

Company: Essential Petroleum Resources Limited

Well: Findra-1
Field: PEP 159
Rig: Hunt Rig #2

Country: Australia

HALS-BHC-PEX-HNGS											
GR To Surface											
Scale 1:500											
Otway Basin PEP 159				Elev.: K.B. 60.95 m							
602241.4 E				G.L. 57 m							
5768896.5 N				D.F. 60.95 m							
LOCATION											
						Permanent Datum: MEAN SEA LEVEL		Elev.: 0 m			
						Log Measured From: DRILL FLOOR		61.0 m above Perm. Datum			
Drilling Measured From: DRILL FLOOR											
State: Victoria		Max. Well Deviation 2 deg		Longitude 142° 10' 04.90" E		Latitude 38° 13' 19.58" S					
Logging Date 30-Jun-2004											
Run Number 1											
Depth Driller 889 m											
Schlumberger Depth 879 m											
Bottom Log Interval 876.71 m											
Top Log Interval 150 m											
Casing Driller Size @ Depth 9.625 in @ 150 m											
Casing Schlumberger 150 m											
Bit Size 8.500 in											
Type Fluid In Hole KCl-Polymer-PHPA											
Density 1.1 g/cm3		Viscosity 39 s									
Fluid Loss 6.8 cm3		PH 8.8									
Source Of Sample PIT											
RM @ Measured Temperature 0.254 ohm.m @ 12 degC											
RMF @ Measured Temperature 0.205 ohm.m @ 12 degC											
RMC @ Measured Temperature 0.281 ohm.m @ 12 degC											
Source RMF		RMC									
RM @ MRT		RMF @ MRT		PRESS							
0.123 @ 48		0.099 @ 48									
Maximum Recorded Temperatures 48 degC 48 48											
Circulation Stopped 30-Jun-2004 6:00											
Logger On Bottom 30-Jun-2004 17:50											
Unit Number 3170		QEA									
Recorded By Herdy Nizar / G. Jonsson											
Witnessed By G. Wakein-King											

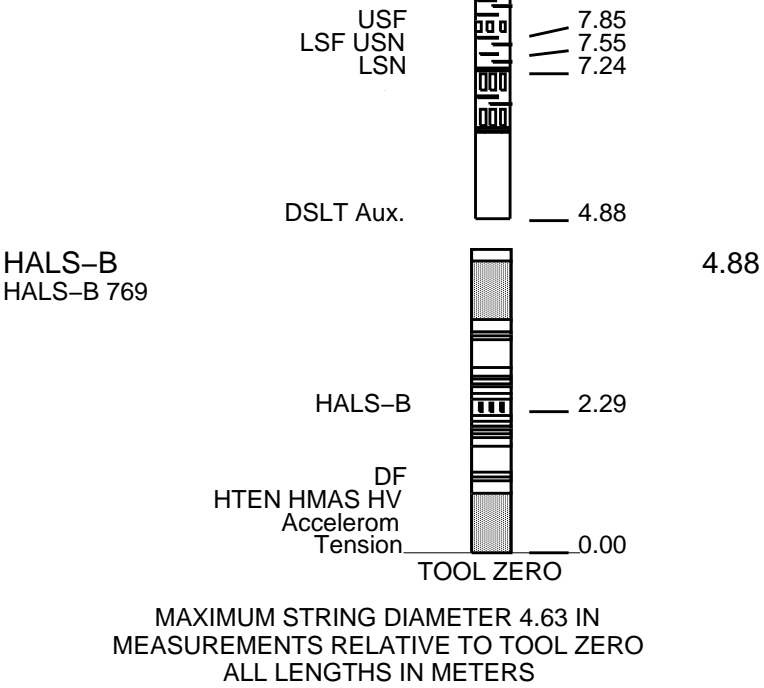
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Caliper check in casing reads 8.83 from ASCII and 8.834 expected.

Barite present in mud

[illegible]

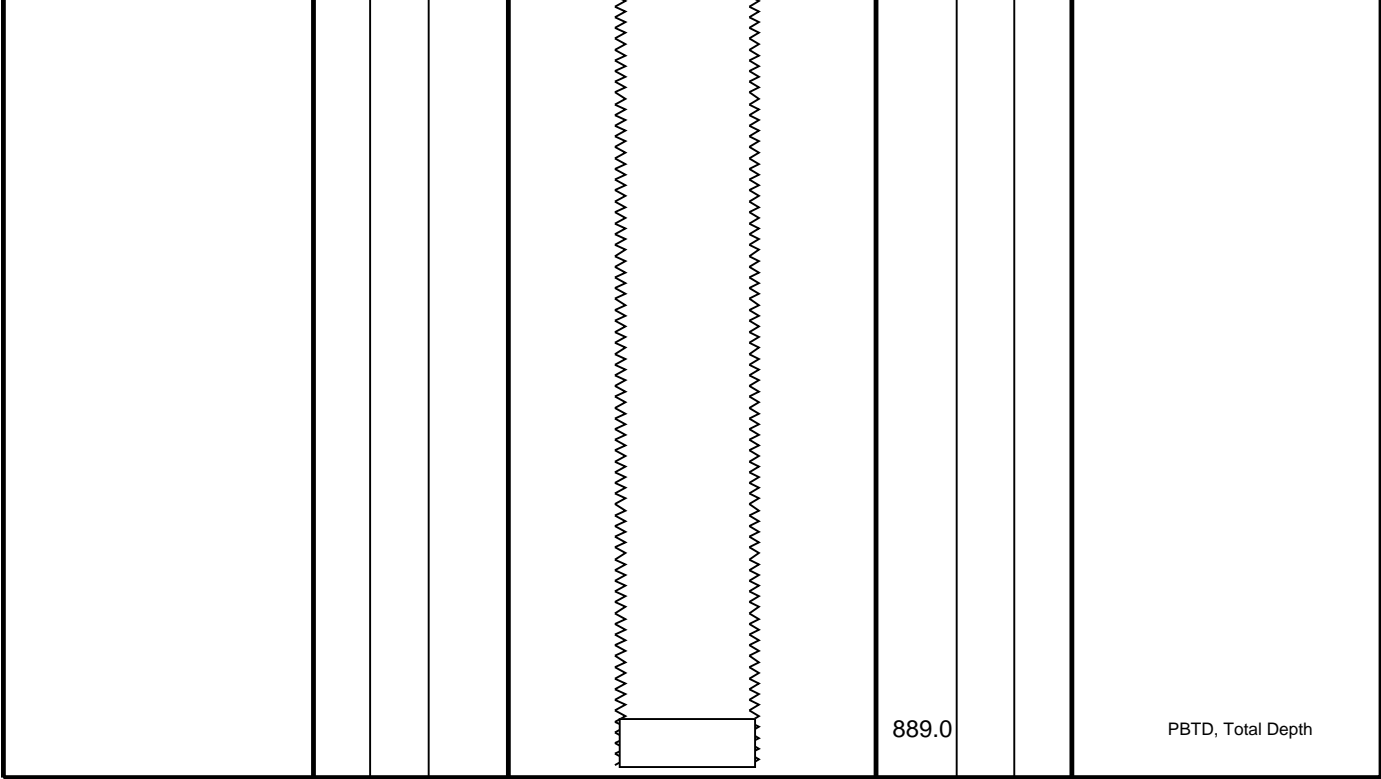
DSL-8223
ECH-8273
SLS-C 299



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

Rig Name: Hunt Rig # 2
Elevation: 61.0 m
API #:

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



889.0

PBTD, Total Depth



GR To Surface
1:500 Scale

MAXIS Field Log

Company: Essential Petroleum Resources Limited Well: Findra-1

Input DLIS Files

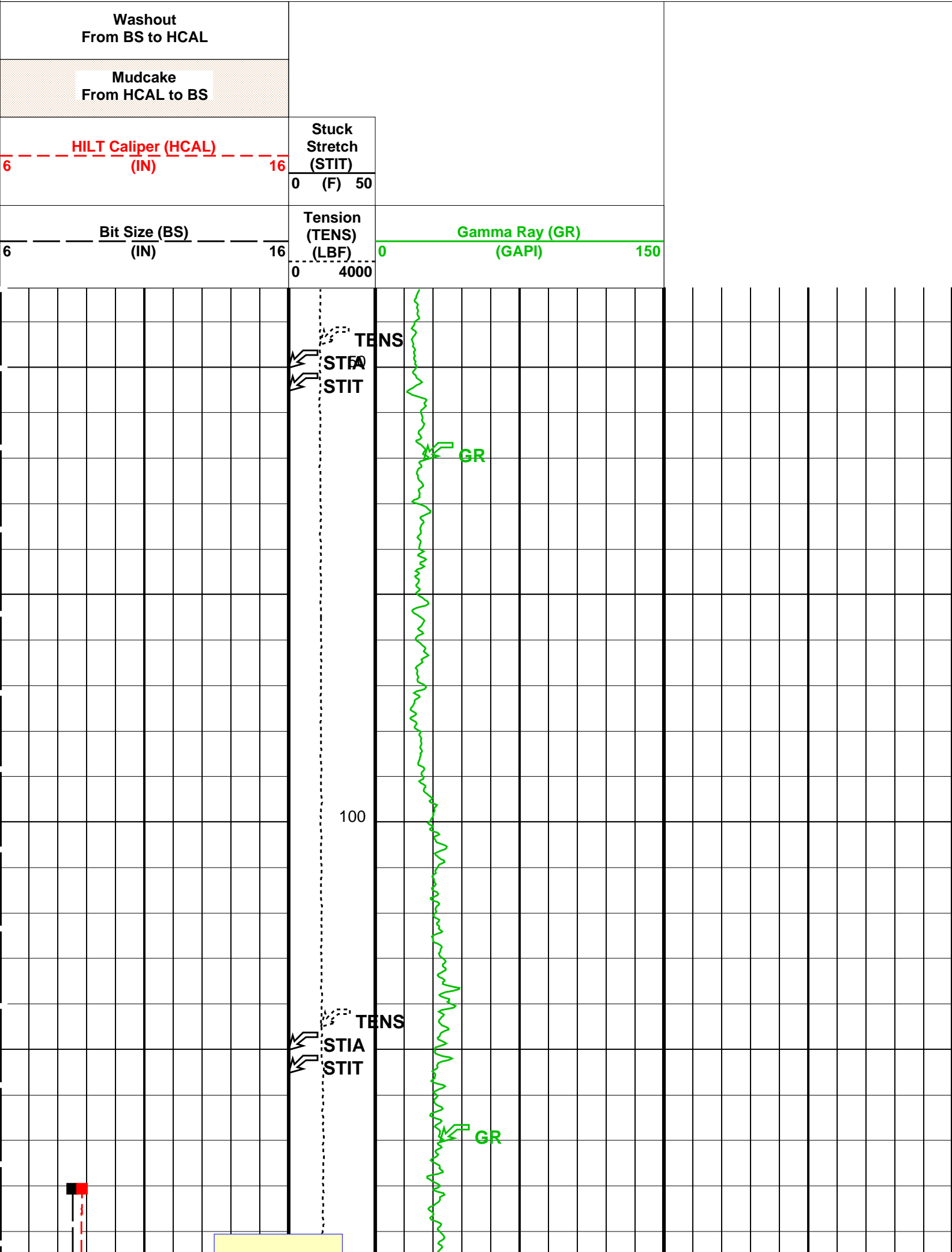
DEFAULT	HALS_SONIC_TLD_MCFL_010PUP	FN:15	PRODUCER	30-Jun-2004 20:05	880.3 M	34.4 M
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Output DLIS Files

DEFAULT	HALS_SONIC_TLD_MCFL_052PUP	FN:55	PRODUCER	01-Jul-2004 14:31	880.3 M	41.3 M
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OP System Version: 12C0-301
MCM

HALS-B	12C0-301	DSLT-H	12C0-301
HILTB-FTB	12C0-301	HNGC-A	12C0-301
HNGS-BA	12C0-301	DTC-H	12C0-301
BSP	12C0-301		

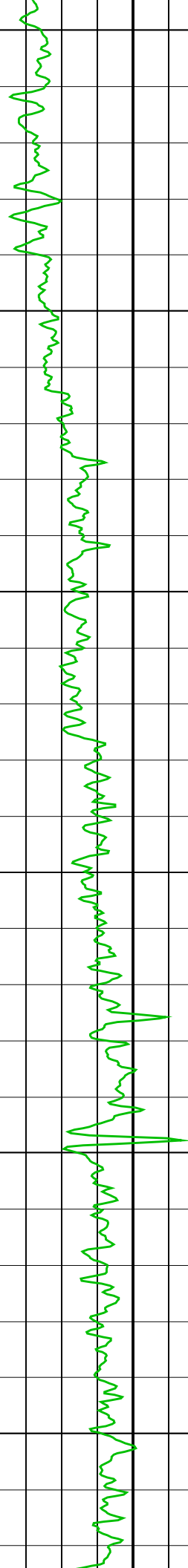
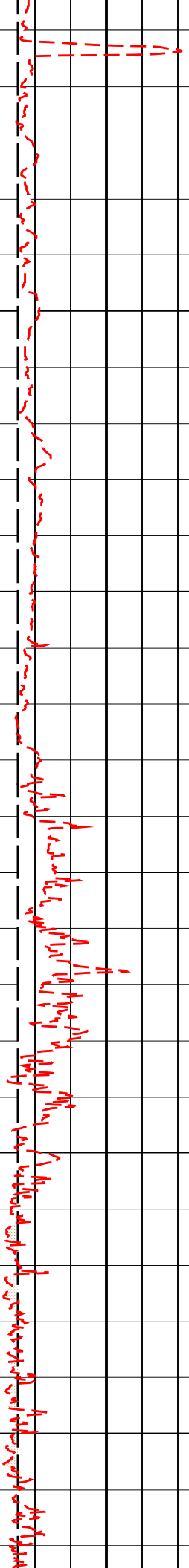


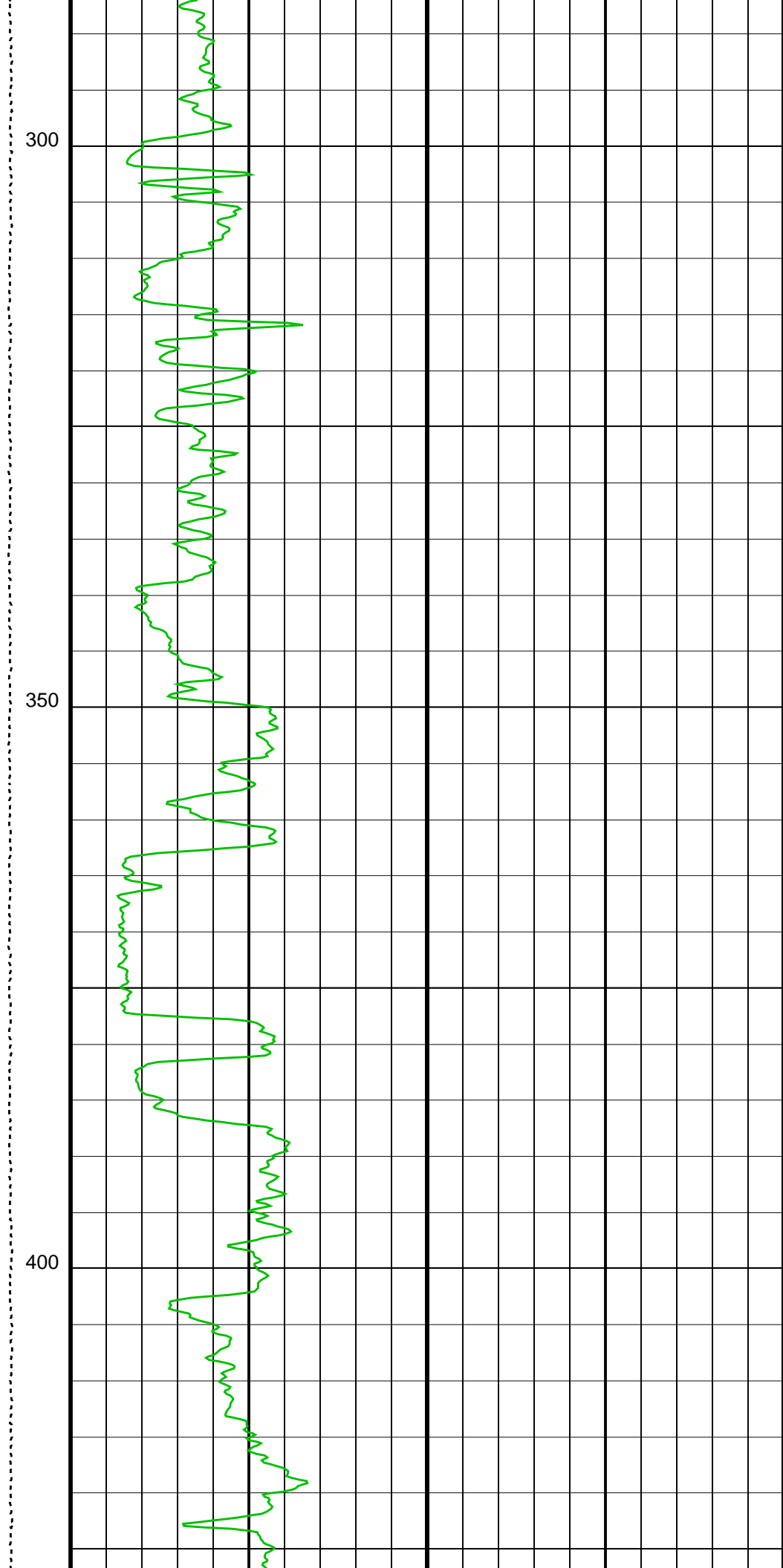
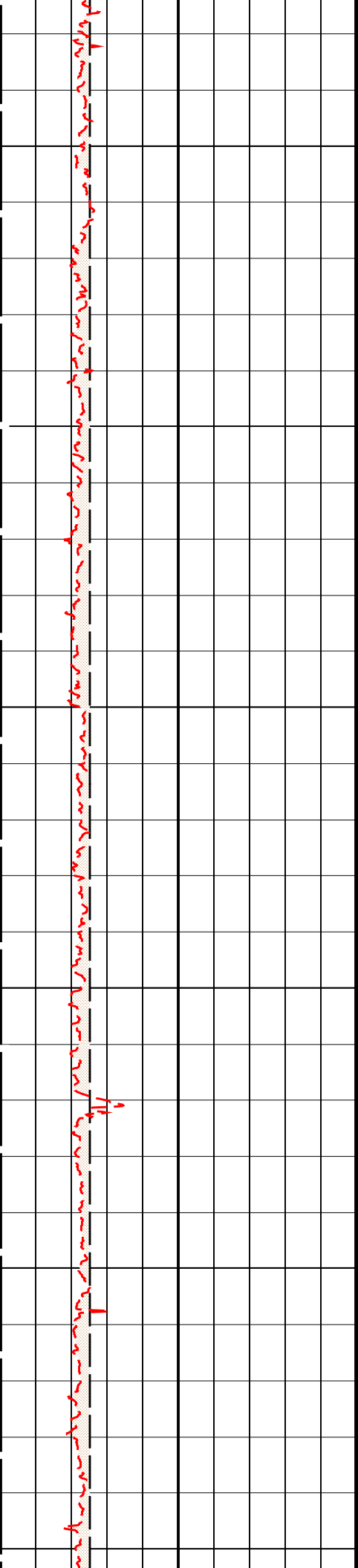
Casing Shoe

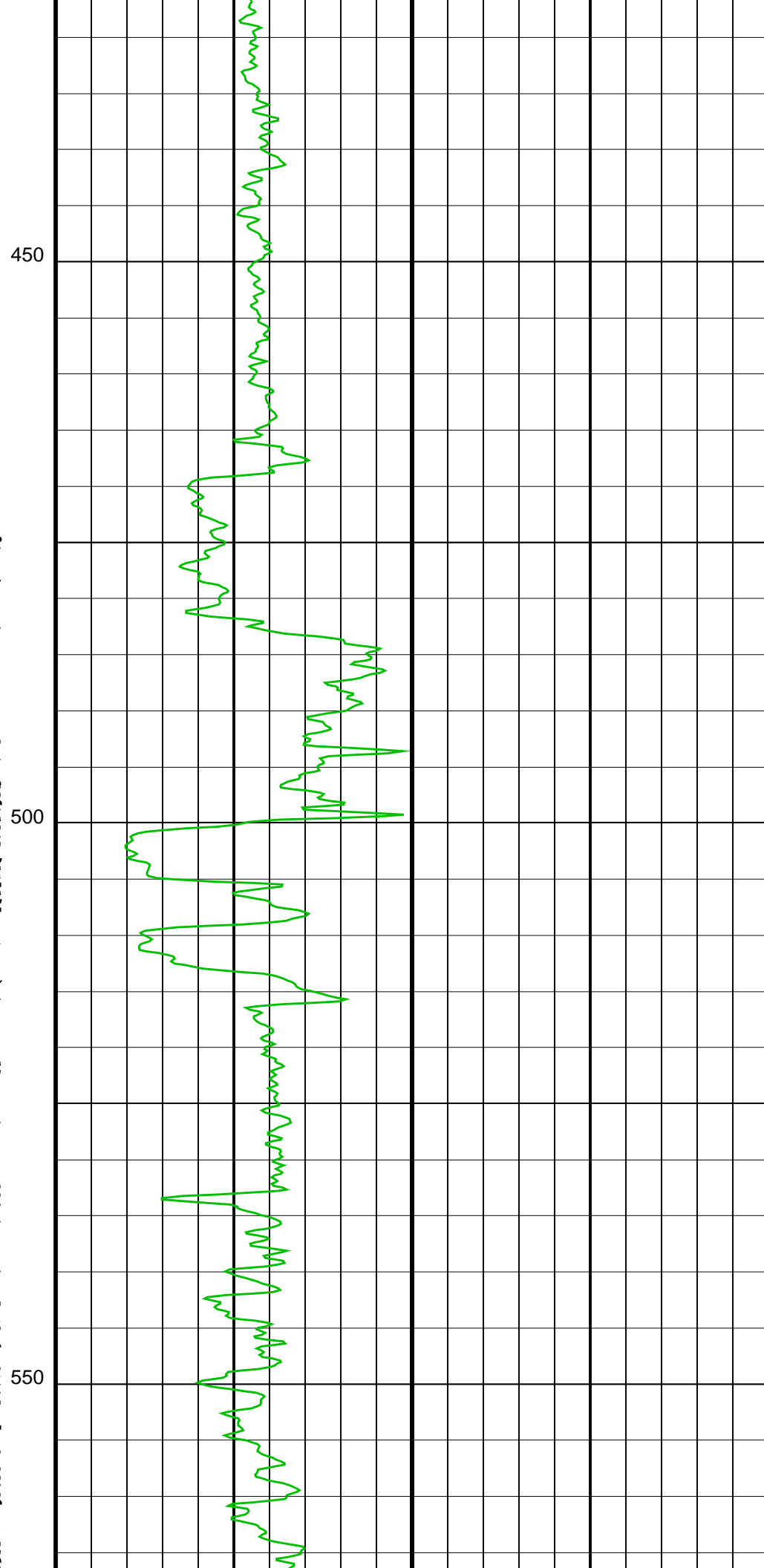
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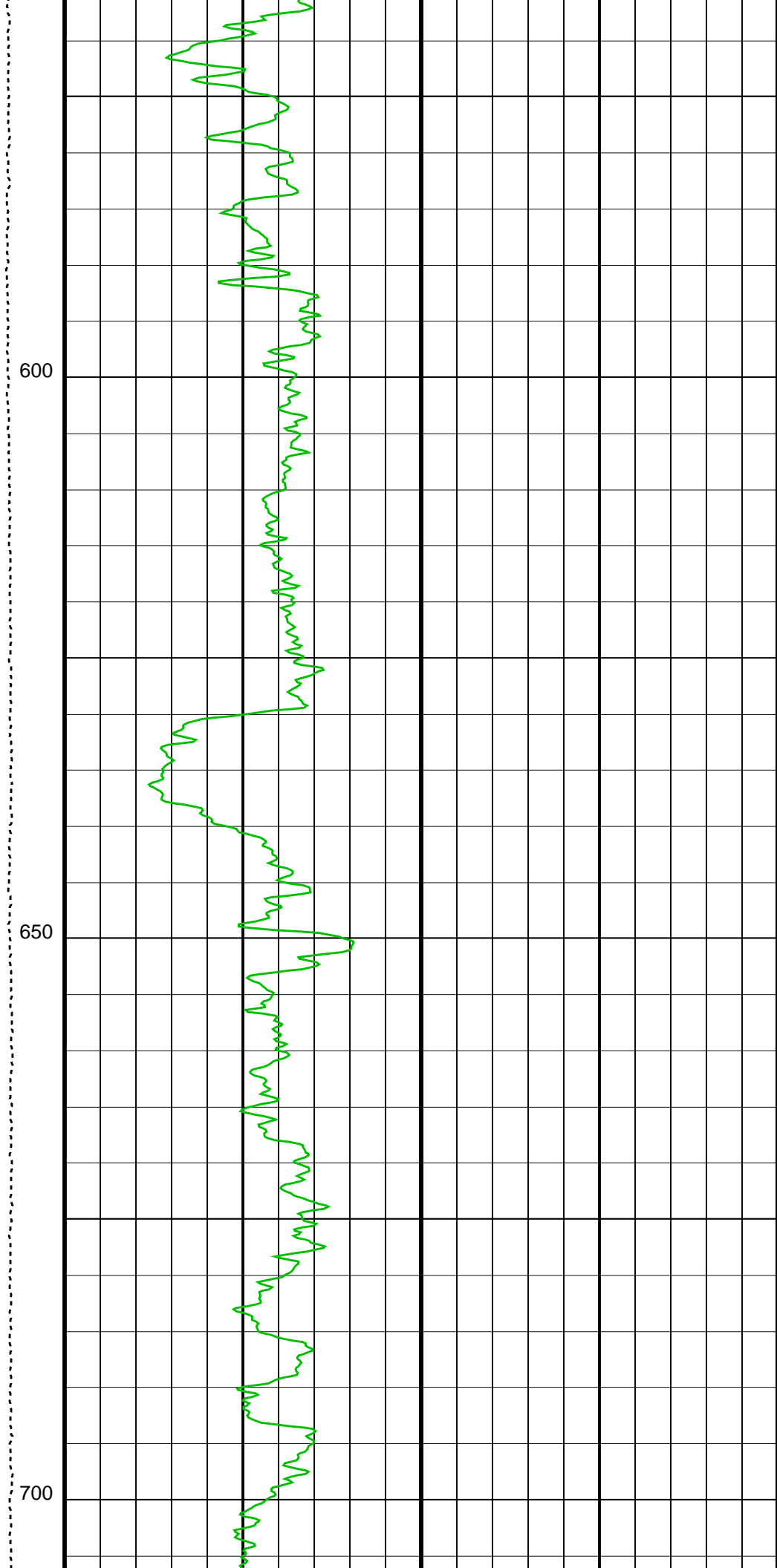
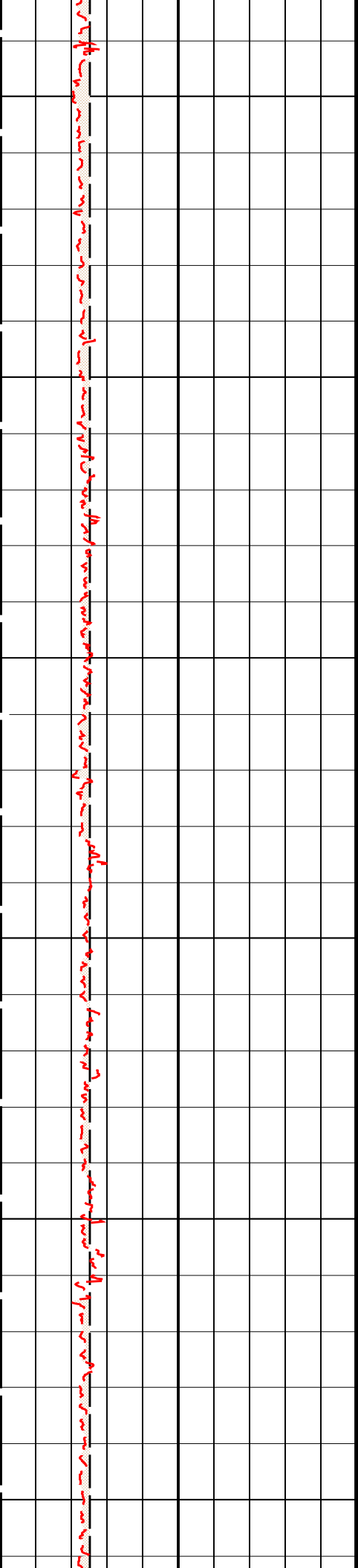
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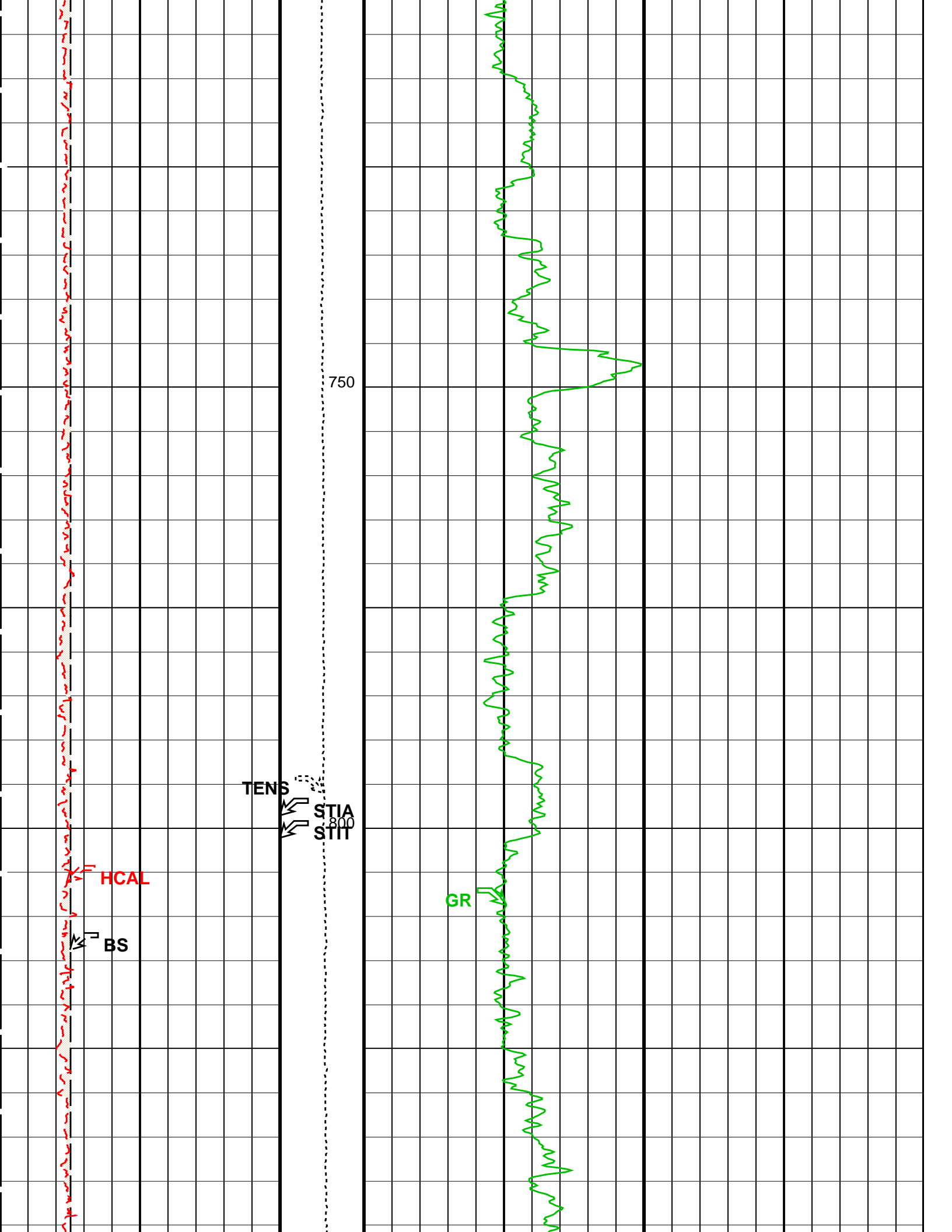
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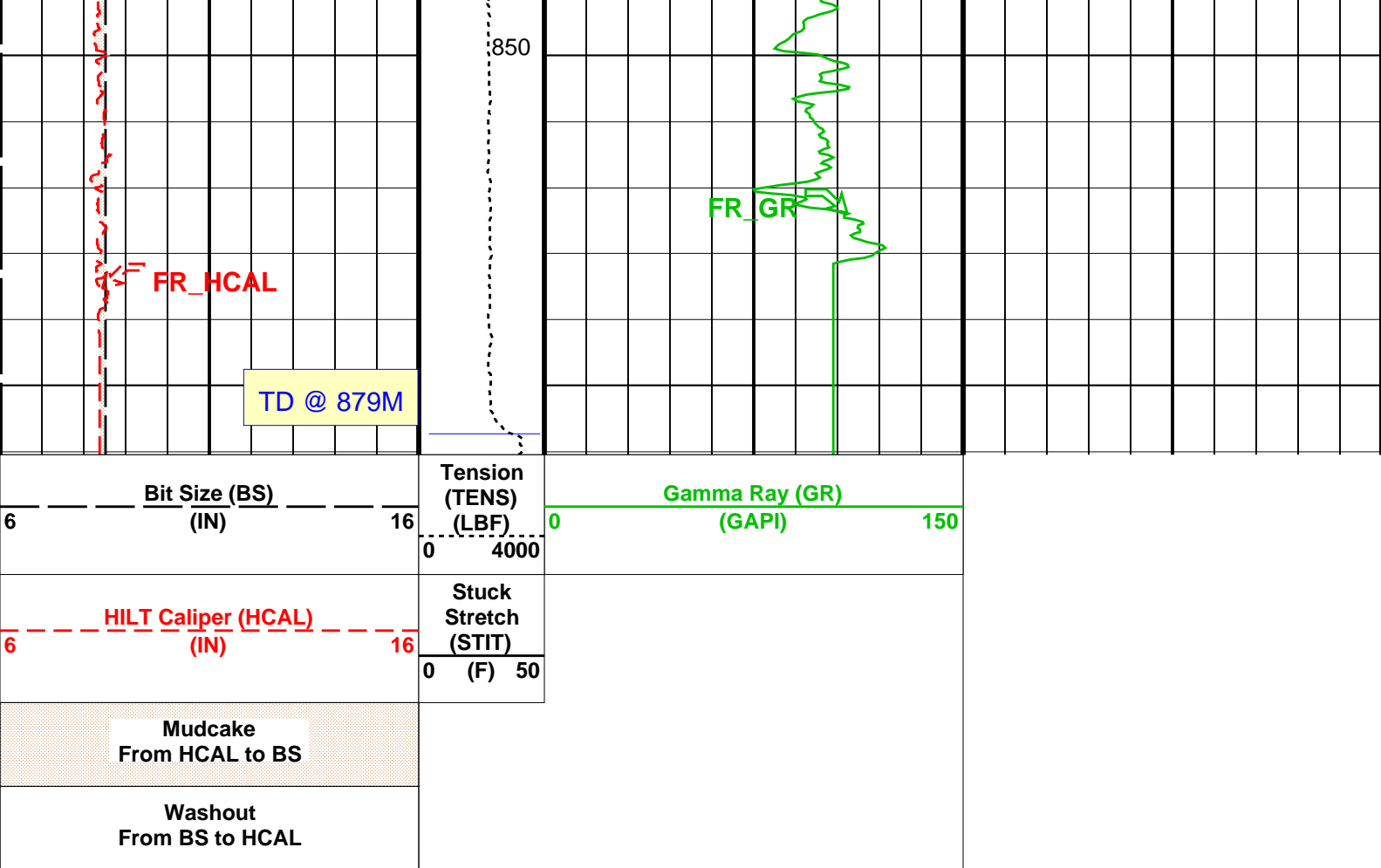












PIP SUMMARY

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value
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
DO	Depth Offset for Playback	0.0 M
PP	Playback Processing	RECOMPUTE

Format: GR To Surface

Vertical Scale: 1:500

Graphics File Created: 01-Jul-2004 14:31

OP System Version: 12C0-301

MCM

HALS-B	12C0-301	DSLT-H	12C0-301
HILTB-FTB	12C0-301	HNGC-A	12C0-301
HNGS-BA	12C0-301	DTC-H	12C0-301
BSP	12C0-301		

Input DLIS Files

DEFAULT	HALS_SONIC_TLD_MCFL_010PUP FN:15	PRODUCER	30-Jun-2004 20:05	880.3 M	34.4 M
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Output DLIS Files

DEFAULT	HALS_SONIC_TLD_MCFL_052PUP FN:55	PRODUCER	01-Jul-2004 14:31
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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
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	
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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	-0.100	0.000	0.100
(Minimum)	(Nominal)	(Maximum)	(Minimum)	(Nominal)	(Maximum)
Before: 30-Jun-2004 16:22					




HILT Azimuthal Laterolog Sonde B Wellsite Calibration					
HALSB Aux current mode 1					
Iaux 1 Gain MA		Value	Iaux 1 Phase DEG		Value
		0.994			-0.123
0.854 1.000 1.180 (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 Aux current mode 2			
iaux 2 Gain MA	Value	iaux 2 Phase DEG	Value
	0.974		0.000
0.816 1.000 1.232 (Minimum) (Nominal) (Maximum)		-1.000 0.000 0.100 (Minimum) (Nominal) (Maximum)	
Before: 30-Jun-2004 16:22			




HILT Azimuthal Laterolog Sonde B Wellsite Calibration					
HALSB A0 current mode 3A					
I0 3A Gain UA		Value	I0 3A Phase DEG		Value
		0.983			-0.000
0.893 1.000 1.114 (Minimum) (Nominal) (Maximum)			-1.000 0.000 0.100 (Minimum) (Nominal) (Maximum)		
Before: 30-Jun-2004 16:22					




HILT Azimuthal Laterolog Sonde B Wellsite Calibration					
HALSB A0 current mode 3B					
I0 3B Gain UA		Value	I0 3B Phase DEG		Value
		0.980			-0.000
0.893 1.000 1.114 (Minimum) (Nominal) (Maximum)			-1.000 0.000 0.100 (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	Zvt 3 Gain MV	Value
	0.994		0.997		1.004
0.925 1.000 1.078 (Minimum) (Nominal) (Maximum)		0.865 1.000 1.153 (Minimum) (Nominal) (Maximum)		0.865 1.000 1.153 (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	Zvt 3 Phase DEG	Value
	-0.102		0.006		-0.172
-4.400 0.000 4.400 (Minimum) (Nominal) (Maximum)		-2.800 0.000 2.800 (Minimum) (Nominal) (Maximum)		-1.400 0.000 1.400 (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 1.000 1.078 (Minimum) (Nominal) (Maximum)		-4.400 0.000 4.400 (Minimum) (Nominal) (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	ZVM 3 Gain UV	Value
	0.996		0.993		0.991
0.895 1.000 1.117 (Minimum) (Nominal) (Maximum)		0.943 1.000 1.056 (Minimum) (Nominal) (Maximum)		0.943 1.000 1.056 (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	ZVM 3 Phase DEG	Value
	0.224		1.871		1.002
-6.500 0.000 6.500 (Minimum) (Nominal) (Maximum)		-3.300 0.000 3.300 (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 M1-A0* Voltage gains					
ZVH 1 Gain UV	Value	ZVH 2 Gain UV	Value	ZVH 3 Gain UV	Value
	0.997		0.990		0.990
0.962 1.000 1.039 (Minimum) (Nominal) (Maximum)		0.864 1.000 1.154 (Minimum) (Nominal) (Maximum)		0.864 1.000 1.154 (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	ZVH 3 Phase DEG	Value
	0.109		1.992		0.993
-6.500 0.000 6.500 (Minimum) (Nominal) (Maximum)		-3.300 0.000 3.300 (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 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)	

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
0.874 1.000 1.147 (Minimum) (Nominal) (Maximum)		-6.300 0.000 6.300 (Minimum) (Nominal) (Maximum)	

























(Minimum) (Nominal) (Maximum) (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	-2.000	0.000	2.000
(Minimum)	(Nominal)	(Maximum)	(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	-4.600	0.000	4.600
(Minimum)	(Nominal)	(Maximum)	(Minimum)	(Nominal)	(Maximum)

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

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	-6.300	0.000	6.300
(Minimum)	(Nominal)	(Maximum)	(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
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	1.000	1.187	-2.000	0.000	2.000
(Minimum)	(Nominal)	(Maximum)	(Minimum)	(Nominal)	(Maximum)

Before: 30-Jun-2004 16:22

























(Minimum) (Nominal) (Maximum) (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	-2.000	0.000	2.000
(Minimum)	(Nominal)	(Maximum)	(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	-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 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	-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 Azimuthal Voltages mode 3B					
Idx	Az 3B Gain UV	Value	Idx	Az 3B Phase DEG	Value
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	1.000	1.183	-2.000	0.000	2.000
(Minimum)	(Nominal)	(Maximum)	(Minimum)	(Nominal)	(Maximum)

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)	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)	10420 (Minimum)			10970 (Nominal)	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

Phase	BS Crystal Resolution %		Value	Phase	SS Crystal Resolution %		Value	Phase	LS Crystal Resolution %		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)		8.283 (Minimum)	9.283 (Nominal)	10.28 (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




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)	




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)	5.000 (Minimum)				29.13 (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				5825	Master				2452	Master				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				5825	Master				2452	Master				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

Hostile Natural Gamma Ray Sonde / Equipment Identification

Primary Equipment:
HNGS Sonde

HNGS – BA 129

Auxiliary Equipment:
HNGS Sonde Housing
Gamma Source Radioactive

HNSH – BA 3
GSR – U

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

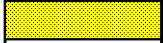




Phase	Na 511 Peak Loc		Value	Phase	Na 511 Peak Res %		Value	Phase	High Voltage V		Value			
Master	<div><div></div></div>		39.68	Master	<div><div></div></div>		14.94	Master	<div><div></div></div>		1080			
Before	<div><div></div></div>		39.72	Before	<div><div></div></div>		14.70	Before	<div><div></div></div>		1085			
37.50 (Minimum)			40.00 (Nominal)	42.50 (Maximum)			12.00 (Minimum)	15.50 (Nominal)	19.00 (Maximum)			900.0 (Minimum)	1150 (Nominal)	1600 (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			
Before	<div><div></div></div>		141.9	Before	<div><div></div></div>		8.147	Before	<div><div></div></div>		15.55			
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	<div><div></div></div>		41.97											
Before	<div><div></div></div>		42.72											
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		
Ratio Of Detector 1 To Detector 2		
Phase	Coincidence Count Rate Ratio	Value
Master		1.006
Before		1.012
<div><div>0.9500</div><div>1.000</div><div>1.050</div><div>(Minimum)</div><div>(Nominal)</div><div>(Maximum)</div></div>		
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

GR To Surface

Scale 1:500