#4100, 350 - 7th Avenue SW, Calgary, AB T2P 3N9
Phone (403) 781-7800 Fax (403) 781-7801
www.mgmenergy.com

Monday, February 25, 2013

hand delivered

National Energy Board
444 Seventh Avenue SW
Calgary, AB T2P 0X8

Attention: Patric Smyth (Chief Conservation Officer)
C/O
Lori-Ann Sharp (Frontier Data Management)

Greetings:

RE: Final surface wireline, TD to surface wireline, image log, and Continental Labs mud/gas logs for (MGM) East Mackay I-78 logs

Please find enclosed the prints and digital versions (CDs) of the various logs for East-Mackay I-78 well.

For questions or concerns, please contact Paul Price at 403-781-7817 or paul.price@mgmenergy.com, or Austin Springer at 403-781-7815 or austin.springer@mgmenergy.com.

Yours truly,

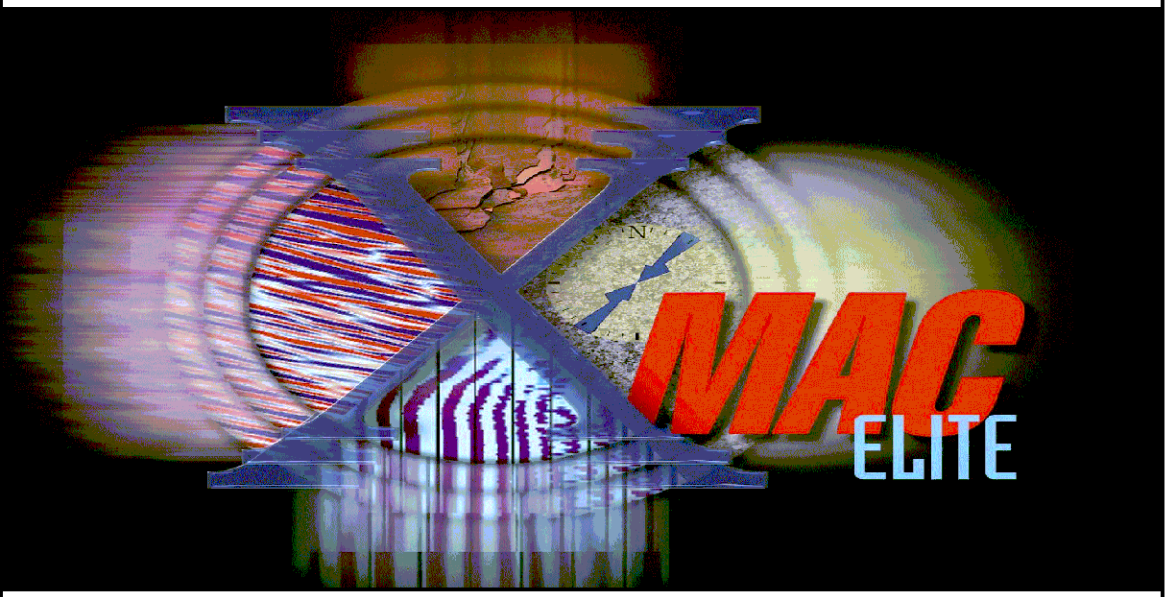
MGM ENERGY CORP.

Austin C. Springer-
Geoscience Operations

Enclosures:

- Contential Labs Mud/Gas Log
  - 1 paper and 1 CD digital copy of mud/gas log
- Surface Hole logs
  - 5 logs and digital copy of logs (CD)
- TD to surface hole
  - 7 paper logs and a digital copy of logs (CD)
- Image log TD to 1636m
  - 1 paper copy and 1digital copy (CD)

BAKER HUGHES



CROSS-MULTIPOLE ARRAY ACOUSTILOG AZIMUTHAL ANISOTROPY ANALYSIS

COMPANY MGM ENERGY CORP

WELL MGM SHELL EAST MACKAY I-78

FIELD EAST MACKAY

PROVINCE NORTHWEST TERRITORIES

LOCATION:

LAT 64.795 LONG -125.722

ELEVATIONS:

KB 161.2 M DF GL 155.00 M

DATE 29-JAN-2013 ECC 215445

BOREHOLE RECORD

BIT SIZE	FROM	TO
311.0 MM	22.5 M	405.2 M

CASING RECORD

SIZE	WEIGHT	GRADE	FROM	TO
406.4 MM	81.8 KG/M	NA	0.0 M	22.5 M

REMARKS

TIME STOPPED CIRCULATION: 29-JAN-2013 11:30 AM

MAXIMUM TEMPERATURE ON THERMOMETERS: 26 AND 26 DEGC
TEMPERATURE LOG WAS RECORDED ON THE WAY DOWN.

INTEGRATED TRANSIT TIME TICS EVERY: 1.0, 10.0, & 100.0 µSEC.

RIG: AKITA #37

CREW: I.ZALESKIKH, J.PEREIRA, N.MCDERMID, K.HASIUK

PETROPHYSICIST: MILAN MARKOVIC, BAKER HUGHES GEOSCIENCE

EQUIPMENT DATA

EQUIPMENT DATA

RUN	TRIP	TOOL	SERIES NO.	SERIAL NO.	POSITION
1	1	SWIVEL	3944XD	10513050	FREE
1	1	DHPA	4430XB	10390592	FREE
1	1	TTRM SUB	3981XB	10516528	FREE
1	1	COMM	3514XB	10504656	FREE
1	1	WTS DGR/SLI	1329XB	10293862	FREE
1	1	ORIT	4401XB	12466129	FREE
1	1	ACOUSTIC EL	1677EA	10383992	CENTRALIZED
1	1	XMAC RX MDR	1678MC	10386815	CENTRALIZED
1	1	XMAC ISO	1678PB	10039369	FREE
1	1	XMAC TX ELC	1678BA	12168167	CENTRALIZED
1	1	XMAC TX ELC	1678FA	12188364	CENTRALIZED
1	1	WTS DBL KNJ	3939XA	12448499	FREE
1	1	FOC/WTS ADP	3527EA	12337591	FREE
1	1	FOC/WTS ADP	3527FA	12494796	FREE
1	1	TTMA SUB	3980XA	Z402456	FREE
1	1	FOCUS CN	2436XA	10105638	DECENTRALIZED
1	1	FOCUS ZDEN	2223XA	10391896	PAD DEVICE
1	1	DBL KNJT	3931XA	10469360	FREE
1	1	ALGNMNT SUB	4408NA	10265502	FREE
1	1	FOCUS ZDEN	2223XA	10102923	PAD DEVICE
1	1	DBL KNJT	3931XA	10189700	FREE
1	1	FOCUS HDIL	1530XA	10125755	STANDOFF

AZIMUTHAL ANISOTROPY MAP

eXpress 3.2 Last updated 03Oct2011 09:44 Oct 03, 2011 Fri Feb 1 11:05:48 2013
Updates: 1

Pcrplt /main/61 Cplot 9.16 Pdf_Cpp /main/16 Fileview 4.97

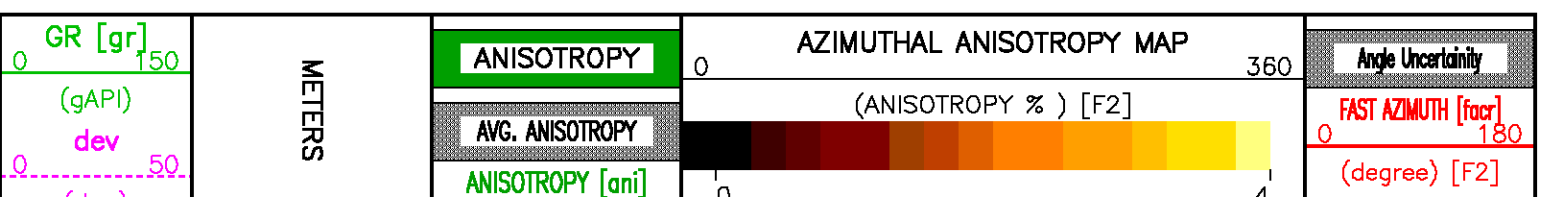
CURVE MEASURE POINT OFFSET

CURVE	OFFSET (m)	CURVE	OFFSET (m)	CURVE	OFFSET (m)	CURVE	OFFSET (m)
ANI	25.37	BIT	0.00	DEVXEQI	23.32	FPOS	25.37
ANIA	23.55	CALX	9.64	FACR	25.37	GR	33.76
AZSH	23.32	CALY	5.49	FNEG	25.37		

Project : /data/markmil/215445_MGM_XMAC
User : markmil
Presentation : calsunsrv3:/data/markmil/215445_MGM_XMAC/animap.pdf [1:240 Scale]
Plot Interval : 1.3716 - 382.524 Meters

Data File 1 : F1 : calsunsrv3:/export/data/markmil/215445_MGM_XMAC/slam_main.xtf
Created On : Jan 29 21:27:27 2013
Company : MGM ENERGY CORP
Well : MGM SHELL EAST MACKAY I-78
Field : EAST MACKAY
File Interval : -37.2618 - 406.184 Meters
Oct : m980g

Data File 2 : F2 : calsunsrv3:/export/data/markmil/215445_MGM_XMAC/anisotropy.xtf
Created On : Feb 1 10:27:26 2013
Company :
Well :
Field :
File Interval : 19.9644 - 382.524 Meters
Oct : NA



(deg)

Caliper X [calx]
175 425
(mm)

AZIMUTH [azsh]
0 360
(degree) [F2]

Caliper X [caly]
175 425
(mm)

BIT [bit]
175 425
(mm)

0 40
(%) [F2]

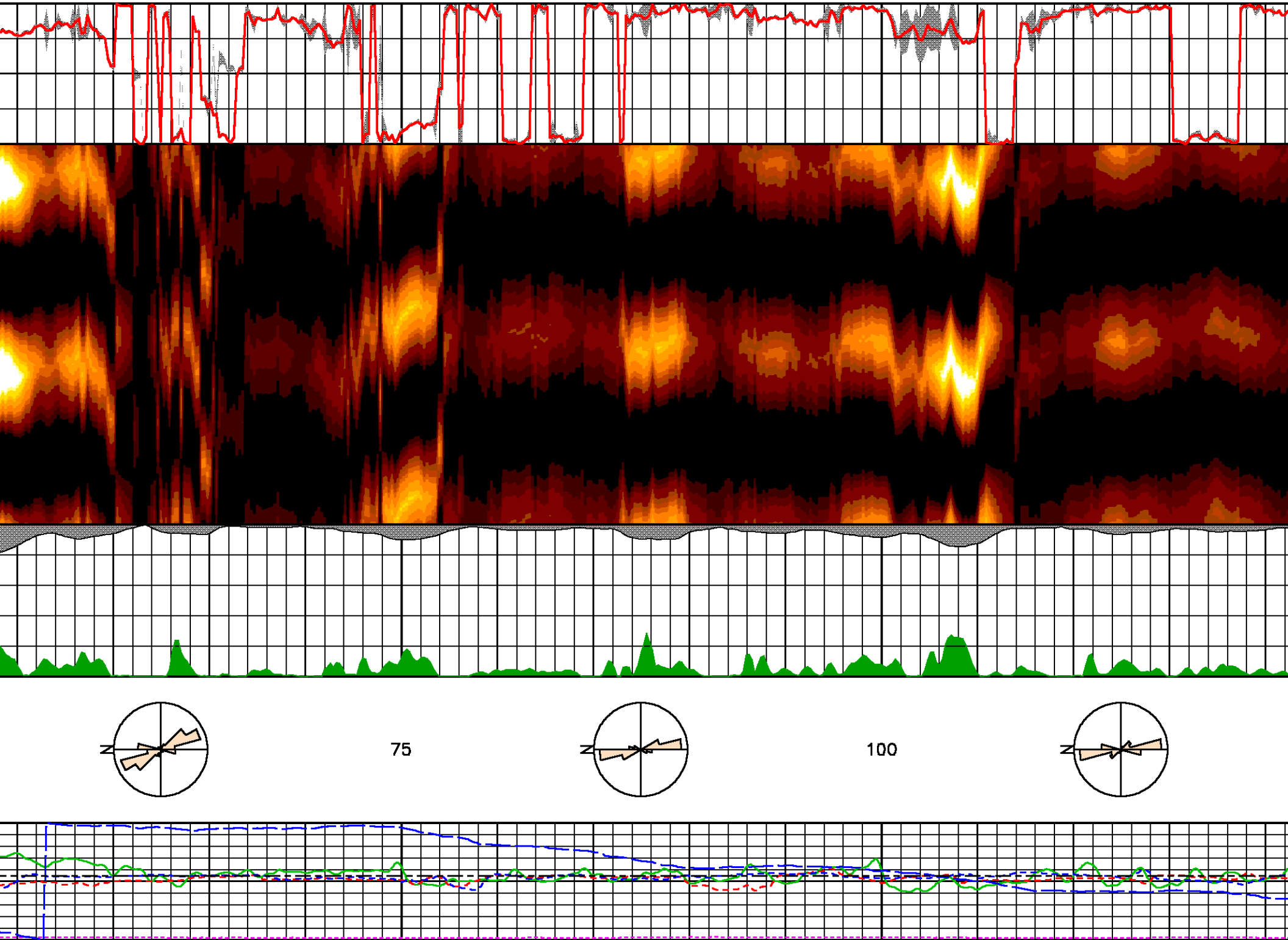
AVG. ANISOTROPY [ania]
40 0
(%) [F2]

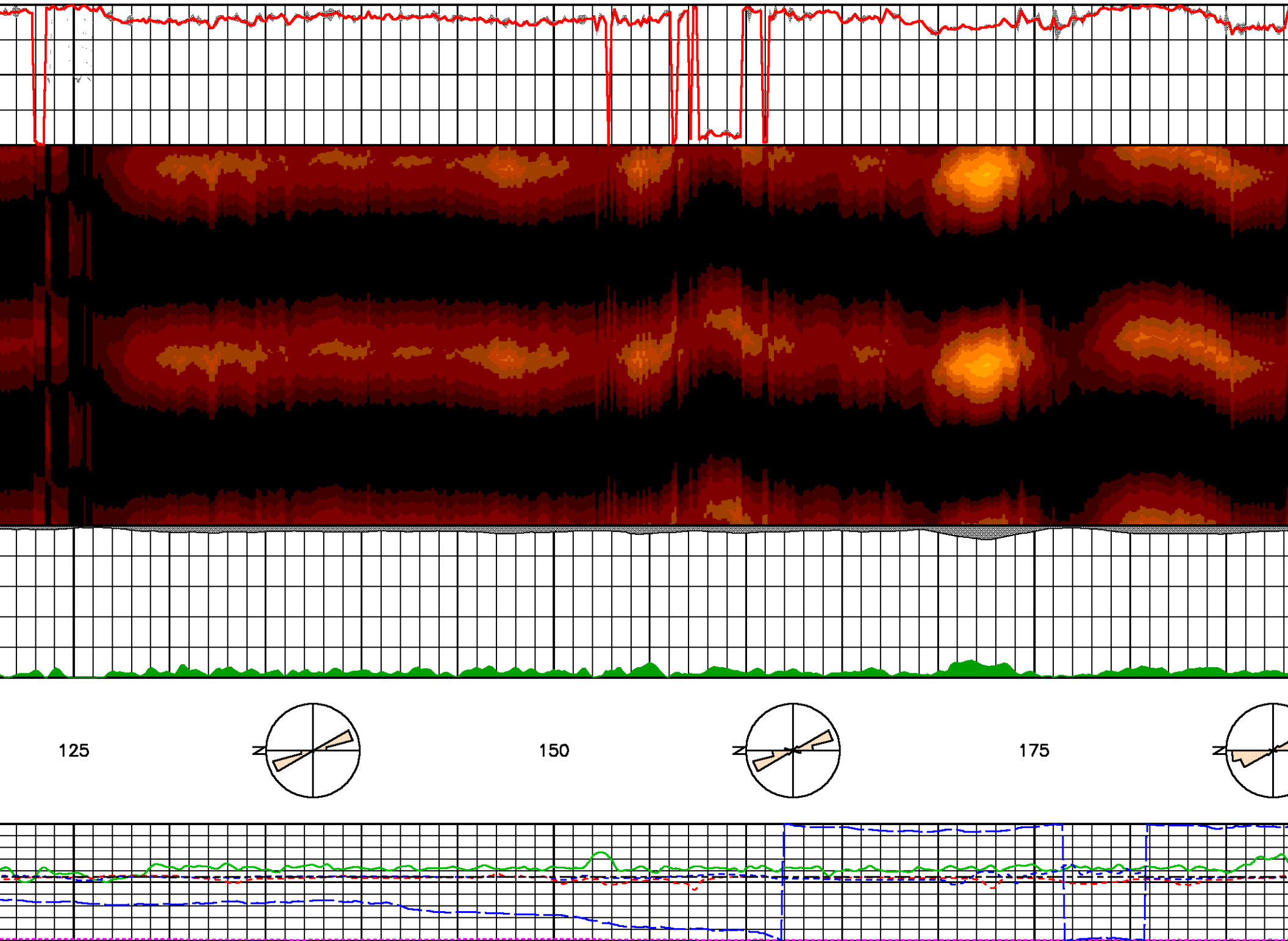
CSG

25

50

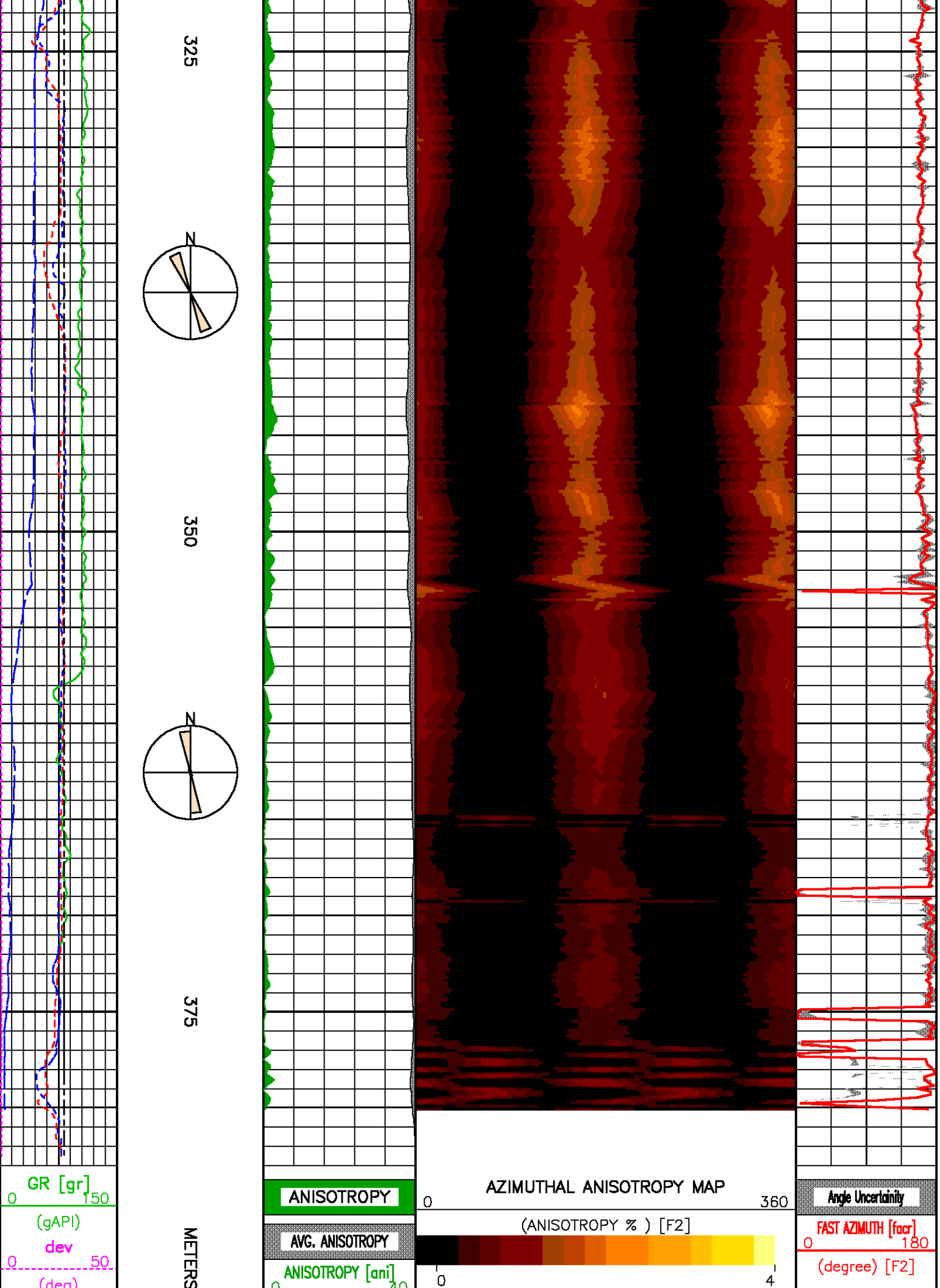
N

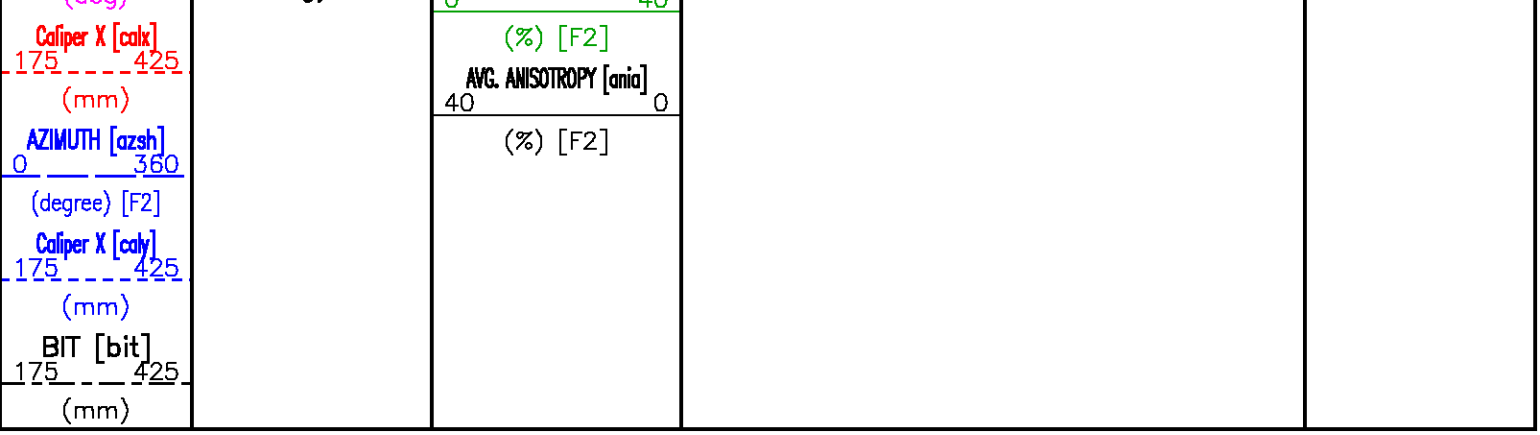

N
75
N
100
N


125
N
150
N
175
N

200
225
250
N
N
N

N
N
N
275
300


325
350
375
METERS
N
N
GR [gr]
0
150
(gAPI)
dev
0
50
(deg)
ANISOTROPY
AVG. ANISOTROPY
ANISOTROPY [ani]
0
40
AZIMUTHAL ANISOTROPY MAP
0
360
(ANISOTROPY %) [F2]
0
4
Angle Uncertainity
FAST AZIMUTH [facr]
0
180
(degree) [F2]



AZIMUTHAL ANISOTROPY ANALYSIS

eXpress 3.2 Last updated 03Oct2011 09:44 Oct 03, 2011 Fri Feb 1 11:21:57 2013
Updates: 1

Pcrplt /main/61 Cplot 9.16 Pdf_Cpp /main/16 Fileview 4.97

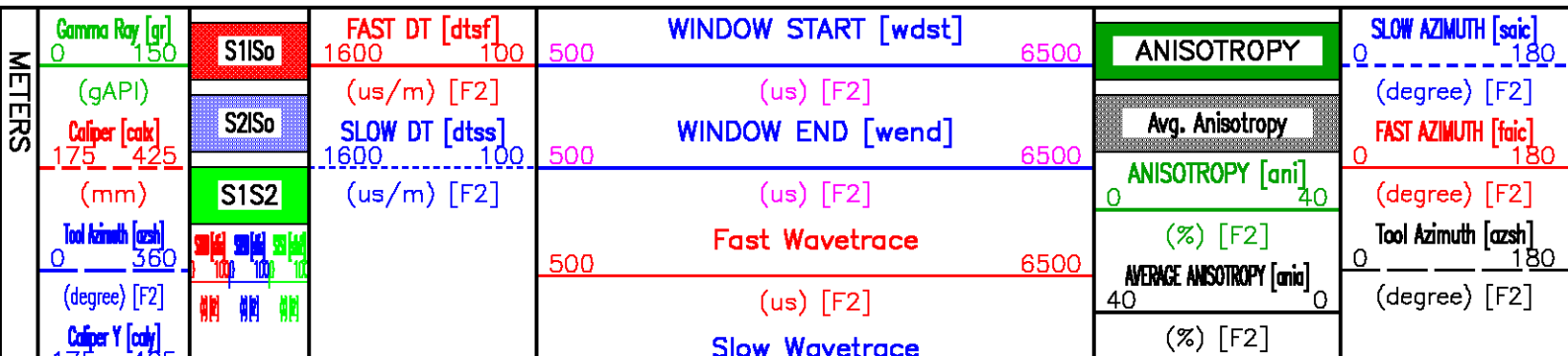
CURVE MEASURE POINT OFFSET

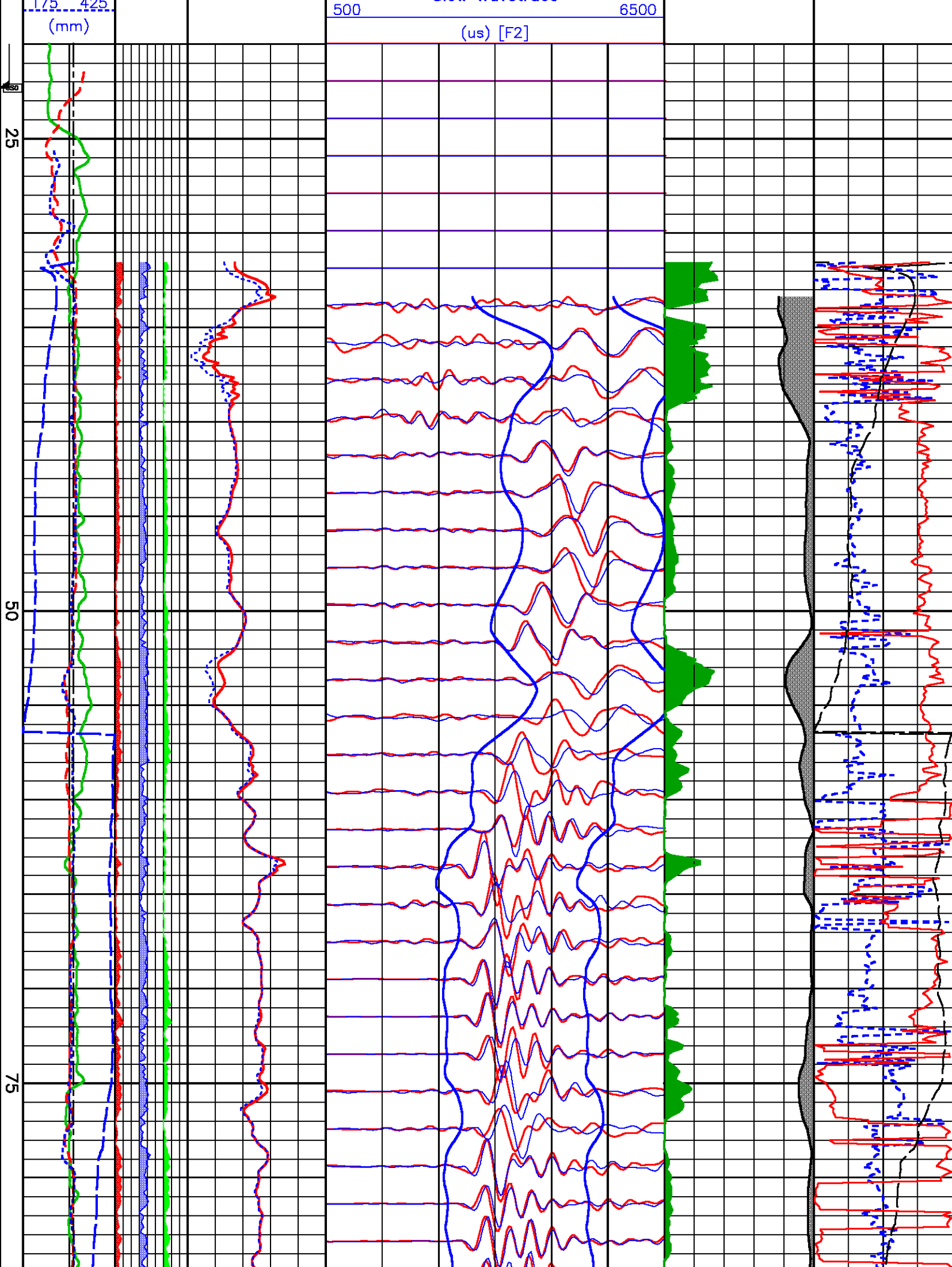
CURVE	OFFSET (m)	CURVE	OFFSET (m)	CURVE	OFFSET (m)	CURVE	OFFSET (m)
ANI	25.37	CALX	9.64	FAIC	25.37	S2IS	25.37
ANIA	23.55	CALY	5.49	GR	33.76	SAIC	25.37
AZSH	23.32	DTSF	25.37	S1IS	25.37	WDST	23.55
BIT	0.00	DTSS	25.37	S1S2	25.37	WEND	23.55

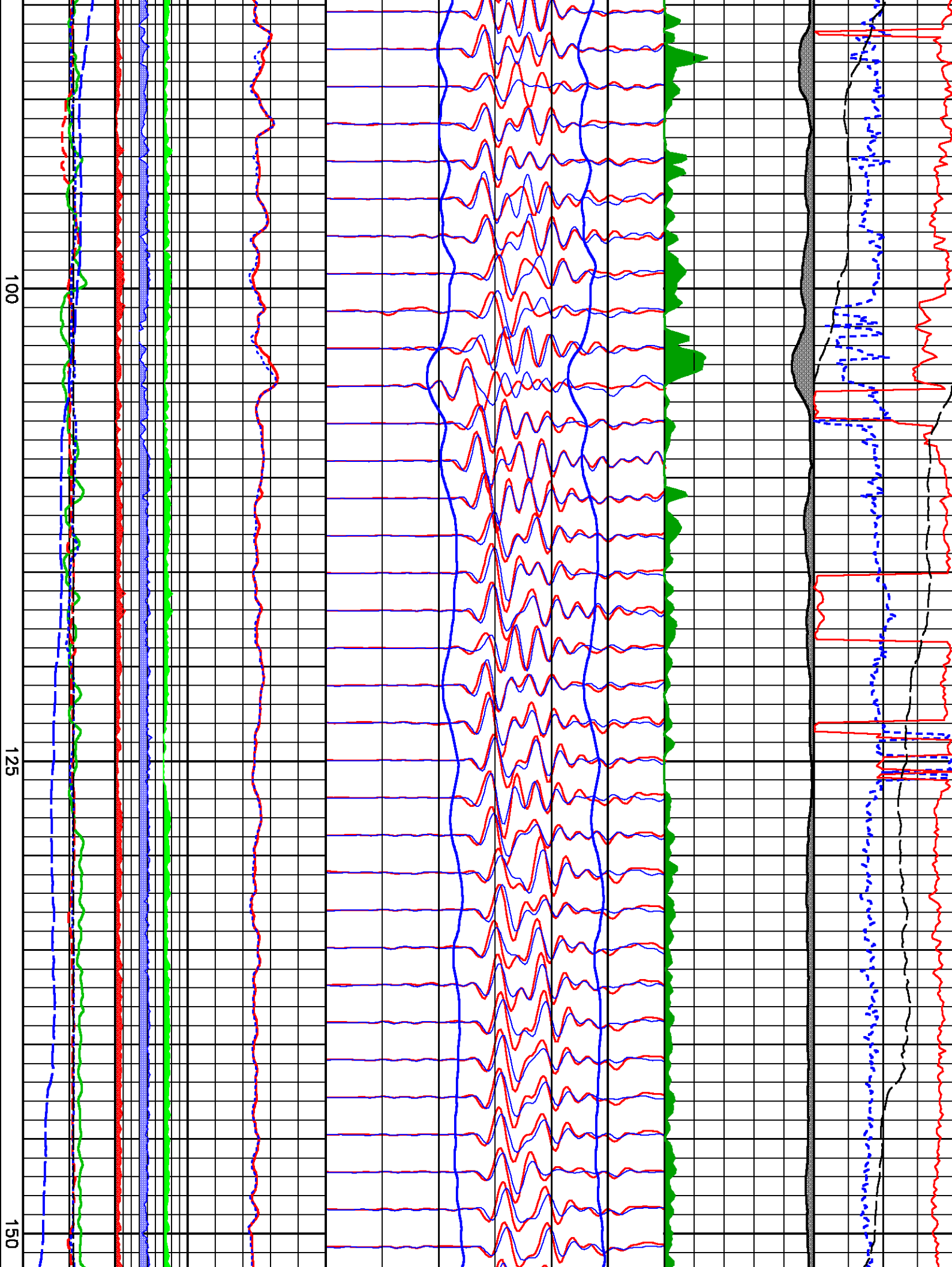
Project : /data/markmil/215445_MGM_XMAC
User : markmil
Presentation : calsunsrv3:/export/data/markmil/215445_MGM_XMAC/wavexdan.pdf [1:240 Scale]
Plot Interval : 20 – 383 Meters

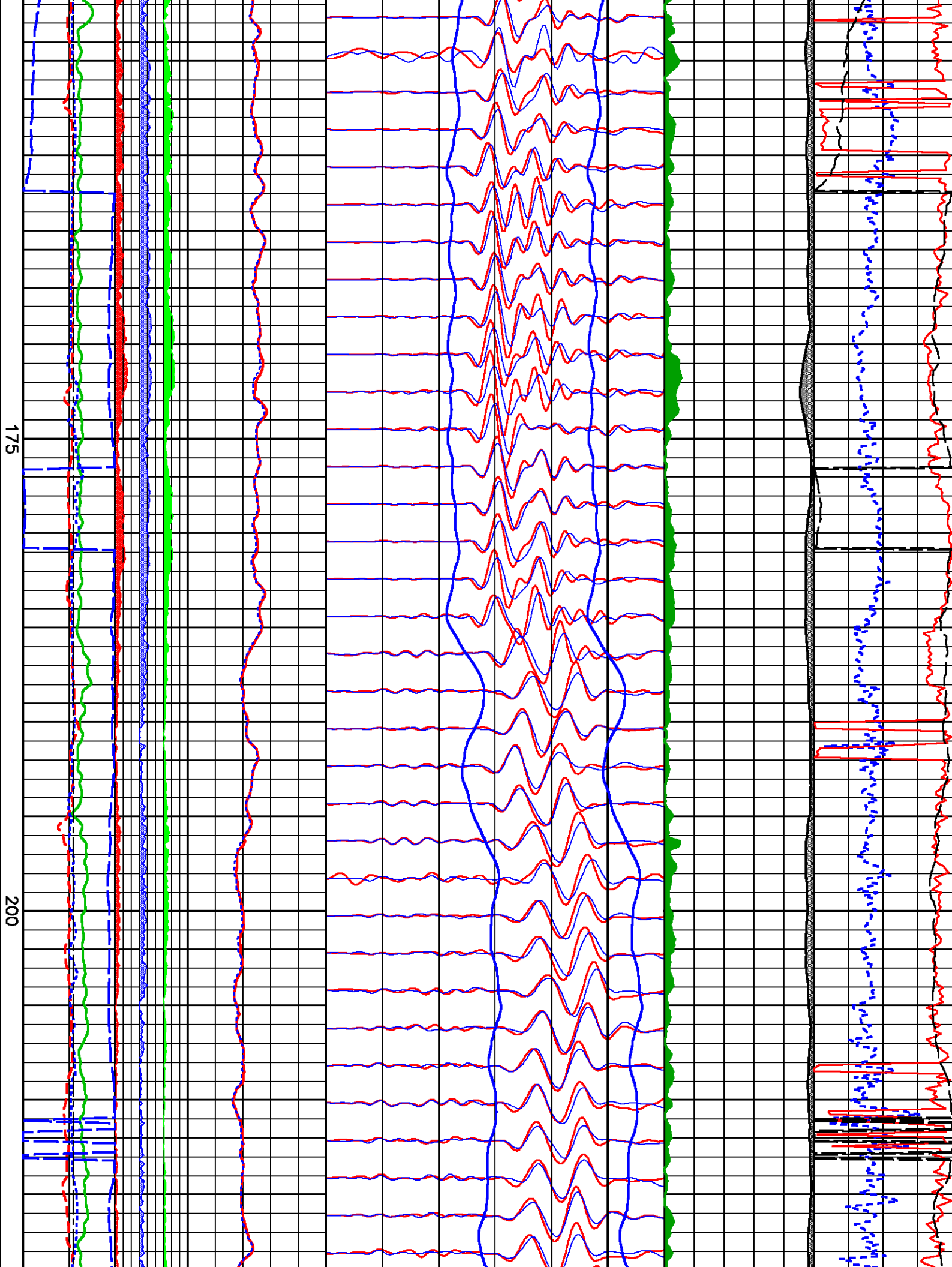
Data File 1 : F1 : calsunsrv3:/export/data/markmil/215445_MGM_XMAC/slam_main.xtf
Created On : Jan 29 21:27:27 2013
Company : MGM ENERGY CORP
Well : MGM SHELL EAST MACKAY I-78
Field : EAST MACKAY
File Interval : -37.2618 – 406.184 Meters
Oct : m980g

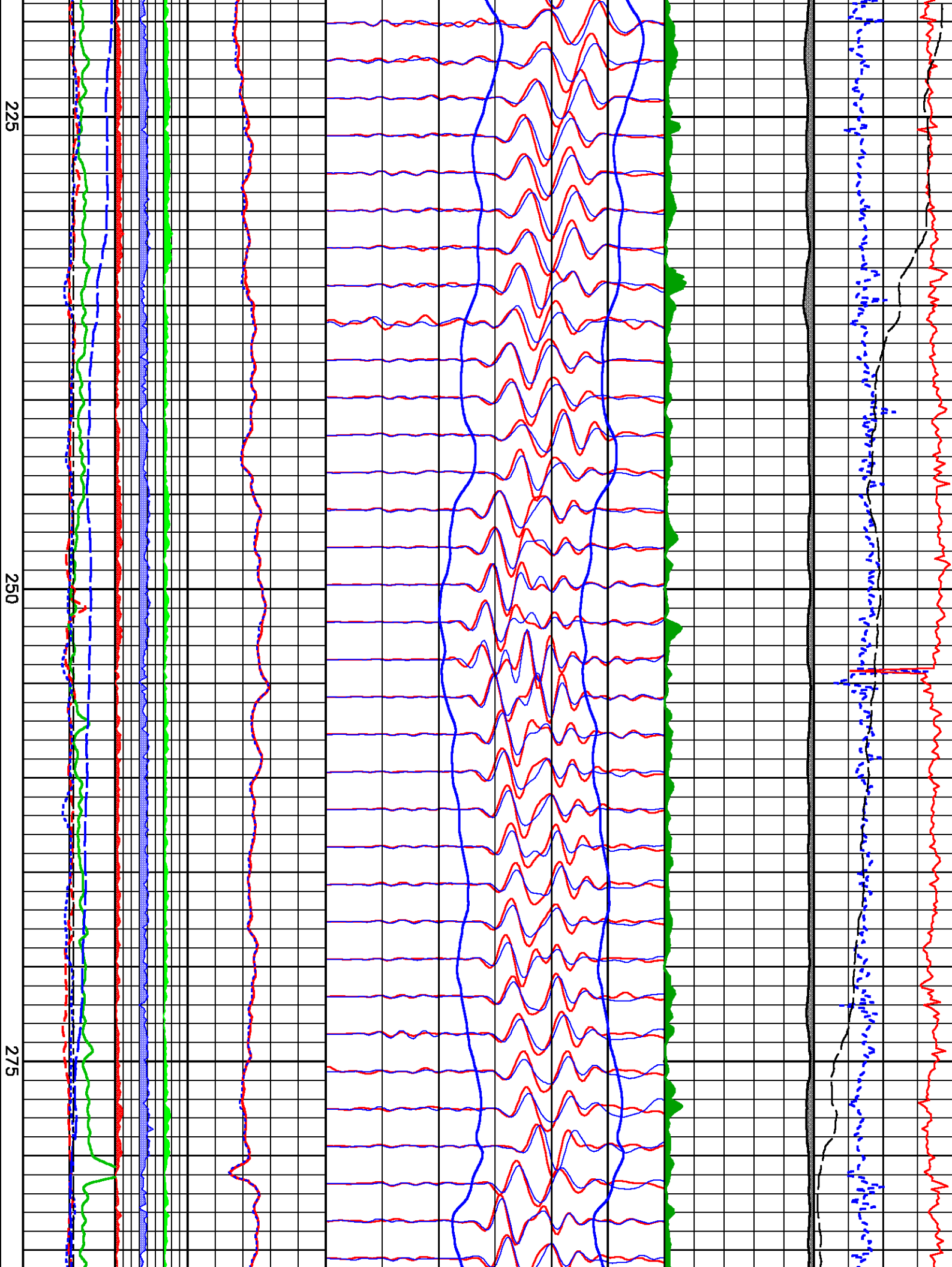
Data File 2 : F2 : calsunsrv3:/data/markmil/215445_MGM_XMAC/anisotropy.xtf
Created On : Feb 1 10:27:26 2013
Company :
Well :
Field :
File Interval : 19.9644 – 382.524 Meters
Oct : NA

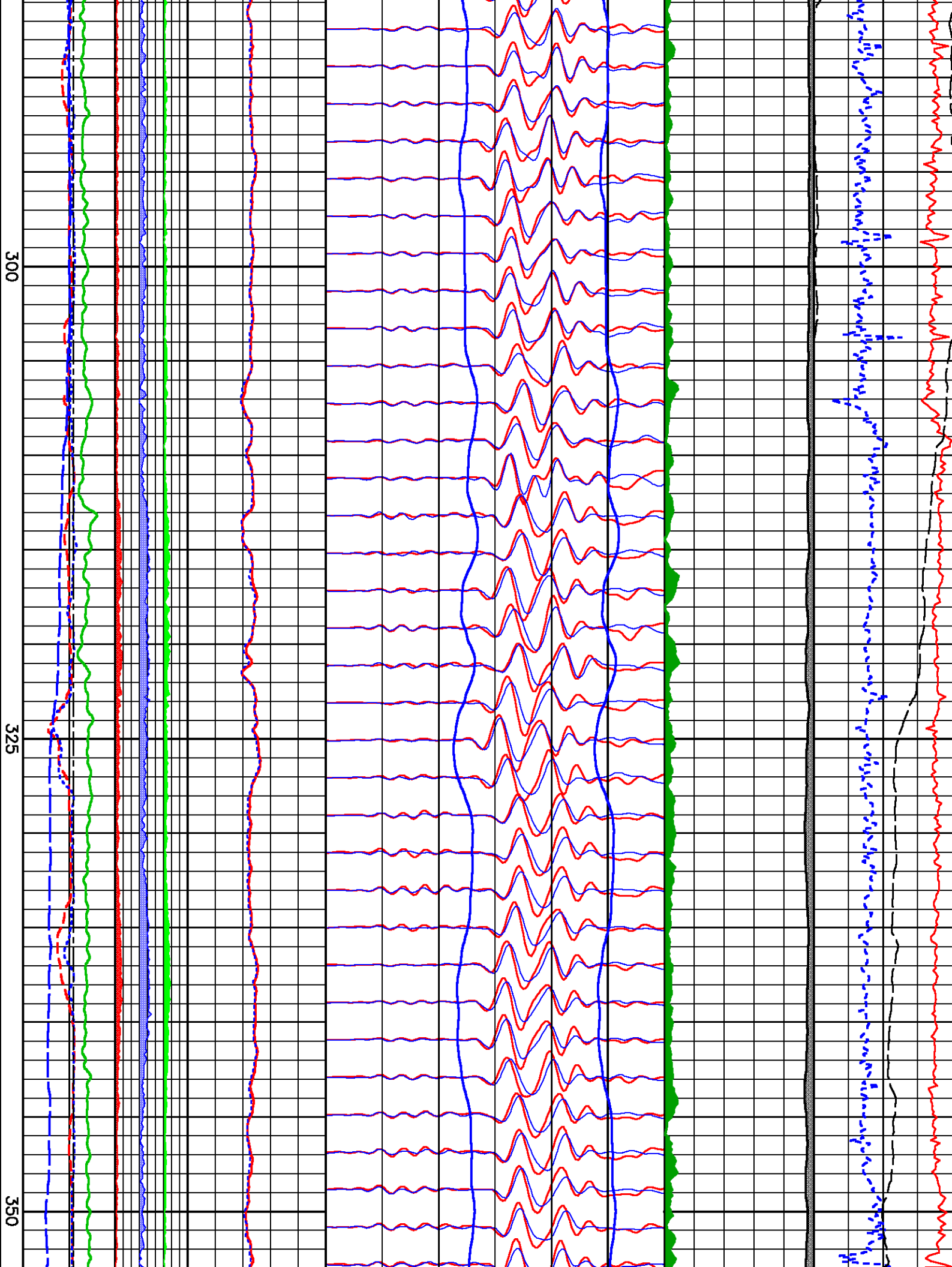


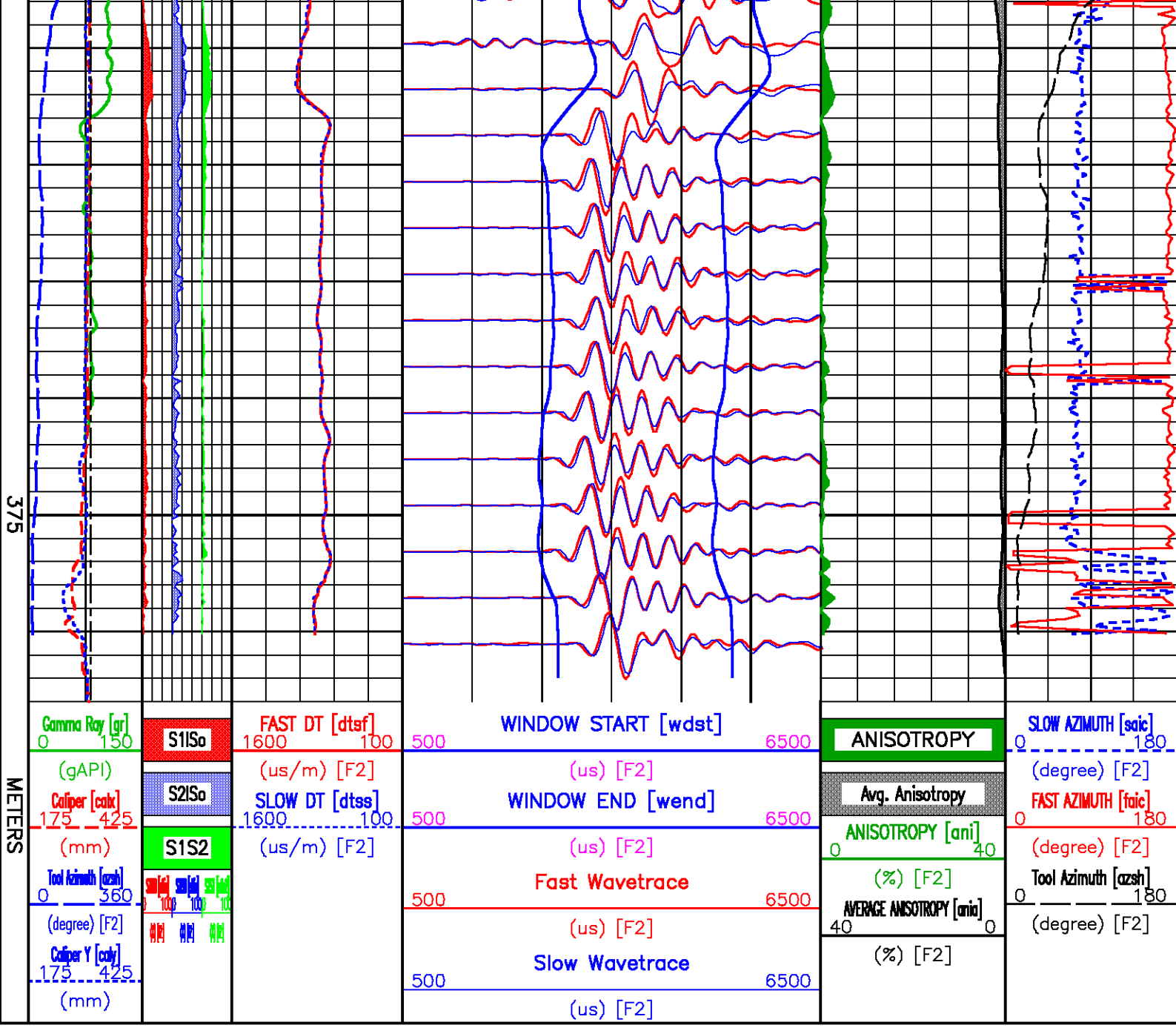

175
425
(mm)
500
6500
(us) [F2]
25
50
75


100
125
150


175
200


225
250
275


300
325
350



BAKER HUGHES

MAC ELITE

COMPANY	MGM ENERGY CORP
WELL	MGM SHELL EAST MACKAY I-78
FIELD	EAST MACKAY
PROVINCE	NORTHWEST TERRITORIES

FILE NO:

API NO:

LOCATION:

LAT 64.795 LONG -125.722

ELEVATIONS:

KB 161.2 M

DF

GL 155.00 M

LICENSE:
1202

DATE 29-JAN-2013

BAKER HUGHES

HIGH DEFINITION INDUCTION LOG SM
COMPENSATED Z-DENSILOG SM
COMPENSATED NEUTRON LOG
CROSS-MULTIPOLE ARRAY ACOUSTILOG
GAMMA RAY LOG
X-Y AXIS CALIPER LOG

FILE NO:

API NO:

COMPANY	MGM ENERGY CORP
WELL	MGM SHELL EAST MACKAY I-78
FIELD	EAST MACKAY
PROVINCE	NORTHWEST TERRITORIES

Ver. 3.87

LICENSE: 1202

LOCATION:

LAT 64.795 LONG -125.722

OTHER SERVICES
2ZDL-CN-GR-XYCAL
HDIL-GR-CAL, CVL
XMAC-GR

PERMANENT DATUM G.L. ELEVATION 155.00 M
LOG MEASURED FROM K.B. 6.2 M ABOVE P.D.
DRILL. MEAS. FROM KELLY BUSHING

ELEVATIONS:
KB 161.2 M
DF
GL 155.00 M

DATE		29-JAN-2013			
RUN	TRIP	1	1		
SERVICE ORDER		CA215445			
DEPTH DRILLER		405.2 M			
DEPTH LOGGER		404.0 M			
BOTTOM LOGGED INTERVAL		403.0 M			
TOP LOGGED INTERVAL		23.0 M			
CASING DRILLER		406.4 MM @ 22.5 M		@	
CASING LOGGER		22.5 M			
BIT SIZE		311.0 MM			
TYPE OF FLUID IN HOLE		MILL GEL MUD SLURRY			
DENSITY	VISCOSITY	1140.0 G/L	78] S		
PH	FLUID LOSS	8.0	10.6 ML		
SOURCE OF SAMPLE		FLOWLINE			
RM AT MEAS. TEMP.		1.60 OHMM @ 19.0 DEGC		@	
RMF AT MEAS. TEMP.		1.20 OHMM @ 15.0 DEGC		@	
RMC AT MEAS. TEMP.		2.20 OHMM @ 16.0 DEGC		@	
SOURCE OF RMF	RMC	MEASURED	MEASURED		
RM AT BHT		1.40 OHMM @ 25.5 DEGC		@	
TIME SINCE CIRCULATION		10.0 HOURS			
MAX. RECORDED TEMP.		26.3 DEGC			
EQUIP. NO.	LOCATION	Z008672	CANADA OPEN		
RECORDED BY		I.ZALESKIKH			
WITNESSED BY		D.PRIOR			

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.

CASING RECORD

SIZE	WEIGHT	GRADE	FROM	TO
406.4 MM	81.8 KG/M	NA	0.0 M	22.5 M

BOREHOLE RECORD

BIT SIZE	FROM	TO
311.0 MM	22.5 M	405.2 M

REMARKS

RUN 1 TRIP 1 : TIME STOPPED CIRCULATION: 29-JAN-2013 11:30 AM

MAXIMUM TEMPERATURE ON THERMOMETERS: 26 AND 26 DEGC
TEMPERATURE LOG WAS RECORDED ON THE WAY DOWN.

CNC IS AVERAGE CALIPER CORRECTED.
CNC AND PORZ PRESENTED IN SANDSTONE MATRIX 2.65G/CM3.

INTEGRATED TRANSIT TIME TICS EVERY: 1.0, 10.0, & 100.0 µSEC.

BOREHOLE AND TEMPERATURE CORRECTIONS HAVE BEEN APPLIED TO HDIL DATA.
HDIL RECORDED WITH AND CORRECTED TO 38.0 MM STANDOFF.

RIG: AKITA #37

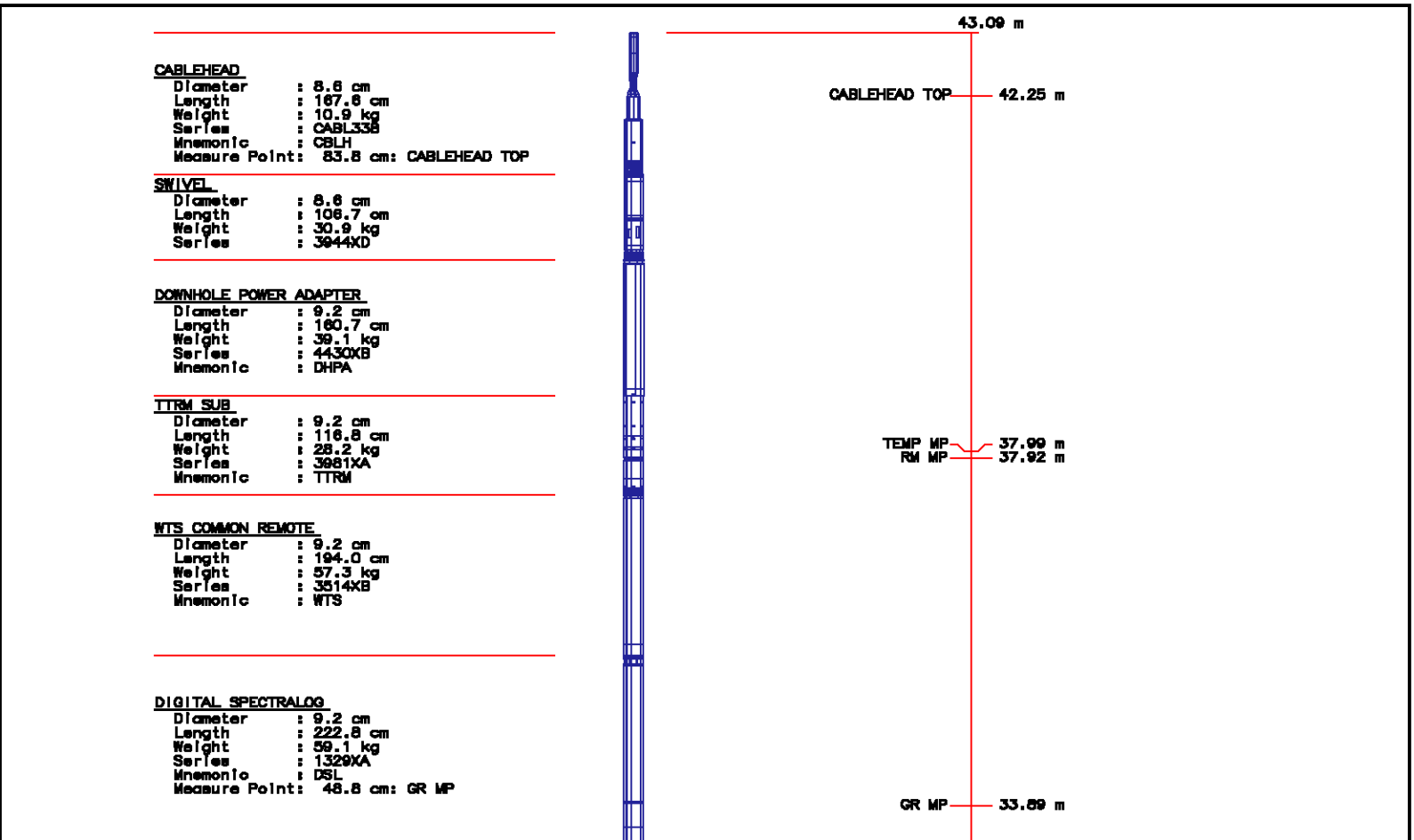
CREW: I.ZALESKIKH, J.PEREIRA, N.MCDERMID, K.HASIUK

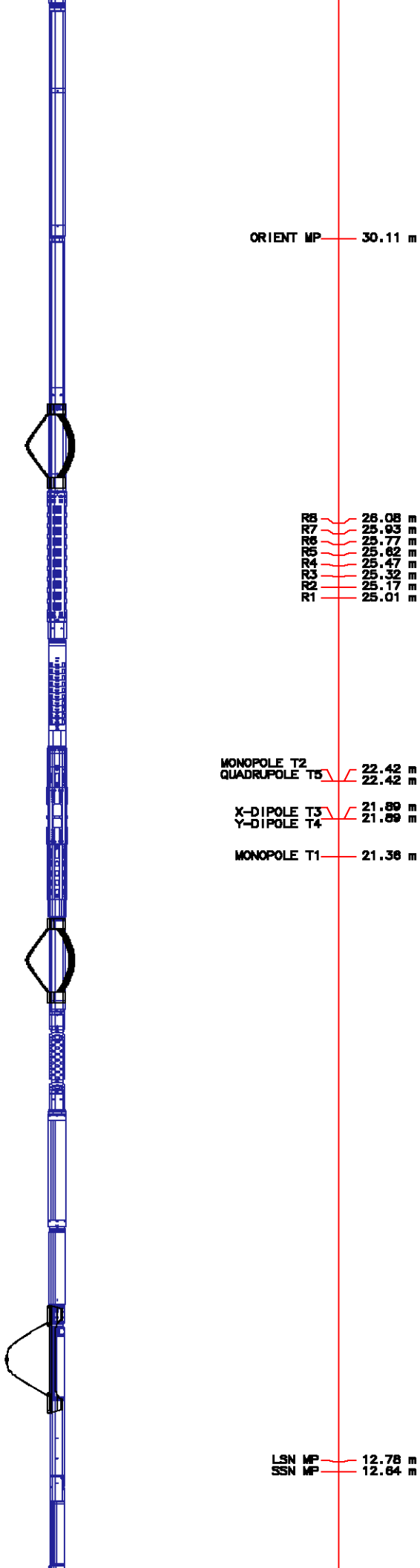
EQUIPMENT DATA

RUN	TRIP	TOOL	SERIES NO.	SERIAL NO.	POSITION
1	1	SWIVEL	3944XD	10513050	FREE
1	1	DHPA	4430XB	10390592	FREE
1	1	TTRM SUB	3981XB	10516528	FREE
1	1	COMM	3514XB	10504656	FREE
1	1	WTS DGR/SLI	1329XB	10293862	FREE
1	1	ORIT	4401XB	12466129	FREE
1	1	ACOUSTIC EL	1677EA	10383992	CENTRALIZED
1	1	XMAC RX MDR	1678MC	10386815	CENTRALIZED
1	1	XMAC ISO	1678PB	10039369	FREE
1	1	XMAC TX ELC	1678BA	12168167	CENTRALIZED
1	1	XMAC TX ELC	1678FA	12188364	CENTRALIZED
1	1	WTS DBL KNJ	3939XA	12448499	FREE
1	1	FOC/WTS ADP	3527EA	12337591	FREE
1	1	FOC/WTS ADP	3527FA	12494796	FREE
1	1	TTMA SUB	3980XA	Z402456	FREE
1	1	FOCUS CN	2436XA	10105638	DECENTRALIZED
1	1	FOCUS ZDEN	2223XA	10391896	PAD DEVICE
1	1	DBL KNJT	3931XA	10469360	FREE
1	1	ALGNMNT SUB	4408NA	10265502	FREE
1	1	FOCUS ZDEN	2223XA	10102923	PAD DEVICE
1	1	DBL KNJT	3931XA	10189700	FREE
1	1	FOCUS HDIL	1530XA	10125755	STANDOFF

INSTRUMENT CONFIGURATION

Source File: /data/MGM/run1_oh/m980g~mgm_R1-tdg





DIGITAL ORIENTATION
- Diameter : 8.6 cm
- Length : 329.4 cm
- Weight : 50.0 kg
- Series : 4401XB
- Mnemonic : ORIT
- Measure Point: 0.0 cm: ORIENT MP

ARRAY ACOUSTILOG ELECTRONICS, 8 CHANNEL
- Diameter : 8.6 cm
- Length : 238.3 cm
- Weight : 46.4 kg
- Series : 1677EA
- Mnemonic : XMAC

CROSS MULTIPOLE ARRAY ACOUSTILOG
- Diameter : 9.5 cm
- Length : 332.4 cm
- Weight : 101.8 kg
- Series : 1678MC
- Mnemonic : XMF1
- Measure Point: 167.6 cm: R8
- Measure Point: 152.4 cm: R7
- Measure Point: 137.2 cm: R6
- Measure Point: 121.9 cm: R5
- Measure Point: 106.7 cm: R4
- Measure Point: 91.4 cm: R3
- Measure Point: 76.2 cm: R2
- Measure Point: 61.0 cm: R1

SHEAR WAVE ACOUSTILOG
- Diameter : 9.2 cm
- Length : 152.4 cm
- Weight : 61.4 kg
- Series : 1678PB
- Mnemonic : XMAC

MULTI-POLE ARRAY ACOUSTIC
- Diameter : 9.8 cm
- Length : 241.3 cm
- Weight : 77.3 kg
- Series : 1678BA
- Mnemonic : XMAC
- Measure Point: 195.6 cm: QUADRUPOLE T5
- Measure Point: 195.6 cm: MONOPOLE T2
- Measure Point: 142.2 cm: Y-DIPOLE T4
- Measure Point: 142.2 cm: X-DIPOLE T3
- Measure Point: 88.9 cm: MONOPOLE T1

MULTI-POLE ARRAY ACOUSTIC
- Diameter : 8.6 cm
- Length : 131.6 cm
- Weight : 26.4 kg
- Series : 1678FA
- Mnemonic : MAC

KNUCKLE JOINT (DOUBLE)
- Diameter : 8.6 cm
- Length : 141.8 cm
- Weight : 40.9 kg
- Series : 3939XA
- Mnemonic : KNJT

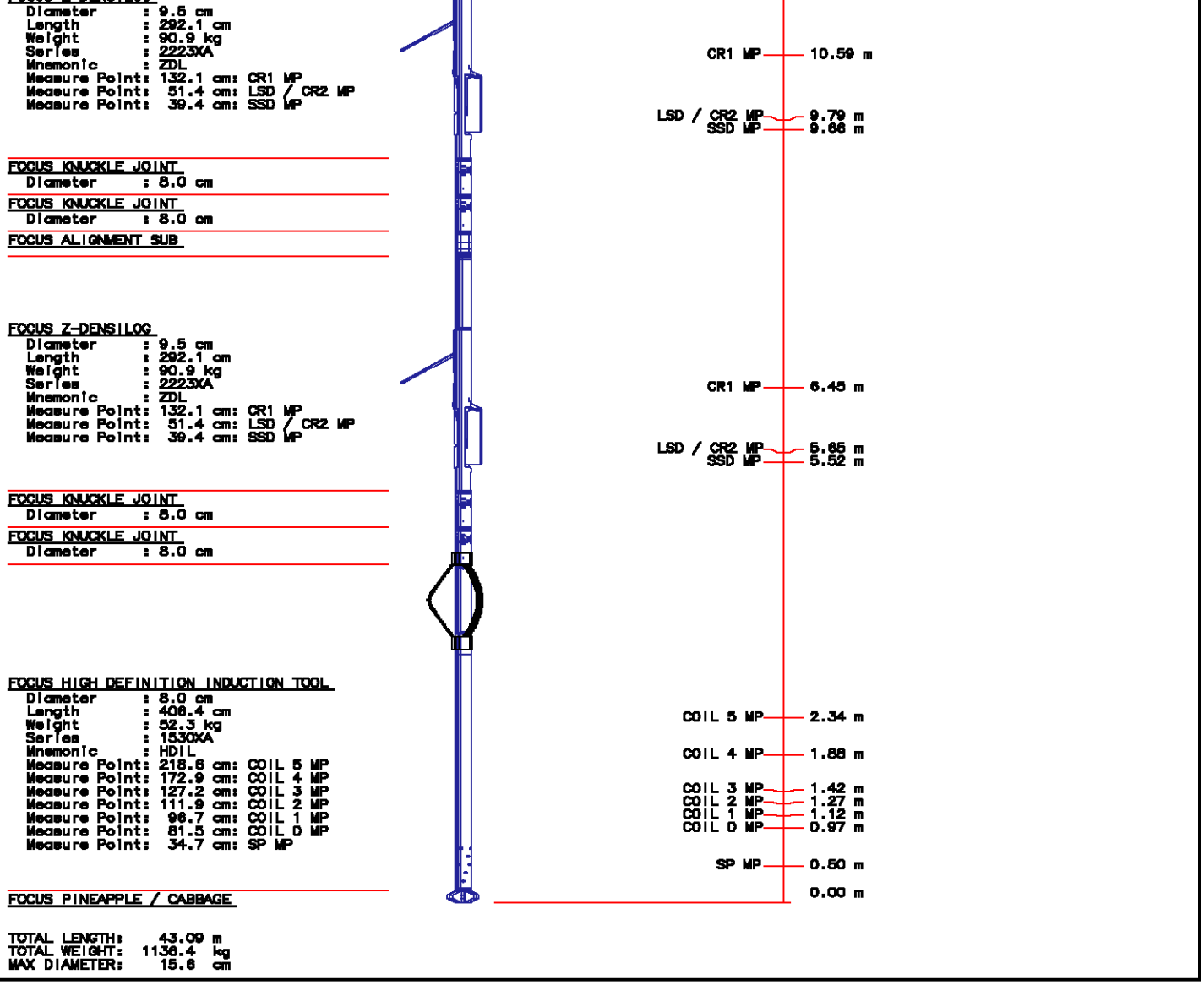
WTS FOCUS TELEMETRY TRANSFORMER SUB
- Diameter : 9.2 cm
- Length : 165.7 cm
- Weight : 30.5 kg
- Series : 3526EB
- Mnemonic : ADAP

WTS FOCUS POWER ADAPTOR
- Diameter : 9.2 cm
- Length : 110.2 cm
- Weight : 70.9 kg
- Series : 3526FB
- Mnemonic : ADAP

FOCUS TEN/TEMP/MUD RES/ACCEL
- Diameter : 8.0 cm
- Length : 131.4 cm
- Weight : 27.7 kg
- Series : 3980XA
- Mnemonic : TTMA

FOCUS COMPENSATED NEUTRON
- Diameter : 8.0 cm
- Length : 148.7 cm
- Weight : 29.5 kg
- Series : 2436XA
- Mnemonic : CN
- Measure Point: 58.4 cm: LSN MP
- Measure Point: 44.5 cm: SSN MP

FOCUS Z-DENSILOG



MAIN LOG - SANDSTONE MATRIX

eXpress 3.2 Last updated 03Oct2011 09:44 Oct 03, 2011 Tue Feb 5 09:49:53 2013
Updates: 1

Pcrplt /main/61 Cplot 9.16 Pdf_Cpp /main/16 Fileview 4.97

PARAMETER AND FILTER SUMMARY REPORT

FILE: /export/data/ddc/215445/m980g07.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: -0.989 m BOTTOM DEPTH: 405.844 m

SYMMETRIC FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
				TOP	BOTTOM
CHT	FILTER ()	medium (1)		''	''
SPEED	FILTER ()	medium (1)		''	''
TENSION	FILTER ()	medium (1)		''	''
GR	FILTER ()	medium (1)		''	''
DT24	FILTER ()	light (2)		''	''
CALIPER	FILTER ()	medium (1)		''	''

CN MED RES	FILTER ()	medium (1)		''	''
ZDL MED RES	FILTER (hrd1*)	medium		''	''
	FILTER (hrd12*)	medium		''	''
	FILTER (hrd1s*)	medium		''	''
	FILTER (hrd1s2*)	medium		''	''
	FILTER (hrd2*)	medium		''	''
	FILTER (hrd22*)	medium		''	''
	FILTER (hrd2s*)	medium		''	''
	FILTER (hrd2s2*)	medium		''	''
SP-SPDH	FILTER ()	medium (1)		''	''

BOREHOLE & CEMENT

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
CASING - BOREHOLE & CEMENT VOLUME	CASING O.D.	244.500	mm	TOP	BOTTOM
	CASING THICKNESS	0.000	mm	''	''
X-Y COMBINED CALIPER PROCESSING	X-Y Caliper	Average		''	''
BIT SIZE	BIT SIZE	311.000	mm	''	''
BH MUD RESISTIVITY SOURCE	RMUD SOURCE (HDIL)	TOOL MEASURED		''	''
BOREHOLE CORR DIAMETER SOURCE	CALIPER/FIXED DIA. (cnbh*)	USE CALIPER		''	''
	CALIPER/FIXED DIA. (mbh*)	USE CALIPER		''	''
BOREHOLE CORR DIAMETER	FIXED DIAMETER (cnbh*)	311.000	mm	''	''
	FIXED DIAMETER (mbh*)	311.000	mm	''	''
X-Y COMBINED CALIPER PROCESSING-FOCUS	Y Caliper - FOCUS	Average		''	''

ACOUSTIC POROSITY

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
DELTA T CURVE SELECTION	DT24 SOURCE	AVAN DT24		TOP	BOTTOM

ACOUSTIC AVAN CORRELATON

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
MONOPOLE DELTA T	FORMATION TYPE	GENERIC (MEDIUM)		TOP	BOTTOM
	CORRELATION METHOD	NTH ROOT		''	''
	RESET TAPERS			''	''
	TAPER - LEFT END	100	us/m	''	''
	TAPER - RIGHT END	600	us/m	TOP	25.775
		550	us/m	25.775	BOTTOM
	FLOOR (UNIV. OPTION)	0.050		TOP	BOTTOM
MONOPOLE COMPRESSIONAL	FORMATION TYPE	GENERIC (MEDIUM)		''	''
	CORRELATION METHOD	NTH ROOT		''	''
	RESET TAPERS			''	''
	TAPER - LEFT END	100	us/m	''	''
	TAPER - RIGHT END	600	us/m	TOP	25.216
		550	us/m	25.216	BOTTOM
	FLOOR (UNIV. OPTION)	0.050		TOP	BOTTOM

ACOUSTIC WAVEFORM FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
WAVEFORM FILTER - FULLWAVE	SURFACE WAVE FILTER	ON		TOP	BOTTOM
	LOW FREQ CUTOFF	2000	Hz	''	''
	HIGH FREQ CUTOFF	20000	Hz	''	''

ACOUSTIC TCC CONTROL PARAMETERS

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
GENERAL TCC PARAMETERS	AGC	ON		TOP	BOTTOM
	SUBCYCLE LENGTH	50		''	''
	SUBSET	1		''	''
GENERAL MONOPOLE TCC PARAMETERS	STACK LEVEL	2		''	''
	DSP FILTER	ON		''	''
DELTA T TCC PARAMETERS	ACQ WINDOW	1664	us	''	''
	MOVEOUT	16	us/ft	''	''
	SAMPLE PERIOD	16		''	''
	RX DELAY	240	us	''	''
FULL WAVE MONOPOLE TCC PARAMETERS	ACQ WINDOW	8064	us	''	''
	SAMPLE PERIOD	24		''	''
	RX DELAY	0	us	''	''

ACCELERATION PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
ACCEL CORR SWITCH	ACCEL DEPTH CORR	CORRECTION OFF		TOP	BOTTOM

CN PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m) TOP	INTERVAL (m) BOTTOM
CN BOREHOLE CORRECTION	SALINITY	0	ppm	''	''
	BOREHOLE CORRECTION	ON		''	''
CN CASING & CEMENT CORRECTION	CORRECTION	OFF		''	''
	BIT SIZE BEHIND CSNG	500.000	mm	''	''

ZDL PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m) TOP	INTERVAL (m) BOTTOM
DENSITY POROSITY	Air Filled Borehole	NO		''	''
	RHOfluid	1.000	g/cm3	''	''
	RHOmatrix (sand)	2.650	g/cm3	''	''

HDIL PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m) TOP	INTERVAL (m) BOTTOM
HDIL TEMPERATURE CORRECTION	TEMP CORRECTION	ON		''	''
ADAPTIVE BOREHOLE CORRECTION	ABC PROCESSING	ON		''	''
	ABC to CALCULATE	STANDOFF		''	''
	STANDOFF	38.10	mm	''	''
	TOOL POSITION	ECCENTERED		''	''
	Rmud MULTIPLIER	1.000		''	''

CURVE DESCRIPTION REPORT

CURVE NAME	CURVE ALIAS	CREATION DATE	CURVE DESCRIPTION
F1:BIT	BIT	Jan 29 21:27:27 2013	BIT SIZE
F1:BVOL	BVOL	Jan 29 21:27:27 2013	BOREHOLE VOLUME
F1:CALX	CALX	Jan 29 21:27:27 2013	CALIPER FROM X AXIS OF X-Y CALIPER(S)
F1:CALY	CALY	Jan 29 21:27:27 2013	CALIPER FROM Y AXIS OF X-Y CALIPER(S)
F1:CHT	CHT	Jan 29 21:27:27 2013	CABLE HEAD TENSION
F1:CNCSS	CNCSS	Jan 29 21:27:27 2013	BH SIZE CORR. SANDSTONE COMPENSATED NEUTRON POROSITY
F1:CVOL	CVOL	Jan 29 21:27:27 2013	CEMENT VOLUME
F1:DTC	DTC	Jan 31 13:34:48 2013	COMPRESSIONAL WAVE SLOWNESS
F1:GR	GR	Jan 29 21:27:27 2013	GAMMA RAY
F1:M2R1	M2R1	Jan 29 21:27:27 2013	VERT RESOLUTION MATCHED (2 FT) RES - DOI 10 INCH
F1:M2R2	M2R2	Jan 29 21:27:27 2013	VERT RESOLUTION MATCHED (2 FT) RES - DOI 20 INCH
F1:M2R3	M2R3	Jan 29 21:27:27 2013	VERT RESOLUTION MATCHED (2 FT) RES - DOI 30 INCH
F1:M2R6	M2R6	Jan 29 21:27:27 2013	VERT RESOLUTION MATCHED (2 FT) RES - DOI 60 INCH
F1:M2R9	M2R9	Jan 29 21:27:27 2013	VERT RESOLUTION MATCHED (2 FT) RES - DOI 90 INCH
F1:PE	PE	Jan 29 21:27:27 2013	PHOTO ELECTRIC CROSS-SECTION
F1:PE2	PE2	Jan 29 21:27:27 2013	SECOND TOOL PHOTO ELECTRIC CROSS-SECTION
F1:PZSS	PZSS	Jan 29 21:27:27 2013	POROSITY FOR SANDSTONE MATRIX
F1:PZSS2	PZSS2	Jan 29 21:27:27 2013	2ND TOOL POROSITY FOR SANDSTONE MATRIX
F1:SP	SP	Jan 29 21:27:27 2013	SPONTANEOUS POTENTIAL
F1:SPD	SPD	Jan 29 21:27:27 2013	SPEED
F1:TEN	TEN	Jan 29 21:27:27 2013	DIFFERENTIAL TENSION

CURVE MEASURE POINT OFFSET

CURVE	OFFSET (m)	CURVE	OFFSET (m)	CURVE	OFFSET (m)	CURVE	OFFSET (m)
BIT	0.00	DTC	25.37	M2R6	0.84	PZSS2	5.49
CALX	9.64	GR	33.76	M2R9	0.84	SP	0.38
CALY	5.49	M2R1	0.84	PE	9.64	SPD	0.00
CHT	0.00	M2R2	0.84	PE2	5.49	TEN	0.00
CNCSS	12.50	M2R3	0.84	PZSS	9.64		

Project : /data/ddc/215445
User : tuyan
Presentation : calsunsrv3:/data/ddc/215445/comp_main_ss.pdf [1:240 Scale]
Plot Interval : 23 - 406.146 Meters

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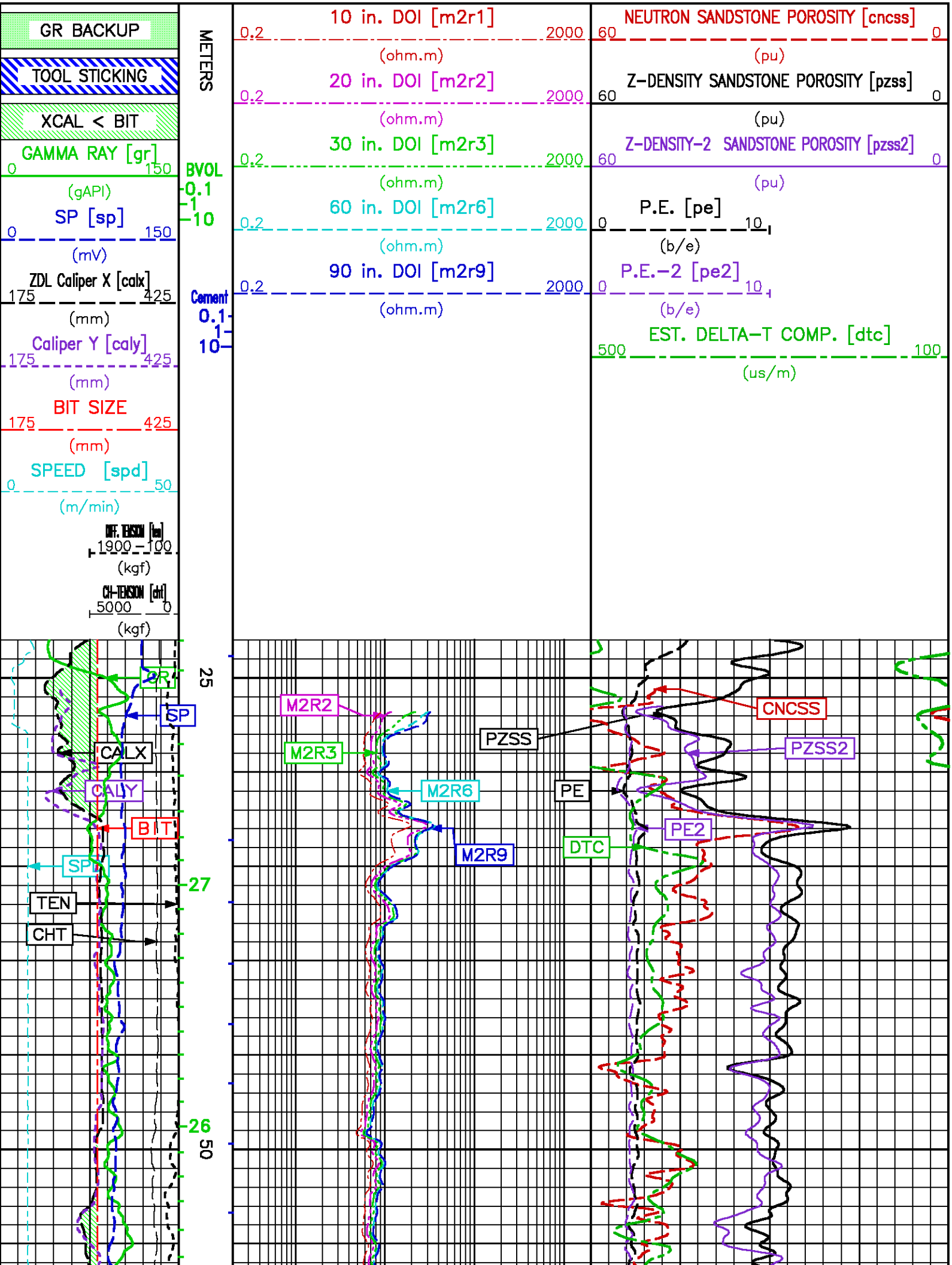
Created On : Jan 29 21:27:27 2013
Company : MGM ENERGY CORP
Well : MGM SHELL EAST MACKAY 1-78
Field : EAST MACKAY
File Interval : -37.2618 - 406.184 Meters
Oct : m980g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TOOL STICKING
XCAL < BIT
METERS
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(gAPI)
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150
(mV)
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175
425
(mm)
Caliper Y [caly]
175
425
(mm)
BIT SIZE
175
425
(mm)
SPEED [spd]
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50
(m/min)
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1900
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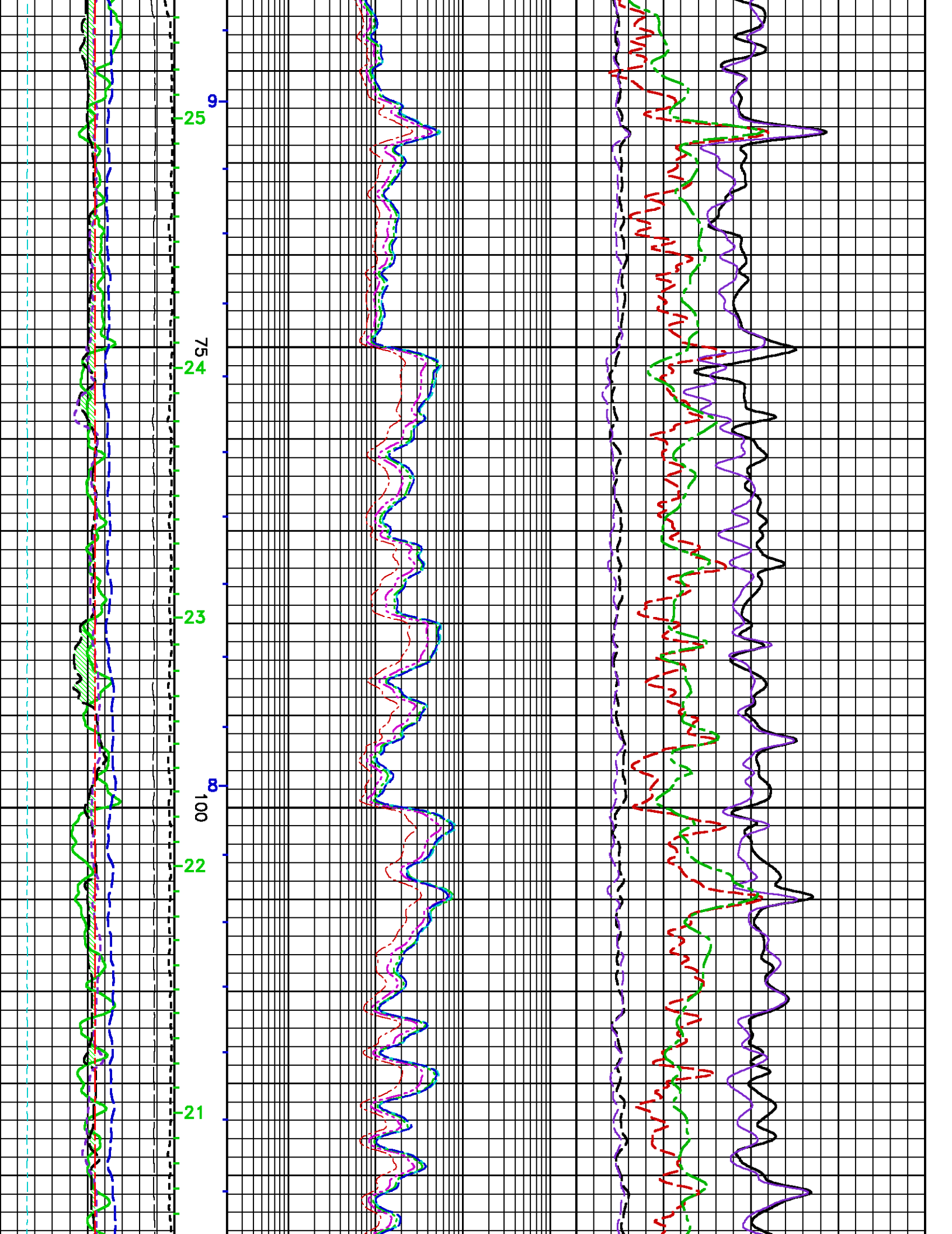
(kgf)
CH-TENSION [cht]
5000
0
(kgf)
BVOL
0.1
1
10
Cement
0.1
1
10
10 in. DOI [m2r1]
0.2
2000
(ohm.m)
20 in. DOI [m2r2]
0.2
2000
(ohm.m)
30 in. DOI [m2r3]
0.2
2000
(ohm.m)
60 in. DOI [m2r6]
0.2
2000
(ohm.m)
90 in. DOI [m2r9]
0.2
2000
(ohm.m)
NEUTRON SANDSTONE POROSITY [cncss]
60
0
(pu)
Z-DENSITY SANDSTONE POROSITY [pzss]
60
0
(pu)
Z-DENSITY-2 SANDSTONE POROSITY [pzss2]
60
0
(pu)
P.E. [pe]
0
10
(b/e)
P.E.-2 [pe2]
0
10
(b/e)
EST. DELTA-T COMP. [dtc]
500
100
(us/m)
25
27
26
50
GR
SP
CALX
CALY
BIT
SP
TEN
CHT
M2R2
M2R3
M2R6
M2R9
PZSS
PE
DTC
CNCSS
PZSS2
PE2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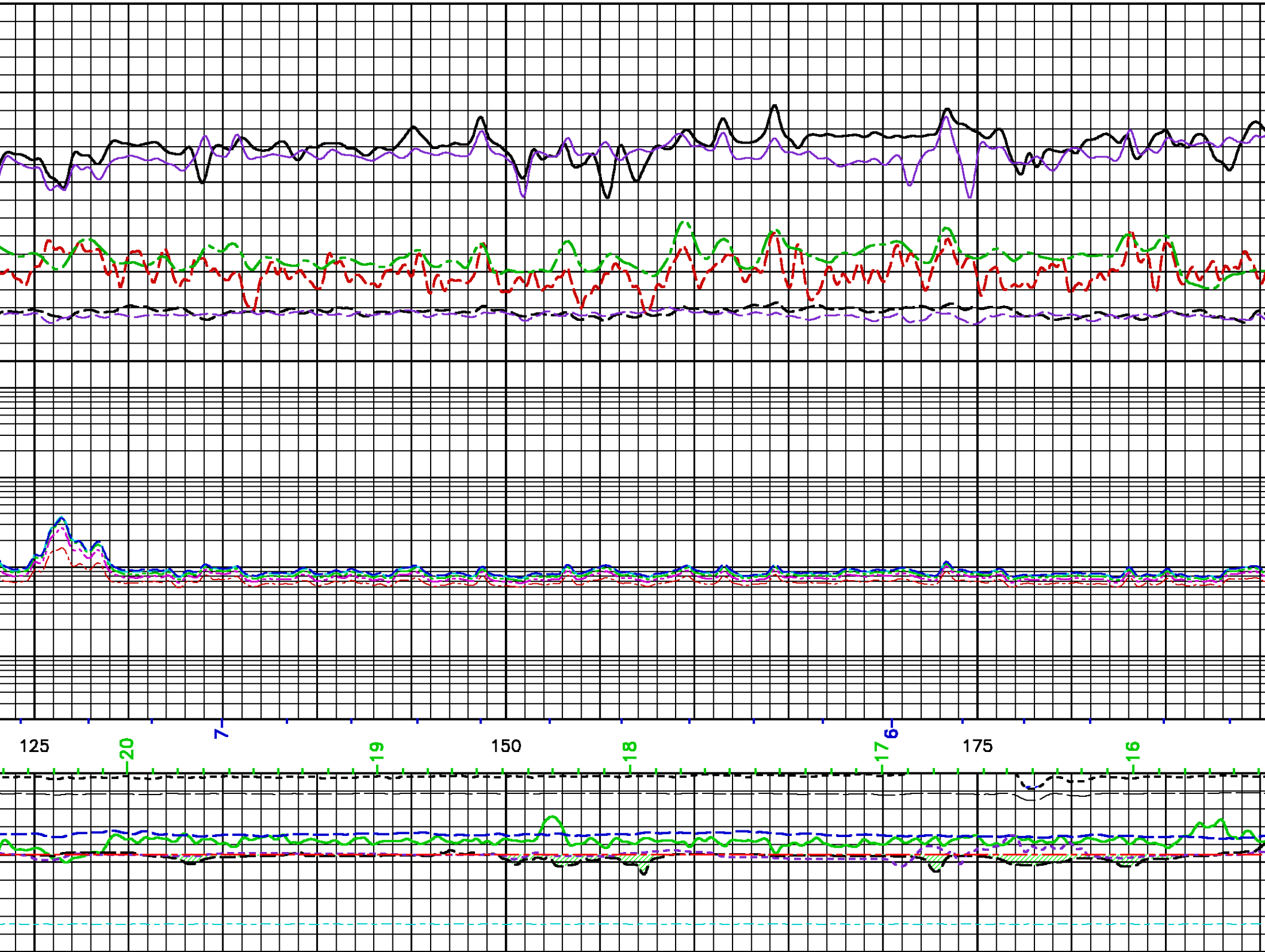
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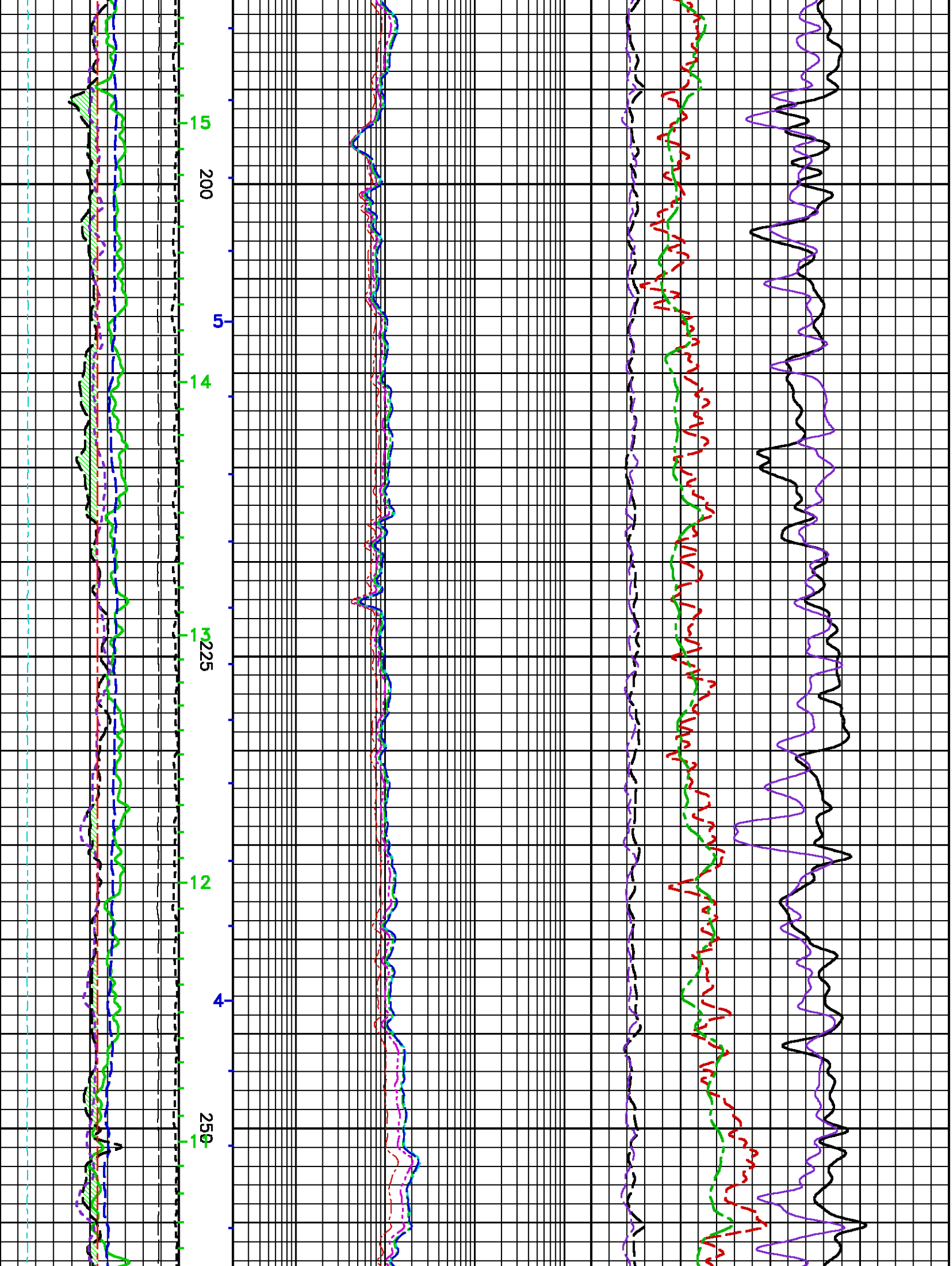
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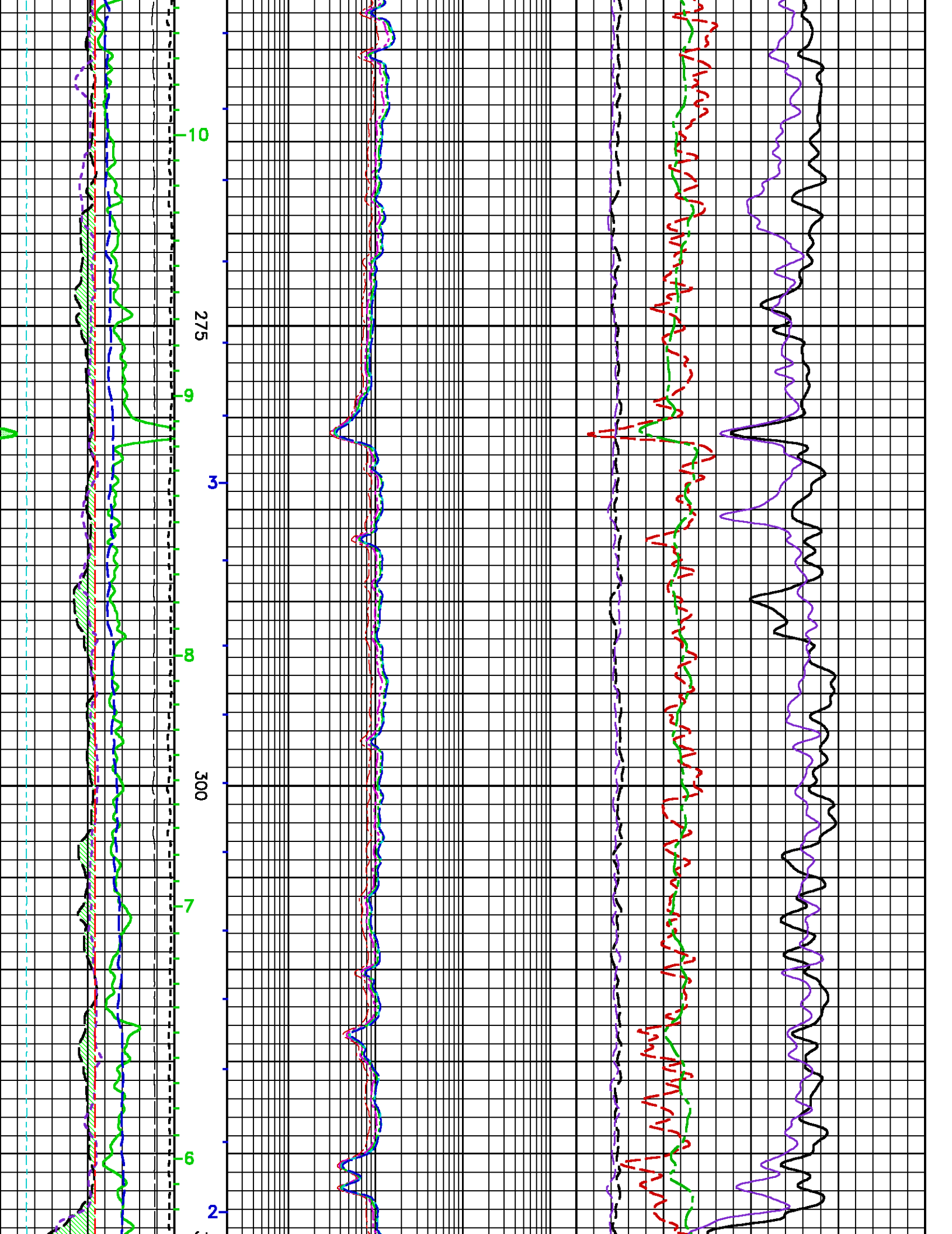
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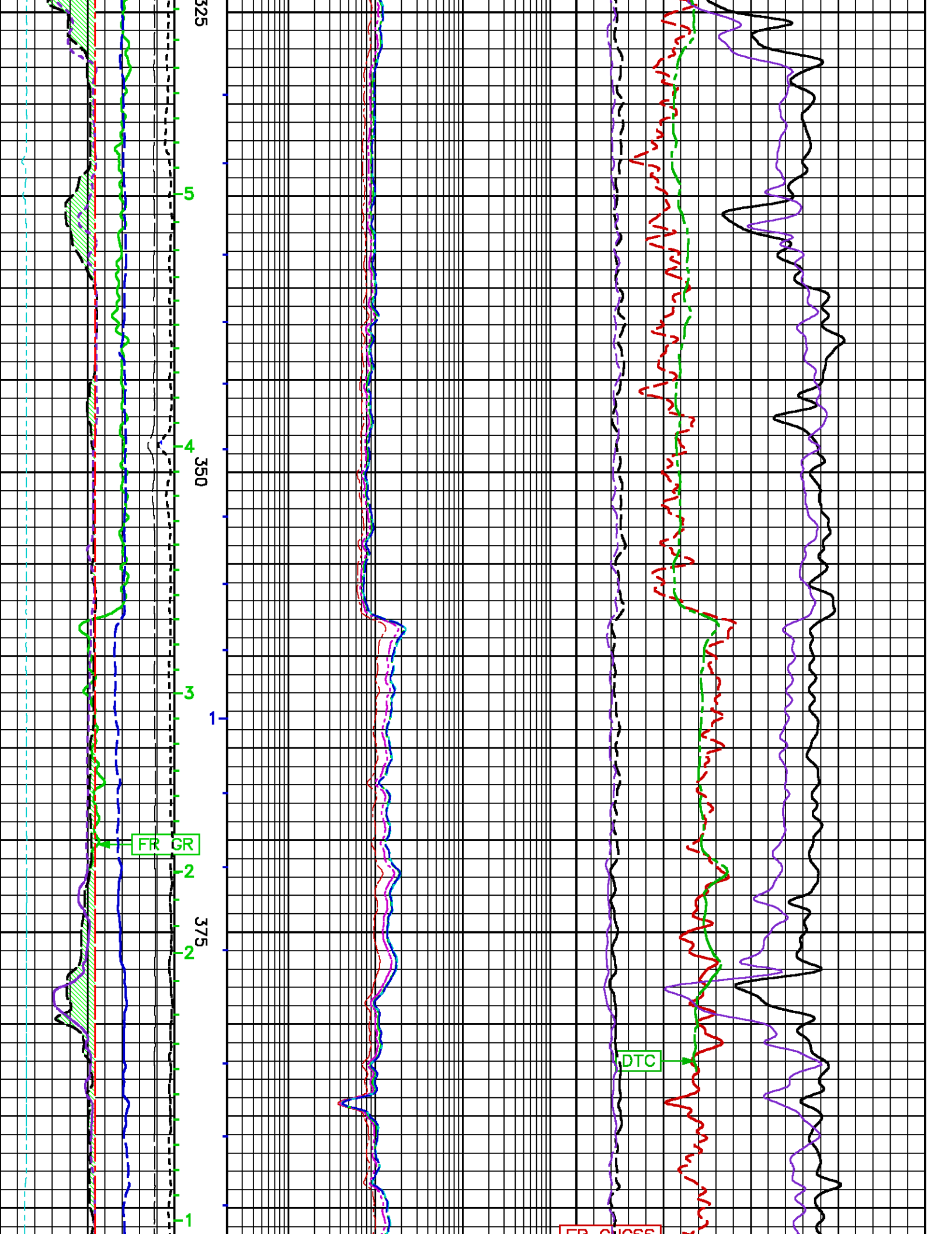
7
6
2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3
1
FR GR
2
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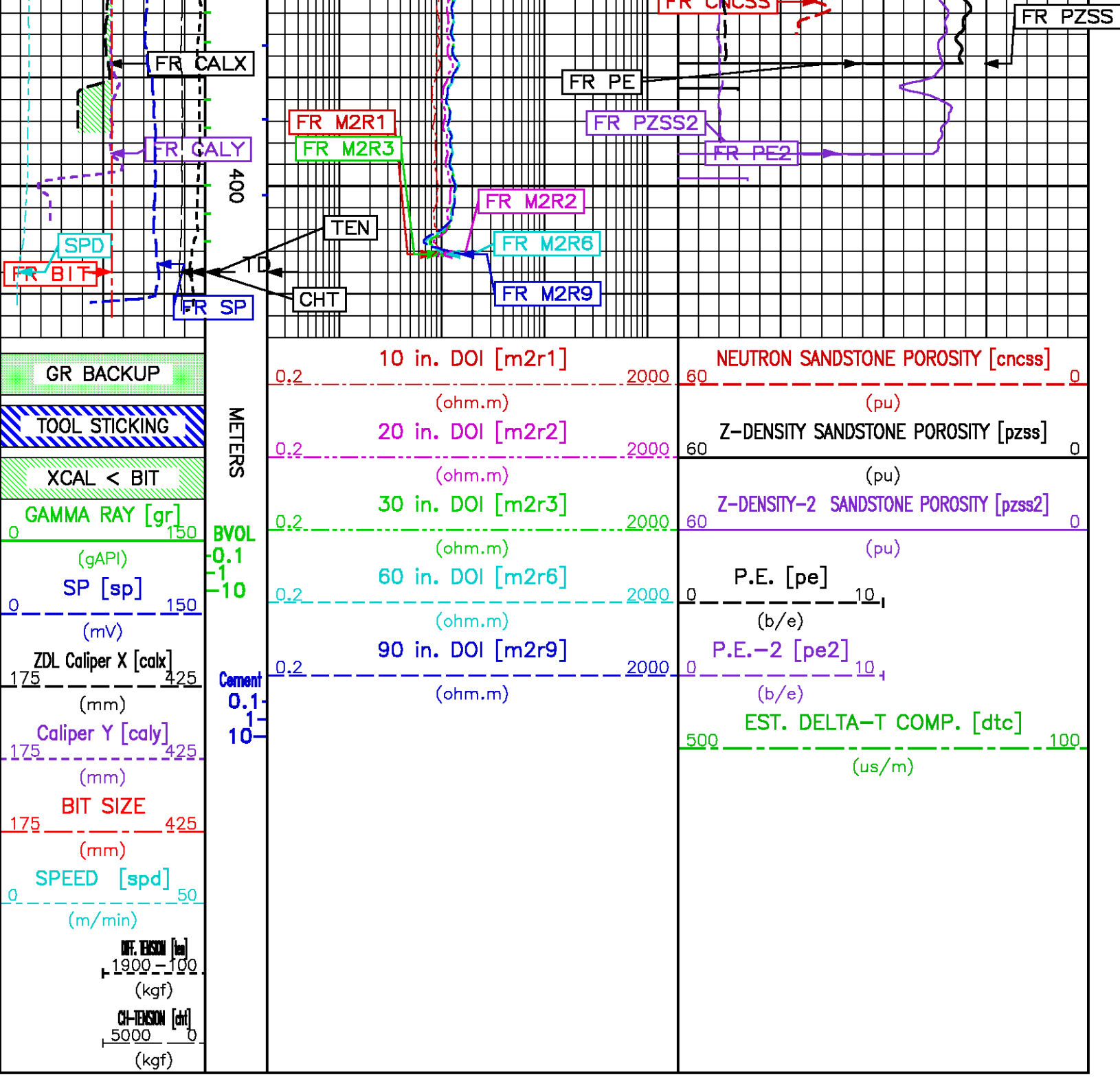
2
1
DTC



REPEAT LOG - SANDSTONE MATRIX

eXpress 3.2 Last updated 030ct2011 09:44 Oct 03, 2011
Updates: 1

Thu Jan 31 15:49:27 2013

Pcrplt /main/61 Cplot 9.16 Pdf_Cpp /main/16 Fileview 4.97

PARAMETER AND FILTER SUMMARY REPORT

FILE: /export/data/ddc/215445/m980g06.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 224.703 m BOTTOM DEPTH: 341.552 m

SYMMETRIC FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
CHT	FILTER ()	medium (1)		TOP	BOTTOM
SPEED	FILTER ()	medium (1)		''	''
TENSION	FILTER ()	medium (1)		''	''
GR	FILTER ()	medium (1)		''	''
DT24	FILTER ()	light (2)		''	''
CALIPER	FILTER ()	medium (1)		''	''
CN MED RES	FILTER ()	medium (1)		''	''
ZDL MED RES	FILTER (hrd1*)	medium		''	''
	FILTER (hrd12*)	medium		''	''
	FILTER (hrd1s*)	medium		''	''
	FILTER (hrd1s2*)	medium		''	''
	FILTER (hrd2*)	medium		''	''
	FILTER (hrd22*)	medium		''	''
	FILTER (hrd2s*)	medium		''	''
	FILTER (hrd2s2*)	medium		''	''
SP-SPDH	FILTER ()	medium (1)		''	''

BOREHOLE & CEMENT

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
CASING - BOREHOLE & CEMENT VOLUME	CASING O.D.	244.500	mm	TOP	BOTTOM
	CASING THICKNESS	0.000	mm	''	''
BIT SIZE	BIT SIZE	311.000	mm	''	''
BH MUD RESISTIVITY SOURCE	RMUD SOURCE (HDIL)	TOOL MEASURED		''	''
BOREHOLE CORR DIAMETER SOURCE	CALIPER/FIXED DIA. (cnbh*)	USE CALIPER		''	''
	CALIPER/FIXED DIA. (mbh*)	USE CALIPER		''	''
BOREHOLE CORR DIAMETER	FIXED DIAMETER (cnbh*)	311.000	mm	''	''
	FIXED DIAMETER (mbh*)	311.000	mm	''	''
X-Y COMBINED CALIPER PROCESSING-FOCUS	SY Caliper - FOCUS	Average		''	''

ACOUSTIC POROSITY

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
DELTA T CURVE SELECTION	DT24 SOURCE	AVAN DT24		TOP	BOTTOM

ACOUSTIC AVAN CORRELATON

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
MONOPOLE DELTA T	FORMATION TYPE	GENERIC (MEDIUM)		TOP	BOTTOM
	CORRELATION METHOD	NTH ROOT		''	''
	RESET TAPERS			''	''
	TAPER - LEFT END	100	us/m	TOP	304.696
		164	us/m	304.696	BOTTOM
	TAPER - RIGHT END	550	us/m	TOP	303.962
		591	us/m	303.962	BOTTOM
	FLOOR (UNIV. OPTION)	0.050		TOP	BOTTOM
MONOPOLE COMPRESSIONAL	FORMATION TYPE	GENERIC (MEDIUM)		''	''
	CORRELATION METHOD	NTH ROOT		''	''
	RESET TAPERS			''	''
	TAPER - LEFT END	100	us/m	TOP	304.085
		164	us/m	304.085	BOTTOM
	TAPER - RIGHT END	550	us/m	TOP	303.962
		591	us/m	303.962	BOTTOM
	FLOOR (UNIV. OPTION)	0.050		TOP	BOTTOM

ACOUSTIC WAVEFORM FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
WAVEFORM FILTER - FULLWAVE	SURFACE WAVE FILTER	ON		TOP	BOTTOM
	LOW FREQ CUTOFF	2000	Hz	''	''
	HIGH FREQ CUTOFF	20000	Hz	''	''

ACOUSTIC TCC CONTROL PARAMETERS

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
GENERAL TCC PARAMETERS	AGC	ON		TOP	BOTTOM
	SUBCYCLE LENGTH	50		''	''

	SUBSET	1		''	''
GENERAL MONOPOLE TCC PARAMETERS	STACK LEVEL	2		''	''
	DSP FILTER	ON		''	''
DELTA T TCC PARAMETERS	ACQ WINDOW	1664	us	''	''
	MOVEOUT	16	us/ft	''	''
	SAMPLE PERIOD	16		''	''
	RX DELAY	240	us	''	''
FULL WAVE MONOPOLE TCC PARAMETERS	ACQ WINDOW	8064	us	''	''
	SAMPLE PERIOD	24		''	''
	RX DELAY	0	us	''	''

ACCELERATION PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
ACCEL CORR SWITCH	ACCEL DEPTH CORR	CORRECTION OFF		TOP	344.881
		CORRECTION ON		344.881	BOTTOM

CN PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
CN BOREHOLE CORRECTION	SALINITY	0	ppm	TOP	BOTTOM
	BOREHOLE CORRECTION	ON		''	''
CN CASING & CEMENT CORRECTION	CORRECTION	OFF		''	''
	BIT SIZE BEHIND CSNG	500.000	mm	''	''

ZDL PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
DENSITY POROSITY	Air Filled Borehole	NO		TOP	BOTTOM
	RHOfluid	1.000	g/cm3	''	''
	RHOmatrix (sand)	2.650	g/cm3	''	''

HDIL PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
HDIL TEMPERATURE CORRECTION	TEMP CORRECTION	ON		TOP	BOTTOM
ADAPTIVE BOREHOLE CORRECTION	ABC PROCESSING	ON		''	''
	ABC to CALCULATE	STANDOFF		''	''
	STANDOFF	38.10	mm	''	''
	TOOL POSITION	ECCENTERED		''	''
	Rmud MULTIPLIER	1.000		''	''

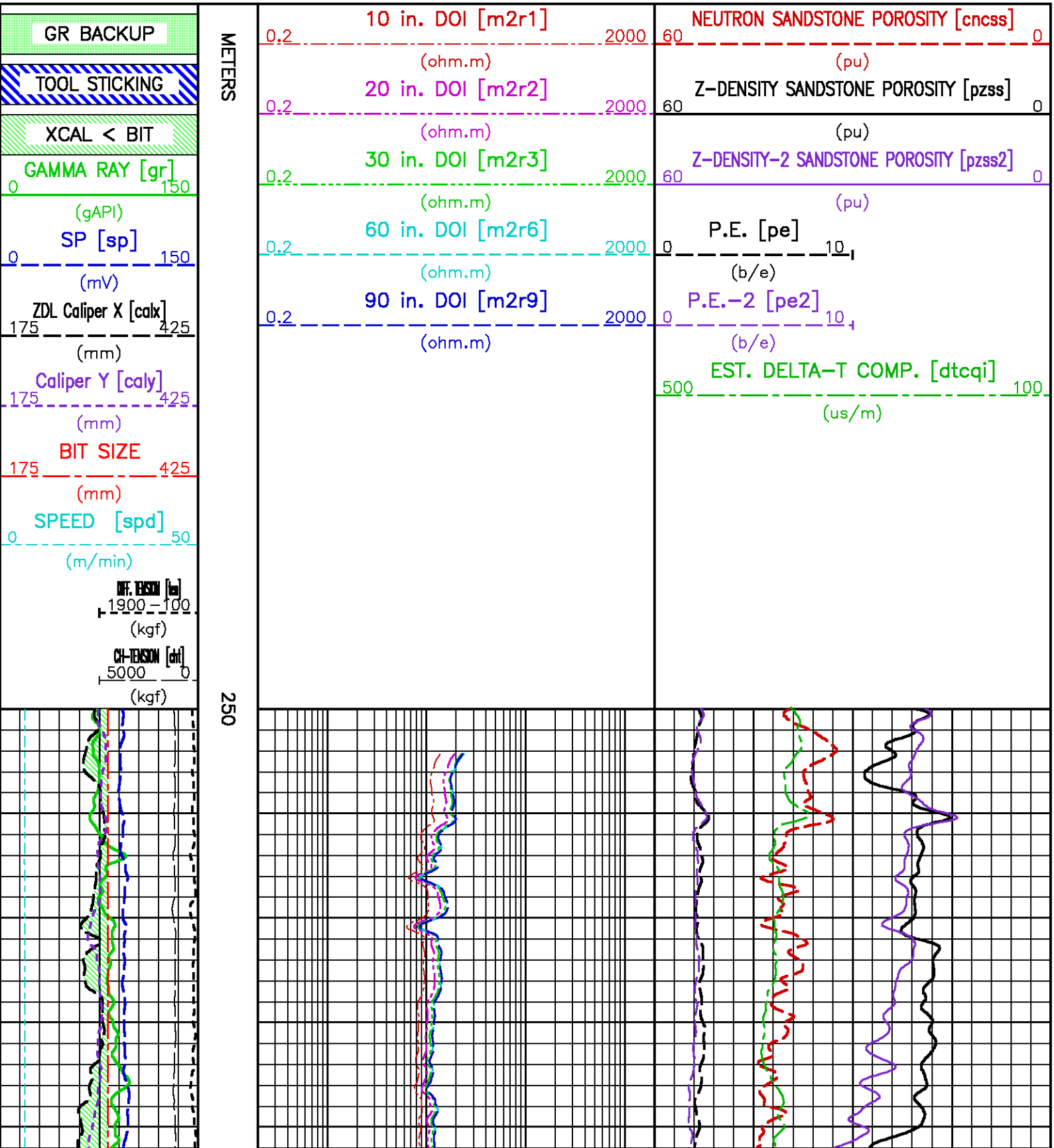
CURVE DESCRIPTION REPORT

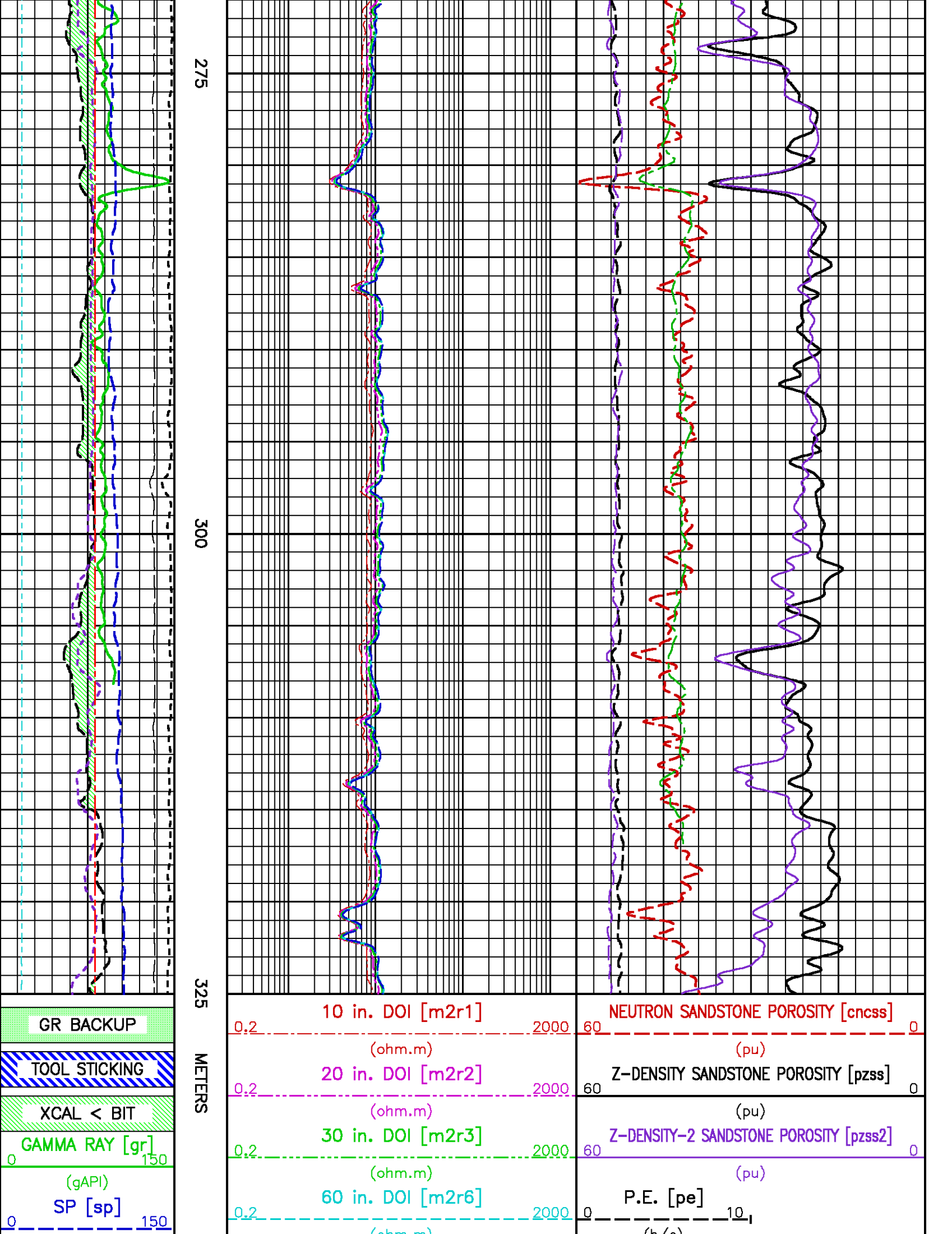
CURVE NAME	CURVE ALIAS	CREATION DATE	CURVE DESCRIPTION
F1:BIT	BIT	Jan 29 20:52:41 2013	BIT SIZE
F1:CALX	CALX	Jan 29 20:52:41 2013	CALIPER FROM X AXIS OF X-Y CALIPER(S)
F1:CALY	CALY	Jan 29 20:52:41 2013	CALIPER FROM Y AXIS OF X-Y CALIPER(S)
F1:CHT	CHT	Jan 29 20:52:41 2013	CABLE HEAD TENSION
F1:CNCSS	CNCSS	Jan 29 20:52:41 2013	BH SIZE CORR. SANDSTONE COMPENSATED NEUTRON POROSITY
F1:DTCQI	DTCQI	Jan 29 20:52:41 2013	COMPRESSIONAL WAVE SLOWNESS
F1:GR	GR	Jan 29 20:52:41 2013	GAMMA RAY
F1:M2R1	M2R1	Jan 29 20:52:41 2013	VERT RESOLUTION MATCHED (2 FT) RES - DOI 10 INCH
F1:M2R2	M2R2	Jan 29 20:52:41 2013	VERT RESOLUTION MATCHED (2 FT) RES - DOI 20 INCH
F1:M2R3	M2R3	Jan 29 20:52:41 2013	VERT RESOLUTION MATCHED (2 FT) RES - DOI 30 INCH
F1:M2R6	M2R6	Jan 29 20:52:41 2013	VERT RESOLUTION MATCHED (2 FT) RES - DOI 60 INCH
F1:M2R9	M2R9	Jan 29 20:52:41 2013	VERT RESOLUTION MATCHED (2 FT) RES - DOI 90 INCH
F1:PE	PE	Jan 29 20:52:41 2013	PHOTO ELECTRIC CROSS-SECTION
F1:PE2	PE2	Jan 29 20:52:41 2013	SECOND TOOL PHOTO ELECTRIC CROSS-SECTION
F1:PZSS	PZSS	Jan 29 20:52:41 2013	POROSITY FOR SANDSTONE MATRIX
F1:PZSS2	PZSS2	Jan 29 20:52:41 2013	2ND TOOL POROSITY FOR SANDSTONE MATRIX
F1:SP	SP	Jan 29 20:52:41 2013	SPONTANEOUS POTENTIAL
F1:SPD	SPD	Jan 29 20:52:41 2013	SPEED
F1:TEN	TEN	Jan 29 20:52:41 2013	DIFFERENTIAL TENSION

CURVE MEASURE POINT OFFSET

CURVE	OFFSET (m)	CURVE	OFFSET (m)	CURVE	OFFSET (m)	CURVE	OFFSET (m)
BIT	0.00	DTCQI	25.30	M2R6	0.84	PZSS2	5.49
CALX	9.64	GR	33.76	M2R9	0.84	SP	0.38
CALY	5.49	M2R1	0.84	PE	9.64	SPD	0.00
CHT	0.00	M2R2	0.84	PE2	5.49	TEN	0.00
CNCSS	12.50	M2R3	0.84	PZSS	9.64		

Project	: /data/ddc/215445
User	: tuyan
Presentation	: calsunsrv3:/data/ddc/215445/comp_rpt_ss.pdf [1:240 Scale]
Plot Interval	: 250 – 325 Meters
Data File 1	: F1 : calsunsrv3:/export/data/ddc/215445/slam_rpt.xtf
Created On	: Jan 29 20:52:41 2013
Company	: MGM ENERGY CORP
Well	: MGM SHELL EAST MACKAY I-78
Field	: EAST MACKAY
File Interval	: 188.671 – 342.519 Meters
Oct	: m980g

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300
325
METERS
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TOOL STICKING
XCAL < BIT
GAMMA RAY [gr]
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150
(gAPI)
SP [sp]
0
150
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
NEUTRON SANDSTONE POROSITY [cncss]
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0
(pu)
Z-DENSITY SANDSTONE POROSITY [pzss]
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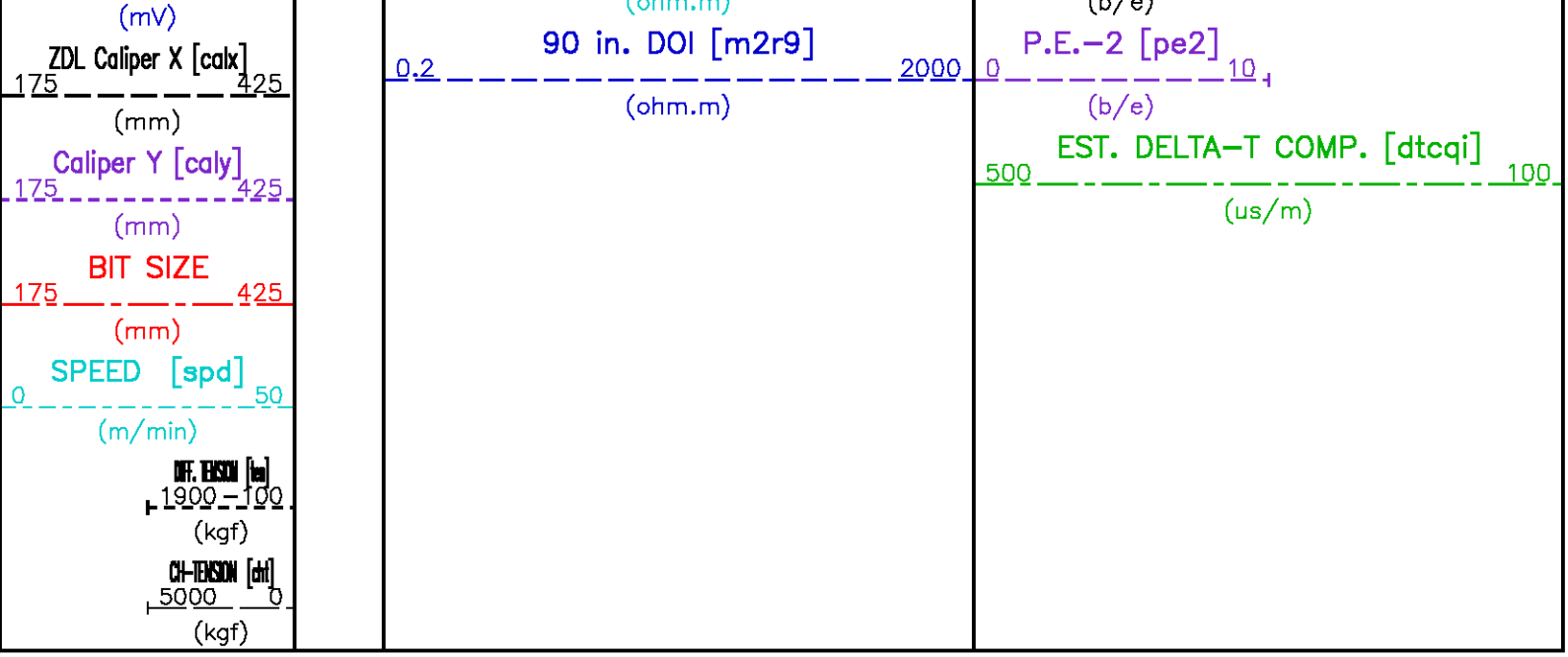

TEMPERATURE DOWN LOG

eXpress 3.2 Last updated 03Oct2011 09:44 Oct 03, 2011
Updates: 1

Thu Jan 31 15:49:56 2013

Pcrplt /main/61 Cplot 9.16 Pdf_Cpp /main/16 Fileview 4.97

CURVE DESCRIPTION REPORT

CURVE NAME	CURVE ALIAS	CREATION DATE	CURVE DESCRIPTION
F1:BIT	BIT	Jan 29 19:14:49 2013	BIT SIZE
F1:CAL	CAL	Jan 29 19:14:49 2013	CALIPER
F1:CHT	CHT	Jan 29 19:14:49 2013	CABLE HEAD TENSION
F1:GRQI	GR	Jan 29 19:14:49 2013	GAMMA RAY
F1:MMRK	MMRK	Jan 29 19:14:49 2013	MINUTE MARK
F1:SP	SP	Jan 29 19:14:49 2013	SPONTANEOUS POTENTIAL
F1:TEN	TEN	Jan 29 19:14:49 2013	DIFFERENTIAL TENSION
F1:WTBH	WTBH	Jan 29 19:14:49 2013	TEMPERATURE OF THE BOREHOLE

CURVE MEASURE POINT OFFSET

CURVE	OFFSET (m)	CURVE	OFFSET (m)	CURVE	OFFSET (m)	CURVE	OFFSET (m)
BIT	0.00	CHT	0.00	SP	0.38	WTBH	37.87
CAL	5.52	GRQI	33.68	TEN	0.00		

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User : tuyan
Presentation : calsunsrv3:/data/ddc/215445/downlog.pdf [1:240 Scale]
Plot Interval : 33.3756 - 406.908 Meters

Data File 1 : F1 : calsunsrv3:/export/data/ddc/215445/downlog.xtf
Created On : Jan 29 19:14:49 2013
Company : MGM ENERGY CORP
Well : MGM SHELL EAST MACKAY I-78
Field : EAST MACKAY
File Interval : 32.6136 - 408.127 Meters
Oct : m980g

GR BACKUP

CAL < BIT

GAMMA RAY [grqi]
0 150
(gAPI)

CALIPER [cal]
175 425
(mm)

BIT SIZE
175 425
(mm)

SP [sp]
0 150
(mV)

DIFF. TENSION [ten]
1900 −100
(kgf)

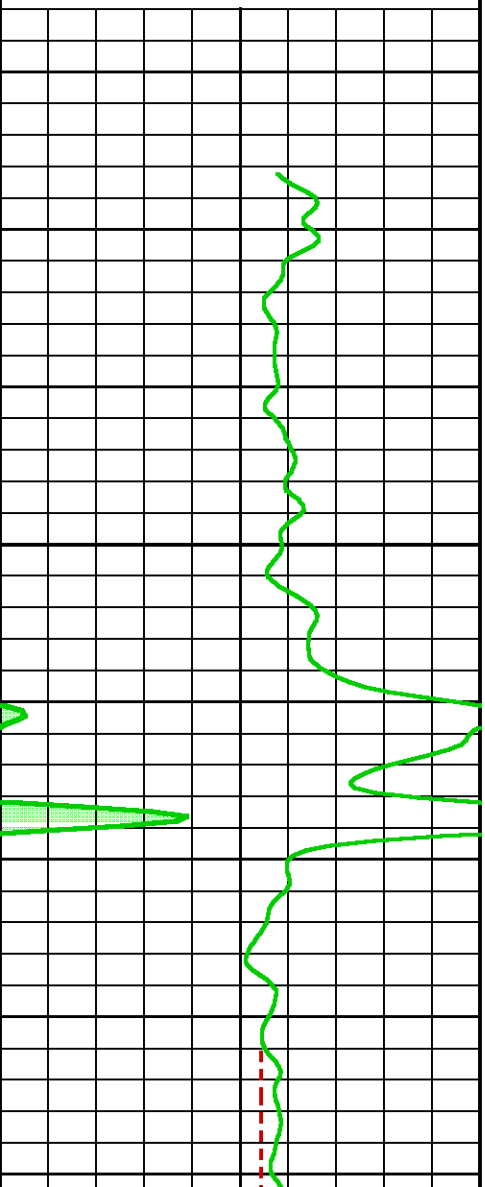
CH-TENSION [cht]
5000 0
(kgf)

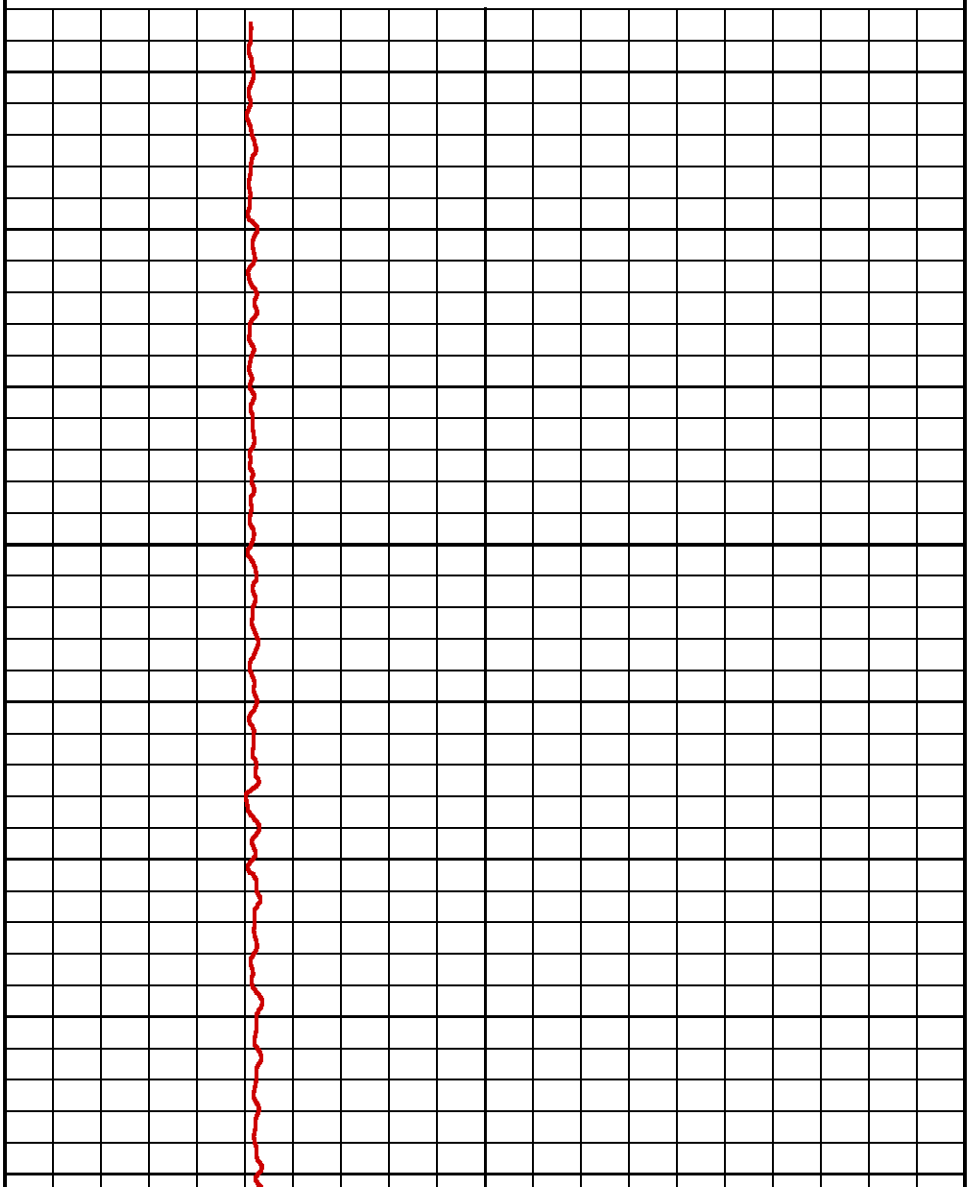
MINUTE MARK
1

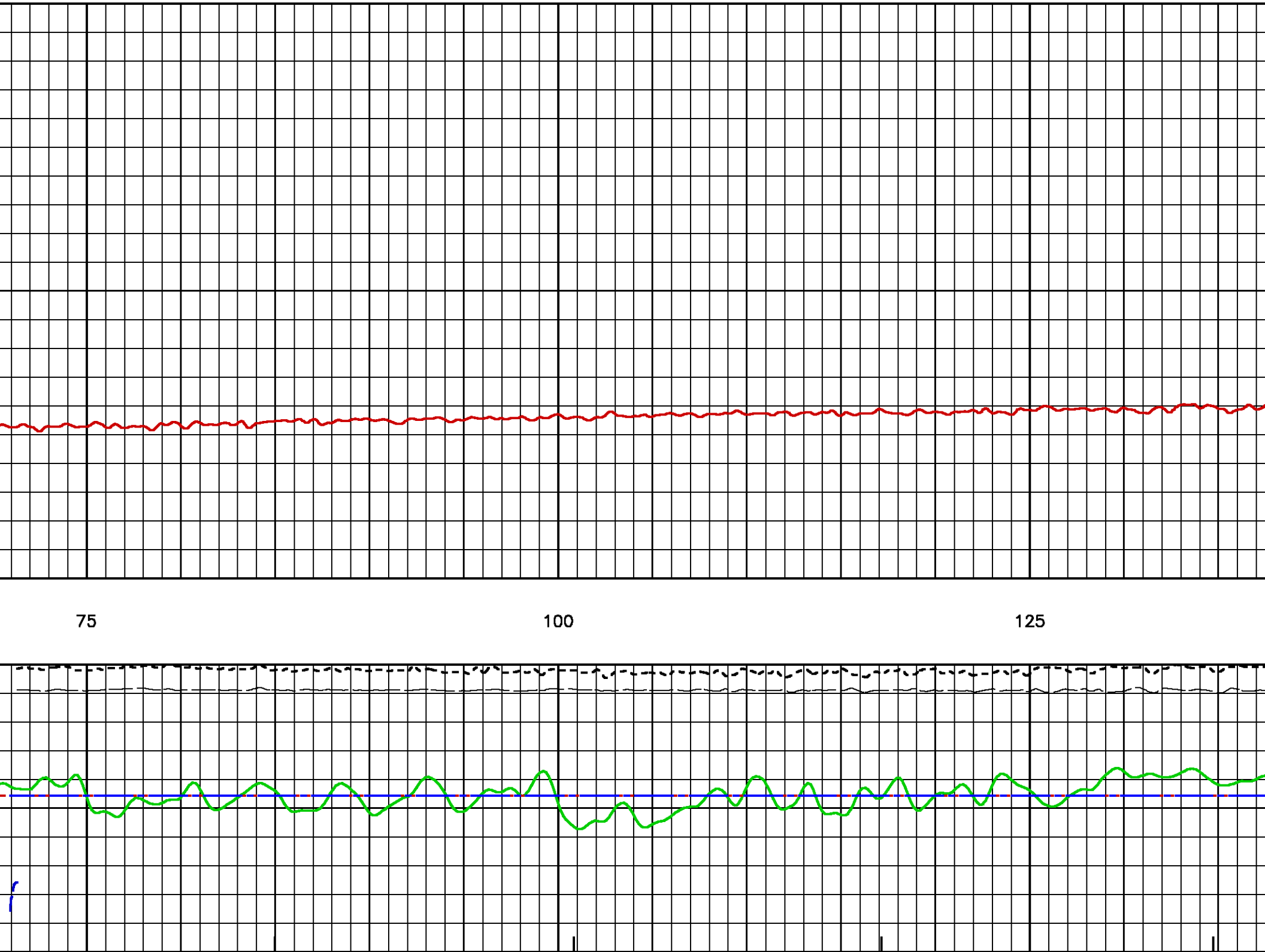
METERS

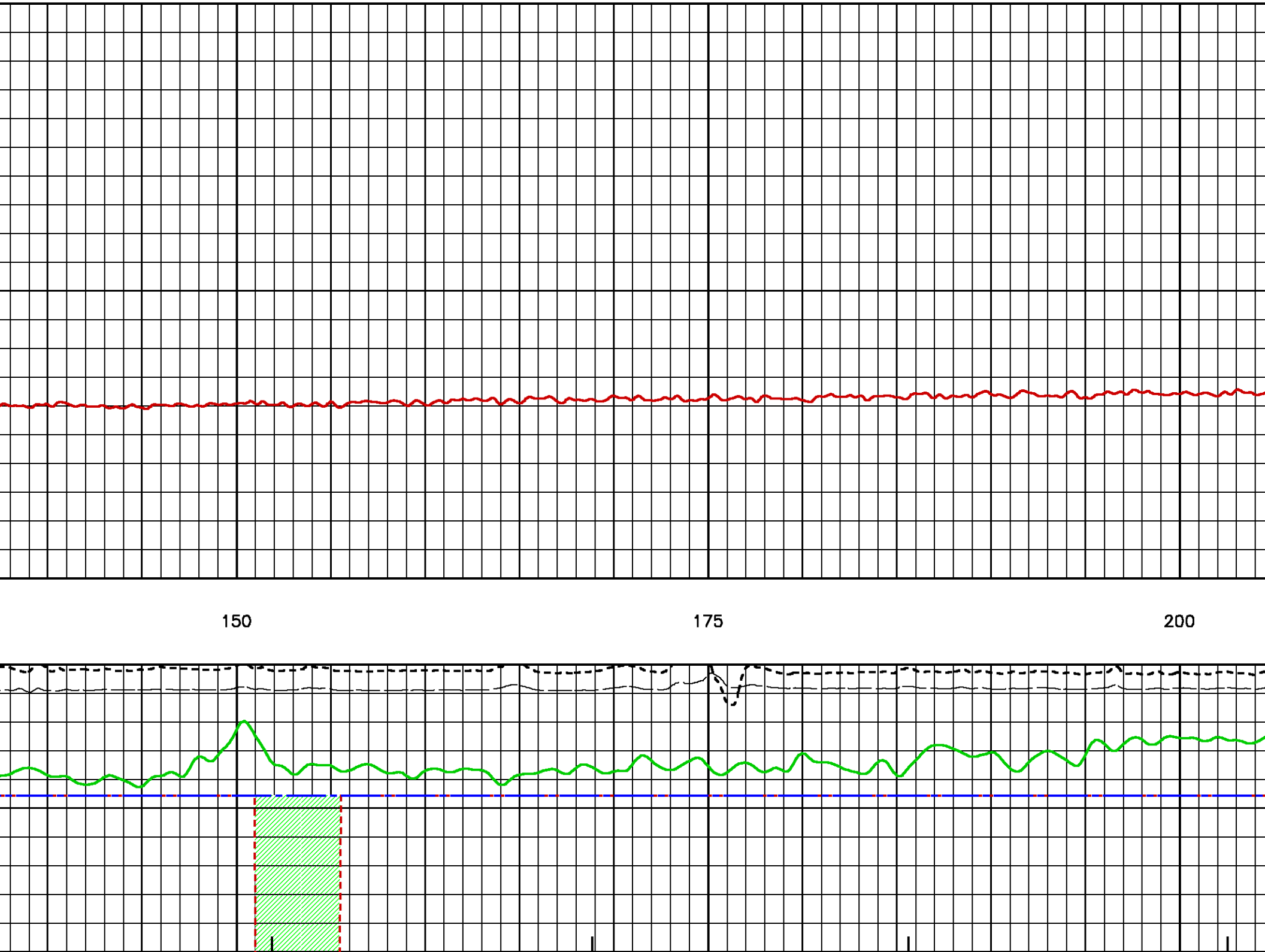
50

TTRM TEMP. [wtbh]
10 50
(degC)






75
100
125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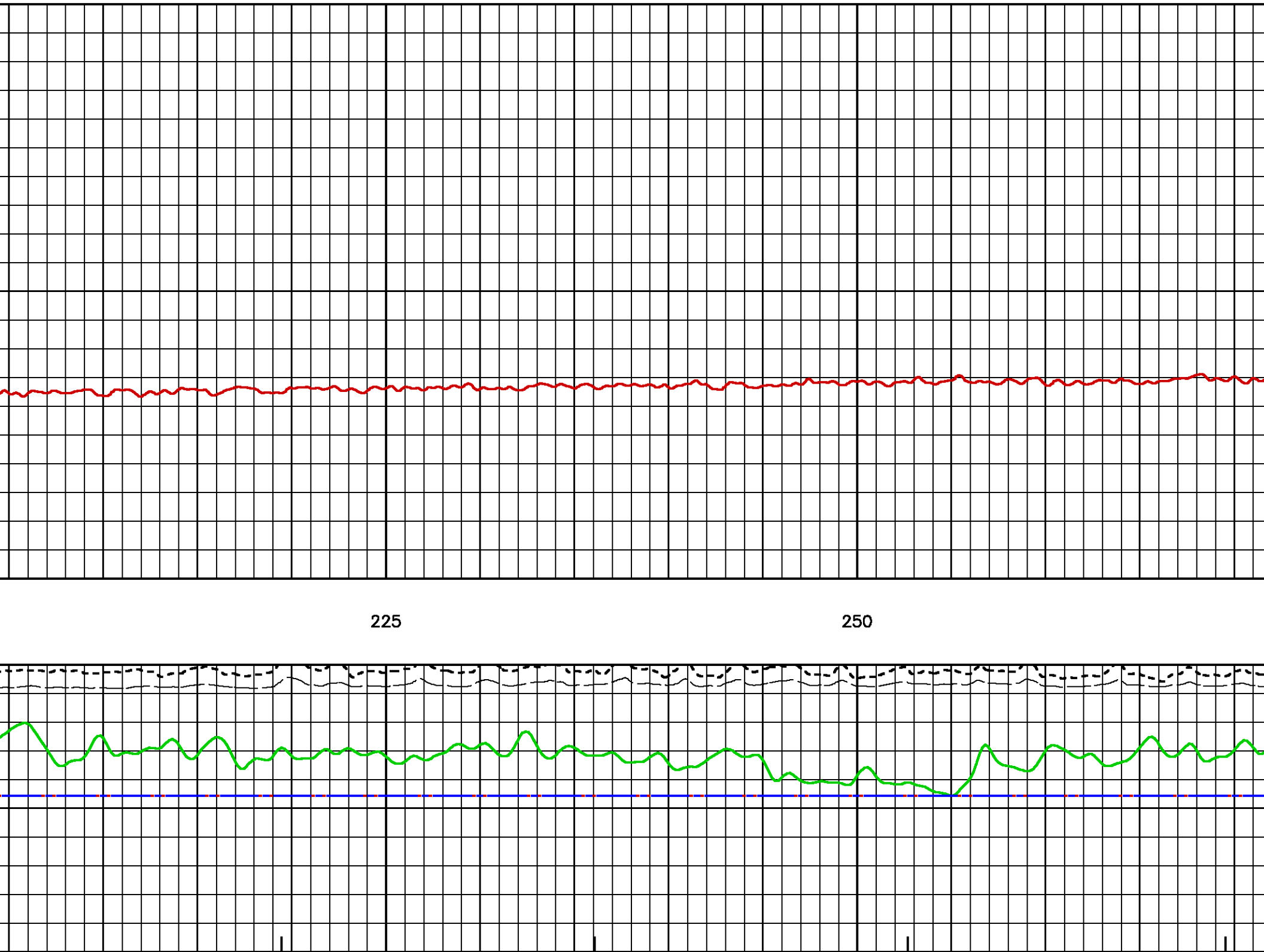
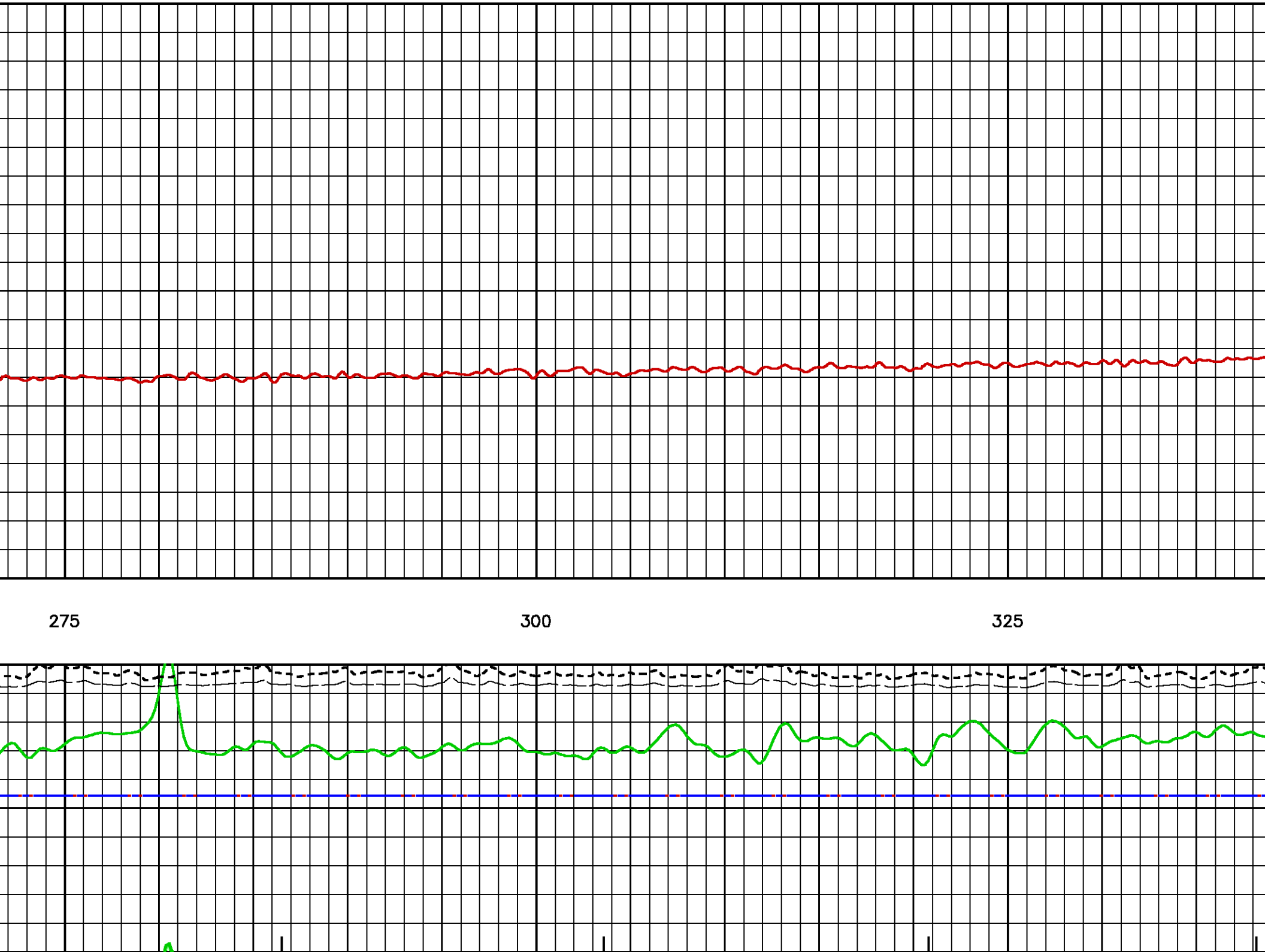
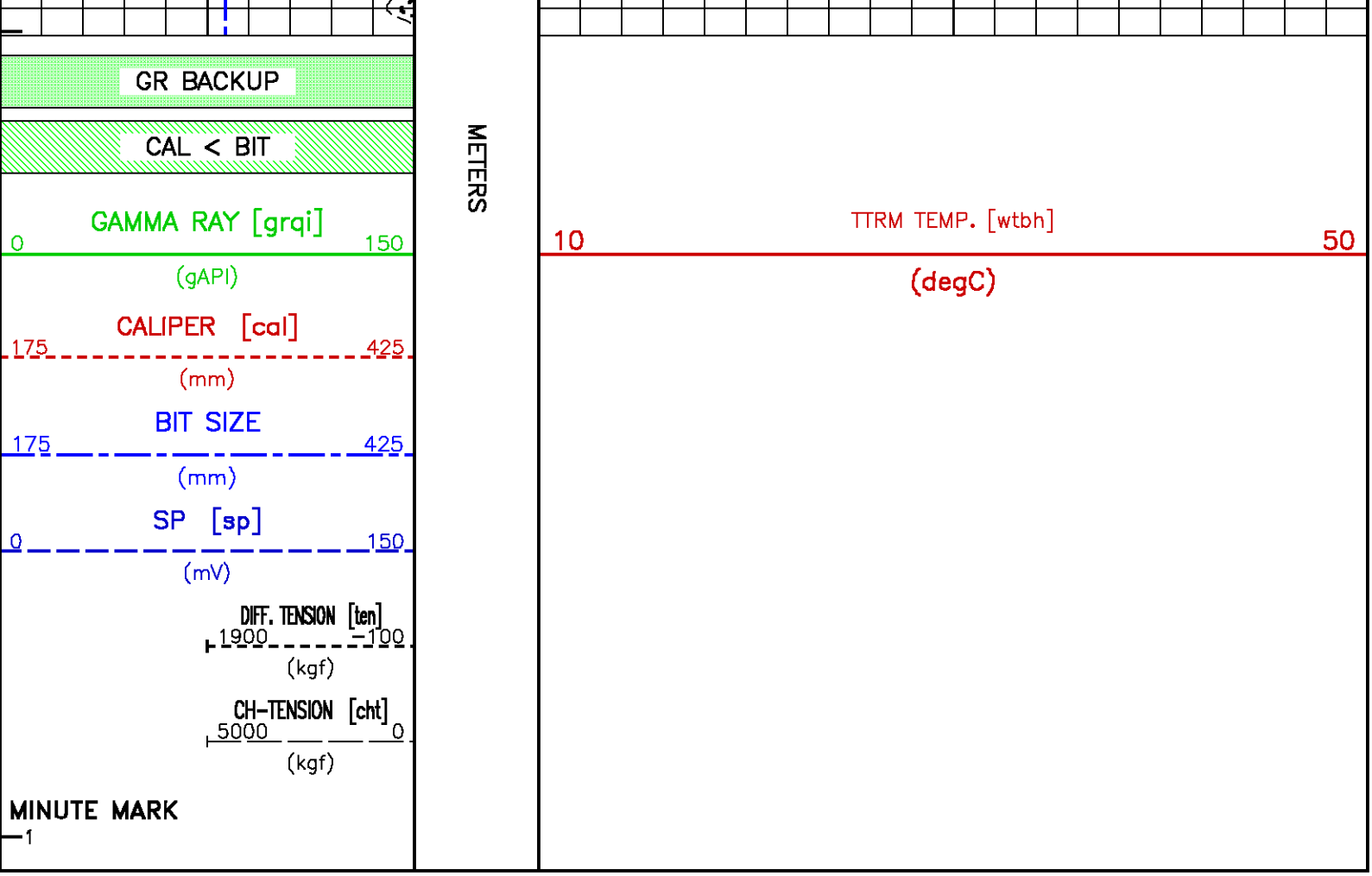
175
200


225
250


275
300
325


350
375
400



CALIBRATION / VERIFICATION SUMMARY

Source File: /data/MGM/run1_oh/m980g_cals.tp1

CHT PRIMARY CALIBRATION SUMMARY

TOOL #: 3981XA 10516528 DATE/TIME PERFORMED: Tue Jan 29 18:40:58 2013

UNIT #: 3815SA 008672

	Signal Low (raw)	Signal High (raw)	Scale Mult	Scale Add	Engr Low (kgf)	Engr High (kgf)
CHT	50.00	560.75	1.96	-97.90	0.00	1000.00

GR PRIMARY CALIBRATION SUMMARY

TOOL #: 1329XA 10293862 DATE/TIME PERFORMED: Wed Jan 2 15:27:33 2013

UNIT #: 5753XB 10108816 CALB JIG #: 4702NK DA-479

	BACKGROUND CALBRTR ON (cts/s)		CR DIFF (cts/s)	MULT	BACKGROUND CALBRTR ON (gAPI)		CALBRTR (gAPI)
GR	149.13	1025.69	876.6 (830.0 960.0)	0.171	25.52	175.52	150

GR PRIMARY VERIFICATION SUMMARY

TOOL #: 1329XA 10293862 DATE/TIME PERFORMED: Wed Jan 2 15:30:55 2013

UNIT #: 5753XB 10108816 VERI JIG #: 4702NK DA-479

	BACKGROUND CALBRTR ON (cts/s)		MULT	BACKGROUND CALBRTR ON (gAPI)		DIFF. (gAPI)
GR	145.09	1035.84	0.171	24.83	177.26	152.43 (140.00 160.00)

XMACE_OR PRIMARY CALIBRATION SUMMARY

TOOL #: 1678MC 10386815 DATE/TIME PERFORMED: Sun Jan 6 11:29:56 2013

UNIT #: 5753XB 10108816 ORIENTATION #: 4401XB 12466129

	DEV (deg)	QA (mG)	MEAS RB (deg)	RB OFFSET (deg)	ROTATED RB (deg)
ORIT TBM CHECK	89.9	1000.2 (990.0 1010.0)	359.7 (357.5 2.5)		
XMAC-F1 ORIENT			0.4	0.4	0.0

CN PRIMARY CALIBRATION SUMMARY

TOOL #: 2436XA 10105638 DATE/TIME PERFORMED: Sun Jan 13 18:44:58 2013

UNIT #: RCOR 10274 CALIBRATOR #: 2437XB 112675 SOURCE #: 4718XA N-1234

SSN DT CPS	LSN DT CPS	SSN/LSN	MCF	CNRATIO	CN PU
4800.31	823.98	5.82573	0.98477 (0.95000 1.05000)	5.73700	25.241

CN BEFORE LOG VERIFICATION SUMMARY

TOOL #: 2436XA 10105638 DATE/TIME PERFORMED: Tue Jan 29 18:38:13 2013 DAYS SINCE CAL: 15

UNIT #: 3815SA 008672 CALIBRATOR #: INTRNL N/A

SSN DT CPS	LSN DT CPS	SSN/LSN	TEMP (degC)	HV (V)	LV (V)
991.40	993.76	0.99762	18.2	1357.1	4.605
		0.95000 1.05000	138.0	1250.0 1450.0	4.300 5.000

CN AFTER LOG VERIFICATION SUMMARY

TOOL #: 2436XA 10105638 DATE/TIME PERFORMED: Tue Jan 29 22:25:32 2013 DAYS SINCE CAL: 16

UNIT #: 3815SA 008672 CALIBRATOR #: INTRNL N/A

SSN DT CPS	LSN DT CPS	SSN/LSN	TEMP (degC)	HV (V)	LV (V)
955.77	957.68	0.99801	24.8	1357.1	4.608
		0.95000 1.05000	138.0	1250.0 1450.0	4.300 5.000

CAL PRIMARY CALIBRATION SUMMARY

TOOL #: 2223XA 10391896 DATE/TIME PERFORMED: Fri Jan 18 17:30:07 2013

UNIT #: S23 8672

	SIZE (mm)	VALUE	MULTIPLIER	ADD
SMALL RING (Arm)	177.800	1199.6		
LARGE RING (Arm)	279.400	2200.0	0.10156	55.96938
PAD CLOSED		1723.2	0.06350	-109.42319

CAL BEFORE LOG VERIFICATION SUMMARY

TOOL #: 2223XA 10391896 DATE/TIME PERFORMED: Tue Jan 29 22:24:27 2013 DAYS SINCE CAL: 11

UNIT #: 3815SA 008672

	VALUE	MULTIPLIER	ADD	SIZE (mm)
ARM	2402.4	0.10156	55.96938	300.0
PAD	1708.4	0.06350	-109.42319	-0.9

	ACTUAL (mm)	MEASURED (mm)
DIAMETER (arm+pad)	311.000	314.0
		300.8 321.2

CAL AFTER LOG VERIFICATION SUMMARY

TOOL #: 2223XA 10391896 DATE/TIME PERFORMED: Tue Jan 29 22:25:39 2013 DAYS SINCE CAL: 11

UNIT #: 3815SA 008672

	VALUE	MULTIPLIER	ADD	SIZE (mm)
ARM	2401.2	0.10156	55.96938	299.8
PAD	1708.8	0.06350	-109.42319	-0.9

	ACTUAL (mm)	MEASURED (mm)
DIAMETER (arm+pad)	311.000	313.9 (300.8 – 321.2)

ZDL PRIMARY CALIBRATION SUMMARY

TOOL: 2223XA 10391896 DATE/TIME PERFORMED: Sun Jan 13 18:12:46 2013

UNIT: S23 8672 CALB BLKS: 2225XA 094290 CS SRC: 4705XA 16107B PAD TYPE: PADTYP 7.5" PAD

SS CS PK (Channel)	LS CS PK (Channel)	SS_BKGD (cps)	LS BKGD (cps)
224.0 (220.0 – 230.0)	224.9 (220.0 – 230.0)	1404.6	1628.9

	SS (cps)	LS (cps)	SHR	DEN (kg/m3)	CORR (kg/m3)	PE (b/e)
MG (LO PE)	38709.2	14552.3	0.751 (0.720 – 0.890)	1697.000	0.000	1.900
AL	24264.8	1636.8		2657.000	-16.000	
AL + SHIM	32324.1	2851.1		2548.000	98.000	
MG + SHIM (HI PE)	19185.1	6952.3	0.294 (0.280 – 0.360)			8.550
RATIO AL + SHIM/AL	1.33 (1.30 – 1.40)	1.74 (1.60 – 1.80)				
RATIO MG/AL	1.60 (1.58 – 1.70)	8.89 (8.55 – 9.55)				

ZDL BEFORE LOG VERIFICATION SUMMARY

TOOL #: 2223XA 10391896 DATE/TIME PERFORMED: Tue Jan 29 19:44:18 2013 DAYS SINCE CAL: 16

UNIT #: 3815SA 008672

UNIT #: 3815SA 008672

	TOTAL (cps)		CSPK (Channel)		HV (V)	
LS	3342.1		224.8		1390.2	
	3332.1	3352.1	220.0	230.0	1250.0	1550.0
SS	22355.0		224.1		1470.8	
	22344.8	22364.8	220.0	230.0	1250.0	1550.0

LV (V)		PAD CURRENT (mA)	
5.0		85.3	
4.8	5.2	50.0	120.0

ZDL AFTER LOG VERIFICATION SUMMARY

TOOL #: 2223XA 10391896 DATE/TIME PERFORMED: Tue Jan 29 22:25:53 2013 DAYS SINCE CAL: 16

UNIT #: 3815SA 008672

	TOTAL (cps)		CSPK (Channel)		HV (V)	
LS	3342.1		224.9		1393.7	
	3332.1	3352.1	220.0	230.0	1250.0	1550.0
SS	22354.8		224.2		1478.3	
	22344.8	22364.8	220.0	230.0	1250.0	1550.0

LV (V)		PAD CURRENT (mA)	
5.0		86.4	
4.8	5.2	50.0	120.0

CAL[2] PRIMARY CALIBRATION SUMMARY

TOOL #: 2223XA 10102923 DATE/TIME PERFORMED: Fri Jan 18 18:11:06 2013

UNIT #: S23 8672

	SIZE (mm)	VALUE	MULTIPLIER	ADD
SMALL RING (Arm)	177.800	1040.0		
LARGE RING (Arm)	279.400	2060.0	0.09961	74.20783
PAD CLOSED		1784.0	0.06350	-113.28400

CAL[2] BEFORE LOG VERIFICATION SUMMARY

TOOL #: 2223XA 10102923 DATE/TIME PERFORMED: Tue Jan 29 22:24:24 2013 DAYS SINCE CAL: 11

UNIT #: 3815SA 008672

	VALUE	MULTIPLIER	ADD	SIZE (mm)
ARM	2524.0	0.09961	74.20783	325.6
PAD	2400.0	0.06350	-113.28400	39.1

	ACTUAL (mm)	MEASURED (mm)
DIAMETER (arm+pad)	380.000	379.7 (369.8 – 390.2)

CAL[2] AFTER LOG VERIFICATION SUMMARY

TOOL #: 2223XA 10102923 DATE/TIME PERFORMED: Tue Jan 29 22:25:06 2013 DAYS SINCE CAL: 11

UNIT #: 3815SA 008672

	VALUE	MULTIPLIER	ADD	SIZE (mm)
ARM	2524.0	0.09961	74.20783	325.6
PAD	2400.0	0.06350	-113.28400	39.1

	ACTUAL (mm)	MEASURED (mm)
DIAMETER (arm+pad)	380.000	379.7 (369.8 – 390.2)

ZDL[2] PRIMARY CALIBRATION SUMMARY

TOOL: 2223XA 10102923 DATE/TIME PERFORMED: Sat Jan 12 20:19:02 2013

UNIT: S23 8672 CALB BLKS: 2225XA 094290 CS SRC: 4705XA 18204B PAD TYPE: PADTYP 7.5" PAD

SS CS PK (Channel)	LS CS PK (Channel)	SS_BKGD (cps)	LS BKGD (cps)
224.6 (220.0 – 230.0)	224.7 (220.0 – 230.0)	1149.5	1466.0

	SS (cps)	LS (cps)	SHR	DEN (kg/m3)	CORR (kg/m3)	PE (b/e)
MG (LO PE)	39084.9	14425.4	0.733 (0.720 – 0.890)	1697.000	0.000	1.900
AL	24250.4	1613.0		2657.000	-16.000	
AL + SHIM	32297.3	2817.2		2548.000	98.000	

MG + SHIM (HI PE)	19158.4	6839.7	0.285 0.280 0.360	8.550
RATIO AL + SHIM/AL	1.33 1.30 1.40	1.75 1.60 1.80		
RATIO MG/AL	1.61 1.58 1.70	8.94 8.55 9.55		

ZDL[2] BEFORE LOG VERIFICATION SUMMARY

TOOL #: 2223XA 10102923 DATE/TIME PERFORMED: Tue Jan 29 19:44:14 2013 DAYS SINCE CAL: 16

UNIT #: 3815SA 008672

	TOTAL (cps)	CSPK (Channel)	HV (V)
LS	3342.4 3332.1 3352.1	224.9 220.0 230.0	1478.0 1250.0 1550.0
SS	22356.7 22344.8 22364.8	224.2 220.0 230.0	1454.0 1250.0 1550.0

LV (V)	PAD CURRENT (mA)
5.0 4.8 5.2	86.4 50.0 120.0

ZDL[2] AFTER LOG VERIFICATION SUMMARY

TOOL #: 2223XA 10102923 DATE/TIME PERFORMED: Tue Jan 29 22:25:48 2013 DAYS SINCE CAL: 17

UNIT #: 3815SA 008672

	TOTAL (cps)	CSPK (Channel)	HV (V)
LS	3342.1 3332.1 3352.1	224.8 220.0 230.0	1494.8 1250.0 1550.0
SS	22355.0 22344.8 22364.8	224.1 220.0 230.0	1467.5 1250.0 1550.0

LV (V)	PAD CURRENT (mA)
5.0 4.8 5.2	86.4 50.0 120.0

HDIL PRIMARY CALIBRATION SUMMARY

TOOL #: 1530XA 10125755 DATE/TIME PERFORMED: Fri Jan 18 04:30:03 2013

UNIT #: 3815SA 008672 GRCOND ID & DATE: Leduc 11813

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

ELEC. BIAS(mV)	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coil 0 R	0.0051 -0.2000 0.2000	-0.0016 -0.1000 0.1000	-0.0009 -0.1000 0.1000	0.0007 -0.1000 0.1000	-0.0012 -0.1000 0.1000	0.0005 -0.1000 0.1000	0.0002 -0.1000 0.1000	0.0003 -0.1000 0.1000
Coil 0 Q	-0.0048 -0.5000 0.5000	-0.0021 -0.2000 0.2000	0.0009 -0.1000 0.1000	-0.0010 -0.1000 0.1000	0.0003 -0.1000 0.1000	0.0005 -0.1000 0.1000	-0.0006 -0.1000 0.1000	-0.0000 -0.1000 0.1000
Coil 1 R	-0.0073 -0.2000 0.2000	0.0001 -0.1000 0.1000	-0.0007 -0.1000 0.1000	0.0019 -0.1000 0.1000	-0.0002 -0.1000 0.1000	-0.0001 -0.1000 0.1000	0.0004 -0.1000 0.1000	0.0022 -0.1000 0.1000
Coil 1 Q	-0.0169 -0.5000 0.5000	0.0001 -0.2000 0.2000	-0.0000 -0.1000 0.1000	0.0013 -0.1000 0.1000	-0.0005 -0.1000 0.1000	-0.0005 -0.1000 0.1000	0.0006 -0.1000 0.1000	0.0010 -0.1000 0.1000
Coil 2 R	-0.0001 -0.2000 0.2000	-0.0029 -0.1000 0.1000	0.0018 -0.1000 0.1000	-0.0001 -0.1000 0.1000	-0.0034 -0.1000 0.1000	-0.0003 -0.1000 0.1000	0.0012 -0.1000 0.1000	-0.0018 -0.1000 0.1000
Coil 2 Q	-0.0020 -0.5000 0.5000	-0.0000 -0.2000 0.2000	0.0023 -0.1000 0.1000	-0.0020 -0.1000 0.1000	-0.0034 -0.1000 0.1000	-0.0005 -0.1000 0.1000	-0.0000 -0.1000 0.1000	0.0012 -0.1000 0.1000
Coil 3 R	0.0030 -0.3000 0.3000	-0.0072 -0.1000 0.1000	0.0028 -0.1000 0.1000	-0.0004 -0.1000 0.1000	-0.0004 -0.1000 0.1000	0.0020 -0.1000 0.1000	-0.0012 -0.1000 0.1000	-0.0040 -0.1000 0.1000
Coil 3 Q	-0.0038 -0.5000 0.5000	-0.0027 -0.2000 0.2000	0.0030 -0.1000 0.1000	0.0005 -0.1000 0.1000	0.0002 -0.1000 0.1000	0.0013 -0.1000 0.1000	0.0001 -0.1000 0.1000	-0.0016 -0.1000 0.1000
Coil 4 R	-0.0380 -0.5000 0.5000	0.0001 -0.2000 0.2000	0.0056 -0.2000 0.2000	-0.0069 -0.2000 0.2000	0.0008 -0.2000 0.2000	-0.0002 -0.2000 0.2000	0.0030 -0.2000 0.2000	-0.0033 -0.2000 0.2000
Coil 4 Q	0.0095 -1.0000 1.0000	0.0076 -0.4000 0.4000	0.0011 -0.2000 0.2000	-0.0045 -0.2000 0.2000	0.0033 -0.2000 0.2000	-0.0015 -0.2000 0.2000	-0.0057 -0.2000 0.2000	0.0001 -0.2000 0.2000
Coil 5 R	-0.0949 -1.2000 1.2000	-0.0102 -0.4000 0.4000	-0.0011 -0.4000 0.4000	0.0031 -0.4000 0.4000	-0.0017 -0.4000 0.4000	0.0046 -0.4000 0.4000	0.0131 -0.4000 0.4000	-0.0087 -0.4000 0.4000
Coil 5 Q	0.0196 -1.5000 1.5000	0.0146 -0.8000 0.8000	0.0227 -0.4000 0.4000	-0.0034 -0.4000 0.4000	-0.0076 -0.4000 0.4000	0.0054 -0.4000 0.4000	0.0044 -0.4000 0.4000	-0.0075 -0.4000 0.4000

ELEC. GAINS	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coil 0 M	161.24 136.00 186.00	159.90 134.00 184.00	157.17 131.00 181.00	153.12 126.00 176.00	147.73 122.00 170.00	141.04 118.00 161.00	133.17 112.00 150.00	123.98 105.00 139.00
Coil 0 P	7.653 6.000 9.000	25.205 21.000 30.000	42.334 35.000 50.000	59.431 49.000 71.000	76.548 63.000 91.000	93.715 77.000 109.000	110.883 92.000 130.000	128.108 106.000 151.000
Coil 1 M	283.01 238.00 328.00	280.47 235.00 325.00	275.36 230.00 320.00	267.77 225.00 312.00	257.78 218.00 302.00	245.49 208.00 288.00	231.11 196.00 266.00	214.57 184.00 244.00
Coil 1 P	7.712 6.000 9.000	25.410 21.000 30.000	42.664 35.000 51.000	59.864 49.000 71.000	77.071 63.000 92.000	94.270 78.000 112.000	111.496 93.000 130.000	128.682 107.000 151.000
Coil 2 M	571.86 479.00 659.00	566.67 474.00 654.00	556.16 463.00 643.00	540.76 450.00 622.00	520.61 432.00 602.00	495.72 412.00 572.00	466.91 390.00 540.00	433.66 359.00 499.00
Coil 2 P	7.810 6.000 9.000	25.663 21.000 31.000	43.072 35.000 51.000	60.425 49.000 71.000	77.755 63.000 92.000	95.107 76.000 115.000	112.453 92.000 135.000	129.813 105.000 155.000
Coil 3 M	928.30 772.00 1060.00	919.66 764.00 1050.00	902.11 752.001030.00	876.20 728.00 1010.00	842.46 700.00 970.00	800.98 665.00 925.00	752.74 628.00 868.00	697.61 589.00 799.00
Coil 3 P	7.934 6.000 10.000	26.028 21.000 30.000	43.686 35.000 51.000	61.276 49.000 72.000	78.835 63.000 93.000	96.396 76.000 114.000	113.972 90.000 135.000	131.521 104.000 156.000
Coil 4 M	1448.5 1210.0 1700.0	1435.5 1205.0 1690.0	1409.4 1180.0 1650.0	1371.0 1140.0 1590.0	1320.8 1120.0 1530.0	1259.3 1070.0 1450.0	1188.0 1000.0 1350.0	1107.8 942.0 1240.0
Coil 4 P	7.838 6.000 10.000	25.730 21.000 31.000	43.189 35.000 52.000	60.587 49.000 73.000	77.981 63.000 93.000	95.375 77.000 114.000	112.787 91.000 135.000	130.196 105.000 156.000
Coil 5 M	2951.6 2450.0 3450.0	2924.6 2420.0 3400.0	2869.4 2410.0 3320.0	2787.5 2350.0 3200.0	2681.9 2280.0 3080.0	2552.7 2150.0 2950.0	2404.0 2020.0 2750.0	2238.3 1870.0 2570.0
Coil 5 P	7.980 6.000 10.000	26.148 20.000 31.000	43.889 35.000 52.000	61.558 49.000 73.000	79.212 63.000 94.000	96.848 79.000 113.000	114.481 93.000 134.000	132.078 106.000 156.000

AM Factor	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coil 0 R	-1089	-633	-499	-429	-380	-343	-318	-296

	-3200 940	-1400 -20	-930 -150	-760 -160	-660 -130	-600 -120	-550 -110	-520 -92
Coil 0 Q	-812 -15000 11000	-589 -5800 3800	-484 -3700 2100	-436 -2700 1400	-410 -2200 1000	-395 -1800 790	-388 -1600 620	-383 -1500 490
Coil 1 R	-113 -750 460	-126 -360 83	-120 -280 9	-114 -230 -10	-107 -200 -26	-100 -180 -35	-94 -160 -46	-90 -150 -49
Coil 1 Q	-262 -3300 3300	-123 -1100 960	-95 -630 530	-85 -470 360	-81 -380 260	-79 -320 190	-78 -290 150	-76 -260 120
Coil 2 R	7.0 -85.0 76.0	-28.7 -64.0 -0.4	-32.2 -57.0 -12.0	-31.0 -51.0 -16.0	-29.3 -46.0 -17.0	-27.3 -42.0 -16.0	-25.5 -39.0 -15.0	-23.4 -37.0 -13.0
Coil 2 Q	-47.7 -1500.0 1900.0	-13.0 -500.0 610.0	-9.4 -290.0 350.0	-8.5 -220.0 260.0	-7.3 -160.0 190.0	-6.4 -140.0 160.0	-4.4 -110.0 130.0	-2.5 -99.0 120.0
Coil 3 R	3.4 -23.0 21.0	-8.9 -22.0 1.6	-10.2 -21.0 -1.3	-9.4 -20.0 -1.8	-9.6 -19.0 -2.0	-9.0 -19.0 -1.3	-8.2 -19.0 -0.8	-8.1 -19.0 -0.0
Coil 3 Q	65.2 -540.0 530.0	25.6 -180.0 180.0	18.7 -100.0 110.0	16.2 -71.0 81.0	16.0 -51.0 66.0	17.0 -37.0 58.0	18.1 -28.0 53.0	20.1 -21.0 51.0
Coil 4 R	-2.68 -18.00 13.00	-3.14 -12.00 2.70	-3.77 -11.00 1.50	-4.22 -9.80 0.52	-3.42 -9.90 0.96	-3.44 -10.00 1.50	-3.92 -11.00 2.30	-3.68 -11.00 2.60
Coil 4 Q	40.00 -250.00 280.00	17.61 -79.00 98.00	14.37 -43.00 64.00	14.73 -27.00 51.00	16.32 -18.00 46.00	18.15 -11.00 42.00	20.81 -5.50 42.00	23.34 -1.00 42.00
Coil 5 R	-8.24 -56.00 51.00	-2.09 -8.40 3.60	-2.01 -6.90 1.10	-2.16 -6.90 1.20	-1.98 -9.30 2.90	-1.99 -14.00 6.30	-2.15 -19.00 9.60	-2.41 -24.00 13.00
Coil 5 Q	12.04 -88.00 69.00	7.35 -26.00 27.00	8.33 -14.00 22.00	10.45 -7.00 22.00	13.15 -2.50 24.00	15.69 1.10 26.00	18.44 4.10 29.00	21.10 7.10 32.00

MM Factor	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coil 0 M	0.986 0.850 1.100	0.991 0.860 1.100	0.994 0.870 1.100	0.995 0.880 1.100	0.996 0.880 1.100	0.995 0.880 1.100	0.996 0.880 1.100	0.995 0.880 1.100
Coil 0 P	-0.224 -1.500 1.500	-0.271 -1.500 1.500	-0.179 -1.500 1.500	-0.098 -1.500 1.500	-0.033 -1.500 1.500	0.008 -1.500 1.500	0.017 -1.500 1.500	0.063 -1.500 1.500
Coil 1 M	0.974 0.850 1.100	0.981 0.860 1.100	0.984 0.870 1.100	0.985 0.880 1.100	0.985 0.880 1.100	0.985 0.880 1.100	0.986 0.880 1.100	0.985 0.880 1.100
Coil 1 P	-0.217 -1.500 1.500	-0.326 -1.500 1.500	-0.221 -1.500 1.500	-0.134 -1.500 1.500	-0.045 -1.500 1.500	-0.014 -1.500 1.500	0.018 -1.500 1.500	0.050 -1.500 1.500
Coil 2 M	0.999 0.890 1.100	0.999 0.890 1.100	1.000 0.890 1.100	1.000 0.890 1.100	1.001 0.890 1.100	1.000 0.890 1.100	1.001 0.890 1.100	1.000 0.890 1.100
Coil 2 P	-0.020 -1.500 1.500	-0.058 -1.500 1.500	-0.063 -1.500 1.500	-0.060 -1.500 1.500	-0.063 -1.500 1.500	-0.041 -1.500 1.500	-0.031 -1.500 1.500	-0.002 -1.500 1.500
Coil 3 M	1.007 0.900 1.100	1.008 0.900 1.100	1.009 0.900 1.100	1.009 0.900 1.100	1.009 0.900 1.100	1.009 0.900 1.100	1.008 0.900 1.100	1.007 0.900 1.100
Coil 3 P	0.011 -1.500 1.500	-0.018 -1.500 1.500	-0.015 -1.500 1.500	0.007 -1.500 1.500	0.018 -1.500 1.500	0.049 -1.500 1.500	0.115 -1.500 1.500	0.143 -1.500 1.500
Coil 4 M	1.001 0.900 1.100	1.002 0.900 1.100	1.003 0.900 1.100	1.003 0.900 1.100	1.004 0.900 1.100	1.003 0.900 1.100	1.004 0.900 1.100	1.005 0.900 1.100
Coil 4 P	-0.017 -1.500 1.500	-0.058 -1.500 1.500	-0.062 -1.500 1.500	-0.058 -1.500 1.500	-0.022 -1.500 1.500	0.002 -1.500 1.500	0.021 -1.500 1.500	0.030 -1.500 1.500
Coil 5 M	0.997 0.900 1.100	0.997 0.900 1.100	0.997 0.900 1.100	0.997 0.900 1.100	0.998 0.900 1.100	0.998 0.900 1.100	0.999 0.900 1.100	1.000 0.900 1.100
Coil 5 P	-0.036 -1.500 1.500	-0.046 -1.500 1.500	-0.055 -1.500 1.500	-0.065 -1.500 1.500	-0.026 -1.500 1.500	0.066 -1.500 1.500	0.033 -1.500 1.500	0.026 -1.500 1.500

PARMS	TCID 0	TCID 1	Cal Temp (degC)	T Factor
IDs	2.610	0.758	16.0	1.00

HDIL BEFORE LOG VERIFICATION SUMMARY

TOOL #: 1530XA 10125755 DATE/TIME PERFORMED: Tue Jan 29 19:45:27 2013 DAYS SINCE CAL: 11

UNIT #: 3815SA 008672

ZERO DATA(mv)	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coil 0 R	0.005	-0.001	-0.000	0.000	-0.000	0.000	0.000	-0.000
	-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	-0.100 0.100
Coil 0 Q	-0.006	-0.002	0.001	-0.001	-0.000	0.001	-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 1 R	-0.006	0.001	-0.001	0.001	-0.000	0.000	0.001	0.001
	-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	-0.017	0.001	-0.000	0.001	-0.000	0.000	-0.000	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 2 R	0.004	-0.001	0.001	-0.001	0.002	-0.000	-0.004	-0.003
	-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	-0.002	0.000	0.001	-0.000	0.001	-0.001	-0.001	-0.002
	-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 3 R	0.001	-0.006	-0.000	-0.000	-0.000	-0.000	0.001	-0.003
	-0.300 0.300	-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	-0.006	-0.003	-0.003	-0.004	0.002	0.001	0.002	-0.005
	-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	-0.030	-0.003	0.003	-0.007	-0.004	-0.007	-0.001	0.002
	-0.500 0.500	-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	0.006	0.007	-0.002	-0.005	0.003	-0.004	0.002	-0.002
	-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	-0.089	-0.009	0.010	0.007	0.003	0.007	-0.005	-0.002
	-1.200 1.200	-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	-0.009	0.005	0.012	0.003	-0.005	0.006	0.002	-0.012
	-1.500 1.500	-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

ELEC. GAINS	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coil 0 M	161.04	159.71	156.98	152.93	147.56	140.94	133.03	123.94
	136.00 186.00	134.00 184.00	131.00 181.00	126.00 176.00	122.00 170.00	118.00 161.00	112.00 150.00	105.00 139.00
Coil 0 P	7.585	25.203	42.353	59.467	76.606	93.789	110.999	128.217
	-1.000 12.000	19.000 30.000	35.000 50.000	49.000 71.000	63.000 91.000	77.000 110.000	92.000 130.000	105.000 151.000
Coil 1 M	283.08	280.54	275.39	267.80	257.83	245.63	231.21	214.66
	237.00 327.00	235.00 325.00	230.00 320.00	225.00 312.00	218.00 302.00	208.00 288.00	196.00 266.00	184.00 244.00
Coil 1 P	7.655	25.412	42.689	59.912	77.128	94.358	111.599	128.832
	-1.000 12.000	19.000 30.000	35.000 51.000	49.000 71.000	63.000 92.000	77.000 112.000	92.000 132.000	105.000 153.000
Coil 2 M	571.26	566.06	555.56	540.18	520.02	495.39	466.43	433.30
	479.00 659.00	474.00 654.00	463.00 643.00	450.00 622.00	432.00 602.00	412.00 572.00	390.00 540.00	359.00 499.00
Coil 2 P	7.730	25.652	43.087	60.452	77.814	95.170	112.548	129.909
	-1.000 12.000	19.000 31.000	35.000 51.000	49.000 71.000	63.000 92.000	77.000 114.000	92.000 135.000	105.000 156.000
Coil 3 M	928.15	919.53	901.90	876.12	842.31	801.11	752.98	697.47
	772.00 1060.00	764.00 1050.00	752.00 1030.00	728.00 1010.00	700.00 970.00	665.00 925.00	628.00 868.00	589.00 799.00
Coil 3 P	7.861	26.024	43.695	61.298	78.887	96.471	114.062	131.630
	-2.000 13.000	19.000 31.000	35.000 52.000	49.000 72.000	63.000 93.000	77.000 114.000	92.000 135.000	105.000 156.000
Coil 4 M	1449.3	1436.4	1410.2	1371.8	1321.7	1260.4	1188.8	1108.5
	1210.0 1700.0	1205.0 1690.0	1180.0 1650.0	1140.0 1590.0	1120.0 1530.0	1070.0 1450.0	1000.0 1350.0	942.0 1240.0
Coil 4 P	7.774	25.724	43.200	60.613	78.017	95.447	112.879	130.306
	-2.000 13.000	19.000 31.000	35.000 52.000	49.000 73.000	63.000 93.000	78.000 114.000	92.000 135.000	105.000 156.000

Coil 5 M	2951.9 2450.0 3450.0	2925.0 2420.0 3400.0	2869.6 2410.0 3320.0	2788.6 2350.0 3200.0	2682.7 2280.0 3080.0	2554.1 2150.0 2950.0	2403.9 2020.0 2750.0	2239.7 1870.0 2570.0
Coil 5 P	7.919 -2.000 13.000	26.141 19.000 31.000	43.891 35.000 52.000	61.577 49.000 73.000	79.243 63.000 94.000	96.888 79.000 114.000	114.535 93.000 135.000	132.164 106.000 156.000

HDIL AFTER LOG VERIFICATION SUMMARY

TOOL #: 1530XA 10125755 DATE/TIME PERFORMED: Tue Jan 29 22:27:14 2013 DAYS SINCE CAL: 11

UNIT #: 3815SA 008672

ZERO DATA(mv)	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coil 0 R	0.005 -0.075 0.085	-0.002 -0.061 0.059	0.000 -0.030 0.030	0.002 -0.030 0.030	-0.001 -0.030 0.030	-0.000 -0.030 0.030	-0.000 -0.030 0.030	-0.001 -0.030 0.030
Coil 0 Q	-0.005 -0.046 0.034	-0.002 -0.122 0.118	0.001 -0.029 0.031	0.000 -0.031 0.029	0.000 -0.030 0.030	0.000 -0.029 0.031	-0.000 -0.031 0.029	0.000 -0.029 0.031
Coil 1 R	-0.005 -0.086 0.074	0.001 -0.049 0.051	-0.001 -0.031 0.029	0.000 -0.029 0.031	-0.001 -0.030 0.030	-0.001 -0.030 0.030	0.000 -0.029 0.031	0.003 -0.029 0.031
Coil 1 Q	-0.017 -0.417 0.383	0.001 -0.099 0.101	0.002 -0.030 0.030	0.001 -0.029 0.031	-0.001 -0.030 0.030	-0.000 -0.030 0.030	0.000 -0.030 0.030	0.001 -0.029 0.031
Coil 2 R	0.001 -0.066 0.074	0.002 -0.031 0.029	0.001 -0.029 0.031	0.000 -0.031 0.029	-0.001 -0.028 0.032	-0.003 -0.030 0.030	0.000 -0.034 0.026	-0.001 -0.033 0.027
Coil 2 Q	-0.001 -0.352 0.348	-0.002 -0.100 0.100	-0.000 -0.029 0.031	0.000 -0.030 0.030	-0.002 -0.029 0.031	-0.002 -0.031 0.029	-0.001 -0.031 0.029	0.002 -0.032 0.028
Coil 3 R	0.006 -0.039 0.041	-0.003 -0.046 0.034	0.004 -0.040 0.040	-0.000 -0.040 0.040	-0.001 -0.040 0.040	0.004 -0.040 0.040	-0.003 -0.039 0.041	-0.002 -0.043 0.037
Coil 3 Q	-0.002 -0.206 0.194	-0.001 -0.083 0.077	0.002 -0.043 0.037	-0.005 -0.044 0.036	0.002 -0.038 0.042	0.003 -0.039 0.041	0.005 -0.038 0.042	-0.004 -0.045 0.035
Coil 4 R	-0.041 -0.090 0.030	0.001 -0.063 0.057	0.007 -0.057 0.063	0.002 -0.067 0.053	-0.001 -0.064 0.056	-0.003 -0.067 0.053	0.002 -0.061 0.059	-0.002 -0.058 0.062
Coil 4 Q	0.011 -0.294 0.306	0.009 -0.093 0.107	-0.009 -0.062 0.058	-0.006 -0.065 0.055	0.004 -0.057 0.063	0.000 -0.064 0.056	0.001 -0.058 0.062	0.001 -0.062 0.058
Coil 5 R	-0.087 -0.209 0.031	-0.005 -0.129 0.111	0.009 -0.110 0.130	-0.009 -0.113 0.127	-0.000 -0.117 0.123	-0.008 -0.113 0.127	-0.003 -0.125 0.115	-0.002 -0.122 0.118
Coil 5 Q	0.002 -0.609 0.591	0.009 -0.245 0.255	0.004 -0.108 0.132	0.004 -0.117 0.123	-0.008 -0.125 0.115	-0.002 -0.114 0.126	-0.001 -0.118 0.122	-0.013 -0.132 0.108

ELEC. GAINS	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coil 0 M	161.07 157.82 164.26	159.73 156.52 162.90	157.01 153.84 160.12	152.94 149.87 155.99	147.57 144.61 150.51	140.92 138.12 143.76	133.01 130.37 135.69	123.87 121.46 126.42
Coil 0 P	7.611 4.585 10.585	25.208 22.203 28.203	42.357 39.353 45.353	59.469 56.467 62.467	76.609 73.606 79.606	93.784 90.789 96.789	110.985 107.999 113.999	128.171 125.217 131.217
Coil 1 M	283.03 277.41 288.74	280.48 274.93 286.15	275.36 269.88 280.89	267.75 262.45 273.16	257.80 252.67 262.98	245.55 240.71 250.54	231.04 226.59 235.84	214.46 210.36 218.95
Coil 1 P	7.679 4.655 10.655	25.418 22.412 28.412	42.690 39.689 45.689	59.908 56.912 62.912	77.123 74.128 80.128	94.361 91.358 97.358	111.582 108.599 114.599	128.786 125.832 131.832
Coil 2 M	571.34 559.83 582.68	566.15 554.74 577.38	555.66 544.45 566.67	540.23 529.37 550.98	520.14 509.62 530.42	495.44 485.48 505.30	466.42 457.10 475.76	433.20 424.64 441.97
Coil 2 P	7.759 4.730 10.730	25.660 22.652 28.652	43.090 40.087 46.087	60.458 57.452 63.452	77.806 74.814 80.814	95.164 92.170 98.170	112.531 109.548 115.548	129.868 126.909 132.909
Coil 3 M	928.05 909.59 946.71	919.37 901.14 937.92	901.77 883.86 919.94	876.12 858.59 893.64	842.15 825.46 859.16	800.88 785.09 817.13	752.54 737.92 768.04	697.35 683.52 711.42
Coil 3 P	7.888 4.861 10.861	26.028 23.023 29.023	43.697 40.695 46.695	61.305 58.299 64.299	78.882 75.890 81.890	96.460 93.466 99.466	114.046 111.083 117.083	131.587 128.630 134.630

	4.861 10.861	23.024 29.024	40.695 46.695	58.298 64.298	75.887 81.887	93.471 99.471	111.062 117.062	128.630 134.630
Coll 4 M	1449.1 1420.3 1478.3	1436.2 1407.7 1465.1	1410.0 1382.0 1438.4	1371.8 1344.3 1399.2	1321.3 1295.3 1348.1	1260.1 1235.2 1285.6	1188.3 1165.0 1212.6	1107.6 1086.3 1130.6
Coll 4 P	7.800 4.774 10.774	25.731 22.724 28.724	43.203 40.200 46.200	60.615 57.613 63.613	78.024 75.017 81.017	95.444 92.447 98.447	112.872 109.879 115.879	130.238 127.306 133.306
Coll 5 M	2951.7 2892.9 3010.9	2924.7 2866.5 2983.5	2869.5 2812.2 2927.0	2787.7 2732.8 2844.3	2682.2 2629.0 2736.3	2553.5 2503.1 2605.2	2402.9 2355.8 2452.0	2237.8 2194.9 2284.4
Coll 5 P	7.944 4.919 10.919	26.149 23.141 29.141	43.900 40.891 46.891	61.586 58.577 64.577	79.245 76.243 82.243	96.920 93.888 99.888	114.549 111.535 117.535	132.139 129.164 135.164

BAKER HUGHES

EOLIPS

COMPANY MGM ENERGY CORP
WELL MGM SHELL EAST MACKAY I-78
FIELD EAST MACKAY
PROVINCE NORTHWEST TERRITORIES

FILE NO:

API NO:

LOCATION:

LAT 64.795 LONG -125.722

ELEVATIONS:
KB 161.2 M
DF
GL 155.00 M

LICENSE:
1202

DATE 29-JAN-2013

BAKER HUGHES

CEMENT VOLUME LOG FOR 244.5 MM CASING AND 311.0 MM BOREHOLE

FILE NO:

API NO:

COMPANY	MGM ENERGY CORP
WELL	MGM SHELL EAST MACKAY I-78
FIELD	EAST MACKAY
PROVINCE	NORTHWEST TERRITORIES

Ver. 3.87

LICENSE:
1202

LOCATION:

LAT 64.795 LONG -125.722

OTHER SERVICES
2ZDL-CN-GR-XYCAL
HDIL-GR-CAL
XMAC-GR

PERMANENT DATUM G.L. ELEVATION 155.00 M
LOG MEASURED FROM K.B. 6.2 M ABOVE P.D.
DRILL. MEAS. FROM KELLY BUSHING

ELEVATIONS:
KB 161.2 M
DF
GL 155.00 M

DATE		29-JAN-2013					
RUN	TRIP	1	1				
SERVICE ORDER		CA215445					
DEPTH DRILLER		405.2 M					
DEPTH LOGGER		404.0 M					
BOTTOM LOGGED INTERVAL		398.5 M					
TOP LOGGED INTERVAL		23.0 M					
CASING DRILLER		406.4 MM	@ 22.5 M		@		
CASING LOGGER		22.5 M					
BIT SIZE		311.0 MM					
TYPE OF FLUID IN HOLE		MILL GEL MUD SLURRY					
DENSITY	VISCOSITY	1140.0 G/L	78] S				
PH	FLUID LOSS	8.0	10.6 ML				
SOURCE OF SAMPLE		FLOWLINE					
RM AT MEAS. TEMP.		1.60 OHMM	@ 19.0 DEGC		@		
RMF AT MEAS. TEMP.		1.20 OHMM	@ 15.0 DEGC		@		
RMC AT MEAS. TEMP.		2.20 OHMM	@ 16.0 DEGC		@		
SOURCE OF RMF	RMC	MEASURED	MEASURED				
RM AT BHT		1.40 OHMM	@ 25.5 DEGC		@		
TIME SINCE CIRCULATION		10.0 HOURS					
MAX. RECORDED TEMP.		26.3 DEGC					
EQUIP. NO.	LOCATION	Z008672	CANADA OPEN				
RECORDED BY		I.ZALESKIKH					
WITNESSED BY		D.PRIOR					

CASING RECORD

SIZE	WEIGHT	GRADE	FROM	TO
406.4 MM	81.8 KG/M	NA	0.0 M	22.5 M

BOREHOLE RECORD

BIT SIZE	FROM	TO
311.0 MM	22.5 M	405.2 M

REMARKS

RUN 1 TRIP 1 : TIME STOPPED CIRCULATION: 29-JAN-2013 11:30 AM

MAXIMUM TEMPERATURE ON THERMOMETERS: 26 AND 26 DEGC
TEMPERATURE LOG WAS RECORDED ON THE WAY DOWN.

HOLE VOLUMES OBTAINED FROM ZDL-X AND Y-AXIS CALIPERS.
INTEGRATED BOREHOLE VOLUME TICS EVERY: 0.1, 1.0 & 10.0 M3.
INTEGRATED CEMENT VOLUME TICS EVERY: 0.1, 1.0, & 10.0 M3.

TOTAL BOREHOLE VOLUME FROM 398.5 M TO 23 M: 27.8 M3
TOTAL CEMENT VOLUME FROM 398.5 M TO 23 M FOR 244.5 MM CSG: 9.9 M3

RIG: AKITA #37

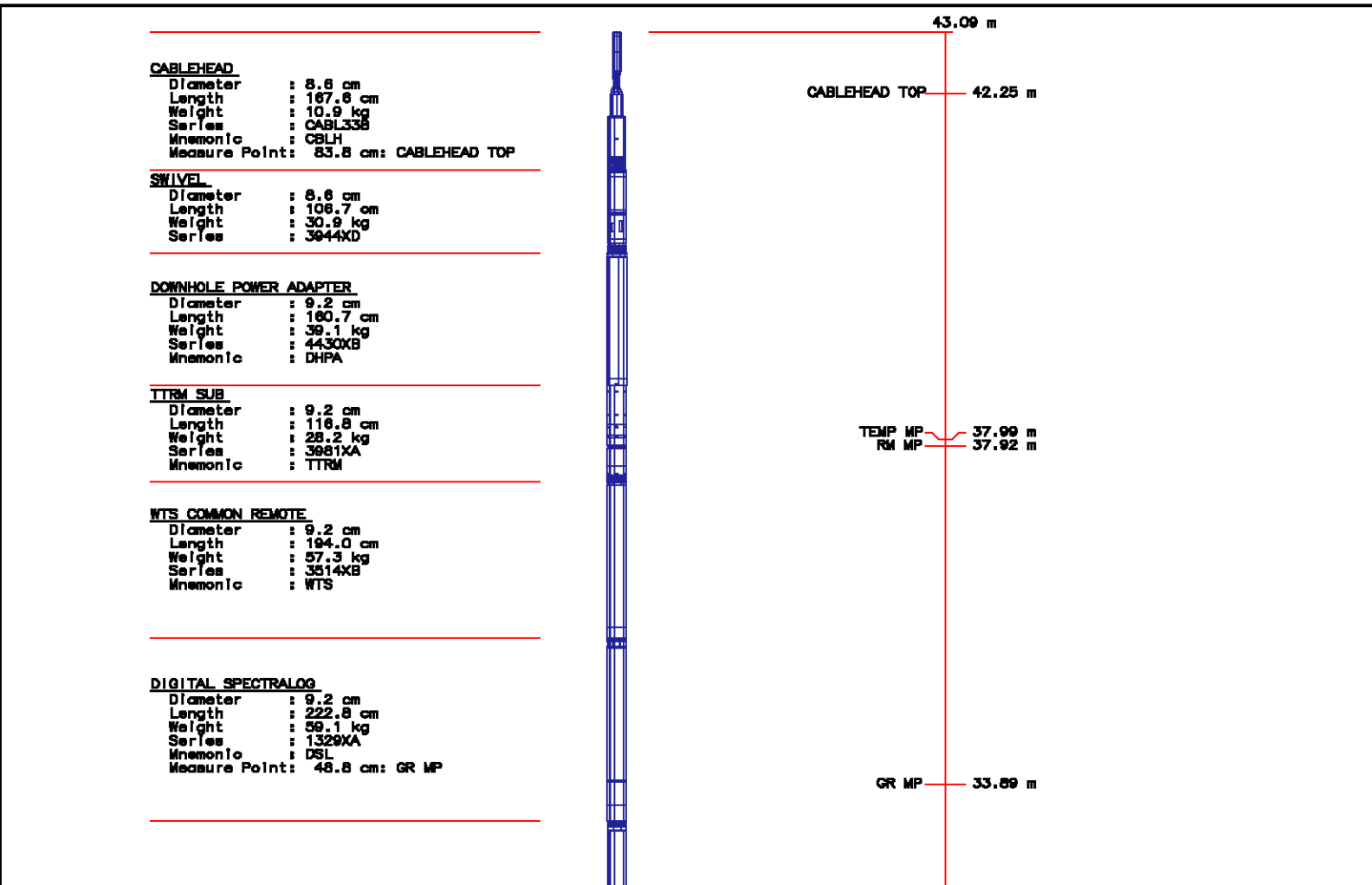
CREW: I.ZALESKIKH, J.PEREIRA, N.MCDERMID, K.HASIUK

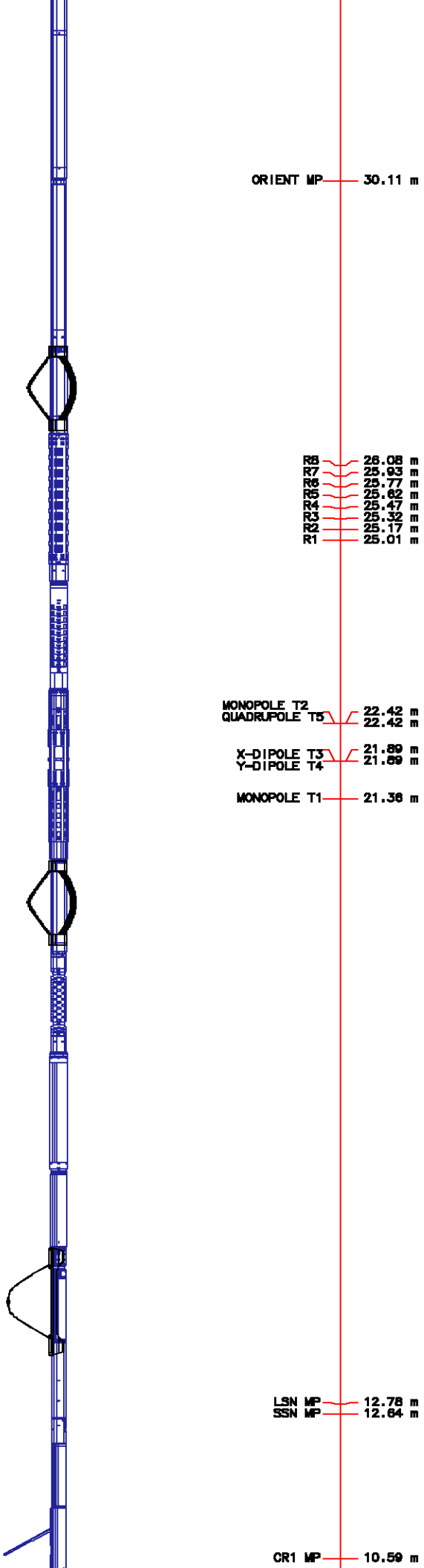
EQUIPMENT DATA

RUN	TRIP	TOOL	SERIES NO.	SERIAL NO.	POSITION
1	1	SWIVEL	3944XD	10513050	FREE
1	1	DHPA	4430XB	10390592	FREE
1	1	TTRM SUB	3981XB	10516528	FREE
1	1	COMM	3514XB	10504656	FREE
1	1	WTS DGR/SLI	1329XB	10293862	FREE
1	1	ORIT	4401XB	12466129	FREE
1	1	ACOUSTIC EL	1677EA	10383992	CENTRALIZED
1	1	XMAC RX MDR	1678MC	10386815	CENTRALIZED
1	1	XMAC ISO	1678PB	10039369	FREE
1	1	XMAC TX ELC	1678BA	12168167	CENTRALIZED
1	1	XMAC TX ELC	1678FA	12188364	CENTRALIZED
1	1	WTS DBL KNJ	3939XA	12448499	FREE
1	1	FOC/WTS ADP	3527EA	12337591	FREE
1	1	FOC/WTS ADP	3527FA	12494796	FREE
1	1	TTMA SUB	3980XA	Z402456	FREE
1	1	FOCUS CN	2436XA	10105638	DECENTRALIZED
1	1	FOCUS ZDEN	2223XA	10391896	PAD DEVICE
1	1	DBL KNJT	3931XA	10469360	FREE
1	1	ALGNMNT SUB	4408NA	10265502	FREE
1	1	FOCUS ZDEN	2223XA	10102923	PAD DEVICE
1	1	DBL KNJT	3931XA	10189700	FREE
1	1	FOCUS HDIL	1530XA	10125755	STANDOFF

INSTRUMENT CONFIGURATION

Source File: /data/MGM/run1_oh/m980g~mgm_R1-tdg





DIGITAL ORIENTATION
- Diameter : 8.6 cm
- Length : 329.4 cm
- Weight : 50.0 kg
- Series : 4401XB
- Mnemonic : ORIT
- Measure Point: 0.0 cm: ORIENT MP

ARRAY ACOUSTILOG ELECTRONICS, 8 CHANNEL
- Diameter : 8.6 cm
- Length : 238.3 cm
- Weight : 46.4 kg
- Series : 1677EA
- Mnemonic : XMAC

CROSS MULTIPOLE ARRAY ACOUSTILOG
- Diameter : 9.5 cm
- Length : 332.4 cm
- Weight : 101.8 kg
- Series : 1678MC
- Mnemonic : XMF1
- Measure Point: 167.6 cm: R8
- Measure Point: 152.4 cm: R7
- Measure Point: 137.2 cm: R6
- Measure Point: 121.9 cm: R5
- Measure Point: 106.7 cm: R4
- Measure Point: 91.4 cm: R3
- Measure Point: 76.2 cm: R2
- Measure Point: 61.0 cm: R1

SHEAR WAVE ACOUSTILOG
- Diameter : 9.2 cm
- Length : 152.4 cm
- Weight : 61.4 kg
- Series : 1678PB
- Mnemonic : XMAC

MULTI-POLE ARRAY ACOUSTIC
- Diameter : 9.8 cm
- Length : 241.3 cm
- Weight : 77.3 kg
- Series : 1678BA
- Mnemonic : XMAC
- Measure Point: 195.6 cm: QUADRUPOLE T5
- Measure Point: 195.6 cm: MONOPOLE T2
- Measure Point: 142.2 cm: Y-DIPOLE T4
- Measure Point: 142.2 cm: X-DIPOLE T3
- Measure Point: 88.9 cm: MONOPOLE T1

MULTI-POLE ARRAY ACOUSTIC
- Diameter : 8.6 cm
- Length : 131.6 cm
- Weight : 26.4 kg
- Series : 1678FA
- Mnemonic : MAC

KNUCKLE JOINT (DOUBLE)
- Diameter : 8.6 cm
- Length : 141.8 cm
- Weight : 40.9 kg
- Series : 3939XA
- Mnemonic : KNJT

WTS FOCUS TELEMETRY TRANSFORMER SUB
- Diameter : 9.2 cm
- Length : 165.7 cm
- Weight : 30.5 kg
- Series : 3526EB
- Mnemonic : ADAP

WTS FOCUS POWER ADAPTOR
- Diameter : 9.2 cm
- Length : 110.2 cm
- Weight : 70.9 kg
- Series : 3526FB
- Mnemonic : ADAP

FOCUS TEN/TEMP/MUD RES/ACCEL
- Diameter : 8.0 cm
- Length : 131.4 cm
- Weight : 27.7 kg
- Series : 3980XA
- Mnemonic : TTMA

FOCUS COMPENSATED NEUTRON
- Diameter : 8.0 cm
- Length : 146.7 cm
- Weight : 29.5 kg
- Series : 2436XA
- Mnemonic : CN
- Measure Point: 58.4 cm: LSN MP
- Measure Point: 44.5 cm: SSN MP

FOCUS Z-DENSILOG
- Diameter : 9.5 cm
- Length : 292.1 cm
- Weight : 90.9 kg
- Series : 2223XA
- Mnemonic : ZDL

Measure Point: 132.1 cm: CR1 MP
Measure Point: 51.4 cm: LSD / CR2 MP
Measure Point: 39.4 cm: SSD MP

FOCUS KNUCKLE JOINT
Diameter : 8.0 cm

FOCUS KNUCKLE JOINT
Diameter : 8.0 cm

FOCUS ALIGNMENT SUB

FOCUS Z-DENSILOG
Diameter : 9.5 cm
Length : 292.1 cm
Weight : 90.9 kg
Series : 2223XA
Mnemonic : ZDL
Measure Point: 132.1 cm: CR1 MP
Measure Point: 51.4 cm: LSD / CR2 MP
Measure Point: 39.4 cm: SSD MP

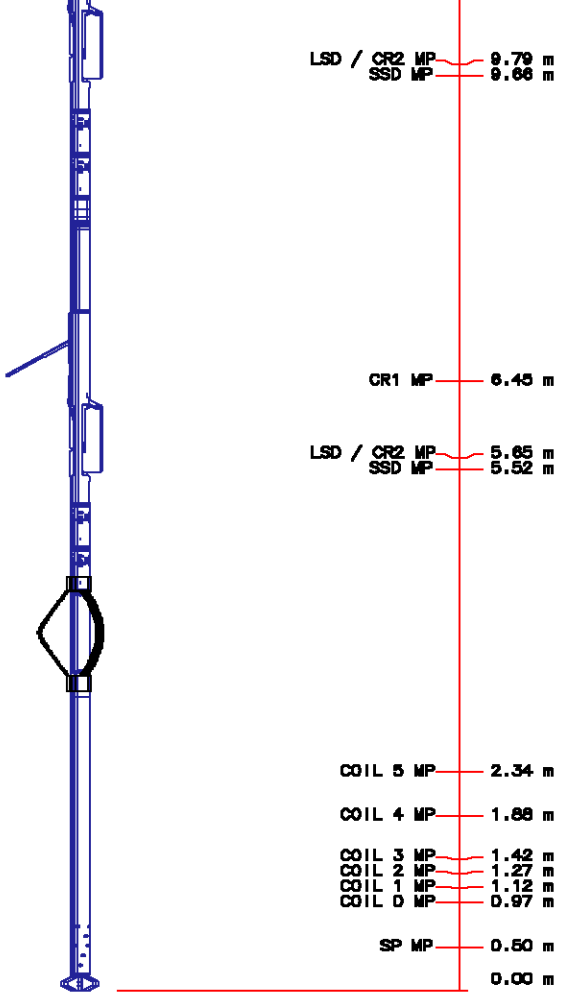
FOCUS KNUCKLE JOINT
Diameter : 8.0 cm

FOCUS KNUCKLE JOINT
Diameter : 8.0 cm

FOCUS HIGH DEFINITION INDUCTION TOOL
Diameter : 8.0 cm
Length : 406.4 cm
Weight : 52.3 kg
Series : 1530XA
Mnemonic : HDIL
Measure Point: 218.6 cm: COIL 5 MP
Measure Point: 172.9 cm: COIL 4 MP
Measure Point: 127.2 cm: COIL 3 MP
Measure Point: 111.9 cm: COIL 2 MP
Measure Point: 96.7 cm: COIL 1 MP
Measure Point: 81.5 cm: COIL D MP
Measure Point: 34.7 cm: SP MP

FOCUS PINEAPPLE / CABBAGE

TOTAL LENGTH: 43.09 m
TOTAL WEIGHT: 1136.4 kg
MAX DIAMETER: 15.6 cm



CEMENT VOLUME LOG - 244.5 MM CASING

eXpress 3.2 Last updated 03Oct2011 09:44 Oct 03, 2011
Updates: 1

Thu Jan 31 15:52:30 2013

Pcrplt /main/61 Cplot 9.16 Pdf_Cpp /main/16 Fileview 4.97

PARAMETER AND FILTER SUMMARY REPORT

FILE: /export/data/ddc/215445/m980g07.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: -0.989 m BOTTOM DEPTH: 405.844 m

SYMMETRIC FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m) TOP	BOTTOM
CHT	FILTER ()	medium (1)		TOP	BOTTOM
TENSION	FILTER ()	medium (1)		''	''
GR	FILTER ()	medium (1)		''	''
CALIPER	FILTER ()	medium (1)		''	''

BOREHOLE & CEMENT

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m) TOP	BOTTOM
CASING - BOREHOLE & CEMENT VOLUME	CASING O.D.	244.500	mm	TOP	BOTTOM

X-Y COMBINED CALIPER PROCESSING	X-Y Caliper	Average		''	''
BIT SIZE	BIT SIZE	311.000	mm	''	''

ACCELERATION PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
ACCEL CORR SWITCH	ACCEL DEPTH CORR	CORRECTION OFF		TOP	BOTTOM

CURVE DESCRIPTION REPORT

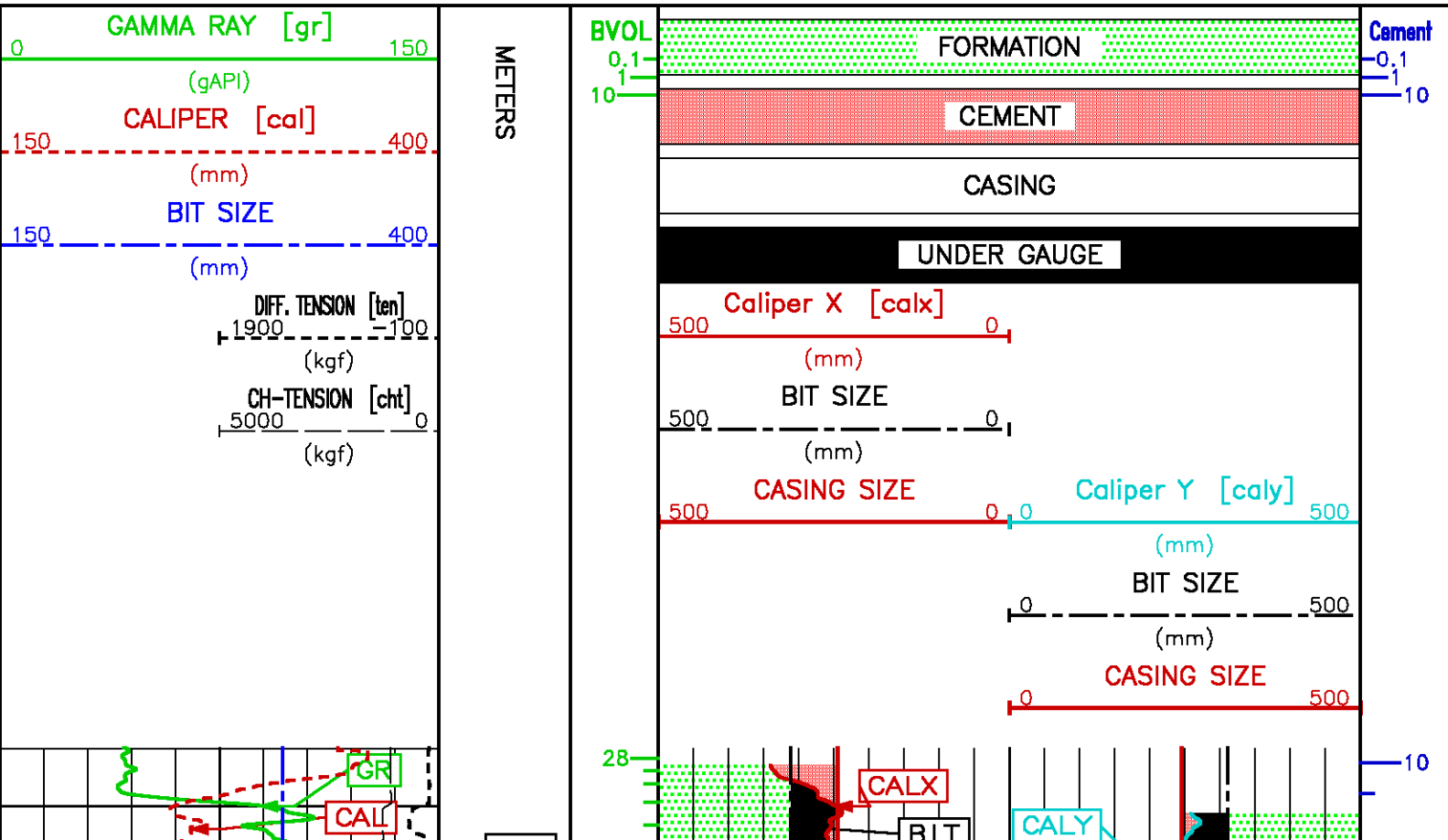
CURVE NAME	CURVE ALIAS	CREATION DATE	CURVE DESCRIPTION
F1:BIT	BIT	Jan 29 21:27:27 2013	BIT SIZE
F1:BVOL	BVOL	Jan 29 21:27:27 2013	BOREHOLE VOLUME
F1:CAL	CAL	Jan 29 21:27:27 2013	CALIPER
F1:CALX	CALX	Jan 29 21:27:27 2013	CALIPER FROM X AXIS OF X-Y CALIPER(S)
F1:CALY	CALY	Jan 29 21:27:27 2013	CALIPER FROM Y AXIS OF X-Y CALIPER(S)
F1:CHT	CHT	Jan 29 21:27:27 2013	CABLE HEAD TENSION
F1:CVOL	CVOL	Jan 29 21:27:27 2013	CEMENT VOLUME
F1:GR	GR	Jan 29 21:27:27 2013	GAMMA RAY
F1:TEN	TEN	Jan 29 21:27:27 2013	DIFFERENTIAL TENSION

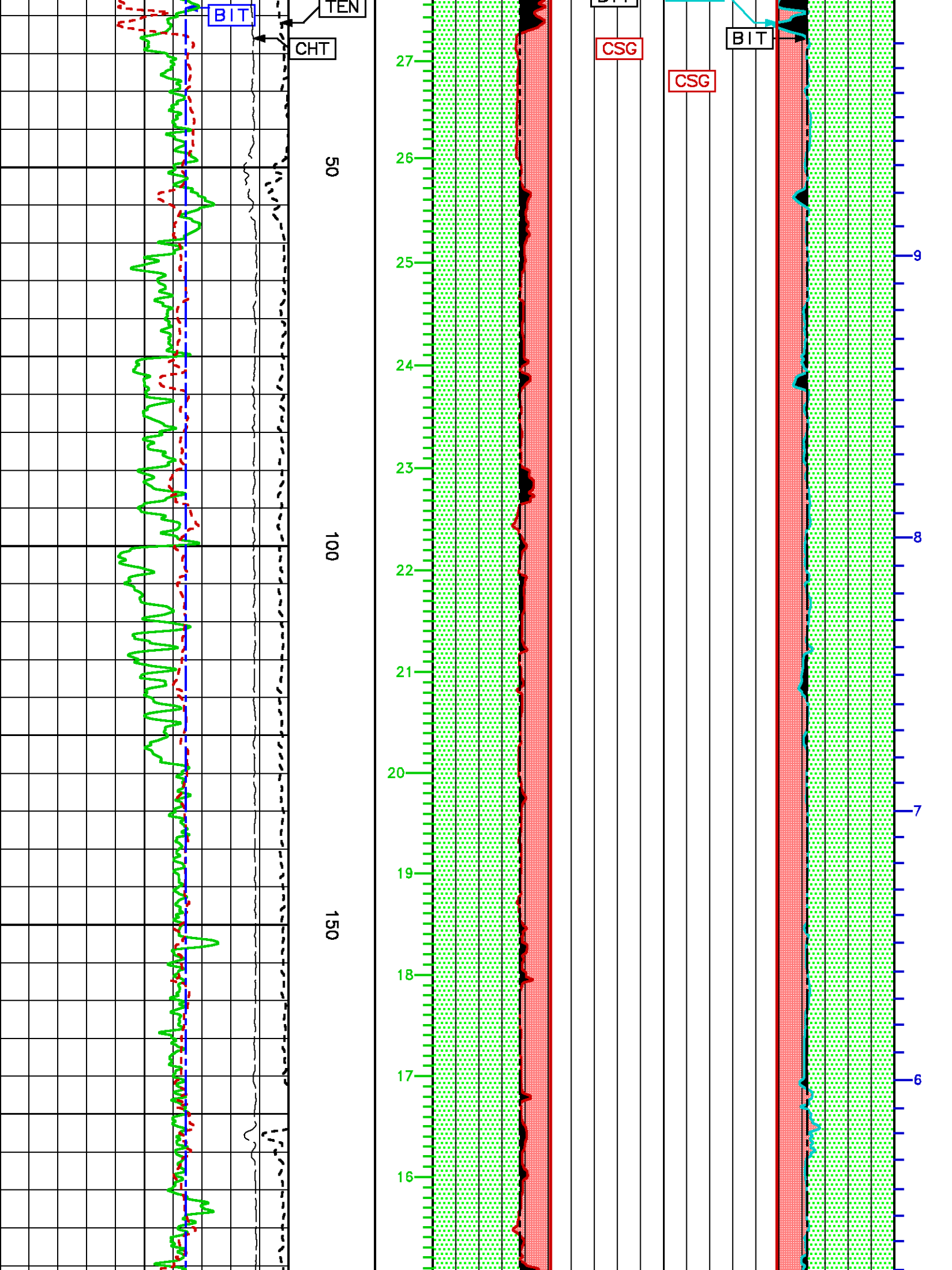
CURVE MEASURE POINT OFFSET

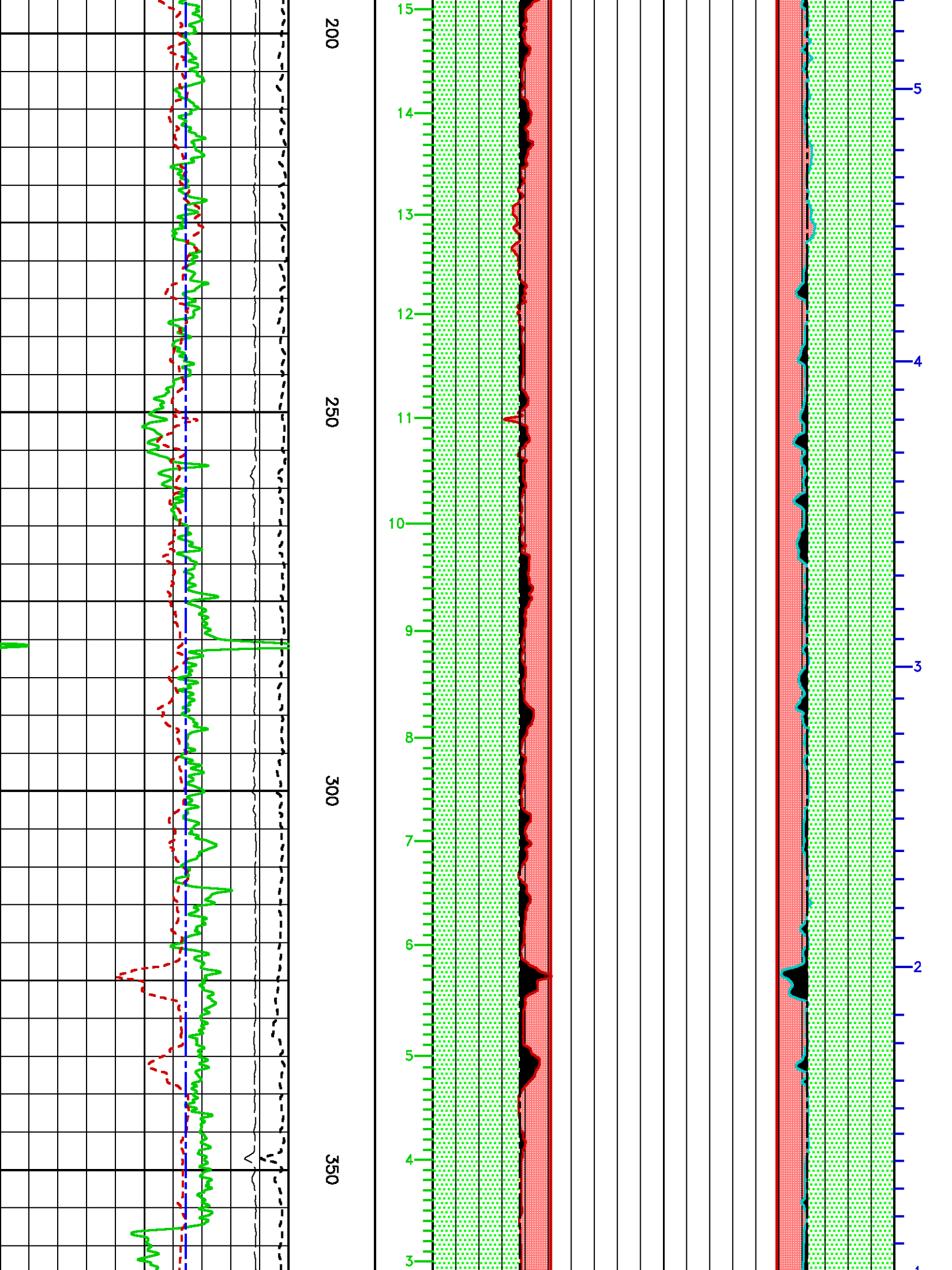
CURVE	OFFSET (m)	CURVE	OFFSET (m)	CURVE	OFFSET (m)	CURVE	OFFSET (m)
BIT	0.00	CALX	9.64	CHT	0.00	TEN	0.00
CAL	5.52	CALY	5.49	GR	33.76		

Project : /data/ddc/215445
User : tuyan
Presentation : calsunsrv3:/data/ddc/215445/bhpxycal_244.5.pdf [1:600 Scale]
Plot Interval : 20 – 406.146 Meters

Data File 1 : F1 : calsunsrv3:/export/data/ddc/215445/slam_main.xtf
Created On : Jan 29 21:27:27 2013
Company : MGM ENERGY CORP
Well : MGM SHELL EAST MACKAY I-78
Field : EAST MACKAY
File Interval : -37.2618 – 406.184 Meters
Oct : m980g




BIT
TEN
CHT
50
100
150
27
26
25
24
23
22
21
20
19
18
17
16
CSG
CSG
BIT
9
8
7
6


200
250
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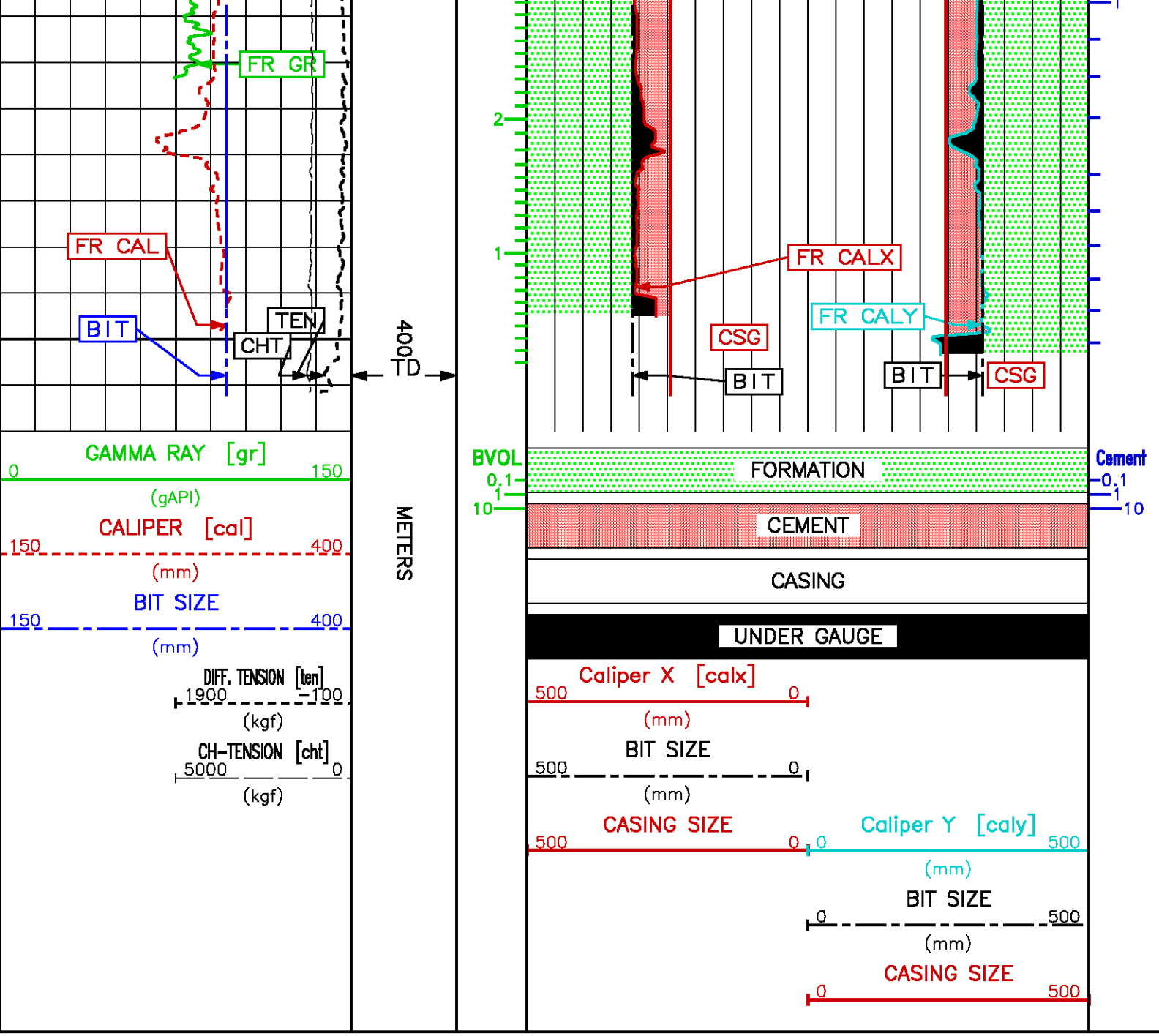


CALIBRATION / VERIFICATION SUMMARY

Source File: /dat1a/MGM/run1_oh/m980g_cals.tp1

CHT PRIMARY CALIBRATION SUMMARY

TOOL #: 3981XA 10516528

DATE/TIME PERFORMED: Tue Jan 29 18:40:58 2013

UNIT #: 3815SA 008672

	Signal Low (raw)	Signal High (raw)	Scale Mult	Scale Add	Engr Low (kgf)	Engr High (kgf)
CHT	50.00	560.75	1.96	-97.90	0.00	1000.00

GR PRIMARY CALIBRATION SUMMARY

TOOL #: 1329XA 10293862 DATE/TIME PERFORMED: Wed Jan 2 15:27:33 2013

UNIT #: 5753XB 10108816 CALB JIG #: 4702NK DA-479

	BACKGROUND CALBRTR ON (cts/s)	CALBRTR ON (cts/s)	CR DIFF (cts/s)	MULT	BACKGROUND CALBRTR ON (gAPI)	CALBRTR ON (gAPI)	CALBRTR (gAPI)
GR	149.13	1025.69	876.6 (830.0 960.0)	0.171	25.52	175.52	150

GR PRIMARY VERIFICATION SUMMARY

TOOL #: 1329XA 10293862 DATE/TIME PERFORMED: Wed Jan 2 15:30:55 2013

UNIT #: 5753XB 10108816 VERI JIG #: 4702NK DA-479

	BACKGROUND CALBRTR ON (cts/s)	CALBRTR ON (cts/s)	MULT	BACKGROUND CALBRTR ON (gAPI)	CALBRTR ON (gAPI)	DIFF. (gAPI)
GR	145.09	1035.84	0.171	24.83	177.26	152.43 (140.00 160.00)

CAL PRIMARY CALIBRATION SUMMARY

TOOL #: 2223XA 10391896 DATE/TIME PERFORMED: Fri Jan 18 17:30:07 2013

UNIT #: S23 8672

	SIZE (mm)	VALUE	MULTIPLIER	ADD
SMALL RING (Arm)	177.800	1199.6		
LARGE RING (Arm)	279.400	2200.0	0.10156	55.96938
PAD CLOSED		1723.2	0.06350	-109.42319

CAL BEFORE LOG VERIFICATION SUMMARY

TOOL #: 2223XA 10391896 DATE/TIME PERFORMED: Tue Jan 29 22:24:27 2013 DAYS SINCE CAL: 11

UNIT #: 3815SA 008672

	VALUE	MULTIPLIER	ADD	SIZE (mm)
ARM	2402.4	0.10156	55.96938	300.0
PAD	1708.4	0.06350	-109.42319	-0.9

	ACTUAL (mm)	MEASURED (mm)
DIAMETER (arm+pad)	311.000	314.0
		300.8 321.2

CAL AFTER LOG VERIFICATION SUMMARY

TOOL #: 2223XA 10391896 DATE/TIME PERFORMED: Tue Jan 29 22:25:39 2013 DAYS SINCE CAL: 11

UNIT #: 3815SA 008672

	VALUE	MULTIPLIER	ADD	SIZE (mm)
ARM	2401.2	0.10156	55.96938	299.8
PAD	1708.8	0.06350	-109.42319	-0.9

	ACTUAL (mm)	MEASURED (mm)
DIAMETER (arm+pad)	311.000	313.9
		300.8 321.2

CAL[2] PRIMARY CALIBRATION SUMMARY

TOOL #: 2223XA 10102923 DATE/TIME PERFORMED: Fri Jan 18 18:11:06 2013

UNIT #: S23 8672

	SIZE (mm)	VALUE	MULTIPLIER	ADD
SMALL RING (Arm)	177.800	1040.0		
LARGE RING (Arm)	279.400	2060.0	0.09961	74.20783
PAD CLOSED		1784.0	0.06350	-113.28400

CAL[2] BEFORE LOG VERIFICATION SUMMARY

TOOL #: 2223XA 10102923 DATE/TIME PERFORMED: Tue Jan 29 22:24:24 2013 DAYS SINCE CAL: 11

UNIT #: 3815SA 008672

	VALUE	MULTIPLIER	ADD	SIZE (mm)
ARM	2524.0	0.09961	74.20783	325.6
PAD	2400.0	0.06350	-113.28400	39.1

	ACTUAL (mm)	MEASURED (mm)
DIAMETER (arm+pad)	380.000	379.7
		369.8 390.2

CAL[2] AFTER LOG VERIFICATION SUMMARY

TOOL #: 2223XA 10102923 DATE/TIME PERFORMED: Tue Jan 29 22:25:06 2013 DAYS SINCE CAL: 11

UNIT #: 3815SA 008672

	VALUE	MULTIPLIER	ADD	SIZE (mm)
ARM	2524.0	0.09961	74.20783	325.6
PAD	2400.0	0.06350	-113.28400	39.1

	ACTUAL (mm)	MEASURED (mm)
DIAMETER (arm+pad)	380.000	379.7
		369.8 390.2

BAKER HUGHES

EOLIPS

COMPANY MGM ENERGY CORP
WELL MGM SHELL EAST MACKAY I-78
FIELD EAST MACKAY
PROVINCE NORTHWEST TERRITORIES

FILE NO:

API NO:

LOCATION:

LAT 64.795 LONG -125.722

ELEVATIONS:
KB 161.2 M
DF
GL 155.00 M

LICENSE:
1202

DATE 29-JAN-2013

BAKER HUGHES

HIGH DEFINITION INDUCTION LOG SM
GAMMA RAY LOG
CALIPER LOG

FOCUS

FILE NO:	
API NO:	
COMPANY	MGM ENERGY CORP
WELL	MGM SHELL EAST MACKAY I-78
FIELD	EAST MACKAY
PROVINCE	NORTHWEST TERRITORIES

Ver. 3.87

LICENSE:
1202

LOCATION:

LAT 64.795 LONG -125.722

OTHER SERVICES
2ZDL-CN-GR-XYCAL
CVL, XMAC-GR

PERMANENT DATUM	G.L.	ELEVATION	155.00 M
LOG MEASURED FROM	K.B.	6.2 M	ABOVE P.D.
DRILL. MEAS. FROM	KELLY BUSHING		

ELEVATIONS:
KB 161.2 M
DF
GL 155.00 M

DATE		29-JAN-2013			
RUN	TRIP	1	1		
SERVICE ORDER		CA215445			
DEPTH DRILLER		405.2 M			
DEPTH LOGGER		404.0 M			
BOTTOM LOGGED INTERVAL		403.0 M			
TOP LOGGED INTERVAL		25.0 M			
CASING DRILLER		406.4 MM @ 22.5 M		@	
CASING LOGGER		22.5 M			
BIT SIZE		311.0 MM			
TYPE OF FLUID IN HOLE		MILL GEL MUD SLURRY			
DENSITY	VISCOSITY	1140.0 G/L	78] S		
PH	FLUID LOSS	8.0	10.6 ML		
SOURCE OF SAMPLE		FLOWLINE			
RM AT MEAS. TEMP.		1.60 OHMM @ 19.0 DEGC		@	
RMF AT MEAS. TEMP.		1.20 OHMM @ 15.0 DEGC		@	
RMC AT MEAS. TEMP.		2.20 OHMM @ 16.0 DEGC		@	
SOURCE OF RMF	RMC	MEASURED	MEASURED		
RM AT BHT		1.40 OHMM @ 25.5 DEGC		@	
TIME SINCE CIRCULATION		10.0 HOURS			
MAX. RECORDED TEMP.		26.3 DEGC			
EQUIP. NO.	LOCATION	Z008672	CANADA OPEN		
RECORDED BY		I.ZALESKIKH			
WITNESSED BY		D.PRIOR			

CASING RECORD

SIZE	WEIGHT	GRADE	FROM	TO
406.4 MM	81.8 KG/M	NA	0.0 M	22.5 M

BOREHOLE RECORD

BIT SIZE	FROM	TO
311.0 MM	22.5 M	405.2 M

REMARKS

RUN 1 TRIP 1 : TIME STOPPED CIRCULATION: 29-JAN-2013 11:30 AM

MAXIMUM TEMPERATURE ON THERMOMETERS: 26 AND 26 DEGC
TEMPERATURE LOG WAS RECORDED ON THE WAY DOWN.

BOREHOLE AND TEMPERATURE CORRECTIONS HAVE BEEN APPLIED TO HDIL DATA.
HDIL RECORDED WITH AND CORRECTED TO 38.0 MM STANDOFF.

CALIPER PRESENTED WITH HDIL TO ASSIST WITH THE QC OF THE DATA.

RIG: AKITA #37

CREW: I.ZALESKIKH, J.PEREIRA, N.MCDERMID, K.HASIUK

EQUIPMENT DATA

RUN	TRIP	TOOL	SERIES NO.	SERIAL NO.	POSITION
1	1	SWIVEL	3944XD	10513050	FREE
1	1	DHPA	4430XB	10390592	FREE
1	1	TTRM SUB	3981XB	10516528	FREE
1	1	COMM	3514XB	10504656	FREE
1	1	WTS DGR/SLI	1329XB	10293862	FREE
1	1	ORIT	4401XB	12466129	FREE
1	1	ACOUSTIC EL	1677EA	10383992	CENTRALIZED
1	1	XMAC RX MDR	1678MC	10386815	CENTRALIZED
1	1	XMAC ISO	1678PB	10039369	FREE
1	1	XMAC TX ELC	1678BA	12168167	CENTRALIZED
1	1	XMAC TX ELC	1678FA	12188364	CENTRALIZED
1	1	WTS DBL KNJ	3939XA	12448499	FREE
1	1	FOC/WTS ADP	3527EA	12337591	FREE
1	1	FOC/WTS ADP	3527FA	12494796	FREE
1	1	TTMA SUB	3980XA	Z402456	FREE
1	1	FOCUS CN	2436XA	10105638	DECENTRALIZED
1	1	FOCUS ZDEN	2223XA	10391896	PAD DEVICE
1	1	DBL KNJT	3931XA	10469360	FREE
1	1	ALGNMNT SUB	4408NA	10265502	FREE
1	1	FOCUS ZDEN	2223XA	10102923	PAD DEVICE
1	1	DBL KNJT	3931XA	10189700	FREE
1	1	FOCUS HDIL	1530XA	10125755	STANDOFF

INSTRUMENT CONFIGURATION

Source File: /data/MGM/run1_oh/m980g~mgm_R1-tdg

CABLEHEAD
Diameter : 8.6 cm
Length : 167.6 cm
Weight : 10.9 kg
Series : CABL338
Mnemonic : CBLH
Measure Point: 83.8 cm: CABLEHEAD TOP

SWIVEL
Diameter : 8.6 cm
Length : 106.7 cm
Weight : 30.9 kg
Series : 3944XD

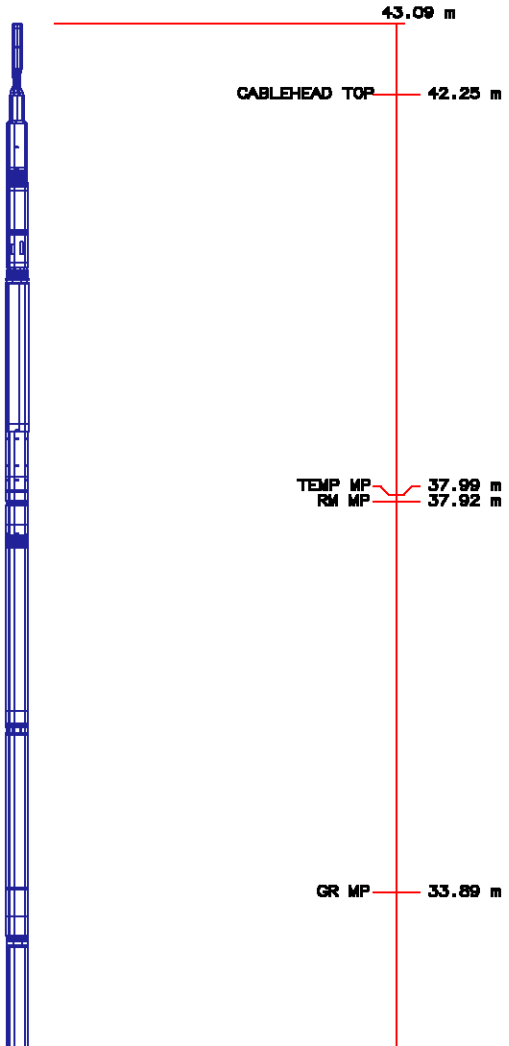
DOWNHOLE POWER ADAPTER
Diameter : 9.2 cm
Length : 160.7 cm
Weight : 39.1 kg
Series : 4430XB
Mnemonic : DHPA

TTRM SUB
Diameter : 9.2 cm
Length : 116.8 cm
Weight : 28.2 kg
Series : 3981XA
Mnemonic : TTRM

WTS COMMON REMOTE
Diameter : 9.2 cm
Length : 194.0 cm
Weight : 57.3 kg
Series : 3514XB
Mnemonic : WTS

DIGITAL SPECTRALOG
Diameter : 9.2 cm
Length : 222.8 cm
Weight : 59.1 kg
Series : 1329XA
Mnemonic : DSL
Measure Point: 48.8 cm: GR MP

DIGITAL ORIENTATION



Diameter : 8.6 cm
Length : 329.4 cm
Weight : 50.0 kg
Series : 4401XB
Mnemonic : ORIT
Measure Point: 0.0 cm: ORIENT MP

ORIENT MP — 30.11 m

ARRAY ACOUSTILOG ELECTRONICS, 8 CHANNEL
Diameter : 8.6 cm
Length : 238.3 cm
Weight : 46.4 kg
Series : 1677EA
Mnemonic : XMAC

CROSS MULTIPOLE ARRAY ACOUSTILOG
Diameter : 9.5 cm
Length : 332.4 cm
Weight : 101.8 kg
Series : 1678MC
Mnemonic : XMF1
Measure Point: 167.6 cm: R8
Measure Point: 152.4 cm: R7
Measure Point: 137.2 cm: R6
Measure Point: 121.9 cm: R5
Measure Point: 106.7 cm: R4
Measure Point: 91.4 cm: R3
Measure Point: 76.2 cm: R2
Measure Point: 61.0 cm: R1

R8 — 26.08 m
R7 — 25.93 m
R6 — 25.77 m
R5 — 25.62 m
R4 — 25.47 m
R3 — 25.32 m
R2 — 25.17 m
R1 — 25.01 m

SHEAR WAVE ACOUSTILOG
Diameter : 9.2 cm
Length : 152.4 cm
Weight : 61.4 kg
Series : 1678PB
Mnemonic : XMAC

MULTI-POLE ARRAY ACOUSTIC
Diameter : 9.8 cm
Length : 241.3 cm
Weight : 77.3 kg
Series : 1678BA
Mnemonic : XMAC
Measure Point: 195.6 cm: QUADRUPOLE T5
Measure Point: 195.6 cm: MONOPOLE T2
Measure Point: 142.2 cm: Y-DIPOLE T4
Measure Point: 142.2 cm: X-DIPOLE T3
Measure Point: 88.9 cm: MONOPOLE T1

MONOPOLE T2 — 22.42 m
QUADRUPOLE T5 — 22.42 m
X-DIPOLE T3 — 21.89 m
Y-DIPOLE T4 — 21.89 m
MONOPOLE T1 — 21.36 m

MULTI-POLE ARRAY ACOUSTIC
Diameter : 8.6 cm
Length : 131.6 cm
Weight : 26.4 kg
Series : 1678FA
Mnemonic : MAC

KNUCKLE JOINT (DOUBLE)
Diameter : 8.6 cm
Length : 141.8 cm
Weight : 40.9 kg
Series : 3939XA
Mnemonic : KNJT

WTS FOCUS TELEMETRY TRANSFORMER SUB
Diameter : 9.2 cm
Length : 165.7 cm
Weight : 30.5 kg
Series : 3528EB
Mnemonic : ADAP

WTS FOCUS POWER ADAPTOR
Diameter : 9.2 cm
Length : 110.2 cm
Weight : 70.9 kg
Series : 3528FB
Mnemonic : ADAP

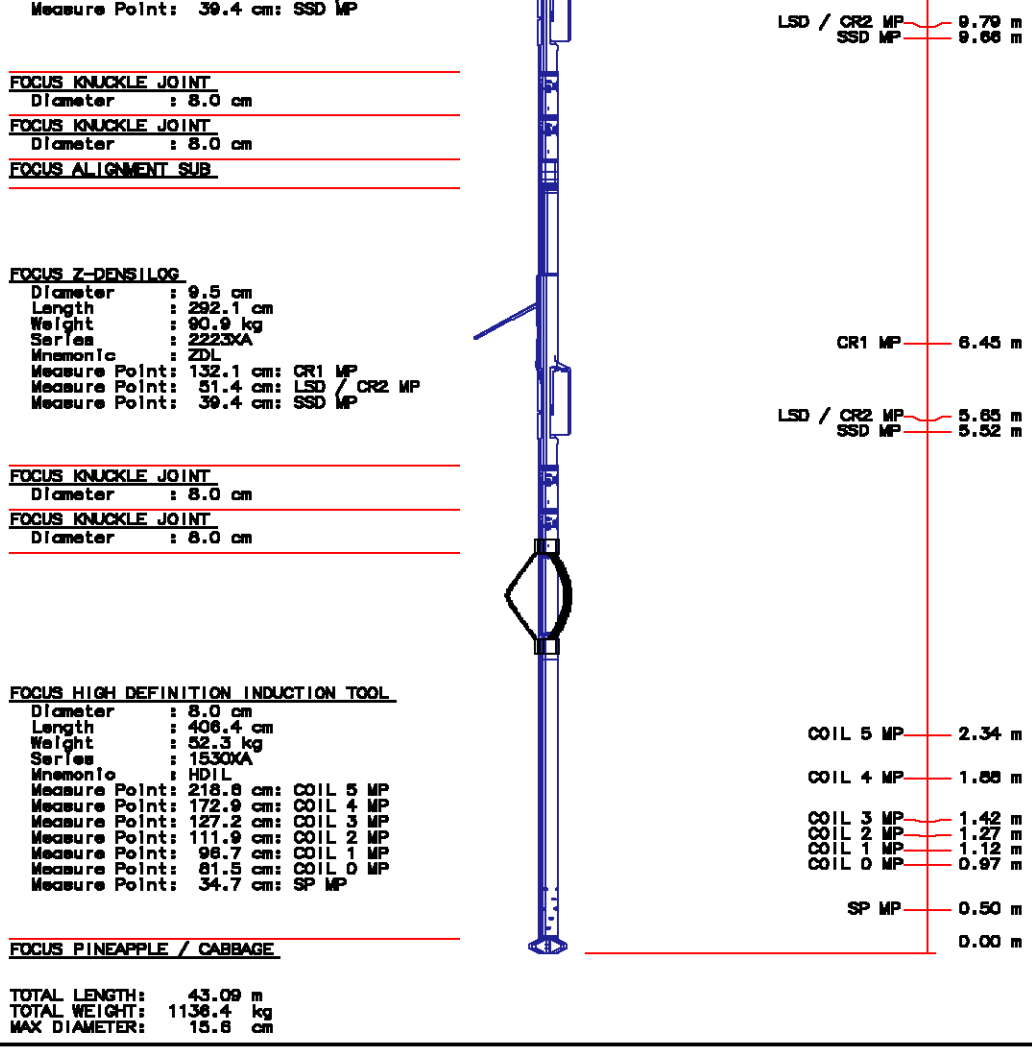
FOCUS TEN/TEMP/MUD RES/ACCEL
Diameter : 8.0 cm
Length : 131.4 cm
Weight : 27.7 kg
Series : 3980XA
Mnemonic : TTMA

FOCUS COMPENSATED NEUTRON
Diameter : 8.0 cm
Length : 146.7 cm
Weight : 29.5 kg
Series : 2436XA
Mnemonic : CN
Measure Point: 58.4 cm: LSN MP
Measure Point: 44.5 cm: SSN MP

LSN MP — 12.78 m
SSN MP — 12.64 m

FOCUS Z-DENSILOG
Diameter : 9.5 cm
Length : 292.1 cm
Weight : 90.9 kg
Series : 2223XA
Mnemonic : ZDL
Measure Point: 132.1 cm: CR1 MP
Measure Point: 51.4 cm: LSD / CR2 MP

CR1 MP — 10.59 m



MAIN LOG - UPPER PRESENTATION

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

Tue Jan 29 22:55:00 2013

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

PARAMETER AND FILTER SUMMARY REPORT

File: /data1a/MGM/run1_oh/m980g07.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: -0.989 m BOTTOM DEPTH: 405.844 m

SYMMETRIC FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m) TOP	BOTTOM
CHT	FILTER ()	medium (1)		TOP	BOTTOM
TENSION	FILTER ()	medium (1)		''	''
GR	FILTER ()	medium (1)		''	''
SP-SPDH	FILTER ()	medium (1)		''	''

BOREHOLE & CEMENT

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m) TOP	BOTTOM
X-Y COMBINED CALIPER PROCESSING	X-Y Caliper	Average		TOP	BOTTOM
BIT SIZE	BIT SIZE	311.000	mm	''	''

BH MUD RESISTIVITY SOURCE	RMUD SOURCE (HDIL)	TOOL MEASURED		''	''
MUD SAMPLE RESISTIVITY	MUD SAMPLE TEMP	26.0	degC	''	''
	MUD SAMPLE RES	1.400	ohm.m	''	''
BOREHOLE TEMP from GRADIENT	Known BH REF TEMP	25.0	degC	''	''
	at BH REF DEPTH	0.0	m	''	''
	with TEMP GRADIENT	2.187	0.01 degC/m	''	''
BOREHOLE CORR DIAMETER SOURCE	CALIPER/FIXED DIA. (mbh*)	USE CALIPER		''	''
BOREHOLE CORR DIAMETER	FIXED DIAMETER (mbh*)	311.000	mm	''	''
X-Y COMBINED CALIPER PROCESSING-FOCUSY Caliper - FOCUS		Average		''	''

ACCELERATION PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
				TOP	BOTTOM
ACCEL CORR SWITCH	ACCEL DEPTH CORR	CORRECTION OFF			

HDIL PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
				TOP	BOTTOM
HDIL TEMPERATURE CORRECTION	TEMP CORRECTION	ON			
ADAPTIVE BOREHOLE CORRECTION	ABC PROCESSING	ON		''	''
	ABC to CALCULATE	STANDOFF		''	''
	STANDOFF	38.10	mm	''	''
	TOOL POSITION	ECCENTERED		''	''
	Rmud MULTIPLIER	1.000		''	''

CURVE DESCRIPTION REPORT

CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:BIT	Jan 29 21:27:27 2013	BIT SIZE
F1:CAL	Jan 29 21:27:27 2013	CALIPER
F1:CHT	Jan 29 21:27:27 2013	CABLE HEAD TENSION
F1:GR	Jan 29 21:27:27 2013	GAMMA RAY
F1:M2CC9	Jan 29 21:27:27 2013	HDIL 2-FOOT RESOLUTION COMPRESSED CONDUCTIVITY, 90-INCH DOI
F1:M2R2	Jan 29 21:27:27 2013	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 20-INCH DOI
F1:M2R9	Jan 29 21:27:27 2013	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 90-INCH DOI
F1:MDTMP2	Jan 29 21:27:27 2013	MUD TEMPERATURE
F1:MMRK	Jan 29 21:27:27 2013	MINUTE MARK
F1:SP	Jan 29 21:27:27 2013	SPONTANEOUS POTENTIAL
F1:TEN	Jan 29 21:27:27 2013	DIFFERENTIAL TENSION

CURVE MEASURE POINT OFFSET

CURVE	OFFSET (m)	CURVE	OFFSET (m)	CURVE	OFFSET (m)	CURVE	OFFSET (m)
BIT	0.00	CHT	0.00	M2R2	0.84	TEN	0.00
CAL	5.52	GR	33.76	M2R9	0.84		
CALQF	5.52	M2CC9	0.84	SP	0.38		

Presentation : sysa:/dat1a/MGM/run1_oh/fhdil_upper.pdf [1:600 Scale]
Plot Interval : 25 - 406.146 Meters

Data File 1 : F1 : sysa:/dat1a/MGM/run1_oh/slam_main.xtf
Created On : Jan 29 21:27:27 2013
Company : MGM ENERGY CORP
Well : MGM SHELL EAST MACKAY I-78
Field : EAST MACKAY
File Interval : -38.481 - 406.184 Meters
Oct : m980g

GR BACKUP

TOOL STICKING

CAL < BIT

CALIPER [cal]

150 400

(mm)

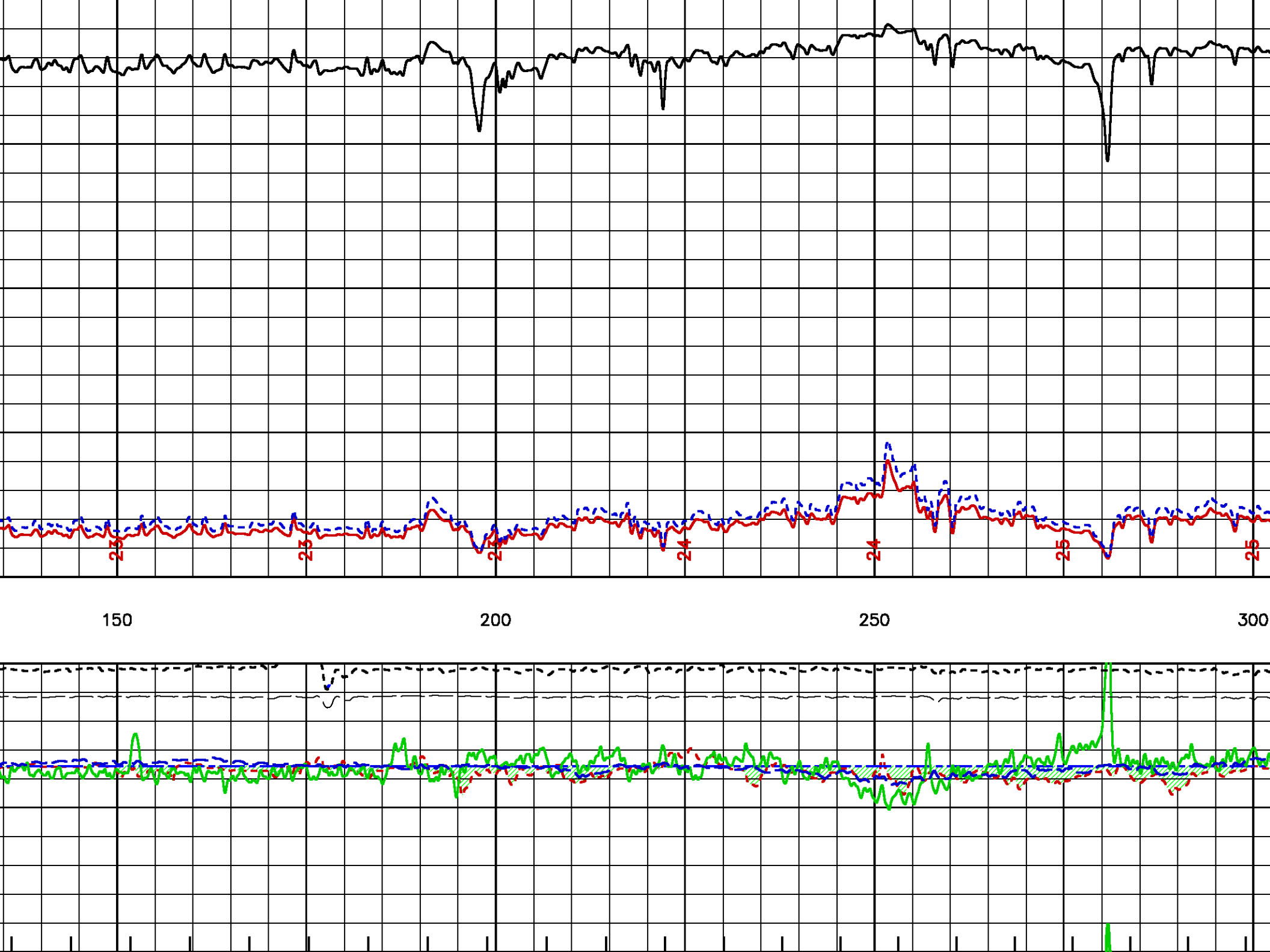
BIT SIZE

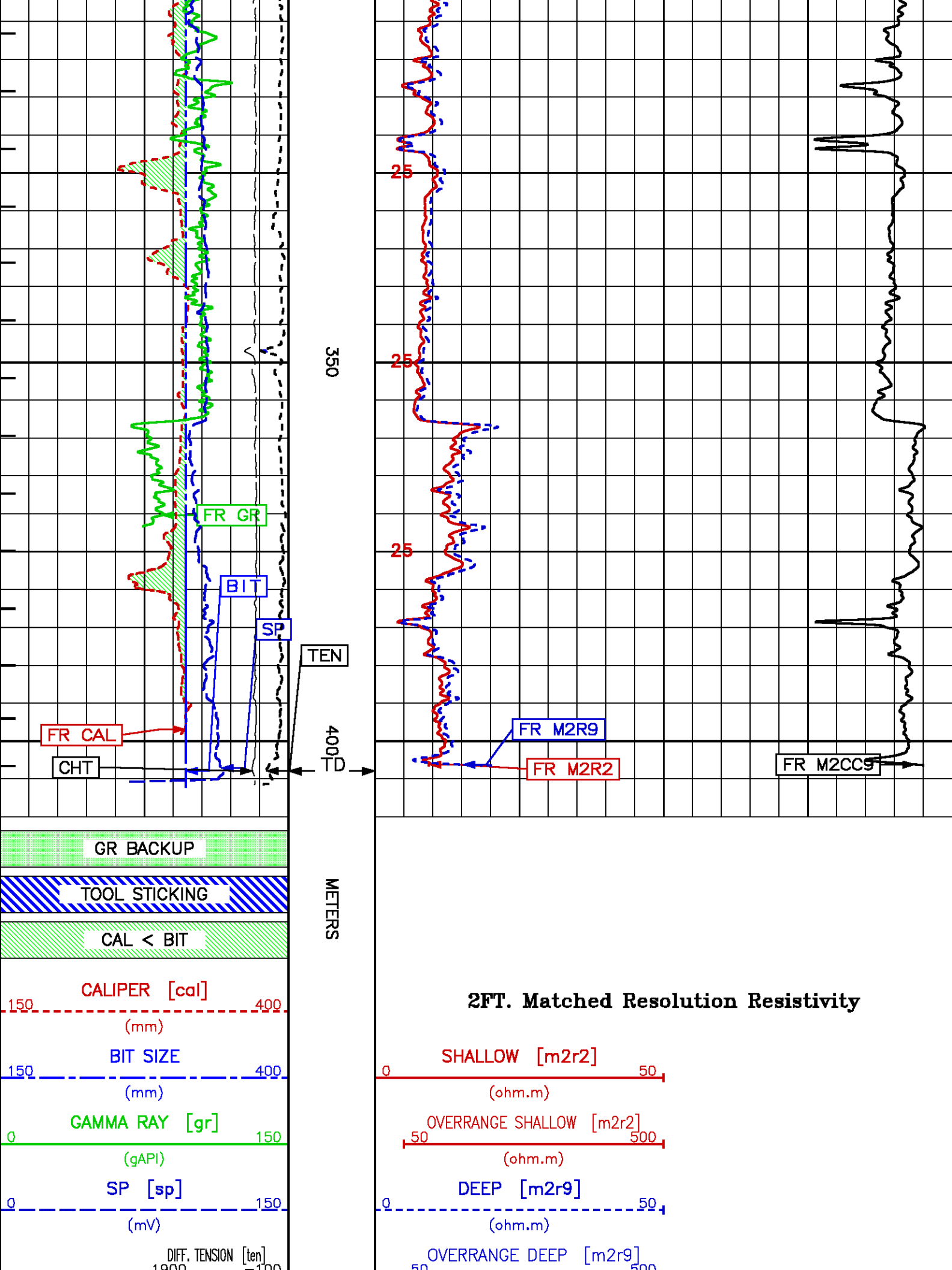
METERS

2FT. Matched Resolution Resistivity

SHALLOW [m2r2]

150 400
(mm)
GAMMA RAY [gr]
0 150
(gAPI)
SP [sp]
0 150
(mV)
DIFF. TENSION [ten]
1900 -100
(kgf)
CH-TENSION [cht]
5000 0
(kgf)
MINUTE MARK
1
0 50
(ohm.m)
OVERRANGE SHALLOW [m2r2]
50 500
(ohm.m)
DEEP [m2r9]
0 50
(ohm.m)
OVERRANGE DEEP [m2r9]
50 500
(ohm.m)
90 in. DOI [m2cc9]
1000 0
(mmho/m)
BHT
(degC)
CAL
BIT
GR
SP
TEN
CHT
M2R2
M2R9
M2CC9
50
100
22
23
23
23


23
23
24
24
24
25
25
150
200
250
300


25
25
25
350
400
FR GR
BIT
SP
TEN
FR CAL
CHT
TD
FR M2R9
FR M2R2
FR M2CC9
GR BACKUP
TOOL STICKING
CAL < BIT
METERS
CALIPER [cal]
150
400
(mm)
BIT SIZE
150
400
(mm)
GAMMA RAY [gr]
0
150
(gAPI)
SP [sp]
0
150
(mV)
DIFF. TENSION [ten]
2FT. Matched Resolution Resistivity
SHALLOW [m2r2]
0
50
(ohm.m)
OVERRANGE SHALLOW [m2r2]
50
500
(ohm.m)
DEEP [m2r9]
0
50
(ohm.m)
OVERRANGE DEEP [m2r9]

(kgf)

CH-TENSION [cht]
5000 0
(kgf)

(ohm.m)

90 in. DOI [m2cc9]
1000 0
(mmho/m)

BHT
(degC)

MINUTE MARK
1

MAIN LOG

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

Tue Jan 29 22:53:01 2013

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

PARAMETER AND FILTER SUMMARY REPORT

File: /dat1a/MGM/run1_oh/m980g07.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: -0.989 m BOTTOM DEPTH: 405.844 m

SYMMETRIC FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m) TOP	BOTTOM
CHT	FILTER ()	medium (1)		TOP	BOTTOM
TENSION	FILTER ()	medium (1)		''	''
GR	FILTER ()	medium (1)		''	''
SP-SPDH	FILTER ()	medium (1)		''	''

BOREHOLE & CEMENT

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m) TOP	BOTTOM
X-Y COMBINED CALIPER PROCESSING	X-Y Caliper	Average		TOP	BOTTOM
BIT SIZE	BIT SIZE	311.000	mm	''	''
BH MUD RESISTIVITY SOURCE	RMUD SOURCE (HDIL)	TOOL MEASURED		''	''
MUD SAMPLE RESISTIVITY	MUD SAMPLE TEMP	26.0	degC	''	''
	MUD SAMPLE RES	1.400	ohm.m	''	''
BOREHOLE TEMP from GRADIENT	Known BH REF TEMP	25.0	degC	''	''
	at BH REF DEPTH	0.0	m	''	''
	with TEMP GRADIENT	2.187	0.01 degC/m	''	''
BOREHOLE CORR DIAMETER SOURCE	CALIPER/FIXED DIA. (mbh*)	USE CALIPER		''	''
BOREHOLE CORR DIAMETER	FIXED DIAMETER (mbh*)	311.000	mm	''	''
X-Y COMBINED CALIPER PROCESSING-FOCUS	Y Caliper - FOCUS	Average		''	''

ACCELERATION PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m) TOP	BOTTOM
ACCEL CORR SWITCH	ACCEL DEPTH CORR	CORRECTION OFF		TOP	BOTTOM

HDIL PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m) TOP	BOTTOM
HDIL TEMPERATURE CORRECTION	TEMP CORRECTION	ON		TOP	BOTTOM
ADAPTIVE BOREHOLE CORRECTION	ABC PROCESSING	ON		''	''
	ABC to CALCULATE	STANDOFF		''	''
	STANDOFF	38.10	mm	''	''
	TOOL POSITION	ECCENTERED		''	''

Rmud MULTIPLIER	1.000	''	''

CURVE DESCRIPTION REPORT

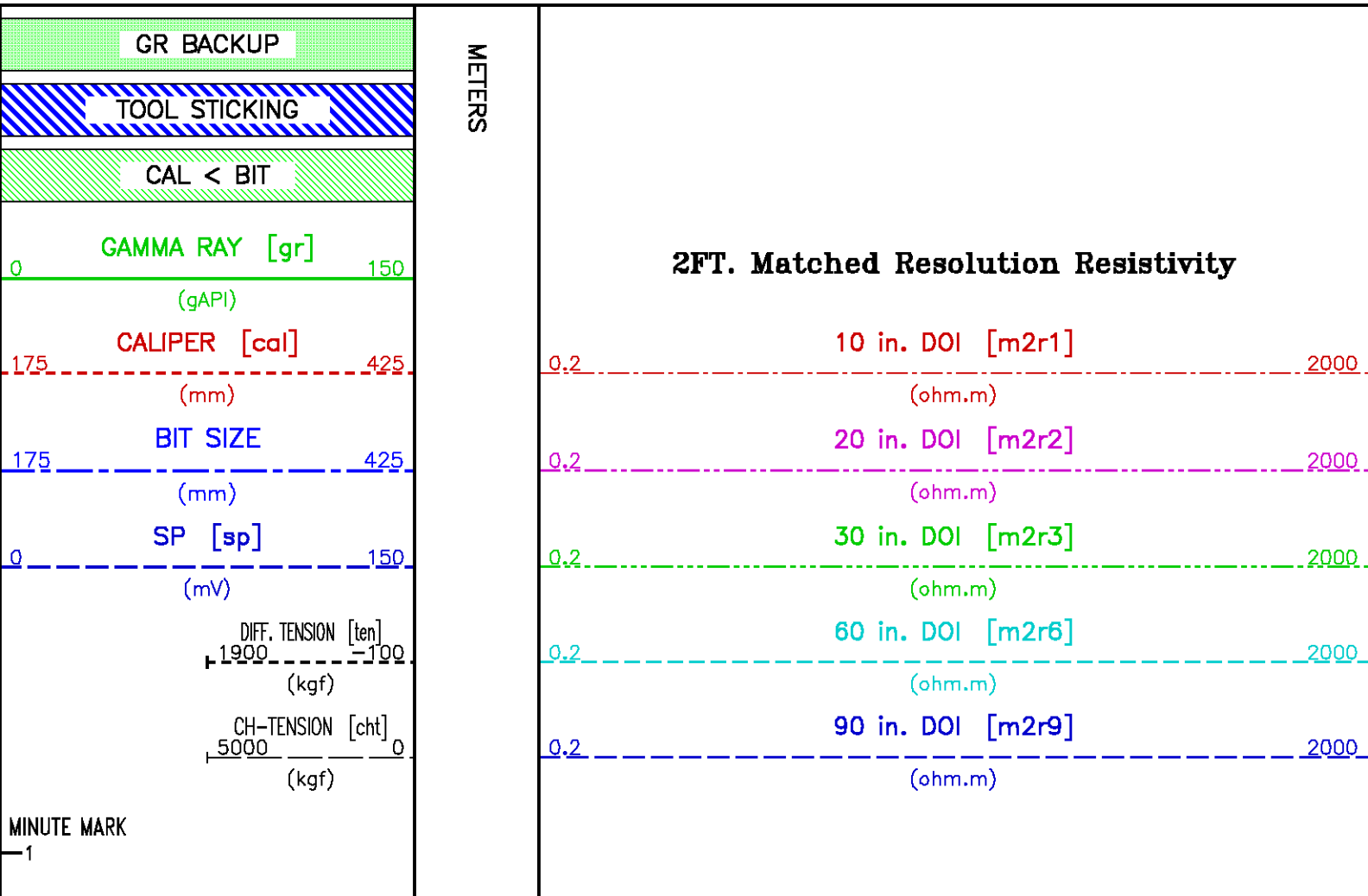
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:BIT	Jan 29 21:27:27 2013	BIT SIZE
F1:CAL	Jan 29 21:27:27 2013	CALIPER
F1:CHT	Jan 29 21:27:27 2013	CABLE HEAD TENSION
F1:GR	Jan 29 21:27:27 2013	GAMMA RAY
F1:M2R1	Jan 29 21:27:27 2013	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 10-INCH DOI
F1:M2R2	Jan 29 21:27:27 2013	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 20-INCH DOI
F1:M2R3	Jan 29 21:27:27 2013	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 30-INCH DOI
F1:M2R6	Jan 29 21:27:27 2013	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 60-INCH DOI
F1:M2R9	Jan 29 21:27:27 2013	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 90-INCH DOI
F1:MMRK	Jan 29 21:27:27 2013	MINUTE MARK
F1:SP	Jan 29 21:27:27 2013	SPONTANEOUS POTENTIAL
F1:TEN	Jan 29 21:27:27 2013	DIFFERENTIAL TENSION

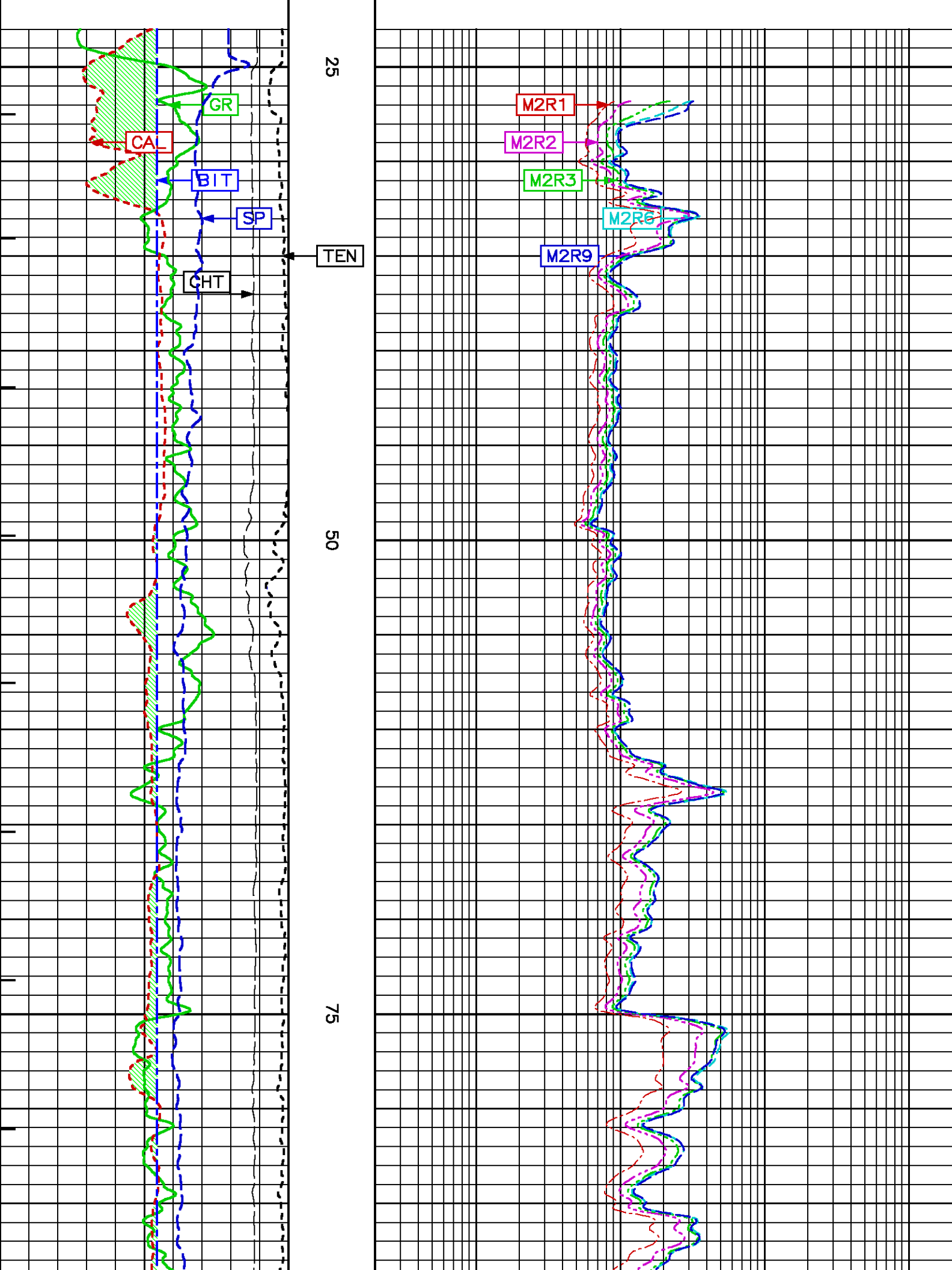
CURVE MEASURE POINT OFFSET

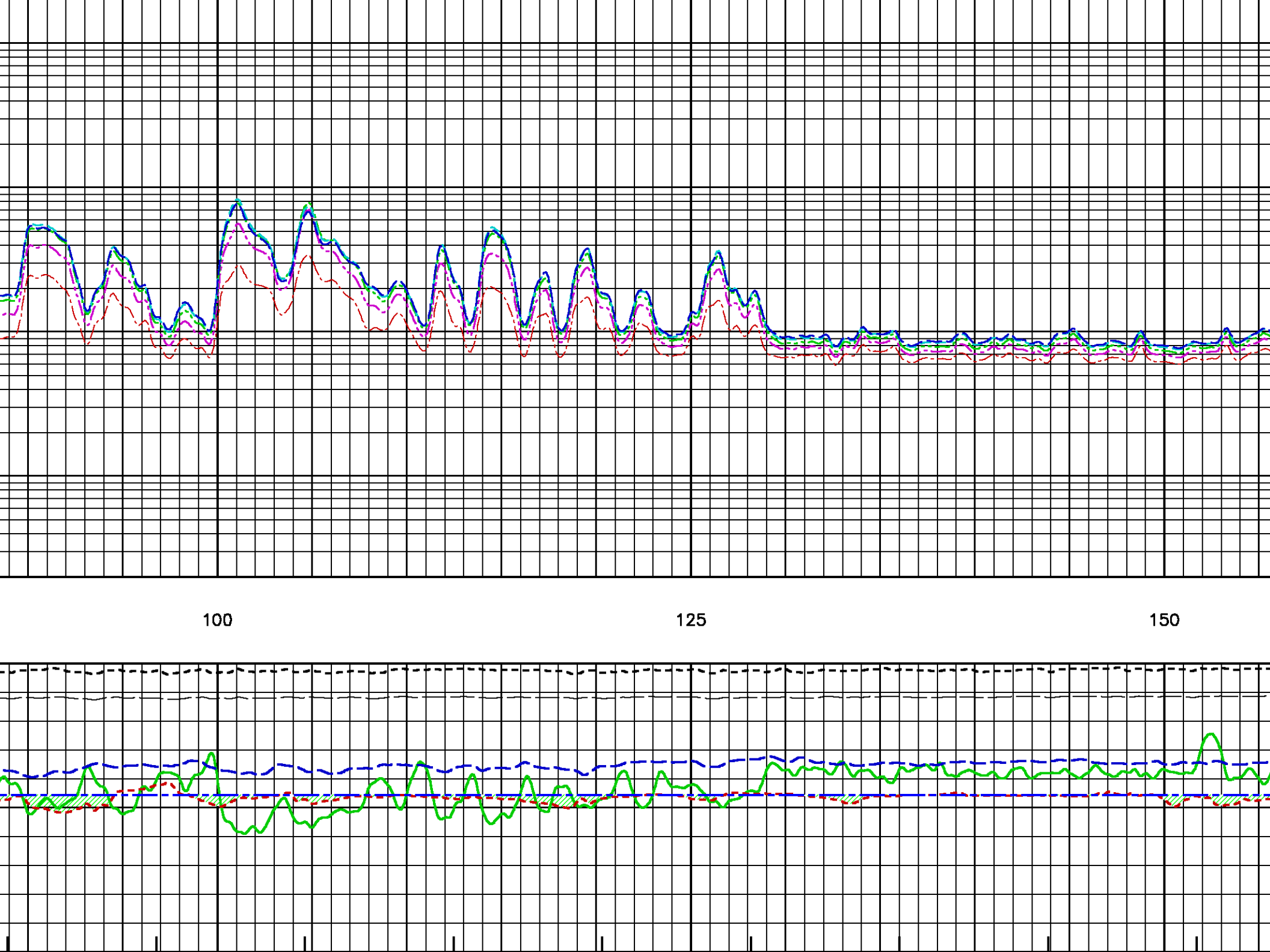
CURVE	OFFSET (m)	CURVE	OFFSET (m)	CURVE	OFFSET (m)	CURVE	OFFSET (m)
BIT	0.00	GR	33.76	M2R3	0.84	SP	0.38
CAL	5.52	M2R1	0.84	M2R6	0.84	TEN	0.00
CHT	0.00	M2R2	0.84	M2R9	0.84		

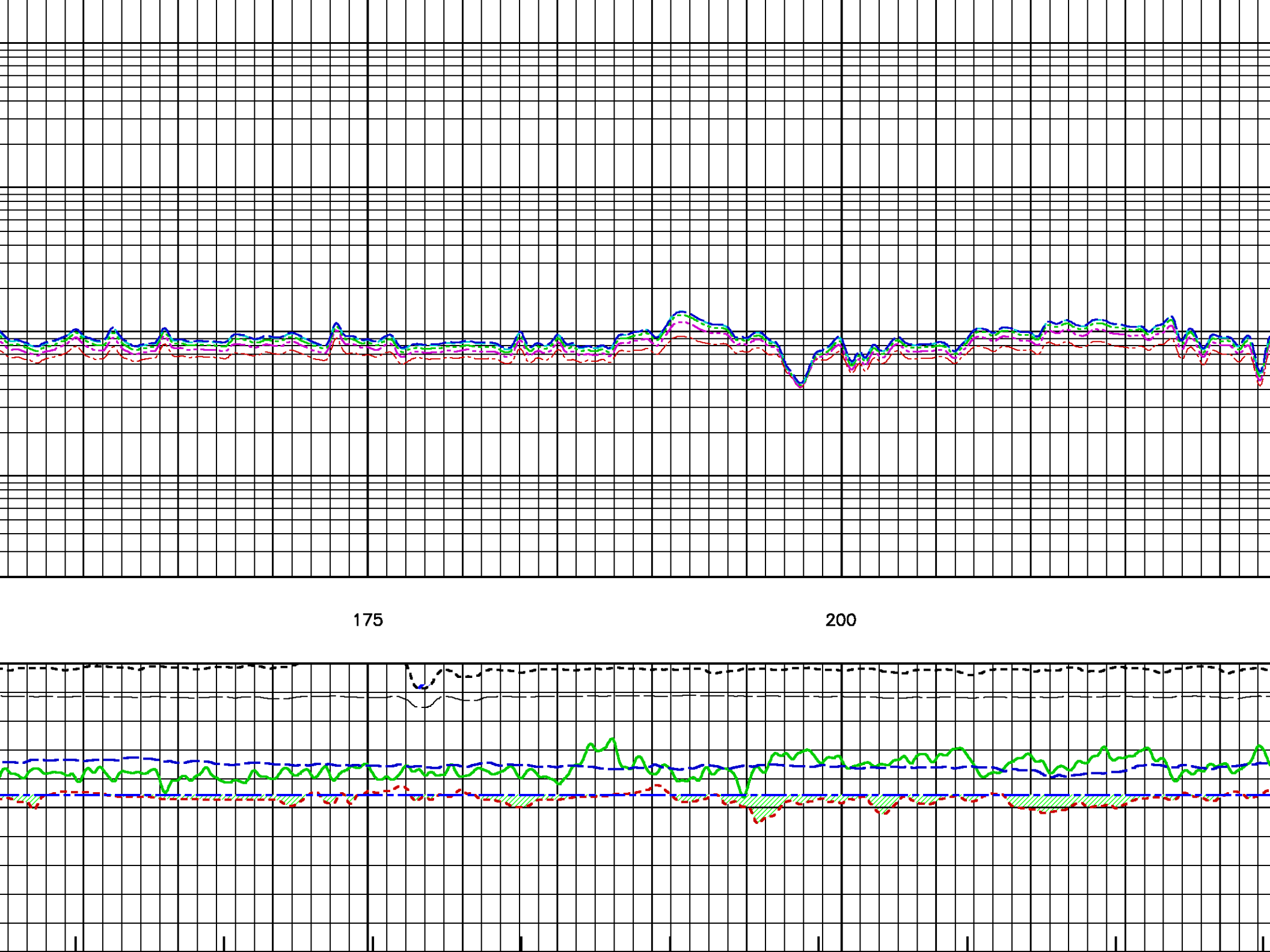
Presentation : sysa:/dat1a/MGM/run1_oh/fhdll_main.pdf [1:240 Scale]
Plot Interval : 23 – 406.146 Meters

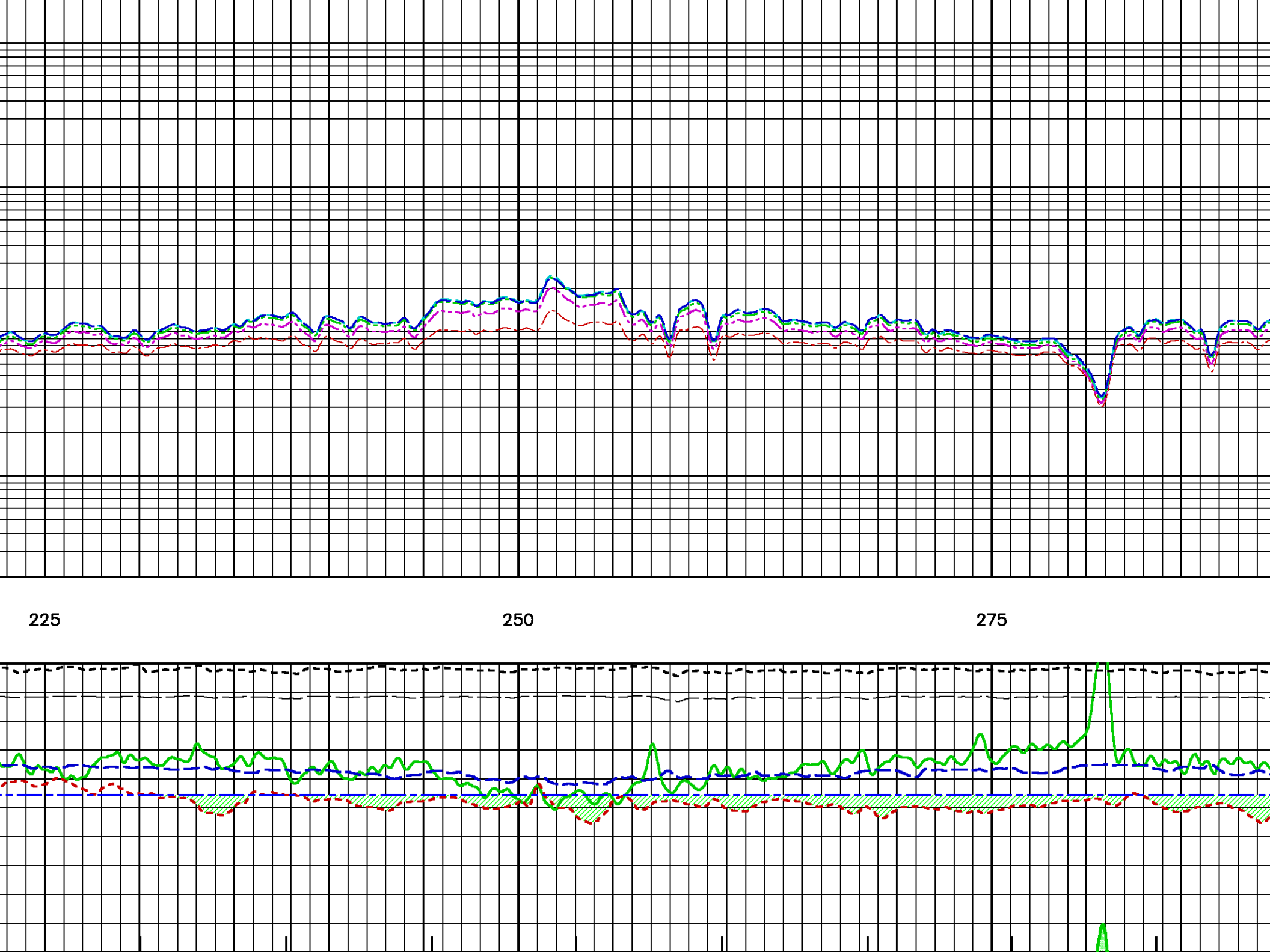
Data File 1 : F1 : sysa:/dat1a/MGM/run1_oh/slam_main.xtf
Created On : Jan 29 21:27:27 2013
Company : MGM ENERGY CORP
Well : MGM SHELL EAST MACKAY I-78
Field : EAST MACKAY
File Interval : -38.481 – 406.184 Meters
Oct : m980g

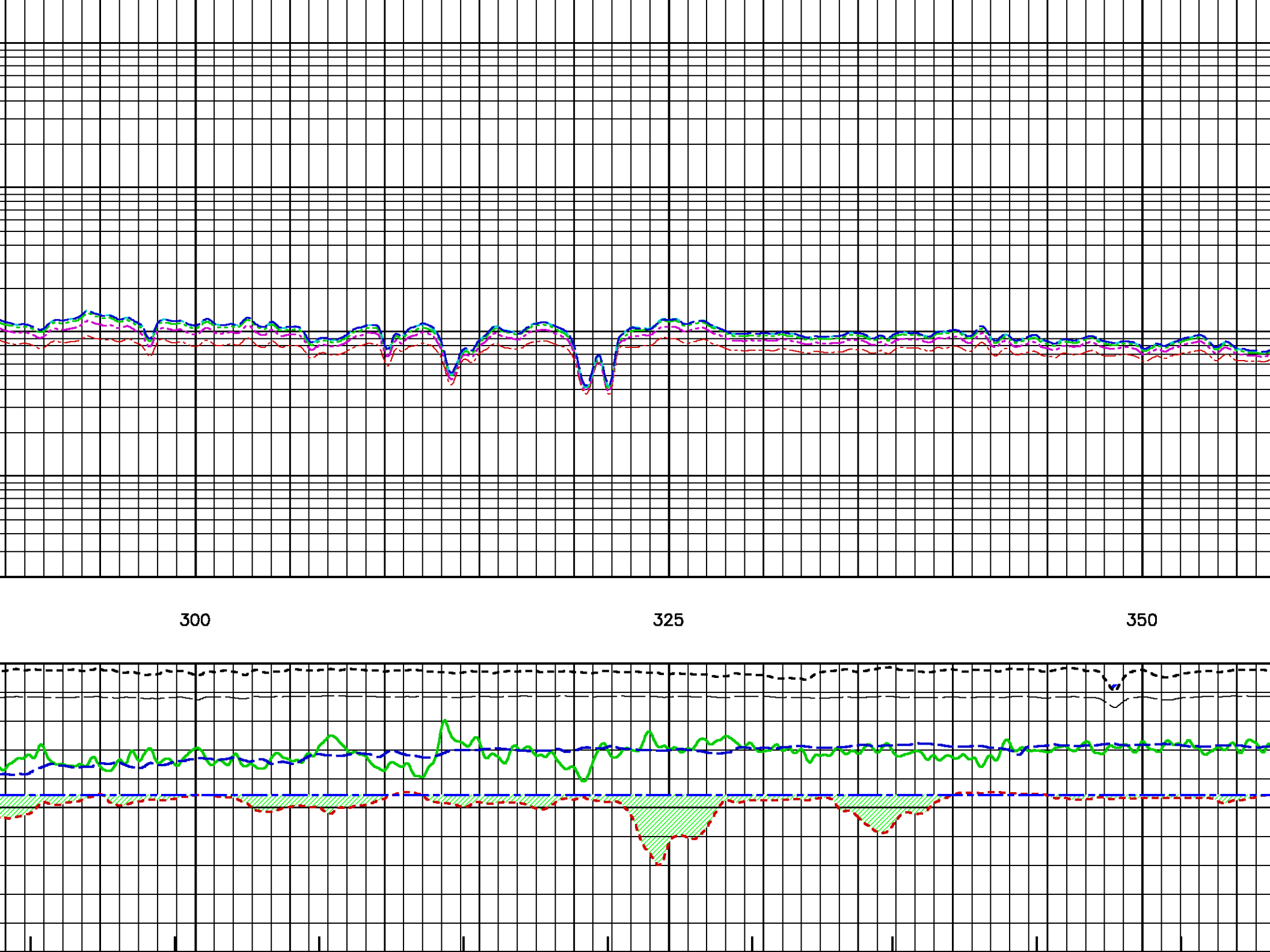


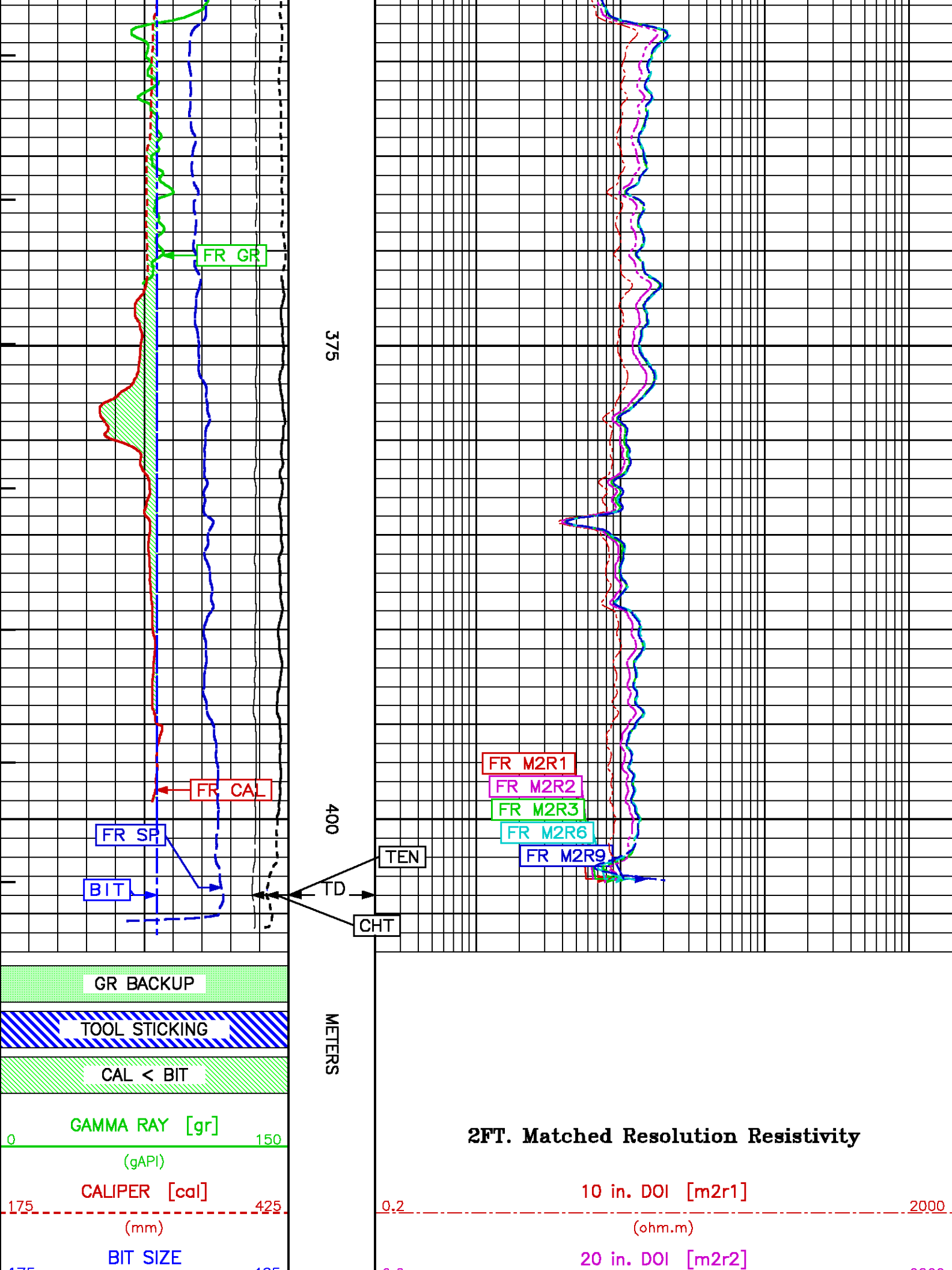

GR
CAL
BIT
SP
TEN
CHT
25
50
75
M2R1
M2R2
M2R3
M2R6
M2R9

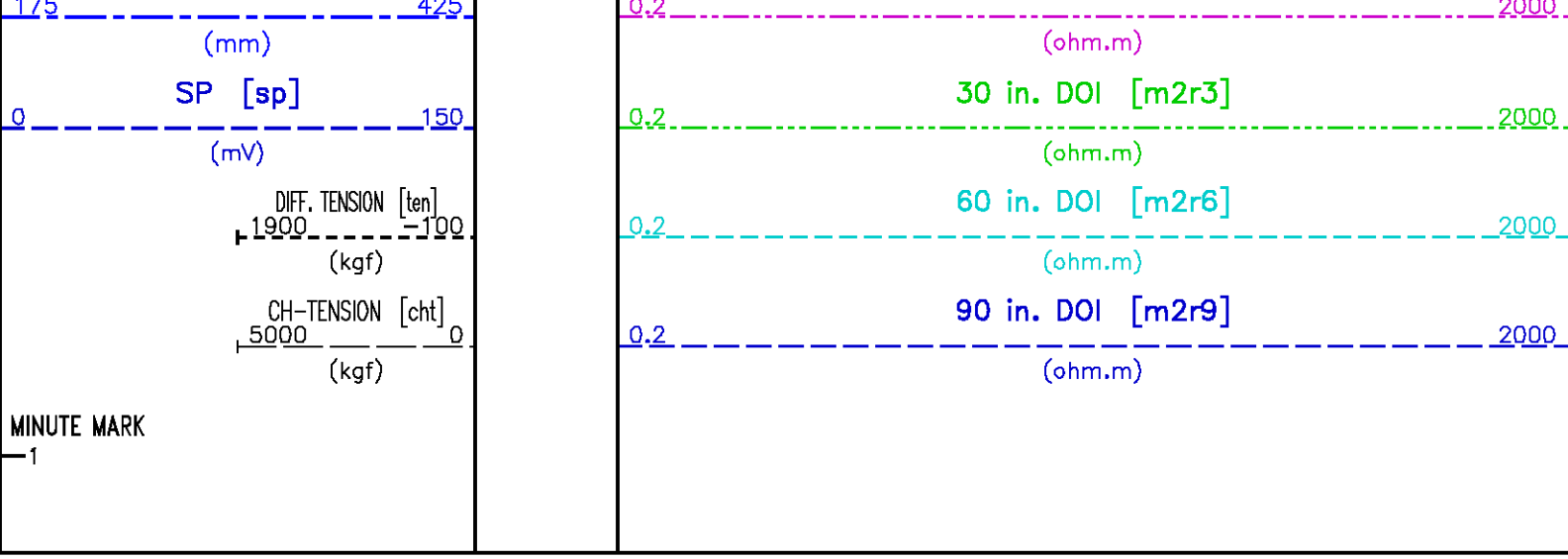

100
125
150


175
200


225
250
275


300
325
350


FR GR
FR CAL
FR SP
BIT
TEN
TD
CHT
FR M2R1
FR M2R2
FR M2R3
FR M2R6
FR M2R9
375
400
METERS
GR BACKUP
TOOL STICKING
CAL < BIT
GAMMA RAY [gr]
0
150
(gAPI)
CALIPER [cal]
175
425
(mm)
BIT SIZE
2FT. Matched Resolution Resistivity
10 in. DOI [m2r1]
0.2
2000
(ohm.m)
20 in. DOI [m2r2]



REPEAT LOG

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

Tue Jan 29 22:53:46 2013

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

PARAMETER AND FILTER SUMMARY REPORT

File: /dat1a/MGM/run1_oh/m980g06.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 224.703 m BOTTOM DEPTH: 341.552 m

SYMMETRIC FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m) TOP	BOTTOM
CHT	FILTER ()	medium (1)		TOP	BOTTOM
TENSION	FILTER ()	medium (1)		''	''
GR	FILTER ()	medium (1)		''	''
SP-SPDH	FILTER ()	medium (1)		''	''

BOREHOLE & CEMENT

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m) TOP	BOTTOM
X-Y COMBINED CALIPER PROCESSING	X-Y Caliper	Average		TOP	BOTTOM
BIT SIZE	BIT SIZE	311.000	mm	''	''
BH MUD RESISTIVITY SOURCE	RMUD SOURCE (HDIL)	TOOL MEASURED		''	''
MUD SAMPLE RESISTIVITY	MUD SAMPLE TEMP	26.0	degC	''	''
	MUD SAMPLE RES	1.400	ohm.m	''	''
BOREHOLE TEMP from GRADIENT	Known BH REF TEMP	25.0	degC	''	''
	at BH REF DEPTH	0.0	m	''	''
	with TEMP GRADIENT	2.187	0.01 degC/m	''	''
BOREHOLE CORR DIAMETER SOURCE	CALIPER/FIXED DIA. (mbh*)	USE CALIPER		''	''
BOREHOLE CORR DIAMETER	FIXED DIAMETER (mbh*)	311.000	mm	''	''
X-Y COMBINED CALIPER PROCESSING-FOCUS	Y Caliper - FOCUS	Average		''	''

ACCELERATION PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
ACCEL CORR SWITCH	ACCEL DEPTH CORR	CORRECTION OFF		TOP	343.129
		CORRECTION ON		343.129	BOTTOM

HDIL PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m) TOP	BOTTOM
HDIL TEMPERATURE CORRECTION	TEMP CORRECTION	ON		TOP	BOTTOM
ADAPTIVE BOREHOLE CORRECTION	ABC PROCESSING	ON		''	''
	ABC to CALCULATE	STANDOFF		''	''
	STANDOFF	38.10	mm	''	''
	TOOL POSITION	ECCENTERED		''	''
	Rmud MULTIPLIER	1.000		''	''

PARAMETER AND FILTER SUMMARY REPORT

File: /data/MGM/run1_oh/m980g07.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: -0.989 m BOTTOM DEPTH: 405.844 m

SYMMETRIC FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m) TOP	BOTTOM
CHT	FILTER ()	medium (1)		TOP	BOTTOM
TENSION	FILTER ()	medium (1)		''	''
GR	FILTER ()	medium (1)		''	''
SP-SPDH	FILTER ()	medium (1)		''	''

BOREHOLE & CEMENT

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m) TOP	BOTTOM
X-Y COMBINED CALIPER PROCESSING	X-Y Caliper	Average		TOP	BOTTOM
BIT SIZE	BIT SIZE	311.000	mm	''	''
BH MUD RESISTIVITY SOURCE	RMUD SOURCE (HDIL)	TOOL MEASURED		''	''
MUD SAMPLE RESISTIVITY	MUD SAMPLE TEMP	26.0	degC	''	''
	MUD SAMPLE RES	1.400	ohm.m	''	''
BOREHOLE TEMP from GRADIENT	Known BH REF TEMP	25.0	degC	''	''
	at BH REF DEPTH	0.0	m	''	''
	with TEMP GRADIENT	2.187	0.01 degC/m	''	''
BOREHOLE CORR DIAMETER SOURCE	CALIPER/FIXED DIA. (mbh*)	USE CALIPER		''	''
BOREHOLE CORR DIAMETER	FIXED DIAMETER (mbh*)	311.000	mm	''	''
X-Y COMBINED CALIPER PROCESSING-FOCUS	Y Caliper - FOCUS	Average		''	''

ACCELERATION PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m) TOP	BOTTOM
ACCEL CORR SWITCH	ACCEL DEPTH CORR	CORRECTION OFF		TOP	BOTTOM

HDIL PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m) TOP	BOTTOM
HDIL TEMPERATURE CORRECTION	TEMP CORRECTION	ON		TOP	BOTTOM
ADAPTIVE BOREHOLE CORRECTION	ABC PROCESSING	ON		''	''
	ABC to CALCULATE	STANDOFF		''	''
	STANDOFF	38.10	mm	''	''
	TOOL POSITION	ECCENTERED		''	''
	Rmud MULTIPLIER	1.000		''	''

CURVE DESCRIPTION REPORT

CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:BIT	Jan 29 20:52:41 2013	BIT SIZE
F1:CAL	Jan 29 20:52:41 2013	CALIPER
F1:CHT	Jan 29 20:52:41 2013	CABLE HEAD TENSION
F1:GR	Jan 29 20:52:41 2013	GAMMA RAY
F2:M2R1	Jan 29 21:27:27 2013	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 10-INCH DOI
F1:M2R2	Jan 29 20:52:41 2013	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 20-INCH DOI
F1:M2R3	Jan 29 20:52:41 2013	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 30-INCH DOI
F1:M2R6	Jan 29 20:52:41 2013	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 60-INCH DOI
F1:M2R9	Jan 29 20:52:41 2013	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 90-INCH DOI
F1:MMRK	Jan 29 20:52:41 2013	MINUTE MARK
F1:SP	Jan 29 20:52:41 2013	SPONTANEOUS POTENTIAL
F1:TEN	Jan 29 20:52:41 2013	DIFFERENTIAL TENSION

CURVE MEASURE POINT OFFSET

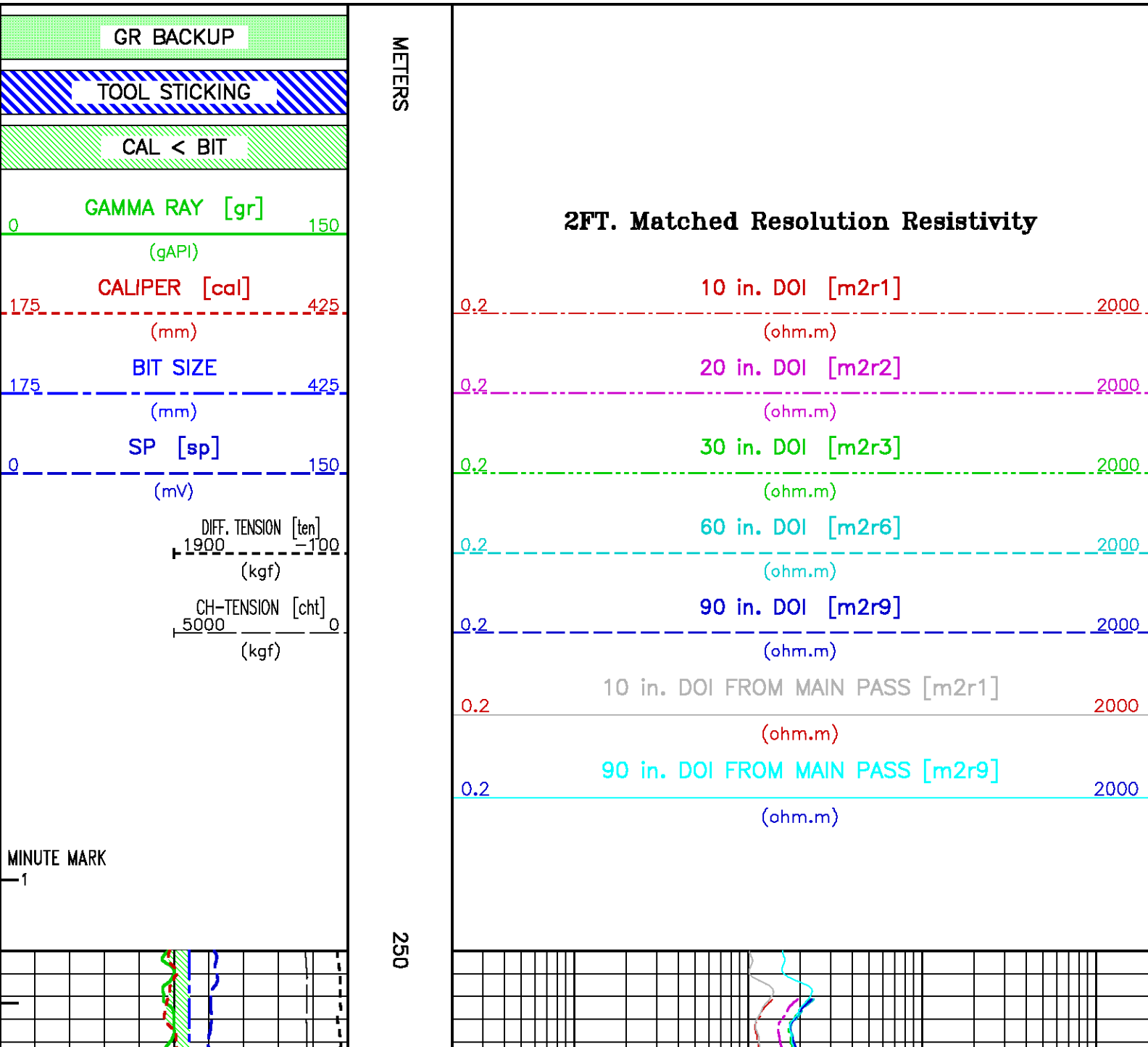
CURVE	OFFSET (m)	CURVE	OFFSET (m)	CURVE	OFFSET (m)	CURVE	OFFSET (m)	CURVE	OFFSET (m)

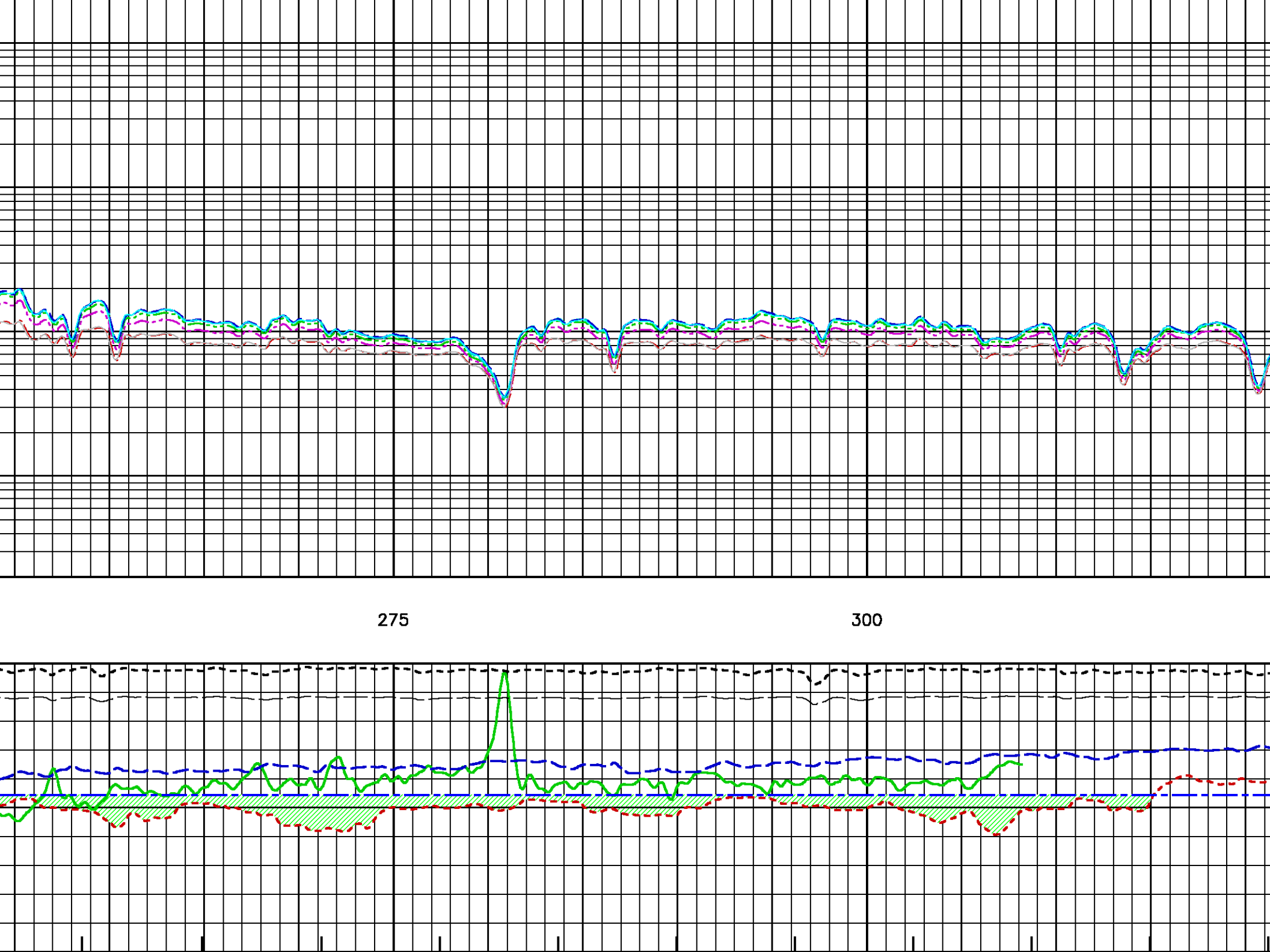
CURVE	OFFSET (m)	CURVE	OFFSET (m)	CURVE	OFFSET (m)	CURVE	OFFSET (m)
BIT	0.00	GR	33.76	M2R3	0.84	SP	0.38
CAL	5.52	M2R1	0.84	M2R6	0.84	TEN	0.00
CHT	0.00	M2R2	0.84	M2R9	0.84		

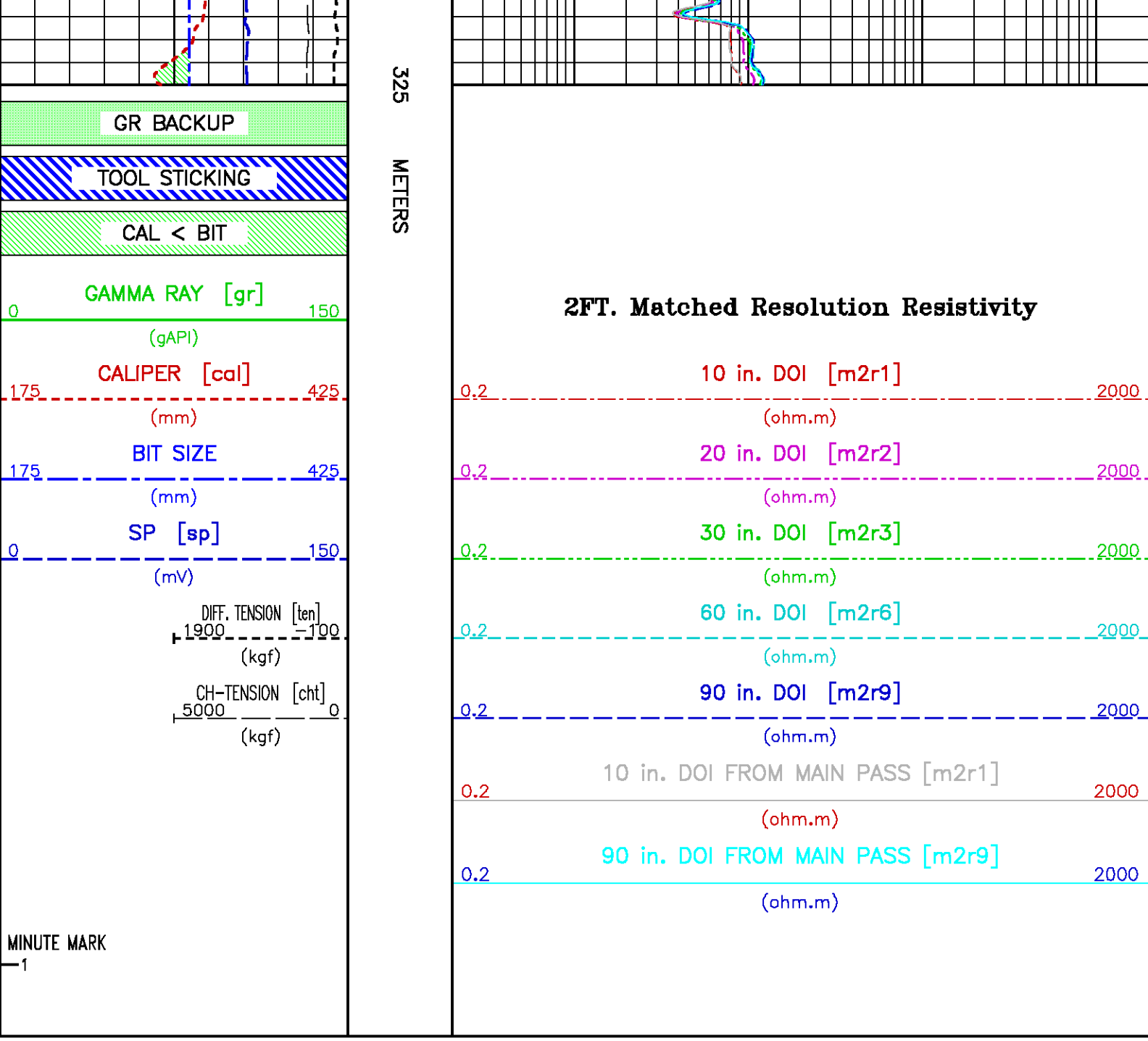
Presentation : sysa:/dat1a/MGM/run1_oh/fhdll_rpt.pdf [1:240 Scale]
Plot Interval : 250 - 325 Meters

Data File 1 : F1 : sysa:/dat1a/MGM/run1_oh/slam_rpt.xtf
Created On : Jan 29 20:52:41 2013
Company : MGM ENERGY CORP
Well : MGM SHELL EAST MACKAY I-78
Field : EAST MACKAY
File Interval : 187.147 - 342.519 Meters
Oct : m980g

Data File 2 : F2 : sysa:/dat1a/MGM/run1_oh/slam_main.xtf
Created On : Jan 29 21:27:27 2013
Company : MGM ENERGY CORP
Well : MGM SHELL EAST MACKAY I-78
Field : EAST MACKAY
File Interval : -38.481 - 406.184 Meters
Oct : m980g




275
300



CALIBRATION / VERIFICATION SUMMARY

Source File: /dat1a/MGM/run1_oh/m980g_cals.tp1

CHT PRIMARY CALIBRATION SUMMARY

TOOL #: 3981XA 10516528

DATE/TIME PERFORMED: Tue Jan 29 18:40:58 2013

UNIT #: 3815SA 008672

	Signal Low (raw)	Signal High (raw)	Scale Mult	Scale Add	Engr Low (kgf)	Engr High (kgf)
CHT	50.00	560.75	1.96	-97.90	0.00	1000.00

GR PRIMARY CALIBRATION SUMMARY

TOOL #: 1329XA 10293862 DATE/TIME PERFORMED: Wed Jan 2 15:27:33 2013

UNIT #: 5753XB 10108816 CALB JIG #: 4702NK DA-479

	BACKGROUND CALBRTR ON (cts/s)	CALBRTR ON (cts/s)	CR DIFF (cts/s)	MULT	BACKGROUND CALBRTR ON (gAPI)	CALBRTR ON (gAPI)	CALBRTR (gAPI)
GR	149.13	1025.69	876.6 (830.0 960.0)	0.171	25.52	175.52	150

GR PRIMARY VERIFICATION SUMMARY

TOOL #: 1329XA 10293862 DATE/TIME PERFORMED: Wed Jan 2 15:30:55 2013

UNIT #: 5753XB 10108816 VERI JIG #: 4702NK DA-479

	BACKGROUND CALBRTR ON (cts/s)	CALBRTR ON (cts/s)	MULT	BACKGROUND CALBRTR ON (gAPI)	CALBRTR ON (gAPI)	DIFF. (gAPI)
GR	145.09	1035.84	0.171	24.83	177.26	152.43 (140.00 160.00)

CAL PRIMARY CALIBRATION SUMMARY

TOOL #: 2223XA 10391896 DATE/TIME PERFORMED: Fri Jan 18 17:30:07 2013

UNIT #: S23 8672

	SIZE (mm)	VALUE	MULTIPLIER	ADD
SMALL RING (Arm)	177.800	1199.6		
LARGE RING (Arm)	279.400	2200.0	0.10156	55.96938
PAD CLOSED		1723.2	0.06350	-109.42319

CAL BEFORE LOG VERIFICATION SUMMARY

TOOL #: 2223XA 10391896 DATE/TIME PERFORMED: Tue Jan 29 22:24:27 2013 DAYS SINCE CAL: 11

UNIT #: 3815SA 008672

	VALUE	MULTIPLIER	ADD	SIZE (mm)
ARM	2402.4	0.10156	55.96938	300.0
PAD	1708.4	0.06350	-109.42319	-0.9

	ACTUAL (mm)	MEASURED (mm)
DIAMETER (arm+pad)	311.000	314.0
		300.8 321.2

CAL AFTER LOG VERIFICATION SUMMARY

TOOL #: 2223XA 10391896 DATE/TIME PERFORMED: Tue Jan 29 22:25:39 2013 DAYS SINCE CAL: 11

UNIT #: 3815SA 008672

	VALUE	MULTIPLIER	ADD	SIZE (mm)
ARM	2401.2	0.10156	55.96938	299.8
PAD	1708.8	0.06350	-109.42319	-0.9

	ACTUAL (mm)	MEASURED (mm)
DIAMETER (arm+pad)	311.000	313.9
		300.8 321.2

CAL[2] PRIMARY CALIBRATION SUMMARY

TOOL #: 2223XA 10102923 DATE/TIME PERFORMED: Fri Jan 18 18:11:06 2013

UNIT #: S23 8672

	SIZE (mm)	VALUE	MULTIPLIER	ADD
SMALL RING (Arm)	177.800	1040.0		
LARGE RING (Arm)	279.400	2060.0	0.09961	74.20783
PAD CLOSED		1784.0	0.06350	-113.28400

CAL[2] BEFORE LOG VERIFICATION SUMMARY

TOOL #: 2223XA 10102923 DATE/TIME PERFORMED: Tue Jan 29 22:24:24 2013 DAYS SINCE CAL: 11

UNIT #: 3815SA 008672

	VALUE	MULTIPLIER	ADD	SIZE (mm)
ARM	2524.0	0.09961	74.20783	325.6
PAD	2400.0	0.06350	-113.28400	39.1

	ACTUAL (mm)	MEASURED (mm)
DIAMETER (arm+pad)	380.000	379.7 (369.8 390.2)

CAL[2] AFTER LOG VERIFICATION SUMMARY

TOOL #: 2223XA 10102923 DATE/TIME PERFORMED: Tue Jan 29 22:25:06 2013 DAYS SINCE CAL: 11

UNIT #: 3815SA 008672

	VALUE	MULTIPLIER	ADD	SIZE (mm)
ARM	2524.0	0.09961	74.20783	325.6
PAD	2400.0	0.06350	-113.28400	39.1

	ACTUAL (mm)	MEASURED (mm)
DIAMETER (arm+pad)	380.000	379.7 (369.8 390.2)

HDIL PRIMARY CALIBRATION SUMMARY

TOOL #: 1530XA 10125755 DATE/TIME PERFORMED: Fri Jan 18 04:30:03 2013

UNIT #: 3815SA 008672 GRCOND ID & DATE: Leduc 11813

ZERO DATA(mv)	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coil 0 R	0.0051 (-0.2000 0.2000)	-0.0016 (-0.1000 0.1000)	-0.0009 (-0.1000 0.1000)	0.0007 (-0.1000 0.1000)	-0.0012 (-0.1000 0.1000)	0.0005 (-0.1000 0.1000)	0.0002 (-0.1000 0.1000)	0.0003 (-0.1000 0.1000)
Coil 0 Q	-0.0048 (-0.5000 0.5000)	-0.0021 (-0.2000 0.2000)	0.0009 (-0.1000 0.1000)	-0.0010 (-0.1000 0.1000)	0.0003 (-0.1000 0.1000)	0.0005 (-0.1000 0.1000)	-0.0006 (-0.1000 0.1000)	-0.0000 (-0.1000 0.1000)
Coil 1 R	-0.0073 (-0.2000 0.2000)	0.0001 (-0.1000 0.1000)	-0.0007 (-0.1000 0.1000)	0.0019 (-0.1000 0.1000)	-0.0002 (-0.1000 0.1000)	-0.0001 (-0.1000 0.1000)	0.0004 (-0.1000 0.1000)	0.0022 (-0.1000 0.1000)
Coil 1 Q	-0.0169 (-0.5000 0.5000)	0.0001 (-0.2000 0.2000)	-0.0000 (-0.1000 0.1000)	0.0013 (-0.1000 0.1000)	-0.0005 (-0.1000 0.1000)	-0.0005 (-0.1000 0.1000)	0.0006 (-0.1000 0.1000)	0.0010 (-0.1000 0.1000)
Coil 2 R	-0.0001 (-0.2000 0.2000)	-0.0029 (-0.1000 0.1000)	0.0018 (-0.1000 0.1000)	-0.0001 (-0.1000 0.1000)	-0.0034 (-0.1000 0.1000)	-0.0003 (-0.1000 0.1000)	0.0012 (-0.1000 0.1000)	-0.0018 (-0.1000 0.1000)
Coil 2 Q	-0.0020	-0.0000	0.0023	-0.0020	-0.0034	-0.0005	-0.0000	0.0012

	-0.5000 0.5000	-0.2000 0.2000	-0.1000 0.1000	-0.1000 0.1000	-0.1000 0.1000	-0.1000 0.1000	-0.1000 0.1000	-0.1000 0.1000
Coil 3 R	0.0030	-0.0072	0.0028	-0.0004	-0.0004	0.0020	-0.0012	-0.0040
	-0.3000 0.3000	-0.1000 0.1000	-0.1000 0.1000	-0.1000 0.1000	-0.1000 0.1000	-0.1000 0.1000	-0.1000 0.1000	-0.1000 0.1000
Coil 3 Q	-0.0038	-0.0027	0.0030	0.0005	0.0002	0.0013	0.0001	-0.0016
	-0.5000 0.5000	-0.2000 0.2000	-0.1000 0.1000	-0.1000 0.1000	-0.1000 0.1000	-0.1000 0.1000	-0.1000 0.1000	-0.1000 0.1000
Coil 4 R	-0.0380	0.0001	0.0056	-0.0069	0.0008	-0.0002	0.0030	-0.0033
	-0.5000 0.5000	-0.2000 0.2000	-0.2000 0.2000	-0.2000 0.2000	-0.2000 0.2000	-0.2000 0.2000	-0.2000 0.2000	-0.2000 0.2000
Coil 4 Q	0.0095	0.0076	0.0011	-0.0045	0.0033	-0.0015	-0.0057	0.0001
	-1.0000 1.0000	-0.4000 0.4000	-0.2000 0.2000	-0.2000 0.2000	-0.2000 0.2000	-0.2000 0.2000	-0.2000 0.2000	-0.2000 0.2000
Coil 5 R	-0.0949	-0.0102	-0.0011	0.0031	-0.0017	0.0046	0.0131	-0.0087
	-1.2000 1.2000	-0.4000 0.4000	-0.4000 0.4000	-0.4000 0.4000	-0.4000 0.4000	-0.4000 0.4000	-0.4000 0.4000	-0.4000 0.4000
Coil 5 Q	0.0196	0.0146	0.0227	-0.0034	-0.0076	0.0054	0.0044	-0.0075
	-1.5000 1.5000	-0.8000 0.8000	-0.4000 0.4000	-0.4000 0.4000	-0.4000 0.4000	-0.4000 0.4000	-0.4000 0.4000	-0.4000 0.4000

ELEC. GAINS	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coil 0 M	161.24	159.90	157.17	153.12	147.73	141.04	133.17	123.98
	136.00 186.00	134.00 184.00	131.00 181.00	126.00 176.00	122.00 170.00	118.00 161.00	112.00 150.00	105.00 139.00
Coil 0 P	7.653	25.205	42.334	59.431	76.548	93.715	110.883	128.108
	6.000 9.000	21.000 30.000	35.000 50.000	49.000 71.000	63.000 91.000	77.000 109.000	92.000 130.000	106.000 151.000
Coil 1 M	283.01	280.47	275.36	267.77	257.78	245.49	231.11	214.57
	238.00 328.00	235.00 325.00	230.00 320.00	225.00 312.00	218.00 302.00	208.00 288.00	196.00 266.00	184.00 244.00
Coil 1 P	7.712	25.410	42.664	59.864	77.071	94.270	111.496	128.682
	6.000 9.000	21.000 30.000	35.000 51.000	49.000 71.000	63.000 92.000	78.000 112.000	93.000 130.000	107.000 151.000
Coil 2 M	571.86	566.67	556.16	540.76	520.61	495.72	466.91	433.66
	479.00 659.00	474.00 654.00	463.00 643.00	450.00 622.00	432.00 602.00	412.00 572.00	390.00 540.00	359.00 499.00
Coil 2 P	7.810	25.663	43.072	60.425	77.755	95.107	112.453	129.813
	6.000 9.000	21.000 31.000	35.000 51.000	49.000 71.000	63.000 92.000	76.000 115.000	92.000 135.000	105.000 155.000
Coil 3 M	928.30	919.66	902.11	876.20	842.46	800.98	752.74	697.61
	772.00 1060.00	764.00 1050.00	752.001030.00	728.00 1010.00	700.00 970.00	665.00 925.00	628.00 868.00	589.00 799.00
Coil 3 P	7.934	26.028	43.686	61.276	78.835	96.396	113.972	131.521
	6.000 10.000	21.000 30.000	35.000 51.000	49.000 72.000	63.000 93.000	76.000 114.000	90.000 135.000	104.000 156.000
Coil 4 M	1448.5	1435.5	1409.4	1371.0	1320.8	1259.3	1188.0	1107.8
	1210.0 1700.0	1205.0 1690.0	1180.0 1650.0	1140.0 1590.0	1120.0 1530.0	1070.0 1450.0	1000.0 1350.0	942.0 1240.0
Coil 4 P	7.838	25.730	43.189	60.587	77.981	95.375	112.787	130.196
	6.000 10.000	21.000 31.000	35.000 52.000	49.000 73.000	63.000 93.000	77.000 114.000	91.000 135.000	105.000 156.000
Coil 5 M	2951.6	2924.6	2869.4	2787.5	2681.9	2552.7	2404.0	2238.3
	2450.0 3450.0	2420.0 3400.0	2410.0 3320.0	2350.0 3200.0	2280.0 3080.0	2150.0 2950.0	2020.0 2750.0	1870.0 2570.0
Coil 5 P	7.980	26.148	43.889	61.558	79.212	96.848	114.481	132.078
	6.000 10.000	20.000 31.000	35.000 52.000	49.000 73.000	63.000 94.000	79.000 113.000	93.000 134.000	106.000 156.000

AM Factor	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coil 0 R	-1089	-633	-499	-429	-380	-343	-318	-296
	-3200 940	-1400 -20	-930 -150	-760 -160	-660 -130	-600 -120	-550 -110	-520 -92
Coil 0 Q	-812	-589	-484	-436	-410	-395	-388	-383
	-15000 11000	-5800 3800	-3700 2100	-2700 1400	-2200 1000	-1800 790	-1600 620	-1500 490
Coil 1 R	-113	-126	-120	-114	-107	-100	-94	-90
	-750 460	-360 83	-280 9	-230 -10	-200 -26	-180 -35	-160 -46	-150 -49
Coil 1 Q	-262	-123	-95	-85	-81	-79	-78	-76
	-3300 3300	-1100 960	-630 530	-470 360	-380 260	-320 190	-290 150	-260 120
Coil 2 R	7.0	-28.7	-32.2	-31.0	-29.3	-27.3	-25.5	-23.4
	-85.0 76.0	-64.0 -0.4	-57.0 -12.0	-51.0 -16.0	-46.0 -17.0	-42.0 -16.0	-39.0 -15.0	-37.0 -13.0
Coil 2 Q	-47.7	-13.0	-9.4	-8.5	-7.3	-6.4	-4.4	-2.5
	-1500.0 1900.0	-500.0 610.0	-290.0 350.0	-220.0 260.0	-160.0 190.0	-140.0 160.0	-110.0 130.0	-99.0 120.0
Coil 3 R	3.4	-8.9	-10.2	-9.4	-9.6	-9.0	-8.2	-8.1

	-23.0 21.0	-22.0 1.6	-21.0 -1.3	-20.0 -1.8	-19.0 -2.0	-19.0 -1.3	-19.0 -0.8	-19.0 -0.0
Coil 3 Q	65.2 -540.0 530.0	25.6 -180.0 180.0	18.7 -100.0 110.0	16.2 -71.0 81.0	16.0 -51.0 66.0	17.0 -37.0 58.0	18.1 -28.0 53.0	20.1 -21.0 51.0
Coil 4 R	-2.68 -18.00 13.00	-3.14 -12.00 2.70	-3.77 -11.00 1.50	-4.22 -9.80 0.52	-3.42 -9.90 0.96	-3.44 -10.00 1.50	-3.92 -11.00 2.30	-3.68 -11.00 2.60
Coil 4 Q	40.00 -250.00 280.00	17.61 -79.00 98.00	14.37 -43.00 64.00	14.73 -27.00 51.00	16.32 -18.00 46.00	18.15 -11.00 42.00	20.81 -5.50 42.00	23.34 -1.00 42.00
Coil 5 R	-8.24 -56.00 51.00	-2.09 -8.40 3.60	-2.01 -6.90 1.10	-2.16 -6.90 1.20	-1.98 -9.30 2.90	-1.99 -14.00 6.30	-2.15 -19.00 9.60	-2.41 -24.00 13.00
Coil 5 Q	12.04 -88.00 69.00	7.35 -26.00 27.00	8.33 -14.00 22.00	10.45 -7.00 22.00	13.15 -2.50 24.00	15.69 1.10 26.00	18.44 4.10 29.00	21.10 7.10 32.00

MM Factor	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coil 0 M	0.986 0.850 1.100	0.991 0.860 1.100	0.994 0.870 1.100	0.995 0.880 1.100	0.996 0.880 1.100	0.995 0.880 1.100	0.996 0.880 1.100	0.995 0.880 1.100
Coil 0 P	-0.224 -1.500 1.500	-0.271 -1.500 1.500	-0.179 -1.500 1.500	-0.098 -1.500 1.500	-0.033 -1.500 1.500	0.008 -1.500 1.500	0.017 -1.500 1.500	0.063 -1.500 1.500
Coil 1 M	0.974 0.850 1.100	0.981 0.860 1.100	0.984 0.870 1.100	0.985 0.880 1.100	0.985 0.880 1.100	0.985 0.880 1.100	0.986 0.880 1.100	0.985 0.880 1.100
Coil 1 P	-0.217 -1.500 1.500	-0.326 -1.500 1.500	-0.221 -1.500 1.500	-0.134 -1.500 1.500	-0.045 -1.500 1.500	-0.014 -1.500 1.500	0.018 -1.500 1.500	0.050 -1.500 1.500
Coil 2 M	0.999 0.890 1.100	0.999 0.890 1.100	1.000 0.890 1.100	1.000 0.890 1.100	1.001 0.890 1.100	1.000 0.890 1.100	1.001 0.890 1.100	1.000 0.890 1.100
Coil 2 P	-0.020 -1.500 1.500	-0.058 -1.500 1.500	-0.063 -1.500 1.500	-0.060 -1.500 1.500	-0.063 -1.500 1.500	-0.041 -1.500 1.500	-0.031 -1.500 1.500	-0.002 -1.500 1.500
Coil 3 M	1.007 0.900 1.100	1.008 0.900 1.100	1.009 0.900 1.100	1.009 0.900 1.100	1.009 0.900 1.100	1.009 0.900 1.100	1.008 0.900 1.100	1.007 0.900 1.100
Coil 3 P	0.011 -1.500 1.500	-0.018 -1.500 1.500	-0.015 -1.500 1.500	0.007 -1.500 1.500	0.018 -1.500 1.500	0.049 -1.500 1.500	0.115 -1.500 1.500	0.143 -1.500 1.500
Coil 4 M	1.001 0.900 1.100	1.002 0.900 1.100	1.003 0.900 1.100	1.003 0.900 1.100	1.004 0.900 1.100	1.003 0.900 1.100	1.004 0.900 1.100	1.005 0.900 1.100
Coil 4 P	-0.017 -1.500 1.500	-0.058 -1.500 1.500	-0.062 -1.500 1.500	-0.058 -1.500 1.500	-0.022 -1.500 1.500	0.002 -1.500 1.500	0.021 -1.500 1.500	0.030 -1.500 1.500
Coil 5 M	0.997 0.900 1.100	0.997 0.900 1.100	0.997 0.900 1.100	0.997 0.900 1.100	0.998 0.900 1.100	0.998 0.900 1.100	0.999 0.900 1.100	1.000 0.900 1.100
Coil 5 P	-0.036 -1.500 1.500	-0.046 -1.500 1.500	-0.055 -1.500 1.500	-0.065 -1.500 1.500	-0.026 -1.500 1.500	0.066 -1.500 1.500	0.033 -1.500 1.500	0.026 -1.500 1.500

PARMS	TCID 0	TCID 1	Cal Temp (degC)	T Factor
IDs	2.610	0.758	16.0	1.00

HDIL BEFORE LOG VERIFICATION SUMMARY

TOOL #: 1530XA 10125755 DATE/TIME PERFORMED: Tue Jan 29 19:45:27 2013 DAYS SINCE CAL: 11

UNIT #: 3815SA 008672

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	-0.001 -0.100 0.100	-0.000 -0.100 0.100	0.000 -0.100 0.100	-0.000 -0.100 0.100	0.000 -0.100 0.100	0.000 -0.100 0.100	-0.000 -0.100 0.100
Coil 0 Q	-0.006	-0.002	0.001	-0.001	-0.000	0.001	-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 1 R	-0.006	0.001	-0.001	0.001	-0.000	0.000	0.001	0.001
	-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	-0.017	0.001	-0.000	0.001	-0.000	0.000	-0.000	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 2 R	0.004	-0.001	0.001	-0.001	0.002	-0.000	-0.004	-0.003
	-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	-0.002	0.000	0.001	-0.000	0.001	-0.001	-0.001	-0.002
	-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 3 R	0.001	-0.006	-0.000	-0.000	-0.000	-0.000	0.001	-0.003
	-0.300 0.300	-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	-0.006	-0.003	-0.003	-0.004	0.002	0.001	0.002	-0.005
	-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	-0.030	-0.003	0.003	-0.007	-0.004	-0.007	-0.001	0.002
	-0.500 0.500	-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	0.006	0.007	-0.002	-0.005	0.003	-0.004	0.002	-0.002
	-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	-0.089	-0.009	0.010	0.007	0.003	0.007	-0.005	-0.002
	-1.200 1.200	-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	-0.009	0.005	0.012	0.003	-0.005	0.006	0.002	-0.012
	-1.500 1.500	-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

ELEC. GAINS	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coil 0 M	161.04	159.71	156.98	152.93	147.56	140.94	133.03	123.94
	136.00 186.00	134.00 184.00	131.00 181.00	126.00 176.00	122.00 170.00	118.00 161.00	112.00 150.00	105.00 139.00
Coil 0 P	7.585	25.203	42.353	59.467	76.606	93.789	110.999	128.217
	-1.000 12.000	19.000 30.000	35.000 50.000	49.000 71.000	63.000 91.000	77.000 110.000	92.000 130.000	105.000 151.000
Coil 1 M	283.08	280.54	275.39	267.80	257.83	245.63	231.21	214.66
	237.00 327.00	235.00 325.00	230.00 320.00	225.00 312.00	218.00 302.00	208.00 288.00	196.00 266.00	184.00 244.00
Coil 1 P	7.655	25.412	42.689	59.912	77.128	94.358	111.599	128.832
	-1.000 12.000	19.000 30.000	35.000 51.000	49.000 71.000	63.000 92.000	77.000 112.000	92.000 132.000	105.000 153.000
Coil 2 M	571.26	566.06	555.56	540.18	520.02	495.39	466.43	433.30
	479.00 659.00	474.00 654.00	463.00 643.00	450.00 622.00	432.00 602.00	412.00 572.00	390.00 540.00	359.00 499.00
Coil 2 P	7.730	25.652	43.087	60.452	77.814	95.170	112.548	129.909
	-1.000 12.000	19.000 31.000	35.000 51.000	49.000 71.000	63.000 92.000	77.000 114.000	92.000 135.000	105.000 156.000
Coil 3 M	928.15	919.53	901.90	876.12	842.31	801.11	752.98	697.47
	772.00 1060.00	764.00 1050.00	752.00 1030.00	728.00 1010.00	700.00 970.00	665.00 925.00	628.00 868.00	589.00 799.00
Coil 3 P	7.861	26.024	43.695	61.298	78.887	96.471	114.062	131.630
	-2.000 13.000	19.000 31.000	35.000 52.000	49.000 72.000	63.000 93.000	77.000 114.000	92.000 135.000	105.000 156.000
Coil 4 M	1449.3	1436.4	1410.2	1371.8	1321.7	1260.4	1188.8	1108.5
	1210.0 1700.0	1205.0 1690.0	1180.0 1650.0	1140.0 1590.0	1120.0 1530.0	1070.0 1450.0	1000.0 1350.0	942.0 1240.0
Coil 4 P	7.774	25.724	43.200	60.613	78.017	95.447	112.879	130.306
	-2.000 13.000	19.000 31.000	35.000 52.000	49.000 73.000	63.000 93.000	78.000 114.000	92.000 135.000	105.000 156.000
Coil 5 M	2951.9	2925.0	2869.6	2788.6	2682.7	2554.1	2403.9	2239.7
	2450.0 3450.0	2420.0 3400.0	2410.0 3320.0	2350.0 3200.0	2280.0 3080.0	2150.0 2950.0	2020.0 2750.0	1870.0 2570.0
Coil 5 P	7.919	26.141	43.891	61.577	79.243	96.888	114.535	132.164
	-2.000 13.000	19.000 31.000	35.000 52.000	49.000 73.000	63.000 94.000	79.000 114.000	93.000 135.000	106.000 156.000

HDIL AFTER LOG VERIFICATION SUMMARY

TOOL #: 1530XA 10125755 DATE/TIME PERFORMED: Tue Jan 29 22:27:14 2013 DAYS SINCE CAL: 11

UNIT #: 3815SA 008672

ZERO DATA(mv)	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coil 0 R	0.005 -0.075 0.085	-0.002 -0.061 0.059	0.000 -0.030 0.030	0.002 -0.030 0.030	-0.001 -0.030 0.030	-0.000 -0.030 0.030	-0.000 -0.030 0.030	-0.001 -0.030 0.030
Coil 0 Q	-0.005 -0.046 0.034	-0.002 -0.122 0.118	0.001 -0.029 0.031	0.000 -0.031 0.029	0.000 -0.030 0.030	0.000 -0.029 0.031	-0.000 -0.031 0.029	0.000 -0.029 0.031
Coil 1 R	-0.005 -0.086 0.074	0.001 -0.049 0.051	-0.001 -0.031 0.029	0.000 -0.029 0.031	-0.001 -0.030 0.030	-0.001 -0.030 0.030	0.000 -0.029 0.031	0.003 -0.029 0.031
Coil 1 Q	-0.017 -0.417 0.383	0.001 -0.099 0.101	0.002 -0.030 0.030	0.001 -0.029 0.031	-0.001 -0.030 0.030	-0.000 -0.030 0.030	0.000 -0.030 0.030	0.001 -0.029 0.031
Coil 2 R	0.001 -0.066 0.074	0.002 -0.031 0.029	0.001 -0.029 0.031	0.000 -0.031 0.029	-0.001 -0.028 0.032	-0.003 -0.030 0.030	0.000 -0.034 0.026	-0.001 -0.033 0.027
Coil 2 Q	-0.001 -0.352 0.348	-0.002 -0.100 0.100	-0.000 -0.029 0.031	0.000 -0.030 0.030	-0.002 -0.029 0.031	-0.002 -0.031 0.029	-0.001 -0.031 0.029	0.002 -0.032 0.028
Coil 3 R	0.006 -0.039 0.041	-0.003 -0.046 0.034	0.004 -0.040 0.040	-0.000 -0.040 0.040	-0.001 -0.040 0.040	0.004 -0.040 0.040	-0.003 -0.039 0.041	-0.002 -0.043 0.037
Coil 3 Q	-0.002 -0.206 0.194	-0.001 -0.083 0.077	0.002 -0.043 0.037	-0.005 -0.044 0.036	0.002 -0.038 0.042	0.003 -0.039 0.041	0.005 -0.038 0.042	-0.004 -0.045 0.035
Coil 4 R	-0.041 -0.090 0.030	0.001 -0.063 0.057	0.007 -0.057 0.063	0.002 -0.067 0.053	-0.001 -0.064 0.056	-0.003 -0.067 0.053	0.002 -0.061 0.059	-0.002 -0.058 0.062
Coil 4 Q	0.011 -0.294 0.306	0.009 -0.093 0.107	-0.009 -0.062 0.058	-0.006 -0.065 0.055	0.004 -0.057 0.063	0.000 -0.064 0.056	0.001 -0.058 0.062	0.001 -0.062 0.058
Coil 5 R	-0.087 -0.209 0.031	-0.005 -0.129 0.111	0.009 -0.110 0.130	-0.009 -0.113 0.127	-0.000 -0.117 0.123	-0.008 -0.113 0.127	-0.003 -0.125 0.115	-0.002 -0.122 0.118
Coil 5 Q	0.002 -0.609 0.591	0.009 -0.245 0.255	0.004 -0.108 0.132	0.004 -0.117 0.123	-0.008 -0.125 0.115	-0.002 -0.114 0.126	-0.001 -0.118 0.122	-0.013 -0.132 0.108

ELEC. GAINS	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coil 0 M	161.07 157.82 164.26	159.73 156.52 162.90	157.01 153.84 160.12	152.94 149.87 155.99	147.57 144.61 150.51	140.92 138.12 143.76	133.01 130.37 135.69	123.87 121.46 126.42
Coil 0 P	7.611 4.585 10.585	25.208 22.203 28.203	42.357 39.353 45.353	59.469 56.467 62.467	76.609 73.606 79.606	93.784 90.789 96.789	110.985 107.999 113.999	128.171 125.217 131.217
Coil 1 M	283.03 277.41 288.74	280.48 274.93 286.15	275.36 269.88 280.89	267.75 262.45 273.16	257.80 252.67 262.98	245.55 240.71 250.54	231.04 226.59 235.84	214.46 210.36 218.95
Coil 1 P	7.679 4.655 10.655	25.418 22.412 28.412	42.690 39.689 45.689	59.908 56.912 62.912	77.123 74.128 80.128	94.361 91.358 97.358	111.582 108.599 114.599	128.786 125.832 131.832
Coil 2 M	571.34 559.83 582.68	566.15 554.74 577.38	555.66 544.45 566.67	540.23 529.37 550.98	520.14 509.62 530.42	495.44 485.48 505.30	466.42 457.10 475.76	433.20 424.64 441.97
Coil 2 P	7.759 4.730 10.730	25.660 22.652 28.652	43.090 40.087 46.087	60.458 57.452 63.452	77.806 74.814 80.814	95.164 92.170 98.170	112.531 109.548 115.548	129.868 126.909 132.909
Coil 3 M	928.05 909.59 946.71	919.37 901.14 937.92	901.77 883.86 919.94	876.12 858.59 893.64	842.15 825.46 859.16	800.88 785.09 817.13	752.54 737.92 768.04	697.35 683.52 711.42
Coil 3 P	7.888 4.861 10.861	26.028 23.024 29.024	43.697 40.695 46.695	61.305 58.298 64.298	78.882 75.887 81.887	96.460 93.471 99.471	114.046 111.062 117.062	131.587 128.630 134.630
Coil 4 M	1449.1 1420.3 1478.3	1436.2 1407.7 1465.1	1410.0 1382.0 1438.4	1371.8 1344.3 1399.2	1321.3 1295.3 1348.1	1260.1 1235.2 1285.6	1188.3 1165.0 1212.6	1107.6 1086.3 1130.6
Coil 4 P	7.800 4.774 10.774	25.731 22.724 28.724	43.203 40.200 46.200	60.615 57.613 63.613	78.024 75.017 81.017	95.444 92.447 98.447	112.872 109.879 115.879	130.238 127.306 133.306
Coil 5 M	2951.7 2892.9 3010.9	2924.7 2866.5 2983.5	2869.5 2812.2 2927.0	2787.7 2732.8 2844.3	2682.2 2629.0 2736.3	2553.5 2503.1 2605.2	2402.9 2355.8 2452.0	2237.8 2194.9 2284.4
Coil 5 P	7.944 4.919 10.919	26.149 23.141 29.141	43.900 40.891 46.891	61.586 58.577 64.577	79.245 76.243 82.243	96.920 93.888 99.888	114.549 111.535 117.535	132.139 129.164 135.164

BAKER HUGHES

EOLIPS

COMPANY	MGM ENERGY CORP
WELL	MGM SHELL EAST MACKAY I-78
FIELD	EAST MACKAY
PROVINCE	NORTHWEST TERRITORIES

FILE NO:

API NO:

LOCATION:

LAT 64.795 LONG -125.722

ELEVATIONS:

KB 161.2 M

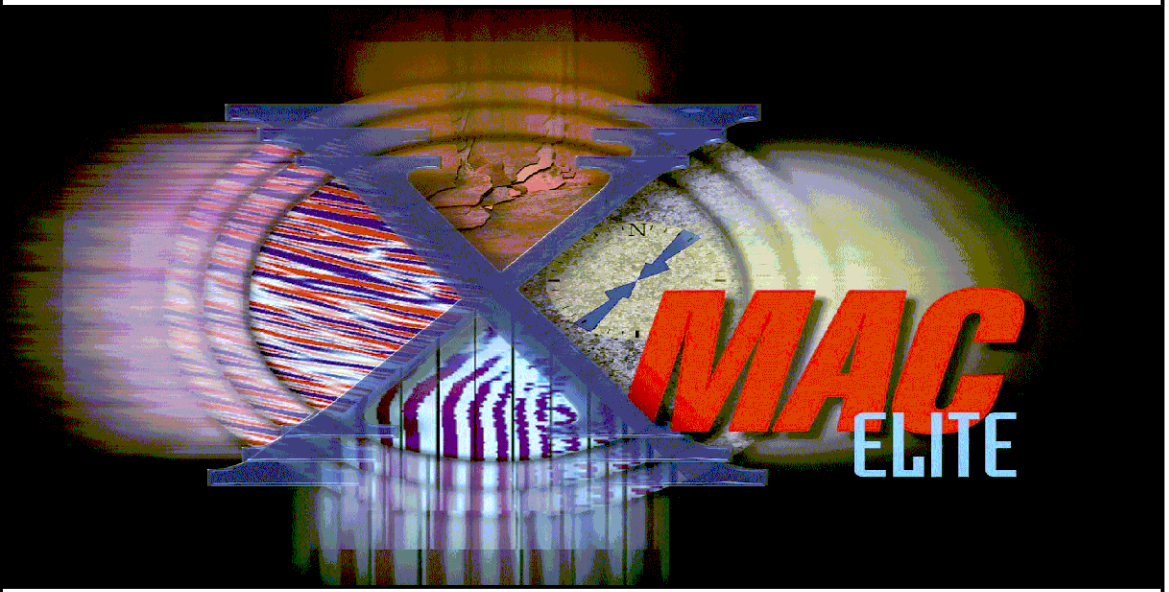
DF

GL 155.00 M

LICENSE:
1202

DATE 29-JAN-2013

BAKER HUGHES



CROSS-MULTIPOLE ARRAY ACOUSTILOG SLOWNESS ANALYSIS

COMPANY MGM ENERGY CORP

WELL MGM SHELL EAST MACKAY I-78

FIELD EAST MACKAY

PROVINCE NORTHWEST TERRITORIES

LOCATION:

LAT 64.795 LONG -125.722

ELEVATIONS:

KB 161.2 M DF GL 155.00 M

DATE 29-JAN-2013 ECC 215445

BOREHOLE RECORD

BIT SIZE	FROM	TO
311.0 MM	22.5 M	405.2 M

CASING RECORD

SIZE	WEIGHT	GRADE	FROM	TO
406.4 MM	81.8 KG/M	NA	0.0 M	22.5 M

REMARKS

TIME STOPPED CIRCULATION: 29-JAN-2013 11:30 AM

MAXIMUM TEMPERATURE ON THERMOMETERS: 26 AND 26 DEGC
TEMPERATURE LOG WAS RECORDED ON THE WAY DOWN.

INTEGRATED TRANSIT TIME TICS EVERY: 1.0, 10.0, & 100.0 µSEC.

RIG: AKITA #37

CREW: I.ZALESKIKH, J.PEREIRA, N.MCDERMID, K.HASIUK

PETROPHYSICIST: MILAN MARKOVIC, BAKER HUGHES GEOSCIENCE

EQUIPMENT DATA

EQUIPMENT DATA

RUN	TRIP	TOOL	SERIES NO.	SERIAL NO.	POSITION
1	1	SWIVEL	3944XD	10513050	FREE
1	1	DHPA	4430XB	10390592	FREE
1	1	TTRM SUB	3981XB	10516528	FREE
1	1	COMM	3514XB	10504656	FREE
1	1	WTS DGR/SLI	1329XB	10293862	FREE
1	1	ORIT	4401XB	12466129	FREE
1	1	ACOUSTIC EL	1677EA	10383992	CENTRALIZED
1	1	XMAC RX MDR	1678MC	10386815	CENTRALIZED
1	1	XMAC ISO	1678PB	10039369	FREE
1	1	XMAC TX ELC	1678BA	12168167	CENTRALIZED
1	1	XMAC TX ELC	1678FA	12188364	CENTRALIZED
1	1	WTS DBL KNJ	3939XA	12448499	FREE
1	1	FOC/WTS ADP	3527EA	12337591	FREE
1	1	FOC/WTS ADP	3527FA	12494796	FREE
1	1	TTMA SUB	3980XA	Z402456	FREE
1	1	FOCUS CN	2436XA	10105638	DECENTRALIZED
1	1	FOCUS ZDEN	2223XA	10391896	PAD DEVICE
1	1	DBL KNJT	3931XA	10469360	FREE
1	1	ALGNMNT SUB	4408NA	10265502	FREE
1	1	FOCUS ZDEN	2223XA	10102923	PAD DEVICE
1	1	DBL KNJT	3931XA	10189700	FREE
1	1	FOCUS HDIL	1530XA	10125755	STANDOFF

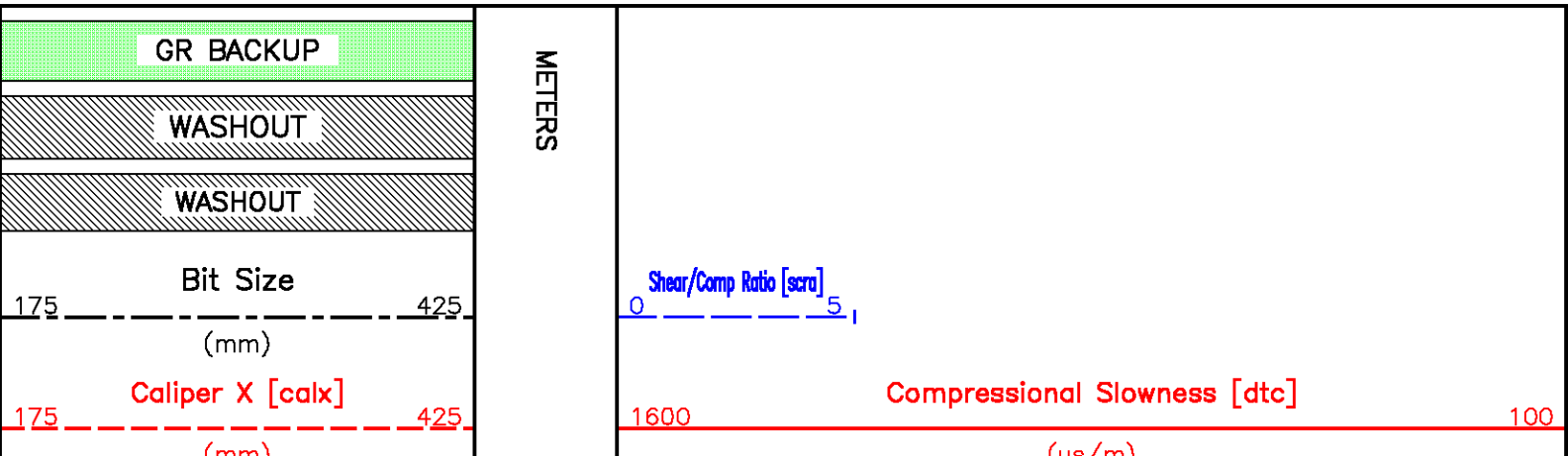
Compressional and Dipole Shear Slowness 1:240

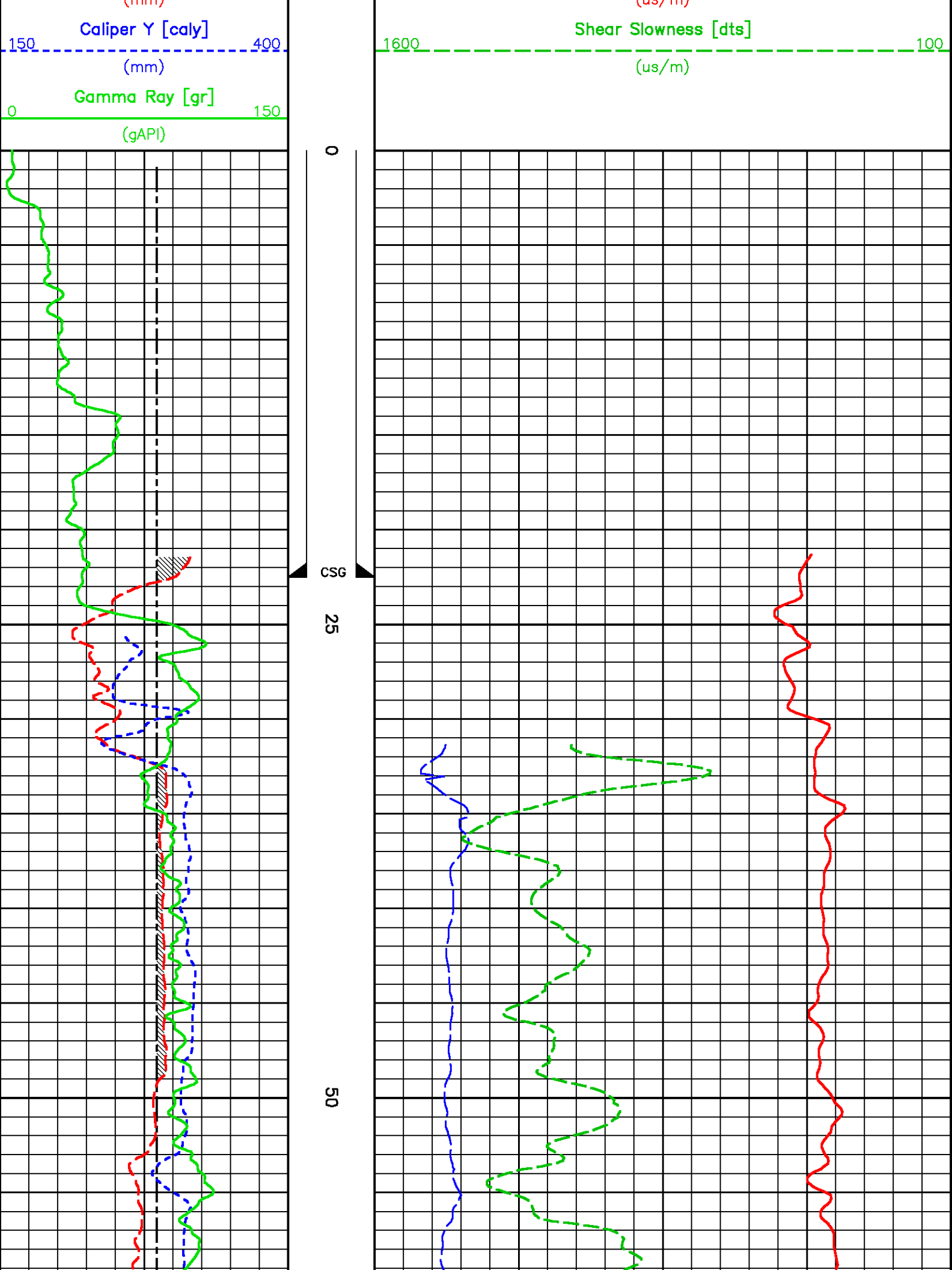
CURVE DESCRIPTION REPORT

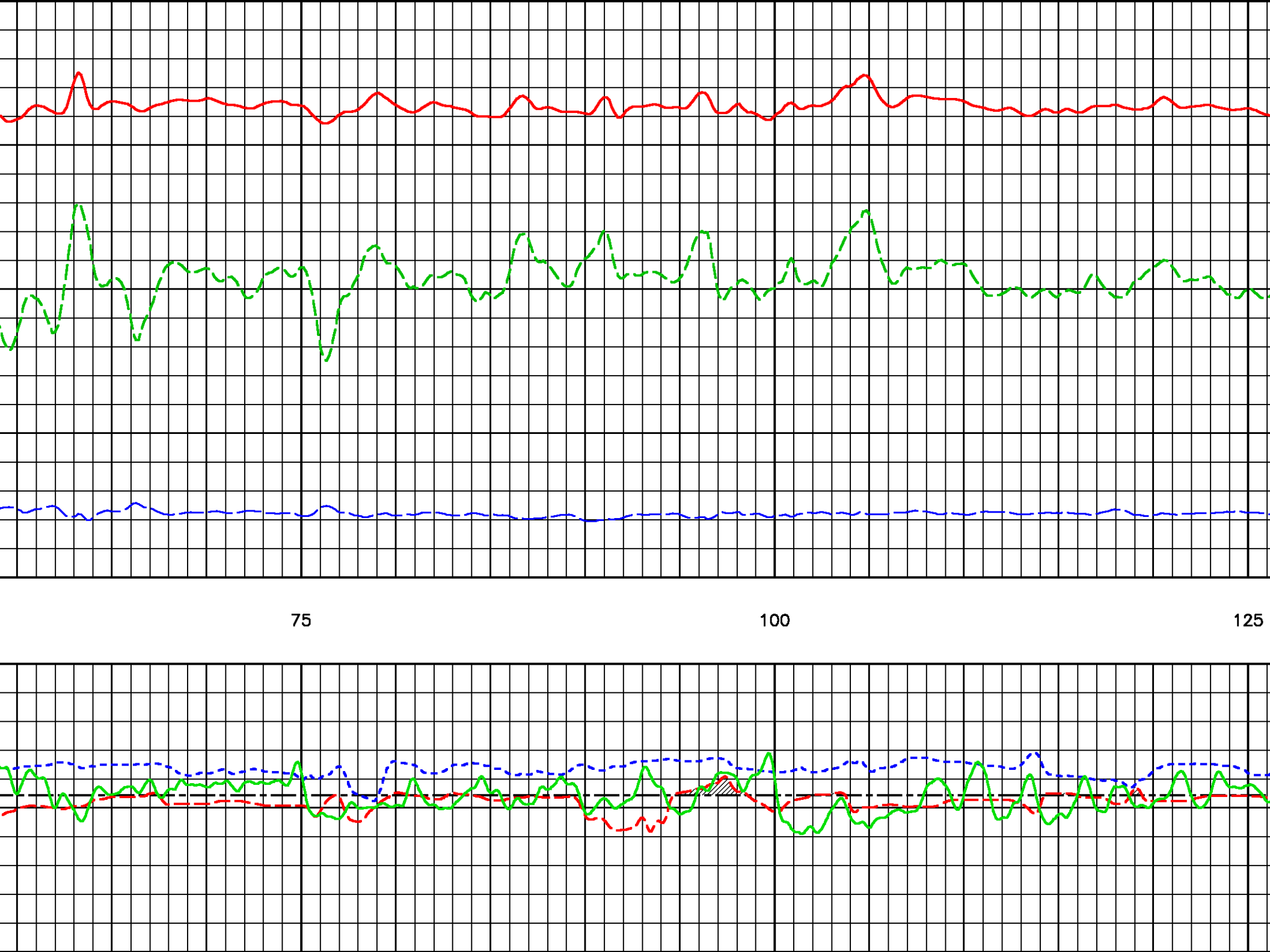
CURVE NAME	CURVE ALIAS	CREATION DATE	CURVE DESCRIPTION
F1:BIT	BIT	Jan 29 21:27:27 2013	BIT SIZE
F1:CALX	CAL	Jan 29 21:27:27 2013	CALIPER FROM X AXIS OF X-Y CALIPER(S)
F1:CALY	CALY	Jan 29 21:27:27 2013	CALIPER FROM Y AXIS OF X-Y CALIPER(S)
F1:DTC	DTC	Jan 31 13:34:48 2013	COMPRESSIONAL WAVE SLOWNESS
F1:DTS	DTS	Jan 31 15:44:21 2013	SHEAR WAVE SLOWNESS
F1:GR	GR	Jan 29 21:27:27 2013	GAMMA RAY

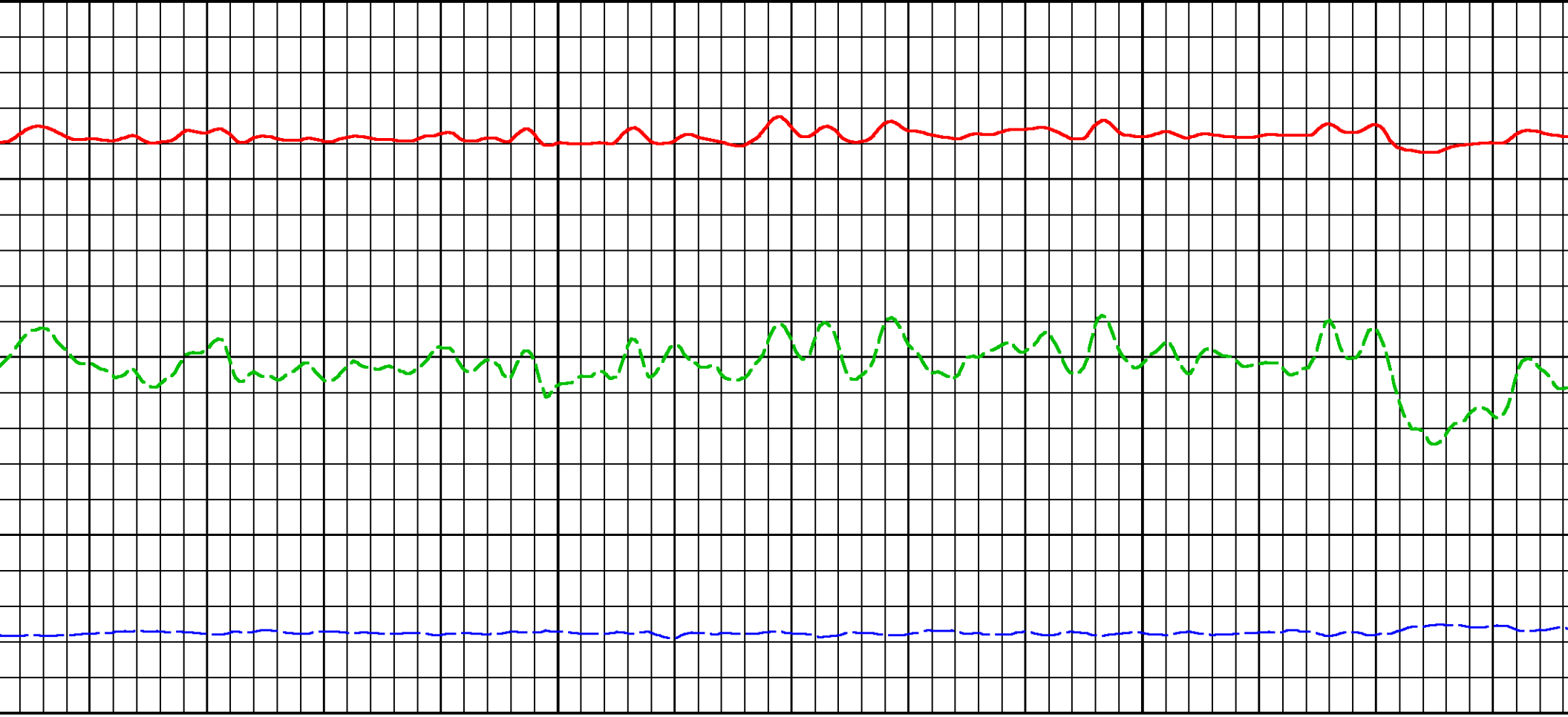
Project : /data/markmil/215445_MGM_XMAC
User : markmil
Presentation : calsunsrv3:/data/markmil/215445_MGM_XMAC/xmac_dt_METRIC_NEW.pdf [1:240 Scale]
Plot Interval : 0 - 406.146 Meters

Data File 1 : F1 : calsunsrv3:/data/markmil/215445_MGM_XMAC/slam_main.xtf
Created On : Jan 29 21:27:27 2013
Company : MGM ENERGY CORP
Well : MGM SHELL EAST MACKAY I-78
Field : EAST MACKAY
File Interval : -37.2618 - 406.184 Meters
Oct : m980g



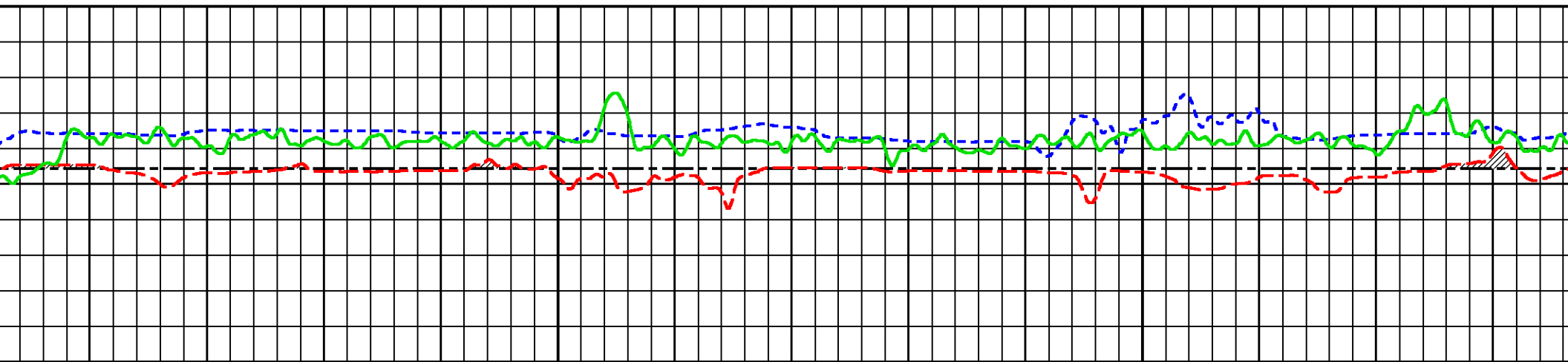

(mm)
Caliper Y [caly]
150
400
(mm)
Gamma Ray [gr]
0
150
(gAPI)
(us/m)
Shear Slowness [dts]
1600
100
(us/m)
0
CSG
25
50

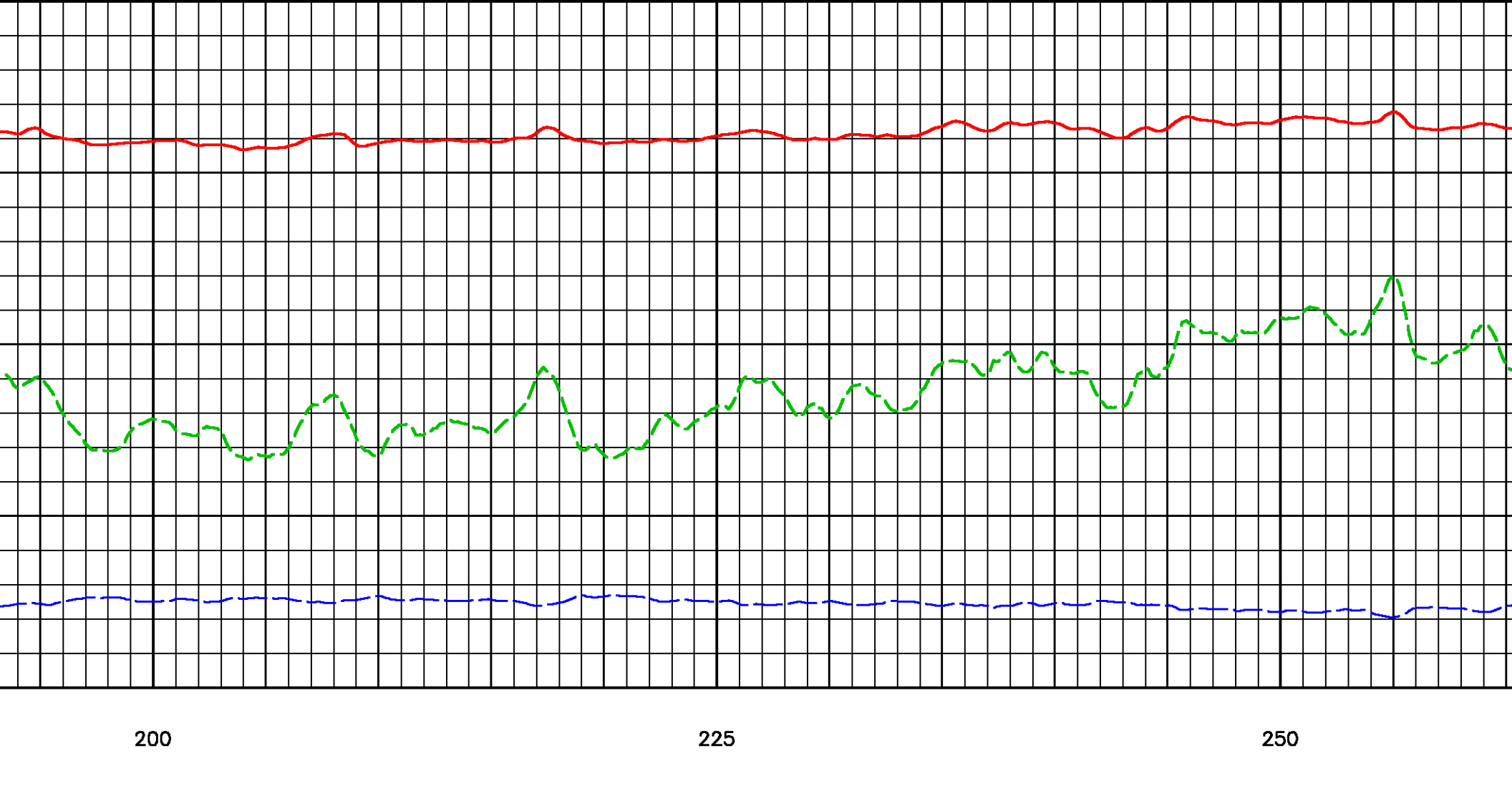

75
100
125



150

175

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225
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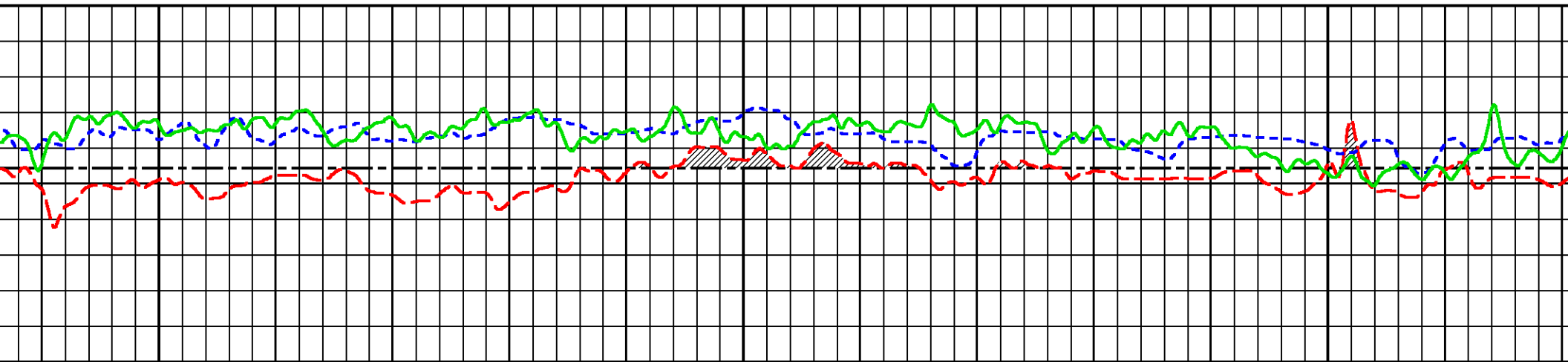

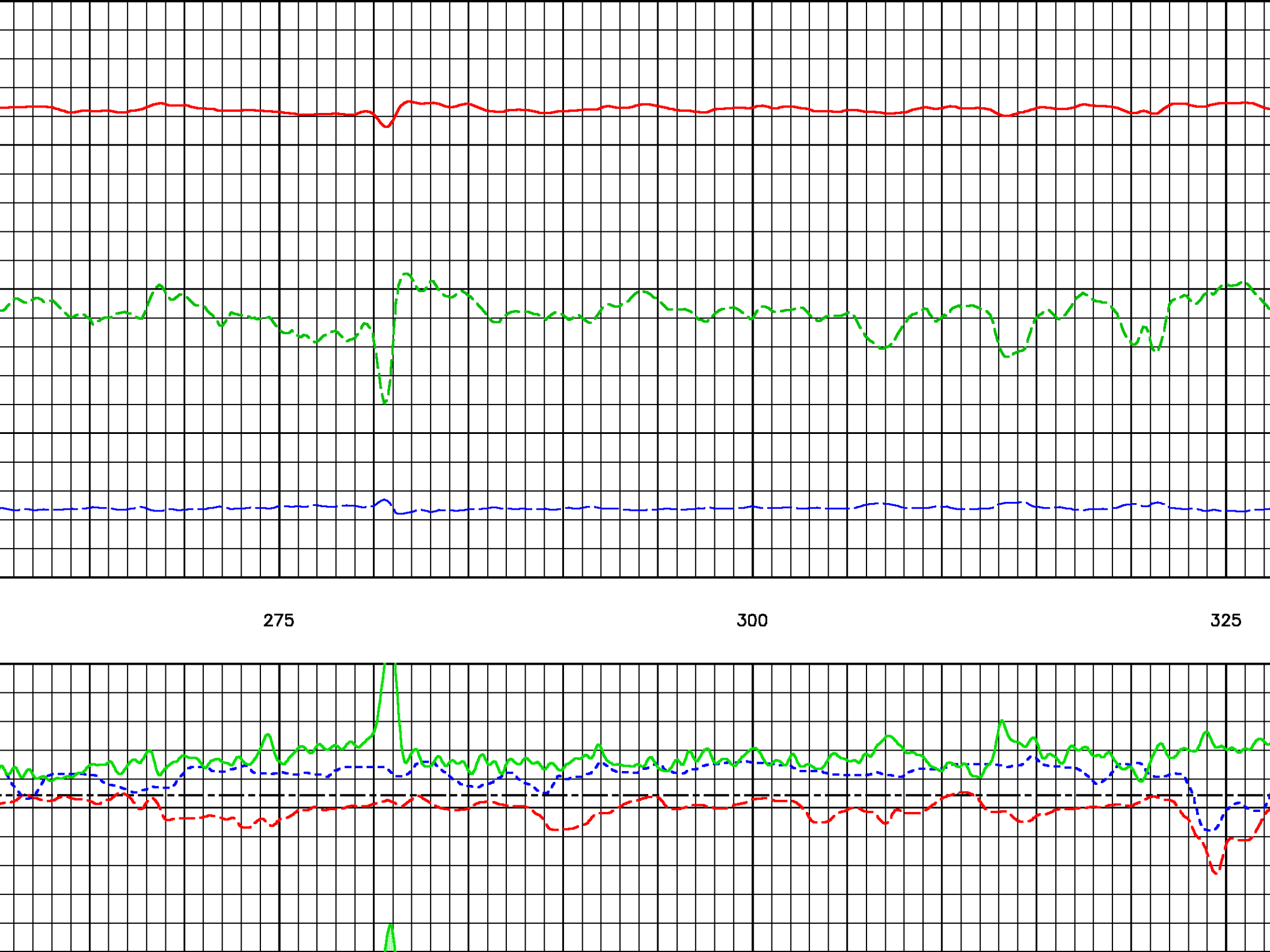
275
300
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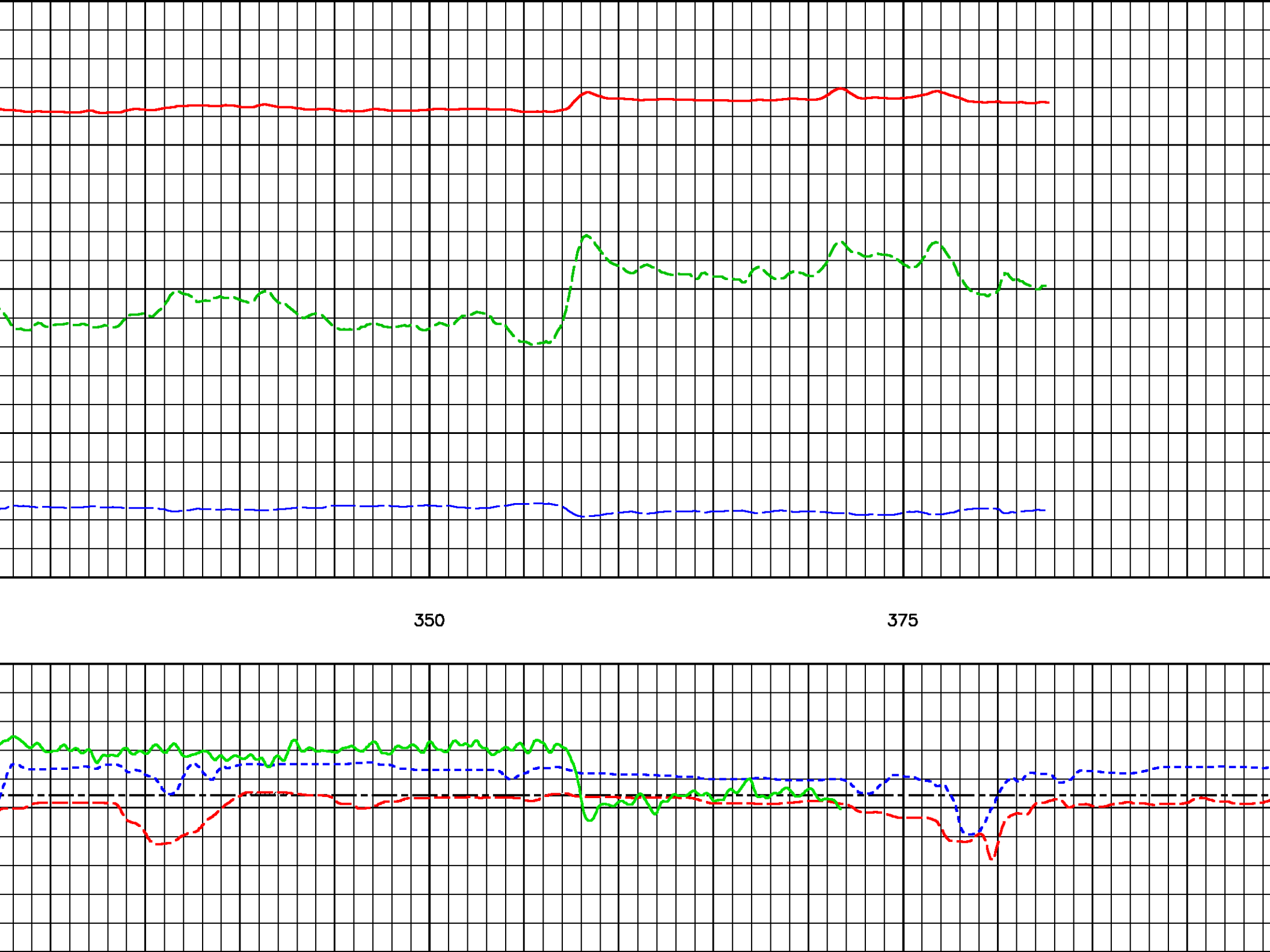
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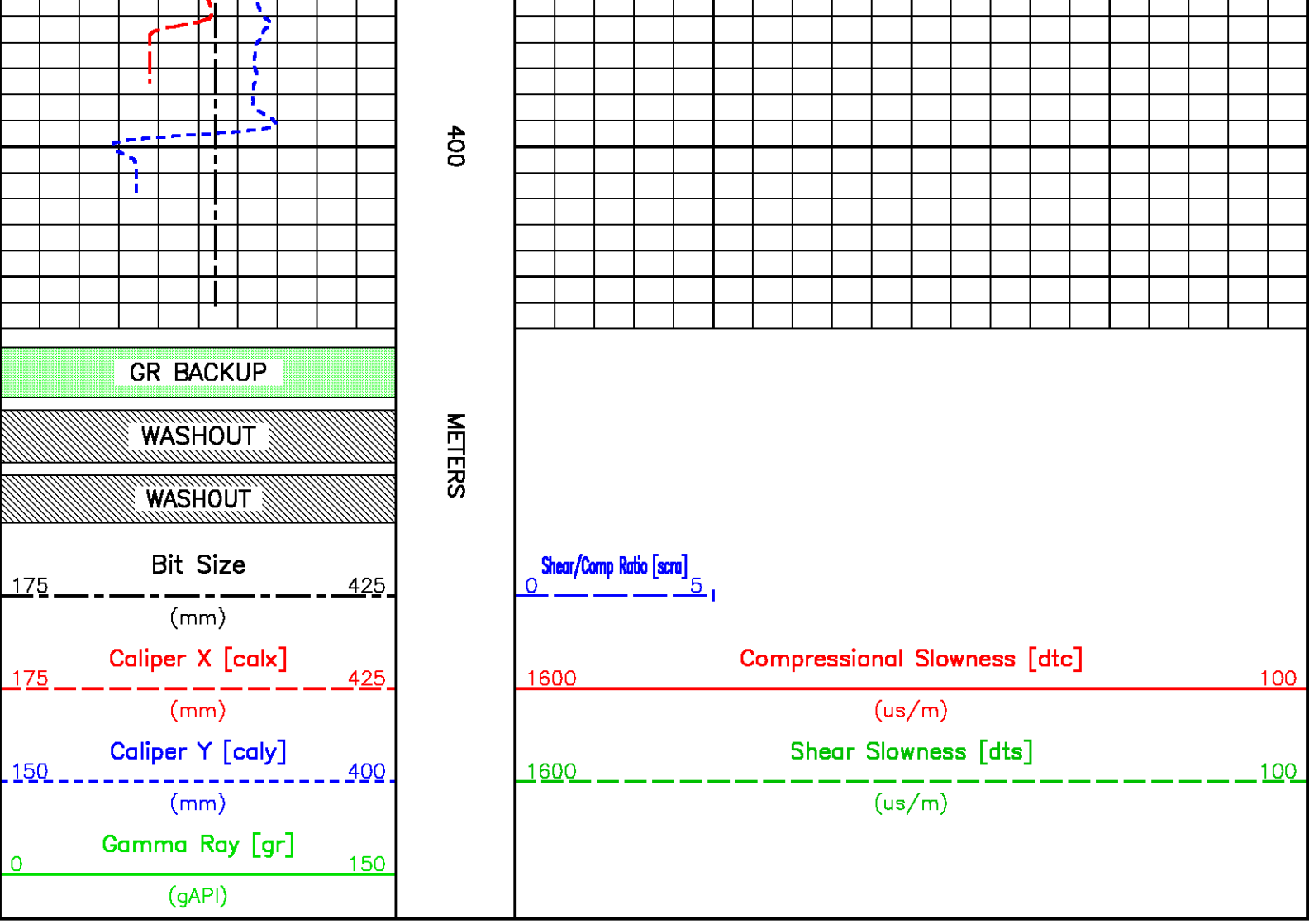


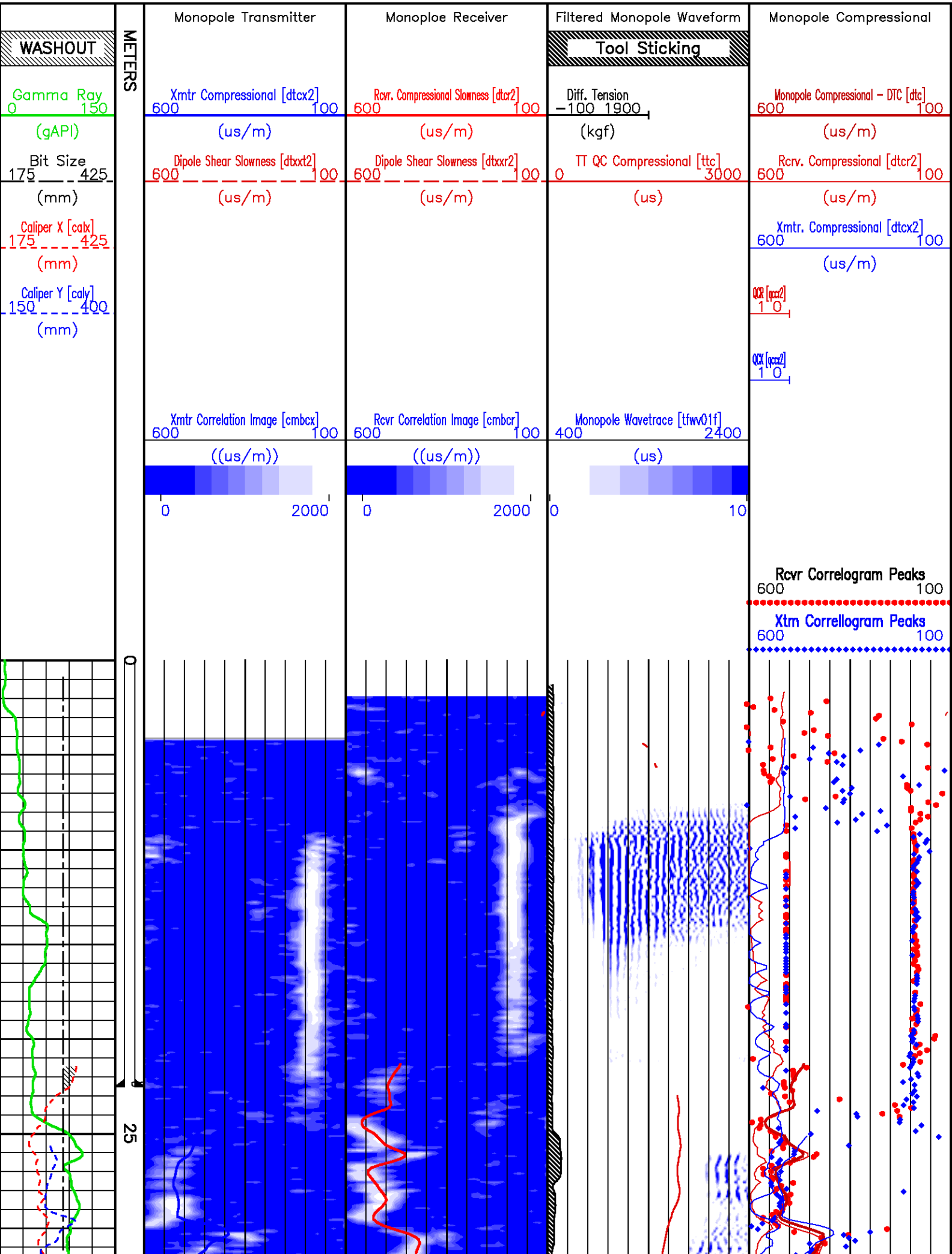
Compressional Slowness Quality Plot

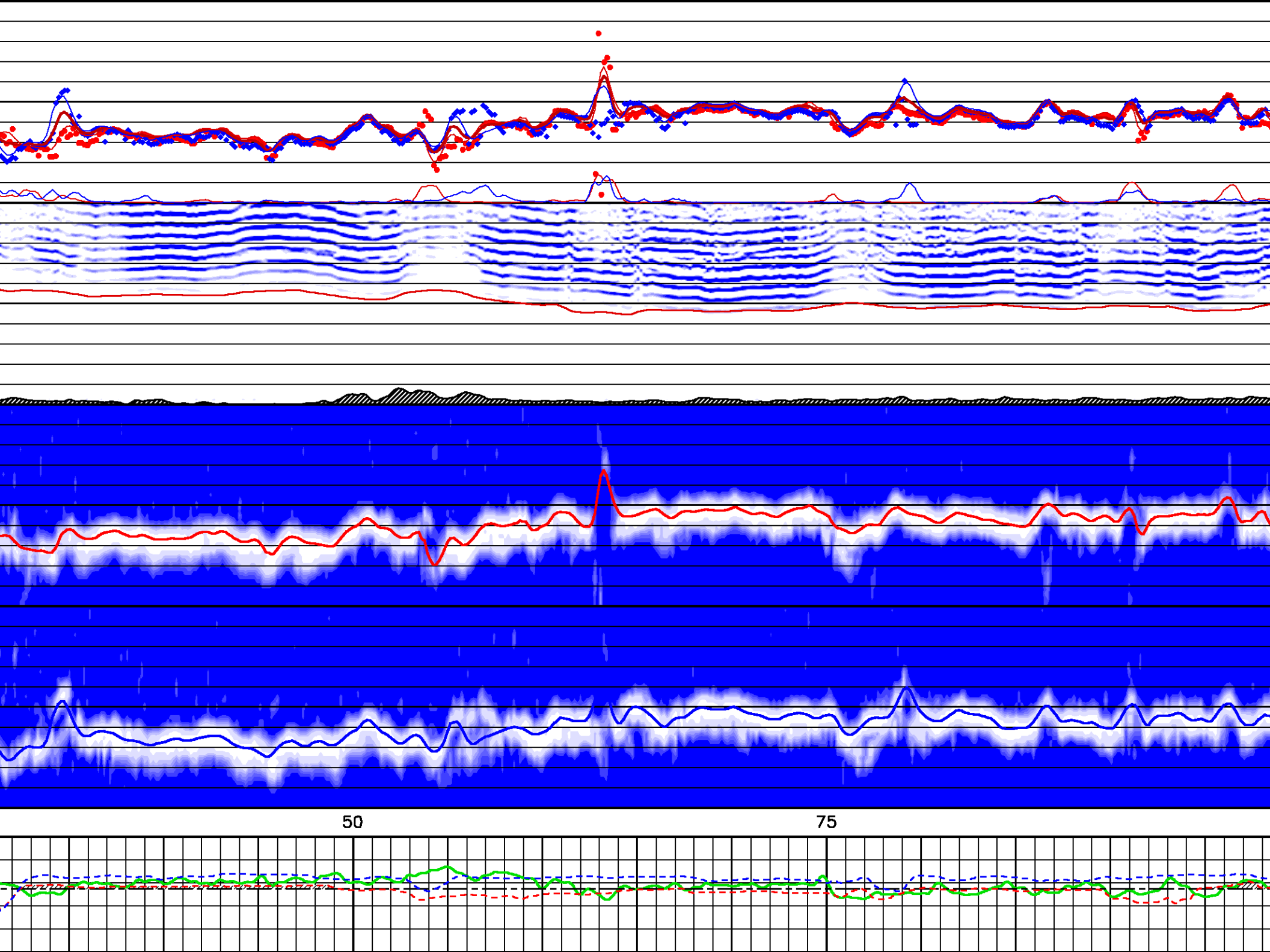
CURVE DESCRIPTION REPORT

CURVE NAME	CURVE ALIAS	CREATION DATE	CURVE DESCRIPTION
F1:BIT	BIT	Jan 29 21:27:27 2013	BIT SIZE
F1:CALX	CAL	Jan 29 21:27:27 2013	CALIPER FROM X AXIS OF X-Y CALIPER(S)
F1:CALY	CALY	Jan 29 21:27:27 2013	CALIPER FROM Y AXIS OF X-Y CALIPER(S)
F1:DTC	DTC1	Jan 31 13:34:48 2013	COMPRESSIONAL WAVE SLOWNESS
F1:GR	GR	Jan 29 21:27:27 2013	GAMMA RAY
F1:TEN	TEN	Jan 29 21:27:27 2013	DIFFERENTIAL TENSION

Project : /data/markmil/215445_MGM_XMAC
User : markmil
Presentation : calsunsrv3:/data/markmil/215445_MGM_XMAC/xmac_monopole_METRIC_NEW.pdf [1:240 Scale]
Plot Interval : 0 - 406.146 Meters

Data File 1 : F1 : calsunsrv3:/export/data/markmil/215445_MGM_XMAC/slam_main.xtf
Created On : Jan 29 21:27:27 2013
Company : MGM ENERGY CORP
Well : MGM SHELL EAST MACKAY I-78
Field : EAST MACKAY
File Interval : -37.2618 - 406.184 Meters
Oct : m980g


WASHOUT
METERS
Monopole Transmitter
Monoploe Receiver
Filtered Monopole Waveform
Tool Sticking
Monopole Compressional
Gamma Ray
0 150
(gAPI)
Bit Size
175 425
(mm)
Caliper X [calx]
175 425
(mm)
Caliper Y [caly]
150 400
(mm)
Xmtr Compressional [dtcx2]
600 100
(us/m)
Dipole Shear Slowness [dtxxt2]
600 100
(us/m)
Rcvr. Compressional Slowness [dtcr2]
600 100
(us/m)
Dipole Shear Slowness [dtxxr2]
600 100
(us/m)
Diff. Tension
−100 1900
(kgf)
TT QC Compressional [ttc]
0 3000
(us)
Monopole Compressional - DTC [dtc]
600 100
(us/m)
Rcrv. Compressional [dtcr2]
600 100
(us/m)
Xmtr. Compressional [dtcx2]
600 100
(us/m)
QCR [qcx2]
1 0
QCX [qcx2]
1 0
Xmtr Correlation Image [cmbcx]
600 100
((us/m))
0 2000
Rcvr Correlation Image [cmbcr]
600 100
((us/m))
0 2000
Monopole Wavetrace [tfwv01f]
400 2400
(us)
0 10
Rcvr Correlogram Peaks
600 100
Xtm Correllogram Peaks
600 100
0
25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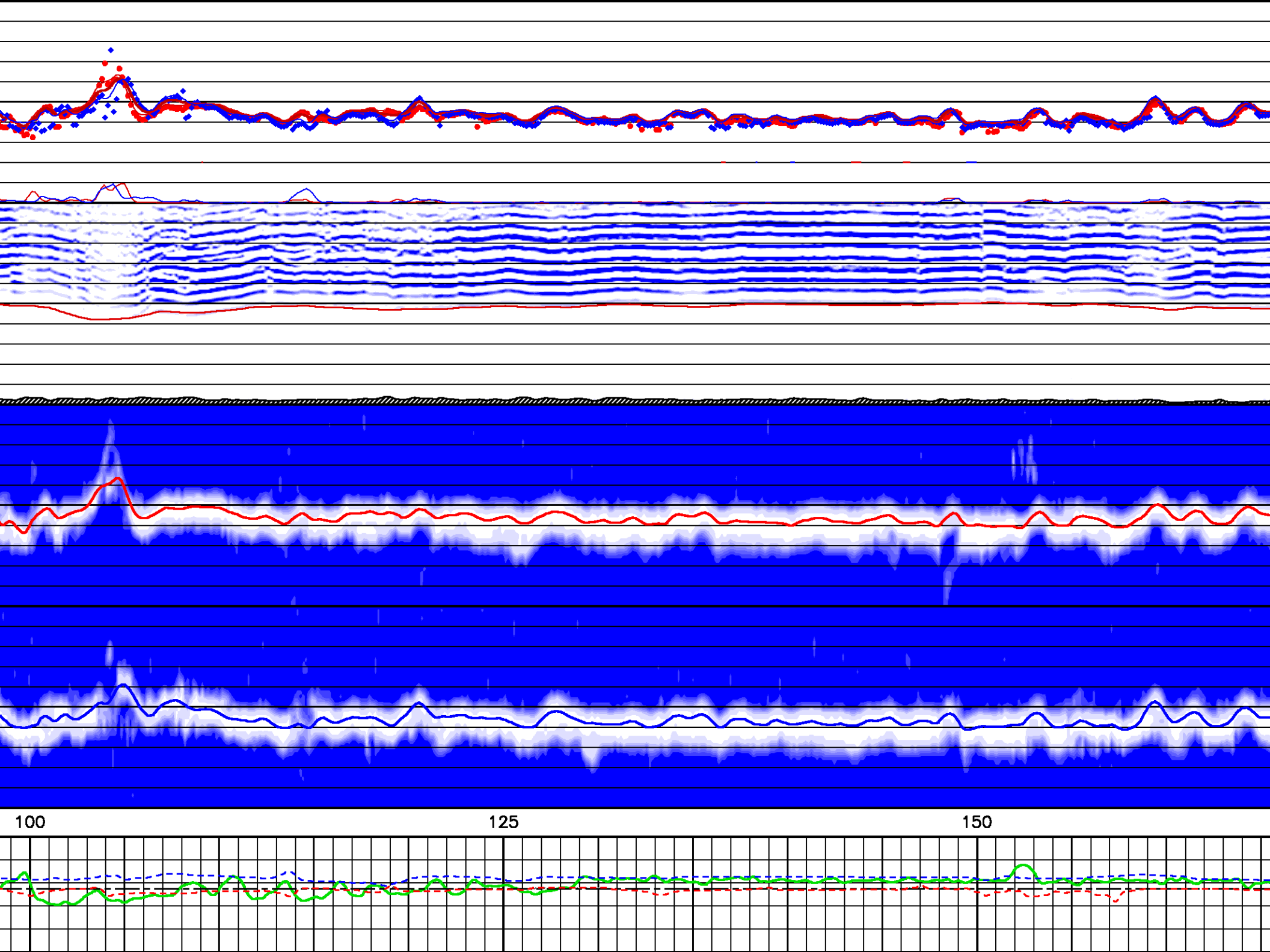
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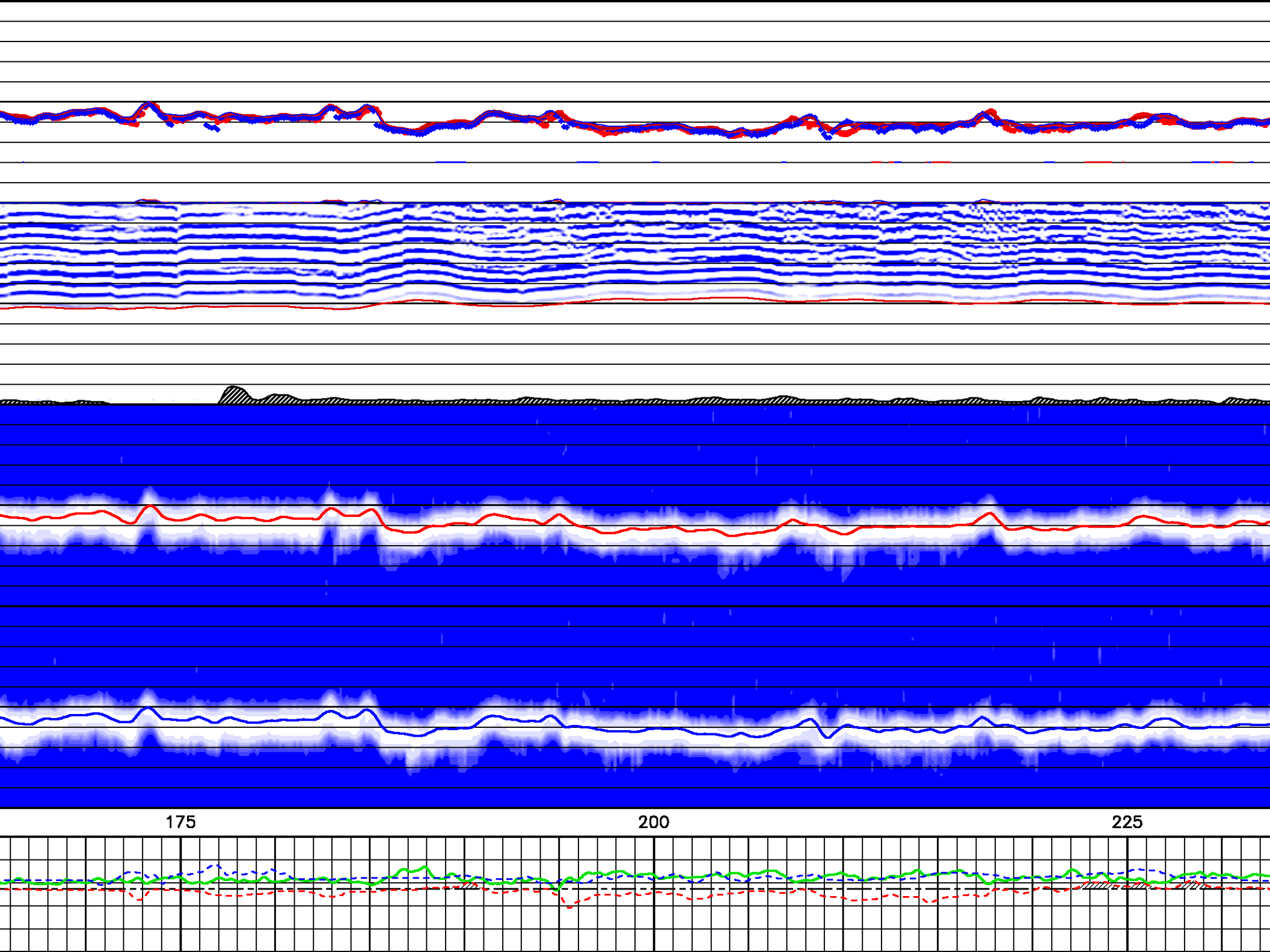
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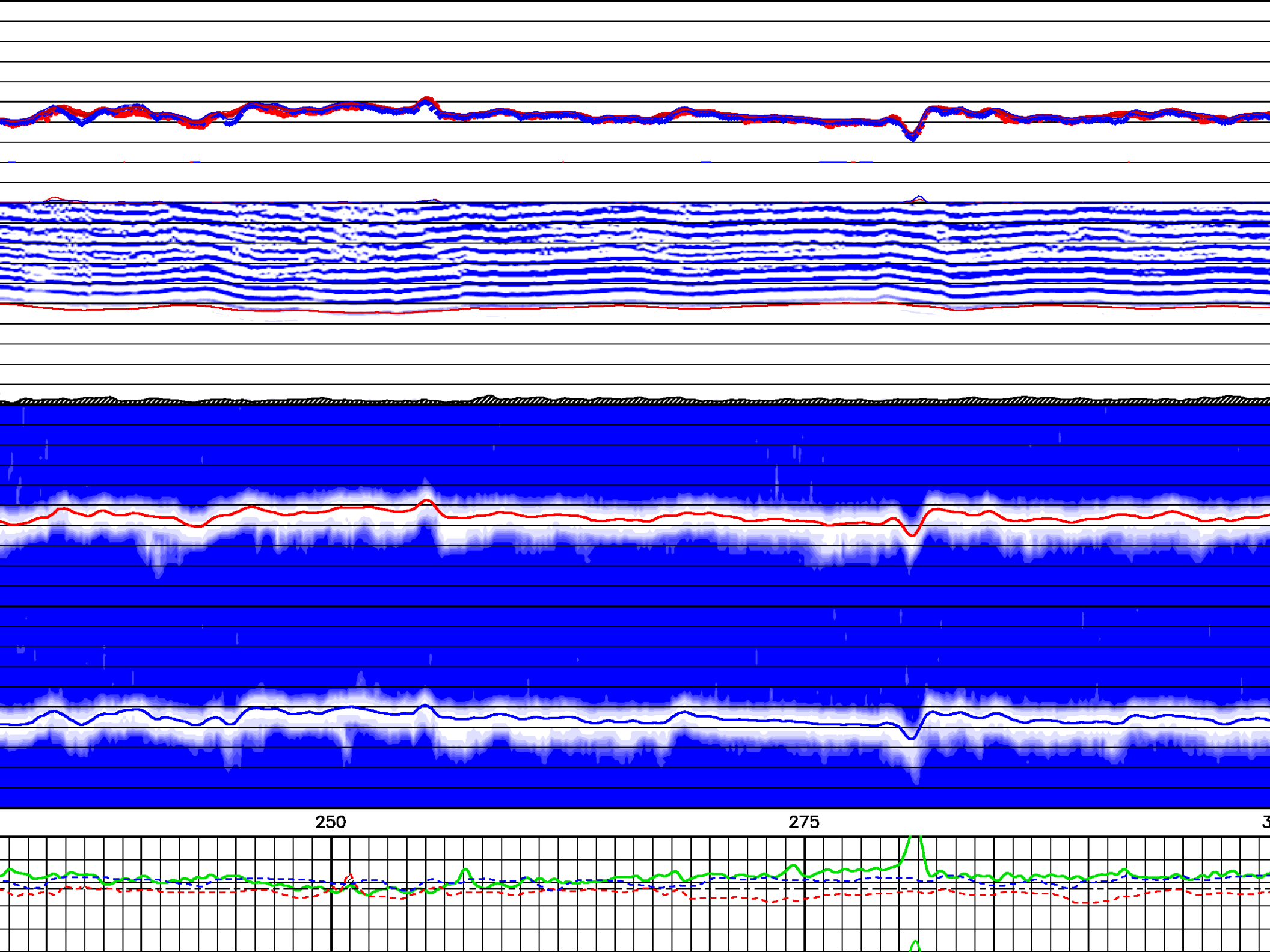
225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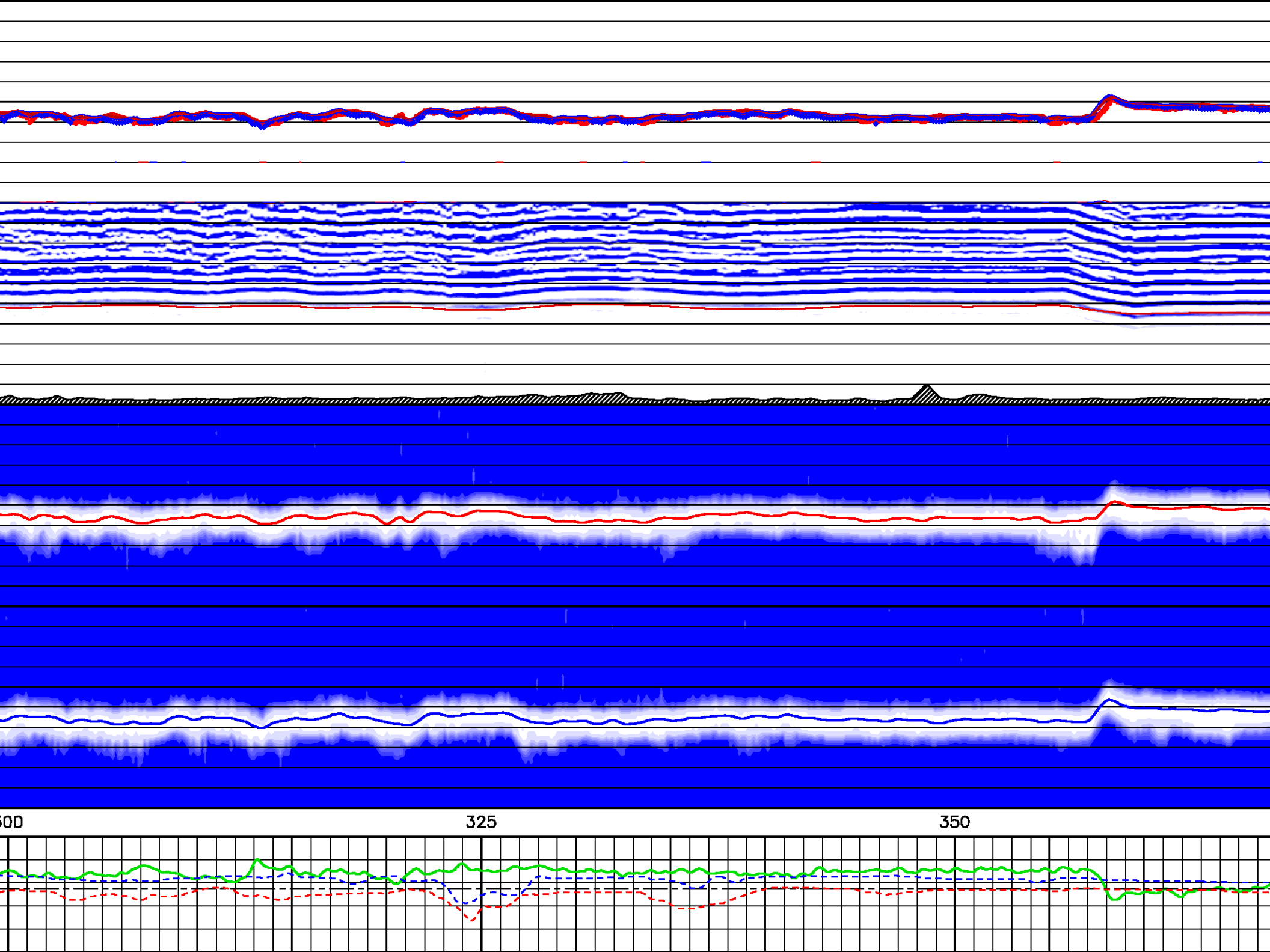
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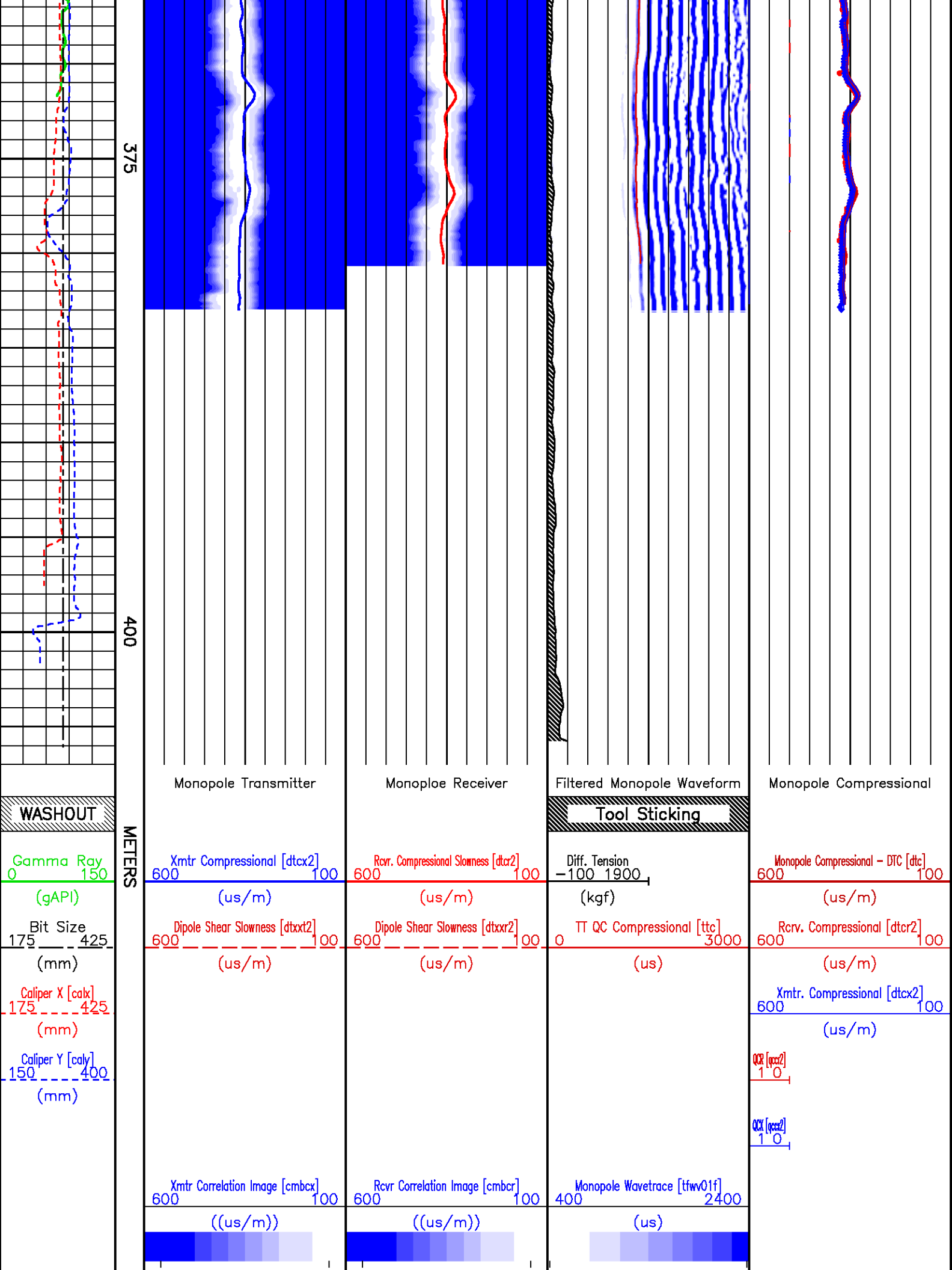
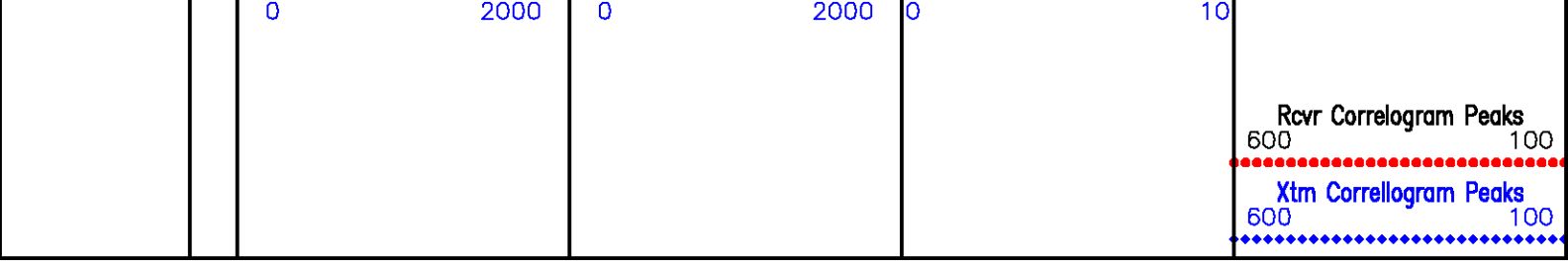
350


375
400
METERS
Monopole Transmitter
Monoploe Receiver
Filtered Monopole Waveform
Monopole Compressional
WASHOUT
Tool Sticking
Gamma Ray
0 150
(gAPI)
Bit Size
175 425
(mm)
Caliper X [calx]
175 425
(mm)
Caliper Y [caly]
150 400
(mm)
Xmtr Compressional [dtcx2]
600 100
(us/m)
Rcvr. Compressional Slowness [dtcr2]
600 100
(us/m)
Diff. Tension
−100 1900
(kgf)
Monopole Compressional - DTC [dtc]
600 100
(us/m)
Dipole Shear Slowness [dtxxt2]
600 100
(us/m)
Dipole Shear Slowness [dtxxr2]
600 100
(us/m)
TT QC Compressional [ttc]
0 3000
(us)
Rcrv. Compressional [dtcr2]
600 100
(us/m)
Xmtr. Compressional [dtcx2]
600 100
(us/m)
QCR [qccr2]
1 0
QCX [qccx2]
1 0
Xmtr Correlation Image [cmbcx]
600 100
((us/m))
Rcvr Correlation Image [cmbcr]
600 100
((us/m))
Monopole Wavetrace [tfwv01f]
400 2400
(us)



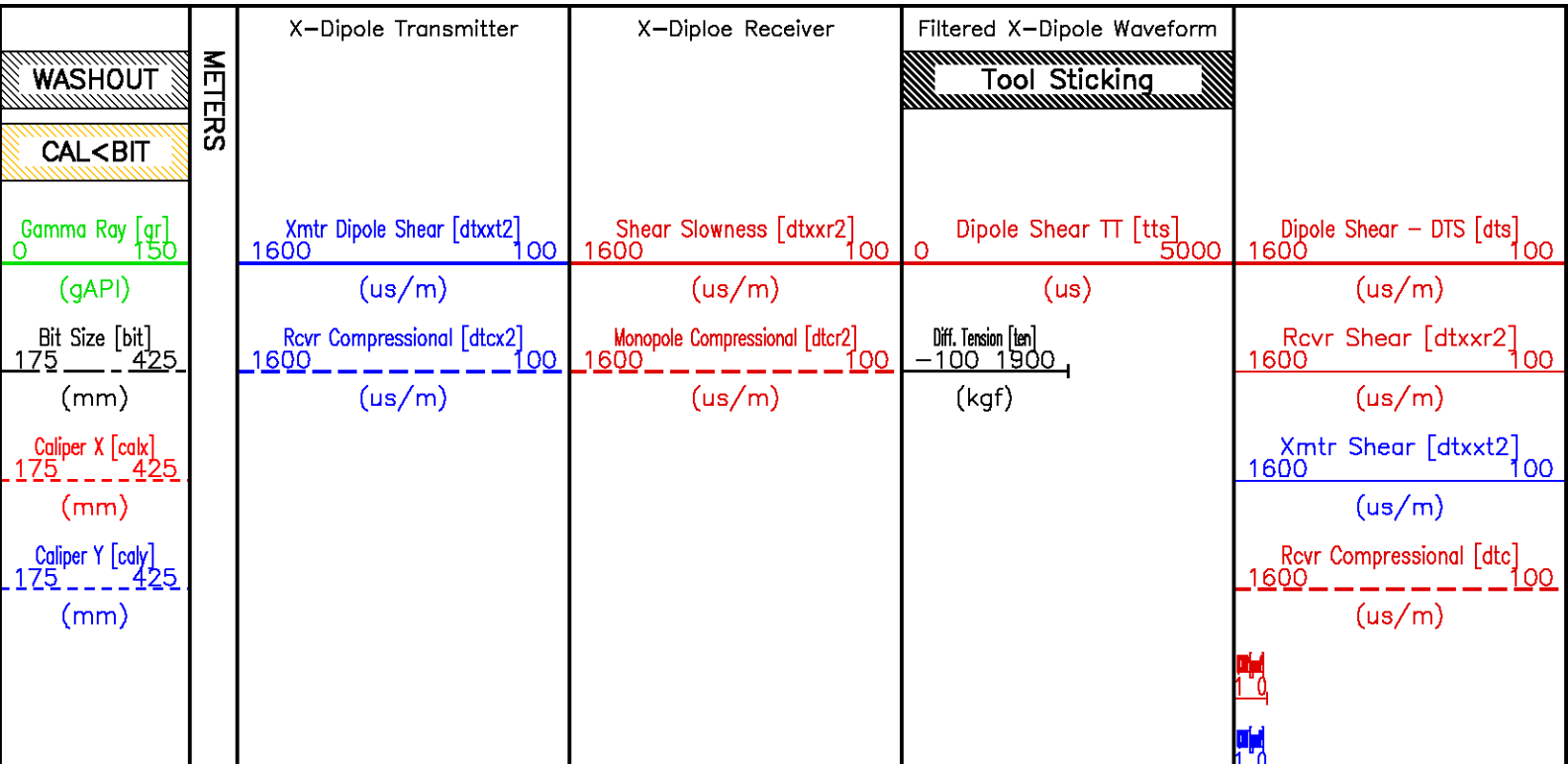
Shear Slowness Control Plot

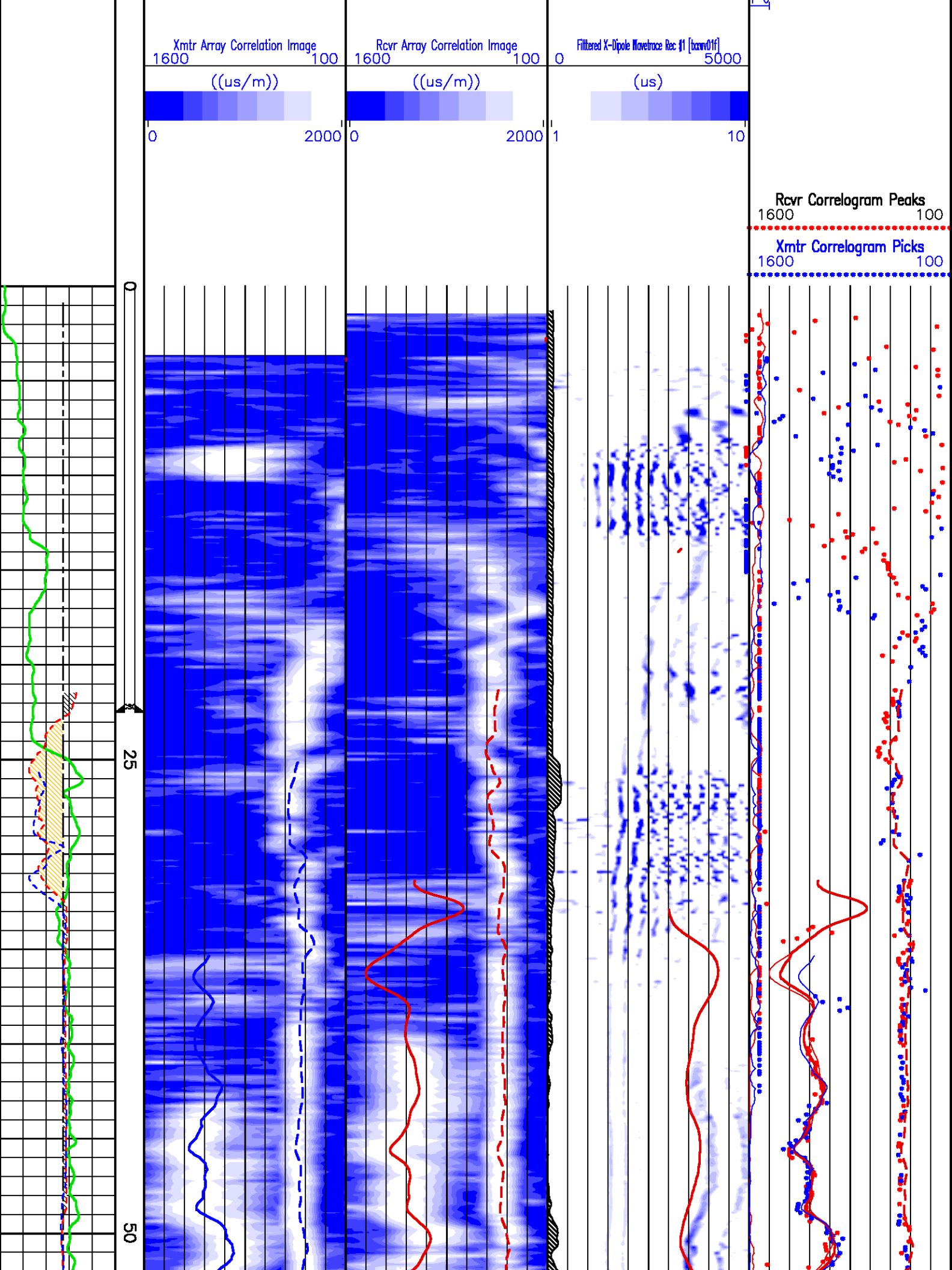
CURVE DESCRIPTION REPORT

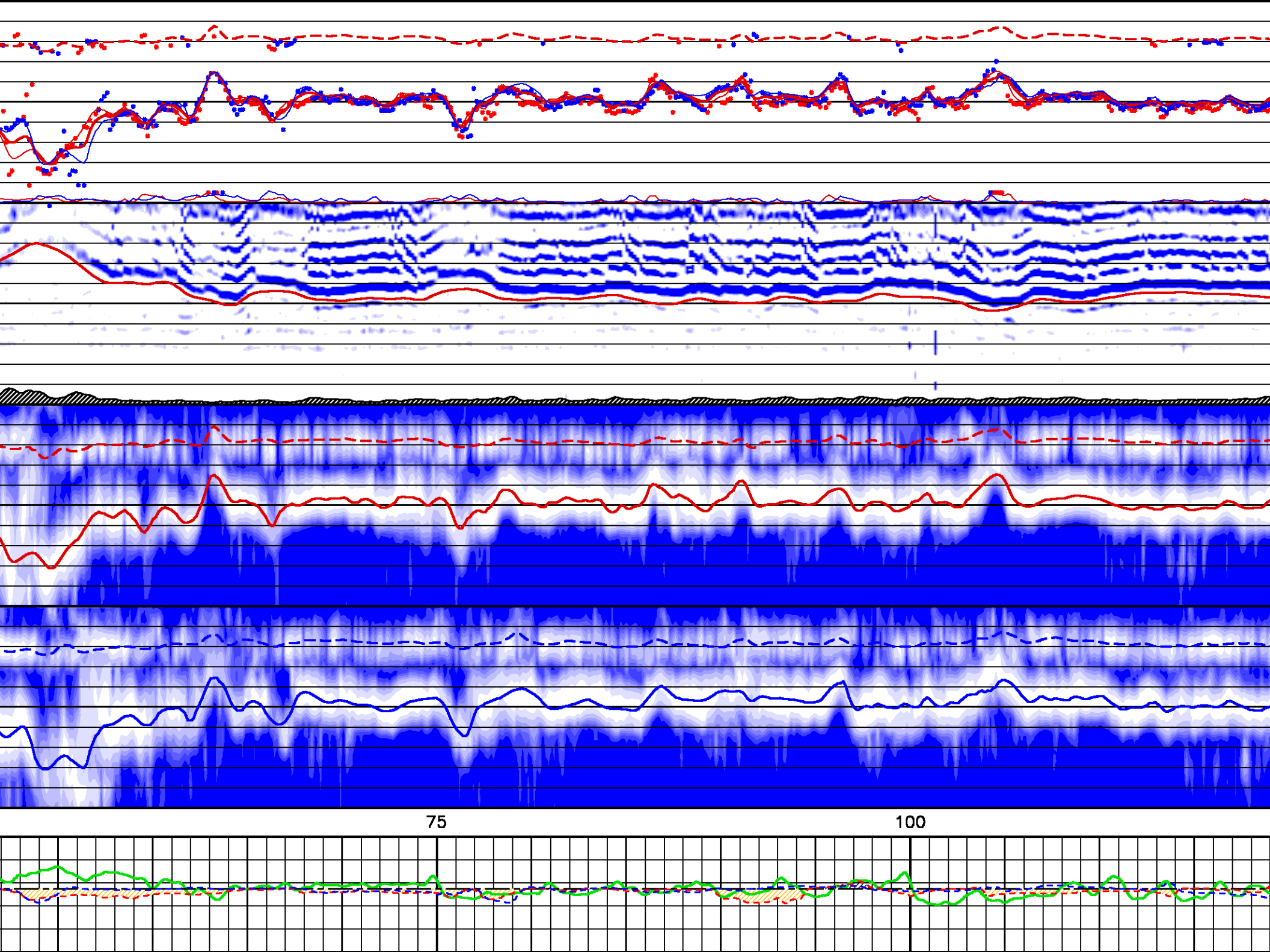
CURVE NAME	CURVE ALIAS	CREATION DATE	CURVE DESCRIPTION
F1:BIT	BIT	Jan 29 21:27:27 2013	BIT SIZE
F1:CALX	CAL	Jan 29 21:27:27 2013	CALIPER FROM X AXIS OF X-Y CALIPER(S)
F1:CALY	CALT	Jan 29 21:27:27 2013	CALIPER FROM Y AXIS OF X-Y CALIPER(S)
F1:DTC	DTC	Jan 31 13:34:48 2013	COMPRESSIONAL WAVE SLOWNESS
F1:DTS	DTS1	Jan 31 15:44:21 2013	SHEAR WAVE SLOWNESS
F1:GR	GR	Jan 29 21:27:27 2013	GAMMA RAY
F1:TEN	TEN	Jan 29 21:27:27 2013	DIFFERENTIAL TENSION
F1:TTS	TTS	Jan 31 15:40:14 2013	TRAVEL TIME ESTIMATE FAR MONOPOLE SHEAR

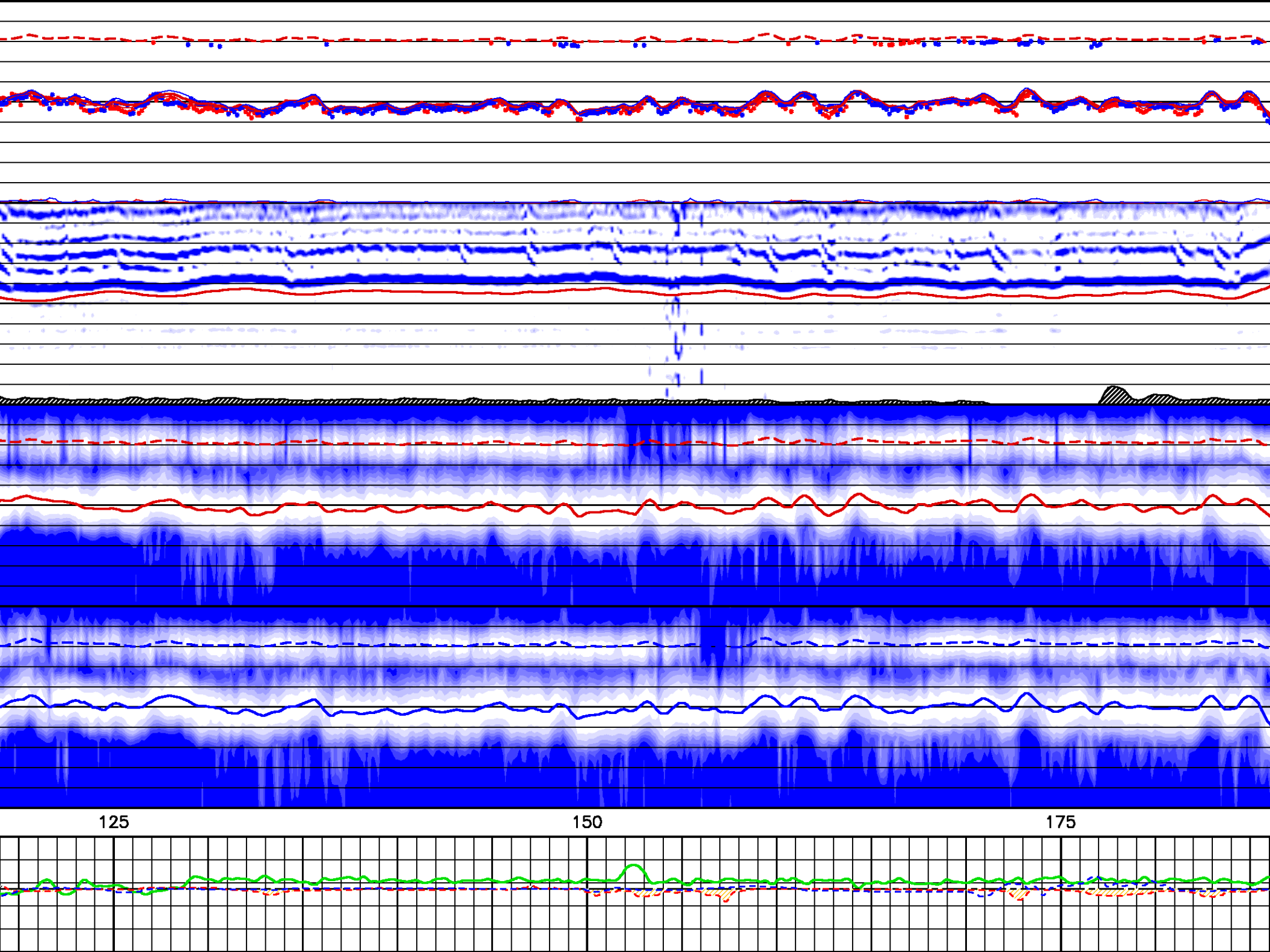
Project : /data/markmil/215445_MGM_XMAC
User : markmil
Presentation : calsunsrv3:/data/markmil/215445_MGM_XMAC/xmac_dipole_METRIC_NEW.pdf [1:240 Scale]
Plot Interval : 0 – 406.146 Meters

Data File 1 : F1 : calsunsrv3:/export/data/markmil/215445_MGM_XMAC/slam_main.xtf
Created On : Jan 29 21:27:27 2013
Company : MGM ENERGY CORP
Well : MGM SHELL EAST MACKAY I-78
Field : EAST MACKAY
File Interval : -37.2618 – 406.184 Meters
Oct : m980g

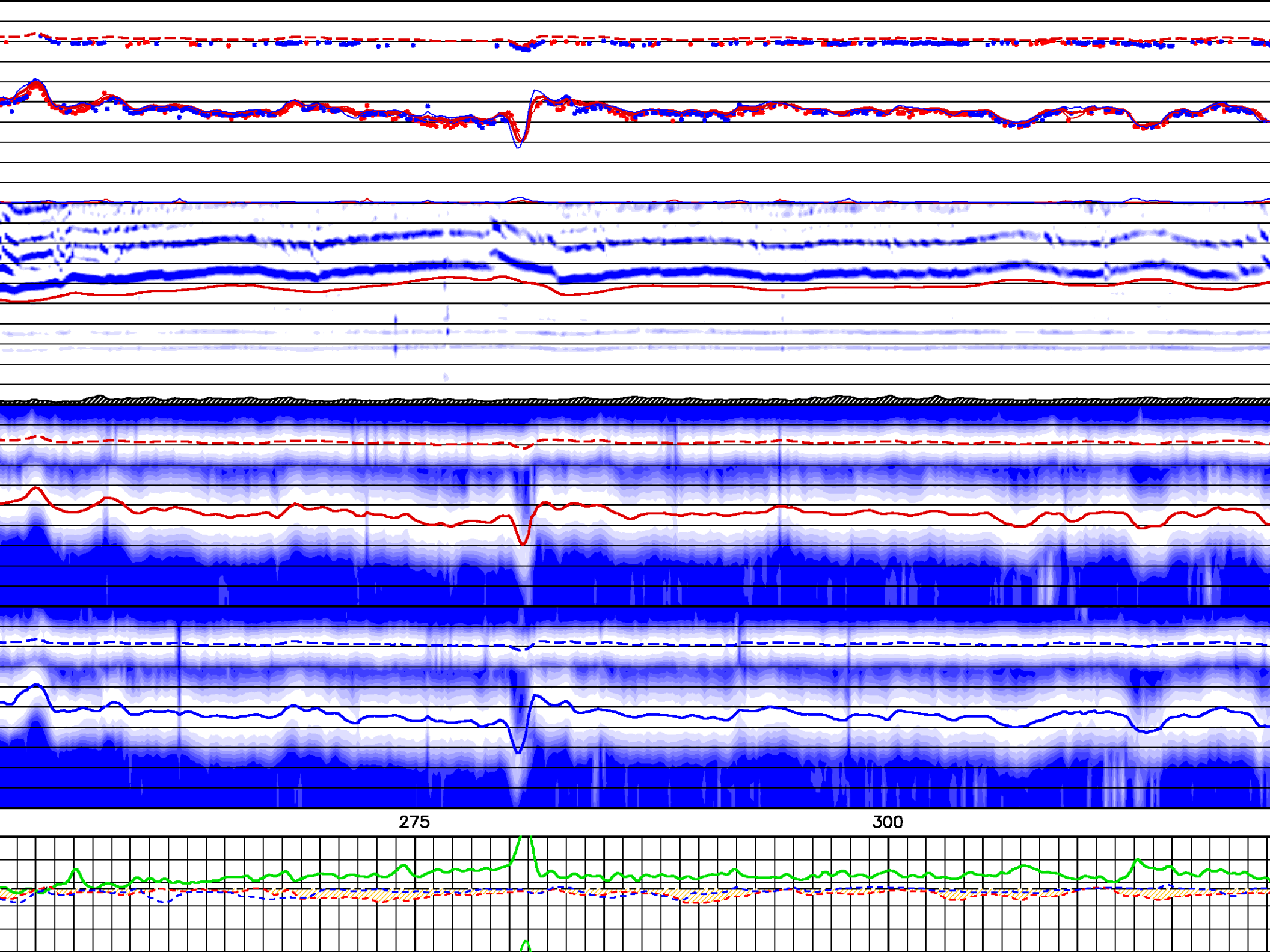


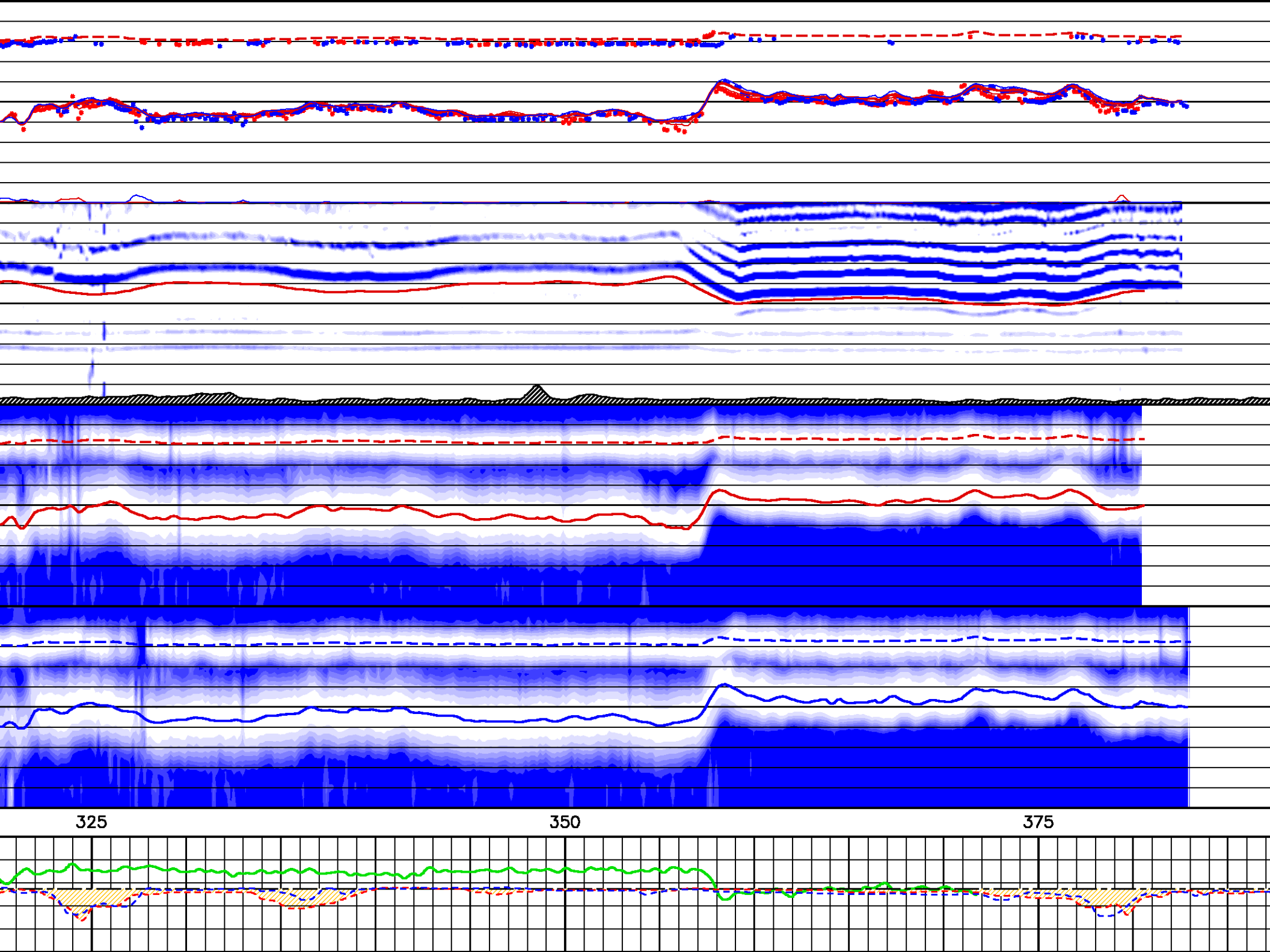

Xmtr Array Correlation Image
1600
100
((us/m))
0
2000
Rcvr Array Correlation Image
1600
100
((us/m))
0
2000
Filtered X-Dipole Waveform Rec #1 [bcxw01f]
0
5000
(us)
1
10
Rcvr Correlogram Peaks
1600
100
Xmtr Correlogram Picks
1600
100
0
25
50

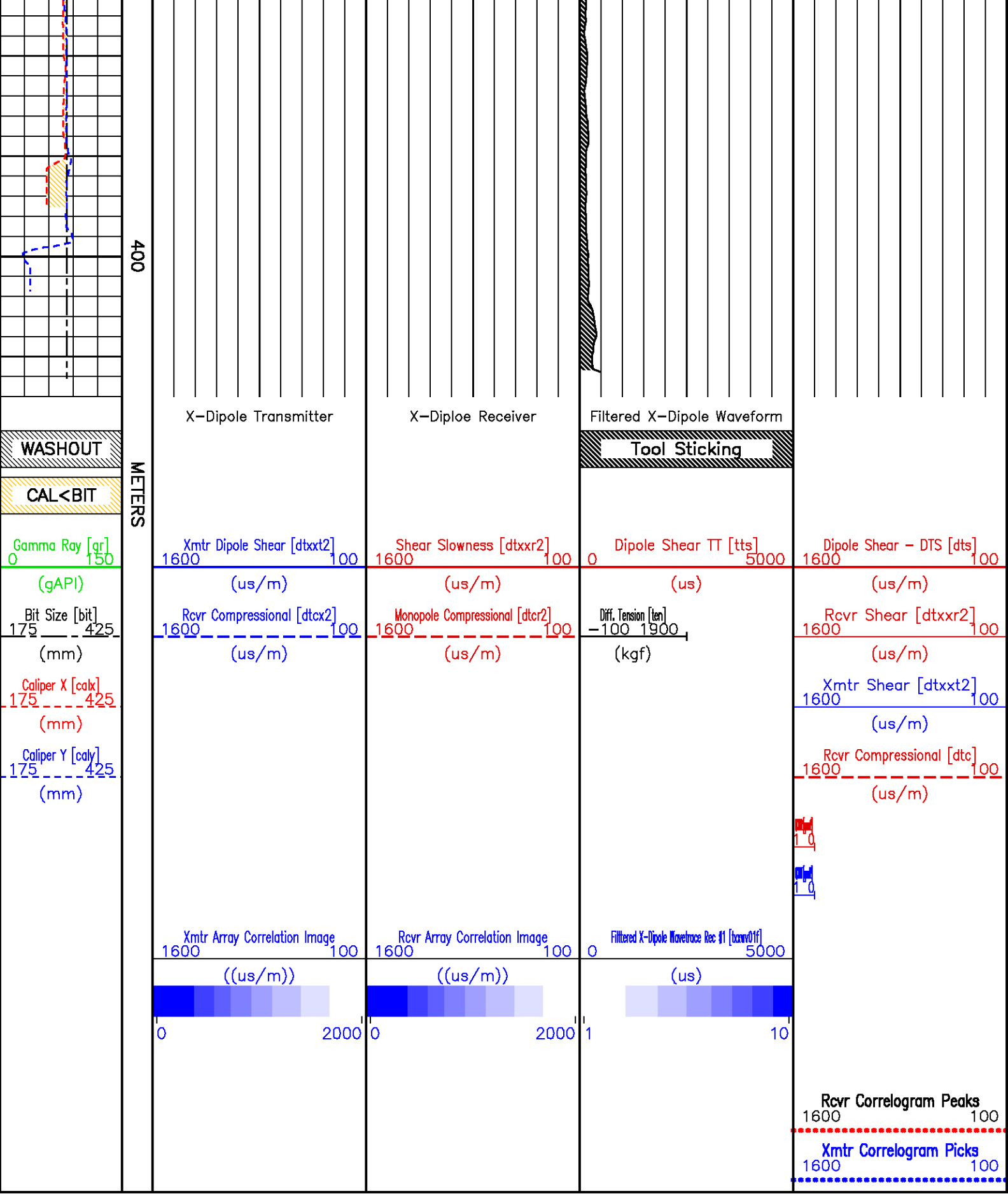

75
100


125
150
175

200
225
250


275
300


325
350
375



BAKER

COMPANY	MGM ENERGY CORP
WELL	MGM SHELL EAST MACKAY I-78
FIELD	EAST MACKAY
PROVINCE	NORTHWEST TERRITORIES

FILE NO:

API NO:

HUGHES

PROVINCE NORTHWEST TERRITORIES

LOCATION:

LAT 64.795 LONG -125.722

ELEVATIONS:

KB 161.2 M

DF

GL 155.00 M

LICENSE:
1202

DATE 29-JAN-2013

BAKER HUGHES

CROSS-MULTIPOLE ARRAY ACOUSTILOG
GAMMA RAY LOG
X-Y AXIS CALIPER LOG

FOLIO

FILE NO:

API NO:

COMPANY	MGM ENERGY CORP
WELL	MGM SHELL EAST MACKAY I-78
FIELD	EAST MACKAY
PROVINCE	NORTHWEST TERRITORIES

Ver. 3.87

LICENSE:
1202

LOCATION:

LAT 64.795 LONG -125.722

OTHER SERVICES
2ZDL-CN-GR-XYCAL
HDIL-GR-CAL, CVL

PERMANENT DATUM	G.L.	ELEVATION	155.00 M
LOG MEASURED FROM	K.B.	6.2 M	ABOVE P.D.
DRILL. MEAS. FROM	KELLY BUSHING		

ELEVATIONS:
KB 161.2 M
DF
GL 155.00 M

DATE		29-JAN-2013			
RUN	TRIP	1	1		
SERVICE ORDER		CA215445			
DEPTH DRILLER		405.2 M			
DEPTH LOGGER		404.0 M			
BOTTOM LOGGED INTERVAL		378.7 M			
TOP LOGGED INTERVAL		23.0 M			
CASING DRILLER		406.4 MM	@ 22.5 M	@	
CASING LOGGER		22.5 M			
BIT SIZE		311.0 MM			
TYPE OF FLUID IN HOLE		MILL GEL MUD SLURRY			
DENSITY	VISCOSITY	1140.0 G/L	78] S		
PH	FLUID LOSS	8.0	10.6 ML		
SOURCE OF SAMPLE		FLOWLINE			
RM AT MEAS. TEMP.		1.60 OHMM	@ 19.0 DEGC	@	
RMF AT MEAS. TEMP.		1.20 OHMM	@ 15.0 DEGC	@	
RMC AT MEAS. TEMP.		2.20 OHMM	@ 16.0 DEGC	@	
SOURCE OF RMF	RMC	MEASURED	MEASURED		
RM AT BHT		1.40 OHMM	@ 25.5 DEGC	@	
TIME SINCE CIRCULATION		10.0 HOURS			
MAX. RECORDED TEMP.		26.3 DEGC			
EQUIP. NO.	LOCATION	Z008672	CANADA OPEN		
RECORDED BY		I.ZALESKIKH			
WITNESSED BY		D.PRIOR			

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.

CASING RECORD

SIZE	WEIGHT	GRADE	FROM	TO
406.4 MM	81.8 KG/M	NA	0.0 M	22.5 M

BOREHOLE RECORD

BIT SIZE	FROM	TO
311.0 MM	22.5 M	405.2 M

REMARKS

RUN 1 TRIP 1 : TIME STOPPED CIRCULATION: 29-JAN-2013 11:30 AM

MAXIMUM TEMPERATURE ON THERMOMETERS: 26 AND 26 DEGC
TEMPERATURE LOG WAS RECORDED ON THE WAY DOWN.

INTEGRATED TRANSIT TIME TICS EVERY: 1.0, 10.0, & 100.0 µSEC.

RIG: AKITA #37

CREW: I.ZALESKIKH, J.PEREIRA, N.MCDERMID, K.HASIUK

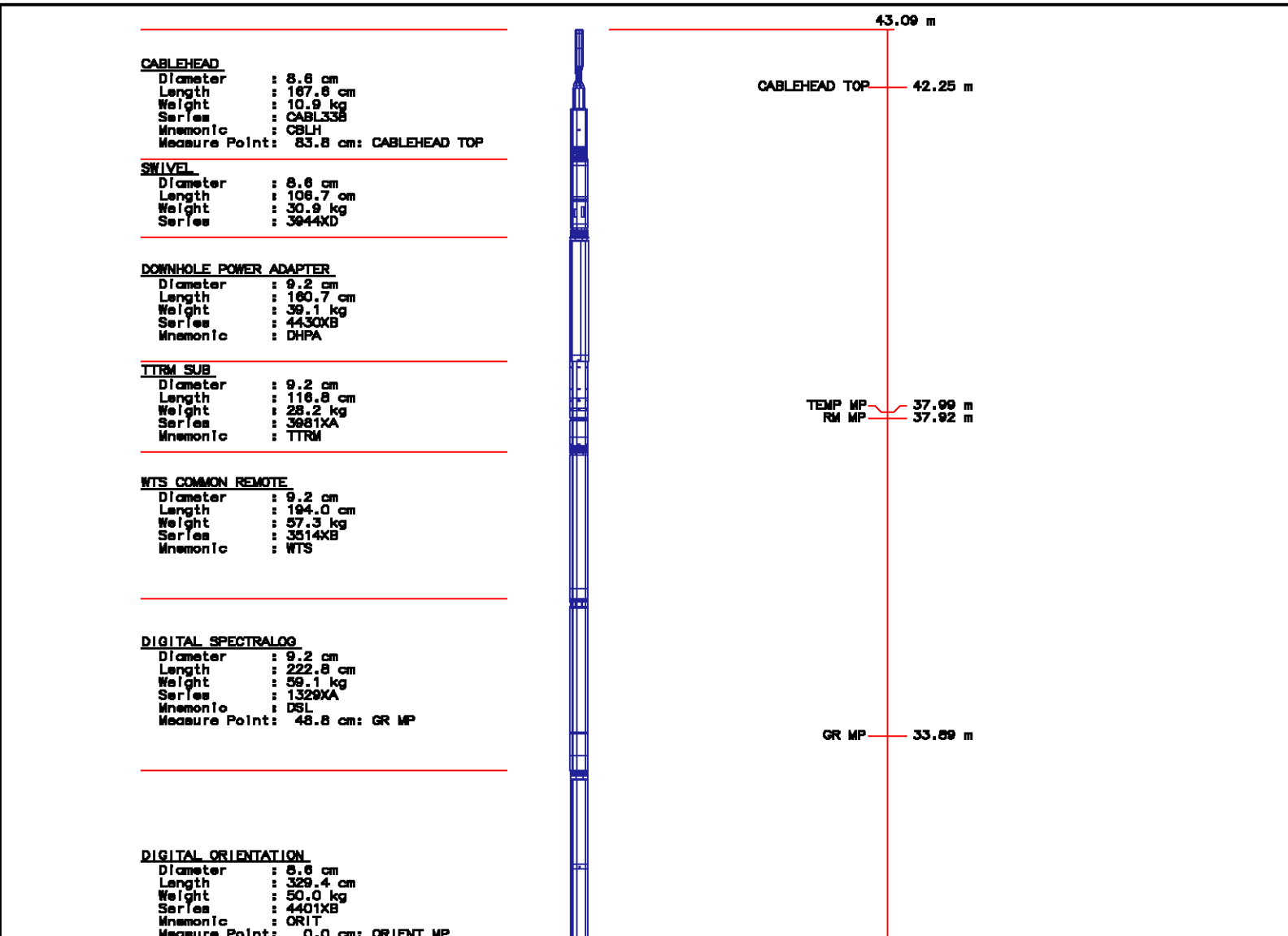
EQUIPMENT DATA

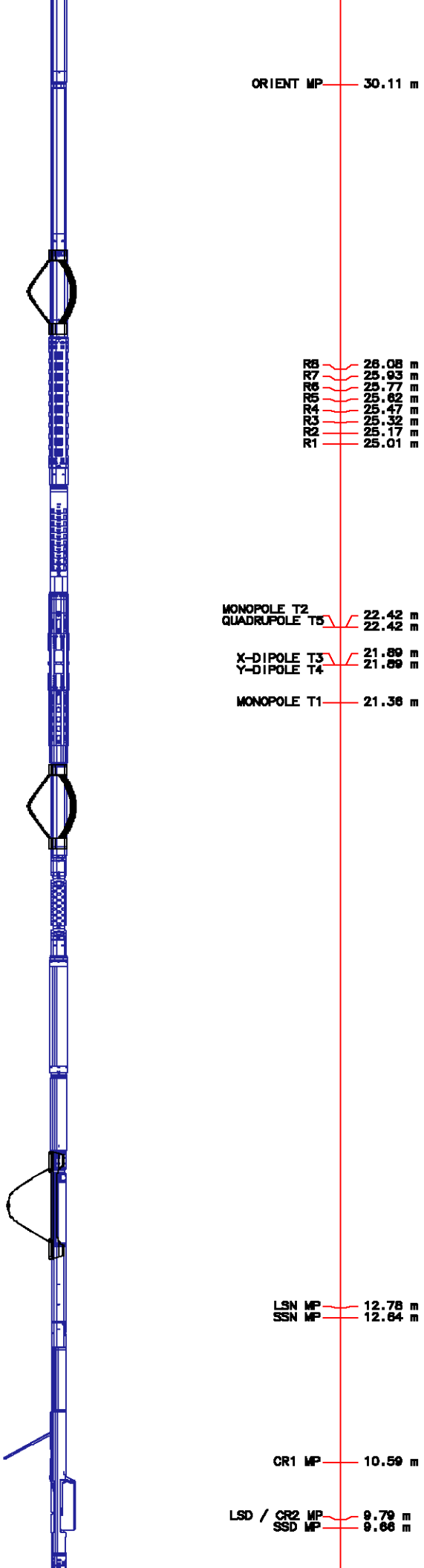
RUN	TRIP	TOOL	SERIES NO.	SERIAL NO.	POSITION
1	1	CNMEL	7044V0	1051Z059	EBT

1	1	SWIVEL	3944XD	10513050	FREE
1	1	DHPA	4430XB	10390592	FREE
1	1	TTRM SUB	3981XB	10516528	FREE
1	1	COMM	3514XB	10504656	FREE
1	1	WTS DGR/SLI	1329XB	10293862	FREE
1	1	ORIT	4401XB	12466129	FREE
1	1	ACOUSTIC EL	1677EA	10383992	CENTRALIZED
1	1	XMAC RX MDR	1678MC	10386815	CENTRALIZED
1	1	XMAC ISO	1678PB	10039369	FREE
1	1	XMAC TX ELC	1678BA	12168167	CENTRALIZED
1	1	XMAC TX ELC	1678FA	12188364	CENTRALIZED
1	1	WTS DBL KNJ	3939XA	12448499	FREE
1	1	FOC/WTS ADP	3527EA	12337591	FREE
1	1	FOC/WTS ADP	3527FA	12494796	FREE
1	1	TTMA SUB	3980XA	Z402456	FREE
1	1	FOCUS CN	2436XA	10105638	DECENTRALIZED
1	1	FOCUS ZDEN	2223XA	10391896	PAD DEVICE
1	1	DBL KNJT	3931XA	10469360	FREE
1	1	ALGNMNT SUB	4408NA	10265502	FREE
1	1	FOCUS ZDEN	2223XA	10102923	PAD DEVICE
1	1	DBL KNJT	3931XA	10189700	FREE
1	1	FOCUS HDIL	1530XA	10125755	STANDOFF

INSTRUMENT CONFIGURATION

Source File: /dat1a/MGM/run1_oh/m980g~mgm_R1-tdg





ARRAY ACOUSTILOG ELECTRONICS, 8 CHANNEL
- Diameter : 8.6 cm
- Length : 238.3 cm
- Weight : 46.4 kg
- Series : 1677EA
- Mnemonic : XMAC

CROSS MULTIPOLE ARRAY ACOUSTILOG
- Diameter : 9.5 cm
- Length : 332.4 cm
- Weight : 101.8 kg
- Series : 1678MC
- Mnemonic : XMF1
- Measure Point: 167.6 cm: R8
- Measure Point: 152.4 cm: R7
- Measure Point: 137.2 cm: R6
- Measure Point: 121.9 cm: R5
- Measure Point: 106.7 cm: R4
- Measure Point: 91.4 cm: R3
- Measure Point: 76.2 cm: R2
- Measure Point: 61.0 cm: R1

SHEAR WAVE ACOUSTILOG
- Diameter : 9.2 cm
- Length : 152.4 cm
- Weight : 61.4 kg
- Series : 1678PB
- Mnemonic : XMAC

MULTI-POLE ARRAY ACOUSTIC
- Diameter : 9.8 cm
- Length : 241.3 cm
- Weight : 77.3 kg
- Series : 1678BA
- Mnemonic : XMAC
- Measure Point: 195.6 cm: QUADRUPOLE T5
- Measure Point: 195.6 cm: MONOPOLE T2
- Measure Point: 142.2 cm: Y-DIPOLE T4
- Measure Point: 142.2 cm: X-DIPOLE T3
- Measure Point: 88.9 cm: MONOPOLE T1

MULTI-POLE ARRAY ACOUSTIC
- Diameter : 8.6 cm
- Length : 131.8 cm
- Weight : 26.4 kg
- Series : 1678FA
- Mnemonic : MAC

KNUCKLE JOINT (DOUBLE)
- Diameter : 8.6 cm
- Length : 141.8 cm
- Weight : 40.9 kg
- Series : 3939XA
- Mnemonic : KNJT

WTS FOCUS TELEMETRY TRANSFORMER SUB
- Diameter : 9.2 cm
- Length : 165.7 cm
- Weight : 30.5 kg
- Series : 3526EB
- Mnemonic : ADAP

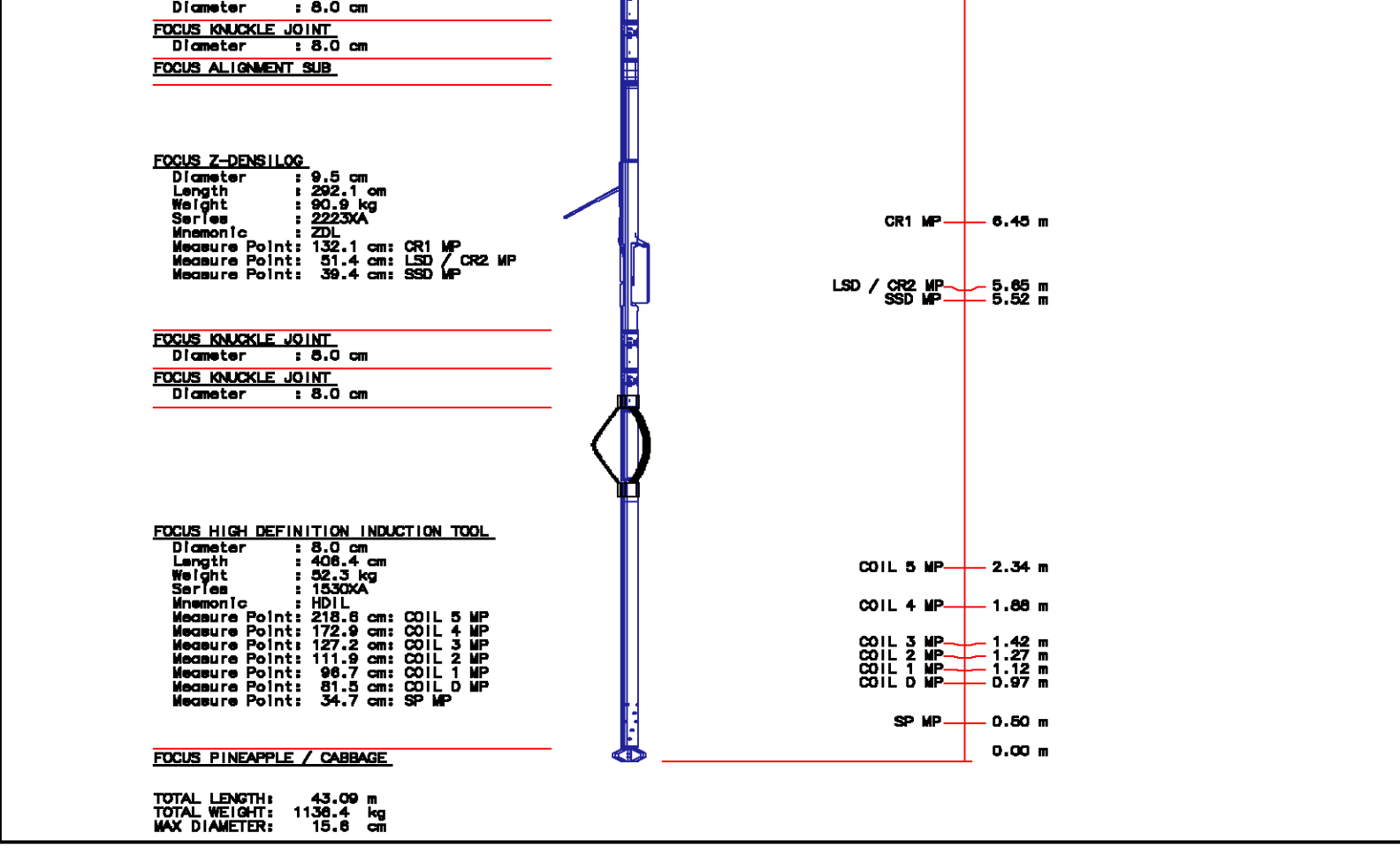
WTS FOCUS POWER ADAPTOR
- Diameter : 9.2 cm
- Length : 110.2 cm
- Weight : 70.9 kg
- Series : 3526FB
- Mnemonic : ADAP

FOCUS TEN/TEMP/MUD RES/ACCEL
- Diameter : 8.0 cm
- Length : 131.4 cm
- Weight : 27.7 kg
- Series : 3980XA
- Mnemonic : TTMA

FOCUS COMPENSATED NEUTRON
- Diameter : 8.0 cm
- Length : 148.7 cm
- Weight : 29.5 kg
- Series : 2436XA
- Mnemonic : CN
- Measure Point: 58.4 cm: LSN MP
- Measure Point: 44.5 cm: SSN MP

FOCUS Z-DENSILOG
- Diameter : 9.5 cm
- Length : 292.1 cm
- Weight : 90.9 kg
- Series : 2223XA
- Mnemonic : ZDL
- Measure Point: 132.1 cm: CR1 MP
- Measure Point: 51.4 cm: LSD / CR2 MP
- Measure Point: 39.4 cm: SSD MP

FOCUS KNUCKLE JOINT



MAIN LOG - UPPER PRESENTATION

eXpress 3.2 Last updated 03Oct2011 09:44 Oct 03, 2011 Tue Feb 5 09:51:56 2013
Updates: 1

Pcrplt /main/61 Cplot 9.16 Pdf_Cpp /main/16 Fileview 4.97

PARAMETER AND FILTER SUMMARY REPORT

FILE: /export/data/ddc/215445/m980g07.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: -0.989 m BOTTOM DEPTH: 405.844 m

SYMMETRIC FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
CHT	FILTER ()	medium (1)		TOP	BOTTOM
TENSION	FILTER ()	medium (1)		''	''
GR	FILTER ()	medium (1)		''	''
DT24	FILTER ()	light (2)		''	''
CALIPER	FILTER ()	medium (1)		''	''

BOREHOLE & CEMENT

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
BIT SIZE	BIT SIZE	311.000	mm	TOP	BOTTOM

ACOUSTIC POROSITY

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)

DELTA T CURVE SELECTION	DT24 SOURCE	AVAN DT24		TOP	BOTTOM

ACOUSTIC AVAN CORRELATON

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
MONOPOLE DELTA T	FORMATION TYPE	GENERIC (MEDIUM)		TOP	BOTTOM
	CORRELATION METHOD	NTH ROOT		''	''
	RESET TAPERS			''	''
	TAPER - LEFT END	100	us/m	''	''
	TAPER - RIGHT END	600	us/m	TOP	25.775
		550	us/m	25.775	BOTTOM
	FLOOR (UNIV. OPTION)	0.050		TOP	BOTTOM
MONOPOLE COMPRESSIONAL	FORMATION TYPE	GENERIC (MEDIUM)		''	''
	CORRELATION METHOD	NTH ROOT		''	''
	RESET TAPERS			''	''
	TAPER - LEFT END	100	us/m	''	''
	TAPER - RIGHT END	600	us/m	TOP	25.216
		550	us/m	25.216	BOTTOM
	FLOOR (UNIV. OPTION)	0.050		TOP	BOTTOM

ACOUSTIC WAVEFORM FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
WAVEFORM FILTER - FULLWAVE	SURFACE WAVE FILTER	ON		TOP	BOTTOM
	LOW FREQ CUTOFF	2000	Hz	''	''
	HIGH FREQ CUTOFF	20000	Hz	''	''

ACOUSTIC TCC CONTROL PARAMETERS

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
GENERAL TCC PARAMETERS	AGC	ON		TOP	BOTTOM
	SUBCYCLE LENGTH	50		''	''
	SUBSET	1		''	''
GENERAL MONOPOLE TCC PARAMETERS	STACK LEVEL	2		''	''
	DSP FILTER	ON		''	''
DELTA T TCC PARAMETERS	ACQ WINDOW	1664	us	''	''
	MOVEOUT	16	us/ft	''	''
	SAMPLE PERIOD	16		''	''
	RX DELAY	240	us	''	''
FULL WAVE MONOPOLE TCC PARAMETERS	ACQ WINDOW	8064	us	''	''
	SAMPLE PERIOD	24		''	''
	RX DELAY	0	us	''	''

ACCELERATION PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
ACCEL CORR SWITCH	ACCEL DEPTH CORR	CORRECTION OFF		TOP	BOTTOM

CURVE DESCRIPTION REPORT

CURVE NAME	CURVE ALIAS	CREATION DATE	CURVE DESCRIPTION
F1:BIT	BIT	Jan 29 21:27:27 2013	BIT SIZE
F1:CALX	CALX	Jan 29 21:27:27 2013	CALIPER FROM X AXIS OF X-Y CALIPER(S)
F1:CALY	CALY	Jan 29 21:27:27 2013	CALIPER FROM Y AXIS OF X-Y CALIPER(S)
F1:CHT	CHT	Jan 29 21:27:27 2013	CABLE HEAD TENSION
F1:DTC	DTC	Jan 31 13:34:48 2013	COMPRESSIONAL WAVE SLOWNESS
F1:GR	GR	Jan 29 21:27:27 2013	GAMMA RAY
F1:MMRK	MMRK	Jan 29 21:27:27 2013	MINUTE MARK
F1:TEN	TEN	Jan 29 21:27:27 2013	DIFFERENTIAL TENSION
F1:TTQI	TT.I	Jan 29 21:27:27 2013	INTEGRATED TRAVEL TIME FROM ACOUSTIC DELTA-T

CURVE MEASURE POINT OFFSET

CURVE	OFFSET (m)	CURVE	OFFSET (m)	CURVE	OFFSET (m)	CURVE	OFFSET (m)
BIT	0.00	CALY	5.49	DTC	25.37	TEN	0.00
CALX	9.64	CHT	0.00	GR	33.76		

Project : /data/ddc/215445
User : tuyan
Presentation : calsunsrv3:/data/ddc/215445/mac_upper100-500.pdf [1:600 Scale]
Plot Interval : 25 - 406.146 Meters

Data File 1 : F1 : calsunsrv3:/export/data/ddc/215445/alam_main.pdf

Data File 1 : F1 : calsunsrv3:/export/data/dac/215445/slam_main.xtf
Created On : Jan 29 21:27:27 2013
Company : MGM ENERGY CORP
Well : MGM SHELL EAST MACKAY I-78
Field : EAST MACKAY
File Interval : -37.2618 - 406.184 Meters
Oct : m980g

GR BACKUP
TOOL STICKING
XCAL < BIT
YCAL < BIT

GAMMA RAY [gr]
0 150
(gAPI)

Caliper X [calx]
175 425
(mm)

Caliper Y [caly]
175 425
(mm)

BIT SIZE
175 425
(mm)

DIFF. TENSION [ten]
1900 -100
(kgf)

CH-TENSION [cht]
5500 500
(kgf)

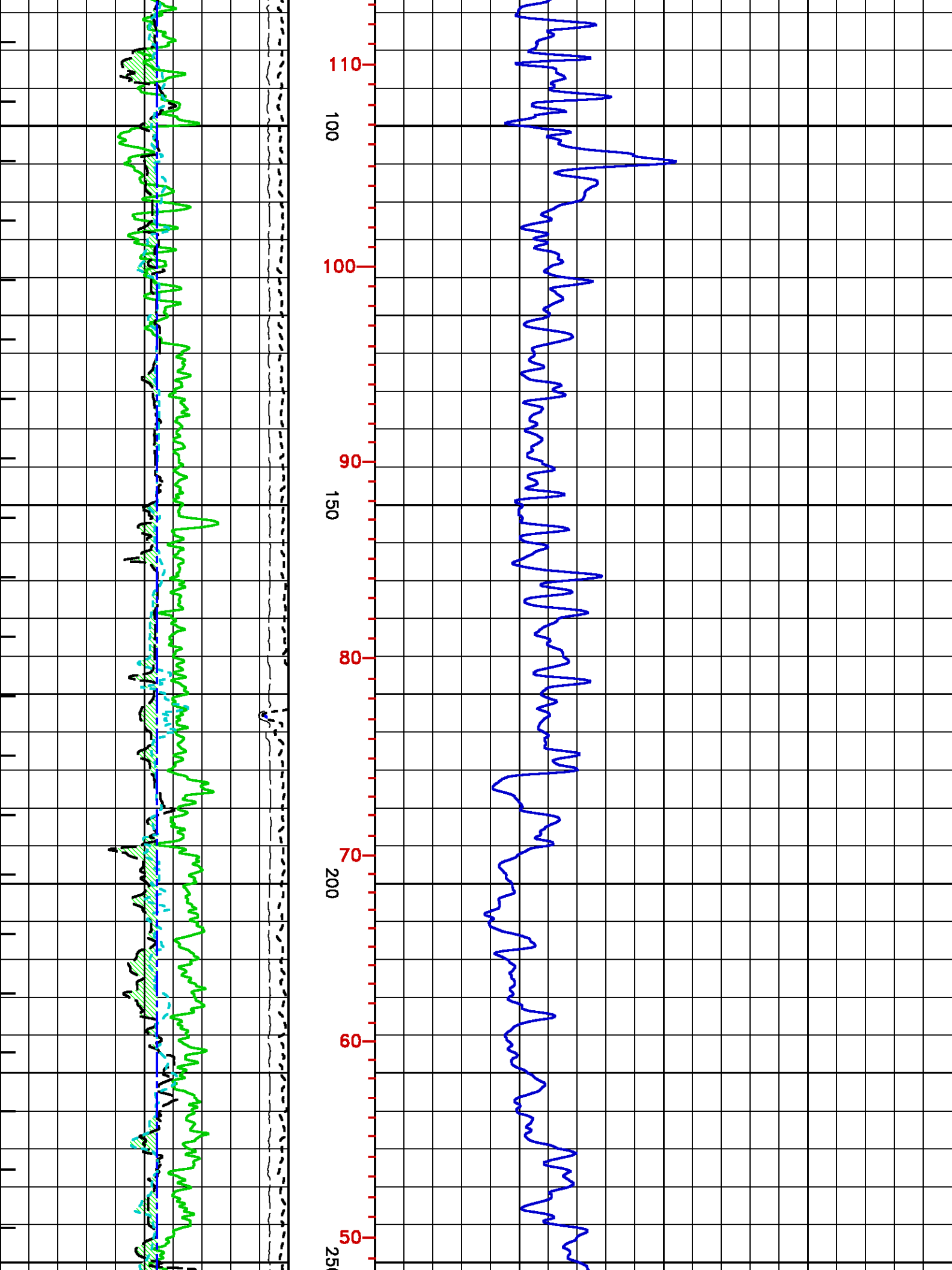
MINUTE MARK
1

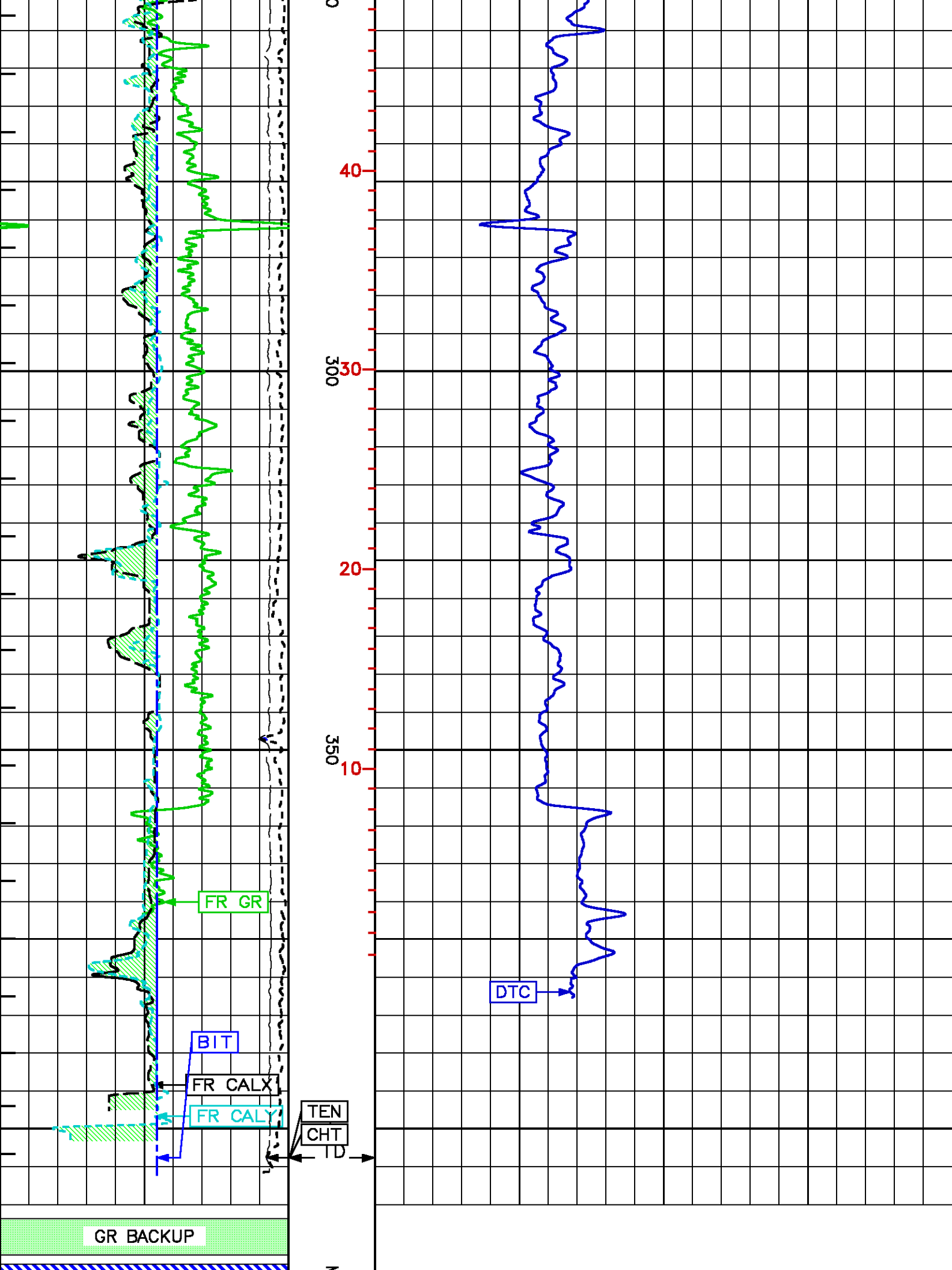
METERS

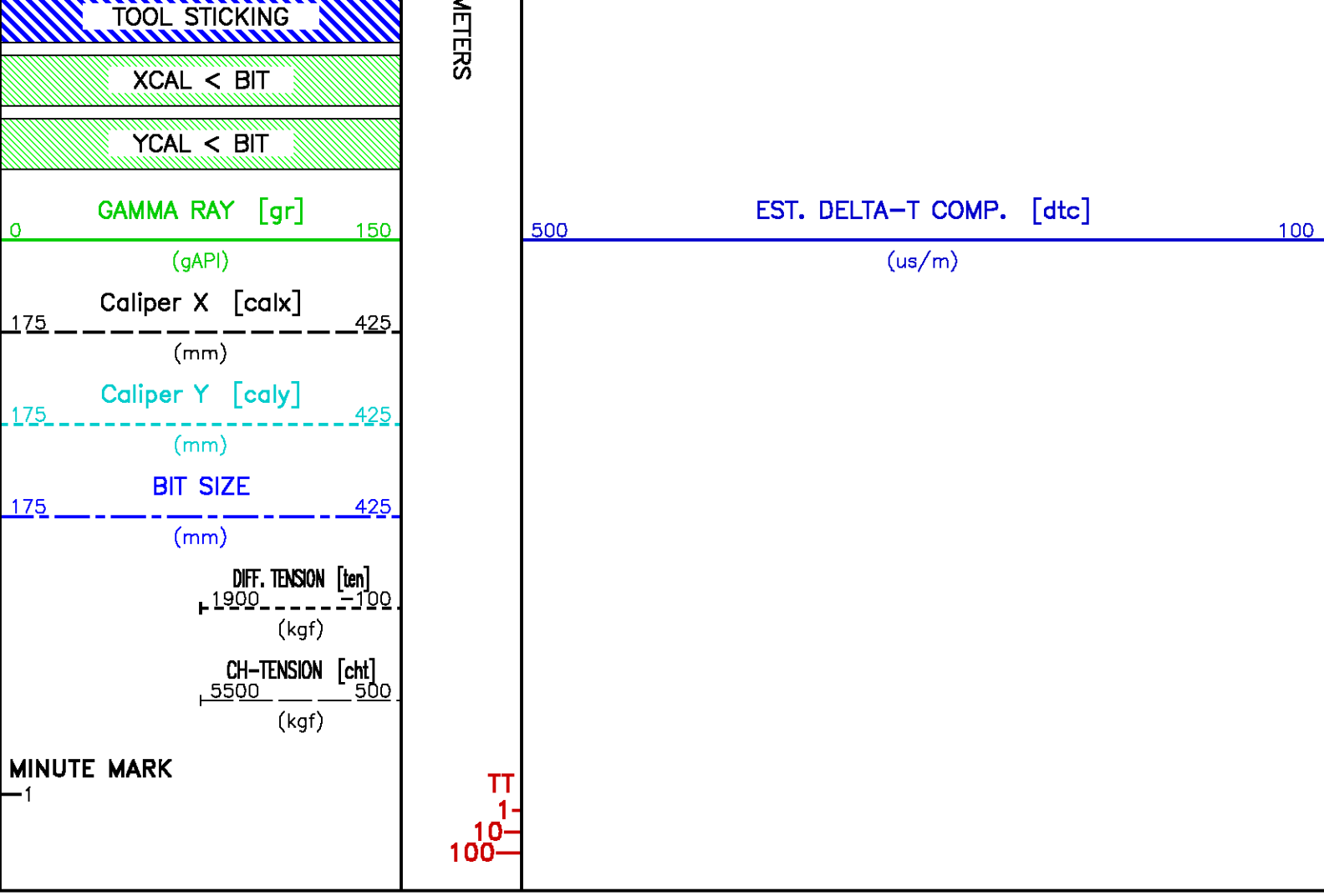
EST. DELTA-T COMP. [dtc]
500 100
(us/m)

TT
1
10
100
130
50
120

GR
TEN
BIT
CALY
CALX
CHT
DTC


110
100
90
80
70
60
50
100
150
200
250


40
30
20
10
300
350
FR GR
DTC
BIT
FR CALX
FR CALY
TEN
CHT
TD
GR BACKUP



MAIN LOG

eXpress 3.2 Last updated 03Oct2011 09:44 Oct 03, 2011
Updates: 1

Tue Feb 5 09:50:39 2013

Pcrplt /main/61 Cplot 9.16 Pdf_Cpp /main/16 Fileview 4.97

PARAMETER AND FILTER SUMMARY REPORT

FILE: /export/data/ddc/215445/m980g07.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: -0.989 m BOTTOM DEPTH: 405.844 m

SYMMETRIC FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m) TOP	BOTTOM
CHT	FILTER ()	medium (1)		TOP	BOTTOM
TENSION	FILTER ()	medium (1)		''	''
GR	FILTER ()	medium (1)		''	''
DT24	FILTER ()	light (2)		''	''
CALIPER	FILTER ()	medium (1)		''	''
CN MED RES	FILTER ()	medium (1)		''	''

BOREHOLE & CEMENT

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)

CASING - BOREHOLE & CEMENT VOLUME	CASING O.D.	244.500	mm	TOP	BOTTOM
	CASING THICKNESS	0.000	mm	''	''
BIT SIZE	BIT SIZE	311.000	mm	''	''
BOREHOLE CORR DIAMETER SOURCE	CALIPER/FIXED DIA. (cnbh*)	USE CALIPER		''	''
BOREHOLE CORR DIAMETER	FIXED DIAMETER (cnbh*)	311.000	mm	''	''
X-Y COMBINED CALIPER PROCESSING-FOCUSY Caliper - FOCUS		Average		''	''

ACOUSTIC POROSITY

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
DELTA T CURVE SELECTION	DT24 SOURCE	AVAN DT24		TOP	BOTTOM

ACOUSTIC AVAN CORRELATON

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
MONOPOLE DELTA T	FORMATION TYPE	GENERIC (MEDIUM)		TOP	BOTTOM
	CORRELATION METHOD	NTH ROOT		''	''
	RESET TAPERS			''	''
	TAPER - LEFT END	100	us/m	''	''
	TAPER - RIGHT END	600	us/m	TOP	25.775
		550	us/m	25.775	BOTTOM
	FLOOR (UNIV. OPTION)	0.050		TOP	BOTTOM
MONOPOLE COMPRESSIONAL	FORMATION TYPE	GENERIC (MEDIUM)		''	''
	CORRELATION METHOD	NTH ROOT		''	''
	RESET TAPERS			''	''
	TAPER - LEFT END	100	us/m	''	''
	TAPER - RIGHT END	600	us/m	TOP	25.216
		550	us/m	25.216	BOTTOM
	FLOOR (UNIV. OPTION)	0.050		TOP	BOTTOM

ACOUSTIC WAVEFORM FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
WAVEFORM FILTER - FULLWAVE	SURFACE WAVE FILTER	ON		TOP	BOTTOM
	LOW FREQ CUTOFF	2000	Hz	''	''
	HIGH FREQ CUTOFF	20000	Hz	''	''

ACOUSTIC TCC CONTROL PARAMETERS

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
GENERAL TCC PARAMETERS	AGC	ON		TOP	BOTTOM
	SUBCYCLE LENGTH	50		''	''
	SUBSET	1		''	''
GENERAL MONOPOLE TCC PARAMETERS	STACK LEVEL	2		''	''
	DSP FILTER	ON		''	''
DELTA T TCC PARAMETERS	ACQ WINDOW	1664	us	''	''
	MOVEOUT	16	us/ft	''	''
	SAMPLE PERIOD	16		''	''
	RX DELAY	240	us	''	''
FULL WAVE MONOPOLE TCC PARAMETERS	ACQ WINDOW	8064	us	''	''
	SAMPLE PERIOD	24		''	''
	RX DELAY	0	us	''	''

ACCELERATION PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
ACCEL CORR SWITCH	ACCEL DEPTH CORR	CORRECTION OFF		TOP	BOTTOM

CN PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
CN BOREHOLE CORRECTION	SALINITY	0	ppm	TOP	BOTTOM
	BOREHOLE CORRECTION	ON		''	''
CN CASING & CEMENT CORRECTION	CORRECTION	OFF		''	''
	BIT SIZE BEHIND CSNG	500.000	mm	''	''

CURVE DESCRIPTION REPORT

CURVE NAME	CURVE ALIAS	CREATION DATE	CURVE DESCRIPTION
F1:BIT	BIT	Jan 29 21:27:27 2013	BIT SIZE
F1:CALX	CALX	Jan 29 21:27:27 2013	CALIPER FROM X AXIS OF X-Y CALIPER(S)
F1:CALY	CALY	Jan 29 21:27:27 2013	CALIPER FROM Y AXIS OF X-Y CALIPER(S)
F1:CHT	CHT	Jan 29 21:27:27 2013	CABLE HEAD TENSION

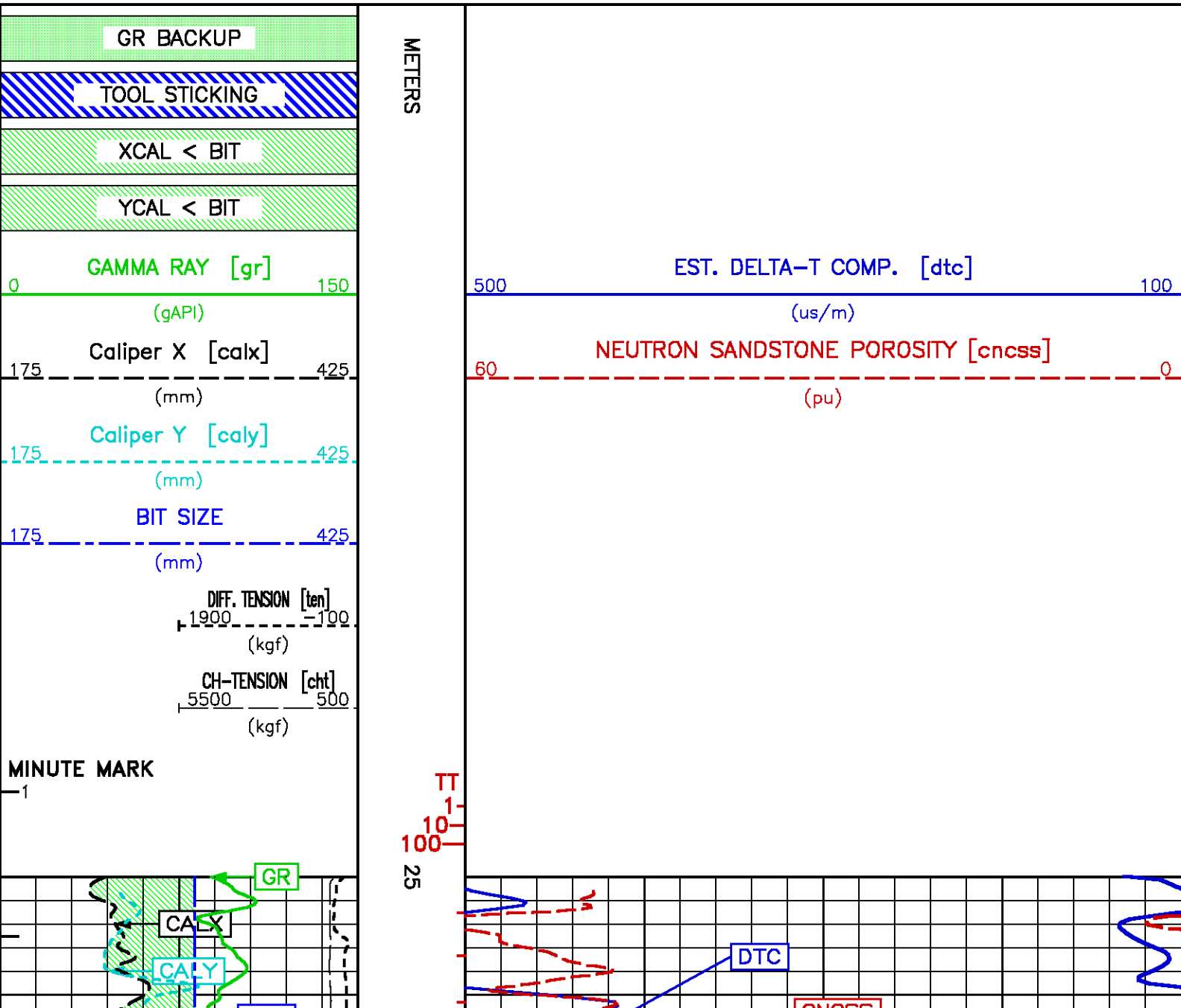
F1:CNCSS	CNCSS	Jan 29 21:27:27 2013	BH SIZE CORR. SANDSTONE COMPENSATED NEUTRON POROSITY
F1:DTC	DTC	Jan 31 13:34:48 2013	COMPRESSIONAL WAVE SLOWNESS
F1:GR	GR	Jan 29 21:27:27 2013	GAMMA RAY
F1:MMRK	MMRK	Jan 29 21:27:27 2013	MINUTE MARK
F1:TEN	TEN	Jan 29 21:27:27 2013	DIFFERENTIAL TENSION
F1:TTQI	TT.I	Jan 29 21:27:27 2013	INTEGRATED TRAVEL TIME FROM ACOUSTIC DELTA-T

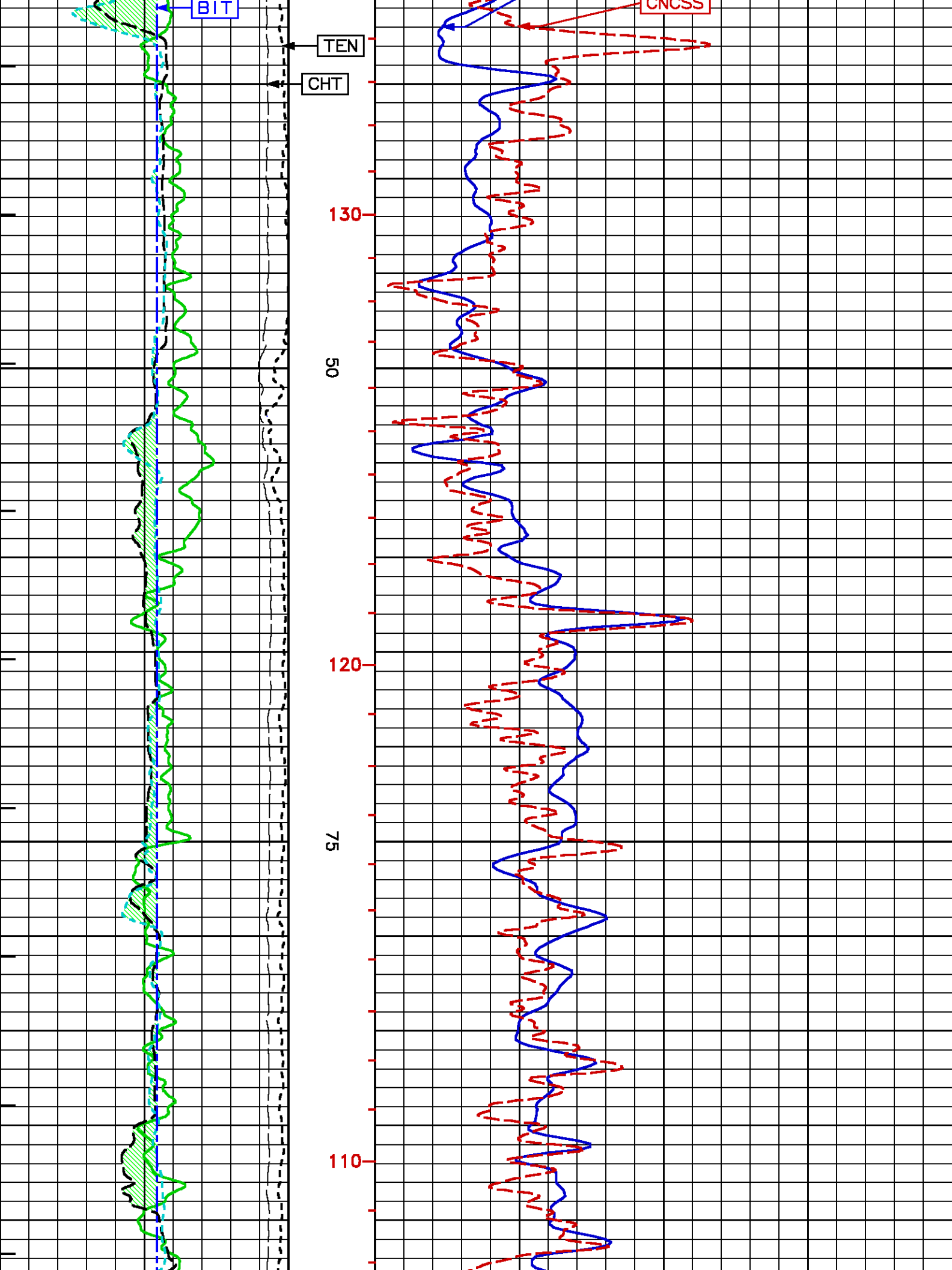
CURVE MEASURE POINT OFFSET

CURVE	OFFSET (m)	CURVE	OFFSET (m)	CURVE	OFFSET (m)	CURVE	OFFSET (m)
BIT	0.00	CALY	5.49	CNCSS	12.50	GR	33.76
CALX	9.64	CHT	0.00	DTC	25.37	TEN	0.00

Project : /data/ddc/215445
User : tuyan
Presentation : calsunsrv3:/data/ddc/215445/mac_main100-500.pdf [1:240 Scale]
Plot Interval : 25 - 406.146 Meters

Data File 1 : F1 : calsunsrv3:/export/data/ddc/215445/slam_main.xtf
Created On : Jan 29 21:27:27 2013
Company : MGM ENERGY CORP
Well : MGM SHELL EAST MACKAY I-78
Field : EAST MACKAY
File Interval : -37.2618 - 406.184 Meters
Oct : m980g




BIT
TEN
CHT
CNCSS
130
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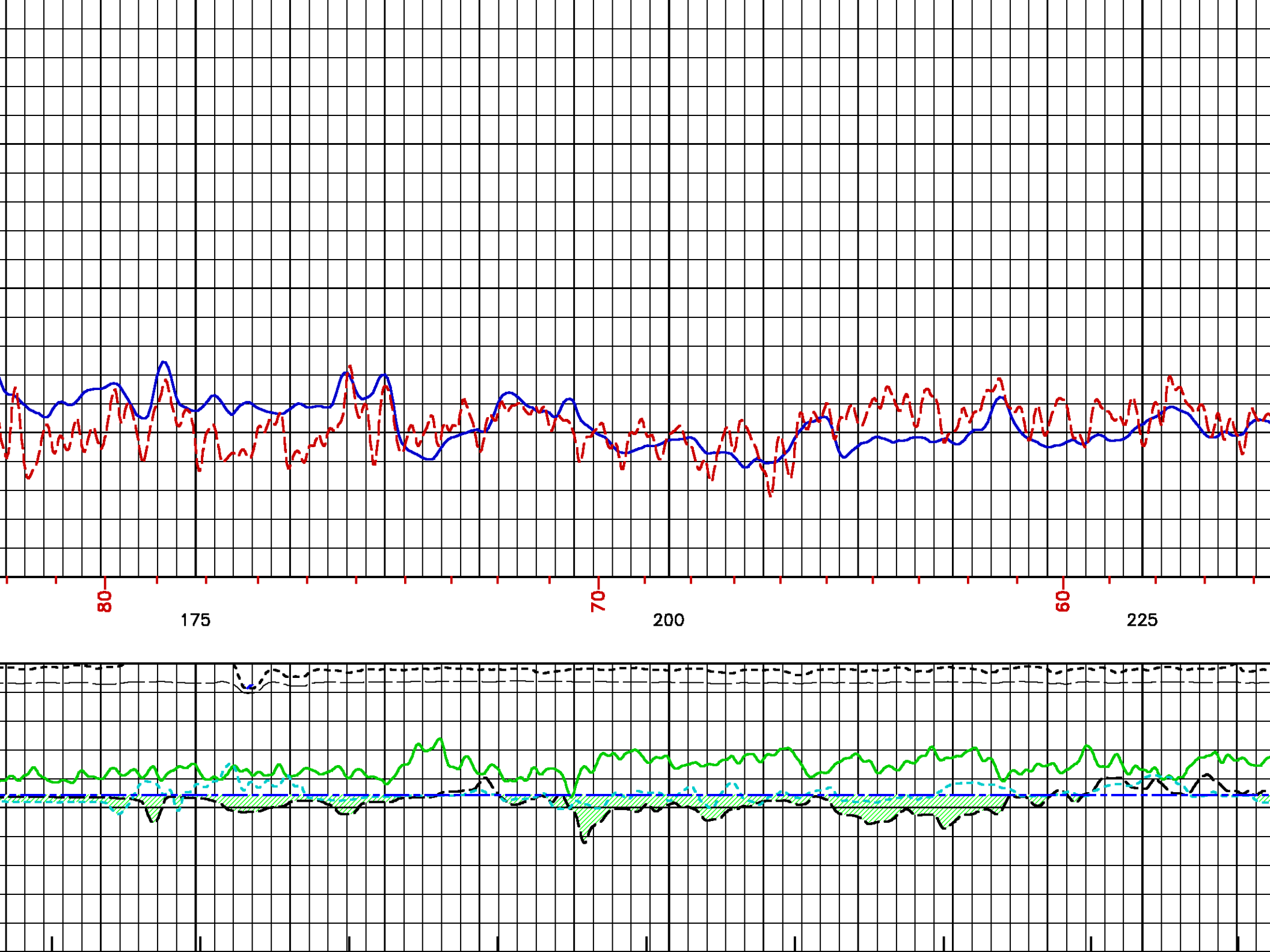
120
75
110

100
100
125
90
150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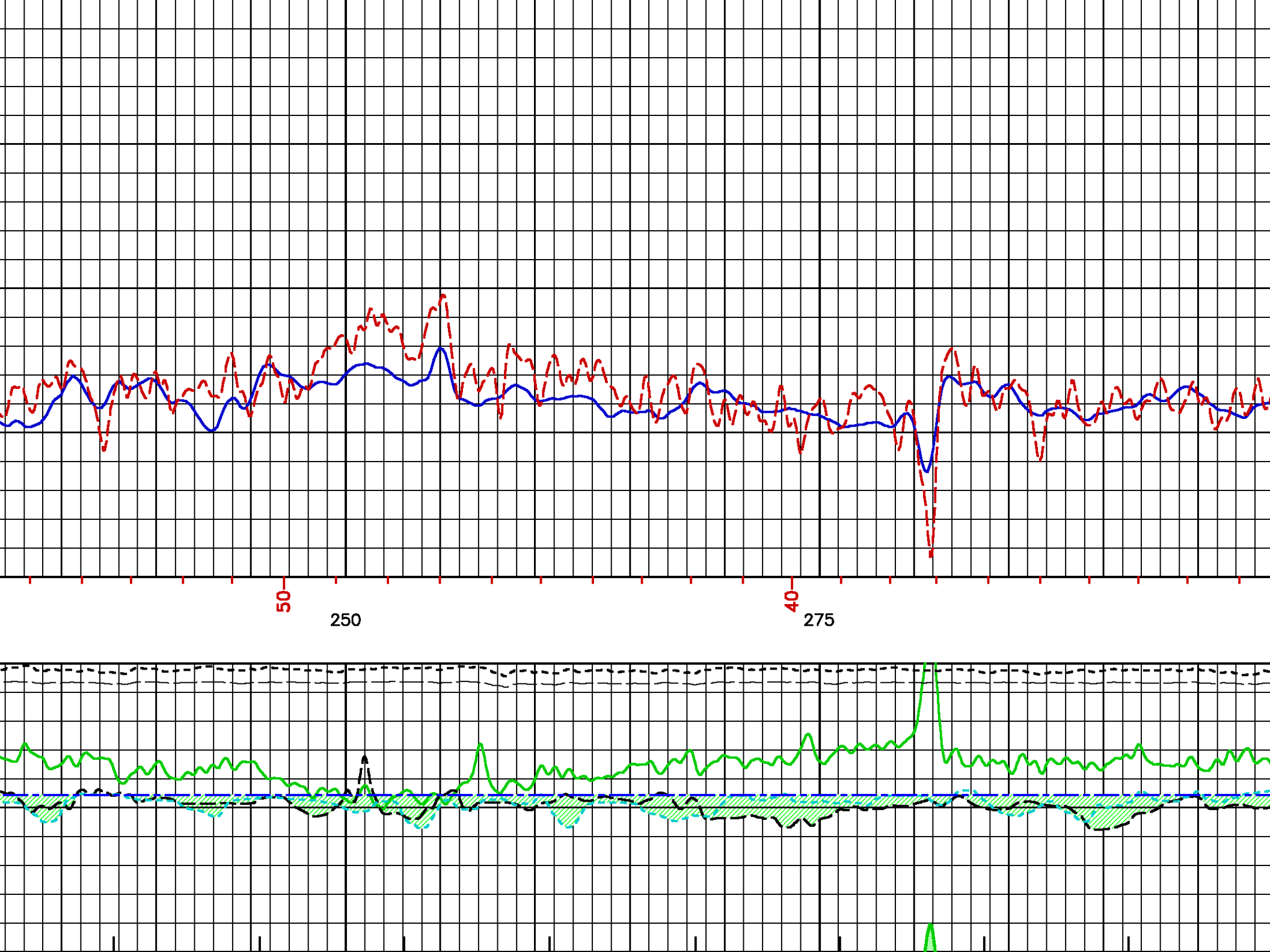
200
225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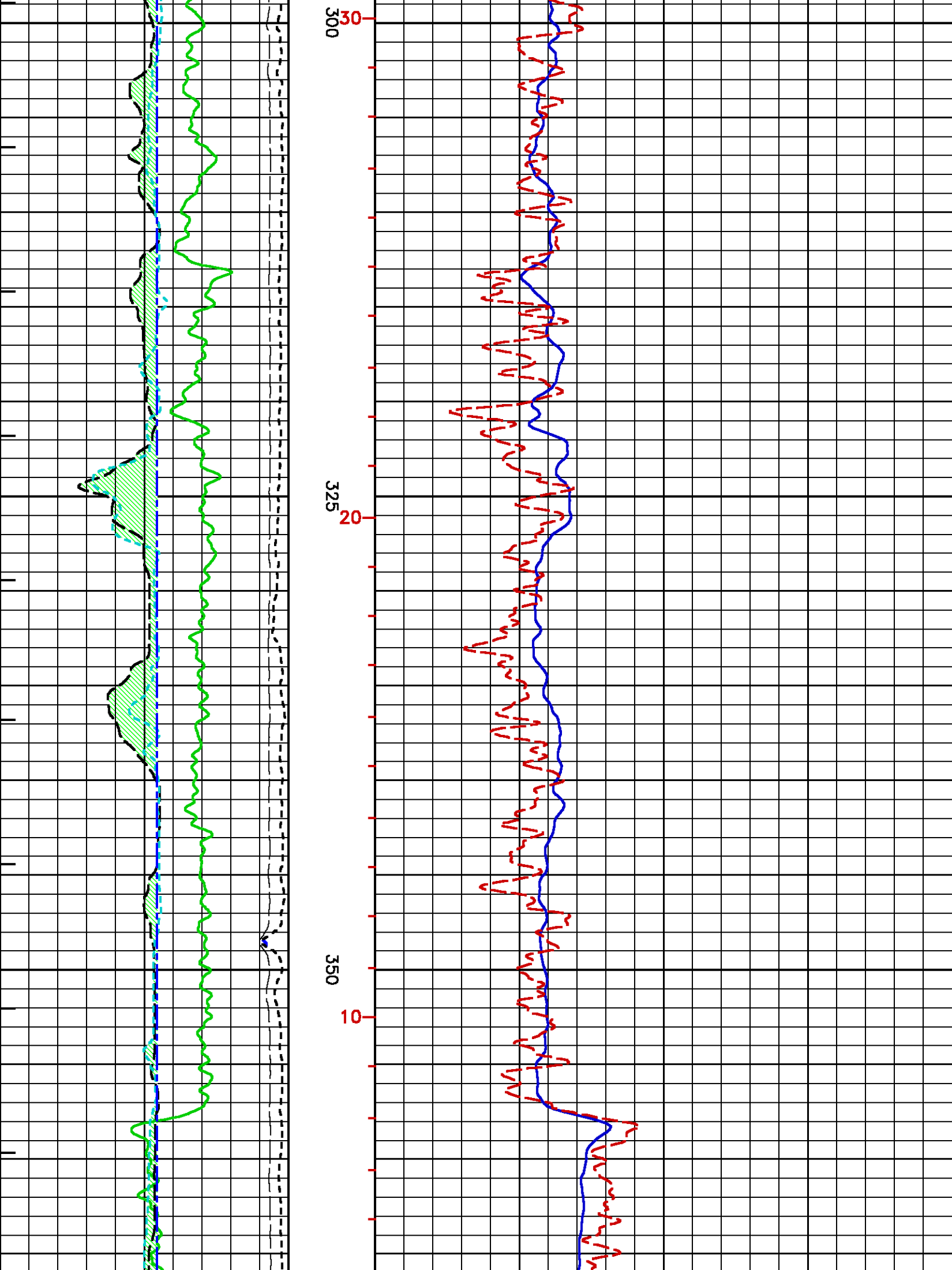
250
40
275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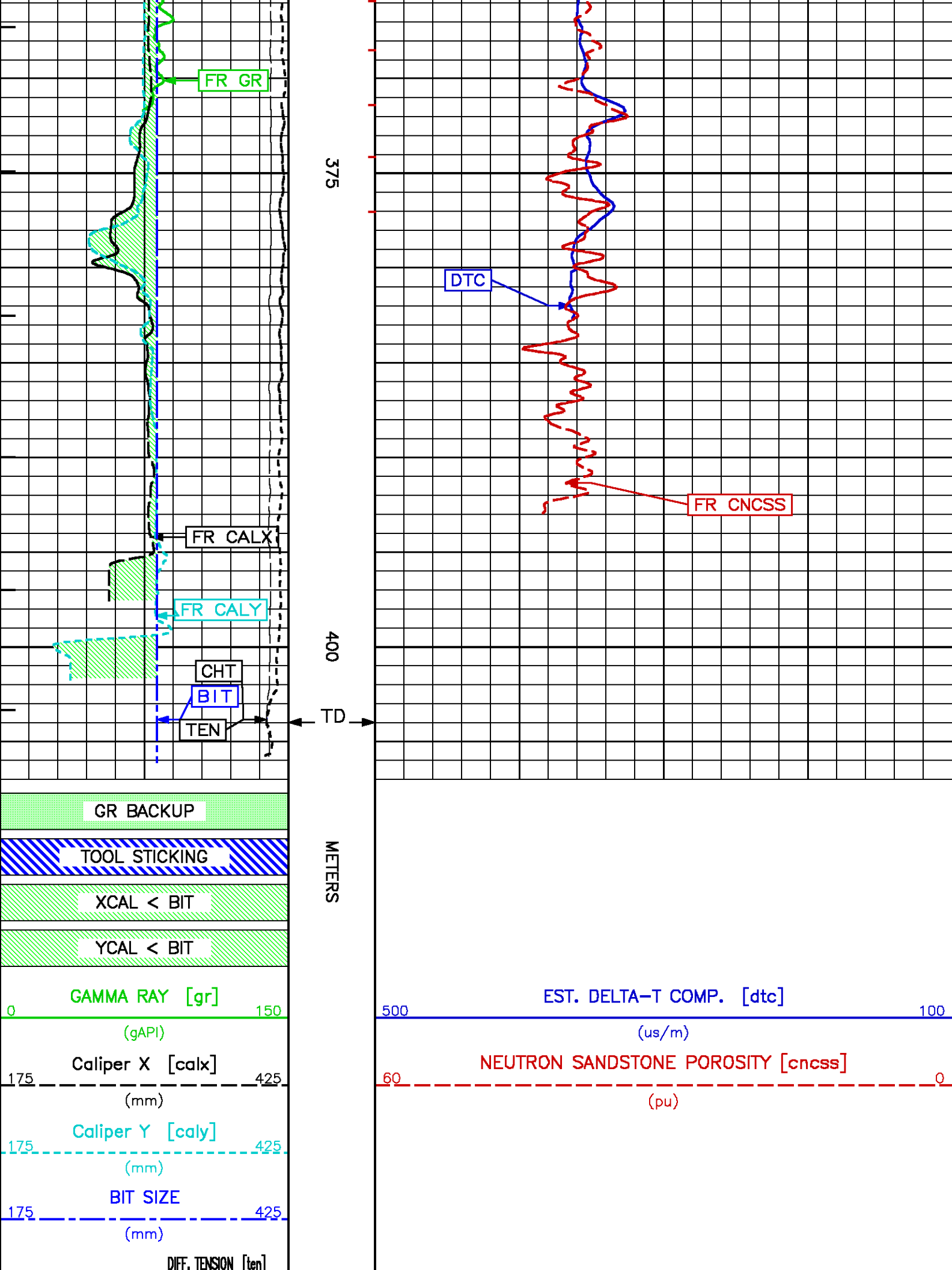
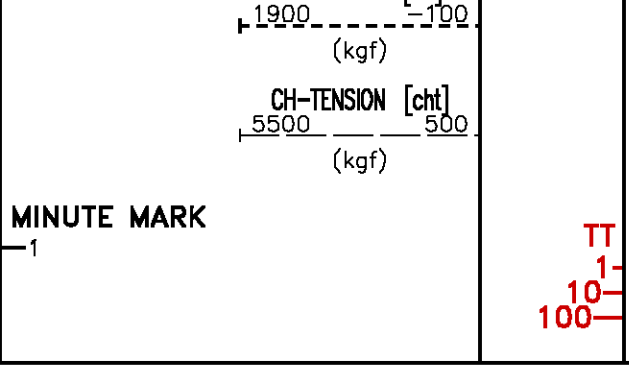
325
350
30
20
10


FR GR
375
DTC
FR CNCSS
FR CALX
FR CALY
400
CHT
BIT
TEN
TD
METERS
GR BACKUP
TOOL STICKING
XCAL < BIT
YCAL < BIT
GAMMA RAY [gr]
0
150
(gAPI)
EST. DELTA-T COMP. [dtc]
500
100
(us/m)
Caliper X [calx]
175
425
(mm)
NEUTRON SANDSTONE POROSITY [cncss]
60
0
(pu)
Caliper Y [caly]
175
425
(mm)
BIT SIZE
175
425
(mm)
DIFF. TENSION [ten]



REPEAT LOG

eXpress 3.2 Last updated 03Oct2011 09:44 Oct 03, 2011 Tue Feb 5 09:51:08 2013
Updates: 1

Pcrplt /main/61 Cplot 9.16 Pdf_Cpp /main/16 Fileview 4.97

PARAMETER AND FILTER SUMMARY REPORT

FILE: /export/data/ddc/215445/m980g06.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 224.703 m BOTTOM DEPTH: 341.552 m

SYMMETRIC FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
CHT	FILTER ()	medium (1)		TOP	BOTTOM
TENSION	FILTER ()	medium (1)		''	''
GR	FILTER ()	medium (1)		''	''
CALIPER	FILTER ()	medium (1)		''	''

BOREHOLE & CEMENT

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
BIT SIZE	BIT SIZE	311.000	mm	TOP	BOTTOM

ACOUSTIC AVAN CORRELATON

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
MONOPOLE COMPRESSIONAL	FORMATION TYPE	GENERIC (MEDIUM)		TOP	BOTTOM
	CORRELATION METHOD	NTH ROOT		''	''
	RESET TAPERS			''	''
	TAPER - LEFT END	100	us/m	TOP	304.085
		164	us/m	304.085	BOTTOM
	TAPER - RIGHT END	550	us/m	TOP	303.962
		591	us/m	303.962	BOTTOM
	FLOOR (UNIV. OPTION)	0.050		TOP	BOTTOM
MONOPOLE SHEAR	FORMATION TYPE	GENERIC (MEDIUM)		''	''
	GUIDE CURVE	DO NOT USE GUIDE		''	''
	RESET TAPERS			''	''
	TAPER - LEFT END	328	us/m	''	''
	TAPER - RIGHT END	700	us/m	TOP	301.930
		623	us/m	301.930	BOTTOM

ACOUSTIC WAVEFORM FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
WAVEFORM FILTER - FULLWAVE	SURFACE WAVE FILTER	ON		TOP	BOTTOM
	LOW FREQ CUTOFF	2000	Hz	''	''
	HIGH FREQ CUTOFF	20000	Hz	''	''

ACOUSTIC TCC CONTROL PARAMETERS

ACOUSTIC TCC CONTROL PARAMETERS

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
GENERAL TCC PARAMETERS	AGC	ON		TOP	BOTTOM
	SUBCYCLE LENGTH	50		''	''
	SUBSET	1		''	''
GENERAL MONOPOLE TCC PARAMETERS	STACK LEVEL	2		''	''
	DSP FILTER	ON		''	''
FULL WAVE MONOPOLE TCC PARAMETERS	ACQ WINDOW	8064	us	''	''
	SAMPLE PERIOD	24		''	''
	RX DELAY	0	us	''	''

ACCELERATION PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
ACCEL CORR SWITCH	ACCEL DEPTH CORR	CORRECTION OFF		TOP	339.014
		CORRECTION ON		339.014	BOTTOM

PARAMETER AND FILTER SUMMARY REPORT

FILE: /export/data/ddc/215445/m980g07.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: -0.989 m BOTTOM DEPTH: 405.844 m

SYMMETRIC FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
CHT	FILTER ()	medium (1)		TOP	BOTTOM
TENSION	FILTER ()	medium (1)		''	''
GR	FILTER ()	medium (1)		''	''
CALIPER	FILTER ()	medium (1)		''	''

BOREHOLE & CEMENT

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
BIT SIZE	BIT SIZE	311.000	mm	TOP	BOTTOM

ACOUSTIC AVAN CORRELATON

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
MONOPOLE COMPRESSIONAL	FORMATION TYPE	GENERIC (MEDIUM)		TOP	BOTTOM
	CORRELATION METHOD	NTH ROOT		''	''
	RESET TAPERS			''	''
	TAPER - LEFT END	100	us/m	''	''
	TAPER - RIGHT END	600	us/m	TOP	25.216
		550	us/m	25.216	BOTTOM
	FLOOR (UNIV. OPTION)	0.050		TOP	BOTTOM
MONOPOLE SHEAR	FORMATION TYPE	GENERIC (MEDIUM)		''	''
	GUIDE CURVE	DO NOT USE GUIDE		''	''
	RESET TAPERS			''	''
	TAPER - LEFT END	328	us/m	''	''
	TAPER - RIGHT END	700	us/m	''	''

ACOUSTIC WAVEFORM FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
WAVEFORM FILTER - FULLWAVE	SURFACE WAVE FILTER	ON		TOP	BOTTOM
	LOW FREQ CUTOFF	2000	Hz	''	''
	HIGH FREQ CUTOFF	20000	Hz	''	''

ACOUSTIC TCC CONTROL PARAMETERS

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
GENERAL TCC PARAMETERS	AGC	ON		TOP	BOTTOM
	SUBCYCLE LENGTH	50		''	''
	SUBSET	1		''	''
GENERAL MONOPOLE TCC PARAMETERS	STACK LEVEL	2		''	''
	DSP FILTER	ON		''	''
FULL WAVE MONOPOLE TCC PARAMETERS	ACQ WINDOW	8064	us	''	''
	SAMPLE PERIOD	24		''	''
	RX DELAY	0	us	''	''

ACCELERATION PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)

ACCEL CORR SWITCH	ACCEL DEPTH CORR	CORRECTION OFF	TOP	BOTTOM

CURVE DESCRIPTION REPORT

CURVE NAME	CURVE ALIAS	CREATION DATE	CURVE DESCRIPTION
F1:BIT	BIT	Jan 29 20:52:41 2013	BIT SIZE
F1:CALX	CALX	Jan 29 20:52:41 2013	CALIPER FROM X AXIS OF X-Y CALIPER(S)
F1:CALY	CALY	Jan 29 20:52:41 2013	CALIPER FROM Y AXIS OF X-Y CALIPER(S)
F1:CHT	CHT	Jan 29 20:52:41 2013	CABLE HEAD TENSION
F2:DTC	DTC01	Jan 31 13:34:48 2013	COMPRESSIONAL WAVE SLOWNESS
F1:GR	GR	Jan 29 20:52:41 2013	GAMMA RAY
F1:MMRK	MMRK	Jan 29 20:52:41 2013	MINUTE MARK
F1:TEN	TEN	Jan 29 20:52:41 2013	DIFFERENTIAL TENSION

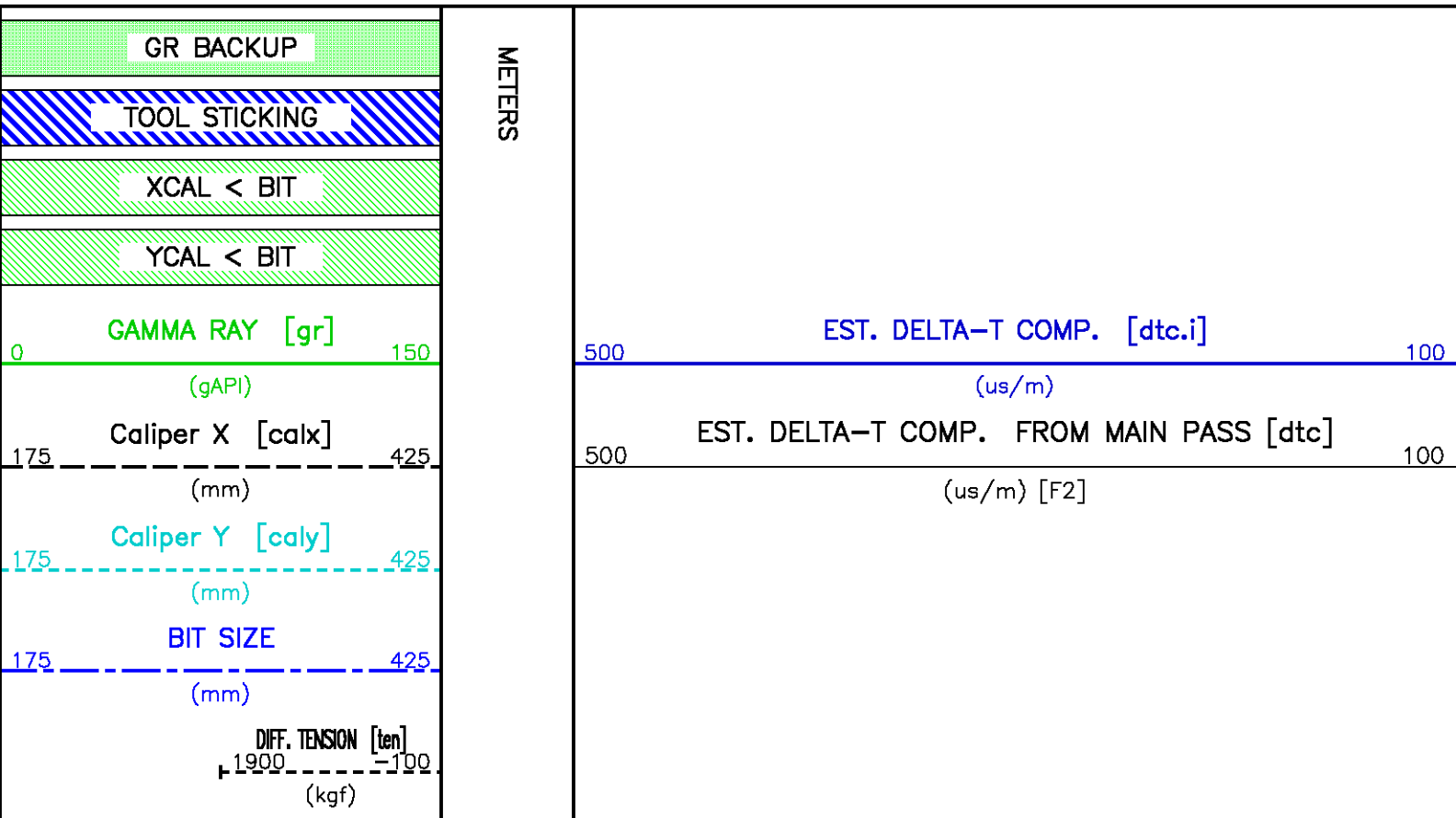
CURVE MEASURE POINT OFFSET

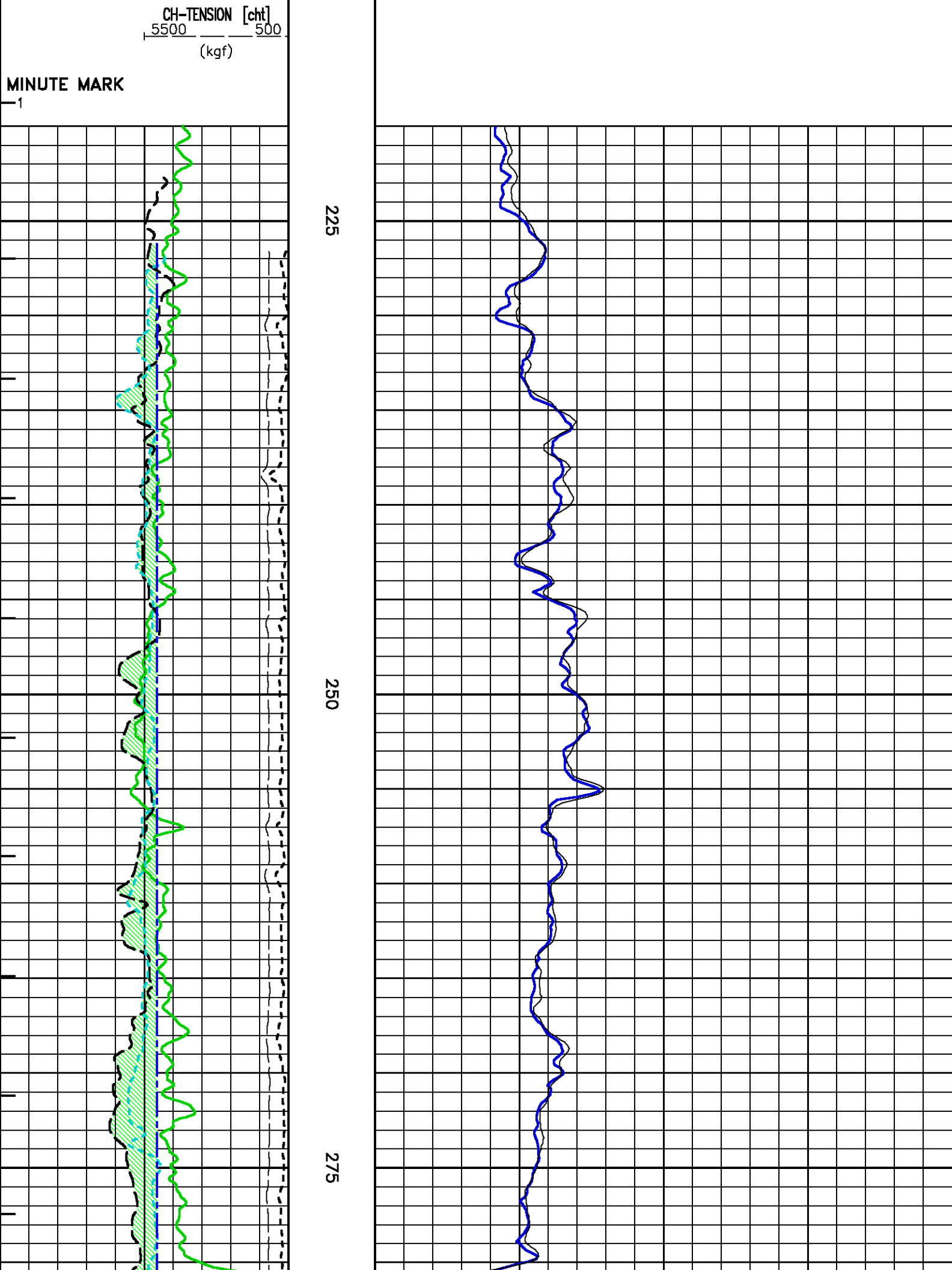
CURVE	OFFSET (m)	CURVE	OFFSET (m)	CURVE	OFFSET (m)	CURVE	OFFSET (m)
BIT	0.00	CALY	5.49	DTCQI	25.30	TEN	0.00
CALX	9.64	CHT	0.00	GR	33.76		

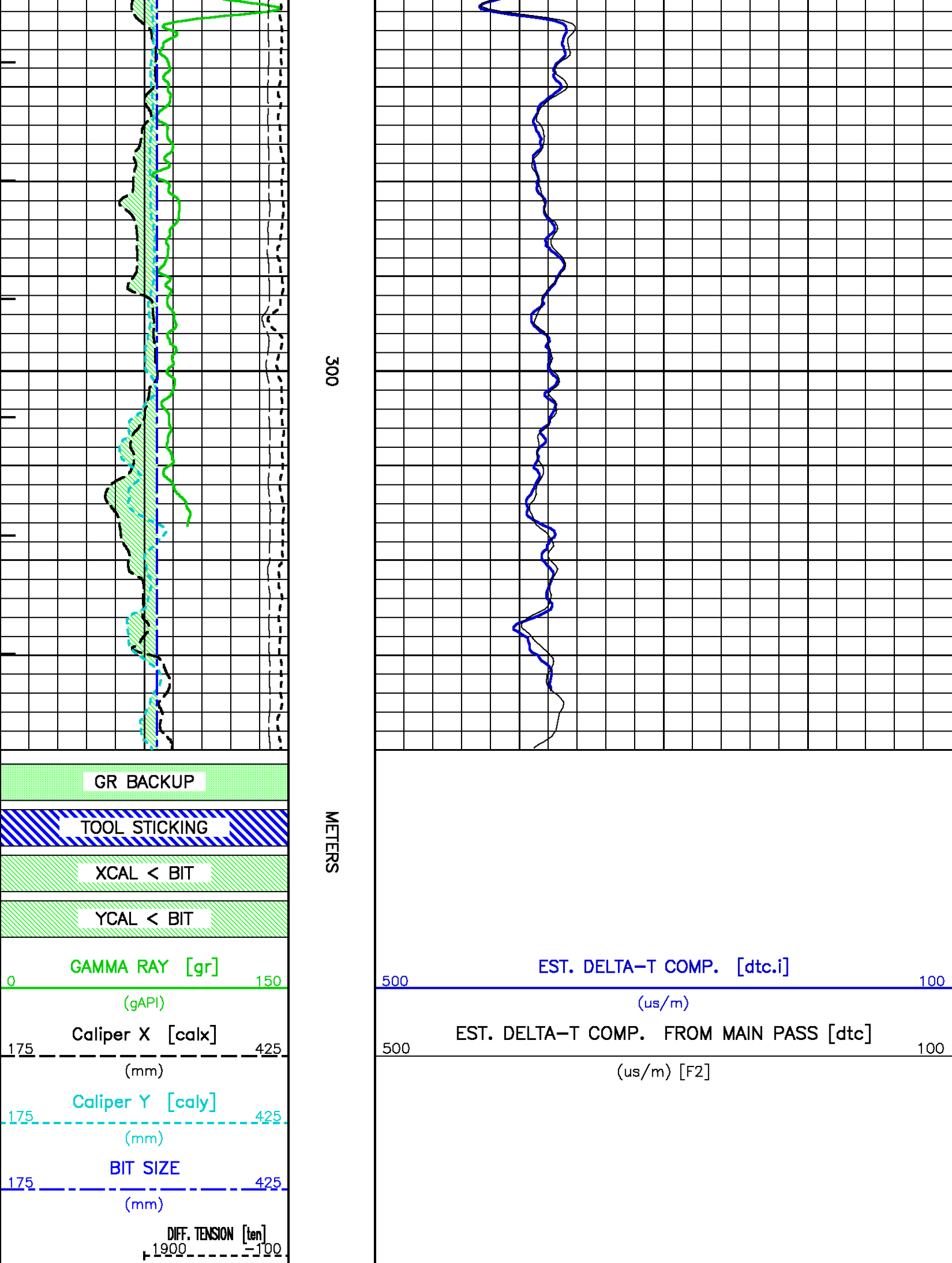
Project : /data/ddc/215445
User : tuyan
Presentation : calsunsrv3:/data/ddc/215445/mac_rpt100-500.pdf [1:240 Scale]
Plot Interval : 220 - 320 Meters

Data File 1 : F1 : calsunsrv3:/export/data/ddc/215445/slam_rpt.xtf
Created On : Jan 29 20:52:41 2013
Company : MGM ENERGY CORP
Well : MGM SHELL EAST MACKAY I-78
Field : EAST MACKAY
File Interval : 188.671 - 342.519 Meters
Oct : m980g

Data File 2 : F2 : calsunsrv3:/export/data/ddc/215445/slam_main.xtf
Created On : Jan 29 21:27:27 2013
Company : MGM ENERGY CORP
Well : MGM SHELL EAST MACKAY I-78
Field : EAST MACKAY
File Interval : -37.2618 - 406.184 Meters
Oct : m980g




CH-TENSION [cht]
5500
500
(kgf)
MINUTE MARK
1
225
250
275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METERS
GR BACKUP
TOOL STICKING
XCAL < BIT
YCAL < BIT
GAMMA RAY [gr]
0
150
(gAPI)
Caliper X [calx]
175
425
(mm)
Caliper Y [caly]
175
425
(mm)
BIT SIZE
175
425
(mm)
DIFF. TENSION [ten]
1900
-100
EST. DELTA-T COMP. [dtc.i]
500
100
(us/m)
EST. DELTA-T COMP. FROM MAIN PASS [dtc]
500
100
(us/m) [F2]

(kgf)

CH-TENSION [cht]
5500 500
(kgf)

MINUTE MARK
1

MONOPOLE QC PLOT

eXpress 3.2 Last updated 03Oct2011 09:44 Oct 03, 2011
Updates: 1

Thu Jan 31 16:01:30 2013

Pcrplt /main/61 Cplot 9.16 Pdf_Cpp /main/16 Fileview 4.97

PARAMETER AND FILTER SUMMARY REPORT

FILE: /export/data/ddc/215445/m980g07.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: -0.989 m BOTTOM DEPTH: 405.844 m

SYMMETRIC FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
CHT	FILTER ()	medium (1)		TOP	BOTTOM
TENSION	FILTER ()	medium (1)		''	''
GR	FILTER ()	medium (1)		''	''

BOREHOLE & CEMENT

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
X-Y COMBINED CALIPER PROCESSING	X-Y Caliper	Average		TOP	BOTTOM
BIT SIZE	BIT SIZE	311.000	mm	''	''
BOREHOLE CORR DIAMETER SOURCE	CALIPER/FIXED DIA. (acbh*)	USE CALIPER		''	''
BOREHOLE CORR DIAMETER	FIXED DIAMETER (acbh*)	311.000	mm	''	''

ACOUSTIC POROSITY

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
ACOUSTIC POROSITY	DTfluid	623.36	us/m	TOP	BOTTOM

ACOUSTIC AVAN CORRELATON

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
MONOPOLE COMPRESSIONAL	FORMATION TYPE	GENERIC (MEDIUM)		TOP	BOTTOM
	CORRELATION METHOD	NTH ROOT		''	''
	RESET TAPERS			''	''
	TAPER - LEFT END	100	us/m	''	''
	TAPER - RIGHT END	600	us/m	TOP	25.216
		550	us/m	25.216	BOTTOM
	FLOOR (UNIV. OPTION)	0.050		TOP	BOTTOM
MONOPOLE SHEAR	FORMATION TYPE	GENERIC (MEDIUM)		''	''
	GUIDE CURVE	DO NOT USE GUIDE		''	''
	RESET TAPERS			''	''
	TAPER - LEFT END	328	us/m	''	''
	TAPER - RIGHT END	700	us/m	''	''

ACOUSTIC QUALITY CONTROL

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
ACOUSTIC DIFF TEN LIMIT	DIFF TENSION LIMIT	227	kgf	TOP	BOTTOM

ACOUSTIC WAVEFORM FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
				TOP	BOTTOM
WAVEFORM FILTER - FULLWAVE	SURFACE WAVE FILTER	ON			
	LOW FREQ CUTOFF	2000	Hz	''	''
	HIGH FREQ CUTOFF	20000	Hz	''	''

ACOUSTIC TCC CONTROL PARAMETERS

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
				TOP	BOTTOM
GENERAL TCC PARAMETERS	AGC	ON			
	SUBCYCLE LENGTH	50		''	''
	SUBSET	1		''	''
GENERAL MONOPOLE TCC PARAMETERS	STACK LEVEL	2		''	''
	DSP FILTER	ON		''	''
FULL WAVE MONOPOLE TCC PARAMETERS	ACQ WINDOW	8064	us	''	''
	SAMPLE PERIOD	24		''	''
	RX DELAY	0	us	''	''

CURVE DESCRIPTION REPORT

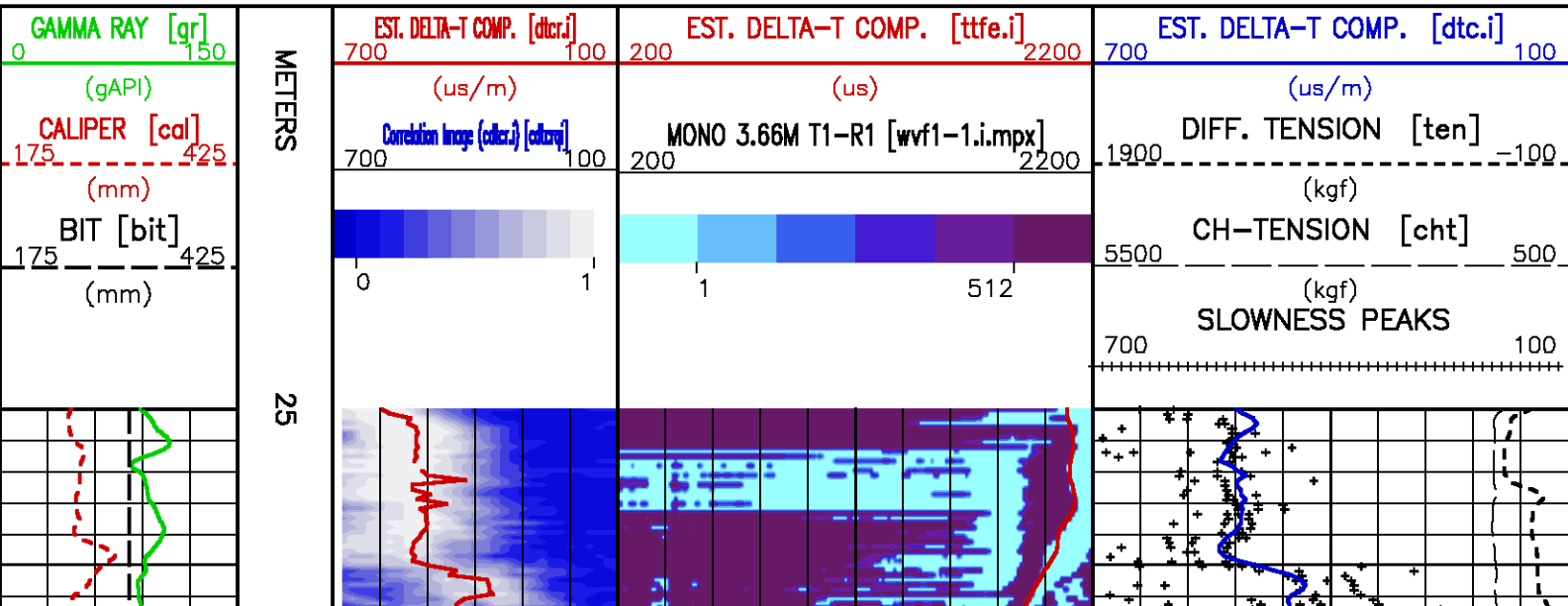
CURVE NAME	CURVE ALIAS	CREATION DATE	CURVE DESCRIPTION
F1:BIT	BIT	Jan 29 21:27:27 2013	BIT SIZE
F1:CAL	CAL	Jan 29 21:27:27 2013	CALIPER
F1:CHT	CHT	Jan 29 21:27:27 2013	CABLE HEAD TENSION
F1:DTCQI	DTC.I	Jan 29 21:27:27 2013	COMPRESSIONAL WAVE SLOWNESS
F1:DTCRQI	DTCR.I	Jan 29 21:27:27 2013	COMPRESSIONAL WAVE SLOWNESS FROM RECEIVER ARRAY
F1:GR	GR	Jan 29 21:27:27 2013	GAMMA RAY
F1:TEN	TEN	Jan 29 21:27:27 2013	DIFFERENTIAL TENSION
F1:TFWV01	WVF1-1.I.MPX	Jan 29 21:27:27 2013	ACOUSTIC MULTIPLEX WAVEFORM
F1:TTFEQI	TTFE.I	Jan 29 21:27:27 2013	TRAVEL TIME ESTIMATE FAR XMTR

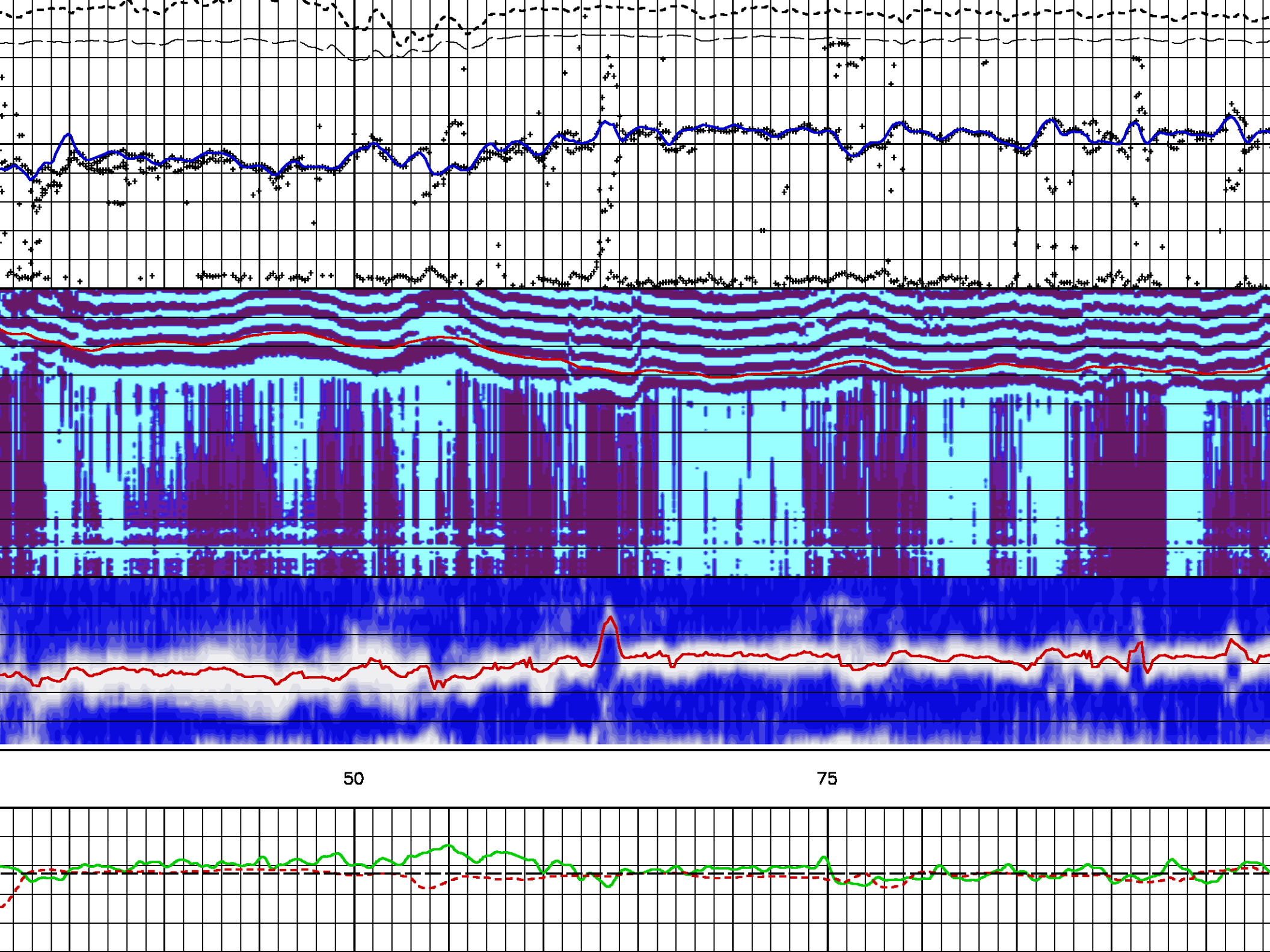
CURVE MEASURE POINT OFFSET

CURVE	OFFSET (m)	CURVE	OFFSET (m)	CURVE	OFFSET (m)	CURVE	OFFSET (m)
BIT	0.00	DTCQI	25.30	PKSMRQI	25.30		
CAL	5.52	DTCRQI	25.30	TEN	0.00		
CHT	0.00	GR	33.76	TTFEQI	5.52		

Project : /data/ddc/215445
User : tuyan
Presentation : calsunsrv3:/data/ddc/215445/xmac_mono_dlp_qc.pdf [1:240 Scale]
Plot Interval : 25 - 406.146 Meters

Data File 1 : F1 : calsunsrv3:/export/data/ddc/215445/slam_main.xtf
Created On : Jan 29 21:27:27 2013
Company : MGM ENERGY CORP
Well : MGM SHELL EAST MACKAY I-78
Field : EAST MACKAY
File Interval : -37.2618 - 406.184 Meters
Oct : m980g

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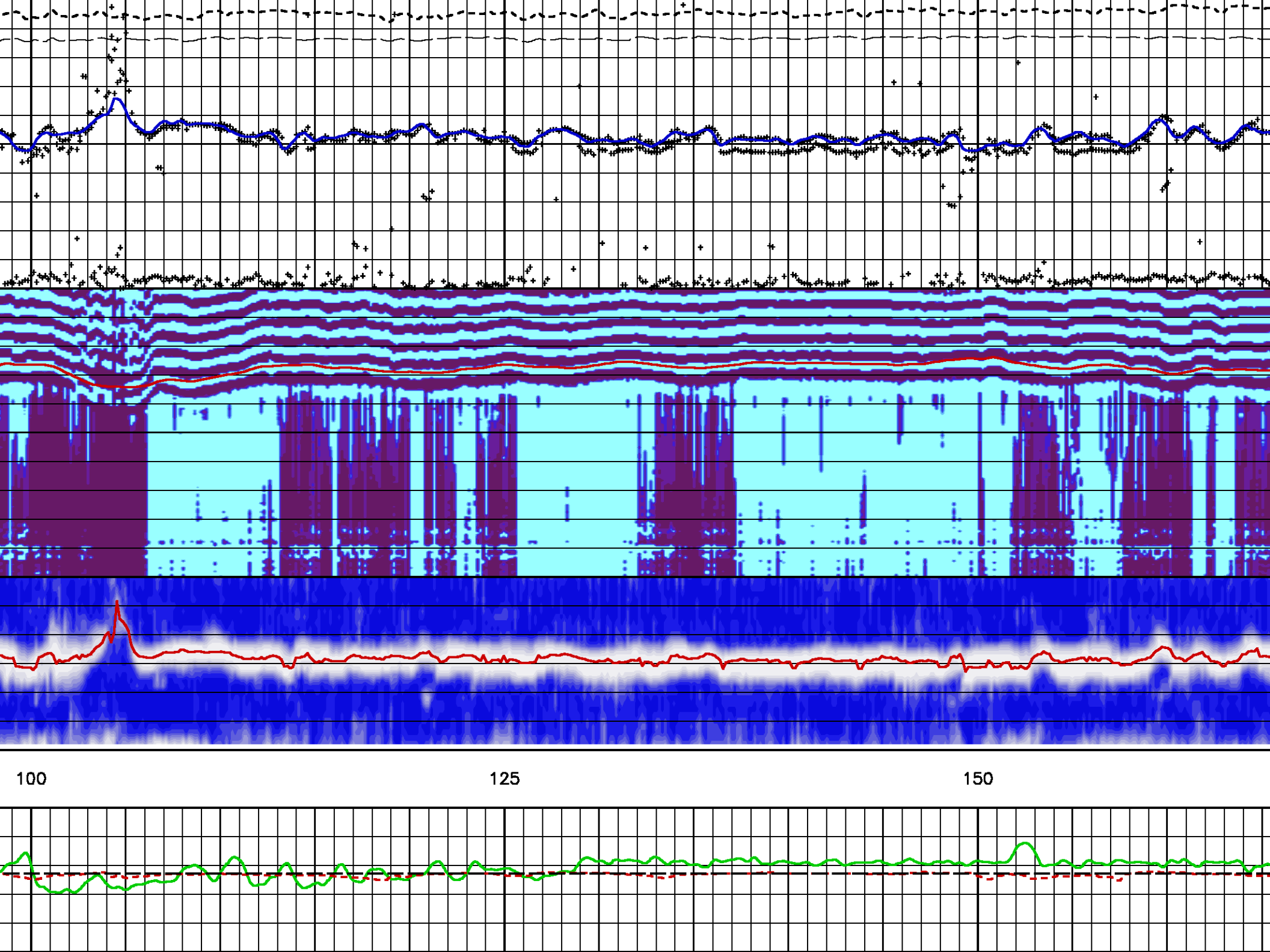
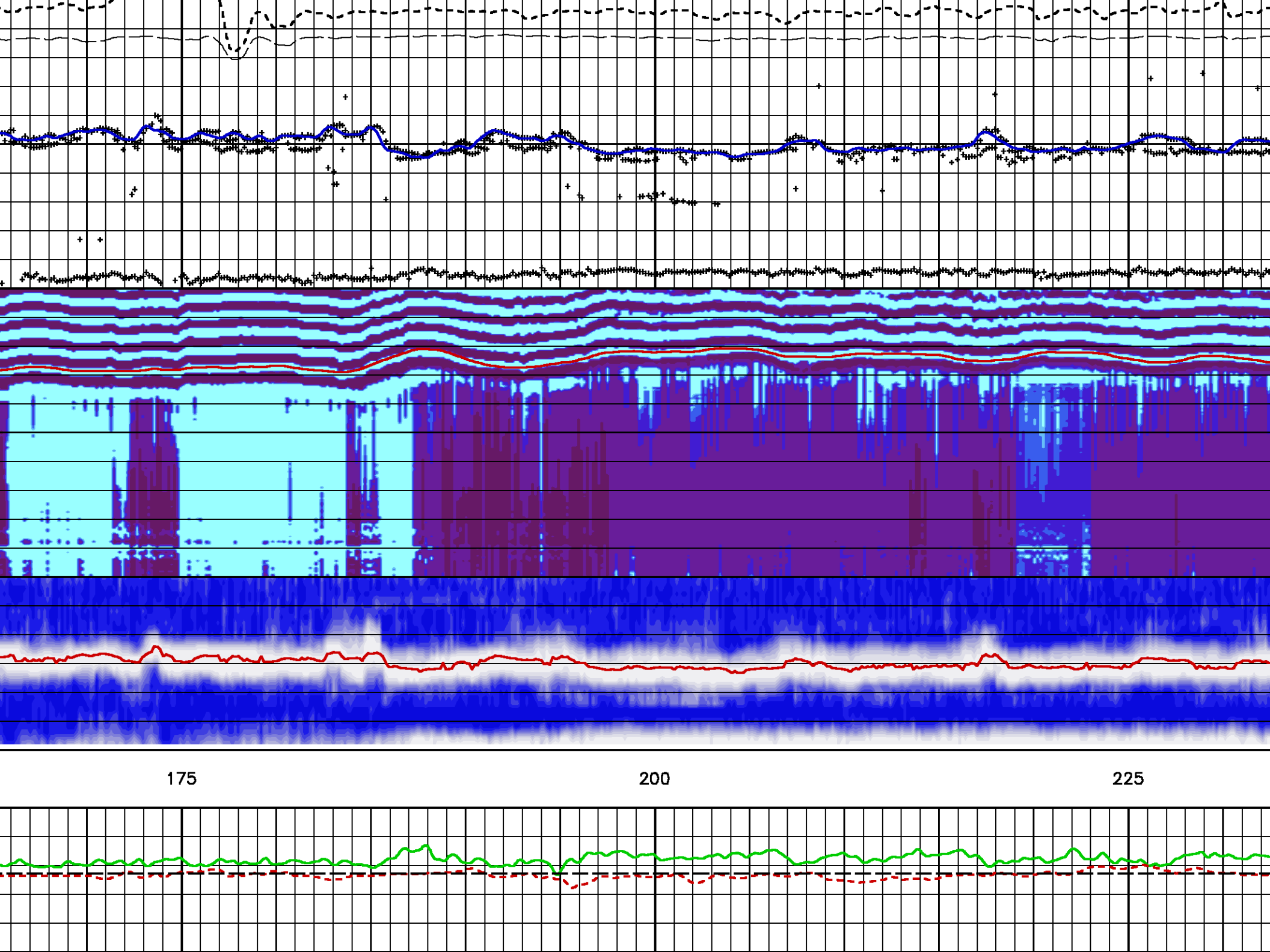
75


100
125
150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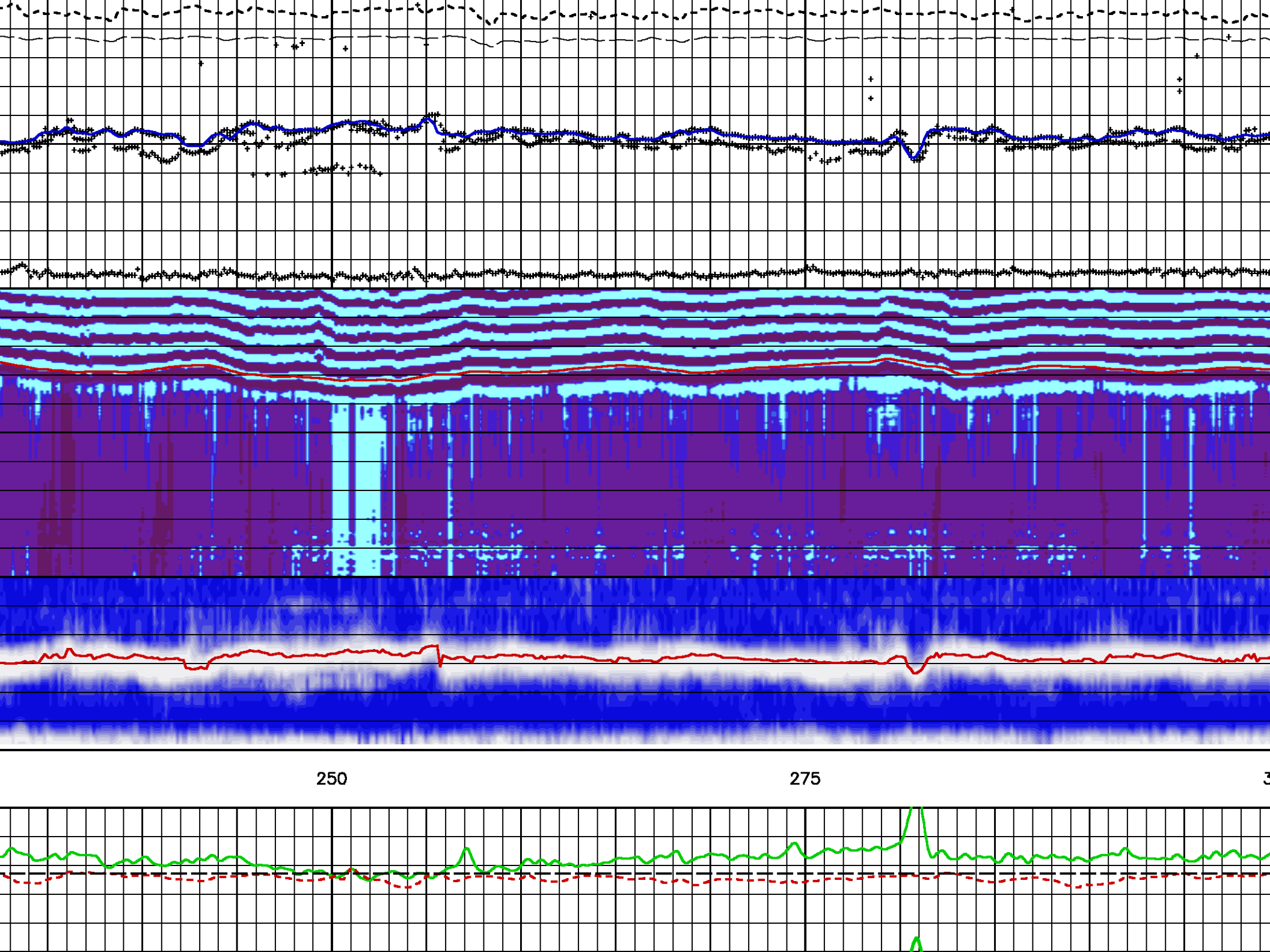
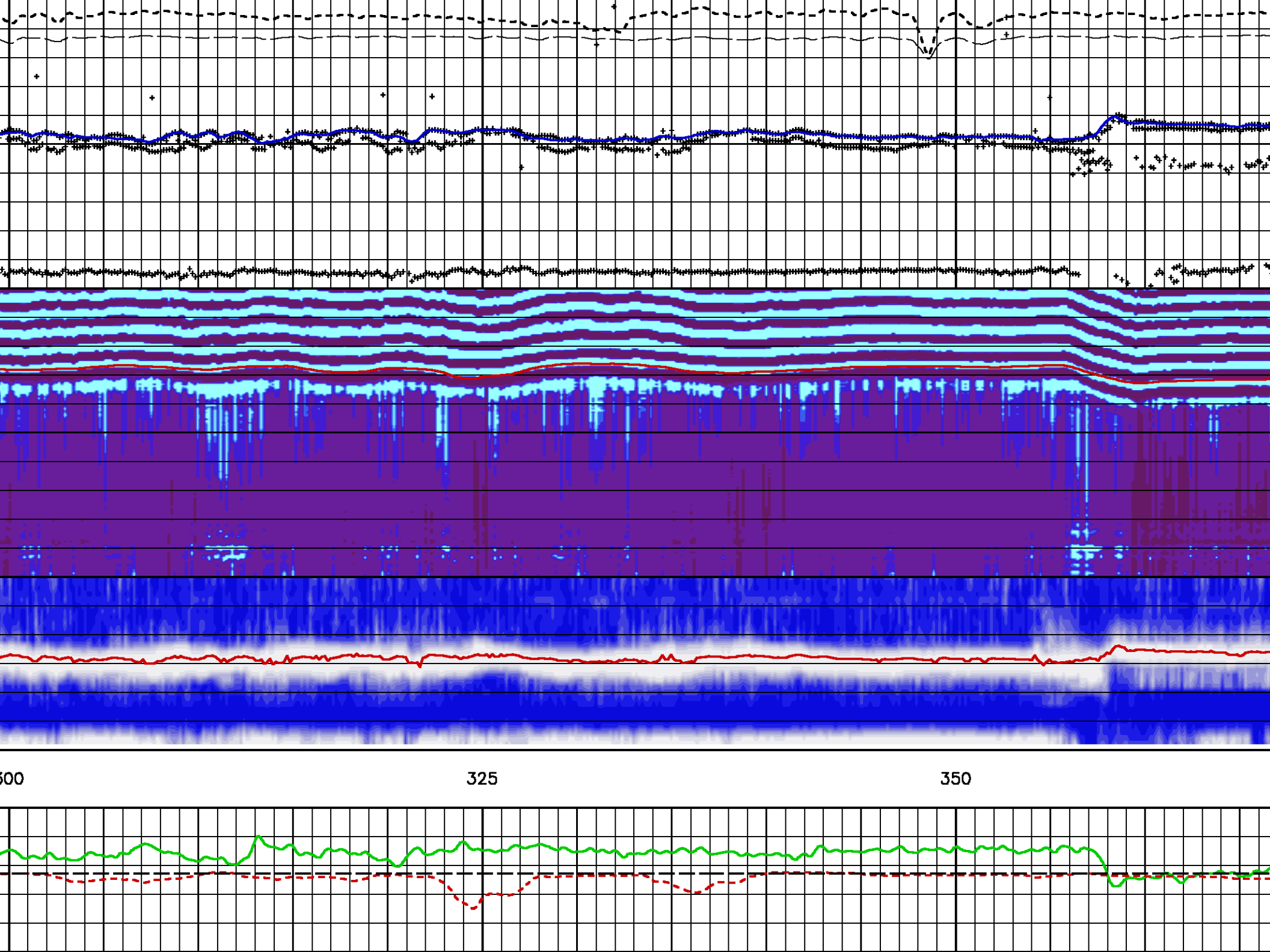
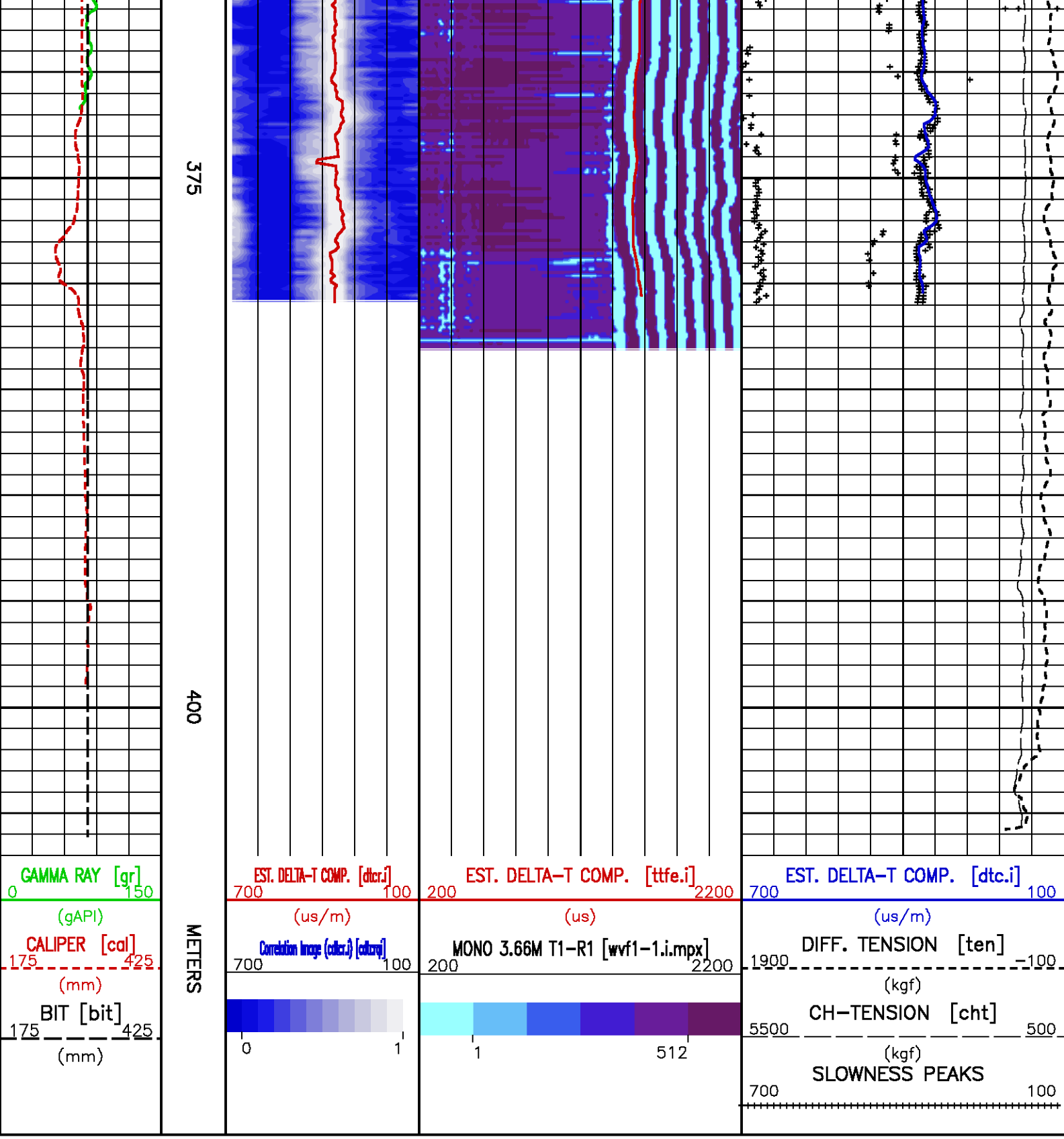
225


250
275


300
325
350



CALIBRATION / VERIFICATION SUMMARY

Source File: /dat1a/MGM/run1_oh/m980g_cals.tp1

CHT PRIMARY CALIBRATION SUMMARY

TOOL #: 3981XA 10516528 DATE/TIME PERFORMED: Tue Jan 29 18:40:58 2013

UNIT #: 3815SA 008672

	Signal Low (raw)	Signal High (raw)	Scale Mult	Scale Add	Engr Low (kgf)	Engr High (kgf)
CHT	50.00	560.75	1.96	-97.90	0.00	1000.00

GR PRIMARY CALIBRATION SUMMARY

TOOL #: 1329XA 10293862 DATE/TIME PERFORMED: Wed Jan 2 15:27:33 2013

UNIT #: 5753XB 10108816 CALB JIG #: 4702NK DA-479

	BACKGROUND (cts/s)	CALBRTR ON (cts/s)	CR DIFF (cts/s)	MULT	BACKGROUND (gAPI)	CALBRTR ON (gAPI)	CALBRTR (gAPI)
GR	149.13	1025.69	876.6 (830.0 – 960.0)	0.171	25.52	175.52	150

GR PRIMARY VERIFICATION SUMMARY

TOOL #: 1329XA 10293862 DATE/TIME PERFORMED: Wed Jan 2 15:30:55 2013

UNIT #: 5753XB 10108816 VERI JIG #: 4702NK DA-479

	BACKGROUND (cts/s)	CALBRTR ON (cts/s)	MULT	BACKGROUND (gAPI)	CALBRTR ON (gAPI)	DIFF. (gAPI)
GR	145.09	1035.84	0.171	24.83	177.26	152.43 (140.00 – 160.00)

XMACE_OR PRIMARY CALIBRATION SUMMARY

TOOL #: 1678MC 10386815 DATE/TIME PERFORMED: Sun Jan 6 11:29:56 2013

UNIT #: 5753XB 10108816 ORIENTATION #: 4401XB 12466129

	DEV (deg)	QA (mG)	MEAS RB (deg)	RB OFFSET (deg)	ROTATED RB (deg)
ORIT TBM CHECK	89.9	1000.2 (990.0 – 1010.0)	359.7 (357.5 – 2.5)		
XMAC-F1 ORIENT			0.4	0.4	0.0

CN PRIMARY CALIBRATION SUMMARY

TOOL #: 2436XA 10105638 DATE/TIME PERFORMED: Sun Jan 13 18:44:58 2013

UNIT #: RCOR 10274 CALIBRATOR #: 2437XB 112675 SOURCE #: 4718XA N-1234

SSN DT CPS	LSN DT CPS	SSN/LSN	MCF	CNRATIO	CN PU
4800.31	823.98	5.82573	0.98477	5.73700	25.241
			0.95000 1.05000		

CN BEFORE LOG VERIFICATION SUMMARY

TOOL #: 2436XA 10105638 DATE/TIME PERFORMED: Tue Jan 29 18:38:13 2013 DAYS SINCE CAL: 15

UNIT #: 3815SA 008672 CALIBRATOR #: INTRNL N/A

SSN DT CPS	LSN DT CPS	SSN/LSN	TEMP (degC)	HV (V)	LV (V)
991.40	993.76	0.99762	18.2	1357.1	4.605
		0.95000 1.05000	138.0	1250.0 1450.0	4.300 5.000

CN AFTER LOG VERIFICATION SUMMARY

TOOL #: 2436XA 10105638 DATE/TIME PERFORMED: Tue Jan 29 22:25:32 2013 DAYS SINCE CAL: 16

UNIT #: 3815SA 008672 CALIBRATOR #: INTRNL N/A

SSN DT CPS	LSN DT CPS	SSN/LSN	TEMP (degC)	HV (V)	LV (V)
955.77	957.68	0.99801	24.8	1357.1	4.608
		0.95000 1.05000	138.0	1250.0 1450.0	4.300 5.000

CAL PRIMARY CALIBRATION SUMMARY

TOOL #: 2223XA 10391896 DATE/TIME PERFORMED: Fri Jan 18 17:30:07 2013

UNIT #: S23 8672

	SIZE (mm)	VALUE	MULTIPLIER	ADD
SMALL RING (Arm)	177.800	1199.6		
LARGE RING (Arm)	279.400	2200.0	0.10156	55.96938
PAD CLOSED		1723.2	0.06350	-109.42319

CAL BEFORE LOG VERIFICATION SUMMARY

TOOL #: 2223XA 10391896 DATE/TIME PERFORMED: Tue Jan 29 22:24:27 2013 DAYS SINCE CAL: 11

UNIT #: 3815SA 008672

	VALUE	MULTIPLIER	ADD	SIZE (mm)
ARM	2402.4	0.10156	55.96938	300.0
PAD	1708.4	0.06350	-109.42319	-0.9

	ACTUAL (mm)	MEASURED (mm)
DIAMETER (arm+pad)	311.000	314.0
		300.8 321.2

CAL AFTER LOG VERIFICATION SUMMARY

TOOL #: 2223XA 10391896 DATE/TIME PERFORMED: Tue Jan 29 22:25:39 2013 DAYS SINCE CAL: 11

UNIT #: 3815SA 008672

	VALUE	MULTIPLIER	ADD	SIZE (mm)
ARM	2401.2	0.10156	55.96938	299.8
PAD	1708.8	0.06350	-109.42319	-0.9

	ACTUAL (mm)	MEASURED (mm)
DIAMETER (arm+pad)	311.000	313.9
		300.8 321.2

CAL[2] PRIMARY CALIBRATION SUMMARY

TOOL #: 2223XA 10102923 DATE/TIME PERFORMED: Fri Jan 18 18:11:06 2013

UNIT #: S23 8672

	SIZE (mm)	VALUE	MULTIPLIER	ADD
SMALL RING (Arm)	177.800	1040.0		
LARGE RING (Arm)	279.400	2060.0	0.09961	74.20783
PAD CLOSED		1784.0	0.06350	-113.28400

CAL[2] BEFORE LOG VERIFICATION SUMMARY

TOOL #: 2223XA 10102923 DATE/TIME PERFORMED: Tue Jan 29 22:24:24 2013 DAYS SINCE CAL: 11

UNIT #: 3815SA 008672

	VALUE	MULTIPLIER	ADD	SIZE (mm)
ARM	2524.0	0.09961	74.20783	325.6
PAD	2400.0	0.06350	-113.28400	39.1

	ACTUAL (mm)	MEASURED (mm)
DIAMETER (arm+pad)	380.000	379.7
		369.8 390.2

CAL[2] AFTER LOG VERIFICATION SUMMARY

TOOL #: 2223XA 10102923 DATE/TIME PERFORMED: Tue Jan 29 22:25:06 2013 DAYS SINCE CAL: 11

UNIT #: 3815SA 008672

	VALUE	MULTIPLIER	ADD	SIZE (mm)
ARM	2524.0	0.09961	74.20783	325.6
PAD	2400.0	0.06350	-113.28400	39.1

	ACTUAL (mm)	MEASURED (mm)
DIAMETER (arm+pad)	380.000	379.7
		369.8 390.2

BAKER HUGHES

EOLIPS

COMPANY MGM ENERGY CORP
WELL MGM SHELL EAST MACKAY I-78
FIELD EAST MACKAY
PROVINCE NORTHWEST TERRITORIES

FILE NO:

API NO:

LOCATION:

LAT 64.795 LONG -125.722

ELEVATIONS:
KB 161.2 M
DF
GL 155.00 M

LICENSE:
1202

DATE 29-JAN-2013

BAKER HUGHES

DUAL COMPENSATED Z-DENSILOG
COMPENSATED NEUTRON LOG
GAMMA RAY LOG
X-Y AXIS CALIPER LOG

FILE NO:

API NO:

COMPANY MGM ENERGY CORP
WELL MGM SHELL EAST MACKAY I-78
FIELD EAST MACKAY
PROVINCE NORTHWEST TERRITORIES

Ver. 3.87

LICENSE:
1202

LOCATION:

LAT 64.795 LONG -125.722

OTHER SERVICES
HDIL-GR-CAL, CVL
XMAC-GR

PERMANENT DATUM G.L. ELEVATION 155.00 M
LOG MEASURED FROM K.B. 6.2 M ABOVE P.D.
DRILL. MEAS. FROM KELLY BUSHING

ELEVATIONS:
KB 161.2 M
DF
GL 155.00 M

DATE		29-JAN-2013			
RUN	TRIP	1	1		
SERVICE ORDER		CA215445			
DEPTH DRILLER		405.2 M			
DEPTH LOGGER		404.0 M			
BOTTOM LOGGED INTERVAL		398.5 M			
TOP LOGGED INTERVAL		23.0 M			
CASING DRILLER		406.4 MM @ 22.5 M		@	
CASING LOGGER		22.5 M			
BIT SIZE		311.0 MM			
TYPE OF FLUID IN HOLE		MILL GEL MUD SLURRY			
DENSITY	VISCOSITY	1140.0 G/L	78] S		
PH	FLUID LOSS	8.0	10.6 ML		
SOURCE OF SAMPLE		FLOWLINE			
RM AT MEAS. TEMP.		1.60 OHMM @ 19.0 DEGC		@	
RMF AT MEAS. TEMP.		1.20 OHMM @ 15.0 DEGC		@	
RMC AT MEAS. TEMP.		2.20 OHMM @ 16.0 DEGC		@	
SOURCE OF RMF	RMC	MEASURED	MEASURED		
RM AT BHT		1.40 OHMM @ 25.5 DEGC		@	
TIME SINCE CIRCULATION		10.0 HOURS			
MAX. RECORDED TEMP.		26.3 DEGC			
EQUIP. NO.	LOCATION	Z008672	CANADA OPEN		
RECORDED BY		I.ZALESKIKH			
WITNESSED BY		D.PRIOR			

CASING RECORD

SIZE	WEIGHT	GRADE	FROM	TO
406.4 MM	81.8 KG/M	NA	0.0 M	22.5 M

BOREHOLE RECORD

BIT SIZE	FROM	TO
311.0 MM	22.5 M	405.2 M

REMARKS

RUN 1 TRIP 1 : TIME STOPPED CIRCULATION: 29-JAN-2013 11:30 AM

MAXIMUM TEMPERATURE ON THERMOMETERS: 26 AND 26 DEGC
TEMPERATURE LOG WAS RECORDED ON THE WAY DOWN.

CNC IS ZDL CALIPER CORRECTED.
CNC AND PORZ PRESENTED IN SANDSTONE MATRIX 2.65G/CM3.

AND PRESENTED ABOVE CAL/VER SECTION.

RIG: AKITA #37

CREW: I.ZALESKIKH, J.PEREIRA, N.MCDERMID, K.HASIUK

EQUIPMENT DATA

RUN	TRIP	TOOL	SERIES NO.	SERIAL NO.	POSITION
1	1	SWIVEL	3944XD	10513050	FREE
1	1	DHPA	4430XB	10390592	FREE
1	1	TTRM SUB	3981XB	10516528	FREE
1	1	COMM	3514XB	10504656	FREE
1	1	WTS DGR/SLI	1329XB	10293862	FREE
1	1	ORIT	4401XB	12466129	FREE
1	1	ACOUSTIC EL	1677EA	10383992	CENTRALIZED
1	1	XMAC RX MDR	1678MC	10386815	CENTRALIZED
1	1	XMAC ISO	1678PB	10039369	FREE
1	1	XMAC TX ELC	1678BA	12168167	CENTRALIZED
1	1	XMAC TX ELC	1678FA	12188364	CENTRALIZED
1	1	WTS DBL KNJ	3939XA	12448499	FREE
1	1	FOC/WTS ADP	3527EA	12337591	FREE
1	1	FOC/WTS ADP	3527FA	12494796	FREE
1	1	TTMA SUB	3980XA	Z402456	FREE
1	1	FOCUS CN	2436XA	10105638	DECENTRALIZED
1	1	FOCUS ZDEN	2223XA	10391896	PAD DEVICE
1	1	DBL KNJT	3931XA	10469360	FREE
1	1	ALGNMNT SUB	4408NA	10265502	FREE
1	1	FOCUS ZDEN	2223XA	10102923	PAD DEVICE
1	1	DBL KNJT	3931XA	10189700	FREE
1	1	FOCUS HDIL	1530XA	10125755	STANDOFF

INSTRUMENT CONFIGURATION

Source File: /dat1a/MGM/run1_oh/m980g~mgm_R1-tdg

CABLEHEAD
- Diameter : 8.6 cm
- Length : 167.6 cm
- Weight : 10.9 kg
- Series : CABL338
- Mnemonic : CBLH
- Measure Point: 83.8 cm: CABLEHEAD TOP

SWIVEL
- Diameter : 8.6 cm
- Length : 106.7 cm
- Weight : 30.9 kg
- Series : 3944XD

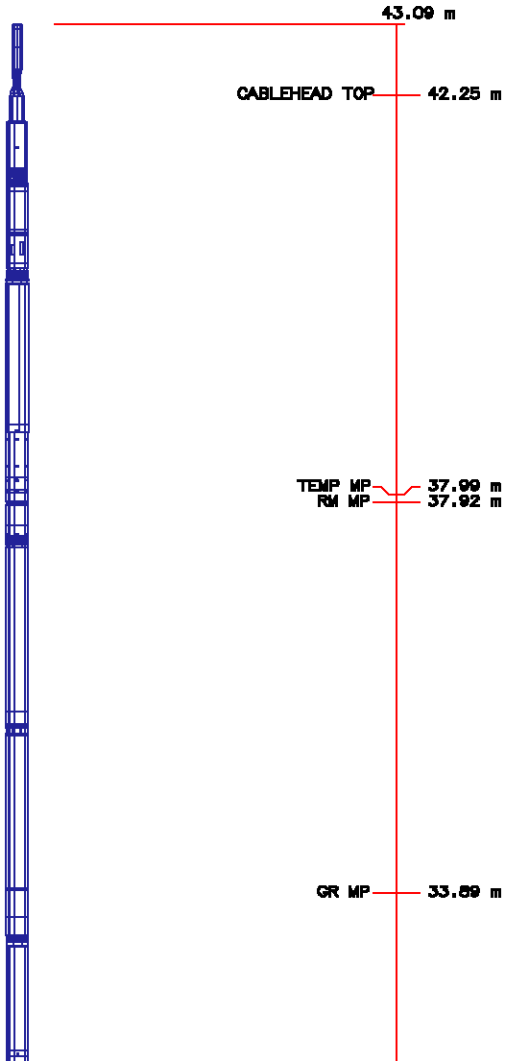
DOWNHOLE POWER ADAPTER
- Diameter : 9.2 cm
- Length : 160.7 cm
- Weight : 39.1 kg
- Series : 4430XB
- Mnemonic : DHPA

TTRM SUB
- Diameter : 9.2 cm
- Length : 116.8 cm
- Weight : 28.2 kg
- Series : 3981XA
- Mnemonic : TTRM

WTS COMMON REMOTE
- Diameter : 9.2 cm
- Length : 194.0 cm
- Weight : 57.3 kg
- Series : 3514XB
- Mnemonic : WTS

DIGITAL SPECTRALOG
- Diameter : 9.2 cm
- Length : 222.8 cm
- Weight : 59.1 kg
- Series : 1329XA
- Mnemonic : DSL
- Measure Point: 48.8 cm: GR MP

DIGITAL ORIENTATION
- Diameter : 8.6 cm



Length : 329.4 cm
Weight : 50.0 kg
Series : 4401XB
Mnemonic : ORIT
Measure Point: 0.0 cm: ORIENT MP

ORIENT MP — 30.11 m

ARRAY ACOUSTILOG ELECTRONICS, 8 CHANNEL
Diameter : 8.6 cm
Length : 238.3 cm
Weight : 46.4 kg
Series : 1677EA
Mnemonic : XMAC

CROSS MULTIPOLE ARRAY ACOUSTILOG
Diameter : 9.5 cm
Length : 332.4 cm
Weight : 101.8 kg
Series : 1678MC
Mnemonic : XMF1
Measure Point: 167.6 cm: R8
Measure Point: 152.4 cm: R7
Measure Point: 137.2 cm: R6
Measure Point: 121.9 cm: R5
Measure Point: 106.7 cm: R4
Measure Point: 91.4 cm: R3
Measure Point: 76.2 cm: R2
Measure Point: 61.0 cm: R1

R8 — 26.08 m
R7 — 25.93 m
R6 — 25.77 m
R5 — 25.62 m
R4 — 25.47 m
R3 — 25.32 m
R2 — 25.17 m
R1 — 25.01 m

SHEAR WAVE ACOUSTILOG
Diameter : 9.2 cm
Length : 152.4 cm
Weight : 61.4 kg
Series : 1678PB
Mnemonic : XMAC

MULTI-POLE ARRAY ACOUSTIC
Diameter : 9.8 cm
Length : 241.3 cm
Weight : 77.3 kg
Series : 1678BA
Mnemonic : XMAC
Measure Point: 195.8 cm: QUADRUPOLE T5
Measure Point: 195.8 cm: MONOPOLE T2
Measure Point: 142.2 cm: Y-DIPOLE T4
Measure Point: 142.2 cm: X-DIPOLE T3
Measure Point: 88.9 cm: MONOPOLE T1

MONOPOLE T2 — 22.42 m
QUADRUPOLE T5 — 22.42 m
X-DIPOLE T3 — 21.89 m
Y-DIPOLE T4 — 21.89 m
MONOPOLE T1 — 21.38 m

MULTI-POLE ARRAY ACOUSTIC
Diameter : 8.6 cm
Length : 131.6 cm
Weight : 26.4 kg
Series : 1678FA
Mnemonic : MAC

KNUCKLE JOINT (DOUBLE)
Diameter : 8.6 cm
Length : 141.8 cm
Weight : 40.9 kg
Series : 3939XA
Mnemonic : KNJT

WTS FOCUS TELEMETRY TRANSFORMER SUB
Diameter : 9.2 cm
Length : 165.7 cm
Weight : 30.5 kg
Series : 3528EB
Mnemonic : ADAP

WTS FOCUS POWER ADAPTOR
Diameter : 9.2 cm
Length : 110.2 cm
Weight : 70.9 kg
Series : 3528FB
Mnemonic : ADAP

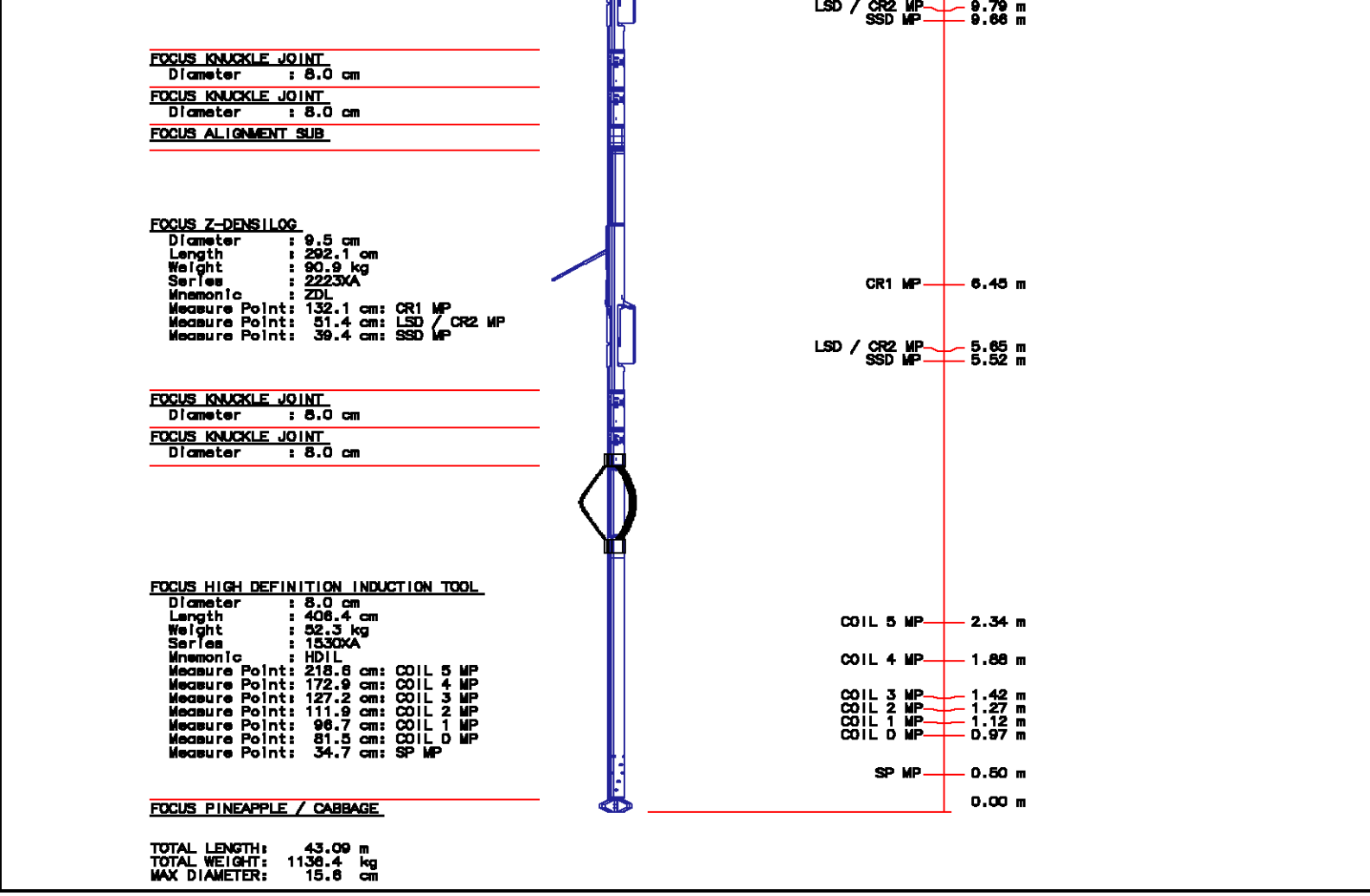
FOCUS TEN/TEMP/MUD RES/ACCEL
Diameter : 8.0 cm
Length : 131.4 cm
Weight : 27.7 kg
Series : 3980XA
Mnemonic : TTMA

FOCUS COMPENSATED NEUTRON
Diameter : 8.0 cm
Length : 146.7 cm
Weight : 29.5 kg
Series : 2438XA
Mnemonic : CN
Measure Point: 58.4 cm: LSN MP
Measure Point: 44.5 cm: SSN MP

LSN MP — 12.78 m
SSN MP — 12.64 m

FOCUS Z-DENSILOG
Diameter : 9.5 cm
Length : 292.1 cm
Weight : 90.9 kg
Series : 2223XA
Mnemonic : ZDL
Measure Point: 132.1 cm: CR1 MP
Measure Point: 51.4 cm: LSD / CR2 MP
Measure Point: 39.4 cm: SSD MP

CR1 MP — 10.59 m



MAIN LOG - UPPER PRESENTATION

eXpress 3.2 Last updated 03Oct2011 09:44 Oct 03, 2011 Thu Jan 31 15:53:43 2013
Updates: 1

Pcrplt /main/61 Cplot 9.16 Pdf_Cpp /main/16 Fileview 4.97

PARAMETER AND FILTER SUMMARY REPORT

FILE: /export/data/ddc/215445/m980g07.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: -0.989 m BOTTOM DEPTH: 405.844 m

SYMMETRIC FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m) TOP	BOTTOM
CHT	FILTER ()	medium (1)		TOP	BOTTOM
TENSION	FILTER ()	medium (1)		''	''
GR	FILTER ()	medium (1)		''	''
CALIPER	FILTER ()	medium (1)		''	''
ZDL MED RES	FILTER (hrd1*)	medium		''	''
	FILTER (hrd12*)	medium		''	''
	FILTER (hrd1s*)	medium		''	''
	FILTER (hrd1s2*)	medium		''	''
	FILTER (hrd2*)	medium		''	''
	FILTER (hrd22*)	medium		''	''
	FILTER (hrd2s*)	medium		''	''

FILTER (hrd2s2*) | medium

BOREHOLE & CEMENT

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
BIT SIZE	BIT SIZE	311.000	mm	TOP	BOTTOM

ACCELERATION PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
ACCEL CORR SWITCH	ACCEL DEPTH CORR	CORRECTION OFF		TOP	BOTTOM

ZDL PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
DENSITY POROSITY	Air Filled Borehole	NO		TOP	BOTTOM

CURVE DESCRIPTION REPORT

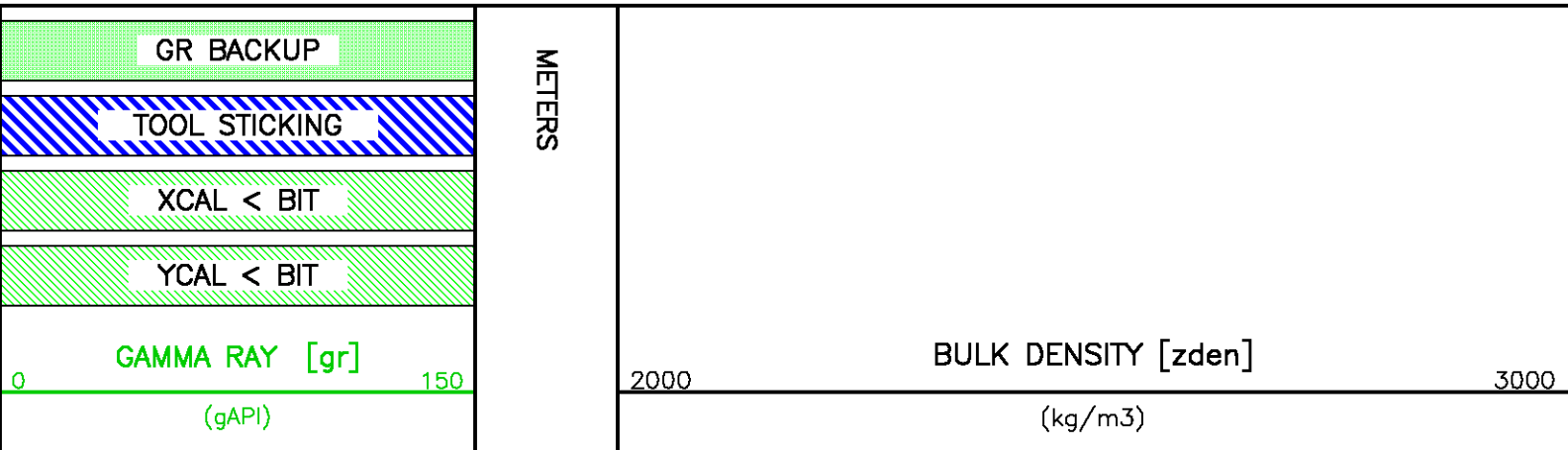
CURVE NAME	CURVE ALIAS	CREATION DATE	CURVE DESCRIPTION
F1:BIT	BIT	Jan 29 21:27:27 2013	BIT SIZE
F1:CALX	CALX	Jan 29 21:27:27 2013	CALIPER FROM X AXIS OF X-Y CALIPER(S)
F1:CALY	CALY	Jan 29 21:27:27 2013	CALIPER FROM Y AXIS OF X-Y CALIPER(S)
F1:CHT	CHT	Jan 29 21:27:27 2013	CABLE HEAD TENSION
F1:CR2	CR2	Jan 29 21:27:27 2013	FOCUS CALIPER FROM SHORT ARM
F1:CR22	CR22	Jan 29 21:27:27 2013	SLIM Z CALIPER FROM SHORT ARM
F1:GR	GR	Jan 29 21:27:27 2013	GAMMA RAY
F1:MMRK	MMRK	Jan 29 21:27:27 2013	MINUTE MARK
F1:PE	PE1	Jan 29 21:27:27 2013	PHOTO ELECTRIC CROSS-SECTION
F1:PE2	PE2	Jan 29 21:27:27 2013	SECOND TOOL PHOTO ELECTRIC CROSS-SECTION
F1:TEN	TEN	Jan 29 21:27:27 2013	DIFFERENTIAL TENSION
F1:ZCOR	ZCOR1	Jan 29 21:27:27 2013	DENSITY CORRECTION
F1:ZCOR2	ZCOR2	Jan 29 21:27:27 2013	SECOND TOOL DENSITY CORRECTION
F1:ZDEN	ZDEN1	Jan 29 21:27:27 2013	FORMATION BULK DENSITY
F1:ZDEN2	ZDEN2	Jan 29 21:27:27 2013	SECOND TOOL FORMATION BULK DENSITY

CURVE MEASURE POINT OFFSET

CURVE	OFFSET (m)	CURVE	OFFSET (m)	CURVE	OFFSET (m)	CURVE	OFFSET (m)
BIT	0.00	CR2	9.64	PE2	5.49	ZDEN	9.64
CALX	9.64	CR22	5.49	TEN	0.00	ZDEN2	5.49
CALY	5.49	GR	33.76	ZCOR	9.64		
CHT	0.00	PE	9.64	ZCOR2	5.49		

Project : /data/ddc/215445
User : tuyan
Presentation : calsunsrv3:/data/ddc/215445/zdl2_upper.pdf [1:600 Scale]
Plot Interval : 23 - 406.146 Meters

Data File 1 : F1 : calsunsrv3:/export/data/ddc/215445/slam_main.xtf
Created On : Jan 29 21:27:27 2013
Company : MGM ENERGY CORP
Well : MGM SHELL EAST MACKAY I-78
Field : EAST MACKAY
File Interval : -37.2618 - 406.184 Meters
Oct : m980g



ZDL Caliper X [calx]
175 425
(mm)

ZDL Caliper Y [caly]
175 425
(mm)

BIT SIZE
175 425
(mm)

ZDL Pad Caliper [cr2]
0 250
(mm)

ZDL2 Pad Caliper [cr22]
0 250
(mm)

DIFF. TENSION [ten]
1900 −100
(kgf)

CH-TENSION [cht]
5000 0
(kgf)

MINUTE MARK
−1

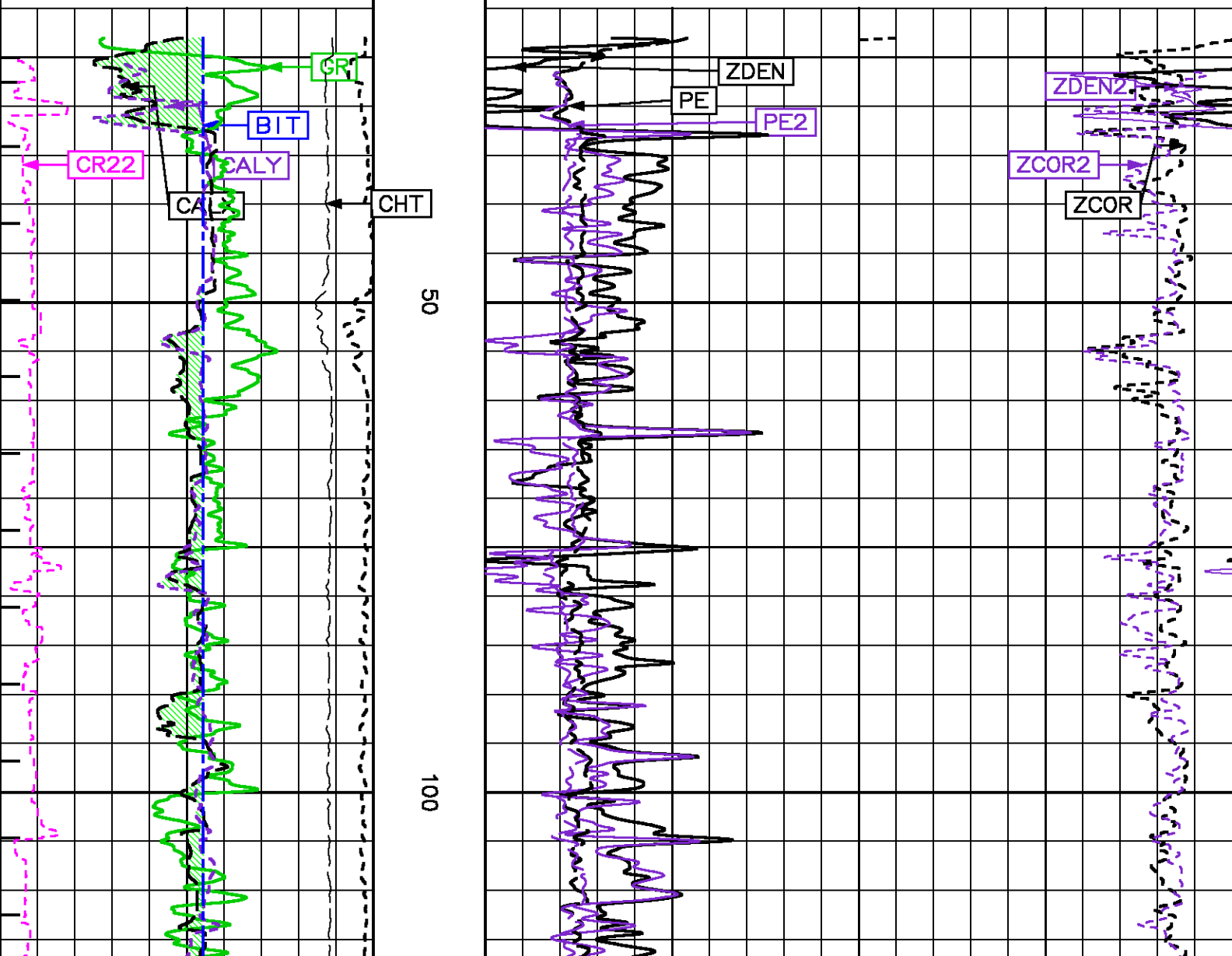
BULK DENSITY − 2 [zden2]
2000 3000
(kg/m3)

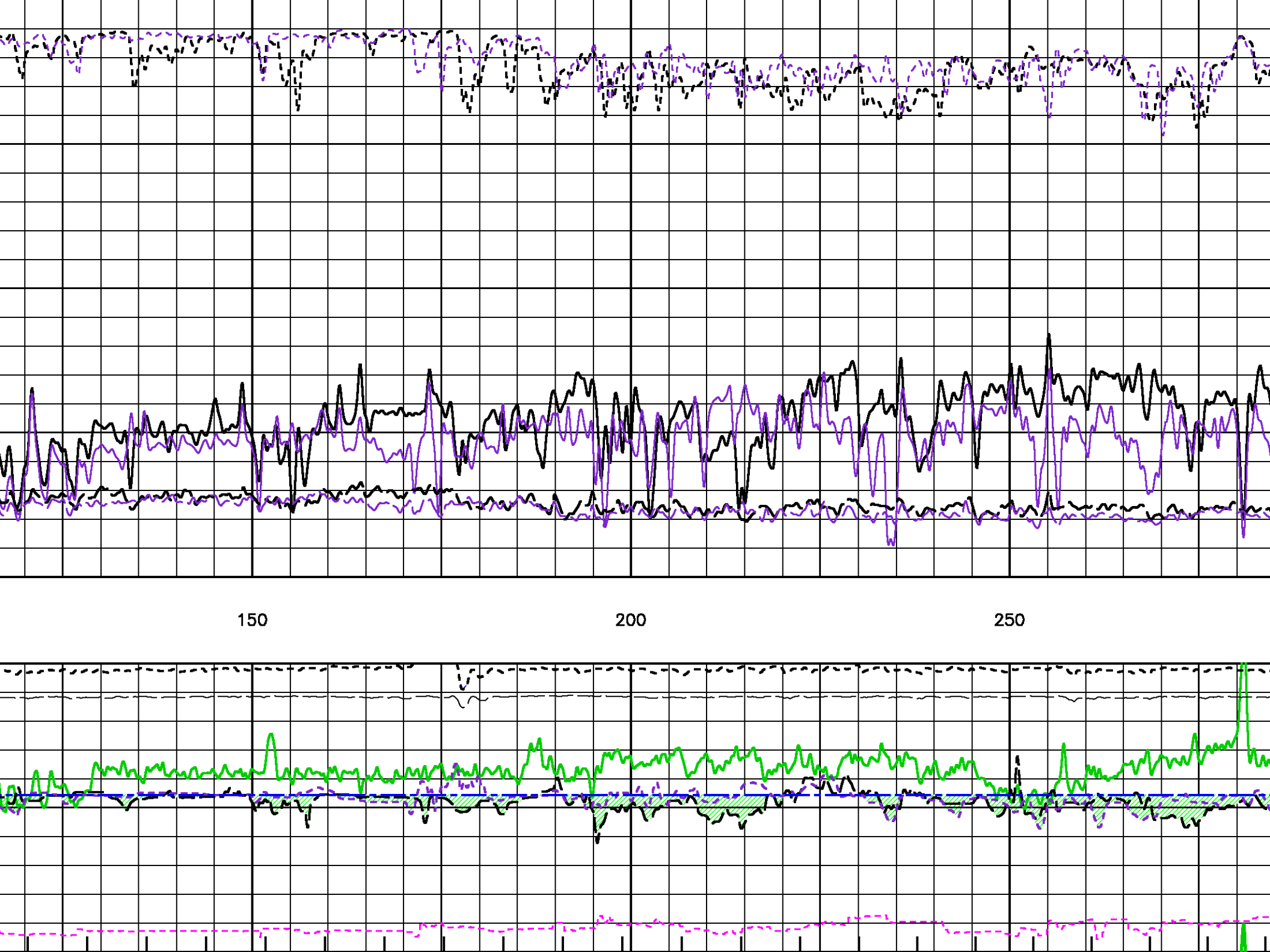
P.E. [pe]
0 10
(b/e)

Z−CORR [zcor]
450 −50
(kg/m3)

P.E.−2 [pe2]
0 10
(b/e)

ZCOR−2 [zcor2]
450 −50
(kg/m3)

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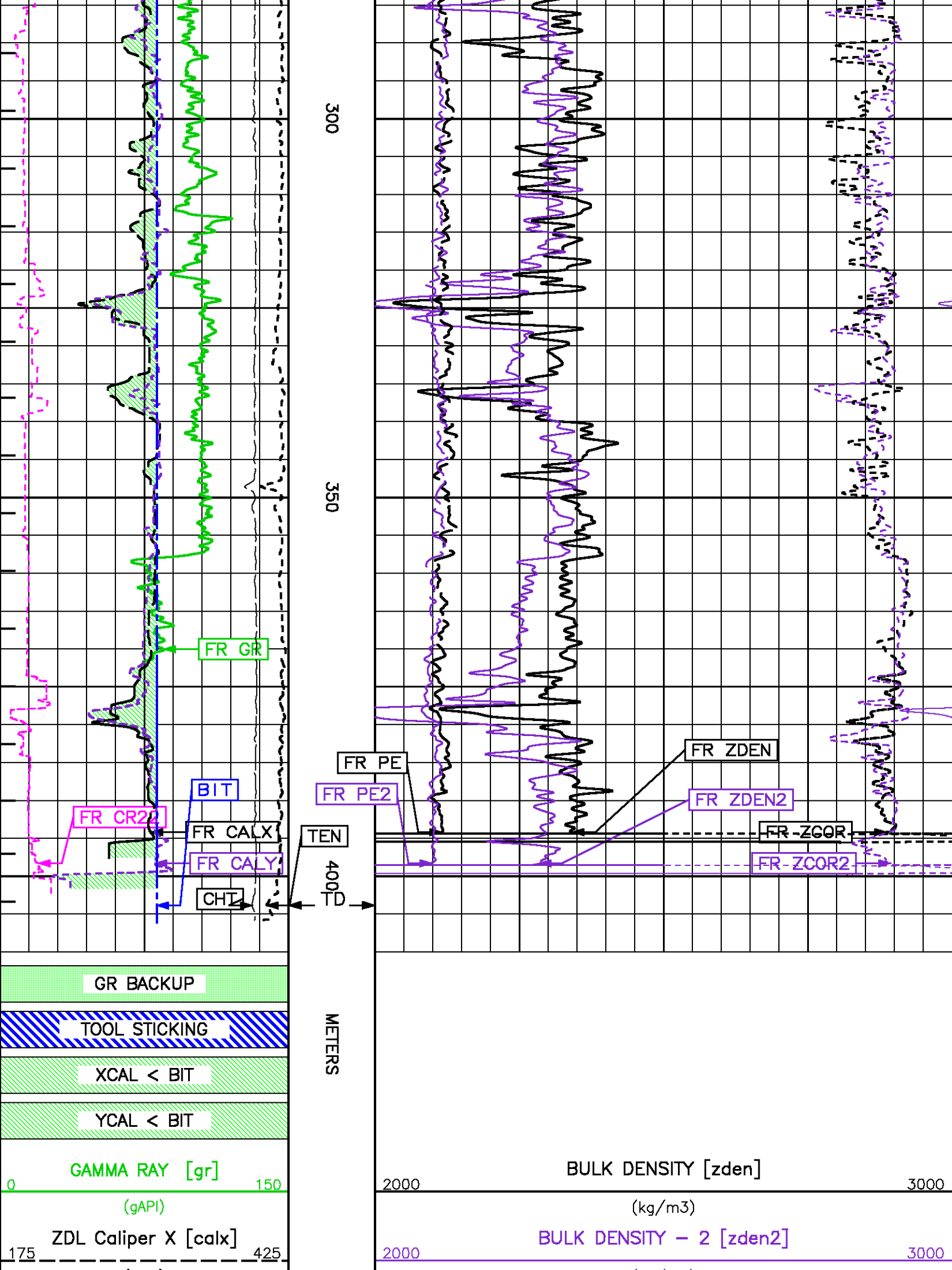
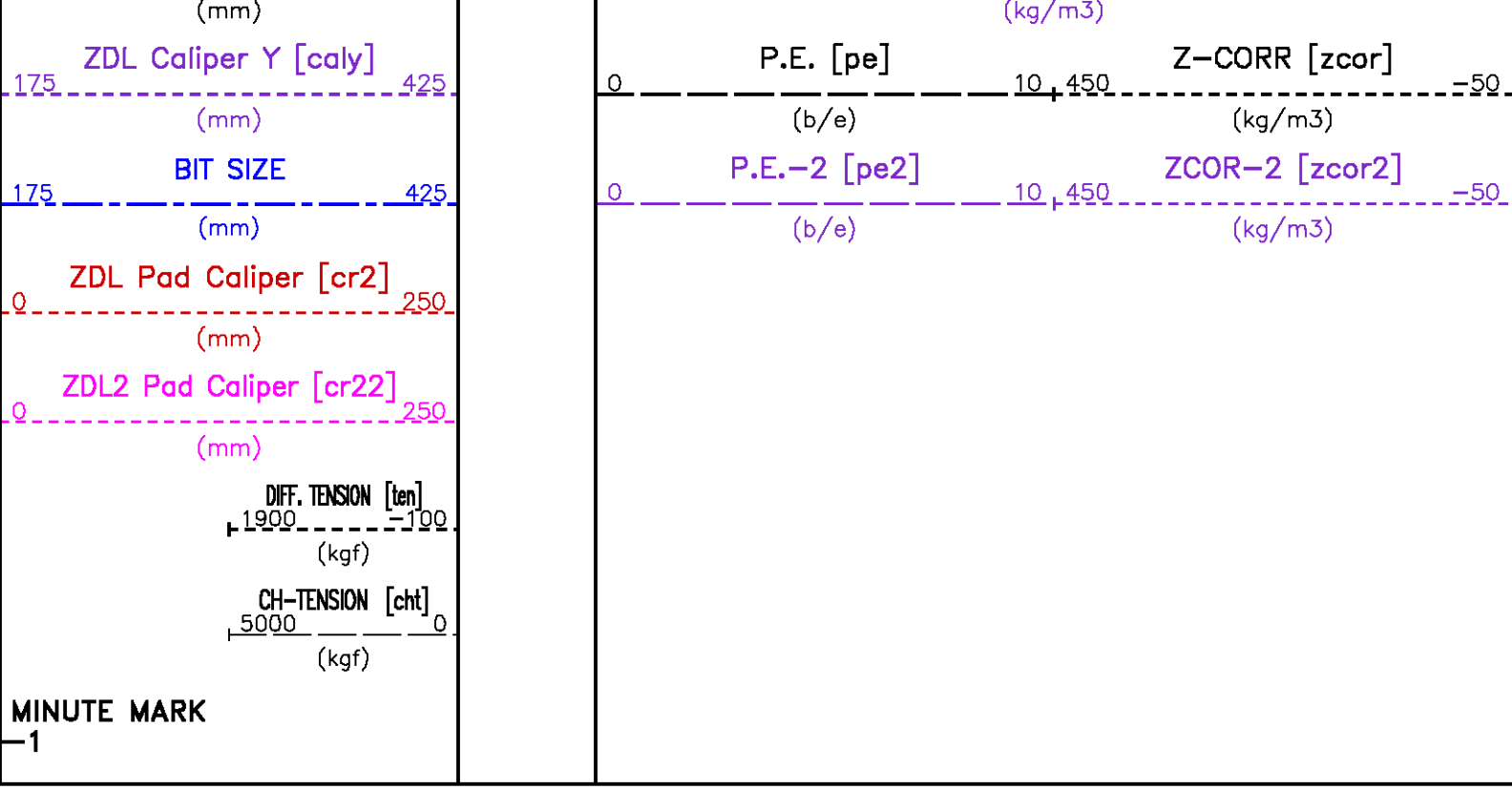
200
250


300
350
400
METERS
FR GR
BIT
FR CR2
FR CALX
FR CALY
CHT
TEN
TD
FR PE
FR PE2
FR ZDEN
FR ZDEN2
FR ZCOR
FR ZCOR2
GR BACKUP
TOOL STICKING
XCAL < BIT
YCAL < BIT
GAMMA RAY [gr]
0
150
(gAPI)
ZDL Caliper X [calx]
175
425
BULK DENSITY [zden]
2000
3000
(kg/m3)
BULK DENSITY – 2 [zden2]
2000
3000



MAIN LOG - SANDSTONE MATRIX

eXpress 3.2 Last updated 03Oct2011 09:44 Oct 03, 2011
Updates: 1

Thu Jan 31 15:54:52 2013

Pcrplt /main/61 Cplot 9.16 Pdf_Cpp /main/16 Fileview 4.97

PARAMETER AND FILTER SUMMARY REPORT

FILE: /export/data/ddc/215445/m980g07.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: -0.989 m BOTTOM DEPTH: 405.844 m

SYMMETRIC FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m) TOP	BOTTOM
CHT	FILTER ()	medium (1)		TOP	BOTTOM
TENSION	FILTER ()	medium (1)		''	''
GR	FILTER ()	medium (1)		''	''
CALIPER	FILTER ()	medium (1)		''	''
CN MED RES	FILTER ()	medium (1)		''	''
ZDL MED RES	FILTER (hrd1*)	medium		''	''
	FILTER (hrd12*)	medium		''	''
	FILTER (hrd1s*)	medium		''	''
	FILTER (hrd1s2*)	medium		''	''
	FILTER (hrd2*)	medium		''	''
	FILTER (hrd22*)	medium		''	''
	FILTER (hrd2s*)	medium		''	''
	FILTER (hrd2s2*)	medium		''	''

BOREHOLE & CEMENT

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m) TOP	BOTTOM
CASING - BOREHOLE & CEMENT VOLUME	CASING O.D.	244.500	mm	TOP	BOTTOM

CASING THICKNESS		0.000	mm		
BIT SIZE	BIT SIZE	311.000	mm	''	''
BOREHOLE CORR DIAMETER SOURCE	CALIPER/FIXED DIA. (cnbh*)	USE CALIPER		''	''
BOREHOLE CORR DIAMETER	FIXED DIAMETER (cnbh*)	311.000	mm	''	''
X-Y COMBINED CALIPER PROCESSING-FOCUSY Caliper - FOCUS		Average		''	''

ACCELERATION PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
ACCEL CORR SWITCH	ACCEL DEPTH CORR	CORRECTION OFF		TOP	BOTTOM

CN PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
CN BOREHOLE CORRECTION	SALINITY	0	ppm	TOP	BOTTOM
	BOREHOLE CORRECTION	ON		''	''
CN CASING & CEMENT CORRECTION	CORRECTION	OFF		''	''
	BIT SIZE BEHIND CSNG	500.000	mm	''	''

ZDL PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
DENSITY POROSITY	Air Filled Borehole	NO		TOP	BOTTOM
	RHOfluid	1.000	g/cm3	''	''
	RHOmatrix (sand)	2.650	g/cm3	''	''

CURVE DESCRIPTION REPORT

CURVE NAME	CURVE ALIAS	CREATION DATE	CURVE DESCRIPTION
F1:BIT	BIT	Jan 29 21:27:27 2013	BIT SIZE
F1:CALX	CALX	Jan 29 21:27:27 2013	CALIPER FROM X AXIS OF X-Y CALIPER(S)
F1:CALY	CALY	Jan 29 21:27:27 2013	CALIPER FROM Y AXIS OF X-Y CALIPER(S)
F1:CHT	CHT	Jan 29 21:27:27 2013	CABLE HEAD TENSION
F1:CNCSS	CNCSS	Jan 29 21:27:27 2013	BH SIZE CORR. SANDSTONE COMPENSATED NEUTRON POROSITY
F1:CR2	CR2	Jan 29 21:27:27 2013	FOCUS CALIPER FROM SHORT ARM
F1:CR22	CR22	Jan 29 21:27:27 2013	SLIM Z CALIPER FROM SHORT ARM
F1:GR	GR	Jan 29 21:27:27 2013	GAMMA RAY
F1:MMRK	MMRK	Jan 29 21:27:27 2013	MINUTE MARK
F1:PE	PE	Jan 29 21:27:27 2013	PHOTO ELECTRIC CROSS-SECTION
F1:PE2	PE2	Jan 29 21:27:27 2013	SECOND TOOL PHOTO ELECTRIC CROSS-SECTION
F1:PZSS	PZSS	Jan 29 21:27:27 2013	POROSITY FOR SANDSTONE MATRIX
F1:PZSS2	PZSS2	Jan 29 21:27:27 2013	2ND TOOL POROSITY FOR SANDSTONE MATRIX
F1:TEN	TEN	Jan 29 21:27:27 2013	DIFFERENTIAL TENSION
F1:ZCOR	ZCOR	Jan 29 21:27:27 2013	DENSITY CORRECTION
F1:ZCOR2	ZCOR2	Jan 29 21:27:27 2013	SECOND TOOL DENSITY CORRECTION

CURVE MEASURE POINT OFFSET

CURVE	OFFSET (m)	CURVE	OFFSET (m)	CURVE	OFFSET (m)	CURVE	OFFSET (m)
BIT	0.00	CNCSS	12.50	PE	9.64	TEN	0.00
CALX	9.64	CR2	9.64	PE2	5.49	ZCOR	9.64
CALY	5.49	CR22	5.49	PZSS	9.64	ZCOR2	5.49
CHT	0.00	GR	33.76	PZSS2	5.49		

Project : /data/ddc/215445
User : tuyan
Presentation : calsunsrv3:/data/ddc/215445/zdl2_main_ss.pdf [1:240 Scale]
Plot Interval : 23 - 405 Meters

Data File 1 : F1 : calsunsrv3:/export/data/ddc/215445/slam_main.xtf
Created On : Jan 29 21:27:27 2013
Company : MGM ENERGY CORP
Well : MGM SHELL EAST MACKAY 1-78
Field : EAST MACKAY
File Interval : -37.2618 - 406.184 Meters
Oct : m980g

GR BACKUP

TOOL STICKING

METERS

XCAL < BIT

YCAL < BIT

GAMMA RAY [gr]
0 150
(gAPI)

ZDL Caliper X [calx]
175 425
(mm)

ZDL Caliper Y [caly]
175 425
(mm)

BIT SIZE
175 425
(mm)

ZDL Pad Caliper [cr2]
0 250
(mm)

ZDL2 Pad Caliper [cr22]
0 250
(mm)

DIFF. TENSION [ten]
1900 −100
(kgf)

CH-TENSION [cht]
5000 0
(kgf)

MINUTE MARK
−1

NEUTRON SANDSTONE POROSITY [cncss]
60 0
(pu)

Z-DENSITY SANDSTONE POROSITY [pzss]
60 0
(pu)

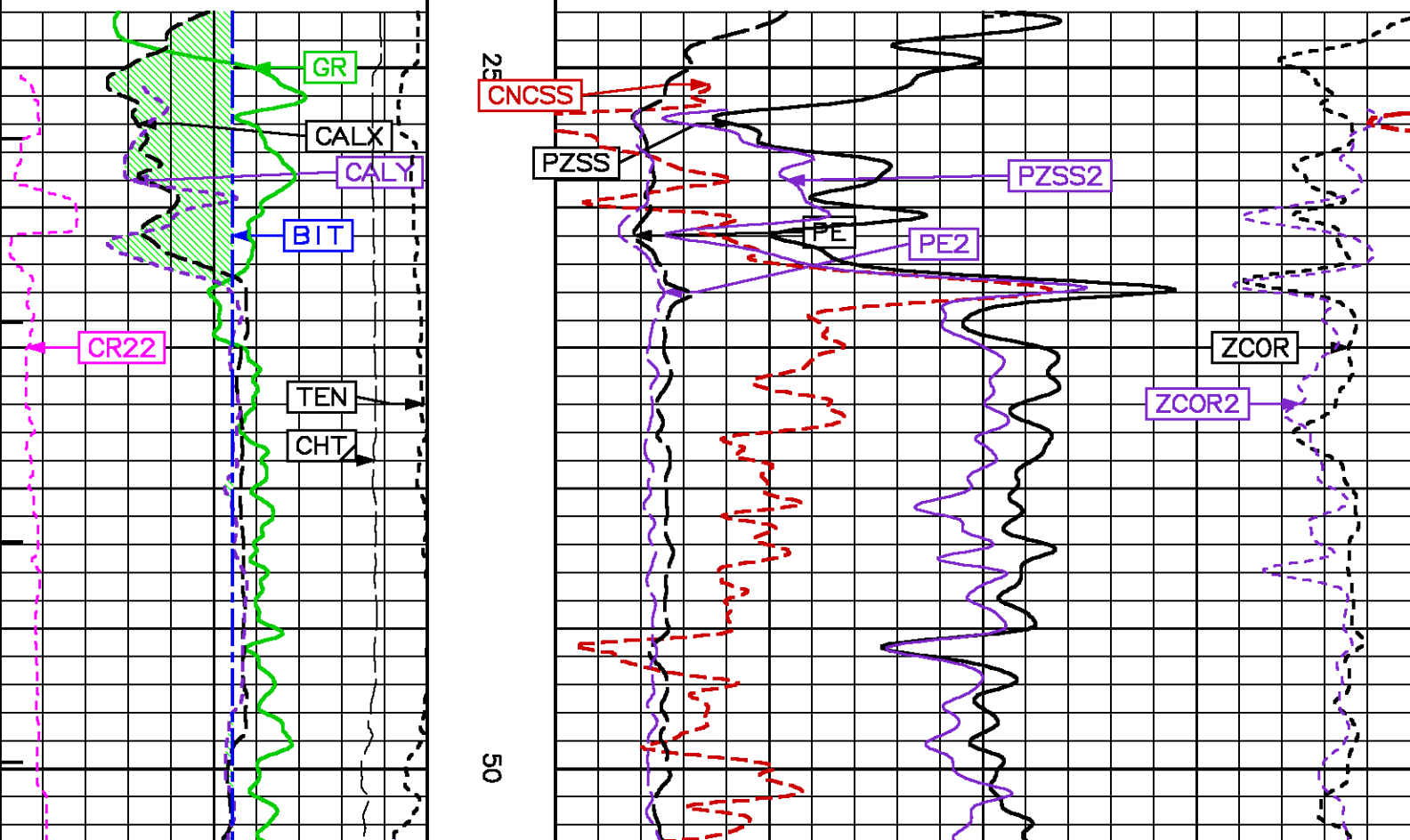
Z-DENSITY-2 SANDSTONE POROSITY [pzss2]
60 0
(pu)

P.E. [pe]
0 10

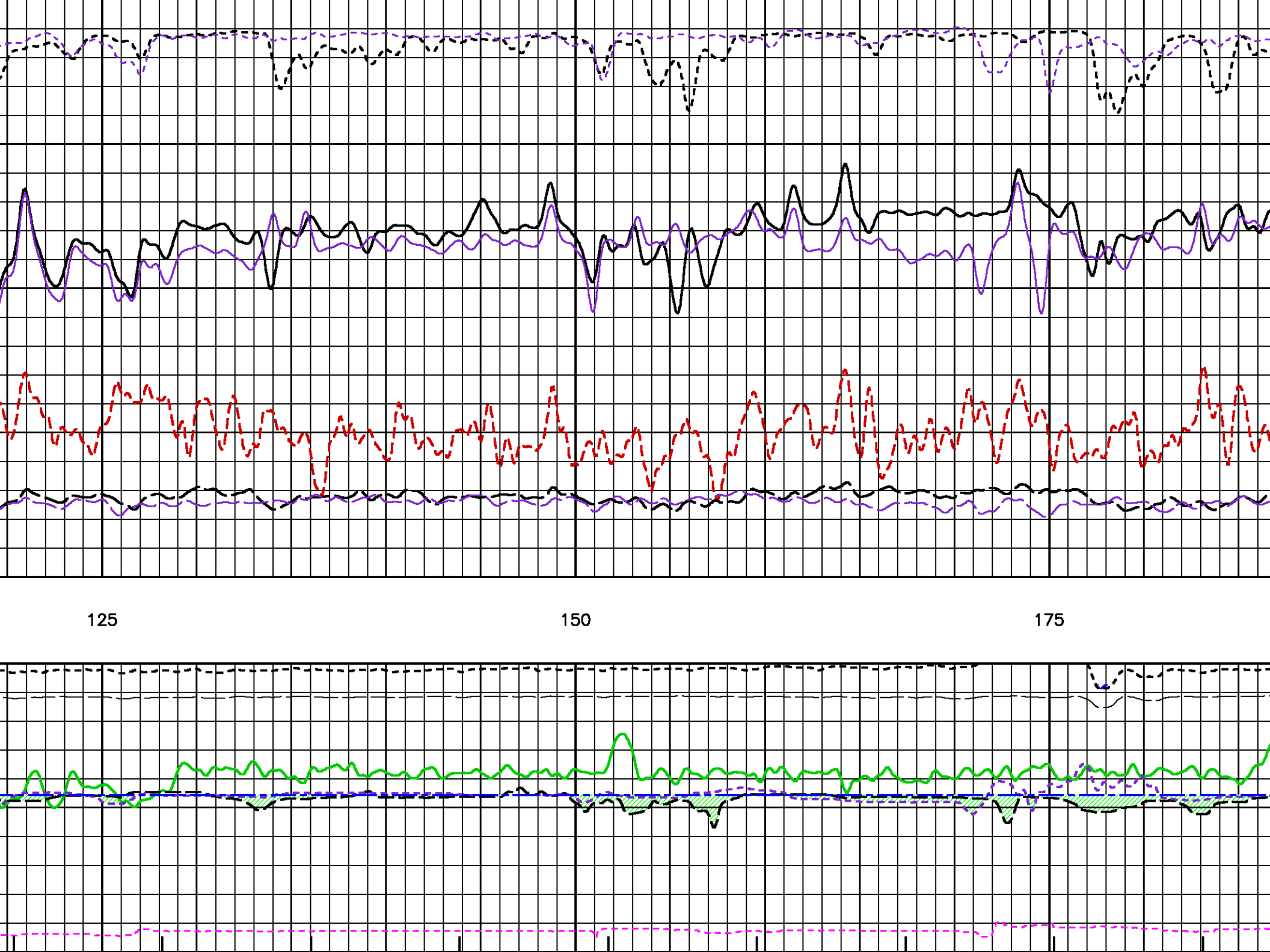
Z-CORR [zcor]
450 −50
(b/e) (kg/m3)

P.E.-2 [pe2]
0 10

ZCOR-2 [zcor2]
450 −50
(b/e) (kg/m3)



75
100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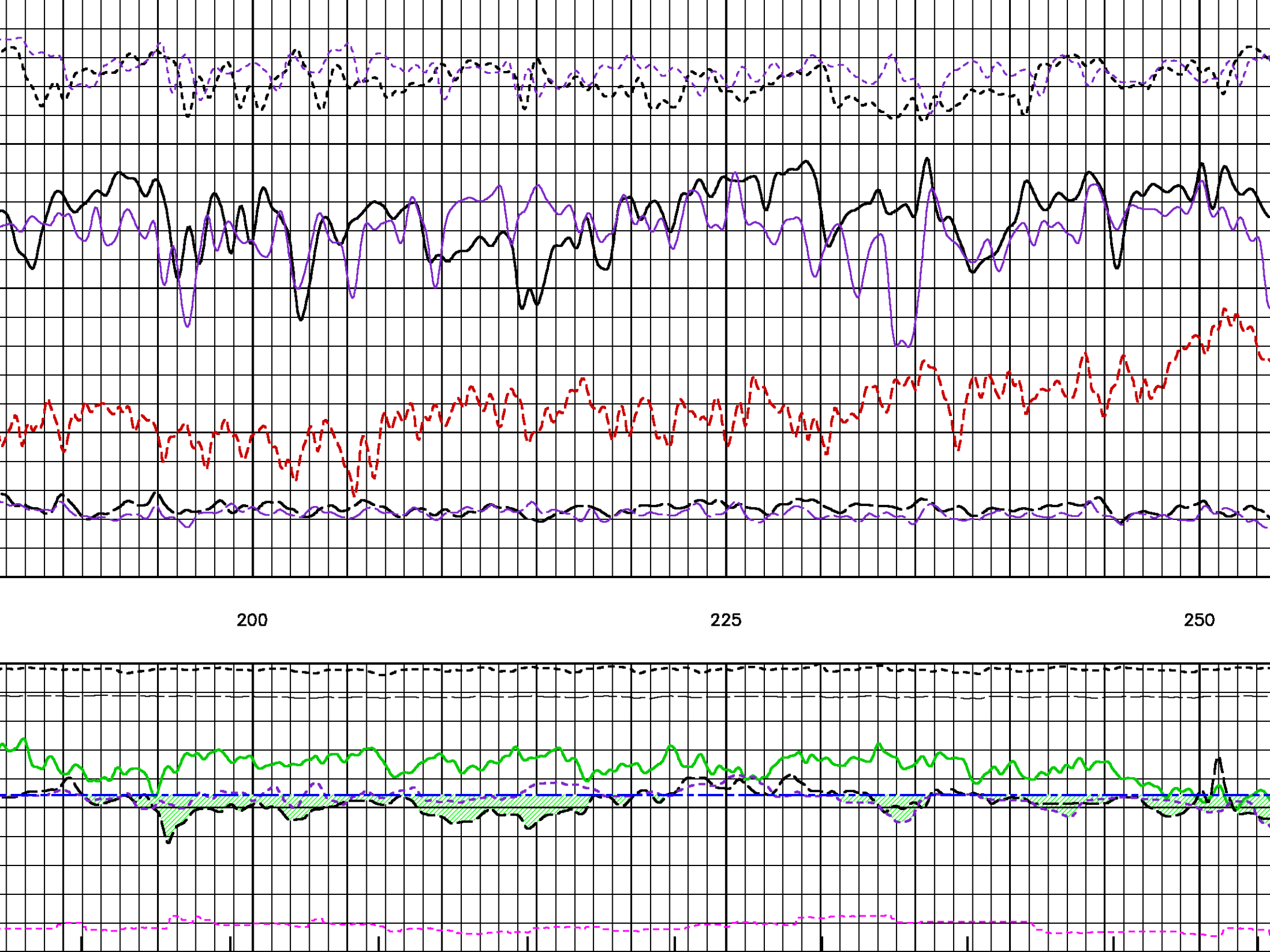
150
175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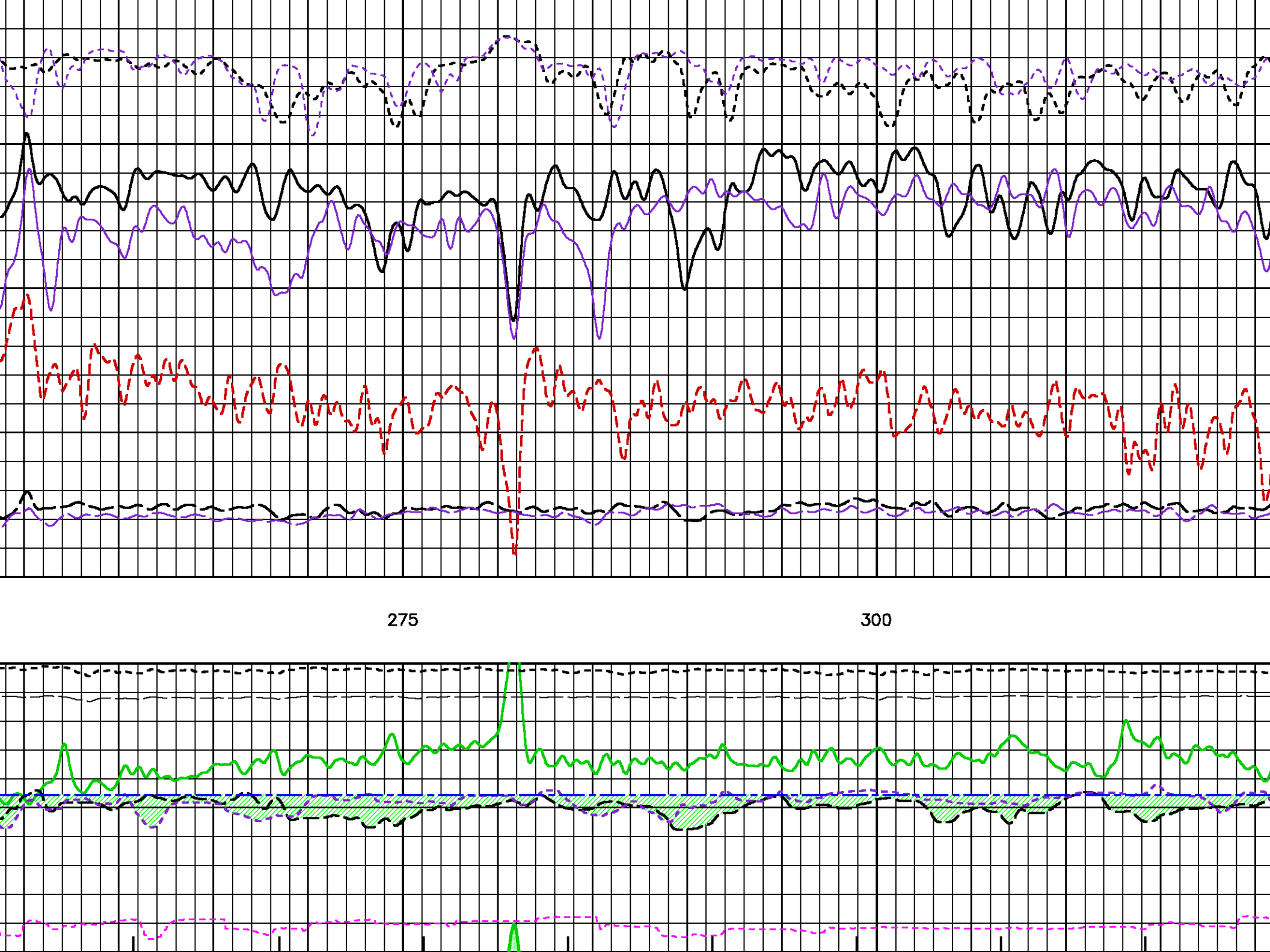
225
250

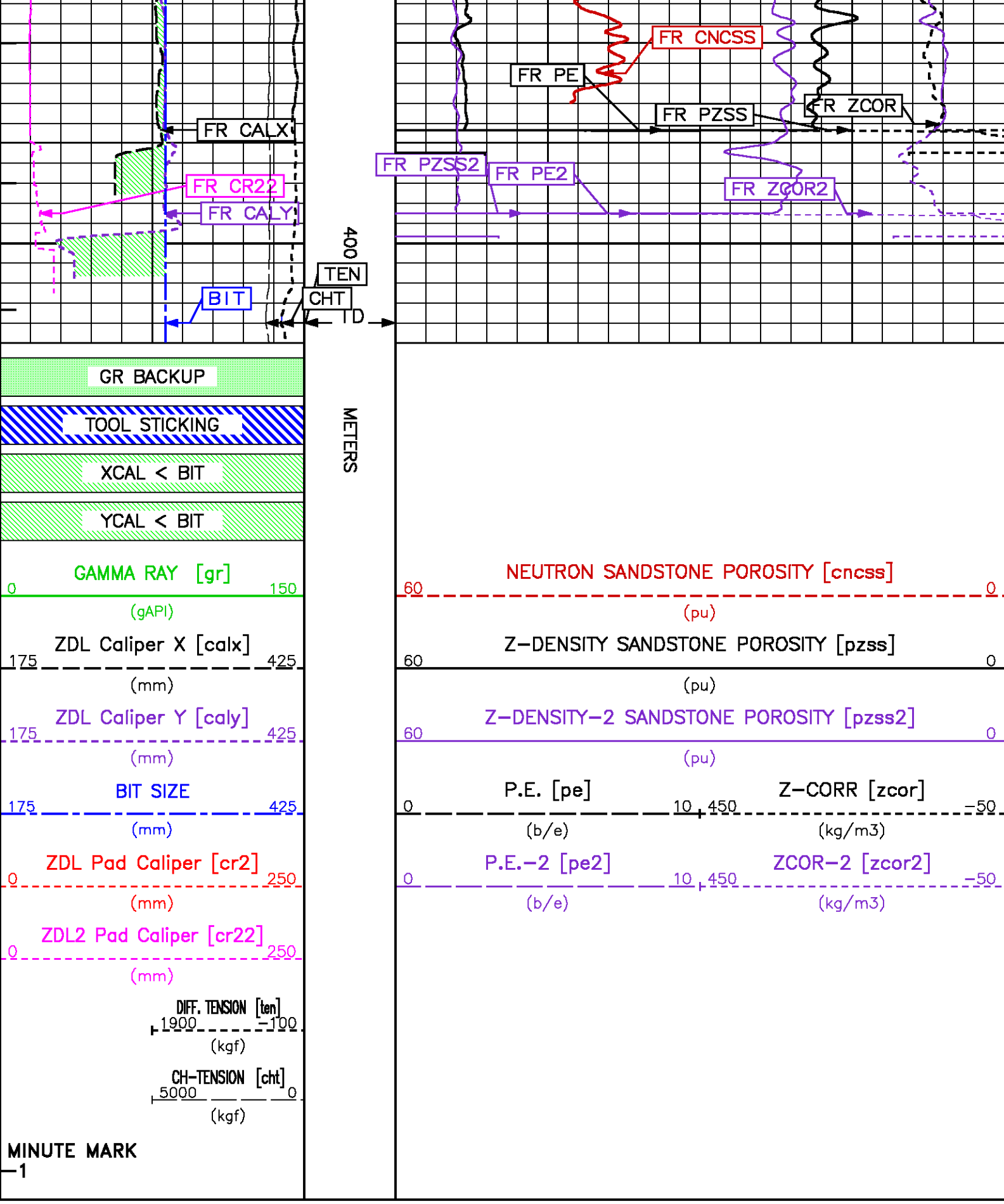

275
300

325

350

FR GR

375



REPEAT LOG - SANDSTONE MATRIX

eXpress 3.2 Last updated 03Oct2011 09:44 Oct 03, 2011 Thu Jan 31 15:56:29 2013
Updates: 1

Pcrplt /main/61 Cplot 9.16 Pdf_Cpp /main/16 Fileview 4.97

PARAMETER AND FILTER SUMMARY REPORT

FILE: /export/data/ddc/215445/m980g06.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 224.703 m BOTTOM DEPTH: 341.552 m

SYMMETRIC FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m) TOP	BOTTOM
CHT	FILTER ()	medium (1)		TOP	BOTTOM
TENSION	FILTER ()	medium (1)		''	''
GR	FILTER ()	medium (1)		''	''
CALIPER	FILTER ()	medium (1)		''	''
CN MED RES	FILTER ()	medium (1)		''	''
ZDL MED RES	FILTER (hrd1*)	medium		''	''
	FILTER (hrd12*)	medium		''	''
	FILTER (hrd1s*)	medium		''	''
	FILTER (hrd1s2*)	medium		''	''
	FILTER (hrd2*)	medium		''	''
	FILTER (hrd22*)	medium		''	''
	FILTER (hrd2s*)	medium		''	''
	FILTER (hrd2s2*)	medium		''	''

BOREHOLE & CEMENT

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m) TOP	BOTTOM
CASING - BOREHOLE & CEMENT VOLUME	CASING O.D.	244.500	mm	TOP	BOTTOM
	CASING THICKNESS	0.000	mm	''	''
BIT SIZE	BIT SIZE	311.000	mm	''	''
BOREHOLE CORR DIAMETER SOURCE	CALIPER/FIXED DIA. (cnbh*)	USE CALIPER		''	''
BOREHOLE CORR DIAMETER	FIXED DIAMETER (cnbh*)	311.000	mm	''	''
X-Y COMBINED CALIPER PROCESSING-FOCUS	SY Caliper - FOCUS	Average		''	''

ACCELERATION PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m) TOP	BOTTOM
ACCEL CORR SWITCH	ACCEL DEPTH CORR	CORRECTION OFF		TOP	340.309
		CORRECTION ON		340.309	BOTTOM

CN PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m) TOP	BOTTOM
CN BOREHOLE CORRECTION	SALINITY	0	ppm	TOP	BOTTOM
	BOREHOLE CORRECTION	ON		''	''
CN CASING & CEMENT CORRECTION	CORRECTION	OFF		''	''
	BIT SIZE BEHIND CSNG	500.000	mm	''	''

ZDL PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m) TOP	BOTTOM
DENSITY POROSITY	Air Filled Borehole	NO		TOP	BOTTOM
	RHOfluid	1.000	g/cm3	''	''
	RHOmatrix (sand)	2.650	g/cm3	''	''

PARAMETER AND FILTER SUMMARY REPORT

FILE: /export/data/ddc/215445/m980g07.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: -0.989 m BOTTOM DEPTH: 405.844 m

SYMMETRIC FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)

CHT	FILTER ()	medium (1)	TOP	BOTTOM
TENSION	FILTER ()	medium (1)	''	''
GR	FILTER ()	medium (1)	''	''
CALIPER	FILTER ()	medium (1)	''	''
CN MED RES	FILTER ()	medium (1)	''	''
ZDL MED RES	FILTER (hrd1*)	medium	''	''
	FILTER (hrd12*)	medium	''	''
	FILTER (hrd1s*)	medium	''	''
	FILTER (hrd1s2*)	medium	''	''
	FILTER (hrd2*)	medium	''	''
	FILTER (hrd22*)	medium	''	''
	FILTER (hrd2s*)	medium	''	''
	FILTER (hrd2s2*)	medium	''	''

BOREHOLE & CEMENT

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
CASING - BOREHOLE & CEMENT VOLUME	CASING O.D.	244.500	mm	TOP	BOTTOM
	CASING THICKNESS	0.000	mm	''	''
BIT SIZE	BIT SIZE	311.000	mm	''	''
BOREHOLE CORR DIAMETER SOURCE	CALIPER/FIXED DIA. (cnbh*)	USE CALIPER		''	''
BOREHOLE CORR DIAMETER	FIXED DIAMETER (cnbh*)	311.000	mm	''	''
X-Y COMBINED CALIPER PROCESSING-FOCUS	SY Caliper - FOCUS	Average		''	''

ACCELERATION PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
ACCEL CORR SWITCH	ACCEL DEPTH CORR	CORRECTION OFF		TOP	BOTTOM

CN PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
CN BOREHOLE CORRECTION	SALINITY	0	ppm	TOP	BOTTOM
	BOREHOLE CORRECTION	ON		''	''
CN CASING & CEMENT CORRECTION	CORRECTION	OFF		''	''
	BIT SIZE BEHIND CSNG	500.000	mm	''	''

ZDL PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
DENSITY POROSITY	Air Filled Borehole	NO		TOP	BOTTOM
	RHOfluid	1.000	g/cm3	''	''
	RHOmatrix (sand)	2.650	g/cm3	''	''

CURVE DESCRIPTION REPORT

CURVE NAME	CURVE ALIAS	CREATION DATE	CURVE DESCRIPTION
F1:BIT	BIT	Jan 29 20:52:41 2013	BIT SIZE
F1:CALX	CALX	Jan 29 20:52:41 2013	CALIPER FROM X AXIS OF X-Y CALIPER(S)
F1:CALY	CALY	Jan 29 20:52:41 2013	CALIPER FROM Y AXIS OF X-Y CALIPER(S)
F1:CHT	CHT	Jan 29 20:52:41 2013	CABLE HEAD TENSION
F1:CNCSS	CNCSS	Jan 29 20:52:41 2013	BH SIZE CORR. SANDSTONE COMPENSATED NEUTRON POROSITY
F1:CR2	CR2	Jan 29 20:52:41 2013	FOCUS CALIPER FROM SHORT ARM
F1:CR22	CR22	Jan 29 20:52:41 2013	SLIM Z CALIPER FROM SHORT ARM
F1:GR	GR	Jan 29 20:52:41 2013	GAMMA RAY
F1:MMRK	MMRK	Jan 29 20:52:41 2013	MINUTE MARK
F2:PE	PE01	Jan 29 21:27:27 2013	PHOTO ELECTRIC CROSS-SECTION
F2:PE2	PE201	Jan 29 21:27:27 2013	SECOND TOOL PHOTO ELECTRIC CROSS-SECTION
F2:PZSS	PZSS01	Jan 29 21:27:27 2013	POROSITY FOR SANDSTONE MATRIX
F1:PZSS2	PZSS2	Jan 29 20:52:41 2013	2ND TOOL POROSITY FOR SANDSTONE MATRIX
F1:TEN	TEN	Jan 29 20:52:41 2013	DIFFERENTIAL TENSION
F1:ZCOR	ZCOR	Jan 29 20:52:41 2013	DENSITY CORRECTION
F1:ZCOR2	ZCOR2	Jan 29 20:52:41 2013	SECOND TOOL DENSITY CORRECTION

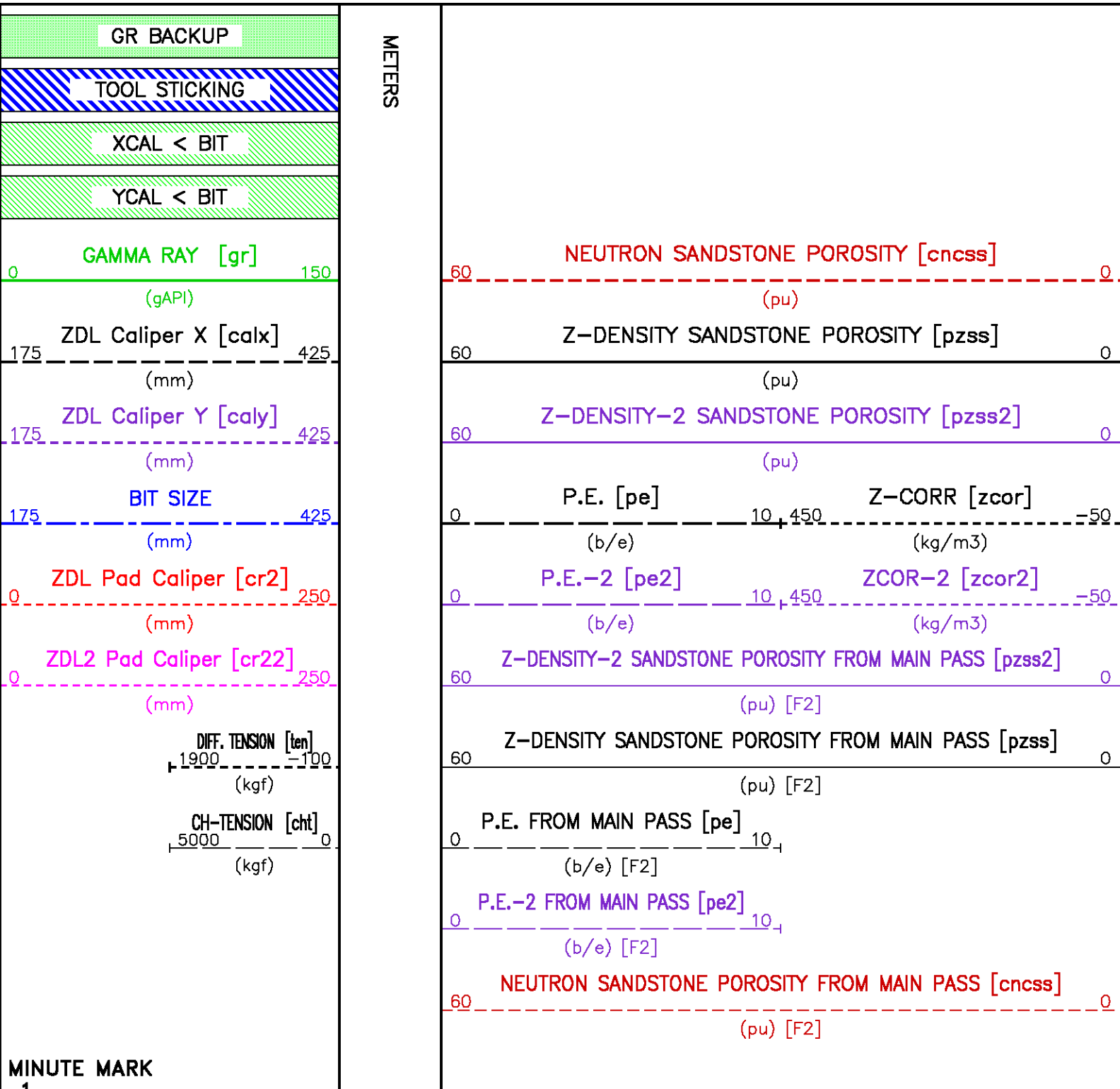
CURVE MEASURE POINT OFFSET

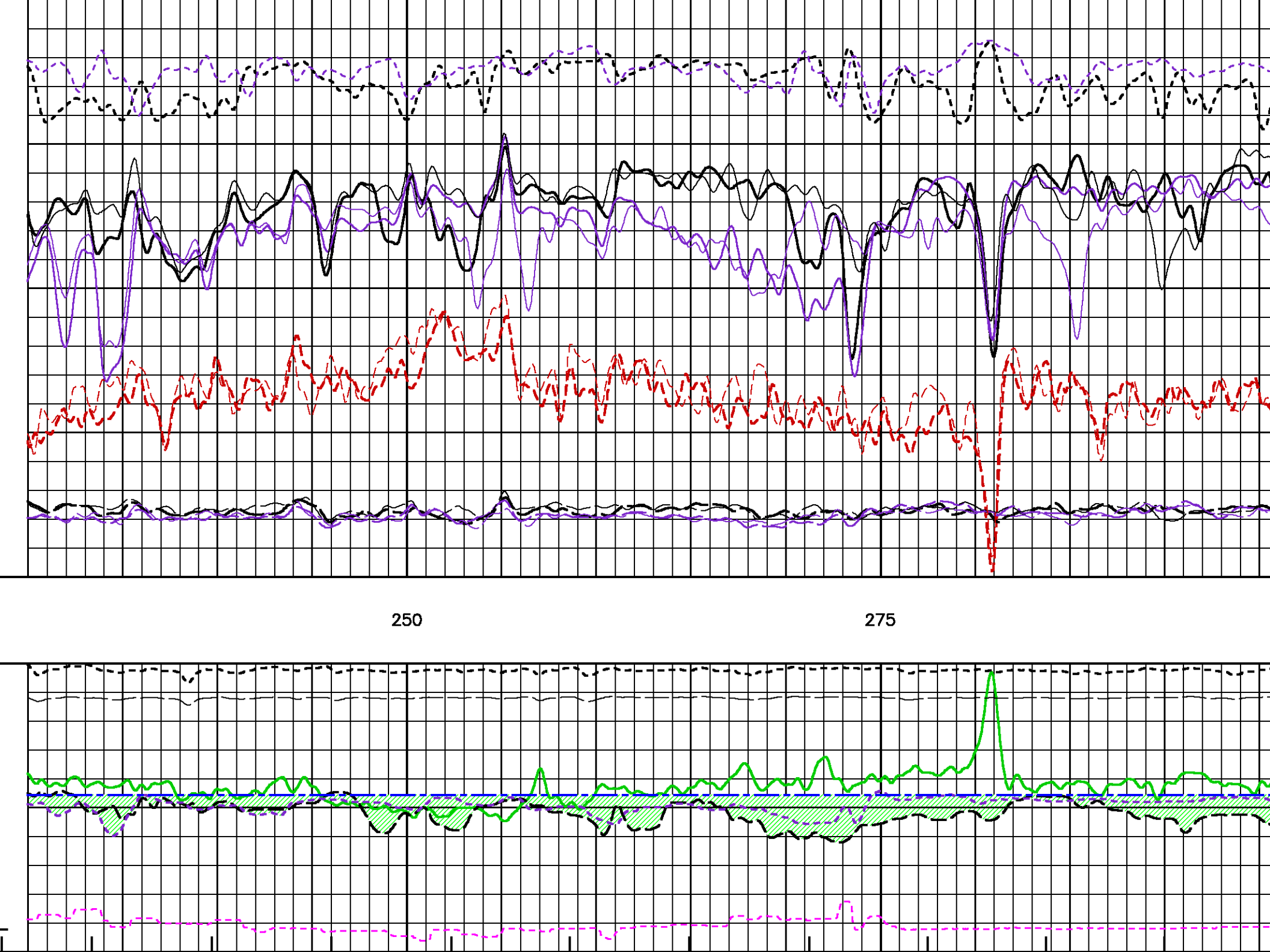
CURVE	OFFSET (m)	CURVE	OFFSET (m)	CURVE	OFFSET (m)	CURVE	OFFSET (m)
BIT	0.00	CNCSS	12.50	PE	9.64	TEN	0.00
CALX	9.64	CR2	9.64	PE2	5.49	ZCOR	9.64
CALY	5.49	CR22	5.49	PZSS	9.64	ZCOR2	5.49
CHT	0.00	GR	33.76	PZSS2	5.49		

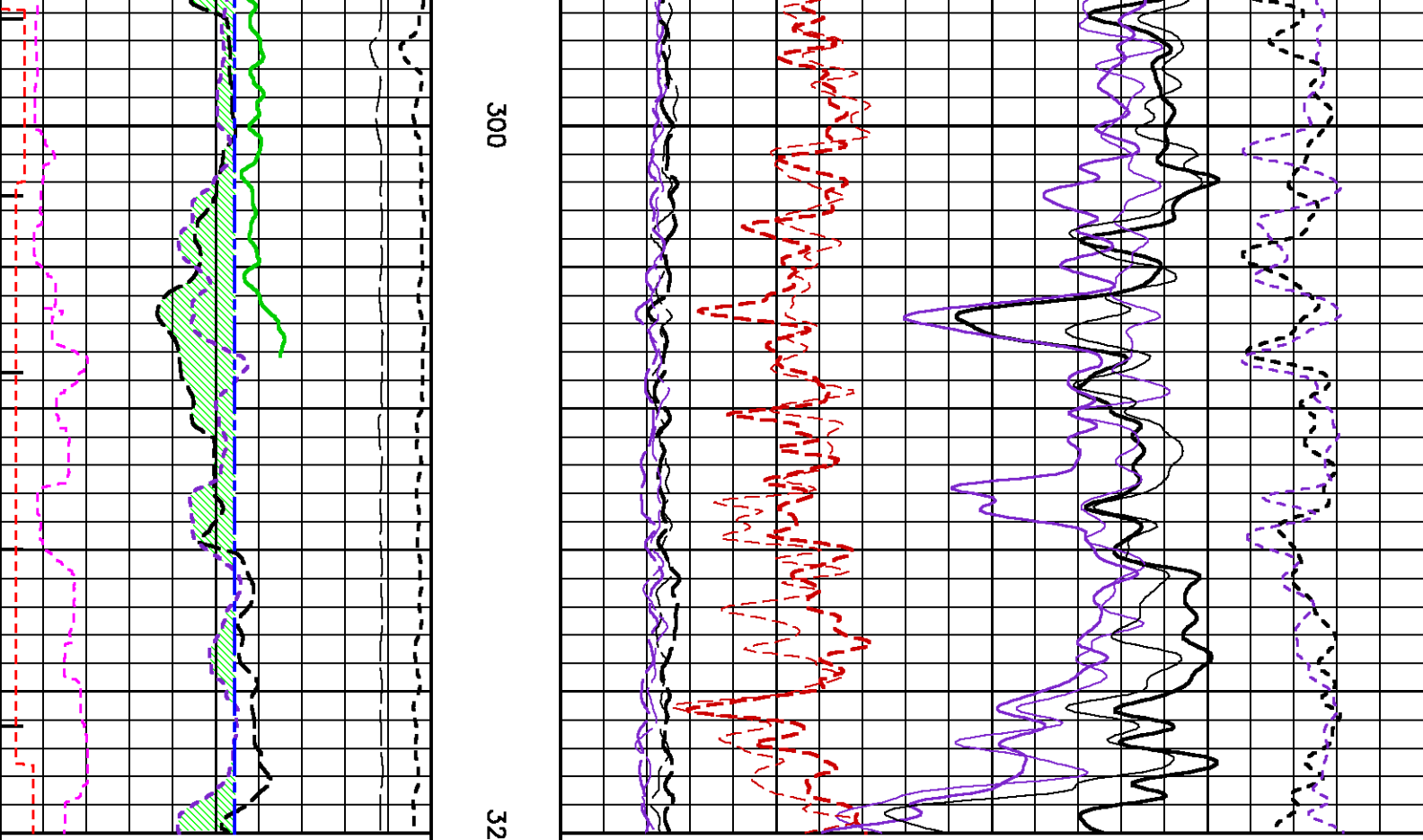
Project : /data/ddc/215445
User : tuyan
Presentation : calsunsrv3:/data/ddc/215445/zdl2_rpt_ss.pdf [1:240 Scale]
Plot Interval : 230 - 325 Meters

Data File 1 : F1 : calsunsrv3:/export/data/ddc/215445/slam_rpt.xtf
Created On : Jan 29 20:52:41 2013
Company : MGM ENERGY CORP
Well : MGM SHELL EAST MACKAY I-78
Field : EAST MACKAY
File Interval : 188.671 - 342.519 Meters
Oct : m980g

Data File 2 : F2 : calsunsrv3:/export/data/ddc/215445/slam_main.xtf
Created On : Jan 29 21:27:27 2013
Company : MGM ENERGY CORP
Well : MGM SHELL EAST MACKAY I-78
Field : EAST MACKAY
File Interval : -37.2618 - 406.184 Meters
Oct : m980g




250
275



300

325

METERS

GR BACKUP

TOOL STICKING

XCAL < BIT

YCAL < BIT

GAMMA RAY [gr]
0 150
(gAPI)

ZDL Caliper X [calx]
175 425
(mm)

ZDL Caliper Y [caly]
175 425
(mm)

BIT SIZE
175 425
(mm)

ZDL Pad Caliper [cr2]
0 250
(mm)

ZDL2 Pad Caliper [cr22]
0 250
(mm)

DIFF. TENSION [ten]
1900 −100
(kgf)

CH-TENSION [cht]

NEUTRON SANDSTONE POROSITY [cncss]
60 0
(pu)

Z-DENSITY SANDSTONE POROSITY [pzss]
60 0
(pu)

Z-DENSITY-2 SANDSTONE POROSITY [pzss2]
60 0
(pu)

P.E. [pe]
0 10
(b/e)

Z-CORR [zcor]
450 −50
(kg/m3)

P.E.-2 [pe2]
0 10
(b/e)

ZCOR-2 [zcor2]
450 −50
(kg/m3)

Z-DENSITY-2 SANDSTONE POROSITY FROM MAIN PASS [pzss2]
60 0
(pu) [F2]

Z-DENSITY SANDSTONE POROSITY FROM MAIN PASS [pzss]
60 0
(pu) [F2]

P.E. FROM MAIN PASS [pe]

5000 0
(kgf)

0 10
(b/e) [F2]

P.E.-2 FROM MAIN PASS [pe2]
0 10
(b/e) [F2]

NEUTRON SANDSTONE POROSITY FROM MAIN PASS [cncss]
60 0
(pu) [F2]

MINUTE MARK
1

CALIBRATION / VERIFICATION SUMMARY

Source File: /dat1a/MGM/run1_oh/m980g_cals.tp1

CHT PRIMARY CALIBRATION SUMMARY

TOOL #: 3981XA 10516528 DATE/TIME PERFORMED: Tue Jan 29 18:40:58 2013

UNIT #: 3815SA 008672

	Signal Low (raw)	Signal High (raw)	Scale Mult	Scale Add	Engr Low (kgf)	Engr High (kgf)
CHT	50.00	560.75	1.96	-97.90	0.00	1000.00

GR PRIMARY CALIBRATION SUMMARY

TOOL #: 1329XA 10293862 DATE/TIME PERFORMED: Wed Jan 2 15:27:33 2013

UNIT #: 5753XB 10108816 CALB JIG #: 4702NK DA-479

	BACKGROUND (cts/s)	CALBRTR ON (cts/s)	CR DIFF (cts/s)	MULT	BACKGROUND (gAPI)	CALBRTR ON (gAPI)	CALBRTR (gAPI)
GR	149.13	1025.69	876.6 (830.0 960.0)	0.171	25.52	175.52	150

GR PRIMARY VERIFICATION SUMMARY

TOOL #: 1329XA 10293862 DATE/TIME PERFORMED: Wed Jan 2 15:30:55 2013

UNIT #: 5753XB 10108816 VERI JIG #: 4702NK DA-479

	BACKGROUND (cts/s)	CALBRTR ON (cts/s)	MULT	BACKGROUND (gAPI)	CALBRTR ON (gAPI)	DIFF. (gAPI)
GR	145.09	1035.84	0.171	24.83	177.26	152.43
						140.00 160.00

CN PRIMARY CALIBRATION SUMMARY

TOOL #: 2436XA 10105638 DATE/TIME PERFORMED: Sun Jan 13 18:44:58 2013

UNIT #: RCOR 10274 CALIBRATOR #: 2437XB 112675 SOURCE #: 4718XA N-1234

SSN DT CPS	LSN DT CPS	SSN/LSN	MCF	CNRATIO	CN PU
4800.31	823.98	5.82573	0.98477	5.73700	25.241
			0.95000 1.05000		

CN BEFORE LOG VERIFICATION SUMMARY

TOOL #: 2436XA 10105638 DATE/TIME PERFORMED: Tue Jan 29 18:38:13 2013 DAYS SINCE CAL: 15

UNIT #: 3815SA 008672 CALIBRATOR #: INTRNL N/A

SSN DT CPS	LSN DT CPS	SSN/LSN	TEMP (degC)	HV (V)	LV (V)
991.40	993.76	0.99762	18.2	1357.1	4.605
		0.95000 1.05000	138.0	1250.0 1450.0	4.300 5.000

CN AFTER LOG VERIFICATION SUMMARY

TOOL #: 2436XA 10105638 DATE/TIME PERFORMED: Tue Jan 29 22:25:32 2013 DAYS SINCE CAL: 16

UNIT #: 3815SA 008672 CALIBRATOR #: INTRNL N/A

SSN DT CPS	LSN DT CPS	SSN/LSN	TEMP (degC)	HV (V)	LV (V)
955.77	957.68	0.99801	24.8	1357.1	4.608
		0.95000 1.05000	138.0	1250.0 1450.0	4.300 5.000

CAL PRIMARY CALIBRATION SUMMARY

TOOL #: 2223XA 10391896 DATE/TIME PERFORMED: Fri Jan 18 17:30:07 2013

UNIT #: S23 B672

	SIZE (mm)	VALUE	MULTIPLIER	ADD
SMALL RING (Arm)	177.800	1199.6		

LARGE RING (Arm)	279.400	2200.0	0.10156	55.96938
PAD CLOSED		1723.2	0.06350	-109.42319

CAL BEFORE LOG VERIFICATION SUMMARY

TOOL #: 2223XA 10391896 DATE/TIME PERFORMED: Tue Jan 29 22:24:27 2013 DAYS SINCE CAL: 11

UNIT #: 3815SA 008672

	VALUE	MULTIPLIER	ADD	SIZE (mm)
ARM	2402.4	0.10156	55.96938	300.0
PAD	1708.4	0.06350	-109.42319	-0.9

	ACTUAL (mm)	MEASURED (mm)
DIAMETER (arm+pad)	311.000	314.0
		300.8 321.2

CAL AFTER LOG VERIFICATION SUMMARY

TOOL #: 2223XA 10391896 DATE/TIME PERFORMED: Tue Jan 29 22:25:39 2013 DAYS SINCE CAL: 11

UNIT #: 3815SA 008672

	VALUE	MULTIPLIER	ADD	SIZE (mm)
ARM	2401.2	0.10156	55.96938	299.8
PAD	1708.8	0.06350	-109.42319	-0.9

	ACTUAL (mm)	MEASURED (mm)
DIAMETER (arm+pad)	311.000	313.9
		300.8 321.2

ZDL PRIMARY CALIBRATION SUMMARY

TOOL: 2223XA 10391896 DATE/TIME PERFORMED: Sun Jan 13 18:12:46 2013

UNIT: S23 8672 CALB BLKS: 2225XA 094290 CS SRC: 4705XA 16107B PAD TYPE: PADTYP 7.5" PAD

	SS CS PK (Channel)	LS CS PK (Channel)	SS_BKGD (cps)	LS BKGD (cps)

	224.0 (220.0 – 230.0)	224.9 (220.0 – 230.0)	1404.6	1628.9		

	SS (cps)	LS (cps)	SHR	DEN (kg/m3)	CORR (kg/m3)	PE (b/e)
MG (LO PE)	38709.2	14552.3	0.751 (0.720 – 0.890)	1697.000	0.000	1.900
AL	24264.8	1636.8		2657.000	-16.000	
AL + SHIM	32324.1	2851.1		2548.000	98.000	
MG + SHIM (HI PE)	19185.1	6952.3	0.294 (0.280 – 0.360)			8.550
RATIO AL + SHIM/AL	1.33 (1.30 – 1.40)	1.74 (1.60 – 1.80)				
RATIO MG/AL	1.60 (1.58 – 1.70)	8.89 (8.55 – 9.55)				

ZDL BEFORE LOG VERIFICATION SUMMARY

TOOL #: 2223XA 10391896 DATE/TIME PERFORMED: Tue Jan 29 19:44:18 2013 DAYS SINCE CAL: 16

UNIT #: 3815SA 008672

	TOTAL (cps)	CSPK (Channel)	HV (V)
LS	3342.1 (3332.1 – 3352.1)	224.8 (220.0 – 230.0)	1390.2 (1250.0 – 1550.0)
SS	22355.0 (22344.8 – 22364.8)	224.1 (220.0 – 230.0)	1470.8 (1250.0 – 1550.0)

LV (V)	PAD CURRENT (mA)
5.0 (4.8 – 5.2)	85.3 (50.0 – 120.0)

ZDL AFTER LOG VERIFICATION SUMMARY

TOOL #: 2223XA 10391896 DATE/TIME PERFORMED: Tue Jan 29 22:25:53 2013 DAYS SINCE CAL: 16

UNIT #: 3815SA 008672

	TOTAL (cps)	CSPK (Channel)	HV (V)
LS	3342.1 (3332.1 – 3352.1)	224.9 (220.0 – 230.0)	1393.7 (1250.0 – 1550.0)
SS	22354.8 (22344.8 – 22364.8)	224.2 (220.0 – 230.0)	1478.3 (1250.0 – 1550.0)

LV (V)	PAD CURRENT (mA)
5.0 (4.8 – 5.2)	86.4 (50.0 – 120.0)

CAL[2] PRIMARY CALIBRATION SUMMARY

TOOL #: 2223XA 10102923 DATE/TIME PERFORMED: Fri Jan 18 18:11:06 2013

UNIT #: S23 8672

	SIZE (mm)	VALUE	MULTIPLIER	ADD
SMALL RING (Arm)	177.800	1040.0		
LARGE RING (Arm)	279.400	2060.0	0.09961	74.20783
PAD CLOSED		1784.0	0.06350	-113.28400

CAL[2] BEFORE LOG VERIFICATION SUMMARY

TOOL #: 2223XA 10102923 DATE/TIME PERFORMED: Tue Jan 29 22:24:24 2013 DAYS SINCE CAL: 11

UNIT #: 3815SA 008672

	VALUE	MULTIPLIER	ADD	SIZE (mm)
ARM	2524.0	0.09961	74.20783	325.6
PAD	2400.0	0.06350	-113.28400	39.1

	ACTUAL (mm)	MEASURED (mm)
DIAMETER (arm+pad)	380.000	379.7
		369.8 390.2

CAL[2] AFTER LOG VERIFICATION SUMMARY

TOOL #: 2223XA 10102923 DATE/TIME PERFORMED: Tue Jan 29 22:25:06 2013 DAYS SINCE CAL: 11

UNIT #: 3815SA 008672

	VALUE	MULTIPLIER	ADD	SIZE (mm)
ARM	2524.0	0.09961	74.20783	325.6
PAD	2400.0	0.06350	-113.28400	39.1

	ACTUAL (mm)	MEASURED (mm)
DIAMETER (arm+pad)	380.000	379.7

369.8	390.2

ZDL[2] PRIMARY CALIBRATION SUMMARY

TOOL: 2223XA 10102923 DATE/TIME PERFORMED: Sat Jan 12 20:19:02 2013

UNIT: S23 8672 CALB BLKS: 2225XA 094290 CS SRC: 4705XA 18204B PAD TYPE: PADTYP 7.5" PAD

SS CS PK (Channel)	LS CS PK (Channel)	SS_BKGD (cps)	LS BKGD (cps)
224.6	224.7	1149.5	1466.0
220.0 230.0	220.0 230.0		

	SS (cps)	LS (cps)	SHR	DEN (kg/m3)	CORR (kg/m3)	PE (b/e)
MG (LO PE)	39084.9	14425.4	0.733	1697.000	0.000	1.900
			0.720 0.890			
AL	24250.4	1613.0		2657.000	-16.000	
AL + SHIM	32297.3	2817.2		2548.000	98.000	
MG + SHIM (HI PE)	19158.4	6839.7	0.285			8.550
			0.280 0.360			
RATIO AL + SHIM/AL	1.33	1.75				
	1.30 1.40	1.60 1.80				
RATIO MG/AL	1.61	8.94				
	1.58 1.70	8.55 9.55				

ZDL[2] BEFORE LOG VERIFICATION SUMMARY

TOOL #: 2223XA 10102923 DATE/TIME PERFORMED: Tue Jan 29 19:44:14 2013 DAYS SINCE CAL: 16

UNIT #: 3815SA 008672

	TOTAL (cps)	CSPK (Channel)	HV (V)
LS	3342.4	224.9	1478.0
	3332.1 3352.1	220.0 230.0	1250.0 1550.0
SS	22356.7	224.2	1454.0
	22344.8 22364.8	220.0 230.0	1250.0 1550.0

LV (V)	PAD CURRENT (mA)
5.0	86.4
4.8 5.2	50.0 120.0

ZDL[2] AFTER LOG VERIFICATION SUMMARY

TOOL #: 2223XA 10102923 DATE/TIME PERFORMED: Tue Jan 29 22:25:48 2013 DAYS SINCE CAL: 17

UNIT #: 3815SA 008672

	TOTAL (cps)	CSPK (Channel)	HV (V)
LS	3342.1	224.8	1494.8
	3332.1 3352.1	220.0 230.0	1250.0 1550.0
SS	22355.0	224.1	1467.5
	22344.8 22364.8	220.0 230.0	1250.0 1550.0

LV (V)	PAD CURRENT (mA)
5.0	86.4
4.8 5.2	50.0 120.0

BAKER HUGHES

EOLIPS

COMPANY MGM ENERGY CORP
WELL MGM SHELL EAST MACKAY I-78
FIELD EAST MACKAY
PROVINCE NORTHWEST TERRITORIES

FILE NO:

API NO:

LOCATION:

LAT 64.795 LONG -125.722

ELEVATIONS:
KB 161.2 M
DF
GL 155.00 M

LICENSE:
1202

DATE 29-JAN-2013