Perfiles del Pozo EN-627

LODO

Provincia: CHUBUT

Campo: ESCALANTE NORTE

OMPANIA: YPF S.A.

OZO: YPF.Ch.EN−627

AMPO: ESCALANTE NORTE

ROVINCIA: CHUBUT **PAIS: ARGENTINA**

Schlumberger

COMBINADA

ESCALA: 1/200

AIT−BHC−LDL−CAL
MRX
RFT

Elev.: B.V. 707.47 m
N. T. 702.57 m
M. R. 707.17 m

LOCACION

Ref. Permanente: NIVEL DEL TERRENO Elev.: 702.57 m
Reg. Medido Desde: NIVEL DEL TERRENO 0.0 m sobre nivel ref.
Perforacion Medida Desde: NIVEL DEL TERRENO

Locacion: CAS
Pozo: YPF.Ch.EN−627
Compania: YPF S.A.

UWI: AR100006490	Equipo PI−354	Longitud X: 4.937.728,38	Latitud Y: 2.582.199,62

		Run 1	Run 2	Run 3
Logging Date	13−Aug−2005			
Run Number	1			
Depth Driller	2700 m			
Logger Depth	2703 m			
Bottom Log Interval	2700.3 m			
Top Log Interval	416.3 m			
Casing Driller Size @ Depth	9.625 in @ 416.3 m	@	@	
Casing Logger	416.3 m			
Bit Size	8.500 in			
Type Fluid In Hole	ID−CAP			
MUD Density / Viscosity	1.19 g/cm3 / 53 s			
MUD Fluid Loss / PH	6.7 cm3 / 9			
Source Of Sample	PILETA			
RM @ Measured Temperature	1.365 ohm.m @ 8 degC	@	@	
RMF @ Measured Temperature	1.190 ohm.m @ 8 degC	@	@	
RMC @ Measured Temperature	1.450 ohm.m @ 8 degC	@	@	
Source RMF / RMC	PRENSA / PRENSA			
RM @ MRT / RMF @ MRT	0.332 @ 98 / 0.294 @ 98	@ / @	@ / @	@
Maximum Recorded Temperatures	98 degC			
Circulation Stopped / Time	12−Aug−2005 / 23:00			
Logger On Bottom / Time	13−Aug−2005 / 8:00			
Unit Number / Location	3023 / CAS			
Recorded By	Luis Curetti			
Witnessed By	Anibal Silveira, Eduardo Breda			

DEPTH SUMMARY LISTING

Date Created: 14−AUG−2005 18:13:04

Depth System Equipment

Depth Measuring Device		Tension Device		Logging Cable	
Type:	IDW−B	Type:	CMTD−B/A	Type:	7−42P−XS
Serial Number:	4830	Serial Number:	2035	Serial Number:	5123
Calibration Date:	26−Mar−2005	Calibration Date:	7−Ene−2005	Length:	7315.20 M
Calibrator Serial Number:	5969	Calibrator Serial Number:	1028	Conveyance Method:	Wireline
Calibration Cable Type:	7−42P−XS	Calibration Gain:	1.08	Rig Type:	LAND
Wheel Correction 1:	−7	Calibration Offset:	306.00		
Wheel Correction 2:	−6				

Depth Control Parameters

Log Sequence:	First Log In the Well
Rig Up Length At Surface:	67.50 M
Rig Up Length At Bottom:	67.50 M
Rig Up Length Correction:	0.00 M
Stretch Correction:	2.70 M
Tool Zero Check At Surface:	0.10 M

Depth Control Remarks

1. Primera carrera en el pozo y perfil de referencia de profundidad.
2. Procedimientos estandar de profundidad de Schlumberger aplicados a esta carrera.
3.
4.
5.
6.

OTROS SERVICIOS # 1		OTROS SERVICIOS # 2
OS1:	AIT−BHC−LDL−CAL	OS1:
OS2:	MRX	OS2:
OS3:	RFT	OS3:
OS4:		OS4:
OS5:	PI−354	OS5:

OBSERVACIONES: CORRIDA # 1	OBSERVACIONES: CORRIDA # 2
1. Primera carrera en el pozo y perfil de referencia de profundidad.	
2. Herramienta corrida segun diagrama.	
3. Esquema del pozo segun datos del perforador.	
4. AIT y DSLC corrido descentralizado usando standoff de 1.5".	
5. Ultima circulacion termino el 13−Ago−2005 a las 0:30 hs y duro 1:30 hs	
6. Datos adicionales del lodo: Cl = 500 ppm, Ca = 680 ppm.	
7. Coordenadas definitivas.	
8. Maxima desviacion del pozo segun datos del perforador: 4 deg.	
9. Maxima temperatura registrada 98 degC, tomada desde termometro en la punta de herramienta.	
10. EPHI = SPHI, FFXP = 2 y FNUM = 0.81 utilizados para calculo de RWA.	

10. FFHI = SFHI, FEXP = 2 y FNOM = 0.81 utilizados para calculo de RWA.

11. Lectura de BHC y LDL hasta 1450 m a pedido del cliente.

12. Trepano de 8 3/4 desde zapato hasta 2341m y 8 1/2 hasta fondo.

CORRIDA #1			CORRIDA #2		
ORDEN DE SERVICIO:			ORDEN DE SERVICIO:		
VERSION DEL PROGRAMA:	13C0−300		VERSION DEL PROGRAMA:		
NIVEL DEL LODO:			NIVEL DEL LODO:		
INTERVALO REGISTRADO	COMIENZO	FINAL	INTERVALO REGISTRADO	COMIENZO	FINAL

DESCRIPCION DEL EQUIPO

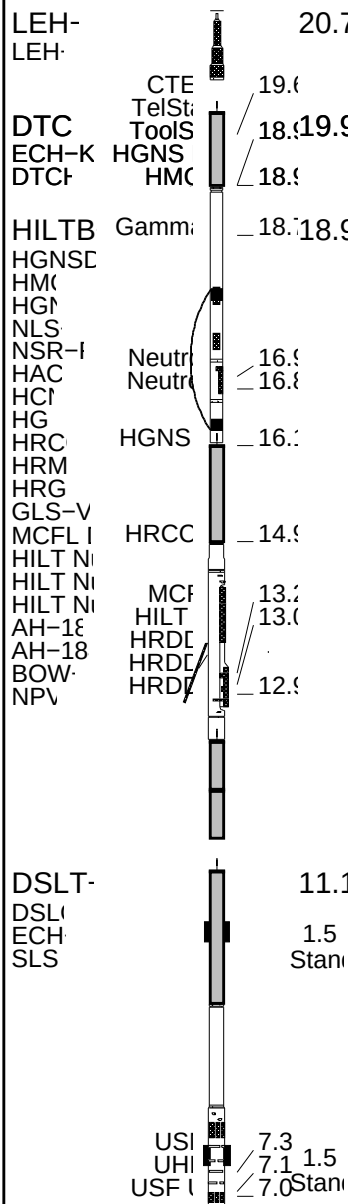
CORRIDA # 1

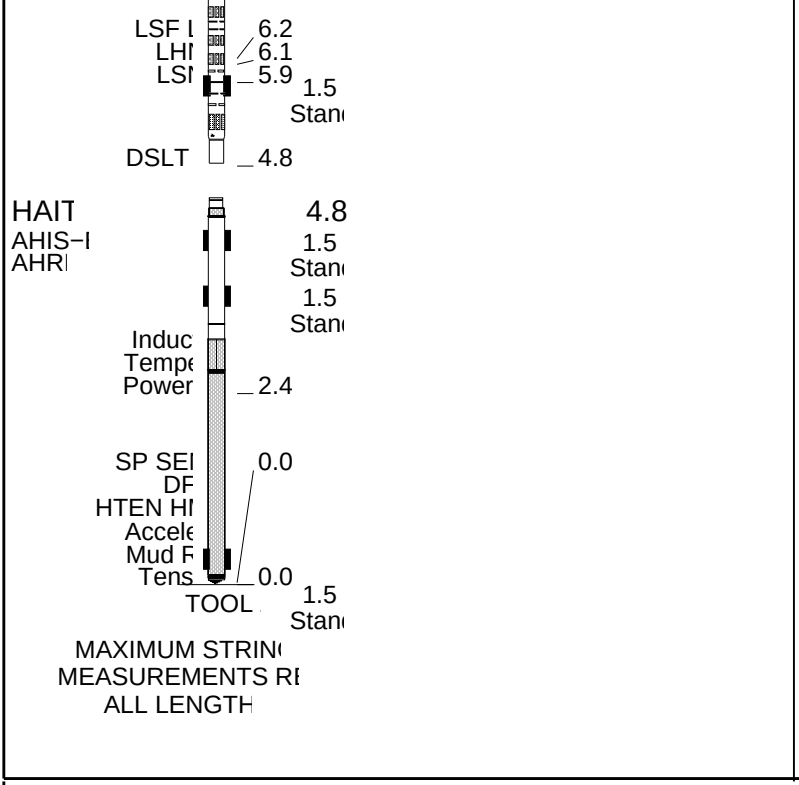
CORRIDA # 2

SURFACE I

GSR·
NCT
CNB·
NCS

DOWNHOLE





YPF.Ch.EN

Schlumbe

PI−35

Altura Mesa:

Nivel Terr

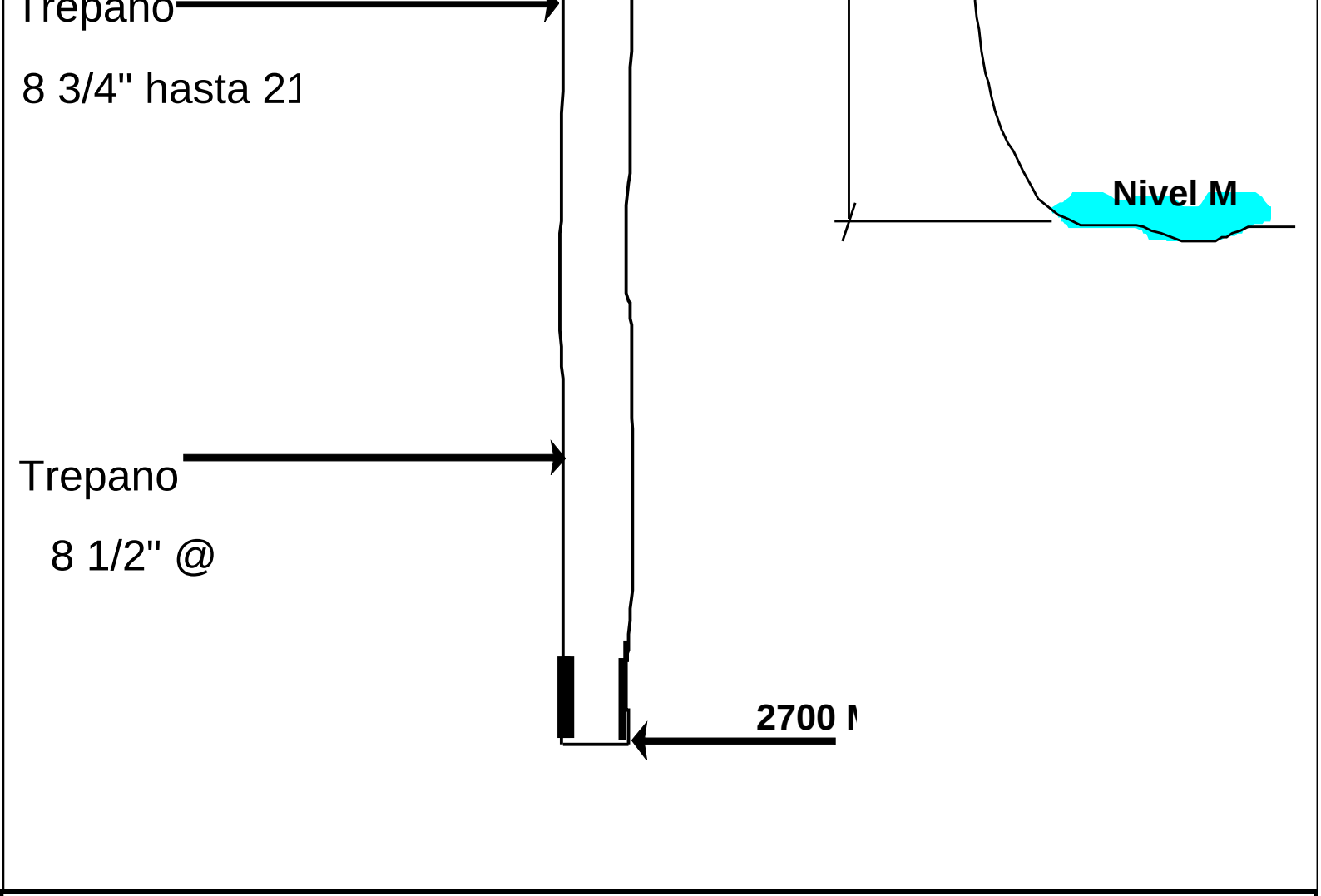
Nivel Refere

Casing 9

32.3 Lb/

Zapato @ 41

Cota: 702.5



Schlumberger

TRAMO PRINCIPAL

MAXIS Field Log

Input DLIS Files

DEFAULT	principal_030PUP	FN:39	PRODUCER	16−Aug−2005 18:15	2708.3 M	293.7 M

Output DLIS Files

DEFAULT	AIT_SONIC_TLD_MCFL_090PUP	FN:2	PRODUCER	16−Aug−2005 20:33	2708.3 M	411.0 M

OP System Version: 13C0−300

MCM

HAIT−H	unofficial	DSLT−FTB	unofficial
HILTB−FTB	unofficial	DTC−H	unofficial

PIP SUMMARY

- Integrated Hole Volume Minor Pip Every 0.1 M3
- Integrated Hole Volume Major Pip Every 1 M3
- Integrated Cement Volume Minor Pip Every 0.1 M3
- Integrated Cement Volume Major Pip Every 1 M3

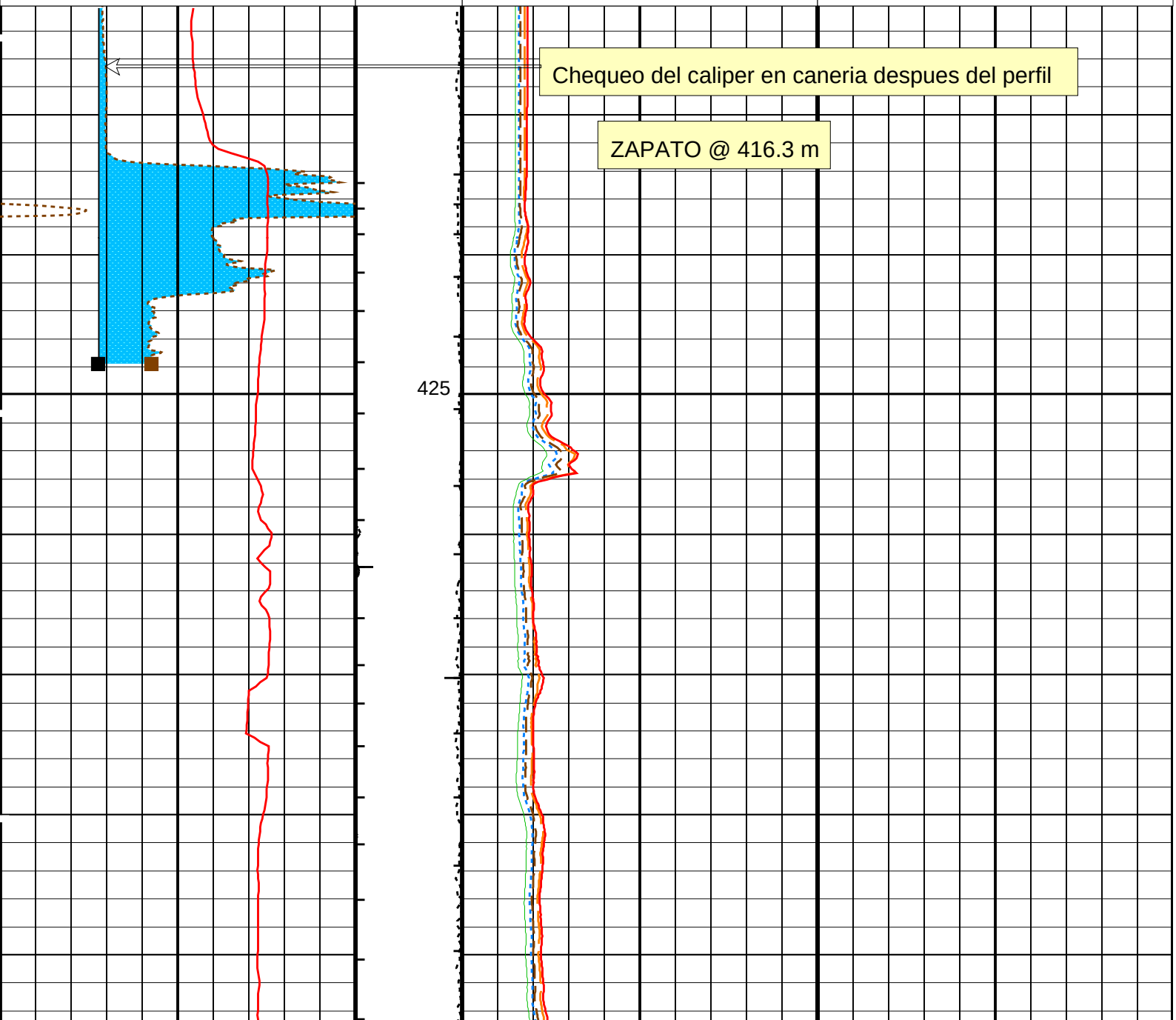
Time Mark Every 60 S

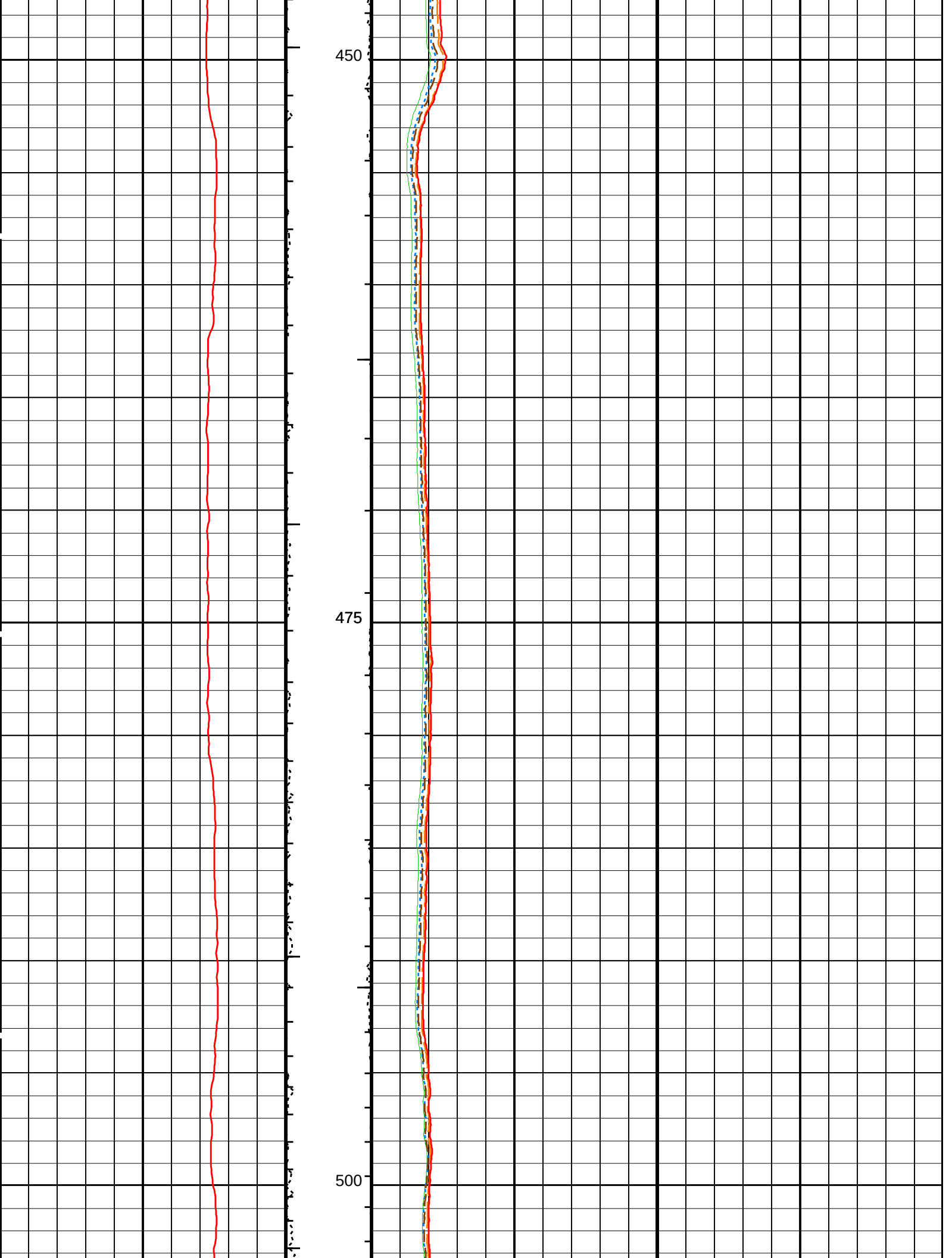
CAVERNA
From BS to HCAL

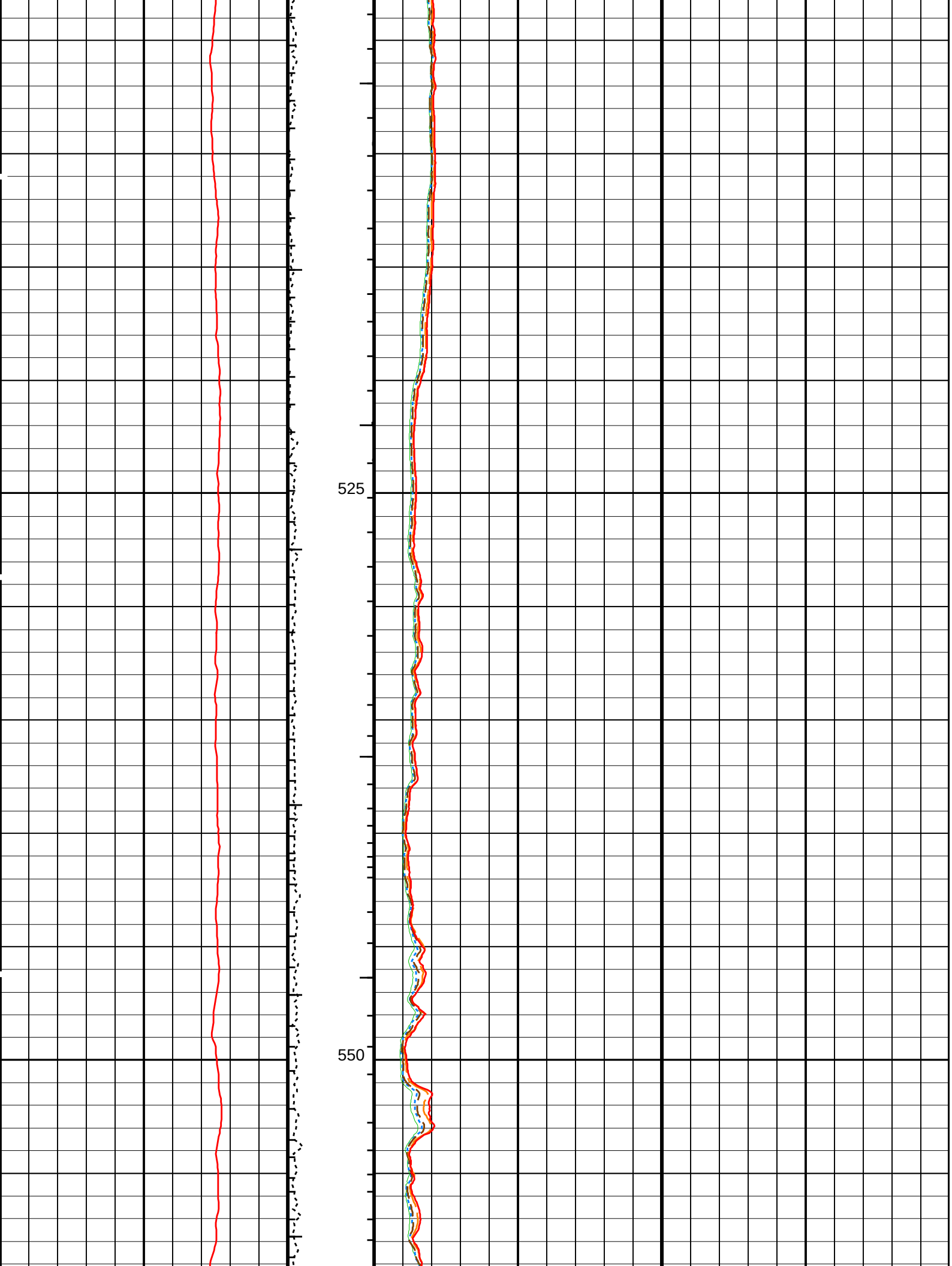
REVOQUE
From HCAL to BS

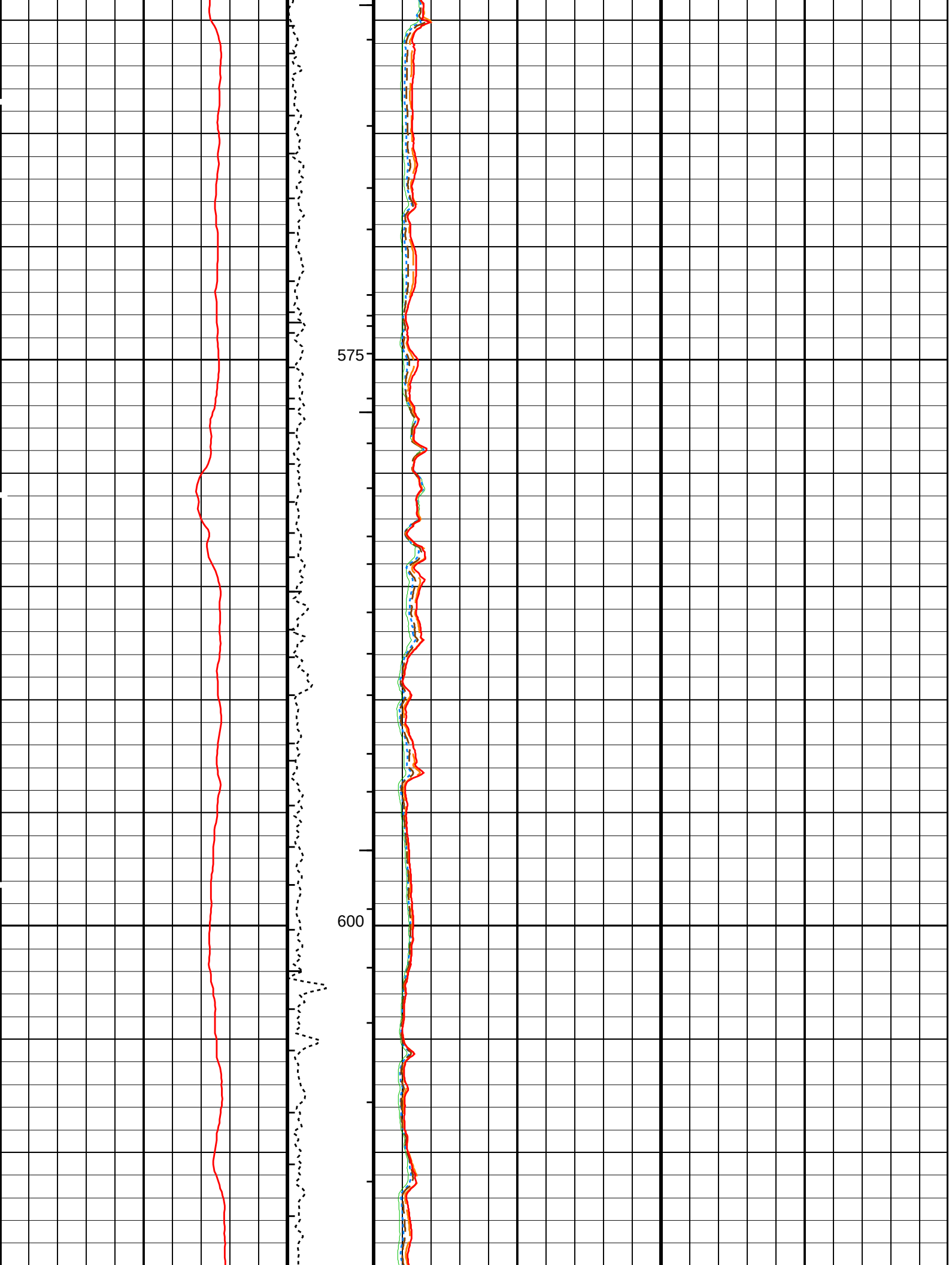
SP (SP)		AIT−H 90 Inch Investigation (AHT90)
−80 (MV) 20		0 (OHMM) 10
RWA (RWA)		AIT−H 60 Inch Investigation (AHT60)
0 (OHMM) 1		0 (OHMM) 10
Std. Res. Formation Pe (PEFZ)		AIT−H 30 Inch Investigation (AHT30)
0 (−−−− 5		0 (OHMM) 10
Caliper (HCAL)	Stuck Stretch (STIT)	AIT−H 20 Inch Investigation (AHT20)
6 (IN) 16	0 (M) 20	0 (OHMM) 10
Bit Size (BS)	Tension (TENS) (LBF)	AIT−H 10 Inch Investigation (AHT10)
6 (IN) 16	0 1000	0 (OHMM) 10

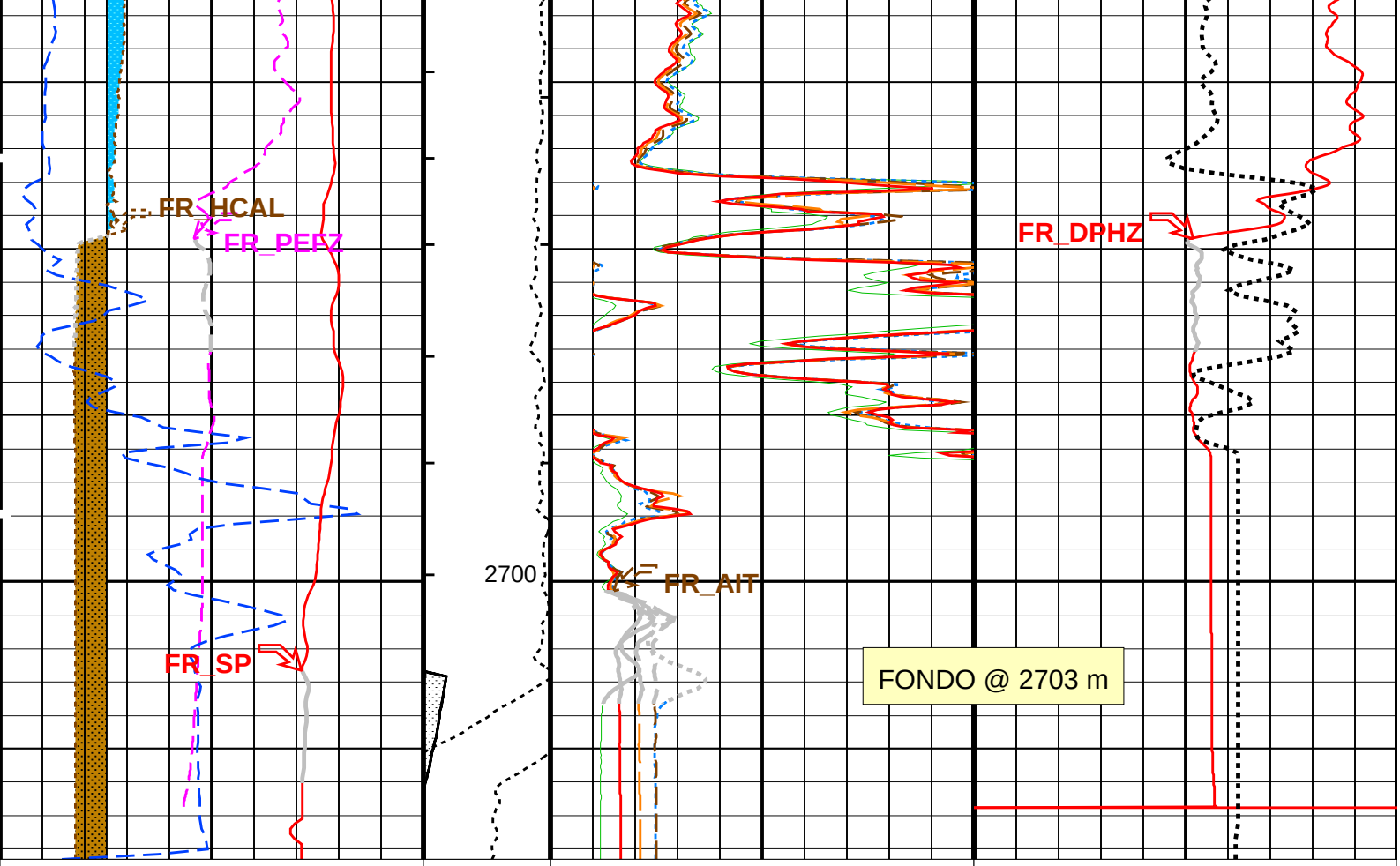
Sonic Porosity (SPHI)
0.4 (V/V) 0
Std. Res. Density Porosity (DPHZ)
0.4 (V/V) 0




450
475
500


525
550


575
600



Bit Size (BS) 6 (IN) 16	Tension (TENS) (LBF) 0 1000	AIT−H 10 Inch Investigation (AHT10) 0 (OHMM) 10
Caliper (HCAL) 6 (IN) 16	Stuck Stretch (STIT) 0 (M) 20	AIT−H 20 Inch Investigation (AHT20) 0 (OHMM) 10
Std. Res. Formation Pe (PEFZ) 0 (---- 5		AIT−H 30 Inch Investigation (AHT30) 0 (OHMM) 10
RWA (RWA) 0 (OHMM) 1		AIT−H 60 Inch Investigation (AHT60) 0 (OHMM) 10
SP (SP) −80 (MV) 20		AIT−H 90 Inch Investigation (AHT90) 0 (OHMM) 10
REVOQUE From HCAL to BS		
CAVERNA From BS to HCAL		

Std. Res. Density Porosity (DPHZ) 0.4 (V/V) 0
Sonic Porosity (SPHI) 0.4 (V/V) 0

PIP SUMMARY

- Integrated Hole Volume Minor Pip Every 0.1 M3
- Integrated Hole Volume Major Pip Every 1 M3
- Integrated Cement Volume Minor Pip Every 0.1 M3
- Integrated Cement Volume Major Pip Every 1 M3

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value
HAIT−H: Array Induction Tool − H		
AHBHM	Array Induction Borehole Correction Mode	2_ComputeStandoff
AHBHV	Array Induction Borehole Correction Code Version Number	880

AHBHV	Array Induction Borehole Correction Code Version Number	880	
AHBLM	Array Induction Basic Logs Mode	6_One_Two_and_Four	
AHBLV	Array Induction Basic Logs Code Version Number	108	
AHCDE	Array Induction Casing Detection Enable	Yes	
AHCEN	Array Induction Tool Centering Flag (in Borehole)	Eccentered	
AHFRSV	Array Induction Response Set Version for Four ft Resolution	40.70.24.21	
AHMRF	Array Induction Mud Resistivity Factor	1	
AHORSV	Array Induction Response Set Version for One ft Resolution	40.70.24.21	
AHRFV	Array Induction Radial Profiling Code Version Number	700	
AHRPV	Array Induction Radial Parametrization Code Version Number	223	
AHSTA	Array Induction Tool Standoff	1.5	IN
AHTRSV	Array Induction Response Set Version for Two ft Resolution	40.70.24.21	
ARTS	AIT Rt Selection (for ALLRES computation)	AITH_TwoResA90	
BHT	Bottom Hole Temperature (used in calculations)	98	DEGC
FEXP	Form Factor Exponent	2	
FNUM	Form Factor Numerator	0.81	
FPHI	Form Factor Porosity Source	SPHI	
GCSE	Generalized Caliper Selection	HCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.018227	DC/M
GRSE	Generalized Mud Resistivity Selection	AITH_RESIST	
GTSE	Generalized Temperature Selection	HSTS_HTEM	
RTCO	RTCO − Rt Invasion Correction	YES	
SHT	Surface Hole Temperature	5	DEGC
SPNV	SP Next Value	−9	MV
DSLT−FTB: Digitizing Sonic Logging Tool			
CDTS	C−Delta−T Shale	100	US/F
DTF	Delta−T Fluid	189	US/F
DTM	Delta−T Matrix	56	US/F
SPFS	Sonic Porosity Formula	RAYMER_HUNT	
SPSO	Sonic Porosity Source	DT	
HILTB−FTB: High resolution Integrated Logging Tool−DTS			
BHT	Bottom Hole Temperature (used in calculations)	98	DEGC
DFB	HILT Nuclear Mud Base	Water	
DHC	Density Hole Correction	BS	
FD	Fluid Density	1	G/C3
FEXP	Form Factor Exponent	2	
FNUM	Form Factor Numerator	0.81	
FPHI	Form Factor Porosity Source	SPHI	
GCSE	Generalized Caliper Selection	HCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.018227	DC/M
GRSE	Generalized Mud Resistivity Selection	AITH_RESIST	
GTSE	Generalized Temperature Selection	HSTS_HTEM	
MDEN	Matrix Density	2.65	G/C3
NAAC	HRDD APS Activation Correction	OFF	
NMT	HILT Nuclear Mud Type	NOBARITE	
NPRM	HRDD Processing Mode	StdRes	
NSAR	HRDD Depth Sampling Rate	1	IN
SHT	Surface Hole Temperature	5	DEGC
RWA: Apparent Water Resistivity			
ARTS	AIT Rt Selection (for ALLRES computation)	AITH_TwoResA90	
FEXP	Form Factor Exponent	2	
FNUM	Form Factor Numerator	0.81	
FPHI	Form Factor Porosity Source	SPHI	
RTCO	RTCO − Rt Invasion Correction	YES	
ALLRES: Basic Resistivity Transforms			
ARTS	AIT Rt Selection (for ALLRES computation)	AITH_TwoResA90	
RTCO	RTCO − Rt Invasion Correction	YES	
HOLEV: Integrated Hole/Cement Volume			
BHT	Bottom Hole Temperature (used in calculations)	98	DEGC
FCD	Future Casing (Outer) Diameter	5.5	IN
GCSE	Generalized Caliper Selection	HCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.018227	DC/M
GRSE	Generalized Mud Resistivity Selection	AITH_RESIST	
GTSE	Generalized Temperature Selection	HSTS_HTEM	
HVCS	Integrated Hole Volume Caliper Selection	HCAL	
SHT	Surface Hole Temperature	5	DEGC
STI: Stuck Tool Indicator			
LBFR	Trigger for MAXIS First Reading Label	STI	
STKT	STI Stuck Threshold	0.762	M
TDD	Total Depth − Driller	2700.00	M
TDL	Total Depth − Logger	2703.00	M
System and Miscellaneous			
BS	Bit Size	8.750	IN
DFD	Drilling Fluid Density	1.19	G/C3
DO	Depth Offset for Playback	0.0	M
MST	Mud Sample Temperature	7.50	DEGC
PP	Playback Processing	OFF	
RMFS	Resistivity of Mud Filtrate Sample	1.1900	OHMM
RW	Resistivity of Connate Water	1.0000	OHMM
TD	Total Depth	2703	M
TWS	Temperature of Connate Water Sample	37.78	DEGC

DEFAULT	AIT_SONIC_TLD_MCFL_096PUP	FN:8	PRODUCER	16−Aug−2005 22:57	2708.1 M	2575.1 M
DEFAULT	principal_030PUP	FN:39	PRODUCER	16−Aug−2005 18:15	2708.3 M	293.7 M

Output DLIS Files

DEFAULT	AIT_SONIC_TLD_MCFL_097PUP	FN:9	PRODUCER	16−Aug−2005 22:59		

Schlumberger

CHEQUEO EN CAÑERIA

MAXIS Field Log

Input DLIS Files

DEFAULT	Zapato_021LUP	FN:22	PRODUCER	16−Aug−2005 18:17	435.3 M	373.8 M

Output DLIS Files

DEFAULT	AIT_SONIC_TLD_MCFL_102PUP	FN:14	PRODUCER	16−Aug−2005 23:21	435.7 M	401.0 M

Integrated Hole/Cement Volume Summary

Hole Volume = 1.14 M3

Cement Volume = 0.84 M3 (assuming 5.50 IN casing O.D.)

Computed from 435.7 M to 416.4 M using data channel(s) HCAL

OP System Version: 13C0−300

MCM

HAIT−H	unofficial	DSLT−FTB	unofficial
HILTB−FTB	unofficial	DTC−H	unofficial

PIP SUMMARY

- Integrated Hole Volume Minor Pip Every 0.1 M3
- Integrated Hole Volume Major Pip Every 1 M3
- Integrated Cement Volume Minor Pip Every 0.1 M3
- Integrated Cement Volume Major Pip Every 1 M3

Time Mark Every 60 S

CAVERNA
From BS to HCAL

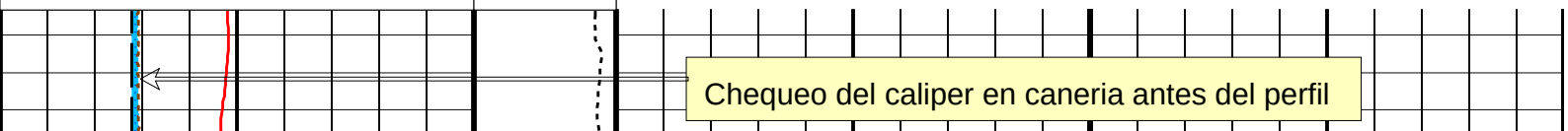
REVOQUE
From HCAL to BS

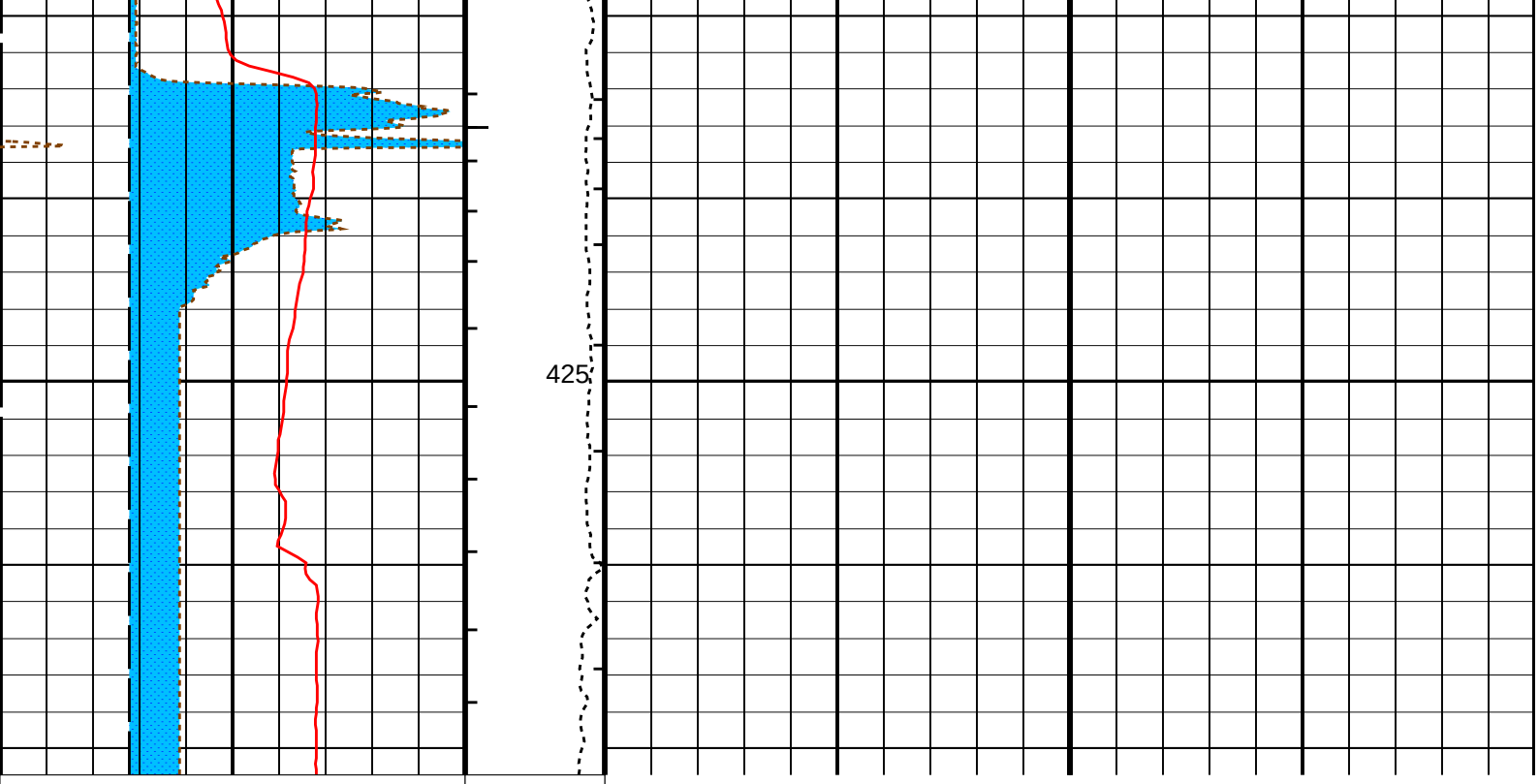
SP (SP)
−80 (MV) 20

Caliper (HCAL)
6 (IN) 16

Bit Size (BS)
6 (IN) 16

Tension (TENS) (LBF)
0 1000





Bit Size (BS)
6 (IN) 16

Tension (TENS) (LBF)
0 1000

Caliper (HCAL)
6 (IN) 16

SP (SP)
−80 (MV) 20

REVOQUE
From HCAL to BS

CAVERNA
From BS to HCAL

PIP SUMMARY

- Integrated Hole Volume Minor Pip Every 0.1 M3
- Integrated Hole Volume Major Pip Every 1 M3
- Integrated Cement Volume Minor Pip Every 0.1 M3
- Integrated Cement Volume Major Pip Every 1 M3

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value	
	HAIT−H: Array Induction Tool − H		
SPNV	SP Next Value	−12	MV
	HOLEV: Integrated Hole/Cement Volume		
FCD	Future Casing (Outer) Diameter	5.5	IN
HVCS	Integrated Hole Volume Caliper Selection	HCAL	
	System and Miscellaneous		
BS	Bit Size	8.750	IN
DO	Depth Offset for Playback	0.4	M
DORL	Depth Offset for Repeat Analysis	0.0	M
PP	Playback Processing	NORMAL	
TD	Total Depth	2703	M

Format: CALIPER Vertical Scale: 1:200 Graphics File Created: 16−Aug−2005 23:21

OP System Version: 13C0−300

MCM

HAIT−H	unofficial	DSLT−FTB	unofficial
HILT−FTB	unofficial	DTC−H	unofficial

HILTB−FTB unofficial DTC−H unofficial

Input DLIS Files

DEFAULT	Zapato_021LUP	FN:22	PRODUCER	16−Aug−2005 18:17	435.3 M	373.8 M

Output DLIS Files

DEFAULT	AIT_SONIC_TLD_MCFL_102PUP	FN:14	PRODUCER	16−Aug−2005 23:21		

Input DLIS Files

DEFAULT	AIT_SONIC_TLD_MCFL_090PUP	FN:2	PRODUCER	16−Aug−2005 20:33	2708.3 M	411.0 M
DEFAULT	Zapato_021LUP	FN:22	PRODUCER	16−Aug−2005 18:17	435.3 M	373.8 M

Output DLIS Files

DEFAULT	AIT_SONIC_TLD_MCFL_102PUP	FN:14	PRODUCER	16−Aug−2005 23:21		

OP System Version: 13C0−300

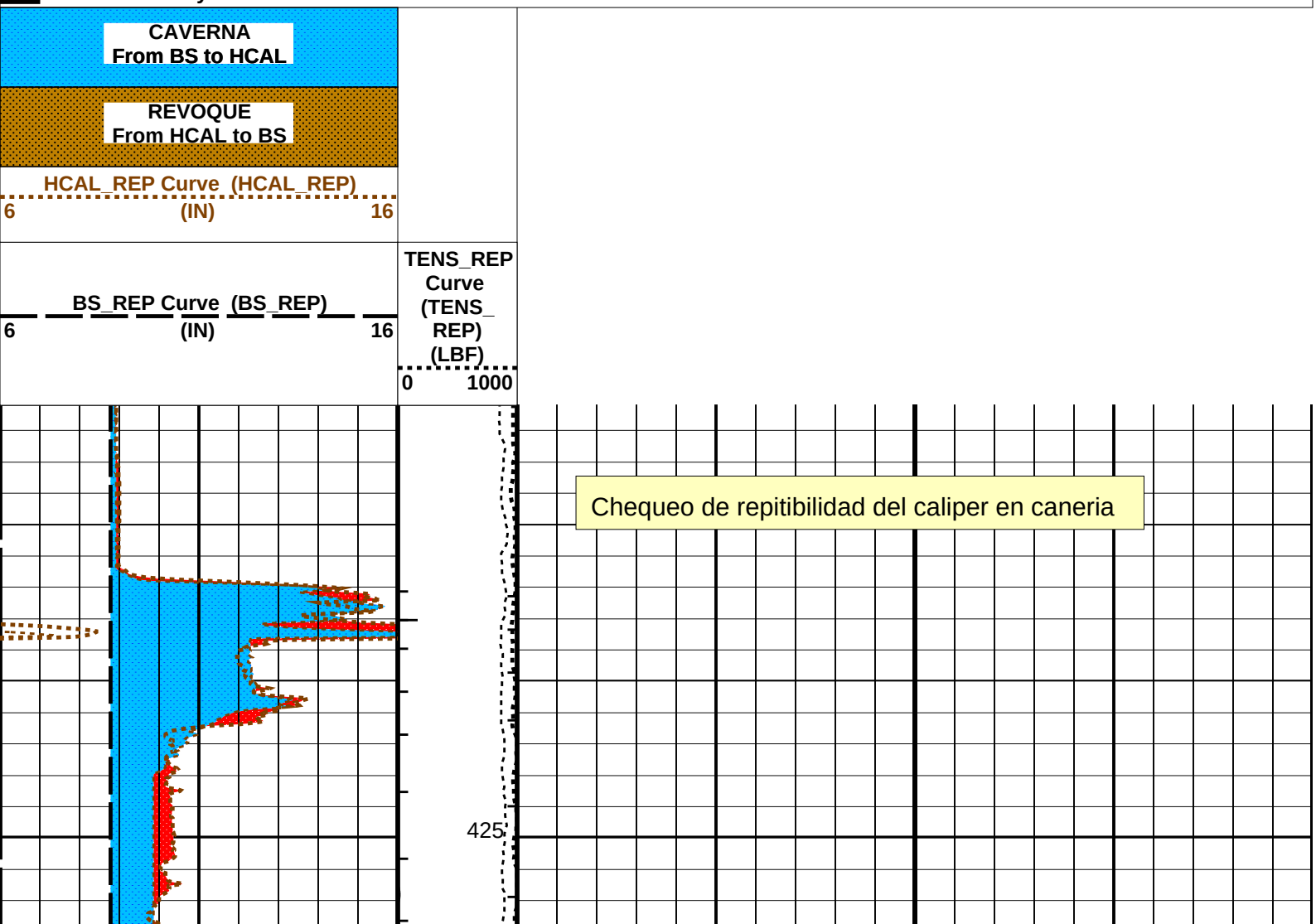
MCM

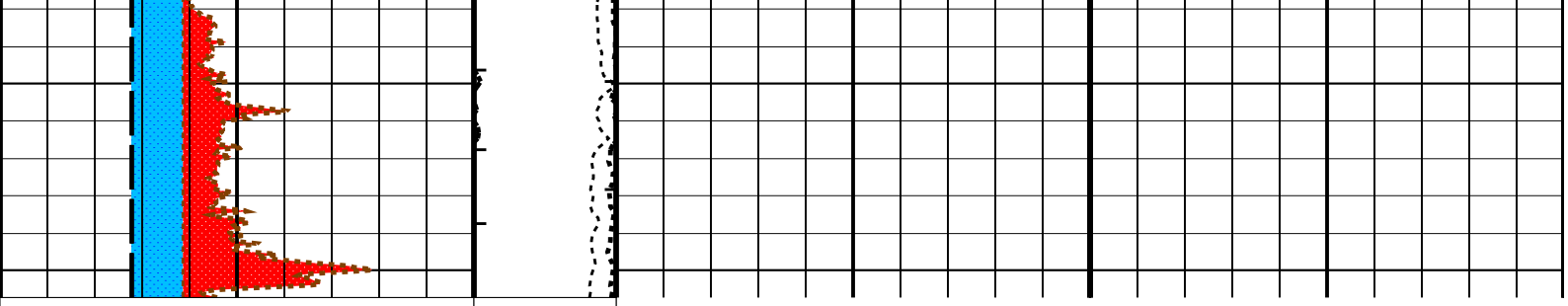
HAIT−H	unofficial	DSLT−FTB	unofficial
HILTB−FTB	unofficial	DTC−H	unofficial

PIP SUMMARY

- Integrated Hole Volume Minor Pip Every 0.1 M3
- Integrated Hole Volume Major Pip Every 1 M3
- Integrated Cement Volume Minor Pip Every 0.1 M3
- Integrated Cement Volume Major Pip Every 1 M3

Time Mark Every 60 S





BS_REP Curve (BS_REP)
6 (IN) 16

TENS_REP Curve (TENS_REP) (LBF)
0 1000

HCAL_REP Curve (HCAL_REP)
6 (IN) 16

REVOQUE
From HCAL to BS

CAVERNA
From BS to HCAL

PIP SUMMARY

- Integrated Hole Volume Minor Pip Every 0.1 M3
- Integrated Hole Volume Major Pip Every 1 M3
- Integrated Cement Volume Minor Pip Every 0.1 M3
- Integrated Cement Volume Major Pip Every 1 M3

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value	
	HOLEV: Integrated Hole/Cement Volume		
FCD	Future Casing (Outer) Diameter	5.5	IN
HVCS	Integrated Hole Volume Caliper Selection	HCAL	
	System and Miscellaneous		
BS	Bit Size	8.750	IN
DO	Depth Offset for Playback	0.4	M
DORL	Depth Offset for Repeat Analysis	0.0	M
PP	Playback Processing	NORMAL	
TD	Total Depth	2703	M

Format: CALIPER_REP Vertical Scale: 1:200 Graphics File Created: 16-Aug-2005 23:21

OP System Version: 13C0-300

MCM

HAIT-H	unofficial	DSLT-FTB	unofficial
HILTB-FTB	unofficial	DTC-H	unofficial

Input DLIS Files

DEFAULT	AIT_SONIC_TLD_MCFL_090PUP	FN:2	PRODUCER	16-Aug-2005 20:33	2708.3 M	411.0 M
DEFAULT	Zapato_021LUP	FN:22	PRODUCER	16-Aug-2005 18:17	435.3 M	373.8 M

Output DLIS Files

DEFAULT	AIT_SONIC_TLD_MCFL_102PUP	FN:14	PRODUCER	16-Aug-2005 23:21

Input DLIS Files

DEFAULT	Zapato_021LUP	FN:22	PRODUCER	16-Aug-2005 18:17	435.3 M	373.8 M

Output DLIS Files

Format: COMBINADA Vertical Scale: 1:200 Graphics File Created: 16-Aug-2005 20:33

OP System Version: 13C0-300

MCM

HAIT-H	unofficial	DSLT-FTB	unofficial
HILTB-FTB	unofficial	DTC-H	unofficial

Input DLIS Files

DEFAULT	principal_030PUP	FN:39	PRODUCER	16-Aug-2005 18:15	2708.3 M	293.7 M

Output DLIS Files

DEFAULT	AIT_SONIC_TLD_MCFL_090PUP	FN:2	PRODUCER	16-Aug-2005 20:33		

Schlumberger

TRAMO REPETIDO

MAXIS Field Log

Input DLIS Files

DEFAULT	AIT_SONIC_TLD_MCFL_096PUP	FN:8	PRODUCER	16-Aug-2005 22:57	2708.1 M	2575.1 M

Output DLIS Files

DEFAULT	AIT_SONIC_TLD_MCFL_097PUP	FN:9	PRODUCER	16-Aug-2005 22:59	2687.0 M	2623.0 M

Integrated Hole/Cement Volume Summary

Hole Volume = 5.65 M3

Cement Volume = 3.69 M3 (assuming 5.50 IN casing O.D.)

Computed from 2703.0 M to 2575.3 M using data channel(s) HCAL

OP System Version: 13C0-300

MCM

HAIT-H	unofficial	DSLT-FTB	unofficial
HILTB-FTB	unofficial	DTC-H	unofficial

Changed Parameter Summary

DLIS Name	New Value	Previous Value	Depth & Time
BS	8.500 IN	8.500 IN	2687.0 22:59:25

PIP SUMMARY

- Integrated Hole Volume Minor Pip Every 0.1 M3
- Integrated Hole Volume Major Pip Every 1 M3
- Integrated Cement Volume Minor Pip Every 0.1 M3
- Integrated Cement Volume Major Pip Every 1 M3

Time Mark Every 60 S

CAVERNA
From BS to HCAL

REVOQUE
From HCAL to BS

AIT-H 90 Inch Investigation (AHT90)

DEFAULT	Zapato_021LUP	FN:22	PRODUCER	16−Aug−2005 18:17	435.3 M	373.8 M

Output DLIS Files

DEFAULT	AIT_SONIC_TLD_MCFL_105PUP	FN:17	PRODUCER	16−Aug−2005 23:29		

Input DLIS Files

DEFAULT	principal_030PUP	FN:39	PRODUCER	16−Aug−2005 18:15	2708.3 M	293.7 M

Output DLIS Files

DEFAULT	AIT_SONIC_TLD_MCFL_106PUP	FN:18	PRODUCER	16−Aug−2005 23:34	305.0 M	295.0 M

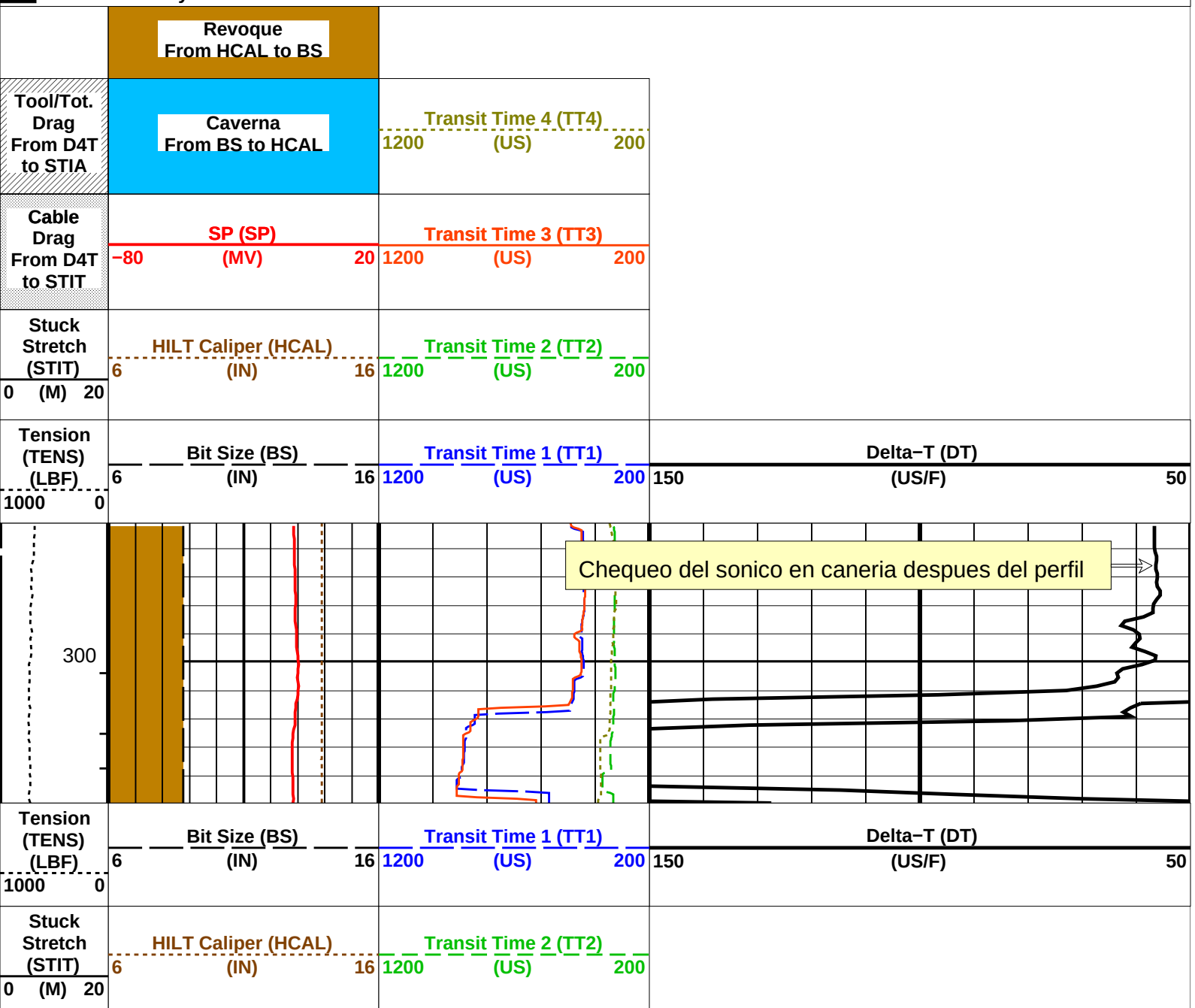
OP System Version: 13C0−300

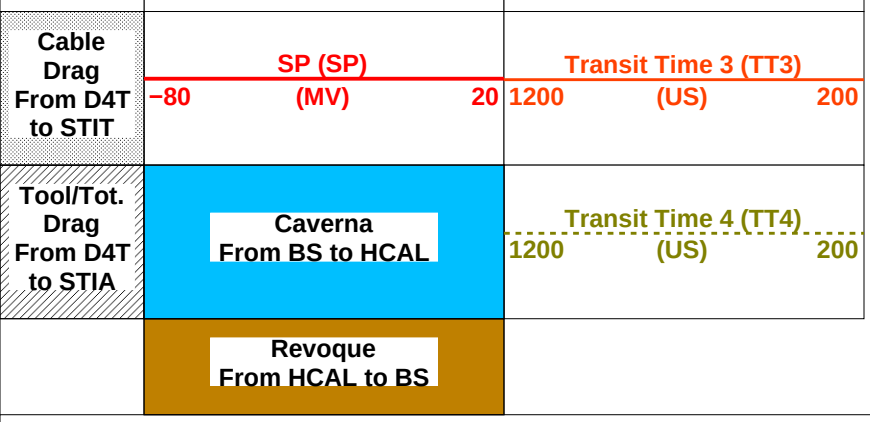
MCM

HAIT−H	unofficial	DSLT−FTB	unofficial
HILTB−FTB	unofficial	DTC−H	unofficial

PIP SUMMARY

Integrated Transit Time Minor Pip Every 1 MS
Integrated Transit Time Major Pip Every 10 MS
Time Mark Every 60 S





PIP SUMMARY

Integrated Transit Time Minor Pip Every 1 MS
Integrated Transit Time Major Pip Every 10 MS
Time Mark Every 60 S

Parameters

DLIS Name	Description	Value	
	HAIT−H: Array Induction Tool − H		
SPNV	SP Next Value	−12	MV
	DSLT−FTB: Digitizing Sonic Logging Tool		
	Telemetry Mode	DSLC_FTB	
	DSLT Firing Mode	BHC	
AMSG	Auxiliary Minimum Sliding Gate	140	US
CBAF	CBL Adjustment Factor	1	
CBLG	CBL Gate Width	45	US
DDEL	Digitizing Delay	200	US
DIVL	DSLT Depth Sampling Interval	20	
DRCS	DSLT DLIS Recording Size	120	
DSIN	Digitizing Sample Interval	10	
DTFS	DSLC Telemetry Frame Size	300	
DWCO	Digitizing Word Count	120	
GAI	Manual Gain	40	
ITTS	Integrated Transit Time Source	DT	
MAHTR	Manual High Threshold Reference	140	
MGAI	Maximum Gain	60	
MNHTR	Minimum High Threshold Reference	120	
NMSG	Near Minimum Sliding Gate	260	US
NMXG	Near Maximum Sliding Gate	750	US
RATE	Firing Rate	R15	
SFAF	Sonic Formation Attenuation Factor	0	DB/M
SGCL	Sliding Gate Closing Delta−T	250	US/F
SGDT	Sliding Gate Delta−T	65	US/F
SGW	Sliding Gate Width	80	US
SLEV	Signal Level for AGC	5000	
WAGC	Waveform AGC Allow/Disallow	OFF	
WMOD	Waveform Firing Mode	FULL	
	STI: Stuck Tool Indicator		
LBFR	Trigger for MAXIS First Reading Label	STI	
STKT	STI Stuck Threshold	0.762	M
TDD	Total Depth − Driller	2700.00	M
TDL	Total Depth − Logger	2703.00	M
	System and Miscellaneous		
BS	Bit Size	8.750	IN
DO	Depth Offset for Playback	0.0	M
PP	Playback Processing	NORMAL	

Format: SONIC Vertical Scale: 1:200 Graphics File Created: 16−Aug−2005 23:34

OP System Version: 13C0−300

MCM

HAIT−H	unofficial	DSLT−FTB	unofficial
HILTB−FTB	unofficial	DTC−H	unofficial

Input DLIS Files

DEFAULT	principal_030PUP	FN:39	PRODUCER	16−Aug−2005 18:15	2708.3 M	293.7 M

Output DLIS Files

DEFAULT	AIT_SONIC_TLD_MCFL_106PUP	FN:18	PRODUCER	16−Aug−2005 23:34

Schlumberger

CALIBRACIONES

MAXIS Field Log

Calibration and Check Summary

Measurement	Nominal	Master	Before	After	Change	Limit	Units
Array Induction Tool − H Wellsite Calibration − Electronics Calibration Check − Thru Cal Mag. & Phase							
Master: 15−Jun−2005 14:54 Before: 13−Aug−2005 6:23							
Thru Cal Magnitude − 0	0	0.6250	0.6303	N/A	N/A	N/A	V
Thru Cal Magnitude − 1	0	1.282	1.292	N/A	N/A	N/A	V
Thru Cal Magnitude − 2	0	0.6353	0.6408	N/A	N/A	N/A	V
Thru Cal Magnitude − 3	0	0.7185	0.7246	N/A	N/A	N/A	V
Thru Cal Magnitude − 4	0	1.344	1.355	N/A	N/A	N/A	V
Thru Cal Magnitude − 5	0	1.942	1.959	N/A	N/A	N/A	V
Thru Cal Magnitude − 6	0	1.939	1.955	N/A	N/A	N/A	V
Thru Cal Magnitude − 7	0	1.374	1.388	N/A	N/A	N/A	V
Phase − 0	0	63.02	64.27	N/A	N/A	N/A	DEG
Phase − 1	0	62.02	63.28	N/A	N/A	N/A	DEG
Phase − 2	0	57.87	59.14	N/A	N/A	N/A	DEG
Phase − 3	0	57.00	58.27	N/A	N/A	N/A	DEG
Phase − 4	0	50.11	51.40	N/A	N/A	N/A	DEG
Phase − 5	0	48.07	49.37	N/A	N/A	N/A	DEG
Phase − 6	0	48.09	49.40	N/A	N/A	N/A	DEG
Phase − 7	0	43.46	44.91	N/A	N/A	N/A	DEG
Array Induction Tool − H Wellsite Calibration − Electronics Calibration Check − Auxilliary							
Master: 15−Jun−2005 14:54 Before: 13−Aug−2005 6:23							
Array Induction SPA Plus	990.5	990.5	991.2	N/A	N/A	N/A	MV
Array Induction SPA Zero	0	−0.2366	−0.2232	N/A	N/A	N/A	MV
Array Induction Temperature Pl	0.9150	0.9172	0.9178	N/A	N/A	N/A	V
Array Induction Temperature Ze	0	−0.0002293	−0.0002069	N/A	N/A	N/A	V
Array Induction Tool − H Wellsite Calibration − Test Loop Gain Correction							
Master: 15−Jun−2005 14:54							
Test Loop Gain Magnitude − 0	0	1.012	N/A	N/A	N/A	N/A	V
Test Loop Gain Magnitude − 1	0	1.014	N/A	N/A	N/A	N/A	V
Test Loop Gain Magnitude − 2	0	1.012	N/A	N/A	N/A	N/A	V
Test Loop Gain Magnitude − 3	0	1.014	N/A	N/A	N/A	N/A	V
Test Loop Gain Magnitude − 4	0	0.9963	N/A	N/A	N/A	N/A	V
Test Loop Gain Magnitude − 5	0	1.006	N/A	N/A	N/A	N/A	V
Test Loop Gain Magnitude − 6	0	1.016	N/A	N/A	N/A	N/A	V
Test Loop Gain Magnitude − 7	0	1.027	N/A	N/A	N/A	N/A	V
Phase − 0	0	0.4956	N/A	N/A	N/A	N/A	DEG
Phase − 1	0	−0.6404	N/A	N/A	N/A	N/A	DEG
Phase − 2	0	−0.05543	N/A	N/A	N/A	N/A	DEG
Phase − 3	0	0.1479	N/A	N/A	N/A	N/A	DEG
Phase − 4	0	0.01085	N/A	N/A	N/A	N/A	DEG
Phase − 5	0	−0.1539	N/A	N/A	N/A	N/A	DEG
Phase − 6	0	0.1657	N/A	N/A	N/A	N/A	DEG
Phase − 7	0	−0.3211	N/A	N/A	N/A	N/A	DEG
Array Induction Tool − H Wellsite Calibration − Sonde Error Correction							
Master: 15−Jun−2005 14:54							
R Sonde Error Correction − 0	0	−123.1	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction − 1	0	159.9	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction − 2	0	110.2	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction − 3	0	54.67	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction − 4	0	26.76	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction − 5	0	11.12	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction − 6	0	9.035	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction − 7	0	−0.7777	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction − 0	0	106.6	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction − 1	0	−147.3	N/A	N/A	N/A	N/A	MM/M

X Sonde Error Correction − 1	0	−147.5	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction − 2	0	−106.5	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction − 3	0	108.2	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction − 4	0	2.783	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction − 5	0	10.38	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction − 6	0	1.634	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction − 7	0	1.304	N/A	N/A	N/A	N/A	MM/M

Array Induction Tool − H Wellsite Calibration − Mud Gain Correction
Master: 15−Jun−2005 14:54

Coarse − Mag, Real, Imag − 0	0	1.011	N/A	N/A	N/A	N/A	
Coarse − Mag, Real, Imag − 1	0	1.011	N/A	N/A	N/A	N/A	
Coarse − Mag, Real, Imag − 2	0	1.011	N/A	N/A	N/A	N/A	
Fine − Mag, Real, Imag − 0	0	1.004	N/A	N/A	N/A	N/A	
Fine − Mag, Real, Imag − 1	0	1.004	N/A	N/A	N/A	N/A	
Fine − Mag, Real, Imag − 2	0	1.004	N/A	N/A	N/A	N/A	

High resolution Integrated Logging Tool−DTS Wellsite Calibration − Stab Measurement Summary
Before: 13−Aug−2005 6:30

BS Window Ratio	0.7363	N/A	0.7399	N/A	N/A	N/A	
BS Window Sum	11430	N/A	11440	N/A	N/A	N/A	CPS
SS Window Ratio	0.4787	N/A	0.4778	N/A	N/A	N/A	
SS Window Sum	11300	N/A	11290	N/A	N/A	N/A	CPS
LS Window Ratio	0.2950	N/A	0.2938	N/A	N/A	N/A	
LS Window Sum	1197	N/A	1193	N/A	N/A	N/A	CPS

High resolution Integrated Logging Tool−DTS Wellsite Calibration − Photo−multiplier High Voltages Calibrations
Before: 13−Aug−2005 6:30

BS PM High Voltage (Command)	1764	N/A	1758	N/A	N/A	N/A	V
SS PM High Voltage (Command)	2148	N/A	2159	N/A	N/A	N/A	V
LS PM High Voltage (Command)	1627	N/A	1631	N/A	N/A	N/A	V

High resolution Integrated Logging Tool−DTS Wellsite Calibration − Crystal Quality Resolutions Calibration
Before: 13−Aug−2005 6:30

BS Crystal Resolution	12.27	N/A	12.34	N/A	N/A	N/A	%
SS Crystal Resolution	11.35	N/A	11.52	N/A	N/A	N/A	%
LS Crystal Resolution	9.467	N/A	9.458	N/A	N/A	N/A	%

High resolution Integrated Logging Tool−DTS Wellsite Calibration − MCFL Calibration
Before: 13−Aug−2005 6:25

Raw B0 Resistivity	3875	N/A	3845	N/A	N/A	N/A	OHMM
Raw B1 Resistivity	3830	N/A	3833	N/A	N/A	N/A	OHMM
Raw B2 Resistivity	3830	N/A	3840	N/A	N/A	N/A	OHMM

High resolution Integrated Logging Tool−DTS Wellsite Calibration − HILT Caliper Calibration
Before: 13−Aug−2005 6:26

HILT Caliper Zero Measurement	8.000	N/A	7.822	N/A	N/A	N/A	IN
HILT Caliper Plus Measurement	12.00	N/A	12.19	N/A	N/A	N/A	IN

High resolution Integrated Logging Tool−DTS Wellsite Calibration − Detector Calibration
Before: 13−Aug−2005 6:23

Gamma Ray Background	30.00	N/A	15.98	N/A	N/A	N/A	GAPI
Gamma Ray (Jig − Bkg)	161.7	N/A	161.7	N/A	N/A	14.70	GAPI
Gamma Ray (Calibrated)	165.0	N/A	165.0	N/A	N/A	15.00	GAPI

High resolution Integrated Logging Tool−DTS Wellsite Calibration − Zero Measurement
Master: 30−Jun−2005 16:26 Before: 13−Aug−2005 6:24

CNTC Background	31.68	31.68	32.76	N/A	N/A	4.752	CPS
CFTC Background	31.68	31.68	31.78	N/A	N/A	4.752	CPS

High resolution Integrated Logging Tool−DTS Wellsite Calibration − Ratio Measurement
Master: 30−Jun−2005 16:26

Thermal Near Corr. (Tank)	6031	5438	N/A	N/A	N/A	N/A	CPS
Thermal Far Corr. (Tank)	2793	2364	N/A	N/A	N/A	N/A	CPS
CNTC/CFTC (Tank)	2.159	2.300	N/A	N/A	N/A	N/A	

High resolution Integrated Logging Tool−DTS Wellsite Calibration − Accelerometer Calibration
Before: 13−Aug−2005 6:25

Z−Axis Acceleration	9.810	N/A	9.800	N/A	N/A	N/A	M/S2

High resolution Integrated Logging Tool−DTS Master Calibration − Inversion results
Master: 2−Aug−2005 16:33

Rho Aluminum	2.596	2.597	−−	−−	−−	−−	G/C3
Rho Magnesium	1.686	1.686	−−	−−	−−	−−	G/C3
Pe Aluminum	2.570	2.540	−−	−−	−−	−−	
Pe Magnesium	2.650	2.643	−−	−−	−−	−−	

High resolution Integrated Logging Tool−DTS Master Calibration − Deviation Summary
Master: 2−Aug−2005 16:33

BS Average Deviation	0	0.5362	−−	−−	−−	−−	%
BS Max Deviation	0	1.181	−−	−−	−−	−−	%
SS Average Deviation	0	0.3593	−−	−−	−−	−−	%

SS Max Deviation	0	1.252	--	--	--	--	%
LS Average Deviation	0	0.5739	--	--	--	--	%
LS Max Deviation	0	1.306	--	--	--	--	%

The GLS−VJ source activity is acceptable.

The HGNS Neutron Master Calibration was done with the following parameters :

NCT−B Water Temperature 2.5 DEGC.
Thermal Housing Size 3.370 IN.
NSR−F serial number 1089

Array Induction Tool − H / Equipment Identification

Primary Equipment:

Rm/SP Bottom Nose	AHRM − A	
Array Induction Sonde	AHIS − BA	379

Auxiliary Equipment:

Array Induction Tool − H Wellsite Calibration

Electronics Calibration Check − Thru Cal Mag. & Phase

Idx	Phase	Value	Thru Cal Magnitude V	Nominal	Value	Phase DEG	Nominal
0	Master	0.6250		0.6050	63.02		71.00
	Before	0.6303			64.27		
1	Master	1.282		1.270	62.02		70.00
	Before	1.292			63.28		
2	Master	0.6353		0.6230	57.87		66.00
	Before	0.6408			59.14		
3	Master	0.7185		0.7040	57.00		65.00
	Before	0.7246			58.27		
4	Master	1.344		1.337	50.11		59.00
	Before	1.355			51.40		
5	Master	1.942		1.955	48.07		57.00
	Before	1.959			49.37		
6	Master	1.939		1.955	48.09		57.00
	Before	1.955			49.40		
7	Master	1.374		1.415	43.46		53.00
	Before	1.388			44.91		
		60.00 % (Minimum)	(Nominal)	140.0 % (Maximum)	Nom −60.00 (Minimum)	(Nominal)	Nom + 60.00 (Maximum)

Master: 15−Jun−2005 14:54 Before: 13−Aug−2005 6:23

Array Induction Tool − H Wellsite Calibration

Electronics Calibration Check − Auxilliary

Phase	Array Induction SPA Plus MV	Value
Master		990.5
Before		991.2
	941.0 (Minimum) 990.5 (Nominal) 1040 (Maximum)	

Phase	Array Induction SPA Zero MV	Value
Master		−0.2366
Before		−0.2232
	−50.00 (Minimum) 0 (Nominal) 50.00 (Maximum)	

Phase	Array Induction Temperature Plus V	Value
Master		0.9172
Before		0.9178

Phase	Array Induction Temperature Zero V	Value
Master		−0.0002293
Before		−0.0002069

0.8700 (Minimum)	0.9150 (Nominal)	0.9600 (Maximum)	−0.05000 (Minimum)	0 (Nominal)	0.05000 (Maximum)

Master: 15−Jun−2005 14:54 Before: 13−Aug−2005 6:23

Array Induction Tool − H Wellsite Calibration

Test Loop Gain Correction

Idx	Value	Test Loop Gain Magnitude V			Value	Phase DEG		
0	1.012				0.4956			
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)		−3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
1	1.014				−0.6404			
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)		−3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
2	1.012				−0.05543			
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)		−3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
3	1.014				0.1479			
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)		−3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
4	0.9963				0.01085			
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)		−3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
5	1.006				−0.1539			
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)		−3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
6	1.016				0.1657			
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)		−3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
7	1.027				−0.3211			
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)		−3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)

Master: 15−Jun−2005 14:54

Array Induction Tool − H Wellsite Calibration

Sonde Error Correction

Idx	Value	R Sonde Error Correction MM/M			Value	X Sonde Error Correction MM/M		
0	−123.1				106.6			
		−231.0 (Minimum)	−56.00 (Nominal)	119.0 (Maximum)		−2250 (Minimum)	0 (Nominal)	2250 (Maximum)
1	159.9				−147.3			
		114.0 (Minimum)	159.0 (Nominal)	204.0 (Maximum)		−625.0 (Minimum)	0 (Nominal)	625.0 (Maximum)
2	110.2				−106.5			
		66.00 (Minimum)	111.0 (Nominal)	156.0 (Maximum)		−350.0 (Minimum)	0 (Nominal)	350.0 (Maximum)
3	54.67				108.2			
		39.00 (Minimum)	64.00 (Nominal)	89.00 (Maximum)		−250.0 (Minimum)	0 (Nominal)	250.0 (Maximum)
4	26.76				2.783			
		15.00 (Minimum)	25.00 (Nominal)	35.00 (Maximum)		−63.00 (Minimum)	0 (Nominal)	63.00 (Maximum)
5	11.12				10.38			
		4.000 (Minimum)	14.00 (Nominal)	24.00 (Maximum)		−50.00 (Minimum)	0 (Nominal)	50.00 (Maximum)
6	9.035				1.634			
		5.000 (Minimum)	10.00 (Nominal)	15.00 (Maximum)		−30.00 (Minimum)	0 (Nominal)	30.00 (Maximum)
7	−0.7777				1.304			
		−5.000 (Minimum)	0 (Nominal)	5.000 (Maximum)		−30.00 (Minimum)	0 (Nominal)	30.00 (Maximum)

Master: 15−Jun−2005 14:54

Array Induction Tool − H Wellsite Calibration

Mud Gain Correction

Idx	Value	Coarse − Mag, Real, Imag	Value	Fine − Mag, Real, Imag
0	1.011		1.004	

		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)
1	1.011				1.004			
		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)
2	1.011				1.004			
		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)

Master: 15−Jun−2005 14:54

Array Induction Tool − H Master Calibration

Electronics Calibration Check − Thru Cal Mag. & Phase

Idx	Phase	Value	Thru Cal Magnitude V	Nominal	Value	Phase DEG	Nominal
0	Master	0.6250		0.6050	63.02		71.00
1	Master	1.282		1.270	62.02		70.00
2	Master	0.6353		0.6230	57.87		66.00
3	Master	0.7185		0.7040	57.00		65.00
4	Master	1.344		1.337	50.11		59.00
5	Master	1.942		1.955	48.07		57.00
6	Master	1.939		1.955	48.09		57.00
7	Master	1.374		1.415	43.46		53.00
		60.00 % (Minimum)	(Nominal)	140.0 % (Maximum)		Nom −60.00 (Minimum)	(Nominal)	Nom + 60.00 (Maximum)

Master: 15−Jun−2005 14:54

Array Induction Tool − H Master Calibration

Electronics Calibration Check − Auxilliary

Phase	Array Induction SPA Plus MV	Value	Phase	Array Induction SPA Zero MV	Value
Master		990.5	Master		−0.2366
941.0 (Minimum)	990.5 (Nominal)	1040 (Maximum)	−50.00 (Minimum)	0 (Nominal)	50.00 (Maximum)
Phase	Array Induction Temperature Plus V	Value	Phase	Array Induction Temperature Zero V	Value
Master		0.9172	Master		−0.0002293
0.8700 (Minimum)	0.9150 (Nominal)	0.9600 (Maximum)	−0.05000 (Minimum)	0 (Nominal)	0.05000 (Maximum)

Master: 15−Jun−2005 14:54

Array Induction Tool − H Master Calibration

Test Loop Gain Correction

Idx	Value	Test Loop Gain Magnitude V	Value	Phase DEG
0	1.012		0.4956	
	0.9500 (Minimum)	1.000 (Nominal) 1.050 (Maximum)	−3.000 (Minimum)	0 (Nominal) 3.000 (Maximum)
1	1.014		−0.6404	
	0.9500 (Minimum)	1.000 (Nominal) 1.050 (Maximum)	−3.000 (Minimum)	0 (Nominal) 3.000 (Maximum)
2	1.012		−0.05543	
	0.9500 (Minimum)	1.000 (Nominal) 1.050 (Maximum)	−3.000 (Minimum)	0 (Nominal) 3.000 (Maximum)
3	1.014		0.1479	
	0.9500 (Minimum)	1.000 (Nominal) 1.050 (Maximum)	−3.000 (Minimum)	0 (Nominal) 3.000 (Maximum)
4	0.9963		0.01085	
	0.9500 (Minimum)	1.000 (Nominal) 1.050 (Maximum)	−3.000 (Minimum)	0 (Nominal) 3.000 (Maximum)
5	1.006		−0.1539	
	0.9500 (Minimum)	1.000 (Nominal) 1.050 (Maximum)	−3.000 (Minimum)	0 (Nominal) 3.000 (Maximum)
6	1.016		0.1657	
	0.9500 (Minimum)	1.000 (Nominal) 1.050 (Maximum)	−3.000 (Minimum)	0 (Nominal) 3.000 (Maximum)
7	1.027		−0.3211	

	0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)		−3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)

Master: 15−Jun−2005 14:54

Array Induction Tool − H Master Calibration

Sonde Error Correction

Idx	Value	R Sonde Error Correction MM/M			Value	X Sonde Error Correction MM/M		
0	−123.1				106.6			
		−231.0 (Minimum)	−56.00 (Nominal)	119.0 (Maximum)		−2250 (Minimum)	0 (Nominal)	2250 (Maximum)
1	159.9				−147.3			
		114.0 (Minimum)	159.0 (Nominal)	204.0 (Maximum)		−625.0 (Minimum)	0 (Nominal)	625.0 (Maximum)
2	110.2				−106.5			
		66.00 (Minimum)	111.0 (Nominal)	156.0 (Maximum)		−350.0 (Minimum)	0 (Nominal)	350.0 (Maximum)
3	54.67				108.2			
		39.00 (Minimum)	64.00 (Nominal)	89.00 (Maximum)		−250.0 (Minimum)	0 (Nominal)	250.0 (Maximum)
4	26.76				2.783			
		15.00 (Minimum)	25.00 (Nominal)	35.00 (Maximum)		−63.00 (Minimum)	0 (Nominal)	63.00 (Maximum)
5	11.12				10.38			
		4.000 (Minimum)	14.00 (Nominal)	24.00 (Maximum)		−50.00 (Minimum)	0 (Nominal)	50.00 (Maximum)
6	9.035				1.634			
		5.000 (Minimum)	10.00 (Nominal)	15.00 (Maximum)		−30.00 (Minimum)	0 (Nominal)	30.00 (Maximum)
7	−0.7777				1.304			
		−5.000 (Minimum)	0 (Nominal)	5.000 (Maximum)		−30.00 (Minimum)	0 (Nominal)	30.00 (Maximum)

Master: 15−Jun−2005 14:54

Array Induction Tool − H Master Calibration

Mud Gain Correction

Idx	Value	Coarse − Mag, Real, Imag			Value	Fine − Mag, Real, Imag		
0	1.011				1.004			
		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)
1	1.011				1.004			
		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)
2	1.011				1.004			
		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)

Master: 15−Jun−2005 14:54

High resolution Integrated Logging Tool−DTS / Equipment Identification

Primary Equipment:

HILT high−Resolution Mechanical Sonde	HRMS − B	704
HILT Rxo Gamma−ray Device	HRGD − B	1886
HILT Micro Cylindrically Focused Log Dev	MCFL −	
GR Logging Source	GLS − VJ	3766
HILT High Res. Control Cartridge	HRCC − B	704
HILT Gamma−Ray Neutron Sonde−DTS	HGNS − B	
HILT Gamma−Ray Device	HGR −	
HILT Neutron Detector with Alpha Source	HCNT −	

Auxiliary Equipment:

Neutron Calibration Tank	NCT − B
Gamma Source Radioactive	GSR − U/Y

High resolution Integrated Logging Tool−DTS Wellsite Calibration

Stab Measurement Summary

Phase	BS Window Ratio	Value	Phase	SS Window Ratio	Value	Phase	LS Window Ratio	Value
Before		0.7399	Before		0.4778	Before		0.2938

0.6995 (Minimum)	0.7363 (Nominal)	0.7731 (Maximum)		0.4547 (Minimum)	0.4787 (Nominal)	0.5026 (Maximum)		0.2802 (Minimum)	0.2950 (Nominal)	0.3097 (Maximum)
Phase	BS Window Sum CPS	Value		Phase	SS Window Sum CPS	Value		Phase	LS Window Sum CPS	Value
Before		11440		Before		11290		Before		1193
10860 (Minimum)	11430 (Nominal)	12000 (Maximum)		10740 (Minimum)	11300 (Nominal)	11870 (Maximum)		1137 (Minimum)	1197 (Nominal)	1257 (Maximum)

Before: 13−Aug−2005 6:30

High resolution Integrated Logging Tool−DTS Wellsite Calibration

Photo−multiplier High Voltages Calibrations

Phase	BS PM High Voltage (Command) V	Value	Phase	SS PM High Voltage (Command) V	Value	Phase	LS PM High Voltage (Command) V	Value
Before		1758	Before		2159	Before		1631
1664 (Minimum)	1764 (Nominal)	1864 (Maximum)	2048 (Minimum)	2148 (Nominal)	2248 (Maximum)	1527 (Minimum)	1627 (Nominal)	1727 (Maximum)

Before: 13−Aug−2005 6:30

High resolution Integrated Logging Tool−DTS Wellsite Calibration

Crystal Quality Resolutions Calibration

Phase	BS Crystal Resolution %	Value	Phase	SS Crystal Resolution %	Value	Phase	LS Crystal Resolution %	Value
Before		12.34	Before		11.52	Before		9.458
11.27 (Minimum)	12.27 (Nominal)	13.27 (Maximum)	10.35 (Minimum)	11.35 (Nominal)	12.35 (Maximum)	8.467 (Minimum)	9.467 (Nominal)	10.47 (Maximum)

Before: 13−Aug−2005 6:30

High resolution Integrated Logging Tool−DTS Wellsite Calibration

MCFL Calibration

Phase	Raw B0 Resistivity OHMM	Value	Phase	Raw B1 Resistivity OHMM	Value	Phase	Raw B2 Resistivity OHMM	Value
Before		3845	Before		3833	Before		3840
3565 (Minimum)	3875 (Nominal)	4185 (Maximum)	3524 (Minimum)	3830 (Nominal)	4136 (Maximum)	3524 (Minimum)	3830 (Nominal)	4136 (Maximum)

Before: 13−Aug−2005 6:25

High resolution Integrated Logging Tool−DTS Wellsite Calibration

HILT Caliper Calibration

Phase	HILT Caliper Zero Measurement IN	Value	Phase	HILT Caliper Plus Measurement IN	Value
Before		7.822	Before		12.19
6.000 (Minimum)	8.000 (Nominal)	10.00 (Maximum)	9.000 (Minimum)	12.00 (Nominal)	15.00 (Maximum)

Before: 13−Aug−2005 6:26

High resolution Integrated Logging Tool−DTS Wellsite Calibration

Detector Calibration

Phase	Gamma Ray Background GAPI	Value	Phase	Gamma Ray (Jig − Bkg) GAPI	Value	Phase	Gamma Ray (Calibrated) GAPI	Value
Before		15.98	Before		161.7	Before		165.0
0 (Minimum)	30.00 (Nominal)	120.0 (Maximum)	147.0 (Minimum)	161.7 (Nominal)	176.4 (Maximum)	150.0 (Minimum)	165.0 (Nominal)	180.0 (Maximum)

Before: 13−Aug−2005 6:23

High resolution Integrated Logging Tool−DTS Wellsite Calibration

Zero Measurement

Phase	CNTC Background CPS	Value	Phase	CFTC Background CPS	Value
Master		31.68	Master		31.68
Before		32.76	Before		31.78
5.000 (Minimum)	31.68 (Nominal)	40.00 (Maximum)	5.000 (Minimum)	31.68 (Nominal)	40.00 (Maximum)

Master: 30−Jun−2005 16:26 Before: 13−Aug−2005 6:24

High resolution Integrated Logging Tool−DTS Wellsite Calibration

Ratio Measurement

Phase	Thermal Near Corr. (Tank) CPS	Value	Phase	Thermal Far Corr. (Tank) CPS	Value	Phase	CNTC/CFTC (Tank)	Value
Master		5438	Master		2364	Master		2.300
5000 (Minimum)	6031 (Nominal)	7200 (Maximum)	2075 (Minimum)	2793 (Nominal)	3125 (Maximum)	2.120 (Minimum)	2.159 (Nominal)	2.540 (Maximum)

Master: 30−Jun−2005 16:26

High resolution Integrated Logging Tool−DTS
Wellsite Calibration

Accelerometer Calibration

Phase	Z−Axis Acceleration M/S2	Value
Before		9.800
	9.610 (Minimum) 9.810 (Nominal) 10.01 (Maximum)	

Before: 13−Aug−2005 6:25

High resolution Integrated Logging Tool−DTS Master Calibration

Inversion results

Phase	Rho Aluminum G/C3	Value	Phase	Rho Magnesium G/C3	Value
Master		2.597	Master		1.686
	2.586 (Minimum) 2.596 (Nominal) 2.606 (Maximum)			1.676 (Minimum) 1.686 (Nominal) 1.696 (Maximum)	

Phase	Pe Aluminum	Value	Phase	Pe Magnesium	Value
Master		2.540	Master		2.643
	2.470 (Minimum) 2.570 (Nominal) 2.670 (Maximum)			2.550 (Minimum) 2.650 (Nominal) 2.750 (Maximum)	

Master: 2−Aug−2005 16:33

High resolution Integrated Logging Tool−DTS Master Calibration

Deviation Summary

Phase	BS Average Deviation %	Value	Phase	SS Average Deviation %	Value	Phase	LS Average Deviation %	Value
Master		0.5362	Master		0.3593	Master		0.5739
	−0.6000 (Minimum) 0 (Nominal) 0.6000 (Maximum)			−1.000 (Minimum) 0 (Nominal) 1.000 (Maximum)			−1.500 (Minimum) 0 (Nominal) 1.500 (Maximum)	

Phase	BS Max Deviation %	Value	Phase	SS Max Deviation %	Value	Phase	LS Max Deviation %	Value
Master		1.181	Master		1.252	Master		1.306
	−1.600 (Minimum) 0 (Nominal) 1.600 (Maximum)			−2.500 (Minimum) 0 (Nominal) 2.500 (Maximum)			−3.500 (Minimum) 0 (Nominal) 3.500 (Maximum)	

Master: 2−Aug−2005 16:33

High resolution Integrated Logging Tool−DTS Master Calibration

Zero Measurement

Phase	CNTC Background CPS	Value	Phase	CFTC Background CPS	Value
Master		31.68	Master		31.68
	5.000 (Minimum) 31.68 (Nominal) 40.00 (Maximum)			5.000 (Minimum) 31.68 (Nominal) 40.00 (Maximum)	

Master: 30−Jun−2005 16:26

High resolution Integrated Logging Tool−DTS Master Calibration

Tank Measurement

Phase	Thermal Near Corr. (Tank) CPS	Value	Phase	Thermal Far Corr. (Tank) CPS	Value	Phase	CNTC/CFTC (Tank)	Value
Master		5438	Master		2364	Master		2.300
	5000 (Minimum) 6031 (Nominal) 7200 (Maximum)			2075 (Minimum) 2793 (Nominal) 3125 (Maximum)			2.120 (Minimum) 2.159 (Nominal) 2.540 (Maximum)	

Master: 30−Jun−2005 16:26

COMPANIA:	**YPF S.A.**
POZO:	**YPF.Ch.EN−627**
CAMPO:	**ESCALANTE NORTE**
PROVINCIA:	**CHUBUT**

PRIMERA LECTURA	2700.3 m
PROFUNDIDAD PERFIL	2703 m
PROF. PERFORADOR	2700 m
BUJE DE VASTAGO	707.47 m
MESA ROTATIVA	707.17 m

PAIS: ARGENTINA	NIVEL TERRENO	702.57 m

Schlumberger

COMBINADA

ESCALA: 1/200

Perfiles del Pozo EN-636

COMPANIA: YPF S.A.

POZO: YPF.Ch.EN−636

CAMPO: ESCALANTE NORTE

PROVINCIA: CHUBUT **PAIS:** ARGENTINA

Provincia: CHUBUT
Campo: ESCALANTE NORTE
Locacion: ARCS
Pozo: YPF.Ch.EN−636
Compania: YPF S.A.

Schlumberger

COMBINADA

ESCALA: 1/200

LOCACION

AIT−LDL−BHC−CAL
XPT

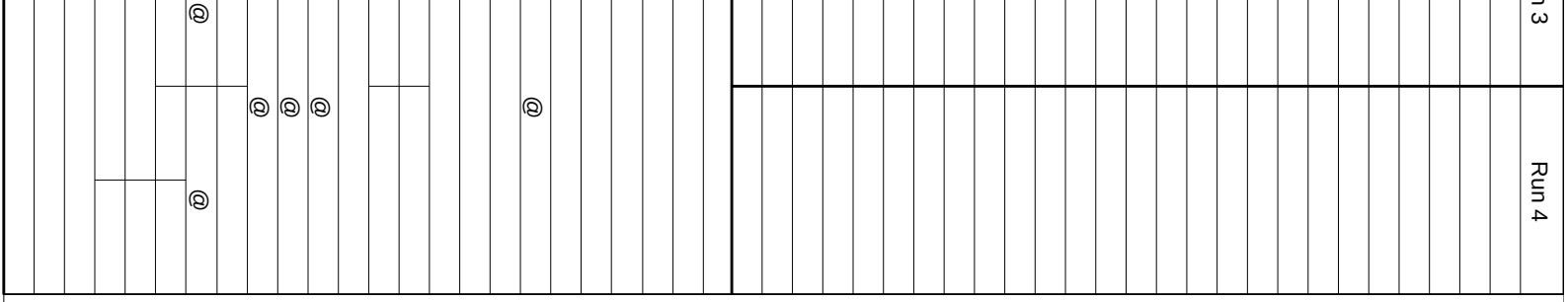
Elev.: B.V. 710.64 m
N. T. 704.84 m
M. R. 710.34 m

Ref. Permanente: NIVEL DEL TERRENO Elev.: 704.84 m
Reg. Medido Desde: NIVEL DEL TERRENO 0.0 m sobre nivel ref.
Perforacion Medida Desde: NIVEL DEL TERRENO

UWI: AR0100007264	Equipo PI−390	Longitud X: 4.937.845,21	Latitud Y: 2.581.329,26

Fecha			4−Jul−2007				Logging Date	
Corrida No.			1				Run Number	
Prof. Perforador			2800 m				Depth Driller	
Prof. Registro			2803 m				Logger Depth	
Primera Lectura			2800 m				Bottom Log Interval	
Ultima Lectura			433.2 m				Top Log Interval	
Fondo Tuberia Perforador			9.625 in @ 433.5 m		@		Casing Driller Size @ Depth	@
Fondo Tuberia Registro			433.2 m				Casing Logger	
Diametro Trepano			8.750 in				Bit Size	
Tipo De Lodo			POLIMERICO − PHPA				Type Fluid In Hole	
LODO Densidad	Viscosidad		1.18 g/cm3	62 s			MUD Density	Viscosity
LODO Perdidas	PH		6 cm3	9			MUD Fluid Loss	PH
LODO Fuente Muestra De Lodo			PILETA				MUD Source Of Sample	
RM @ Temp.			1.700 ohm.m @ 15 degC		@		RM @ Measured Temperature	@
RMF @ Temp.			1.580 ohm.m @ 16 degC		@		RMF @ Measured Temperature	@
RMC @ Temp.			1.900 ohm.m @ 11 degC		@		RMC @ Measured Temperature	@
Fuente: RMF	RMC		PRENSA	PRENSA			Source RMF	RMC
RM @ T. Fdo.	RMF @ T. Fdo.		0.525 @ 98	0.492 @ 98	@	@	RM @ MRT	RMF @ MRT @ @
Temp. Maxima Medida			98 degC				Maximum Recorded Temperatures	
Circulacion Final	Hora		4−Jul−2007	5:45			Circulation Stopped	Time
Registro Fondo	Hora		4−Jul−2007	15:50			Logger On Bottom	Time
Unidad No.	Locacion		3023	ARCS			Unit Number	Location
Registrado por:			CAROLINA MAGGI				Recorded By	
Testigo			GASTON JARQUE				Witnessed By	

	Run 1	Run 2	Run



DEPTH SUMMARY LISTING

Date Created: 5−JUL−2007 16:27:00

Depth System Equipment

Depth Measuring Device		Tension Device		Logging Cable	
Type:	IDW−B	Type:	CMTD−B/A	Type:	7−46P−XS
Serial Number:	4830	Serial Number:	2766	Serial Number:	7058
Calibration Date:	26−May−2007	Calibration Date:	4−Jul−2007	Length:	4149.85 M
Calibrator Serial Number:	31	Calibrator Serial Number:	1028	Conveyance Method:	Wireline
Calibration Cable Type:	7−46P	Calibration Gain:	0.88	Rig Type:	LAND
Wheel Correction 1:	−4	Calibration Offset:	183.00		
Wheel Correction 2:	−3				

Depth Control Parameters

Log Sequence:	First Log In the Well
Rig Up Length At Surface:	74.00 M
Rig Up Length At Bottom:	74.00 M
Rig Up Length Correction:	0.00 M
Stretch Correction:	3.30 M
Tool Zero Check At Surface:	0.10 M

Depth Control Remarks

1. Primera carrera en el pozo y perfil de referencia de profundidad.
2. Procedimiento de control de profundidad estandar de Schlumberger aplicado en esta carrera.
3. Correccion por estiramiento del cable 3.3 m.
4.
5.
6.

OTROS SERVICIOS # 1		OTROS SERVICIOS # 2
OS1:	AIT−LDL−BHC−CAL	OS1:
OS2:	XPT	OS2:
OS3:		OS3:
OS4:		OS4:
OS5:	PI−390	OS5:

OBSERVACIONES: CORRIDA # 1	OBSERVACIONES: CORRIDA # 2
1. Primera carrera en el pozo y perfil de referencia de profundidad.	
2. Esquema del pozo segun datos del perforador.	
3. Coordenadas definitivas.	
4. Herramienta corrida segun diagrama.	
5. Maxima temperatura registrada 98 degC desde termometro en punta de herramienta.	
6. Datos adicionales del lodo: Cl = 1000 ppm, Ca = 80 ppm.	
7. Maxima desviacion del pozo: 2 deg segun datos del perforador.	

7. Maxima desviacion del pozo: 2 deg segun datos del perforador.
8. Ultima circulacion termino el dia 4−Jul−2007 a las 5:45 hs y duro 1:30 hs.
9. FPHI= SPHI, FNUM=0.81, y FEXP=2 utilizados el calculo de RWA.
10. Lecturas de LDL y BHC afectadas en zonas de mal caliper.
11. AIT y DSLT corridos descentralizados usando standoffs de 1.5".
12. Repetibilidad afectada en zonas de mal caliper.
13. LDL y BHC corridos hasta 900 m a pedido del cliente.

CORRIDA #1			CORRIDA #2		
ORDEN DE SERVICIO:			ORDEN DE SERVICIO:		
VERSION DEL PROGRAMA:		15C0−309	VERSION DEL PROGRAMA:		
NIVEL DEL LODO:		0 m	NIVEL DEL LODO:		
INTERVALO REGISTRADO	COMIENZO	FINAL	INTERVALO REGISTRADO	COMIENZO	FINAL

DESCRIPCION DEL EQUIPO

CORRIDA # 1

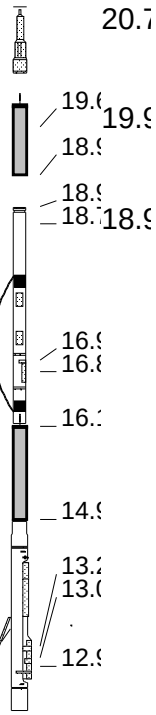
CORRIDA # 2

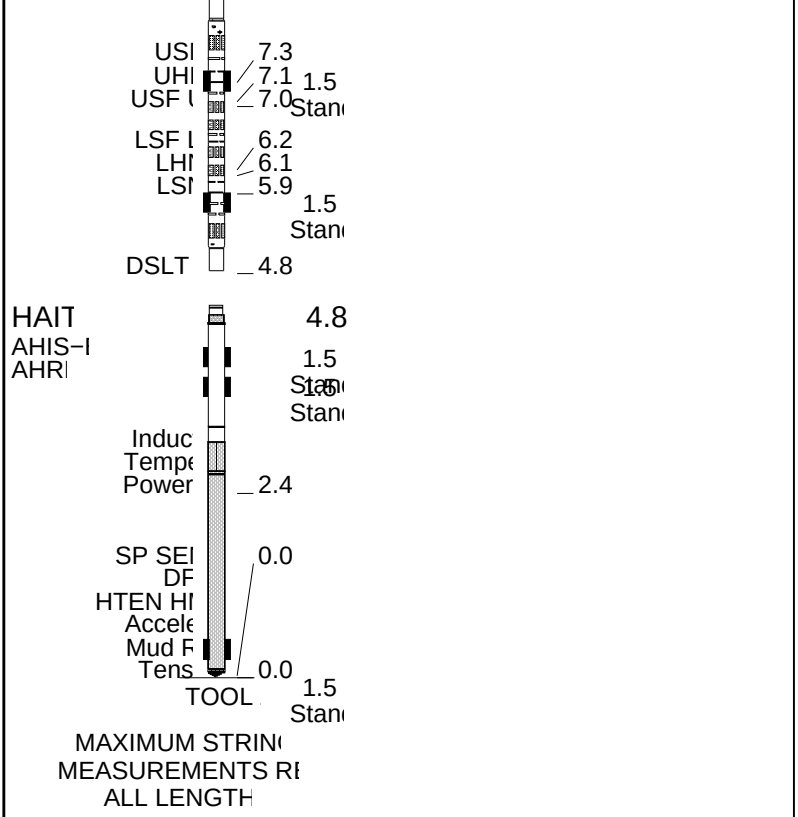
SURFACE I

GSR·
NCT
CNB·
NCS

WITM (

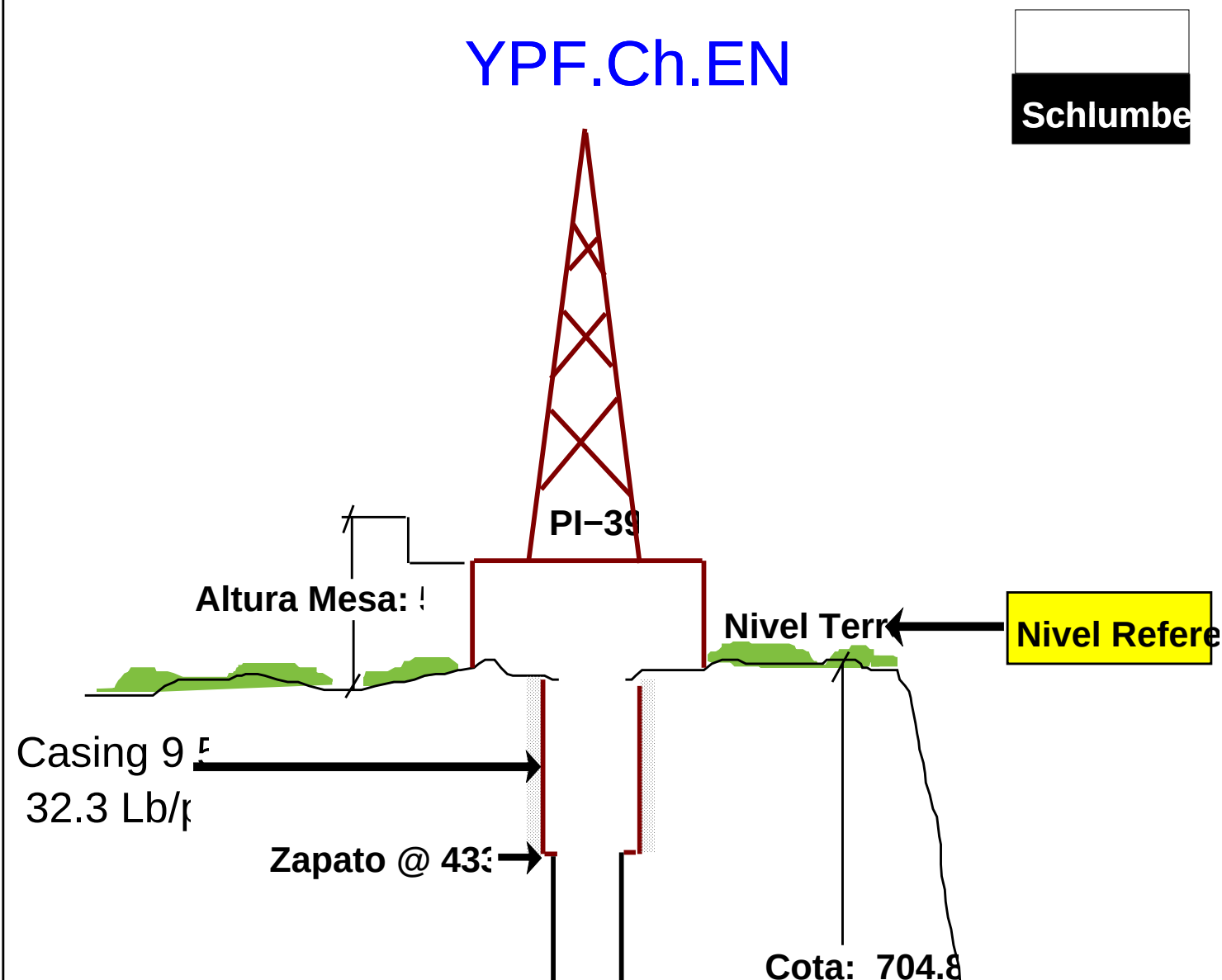
DOWNHOLE

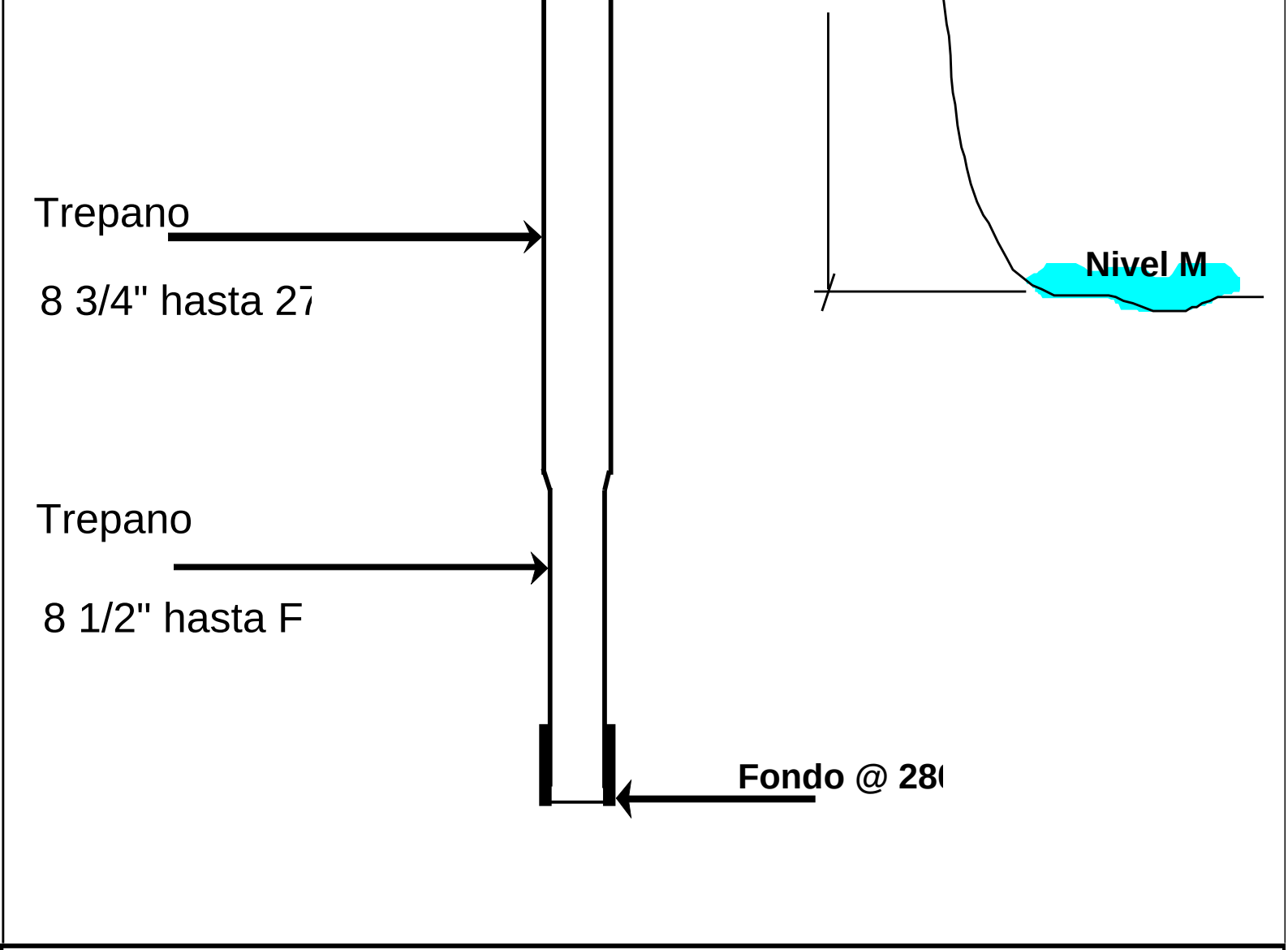




YPF.Ch.EN

Schlumbe





Schlumberger

TRAMO PRINCIPAL

MAXIS Field Log

Input DLIS Files

DEFAULT	AIT_SONIC_TLD_MCFL_006LUP	FN:5	PRODUCER	05−Jul−2007 13:21	2809.0 M	334.9 M

Output DLIS Files

DEFAULT	AIT_SONIC_TLD_MCFL_042PUP	FN:4	PRODUCER	05−Jul−2007 15:33	2809.3 M	395.9 M
CUSTOMER	AIT_SONIC_TLD_MCFL_042PUC	FN:5	CUSTOMER	05−Jul−2007 15:33	2809.3 M	395.9 M
AIT	AIT_SONIC_TLD_MCFL_042PUC	FN:6	CUSTOMER	05−Jul−2007 15:33	2809.3 M	395.9 M

Integrated Hole/Cement Volume Summary

Hole Volume = 93.09 M3

Cement Volume = 56.76 M3 (assuming 5.50 IN casing O.D.)

Computed from 2802.9 M to 433.3 M using data channel(s) HCAL

OP System Version: 15C0−309

MCM

HAIT−H	SRPC−3292−Q1_2007	DSLT−H	15C0−309
HILTB−FTB	SRPC−3292−Q1_2007	DTC−H	15C0−309

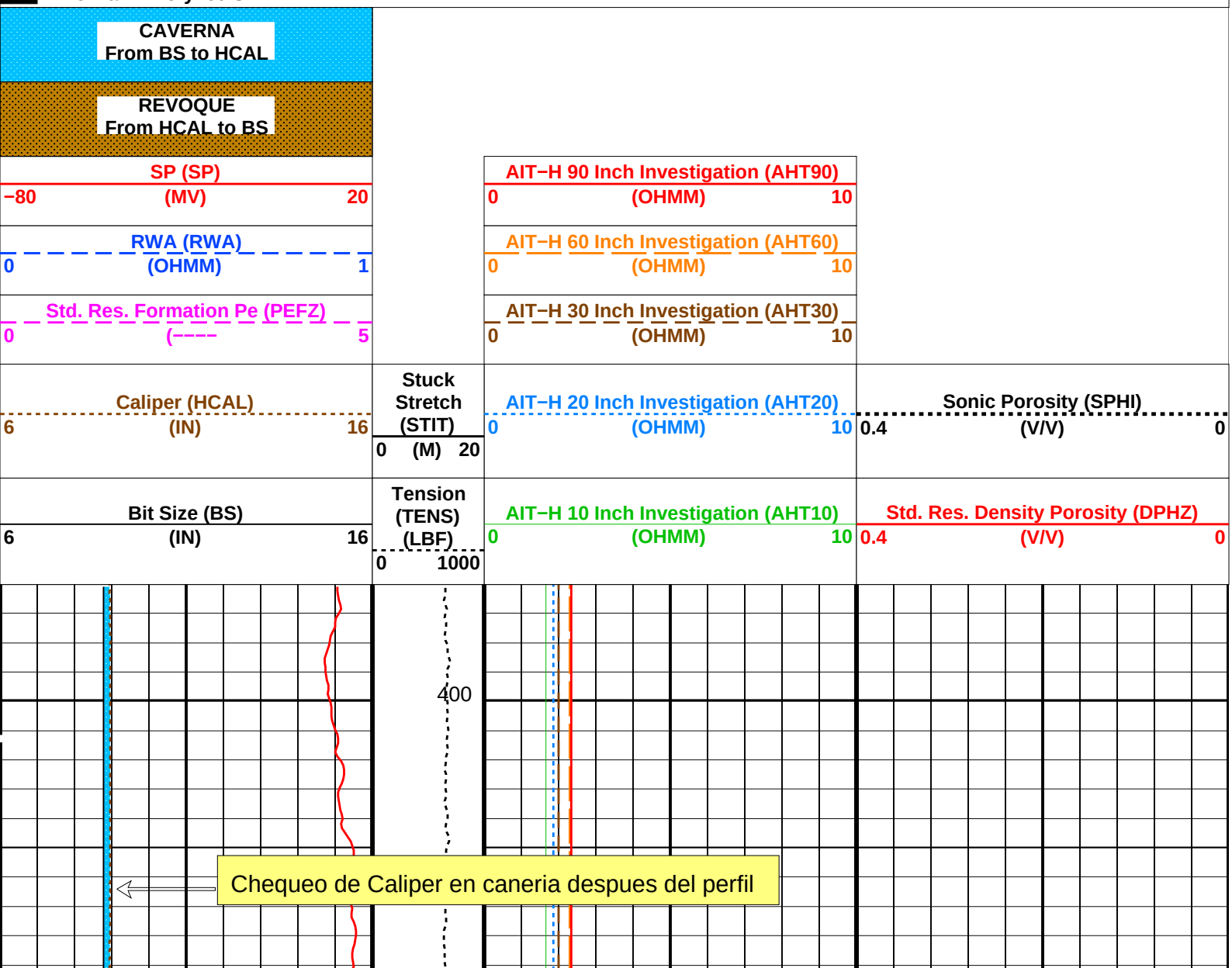
Changed Parameter Summary

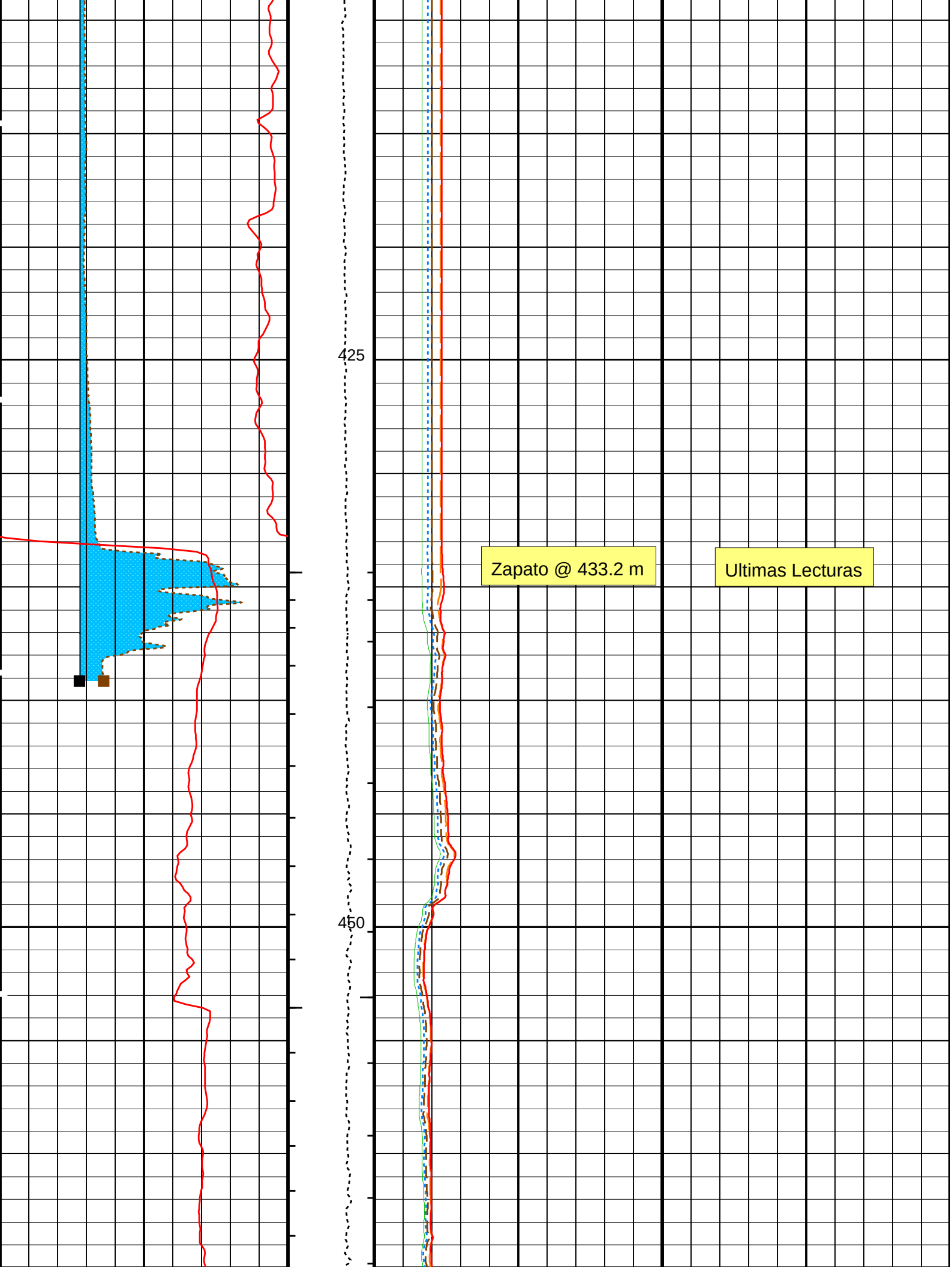
DLIS Name	New Value	Previous Value	Depth & Time
BS	8.500 IN	8.750 IN	2809.3 15:33:36
	8.750 IN	8.500 IN	2755.8 15:33:40
	8.750 IN	8.750 IN	2464.9 15:34:09
	8.750 IN	8.750 IN	2420.0 15:34:14
	8.750 IN	8.750 IN	1590.0 15:35:32
	8.750 IN	8.750 IN	1449.9 15:35:44
	8.750 IN	8.750 IN	1375.0 15:35:50
SPDR	0 MV/M	0 MV/M	2809.3 15:33:36
	0 MV/M	0 MV/M	2755.8 15:33:40
	−0.133 MV/M	0 MV/M	2464.9 15:34:09
	0 MV/M	−0.133 MV/M	2420.0 15:34:14
	−0.036 MV/M	0 MV/M	1590.0 15:35:32
	0.04 MV/M	−0.036 MV/M	1449.9 15:35:44
	0 MV/M	0.04 MV/M	1375.0 15:35:50

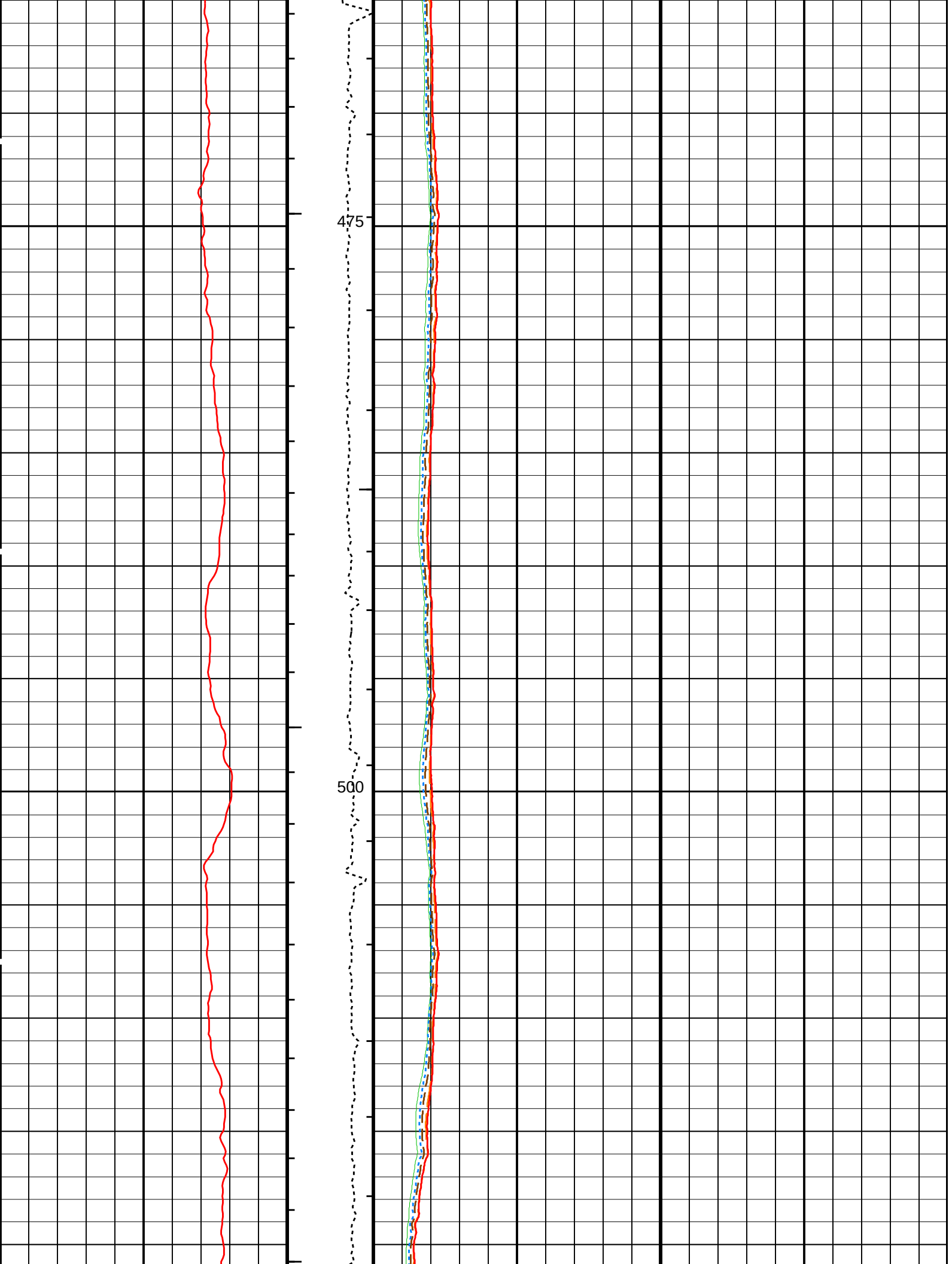
PIP SUMMARY

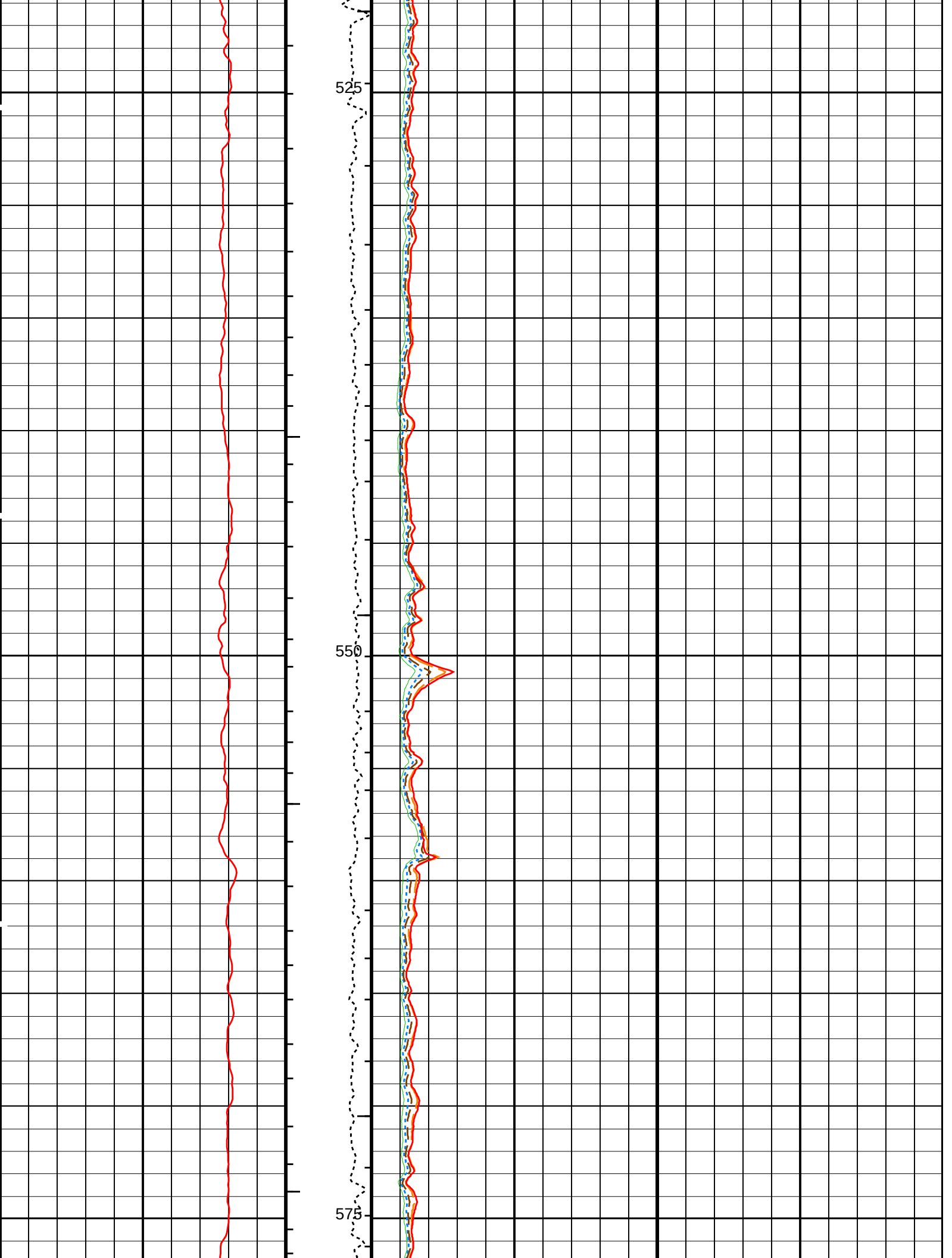
- Integrated Hole Volume Minor Pip Every 0.1 M3
- Integrated Hole Volume Major Pip Every 1 M3
- Integrated Cement Volume Minor Pip Every 0.1 M3
- Integrated Cement Volume Major Pip Every 1 M3

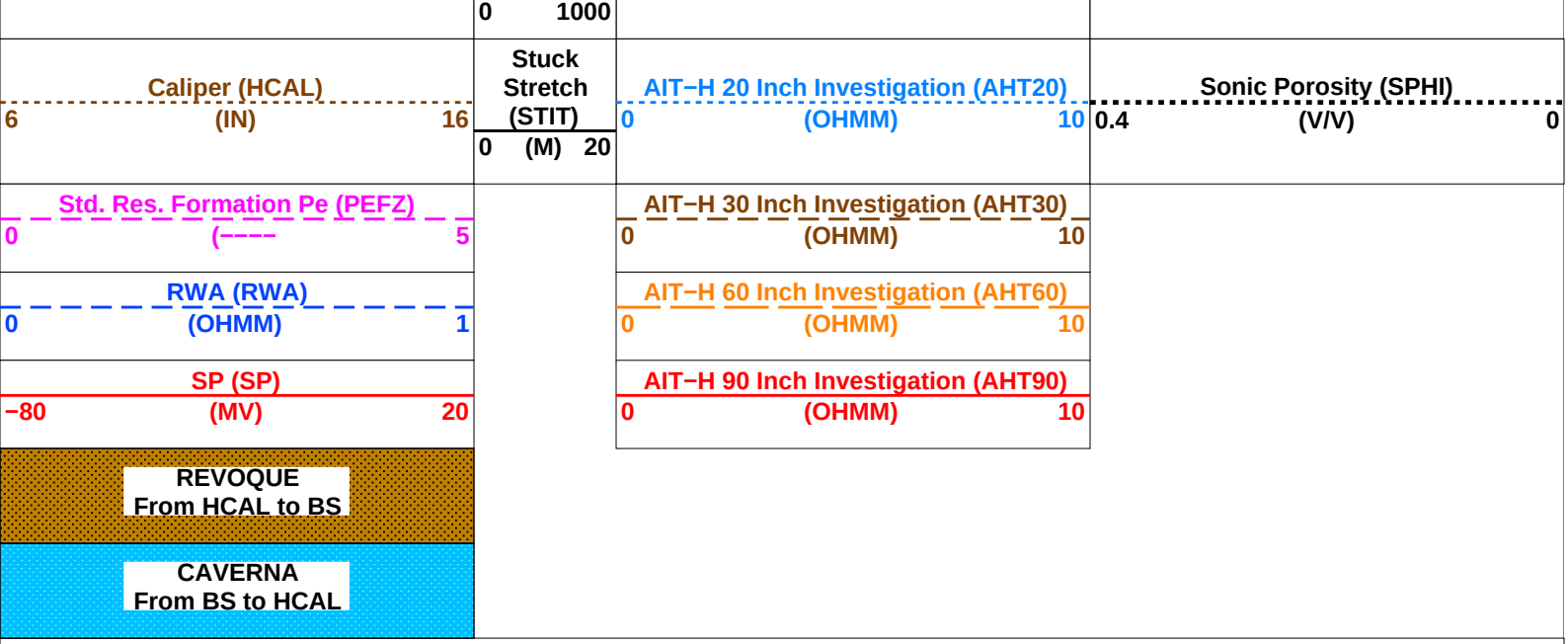
Time Mark Every 60 S




425
450
Zapato @ 433.2 m
Ultimas Lecturas


475
500


525
550
575



PIP SUMMARY

- Integrated Hole Volume Minor Pip Every 0.1 M3
- Integrated Hole Volume Major Pip Every 1 M3
- Integrated Cement Volume Minor Pip Every 0.1 M3
- Integrated Cement Volume Major Pip Every 1 M3

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value	
	HAIT−H: Array Induction Tool − H		
AHBHM	Array Induction Borehole Correction Mode	2_ComputeStandoff	
AHBHV	Array Induction Borehole Correction Code Version Number	900	
AHBLM	Array Induction Basic Logs Mode	6_One_Two_and_Four	
AHBLV	Array Induction Basic Logs Code Version Number	223	
AHCDE	Array Induction Casing Detection Enable	Yes	
AHCEN	Array Induction Tool Centering Flag (in Borehole)	Eccentered	
AHFRSV	Array Induction Response Set Version for Four ft Resolution	41.70.24.20	
AHMRF	Array Induction Mud Resistivity Factor	1	
AHORSV	Array Induction Response Set Version for One ft Resolution	41.70.24.20	
AHRFV	Array Induction Radial Profiling Code Version Number	701	
AHRPV	Array Induction Radial Parametrization Code Version Number	232	
AHSTA	Array Induction Tool Standoff	1.5	IN
AHTRSV	Array Induction Response Set Version for Two ft Resolution	41.70.24.20	
ARTS	AIT Rt Selection (for ALLRES computation)	AITH_TwoResA90	
BHT	Bottom Hole Temperature (used in calculations)	98	DEGC
FEXP	Form Factor Exponent	2	
FNUM	Form Factor Numerator	0.81	
FPHI	Form Factor Porosity Source	SPHI	
GCSE	Generalized Caliper Selection	HCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.018227	DC/M
GRSE	Generalized Mud Resistivity Selection	AITH_RESIST	
GTSE	Generalized Temperature Selection	HSTS_HTEM	
RTCO	RTCO − Rt Invasion Correction	YES	
SHT	Surface Hole Temperature	20	DEGC
SPDR	SP Drift	0	MV/M
SPNV	SP Next Value	38	MV
	DSLT−H: Digitizing Sonic Logging Tool		
CDTS	C−Delta−T Shale	100	US/F
DTF	Delta−T Fluid	189	US/F
DTM	Delta−T Matrix	56	US/F
SPFS	Sonic Porosity Formula	RAYMER_HUNT	
SPSO	Sonic Porosity Source	DT	
	HILTB−FTB: High resolution Integrated Logging Tool−DTS		
BHFL_TLD	HILT Nuclear Mud Base	WATER	
BHT	Bottom Hole Temperature (used in calculations)	98	DEGC
DHC	Density Hole Correction	BS	
FD	Fluid Density	1	G/C3
FEXP	Form Factor Exponent	2	
FNUM	Form Factor Numerator	0.81	
FPHI	Form Factor Porosity Source	SPHI	
GCLF	Germany Coal−like Formation Option	NO	
GCSE	Generalized Caliper Selection	HCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG

GGRD	Geothermal Gradient	0.018227	DC/M
GRSE	Generalized Mud Resistivity Selection	AITH_RESIST	
GTSE	Generalized Temperature Selection	HSTS_HTEM	
MDEN	Matrix Density	2.65	G/C3
NAAC	HRDD APS Activation Correction	OFF	
NMT	HILT Nuclear Mud Type	NOBARITE	
NPRM	HRDD Processing Mode	StdRes	
NSAR	HRDD Depth Sampling Rate	1	IN
SHT	Surface Hole Temperature	20	DEGC
RWA: Apparent Water Resistivity			
ARTS	AIT Rt Selection (for ALLRES computation)	AITH_TwoResA90	
FEXP	Form Factor Exponent	2	
FNUM	Form Factor Numerator	0.81	
FPHI	Form Factor Porosity Source	SPHI	
RTCO	RTCO − Rt Invasion Correction	YES	
ALLRES: Basic Resistivity Transforms			
ARTS	AIT Rt Selection (for ALLRES computation)	AITH_TwoResA90	
RTCO	RTCO − Rt Invasion Correction	YES	
HOLEV: Integrated Hole/Cement Volume			
BHT	Bottom Hole Temperature (used in calculations)	98	DEGC
FCD	Future Casing (Outer) Diameter	5.5	IN
GCSE	Generalized Caliper Selection	HCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.018227	DC/M
GRSE	Generalized Mud Resistivity Selection	AITH_RESIST	
GTSE	Generalized Temperature Selection	HSTS_HTEM	
HVCS	Integrated Hole Volume Caliper Selection	HCAL	
SHT	Surface Hole Temperature	20	DEGC
STI: Stuck Tool Indicator			
LBFR	Trigger for MAXIS First Reading Label	STI	
STKT	STI Stuck Threshold	0.762	M
TDD	Total Depth − Driller	2800.00	M
TDL	Total Depth − Logger	2803.00	M
System and Miscellaneous			
BS	Bit Size	8.750	IN
DFD	Drilling Fluid Density	1.18	G/C3
DO	Depth Offset for Playback	0.3	M
FLEV	Fluid Level	0.00	M
MST	Mud Sample Temperature	15.40	DEGC
PP	Playback Processing	RECOMPUTE	
RMFS	Resistivity of Mud Filtrate Sample	1.7000	OHMM
RW	Resistivity of Connate Water	1.0000	OHMM
TD	Total Depth	2803	M
TWS	Temperature of Connate Water Sample	37.78	DEGC

Format: COMBINADA **Vertical Scale: 1:200** **Graphics File Created: 05−Jul−2007 15:33**

OP System Version: 15C0−309

MCM

HAIT−H	SRPC−3292−Q1_2007	DSLT−H	15C0−309
HILTB−FTB	SRPC−3292−Q1_2007	DTC−H	15C0−309

Input DLIS Files

DEFAULT	AIT_SONIC_TLD_MCFL_006LUP	FN:5	PRODUCER	05−Jul−2007 13:21	2809.0 M	334.9 M

Output DLIS Files

DEFAULT	AIT_SONIC_TLD_MCFL_042PUP	FN:4	PRODUCER	05−Jul−2007 15:33
CUSTOMER	AIT_SONIC_TLD_MCFL_042PUC	FN:5	CUSTOMER	05−Jul−2007 15:33
AIT	AIT_SONIC_TLD_MCFL_042PUC	FN:6	CUSTOMER	05−Jul−2007 15:33

Schlumberger

TRAMO REPETIDO

MAXIS Field Log

OP System Version: 15C0−309

MCM

HAIT−H	SRPC−3292−Q1_2007	DSLT−H	15C0−309
HILTB−FTB	SRPC−3292−Q1_2007	DTC−H	15C0−309

Input DLIS Files

DEFAULT	AIT_SONIC_TLD_MCFL_005LUP	FN:4	PRODUCER	05−Jul−2007 13:21	2805.4 M	2648.9 M
DEFAULT	AIT_SONIC_TLD_MCFL_042PUP	FN:4	PRODUCER	05−Jul−2007 15:33	2809.3 M	395.9 M

Output DLIS Files

DEFAULT	AIT_SONIC_TLD_MCFL_048PUP	FN:7	PRODUCER	05−Jul−2007 16:11
CUSTOMER	AIT_SONIC_TLD_MCFL_048PUC	FN:8	CUSTOMER	05−Jul−2007 16:12
AIT	AIT_SONIC_TLD_MCFL_048PUC	FN:9	CUSTOMER	05−Jul−2007 16:12

Schlumberger

CHEQUEO EN CAÑERIA

MAXIS Field Log

Input DLIS Files

DEFAULT	AIT_SONIC_TLD_MCFL_003LUP	FN:2	PRODUCER	05−Jul−2007 13:20	459.0 M	385.3 M

Output DLIS Files

DEFAULT	AIT_SONIC_TLD_MCFL_049PUP	FN:10	PRODUCER	05−Jul−2007 16:18	440.0 M	399.1 M
CUSTOMER	AIT_SONIC_TLD_MCFL_049PUC	FN:11	CUSTOMER	05−Jul−2007 16:18	440.0 M	399.1 M
AIT	AIT_SONIC_TLD_MCFL_049PUC	FN:12	CUSTOMER	05−Jul−2007 16:18	440.0 M	399.1 M

OP System Version: 15C0−309

MCM

HAIT−H	SRPC−3292−Q1_2007	DSLT−H	15C0−309
HILTB−FTB	SRPC−3292−Q1_2007	DTC−H	15C0−309

Changed Parameter Summary

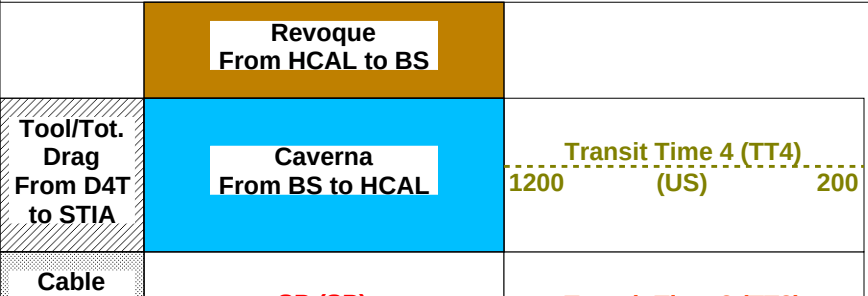
DLIS Name	New Value		Previous Value		Depth & Time
BS	8.750	IN	8.750	IN	440.0 16:18:34
SPDR	0	MV/M	0	MV/M	440.0 16:18:34

PIP SUMMARY

Integrated Transit Time Minor Pip Every 1 MS

Integrated Transit Time Major Pip Every 10 MS

Time Mark Every 60 S



Drag From D4T to STIT

SP (SP)
−80 (MV) 20

Transit Time 3 (TT3)
1200 (US) 200

Stuck Stretch (STIT)
0 (M) 20

HILT Caliper (HCAL)
6 (IN) 16

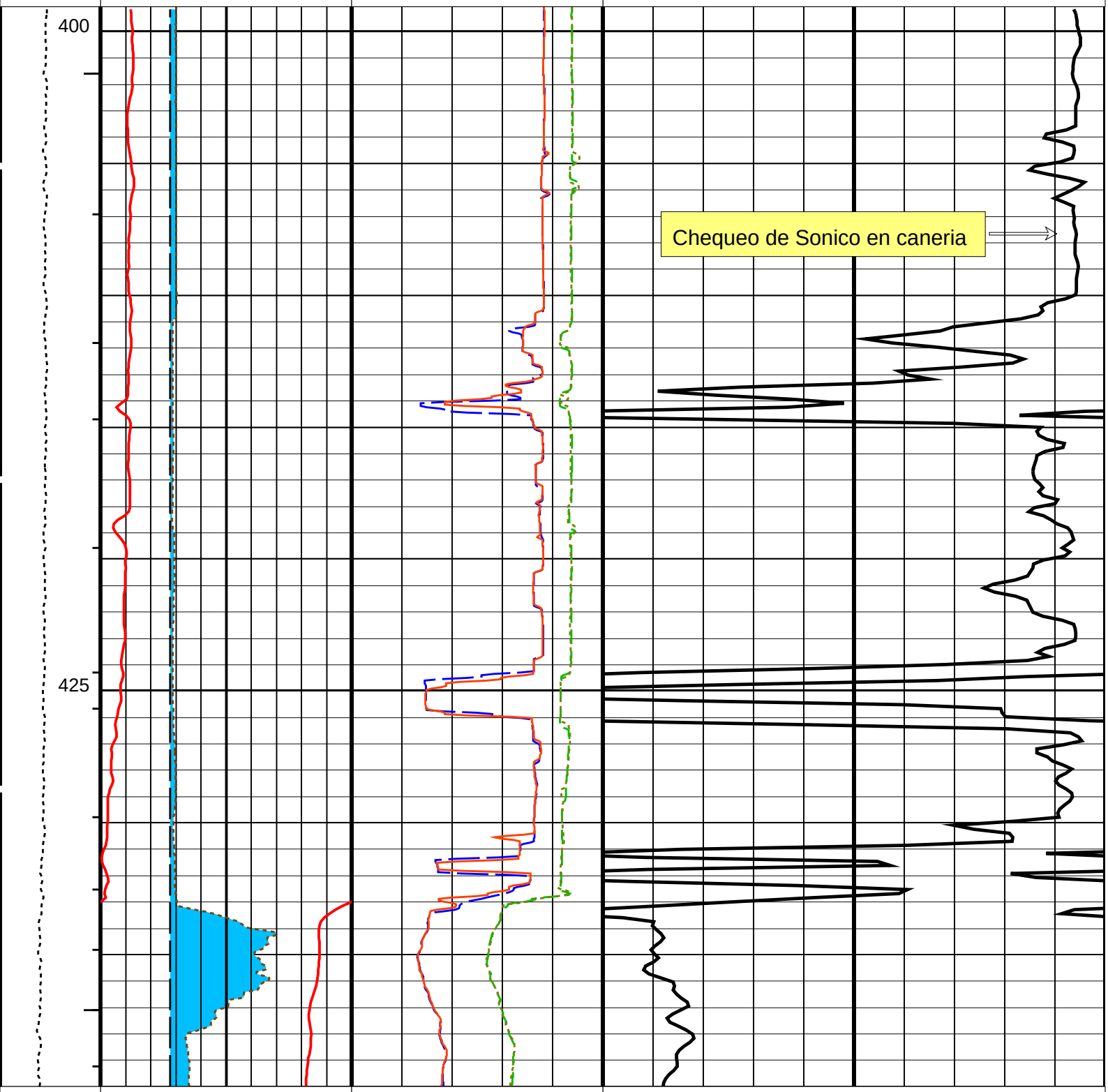
Transit Time 2 (TT2)
1200 (US) 200

Tension (TENS) (LBF)
1000 0

Bit Size (BS)
6 (IN) 16

Transit Time 1 (TT1)
1200 (US) 200

Delta−T (DT)
150 (US/F) 50



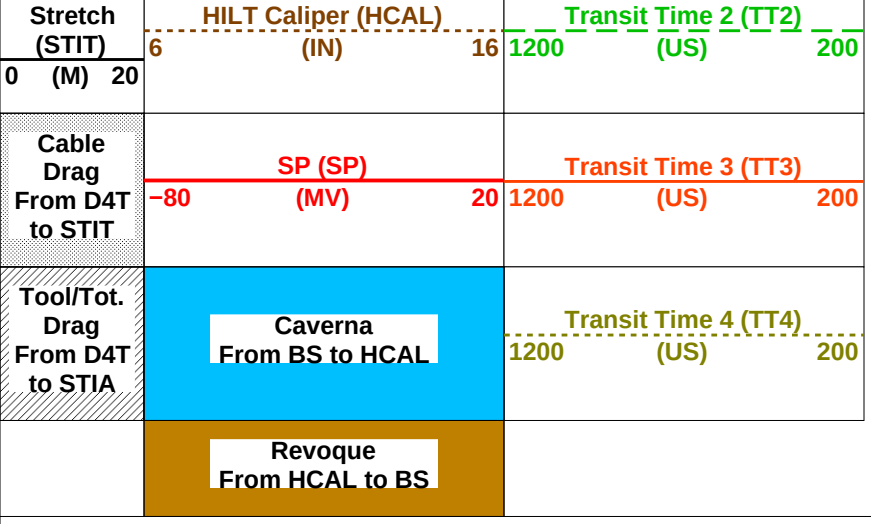
Tension (TENS) (LBF)
1000 0

Bit Size (BS)
6 (IN) 16

Transit Time 1 (TT1)
1200 (US) 200

Delta−T (DT)
150 (US/F) 50

Stuck



PIP SUMMARY

Integrated Transit Time Minor Pip Every 1 MS
Integrated Transit Time Major Pip Every 10 MS
Time Mark Every 60 S

Parameters

DLIS Name	Description	Value	
	HAIT−H: Array Induction Tool − H		
SPDR	SP Drift	0	MV/M
SPNV	SP Next Value	−30	MV
	DSLT−H: Digitizing Sonic Logging Tool		
	Telemetry Mode	DSLC_FTB	
	DSLT Firing Mode	BHC	
AMSG	Auxiliary Minimum Sliding Gate	140	US
CBAF	CBL Adjustment Factor	1	
CBLG	CBL Gate Width	45	US
DDEL	Digitizing Delay	200	US
DIVL	DSLT Depth Sampling Interval	20	
DRCS	DSLT DLIS Recording Size	120	
DSIN	Digitizing Sample Interval	10	
DTFS	DSLC Telemetry Frame Size	280	
DWCO	Digitizing Word Count	120	
GAI	Manual Gain	40	
ITTS	Integrated Transit Time Source	DT	
MAHTR	Manual High Threshold Reference	140	
MGAI	Maximum Gain	60	
MNHTR	Minimum High Threshold Reference	120	
NMSG	Near Minimum Sliding Gate	260	US
NMXG	Near Maximum Sliding Gate	750	US
RATE	Firing Rate	R15	
SFAF	Sonic Formation Attenuation Factor	0	DB/M
SGCL	Sliding Gate Closing Delta−T	250	US/F
SGDT	Sliding Gate Delta−T	65	US/F
SGW	Sliding Gate Width	80	US
SLEV	Signal Level for AGC	5000	
WAGC	Waveform AGC Allow/Disallow	OFF	
WMOD	Waveform Firing Mode	FULL	
	STI: Stuck Tool Indicator		
LBFR	Trigger for MAXIS First Reading Label	STI	
STKT	STI Stuck Threshold	0.762	M
TDD	Total Depth − Driller	2800.00	M
TDL	Total Depth − Logger	2803.00	M
	System and Miscellaneous		
BS	Bit Size	8.750	IN
DO	Depth Offset for Playback	0.2	M
DORL	Depth Offset for Repeat Analysis	0.0	M
PP	Playback Processing	OFF	

Format: SONIC Vertical Scale: 1:200 Graphics File Created: 05−Jul−2007 16:18

OP System Version: 15C0−309

MCM

HAIT−H	SRPC−3292−Q1_2007	DSLT−H	15C0−309
HILTB−FTB	SRPC−3292−Q1_2007	DTC−H	15C0−309

Input DLIS Files

DEFAULT	AIT_SONIC_TLD_MCFL_003LUP	FN:2	PRODUCER	05−Jul−2007 13:20	459.0 M	385.3 M

Output DLIS Files

DEFAULT	AIT_SONIC_TLD_MCFL_049PUP	FN:10	PRODUCER	05−Jul−2007 16:18		
CUSTOMER	AIT_SONIC_TLD_MCFL_049PUC	FN:11	CUSTOMER	05−Jul−2007 16:18		
AIT	AIT_SONIC_TLD_MCFL_049PUC	FN:12	CUSTOMER	05−Jul−2007 16:18		

Input DLIS Files

DEFAULT	AIT_SONIC_TLD_MCFL_003LUP	FN:2	PRODUCER	05−Jul−2007 13:20	459.0 M	385.3 M

Output DLIS Files

DEFAULT	AIT_SONIC_TLD_MCFL_049PUP	FN:10	PRODUCER	05−Jul−2007 16:18	440.0 M	399.1 M
CUSTOMER	AIT_SONIC_TLD_MCFL_049PUC	FN:11	CUSTOMER	05−Jul−2007 16:18	440.0 M	399.1 M
AIT	AIT_SONIC_TLD_MCFL_049PUC	FN:12	CUSTOMER	05−Jul−2007 16:18	440.0 M	399.1 M

Integrated Hole/Cement Volume Summary

Hole Volume = 3.00 M3

Cement Volume = 1.87 M3 (assuming 5.50 IN casing O.D.)

Computed from 2729.9 M to 2656.2 M using data channel(s) HCAL

OP System Version: 15C0−309

MCM

HAIT−H	SRPC−3292−Q1_2007	DSLT−H	15C0−309
HILTB−FTB	SRPC−3292−Q1_2007	DTC−H	15C0−309

Changed Parameter Summary

DLIS Name	New Value	Previous Value	Depth & Time
BS	8.750 IN	8.750 IN	440.0 16:18:34
SPDR	0 MV/M	0 MV/M	440.0 16:18:34

PIP SUMMARY

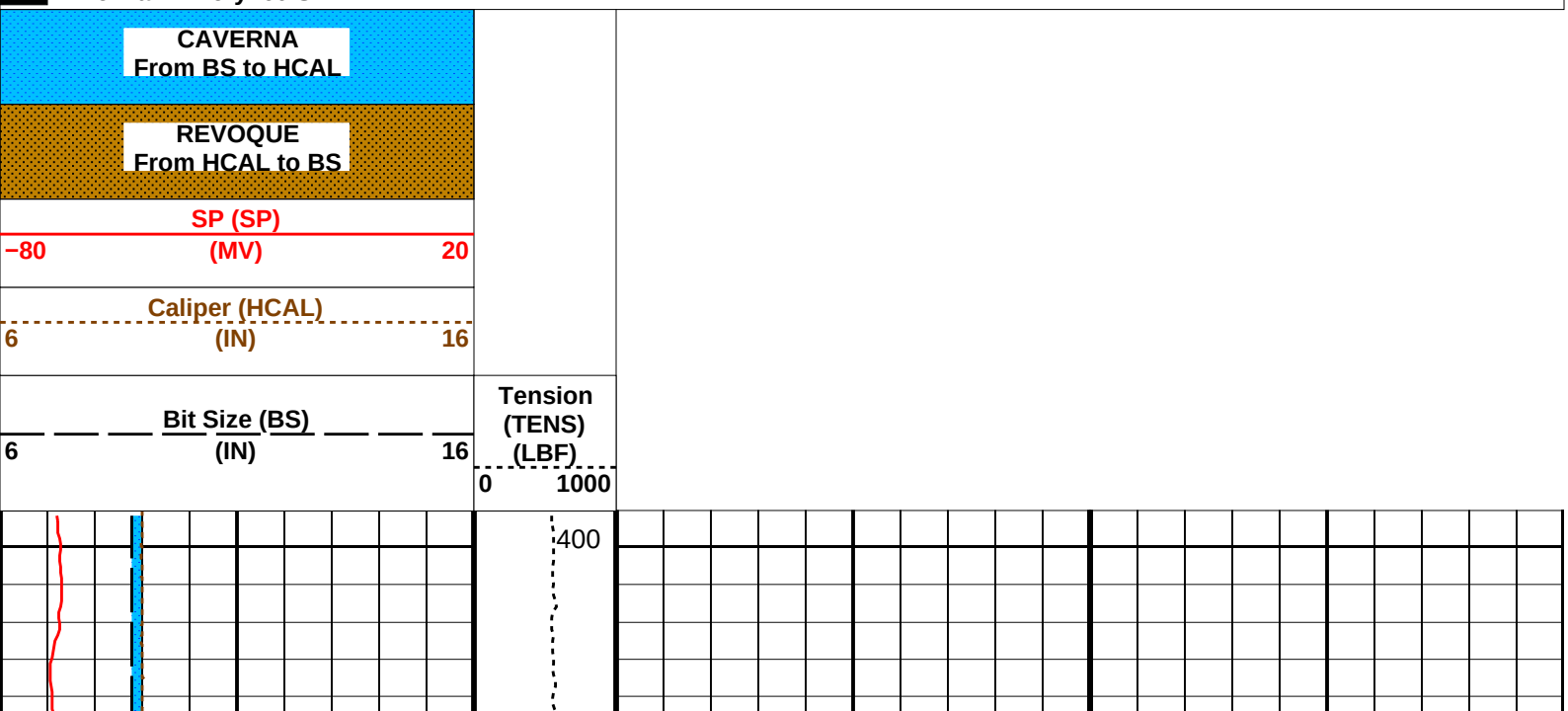
Integrated Hole Volume Minor Pip Every 0.1 M3

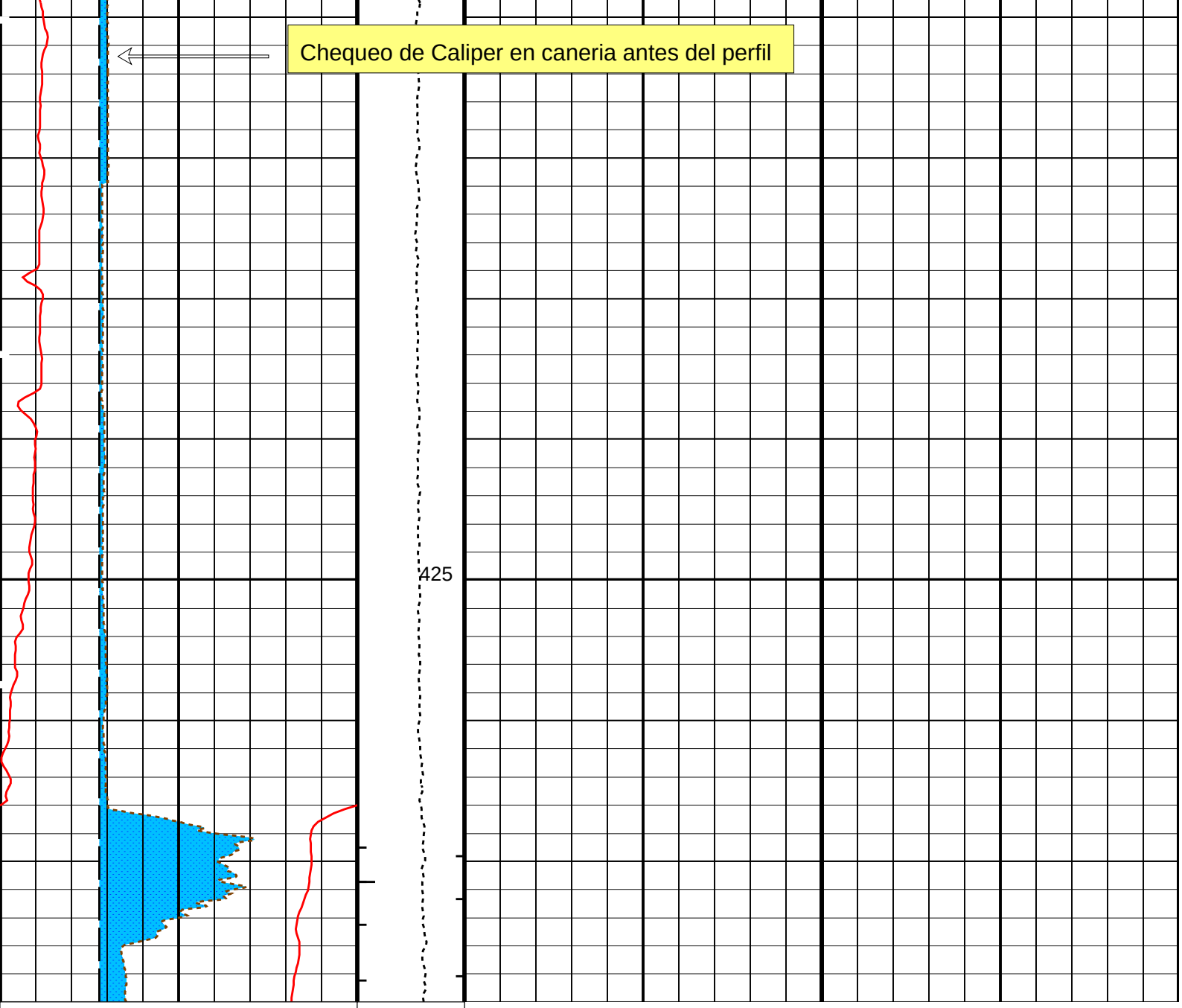
Integrated Hole Volume Major Pip Every 1 M3

Integrated Cement Volume Minor Pip Every 0.1 M3

Integrated Cement Volume Major Pip Every 1 M3

Time Mark Every 60 S





Bit Size (BS)
6 (IN) 16

Tension (TENS) (LBF)
0 1000

Caliper (HCAL)
6 (IN) 16

SP (SP)
−80 (MV) 20

REVOQUE
From HCAL to BS

CAVERNA
From BS to HCAL

PIP SUMMARY

- Integrated Hole Volume Minor Pip Every 0.1 M3
- Integrated Hole Volume Major Pip Every 1 M3
- Integrated Cement Volume Minor Pip Every 0.1 M3
- Integrated Cement Volume Major Pip Every 1 M3

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value	
	HAIT−H: Array Induction Tool − H		
SPDR	SP Drift	0	MV/M
SPNV	SP Next Value	−30	MV
	HOLEV: Integrated Hole/Cement Volume		
FCD	Future Casing (Outer) Diameter	5.5	IN
HVCS	Integrated Hole Volume Caliper Selection	HCAL	
	System and Miscellaneous		
BS	Bit Size	8.750	IN
DO	Depth Offset for Playback	0.2	M
DORL	Depth Offset for Repeat Analysis	0.0	M
PP	Playback Processing	OFF	
TD	Total Depth	2803	M

Format: CALIPER Vertical Scale: 1:200 Graphics File Created: 05−Jul−2007 16:18

OP System Version: 15C0−309

MCM

HAIT−H	SRPC−3292−Q1_2007	DSLT−H	15C0−309
HILTB−FTB	SRPC−3292−Q1_2007	DTC−H	15C0−309

Input DLIS Files

DEFAULT	AIT_SONIC_TLD_MCFL_003LUP	FN:2	PRODUCER	05−Jul−2007 13:20	459.0 M	385.3 M

Output DLIS Files

DEFAULT	AIT_SONIC_TLD_MCFL_049PUP	FN:10	PRODUCER	05−Jul−2007 16:18		
CUSTOMER	AIT_SONIC_TLD_MCFL_049PUC	FN:11	CUSTOMER	05−Jul−2007 16:18		
AIT	AIT_SONIC_TLD_MCFL_049PUC	FN:12	CUSTOMER	05−Jul−2007 16:18		

Input DLIS Files

DEFAULT	AIT_SONIC_TLD_MCFL_003LUP	FN:2	PRODUCER	05−Jul−2007 13:20	459.0 M	385.3 M
DEFAULT	AIT_SONIC_TLD_MCFL_042PUP	FN:4	PRODUCER	05−Jul−2007 15:33	2809.3 M	395.9 M

Output DLIS Files

DEFAULT	AIT_SONIC_TLD_MCFL_049PUP	FN:10	PRODUCER	05−Jul−2007 16:18	440.0 M	399.0 M
CUSTOMER	AIT_SONIC_TLD_MCFL_049PUC	FN:11	CUSTOMER	05−Jul−2007 16:18	440.0 M	399.0 M
AIT	AIT_SONIC_TLD_MCFL_049PUC	FN:12	CUSTOMER	05−Jul−2007 16:18	440.0 M	399.0 M

Integrated Hole/Cement Volume Summary

Hole Volume = 3.00 M3

Cement Volume = 1.87 M3 (assuming 5.50 IN casing O.D.)

Computed from 2729.9 M to 2656.2 M using data channel(s) HCAL

OP System Version: 15C0−309

MCM

HAIT−H	SRPC−3292−Q1_2007	DSLT−H	15C0−309
HILTB−FTB	SRPC−3292−Q1_2007	DTC−H	15C0−309

Changed Parameter Summary

DLIS Name	New Value	Previous Value	Depth & Time
BS	8.750 IN	8.750 IN	440.0 16:18:34

PIP SUMMARY

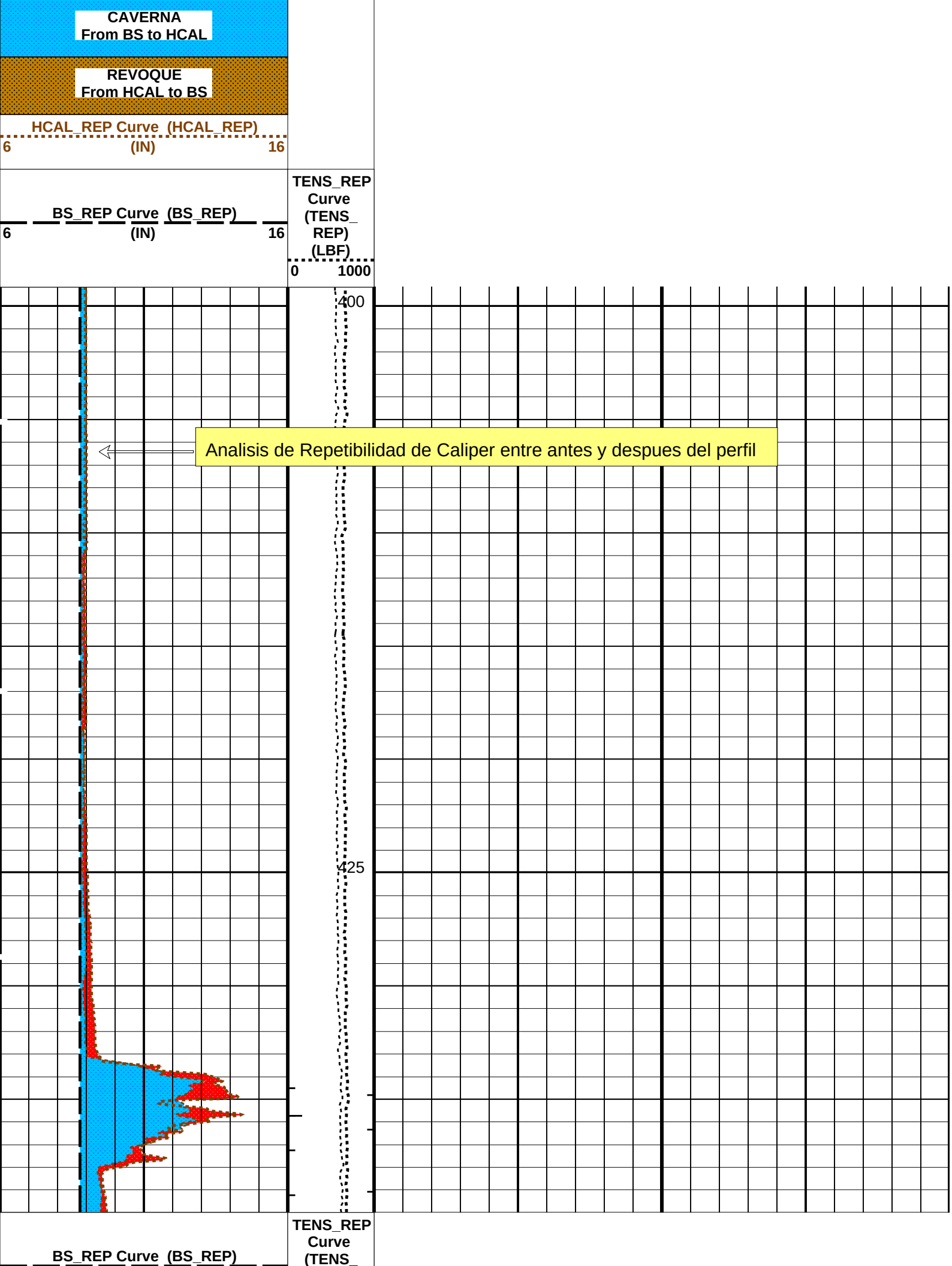
Integrated Hole Volume Minor Pip Every 0.1 M3

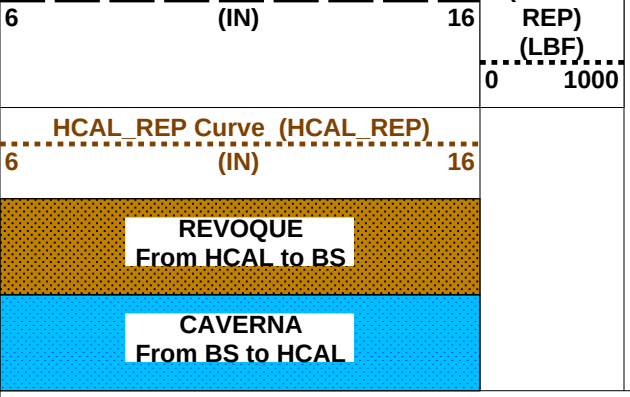
Integrated Hole Volume Major Pip Every 1 M3

Integrated Cement Volume Minor Pip Every 0.1 M3

Integrated Cement Volume Major Pip Every 1 M3

Time Mark Every 60 S


CAVERNA
From BS to HCAL
REVOQUE
From HCAL to BS
HCAL_REP Curve (HCAL_REP)
6
(IN)
16
BS_REP Curve (BS_REP)
6
(IN)
16
TENS_REP Curve (TENS_ REP) (LBF)
0
1000
400
425
Analisis de Repetibilidad de Caliper entre antes y despues del perfil
BS_REP Curve (BS_REP)
TENS_REP Curve (TENS_



PIP SUMMARY

- Integrated Hole Volume Minor Pip Every 0.1 M3
- Integrated Hole Volume Major Pip Every 1 M3
- Integrated Cement Volume Minor Pip Every 0.1 M3
- Integrated Cement Volume Major Pip Every 1 M3

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value	
	HOLEV: Integrated Hole/Cement Volume		
FCD	Future Casing (Outer) Diameter	5.5	IN
HVCS	Integrated Hole Volume Caliper Selection	HCAL	
	System and Miscellaneous		
BS	Bit Size	8.750	IN
DO	Depth Offset for Playback	0.2	M
DORL	Depth Offset for Repeat Analysis	0.0	M
PP	Playback Processing	OFF	
TD	Total Depth	2803	M

Format: CALIPER_REP Vertical Scale: 1:200 Graphics File Created: 05−Jul−2007 16:18

OP System Version: 15C0−309

MCM

HAIT−H	SRPC−3292−Q1_2007	DSLT−H	15C0−309
HILTB−FTB	SRPC−3292−Q1_2007	DTC−H	15C0−309

Input DLIS Files

DEFAULT	AIT_SONIC_TLD_MCFL_003LUP	FN:2	PRODUCER	05−Jul−2007 13:20	459.0 M	385.3 M
DEFAULT	AIT_SONIC_TLD_MCFL_042PUP	FN:4	PRODUCER	05−Jul−2007 15:33	2809.3 M	395.9 M

Output DLIS Files

DEFAULT	AIT_SONIC_TLD_MCFL_049PUP	FN:10	PRODUCER	05−Jul−2007 16:18
CUSTOMER	AIT_SONIC_TLD_MCFL_049PUC	FN:11	CUSTOMER	05−Jul−2007 16:18
AIT	AIT_SONIC_TLD_MCFL_049PUC	FN:12	CUSTOMER	05−Jul−2007 16:18

Schlumberger

CALIBRACIONES

MAXIS Field Log

Calibration and Check Summary

Measurement	Nominal	Master	Before	After	Change	Limit	Units
Array Induction Tool − H Wellsite Calibration − Electronics Calibration Check − Thru Cal Mag. & Phase							
Master: 2−Jul−2007 11:54 Before: 4−Jul−2007 13:33							
Thru Cal Magnitude − 0	0	0.6700	0.6763	N/A	N/A	N/A	V
Thru Cal Magnitude − 1	0	1.375	1.387	N/A	N/A	N/A	V
Thru Cal Magnitude − 2	0	0.6844	0.6914	N/A	N/A	N/A	V
Thru Cal Magnitude − 3	0	0.7732	0.7805	N/A	N/A	N/A	V
Thru Cal Magnitude − 4	0	1.452	1.465	N/A	N/A	N/A	V
Thru Cal Magnitude − 5	0	2.116	2.135	N/A	N/A	N/A	V
Thru Cal Magnitude − 6	0	2.115	2.135	N/A	N/A	N/A	V
Thru Cal Magnitude − 7	0	1.561	1.571	N/A	N/A	N/A	V
Phase − 0	0	63.95	64.12	N/A	N/A	N/A	DEG
Phase − 1	0	62.92	63.08	N/A	N/A	N/A	DEG
Phase − 2	0	59.05	59.18	N/A	N/A	N/A	DEG
Phase − 3	0	58.24	58.37	N/A	N/A	N/A	DEG
Phase − 4	0	51.72	51.82	N/A	N/A	N/A	DEG
Phase − 5	0	49.75	49.81	N/A	N/A	N/A	DEG
Phase − 6	0	49.82	49.87	N/A	N/A	N/A	DEG
Phase − 7	0	46.36	46.16	N/A	N/A	N/A	DEG
Array Induction Tool − H Wellsite Calibration − Electronics Calibration Check − Auxilliary							
Master: 2−Jul−2007 11:54 Before: 4−Jul−2007 13:33							
Array Induction SPA Plus	990.5	993.3	993.3	N/A	N/A	N/A	MV
Array Induction SPA Zero	0	−0.2825	−0.2583	N/A	N/A	N/A	MV
Array Induction Temperature Pl	0.9150	0.9204	0.9203	N/A	N/A	N/A	V
Array Induction Temperature Ze	0	−0.0002795	−0.0002462	N/A	N/A	N/A	V
Array Induction Tool − H Wellsite Calibration − Test Loop Gain Correction							
Master: 2−Jul−2007 11:54							
Test Loop Gain Magnitude − 0	0	1.016	N/A	N/A	N/A	N/A	V
Test Loop Gain Magnitude − 1	0	1.015	N/A	N/A	N/A	N/A	V
Test Loop Gain Magnitude − 2	0	1.018	N/A	N/A	N/A	N/A	V
Test Loop Gain Magnitude − 3	0	1.018	N/A	N/A	N/A	N/A	V
Test Loop Gain Magnitude − 4	0	0.9964	N/A	N/A	N/A	N/A	V
Test Loop Gain Magnitude − 5	0	0.9900	N/A	N/A	N/A	N/A	V
Test Loop Gain Magnitude − 6	0	0.9991	N/A	N/A	N/A	N/A	V
Test Loop Gain Magnitude − 7	0	1.020	N/A	N/A	N/A	N/A	V
Phase − 0	0	0.4814	N/A	N/A	N/A	N/A	DEG
Phase − 1	0	0.5576	N/A	N/A	N/A	N/A	DEG
Phase − 2	0	−0.004182	N/A	N/A	N/A	N/A	DEG
Phase − 3	0	0.05016	N/A	N/A	N/A	N/A	DEG
Phase − 4	0	0.002737	N/A	N/A	N/A	N/A	DEG
Phase − 5	0	−0.06480	N/A	N/A	N/A	N/A	DEG
Phase − 6	0	0.3331	N/A	N/A	N/A	N/A	DEG
Phase − 7	0	−0.02954	N/A	N/A	N/A	N/A	DEG
Array Induction Tool − H Wellsite Calibration − Sonde Error Correction							
Master: 2−Jul−2007 11:54							
R Sonde Error Correction − 0	0	−72.64	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction − 1	0	151.0	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction − 2	0	105.5	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction − 3	0	62.23	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction − 4	0	26.44	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction − 5	0	12.71	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction − 6	0	9.568	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction − 7	0	−0.6681	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction − 0	0	−444.8	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction − 1	0	210.2	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction − 2	0	59.85	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction − 3	0	−19.74	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction − 4	0	12.87	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction − 5	0	1.784	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction − 6	0	−1.525	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction − 7	0	7.803	N/A	N/A	N/A	N/A	MM/M
Array Induction Tool − H Wellsite Calibration − Mud Gain Correction							
Master: 2−Jul−2007 11:54							
Coarse − Mag, Real, Imag − 0	0	1.012	N/A	N/A	N/A	N/A	
Coarse − Mag, Real, Imag − 1	0	1.012	N/A	N/A	N/A	N/A	
Coarse − Mag, Real, Imag − 2	0	1.012	N/A	N/A	N/A	N/A	
Fine − Mag, Real, Imag − 0	0	1.014	N/A	N/A	N/A	N/A	
Fine − Mag, Real, Imag − 1	0	1.014	N/A	N/A	N/A	N/A	
Fine − Mag, Real, Imag − 2	0	1.014	N/A	N/A	N/A	N/A	
High resolution Integrated Logging Tool−DTS Wellsite Calibration − Stab Measurement Summary							
Before: 4−Jul−2007 13:36							
BS Window Ratio	0.7650	N/A	0.7616	N/A	N/A	N/A	
BS Window Sum	11840	N/A	11790	N/A	N/A	N/A	CPS
SS Window Ratio	0.4760	N/A	0.4790	N/A	N/A	N/A	
SS Window Sum	10320	N/A	10340	N/A	N/A	N/A	CPS

LS Window Ratio	0.2969	N/A	0.2958	N/A	N/A	N/A	
LS Window Sum	1260	N/A	1264	N/A	N/A	N/A	CPS

High resolution Integrated Logging Tool−DTS Wellsite Calibration − Photo−multiplier High Voltages Calibrations
Before: 4−Jul−2007 13:36

BS PM High Voltage (Command)	1899	N/A	1988	N/A	N/A	N/A	V
SS PM High Voltage (Command)	2137	N/A	2079	N/A	N/A	N/A	V
LS PM High Voltage (Command)	1990	N/A	1926	N/A	N/A	N/A	V

High resolution Integrated Logging Tool−DTS Wellsite Calibration − Crystal Quality Resolutions Calibration
Before: 4−Jul−2007 13:36

BS Crystal Resolution	12.52	N/A	13.21	N/A	N/A	N/A	%
SS Crystal Resolution	11.95	N/A	11.21	N/A	N/A	N/A	%
LS Crystal Resolution	9.621	N/A	9.195	N/A	N/A	N/A	%

High resolution Integrated Logging Tool−DTS Wellsite Calibration − MCFL Calibration
Before: Calibration not done

Raw B0 Resistivity	3875	N/A	N/A	N/A	N/A	N/A	OHMM
Raw B1 Resistivity	3830	N/A	N/A	N/A	N/A	N/A	OHMM
Raw B2 Resistivity	3830	N/A	N/A	N/A	N/A	N/A	OHMM

High resolution Integrated Logging Tool−DTS Wellsite Calibration − HILT Caliper Calibration
Before: 2−Jul−2007 19:29

HILT Caliper Zero Measurement	8.000	N/A	8.073	N/A	N/A	N/A	IN
HILT Caliper Plus Measurement	12.00	N/A	12.32	N/A	N/A	N/A	IN

High resolution Integrated Logging Tool−DTS Wellsite Calibration − Detector Calibration
Before: 2−Jul−2007 19:30

Gamma Ray Background	30.00	N/A	60.76	N/A	N/A	N/A	GAPI
Gamma Ray (Jig − Bkg)	153.8	N/A	153.8	N/A	N/A	13.98	GAPI
Gamma Ray (Calibrated)	165.0	N/A	165.0	N/A	N/A	15.00	GAPI

High resolution Integrated Logging Tool−DTS Wellsite Calibration − Zero Measurement
Master: 2−Jul−2007 17:12 Before: 4−Jul−2007 13:32

CNTC Background	32.18	32.18	32.63	N/A	N/A	4.827	CPS
CFTC Background	33.12	33.12	30.46	N/A	N/A	4.968	CPS

High resolution Integrated Logging Tool−DTS Wellsite Calibration − Ratio Measurement
Master: 2−Jul−2007 17:12

Thermal Near Corr. (Tank)	5800	5410	N/A	N/A	N/A	N/A	CPS
Thermal Far Corr. (Tank)	2400	2289	N/A	N/A	N/A	N/A	CPS
CNTC/CFTC (Tank)	2.159	2.363	N/A	N/A	N/A	N/A	

High resolution Integrated Logging Tool−DTS Wellsite Calibration − Accelerometer Calibration
Before: 4−Jul−2007 13:31

Z−Axis Acceleration	9.810	N/A	9.798	N/A	N/A	N/A	M/S2

High resolution Integrated Logging Tool−DTS Master Calibration − Inversion results
Master: 22−Jun−2007 11:47

Rho Aluminum	2.596	2.600	−−	−−	−−	−−	G/C3
Rho Magnesium	1.686	1.685	−−	−−	−−	−−	G/C3
Pe Aluminum	2.570	2.581	−−	−−	−−	−−	
Pe Magnesium	2.650	2.621	−−	−−	−−	−−	

High resolution Integrated Logging Tool−DTS Master Calibration − Deviation Summary
Master: 22−Jun−2007 11:47

BS Average Deviation	0	0.2930	−−	−−	−−	−−	%
BS Max Deviation	0	0.9931	−−	−−	−−	−−	%
SS Average Deviation	0	0.3136	−−	−−	−−	−−	%
SS Max Deviation	0	0.9538	−−	−−	−−	−−	%
LS Average Deviation	0	0.6309	−−	−−	−−	−−	%
LS Max Deviation	0	1.541	−−	−−	−−	−−	%

The GLS−VJ source activity is acceptable.

The HGNS Neutron Master Calibration was done with the following parameters :

NCT−B Water Temperature 5.4 DEGC.
Thermal Housing Size 3.366 IN.
NSR−F serial number 1089

Array Induction Tool − H / Equipment Identification

Primary Equipment:

Primary Equipment:

Rm/SP Bottom Nose	AHRM − A	
Array Induction Sonde	AHIS − BA	265

Auxiliary Equipment:

Array Induction Tool − H Wellsite Calibration

Electronics Calibration Check − Thru Cal Mag. & Phase

Idx	Phase	Value	Thru Cal Magnitude V	Nominal	Value	Phase DEG	Nominal
0	Master	0.6700		0.6050	63.95		71.00
	Before	0.6763			64.12		
1	Master	1.375		1.270	62.92		70.00
	Before	1.387			63.08		
2	Master	0.6844		0.6230	59.05		66.00
	Before	0.6914			59.18		
3	Master	0.7732		0.7040	58.24		65.00
	Before	0.7805			58.37		
4	Master	1.452		1.337	51.72		59.00
	Before	1.465			51.82		
5	Master	2.116		1.955	49.75		57.00
	Before	2.135			49.81		
6	Master	2.115		1.955	49.82		57.00
	Before	2.135			49.87		
7	Master	1.561		1.415	46.36		53.00
	Before	1.571			46.16		
		60.00 % (Minimum)	(Nominal)	140.0 % (Maximum)	Nom −60.00 (Minimum)	(Nominal)	Nom + 60.00 (Maximum)

Master: 2−Jul−2007 11:54 Before: 4−Jul−2007 13:33

Array Induction Tool − H Wellsite Calibration

Electronics Calibration Check − Auxilliary

Phase	Array Induction SPA Plus MV	Value
Master		993.3
Before		993.3
	941.0 (Minimum) 990.5 (Nominal) 1040 (Maximum)	

Phase	Array Induction SPA Zero MV	Value
Master		−0.2825
Before		−0.2583
	−50.00 (Minimum) 0 (Nominal) 50.00 (Maximum)	

Phase	Array Induction Temperature Plus V	Value
Master		0.9204
Before		0.9203
	0.8700 (Minimum) 0.9150 (Nominal) 0.9600 (Maximum)	

Phase	Array Induction Temperature Zero V	Value
Master		−0.0002795
Before		−0.0002462
	−0.05000 (Minimum) 0 (Nominal) 0.05000 (Maximum)	

Master: 2−Jul−2007 11:54 Before: 4−Jul−2007 13:33

Array Induction Tool − H Wellsite Calibration

Test Loop Gain Correction

Idx	Value	Test Loop Gain Magnitude V	Value	Phase DEG
0	1.016		0.4814	
	0.9500 (Minimum) 1.000 (Nominal) 1.050 (Maximum)		−3.000 (Minimum) 0 (Nominal) 3.000 (Maximum)	
1	1.015		0.5576	
	0.9500 (Minimum) 1.000 (Nominal) 1.050 (Maximum)		−3.000 (Minimum) 0 (Nominal) 3.000 (Maximum)	
2	1.018		−0.004182	
	0.9500 (Minimum) 1.000 (Nominal) 1.050 (Maximum)		−3.000 (Minimum) 0 (Nominal) 3.000 (Maximum)	
3	1.018		0.05016	
	0.9500 (Minimum) 1.000 (Nominal) 1.050 (Maximum)		−3.000 (Minimum) 0 (Nominal) 3.000 (Maximum)	

4	0.9964				0.002737			
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)		−3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
5	0.9900				−0.06480			
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)		−3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
6	0.9991				0.3331			
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)		−3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
7	1.020				−0.02954			
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)		−3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)

Master: 2−Jul−2007 11:54

Array Induction Tool − H Wellsite Calibration

Sonde Error Correction

Idx	Value	R Sonde Error Correction MM/M			Value	X Sonde Error Correction MM/M		
0	−72.64				−444.8			
		−231.0 (Minimum)	−56.00 (Nominal)	119.0 (Maximum)		−2250 (Minimum)	0 (Nominal)	2250 (Maximum)
1	151.0				210.2			
		114.0 (Minimum)	159.0 (Nominal)	204.0 (Maximum)		−625.0 (Minimum)	0 (Nominal)	625.0 (Maximum)
2	105.5				59.85			
		66.00 (Minimum)	111.0 (Nominal)	156.0 (Maximum)		−350.0 (Minimum)	0 (Nominal)	350.0 (Maximum)
3	62.23				−19.74			
		39.00 (Minimum)	64.00 (Nominal)	89.00 (Maximum)		−250.0 (Minimum)	0 (Nominal)	250.0 (Maximum)
4	26.44				12.87			
		15.00 (Minimum)	25.00 (Nominal)	35.00 (Maximum)		−63.00 (Minimum)	0 (Nominal)	63.00 (Maximum)
5	12.71				1.784			
		4.000 (Minimum)	14.00 (Nominal)	24.00 (Maximum)		−50.00 (Minimum)	0 (Nominal)	50.00 (Maximum)
6	9.568				−1.525			
		5.000 (Minimum)	10.00 (Nominal)	15.00 (Maximum)		−30.00 (Minimum)	0 (Nominal)	30.00 (Maximum)
7	−0.6681				7.803			
		−5.000 (Minimum)	0 (Nominal)	5.000 (Maximum)		−30.00 (Minimum)	0 (Nominal)	30.00 (Maximum)

Master: 2−Jul−2007 11:54

Array Induction Tool − H Wellsite Calibration

Mud Gain Correction

Idx	Value	Coarse − Mag, Real, Imag			Value	Fine − Mag, Real, Imag		
0	1.012				1.014			
		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)
1	1.012				1.014			
		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)
2	1.012				1.014			
		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)

Master: 2−Jul−2007 11:54

Array Induction Tool − H Master Calibration

Electronics Calibration Check − Thru Cal Mag. & Phase

Idx	Phase	Value	Thru Cal Magnitude V	Nominal	Value	Phase DEG	Nominal
0	Master	0.6700		0.6050	63.95		71.00
1	Master	1.375		1.270	62.92		70.00
2	Master	0.6844		0.6230	59.05		66.00
3	Master	0.7732		0.7040	58.24		65.00

4	Master	1.452	1.337	51.72	59.00	
5	Master	2.116	1.955	49.75	57.00	
6	Master	2.115	1.955	49.82	57.00	
7	Master	1.561	1.415	46.36	53.00	
		60.00 % (Minimum)	140.0 % (Maximum)	Nom −60.00 (Minimum)	Nom + 60.00 (Maximum)	

Master: 2−Jul−2007 11:54

Array Induction Tool − H Master Calibration

Electronics Calibration Check − Auxilliary

Phase	Array Induction SPA Plus MV	Value
Master		993.3
	941.0 (Minimum) / 990.5 (Nominal) / 1040 (Maximum)	

Phase	Array Induction SPA Zero MV	Value
Master		−0.2825
	−50.00 (Minimum) / 0 (Nominal) / 50.00 (Maximum)	

Phase	Array Induction Temperature Plus V	Value
Master		0.9204
	0.8700 (Minimum) / 0.9150 (Nominal) / 0.9600 (Maximum)	

Phase	Array Induction Temperature Zero V	Value
Master		−0.0002795
	−0.05000 (Minimum) / 0 (Nominal) / 0.05000 (Maximum)	

Master: 2−Jul−2007 11:54

Array Induction Tool − H Master Calibration

Test Loop Gain Correction

Idx	Value	Test Loop Gain Magnitude V	Value	Phase DEG
0	1.016	0.9500 (Minimum) / 1.000 (Nominal) / 1.050 (Maximum)	0.4814	−3.000 (Minimum) / 0 (Nominal) / 3.000 (Maximum)
1	1.015	0.9500 (Minimum) / 1.000 (Nominal) / 1.050 (Maximum)	0.5576	−3.000 (Minimum) / 0 (Nominal) / 3.000 (Maximum)
2	1.018	0.9500 (Minimum) / 1.000 (Nominal) / 1.050 (Maximum)	−0.004182	−3.000 (Minimum) / 0 (Nominal) / 3.000 (Maximum)
3	1.018	0.9500 (Minimum) / 1.000 (Nominal) / 1.050 (Maximum)	0.05016	−3.000 (Minimum) / 0 (Nominal) / 3.000 (Maximum)
4	0.9964	0.9500 (Minimum) / 1.000 (Nominal) / 1.050 (Maximum)	0.002737	−3.000 (Minimum) / 0 (Nominal) / 3.000 (Maximum)
5	0.9900	0.9500 (Minimum) / 1.000 (Nominal) / 1.050 (Maximum)	−0.06480	−3.000 (Minimum) / 0 (Nominal) / 3.000 (Maximum)
6	0.9991	0.9500 (Minimum) / 1.000 (Nominal) / 1.050 (Maximum)	0.3331	−3.000 (Minimum) / 0 (Nominal) / 3.000 (Maximum)
7	1.020	0.9500 (Minimum) / 1.000 (Nominal) / 1.050 (Maximum)	−0.02954	−3.000 (Minimum) / 0 (Nominal) / 3.000 (Maximum)

Master: 2−Jul−2007 11:54

Array Induction Tool − H Master Calibration

Sonde Error Correction

Idx	Value	R Sonde Error Correction MM/M	Value	X Sonde Error Correction MM/M
0	−72.64	−231.0 (Minimum) / −56.00 (Nominal) / 119.0 (Maximum)	−444.8	−2250 (Minimum) / 0 (Nominal) / 2250 (Maximum)
1	151.0	114.0 (Minimum) / 159.0 (Nominal) / 204.0 (Maximum)	210.2	−625.0 (Minimum) / 0 (Nominal) / 625.0 (Maximum)
2	105.5	66.00 (Minimum) / 111.0 (Nominal) / 156.0 (Maximum)	59.85	−350.0 (Minimum) / 0 (Nominal) / 350.0 (Maximum)
3	62.23	39.00 (Minimum) / 64.00 (Nominal) / 89.00 (Maximum)	−19.74	−250.0 (Minimum) / 0 (Nominal) / 250.0 (Maximum)

		(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)
4	26.44				12.87			
		15.00 (Minimum)	25.00 (Nominal)	35.00 (Maximum)		−63.00 (Minimum)	0 (Nominal)	63.00 (Maximum)
5	12.71				1.784			
		4.000 (Minimum)	14.00 (Nominal)	24.00 (Maximum)		−50.00 (Minimum)	0 (Nominal)	50.00 (Maximum)
6	9.568				−1.525			
		5.000 (Minimum)	10.00 (Nominal)	15.00 (Maximum)		−30.00 (Minimum)	0 (Nominal)	30.00 (Maximum)
7	−0.6681				7.803			
		−5.000 (Minimum)	0 (Nominal)	5.000 (Maximum)		−30.00 (Minimum)	0 (Nominal)	30.00 (Maximum)

Master: 2−Jul−2007 11:54

Array Induction Tool − H Master Calibration

Mud Gain Correction

Idx	Value	Coarse − Mag, Real, Imag			Value	Fine − Mag, Real, Imag		
0	1.012				1.014			
		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)
1	1.012				1.014			
		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)
2	1.012				1.014			
		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)

Master: 2−Jul−2007 11:54

Digitizing Sonic Logging Tool / Equipment Identification

Primary Equipment:		
BHC Sonde	SLS − W	575
Digitizing Sonic Logging Cartridge	DSLC − H	8465
Auxiliary Equipment:		
Electronics Cartridge Housing	ECH − KH	

High resolution Integrated Logging Tool−DTS / Equipment Identification

Primary Equipment:		
HILT high−Resolution Mechanical Sonde	HRMS − B	704
HILT Rxo Gamma−ray Device	HRGD − B	1940
HILT Micro Cylindrically Focused Log Dev	MCFL −	
GR Logging Source	GLS − VJ	3766
HILT High Res. Control Cartridge	HRCC − B	704
HILT Gamma−Ray Neutron Sonde−DTS	HGNS − B	704
HGNS Gamma−Ray Device	HGR −	
HGNS Neutron Detector with Alpha Source	HCNT −	
Auxiliary Equipment:		
Neutron Calibration Tank	NCT − B	
Gamma Source Radioactive	GSR − U/Y	
HGNS Housing	HGNH −	704

High resolution Integrated Logging Tool−DTS Wellsite Calibration

Stab Measurement Summary

Phase	BS Window Ratio			Value	Phase	SS Window Ratio			Value	Phase	LS Window Ratio			Value
Before				0.7616	Before				0.4790	Before				0.2958
	0.7268 (Minimum)	0.7650 (Nominal)	0.8033 (Maximum)			0.4522 (Minimum)	0.4760 (Nominal)	0.4998 (Maximum)			0.2821 (Minimum)	0.2969 (Nominal)	0.3118 (Maximum)	
Phase	BS Window Sum CPS			Value	Phase	SS Window Sum CPS			Value	Phase	LS Window Sum CPS			Value
Before				11790	Before				10340	Before				1264
	11250 (Minimum)	11840 (Nominal)	12430 (Maximum)			9800 (Minimum)	10320 (Nominal)	10830 (Maximum)			1197 (Minimum)	1260 (Nominal)	1323 (Maximum)	

Before: 4−Jul−2007 13:36

High resolution Integrated Logging Tool−DTS Wellsite Calibration

Photo−multiplier High Voltages Calibrations

Phase	BS PM High Voltage (Command) V	Value	Phase	SS PM High Voltage (Command) V	Value	Phase	LS PM High Voltage (Command) V	Value
Before		1988	Before		2079	Before		1926
	1799 (Minimum) 1899 (Nominal) 1999 (Maximum)			2037 (Minimum) 2137 (Nominal) 2237 (Maximum)			1890 (Minimum) 1990 (Nominal) 2090 (Maximum)	

Before: 4−Jul−2007 13:36

High resolution Integrated Logging Tool−DTS Wellsite Calibration

Crystal Quality Resolutions Calibration

Phase	BS Crystal Resolution %	Value	Phase	SS Crystal Resolution %	Value	Phase	LS Crystal Resolution %	Value
Before		13.21	Before		11.21	Before		9.195
	11.52 (Minimum) 12.52 (Nominal) 13.52 (Maximum)			10.95 (Minimum) 11.95 (Nominal) 12.95 (Maximum)			8.621 (Minimum) 9.621 (Nominal) 10.62 (Maximum)	

Before: 4−Jul−2007 13:36

High resolution Integrated Logging Tool−DTS Wellsite Calibration

MCFL Calibration

Phase	Raw B0 Resistivity OHMM	Value	Phase	Raw B1 Resistivity OHMM	Value	Phase	Raw B2 Resistivity OHMM	Value
Before	NOT DONE	N/A	Before	NOT DONE	N/A	Before	NOT DONE	N/A
	3565 (Minimum) 3875 (Nominal) 4185 (Maximum)			3524 (Minimum) 3830 (Nominal) 4136 (Maximum)			3524 (Minimum) 3830 (Nominal) 4136 (Maximum)	

Before: Calibration not done

High resolution Integrated Logging Tool−DTS Wellsite Calibration

HILT Caliper Calibration

Phase	HILT Caliper Zero Measurement IN	Value	Phase	HILT Caliper Plus Measurement IN	Value
Before		8.073	Before		12.32
	6.000 (Minimum) 8.000 (Nominal) 10.00 (Maximum)			9.000 (Minimum) 12.00 (Nominal) 15.00 (Maximum)	

Before: 2−Jul−2007 19:29

High resolution Integrated Logging Tool−DTS Wellsite Calibration

Detector Calibration

Phase	Gamma Ray Background GAPI	Value	Phase	Gamma Ray (Jig − Bkg) GAPI	Value	Phase	Gamma Ray (Calibrated) GAPI	Value
Before		60.76	Before		153.8	Before		165.0
	0 (Minimum) 30.00 (Nominal) 120.0 (Maximum)			139.8 (Minimum) 153.8 (Nominal) 167.8 (Maximum)			150.0 (Minimum) 165.0 (Nominal) 180.0 (Maximum)	

Before: 2−Jul−2007 19:30

High resolution Integrated Logging Tool−DTS Wellsite Calibration

Zero Measurement

Phase	CNTC Background CPS	Value	Phase	CFTC Background CPS	Value
Master		32.18	Master		33.12
Before		32.63	Before		30.46
	5.000 (Minimum) 32.18 (Nominal) 40.00 (Maximum)			5.000 (Minimum) 33.12 (Nominal) 40.00 (Maximum)	

Master: 2−Jul−2007 17:12 Before: 4−Jul−2007 13:32

High resolution Integrated Logging Tool−DTS Wellsite Calibration

Ratio Measurement

Phase	Thermal Near Corr. (Tank) CPS	Value	Phase	Thermal Far Corr. (Tank) CPS	Value	Phase	CNTC/CFTC (Tank)	Value
Master		5410	Master		2289	Master		2.363
	4700 (Minimum) 5800 (Nominal) 6900 (Maximum)			1900 (Minimum) 2400 (Nominal) 2900 (Maximum)			2.120 (Minimum) 2.159 (Nominal) 2.540 (Maximum)	

Master: 2−Jul−2007 17:12

High resolution Integrated Logging Tool−DTS Wellsite Calibration

Accelerometer Calibration

Phase	Z−Axis Acceleration M/S2	Value
Before		9.798
	9.610 (Minimum) 9.810 (Nominal) 10.01 (Maximum)	

Before: 4−Jul−2007 13:31

High resolution Integrated Logging Tool−DTS Master Calibration

Inversion results

Phase	Rho Aluminum G/C3	Value	Phase	Rho Magnesium G/C3	Value
Master		2.600	Master		1.685
	2.586 (Minimum) 2.596 (Nominal) 2.606 (Maximum)			1.676 (Minimum) 1.686 (Nominal) 1.696 (Maximum)	
Phase	Pe Aluminum	Value	Phase	Pe Magnesium	Value
Master		2.581	Master		2.621
	2.470 (Minimum) 2.570 (Nominal) 2.670 (Maximum)			2.550 (Minimum) 2.650 (Nominal) 2.750 (Maximum)	

Master: 22−Jun−2007 11:47

High resolution Integrated Logging Tool−DTS Master Calibration

Deviation Summary

Phase	BS Average Deviation %	Value	Phase	SS Average Deviation %	Value	Phase	LS Average Deviation %	Value
Master		0.2930	Master		0.3136	Master		0.6309
	−0.6000 (Minimum) 0 (Nominal) 0.6000 (Maximum)			−1.000 (Minimum) 0 (Nominal) 1.000 (Maximum)			−1.500 (Minimum) 0 (Nominal) 1.500 (Maximum)	
Phase	BS Max Deviation %	Value	Phase	SS Max Deviation %	Value	Phase	LS Max Deviation %	Value
Master		0.9931	Master		0.9538	Master		1.541
	−1.600 (Minimum) 0 (Nominal) 1.600 (Maximum)			−2.500 (Minimum) 0 (Nominal) 2.500 (Maximum)			−3.500 (Minimum) 0 (Nominal) 3.500 (Maximum)	

Master: 22−Jun−2007 11:47

High resolution Integrated Logging Tool−DTS Master Calibration

Zero Measurement

Phase	CNTC Background CPS	Value	Phase	CFTC Background CPS	Value
Master		32.18	Master		33.12
	5.000 (Minimum) 32.18 (Nominal) 40.00 (Maximum)			5.000 (Minimum) 33.12 (Nominal) 40.00 (Maximum)	

Master: 2−Jul−2007 17:12

High resolution Integrated Logging Tool−DTS Master Calibration

Tank Measurement

Phase	Thermal Near Corr. (Tank) CPS	Value	Phase	Thermal Far Corr. (Tank) CPS	Value	Phase	CNTC/CFTC (Tank)	Value
Master		5410	Master		2289	Master		2.363
	4700 (Minimum) 5800 (Nominal) 6900 (Maximum)			1900 (Minimum) 2400 (Nominal) 2900 (Maximum)			2.120 (Minimum) 2.159 (Nominal) 2.540 (Maximum)	

Master: 2−Jul−2007 17:12

DTS Telemetry Tool / Equipment Identification

Primary Equipment:

DTC−H Auxiliary Cartridge	DTCH − A	
DTC−H Telemetry Cartridge	DTCH − A	

Auxiliary Equipment:

DTCH Telemetry Cartridge Housing	ECH − KC	10030

COMPANIA:	**YPF S.A.**	PRIMERA LECTURA	2800 m
		PROFUNDIDAD PERFIL	2803 m
POZO:	**YPF.Ch.EN−636**	PROF. PERFORADOR	2800 m
CAMPO:	**ESCALANTE NORTE**	PUNTO DE VASTAGO	710.64 m

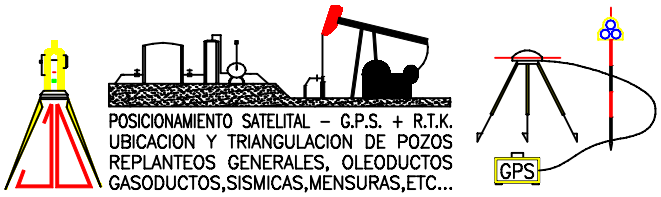
CAMPO:	ESCALANTE NORTE
PROVINCIA:	CHUBUT
PAIS:	ARGENTINA

BUJE DE VASTAGO	710.64 m
MESA ROTATIVA	710.34 m
NIVEL TERRENO	704.84 m

Schlumberger

COMBINADA

ESCALA: 1/200



POSICIONAMIENTO SATELITAL – G.P.S. + R.T.K.
UBICACION Y TRIANGULACION DE POZOS
REPLANTEOS GENERALES, OLEODUCTOS
GASODUCTOS,SISMICAS,MENSURAS,ETC...

J.D. s.r.l. – SERVICIOS TOPOGRAFICOS
Av. Sargento Cabral 162 – TE(fax): 0297/4471105
9000 – Comodoro Rivadavia – Chubut

GEORREFERENCIACION

COORDENADAS: **DEFINITIVAS**

CONTRATO: **REPSOL - YPF**

AREA/YACIMIENTO: **ESCALANTE NORTE**

SISTEMA: **PAMPA DEL CASTILLO**

PUNTO RECEPTOR BASE: SAT–5

POZO: **EN-636**

CALIDAD PUNTO BASE: PUNTO AJUSTE DE REDES

X=4.937.845,21

MODALIDAD DE MEDICION: CINEMATICO

Y= 2.581.329,26

Solución: L1–Fixed	Long. Vectorial: 6467.493m
Azimuth: 116° 05'45"	Delta H (elipsoidal) : 30.782m
Varianza: 0.692	
Receptor Base: 5700	Receptor Movil: 5700

Z = 704,84 m

Dif. X = 4.21m Dif. Y = –1.74m Dif. Z = –0.16m

COORDENADAS GEOGRAFICAS:(Sistema: WGS 84)

LAT: 45°42'30.1176"S LON: 67°57'29.9708"W ELEV: 719.62m

Observaciones: Ubicado por J.D. SRL Georreferenciado para el Equipo PI–390

REMITO N°

FECHA: 08 de JUNIO de 2007

OPERADOR: S. VELASQUEZ

Perfiles del Pozo ENH-338

CIT ANALISIS

Archivo No.

COMPAÑIA YPF

POZO ENH-338

CAMPO ESCALANTE NORTE

PROVINCIA CHUBUT PAIS ARGENTINA

LOCALIZACION X: S/D
COORDENADAS: Y: S/D

Otros Servicios:
CANASTA-CBL/VDL

Ref.Perman. N.T. Elev.S/D
Reg.Desde N.T. ,0 m Sobre Ref.Perm.
Perf. Medida Desde KELLY BUSHING

ELEV.K.B.S/D
M.R.S/D
N.T.S/D

Fecha	02/08/2015
Carrera No.	UNO
Tipo de Regis	CORROSION CIT
Prof. Perf.	2090,0 mts.
Prof.Registro	2090,0 mts.
Int.Reg.Fondo	2090,0 mts.
Int.Reg.Tope	0,0 m.
Fluido	OIL
Nivel Fluido	LLENO
Unidad No.	33
Ubicacion Base	COMODORO RIVADAVIA
Registrado Por	OMAR CORDOBA
Presen. Por	

Densidad De Tiros	Numero Tiros	Intervalo Desde	Intervalo Hasta

Tipo de Canon
Diametro Canon

Tabla de Datos/Tuberia/Revest

Diam.	Peso	Desde	Hasta
7		0	FONDO
N 80			

Localizacion de Cuellos

Revest.	Tuberia

Otros Servicios

Servicio	Tipo	Diam.	Prof.
Tapon			
Packer			
Retenedor			

Fondo Tub.
Nipple Asent

Diam. Canasta 140,0 mm.
Diam. Aro Calib. 141,0 mm.

TODAS LAS INTERPRETACIONES SON OPINIONES BASADAS EN INFERENCIAS DE MEDIDAS ELECTRICAS U OTRAS MEDICIONES Y NO PODEMOS GARANTIZAR, NI GARANTIZAMOS, LA EXACTITUD O VALIDEZ DE NINGUNA INTERPRETACION Y NO ASUMIMOS, EXCEPTO EN EL CASO DE NEGLIGENCIA POR NUESTRA PARTE, RESPONSABILIDAD ALGUNA POR PERDIDAS, COSTOS, O DAÑOS INCURRIDOS O SUFRIDOS POR PERSONA ALGUNA COMO RESULTADO DE CUALQUIER INTERPRETACION HECHA POR ALGUNO DE NUESTROS FUNCIONARIOS, AGENTES, O EMPLEADOS. ESTAS INTERPRETACIONES TAMBIEN ESTAN SUJETAS A LOS TERMINOS Y CONDICIONES GENERALES ESTIPULADOS EN NUESTRA LISTA DE PRECIOS VIGENTE.

Service Order # 5329

REMARKS Rig: PLUMA WFT-19

REFERENCIA DE PROFUNDIDAD: NIVEL DEL TERRENO

BHT °F

CASING GRADO N-80

Prints: 2

SE REALIZA PROCESAMIENTO CIT ANALYSIS EN LOCACION.
GRACIAS POR UTILIZAR WEATHERFORD WIRELINE SERVICES

EQUIPMENT DATA

Run No.	Tool Type	Tool No.	Other
1	CIT-C	CICA-122	
1	CIT-C	CISA-114	
1	CIT-C	CMMA-140	

Bit Size	
Well Status	
Surface Pressure	
Shut In	Flowing

Cased Hole Cablehead

Weight	1.5 kg.
Length	46 cm.
Max. Diameter	3.5 cm.

Total Stack Weight 199.7 kg. in air
Total Stack Length 6.46 m.

Crossover

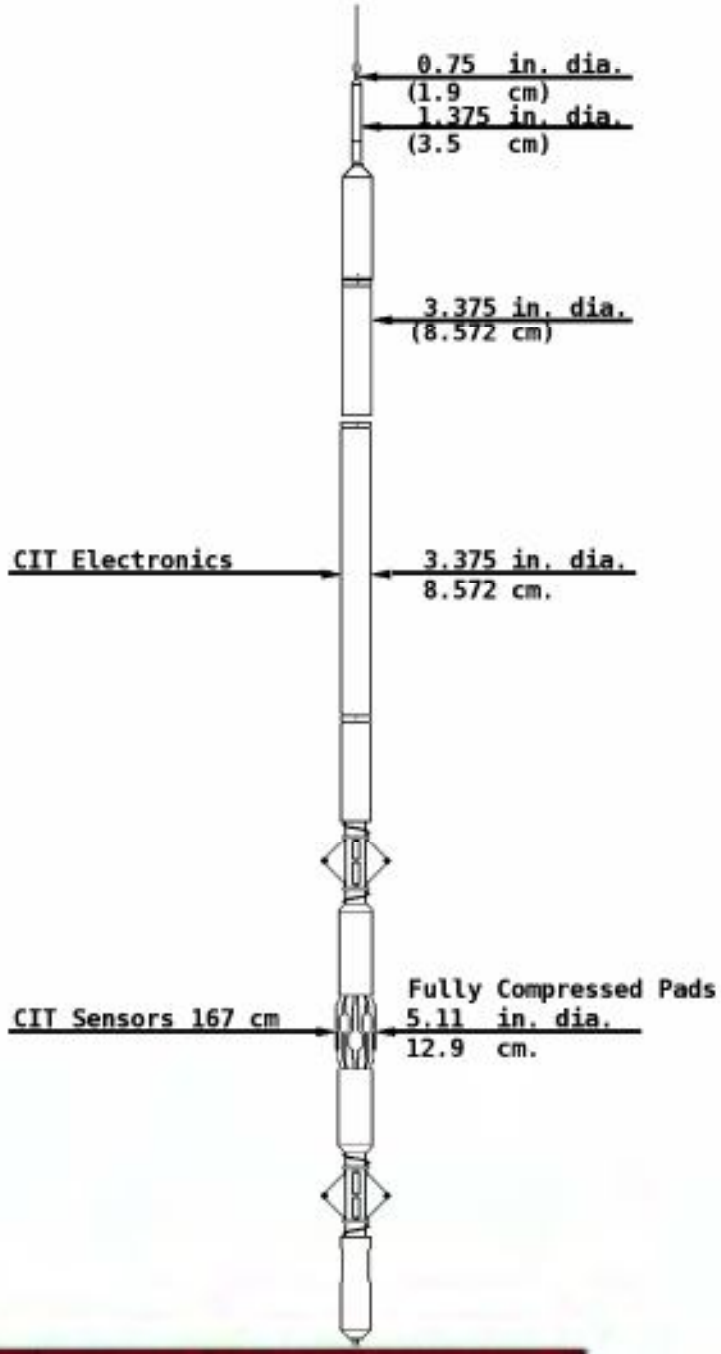
Weight	4.5 kg.
Length	40 cm.

CIT Memory Cartridge

Weight	18.6 kg.
Length	77 cm.

Casing Imaging Tool

Weight	255 kg
Length	472.4 cm
Max. Diameter	12.98 cm
No. of Pads	12
Sensors per Pad	10



Joint Classification	Color	Percent Penetration
Class 1		0 - 20%
Class 2		21 - 40%
Class 3		41 - 60%
Class 4		61 - 80%
Class 5		81 - 100%

Note: GEN - denotes General corrosion, SIP - denotes Single Isolated Pit
Number of Unclassed Joints: 0

Number of Class 1 Joints: 131
Number of Class 2 Joints: 29
Number of Class 3 Joints: 8
Number of Class 4 Joints: 0
Number of Joints with Penetration: 2

Joint Table:

J#	Depth From	Depth To	Len	Casing Size	Wgt	Grd	Classifying Defect Max Pen.	Loc	Position		
1	-0.4	11.7	12.0	177.800	34.3	N80	31%	OD	2.5	Class 2	SIP
2	11.7	24.1	12.4	177.800	34.3	N80		--		Class 1	SIP
3	24.1	36.4	12.3	177.800	34.3	N80		--		Class 1	SIP
4	36.4	48.0	11.6	177.800	34.3	N80		--		Class 1	SIP
5	48.0	60.7	12.7	177.800	34.3	N80		--		Class 1	SIP
6	60.7	72.0	11.4	177.800	34.3	N80		--		Class 1	SIP
7	72.0	83.4	11.4	177.800	34.3	N80		--		Class 1	SIP
8	83.4	94.3	10.9	177.800	34.3	N80		--		Class 1	SIP
9	94.3	107.4	13.1	177.800	34.3	N80		--		Class 1	SIP
10	107.4	120.5	13.1	177.800	34.3	N80		--		Class 1	SIP
11	120.5	132.2	11.7	177.800	34.3	N80	23%	OD	128.6	Class 2	SIP
12	132.2	144.0	11.9	177.800	34.3	N80		--		Class 1	SIP
13	144.0	156.8	12.7	177.800	34.3	N80		--		Class 1	SIP
14	156.8	170.6	13.8	177.800	34.3	N80		--		Class 1	SIP
15	170.6	183.4	12.8	177.800	34.3	N80		--		Class 1	SIP
16	183.4	196.8	13.4	177.800	34.3	N80		--		Class 1	SIP
17	196.8	209.3	12.5	177.800	34.3	N80		--		Class 1	SIP
18	209.3	220.3	10.9	177.800	34.3	N80		--		Class 1	SIP
19	220.3	232.5	12.3	177.800	34.3	N80		--		Class 1	SIP
20	232.5	245.7	13.1	177.800	34.3	N80		--		Class 1	SIP
21	245.7	259.0	13.3	177.800	34.3	N80		--		Class 1	SIP
22	259.0	271.5	12.5	177.800	34.3	N80		--		Class 1	SIP
23	271.5	284.4	12.9	177.800	34.3	N80		--		Class 1	SIP
24	284.4	297.4	13.0	177.800	34.3	N80		--		Class 1	SIP
25	297.4	310.2	12.8	177.800	34.3	N80		--		Class 1	SIP
26	310.2	323.1	12.9	177.800	34.3	N80		--		Class 1	SIP
27	323.1	334.6	11.5	177.800	34.3	N80		--		Class 1	SIP
28	334.6	347.5	12.9	177.800	34.3	N80		--		Class 1	SIP
29	347.5	361.2	13.7	177.800	34.3	N80		--		Class 1	SIP
30	361.2	373.9	12.7	177.800	34.3	N80		--		Class 1	SIP
31	373.9	387.7	13.8	177.800	34.3	N80		--		Class 1	SIP
32	387.7	400.9	13.2	177.800	34.3	N80		--		Class 1	SIP
33	400.9	413.8	12.9	177.800	34.3	N80	45%	OD	409.1	Class 3	SIP
34	413.8	425.7	11.9	177.800	34.3	N80	36%	OD	418.2	Class 2	GENA1
35	425.7	439.2	13.6	177.800	34.3	N80	28%	OD	429.2	Class 2	SIP
36	439.2	451.2	12.0	177.800	34.3	N80	41%	OD	449.1	Class 3	GENA1
37	451.2	464.7	13.5	177.800	34.3	N80	36%	OD	451.9	Class 2	GENA1
38	464.7	477.3	12.6	177.800	34.3	N80	29%	OD	465.3	Class 2	SIP
39	477.3	490.3	13.1	177.800	34.3	N80	29%	OD	479.0	Class 2	GENA1
40	490.3	503.7	13.3	177.800	34.3	N80	21%	OD	496.0	Class 2	SIP
41	503.7	515.5	11.8	177.800	34.3	N80	36%	OD	513.8	Class 2	GENA1
42	515.5	529.1	13.7	177.800	34.3	N80	40%	OD	519.1	Class 3	SIP
43	529.1	541.7	12.6	177.800	34.3	N80	46%	OD	536.6	Class 3	GENA1
44	541.7	555.0	13.3	177.800	34.3	N80	56%	OD	544.1	Class 3	SIP
45	555.0	568.7	13.6	177.800	34.3	N80	34%	OD	559.6	Class 2	GENA1
46	568.7	581.7	13.0	177.800	34.3	N80	28%	OD	573.4	Class 2	SIP
47	581.7	594.5	12.8	177.800	34.3	N80	100%	--	589.8	Class P	SIP
48	594.5	607.2	12.7	177.800	34.3	N80	30%	OD	601.7	Class 2	GENA1
49	607.2	620.9	13.7	177.800	34.3	N80	45%	OD	607.5	Class 3	SIP
50	620.9	632.0	11.1	177.800	34.3	N80		--		Class 1	SIP
51	632.0	644.5	12.6	177.800	34.3	N80		--		Class 1	SIP
52	644.5	656.8	12.3	177.800	34.3	N80		--		Class 1	SIP
53	656.8	668.6	11.8	177.800	34.3	N80		--		Class 1	SIP
54	668.6	682.4	13.8	177.800	34.3	N80	34%	OD	675.7	Class 2	SIP
55	682.4	696.0	13.5	177.800	34.3	N80	100%	--	686.1	Class P	GENA2
56	696.0	710.6	14.7	177.800	34.3	N80		--		Class 1	SIP
57	710.6	722.7	12.1	177.800	34.3	N80	24%	OD	718.0	Class 2	SIP
58	722.7	733.1	10.4	177.800	34.3	N80		--		Class 1	SIP
59	733.1	745.9	12.7	177.800	34.3	N80		--		Class 1	SIP
60	745.9	757.5	11.6	177.800	34.3	N80		--		Class 1	SIP
61	757.5	769.6	12.2	177.800	34.3	N80		--		Class 1	SIP
62	769.6	781.9	12.3	177.800	34.3	N80		--		Class 1	SIP
63	781.9	793.7	11.8	177.800	34.3	N80	32%	OD	791.0	Class 2	SIP
64	793.7	806.3	12.6	177.800	34.3	N80		--		Class 1	SIP
65	806.3	818.7	12.4	177.800	34.3	N80	41%	OD	815.2	Class 3	GENA1
66	818.7	831.5	12.8	177.800	34.3	N80	23%	OD	830.8	Class 2	SIP
67	831.5	843.5	12.0	177.800	34.3	N80	47%	OD	836.3	Class 3	GENA1
68	843.5	855.4	11.9	177.800	34.3	N80	39%	OD	849.7	Class 2	SIP
69	855.4	868.5	13.1	177.800	34.3	N80	27%	OD	867.5	Class 2	GENA1
70	868.5	881.8	13.3	177.800	34.3	N80	21%	OD	880.4	Class 2	GENA1
71	881.8	894.9	13.1	177.800	34.3	N80		--		Class 1	SIP
72	894.9	907.2	12.2	177.800	34.3	N80	24%	OD	900.1	Class 2	SIP
73	907.2	918.7	11.5	177.800	34.3	N80		--		Class 1	SIP
74	918.7	932.8	14.1	177.800	34.3	N80		--		Class 1	SIP
75	932.8	945.1	12.4	177.800	34.3	N80		--		Class 1	SIP
76	945.1	956.9	11.8	177.800	34.3	N80		--		Class 1	SIP
77	956.9	968.6	11.7	177.800	34.3	N80	27%	OD	961.3	Class 2	SIP
78	968.6	980.5	11.9	177.800	34.3	N80	26%	OD	974.3	Class 2	SIP
79	980.5	992.5	12.0	177.800	34.3	N80		--		Class 1	SIP
80	992.5	1005.4	12.9	177.800	34.3	N80	30%	OD	997.3	Class 2	GENA1
81	1005.4	1017.3	12.0	177.800	34.3	N80		--		Class 1	SIP
82	1017.3	1029.3	11.9	177.800	34.3	N80		--		Class 1	SIP
83	1029.3	1042.9	13.7	177.800	34.3	N80		--		Class 1	SIP
84	1042.9	1054.8	11.9	177.800	34.3	N80		--		Class 1	SIP

85	1054.8	1067.1	12.3	177.800	34.3	N80		--		Class 1	SIP
86	1067.1	1079.3	12.2	177.800	34.3	N80	21%	OD	1077.8	Class 2	SIP
87	1079.3	1091.3	12.0	177.800	34.3	N80		--		Class 1	SIP
88	1091.3	1104.1	12.8	177.800	34.3	N80		--		Class 1	SIP
89	1104.1	1116.2	12.1	177.800	34.3	N80		--		Class 1	SIP
90	1116.2	1127.1	11.0	177.800	34.3	N80		--		Class 1	SIP
91	1127.1	1139.0	11.9	177.800	34.3	N80		--		Class 1	SIP
92	1139.0	1151.7	12.6	177.800	34.3	N80		--		Class 1	SIP
93	1151.7	1164.2	12.5	177.800	34.3	N80		--		Class 1	SIP
94	1164.2	1176.0	11.9	177.800	34.3	N80		--		Class 1	SIP
95	1176.0	1188.3	12.2	177.800	34.3	N80		--		Class 1	SIP
96	1188.3	1200.6	12.3	177.800	34.3	N80		--		Class 1	SIP
97	1200.6	1212.1	11.5	177.800	34.3	N80		--		Class 1	SIP
98	1212.1	1224.7	12.7	177.800	34.3	N80	25%	OD	1216.6	Class 2	SIP
99	1224.7	1238.0	13.3	177.800	34.3	N80		--		Class 1	SIP
100	1238.0	1249.9	11.9	177.800	34.3	N80		--		Class 1	SIP
101	1249.9	1262.2	12.3	177.800	34.3	N80		--		Class 1	SIP
102	1262.2	1275.1	12.9	177.800	34.3	N80		--		Class 1	SIP
103	1275.1	1287.7	12.7	177.800	34.3	N80		--		Class 1	SIP
104	1287.7	1301.3	13.6	177.800	34.3	N80		--		Class 1	SIP
105	1301.3	1312.9	11.6	177.800	34.3	N80		--		Class 1	SIP
106	1312.9	1325.7	12.8	177.800	34.3	N80		--		Class 1	SIP
107	1325.7	1339.4	13.8	177.800	34.3	N80		--		Class 1	SIP
108	1339.4	1352.3	12.9	177.800	34.3	N80		--		Class 1	SIP
109	1352.3	1365.0	12.7	177.800	34.3	N80		--		Class 1	SIP
110	1365.0	1377.6	12.6	177.800	34.3	N80		--		Class 1	SIP
111	1377.6	1390.1	12.5	177.800	34.3	N80		--		Class 1	SIP
112	1390.1	1402.3	12.2	177.800	34.3	N80		--		Class 1	SIP
113	1402.3	1414.3	12.0	177.800	34.3	N80		--		Class 1	SIP
114	1414.3	1427.1	12.8	177.800	34.3	N80		--		Class 1	SIP
115	1427.1	1439.5	12.4	177.800	34.3	N80		--		Class 1	SIP
116	1439.5	1451.2	11.8	177.800	34.3	N80		--		Class 1	SIP
117	1451.2	1463.8	12.6	177.800	34.3	N80		--		Class 1	SIP
118	1463.8	1476.2	12.4	177.800	34.3	N80		--		Class 1	SIP
119	1476.2	1489.2	13.0	177.800	34.3	N80		--		Class 1	SIP
120	1489.2	1500.8	11.7	177.800	34.3	N80		--		Class 1	SIP
121	1500.8	1512.6	11.8	177.800	34.3	N80		--		Class 1	SIP
122	1512.6	1525.2	12.6	177.800	34.3	N80		--		Class 1	SIP
123	1525.2	1538.2	13.0	177.800	34.3	N80		--		Class 1	SIP
124	1538.2	1550.7	12.5	177.800	34.3	N80		--		Class 1	SIP
125	1550.7	1561.7	11.0	177.800	34.3	N80		--		Class 1	SIP
126	1561.7	1574.2	12.4	177.800	34.3	N80		--		Class 1	SIP
127	1574.2	1586.9	12.8	177.800	34.3	N80		--		Class 1	SIP
128	1586.9	1598.6	11.6	177.800	34.3	N80		--		Class 1	SIP
129	1598.6	1610.9	12.3	177.800	34.3	N80		--		Class 1	SIP
130	1610.9	1623.6	12.7	177.800	34.3	N80		--		Class 1	SIP
131	1623.6	1635.6	12.0	177.800	34.3	N80		--		Class 1	SIP
132	1635.6	1647.7	12.1	177.800	34.3	N80		--		Class 1	SIP
133	1647.7	1659.6	11.9	177.800	34.3	N80		--		Class 1	SIP
134	1659.6	1672.0	12.3	177.800	34.3	N80		--		Class 1	SIP
135	1672.0	1683.3	11.3	177.800	34.3	N80		--		Class 1	SIP
136	1683.3	1695.9	12.7	177.800	34.3	N80		--		Class 1	SIP
137	1695.9	1709.9	14.0	177.800	34.3	N80		--		Class 1	SIP
138	1709.9	1721.6	11.7	177.800	34.3	N80		--		Class 1	SIP
139	1721.6	1733.6	12.0	177.800	34.3	N80		--		Class 1	SIP
140	1733.6	1745.1	11.5	177.800	34.3	N80		--		Class 1	SIP
141	1745.1	1757.8	12.8	177.800	34.3	N80		--		Class 1	SIP
142	1757.8	1770.3	12.5	177.800	34.3	N80		--		Class 1	SIP
143	1770.3	1783.4	13.1	177.800	34.3	N80		--		Class 1	SIP
144	1783.4	1794.9	11.5	177.800	34.3	N80		--		Class 1	SIP
145	1794.9	1808.4	13.4	177.800	34.3	N80		--		Class 1	SIP
146	1808.4	1820.0	11.6	177.800	34.3	N80	25%	OD	1818.4	Class 2	SIP
147	1820.0	1832.1	12.1	177.800	34.3	N80		--		Class 1	SIP
148	1832.1	1845.0	12.9	177.800	34.3	N80		--		Class 1	SIP
149	1845.0	1858.7	13.8	177.800	34.3	N80		--		Class 1	SIP
150	1858.7	1870.3	11.6	177.800	34.3	N80		--		Class 1	SIP
151	1870.3	1882.8	12.5	177.800	34.3	N80		--		Class 1	SIP
152	1882.8	1895.2	12.4	177.800	34.3	N80		--		Class 1	SIP
153	1895.2	1908.2	13.0	177.800	34.3	N80		--		Class 1	SIP
154	1908.2	1920.9	12.7	177.800	34.3	N80	26%	OD	1908.8	Class 2	SIP
155	1920.9	1933.7	12.7	177.800	34.3	N80		--		Class 1	SIP
156	1933.7	1944.5	10.9	177.800	34.3	N80		--		Class 1	SIP
157	1944.5	1956.8	12.3	177.800	34.3	N80		--		Class 1	SIP
158	1956.8	1970.3	13.5	177.800	34.3	N80		--		Class 1	SIP
159	1970.3	1983.2	12.8	177.800	34.3	N80		--		Class 1	SIP
160	1983.2	1994.8	11.6	177.800	34.3	N80		--		Class 1	SIP
161	1994.8	2007.9	13.1	177.800	34.3	N80		--		Class 1	SIP
162	2007.9	2020.1	12.2	177.800	34.3	N80		--		Class 1	SIP
163	2020.1	2032.2	12.1	177.800	34.3	N80	23%	OD	2030.5	Class 2	SIP
164	2032.2	2043.4	11.2	177.800	34.3	N80		--		Class 1	SIP
165	2043.4	2056.3	12.9	177.800	34.3	N80	25%	OD	2055.6	Class 2	SIP
166	2056.3	2068.6	12.3	177.800	34.3	N80		--		Class 1	SIP
167	2068.6	2080.5	11.9	177.800	34.3	N80		--		Class 1	SIP
168	2080.5	2093.6	13.1	177.800	34.3	N80		--		Class 1	SIP
169	2093.6	2100.2	6.5	177.800	34.3	N80		--		Class 1	SIP
170	2100.2	2102.3	2.1	177.800	34.3	N80		--		Class 1	SIP

Software Version 02.21.0, DataBase Revision 2.08
ML 4 MSNone 0.00 GC 0.50 DT 0.160

Hardware Table:

H#	From	To	Len	Description
1	404.0	406.0	2.0	Class Surface Casing

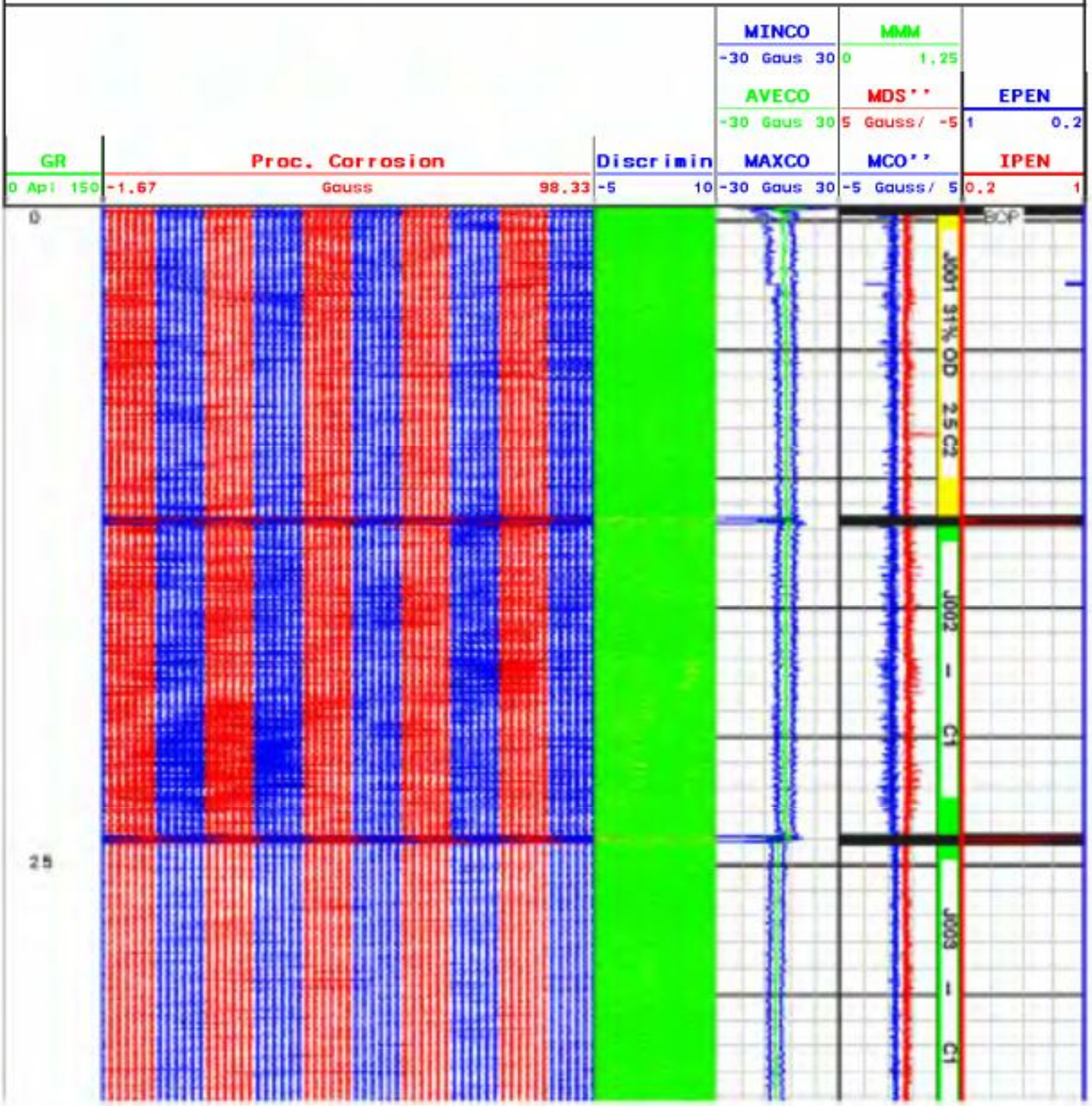
Comments:

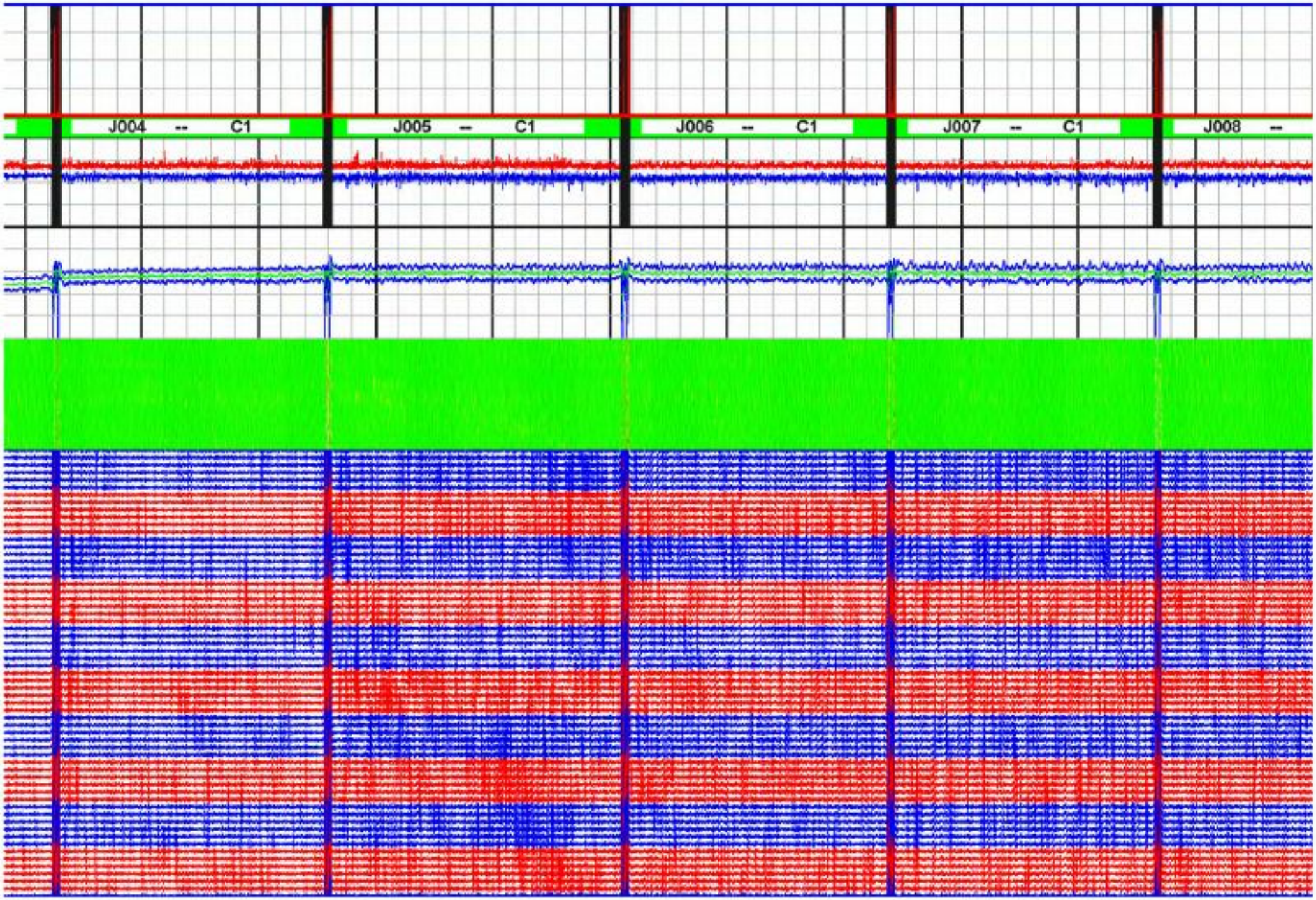
SE REALIZA PROCESAMIENTO CIT ANALISIS EN LOCACION

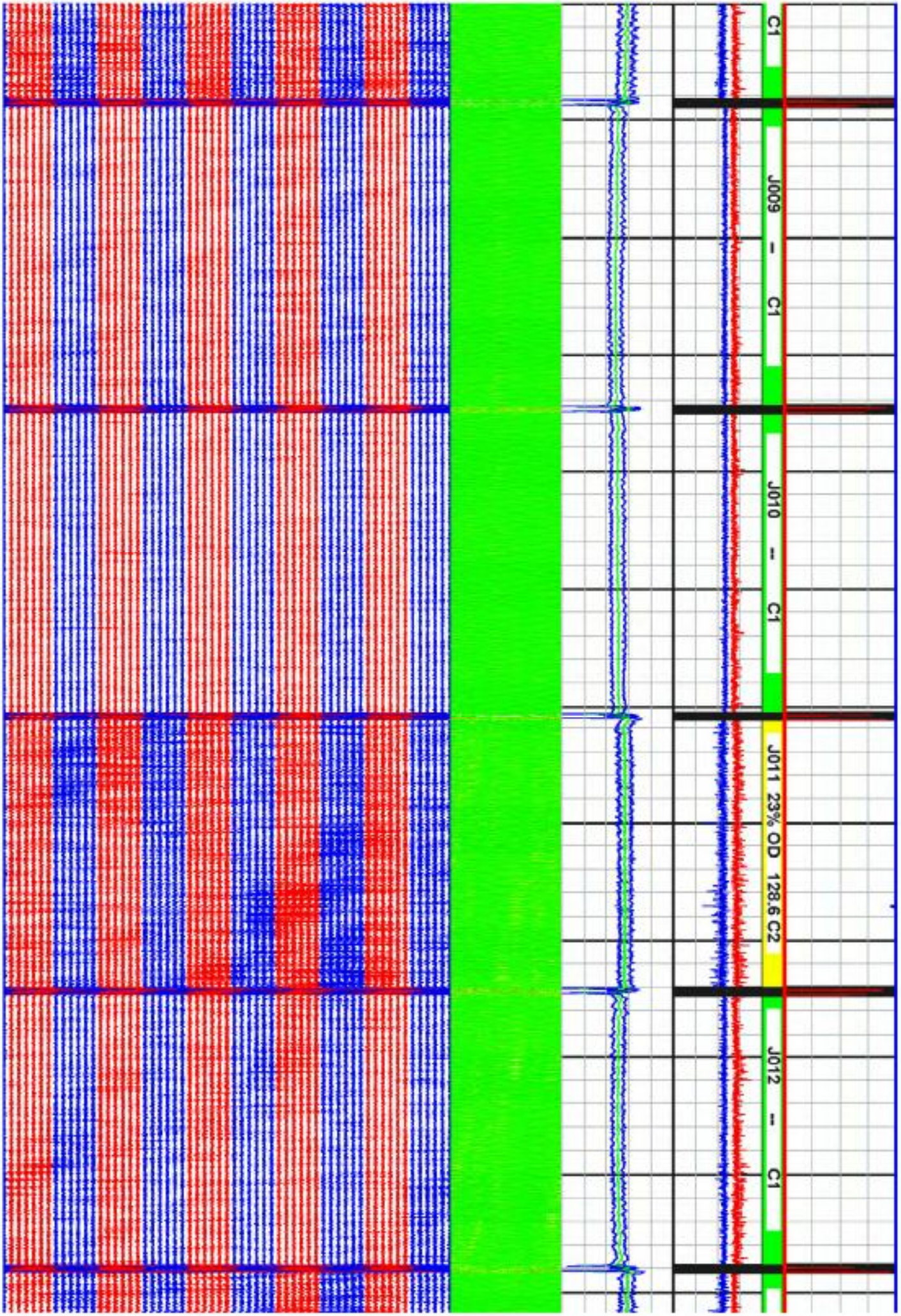
Date Analyzed : 08/02/15 23:38:37
File Name : C:20150802)_ENH 338_CITENH_338.csv

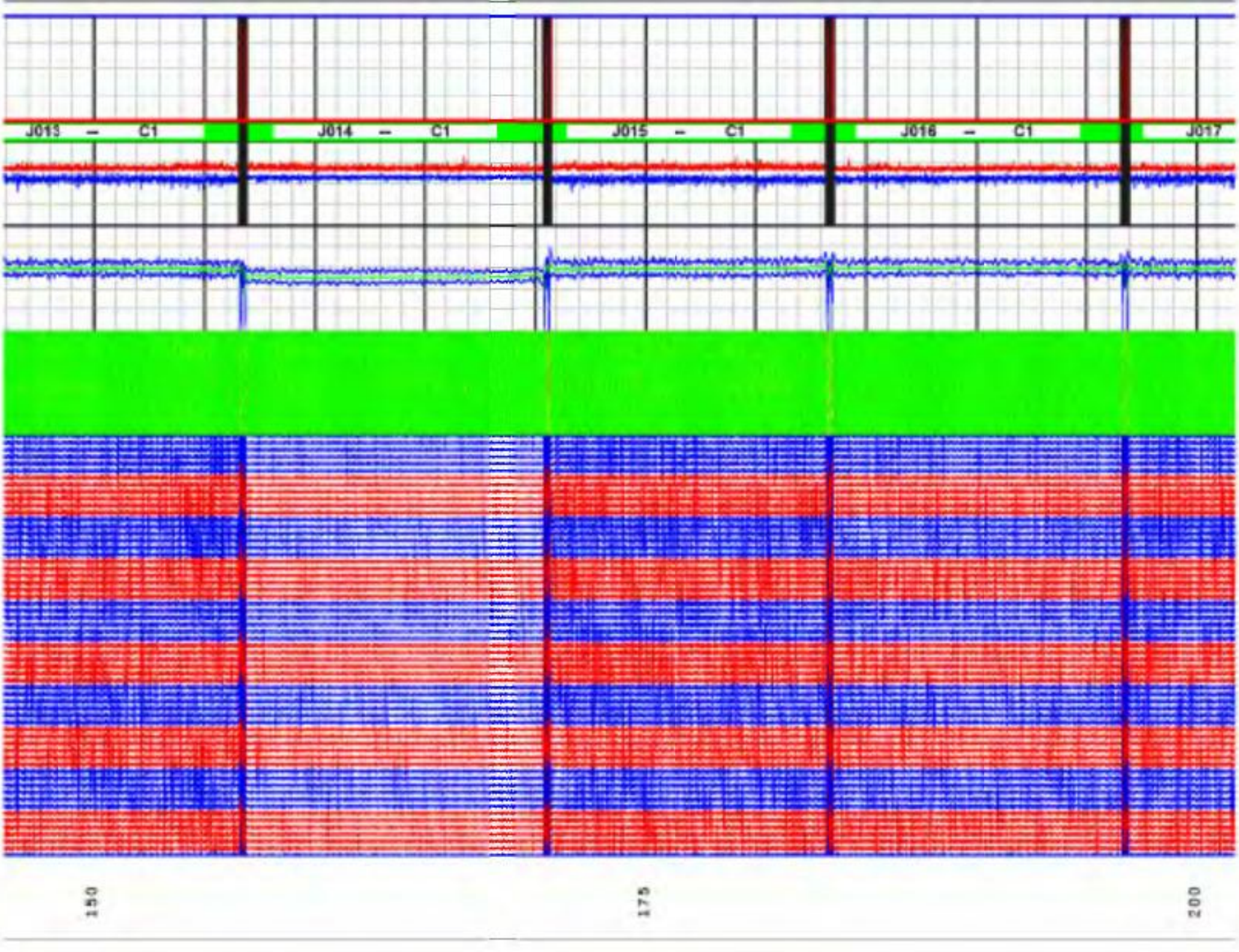
ANALYSIS PASS

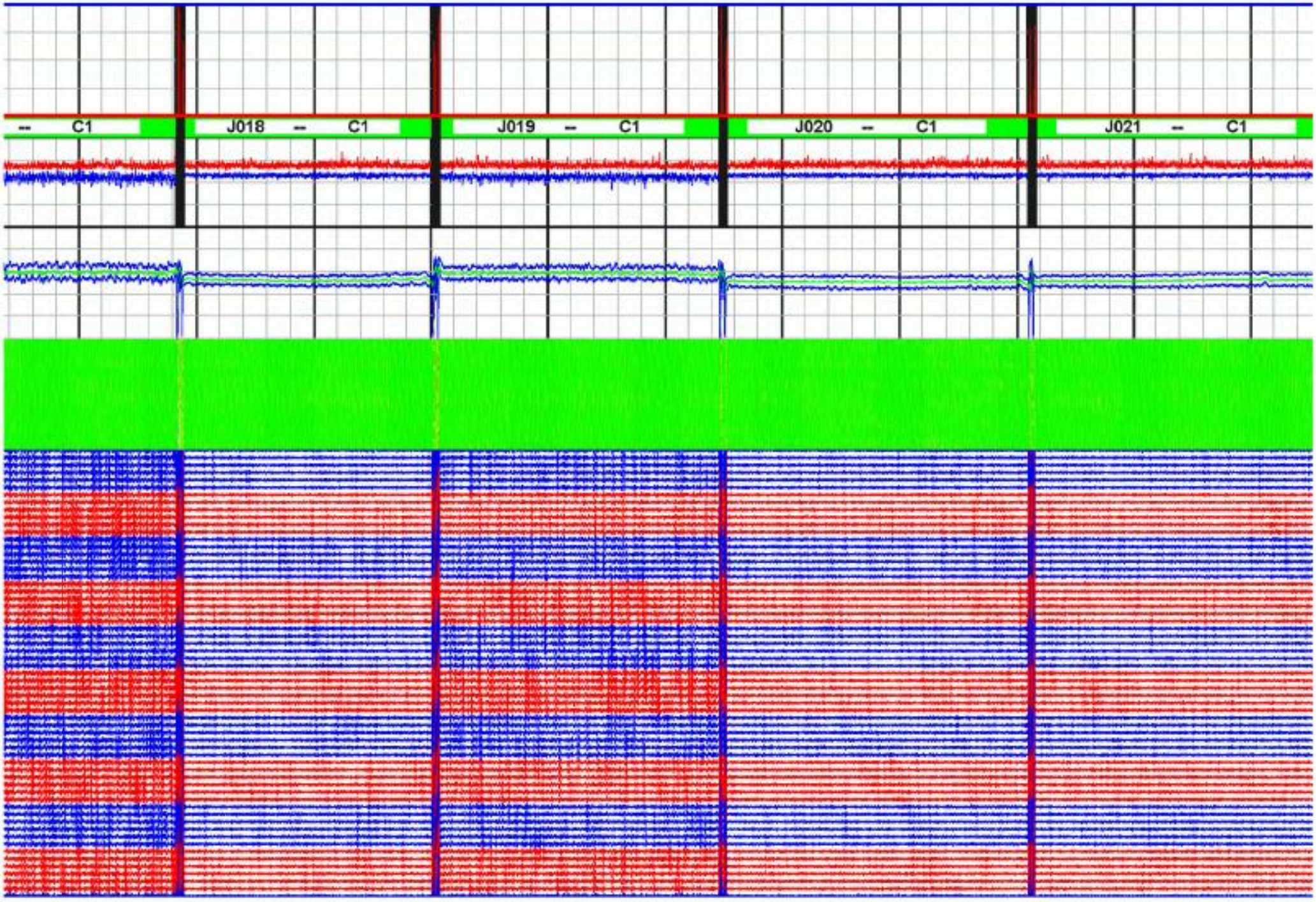
Stop Depth : 2098.236

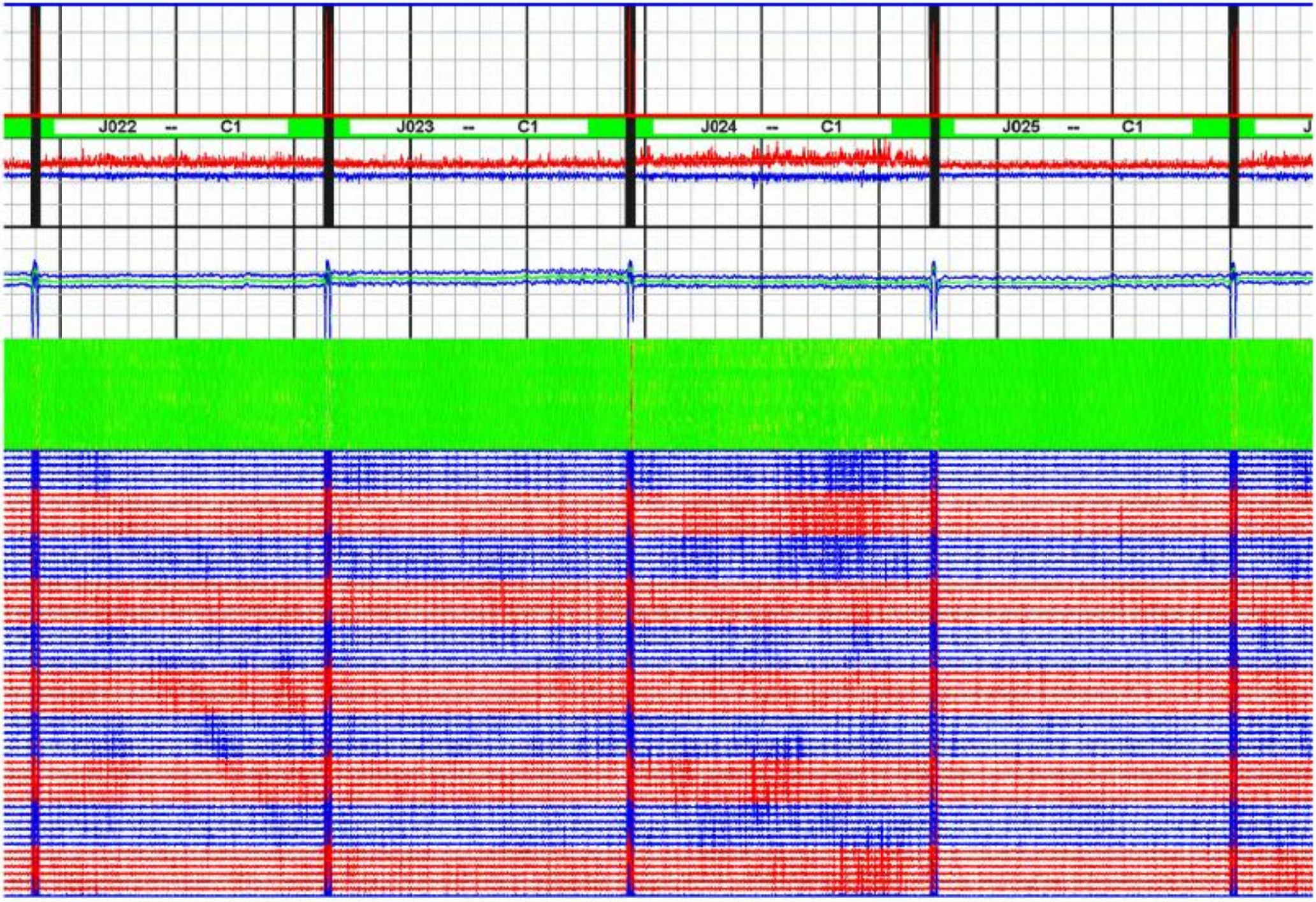


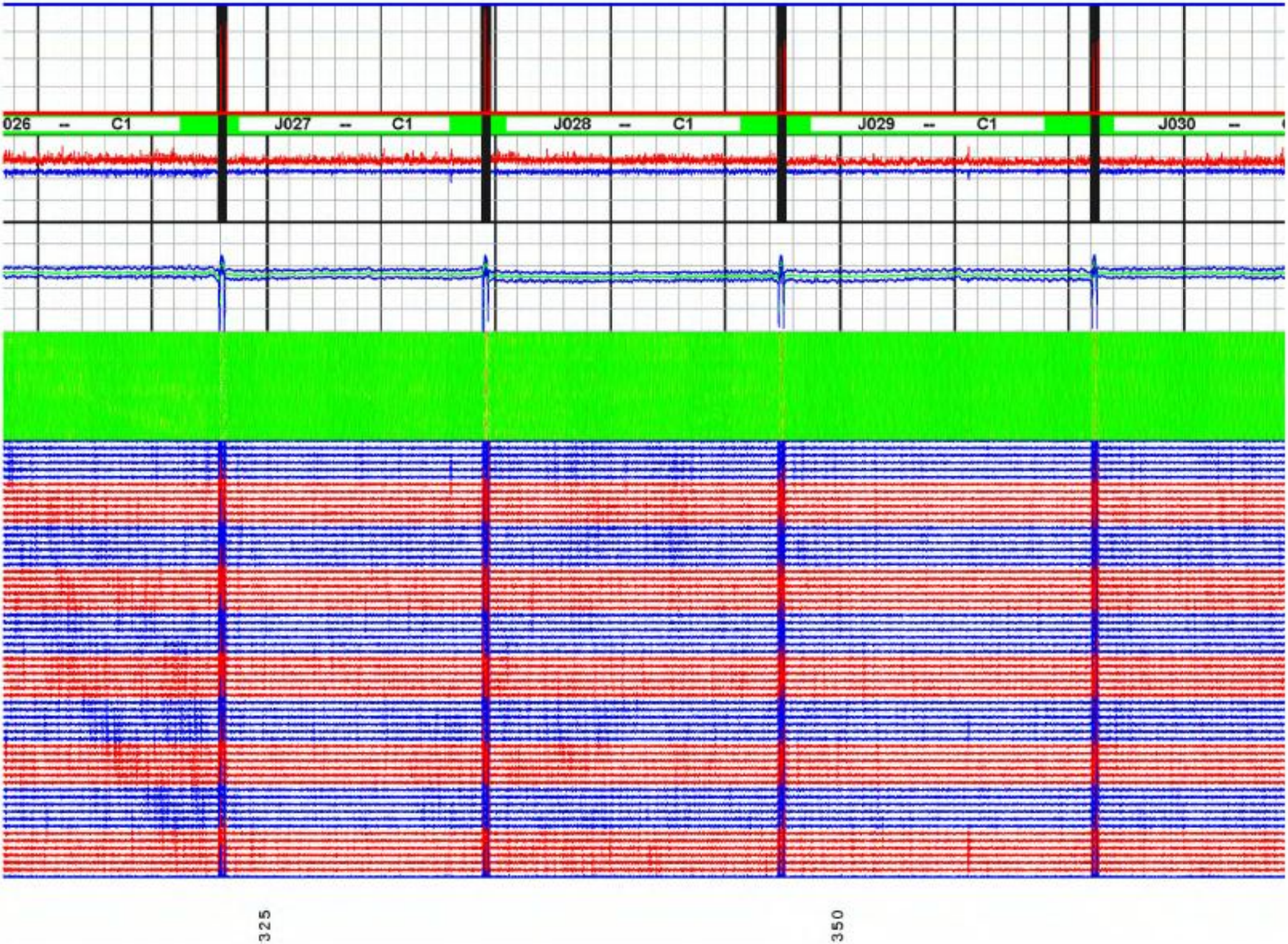

J004 -- C1
J005 -- C1
J006 -- C1
J007 -- C1
J008 --
50
75

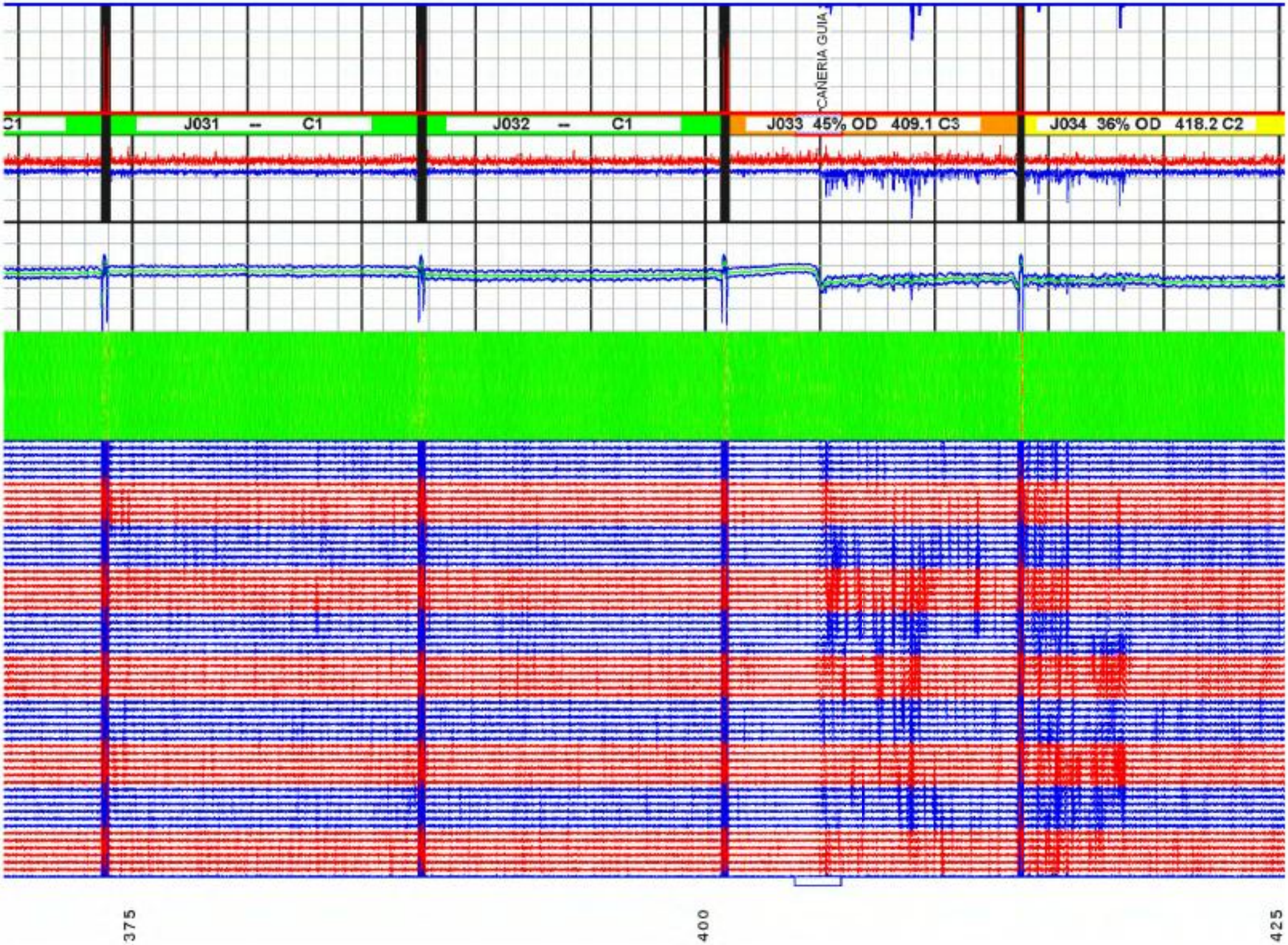

100
125
C1
J009 - C1
J010 - C1
J011 23% OD 128.6 C2
J012 - C1


J013 – C1
J014 – C1
J015 – C1
J016 – C1
J017
150
175
200

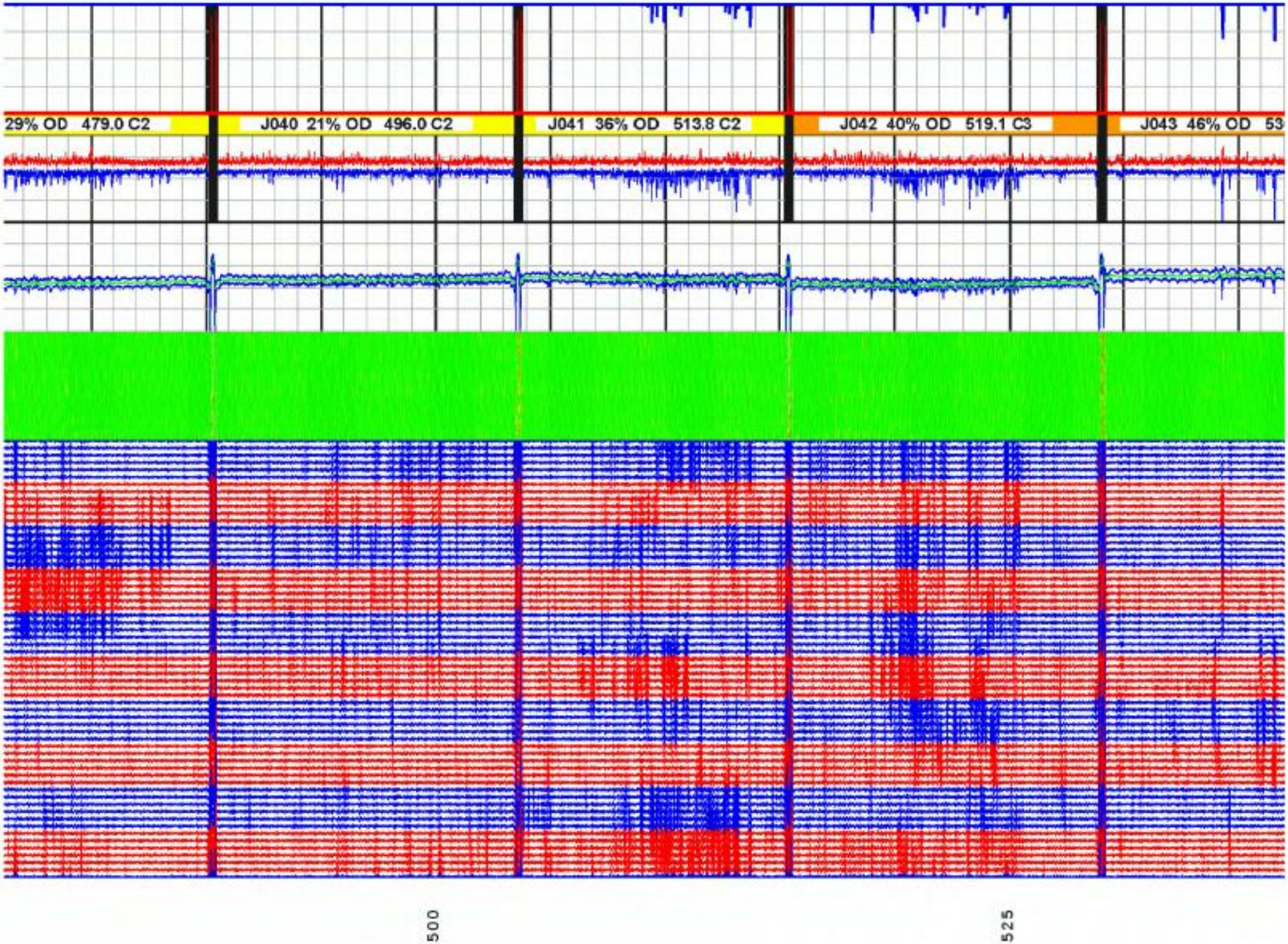

-- C1
J018 -- C1
J019 -- C1
J020 -- C1
J021 -- C1
225
250

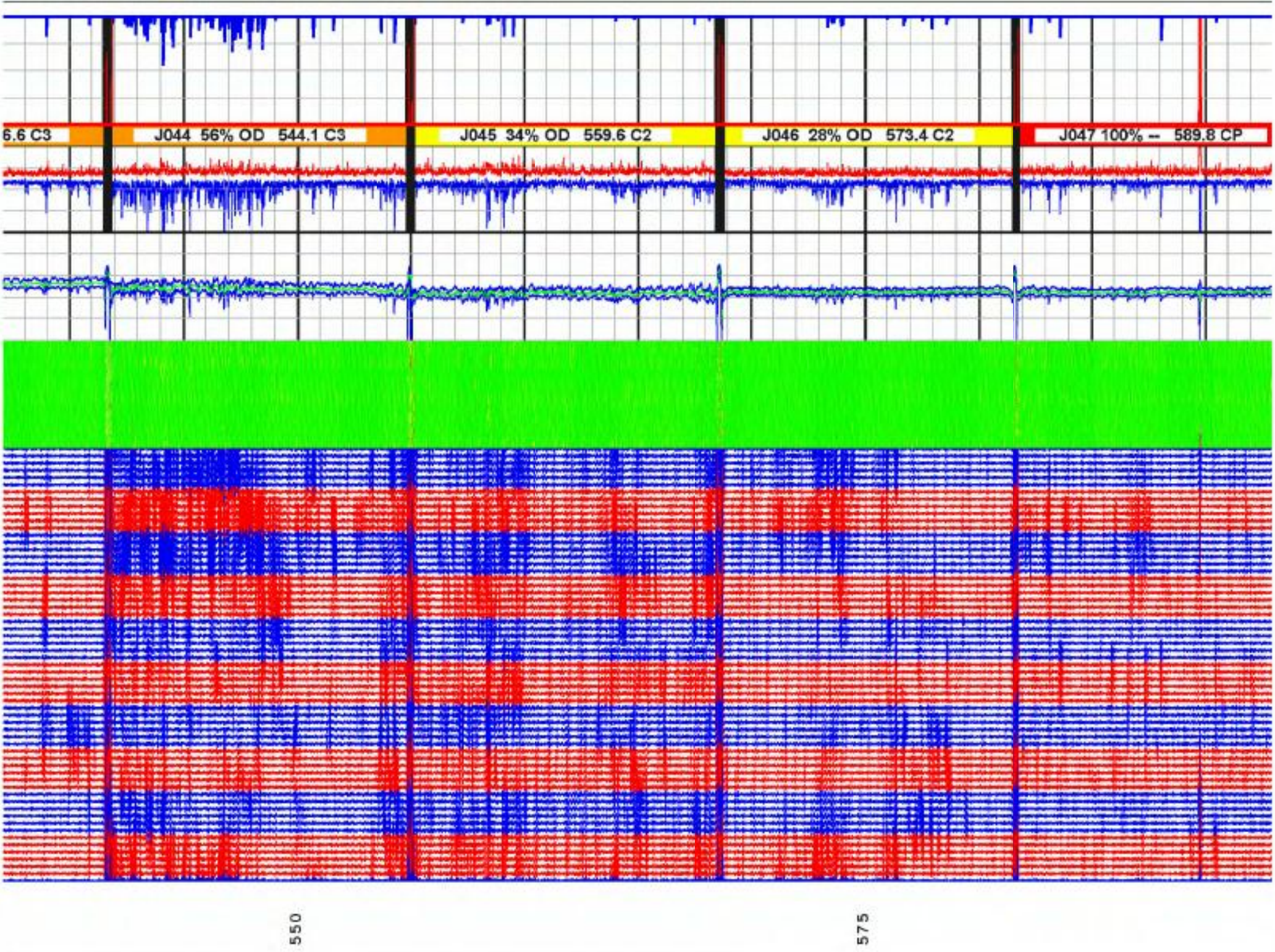

J022 -- C1
J023 -- C1
J024 -- C1
J025 -- C1
J
275
300


026 -- C1
J027 -- C1
J028 -- C1
J029 -- C1
J030 --
325
350


C1
J031 -- C1
J032 -- C1
J033 45% OD 409.1 C3
J034 36% OD 418.2 C2
CAÑERIA GUIA
375
400
425

J035 28% OD 429.2 C2
J036 41% OD 449.1 C3
J037 36% OD 451.9 C2
J038 29% OD 465.3 C2
J039
450
475


29% OD 479.0 C2
J040 21% OD 496.0 C2
J041 36% OD 513.8 C2
J042 40% OD 519.1 C3
J043 46% OD 53
500
525


6.6 C3
J044 56% OD 544.1 C3
J045 34% OD 559.6 C2
J046 28% OD 573.4 C2
J047 100% -- 589.8 CP
550
575

File Name : C:20150802)_ENH 338_CITENH_338.csv
Date Analyzed : 08/02/15 23:36:47

Classifying Defect Summary

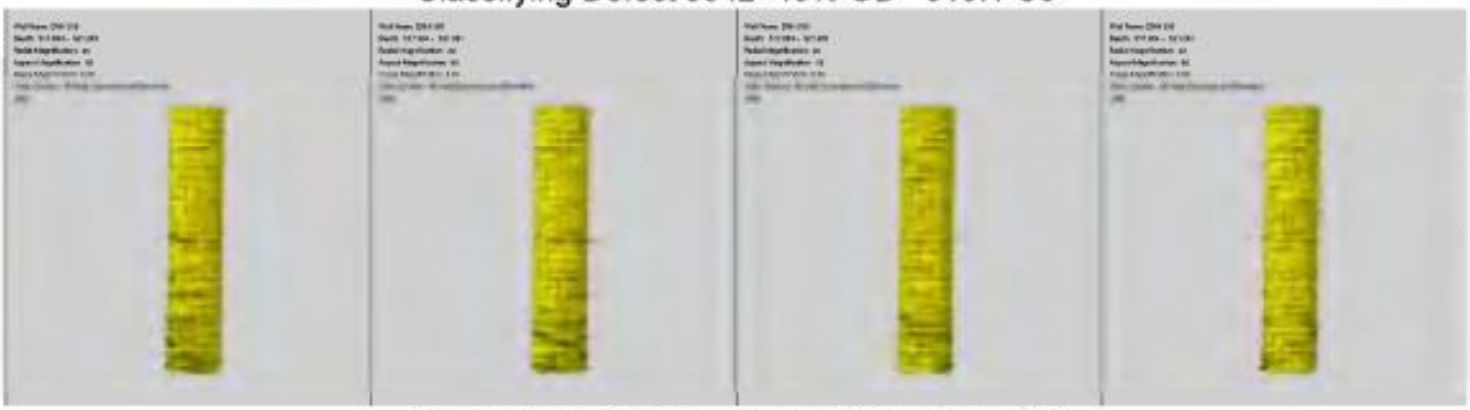
The following images are representations of the magnetic field as measured by the CIT instruments and are not intended to represent the actual physical shape of the object or defects portrayed.

For Classes 3, 4 and P

Classifying Defect J033 45% OD 409.1 C3

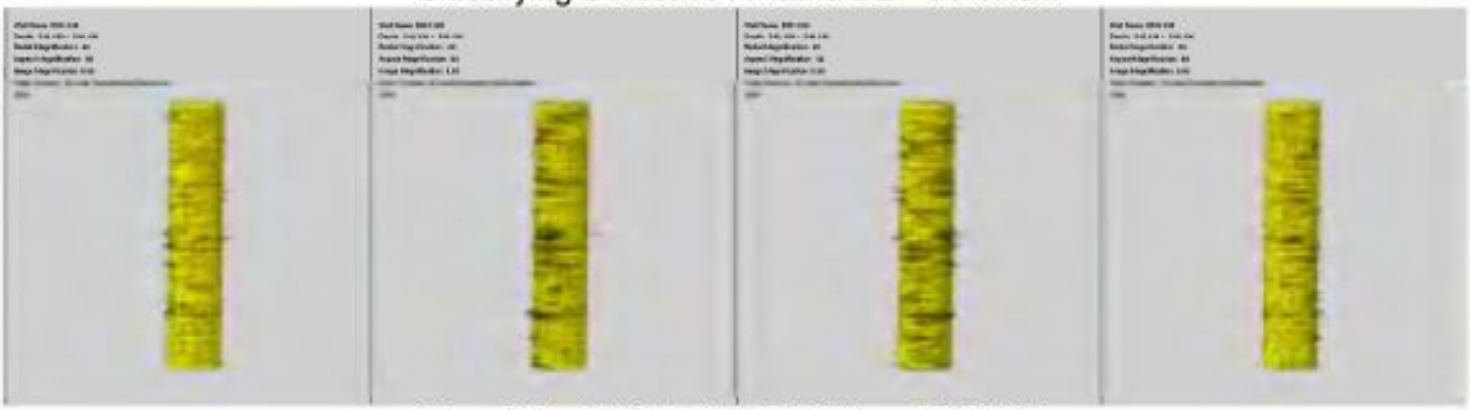
Classifying Defect J036 41% OD 449.1 C3

Classifying Defect J042 40% OD 519.1 C3



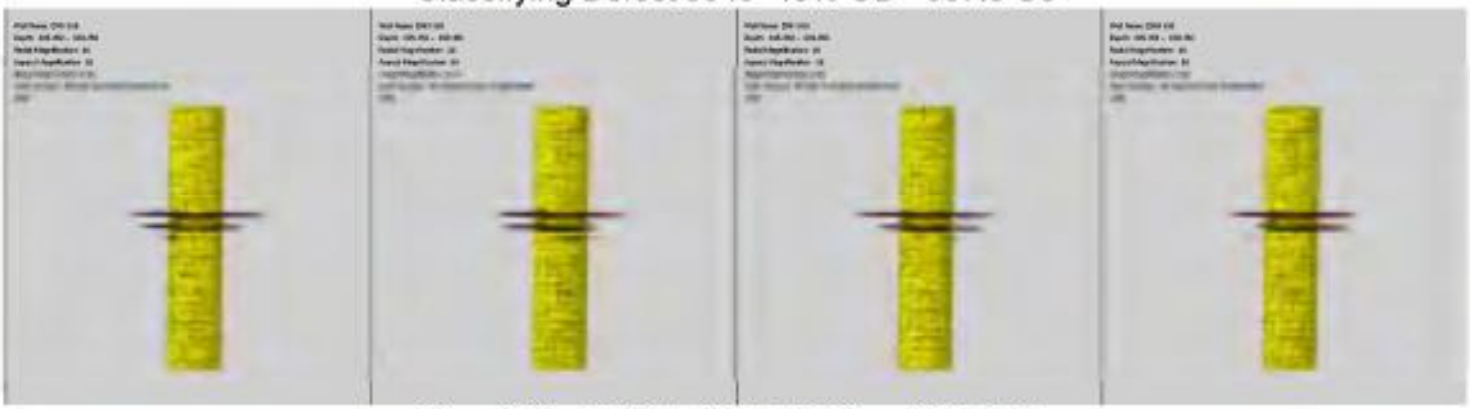
Classifying Defect J043 46% OD 536.6 C3

Classifying Defect J044 56% OD 544.1 C3



Classifying Defect J047 100% -- 589.8 CP

Classifying Defect J049 45% OD 607.5 C3



Classifying Defect J055 100% -- 686.1 CP

Classifying Defect J065 41% OD 815.2 C3

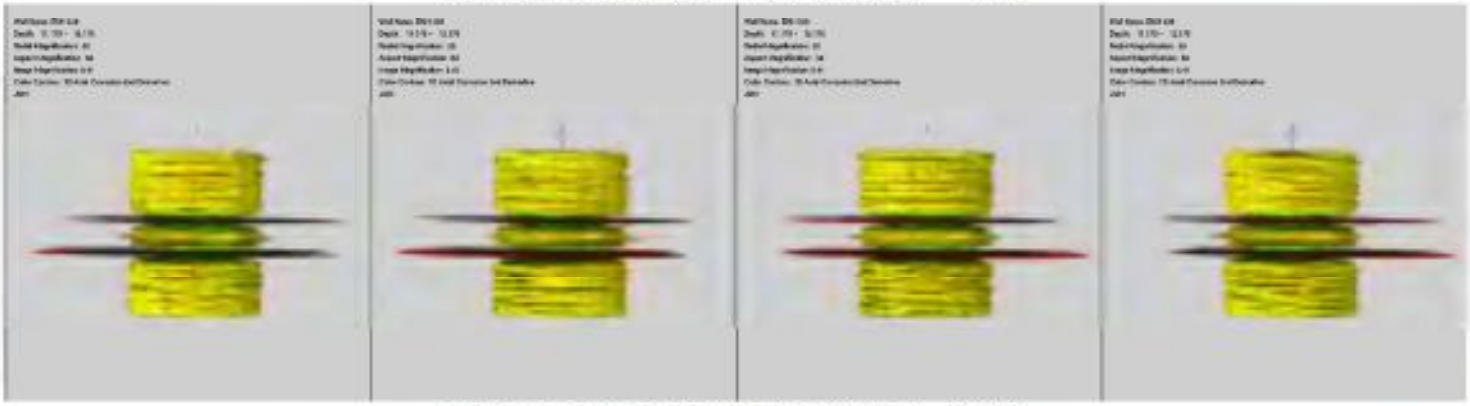
Classifying Defect J067 47% OD 836.3 C3

Collar Summary

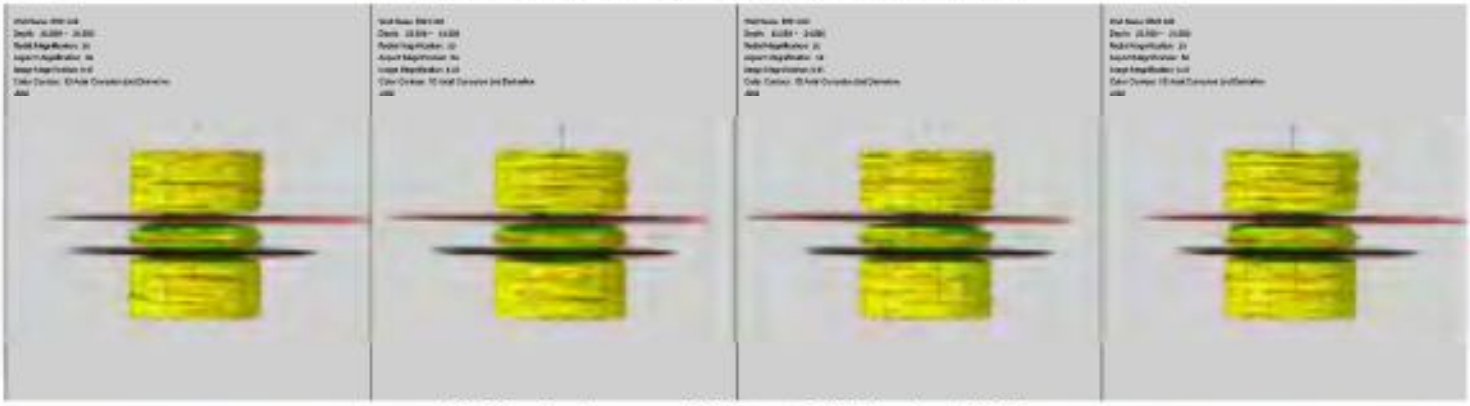
The following images are representations of the magnetic field as measured by the CIT instruments and are not intended to represent the actual physical shape of the object or defects portrayed.

These collars have been removed from the penetration analysis presented.

Collar between J001 and J002 at 11.7

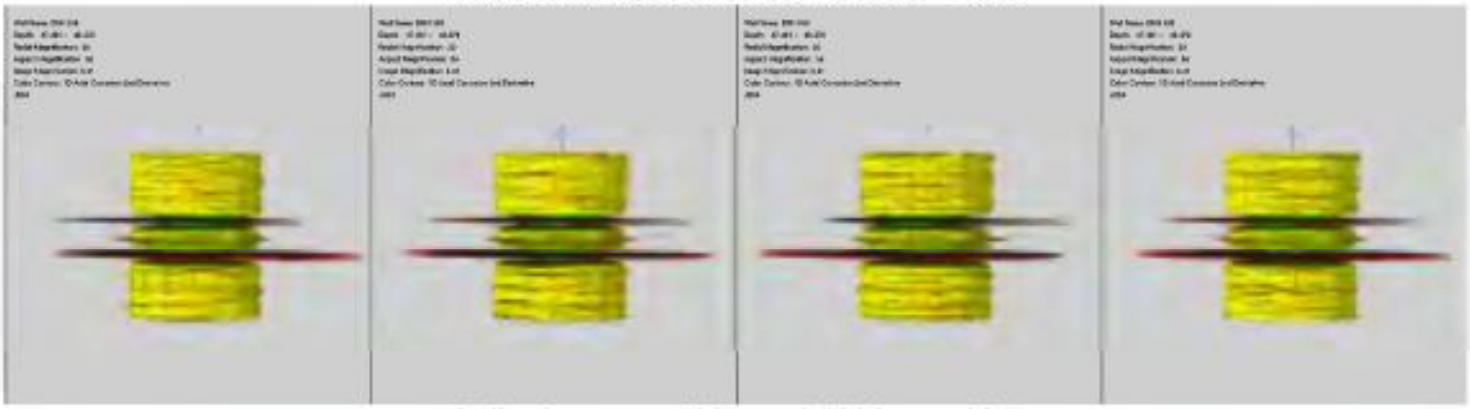


Collar between J002 and J003 at 24.1

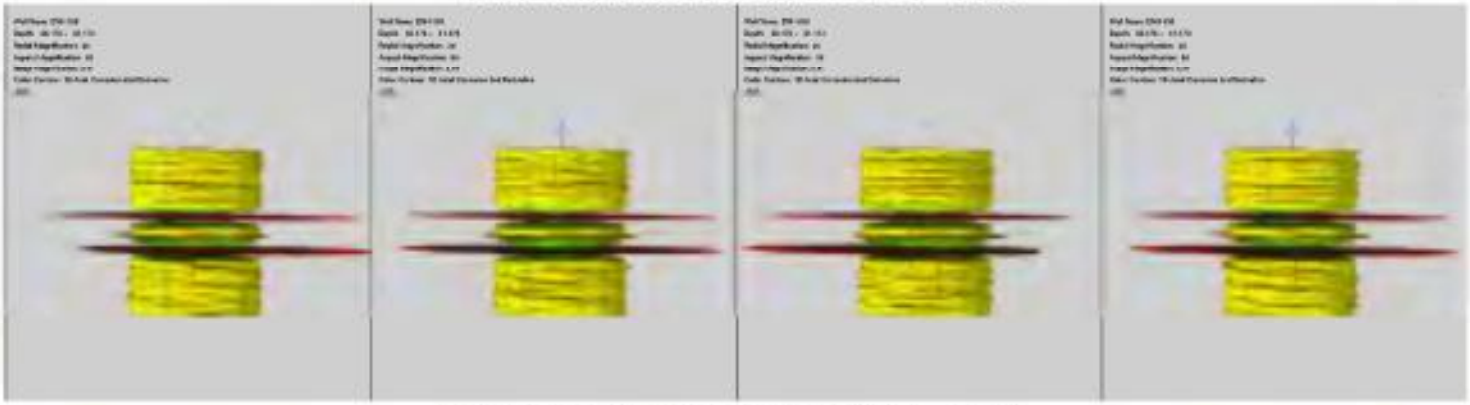


Collar between J003 and J004 at 36.4

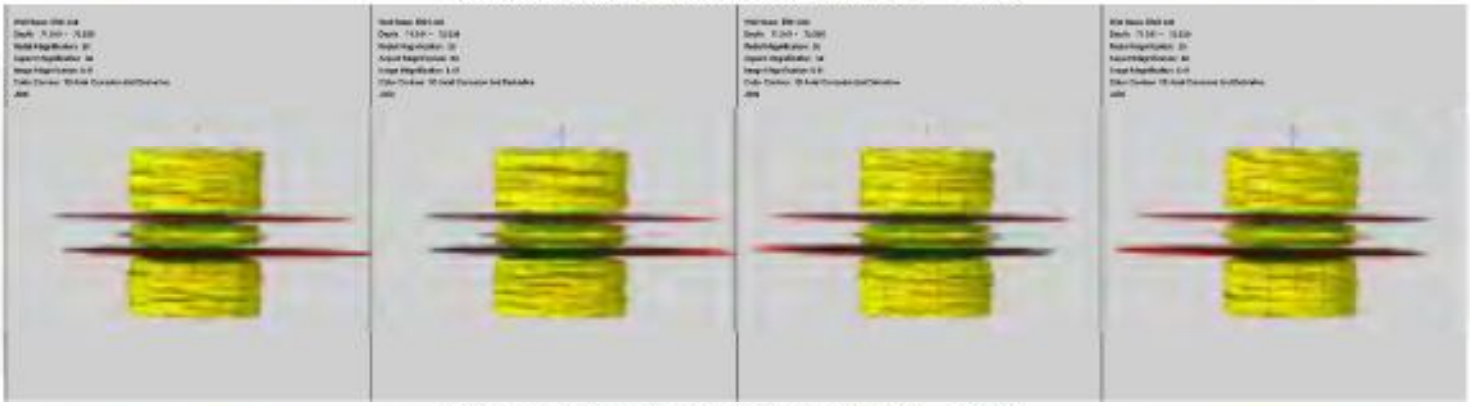
Collar between J004 and J005 at 48.0



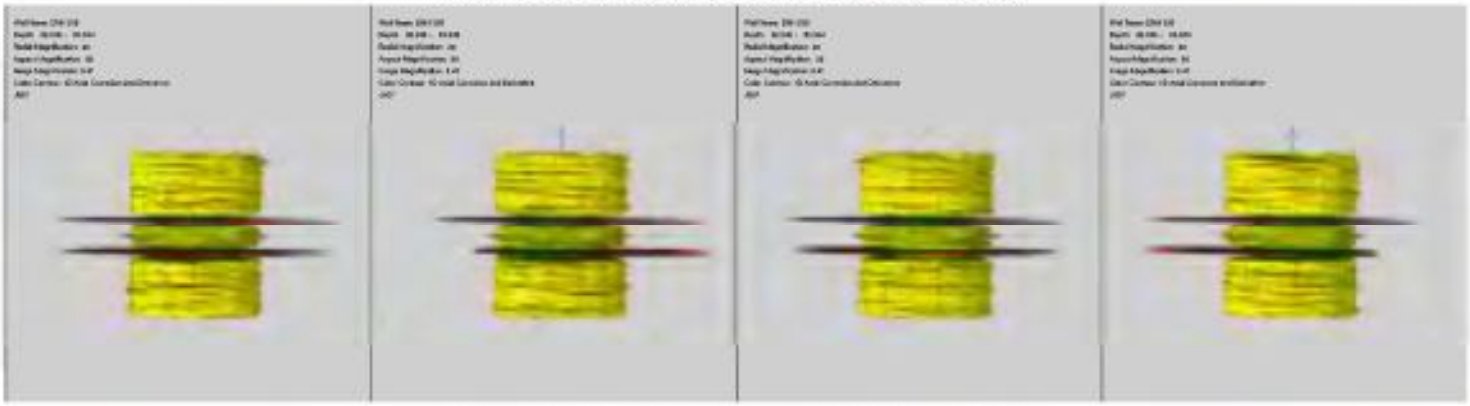
Collar between J005 and J006 at 60.7



Collar between J006 and J007 at 72.0

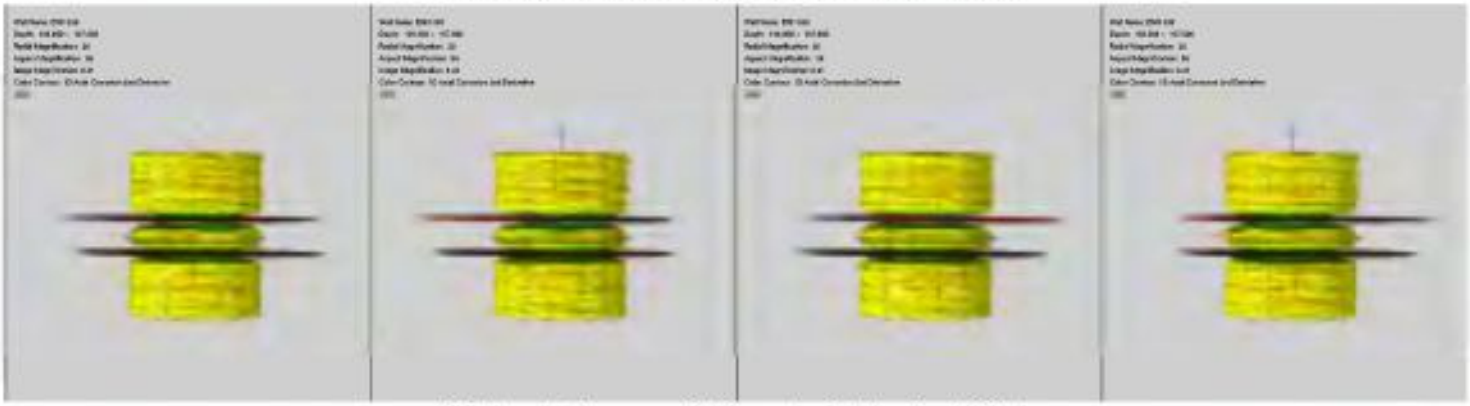


Collar between J007 and J008 at 83.4

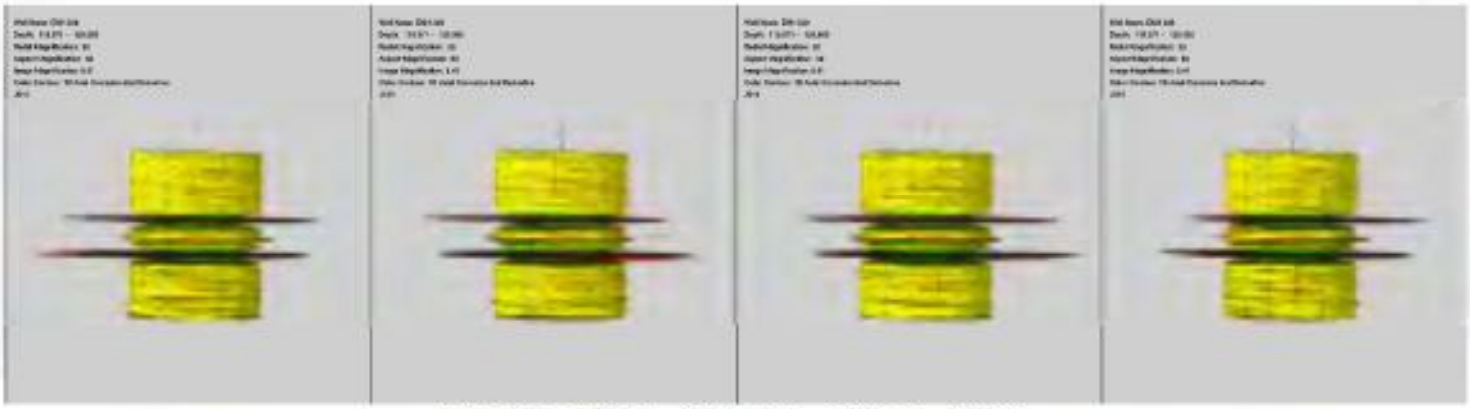


Collar between J008 and J009 at 94.3

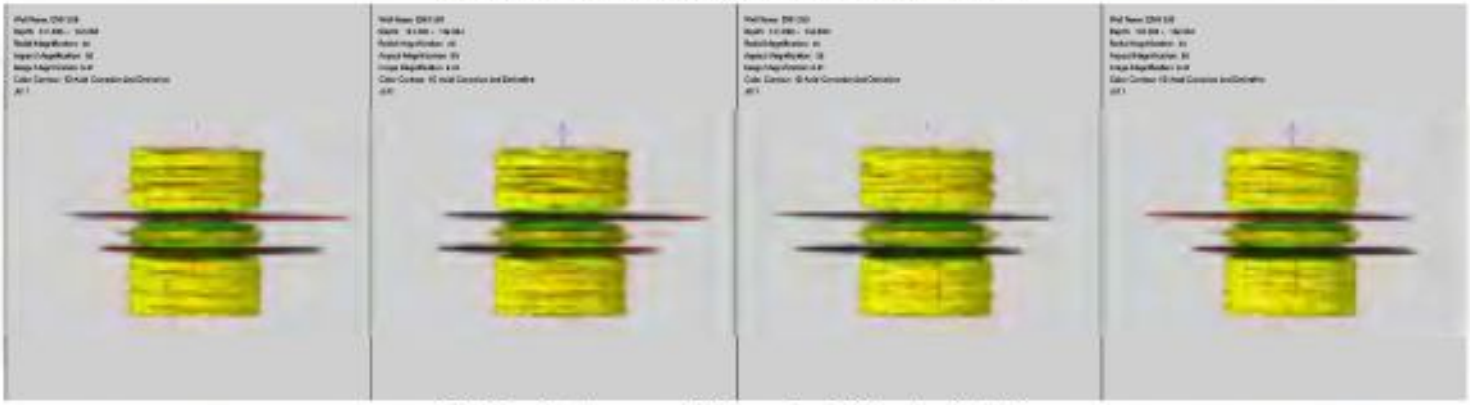
Collar between J009 and J010 at 107.4



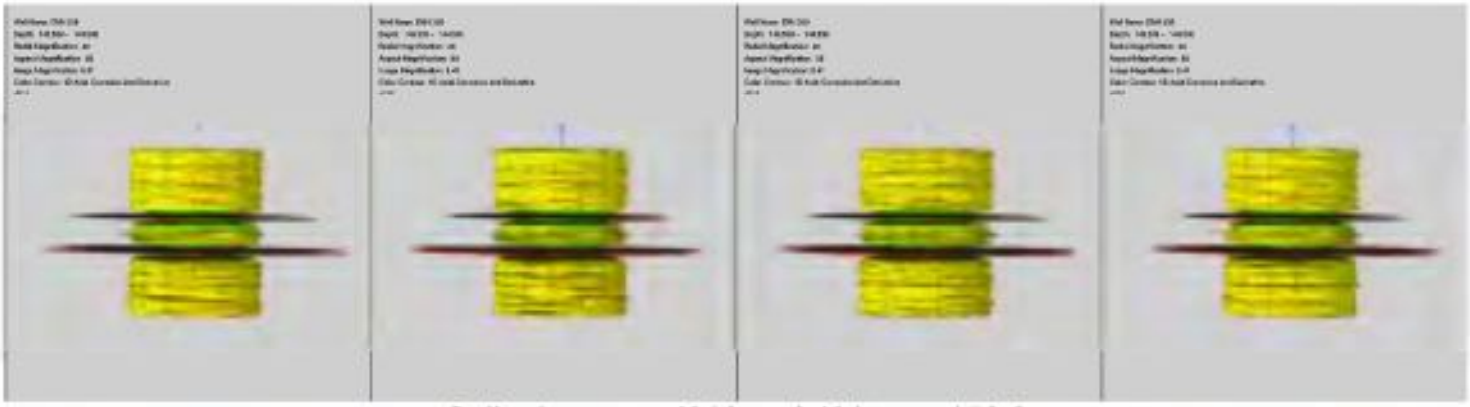
Collar between J010 and J011 at 120.5



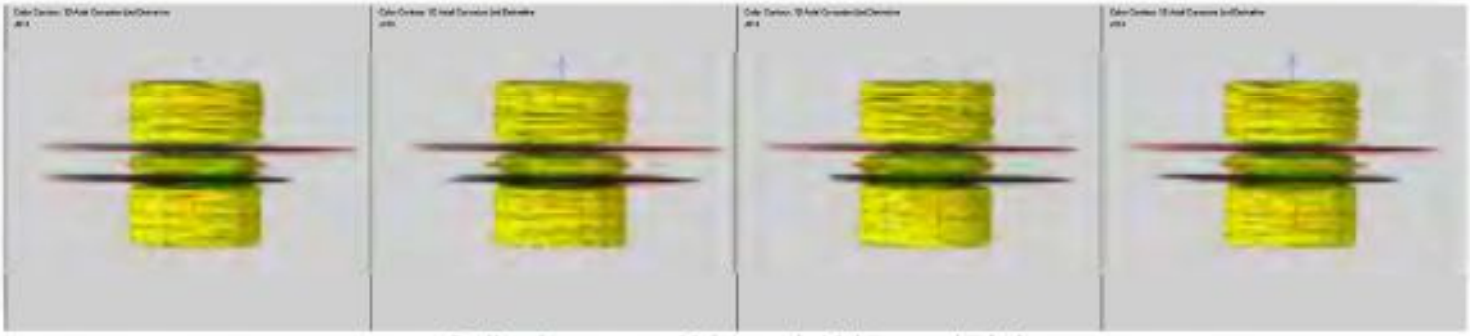
Collar between J011 and J012 at 132.2



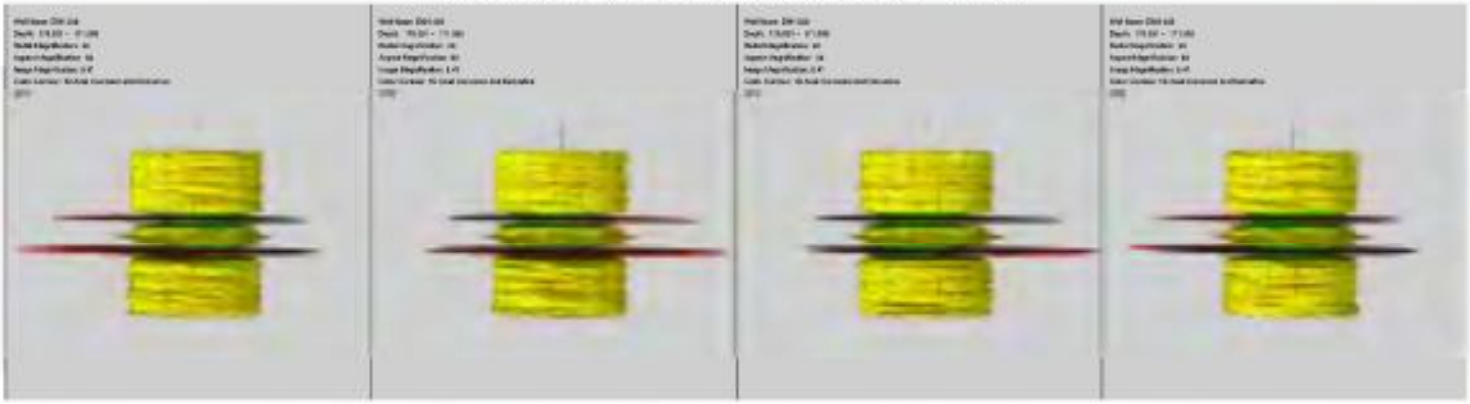
Collar between J012 and J013 at 144.0



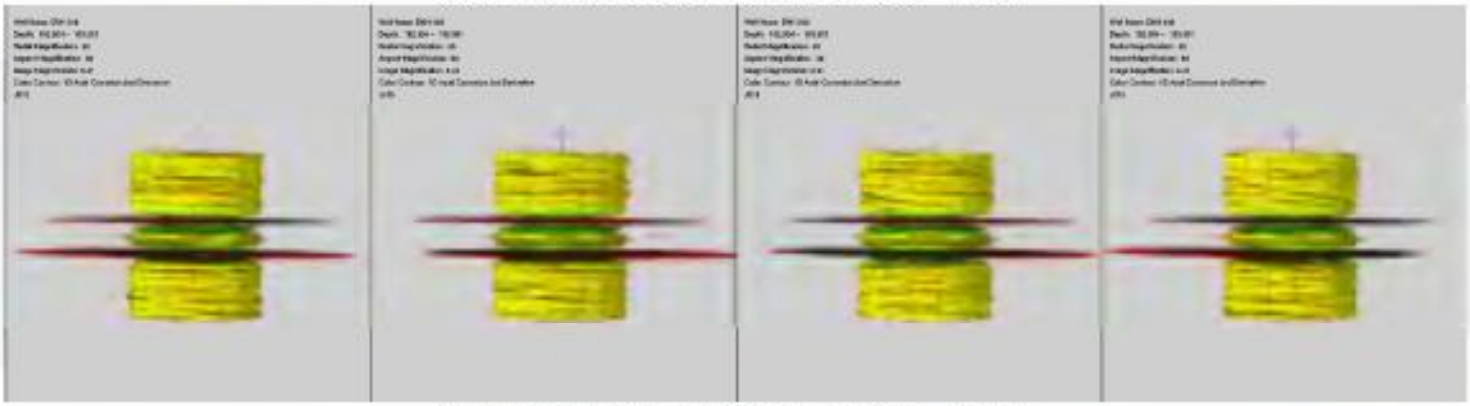
Collar between J013 and J014 at 156.8



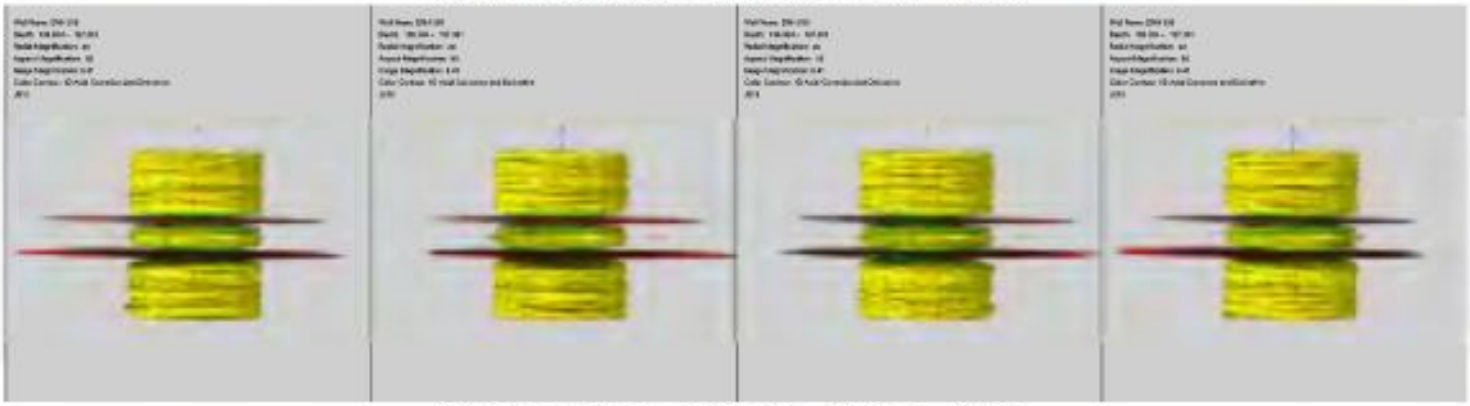
Collar between J014 and J015 at 170.6



Collar between J015 and J016 at 183.4

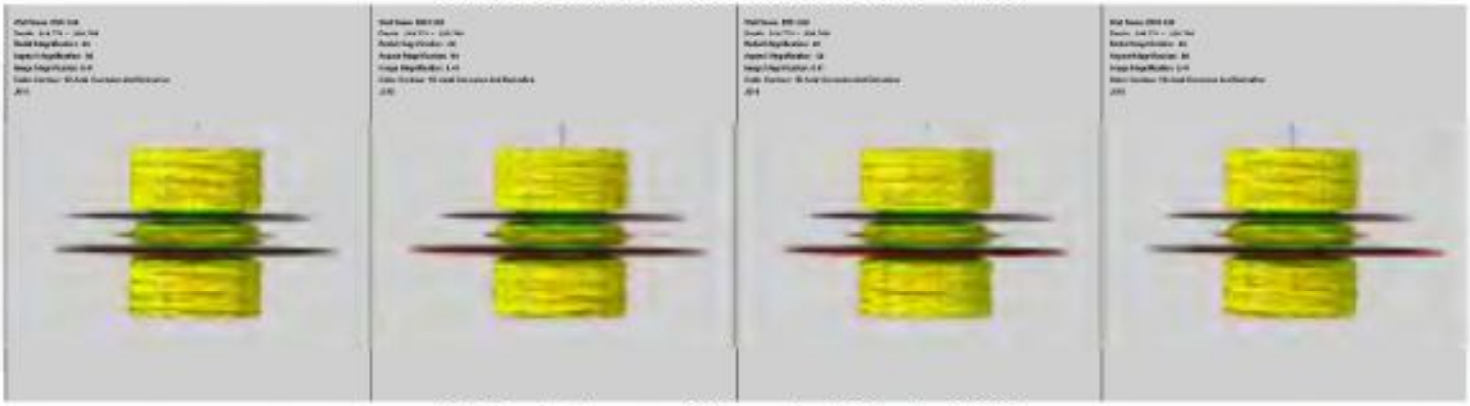


Collar between J016 and J017 at 196.8

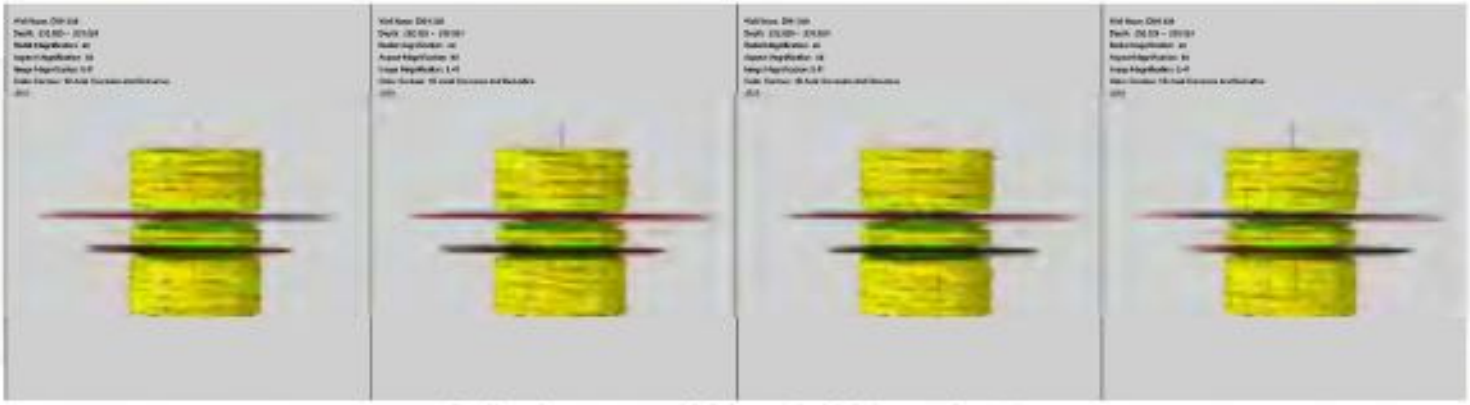


Collar between J017 and J018 at 209.3

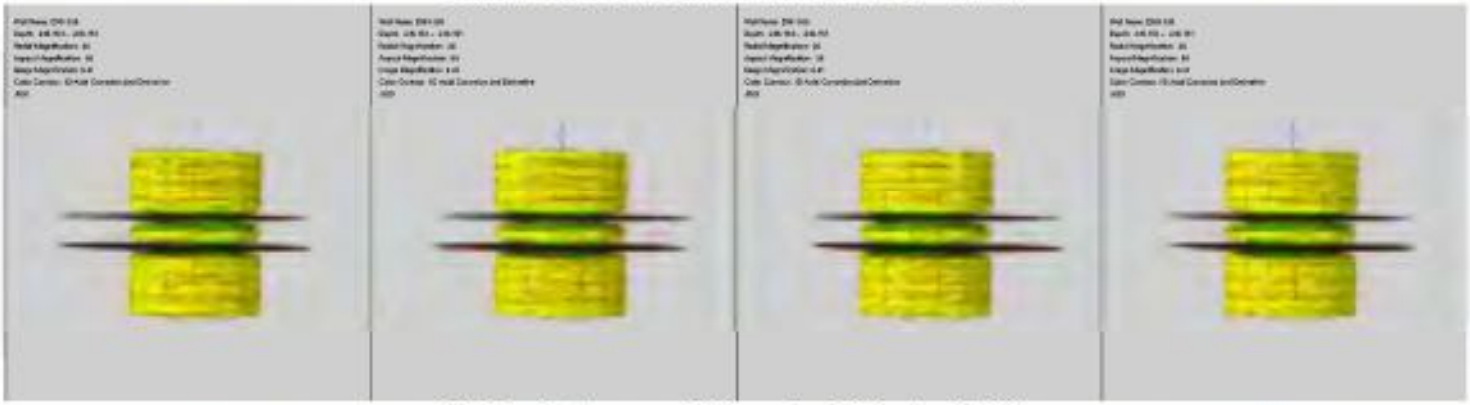
Collar between J018 and J019 at 220.3



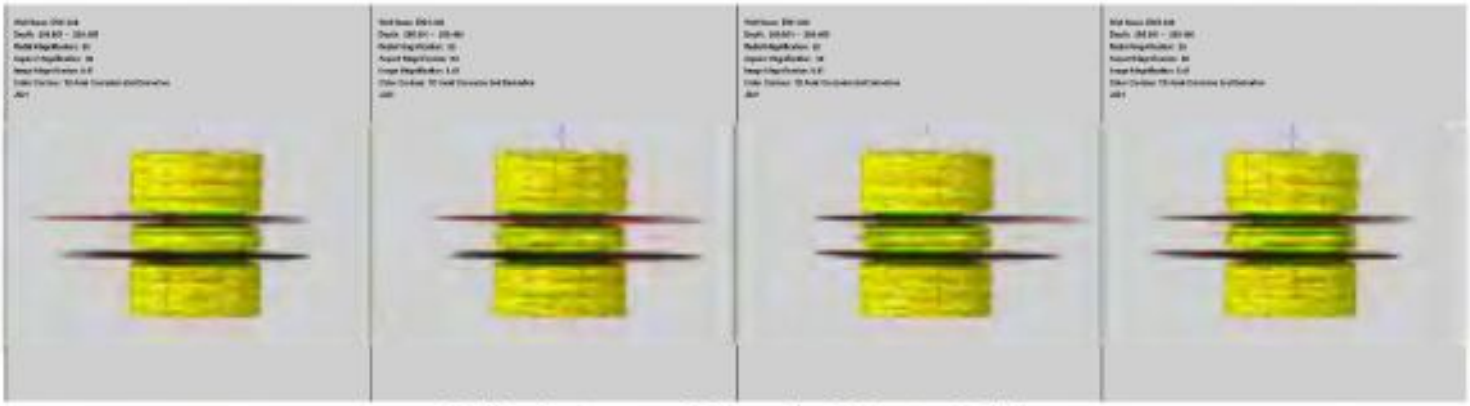
Collar between J019 and J020 at 232.5



Collar between J020 and J021 at 245.7

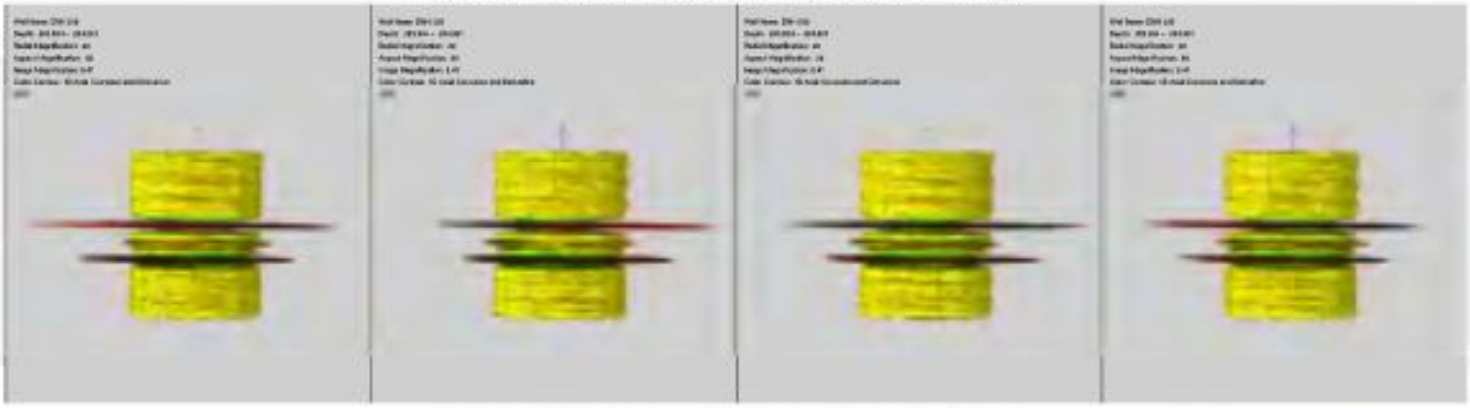


Collar between J021 and J022 at 259.0



Collar between J022 and J023 at 271.5

Collar between J023 and J024 at 284.4



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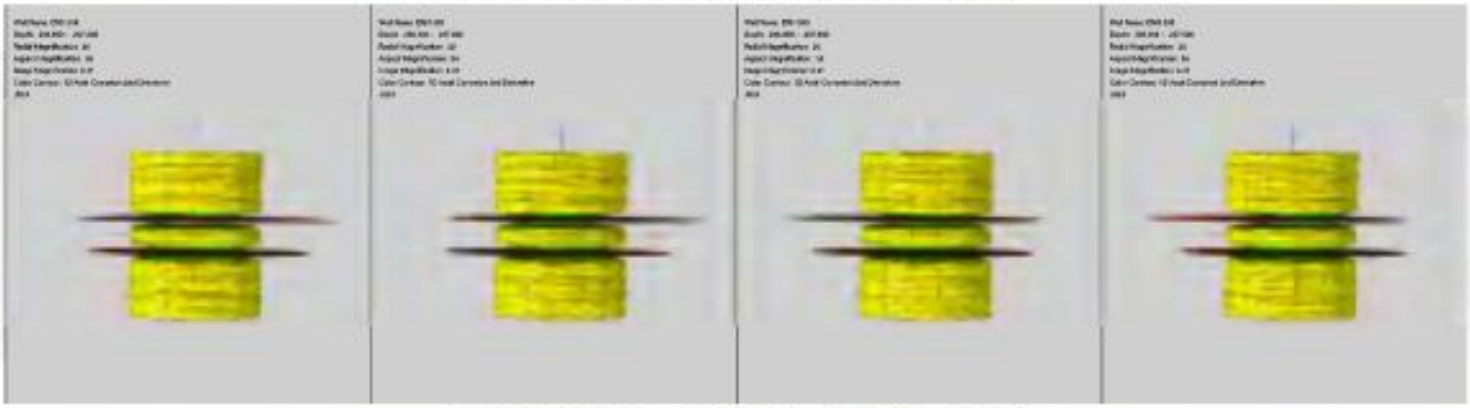
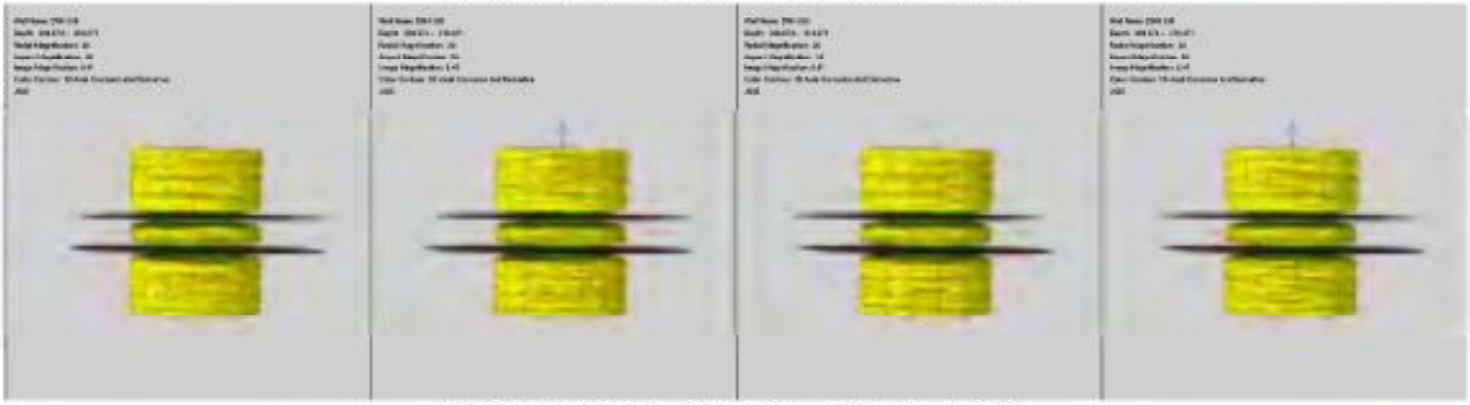
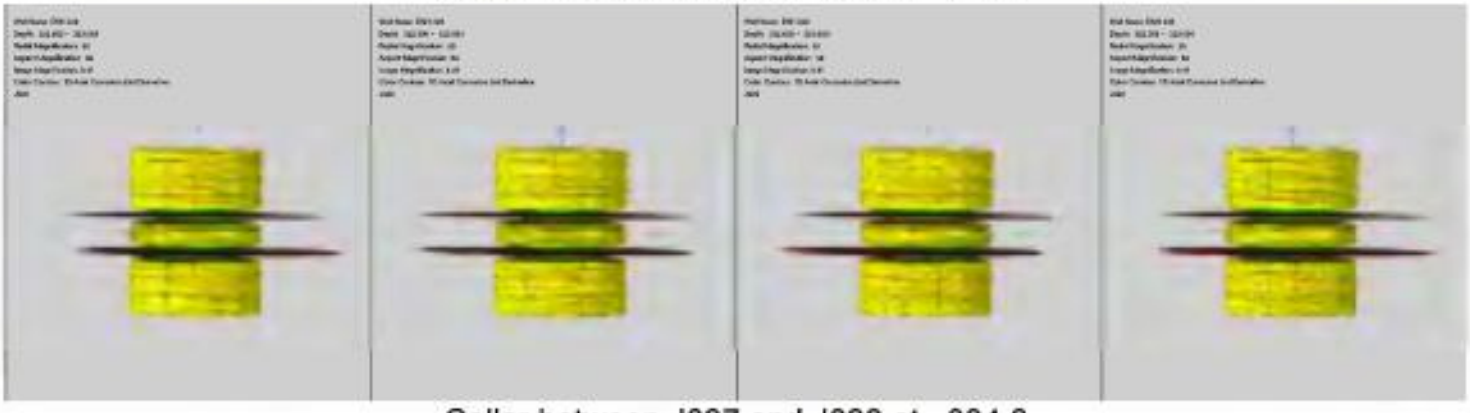


Collar between J025 and J026 at 310.2

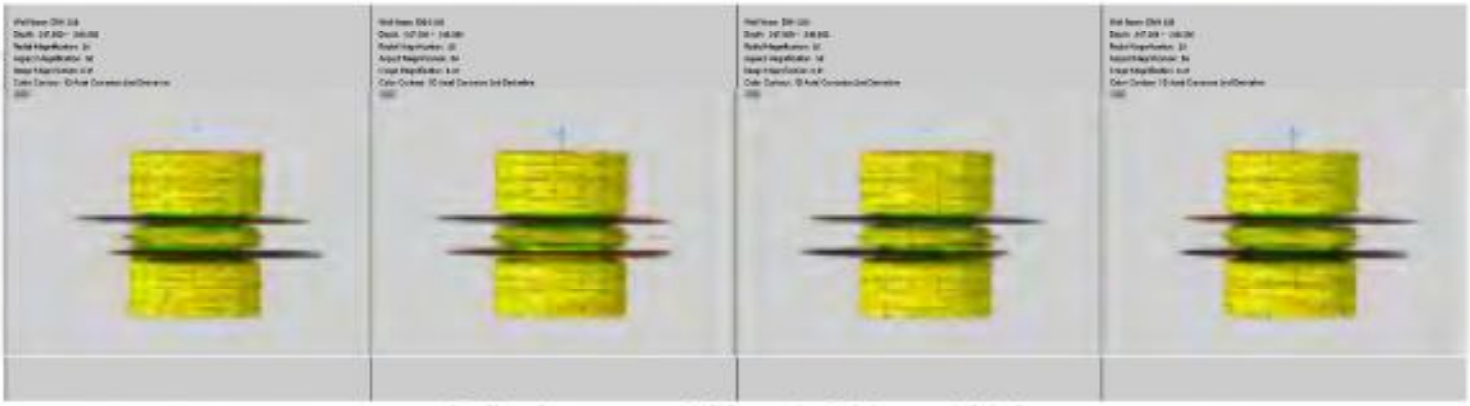


Collar between J026 and J027 at 323.1

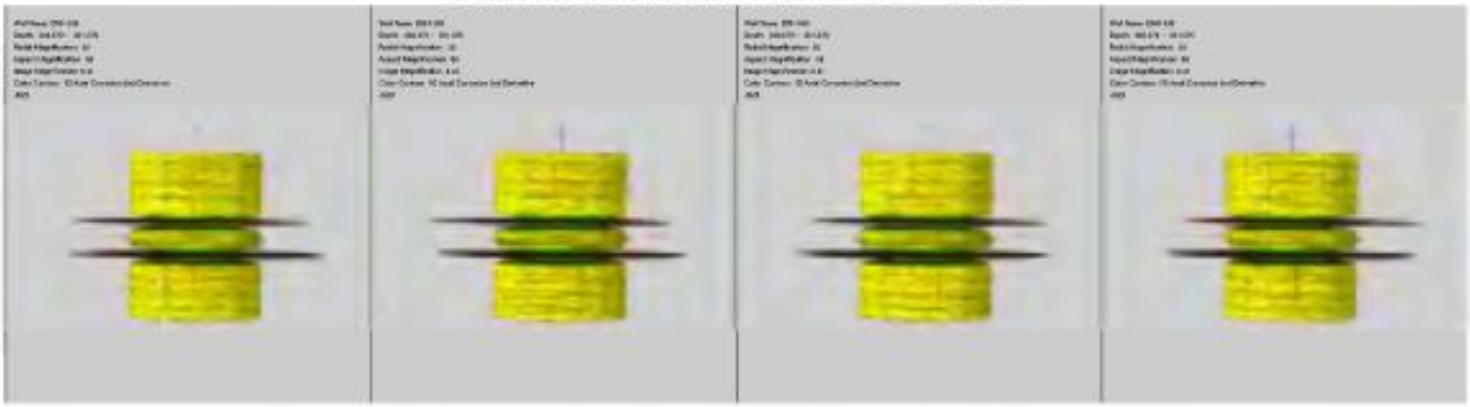


Collar between J027 and J028 at 334.6

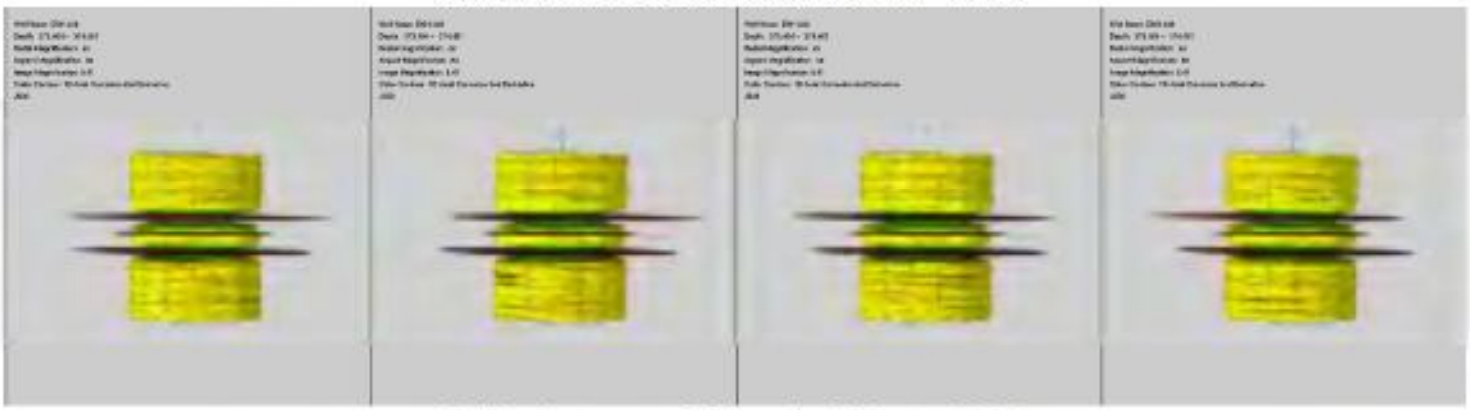
Collar between J028 and J029 at 347.5



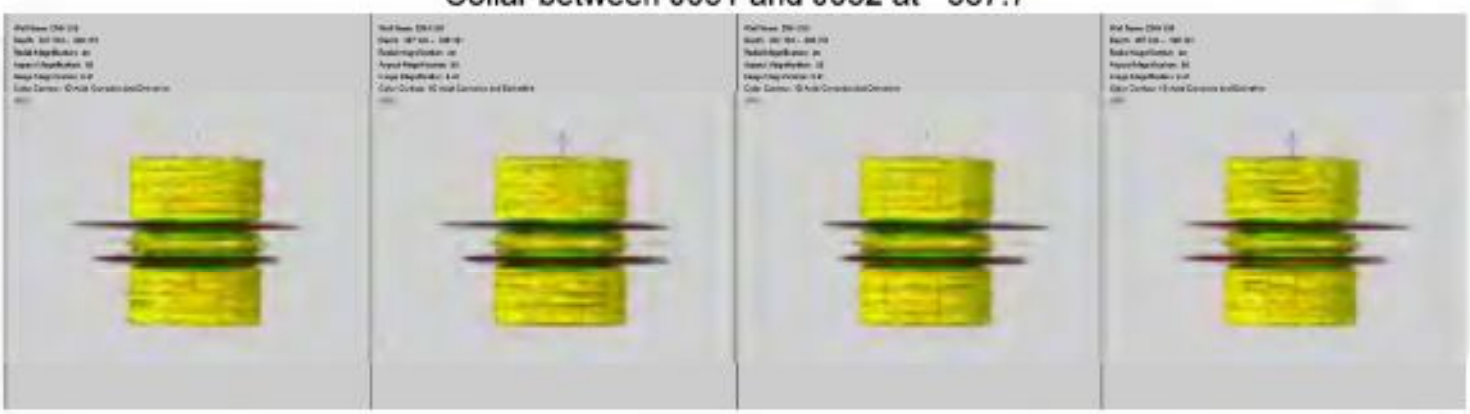
Collar between J029 and J030 at 361.2



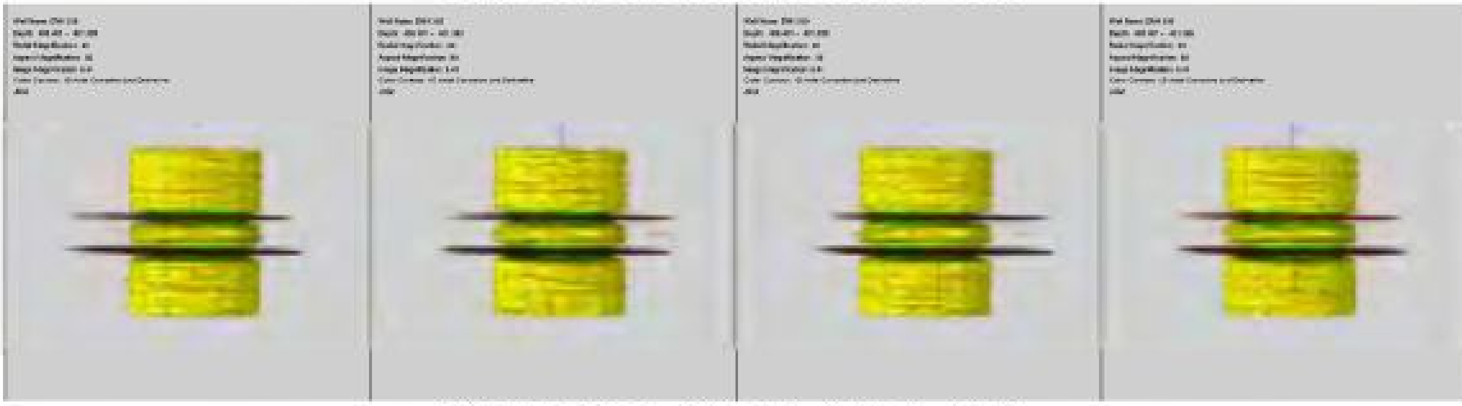
Collar between J030 and J031 at 373.9



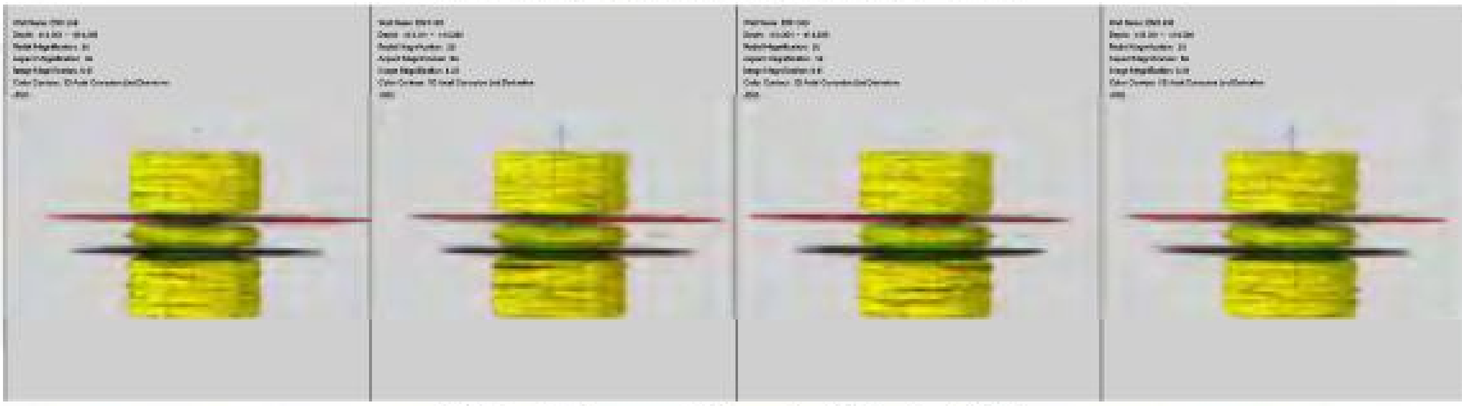
Collar between J031 and J032 at 387.7



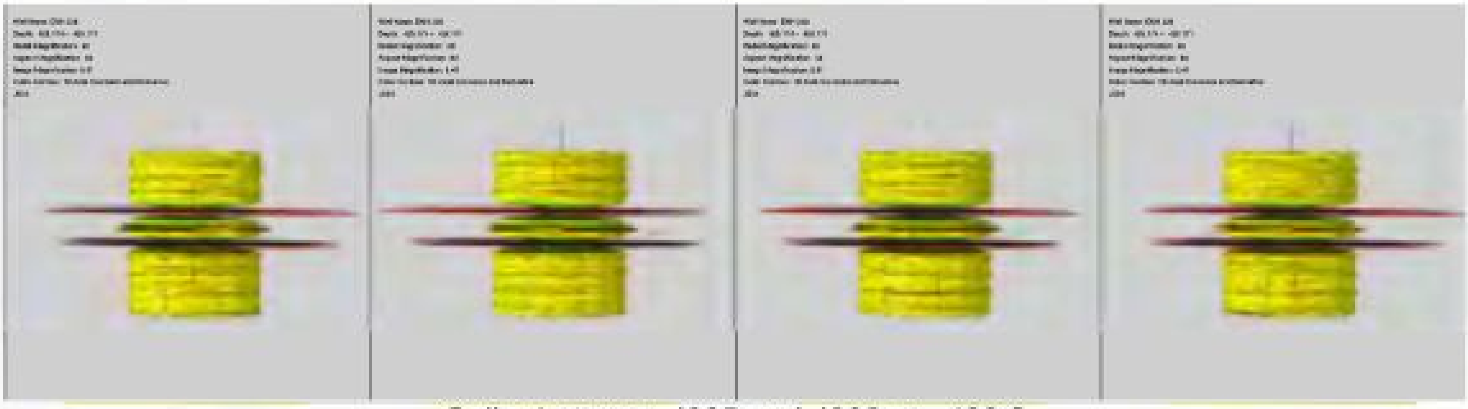
Collar between J032 and J033 at 400.9



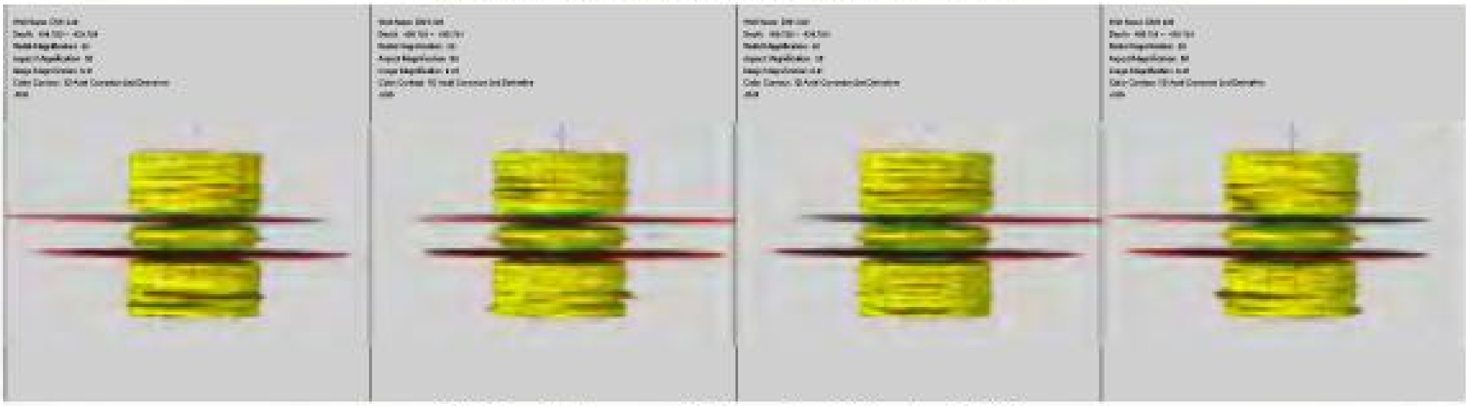
Collar between J033 and J034 at 413.8



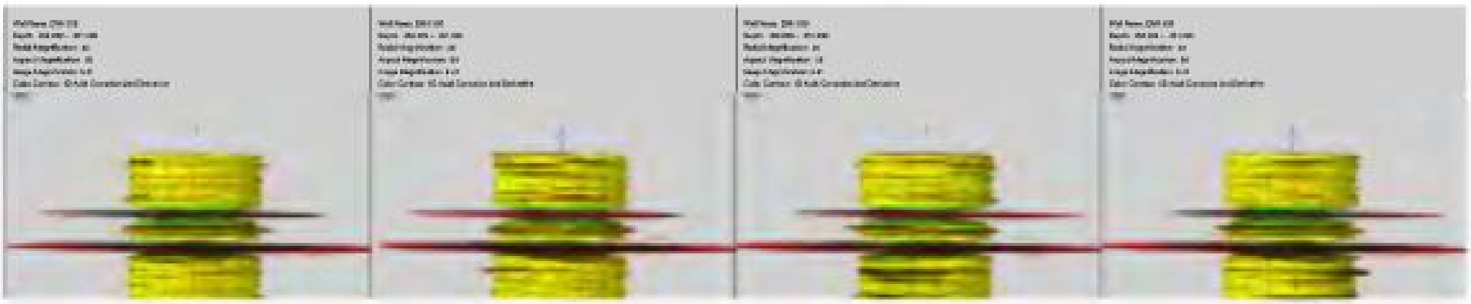
Collar between J034 and J035 at 425.7



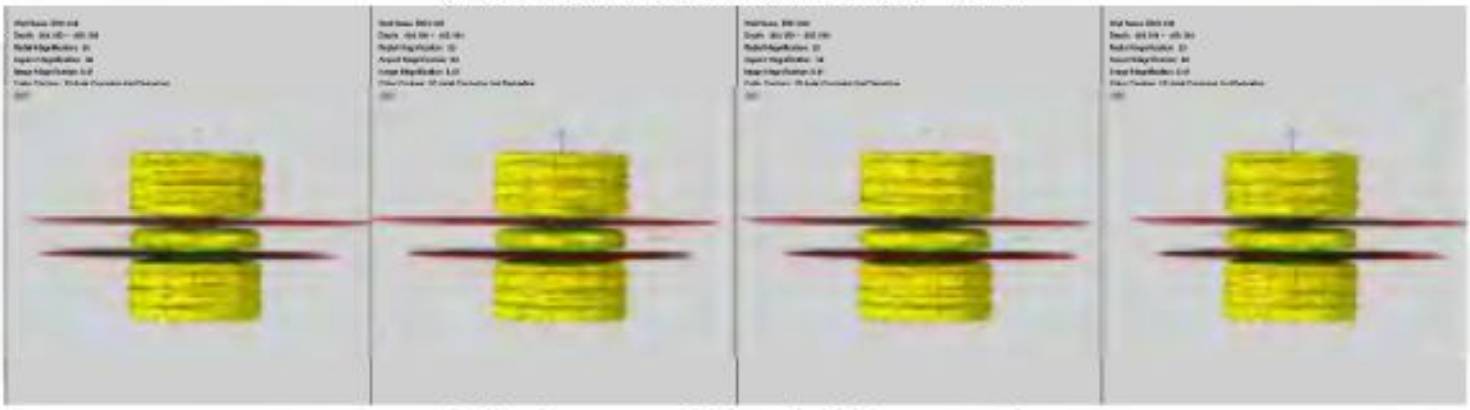
Collar between J035 and J036 at 439.2



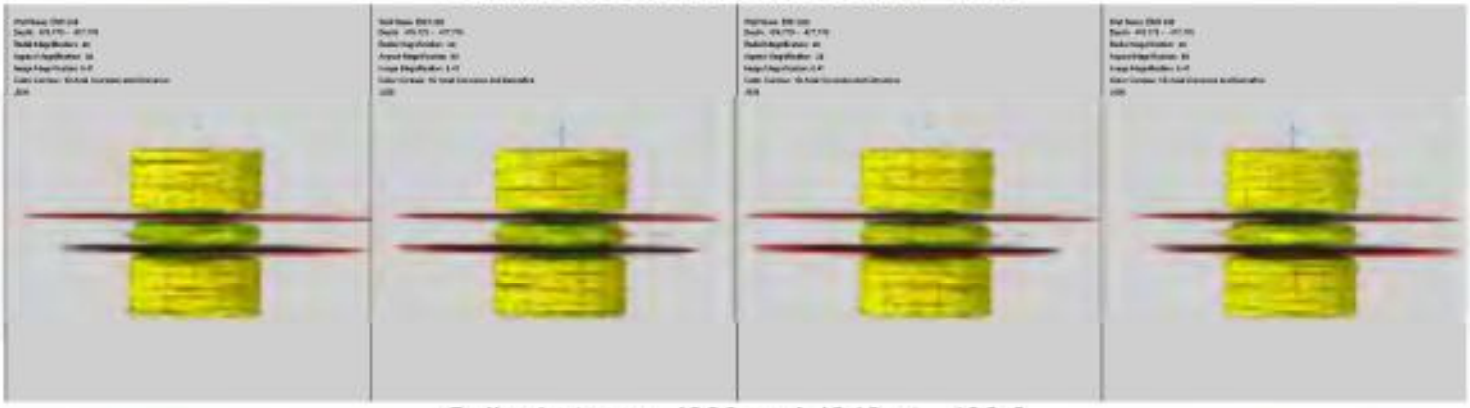
Collar between J036 and J037 at 451.2



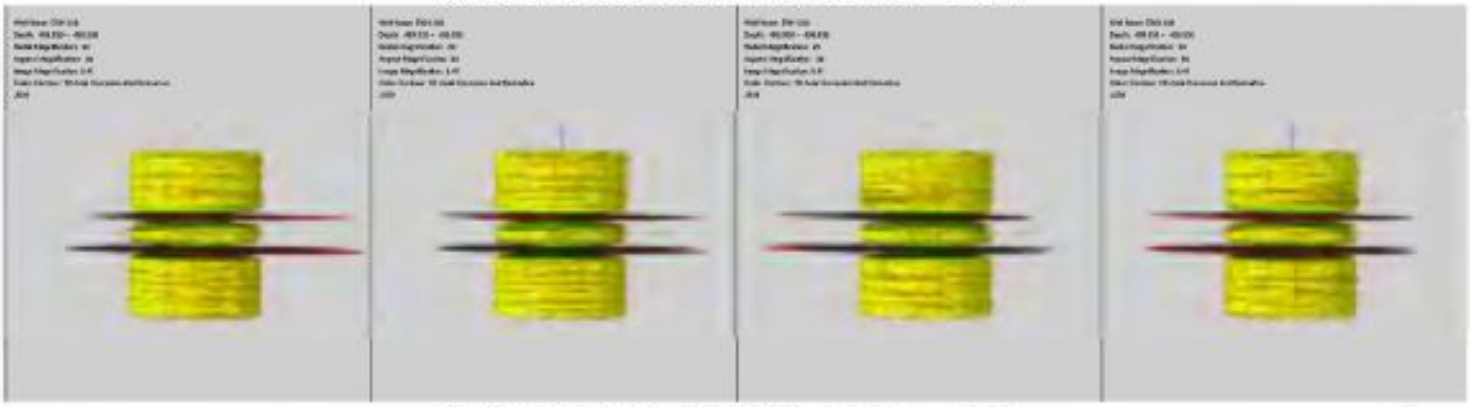
Collar between J037 and J038 at 464.7



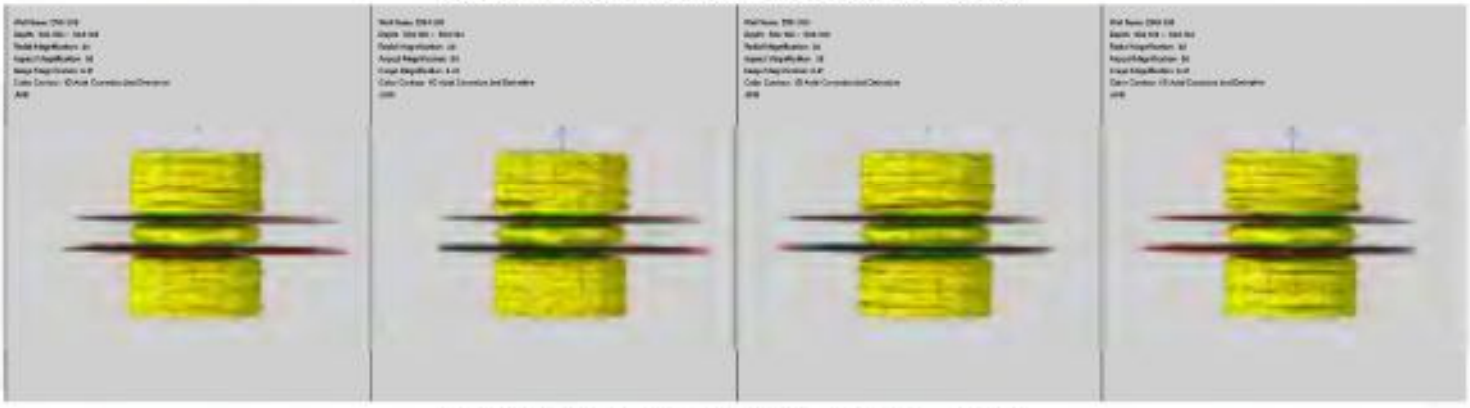
Collar between J038 and J039 at 477.3



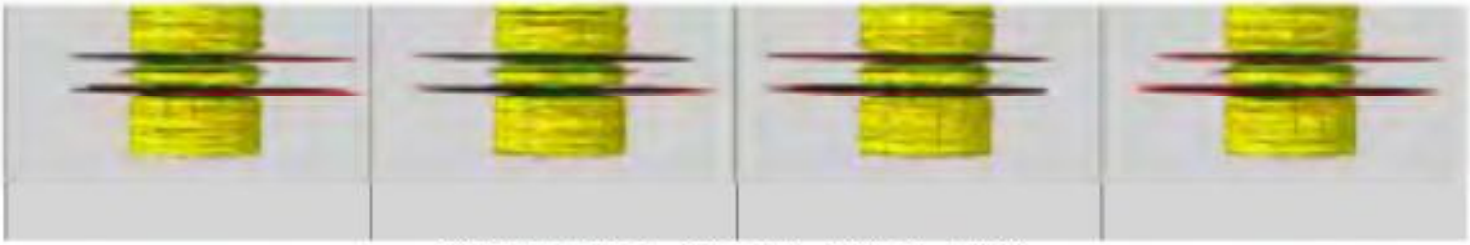
Collar between J039 and J040 at 490.3



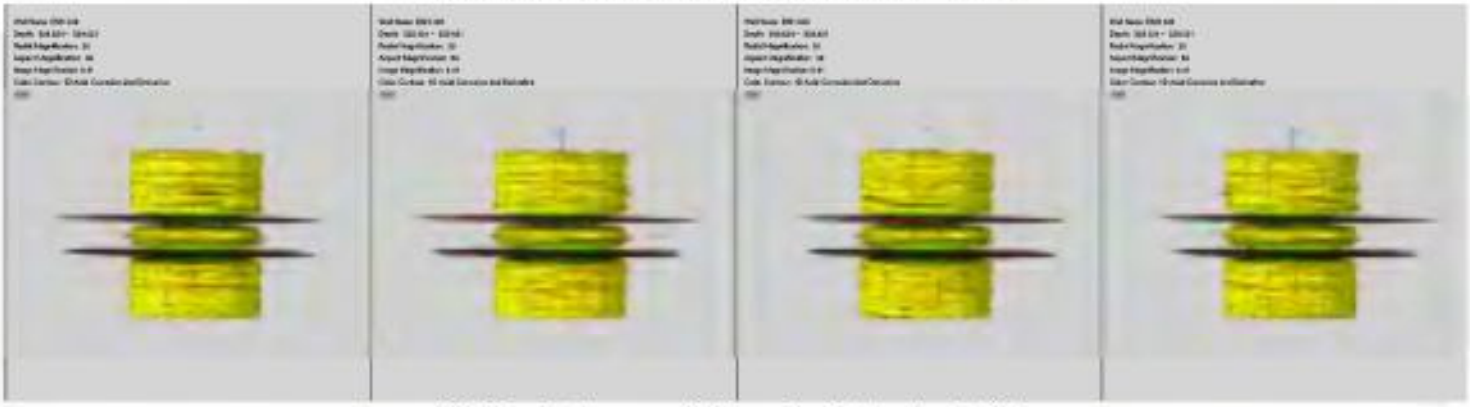
Collar between J040 and J041 at 503.7



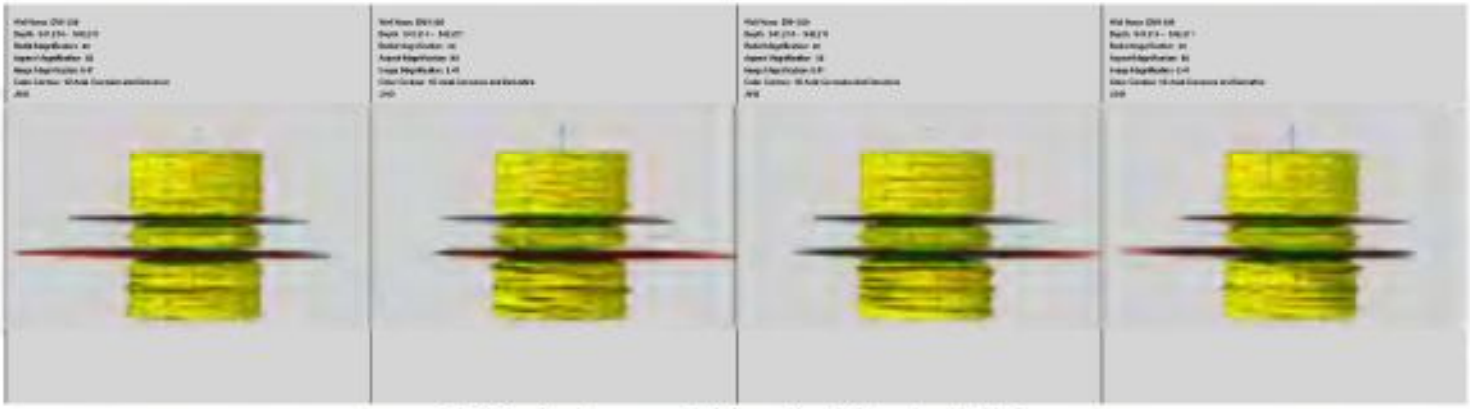
Collar between J041 and J042 at 515.5



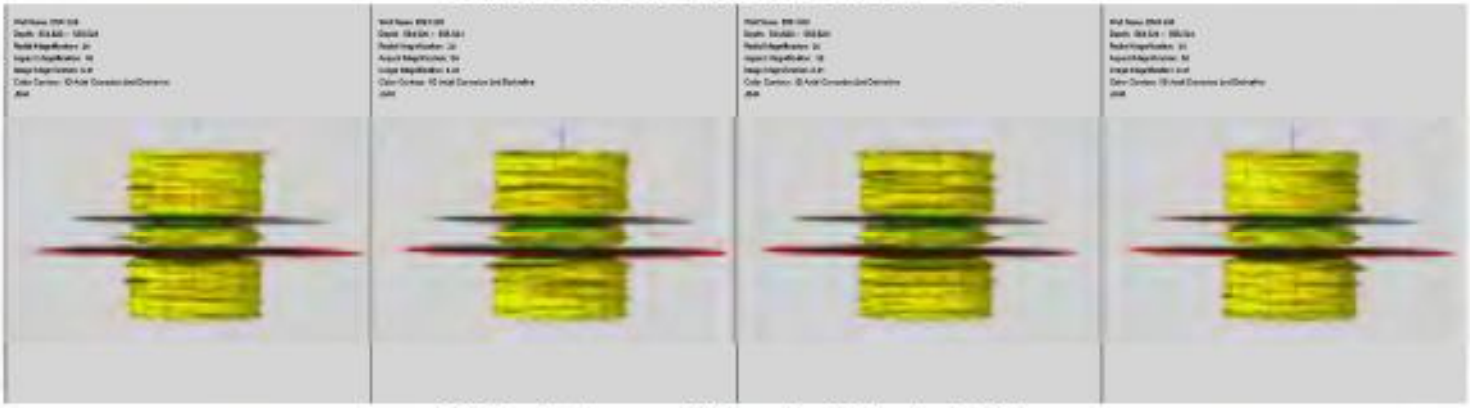
Collar between J042 and J043 at 529.1



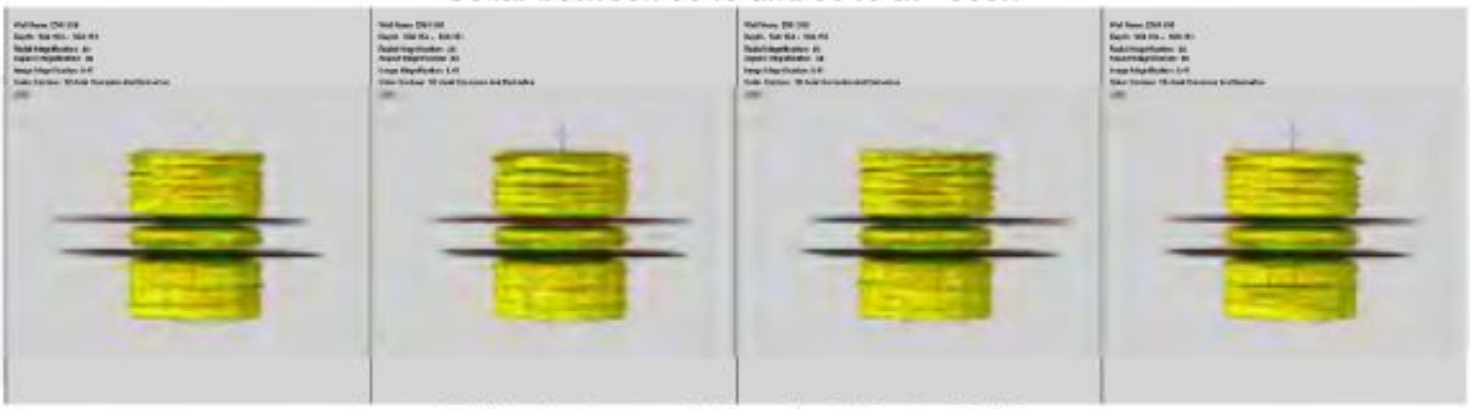
Collar between J043 and J044 at 541.7



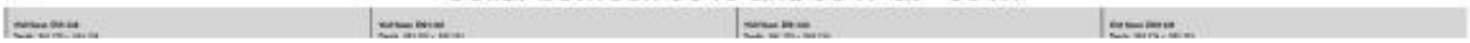
Collar between J044 and J045 at 555.0

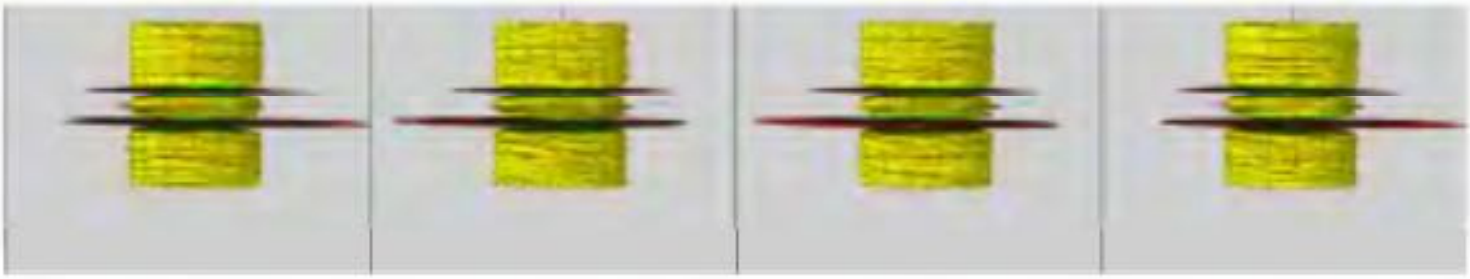


Collar between J045 and J046 at 568.7



Collar between J046 and J047 at 581.7





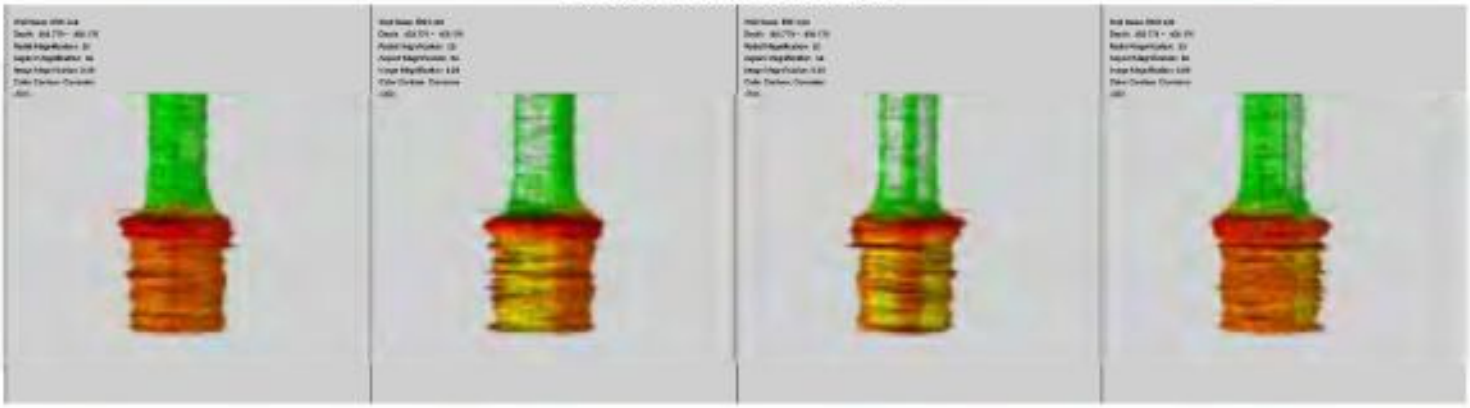
Hardware Summary

The following images are representations of the magnetic field as measured by the CIT instruments and are not intended to represent the actual physical shape of the object or defects portrayed.

This hardware has been removed from the penetration analysis presented.

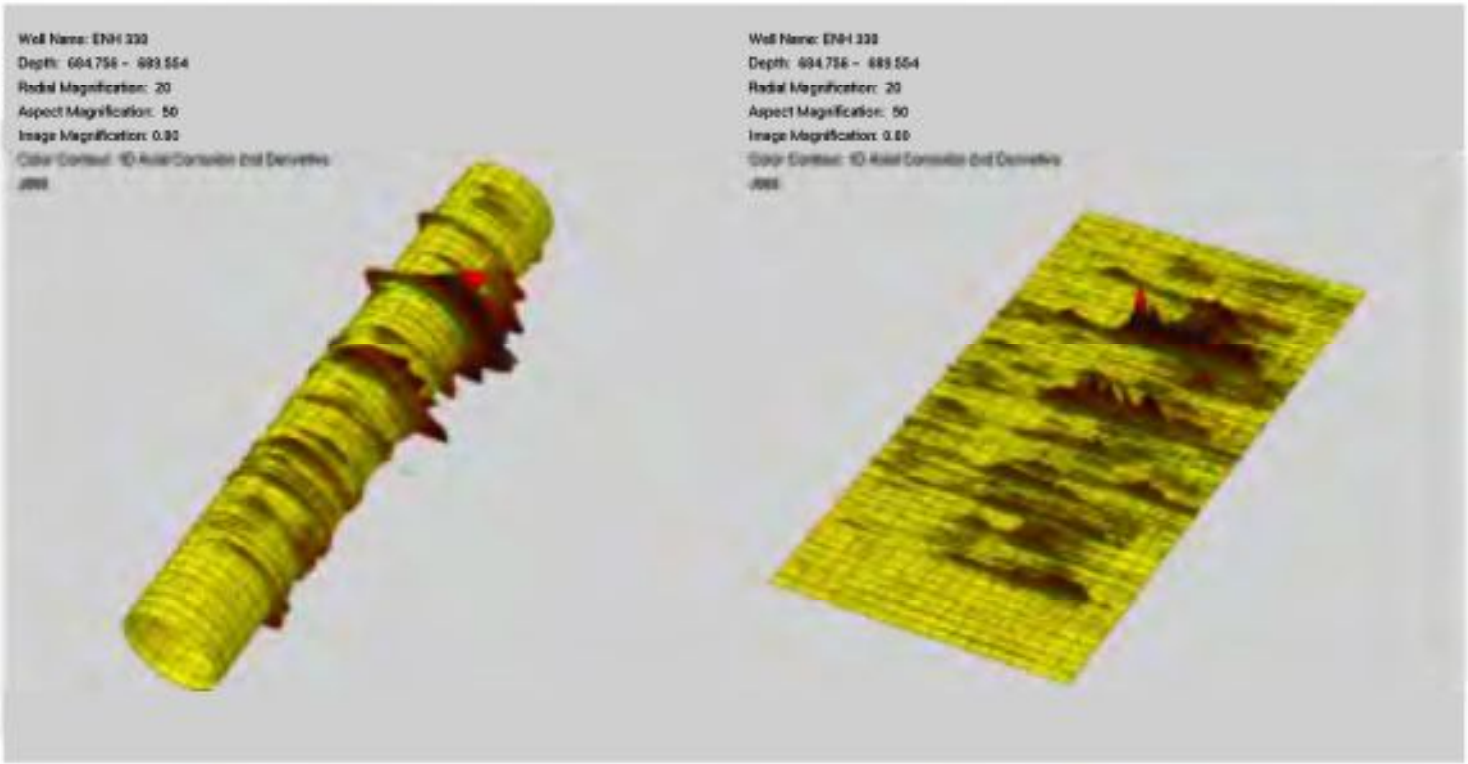
Included in the Hardware classification are external casing hardware such as scratchers and centralizers, in-string hardware such as orientation collars and cement staging tools, and internal build-ups of waxes and asphaltenes.

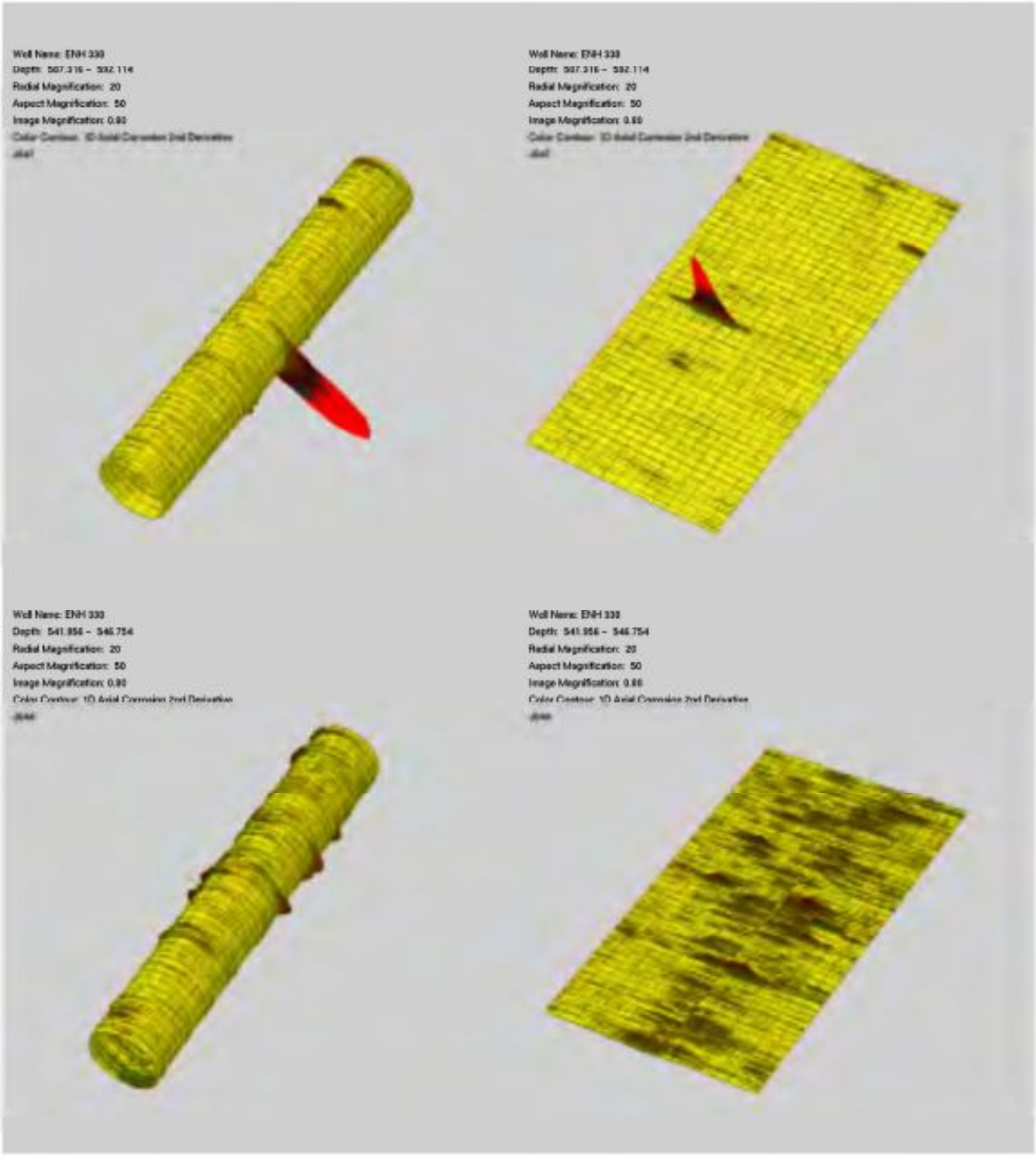
Classified as Hardware



Other Intervals of Interest

The following images are representations of the magnetic field as measured by the CIT instruments and are not intended to represent the actual physical shape of the object or defects portrayed.





COMPANIA YPF

POZO ENH-338

CAMPO ESCALANTE NORTE PAIS ARG.

Weatherford®

ENH-338

FORM PT-926002

Dresser Atlas Argentina

INDUCCION *Electroperfilaje*

Archivo No.	
1 : 200	
COMPAÑIA	Y. P. F.
POZO	YPF. Ch. Ha-338
ZONA	M. BEHR
ADM	C. RIVADAVIA — PROVINCIA CHUBUT
Coordenadas	x : 4.937.749.20 / y : 2.551.893.10 / z : 704.40
Otros Servicios	MPX / BHC-CAL / SWC

Base de medición NIVEL DE TERRENO Altura 704.40 — Alturas: Mesa 707.40

Perfil medido desde " ... Mts sobre la base — Base 704.40

Perforación medida desde "

Fecha	25-7-76			
Carrera No.	1			
Prof. Perforación	2700.0			
Profundidad Perfil	2693.3			
Primera Lectura (Fondo)	2692.0			
Ultima Lectura	406.5			
Cañeria Perforación	404.7			
Cañeria Perfil	406.5			
Diámetro del Pozo	8-3/4"			
Tipo de Inyección	BENTONITICA			
Densidad / Viscosidad	1080 / 45			
pH / Agua filtrada	9 / 7 cc	cc	cc	cc
Origen de la Muestra	ULT. CIRC.			
Rm @ Temp. Medida	5.0 @ 60 °F	@ °F	@ °F	@ °F
Rmf @ Temp. Medida	4.6 @ 60 °F	@ °F	@ °F	@ °F
Rmc @ Temp. Medida	2.8 @ 60 °F	@ °F	@ °F	@ °F
Origen de Rmf Rmc	BAROID PRESS			
Rm @ Temp. de Fondo	@ 195 °F	@ °F	@ °F	@ °F
Tiempo desde fin Circul.	04.00 Hs.			
Temp. Max. Fondo	195 °F	°F	°F	°F
[illegible]	HL-6007			
[illegible]	DE LA CALLE - BERZAQUEN			
[illegible]	MARTIN - [illegible]			

Este encabezamiento y este perfil conforman a lo recomendado por el A. P. I. R. P. 31

DOBLE AQUI

Observaciones:

Pozo de Avanzada Productivo

Cambios en inyección o muestras adicionales		
Fecha / Muestra No.		
Prof. Perforación		
Tipo de Inyección		
Dens. / Visc.		
pH / Agua Filtrada	cc	cc
Origen Muestra		
Rm	@ °F	@ °F
Rmf	@ °F	@ °F
Rmc	@ °F	@ °F
Origen Rmf / Rmc		
Rm @ Temp. Fondo	@ °F	@ °F
Rmf @ Temp. Fondo	@ °F	@ °F
Rmc @ Temp. Fondo	@ °F	@ °F

Cambios de Escalas

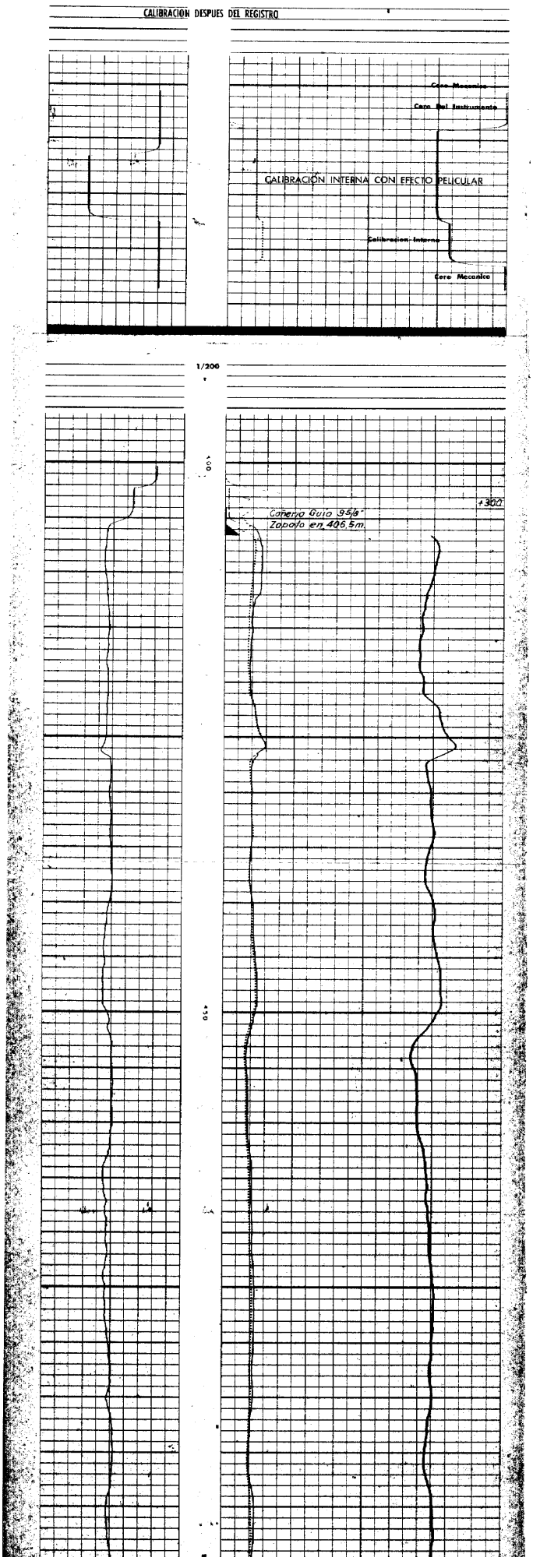
Tipo Perfil	Prof.	Escalas hacia arriba	Escala hacia abajo

Características de los Equipos

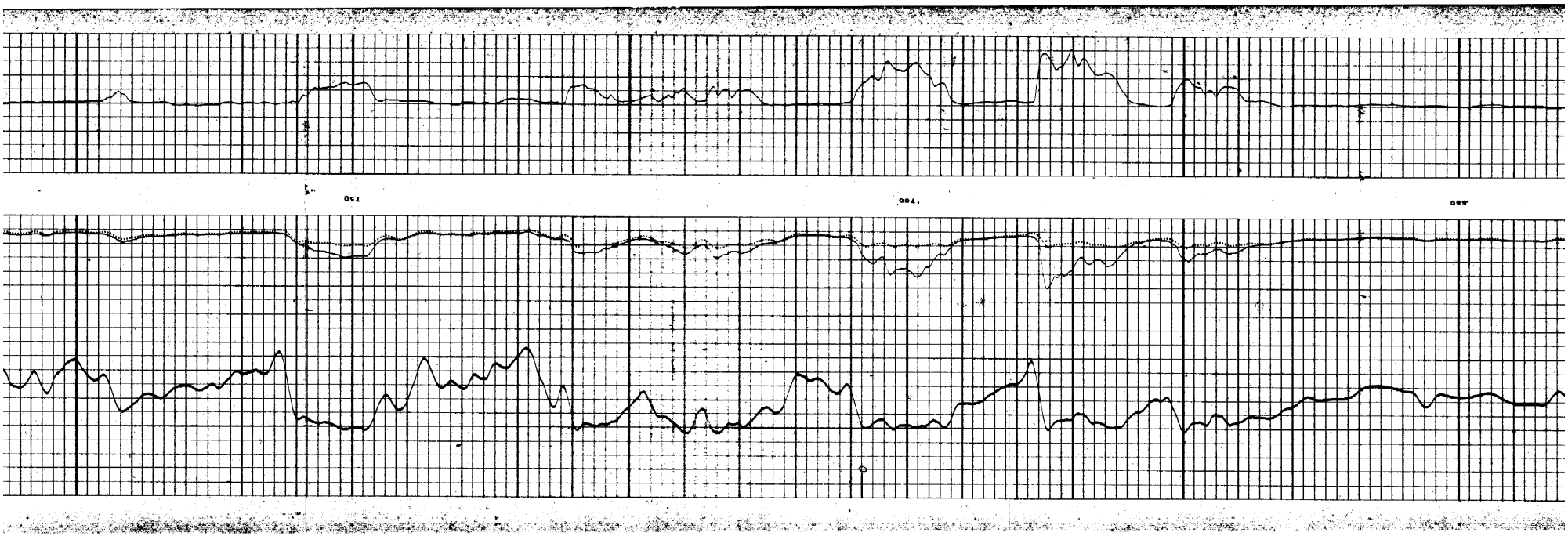
Carrera Nº	Tipo de Instrumento	Tipo de Alambrilla	Posición Herram.	Tablero	Sonda	Cartucho
1	806M			3-3	169	169

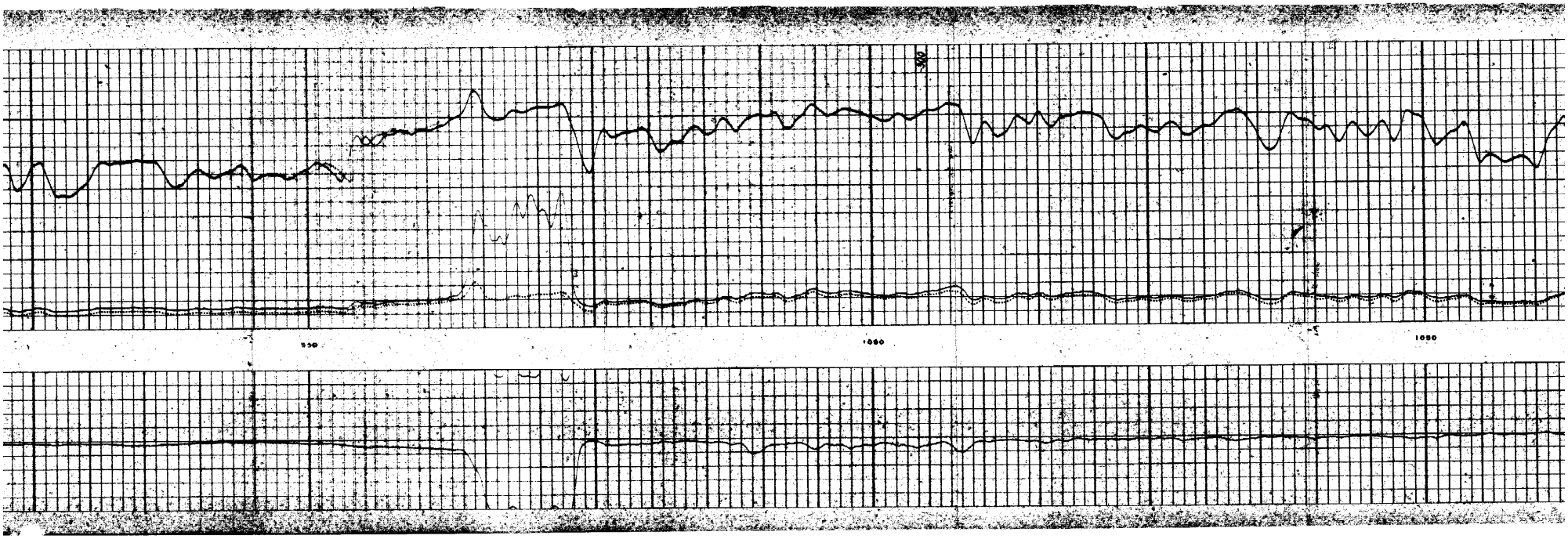
POTENCIAL ESPONTANEO MILIVOLTIOS	PROFUNDIDAD	RESISTIVIDAD OHMIOS M²/M	CONDUCTIVIDAD MILIMHOS/M
− 10 +		NORMAL CORTA: 0 … 10; 0 … 100. RESISTIVIDAD INDUCCION: 0 … 10; 0 … 100	CONDUCTIVIDAD INDUCCION: 1000 … 0

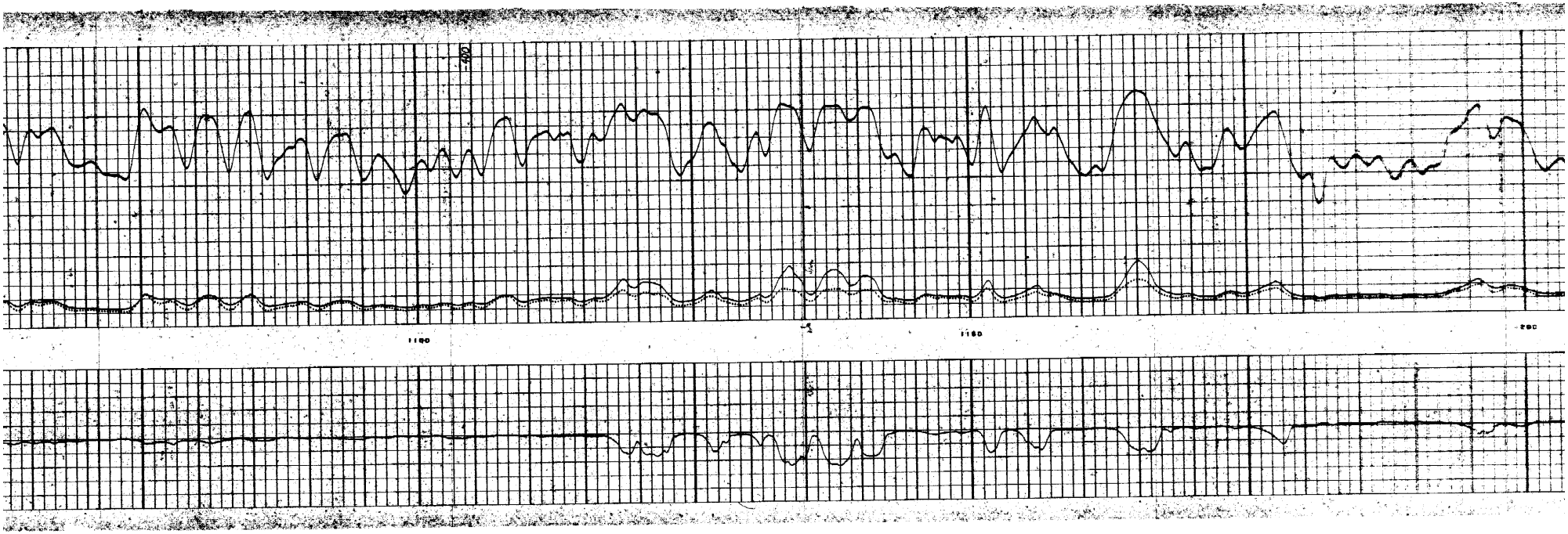
Perf. I. 4-7-76
T. 28-7-76
Term. I. 28-9-76
T. 7-10-76

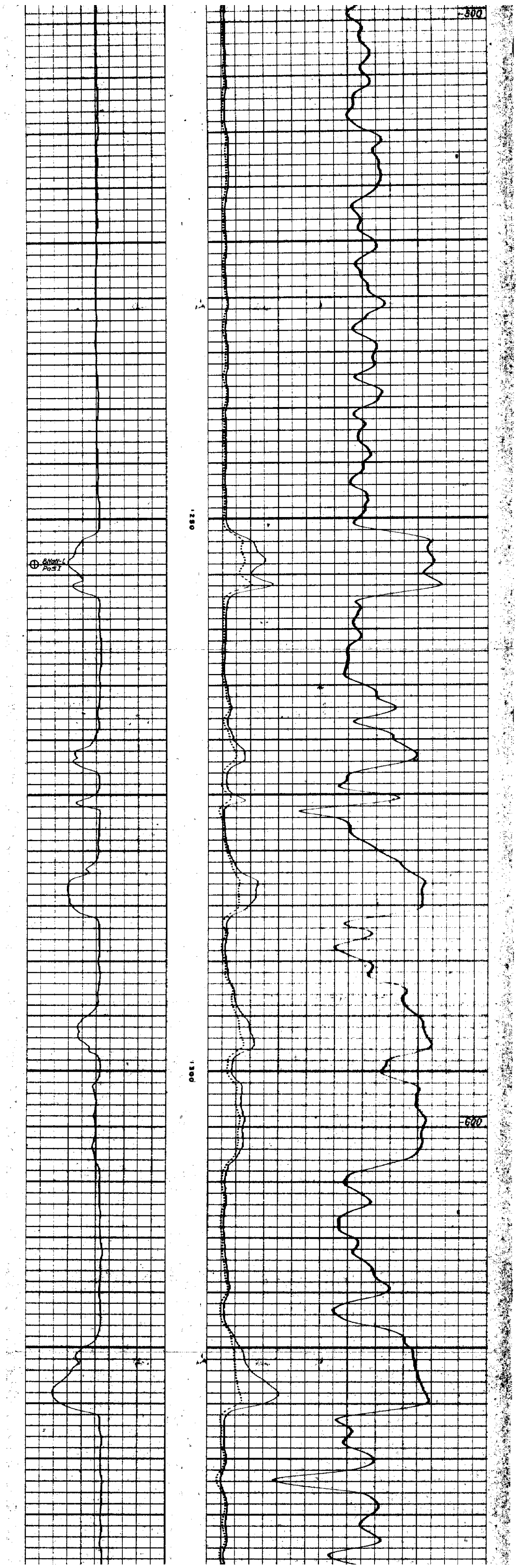

CALIBRACION DESPUES DEL REGISTRO
Cero Mecanico
Cero Del Instrumento
CALIBRACIÓN INTERNA CON EFECTO PELICULAR
Calibracion Interna
Cero Mecanico
1/200
100
150
300
Cadena Guia 9.5/8
Zapato en 406.5m.


+200
+100
100
550
600

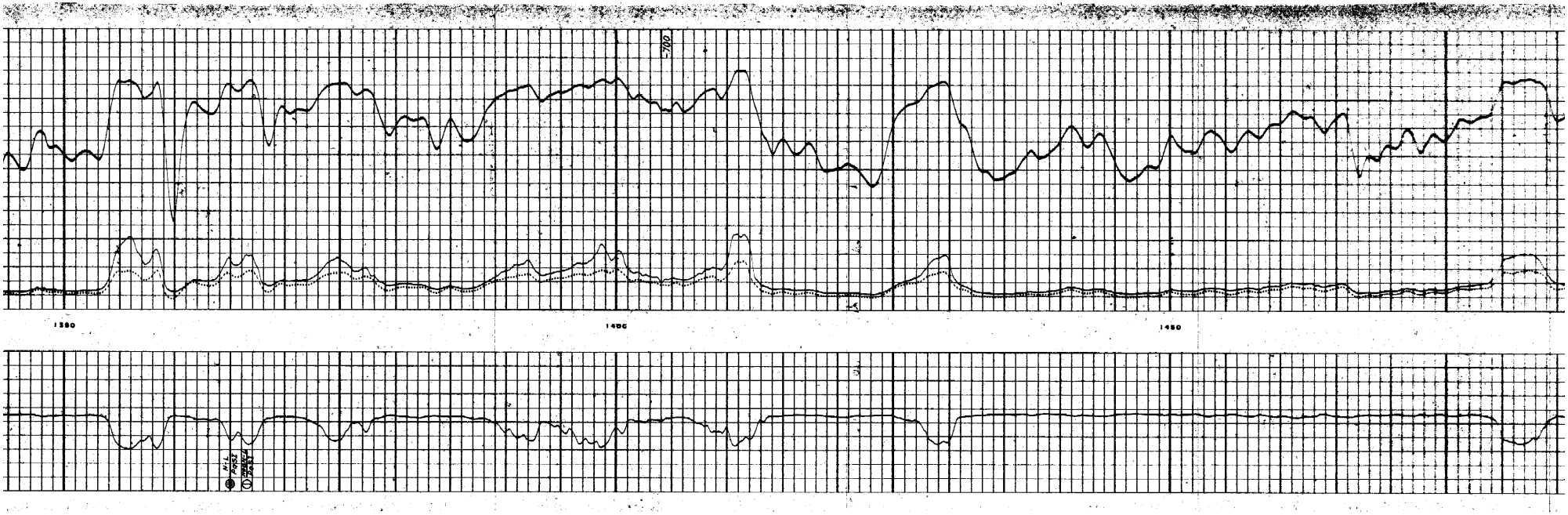

750
700
650

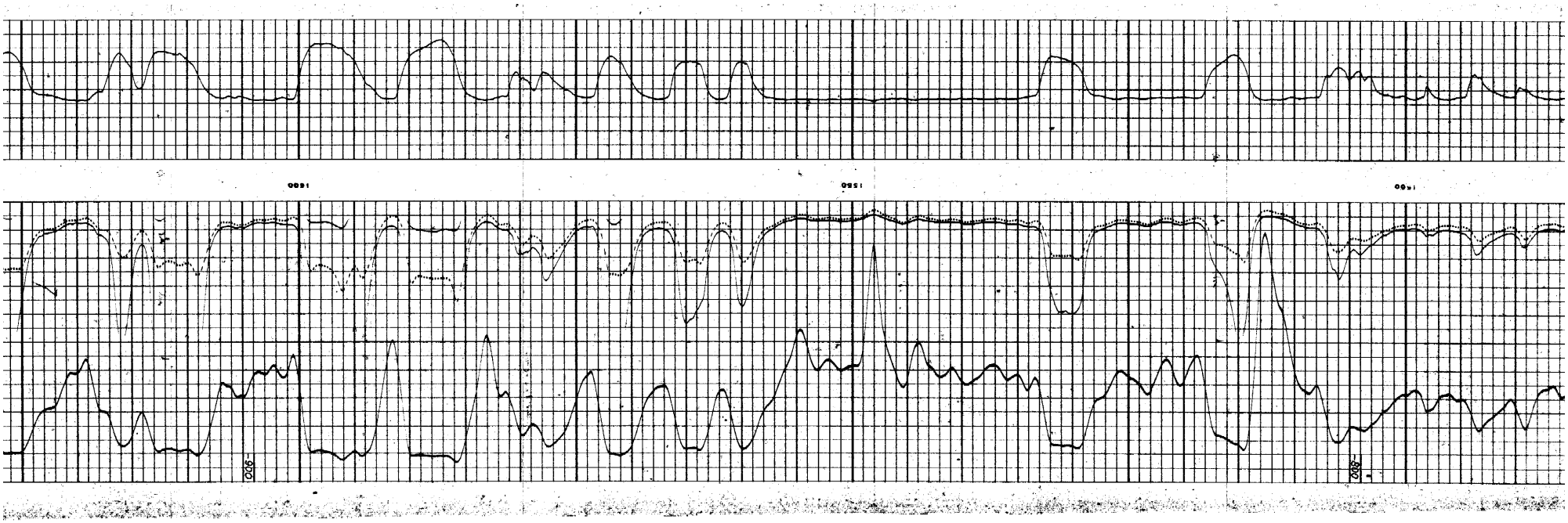

300
550
1000
1050

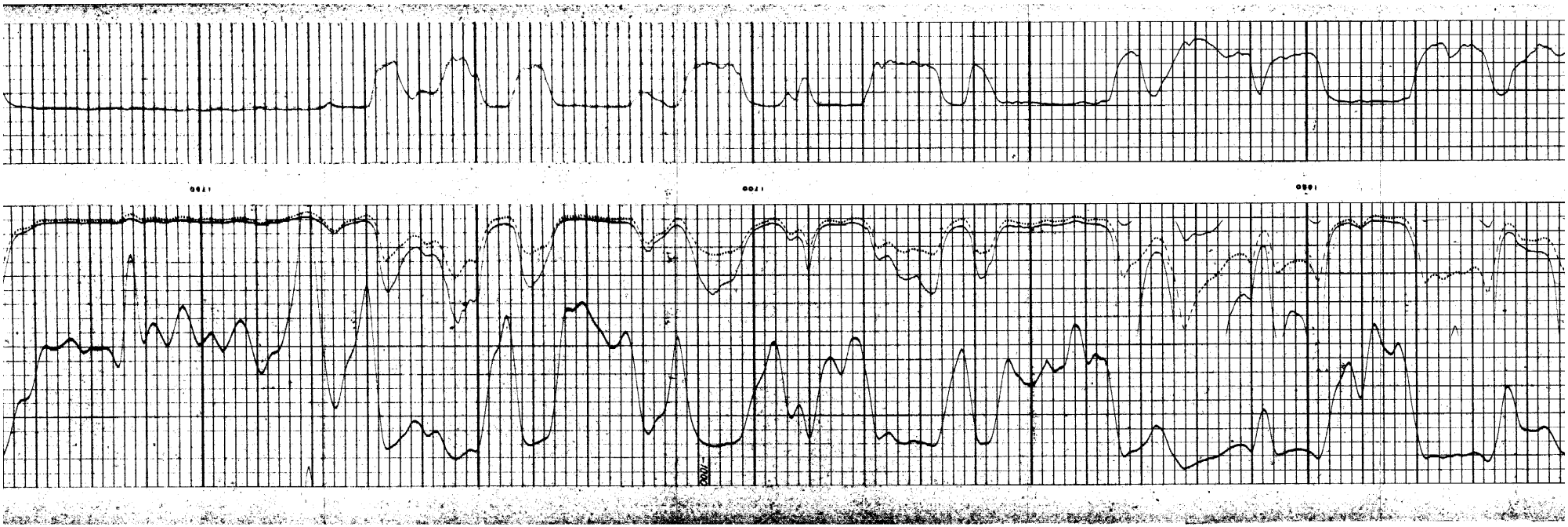

400
1150
1150
200

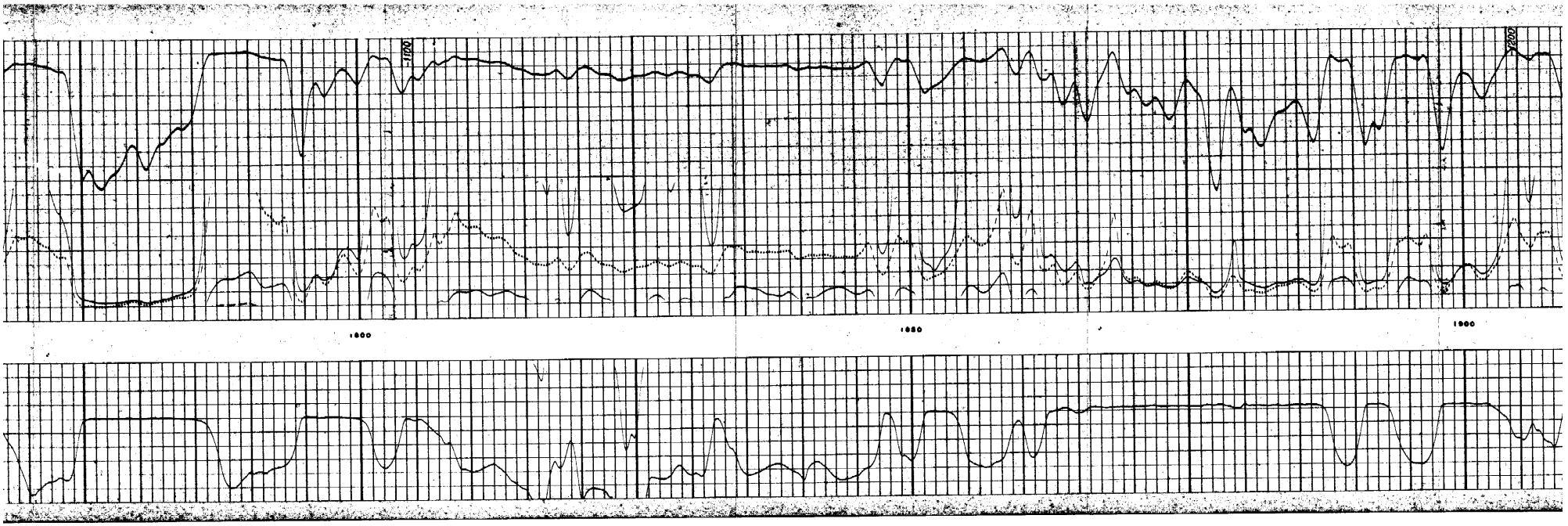


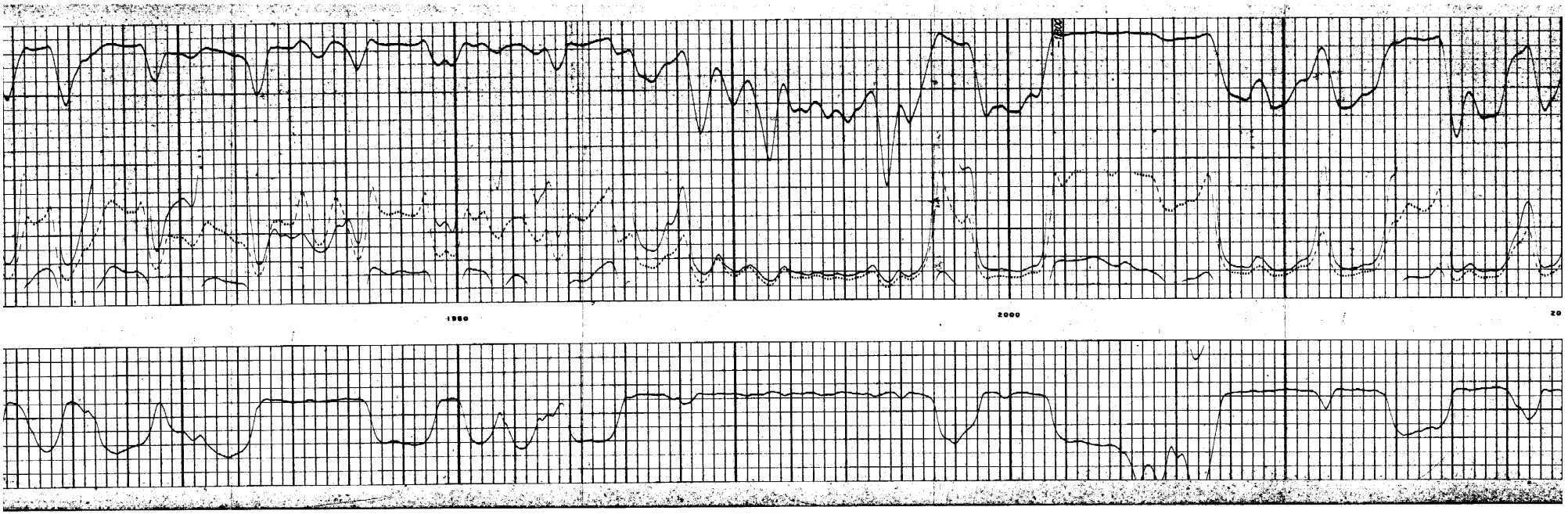
-500
-600


-700
1350
1400
1450

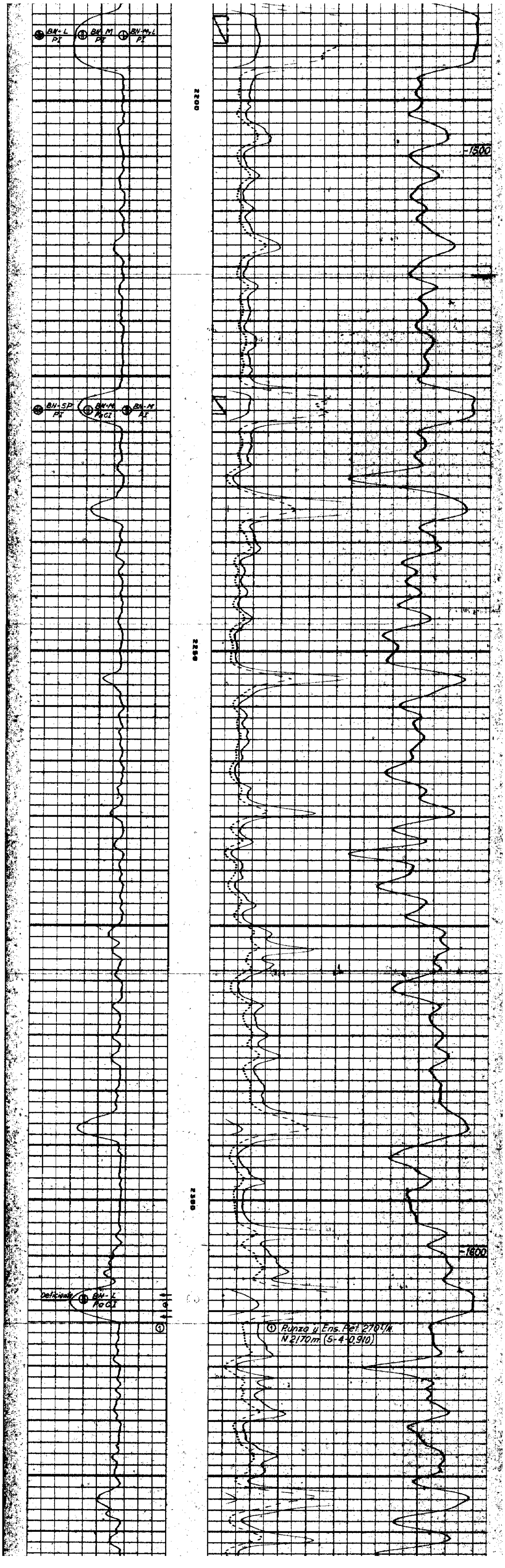

1600
1580
1560
-900
-800

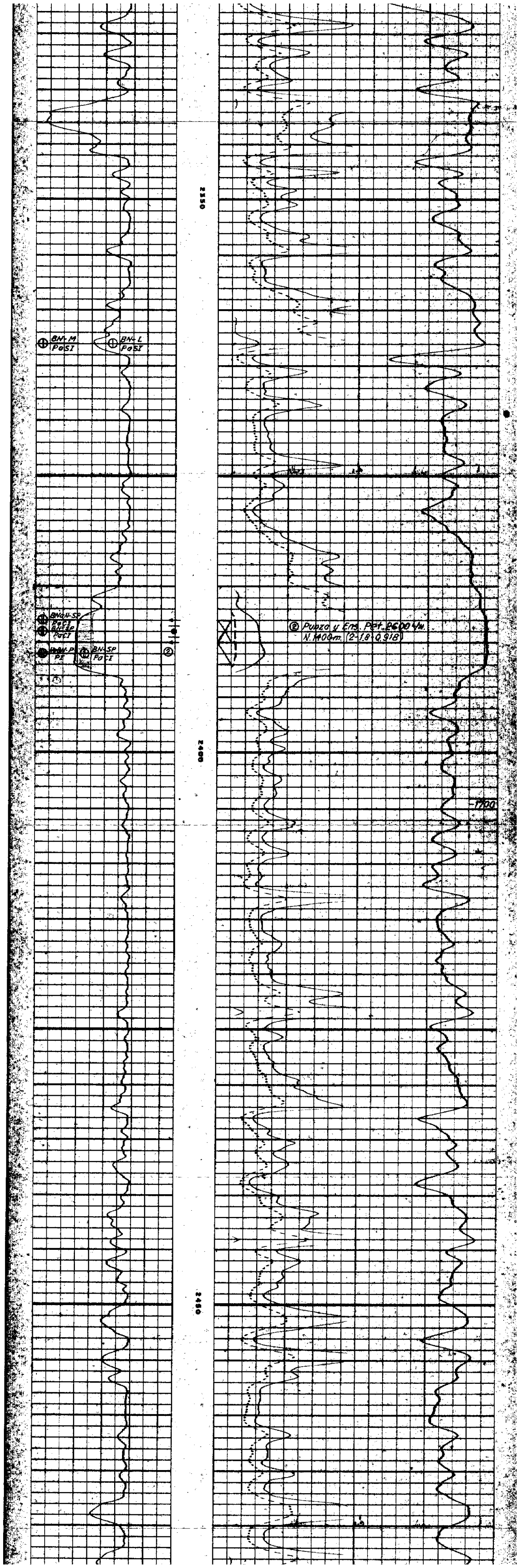

A

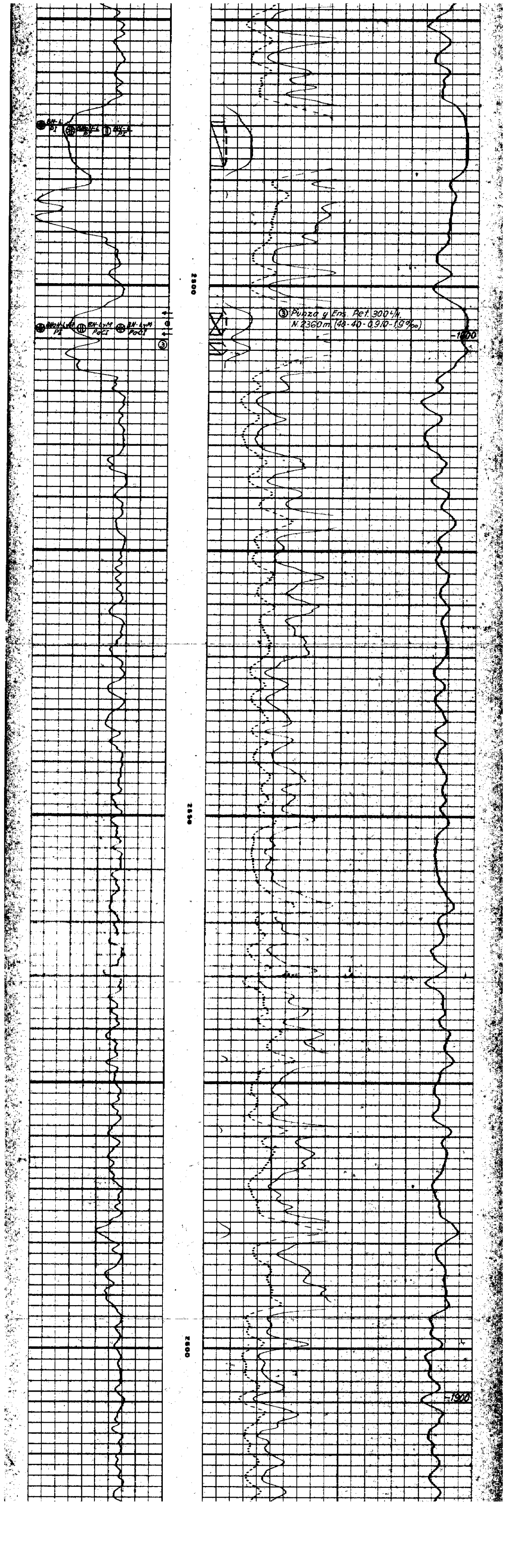

1700
1800
1850
1900


1980
2000
20

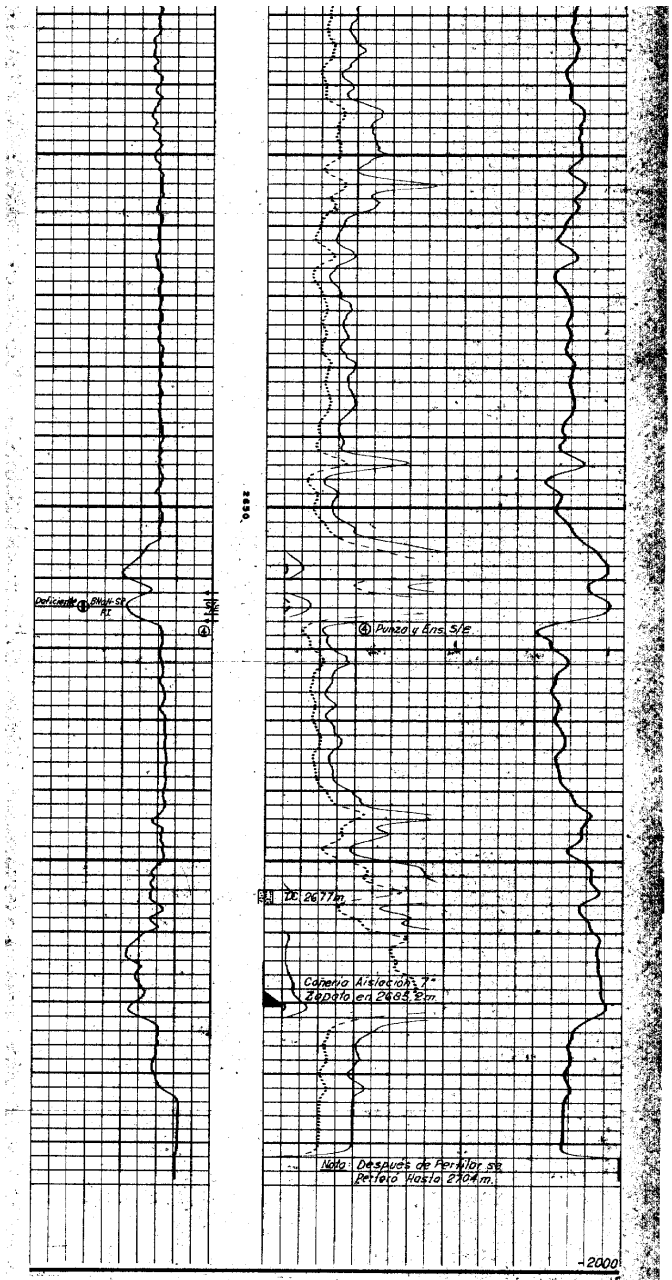

2100
2150


BN-L PI
BN-M PI
BN-M-L PI
2200
-1500
BN-SP PI
BN-M PaCI
BN-M PI
2250
2300
-1600
Deficiente
BN-L PaCI
① Punzo y Ens. Pet. 270 l/h.
N 2170m (5-4-0,910)


2350
BN-M PoSI
BN-L PoSI
② Punzo y Ens. Pet. 2600 l/h.
N. 1400 m. (2-1.8-0.918)
2400
-1700
2450



2500
③ Punzo y Ens. Pet. 300 l/h.
N.2360 m (40-40-0,910-1,9‰)
2550
2600
-1900

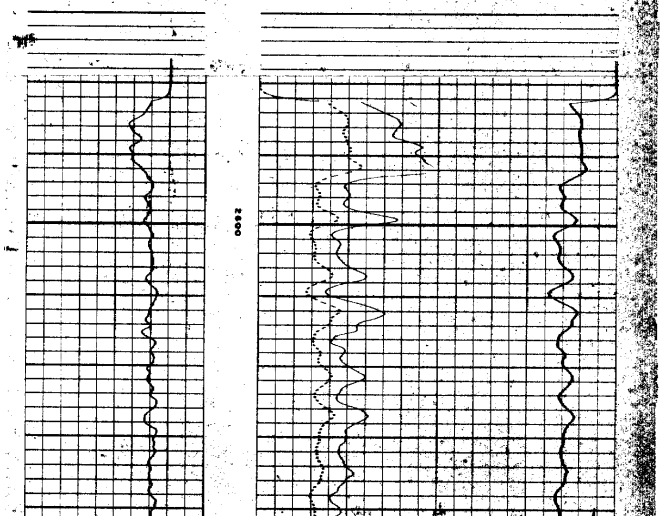


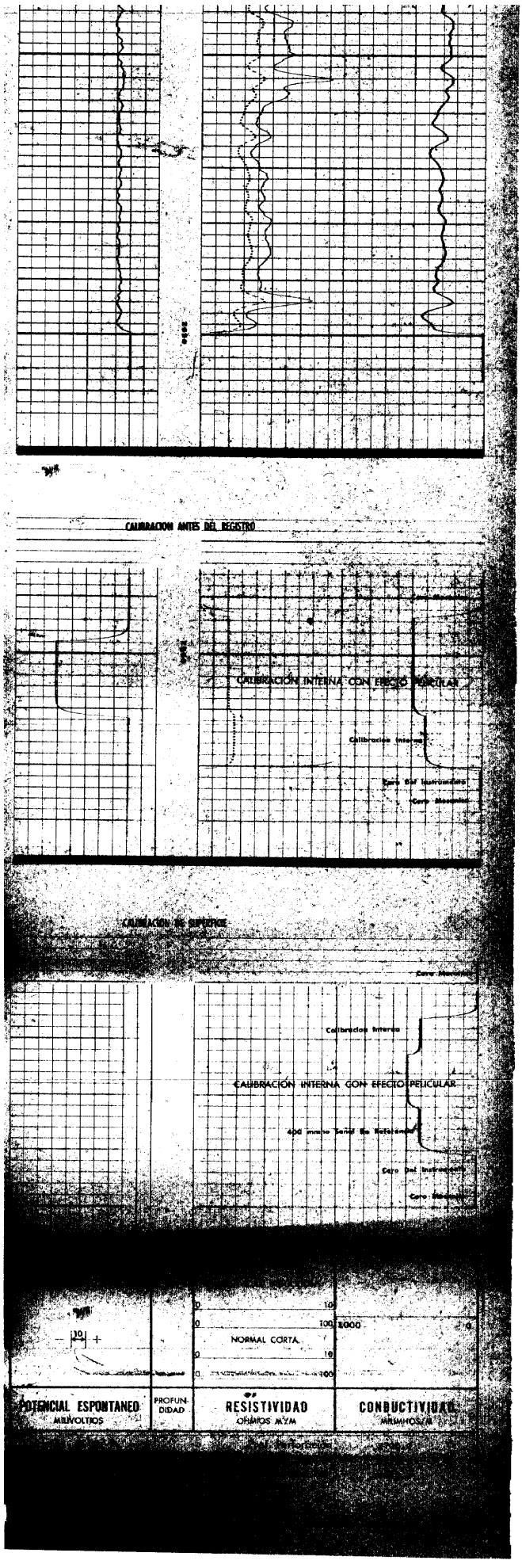
YPF. Ch.H.o-338 Profundidad Final = 2704 m. (-2000) m.

Pozo de Avanzada Productivo

Dibujó	Revisó	Geólogo	Jefe Minería y Geología
J.I. 4-3-77			

TRAMO REPETIDO




CALIBRACION ANTES DEL REGISTRO
CALIBRACIÓN INTERNA CON EFECTO PELICULAR
Calibracion Interna
Cero Del Instrumento
Cero Mecanico
CALIBRACION DE SUPERFICIE
Cero Mecanico
Calibracion Interna
CALIBRACIÓN INTERNA CON EFECTO PELICULAR
400 mmho Señal De Referencia
Cero Del Instrumento
Cero Mecanico
NORMAL CORTA
POTENCIAL ESPONTANEO
MILIVOLTIOS
PROFUN-
DIDAD
RESISTIVIDAD
OHMIOS M²/M
CONDUCTIVIDAD
MILIMHOS/M