



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

Version	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	09-May-2018	
RUN	TRIP	1
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	10.2 LB/G	28 CP
PH	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
RM AT BHT	0.073 OHMM	@ 88 DEGF
TIME SINCE CIRCULATION	6 HRS	
MAX. RECORDED TEMP.	90 DEGF	
EQUIP. NO.	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 PORZC AND CNC RECORDED AND PRESENTED ON A LIMESTONE MATRIX CNC IS CALIPER AND CASING CORRECTED RIG: PATRIOT #4 CREW: J. ESPINOZA / R. SANCHEZ

EQUIPMENT DATA			
RUN	TRIP	TOOL	SERIES NO.
			SERIAL NO.
			POSITION

RUN	TRIP	TOOL	SERIES NO.	SERIAL NO.	POSITION
1	1	TTRM	3981XA	10348286	FREE
1	1	COMM	3514XA	10570247	FREE
1	1	GAMMA	1329XA	Z177857	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

MAIN LOG 2"/100FT SCALE

ECLIPS 7.0w PC-ECLIPS General Release Rel 7.0w Fri Jun 09 11:02:06 Central Daylight Time 2017
Updates: 32 Patches: 2

Plotted: Thu May 10 12:55:39 2018

PARAMETER AND FILTER SUMMARY REPORT

FILE: C:\Users\koskjusd\Desktop\WSP2\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)	
Y AXIS CALIPER	FILTER ()	medium (1)		TOP	BOTTOM
TENSION	FILTER ()	medium (1)		"	"
GR	FILTER ()	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		"	"

BOREHOLE & CEMENT

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
CASING - BOREHOLE & CEMENT VOLUME	CASING O.D.	13.375	in	TOP	BOTTOM
	CASING THICKNESS	0.000	in	"	"
BIT SIZE	BIT SIZE	12.500	in	"	"
BOREHOLE CORR DIAMETER SOURCE	CALIPER/FIXED DIA. (cnbh*)	USE CALIPER		"	"
	CALIPER/FIXED DIA. (zdbh*)	USE CALIPER		"	"
BOREHOLE CORR DIAMETER	FIXED DIAMETER (cnbh*)	7.875	in	"	"

CN PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
2446 CN MATRIX	2446 MATRIX	LIMESTONE		TOP	BOTTOM
CN SALINITY CORRECTION	SALINITY CORR (2446)	SALINITY OFF		"	"
	SALINITY	0	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	10.20	lbm/gal	TOP	BOTTOM

ZDL	DENX TRACKING	ON	"	"
TRACKING TIME	Logging Spd for Gain	Over 10 ft/min	"	"

PARAMETER AND FILTER SUMMARY REPORT

FILE: C:\Users\koskjusd\Desktop\WSP2\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)
TENSION	FILTER ()	medium (1)		TOP
GR	FILTER ()	medium (1)		"

CURVE DESCRIPTION REPORT

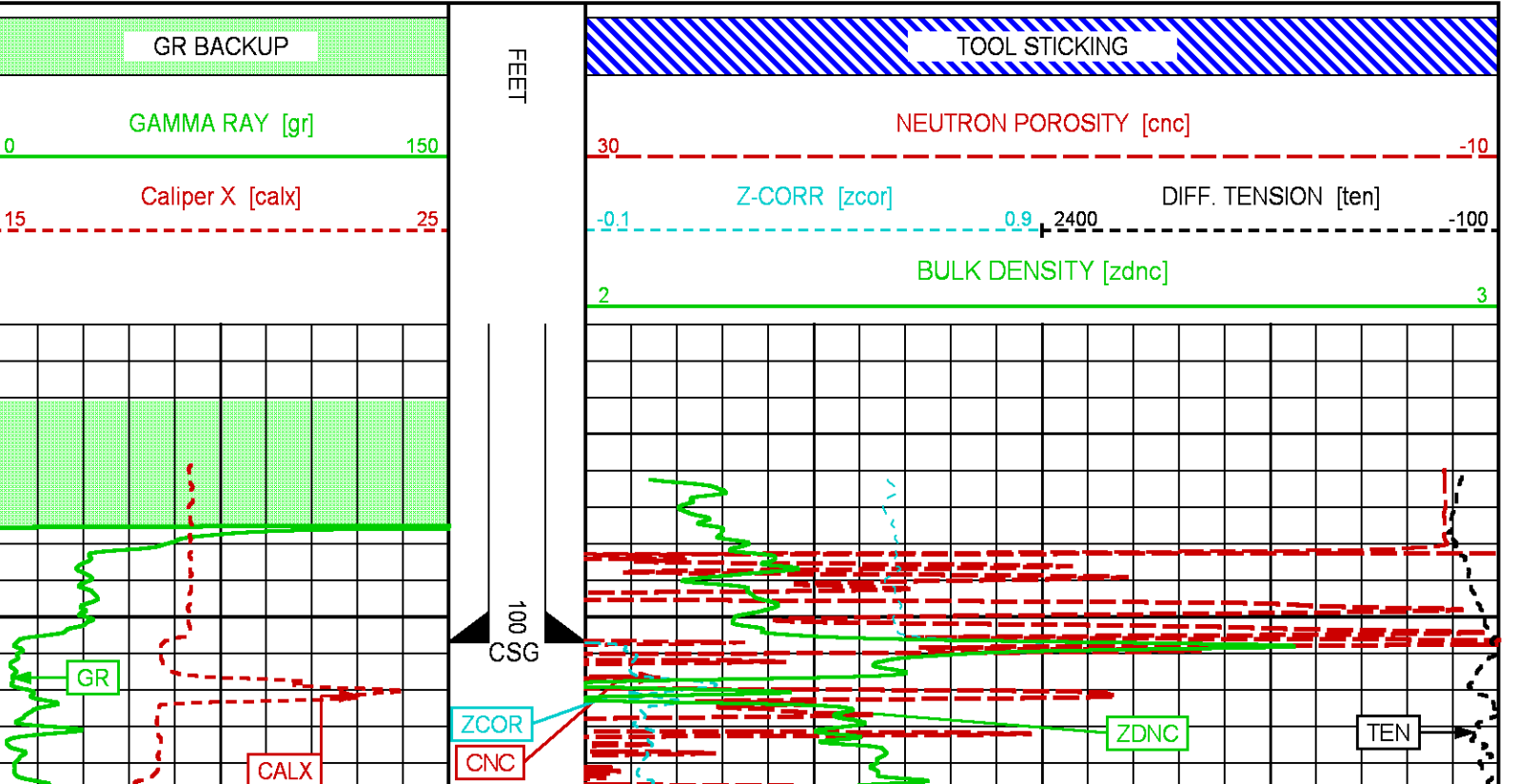
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:CALX	N/A	CALIPER FROM X-AXIS OF XY CALIPER(S)
F1:CNC	N/A	BOREHOLE SIZE CORRECTED COMPENSATED NEUTRON POROSITY
F1:GR	N/A	GAMMA RAY
F1:TEN	N/A	DIFFERENTIAL TENSION
F1:ZCOR	N/A	DENSITY CORRECTION
F1:ZDNC	N/A	BOREHOLE SIZE/MUD WEIGHT CORRECTED DENSITY

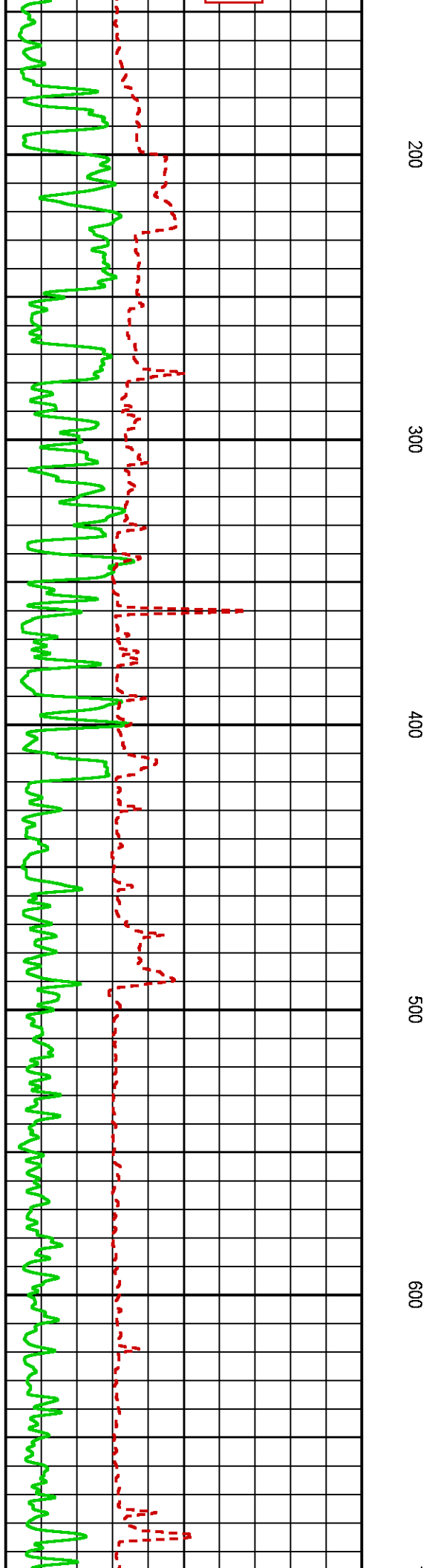
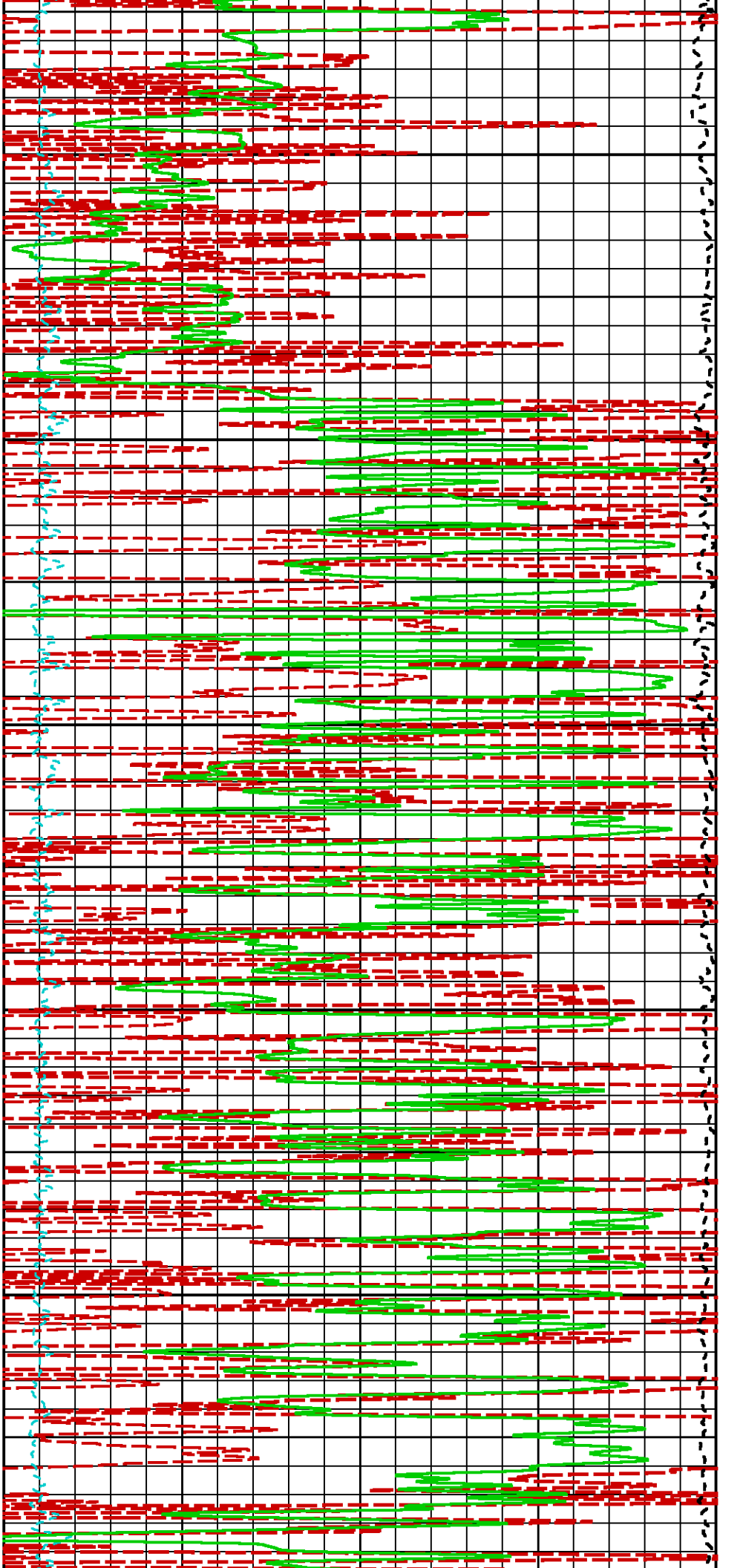
CURVE MEASURE POINT OFFSET

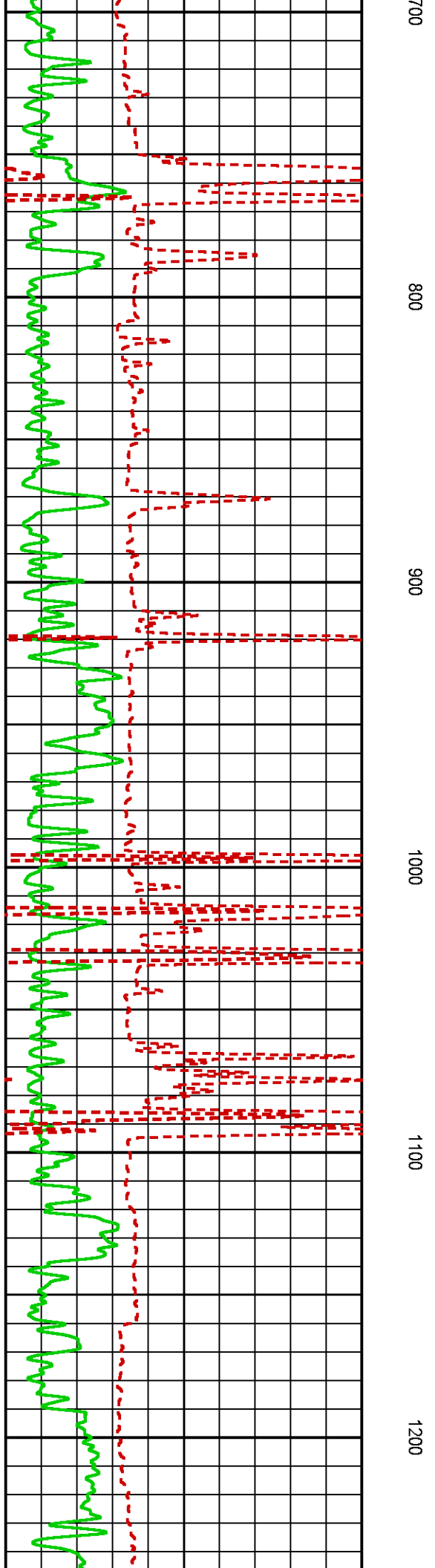
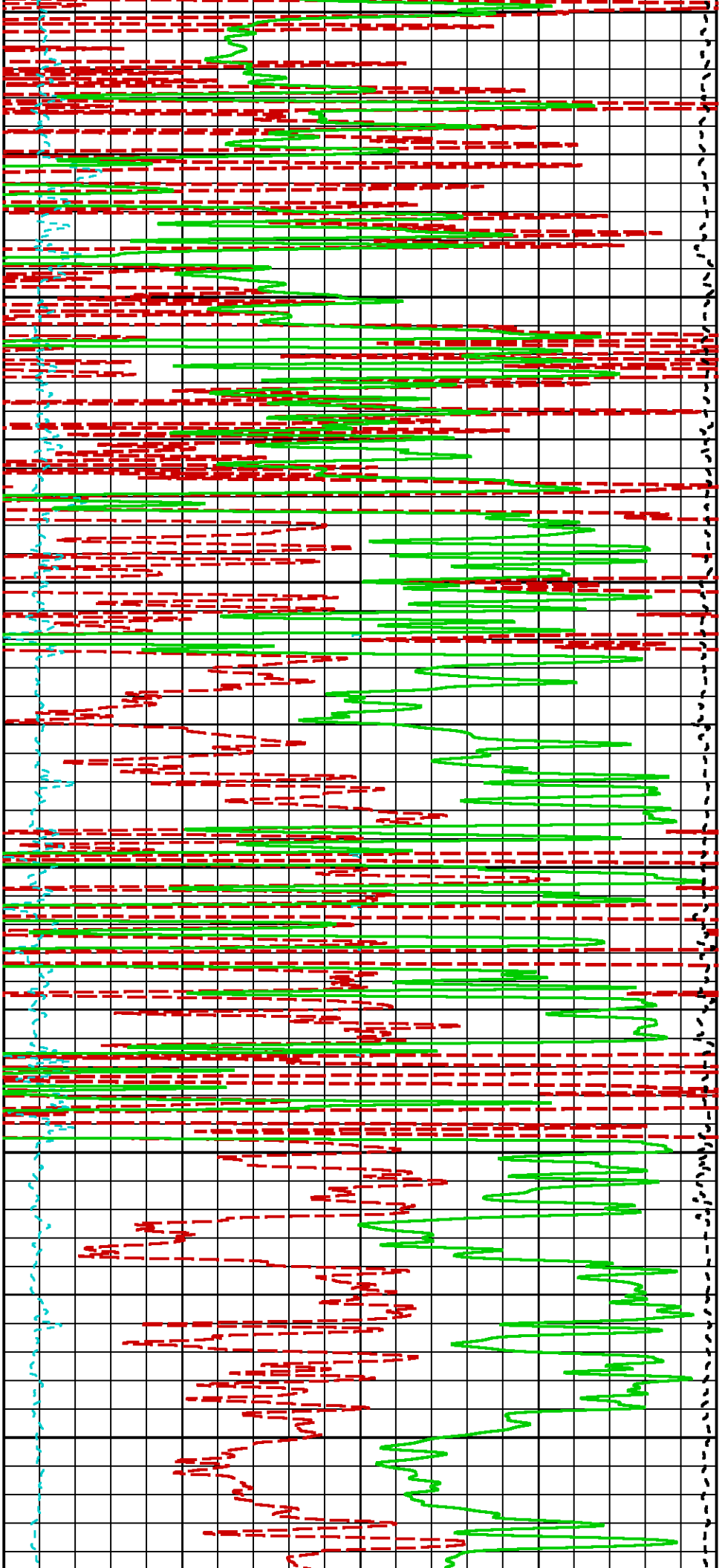
CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
CALX	-3.25	GR	-20.38	ZCOR	-2.50		
CNC	-13.50	TEN	0.00	ZDNC	-2.50		

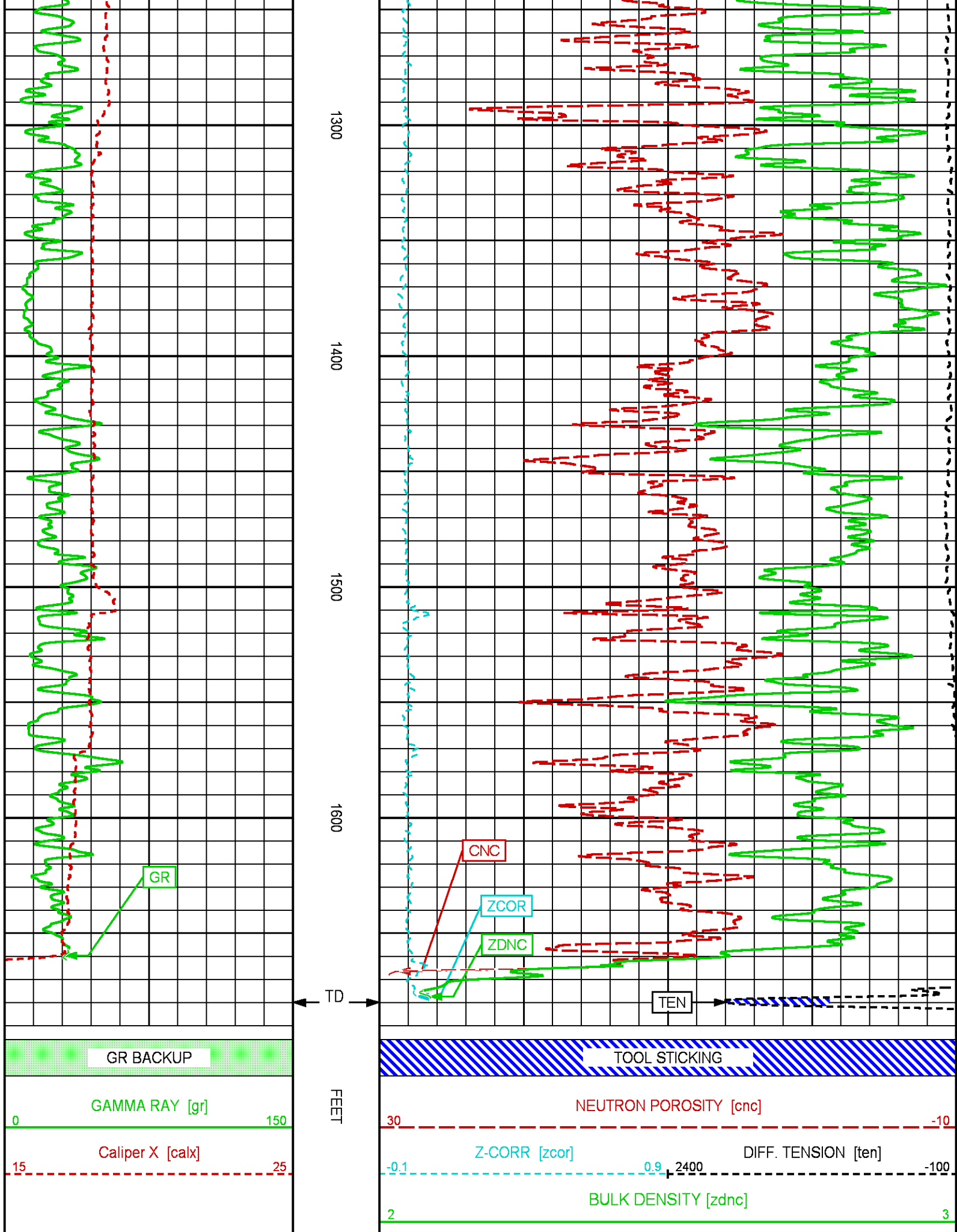
Presentation : BHI6V4KHC2:C:\Users\koskjusd\Desktop\WSP2\IPOR_TX_2-8424.fvpdf [2"/100' Scale]
Plot Interval : 26.75 - 1684 Feet

Data File 1 : F1 : BHI6V4KHC2:C:\Users\koskjusd\Desktop\WSP2\IPORM.xtf
Created On : N/A
Company : WSP USA, INC.
Well : NAVAJO REFINING WDW #4
Field : ARTESIA
File Interval : 26.75 - 1684 Feet
OCT : p87cc









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 08:32:09 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)	
Y AXIS CALIPER	FILTER ()	medium (1)		TOP	BOTTOM
TENSION	FILTER ()	medium (1)		"	"
GR	FILTER ()	medium (1)		"	"
SL	FILTER	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		"	"

BOREHOLE & CEMENT

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
CASING - BOREHOLE & CEMENT VOLUME	CASING O.D.	13.375	in	TOP	BOTTOM
	CASING THICKNESS	0.000	in	"	"
BIT SIZE	BIT SIZE	12.500	in	"	"
MUD DENSITY	MUD DENSITY	10.20	lbm/gal	"	"
BOREHOLE CORR DIAMETER SOURCE	CALIPER/FIXED DIA. (cnbh*)	USE CALIPER		"	"
	CALIPER/FIXED DIA. (slbh*)	USE CALIPER		"	"
	CALIPER/FIXED DIA. (zdbh*)	USE CALIPER		"	"
BOREHOLE CORR DIAMETER	FIXED DIAMETER (cnbh*)	7.875	in	"	"
	FIXED DIAMETER (slbh*)	7.875	in	"	"

SL PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
SL BOREHOLE	OPEN/CASED HOLE	OPEN HOLE		TOP	BOTTOM
	K COMPOUND WEIGHT %	0.00	pct	"	"
	K MUD COMPOUND TYPE	KCL		"	"
SL AUTOGAIN	AUTO GAIN (1329XA 1)	ON		"	"
SL SPECTRUM CALIBRATION	MODE	AUTOMATIC		"	"

CN PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
2446 CN MATRIX	2446 MATRIX	LIMESTONE		TOP	BOTTOM
CN SALINITY CORRECTION	SALINITY CORR (2446)	SALINITY OFF		"	"
	SALINITY	0	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

ZDL PROCESSING					
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
MUD DENSITY	MUD DENSITY	10.20	lbm/gal	TOP	BOTTOM
DENSITY POROSITY	RHOfmatrix	2.710	g/cm3	"	"
	RHOfluid	1.000	g/cm3	"	"
ZDL	DENX TRACKING	ON		"	"
TRACKING TIME	Logging Spd for Gain	Over 10 ft/min		"	"

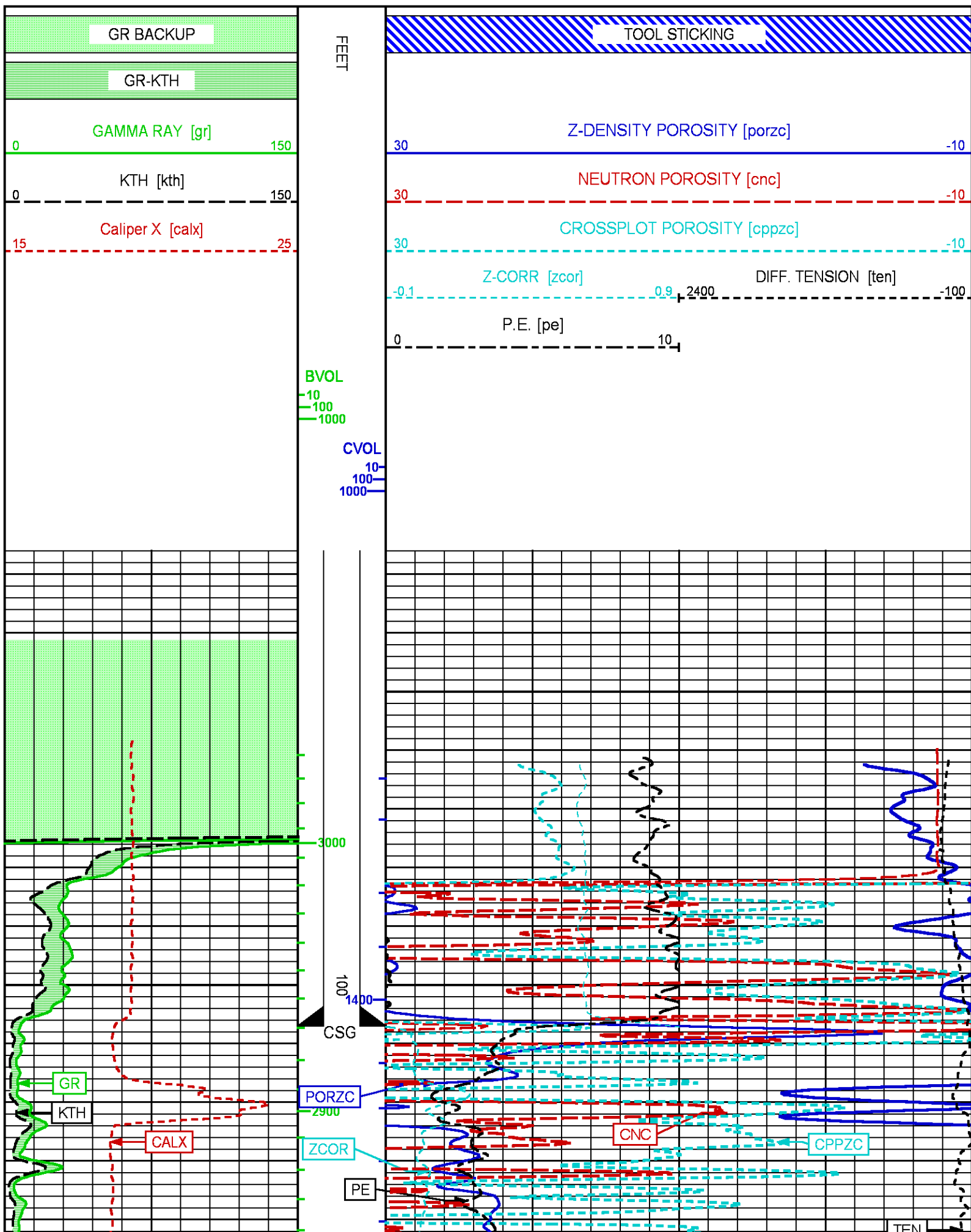
PARAMETER AND FILTER SUMMARY REPORT					
FILE: /dat1a/md11798/p87ccwgi02.prm LOGGING MODE: DEPTH DIRECTION: UP TOP DEPTH: 76.000 ft BOTTOM DEPTH: 1678.391 ft					
SYMMETRIC FILTER					
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
TENSION	FILTER ()	medium (1)		TOP	BOTTOM
GR	FILTER ()	medium (1)		"	"
SL	FILTER	medium (1)		"	"
BOREHOLE & CEMENT					
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
CASING - BOREHOLE & CEMENT VOLUME	CASING O.D.	13.375	in	TOP	BOTTOM
CALIPER SELECTION	X-Y VS MULTI-ARM SEL	MULTI-ARM CAL		"	"
BIT SIZE	BIT SIZE	12.250	in	"	"
MUD DENSITY	MUD DENSITY	8.35	lbm/gal	"	"
BOREHOLE CORR DIAMETER SOURCE	CALIPER/FIXED DIA. (slbh*)	USE CALIPER		"	"
BOREHOLE CORR DIAMETER	FIXED DIAMETER (slbh*)	12.250	in	"	"
SL PROCESSING					
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
SL BOREHOLE	OPEN/CASED HOLE	OPEN HOLE		TOP	BOTTOM
	K COMPOUND WEIGHT %	0.00	pct	"	"
	K MUD COMPOUND TYPE	KCL		"	"
SL AUTOGAIN	AUTO GAIN (1329XA 1)	ON		"	"
SL SPECTRUM CALIBRATION	MODE	AUTOMATIC		"	"

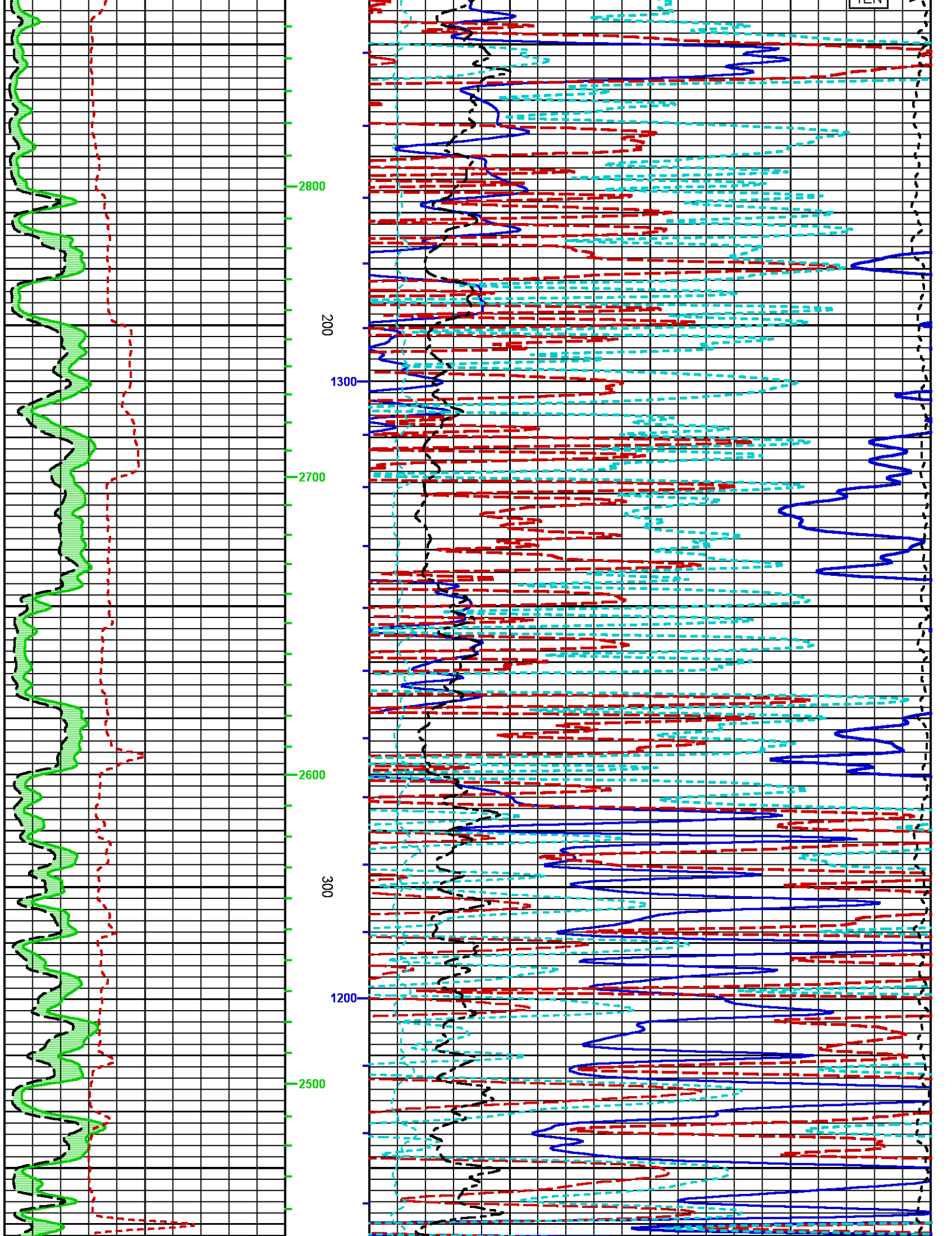
CURVE DESCRIPTION REPORT		
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:BVOL	N/A	BOREHOLE VOLUME
F1:CALX	N/A	CALIPER FROM X-AXIS OF XY CALIPER(S)
F1:CNC	N/A	BOREHOLE SIZE CORRECTED COMPENSATED NEUTRON POROSITY
F1:CPPZC	N/A	CROSSPLOT POROSITY FROM ZDEN
F1:CVOL	N/A	CEMENT VOLUME
F1:GR	N/A	GAMMA RAY
F1:KTH	N/A	STRIPPED POTASSIUM-THORIUM
F1:PE	N/A	PHOTO ELECTRIC CROSS-SECTION
F1:PORZC	N/A	CORRECTED POROSITY
F1:TEN	N/A	DIFFERENTIAL TENSION
F1:ZCOR	N/A	DENSITY CORRECTION

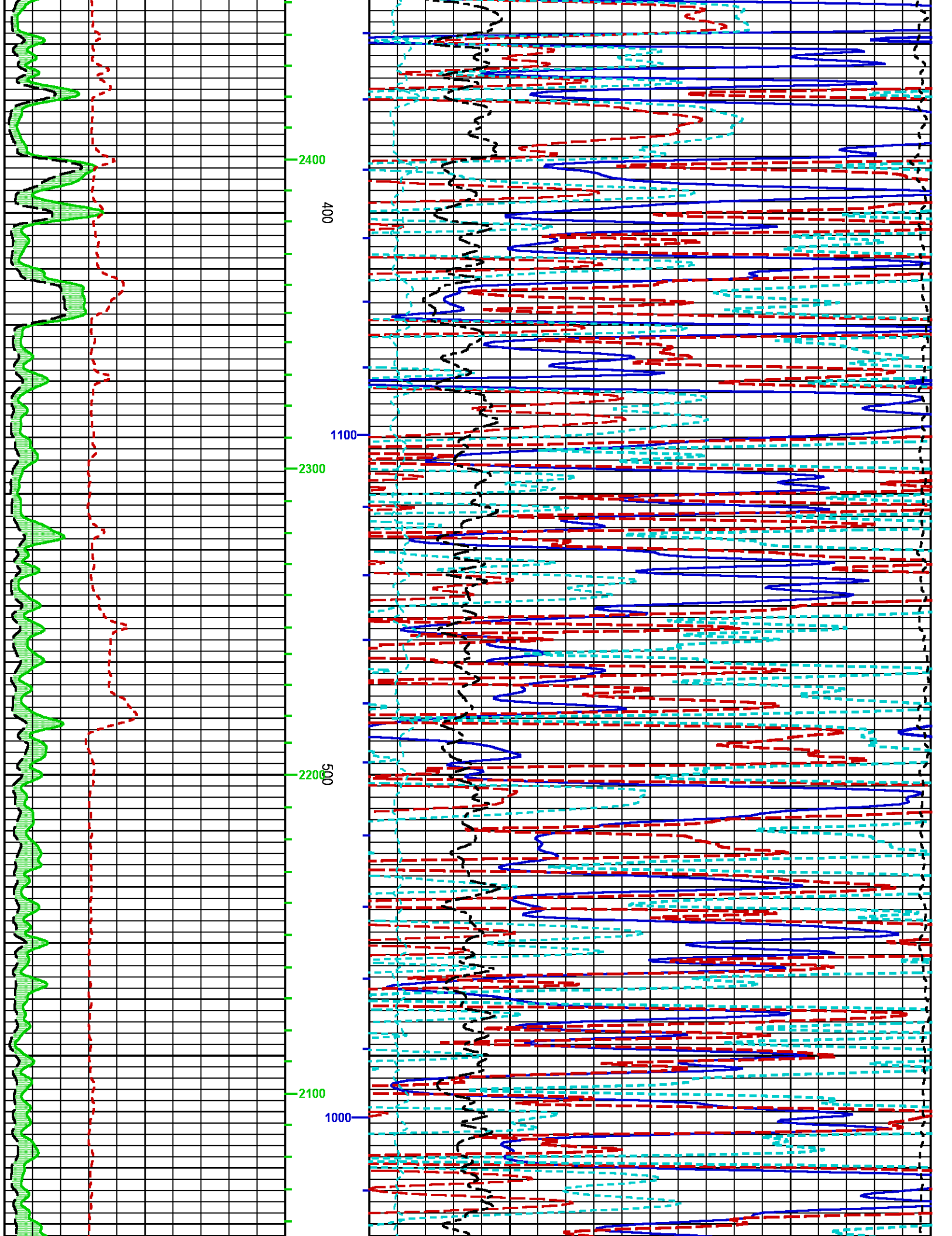
CURVE MEASURE POINT OFFSET							
CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
CALX	-3.25	GR	-20.38	PORZC	-2.50		
CNC	-13.50	KTH	-20.38	TEN	0.00		
CPPZC	-2.50	PE	-2.50	ZCOR	-2.50		

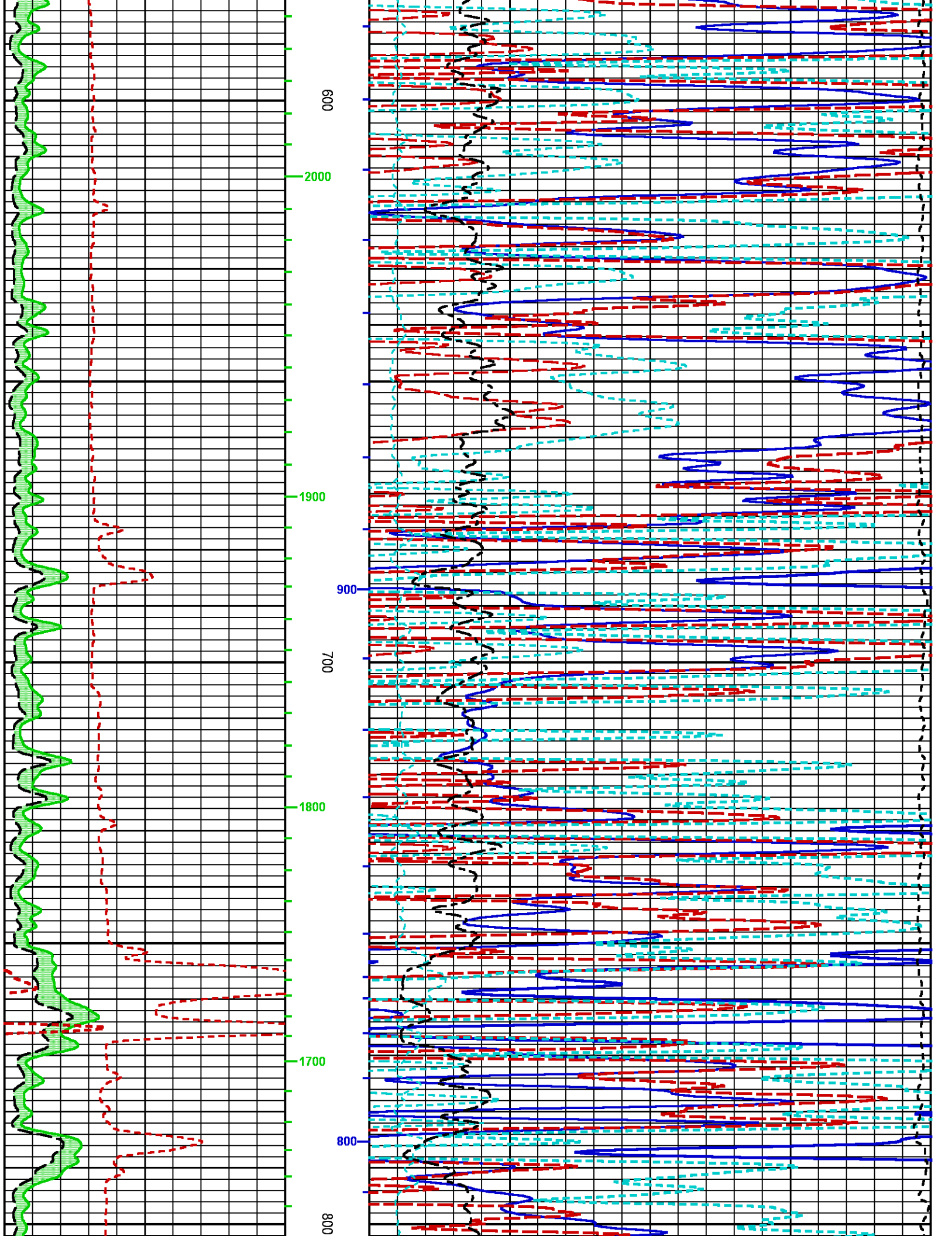
Presentation	: SysA:/dat1a/md11798/POR_TX_5.fvpdf [5"/100' Scale]
Plot Interval	: 26.75 - 1684 Feet
Data File 1	: F1 : SysA:C:\Users\koskjusd\Desktop\WSP2\IORM.xtf
Created On	: N/A
Company	: WSP USA, INC.
Well	: NAVAJO REFINING WDW #4
Field	: ARIZONA

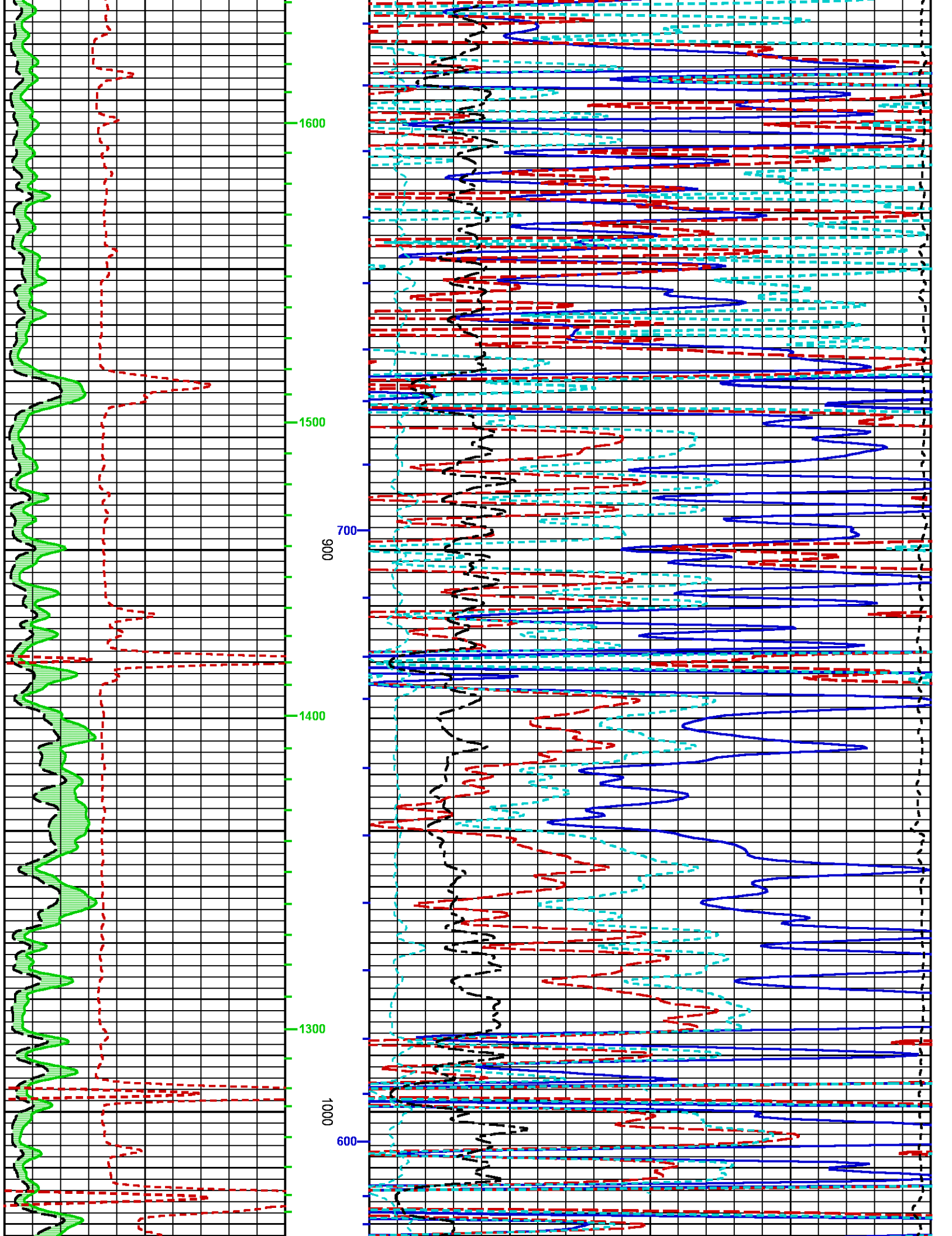
Field : ARTESIA
File Interval : 26.75 - 1684 Feet
OCT : p87cc

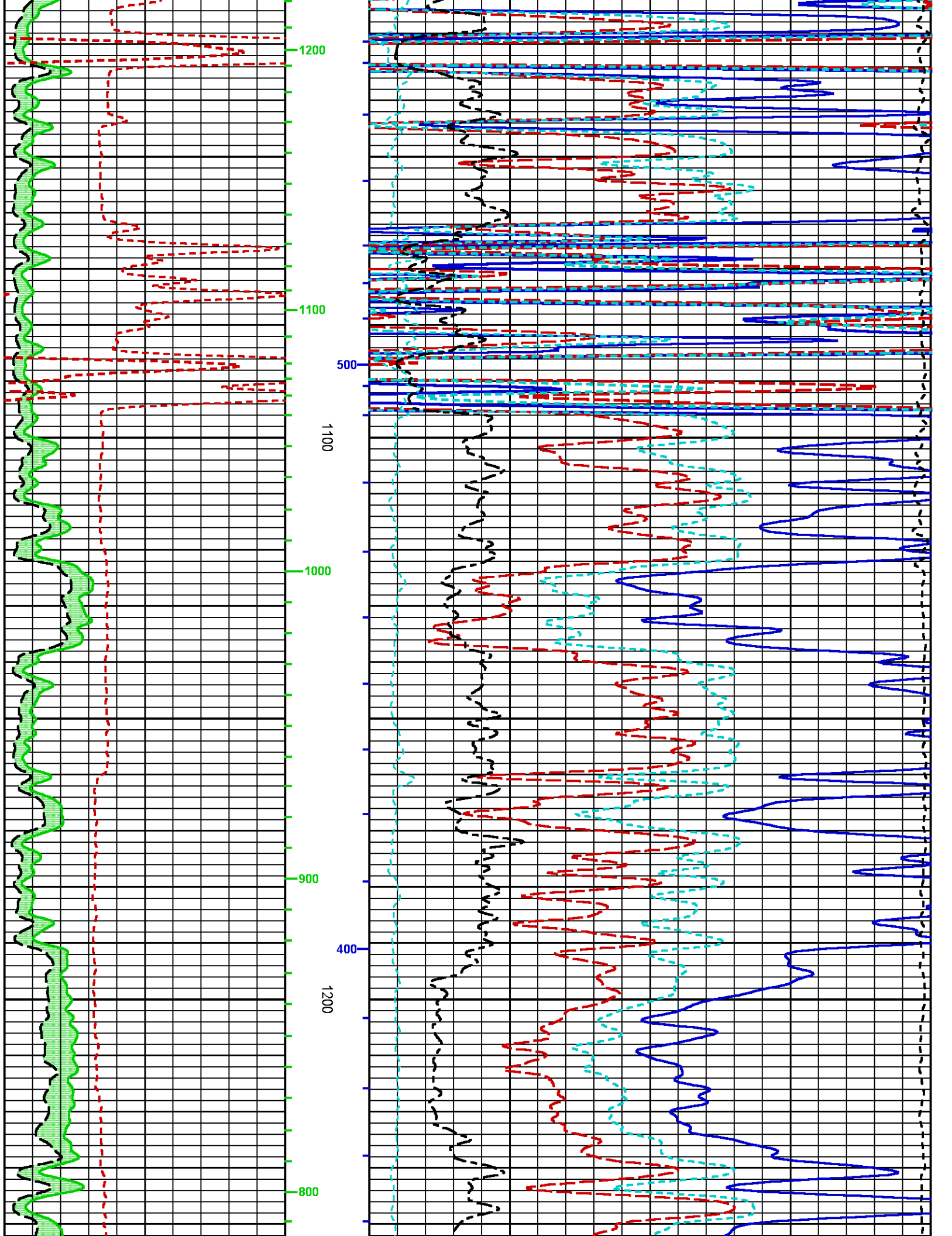


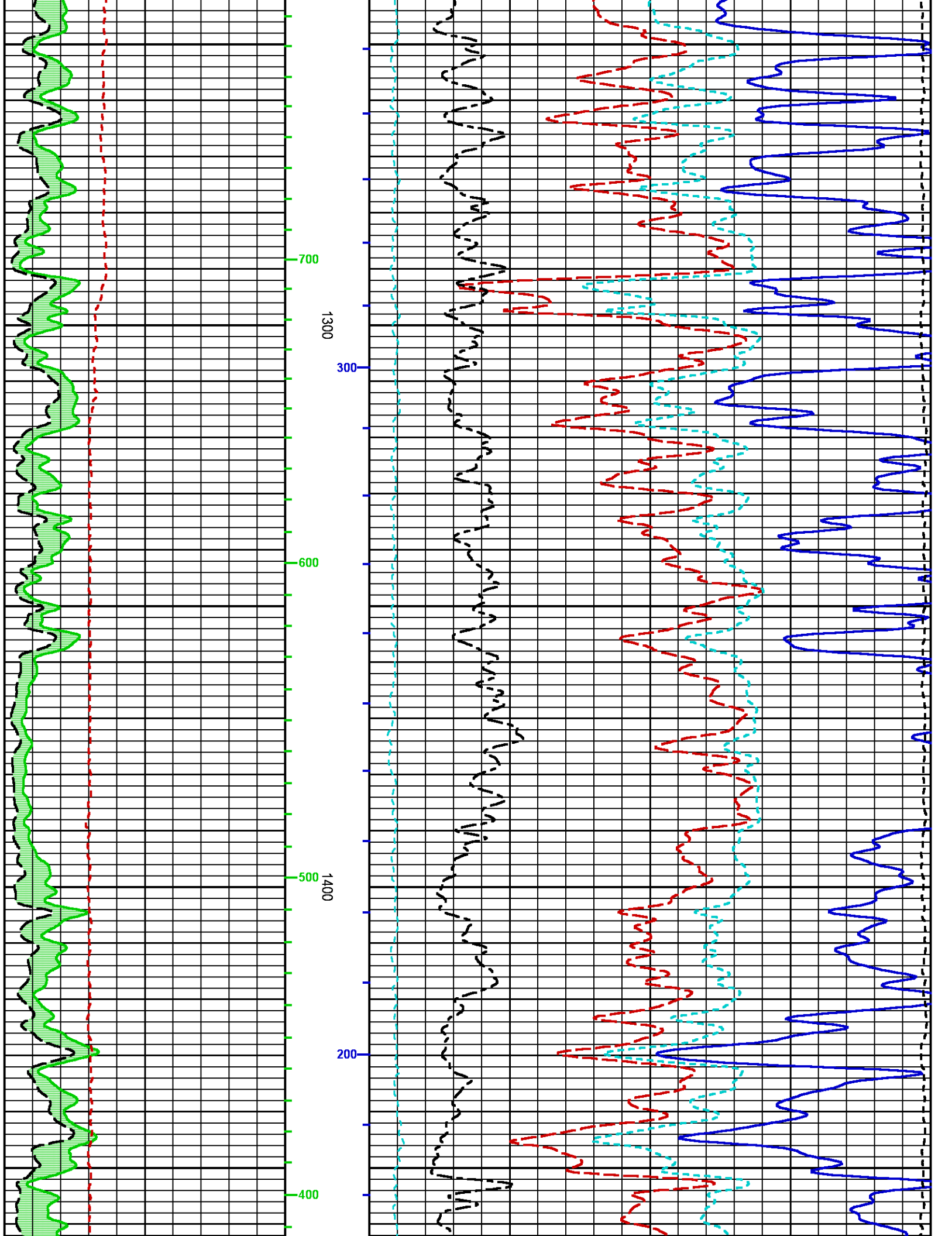


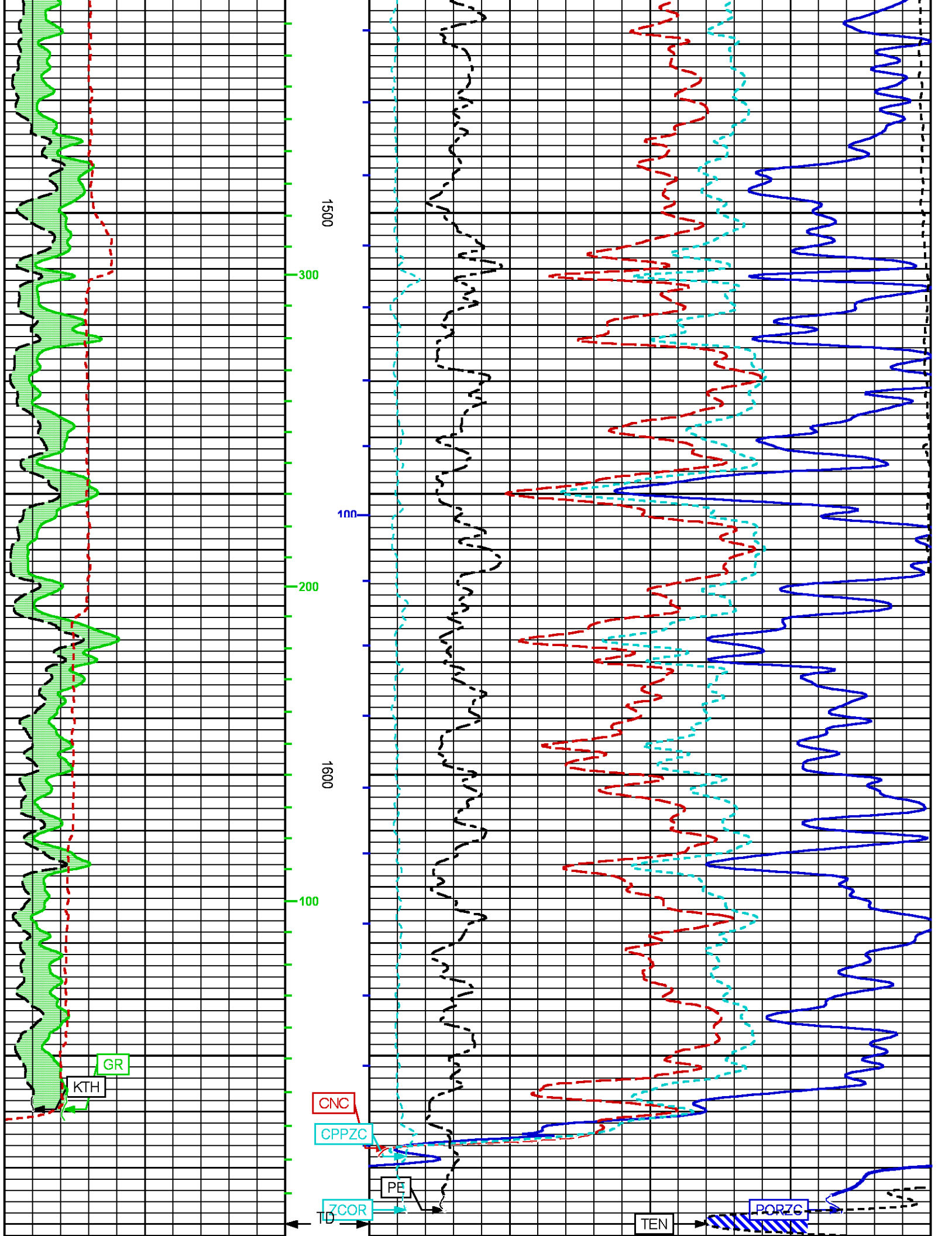


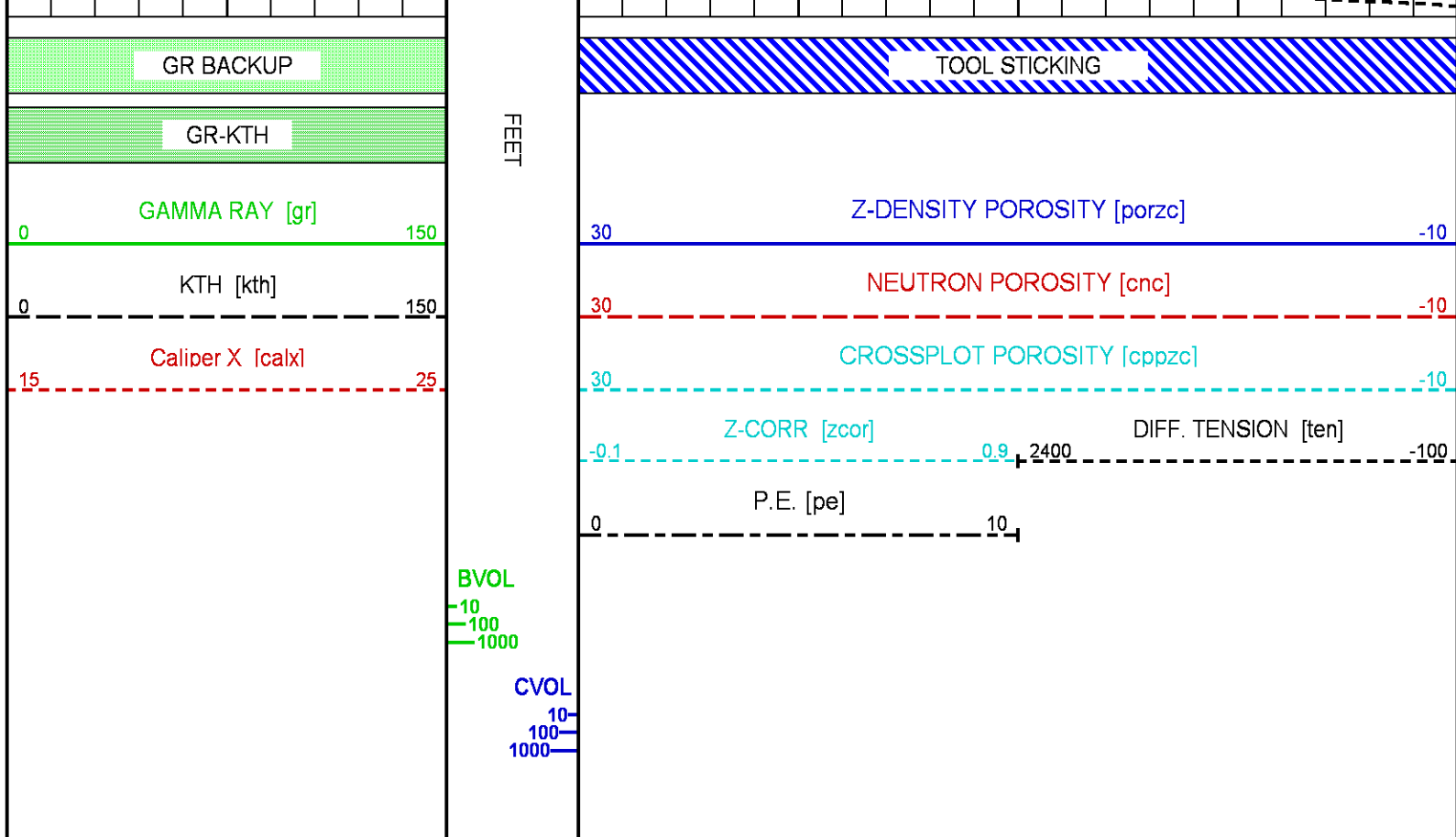












REPEAT LOG 5"/100FT SCALE

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

Patches: 3

Plotted: Thu May 10 08:32:50 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)	
Y AXIS CALIPER	FILTER ()	medium (1)		TOP	BOTTOM
TENSION	FILTER ()	medium (1)		"	"
GR	FILTER ()	medium (1)		"	"
SL	FILTER	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		"	"
	FII TFR (hrd2s*)	medium		"	"
	FILTER (soft*)	medium		"	"

BOREHOLE & CEMENT

BOREHOLE & CEMENT					
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
CASING - BOREHOLE & CEMENT VOLUME	CASING O.D.	13.375	in	TOP	BOTTOM
	CASING THICKNESS	0.000	in	"	"
BIT SIZE	BIT SIZE	12.500	in	"	"
MUD DENSITY	MUD DENSITY	10.20	lbm/gal	"	"
BOREHOLE CORR DIAMETER SOURCE	CALIPER/FIXED DIA. (cnbh*)	USE CALIPER		"	"
	CALIPER/FIXED DIA. (slbh*)	USE CALIPER		"	"
	CALIPER/FIXED DIA. (zdbh*)	USE CALIPER		"	"
BOREHOLE CORR DIAMETER	FIXED DIAMETER (cnbh*)	7.875	in	"	"
	FIXED DIAMETER (slbh*)	7.875	in	"	"

SL PROCESSING					
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
SL BOREHOLE	OPEN/CASED HOLE	OPEN HOLE		TOP	BOTTOM
	K COMPOUND WEIGHT %	0.00	pct	"	"
	K MUD COMPOUND TYPE	KCL		"	"
SL AUTOGAIN	AUTO GAIN (1329XA 1)	ON		"	"
SL SPECTRUM CALIBRATION	MODE	AUTOMATIC		"	"

CN PROCESSING					
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
2446 CN MATRIX	2446 MATRIX	LIMESTONE		TOP	BOTTOM
	CN SALINITY CORRECTION	SALINITY CORR (2446)		"	"
		SALINITY	0	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	"	"

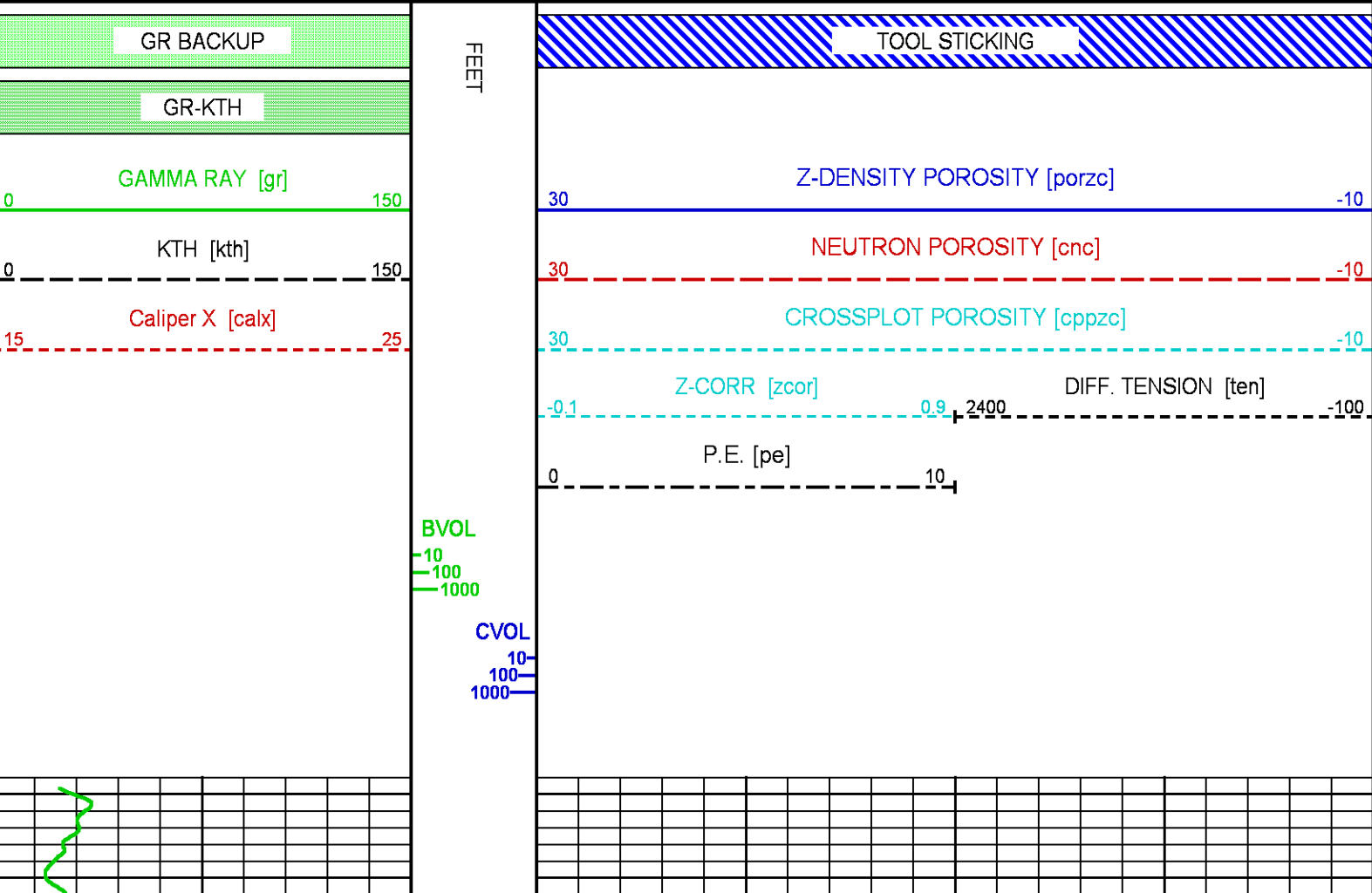
ZDL PROCESSING					
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
MUD DENSITY	MUD DENSITY	10.20	lbm/gal	TOP	BOTTOM
DENSITY POROSITY	RHOmatrix	2.710	g/cm3	"	"
	RHOfluid	1.000	g/cm3	"	"
ZDL	DENX TRACKING	ON		"	"
TRACKING TIME	Logging Spd for Gain	Over 10 ft/min		"	"

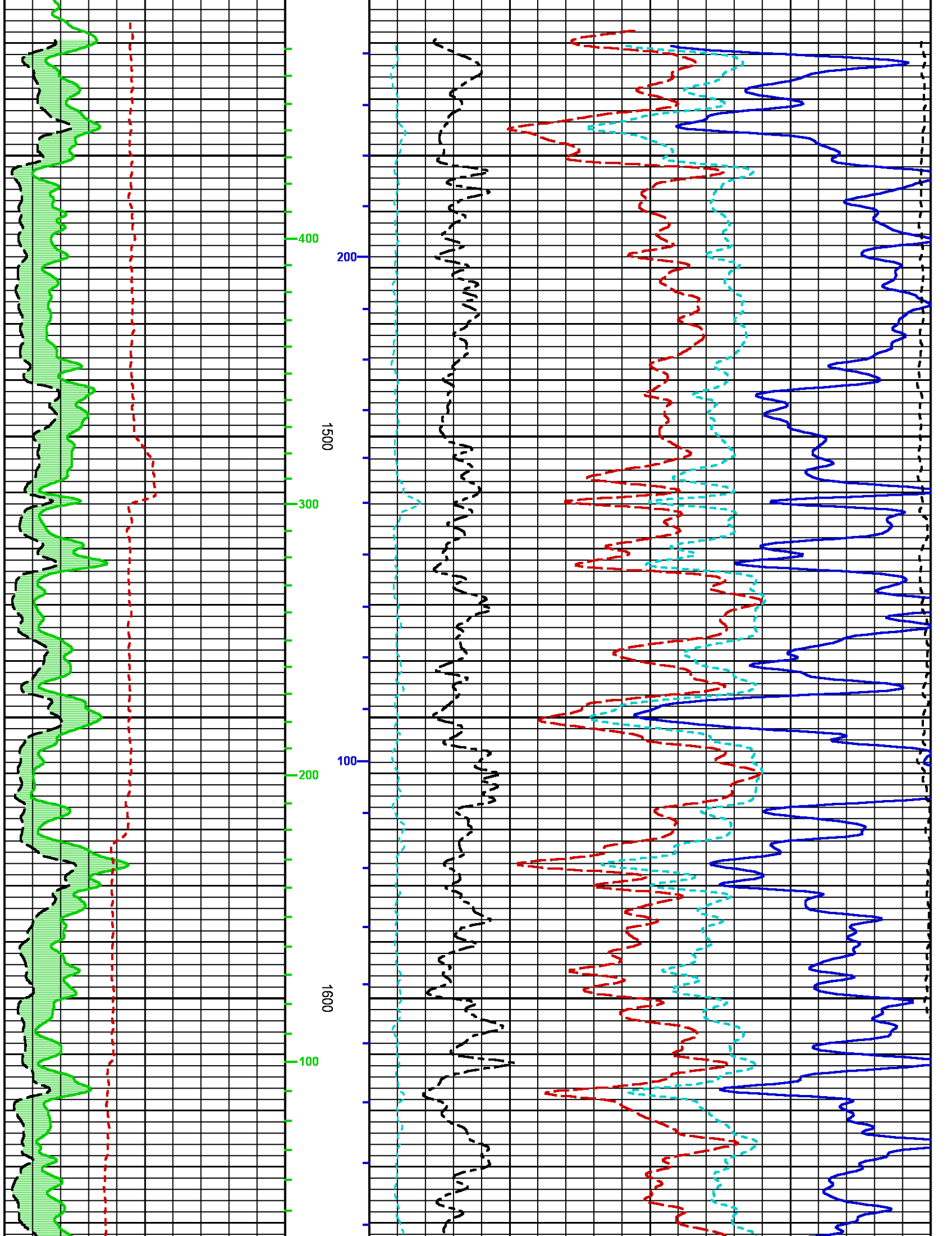
PARAMETER AND FILTER SUMMARY REPORT					
FILE: /dat1a/md11798/p87ccwgi01.prm LOGGING MODE: DEPTH DIRECTION: UP TOP DEPTH: 1444.203 ft BOTTOM DEPTH: 1680.039 ft					

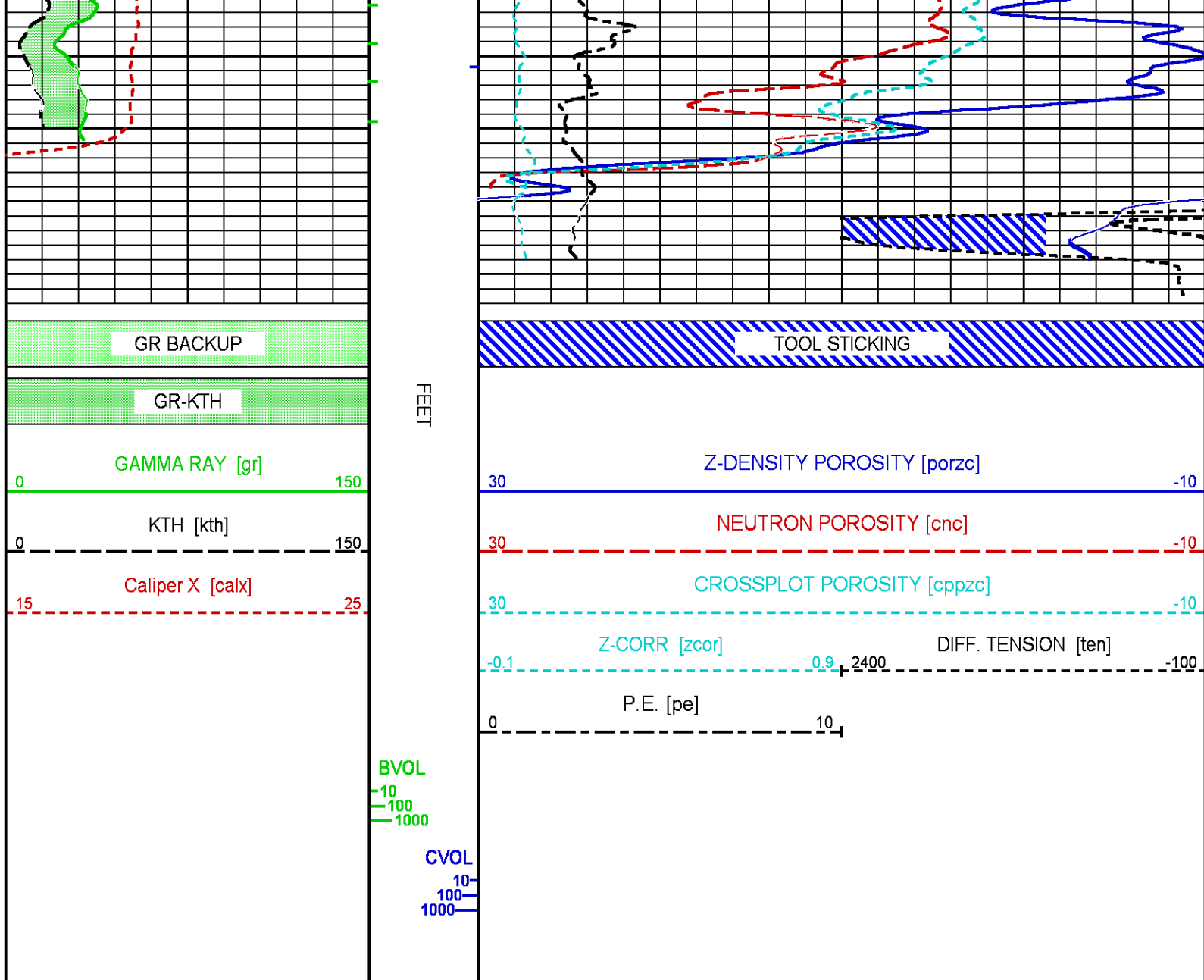
SYMMETRIC FILTER					
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
TENSION	FILTER ()	medium (1)		TOP	BOTTOM
GR	FILTER ()	medium (1)		"	"
SL	FILTER	medium (1)		"	"

BOREHOLE & CEMENT					
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
CASING - BOREHOLE & CEMENT VOLUME	CASING O.D.	13.375	in	TOP	BOTTOM
CALIPER SELECTION	X-Y VS MULTI-ARM SEL	MULTI-ARM CAL		"	"
BIT SIZE	BIT SIZE	12.250	in	"	"
MUD DENSITY	MUD DENSITY	8.35	lbm/gal	"	"
BOREHOLE CORR DIAMETER SOURCE	CALIPER/FIXED DIA. (slbh*)	USE CALIPER		"	"
BOREHOLE CORR DIAMETER	FIXED DIAMETER (slbh*)	12.250	in	"	"

SL PROCESSING					
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
SL BOREHOLE	OPEN/CASED HOLE	OPEN HOLE		TOP	BOTTOM
	K COMPOUND WEIGHT %	0.00	pct	"	"
	K MUD COMPOUND TYPE	KCL		"	"







CALIBRATION / VERIFICATION SUMMARY

Source File: C:\Users\koskjusd\Desktop\WSP2\p87cc.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

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

CN PRIMARY CALIBRATION SUMMARY

TOOL #: 2446XA 10080837

DATE/TIME PERFORMED: Sun Apr 15 09:23:04 2018

UNIT #: 5753XD 10215900

CALIBRATOR #: 2437XB 113988

SOURCE #: 4717XS SN-902

	MEASURED CPS	DEADTM CORR CPS	DTC SSN/LSN	NOMINAL SSN/LSN	CORRECTION FACTOR	POROSITY (pu)
LSN	587.35	595.75				
SSN	1486.98	1532.56				
RATIO			2.57251	2.75100	1.06938	
					0.97000 1.07000	
CN						21.358

CN PRIMARY VERIFICATION SUMMARY

TOOL #: 2446XA 10080837

DATE/TIME PERFORMED: Sun Apr 15 09:31:09 2018

UNIT #: 5753XD 10215900

ICE BLOCK #: 4717ND SN-902

	MEASURED CPS	DEADTM CORR CPS	DTC SSN/LSN	CORRECTION FACTOR	DTC CORR SSN/LSN	POROSITY (pu)
LSN	2050.16	2156.30				
SSN	4744.63	5242.16				
RATIO			2.43109	1.06938	2.60115	
CN						19.244

CAL PRIMARY CALIBRATION SUMMARY

TOOL #: 2234XA 12429124

DATE/TIME PERFORMED: Sun Apr 15 11:25:49 2018

UNIT #: 5753XD 10215900

	SMALL RING	LARGE RING	MULT	ADD	SMALL RING	LARGE RING
					(in)	(in)
CALIPER	2020.4	2931.2	0.00782	-7.93017	7.875	15.000

ZDL PRIMARY CALIBRATION SUMMARY

TOOL: 2234XA 12429124

DATE/TIME PERFORMED: Sun Apr 15 12:21:10 2018

UNIT: 5753XD 10215900

CALB BLKS: 2225XA 114927

CS SRC: 4703NT 11350B

	SS CS PK (Channel)	LS CS PK (Channel)	SS_BKGD (cps)	LS BKGD (cps)		
	224.8	225.2	1234.0	1593.0		
	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)	18317.8	9614.1	0.604	1.703	0.002	2.180
			0.565 0.665			
AL	10640.6	969.1		2.697	-0.008	
AL + SHIM	14800.7	1684.1		2.617	0.159	
MG + SHIM (HI PE)	8925.4	4569.3	0.233			8.600
			0.210 0.270			
RATIO AL + SHIM/AL	1.39	1.74				
	1.32 1.42	1.64 1.84				
RATIO MG/AL	1.72	9.92				
	1.65 1.78	9.40 10.20				



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 7.0w PC-ECLIPS General Release Rel 7.0w Fri Jun 09 11:02:06 Central Daylight Time 2017
Updates: 32 Patches: 2

Plotted: Thu May 10 12:54:39 2018

PARAMETER AND FILTER SUMMARY REPORT

FILE:	C:\Users\mkoal\OneDrive\Desktop\WSP21p87cc01.prm
LOGGING MODE:	DEPTH
TOP DEPTH:	1426.816 ft
DIRECTION:	UP
BOTTOM DEPTH:	1677.842 ft

SYMMETRIC FILTER					
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
Y AXIS CALIPER TENSION	FILTER Q	medium (1)		TOP	BOTTOM
	FILTER Q	medium (1)		"	"
	GR	medium (1)		"	"
	CN	medium (1)		"	"
	CALIPER	medium (1)		"	"
ZDL MED RES	FILTER (h)	medium (1)		"	"
	FILTER (i)	medium (1)		"	"
	FILTER (nid1*)	medium		"	"
	FILTER (nid1*)	medium		"	"
	FILTER (nid2*)	medium		"	"
	FILTER (nid2*)	medium		"	"

BOREHOLE & CEMENT					
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
CASING - BOREHOLE & CEMENT VOLUME	CASING O.D.	13.375	in	TOP	BOTTOM
	CASING THICKNESS	0.000	in	"	"
BIT SIZE	BIT SIZE	12.500	in	"	"
BOREHOLE CORR DIAMETER SOURCE	CALIPER/FIXED DIA. (cnbm*)	USE CALIPER		"	"
	CALIPER/FIXED DIA. (zdbm*)	USE CALIPER		"	"
BOREHOLE CORR DIAMETER	FIXED DIAMETER (cnbm*)	7.875	in	"	"

CN PROCESSING					
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
2446 CN MATRIX	2446 MATRIX	LIMESTONE		TOP	BOTTOM
	CN SALINITY CORRECTION	SALINITY CORR (2446)		"	"
CN TOOL STANDOFF	SALINITY	0	ppm	"	"
	ENABLE STANDOFF CORR	OFF		"	"
CN CASING & CEMENT CORRECTION	STANDOFF AMOUNT	0.00	in	"	"
	CORRECTION	OFF		"	"
	BIT SIZE BEHIND CSNG	7.875	in	"	"

ZDL PROCESSING					
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
MUD DENSITY	MUD DENSITY	10.20	lbm/gal	TOP	BOTTOM
ZDL	DENK TRACKING	ON		"	"
TRACKING TIME	Logging Spd for Gain	Over 10 ft/min		"	"

PARAMETER AND FILTER SUMMARY REPORT					
FILE: C:\Users\kaskjusd\Desktop\WSP2\p87ccmg02.prm					
LOGGING MODE: TOP DEPTH:	DEPTH	16.000 ft	DIRECTION	UP	
	BOTTOM DEPTH:	1678.391 ft			

SYMMETRIC FILTER					
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
TENSION	FILTER Q	medium (1)		TOP	BOTTOM
GR	FILTER Q	medium (1)		"	"

CURVE DESCRIPTION REPORT		
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:CALX	N/A	CALIPER FROM X-AXIS OF XY CALIPER(S)
F1:CNC	N/A	BOREHOLE SIZE CORRECTED COMPENSATED NEUTRON POROSITY
F1:GR	N/A	GAMMA RAY
F1:TEN	N/A	DIFFERENTIAL TENSION
F1:ZCOR	N/A	DENSITY CORRECTION
F1:ZDNC	N/A	BOREHOLE SIZE/MUD WEIGHT CORRECTED DENSITY

CURVE MEASURE POINT OFFSET							
CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
CALX	-3.25	GR	-20.38	ZCOR	-2.50		
CNC	-13.50	TEN	0.00	ZDNC	-2.50		

Presentation Plot Interval	: BH16V4KHC2:C:\Users\kaskjusd\Desktop\WSP2\POR_TX_1-4424.fvpdf [2"/100' Scale]
	: 26.75 - 1684 Feet
Data File 1	: F1 : BH16V4KHC2:C:\Users\kaskjusd\Desktop\WSP2\PORM.txtf
Created On	: N/A
Company	: WSP USA, INC.
Well	: NAVAJO REFINING WDW #4
Field	: ARTESIA
File Interval	: 26.75 - 1684 Feet
OCT	: p87cc

