

[illegible]

DEPTH SUMMARY LISTING

Date Created: 30-JUN-2004 20:20:16

Depth System Equipment

Depth Measuring Device		Tension Device		Logging Cable	
Type:	IDW-B	Type:	CMTD-B/A	Type:	7-42V-XS
Serial Number:	-999	Serial Number:	2268	Serial Number:	78197
Calibration Date:	dd-Mmm-yyyy	Calibration Date:	13-Feb-2004	Length:	4500.07 M
Calibrator Serial Number:	-999	Calibrator Serial Number:	1050	Conveyance Method:	Wireline
Calibration Cable Type:	7-46P	Calibration Gain:	0.89	Rig Type:	LAND
Wheel Correction 1:	-2	Calibration Offset:	56.00		
Wheel Correction 2:	-2				

Depth Control Parameters

Log Sequence:	First Log In the Well
Rig Up Length At Surface:	60.39 M
Rig Up Length At Bottom:	60.32 M
Rig Up Length Correction:	0.07 M
Stretch Correction:	0.20 M
Tool Zero Check At Surface:	0.50 M

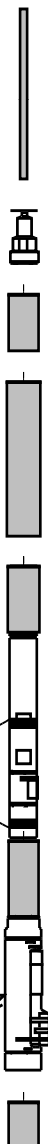
Depth Control Remarks

1. Thid is first run in hole
2. Schlumberger depth control procedures were followed
3. IDW is the primary depth control
4. Z chart is the secondary depth control
- 5.
- 6.

DISCLAIMER

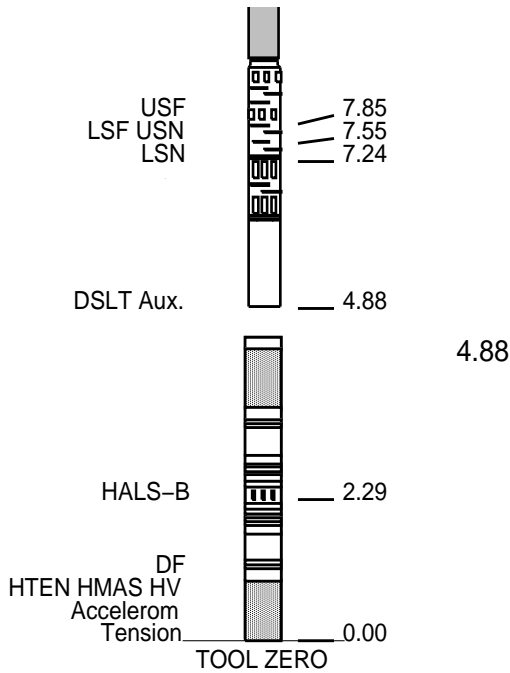
THE USE OF AND RELIANCE UPON THIS RECORDED-DATA BY THE HEREIN NAMED COMPANY (AND ANY OF ITS AFFILIATES, PARTNERS, REPRESENTATIVES, AGENTS, CONSULTANTS AND EMPLOYEES) IS SUBJECT TO THE TERMS AND CONDITIONS AGREED UPON BETWEEN SCHLUMBERGER AND THE COMPANY, INCLUDING: (a) RESTRICTIONS ON USE OF THE RECORDED-DATA; (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: MDT-GR	OS1:
OS2:	OS2:
OS3:	OS3:
OS4:	OS4:
OS5:	OS5:
REMARKS: RUN NUMBER 1	REMARKS: RUN NUMBER 2
This is first run in hole. Full SLB cepth control procedure followed.	
Tool run with 1.5 inch standoffs as per tool sketch. HGNS eccentralized using bowspring	
CNL, TDL, HALS and MCFL loffed to casing shoe.	
GR logged to surface	
HNGS and Hi-Res data logged to 450m as per client request	
Neutron corrected for borehole salinity, hole size, mud weight and mud cake	
Density corrected for bit size and mud weight	

Maximum recorded temperature of 48 degC from thermometers in LEH-QT					
Caliper check in casing reads 8.83 from ASCII and 8.834 expected.					
Additional mud information:					
Chloride: 19000 mg/L, Calcium: 40mg/L, Potassium: 21,076 mg/L, KCL: 3.9%					
Barite present in mud					
RUN 1			RUN 2		
SERVICE ORDER #:			SERVICE ORDER #:		
PROGRAM VERSION: 10C0-306			PROGRAM VERSION:		
FLUID LEVEL:			FLUID LEVEL:		
LOGGED INTERVAL	START	STOP	LOGGED INTERVAL	START	STOP
EQUIPMENT DESCRIPTION					
RUN 1			RUN 2		
SURFACE EQUIPMENT					
LCM-AA 2747 NCS-VB GSR-U/Y GSR-U NCT-B WITM (DTS)-A CNB-AB					
DOWNHOLE EQUIPMENT					
BSP					
BRT-S 22 40.84					
SP SPARC			28.73		
LEH-QT 1570			22.56		
LEH-QT 1570					
DTC-H			21.39		
ECH-KC			21.67		
CTEM			20.75		
TelStatus					
ToolStatu					
HNGS-BA			20.05		
HNGS-BA 129			20.75		
HNSH-BA 3			19.84		
Upper_1					
Lower_2					
HNGC-A			17.72		
HNGH-A			18.25		
HNGC-A 10			17.19		
HILTB-FTB			16.96		
HGNSD-B 1751			17.19		
HMCA					
HGNS-H 1775			15.18		
NLS-KL			15.03		
NSR-F 2111					
HACCZ			14.32		
HCNT					
HGR					
HRCC-B 1769			13.10		
HRMS-B 1765			11.44		
HRGD-B 1760			11.30		
GLS-VJ 3739					
MCFL Device			11.18		
HILT Nucl. LS					
HILT Nucl. SS					
HILT Nucl. BS					
BOW-SPR					
DSLT-H			10.59		
DSLC-HA 8223					

ECH-KH 8273
SLS-C 299

HALS-B
HALS-B 769



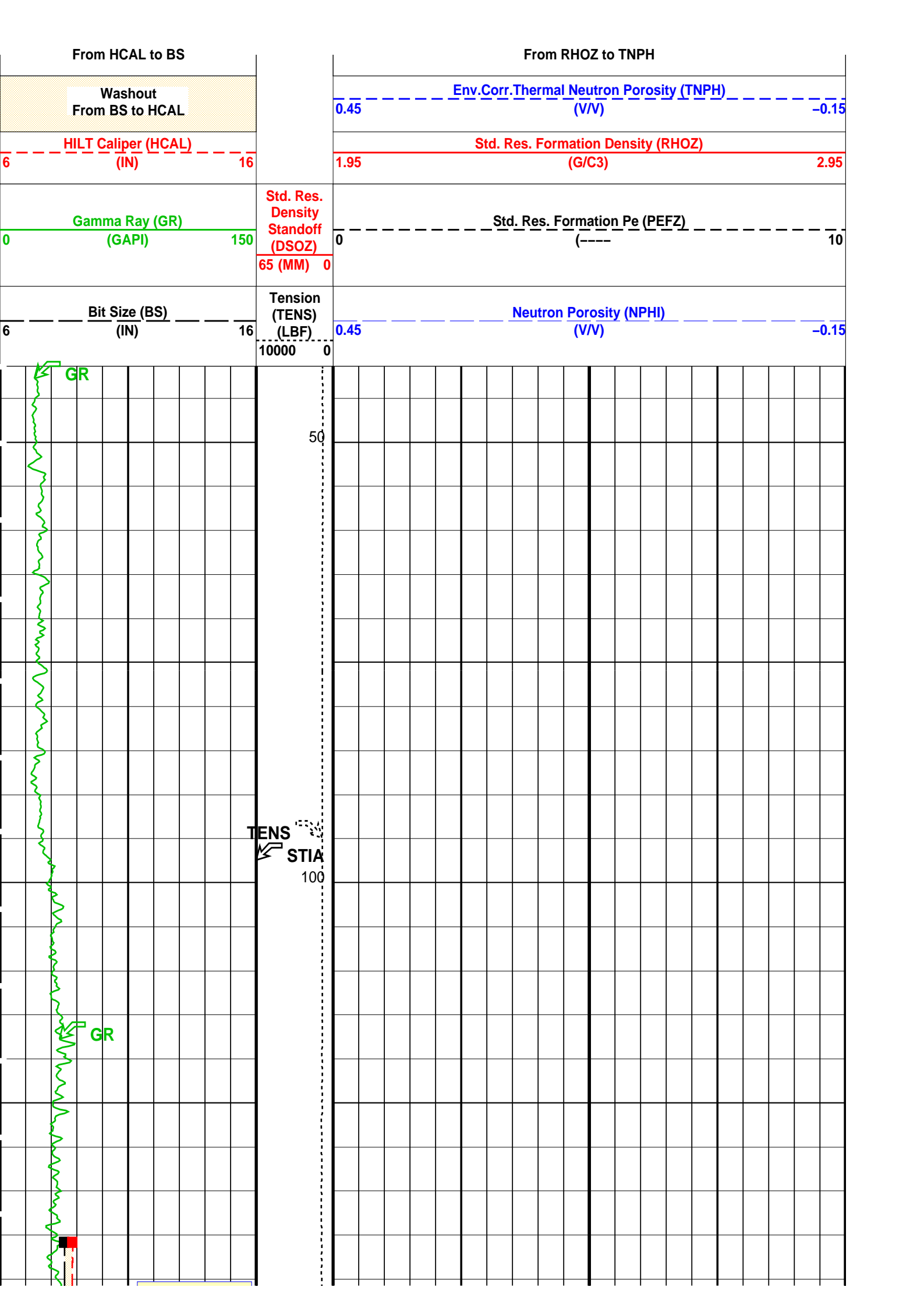
MAXIMUM STRING DIAMETER 4.63 IN
MEASUREMENTS RELATIVE TO TOOL ZERO
ALL LENGTHS IN METERS

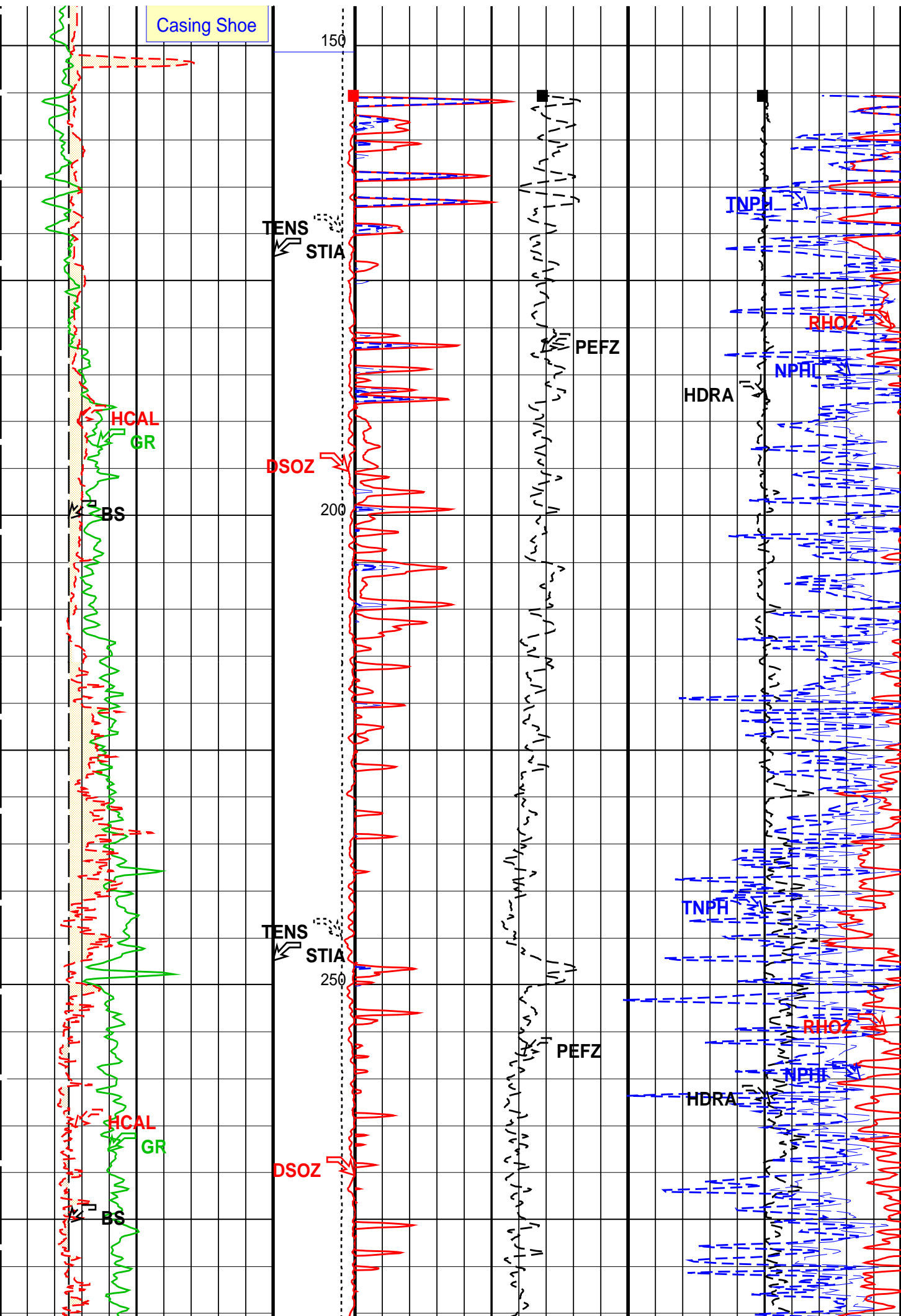
Client: Essential Petroleum Resources Limited
Well: Findra-1
Field: PRP 159
State: Victoria
Country: Australia

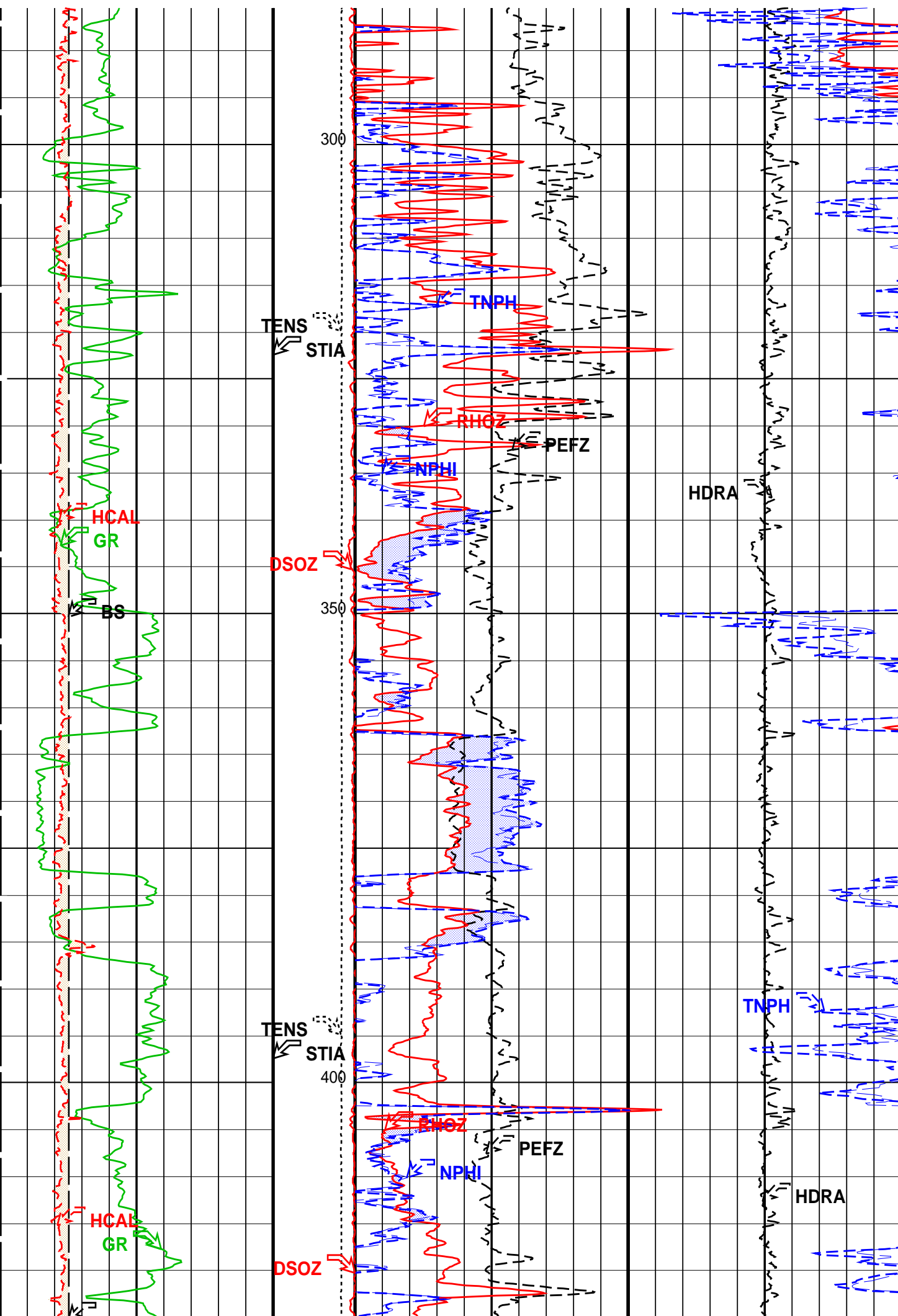
Drawing Date: 6/30/2004
API #:

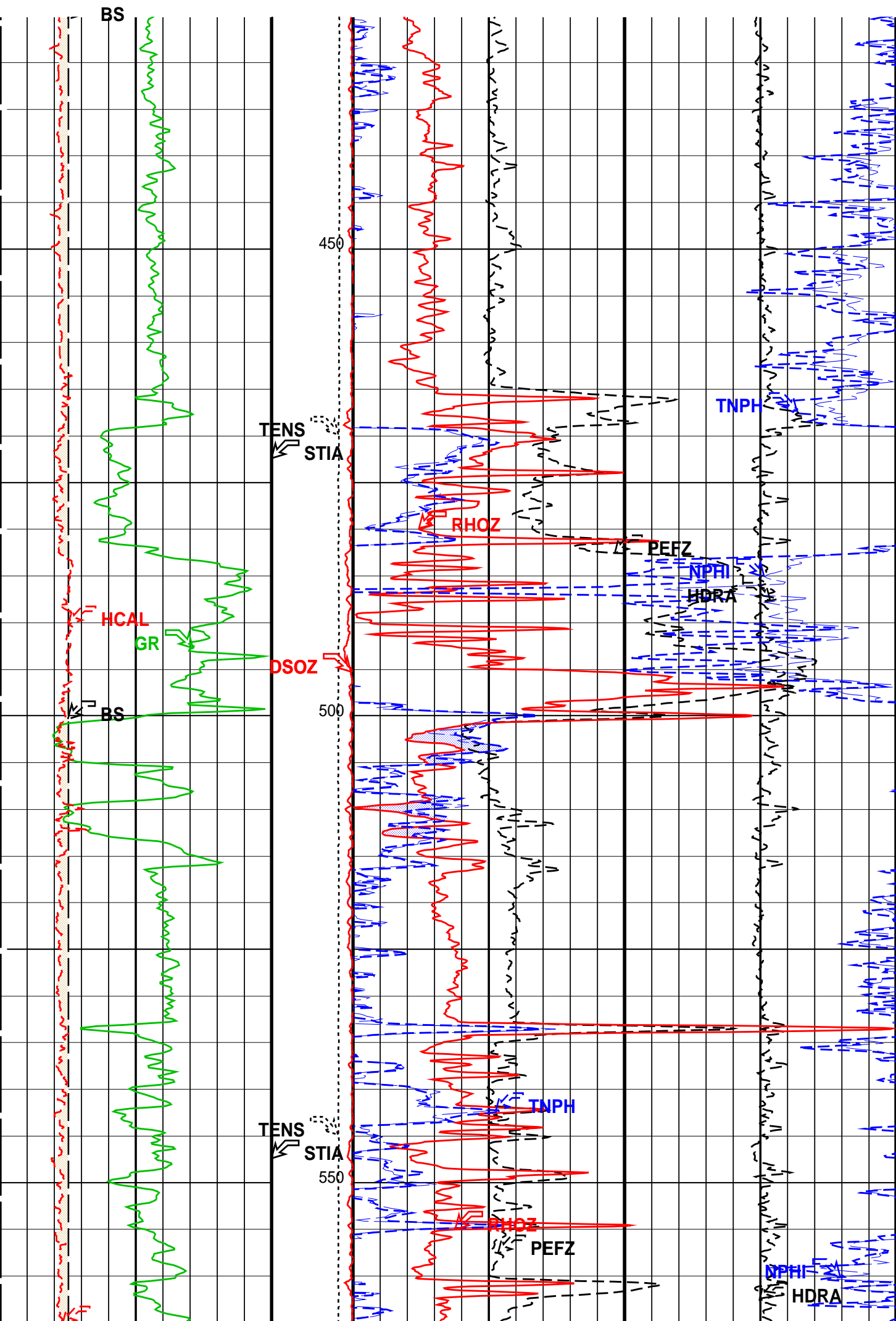
Rig Name: Hunt Rig # 2
Reference Datum: Mean Sea Level
Elevation: 61.0 m

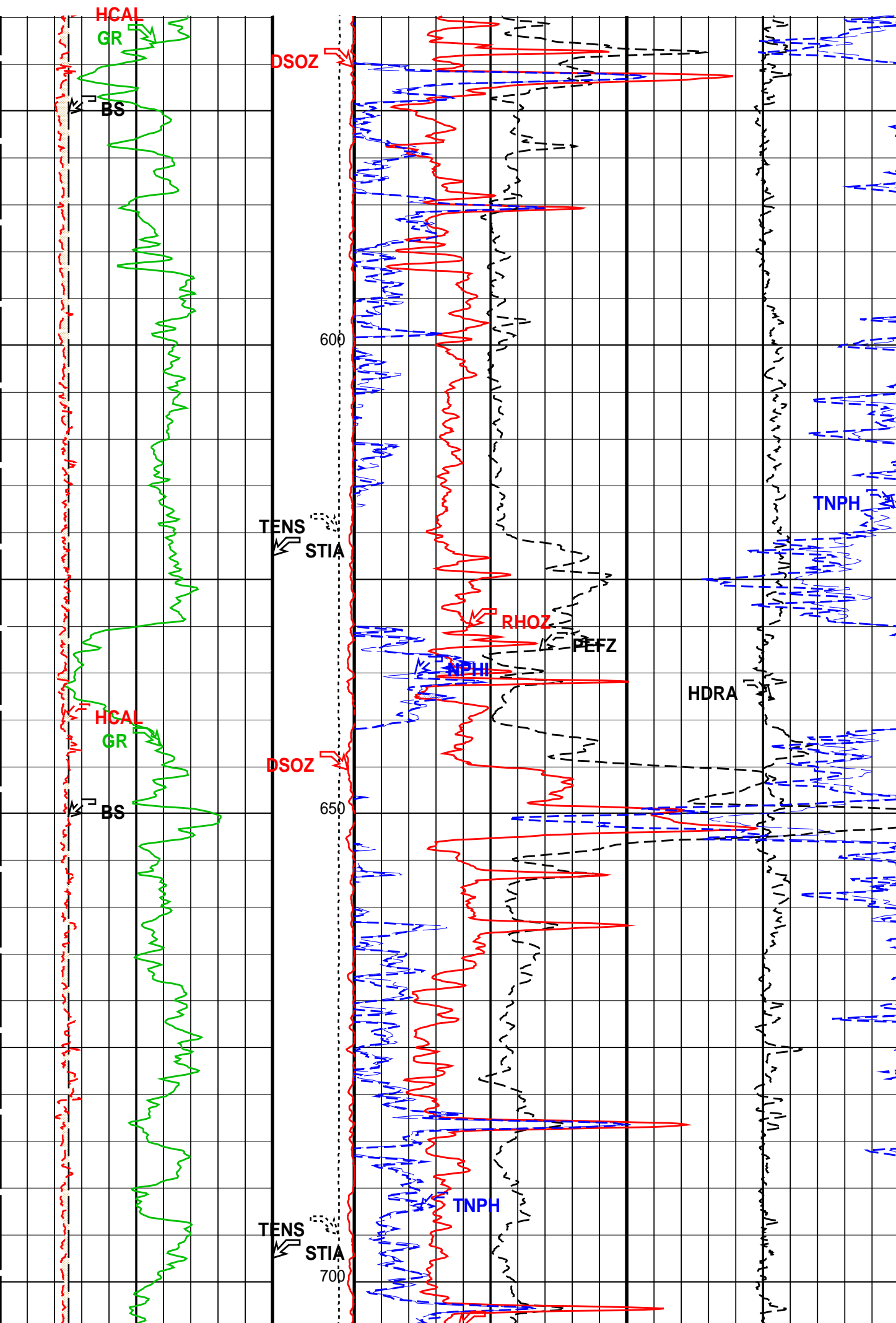
Production String	(in)		(m)	Well Schematic	(m)		(in)	Casing String
	OD	ID	MD		MD	OD	ID	
					0.0	17.500		Borehole Segment
					61.0	13.375		Casing Shoe
					150.0	9.625		Casing Shoe

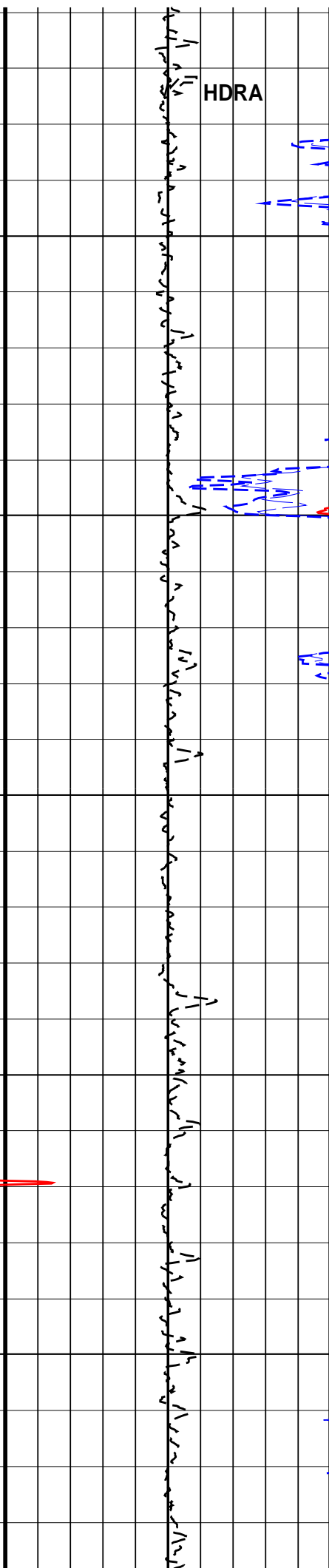
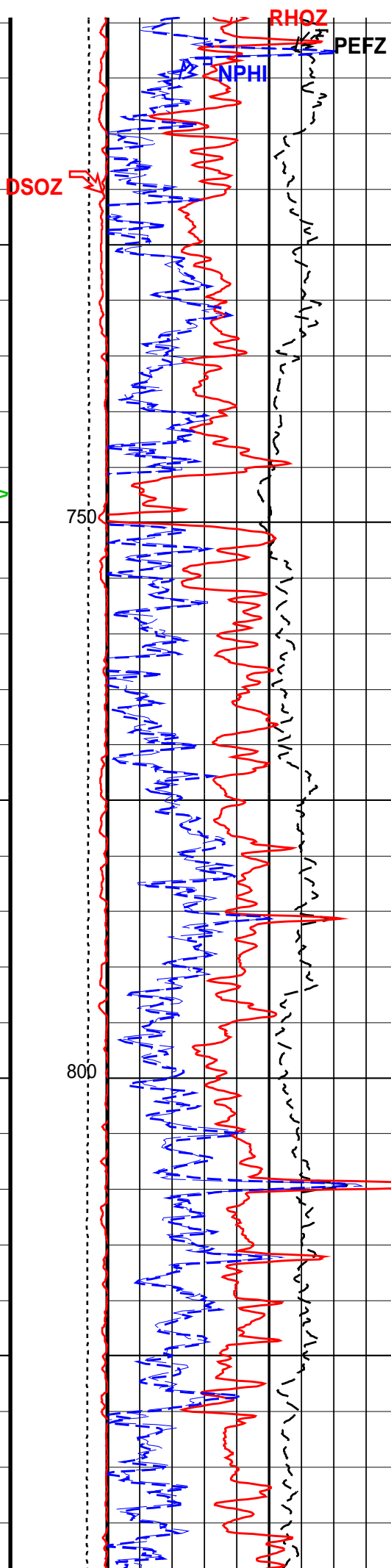
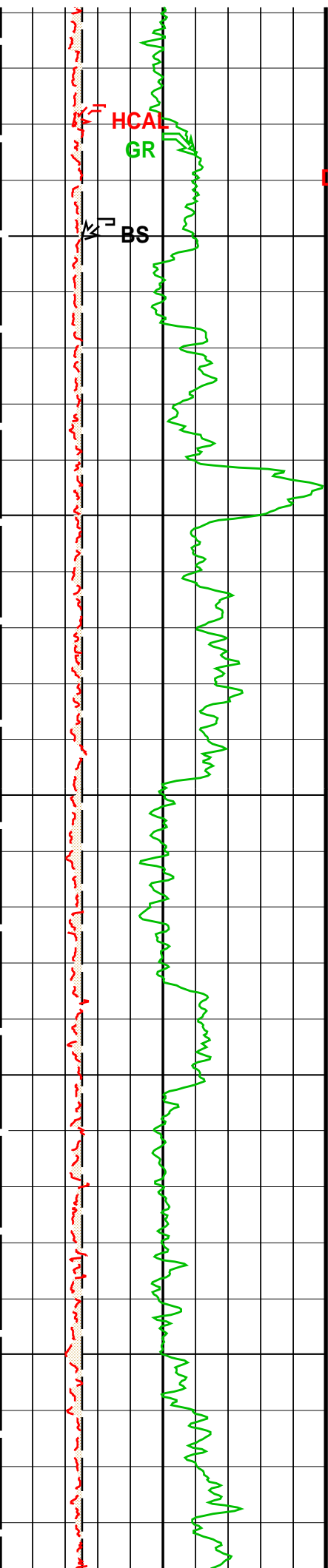


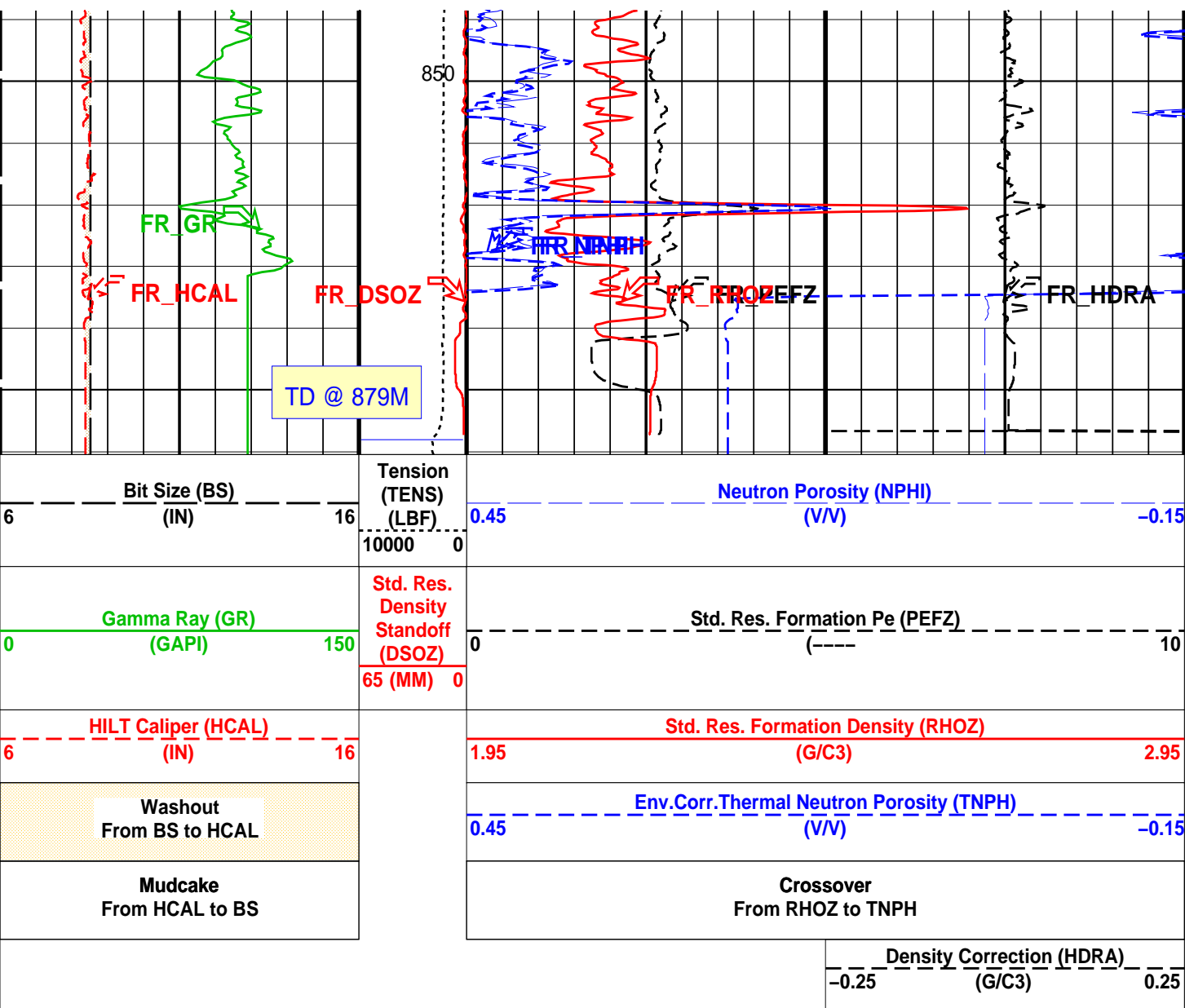












PIP SUMMARY

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value	
HALS-B: HILT Azimuthal Laterolog Sonde B			
BHS	Borehole Status	OPEN	
GCSE	Generalized Caliper Selection	HCAL	
GDEV	Average Angular Deviation of Borehole from Normal	1	DEG
GGRD	Geothermal Gradient	0.018227	DC/M
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE	
SHT	Surface Hole Temperature	15	DEGC
HILTB-FTB: High resolution Integrated Logging Tool-DTS			
BHFL	Borehole Fluid Type	WATER	
BHS	Borehole Status	OPEN	
BSCO	Borehole Salinity Correction Option	YES	
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	1	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	YES	
MCOR	Mud Correction	BARI	
MWCO	Mud Weight Correction Option	YES	
NAAC	HRDD APS Activation Correction	OFF	
NMT	HILT Nuclear Mud Type	BARITE	
NPRM	HRDD Processing Mode	HiRes	

NSAR	HRDD Depth Sampling Rate	1	IN
PTCO	Pressure/Temperature Correction Option	NO	
SDAT	Standoff Data Source	SOCN	
SHT	Surface Hole Temperature	15	DEGC
SOCN	Standoff Distance	0.125	IN
SOCO	Standoff Correction Option	NO	
HNGB--BA: Hostile Natural Gamma Ray Sonde			
BHS	Borehole Status	OPEN	
GCSE	Generalized Caliper Selection	HCAL	
GDEV	Average Angular Deviation of Borehole from Normal	1	DEG
GGRD	Geothermal Gradient	0.018227	DC/M
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE	
SHT	Surface Hole Temperature	15	DEGC
HOLEV: Integrated Hole/Cement Volume			
BHS	Borehole Status	OPEN	
GCSE	Generalized Caliper Selection	HCAL	
GDEV	Average Angular Deviation of Borehole from Normal	1	DEG
GGRD	Geothermal Gradient	0.018227	DC/M
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE	
SHT	Surface Hole Temperature	15	DEGC
STI: Stuck Tool Indicator			
LBFR	Trigger for MAXIS First Reading Label	TDL	
STKT	STI Stuck Threshold	0.762	M
TDD	Total Depth - Driller	889.00	M
TDL	Total Depth - Logger	879.00	M
System and Miscellaneous			
BS	Bit Size	8.500	IN
BSAL	Borehole Salinity	41000.00	PPM
CSIZ	Current Casing Size	9.625	IN
CWEI	Casing Weight	40.00	LB/F
DFD	Drilling Fluid Density	1.10	G/C3
DO	Depth Offset for Playback	0.0	M
MST	Mud Sample Temperature	12.20	DEGC
PP	Playback Processing	NORMAL	
RMFS	Resistivity of Mud Filtrate Sample	0.2050	OHMM


Format: Nuclear_1

Vertical Scale: 1:500

Graphics File Created: 03-Jul-2004 14:46

OP System Version: 10C0-306			
MCM			
HALS-B	OP10-KP1	DSLT-H	OP10-KP1
HILTB-FTB	OP10-KP1	HNGC-A	OP10-KP1
HNGB-BA	OP10-KP1	DTC-H	10C0-306
BSP	10C0-306		

Input DLIS Files					
DEFAULT	HALS_SONIC_TLD_MCFL_010	PUP FN:15	PRODUCER	03-Jul-2004 10:37	880.3 M 34.4 M



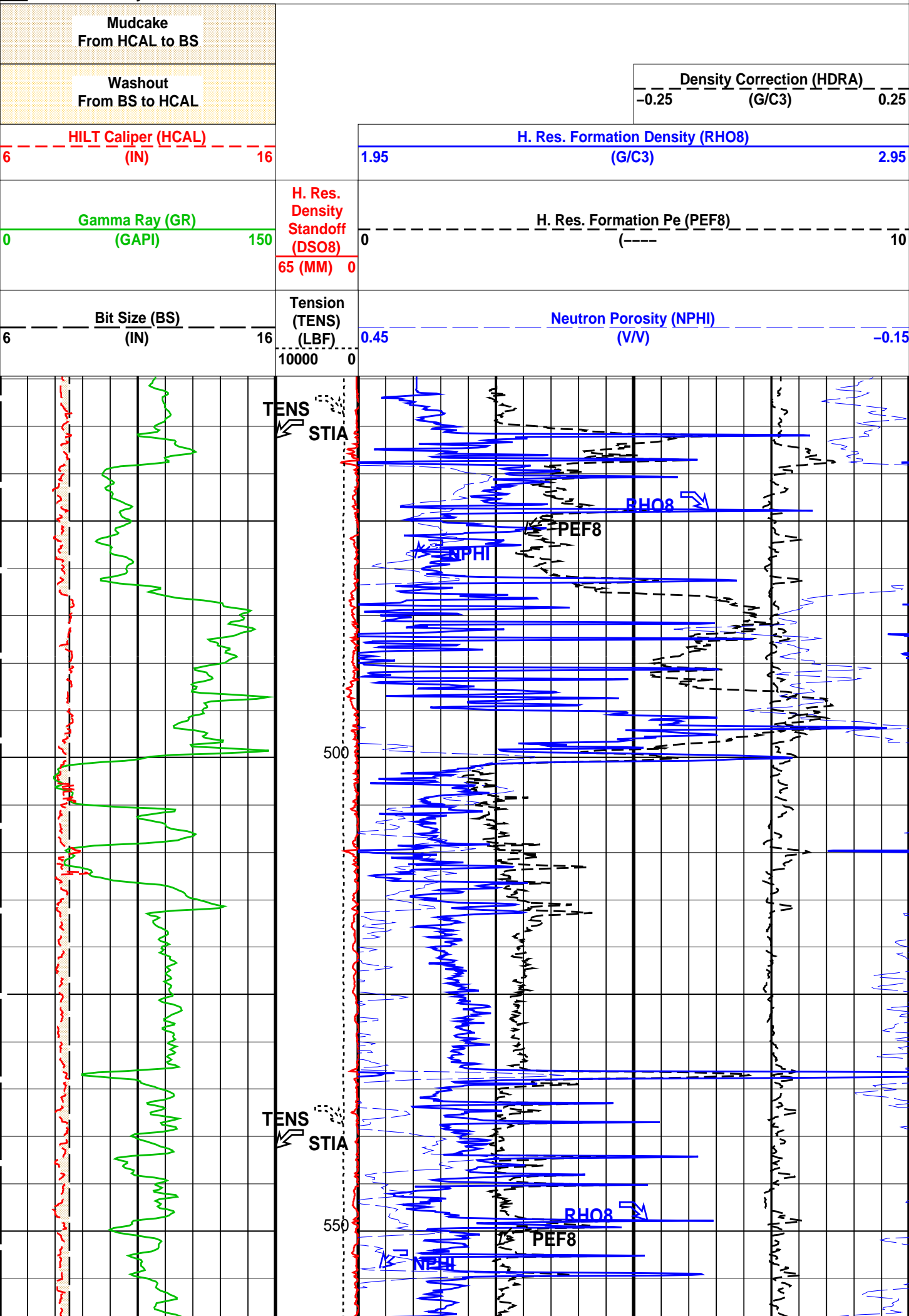
Neutron-Density Hi-Resolution

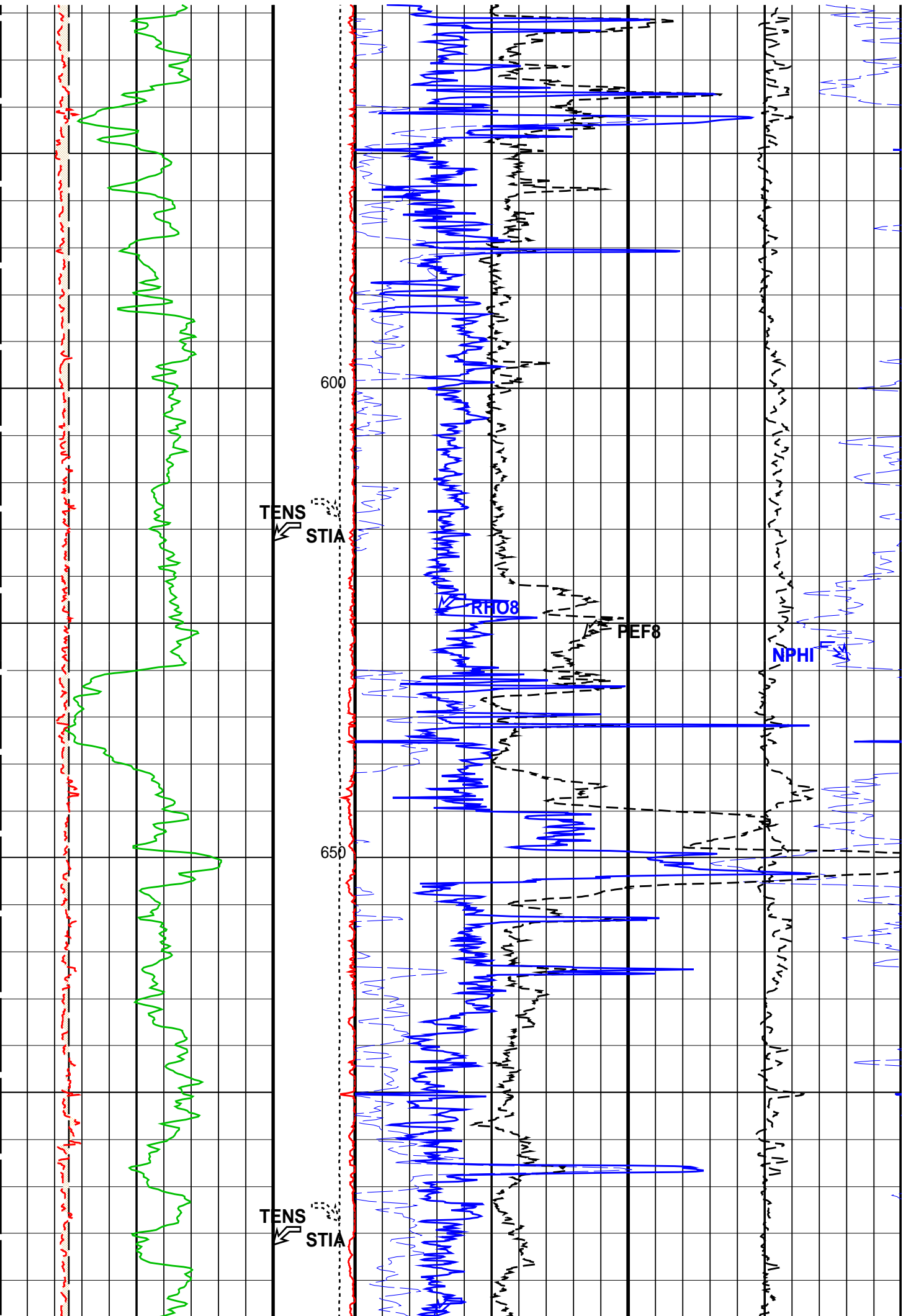
1:500 Scale

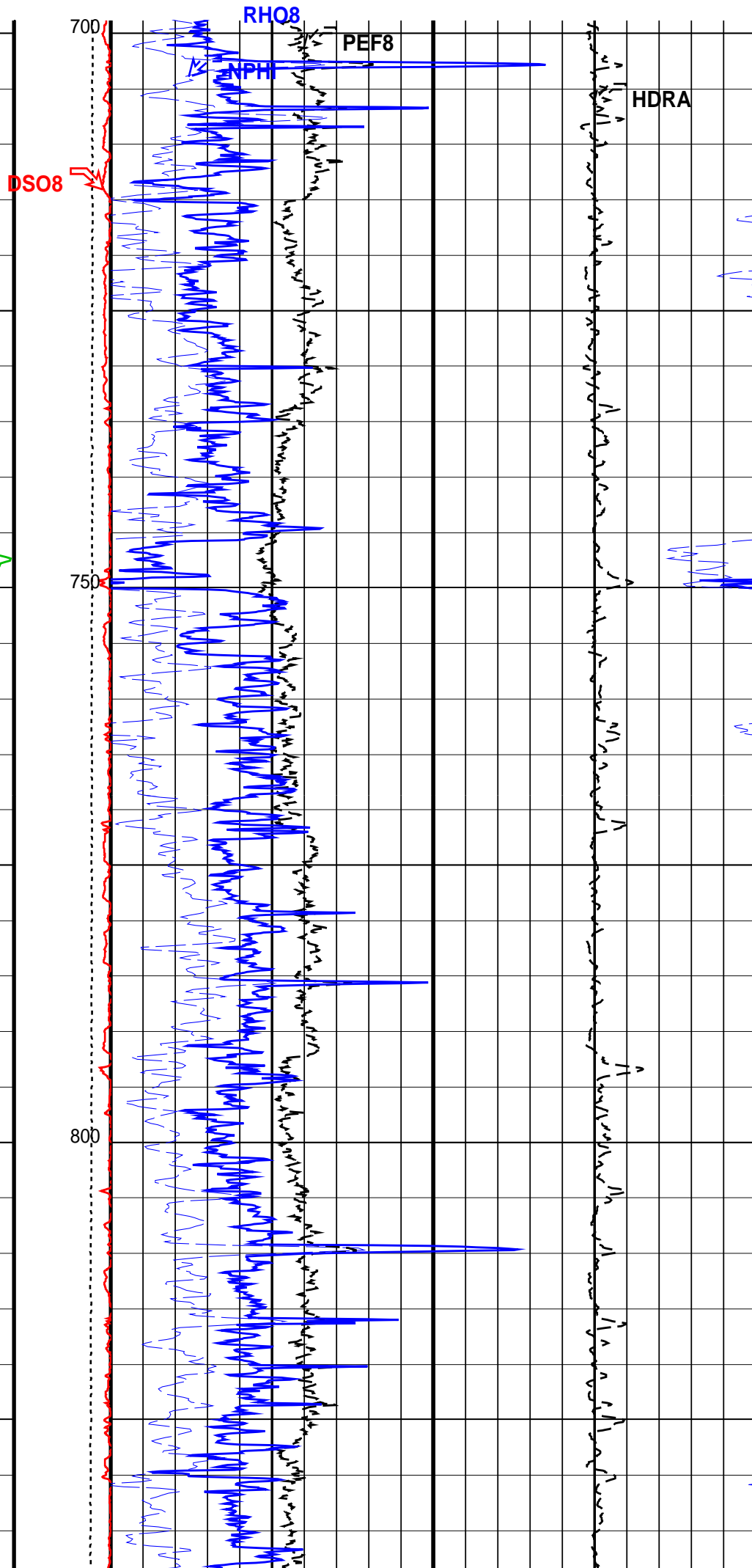
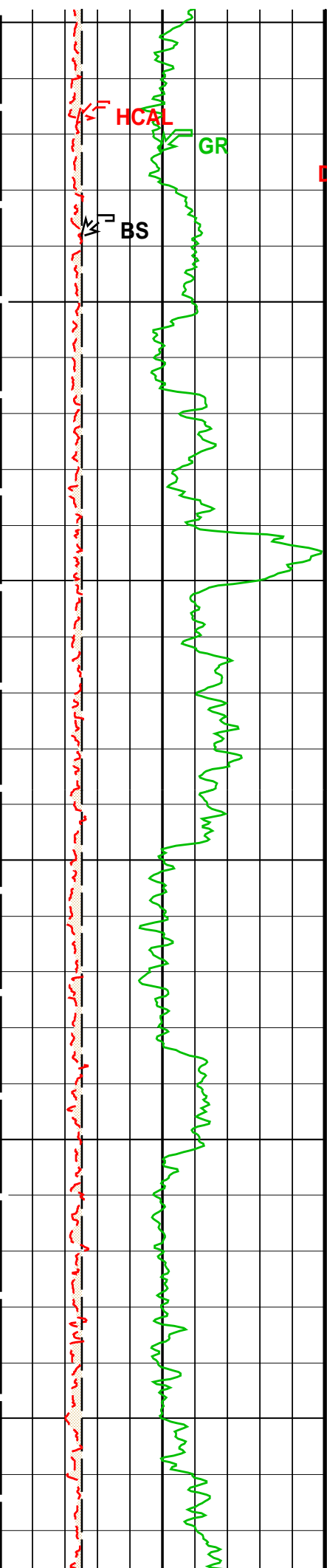
MAXIS Field Log

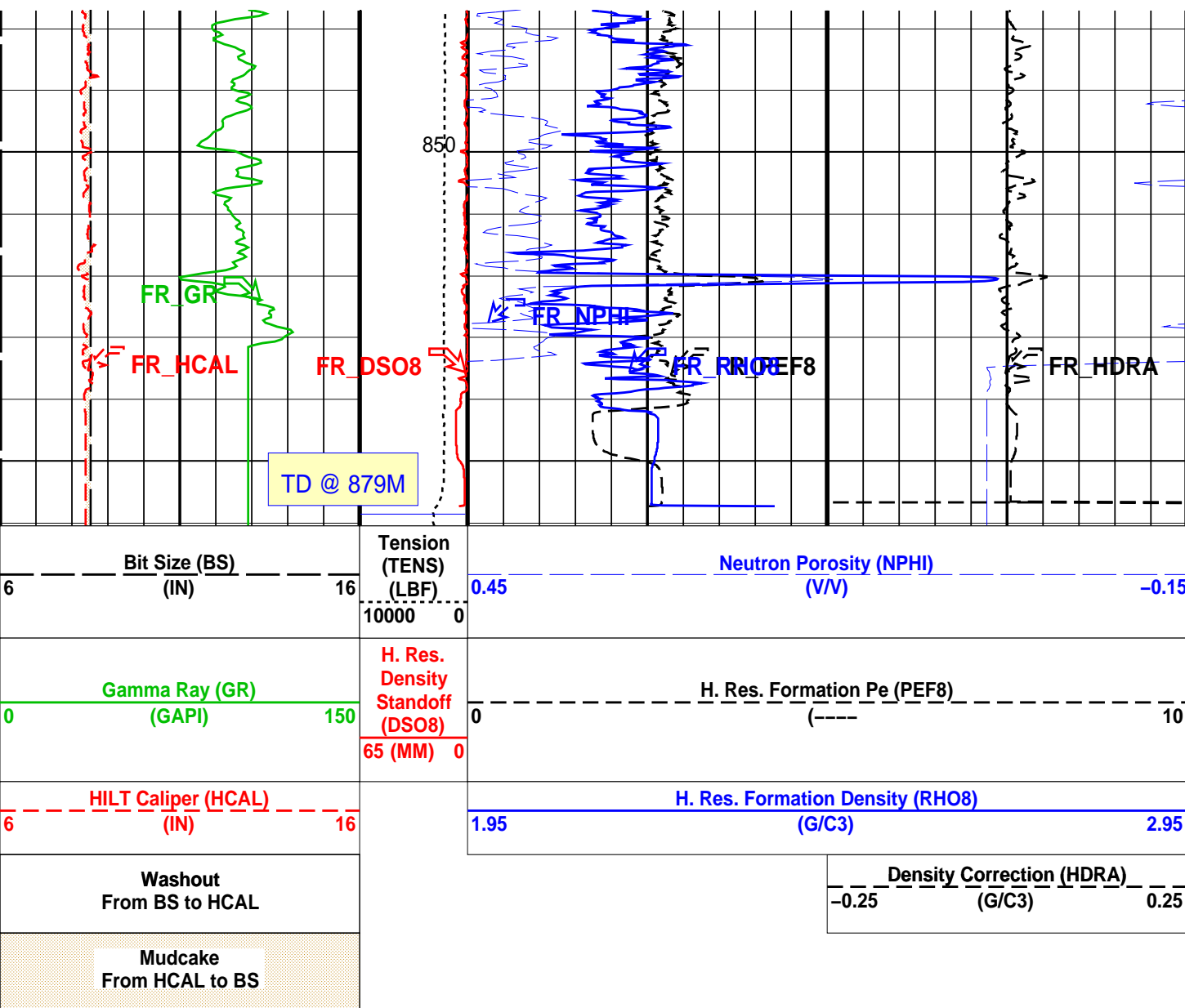
Input DLIS Files					
DEFAULT	HALS_SONIC_TLD_MCFL_008	PUP FN:13	PRODUCER	03-Jul-2004 10:35	880.3 M 454.6 M
OP System Version: 10C0-306					
MCM					
HALS-B	OP10-KP1	DSLT-H	OP10-KP1		
HILTB-FTB	OP10-KP1	HNGC-A	OP10-KP1		
HNGB-BA	OP10-KP1	DTC-H	10C0-306		
BSP	10C0-306				

Time Mark Every 60 S










Parameters		
DLIS Name	Description	Value
BHS	HALS-B: HILT Azimuthal Laterolog Sonde B	
GCSE	Borehole Status	OPEN
MATR	Generalized Caliper Selection	HCAL
	Rock Matrix for Neutron Porosity Corrections	LIMESTONE
BHS	HILTB-FTB: High resolution Integrated Logging Tool-DTS	
DHC	Borehole Status	OPEN
GCSE	Density Hole Correction	BS
MATR	Generalized Caliper Selection	HCAL
NAAC	Rock Matrix for Neutron Porosity Corrections	LIMESTONE
NMT	HRDD APS Activation Correction	OFF
NPRM	HILT Nuclear Mud Type	BARITE
NSAR	HRDD Processing Mode	HiRes
	HRDD Depth Sampling Rate	1 IN
BHS	HNGS-BA: Hostile Natural Gamma Ray Sonde	
GCSE	Borehole Status	OPEN
MATR	Generalized Caliper Selection	HCAL
	Rock Matrix for Neutron Porosity Corrections	LIMESTONE
BHS	HOLEV: Integrated Hole/Cement Volume	
GCSE	Borehole Status	OPEN
MATR	Generalized Caliper Selection	HCAL
	Rock Matrix for Neutron Porosity Corrections	LIMESTONE
LBFR	STI: Stuck Tool Indicator	
STKT	Trigger for MAXIS First Reading Label	TDL
TDD	STI Stuck Threshold	0.762 M
TDL	Total Depth - Driller	889.00 M
	Total Depth - Logger	879.00 M

System and Miscellaneous			
BS	Bit Size	8.500	IN
DFD	Drilling Fluid Density	1.10	G/C3
DO	Depth Offset for Playback	0.0	M
PP	Playback Processing	NORMAL	
Format: Nuclear_HR_1		Vertical Scale: 1:500	Graphics File Created: 03-Jul-2004 14:17
OP System Version: 10C0-306			
MCM			
HALS-B	OP10-KP1	DSLT-H	OP10-KP1
HILTB-FTB	OP10-KP1	HNGC-A	OP10-KP1
HNGS-BA	OP10-KP1	DTC-H	10C0-306
BSP	10C0-306		
Input DLIS Files			
DEFAULT	HALS_SONIC_TLD_MCFL_008PUP	FN:13	PRODUCER 03-Jul-2004 10:35 880.3 M 454.6 M



Calibrations

MAXIS Field Log

Calibration and Check Summary							
Measurement	Nominal	Master	Before	After	Change	Limit	Units
HILT Azimuthal Laterolog Sonde B Wellsite Calibration – HALSB Total current mode 1							
Before: 30-Jun-2004 16:22							
Itot 1 Gain	1.000	N/A	0.998	N/A	N/A	0.026	MA
Itot 1 Phase	0.000	N/A	-0.000	N/A	N/A	0.100	DEG
HILT Azimuthal Laterolog Sonde B Wellsite Calibration – HALSB Aux current mode 1							
Before: 30-Jun-2004 16:22							
Iaux 1 Gain	1.000	N/A	0.994	N/A	N/A	0.035	MA
Iaux 1 Phase	0.000	N/A	-0.123	N/A	N/A	1.900	DEG
HILT Azimuthal Laterolog Sonde B Wellsite Calibration – HALSB Aux current mode 2							
Before: 30-Jun-2004 16:22							
Iaux 2 Gain	1.000	N/A	0.974	N/A	N/A	0.048	MA
Iaux 2 Phase	0.000	N/A	0.000	N/A	N/A	0.100	DEG
HILT Azimuthal Laterolog Sonde B Wellsite Calibration – HALSB A0 current mode 3A							
Before: 30-Jun-2004 16:22							
I0 3A Gain	1.000	N/A	0.983	N/A	N/A	0.036	UA
I0 3A Phase	0.000	N/A	-0.000	N/A	N/A	0.100	DEG
HILT Azimuthal Laterolog Sonde B Wellsite Calibration – HALSB A0 current mode 3B							
Before: 30-Jun-2004 16:22							
I0 3B Gain	1.000	N/A	0.980	N/A	N/A	0.036	UA
I0 3B Phase	0.000	N/A	-0.000	N/A	N/A	0.100	DEG
HILT Azimuthal Laterolog Sonde B Wellsite Calibration – HALSB Torpedo Voltage gains							
Before: 30-Jun-2004 16:22							
Zvt 1 Gain	1.000	N/A	0.994	N/A	N/A	0.025	MV
Zvt 2 Gain	1.000	N/A	0.997	N/A	N/A	0.045	MV
Zvt 3 Gain	1.000	N/A	1.004	N/A	N/A	0.045	MV
HILT Azimuthal Laterolog Sonde B Wellsite Calibration – HALSB Torpedo Voltage Phases							
Before: 30-Jun-2004 16:22							
Zvt 1 Phase	0.000	N/A	-0.102	N/A	N/A	2.300	DEG
Zvt 2 Phase	0.000	N/A	0.006	N/A	N/A	0.800	DEG
Zvt 3 Phase	0.000	N/A	-0.172	N/A	N/A	0.500	DEG

HILT Azimuthal Laterolog Sonde B Wellsite Calibration – HALSB Upper Bridle Voltage mode 1							
Before: 30–Jun–2004 16:22							
Zvb 1 Gain	1.000	N/A	0.994	N/A	N/A	0.025	MV
Zvb 1 Phase	0.000	N/A	–0.132	N/A	N/A	2.300	DEG
HILT Azimuthal Laterolog Sonde B Wellsite Calibration – HALSB M1–M2 Voltage gains							
Before: 30–Jun–2004 16:22							
ZVM 1 Gain	1.000	N/A	0.996	N/A	N/A	0.039	UV
ZVM 2 Gain	1.000	N/A	0.993	N/A	N/A	0.019	UV
ZVM 3 Gain	1.000	N/A	0.991	N/A	N/A	0.019	UV
HILT Azimuthal Laterolog Sonde B Wellsite Calibration – HALSB M1–M2 Voltage Phases							
Before: 30–Jun–2004 16:22							
ZVM 1 Phase	0.000	N/A	0.224	N/A	N/A	3.800	DEG
ZVM 2 Phase	0.000	N/A	1.871	N/A	N/A	1.300	DEG
ZVM 3 Phase	0.000	N/A	1.002	N/A	N/A	1.000	DEG
HILT Azimuthal Laterolog Sonde B Wellsite Calibration – HALSB M1–A0* Voltage gains							
Before: 30–Jun–2004 16:22							
ZVH 1 Gain	1.000	N/A	0.997	N/A	N/A	0.013	UV
ZVH 2 Gain	1.000	N/A	0.990	N/A	N/A	0.046	UV
ZVH 3 Gain	1.000	N/A	0.990	N/A	N/A	0.046	UV
HILT Azimuthal Laterolog Sonde B Wellsite Calibration – HALSB M1–A0* Voltage Phases							
Before: 30–Jun–2004 16:22							
ZVH 1 Phase	0.000	N/A	0.109	N/A	N/A	3.800	DEG
ZVH 2 Phase	0.000	N/A	1.992	N/A	N/A	1.300	DEG
ZVH 3 Phase	0.000	N/A	0.993	N/A	N/A	1.000	DEG
HILT Azimuthal Laterolog Sonde B Wellsite Calibration – HALSB Aux Voltage gains							
Before: 30–Jun–2004 16:22							
ZVA 1 Gain	1.000	N/A	1.070	N/A	N/A	0.032	MV
ZVA 2 Gain	1.000	N/A	1.063	N/A	N/A	0.045	MV
ZVA 3 Gain	1.000	N/A	1.013	N/A	N/A	0.045	MV
HILT Azimuthal Laterolog Sonde B Wellsite Calibration – HALSB Aux Voltage Phases							
Before: 30–Jun–2004 16:22							
ZVA 1 Phase	0.000	N/A	1.005	N/A	N/A	2.300	DEG
ZVA 2 Phase	0.000	N/A	0.153	N/A	N/A	0.800	DEG
ZVA 3 Phase	0.000	N/A	0.162	N/A	N/A	0.500	DEG
HILT Azimuthal Laterolog Sonde B Wellsite Calibration – HALSB A0*–A0** Diff. Voltage mode 1							
Before: 30–Jun–2004 16:22							
ZVD 1 Gain	1.000	N/A	0.997	N/A	N/A	0.047	UV
ZVD 1 Phase	0.000	N/A	0.096	N/A	N/A	3.800	DEG
HILT Azimuthal Laterolog Sonde B Wellsite Calibration – HALSB A0*–A0** Diff. Voltage mode 2							
Before: 30–Jun–2004 16:22							
ZVD 2 Gain	1.000	N/A	0.982	N/A	N/A	0.056	UV
ZVD 2 Phase	0.000	N/A	1.287	N/A	N/A	1.300	DEG
HILT Azimuthal Laterolog Sonde B Wellsite Calibration – HALSB A0*–A0** Diff. Voltage mode 3A							
Before: 30–Jun–2004 16:22							
ZVD 3A Gain	1.000	N/A	0.988	N/A	N/A	0.056	UV
ZVD 3A Phase	0.000	N/A	0.566	N/A	N/A	1.000	DEG
HILT Azimuthal Laterolog Sonde B Wellsite Calibration – HALSB A0*–A0** Diff. Voltage mode 3B							
Before: 30–Jun–2004 16:22							
ZVD 3B Gain	1.000	N/A	1.000	N/A	N/A	0.054	UV
ZVD 3B Phase	0.000	N/A	–0.039	N/A	N/A	1.000	DEG
HILT Azimuthal Laterolog Sonde B Wellsite Calibration – HALSB vertical Voltage mode 1							
Before: 30–Jun–2004 16:22							
ZVV 1 Gain	1.000	N/A	0.997	N/A	N/A	0.022	UV
ZVV 1 Phase	0.000	N/A	0.163	N/A	N/A	2.800	DEG
HILT Azimuthal Laterolog Sonde B Wellsite Calibration – HALSB vertical Voltage mode 2							
Before: 30–Jun–2004 16:22							
ZVV 2 Gain	1.000	N/A	0.985	N/A	N/A	0.036	UV
ZVV 2 Phase	0.000	N/A	2.626	N/A	N/A	1.300	DEG
HILT Azimuthal Laterolog Sonde B Wellsite Calibration – HALSB Azimuthal Voltages mode 1							
Before: 30–Jun–2004 16:22							
Az 1 Gain – 0	1.000	N/A	0.999	N/A	N/A	0.047	UV
Az 1 Gain – 1	1.000	N/A	0.998	N/A	N/A	0.047	UV
Az 1 Gain – 2	1.000	N/A	0.999	N/A	N/A	0.047	UV
Az 1 Gain – 3	1.000	N/A	0.994	N/A	N/A	0.047	UV
Az 1 Gain – 4	1.000	N/A	0.999	N/A	N/A	0.047	UV
Az 1 Gain – 5	1.000	N/A	0.999	N/A	N/A	0.047	UV
Az 1 Gain – 6	1.000	N/A	0.997	N/A	N/A	0.047	UV
Az 1 Gain – 7	1.000	N/A	0.998	N/A	N/A	0.047	UV
Az 1 Gain – 8	1.000	N/A	0.997	N/A	N/A	0.047	UV

Az 1 Gain – 9	1.000	N/A	0.997	N/A	N/A	0.047	UV
Az 1 Gain – 10	1.000	N/A	1.001	N/A	N/A	0.047	UV
Az 1 Gain – 11	1.000	N/A	0.996	N/A	N/A	0.047	UV
AZ 1 Phase – 0	0.000	N/A	-0.001	N/A	N/A	3.800	DEG
AZ 1 Phase – 1	0.000	N/A	0.135	N/A	N/A	3.800	DEG
AZ 1 Phase – 2	0.000	N/A	0.098	N/A	N/A	3.800	DEG
AZ 1 Phase – 3	0.000	N/A	0.102	N/A	N/A	3.800	DEG
AZ 1 Phase – 4	0.000	N/A	0.211	N/A	N/A	3.800	DEG
AZ 1 Phase – 5	0.000	N/A	0.094	N/A	N/A	3.800	DEG
AZ 1 Phase – 6	0.000	N/A	0.065	N/A	N/A	3.800	DEG
AZ 1 Phase – 7	0.000	N/A	0.015	N/A	N/A	3.800	DEG
AZ 1 Phase – 8	0.000	N/A	0.129	N/A	N/A	3.800	DEG
AZ 1 Phase – 9	0.000	N/A	0.021	N/A	N/A	3.800	DEG
AZ 1 Phase – 10	0.000	N/A	0.126	N/A	N/A	3.800	DEG
AZ 1 Phase – 11	0.000	N/A	0.106	N/A	N/A	3.800	DEG

HILT Azimuthal Laterolog Sonde B Wellsite Calibration – HALSB Azimuthal Voltages mode 2
Before: 30-Jun-2004 16:22

Az 2 Gain – 0	1.000	N/A	0.984	N/A	N/A	0.056	UV
Az 2 Gain – 1	1.000	N/A	0.983	N/A	N/A	0.056	UV
Az 2 Gain – 2	1.000	N/A	0.984	N/A	N/A	0.056	UV
Az 2 Gain – 3	1.000	N/A	0.979	N/A	N/A	0.056	UV
Az 2 Gain – 4	1.000	N/A	0.985	N/A	N/A	0.056	UV
Az 2 Gain – 5	1.000	N/A	0.984	N/A	N/A	0.056	UV
Az 2 Gain – 6	1.000	N/A	0.982	N/A	N/A	0.056	UV
Az 2 Gain – 7	1.000	N/A	0.983	N/A	N/A	0.056	UV
Az 2 Gain – 8	1.000	N/A	0.983	N/A	N/A	0.056	UV
Az 2 Gain – 9	1.000	N/A	0.982	N/A	N/A	0.056	UV
Az 2 Gain – 10	1.000	N/A	0.987	N/A	N/A	0.056	UV
Az 2 Gain – 11	1.000	N/A	0.981	N/A	N/A	0.056	UV
Az 2 Phase – 0	0.000	N/A	1.350	N/A	N/A	1.300	DEG
Az 2 Phase – 1	0.000	N/A	1.308	N/A	N/A	1.300	DEG
Az 2 Phase – 2	0.000	N/A	1.317	N/A	N/A	1.300	DEG
Az 2 Phase – 3	0.000	N/A	1.304	N/A	N/A	1.300	DEG
Az 2 Phase – 4	0.000	N/A	1.333	N/A	N/A	1.300	DEG
Az 2 Phase – 5	0.000	N/A	1.344	N/A	N/A	1.300	DEG
Az 2 Phase – 6	0.000	N/A	1.368	N/A	N/A	1.300	DEG
Az 2 Phase – 7	0.000	N/A	1.363	N/A	N/A	1.300	DEG
Az 2 Phase – 8	0.000	N/A	1.382	N/A	N/A	1.300	DEG
Az 2 Phase – 9	0.000	N/A	1.336	N/A	N/A	1.300	DEG
Az 2 Phase – 10	0.000	N/A	1.398	N/A	N/A	1.300	DEG
Az 2 Phase – 11	0.000	N/A	1.280	N/A	N/A	1.300	DEG

HILT Azimuthal Laterolog Sonde B Wellsite Calibration – HALSB Azimuthal Voltages mode 3A
Before: 30-Jun-2004 16:22

Az 3A Gain – 0	1.000	N/A	0.989	N/A	N/A	0.056	UV
Az 3A Gain – 1	1.000	N/A	0.988	N/A	N/A	0.056	UV
Az 3A Gain – 2	1.000	N/A	0.990	N/A	N/A	0.056	UV
Az 3A Gain – 3	1.000	N/A	0.984	N/A	N/A	0.056	UV
Az 3A Gain – 4	1.000	N/A	0.990	N/A	N/A	0.056	UV
Az 3A Gain – 5	1.000	N/A	0.989	N/A	N/A	0.056	UV
Az 3A Gain – 6	1.000	N/A	0.987	N/A	N/A	0.056	UV
Az 3A Gain – 7	1.000	N/A	0.989	N/A	N/A	0.056	UV
Az 3A Gain – 8	1.000	N/A	0.988	N/A	N/A	0.056	UV
Az 3A Gain – 9	1.000	N/A	0.987	N/A	N/A	0.056	UV
Az 3A Gain – 10	1.000	N/A	0.992	N/A	N/A	0.056	UV
Az 3A Gain – 11	1.000	N/A	0.987	N/A	N/A	0.056	UV
Az 3A Phase – 0	0.000	N/A	0.602	N/A	N/A	1.000	DEG
Az 3A Phase – 1	0.000	N/A	0.598	N/A	N/A	1.000	DEG
Az 3A Phase – 2	0.000	N/A	0.599	N/A	N/A	1.000	DEG
Az 3A Phase – 3	0.000	N/A	0.585	N/A	N/A	1.000	DEG
Az 3A Phase – 4	0.000	N/A	0.613	N/A	N/A	1.000	DEG
Az 3A Phase – 5	0.000	N/A	0.599	N/A	N/A	1.000	DEG
Az 3A Phase – 6	0.000	N/A	0.609	N/A	N/A	1.000	DEG
Az 3A Phase – 7	0.000	N/A	0.610	N/A	N/A	1.000	DEG
Az 3A Phase – 8	0.000	N/A	0.647	N/A	N/A	1.000	DEG
Az 3A Phase – 9	0.000	N/A	0.595	N/A	N/A	1.000	DEG
Az 3A Phase – 10	0.000	N/A	0.639	N/A	N/A	1.000	DEG
Az 3A Phase – 11	0.000	N/A	0.565	N/A	N/A	1.000	DEG

HILT Azimuthal Laterolog Sonde B Wellsite Calibration – HALSB Azimuthal Voltages mode 3B
Before: 30-Jun-2004 16:22

Az 3B Gain – 0	1.000	N/A	1.007	N/A	N/A	0.054	UV
Az 3B Gain – 1	1.000	N/A	1.002	N/A	N/A	0.054	UV
Az 3B Gain – 2	1.000	N/A	1.006	N/A	N/A	0.054	UV
Az 3B Gain – 3	1.000	N/A	0.999	N/A	N/A	0.054	UV
Az 3B Gain – 4	1.000	N/A	1.006	N/A	N/A	0.054	UV
Az 3B Gain – 5	1.000	N/A	1.006	N/A	N/A	0.054	UV
Az 3B Gain – 6	1.000	N/A	1.005	N/A	N/A	0.054	UV
Az 3B Gain – 7	1.000	N/A	1.006	N/A	N/A	0.054	UV
Az 3B Gain – 8	1.000	N/A	1.006	N/A	N/A	0.054	UV

Az 3B Gain – 9	1.000	N/A	1.003	N/A	N/A	0.054	UV
Az 3B Gain – 10	1.000	N/A	1.010	N/A	N/A	0.054	UV
Az 3B Gain – 11	1.000	N/A	0.997	N/A	N/A	0.054	UV
Az 3B Phase – 0	0.000	N/A	0.232	N/A	N/A	1.000	DEG
Az 3B Phase – 1	0.000	N/A	0.167	N/A	N/A	1.000	DEG
Az 3B Phase – 2	0.000	N/A	0.106	N/A	N/A	1.000	DEG
Az 3B Phase – 3	0.000	N/A	0.121	N/A	N/A	1.000	DEG
Az 3B Phase – 4	0.000	N/A	0.061	N/A	N/A	1.000	DEG
Az 3B Phase – 5	0.000	N/A	0.181	N/A	N/A	1.000	DEG
Az 3B Phase – 6	0.000	N/A	0.111	N/A	N/A	1.000	DEG
Az 3B Phase – 7	0.000	N/A	0.192	N/A	N/A	1.000	DEG
Az 3B Phase – 8	0.000	N/A	0.136	N/A	N/A	1.000	DEG
Az 3B Phase – 9	0.000	N/A	0.131	N/A	N/A	1.000	DEG
Az 3B Phase – 10	0.000	N/A	0.190	N/A	N/A	1.000	DEG
Az 3B Phase – 11	0.000	N/A	–0.014	N/A	N/A	1.000	DEG

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

Before: 30–Jun–2004 16:18

BS Window Ratio	1.011	N/A	1.012	N/A	N/A	N/A	
BS Window Sum	16100	N/A	16060	N/A	N/A	N/A	CPS
SS Window Ratio	0.4808	N/A	0.4806	N/A	N/A	N/A	
SS Window Sum	10970	N/A	10980	N/A	N/A	N/A	CPS
LS Window Ratio	0.2955	N/A	0.2944	N/A	N/A	N/A	
LS Window Sum	1160	N/A	1164	N/A	N/A	N/A	CPS

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

Before: 30–Jun–2004 16:18

BS PM High Voltage (Command)	1495	N/A	1468	N/A	N/A	N/A	V
SS PM High Voltage (Command)	1944	N/A	1923	N/A	N/A	N/A	V
LS PM High Voltage (Command)	1839	N/A	1832	N/A	N/A	N/A	V

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

Before: 30–Jun–2004 16:18

BS Crystal Resolution	12.17	N/A	12.12	N/A	N/A	N/A	%
SS Crystal Resolution	11.48	N/A	11.55	N/A	N/A	N/A	%
LS Crystal Resolution	9.283	N/A	9.483	N/A	N/A	N/A	%

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

Before: 30–Jun–2004 16:19

Raw B0 Resistivity	3875	N/A	3799	N/A	N/A	N/A	OHMM
Raw B1 Resistivity	3830	N/A	3768	N/A	N/A	N/A	OHMM
Raw B2 Resistivity	3830	N/A	3798	N/A	N/A	N/A	OHMM

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

Before: 30–Jun–2004 16:15

HILT Caliper Zero Measurement	8.000	N/A	8.215	N/A	N/A	N/A	IN
HILT Caliper Plus Measurement	12.00	N/A	12.39	N/A	N/A	N/A	IN

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

Before: 30–Jun–2004 16:14

Gamma Ray Background	30.00	N/A	26.47	N/A	N/A	N/A	GAPI
Gamma Ray (Jig – Bkg)	174.8	N/A	174.8	N/A	N/A	15.89	GAPI
Gamma Ray (Calibrated)	160.0	N/A	160.0	N/A	N/A	15.00	GAPI

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

Master: 15–Jun–2004 17:21 Before: 30–Jun–2004 16:15

CNTC Background	32.30	32.30	30.57	N/A	N/A	4.845	CPS
CFTC Background	29.13	29.13	29.39	N/A	N/A	4.370	CPS

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

Before: 30–Jun–2004 16:17

Z–Axis Acceleration	9.810	N/A	9.802	N/A	N/A	N/A	M/S2
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High resolution Integrated Logging Tool–DTS Master Calibration – Inversion results

Master: 15–Jun–2004 11:26

Rho Aluminum	2.596	2.599	---	---	---	---	G/C3
Rho Magnesium	1.686	1.688	---	---	---	---	G/C3
Pe Aluminum	2.570	2.561	---	---	---	---	
Pe Magnesium	2.650	2.615	---	---	---	---	

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

Master: 15–Jun–2004 11:26

BS Average Deviation	0	0.4141	---	---	---	---	%
BS Max Deviation	0	0.9721	---	---	---	---	%
SS Average Deviation	0	0.2442	---	---	---	---	%
SS Max Deviation	0	1.285	---	---	---	---	%
LS Average Deviation	0	0.4543	---	---	---	---	%
LS Max Deviation	0	0.9733	---	---	---	---	%



High resolution Integrated Logging Tool–DTS Master Calibration – Tank Measurement

Master: 15–Jun–2004 17:21

Thermal Near Corr. (Tank)	6031	5825	---	---	---	---	CPS
---------------------------	------	------	-----	-----	-----	-----	-----



Thermal Far Corr. (Tank)	2793	2452	--	--	--	--	CPS
CNTC/CFTC (Tank)	2.159	2.376	--	--	--	--	
High resolution Integrated Logging Tool–DTS Master Calibration – Tank Measurement							
Master: 15–Jun–2004 17:21							
Thermal Near Corr. (Tank)	6031	5825	--	--	--	--	CPS
Thermal Far Corr. (Tank)	2793	2452	--	--	--	--	CPS
CNTC/CFTC (Tank)	2.159	2.376	--	--	--	--	
Hostile Natural Gamma Ray Sonde Wellsite Calibration – Detector 1 Check							
Master: 17–Jun–2004 21:58 Before: 30–Jun–2004 16:27							
Na 511 Peak Loc	40.00	40.64	39.64	N/A	N/A	1.000	
Na 511 Peak Res	15.50	16.25	15.10	N/A	N/A	2.000	%
High Voltage	1150	1159	1163	N/A	N/A	N/A	V
Na 1785 Peak Loc	142.6	145.9	143.2	N/A	N/A	7.000	
Na 1785 Peak Res	8.500	8.737	8.315	N/A	N/A	2.000	%
Temperature	15.50	13.72	16.29	N/A	N/A	N/A	DEGC
Na Count Rate	45.00	42.07	43.16	N/A	N/A	8.000	CPS
Hostile Natural Gamma Ray Sonde Wellsite Calibration – Detector 2 Check							
Master: 17–Jun–2004 21:58 Before: 30–Jun–2004 16:27							
Na 511 Peak Loc	40.00	39.68	39.72	N/A	N/A	1.000	
Na 511 Peak Res	15.50	14.94	14.70	N/A	N/A	2.000	%
High Voltage	1150	1080	1085	N/A	N/A	N/A	V
Na 1785 Peak Loc	142.6	143.0	141.9	N/A	N/A	7.000	
Na 1785 Peak Res	8.500	8.683	8.147	N/A	N/A	2.000	%
Temperature	15.50	14.40	15.55	N/A	N/A	N/A	DEGC
Na Count Rate	45.00	41.97	42.72	N/A	N/A	8.000	CPS
Hostile Natural Gamma Ray Sonde Wellsite Calibration – Ratio Of Detector 1 To Detector 2							
Master: 17–Jun–2004 21:58 Before: 30–Jun–2004 16:27							
Coincidence Count Rate Ratio	1.000	1.006	1.012	N/A	N/A	0.05000	
Hostile Natural Gamma Ray Sonde Master Calibration – Detector 1 Calibration							
Master: 17–Jun–2004 21:53							
Na 511 Peak Set Point	40.00	42.00	--	--	--	--	
Th Peak Loc	209.6	211.5	--	--	--	--	
Th Peak Res	7.000	7.826	--	--	--	--	%
Background Count Rate	142.5	140.0	--	--	--	--	CPS
Gain Ratio	1.000	0.9901	--	--	--	--	
Hostile Natural Gamma Ray Sonde Master Calibration – Detector 2 Calibration							
Master: 17–Jun–2004 21:53							
Na 511 Peak Set Point	40.00	41.00	--	--	--	--	
Th Peak Loc	209.6	207.7	--	--	--	--	
Th Peak Res	7.000	7.127	--	--	--	--	%
Background Count Rate	142.5	133.6	--	--	--	--	CPS
Gain Ratio	1.000	0.9954	--	--	--	--	
The GLS–VJ source activity is acceptable.							
The HGNS Neutron Master Calibration was done with the following parameters :							
NCT–B Water Temperature	11.1	DEGC.					
Thermal Housing Size	3.369	IN.					



HILT Azimuthal Laterolog Sonde B / Equipment Identification		
Primary Equipment:		
Auxiliary Equipment:		
Laterolog Control Module	LCM – AA	2747



HILT Azimuthal Laterolog Sonde B Wellsite Calibration			
HALSB Total current mode 1			
Itot 1 Gain MA	Value	Itot 1 Phase DEG	Value
	0.998		-0.000
0.926 1.000 1.081 (Minimum) (Nominal) (Maximum)		-0.100 0.000 0.100 (Minimum) (Nominal) (Maximum)	
Before: 30–Jun–2004 16:22			



HILT Azimuthal Laterolog Sonde B Wellsite Calibration
HALSB Aux current mode 1



HILT Azimuthal Laterolog Sonde B Wellsite Calibration
HALSB Aux current mode 2



Iaux 1 Gain MA		Value	Iaux 1 Phase DEG		Value
		0.994			-0.123
0.854	1.000	1.180	-4.600	0.000	4.600
(Minimum)	(Nominal)	(Maximum)	(Minimum)	(Nominal)	(Maximum)
Before: 30-Jun-2004 16:22					



Iaux 2 Gain MA		Value	Iaux 2 Phase DEG		Value
		0.974			0.000
0.816	1.000	1.232	-1.000	0.000	0.100
(Minimum)	(Nominal)	(Maximum)	(Minimum)	(Nominal)	(Maximum)
Before: 30-Jun-2004 16:22					



HILT Azimuthal Laterolog Sonde B Wellsite Calibration					
HALSB A0 current mode 3A					
IO 3A Gain UA		Value	IO 3A Phase DEG		Value
		0.983			-0.000
0.893	1.000	1.114	-1.000	0.000	0.100
(Minimum)	(Nominal)	(Maximum)	(Minimum)	(Nominal)	(Maximum)
Before: 30-Jun-2004 16:22					



HILT Azimuthal Laterolog Sonde B Wellsite Calibration					
HALSB A0 current mode 3B					
IO 3B Gain UA		Value	IO 3B Phase DEG		Value
		0.980			-0.000
0.893	1.000	1.114	-1.000	0.000	0.100
(Minimum)	(Nominal)	(Maximum)	(Minimum)	(Nominal)	(Maximum)
Before: 30-Jun-2004 16:22					



HILT Azimuthal Laterolog Sonde B Wellsite Calibration					
HALSB Torpedo Voltage gains					
Zvt 1 Gain MV		Value	Zvt 2 Gain MV		Value
		0.994			0.997
0.925	1.000	1.078	0.865	1.000	1.153
(Minimum)	(Nominal)	(Maximum)	(Minimum)	(Nominal)	(Maximum)
Before: 30-Jun-2004 16:22					



HILT Azimuthal Laterolog Sonde B Wellsite Calibration					
HALSB Torpedo Voltage Phases					
Zvt 1 Phase DEG		Value	Zvt 2 Phase DEG		Value
		-0.102			0.006
-4.400	0.000	4.400	-2.800	0.000	2.800
(Minimum)	(Nominal)	(Maximum)	(Minimum)	(Nominal)	(Maximum)
Before: 30-Jun-2004 16:22					




HILT Azimuthal Laterolog Sonde B Wellsite Calibration			
HALSB Upper Bridle Voltage mode 1			
Zvb 1 Gain MV	Value	Zvb 1 Phase DEG	Value
	0.994		-0.132
0.925 (Minimum)	1.000 (Nominal)	1.078 (Maximum)	
		-4.400 (Minimum)	0.000 (Nominal)
			4.400 (Maximum)
Before: 30-Jun-2004 16:22			




HILT Azimuthal Laterolog Sonde B Wellsite Calibration					
HALSB M1-M2 Voltage gains					
ZVM 1 Gain UV		Value	ZVM 2 Gain UV		Value
		0.996			0.993
0.895	1.000	1.117	0.943	1.000	1.056
(Minimum)	(Nominal)	(Maximum)	(Minimum)	(Nominal)	(Maximum)
Before: 30-Jun-2004 16:22					



HILT Azimuthal Laterolog Sonde B Wellsite Calibration					
HALSB M1-M2 Voltage Phases					
ZVM 1 Phase DEG		Value	ZVM 2 Phase DEG		Value
		0.224			1.871
-6.500	0.000	6.500	-3.300	0.000	3.300
(Minimum)	(Nominal)	(Maximum)	(Minimum)	(Nominal)	(Maximum)
Before: 30-Jun-2004 16:22					



HILT Azimuthal Laterolog Sonde B Wellsite Calibration					
HALSB M1-A0* Voltage gains					
ZVH 1 Gain UV		Value	ZVH 2 Gain UV		Value
		0.997			0.990
0.962	1.000	1.039	0.864	1.000	1.154
(Minimum)	(Nominal)	(Maximum)	(Minimum)	(Nominal)	(Maximum)
Before: 30-Jun-2004 16:22					



HILT Azimuthal Laterolog Sonde B Wellsite Calibration					
HALSB M1-A0* Voltage Phases					
ZVH 1 Phase DEG		Value	ZVH 2 Phase DEG		Value
		0.109			1.992
-6.500	0.000	6.500	-3.300	0.000	3.300
(Minimum)	(Nominal)	(Maximum)	(Minimum)	(Nominal)	(Maximum)
Before: 30-Jun-2004 16:22					



HILT Azimuthal Laterolog Sonde B Wellsite Calibration					
HALSB Aux Voltage gains					
ZVA 1 Gain MV	Value	ZVA 2 Gain MV	Value	ZVA 3 Gain MV	Value
	1.070		1.063		1.013
0.905 1.000 1.103 (Minimum) (Nominal) (Maximum)		0.866 1.000 1.151 (Minimum) (Nominal) (Maximum)		0.866 1.000 1.151 (Minimum) (Nominal) (Maximum)	
Before: 30-Jun-2004 16:22					



HILT Azimuthal Laterolog Sonde B Wellsite Calibration					
HALSB Aux Voltage Phases					
ZVA 1 Phase DEG	Value	ZVA 2 Phase DEG	Value	ZVA 3 Phase DEG	Value
	1.005		0.153		0.162
-4.100 0.000 4.100 (Minimum) (Nominal) (Maximum)		-2.300 0.000 2.300 (Minimum) (Nominal) (Maximum)		-1.000 0.000 1.000 (Minimum) (Nominal) (Maximum)	
Before: 30-Jun-2004 16:22					



HILT Azimuthal Laterolog Sonde B Wellsite Calibration			
HALSB A0*-A0** Diff. Voltage mode 1			
ZVD 1 Gain UV	Value	ZVD 1 Phase DEG	Value
	0.997		0.096
0.874 1.000 1.147 (Minimum) (Nominal) (Maximum)		-6.300 0.000 6.300 (Minimum) (Nominal) (Maximum)	
Before: 30-Jun-2004 16:22			

























HILT Azimuthal Laterolog Sonde B Wellsite Calibration			
HALSB A0*-A0** Diff. Voltage mode 2			
ZVD 2 Gain UV	Value	ZVD 2 Phase DEG	Value
	0.982		1.287
0.842 1.000 1.187 (Minimum) (Nominal) (Maximum)		-3.300 0.000 3.300 (Minimum) (Nominal) (Maximum)	
Before: 30-Jun-2004 16:22			

























HILT Azimuthal Laterolog Sonde B Wellsite Calibration			
HALSB A0*-A0** Diff. Voltage mode 3A			
ZVD 3A Gain UV	Value	ZVD 3A Phase DEG	Value
	0.988		0.566
0.842 1.000 1.187 (Minimum) (Nominal) (Maximum)		-2.000 0.000 2.000 (Minimum) (Nominal) (Maximum)	
Before: 30-Jun-2004 16:22			

HILT Azimuthal Laterolog Sonde B Wellsite Calibration			
HALSB A0*-A0** Diff. Voltage mode 3B			
ZVD 3B Gain UV	Value	ZVD 3B Phase DEG	Value
	1.000		-0.039
0.845 1.000 1.183 (Minimum) (Nominal) (Maximum)		-2.000 0.000 2.000 (Minimum) (Nominal) (Maximum)	
Before: 30-Jun-2004 16:22			

HILT Azimuthal Laterolog Sonde B Wellsite Calibration			
HALSB vertical Voltage mode 1			
ZVV 1 Gain UV	Value	ZVV 1 Phase DEG	Value
	0.997		0.163
0.936 1.000 1.065 (Minimum) (Nominal) (Maximum)		-4.600 0.000 4.600 (Minimum) (Nominal) (Maximum)	
Before: 30-Jun-2004 16:22			

HILT Azimuthal Laterolog Sonde B Wellsite Calibration			
HALSB vertical Voltage mode 2			
ZVV 2 Gain UV	Value	ZVV 2 Phase DEG	Value
	0.985		2.626
0.895 1.000 1.112 (Minimum) (Nominal) (Maximum)		-2.800 0.000 2.800 (Minimum) (Nominal) (Maximum)	
Before: 30-Jun-2004 16:22			

HILT Azimuthal Laterolog Sonde B Wellsite Calibration					
HALSB Azimuthal Voltages mode 1					
Idx	Az 1 Gain UV	Value	Idx	AZ 1 Phase DEG	Value
0		0.999	0		-0.001
1		0.998	1		0.135
2		0.999	2		0.098
3		0.994	3		0.102
4		0.999	4		0.211
5		0.999	5		0.094
6		0.997	6		0.065
7		0.998	7		0.015
8		0.997	8		0.129
9		0.997	9		0.021
10		1.001	10		0.126
11		0.996	11		0.106
0.874 1.000 1.147 (Minimum) (Nominal) (Maximum)			-6.300 0.000 6.300 (Minimum) (Nominal) (Maximum)		
Before: 30-Jun-2004 16:22					

HILT Azimuthal Laterolog Sonde B Wellsite Calibration					
HALSB Azimuthal Voltages mode 2					
Idx	Az 2 Gain UV	Value	Idx	Az 2 Phase DEG	Value
0		0.984	0		1.350
1		0.983	1		1.308
2		0.984	2		1.317
3		0.979	3		1.304
4		0.985	4		1.333
5		0.984	5		1.344
6		0.982	6		1.368
7		0.983	7		1.363
8		0.983	8		1.382
9		0.982	9		1.336
10		0.987	10		1.398
11		0.981	11		1.280
0.842 1.000 1.187 (Minimum) (Nominal) (Maximum)			-3.300 0.000 3.300 (Minimum) (Nominal) (Maximum)		
Before: 30-Jun-2004 16:22					

HILT Azimuthal Laterolog Sonde B Wellsite Calibration					
HALSB Azimuthal Voltages mode 3A					
Idx	Az 3A Gain UV	Value	Idx	Az 3A Phase DEG	Value

HILT Azimuthal Laterolog Sonde B Wellsite Calibration					
HALSB Azimuthal Voltages mode 3B					
Idx	Az 3B Gain UV	Value	Idx	Az 3B Phase DEG	Value

0		0.989	0		0.602		
1		0.988	1		0.598		
2		0.990	2		0.599		
3		0.984	3		0.585		
4		0.990	4		0.613		
5		0.989	5		0.599		
6		0.987	6		0.609		
7		0.989	7		0.610		
8		0.988	8		0.647		
9		0.987	9		0.595		
10		0.992	10		0.639		
11		0.987	11		0.565		
0.842 (Minimum)		1.000 (Nominal)	1.187 (Maximum)	-2.000 (Minimum)		0.000 (Nominal)	2.000 (Maximum)
Before: 30-Jun-2004 16:22							

0		1.007	0		0.232		
1		1.002	1		0.167		
2		1.006	2		0.106		
3		0.999	3		0.121		
4		1.006	4		0.061		
5		1.006	5		0.181		
6		1.005	6		0.111		
7		1.006	7		0.192		
8		1.006	8		0.136		
9		1.003	9		0.131		
10		1.010	10		0.190		
11		0.997	11		-0.014		
0.845 (Minimum)		1.000 (Nominal)	1.183 (Maximum)	-2.000 (Minimum)		0.000 (Nominal)	2.000 (Maximum)
Before: 30-Jun-2004 16:22							

High resolution Integrated Logging Tool-DTS / Equipment Identification

Primary Equipment:

HILT high-Resolution Mechanical Sonde
HILT Rxo Gamma-ray Device
HILT Nuclear Back-Scatter Detector
HILT Nuclear Short-Spacing Detector
HILT Nuclear Long-Spacing Detector
Micro Cylindrically Focused Log Device
GR Logging Source
HILT High Res. Control Cartridge

HRMS - B 1765
HRGD - B 1760
HILT -
HILT -
HILT -
MCFL -
GLS - VJ 3739
HRCC - B 1769

Auxiliary Equipment:

High resolution Integrated Logging Tool-DTS Wellsite Calibration

Stab Measurement Summary

Phase	BS Window Ratio		Value	Phase	SS Window Ratio		Value	Phase	LS Window Ratio		Value					
Before			1.012	Before			0.4806	Before			0.2944					
0.9600 (Minimum)			1.011 (Nominal)	1.061 (Maximum)			0.4567 (Minimum)			0.4808 (Nominal)	0.5048 (Maximum)	0.2808 (Minimum)			0.2955 (Nominal)	0.3103 (Maximum)
Phase	BS Window Sum CPS			Value	Phase	SS Window Sum CPS			Value	Phase	LS Window Sum CPS			Value		
Before				16060	Before				10980	Before				1164		
15290 (Minimum)			16100 (Nominal)	16900 (Maximum)	10420 (Minimum)			10970 (Nominal)	11520 (Maximum)	1102 (Minimum)			1160 (Nominal)	1218 (Maximum)		

Before: 30-Jun-2004 16:18

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	Phase	LS PM High Voltage (Command) V			Value
Before				1468	Before				1923	Before				1832
	1395 (Minimum)	1495 (Nominal)	1595 (Maximum)			1844 (Minimum)	1944 (Nominal)	2044 (Maximum)			1739 (Minimum)	1839 (Nominal)	1939 (Maximum)	

Before: 30-Jun-2004 16:18

High resolution Integrated Logging Tool-DTS Wellsite Calibration




Crystal Quality Resolutions Calibration

Crystal Quality Measurements Comparison											
BS Crystal Resolution %			SS Crystal Resolution %			LS Crystal Resolution %					
Phase	Value		Phase	Value		Phase	Value				
Before		12.12	Before		11.55	Before		9.483			
11.17 (Minimum)		12.17 (Nominal)	13.17 (Maximum)			10.48 (Minimum)		11.48 (Nominal)	12.48 (Maximum)		



Before: 30-Jun-2004 16:18




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				3799	Before				3768	Before				3798
	3565 (Minimum)	3875 (Nominal)	4185 (Maximum)			3524 (Minimum)	3830 (Nominal)	4136 (Maximum)			3524 (Minimum)	3830 (Nominal)	4136 (Maximum)	





Before: 30-Jun-2004 16:19

High resolution Integrated Logging Tool-DTS Wellsite Calibration							
HILT Caliper Calibration							
Phase	HILT Caliper Zero Measurement IN		Value	Phase	HILT Caliper Plus Measurement IN		Value
Before			8.215	Before			12.39
	6.000 (Minimum)	8.000 (Nominal)	10.00 (Maximum)		9.000 (Minimum)	12.00 (Nominal)	15.00 (Maximum)
Before: 30-Jun-2004 16:15							

High resolution Integrated Logging Tool-DTS Wellsite Calibration														
Detector Calibration														
Phase	Gamma Ray Background GAPI			Value	Phase	Gamma Ray (Jig – Bkg) GAPI			Value	Phase	Gamma Ray (Calibrated) GAPI			Value
Before				26.47	Before				174.8	Before				160.0
	0 (Minimum)	30.00 (Nominal)	120.0 (Maximum)			158.9 (Minimum)	174.8 (Nominal)	190.7 (Maximum)			145.0 (Minimum)	160.0 (Nominal)	175.0 (Maximum)	
Before: 30-Jun-2004 16:14														

High resolution Integrated Logging Tool-DTS Wellsite Calibration									
Zero Measurement									
Phase	CNTC Background CPS			Value	Phase	CFTC Background CPS			Value
Master				32.30	Master				29.13
Before				30.57	Before				29.39
5.000 (Minimum)				32.30 (Nominal)	40.00 (Maximum)				
Master: 15-Jun-2004 17:21					Before: 30-Jun-2004 16:15				

High resolution Integrated Logging Tool-DTS			
Wellsite Calibration			
Accelerometer Calibration			
Phase	Z-Axis Acceleration M/S2	Value	
Before		9.802	
	9.610 (Minimum)	9.810 (Nominal)	10.01 (Maximum)
Before: 30-Jun-2004 16:17			

High resolution Integrated Logging Tool-DTS Master Calibration							
Inversion results							
Phase	Rho Aluminum G/C3		Value	Phase	Rho Magnesium G/C3		Value
Master			2.599	Master			1.688
	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			2.561	Master			2.615
	2.470 (Minimum)	2.570 (Nominal)	2.670 (Maximum)		2.550 (Minimum)	2.650 (Nominal)	2.750 (Maximum)
Master: 15-Jun-2004 11:26							















High resolution Integrated Logging Tool-DTS Master Calibration														
Deviation Summary														
Phase	BS Average Deviation %			Value	Phase	SS Average Deviation %			Value	Phase	LS Average Deviation %			Value
Master	<div><div></div></div>			0.4141	Master	<div><div></div></div>			0.2442	Master	<div><div></div></div>			0.4543
	-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	<div><div></div></div>			0.9721	Master	<div><div></div></div>			1.285	Master	<div><div></div></div>			0.9733
	-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: 15-Jun-2004 11:26														

High resolution Integrated Logging Tool–DTS Master Calibration														
Tank Measurement														
Phase	Thermal Near Corr. (Tank) CPS			Value	Phase	Thermal Far Corr. (Tank) CPS			Value	Phase	CNTC/CFTC (Tank)			Value
Master	<div><div></div></div>			5825	Master	<div><div></div></div>			2452	Master	<div><div></div></div>			2.376
	5000 (Minimum)	6031 (Nominal)	7200 (Maximum)			2075 (Minimum)	2793 (Nominal)	3125 (Maximum)			2.120 (Minimum)	2.159 (Nominal)	2.540 (Maximum)	
Master: 15–Jun–2004 17:21														

High resolution Integrated Logging Tool–DTS Master Calibration										
Tank Measurement										
Phase	Thermal Near Corr. (Tank) CPS		Value	Phase	Thermal Far Corr. (Tank) CPS		Value	Phase	CNTC/CFTC (Tank)	Value
Master	<div><div></div></div>		5825	Master	<div><div></div></div>		2452	Master	<div><div></div></div>	2.376
	5000 (Minimum)	6031 (Nominal)	7200 (Maximum)		2075 (Minimum)	2793 (Nominal)	3125 (Maximum)		2.120 (Minimum)	2.159 (Nominal) 2.540 (Maximum)
Master: 15–Jun–2004 17:21										



Hostile Natural Gamma Ray Cartridge – A / Equipment Identification		
Primary Equipment: HNGC Cartridge	HNGC – A	10
Auxiliary Equipment: HNGC Housing	HNGH – A	






Hostile Natural Gamma Ray Sonde / Equipment Identification		
Primary Equipment: HNGS Sonde	HNGS – BA	129
Auxiliary Equipment: HNGS Sonde Housing Gamma Source Radioactive	HNSH – BA GSR – U	3






Hostile Natural Gamma Ray Sonde Wellsite Calibration													
Detector 1 Check													
Phase	Na 511 Peak Loc			Value	Phase	Na 511 Peak Res %			Value	Phase	High Voltage V		Value
Master				40.64	Master				16.25	Master			1159
Before				39.64	Before				15.10	Before			1163
37.50 (Minimum)40.00 (Nominal)42.50 (Maximum)					12.00 (Minimum)15.50 (Nominal)19.00 (Maximum)					900.0 (Minimum)1150 (Nominal)1600 (Maximum)			
Phase	Na 1785 Peak Loc			Value	Phase	Na 1785 Peak Res %			Value	Phase	Temperature DEGC		Value
Master				145.9	Master				8.737	Master			13.72
Before				143.2	Before				8.315	Before			16.29
135.0 (Minimum)142.6 (Nominal)150.3 (Maximum)					7.000 (Minimum)8.500 (Nominal)11.00 (Maximum)					-28.89 (Minimum)15.50 (Nominal)60.00 (Maximum)			
Phase	Na Count Rate CPS			Value									
Master				42.07									
Before				43.16									
10.00 (Minimum)45.00 (Nominal)100.0 (Maximum)													
Master: 17-Jun-2004 21:58					Before: 30-Jun-2004 16:27								

Hostile Natural Gamma Ray Sonde Wellsite Calibration												
Detector 2 Check												
Phase	Na 511 Peak Loc		Value	Phase	Na 511 Peak Res %		Value	Phase	High Voltage V		Value	
Master	<div><div></div></div>		39.68	Master	<div><div></div></div>		14.94	Master	<div><div></div></div>		1080	
Before	<div><div></div></div>		39.72	Before	<div><div></div></div>		14.70	Before	<div><div></div></div>		1085	
37.50 (Minimum)			40.00 (Nominal)	42.50 (Maximum)				12.00 (Minimum)			15.50 (Nominal)	19.00 (Maximum)
Phase	Na 1785 Peak Loc		Value	Phase	Na 1785 Peak Res %		Value	Phase	Temperature DEGC		Value	
Master	<div><div></div></div>		143.0	Master	<div><div></div></div>		8.683	Master	<div><div></div></div>		14.40	
	<div><div></div></div>				<div><div></div></div>				<div><div></div></div>			

<div><div>Before</div><div><div><div></div><div>135.0 (Minimum)</div></div><div><div></div><div>142.6 (Nominal)</div></div><div><div></div><div>150.3 (Maximum)</div></div></div></div>			141.9	<div><div>Before</div><div><div><div></div><div>7.000 (Minimum)</div></div><div><div></div><div>8.500 (Nominal)</div></div><div><div></div><div>11.00 (Maximum)</div></div></div></div>			8.147	<div><div>Before</div><div><div><div></div><div>-28.89 (Minimum)</div></div><div><div></div><div>15.50 (Nominal)</div></div><div><div></div><div>60.00 (Maximum)</div></div></div></div>			15.55
Phase	Na Count Rate CPS		Value								
Master	<div><div></div><div></div><div></div></div>		41.97								
Before	<div><div></div><div></div><div></div></div>		42.72								
<div><div>10.00 (Minimum)</div><div>45.00 (Nominal)</div><div>100.0 (Maximum)</div></div>											
Master: 17-Jun-2004 21:58											
Before: 30-Jun-2004 16:27											

Hostile Natural Gamma Ray Sonde Wellsite Calibration		
Ratio Of Detector 1 To Detector 2		
Phase	Coincidence Count Rate Ratio	Value
Master		1.006
Before		1.012
	0.9500 (Minimum)	1.050 (Maximum)
Master: 17-Jun-2004 21:58		
Before: 30-Jun-2004 16:27		

Hostile Natural Gamma Ray Sonde Master Calibration														
Detector 1 Calibration														
Phase	Na 511 Peak Set Point			Value	Phase	Th Peak Loc			Value	Phase	Th Peak Res %			Value
Master				42.00	Master				211.5	Master				7.826
	38.00 (Minimum)	40.00 (Nominal)	42.00 (Maximum)		201.0 (Minimum)	209.6 (Nominal)	218.3 (Maximum)			5.000 (Minimum)	7.000 (Nominal)	9.000 (Maximum)		
Phase	Background Count Rate CPS			Value	Phase	Gain Ratio			Value					
Master				140.0	Master				0.9901					
	20.00 (Minimum)	142.5 (Nominal)	265.0 (Maximum)		0.9400 (Minimum)	1.000 (Nominal)	1.060 (Maximum)							
Master: 17-Jun-2004 21:53														

Hostile Natural Gamma Ray Sonde Master Calibration														
Detector 2 Calibration														
Phase	Na 511 Peak Set Point			Value	Phase	Th Peak Loc			Value	Phase	Th Peak Res %			Value
Master				41.00	Master				207.7	Master				7.127
	38.00 (Minimum)	40.00 (Nominal)	42.00 (Maximum)		201.0 (Minimum)	209.6 (Nominal)	218.3 (Maximum)			5.000 (Minimum)	7.000 (Nominal)	9.000 (Maximum)		
Phase	Background Count Rate CPS			Value	Phase	Gain Ratio			Value					
Master				133.6	Master				0.9954					
	20.00 (Minimum)	142.5 (Nominal)	265.0 (Maximum)		0.9400 (Minimum)	1.000 (Nominal)	1.060 (Maximum)							
Master: 17-Jun-2004 21:53														

Company: **Essential Petroleum Resources Limited**

Schlumberger

Well: **Findra-1**

Field: **PEP 159**

Rig: **Hunt Rig #2**

Country: **Australia**

HALS-BHC-PEX-HNGS

Nuclear-Density Print

Scale 1:500

