



FILE NO: MD11798	COMPANY HOLLY FRONTIER - NAVAJO
API NO: 30-015-44677	WELL NAVAJO REFINING WDW #4
	FIELD ARTESIA
	COUNTY EDDY
	STATE NEW MEXICO

Ver. 4.10	LOCATION: 1217' FSL & 2443' FWL SECTION 23, T17S, R27E N.M.P.M. SURVEY	OTHER SERVICES
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PERMANENT DATUM	GL	ELEVATION	3565.8 FT	ELEVATIONS:
LOG MEASURED FROM	KB	20 FT	ABOVE P.D.	KB 3565.8 FT
DRILL. MEAS. FROM	KB			DF 3584.8 FT
				GL 3565.8 FT

DATE	TRIP	09-May-2018	1		
RUN					
SERVICE ORDER		128981			
DEPTH DRILLER		1680 FT			
DEPTH LOGGER		1680 FT			
BOTTOM LOGGED INTERVAL		80 FT			
TOP LOGGED INTERVAL		50 FT			
CASING DRILLER		20 IN	@ 80 FT		@
CASING LOGGER		107 FT			
BIT SIZE		17.5 IN			
TYPE OF FLUID IN HOLE		WBM			
DENSITY	VISCOSITY	10.2 LB/G	28 CP		
PH	FLUID LOSS	10	N/A		
SOURCE OF SAMPLE	FLOWLINE				
RM AT MEAS. TEMP.		0.063 OHMM	@ 75 DEGF		@
RMF AT MEAS. TEMP.		0.054 OHMM	@ 75 DEGF		@
RMC AT MEAS. TEMP.		0.085 OHMM	@ 75 DEGF		@
SOURCE OF RMF	RMC	MEASURED	MEASURED		
RM AT BHT		0.073 OHMM	@ 88 DEGF		@
TIME SINCE CIRCULATION		6 HRS			
MAX. RECORDED TEMP.		90 DEGF			
EQUIP. NO.	LOCATION	HL6845	MIDLAND, TX		
RECORDED BY		JKOSKI			
WITNESSED BY		KCOOK			

IN MAKING INTERPRETATIONS OF LOGS OUR EMPLOYEES WILL GIVE THE 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	80 FT	1680 FT

CASING RECORD				
SIZE	WEIGHT	GRADE	FROM	TO
20 IN			0 FT	80 FT
13.375 IN				

REMARKS

RUN 1 TRIP 1: BOREHOLE AND CEMENT VOLUME PRESENTED (TOTAL VOLUME LESS 13.375" CASING)
 1 SMALL TICK = 10 CUBIC FEET
 1 MEDIUM TICK = 100 CUBIC FEET
 1 LARGE TICK = 1000 CUBIC FEET

RIG: PATRIOT#4
 CREW: J.ESPINOZA / R.SANCHEZ

EQUIPMENT DATA

RUN	TRIP	TOOL	SERIES NO.	SERIAL NO.	POSITION
1	1	TTRM	3981XA	10348286	FREE
1	1	COMM	3514XA	10570247	FREE

1	1	GAMMA	1329XA	2177857	FREE
1	1	ISO	4485XA	12448494	CENTRALIZED
1	1	6CAL	4253XA	12408673	CENTRALIZED
1	1	RTEX	1249XA	13339146	CENTRALIZED
1	1	MLL	1243XA	12650281	PAD DEVICE
1	2	CN	2446XA	10080837	D.CENT
1	2	ZDL	2234XA	12429124	PAD DEVICE

INSTRUMENT CONFIGURATION

Source File: C:\Users\koscj\usd\Desktop\WSP2\p87ccwgi~tdg.meta

CABLEHEAD

Diameter : 3.38"
Length : 5.50'
Weight : 24 lbs
Series : CABL338
Mnemonic : CBLH
Measure Point: 2.75': CABLEHEAD TOP

TTRM SUB

Diameter : 3.63"
Length : 3.83'
Weight : 62 lbs
Series : 3981XA
Mnemonic : TTRM

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

MASS ISOLATION SUB

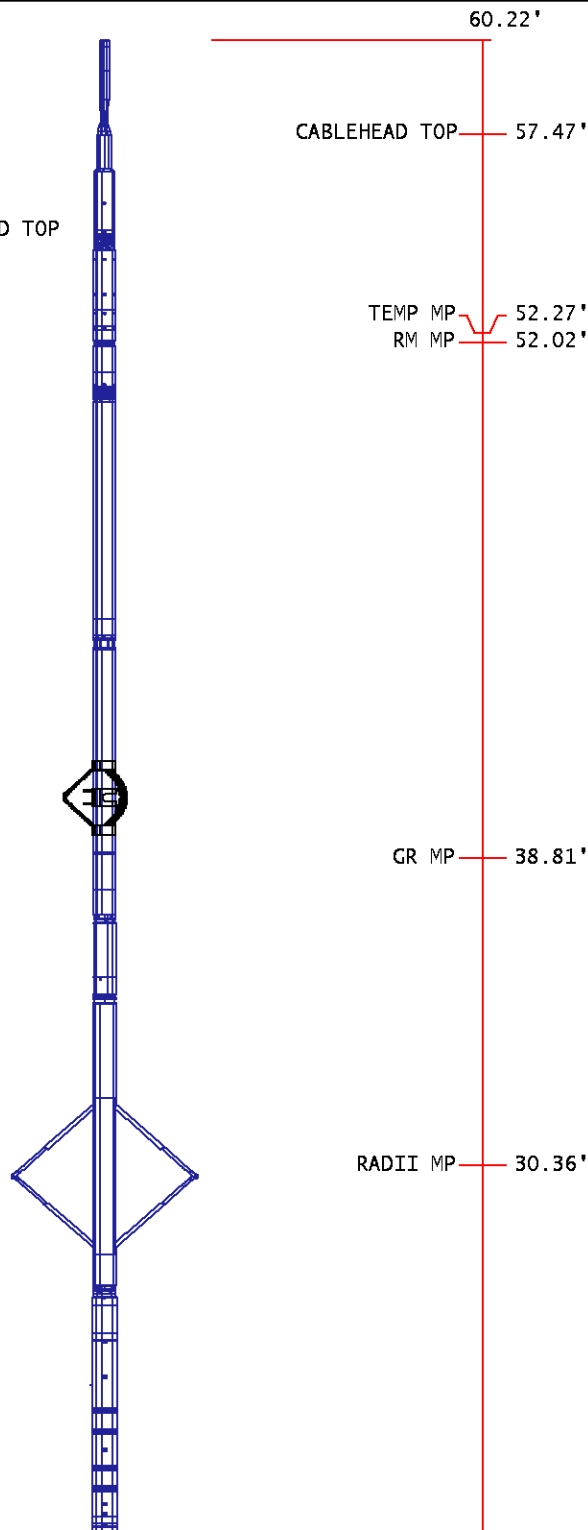
Diameter : 3.63"
Length : 2.09'

WELL GEOMETRY INSTRUMENT

Diameter : 3.62"
Length : 7.61'
Weight : 100 lbs
Series : 4253XA
Mnemonic : WGI
Measure Point: 2.85': RADII MP

WTS RT EXPLORER

Diameter : 4.00"
Length : 14.00'



Length : 20.60'
Weight : 246 lbs
Series : 1249XA
Mnemonic : RTEX
Measure Point: 7.09': RTEX MP

RTEX MP 20.60'

WTS MICROLATEROLOG

Diameter : 4.00"
Length : 11.25'
Weight : 258 lbs
Series : 1243XA
Mnemonic : MLL
Measure Point: 1.55': MP

MASS ISOLATION SUB

Diameter : 3.63"
Length : 2.09'

BULL PLUG 2 5/6

TOTAL LENGTH: 60.22'
TOTAL WEIGHT: 1062 lbs
MAX DIAMETER: 0'4.00"



MP 3.82'

0.00'

MAIN LOG 2"/100FT SCALE

ECLIPS 7.0i ECLIPS General Release Rel 7.0i Thu Jun 08 20:36:10 CDT 2017

Patches: 3

Plotted: Thu May 10 08:30:05 2018

PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/md11798/p87cc01.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 1428.616 ft BOTTOM DEPTH: 1677.842 ft

SYMMETRIC FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
TENSION	FILTER ()	medium (1)		TOP	BOTTOM
	FILTER ()	medium (1)		"	"
	FILTER (.h)	medium (1)		"	"
	FILTER (.i)	medium (1)		"	"
CALIPER	FILTER ()	medium (1)		"	"
	FILTER (.h)	medium (1)		"	"
	FILTER (.i)	medium (1)		"	"

PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/md11798/p87ccwgi02.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 76.000 ft BOTTOM DEPTH: 1678.391 ft

SYMMETRIC FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
TTRM	FILTER ()	medium (1)		TOP	BOTTOM
	FILTER (.h)	medium (1)		"	"
	FILTER (.i)	medium (1)		"	"
TENSION GR	FILTER ()	medium (1)		"	"
	FILTER (.h)	medium (1)		"	"
	FILTER (.i)	medium (1)		"	"
RTeX	FILTER ()	light (2a)		"	"
	FILTER (.h)	light (2a)		"	"
	FILTER (.i)	light (2a)		"	"
CALA (3rd CALIPER)	FILTER (.i)	medium(1)		"	"
MLL	FILTER ()	light (2a)		"	"
	FILTER (.i)	light (2a)		"	"
	FILTER (.j)	light (2a)		"	"

BOREHOLE & CEMENT

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
CALIPER SELECTION	X-Y VS MULTI-ARM SEL	MULTI-ARM CAL		TOP	BOTTOM
BIT SIZE	BIT SIZE	12.250	in	"	"
MUD SAMPLE RESISTIVITY	MUD SAMPLE TEMP	77.0	degF	"	"
	MUD SAMPLE RES	0.063	ohm.m	"	"
BOREHOLE TEMP from GRADIENT	Known BH REF TEMP	77.0	degF	"	"
	at BH REF DEPTH	0.0	ft	"	"
	with TEMP GRADIENT	1.200	0.01 degF/ft	"	"
BOREHOLE CORR DIAMETER SOURCE	CALIPER/FIXED DIA. (calmu*)	USE CALIPER		"	"
BOREHOLE CORR DIAMETER	FIXED DIAMETER (mlr1c*)	12.250	in	"	"
BH MUD RESISTIVITY SOURCE	RMUD SOURCE	TOOL MEASURED		"	"

RTeX PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
RTeX ADAPTIVE BOREHOLE CORRECTION	BOREHOLE CORRECTION Rxo Source	ON RTEX ESTIMATE		TOP "	BOTTOM "

CURVE DESCRIPTION REPORT

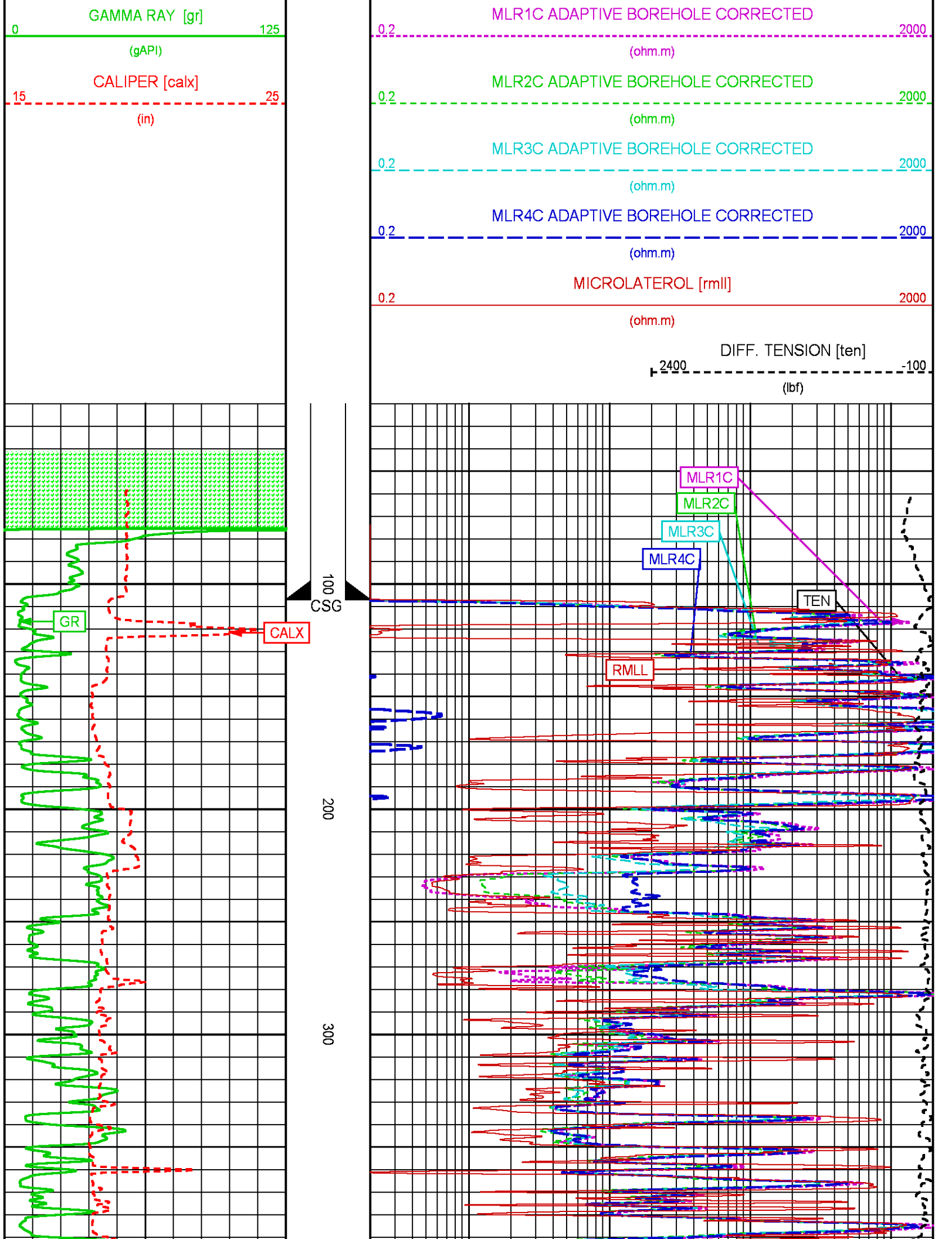
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:CALX	N/A	CALIPER FROM X-AXIS OF XY CALIPER(S)
F1:GR	N/A	GAMMA RAY
F1:MLR1C	N/A	RTEX SHALLOW RESISTIVITY 1, ADAPTIVE BOREHOLE CORRECTION
F1:MLR2C	N/A	RTEX SHALLOW RESISTIVITY 2, ADAPTIVE BOREHOLE CORRECTION
F1:MLR3C	N/A	RTEX MEDIUM RESISTIVITY 3, ADAPTIVE BOREHOLE CORRECTION
F1:MLR4C	N/A	RTEX DEEP RESISTIVITY 4, ADAPTIVE BOREHOLE CORRECTION
F1:RMLL	N/A	RESISTIVITY
F1:TEN	N/A	DIFFERENTIAL TENSION

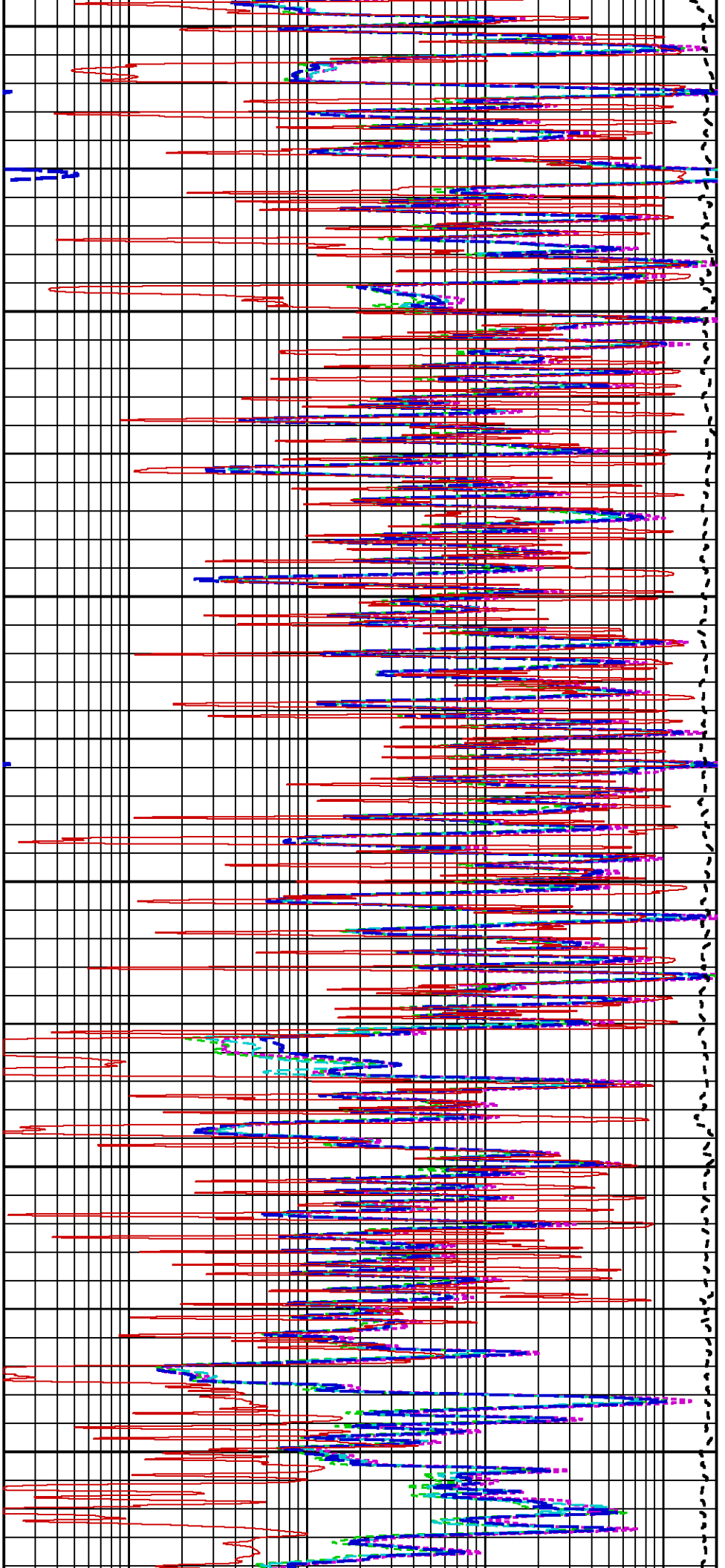
CURVE MEASURE POINT OFFSET

CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
CALX	-3.25	MLR1C	-20.50	MLR3C	-20.50	RMLL	-3.50
GR	-20.38	MLR2C	-20.50	MLR4C	-20.50	TEN	0.00

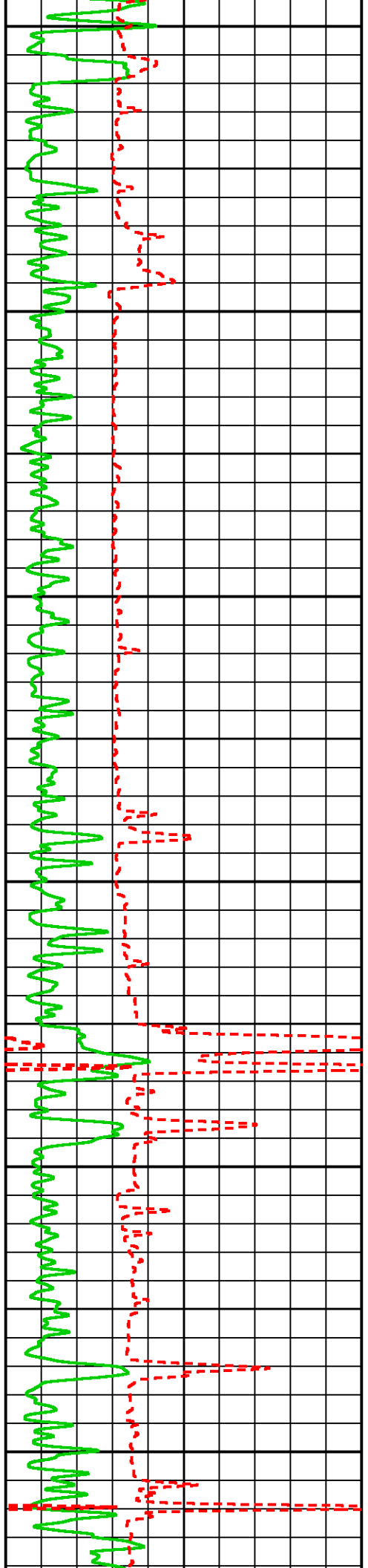
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Plot Interval	: 26.75 - 1684 Feet
Data File 1	: F1 : SysA:C:\Users\koskjusd\Desktop\WSP2\PORM.xtf
Created On	: N/A
Company	: WSP USA, INC.
Well	: NAVAJO REFINING WDW #4
Field	: ARTESIA
File Interval	: 26.75 - 1684 Feet
OCT	: p87cc

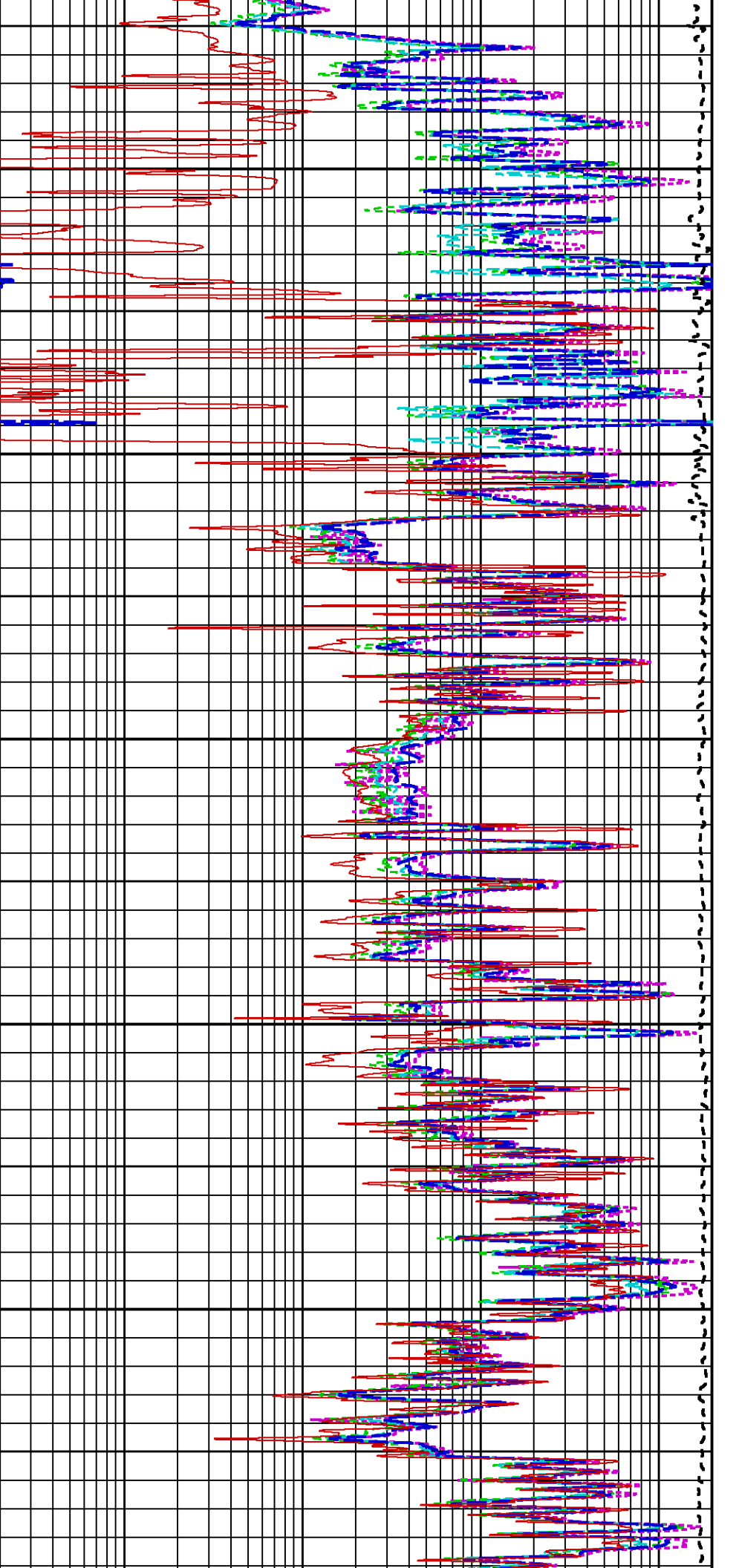
GR BACKUP	FEET	TOOL STICKING
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400 500 600 700 800 900





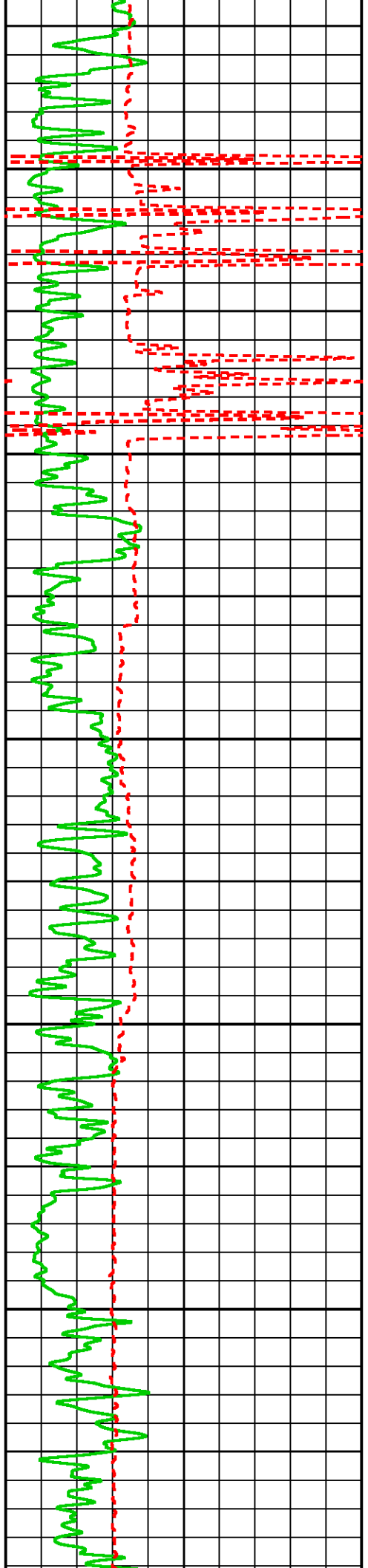
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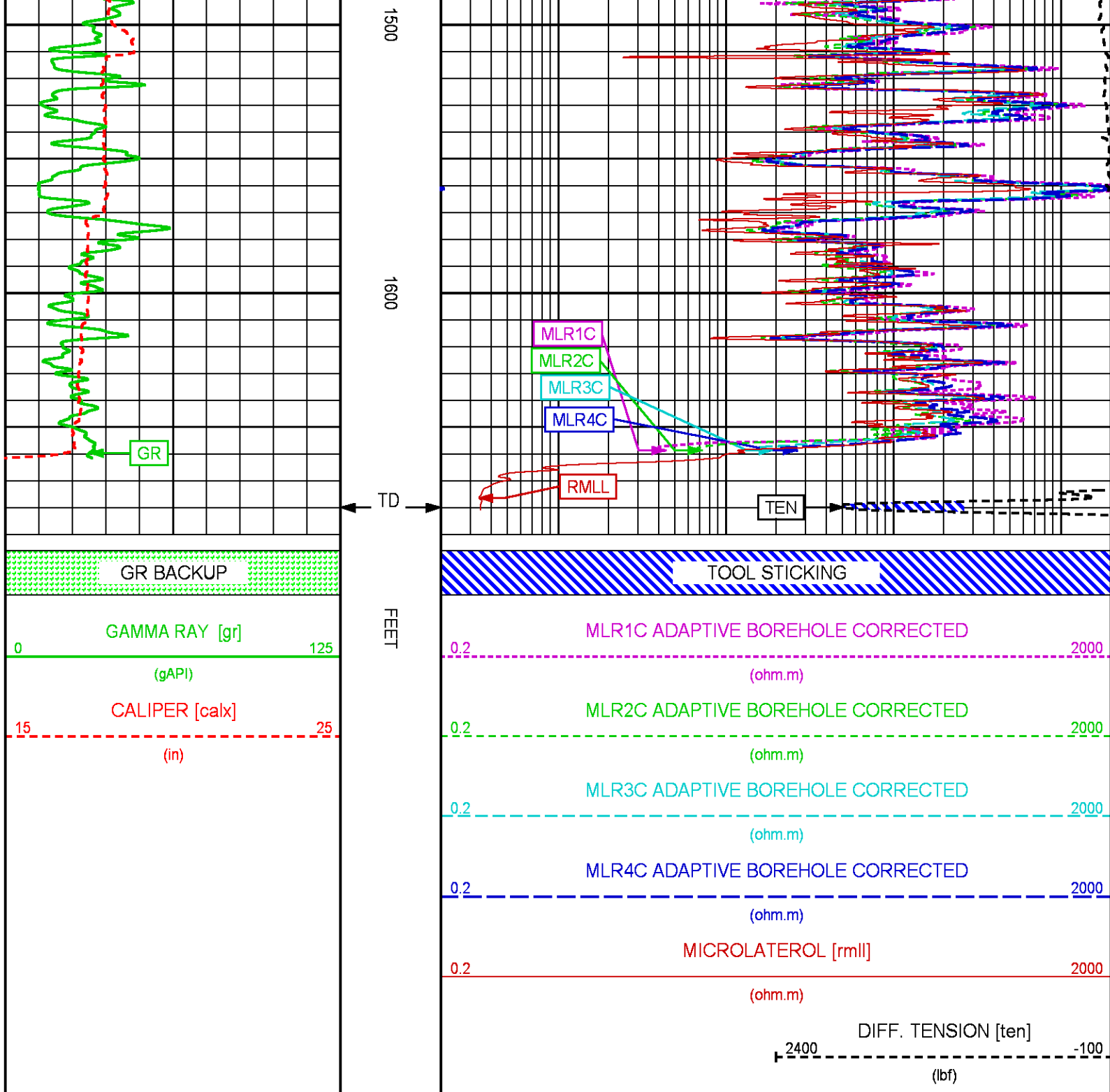
1100

1200

1300

1400





MAIN LOG 5"/100FT SCALE

ECLIPS 7.0i ECLIPS General Release Rel 7.0i Thu Jun 08 20:36:10 CDT 2017
Patches: 3

Plotted: Thu May 10 08:29:52 2018

PARAMETER AND FILTER SUMMARY REPORT

FILE:	/dat1a/md11798/p87cc01.prm			
LOGGING MODE:	DEPTH	DIRECTION:	UP	
TOP DEPTH:	1428.616 ft	BOTTOM DEPTH:	1677.842 ft	

SYMMETRIC FILTER				
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)
TENSION GR	FILTER ()	medium (1)		TOP BOTTOM
	FILTER ()	medium (1)		" "
	FILTER (.h)	medium (1)		" "
CALIPER	FILTER (.i)	medium (1)		" "
	FILTER ()	medium (1)		" "
	FILTER (.h)	medium (1)		" "
	FILTER (.i)	medium (1)		" "

PARAMETER AND FILTER SUMMARY REPORT

FILE:	/dat1a/md11798/p87ccwgi02.prm			
LOGGING MODE:	DEPTH	DIRECTION:	UP	
TOP DEPTH:	76.000 ft	BOTTOM DEPTH:	1678.391 ft	

SYMMETRIC FILTER				
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)
TTRM	FILTER ()	medium (1)		TOP BOTTOM
	FILTER (.h)	medium (1)		" "
	FILTER (.i)	medium (1)		" "
TENSION GR	FILTER ()	medium (1)		" "
	FILTER ()	medium (1)		" "
	FILTER (.h)	medium (1)		" "
RTeX	FILTER (.i)	medium (1)		" "
	FILTER ()	light (2a)		" "
	FILTER (.h)	light (2a)		" "
CALA (3rd CALIPER)	FILTER (.i)	light (2a)		" "
	FILTER (.i)	medium(1)		" "
	FILTER ()	light (2a)		" "
MLL	FILTER (.i)	light (2a)		" "
	FILTER (j)	light (2a)		" "

BOREHOLE & CEMENT				
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)
CALIPER SELECTION	X-Y VS MULTI-ARM SEL	MULTI-ARM CAL		TOP BOTTOM
BIT SIZE	BIT SIZE	12.250	in	" "
MUD SAMPLE RESISTIVITY	MUD SAMPLE TEMP	77.0	degF	" "
	MUD SAMPLE RES	0.063	ohm.m	" "
BOREHOLE TEMP from GRADIENT	Known BH REF TEMP	77.0	degF	" "
	at BH REF DEPTH	0.0	ft	" "
	with TEMP GRADIENT	1.200	0.01 degF/ft	" "
BOREHOLE CORR DIAMETER SOURCE	CALIPER/FIXED DIA. (calmu*)	USE CALIPER		" "
BOREHOLE CORR DIAMETER	FIXED DIAMETER (mlr1c*)	12.250	in	" "
BH MUD RESISTIVITY SOURCE	RMUD SOURCE	TOOL MEASURED		" "

RTeX PROCESSING				
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)
RTeX ADAPTIVE BOREHOLE CORRECTION	BOREHOLE CORRECTION	ON		TOP BOTTOM
	Rxo Source	RTEX ESTIMATE		" "

CURVE DESCRIPTION REPORT

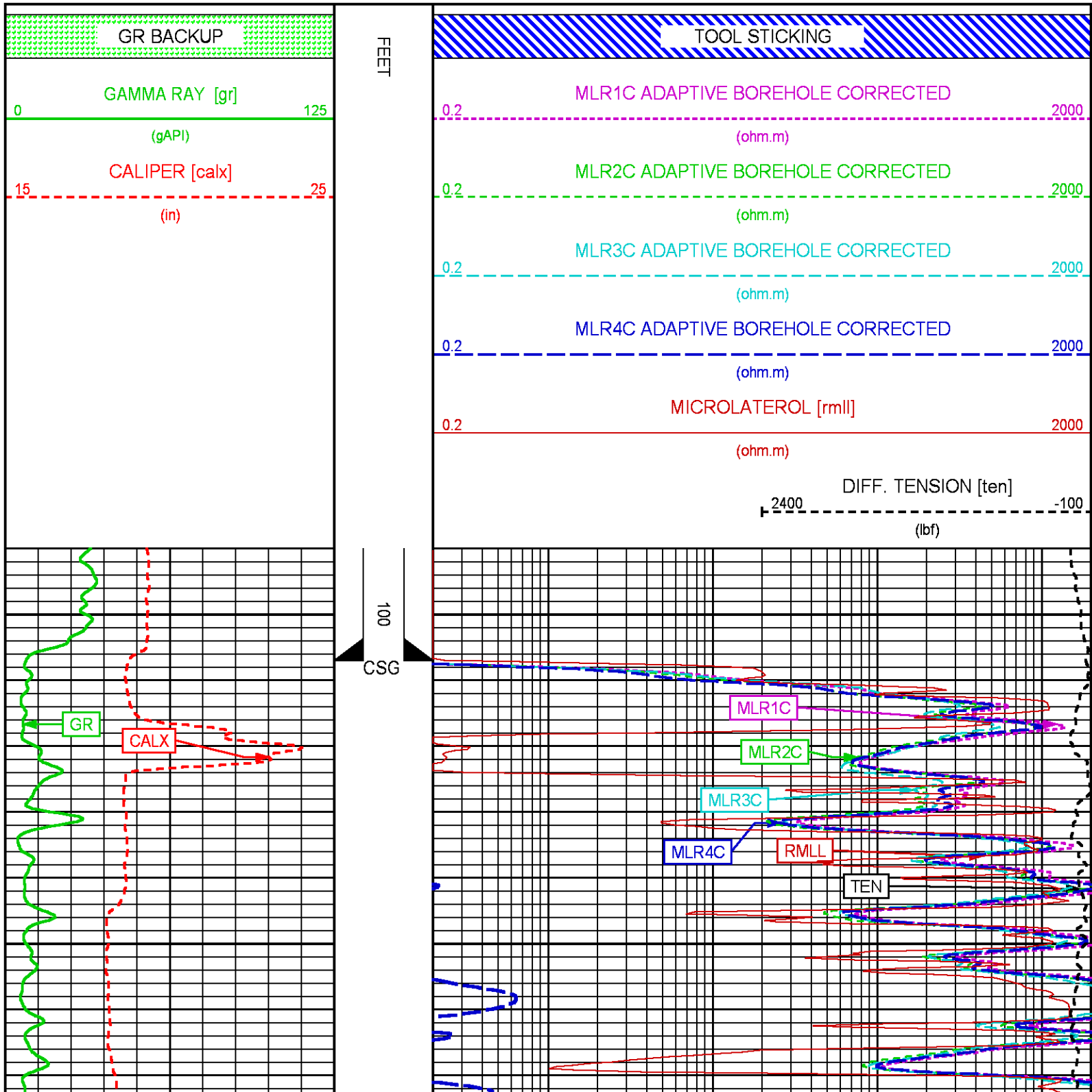
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:CALX	N/A	CALIPER FROM X-AXIS OF XY CALIPER(S)
F1:GR	N/A	GAMMA RAY
F1:MLR1C	N/A	RTEX SHALLOW RESISTIVITY 1, ADAPTIVE BOREHOLE CORRECTION
F1:MLR2C	N/A	RTEX SHALLOW RESISTIVITY 2, ADAPTIVE BOREHOLE CORRECTION
F1:MLR3C	N/A	RTEX MEDIUM RESISTIVITY 3, ADAPTIVE BOREHOLE CORRECTION
F1:MLR4C	N/A	RTEX DEEP RESISTIVITY 4, ADAPTIVE BOREHOLE CORRECTION
F1:RMLL	N/A	RESISTIVITY
F1:TEN	N/A	DIFFERENTIAL TENSION

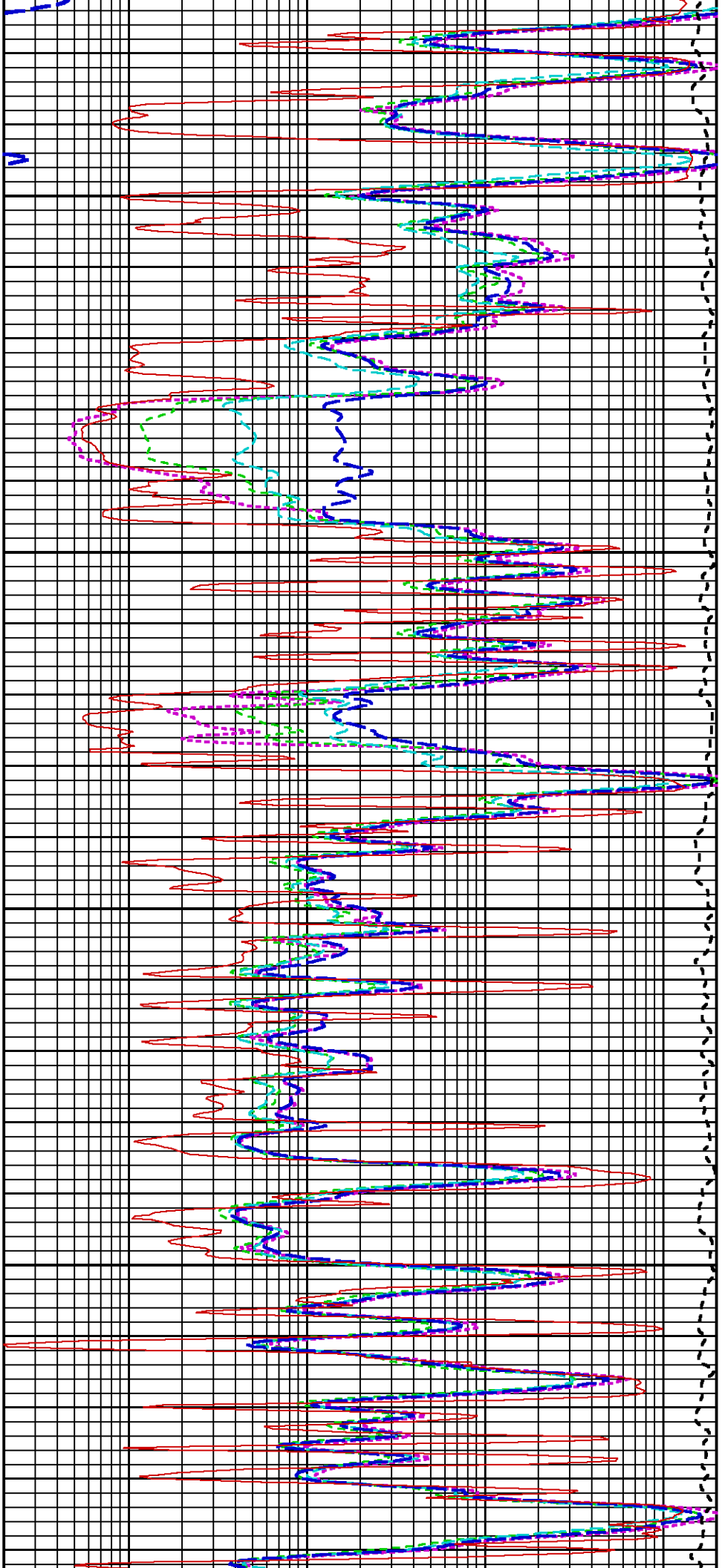
CURVE MEASURE POINT OFFSET

CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
CALX	-3.25	MLR1C	-20.50	MLR3C	-20.50	RMLL	-3.50
GR	-20.38	MLR2C	-20.50	MLR4C	-20.50	TEN	0.00

Presentation : SysA:/dat1a/md11798/RTEX_TX_5.fvpdf [5"/100' Scale]
Plot Interval : 90 - 1684 Feet

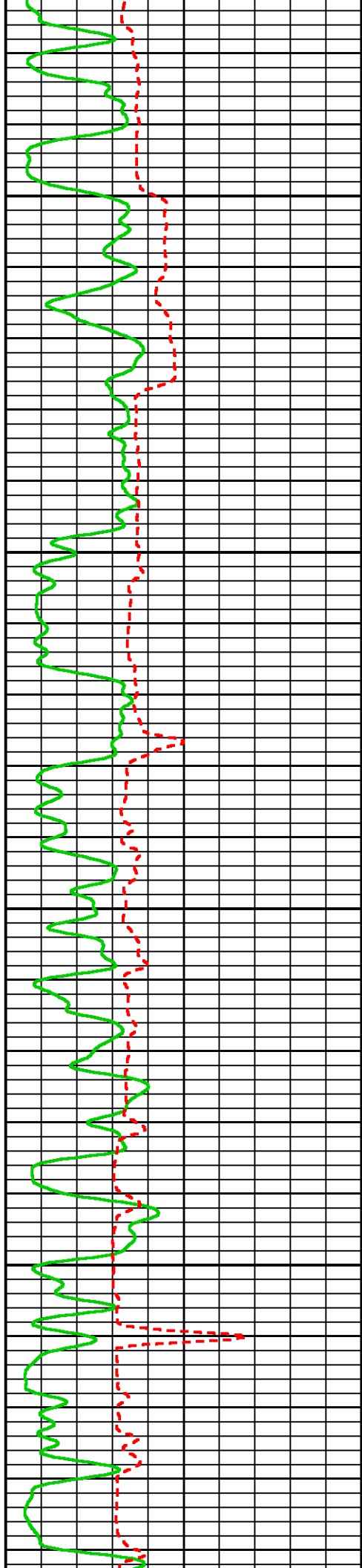
Data File 1 : F1 : SysA:C:\Users\koskjusd\Desktop\WSP2\IORM.xtf
Created On : N/A
Company : WSP USA, INC.
Well : NAVAJO REFINING WDW #4
Field : ARTESIA
File Interval : 26.75 - 1684 Feet
OCT : p87cc

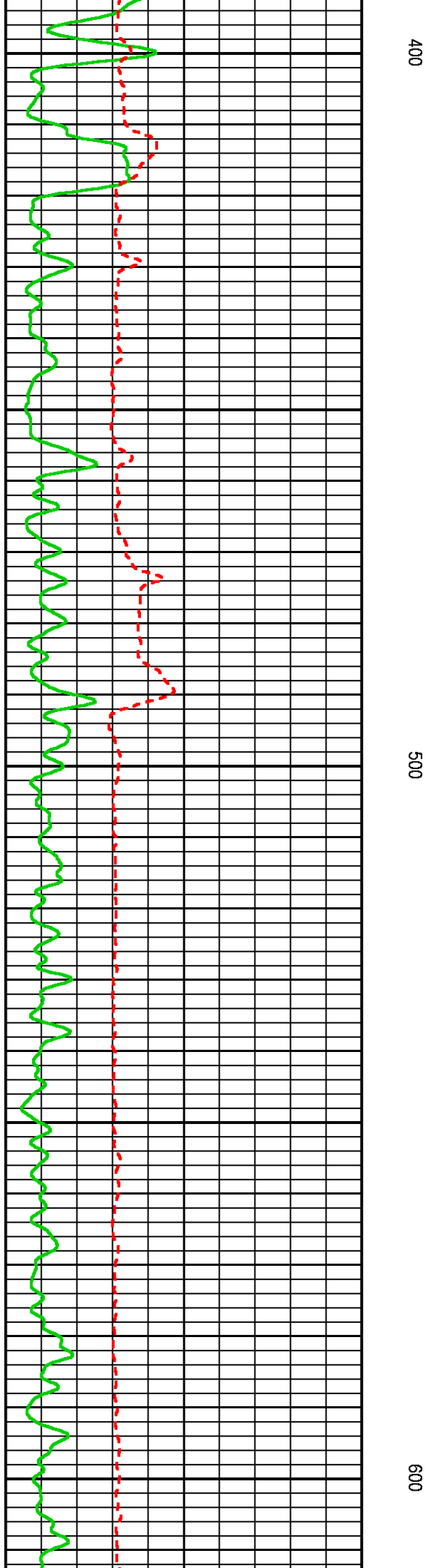
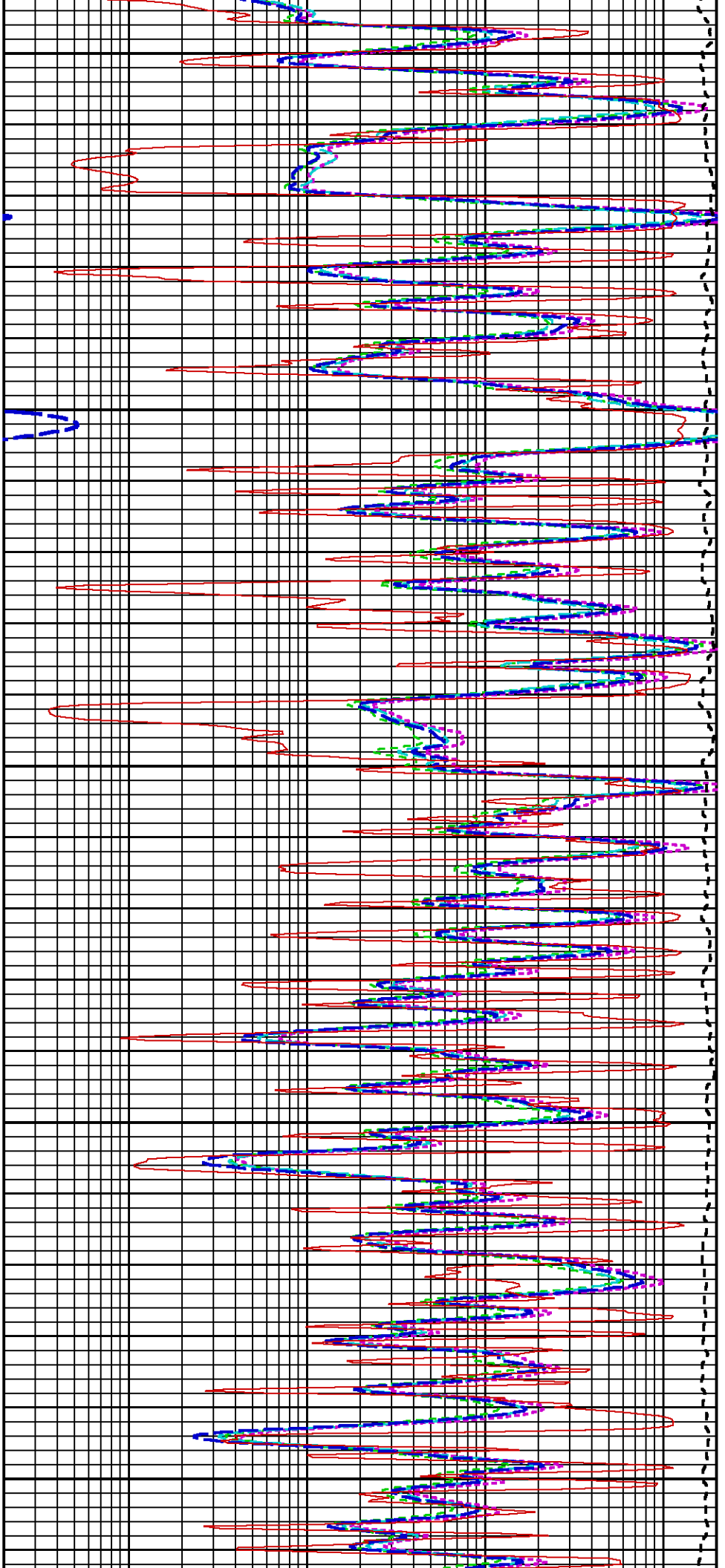


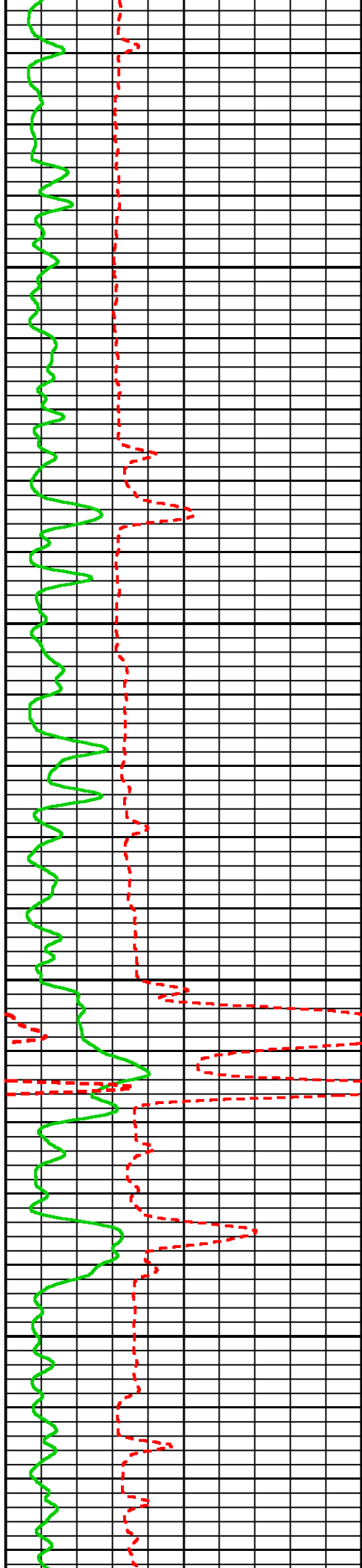


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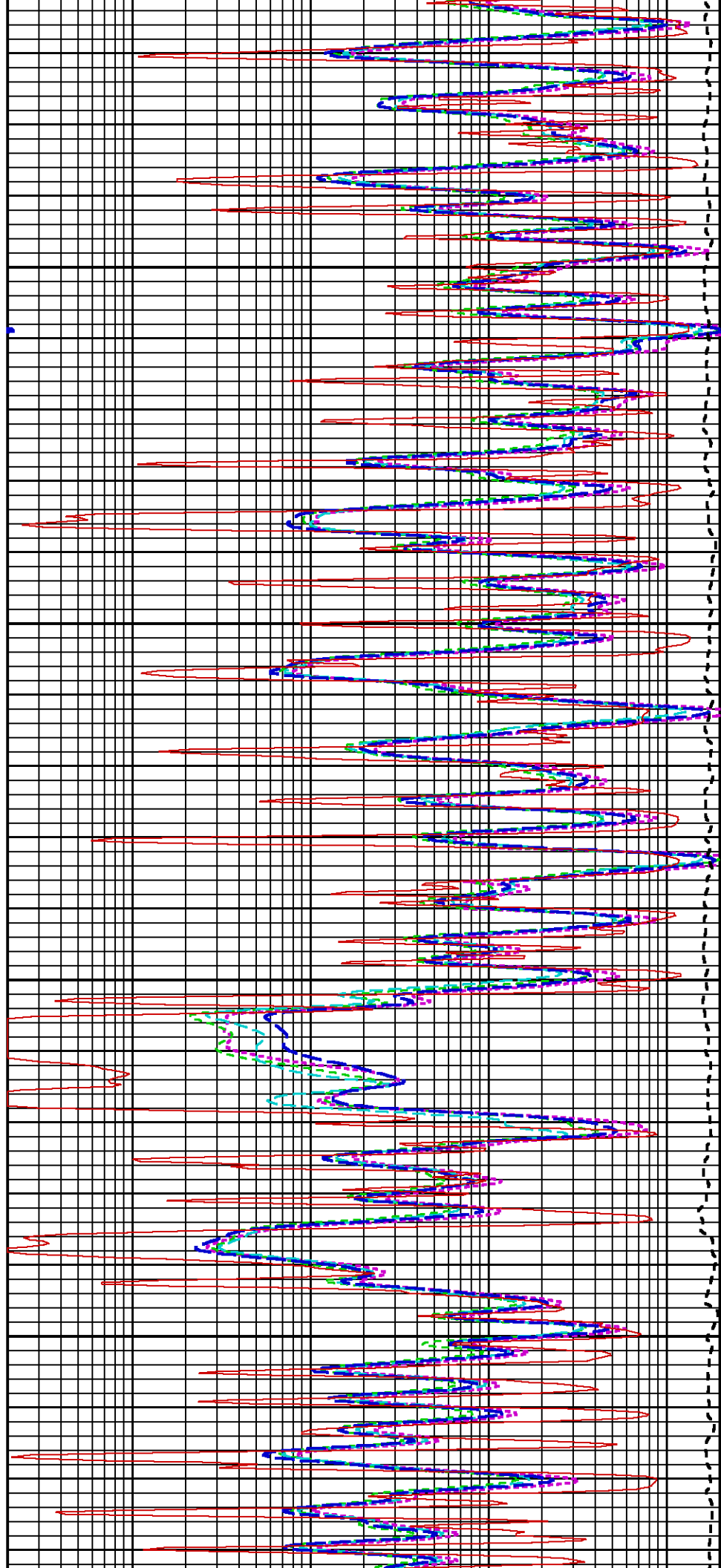


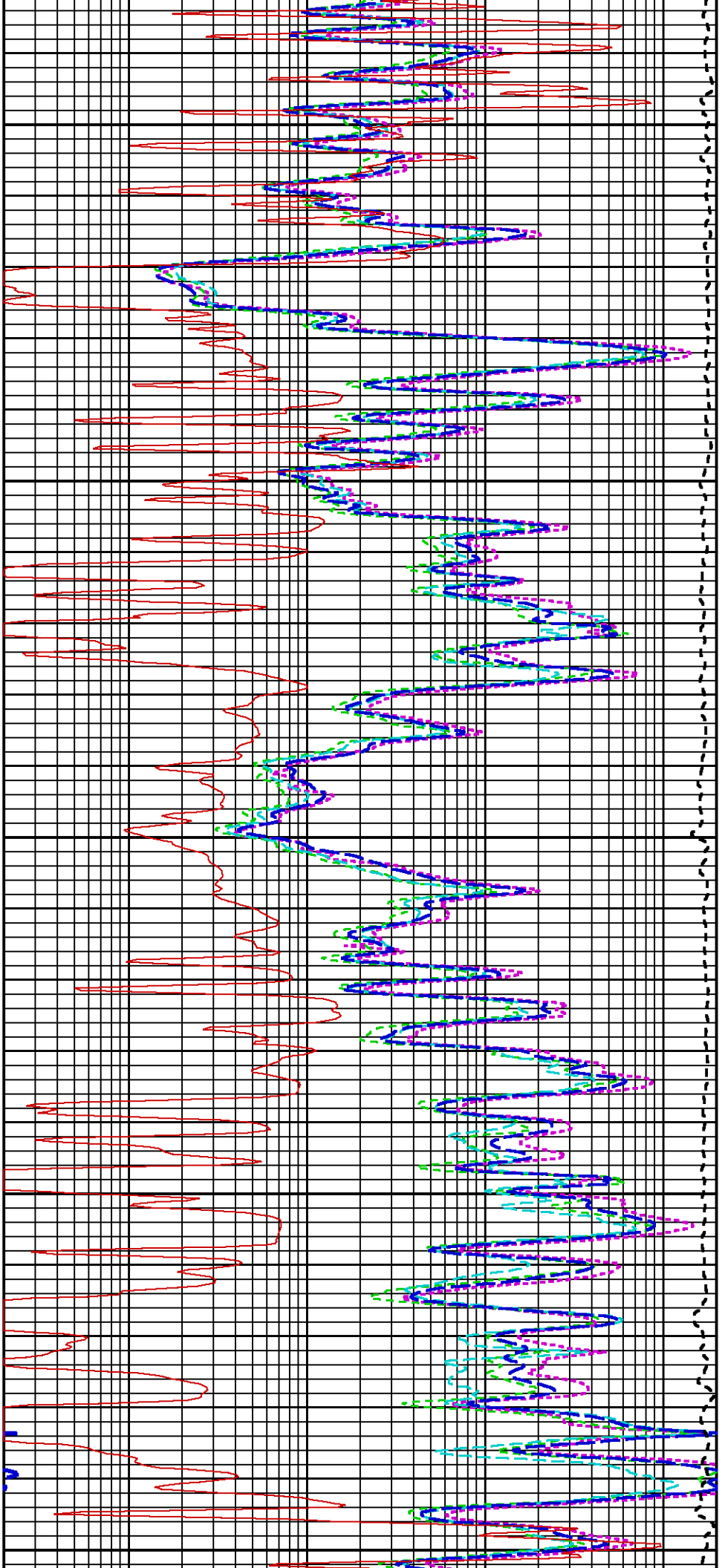




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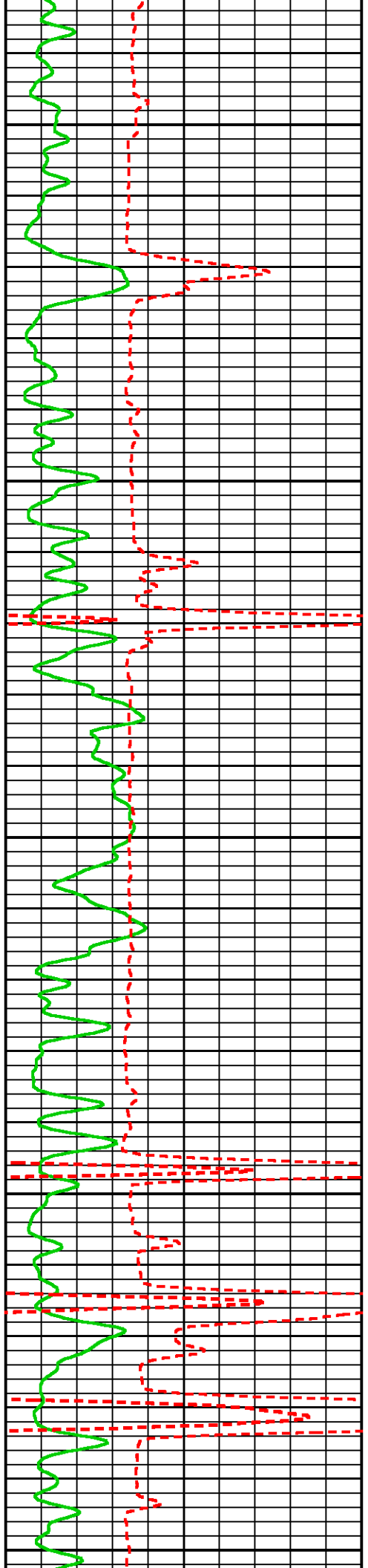
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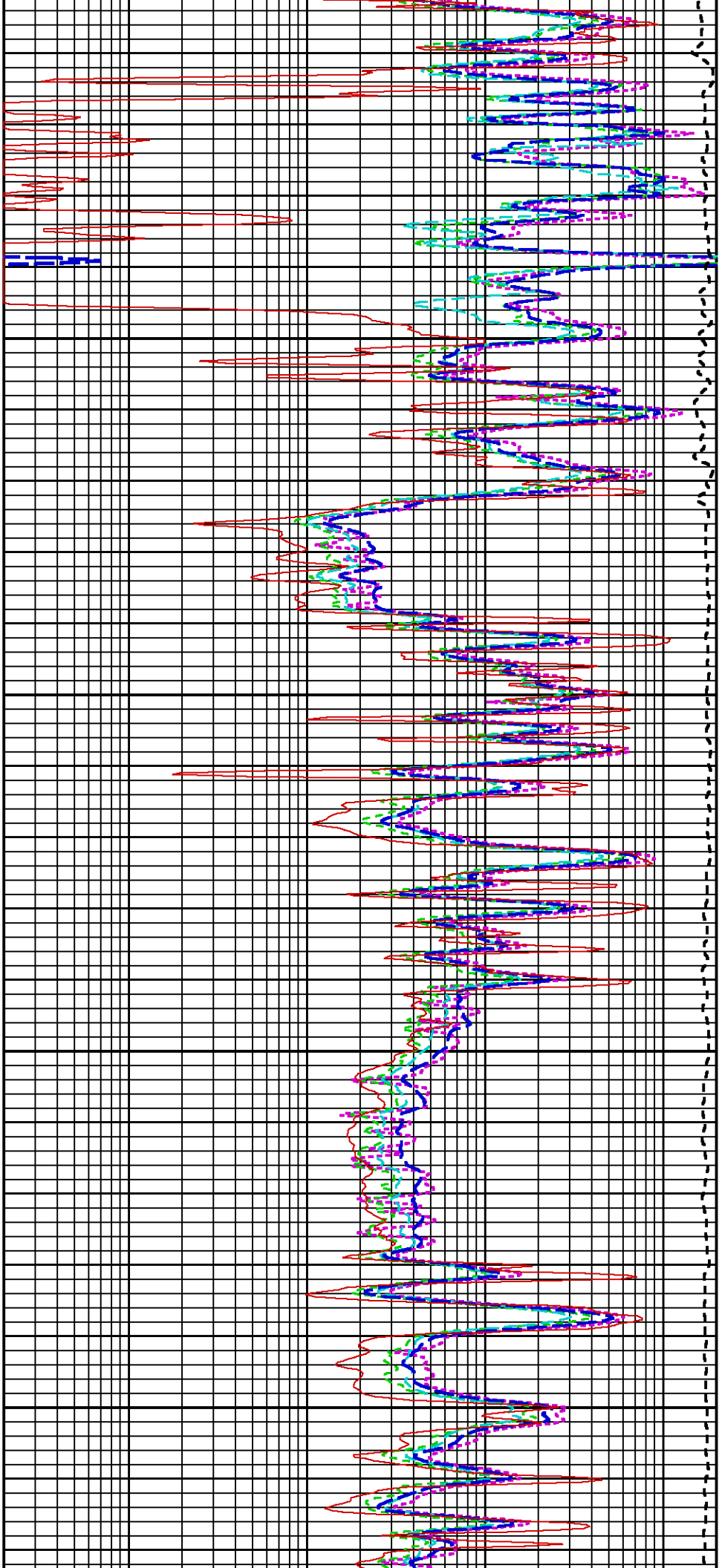




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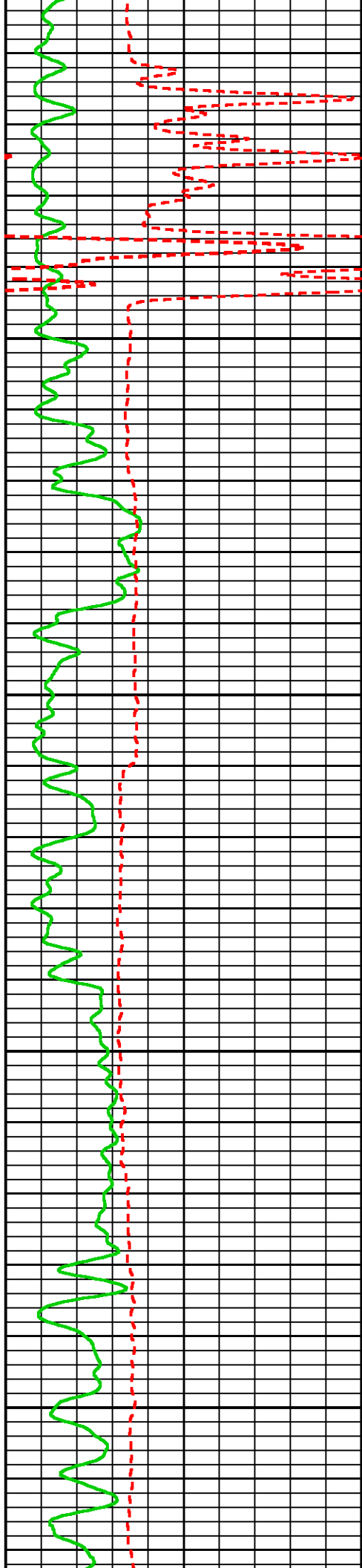
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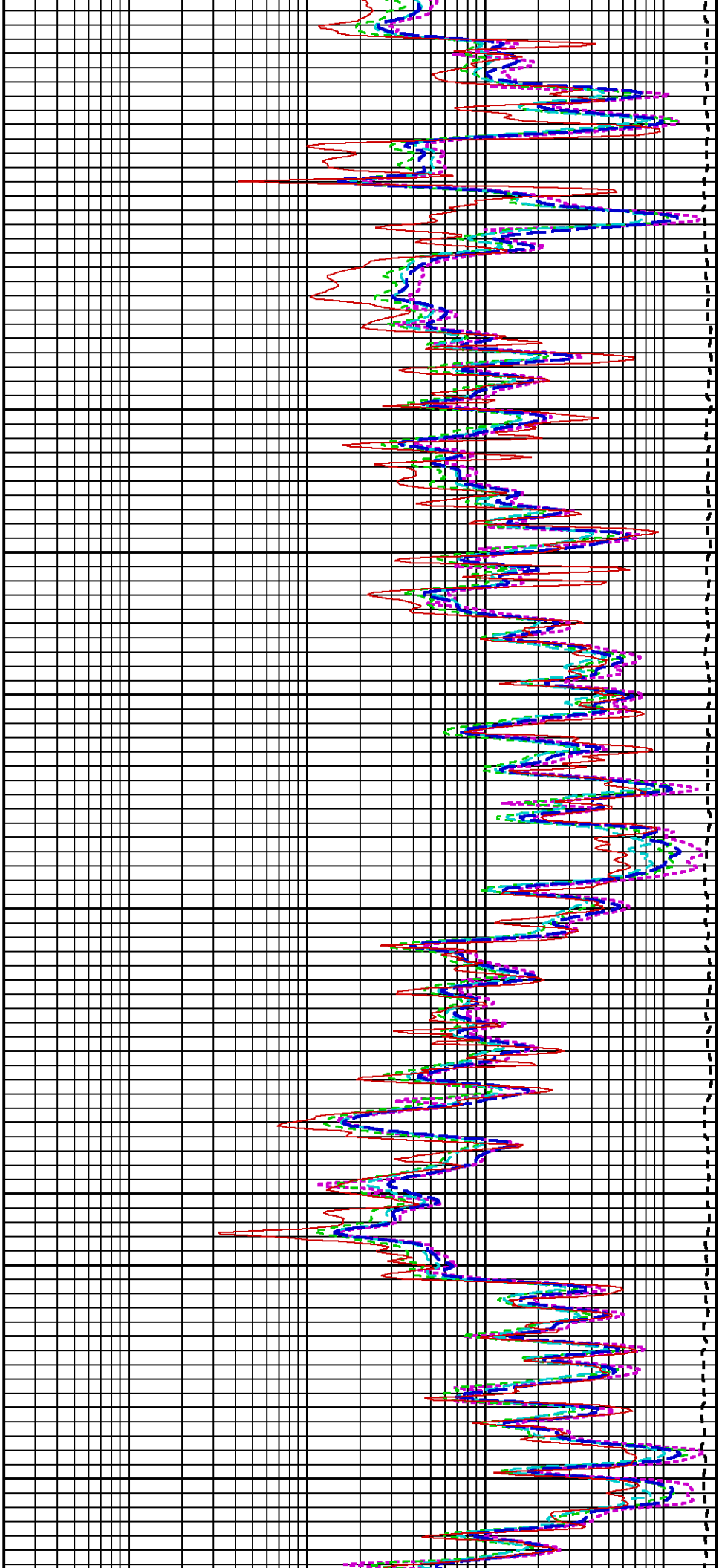




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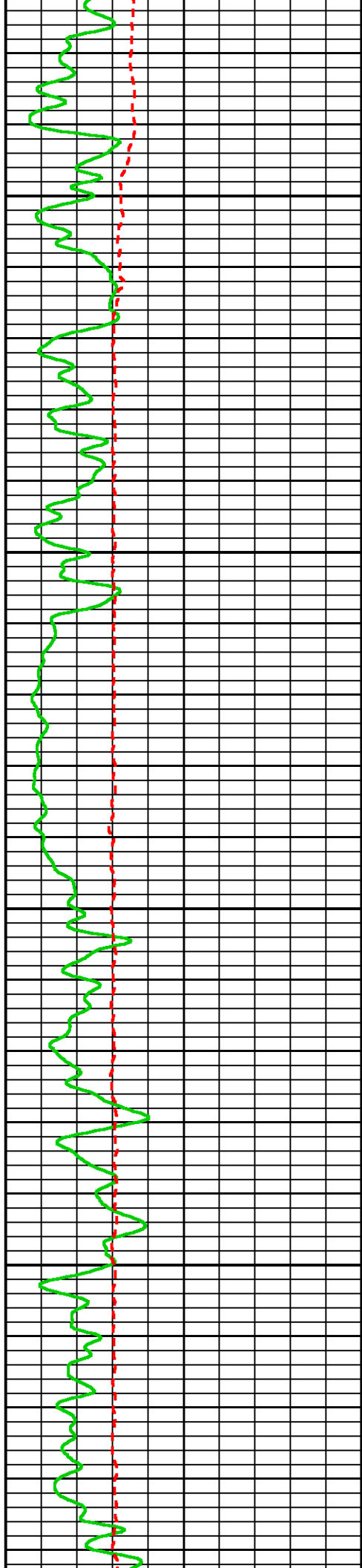
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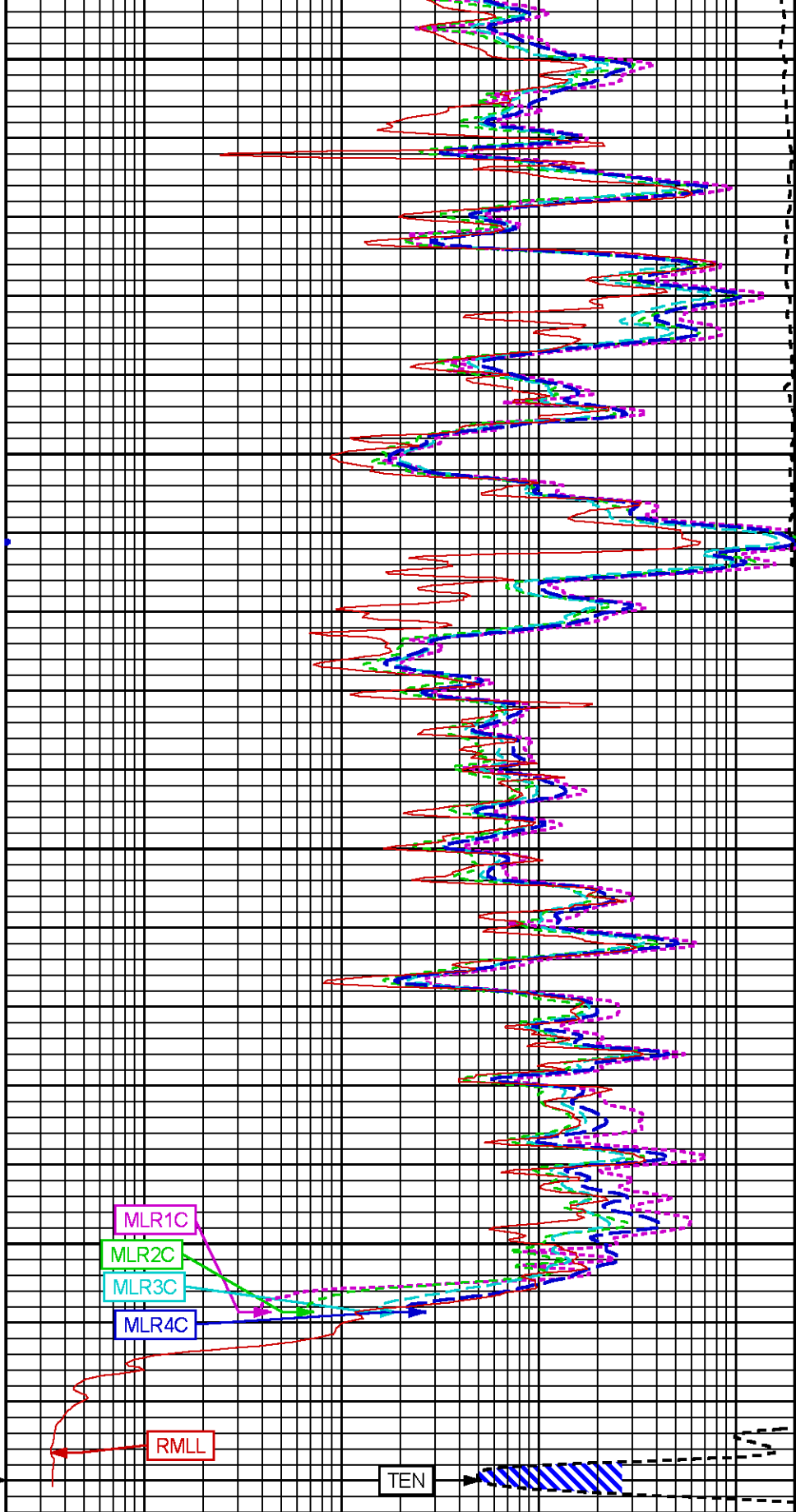
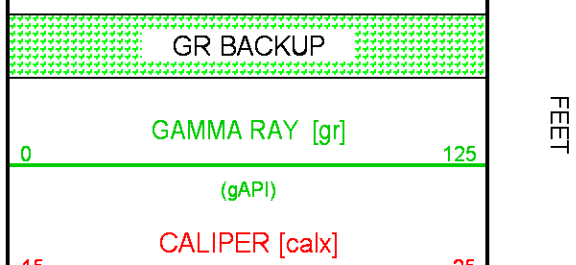
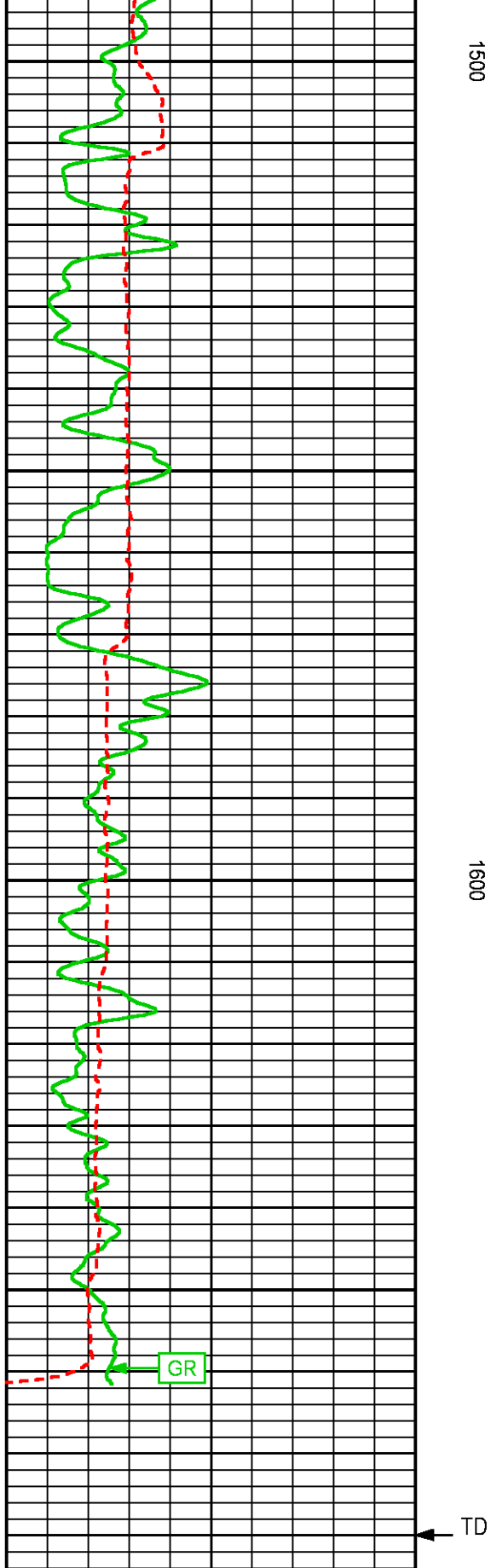


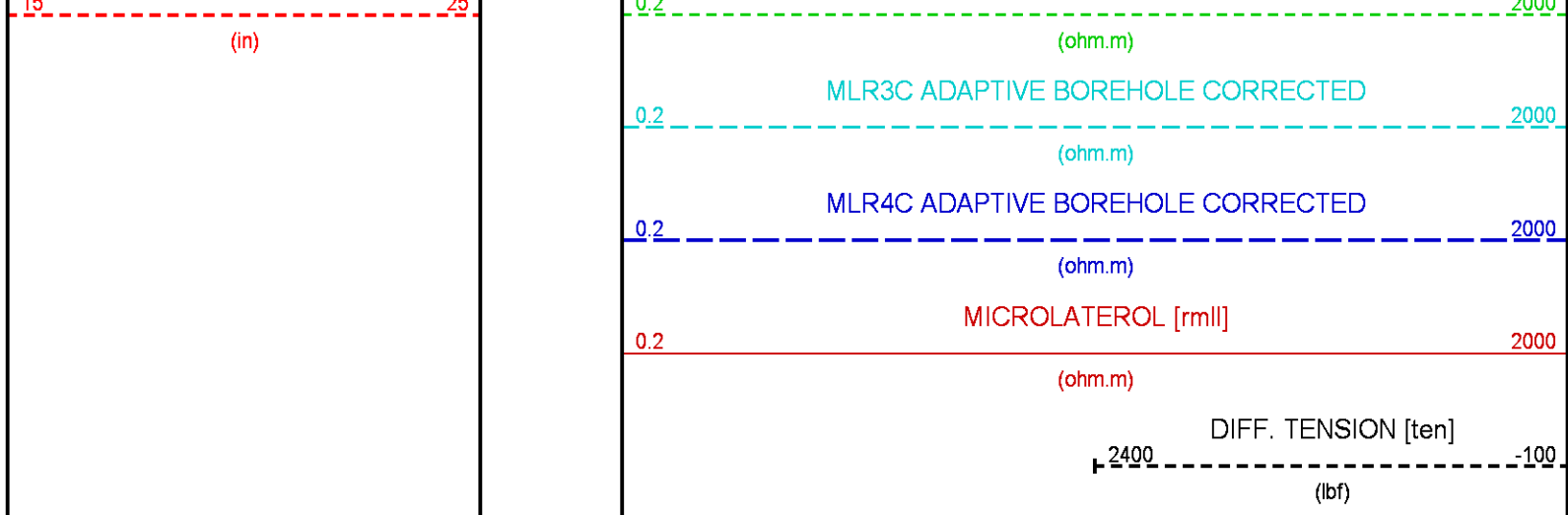


1300

1400







REPEAT LOG 5"/100FT SCALE

ECLIPS 7.0i ECLIPS General Release Rel 7.0i Thu Jun 08 20:36:10 CDT 2017
Patches: 3

Plotted: Thu May 10 08:30:24 2018

PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/md11798/p87cc02.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 60.211 ft BOTTOM DEPTH: 1672.518 ft

SYMMETRIC FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
TENSION	FILTER ()	medium (1)		TOP	BOTTOM
GR	FILTER ()	medium (1)		"	"
	FILTER (.h)	medium (1)		"	"
	FILTER (.i)	medium (1)		"	"
CALIPER	FILTER ()	medium (1)		"	"
	FILTER (.h)	medium (1)		"	"
	FILTER (.i)	medium (1)		"	"

PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/md11798/p87ccwgi01.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 1444.203 ft BOTTOM DEPTH: 1680.039 ft

SYMMETRIC FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
TTRM	FILTER ()	medium (1)		TOP	BOTTOM
	FILTER (.h)	medium (1)		"	"
	FILTER (.i)	medium (1)		"	"
TENSION	FILTER ()	medium (1)		"	"
GR	FILTER ()	medium (1)		"	"
	FILTER (.h)	medium (1)		"	"
	FILTER (.i)	medium (1)		"	"
RTeX	FILTER ()	light (2a)		"	"
	FILTER (.h)	light (2a)		"	"
	FILTER (.i)	light (2a)		"	"
CALA (3rd CALIPER)	FILTER (.i)	medium(1)		"	"

MLL	FILTER (i)	light (2a)	"	"
	FILTER (.i)	light (2a)	"	"
	FILTER (.j)	light (2a)	"	"

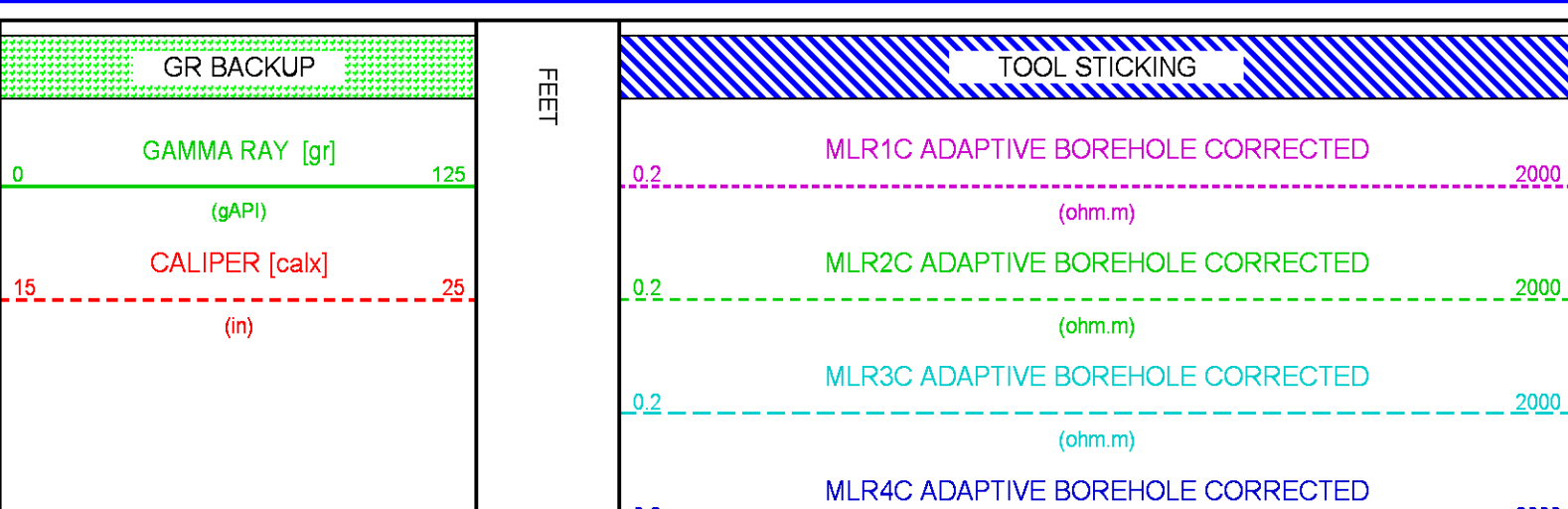
BOREHOLE & CEMENT					
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
CALIPER SELECTION	X-Y VS MULTI-ARM SEL	MULTI-ARM CAL		TOP	BOTTOM
BIT SIZE	BIT SIZE	12.250	in	"	"
MUD SAMPLE RESISTIVITY	MUD SAMPLE TEMP	77.0	degF	"	"
	MUD SAMPLE RES	0.063	ohm.m	TOP	1586.750
		1.000	ohm.m	1586.750	BOTTOM
BOREHOLE TEMP from GRADIENT	Known BH REF TEMP	77.0	degF	TOP	BOTTOM
	at BH REF DEPTH	0.0	ft	"	"
	with TEMP GRADIENT	1.200	0.01 degF/ft	"	"
BOREHOLE CORR DIAMETER SOURCE	CALIPER/FIXED DIA. (calmu*)	USE CALIPER		"	"
BOREHOLE CORR DIAMETER	FIXED DIAMETER (mlr1c*)	12.250	in	"	"
BH MUD RESISTIVITY SOURCE	RMUD SOURCE	TOOL MEASURED		"	"

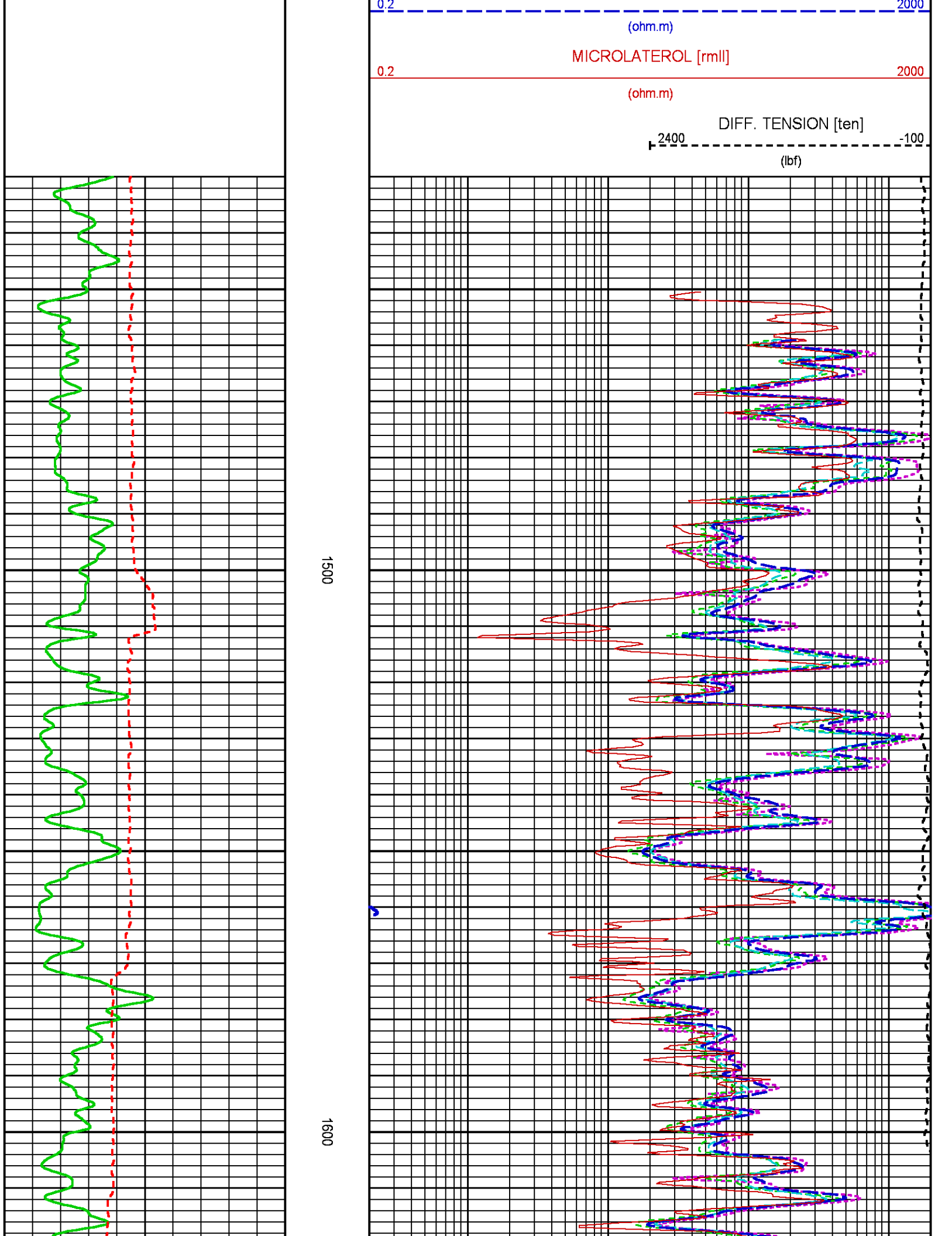
RTeX PROCESSING					
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
RTeX ADAPTIVE BOREHOLE CORRECTION	BOREHOLE CORRECTION	ON		TOP	BOTTOM
	Rxo Source	RTEX ESTIMATE		"	"

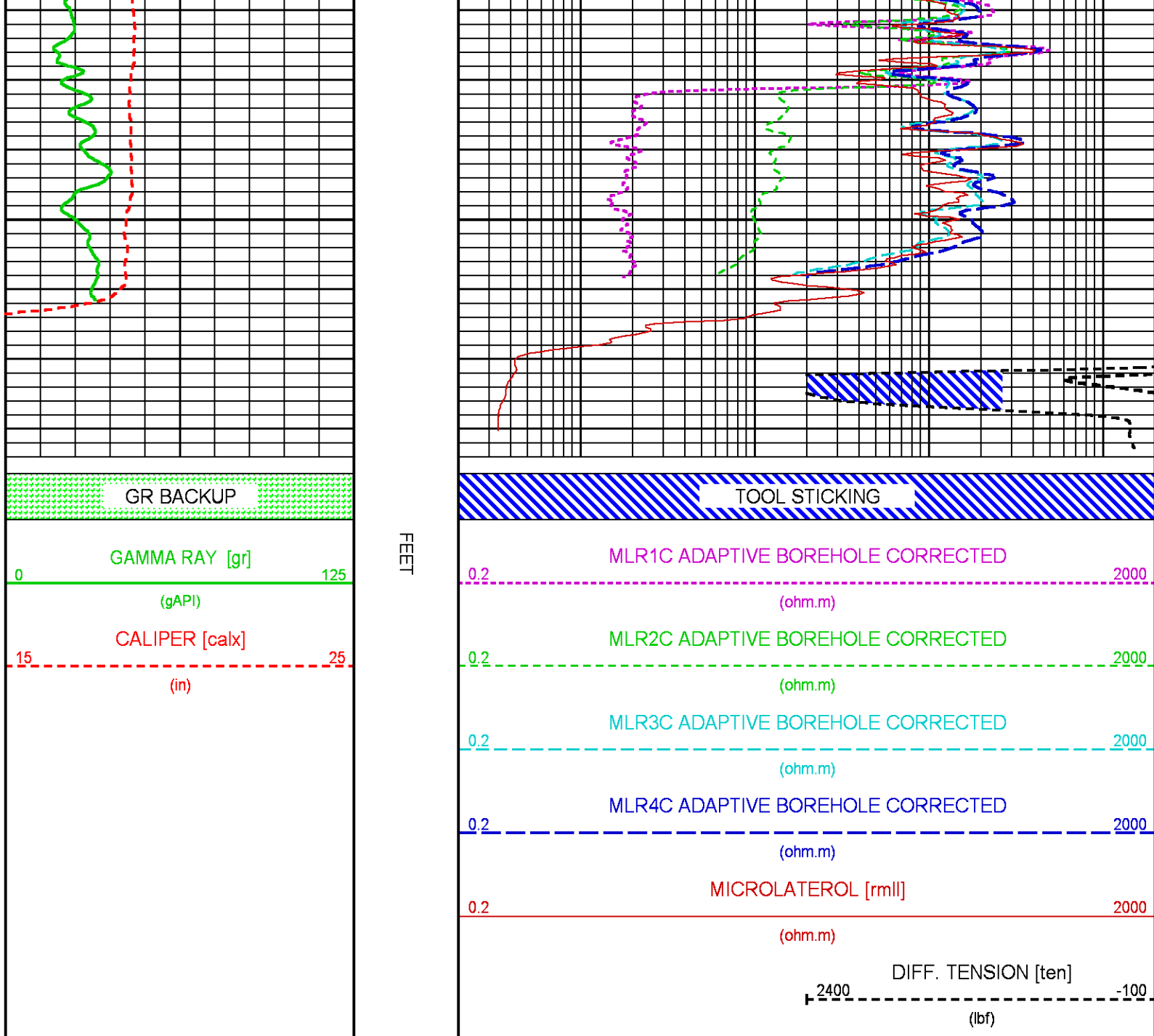
CURVE DESCRIPTION REPORT		
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:CALX	N/A	CALIPER FROM X-AXIS OF XY CALIPER(S)
F1:GR	N/A	GAMMA RAY
F1:MLR1C	N/A	RTEX SHALLOW RESISTIVITY 1, ADAPTIVE BOREHOLE CORRECTION
F1:MLR2C	N/A	RTEX SHALLOW RESISTIVITY 2, ADAPTIVE BOREHOLE CORRECTION
F1:MLR3C	N/A	RTEX MEDIUM RESISTIVITY 3, ADAPTIVE BOREHOLE CORRECTION
F1:MLR4C	N/A	RTEX DEEP RESISTIVITY 4, ADAPTIVE BOREHOLE CORRECTION
F1:RMLL	N/A	RESISTIVITY
F1:TEN	N/A	DIFFERENTIAL TENSION

CURVE MEASURE POINT OFFSET							
CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
CALX	-3.25	MLR1C	-20.50	MLR3C	-20.50	RMLL	-3.50
GR	-20.38	MLR2C	-20.50	MLR4C	-20.50	TEN	0.00

Presentation	: SysA:/dat1a/md11798/RTEX_TX_5RPT.fvpdf [5"/100' Scale]
Plot Interval	: 1430 - 1684 Feet
Data File 1	: F1 : SysA:C:\Users\koskjusd\Desktop\WSP2\PORR.xtf
Created On	: N/A
Company	: WSP USA, INC.
Well	: NAVAJO REFINING WDW #4
Field	: ARTESIA
File Interval	: 1394.75 - 1684 Feet
OCT	: p87cc







CALIBRATION / VERIFICATION SUMMARY

Source File: C:\Users\koskjusd\Desktop\WSP2\p87ccwgi.tp1

GR PRIMARY CALIBRATION SUMMARY

TOOL #: 1329XA 177857

DATE/TIME PERFORMED: Sun Apr 15 11:40:17 2018

UNIT #: 5753XD 10215900

CALB JIG #: 4702NK DA-486

	BACKGROUND (cts/s)	CALBRTR ON (cts/s)	CR DIFF (cts/s)	MULT	BACKGROUND (gAPI)	CALBRTR ON (gAPI)	CALBRTR (gAPI)
GR	248.51	1177.36	928.8	0.161	40.13	190.13	150
			830.0 960.0				

GR PRIMARY VERIFICATION SUMMARY

TOOL #: 1329XA 177857

DATE/TIME PERFORMED: Sun Apr 15 11:44:46 2018

UNIT #: 5753XD 10215900

VERI JIG #: 4702NK DA-486

	BACKGROUND (cts/s)	CALBRTR ON (cts/s)	MULT	BACKGROUND (gAPI)	CALBRTR ON (gAPI)	DIFF. (gAPI)
GR	255.31	1181.49	0.161	41.23	190.80	149.57
						140.00 160.00

RTEX_RES PRIMARY CALIBRATION SUMMARY

TOOL #: 1249XA 13339146

DATE/TIME PERFORMED: Thu Feb 01 12:51:00 2018

UNIT #: 3882TD HL6713

CAL FACTORS	F1	F2	F3	F4
MIOL Real	1.00 0.97 1.03	1.00 0.97 1.03	1.00 0.97 1.03	1.00 0.97 1.03
MIOL Quad	-0.01 -0.05 0.05	-0.00 -0.05 0.05	-0.01 -0.05 0.05	-0.01 -0.05 0.05
MIOM Real	20.1 19.5 20.7	20.1 19.5 20.7	20.1 19.5 20.7	20.1 19.5 20.7
MIOM Quad	-0.140 -1.050 1.050	-0.252 -1.050 1.050	-0.214 -1.050 1.050	-0.177 -1.050 1.050
MIOH Real	404 392 416	403 392 416	404 392 416	404 392 416
MIOH Quad	0.65 -21.10 21.10	-6.40 -21.10 21.10	-4.40 -21.10 21.10	-2.08 -21.10 21.10
MVML Real	1.000 0.999 1.001	1.000 0.999 1.001	1.000 0.999 1.001	1.000 0.999 1.001
MVML Quad	0.000 -0.001 0.001	0.000 -0.001 0.001	0.000 -0.001 0.001	0.000 -0.001 0.001
MVMH Real	10.08 9.79 10.39	10.08 9.79 10.39	10.08 9.79 10.39	10.08 9.79 10.39
MVMH Quad	-0.005 -0.528 0.528	-0.005 -0.528 0.528	-0.005 -0.528 0.528	-0.005 -0.528 0.528

RTEX_RES AFTER LOG VERIFICATION SUMMARY

TOOL #: 1249XA 13339146

DATE/TIME PERFORMED: Wed May 09 07:41:30 2018

DAYS SINCE CAL: 96

UNIT #: 5753XD 10215900

VER FACTORS

F1

F2

F3

F4

MI0L Real

1.00

1.00

1.00

1.00

0.97

1.03

0.97

1.03

0.97

1.03

0.97

1.03

MI0L Quad

-0.01

-0.00

-0.01

-0.01

-0.05

0.05

-0.05

0.05

-0.05

0.05

-0.05

0.05

MI0M Real

20.1

20.1

20.1

20.1

19.5

20.7

19.5

20.7

19.5

20.7

19.5

20.7

MI0M Quad

-0.138

-0.250

-0.213

-0.175

-1.050

1.050

-1.050

1.050

-1.050

1.050

-1.050

1.050

MI0H Real

403

403

403

403

392

416

392

416

392

416

392

416

MI0H Quad

0.61

-6.49

-4.47

-2.17

-21.10

21.10

-21.10

21.10

-21.10

21.10

-21.10

21.10

MVML Real

1.000

1.000

1.000

1.000

0.999

1.001

0.999

1.001

0.999

1.001

0.999

1.001

MVML Quad

0.000

0.000

0.000

0.000

-0.001

0.001

-0.001

0.001

-0.001

0.001

-0.001

0.001

MVMH Real

10.08

10.08

10.08

10.08

9.79

10.39

9.79

10.39

9.79

10.39

9.79

10.39

MVMH Quad

-0.005

-0.005

-0.005

-0.005

-0.528

0.528

-0.528

0.528

-0.528

0.528

-0.528

0.528

MLL PRIMARY CALIBRATION SUMMARY

TOOL #: 1243XA 12650281

DATE/TIME PERFORMED: Wed May 09 06:18:33 2018

UNIT #: 5753XD 10215900

	Raw Low ohm	Raw High ohm	Mult	Add	K-factor	Eng Low (ohm.m)	Eng High (ohm.m)
RESISTIVITY	100.97	100755.7	0.993	-0.211	0.01429	1.43	1428.6
	95.00 105.00	95000.0 105000.0				1.36 1.50	1360.0 1500.0

MLL AFTER LOG VERIFICATION SUMMARY

TOOL #: 1243XA 12650281

DATE/TIME PERFORMED: Wed May 09 07:42:13 2018

DAYS SINCE CAL: 0

UNIT #: 5753XD 10215900

	Raw Low (mV/mA)	Raw High (mV/mA)	Mult	Add	Eng Low (m.ohm)	Eng High (m.ohm)
RESISTIVITY	100.90	100702.5	0.993	-0.211	1.43	1427.8
	95.00 105.00	95000.0 105000.0			1.36 1.50	1360.0 1500.0

**BAKER
HUGHES**
a GE company



ECLIPS

COMPANY

HOLLY FRONTIER - NAVAJO

WELL

NAVAJO REFINING WDW #4

FIELD

ARTESIA

COUNTY

EDDY

STATE NEW MEXICO

FILE NO:

MD11798

API NO:

30-015-44677

LOCATION:

1217' FSL & 2443' FWL
SECTION 23, T17S, R27E
N.M.P.M. SURVEY

ELEVATIONS:

KB 3585.8 FT

DF 3584.8 FT

GL 3565.8 FT

DATE

09-May-2018

MAIN LOG 1"/100FT SCALE

ECLIPS 7.0i ECLIPS General Release Rel 7.0i Thu Jun 08 20:36:10 CDT 2017
Patches: 3

Plotted: Thu May 10 08:31:38 2018

PARAMETER AND FILTER SUMMARY REPORT

FILE: /data/md11798/p87cc01.prm
LOGGING MODE: DEPTH: 1429.816 ft DIRECTION: UP
TOP DEPTH: 1429.816 ft BOTTOM DEPTH: 1677.842 ft

SYMMETRIC FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
TENSION GR	FILTER ()	medium (1)		TOP	BOTTOM
	FILTER ()	medium (1)		"	"
	FILTER (h)	medium (1)		"	"
	FILTER (i)	medium (1)		"	"
CALIPER	FILTER ()	medium (1)		"	"
	FILTER (h)	medium (1)		"	"
	FILTER (i)	medium (1)		"	"

PARAMETER AND FILTER SUMMARY REPORT

FILE: /data/md11798/p87ccap02.prm
LOGGING MODE: DEPTH: 76.000 ft DIRECTION: UP
TOP DEPTH: 76.000 ft BOTTOM DEPTH: 1678.391 ft

SYMMETRIC FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
TTRM	FILTER ()	medium (1)		TOP	BOTTOM
	FILTER (h)	medium (1)		"	"
	FILTER (i)	medium (1)		"	"
TENSION GR	FILTER ()	medium (1)		"	"
	FILTER (h)	medium (1)		"	"
	FILTER (i)	medium (1)		"	"
RTex	FILTER ()	light (2a)		"	"
	FILTER (h)	light (2a)		"	"
	FILTER (i)	light (2a)		"	"
CALA (3rd CALIPER)	FILTER ()	medium (1)		"	"
	FILTER (h)	light (2a)		"	"
MLL	FILTER ()	light (2a)		"	"
	FILTER (i)	light (2a)		"	"

BOREHOLE & CEMENT

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
CALIPER SELECTION	X-Y VS MULTI-ARM SEL	MULTI-ARM CAL		TOP	BOTTOM
BIT SIZE	BIT SIZE	12.250	in	"	"
MUD SAMPLE RESISTIVITY	MUD SAMPLE TEMP	77.0	degF	"	"
	MUD SAMPLE RES	0.063	ohm.m	"	"
BOREHOLE TEMP from GRADIENT	Known BH REF TEMP	77.0	degF	"	"
	at BH REF DEPTH	0.0	ft	"	"
	min TEMP GRADIENT	1.200	0.01 degF/ft	"	"
BOREHOLE CORR DIAMETER SOURCE	CALIPER/FIXED DIA. (calmu*)	USE CALIPER		"	"
BOREHOLE CORR DIAMETER	FIXED DIAMETER (mlrct*)	12.250	in	"	"
BH MUD RESISTIVITY SOURCE	RMUD SOURCE	TOOL MEASURED		"	"

RTex PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
RTex ADAPTIVE BOREHOLE CORRECTION	BOREHOLE CORRECTION	ON		TOP	BOTTOM
	Rex Source	RTEX ESTIMATE		"	"

CURVE DESCRIPTION REPORT

CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1: CALX	N/A	CALIPER FROM X-AXIS OF XY CALIPER(S)
F1: GR	N/A	GAMMA RAY
F1: MLR1C	N/A	RTEX SHALLOW RESISTIVITY 1, ADAPTIVE BOREHOLE CORRECTION
F1: MLR2C	N/A	RTEX SHALLOW RESISTIVITY 2, ADAPTIVE BOREHOLE CORRECTION
F1: MLR3C	N/A	RTEX MEDIUM RESISTIVITY 3, ADAPTIVE BOREHOLE CORRECTION
F1: MLR4C	N/A	RTEX DEEP RESISTIVITY 4, ADAPTIVE BOREHOLE CORRECTION
F1: RMLL	N/A	RESISTIVITY
F1: TEN	N/A	DIFFERENTIAL TENSION

CURVE MEASURE POINT OFFSET

CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
CALX	-3.25	MLR1C	-20.50	MLR3C	-20.50	RMLL	-3.50
GR	-20.38	MLR2C	-20.50	MLR4C	-20.50	TEN	0.00

Presentation : SysA:/data/md11798/RTEX_TX_1.fvpdf [2"/100" Scale]
Plot Interval : 26.75 - 1684 Feet

Data File 1 : F1 : SysA:C:\Users\koskjusd\Desktop\WSP2\IORM.xtf
Created On : N/A
Company : WSP USA, INC.
Well : NAVAJO REFINING WDW #4
Field : ARTESIA
File Interval : 26.75 - 1684 Feet
OCT : p87cc

