

Schlumberger									
Company: CHEVRON CANADA RESOURCES LTD.									
Well: CHEVRON ET AL LIARD 3K-29									
Field: LIARD									
Territory: NORTHWEST TERRITORIES									
PLATFORM EXPRESS									
HRLA LATEROLOG									
N.E.B. COPY									
LOCATION									
LATITUDE: 60DEG 28MIN 42.4SEC NORTH					Elev.: K.B. 417.3 m				
LONGITUDE: 123DEG 35MIN 4.3SEC WEST					G.L. 409.9 m				
Permanent Datum:					GROUND LEVEL		Elev.: 409.9 m		
Log Measured From:					KELLY BUSHING		7.4 m		above Perm. Datum
Drilling Measured From:					KELLY BUSHING				
API Serial No.					SDL99				
Logging Date					21-Feb-2004				
Run Number					ONE				
Depth Driller					3700 m				
Schlumberger Depth					3692 m				
Bottom Log Interval					3671.1 m				
Top Log Interval					2912 m				
Casing Driller Size @ Depth					177.800 mm @ 2912 m				
Casing Schlumberger					2912 m				
Bit Size					156,000 mm				
Type Fluid In Hole					CLAY-FREE POLYMER				
Density					1050 kg/m3		44 s		
Fluid Loss					PH		7 cm3		9.5
Source Of Sample					FLOWLINE				
RM @ Measured Temperature					1.550 ohm.m @ 24 degC				
RMF @ Measured Temperature					1.211 ohm.m @ 21 degC				
RMC @ Measured Temperature					1.331 ohm.m @ 23 degC				
Source RMF					MUD PRESS				
RM @ MRT					0.410 @ 149 0.300 @ 149				
Maximum Recorded Temperatures					149 degC				
Circulation Stopped					Time		22-Feb-2004		23:45
Logger On Bottom					Time		22-Feb-2004		19:15
Unit Number					Location				
Recorded By					MICHEL LAPOINTE				
Witnessed By					BROCK LULLICO				

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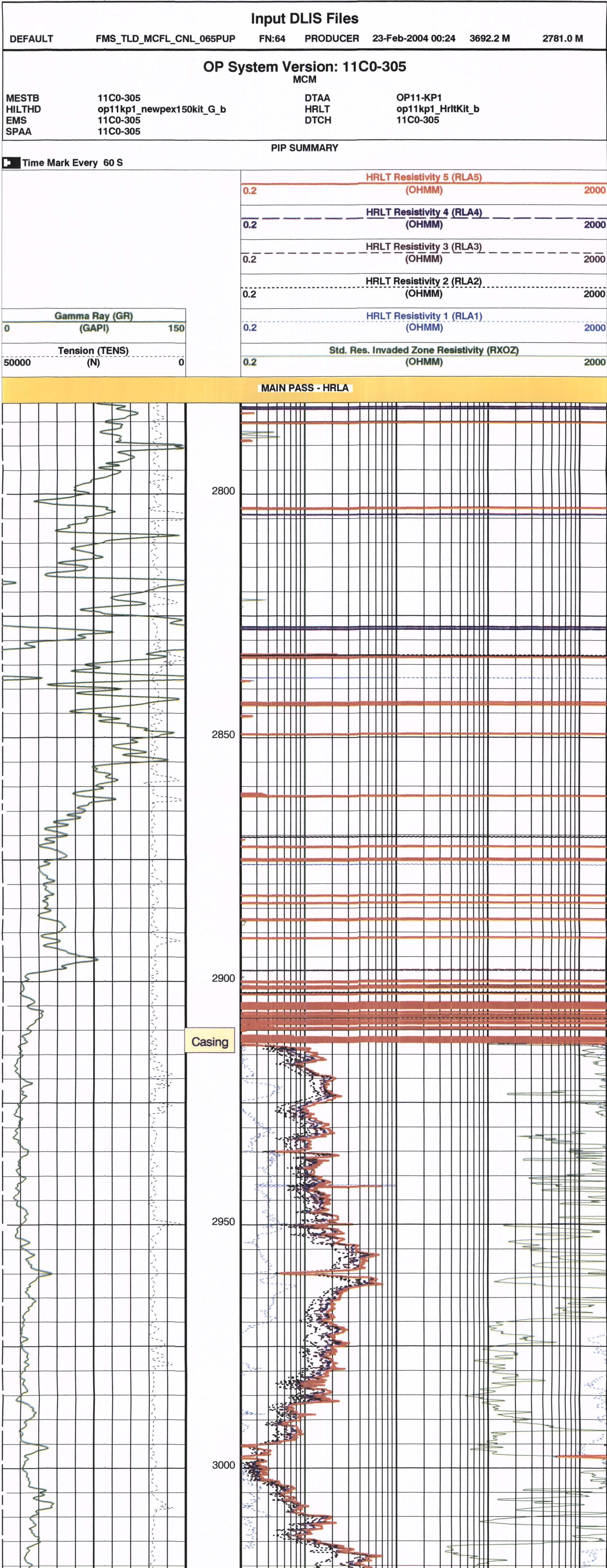
DEPTH SUMMARY LISTING

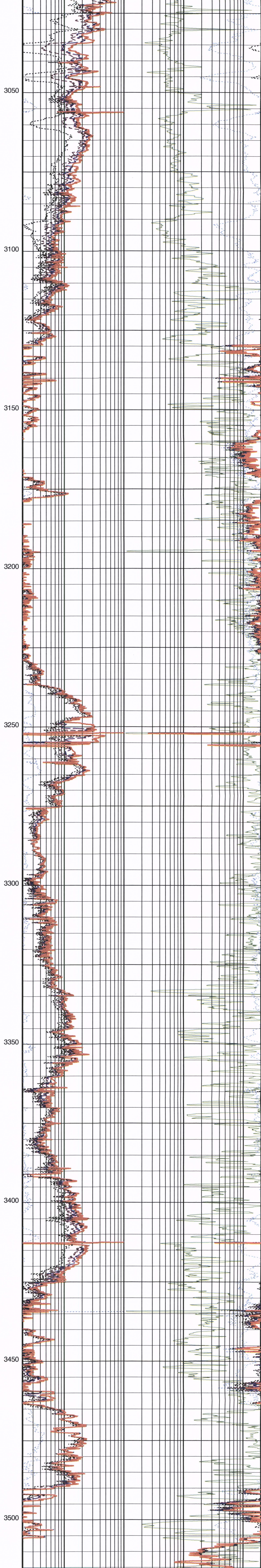
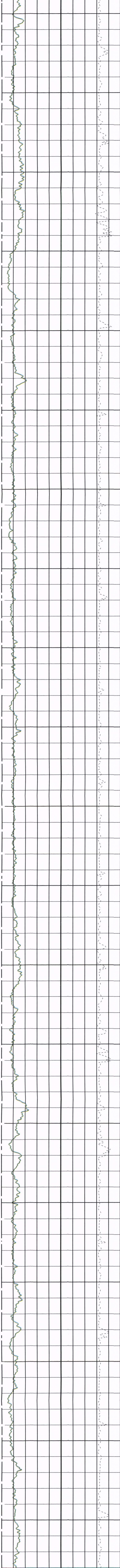
Date Created: 22-FEB-2004 22:49:40		
Depth System Equipment		
Depth Measuring Device	Tension Device	Logging Cable
Type: IDW-B	Type: CMTD-B/A	Type: 7-46P
Serial Number: 1775	Serial Number: 1716	Serial Number: 2022
Calibration Date: 11-APR-2003	Calibration Date: 11-FEB-2004	Length: 6324.91 M
Calibrator Serial Number: 4	Calibrator Serial Number: 78130	Conveyance Method: DrillPipe (TLC)
Calibration Cable Type: 7-46P	Calibration Gain: 0.90	Rig Type: LAND
Wheel Correction 1: -6	Calibration Offset: 507.00	
Wheel Correction 2: -5		

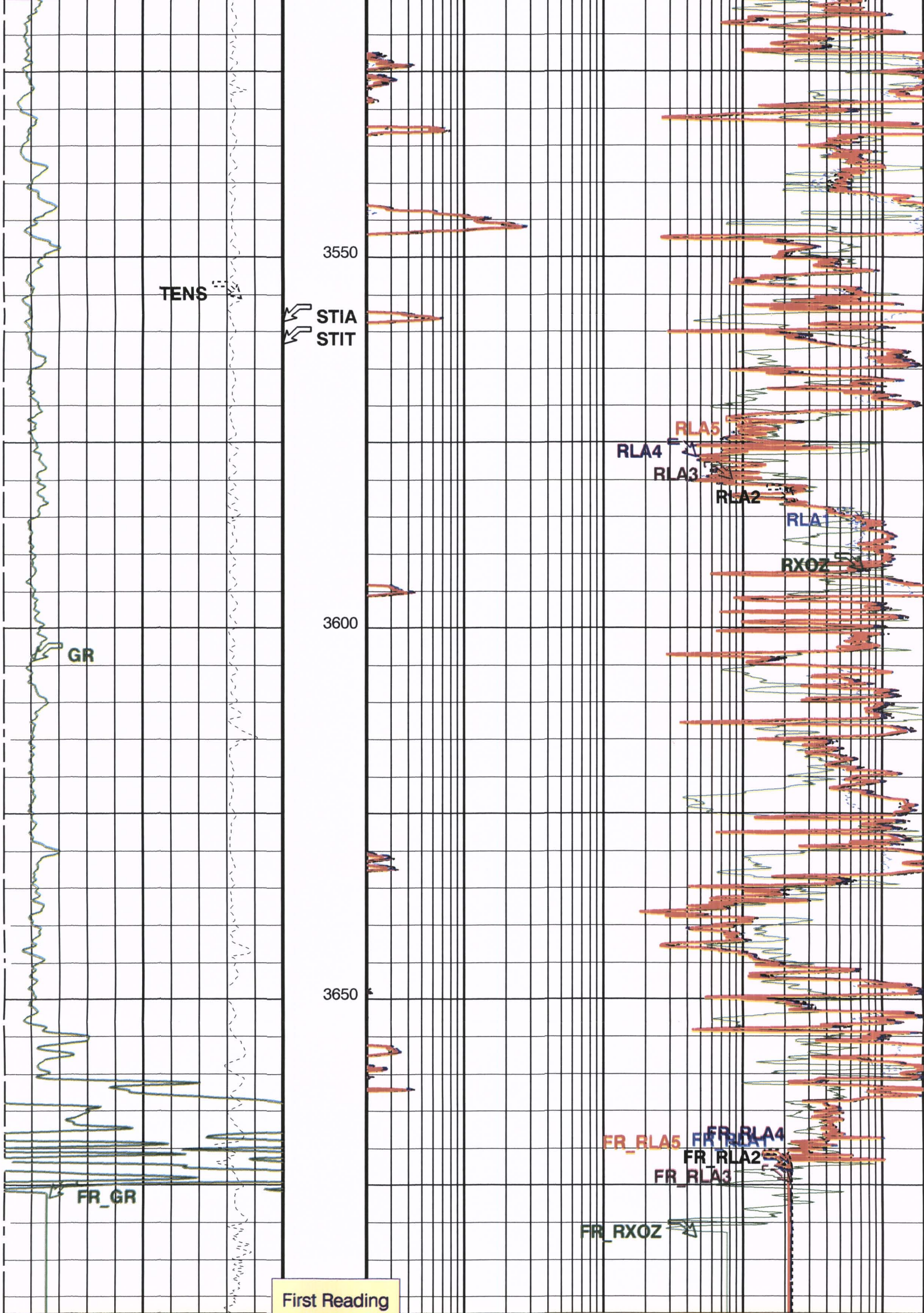
Depth Control Parameters	
Log Sequence:	First Log In the Well
Rig Up Length At Surface:	0.00 M
Rig Up Length At Bottom:	0.00 M
Rig Up Length Correction:	0.00 M
Stretch Correction:	1.10 M
Tool Zero Check At Surface:	0.00 M
Depth Control Remarks	
1.	
2. PRIMARY DEPTH MEASUREMENT = IDW	
3.	
4. LOGS CORRELATED TO MWD GR LOG	
5.	
6.	

DISCLAIMER	
THE USE OF AND RELIANCE UPON THIS RECORDED-DATA BY THE HEREIN NAMED COMPANY (AND ANY OF ITS AFFILIATES, PARTNERS, REPRESENTATIVES, AGENTS, CONSULTANTS AND EMPLOYEES) IS SUBJECT TO THE TERMS AND CONDITIONS AGREED UPON BETWEEN SCHLUMBERGER AND THE COMPANY, INCLUDING: (a) RESTRICTIONS ON USE OF THE RECORDED-DATA; (b) DISCLAIMERS AND WAIVERS OF WARRANTIES AND REPRESENTATIONS REGARDING COMPANY'S USE OF AND RELIANCE UPON THE RECORDED-DATA; AND (c) CUSTOMER'S FULL AND SOLE RESPONSIBILITY FOR ANY INFERENCE DRAWN OR DECISION MADE IN CONNECTION WITH THE USE OF THIS RECORDED-DATA.	
OTHER SERVICES1	OTHER SERVICES2
OS1: FMS FORMATION IMAGER	OS1:
OS2: LITHODENSITY	OS2:
OS3: COMPENSATED NEUTRON	OS3:
OS4: HRLA LATEROLOG	OS4:
OS5: EMS TEMPERATURE	OS5:
REMARKS: RUN NUMBER 1	REMARKS: RUN NUMBER 2
Client requested that no toolturners be run on toolstring.	
Neutron run without bowspring eccentralizer due to hole size restriction.	
HRLA run with two 13 mm standoffs for centralization.	
Hole volume computed using C1 and C2 FMS calipers, as per client.	
No liner to be run. EMS ran only for temperature log.	
All tools run on first descent using TLC. Neutron and GR logged on wireline through casing on second descent.	
Tools not run below 3692 m.	
Logs correlated to Schlumberger MWD GR log, ran from Feb 4, 2004 to Feb 15, 2004.	
SP not presented in HRLA log as per client.	
RLA1 curve reads significantly lower than other HRLA curves.	
Repeat pass pulled below casing.	
PRINTS: 2 FIELD	
RIG: AKITA 48E	
CREW: R. LANTHIER, D. FOURNIER	
RUN 1	RUN 2
SERVICE ORDER #: 10600795	SERVICE ORDER #:
PROGRAM VERSION: 11C0-305	PROGRAM VERSION:
FLUID LEVEL:	FLUID LEVEL:
LOGGED INTERVAL	LOGGED INTERVAL
START	START
STOP	STOP

EQUIPMENT DESCRIPTION	
RUN 1	RUN 2
SURFACE EQUIPMENT	
WITM (DTS)-A	
GSR-U/Y	
NCT-B	
CNB-AB	
NCS-VB	
DOWNHOLE EQUIPMENT	
DWCH-A	38.64
DWCH-A	
AH-107	36.20
AH-169	35.59
SPA-A	34.57
SPA-A 494	35.18
SAH-F	33.96
SAH-F 718	
AH-199	32.48
STCS-BA	32.16
AH-197	31.34
AH-107	30.98
DTC-H	30.37
EMS-B	29.45
EMA-B 8097	
RES	
EMC-B 8035	
ECH-KH 8045	
EMM-B 8001	
AH-107	25.11
HRLT-B	24.50
HRUH-B 759	13 MM
HRUC-B 766	Standoff
HRLS-B 764	
HRLH-B 765	
HRLC-B 755	
AH-270	20.92







MAIN PASS - HRLA			
Tension (TENS) (N)		Std. Res. Invaded Zone Resistivity (RXOZ) (OHMM)	
50000	0	0.2	2000
Gamma Ray (GR) (GAPI)		HRLT Resistivity 1 (RLA1) (OHMM)	
0	150	0.2	2000
		HRLT Resistivity 2 (RLA2) (OHMM)	
		0.2	2000
		HRLT Resistivity 3 (RLA3) (OHMM)	
		0.2	2000
		HRLT Resistivity 4 (RLA4) (OHMM)	
		0.2	2000
		HRLT Resistivity 5 (RLA5) (OHMM)	
		0.2	2000

Time Mark Every 60 S

Parameters		
DLIS Name	Description	Value
MPOF	HILTH-FTB: High resolution Integrated Logging Tool-DTS MCFL Processing Operation Mode	ON
KFAC	HRLT-B: High Resolution Laterolog Array - B HRLT K Factor Option	SONDE
LOOPGAIN	HRLT Loop Gain for Shallow Modes	0.200
SPVD	DIR: Directional Survey Computation TVD of Starting Point	0.000 m
TIMD	Along-hole depth of Tie-in Point	75.200 m
TIVD	TVD of Tie-in Point	75.200 m
STKT	STI: Stuck Tool Indicator STI Stuck Threshold	1.524 m
TDD	Total Depth - Driller	3700.0 m
TDL	Total Depth - Logger	3692.0 m
BS	System and Miscellaneous Bit Size	156.0 mm

Format: HRLT-S2-CAN Vertical Scale: 1:600 Graphics File Created: 23-Feb-2004 01:24

OP System Version: 11C0-305			
MCM			
MESTB	11C0-305	DTAA	OP11-KP1
HILTHD	op11kp1_newpex150kit_G_b	HRLT	op11kp1_HrltKit_b
EMS	11C0-305	DTCH	11C0-305
SPAA	11C0-305		

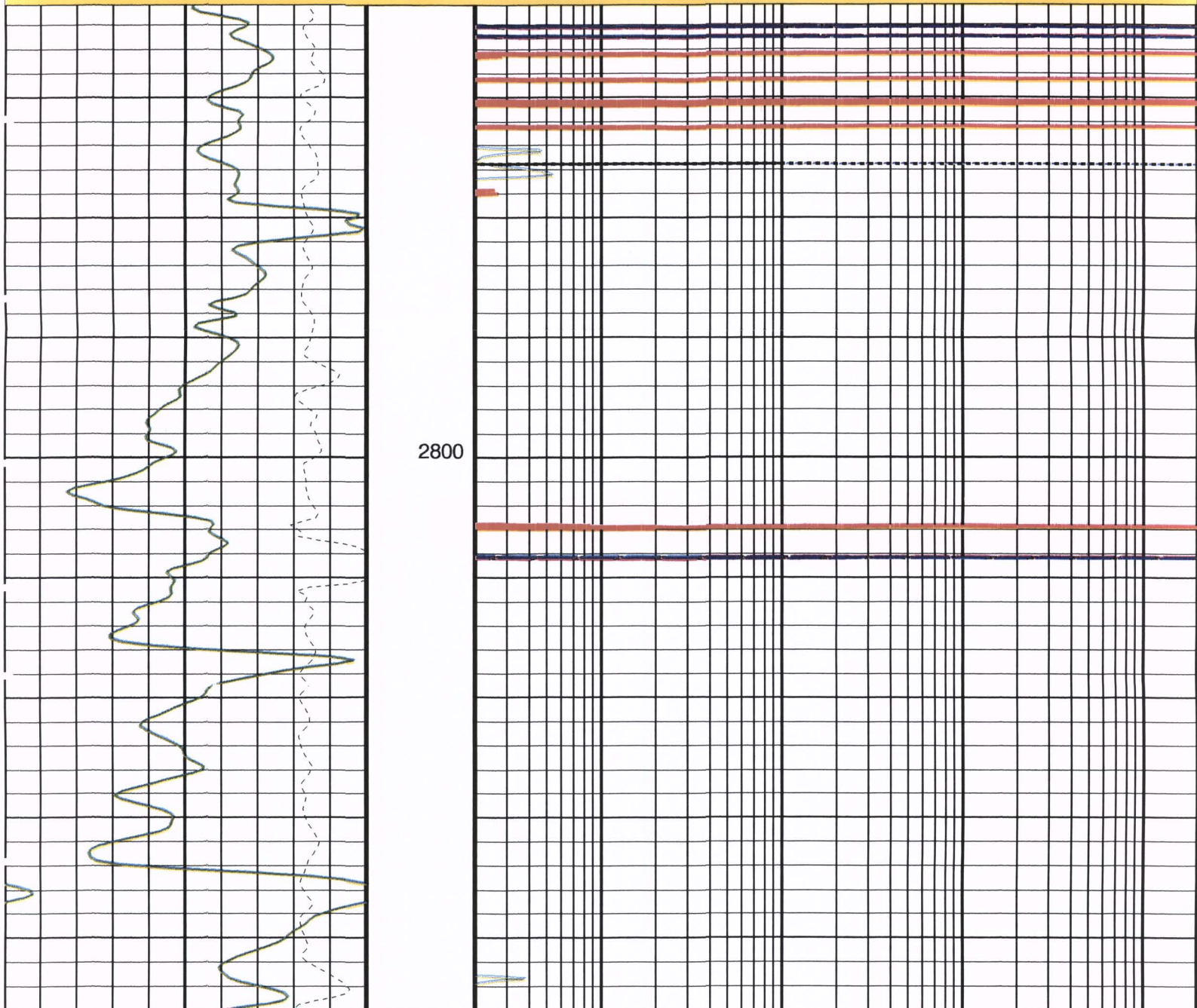
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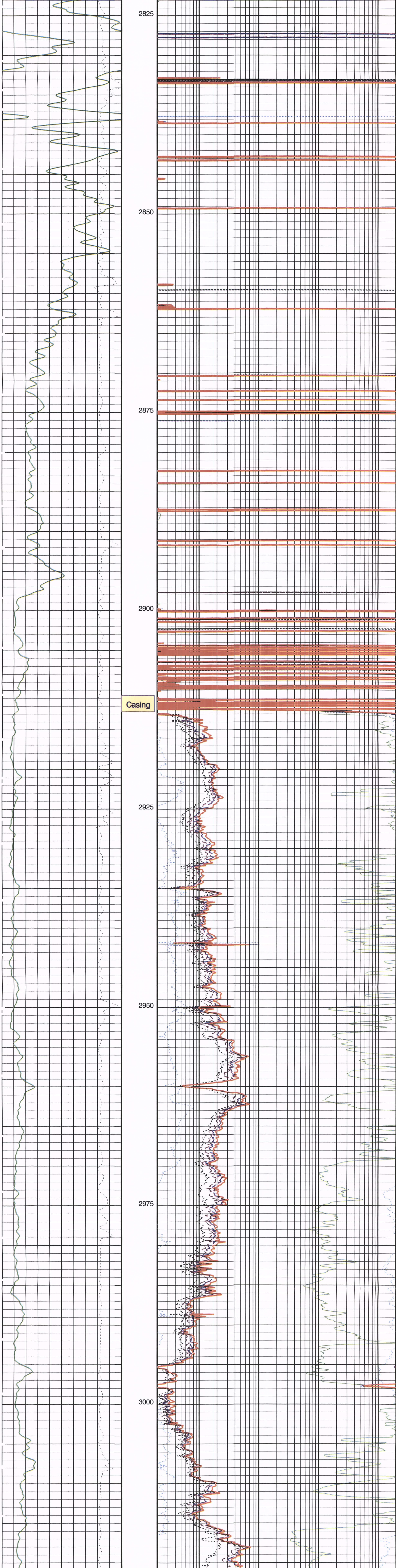
Input DLIS Files						
DEFAULT	FMS_TLD_MCFL_CNL_065PUP	FN:64	PRODUCER	23-Feb-2004 00:24	3692.2 M	2781.0 M
OP System Version: 11C0-305						
MCM						
MESTB	11C0-305	DTAA	OP11-KP1			
HILTHD	op11kp1_newpex150kit_G_b	HRLT	op11kp1_HrltKit_b			
EMS	11C0-305	DTCH	11C0-305			
SPAA	11C0-305					

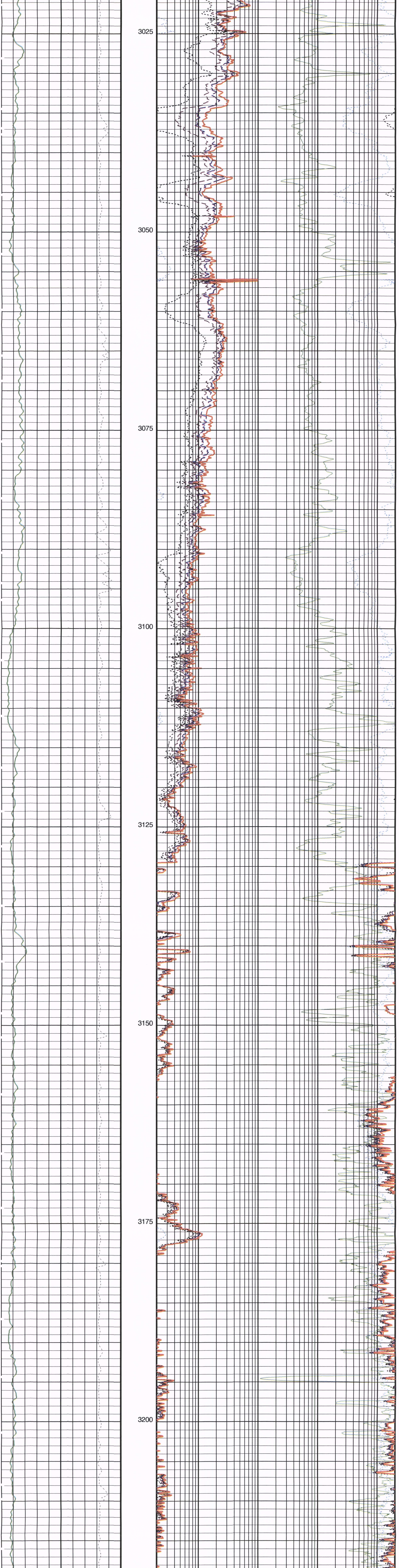
Time Mark Every 60 S

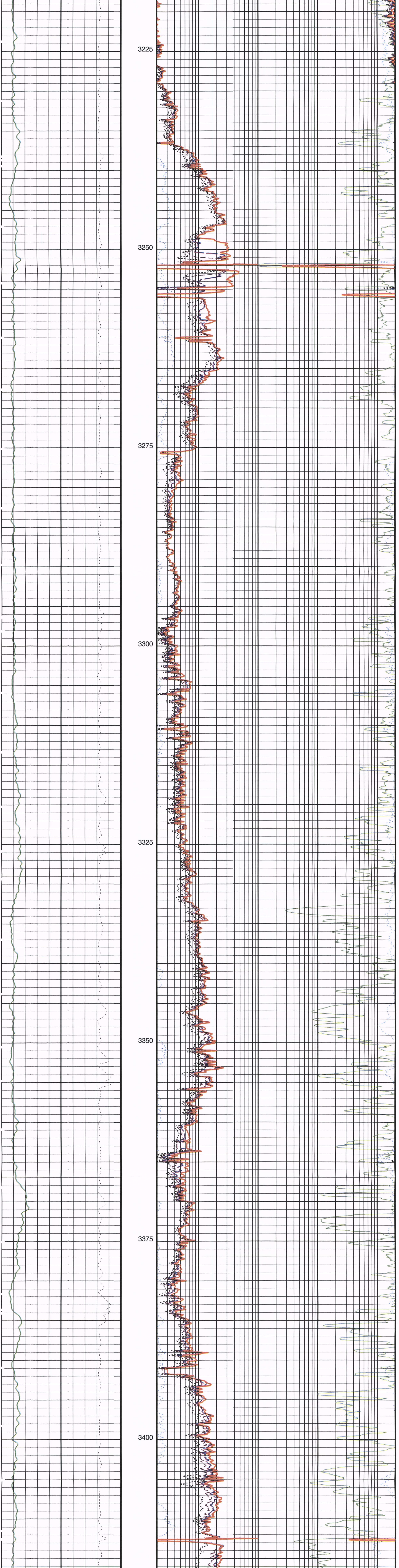
		HRLT Resistivity 5 (RLA5) (OHMM)	
		0.2	2000
		HRLT Resistivity 4 (RLA4) (OHMM)	
		0.2	2000
		HRLT Resistivity 3 (RLA3) (OHMM)	
		0.2	2000
		HRLT Resistivity 2 (RLA2) (OHMM)	
		0.2	2000
		HRLT Resistivity 1 (RLA1) (OHMM)	
		0.2	2000
		Std. Res. Invaded Zone Resistivity (RXOZ) (OHMM)	
		0.2	2000

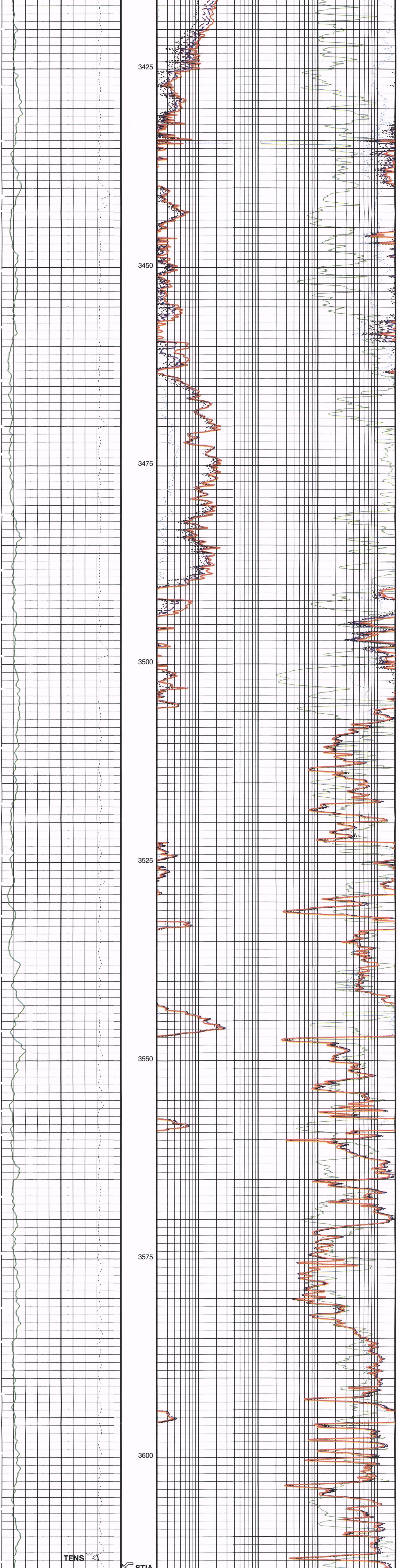
MAIN PASS - HRLA

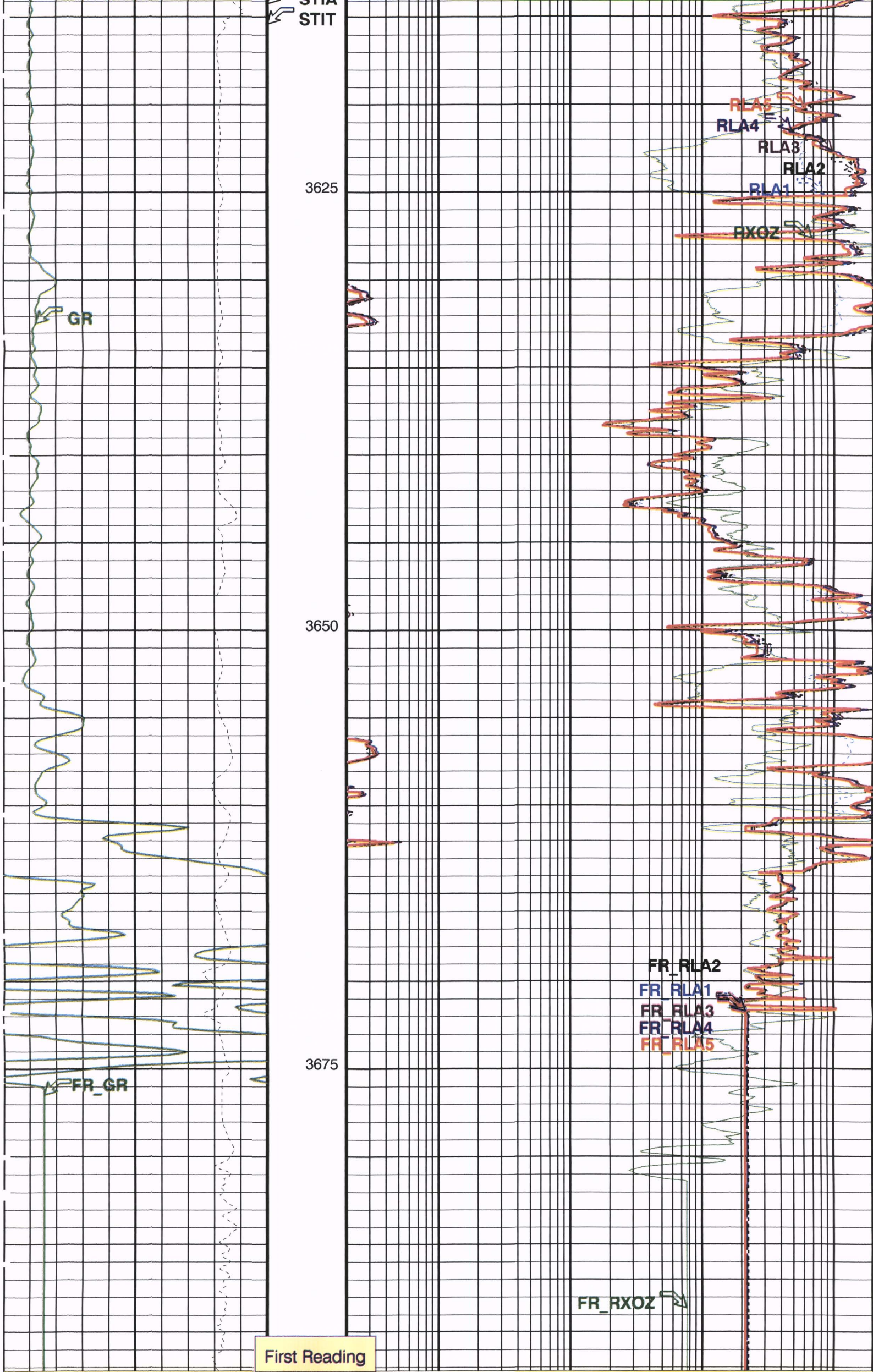












MAIN PASS - HRLA			
Tension (TENS) 50000 (N) 0		Std. Res. Invaded Zone Resistivity (RXOZ) 0.2 (OHMM) 2000	
Gamma Ray (GR) 0 (GAPI) 150		HRLT Resistivity 1 (RLA1) 0.2 (OHMM) 2000	
		HRLT Resistivity 2 (RLA2) 0.2 (OHMM) 2000	
		HRLT Resistivity 3 (RLA3) 0.2 (OHMM) 2000	
		HRLT Resistivity 4 (RLA4) 0.2 (OHMM) 2000	
		HRLT Resistivity 5 (RLA5) 0.2 (OHMM) 2000	

Time Mark Every 60 S

Parameters		
DLIS Name	Description	Value
MPOF	HILTH-FTB: High resolution Integrated Logging Tool-DTS MCFL Processing Operation Mode	ON
KFAC	HRLT-B: High Resolution Laterolog Array - B	SONDE
LOOPGAIN	HRLT K Factor Option HRLT Loop Gain for Shallow Modes	0.200
SPVD	DIR: Directional Survey Computation	
TIMD	TVD of Starting Point	0.000 m
TIVD	Along-hole depth of Tie-in Point	75.200 m
STKT	TVD of Tie-in Point	75.200 m
TDD	STI: Stuck Tool Indicator	
TDL	STI Stuck Threshold	1.524 m
BS	Total Depth - Driller	3700.0 m
	Total Depth - Logger	3692.0 m
	System and Miscellaneous	
	Bit Size	156.0 mm

Format: HRLT-S5-CAN Vertical Scale: 1:240 Graphics File Created: 23-Feb-2004 01:24

OP System Version: 11C0-305			
MCM			
MESTB	11C0-305	DTAA	OP11-KP1
HILTHD	op11kp1_newpex150kit_G_b	HRLT	op11kp1_HrltKit_b
EMS	11C0-305	DTCH	11C0-305
SPAA	11C0-305		

Input DLIS Files						
DEFAULT	FMS_TLD_MCFL_CNL_065PUP	FN:64	PRODUCER	23-Feb-2004 00:24	3692.2 M	2781.0 M

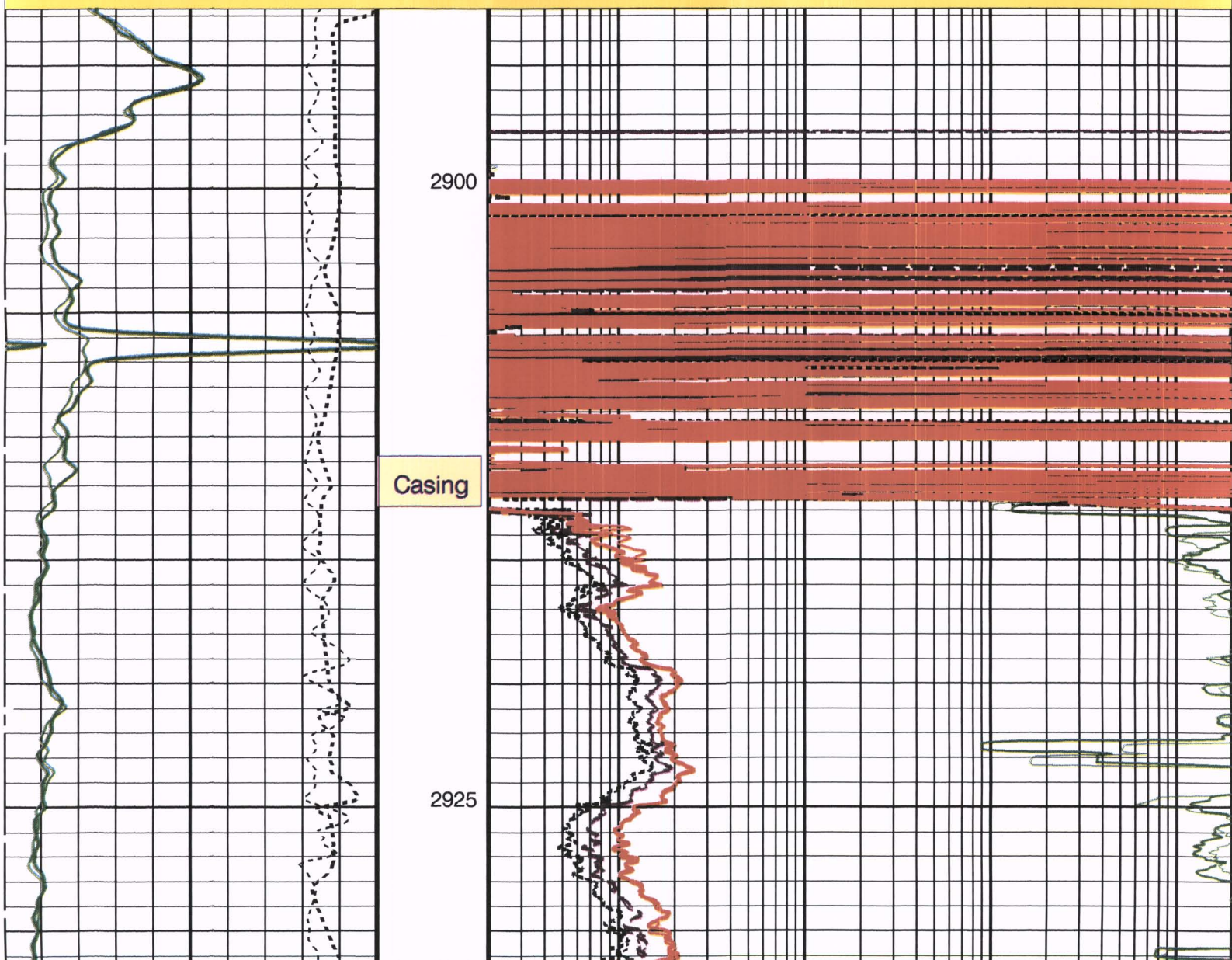
Input DLIS Files						
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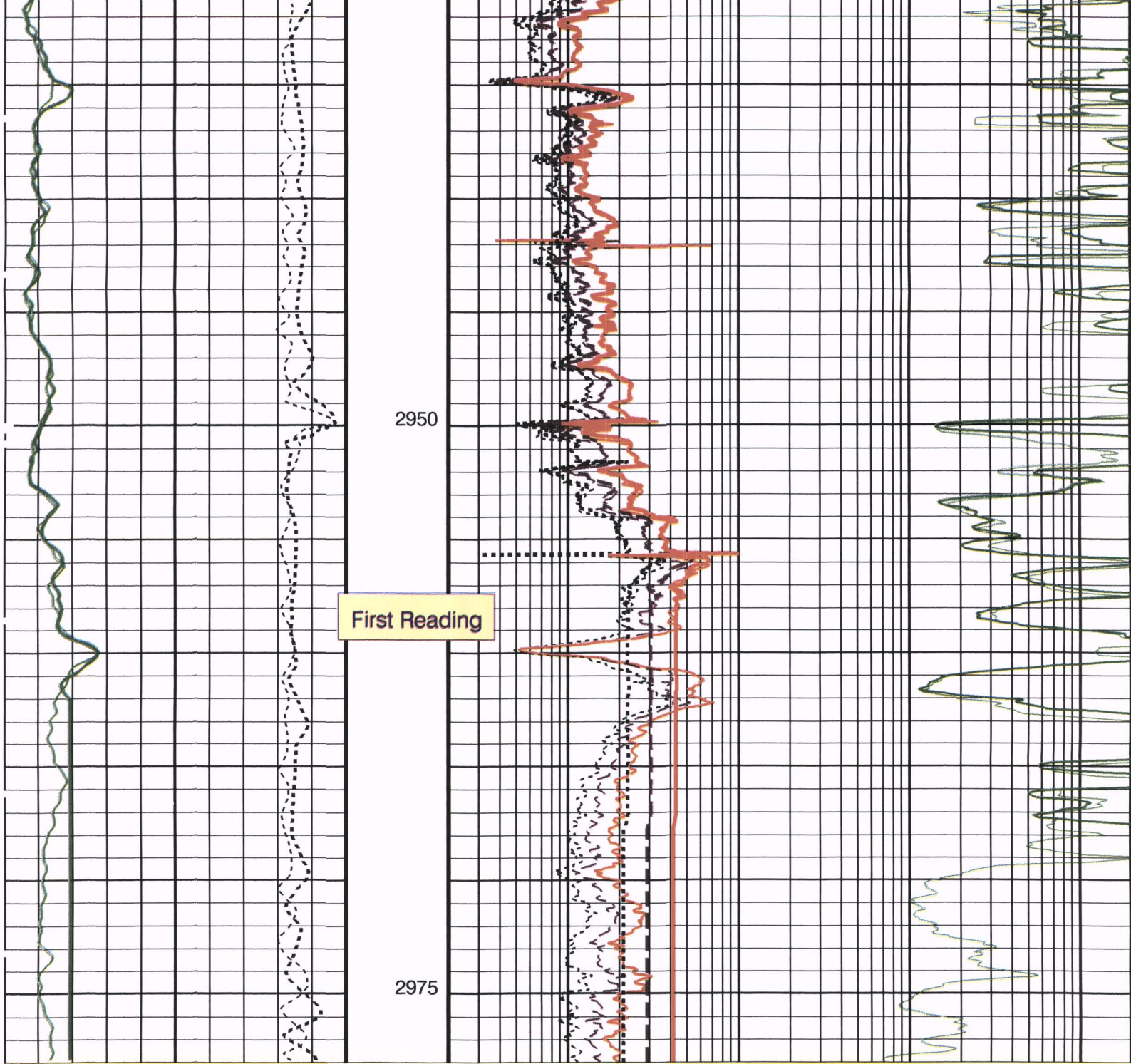
OP System Version: 11C0-305			
MCM			
MESTB	11C0-305	DTAA	OP11-KP1
HILTHD	op11kp1_newpex150kit_G_b	HRLT	op11kp1_HrltKit_b
EMS	11C0-305	DTCH	11C0-305
SPAA	11C0-305		

Time Mark Every 60 S

TENS REP Curve (TENS REP) 50000 (N) 0		RLA5 REP Curve (RLA5 REP) 0.2 (OHMM) 2000	
GR REP Curve (GR REP) 0 (GAPI) 150		RLA3 REP Curve (RLA3 REP) 0.2 (OHMM) 2000	
		RLA2 REP Curve (RLA2 REP) 0.2 (OHMM) 2000	
		RXOZ REP Curve (RXOZ REP) 0.2 (OHMM) 2000	

REPEAT ANALYSIS - HRLA





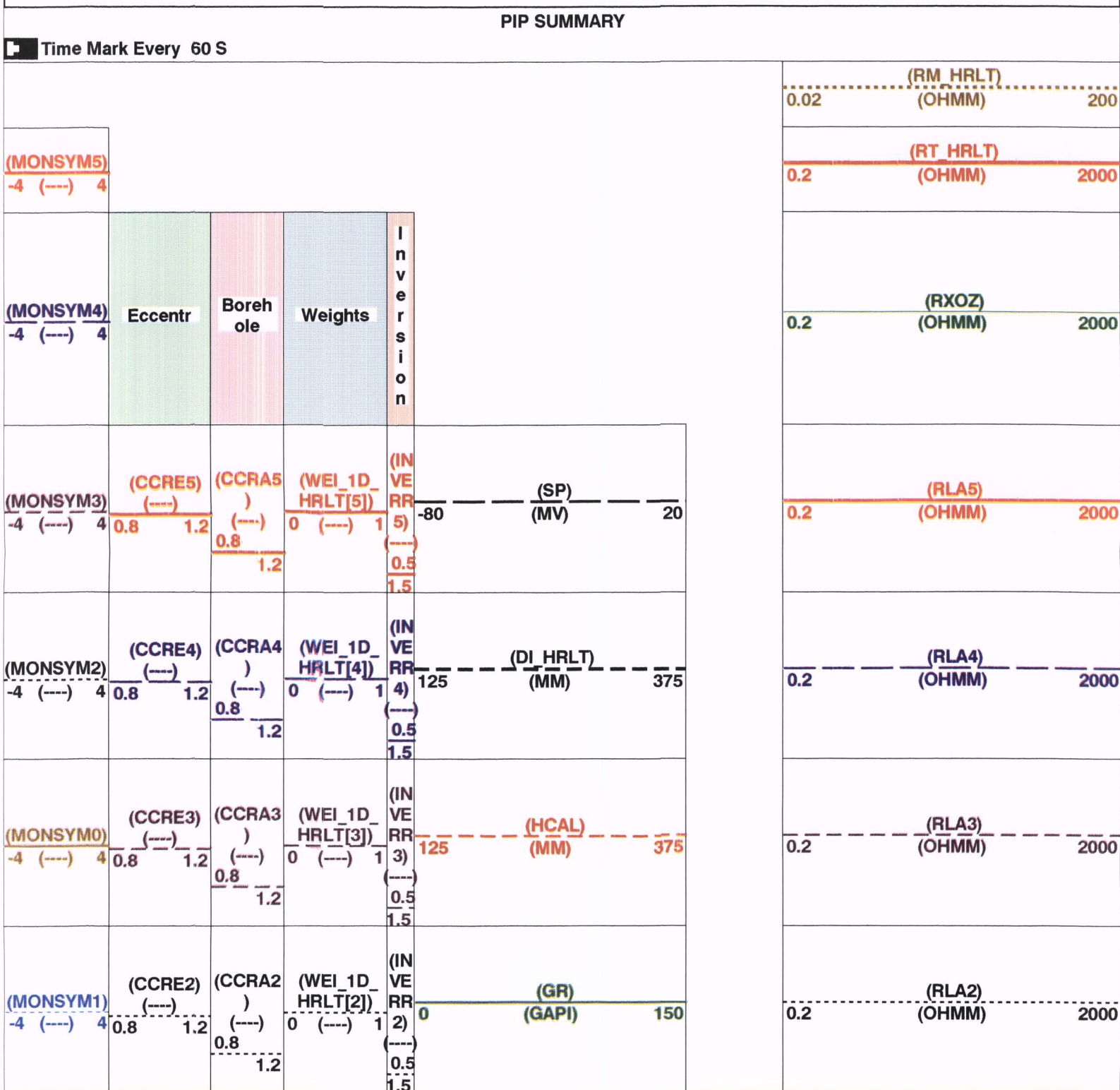
REPEAT ANALYSIS - HRLA					
GR REP Curve (GR REP)		RXOZ REP Curve (RXOZ REP)			
0	(GAPI)	150	0.2	(OHMM)	2000
TENS REP Curve (TENS REP)		RLA2 REP Curve (RLA2 REP)			
50000	(N)	0	0.2	(OHMM)	2000
		RLA3 REP Curve (RLA3 REP)			
		0.2 (OHMM) 2000			
		RLA5 REP Curve (RLA5 REP)			
		0.2 (OHMM) 2000			

PIP SUMMARY	
Time Mark Every 60 S	

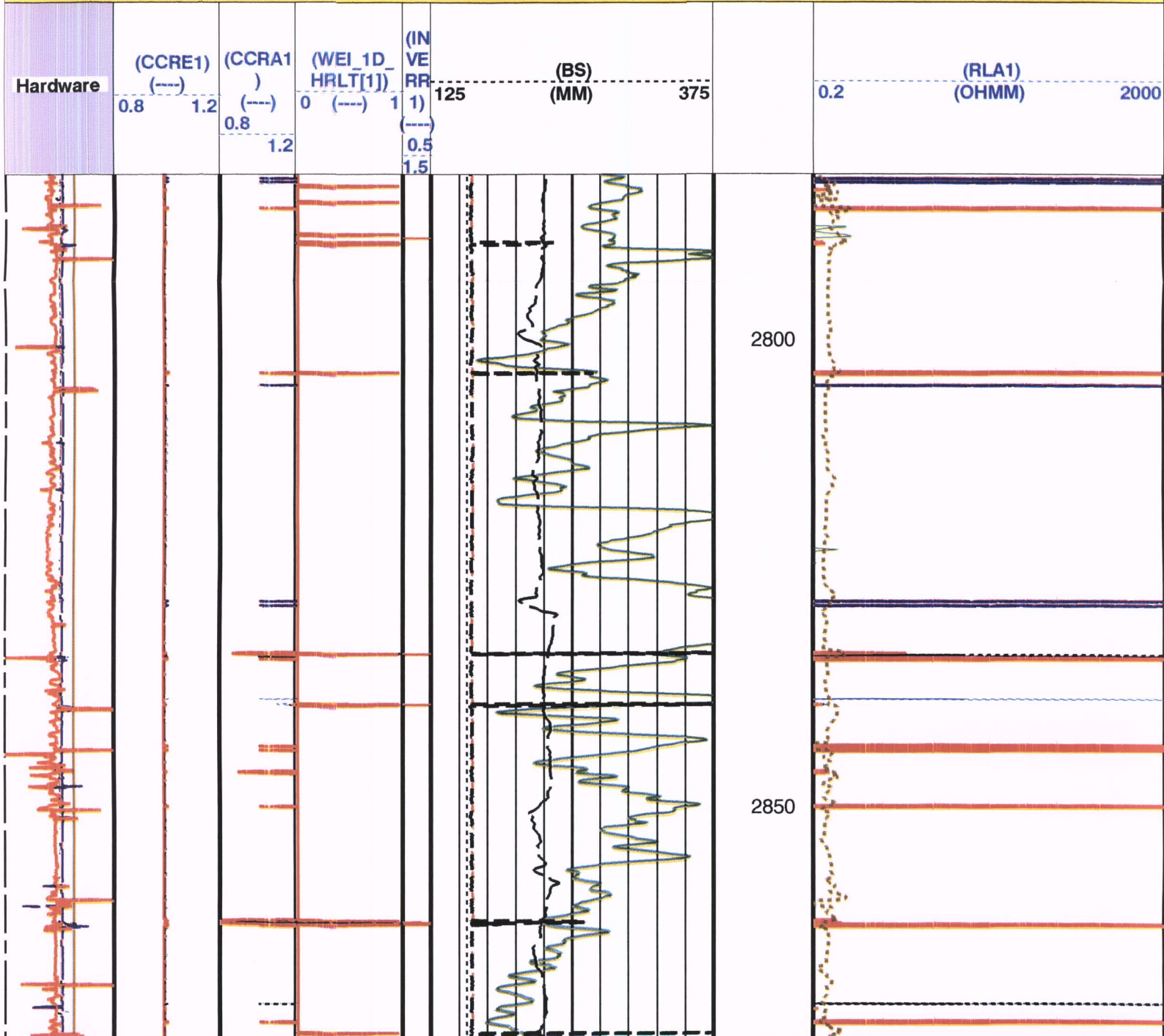
Parameters		
DLIS Name	Description	Value
MPOF	HILTH-FTB: High resolution Integrated Logging Tool-DTS	ON
KFAC	MCFL Processing Operation Mode	SONDE
LOOPGAIN_S	HRLT-B: High Resolution Laterolog Array - B	0.200
SPVD	HRLT K Factor Option	0.000 m
TIMD	HRLT Loop Gain for Shallow Modes	75.200 m
TIVD	DIR: Directional Survey Computation	75.200 m
BS	TVD of Starting Point	
	Along-hole depth of Tie-in Point	
	TVD of Tie-in Point	
	System and Miscellaneous	
	Bit Size	156.0 mm
Format: HRLT-S5-CAN_REP Vertical Scale: 1:240 Graphics File Created: 23-Feb-2004 01:14		

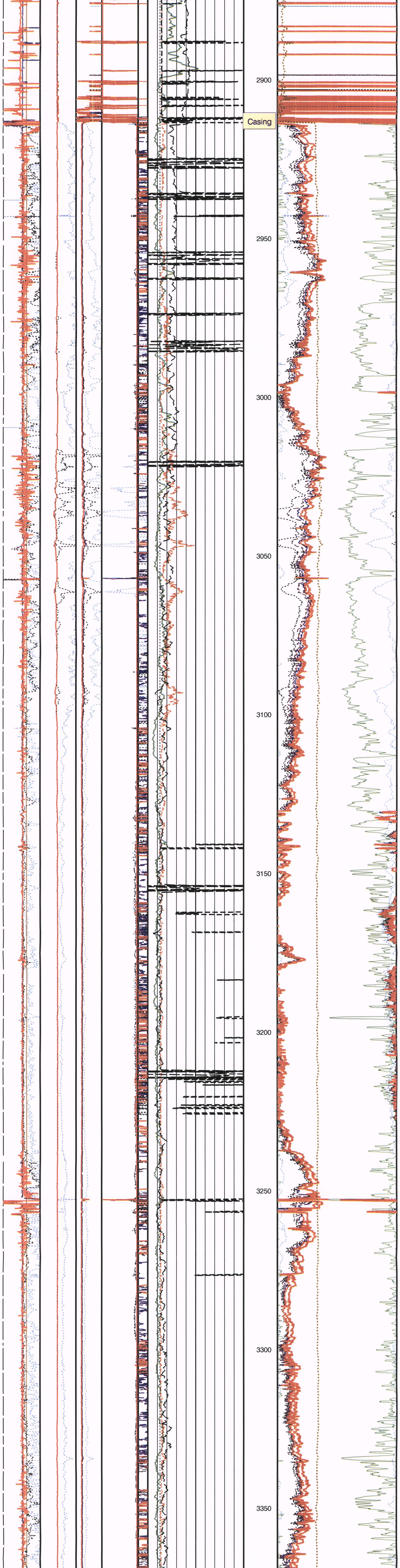
OP System Version: 11C0-305					
MCM					
MESTB	11C0-305	DTAA	OP11-KP1		
HILTHD	op11kp1_newpex150kit_G_b	HRLT	op11kp1_HrltKit_b		
EMS	11C0-305	DTCH	11C0-305		
SPAA	11C0-305				
Input DLIS Files					
DEFAULT	FMS_TLD_MCFL_CNL_065PUP	FN:64	PRODUCER	23-Feb-2004 00:24	3692.2 M 2781.0 M
DEFAULT	FMS_TLD_MCFL_CNL_069PUP	FN:68	PRODUCER	23-Feb-2004 00:53	2978.4 M 2892.6 M

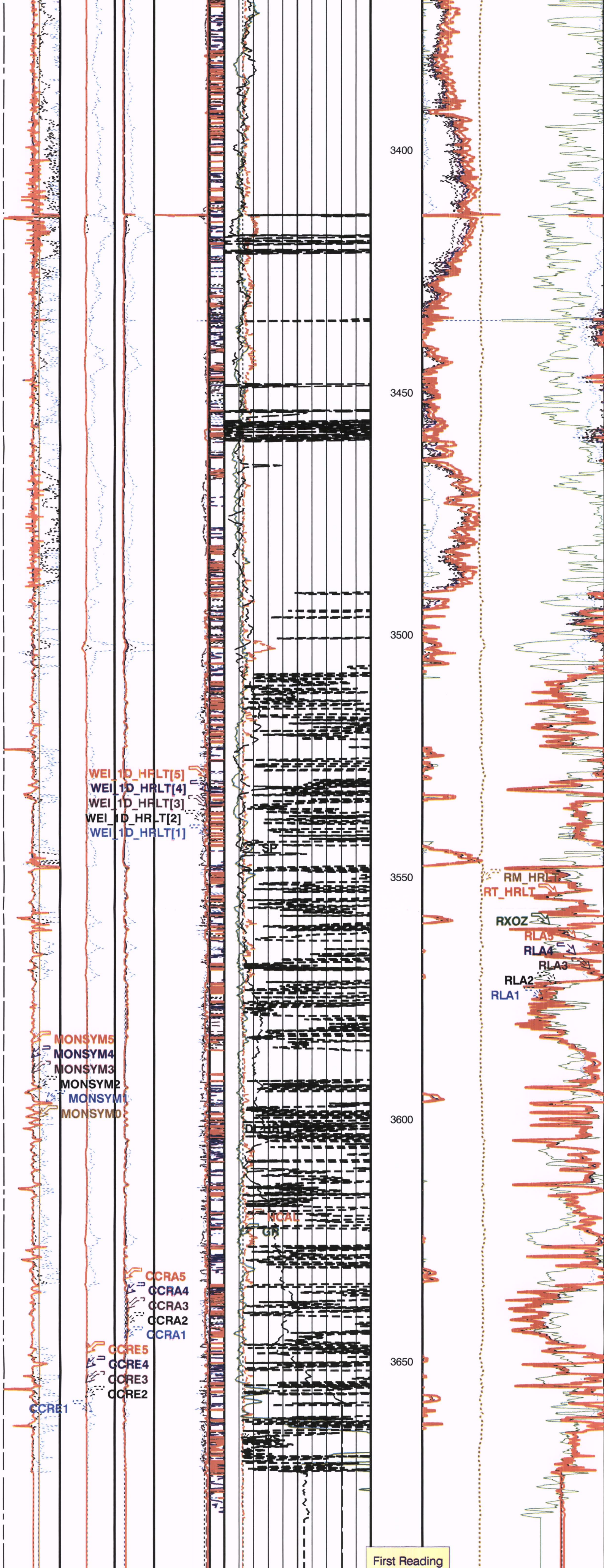
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DEFAULT	FMS_TLD_MCFL_CNL_065PUP	FN:64	PRODUCER	23-Feb-2004 00:24	3692.2 M 2781.0 M
OP System Version: 11C0-305					
MCM					
MEST-B	11C0-305	DTA-A	OP11-KP1		
HILTH-FTB	op11kp1_newpex150kit_G_b	HRLT-B	op11kp1_HrltKit_b		
EMS-B	11C0-305	DTC-H	11C0-305		
SPA-A	11C0-305				
PIP SUMMARY					
Time Mark Every 60 S					



LOG QUALITY CONTROL - HRLA					
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Hardware	(CCRE1) (---) 0.8 1.2	(CCRA1) (---) 0.8 1.2	(WEI_1D_HRLT[1]) (---) 0 1	(IN VE RR 1) (---) 0.5 1.5	(BS) (MM) 125 375	(RLA1) (OHMM) 0.2 2000
LOG QUALITY CONTROL - HRLA						
(MONSYM1) -4 (---) 4	(CCRE2) (---) 0.8 1.2	(CCRA2) (---) 0.8 1.2	(WEI_1D_HRLT[2]) (---) 0 1	(IN VE RR 2) (---) 0.5 1.5	(GR) (GAPI) 0 150	(RLA2) (OHMM) 0.2 2000
(MONSYM0) -4 (---) 4	(CCRE3) (---) 0.8 1.2	(CCRA3) (---) 0.8 1.2	(WEI_1D_HRLT[3]) (---) 0 1	(IN VE RR 3) (---) 0.5 1.5	(HCAL) (MM) 125 375	(RLA3) (OHMM) 0.2 2000
(MONSYM2) -4 (---) 4	(CCRE4) (---) 0.8 1.2	(CCRA4) (---) 0.8 1.2	(WEI_1D_HRLT[4]) (---) 0 1	(IN VE RR 4) (---) 0.5 1.5	(DI_HRLT) (MM) 125 375	(RLA4) (OHMM) 0.2 2000
(MONSYM3) -4 (---) 4	(CCRE5) (---) 0.8 1.2	(CCRA5) (---) 0.8 1.2	(WEI_1D_HRLT[5]) (---) 0 1	(IN VE RR 5) (---) 0.5 1.5	(SP) (MV) -80 20	(RLA5) (OHMM) 0.2 2000
(MONSYM4) -4 (---) 4	Eccentr	Borehole	Weights	Inversion		(RXOZ) (OHMM) 0.2 2000
(MONSYM5) -4 (---) 4						(RT_HRLT) (OHMM) 0.2 2000
						(RM_HRLT) (OHMM) 0.02 200
PIP SUMMARY						
Time Mark Every 60 S						

Parameters		
DLIS Name	Description	Value
BHT	HILTH-FTB: High resolution Integrated Logging Tool-DTS	149 DEGC
GCSE	Bottom Hole Temperature (used in calculations)	HCAL
GGRD	Generalized Caliper Selection	0.018227 DC/M
GRSE	Geothermal Gradient	EMS_RESIST
GTSE	Generalized Mud Resistivity Selection	HSTS_HTEM
MPOF	Generalized Temperature Selection	ON
	MCFL Processing Operation Mode	

SHT	HRLT-B: High Resolution Laterolog Array - B	Surface Hole Temperature	20	DEGC
BHT	Bottom Hole Temperature (used in calculations)		149	DEGC
GCSE	Generalized Caliper Selection	HCAL	0.018227	DC/M
GGRD	Geothermal Gradient	EMS_RESIST		
GRSE	Generalized Mud Resistivity Selection	HSTS_HTEM		
GTSE	Generalized Temperature Selection	SONDE		
KFAC HRLT	HRLT K Factor Option	ON		
PROCLNV	Inversion Selection	RXOZ		
PROCMFL	Inversion Micro-Resistivity Selection	12.7		MM
PROCMSO	Mechanical Standoff Fin Size	External_GRSE		
PROCRM	Processing Mud Resistivity Select	Eccentered		
PROCSP0	Sonde Position	20		DEGC
SHT	Surface Hole Temperature			
EMS-B: Environment	Measurement Sonde			
BHT	Bottom Hole Temperature (used in calculations)		149	DEGC
GCSE	Generalized Caliper Selection	HCAL	0.018227	DC/M
GGRD	Geothermal Gradient	EMS_RESIST		
GRSE	Generalized Mud Resistivity Selection	HSTS_HTEM		
GTSE	Generalized Temperature Selection	20		DEGC
SHT	Surface Hole Temperature			
SPNV	SPA-A: SP ADAPTOR	SP Next Value	0	MV
DIR: Directional Survey	Computation			
SPVD	TVD of Starting Point	0		M
TIMD	Along-hole depth of Tie-in Point	75.2		M
TIVD	TVD of Tie-in Point	75.2		M
System and Miscellaneous				
BS	Bit Size	156.000		MM
DO	Depth Offset for Playback	0.0		M
MST	Mud Sample Temperature	23.53		DEGC
PP	Playback Processing	NORMAL		
TD	Total Depth	3692		M

Format: HRLT-LQC-CAN	Vertical Scale: 1:600	Graphics File Created: 23-Feb-2004 01:42
OP System Version: 11C0-305		
MCM		
MEST-B	11C0-305	DTA-A
HILTH-FTB	op11kp1_newpex150kit_G_b	HRLT-B
EMS-B	11C0-305	DTC-H
SPA-A	11C0-305	OP11-KP1
		op11kp1_HrltKit_b
		11C0-305

Input DLIS Files

DEFAULT	FMS_TLD_MCFL_CNL_065PUP	FN:64	PRODUCER	23-Feb-2004 00:24	3692.2 M	2781.0 M
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Input DLIS Files						
DEFAULT	FMS_TLD_MCFL_CNL_065PUP	FN:64	PRODUCER	23-Feb-2004 00:24	3692.2 M	2781.0 M
HRDD Processing Flags Statistical Analysis:						
Percentages computed on interval 12070.7 to 9563.8 ft (3679.1 to 2915.1 m)						
Pef Flags Up	7.1 %					
Density Flags Up	7.0 %					
	Window 1	Window 2	Window 3	Window 4		
BS Average Reconstruction Error	-0.29 %	-0.23 %	2.75 %			
SS Average Reconstruction Error	-0.19 %	0.71 %	0.83 %	-0.22 %		
LS Average Reconstruction Error	-0.52 %	-0.01 %	-3.80 %	-7.27 %		

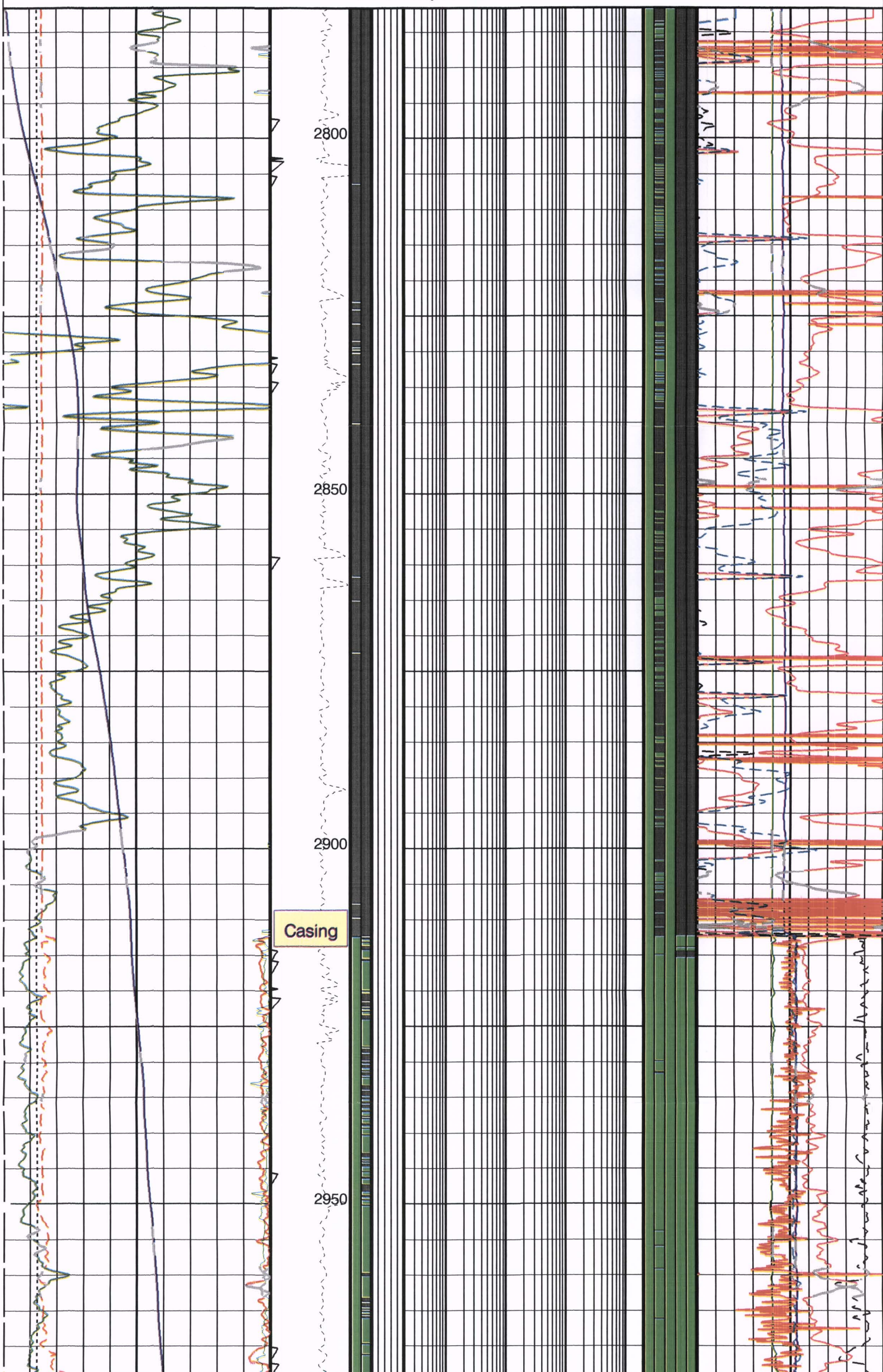
OP System Version: 11C0-305			
MCM			
MEST-B	11C0-305	DTA-A	OP11-KP1
HILTH-FTB	op11kp1_newpex150kit_G_b	HRLT-B	op11kp1_HrltKit_b
EMS-B	11C0-305	DTC-H	11C0-305
SPA-A	11C0-305		

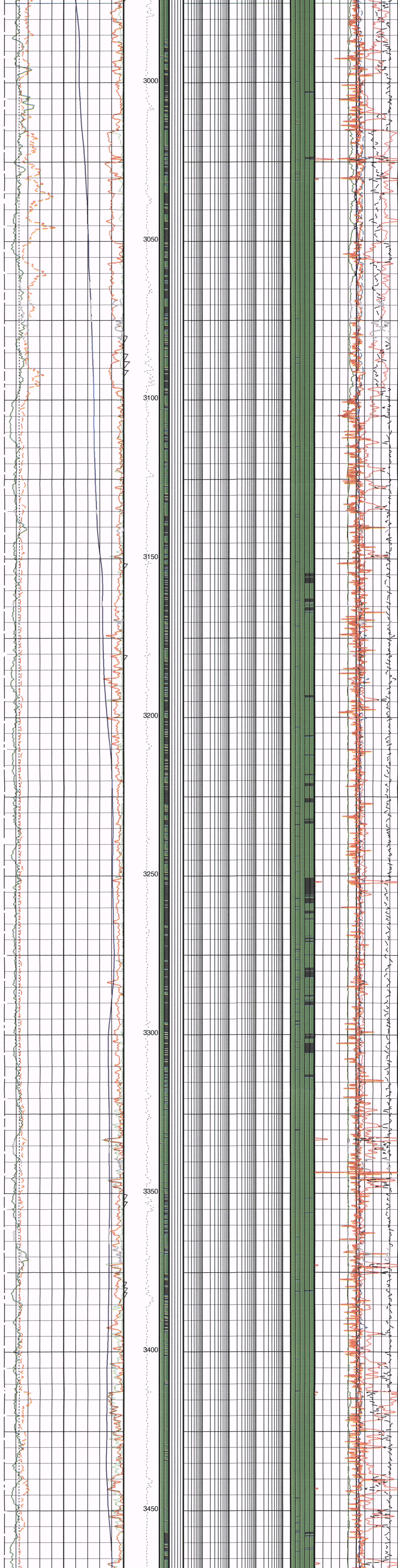
Changed Parameter Summary			
DLIS Name	New Value	Previous Value	Depth & Time
BHS	OPEN	OPEN	3692.2 01:42:42
	CASED	OPEN	2911.9 01:45:09

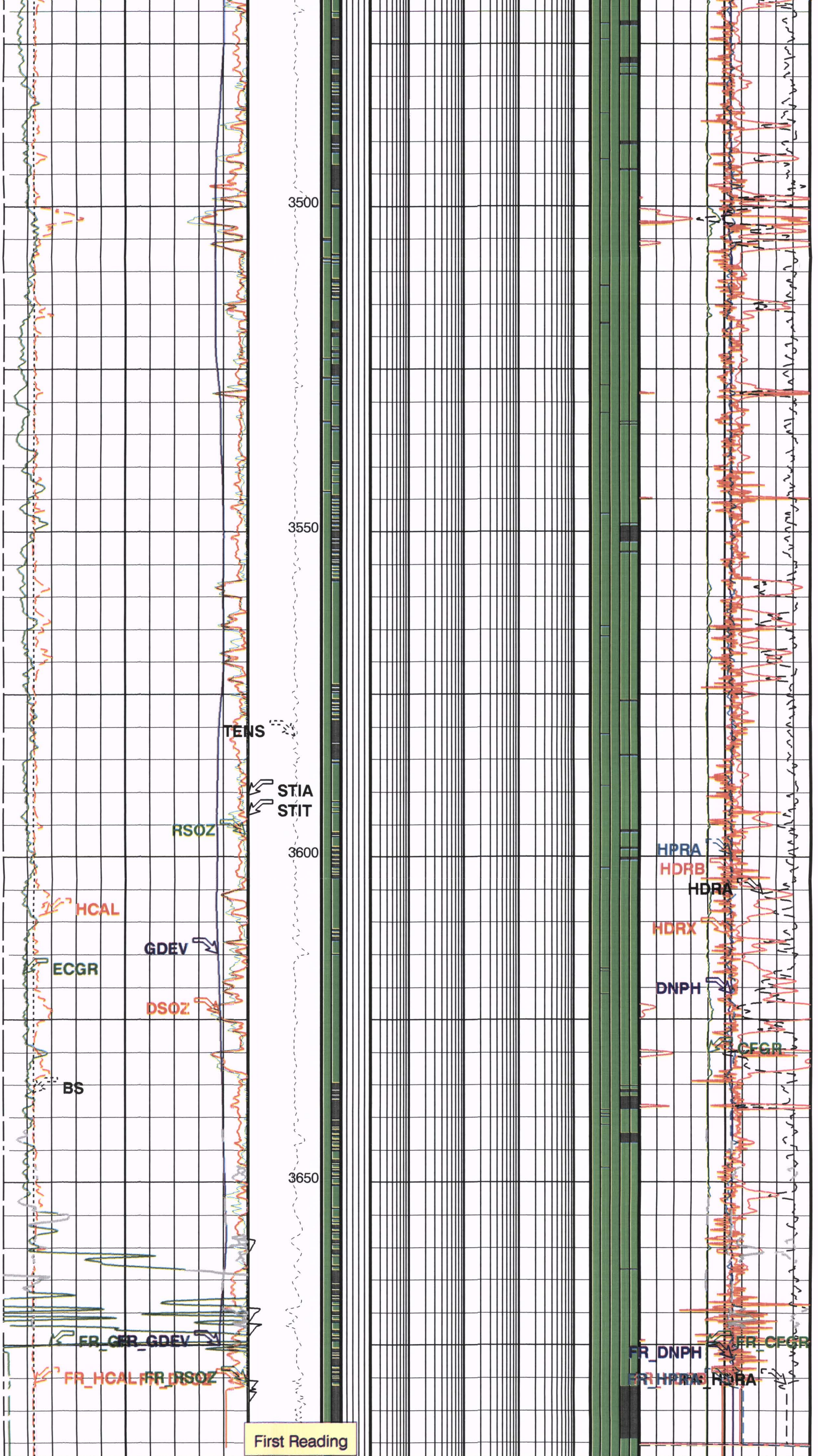
PIP SUMMARY			
Time Mark Every 60 S			
125	HILT Caliper (HCAL) (MM)	375	Pe Correction (HPRA) (---) 3
-5	HGNS Deviation (GDEV) (DEG)	45	BS Delta Rho (HDRB) (G/C3) 0.5
0	Gamma Ray (ECGR) (GAPI)	150	Density Correction (HDRA) (K/M3) -50
65	Std. Res. Density Standoff (DSOZ) (MM)	0	Hdrx (HDRX) (---) 1.5
125	Bit Size (BS) (MM)	375	Delta Neutron Porosity (DNPH) (V/V) 0.1
65	Std. Res. Resistivity Standoff (RSOZ) (MM)	0	GR Borehole Correction Factor (CFGR) (---) 1.5
	Stuck Stretch (STIT) (M) 20		
	Tension (TENS) (N) 25000	0	

LOG QUALITY: *** PLATFORM EXPRESS ***

*** Flag Tracks ***
White = Absent Green = Good Yellow = Warn Red/Black = Bad
RESISTIVITY TRACK :
1. MCFL Hardware
2. RXO Processing
3. HAIT Hardware
4. HAIT Array[1-2]
5. HAIT Array[3-4]
6. HAIT Array[5-6]
7. HAIT Array[7-8]
NUCLEAR TRACK :
1. Accelerometer
2. Density Detector
3. Neutron Porosity
4. Density Computation
5. Pef Computation







*** Flag Tracks ***
White = Absent Green = Good Yellow = Warn Red/Black = Bad

RESISTIVITY TRACK :

1. MCFL Hardware
2. RXO Processing
3. HAIT Hardware
4. HAIT Array[1-2]
5. HAIT Array[3-4]
6. HAIT Array[5-6]
7. HAIT Array[7-8]

NUCLEAR TRACK :

1. Accelerometer
2. Density Detector
3. Neutron Porosity
4. Density Computation
5. Pef Computation

LOG QUALITY: *** PLATFORM EXPRESS ***

Std. Res. Resistivity Standoff (RSOZ) 65 (MM) 0	Tension (TENS) (N) 25000 0	GR Borehole Correction Factor (CFGR) 0.5 (----) 1.5
Bit Size (BS) 125 (MM) 375	Stuck Stretch (STIT) 0 (M) 20	Delta Neutron Porosity (DNPH) -0.1 (V/V) 0.1
Std. Res. Density Standoff (DSOZ) 65 (MM) 0		Hdx (HDRX) 0.5 (----) 1.5
Gamma Ray (ECGR) 0 (GAPI) 150		Density Correction (HDRA) 450 (K/M3) -50
HGNS Deviation (GDEV) -5 (DEG) 45		BS Delta Rho (HDRB) -0.5 (G/C3) 0.5
HILT Caliper (HCAL) 125 (MM) 375		Pe Correction (HPRA) -3 (----) 3

PIP SUMMARY

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value
HILTH-FTB: High resolution Integrated Logging Tool-DTS		
BHFL	Borehole Fluid Type	WATER
BHS	Borehole Status	OPEN
BSCO	Borehole Salinity Correction Option	NO
CCCO	Casing & Cement Thickness Correction Option	NO
DHC	Density Hole Correction	BS
FSAL	Formation Salinity	-50000 PPM
FSCO	Formation Salinity Correction Option	NO
GCSE	Generalized Caliper Selection	HCAL
GDEV	Average Angular Deviation of Borehole from Normal	40 DEG
GGRD	Geothermal Gradient	0.018227 DC/M
HSCO	Hole Size Correction Option	YES
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE
MCCO	Mud Cake Correction Option	NO
MCOR	Mud Correction	NATU
MPOF	MCFL Processing Operation Mode	ON
MWCO	Mud Weight Correction Option	NO
NAAC	HRDD APS Activation Correction	OFF
NMT	HILT Nuclear Mud Type	NOBARITE
NPRM	HRDD Processing Mode	HiRes
NSAR	HRDD Depth Sampling Rate	25.4 MM
PTCO	Pressure/Temperature Correction Option	NO
SDAT	Standoff Data Source	SOCN
SHT	Surface Hole Temperature	20 DEGC
SOCN	Standoff Distance	3.175 MM
SOCO	Standoff Correction Option	YES
HRLT-B: High Resolution Laterolog Array - B		
BHS	Borehole Status	OPEN
GCSE	Generalized Caliper Selection	HCAL
GDEV	Average Angular Deviation of Borehole from Normal	40 DEG
GGRD	Geothermal Gradient	0.018227 DC/M
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE
SHT	Surface Hole Temperature	20 DEGC
EMS-B: Environment Measurement Sonde		
BHS	Borehole Status	OPEN
GCSE	Generalized Caliper Selection	HCAL
GDEV	Average Angular Deviation of Borehole from Normal	40 DEG
GGRD	Geothermal Gradient	0.018227 DC/M
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE
SHT	Surface Hole Temperature	20 DEGC
DIR: Directional Survey Computation		
SPVD	TVD of Starting Point	0 M
TIMD	Along-hole depth of Tie-in Point	75.2 M
TIVD	TVD of Tie-in Point	75.2 M
STI: Stuck Tool Indicator		
LBFR	Trigger for MAXIS First Reading Label	TDL
STKT	STI Stuck Threshold	1.524 M
TDD	Total Depth - Driller	3700.00 M
TDL	Total Depth - Logger	3692.00 M
System and Miscellaneous		
BS	Bit Size	156.000 MM
BSAL	Borehole Salinity	-50000.00 PPM
CSIZ	Current Casing Size	177.800 MM
CWEI	Casing Weight	38.70 KG/M
DFD	Drilling Fluid Density	1050.00 K/M3
DO	Depth Offset for Playback	0.0 M
MST	Mud Sample Temperature	23.53 DEGC
PP	Playback Processing	NORMAL
RMFS	Resistivity of Mud Filtrate Sample	1.2110 OHMM

Format: PEX_LQC Vertical Scale: 1:600 Graphics File Created: 23-Feb-2004 01:42

OP System Version: 11C0-305

MCM

MEST-B	11C0-305	DTA-A	OP11-KP1
HILTH-FTB	op11kp1_newpex150kit_G_b	HRLT-B	op11kp1_HrltKit_b
EMS-B	11C0-305	DTC-H	11C0-305
SPA-A	11C0-305		

Input DLIS Files

DEFAULT	FMS_TLD_MCFL_CNL_065PUP	FN:64	PRODUCER	23-Feb-2004 00:24	3692.2 M	2781.0 M
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Calibration and Check Summary							
Measurement	Nominal	Master	Before	After	Change	Limit	Units
Micro Electrical Scanner - B (Slim) Wellsite Calibration - Caliper Calibration							
Before: 17-Feb-2004 15:15							
Caliper 1 Zero Measurement	203.2	N/A	205.8	N/A	N/A	N/A	MM
Caliper 2 Zero Measurement	203.2	N/A	217.4	N/A	N/A	N/A	MM
Caliper 1 Plus Measurement	304.8	N/A	308.9	N/A	N/A	N/A	MM
Caliper 2 Plus Measurement	304.8	N/A	318.2	N/A	N/A	N/A	MM
Micro Electrical Scanner - B (Slim) Wellsite Calibration - CROUZET ACCELEROMETER PROM HAS BEEN READ CORRECTLY							
Before: 22-Feb-2004 15:35							
TEMPERATURE REFERENCE :	N/A	N/A	20	N/A	N/A	N/A	DEGC
YEAR OF CALIBRATION :	N/A	N/A	2	N/A	N/A	N/A	
MONTH OF CALIBRATION :	N/A	N/A	1	N/A	N/A	N/A	
SERIAL NUMBER :	N/A	N/A	470	N/A	N/A	N/A	
Micro Electrical Scanner - B (Slim) Wellsite Calibration - CROUZET MAGNETOMETER PROM HAS BEEN READ CORRECTLY							
Before: 22-Feb-2004 15:35							
TEMPERATURE REFERENCE :	N/A	N/A	23	N/A	N/A	N/A	DEGC
YEAR OF CALIBRATION :	N/A	N/A	98	N/A	N/A	N/A	
MONTH OF CALIBRATION :	N/A	N/A	10	N/A	N/A	N/A	
SERIAL NUMBER :	N/A	N/A	275	N/A	N/A	N/A	
High resolution Integrated Logging Tool-DTS Wellsite Calibration - Stab Measurement Summary							
Before: 20-Feb-2004 14:18							
BS Window Ratio	0.7664	N/A	0.7637	N/A	N/A	N/A	CPS
BS Window Sum	28520	N/A	28520	N/A	N/A	N/A	
SS Window Ratio	0.4825	N/A	0.4805	N/A	N/A	N/A	
SS Window Sum	12620	N/A	12600	N/A	N/A	N/A	CPS
LS Window Ratio	0.3047	N/A	0.3027	N/A	N/A	N/A	CPS
LS Window Sum	1334	N/A	1323	N/A	N/A	N/A	
High resolution Integrated Logging Tool-DTS Wellsite Calibration - Photo-multiplier High Voltages Calibrations							
Before: 20-Feb-2004 14:18							
BS PM High Voltage (Command)	1421	N/A	1447	N/A	N/A	N/A	V
SS PM High Voltage (Command)	1394	N/A	1404	N/A	N/A	N/A	V
LS PM High Voltage (Command)	1361	N/A	1359	N/A	N/A	N/A	V
High resolution Integrated Logging Tool-DTS Wellsite Calibration - Crystal Quality Resolutions Calibration							
Before: 20-Feb-2004 14:18							
BS Crystal Resolution	10.63	N/A	10.62	N/A	N/A	N/A	%
SS Crystal Resolution	9.427	N/A	9.446	N/A	N/A	N/A	%
LS Crystal Resolution	9.081	N/A	9.019	N/A	N/A	N/A	%
High resolution Integrated Logging Tool-DTS Wellsite Calibration - MCFL Calibration							
Before: 20-Feb-2004 14:04							
Raw B0 Resistivity	3875	N/A	3828	N/A	N/A	N/A	OHMM
Raw B1 Resistivity	3830	N/A	3774	N/A	N/A	N/A	OHMM
Raw B2 Resistivity	3830	N/A	3784	N/A	N/A	N/A	OHMM
High resolution Integrated Logging Tool-DTS Wellsite Calibration - HILT Caliper Calibration							
Before: 20-Feb-2004 14:00							
HILT Caliper Zero Measurement	203.2	N/A	199.1	N/A	N/A	N/A	MM
HILT Caliper Plus Measurement	304.8	N/A	306.7	N/A	N/A	N/A	MM
High resolution Integrated Logging Tool-DTS Wellsite Calibration - Detector Calibration							
Before: 20-Feb-2004 14:09							
Gamma Ray Background	30.00	N/A	66.14	N/A	N/A	N/A	GAPI
Gamma Ray (Jig - Bkg)	156.3	N/A	156.3	N/A	N/A	14.21	GAPI
Gamma Ray (Calibrated)	167.0	N/A	167.0	N/A	N/A	15.00	GAPI
High resolution Integrated Logging Tool-DTS Wellsite Calibration - Accelerometer Calibration							
Before: 22-Feb-2004 7:44							
Z-Axis Acceleration	9.810	N/A	9.825	N/A	N/A	N/A	M/S2
High resolution Integrated Logging Tool-DTS Master Calibration - Inversion results							
Master: 2-Feb-2004 21:43							
Rho Aluminum	2596	2602	--	--	--	--	K/M3
Rho Magnesium	1686	1687	--	--	--	--	K/M3
Pe Aluminum	2.570	2.545	--	--	--	--	
Pe Magnesium	2.650	2.618	--	--	--	--	
High resolution Integrated Logging Tool-DTS Master Calibration - Deviation Summary							
Master: 2-Feb-2004 21:43							
BS Average Deviation	0	0.3931	--	--	--	--	%
BS Max Deviation	0	1.134	--	--	--	--	%
SS Average Deviation	0	0.4284	--	--	--	--	%
SS Max Deviation	0	1.624	--	--	--	--	%
LS Average Deviation	0	0.8353	--	--	--	--	%
LS Max Deviation	0	1.817	--	--	--	--	%
High resolution Integrated Logging Tool-DTS Master Calibration - Zero Measurement							
Master: 18-Feb-2004 19:21							
CNTC Background	26.80	26.80	--	--	--	--	CPS
CFTC Background	28.50	28.50	--	--	--	--	CPS
High resolution Integrated Logging Tool-DTS Master Calibration - Tank Measurement							
Master: 18-Feb-2004 19:21							
Thermal Near Corr. (Tank)	6031	5189	--	--	--	--	CPS
Thermal Far Corr. (Tank)	2793	2196	--	--	--	--	CPS
CNTC/CFTC (Tank)	2.159	2.363	--	--	--	--	
High Resolution Laterolog Array - B Wellsite Calibration - HRLT M01							
Before: 22-Feb-2004 15:35							
HRLT M0-M1 Voltage Plus - 0	0	N/A	-317.5	N/A	N/A	9.681	UV
HRLT M0-M1 Voltage Plus - 1	0	N/A	-327.8	N/A	N/A	9.681	UV
HRLT M0-M1 Voltage Plus - 2	0	N/A	-328.6	N/A	N/A	9.681	UV
HRLT M0-M1 Voltage Plus - 3	0	N/A	-332.3	N/A	N/A	9.681	UV
HRLT M0-M1 Voltage Plus - 4	0	N/A	-322.7	N/A	N/A	9.681	UV
HRLT M0-M1 Voltage Plus - 5	0	N/A	-324.6	N/A	N/A	9.681	UV
HRLT M0-M1 Voltage Plus - 6	0	N/A	318.4	N/A	N/A	9.681	UV
HRLT M0-M1 Voltage Plus - 7	0	N/A	-322.7	N/A	N/A	9.681	UV
High Resolution Laterolog Array - B Wellsite Calibration - HRLT M12							
Before: 22-Feb-2004 15:35							
HRLT M1-M2 Voltage Plus - 0	0	N/A	1751	N/A	N/A	53.42	UV
HRLT M1-M2 Voltage Plus - 1	0	N/A	1807	N/A	N/A	53.42	UV
HRLT M1-M2 Voltage Plus - 2	0	N/A	1808	N/A	N/A	53.42	UV
HRLT M1-M2 Voltage Plus - 3	0	N/A	1829	N/A	N/A	53.42	UV
HRLT M1-M2 Voltage Plus - 4	0	N/A	1777	N/A	N/A	53.42	UV
HRLT M1-M2 Voltage Plus - 5	0	N/A	1789	N/A	N/A	53.42	UV
HRLT M1-M2 Voltage Plus - 6	0	N/A	-1763	N/A	N/A	53.42	UV
HRLT M1-M2 Voltage Plus - 7	0	N/A	1781	N/A	N/A	53.42	UV
High Resolution Laterolog Array - B Wellsite Calibration - HRLT M23							
Before: 22-Feb-2004 15:35							
HRLT M2-M3 Voltage Plus - 0	0	N/A	1741	N/A	N/A	53.42	UV
HRLT M2-M3 Voltage Plus - 1	0	N/A	1812	N/A	N/A	53.42	UV
HRLT M2-M3 Voltage Plus - 2	0	N/A	1812	N/A	N/A	53.42	UV
HRLT M2-M3 Voltage Plus - 3	0	N/A	1836	N/A	N/A	53.42	UV
HRLT M2-M3 Voltage Plus - 4	0	N/A	1778	N/A	N/A	53.42	UV
HRLT M2-M3 Voltage Plus - 5	0	N/A	1790	N/A	N/A	53.42	UV
HRLT M2-M3 Voltage Plus - 6	0	N/A	-1757	N/A	N/A	53.42	UV
HRLT M2-M3 Voltage Plus - 7	0	N/A	1781	N/A	N/A	53.42	UV
High Resolution Laterolog Array - B Wellsite Calibration - HRLT V34							
Before: 22-Feb-2004 15:35							
HRLT A3-A4 Voltage Plus - 0	0	N/A	68660	N/A	N/A	2100	UV
HRLT A3-A4 Voltage Plus - 1	0	N/A	71390	N/A	N/A	2100	UV
HRLT A3-A4 Voltage Plus - 2	0	N/A	71660	N/A	N/A	2100	UV
HRLT A3-A4 Voltage Plus - 3	0	N/A	72830	N/A	N/A	2100	UV
HRLT A3-A4 Voltage Plus - 4	0	N/A	70460	N/A	N/A	2100	UV
HRLT A3-A4 Voltage Plus - 5	0	N/A	70950	N/A	N/A	2100	UV
HRLT A3-A4 Voltage Plus - 6	0	N/A	-68200	N/A	N/A	2100	UV
HRLT A3-A4 Voltage Plus - 7	0	N/A	70000	N/A	N/A	2100	UV
High Resolution Laterolog Array - B Wellsite Calibration - HRLT V45							
Before: 22-Feb-2004 15:35							
HRLT A4-A5 Voltage Plus - 0	0	N/A	68600	N/A	N/A	2100	UV
HRLT A4-A5 Voltage Plus - 1	0	N/A	70950	N/A	N/A	2100	UV
HRLT A4-A5 Voltage Plus - 2	0	N/A	71300	N/A	N/A	2100	UV
HRLT A4-A5 Voltage Plus - 3	0	N/A	72580	N/A	N/A	2100	UV
HRLT A4-A5 Voltage Plus - 4	0	N/A	70350	N/A	N/A	2100	UV
HRLT A4-A5 Voltage Plus - 5	0	N/A	70880	N/A	N/A	2100	UV
HRLT A4-A5 Voltage Plus - 6	0	N/A	-67740	N/A	N/A	2100	UV
HRLT A4-A5 Voltage Plus - 7	0	N/A	70000	N/A	N/A	2100	UV
High Resolution Laterolog Array - B Wellsite Calibration - HRLT V56							
Before: 22-Feb-2004 15:35							
HRLT A5-A6 Voltage Plus - 0	0	N/A	68740	N/A	N/A	2100	UV
HRLT A5-A6 Voltage Plus - 1	0	N/A	71380	N/A	N/A	2100	UV
HRLT A5-A6 Voltage Plus - 2	0	N/A	71660	N/A	N/A	2100	UV
HRLT A5-A6 Voltage Plus - 3	0	N/A	72870	N/A	N/A	2100	UV
HRLT A5-A6 Voltage Plus - 4	0	N/A	70520	N/A	N/A	2100	UV
HRLT A5-A6 Voltage Plus - 5	0	N/A	71020	N/A	N/A	2100	UV
HRLT A5-A6 Voltage Plus - 6	0	N/A	-68190	N/A	N/A	2100	UV
HRLT A5-A6 Voltage Plus - 7	0	N/A	70000	N/A	N/A	2100	UV
High Resolution Laterolog Array - B Wellsite Calibration - HRLT VTP							
Before: 22-Feb-2004 15:35							
HRLT Torpedo-M0 Voltage - 0	0	N/A	-67950	N/A	N/A	2100	UV
HRLT Torpedo-M0 Voltage - 1	0	N/A	-70990	N/A	N/A	2100	UV
HRLT Torpedo-M0 Voltage - 2	0	N/A	-71280	N/A	N/A	2100	UV
HRLT Torpedo-M0 Voltage - 3	0	N/A	-72490	N/A	N/A	2100	UV
HRLT Torpedo-M0 Voltage - 4	0	N/A	-70180	N/A	N/A	2100	UV
HRLT Torpedo-M0 Voltage - 5	0	N/A	-70660	N/A	N/A	2100	UV
HRLT Torpedo-M0 Voltage - 6	0	N/A	67790	N/A	N/A	2100	UV
HRLT Torpedo-M0 Voltage - 7	0	N/A	-70000	N/A	N/A	2100	UV
High Resolution Laterolog Array - B Wellsite Calibration - HRLT VBD							
Before: 22-Feb-2004 15:35							
HRLT Bridle#9-M0 Voltage - 0	0	N/A	-67960	N/A	N/A	2100	UV
HRLT Bridle#9-M0 Voltage - 1	0	N/A	-71010	N/A	N/A	2100	UV
HRLT Bridle#9-M0 Voltage - 2	0	N/A	-71290	N/A	N/A	2100	UV
HRLT Bridle#9-M0 Voltage - 3	0	N/A	-72520	N/A	N/A	2100	UV
HRLT Bridle#9-M0 Voltage - 4	0	N/A	-70190	N/A	N/A	2100	UV
HRLT Bridle#9-M0 Voltage - 5	0	N/A	-70670	N/A	N/A	2100	UV
HRLT Bridle#9-M0 Voltage - 6	0	N/A	67800	N/A	N/A	2100	UV
HRLT Bridle#9-M0 Voltage - 7	0	N/A	-70000	N/A	N/A	2100	UV
High Resolution Laterolog Array - B Wellsite Calibration - HRLT ISO							
Before: 22-Feb-2004 15:35							
HRLT Source Current Plus - 0	0	N/A	283.3	N/A	N/A	8.520	UA
HRLT Source Current Plus - 1	0	N/A	281.1	N/A	N/A	8.520	UA
HRLT Source Current Plus - 2	0	N/A	281.1	N/A	N/A	8.520	UA
HRLT Source Current Plus - 3	0	N/A	281.1	N/A	N/A	8.520	UA
HRLT Source Current Plus - 4	0	N/A	281.1	N/A	N/A	8.520	UA
HRLT Source Current Plus - 5	0	N/A	281.1	N/A	N/A	8.520	UA
HRLT Source Current Plus - 6	0	N/A	281.1	N/A	N/A	8.520	UA
HRLT Source Current Plus - 7	0	N/A	281.1	N/A	N/A	8.520	UA
High Resolution Laterolog Array - B Wellsite Calibration - HRLT MV							
Before: 22-Feb-2004 15:35							
HRLT Vertical Voltage PI - 0	0	N/A	-317.9	N/A	N/A	9.681	UV
HRLT Vertical Voltage PI - 1	0	N/A	-320.7	N/A	N/A	9.681	UV
HRLT Vertical Voltage PI - 2	0	N/A	-320.7	N/A	N/A	9.681	UV
HRLT Vertical Voltage PI - 3	0	N/A	-322.6	N/A	N/A	9.681	UV
HRLT Vertical Voltage PI - 4	0	N/A	-310.4	N/A	N/A	9.681	UV
HRLT Vertical Voltage PI - 5	0	N/A	-327.4	N/A	N/A	9.681	UV
HRLT Vertical Voltage PI - 6	0	N/A	324.3	N/A	N/A	9.681	UV
HRLT Vertical Voltage PI - 7	0	N/A	-322.7	N/A	N/A	9.681	UV
The GLS-VJ source activity is acceptable.							
The HGNS Neutron Master Calibration was done with the following parameters :							
NCT-B Water Temperature	17.7	DEGC.					
Thermal Housing Size	85.700	MM.					
NSR-F serial number	5030						

High resolution Integrated Logging Tool-DTS / Equipment Identification			
Primary Equipment:			
HILT high-Resolution Mechanical Sonde	HRMS - H	3782	
HILT Rxo Gamma-ray Device	HRGD - H	3794	
HILT Micro Cylindrically Focused Log Dev	MCFL - H		
GR Logging Source	GLS - VJ	7801	
HILT High Res. Control Cartridge	HRCC - H	3773	
HILT Gamma-Ray Neutron Sonde-DTS	HGNS - H	3758	
HILT Gamma-Ray Device	HGR -		
HILT Neutron Detector with Alpha Source	HCNT - H		
Auxiliary Equipment:			
Neutron Calibration Tank	NCT - B		
Gamma Source Radioactive	GSR - U/Y		

High resolution Integrated Logging Tool-DTS Wellsite Calibration							
Stab Measurement Summary							
Phase	BS Window Ratio		Value	Phase	SS Window Ratio		Value
Before			0.7637	Before			0.4805
	0.7281 (Minimum)	0.7664 (Nominal)	0.8048 (Maximum)		0.4584 (Minimum)	0.4825 (Nominal)	0.5066 (Maximum)
Phase	BS Window Sum CPS		Value	Phase	SS Window Sum CPS		Value
Before			28520	Before			12600
	27090 (Minimum)	28520 (Nominal)	29940 (Maximum)		11990 (Minimum)	12620 (Nominal)	13250 (Maximum)
Before: 20-Feb-2004 14:18							

High resolution Integrated Logging Tool-DTS Wellsite Calibration									
Photo-multiplier High Voltages Calibrations									
Phase	BS PM High Voltage (Command) V			Value	Phase	SS PM High Voltage (Command) V			Value
Before				1447	Before				1404
	1321 (Minimum)	1421 (Nominal)	1521 (Maximum)			1294 (Minimum)	1394 (Nominal)	1494 (Maximum)	
Phase	LS PM High Voltage (Command) V			Value	Phase	LS PM High Voltage (Command) V			Value
Before				1359					1359
	1261 (Minimum)	1361 (Nominal)	1461 (Maximum)						
Before: 20-Feb-2004 14:18									

High resolution Integrated Logging Tool-DTS Wellsite Calibration											
Crystal Quality Resolutions Calibration											
BS Crystal Resolution %			Value	SS Crystal Resolution %			Value	LS Crystal Resolution %			Value
Before			10.62	Before			9.446	Before			9.019
9.633 (Minimum)	10.63 (Nominal)	11.63 (Maximum)		8.427 (Minimum)	9.427 (Nominal)	10.43 (Maximum)		8.081 (Minimum)	9.081 (Nominal)	10.08 (Maximum)	
Before: 20-Feb-2004 14:18											

High resolution Integrated Logging Tool-DTS Wellsite Calibration														
MCFL Calibration														
Phase	Raw B0 Resistivity		OHMM	Value	Phase	Raw B1 Resistivity		OHMM	Value	Phase	Raw B2 Resistivity		OHMM	Value
Before				3828	Before				3774	Before				3784
	3565 (Minimum)	3875 (Nominal)		4185 (Maximum)		3524 (Minimum)	3830 (Nominal)		4136 (Maximum)		3524 (Minimum)	3830 (Nominal)		4136 (Maximum)
Before: 20-Feb-2004 14:04														

High resolution Integrated Logging Tool-DTS Wellsite Calibration							
HILT Caliper Calibration							
Phase	HILT Caliper Zero Measurement MM		Value	Phase	HILT Caliper Plus Measurement MM		Value
Before			199.1	Before			306.7
	152.4 (Minimum)	203.2 (Nominal)	254.0 (Maximum)		228.6 (Minimum)	304.8 (Nominal)	381.0 (Maximum)
Before: 20-Feb-2004 14:00							

High resolution Integrated Logging Tool-DTS Wellsite Calibration									
Detector Calibration									
Phase	Gamma Ray Background		GAPI	Value	Phase	Gamma Ray (Jig - Bkg)		GAPI	Value
Before				66.14	Before				156.3
0	30.00	120.0			142.1	156.3	170.5		
(Minimum)	(Nominal)	(Maximum)			(Minimum)	(Nominal)	(Maximum)		
Phase	Gamma Ray (Calibrated)		GAPI	Value	Phase	Gamma Ray (Calibrated)		GAPI	Value
Before				167.0					167.0
Before: 20-Feb-2004 14:09									

High resolution Integrated Logging Tool-DTS Wellsite Calibration			
Accelerometer Calibration			
Phase	Z-Axis Acceleration M/S2		Value
Before			9.825
	9.610 (Minimum)	9.810 (Nominal)	10.01 (Maximum)
Before: 22-Feb-2004 7:44			

High resolution Integrated Logging Tool-DTS Master Calibration							
Inversion results							
Phase	Rho Aluminum K/M3		Value	Phase	Rho Magnesium K/M3		Value
Master			2602	Master			1687
	2586 (Minimum)	2596 (Nominal)	2606 (Maximum)		1676 (Minimum)	1686 (Nominal)	1696 (Maximum)
Phase	Pe Aluminum		Value	Phase	Pe Magnesium		Value
Master			2.545	Master			2.618
	2.470 (Minimum)	2.570 (Nominal)	2.670 (Maximum)		2.550 (Minimum)	2.650 (Nominal)	2.750 (Maximum)
Master: 2-Feb-2004 21:43							

High resolution Integrated Logging Tool-DTS Master Calibration											
Deviation Summary											
BS Average Deviation %			Value	SS Average Deviation %			Value	LS Average Deviation %			Value
Master			0.3931	Master			0.4284	Master			0.8353
-0.6000 (Minimum)	0 (Nominal)	0.6000 (Maximum)		-1.000 (Minimum)	0 (Nominal)	1.000 (Maximum)		-1.500 (Minimum)	0 (Nominal)	1.500 (Maximum)	
BS Max Deviation %			Value	SS Max Deviation %			Value	LS Max Deviation %			Value
Master			1.134	Master			1.624	Master			1.817
-1.600 (Minimum)	0 (Nominal)	1.600 (Maximum)		-2.500 (Minimum)	0 (Nominal)	2.500 (Maximum)		-3.500 (Minimum)	0 (Nominal)	3.500 (Maximum)	
Master: 2-Feb-2004 21:43											

High resolution Integrated Logging Tool-DTS Master Calibration							
Zero Measurement							
Phase	CNTC Background CPS		Value	Phase	CFTC Background CPS		Value
Master			26.80	Master			28.50
	5.000 (Minimum)	26.80 (Nominal)	40.00 (Maximum)		5.000 (Minimum)	28.50 (Nominal)	40.00 (Maximum)
Master: 18-Feb-2004 19:21							

High resolution Integrated Logging Tool-DTS Master Calibration									
Tank Measurement									
Phase	Thermal Near Corr. (Tank) CPS			Value	Phase	Thermal Far Corr. (Tank) CPS			Value
Master				5189	Master				2196
	5000 (Minimum)	6031 (Nominal)	7200 (Maximum)			2075 (Minimum)	2793 (Nominal)	3125 (Maximum)	
Phase	CNTC/CFTC (Tank)			Value	Phase	CNTC/CFTC (Tank)			Value
Master				2.363					
	2.120 (Minimum)	2.159 (Nominal)	2.540 (Maximum)						
Master: 18-Feb-2004 19:21									

High Resolution Laterolog Array - B / Equipment Identification			
Primary Equipment:			
HRLT Sonde	HRLS - B	764	
Auxiliary Equipment:			
HRLT lower Housing	HRLH - B	765	
HRLT Lower Cartridge	HRLC - B	755	
HRLT upper Housing	HRUH - B	759	
HRLT Upper Cartridge	HRUC - B	766	

High Resolution Laterolog Array - B Wellsite Calibration						
HRLT M01						
Idx	Phase	HRLT M0-M1 Voltage Plus UV	Value	Nominal	Maximum	Minimum
0	Before		-317.5	-322.7	-280.7	-379.7
1	Before		-327.8	-322.7	-280.7	-379.7
2	Before		-328.6	-322.7	-280.7	-379.7
3	Before		-332.3	-322.7	-280.7	-379.7
4	Before		-322.7	-322.7	-280.7	-379.7
5	Before		-324.6	-322.7	-280.7	-379.7
6	Before		318.4	322.7	379.7	280.7
7	Before		-322.7	-322.7	-280.7	-379.7
		(Minimum) (Nominal) (Maximum)				
Before: 22-Feb-2004 15:35						

High Resolution Laterolog Array - B Wellsite Calibration						
HRLT M12						
Idx	Phase	HRLT M1-M2 Voltage Plus UV	Value	Nominal	Maximum	Minimum
0	Before		1751	1781	2095	1549
1	Before		1807	1781	2095	1549
2	Before		1808	1781	2095	1549
3	Before		1829	1781	2095	1549
4	Before		1777	1781	2095	1549
5	Before		1789	1781	2095	1549
6	Before		-1763	-1781	-1549	-2095
7	Before		1781	1781	2095	1549
		(Minimum) (Nominal) (Maximum)				
Before: 22-Feb-2004 15:35						

High Resolution Laterolog Array - B Wellsite Calibration						
HRLT M23						
Idx	Phase	HRLT M2-M3 Voltage Plus UV	Value	Nominal	Maximum	Minimum
0	Before		1741	1781	2095	1549
1	Before		1812	1781	2095	1549
2	Before		1812	1781	2095	1549
3	Before		1836	1781	2095	1549
4	Before		1778	1781	2095	1549
5	Before		1790	1781	2095	1549
6	Before		-1757	-1781	-1549	-2095
7	Before		1781	1781	2095	1549
		(Minimum)	(Nominal)	(Maximum)		

Before: 22-Feb-2004 15:35

3	Before		72830	70000	82360	60900
4	Before		70460	70000	82360	60900
5	Before		70950	70000	82360	60900
6	Before		-68200	-70000	-60900	-82360
7	Before		70000	70000	82360	60900
			(Minimum)	(Nominal)	(Maximum)	
Before: 22-Feb-2004 15:35						

High Resolution Laterolog Array - B Wellsite Calibration						
HRLT V45						
Idx	Phase	HRLT A4-A5 Voltage Plus UV	Value	Nominal	Maximum	Minimum
0	Before		68600	70000	82360	60900
1	Before		70950	70000	82360	60900
2	Before		71300	70000	82360	60900
3	Before		72580	70000	82360	60900
4	Before		70350	70000	82360	60900
5	Before		70880	70000	82360	60900
6	Before		-67740	-70000	-60900	-82360
7	Before		70000	70000	82360	60900
			(Minimum)	(Nominal)	(Maximum)	
Before: 22-Feb-2004 15:35						

High Resolution Laterolog Array - B Wellsite Calibration						
HRLT V56						
Idx	Phase	HRLT A5-A6 Voltage Plus UV	Value	Nominal	Maximum	Minimum
0	Before		68740	70000	82360	60900
1	Before		71380	70000	82360	60900
2	Before		71660	70000	82360	60900
3	Before		72870	70000	82360	60900
4	Before		70520	70000	82360	60900
5	Before		71020	70000	82360	60900
6	Before		-68190	-70000	-60900	-82360
7	Before		70000	70000	82360	60900
			(Minimum)	(Nominal)	(Maximum)	
Before: 22-Feb-2004 15:35						

High Resolution Laterolog Array - B Wellsite Calibration						
HRLT VTP						
Idx	Phase	HRLT Torpedo-M0 Voltage Plus UV	Value	Nominal	Maximum	Minimum
0	Before		-67950	-70000	-60900	-82360
1	Before		-70990	-70000	-60900	-82360
2	Before		-71280	-70000	-60900	-82360
3	Before		-72490	-70000	-60900	-82360
4	Before		-70180	-70000	-60900	-82360
5	Before		-70660	-70000	-60900	-82360
6	Before		67790	70000	82360	60900
7	Before		-70000	-70000	-60900	-82360
			(Minimum)	(Nominal)	(Maximum)	
Before: 22-Feb-2004 15:35						

High Resolution Laterolog Array - B Wellsite Calibration						
HRLT VBD						
Idx	Phase	HRLT Bridle#9-M0 Voltage Plus UV	Value	Nominal	Maximum	Minimum
0	Before		-67960	-70000	-60900	-82360
1	Before		-71010	-70000	-60900	-82360
2	Before		-71290	-70000	-60900	-82360
3	Before		-72520	-70000	-60900	-82360
4	Before		-70190	-70000	-60900	-82360
5	Before		-70670	-70000	-60900	-82360
6	Before		67800	70000	82360	60900
7	Before		-70000	-70000	-60900	-82360
			(Minimum)	(Nominal)	(Maximum)	
Before: 22-Feb-2004 15:35						

High Resolution Laterolog Array - B Wellsite Calibration						
HRLT ISO						
Idx	Phase	HRLT Source Current Plus UA	Value	Nominal	Maximum	Minimum
0	Before		283.3	284.0	334.1	247.0
1	Before		281.1	281.1	330.7	244.4
2	Before		281.1	281.1	330.7	244.4
3	Before		281.1	281.1	330.7	244.4
4	Before		281.1	281.1	330.7	244.4
5	Before		281.1	281.1	330.7	244.4
6	Before		281.1	281.1	330.7	244.4
7	Before		281.1	281.1	330.7	244.4
			(Minimum)	(Nominal)	(Maximum)	
Before: 22-Feb-2004 15:35						

High Resolution Laterolog Array - B Wellsite Calibration						
HRLT MV						
Idx	Phase	HRLT Vertical Voltage Plus UV	Value	Nominal	Maximum	Minimum
0	Before		-317.9	-322.7	-280.7	-379.7
1	Before		-320.7	-322.7	-280.7	-379.7
2	Before		-320.7	-322.7	-280.7	-379.7
3	Before		-322.6	-322.7	-280.7	-379.7
4	Before		-310.4	-322.7	-280.7	-379.7
5	Before		-327.4	-322.7	-280.7	-379.7
6	Before		324.3	322.7	379.7	280.7
7	Before		-322.7	-322.7	-280.7	-379.7
			(Minimum)	(Nominal)	(Maximum)	
Before: 22-Feb-2004 15:35						

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