

COMPANIA: YPF S.A.

POZO: YPF.Ch.Gbk-732

CAMPO: GRIMBEEK

PROVINCIA: CHUBUT PAIS: ARGENTINA



COMBINADA

ESCALA: 1/200

AIT-LDL-CALI-CNL
RFT

Elev.: B.V. 663.44 m
N. T. 657.74 m
M. R. 663.24 m

Ref. Permanente: NIVEL TERRENO Elev.: 657.74 m
Reg. Medido Desde: NIVEL TERRENO 0.0 m sobre nivel ref.
Perforacion Medida Desde: NIVEL TERRENO

UWI:
AR0100007120

Equipo
PI-390

Longitud
X= 4.951.986,22

Latitud
Y= 2.595.842,33

Municipio: CHUBUT
Campo: GRIMBEEK
Locacion: CAS
Pozo: YPF.Ch.Gbk-732
Compania: YPF S.A.

LOCACION

Fecha	12-Feb-2007		
Corrida No.	1		
Prof. Perforador	1950 m		
Prof. Registro	1951.4 m		
Primera Lectura	1949 m		
Ultima Lectura	352.3 m		
Fondo Tuberia Perforador	9.625 in @	352.5 m @	
Fondo Tuberia Registro	352.3 m		
Diametro Trepano	8.750 in		
Tipo De Lodo	PHPA		
Densidad	Viscosidad	1.2 g/cm3	57 s
Perdidas	PH	6 cm3	9
Fuente Muestra De Lodo	POZO		
RM @ Temp.	3.420 ohm.m @		28 degC @
RMF @ Temp.	3.860 ohm.m @		28 degC @
RMC @ Temp.	2.770 ohm.m @		28 degC @
Fuente: RMF	RMC	PRENSA	PRENSA
RM @ T. Fdo.	RMF @ T. Fdo.	1.788 @ 73	2.006 @ 73 @ @
Temp. Maxima Medida	73 degC		73 73
Circulacion Final	Hora	12-Feb-2007 6:00	
Registro Fondo	Hora	12-Feb-2007 18:55	
Unidad No.	Locacion	3064	CAS
Registrado por:	OSCAR ETCHEVERRY		
Testigo	G. JARQUE & C. CEVASCO & P. CURILEN		

Logging Date			
Run Number			
Depth Driller			
Logger Depth			
Bottom Log Interval			
Top Log Interval			
Casing Driller Size @ Depth			@
Casing Logger			
Bit Size			
Type Fluid In Hole			
Density	Viscosity		
Fluid Loss	PH		
Source Of Sample			
RM @ Measured Temperature			@
RMF @ Measured Temperature			@
RMC @ Measured Temperature			@
Source RMF	RMC		
RM @ MRT	RMF @ MRT	@	@ @
Maximum Recorded Temperatures			
Circulation Stopped	Time		
Logger On Bottom	Time		
Unit Number	Location		
Recorded By			
Witnessed By			

DEPTH SUMMARY LISTING

Date Created: 12-FEB-2007 18:59:26

Depth System Equipment

Depth Measuring Device	Tension Device	Logging Cable
Type: IDW-B	Type: CMTD-B/A	Type: 7-42P-XS
Serial Number: 4983	Serial Number: 1834	Serial Number: 71141
Calibration Date: 02-Dic-2006	Calibration Date: 05-Jan-2007	Length: 4600.04 M
Calibrator Serial Number: 31	Calibrator Serial Number: 1028	Conveyance Method: Wireline Rig Type: LAND
Calibration Cable Type: 7-42P-XS	Calibration Gain: 0.90	
Wheel Correction 1: -3	Calibration Offset: 461.00	
Wheel Correction 2: -3		

Depth Control Parameters

Log Sequence: First Log In the Well
Rig Up Length At Surface: 0.00 M
Rig Up Length At Bottom: 0.00 M
Rig Up Length Correction: 0.00 M
Stretch Correction: 1.80 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 Standard de Control de Profundidad de Schlumberger aplicado en esta carrera.
3. Estiramiento entre perfil subiendo y bajando: 1,8 mts.
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: AIT-LDL-CALI-CNI	OS1:
OS2: RFT	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. Herramienta corrida segun diagrama.	
3. AITH corrido desentralizado usando Standoff de 1,5".	
4. HGNS corrido desentralizado usando fleje.	
5. Esquema de pozo segun datos del perforador.	
6. Ultima Circulacion termino el dia 12/02/07 a hrs 6:00 y duro 1,5 hrs.	
7. Datos adicionales de Lodo: Cl= 350 ppm, Ca= 80 ppm.	
8. Muestra de temperatura ambiente de 70 F.	

- 8. Maxima temperatura registrada /3 DegC.
- 9. Maxima temperatura tomada con termometro de punta de herramienta.
- 10. FNUM= 0.81, FEXP= 2 utilizados para el Calculo de Rwa.
- 11. FPHI= DPHZ utilizado para el calculo de Rwa.
- 12. LDL & CNL corrido desde Fondo hasta 750 mts por solicitud del Cliente.
- 13. Velocidad de Registro: 3600 ft/hr.
- 14. Cliente presente durante la operacion de perfilaje.

CORRIDA #1
 ORDEN DE SERVICIO:
 VERSION DEL PROGRAMA: 15C0-309
 NIVEL DEL LODO: 0 m

CORRIDA #2
 ORDEN DE SERVICIO:
 VERSION DEL PROGRAMA:
 NIVEL DEL LODO:

INTERVALO REGISTRADO	COMIENZO	FINAL	INTERVALO REGISTRADO	COMIENZO	FINAL

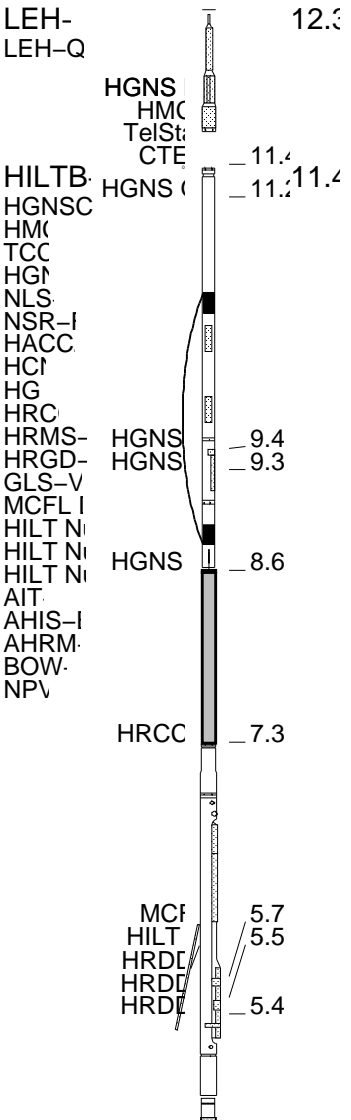
DESCRIPCION DEL EQUIPO

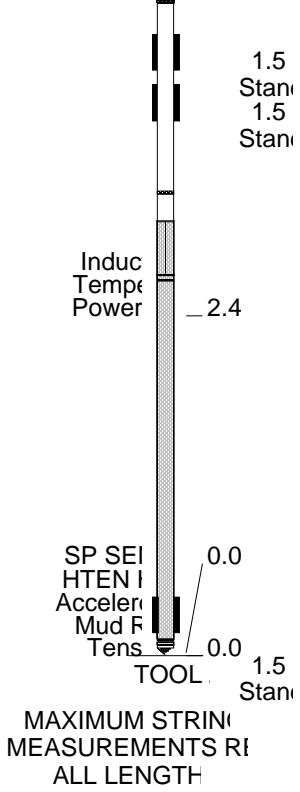
CORRIDA # 1

CORRIDA # 2

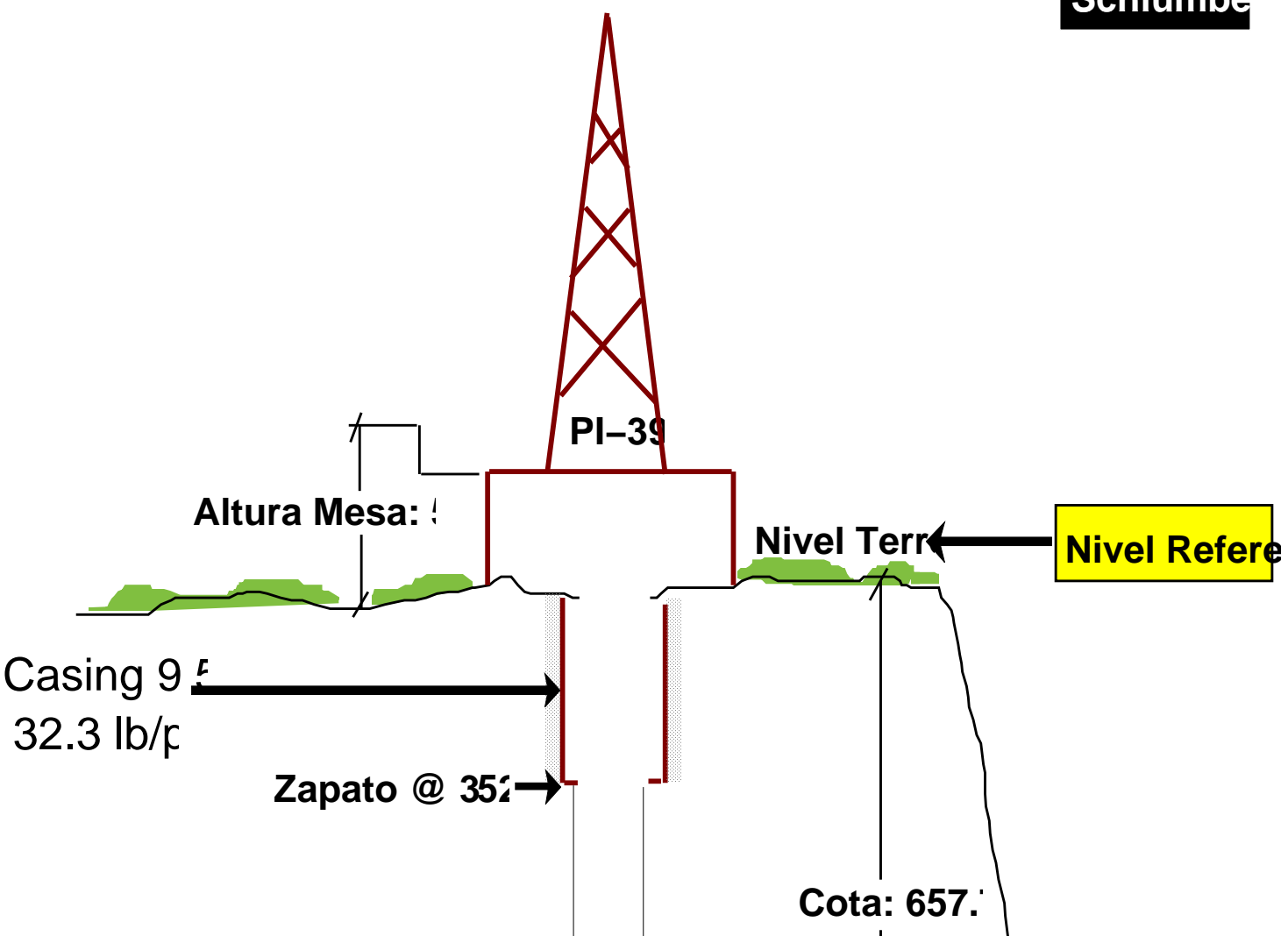
SURFACE I
 WITM (I NCS
 GSR
 NCT
 CNB

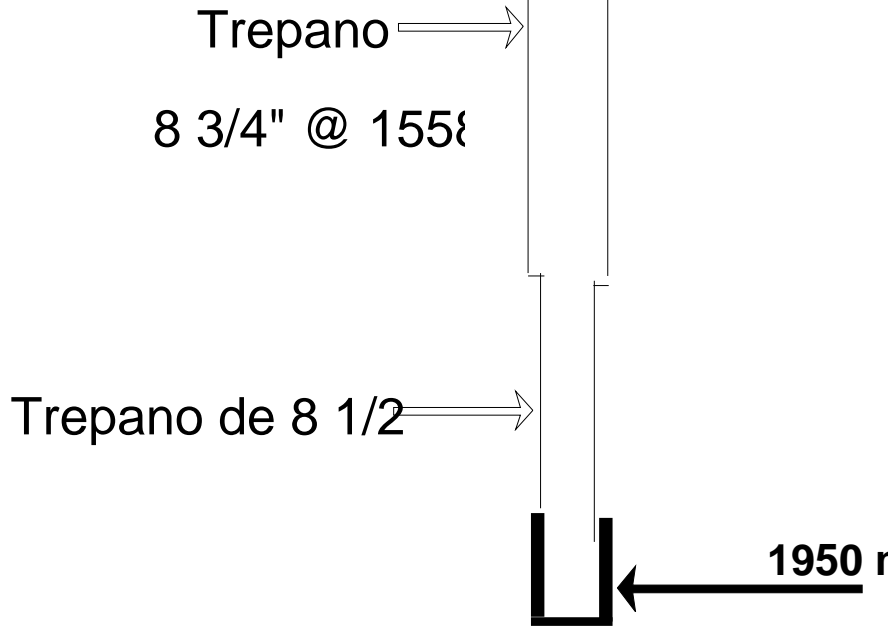
DOWNHOLE





YPF.Ch.Gbk





Schlumberger

TRAMO PRINCIPAL

MAXIS Field Log

Input DLIS Files

DEFAULT	AIT_TLD_MCFL_CNL_020LUP	FN:11	PRODUCER	12-Feb-2007 21:11	1956.8 M	297.5 M
---------	-------------------------	-------	----------	-------------------	----------	---------

Output DLIS Files

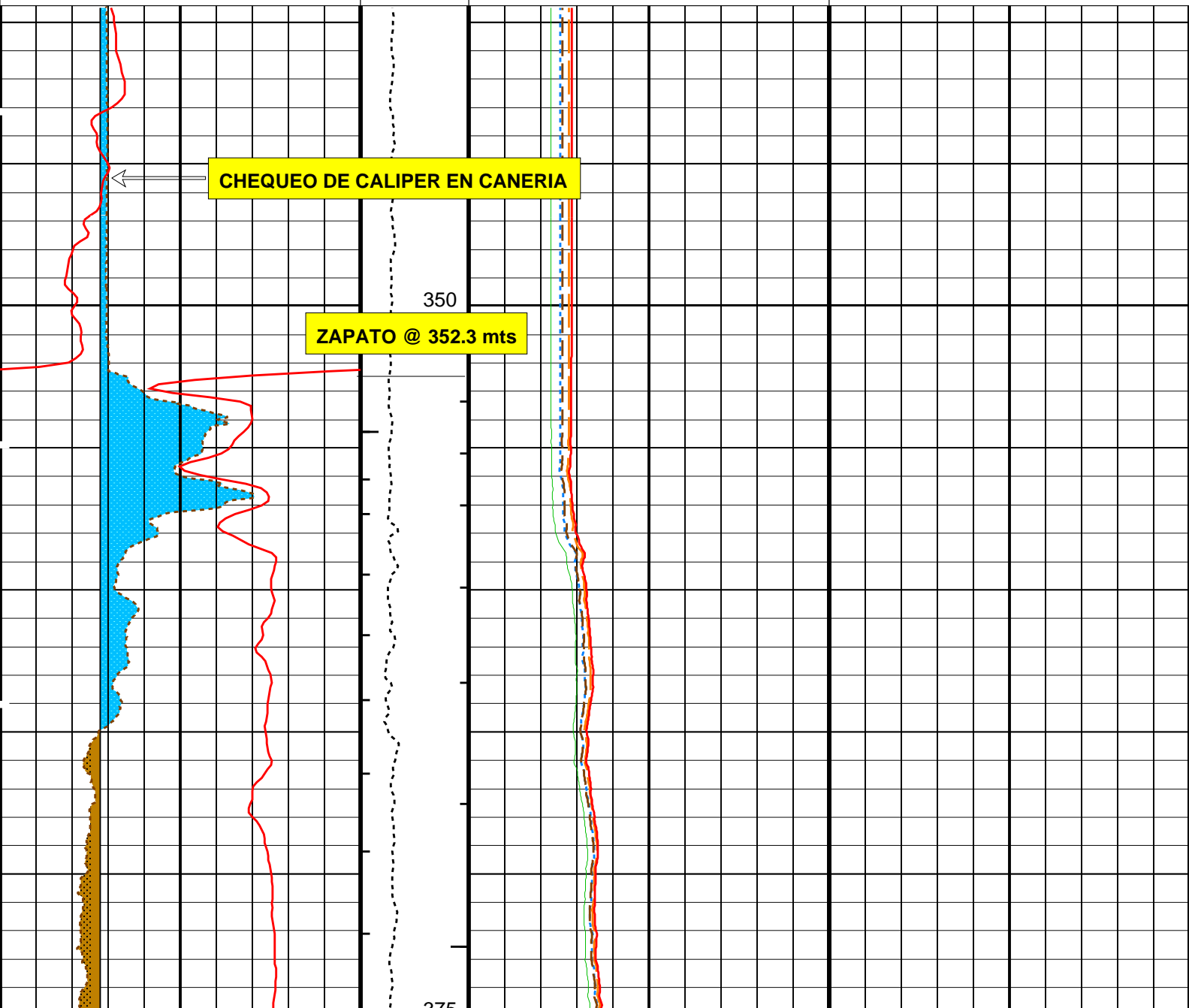
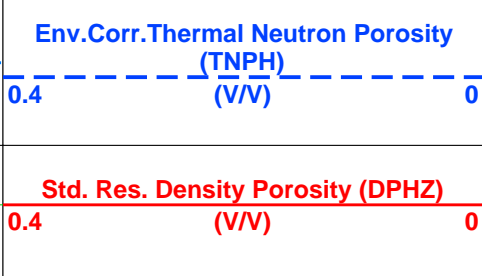
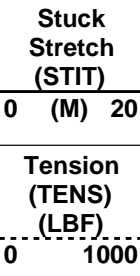
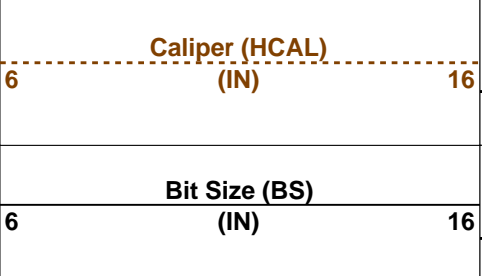
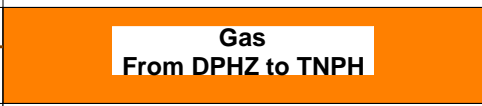
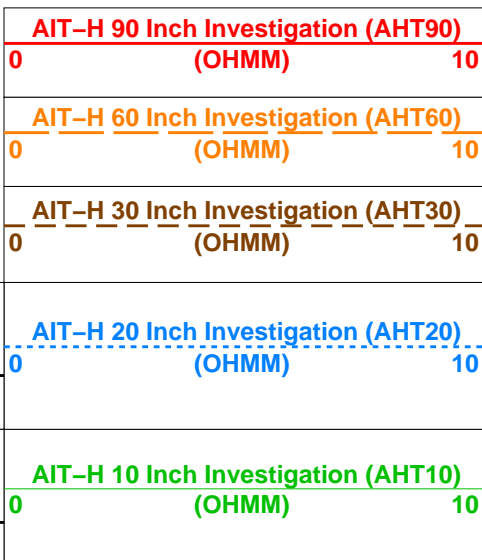
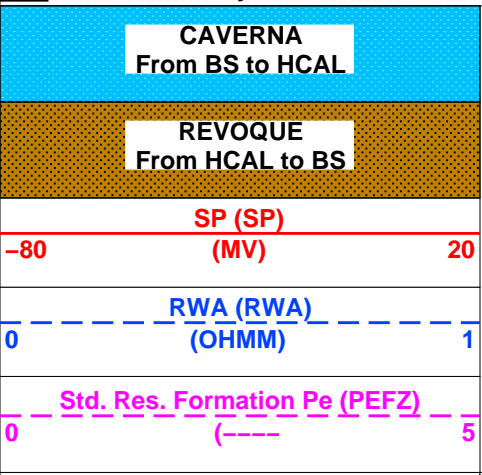
HILTC .051	FN:41	14-Feb-2007 09:53	1957.2 M	336.6 M
------------	-------	-------------------	----------	---------

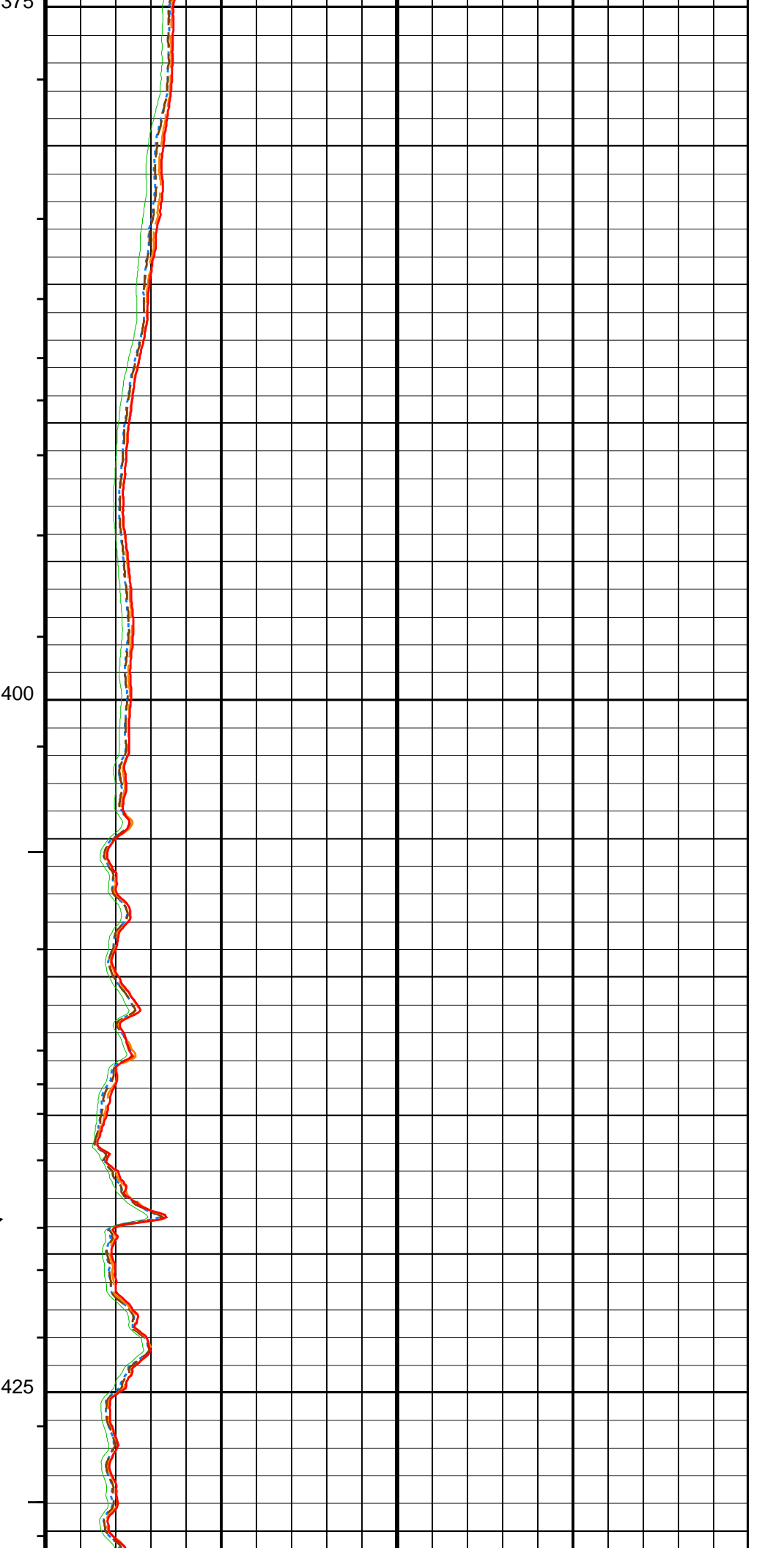
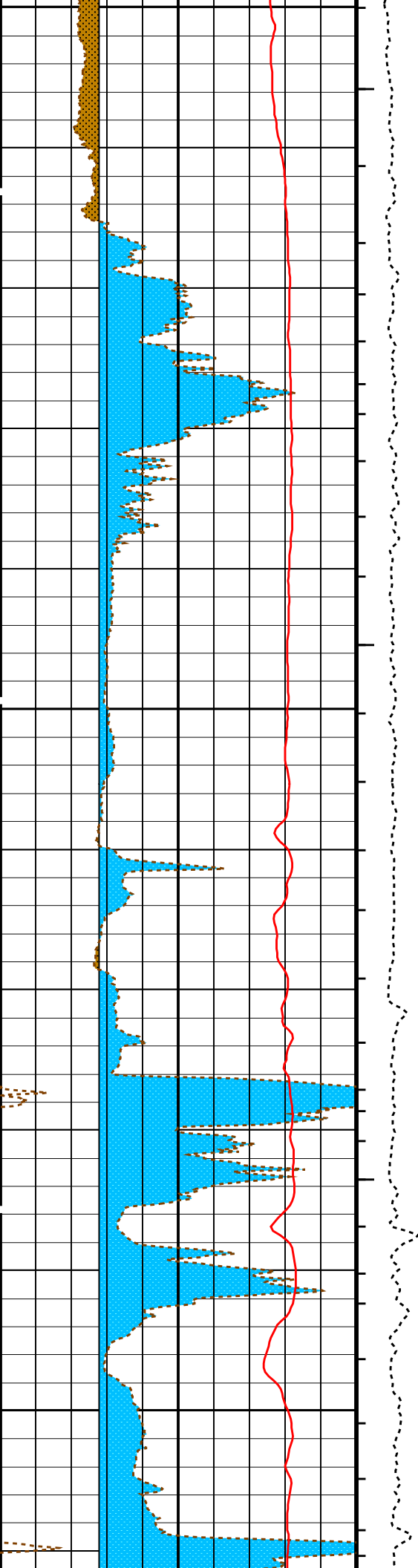
OP System Version: 14C0-302
MCM

HILTC 15C0-309

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

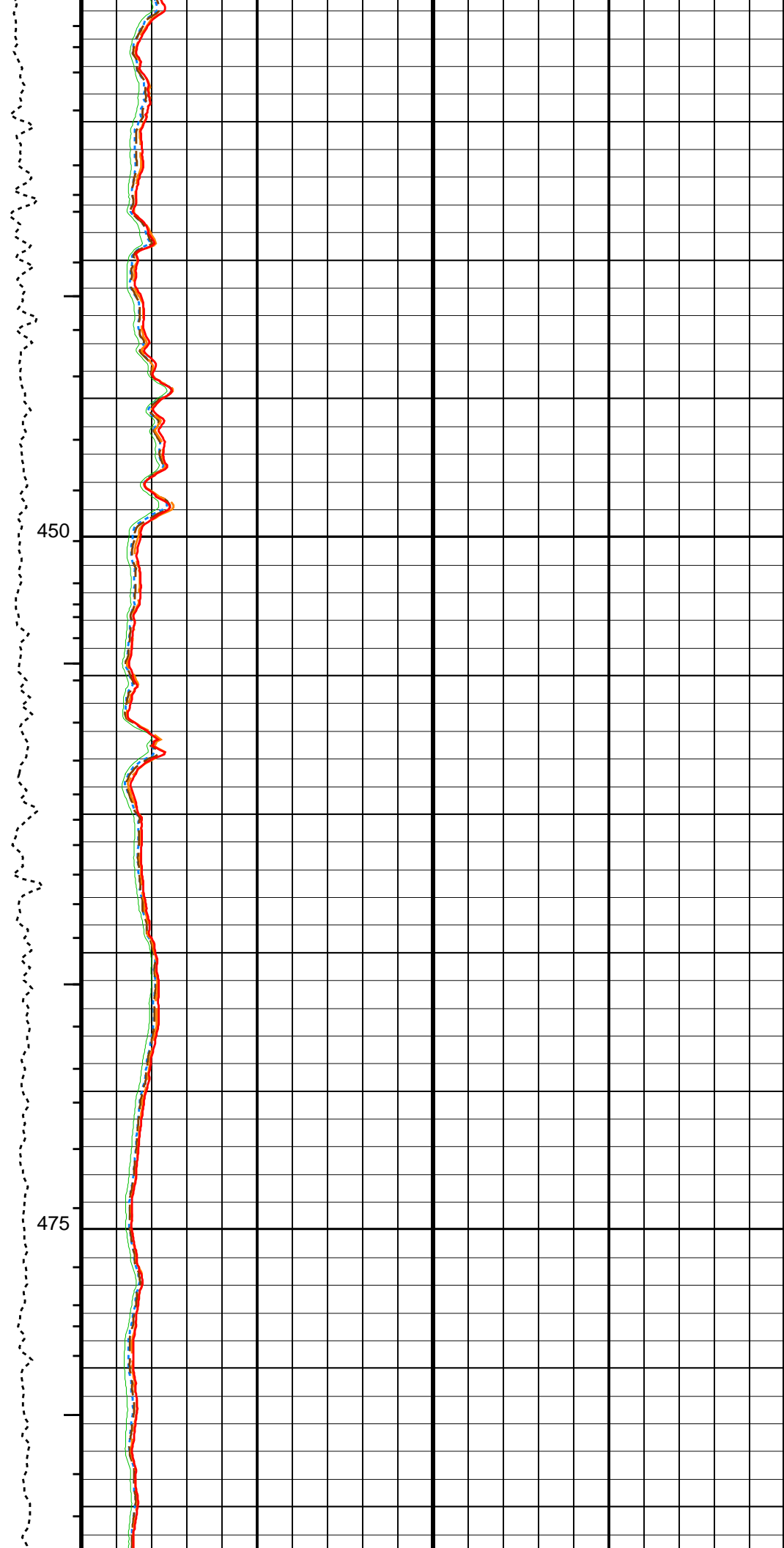
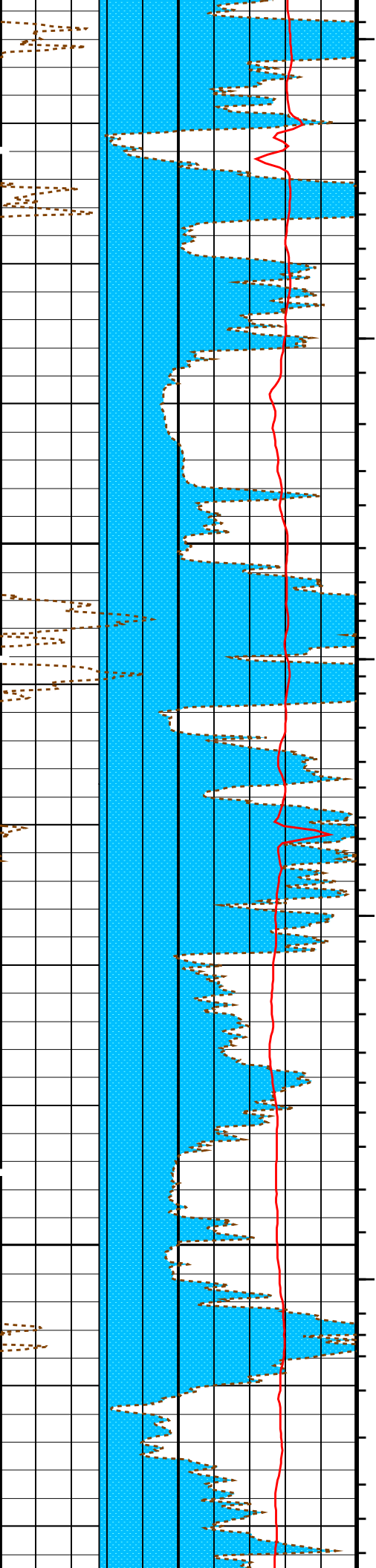




375

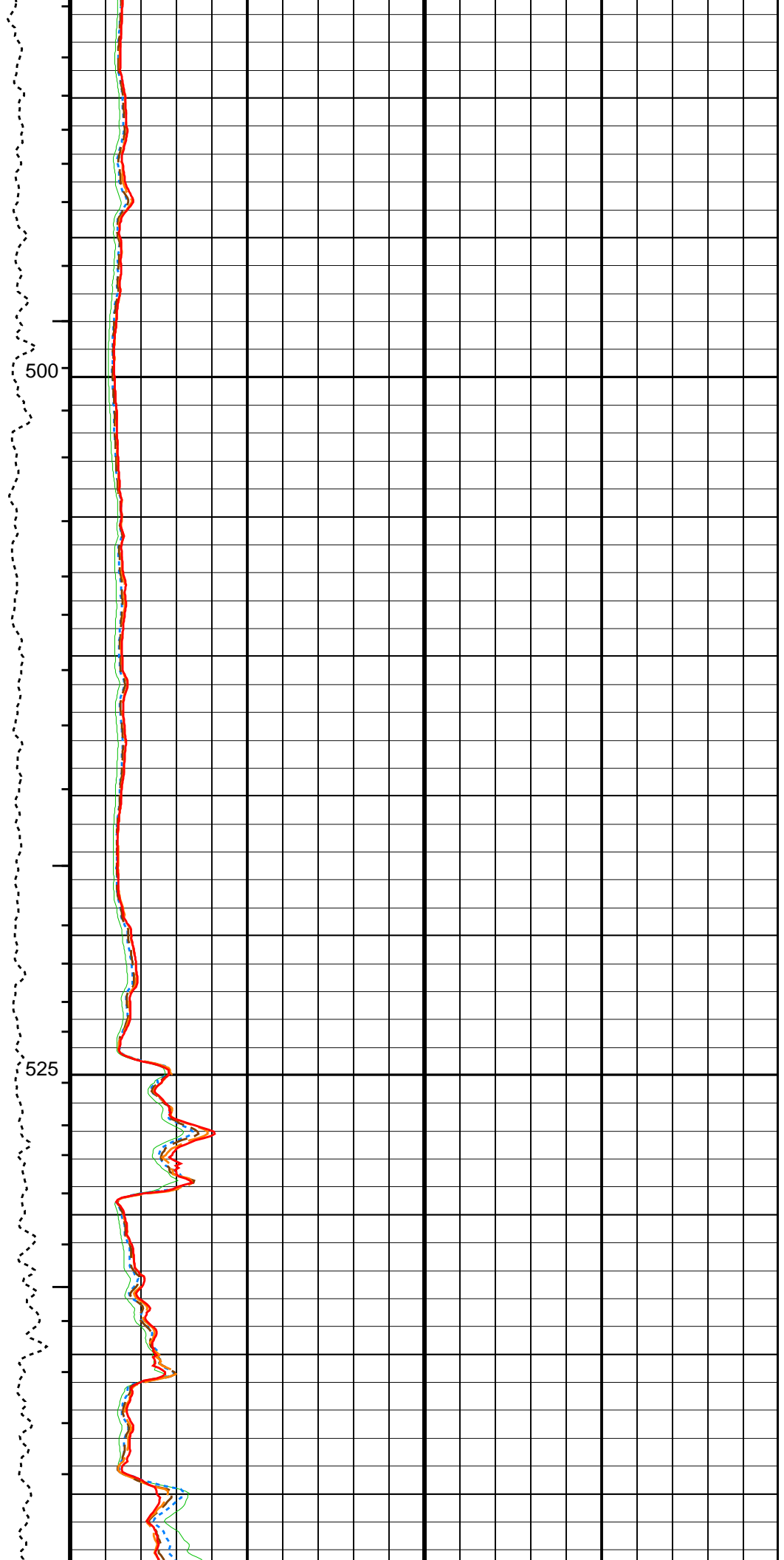
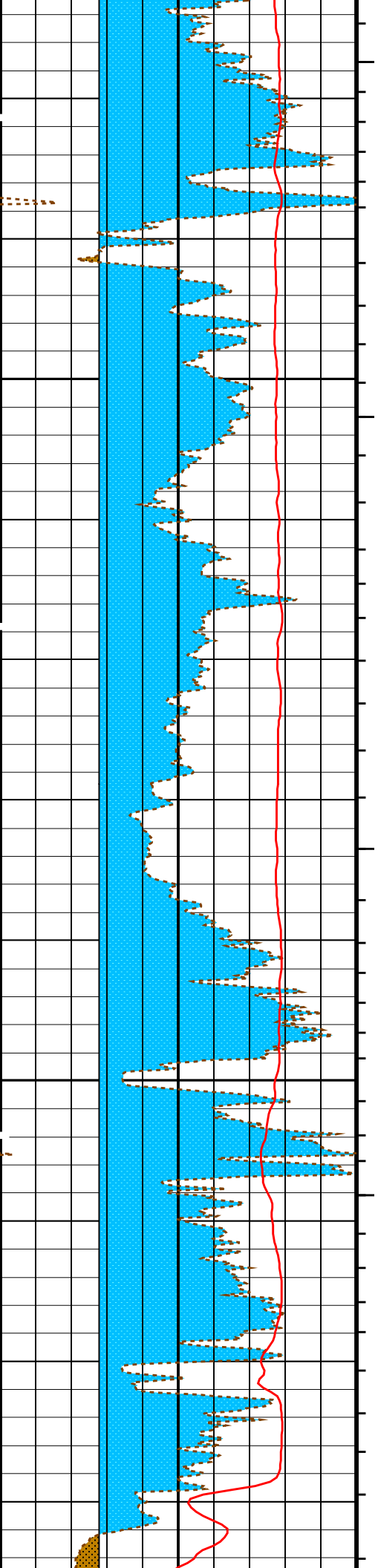
400

425



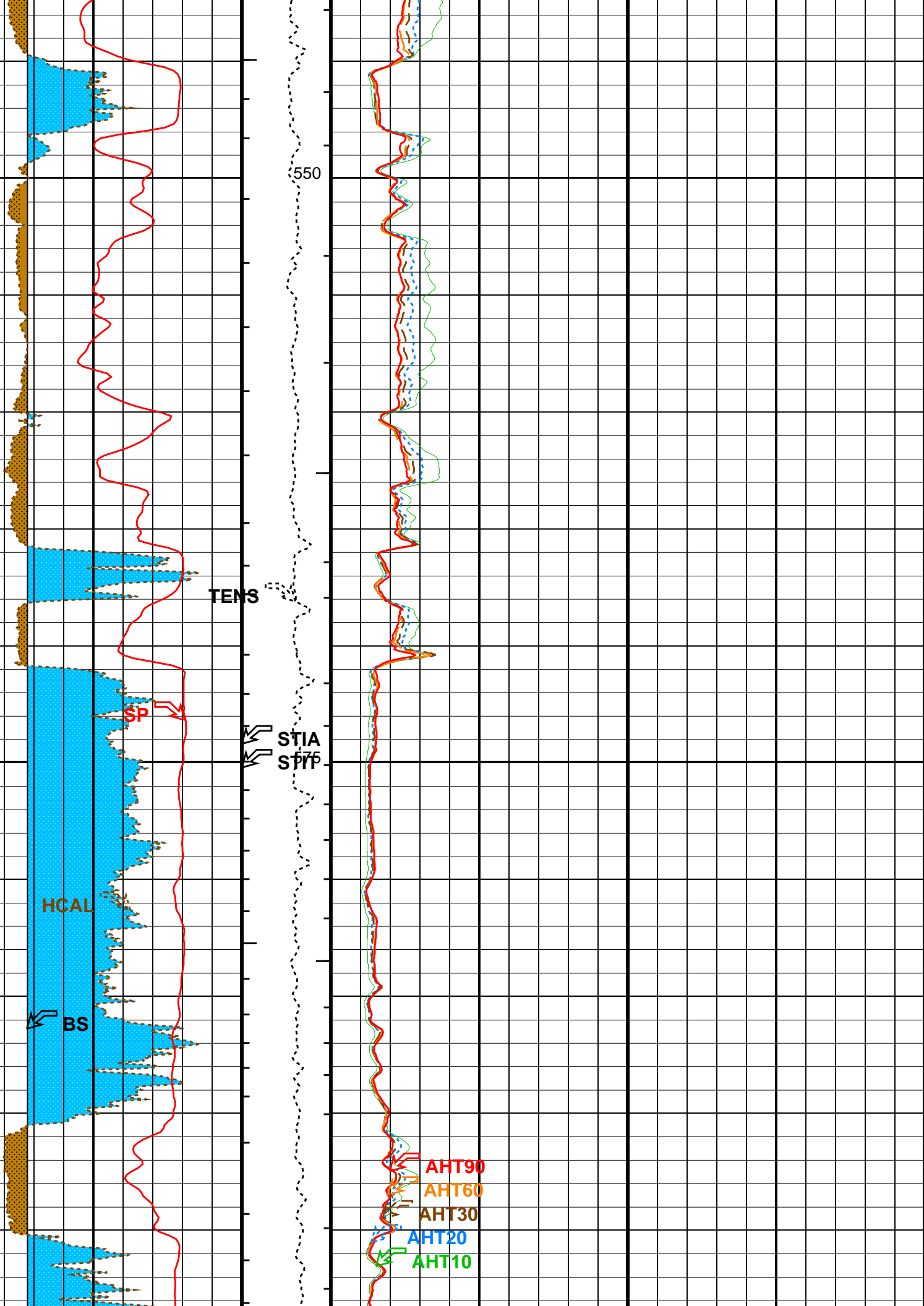
450

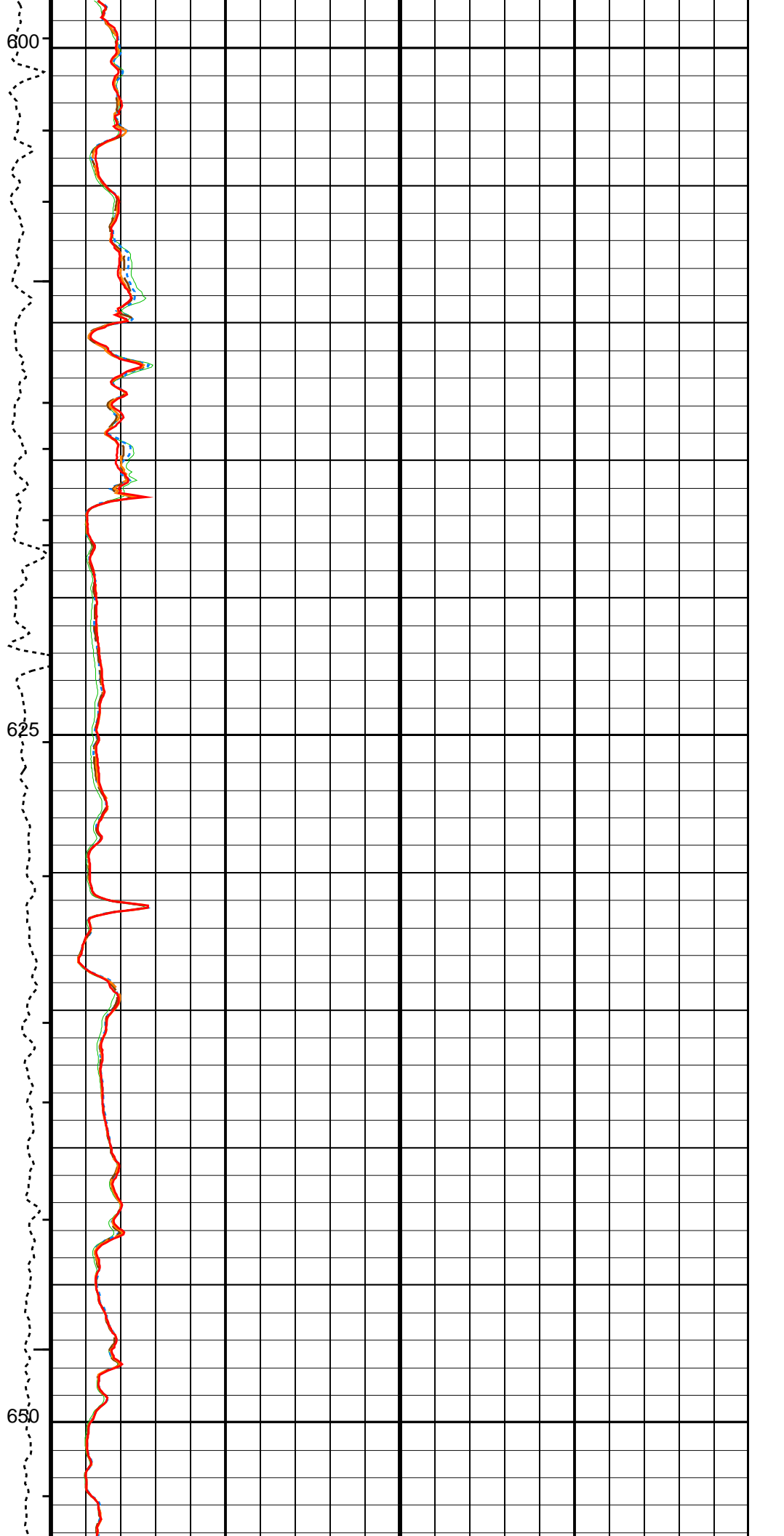
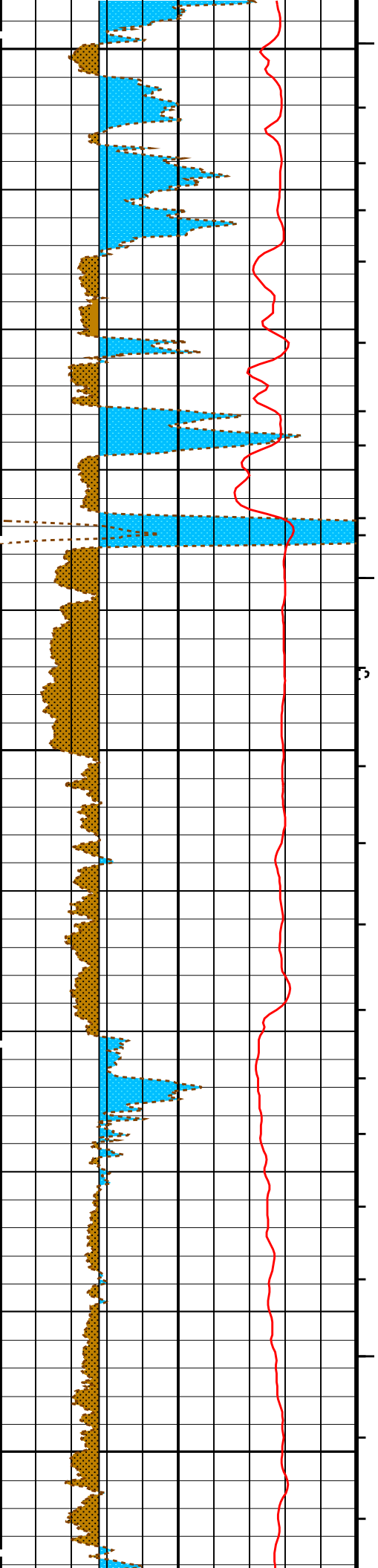
475

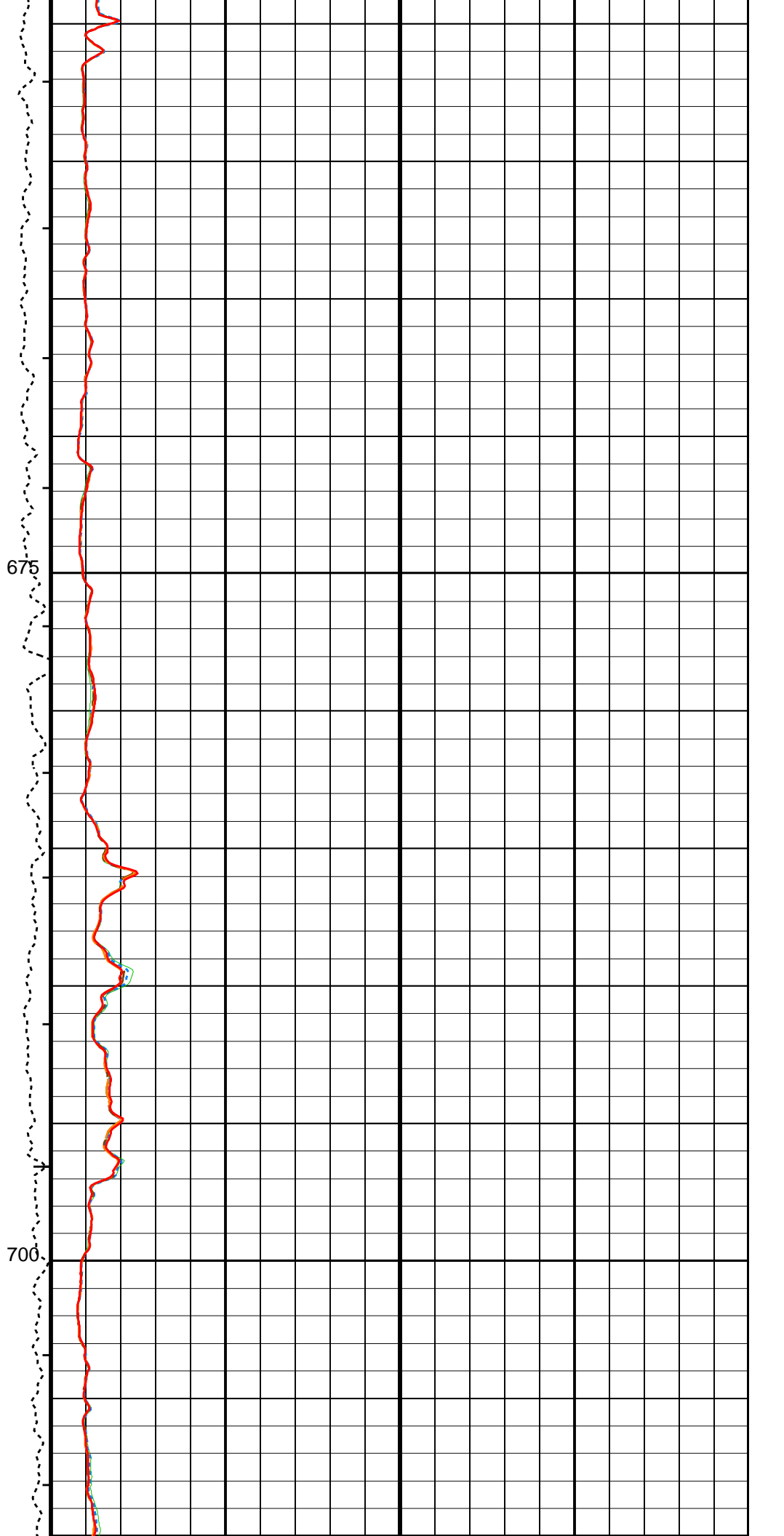
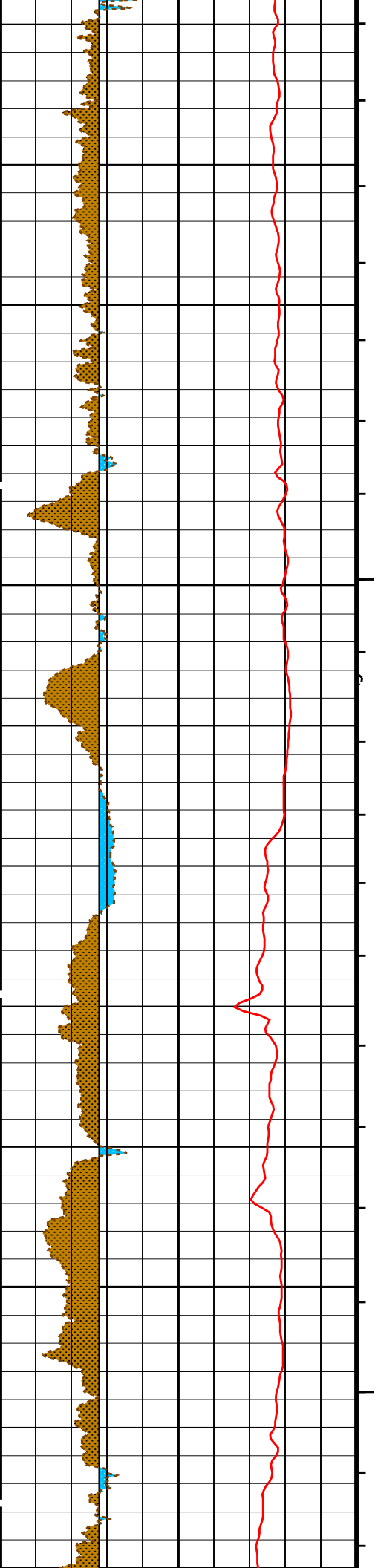


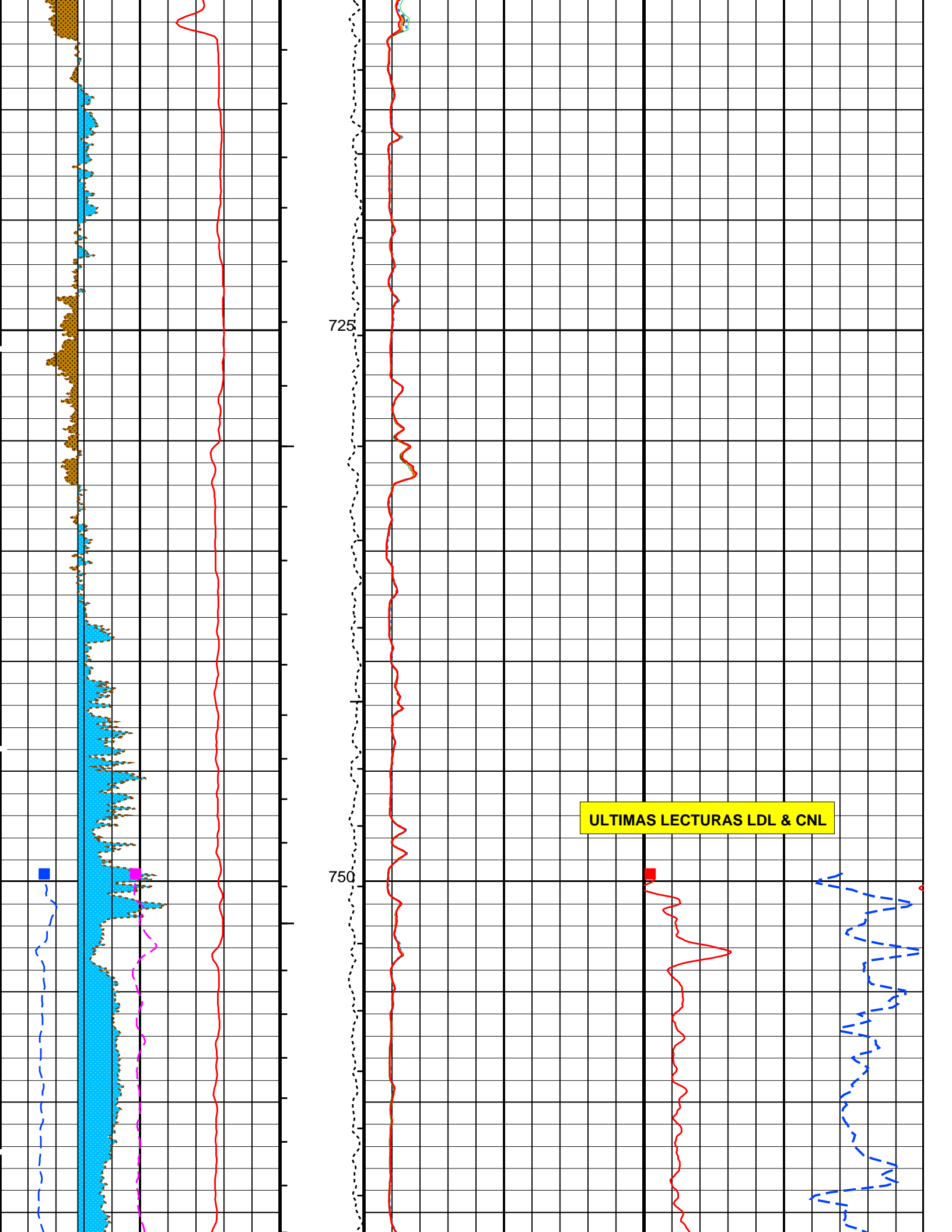
500

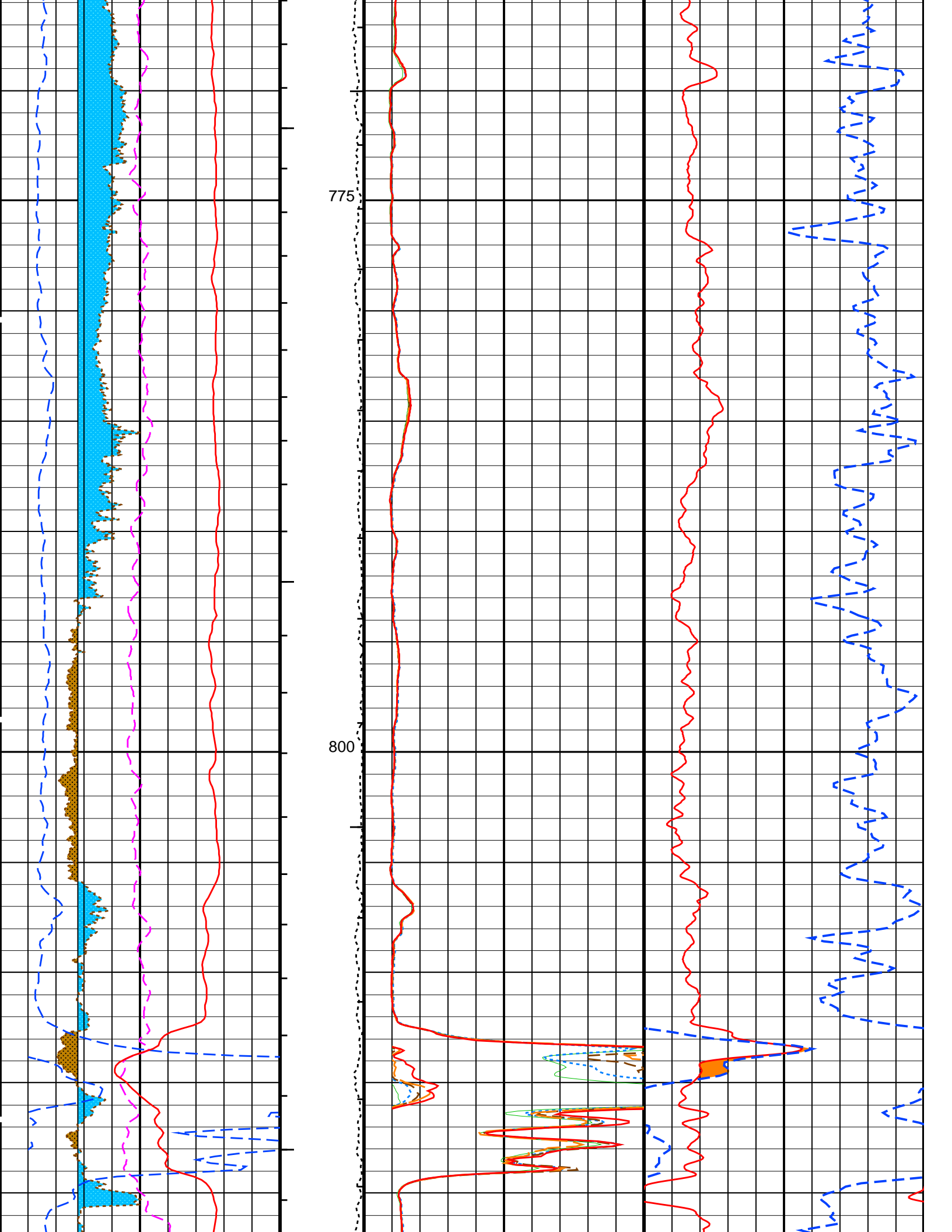
525

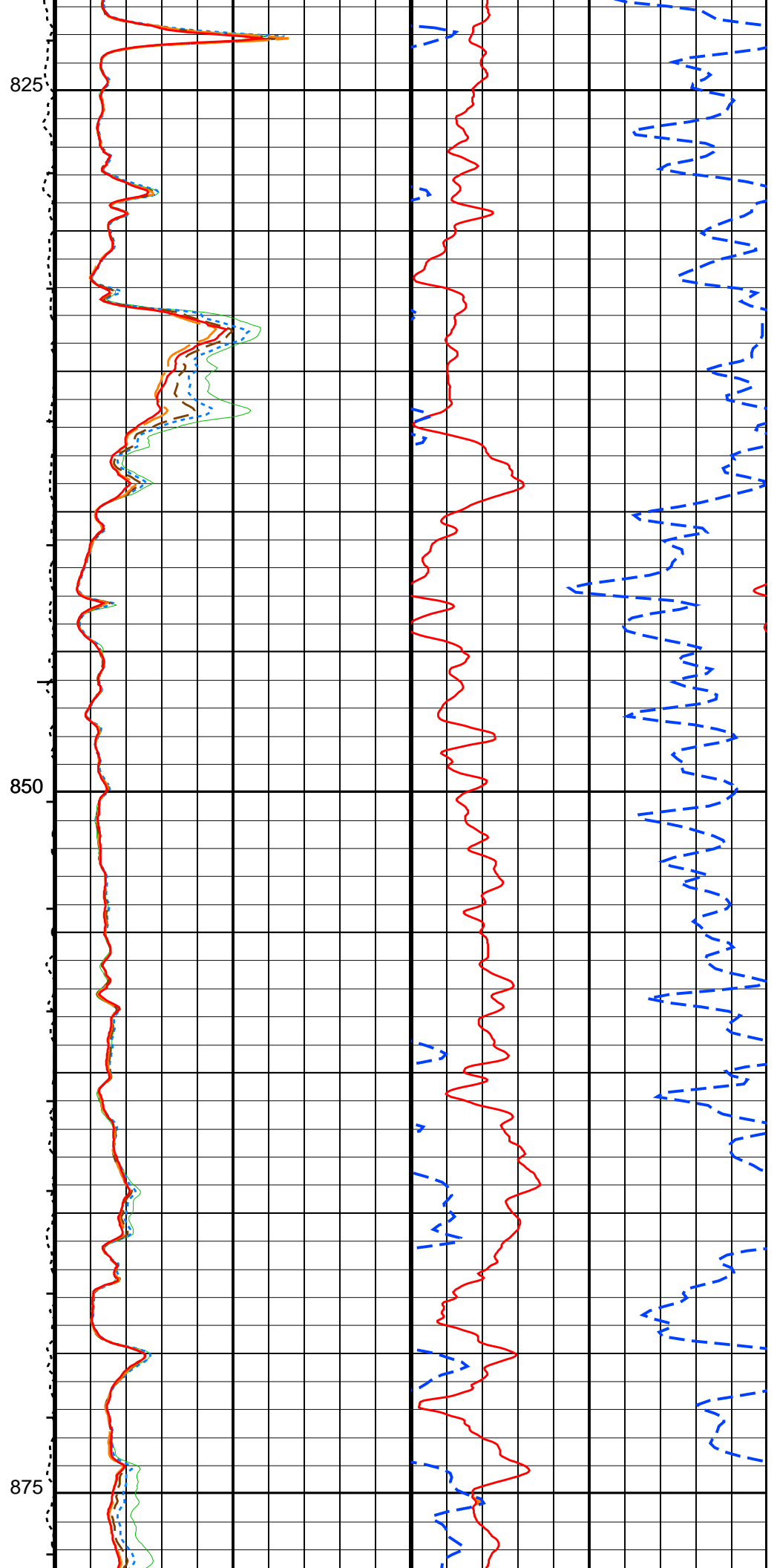
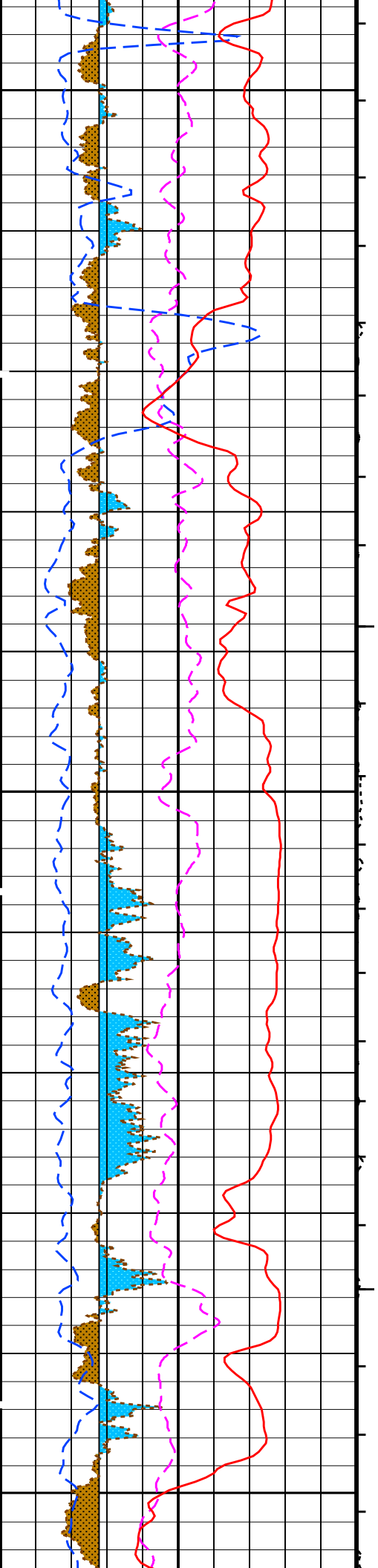


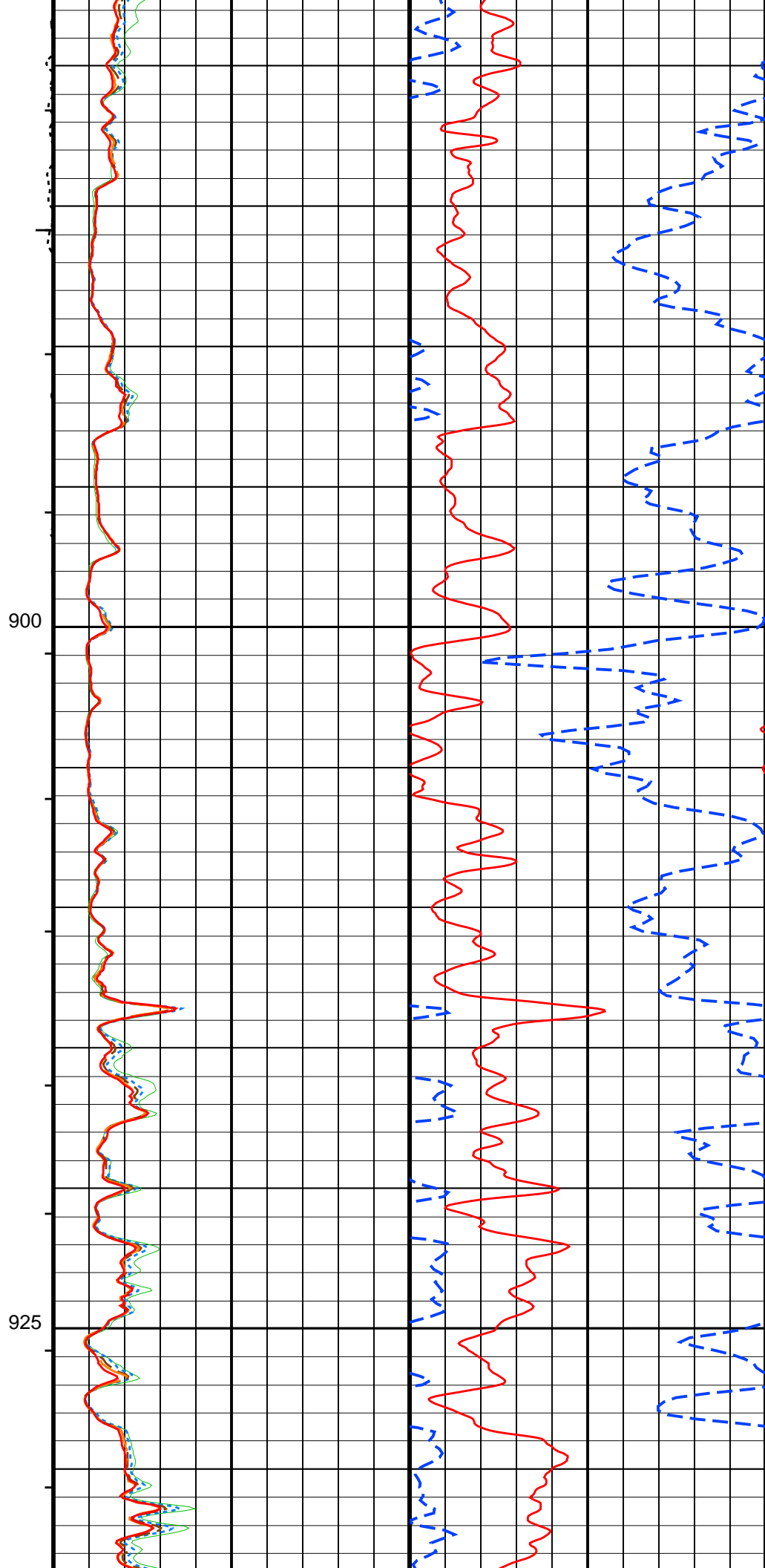
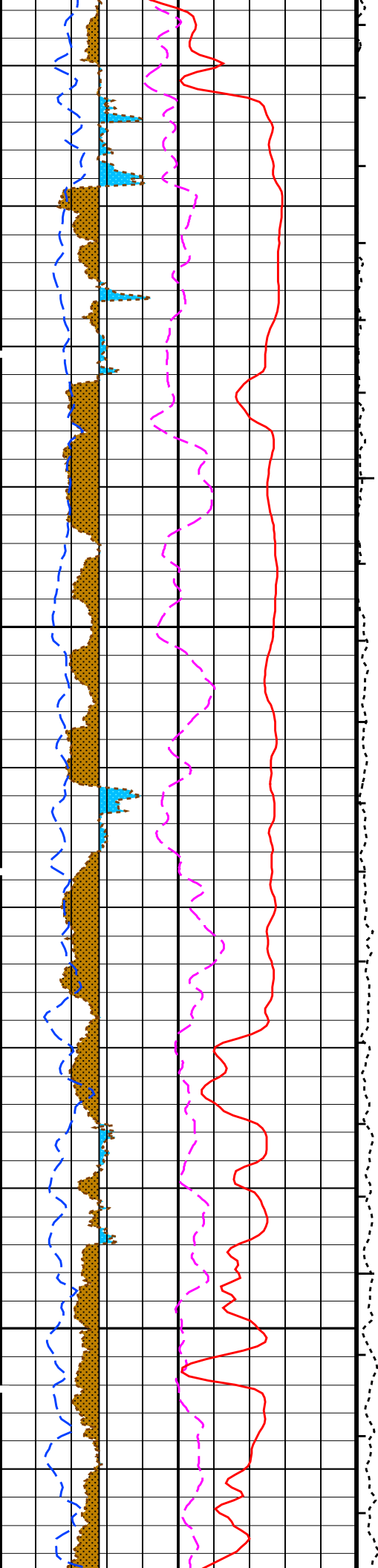


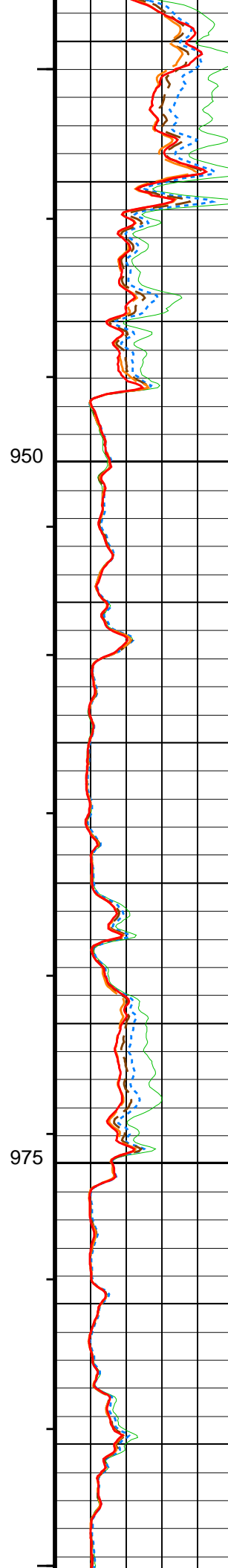
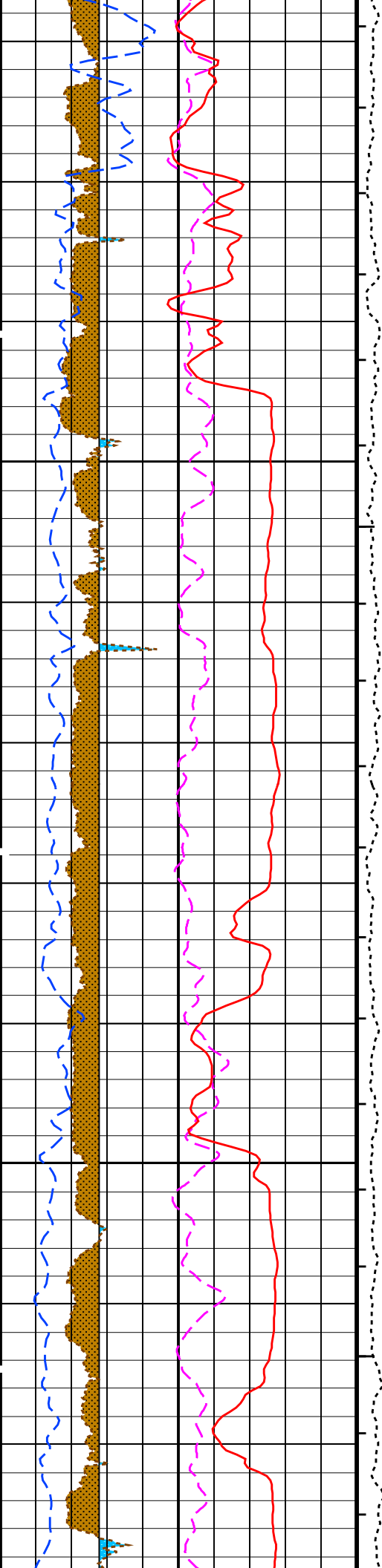






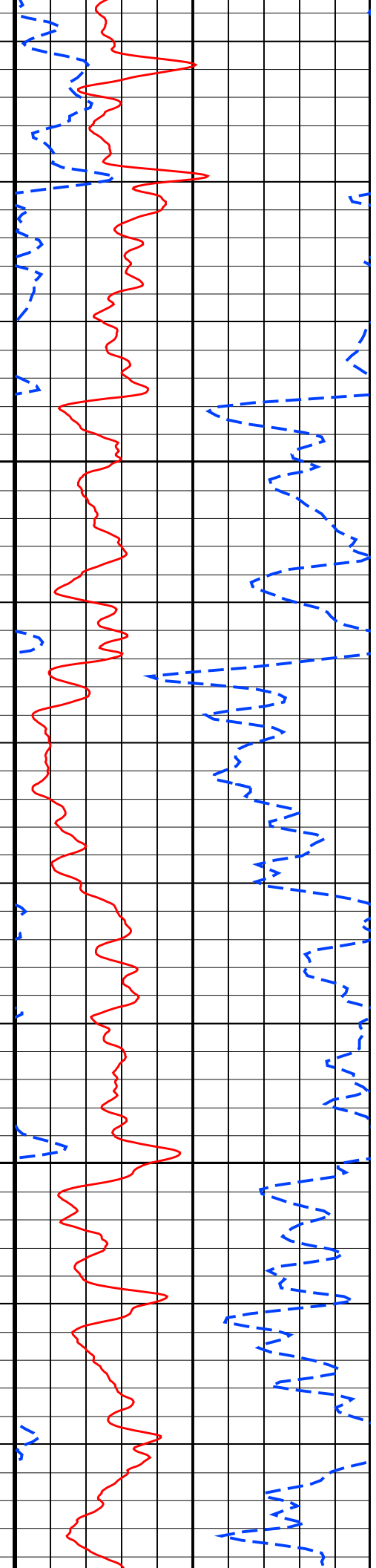


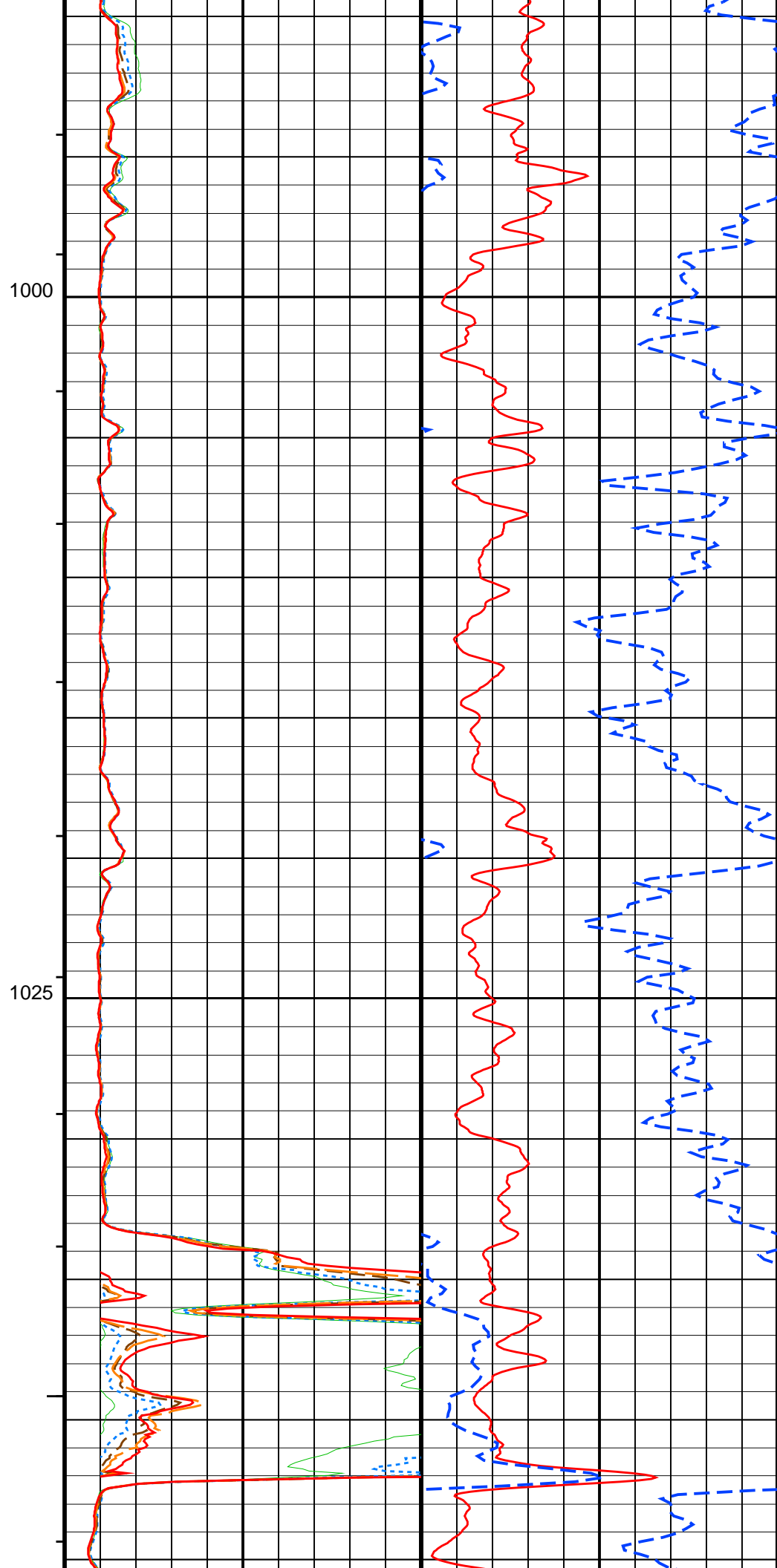
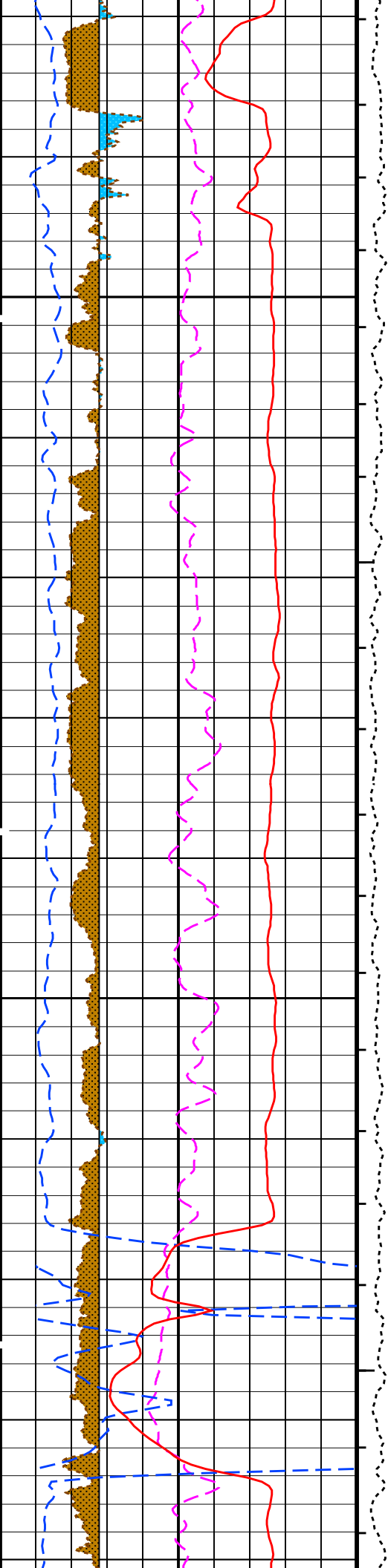


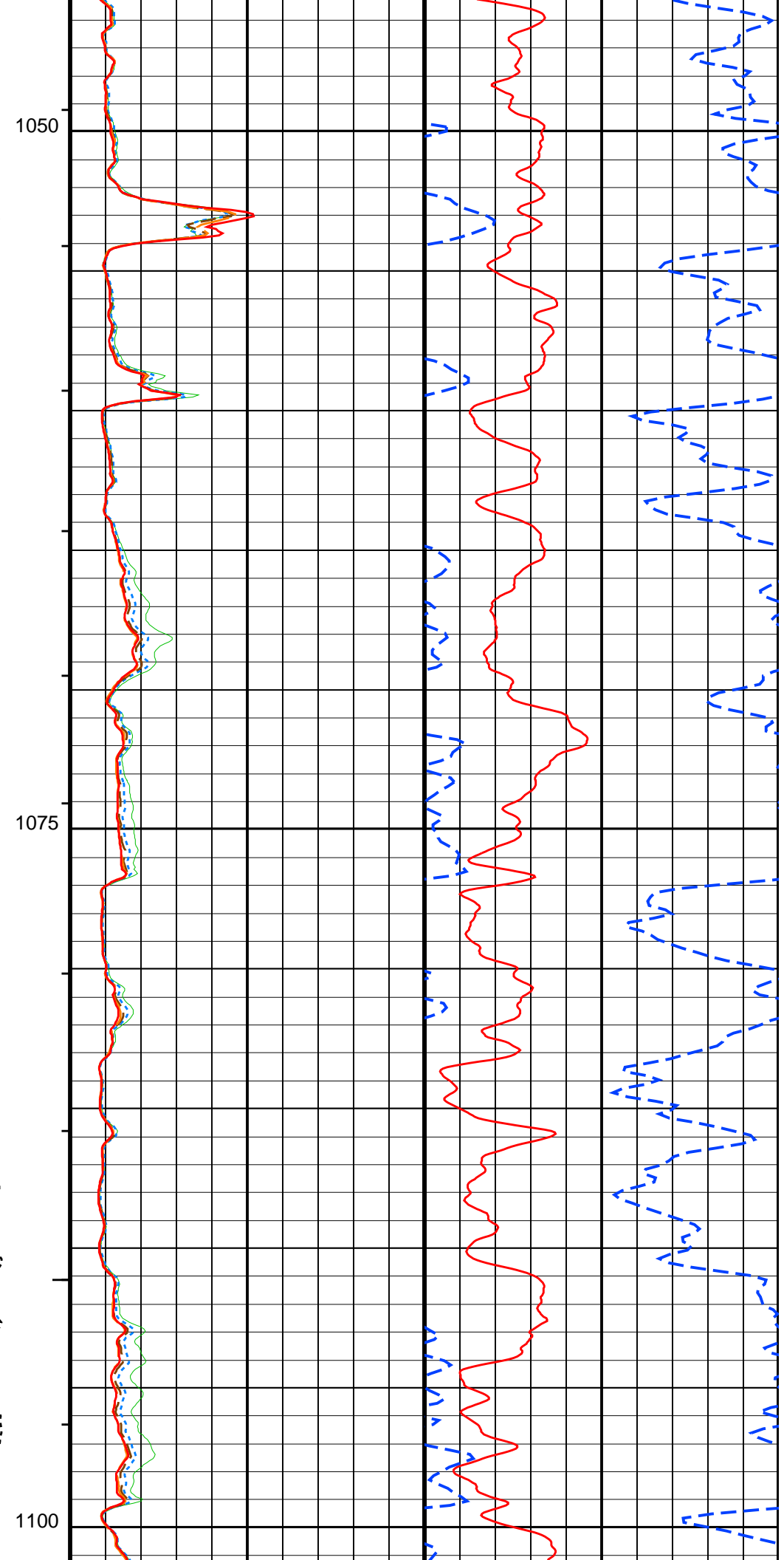
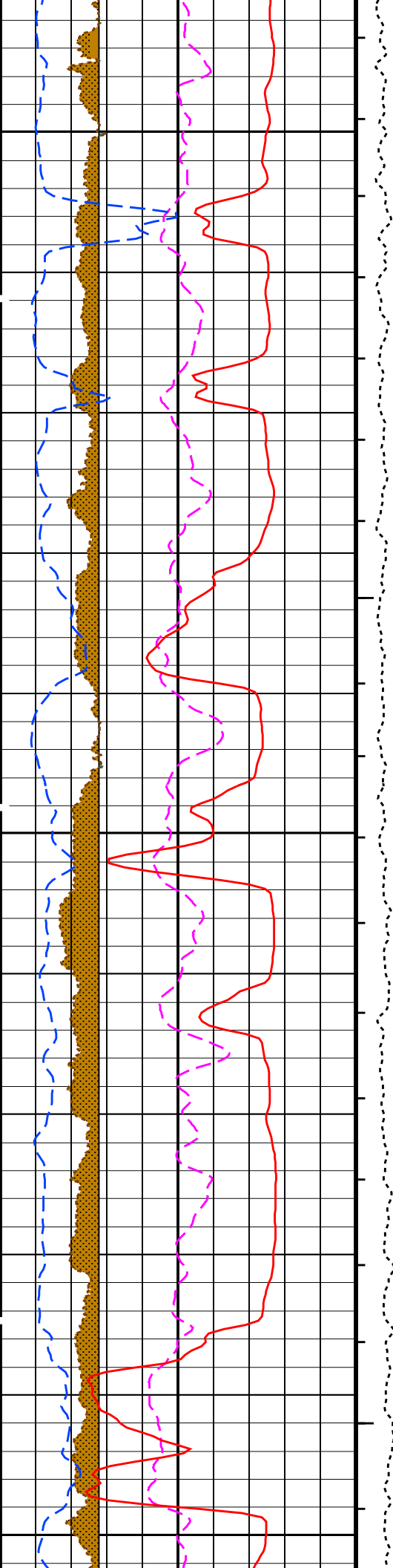


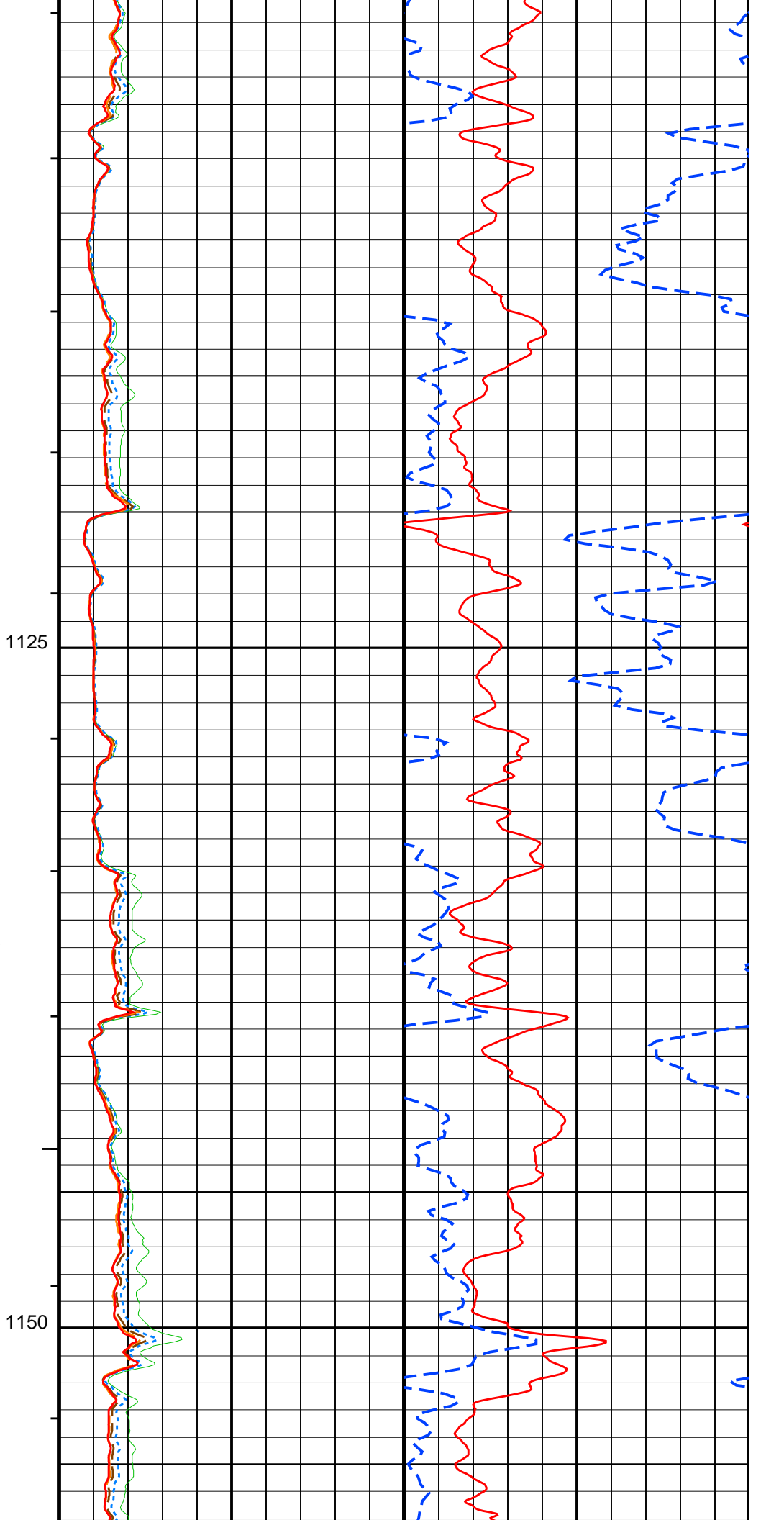
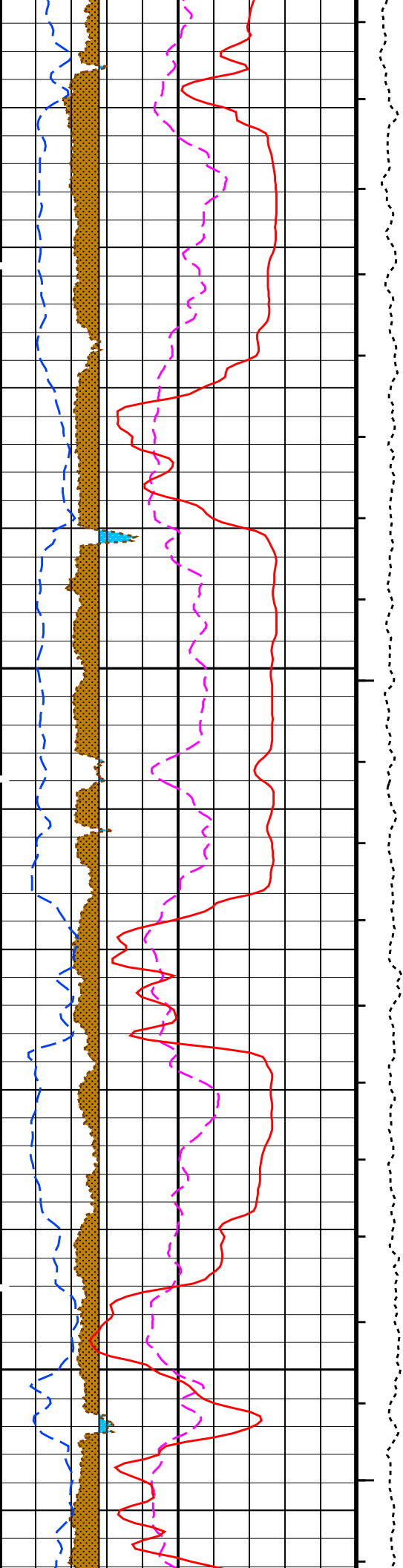
950

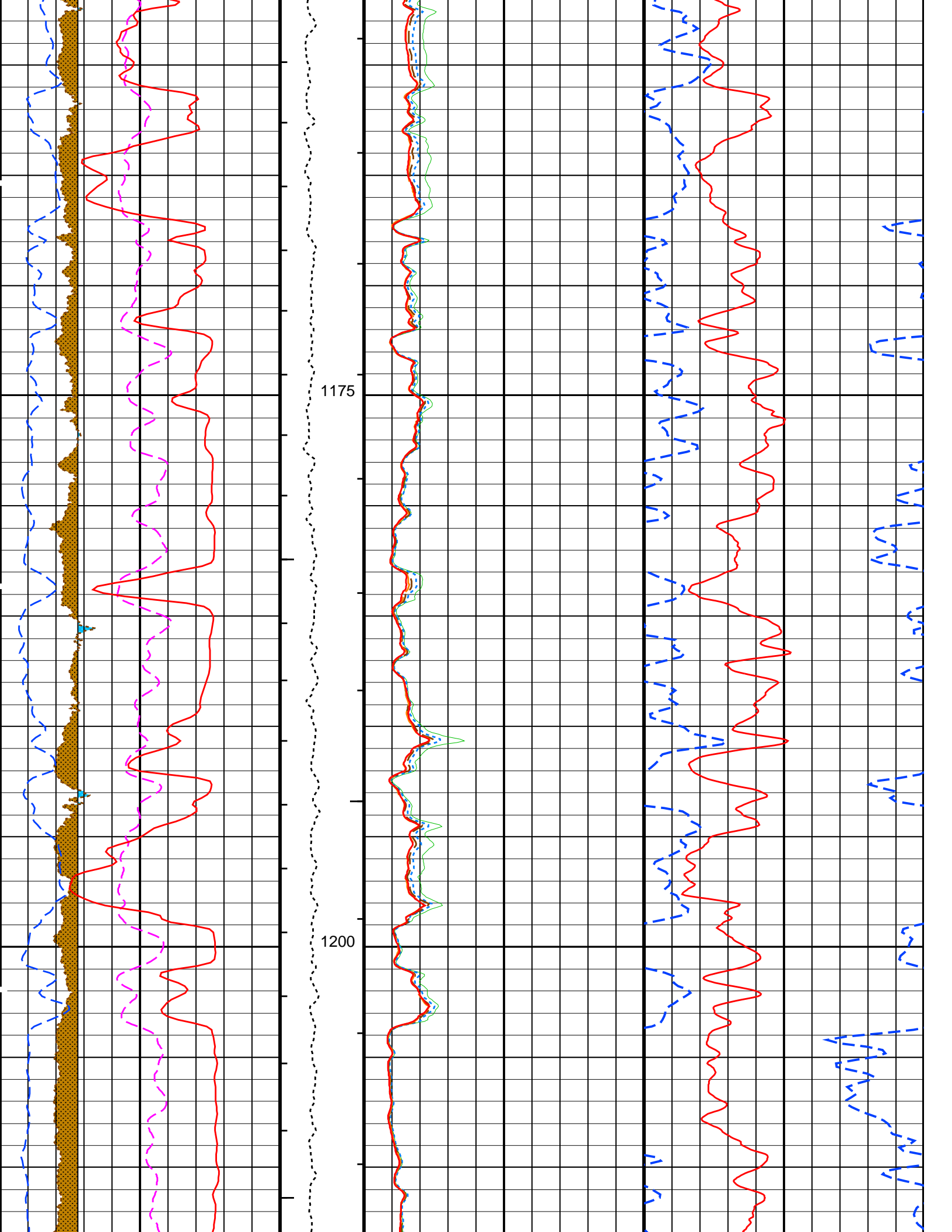
975

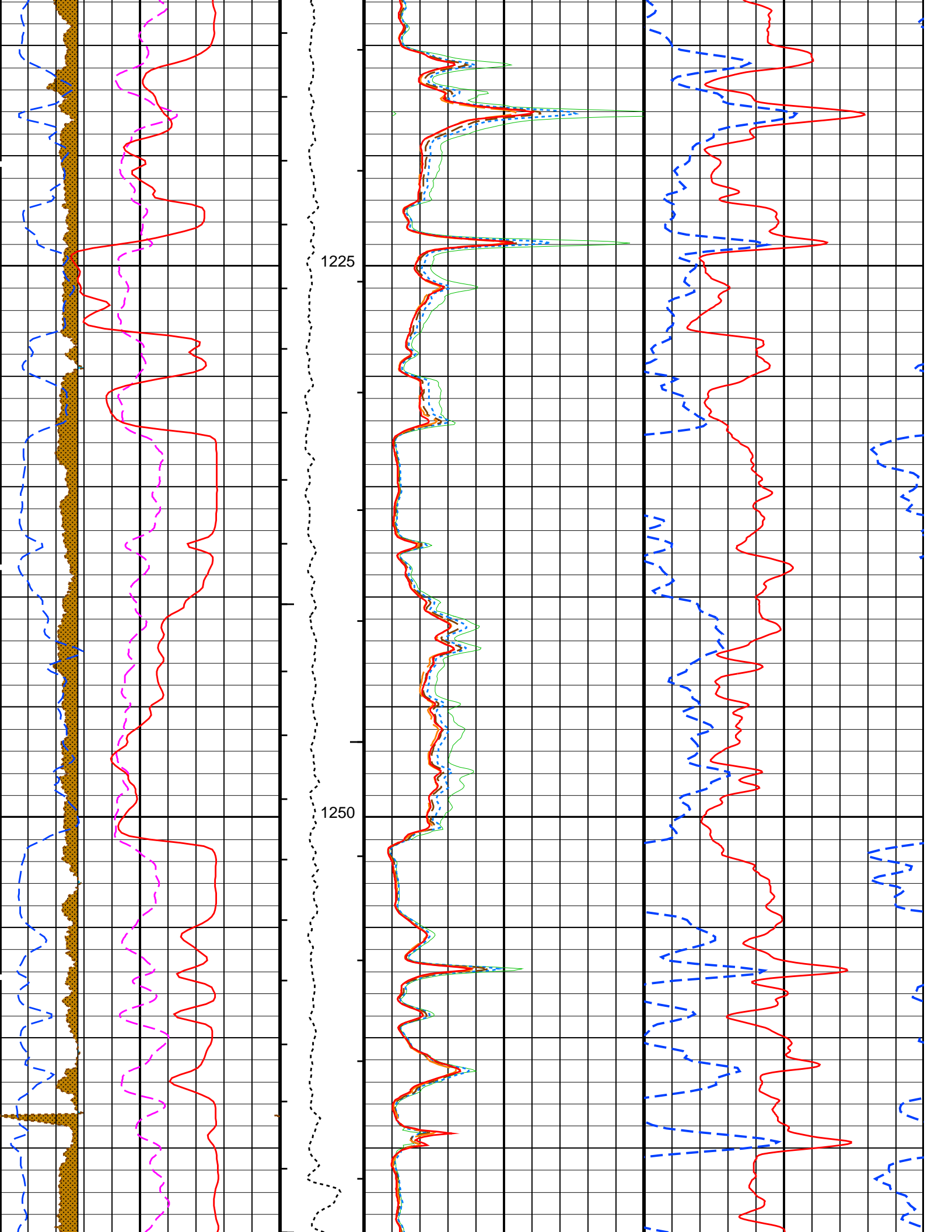


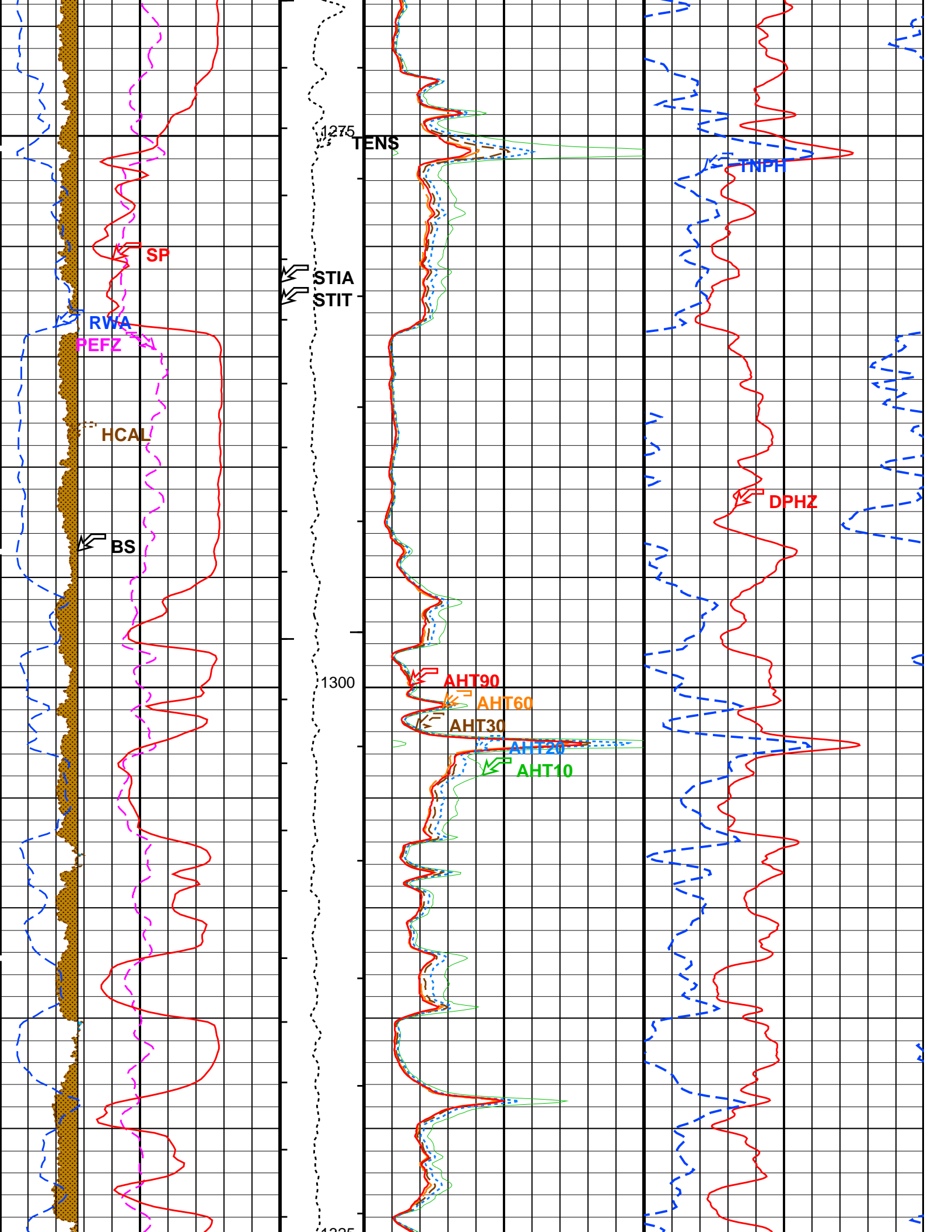


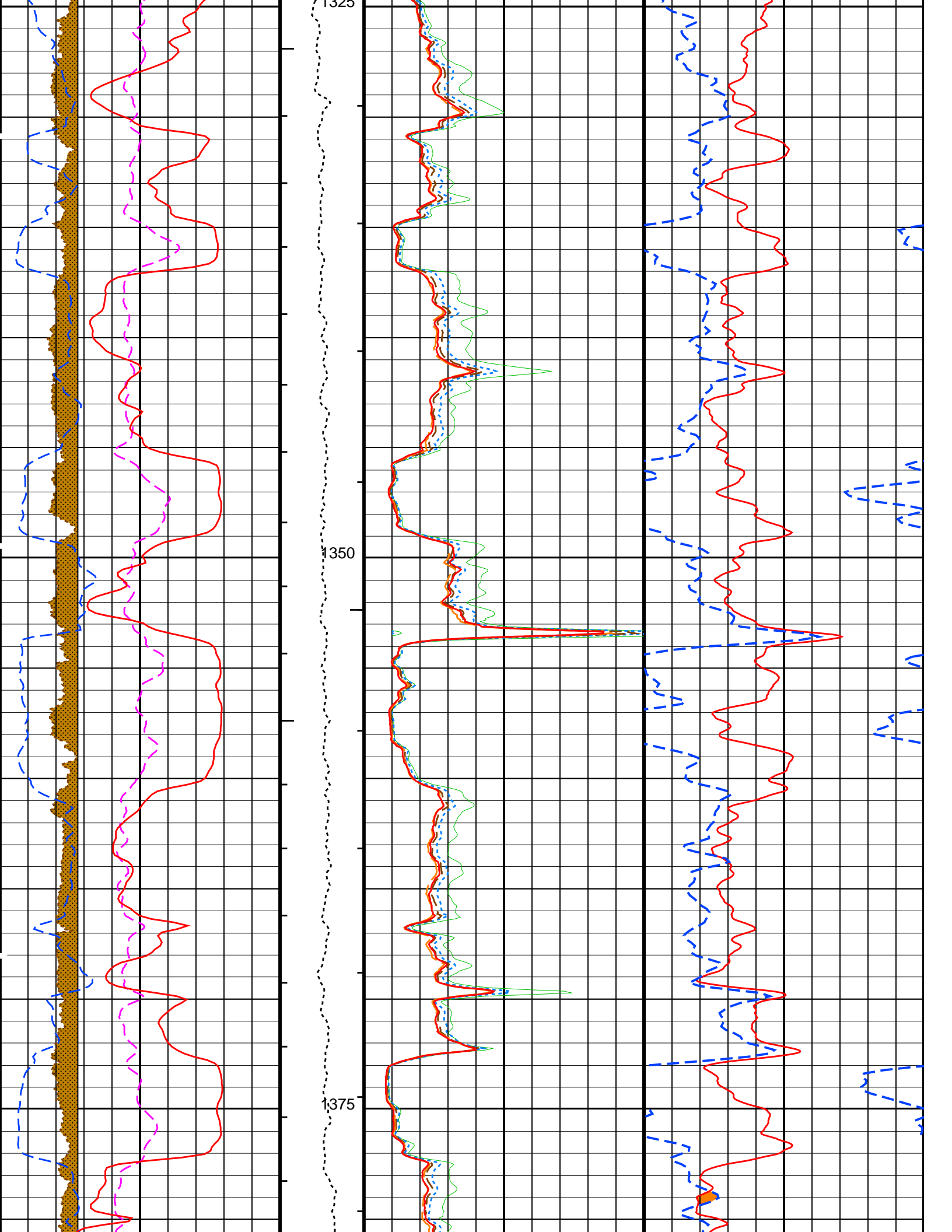


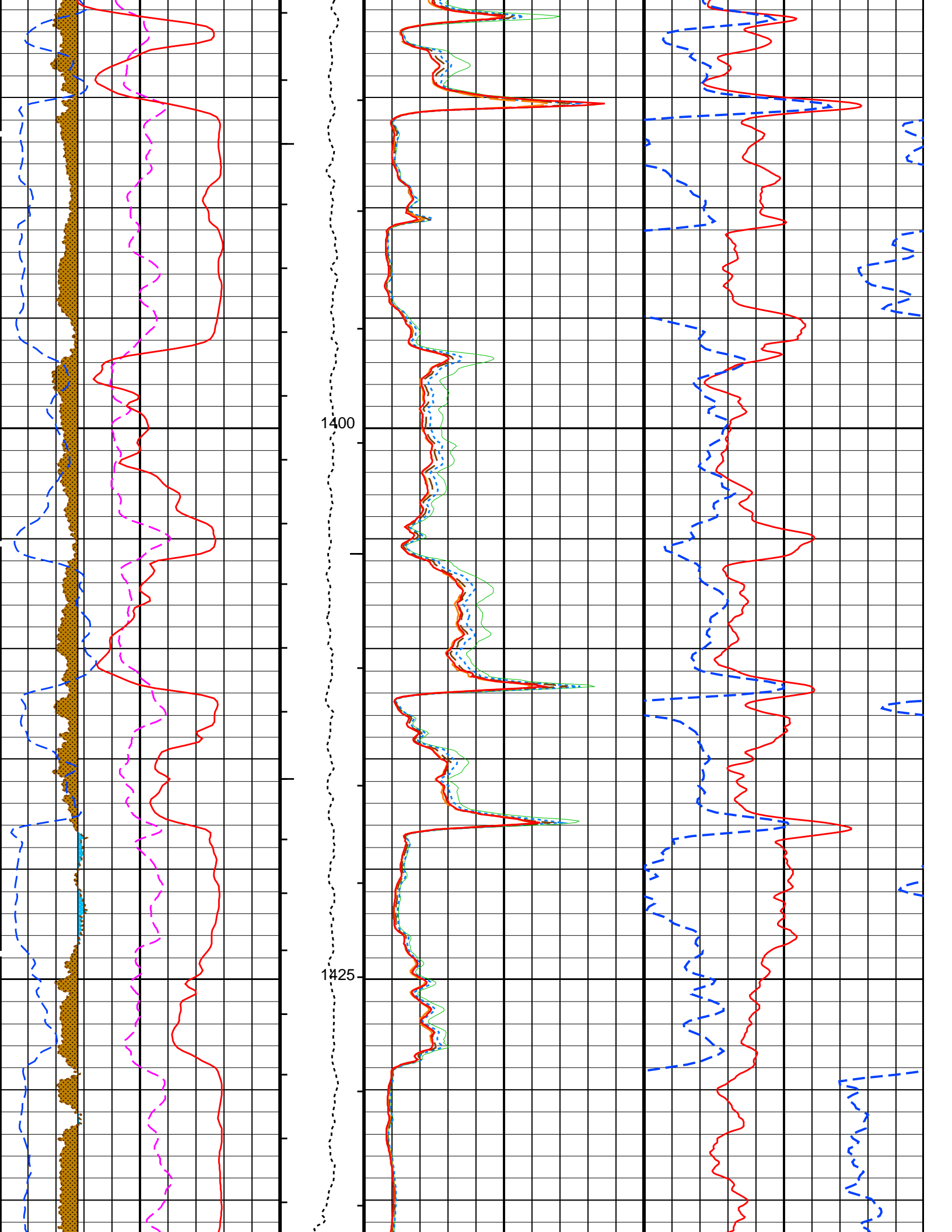


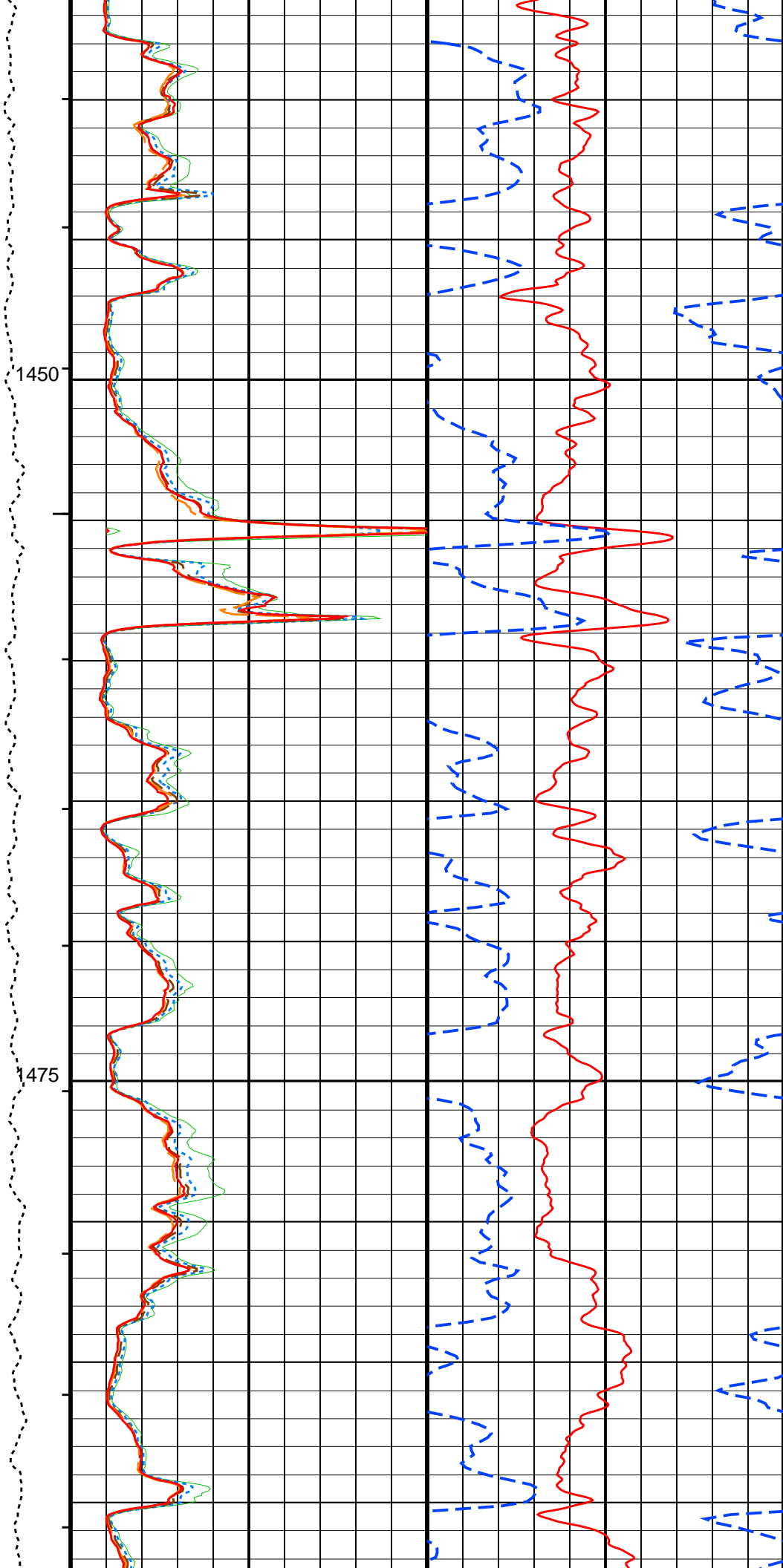
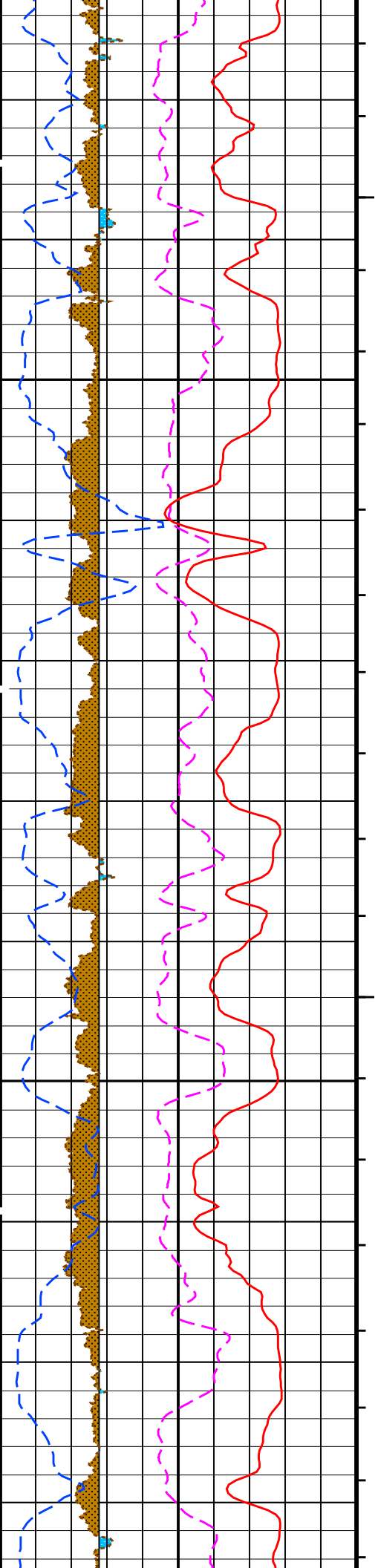






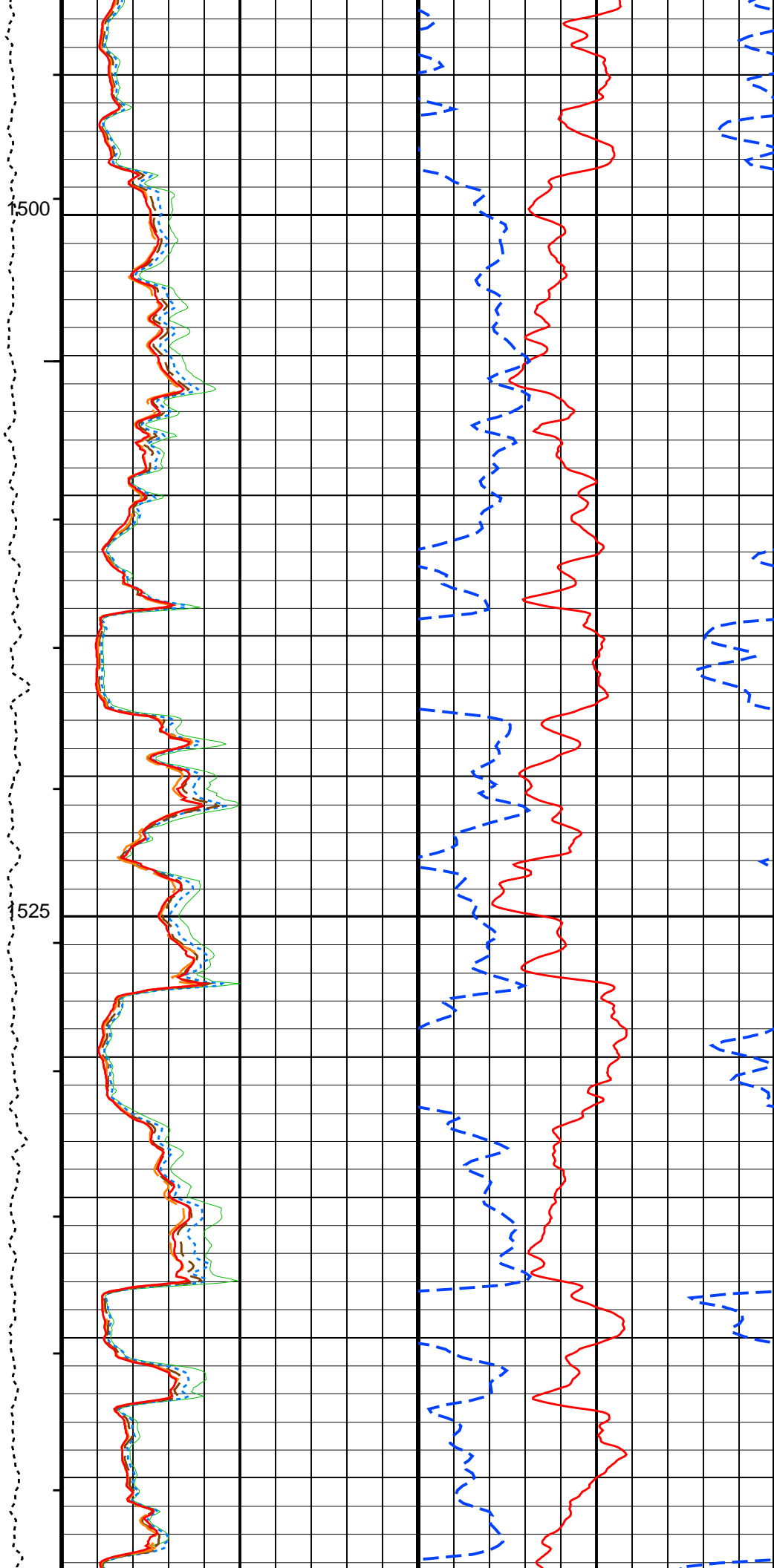
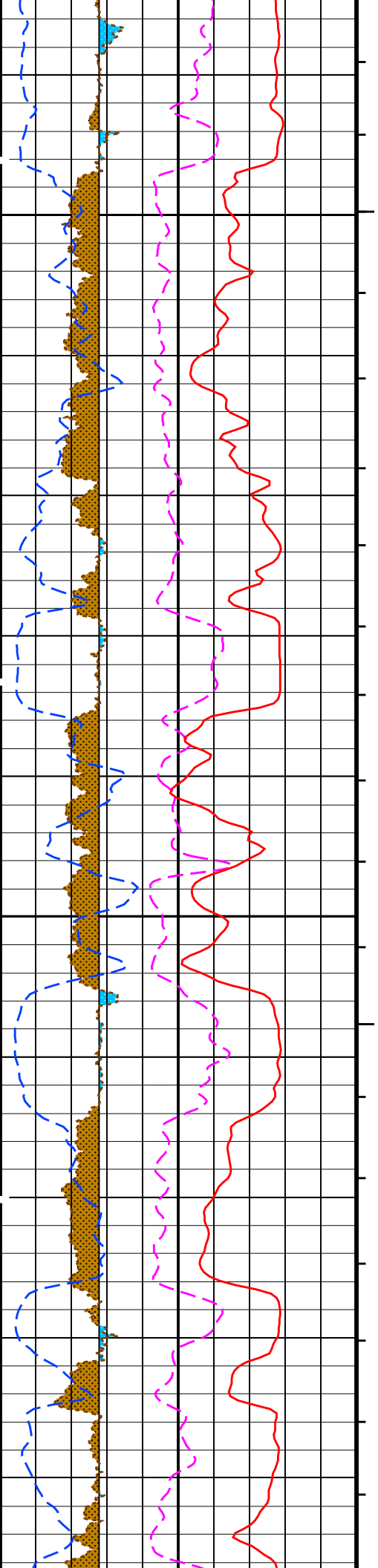


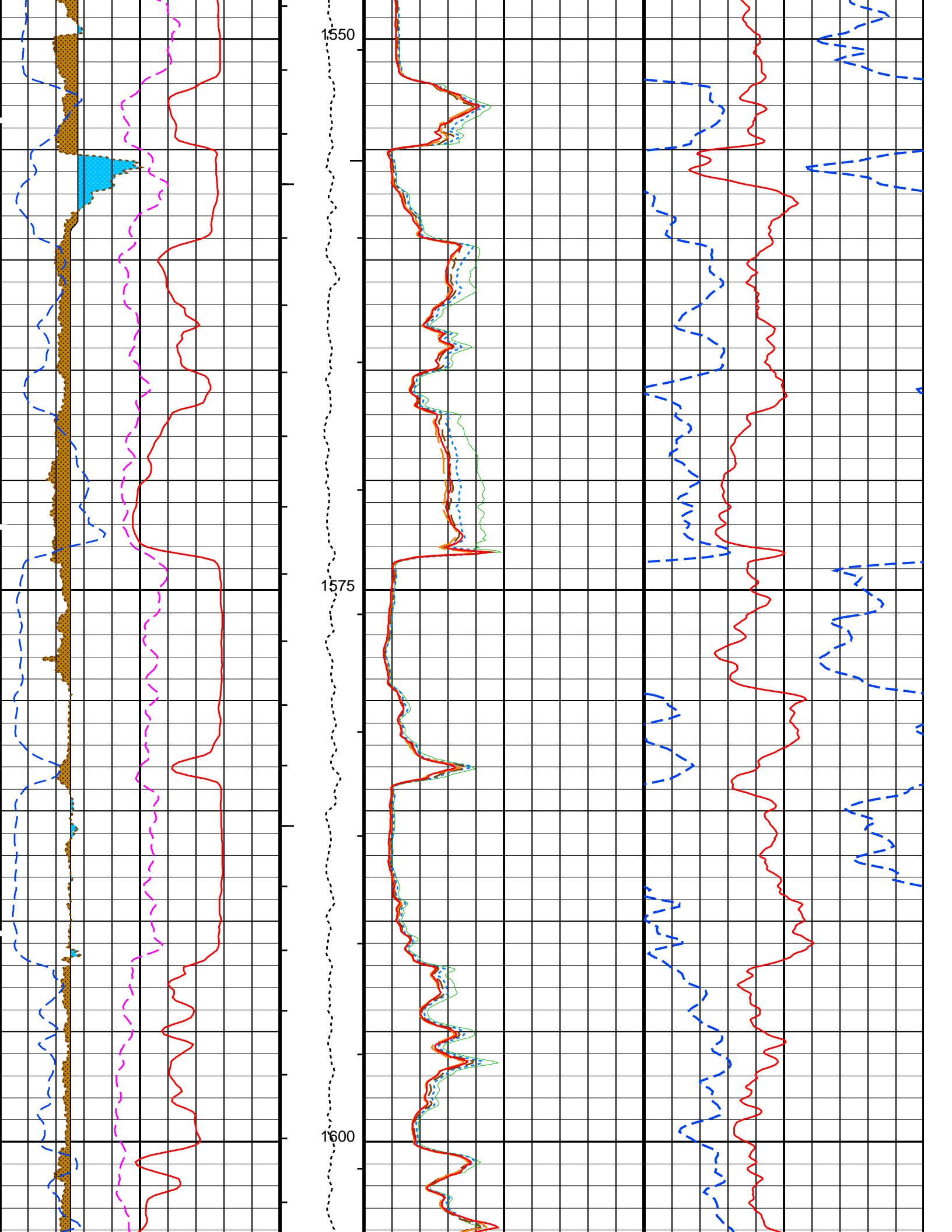


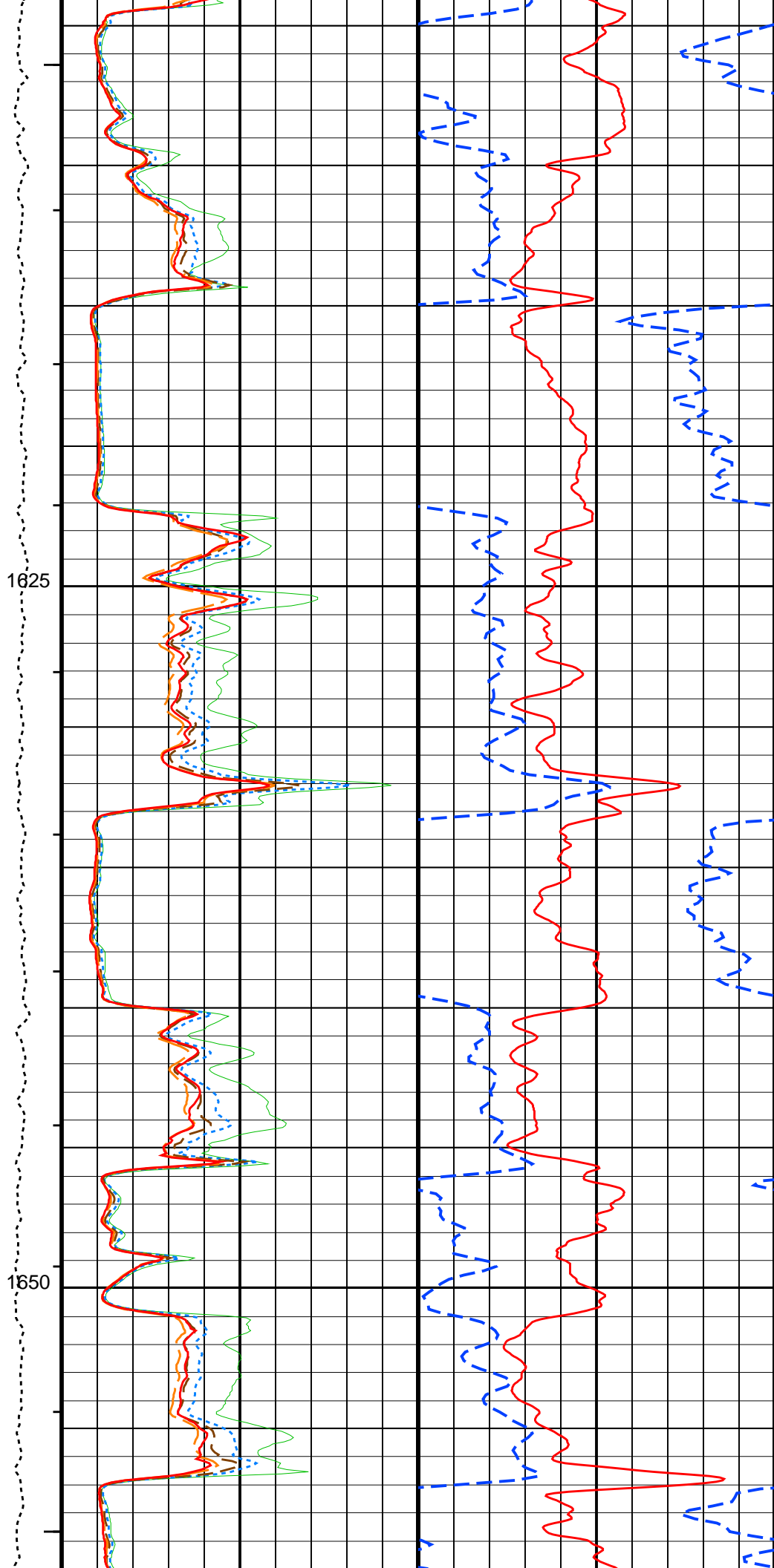
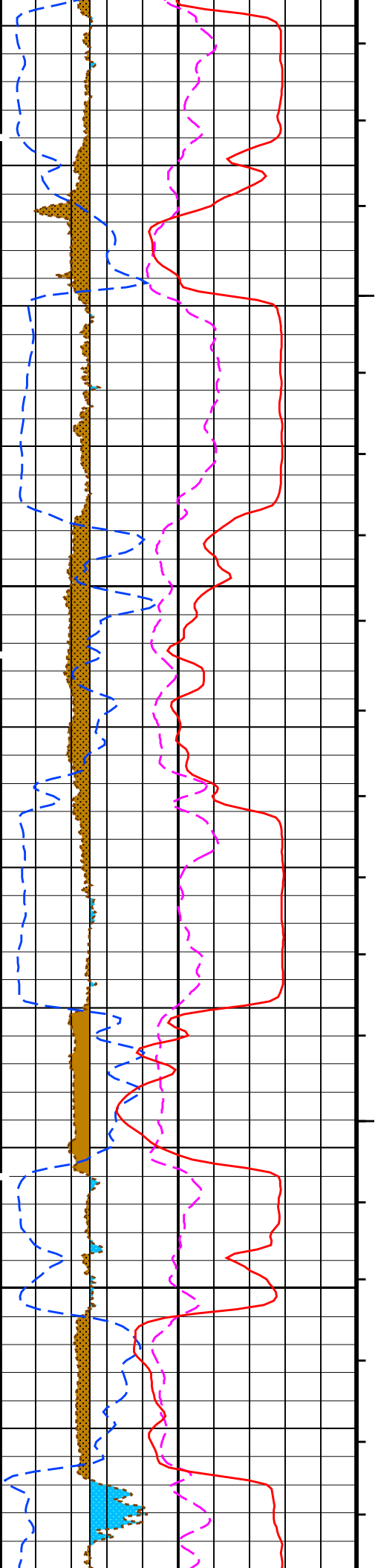


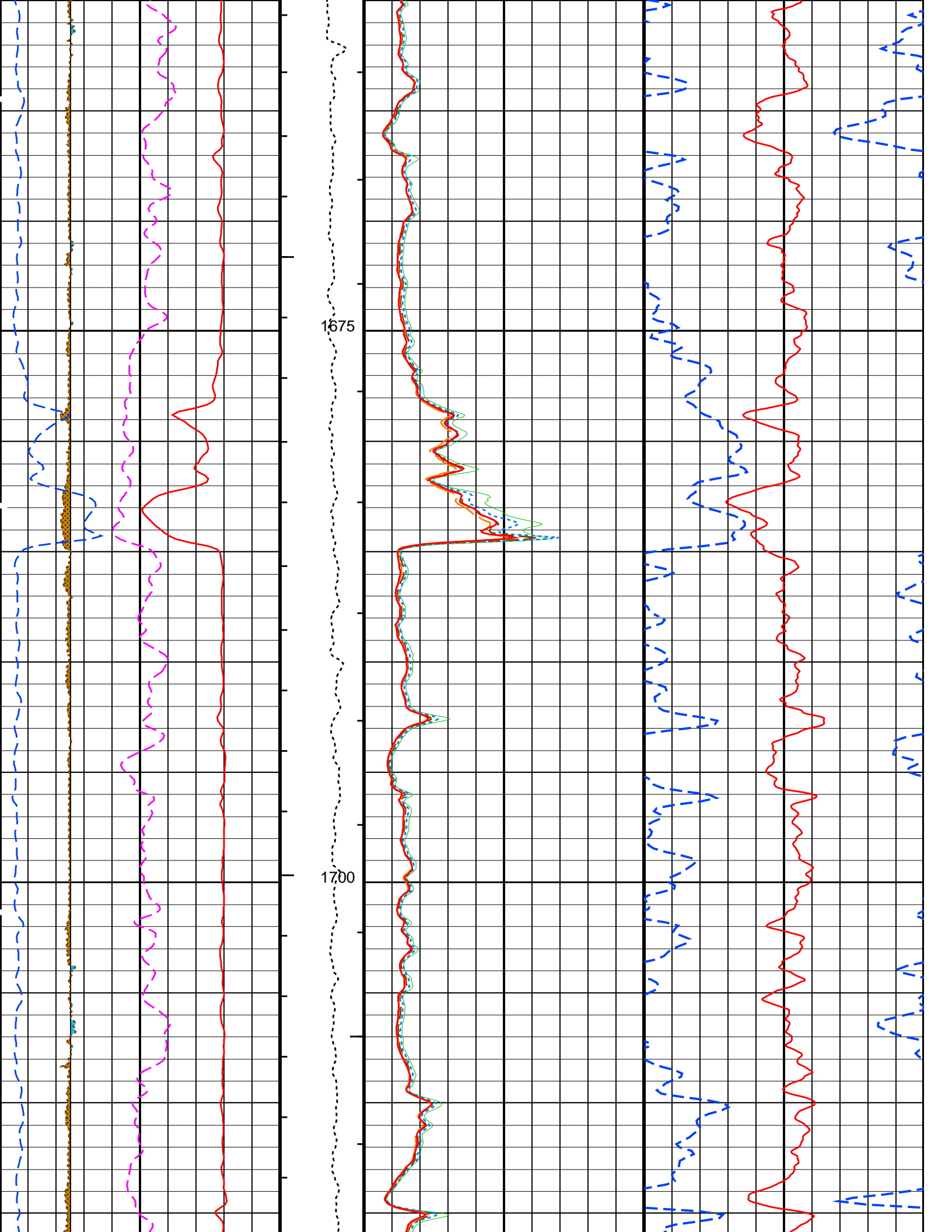
1450

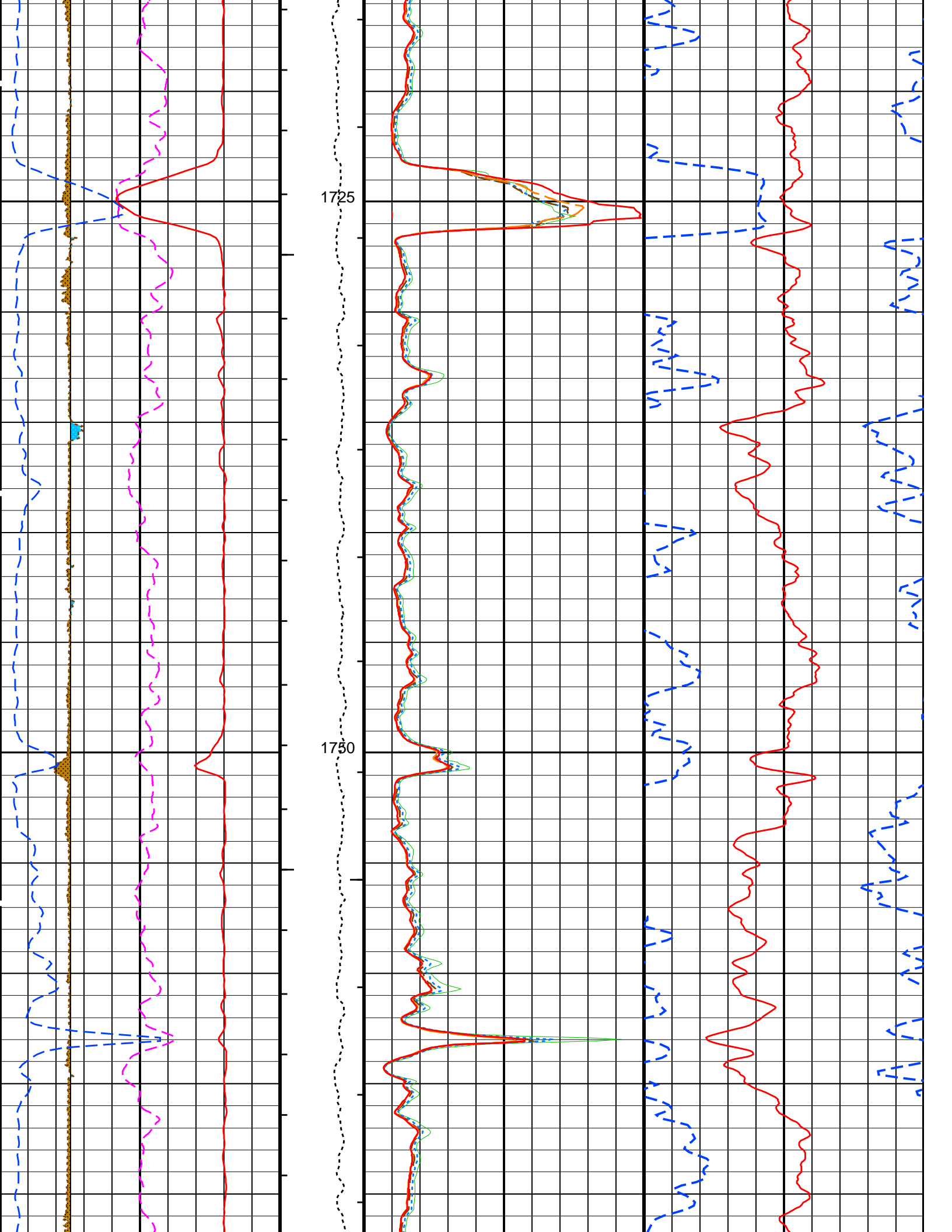
1475

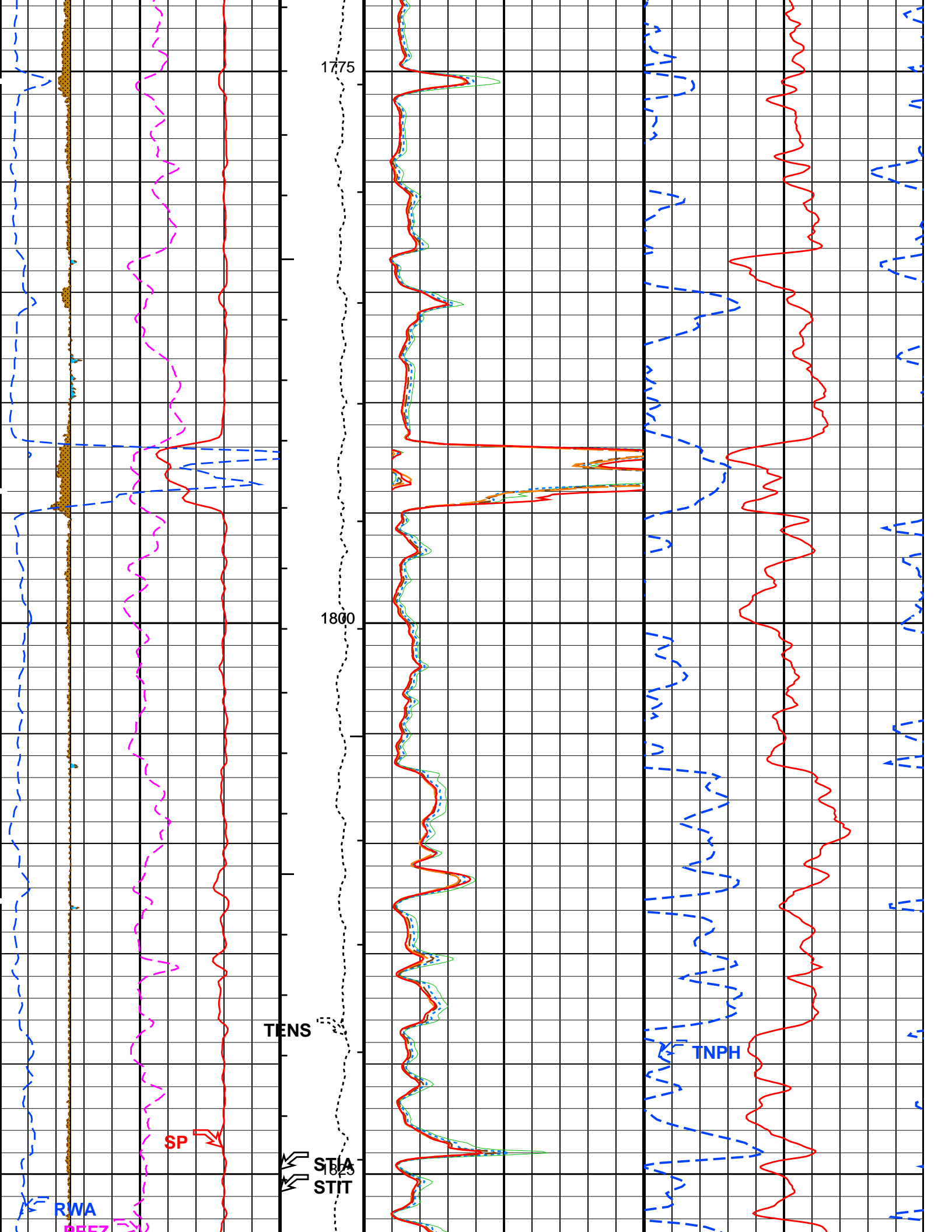


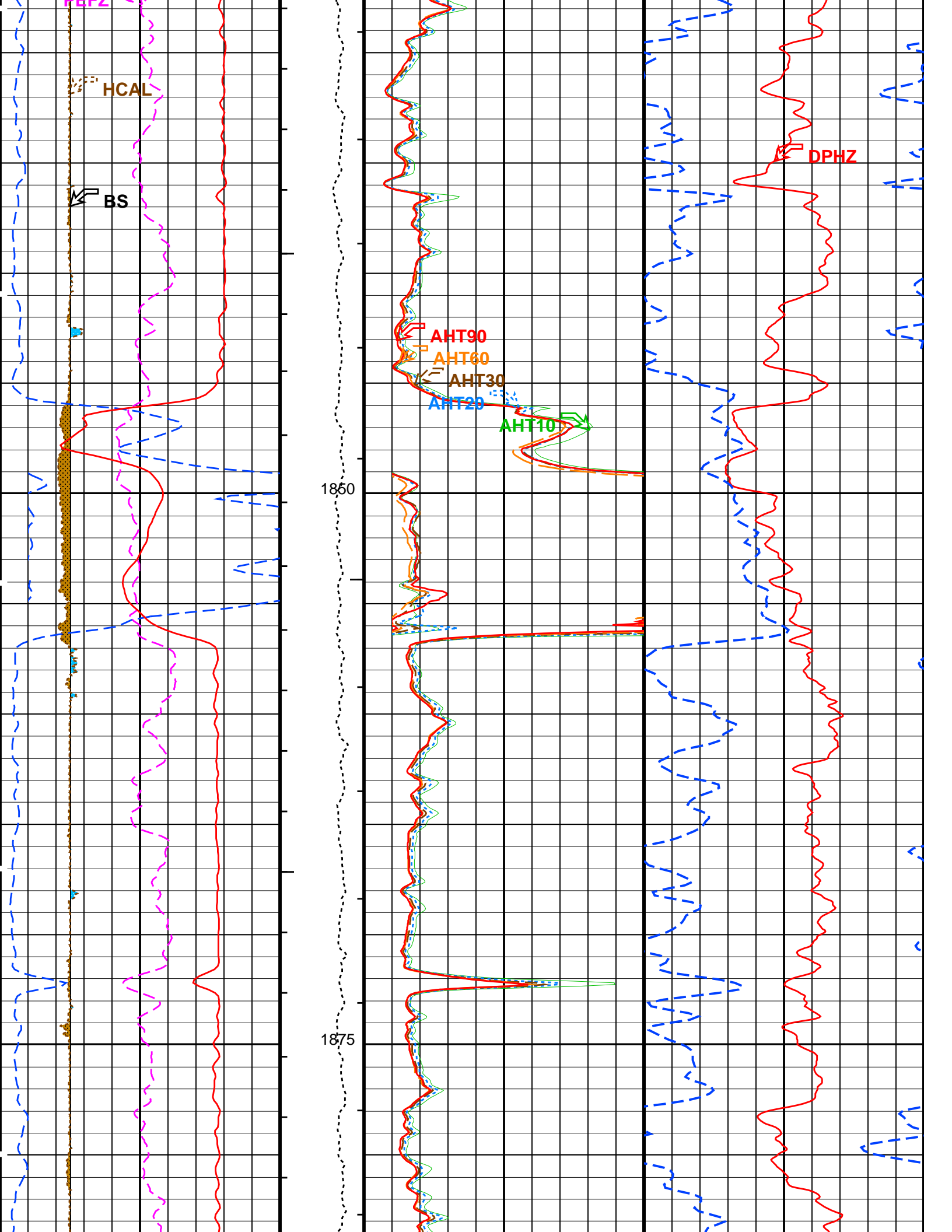


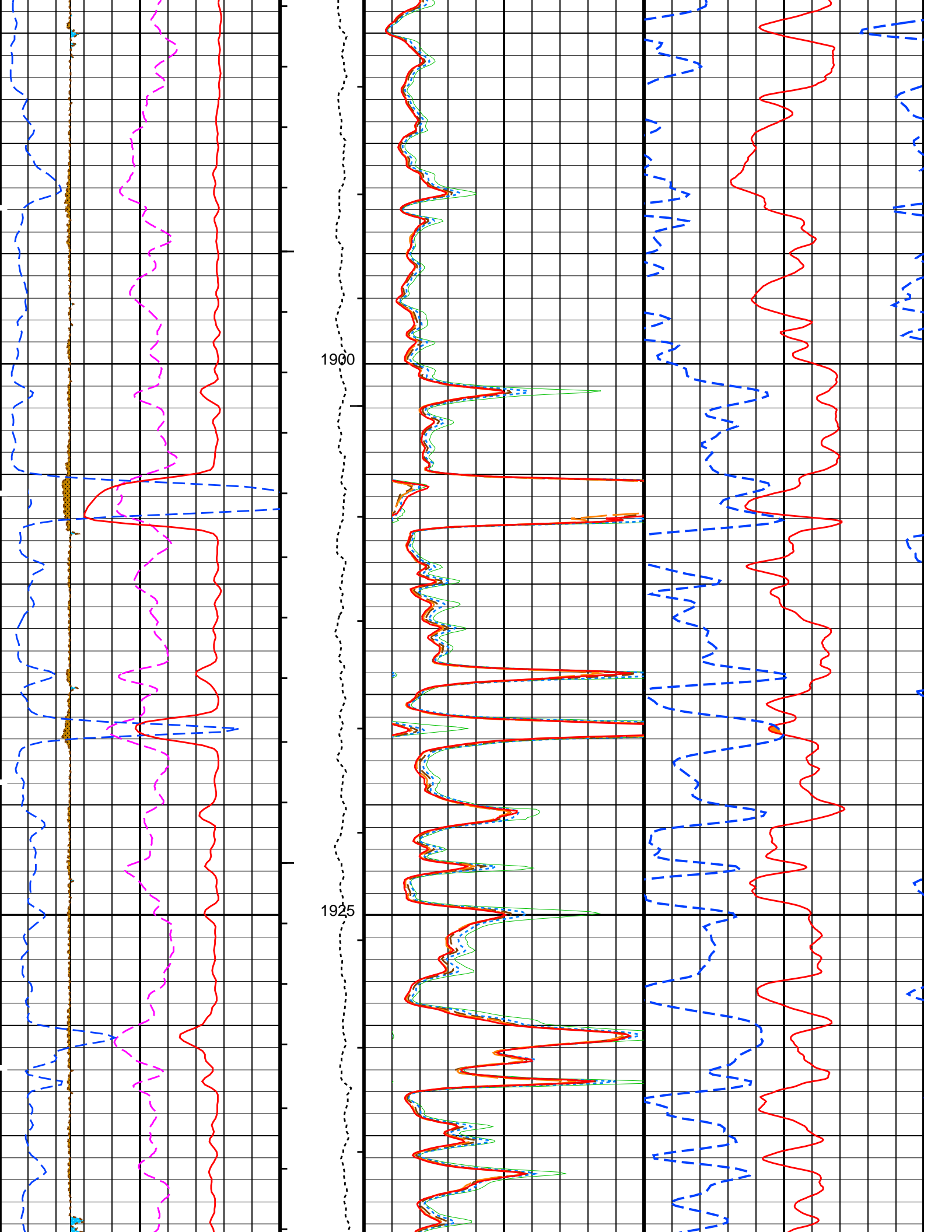


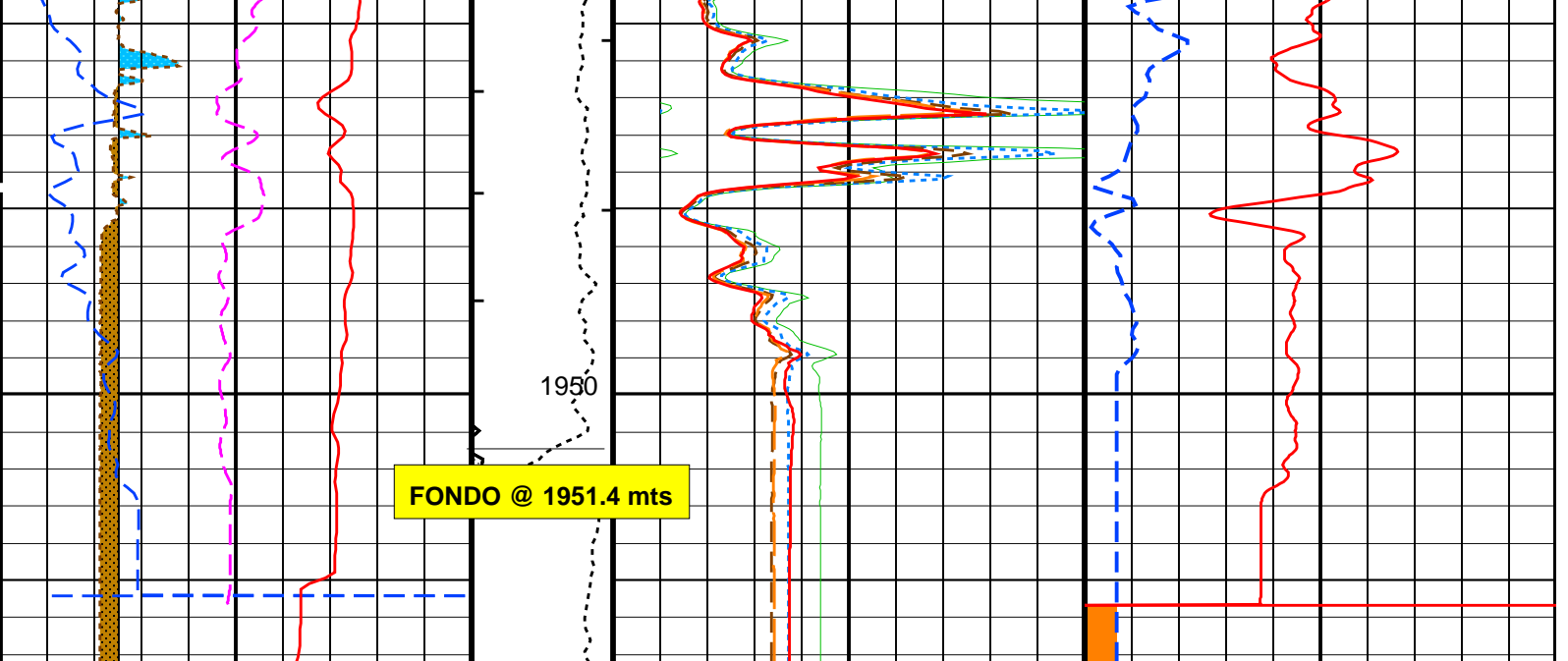












<p>Bit Size (BS) (IN) 6 16</p>	<p>Tension (TENS) (LBF) 0 1000</p>	<p>AIT-H 10 Inch Investigation (AHT10) (OHMM) 0 10</p>	<p>Std. Res. Density Porosity (DPHZ) (V/V) 0.4 0</p>
<p>Caliper (HCAL) (IN) 6 16</p>	<p>Stuck Stretch (STIT) (M) 0 20</p>	<p>AIT-H 20 Inch Investigation (AHT20) (OHMM) 0 10</p>	<p>Env. Corr. Thermal Neutron Porosity (TNPH) (V/V) 0.4 0</p>
<p>Std. Res. Formation Pe (PEFZ) (----) 0 5</p>		<p>AIT-H 30 Inch Investigation (AHT30) (OHMM) 0 10</p>	<p>Gas From DPHZ to TNPH</p>
<p>RWA (RWA) (OHMM) 0 1</p>		<p>AIT-H 60 Inch Investigation (AHT60) (OHMM) 0 10</p>	
<p>SP (SP) (MV) -80 20</p>		<p>AIT-H 90 Inch Investigation (AHT90) (OHMM) 0 10</p>	
<p>REVOQUE From HCAL to BS</p>			
<p>CAVERNA From BS to HCAL</p>			

PIP SUMMARY

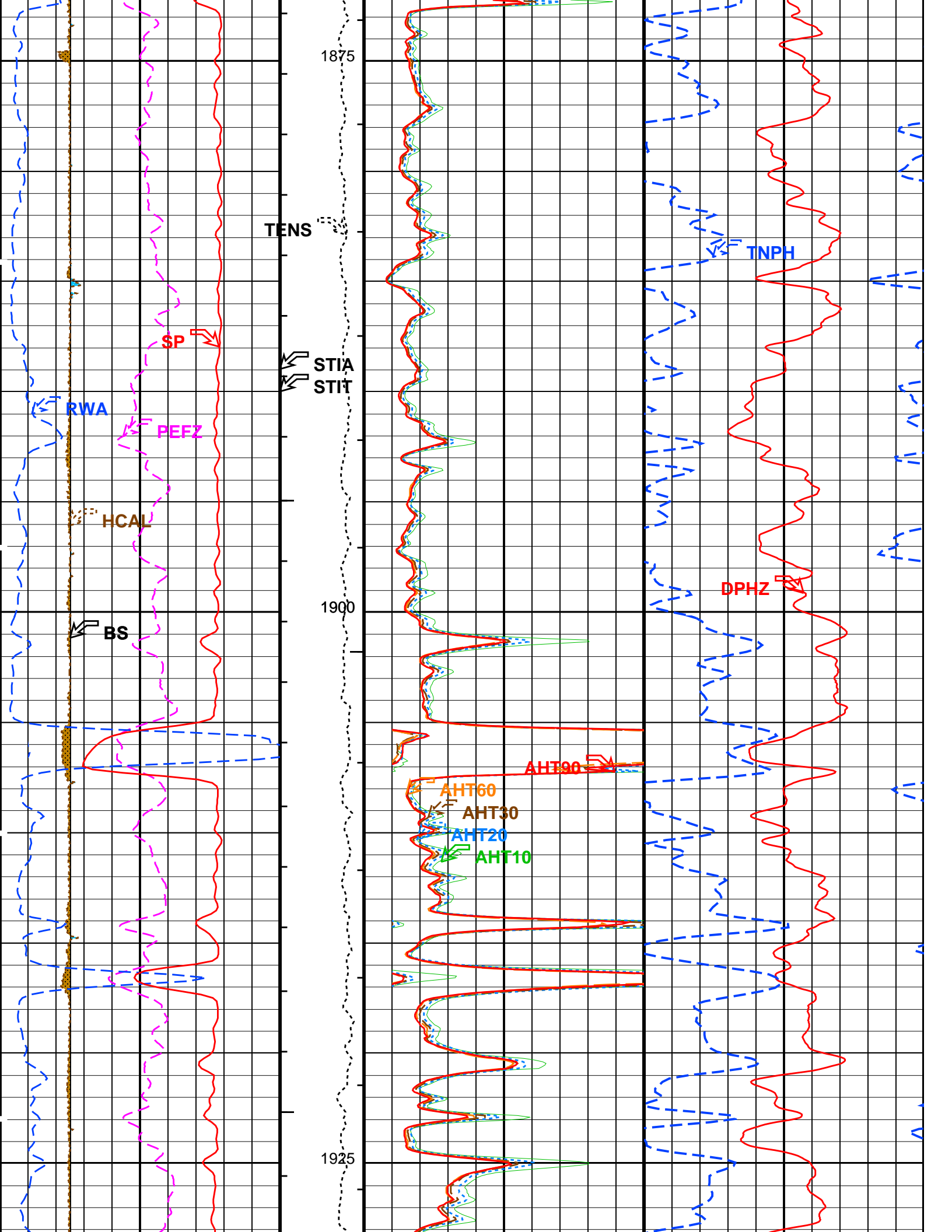
- ┆ Integrated Hole Volume Minor Pip Every 0.1 M3
- ┆ Integrated Hole Volume Major Pip Every 1 M3
 - ┆ Integrated Cement Volume Minor Pip Every 0.1 M3
 - ┆ Integrated Cement Volume Major Pip Every 1 M3

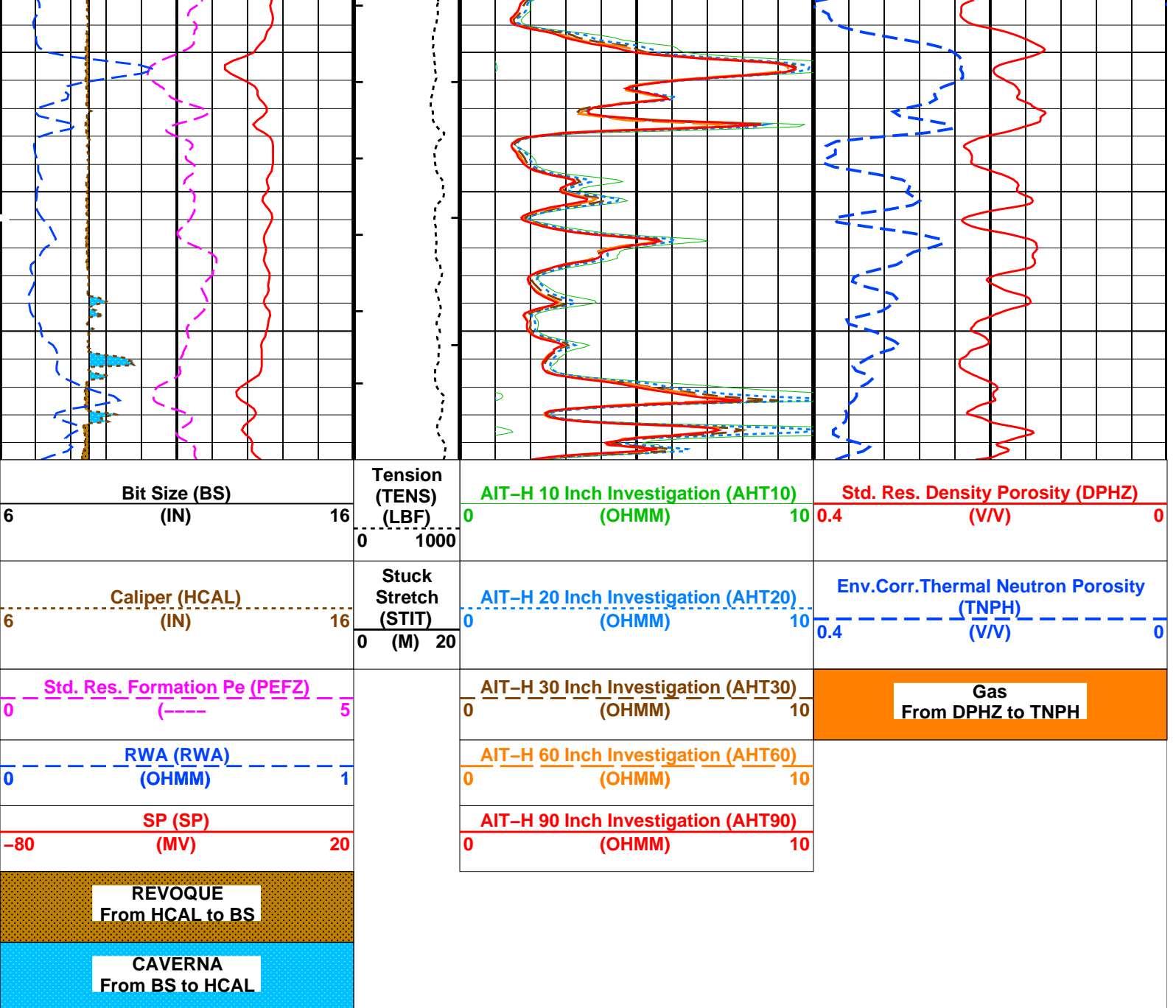
Time Mark Every 60 S

Parameters

DLIS Name	Description	Value
HILTB-CTS: High resolution Integrated Logging Tool-CTS		
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	1.000
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
AHSAP	Array Induction Suspend Answer Product Processing	0_NOSUSPENSION
AHSTA	Array Induction Tool Standoff	1.500 in

Parameter	Description	Value	Unit
AHTRSV	Array Induction Set Version for Two ft Resolution	41.70.24.20	
ARTS	AIT Rt Selection (for ALLRES computation)	AITH_TWORESA90	
BHFL	Borehole Fluid Type	WATER	
BHFL_TLD	HILT Nuclear Mud Base	WATER	
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	70.000	degC
BSCO	Borehole Salinity Correction Option	YES	
CCCO	Casing & Cement Thickness Correction Option	YES	
DHC	Density Hole Correction	BS	
DO	Depth Offset	0.4	m
FD	Fluid Density	1.000	g/cm3
FEXP	Form Factor Exponent	2.000	
FNUM	Form Factor Numerator	0.810	
FPHI	Form Factor Porosity Source	DPHZ	
FSCF	Formation Salinity Correction Option	NO	
GCLF	Germany Coal-like Formation Option	NO	
GCSE	Generalized Caliper Selection	HCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0.000	deg
GGRD	Geothermal Gradient	0.018	degC/m
GRSE	Generalized Mud Resistivity Selection	AHMF	
GTSE	Generalized Temperature Selection	HSTS_HTEM	
HSCO	Hole Size Correction Option	YES	
MATR	Rock Matrix for Neutron Porosity Corrections	SAND	
MCCO	Mud Cake Correction Option	YES	
MCOR	Mud Correction	NATU	
MDEN	Matrix Density	2.650	g/cm3
MWCO	Mud Weight Correction Option	YES	
NAAC	HRDD APS Activation Correction	OFF	
NMT	HILT Nuclear Mud Type	NOBARITE	
NPRM	HRDD Processing Mode	STDRES	
NSAR	HRDD Depth Sampling Rate	1.000	in
PTCO	Pressure/Temperature Correction Option	YES	
RTCO	RTCO - Rt Invasion Correction	YES	
SDAT	Standoff Data Source	SOCN	
SHT	Surface Hole Temperature	20.000	degC
SOCN	Standoff Distance	0.125	in
SOCO	Standoff Correction Option	YES	
SPDR	SP Drift	0.000	mV/m
SPNV	SP Next Value	0.000	mV
ALLRES: Basic Resistivity Transforms			
ARTS	AIT Rt Selection (for ALLRES computation)	AITH_TWORESA90	
DO	Depth Offset	0.4	m
RTCO	RTCO - Rt Invasion Correction	YES	
RWA: Apparent Water Resistivity			
ARTS	AIT Rt Selection (for ALLRES computation)	AITH_TWORESA90	
DO	Depth Offset	0.4	m
FEXP	Form Factor Exponent	2.000	
FNUM	Form Factor Numerator	0.810	
FPHI	Form Factor Porosity Source	DPHZ	
RTCO	RTCO - Rt Invasion Correction	YES	
HOLEV: Integrated Hole/Cement Volume			
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	70.000	degC
DO	Depth Offset	0.4	m
GCSE	Generalized Caliper Selection	HCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0.000	deg
GGRD	Geothermal Gradient	0.018	degC/m
GRSE	Generalized Mud Resistivity Selection	AHMF	
GTSE	Generalized Temperature Selection	HSTS_HTEM	
MATR	Rock Matrix for Neutron Porosity Corrections	SAND	
SHT	Surface Hole Temperature	20.000	degC
STI: Stuck Tool Indicator			
DO	Depth Offset	0.4	m
STKT	STI Stuck Threshold	0.762	m
TDD	Total Depth - Driller	1950.0	m
TDL	Total Depth - Logger	1952.0	m
System and Miscellaneous			
BS	Bit Size	8.500	in
BSAL	Borehole Salinity	430.0	ppm
DFD	Drilling Fluid Density	1.200	g/cm3
DO	Depth Offset	0.4	m
FLEV	Fluid Level	0.000	m
FSAL	Formation Salinity		
MST	Mud Sample Temperature	27.900	degC
RMFS	Resistivity of Mud Filtrate Sample	3.860	ohm.m
RW	Resistivity of Connate Water	1.000	ohm.m
TD	Total Depth	1950.0	m
TWS	Temperature of Connate Water Sample	37.778	degC





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
HILTB-CTS: High resolution Integrated Logging Tool-CTS		
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	1.000
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
AHSAP	Array Induction Suspend Answer Product Processing	0_NOSUSPENSION
AHSTA	Array Induction Tool Standoff	1.500 in
AHTRSV	Array Induction Response Set Version for Two ft Resolution	41.70.24.20
ARTS	AIT Rt Selection (for ALLRES computation)	AITH_TWORESA90

BHFL	Borehole Fluid Type	WATER	
BHFL_TLD	HILT Nuclear Mud Base	WATER	
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	70.000	degC
BSCO	Borehole Salinity Correction Option	YES	
CCCO	Casing & Cement Thickness Correction Option	YES	
DHC	Density Hole Correction	BS	
DO	Depth Offset	0.6	m
FD	Fluid Density	1.000	g/cm3
FEXP	Form Factor Exponent	2.000	
FNUM	Form Factor Numerator	0.810	
FPHI	Form Factor Porosity Source	DPHZ	
FSCO	Formation Salinity Correction Option	NO	
GCLF	Germany Coal-like Formation Option	NO	
GCSE	Generalized Caliper Selection	HCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0.000	deg
GGRD	Geothermal Gradient	0.018	degC/m
GRSE	Generalized Mud Resistivity Selection	AHMF	
GTSE	Generalized Temperature Selection	HSTS_HTEM	
HSCO	Hole Size Correction Option	YES	
MATR	Rock Matrix for Neutron Porosity Corrections	SAND	
MCCO	Mud Cake Correction Option	YES	
MCOR	Mud Correction	NATU	
MDEN	Matrix Density	2.650	g/cm3
MWCO	Mud Weight Correction Option	YES	
NAAC	HRDD APS Activation Correction	OFF	
NMT	HILT Nuclear Mud Type	NOBARITE	
NPRM	HRDD Processing Mode	STDRES	
NSAR	HRDD Depth Sampling Rate	1.000	in
PTCO	Pressure/Temperature Correction Option	YES	
RTCO	RTCO - Rt Invasion Correction	YES	
SDAT	Standoff Data Source	SOCN	
SHT	Surface Hole Temperature	20.000	degC
SOCN	Standoff Distance	0.125	in
SOCO	Standoff Correction Option	YES	
SPDR	SP Drift	0.000	mV/m
SPNV	SP Next Value	0.000	mV
ALLRES: Basic Resistivity Transforms			
ARTS	AIT Rt Selection (for ALLRES computation)	AITH_TWORESA90	
DO	Depth Offset	0.6	m
RTCO	RTCO - Rt Invasion Correction	YES	
RWA: Apparent Water Resistivity			
ARTS	AIT Rt Selection (for ALLRES computation)	AITH_TWORESA90	
DO	Depth Offset	0.6	m
FEXP	Form Factor Exponent	2.000	
FNUM	Form Factor Numerator	0.810	
FPHI	Form Factor Porosity Source	DPHZ	
RTCO	RTCO - Rt Invasion Correction	YES	
HOLEV: Integrated Hole/Cement Volume			
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	70.000	degC
DO	Depth Offset	0.6	m
GCSE	Generalized Caliper Selection	HCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0.000	deg
GGRD	Geothermal Gradient	0.018	degC/m
GRSE	Generalized Mud Resistivity Selection	AHMF	
GTSE	Generalized Temperature Selection	HSTS_HTEM	
MATR	Rock Matrix for Neutron Porosity Corrections	SAND	
SHT	Surface Hole Temperature	20.000	degC
STI: Stuck Tool Indicator			
DO	Depth Offset	0.6	m
STKT	STI Stuck Threshold	0.762	m
TDD	Total Depth - Driller	1950.0	m
TDL	Total Depth - Logger	1952.0	m
System and Miscellaneous			
BS	Bit Size	8.500	in
BSAL	Borehole Salinity	430.0	ppm
DFD	Drilling Fluid Density	1.200	g/cm3
DO	Depth Offset	0.6	m
FLEV	Fluid Level	0.000	m
FSAL	Formation Salinity		
MST	Mud Sample Temperature	27.900	degC
RMFS	Resistivity of Mud Filtrate Sample	3.860	ohm.m
RW	Resistivity of Connate Water	1.000	ohm.m
TD	Total Depth	1950.0	m
TWS	Temperature of Connate Water Sample	37.778	degC

Format: COMBINADA Vertical Scale: 1:200 Graphics File Created: 14-Feb-2007 09:59

OP System Version: 14C0-302

MCM

Input DLIS Files

DEFAULT	AIT_TLD_MCFL_CNL_019LUP	FN:10	PRODUCER	12-Feb-2007 21:11	1960.5 M	1801.2 M
	HILTC .051	FN:41		14-Feb-2007 09:53	1957.2 M	336.6 M

Output DLIS Files

HILTC .061	FN:45	14-Feb-2007 09:58
------------	-------	-------------------



ANALISIS DE REPETIBILIDAD

MAXIS Field Log

Input DLIS Files

DEFAULT	AIT_TLD_MCFL_CNL_019LUP	FN:10	PRODUCER	12-Feb-2007 21:11	1960.5 M	1801.2 M
	HILTC .051	FN:41		14-Feb-2007 09:53	1957.2 M	336.6 M

Output DLIS Files

HILTC .061	FN:45	14-Feb-2007 09:58	1945.0 M	1868.7 M
------------	-------	-------------------	----------	----------

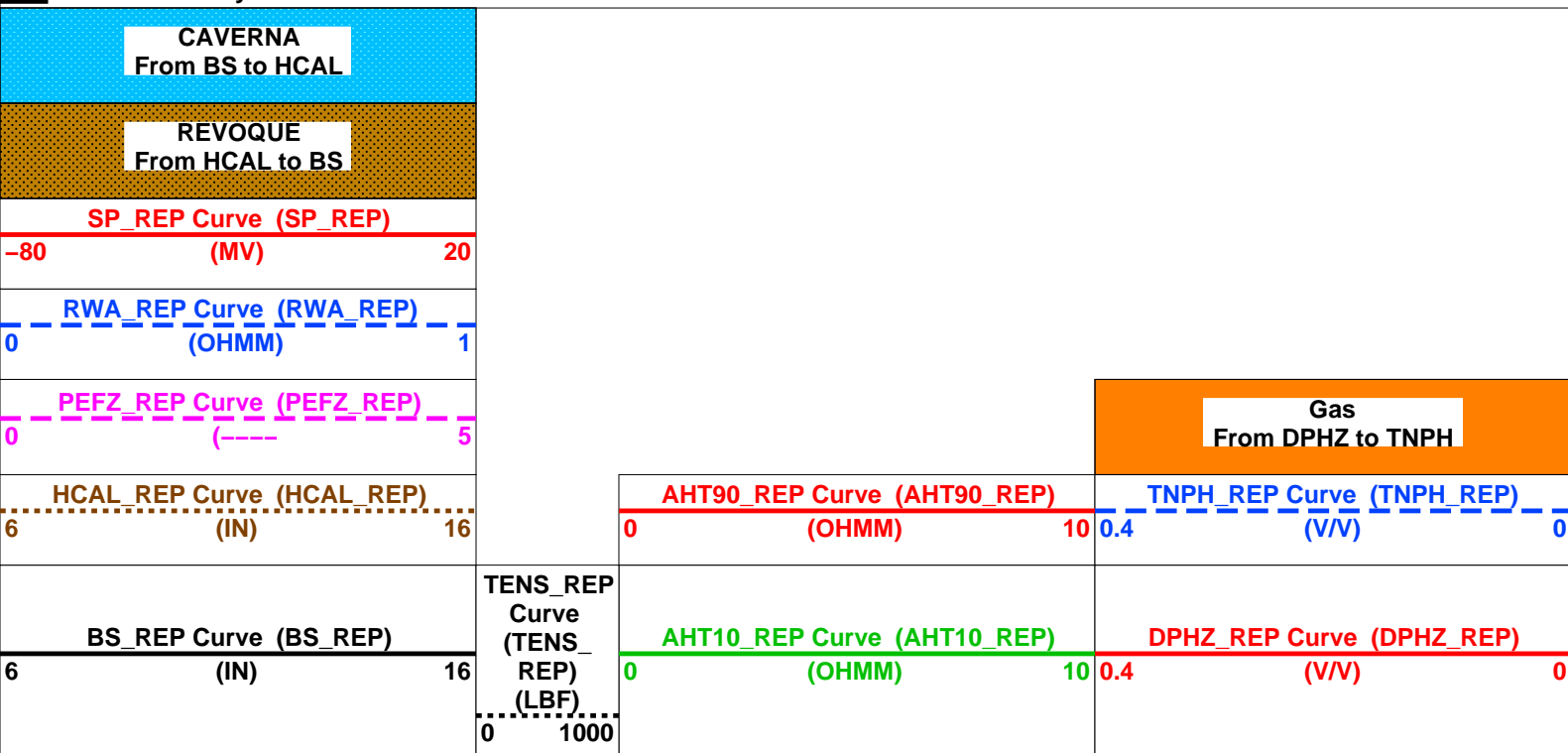
OP System Version: 14C0-302 MCM

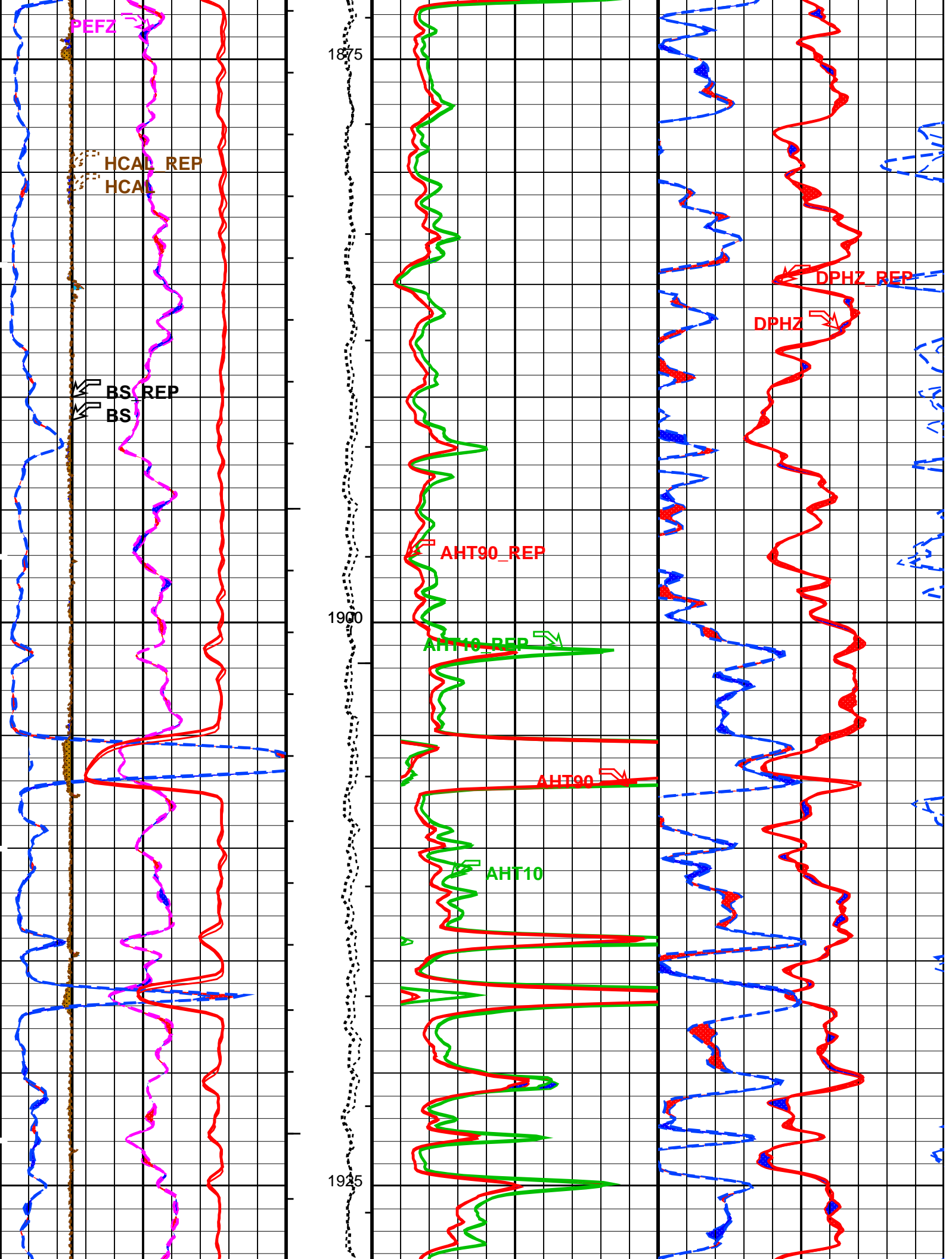
HILTC 15C0-309

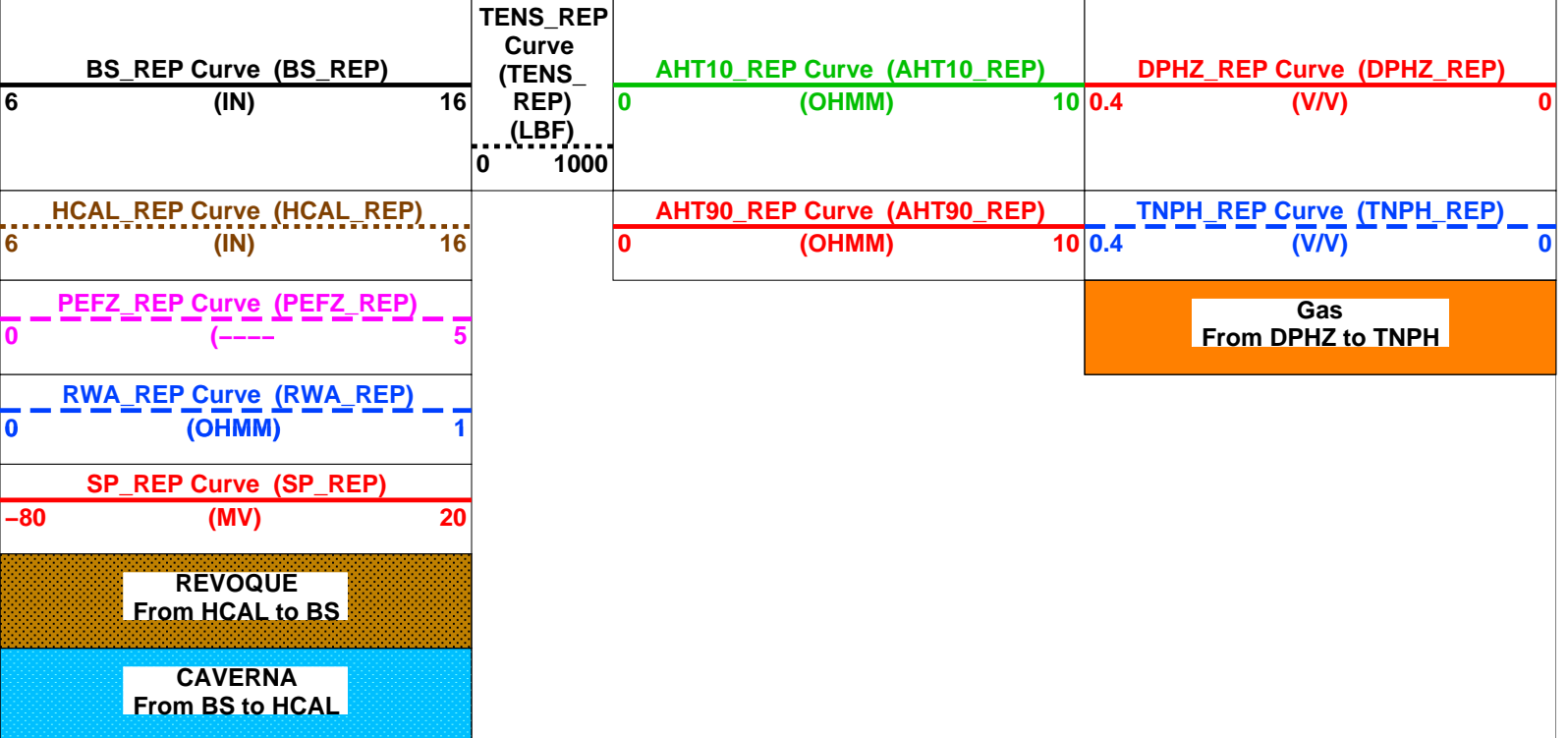
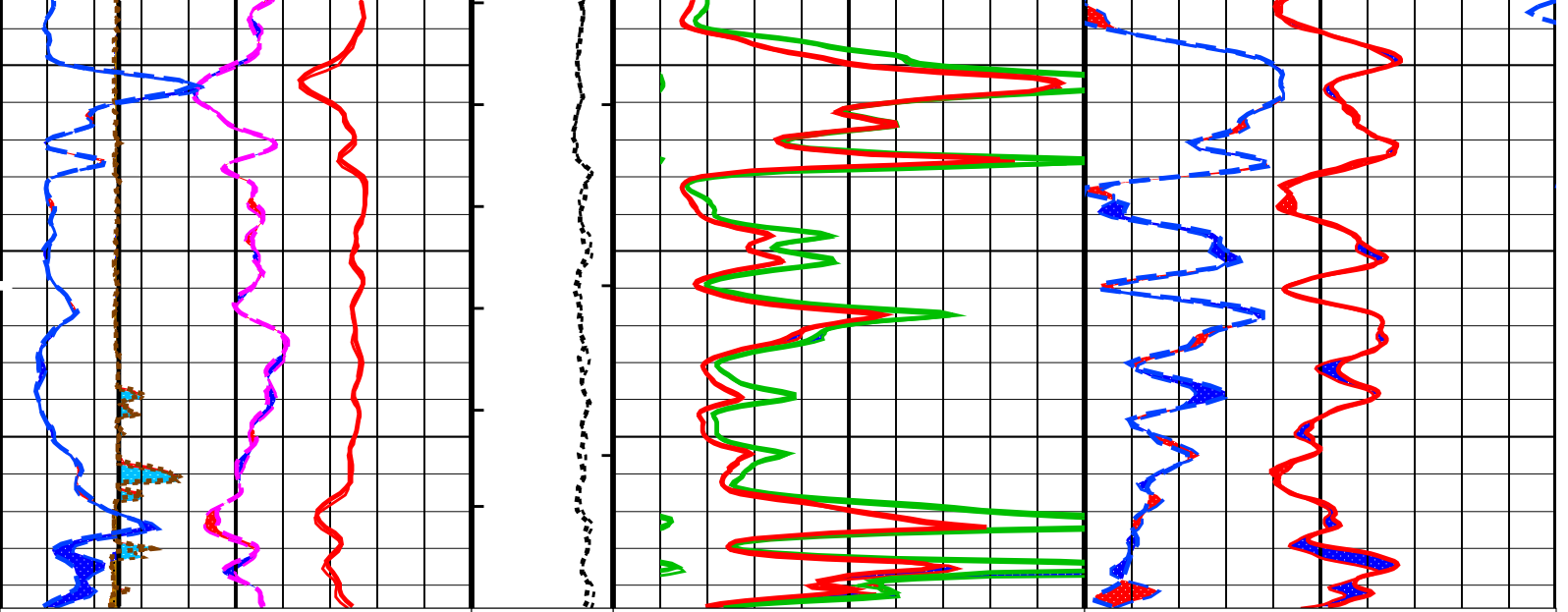
PIP SUMMARY

- ┆ 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







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
HILTB-CTS: High resolution Integrated Logging Tool-CTS		
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	1.000
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
AHSAP	Array Induction Suspend Answer Product Processing	0 NOSUSPENSION
AHSTA	Array Induction Tool Standoff	1.500 in
AHTRSV	Array Induction Response Set Version for Two ft Resolution	41.70.24.20
ARTS	AIT Rt Selection (for ALLRES computation)	AITH_TWORESA90

BHFL	Borehole Fluid Type	WATER	
BHFL_TLD	HILT Nuclear Mud Base	WATER	
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	70.000	degC
BSCO	Borehole Salinity Correction Option	YES	
CCCO	Casing & Cement Thickness Correction Option	YES	
DHC	Density Hole Correction	BS	
DO	Depth Offset	0.6	m
FD	Fluid Density	1.000	g/cm3
FEXP	Form Factor Exponent	2.000	
FNUM	Form Factor Numerator	0.810	
FPHI	Form Factor Porosity Source	DPHZ	
FSCO	Formation Salinity Correction Option	NO	
GCLF	Germany Coal-like Formation Option	NO	
GCSE	Generalized Caliper Selection	HCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0.000	deg
GGRD	Geothermal Gradient	0.018	degC/m
GRSE	Generalized Mud Resistivity Selection	AHMF	
GTSE	Generalized Temperature Selection	HSTS_HTEM	
HSCO	Hole Size Correction Option	YES	
MATR	Rock Matrix for Neutron Porosity Corrections	SAND	
MCCO	Mud Cake Correction Option	YES	
MCOR	Mud Correction	NATU	
MDEN	Matrix Density	2.650	g/cm3
MWCO	Mud Weight Correction Option	YES	
NAAC	HRDD APS Activation Correction	OFF	
NMT	HILT Nuclear Mud Type	NOBARITE	
NPRM	HRDD Processing Mode	STDRES	
NSAR	HRDD Depth Sampling Rate	1.000	in
PTCO	Pressure/Temperature Correction Option	YES	
RTCO	RTCO - Rt Invasion Correction	YES	
SDAT	Standoff Data Source	SOCN	
SHT	Surface Hole Temperature	20.000	degC
SOCN	Standoff Distance	0.125	in
SOCO	Standoff Correction Option	YES	
SPDR	SP Drift	0.000	mV/m
SPNV	SP Next Value	0.000	mV
ALLRES: Basic Resistivity Transforms			
ARTS	AIT Rt Selection (for ALLRES computation)	AITH_TWORESA90	
DO	Depth Offset	0.6	m
RTCO	RTCO - Rt Invasion Correction	YES	
RWA: Apparent Water Resistivity			
ARTS	AIT Rt Selection (for ALLRES computation)	AITH_TWORESA90	
DO	Depth Offset	0.6	m
FEXP	Form Factor Exponent	2.000	
FNUM	Form Factor Numerator	0.810	
FPHI	Form Factor Porosity Source	DPHZ	
RTCO	RTCO - Rt Invasion Correction	YES	
HOLEV: Integrated Hole/Cement Volume			
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	70.000	degC
DO	Depth Offset	0.6	m
GCSE	Generalized Caliper Selection	HCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0.000	deg
GGRD	Geothermal Gradient	0.018	degC/m
GRSE	Generalized Mud Resistivity Selection	AHMF	
GTSE	Generalized Temperature Selection	HSTS_HTEM	
MATR	Rock Matrix for Neutron Porosity Corrections	SAND	
SHT	Surface Hole Temperature	20.000	degC
STI: Stuck Tool Indicator			
DO	Depth Offset	0.6	m
TDL	Total Depth - Logger	1952.0	m
System and Miscellaneous			
BS	Bit Size	8.500	in
BSAL	Borehole Salinity	430.0	ppm
DFD	Drilling Fluid Density	1.200	g/cm3
DO	Depth Offset	0.6	m
FLEV	Fluid Level	0.000	m
FSAL	Formation Salinity		
MST	Mud Sample Temperature	27.900	degC
RMFS	Resistivity of Mud Filtrate Sample	3.860	ohm.m
RW	Resistivity of Connate Water	1.000	ohm.m
TD	Total Depth	1950.0	m
TWS	Temperature of Connate Water Sample	37.778	degC

Format: COMBINADA_REP Vertical Scale: 1:200 Graphics File Created: 14-Feb-2007 09:59

OP System Version: 14C0-302
MCM

HILTC 15C0-309

Input DLIS Files



CHEQUEO EN CAÑERIA

MAXIS Field Log

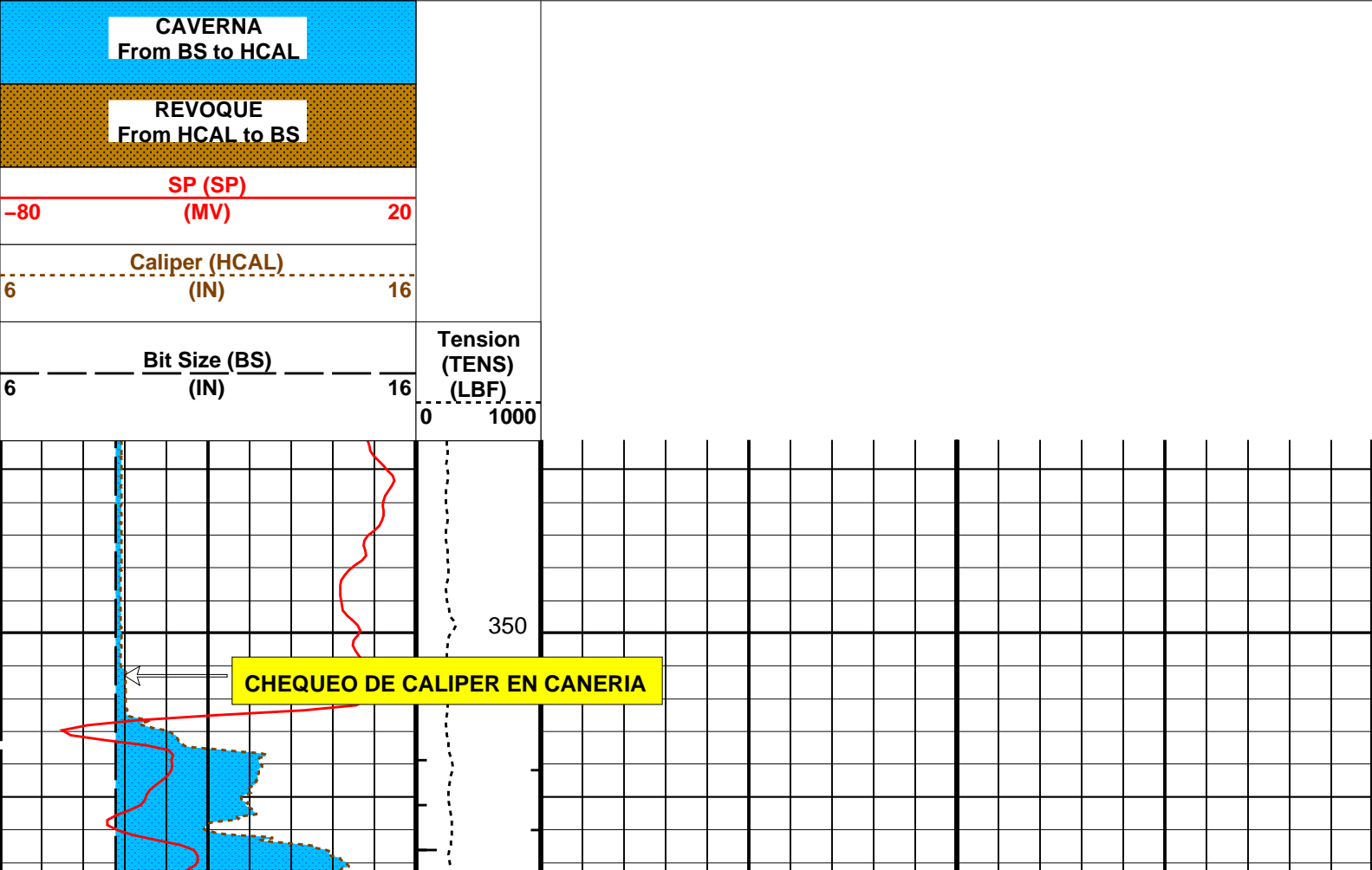
OP System Version: 14C0-302
MCM

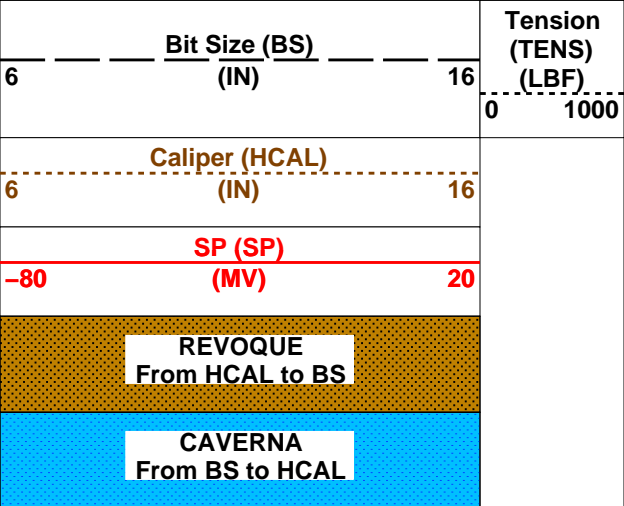
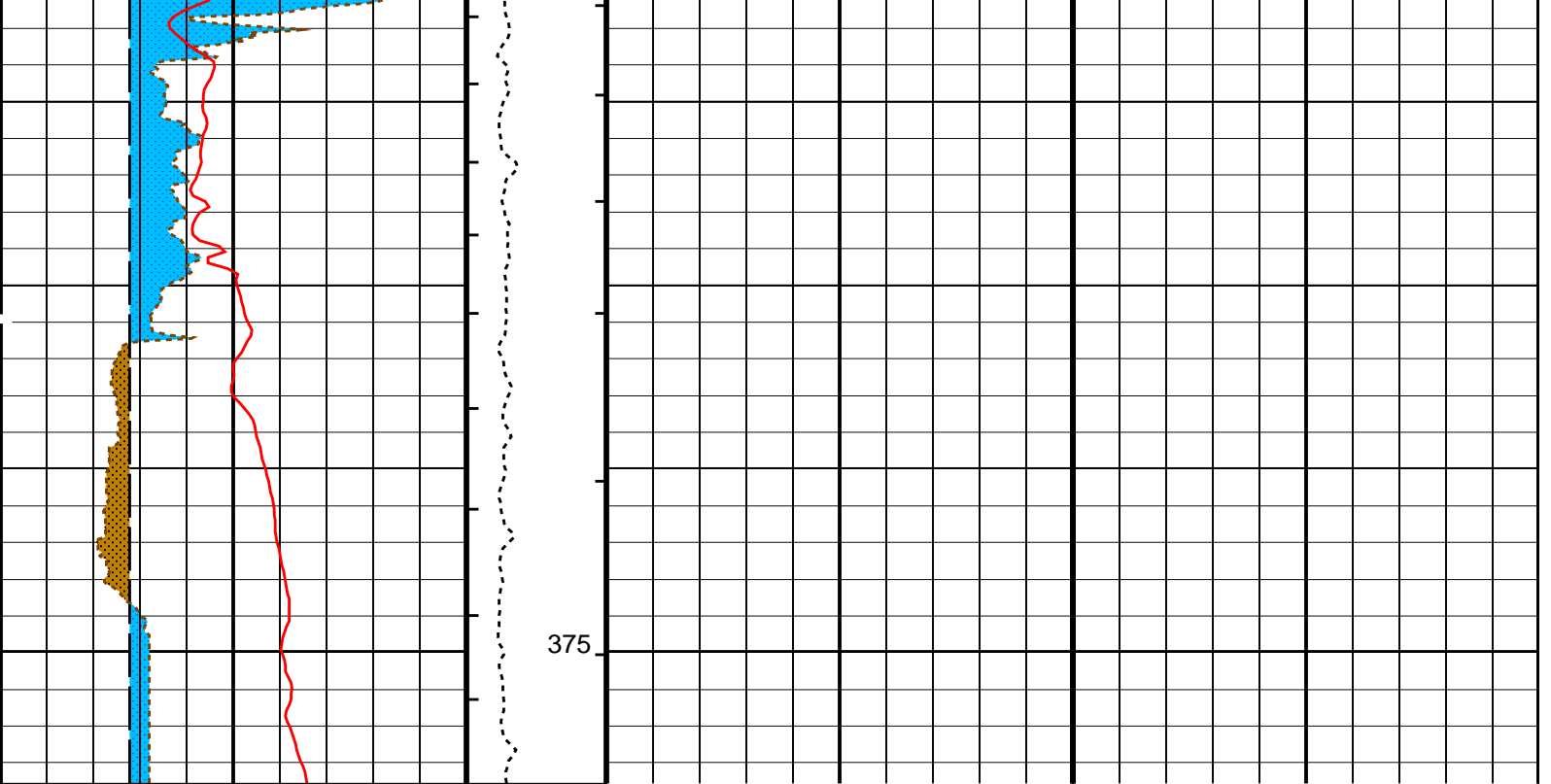
HILTC 15C0-309

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





Tension
(TENS)
(LBF)
0 1000

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
HILTB-CTS	High resolution Integrated Logging Tool-CTS	
SPDR	SP Drift	0.000 mV/m
SPNV	SP Next Value	0.000 mV
BS	System and Miscellaneous Bit Size	8.750 in

Format: CALIPER Vertical Scale: 1:200

Graphics File Created: 14-Feb-2007 10:04

OP System Version: 14C0-302
MCM

HILTC 15C0-309

Input DLIS Files

DEFAULT AIT_TLD_MCFL_CNL_017LUP FN:8 PRODUCER 12-Feb-2007 21:11 378.6 M 344.0 M

MAXIS Field Log

Calibration and Check Summary

Measurement	Nominal	Master	Before	After	Change	Limit	Units
High resolution Integrated Logging Tool-CTS Wellsite Calibration – Electronics Calibration Check – Thru Cal Mag. & Phase							
Master: 14-Dec-2006 15:25 Before: 12-Feb-2007 17:33 After: 12-Feb-2007 20:47							
Thru Cal Magnitude – 0	0	0.6671	0.6722	0.6772	0.004918	N/A	V
Thru Cal Magnitude – 1	0	1.368	1.379	1.389	0.009985	N/A	V
Thru Cal Magnitude – 2	0	0.6819	0.6873	0.6930	0.005694	N/A	V
Thru Cal Magnitude – 3	0	0.7698	0.7758	0.7816	0.005816	N/A	V
Thru Cal Magnitude – 4	0	1.445	1.456	1.467	0.01021	N/A	V
Thru Cal Magnitude – 5	0	2.106	2.123	2.138	0.01551	N/A	V
Thru Cal Magnitude – 6	0	2.106	2.123	2.138	0.01589	N/A	V
Thru Cal Magnitude – 7	0	1.551	1.562	1.568	0.006291	N/A	V
Phase – 0	0	63.23	63.27	61.55	-1.725	N/A	DEG
Phase – 1	0	62.20	62.23	60.49	-1.738	N/A	DEG
Phase – 2	0	58.30	58.33	56.56	-1.775	N/A	DEG
Phase – 3	0	57.49	57.52	55.74	-1.775	N/A	DEG
Phase – 4	0	50.93	50.96	49.13	-1.829	N/A	DEG
Phase – 5	0	48.92	48.95	47.07	-1.882	N/A	DEG
Phase – 6	0	48.98	49.01	47.13	-1.884	N/A	DEG
Phase – 7	0	45.25	45.26	43.00	-2.257	N/A	DEG

High resolution Integrated Logging Tool-CTS Wellsite Calibration – Electronics Calibration Check – Auxilliary

Master: 14-Dec-2006 15:25 Before: 12-Feb-2007 17:33 After: 12-Feb-2007 20:47

Array Induction SPA Plus	990.5	993.6	993.7	994.7	0.9468	N/A	MV
Array Induction SPA Zero	0	-0.2850	-0.2626	-0.2741	-0.01149	N/A	MV
Array Induction Temperature PI	0.9150	0.9206	0.9207	0.9216	0.0008186	N/A	V
Array Induction Temperature Ze	0	-0.0002807	-0.0002662	-0.0002638	2.420E-006	N/A	V

High resolution Integrated Logging Tool-CTS Wellsite Calibration – Test Loop Gain Correction

Master: 14-Dec-2006 15:25

Test Loop Gain Magnitude – 0	0	1.021	N/A	N/A	N/A	N/A	V
Test Loop Gain Magnitude – 1	0	1.017	N/A	N/A	N/A	N/A	V
Test Loop Gain Magnitude – 2	0	1.020	N/A	N/A	N/A	N/A	V
Test Loop Gain Magnitude – 3	0	1.022	N/A	N/A	N/A	N/A	V
Test Loop Gain Magnitude – 4	0	1.001	N/A	N/A	N/A	N/A	V
Test Loop Gain Magnitude – 5	0	1.020	N/A	N/A	N/A	N/A	V
Test Loop Gain Magnitude – 6	0	1.032	N/A	N/A	N/A	N/A	V
Test Loop Gain Magnitude – 7	0	1.049	N/A	N/A	N/A	N/A	V
Phase – 0	0	0.5313	N/A	N/A	N/A	N/A	DEG
Phase – 1	0	0.4818	N/A	N/A	N/A	N/A	DEG
Phase – 2	0	-0.02153	N/A	N/A	N/A	N/A	DEG
Phase – 3	0	-0.1018	N/A	N/A	N/A	N/A	DEG
Phase – 4	0	-0.08136	N/A	N/A	N/A	N/A	DEG
Phase – 5	0	-0.3443	N/A	N/A	N/A	N/A	DEG
Phase – 6	0	0.1189	N/A	N/A	N/A	N/A	DEG
Phase – 7	0	-0.2193	N/A	N/A	N/A	N/A	DEG

High resolution Integrated Logging Tool-CTS Wellsite Calibration – Sonde Error Correction

Master: 14-Dec-2006 15:25

R Sonde Error Correction – 0	0	-70.09	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction – 1	0	153.4	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction – 2	0	107.5	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction – 3	0	63.96	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction – 4	0	27.51	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction – 5	0	13.22	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction – 6	0	9.052	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction – 7	0	-0.8885	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction – 0	0	-385.3	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction – 1	0	254.3	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction – 2	0	79.55	N/A	N/A	N/A	N/A	MM/M

X Sonde Error Correction – 3	0	-20.81	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction – 4	0	16.34	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction – 5	0	3.440	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction – 6	0	-1.861	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction – 7	0	6.474	N/A	N/A	N/A	N/A	MM/M

High resolution Integrated Logging Tool–CTS Wellsite Calibration – Mud Gain Correction

Master: 14–Dec–2006 15:25

Coarse – Mag, Real, Imag – 0	0	1.128	N/A	N/A	N/A	N/A	
Coarse – Mag, Real, Imag – 1	0	1.128	N/A	N/A	N/A	N/A	
Coarse – Mag, Real, Imag – 2	0	1.128	N/A	N/A	N/A	N/A	
Fine – Mag, Real, Imag – 0	0	1.113	N/A	N/A	N/A	N/A	
Fine – Mag, Real, Imag – 1	0	1.113	N/A	N/A	N/A	N/A	
Fine – Mag, Real, Imag – 2	0	1.113	N/A	N/A	N/A	N/A	

High resolution Integrated Logging Tool–CTS Wellsite Calibration – Stab Measurement Summary

Before: 12–Feb–2007 17:34

BS Window Ratio	0.7443	N/A	0.7438	N/A	N/A	N/A	
BS Window Sum	27850	N/A	27810	N/A	N/A	N/A	CPS
SS Window Ratio	0.4778	N/A	0.4778	N/A	N/A	N/A	
SS Window Sum	11030	N/A	11010	N/A	N/A	N/A	CPS
LS Window Ratio	0.2856	N/A	0.2860	N/A	N/A	N/A	
LS Window Sum	1271	N/A	1275	N/A	N/A	N/A	CPS

High resolution Integrated Logging Tool–CTS Wellsite Calibration – Photo–multiplier High Voltages Calibrations

Before: 12–Feb–2007 17:34

BS PM High Voltage (Command)	1527	N/A	1539	N/A	N/A	N/A	V
SS PM High Voltage (Command)	1309	N/A	1309	N/A	N/A	N/A	V
LS PM High Voltage (Command)	1249	N/A	1241	N/A	N/A	N/A	V

High resolution Integrated Logging Tool–CTS Wellsite Calibration – Crystal Quality Resolutions Calibration

Before: 12–Feb–2007 17:34

BS Crystal Resolution	11.96	N/A	12.04	N/A	N/A	N/A	%
SS Crystal Resolution	8.863	N/A	8.736	N/A	N/A	N/A	%
LS Crystal Resolution	9.375	N/A	9.468	N/A	N/A	N/A	%

High resolution Integrated Logging Tool–CTS Wellsite Calibration – MCFL Calibration

Before: 10–Feb–2007 12:04

Raw B0 Resistivity	3875	N/A	3923	N/A	N/A	N/A	OHMM
Raw B1 Resistivity	3830	N/A	3862	N/A	N/A	N/A	OHMM
Raw B2 Resistivity	3830	N/A	3855	N/A	N/A	N/A	OHMM

High resolution Integrated Logging Tool–CTS Wellsite Calibration – HILT Caliper Calibration

Before: 10–Feb–2007 12:02

HILT Caliper Zero Measurement	8.000	N/A	8.611	N/A	N/A	N/A	IN
HILT Caliper Plus Measurement	12.00	N/A	12.35	N/A	N/A	N/A	IN

High resolution Integrated Logging Tool–CTS Wellsite Calibration – Detector Calibration

Before: 10–Feb–2007 12:02 After: Calibration not done

Gamma Ray Background	30.00	N/A	63.09	N/A	N/A	N/A	GAPI
Gamma Ray (Jig – Bkg)	170.4	N/A	170.4	N/A	N/A	15.49	GAPI
Gamma Ray (Calibrated)	160.0	N/A	160.0	N/A	N/A	15.00	GAPI

High resolution Integrated Logging Tool–CTS Wellsite Calibration – Zero Measurement

Master: 30–Jan–2007 15:18 Before: 12–Feb–2007 17:33 After: 12–Feb–2007 21:04

CNTC Background	26.47	26.47	27.31	26.60	-0.7081	3.970	CPS
CFTC Background	25.82	25.82	25.23	25.71	0.4810	3.873	CPS

High resolution Integrated Logging Tool–CTS Wellsite Calibration – Ratio Measurement

Master: 30–Jan–2007 15:18

Thermal Near Corr. (Tank)	5800	5500	N/A	N/A	N/A	N/A	CPS
Thermal Far Corr. (Tank)	2400	2350	N/A	N/A	N/A	N/A	CPS
CNTC/CFTC (Tank)	2.159	2.340	N/A	N/A	N/A	N/A	

High resolution Integrated Logging Tool–CTS Wellsite Calibration – Accelerometer Calibration

Before: 12–Feb–2007 17:31

Z–Axis Acceleration	9.810	N/A	9.802	N/A	N/A	N/A	M/S2
---------------------	-------	-----	-------	-----	-----	-----	------

High resolution Integrated Logging Tool–CTS Master Calibration – Inversion results

Master: 5–Feb–2007 11:57

Rho Aluminum	2.596	2.601	--	--	--	--	G/C3
Rho Magnesium	1.686	1.686	--	--	--	--	G/C3
Pe Aluminum	2.570	2.569	--	--	--	--	
Pe Magnesium	2.650	2.634	--	--	--	--	

High resolution Integrated Logging Tool–CTS Master Calibration – Deviation Summary

Master: 5–Feb–2007 11:57

BS Average Deviation	0	0.4796	--	--	--	--	%
BS Max Deviation	0	1.039	--	--	--	--	%
SS Average Deviation	0	0.2994	--	--	--	--	%
SS Max Deviation	0	1.113	--	--	--	--	%
LS Average Deviation	0	0.2210	--	--	--	--	%
LS Max Deviation	0	0.8810	--	--	--	--	%

LS Average Deviation	0	0.6046	--	--	--	--	%
LS Max Deviation	0	1.607	--	--	--	--	%

The GLS-VJ source activity is acceptable.

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

NCT-B Water Temperature 26.0 DEGC.
 Thermal Housing Size 3.370 IN.
 NSR-F serial number 5045

High resolution Integrated Logging Tool-CTS / Equipment Identification

Primary Equipment:

Array Induction Tool – H	AIT – H	
Rm/SP Bottom Nose	AHRM – A	265
Array Induction Sonde	AHIS – BA	265
HILT high-Resolution Mechanical Sonde	HRMS – B	1876
HILT Rxo Gamma-ray Device	HRGD – B	3801
HILT Micro Cylindrically Focused Log Dev	MCFL –	
GR Logging Source	GLS – VJ	5045
HILT High Res. Control Cartridge	HRCC – B	

Auxiliary Equipment:

High resolution Integrated Logging Tool-CTS Wellsite Calibration

Electronics Calibration Check – Thru Cal Mag. & Phase

Idx	Phase	Value	Thru Cal Magnitude V	Nominal	Value	Phase DEG	Nominal
0	Master	0.6671		0.6050	63.23		71.00
	Before	0.6722			63.27		
	After	0.6772			61.55		
1	Master	1.368		1.270	62.20		70.00
	Before	1.379			62.23		
	After	1.389			60.49		
2	Master	0.6819		0.6230	58.30		66.00
	Before	0.6873			58.33		
	After	0.6930			56.56		
3	Master	0.7698		0.7040	57.49		65.00
	Before	0.7758			57.52		
	After	0.7816			55.74		
4	Master	1.445		1.337	50.93		59.00
	Before	1.456			50.96		
	After	1.467			49.13		
5	Master	2.106		1.955	48.92		57.00
	Before	2.123			48.95		
	After	2.138			47.07		
6	Master	2.106		1.955	48.98		57.00
	Before	2.123			49.01		
	After	2.138			47.13		
7	Master	1.551		1.415	45.25		53.00
	Before	1.562			45.26		
	After	1.568			43.00		

60.00 (Minimum)	% (Nominal)	140.0 (Maximum)	Nom -60.00 (Minimum)	(Nominal)	Nom + 60.00 (Maximum)
Master: 14-Dec-2006 15:25			Before: 12-Feb-2007 17:33		
After: 12-Feb-2007 20:47					

High resolution Integrated Logging Tool-CTS Wellsite Calibration						
Electronics Calibration Check - Auxilliary						
Phase	Array Induction SPA Plus MV	Value	Phase	Array Induction SPA Zero MV	Value	
Master		993.6	Master		-0.2850	
Before		993.7	Before		-0.2626	
After		994.7	After		-0.2741	
	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		0.9206	Master		-0.0002807	
Before		0.9207	Before		-0.0002662	
After		0.9216	After		-0.0002638	
	0.8700 (Minimum)	0.9150 (Nominal)	0.9600 (Maximum)	-0.05000 (Minimum)	0 (Nominal)	0.05000 (Maximum)
Master: 14-Dec-2006 15:25			Before: 12-Feb-2007 17:33			
After: 12-Feb-2007 20:47						

High resolution Integrated Logging Tool-CTS Wellsite Calibration							
Test Loop Gain Correction							
Idx	Value	Test Loop Gain Magnitude V			Value	Phase DEG	
0	1.021				0.5313		
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)	-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
1	1.017				0.4818		
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)	-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
2	1.020				-0.02153		
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)	-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
3	1.022				-0.1018		
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)	-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
4	1.001				-0.08136		
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)	-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
5	1.020				-0.3443		
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)	-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
6	1.032				0.1189		
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)	-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
7	1.049				-0.2193		
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)	-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
Master: 14-Dec-2006 15:25							

High resolution Integrated Logging Tool-CTS Wellsite Calibration							
Sonde Error Correction							
Idx	Value	R Sonde Error Correction MM/M			Value	X Sonde Error Correction MM/M	
0	-70.09				-385.3		
		-231.0 (Minimum)	-56.00 (Nominal)	119.0 (Maximum)	-2250 (Minimum)	0 (Nominal)	2250 (Maximum)
1	153.4				254.3		
		114.0 (Minimum)	159.0 (Nominal)	204.0 (Maximum)	-625.0 (Minimum)	0 (Nominal)	625.0 (Maximum)
2	107.5				79.55		
		66.00 (Minimum)	111.0 (Nominal)	156.0 (Maximum)	-350.0 (Minimum)	0 (Nominal)	350.0 (Maximum)
3	63.96				-20.81		

		39.00 (Minimum)	64.00 (Nominal)	89.00 (Maximum)			-250.0 (Minimum)	0 (Nominal)	250.0 (Maximum)
4	27.51						16.34		
		15.00 (Minimum)	25.00 (Nominal)	35.00 (Maximum)			-63.00 (Minimum)	0 (Nominal)	63.00 (Maximum)
5	13.22						3.440		
		4.000 (Minimum)	14.00 (Nominal)	24.00 (Maximum)			-50.00 (Minimum)	0 (Nominal)	50.00 (Maximum)
6	9.052						-1.861		
		5.000 (Minimum)	10.00 (Nominal)	15.00 (Maximum)			-30.00 (Minimum)	0 (Nominal)	30.00 (Maximum)
7	-0.8885						6.474		
		-5.000 (Minimum)	0 (Nominal)	5.000 (Maximum)			-30.00 (Minimum)	0 (Nominal)	30.00 (Maximum)

Master: 14-Dec-2006 15:25

High resolution Integrated Logging Tool-CTS Wellsite Calibration								
Mud Gain Correction								
Idx	Value	Coarse - Mag, Real, Imag			Value	Fine - Mag, Real, Imag		
0	1.128				1.113			
		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)
1	1.128				1.113			
		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)
2	1.128				1.113			
		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)

Master: 14-Dec-2006 15:25

High resolution Integrated Logging Tool-CTS Wellsite Calibration														
Stab Measurement Summary														
Phase	BS Window Ratio			Value	Phase	SS Window Ratio			Value	Phase	LS Window Ratio			Value
Before				0.7438	Before				0.4778	Before				0.2860
	0.7071 (Minimum)	0.7443 (Nominal)	0.7815 (Maximum)			0.4539 (Minimum)	0.4778 (Nominal)	0.5017 (Maximum)			0.2713 (Minimum)	0.2856 (Nominal)	0.2998 (Maximum)	
Phase	BS Window Sum CPS			Value	Phase	SS Window Sum CPS			Value	Phase	LS Window Sum CPS			Value
Before				27810	Before				11010	Before				1275
	26460 (Minimum)	27850 (Nominal)	29240 (Maximum)			10480 (Minimum)	11030 (Nominal)	11580 (Maximum)			1207 (Minimum)	1271 (Nominal)	1334 (Maximum)	

Before: 12-Feb-2007 17:34

High resolution Integrated Logging Tool-CTS 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				1539	Before				1309	Before				1241
	1427 (Minimum)	1527 (Nominal)	1627 (Maximum)			1209 (Minimum)	1309 (Nominal)	1409 (Maximum)			1149 (Minimum)	1249 (Nominal)	1349 (Maximum)	

Before: 12-Feb-2007 17:34

High resolution Integrated Logging Tool-CTS Wellsite Calibration														
Crystal Quality Resolutions Calibration														
Phase	BS Crystal Resolution %			Value	Phase	SS Crystal Resolution %			Value	Phase	LS Crystal Resolution %			Value
Before				12.04	Before				8.736	Before				9.468
	10.96 (Minimum)	11.96 (Nominal)	12.96 (Maximum)			7.863 (Minimum)	8.863 (Nominal)	9.863 (Maximum)			8.375 (Minimum)	9.375 (Nominal)	10.38 (Maximum)	

Before: 12-Feb-2007 17:34

High resolution Integrated Logging Tool-CTS Wellsite Calibration														
MCFL Calibration														
Phase	Raw B0 Resistivity OHMM			Value	Phase	Raw B1 Resistivity OHMM			Value	Phase	Raw B2 Resistivity OHMM			Value
Before				3923	Before				3862	Before				3855
	3565 (Minimum)	3875 (Nominal)	4185 (Maximum)			3524 (Minimum)	3830 (Nominal)	4136 (Maximum)			3524 (Minimum)	3830 (Nominal)	4136 (Maximum)	

Before: 10-Feb-2007 12:04

High resolution Integrated Logging Tool-CTS Wellsite Calibration						
HILT Caliper Calibration						
Phase	HILT Caliper Zero Measurement IN	Value	Phase	HILT Caliper Plus Measurement IN	Value	
Before		8.611	Before		12.35	
	6.000 (Minimum)	8.000 (Nominal)	10.00 (Maximum)	9.000 (Minimum)	12.00 (Nominal)	15.00 (Maximum)
Before: 10-Feb-2007 12:02						

High resolution Integrated Logging Tool-CTS Wellsite Calibration											
Detector Calibration											
Phase	Gamma Ray Background GAPI	Value	Phase	Gamma Ray (Jig - Bkg) GAPI	Value	Phase	Gamma Ray (Calibrated) GAPI	Value			
Before		63.09	Before		170.4	Before		160.0			
After	NOT DONE	N/A	After	NOT DONE	N/A	After	NOT DONE	N/A			
	0 (Minimum)	30.00 (Nominal)	120.0 (Maximum)	154.9 (Minimum)	170.4 (Nominal)	185.9 (Maximum)	145.0 (Minimum)	160.0 (Nominal)	175.0 (Maximum)		
Before: 10-Feb-2007 12:02						After: Calibration not done					

High resolution Integrated Logging Tool-CTS Wellsite Calibration						
Zero Measurement						
Phase	CNTC Background CPS	Value	Phase	CFTC Background CPS	Value	
Master		26.47	Master		25.82	
Before		27.31	Before		25.23	
After		26.60	After		25.71	
	5.000 (Minimum)	26.47 (Nominal)	40.00 (Maximum)	5.000 (Minimum)	25.82 (Nominal)	40.00 (Maximum)
Master: 30-Jan-2007 15:18			Before: 12-Feb-2007 17:33			
After: 12-Feb-2007 21:04						

High resolution Integrated Logging Tool-CTS Wellsite Calibration									
Ratio Measurement									
Phase	Thermal Near Corr. (Tank) CPS	Value	Phase	Thermal Far Corr. (Tank) CPS	Value	Phase	CNTC/CFTC (Tank)	Value	
Master		5500	Master		2350	Master		2.340	
	4700 (Minimum)	5800 (Nominal)	6900 (Maximum)	1900 (Minimum)	2400 (Nominal)	2900 (Maximum)	2.120 (Minimum)	2.159 (Nominal)	2.540 (Maximum)
Master: 30-Jan-2007 15:18									

High resolution Integrated Logging Tool-CTS Wellsite Calibration			
Accelerometer Calibration			
Phase	Z-Axis Acceleration M/S2	Value	
Before		9.802	
	9.610 (Minimum)	9.810 (Nominal)	10.01 (Maximum)
Before: 12-Feb-2007 17:31			

High resolution Integrated Logging Tool-CTS Master Calibration							
Electronics Calibration Check - Thru Cal Mag. & Phase							
Idx	Phase	Value	Thru Cal Magnitude V	Nominal	Value	Phase DEG	Nominal
0	Master	0.6671		0.6050	63.23		71.00
1	Master	1.368		1.270	62.20		70.00
2	Master	0.6819		0.6230	58.30		66.00
3	Master	0.7698		0.7040	57.49		65.00
4	Master	1.445		1.337	50.93		59.00
5	Master	2.106		1.955	48.92		57.00
6	Master	2.106		1.955	48.98		57.00
7	Master	1.551		1.415	45.25		53.00
		60.00 % (Minimum)	(Nominal)	140.0 % (Maximum)	Nom -60.00 (Minimum)	(Nominal)	Nom + 60.00 (Maximum)
Master: 14-Dec-2006 15:25							

High resolution Integrated Logging Tool-CTS Master Calibration

Electronics Calibration Check - Auxilliary

Phase	Array Induction SPA Plus MV			Value	Phase	Array Induction SPA Zero MV			Value
Master				993.6	Master				-0.2850
	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				0.9206	Master				-0.0002807
	0.8700 (Minimum)	0.9150 (Nominal)	0.9600 (Maximum)			-0.05000 (Minimum)	0 (Nominal)	0.05000 (Maximum)	

Master: 14-Dec-2006 15:25

High resolution Integrated Logging Tool-CTS Master Calibration

Test Loop Gain Correction

Idx	Value	Test Loop Gain Magnitude V			Value	Phase DEG		
0	1.021				0.5313			
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)		-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
1	1.017				0.4818			
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)		-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
2	1.020				-0.02153			
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)		-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
3	1.022				-0.1018			
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)		-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
4	1.001				-0.08136			
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)		-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
5	1.020				-0.3443			
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)		-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
6	1.032				0.1189			
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)		-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
7	1.049				-0.2193			
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)		-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)

Master: 14-Dec-2006 15:25

High resolution Integrated Logging Tool-CTS Master Calibration

Sonde Error Correction

Idx	Value	R Sonde Error Correction MM/M			Value	X Sonde Error Correction MM/M		
0	-70.09				-385.3			
		-231.0 (Minimum)	-56.00 (Nominal)	119.0 (Maximum)		-2250 (Minimum)	0 (Nominal)	2250 (Maximum)
1	153.4				254.3			
		114.0 (Minimum)	159.0 (Nominal)	204.0 (Maximum)		-625.0 (Minimum)	0 (Nominal)	625.0 (Maximum)
2	107.5				79.55			
		66.00 (Minimum)	111.0 (Nominal)	156.0 (Maximum)		-350.0 (Minimum)	0 (Nominal)	350.0 (Maximum)
3	63.96				-20.81			
		39.00 (Minimum)	64.00 (Nominal)	89.00 (Maximum)		-250.0 (Minimum)	0 (Nominal)	250.0 (Maximum)
4	27.51				16.34			
		15.00 (Minimum)	25.00 (Nominal)	35.00 (Maximum)		-63.00 (Minimum)	0 (Nominal)	63.00 (Maximum)
5	13.22				3.440			
		4.000 (Minimum)	14.00 (Nominal)	24.00 (Maximum)		-50.00 (Minimum)	0 (Nominal)	50.00 (Maximum)
6	9.052				-1.861			
		5.000 (Minimum)	10.00 (Nominal)	15.00 (Maximum)		-30.00 (Minimum)	0 (Nominal)	30.00 (Maximum)

-0.8885	0	6.474	-30.00	0	30.00
(Minimum)	(Nominal)	(Maximum)	(Minimum)	(Nominal)	(Maximum)

Master: 14-Dec-2006 15:25

High resolution Integrated Logging Tool-CTS Master Calibration								
Mud Gain Correction								
Idx	Value	Coarse - Mag, Real, Imag			Value	Fine - Mag, Real, Imag		
0	1.128				1.113			
		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)
1	1.128				1.113			
		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)
2	1.128				1.113			
		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)

Master: 14-Dec-2006 15:25

High resolution Integrated Logging Tool-CTS Master Calibration									
Inversion results									
Phase	Rho Aluminum G/C3			Value	Phase	Rho Magnesium G/C3			Value
Master				2.601	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				2.569	Master				2.634
	2.470 (Minimum)	2.570 (Nominal)	2.670 (Maximum)			2.550 (Minimum)	2.650 (Nominal)	2.750 (Maximum)	

Master: 5-Feb-2007 11:57

High resolution Integrated Logging Tool-CTS Master Calibration														
Deviation Summary														
Phase	BS Average Deviation %			Value	Phase	SS Average Deviation %			Value	Phase	LS Average Deviation %			Value
Master				0.4796	Master				0.2994	Master				0.6046
	-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				1.039	Master				1.113	Master				1.607
	-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: 5-Feb-2007 11:57

High resolution Integrated Logging Tool-CTS Master Calibration									
Zero Measurement									
Phase	CNTC Background CPS			Value	Phase	CFTC Background CPS			Value
Master				26.47	Master				25.82
	5.000 (Minimum)	26.47 (Nominal)	40.00 (Maximum)			5.000 (Minimum)	25.82 (Nominal)	40.00 (Maximum)	

Master: 30-Jan-2007 15:18

High resolution Integrated Logging Tool-CTS Master Calibration														
Tank Measurement														
Phase	Thermal Near Corr. (Tank) CPS			Value	Phase	Thermal Far Corr. (Tank) CPS			Value	Phase	CNTC/CFTC (Tank)			Value
Master				5500	Master				2350	Master				2.340
	4700 (Minimum)	5800 (Nominal)	6900 (Maximum)			1900 (Minimum)	2400 (Nominal)	2900 (Maximum)			2.120 (Minimum)	2.159 (Nominal)	2.540 (Maximum)	

Master: 30-Jan-2007 15:18

COMPANIA: YPF S.A.	PRIMERA LECTURA	1949 m
POZO: YPF.Ch.Gbk-732	PROFUNDIDAD PERFIL	1951.4 m
CAMPO: GRIMBEEK	PROF. PERFORADOR	1950 m
PROVINCIA: CHUBUT	BUJE DE VASTAGO	663.44 m
PAIS: ARGENTINA	MESA ROTATIVA	663.24 m
	NIVEL TERRENO	657.74 m

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: *GRIMBEEK*

SISTEMA: *PAMPA DEL CASTILLO*

POZO: *Gbk-732*

X=4.951.986,22

Y= 2.595.842,33

Z = 657,74 m

PUNTO RECEPTOR BASE: PEJ-4

CALIDAD PUNTO BASE: PUNTO AJUSTE DE REDES

MODALIDAD DE MEDICION: CINEMATICO

Solucion: L1-L2-Fixed Long. Vectorial: 4025.64 m

Azimuth: 47° 52'30.2" Delta H (elipsoidal) : -25.3951 m

Varianza: 0.456

Receptor Base: 5700

Receptor Movil: 5800

Dif. X = 2.22m Dif. Y = 2.33m Dif. Z = 0.74m

COORDENADAS GEOGRAFICAS:(Sistema: WGS 84)

LAT: 45°34'45.534"S LON: 67°46'29.1501"W ELEV: 668.868m

Observaciones: Ubicado por J.D. SRL

FECHA: 7 de FEBRERO de 2007

OPERADOR: S. VELASQUEZ

DATOS A LLENAR					
			CARGAR DATOS		
		POZO	GBK - 732		
		BATERIA			
		EQUIPO	PI 129		
		FECHA	19/02/2007		
		RUBRO	TERMINACION		
		COSTO OBJETIVO			
		NOMBRE DEL PROYECTO			
		N°DE GRAFO			
		PEP:	RS1EC.7G01.53.P0002		
		ZONA	GRIMBEK		
		FLUIDO DE TRABAJO	AGUA DE REC. SECUNDARIA		
		FINALIZO PERFORACION	14 de febrero de 2007		
		ULTIMA INTERVENCION			
COORDENADAS					
		X	4.951.984,00	4.837.999,00	
		Y	2.583.528,00	2.606.340,00	
		Z		286,38	
COMPAÑIAS DE SERVICIO					
		CABLE	ARTEX		
		TORRE	PRIDE INT.		
		CEMENTACION	BJ		
		ESTIMULACION	BJ		
		MOTOR DE FONDO	CHRISTENSEN		
		COILED TUBING	-		
PARA PUNZAR					
		CAÑÓN Ø	Cañón Ø 4"	4" ó 5"	
		TIROS POR PIE	4 TxP 32 Grs	4	
CASING					
		EN BOCA DE POZO Ø Y mts.	9.5/8" 352 m.-	Ejemplos	
			5 1/2"	7" a 23	
		DIAMETRO Y LIBRAJE	5 1/2" 15,5 #	5-1/2" 15,5	
5 1/2"	12,50	24,4	1950		
6 5/8"	18,54	0,0			
7"	20,60	0,0			
9 5/8"	39,40	0,0			
Total de m³+5			← NO TOCAR "PARA USO DEL BACTERICIDA"		88,36
		COLLAR DIFERENCIAL	1942,00 m.-		
		ZAPATO	1950,00 m.-		
		PROFUNDIDAD FINAL	1951,00 m.-		
INSTALACION FINAL					
		DEL POZO			
MATERIAL DE BOMBEO					
		DEL POZO			
HERRAMIENTA A BAJAR					
		COLOCAR TIPO DE HTA.Y Ø			
		CALIBRAR HASTA	-		
		HERMETICIDAD DEL CSG DESDE	-		

**REPSOL
YPF**



ZONA CENTRAL

19/02/2007

DIVISION REGIONAL SUR
UNIDAD ECONOMICA CHUBUT - CAÑADON SECO
DISTRITO ZONA CENTRAL

PROGRAMA OPERATIVO del POZO :

GBK - 732

SUBREGION :

CH

ZONA :

GRIMBEK

BAT.

RUBRO:

TERMINACION

PROYECTO:

COSTO OBJETIVO:

U\$S

105.000

COSTO ESTIMADO:

U\$S

DIAS ESTIMADOS:

15,25

FLUIDO DE REPARACION:

AGUA DE REC. SECUNDARIA

EQUIPO :

PI 129

CANTIDAD:

24,5

m³

PEP:

RS1EC.7G01.53.P0002

COMPAÑIAS ASIGNADAS:

CABLE: **ARTEX**

TORRE: **PRIDE INT.**

CEMENTACION: **BJ**

ESTIMULACION: **BJ**

MOTOR DE FONDO: **CHRISTENSEN**

COILED TUBING: **-**

FINALIZO PERFORACION :

14 de febrero de 2007

ULTIMA INTERVENCION:

OBSERVACIONES:

COORDENADAS:

X: 4.951.984,00

Y: 2.583.528,00

COTA:

Z: 0,00

Altura mesa Rotary:

3,5

m

Elevación mesa Rotary:

-

m



RESERVA N°

M. BEHR

19/02/2007

PEP: RS1EC.7G01.53.P0002

UNIDAD ECONOMICA CHUBUT-CDON. SECO

X: 4.951.984,00 Z: 0,00

DISTRITO ZONA CENTRAL

Y: 2.583.528,00

PROGRAMA OPERATIVO : **TERMINACION**

POZO : **GBK - 732** ZONA : **P. CASTILLO NORTE** SUBREGION : **CH** BAT.

FLUIDO DE REPARACION: **AGUA DE REC. SECUNDARIA** CANTIDAD: **24,5** m³

INSTALACION FINAL:

INSTALACION BBEO:

EQUIPO: **PI 129**

COMPAÑIA WIRE LINE:

ARTEX

N° 5 1/2" 15,5 #
CAPA 5 1/2"

PROGRAMA OPERATIVO

9 5/8" a 431 mts

1º) Montar equipo completo

2º) Artex registra CBL/VDL desde 1943 m hasta 780 m. Si existe buena aislación, punzar con cañón Ø4" a 4TPP 32 grs. (0° - 90°).-

	Inducción	Neutrón	Carga	Metros
A)	1905,0/07,0	1905,0/07,0	32 gr. 0 - 90 °	2,0 m.-
B)	1851,0/53,0	1850,9/52,9	32 gr. 0 - 90 °	2,0 m.-
C)	1792,0/94,5	1791,6/94,1	32 gr. 0 - 90 °	2,5 m.-
D)	1724,0/26,5	1723,6/26,1	32 gr. 0 - 90 °	2,5 m.-
E)	1058,5/60,0	1056,5/58,0	32 gr. 0 - 90 °	1,5 m.-
	1052,0/54,0	1050,0/52,0	32 gr. 0 - 90 °	2,0 m.-
F)	1033,5/41,5	1031,5/39,5	32 gr. 0 - 90 °	8,0 m.-

3º) Bajar **TPN/PKR** con c/b Ø 2 7/8" J-55, AMC. Ensayar las capas indicadas con las letras **A, B, C, D, E, F.-**
Estabilizando Caudal, Nivel e IT.
En las capas que resulten S/E, probar admisión y reensayar.

NOTA: De las capas con aporte de fluido tomar muestras para su análisis; en caso de ser gas medir presiones y tomar muestra.

4º) De acuerdo al resultado los ensayos se determinará programa a seguir.

Collar: 1942,00 m
Zto: 1950,00 m
Fdo: 1951,00 m

PRESUPUESTO POZO

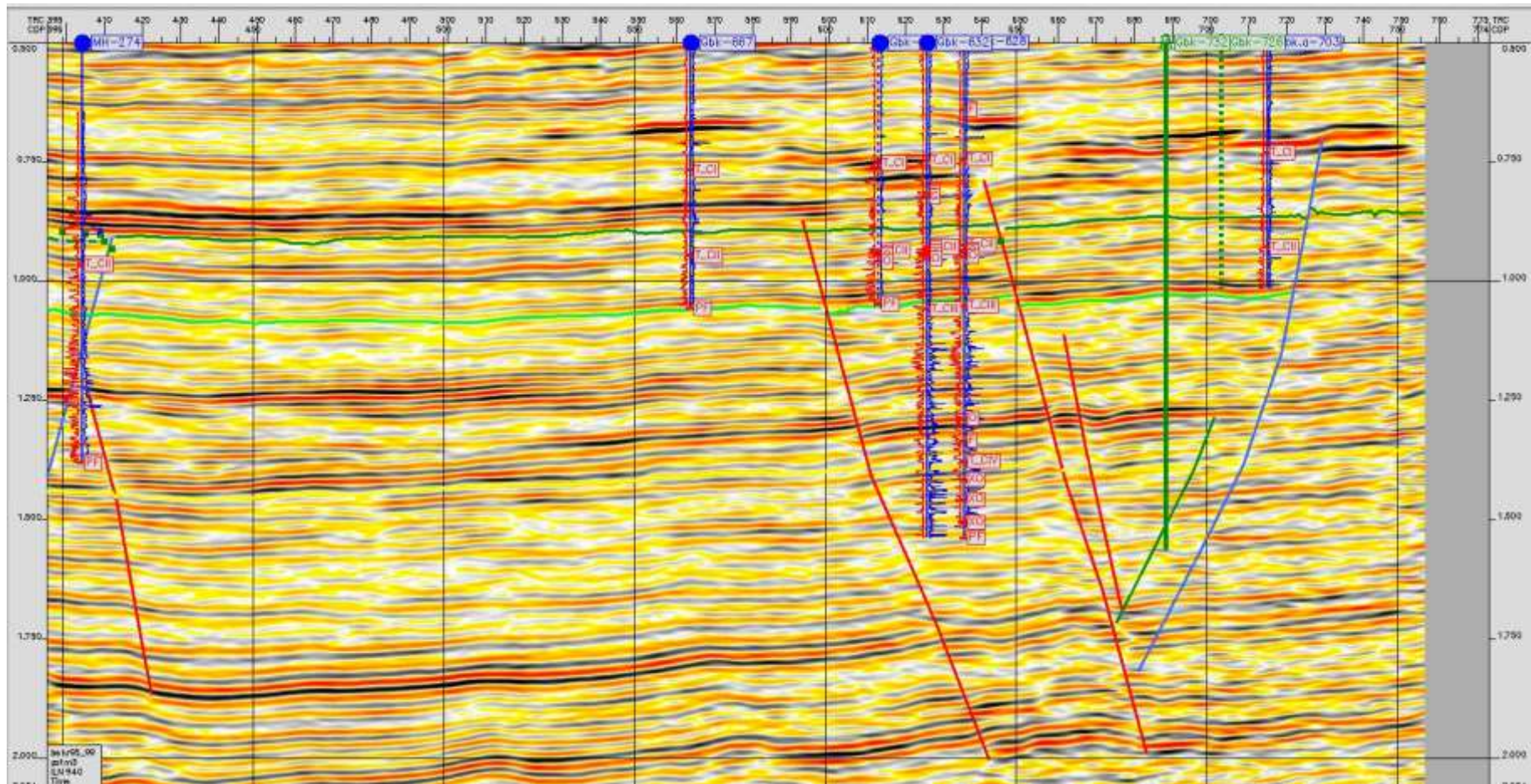
GBK - 732

PEP: RS1EC.7G01.53.P0002

CAN.	ITEM	HS.	\$	U\$S	DESCRIPCION DE MANIOBRAS	
1	3	10,00	2440,63	528,28	DTM Equipo completo, Colocar BOP.	
0	6	0,00	0,00	0,00		
78	1	78,00	15229,90	3296,48	Bajar TPN/PKR y realiza 6 ensayos, sacar Hta. .	
36	1	36,00	7029,19	1521,45	Movimiento por cambio de zona.	
16	1	16,00	3124,08	676,20	Cambio de Hta. y Fractura 1 capa.	
24	1	24,00	4686,12	1014,30	Reensaya capa fracturada	
10	1	10,00	1952,55	422,63	Cementa 1 capa	
16	1	16,00	3124,08	676,20	Rota cemento. Prueba hermeticidad.	
36	1	36,00	7029,19	1521,45	Bajar Instalación de Producción.	
0	1	0,00	0,00	0,00		
0	1	0,00	0,00	0,00		
0	1	0,00	0,00	0,00		
0	1	0,00	0,00	0,00		
0	1	0,00	0,00	0,00		
0	1	0,00	0,00	0,00		
0	1	0,00	0,00	0,00		
0	1	0,00	0,00	0,00		
0	1	0,00	0,00	0,00		
0	1	0,00	0,00	0,00		
0	1	0,00	0,00	0,00		
0	1	0,00	0,00	0,00		
0	1	0,00	0,00	0,00		
0	1	0,00	0,00	0,00		
0	1	0,00	0,00	0,00		
0	1	0,00	0,00	0,00		
0	1	0,00	0,00	0,00		
0	1	0,00	0,00	0,00		
0	1	0,00	0,00	0,00		
0	1	0,00	0,00	0,00		
0	1	0,00	0,00	0,00		
0	1	0,00	0,00	0,00		
14	2A	14,00	2460,01	532,51	Stand By Wireline	
12	2A	12,00	2108,58	456,44	Stand By operacia de Fractura	
0	2A	0,00	0,00	0,00	Stand By	
0	2A	0,00	0,00	0,00	Stand By	
8	2A	8,00	1405,72	304,29	Stand by por reuniones de seguridad, carga y descarga de mat.	
0	2A	0,00	0,00	0,00		
0	2B	0,00	0,00	0,00	Stand by sin personal.	
30	2C	30,00	3807,45	824,16	Equipo parado por inclemencias de tiempo.-	
Total Horas incl.DTM	290,00					
Total de Días	12,08					
RESUMEN						
		ITEM		UNI	Tarifa Nueva RTP	
		CANTIDAD		COSTO	(\$1,1310)	(U\$S 0.2450)
		1 (Opert.Normal)	216,00	37.260,00	\$42.175,12	U\$S 9128,70
		2A (SB c/Pers.)	34,00	5.278,50	\$5.974,31	U\$S 1293,23
		2B (SB s/Pers.)	0,00	0,00	\$0,00	U\$S 0,00
		2C (Factor Clima)	30,00	3.363,90	\$3.807,45	U\$S 824,16
		3 (DTM)	10,00	2.156,25	\$2.440,63	U\$S 528,28
		3B (C.Sólidas)	0,40	4.304,30	\$4.871,97	U\$S 1054,55
		3C (Carg.y Desc.)	0,40	1.047,22	\$1.185,33	U\$S 256,57
		4B (C.Líquidas)	0,40	3.130,40	\$3.543,25	U\$S 766,95
		5 (Pileta Ecol.)	12,00	180,00	\$203,70	U\$S 44,10
		5A (Tpte.pil.ecol.)	1,00	110,00	\$124,51	U\$S 26,95
		6 (Conj.DSK-Pieza)	0,00	0,00	\$0,00	U\$S 0,00
		7 (Aumento comb.)	0,00	0,00	\$0,00	U\$S 0,00
		Subtotal	290,00	56.830,57	\$64.326,26	U\$S 13.923,49
		Wire	Perfil N Corr.+N F	4.000,00	\$2.783,20	U\$S 2040,00
			Punzado	7.600,00	\$5.288,08	U\$S 3876,00
		Line	Fijado de Tapón	1.200,00	\$834,96	U\$S 612,00
		Cementación		8.000,00	\$0,00	U\$S 8000,00
		Fractura Hidráulica		25.000,00	\$0,00	U\$S 25000,00
		Htas. de fractura		0,00	\$0,00	U\$S 0,00
		Estimulación ácida		0,00	\$0,00	U\$S 0,00
		Bombeo - Prueba de admisión		0,00	\$0,00	U\$S 0,00
		Fresa		1.200,00	\$906,07	U\$S 576,00
		Válvula Implosora		0,00	\$0,00	U\$S 0,00
		Hot-Oil + Camión chupa		0,00	\$0,00	U\$S 0,00
		Camión Chupa		0,00	\$0,00	U\$S 0,00
		Transporte Gasoil		0,00	\$0,00	U\$S 0,00
		Coiled Tubing		0,00	\$0,00	U\$S 0,00
		Motor de fondo		2.400,00	\$720,00	U\$S 1680,00
		Gas-Oil(\$104xm3)		0,00	\$0,00	U\$S 0,00
		Alquiler de Radio		0,00	\$0,00	U\$S 0,00
		Limpieza de Locación		400,00	\$240,00	U\$S 160,00
		Subtotal		49.800,00	\$10.772,31	U\$S 41.944,00
		TOTAL		106.630,57	\$75.098,58	U\$S 55.867,49
		OBJETIVO (U\$S)		105.000	PRESUPUESTO	80900,10
		Capas punzadas		7	TOTAL EN U\$S	
		Profundidad		1.950,00		
		Nº de Pruebas		0	Tipo de cambio:	
		Nº de Ensayos		6	0,33333	

POZO: GBK - 732		OBJETO:	TERMINACION	PEP: RS1EC.7G01.53.P0002
EQUIPO: PI 129		Est.Actual :		OI: -
Inicio: 20/02/2007	Casing	PROYECTO:		COSTO OBJETIVO U\$S:
Termino: 27/02/2007		CABLE	Cta	FRAC
		Acido	M.Fdo.	
		GEOLOG	BJ	BJ
			BJ	Christ.
		FLUIDO:	Agua de Rec. Sec.	
Capa	NEUTRÓN	INDUCCIÓN		
N°	Ø5,1/2" (15,5 #)			
	9.5/8" 352 m.-			
		Transporta Equipo sobre 46 km. Monta equipo.-		
		Cia. Artex punza según programa : 1905,0/07,0 - 1851,0/53,0 - 1792,0/94,5 - 1724,0/26,5 - 1058,5/60,0 - 1052,0/54,0 - 1033,5/41,5 - total de 267 tiros de 32 grs.		
		Bajó Tpn y Pkr y ensayó según se indica: A - B - C - D - E - F.-		
		Cia Artex fijó Tpn "N" en 1900 m y en 1710 m.		
		Bajó Instalación de Producción.		
		Instalación de Tbg:		
		C.Pas. + Filtro + Ancla torque 1151,44 m + Estator Geremia 40-40-300 + 1 Tbg 2 7/8" + NAC 1137,11 m. + 119 Tbg 2 7/8"		
		Instalación de v/b:		
		Rotor 42-40-300 + 150 Var. 7/8" "D" nuevas + Tzo. + Vtgo 1 1/4"		
		Desmontó Equipo. Transportó al pozo LC-634.		
		1033,5/41,5	F	3000 l/h - Pleo - N: 820 m. - IT: 10 % - Dens: 0,850.- Sal: 4 - PH: 8 - Temp: 32 °C
		1052,0/54,0	E	220 l/h - Pleo - N: 970 m. - IT: 12 % - Dens: 0,825.- Sal: 5,8 - PH: 8 - Temp: 26 °C
		1058,5/60,0		
		Tpn "N" 1710 m.		
		SE	D	S/E - Rompe formación con 1400 psi. Admite 162 LPM c/1100 psi. Re ensaya S/E
		1724,0/26,5		
		X ●	C	1980 l/h - AS + PF - N: 1613 m. - IT: 90 % - Dens: 0,945.- Sal: 4 - PH: 7 - Temp: 30 °C
		1792,0/94,5		
		●	B	240 l/h - Pleo - N: 1755 m. - IT: 10 % - Dens: 0,875.- Sal: 4,6 - PH: 8 - Temp: 26 °C
		1851,0/53,0		
		Tpn "N" 1900 m.		
		X	A	3000 l/h - ASF - N: 700 m. - Sal: 4 - PH: 8 - Temp: 28 °C
		1905,0/07,0		
Collar:	1942,00 m.-			
Zap.:	1950,00 m.-			
PF:	1951,00 m.-			
REFERENCIAS		Tapón Fijo	INST. TBG.: C.Pas. + Filtro + Ancla torque 1151,44 m + Estator Geremia	
		CSG Roto	40-40-300 + 1 Tbg 2 7/8" + NAC 1137,11 m. + 119 Tbg 2 7/8"	
			MAT. BBEO: Rotor 42-40-300 + 150 Var. 7/8" "D" nuevas + Tzo. + Vtgo 1 1/4"	

PROGRAMA OPERATIVO							
1º)	Montar equipo completo						
2º)	Artex registra CBL/VDL desde 1943 m hasta 780 m. Si existe buena aislación, punzar						
	con cañón Ø4" a 4TPP 32 grs. (0° - 90°).-						
	Inducción	Neutrón	Carga				
A)	1905,0/07,0	1905,0/07,0	32 gr. 0 - 90 °				
B)	1851,0/83,0	1850,9/52,9	32 gr. 0 - 90 °				
C)	1792,0/94,5	1791,8/94,3	32 gr. 0 - 90 °				
D)	1724,0/26,5	1723,4/25,9	32 gr. 0 - 90 °				
E)	1058,5/60,0	1056,5/58,0	32 gr. 0 - 90 °				
	1052,0/54,0	1050,0/52,0	32 gr. 0 - 90 °				
F)	1033,5/41,5	1031,5/39,5	32 gr. 0 - 90 °				
3º)	Bajar TPN/PKR con c/b Ø 2 7/8" J-55, AMC. Ensayar las capas indicadas						
	con las letras A, B, C, D, E, F.-						
	Estabilizando Caudal, Nivel e IT.						
	En las capas que resulten S/E, probar admisión y reensayar.						
	NOTA: De las capas con aporte de fluido tomar muestras para su análisis; en caso de ser gas medir presiones y tomar muestra.						
4º)	De acuerdo al resultado los ensayos se determinará programa a seguir.						



Línea sísmica Sur – Norte Propuestas Gbk-722 y Gbk-732



POSICIONAMIENTO SATELITAL - G.P.S.
UBICACION Y TRIANGULACION DE POZOS
REPLANTEOS GENERALES, OLEODUCTOS
GASODUCTOS, SISMICAS, MENSURAS, ETC...

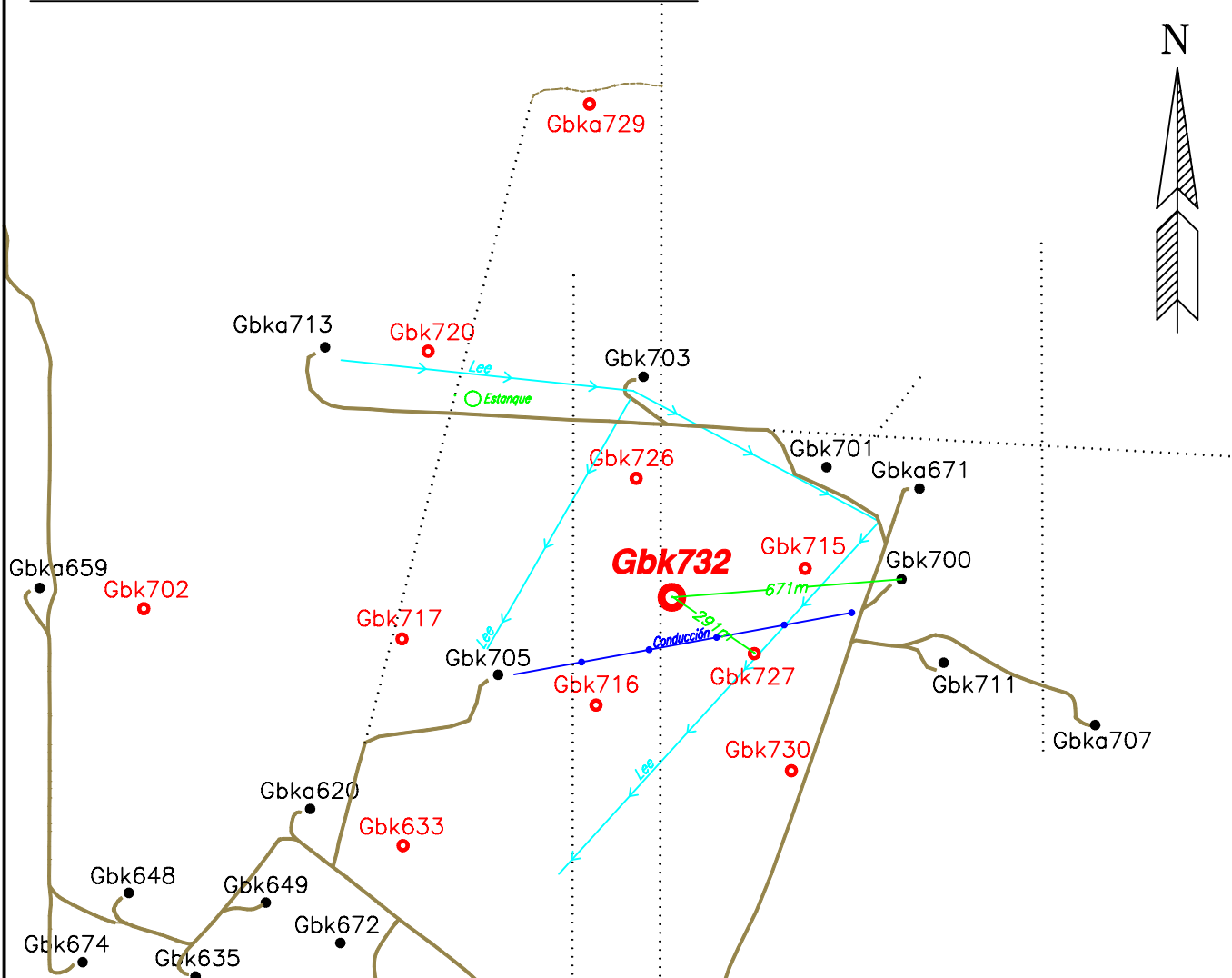
J.D. s.r.l. - SERVICIOS TOPOGRAFICOS

Av. Sargento Cabral 162 - TE(fax): 0297/447-1105
9000 - Comodoro Rivadavia - Chubut
E-mail: jdsrl@infovia.com.ar / jd-srl@satlink.com

MONOGRAFIA

CONTRATO: REPSOL-YPF
YACIMIENTO: MANANTIALES BEHR
AREA: GRIMBEEK
PROVINCIA: CHUBUT

CROQUIS DE UBICACION: **Gbk-732** ESCALA APROX. 1/20.000



OBSERVACIONES: LOTE: 40 PROPIETARIO: SUC. LARI SADLEIR

UBICADO EN TERRENO CASI PLANO
CAMINO A ESTUDIAR POR L. SISMICA 36m AL OESTE

AZIMUT DE ARRANQUE:

SE NAVEGO EL POZO A LAS COORDENADAS
TEORICAS CON GPS COLOCANDO LA ESTACA
EN LAS COORDENADAS SOLICITADAS

COMPAÑIA: **REPSOL-YPF**

COORDENADAS: **TEORICAS GRAFICAS**

SISTEMA: **PAMPA DEL CASTILLO**

Gbk-732

X: 4951984.- Y: 2595840.-
COTA: T/N Aprox.: 657m +/- 3m

COORDENADAS GEOGRAFICAS:(Sistema:

LAT: _____ LON: _____ ELEV: _____

UBICADO POR JD SRL-AV. SGTO CABRAL 162-TE(fax)0297/4471105
9000 - COMODORO RIVADAVIA - CHUBUT - REPUBLICA ARGENTINA

OPERADOR: S. VELASQUEZ REVISO: JD

REMITO N°

FECHA: 24 de OCTUBRE de 2006

POZO: Gbk-732

TERMINACIÓN

EQUIPO:PI-129

OBJETO:

TERMINACION

PEP:

Est.Actual :

PROXIMO POZO:

A CONFIRMAR

PROYECTO:

COSTO OBJETIVO U\$S:

Inicio:

Casing

Termino:

CABLE

Cta

FRAC

Acido

M.Fdo.

PRESUPUESTO \$:

-

PRESUPUESTO U\$S:

-

FLUIDO:

SALINIDAD:

g/l (en pileta)

Capa N° **NEUTRÓN**

Ø 5 1/2" (15,5#)

INDUCCIÓN

Ø 9 5/8": 352,30 mts

C II

Individual

1033.5-1041.5

F

en conjunto

1052.0-1054.0 m
1058.5-1060.0 m

E

CIV

individual

1724.0-1726.5 m

D

individual

1792.0-1794.5 m

C

individual

1851.0-1853.0 m

B

individual

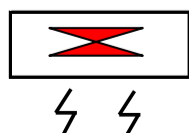
1905.5-1907.0 m

A

Zap.: 1951.10

Collar: 1943.3

PF: 1950,40



Tapón Fijo

CSG Roto

A. Montar Equipo de RTP.

B. Correr perfil CBL - VDL de fondo a cañería libre.

B. Si existe buena aislación, punzar con cañon 4", 4TPP 32gr. 0-90°

Prof

Prof Neutrón

1905.0-1907.0 m

1851.0-1853.0 m

1792.0-1794.5 m

1724.0-1726.5 m

1058.5-1060.0 m

1052.0-1054.0 m

1033.5-1041.5 m

C. Ensayar según esquema

E. Si resultara SE probar admisión y reensayar

F. De acuerdo a los resultados consultar pasos a seguir.

G. En caso de extraer hidrocarburo tomar muestras para análisis y enviar a Epsilon.

H. En caso de ser gas medir presiones y tomar muestra



P.E.P.	RS10C.10Y4.58.R0013
ORDEN INTERNA:	
PRESUPUESTO IAP U\$S:	\$ 268.135
PRESUPUESTO WO U\$S:	\$ 227.212
ACTUAL U\$S:	\$ 293.366

PROYECTO :	GRIMBEEK	AREA:	MANANTIALES BEHR
ESTADO ACTUAL :	EN REPARACION	Yacimiento:	Grimbeek
OBJETIVO :	REPARACIÓN DE PRIMARIA	POZO:	Gbk-732
FECHA INICIO :	23 de julio de 2013	Equipo :	YY-209
FECHA FINAL :	6 de agosto de 2013	Coordenadas X:	4.951.986
RESULTADO :	PRODUCTOR DE PETROLEO	Coordenadas Y:	2.595.842
ESTADO FINAL :	EN EXTRACCION PETROLEO	Cota:	658

Pozo Comprometido del Proyecto				Estimación de Caudal Inicial	QBr [m3/día]	30,46
Pozo Tipo [m3]	Éxito	QI Oil [m3/d]	QI con risk [m3/d]		QNet [m3/día]	3,55
2351	80%	1,3	1,1	% AGUA:	88	

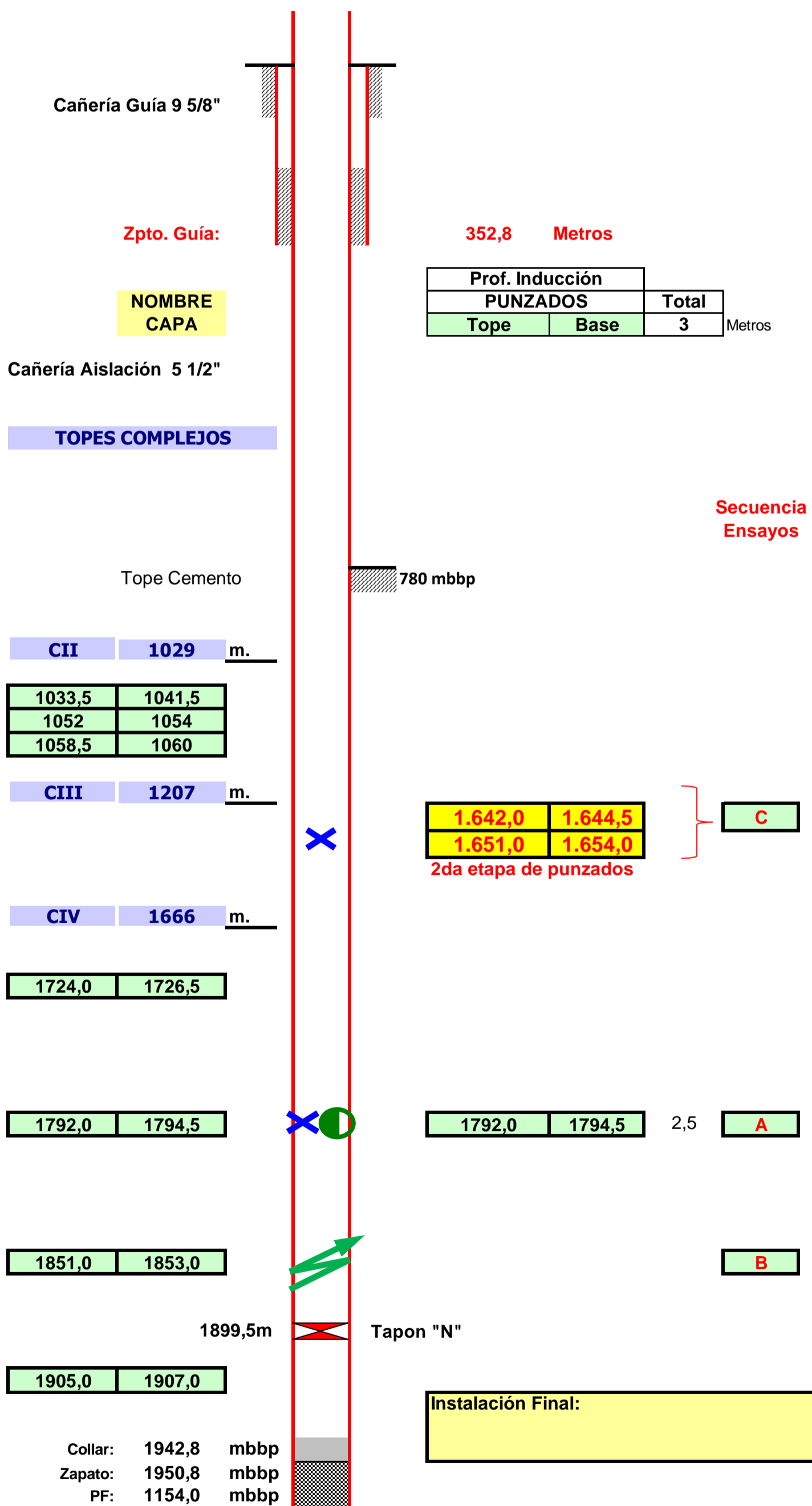
FLUIDO DE REPARACIÓN DE PRIMARIA Agua Dulce con MARCAT 0,4 % (MARBAR)

Plan de Trabajos:
 Retirar material del POZO
 Calibrar pozo con trepano y rotovert hasta Tapón en 1709,5 mbbp
 Rotar tapón 1709,5 mbbp, lavar y calibrar hasta 1897 mbbp (tapón en 1899,5 mbbp)
 Punzar capas indicadas:

	TOPE	BASE		
	1792,0	1794,5	A	Repunzar
	1851,0	1853,0	B	Fracturar

Ensayar intervalo "A" hasta estabilizar porcentaje de fluidos, caudal y sumergencias
 Fracturar intervalo "B"
 Ensayar capas fracturadas hasta estabilizar porcentaje de fluidos, caudal y sumergencias
 Bajar instalación de producción
 Acondicionar boca de pozo, retirar BOP y desmontar equipo

COMPANIAS	
Cable	
Cementación	
Punzado	
Fractura	
Acido	
Motor Fondo	
Pesca	
Geles	
Densificantes	
Inhibidores	
Neutrón	
Filtrado	
Cuerda explos.	
Fresas	
Trepanos	



Petrofísica					Ensayos de capa				Análisis de Fluido					QBr [m3/día]	QNet [m3/día]
Hu [m]	Swi %	Φeff %	Presión [kg/cm2]	% PN	CAUDAL [lts/hs]	FLUIDO	Nivel [m]	Horas Fm	I.T. %	DEN [gr/cm3]	Temp [°C]	% AGUA SEP	SAL [gr/lts]		
					3000	ASF	560	8	100			100	5,8	21,60	0,00
					5c/h		1082								
					Medición de nivel estático 450 mts										
					780	ACPV	1512	12	50		28	50	5,0	5,62	2,81
					2c/h	Sumergencia	280								
					450	INY + PVF	800	7	77	0,88	40	74		3,24	0,75
					1c/h	Sumergencia	1051								
					Durante ultima carrera corta pin. Cuesta profundizar barra, petroleo muy viscoso.										
														30,46	3,55

Datos de la Fractura: 150 sks Arena 20/40 + 195 sks Arena 16/30. Presion de rotura 3620 psi .caudal 8 bpm. Gradiente de fractura 0.64PSI /PIE

Instalación Final:

Preparó: Luciano Minor

LABORATORIO
BASE CHUBUT



EPSILON S.R.L.
LABORATORIO INDUSTRIAL

Ruta 3 Km. 1838, Bo. Gral. Mosconi - (9005) C. Rivadavia - Chubut, Argentina - Tel/Fax: (0297)- 4550825/4559365

Muestra de: Producción

Lugar de Muestreo: GBK-732

Zona: 1792/94,2mts.

15:00 hs.

Extraída por: Cliente.

Fecha de Extracción: 28/07/2013

Fecha de Recepción: 26/08/2013

Solicitado por : YPF - Sr: Ruiz Ana Maria.

Objetivo del Control: Análisis completo de petróleo

PROTOCOLO N°: 6517-13CR

Fecha Informe: 30/08/2013

Pag. 1/1

INFORME DE ENSAYO

PETROLEO HIDRATADO

DETERMINACION	NORMA	UNIDAD	VALOR
%AT (%AL+D4007)	S/N	% v/v	8
%Agua Libre			0
IMPUREZA TOTAL	ASTM D-4007 Mod según acuerdo con cliente	% v/v	8
ARENA Y BARRO			2
AGUA SEPARADA			6
EMULSION			0
AGUA EXACTA			6
DENSIDAD DE PETROLEO A 15°C	ASTM D-5002	grs/cm3	0,9743
PUNTO DE ESCURRIMIENTO	ASTM D-97	° C	30

PETROLEO DESHIDRATADO

DETERMINACION	NORMA	UNIDAD	VALOR
DENSIDAD DE PETROLEO A 15°C	ASTM D-5002	grs/cm3	0,9722
% PARAFINA	UOP-86 mod	% p/p	2
% ASFALTENO	SPE-23810	% p/p	13

VISCOSIDAD 300RPM

TEMPERATURA	30°C	POR REOMETRO	Cp	12009
	40°C			8446
	50°C			6081

Analista: R.D.

OBSERVACIONES:

.....
Mario Faibiscob
Rep.Tec.Epsilon SRL

LABORATORIO
BASE CHUBUT



EPSILON S.R.L.
LABORATORIO INDUSTRIAL

Ruta 3 Km. 1838, Bo. Gral. Mosconi - (9005) C. Rivadavia - Chubut, Argentina - Tel/Fax: (0297)- 4550825/4559365

Muestra de: Producción

Lugar de Muestreo: GBK-732

Zona: 1792/94,2mts.

21:00 hs.

Extraída por: Cliente.

Fecha de Extracción: 28/07/2013

Fecha de Recepción: 26/08/2013

Solicitado por : YPF - Sr: Ruiz Ana Maria.

Objetivo del Control: Análisis completo de petróleo

PROTOCOLO N°: 6518-13CR

Fecha Informe: 30/08/2013

Pag. 1/1

INFORME DE ENSAYO

PETROLEO HIDRATADO

DETERMINACION	NORMA	UNIDAD	VALOR
%AT (%AL+D4007)	S/N	% v/v	12
%Agua Libre			0
IMPUREZA TOTAL	ASTM D-4007 Mod según acuerdo con cliente	% v/v	12
ARENA Y BARRO			1
AGUA SEPARADA			8
EMULSION			3
AGUA EXACTA			11
DENSIDAD DE PETROLEO A 15°C	ASTM D-5002	grs/cm3	0,9720
PUNTO DE ESCURRIMIENTO	ASTM D-97	° C	28

PETROLEO DESHIDRATADO

DETERMINACION	NORMA	UNIDAD	VALOR
DENSIDAD DE PETROLEO A 15°C	ASTM D-5002	grs/cm3	0,9680
% PARAFINA	UOP-86 mod	% p/p	3
% ASFALTENO	SPE-23810	% p/p	10

VISCOSIDAD 300RPM

TEMPERATURA	30°C	POR REOMETRO	Cp	8688
	40°C			6510
	50°C			4965

Analista: R.D.

OBSERVACIONES:

.....
Mario Faibiscob
Rep.Tec.Epsilon SRL



ALTA Y BAJA DE POZOS

Gordillo/MERCADO fax 4355

Para:

De:

FECHA: 13-mar-07
ZONA: MANANTIALES BEHR

POZO	SISTEMA COL. PETROLEO	SIST.EXTR.	NVO./REP./REACT.	TIPO POZO	SISTEMA COL. PETROLEO	SISTEMA COL. GAS	NOMBRE COLECTOR GAS	FECHA ENGANCHE	BRUTA	%	AGUA	PETROLEO	GAS (m3/d)	N° CELDA	GRUPO
LB-66	TKS MB LB-63	PCP	NUEVO	Prod.Petróleo	SI	NO		01/03/2007	10,0	55,5%	5,55	4,45	0,0	MYBURG	LA BEGONIA
GBK-732	GRIMBEEK 2	PCP	NUEVO	Prod.Petróleo	SI	SI	UNIDAD DE SEPARACION GBK 2 SEPARADOR 1	04/03/2007	11,8	15,6%	1,84	9,96	750,0	EL ALBA	GRIMBEEK 2
EN-634	BATERIA ESCALANTE NORTE 2	BBEO.MECANICO	NUEVO	Prod.Petróleo	SI	SI	UNIDAD DE SEPARACION E.NORTE 2	01/03/2007	21,6	44,4%	9,57	11,99	900,0	ESCALANTE	ESCALANTE NORTE 2
EN-616	BATERIA ESCALANTE NORTE 2	BBEO.MECANICO	REPARADO	Prod.Petróleo	SI	SI	UNIDAD DE SEPARACION E.NORTE 2	01/03/2007	7,1	98,7%	7,00	0,09		ESCALANTE	ESCALANTE NORTE 2

.....
FIRMA RESERVORIOS

.....
Ergas Juan Eduardo
FIRMA PRODUCCIÓN



YPF.Ch.Gbk-732 Eval. Petrofísica – PVP

1/200

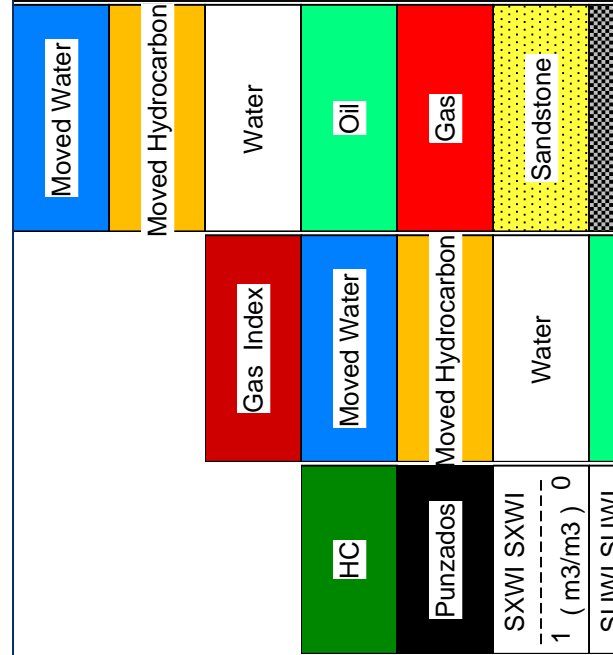
COMPANY: YPF S.A.
 WELL: YPF.Ch.Gbk-732
 FIELD: GRIMBEEK
 State:
 COUNTRY: ARGENTINA

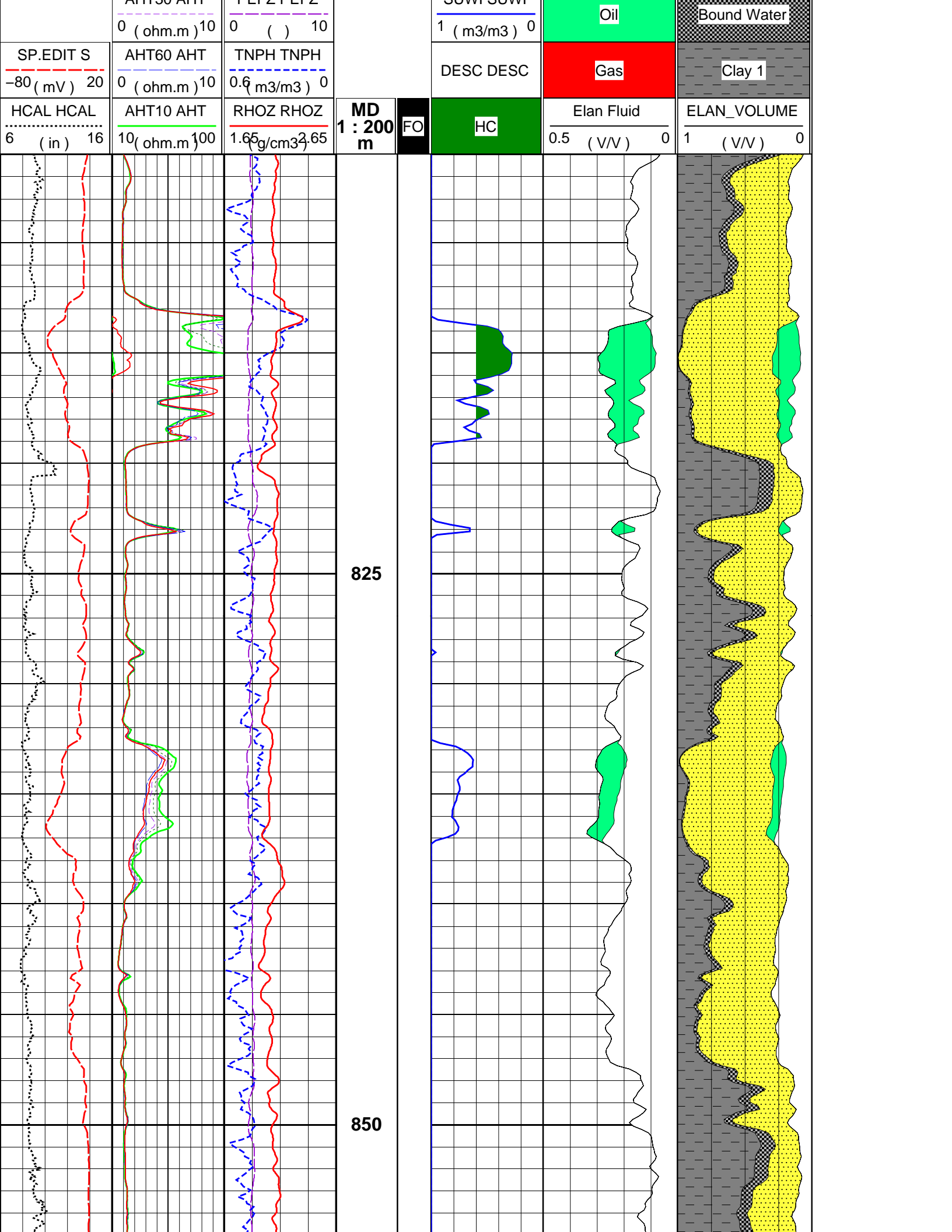
Date Processed: Date Logged: 12-Feb-2007
 Job Number: Processed at:
 Well Location: CAS
 Latitude: Y= 2.595.842,33 Longitude: X= 4.951.986,22
 Elevations: KB: DF: GL: 657.74m

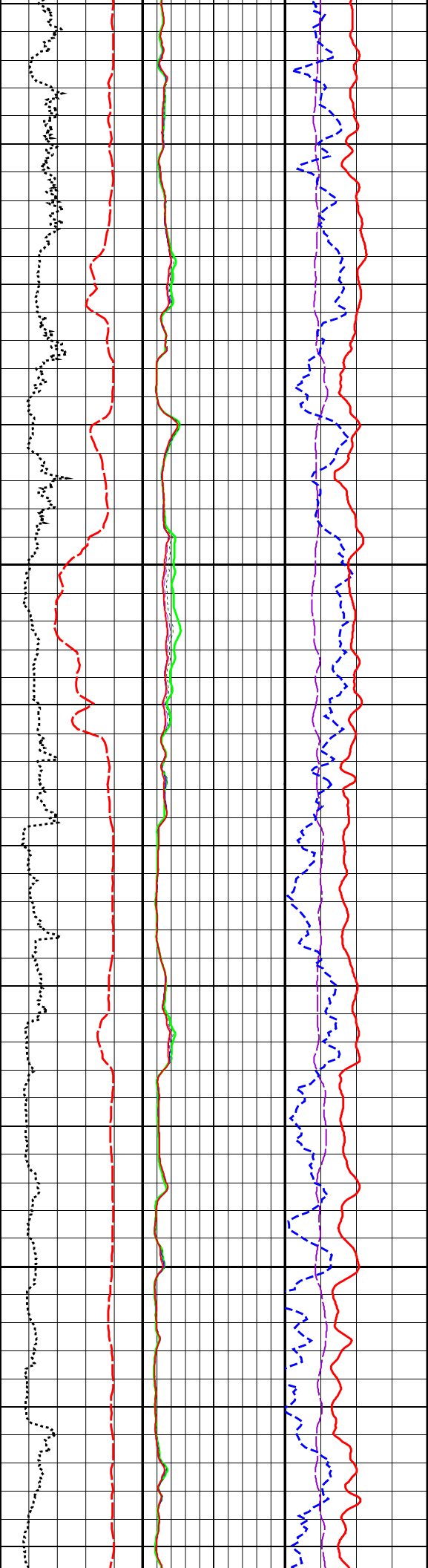
FOLD HERE The well name, location and borehole reference data were furnished by the customer.

All interpretations are opinions based on inferences from electrical or other measurements and we cannot, and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, damages or expenses incurred or sustained by anyone resulting from any interpretations made by any of our officers, agents or employees. These interpretations are also subject to Clause 4 of our General Terms and Conditions as set out in our current Price Schedule.

AHT90 RT@ 10 (ohm.m) 100	AHT90 RT@ 0 (ohm.m) 10	AHT10 AHT 0 (ohm.m) 10	AHT20 AHT 0 (ohm.m) 10	AHT30 AHT
-----------------------------	---------------------------	---------------------------	---------------------------	-----------

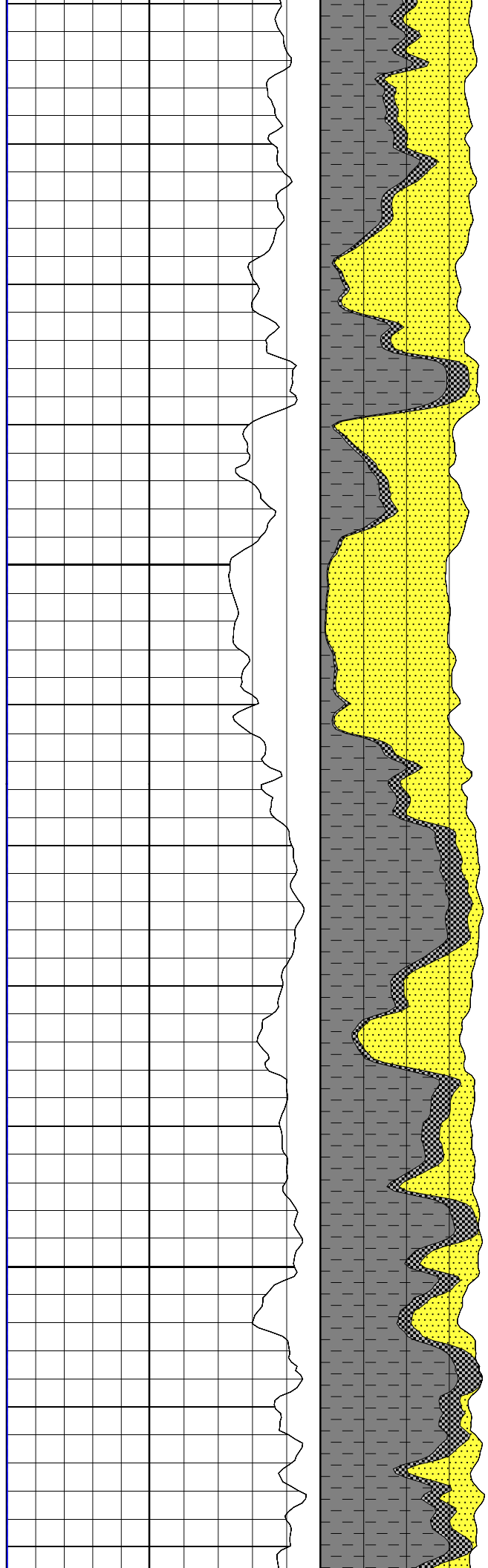


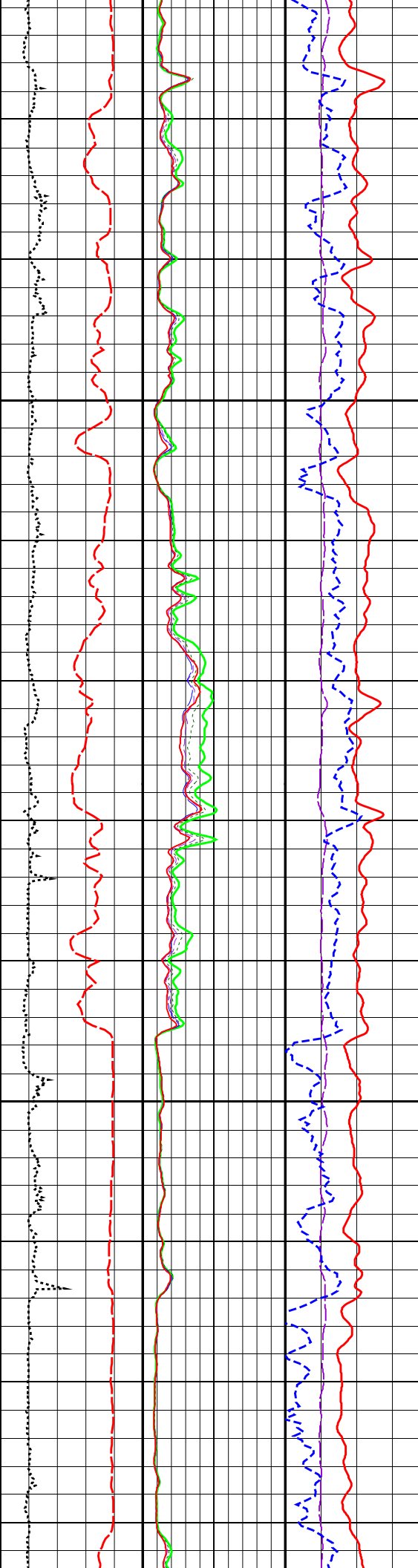




875

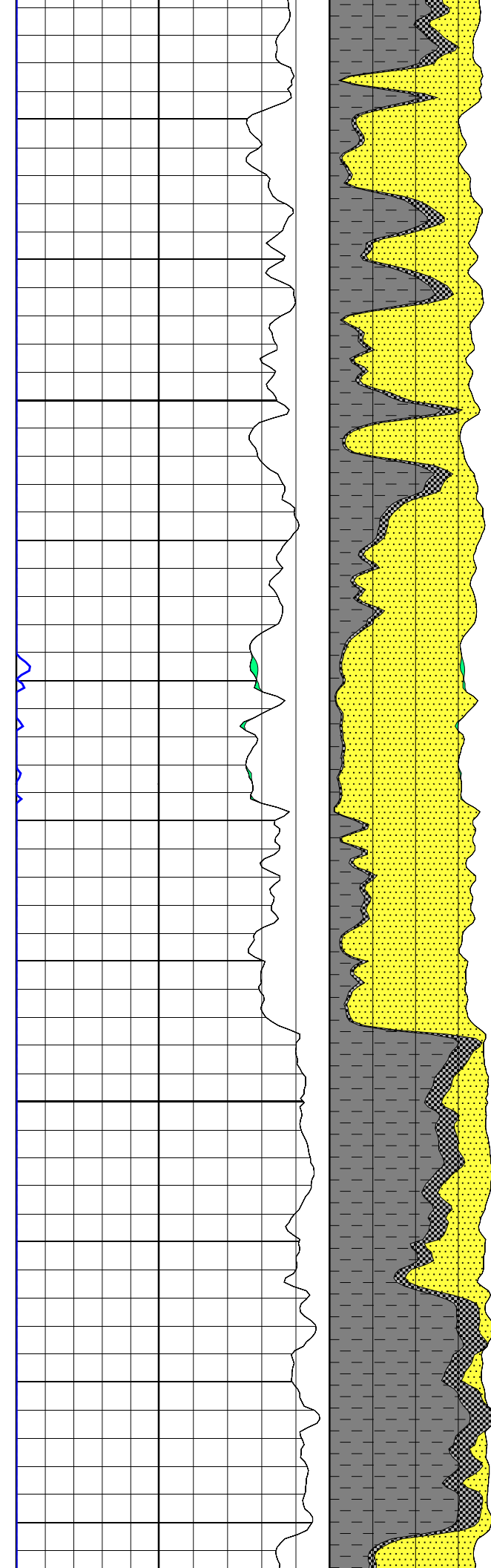
900

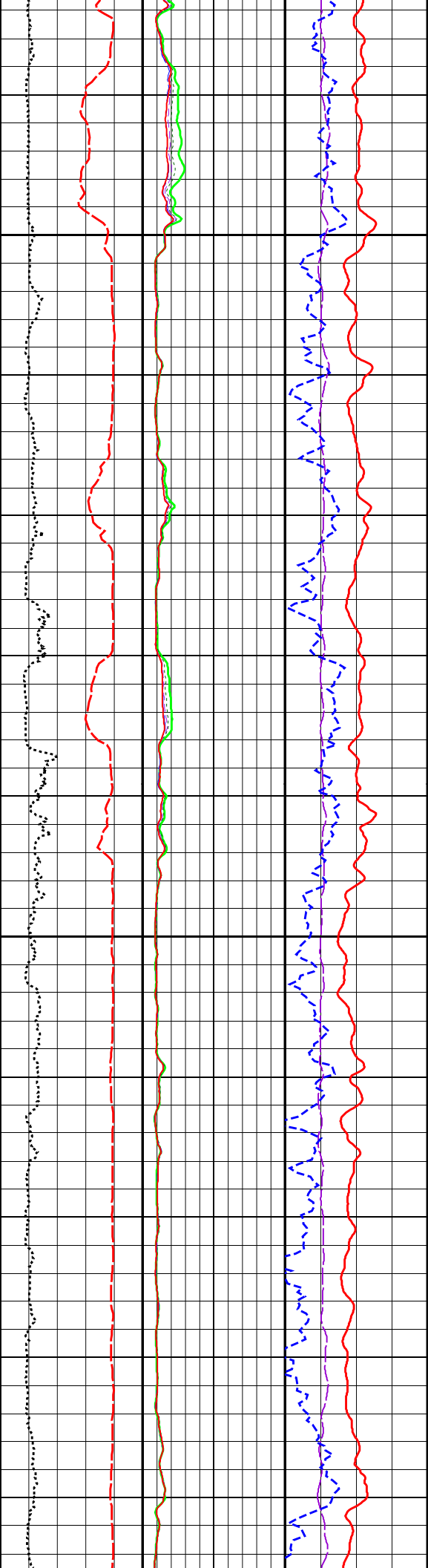




925

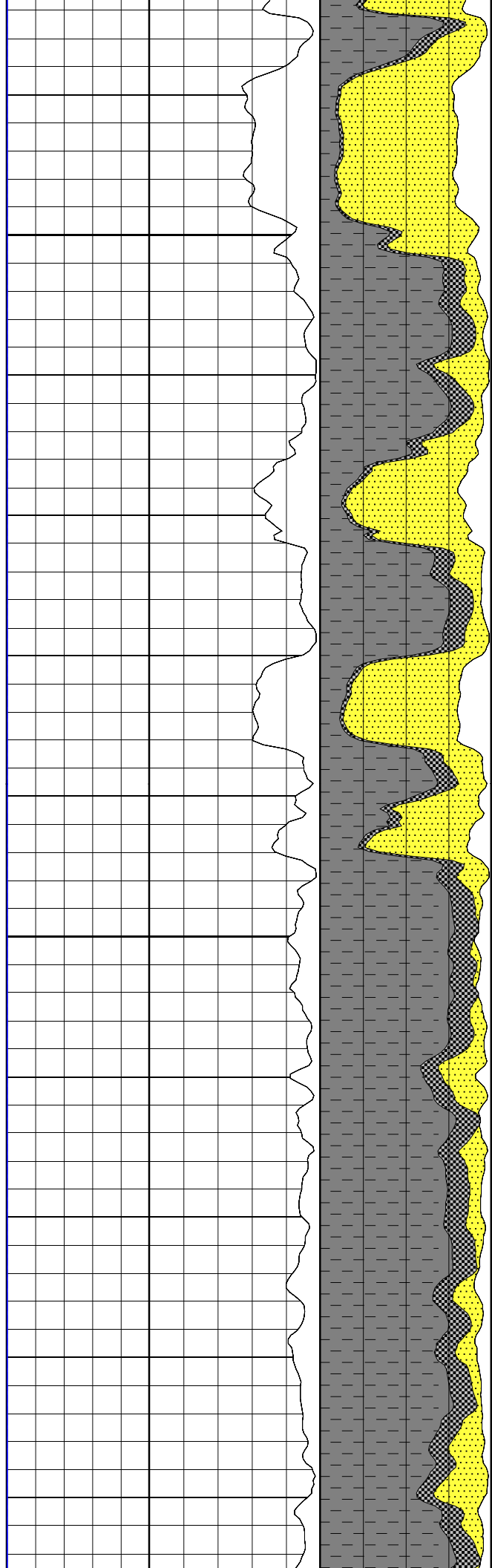
950

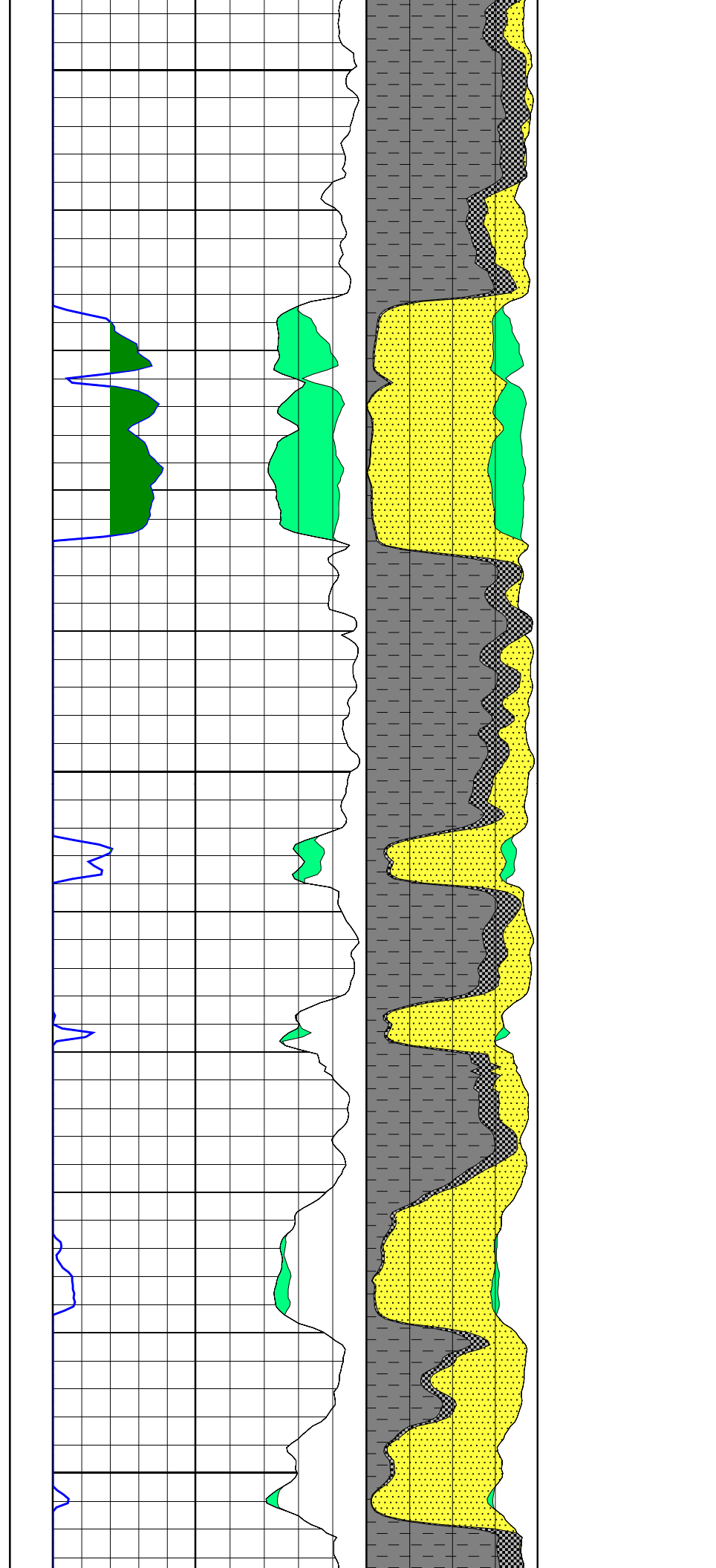
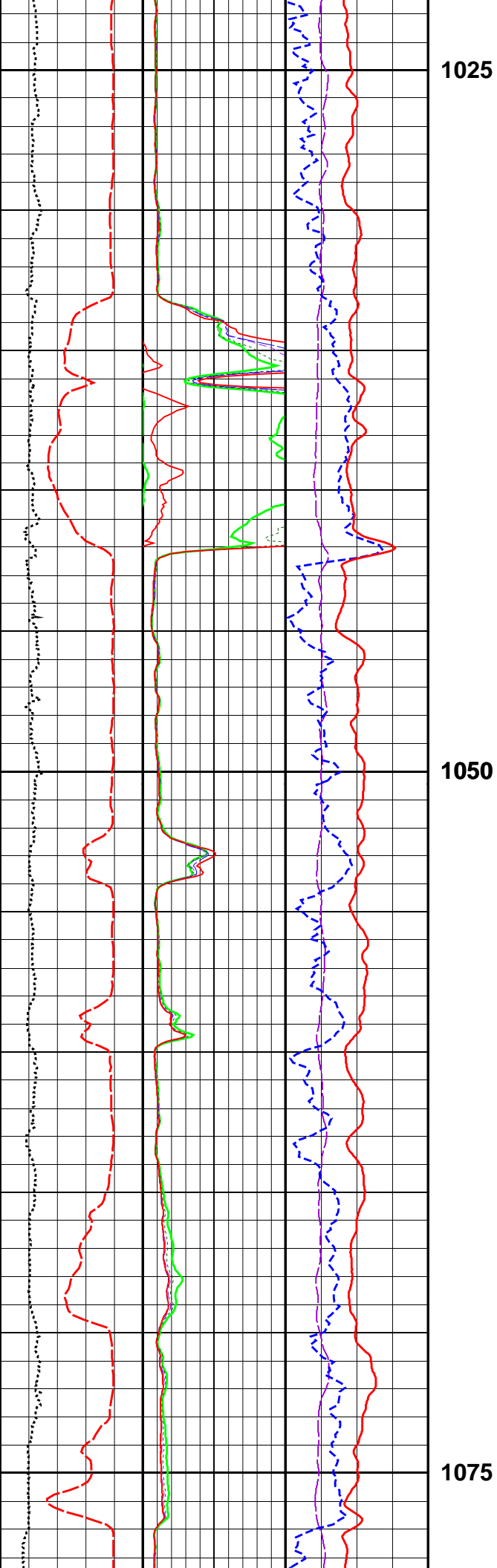


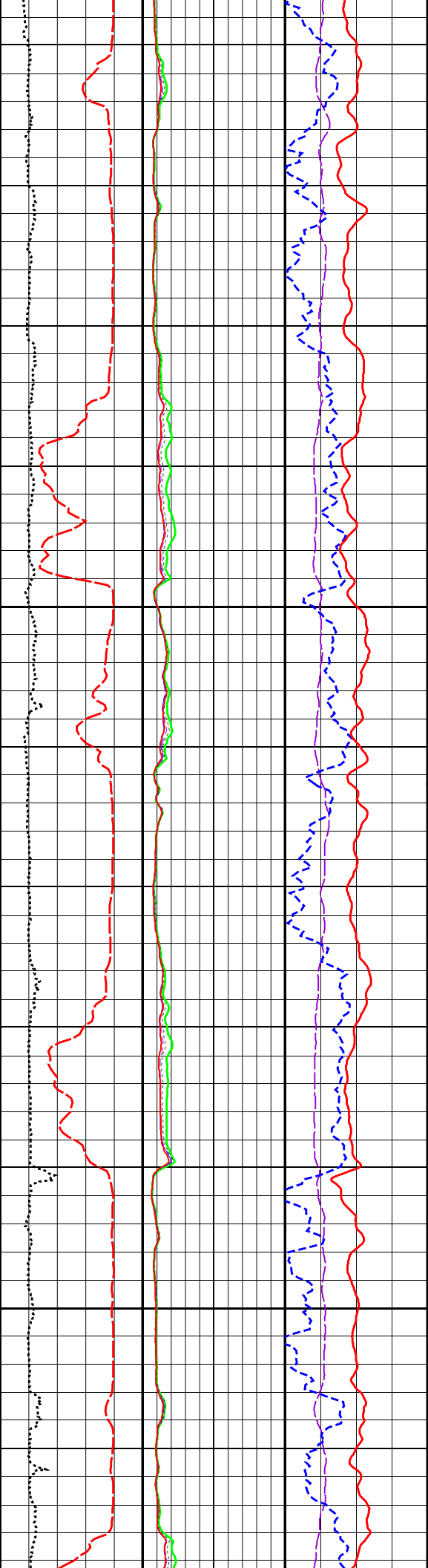


975

1000

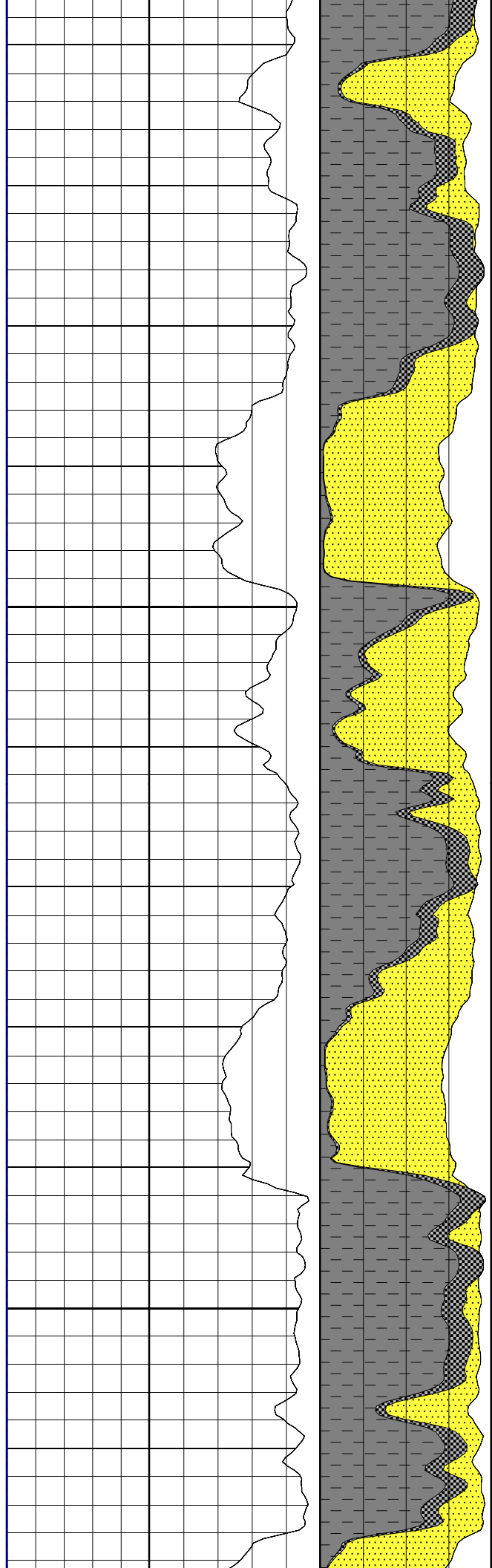


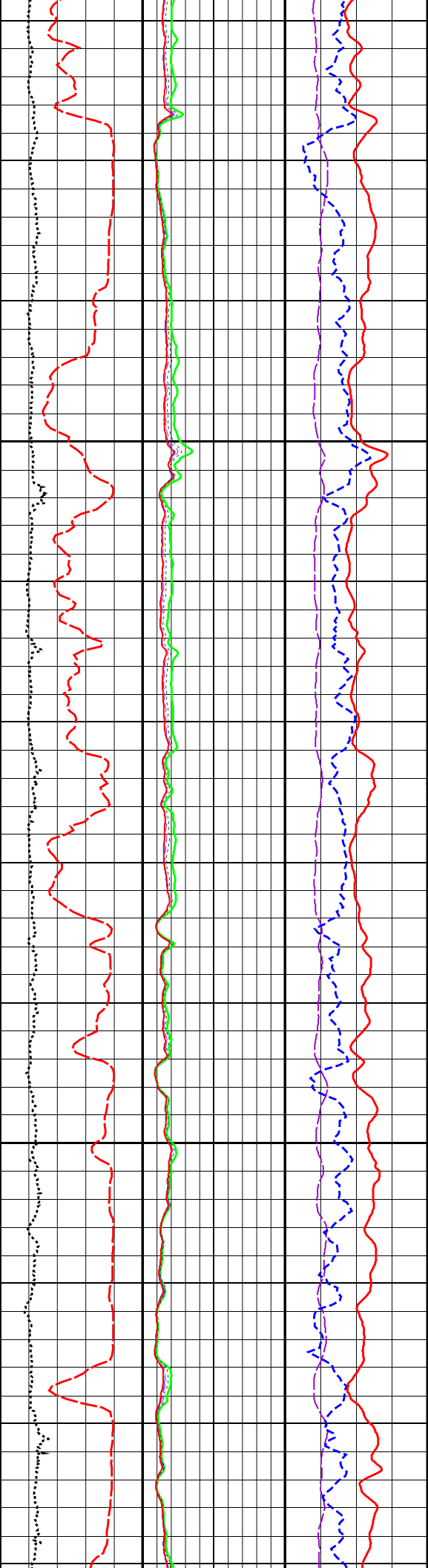




1100

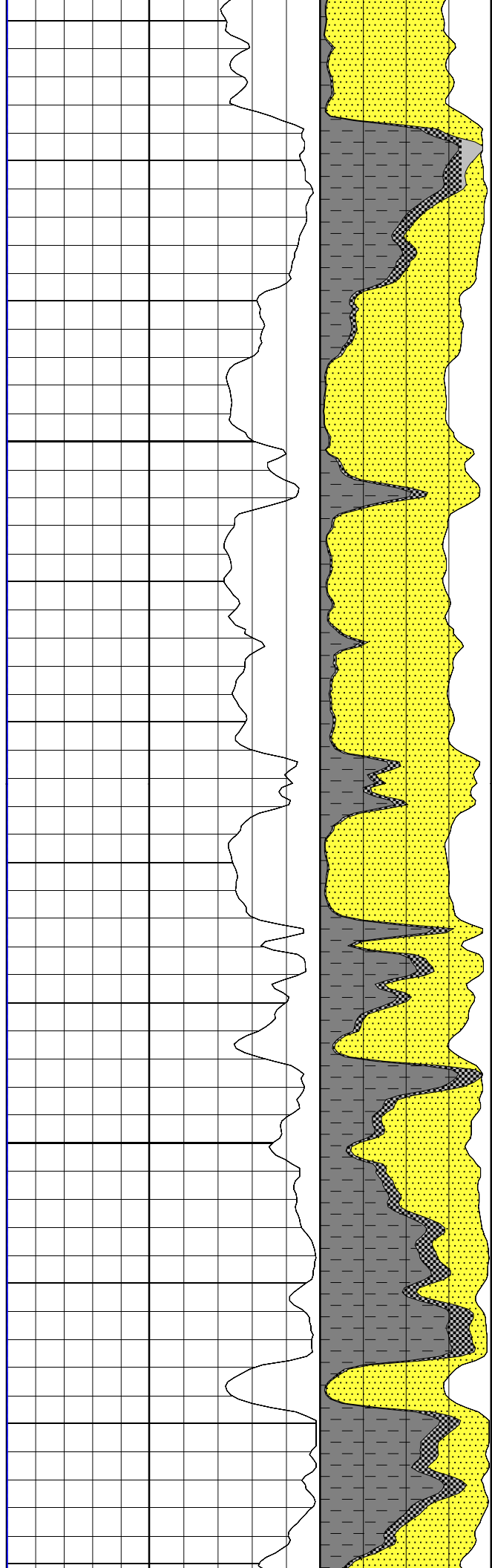
1125

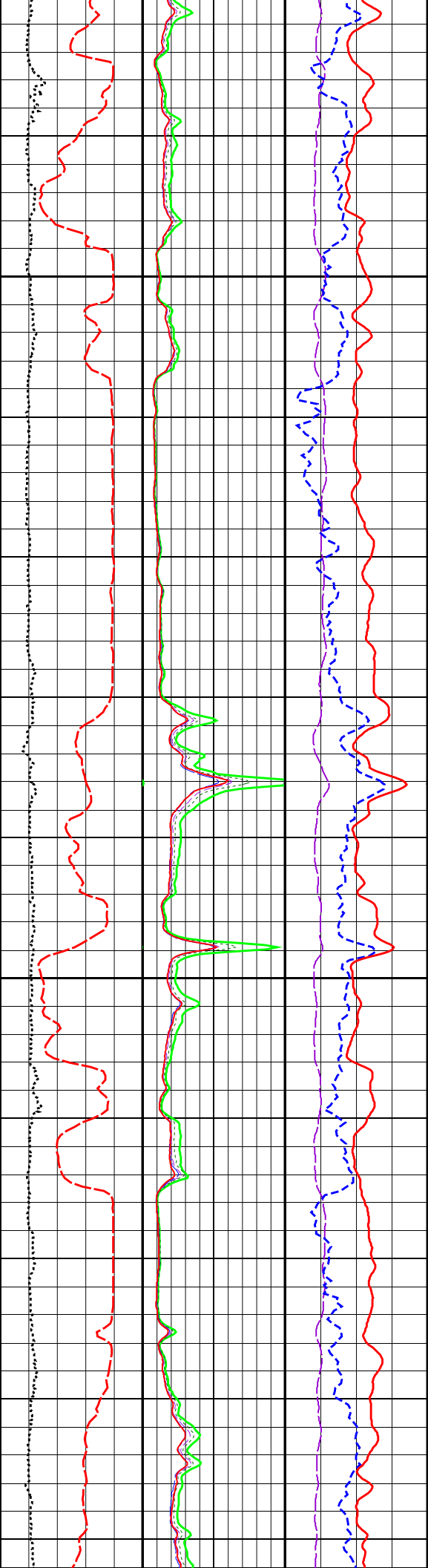




1150

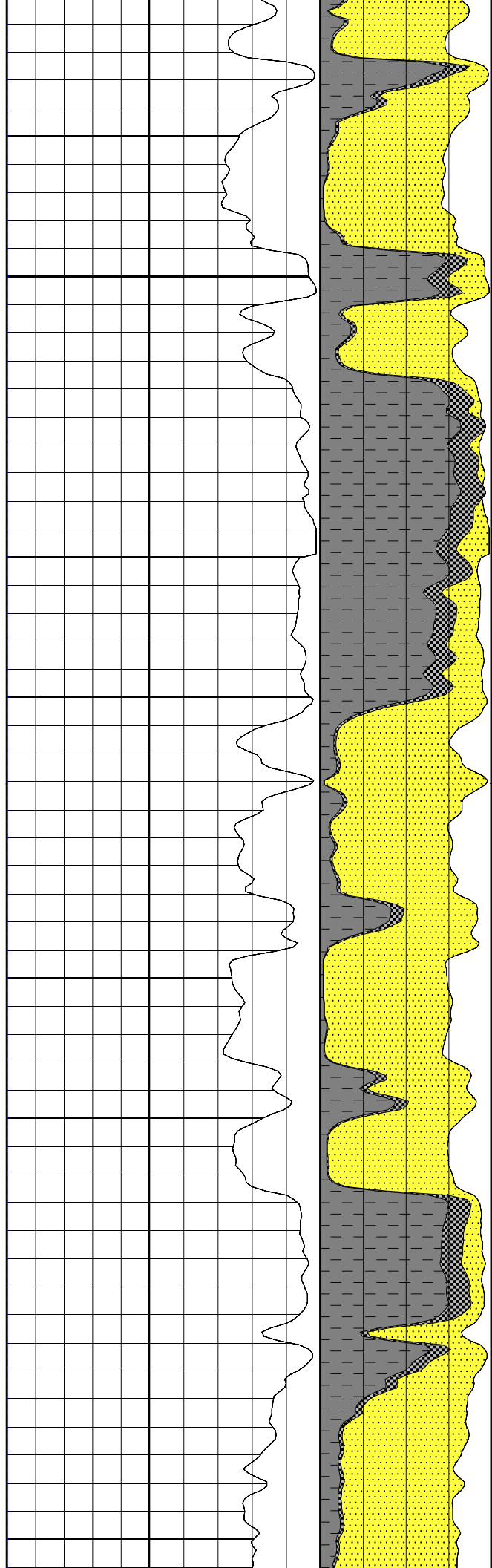
1175

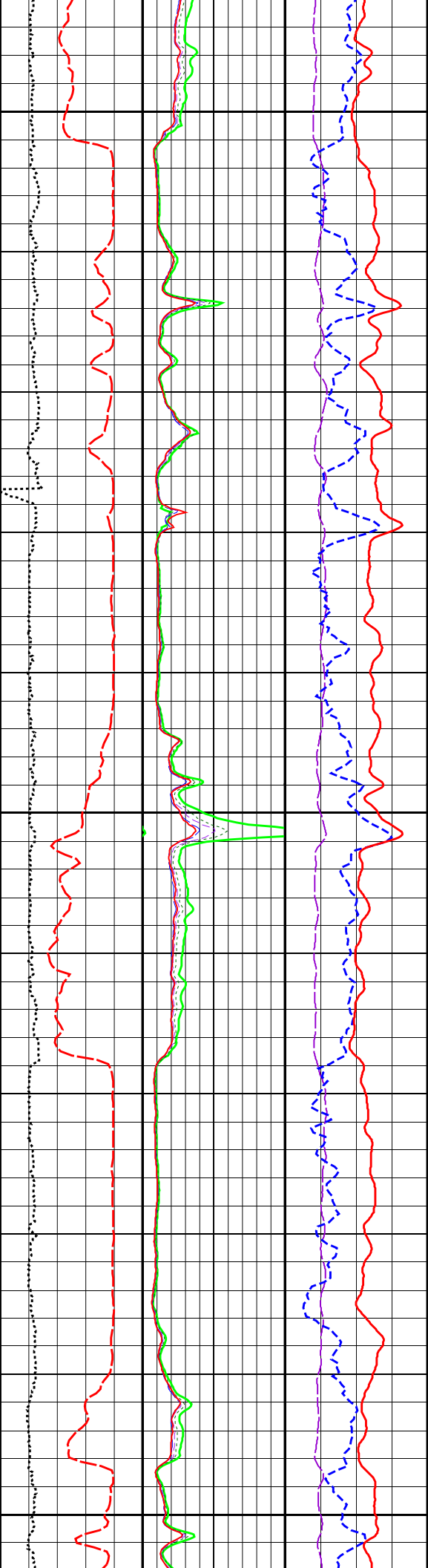




1200

1225

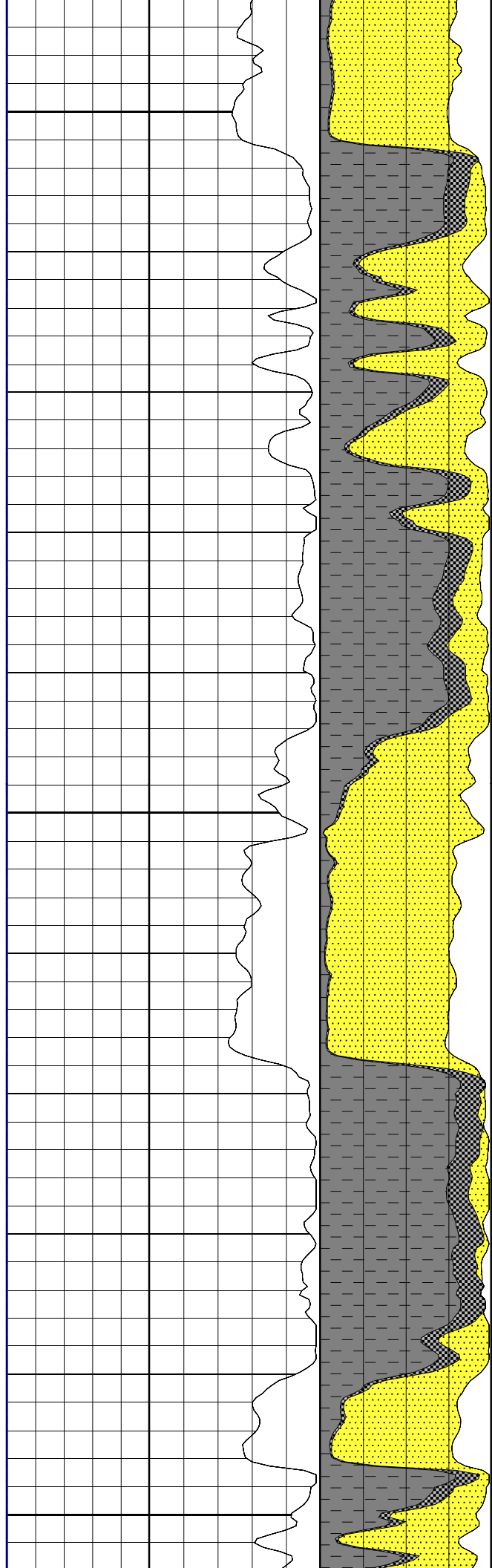


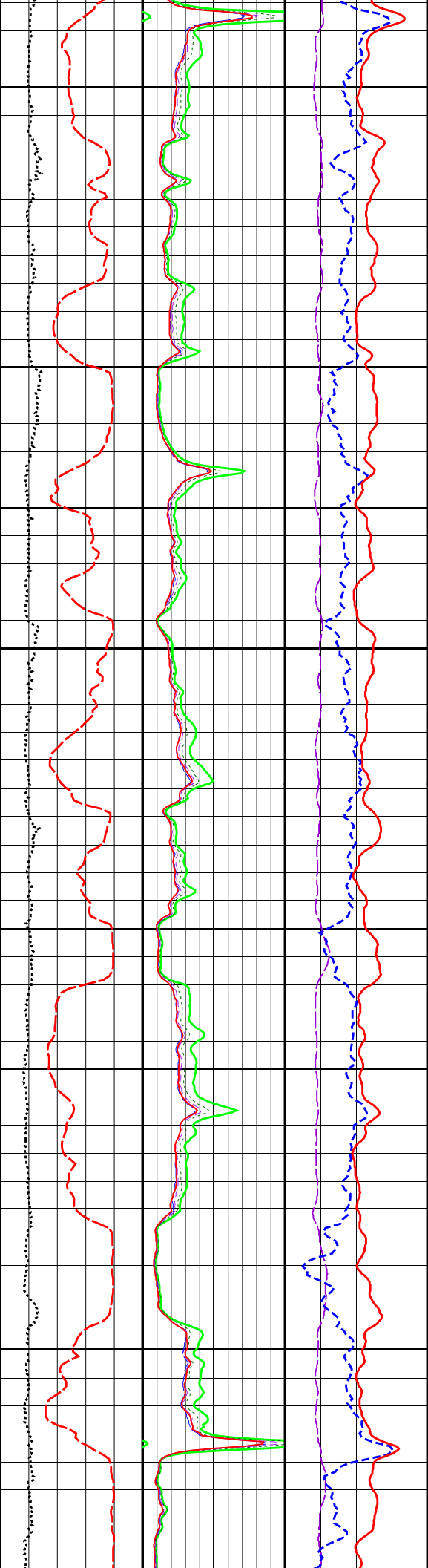


1250

1275

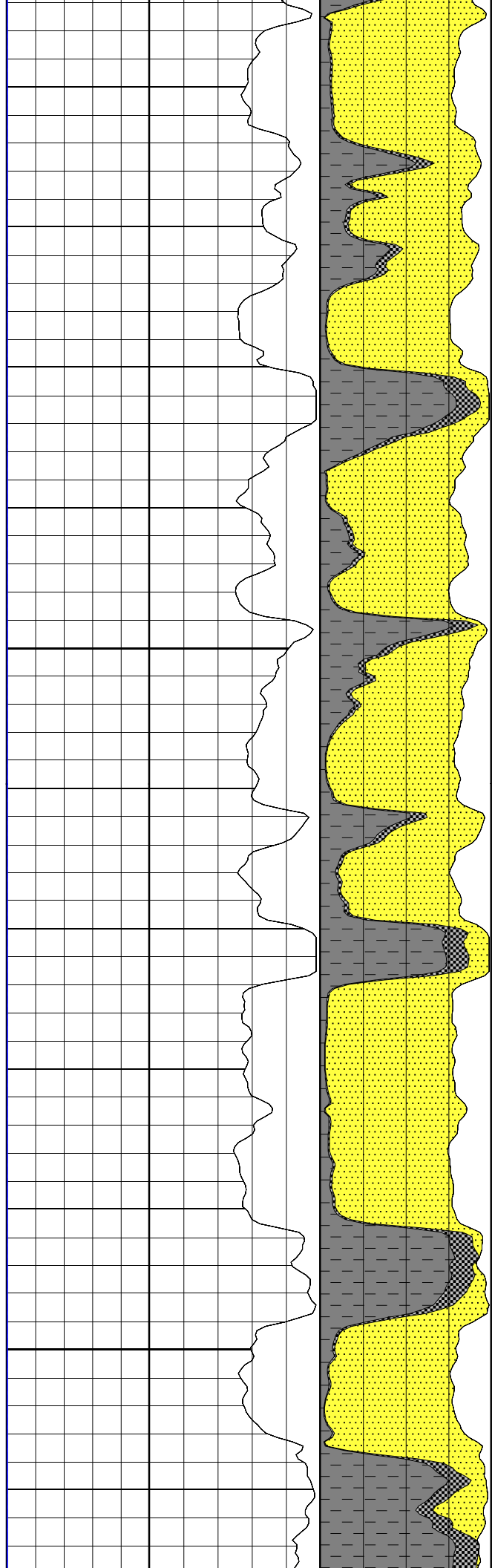
1300

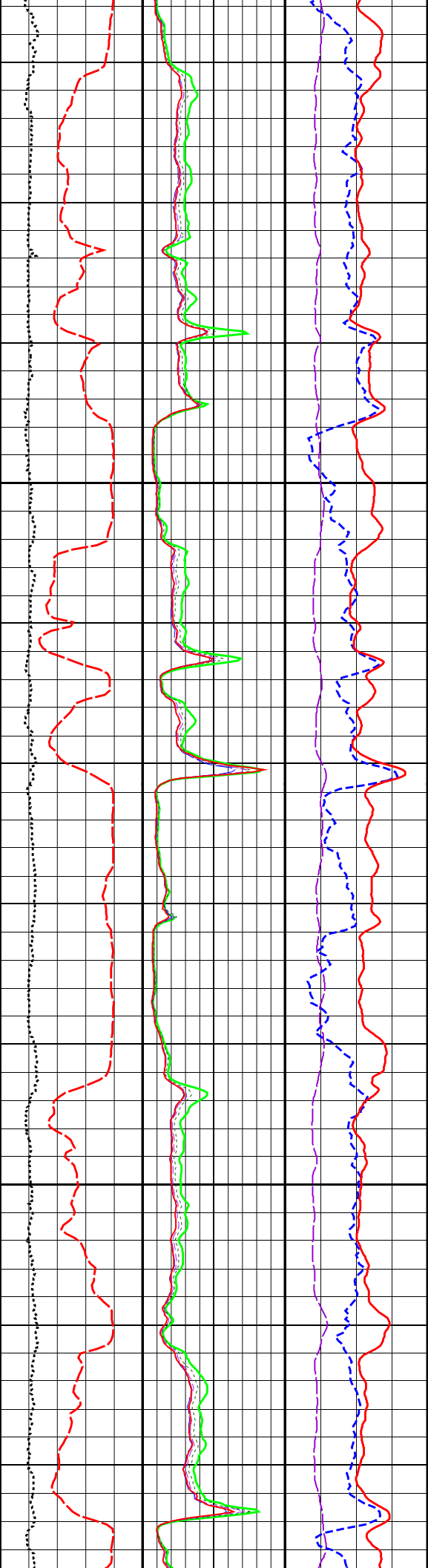




1325

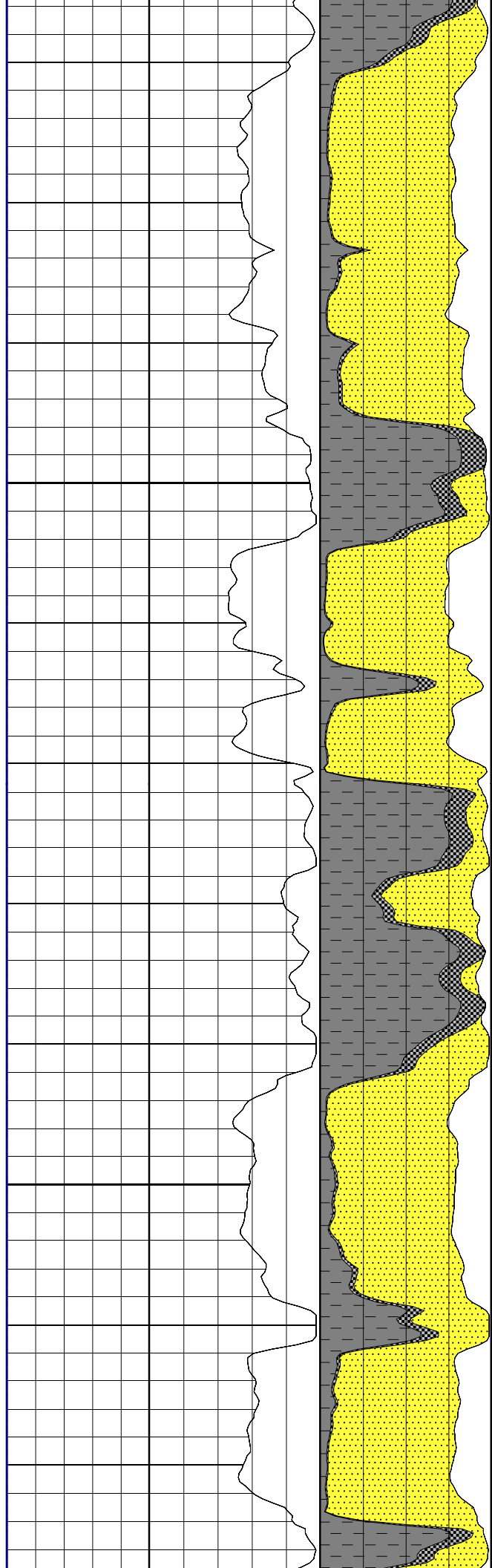
1350

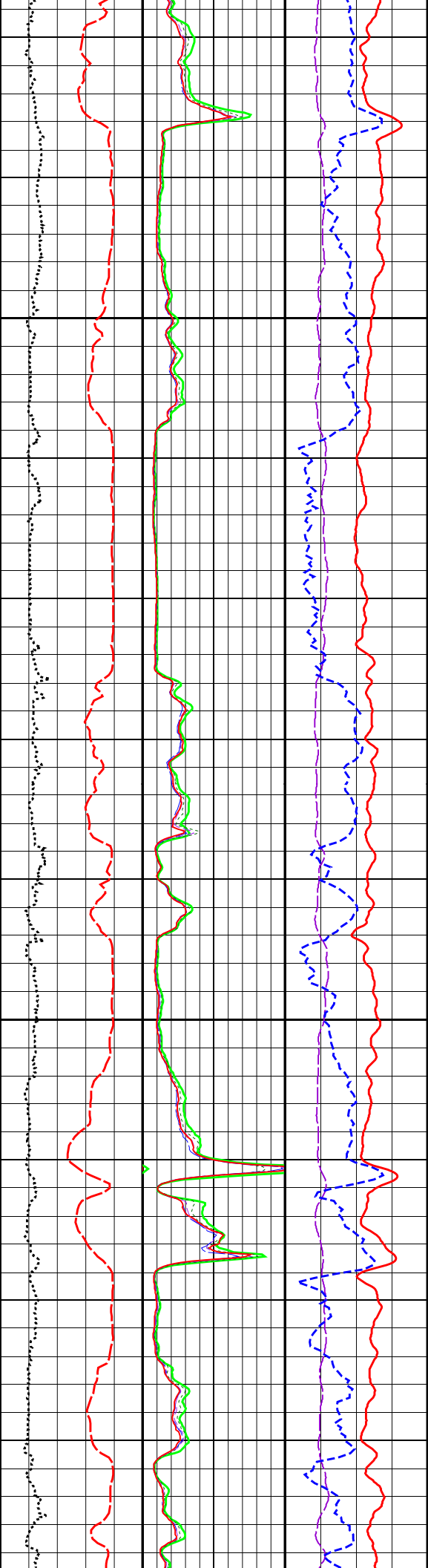




1375

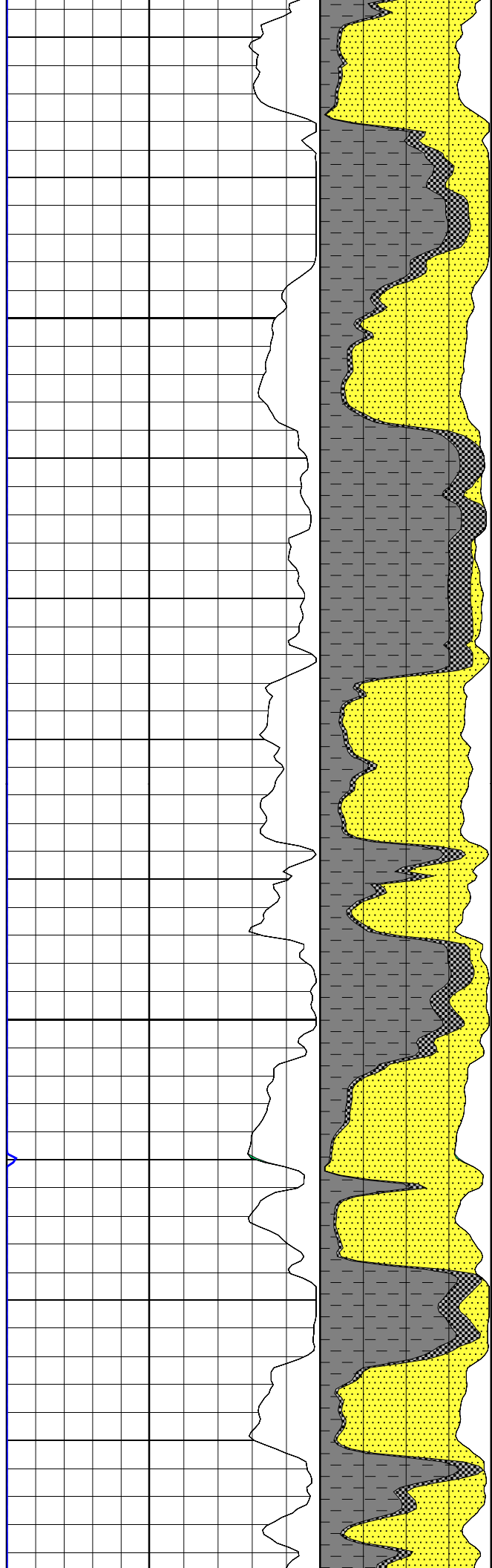
1400

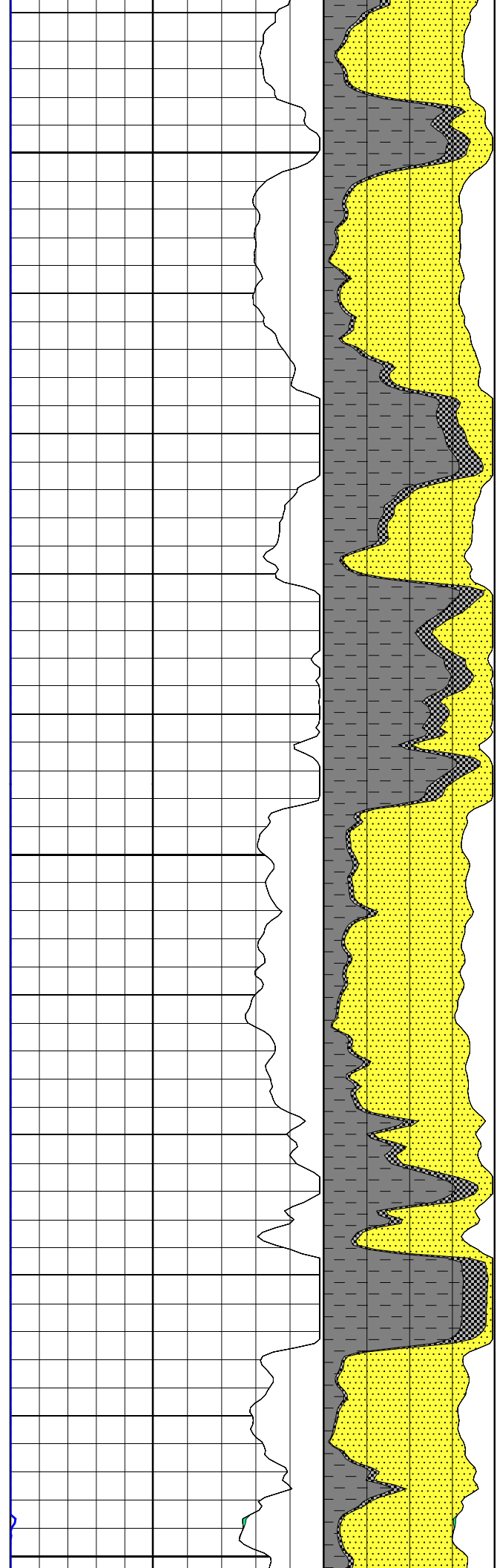
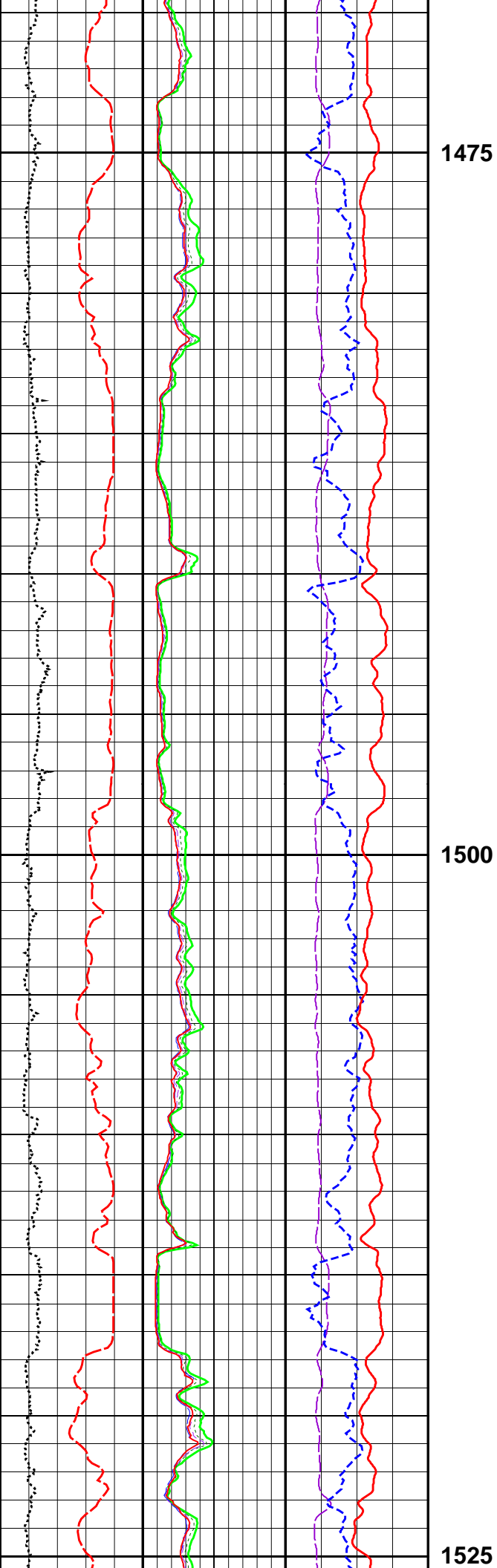


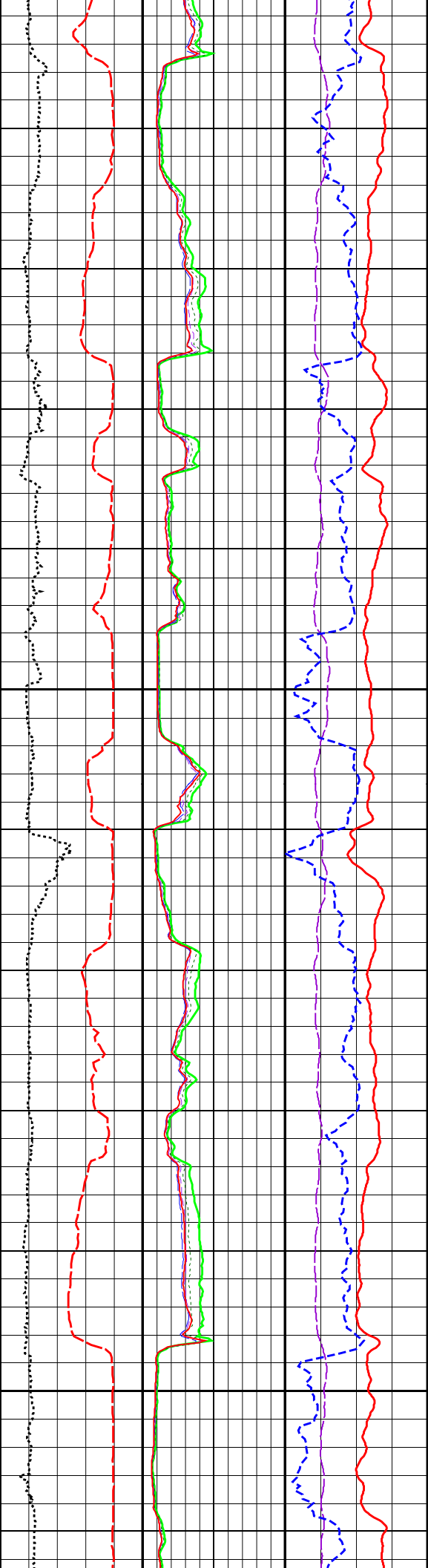


1425

1450

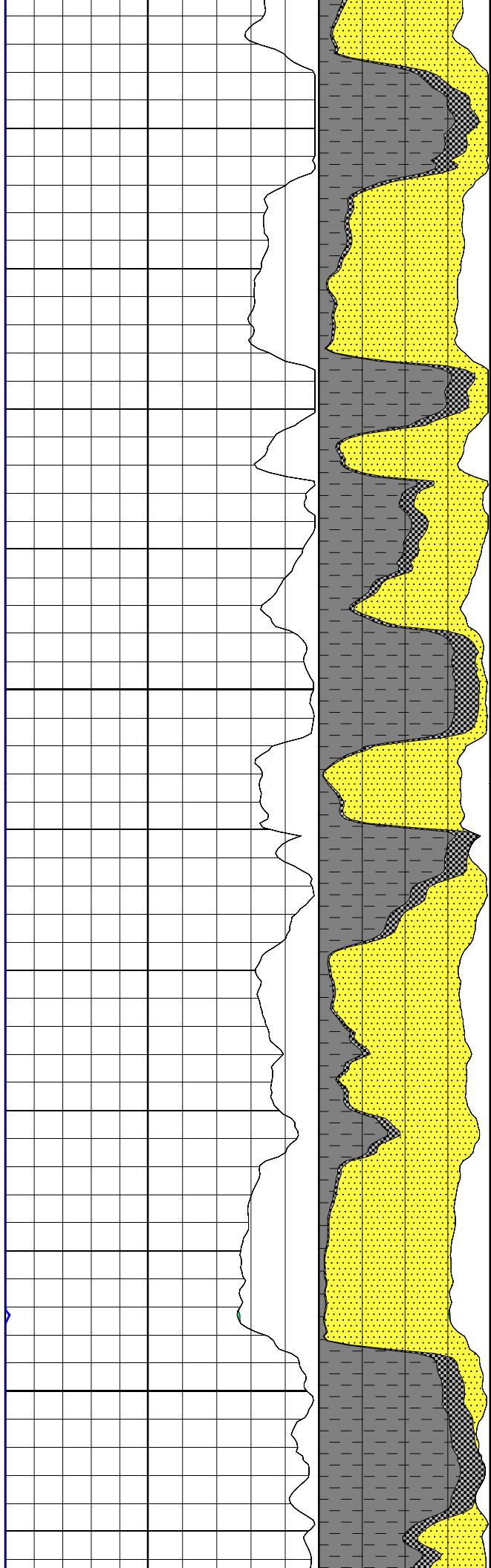


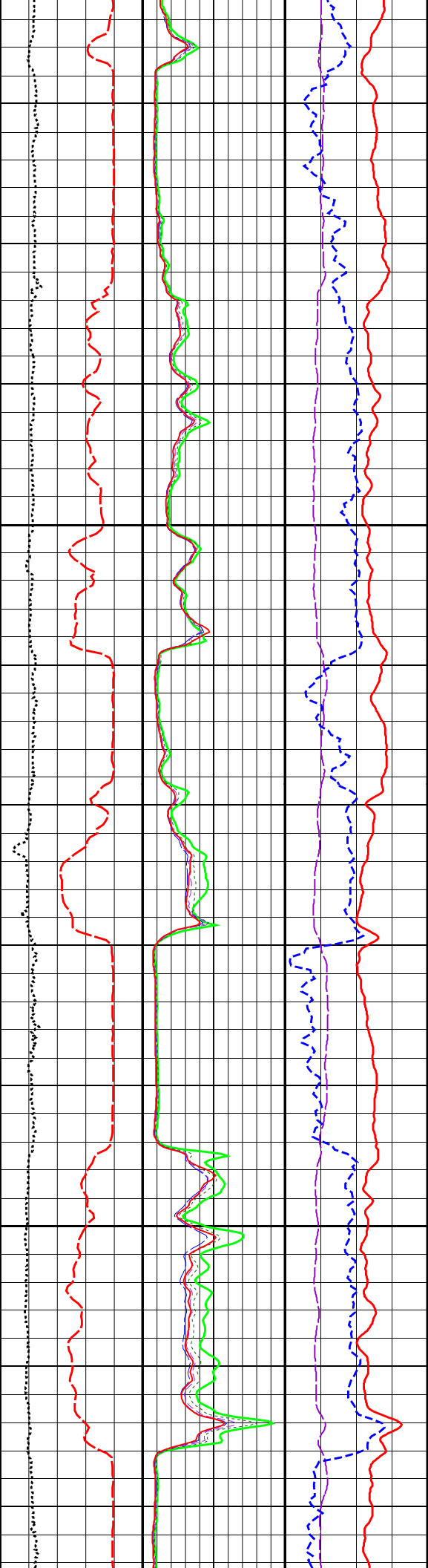




1550

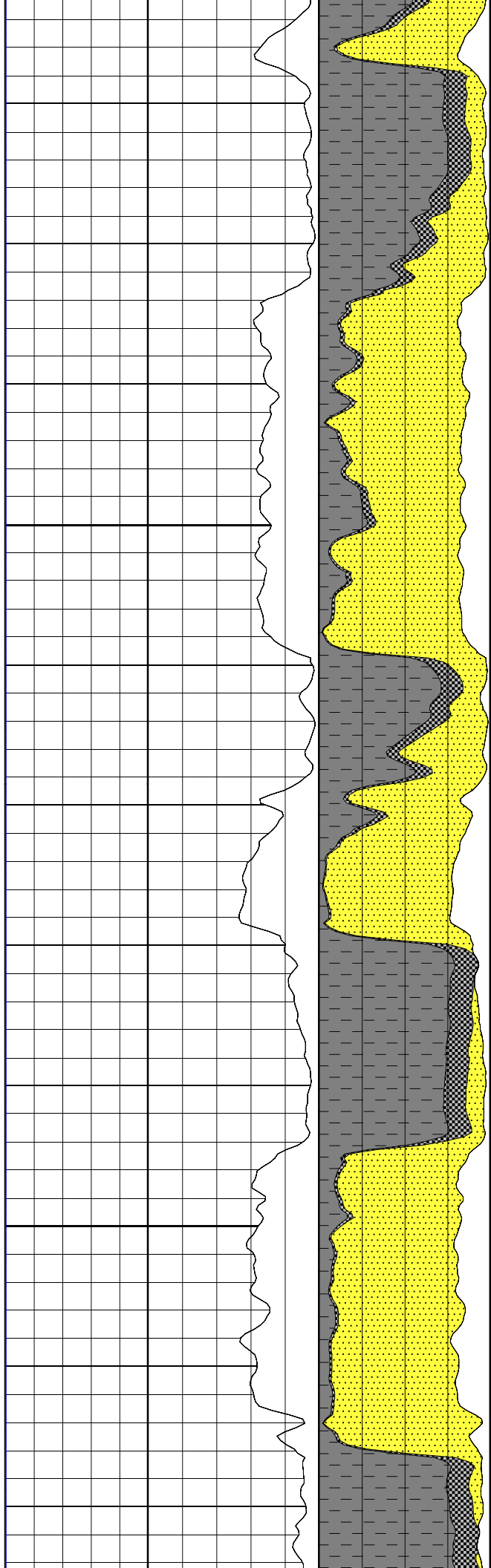
1575

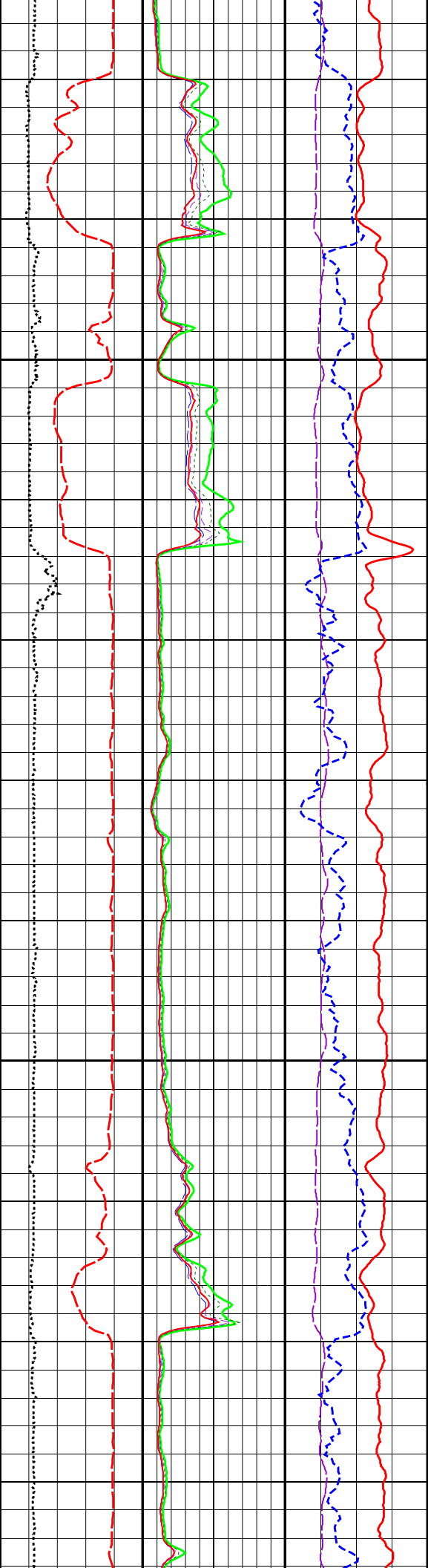




1600

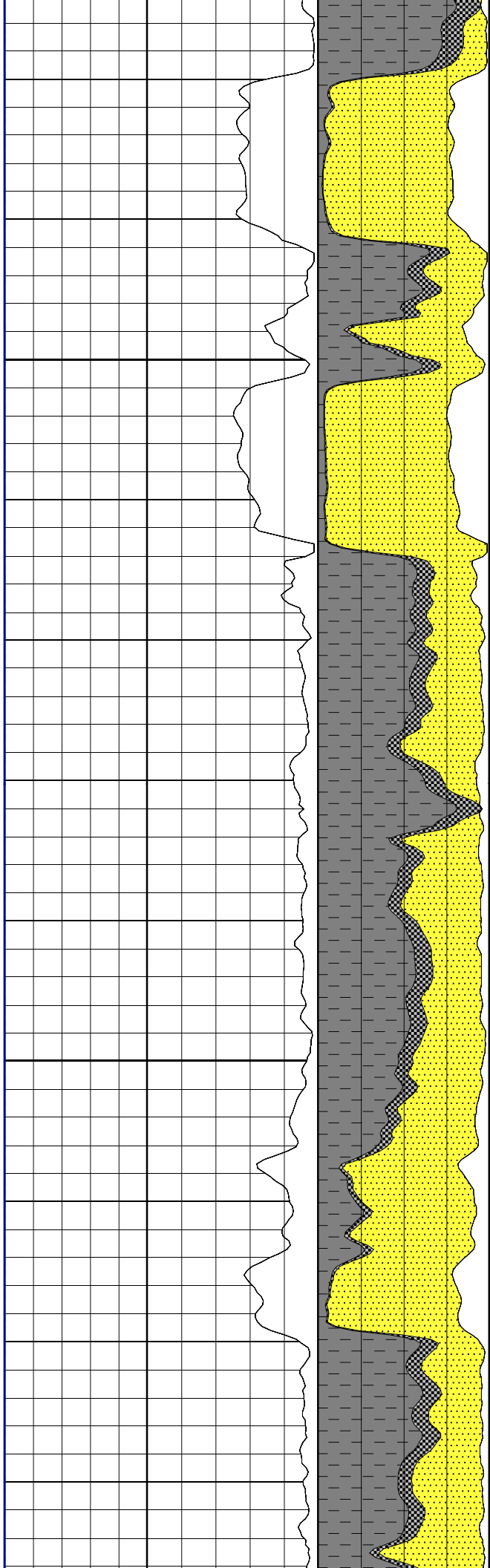
1625

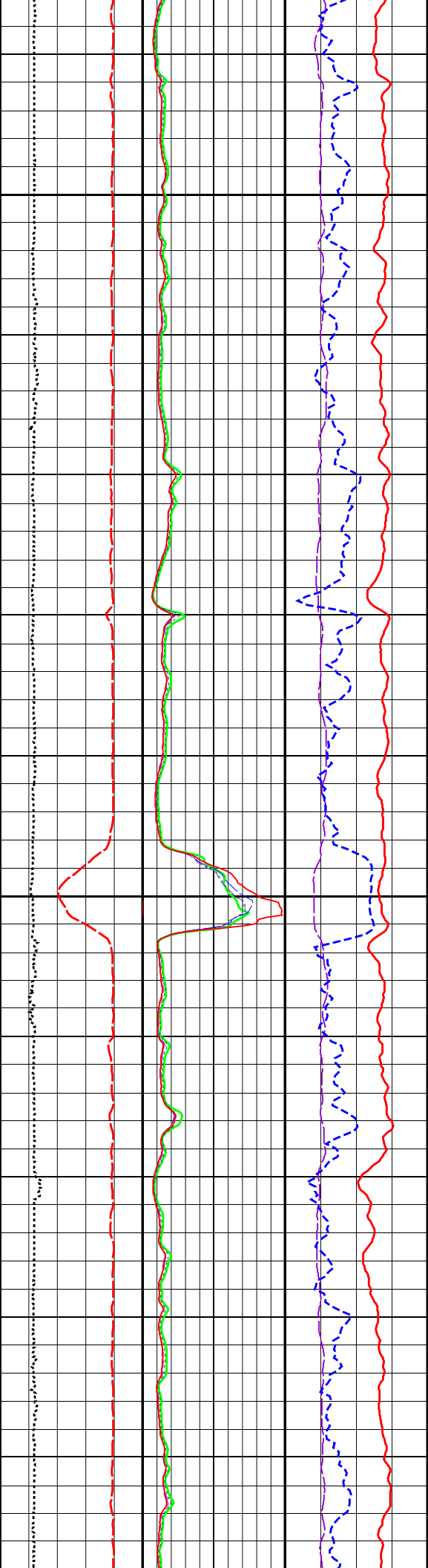




1650

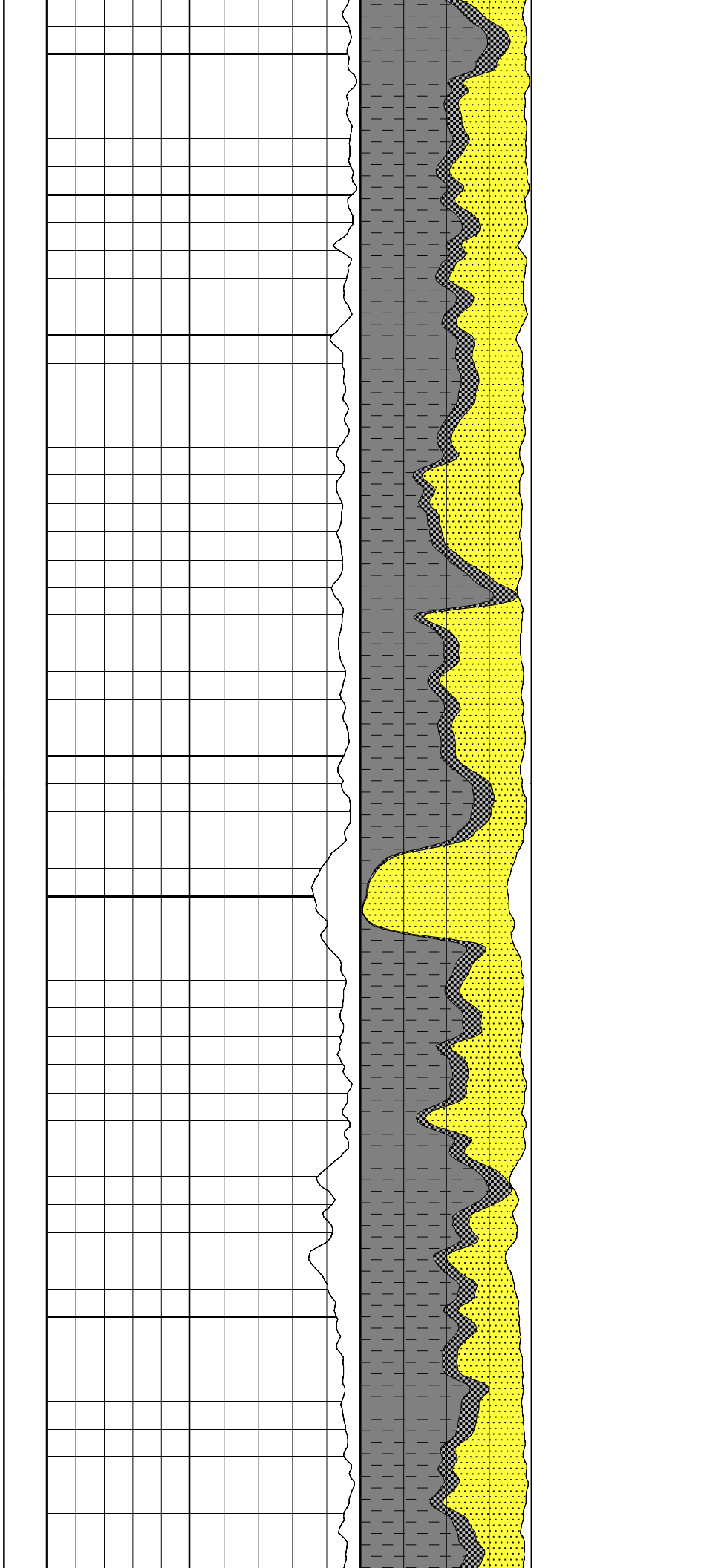
1675

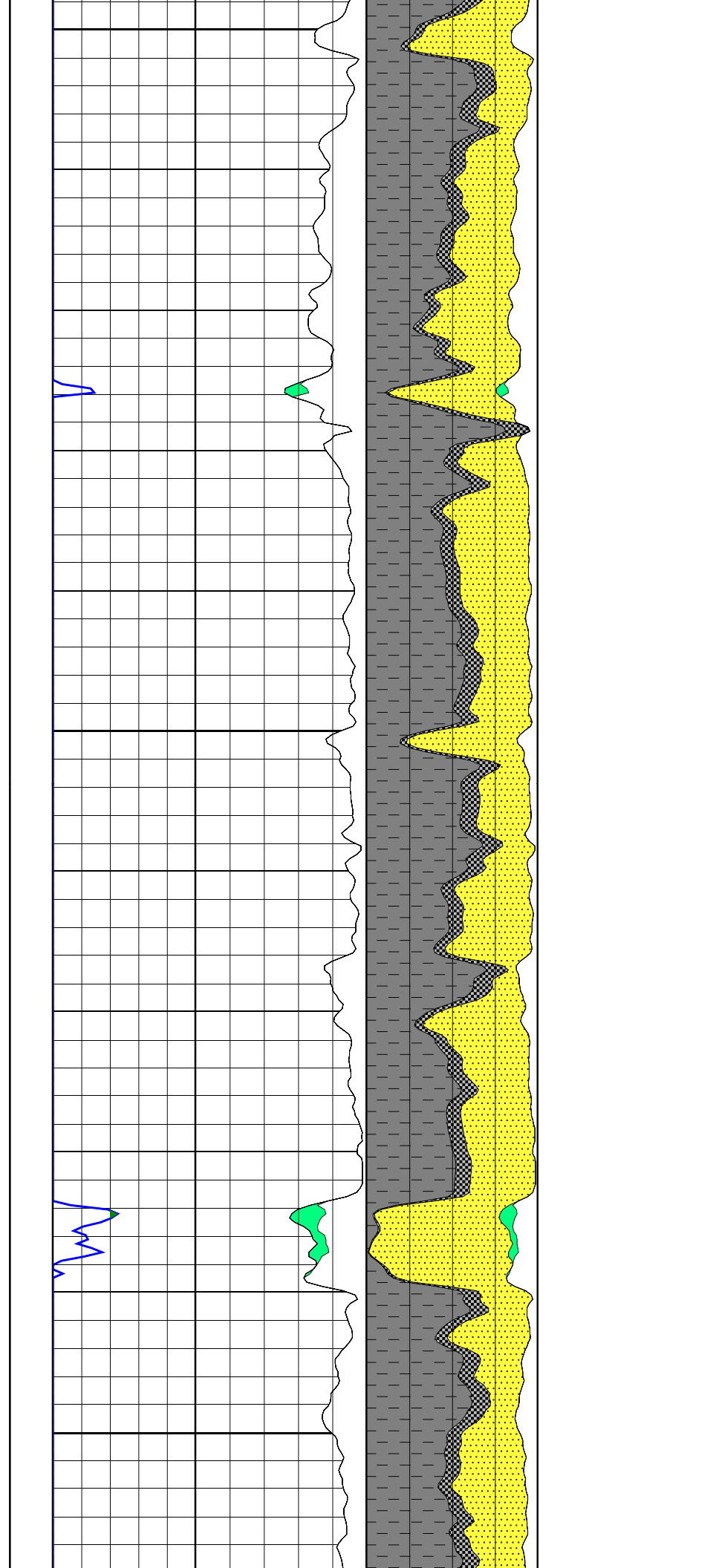
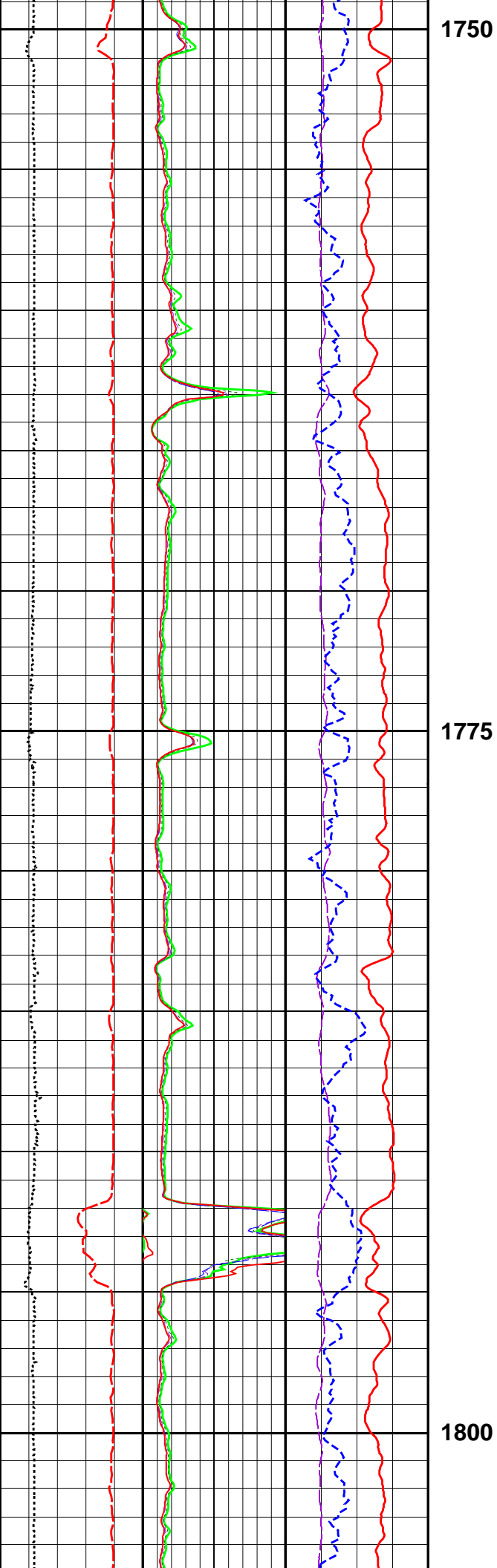


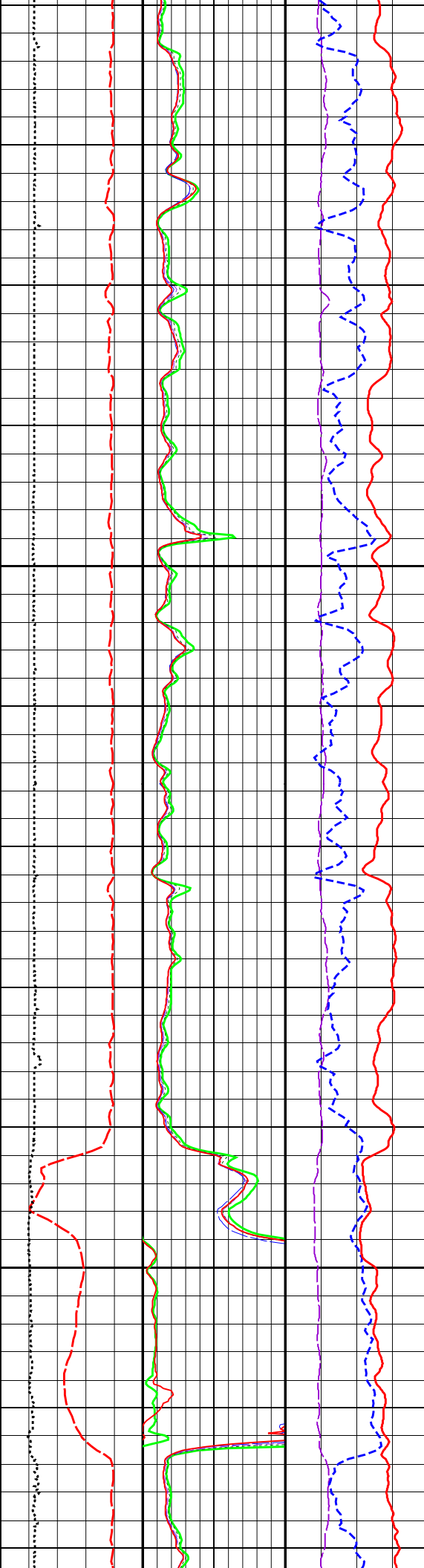


1700

1725

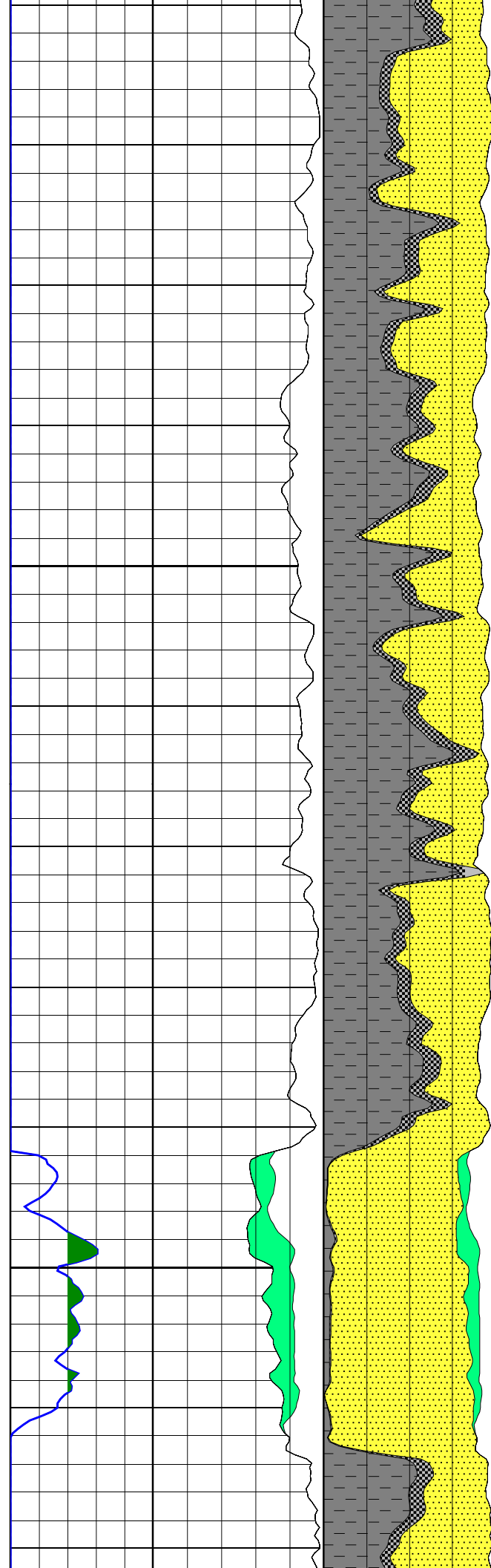


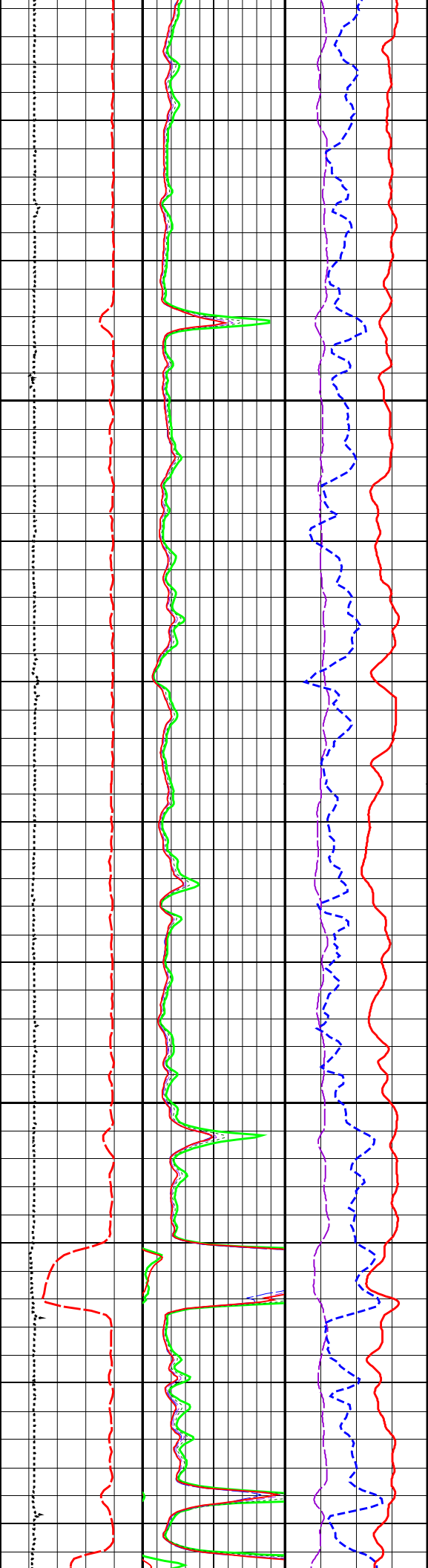




1825

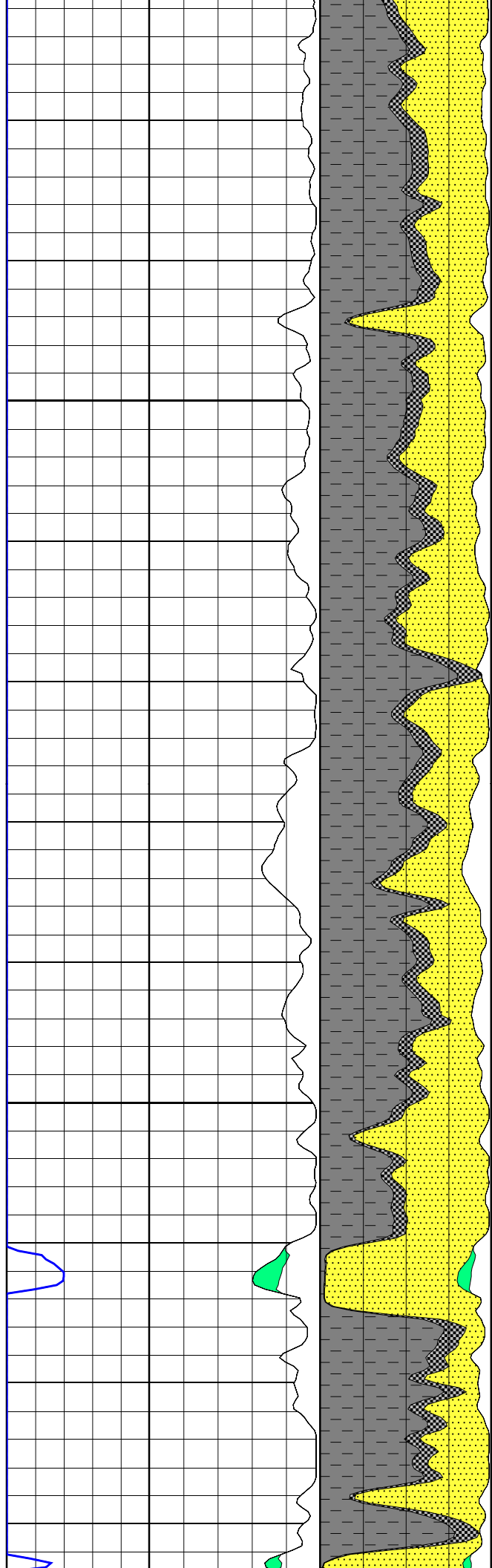
1850

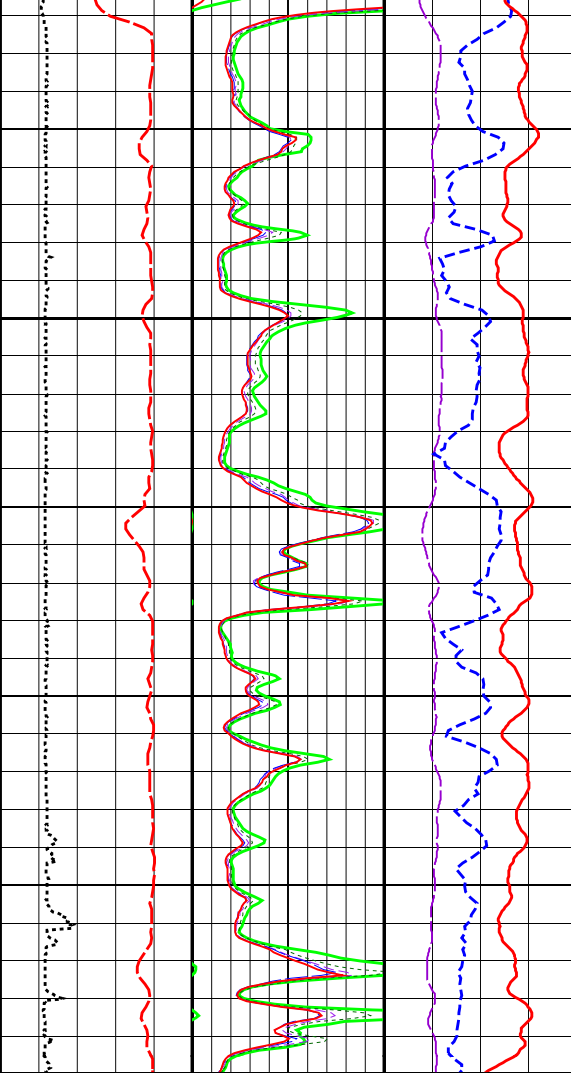




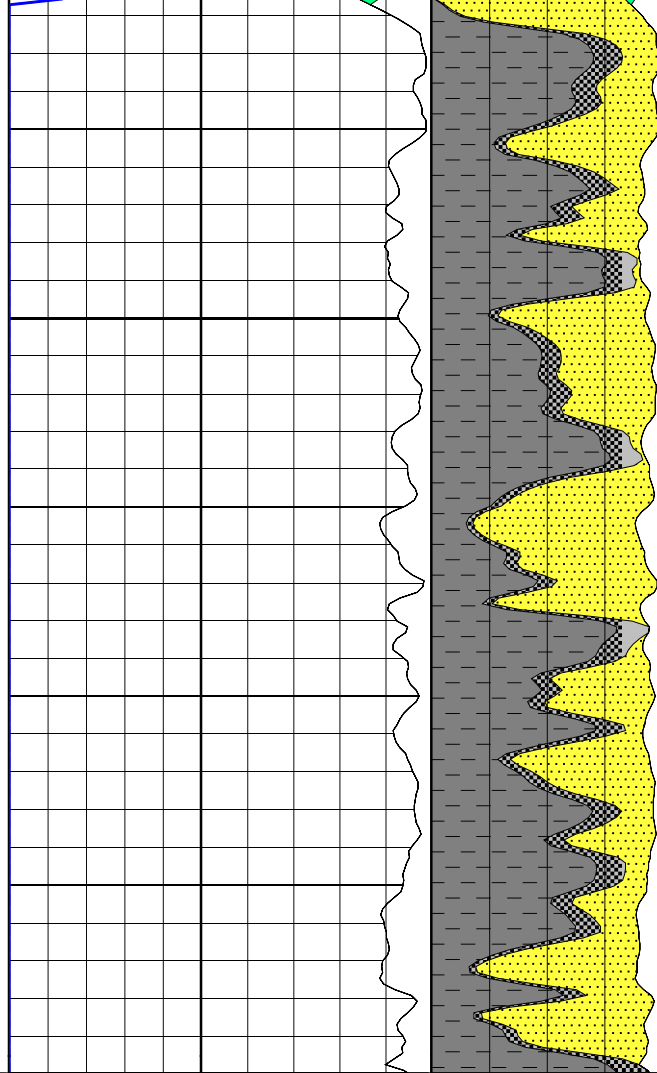
1875

1900





1925



HCAL HCAL 6 (in) 16	AHT10 AHT 10 (ohm.m) 100	RHOZ RHOZ 1.65 (g/cm ³) 0.65	MD 1 : 200 m	FO	HC	Moved Water	Moved Water
SP.EDIT S -80 (mV) 20	AHT60 AHT 0 (ohm.m) 10	TNPH TNPH 0.6 (m ³ /m ³) 0			DESC DESC	Moved Hydrocarbon	Moved Hydrocarbon
	AHT30 AHT 0 (ohm.m) 10	PEFZ PEFZ 0 () 10			SUWI SUWI 1 (m ³ /m ³) 0	Water	Water
	AHT20 AHT 0 (ohm.m) 10				SXWI SXWI 1 (m ³ /m ³) 0	Oil	Oil
	AHT10 AHT 0 (ohm.m) 10				Punzados	Gas	Gas
	AHT90 RT@ 0 (ohm.m) 10				HC	Elan Fluid 0.5 (V/V) 0	Sandstone
	AHT90 RT@ 10 (ohm.m) 100					Gas Index	Bound Water
							Clay 1
							ELAN_VOLUME 1 (V/V) 0

COMPANIA: YPF S.A.

POZO: YPF.Ch.Gbk-733

CAMPO: GRIMBEEK

PROVINCIA: CHUBUT PAIS: ARGENTINA



COMBINADA

ESCALA: 1/200

**AIT-LDL-CNL-CAL
XPT**

Elev.: B.V. 677.84 m
N. T. 672.54 m
M. R. 677.54 m

Ref. Permanente: NIVEL DEL TERRENO Elev.: 672.54 m
Reg. Medido Desde: NIVEL DEL TERRENO 0.0 m sobre nivel ref.
Perforacion Medida Desde: NIVEL DEL TERRENO

UWI: AR0100007308 Equipo PI-359 Longitud X: 4.952.423,63 Latitud Y: 2.594.840,23

Provincia: CHUBUT
Campo: GRIMBEEK
Locacion: ARCS
Pozo: YPF.Ch.Gbk-733
Compania: YPF S.A.

Fecha	25-Jun-2007		
Corrida No.	1		
Prof. Perforador	1150 m		
Prof. Registro	1150.2 m		
Primera Lectura	1147.2 m		
Ultima Lectura	361.8 m		
Fondo Tuberia Perforador	9.625 in	@	361.62 m
Fondo Tuberia Registro	361.8 m		
Diametro Trepano	8.750 in		
Tipo De Lodo	IDCAP-YESO		
Densidad	Viscosidad	1.13 g/cm3	50 s
Perdidas	PH	5.8 cm3	8.5
Fuente Muestra De Lodo	PILETA		
RM @ Temp.	4.430 ohm.m	@	13 degC
RMF @ Temp.	3.100 ohm.m	@	13 degC
RMC @ Temp.	5.770 ohm.m	@	15 degC
Fuente: RMF	RMC	PRENSA	PRENSA
RM @ T. Fdo.	RMF @ T. Fdo.	2.435 @ 42	1.699 @ 42
Temp. Maxima Medida	42 degC		
Circulacion Final	Hora	25-Jun-2007	1:00
Registro Fondo	Hora	25-Jun-2007	6:30
Unidad No.	Locacion	3122	ARCS
Registrado por:	G. MOROSINI / G. DE GLEE		
Testigo	GASTON JARQUE		

	Run 1	Run 2	Run
Logging Date			
Run Number			
Depth Driller			
Logger Depth			
Bottom Log Interval			
Top Log Interval			
Casing Driller Size @ Depth		@	
Casing Logger			
Bit Size			
Type Fluid In Hole			
Density		Viscosity	
Fluid Loss		PH	
Source Of Sample			
RM @ Measured Temperature		@	
RMF @ Measured Temperature		@	
RMC @ Measured Temperature		@	
Source RMF		RMC	
RM @ MRT		RMF @ MRT	@ @
Maximum Recorded Temperatures			
Circulation Stopped		Time	
Logger On Bottom		Time	
Unit Number		Location	
Recorded By			
Witnessed By			

DEPTH SUMMARY LISTING

Date Created: 25-JUN-2007 7:43:47

Depth System Equipment

Depth Measuring Device	Tension Device	Logging Cable
Type: IDW-B	Type: CMTD-B/A	Type: 7-46P-XS
Serial Number: 4810	Serial Number: 1834	Serial Number: 6135
Calibration Date: 16-Feb-2007	Calibration Date: 13-Jun-2007	Length: 4076.09 M
Calibrator Serial Number: 31	Calibrator Serial Number: 1028	Conveyance Method: Wireline
Calibration Cable Type: 7-46P	Calibration Gain: 0.87	Rig Type: LAND
Wheel Correction 1: -4	Calibration Offset: -506.00	
Wheel Correction 2: -5		

Depth Control Parameters

Log Sequence: First Log In the Well
Rig Up Length At Surface: 65.00 M
Rig Up Length At Bottom: 65.00 M
Rig Up Length Correction: 0.00 M
Stretch Correction: 1.00 M
Tool Zero Check At Surface: 0.00 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. IDW utilizado como control primario de profundidad.
4. Z-Chart utilizado como control secundario de profundidad.
- 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: AIT-LDL-CNL-CAL	OS1:
OS2: XPT	OS2:
OS3:	OS3:
OS4:	OS4:
OS5: PI-359	OS5:

OBSERVACIONES: CORRIDA # 1	OBSERVACIONES: CORRIDA # 2
----------------------------	----------------------------

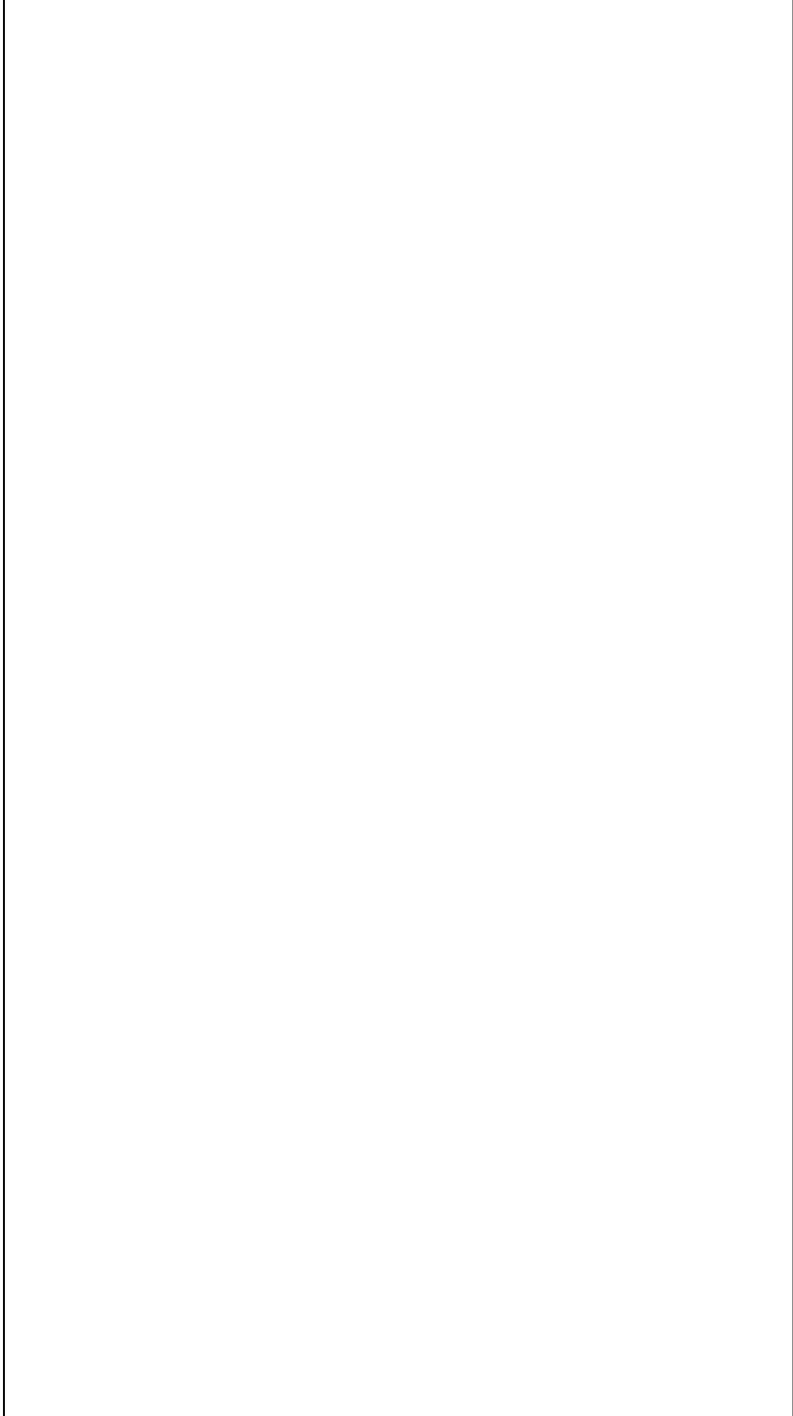
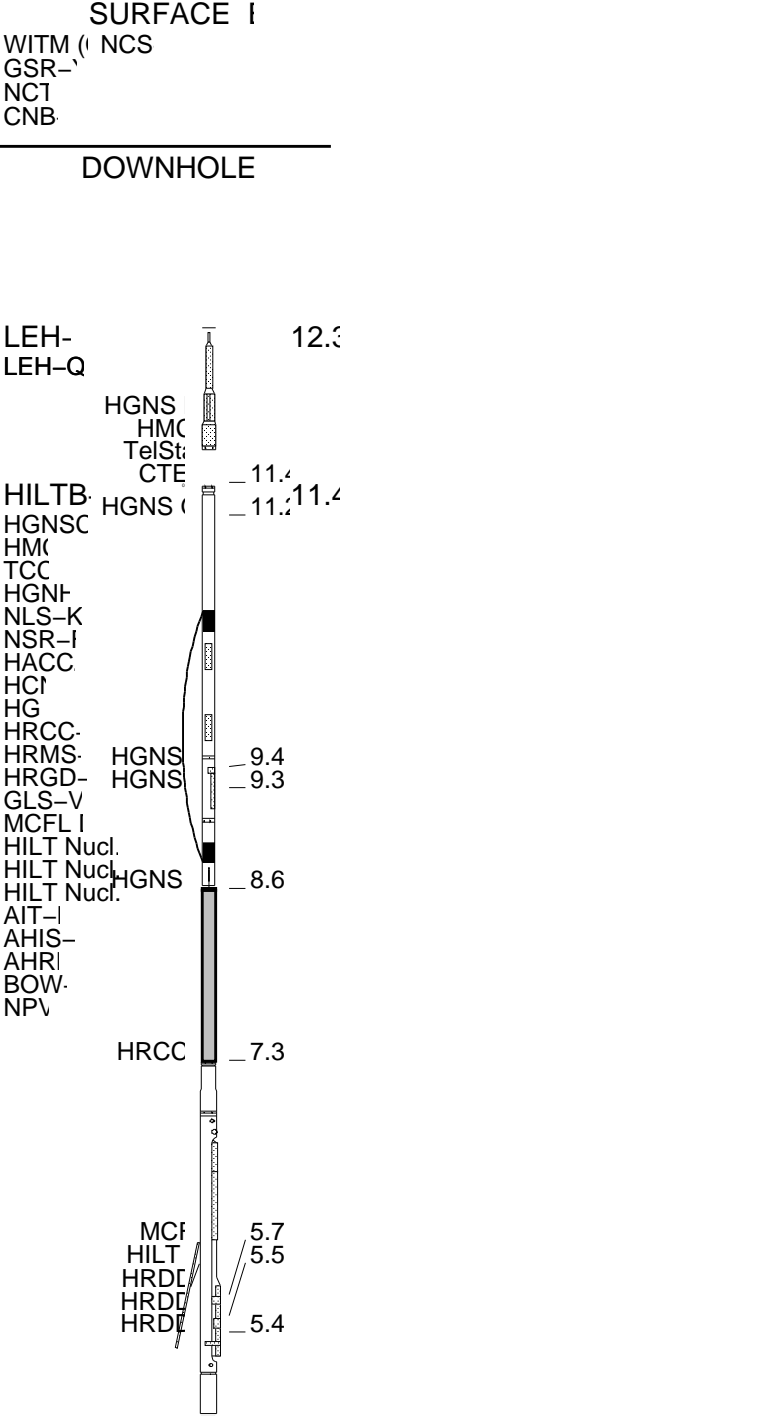
1. Primera carrera en el pozo y perfil de referencia de profundidad.
2. Esquema del pozo segun datos del perforador.
3. Coordenadas definitivas.
4. Herramienta corrida segun diagrama.
5. Maxima temperatura registrada 42.02 degC desde termometro en punta de herramienta.
6. Datos adicionales del lodo: Cl = 800 ppm, Ca = 600 ppm.
7. Maxima desviacion del pozo: 1 deg segun datos del perforador.

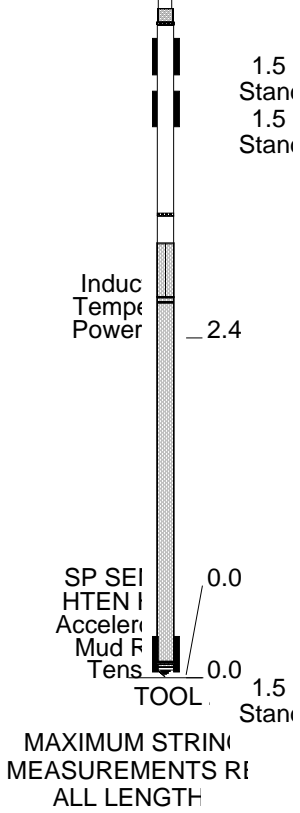
- 8. Ultima circulacion termino el dia 25-Jun-2007 a las 1:00 hs y duro 1:30 hs.
- 9. FPHI= DPHZ, FNUM=0.81, y FEXP=2 utilizados en el calculo de RWA.
- 10. Lecturas de LDL y CNL afectadas en zonas de mal caliper.
- 11. AIT corrida descentralizada usando standoffs de 1.5".
- 12. Repetibilidad afectada en zonas de mal caliper.
- 13. LDL y CNL corridos hasta 775 m. a pedido del cliente.

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

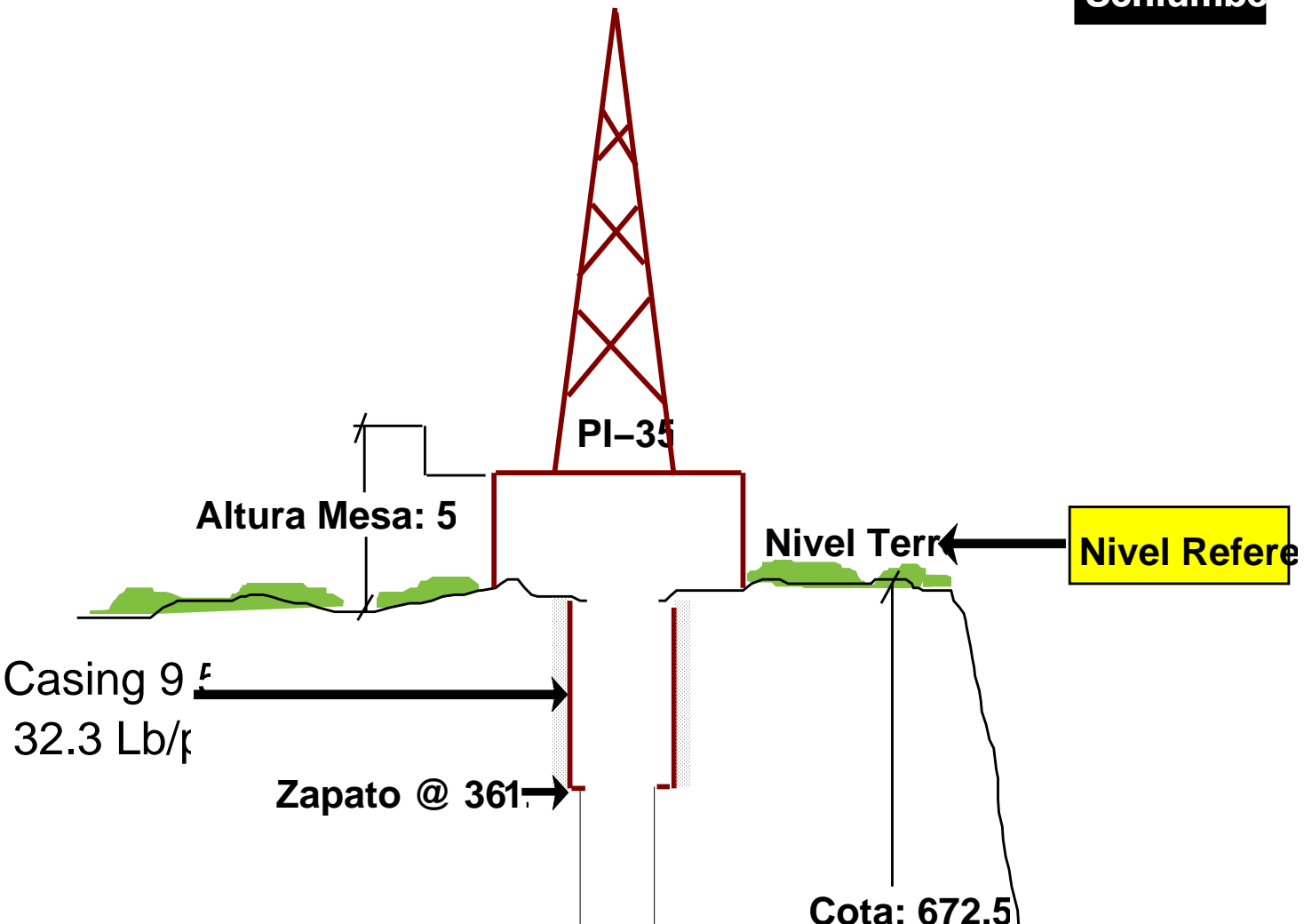
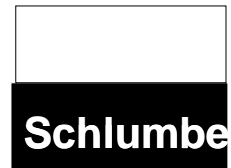
DESCRIPCION DEL EQUIPO

CORRIDA # 1 CORRIDA # 2





YPF.Ch.Gbk



Trepano



8 3/4" @

Nivel M

Fondo @ 11!

Schlumberger

TRAMO PRINCIPAL

MAXIS Field Log

Input DLIS Files

DEFAULT	SPLICE_PRINCIPAL_042	FN:1	PRODUCER	25-Jun-2007 16:53	1155.8 M	350.0 M
---------	----------------------	------	----------	-------------------	----------	---------

Output DLIS Files

DEFAULT	Principal_044PUP	FN:8	PRODUCER	25-Jun-2007 17:06	1155.8 M	351.3 M
CUSTOMER	Principal_044PUC	FN:9	CUSTOMER	25-Jun-2007 17:06	1155.8 M	351.3 M

OP System Version: 15C0-309
MCM

HILTB-CTS SRPC-3292-Q1_2007

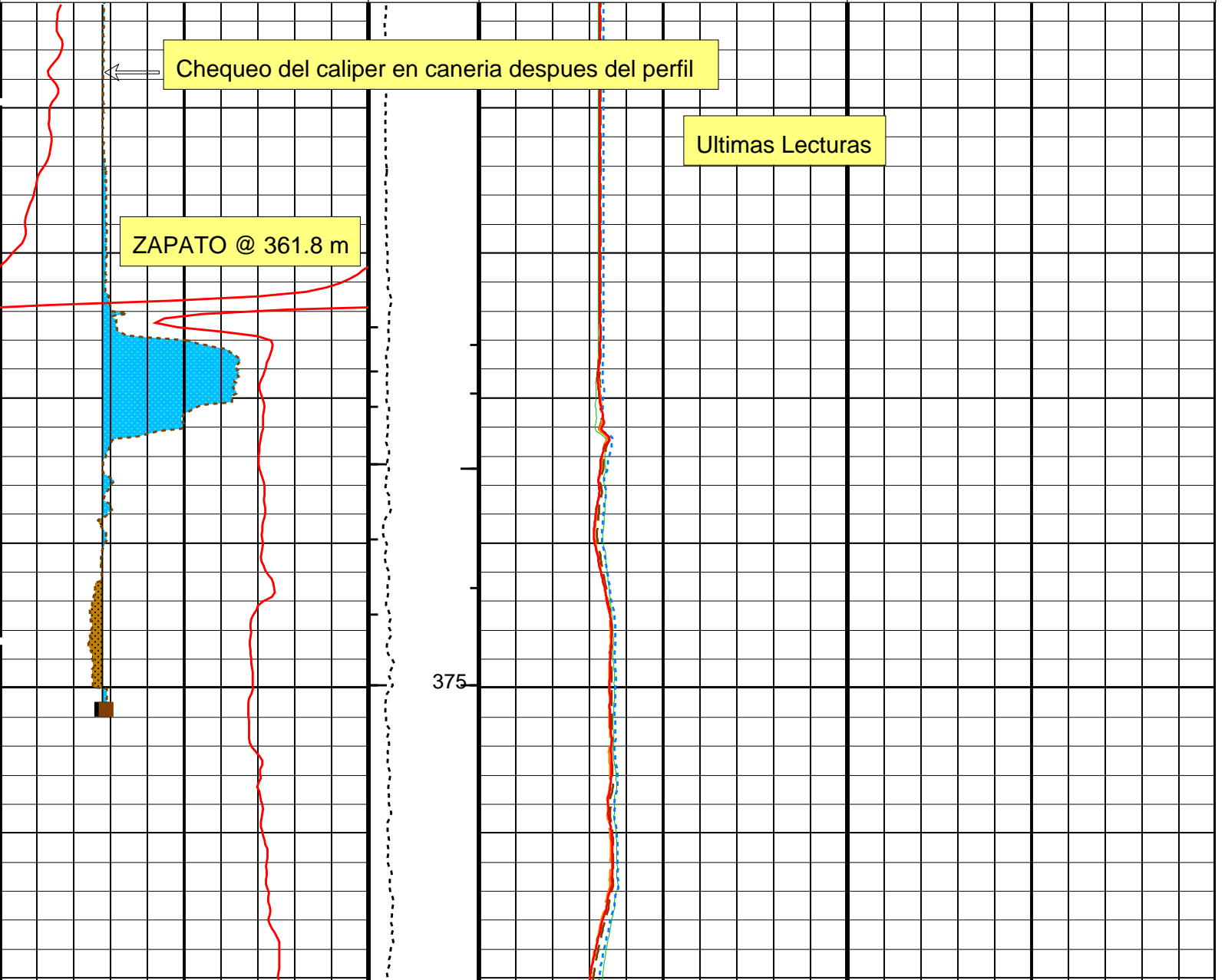
PIP SUMMARY

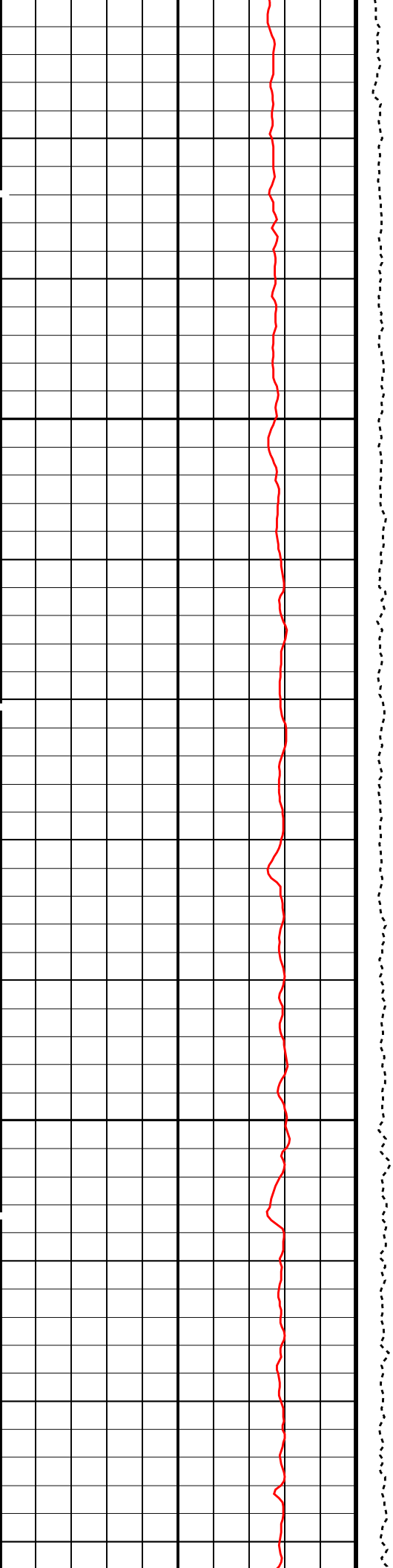
- └ Integrated Hole Volume Minor Pip Every 0.1 M3
- └ Integrated Hole Volume Major Pip Every 1 M3

→ Integrated Cement Volume Minor Pip Every 0.1 M3
 → Integrated Cement Volume Major Pip Every 1 M3

Time Mark Every 60 S

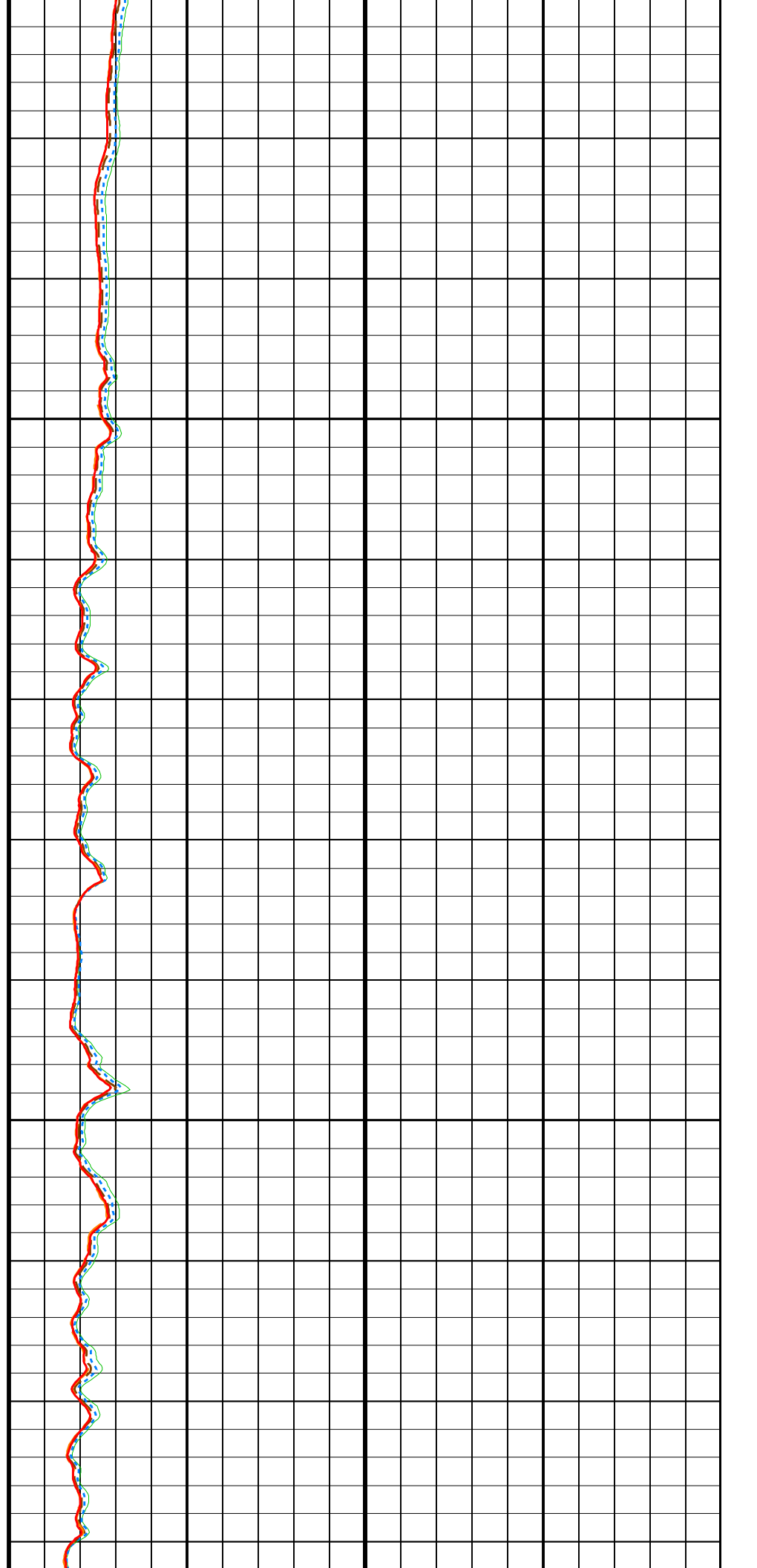
CAVERNA From BS to HCAL							
REVOQUE From HCAL to BS							
SP (SP) -80 (MV) 20				AIT-H 90 Inch Investigation (AHT90) 0 (OHMM) 10			
RWA (RWA) 0 (OHMM) 1				AIT-H 60 Inch Investigation (AHT60) 0 (OHMM) 10			
Std. Res. Formation Pe (PEFZ) 0 (----) 5				AIT-H 30 Inch Investigation (AHT30) 0 (OHMM) 10		Gas From DPHZ to TNPH	
Caliper (HCAL) 6 (IN) 16		Stuck Stretch (STIT) 0 (M) 20		AIT-H 20 Inch Investigation (AHT20) 0 (OHMM) 10		Env.Corr.Thermal Neutron Porosity (TNPH) 0.4 (V/V) 0	
Bit Size (BS) 6 (IN) 16		Tension (TENS) 0 (LBF) 1000		AIT-H 10 Inch Investigation (AHT10) 0 (OHMM) 10		Std. Res. Density Porosity (DPHZ) 0.4 (V/V) 0	

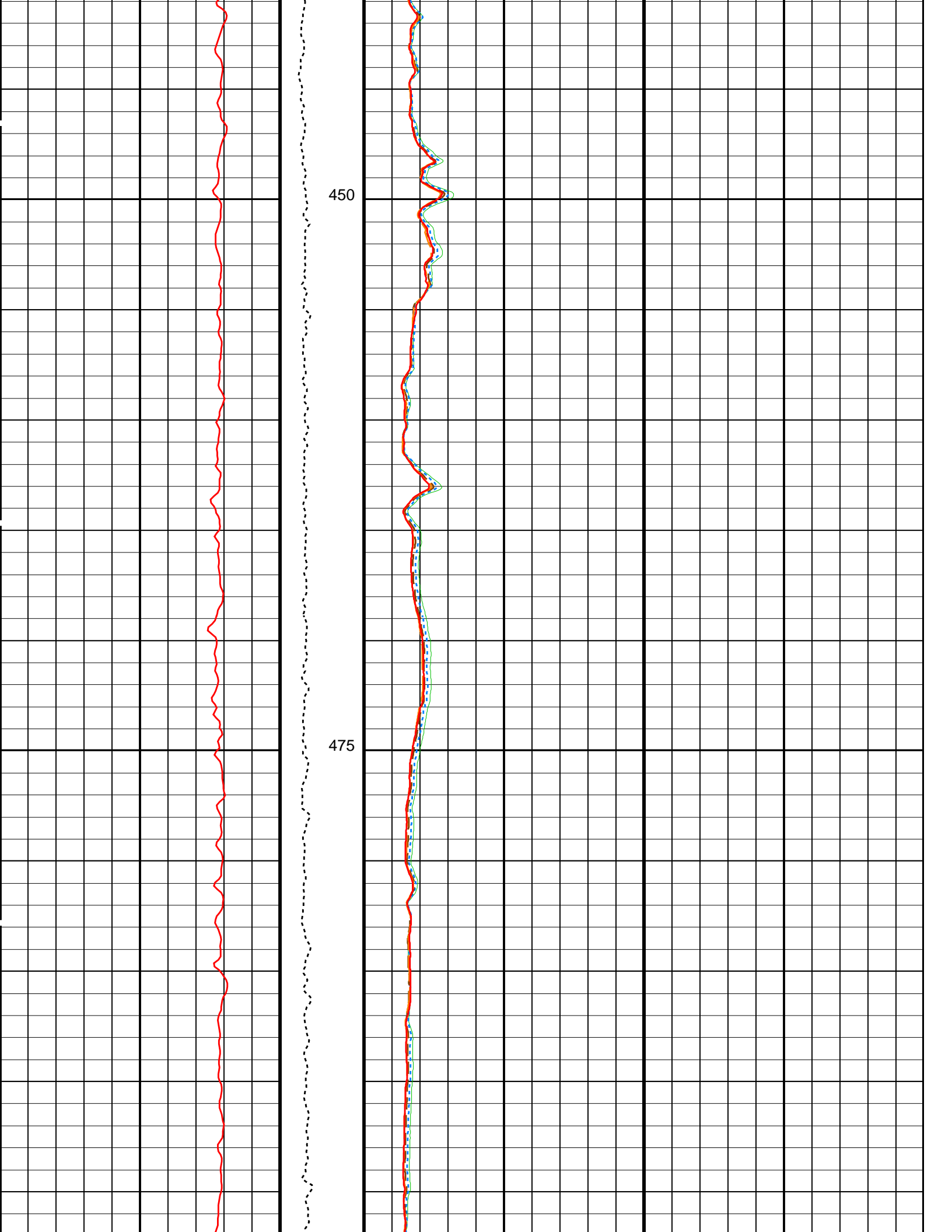


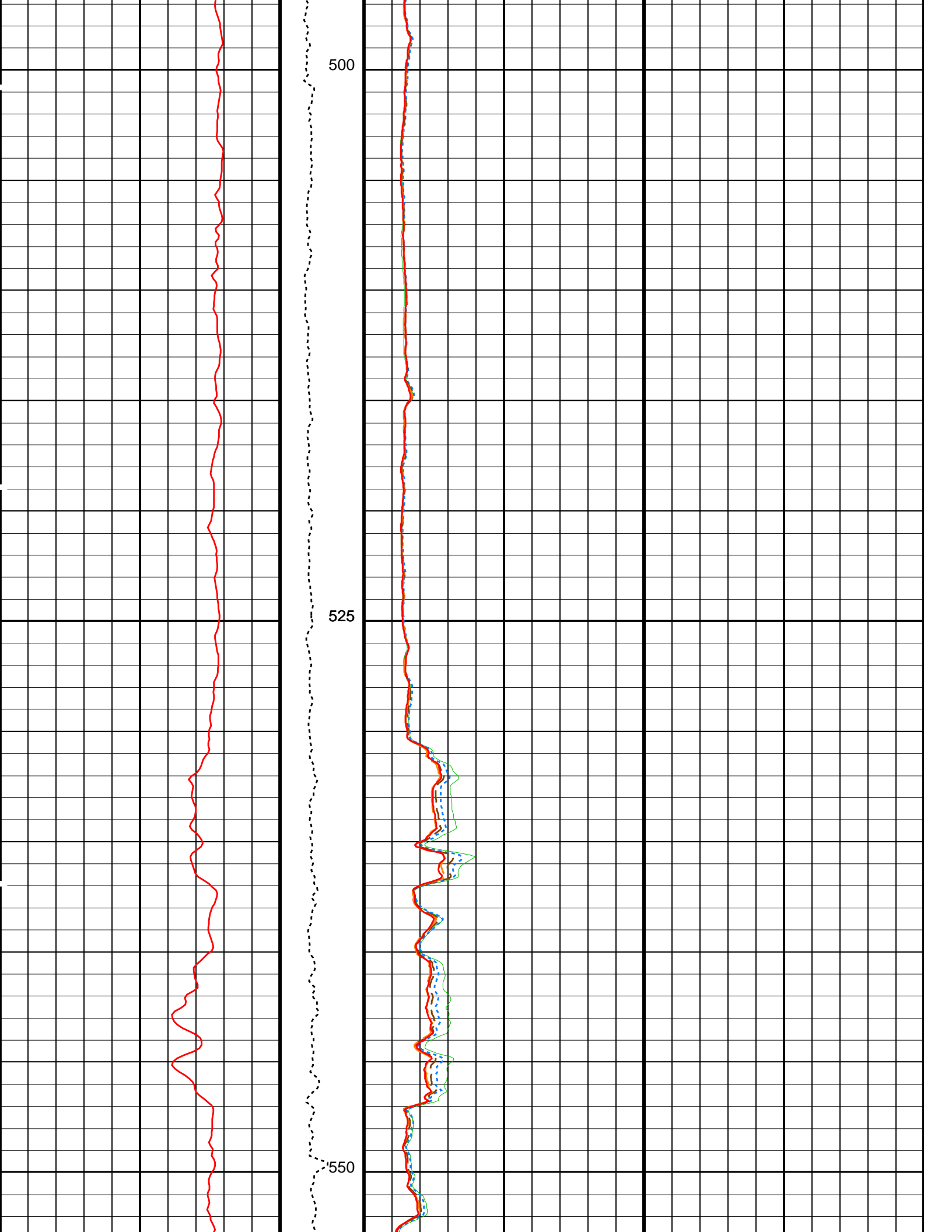


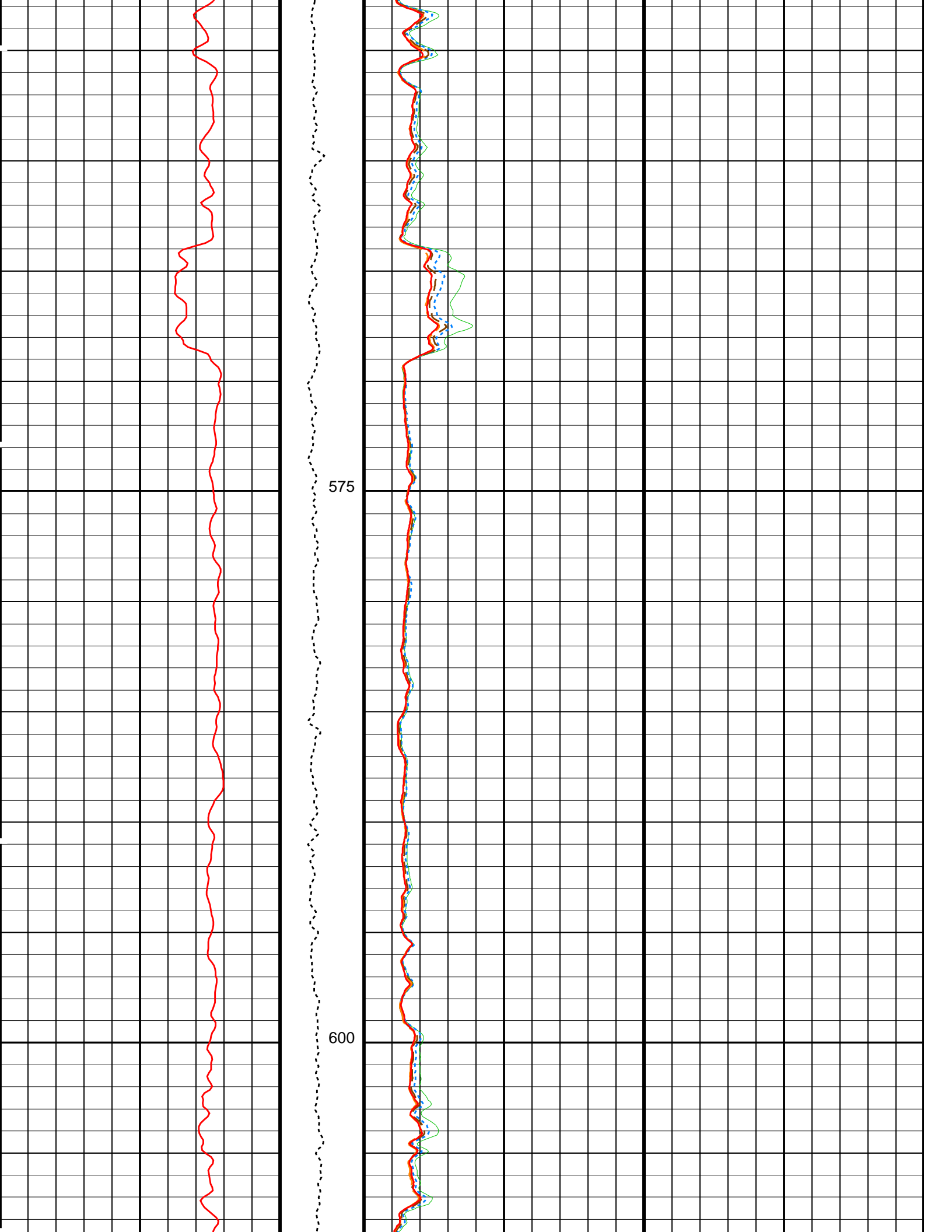
400

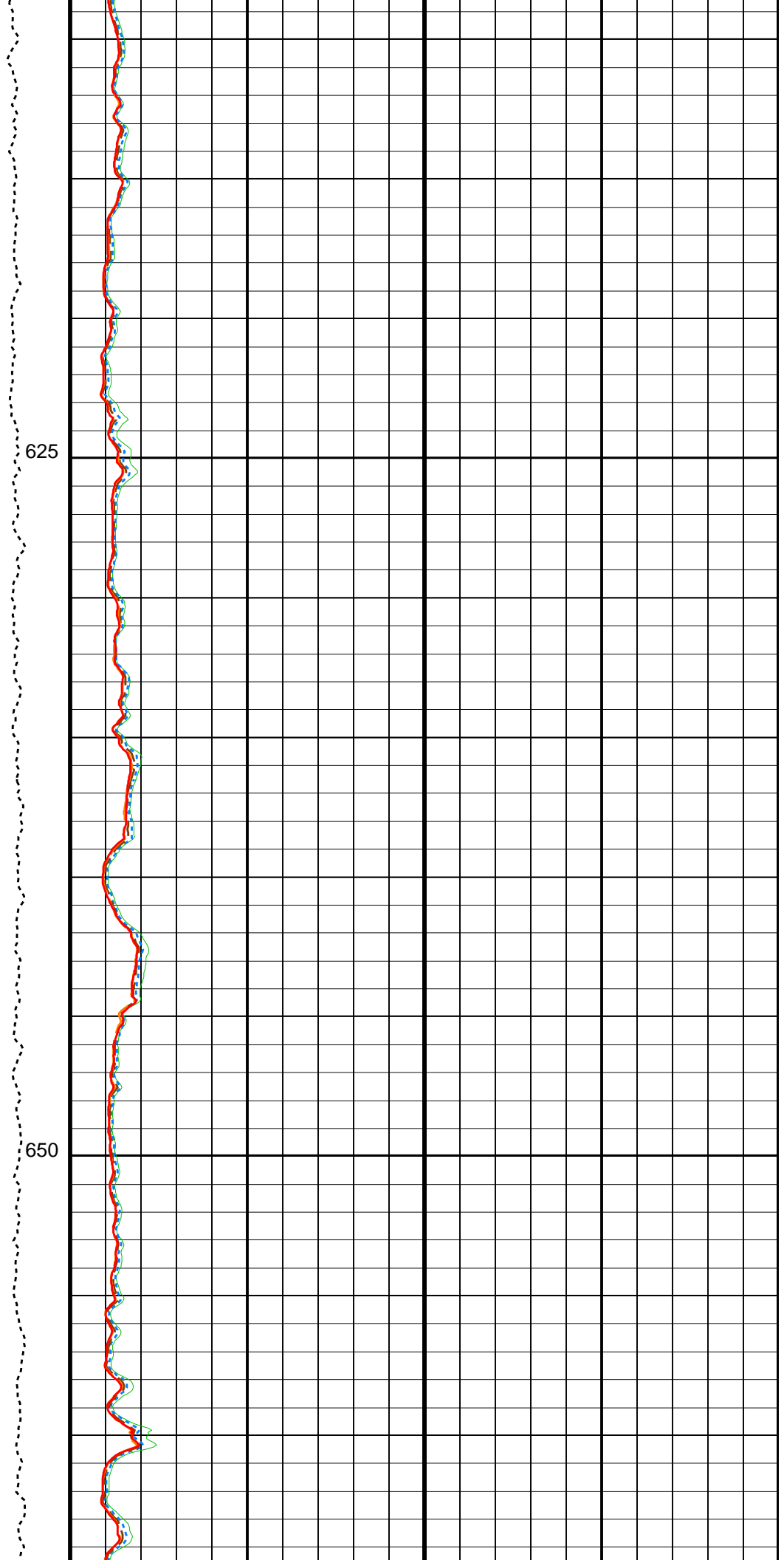
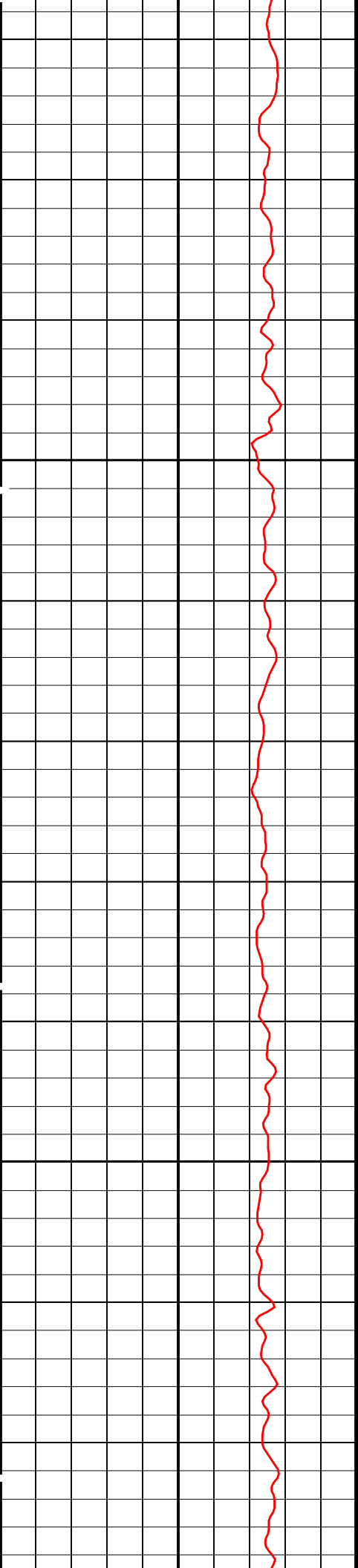
425

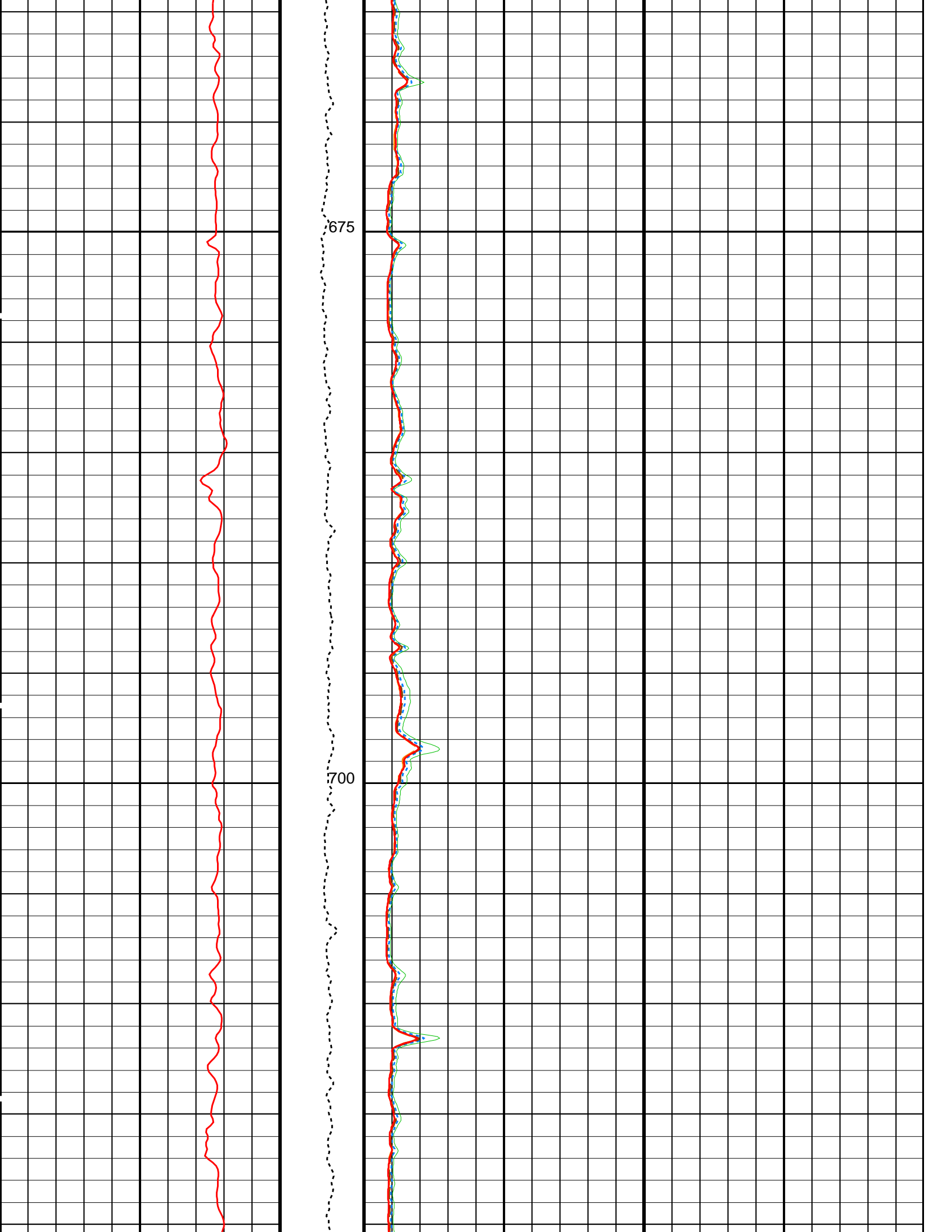


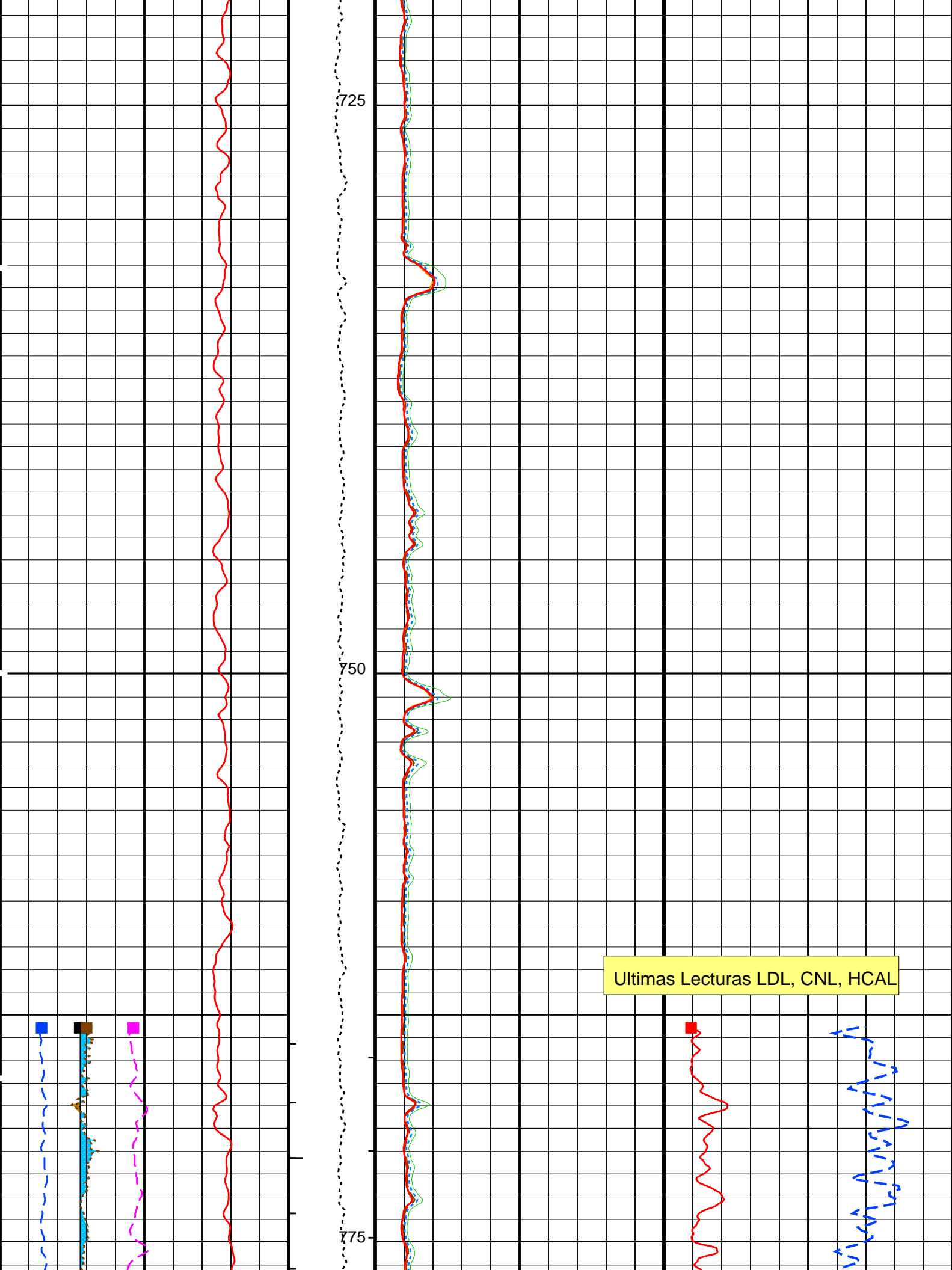


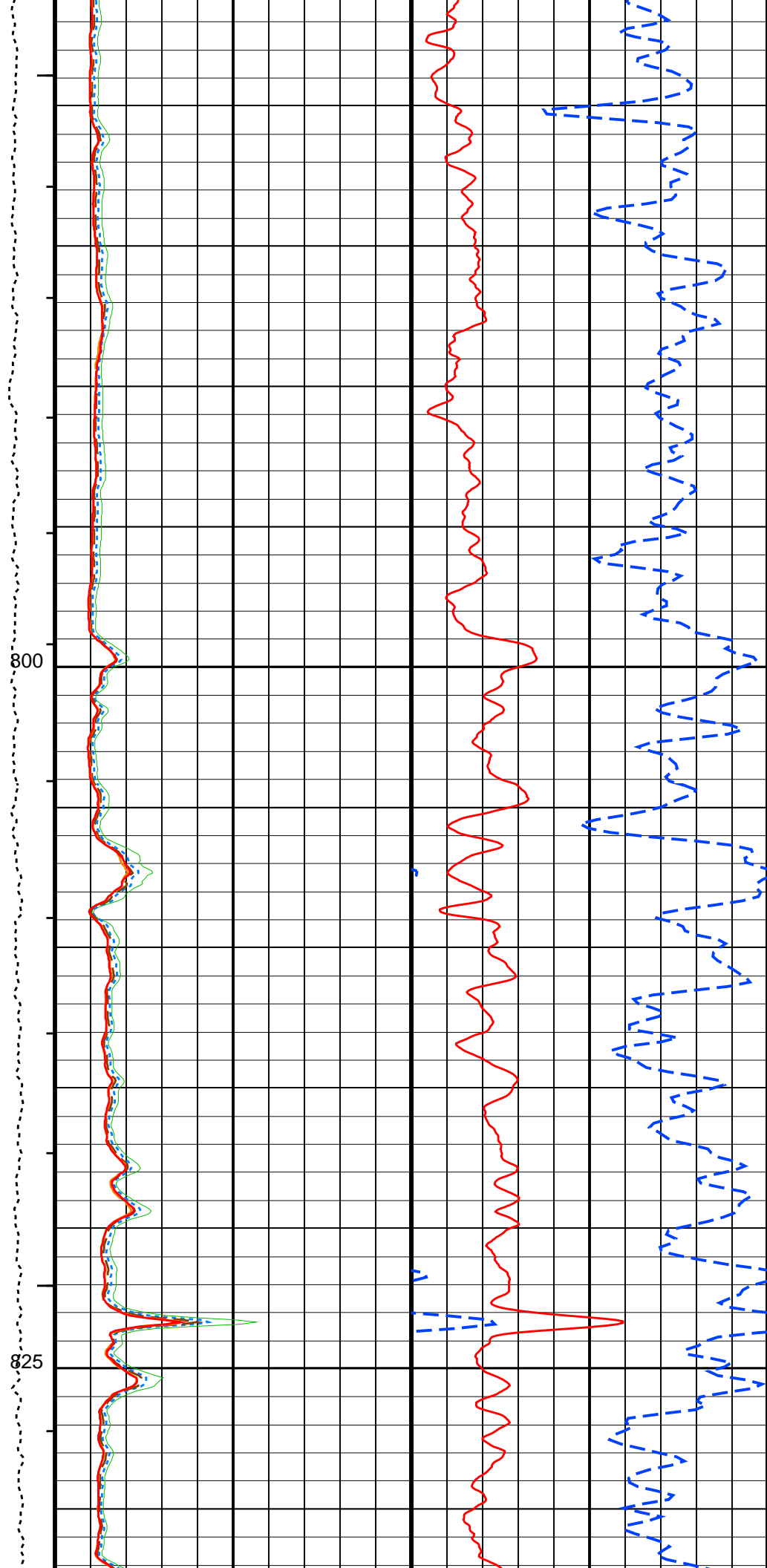
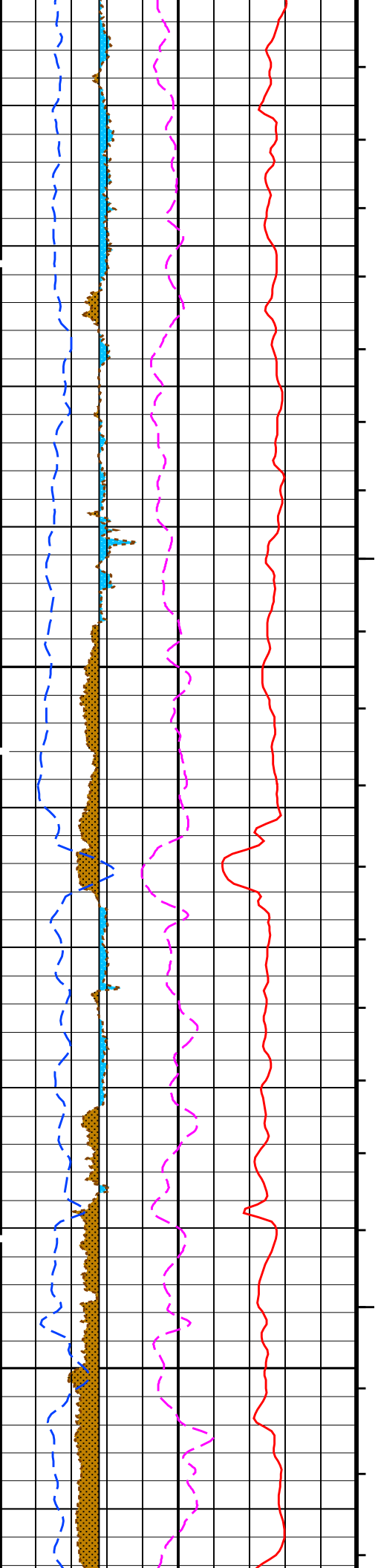


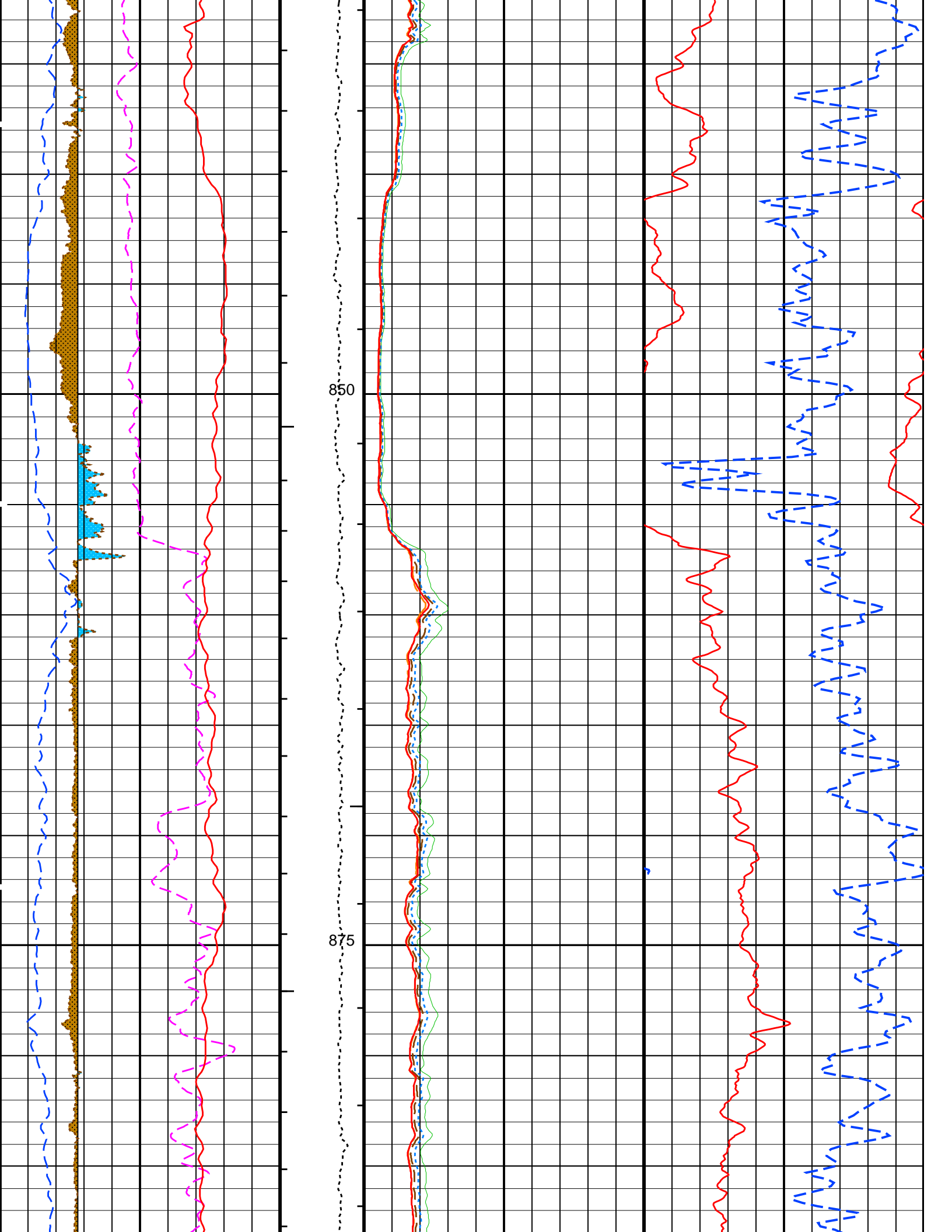


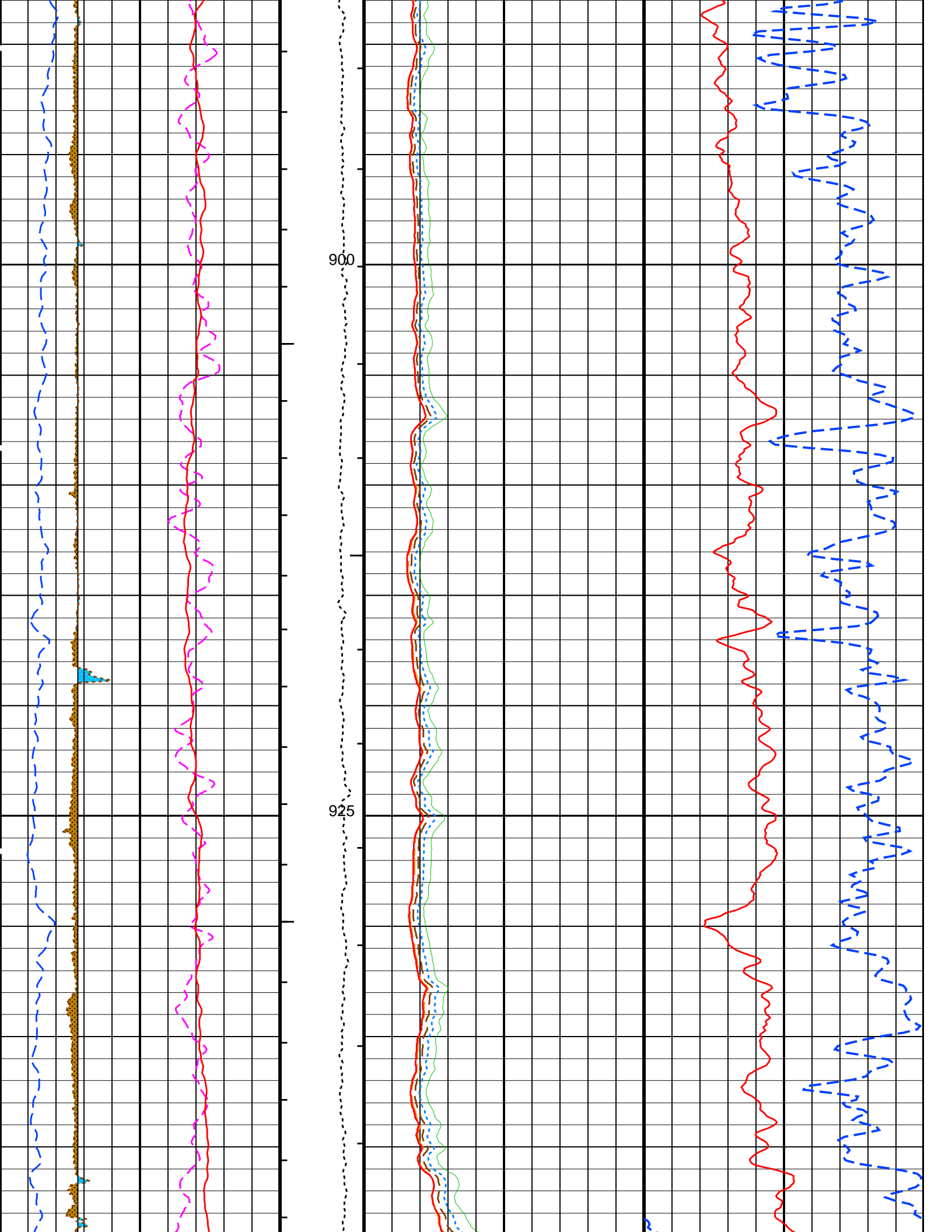


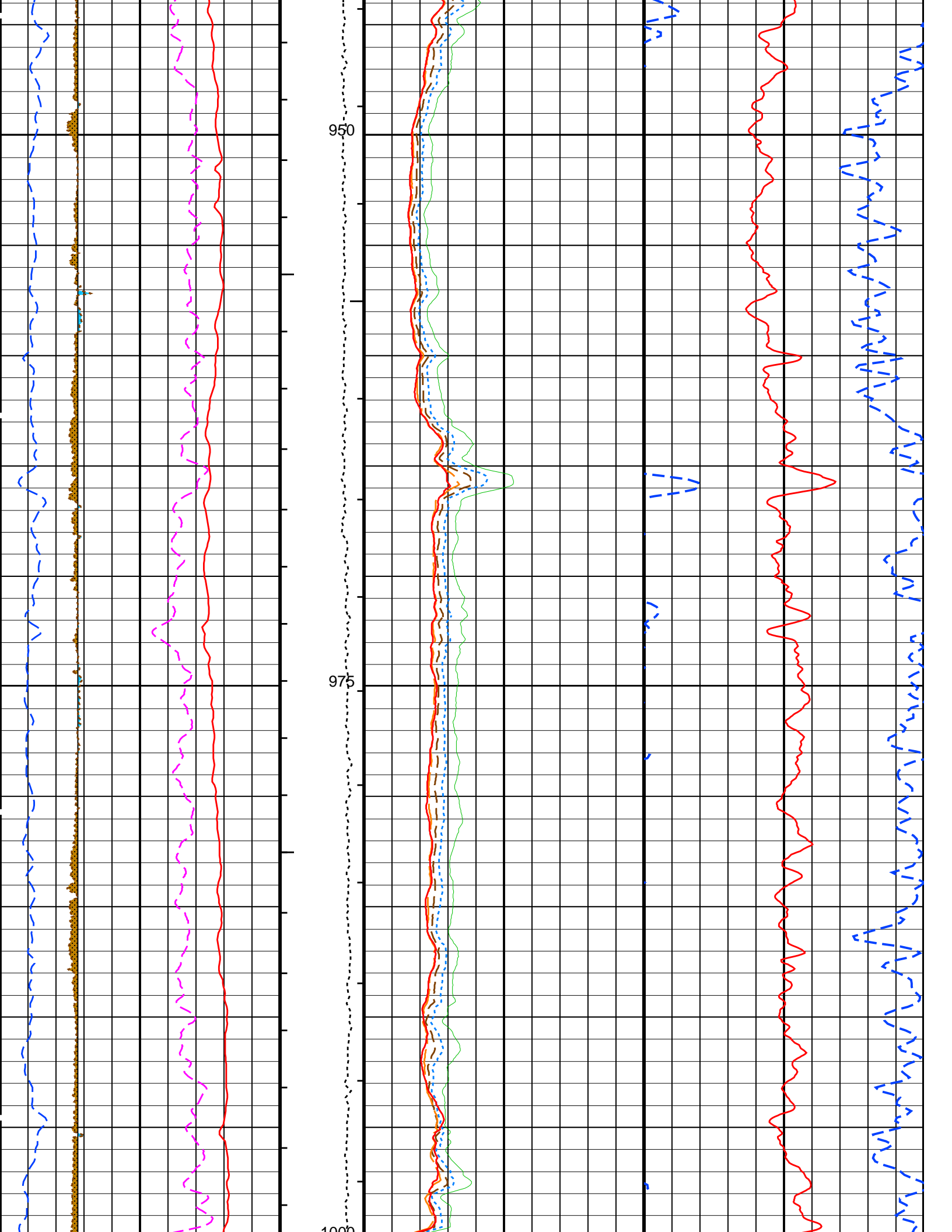


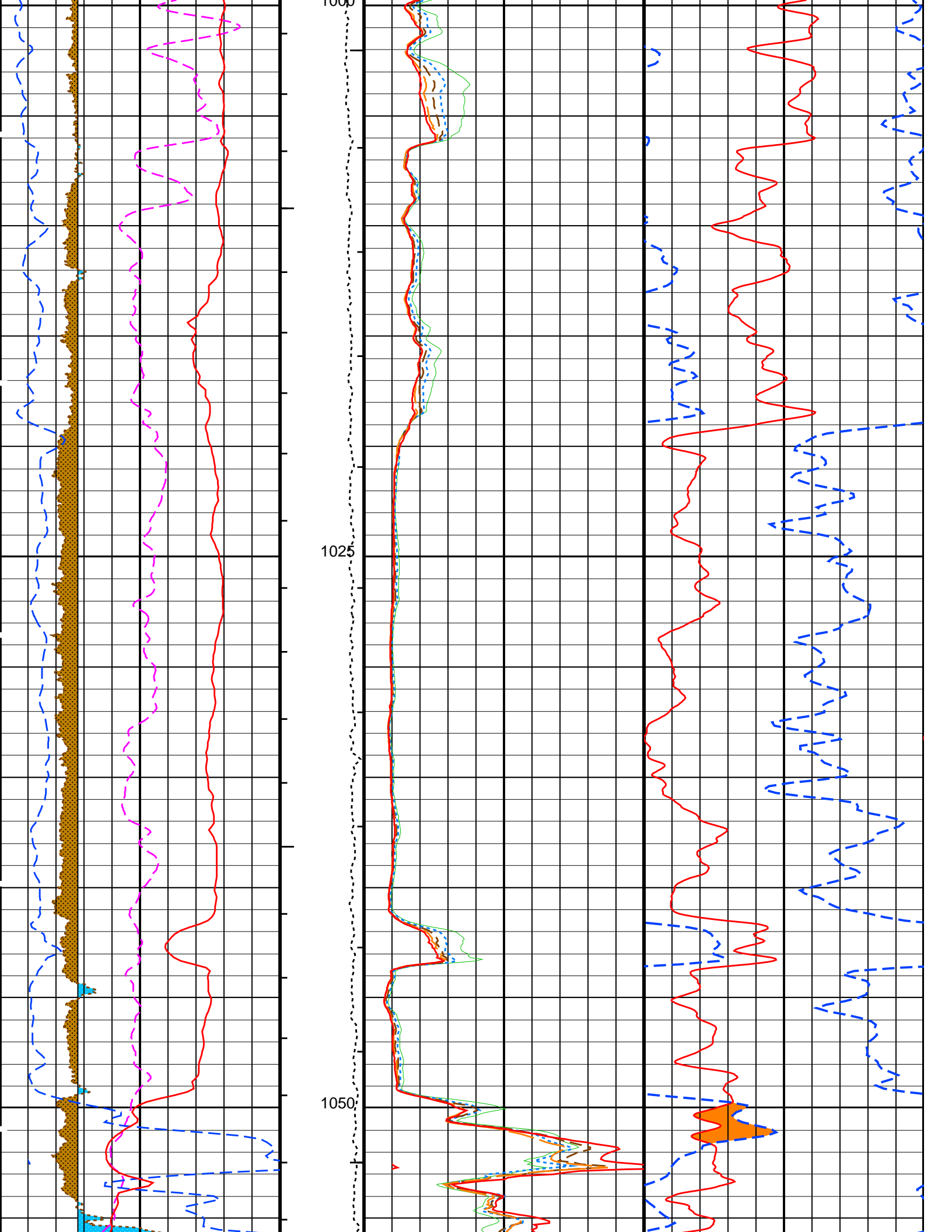


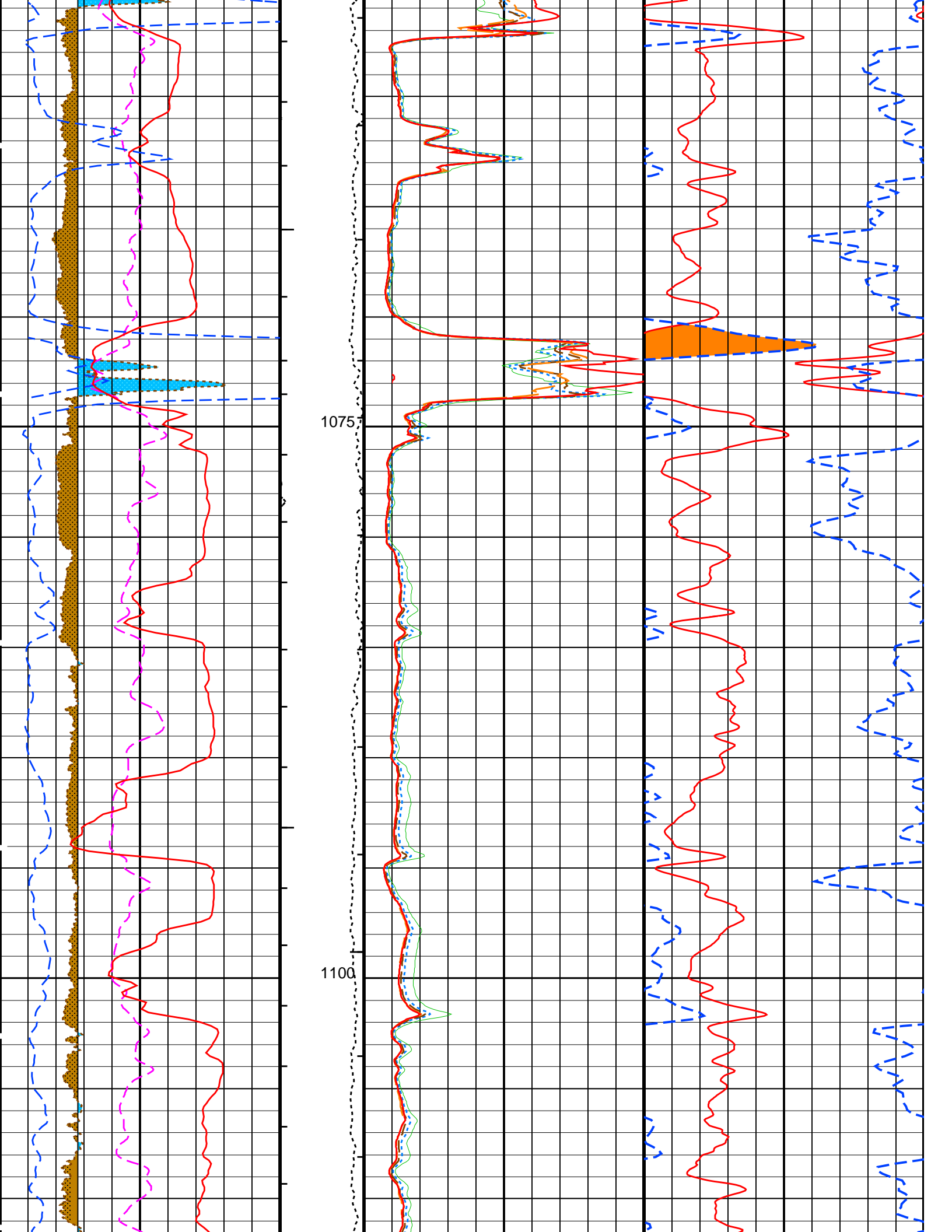


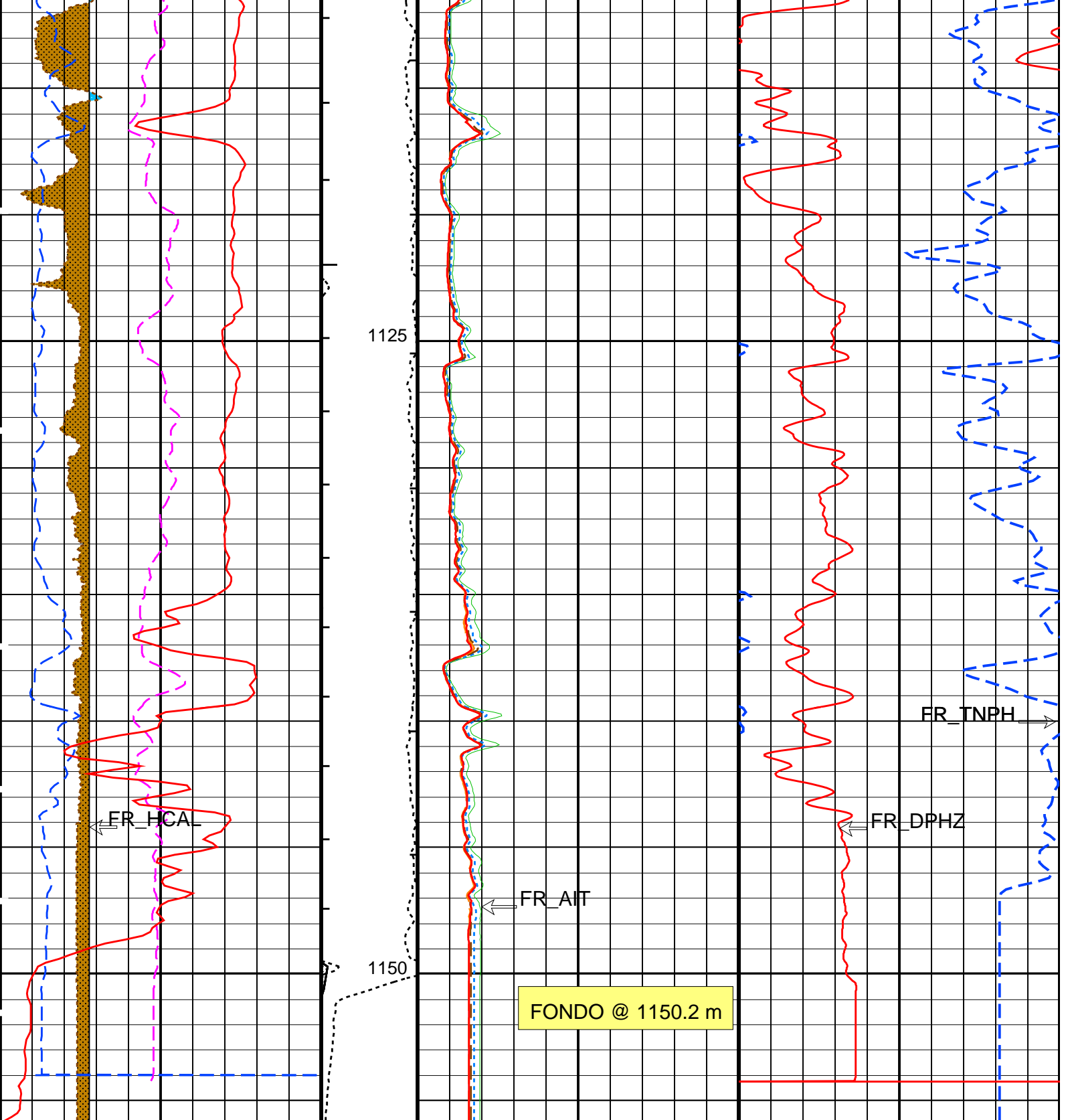












<p>Bit Size (BS) (IN)</p> <p>6 16</p>	<p>Tension (TENS) (LBF)</p> <p>0 1000</p>	<p>AIT-H 10 Inch Investigation (AHT10) (OHMM)</p> <p>0 10</p>	<p>Std. Res. Density Porosity (DPHZ) (V/V)</p> <p>0.4 0</p>
<p>Caliper (HCAL) (IN)</p> <p>6 16</p>	<p>Stuck Stretch (STIT) (M)</p> <p>0 20</p>	<p>AIT-H 20 Inch Investigation (AHT20) (OHMM)</p> <p>0 10</p>	<p>Env. Corr. Thermal Neutron Porosity (TNPH) (V/V)</p> <p>0.4 0</p>
<p>Std. Res. Formation Pe (PEFZ) (---</p> <p>0 5</p>		<p>AIT-H 30 Inch Investigation (AHT30) (OHMM)</p> <p>0 10</p>	<p>Gas From DPHZ to TNPH</p>
<p>RWA (RWA) (OHMM)</p> <p>0 1</p>		<p>AIT-H 60 Inch Investigation (AHT60) (OHMM)</p> <p>0 10</p>	

	SP (SP)	
-80	(MV)	20
REVOQUE From HCAL to BS		
CAVERNA From BS to HCAL		

	AIT-H 90 Inch Investigation (AHT90)	
0	(OHMM)	10

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	
HILTB-CTS: High resolution Integrated Logging Tool-CTS			
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	
BHFL	Borehole Fluid Type	WATER	
BHFL_TLD	HILT Nuclear Mud Base	WATER	
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	42.02	DEGC
BSCO	Borehole Salinity Correction Option	YES	
CCCO	Casing & Cement Thickness Correction Option	NO	
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	DPHZ	
FSAL	Formation Salinity	-50000	PPM
FSCO	Formation Salinity Correction Option	NO	
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	
HSCO	Hole Size Correction Option	YES	
MATR	Rock Matrix for Neutron Porosity Corrections	SANDSTONE	
MCCO	Mud Cake Correction Option	YES	
MCOR	Mud Correction	NATU	
MDEN	Matrix Density	2.65	G/C3
MWCO	Mud Weight Correction Option	YES	
NAAC	HRDD APS Activation Correction	OFF	
NMT	HILT Nuclear Mud Type	NOBARITE	
NPRM	HRDD Processing Mode	StdRes	
NSAR	HRDD Depth Sampling Rate	1	IN
PTCO	Pressure/Temperature Correction Option	YES	
RTCO	RTCO - Rt Invasion Correction	YES	
SDAT	Standoff Data Source	SOCN	
SHT	Surface Hole Temperature	20	DEGC
SOCN	Standoff Distance	0.125	IN
SOCO	Standoff Correction Option	YES	
SPNV	SP Next Value	20	MV
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	DPHZ	
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		
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	42.02	DEGC
FCD	Future Casing (Outer) Diameter	5.5	IN
GCSE	Generalized Caliper Selection	HCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GRRD	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	
MATR	Rock Matrix for Neutron Porosity Corrections	SANDSTONE	
SHT	Surface Hole Temperature	20	DEGC
	STI: Stuck Tool Indicator		
STKT	STI Stuck Threshold	0.762	M
TDD	Total Depth - Driller	1150.00	M
TDL	Total Depth - Logger	1150.20	M
	System and Miscellaneous		
BS	Bit Size	8.750	IN
BSAL	Borehole Salinity	800.00	PPM
CSIZ	Current Casing Size	9.625	IN
CWEI	Casing Weight	32.30	LB/F
DFD	Drilling Fluid Density	1.13	G/C3
DO	Depth Offset for Playback	0.0	M
FLEV	Fluid Level	0.00	M
MST	Mud Sample Temperature	13.40	DEGC
PP	Playback Processing	OFF	
RMFS	Resistivity of Mud Filtrate Sample	3.1000	OHMM
RW	Resistivity of Connate Water	1.0000	OHMM
TD	Total Depth	1150.2	M
TWS	Temperature of Connate Water Sample	37.78	DEGC

Format: COMBINADA Vertical Scale: 1:200 Graphics File Created: 25-Jun-2007 17:06

OP System Version: 15C0-309
MCM

HILTB-CTS SRPC-3292-Q1_2007

Input DLIS Files

DEFAULT	SPLICE_PRINCIPAL_042	FN:1	PRODUCER	25-Jun-2007 16:53	1155.8 M	350.0 M
---------	----------------------	------	----------	-------------------	----------	---------

Output DLIS Files

DEFAULT	Principal_044PUP	FN:8	PRODUCER	25-Jun-2007 17:06		
CUSTOMER	Principal_044PUC	FN:9	CUSTOMER	25-Jun-2007 17:06		



TRAMO REPETIDO

MAXIS Field Log

Input DLIS Files

DEFAULT	Repetida_048PUP	FN:16	PRODUCER	25-Jun-2007 17:52	1154.9 M	993.6 M
---------	-----------------	-------	----------	-------------------	----------	---------

Output DLIS Files

DEFAULT	Repetida_049PUP	FN:18	PRODUCER	25-Jun-2007 18:04	1090.0 M	1026.0 M
CUSTOMER	Repetida_049PUC	FN:19	CUSTOMER	25-Jun-2007 18:04	1090.0 M	1026.0 M

Integrated Hole/Cement Volume Summary

Hole Volume = 5.51 M3
Cement Volume = 3.12 M3 (assuming 5.50 IN casing O.D.)

OP System Version: 15C0-309

MCM

HILTB-CTS SRPC-3292-Q1_2007

Changed Parameter Summary

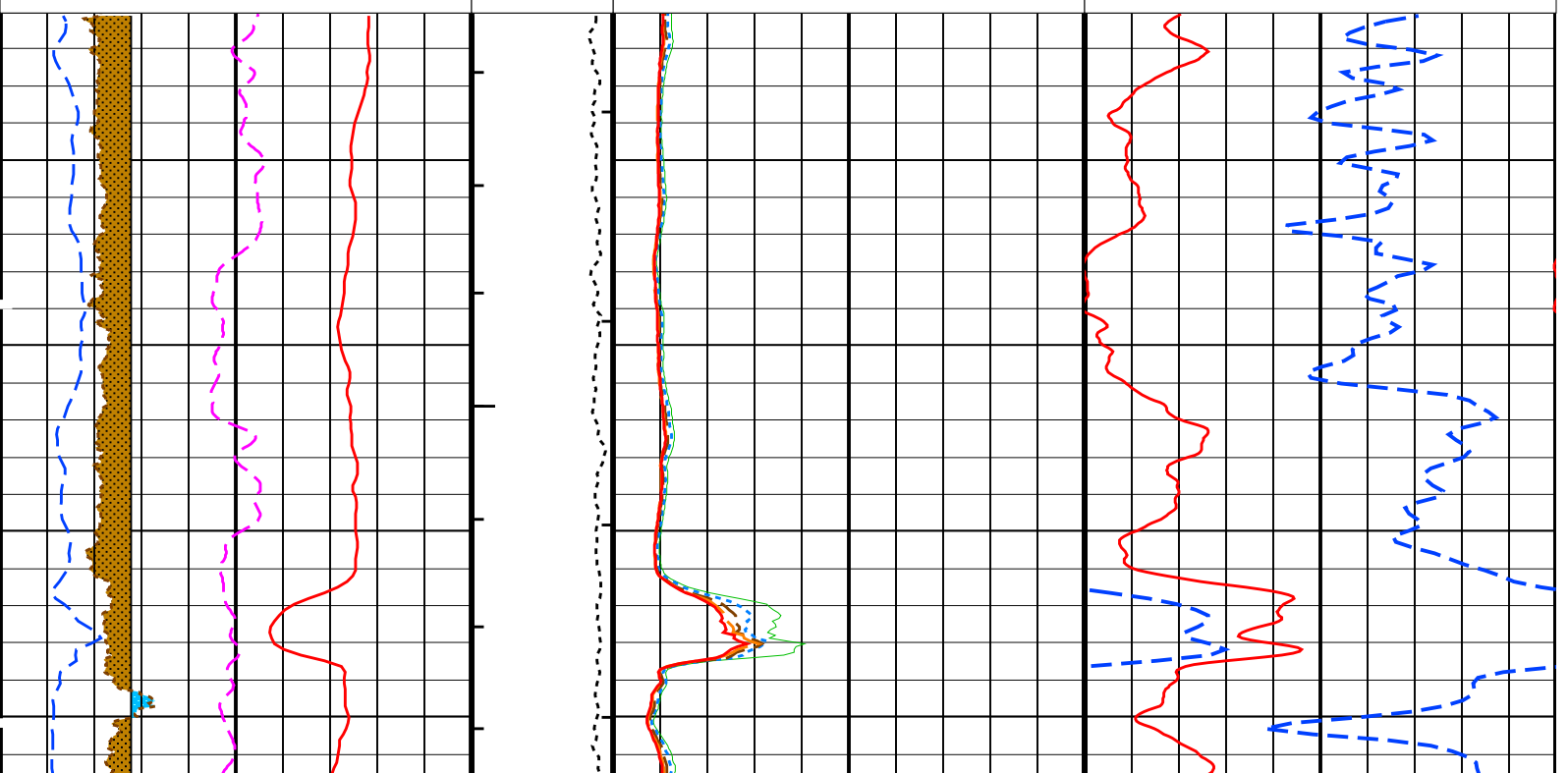
DLIS Name	New Value	Previous Value	Depth & Time
SPDR	0 MV/M	0 MV/M	1090.0 18:04:38

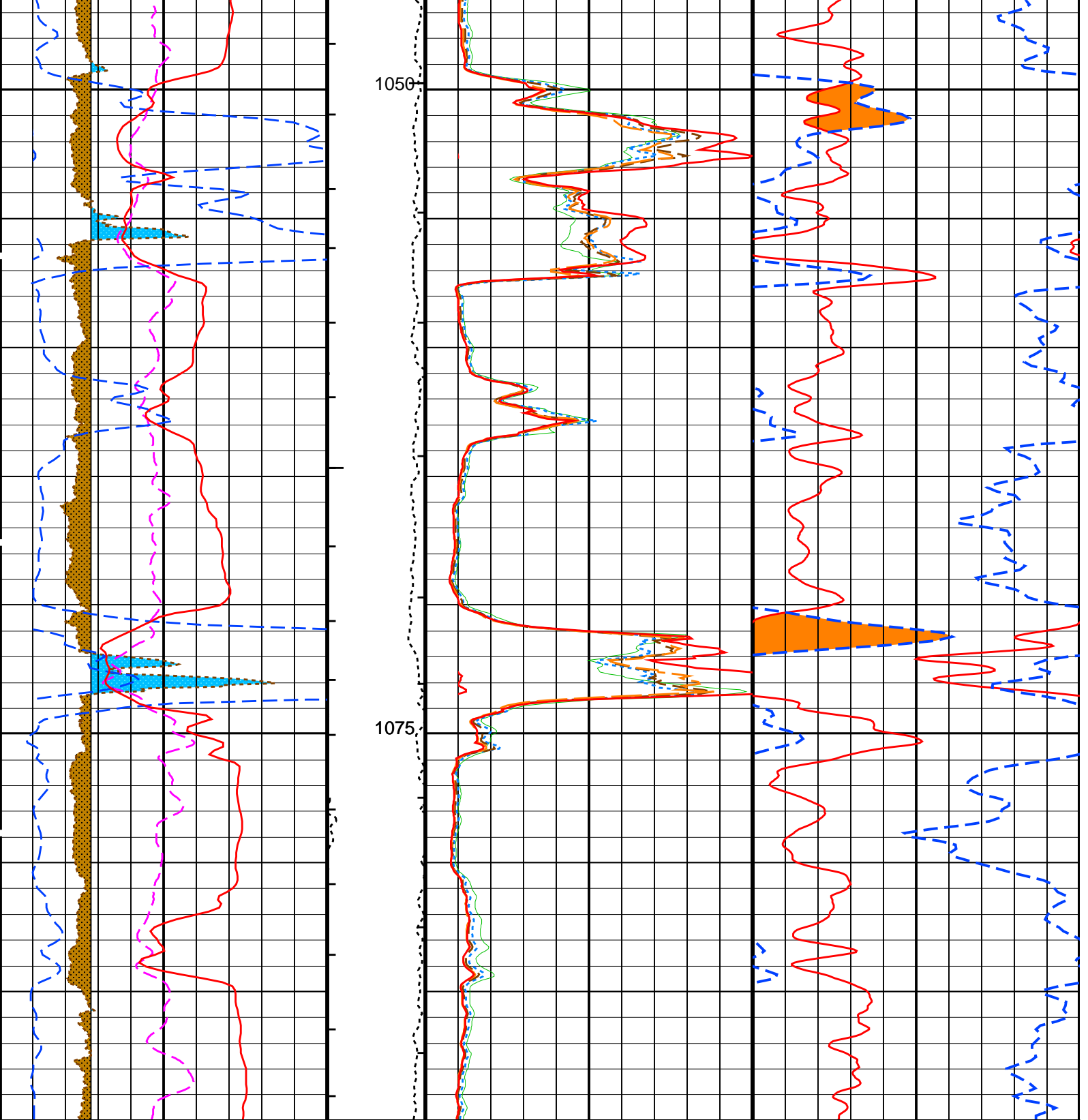
PIP SUMMARY

- └ 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			
<div style="display: flex; justify-content: space-between;"> SP (SP) 20 </div> <div style="display: flex; justify-content: space-between; font-size: small;"> -80 (MV) </div>	<div style="display: flex; justify-content: space-between;"> AIT-H 90 Inch Investigation (AHT90) 10 </div> <div style="display: flex; justify-content: space-between; font-size: small;"> 0 (OHMM) </div>		
<div style="display: flex; justify-content: space-between;"> RWA (RWA) 1 </div> <div style="display: flex; justify-content: space-between; font-size: small;"> 0 (OHMM) </div>	<div style="display: flex; justify-content: space-between;"> AIT-H 60 Inch Investigation (AHT60) 10 </div> <div style="display: flex; justify-content: space-between; font-size: small;"> 0 (OHMM) </div>		
<div style="display: flex; justify-content: space-between;"> Std. Res. Formation Pe (PEFZ) 5 </div> <div style="display: flex; justify-content: space-between; font-size: small;"> 0 (----) </div>	<div style="display: flex; justify-content: space-between;"> AIT-H 30 Inch Investigation (AHT30) 10 </div> <div style="display: flex; justify-content: space-between; font-size: small;"> 0 (OHMM) </div>	Gas From DPHZ to TNPH	
<div style="display: flex; justify-content: space-between;"> Caliper (HCAL) 16 </div> <div style="display: flex; justify-content: space-between; font-size: small;"> 6 (IN) </div>	<div style="display: flex; justify-content: space-between;"> AIT-H 20 Inch Investigation (AHT20) 10 </div> <div style="display: flex; justify-content: space-between; font-size: small;"> 0 (OHMM) </div>	<div style="display: flex; justify-content: space-between;"> Env. Corr. Thermal Neutron Porosity (TNPH) 0 </div> <div style="display: flex; justify-content: space-between; font-size: small;"> 0.4 (V/V) </div>	
<div style="display: flex; justify-content: space-between;"> Bit Size (BS) 16 </div> <div style="display: flex; justify-content: space-between; font-size: small;"> 6 (IN) </div>	<div style="display: flex; justify-content: space-between;"> AIT-H 10 Inch Investigation (AHT10) 10 </div> <div style="display: flex; justify-content: space-between; font-size: small;"> 0 (OHMM) </div>	<div style="display: flex; justify-content: space-between;"> Std. Res. Density Porosity (DPHZ) 0 </div> <div style="display: flex; justify-content: space-between; font-size: small;"> 0.4 (V/V) </div>	
<div style="display: flex; justify-content: space-between;"> Stuck Stretch (STIT) 20 </div> <div style="display: flex; justify-content: space-between; font-size: small;"> 0 (M) </div>	<div style="display: flex; justify-content: space-between;"> Tension (TENS) 1000 </div> <div style="display: flex; justify-content: space-between; font-size: small;"> 0 (LBF) </div>		





<p>Bit Size (BS) (IN)</p> <p>6 16</p>	<p>Tension (TENS) (LBF)</p> <p>0 1000</p>	<p>AIT-H 10 Inch Investigation (AHT10) (OHMM)</p> <p>0 10</p>	<p>Std. Res. Density Porosity (DPHZ) (V/V)</p> <p>0.4 0</p>
<p>Caliper (HCAL) (IN)</p> <p>6 16</p>	<p>Stuck Stretch (STIT) (M) 20</p>	<p>AIT-H 20 Inch Investigation (AHT20) (OHMM)</p> <p>0 10</p>	<p>Env.Corr.Thermal Neutron Porosity (TNPH) (V/V)</p> <p>0.4 0</p>
<p>Std. Res. Formation Pe (PEFZ) (---</p> <p>0 5</p>	<p>Gas From DPHZ to TNPH</p>		
<p>RWA (RWA) (OHMM)</p> <p>0 1</p>	<p>AIT-H 60 Inch Investigation (AHT60) (OHMM)</p> <p>0 10</p>		

SP (SP)

AIT-H 90 Inch Investigation (AHT90)

-80 (MV) 20

0 (OHMM) 10

REVOQUE
From HCAL to BSCAVERNA
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	
HILTB-CTS: High resolution Integrated Logging Tool-CTS			
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	
BHFL	Borehole Fluid Type	WATER	
BHFL_TLD	HILT Nuclear Mud Base	WATER	
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	42.02	DEGC
BSCO	Borehole Salinity Correction Option	YES	
CCCO	Casing & Cement Thickness Correction Option	NO	
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	DPHZ	
FSAL	Formation Salinity	-50000	PPM
FSCO	Formation Salinity Correction Option	NO	
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	
HSCO	Hole Size Correction Option	YES	
MATR	Rock Matrix for Neutron Porosity Corrections	SANDSTONE	
MCCO	Mud Cake Correction Option	YES	
MCOR	Mud Correction	NATU	
MDEN	Matrix Density	2.65	G/C3
MWCO	Mud Weight Correction Option	YES	
NAAC	HRDD APS Activation Correction	OFF	
NMT	HILT Nuclear Mud Type	NOBARITE	
NPRM	HRDD Processing Mode	StdRes	
NSAR	HRDD Depth Sampling Rate	1	IN
PTCO	Pressure/Temperature Correction Option	YES	
RTCO	RTCO - Rt Invasion Correction	YES	
SDAT	Standoff Data Source	SOCN	
SHT	Surface Hole Temperature	20	DEGC
SOCN	Standoff Distance	0.125	IN
SOCO	Standoff Correction Option	YES	
SPDR	SP Drift	0	MV/M
SPNV	SP Next Value	30	MV
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	DPHZ	
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			
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	42.02	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	
MATR	Rock Matrix for Neutron Porosity Corrections	SANDSTONE	
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	1150.00	M
TDL	Total Depth - Logger	1150.20	M
System and Miscellaneous			
BS	Bit Size	8.750	IN
BSAL	Borehole Salinity	800.00	PPM
CSIZ	Current Casing Size	9.625	IN
CWEI	Casing Weight	32.30	LB/F
DFD	Drilling Fluid Density	1.13	G/C3
DO	Depth Offset for Playback	0.0	M
DORL	Depth Offset for Repeat Analysis	0.0	M
FLEV	Fluid Level	0.00	M
MST	Mud Sample Temperature	13.40	DEGC
PP	Playback Processing	OFF	
RMFS	Resistivity of Mud Filtrate Sample	3.1000	OHMM
RW	Resistivity of Connate Water	1.0000	OHMM
TD	Total Depth	1150.2	M
TWS	Temperature of Connate Water Sample	37.78	DEGC

Format: COMBINADA Vertical Scale: 1:200 Graphics File Created: 25-Jun-2007 18:03

OP System Version: 15C0-309
MCM

HILTB-CTS SRPC-3292-Q1_2007

Input DLIS Files

DEFAULT	Repetida_048PUP	FN:16	PRODUCER	25-Jun-2007 17:52	1154.9 M	993.6 M
---------	-----------------	-------	----------	-------------------	----------	---------

Output DLIS Files

DEFAULT	Repetida_049PUP	FN:18	PRODUCER	25-Jun-2007 18:04		
CUSTOMER	Repetida_049PUC	FN:19	CUSTOMER	25-Jun-2007 18:04		

ANALISIS DE REPETIBILIDAD

MAXIS Field Log

Input DLIS Files

DEFAULT	Repetida_048PUP	FN:16	PRODUCER	25-Jun-2007 17:52	1154.9 M	993.6 M
DEFAULT	Principal_044PUP	FN:8	PRODUCER	25-Jun-2007 17:06	1155.8 M	351.3 M

Output DLIS Files

DEFAULT	Repetida_049PUP	FN:18	PRODUCER	25-Jun-2007 18:04	1090.0 M	1026.0 M
CUSTOMER	Repetida_049PUC	FN:19	CUSTOMER	25-Jun-2007 18:04	1090.0 M	1026.0 M

Integrated Hole/Cement Volume Summary

Integrated Hole/Cement Volume Summary

Hole Volume = 5.51 M3

Cement Volume = 3.12 M3 (assuming 5.50 IN casing O.D.)

Computed from 1150.2 M to 993.8 M using data channel(s) HCAL

OP System Version: 15C0-309 MCM

HILTB-CTS SRPC-3292-Q1_2007

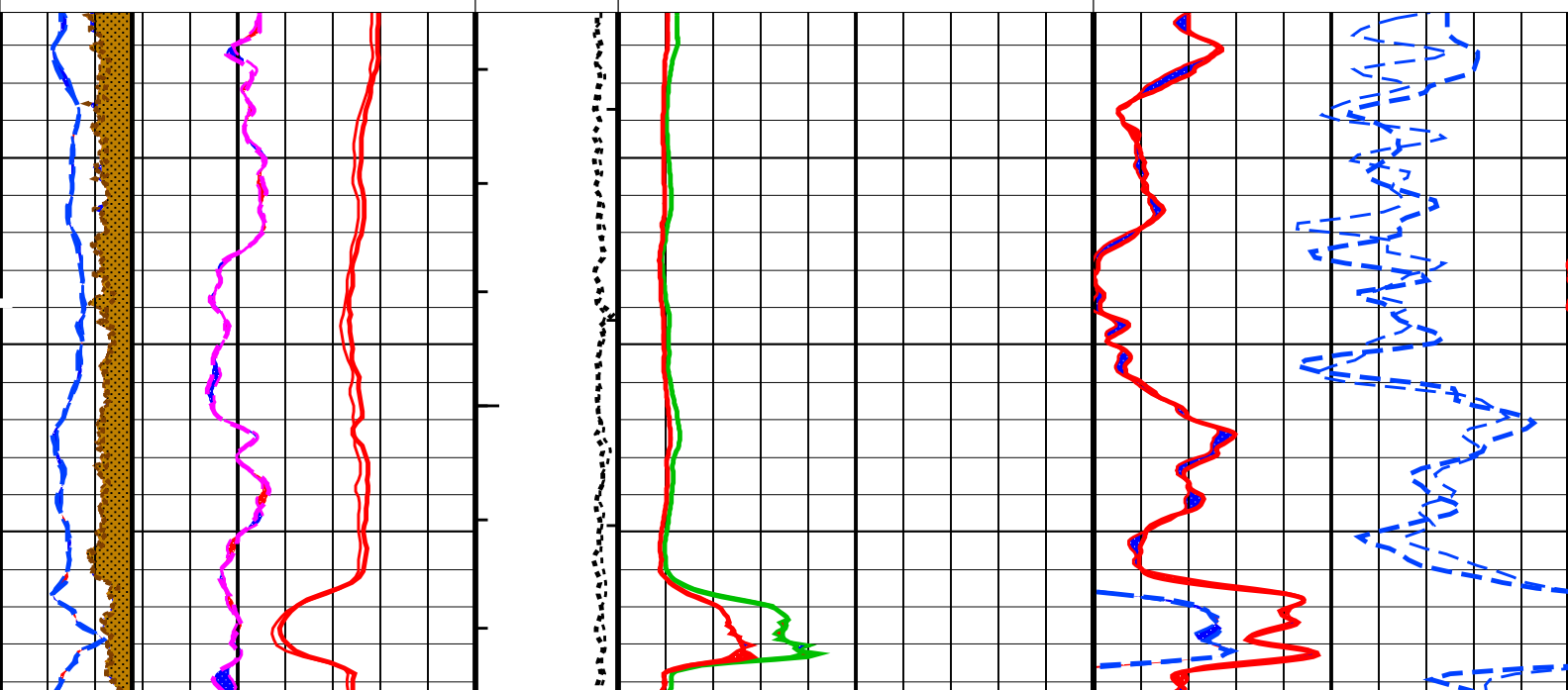
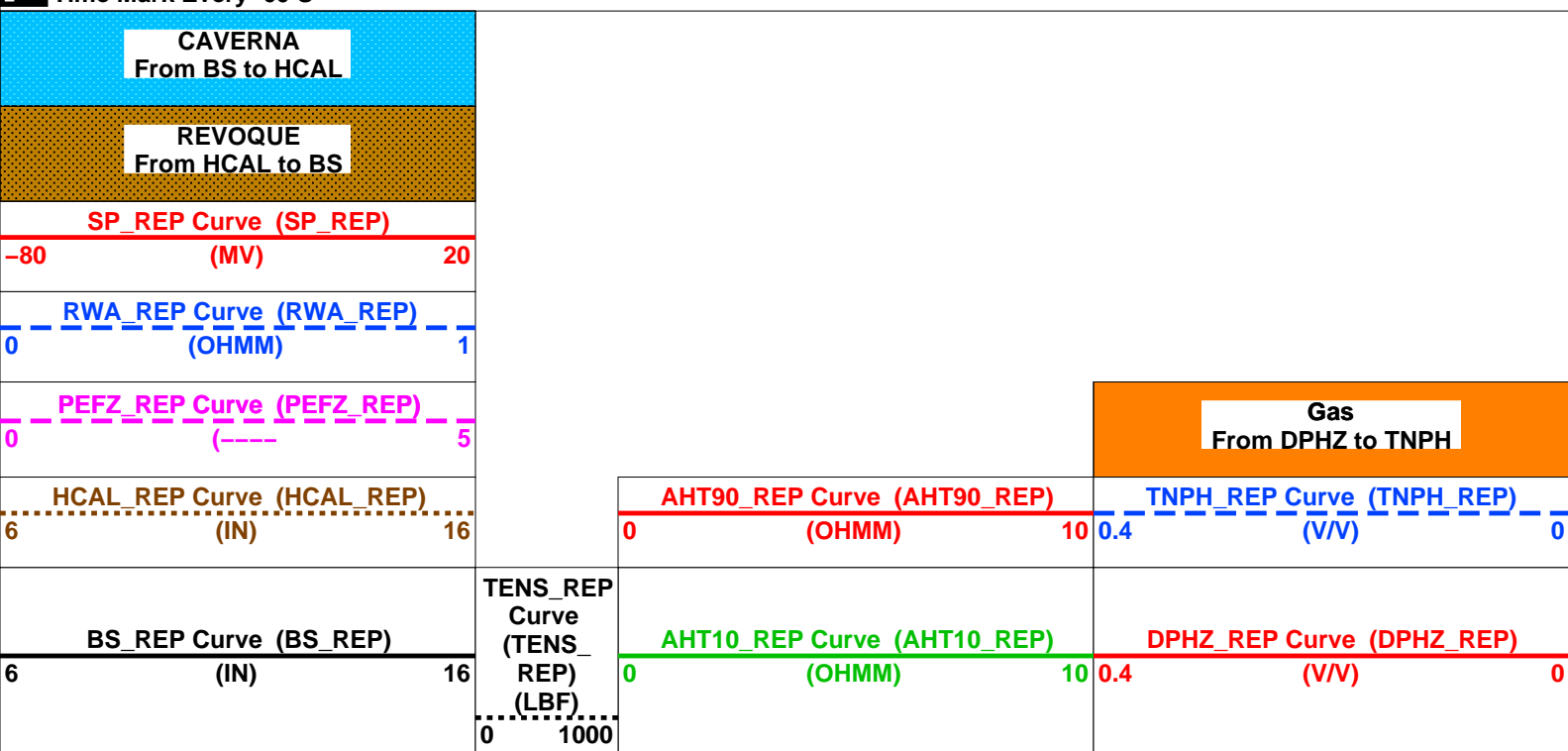
Changed Parameter Summary

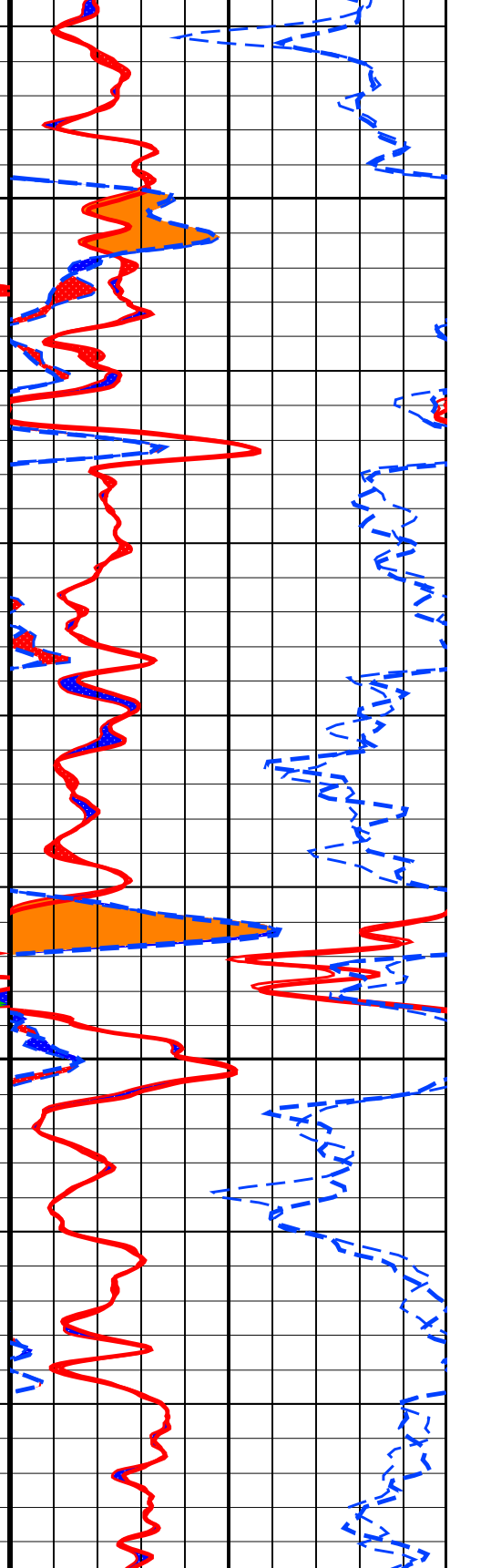
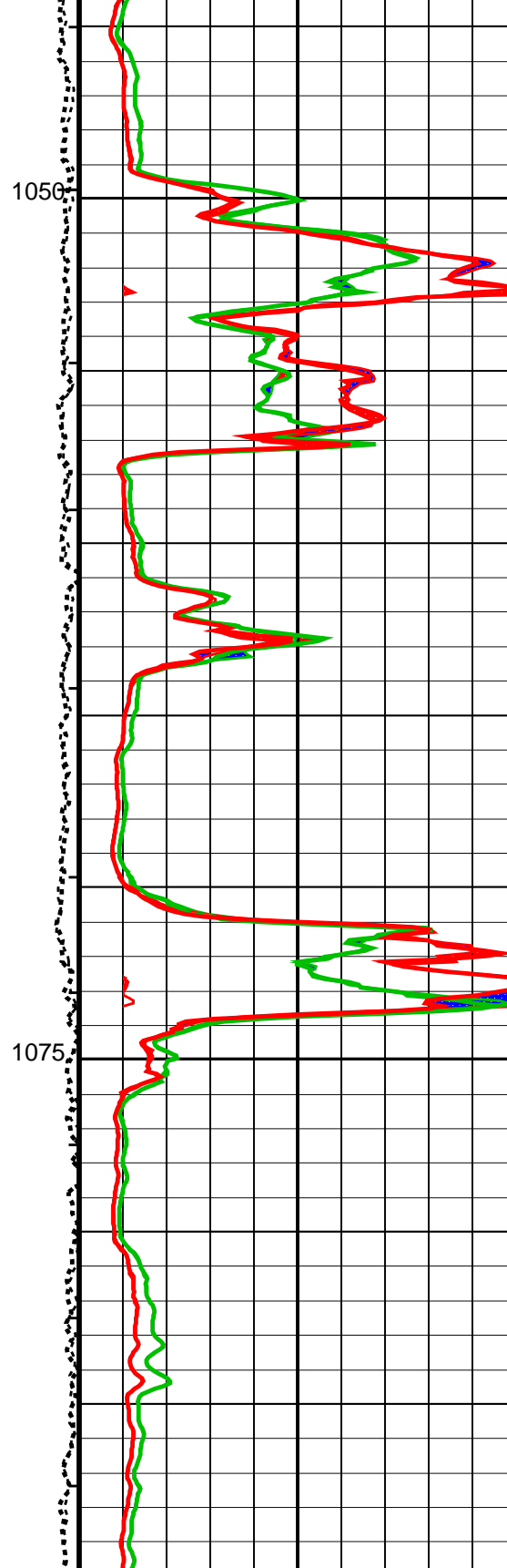
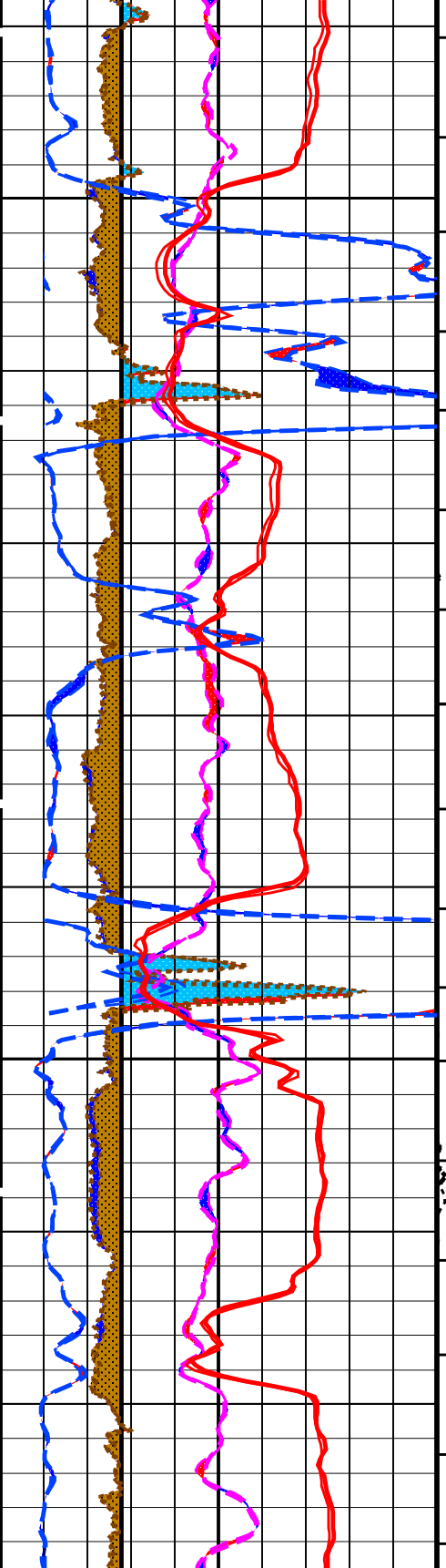
DLIS Name	New Value	Previous Value	Depth & Time
SPDR	0 MV/M	0 MV/M	1090.0 18:04:38

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)
(IN)

TENS_REP Curve (TENS_REP)
(LBF)

DPHZ_REP Curve (DPHZ_REP)
(V/V)

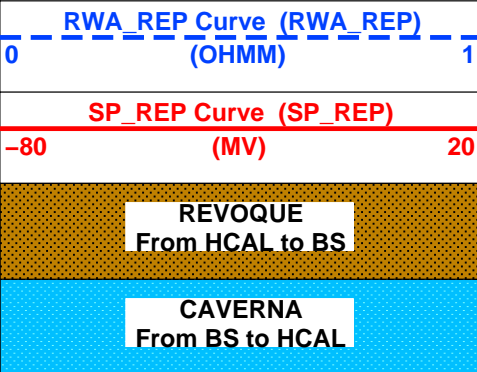
HCAL_REP Curve (HCAL_REP)
(IN)

AHT90_REP Curve (AHT90_REP)
(OHMM)

TNPH_REP Curve (TNPH_REP)
(V/V)

PEFZ_REP Curve (PEFZ_REP)
(----

Gas
From DPHZ to TNPH



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	
HILTB-CTS: High resolution Integrated Logging Tool-CTS			
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	
BHFL	Borehole Fluid Type	WATER	
BHFL_TLD	HILT Nuclear Mud Base	WATER	
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	42.02	DEGC
BSCO	Borehole Salinity Correction Option	YES	
CCCO	Casing & Cement Thickness Correction Option	NO	
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	DPHZ	
FSAL	Formation Salinity	-5000	PPM
FSCO	Formation Salinity Correction Option	NO	
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	
HSCO	Hole Size Correction Option	YES	
MATR	Rock Matrix for Neutron Porosity Corrections	SANDSTONE	
MCCO	Mud Cake Correction Option	YES	
MCOR	Mud Correction	NATU	
MDEN	Matrix Density	2.65	G/C3
MWCO	Mud Weight Correction Option	YES	
NAAC	HRDD APS Activation Correction	OFF	
NMT	HILT Nuclear Mud Type	NOBARITE	
NPRM	HRDD Processing Mode	StdRes	
NSAR	HRDD Depth Sampling Rate	1	IN
PTCO	Pressure/Temperature Correction Option	YES	
RTCO	RTCO - Rt Invasion Correction	YES	
SDAT	Standoff Data Source	SOCN	
SHT	Surface Hole Temperature	20	DEGC
SOCN	Standoff Distance	0.125	IN
SOCO	Standoff Correction Option	YES	
SPDR	SP Drift	0	MV/M
SPNV	SP Next Value	30	MV
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	DPHZ	
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		
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	42.02	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	
MATR	Rock Matrix for Neutron Porosity Corrections	SANDSTONE	
SHT	Surface Hole Temperature	20	DEGC
STI:	Stuck Tool Indicator		
TDL	Total Depth - Logger	1150.20	M
System and Miscellaneous			
BS	Bit Size	8.750	IN
BSAL	Borehole Salinity	800.00	PPM
CSIZ	Current Casing Size	9.625	IN
CWEI	Casing Weight	32.30	LB/F
DFD	Drilling Fluid Density	1.13	G/C3
DO	Depth Offset for Playback	0.0	M
DORL	Depth Offset for Repeat Analysis	0.0	M
FLEV	Fluid Level	0.00	M
MST	Mud Sample Temperature	13.40	DEGC
PP	Playback Processing	OFF	
RMFS	Resistivity of Mud Filtrate Sample	3.1000	OHMM
RW	Resistivity of Connate Water	1.0000	OHMM
TD	Total Depth	1150.2	M
TWS	Temperature of Connate Water Sample	37.78	DEGC

Format: COMBINADA_REP Vertical Scale: 1:200 Graphics File Created: 25-Jun-2007 18:03

OP System Version: 15C0-309
MCM

HILTB-CTS SRPC-3292-Q1_2007

Input DLIS Files

DEFAULT	Repetida_048PUP	FN:16	PRODUCER	25-Jun-2007 17:52	1154.9 M	993.6 M
DEFAULT	Principal_044PUP	FN:8	PRODUCER	25-Jun-2007 17:06	1155.8 M	351.3 M



CHEQUEO EN CAÑERIA

MAXIS Field Log

Input DLIS Files

DEFAULT	CALIPERCHECK_009LUP	FN:9	PRODUCER	25-Jun-2007 16:04	382.2 M	344.6 M
---------	---------------------	------	----------	-------------------	---------	---------

Integrated Hole/Cement Volume Summary

Hole Volume = 5.51 M3
 Cement Volume = 3.12 M3 (assuming 5.50 IN casing O.D.)
 Computed from 1150.2 M to 993.8 M using data channel(s) HCAL

OP System Version: 15C0-309
MCM

HILTB-CTS SRPC-3292-Q1_2007

Changed Parameter Summary

DLIS Name

New Value

Previous Value

Depth & Time

SPDR

0 MV/M

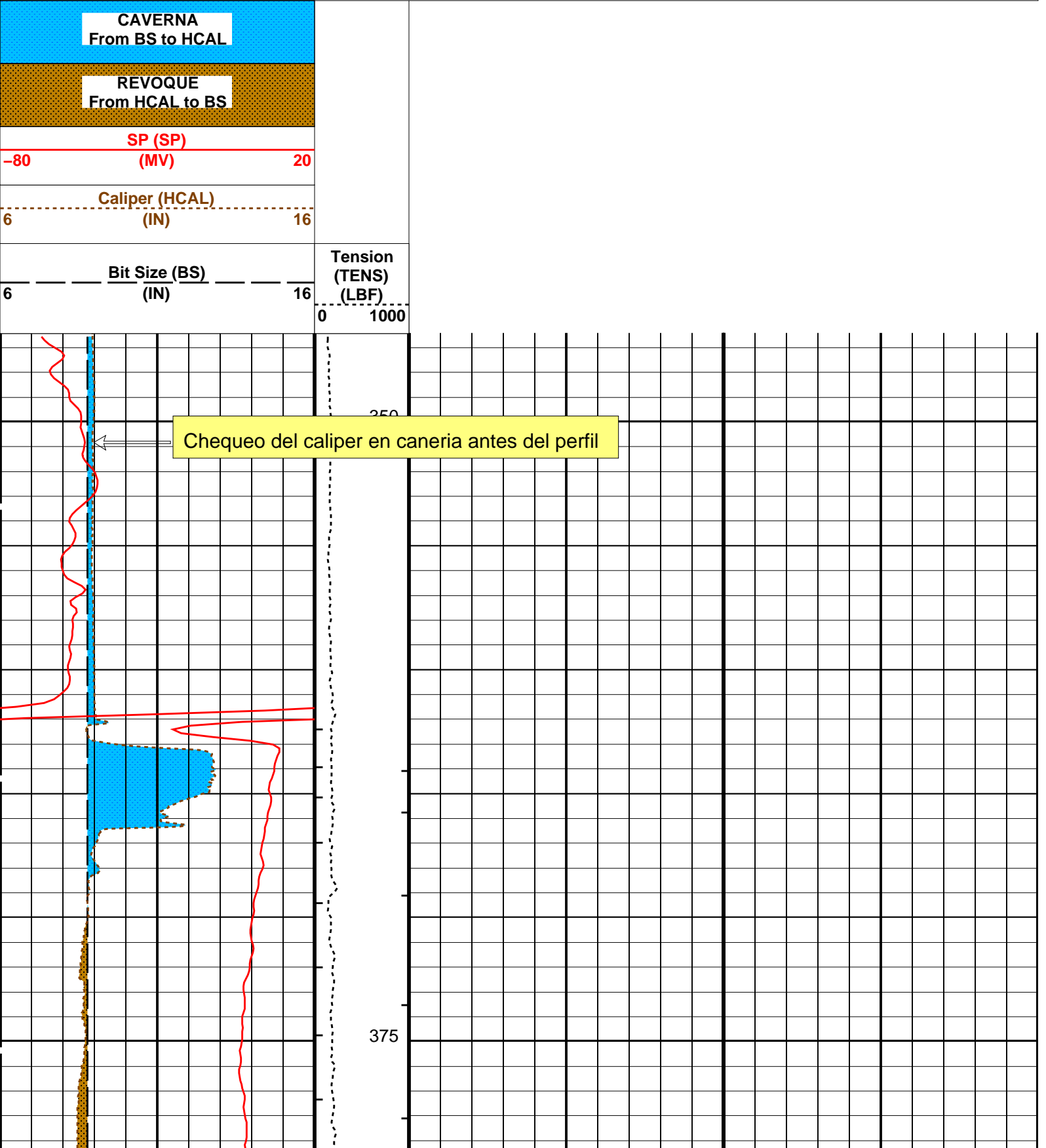
0 MV/M

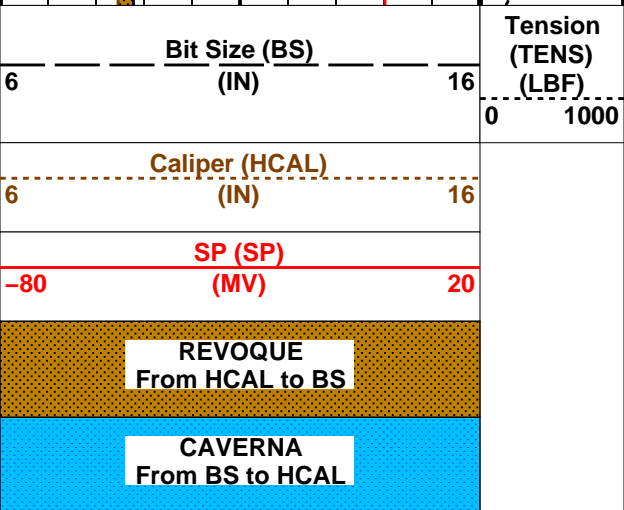
382.8 18:24:37

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





Tension
(TENS)
(LBF)
0 1000

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
HILTB-CTS	High resolution Integrated Logging Tool-CTS	
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	0.6 M
DORL	Depth Offset for Repeat Analysis	0.0 M
PP	Playback Processing	OFF
TD	Total Depth	1150.2 M

Format: CALIPER Vertical Scale: 1:200

Graphics File Created: 25-Jun-2007 18:24

OP System Version: 15C0-309
MCM

HILTB-CTS SRPC-3292-Q1_2007

Input DLIS Files

DEFAULT	CALIPERCHECK_009LUP	FN:9	PRODUCER	25-Jun-2007 16:04	382.2 M	344.6 M
---------	---------------------	------	----------	-------------------	---------	---------

Input DLIS Files

DEFAULT	CALIPERCHECK_009LUP	FN:9	PRODUCER	25-Jun-2007 16:04	382.2 M	344.6 M
DEFAULT	Principal_044PUP	FN:8	PRODUCER	25-Jun-2007 17:06	1155.8 M	351.3 M

Integrated Hole/Cement Volume Summary

Hole Volume = 5.51 M3
 Cement Volume = 3.12 M3 (assuming 5.50 IN casing O.D.)
 Computed from 1150.2 M to 993.8 M using data channel(s) HCAL

OP System Version: 15C0-309
MCM

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

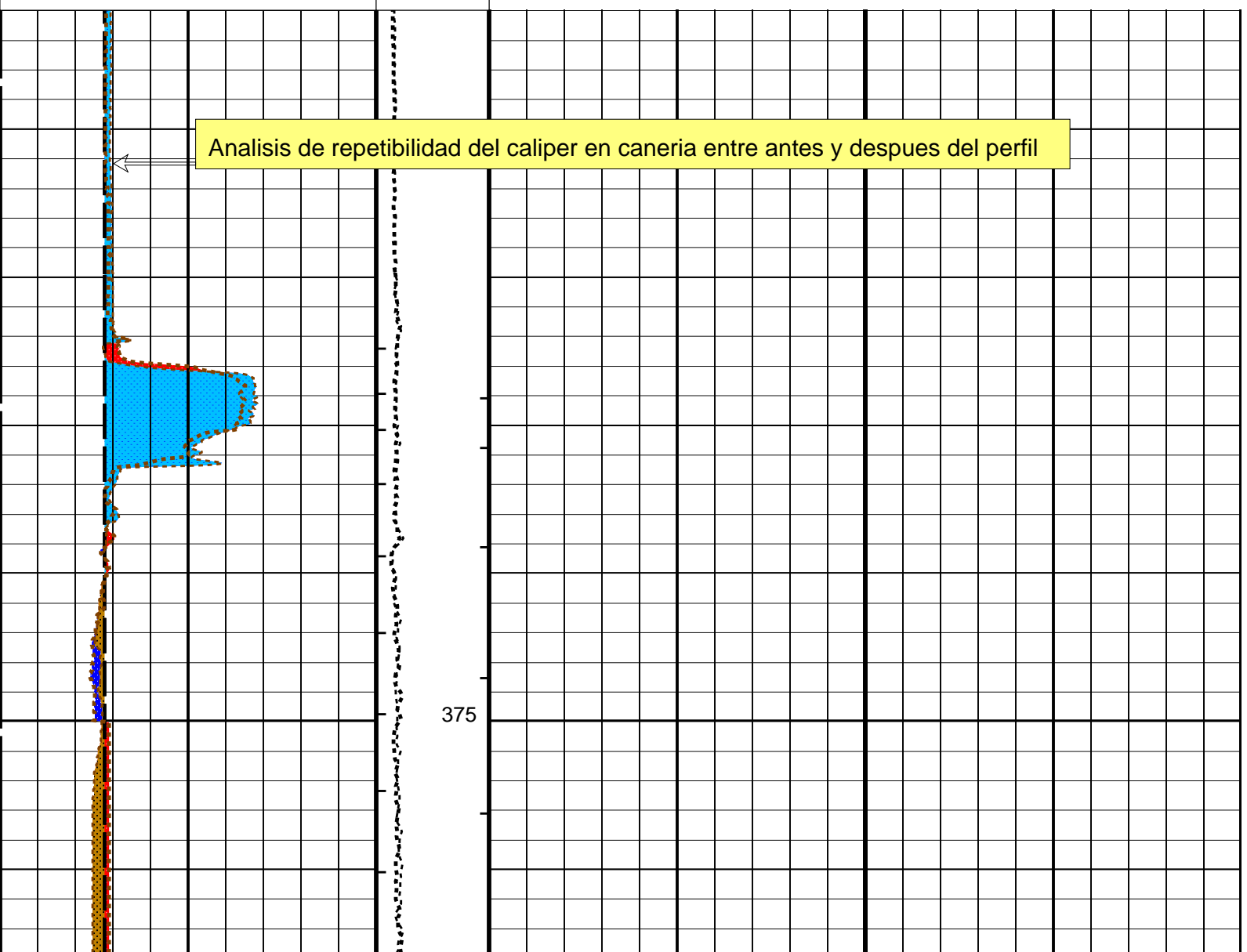
CAVERNA
From BS to HCAL

REVOQUE
From HCAL to BS

HCAL_REP Curve (HCAL_REP)
(IN) 6 16

BS_REP Curve (BS_REP)
(IN) 6 16

TENS_REP
Curve
(TENS_
REP)
(LBF)
0 1000



BS_REP Curve (BS_REP)
(IN) 6 16

TENS_REP
Curve
(TENS_
REP)
(LBF)
0 1000

6	HCAL_REP Curve (HCAL_REP) (IN)	16
REVOKE 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	0.6 M
DORL	Depth Offset for Repeat Analysis	0.0 M
PP	Playback Processing	OFF
TD	Total Depth	1150.2 M

Format: CALIPER_REP

Vertical Scale: 1:200

Graphics File Created: 25-Jun-2007 18:24

OP System Version: 15C0-309
MCM

HILTB-CTS

SRPC-3292-Q1_2007

Input DLIS Files

DEFAULT	CALIPERCHECK_009LUP	FN:9	PRODUCER	25-Jun-2007 16:04	382.2 M	344.6 M
DEFAULT	Principal_044PUP	FN:8	PRODUCER	25-Jun-2007 17:06	1155.8 M	351.3 M

Schlumberger

CALIBRACIONES

MAXIS Field Log

Calibration and Check Summary

Measurement	Nominal	Master	Before	After	Change	Limit	Units
-------------	---------	--------	--------	-------	--------	-------	-------

High resolution Integrated Logging Tool-CTS Wellsite Calibration - Electronics Calibration Check - Thru Cal Mag. & Phase
Master: 31-Mar-2007 12:03 Before: 25-Jun-2007 5:01

Thru Cal Magnitude - 0	0	0.6255	0.6297	N/A	N/A	N/A	V
Thru Cal Magnitude - 1	0	1.284	1.293	N/A	N/A	N/A	V
Thru Cal Magnitude - 2	0	0.6365	0.6406	N/A	N/A	N/A	V
Thru Cal Magnitude - 3	0	0.7184	0.7234	N/A	N/A	N/A	V
Thru Cal Magnitude - 4	0	1.347	1.357	N/A	N/A	N/A	V
Thru Cal Magnitude - 5	0	1.955	1.969	N/A	N/A	N/A	V
Thru Cal Magnitude - 6	0	1.963	1.976	N/A	N/A	N/A	V
Thru Cal Magnitude - 7	0	1.397	1.408	N/A	N/A	N/A	V
Phase	0	78.69	78.70	N/A	N/A	N/A	DEG

Phase - 0	0	78.09	78.70	N/A	N/A	N/A	DEG
Phase - 1	0	77.60	77.62	N/A	N/A	N/A	DEG
Phase - 2	0	73.94	73.96	N/A	N/A	N/A	DEG
Phase - 3	0	73.17	73.20	N/A	N/A	N/A	DEG
Phase - 4	0	67.01	67.06	N/A	N/A	N/A	DEG
Phase - 5	0	65.18	65.26	N/A	N/A	N/A	DEG
Phase - 6	0	65.13	65.21	N/A	N/A	N/A	DEG
Phase - 7	0	61.71	61.98	N/A	N/A	N/A	DEG

High resolution Integrated Logging Tool-CTS Wellsite Calibration - Electronics Calibration Check - Auxilliary

Master: 31-Mar-2007 12:03 Before: 25-Jun-2007 5:01

Array Induction SPA Plus	990.5	991.9	992.6	N/A	N/A	N/A	MV
Array Induction SPA Zero	0	0.1222	0.08894	N/A	N/A	N/A	MV
Array Induction Temperature PI	0.9150	0.9188	0.9195	N/A	N/A	N/A	V
Array Induction Temperature Ze	0	0.0001198	0.00009196	N/A	N/A	N/A	V

High resolution Integrated Logging Tool-CTS Wellsite Calibration - Test Loop Gain Correction

Master: 31-Mar-2007 12:03

Test Loop Gain Magnitude - 0	0	1.024	N/A	N/A	N/A	N/A	V
Test Loop Gain Magnitude - 1	0	1.024	N/A	N/A	N/A	N/A	V
Test Loop Gain Magnitude - 2	0	1.022	N/A	N/A	N/A	N/A	V
Test Loop Gain Magnitude - 3	0	1.024	N/A	N/A	N/A	N/A	V
Test Loop Gain Magnitude - 4	0	1.006	N/A	N/A	N/A	N/A	V
Test Loop Gain Magnitude - 5	0	1.022	N/A	N/A	N/A	N/A	V
Test Loop Gain Magnitude - 6	0	1.034	N/A	N/A	N/A	N/A	V
Test Loop Gain Magnitude - 7	0	1.036	N/A	N/A	N/A	N/A	V
Phase - 0	0	0.2634	N/A	N/A	N/A	N/A	DEG
Phase - 1	0	0.5016	N/A	N/A	N/A	N/A	DEG
Phase - 2	0	-0.06354	N/A	N/A	N/A	N/A	DEG
Phase - 3	0	-0.03448	N/A	N/A	N/A	N/A	DEG
Phase - 4	0	-0.06162	N/A	N/A	N/A	N/A	DEG
Phase - 5	0	-0.2126	N/A	N/A	N/A	N/A	DEG
Phase - 6	0	0.1226	N/A	N/A	N/A	N/A	DEG
Phase - 7	0	-0.3361	N/A	N/A	N/A	N/A	DEG

High resolution Integrated Logging Tool-CTS Wellsite Calibration - Sonde Error Correction

Master: 31-Mar-2007 12:03

R Sonde Error Correction - 0	0	-15.42	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction - 1	0	148.9	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction - 2	0	110.9	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction - 3	0	60.55	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction - 4	0	24.54	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction - 5	0	12.89	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction - 6	0	10.05	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction - 7	0	0.2235	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction - 0	0	119.4	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction - 1	0	84.34	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction - 2	0	-73.34	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction - 3	0	94.01	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction - 4	0	25.92	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction - 5	0	21.01	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction - 6	0	6.699	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction - 7	0	-2.263	N/A	N/A	N/A	N/A	MM/M

High resolution Integrated Logging Tool-CTS Wellsite Calibration - Mud Gain Correction

Master: 31-Mar-2007 12:03

Coarse - Mag, Real, Imag - 0	0	1.075	N/A	N/A	N/A	N/A	
Coarse - Mag, Real, Imag - 1	0	1.075	N/A	N/A	N/A	N/A	
Coarse - Mag, Real, Imag - 2	0	1.075	N/A	N/A	N/A	N/A	
Fine - Mag, Real, Imag - 0	0	1.067	N/A	N/A	N/A	N/A	
Fine - Mag, Real, Imag - 1	0	1.067	N/A	N/A	N/A	N/A	
Fine - Mag, Real, Imag - 2	0	1.067	N/A	N/A	N/A	N/A	

High resolution Integrated Logging Tool-CTS Wellsite Calibration - Stab Measurement Summary

Before: 25-Jun-2007 5:05

BS Window Ratio	0.7650	N/A	0.7618	N/A	N/A	N/A	
BS Window Sum	11840	N/A	11840	N/A	N/A	N/A	CPS
SS Window Ratio	0.4760	N/A	0.4797	N/A	N/A	N/A	
SS Window Sum	10320	N/A	10320	N/A	N/A	N/A	CPS
LS Window Ratio	0.2969	N/A	0.2970	N/A	N/A	N/A	
LS Window Sum	1260	N/A	1260	N/A	N/A	N/A	CPS

High resolution Integrated Logging Tool-CTS Wellsite Calibration - Photo-multiplier High Voltages Calibrations

Before: 25-Jun-2007 5:05

BS PM High Voltage (Command)	1899	N/A	1945	N/A	N/A	N/A	V
SS PM High Voltage (Command)	2137	N/A	2119	N/A	N/A	N/A	V
LS PM High Voltage (Command)	1990	N/A	1962	N/A	N/A	N/A	V

High resolution Integrated Logging Tool-CTS Wellsite Calibration - Crystal Quality Resolutions Calibration

Before: 25-Jun-2007 5:05

BS Crystal Resolution	12.52	N/A	12.85	N/A	N/A	N/A	%
SS Crystal Resolution	11.95	N/A	11.87	N/A	N/A	N/A	%

LS Crystal Resolution	9.621	N/A	9.635	N/A	N/A	N/A	N/A	%
High resolution Integrated Logging Tool–CTS Wellsite Calibration – MCFL Calibration								
Before: Calibration not done								
Raw B0 Resistivity	3875	N/A	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	N/A	OHMM
Raw B2 Resistivity	3830	N/A	N/A	N/A	N/A	N/A	N/A	OHMM
High resolution Integrated Logging Tool–CTS Wellsite Calibration – HILT Caliper Calibration								
Before: 23–Jun–2007 12:18								
HILT Caliper Zero Measurement	8.000	N/A	8.117	N/A	N/A	N/A	N/A	IN
HILT Caliper Plus Measurement	12.00	N/A	12.31	N/A	N/A	N/A	N/A	IN
High resolution Integrated Logging Tool–CTS Wellsite Calibration – Detector Calibration								
Before: 23–Jun–2007 12:19								
Gamma Ray Background	30.00	N/A	56.37	N/A	N/A	N/A	N/A	GAPI
Gamma Ray (Jig – Bkg)	159.1	N/A	159.1	N/A	N/A	N/A	14.46	GAPI
Gamma Ray (Calibrated)	165.0	N/A	165.0	N/A	N/A	N/A	15.00	GAPI
High resolution Integrated Logging Tool–CTS Wellsite Calibration – Zero Measurement								
Master: 28–Mar–2007 16:08 Before: 25–Jun–2007 5:02								
CNTC Background	31.77	31.77	32.24	N/A	N/A	N/A	4.766	CPS
CFTC Background	31.42	31.42	33.55	N/A	N/A	N/A	4.713	CPS
High resolution Integrated Logging Tool–CTS Wellsite Calibration – Ratio Measurement								
Master: 28–Mar–2007 16:08								
Thermal Near Corr. (Tank)	5800	5368	N/A	N/A	N/A	N/A	N/A	CPS
Thermal Far Corr. (Tank)	2400	2320	N/A	N/A	N/A	N/A	N/A	CPS
CNTC/CFTC (Tank)	2.159	2.314	N/A	N/A	N/A	N/A	N/A	
High resolution Integrated Logging Tool–CTS Wellsite Calibration – Accelerometer Calibration								
Before: 25–Jun–2007 5:00								
Z–Axis Acceleration	9.810	N/A	9.803	N/A	N/A	N/A	N/A	M/S2
High resolution Integrated Logging Tool–CTS 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–CTS 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 24.2 DEGC.
Thermal Housing Size 3.366 IN.
NSR–F serial number 1089

High resolution Integrated Logging Tool–CTS / Equipment Identification

Primary Equipment:

Array Induction Tool – H	AIT – H	25
Rm/SP Bottom Nose	AHRM – A	
Array Induction Sonde	AHIS – BA	25
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

Auxiliary Equipment:

High resolution Integrated Logging Tool-CTS Wellsite Calibration

Electronics Calibration Check - Thru Cal Mag. & Phase

Idx	Phase	Value	Thru Cal Magnitude V	Nominal	Value	Phase DEG	Nominal
0	Master	0.6255		0.6050	78.69		71.00
	Before	0.6297			78.70		
1	Master	1.284		1.270	77.60		70.00
	Before	1.293			77.62		
2	Master	0.6365		0.6230	73.94		66.00
	Before	0.6406			73.96		
3	Master	0.7184		0.7040	73.17		65.00
	Before	0.7234			73.20		
4	Master	1.347		1.337	67.01		59.00
	Before	1.357			67.06		
5	Master	1.955		1.955	65.18		57.00
	Before	1.969			65.26		
6	Master	1.963		1.955	65.13		57.00
	Before	1.976			65.21		
7	Master	1.397		1.415	61.71		53.00
	Before	1.408			61.98		
		60.00 % (Minimum)	(Nominal)	140.0 % (Maximum)	Nom -60.00 (Minimum)	(Nominal)	Nom + 60.00 (Maximum)
Master: 31-Mar-2007 12:03				Before: 25-Jun-2007 5:01			

High resolution Integrated Logging Tool-CTS Wellsite Calibration					
Electronics Calibration Check - Auxilliary					
Phase	Array Induction SPA Plus MV	Value	Phase	Array Induction SPA Zero MV	Value
Master		991.9	Master		0.1222
Before		992.6	Before		0.08894
		941.0 (Minimum)			1040 (Maximum)
		990.5 (Nominal)			0 (Nominal)
					50.00 (Maximum)
Phase	Array Induction Temperature Plus V	Value	Phase	Array Induction Temperature Zero V	Value
Master		0.9188	Master		0.0001198
Before		0.9195	Before		9.196E-00
		0.8700 (Minimum)			0.05000 (Maximum)
		0.9150 (Nominal)			0 (Nominal)
		0.9600 (Maximum)			-0.05000 (Minimum)
Master: 31-Mar-2007 12:03			Before: 25-Jun-2007 5:01		

High resolution Integrated Logging Tool-CTS Wellsite Calibration					
Test Loop Gain Correction					
Idx	Value	Test Loop Gain Magnitude V	Value	Phase DEG	
0	1.024		0.2634		
		0.9500 (Minimum)			3.000 (Maximum)
		1.000 (Nominal)			0 (Nominal)
		1.050 (Maximum)			-3.000 (Minimum)
1	1.024		0.5016		
		0.9500 (Minimum)			3.000 (Maximum)
		1.000 (Nominal)			0 (Nominal)
		1.050 (Maximum)			-3.000 (Minimum)
2	1.022		-0.06354		
		0.9500 (Minimum)			3.000 (Maximum)
		1.000 (Nominal)			0 (Nominal)
		1.050 (Maximum)			-3.000 (Minimum)
3	1.024		-0.03448		
		0.9500 (Minimum)			3.000 (Maximum)
		1.000 (Nominal)			0 (Nominal)
		1.050 (Maximum)			-3.000 (Minimum)
4	1.006		-0.06162		
		0.9500 (Minimum)			3.000 (Maximum)
		1.000 (Nominal)			0 (Nominal)
		1.050 (Maximum)			-3.000 (Minimum)
5	1.022		-0.2126		
		0.9500 (Minimum)			3.000 (Maximum)
		1.000 (Nominal)			0 (Nominal)
		1.050 (Maximum)			-3.000 (Minimum)

6	1.034		0.1226			
	0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)	-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
7	1.036		-0.3361			
	0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)	-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)

Master: 31-Mar-2007 12:03

High resolution Integrated Logging Tool-CTS Wellsite Calibration								
Sonde Error Correction								
Idx	Value	R Sonde Error Correction MM/M			Value	X Sonde Error Correction MM/M		
0	-15.42				119.4			
		-231.0 (Minimum)	-56.00 (Nominal)	119.0 (Maximum)		-2250 (Minimum)	0 (Nominal)	2250 (Maximum)
1	148.9				84.34			
		114.0 (Minimum)	159.0 (Nominal)	204.0 (Maximum)		-625.0 (Minimum)	0 (Nominal)	625.0 (Maximum)
2	110.9				-73.34			
		66.00 (Minimum)	111.0 (Nominal)	156.0 (Maximum)		-350.0 (Minimum)	0 (Nominal)	350.0 (Maximum)
3	60.55				94.01			
		39.00 (Minimum)	64.00 (Nominal)	89.00 (Maximum)		-250.0 (Minimum)	0 (Nominal)	250.0 (Maximum)
4	24.54				25.92			
		15.00 (Minimum)	25.00 (Nominal)	35.00 (Maximum)		-63.00 (Minimum)	0 (Nominal)	63.00 (Maximum)
5	12.89				21.01			
		4.000 (Minimum)	14.00 (Nominal)	24.00 (Maximum)		-50.00 (Minimum)	0 (Nominal)	50.00 (Maximum)
6	10.05				6.699			
		5.000 (Minimum)	10.00 (Nominal)	15.00 (Maximum)		-30.00 (Minimum)	0 (Nominal)	30.00 (Maximum)
7	0.2235				-2.263			
		-5.000 (Minimum)	0 (Nominal)	5.000 (Maximum)		-30.00 (Minimum)	0 (Nominal)	30.00 (Maximum)

Master: 31-Mar-2007 12:03

High resolution Integrated Logging Tool-CTS Wellsite Calibration								
Mud Gain Correction								
Idx	Value	Coarse - Mag, Real, Imag			Value	Fine - Mag, Real, Imag		
0	1.075				1.067			
		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)
1	1.075				1.067			
		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)
2	1.075				1.067			
		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)

Master: 31-Mar-2007 12:03

High resolution Integrated Logging Tool-CTS Wellsite Calibration														
Stab Measurement Summary														
Phase	BS Window Ratio			Value	Phase	SS Window Ratio			Value	Phase	LS Window Ratio			Value
Before				0.7618	Before				0.4797	Before				0.2970
	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				11840	Before				10320	Before				1260
	11250 (Minimum)	11840 (Nominal)	12430 (Maximum)			9800 (Minimum)	10320 (Nominal)	10830 (Maximum)			1197 (Minimum)	1260 (Nominal)	1323 (Maximum)	

Before: 25-Jun-2007 5:05

High resolution Integrated Logging Tool-CTS 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		1945	Before		2119	Before		1962
	1799 (Minimum) 1899 (Nominal) 1999 (Maximum)			2037 (Minimum) 2137 (Nominal) 2237 (Maximum)			1890 (Minimum) 1990 (Nominal) 2090 (Maximum)	

Before: 25-Jun-2007 5:05

High resolution Integrated Logging Tool-CTS Wellsite Calibration								
Crystal Quality Resolutions Calibration								
Phase	BS Crystal Resolution %	Value	Phase	SS Crystal Resolution %	Value	Phase	LS Crystal Resolution %	Value
Before		12.85	Before		11.87	Before		9.635
	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: 25-Jun-2007 5:05

High resolution Integrated Logging Tool-CTS 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-CTS Wellsite Calibration					
HILT Caliper Calibration					
Phase	HILT Caliper Zero Measurement IN	Value	Phase	HILT Caliper Plus Measurement IN	Value
Before		8.117	Before		12.31
	6.000 (Minimum) 8.000 (Nominal) 10.00 (Maximum)			9.000 (Minimum) 12.00 (Nominal) 15.00 (Maximum)	

Before: 23-Jun-2007 12:18

High resolution Integrated Logging Tool-CTS Wellsite Calibration								
Detector Calibration								
Phase	Gamma Ray Background GAPI	Value	Phase	Gamma Ray (Jig - Bkg) GAPI	Value	Phase	Gamma Ray (Calibrated) GAPI	Value
Before		56.37	Before		159.1	Before		165.0
	0 (Minimum) 30.00 (Nominal) 120.0 (Maximum)			144.6 (Minimum) 159.1 (Nominal) 173.5 (Maximum)			150.0 (Minimum) 165.0 (Nominal) 180.0 (Maximum)	

Before: 23-Jun-2007 12:19

High resolution Integrated Logging Tool-CTS Wellsite Calibration					
Zero Measurement					
Phase	CNTC Background CPS	Value	Phase	CFTC Background CPS	Value
Master		31.77	Master		31.42
Before		32.24	Before		33.55
	5.000 (Minimum) 31.77 (Nominal) 40.00 (Maximum)			5.000 (Minimum) 31.42 (Nominal) 40.00 (Maximum)	

Master: 28-Mar-2007 16:08 Before: 25-Jun-2007 5:02

High resolution Integrated Logging Tool-CTS Wellsite Calibration								
Ratio Measurement								
Phase	Thermal Near Corr. (Tank) CPS	Value	Phase	Thermal Far Corr. (Tank) CPS	Value	Phase	CNTC/CFTC (Tank)	Value
Master		5368	Master		2320	Master		2.314
	4700 (Minimum) 5800 (Nominal) 6900 (Maximum)			1900 (Minimum) 2400 (Nominal) 2900 (Maximum)			2.120 (Minimum) 2.159 (Nominal) 2.540 (Maximum)	

Master: 28-Mar-2007 16:08

High resolution Integrated Logging Tool-CTS Wellsite Calibration		
Accelerometer Calibration		
Phase	Z-Axis Acceleration M/S2	Value
Before		9.803
	9.610 (Minimum) 9.810 (Nominal) 10.01 (Maximum)	

Before: 25-Jun-2007 5:00

High resolution Integrated Logging Tool-CTS Master Calibration
--

Electronics Calibration Check – Thru Cal Mag. & Phase

Idx	Phase	Value	Thru Cal Magnitude V	Nominal	Value	Phase DEG	Nominal	
0	Master	0.6255		0.6050	78.69		71.00	
1	Master	1.284		1.270	77.60		70.00	
2	Master	0.6365		0.6230	73.94		66.00	
3	Master	0.7184		0.7040	73.17		65.00	
4	Master	1.347		1.337	67.01		59.00	
5	Master	1.955		1.955	65.18		57.00	
6	Master	1.963		1.955	65.13		57.00	
7	Master	1.397		1.415	61.71		53.00	
		60.00 % (Minimum)	(Nominal)	140.0 % (Maximum)	Nom -60.00 (Minimum)		(Nominal)	Nom + 60.00 (Maximum)

Master: 31-Mar-2007 12:03

High resolution Integrated Logging Tool-CTS Master Calibration					
Electronics Calibration Check – Auxilliary					
Phase	Array Induction SPA Plus MV	Value	Phase	Array Induction SPA Zero MV	Value
Master		991.9	Master		0.1222
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		0.9188	Master		0.0001198
0.8700 (Minimum)		0.9150 (Nominal)	0.9600 (Maximum)	-0.05000 (Minimum)	
					0 (Nominal)
					0.05000 (Maximum)

Master: 31-Mar-2007 12:03

High resolution Integrated Logging Tool-CTS Master Calibration					
Test Loop Gain Correction					
Idx	Value	Test Loop Gain Magnitude V	Value	Phase DEG	
0	1.024		0.2634		
0.9500 (Minimum)		1.000 (Nominal)	1.050 (Maximum)	-3.000 (Minimum)	
					0 (Nominal)
					3.000 (Maximum)
1	1.024		0.5016		
0.9500 (Minimum)		1.000 (Nominal)	1.050 (Maximum)	-3.000 (Minimum)	
					0 (Nominal)
					3.000 (Maximum)
2	1.022		-0.06354		
0.9500 (Minimum)		1.000 (Nominal)	1.050 (Maximum)	-3.000 (Minimum)	
					0 (Nominal)
					3.000 (Maximum)
3	1.024		-0.03448		
0.9500 (Minimum)		1.000 (Nominal)	1.050 (Maximum)	-3.000 (Minimum)	
					0 (Nominal)
					3.000 (Maximum)
4	1.006		-0.06162		
0.9500 (Minimum)		1.000 (Nominal)	1.050 (Maximum)	-3.000 (Minimum)	
					0 (Nominal)
					3.000 (Maximum)
5	1.022		-0.2126		
0.9500 (Minimum)		1.000 (Nominal)	1.050 (Maximum)	-3.000 (Minimum)	
					0 (Nominal)
					3.000 (Maximum)
6	1.034		0.1226		
0.9500 (Minimum)		1.000 (Nominal)	1.050 (Maximum)	-3.000 (Minimum)	
					0 (Nominal)
					3.000 (Maximum)
7	1.036		-0.3361		
0.9500 (Minimum)		1.000 (Nominal)	1.050 (Maximum)	-3.000 (Minimum)	
					0 (Nominal)
					3.000 (Maximum)

Master: 31-Mar-2007 12:03

High resolution Integrated Logging Tool-CTS Master Calibration					
Sonde Error Correction					
Idx	Value	R Sonde Error Correction MM/M	Value	X Sonde Error Correction MM/M	
0	-15.42		119.4		
-231.0 (Minimum)		-56.00 (Nominal)	119.0 (Maximum)	-2250 (Minimum)	
					0 (Nominal)
					2250 (Maximum)
1	148.9		84.34		

		114.0 (Minimum)	159.0 (Nominal)	204.0 (Maximum)	-625.0 (Minimum)	0 (Nominal)	625.0 (Maximum)
2	110.9				-73.34		
		66.00 (Minimum)	111.0 (Nominal)	156.0 (Maximum)	-350.0 (Minimum)	0 (Nominal)	350.0 (Maximum)
3	60.55				94.01		
		39.00 (Minimum)	64.00 (Nominal)	89.00 (Maximum)	-250.0 (Minimum)	0 (Nominal)	250.0 (Maximum)
4	24.54				25.92		
		15.00 (Minimum)	25.00 (Nominal)	35.00 (Maximum)	-63.00 (Minimum)	0 (Nominal)	63.00 (Maximum)
5	12.89				21.01		
		4.000 (Minimum)	14.00 (Nominal)	24.00 (Maximum)	-50.00 (Minimum)	0 (Nominal)	50.00 (Maximum)
6	10.05				6.699		
		5.000 (Minimum)	10.00 (Nominal)	15.00 (Maximum)	-30.00 (Minimum)	0 (Nominal)	30.00 (Maximum)
7	0.2235				-2.263		
		-5.000 (Minimum)	0 (Nominal)	5.000 (Maximum)	-30.00 (Minimum)	0 (Nominal)	30.00 (Maximum)

Master: 31-Mar-2007 12:03

High resolution Integrated Logging Tool-CTS Master Calibration								
Mud Gain Correction								
Idx	Value	Coarse - Mag, Real, Imag			Value	Fine - Mag, Real, Imag		
0	1.075				1.067			
		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)
1	1.075				1.067			
		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)
2	1.075				1.067			
		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)

Master: 31-Mar-2007 12:03




High resolution Integrated Logging Tool-CTS Master Calibration								
Inversion results								
Phase	Rho Aluminum G/C3			Value	Phase	Rho Magnesium G/C3		
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		
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

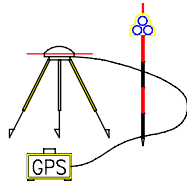
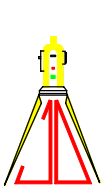
High resolution Integrated Logging Tool-CTS Master Calibration														
Deviation Summary														
Phase	BS Average Deviation %			Value	Phase	SS Average Deviation %			Value	Phase	LS Average Deviation %			Value
Master				0.2930	Master				0.3136	Master				0.6309
	-0.6000 (Minimum)	0 (Nominal)	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-CTS Master Calibration									
Zero Measurement									
Phase	CNTC Background CPS			Value	Phase	CFTC Background CPS			
Master				31.77	Master				31.42
	5.000	31.77	40.00			5.000	31.42	40.00	

High resolution Integrated Logging Tool-CTS Master Calibration								
Tank Measurement								
Phase	Thermal Near Corr. (Tank) CPS	Value	Phase	Thermal Far Corr. (Tank) CPS	Value	Phase	CNTC/CFTC (Tank)	Value
Master		5368	Master		2320	Master		2.314
	4700 (Minimum) 5800 (Nominal) 6900 (Maximum)			1900 (Minimum) 2400 (Nominal) 2900 (Maximum)			2.120 (Minimum) 2.159 (Nominal) 2.540 (Maximum)	

COMPANIA: YPF S.A. POZO: YPF.Ch.Gbk-733 CAMPO: GRIMBEEK PROVINCIA: CHUBUT PAIS: ARGENTINA	PRIMERA LECTURA	1147.2 m
	PROFUNDIDAD PERFIL	1150.2 m
	PROF. PERFORADOR	1150 m
	BUJE DE VASTAGO	677.84 m
	MESA ROTATIVA	677.54 m
	NIVEL TERRENO	672.54 m
 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: **GRIMBEEK**

SISTEMA: **PAMPA DEL CASTILLO**

POZO: **Gbk-733**

X=4.952.423,63

Y= 2.594.840,23

Z = 672,54 m

PUNTO RECEPTOR BASE: PEJ-4

CALIDAD PUNTO BASE: PUNTO AJUSTE DE REDES

MODALIDAD DE MEDICION: CINEMATICO

Solucion: L1-L2-Fixed Long. Vectorial: 3644.830 m

Azimuth: 31° 23' 34" Delta H (elipsoidal) : -10.274 m

Varianza: 0.735

Receptor Base: 5700 Receptor Movil: 5800

Dif. X = -0.37m Dif. Y = -1.77m Dif. Z = 0.54m

COORDENADAS GEOGRAFICAS:(Sistema: WGS 84)

LAT: 45°34'31.8564"S LON: 67°47'15.6694"W ELEV: 683.67m

Observaciones: Ubicado por J.D. SRL

FECHA: 20 de JUNIO de 2007

OPERADOR: S. VELASQUEZ



POZO: **YPF. Ch . Gbk - 733**

YACIMIENTO: GRIMBEEK

EQUIPO: 359 PRIDE INTERNATIONAL

FECHA: 22 de junio de 2007

COMPAÑIA: **SCHLUMBERGER ARGENTINA S.A.**

OPERACIÓN SOLICITADA

1 INDUCCIÓN MULTIPLE	IM	De fondo (1150 m. aprox.) hasta zapato caño guía	361,62 m.
2 CALIBRE	CAL	En profundidades y tramos a determinar en el pozo.	
3 DENSIDAD LITOLÓGICA	DLT	En profundidades y tramos a determinar en el pozo.	
4 NEUTRON COMPENSADO	NC	En profundidades y tramos a determinar en el pozo.	
5 MULTIENSAYADOR EXPRESS	ME (XPT)	En profundidades y cantidad de medidas a determinar en el pozo.	

SERVICIOS OPCIONALES

1 TESTIGOS por IMPACTO	TLP	En profundidades y cantidad de testigos a determinar en el pozo.	
-------------------------------	-----	--	--

NOTA:

IMPORTANTE: En caso de superarse 12:00 Hs de operación consecutivas se debe reemplazar indefectiblemente, la dotación de personal completa. Se deberá, antes de comenzar la operación, estimar el tiempo de duración de la misma para, de ser necesario, solicitar el reemplazo del personal involucrado con tiempo suficiente a fin de evitar pérdidas de tiempo innecesarias.-

POZO LISTO: *A CONFIRMAR*

PROFUNDIDAD FINAL: 1150 m.
DIAMETRO TREPANO: 8 3/4 " 8,750
DIAMETRO CAÑO GUIA: 9 5/8 " 9,625
PROFUNDIDAD ZAPATO CAÑO GUIA: 361,62 m.

DATOS DEL POZO:

← (Confirmar diámetro de trepago en el pozo)

PEP: RS1EC.7J04.53.P0005

UWI: AR0100007308

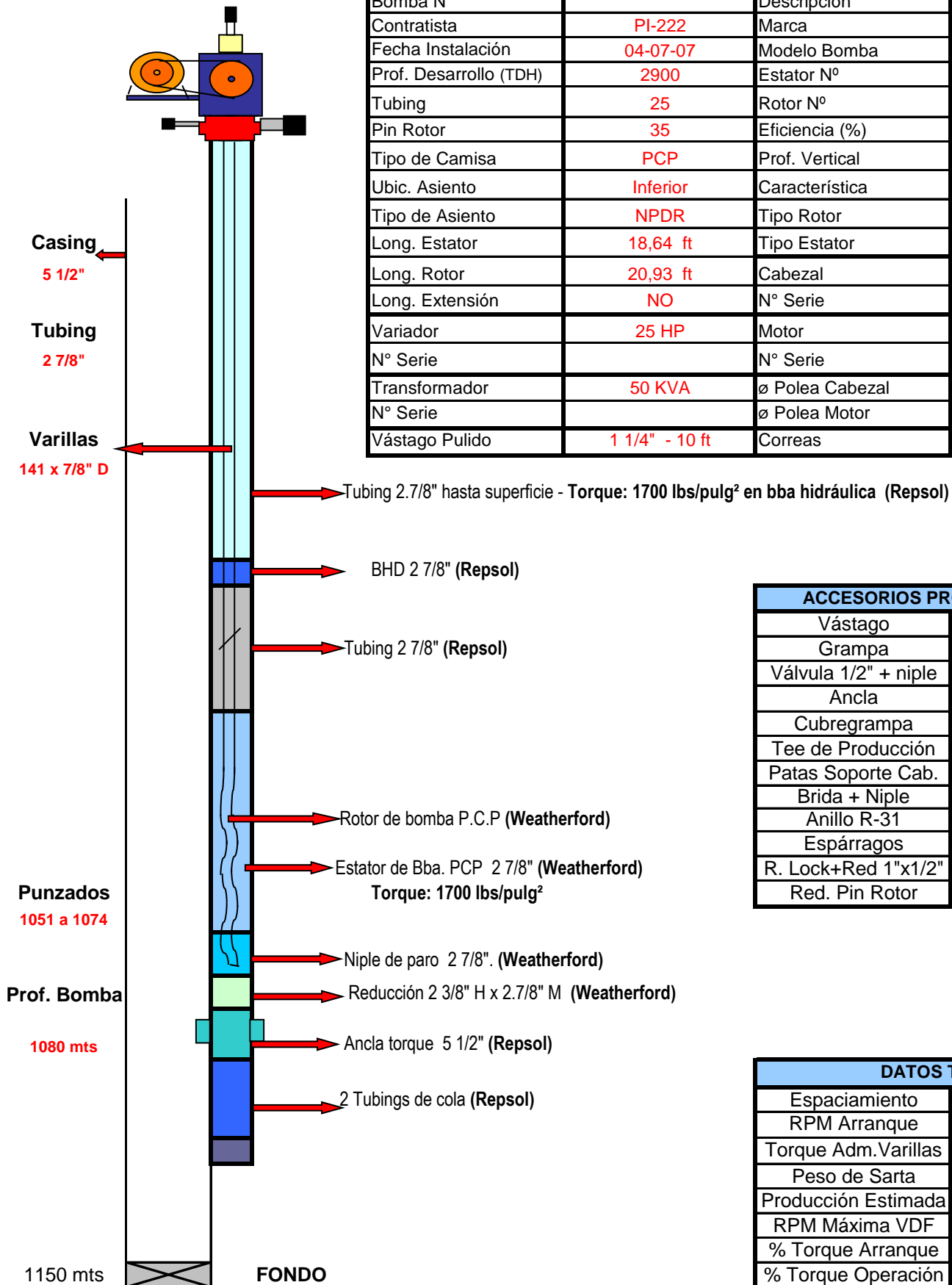
NOTA: FIRMAR y ADJUNTAR A LA HOJA DE TIEMPO y TICKET

FIRMA y ACLARACIÓN REPRESENTANTE COMPAÑÍA

FIRMA y ACLARACIÓN REPRESENTANTE YPF S.A.

Nelso LOVERA

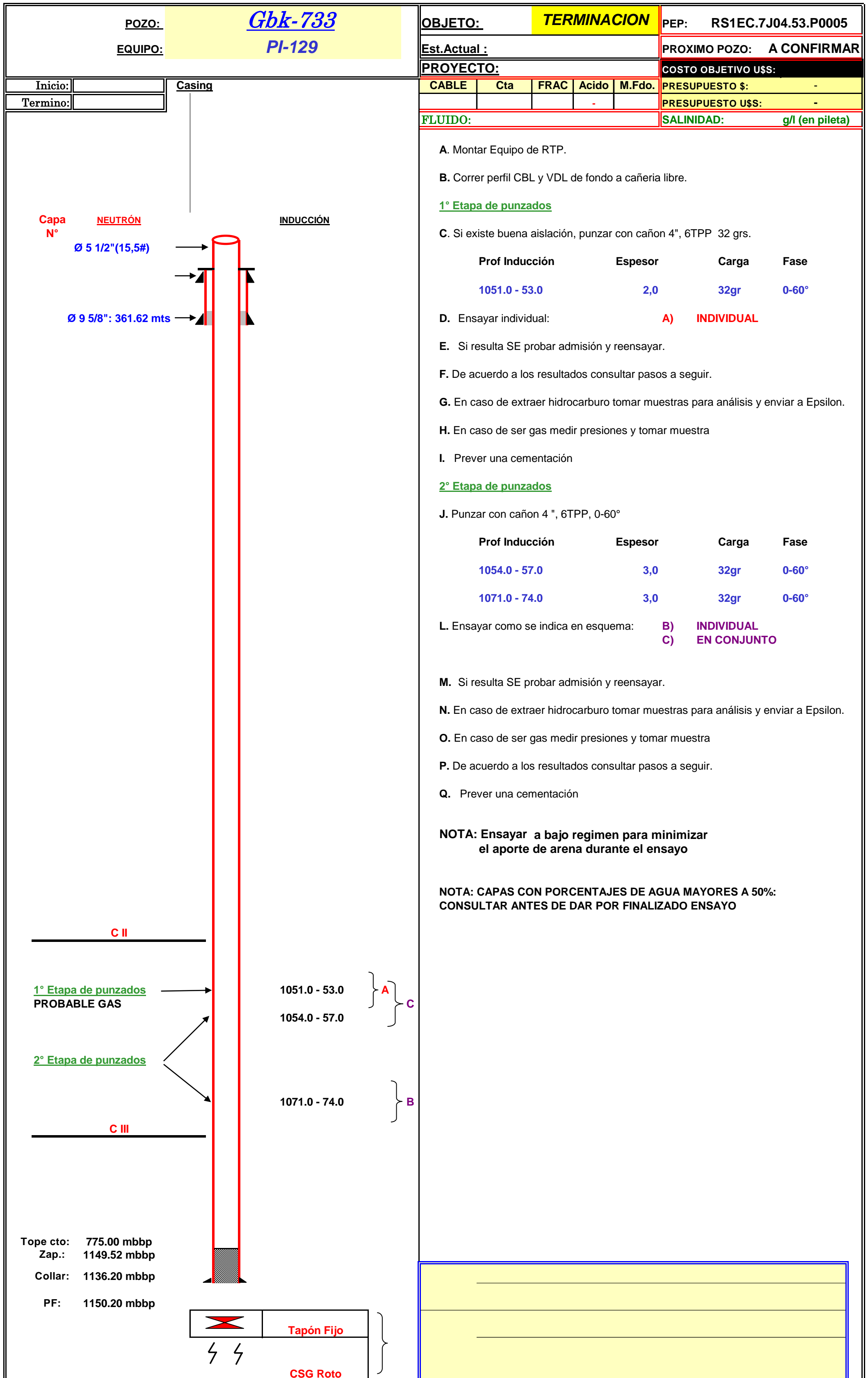
DISEÑO DE INSTALACION POZO GBK-733



Bomba N°		Descripción	PCP TUBULAR
Contratista	PI-222	Marca	Geremia
Fecha Instalación	04-07-07	Modelo Bomba	42.35-300
Prof. Desarrollo (TDH)	2900	Estator N°	
Tubing	25	Rotor N°	
Pin Rotor	35	Eficiencia (%)	0,00
Tipo de Camisa	PCP	Prof. Vertical	1080 mts
Ubic. Asiento	Inferior	Característica	Lóbulo Simple
Tipo de Asiento	NPDR	Tipo Rotor	UND
Long. Estator	18,64 ft	Tipo Estator	NBRA
Long. Rotor	20,93 ft	Cabezal	M4
Long. Extensión	NO	N° Serie	
Variador	25 HP	Motor	25 HP-380V-980 RPM
N° Serie		N° Serie	
Transformador	50 KVA	∅ Polea Cabezal	700
N° Serie		∅ Polea Motor	160
Vástago Pulido	1 1/4" - 10 ft	Correas	5Vx-1060

ACCESORIOS PROVISTOS POR WTF	
Vástago	SI
Grampa	SI
Válvula 1/2" + niple	NO
Ancla	NO
Cubregrampa	SI
Tee de Producción	SI
Patas Soporte Cab.	SI
Brida + Niple	SI
Anillo R-31	NO
Espárragos	NO
R. Lock+Red 1"x1/2"	NO
Red. Pin Rotor	NO

DATOS TECNICOS	
Espaciamiento	
RPM Arranque	100 RPM
Torque Adm. Varillas	
Peso de Sarta	
Producción Estimada	10 m3
RPM Máxima VDF	335
% Torque Arranque	
% Torque Operación	
° API	18
Corte Agua	28
Corte Arena	2



Pozo Gbk-733



UNIDAD DE NEGOCIOS ARGENTINA SUR

Unidad Económica CHUBUT-CAÑADON SECO

Distrito MANANTIALES BEHR

Coordenadas	4.952.423,63 X	Finalizó Terminación	6-jul-2007
	2.594.840,23 Y		
Cota Boca Pozo	672,54 mts.s.n.m.		

GUIA : Zpto 9.5/8" en 361,62m - 600 bls Cto + 50 bls x E/C - Tope Anillo Cto @ BP
14,35m 9.5/8" K55 36# + 346,97m 9.5/8" H40 32,3# + 0,30m Acc.Ctció

> Schlumberger registró perfiles a pozo abierto - Fondo 1150,20m Junio 2007

AISLACION : Zpto 5 1/2" en 1149,52m - 260 bls Cto - Tope Anillo Cto @ 832m
25,18m 5 1/2" K55 15,5# + 1123,54m 5 1/2" J55 14# + 0,80m Acc.Ctció.

> ARTEX : NE-CBL-VDL en 1132,50m / 775m - Fondo 1134,00m Junio 2007

Profundidad de Punzados por INDUCCION.

ETAPA	Finalizó
Perforación	26-jun-2007
Terminación	06-jul-2007

Productor PCP

Zpto 9.5/8" en 361,62 mts

9.5/8" H-40 32,3#
(229/244)

5 1/2" J55 15,5#-14#
(126-127/140)

ESTADO

EEP (según Cap.IV° Julio 2008)

Sin registro de REPARACIONES / INTERVENCIONES

-Pzdo- 1051,0 / 53,0 T (800 l/h PET viscoso c/Gas y Abte.Ar N-906m IT-10) } T (1200 l/h PET viscoso c/ Abte.Ar N-350m IT-18)
 -Pzdo- 1054,0 / 57,0 T
 -Pzdo- 1071,0 / 74,0 T (SNx50 300 l/h PET viscoso c/ Abte.Ar PD-8* PE60 min-26* IT-60)

Collar 5 1/2" en 1.136,20 mts Cto Rotó limpiando @ 1.134,00 mts Julio 2007
 Zapato 5 1/2" en 1.149,52 mts

Fondo Perforado 1.150,00 mts
 Fondo Schlumberger 1.150,20 mts

Fuentes consultadas :
 Legajo de pozo / Historial
 DIMS / dfw

DATOS A LLENAR					
			CARGAR DATOS		
		POZO	GBK - 733		
		BATERIA	GRIMBEK		
		EQUIPO	PI - 222		
		FECHA	27/06/2007		
		RUBRO	TERMINACION		
		COSTO OBJETIVO			
		NOMBRE DEL PROYECTO	GRIMBEK		
		N°DE GRAFO			
		PEP:	RS1EC.7J04.53.P0005		
		ZONA	GRIMBEK		
		FLUIDO DE TRABAJO	AGUA DE REC. SECUNDARIA		
		FINALIZO PERFORACION	26 de junio de 2007		
		ULTIMA INTERVENCION	Espera Terminación		
COORDENADAS					
		X	4.952.423,63	4.837.999,00	
		Y	2.594.840,23	2.606.340,00	
		Z	672,54	286,38	
COMPAÑIAS DE SERVICIO					
		CABLE	ARTEX		
		TORRE	PRIDE INT.		
		CEMENTACION	BJ		
		ESTIMULACION	BJ		
		MOTOR DE FONDO	CHRISTENSEN		
		COILED TUBING	-		
PARA PUNZAR					
		CAÑÓN Ø	Cañón Ø 4"	4" ó 5"	
		TIROS POR PIE	6 TxP 32 Grs	4	
CASING					
		EN BOCA DE POZO Ø Y mts.	9.5/8" 361,20 m.	Ejemplos	
			5 1/2"	7" a 23	
		DIAMETRO Y LIBRAJE	5 1/2" 14 #	5-1/2" 15,5	
5 1/2"	12,50	0,0			
6 5/8"	18,54	0,0			
7"	20,60	0,0			
9 5/8"	39,40	0,0			
		Total de m³+5	← NO TOCAR "PARA USO DEL BACTERICIDA"		15,27
		COLLAR DIFERENCIAL	1136,20 m.-		
		ZAPATO	1149,52 m.-		
		PROFUNDIDAD FINAL	1150,20 m.-		
INSTALACION FINAL					
		DEL POZO	No posee		
MATERIAL DE BOMBEO					
		DEL POZO	No posee		
HERRAMIENTA A BAJAR					
		COLOCAR TIPO DE HTA.Y Ø			
		CALIBRAR HASTA	-		
		HERMETICIDAD DEL CSG DESDE	-		

**REPSOL
YPF**



ZONA CENTRAL

27/06/2007

DIVISION REGIONAL SUR
UNIDAD ECONOMICA CHUBUT - CAÑADON SECO
DISTRITO ZONA CENTRAL

PROGRAMA OPERATIVO del POZO :

GBK - 733

SUBREGION :

CH

ZONA :

GRIMBEK

BAT. **GRIMBEK**

RUBRO:

TERMINACION

PROYECTO:

GRIMBEK

COSTO OBJETIVO:

U\$S

COSTO ESTIMADO:

U\$S

DIAS ESTIMADOS:

FLUIDO DE REPARACION:

AGUA DE REC. SECUNDARIA

EQUIPO :

PI - 222

CANTIDAD:

0,1 m³

PEP: RS1EC.7J04.53.P0005

COMPAÑIAS ASIGNADAS:

CABLE: **ARTEX**

TORRE: **PRIDE INT.**

CEMENTACION: **BJ**

ESTIMULACION: **BJ**

MOTOR DE FONDO: **CHRISTENSEN**

COILED TUBING: **-**

FINALIZO PERFORACION :

26 de junio de 2007

ULTIMA INTERVENCION:

Espera Terminación

OBSERVACIONES:

COORDENADAS:

X: 4.952.423,63

Y: 2.594.840,23

COTA:

Z: 672,54

Altura mesa Rotary:

3,5 m

Elevación mesa Rotary:

- m



RESERVA N° 2441053

M. BEHR

27/06/2007

PEP: RS1EC.7J04.53.P0005

UNIDAD ECONOMICA CHUBUT-CDON. SECO

X: 4.952.423,63

Z: 672,54

DISTRITO ZONA CENTRAL

Y: 2.594.840,23

PROGRAMA OPERATIVO : **TERMINACION**

POZO : **GBK - 733**

ZONA : **GRIMBEK**

SUBREGION : **CH**

BAT. **GRIMBEK**

FLUIDO DE REPARACION: **AGUA DE REC. SECUNDARIA**

CANTIDAD: **0,1 m³**

INSTALACION FINAL: **No posee**

INSTALACION BBEO: **No posee**

EQUIPO: **PI - 222**

COMPAÑIA WIRE LINE:

ARTEX

N° **5 1/2" 14 #**
CAPA **5 1/2"**

PROGRAMA OPERATIVO

Cia. Artex:

9 5/8" a 353,41 mts

- 1º) Montar equipo completo, de acuerdo a los procedimientos. Realizar Chek List.
- 2º) Cia cable, registra perfil N - CBL - VDL, desde 1136 m hasta 775 m
- 3º) Si existe buena aislación, y previa verificación de correlación, punzar con cañón Ø 4" a 6 TPP 32 grs. (0° - 60°)

	Inducción	Neutrón	Carga	Espesor	Fase
A)	1051,0/53,0		32 grs.	2 m	(0° - 60°)

Si la capa resulten S/E, probar admisión y reensayar.
De acuerdo al resultado los ensayos se determinará programa a seguir.
- 4º) Bajar **TPN/PKR** Ensayar las capa indicada con la letra (**A**)

Segunda etapa

- 5º) Previa correlación por neutrón, punzar con cañón Ø4" a 6 TPP 32 grs. (0° - 60°)

	Inducción	Neutrón	Carga	Espesor	Fase
B)	1071,0/74,0		32 grs.	3 m	(0° - 60°)
C)	1054,0/57,0		32 grs.	3 m	(0° - 60°)
- 6º) Bajar **TPN/PKR** Ensayar las capa indicada con las letras (**B**) y (**C**)
Estabilizando Caudal, Nivel e IT.

En caso de extraer hidrocarburos, tomar muestra para análisis y enviar a Epsilon.

En caso de ser Gas, medir presiones y tomar muestra.

Si la capa resulten S/E, probar admisión y reensayar.

De acuerdo al resultado los ensayos se determinará programa a seguir.

NOTA: Ensayar a bajo regimen para minimizar elaporte de arena.

NOTA: Capas con porcentajes de agua mayores a 50 %, consultar antes de dar por finalizado el ensayo.

NOTA: PREVEER UNA CEMENTACION.-

Collar: 1136,20 m
Zto: 1149,52 m
Fdo: 1150,20 m

PRESUPUESTO POZO

GBK - 733

PEP: RS1EC.7J04.53.P0005

CAN.	ITEM	HS.	\$	U\$S	DESCRIPCION DE MANIOBRAS
1	3	10,00	2440,63	528,28	DTM Equipo completo, Colocar BOP.
0	6	0,00	0,00	0,00	
98	1	98,00	19135,01	4141,73	Bajar TPN/PKR y realiza 7 ensayos, sacar Hta. .
24	1	24,00	4686,12	1014,30	Movimiento por cambio de zona.
48	1	48,00	9372,25	2028,60	Cementa 1 capa y realizar una fractura
20	1	20,00	3905,10	845,25	Rota cemento. Prueba hermeticidad.
36	1	36,00	7029,19	1521,45	Bajar Instalación de Producción.
0	1	0,00	0,00	0,00	
0	1	0,00	0,00	0,00	
0	1	0,00	0,00	0,00	
0	1	0,00	0,00	0,00	
0	1	0,00	0,00	0,00	
0	1	0,00	0,00	0,00	
0	1	0,00	0,00	0,00	
0	1	0,00	0,00	0,00	
0	1	0,00	0,00	0,00	
0	1	0,00	0,00	0,00	
0	1	0,00	0,00	0,00	
0	1	0,00	0,00	0,00	
0	1	0,00	0,00	0,00	
0	1	0,00	0,00	0,00	
0	1	0,00	0,00	0,00	
0	1	0,00	0,00	0,00	
0	1	0,00	0,00	0,00	
0	1	0,00	0,00	0,00	
0	1	0,00	0,00	0,00	
0	1	0,00	0,00	0,00	
14	2A	14,00	2460,01	532,51	Stand By Wireline
10	2A	10,00	1757,15	380,36	Stand By operacia de cementación
0	2A	0,00	0,00	0,00	Stand By
0	2A	0,00	0,00	0,00	Stand By
10	2A	10,00	1757,15	380,36	Stand by por reuniones de seguridad, carga y descarga de mat.
0	2A	0,00	0,00	0,00	
0	2B	0,00	0,00	0,00	Stand by sin personal.
52	2C	52,00	6599,58	1428,54	Equipo parado por inclemencias de tiempo.-

Total Horas incl. DTM		322,00				
Total de Días		13,42				
RESUMEN						
		ITEM	CANTIDAD	UNI COSTO	Tarifa Nueva RTP	
					(\$1,1310)	(U\$S 0.2450)
		1 (Opert.Normal)	226,00	38.985,00	\$44.127,67	U\$S 9551,33
		2A (SB c/Pers.)	34,00	5.278,50	\$5.974,31	U\$S 1293,23
		2B (SB s/Pers.)	0,00	0,00	\$0,00	U\$S 0,00
		2C (Factor Clima)	52,00	5.830,76	\$6.599,58	U\$S 1428,54
		3 (DTM)	10,00	2.156,25	\$2.440,63	U\$S 528,28
		3B (C.Sólidas)	0,45	4.779,25	\$5.409,57	U\$S 1170,92
		3C (Carg.y Desc.)	0,45	1.162,78	\$1.316,13	U\$S 284,88
		4B (C.Líquidas)	0,45	3.475,82	\$3.934,23	U\$S 851,58
		5 (Pileta Ecol.)	13,00	195,00	\$220,68	U\$S 47,78
		5A (Tpte.pil.ecol.)	1,00	110,00	\$124,51	U\$S 26,95
		6 (Conj.DSK-Pieza)	0,00	0,00	\$0,00	U\$S 0,00
		7 (Aumento comb.)	0,00	0,00	\$0,00	U\$S 0,00
		Subtotal	322,00	61.973,36	\$70.147,29	U\$S 15.183,47
		Wire	Perfil N Corr.+N F	5.000,00	\$3.479,00	U\$S 2550,00
			Punzado	9.500,00	\$6.610,10	U\$S 4845,00
		Line	Fijado de Tapón	1.200,00	\$834,96	U\$S 612,00
		Cementación		8.000,00	\$0,00	U\$S 8000,00
		Fractura Hidráulica		25.000,00	\$0,00	U\$S 25000,00
		PVT		0,00	\$0,00	U\$S 0,00
		Estimulación ácida		0,00	\$0,00	U\$S 0,00
		Bombeo - Prueba de admisión		0,00	\$0,00	U\$S 0,00
		Fresa		1.200,00	\$906,07	U\$S 576,00
		Válvula Implosora		0,00	\$0,00	U\$S 0,00
		Hot-Oil + Camión chupa		0,00	\$0,00	U\$S 0,00
		Camión Chupa		0,00	\$0,00	U\$S 0,00
		Transporte Gasoil		0,00	\$0,00	U\$S 0,00
		Coiled Tubing		0,00	\$0,00	U\$S 0,00
		Motor de fondo		2.400,00	\$720,00	U\$S 1680,00
		Gas-Oil(\$104xm3)		0,00	\$0,00	U\$S 0,00
		Alquiler de Radio		0,00	\$0,00	U\$S 0,00
		Limpieza de Locación		400,00	\$240,00	U\$S 160,00
		Subtotal		52.700,00	\$12.790,13	U\$S 43.423,00
		TOTAL		114.673,36	\$82.937,43	U\$S 58.606,47
		OBJETIVO (U\$S)		0	PRESUPUESTO	
		Capas punzadas		10	TOTAL EN U\$S	86252,01
		Profundidad		1.900,00	Tipo de cambio:	
		Nº de Pruebas		0	0,33333	
		Nº de Ensayos		7		

PROGRAMA OPERATIVO						
1º)	Montar equipo completo, de acuerdo a los procedimientos. Realizar Chek List.					
2º)	Si existe buena aislación, y previa verificación de correlación, punzar con cañón					
	Ø 4" a 6 TPP 32 grs. (0° - 60°)					
	Inducción	Neutrón	Carga	Espesor	Fase	
A)	1051,0/53,0		32 grs.	2	(0° - 60°)	
	Si la capa resulten S/E, probar admisión y reensayar.					
	De acuerdo al resultado los ensayos se determinará programa a seguir.					
	Segunda etapa					
3º)	Punzar con cañón Ø4" a 6 TPP 32 grs. (0° - 60°)					
	Inducción	Neutrón	Carga	Espesor	Fase	
B)	1071,0/74,0		32 grs.	3	(0° - 60°)	
C)	1054,0/57,0		32 grs.	3	(0° - 60°)	
4º)	Bajar TPN/PKR Ensayar las capa indicada					
	con las letra (B) - (C)					
	Estabilizando Caudal, Nivel e IT.					
	En caso de extraer hidrocarburos, tomar muestra para análisis y enviar a Epsilon.					
	En caso de ser Gas, medir presiones y tomar muestra.					
	Si la capa resulten S/E, probar admisión y reensayar.					
	De acuerdo al resultado los ensayos se determinará programa a seguir.					
	Capas con porcentajes de agua mayores a 50 %, consultar antes de dar por finalizado el ensayo.					



POSICIONAMIENTO SATELITAL - G.P.S.
 UBICACION Y TRIANGULACION DE POZOS
 REPLANTEOS GENERALES, OLEODUCTOS
 GASODUCTOS, SISMICAS, MENSURAS, ETC...

J.D. s.r.l. - SERVICIOS TOPOGRAFICOS

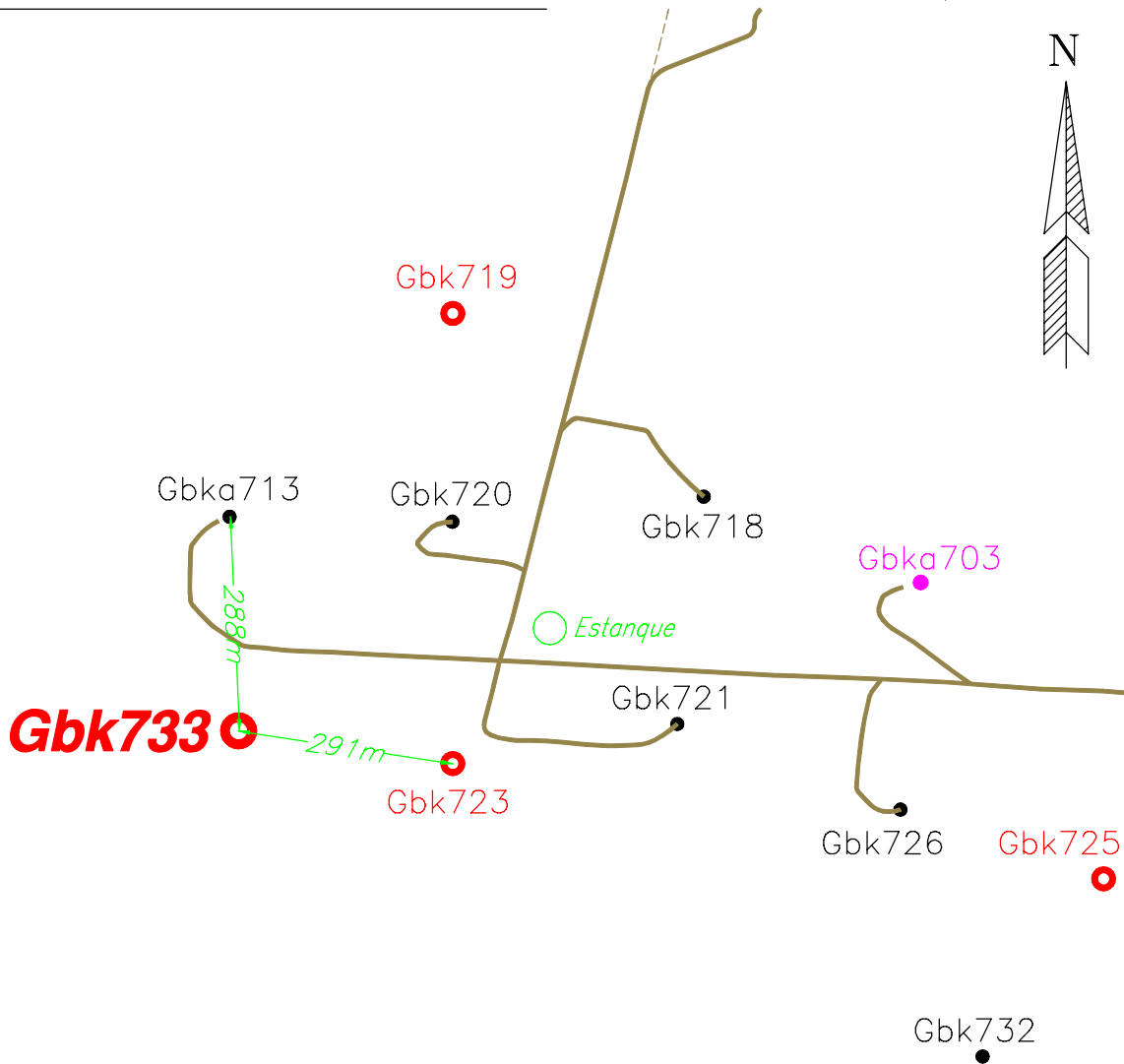
Av. Sargento Cabral 162 - TE(fax): 0297/447-1105
 9000 - Comodoro Rivadavia - Chubut
 E-mail: jdsrl@infovia.com.ar / jd-srl@satlink.com

MONOGRAFIA

CONTRATO: **REPSOL-YPF**
 YACIMIENTO: **MANANTIALES BEHR**
 AREA: **GRIMBEEK**
 PROVINCIA: **CHUBUT**

CROQUIS DE UBICACION: **Gbk-733**

ESCALA APROX.
 1 / 10.000



OBSERVACIONES: LOTE: 40 PROPIETARIO: SUC. LARI SADLEIR

UBICADO EN TERRENO PLANO
 CAMINO 120m QUE VA AL Gbk-713

AZIMUT DE ARRANQUE:

SE NAVEGO EL POZO A LAS COORDENADAS
 TEORICAS CON GPS COLOCANDO LA ESTACA
 EN LAS COORDENADAS SOLICITADAS

COMPAÑIA: **REPSOL-YPF**

COORDENADAS: **TEORICAS GRAFICAS**

SISTEMA: **PAMPA DEL CASTILLO**

Gbk-733

X: 4952424.- Y: 2594842.-
 COTA: T/N Aprox.: 672m +/- 3m

COORDENADAS GEOGRAFICAS:(Sistema:

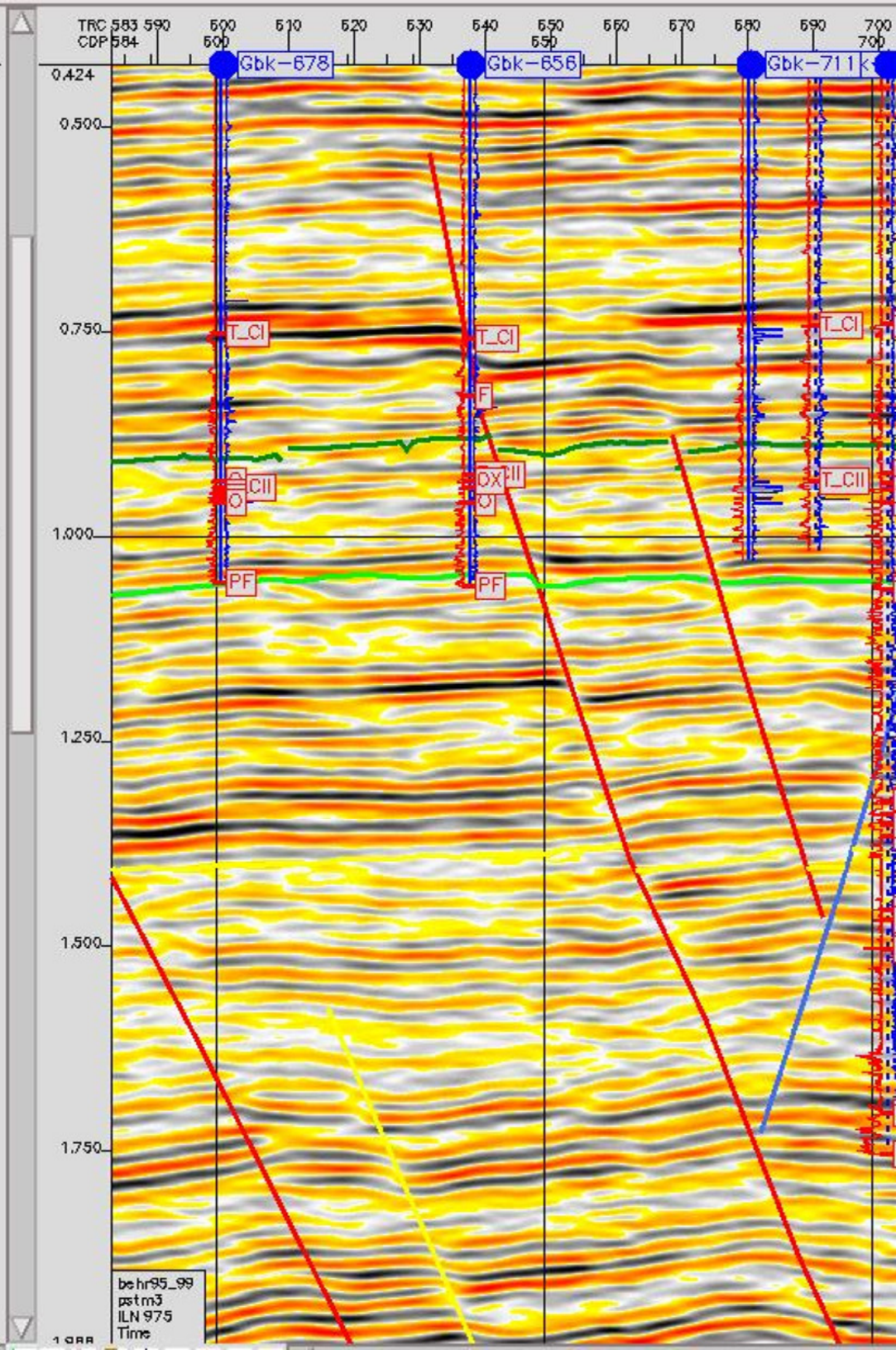
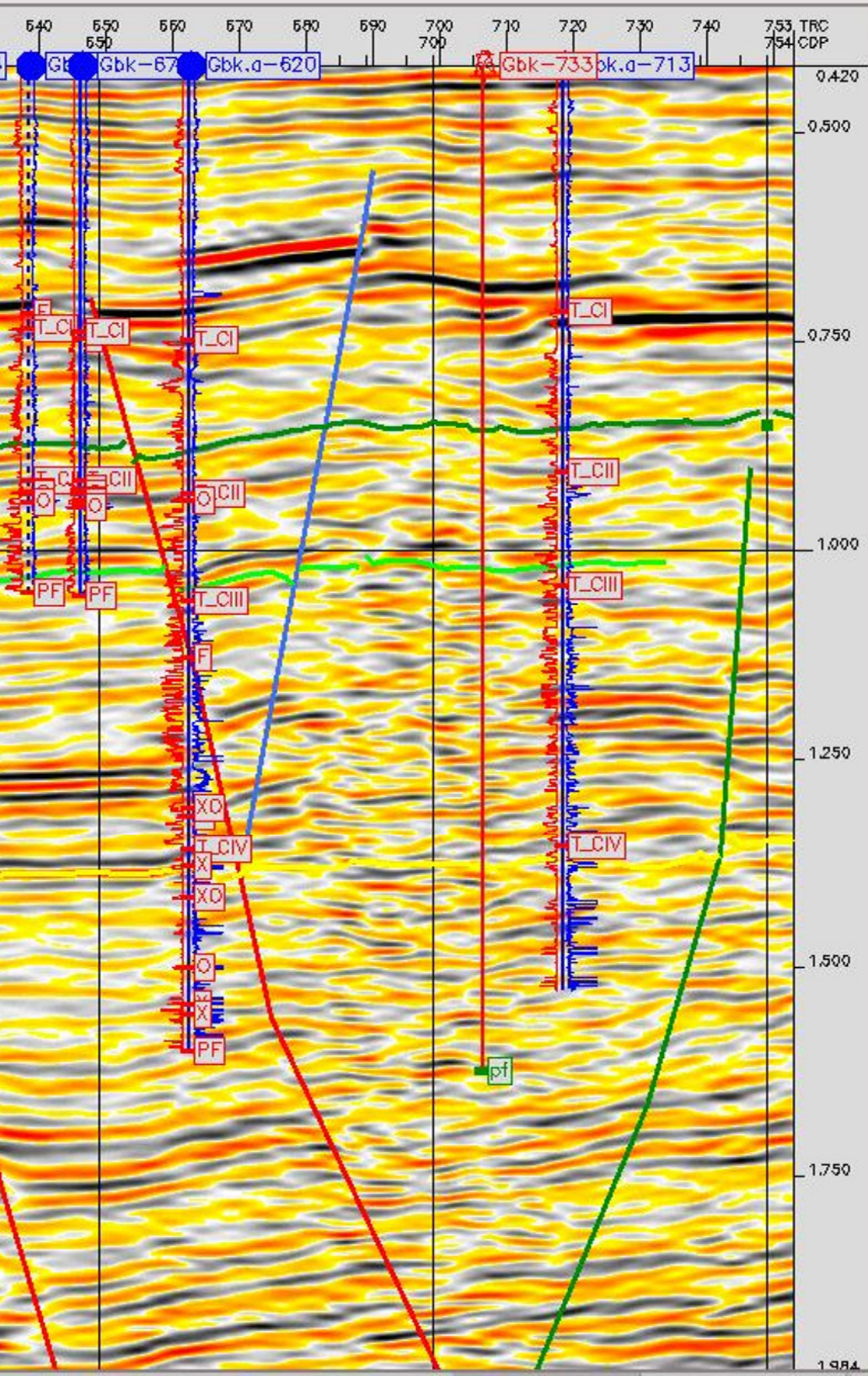
LAT: _____ LON: _____ ELEV: _____

UBICADO POR JD SRL-AV. SGTO CABRAL 162-TE(fax)0297/4471105
 9000 - COMODORO RIVADAVIA - CHUBUT - REPUBLICA ARGENTINA

OPERADOR: S. VELASQUEZ REVISO: JD

REMITO N°

FECHA: 18 de MAYO de 2007



**REPSOL
YPF****Centro de Tecnología, Argentina (CTA)
Dirección de Tecnología****TITULO: Geoquímica aplicada a
reservorios y producción****CODIGO (CTA): UP-47, N° 5****PETICIONES DE TRABAJOS****proyecto asociado***A completar por el Solicitante.***Fecha 05-09-2007****Solicitante:
Rodrigo Rodríguez****UUNN: Argentina Sur****Unidad Eco: Chubút
-Cañadón Seco****Lista de distribución:
Luis Palacio Torta**

Necesidad *Determinación de cromatografía y fingerprint de tres o cuatro muestras de petróleo que se enviará en los próximos días (pozos Gbk-733 y Gbk.a-734). Se espera definir relaciones con los diferentes petróleos de la zona de Grimbeek analizados previamente, tipo de petróleo, procesos de alteración y biodegradación (si los hubo). Además se envía una muestra de agua Gbk-733 para realizar análisis fisicoquímico completo.*

Plazo Necesario: 40 días**Centro de Costo / Elemento PEP:
232108***A completar por el CTA***Objetivo** *(en función de la necesidad, definir el objetivo del trabajo a realizar):***Plan de Acción** *(listado de acciones) : cronograma de tareas y fechas* **Fecha:****Elementos de Control** *(definir si es preciso hitos de control y decisión)***Estimación de horas:****Proyecto Asociado:****Elemento a Entregar:****Fecha de Entrega:****Lista de Distrib: Gustavo Galliano**