



FILE NO:

COMPANY

LARAMIE ENERGY II LLC

WELL

CC 0697-03-13W

FIELD

GRAND VALLEY

API NO:
05045237940000

COUNTY

GARFIELD

STATE COLORADO

Ver. 4.10

LOCATION:

LAT: 39.55830200 LONG:-108.20514600

OTHER SERVICES
NONE

SEC 3 TWP 6S RGE 97W

PERMANENT DATUM GL ELEVATION 8438 FT
LOG MEASURED FROM KB 30 FT ABOVE P.D.
DRILL. MEAS. FROM KB

ELEVATIONS:
KB 8468 FT
DF 8467 FT
GL 8438 FT

DATE 12-Jun-2018

RUN 1 TRIP 1

SERVICE ORDER US138173

DEPTH DRILLER 2585 FT

DEPTH LOGGER 25 FT

BOTTOM LOGGED INTERVAL 2542 FT

TOP LOGGED INTERVAL 2542 FT

CASING DRILLER 16 IN @ 110 FT

CASING LOGGER 109 FT

BIT SIZE 14.75 IN

TYPE OF FLUID IN HOLE WBM

DENSITY 9 LBG 46 CP

PH 8.8 16 C3

SOURCE OF SAMPLE SUCTION

RM AT MEAS. TEMP. 3.471 OHMM @ 75 DEGF

RMF AT MEAS. TEMP. 2.603 OHMM @ 75 DEGF

RMC AT MEAS. TEMP. 4.338 OHMM @ 75 DEGF

SOURCE OF RMF RMC CALCULATED CALCULATED

RM AT BHT 2.473 OHMM @ 108 DEGF

TIME SINCE CIRCULATION 7 HRS

MAX. RECORDED TEMP. 127.6 DEGF

EQUIP. NO. LOCATION ML-4268 GRAND JCT.

RECORDED BY S.YASSAM, BAUKA

WITNESSED BY J. GRUBICH

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.

REMARKS

RUN 1 TRIP 1: 1 OPERATION IN WELL
HDIL/ZDL/CN/GR RUN IN COMBINATION

BVOL & CVOL CALCULATED IN CUBIC FEET
CVOL CALCULATED FOR PROPOSED 9.625" CASING

ZDL & CN RUN ON SANDSTONE MATRIX
RHO MATRIX: 2.68 G/CC

HDIL RUN WITH 1.5" STANDOFFS
ABC TO CALCULATED: STAND OFF

WELLBORE RUGOSITY WILL AFFECT THE ACCURACY OF MEASUREMENTS

CREW: C.GOLOBY ,B.SMITH,B.BRANSON
RIG: H&P 522

EQUIPMENT DATA

F1:MUC6
F1:M0R2
F1:M0R6
F1:SPDH
F1:TEN

N/A
N/A
N/A
N/A
N/A

FOCUSED CONDUCTIVITY, 60-INCH DOI
TRUE FOCUSED RESISTIVITY FOR HDIL, 20-INCH DOI
TRUE FOCUSED RESISTIVITY FOR HDIL, 60-INCH DOI
SPONTANEOUS POTENTIAL PROCESSED IN COMMON REMOTE
DIFFERENTIAL TENSION

CURVE MEASURE POINT OFFSET

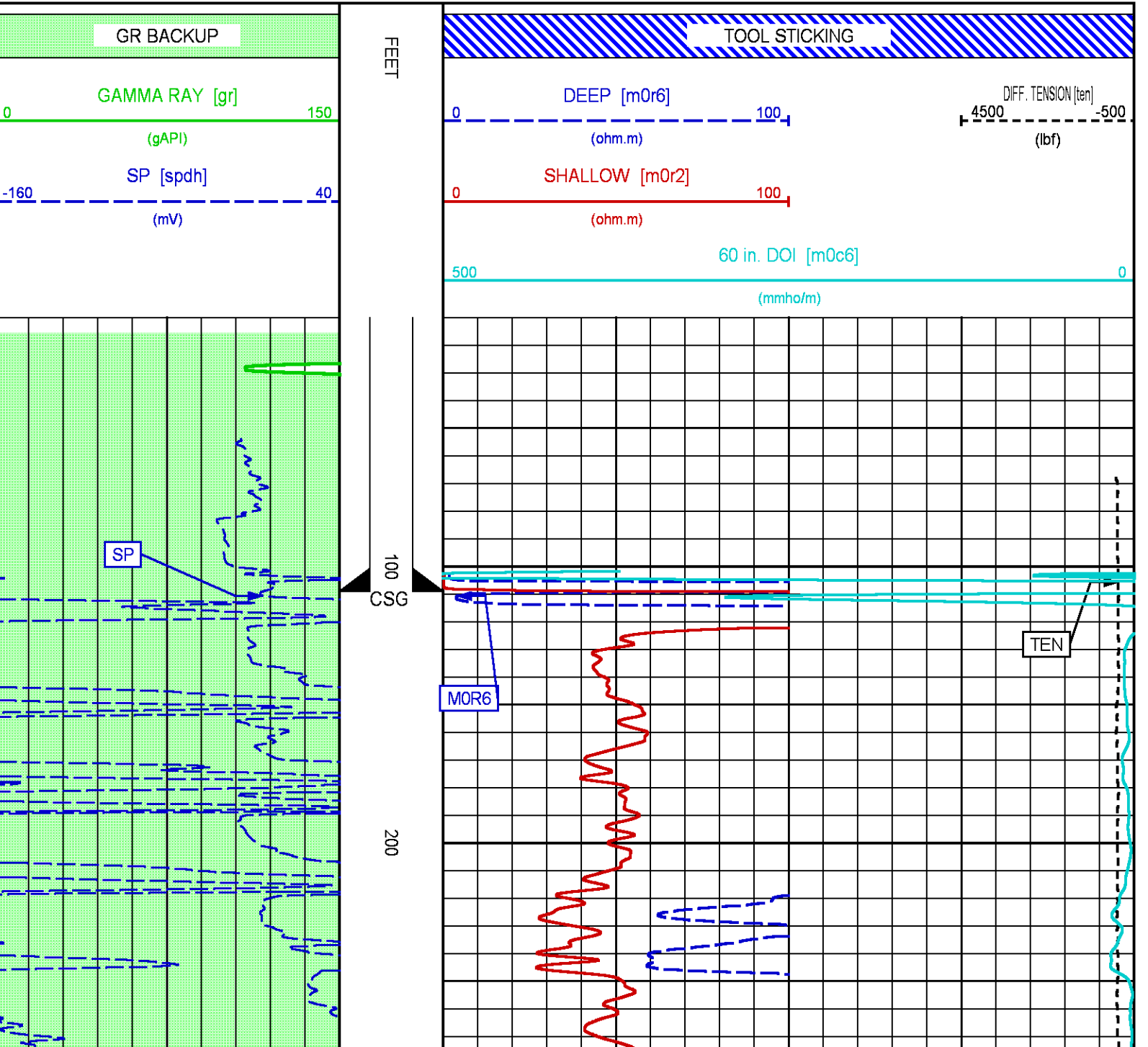
CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
GR	-52.25	M0R2	-8.00	SPDH	-14.00		
M0C6	-8.00	M0R6	-8.00	TEN	0.00		

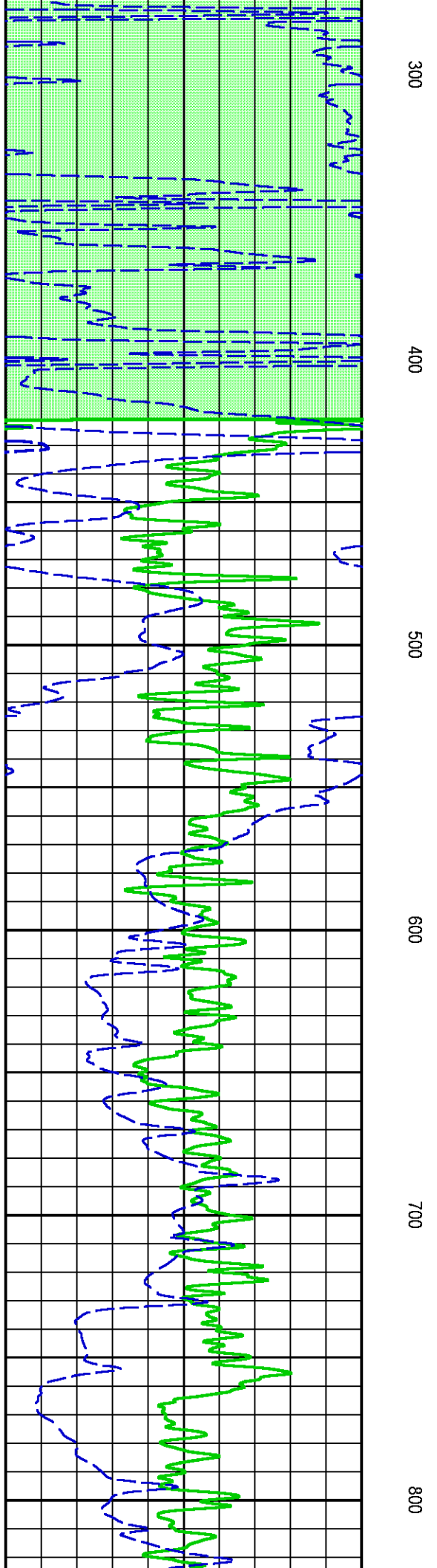
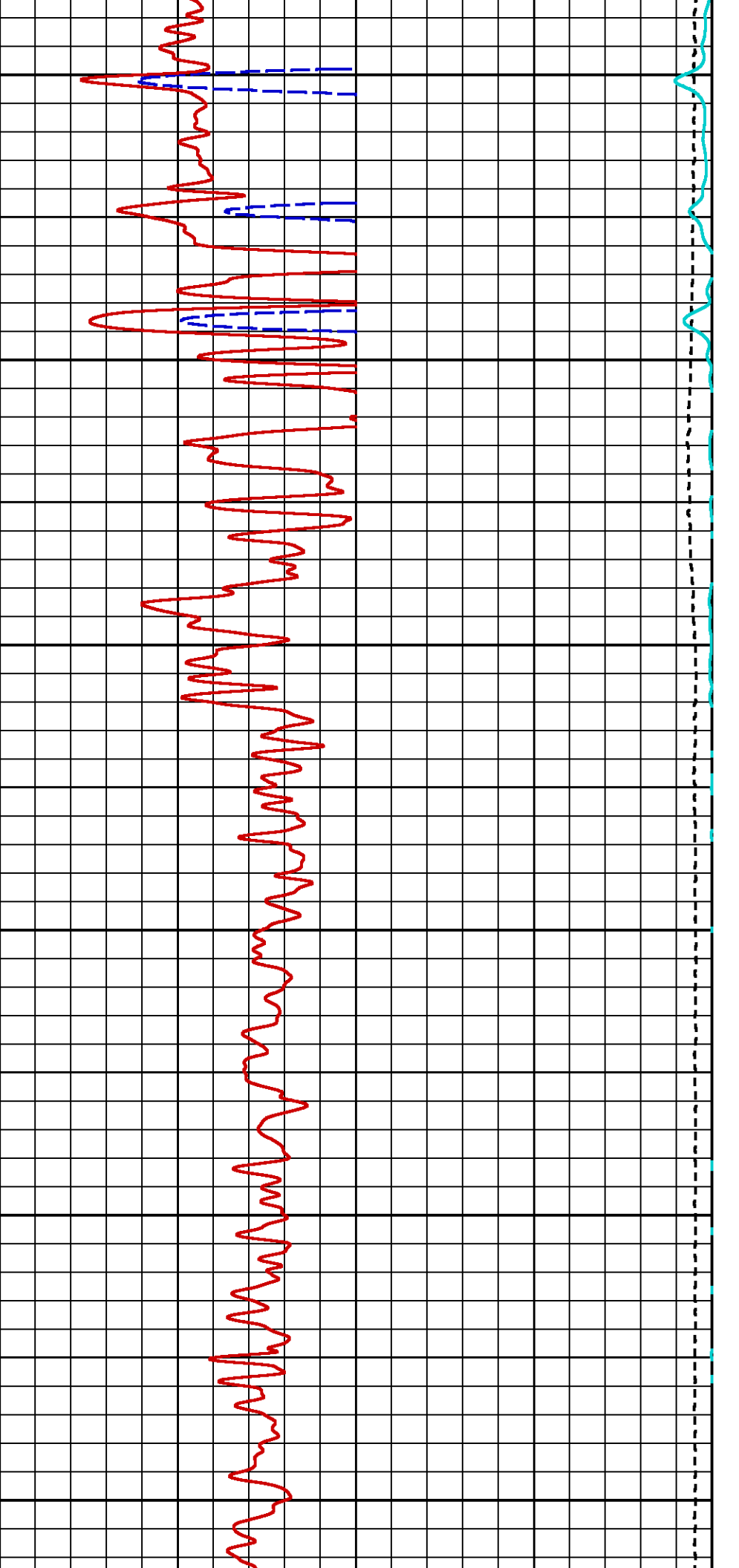
Presentation
Plot Interval

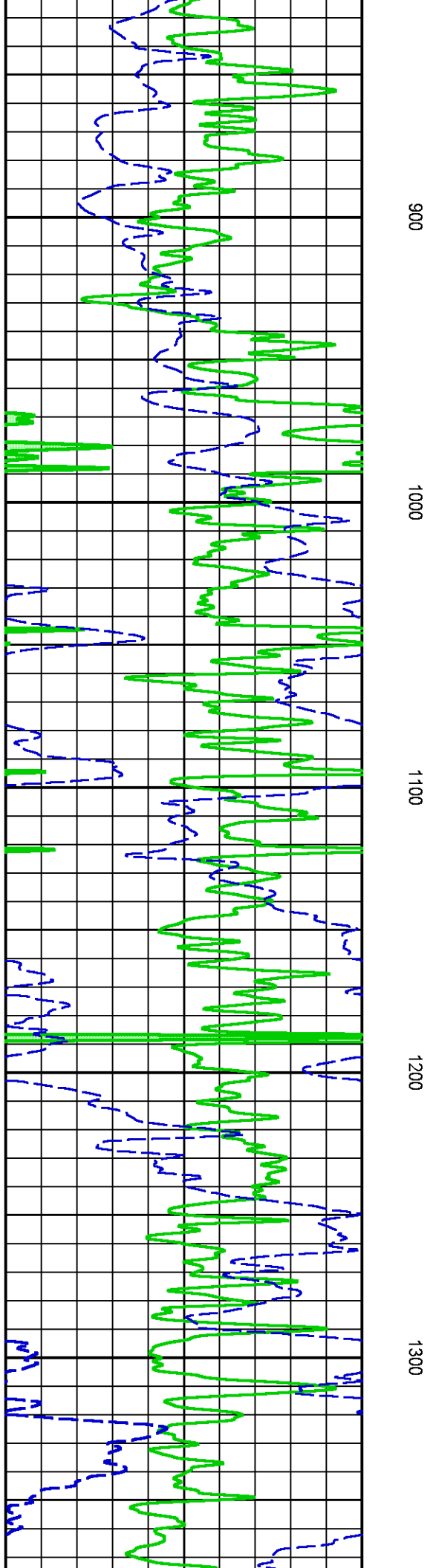
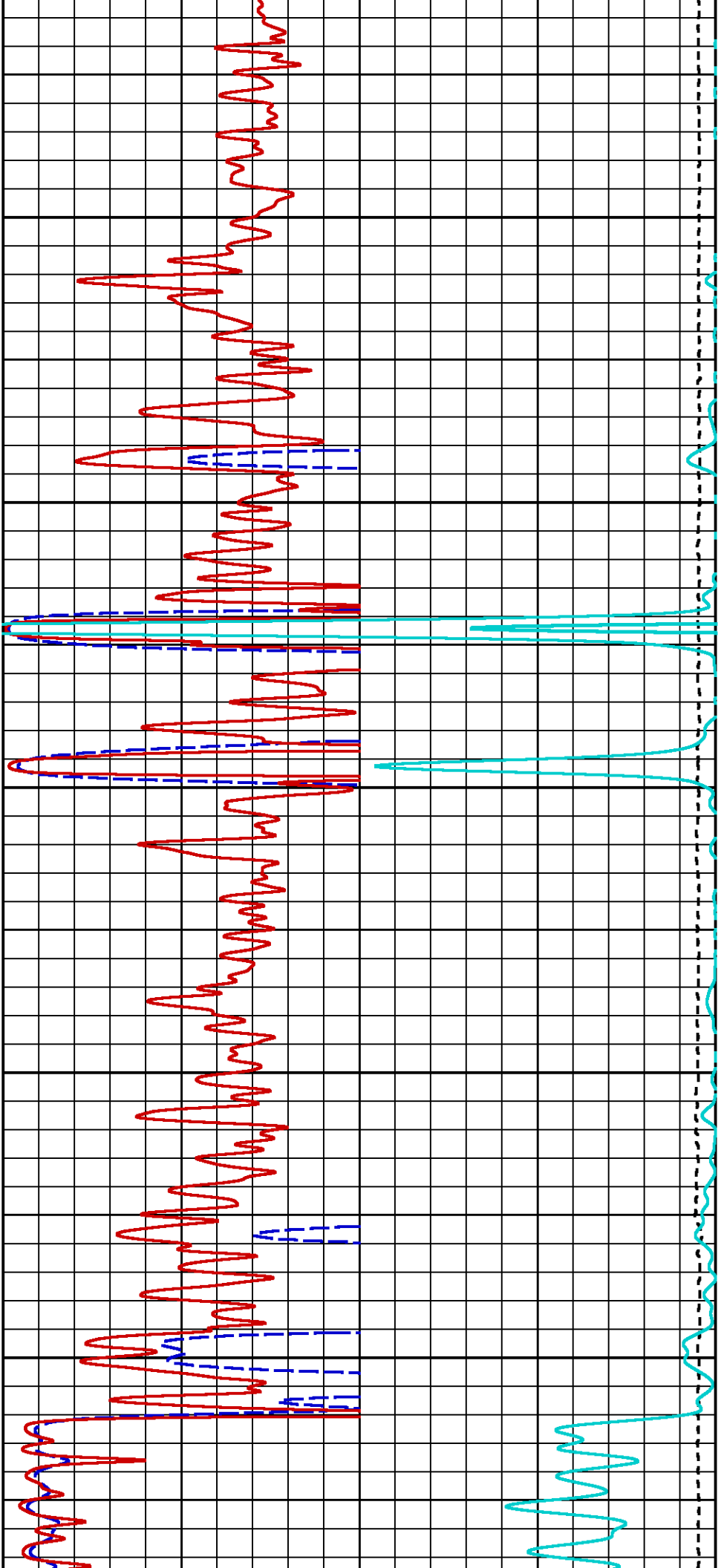
: SysA:/dat1a/LARAMIE_CC_0697_03_13W/2IN_IND_MAIN.fvpdf [2"/100' Scale]
: 15.75 - 2548 Feet

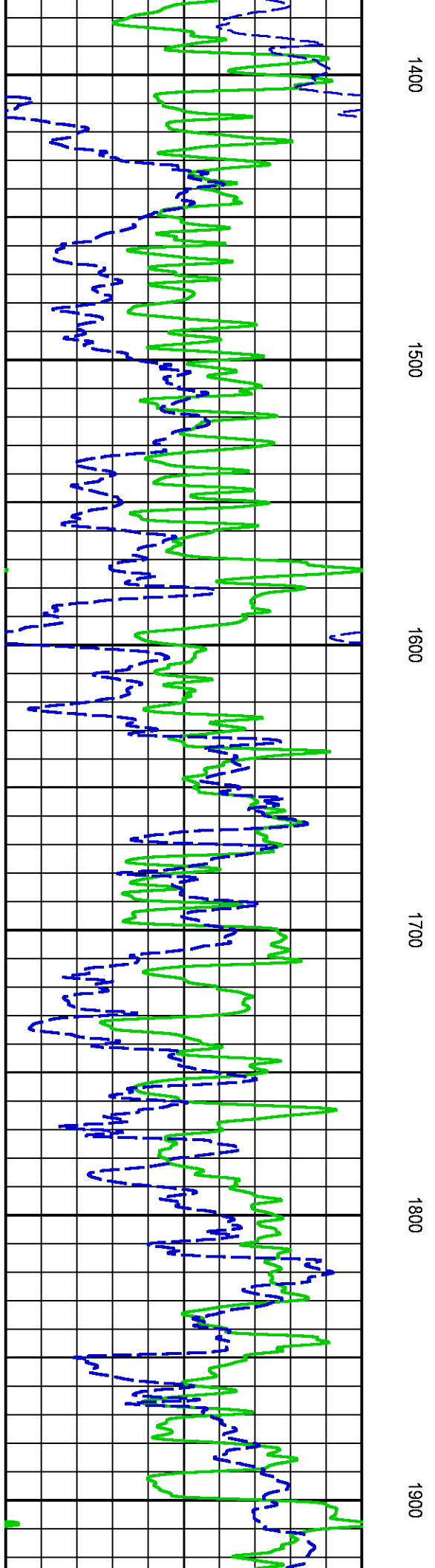
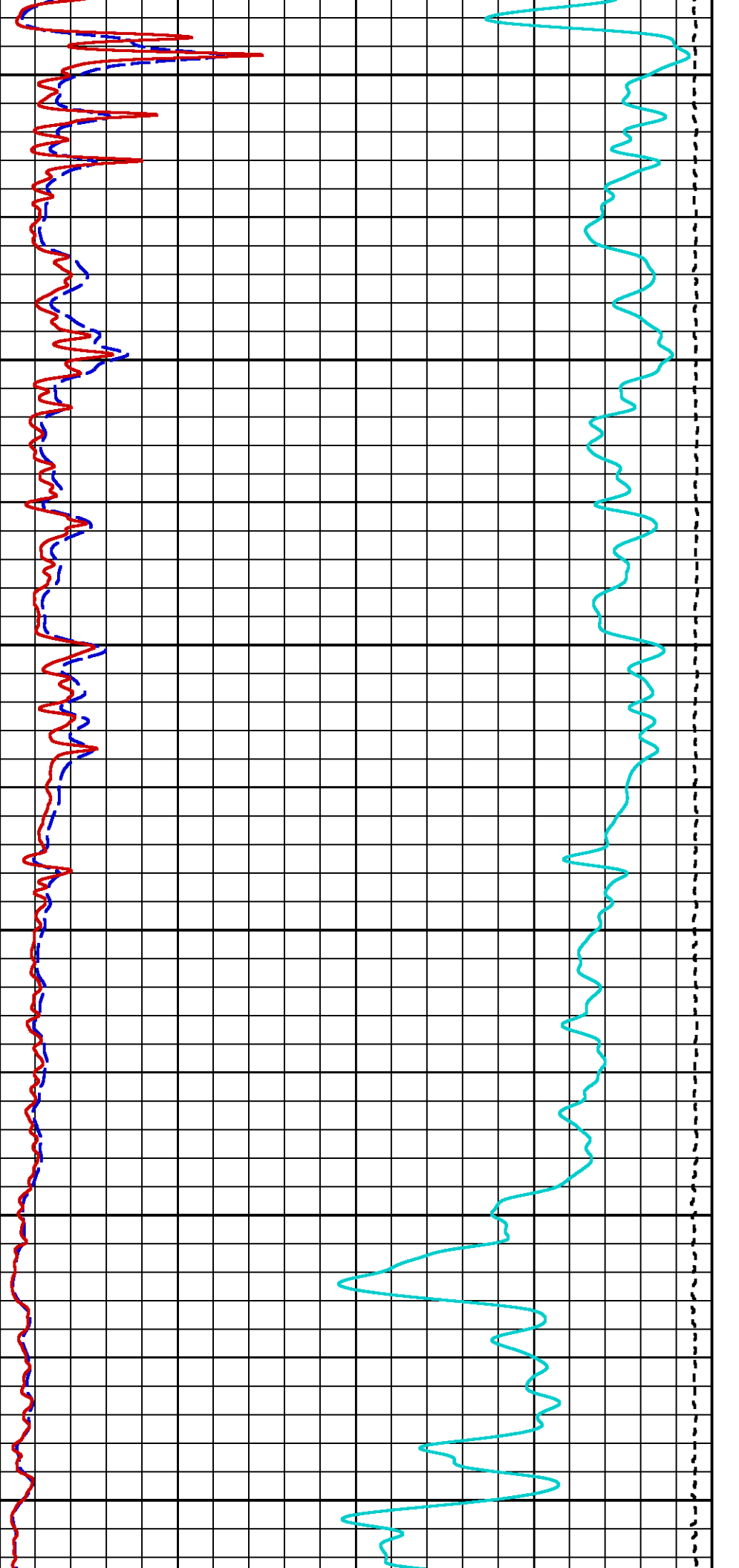
Data File 1
Created On
Company
Well
Field
File Interval
OCT

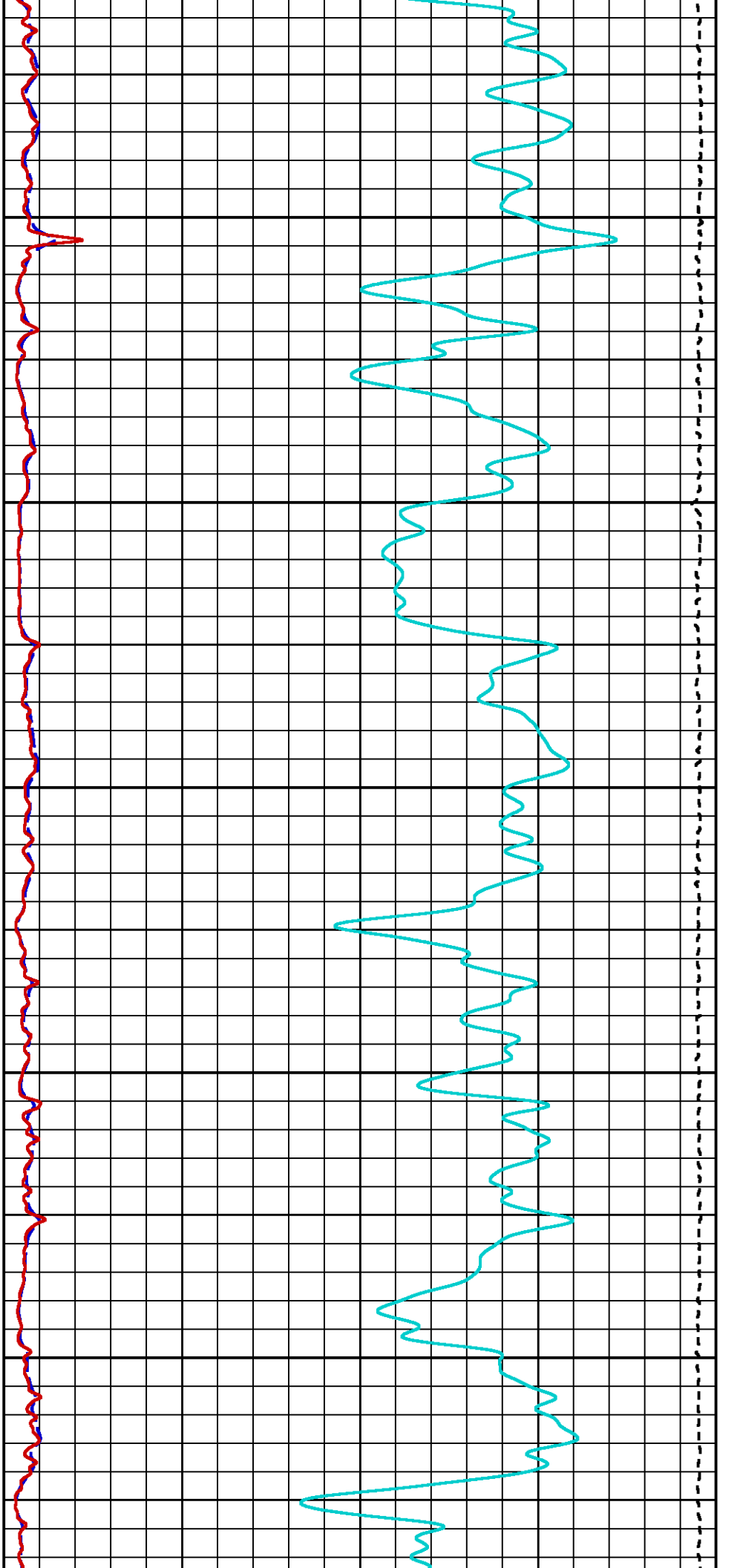
: F1 : SysA:/dat1a/LARAMIE_CC_0697_03_13W/MAIN.xtf
: N/A
: LARAMIE ENERGY II LLC
: CC 0697-03-13W
: GRAND VALLEY
: 1.25 - 2549.25 Feet
: MSLAM_XC











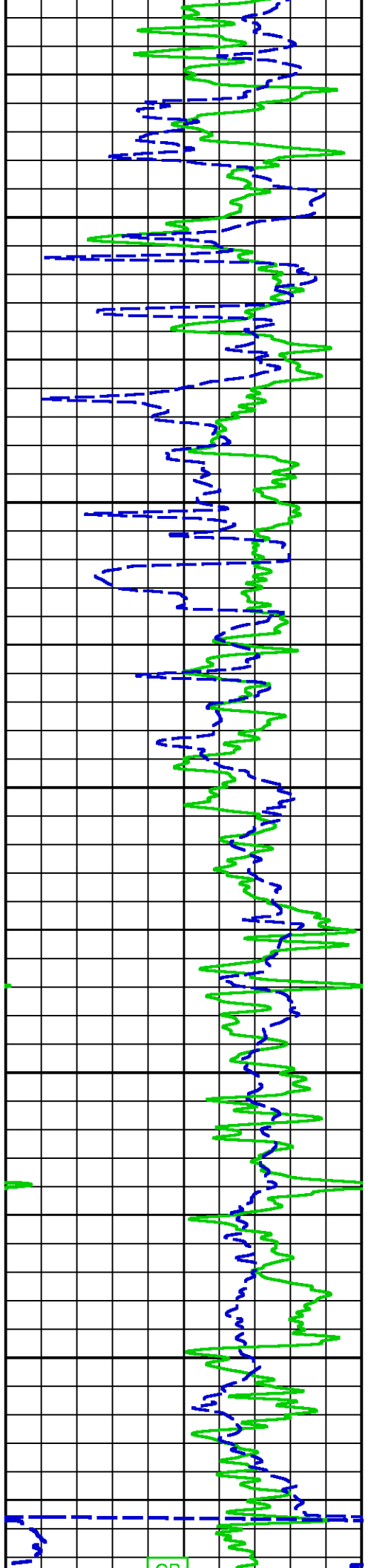
2000

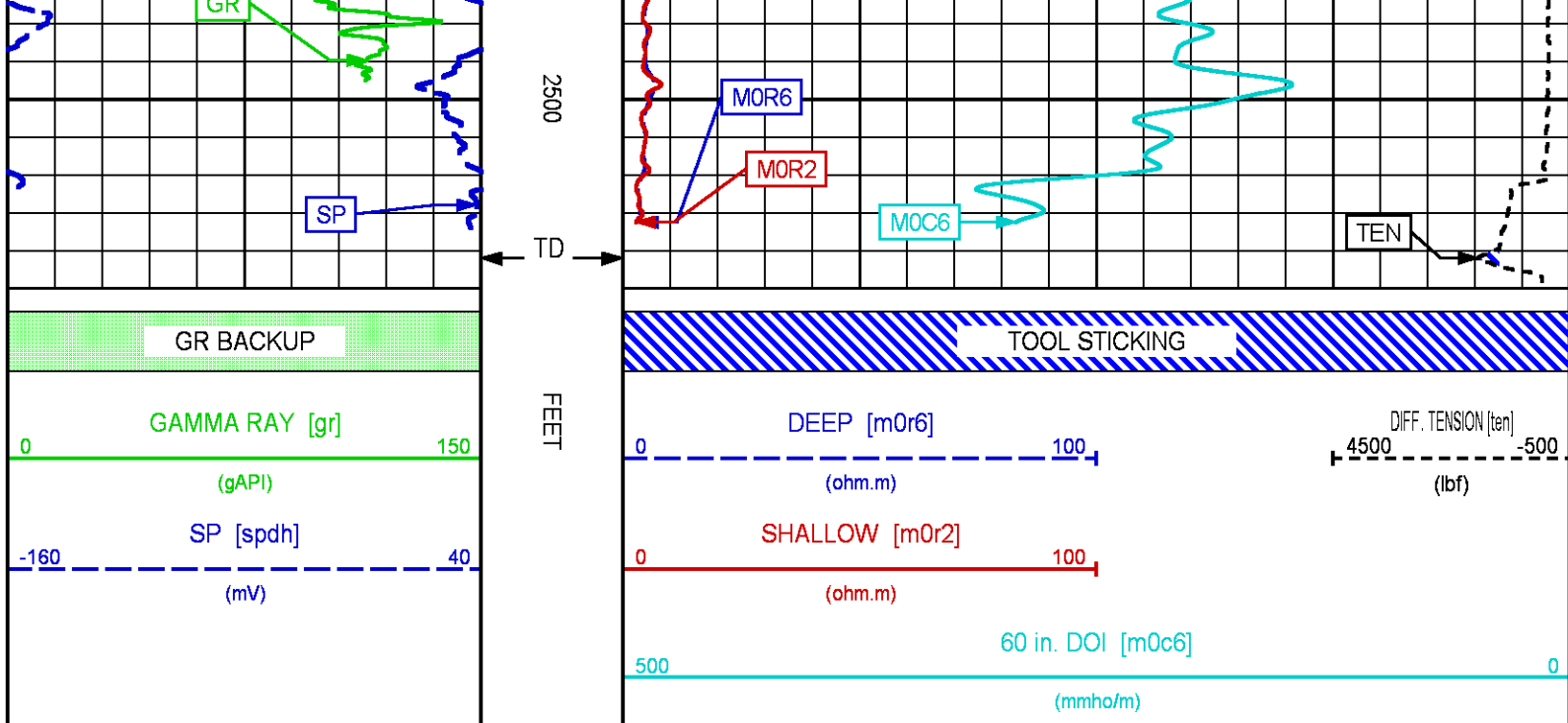
2100

2200

2300

2400





MAIN PASS

ECLIPS 7.0i ECLIPS General Release Rel 7.0i Thu Jun 08 20:36:10 CDT 2017
Patches: 4

Plotted: Tue Jun 12 12:03:05 2018

PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/LARAMIE_CC_0697_03_13W/MSLAM_XC02.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 66.750 ft BOTTOM DEPTH: 2549.250 ft

SYMMETRIC FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
Y AXIS CALIPER	FILTER ()	medium (1)		TOP	BOTTOM
TENSION	FILTER ()	medium (1)		"	"
GR	FILTER ()	medium (1)		"	"
	FILTER (.h)	medium (1)		"	"
	FILTER (.i)	medium (1)		"	"
CN	FILTER ()	medium (1)		"	"
CALIPER	FILTER ()	medium (1)		"	"
	FILTER (.h)	medium (1)		"	"
	FILTER (.i)	medium (1)		"	"
ZDL MED RES	FILTER (hrd1*)	medium		"	"
	FILTER (hrd1s*)	medium		"	"
	FILTER (hrd2*)	medium		"	"
	FILTER (hrd2s*)	medium		"	"
	FILTER (soft*)	medium		"	"
SP-SPDH	FILTER ()	medium (1)		"	"
	FILTER (.i)	medium (1)		"	"

BOREHOLE & CEMENT

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
CASING - BOREHOLE & CEMENT VOLUME	CASING O.D.	9.625	in	TOP	BOTTOM

	CASING THICKNESS	0.000	in	"	"
BIT SIZE	BIT SIZE	14.750	in	"	"
MUD SAMPLE RESISTIVITY	MUD SAMPLE TEMP	77.0	degF	"	"
	MUD SAMPLE RES	1.000	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. (cnbh*)	USE CALIPER		"	"
	CALIPER/FIXED DIA. (mbh*)	USE CALIPER		"	"
	CALIPER/FIXED DIA. (zdbh*)	USE CALIPER		"	"
BOREHOLE CORR DIAMETER	FIXED DIAMETER (cnbh*)	14.750	in	"	"
	FIXED DIAMETER (mbh*)	14.750	in	"	"
BH MUD RESISTIVITY SOURCE	RMUD SOURCE (HDIL)	TOOL MEASURED		"	"

CN PROCESSING					
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
2446 CN MATRIX	2446 MATRIX	SANDSTONE		TOP	BOTTOM
CN SALINITY CORRECTION	SALINITY CORR (2446)	SAL & BH SIZE ON		"	"
	SALINITY	600	ppm	"	"
CN TOOL STANDOFF	ENABLE STANDOFF CORR	OFF		"	"
	STANDOFF AMOUNT	0.00	in	"	"
CN CASING & CEMENT CORRECTION	CORRECTION	OFF		"	"
	BIT SIZE BEHIND CSNG	7.875	in	"	"

ZDL PROCESSING					
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
MUD DENSITY	MUD DENSITY	9.00	lbm/gal	TOP	BOTTOM
DENSITY POROSITY	RHOmatrix	2.680	g/cm3	"	"
	RHOfluid	1.000	g/cm3	"	"
ZDL	DENX TRACKING	ON		"	"
TRACKING TIME	Logging Spd for Gain	Over 10 ft/min		"	"

HDIL PROCESSING					
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
HDIL TEMPERATURE CORRECTION	TEMP CORR SOURCE	USE RXTEMP		TOP	BOTTOM
ADAPTIVE BOREHOLE CORRECTION	ABC PROCESSING	ON		"	"
	ABC to CALCULATE	STANDOFF		"	"
	STANDOFF	0.50	in	"	"
	TOOL POSITION	ECCENTERED		"	"
	Rmud MULTIPLIER	1.000		"	"
HDIL High RESISTIVITY Normalization	VRM Norm	ON		"	"

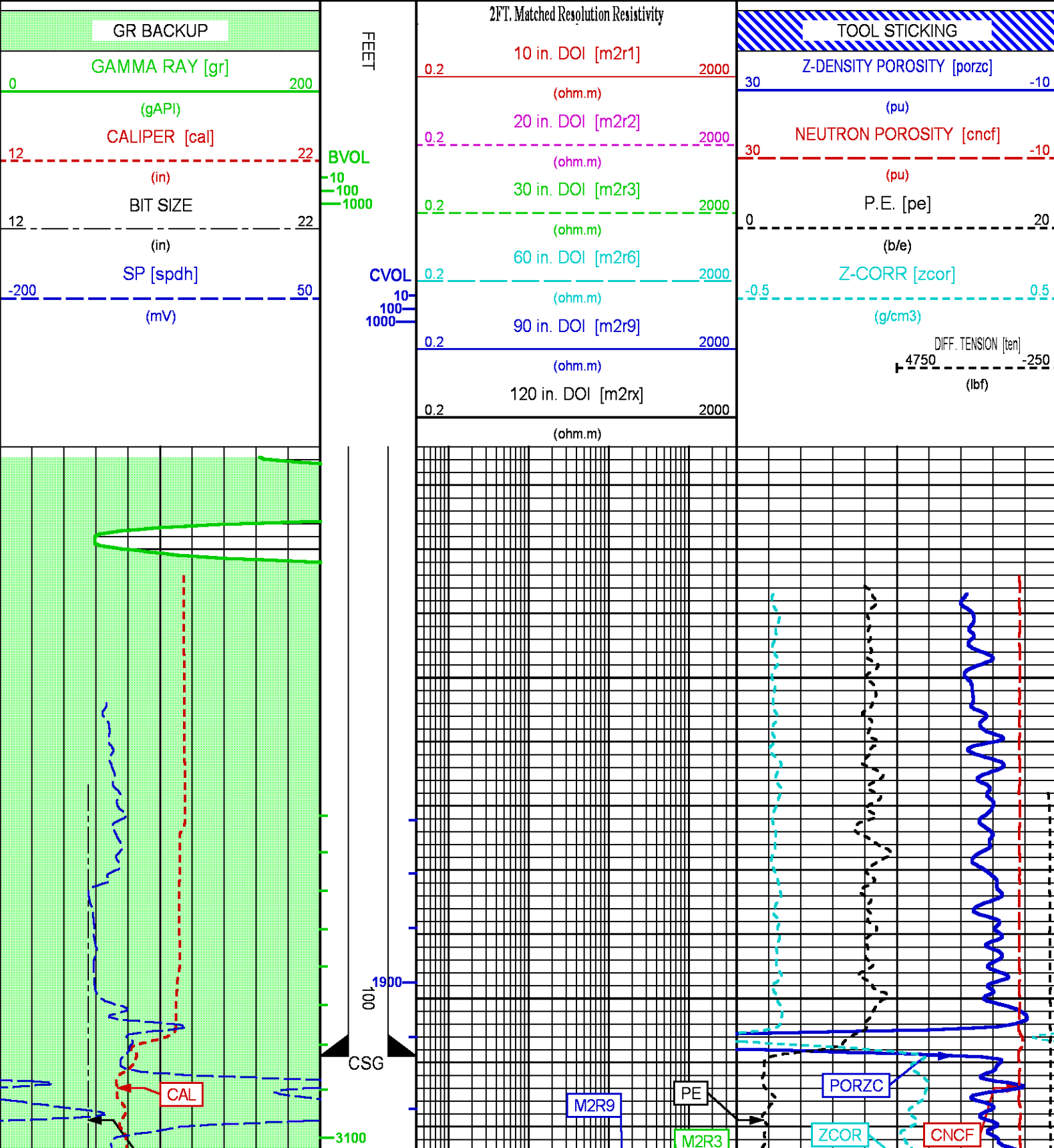
CURVE DESCRIPTION REPORT		
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:BIT	N/A	BIT SIZE
F1:BVOL	N/A	BOREHOLE VOLUME
F1:CAL	N/A	CALIPER
F1:CNCF	N/A	FIELD NORMALIZED COMPENSATED NEUTRON POROSITY
F1:CVOL	N/A	CEMENT VOLUME
F1:GR	N/A	GAMMA RAY
F1:M2R1	N/A	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 10-INCH DOI
F1:M2R2	N/A	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 20-INCH DOI
F1:M2R3	N/A	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 30-INCH DOI
F1:M2R6	N/A	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 60-INCH DOI
F1:M2R9	N/A	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 90-INCH DOI
F1:M2RX	N/A	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 120-INCH DOI
F1:PE	N/A	PHOTO ELECTRIC CROSS-SECTION
F1:PORZC	N/A	CORRECTED POROSITY
F1:SPDH	N/A	SPONTANEOUS POTENTIAL PROCESSED IN COMMON REMOTE
F1:TEN	N/A	DIFFERENTIAL TENSION
F1:ZCOR	N/A	DENSITY CORRECTION

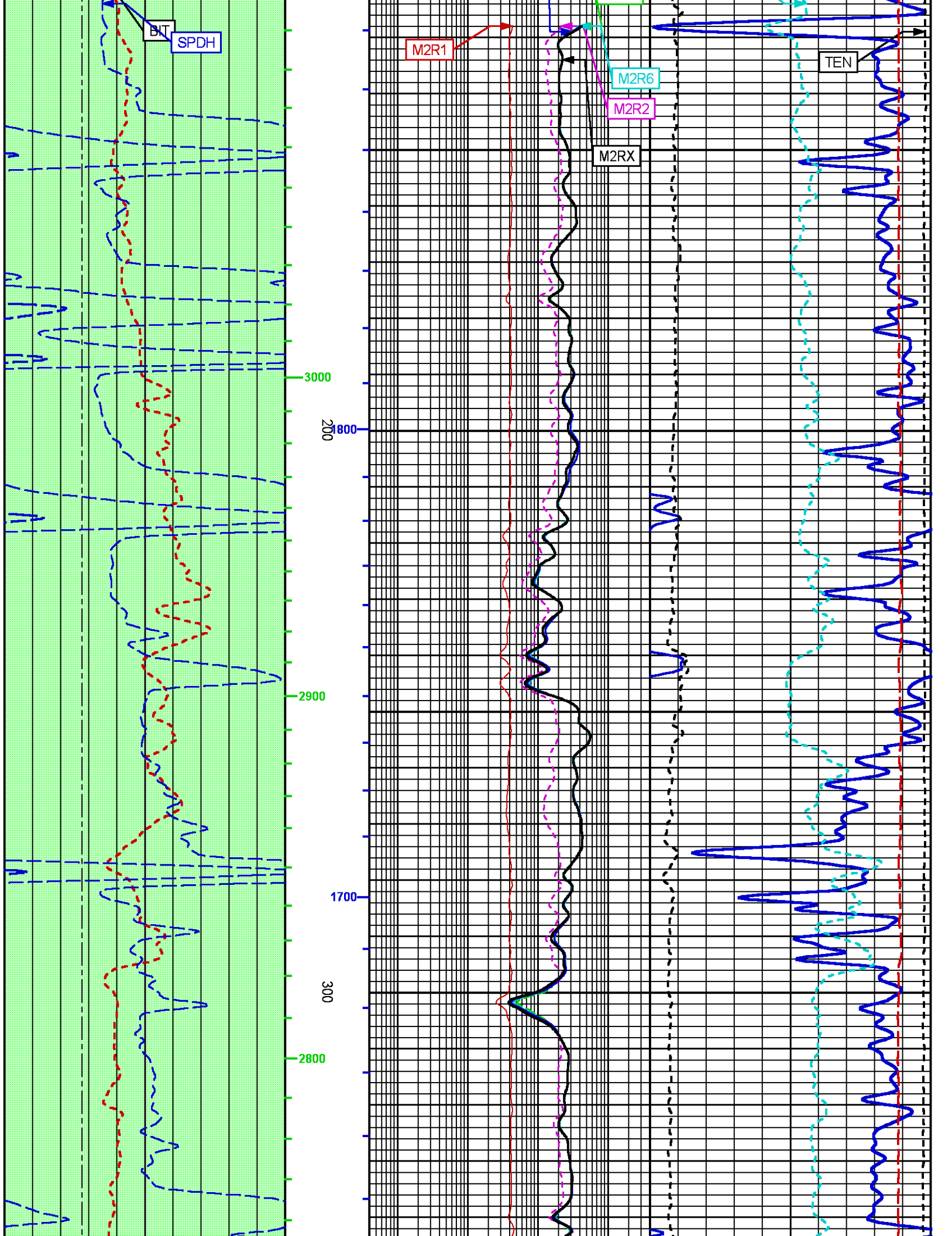
CURVE MEASURE POINT OFFSET							
CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
BIT	0.00	M2R1	-8.00	M2R9	-8.00	SPDH	-14.00
CAL	-35.00	M2R2	-8.00	M2RX	-8.00	TEN	0.00

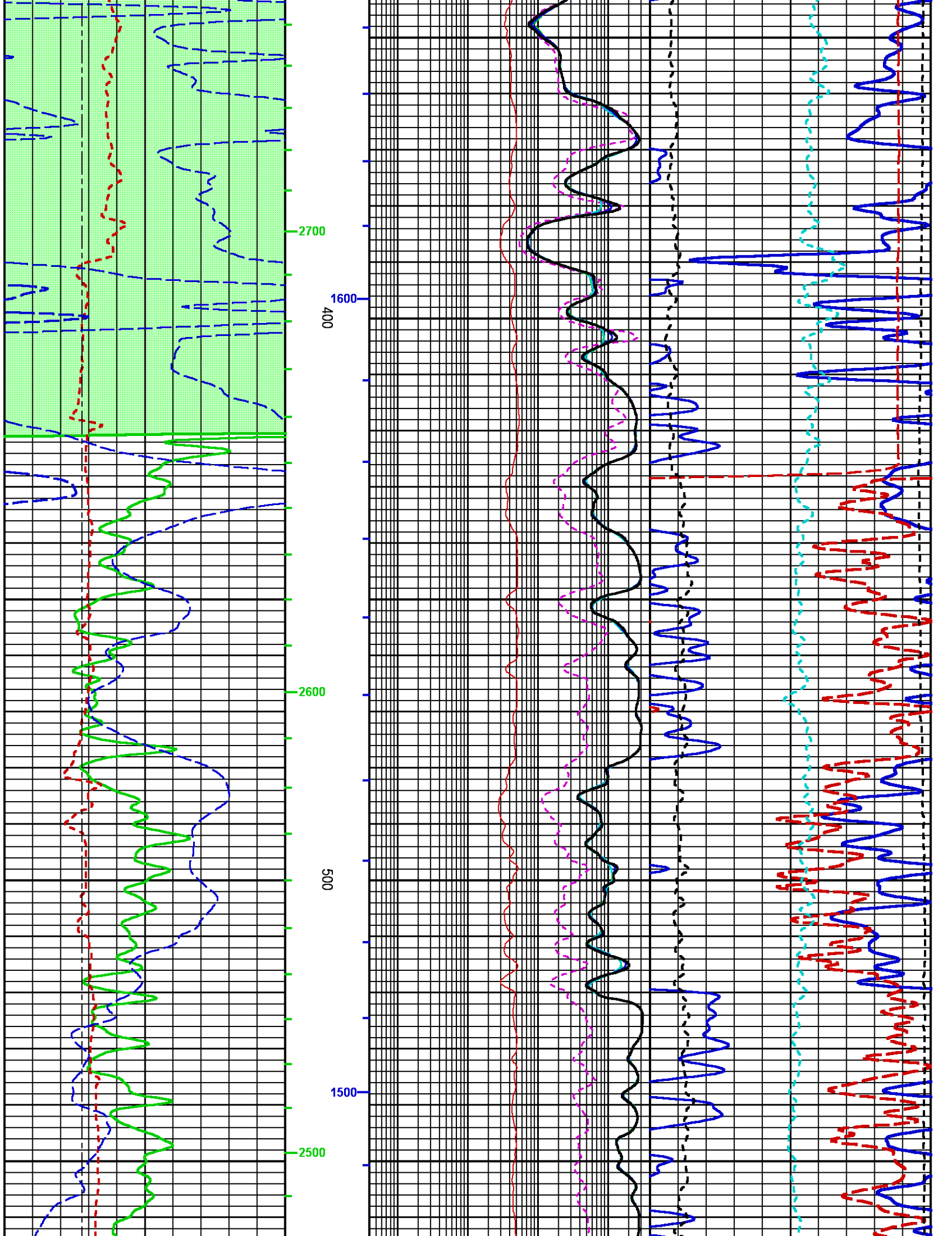
CNCF	-45.25	M2R3	-8.00	PE	-34.25	ZCOR	-34.25
GR	-52.25	M2R6	-8.00	PORZC	-34.25		

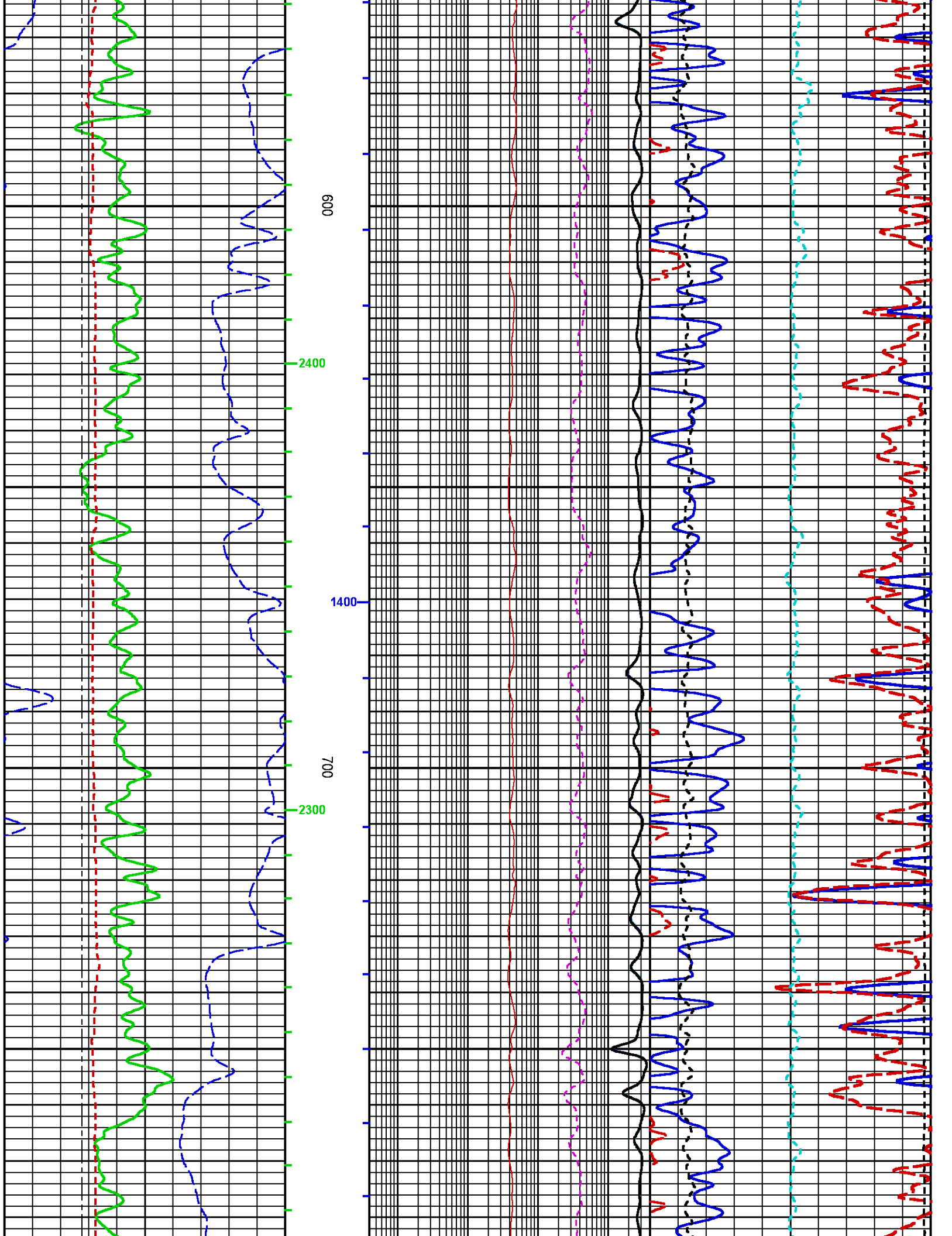
Presentation : SysA:MSLM MAIN-5.fvpdf [5"/100' Scale]
Plot Interval : 15.75 - 2549.25 Feet

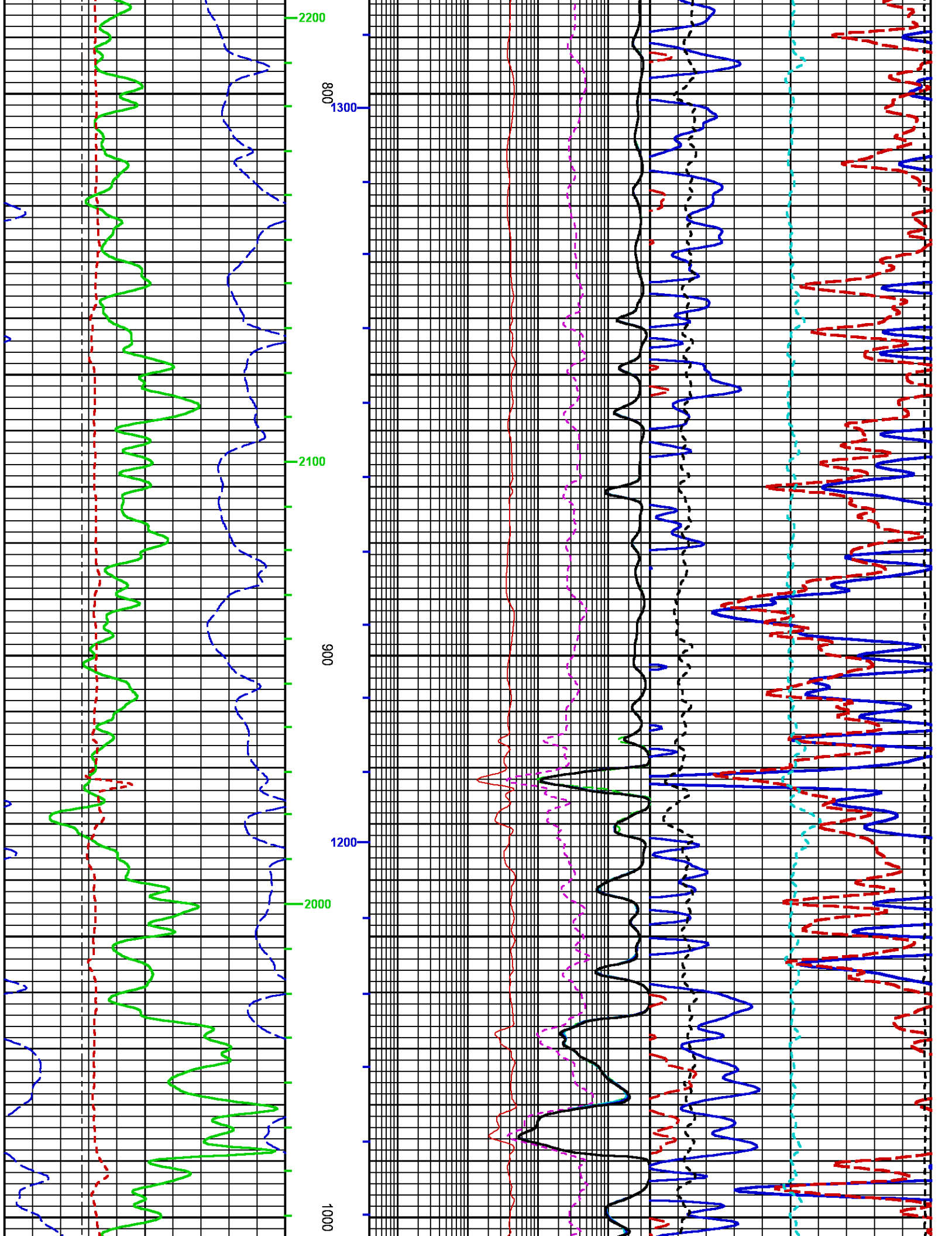
Data File 1 : F1 : SysA:/dat1a/LARAMIE_CC_0697_03_13W/MAIN.xtf
Created On : N/A
Company : LARAMIE ENERGY II LLC
Well : CC 0697-03-13W
Field : GRAND VALLEY
File Interval : 1.25 - 2549.25 Feet
OCT : MSLAM_XC

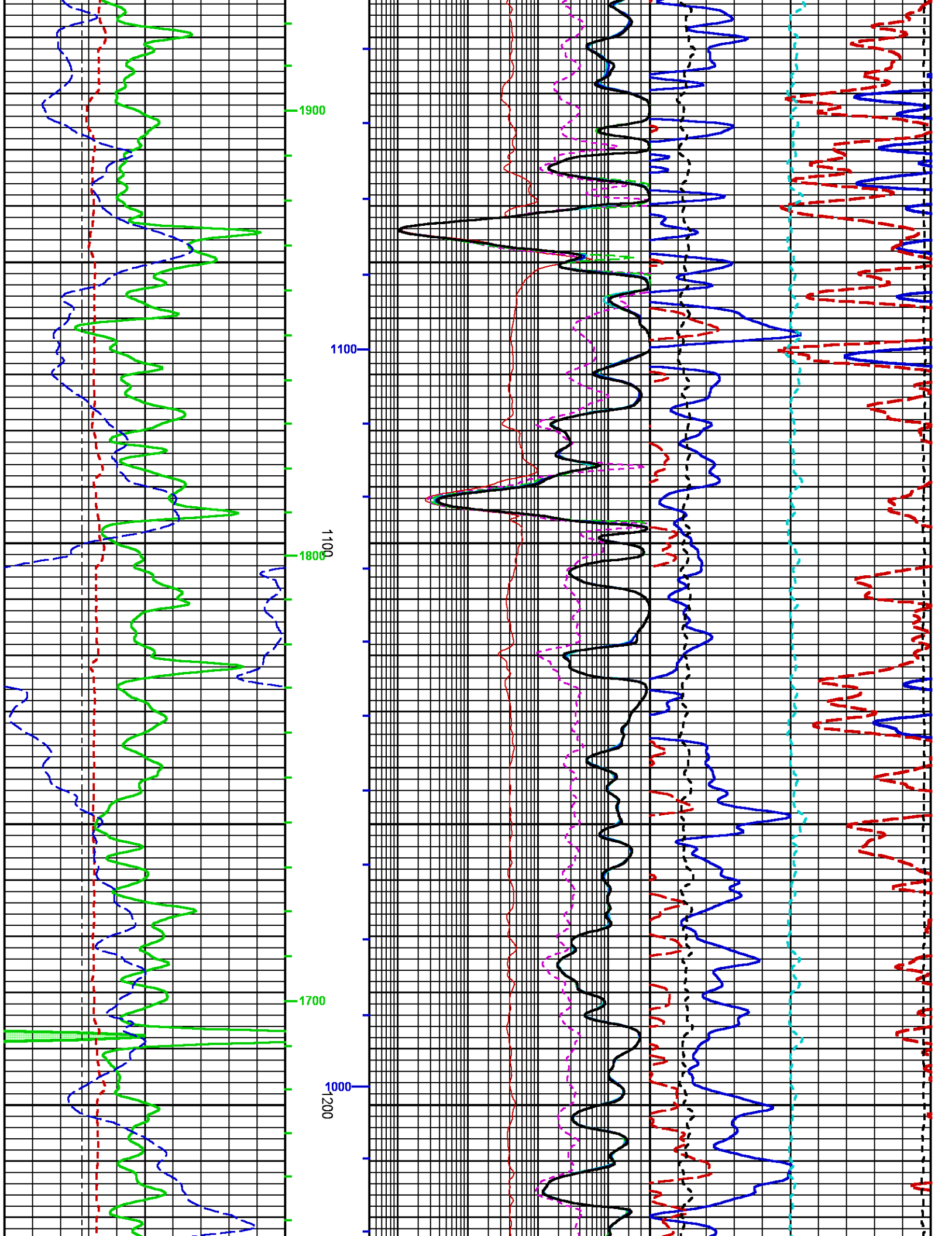


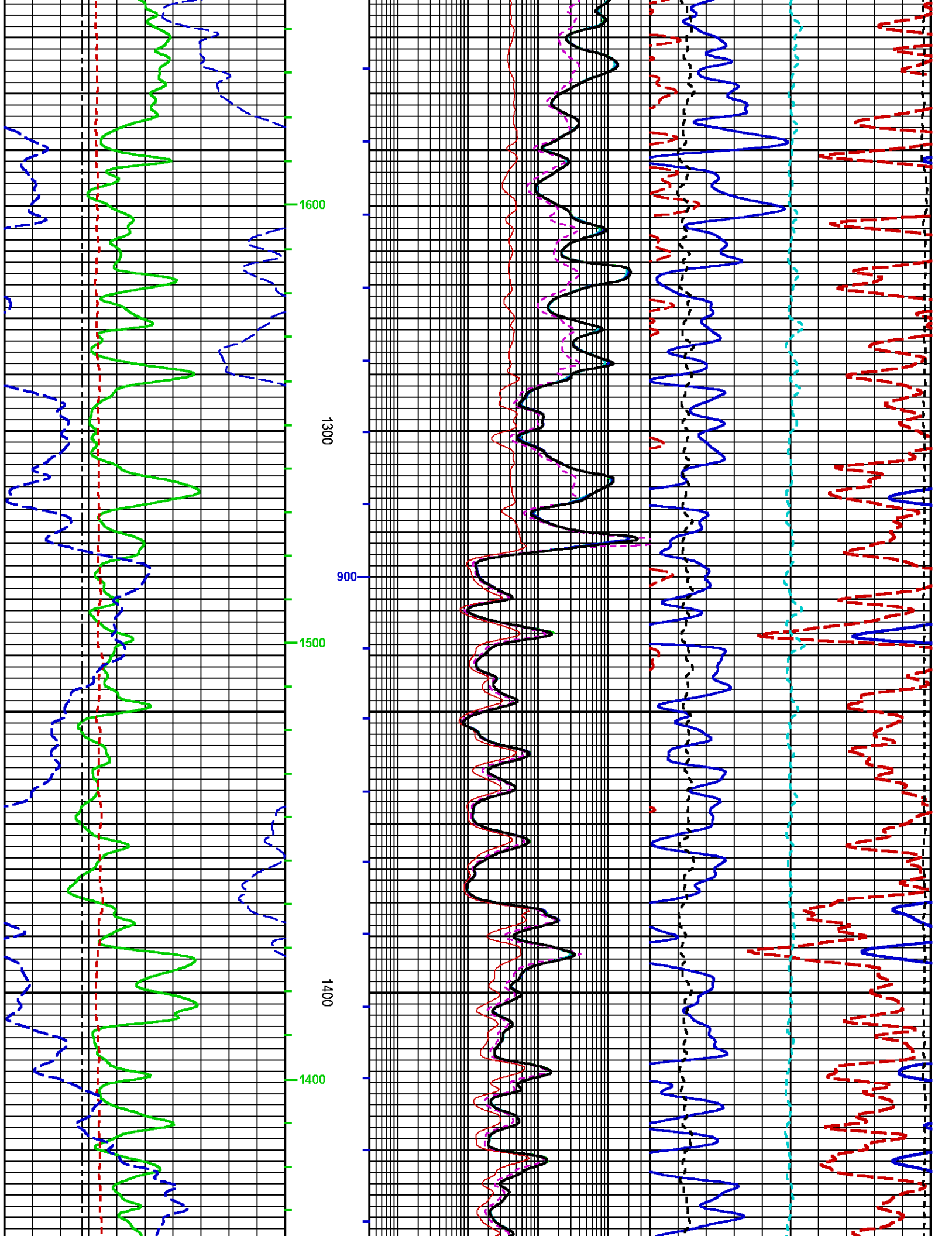


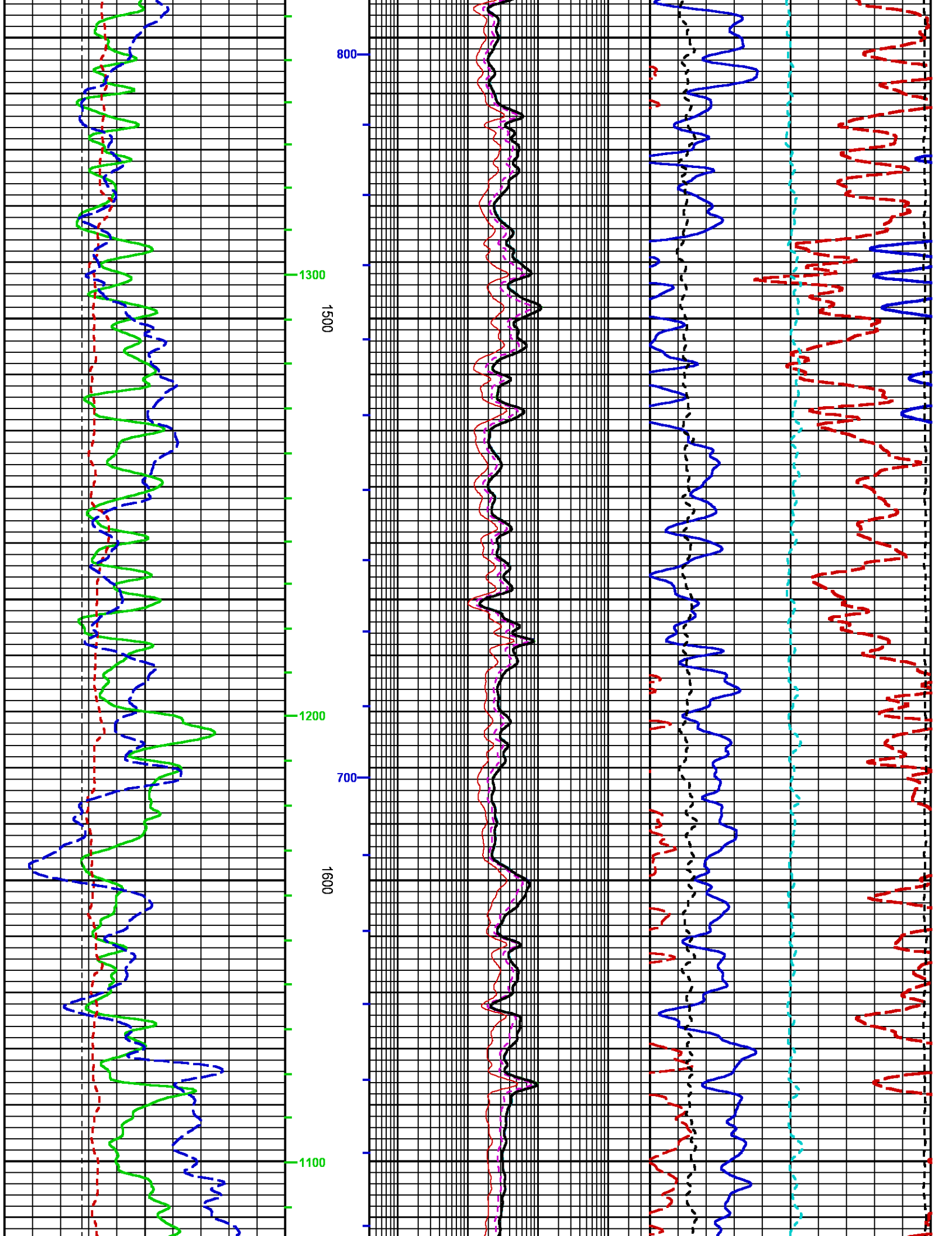


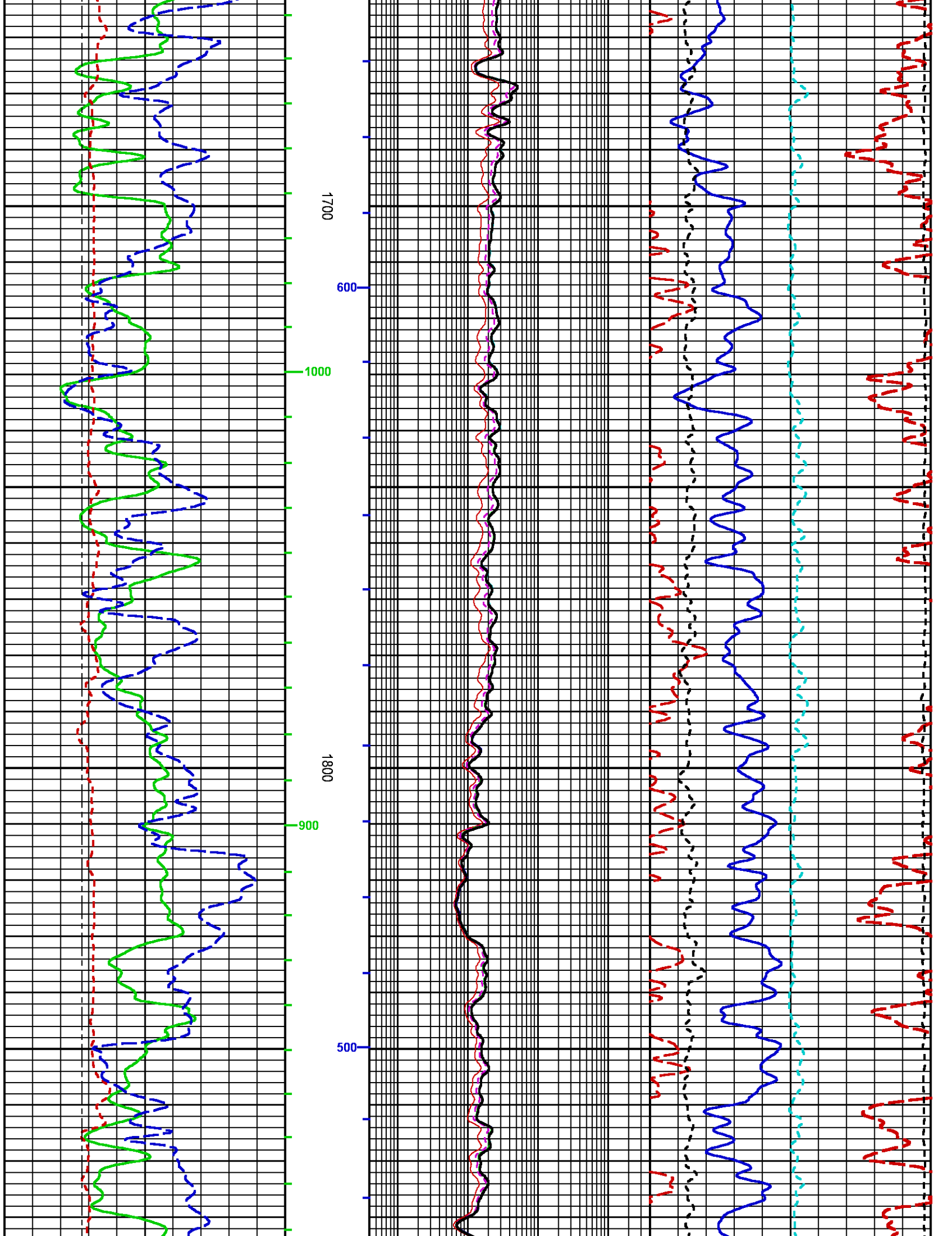


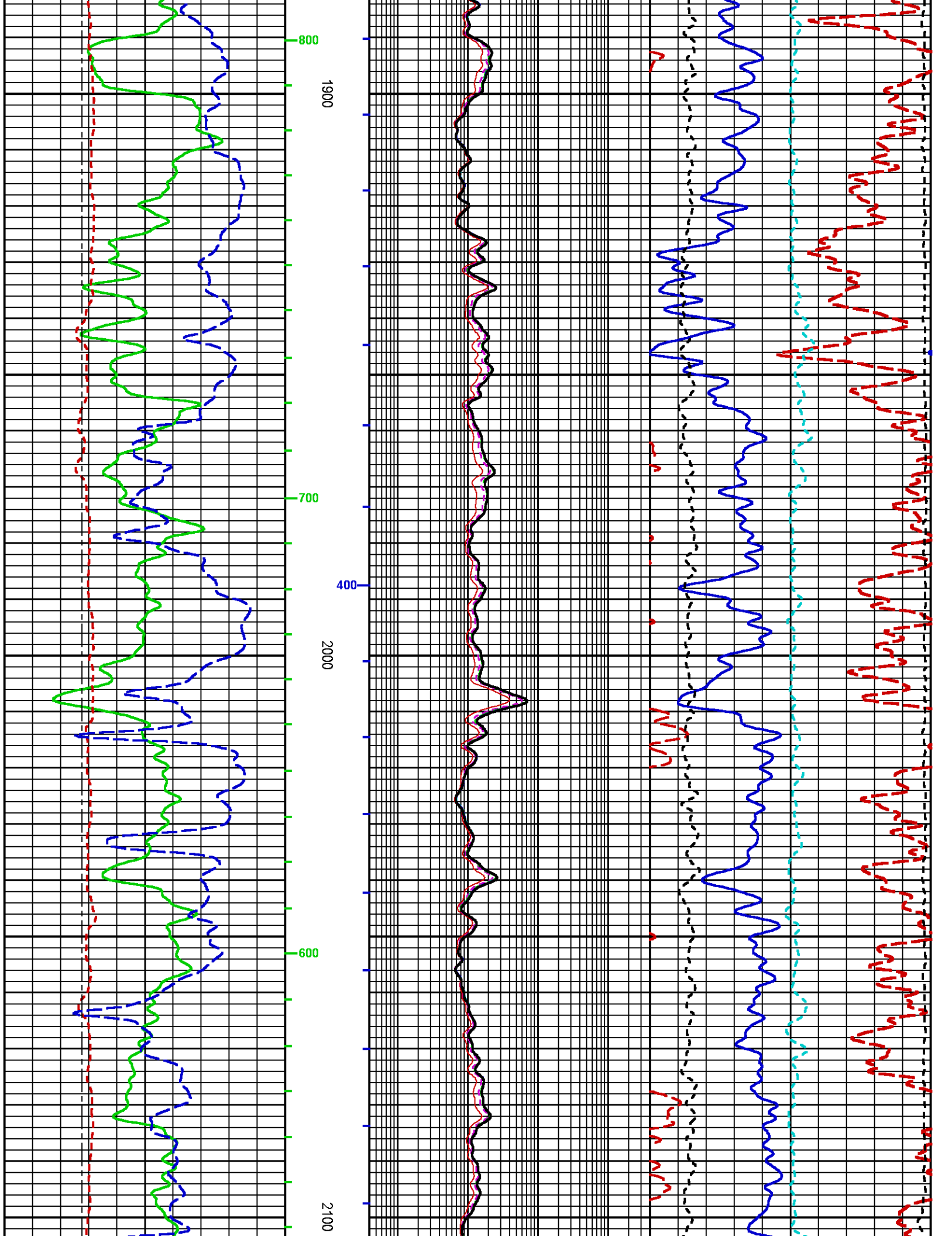


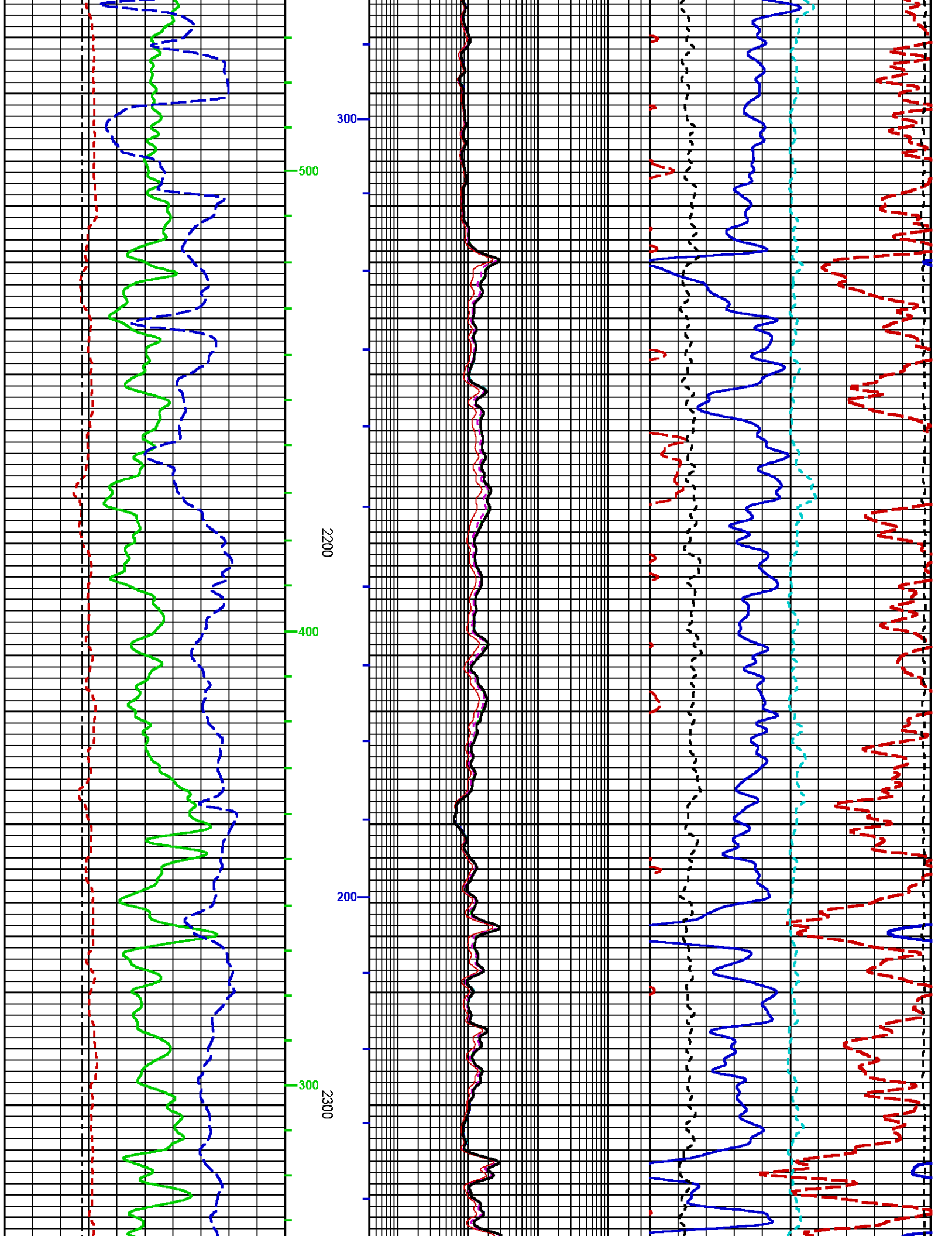


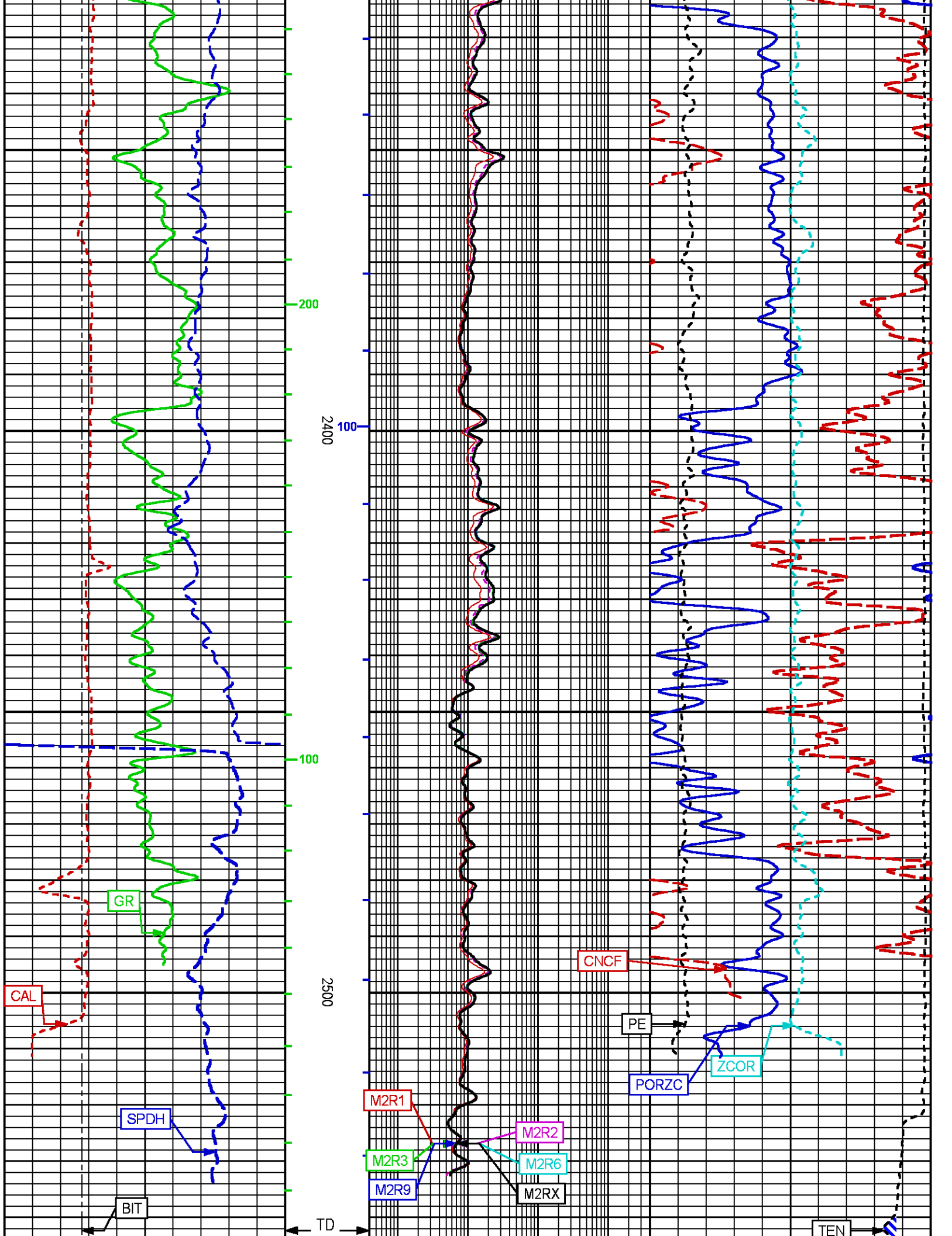


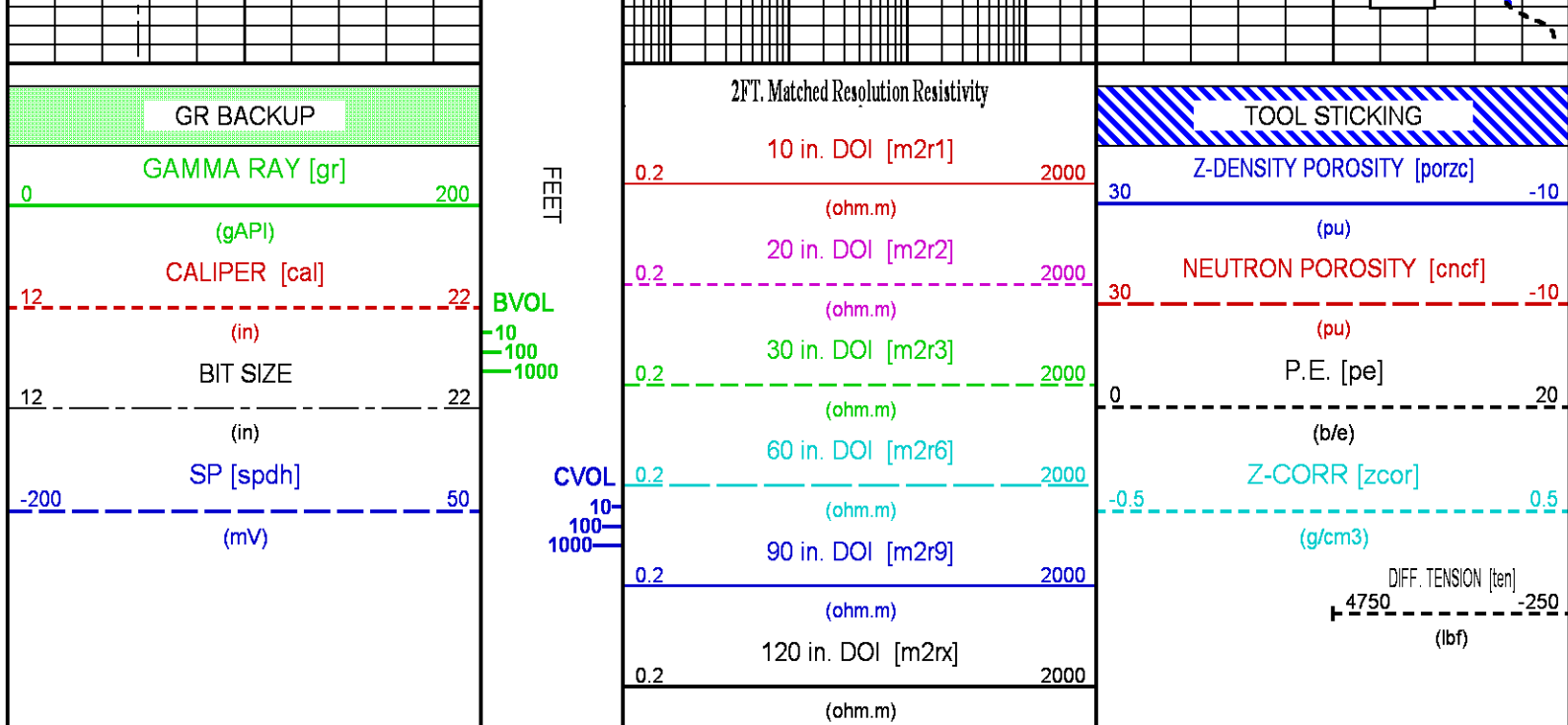












REPEAT LOG

ECLIPS 7.0i ECLIPS General Release Rel 7.0i Thu Jun 08 20:36:10 CDT 2017
Patches: 4

Plotted: Tue Jun 12 12:08:14 2018

PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/LARAMIE_CC_0697_03_13W/MSLAM_XC03.prm
LOGGING MODE: DEPTH 1477.000 ft DIRECTION: UP
TOP DEPTH: 1477.000 ft BOTTOM DEPTH: 1807.750 ft

SYMMETRIC FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
Y AXIS CALIPER	FILTER ()	medium (1)		TOP	BOTTOM
TENSION	FILTER ()	medium (1)		"	"
GR	FILTER ()	medium (1)		"	"
	FILTER (.h)	medium (1)		"	"
	FILTER (.i)	medium (1)		"	"
CN	FILTER ()	medium (1)		"	"
CALIPER	FILTER ()	medium (1)		"	"
	FILTER (.h)	medium (1)		"	"
	FILTER (.i)	medium (1)		"	"
ZDL MED RES	FILTER (hrd1*)	medium		"	"
	FILTER (hrd1s*)	medium		"	"
	FILTER (hrd2*)	medium		"	"
	FILTER (hrd2s*)	medium		"	"
	FILTER (soft*)	medium		"	"
SP-SPDH	FILTER ()	medium (1)		"	"
	FILTER (.i)	medium (1)		"	"

BOREHOLE & CEMENT

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
CASING - BOREHOLE & CEMENT VOLUME	CASING O.D.	9.625	in	TOP	BOTTOM

	CASING THICKNESS	0.000	in	"	"
BIT SIZE	BIT SIZE	14.750	in	"	"
MUD SAMPLE RESISTIVITY	MUD SAMPLE TEMP	77.0	degF	"	"
	MUD SAMPLE RES	1.000	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. (cnbh*)	USE CALIPER		"	"
	CALIPER/FIXED DIA. (mbh*)	USE CALIPER		"	"
	CALIPER/FIXED DIA. (zdbh*)	USE CALIPER		"	"
BOREHOLE CORR DIAMETER	FIXED DIAMETER (cnbh*)	14.750	in	"	"
	FIXED DIAMETER (mbh*)	14.750	in	"	"
BH MUD RESISTIVITY SOURCE	RMUD SOURCE (HDIL)	TOOL MEASURED		"	"

CN PROCESSING					
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
2446 CN MATRIX	2446 MATRIX	SANDSTONE		TOP	BOTTOM
CN SALINITY CORRECTION	SALINITY CORR (2446)	SAL & BH SIZE ON		"	"
	SALINITY	600	ppm	"	"
CN TOOL STANDOFF	ENABLE STANDOFF CORR	OFF		"	"
	STANDOFF AMOUNT	0.00	in	"	"
CN CASING & CEMENT CORRECTION	CORRECTION	OFF		"	"
	BIT SIZE BEHIND CSNG	7.875	in	"	"

ZDL PROCESSING					
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
MUD DENSITY	MUD DENSITY	9.00	lbm/gal	TOP	BOTTOM
DENSITY POROSITY	RHOMatrix	2.680	g/cm3	"	"
	RHOfluid	1.000	g/cm3	"	"
ZDL	DENX TRACKING	ON		"	"
TRACKING TIME	Logging Spd for Gain	Over 10 ft/min		"	"

HDIL PROCESSING					
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
HDIL TEMPERATURE CORRECTION	TEMP CORR SOURCE	USE RXTEMP		TOP	BOTTOM
ADAPTIVE BOREHOLE CORRECTION	ABC PROCESSING	ON		"	"
	ABC to CALCULATE	STANDOFF		"	"
	STANDOFF	0.50	in	"	"
	TOOL POSITION	ECCENTERED		"	"
	Rmud MULTIPLIER	1.000		"	"
HDIL High RESISTIVITY Normalization	VRM Norm	ON		"	"

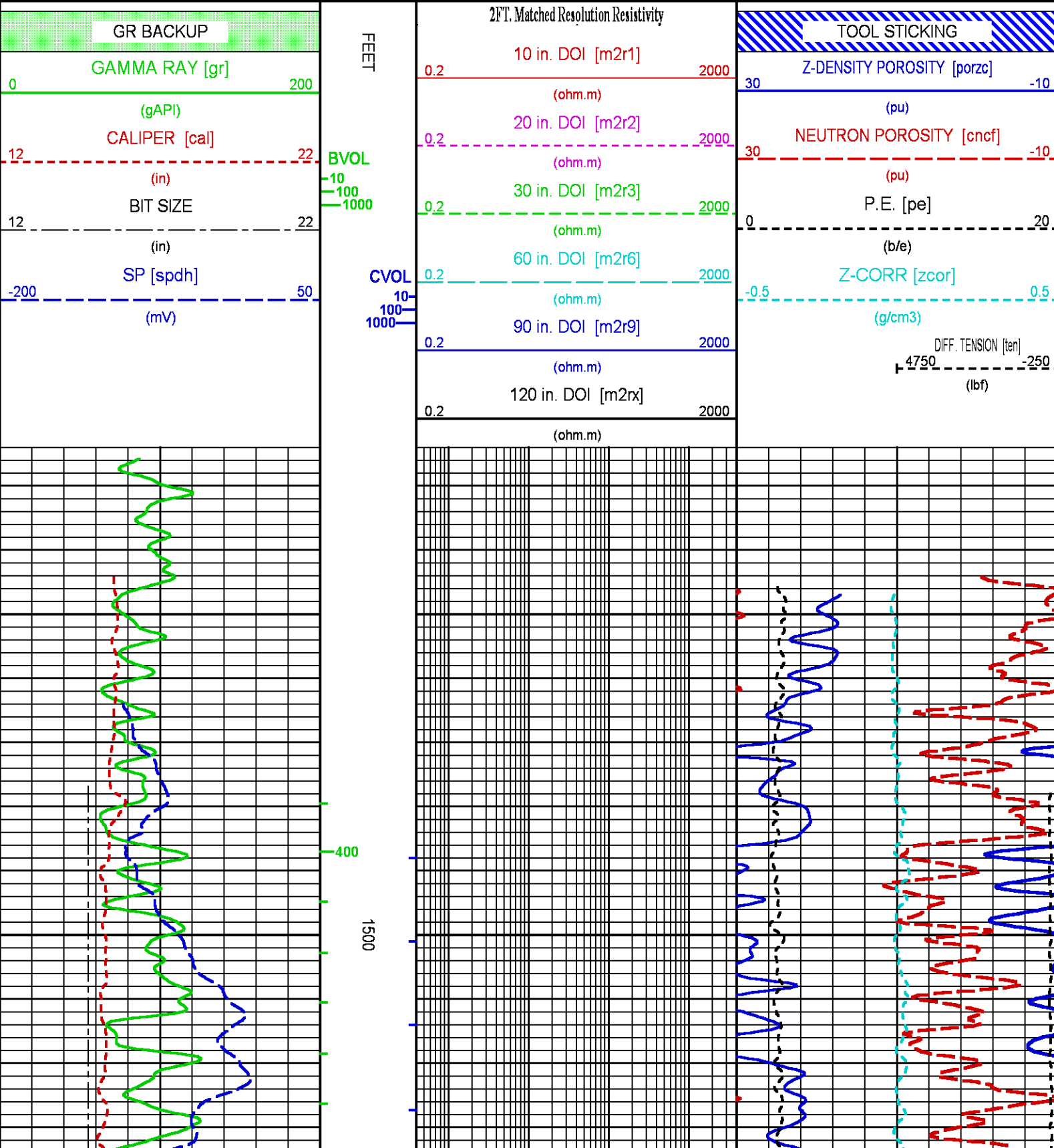
CURVE DESCRIPTION REPORT		
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:BIT	N/A	BIT SIZE
F1:BVOL	N/A	BOREHOLE VOLUME
F1:CAL	N/A	CALIPER
F1:CNCF	N/A	FIELD NORMALIZED COMPENSATED NEUTRON POROSITY
F1:CVOL	N/A	CEMENT VOLUME
F1:GR	N/A	GAMMA RAY
F1:M2R1	N/A	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 10-INCH DOI
F1:M2R2	N/A	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 20-INCH DOI
F1:M2R3	N/A	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 30-INCH DOI
F1:M2R6	N/A	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 60-INCH DOI
F1:M2R9	N/A	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 90-INCH DOI
F1:M2RX	N/A	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 120-INCH DOI
F1:PE	N/A	PHOTO ELECTRIC CROSS-SECTION
F1:PORZC	N/A	CORRECTED POROSITY
F1:SPDH	N/A	SPONTANEOUS POTENTIAL PROCESSED IN COMMON REMOTE
F1:TEN	N/A	DIFFERENTIAL TENSION
F1:ZCOR	N/A	DENSITY CORRECTION

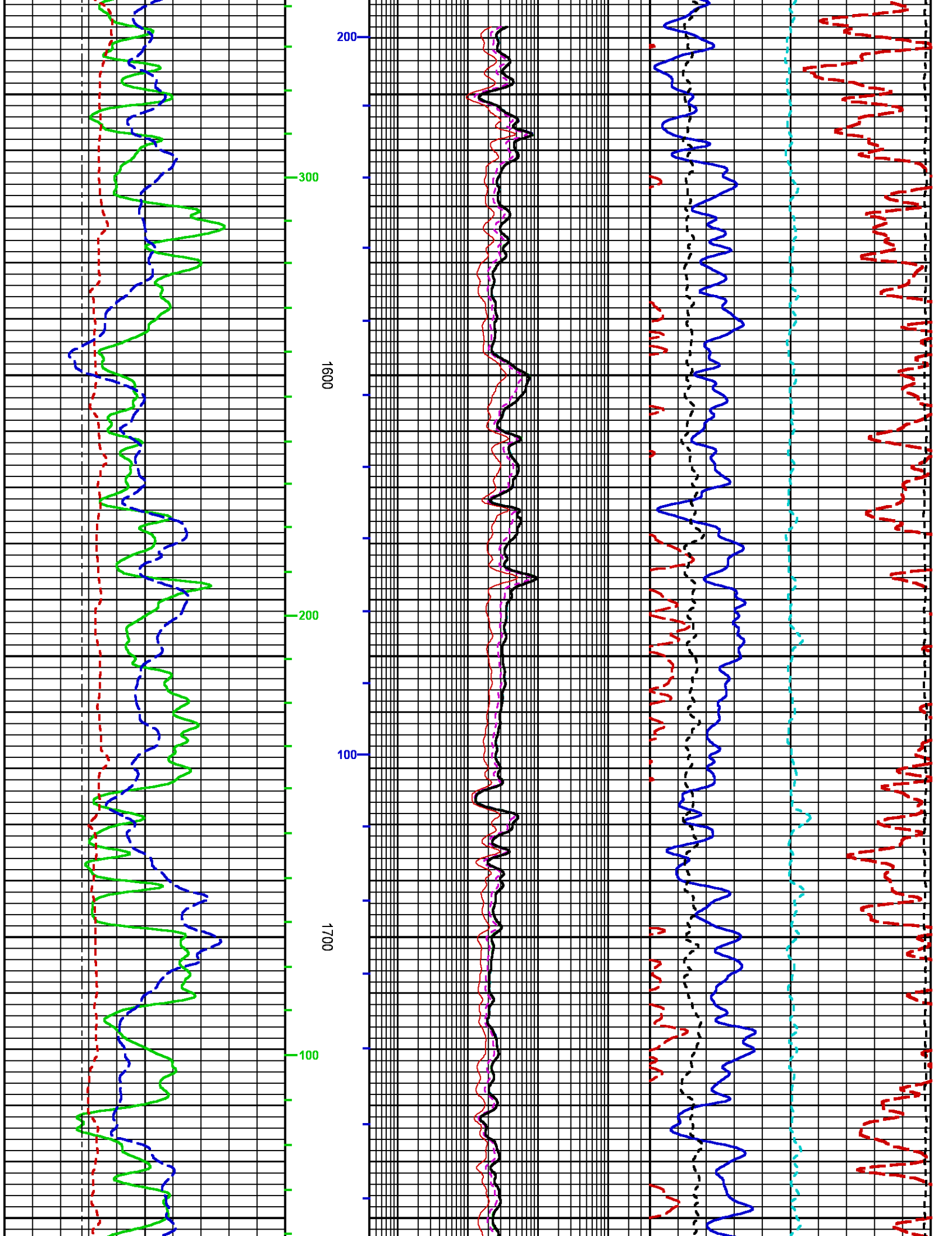
CURVE MEASURE POINT OFFSET							
CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
BIT	0.00	M2R1	-8.00	M2R9	-8.00	SPDH	-14.00
CAL	-35.00	M2R2	-8.00	M2RX	-8.00	TEN	0.00

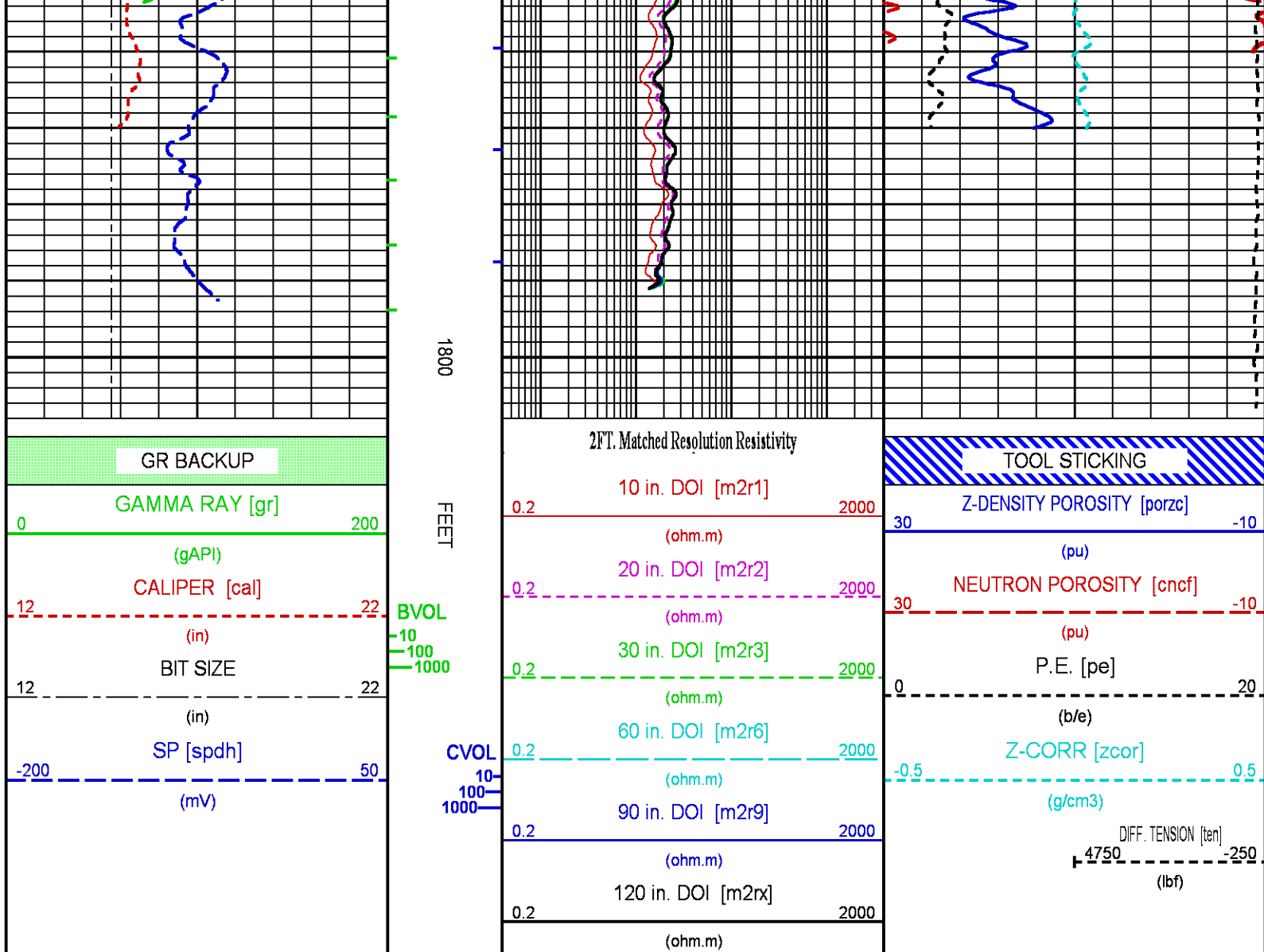
CNCF	-45.25	M2R3	-8.00	PE	-34.25	ZCOR	-34.25
GR	-52.25	M2R6	-8.00	PORZC	-34.25		

Presentation : SysA:MSLM_RPT-5.fvpdf [5"/100' Scale]
Plot Interval : 1425.75 - 1807.75 Feet

Data File 1 : F1 : SysA:/dat1a/LARAMIE_CC_0697_03_13W/RPEAT.xtf
Created On : N/A
Company : LARAMIE ENERGY II LLC
Well : CC 0697-03-13W
Field : GRAND VALLEY
File Interval : 1411.25 - 1807.75 Feet
OCT : MSLAM_XC







CALIBRATION / VERIFICATION SUMMARY

Source File: /data1a/LARAMIE_CC_0697_03_13W/MSLAM_XC1p1

CHTEN PRIMARY CALIBRATION SUMMARY

TOOL #: 3981XA 10407113

DATE/TIME PERFORMED: Sun Nov 6 12:16:20 2016

UNIT #: 3882TD HL6741

	Signal Low (raw)	Signal High (raw)	Scale Mult	Scale Add	Engr Low (lbf)	Engr High (lbf)
CHT	2054.10	2174.90	17.05	-35128.58	-100.00	1960.00

GR PRIMARY CALIBRATION SUMMARY

TOOL #: 1329XA 177858

DATE/TIME PERFORMED: Mon May 28 15:23:25 2018

UNIT #: 3882TD HL6728

CALB JIG #: 4702NK DA-527

	BACKGROUND CALBRTR ON (cts/s)	CR DIFF (cts/s)	MULT	BACKGROUND CALBRTR ON (gAPI)	CALBRTR (gAPI)
GR	176.07	1049.47	873.4	0.172	30.24
				180.24	150

GR PRIMARY VERIFICATION SUMMARY

TOOL #	1329XA 177858		DATE/TIME PERFORMED:	Mon May 28 15:45:43 2018	
UNIT #	3882TD HL6728		VERI JIG #	4702NK DA-527	
	BACKGROUND CALBRTR ON (cts/s)	MULT (cts/s)	BACKGROUND CALBRTR ON (gAPI)	DIFF. (gAPI)	
GR	179.11	1057.02	0.172	30.76	181.54
				150.77	140.20 160.20

CN PRIMARY CALIBRATION SUMMARY

TOOL #	2446XA 10342164		DATE/TIME PERFORMED:	Mon May 28 16:34:05 2018		
UNIT #	3882TD HL6728		CALIBRATOR #	2437XB 120052		
	SOURCE #		4717XS N_945			
	MEASURED CPS	DEADTM CORR CPS	DTC SSN/LSN	NOMINAL SSN/LSN	CORRECTION FACTOR	POROSITY (pu)
LSN	609.22	618.26				
SSN	1582.92	1634.67				
RATIO			2.64399	2.75100	1.04047	0.07000 1.07000
CN						21.358

CN PRIMARY VERIFICATION SUMMARY

TOOL #	2446XA 10342164		DATE/TIME PERFORMED:	Mon May 28 16:40:57 2018		
UNIT #	3882TD HL6728		ICE BLOCK #	4717ND 6036NN		
	MEASURED CPS	DEADTM CORR CPS	DTC SSN/LSN	CORRECTION FACTOR	DTC CORR SSN/LSN	POROSITY (pu)
LSN	1985.40	2084.77				
SSN	4595.97	5061.26				
RATIO			2.42773	1.04047	2.52697	
CN						18.222

CAL PRIMARY CALIBRATION SUMMARY

TOOL #	2234XA 115357		DATE/TIME PERFORMED:	Mon May 28 16:51:00 2018		
UNIT #	3882TD HL6728					
	SMALL RING (in)	LARGE RING (in)	MULT	ADD	SMALL RING (in)	LARGE RING (in)
CALIPER	1478.4	2527.2	0.00688	-2.38534	7.785	15.000

ZDL PRIMARY CALIBRATION SUMMARY

TOOL:	2234XA 115357		DATE/TIME PERFORMED:	Mon May 28 17:21:03 2018		
UNIT:	3882TD HL6728		CALB BLKS	2225XA B94287		
	CS SRC:		4703NT 2497GW			
	SS CS PK (Channel)	LS CS PK (Channel)	SS_BKGD (cps)	LS BKGD (cps)		
	224.7	227.3	1053.1	1327.8		
	220.0 230.0	220.0 230.0				
	SS (cps)	LS (cps)	SHR	DEN (g/cm3)	CORR (g/cm3)	PE (b/e)
MG (LO PE)	11826.8	5982.1	0.598	1.700	0.003	2.160
			0.585 0.605			
AL	6892.2	596.7		2.698	-0.010	
AL + SHIM	9569.4	1057.6		2.619	0.158	
MG + SHIM (HI PE)	5641.4	2783.5	0.232			8.500
			0.210 0.270			
RATIO AL + SHIM/AL	1.39	1.77				
	1.32 1.42	1.64 1.84				
RATIO MG/AL	1.72	10.02				
	1.65 1.75	9.40 10.30				

HDIL PRIMARY CALIBRATION SUMMARY

TOOL #: 1515MA 10307148

DATE/TIME PERFORMED: Sun Apr 8 10:47:10 2018

UNIT #: tchtrn atw101

GRCOND ID & DATE: 110 083096

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

Coil 0 R	-0.006	0.001	0.002	0.003	0.001	0.003	0.002	0.001
Coil 0 Q	0.007	0.008	0.001	-0.001	0.002	0.002	0.001	0.001
Coil 1 R	-0.002	0.004	0.004	0.004	0.004	0.007	0.006	-0.000
Coil 1 Q	0.000	0.002	-0.002	-0.001	-0.001	0.001	0.005	0.004
Coil 2 R	0.006	0.007	-0.002	-0.000	-0.001	-0.001	0.001	0.006
Coil 2 Q	-0.005	-0.003	0.001	0.002	0.000	-0.003	-0.005	-0.005
Coil 3 R	0.005	0.003	0.003	0.008	0.006	0.001	0.002	0.001
Coil 3 Q	-0.012	-0.013	-0.006	0.000	-0.001	-0.000	0.000	0.000
Coil 4 R	-0.004	0.007	-0.002	-0.003	0.000	0.003	0.006	-0.001
Coil 4 Q	-0.016	0.004	-0.003	0.001	-0.001	0.001	0.005	0.001
Coil 5 R	-0.019	0.007	0.004	0.015	0.009	-0.005	-0.008	-0.008
Coil 5 Q	-0.009	-0.006	-0.003	0.006	0.012	0.014	-0.002	-0.008
Coil 6 R	-0.024	0.008	-0.018	0.004	-0.005	0.011	0.038	0.013
Coil 6 Q	-0.022	-0.030	-0.004	-0.030	-0.064	-0.033	-0.024	0.011

ELEC. GAINS 10 KHz 30 KHz 50 KHz 70 KHz 90 KHz 110 KHz 130 KHz 150 KHz

Coil 0 M	126.35	125.09	122.81	119.34	114.92	109.31	102.85	95.12
Coil 0 P	7.529	23.759	39.710	55.808	71.471	87.434	103.259	119.209
Coil 1 M	219.43	217.51	213.91	208.62	201.89	193.41	183.65	171.97
Coil 1 P	7.146	22.548	37.688	52.773	67.772	82.902	97.885	112.961
Coil 2 M	436.98	433.19	426.31	416.37	404.17	388.71	372.34	352.56
Coil 2 P	6.950	21.885	36.531	51.080	65.475	79.903	94.215	108.605
Coil 3 M	714.51	707.82	695.78	678.07	655.93	627.47	595.68	557.40
Coil 3 P	7.414	23.306	38.922	54.479	69.962	85.509	100.968	116.508
Coil 4 M	1134.8	1123.1	1101.6	1070.0	1029.6	978.0	919.5	849.9
Coil 4 P	7.871	24.679	41.207	57.705	74.125	90.628	106.983	123.330
Coil 5 M	2276.7	2255.0	2214.3	2155.8	2082.9	1990.4	1887.3	1763.0
Coil 5 P	7.820	24.524	40.946	57.290	73.547	89.890	106.121	122.464
Coil 6 M	6032.9	6002.9	5950.1	5864.5	5745.0	5566.3	5341.3	5034.4
Coil 6 P	7.302	23.276	39.045	54.948	71.047	87.519	104.127	121.045

AM Factor 10 KHz 30 KHz 50 KHz 70 KHz 90 KHz 110 KHz 130 KHz 150 KHz

Coil 0 R	501	-52	-107	-122	-129	-135	-139	-142
Coil 0 Q	1014	384	205	117	60	16	-21	-54
Coil 1 R	576	87	23	1	-10	-16	-20	-23
Coil 1 Q	1066	439	276	198	152	121	99	81
Coil 2 R	185.2	27.4	7.8	1.2	-1.8	-3.6	-4.7	-5.5
Coil 2 Q	455.8	180.7	114.1	84.8	68.7	58.4	51.5	46.8
Coil 3 R	46.0	6.4	1.6	-0.0	-0.9	-1.5	-2.1	-2.3
Coil 3 Q	70.6	32.9	24.0	21.2	20.4	20.6	21.2	21.5
Coil 4 R	10.77	0.93	-0.28	-0.89	-1.08	-1.17	-1.17	-1.30
Coil 4 Q	17.10	10.64	10.31	11.52	13.17	15.02	16.99	18.99
Coil 5 R	0.66	-0.53	-0.60	-0.72	-0.79	-0.87	-0.92	-0.95

Coil 5 R	<div><div>0.003</div><div>0.003</div><div>0.003</div><div>0.003</div><div>0.003</div><div>0.003</div><div>0.003</div><div>0.003</div></div>
Coil 5 Q	<div><div>8.53</div><div>6.01</div><div>7.24</div><div>9.10</div><div>11.02</div><div>13.09</div><div>15.11</div><div>17.18</div></div>
Coil 6 R	<div><div>-3.12</div><div>-0.99</div><div>-0.64</div><div>-0.54</div><div>-0.42</div><div>-0.51</div><div>-0.44</div><div>-0.64</div></div>
Coil 6 Q	<div><div>2.44</div><div>3.18</div><div>5.08</div><div>7.26</div><div>9.25</div><div>11.58</div><div>13.62</div><div>15.79</div></div>
MM Factor	<div><div>10 KHz</div><div>30 KHz</div><div>50 KHz</div><div>70 KHz</div><div>90 KHz</div><div>110 KHz</div><div>130 KHz</div><div>150 KHz</div></div>
Coil 0 M	<div><div>0.999</div><div>0.995</div><div>0.990</div><div>0.988</div><div>0.986</div><div>0.985</div><div>0.984</div><div>0.984</div></div>
Coil 0 P	<div><div>0.260</div><div>0.390</div><div>0.469</div><div>0.396</div><div>0.329</div><div>0.285</div><div>0.193</div><div>0.206</div></div>
Coil 1 M	<div><div>0.995</div><div>0.991</div><div>0.986</div><div>0.985</div><div>0.982</div><div>0.982</div><div>0.980</div><div>0.981</div></div>
Coil 1 P	<div><div>0.194</div><div>0.400</div><div>0.464</div><div>0.471</div><div>0.415</div><div>0.370</div><div>0.322</div><div>0.288</div></div>
Coil 2 M	<div><div>1.003</div><div>1.000</div><div>0.999</div><div>0.998</div><div>0.996</div><div>0.995</div><div>0.995</div><div>0.994</div></div>
Coil 2 P	<div><div>0.077</div><div>0.097</div><div>0.146</div><div>0.198</div><div>0.197</div><div>0.135</div><div>0.165</div><div>0.152</div></div>
Coil 3 M	<div><div>1.011</div><div>1.010</div><div>1.009</div><div>1.008</div><div>1.007</div><div>1.006</div><div>1.006</div><div>1.007</div></div>
Coil 3 P	<div><div>0.083</div><div>0.089</div><div>0.139</div><div>0.181</div><div>0.175</div><div>0.113</div><div>0.083</div><div>0.167</div></div>
Coil 4 M	<div><div>1.013</div><div>1.012</div><div>1.011</div><div>1.011</div><div>1.009</div><div>1.009</div><div>1.007</div><div>1.006</div></div>
Coil 4 P	<div><div>0.063</div><div>0.110</div><div>0.126</div><div>0.196</div><div>0.194</div><div>0.193</div><div>0.209</div><div>0.117</div></div>
Coil 5 M	<div><div>1.025</div><div>1.024</div><div>1.024</div><div>1.022</div><div>1.021</div><div>1.021</div><div>1.019</div><div>1.018</div></div>
Coil 5 P	<div><div>0.027</div><div>0.012</div><div>0.100</div><div>0.119</div><div>0.099</div><div>0.038</div><div>0.093</div><div>0.084</div></div>
Coil 6 M	<div><div>1.021</div><div>1.022</div><div>1.021</div><div>1.019</div><div>1.019</div><div>1.024</div><div>1.025</div><div>1.025</div></div>
Coil 6 P	<div><div>0.000</div><div>0.128</div><div>0.085</div><div>0.157</div><div>0.066</div><div>-0.015</div><div>-0.011</div><div>-0.116</div></div>
PARMS	
TCID 0	
TCID 1	
Cal Temp (degF)	
T Factor	
IDs	

HDIL BEFORE LOG VERIFICATION SUMMARY

TOOL #:	1515MA 10307148	DATE/TIME PERFORMED:	Tue Jun 12 10:35:06 2018	DAYS SINCE CAL:	64
UNIT #:		5753XD 10412898			

ZERO DATA(mv)	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coil 0 R	0.003	0.001	-0.003	-0.001	-0.003	0.001	-0.000	-0.004
	-0.200 0.200	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100
Coil 0 Q	0.005	0.010	0.003	0.002	0.002	0.000	0.000	0.002
	-1.000 1.000	-0.200 0.200	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100
Coil 1 R	0.000	0.001	-0.003	-0.001	0.002	0.005	0.004	-0.002
	-0.200 0.200	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100
Coil 1 Q	-0.006	-0.005	-0.002	-0.004	-0.005	-0.002	0.003	0.003
	-1.000 1.000	-0.200 0.200	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100
Coil 2 R	0.007	0.003	-0.003	-0.003	-0.002	-0.005	-0.000	0.004
	-0.200 0.200	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100
Coil 2 Q	-0.012	-0.006	0.002	0.000	-0.004	-0.005	-0.006	-0.008
	-1.000 1.000	-0.200 0.200	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100
Coil 3 R	-0.004	-0.005	-0.001	0.002	0.000	-0.001	-0.004	-0.001
	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100
Coil 3 Q	-0.003	-0.006	-0.004	-0.003	0.000	0.002	-0.001	0.001
	-0.500 0.500	-0.200 0.200	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100
Coil 4 R	-0.006	-0.002	-0.006	-0.009	-0.008	-0.004	0.002	-0.002
	-0.200 0.200	-0.200 0.200	-0.200 0.200	-0.200 0.200	-0.200 0.200	-0.200 0.200	-0.200 0.200	-0.200 0.200
Coil 4 Q	-0.011	0.009	-0.004	0.001	-0.004	-0.008	-0.006	0.001
	-1.000 1.000	-0.400 0.400	-0.200 0.200	-0.200 0.200	-0.200 0.200	-0.200 0.200	-0.200 0.200	-0.200 0.200
Coil 5 R	-0.002	-0.002	0.008	0.008	0.007	-0.009	-0.013	-0.012
	-0.400 0.400	-0.400 0.400	-0.400 0.400	-0.400 0.400	-0.400 0.400	-0.400 0.400	-0.400 0.400	-0.400 0.400
Coil 5 Q	-0.005	0.020	0.006	0.005	0.007	0.009	0.006	-0.008
	-2.000 2.000	-0.800 0.800	-0.400 0.400	-0.400 0.400	-0.400 0.400	-0.400 0.400	-0.400 0.400	-0.400 0.400
Coil 6 R	0.036	0.031	-0.056	-0.029	-0.008	0.004	0.040	0.020
	-1.000 1.000	-1.000 1.000	-1.000 1.000	-1.000 1.000	-1.000 1.000	-1.000 1.000	-1.000 1.000	-1.000 1.000
Coil 6 Q	-0.034	0.032	0.008	-0.030	-0.039	-0.027	-0.006	0.015
	-5.000 5.000	-2.000 2.000	-1.000 1.000	-1.000 1.000	-1.000 1.000	-1.000 1.000	-1.000 1.000	-1.000 1.000

Coil 2 P	7.034	22.139	36.903	51.585	66.094	80.640	95.025	109.515
	8.000	9.000	19.000	29.000	39.000	49.000	59.000	69.000
Coil 3 M	723.17	716.20	703.43	684.98	662.10	633.50	600.85	561.82
	590.00	580.00	570.00	560.00	550.00	540.00	530.00	520.00
Coil 3 P	7.519	23.595	39.370	55.073	70.715	86.401	101.979	117.684
	9.000	10.000	20.000	30.000	40.000	50.000	60.000	70.000
Coil 4 M	1130.5	1118.7	1096.3	1063.7	1023.2	971.7	912.5	842.7
	900.0	1400.0	900.0	1300.0	800.0	1200.0	700.0	1000.0
Coil 4 P	7.955	24.892	41.551	58.138	74.680	91.266	107.691	124.125
	9.000	10.000	20.000	30.000	40.000	50.000	60.000	70.000
Coil 5 M	2286.4	2263.5	2221.4	2160.8	2086.7	1993.3	1888.6	1763.7
	1900.0	2000.0	1800.0	1600.0	1400.0	1200.0	1000.0	800.0
Coil 5 P	7.876	24.695	41.200	57.611	73.947	90.341	106.596	122.987
	9.000	10.000	20.000	30.000	40.000	50.000	60.000	70.000
Coil 6 M	6065.9	6032.9	5974.2	5883.0	5761.1	5579.5	5348.5	5031.8
	4700.0	5100.0	4700.0	4300.0	3900.0	3500.0	3100.0	2700.0
Coil 6 P	7.366	23.450	39.300	55.273	71.451	87.958	104.592	121.564
	7.000	10.000	20.000	30.000	40.000	50.000	60.000	70.000

HDIL AFTER LOG VERIFICATION SUMMARY

TOOL # 1515MA 10307148 DATE/TIME PERFORMED: Tue Jun 12 12:08:26 2018 DAYS SINCE CAL: 65

UNIT # 5753XD 10412898

ZERO DATA(mv)	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coil 0 R	0.003	0.003	-0.000	0.000	-0.001	-0.000	-0.000	-0.003
	-0.077	0.083	-0.059	0.061	-0.033	0.027	-0.031	0.029
Coil 0 Q	0.004	0.009	0.002	0.001	0.002	-0.000	0.001	0.001
	-0.036	0.040	-0.110	0.130	-0.027	0.033	-0.028	0.032
Coil 1 R	-0.002	0.001	-0.001	0.001	0.004	0.004	0.003	-0.001
	-0.000	0.000	-0.049	0.051	-0.033	0.027	-0.031	0.029
Coil 1 Q	-0.005	-0.006	-0.003	-0.003	-0.004	-0.002	0.004	0.005
	-0.408	0.394	-0.105	0.095	-0.032	0.020	-0.034	0.026
Coil 2 R	0.007	0.004	-0.001	-0.004	-0.004	-0.007	-0.001	0.004
	-0.089	0.077	-0.027	0.033	-0.033	0.027	-0.032	0.024
Coil 2 Q	-0.008	-0.001	0.005	0.004	-0.002	-0.003	-0.006	-0.009
	-0.382	0.390	-0.108	0.094	-0.020	0.010	-0.034	0.026
Coil 3 R	-0.009	-0.003	0.003	0.007	0.003	-0.001	0.000	-0.003
	-0.044	0.038	-0.045	0.035	-0.041	0.039	-0.044	0.039
Coil 3 Q	-0.005	-0.009	-0.004	-0.001	0.001	0.001	0.000	0.000
	-0.263	0.197	-0.089	0.074	-0.044	0.036	-0.048	0.041
Coil 4 R	-0.014	-0.002	-0.002	0.000	-0.006	-0.002	0.001	0.000
	-0.088	0.054	-0.062	0.050	-0.089	0.051	-0.080	0.053
Coil 4 Q	-0.011	0.004	-0.000	-0.001	-0.003	-0.003	-0.002	0.002
	-0.311	0.289	-0.091	0.109	-0.094	0.059	-0.098	0.081
Coil 5 R	-0.021	-0.006	0.014	-0.002	0.007	-0.004	-0.014	-0.011
	-0.122	0.118	-0.122	0.118	-0.112	0.120	-0.113	0.107
Coil 5 Q	0.000	-0.005	-0.003	0.016	0.023	0.012	0.004	-0.007
	-0.005	0.005	-0.030	0.070	-0.114	0.129	-0.114	0.129
Coil 6 R	0.001	-0.019	-0.027	-0.012	-0.001	0.004	0.024	0.001
	-0.264	0.339	-0.269	0.351	-0.359	0.271	-0.308	0.262
Coil 6 Q	0.003	-0.012	-0.012	-0.046	-0.020	-0.023	-0.033	0.011
	-1.534	1.488	-0.580	0.692	-0.292	0.300	-0.330	0.270
ELEC. GAINS	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coil 0 M	126.44	125.15	122.71	119.21	114.75	109.08	102.59	94.80
	123.84	126.80	122.58	127.58	120.18	125.10	116.74	121.50
Coil 0 P	7.630	23.975	40.032	56.031	72.029	88.099	104.002	119.971
	4.828	10.828	20.977	38.877	57.835	85.835	104.861	128.895
Coil 1 M	221.87	219.80	216.04	210.51	203.68	194.90	185.01	173.04
	217.38	226.23	215.34	224.13	211.84	220.20	204.82	198.33
Coil 1 P	7.238	22.790	38.054	53.247	68.401	83.624	98.674	113.900
	4.232	10.232	19.782	35.782	50.046	64.046	78.046	92.046
Coil 2 M	443.01	438.99	431.59	421.14	408.76	393.04	375.96	355.60
	434.03	451.75	430.14	447.72	412.87	429.52	400.34	418.88
Coil 2 P	7.040	22.150	36.920	51.594	66.129	80.689	95.103	109.595
	4.034	10.034	19.139	25.139	35.903	50.903	65.903	80.903
Coil 3 M	722.99	715.98	703.21	684.82	662.11	633.33	600.35	561.45
	700.71	737.84	701.87	750.52	699.36	717.46	671.28	699.80
Coil 3 P	7.527	23.611	39.388	55.106	70.785	86.467	102.089	117.771
	4.519	10.519	20.595	38.595	56.370	74.370	92.370	110.370
Coil 4 M	1130.1	1118.3	1095.9	1063.5	1023.0	971.6	912.2	842.7
	1107.9	1168.1	1099.3	1141.1	1074.4	1118.2	1042.4	1085.0
Coil 4 P	7.980	24.903	41.561	58.146	74.705	91.315	107.741	124.208
	4.955	10.955	21.892	27.892	38.551	44.551	55.130	61.130
Coil 5 M	2287.6	2264.5	2222.4	2161.8	2088.3	1995.1	1889.6	1764.6
	2240.7	2392.2	2218.2	2300.7	2178.9	2285.3	2117.6	2264.0
Coil 5 P	7.883	24.708	41.220	57.646	74.005	90.414	106.718	123.118
	4.878	10.878	21.865	27.865	38.200	44.200	54.611	60.611
Coil 6 M	6072.3	6038.5	5978.7	5887.5	5765.6	5584.2	5347.2	5037.5
	5944.8	6187.2	5912.8	6155.8	5854.7	6083.7	5785.3	6000.9
Coil 6 P	7.377	23.473	39.332	55.316	71.513	88.053	104.730	121.703
	4.368	10.368	20.400	28.400	38.500	48.500	58.500	68.500

INSTRUMENT CONFIGURATION

Source File: /data/LARAMIE_CC_0697_03_13W/MSLAM_XC-1dg

CABLEHEAD
Diameter : 3.18"
Length : 5.10'
Weight : 4.18 lbs
Series : CAB118
Neumatic : CGL
Measure Point: 2.75': CABLEHEAD TOP

TTM SUB
Diameter : 3.63"
Length : 3.82'
Weight : 5.10 lbs
Series : 18818A
Neumatic : CGL
Measure Point: 1.18': TTM MP
Measure Point: 2.12': RM MP

WTS COMMON REMOTE
Diameter : 3.63"
Length : 6.18'
Weight : 22.8 lbs
Series : 3550C
Neumatic : WTS

DIGITAL SPECTRALOG
Diameter : 3.63"
Length : 3.11'
Weight : 18.0 lbs
Series : 2288A
Neumatic : CGL
Measure Point: 1.80': CR MP

COMPENSATED NEUTRON
Diameter : 3.63"
Length : 7.19'
Weight : 25.0 lbs
Series : 2448A
Neumatic : CGL
Measure Point: 1.83': LSN MP
Measure Point: 2.24': SSN MP

Z-DIMN LOG
Diameter : 4.88"
Length : 15.72'
Weight : 18.0 lbs
Series : 2234A
Neumatic : CGL
Measure Point: 1.18': CAL MP
Measure Point: 2.07': LSO MP
Measure Point: 2.07': SSD MP

KNICKLE JOINT (DOUBLE)
Diameter : 3.18"
Length : 4.65'
Weight : 6.0 lbs
Series : 2818A
Neumatic : WST

HIGH DEFINITION INDUCTION TOOL
Diameter : 3.63"
Length : 27.12'
Weight : 43.5 lbs
Series : 1513A
Neumatic : HDE
Measure Point: 11.91': SP MP
Measure Point: 7.44': XMTA MP

73.88'
CABLEHEAD TOP: 71.13'

TTM MP: 65.92'
RM MP: 65.68'

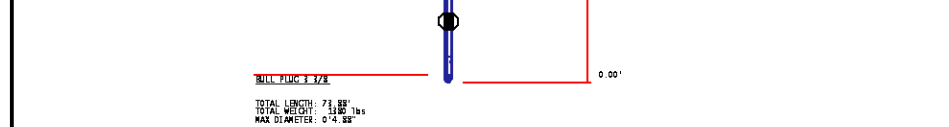
CR MP: 52.48'

LSN MP: 45.82'
SSN MP: 45.52'

CAL MP: 35.28'
LSO MP: 34.54'
SSD MP: 34.54'

SP MP: 34.18'

XMTA MP: 7.72'



	COMPANY <u>LARAMIE ENERGY II LLC</u>		FILE NO:	
	WELL <u>CC 0697-03-13W</u>			
	FIELD <u>GRAND VALLEY</u>		API NO:	
	COUNTY <u>GARFIELD</u>	STATE <u>COLORADO</u>	<u>05045237940000</u>	
	LOCATION:		ELEVATIONS:	
	LAT: <u>39.55830200</u> LONG: <u>-108.20514600</u>		KB <u>8468 FT</u>	
			DF <u>8467 FT</u>	
	SEC <u>3</u>	TWP <u>6S</u>	RGE <u>97W</u>	GL <u>8438 FT</u>
	DATE <u>12-Jun-2018</u>			

