Schlumberger

Compania: **YPF S.A.**

Pozo: **YPF.Ch.RA-214**
Campo: **RESTINGA ALI**
Provincia: **CHUBUT** Pais: **ARGENTINA**

CONTROL DE CEMENTO
CBL VDL CNL CCL
1/200

LOCACION
Provincia: CHUBUT
Campo: RESTINGA ALI
Locacion: CAS
Pozo: YPF.Ch.RA-214
Compania: YPF S.A.

CAS
X:4.945.269,35
Y:2.614.169,55

Elev.: B.V. 466.58 m
N.T. 462.03 m
M.R. 466.28 m

Ref. Permanente: NIVEL DE TERRENO Elev.: 462.03 m
Reg. Medido Desde: NIVEL DE TERRENO 0.0 m sobre Ref. Permanente
Perforacion Medida Desde: NIVEL DE TERRENO

Equipo	Desviacion Maxima del Hoyo	Longitud X:4.945.269,35	Latitud Y:2.614.169,55

Fecha de Registro	31-Aug-2005	
Corrida Numero	1	
Prof. Perforador	1200 m	
Prof. Schlumberger	1167 m	
Primera Lectura	1167 m	
Ultima Lectura	690 m	
Tipo de Fluido en la Caneria	AGUA	
Salinidad		
Densidad	1 g/cm3	
Nivel del Fluido	0 m	
BROCA/CANERIA/TUBERIA		
Broca	8.500 in	
Desde	0 m	
Hasta	309.6 m	
Caneria / Tuberia	5.500 in	
Peso	14 lbm/ft	
Grado		
Desde	0 m	
Hasta	1200 m	
Temperaturas Maximas Medidas	55 degC	
Registro en Fondo / Hora	31-Aug-2005	21:00
Unidad Numero / Locacion	8116 / CAS	
Registrado por	D.PEROTTI	
Testigo	R.YAUCO	

DATOS PVT

	Corrida 1	Corrida 2	Corrida 3	Corrida 4
Densidad del Crudo				
Salinidad del Agua				
Gravedad del Gas				
Bo				
Bw				
1/Bg				
Presion del Punto de Burbuja				
Temperatura del Punto de Burbuja				
GOR en Solucion				
Desviacion Maxima				
DATOS DE CEMENTACION				
Primaria/Reparacion	Primary			
Sarta de la Caneria No.				
Tipo de Cemento Primario				
Volumen				
Densidad				
Perdida de Agua				
Aditivos				
Tipo de Cemento Cola				
Volumen				
Densidad				
Perdidad de Agua				
Aditivos				
Tope de Cemento Esperado				
Fecha de Registro				
Corrida Numero				
Prof. Perforador				
Prof. Schlumberger				
Primera Lectura				
Ultima Lectura				
Tipo de Fluido en la Caneria				
Salinidad				
Densidad				
Nivel del Fluido				
BROCA/CANERIA/TUBERIA				
Broca				
Desde				
Hasta				
Caneria / Tuberia				
Peso				
Grado				
Desde				
Hasta				
Temperaturas Maximas Medidas				
Registro en Fondo / Hora				
Unidad Numero / Locacion				
Registrado por				
Testigo				

DEPTH SUMMARY LISTING

Date Created: 25-APR-2004 15:28:43

Depth System Equipment

Depth Measuring Device		Tension Device		Logging Cable	
Type:	IDW-B	Type:	CMTD-B/A	Type:	7-46P
Serial Number:	824	Serial Number:	1689	Serial Number:	77353
Calibration Date:		Calibration Date:	3-Ene-2004	Length:	6985.10 M
Calibrator Serial Number:		Calibrator Serial Number:	1077		
Calibration Cable Type:	7-46P	Calibration Gain:	1.00	Conveyance Method:	Wireline
Wheel Correction 1:	-2	Calibration Offset:	0.00	Rig Type:	LAND
Wheel Correction 2:	-2				

Depth Control Parameters

Log Sequence:	Subsequent Log In the Well
Reference Log Name:	Combinada
Reference Log Run Number:	1
Reference Log Date:	19-Aug-2005

Depth Control Remarks

1. IDW usado como sistema de profundidad primario.
2.
3.
4.
5.
6.

LIMITACION DE RESPONSABILIDAD
LA UTILIZACION Y CONFIANZA EN LOS DATOS AQUI GRABADOS POR PARTE DE LA NOMBRADA COMPANIA (Y POR CUALQUIERA DE SUS SUBSIDIARIAS, AFILIADAS, REPRESENTANTES, AGENTES, CONSULTORES Y EMPLEADOS) ESTA SUJETA A LOS TERMINOS Y CONDICIONES ACORDADOS ENTRE SCHLUMBERGER Y LA COMPANIA, INCLUYENDO: (a) RESTRICCIONES EN EL USO DE LOS DATOS GRABADOS; (b) LIMITACION DE RESPONSABILIDAD Y REVOCACION DE GARANTIAS EN RELACION A LA UTILIZACION Y CONFIANZA EN LOS DATOS GRABADOS POR PARTE DE LA COMPANIA, Y (c) LA SOLA Y TOTAL RESPONSABILIDAD DEL CLIENTE POR CUALQUIER INTERPRETACION HECHA O DECISION BASADA EN EL USO DE ESTOS DATOS.

OTROS SERVICIOS #1	OTROS SERVICIOS #2
OS1: PUNZADO 4"	OS1:
OS2: RISTRA 1.11/16"	OS2:
OS3: CBL	OS3:
OS4:	OS4:
OS5: P.INT-246	OS5:

OBSERVACIONES: CORRIDA #1	OBSERVACIONES: CORRIDA #2
-Perfil de correlacion de cia.Schlumberger del dia 19-Aug-2005	
-Herramienta corrida segun diagrama	
-Sonico centralizado con tres gemcos de 5.5"	
-Primer tramo de registro sin correccion de profundidad	
-Perfil corrido con 1000 Psi en boca de pozo	
-Fondo constatado 1167 Mtrs	

CORRIDA #1

ORDEN DE SERVICIO:
VERSION DEL PROGRAMA: 13C0-300
NIVEL DEL FLUIDO: 0 m

INTERVALO REGISTRADO	COMIENZO	FINAL

CORRIDA #2

ORDEN DE SERVICIO:
VERSION DEL PROGRAMA:
NIVEL DEL FLUIDO:

INTERVALO REGISTRADO	COMIENZO	FINAL

DESCRIPCION DEL EQUIPO

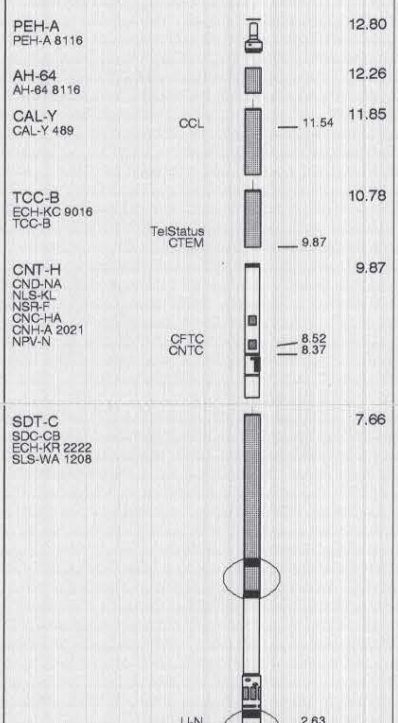
CORRIDA #1 | CORRIDA #2

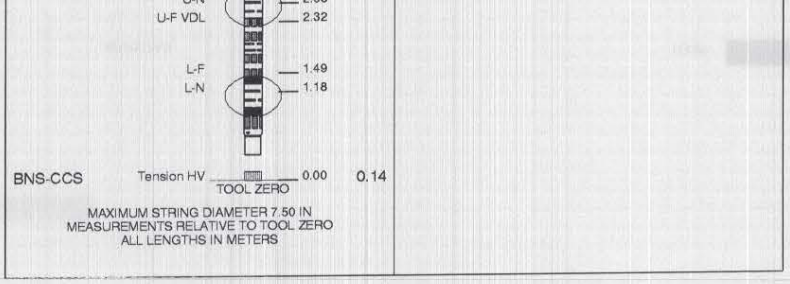
SURFACE EQUIPMENT

WITM (CTS)-A

STM-C
CNB-AB
NCT-B
NCS-VB

DOWNHOLE EQUIPMENT





MAXIS EXPRESS

Schlumberger

TRAMO PRINCIPAL CON 1000 PSI

Company: Well:

Input DLIS Files

DEFAULT	SONIC_CNL_040LUP	FN:39	PRODUCER	31-Aug-2005 20:40	1173.0 M	672.7 M

Output DLIS Files

DEFAULT	SONIC_CNL_041PUP	FN:40	PRODUCER	31-Aug-2005 21:46	1173.0 M	673.2 M

OP System Version: 13C0-300

MCM

SDT-C	13C0-300	CNT-H	13C0-300
TCC-B	13C0-300	CAL-Y	13C0-300

PIP SUMMARY

Time Mark Every 60 S

Transit Time (Sliding Gate) (TTSL) 400 (US) 200

Fluid Compensated CBL Amplitude (CBLF) 0 (MV) 10

Transit Time (TT) 400 (US) 200

Far Thermal Counts (CFTC) 0 (CPS) 1500

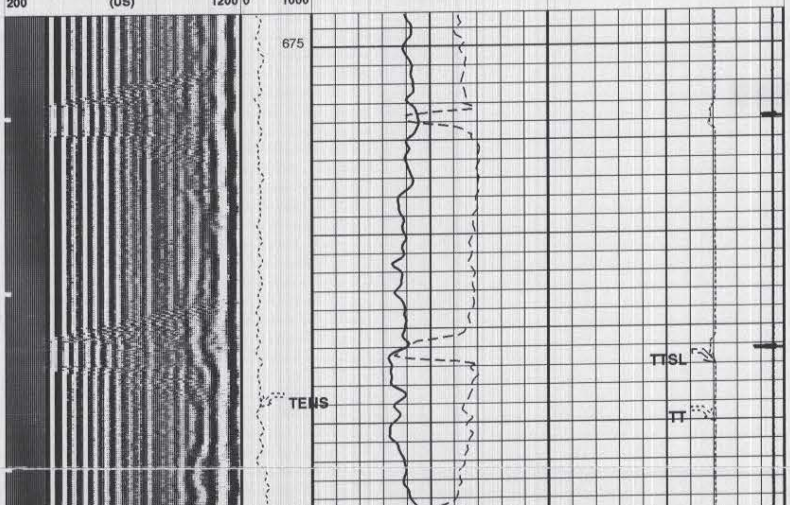
Min Amplitude Max

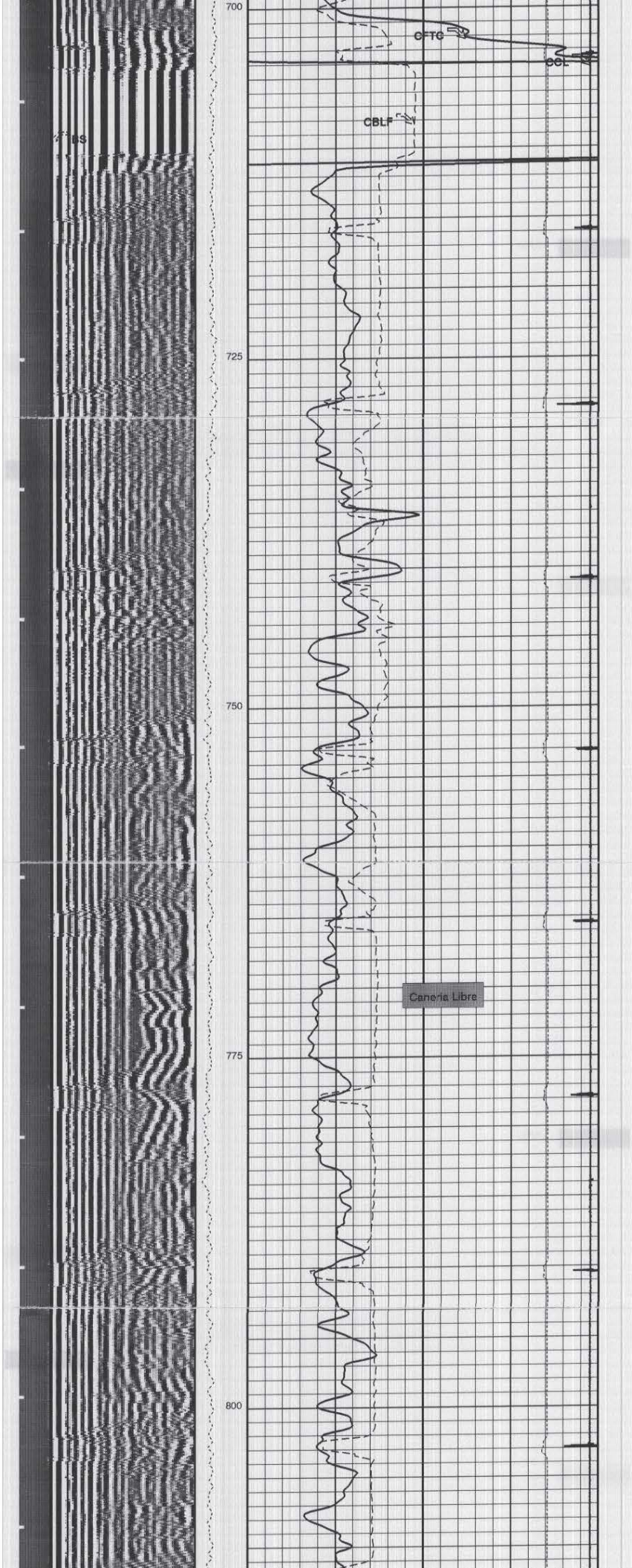
VDL VariableDensity (VDL) 200 (US) 1200

Tension (TENS) (LBF) 0 1000

Fluid Compensated CBL Amplitude (CBLF) 0 (MV) 100

Casing Collar Locator (CCL) -19 (----) 1

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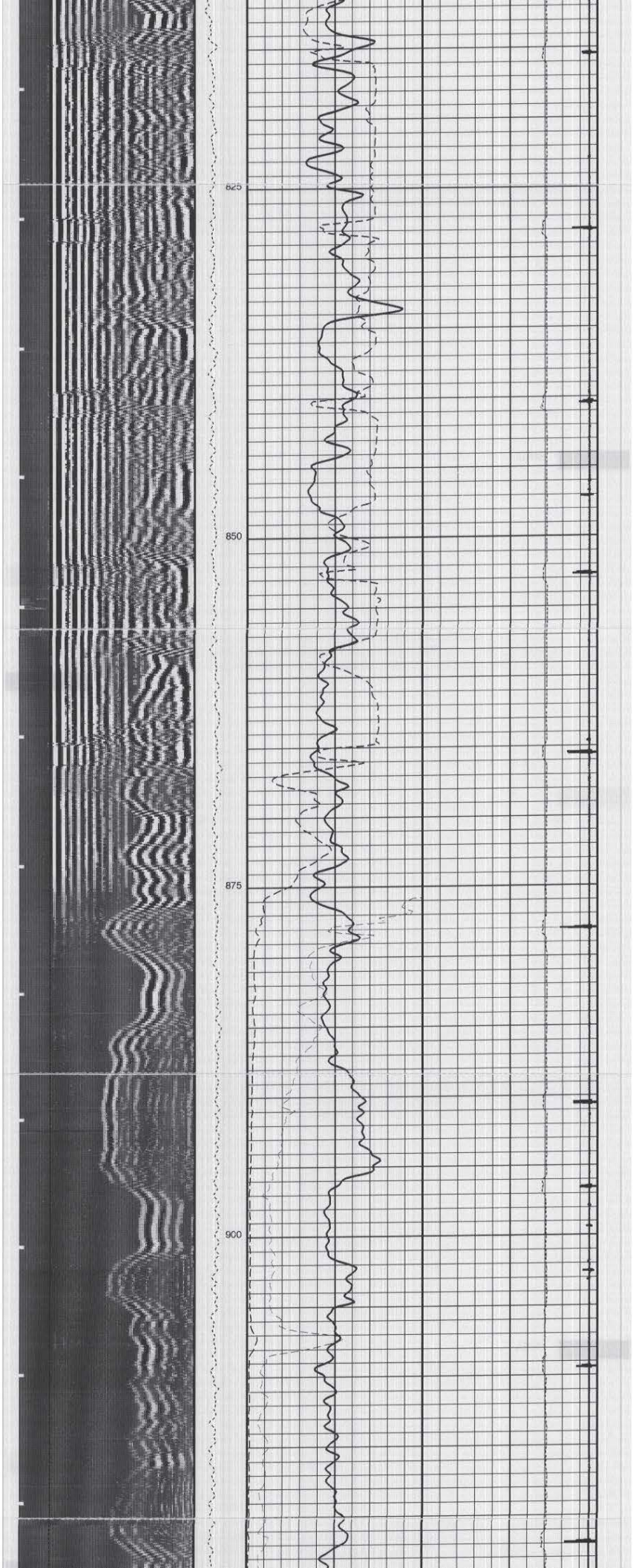
CFTC
CCL
CBLF
725
750
775
800
Caneria Libre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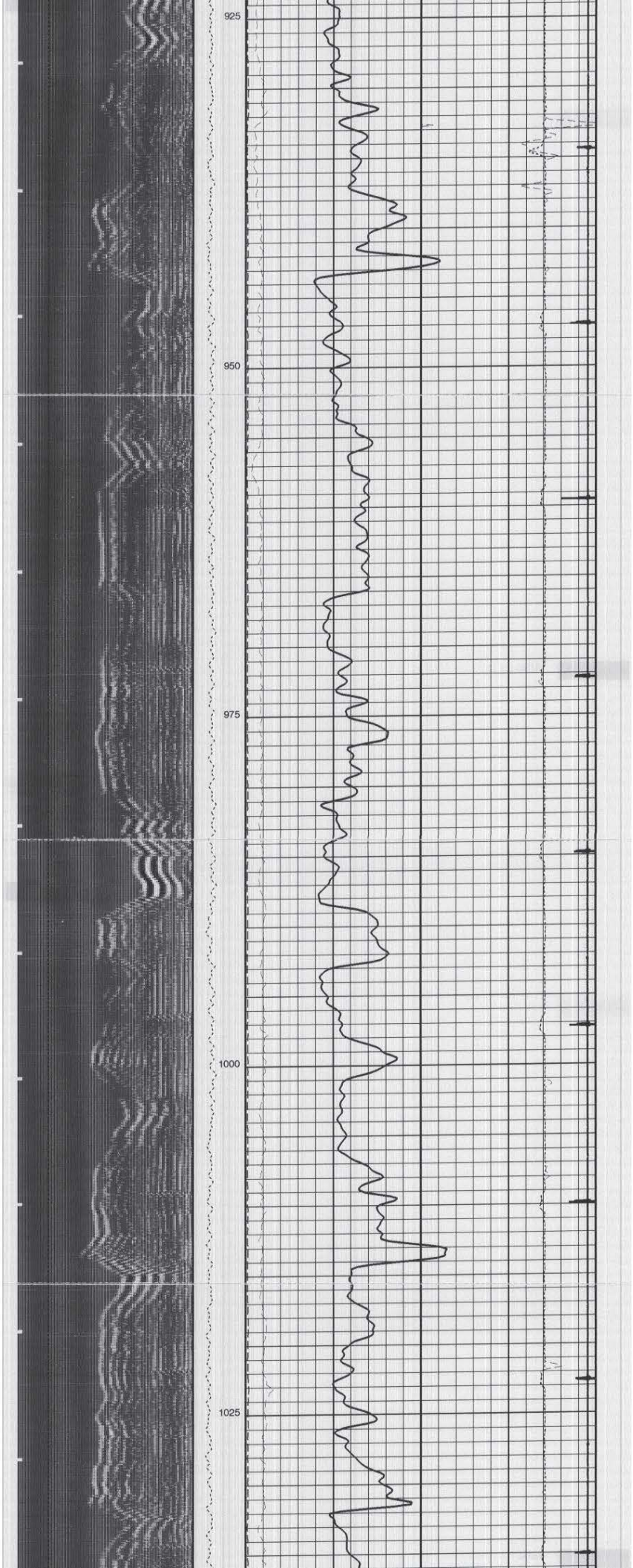
875
900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1000
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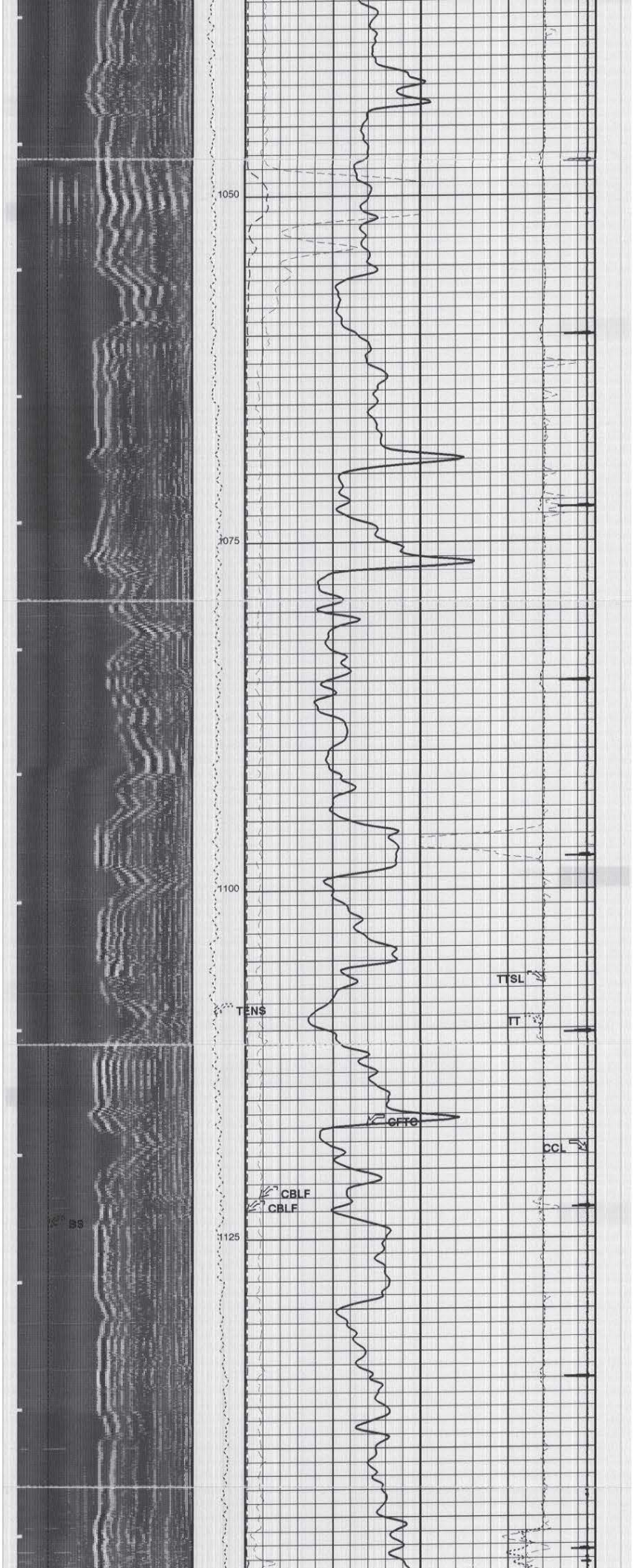
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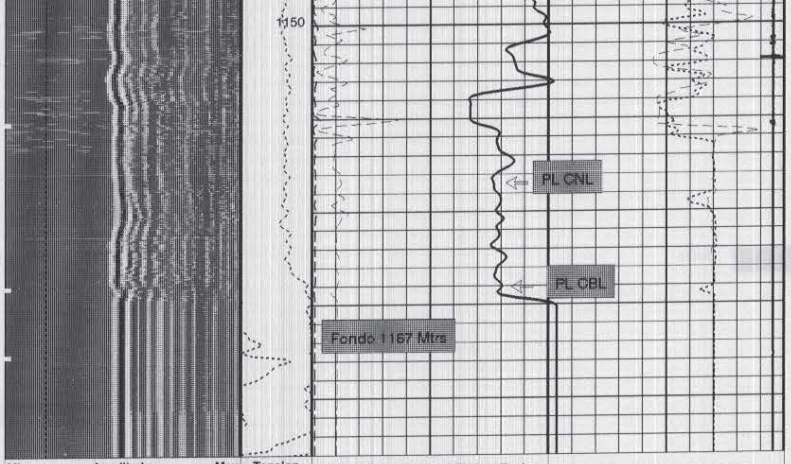
TENS
TTSL
TT
CCL
CBLF
CBLF
BS



Min Amplitude Max | Tension (TENS) (LBF) 0 1000 | Fluid Compensated CBL Amplitude (CBLF) 0 (MV) 100 | Casing Collar Locator (CCL) -19 (----) 1

VDL VariableDensity (VDL) 200 (US) 1200

Far Thermal Counts (CFTC) 0 (CPS) 1500

Fluid Compensated CBL Amplitude (CBLF) 0 (MV) 10 | Transit Time (TT) 400 (US) 200

Transit Time (Sliding Gate) (TTSL) 400 (US) 200

PIP SUMMARY

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value	
	SDT-C: Sonic Digital - C		
AGC	Automatic Gain Control	ON	
AMSG	Auxilliary Minimum Sliding Gate	140	US
ASGL	Auxilliary Minimum Sliding Gate Width	100	US
BILI	Bond Index Level for Zone Isolation	0.8	
CBLG	CBL Gate Width	40	US
CDDEL	Digitizing Delay (Acq Monitor Checked)	200	US
CDSIN	Digitizer Sample Interval (Acq Monitor Checked)	DS10	
CDTS	C-Delta-T Shale	100	US/F
CDWCO	Digitizer Word Count (Acq Monitor Checked)	500	
CRMOD	Receiver Mode (Acq Monitor Checked)	B	
CSTR	Compressive Strength of Cement	13789.5	KPAA
CVDLM	VDL Firing Mode (Acq Monitor Checked)	UTFR	
CWMOD	Waveform Firing Mode (Acq Monitor Checked)	NONE	
DDE0	Digitizing Delay 0	200	US
DDEL	Digitizing Delay	200	US
DDMG	Downhole Differential Multi-Gain	10	
DETE	Detection	E1	
DSI0	Digitizer Sample Interval 0	10	US
DSIN	Digitizer Sample Interval	DS10	
DTCM	Delta-T Computation Mode	FULL	
DTF	Delta-T Fluid	189	US/F
DTM	Delta-T Matrix	56	US/F
DWC0	Digitizer Word Count 0	500	
DWCO	Digitizer Word Count	500	
FCF	CBL Fluid Compensation Factor	0.8	
GAI	Manual Gain	40	
GOBO	Good Bond	2	MV
ITTS	Integrated Transit Time Source	DT	
MCI	Minimum Cemented Interval for Isolation	1.4478	M
MGAI	Maximum Gain	3500	
MODE	Firing Mode	CBL	
MSA	Minimum Sonic Amplitude	0.643961	MV
NMSG	Near Minimum Sliding Gate	245	US
RATE	Firing Rate	R15	
RMOD	Receiver Mode	B	
SFAF	Sonic Formation Attenuation Factor	0	DB/M
SGAD	Sliding Gate	ON	
SGDT	Sliding Gate Delta-T	50	US/F
SGW	Sliding Gate Width	80	US
SLEV	Signal Level for AGC	5000	MV
SPFS	Sonic Porosity Formula	RAYMER_HUNT	
SPSO	Sonic Porosity Source	DT	
SWW	Sonic Window Width	13	MS
T0CA	T0 Correction	ON	
TSIG	Test Signal	OFF	
VDLG	VDL Manual Gain	5	
VDLM	VDL Firing Mode	UTFR	
WAGC	Waveform AGC	ON	
WGAI	Waveform Manual Gain WGAI	20	
WGDT	Waveform Gain Delta-T	240	US/F
WGIN	Waveform Gain Interval	4800	US
WMOD	Waveform Firing Mode	NONE	
	CNT-H: Compensated Neutron - H		
BHFL	Borehole Fluid Type	WATER	
BHS	Borehole Status	CASED	
BHT	Bottom Hole Temperature (used in calculations)	100	DEGC
BSCO	Borehole Salinity Correction Option	NO	
CCCO	Casing & Cement Thickness Correction Option	YES	
DPPM	Density Porosity Processing Mode	STAN	
FSAL	Formation Salinity	-50000	PPM
FSCO	Formation Salinity Correction Option	NO	
GCSE	Generalized Caliper Selection	BS	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.018227	DC/M
GRSE	Generalized Mud Resistivity Selection	CHART_GEN_9	
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE	
HSCO	Hole Size Correction Option	YES	
MATR	Rock Matrix for Neutron Porosity Corrections	SANDSTONE	
MCCO	Mud Cake Correction Option	NO	
MCOR	Mud Correction	NATU	
MWCO	Mud Weight Correction Option	NO	
PTCO	Pressure/Temperature Correction Option	NO	
SDAT	Standoff Data Source	SOCN	
SHT	Surface Hole Temperature	5	DEGC
SOCN	Standoff Distance	0.5	IN
SOCO	Standoff Correction Option	NO	
	CAL-Y: Casing Anomaly Locator - Y		
CCLD	CCL reset delay	12	IN
CCLT	CCL Detection Level	0.3	V
	System and Miscellaneous		
ALTDPCHAN	Name of alternate depth channel	SpeedCorrectedDepth	
BS	Bit Size	8.500	IN
BSAL	Borehole Salinity	-50000.00	PPM
CSIZ	Current Casing Size	5.500	IN
CWEI	Casing Weight	14.00	LB/F
DFD	Drilling Fluid Density	1.00	G/C3
DO	Depth Offset for Playback	0.0	M
MST	Mud Sample Temperature	-50000.00	DEGC
PBVSADP	Use alternate depth channel for playback	NO	
PP	Playback Processing	NORMAL	
RMFS	Resistivity of Mud Filtrate Sample	-50000.0000	OHMM
RW	Resistivity of Connate Water	1.0000	OHMM
TD	Total Depth	-50000	M
TDD	Total Depth - Driller	-50000.00	M
TDL	Total Depth - Logger	-50000.00	M
TWS	Temperature of Connate Water Sample	37.78	DEGC

Format: CBL_Fluid_Compensated Vertical Scale: 1:200 Graphics File Created: 31-Aug-2005 21:46

OP System Version: 13C0-300

MCM

SDT-C	13C0-300	CNT-H	13C0-300
TCC-B	13C0-300	CAL-Y	13C0-300

Input DLIS Files

DEFAULT	SONIC_CNL_040LUP	FN:39	PRODUCER	31-Aug-2005 20:40	1173.0 M	672.7 M

Output DLIS Files

DEFAULT	SONIC_CNL_041PUP	FN:40	PRODUCER	31-Aug-2005 21:46

MAXIS EXPRESS

Schlumberger

TRAMO REPETIDO

Company: Well:

Output DLIS Files

DEFAULT	SONIC_CNL_042LUP	FN:41	PRODUCER	31-Aug-2005 21:50

OP System Version: 13C0-300

MCM

SDT-C	13C0-300	CNT-H	13C0-300
TCC-B	13C0-300	CAL-Y	13C0-300

PIP SUMMARY

Time Mark Every 60 S

Transit Time (Sliding Gate) (TTSL) 400 (US) 200

Fluid Compensated CBL Amplitude (CBLF) 0 (MV) 10

Transit Time (TT) 400 (US) 200

Far Thermal Counts (CFTC) 0 (CPS) 1500

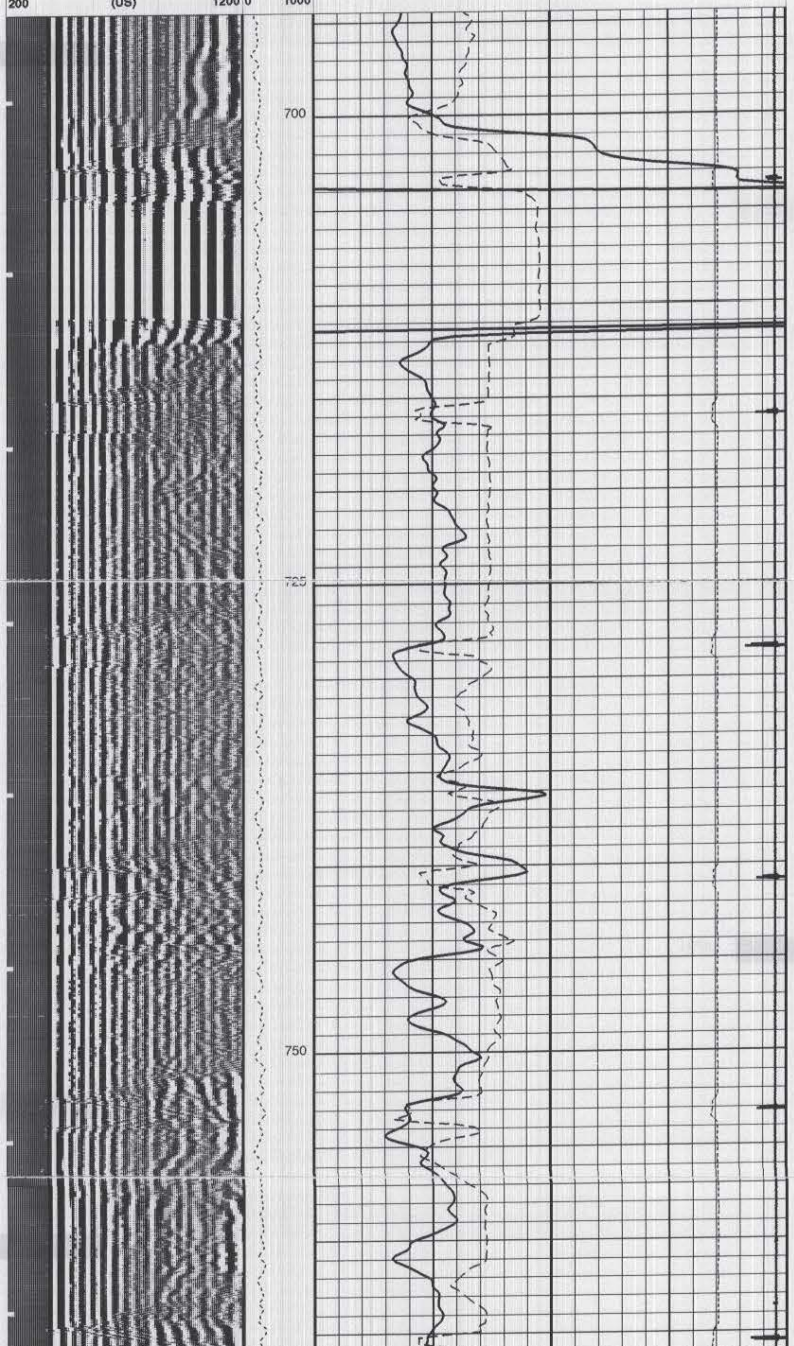
Min Amplitude Max

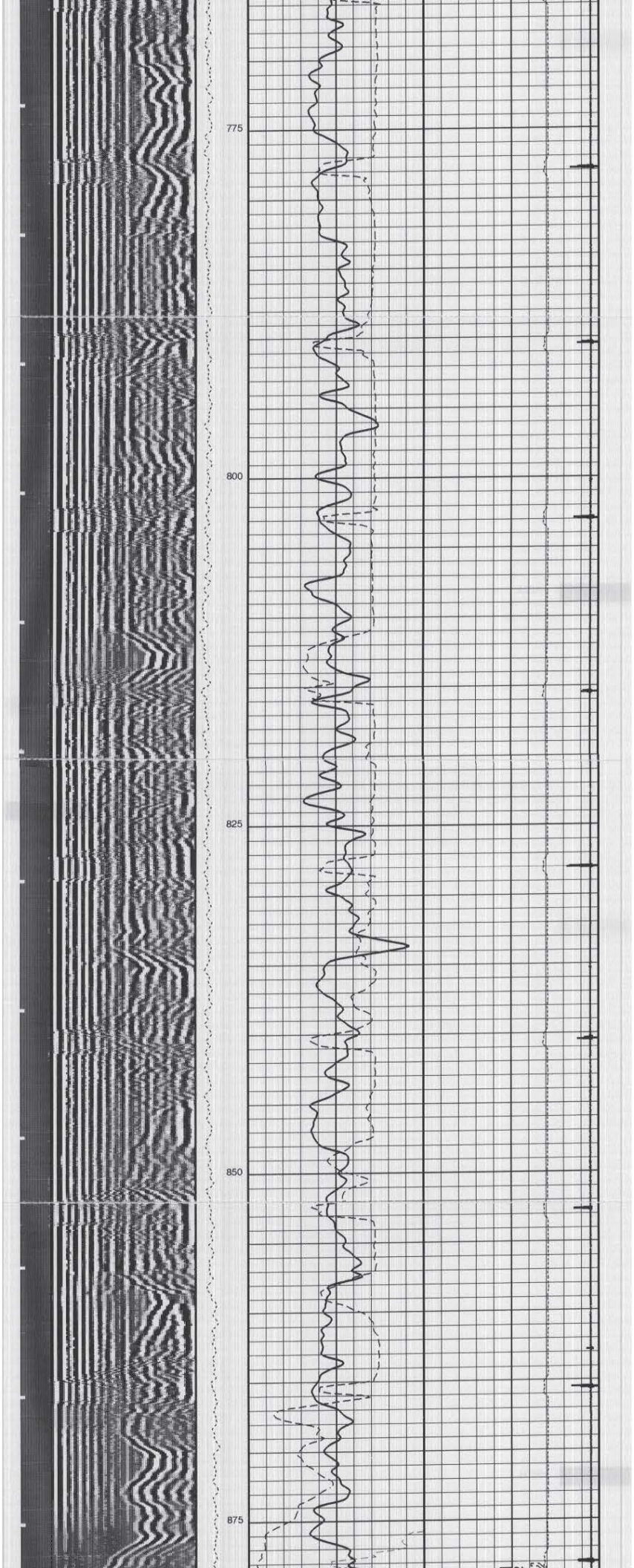
Tension (TENS) (LBF) 0 1000

Fluid Compensated CBL Amplitude (CBLF) 0 (MV) 100

Casing Collar Locator (CCL) -19 (----) 1

VDL VariableDensity (VDL) 200 (US) 1200

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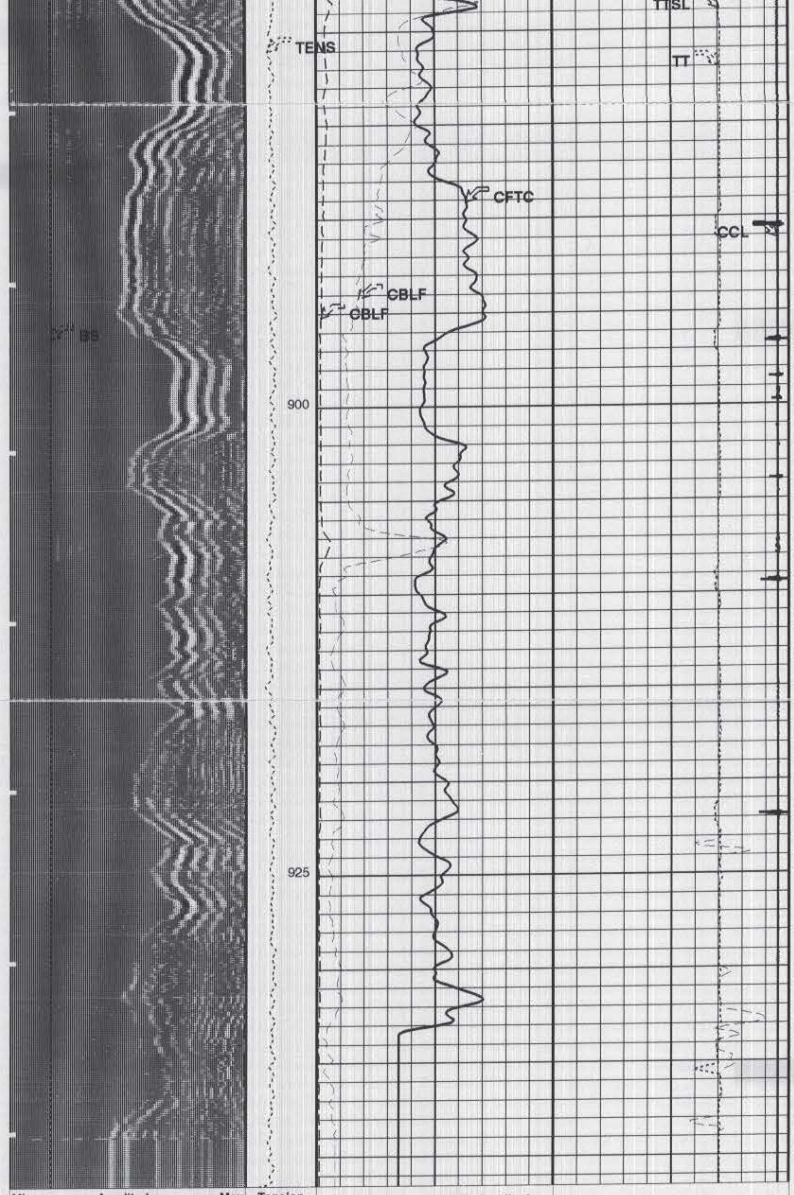


PIP SUMMARY

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value	
	SDT-C: Sonic Digital - C		
AGC	Automatic Gain Control	ON	
AMSG	Auxilliary Minimum Sliding Gate	140	US
ASGL	Auxilliary Minimum Sliding Gate Width	100	US
BILI	Bond Index Level for Zone Isolation	0.8	
CBLG	CBL Gate Width	40	US
CDDEL	Digitizing Delay (Acq Monitor Checked)	200	US
CDSIN	Digitizer Sample Interval (Acq Monitor Checked)	DS10	
CDTS	C-Delta-T Shale	100	US/F
CDWCO	Digitizer Word Count (Acq Monitor Checked)	500	
CRMOD	Receiver Mode (Acq Monitor Checked)	B	
CSTR	Compressive Strength of Cement	13789.5	KPAA
CVDLM	VDL Firing Mode (Acq Monitor Checked)	UTFR	
CWMOD	Waveform Firing Mode (Acq Monitor Checked)	NONE	
DDE0	Digitizing Delay 0	200	US
DDEL	Digitizing Delay	200	US
DDMG	Downhole Differential Multi-Gain	10	
DETE	Detection	E1	
DSI0	Digitizer Sample Interval 0	10	US
DSIN	Digitizer Sample Interval	DS10	
DTCM	Delta-T Computation Mode	FULL	
DTF	Delta-T Fluid	189	US/F
DTM	Delta-T Matrix	56	US/F
DWC0	Digitizer Word Count 0	500	
DWCO	Digitizer Word Count	500	
FCF	CBL Fluid Compensation Factor	0.8	
GAI	Manual Gain	40	
GOBO	Good Bond	2	MV
ITTS	Integrated Transit Time Source	DT	
MCI	Minimum Cemented Interval for Isolation	1.4478	M
MGAI	Maximum Gain	3500	
MODE	Firing Mode	CBL	
MSA	Minimum Sonic Amplitude	0.643961	MV
NMSG	Near Minimum Sliding Gate	245	US
RATE	Firing Rate	R15	
RMOD	Receiver Mode	B	
SFAF	Sonic Formation Attenuation Factor	0	DB/M
SGAD	Sliding Gate	ON	
SGDT	Sliding Gate Delta-T	50	US/F
SGW	Sliding Gate Width	80	US
SLEV	Signal Level for AGC	5000	MV
SPFS	Sonic Porosity Formula	RAYMER_HUNT	
SPSO	Sonic Porosity Source	DT	
SWW	Sonic Window Width	13	MS
T0CA	T0 Correction	ON	
TSIG	Test Signal	OFF	
VDLG	VDL Manual Gain	5	
VDLM	VDL Firing Mode	UTFR	
WAGC	Waveform AGC	ON	

WGAI		Waveform Manual Gain WGAI	20	
WGDT		Waveform Gain Delta-T	240	US/F
WGIN		Waveform Gain Interval	4800	US
WMOD		Waveform Firing Mode	NONE	
	CNT-H: Compensated Neutron - H			
BHFL		Borehole Fluid Type	WATER	
BHS		Borehole Status	CASED	
BHT		Bottom Hole Temperature (used in calculations)	100	DEGC
BSCO		Borehole Salinity Correction Option	NO	
CCCO		Casing & Cement Thickness Correction Option	YES	
DPPM		Density Porosity Processing Mode	STAN	
FSAL		Formation Salinity	-50000	PPM
FSCO		Formation Salinity Correction Option	NO	
GCSE		Generalized Caliper Selection	BS	
GDEV		Average Angular Deviation of Borehole from Normal	0	DEG
GGRD		Geothermal Gradient	0.018227	DC/M
GRSE		Generalized Mud Resistivity Selection	CHART_GEN_9	
GTSE		Generalized Temperature Selection	LINEAR_ESTIMATE	
HSCO		Hole Size Correction Option	YES	
MATR		Rock Matrix for Neutron Porosity Corrections	SANDSTONE	
MCCO		Mud Cake Correction Option	NO	
MCOR		Mud Correction	NATU	
MWCO		Mud Weight Correction Option	NO	
PTCO		Pressure/Temperature Correction Option	NO	
SDAT		Standoff Data Source	SOCN	
SHT		Surface Hole Temperature	5	DEGC
SOCN		Standoff Distance	0.5	IN
SOCO		Standoff Correction Option	NO	
	CAL-Y: Casing Anomaly Locator - Y			
CCLD		CCL reset delay	12	IN
CCLT		CCL Detection Level	0.3	V
	System and Miscellaneous			
ALTDPCHAN		Name of alternate depth channel	SpeedCorrectedDepth	
BS		Bit Size	8.500	IN
BSAL		Borehole Salinity	-50000.00	PPM
CSIZ		Current Casing Size	5.500	IN
CWEI		Casing Weight	14.00	LB/F
DFD		Drilling Fluid Density	1.00	G/C3
DORL		Depth Offset for Repeat Analysis	0.0	M
MST		Mud Sample Temperature	-50000.00	DEGC
PBVSADP		Use alternate depth channel for playback	NO	
RMFS		Resistivity of Mud Filtrate Sample	-50000.0000	OHMM
RW		Resistivity of Connate Water	1.0000	OHMM
TD		Total Depth	-50000	M
TDD		Total Depth - Driller	-50000.00	M
TDL		Total Depth - Logger	-50000.00	M
TWS		Temperature of Connate Water Sample	37.78	DEGC

Format: CBL_Fluid_Compensated Vertical Scale: 1:200 Graphics File Created: 31-Aug-2005 21:50

OP System Version: 13C0-300

MCM

SDT-C	13C0-300	CNT-H	13C0-300
TCC-B	13C0-300	CAL-Y	13C0-300

Output DLIS Files

DEFAULT	SONIC_CNL_042LUP	FN:41	PRODUCER	31-Aug-2005 21:50

MAXIS EXPRESS

Schlumberger

ANALISIS DE REPETIBILIDAD

Company: Well:

Input DLIS Files

DEFAULT	SONIC_CNL_041PUP	FN:40	PRODUCER	31-Aug-2005 21:46	1173.0 M	673.2 M

Output DLIS Files

DEFAULT	SONIC_CNL_042LUP	FN:41	PRODUCER	31-Aug-2005 21:50

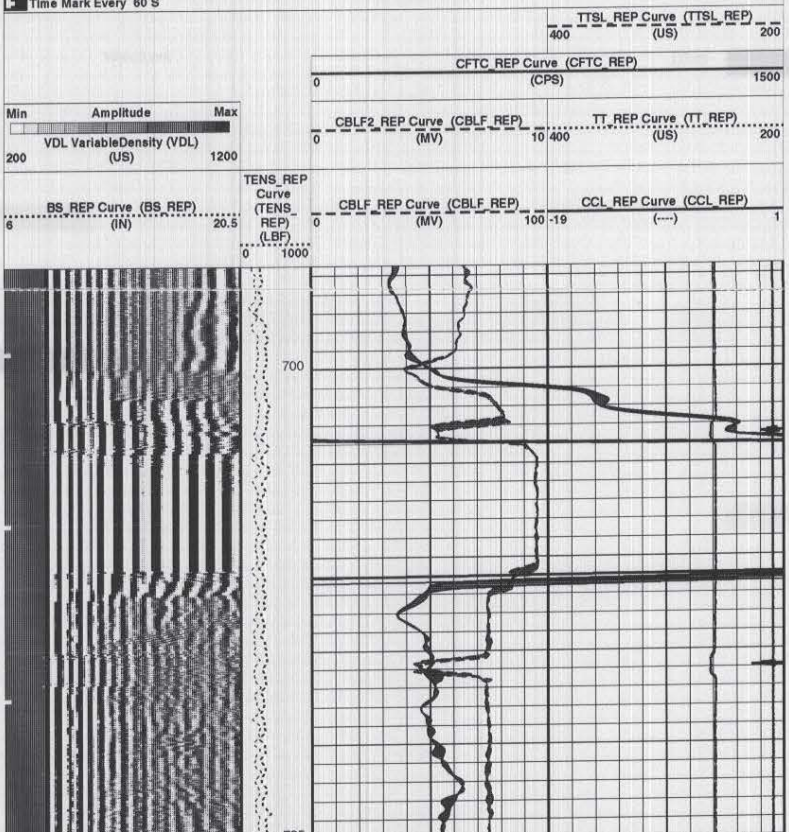
OP System Version: 13C0-300

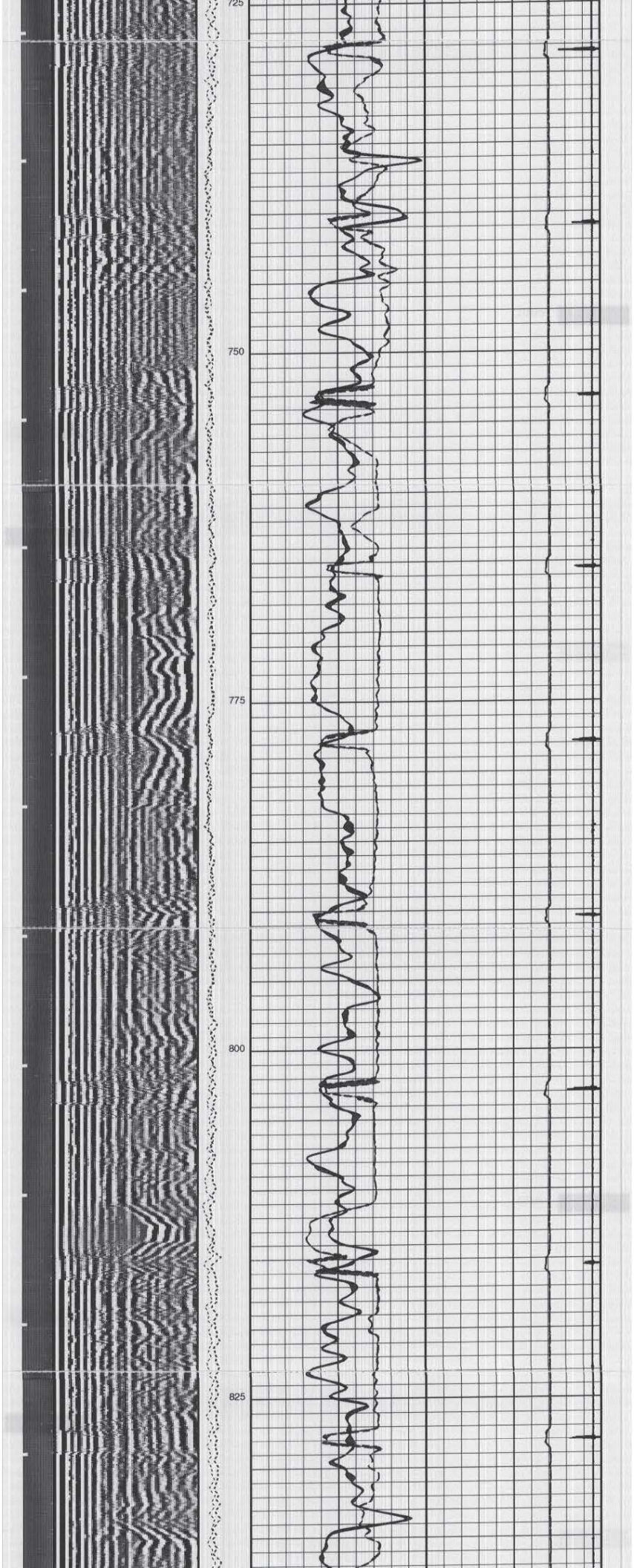
MCM

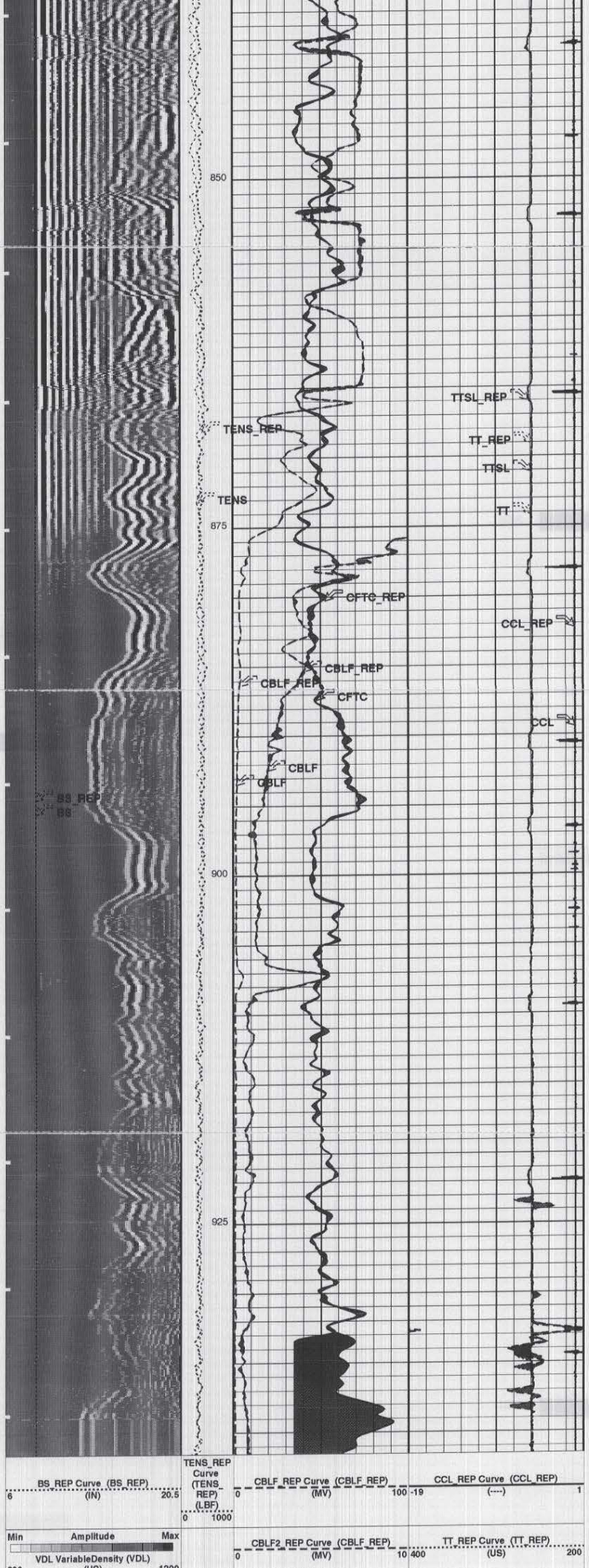
SDT-C	13C0-300	CNT-H	13C0-300
TCC-B	13C0-300	CAL-Y	13C0-300

PIP SUMMARY

Time Mark Every 60 S




725
750
775
800
825


850
875
900
925
TTSL_REP
TT_REP
TTSL
TT
TENS_REP
TENS
CFTC_REP
CCL_REP
CBLF_REP
CBLF_REP
CFTC
CCL
CBLF
CBLF
BS_REP
BS
BS_REP Curve (BS_REP)
6 (IN) 20.5
TENS_REP Curve (TENS_REP) (LBF)
0 1000
CBLF_REP Curve (CBLF_REP)
0 (MV) 100
CCL_REP Curve (CCL_REP)
-19 (----) 1
Min Amplitude Max
VDL VariableDensity (VDL)
CBLF2_REP Curve (CBLF_REP)
0 (MV) 10
TT_REP Curve (TT_REP)
400 (US) 200

200	(US)	1200

CFTC_REP Curve (CFTC_REP)

0	(CPS)	1500

TTSL_REP Curve (TTSL_REP)

400	(US)	200

PIP SUMMARY

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value	
SDT-C: Sonic Digital - C			
AGC	Automatic Gain Control	ON	
AMSG	Auxilliary Minimum Sliding Gate	140	US
ASGL	Auxilliary Minimum Sliding Gate Width	100	US
BILI	Bond Index Level for Zone Isolation	0.8	
CBLG	CBL Gate Width	40	US
CDDEL	Digitizing Delay (Acq Monitor Checked)	200	US
CDSIN	Digitizer Sample Interval (Acq Monitor Checked)	DS10	
CDTS	C-Delta-T Shale	100	US/F
CDWCO	Digitizer Word Count (Acq Monitor Checked)	500	
CRMOD	Receiver Mode (Acq Monitor Checked)	B	
CSTR	Compressive Strength of Cement	13789.5	KPAA
CVDLM	VDL Firing Mode (Acq Monitor Checked)	UTFR	
CWMOD	Waveform Firing Mode (Acq Monitor Checked)	NONE	
DDE0	Digitizing Delay 0	200	US
DDEL	Digitizing Delay	200	US
DDMG	Downhole Differential Multi-Gain	10	
DETE	Detection	E1	
DSI0	Digitizer Sample Interval 0	10	US
DSIN	Digitizer Sample Interval	DS10	
DTCM	Delta-T Computation Mode	FULL	
DTF	Delta-T Fluid	189	US/F
DTM	Delta-T Matrix	56	US/F
DWC0	Digitizer Word Count 0	500	
DWCO	Digitizer Word Count	500	
FCF	CBL Fluid Compensation Factor	0.8	
GAI	Manual Gain	40	
GOBO	Good Bond	2	MV
ITTS	Integrated Transit Time Source	DT	
MCI	Minimum Cemented Interval for Isolation	1.4478	M
MGAI	Maximum Gain	3500	
MODE	Firing Mode	CBL	
MSA	Minimum Sonic Amplitude	0.643981	MV
NMSG	Near Minimum Sliding Gate	245	US
RATE	Firing Rate	R15	
RMOD	Receiver Mode	B	
SFAF	Sonic Formation Attenuation Factor	0	DB/M
SGAD	Sliding Gate	ON	
SGDT	Sliding Gate Delta-T	50	US/F
SGW	Sliding Gate Width	80	US
SLEV	Signal Level for AGC	5000	MV
SPFS	Sonic Porosity Formula	RAYMER_HUNT	
SPSO	Sonic Porosity Source	DT	
SWW	Sonic Window Width	13	MS
T0CA	T0 Correction	ON	
TSIG	Test Signal	OFF	
VDLG	VDL Manual Gain	5	
VDLM	VDL Firing Mode	UTFR	
WAGC	Waveform AGC	ON	
WGAI	Waveform Manual Gain WGAI	20	
WGDT	Waveform Gain Delta-T	240	US/F
WGIN	Waveform Gain Interval	4800	US
WMOD	Waveform Firing Mode	NONE	
CNT-H: Compensated Neutron - H			
BHFL	Borehole Fluid Type	WATER	
BHS	Borehole Status	CASED	
BHT	Bottom Hole Temperature (used in calculations)	100	DEGC
BSCO	Borehole Salinity Correction Option	NO	
CCCO	Casing & Cement Thickness Correction Option	YES	
DPPM	Density Porosity Processing Mode	STAN	
FSAL	Formation Salinity	-50000	PPM
FSCO	Formation Salinity Correction Option	NO	
GCSE	Generalized Caliper Selection	BS	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.018227	DC/M
GRSE	Generalized Mud Resistivity Selection	CHART_GEN_9	
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE	
HSCO	Hole Size Correction Option	YES	
MATR	Rock Matrix for Neutron Porosity Corrections	SANDSTONE	
MCCO	Mud Cake Correction Option	NO	
MCOR	Mud Correction	NATU	
MWCO	Mud Weight Correction Option	NO	
PTCO	Pressure/Temperature Correction Option	NO	
SDAT	Standoff Data Source	SOCN	
SHT	Surface Hole Temperature	5	DEGC
SOCN	Standoff Distance	0.5	IN
SOCO	Standoff Correction Option	NO	
CAL-Y: Casing Anomaly Locator - Y			
CCLD	CCL reset delay	12	IN
CCLT	CCL Detection Level	0.3	V
System and Miscellaneous			
ALTDPCHAN	Name of alternate depth channel	SpeedCorrectedDepth	
BS	Bit Size	8.500	IN
BSAL	Borehole Salinity	-50000.00	PPM
CSIZ	Current Casing Size	5.500	IN
CWEI	Casing Weight	14.00	LB/F
DFD	Drilling Fluid Density	1.00	G/C3
DORL	Depth Offset for Repeat Analysis	0.0	M
MST	Mud Sample Temperature	-50000.00	DEGC
PBVSADP	Use alternate depth channel for playback	NO	
RMFS	Resistivity of Mud Filtrate Sample	-50000.0000	OHMM
RW	Resistivity of Connate Water	1.0000	OHMM
TD	Total Depth	-50000	M
TDD	Total Depth - Driller	-50000.00	M
TDL	Total Depth - Logger	-50000.00	M
TWS	Temperature of Connate Water Sample	37.78	DEGC

Format: CBL_Fluid_Compensated_REP Vertical Scale: 1:200 Graphics File Created: 31-Aug-2005 21:50

OP System Version: 13C0-300

MCM

SDT-C	13C0-300	CNT-H	13C0-300
TCC-B	13C0-300	CAL-Y	13C0-300

Input DLIS Files

DEFAULT	SONIC_CNL_041PUP	FN:40	PRODUCER	31-Aug-2005 21:46	1173.0 M	673.2 M

Output DLIS Files

DEFAULT	SONIC_CNL_042LUP	FN:41	PRODUCER	31-Aug-2005 21:50

MAXIS EXPRESS

Schlumberger

TRAMO SIN CORRECCION DE PROFUNDIDAD

Company: Well:

Input DLIS Files

DEFAULT	SONIC_CNL_036LUP	FN:35	PRODUCER	31-Aug-2005 20:28	1172.6 M	1104.1 M

Output DLIS Files

DEFAULT	SONIC_CNL_037PUP	FN:36	PRODUCER	31-Aug-2005 20:37	1172.6 M	1104.6 M

OP System Version: 13C0-300

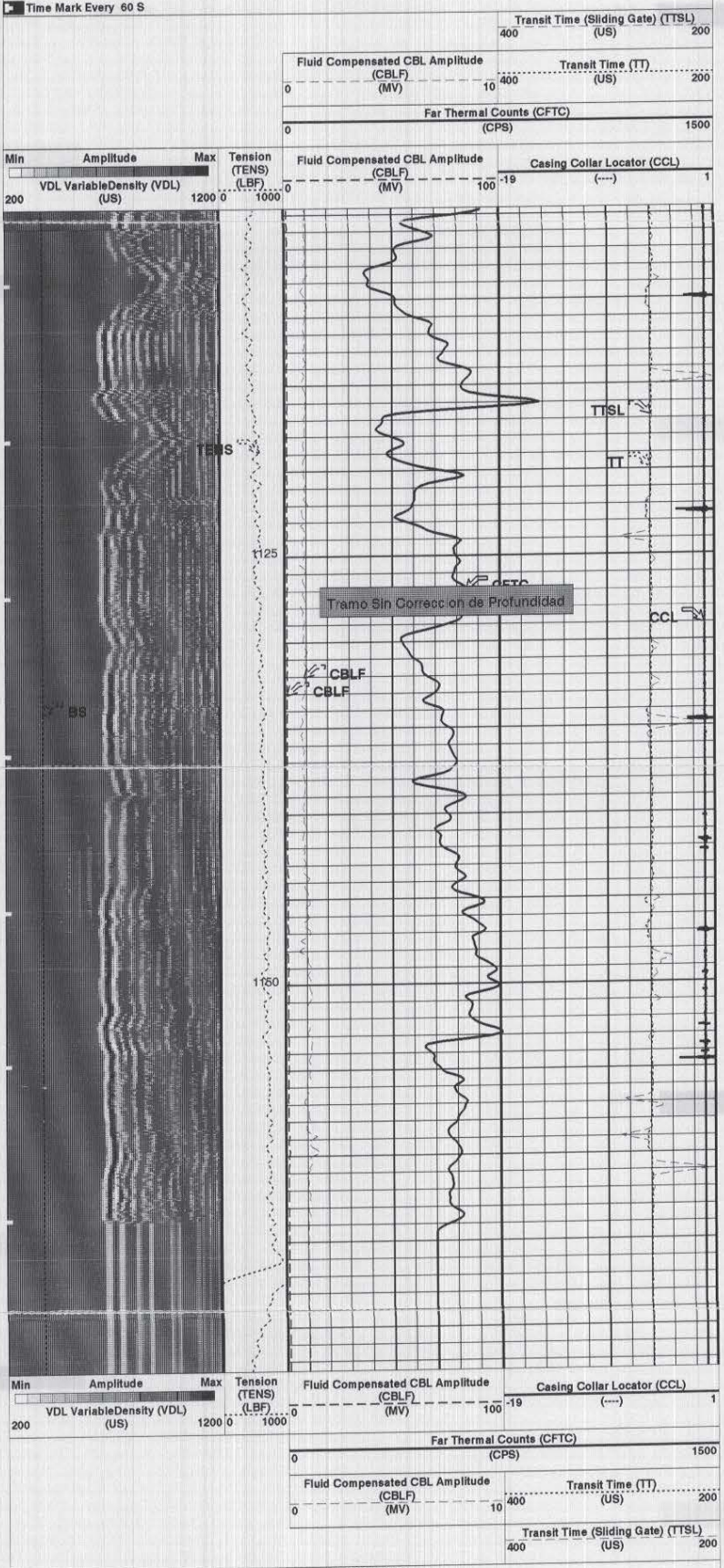
MCM

SDT-C	13C0-300	CNT-H	13C0-300

TCC-B 13C0-300 CAL-Y 13C0-300

PIP SUMMARY

Time Mark Every 60 S



PIP SUMMARY

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value	
	SDT-C: Sonic Digital - C		
AGC	Automatic Gain Control	ON	
AMSG	Auxilliary Minimum Sliding Gate	140	US
ASGL	Auxilliary Minimum Sliding Gate Width	100	US
BILI	Bond Index Level for Zone Isolation	0.8	
CBLG	CBL Gate Width	40	US
CDDEL	Digitizing Delay (Acq Monitor Checked)	200	US
CDSIN	Digitizer Sample Interval (Acq Monitor Checked)	DS10	
CDTS	C-Delta-T Shale	100	US/F
CDWCO	Digitizer Word Count (Acq Monitor Checked)	500	
CRMOD	Receiver Mode (Acq Monitor Checked)	B	
CSTR	Compressive Strength of Cement	13789.5	KPAA
CVDLM	VDL Firing Mode (Acq Monitor Checked)	UTFR	
CWMOD	Waveform Firing Mode (Acq Monitor Checked)	NONE	
DDE0	Digitizing Delay 0	200	US
DDEL	Digitizing Delay	200	US
DDMG	Downhole Differential Multi-Gain	10	
DETE	Detection	E1	
DSI0	Digitizer Sample Interval 0	10	US
		DS10	

DSIN		Digitizer Sample Interval	FULL		
DTCM		Delta-T Computation Mode	189	US/F	
DTF		Delta-T Fluid	56	US/F	
DTM		Delta-T Matrix	500		
DWC0		Digitizer Word Count 0	500		
DWCO		Digitizer Word Count	0.85		
FCF		CBL Fluid Compensation Factor	40		
GAI		Manual Gain	2	MV	
GOBO		Good Bond	DT		
ITTS		Integrated Transit Time Source	1.4478	M	
MCI		Minimum Cemented Interval for Isolation	3500		
MGAI		Maximum Gain	CBL		
MODE		Firing Mode	0.643961	MV	
MSA		Minimum Sonic Amplitude	245	US	
NMSG		Near Minimum Sliding Gate	R15		
RATE		Firing Rate	B		
RMOD		Receiver Mode	0	DB/M	
SFAF		Sonic Formation Attenuation Factor	ON		
SGAD		Sliding Gate	50	US/F	
SGDT		Sliding Gate Delta-T	80	US	
SGW		Sliding Gate Width	5000	MV	
SLEV		Signal Level for AGC	RAYMER_HUNT		
SPFS		Sonic Porosity Formula	DT		
SPSO		Sonic Porosity Source	13	MS	
SWW		Sonic Window Width	ON		
T0CA		T0 Correction	OFF		
TSIG		Test Signal	5		
VDLG		VDL Manual Gain	UTFR		
VDLM		VDL Firing Mode	ON		
WAGC		Waveform AGC	20		
WGAI		Waveform Manual Gain WGAI	240	US/F	
WGDT		Waveform Gain Delta-T	4800	US	
WGIN		Waveform Gain Interval	NONE		
WMOD		Waveform Firing Mode			
	CNT-H: Compensated Neutron - H				
BHFL		Borehole Fluid Type	WATER		
BHS		Borehole Status	CASED		
BHT		Bottom Hole Temperature (used in calculations)	100	DEGC	
BSCO		Borehole Salinity Correction Option	NO		
CCCO		Casing & Cement Thickness Correction Option	YES		
DPPM		Density Porosity Processing Mode	STAN		
FSAL		Formation Salinity	-50000	PPM	
FSCO		Formation Salinity Correction Option	NO		
GCSE		Generalized Caliper Selection	BS		
GDEV		Average Angular Deviation of Borehole from Normal	0	DEG	
GGRD		Geothermal Gradient	0.018227	DC/M	
GRSE		Generalized Mud Resistivity Selection	CHART GEN 9		
GTSE		Generalized Temperature Selection	LINEAR_ESTIMATE		
HSCO		Hole Size Correction Option	YES		
MATR		Rock Matrix for Neutron Porosity Corrections	SANDSTONE		
MCCO		Mud Cake Correction Option	NO		
MCOR		Mud Correction	NATU		
MWCO		Mud Weight Correction Option	NO		
PTCO		Pressure/Temperature Correction Option	NO		
SDAT		Standoff Data Source	SOCN		
SHT		Surface Hole Temperature	5	DEGC	
SOCN		Standoff Distance	0.5	IN	
SOCO		Standoff Correction Option	NO		
	CAL-Y: Casing Anomaly Locator - Y				
CCLD		CCL reset delay	12	IN	
CCLT		CCL Detection Level	0.3	V	
	System and Miscellaneous				
ALTDPCHAN		Name of alternate depth channel	SpeedCorrectedDepth		
BS		Bit Size	8.500	IN	
BSAL		Borehole Salinity	-50000.00	PPM	
CSIZ		Current Casing Size	5.500	IN	
CWEI		Casing Weight	14.00	LB/F	
DFD		Drilling Fluid Density	1.00	G/C3	
DO		Depth Offset for Playback	0.0	M	
MST		Mud Sample Temperature	-50000.00	DEGC	
PBVSADP		Use alternate depth channel for playback	NO		
PP		Playback Processing	NORMAL		
RMFS		Resistivity of Mud Filtrate Sample	-50000.0000	OHMM	
RW		Resistivity of Connate Water	1.0000	OHMM	
TD		Total Depth	-50000	M	
TDD		Total Depth - Driller	-50000.00	M	
TDL		Total Depth - Logger	-50000.00	M	
TWS		Temperature of Connate Water Sample	37.78	DEGC	

Format: CBL_Fluid_Compensated Vertical Scale: 1:200 Graphics File Created: 31-Aug-2005 20:37

OP System Version: 13C0-300

MCM

SDT-C	13C0-300	CNT-H	13C0-300
TCC-B	13C0-300	CAL-Y	13C0-300

Input DLIS Files

DEFAULT	SONIC_CNL_036LUP	FN:35	PRODUCER	31-Aug-2005 20:28	1172.6 M	1104.1 M

Output DLIS Files

DEFAULT	SONIC_CNL_037PUP	FN:36	PRODUCER	31-Aug-2005 20:37

MAXIS EXPRESS

Schlumberger

Analisis de Repetibilidad en Tramo sin Correccion

Company: Well:

Input DLIS Files

DEFAULT	SONIC_CNL_038PUP	FN:37	PRODUCER	31-Aug-2005 20:38	1173.0 M	1105.5 M

Output DLIS Files

DEFAULT	SONIC_CNL_040LUP	FN:39	PRODUCER	31-Aug-2005 20:40

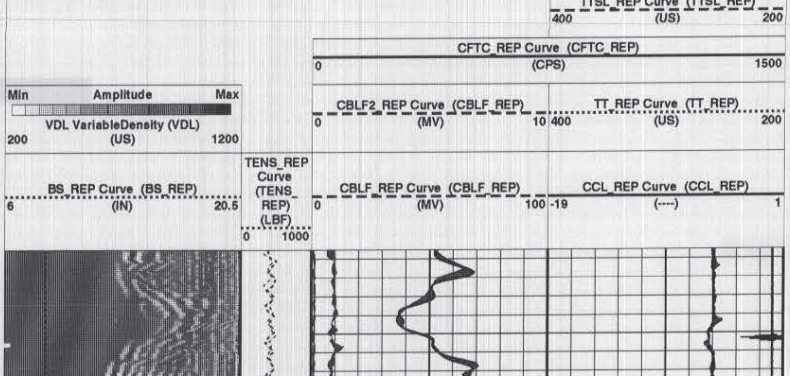
OP System Version: 13C0-300

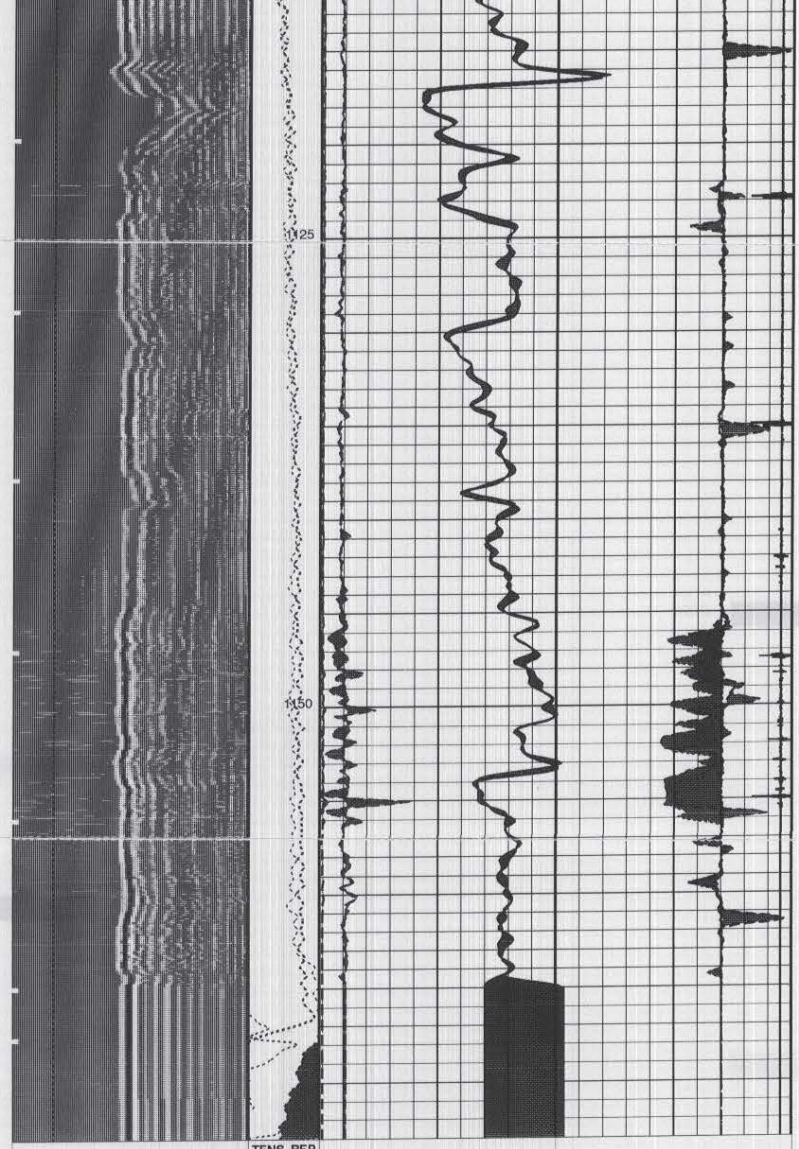
MCM

SDT-C	13C0-300	CNT-H	13C0-300
TCC-B	13C0-300	CAL-Y	13C0-300

PIP SUMMARY

Time Mark Every 60 S





BS_REP Curve (BS_REP) 6 (IN) 20.5
TENS_REP Curve (TENS_REP) (LBF) 0 1000
CBLF_REP Curve (CBLF_REP) 0 (MV) 100
CCL_REP Curve (CCL_REP) -19 (----) 1
Min Amplitude Max
VDL VariableDensity (VDL) 200 (US) 1200
CBLF2_REP Curve (CBLF_REP) 0 (MV) 10
TT_REP Curve (TT_REP) 400 (US) 200
CFTC_REP Curve (CFTC_REP) 0 (CPS) 1500
TTSL_REP Curve (TTSL_REP) 400 (US) 200

PIP SUMMARY

Time Mark Every 60 S

RW	Resistivity of Connate Water	1.0000	OHMM
TD	Total Depth	-50000	M
TDD	Total Depth - Driller	-50000.00	M
TDL	Total Depth - Logger	-50000.00	M
TWS	Temperature of Connate Water Sample	37.78	DEGC

Format: CBL_Fluid_Compensated_REP Vertical Scale: 1:200 Graphics File Created: 31-Aug-2005 20:40

OP System Version: 13C0-300

MCM

SDT-C	13C0-300	CNT-H	13C0-300
TCC-B	13C0-300	CAL-Y	13C0-300

Input DLIS Files

DEFAULT	SONIC_CNL_038PUP	FN:37	PRODUCER	31-Aug-2005 20:38	1173.0 M	1105.5 M

Output DLIS Files

DEFAULT	SONIC_CNL_040LUP	FN:39	PRODUCER	31-Aug-2005 20:40

MAXIS EXPRESS

Schlumberger

CALIBRACION

Calibration and Check Summary

Measurement	Nominal	Master	Before	After	Change	Limit	Units
Compensated Neutron - H Wellsite Calibration - Zero Measurement							

CNTC Background	1.000	0	0.5342	N/A	N/A	N/A	CPS
CFTC Background	0	0.5308	3.740	N/A	N/A	N/A	CPS

Compensated Neutron - H Wellsite Calibration - Jig Measurement
Master: 7-Jul-2005 16:36 Before: 31-Aug-2005 20:04

CNTC Jig	2786	2786	2805	N/A	N/A	N/A	CPS
CFTC Jig	1171	1171	1170	N/A	N/A	N/A	CPS
CNTC/CFTC (Jig)	2.380	2.380	2.397	N/A	N/A	N/A	

The CNT Master Calibration Was Done With The Following Parameters :

NCT-B Water Temperature 2.0 DEGC.
Thermal Housing Size 3.373 IN.

Compensated Neutron - H / Equipment Identification

Primary Equipment:		
Compensated Neutron Cartridge	CNC - HA	212
Neutron Logging Source	NLS - KL	
Neutron Source Radioactive	NSR - F	2112
Compensated Neutron Box	CNB - AB	3625
Neutron Detector without Alpha Source	CND - NA	
Compensated Neutron Box	CNB - AB	3625
Auxiliary Equipment:		
Compensated Neutron Housing	CNH - A	2021
Neutron Calibration Tank	NCT - B	

Compensated Neutron - H Wellsite Calibration
Zero Measurement

Phase	CNTC Background CPS	Value	Phase	CFTC Background CPS	Value
Master		0	Master		0.5308
Before		0.5342	Before		3.740
	-0.010000 (Minimum) 1.000 (Nominal) 5.000 (Maximum)			-0.010000 (Minimum) 0 (Nominal) 5.000 (Maximum)	

Master: 7-Jul-2005 16:20 Before: 31-Aug-2005 19:59

Compensated Neutron - H Wellsite Calibration
Jig Measurement

Phase	CNTC Jig CPS	Value	Phase	CFTC Jig CPS	Value	Phase	CNTC/CFTC (Jig)	Value
Master		2786	Master		1171	Master		2.380
Before		2805	Before		1170	Before		2.397
	2646 (Minimum) 2786 (Nominal) 2925 (Maximum)			1112 (Minimum) 1171 (Nominal) 1229 (Maximum)			2.340 (Minimum) 2.380 (Nominal) 2.420 (Maximum)	

Master: 7-Jul-2005 16:36 Before: 31-Aug-2005 20:04

Compania: **YPF S.A.**

Schlumberger

Pozo: **YPF.Ch.RA-214**
Campo: **RESTINGA ALI**
Provincia: **CHUBUT**
Pais: **ARGENTINA**

CONTROL DE CEMENTO
CBL VDL CNL CCL
1/200