

Schlumberger

Company: **Puckett Land Company**

Well: **RG Federal 4D-34D**

Field: **Ryan Gulch**

County: **Rio Blanco**

State: **Colorado**

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County: Rio Blanco Field: Ryan Gulch Location: SHL: 232' FSL & 1236' FEL Well: RG Federal 4D-34D Company: Puckett Land Company			
HOLE VOLUME CEMENT CALIPER PRINT			
DEQL			
LOCATION			
SHL: 232' FSL & 1236' FEL BHL: 1105' FSL & 650' FEL		Elev.: K.B. 6761.00 ft G.L. 6744.00 ft D.F. 6762.00 ft	
Permanent Datum: _____ Log Measured From: _____ Drilling Measured From: _____	Ground Level _____ Kelly Bushing _____ Kelly Bushing _____	Elev.: 6744.00 ft _____ 17.00 ft above Perm. Datum	
API Serial No. 05-103-11815-00	Section 34	Township 1S	Range 98W

SHL: 232' FSL & 1236' FEL	Elev.:	K.B.	6761.00 ft
BHL: 1105' FSL & 650' FEL		G.L.	6744.00 ft
		D.F.	6762.00 ft

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Permanent Datum:	Ground Level	Elev.: 6744.00 ft
Log Measured From:	Kelly Bushing	17.00 ft above Perm. Datum

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Drilling Measured From: Kelly Bushing

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[illegible]

Logging Date	15-Feb-2011					
Run Number	1					
Depth Driller	12160 ft					
Schlumberger Depth	12174 ft					
Bottom Log Interval	12160 ft					
Top Log Interval	200 ft					
Casing Driller Size @ Depth	9.625 in @ 3760 ft				@	
Casing Schlumberger	3757 ft					
Bit Size	7.875 in					
Type Fluid In Hole	Water Based Mud					
Density	Viscosity		48 s			
Fluid Loss	PH		8.5			
Source Of Sample	Mud Pit					
RM @ Measured Temperature	2.512 ohm.m		@	62 degF	@	
RMF @ Measured Temperature	2.135 ohm.m		@	63 degF	@	
RMC @ Measured Temperature	2.902 ohm.m		@	63 degF	@	
Source RMF	RMC		Mud Press			
RM @ MRT	RMF @ MRT		0.674 @ 249	0.584 @ 249	@	@
Maximum Recorded Temperatures	249 degF					
Circulation Stopped	Time		6:45			
Logger On Bottom	Time		19:25			
Unit Number	Location		2276 Vernal			
Recorded By	Amicar Fuentes					
Witnessed By	Phillip Chaney					

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

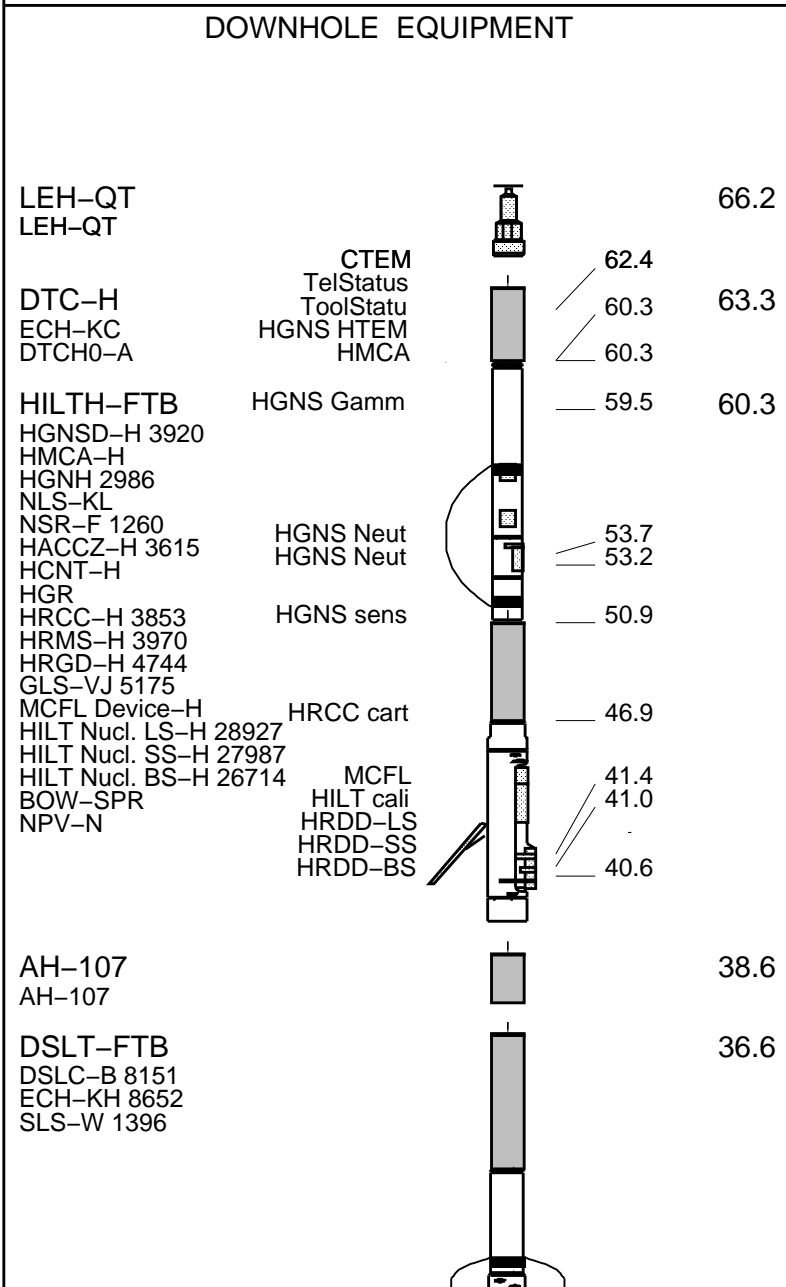
OTHER SERVICES1	OTHER SERVICES2
OS1: BHC	OS1:
OS2: PLATFORM EXPRESS	OS2:
OS3:	OS3:
OS4:	OS4:
OS5:	OS5:
REMARKS: RUN NUMBER 1	REMARKS: RUN NUMBER 2
1. Tool ras as per tool sketch.	
2. HGNS ran eccentralized using a bowspring, AIT ran eccentralized usig 3	x 1.5in standoffs
3. DSLT ran centralized using 2 x CMEZs	
4. Neutron log corrected for Hole Size and Standoff	
5. Density log corrected for Bit Size	
6. PEF flags < 10% Log computed with NMT=NonBarite	
7. Max temperature reading 249degF obtained from HGNS	

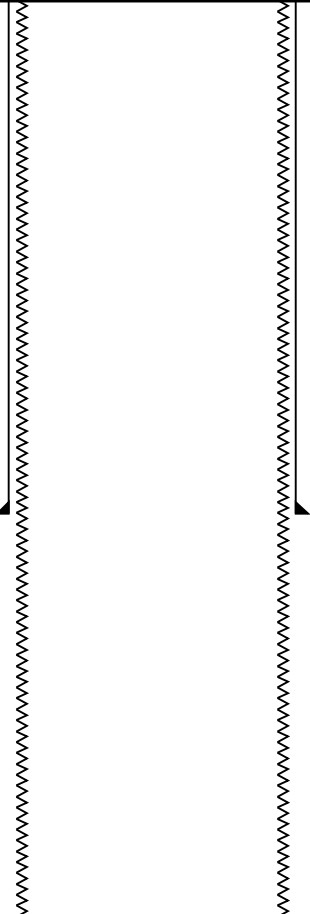
8. Matrix=SANDSTONE Density=2.68g/cc	
9. Sonic firing rate set at R15	
10. Sonic Porosity calculated using SANDSTONE matrix (55.5us/ft)	
11. Cement Volume calculated assuming future casing diameter of 4.5in	
12. Caliper check in casing within tolerance=9.625in+/-0.125in	
13. Logging speed less than 3600 ft/hr	
14. Bit sizes changes: from TD to 8634ft=7.875in and from 8634ft to surface 8.75in	
15. Tight Hole conditions may affect data	

RUN 1			RUN 2		
SERVICE ORDER #:	bfjt-00033		SERVICE ORDER #:		
PROGRAM VERSION:	18C0-147		PROGRAM VERSION:		
FLUID LEVEL:	25 ft		FLUID LEVEL:		
LOGGED INTERVAL	START	STOP	LOGGED INTERVAL	START	STOP

EQUIPMENT DESCRIPTION					
RUN 1			RUN 2		

SURFACE EQUIPMENT
WITM (DTS)-A
GSR-U/Y
NCT-B
CNB-AB
NCS-VB

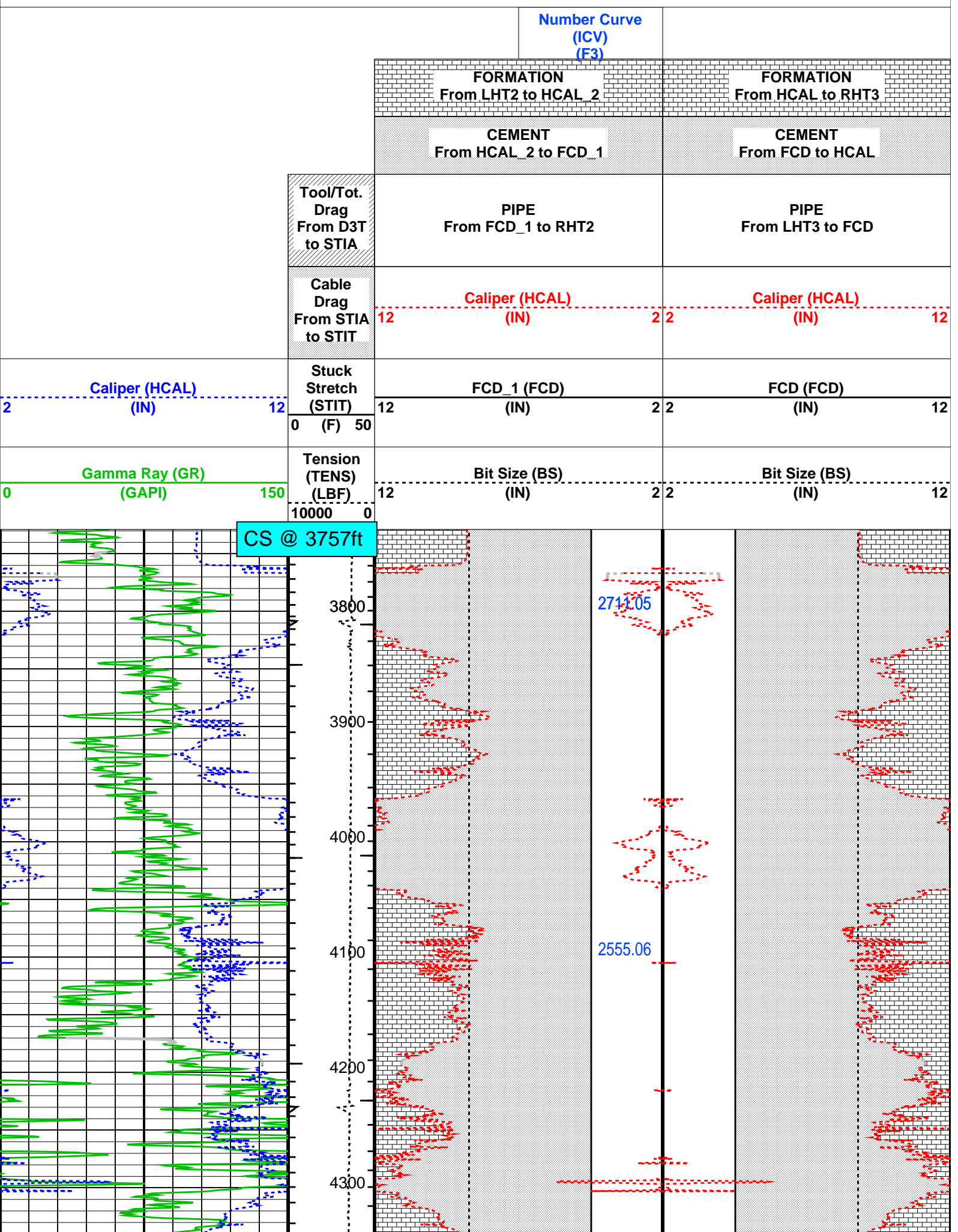


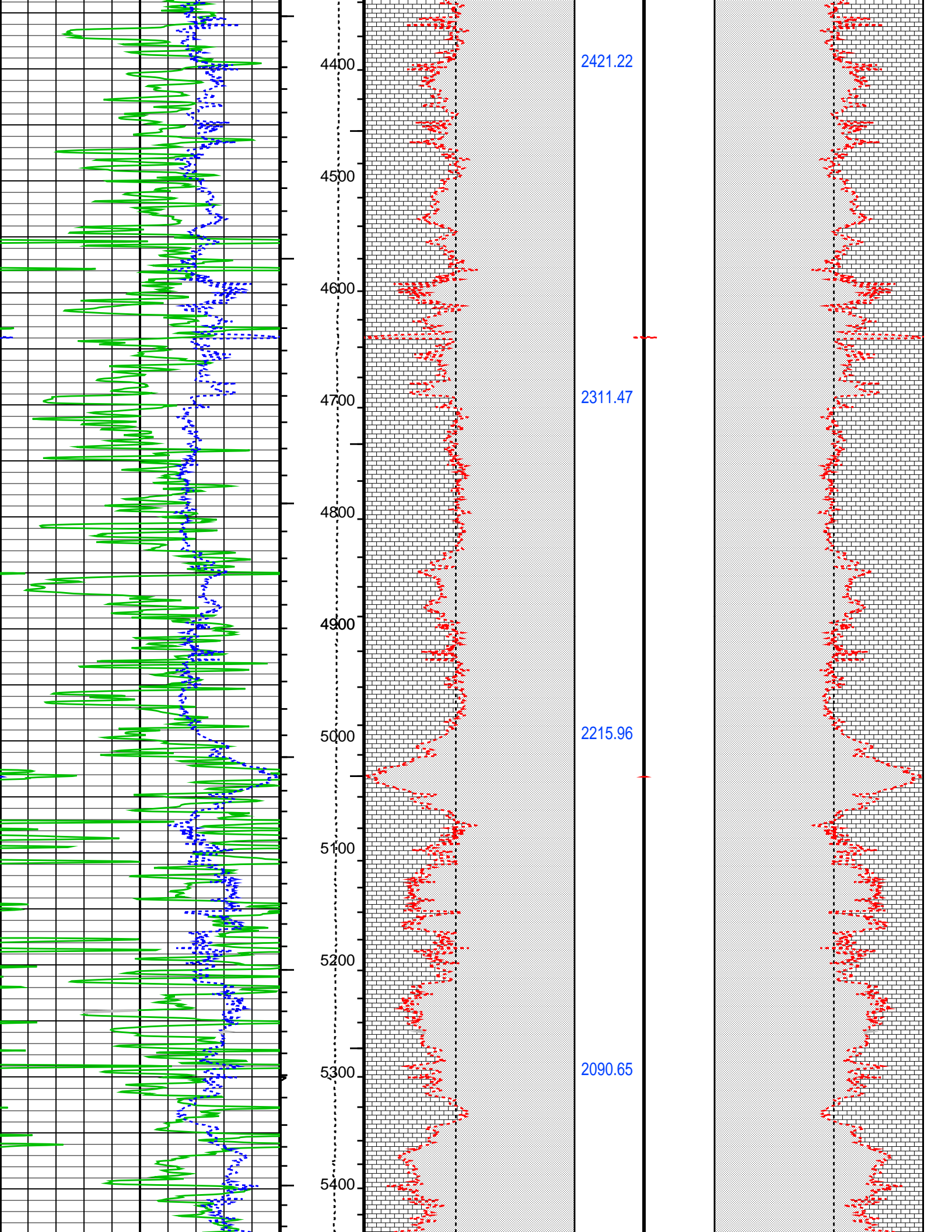
Production String	(in) (ft)			Well Schematic	(ft) (in)			Casing String
	OD	ID	MD		MD	OD	ID	
					0.0 0.0	9.625 8.750		Casing String, 36.0 lbm/ft Borehole Segment
					3760.0	9.625		Casing Shoe

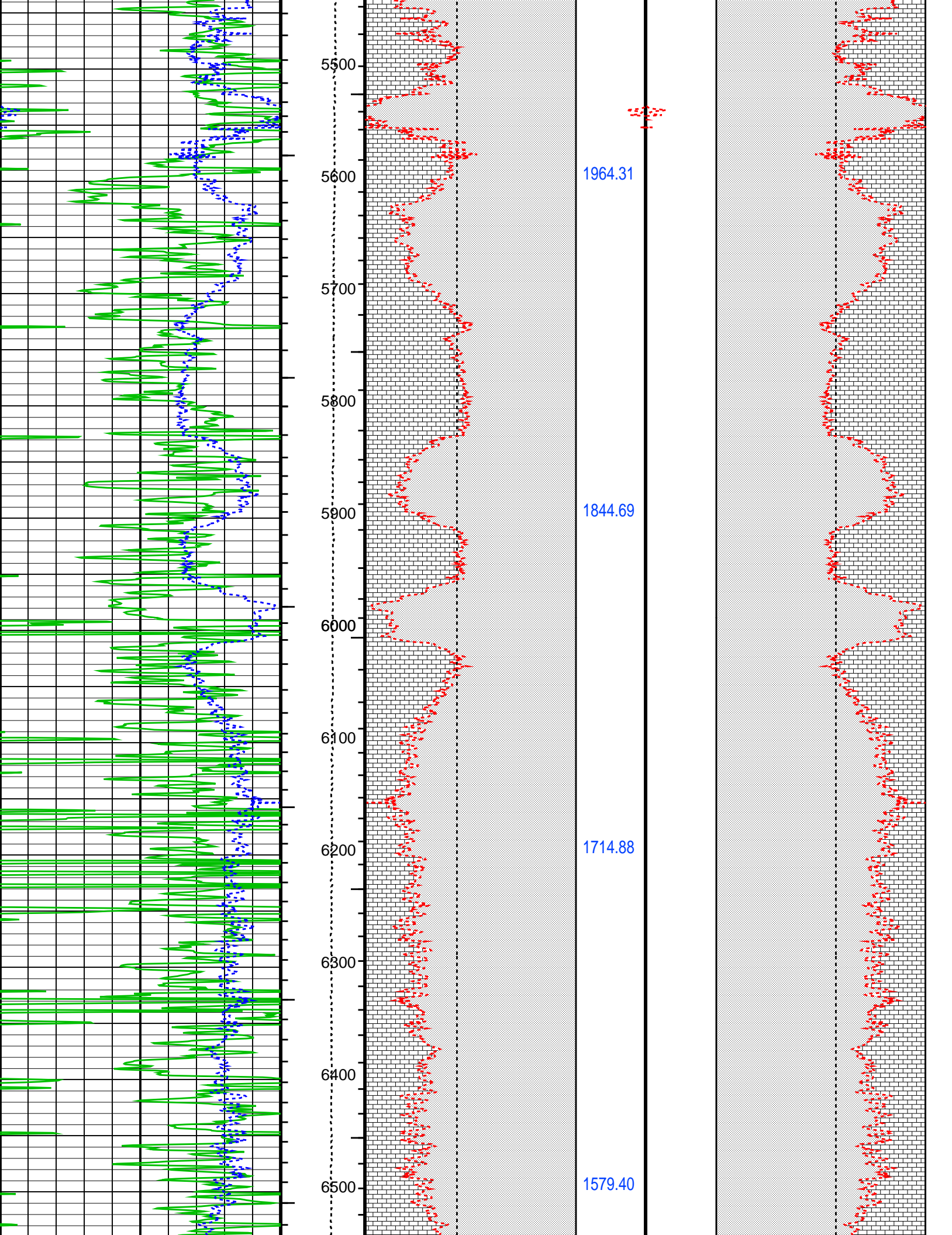
Borehole Segment Bottom

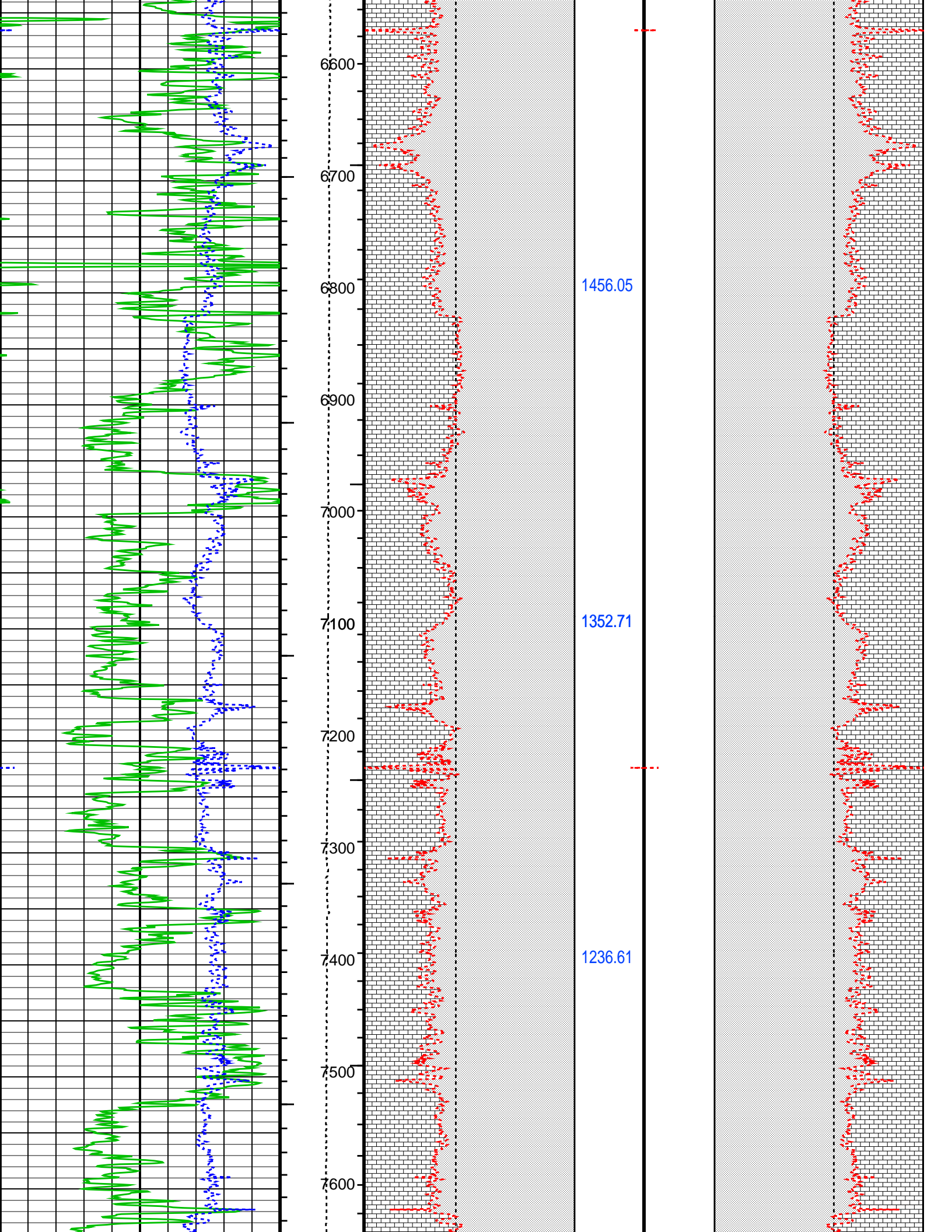
└ Integrated Hole Volume Minor Pip Every 10 F3
└ Integrated Hole Volume Major Pip Every 100 F3

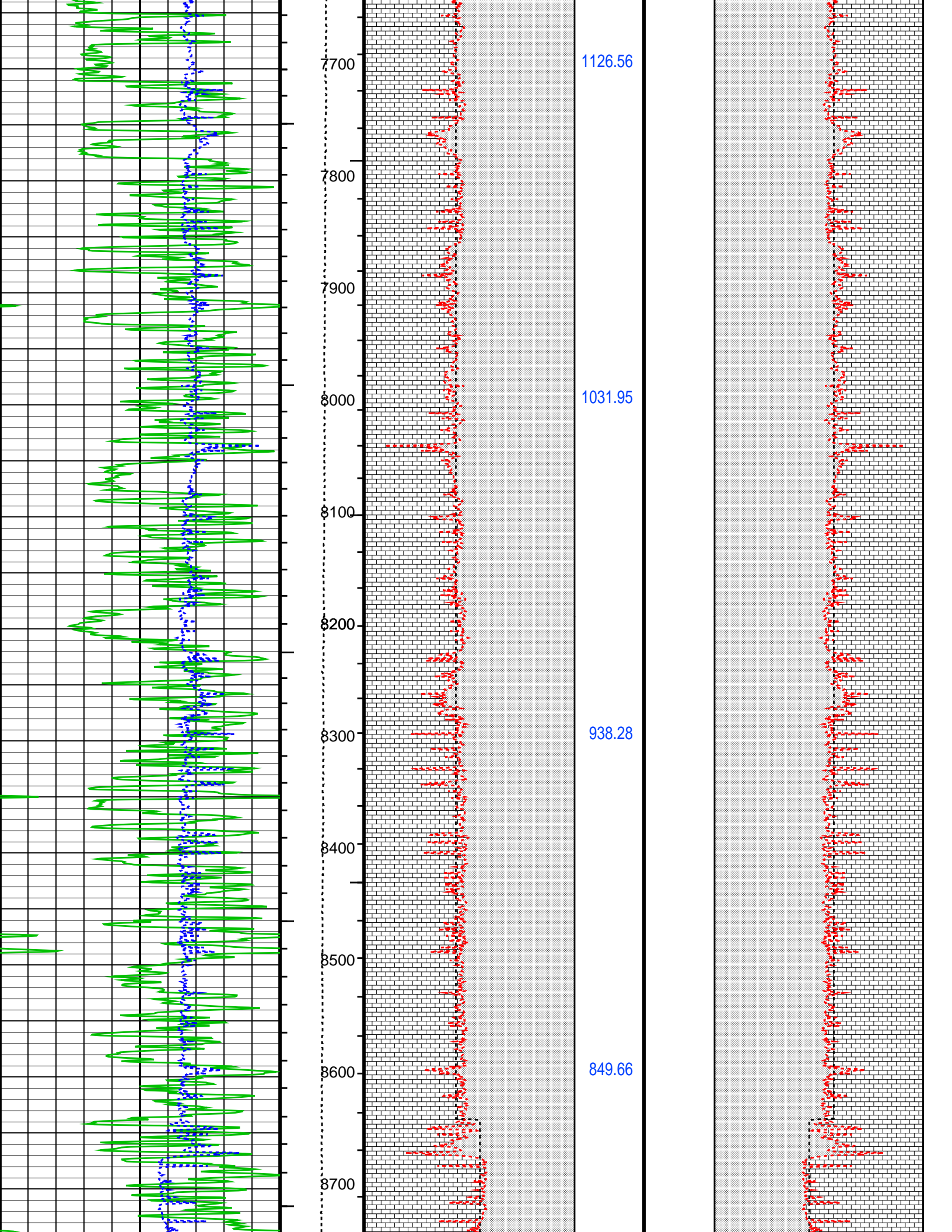
→ Integrated Cement Volume Minor Pip Every 10 F3
→ Integrated Cement Volume Major Pip Every 100 F3

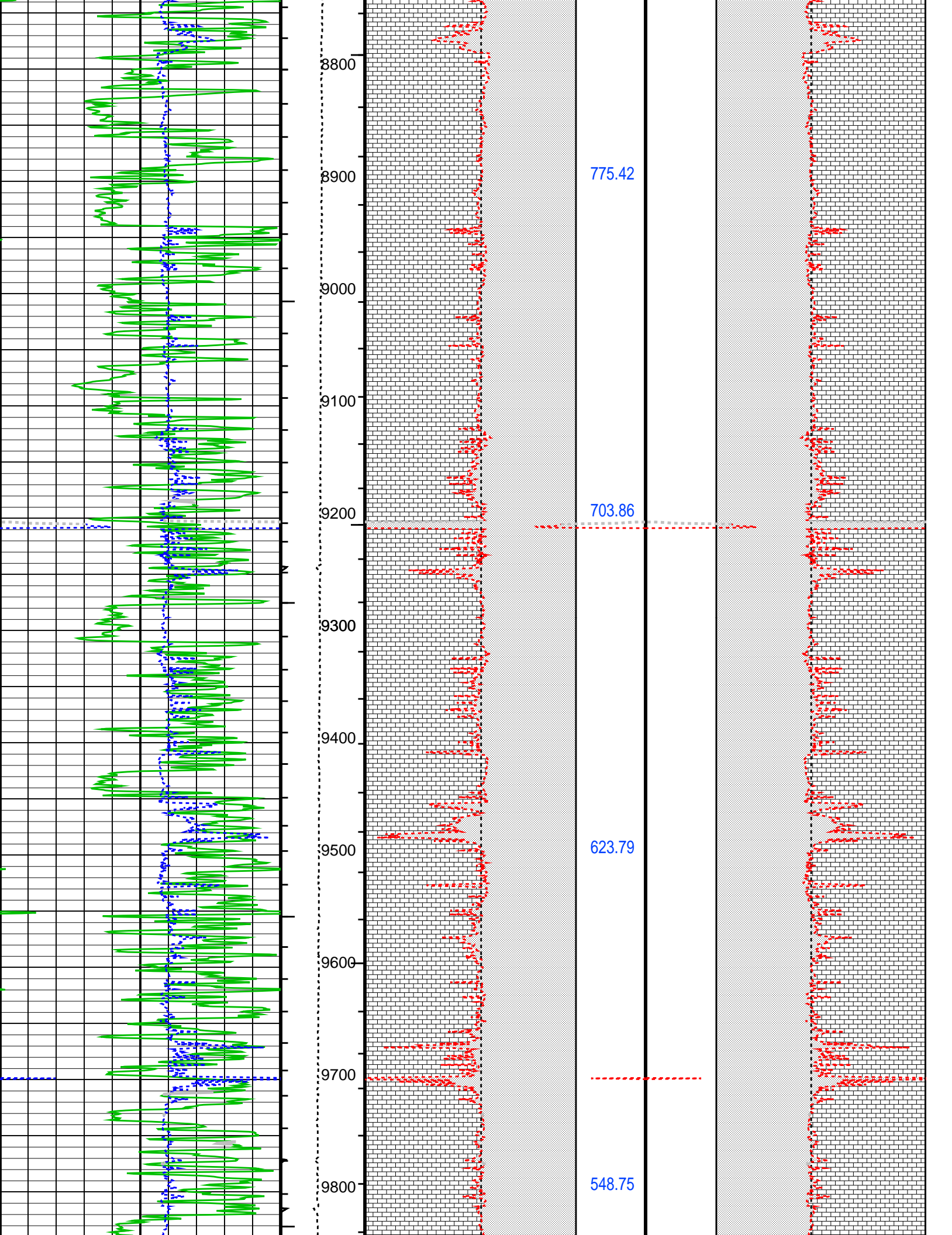


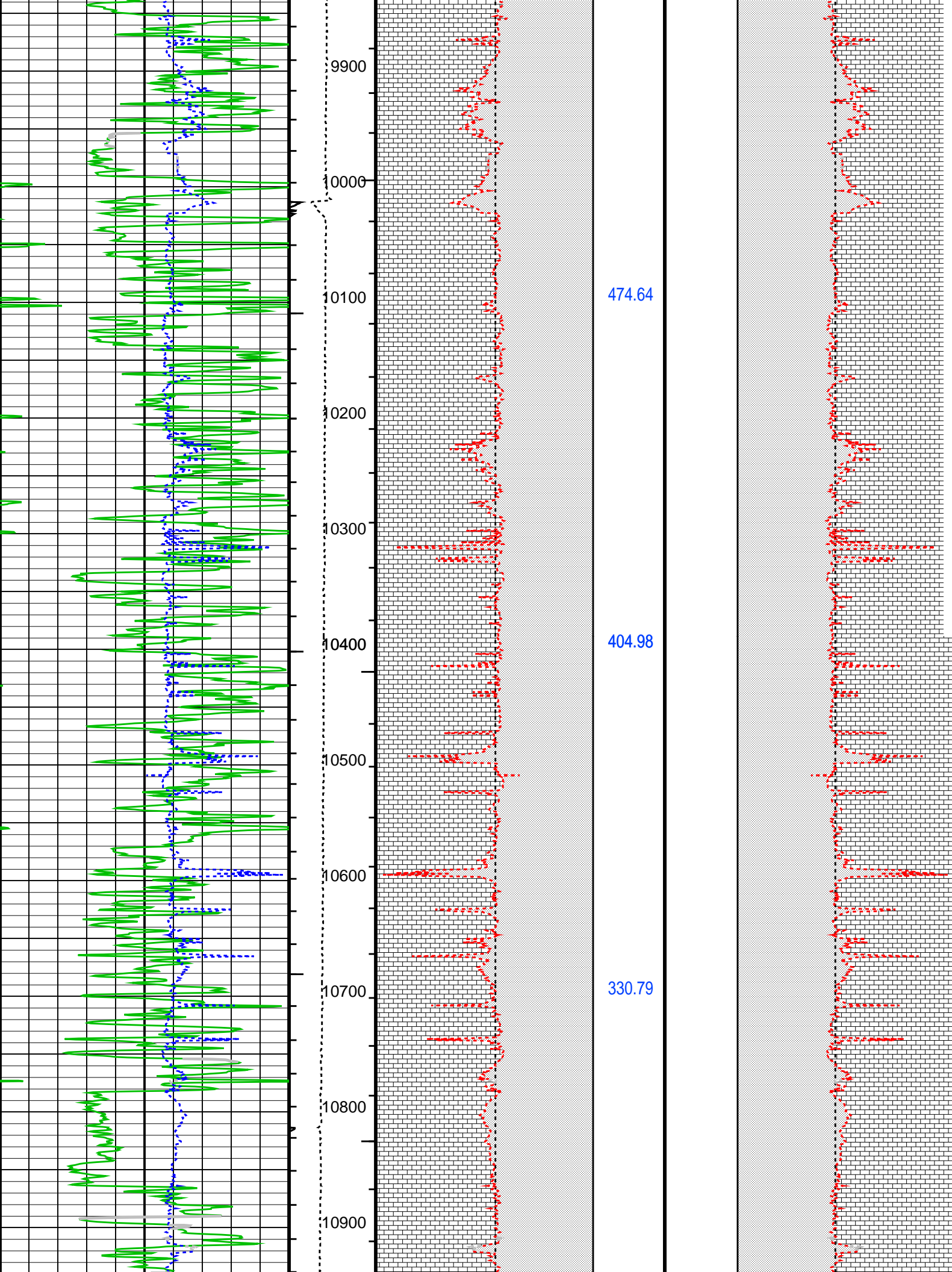


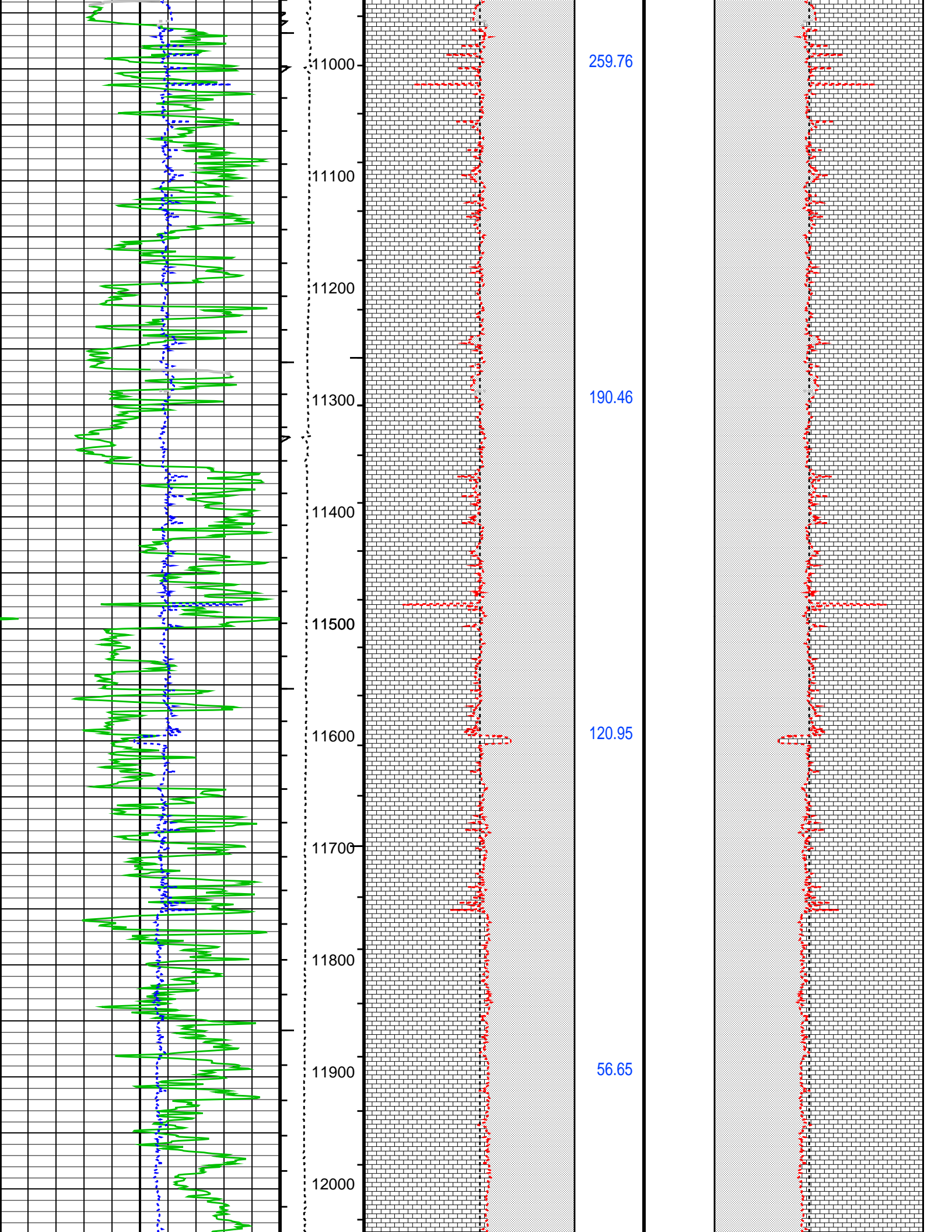










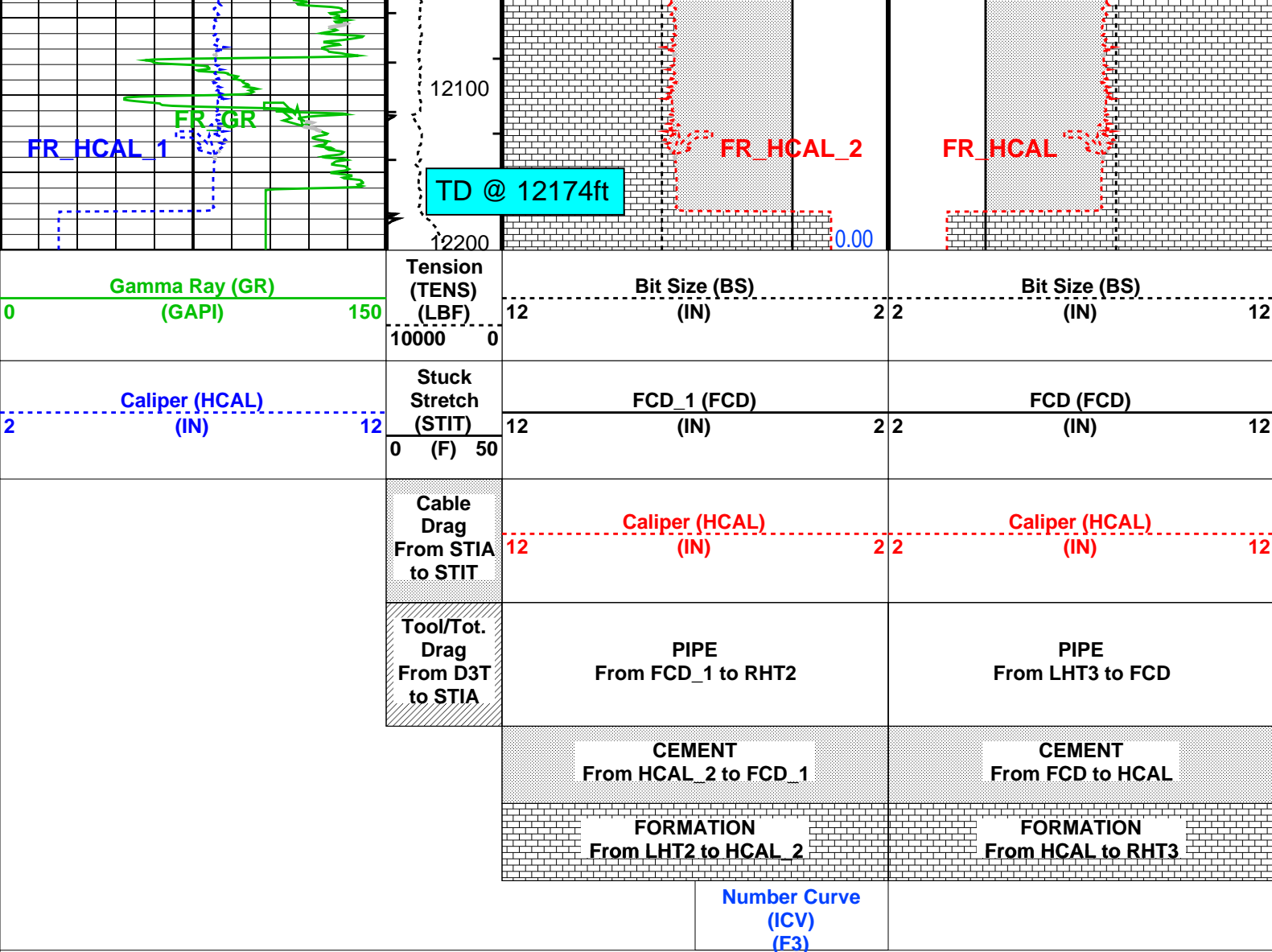


259.76

190.46

120.95

56.65



PIP SUMMARY

- └ Integrated Hole Volume Minor Pip Every 10 F3
- └ Integrated Hole Volume Major Pip Every 100 F3
 - └ Integrated Cement Volume Minor Pip Every 10 F3
 - └ Integrated Cement Volume Major Pip Every 100 F3

Format: Cement_Volume Vertical Scale: 1" per 100' Graphics File Created: 15-Feb-2011 22:29

OP System Version: 18C0-147

HAIT-H 18C0-147 DSLT-FTB 18C0-147
HILTH-FTB 18C0-147 DTC-H 18C0-147

Input DLIS Files

DEFAULT AIT_SONIC_TLD_MCFL_009LUP FN:8 PRODUCER 15-Feb-2011 19:25

Output DLIS Files

DEFAULT AIT_SONIC_TLD_MCFL_104PUP FN:17 PRODUCER 15-Feb-2011 22:29

Calibration and Check Summary

Measurement	Nominal	Master	Before	After	Change	Limit	Units
Array Induction Tool – H Wellsite Calibration – Electronics Calibration Check – Thru Cal Mag. & Phase							
Master: 14–Feb–2011 12:05 Before: 14–Feb–2011 18:26							
Thru Cal Magnitude – 0	0	0.6254	0.6251	N/A	N/A	N/A	V
Thru Cal Magnitude – 1	0	1.281	1.281	N/A	N/A	N/A	V
Thru Cal Magnitude – 2	0	0.6361	0.6360	N/A	N/A	N/A	V
Thru Cal Magnitude – 3	0	0.7180	0.7178	N/A	N/A	N/A	V
Thru Cal Magnitude – 4	0	1.345	1.345	N/A	N/A	N/A	V
Thru Cal Magnitude – 5	0	1.956	1.955	N/A	N/A	N/A	V
Thru Cal Magnitude – 6	0	1.955	1.954	N/A	N/A	N/A	V
Thru Cal Magnitude – 7	0	1.397	1.394	N/A	N/A	N/A	V
Phase – 0	0	66.80	66.60	N/A	N/A	N/A	DEG
Phase – 1	0	65.79	65.58	N/A	N/A	N/A	DEG
Phase – 2	0	62.05	61.83	N/A	N/A	N/A	DEG
Phase – 3	0	61.28	61.06	N/A	N/A	N/A	DEG
Phase – 4	0	54.95	54.71	N/A	N/A	N/A	DEG
Phase – 5	0	53.10	52.85	N/A	N/A	N/A	DEG
Phase – 6	0	53.11	52.85	N/A	N/A	N/A	DEG
Phase – 7	0	49.83	49.43	N/A	N/A	N/A	DEG

Array Induction Tool – H Wellsite Calibration – Electronics Calibration Check – Auxiliary

Master: 14–Feb–2011 12:05 Before: 14–Feb–2011 18:26

Array Induction SPA Plus	990.5	991.6	991.4	N/A	N/A	N/A	MV
Array Induction SPA Zero	0	–0.1658	–0.1718	N/A	N/A	N/A	MV
Array Induction Temperature PI	0.9150	0.9180	0.9178	N/A	N/A	N/A	V
Array Induction Temperature Ze	0	–0.0001706	–0.0001724	N/A	N/A	N/A	V

Array Induction Tool – H Wellsite Calibration – Test Loop Gain Correction

Master: 14–Feb–2011 12:05

Test Loop Gain Magnitude – 0	0	1.009	N/A	N/A	N/A	N/A	V
Test Loop Gain Magnitude – 1	0	1.007	N/A	N/A	N/A	N/A	V
Test Loop Gain Magnitude – 2	0	1.013	N/A	N/A	N/A	N/A	V
Test Loop Gain Magnitude – 3	0	1.009	N/A	N/A	N/A	N/A	V
Test Loop Gain Magnitude – 4	0	0.9905	N/A	N/A	N/A	N/A	V
Test Loop Gain Magnitude – 5	0	0.9866	N/A	N/A	N/A	N/A	V
Test Loop Gain Magnitude – 6	0	0.9972	N/A	N/A	N/A	N/A	V
Test Loop Gain Magnitude – 7	0	1.005	N/A	N/A	N/A	N/A	V
Phase – 0	0	0.7373	N/A	N/A	N/A	N/A	DEG
Phase – 1	0	0.6740	N/A	N/A	N/A	N/A	DEG
Phase – 2	0	0.1368	N/A	N/A	N/A	N/A	DEG
Phase – 3	0	0.2430	N/A	N/A	N/A	N/A	DEG
Phase – 4	0	0.1270	N/A	N/A	N/A	N/A	DEG
Phase – 5	0	–0.1091	N/A	N/A	N/A	N/A	DEG
Phase – 6	0	0.2121	N/A	N/A	N/A	N/A	DEG
Phase – 7	0	–0.1506	N/A	N/A	N/A	N/A	DEG

Array Induction Tool – H Wellsite Calibration – Sonde Error Correction

Master: 14–Feb–2011 12:05

R Sonde Error Correction – 0	0	–125.3	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction – 1	0	175.7	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction – 2	0	111.7	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction – 3	0	55.55	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction – 4	0	26.03	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction – 5	0	13.91	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction – 6	0	8.453	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction – 7	0	–2.474	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction – 0	0	–562.3	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction – 1	0	–197.5	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction – 2	0	–147.5	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction – 3	0	15.22	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction – 4	0	–6.467	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction – 5	0	–5.642	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction – 6	0	–10.64	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction – 7	0	–9.860	N/A	N/A	N/A	N/A	MM/M

Array Induction Tool – H Wellsite Calibration – Mud Gain Correction

Master: 14–Feb–2011 12:05

Coarse – Mag, Real, Imag – 0	0	0.9395	N/A	N/A	N/A	N/A	
Coarse – Mag, Real, Imag – 1	0	0.9395	N/A	N/A	N/A	N/A	

Coarse – Mag, Real, Imag – 0	0	0.9395	N/A	N/A	N/A	N/A
Fine – Mag, Real, Imag – 0	0	0.9376	N/A	N/A	N/A	N/A
Fine – Mag, Real, Imag – 1	0	0.9376	N/A	N/A	N/A	N/A
Fine – Mag, Real, Imag – 2	0	0.9376	N/A	N/A	N/A	N/A

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

Before: 14–Feb–2011 18:35

BS Window Ratio	0.7352	N/A	0.7382	N/A	N/A	N/A	
BS Window Sum	29550	N/A	29590	N/A	N/A	N/A	CPS
SS Window Ratio	0.4749	N/A	0.4754	N/A	N/A	N/A	
SS Window Sum	11820	N/A	11790	N/A	N/A	N/A	CPS
LS Window Ratio	0.2988	N/A	0.3026	N/A	N/A	N/A	
LS Window Sum	1411	N/A	1399	N/A	N/A	N/A	CPS

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

Before: 14–Feb–2011 18:35

BS PM High Voltage (Command)	1531	N/A	1524	N/A	N/A	N/A	V
SS PM High Voltage (Command)	1406	N/A	1405	N/A	N/A	N/A	V
LS PM High Voltage (Command)	1432	N/A	1441	N/A	N/A	N/A	V

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

Before: 14–Feb–2011 18:35

BS Crystal Resolution	11.54	N/A	11.29	N/A	N/A	N/A	%
SS Crystal Resolution	9.348	N/A	9.548	N/A	N/A	N/A	%
LS Crystal Resolution	8.938	N/A	9.222	N/A	N/A	N/A	%

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

Before: 14–Feb–2011 18:43

Raw B0 Resistivity	3875	N/A	3901	N/A	N/A	N/A	OHMM
Raw B1 Resistivity	3830	N/A	3846	N/A	N/A	N/A	OHMM
Raw B2 Resistivity	3830	N/A	3834	N/A	N/A	N/A	OHMM

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

Before: 14–Feb–2011 18:43

HILT Caliper Zero Measurement	8.000	N/A	7.210	N/A	N/A	N/A	IN
HILT Caliper Plus Measurement	12.00	N/A	11.51	N/A	N/A	N/A	IN

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

Before: 14–Feb–2011 18:44

Gamma Ray Background	30.00	N/A	102.7	N/A	N/A	N/A	GAPI
Gamma Ray (Jig – Bkgd)	165.0	N/A	166.3	N/A	N/A	15.00	GAPI

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

Master: 13–Feb–2011 13:04 Before: 14–Feb–2011 18:33

CNTC Background	28.81	28.81	27.50	N/A	N/A	4.322	CPS
CFTC Background	37.74	37.74	31.32	N/A	N/A	5.661	CPS

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

Master: 13–Feb–2011 13:04

Thermal Near Corr. (Tank)	5800	5210	N/A	N/A	N/A	N/A	CPS
Thermal Far Corr. (Tank)	2400	2187	N/A	N/A	N/A	N/A	CPS
CNTC/CFTC (Tank)	2.159	2.382	N/A	N/A	N/A	N/A	

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

Before: 15–Feb–2011 17:06

Z–Axis Acceleration	32.19	N/A	32.11	N/A	N/A	N/A	F/S2
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The GLS–VJ source activity is acceptable.

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

NCT–B Water Temperature 66.1 DEGF.
Thermal Housing Size 3.371 IN.
NSR–F serial number 1260

Array Induction Tool – H / Equipment Identification

Primary Equipment:
Rm/SP Bottom Nose
Array Induction Sonde

AHRM – A
AHIS – BA

295

Auxiliary Equipment:

Array Induction Tool – H Wellsite Calibration							
Electronics Calibration Check – Thru Cal Mag. & Phase							
Idx	Phase	Value	Thru Cal Magnitude V	Nominal	Value	Phase DEG	Nominal
0	Master	0.6254		0.6050	66.80		71.00
	Before	0.6251			66.60		
1	Master	1.281		1.270	65.79		70.00
	Before	1.281			65.58		
2	Master	0.6361		0.6230	62.05		66.00
	Before	0.6360			61.83		
3	Master	0.7180		0.7040	61.28		65.00
	Before	0.7178			61.06		
4	Master	1.345		1.337	54.95		59.00
	Before	1.345			54.71		
5	Master	1.956		1.955	53.10		57.00
	Before	1.955			52.85		
6	Master	1.955		1.955	53.11		57.00
	Before	1.954			52.85		
7	Master	1.397		1.415	49.83		53.00
	Before	1.394			49.43		
		60.00 % (Minimum)	(Nominal)	140.0 % (Maximum)	Nom -60.00 (Minimum)	(Nominal)	Nom + 60.00 (Maximum)
Master: 14-Feb-2011 12:05				Before: 14-Feb-2011 18:26			

Array Induction Tool – H Wellsite Calibration							
Electronics Calibration Check – Auxilliary							
Phase	Array Induction SPA Plus MV		Value	Phase	Array Induction SPA Zero MV		Value
Master			991.6	Master			-0.1658
Before			991.4	Before			-0.1718
941.0 (Minimum)			990.5 (Nominal)	1040 (Maximum)			
-50.00 (Minimum)			0 (Nominal)	50.00 (Maximum)			
Phase	Array Induction Temperature Plus V		Value	Phase	Array Induction Temperature Zero V		Value
Master			0.9180	Master			-0.0001706
Before			0.9178	Before			-0.0001724
0.8700 (Minimum)			0.9150 (Nominal)	0.9600 (Maximum)			
-0.05000 (Minimum)			0 (Nominal)	0.05000 (Maximum)			
Master: 14-Feb-2011 12:05				Before: 14-Feb-2011 18:26			

Array Induction Tool – H Wellsite Calibration					
Test Loop Gain Correction					
Idx	Value	Test Loop Gain Magnitude V	Value	Phase DEG	
0	1.009		0.7373		
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)	
1	1.007		0.6740		
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)	
2	1.013		0.1368		
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)	
3	1.009		0.2430		
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)	
4	0.9905		0.1270		
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)	
5	0.9866		-0.1091		

	0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)	-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
6	0.9972			0.2121		
	0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)	-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
7	1.005			-0.1506		
	0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)	-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)

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Array Induction Tool – H Wellsite Calibration							
Sonde Error Correction							
Idx	Value	R Sonde Error Correction MM/M			Value	X Sonde Error Correction MM/M	
0	-125.3				-562.3		
		-231.0 (Minimum)	-56.00 (Nominal)	119.0 (Maximum)		-2250 (Minimum)	0 (Nominal) 2250 (Maximum)
1	175.7				-197.5		
		114.0 (Minimum)	159.0 (Nominal)	204.0 (Maximum)		-625.0 (Minimum)	0 (Nominal) 625.0 (Maximum)
2	111.7				-147.5		
		66.00 (Minimum)	111.0 (Nominal)	156.0 (Maximum)		-350.0 (Minimum)	0 (Nominal) 350.0 (Maximum)
3	55.55				15.22		
		39.00 (Minimum)	64.00 (Nominal)	89.00 (Maximum)		-250.0 (Minimum)	0 (Nominal) 250.0 (Maximum)
4	26.03				-6.467		
		15.00 (Minimum)	25.00 (Nominal)	35.00 (Maximum)		-63.00 (Minimum)	0 (Nominal) 63.00 (Maximum)
5	13.91				-5.642		
		4.000 (Minimum)	14.00 (Nominal)	24.00 (Maximum)		-50.00 (Minimum)	0 (Nominal) 50.00 (Maximum)
6	8.453				-10.64		
		5.000 (Minimum)	10.00 (Nominal)	15.00 (Maximum)		-30.00 (Minimum)	0 (Nominal) 30.00 (Maximum)
7	-2.474				-9.860		
		-5.000 (Minimum)	0 (Nominal)	5.000 (Maximum)		-30.00 (Minimum)	0 (Nominal) 30.00 (Maximum)
Master: 14-Feb-2011 12:05							

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Array Induction Tool – H Wellsite Calibration							
Mud Gain Correction							
Idx	Value	Coarse – Mag, Real, Imag			Value	Fine – Mag, Real, Imag	
0	0.9395				0.9376		
		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)		0.8000 (Minimum)	1.000 (Nominal) 1.200 (Maximum)
1	0.9395				0.9376		
		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)		0.8000 (Minimum)	1.000 (Nominal) 1.200 (Maximum)
2	0.9395				0.9376		
		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)		0.8000 (Minimum)	1.000 (Nominal) 1.200 (Maximum)

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Digitizing Sonic Logging Tool / Equipment Identification

Primary Equipment:

BHC Sonde
Digitizing Sonic Logging Cartridge

SLS – W 1396
DSLCL – B 8151

Auxiliary Equipment:







Electronics Cartridge Housing




ECH – KH 8652

High resolution Integrated Logging Tool–DTS / Equipment Identification




Primary Equipment:



Primary Equipment:	HRMS – H	
HILT high-Resolution Mechanical Sonde	HRGD – H	
HILT Rxo Gamma-ray Device	MCFL – H	
HILT Micro Cylindrically Focused Log Dev	GLS – VJ	5175
GR Logging Source	HRCC – H	3920
HILT High Res. Control Cartridge	HGNS – H	3920
HILT Gamma-Ray Neutron Sonde-DTS	HGR –	
HGNS Gamma-Ray Device	HCNT – H	
HGNS Neutron Detector with Alpha Source		
Auxiliary Equipment:		
Neutron Calibration Tank	NCT – B	
Gamma Source Radioactive	GSR – U/Y	
HGNS Housing	HGNH –	2986

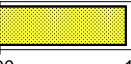

High resolution Integrated Logging Tool—DTS Wellsite Calibration														
Stab Measurement Summary														
Phase	BS Window Ratio			Value	Phase	SS Window Ratio			Value	Phase	LS Window Ratio			Value
Before				0.7382	Before				0.4754	Before				0.3026
	0.6985 (Minimum)	0.7352 (Nominal)	0.7720 (Maximum)		0.4512 (Minimum)	0.4749 (Nominal)	0.4987 (Maximum)			0.2839 (Minimum)	0.2988 (Nominal)	0.3138 (Maximum)		
Phase	BS Window Sum CPS			Value	Phase	SS Window Sum CPS			Value	Phase	LS Window Sum CPS			Value
Before				29590	Before				11790	Before				1399
	28070 (Minimum)	29550 (Nominal)	31020 (Maximum)		11230 (Minimum)	11820 (Nominal)	12410 (Maximum)			1340 (Minimum)	1411 (Nominal)	1481 (Maximum)		
Before: 14–Feb–2011 18:35														

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			1524	Before			1405	Before			1441
	1431 (Minimum)	1531 (Nominal)	1631 (Maximum)		1306 (Minimum)	1406 (Nominal)	1506 (Maximum)		1332 (Minimum)	1432 (Nominal)	1532 (Maximum)
Before: 14–Feb–2011 18:35											





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	<div><div></div><div></div><div></div></div>			11.29	Before	<div><div></div><div></div><div></div></div>			9.548	Before	<div><div></div><div></div><div></div></div>			9.222
	10.54 (Minimum)	11.54 (Nominal)	12.54 (Maximum)		8.348 (Minimum)	9.348 (Nominal)	10.35 (Maximum)			7.938 (Minimum)	8.938 (Nominal)	9.938 (Maximum)		
Before: 14-Feb-2011 18:35														




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				3901	Before				3846	Before				3834
	3565 (Minimum)	3875 (Nominal)	4185 (Maximum)			3524 (Minimum)	3830 (Nominal)	4136 (Maximum)			3524 (Minimum)	3830 (Nominal)	4136 (Maximum)	
Before: 14-Feb-2011 18:43														

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			7.210	Before			11.51
	6.000 (Minimum)	8.000 (Nominal)	10.00 (Maximum)		9.000 (Minimum)	12.00 (Nominal)	15.00 (Maximum)
Before: 14-Feb-2011 18:43							

High resolution Integrated Logging Tool-DTS Wellsite Calibration							
Detector Calibration							
Phase	Gamma Ray Background GAPI		Value	Phase	Gamma Ray (Jig – Bkgd) GAPI		Value
Before			102.7	Before			166.3
	0 (Minimum)	30.00 (Nominal)	120.0 (Maximum)		157.1 (Minimum)	165.0 (Nominal)	206.3 (Maximum)
Before: 14-Feb-2011 18:44							

High resolution Integrated Logging Tool-DTS Wellsite Calibration					
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High resolution Integrated Logging Tool-DTS Wellsite Calibration								
Zero Measurement								
Phase	CNTC Background CPS		Value	Phase	CFTC Background CPS		Value	
Master			28.81	Master			37.74	
Before			27.50	Before			31.32	
5.000 (Minimum)			28.81 (Nominal)	5.000 (Minimum)			37.74 (Nominal)	40.00 (Maximum)
Master: 13-Feb-2011 13:04				Before: 14-Feb-2011 18:33				

High resolution Integrated Logging Tool—DTS Wellsite Calibration											
Ratio Measurement											
Phase	Thermal Near Corr. (Tank) CPS		Value	Phase	Thermal Far Corr. (Tank) CPS		Value	Phase	CNTC/CFTC (Tank)		Value
Master			5210	Master			2187	Master			2.382
4700 (Minimum)				1900 (Minimum)				2.120 (Minimum)			
5800 (Nominal)				2400 (Nominal)				2.159 (Nominal)			
6900 (Maximum)				2900 (Maximum)				2.540 (Maximum)			
Master: 13–Feb–2011 13:04											