATE	15-DEC-2013		
RUN	1		
TRIP	1		
SERVICE ORDER	US07364		
DEPTH DRILLER	5955 FT		
DEPTH LOGGER	5955 FT		
BOTTOM LOGGED INTERVAL	5947 FT		
TOP LOGGED INTERVAL	500 FT		
CASING DRILLER	9.625 IN @ 597 FT		
CASING LOGGER	586 FT		
BIT SIZE	8.75 IN		
TYPE OF FLUID IN HOLE	OBM		
DENSITY / VISCOSITY	7.95 LB/G	56 S	
PH / FLUID LOSS			
SOURCE OF SAMPLE	DOWNHOLE		
RM AT MEAS. TEMP.	2.29 OHMM @ 75 DEGF		
RMF AT MEAS. TEMP.	1.72 OHMM @ 75 DEGF		
RMC AT MEAS. TEMP.	3.09 OHMM @ 75 DEGF		
SOURCE OF RMF / RMC	CALCULATED	CALCULATED	
RM AT BHT	6.56 OHMM @ 165 DEGF		
TIME SINCE CIRCULATION	8 HOURS		
MAX. RECORDED TEMP.	166 DEGF		
EQUIP. NO. / LOCATION	6680	WOODWARD OK	
RECORDED BY	TIM BURGER		
WITNESSED BY	GENE GUSTIN		

IN MAKING INTERPRETATIONS OF LOGS OUR EMPLOYEES WILL GIVE CUSTOMER THE BENEFIT OF THEIR BEST JUDGEMENT. BUT SINCE ALL INTERPRETATIONS ARE OPINIONS BASED ON INFERENCES FROM ELECTRICAL OR OTHER MEASUREMENTS, WE CANNOT, AND WE DO NOT GUARANTEE THE ACCURACY OR CORRECTNESS OF ANY INTERPRETATION. WE SHALL NOT BE LIABLE OR RESPONSIBLE FOR ANY LOSS, COST, DAMAGES, OR EXPENSES WHATSOEVER INCURRED OR SUSTAINED BY THE CUSTOMER RESULTING FROM ANY INTERPRETATION MADE BY ANY OF OUR EMPLOYEES.

BOREHOLE RECORD

BIT SIZE	FROM	TO
17.5 IN	0 FT	110 FT
12.25 IN	110 FT	597 FT
8.75 IN	597 FT	5955 FT

CASING RECORD

SIZE	WEIGHT	GRADE	FROM	TO
13.375 IN	48 LB/F	H-40	0 FT	110 FT
9.625 IN	36 LB/F	J-55	0 FT	597 FT
7 IN	29 LB/F	L-80	0 FT	

REMARKS

RUN 1 TRIP 1 :

1 OPERATION IN THE WELL
OP1: GR/CN/ZDL/HDIL - RAN IN COMBINATION

DENSITY POROSITY (PORZC) = 2.71 G/CC
NEUTRON POROSITY (CNC) = LIMESTONE MATRIX
NETURON POROSITY (CNC) = CALIPER COMPENSATED

2.65 G/CC SANDSTONE POROSITY CURVES (PZCSS & CNCSS) ADDED PER CLIENT REQUEST

(CAL) = SINGLE AXIS CALIPER FROM DENSITY TOOL
(BVOL) = TOTAL BOREHOLE VOLUME FROM CALIPER = 2,677.325 F3
(CVOL) = CEMENT VOLUME CALCULATED FROM 7" CASING = 1,237.829 F3

INDUCTION RAN WITH STAND-OFF

INDUCTION CALIPER COMPENSATED

RIG: AZTEC #673
CREW: T.BURGER / J.BURGE / C.DALSANTO

EQUIPMENT DATA

RUN	TRIP	TOOL	SERIES NO.	SERIAL NO.	POSITION
1	1	TTRM	3981XB	10045153	FREE
1	1	COM REM	3514XB	116620	DECENTRALIZED
1	1	SL/GR	1329XA	179184	DECENTRALIZED
1	1	NEUTRON	2446XA	173079	DECENTRALIZED
1	1	DENSITY	2234XA	179939	PAD-PINNED DEVICE
1	1	KNUCKLE	3939XA	10238696	FREE
1	1	INDUCTION	1515EA/MA	179495/183381	STAND-OFF

MAIN LOG 2"/100FT SCALE

ECLIPS 6.1i Aug 06, 2010
Updates: 1,2 Patches: 3

Sun Dec 15 14:25:02 2013

Pcrplt /main/62 Cplot Pdf_Cpp /main/16 Fileview 5.61

PARAMETER AND FILTER SUMMARY REPORT

File: /data/TABULA_CADDELL_2_R1/m777q05.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 480.500 ft BOTTOM DEPTH: 5972.631 ft

SYMMETRIC FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft) TOP	BOTTOM
Y AXIS CALIPER	FILTER ()	medium (1)		TOP	BOTTOM
TENSION	FILTER ()	medium (1)		"	"
GR	FILTER ()	medium (1)		"	"
	FILTER (.h)	medium (1)		"	"
CALIPER	FILTER ()	medium (1)		"	"
	FILTER (.h)	medium (1)		"	"
	FILTER (.l)	medium (1)		"	"
SP-SPDH	FILTER (.h)	medium (1)		"	"

BOREHOLE & CEMENT

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft) TOP	BOTTOM
CASING - BOREHOLE & CEMENT VOLUME	CASING O.D.	7.000	in	TOP	BOTTOM
BIT SIZE	BIT SIZE	8.750	in	"	"
BOREHOLE CORR DIAMETER SOURCE	CALIPER/FIXED DIA. (mbh*)	USE CALIPER		"	"
BOREHOLE CORR DIAMETER	FIXED DIAMETER (mbh*)	8.750	in	"	"
BH MUD RESISTIVITY SOURCE	RMUD SOURCE (HDIL)	OIL BASE MUD		"	"

SP CONTROL

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft) TOP	BOTTOM
SP CONTROL	Tool/Bridle	TOOL		TOP	BOTTOM

HDIL PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft) TOP	BOTTOM
HDIL TEMPERATURE CORRECTION	TEMP CORR SOURCE	USE RXTEMP		TOP	BOTTOM
ADAPTIVE BOREHOLE CORRECTION	ABC PROCESSING	ON		"	"
	ABC to CALCULATE	BOREHOLE SIZE		"	"
	STANDOFF	3.50	in	"	"
	TOOL POSITION	ECCENTERED		"	"
	Rmud MULTIPLIER	1.000		"	"

CURVE DESCRIPTION REPORT

CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:BIT	Dec 15 14:20:25 2013	BIT SIZE
F1:BVOL	Dec 15 14:20:25 2013	BOREHOLE VOLUME
F1:CALX	Dec 15 14:20:25 2013	CALIPER FROM X-AXIS OF XY CALIPER(S)
F1:CVOL	Dec 15 14:20:26 2013	CEMENT VOLUME
F1:GR	Dec 15 14:20:26 2013	GAMMA RAY
F1:M2R1	Dec 15 14:20:28 2013	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 10-INCH DOI
F1:M2R2	Dec 15 14:20:28 2013	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 20-INCH DOI
F1:M2R3	Dec 15 14:20:28 2013	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 30-INCH DOI
F1:M2R6	Dec 15 14:20:28 2013	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 60-INCH DOI
F1:M2R9	Dec 15 14:20:28 2013	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 90-INCH DOI
F1:M2RX	Dec 15 14:20:28 2013	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 120-INCH DOI
F1:TEN	Dec 15 14:20:35 2013	DIFFERENTIAL TENSION

CURVE MEASURE POINT OFFSET

CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
BIT	0.00	M2R1	8.00	M2R6	8.00	TEN	0.00
CALX	35.00	M2R2	8.00	M2R9	8.00		
GR	52.25	M2R3	8.00	M2RX	8.00		

Presentation : wwdsys71:/dat1a/TABULA_CADDELL_2_R1/hdil_MN02_r1.pdf [2"/100' Scale]
Plot Interval : 434.5 - 5972.75 Feet

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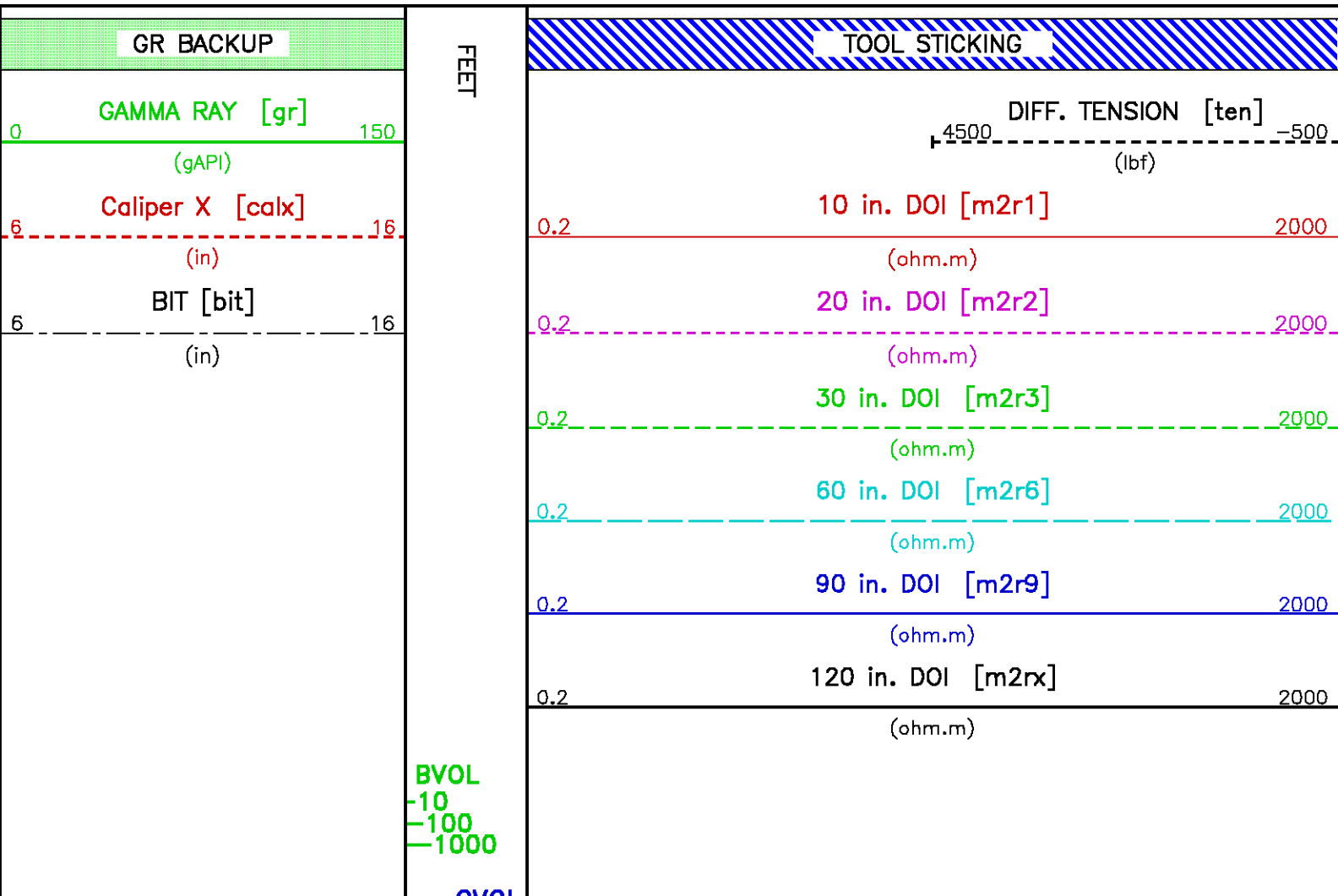
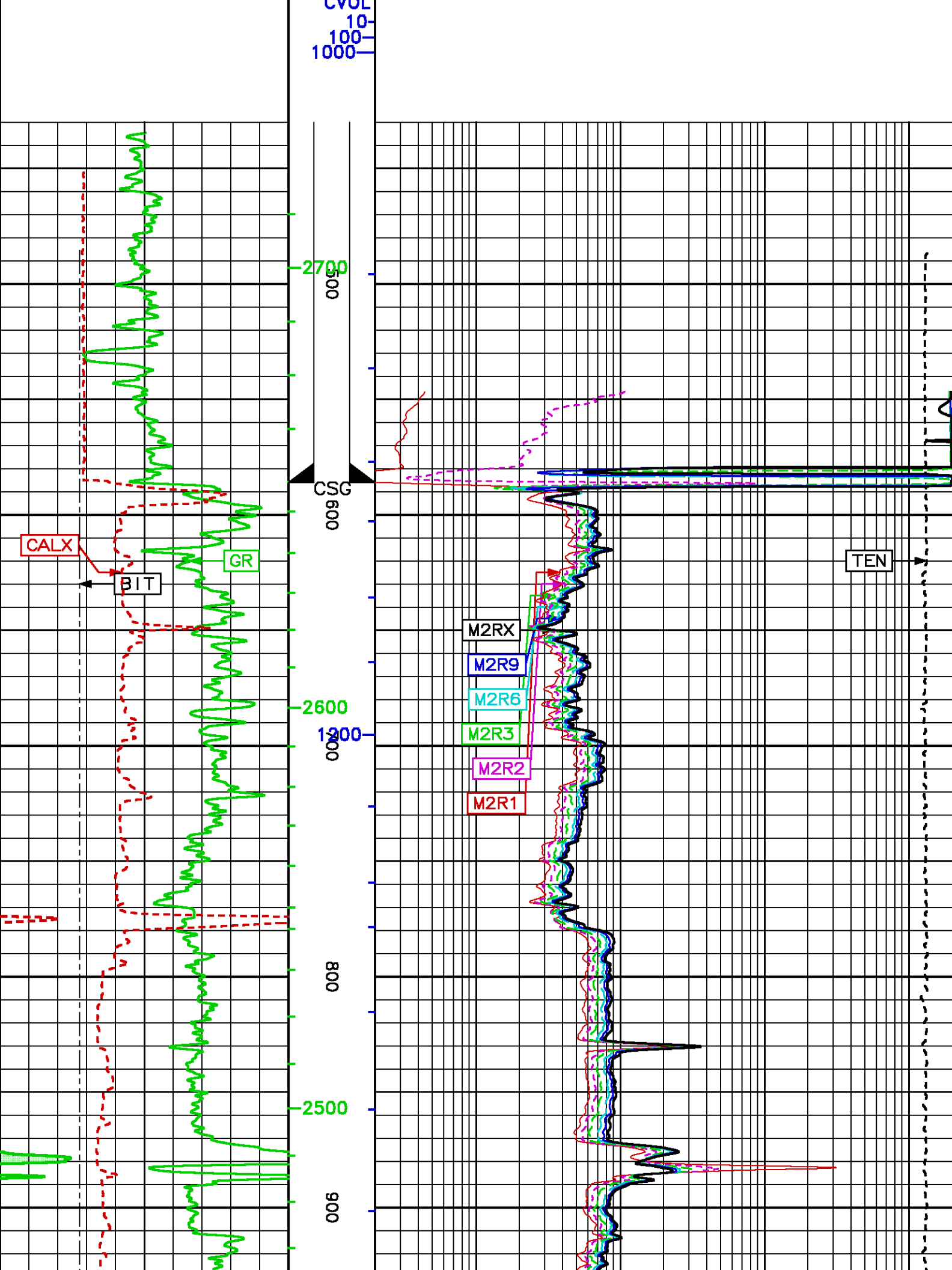
Created On : Dec 15 14:20:25 2013
Company : TABULA RASA ENERGY
Well : CADDELL 2
Field : OAKDALE
File Interval : 420 - 5972.75 Feet
Oct : m777q

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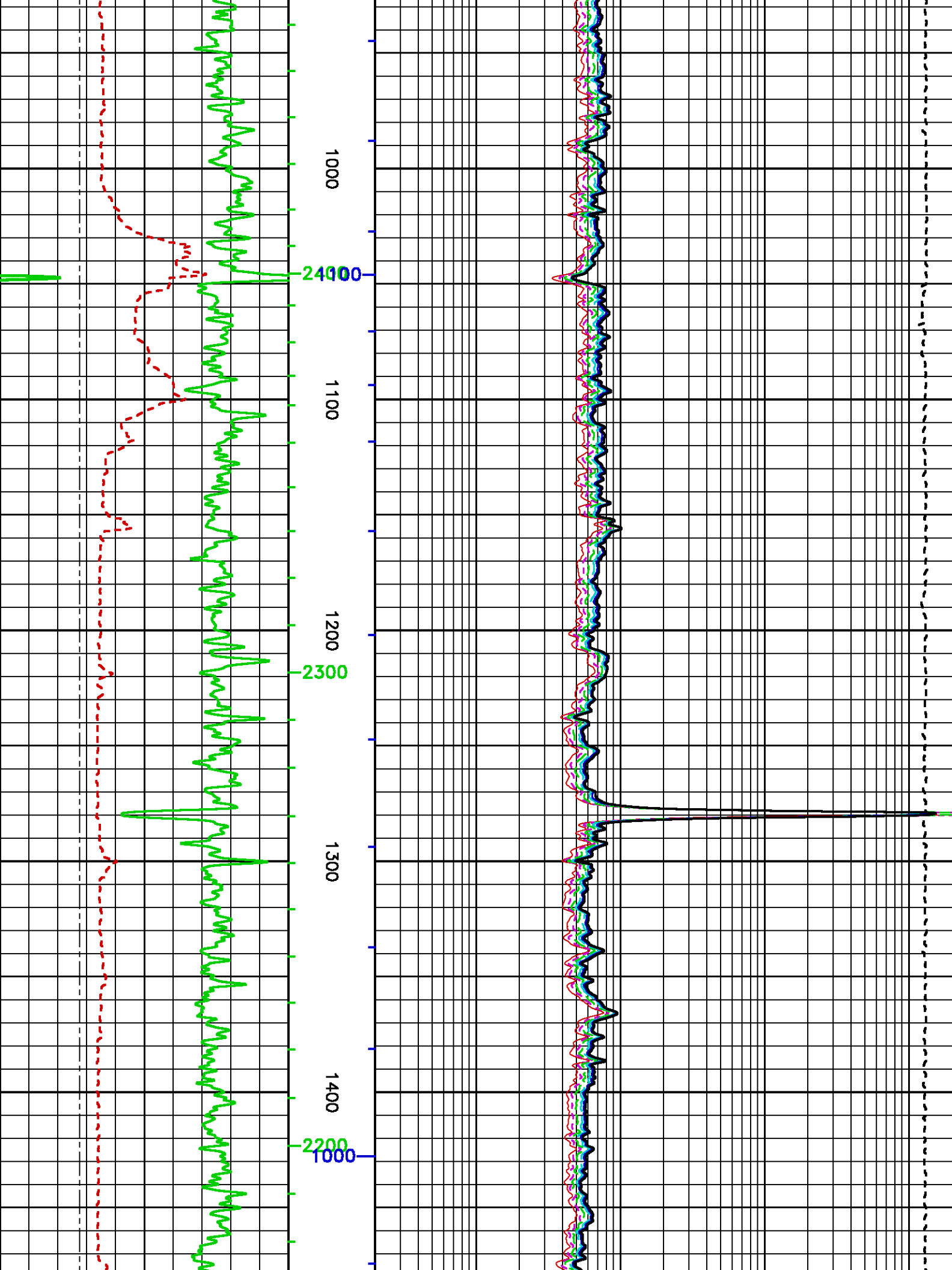
M2R2
M2R1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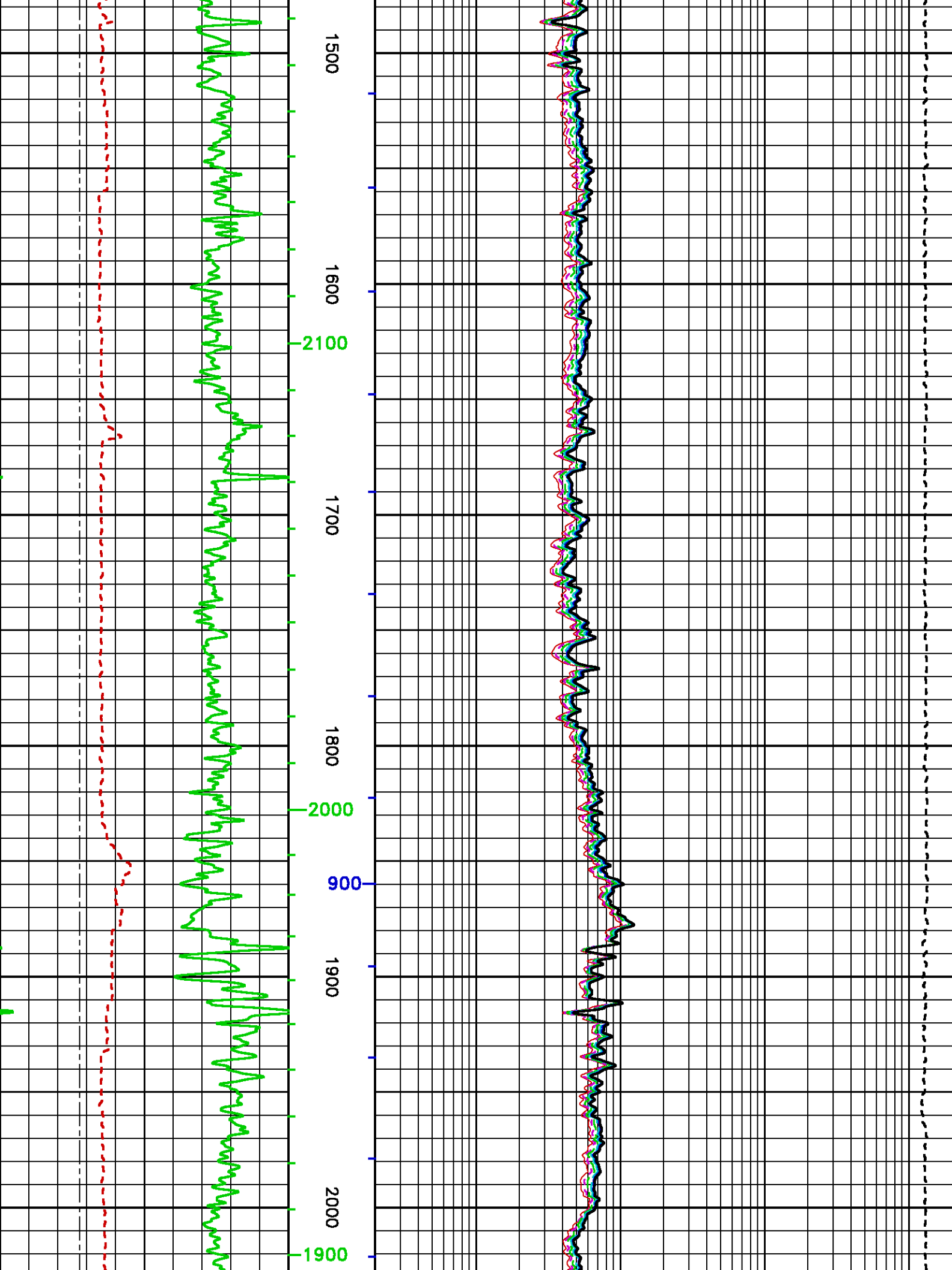
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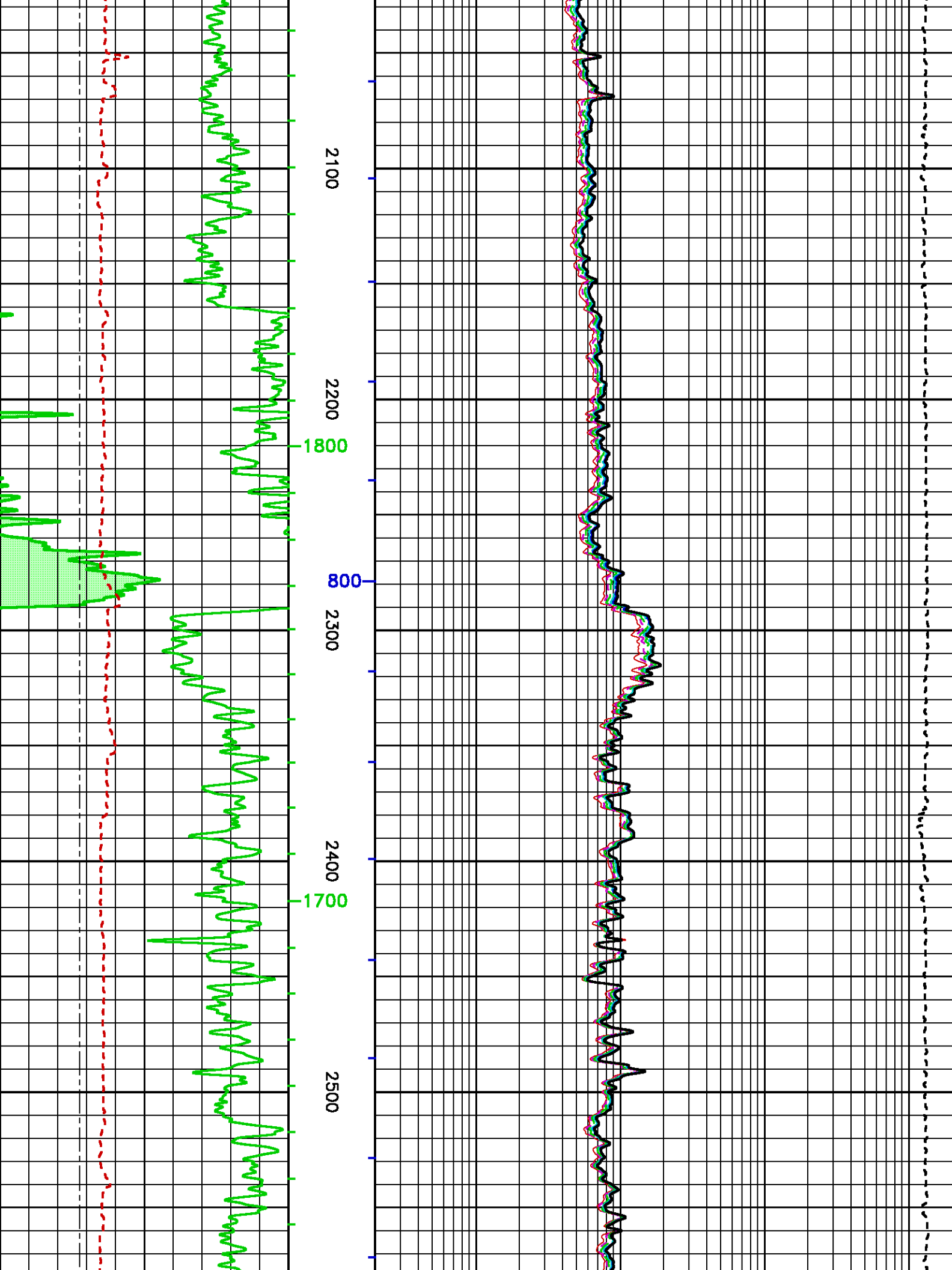
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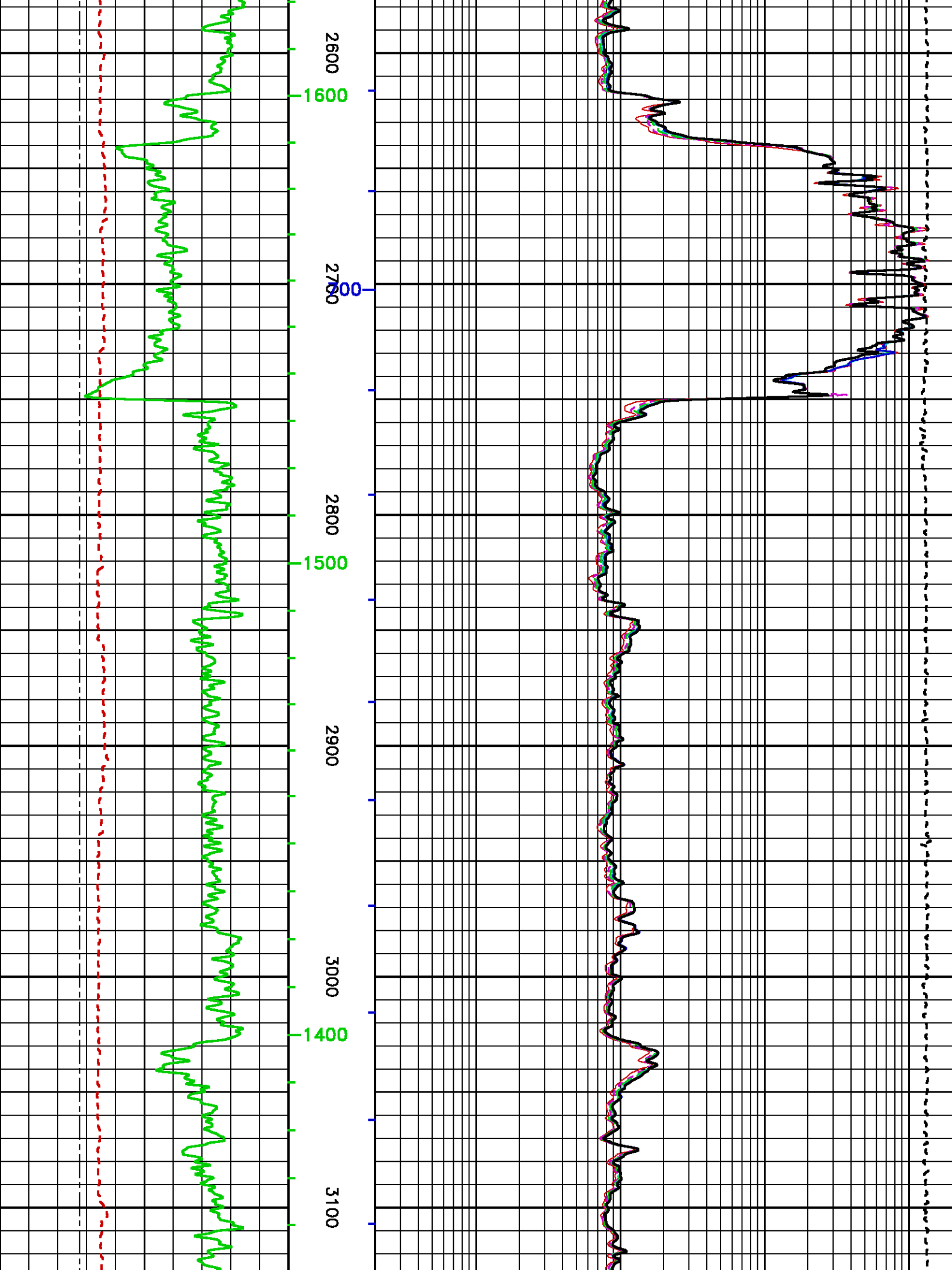
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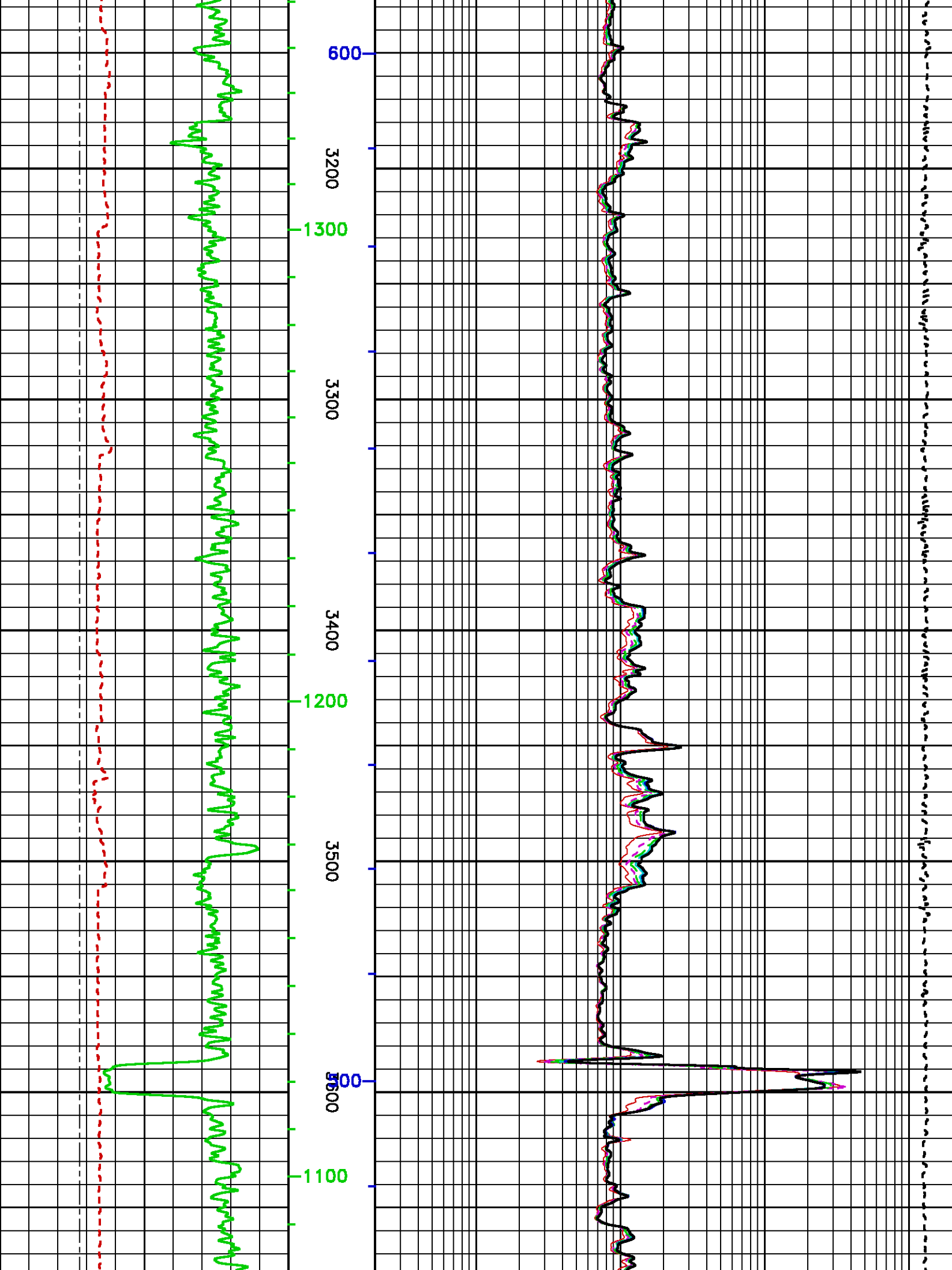
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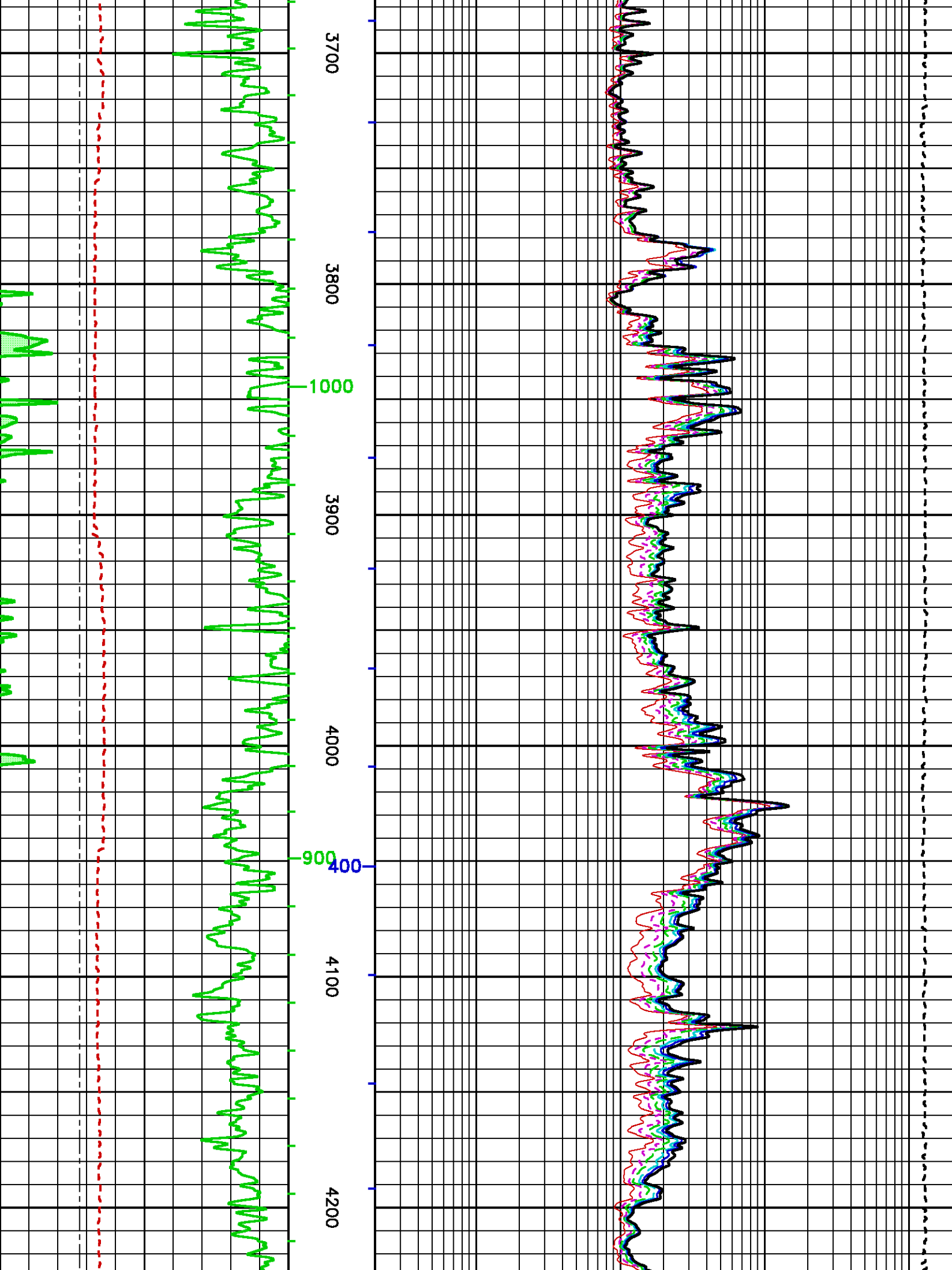
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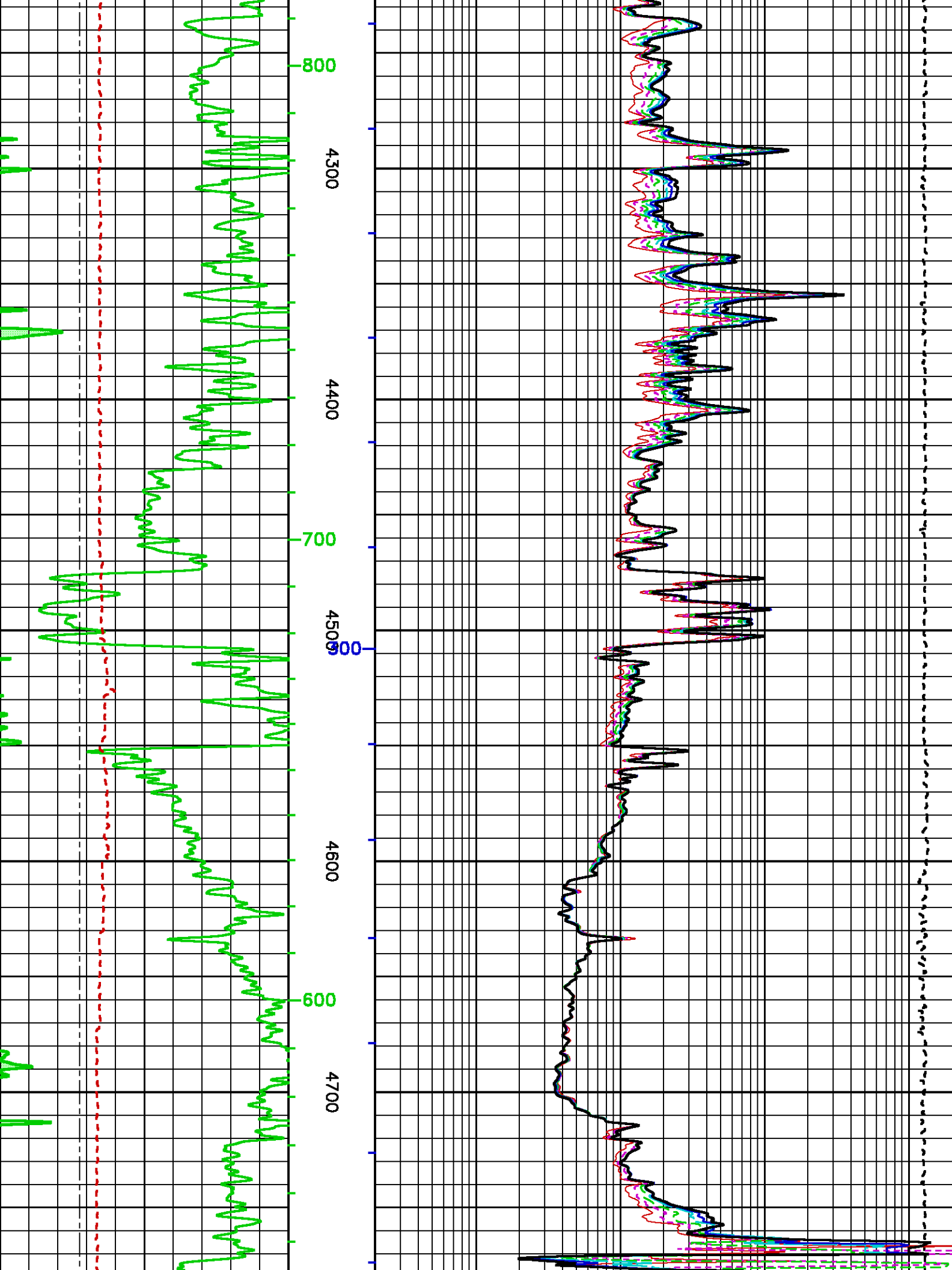
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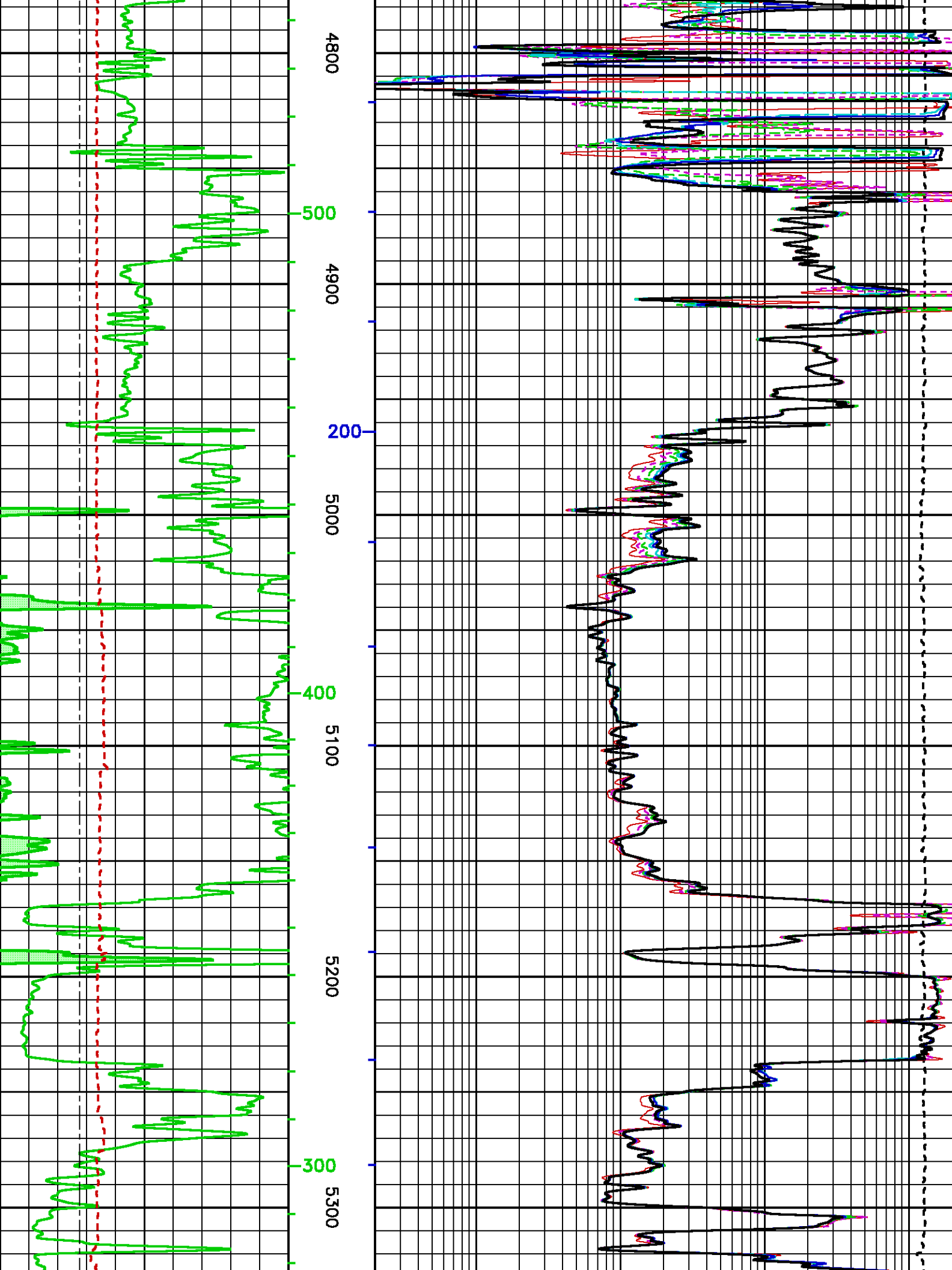
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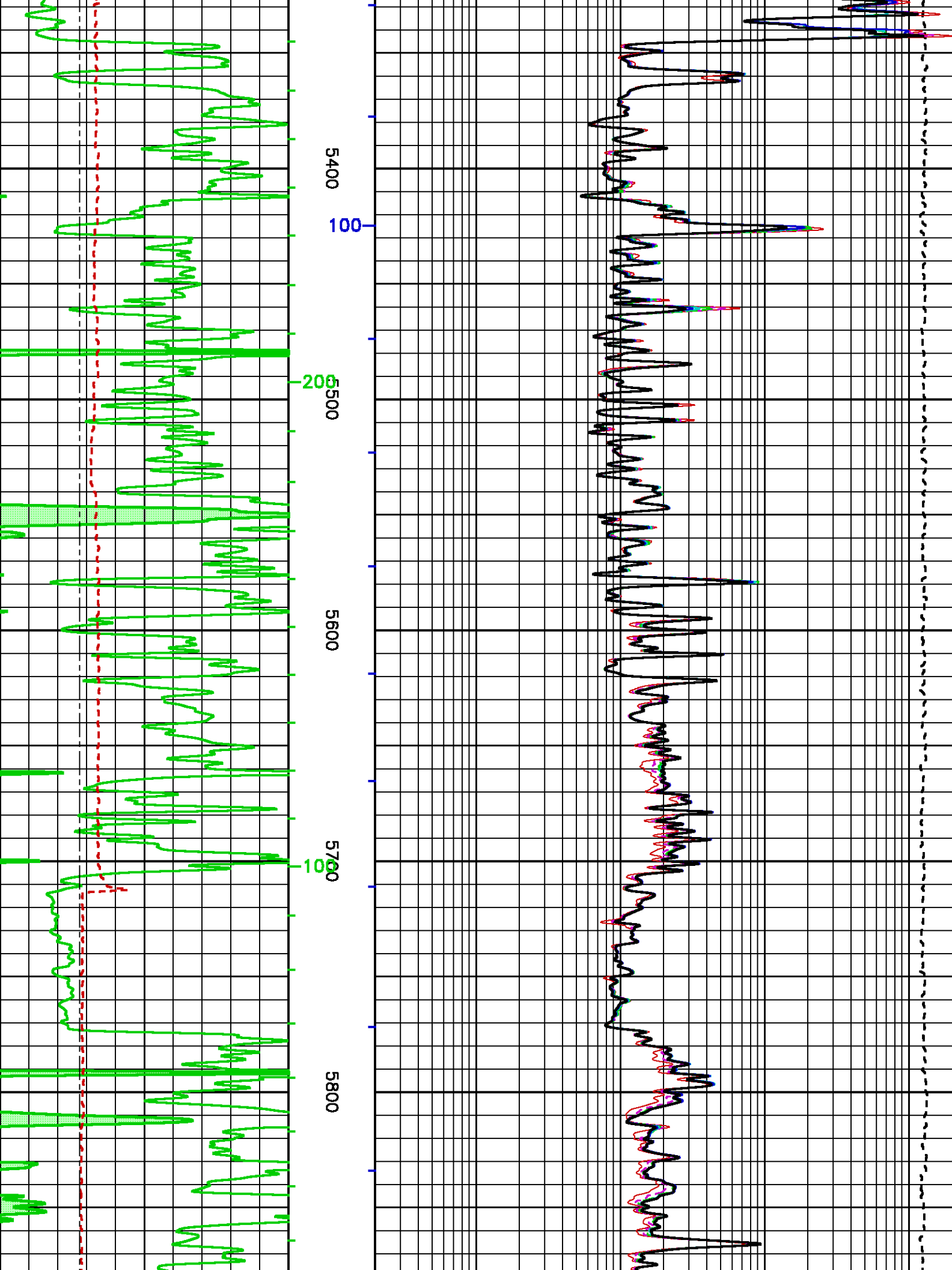
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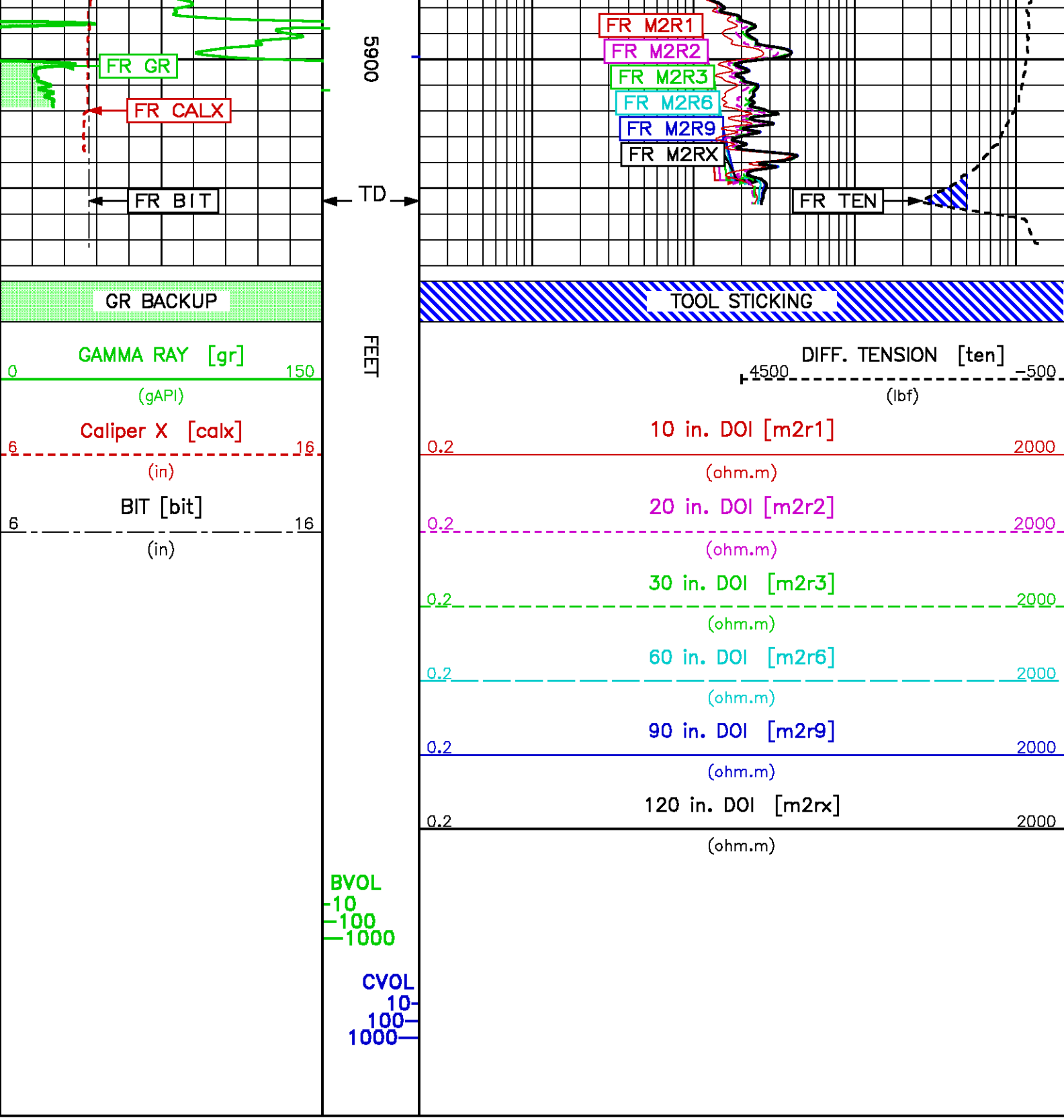

MAIN LOG 5"/100FT SCALE

ECLIPS 6.1i Aug 06, 2010
Updates: 1,2 Patches: 3

Sun Dec 15 13:22:07 2013

PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/TABULA_CADDELL_2_R1/m777q05.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 0.000 ft BOTTOM DEPTH: 0.000 ft

SYMMETRIC FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft) TOP	BOTTOM
Y AXIS CALIPER	FILTER ()	medium (1)		TOP	BOTTOM
TENSION	FILTER ()	medium (1)		''	''
GR	FILTER ()	medium (1)		''	''
	FILTER (.h)	medium (1)		''	''
CALIPER	FILTER ()	medium (1)		''	''
	FILTER (.h)	medium (1)		''	''
	FILTER (.l)	medium (1)		''	''
SP-SPDH	FILTER (.h)	medium (1)		''	''

BOREHOLE & CEMENT

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft) TOP	BOTTOM
BIT SIZE	BIT SIZE	8.750	In	TOP	BOTTOM
BOREHOLE CORR DIAMETER SOURCE	CALIPER/FIXED DIA. (mbh*)	USE CALIPER		''	''
BOREHOLE CORR DIAMETER	FIXED DIAMETER (mbh*)	8.750	In	''	''
BH MUD RESISTIVITY SOURCE	RMUD SOURCE (HDIL)	OIL BASE MUD		''	''

SP CONTROL

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft) TOP	BOTTOM
SP CONTROL	Tool/Bridle	TOOL		TOP	BOTTOM

CURVE DESCRIPTION REPORT

CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:BIT	Dec 15 11:21:30 2013	BIT SIZE
F1:CALX	Dec 15 11:21:30 2013	CALIPER FROM X-AXIS OF XY CALIPER(S)
F1:GR	Dec 15 11:21:30 2013	GAMMA RAY
F1:M2R1	Dec 15 11:21:30 2013	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 10-INCH DOI
F1:M2R2	Dec 15 11:21:30 2013	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 20-INCH DOI
F1:M2R3	Dec 15 11:21:30 2013	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 30-INCH DOI
F1:M2R6	Dec 15 11:21:30 2013	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 60-INCH DOI
F1:M2R9	Dec 15 11:21:30 2013	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 90-INCH DOI
F1:M2RX	Dec 15 11:21:30 2013	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 120-INCH DOI
F1:TEN	Dec 15 11:21:30 2013	DIFFERENTIAL TENSION

CURVE MEASURE POINT OFFSET

CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
BIT	0.00	M2R1	8.00	M2R6	8.00	TEN	0.00
CALX	35.00	M2R2	8.00	M2R9	8.00		
GR	52.25	M2R3	8.00	M2RX	8.00		

Presentation : wwdsys71:/dat1a/TABULA_CADDELL_2_R1/hdll_MN05_r1.pdf [5"/100' Scale]
Plot Interval : 3890 - 5972.75 Feet

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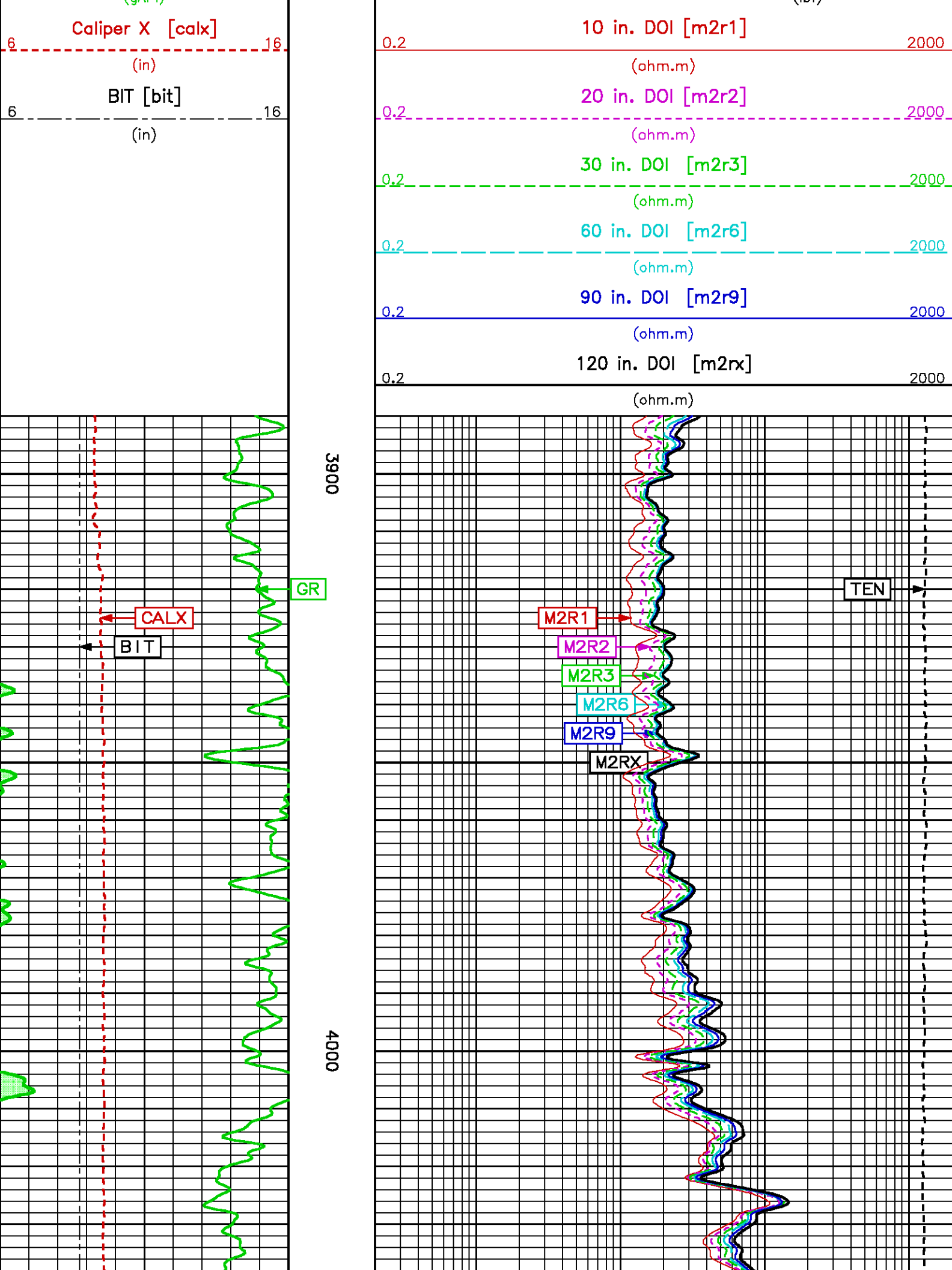
Created On : Dec 15 11:21:30 2013
Company : TABULA RASA ENERGY
Well : CADDELL 2
Field : OAKDALE
File Interval : 2965 - 5972.75 Feet
Oct : m777q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16
(in)
BIT [bit]
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16
(in)
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(ohm.m)
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(ohm.m)
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(ohm.m)
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(ohm.m)
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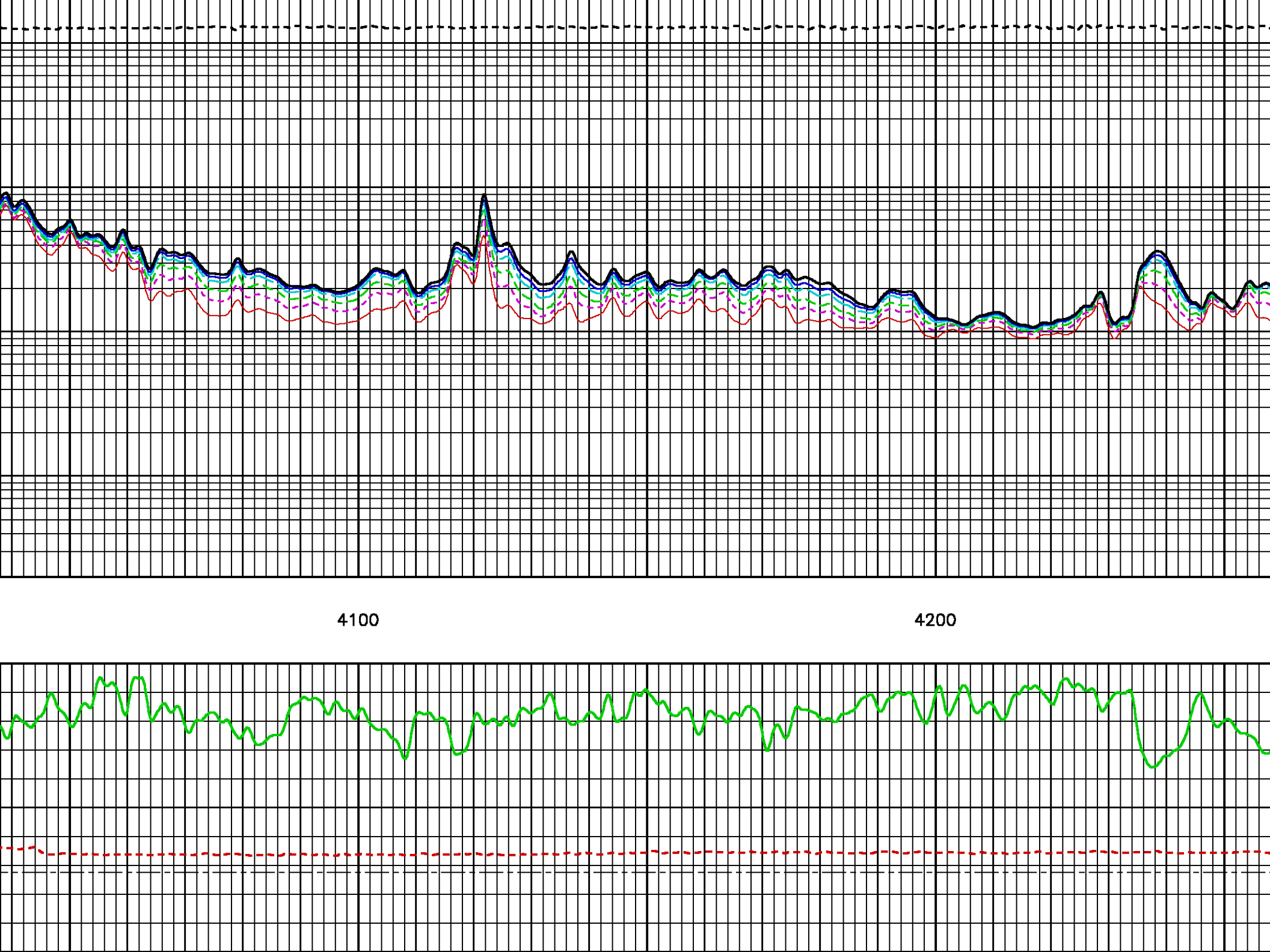
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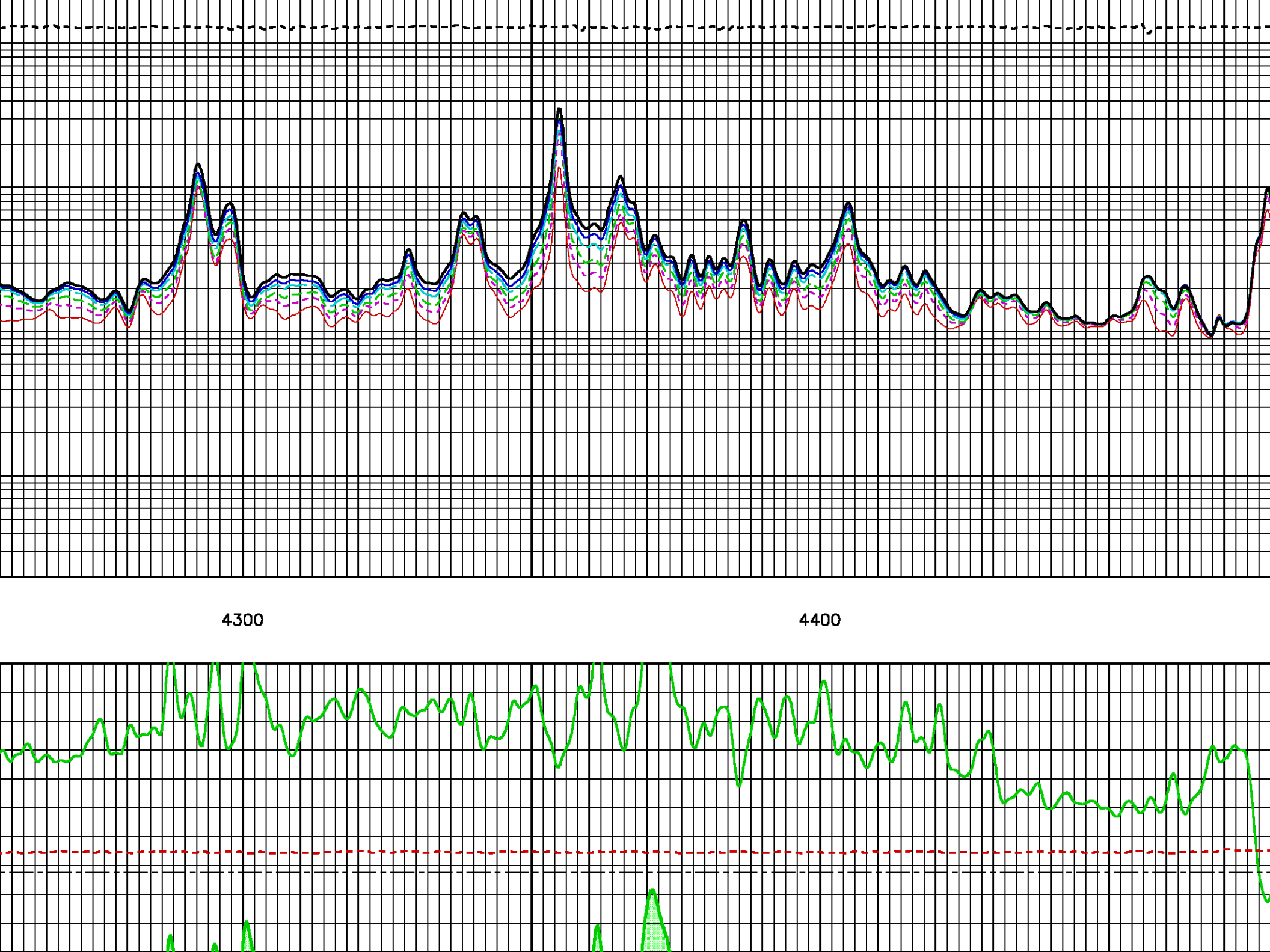
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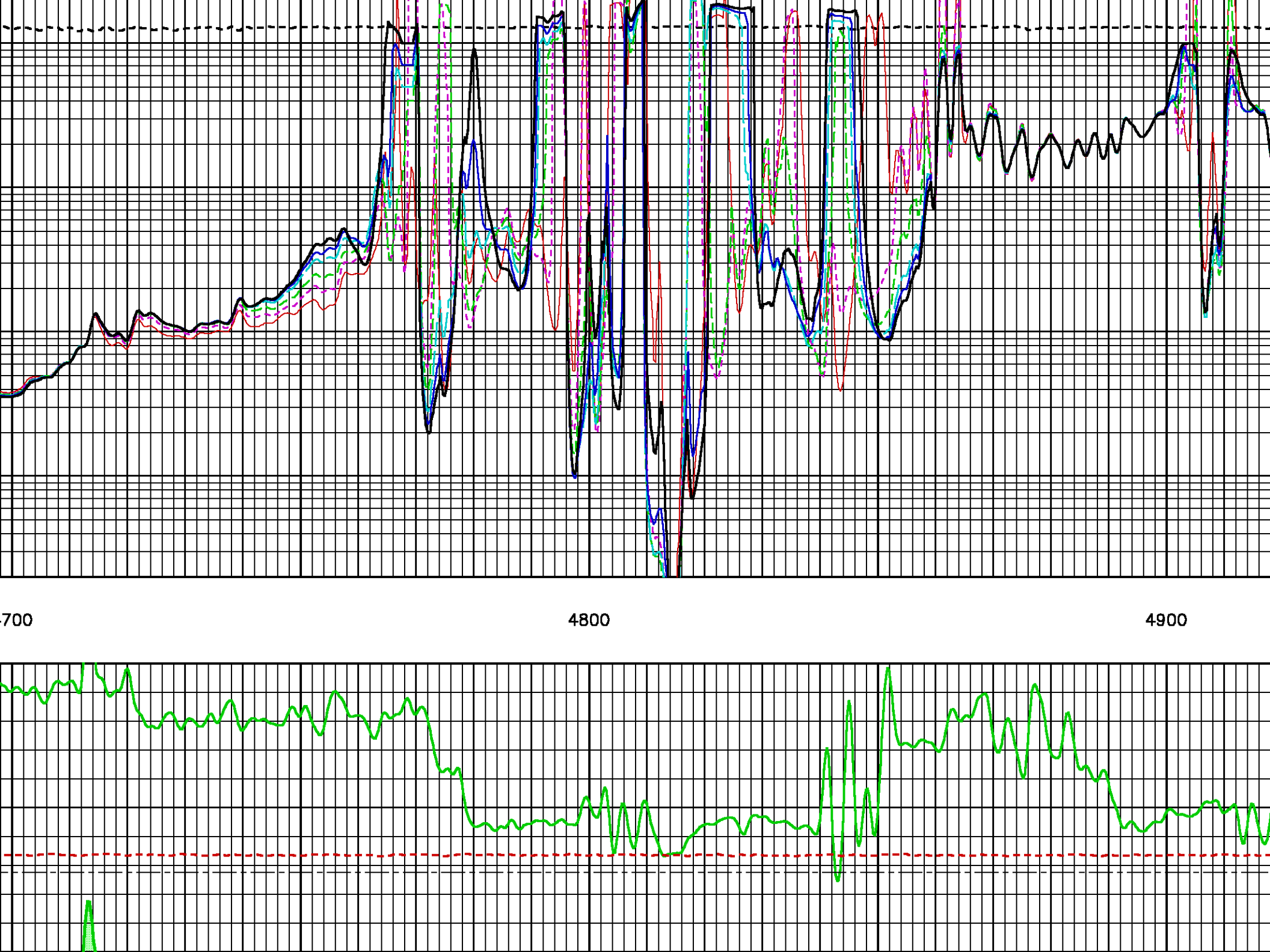
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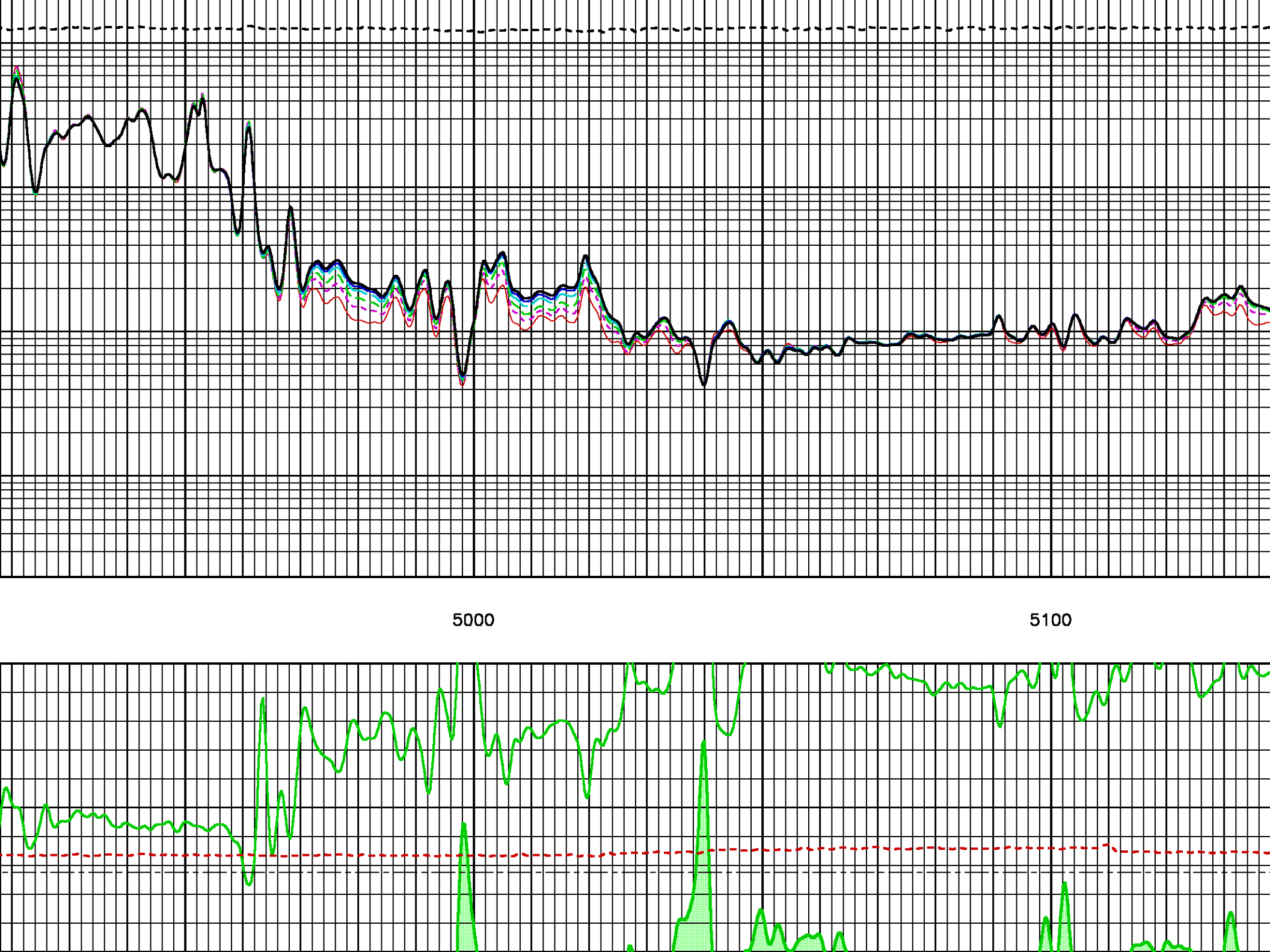
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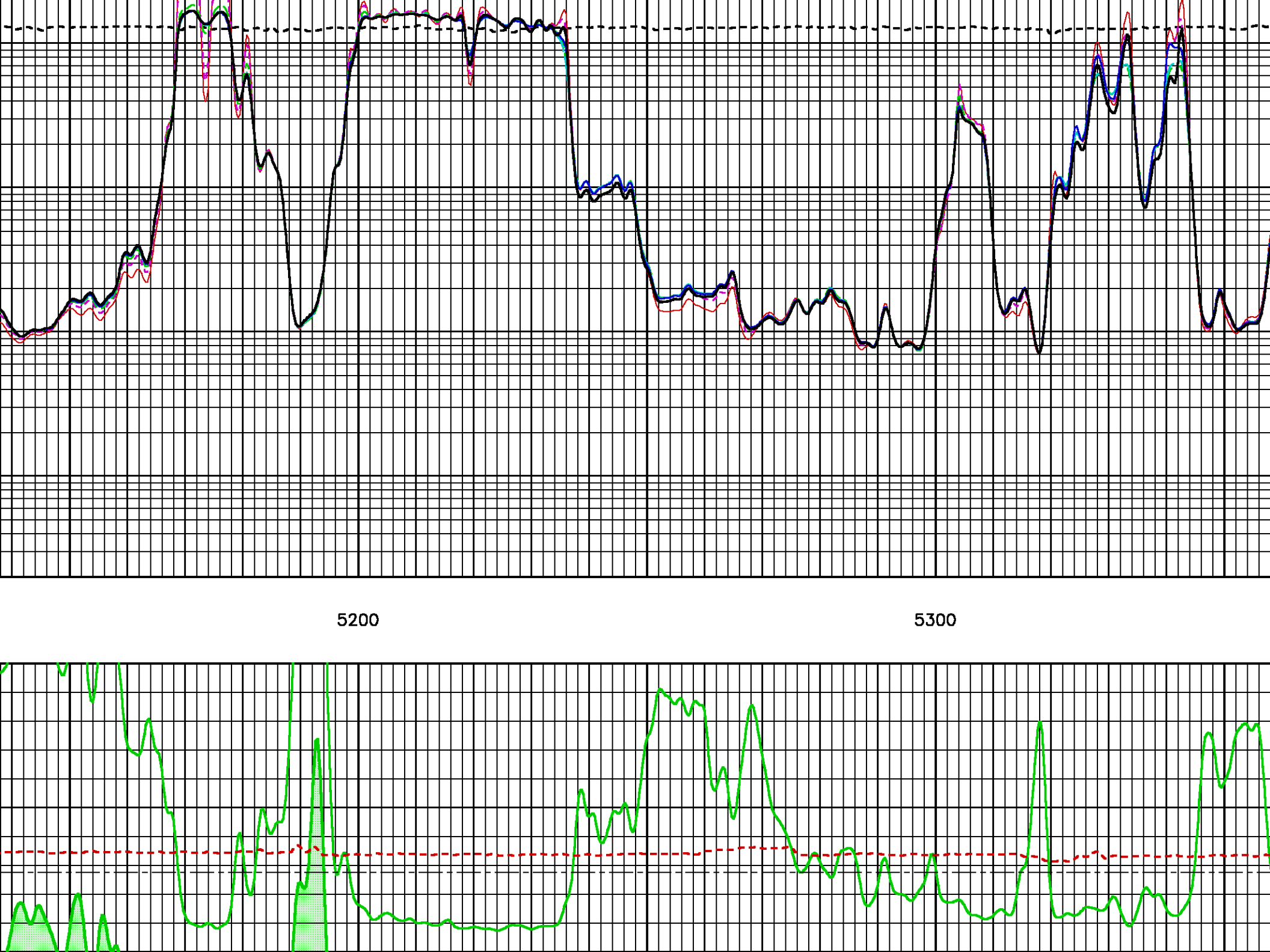
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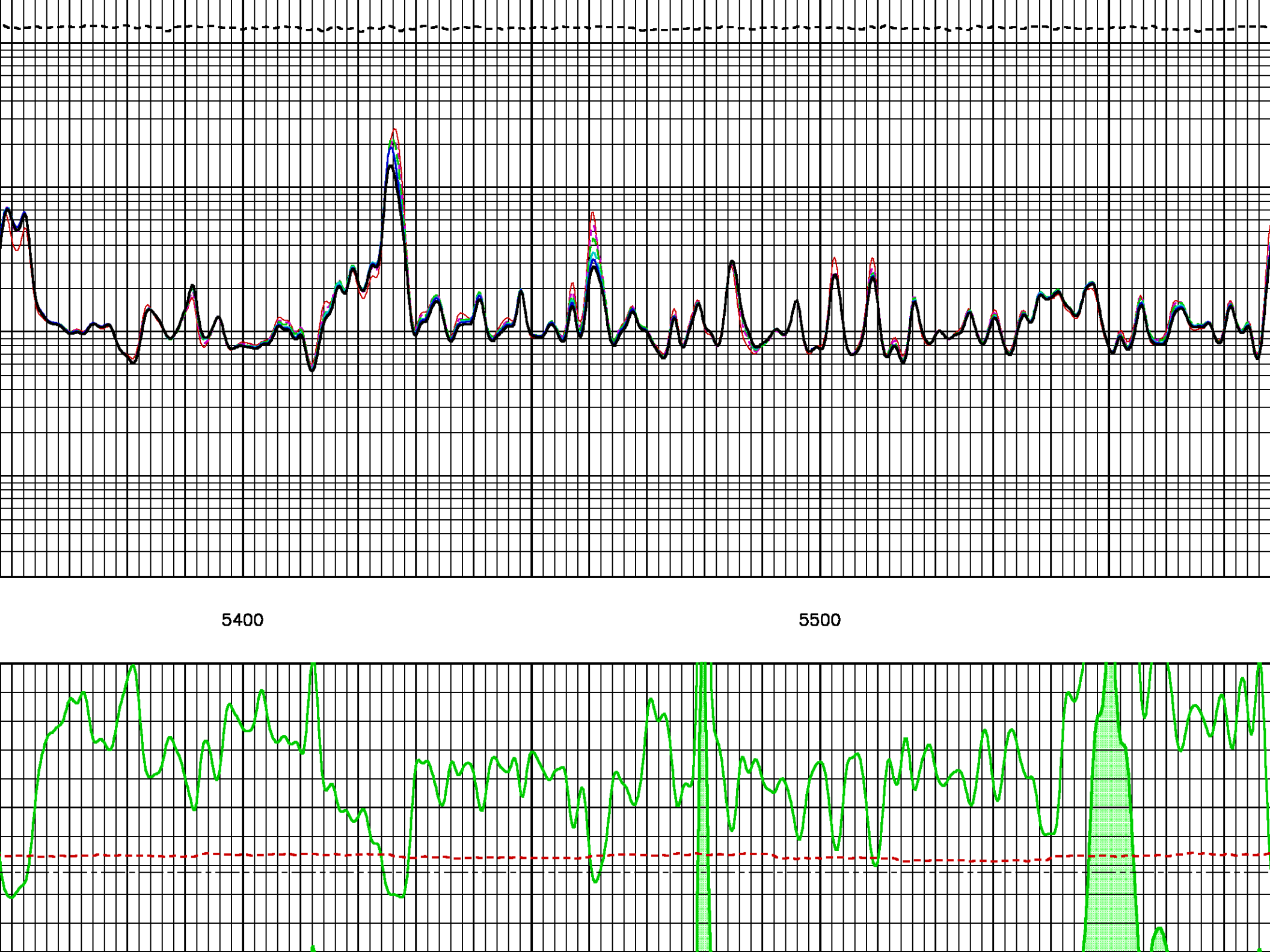
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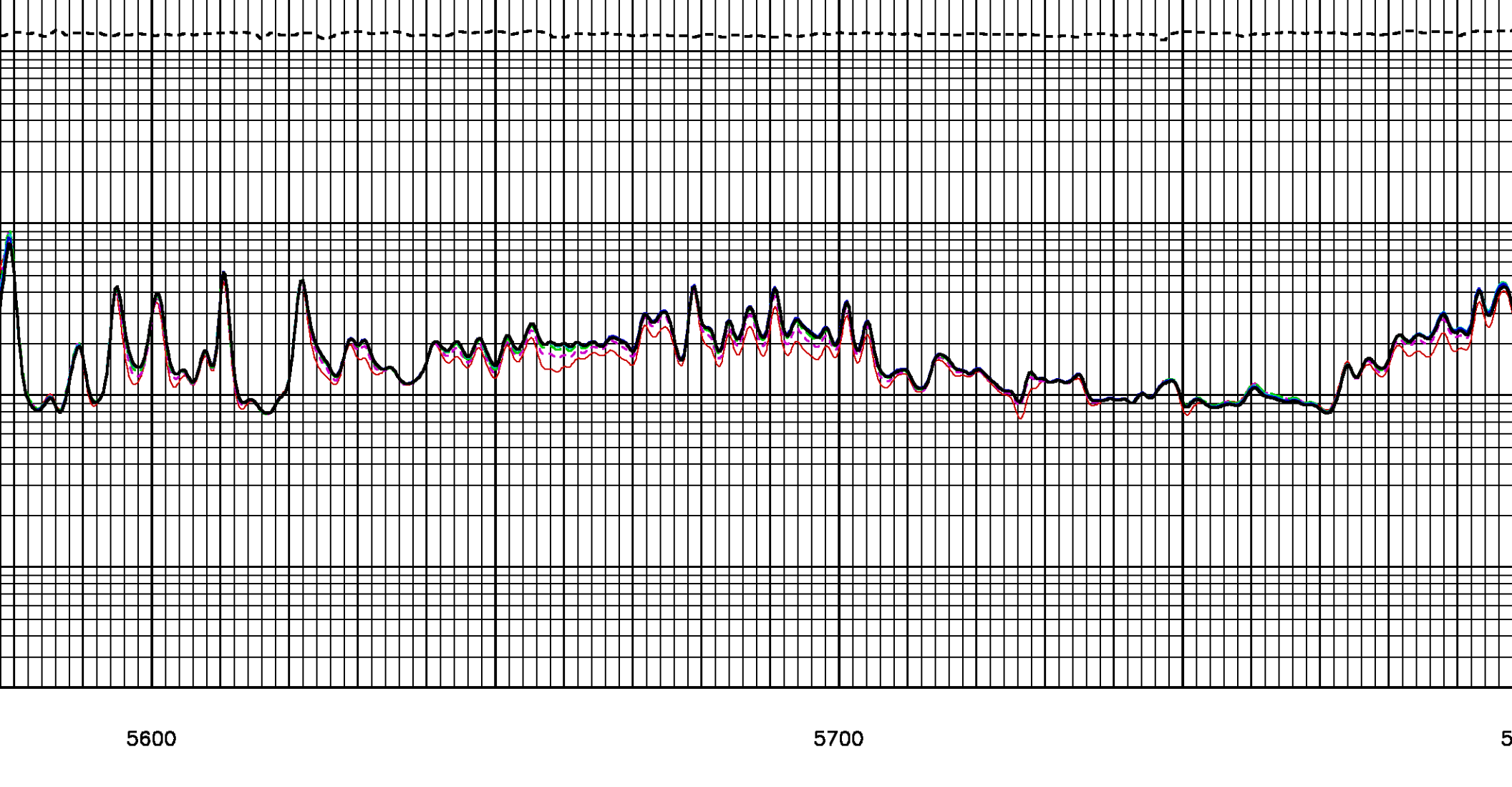
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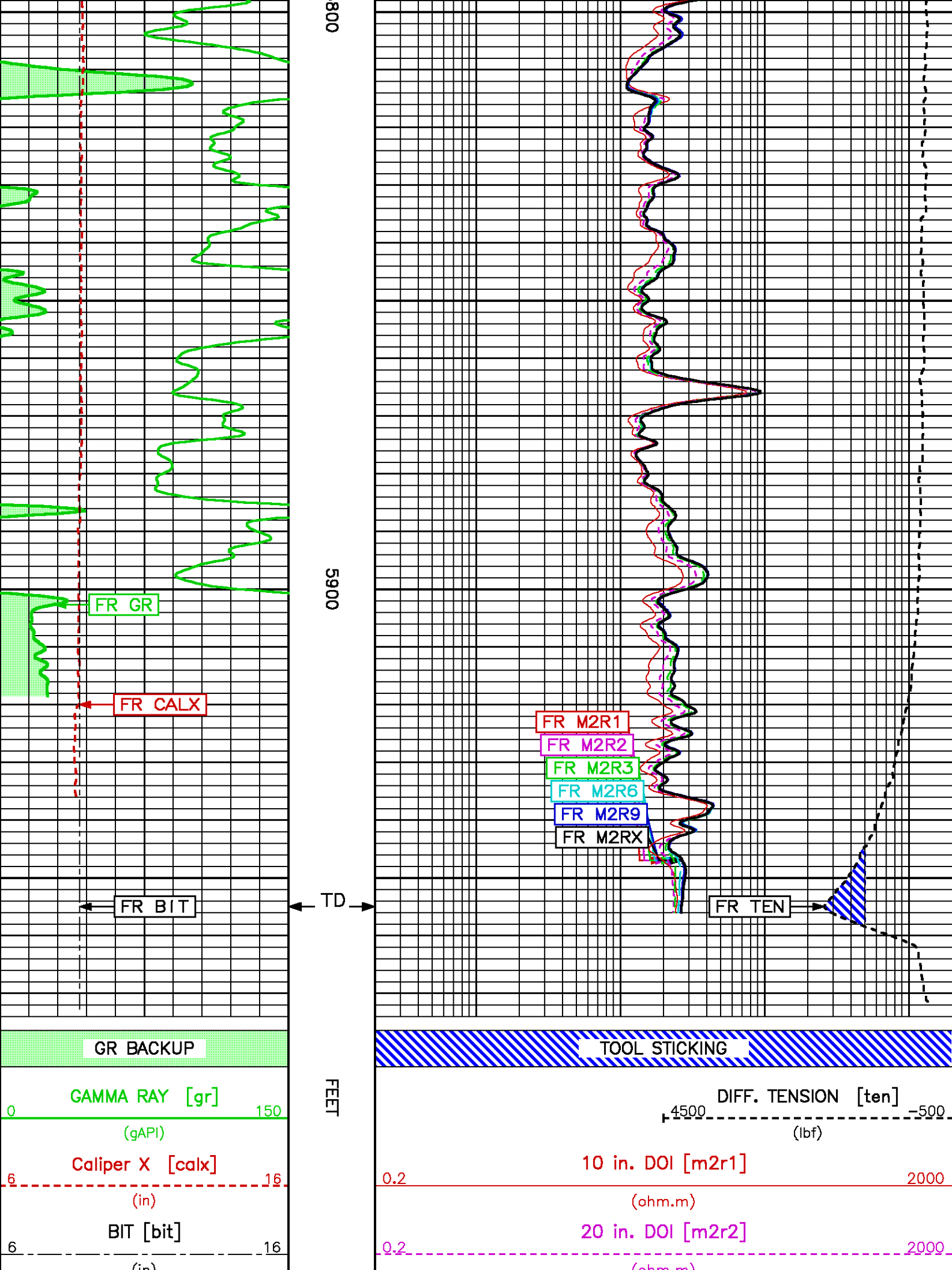
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FR CALX
FR BIT
TD
FR M2R1
FR M2R2
FR M2R3
FR M2R6
FR M2R9
FR M2RX
FR TEN
GR BACKUP
TOOL STICKING
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(gAPI)
Caliper X [calx]
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16
(in)
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6
16
(in)
FEET
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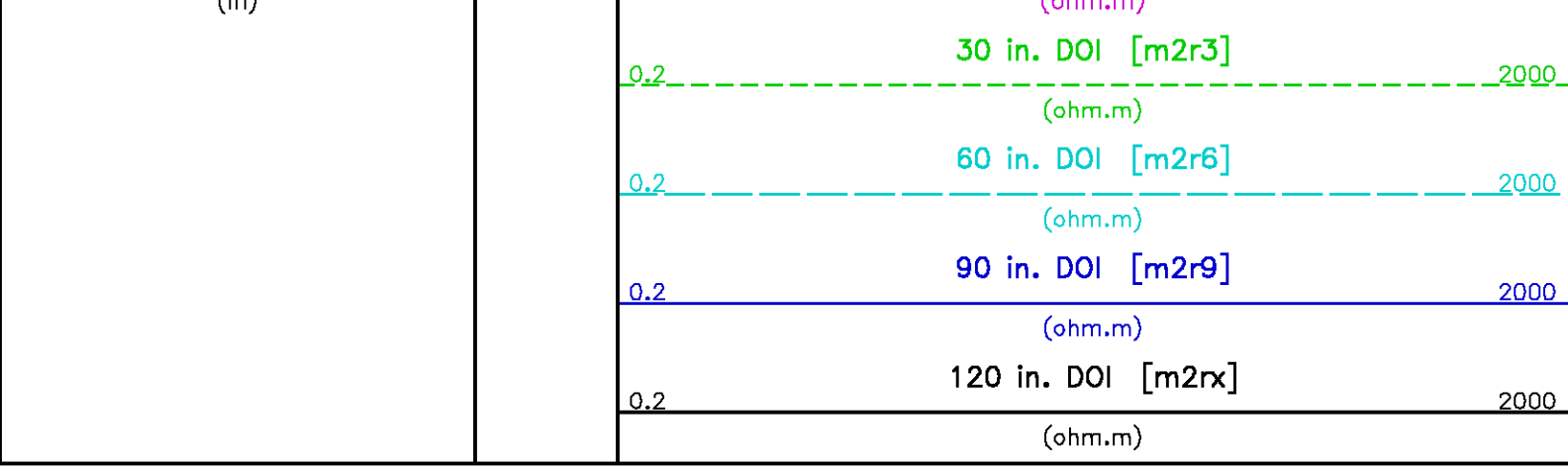
(ohm.m)



REPEAT LOG

ECLIPS 6.1i Aug 06, 2010
Updates: 1,2 Patches: 3

Sun Dec 15 11:52:27 2013

Pcrplt /main/62 Cplot Pdf_Cpp /main/16 Fileview 5.61

PARAMETER AND FILTER SUMMARY REPORT

File: /data1a/TABULA_CADDELL_2_R1/m777q03.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 5078.000 ft BOTTOM DEPTH: 5971.308 ft

SYMMETRIC FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft) TOP	BOTTOM
Y AXIS CALIPER	FILTER ()	medium (1)		TOP	BOTTOM
TENSION	FILTER ()	medium (1)		''	''
GR	FILTER ()	medium (1)		''	''
	FILTER (.h)	medium (1)		''	''
CALIPER	FILTER ()	medium (1)		''	''
	FILTER (.h)	medium (1)		''	''
	FILTER (.l)	medium (1)		''	''
SP-SPDH	FILTER (.h)	medium (1)		''	''

BOREHOLE & CEMENT

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft) TOP	BOTTOM
BIT SIZE	BIT SIZE	8.750	in	TOP	BOTTOM
BOREHOLE CORR DIAMETER SOURCE	CALIPER/FIXED DIA. (mbh*)	USE CALIPER		''	''
BOREHOLE CORR DIAMETER	FIXED DIAMETER (mbh*)	8.750	in	''	''
BH MUD RESISTIVITY SOURCE	RMUD SOURCE (HDIL)	OIL BASE MUD		''	''

SP CONTROL

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft) TOP	BOTTOM
SP CONTROL	Tool/Bridle	TOOL		TOP	BOTTOM

HDIL PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft) TOP	BOTTOM
HDIL TEMPERATURE CORRECTION	TEMP CORR SOURCE	USE RXTEMP		TOP	BOTTOM
ADAPTIVE BOREHOLE CORRECTION	ABC PROCESSING	ON		''	''
	ABC to CALCULATE	BOREHOLE SIZE		''	''
	STANDOFF	3.50	in	''	''
	TOOL POSITION	ECCENTERED		''	''

Rmud MULTIPLIER	1.000	

CURVE DESCRIPTION REPORT

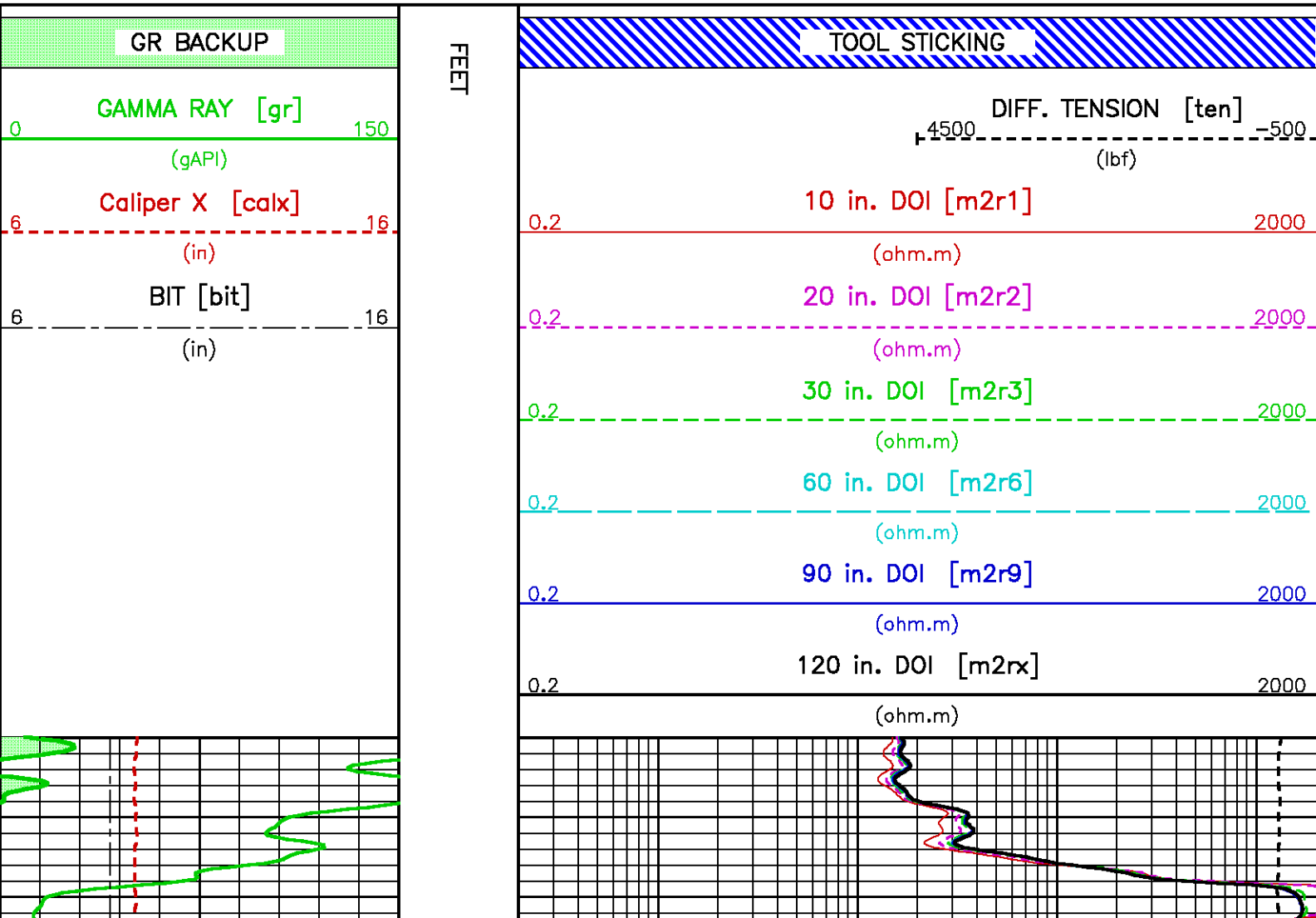
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:BIT	Dec 15 10:06:52 2013	BIT SIZE
F1:CALX	Dec 15 10:06:52 2013	CALIPER FROM X-AXIS OF XY CALIPER(S)
F1:GR	Dec 15 10:06:52 2013	GAMMA RAY
F1:M2R1	Dec 15 10:06:52 2013	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 10-INCH DOI
F1:M2R2	Dec 15 10:06:52 2013	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 20-INCH DOI
F1:M2R3	Dec 15 10:06:52 2013	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 30-INCH DOI
F1:M2R6	Dec 15 10:06:52 2013	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 60-INCH DOI
F1:M2R9	Dec 15 10:06:52 2013	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 90-INCH DOI
F1:M2RX	Dec 15 10:06:52 2013	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 120-INCH DOI
F1:TEN	Dec 15 10:06:52 2013	DIFFERENTIAL TENSION

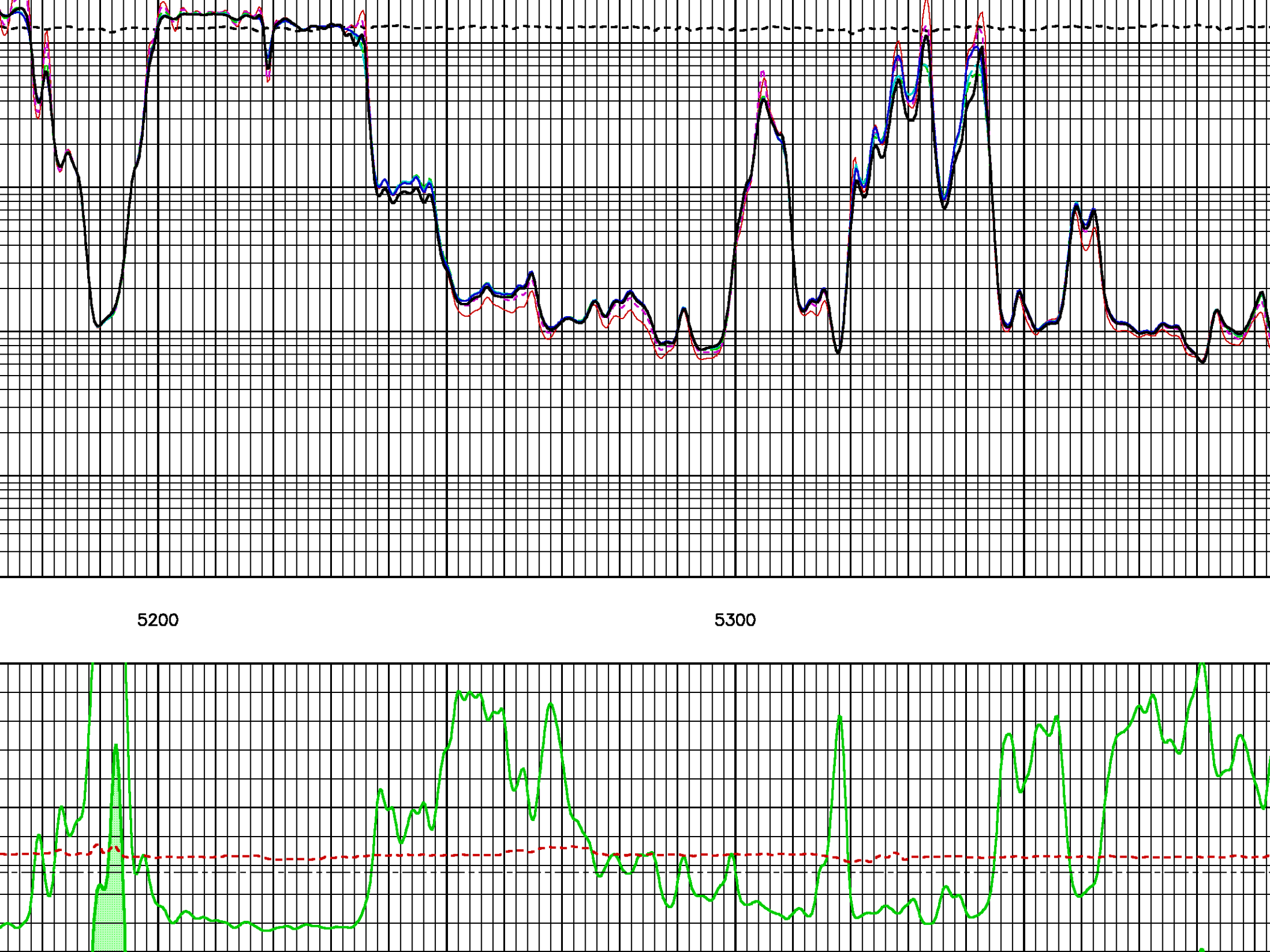
CURVE MEASURE POINT OFFSET

CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
BIT	0.00	M2R1	8.00	M2R6	8.00	TEN	0.00
CALX	35.00	M2R2	8.00	M2R9	8.00		
GR	52.25	M2R3	8.00	M2RX	8.00		

Presentation : wwdsys71:/dat1a/TABULA_CADDELL_2_R1/hdll_RPT05_r1.pdf [5"/100' Scale]
Plot Interval : 5150 - 5966.75 Feet

Data File 1 : F1 : wwdsys71:/dat1a/TABULA_CADDELL_2_R1/m777q03.xtf
Created On : Dec 15 10:06:52 2013
Company : TABULA RASA ENERGY
Well : CADDELL 2
Field : OAKDALE
File Interval : 5012.5 - 5966.75 Feet
Oct : m777q

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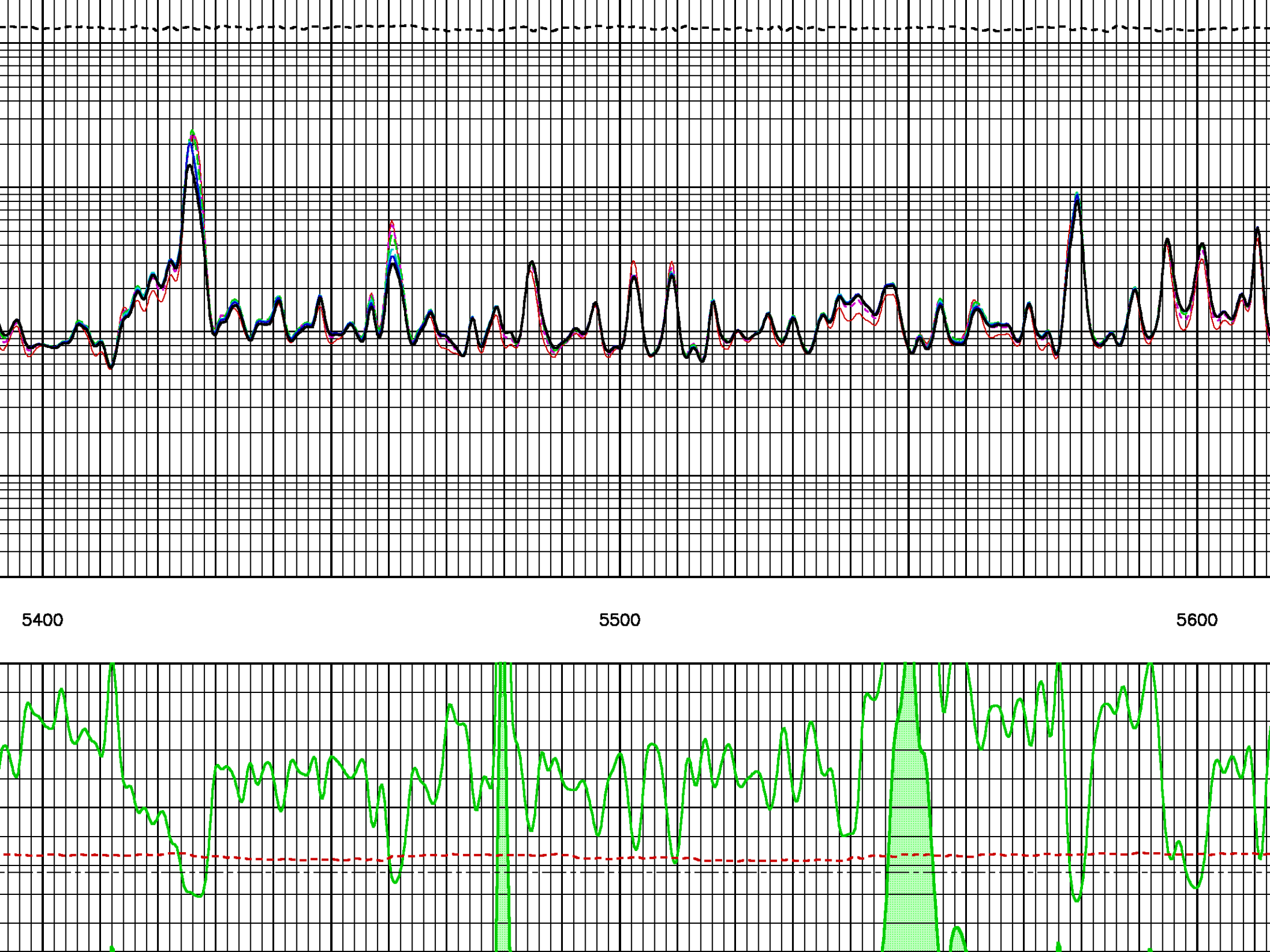
5300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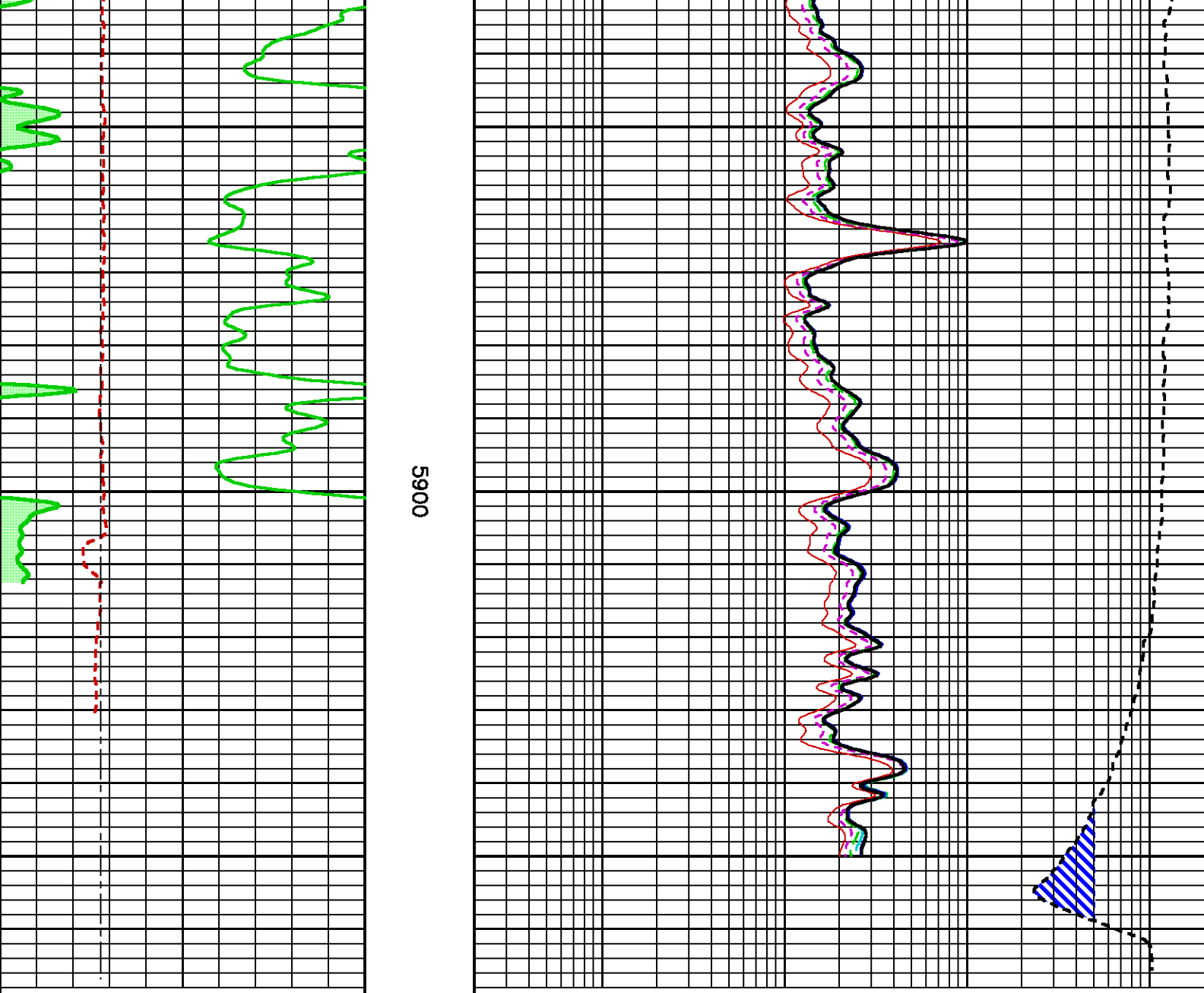
5700
5800



5900

FEET

GR BACKUP

GAMMA RAY [gr]
0 150
(gAPI)

Caliper X [calx]
6 16
(in)

BIT [bit]
6 16
(in)

TOOL STICKING

DIFF. TENSION [ten]
4500 -500
(lbf)

10 in. DOI [m2r1]
0.2 2000
(ohm.m)

20 in. DOI [m2r2]
0.2 2000
(ohm.m)

30 in. DOI [m2r3]
0.2 2000
(ohm.m)

60 in. DOI [m2r6]
0.2 2000
(ohm.m)

90 in. DOI [m2r9]
0.2 2000
(ohm.m)

120 in. DOI [m2rx]

0.2		2000
	(ohm.m)	

CALIBRATION / VERIFICATION SUMMARY

Source File: /dat1a/TABULA_CADDELL_2_R1/m777q.tp1

GR PRIMARY CALIBRATION SUMMARY

TOOL #: 1329XA 179184 DATE/TIME PERFORMED: Thu Nov 14 10:42:17 2013

UNIT #: 3882TA HL6680 CALB JIG #: 4702NK DA-228

	BACKGROUND (cts/s)	CALBRTR ON (cts/s)	CR DIFF (cts/s)	MULT	BACKGROUND (gAPI)	CALBRTR ON (gAPI)	CALBRTR (gAPI)
GR	181.80	1116.36	934.6 (830.0 960.0)	0.161	29.18	179.18	150

GR PRIMARY VERIFICATION SUMMARY

TOOL #: 1329XA 179184 DATE/TIME PERFORMED: Thu Nov 14 10:47:44 2013

UNIT #: 3882TA HL6680 VERI JIG #: 4702NK DA-228

	BACKGROUND (cts/s)	CALBRTR ON (cts/s)	MULT	BACKGROUND (gAPI)	CALBRTR ON (gAPI)	DIFF. (gAPI)
GR	182.84	1117.47	0.161	29.35	179.36	150.01 (140.00 160.00)

GR BEFORE LOG VERIFICATION SUMMARY

TOOL #: 1329XA 179184 DATE/TIME PERFORMED: Sun Dec 15 08:43:53 2013 DAYS SINCE CAL: 30

UNIT #: 3882TA HL6680 VERI JIG #: 4702NK DA-228

	BACKGROUND (cts/s)	CALBRTR ON (cts/s)	MULT	BACKGROUND (gAPI)	CALBRTR ON (gAPI)	DIFF. (gAPI)
GR	230.58	1176.80	0.161	37.01	188.88	151.87 (140.01 160.01)

GR AFTER LOG VERIFICATION SUMMARY

TOOL #: 1329XA 179184 DATE/TIME PERFORMED: Sun Dec 15 14:47:35 2013 DAYS SINCE CAL: 31

UNIT #: 3882TA HL6680 VERI JIG #: 4702NK DA-228

UNIT #: 3882TA HL6680 VERT JTG #: 4702NK DA-228

	BACKGROUND (cts/s)	CALBRTR ON (cts/s)	MULT	BACKGROUND (gAPI)	CALBRTR ON (gAPI)	DIFF. (gAPI)
GR	211.38	1143.69	0.161	33.93	183.57	149.64
						141.87 161.87

CAL PRIMARY CALIBRATION SUMMARY

TOOL #: 2234XA 179939 DATE/TIME PERFORMED: Mon Sep 30 16:33:15 2013

UNIT #: 3882TA HL6680

	SMALL RING	LARGE RING	MULT	ADD	SMALL RING (in)	LARGE RING (in)
CALIPER	1558.0	2383.6	0.00863	-5.57067	7.875	15.000

CAL BEFORE LOG VERIFICATION SUMMARY

TOOL #: 2234XA 179939 DATE/TIME PERFORMED: Sun Dec 15 09:14:55 2013 DAYS SINCE CAL: 75

UNIT #: 3882TA HL6680

	I.D.	MULT	ADD	I.D. (in)
CALIPER	1765.2	0.00863	-6.31283	8.921

CAL AFTER LOG VERIFICATION SUMMARY

TOOL #: 2234XA 179939 DATE/TIME PERFORMED: Sun Dec 15 14:12:12 2013 DAYS SINCE CAL: 75

UNIT #: 3882TA HL6680

	I.D.	MULT	ADD	I.D. (in)
CALIPER	1770.8	0.00863	-6.31283	8.969
				8.421 9.421

HDIL PRIMARY CALIBRATION SUMMARY

TOOL #: 1515MA 183381 DATE/TIME PERFORMED: Thu Sep 26 14:47:20 2013

UNIT #: 3882TA HL6680 GRCOND ID & DATE: 37 083096

ZERO DATA(mv)	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz

Coil 0 R	0.005 -0.200 0.200	0.005 -0.100 0.100	0.005 -0.100 0.100	0.005 -0.100 0.100	0.004 -0.100 0.100	0.005 -0.100 0.100	0.004 -0.100 0.100	0.002 -0.100 0.100
Coil 0 Q	0.004 -1.000 1.000	0.007 -0.200 0.200	0.000 -0.100 0.100	0.001 -0.100 0.100	0.002 -0.100 0.100	0.002 -0.100 0.100	0.003 -0.100 0.100	0.002 -0.100 0.100
Coil 1 R	-0.001 -0.200 0.200	0.003 -0.100 0.100	0.004 -0.100 0.100	0.003 -0.100 0.100	0.003 -0.100 0.100	0.000 -0.100 0.100	-0.002 -0.100 0.100	-0.004 -0.100 0.100
Coil 1 Q	0.001 -1.000 1.000	0.001 -0.200 0.200	0.001 -0.100 0.100	0.001 -0.100 0.100	0.005 -0.100 0.100	0.005 -0.100 0.100	0.004 -0.100 0.100	0.002 -0.100 0.100
Coil 2 R	0.010 -0.200 0.200	0.003 -0.100 0.100	0.002 -0.100 0.100	0.005 -0.100 0.100	0.006 -0.100 0.100	0.009 -0.100 0.100	0.008 -0.100 0.100	0.008 -0.100 0.100
Coil 2 Q	-0.005 -1.000 1.000	-0.004 -0.200 0.200	-0.003 -0.100 0.100	-0.001 -0.100 0.100	-0.002 -0.100 0.100	-0.003 -0.100 0.100	-0.001 -0.100 0.100	-0.000 -0.100 0.100
Coil 3 R	0.001 -0.100 0.100	0.007 -0.100 0.100	0.005 -0.100 0.100	0.005 -0.100 0.100	0.004 -0.100 0.100	0.006 -0.100 0.100	0.005 -0.100 0.100	0.004 -0.100 0.100
Coil 3 Q	-0.004 -0.500 0.500	-0.004 -0.200 0.200	-0.001 -0.100 0.100	-0.005 -0.100 0.100	0.002 -0.100 0.100	0.001 -0.100 0.100	0.003 -0.100 0.100	-0.000 -0.100 0.100
Coil 4 R	0.007 -0.200 0.200	-0.001 -0.200 0.200	0.002 -0.200 0.200	-0.002 -0.200 0.200	0.000 -0.200 0.200	0.001 -0.200 0.200	-0.001 -0.200 0.200	0.002 -0.200 0.200
Coil 4 Q	-0.012 -1.000 1.000	0.005 -0.400 0.400	-0.002 -0.200 0.200	0.004 -0.200 0.200	0.004 -0.200 0.200	0.004 -0.200 0.200	0.003 -0.200 0.200	0.006 -0.200 0.200
Coil 5 R	-0.005 -0.400 0.400	-0.012 -0.400 0.400	-0.002 -0.400 0.400	0.003 -0.400 0.400	0.012 -0.400 0.400	-0.001 -0.400 0.400	-0.003 -0.400 0.400	-0.012 -0.400 0.400
Coil 5 Q	-0.003 -2.000 2.000	-0.010 -0.800 0.800	-0.009 -0.400 0.400	-0.009 -0.400 0.400	-0.001 -0.400 0.400	0.006 -0.400 0.400	0.012 -0.400 0.400	0.001 -0.400 0.400
Coil 6 R	-0.018 -1.000 1.000	0.024 -1.000 1.000	0.001 -1.000 1.000	-0.008 -1.000 1.000	0.018 -1.000 1.000	0.006 -1.000 1.000	-0.007 -1.000 1.000	-0.014 -1.000 1.000
Coil 6 Q	-0.022 -5.000 5.000	-0.020 -2.000 2.000	-0.011 -1.000 1.000	-0.003 -1.000 1.000	0.007 -1.000 1.000	0.009 -1.000 1.000	0.003 -1.000 1.000	-0.008 -1.000 1.000

ELEC. GAINS	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coil 0 M	124.23 100.00 150.00	122.84 100.00 150.00	120.16 98.00 150.00	116.31 96.00 140.00	111.30 92.00 140.00	105.43 87.00 130.00	98.56 82.00 120.00	91.12 76.00 110.00
Coil 0 P	7.471 6.000 9.000	23.546 19.000 28.000	39.363 32.000 47.000	55.093 44.000 66.000	70.775 57.000 85.000	86.442 70.000 100.000	102.133 82.000 120.000	117.803 95.000 140.000
Coil 1 M	215.31 180.00 270.00	212.98 180.00 270.00	208.34 170.00 260.00	201.58 170.00 250.00	192.59 160.00 250.00	181.77 160.00 230.00	168.85 150.00 220.00	154.58 140.00 200.00
Coil 1 P	7.725 6.000 9.000	24.338 19.000 28.000	40.732 32.000 48.000	57.116 45.000 67.000	73.482 57.000 86.000	89.910 70.000 110.000	106.365 83.000 120.000	122.801 96.000 140.000
Coil 2 M	431.12 360.00 540.00	426.33 360.00 540.00	416.72 350.00 530.00	402.73 340.00 510.00	384.18 330.00 500.00	361.86 310.00 470.00	334.94 300.00 440.00	305.43 270.00 410.00
Coil 2 P	7.934 6.000 9.000	24.957 19.000 29.000	41.765 32.000 48.000	58.549 45.000 67.000	75.351 58.000 87.000	92.202 71.000 110.000	109.100 84.000 130.000	125.944 96.000 140.000
Coil 3 M	705.71 590.00 880.00	700.47 580.00 870.00	689.88 570.00 850.00	673.60 550.00 830.00	650.81 530.00 800.00	621.56 500.00 760.00	584.44 470.00 710.00	541.30 440.00 650.00
Coil 3 P	7.390 6.000 10.000	23.397 20.000 29.000	39.272 33.000 49.000	55.235 46.000 69.000	71.382 59.000 89.000	87.711 72.000 110.000	104.242 85.000 130.000	120.898 98.000 150.000
Coil 4 M	1103.8 900.0 1400.0	1090.1 900.0 1300.0	1063.2 900.0 1300.0	1024.8 850.0 1300.0	974.8 800.0 1200.0	915.8 800.0 1200.0	846.7 750.0 1100.0	771.5 700.0 1000.0
Coil 4 P	8.162 6.000 10.000	25.641 20.000 30.000	42.867 33.000 50.000	60.007 46.000 70.000	77.114 60.000 90.000	94.191 73.000 110.000	111.259 86.000 130.000	128.262 99.000 150.000
Coil 5 M	2290.4 1900.0 2800.0	2269.3 1800.0 2800.0	2226.4 1800.0 2700.0	2163.2 1800.0 2600.0	2076.6 1700.0 2500.0	1970.0 1600.0 2400.0	1839.7 1500.0 2200.0	1694.5 1400.0 2100.0
Coil 5 P	7.767 6.000 10.000	24.501 20.000 31.000	41.040 34.000 51.000	57.619 48.000 72.000	74.265 62.000 93.000	91.002 76.000 110.000	107.769 89.000 130.000	124.511 100.000 150.000
Coil 6 M	5894.7 4900.0 7200.0	5799.1 4900.0 7200.0	5644.1 4900.0 7200.0	5413.0 4900.0 6900.0	5122.4 4600.0 6600.0	4799.9 4300.0 6200.0	4421.2 4000.0 5700.0	4032.9 3600.0 5200.0

Coil 6 M	3894.7	3809.1	3644.1	3415.0	3122.4	4790.9	4421.2	4032.9
	4700.0 7100.0	4700.0 7000.0	4600.0 6900.0	4400.0 6600.0	4200.0 6400.0	4000.0 6000.0	3700.0 5600.0	3400.0 5100.0
Coil 6 P	8.125	25.858	43.173	60.277	77.165	93.880	110.386	126.758
	7.000 10.000	22.000 32.000	36.000 54.000	51.000 76.000	65.000 98.000	80.000 120.000	94.000 140.000	110.000 160.000

AM Factor	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coil 0 R	454	-85	-147	-165	-172	-176	-178	-179
	-200 800	-500 200	-600 100	-600 50	-500 20	-500 20	-500 20	-500 20
Coil 0 Q	1232	468	255	148	79	28	-14	-50
	-3000 6000	-1000 2000	-1000 1200	-500 900	-400 700	-400 600	-400 500	-400 400
Coil 1 R	544	77	18	-2	-13	-18	-22	-24
	450 650	20 130	-30 60	-50 40	-55 30	-60 20	-60 10	-60 10
Coil 1 Q	1613	614	379	272	210	169	139	117
	0 2500	0 900	0 600	0 450	0 350	0 300	0 250	0 250
Coil 2 R	186.8	29.7	9.9	2.8	-0.5	-2.3	-4.0	-4.8
	140.0 230.0	0.0 51.0	-10.0 25.0	-15.0 15.0	-16.0 10.0	-16.0 7.0	-16.0 5.0	-16.0 3.0
Coil 2 Q	448.8	178.6	114.2	85.9	70.4	60.7	53.8	49.1
	-200.0 1000.0	0.0 350.0	0.0 220.0	0.0 160.0	0.0 130.0	0.0 110.0	0.0 100.0	0.0 90.0
Coil 3 R	49.5	6.8	1.9	0.4	-0.6	-1.0	-1.6	-2.1
	37.0 62.0	0.0 12.0	-3.0 6.0	-4.0 4.0	-5.0 2.0	-5.0 1.0	-6.0 1.0	-6.0 1.0
Coil 3 Q	19.8	15.8	14.2	14.4	15.5	17.0	18.6	20.0
	-140.0 280.0	-40.0 100.0	-20.0 70.0	-10.0 60.0	-10.0 50.0	-10.0 50.0	-10.0 50.0	-10.0 50.0
Coil 4 R	9.07	-0.23	-0.78	-1.10	-1.10	-1.18	-1.28	-1.04
	2.00 18.00	-3.00 6.00	-3.50 3.00	-3.90 2.00	-4.20 2.00	-4.50 2.00	-4.70 2.00	-5.00 2.00
Coil 4 Q	-13.36	-0.67	3.59	6.89	10.00	12.80	15.52	18.16
	-100.00 100.00	-30.00 50.00	-20.00 40.00	-10.00 40.00	-10.00 40.00	-10.00 45.00	-10.00 50.00	-10.00 60.00
Coil 5 R	0.21	-1.53	-1.36	-1.10	-0.97	-1.09	-0.99	-1.04
	-2.00 5.80	-3.20 2.40	-4.50 3.10	-4.70 3.20	-4.80 3.20	-5.00 3.30	-5.20 3.40	-5.40 3.50
Coil 5 Q	9.44	5.62	6.84	8.73	11.15	13.48	15.88	18.25
	-60.00 70.00	-20.00 30.00	-20.00 30.00	-20.00 35.00	-20.00 45.00	-20.00 50.00	-20.00 60.00	-30.00 70.00
Coil 6 R	-3.21	-1.76	-1.31	-1.04	-0.87	-0.87	-0.86	-0.94
	-4.80 1.00	-5.70 3.80	-6.50 4.90	-6.90 5.40	-7.30 5.80	-7.50 6.00	-7.70 6.10	-7.90 6.30
Coil 6 Q	-13.36	-2.52	1.54	4.39	7.34	9.95	12.44	14.79
	-30.00 30.00	-20.00 25.00	-20.00 35.00	-30.00 50.00	-35.00 60.00	-40.00 70.00	-50.00 80.00	-60.00 100.00

MM Factor	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coil 0 M	1.005	1.004	0.999	0.999	0.998	0.996	0.996	0.998
	0.900 1.100	0.900 1.100	0.900 1.100	0.900 1.100	0.900 1.100	0.900 1.100	0.900 1.100	0.900 1.100
Coil 0 P	0.062	0.190	0.292	0.249	0.211	0.163	0.094	0.088
	-2.000 2.000	-2.000 2.000	-2.000 2.000	-2.000 2.000	-2.000 2.000	-2.000 2.000	-2.000 2.000	-2.000 2.000
Coil 1 M	0.990	0.988	0.985	0.984	0.982	0.981	0.981	0.981
	0.900 1.100	0.900 1.100	0.900 1.100	0.900 1.100	0.900 1.100	0.900 1.100	0.900 1.100	0.900 1.100
Coil 1 P	0.076	0.215	0.269	0.292	0.245	0.178	0.134	0.114
	-2.000 2.000	-2.000 2.000	-2.000 2.000	-2.000 2.000	-2.000 2.000	-2.000 2.000	-2.000 2.000	-2.000 2.000
Coil 2 M	1.000	0.997	0.996	0.995	0.994	0.994	0.993	0.992
	0.900 1.100	0.900 1.100	0.900 1.100	0.900 1.100	0.900 1.100	0.900 1.100	0.900 1.100	0.900 1.100
Coil 2 P	0.009	0.054	0.078	0.106	0.096	0.078	0.074	0.087
	-2.000 2.000	-2.000 2.000	-2.000 2.000	-2.000 2.000	-2.000 2.000	-2.000 2.000	-2.000 2.000	-2.000 2.000
Coil 3 M	1.010	1.009	1.009	1.008	1.007	1.006	1.007	1.007
	0.900 1.100	0.900 1.100	0.900 1.100	0.900 1.100	0.900 1.100	0.900 1.100	0.900 1.100	0.900 1.100
Coil 3 P	0.038	0.050	0.105	0.122	0.122	0.068	0.026	0.045
	-2.000 2.000	-2.000 2.000	-2.000 2.000	-2.000 2.000	-2.000 2.000	-2.000 2.000	-2.000 2.000	-2.000 2.000
Coil 4 M	1.015	1.014	1.013	1.012	1.012	1.011	1.010	1.009
	0.900 1.100	0.900 1.100	0.900 1.100	0.900 1.100	0.900 1.100	0.900 1.100	0.900 1.100	0.900 1.100
Coil 4 P	0.033	0.072	0.076	0.112	0.097	0.081	0.044	0.012

	-2.000 2.000	-2.000 2.000	-2.000 2.000	-2.000 2.000	-2.000 2.000	-2.000 2.000	-2.000 2.000	-2.000 2.000
Coil 5 M	1.024 0.900 1.100	1.024 0.900 1.100	1.023 0.900 1.100	1.022 0.900 1.100	1.022 0.900 1.100	1.023 0.900 1.100	1.022 0.900 1.100	1.022 0.900 1.100
Coil 5 P	0.053 -2.000 2.000	0.040 -2.000 2.000	0.101 -2.000 2.000	0.109 -2.000 2.000	0.071 -2.000 2.000	0.030 -2.000 2.000	0.053 -2.000 2.000	0.044 -2.000 2.000
Coil 6 M	1.015 0.900 1.100	1.016 0.900 1.100	1.014 0.900 1.100	1.012 0.900 1.100	1.013 0.900 1.100	1.019 0.900 1.100	1.020 0.900 1.100	1.020 0.900 1.100
Coil 6 P	0.032 -2.000 2.000	0.170 -2.000 2.000	0.087 -2.000 2.000	0.133 -2.000 2.000	0.005 -2.000 2.000	-0.098 -2.000 2.000	-0.128 -2.000 2.000	-0.247 -2.000 2.000

PARMS	TCID 0	TCID 1	Cal Temp (degF)	T Factor
IDs	1.015	0.740	89.2	1.04

HDIL BEFORE LOG VERIFICATION SUMMARY

TOOL #: 1515MA 183381 DATE/TIME PERFORMED: Sun Dec 15 09:53:38 2013 DAYS SINCE CAL: 79

UNIT #: 3882TA HL6680

ZERO DATA(mv)	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coil 0 R	-0.000 -0.200 0.200	-0.000 -0.100 0.100	0.001 -0.100 0.100	0.000 -0.100 0.100	-0.000 -0.100 0.100	0.002 -0.100 0.100	0.001 -0.100 0.100	0.000 -0.100 0.100
Coil 0 Q	0.004 -1.000 1.000	0.005 -0.200 0.200	0.001 -0.100 0.100	0.000 -0.100 0.100	0.001 -0.100 0.100	0.001 -0.100 0.100	0.000 -0.100 0.100	-0.000 -0.100 0.100
Coil 1 R	-0.001 -0.200 0.200	0.001 -0.100 0.100	0.004 -0.100 0.100	0.003 -0.100 0.100	0.001 -0.100 0.100	-0.000 -0.100 0.100	-0.002 -0.100 0.100	-0.003 -0.100 0.100
Coil 1 Q	-0.000 -1.000 1.000	0.001 -0.200 0.200	-0.000 -0.100 0.100	0.001 -0.100 0.100	0.003 -0.100 0.100	0.004 -0.100 0.100	0.001 -0.100 0.100	0.001 -0.100 0.100
Coil 2 R	0.002 -0.200 0.200	0.000 -0.100 0.100	0.000 -0.100 0.100	0.001 -0.100 0.100	-0.000 -0.100 0.100	0.003 -0.100 0.100	0.003 -0.100 0.100	0.005 -0.100 0.100
Coil 2 Q	-0.002 -1.000 1.000	-0.003 -0.200 0.200	-0.002 -0.100 0.100	-0.000 -0.100 0.100	-0.002 -0.100 0.100	-0.004 -0.100 0.100	-0.003 -0.100 0.100	-0.001 -0.100 0.100
Coil 3 R	0.001 -0.100 0.100	0.003 -0.100 0.100	0.004 -0.100 0.100	0.002 -0.100 0.100	0.000 -0.100 0.100	0.000 -0.100 0.100	-0.002 -0.100 0.100	-0.002 -0.100 0.100
Coil 3 Q	-0.011 -0.500 0.500	-0.007 -0.200 0.200	-0.002 -0.100 0.100	-0.000 -0.100 0.100	0.002 -0.100 0.100	0.001 -0.100 0.100	0.003 -0.100 0.100	-0.001 -0.100 0.100
Coil 4 R	-0.011 -0.200 0.200	-0.006 -0.200 0.200	-0.001 -0.200 0.200	0.001 -0.200 0.200	-0.001 -0.200 0.200	0.002 -0.200 0.200	-0.002 -0.200 0.200	-0.001 -0.200 0.200
Coil 4 Q	-0.004 -1.000 1.000	0.006 -0.400 0.400	-0.006 -0.200 0.200	-0.002 -0.200 0.200	-0.001 -0.200 0.200	-0.000 -0.200 0.200	-0.000 -0.200 0.200	0.001 -0.200 0.200
Coil 5 R	-0.007 -0.400 0.400	-0.004 -0.400 0.400	0.003 -0.400 0.400	0.002 -0.400 0.400	0.006 -0.400 0.400	-0.004 -0.400 0.400	0.000 -0.400 0.400	-0.009 -0.400 0.400
Coil 5 Q	-0.019 -2.000 2.000	-0.002 -0.800 0.800	0.000 -0.400 0.400	0.001 -0.400 0.400	0.002 -0.400 0.400	0.006 -0.400 0.400	0.006 -0.400 0.400	-0.002 -0.400 0.400
Coil 6 R	-0.057 -1.000 1.000	-0.006 -1.000 1.000	-0.003 -1.000 1.000	-0.005 -1.000 1.000	-0.000 -1.000 1.000	-0.008 -1.000 1.000	0.001 -1.000 1.000	0.009 -1.000 1.000
Coil 6 Q	0.005 -5.000 5.000	0.005 -2.000 2.000	0.013 -1.000 1.000	-0.007 -1.000 1.000	0.017 -1.000 1.000	0.009 -1.000 1.000	0.001 -1.000 1.000	0.008 -1.000 1.000

ELEC. GAINS	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coil 0 M	125.48	124.00	121.33	117.36	112.34	106.37	99.44	91.84

Coil 0 M	125.49	124.09	121.33	117.36	112.34	106.37	99.44	91.84
	100.00 150.00	100.00 150.00	98.00 150.00	96.00 140.00	92.00 140.00	87.00 130.00	82.00 120.00	76.00 110.00
Coil 0 P	7.517	23.707	39.613	55.443	71.216	87.002	102.760	118.600
	6.000 9.000	19.000 28.000	32.000 47.000	44.000 66.000	57.000 85.000	70.000 100.000	82.000 120.000	95.000 140.000
Coil 1 M	219.63	217.22	212.44	205.41	196.28	185.14	171.98	157.35
	180.00 270.00	180.00 270.00	170.00 260.00	170.00 250.00	160.00 250.00	160.00 230.00	150.00 220.00	140.00 200.00
Coil 1 P	7.783	24.528	41.027	57.518	74.006	90.571	107.105	123.707
	6.000 9.000	19.000 28.000	32.000 48.000	45.000 67.000	57.000 86.000	70.000 110.000	83.000 120.000	96.000 140.000
Coil 2 M	435.15	430.14	420.36	405.88	387.28	364.52	337.62	307.58
	360.00 540.00	360.00 540.00	350.00 530.00	340.00 510.00	330.00 500.00	310.00 470.00	300.00 440.00	270.00 410.00
Coil 2 P	7.998	25.123	42.017	58.906	75.805	92.783	109.722	126.719
	6.000 9.000	19.000 29.000	32.000 48.000	45.000 67.000	58.000 87.000	71.000 110.000	84.000 130.000	96.000 140.000
Coil 3 M	715.05	709.50	698.56	681.42	658.28	628.42	590.83	546.76
	590.00 880.00	580.00 870.00	570.00 850.00	550.00 830.00	530.00 800.00	500.00 760.00	470.00 710.00	440.00 650.00
Coil 3 P	7.435	23.541	39.477	55.530	71.728	88.185	104.741	121.510
	6.000 10.000	20.000 29.000	33.000 49.000	46.000 69.000	59.000 89.000	72.000 110.000	85.000 130.000	98.000 150.000
Coil 4 M	1121.3	1106.8	1079.3	1039.4	988.8	928.4	858.6	782.0
	900.0 1400.0	900.0 1300.0	900.0 1300.0	850.0 1300.0	800.0 1200.0	800.0 1200.0	750.0 1100.0	700.0 1000.0
Coil 4 P	8.180	25.711	42.959	60.130	77.246	94.372	111.434	128.517
	6.000 10.000	20.000 30.000	33.000 50.000	46.000 70.000	60.000 90.000	73.000 110.000	86.000 130.000	99.000 150.000
Coil 5 M	2334.4	2311.7	2267.6	2201.3	2113.0	2003.5	1870.4	1721.8
	1900.0 2800.0	1800.0 2800.0	1800.0 2700.0	1800.0 2600.0	1700.0 2500.0	1600.0 2400.0	1500.0 2200.0	1400.0 2100.0
Coil 5 P	7.796	24.637	41.248	57.915	74.621	91.452	108.253	125.136
	6.000 10.000	20.000 31.000	34.000 51.000	48.000 72.000	62.000 93.000	76.000 110.000	89.000 130.000	100.000 150.000
Coil 6 M	5977.6	5885.5	5712.3	5471.4	5170.9	4827.7	4442.8	4043.4
	4700.0 7100.0	4700.0 7000.0	4600.0 6900.0	4400.0 6600.0	4200.0 6400.0	4000.0 6000.0	3700.0 5600.0	3400.0 5100.0
Coil 6 P	8.274	26.312	43.910	61.300	78.477	95.501	112.282	128.959
	7.000 10.000	22.000 32.000	36.000 54.000	51.000 76.000	65.000 98.000	80.000 120.000	94.000 140.000	110.000 160.000

HDIL AFTER LOG VERIFICATION SUMMARY

TOOL #: 1515MA 183381 DATE/TIME PERFORMED: Sun Dec 15 14:14:33 2013 DAYS SINCE CAL: 80

UNIT #: 3882TA HL6680

ZERO DATA(mv)	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coil 0 R	0.003	0.002	0.002	0.002	0.000	0.002	0.002	0.000
	-0.080 0.080	-0.060 0.060	-0.029 0.031	-0.030 0.030	-0.030 0.030	-0.028 0.032	-0.029 0.031	-0.030 0.030
Coil 0 Q	0.003	0.004	0.001	0.002	0.002	-0.001	-0.000	0.000
	-0.036 0.044	-0.115 0.125	-0.029 0.031	-0.030 0.030	-0.029 0.031	-0.029 0.031	-0.030 0.030	-0.030 0.030
Coil 1 R	0.001	0.003	0.003	0.004	0.001	-0.001	-0.003	-0.004
	-0.081 0.079	-0.049 0.051	-0.026 0.034	-0.027 0.033	-0.029 0.031	-0.030 0.030	-0.032 0.028	-0.033 0.027
Coil 1 Q	-0.000	0.001	-0.000	0.001	0.005	0.004	0.001	-0.002
	-0.400 0.400	-0.099 0.101	-0.030 0.030	-0.029 0.031	-0.027 0.033	-0.026 0.034	-0.029 0.031	-0.029 0.031
Coil 2 R	0.006	0.002	0.001	0.001	0.001	0.000	0.003	0.004
	-0.068 0.072	-0.030 0.030	-0.030 0.030	-0.029 0.031	-0.030 0.030	-0.027 0.033	-0.027 0.033	-0.025 0.035
Coil 2 Q	-0.005	-0.003	-0.002	0.002	-0.004	-0.004	-0.003	-0.003
	-0.352 0.348	-0.103 0.097	-0.032 0.028	-0.030 0.030	-0.032 0.028	-0.034 0.026	-0.033 0.027	-0.031 0.029
Coil 3 R	0.002	0.004	0.002	0.003	0.003	-0.001	-0.003	0.001
	-0.039 0.041	-0.037 0.043	-0.036 0.044	-0.038 0.042	-0.040 0.040	-0.040 0.040	-0.042 0.038	-0.042 0.038
Coil 3 Q	-0.009	-0.006	-0.000	0.004	0.001	0.002	0.003	-0.003
	-0.211 0.189	-0.087 0.073	-0.042 0.038	-0.040 0.040	-0.038 0.042	-0.039 0.041	-0.037 0.043	-0.041 0.039
Coil 4 R	-0.007	-0.001	0.004	-0.002	0.001	-0.000	0.000	0.001
	-0.071 0.049	-0.066 0.054	-0.061 0.059	-0.059 0.061	-0.061 0.059	-0.058 0.062	-0.062 0.058	-0.061 0.059

Coil 4 Q	-0.007 -0.304 0.296	0.004 -0.094 0.106	0.000 -0.066 0.054	-0.002 -0.062 0.058	0.002 -0.061 0.059	-0.001 -0.060 0.060	-0.004 -0.060 0.060	-0.002 -0.059 0.061
Coil 5 R	0.010 -0.127 0.113	0.009 -0.124 0.116	0.014 -0.117 0.123	0.013 -0.118 0.122	-0.005 -0.114 0.126	-0.001 -0.124 0.116	-0.003 -0.120 0.120	-0.006 -0.129 0.111
Coil 5 Q	-0.009 -0.619 0.581	0.007 -0.252 0.248	-0.001 -0.120 0.120	0.002 -0.119 0.121	0.010 -0.118 0.122	0.004 -0.114 0.126	0.004 -0.114 0.126	-0.003 -0.122 0.118
Coil 6 R	0.008 -0.357 0.243	-0.030 -0.306 0.294	0.001 -0.303 0.297	0.012 -0.305 0.295	0.007 -0.300 0.300	0.021 -0.308 0.292	-0.015 -0.299 0.301	-0.034 -0.291 0.309
Coil 6 Q	0.023 -1.495 1.505	0.016 -0.595 0.605	-0.006 -0.287 0.313	0.020 -0.307 0.293	0.004 -0.283 0.317	-0.016 -0.291 0.309	0.020 -0.299 0.301	0.007 -0.292 0.308

ELEC. GAINS	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coil 0 M	125.53 122.98 128.00	124.08 121.60 126.57	121.38 118.90 123.75	117.25 115.01 119.71	112.28 110.10 114.59	106.03 104.25 108.50	99.17 97.45 101.43	91.27 90.00 93.67
Coil 0 P	7.542 4.517 10.517	23.750 20.707 26.707	39.682 36.613 42.613	55.565 52.443 58.443	71.317 68.216 74.216	87.175 84.002 90.002	102.848 99.760 105.760	118.796 115.600 121.600
Coil 1 M	219.76 215.24 224.02	217.28 212.87 221.56	212.59 208.19 216.68	205.27 201.31 209.52	196.20 192.35 200.20	184.60 181.43 188.84	171.57 168.54 175.42	156.45 154.21 160.50
Coil 1 P	7.806 4.783 10.783	24.567 21.528 27.528	41.090 38.027 44.027	57.627 54.518 60.518	74.102 71.006 77.006	90.740 87.571 93.571	107.190 104.105 110.105	123.893 120.707 126.707
Coil 2 M	435.14 426.45 443.86	429.99 421.53 438.74	420.42 411.95 428.77	405.38 397.76 414.00	386.93 379.53 395.02	363.19 357.23 371.81	336.52 330.87 344.37	305.51 301.43 313.73
Coil 2 P	8.020 4.998 10.998	25.155 22.123 28.123	42.075 39.017 45.017	59.020 55.906 61.906	75.900 72.805 78.805	92.931 89.783 95.783	109.795 106.722 112.722	126.888 123.719 129.719
Coil 3 M	715.48 700.75 729.35	709.70 695.31 723.69	699.09 684.59 712.53	681.06 667.79 695.05	658.29 645.11 671.44	626.80 615.85 640.99	589.58 579.01 602.65	543.77 535.82 557.69
Coil 3 P	7.453 4.435 10.435	23.561 20.541 26.541	39.506 36.477 42.477	55.607 52.530 58.530	71.777 68.728 74.728	88.274 85.185 91.185	104.750 101.741 107.741	121.601 118.510 124.510
Coil 4 M	1121.4 1098.8 1143.7	1106.6 1084.6 1128.9	1079.8 1057.7 1100.9	1038.5 1018.6 1060.1	988.4 969.0 1008.6	925.7 909.9 947.0	856.5 841.5 875.8	777.2 766.3 797.6
Coil 4 P	8.195 5.180 11.180	25.732 22.711 28.711	42.998 39.959 45.959	60.216 57.130 63.130	77.314 74.246 80.246	94.507 91.372 97.372	111.478 108.434 114.434	128.645 125.517 131.517
Coil 5 M	2334.5 2287.7 2381.1	2311.4 2265.5 2358.0	2268.7 2222.2 2313.0	2199.7 2157.3 2245.4	2112.2 2070.7 2155.2	1997.5 1963.5 2043.6	1866.2 1833.0 1907.8	1711.7 1687.4 1756.2
Coil 5 P	7.807 4.796 10.796	24.650 21.637 27.637	41.272 38.248 44.248	57.974 54.915 60.915	74.660 71.621 77.621	91.539 88.452 94.452	108.249 105.253 111.253	125.209 122.136 128.136
Coil 6 M	5986.5 5858.0 6097.2	5896.4 5767.8 6003.2	5732.7 5598.1 5826.6	5490.1 5362.0 5580.8	5201.0 5067.5 5274.3	4854.4 4731.1 4924.2	4487.4 4354.0 4531.7	4084.4 3962.5 4124.3
Coil 6 P	8.255 5.274 11.274	26.238 23.312 29.312	43.802 40.910 46.910	61.207 58.300 64.300	78.332 75.477 81.477	95.422 92.501 98.501	112.225 109.282 115.282	129.114 125.959 131.959

INSTRUMENT CONFIGURATION

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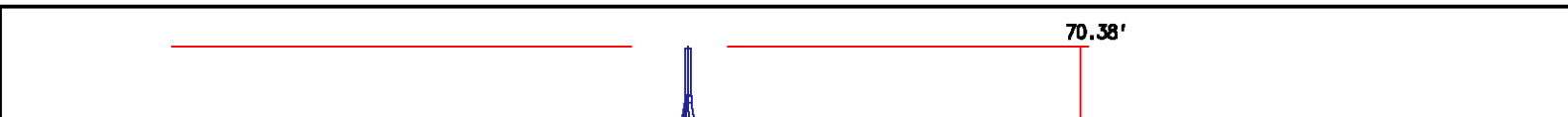
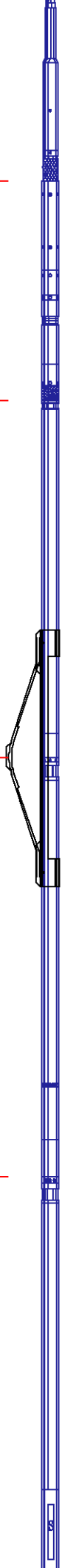




CABLEHEAD 3 3/8 WITH SP
- Diameter : 3.38"
- Length : 2.00'
- Weight : 35 lbs
- Series : 3069ZZ
- Mnemonic : CH
- Measure Point: 0.83': SP

SP — 69.22'

TTRM SUB
- Diameter : 3.63"
- Length : 3.83'
- Weight : 62 lbs
- Series : 3981XA
- Mnemonic : TTRM
- Measure Point: 1.38': TEMP MP
- Measure Point: 1.13': RM MP

TEMP MP — 65.93'
RM MP — 65.68'

WTS COMMON REMOTE
- Diameter : 3.63"
- Length : 6.36'
- Weight : 126 lbs
- Series : 3514XB
- Mnemonic : WTS

DIGITAL SPECTRALOG
- Diameter : 3.63"
- Length : 7.31'
- Weight : 130 lbs
- Series : 1329XA
- Mnemonic : DSL
- Measure Point: 1.60': GR MP

GR MP — 52.48'

COMPENSATED NEUTRON
- Diameter : 3.63"
- Length : 7.59'
- Weight : 150 lbs
- Series : 2446XA
- Mnemonic : CN
- Measure Point: 2.63': LSN MP
- Measure Point: 2.24': SSN MP

LSN MP — 45.92'
SSN MP — 45.52'

CAL MP — 35.26'

LSD MP — 34.54'

SSD MP — 34.14'

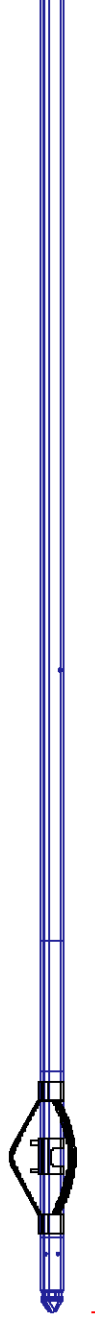
Z-DENSILOG

Diameter	: 4.88"
Length	: 11.22'
Weight	: 360 lbs
Series	: 2234XA
Mnemonic	: ZDL
Measure Point	: 3.19': CAL MP
Measure Point	: 2.47': LSD MP
Measure Point	: 2.07': SSD MP

KNUCKLE JOINT (DOUBLE)

Diameter	: 3.38"
Length	: 4.65'
Weight	: 90 lbs
Series	: 3939XA
Mnemonic	: KNJT

HIGH DEFINITION INDUCTION TOOL
Diameter : 3.62"
Length : 27.13'
Weight : 415 lbs
Series : 1515XA
Mnemonic : HDIL
Measure Point: 13.91': SP MP
Measure Point: 7.44': XMTR MP



SP MP — 14.19'

XMTR MP — 7.72'

0.00'

BULL PLUG 3 3/8

TOTAL LENGTH: 70.38'
TOTAL WEIGHT: 1399 lbs
MAX DIAMETER: 0'4.88"

BAKER HUGHES
ECLIPS

COMPANY	TABULA RASA ENERGY		FILE NO:
WELL	CADDELL 2		
FIELD	OAKDALE		API NO:
COUNTY	HUEFANO	STATE COLORADO	05-055-06312

LOCATION:
SHL: 1349' FSL & 1306' FEL
SEC 4 TWP 29 S RGE 69 W

ELEVATIONS:
KB 7844.5 FT
DF 7844.5 FT
GL 7830 FT

2"/100' SCALE
5"/100' SCALE

DATE 15-DEC-2013