

Company: CONOCOPHILLIPS CANADA RESOURCES CORP.

Well: COPRC LOON CREEK O-6

Field: LOON CREEK

Province: NORTHWEST TERRITORIES ***VERTICAL WELL***

PLATFORM EXPRESS

ARRAY INDUCTION LOG

Province:	NORTHWEST TERRITORIES		
Field:	LOON CREEK		
Location:	UNIT O SECTION 6		
Well:	COPRC LOON CREEK O-6		
Company:	CONOCOPHILLIPS CANADA RESOURCES CO		
Location:		UNIT O SECTION 6	Elev. K.B. 257.60 m
		300O066510127000	G.L. 252.40 m
		NORTHING: 7220618.3 EASTING: 593560.14	D.F. 257.30 m
		Permanent Datum:	Ground Level Elev.: 252.40
		Log Measured From: Kelly Bushing	5.20 m above Perm.Datum
Drilling Measured From: Kelly Bushing			
API Serial No. 470	Longitude: 127° 0' 30.7" W		Latitude: 65° 5' 51.5" N

Logging Date	30-Jan-2013				
Run Number	1.1				
Depth Driller	600.00 m				
Schlumberger Depth	600.00 m				
Bottom Log Interval	597.59 m				
Top Log Interval	21.50 m				
Casing Driller Size @ Depth	508 mm @ 20.00 m				
Casing Schlumberger	20 m				
Bit Size	311.15 mm				
Type Fluid In Hole	GEL CHEM				
Density	Viscosity	1150 kg/m3		88 s	
	Fluid Loss	PH			
Source of Sample				Flowline	
RM @ Meas Temp	1.86 ohm.m @ 0 degC				
RMF @ Meas Temp	1.15 ohm.m @ 0 degC				
RMC @ Meas Temp	2.84 ohm.m @ 0 degC				
Source RMF	RMC	Calculated	Calculated		
RM @ BHT	RMF @ BHT	0.76 @ 30.9	0.47 @ 30.9		
Max Recorded Temperatures				30.9 degC 34 38	
Circulation Stopped	Time		30-Jan-2013 02:30:00		
Logger on Bottom	Time		30-Jan-2013 13:05:01		
Unit Number	Location:	2187	JEFFREY TATLOCK	GRANDE PRAIRIE	
Recorded By	DAVID LAWRENCE				
Witnessed By					

Disclaimer

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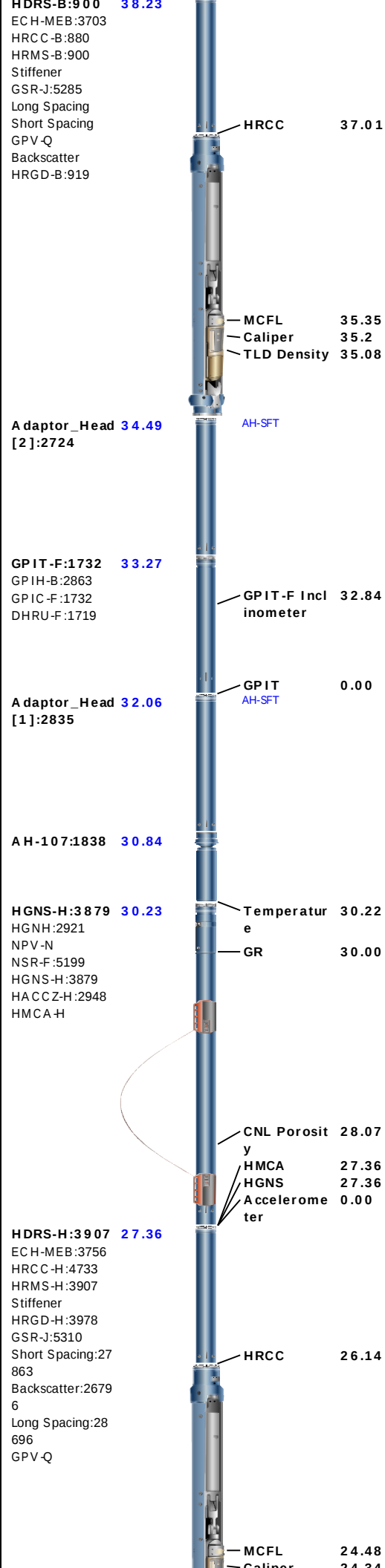
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Borehole Fluids

Parameter(unit)	1.1					
Fluid Type	Water					
Fluid Name	GEL CHEM					
Max Recorded Temperatures (degC)	38					
Source of Sample	Flowline					
Salinity (ppm)	5500.91					
Density (kg/m3)	1150					
Funnel Viscosity (s)	88					
Fluid Loss (cm3)						
PH						
Date/Time Circulation Stopped	30-Jan-2013 02:30:00					
Date Logger on Bottom	30-Jan-2013					
Time Logger on Bottom	13:05:01					
Source RMF	Calculated					
RMC	Calculated					
RM @ Meas Temp (ohm.m@degC)	1.86 @ 0					
RMF @ Meas Temp (ohm.m@degC)	1.15 @ 0					
RMC @ Meas Temp (ohm.m@degC)	2.84 @ 0					
RM @ BHT (ohm.m@degC)	0.76 @ 30.9					
RMF @ BHT (ohm.m@degC)	0.47 @ 30.9					
RMC @ BHT (ohm.m@degC)	1.17 @ 30.9					
Total Solid (%)						
High Gravity Solids (%)						

Remarks and Equipment Summary

1.1: Toolstring				1.1: Remarks		
Equip name	Length	MP name	Offset	ALL PRESENTATIONS AND INTERVALS AS PER CLIENT REQUEST		
LEH-QT:2135	41.71			LOGGER REQUESTED AT: 07:15 30-JAN-2013		
LEH-QT:2135				LOGGER ARRIVED AT: 07:00 30-JAN-2013		
EDTC-B:9048	40.82			RIG READY AT: 07:45 30-JAN-2013		
EDTH-B:9060				RIG: BEAVER 2		
EDTG-A:79224				SLB CREW: GREG BOYD, MARK PORTER		
EDTC-B:9048				INDUCTION TOOL RUN WITH 38.1 MM STANDOFFS IN COMPUTE STANDOFF MO		
		CTEM	39.75	DSI RUN IN BCR MODE WITH MONOPOLE AND STONELY ACQUISITION ALSO		
		ACCZ	0.00	DSI RUN WITH CMEZ CENTRALIZERS		
		HV	0.00	PPC RUN WITH 4 ARMS POWERED TO		
		Gamma Ray	39.18			
		TelStatus	38.84			
HTBC-H:3701	38.84					
ECH-TAA:1801		Temperatur	38.23			
HMCA-H:3701		e				
		HMCA	38.23			



LEVEL 2 TO CENTER DSI

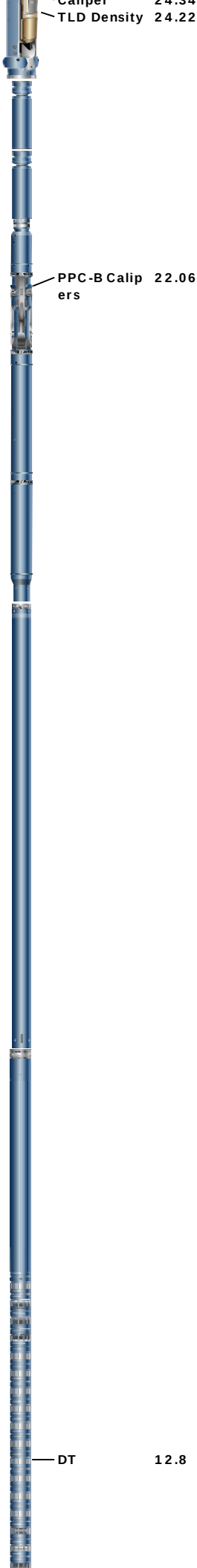
NEUTRON TOOL RUN WITH DUAL AXIS BOWSPRING

TLD2 RUN 90 DEGREES OFFSET FROM TLD

PEX TOOLS DECOUPLED FROM SONIC TOOL USING KNUCKLES

RUGOSE HOLE CREATES ELEVATED DENSITY CORRECTIONS, BOTH DENSITY TOOLS DATA AGREE

PH AND FLUID LOSS VALUES NOT PROVIDED



AH-184[2]:38 23.63
14

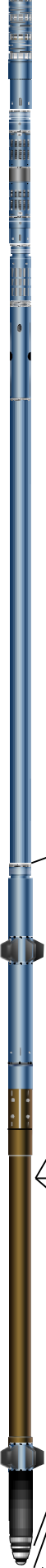
AH-184[1]:38 23.02
03

PPC-B:8221 22.41
PPC-B:8221

PPC-B Calipers 22.06

DSST-B:8234 20.42
ECH-SD:8220
SPAC-B:8234
SMDR-BD:8312
SSIJ-BA:8235
SMDX-AA:8227

DT 12.8



A IT-M:135
AMIS:135
AMRM:135

4.88

PWF 4.88

Power Supply 2.41
Induction 2.41
Temperature 2.41

SP 0.03
Mud Resistivity 0.00
Head Tension
TOOL_ZERO

Lengths are in m
Maximum Outer Diameter = 177.800 mm
Line: Sensor Location, Value: Gating Offset
All measurements are relative to TOOL_ZERO

Depth Summary

Depth Control Parameters

1.1

Conveyance Type	Wireline		
Log Sequence	FIRST LOG IN THE WELL		
Rig Up Length at Surface (m)	0.00		
Rig Up Length at Bottom (m)	0.00		
Rig Up Length Correction (m)	0.00		
Stretch Correction (m)	0.00		
Tool Zero Reference Check at Surface (m)	0.10		
Depth Remark Parameters	1.1		
Depth Remark 1	SCHLUMBERGER DEPTH CONTROL PROCEDURES FOLLOWED		
Depth Remark 2	IDW USED AS PRIMARY DEPTH CONTROL		
Depth Remark 3	Z-CHART USED AS SECONDARY DEPTH CONTROL		
Depth Remark 4	ALL LOGS CORRELATED TO DOWN LOG OVER BOTTOM 100 M		
Depth Measuring Device	1.1		
Type	IDW-B		
Serial Number	1734		
Calibration Date	13-NOV-2012		
Calibrator Serial Number	4		
Calibration Cable Type	7-46 PXS		
Wheel Correction 1	-5		
Wheel Correction 2	-4		
Tension Device	1.1		
Type	CMTD-B/A		
Serial Number	1223		
Calibration Date	17-JAN-2013		
Calibrator Serial Number	1142		
Calibration Points	10		
Calibration RMS	26		
Calibration Peak Error	45		
Logging Cable	1.1		
Type	7-46P-XS		
Serial Number	6075		
Logging Cable Length (m)	4500.00		

1.1

Integration Summary				
Output Channel(s)	Output Description	Input Parameter	Output Value	Unit
Software Version				
Acquisition System			Version	
MaxWell			3.1.9755.0	
Application Patch			SP-20120723-3.1.9755.1112	
			EXP_APL-MASTAXIS-3.1.9755.1221	
			EXP_APL-NEXTA-3.1.9755.1340	

Computation	Description	Version
Borehole	Borehole Ensemble provides common Borehole Parameters and Channels	3.1.0755.0

Borehole	Borehole Ensemble provides common Borehole Parameters and Channels		3.1.9755.0
DepthCorrection	DepthCorrection		3.1.9755.0
Tool Elements	Description	Software Version	Firmware Version
HRCC-H	HILT High-Resolution Control Cartridge, 150 degC	3.1.9755.0	2.0
HGNS-H	HILT Gamma-Ray and Neutron Sonde, 150 degC	3.1.9755.0	2.0
AMIS	Array Induction Sonde - M	3.1.9755.1112	1
HRCC-B	HILT High-Resolution Control Cartridge, 125 degC	3.1.9755.0	2.0

Pass Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	Depth Shift	Include Parallel Data
1.1	Log[3]:Up	Up	28.86 m	604.59 m	30-Jan-2013 1:43:56 PM	30-Jan-2013 3:25:45 PM	0.00 m	true

All depths are referenced to toolstring zero

Log

1.1: Log[3]:Up

Description: MCFL processing LQC for Platform Express Format: Log (AIT-COND-600) Index Scale: 1:600 Index Unit: m Index Type: Measured Depth
Creation Date: 30-Jan-2013 18:41:40

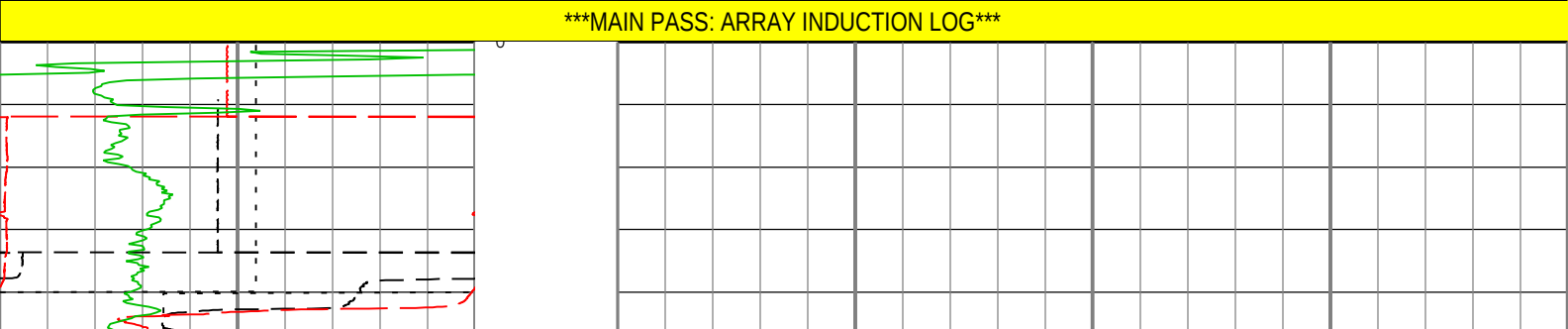
Channel	Source	Sampling
AF20	AIT-M:AMIS:AMIS	3in
AF90	AIT-M:AMIS:AMIS	3in
AFCO90	AIT-M:AMIS:AMIS	3in
BS	Borehole	6in
CALI.1	HDRS-H:HRCC-H:HRCC-H	1in
CALI.2	HDRS-B:HRCC-B:HRCC-B	1in
GR_CAL	HGNS-H:HGNS-H:HGNS-H	6in
SP	AIT-M:AMIS:AMIS	6in
STIT	DepthCorrection	6in
TENS	WLWorkflow	1in
TIME_1900	WLWorkflow	0.1in

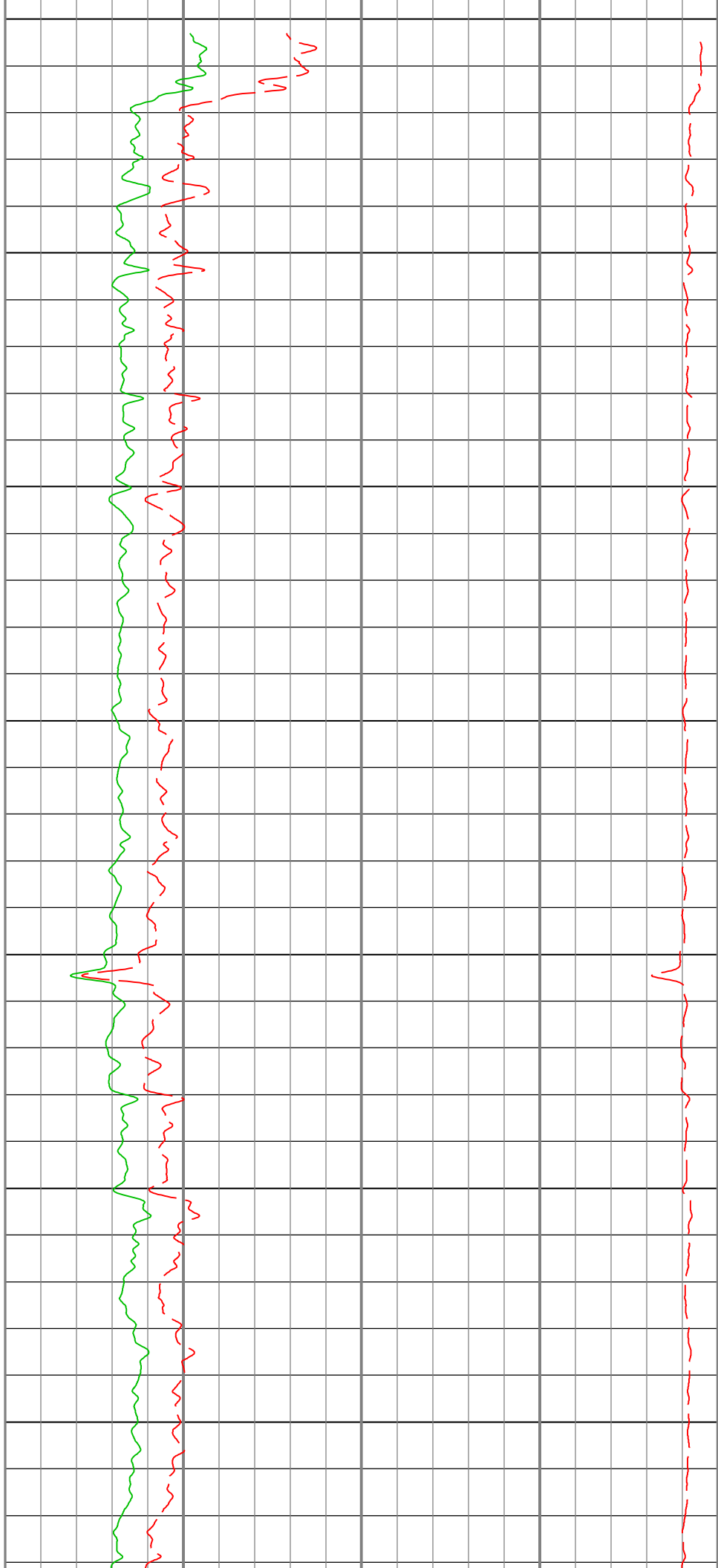
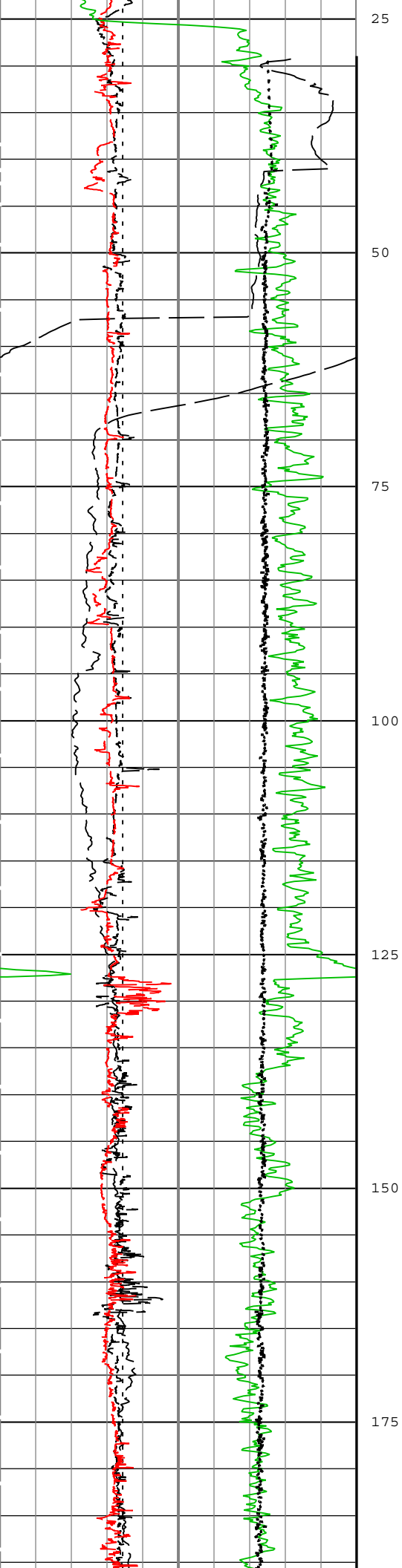
TIME_1900 - Time Marked every 60.00 (s)

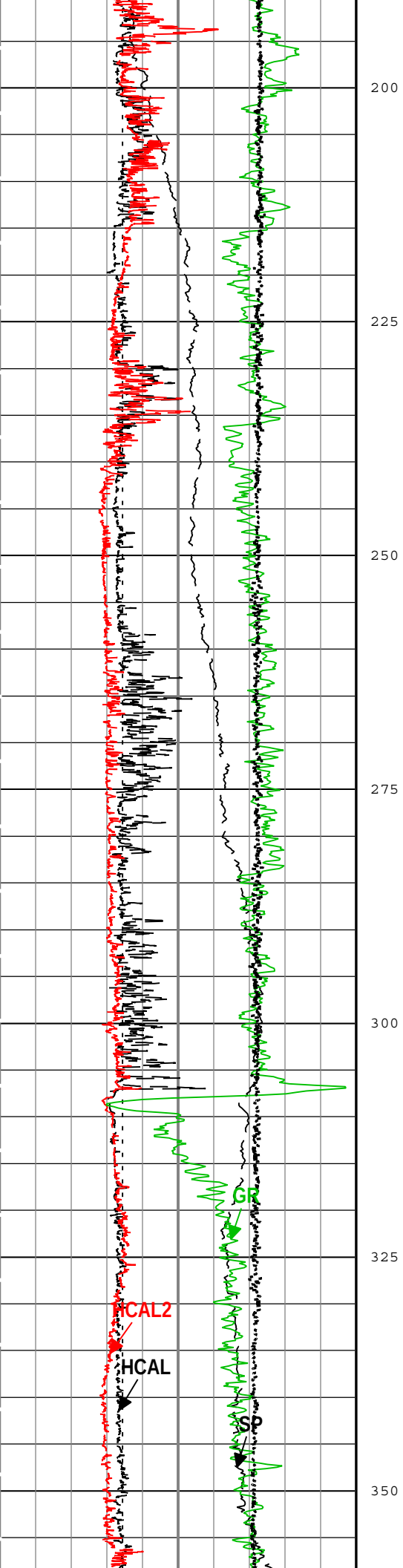
Cable Tension (TENS)		
25000	N	0
Bit Size (BS)		
225	mm	475
Spontaneous Potential (SP) AIT-M		
-80	mV	20
HCAL		
225	mm	475
HCAL2		
225	mm	475
GR		
0	gAPI	150

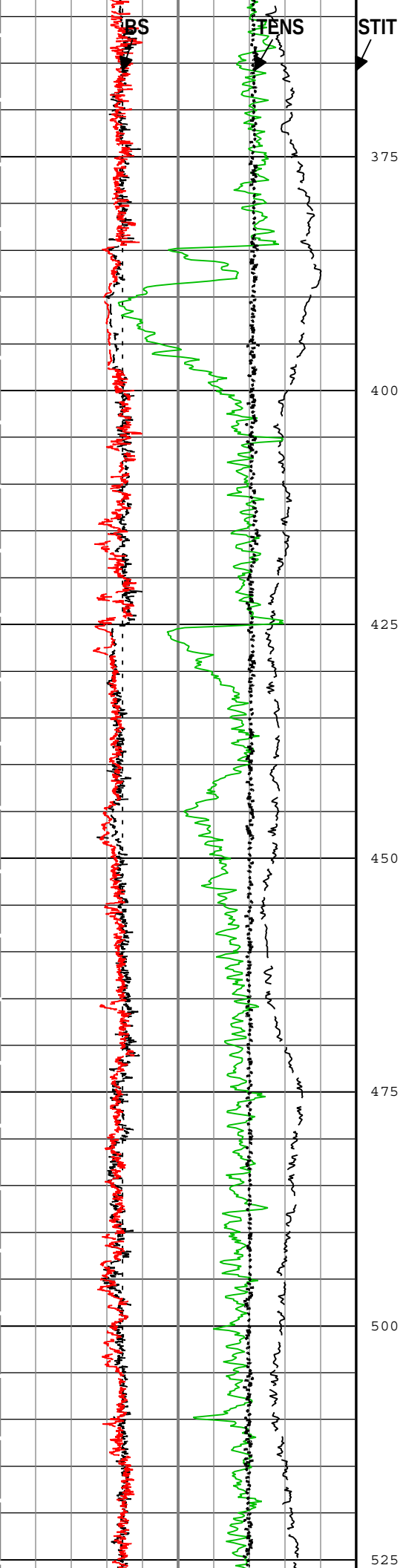
Array Induction Four Foot Resistivity A90 (AF90) AIT-M		
0	ohm.m	50
Array Induction Four Foot Resistivity A20 (AF20) AIT-M		
0	ohm.m	50

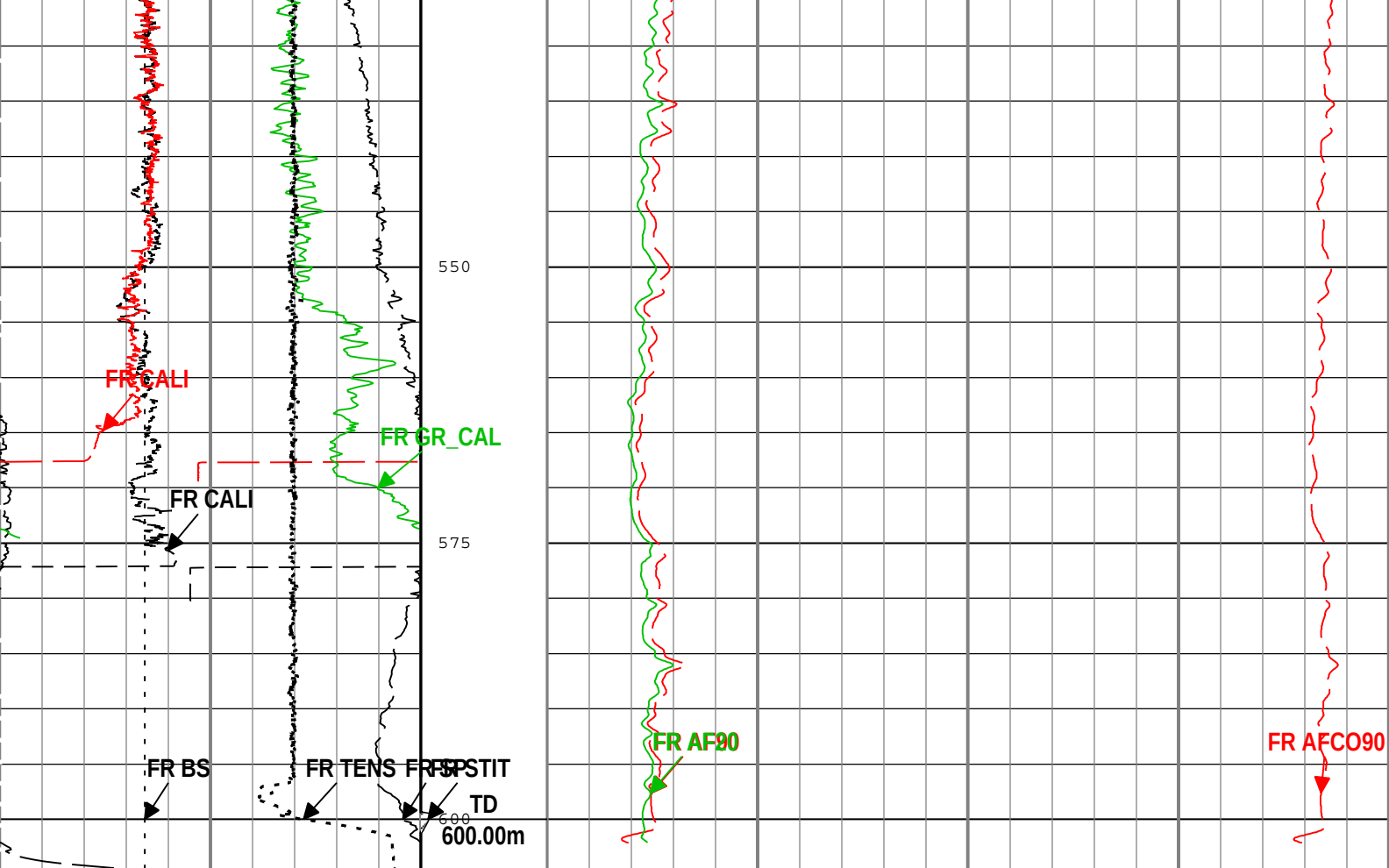
Array Induction Four Foot Conductivity A90 (AFCO90) AIT-M		
1000	mS/m	0











MAIN PASS: ARRAY INDUCTION LOG

Bit Size (BS)		
225	mm	475
Spontaneous Potential (SP) AIT-M		
-80	mV	20
HCAL		
225	mm	475
HCAL2		
225	mm	475
GR		
0	gAPI	150
Cable Tension (TENS)		
25000	N	0

Array Induction Four Foot Conductivity A90 (AFCO90) AIT-M		
1000	mS/m	0
Array Induction Four Foot Resistivity A90 (AF90) AIT-M		
0	ohm.m	50
Array Induction Four Foot Resistivity A20 (AF20) AIT-M		
0	ohm.m	50

TIME_1900 - Time Marked every 60.00 (s)

Description: MCFL processing LQC for Platform Express Format: Log (AIT-COND-600) Index Scale: 1:600 Index Unit: m Index Type: Measured Depth
Creation Date: 30-Jan-2013 18:41:40

Channel Processing Parameters				
Parameter	Description	Tool	Value	Unit
ABHM	Array Induction Borehole Correction Mode	AIT-M	Compute Standoff	
ABLM	Array Induction Basic Logs Mode	AIT-M	Normal	
ACDE	Array Induction Casing Detection Enable	AIT-M	Yes	
ASTA	Array Induction Tool Standoff	AIT-M	40.64	mm
BHS	Borehole Status (Open or Cased Hole)	Borehole	Depth Zoned	
BS	Bit Size	WLSESSION	Depth Zoned	mm
CALI_SHIFT.1	CALI Supplementary Offset	HDRS-H	9.6	mm

CALI_SHIFT.2	CALI Supplementary Offset	HDRS-B	7	mm
CBLO	Casing Bottom (Logger)	WLSESSION	20	m
DC_MODE	Depth Correction Mode	DepthCorrection	Real-time	
GCSE_DOWN_PASS	Generalized Caliper Selection for WL Log Down Passes	Borehole	BS	
GCSE_UP_PASS	Generalized Caliper Selection for WL Log Up Passes	Borehole	CALI	
GRSE	Generalized Mud Resistivity Selection, from Measured or Computed Mud Resistivity	Borehole	AMF	
SPDR	SP Drift Per Foot	AIT-M	0	mV/m
TD	Total Measured Depth	Borehole	600	m

Depth Zone Parameters

All depth are actual.

Tool Control Parameters

Parameter	Description	Tool	Value	Unit
MAX_LOG_SPEED	Toolstring Maximum Logging Speed	WLSESSION	548.64	m/h

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Output Channel(s)	Output I
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Acquisition System

Acquisition System	Version
MaxWell	3.1.9755.0
Application Patch	SP-20120723-3.1.9755.1112
	EXP_APL-MASTAXIS-3.1.9755.1221
	EXP_APL-NEXTA-3.1.9755.1340

Tool Elements	Description	Software Version	Firmware Version
HRCC-H	HILT High-Resolution Control Cartridge, 150 degC	3.1.9755.0	2.0
HGNS-H	HILT Gamma-Ray and Neutron Sonde, 150 degC	3.1.9755.0	2.0
HRGD-H	HILT Resistivity Gamma-Ray Density Device, 150 degC	3.1.9755.0	3.0
AMIS	Array Induction Sonde - M	3.1.9755.1112	1
HRCC-B	HILT High-Resolution Control Cartridge, 125 degC	3.1.9755.0	2.0

Run Name	Pass Object
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All depths are referenced to toolstring zero

Log

Description: MCFL processing LQC for Platform Express Format: Log (AIT-240) Index Scale: 1:240 Index Unit: m Index Type: Measured Depth
Creation Date: 30-Jan-2013 18:41:43

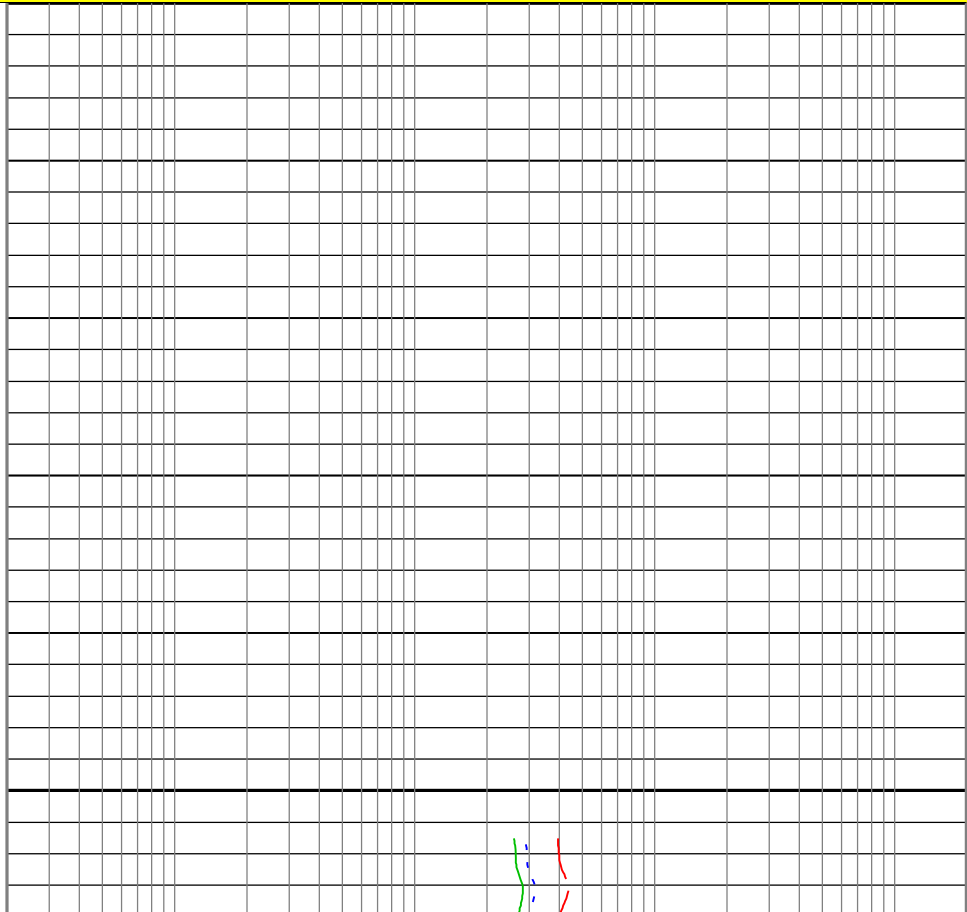
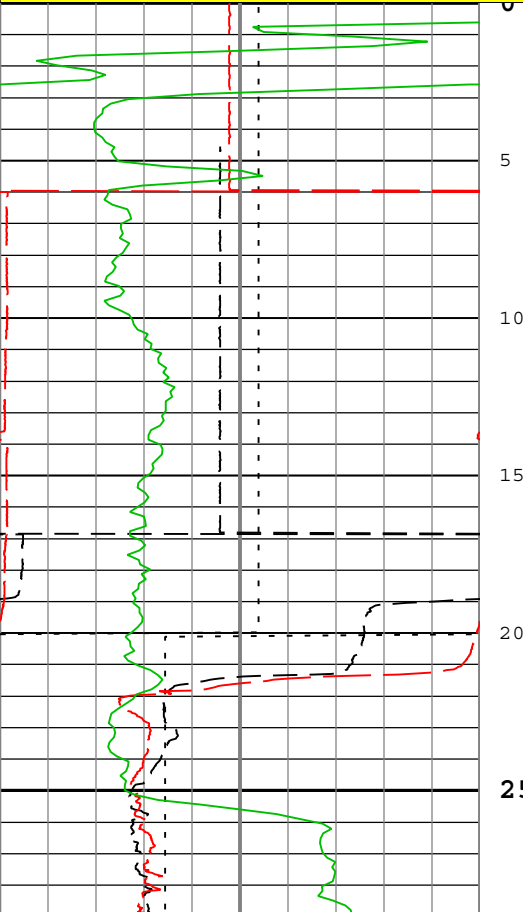
Channel	Source	Sampling
AF20	AIT-M:AMIS:AMIS	3in
AF30	AIT-M:AMIS:AMIS	3in
AF90	AIT-M:AMIS:AMIS	3in
BS	Borehole	6in
CALI.1	HDRS-H:HRCC-H:HRCC-H	1in
CALI.2	HDRS-B:HRCC-B:HRCC-B	1in
GR_CAL	HGNS-H:HGNS-H:HGNS-H	6in
RXOZ	HDRS-H:HRMS-H:HRGD-H	2in
SP	AIT-M:AMIS:AMIS	6in
STIT	DepthCorrection	6in
TENS	WLWorkflow	1in
TIME_1900	WLWorkflow	0.1in

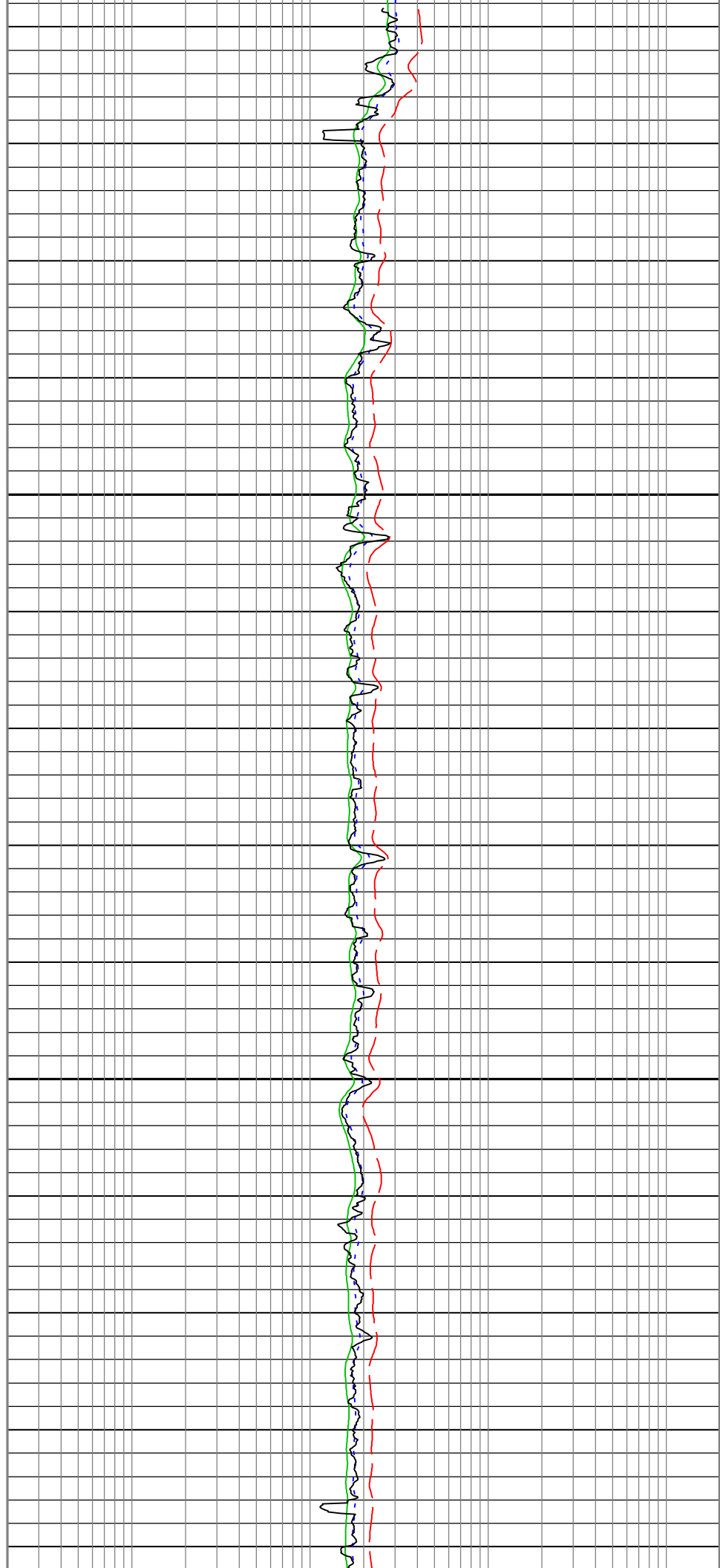
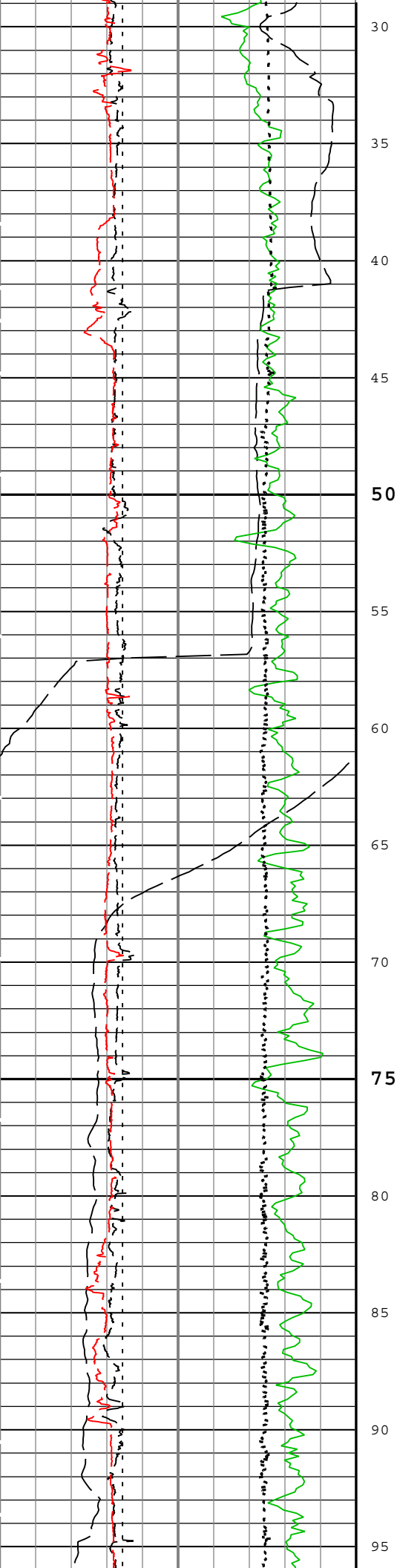
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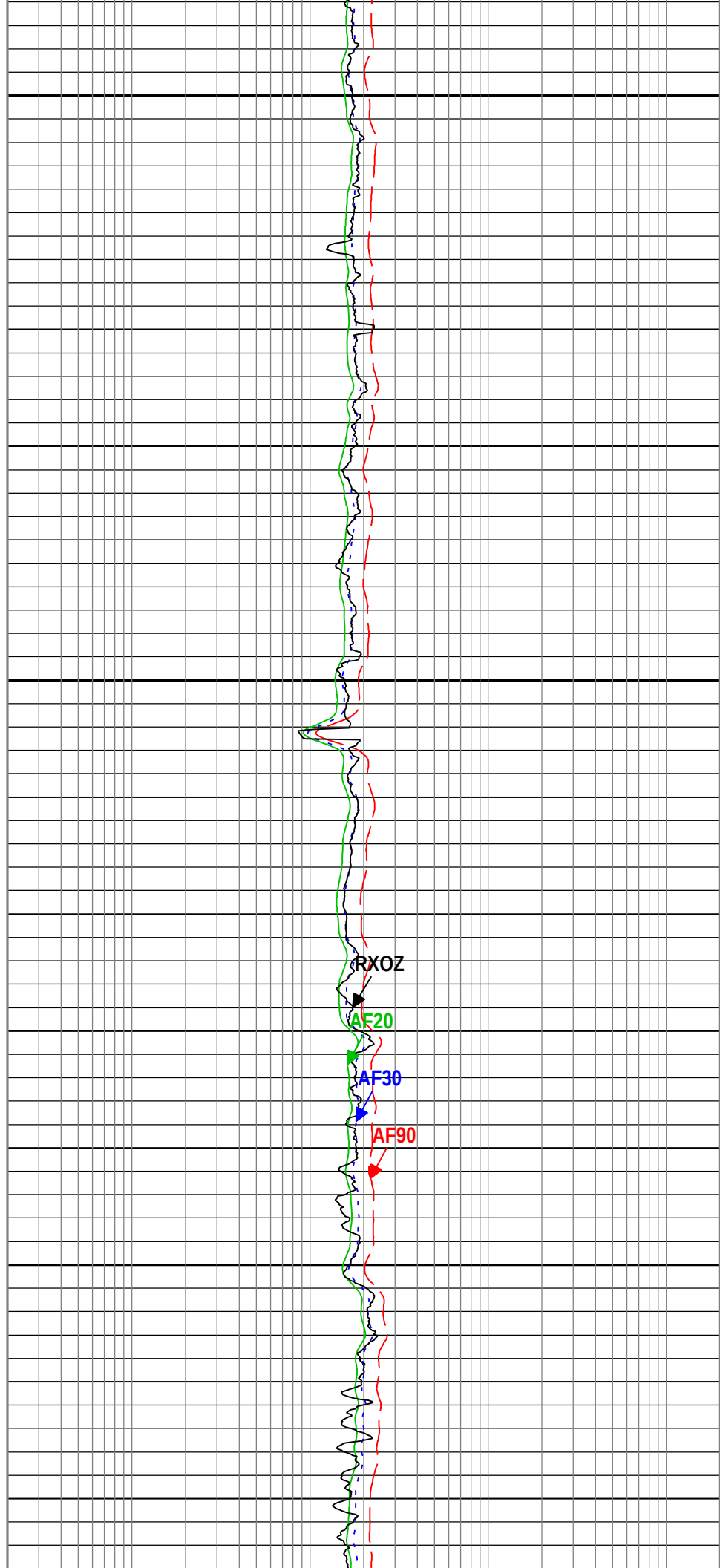
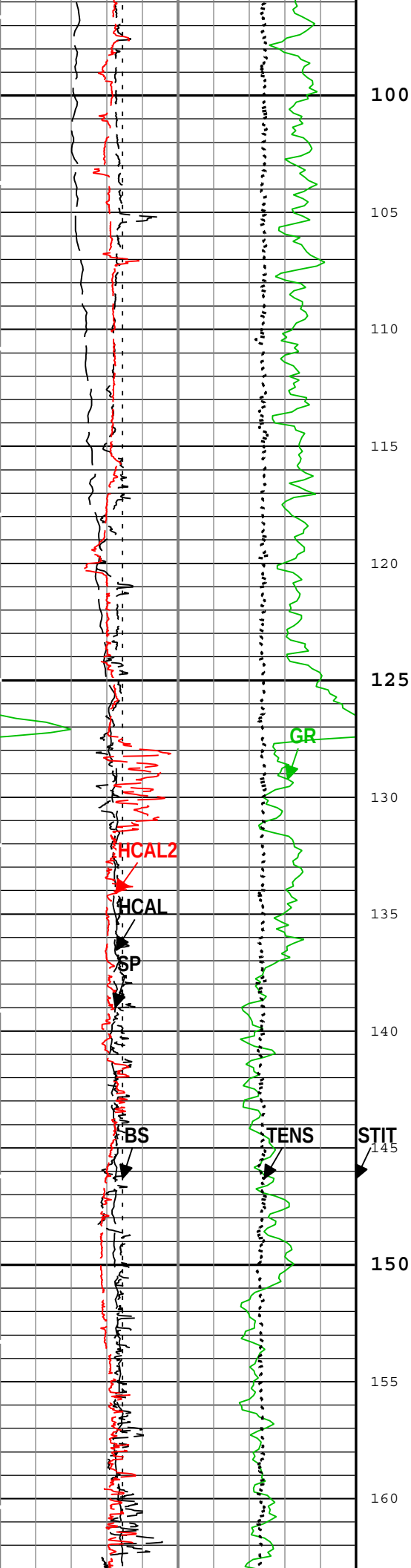
Cable Tension (TENS)		
25000	N	0
Bit Size (BS)		
225	mm	475
Spontaneous Potential (SP) AIT-M		
-80	mV	20
HCAL		
225	mm	475
HCAL2		
225	mm	475
GR		
0	gAPI	150

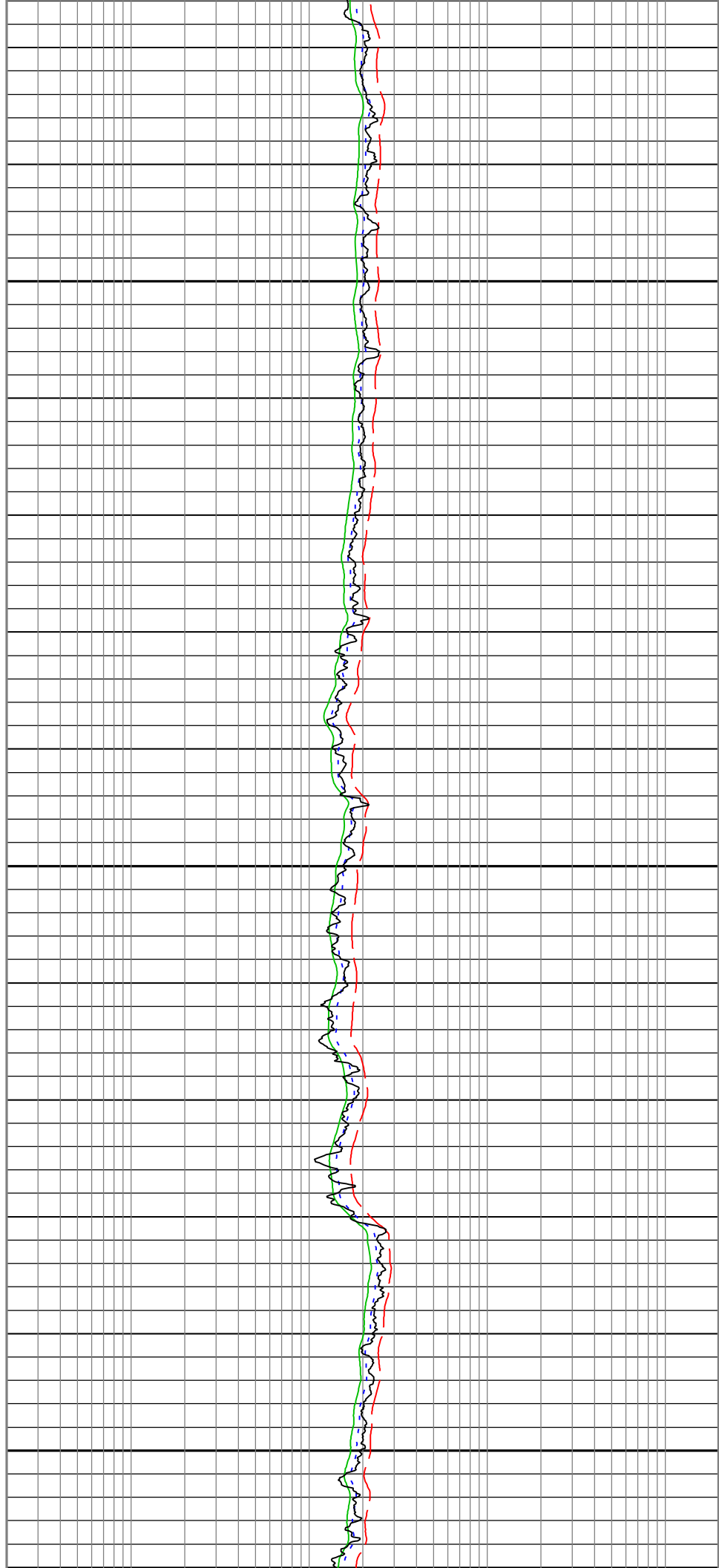
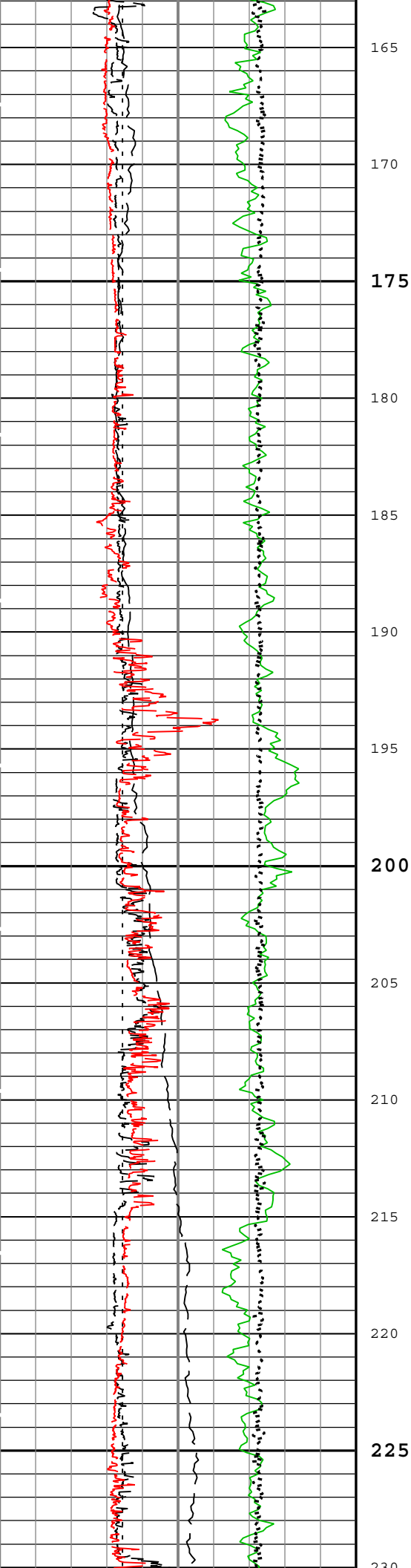
Array Induction Four Foot Resistivity A90 (AF90) AIT-M		
0.2	ohm.m	2000
Array Induction Four Foot Resistivity A30 (AF30) AIT-M		
0.2	ohm.m	2000
Array Induction Four Foot Resistivity A20 (AF20) AIT-M		
0.2	ohm.m	2000
Invaded Formation Resistivity filtered at 18 inches (RXOZ) HDRS-H		
0.2	ohm.m	2000

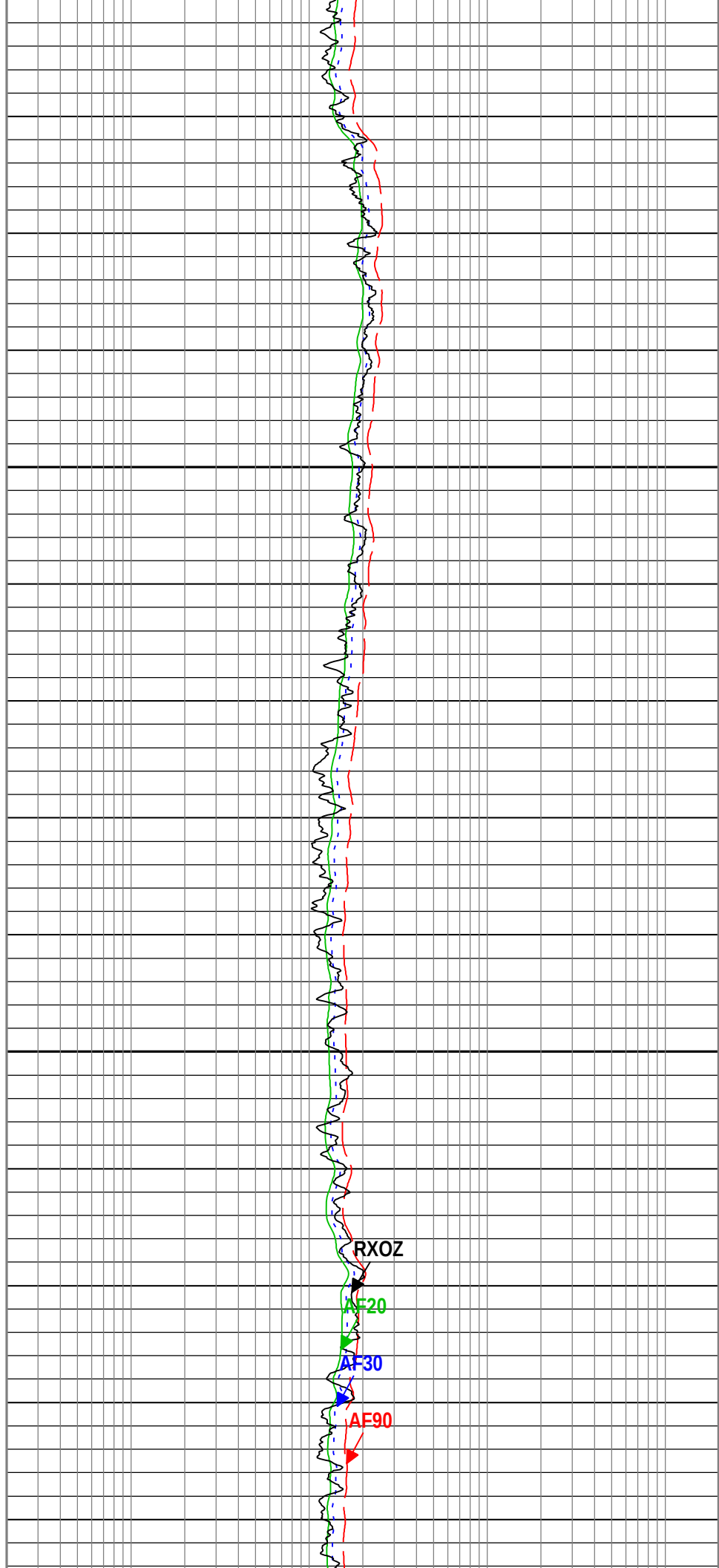
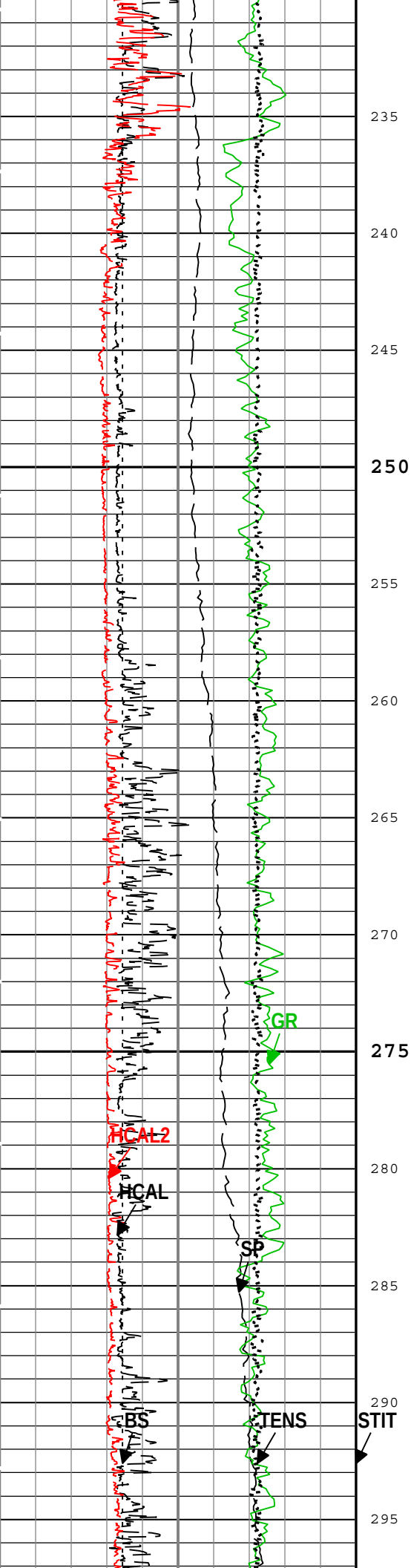
MAIN PASS: ARRAY INDUCTION LOG

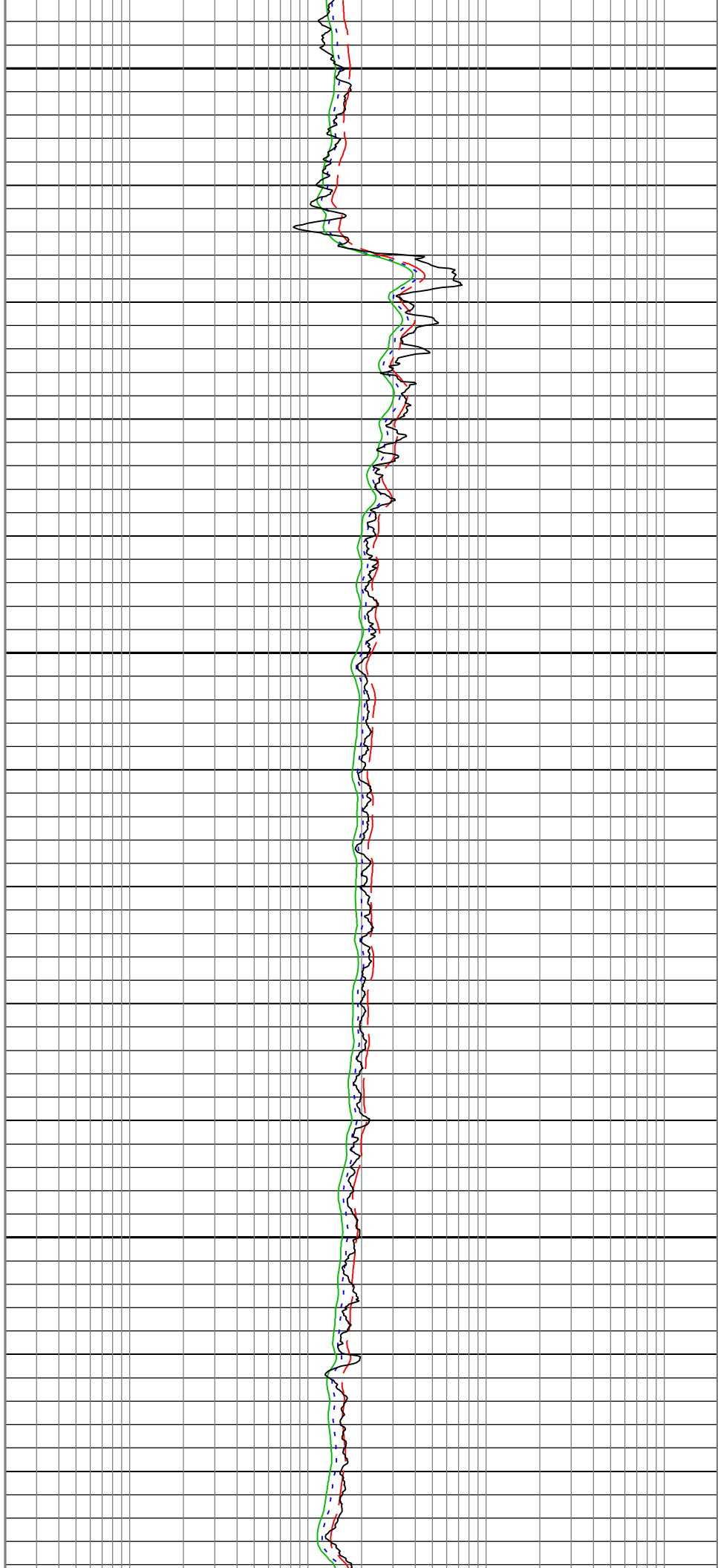
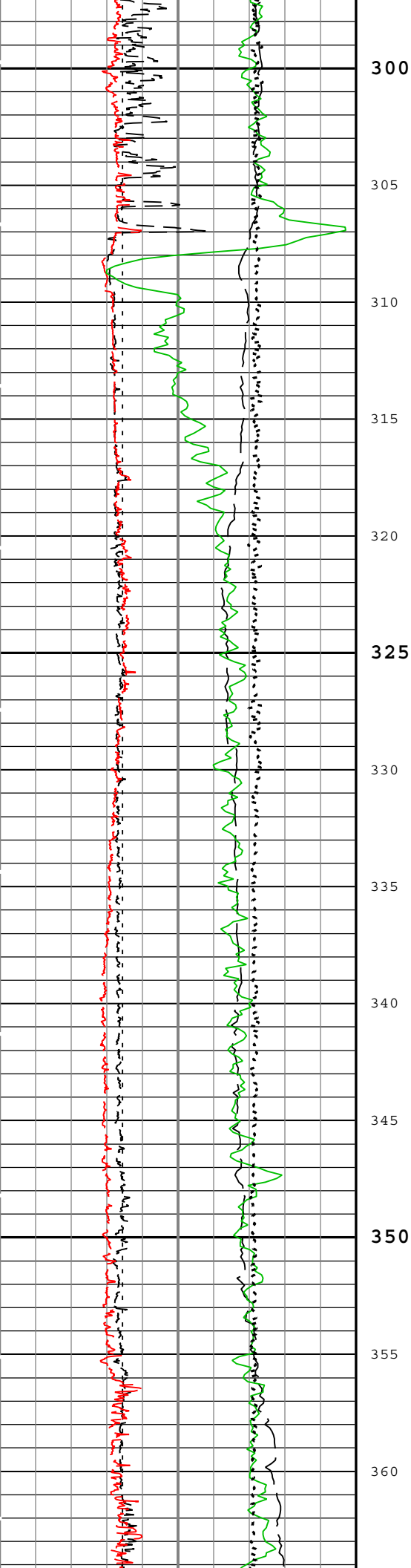


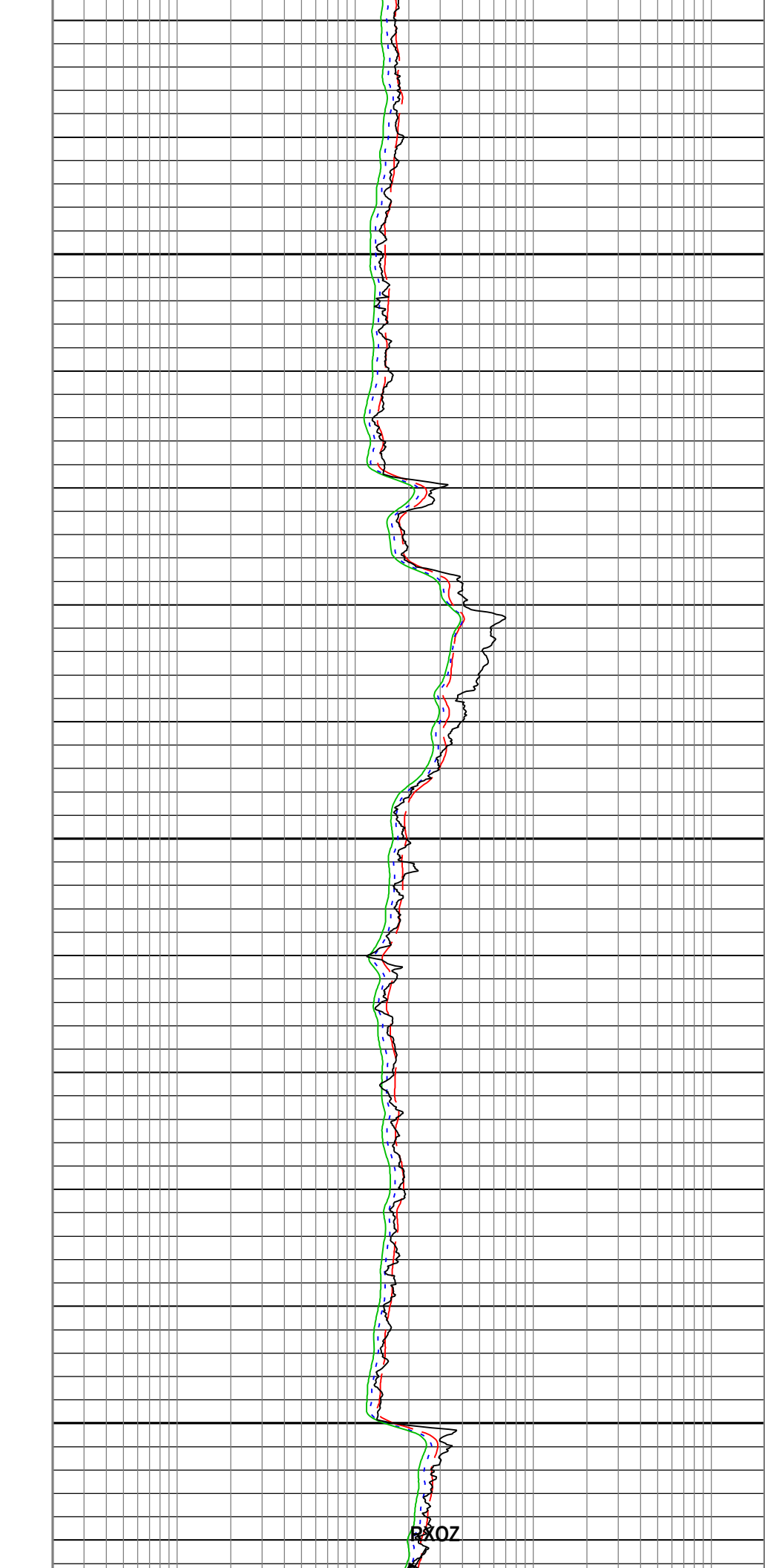
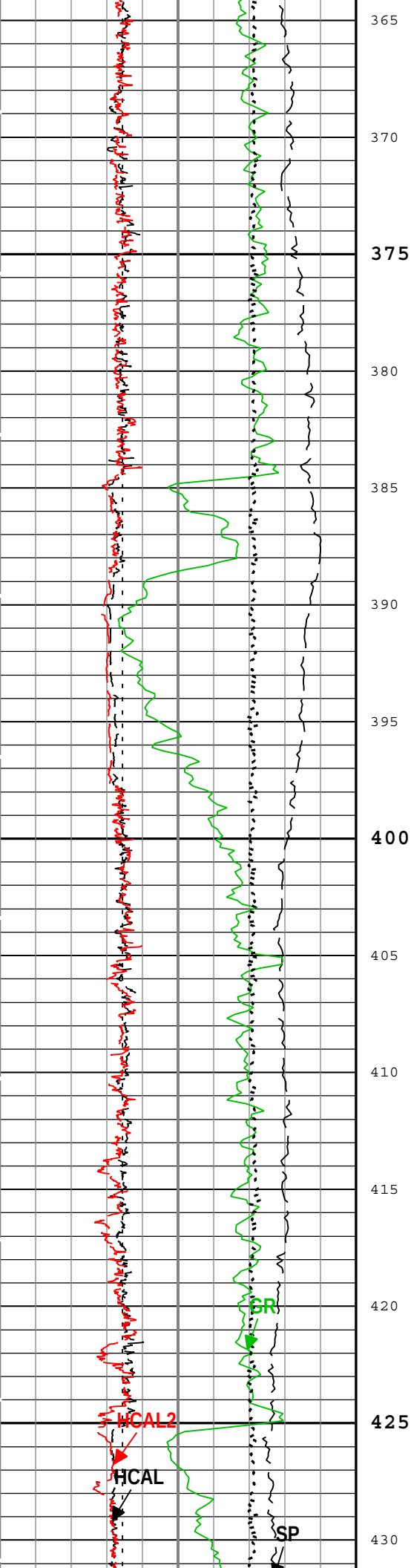


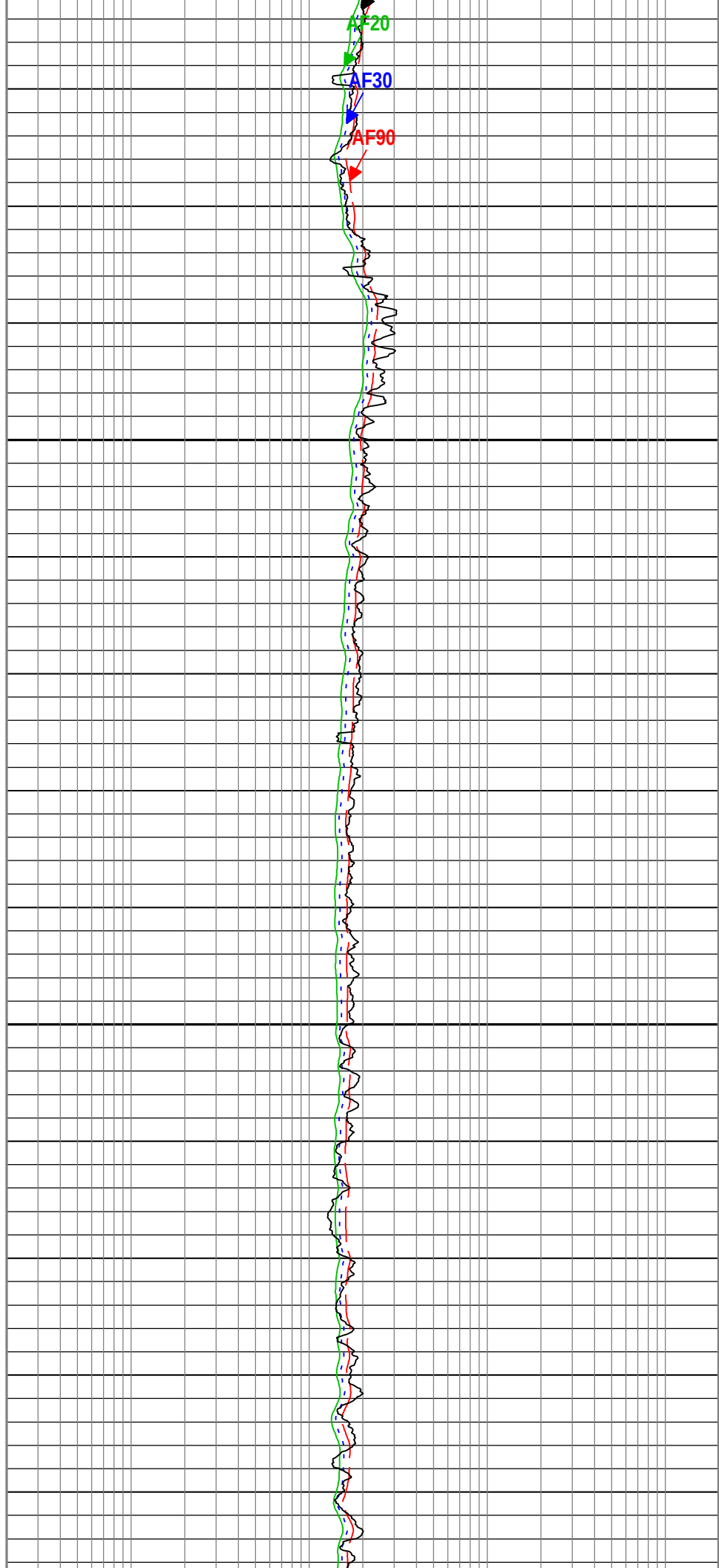
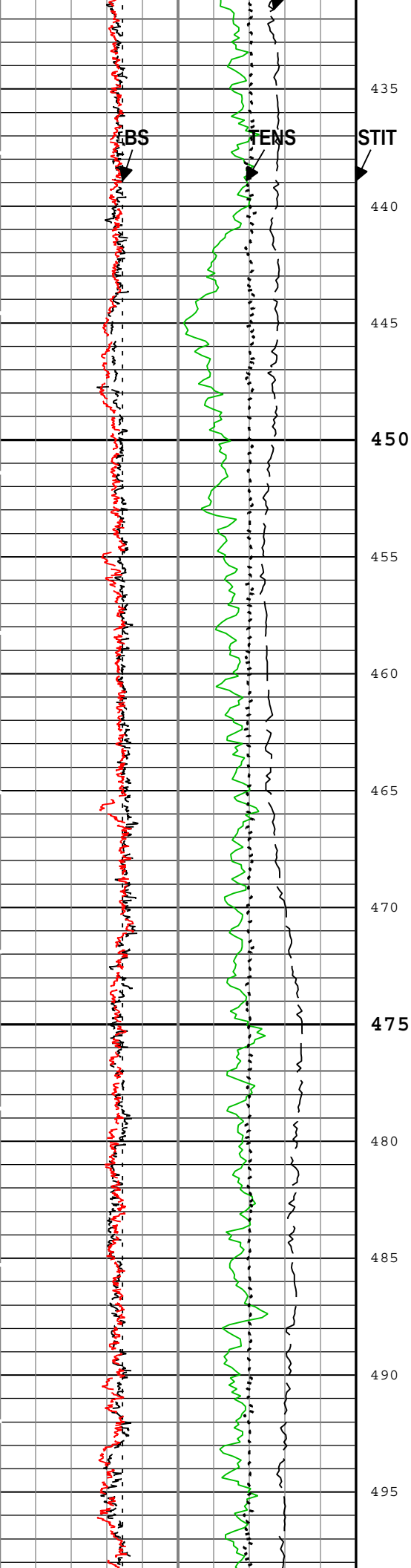


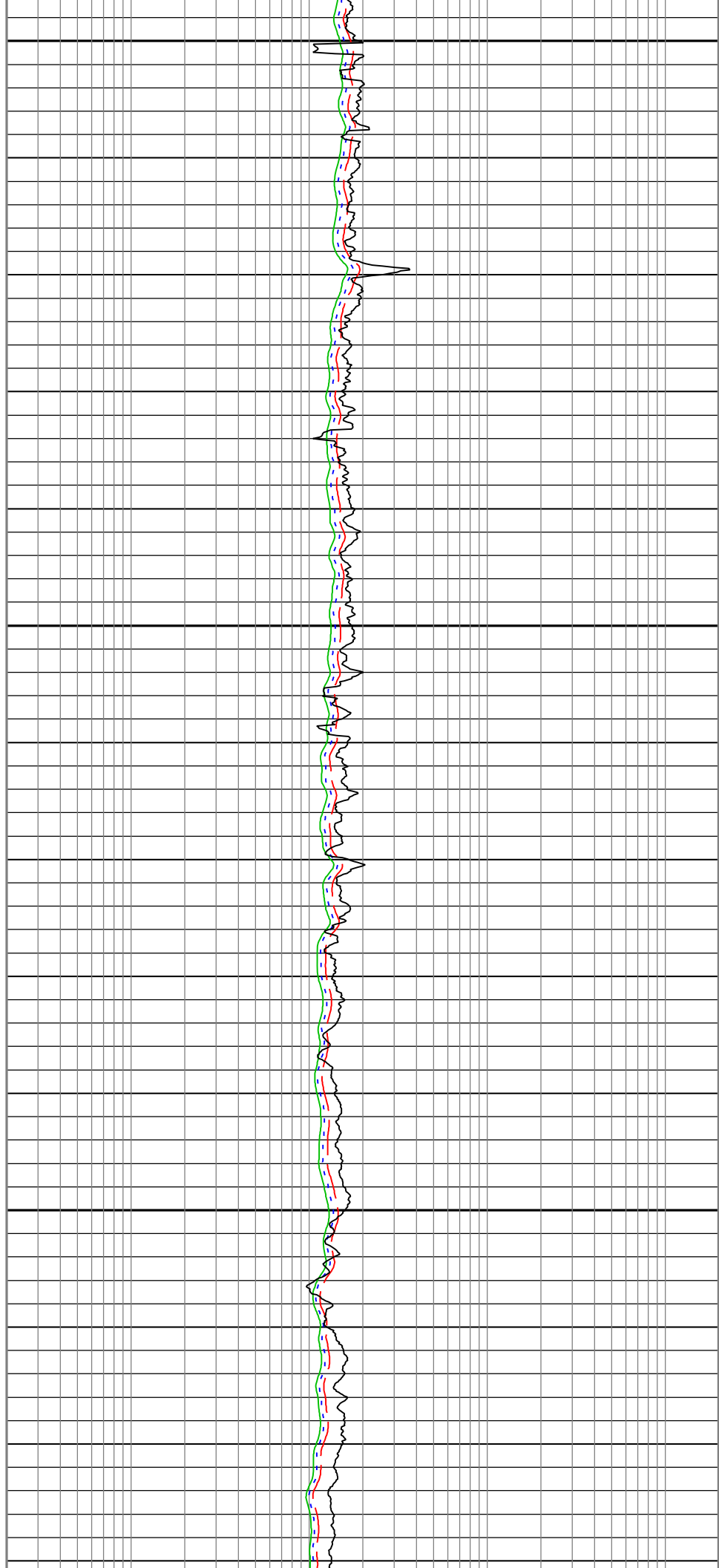
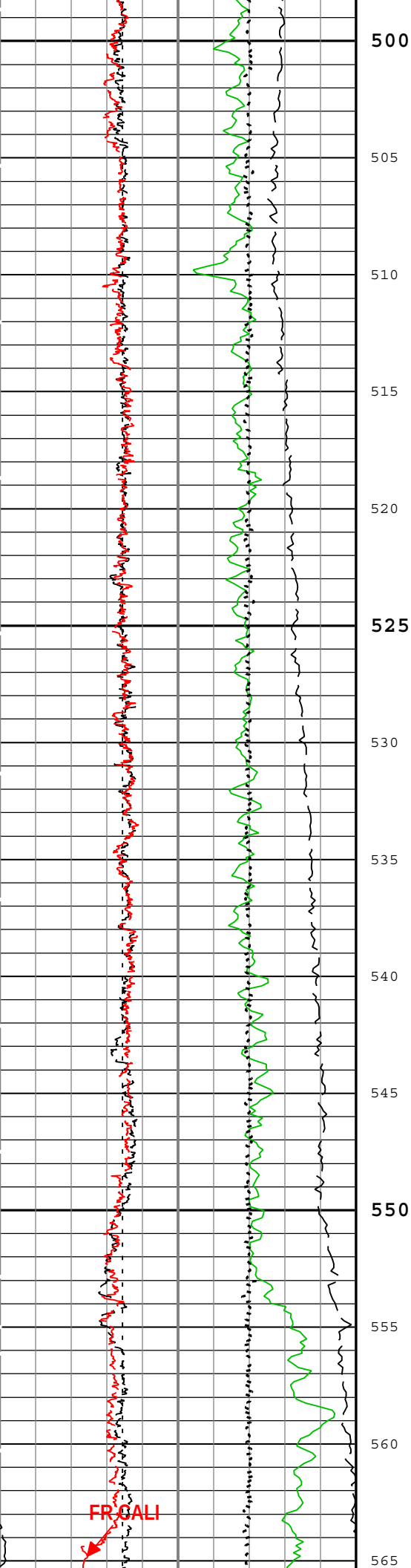


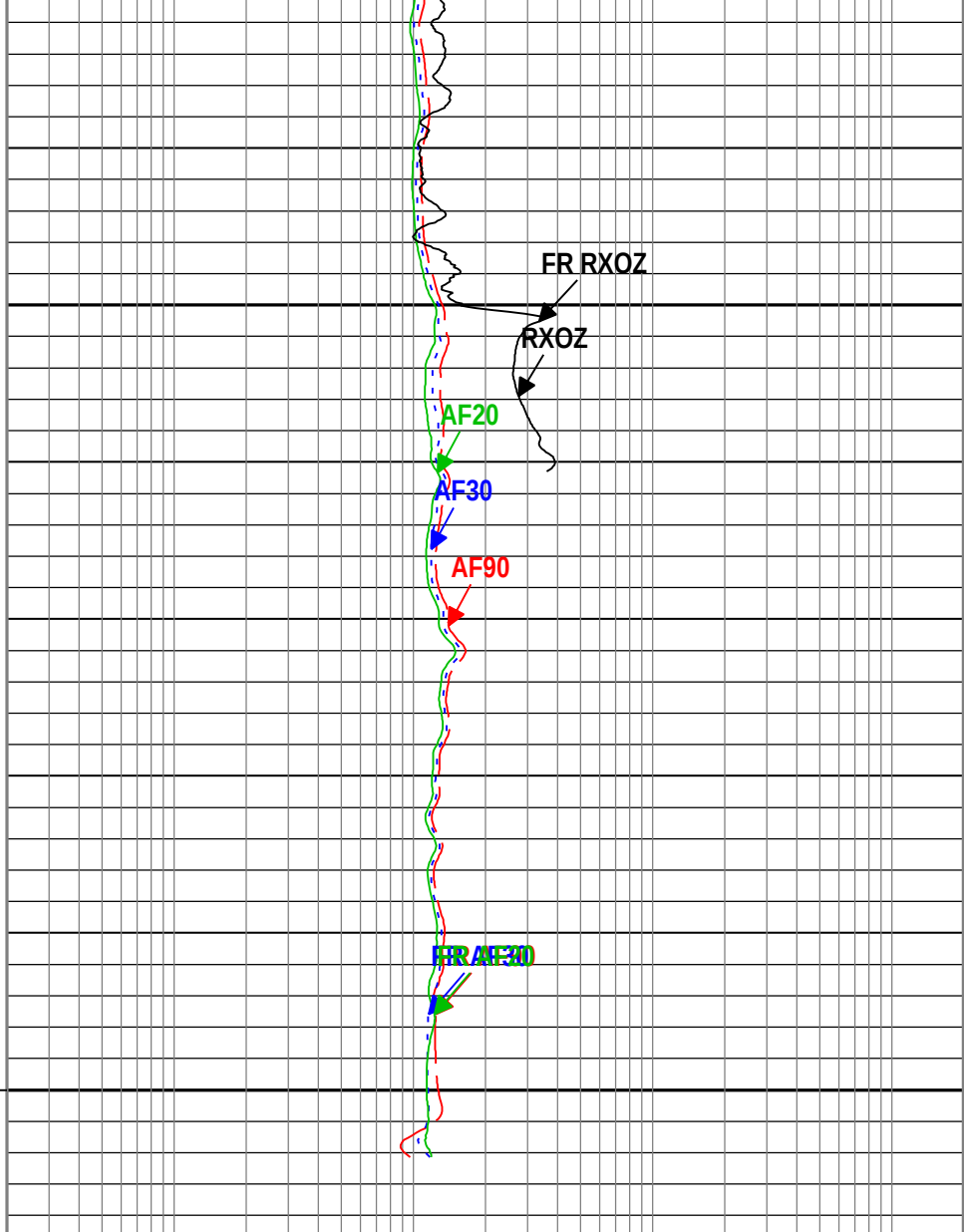
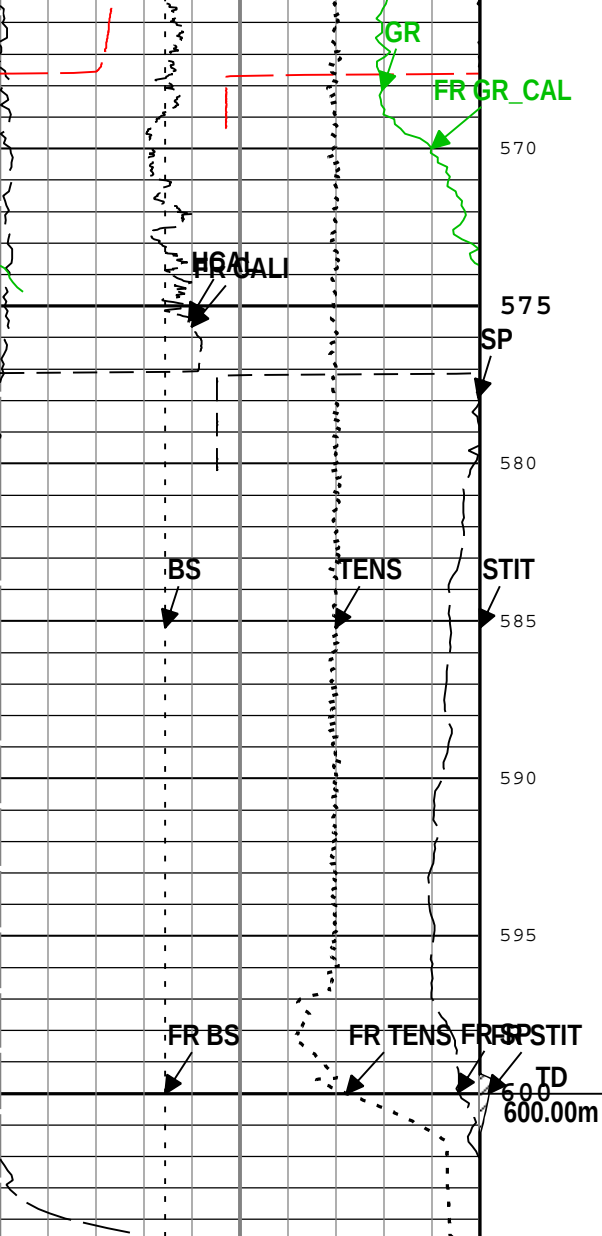












MAIN PASS: ARRAY INDUCTION LOG

Bit Size (BS)		
225	mm	475
Spontaneous Potential (SP) AIT-M		
-80	mV	20
HCAL		
225	mm	475
HCAL2		
225	mm	475
GR		
0	gAPI	150
Cable Tension (TENS)		
25000	N	0

Array Induction Four Foot Resistivity A90 (AF90) AIT-M		
0.2	ohm.m	2000
Array Induction Four Foot Resistivity A30 (AF30) AIT-M		
0.2	ohm.m	2000
Array Induction Four Foot Resistivity A20 (AF20) AIT-M		
0.2	ohm.m	2000
Invaded Formation Resistivity filtered at 18 inches (RXOZ) HDRS-H		
0.2	ohm.m	2000

TIME_1900 - Time Marked every 60.00 (s)

Description: MCFL processing LQC for Platform Express Format: Log (AIT-240) Index Scale: 1:240 Index Unit: m Index Type: Measured Depth
Creation Date: 30-Jan-2013 18:41:43

Channel Processing Parameters				
Parameter	Description	Tool	Value	Unit
AAPL	Array Induction Answer Product Level(Depth Log/View only)	AIT-M	Radial	

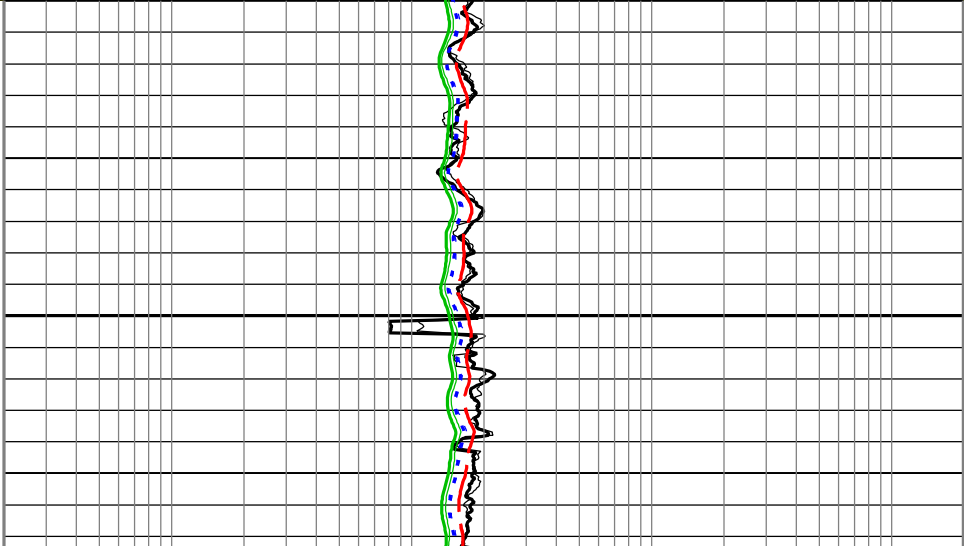
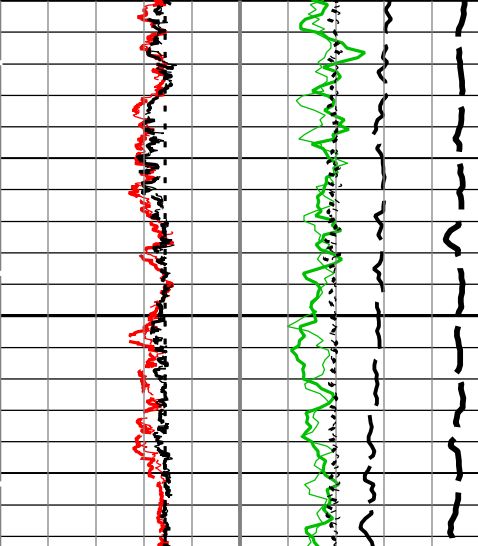
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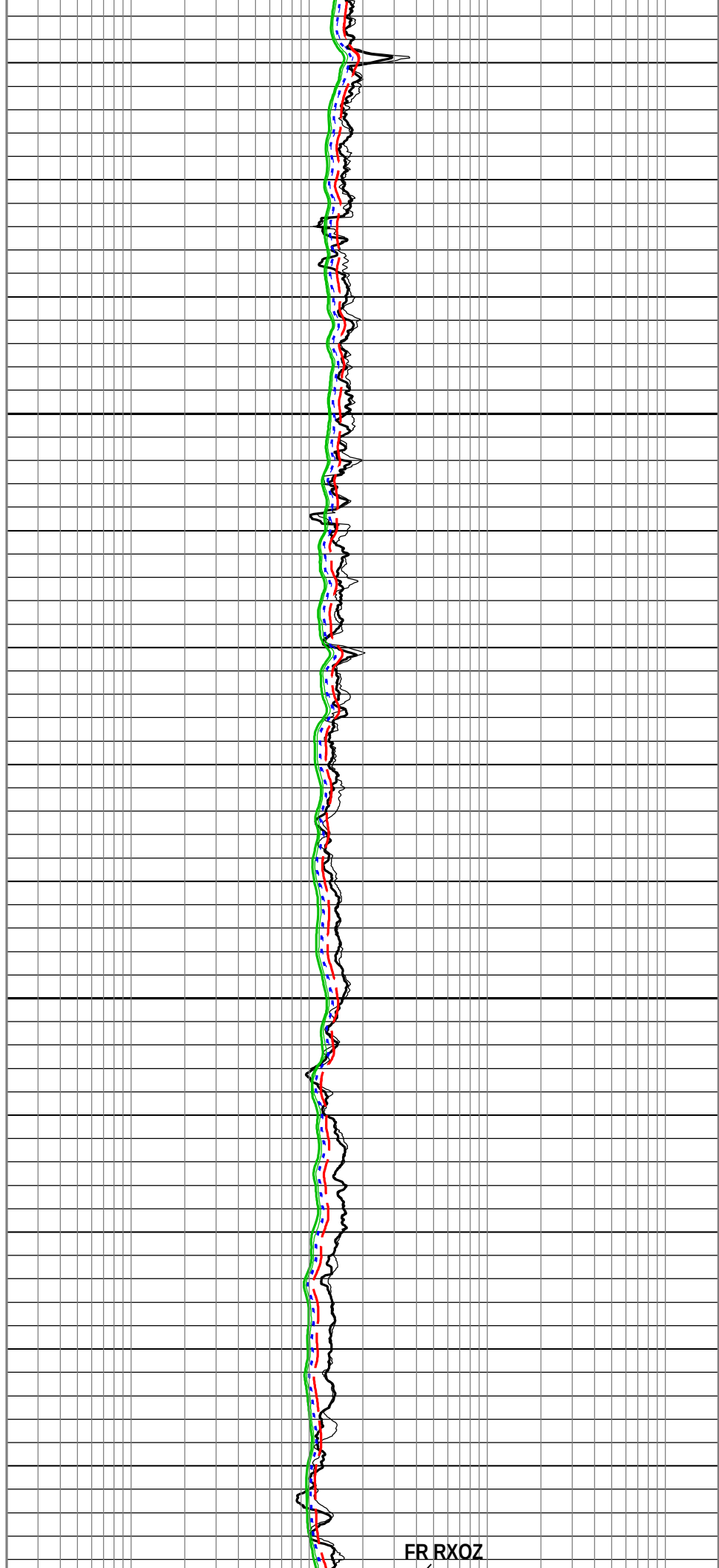
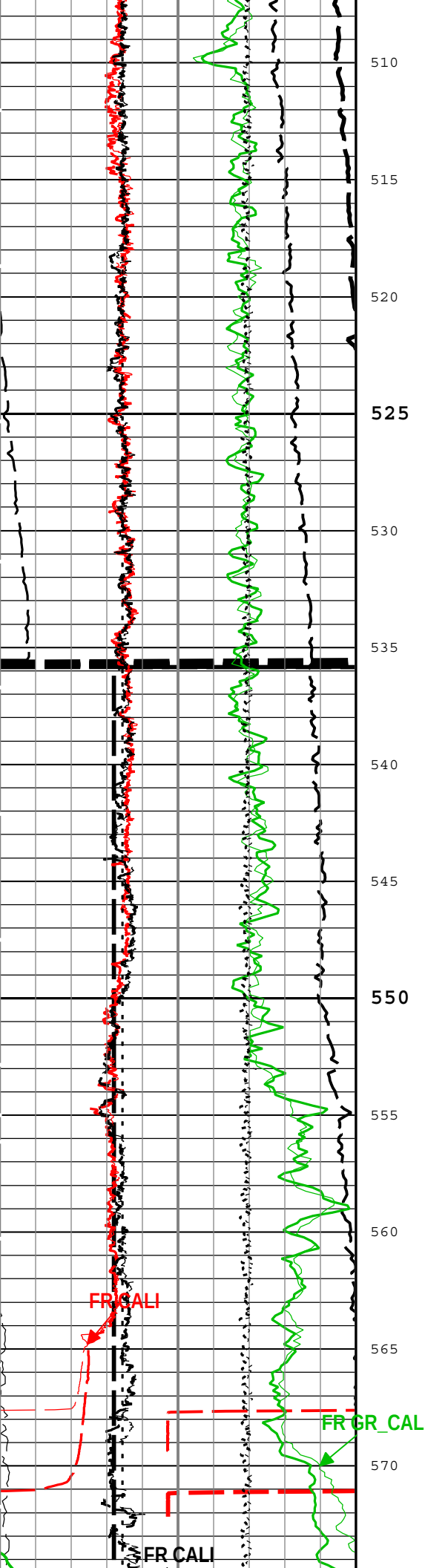
Main To Repeat		
Repeat To Main		
Cable Tension (TENS)		
25000	N	0
Main To Repeat		
Repeat To Main		
Spontaneous Potential (SP) AIT-M		
-80	mV	20
Main To Repeat		
Repeat To Main		
Caliper (HCAL2) HDRS-B		
225	mm	475
Main To Repeat		
Repeat To Main		
Caliper (HCAL) HDRS-H		
225	mm	475
Main To Repeat		
Repeat To Main		
Calibrated Gamma Ray (GR) HGNS-H		
0	gAPI	150
Main To Repeat		
Repeat To Main		
Bit Size (BS)		
225	mm	475

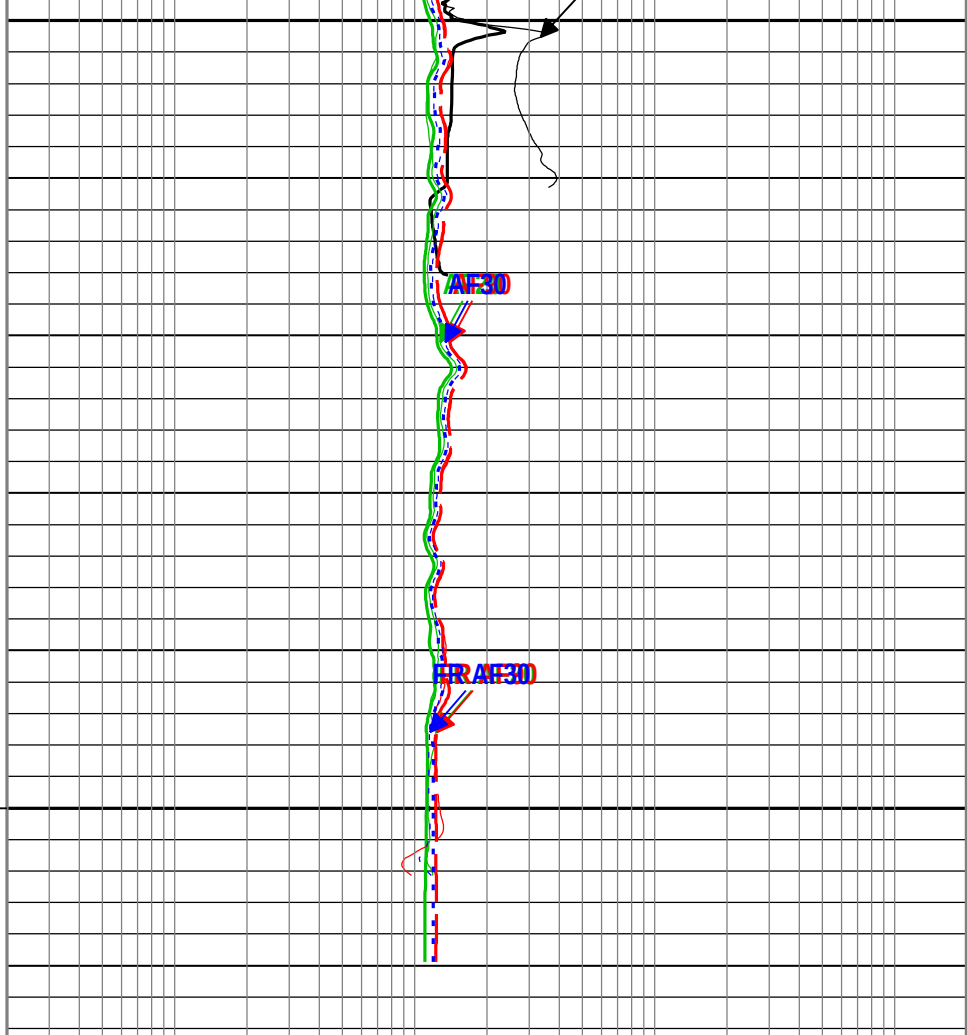
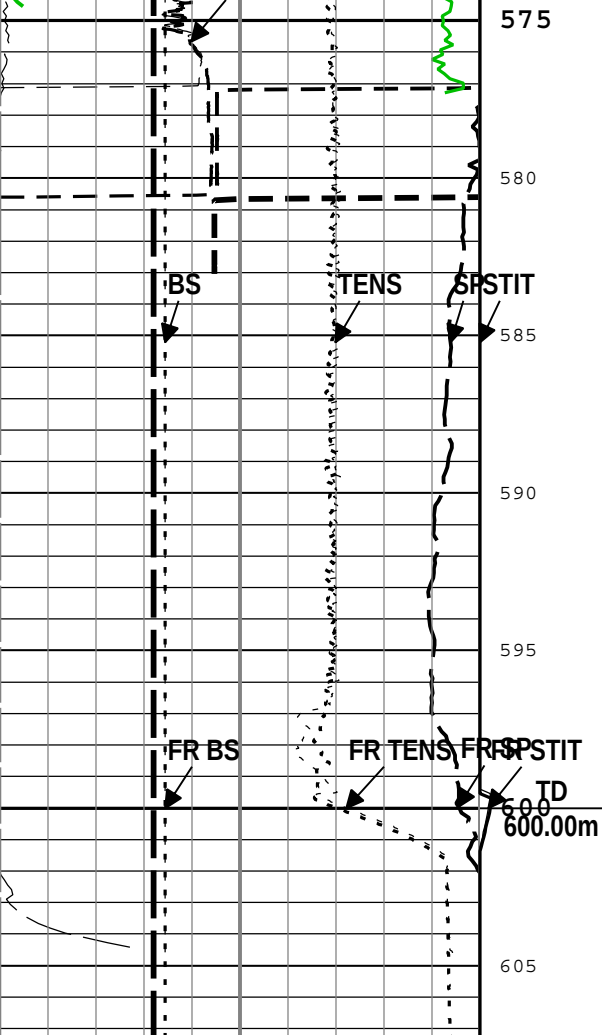
Main To Repeat
Repeat To Main
Stuck Tool Indicator, Total (STIT)
0 m 20

Main To Repeat		
Repeat To Main		
Invaded Formation Resistivity filtered at 18 inches (RXOZ) HDRS-H		
0.2	ohm.m	2000
Main To Repeat		
Repeat To Main		
Array Induction Four Foot Resistivity A20 (AF20) AIT-M		
0.2	ohm.m	2000
Main To Repeat		
Repeat To Main		
Array Induction Four Foot Resistivity A90 (AF90) AIT-M		
0.2	ohm.m	2000
Main To Repeat		
Repeat To Main		
Array Induction Four Foot Resistivity A30 (AF30) AIT-M		
0.2	ohm.m	2000

REPEAT ANALYSIS: ARRAY INDUCTION LOG







REPEAT ANALYSIS: ARRAY INDUCTION LOG				
Main To Repeat		Main To Repeat	Main To Repeat	
Repeat To Main			Repeat To Main	
Spontaneous Potential (SP) AIT-M			Invaded Formation Resistivity filtered at 18 inches (RXOZ) HDRS-H	
-80	mV		20	0.2 ohm.m 2000
Main To Repeat		Stuck Tool Indicator, Total (STIT)	Main To Repeat	
Repeat To Main			Repeat To Main	
Caliper (HCAL2) HDRS-B			Array Induction Four Foot Resistivity A20 (AF20) AIT-M	
225	mm		475	0.2 ohm.m 2000
Main To Repeat		0 m 20	Main To Repeat	
Repeat To Main			Repeat To Main	
Caliper (HCAL) HDRS-H			Array Induction Four Foot Resistivity A90 (AF90) AIT-M	
225	mm		475	0.2 ohm.m 2000
Main To Repeat		0 gAPI 150	Main To Repeat	
Repeat To Main			Repeat To Main	
Calibrated Gamma Ray (GR) HGNS-H			Array Induction Four Foot Resistivity A30 (AF30) AIT-M	
0	gAPI		150	0.2 ohm.m 2000
Main To Repeat				

Repeat To Main		
Bit Size (BS)		

225	mm	475
Main To Repeat		
Repeat To Main		
Cable Tension (TENS)		

25000	N	0

TIME_1900 - Time Marked every 60.00 (s)

Description: MCFL processing LQC for Platform Express Format: Log (AIT-240 RA) Index Scale: 1:240 Index Unit: m Index Type: Measured Depth
Creation Date: 30-Jan-2013 18:41:46

Calibration Report

AIT-M (Array Induction Tool - M) Calibration - Run 1.1

Primary Equipment :		
Array Induction Sonde - M	AMIS	135
Auxiliary Equipment :		
AITM Rm/SP Bottom Nose	AMRM	135

AIT Sonde Calibration - Test Loop Gain

Master (EEPROM):		00:21:54 17-Jan-2013					
Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
Test Loop Gain - 0		Master	1.000	0.950	1.015	1.050	
Test Loop Phase - 0	deg	Master	0	-3.000	-1.075	3.000	
Test Loop Gain - 1		Master	1.000	0.950	1.015	1.050	
Test Loop Phase - 1	deg	Master	0	-3.000	0.018	3.000	
Test Loop Gain - 2		Master	1.000	0.950	1.016	1.050	
Test Loop Phase - 2	deg	Master	0	-3.000	0.136	3.000	
Test Loop Gain - 3		Master	1.000	0.950	1.009	1.050	
Test Loop Phase - 3	deg	Master	0	-3.000	0.187	3.000	
Test Loop Gain - 4		Master	1.000	0.950	0.996	1.050	
Test Loop Phase - 4	deg	Master	0	-3.000	0.106	3.000	
Test Loop Gain - 5		Master	1.000	0.950	0.988	1.050	
Test Loop Phase - 5	deg	Master	0	-3.000	0.125	3.000	
Test Loop Gain - 6		Master	1.000	0.950	0.998	1.050	
Test Loop Phase - 6	deg	Master	0	-3.000	0.326	3.000	
Test Loop Gain - 7		Master	1.000	0.950	1.008	1.050	
Test Loop Phase - 7	deg	Master	0	-3.000	0.031	3.000	

AIT Sonde Calibration - Sonde Error Correction

Master (EEPROM):		00:21:54 17-Jan-2013					
Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
Sonde Error Correction Real - 0	mS/m	Master	-----	-231.000	-86.077	119.000	
Sonde Error Correction Quad - 0		Master	-----	-2250.000	20.355	2250.000	
Sonde Error Correction Real - 1	mS/m	Master	-----	114.000	153.971	204.000	
Sonde Error Correction Quad - 1		Master	-----	-625.000	298.419	625.000	
Sonde Error Correction Real - 2	mS/m	Master	-----	66.000	108.886	156.000	
Sonde Error Correction Quad - 2		Master	-----	-350.000	-50.862	350.000	
Sonde Error Correction Real - 3	mS/m	Master	-----	39.000	62.871	89.000	
Sonde Error Correction Quad - 3		Master	-----	-250.000	-18.524	250.000	
Sonde Error Correction Real - 4	mS/m	Master	-----	15.000	25.191	35.000	
Sonde Error Correction Quad - 4		Master	-----	-63.000	13.633	63.000	
Sonde Error Correction Real - 5	mS/m	Master	-----	4.000	12.311	24.000	
Sonde Error Correction Quad - 5		Master	-----	-50.000	-11.737	50.000	
Sonde Error Correction Real - 6	mS/m	Master	-----	5.000	9.460	15.000	
Sonde Error Correction Quad - 6		Master	-----	-30.000	-7.528	30.000	
Sonde Error Correction Real - 7	mS/m	Master	-----	-5.000	-2.115	5.000	
Sonde Error Correction Quad - 7		Master	-----	-30.000	-3.935	30.000	

AIT Mud Calibration - Mud Calibration Gain

Master (EEPROM):		00:21:54 17-Jan-2013					
Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
Coarse Gain		Master	1.000	0.800	0.958	1.200	
Fine Gain		Master	1.000	0.800	0.959	1.200	
AIT Electronics Check - Thru Calibration Check							
Master (EEPROM):		00:21:54 17-Jan-2013		Before (Measured):		11:16:14 30-Jan-2013	
						After:	
Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
Thru Cal Mag - 0	V	Master	----	0.366	0.610	0.854	
		Before	----	0.366	0.609	0.854	
		After	----	----	----	----	
		Before-Master	----	----	-0.001	----	
		After-Before	----	----	----	----	
Thru Cal Phase - 0	deg	Master	----	137.000	-165.950	-103.000	
		Before	----	137.000	-158.981	-103.000	
		After	----	----	----	----	
		Before-Master	----	----	6.969	----	
		After-Before	----	----	----	----	
Thru Cal Mag - 1	V	Master	----	0.762	1.247	1.778	
		Before	----	0.762	1.246	1.778	
		After	----	----	----	----	
		Before-Master	----	----	-0.001	----	
		After-Before	----	----	----	----	
Thru Cal Phase - 1	deg	Master	----	136.000	-167.129	-104.000	
		Before	----	136.000	-160.160	-104.000	
		After	----	----	----	----	
		Before-Master	----	----	6.969	----	
		After-Before	----	----	----	----	
Thru Cal Mag - 2	V	Master	----	0.372	0.618	0.868	
		Before	----	0.372	0.617	0.868	
		After	----	----	----	----	
		Before-Master	----	----	-0.001	----	
		After-Before	----	----	----	----	
Thru Cal Phase - 2	deg	Master	----	132.000	-170.682	-108.000	
		Before	----	132.000	-163.702	-108.000	
		After	----	----	----	----	
		Before-Master	----	----	6.980	----	
		After-Before	----	----	----	----	
Thru Cal Mag - 3	V	Master	----	0.420	0.697	0.980	
		Before	----	0.420	0.697	0.980	
		After	----	----	----	----	
		Before-Master	----	----	0.000	----	
		After-Before	----	----	----	----	
Thru Cal Phase - 3	deg	Master	----	131.000	-171.447	-109.000	
		Before	----	131.000	-164.476	-109.000	
		After	----	----	----	----	
		Before-Master	----	----	6.971	----	
		After-Before	----	----	----	----	
Thru Cal Mag - 4	V	Master	----	0.804	1.307	1.876	
		Before	----	0.804	1.306	1.876	
		After	----	----	----	----	
		Before-Master	----	----	-0.001	----	
		After-Before	----	----	----	----	
Thru Cal Phase - 4	deg	Master	----	125.000	-177.673	-115.000	
		Before	----	125.000	-170.695	-115.000	
		After	----	----	----	----	
		Before-Master	----	----	6.978	----	
		After-Before	----	----	----	----	
Thru Cal Mag - 5	V	Master	----	1.176	1.901	2.744	
		Before	----	1.176	1.897	2.744	
		After	----	----	----	----	
		Before-Master	----	----	-0.004	----	
		After-Before	----	----	----	----	
Thru Cal Phase - 5	deg	Master	----	122.000	-179.355	-118.000	
		Before	----	122.000	-172.362	-118.000	
		After	----	----	----	----	
		Before-Master	----	----	6.993	----	
		After-Before	----	----	----	----	

Thru Cal Mag - 6	V	Master Before After Before-Master After-Before	----- ----- ----- ----- -----	1.176 1.176 ----- ----- -----	1.897 1.893 ----- -0.004 -----	2.744 2.744 ----- ----- -----	
Thru Cal Phase - 6	deg	Master Before After Before-Master After-Before	----- ----- ----- ----- -----	121.000 121.000 ----- ----- -----	-179.328 -172.335 ----- 6.993 -----	-119.000 -119.000 ----- ----- -----	
Thru Cal Mag - 7	V	Master Before After Before-Master After-Before	----- ----- ----- ----- -----	0.846 0.846 ----- ----- -----	1.372 1.370 ----- -0.002 -----	1.974 1.974 ----- ----- -----	
Thru Cal Phase - 7	deg	Master Before After Before-Master After-Before	----- ----- ----- ----- -----	115.000 115.000 ----- ----- -----	-179.977 -172.895 ----- 7.082 -----	-125.000 -125.000 ----- ----- -----	
SPA Zero	mV	Master Before After Before-Master After-Before	----- ----- ----- ----- -----	-50.000 -50.000 ----- ----- -----	0.079 0.088 ----- 0.009 -----	50.000 50.000 ----- ----- -----	
SPA Plus	mV	Master Before After Before-Master After-Before	----- ----- ----- ----- -----	941.000 941.000 ----- ----- -----	990.165 989.855 ----- -0.310 -----	1040.000 1040.000 ----- ----- -----	
Temperature Zero	V	Master Before After Before-Master After-Before	----- ----- ----- ----- -----	-0.050 -0.050 ----- ----- -----	0.000 0.000 ----- 0.000 -----	0.050 0.050 ----- ----- -----	
Temperature Plus	V	Master Before After Before-Master After-Before	----- ----- ----- ----- -----	0.870 0.870 ----- ----- -----	0.918 0.917 ----- -0.001 -----	0.960 0.960 ----- ----- -----	

PPC-B (Powered Positioning device and Caliper.) Calibration - Run 1.1

Primary Equipment :				PPC-B Element is used for usual logging at wellsite and check/diagnostics.	PPC-B	8221
Auxiliary Equipment :				PPC-B Element is used for usual logging at wellsite and check/diagnostics.	PPC-B	8221
Calibration Parameter :				ZERO_REF		
				PLUS_REF		
Equipment Properties :				Caliper Arm Equipment Type for PPC	PPC_CAL_STD	

PPC Check - Downhole Electronics Test

Before (Measured):		12:16:33 29-Jan-2013					
Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
Positive Analog Voltage	V	Before		7	8.64785	9	
Minus Analog Voltage	V	Before		-9	-8.66631	-7	
Digital Voltage	V	Before		3.15	3.37809	3.45	
Digital Voltage for Analog Digital Converter	V	Before		4.5	5.0083	5.5	
Status Word of Analog Digital Converter Offset		Before		-8	0	8	

PPC Check - Cartridge Temperature Test

Before (Measured):		12:16:33 29-Jan-2013					
Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
Cartridge Temperature	degC	Before		-50	-2.64218	250	

PPC Check - Power Control LVDT Test

Before (Measured): 12:16:33 29-Jan-2013

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
LVDT5 Caliper Open Position	cm	Before			-3.26895		
LVDT5 Full Power Position	cm	Before			3.53033		

PPC Diagnostics - Arm Close Position Test

Master:

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
Caliper-arm 1, radius raw - 0	mm	Master	----	----	----	----	
Caliper-arm 2, radius raw - 0	mm	Master	----	----	----	----	
Caliper-arm 3, radius raw - 0	mm	Master	----	----	----	----	
Caliper-arm 4, radius raw - 0	mm	Master	----	----	----	----	
Power Control LVDT - 0	cm	Master	----	----	----	----	
LVDT excitation - 0	V	Master	----	----	----	----	

PPC Diagnostics - Downhole Electronics Test

Master:

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
Positive Analog Voltage - 0	V	Master	----	----	----	----	
Minus Analog Voltage - 0	V	Master	----	----	----	----	
Digital Voltage - 0	V	Master	----	----	----	----	
Digital Voltage for Analog Digital Converter - 0	V	Master	----	----	----	----	
Status Word of Analog Digital Converter Offset - 0		Master	----	----	----	----	

PPC Diagnostics - RBS Test

Master:

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
Relative Bearing - 0	deg	Master	----	----	----	----	
Potentiometer Excitation - 0	V	Master	----	----	----	----	

PPC Diagnostics - Cartridge Temperature Test

Master:

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
Cartridge Temperature - 0	degC	Master	----	----	----	----	

PPC Diagnostics - Power Control LVDT Test

Master:

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
LVDT5 Caliper Open Position - 0	cm	Master	----	----	----	----	
LVDT5 Full Power Position - 0	cm	Master	----	----	----	----	

PPC LVDT5 Master Calibration - PPC CaliCoefficients

Master (EEPROM): 12:32:00 29-Jan-2013

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
CCS	cm	Master	-3.8354		-3.74086		
COP	cm	Master	-3.3274		-3.26895		
CPW	cm	Master	3.5814		3.53033		

PPC Caliper Calibration - PPC CaliCoefficients

Before (Manual Entry): 15:35:22 30-Jan-2013

After:

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
RD1_GAIN		Before	1	0.85	1.05243	1.15	
		After	----	----	----	----	
		After-Before	----	----	----	----	
RD2_GAIN		Before	1	0.85	1.02414	1.15	
		After	----	----	----	----	
		After-Before	----	----	----	----	
RD3_GAIN		Before	1	0.85	1.04379	1.15	
		After	----	----	----	----	
		After-Before	----	----	----	----	
RD4_GAIN		Before	1	0.85	1.0192	1.15	
		After	----	----	----	----	
		After-Before	----	----	----	----	
RD1_OFFSET	mm	Before	0	-55.88	-20.143	66.04	
		After	----	----	----	----	

		After-Before	----	----	----	----	
RD2_OFFSET	mm	Before	0	-55.88	-4.5535	66.04	
		After	----	----	----	----	
		After-Before	----	----	----	----	
RD3_OFFSET	mm	Before	0	-55.88	-20.763	66.04	
		After	----	----	----	----	
		After-Before	----	----	----	----	
RD4_OFFSET	mm	Before	0	-55.88	-4.7633	66.04	
		After	----	----	----	----	
		After-Before	----	----	----	----	

PPC Caliper Calibration - PPC Accumulations

Before (Manual Entry):		15:35:22 30-Jan-2013		After:			
Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
Caliper 1 Zero Radius - 0	mm	Before	----	----	----	----	
		After	----	----	----	----	
		After-Before	----	----	----	----	
Caliper 2 Zero Radius - 0	mm	Before	----	----	----	----	
		After	----	----	----	----	
		After-Before	----	----	----	----	
Caliper 3 Zero Radius - 0	mm	Before	----	----	----	----	
		After	----	----	----	----	
		After-Before	----	----	----	----	
Caliper 4 Zero Radius - 0	mm	Before	----	----	----	----	
		After	----	----	----	----	
		After-Before	----	----	----	----	
Caliper 1 Plus Radius - 0	mm	Before	----	----	----	----	
		After	----	----	----	----	
		After-Before	----	----	----	----	
Caliper 2 Plus Radius - 0	mm	Before	----	----	----	----	
		After	----	----	----	----	
		After-Before	----	----	----	----	
Caliper 3 Plus Radius - 0	mm	Before	----	----	----	----	
		After	----	----	----	----	
		After-Before	----	----	----	----	
Caliper 4 Plus Radius - 0	mm	Before	----	----	----	----	
		After	----	----	----	----	
		After-Before	----	----	----	----	

HDRS-H (HILT Density and Rxo Sonde, 150 degC) Calibration - Run 1.1

Primary Equipment :					
	HILT High-Resolution Control Cartridge, 150 degC	HRCC-H	4733		
	HILT Resistivity Gamma-Ray Density Device, 150 degC	HRGD-H	3978		
Auxiliary Equipment :					
	HRDD Backscatter Detector	Backscatter	26796		
	HRDD Long Spacing Detector	Long Spacing	28696		
	HRDD Short Spacing Detector	Short Spacing	27863		
	Cesium 137 Gamma-Ray Logging Source	GSR-J	5310		
	HILT High-Resolution Control Cartridge, 150 degC	HRCC-H	4733		
	HILT High-Resolution Mechanical Sonde, 150 degC	HRMS-H	3907		
Calibration Parameter :					
	Small Ring Size (Caliper Calibration Small Ring)	203.2			
	Large Ring Size (Caliper Calibration Large Ring)	304.8			

HDRS Caliper Calibration - Caliper Accumulations

Before (Measured):		12:28:34 29-Jan-2013					
Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
Small Ring	mm	Before	203.2	152.4	217.3	254.0	
Large Ring	mm	Before	304.8	228.6	318.6	381.0	

HDRS Density Calibration - Inversion Results

Master (EEPROM):		11:33:48 18-Jan-2013					
Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
Rho Aluminum	kg/m3	Master	2596	2586	2594	2606	
Rho Magnesium	kg/m3	Master	1686	1676	1692	1696	
Pe Aluminum		Master	2.570	2.470	2.542	2.670	
Pe Magnesium		Master	2.650	2.550	2.629	2.750	

HDRS Density Calibration - Deviation Summary

Master (EEPROM):		11:33:48 18-Jan-2013					
Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
BS Average Deviation	%	Master	0	-0.6000	0.3037	0.6000	
BS Max Deviation	%	Master	0	-1.6000	0.7345	1.6000	
SS Average Deviation	%	Master	0	-1.0000	0.6792	1.0000	
SS Max Deviation	%	Master	0	-2.5000	1.3298	2.5000	
LS Average Deviation	%	Master	0	-1.5000	0.7956	1.5000	
LS Max Deviation	%	Master	0	-3.5000	2.2154	3.5000	

HDRS Density Calibration - Background Summary

Master (EEPROM):		11:33:48 18-Jan-2013		Before (Measured):		15:44:19 29-Jan-2013	
Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
BS Window Ratio		Master	1.0000		0.7526		
		Before	0.7526	0.7150	0.7578	0.7902	
		Before-Master	-----	-----	0.0052	-----	
BS Window Sum	1/s	Master	1		24474		
		Before	24474	23250	24526	25698	
		Before-Master	-----	-----	52	-----	
SS Window Ratio		Master	1.0000		0.4905		
		Before	0.4905	0.4660	0.4861	0.5150	
		Before-Master	-----	-----	-0.0044	-----	
SS Window Sum	1/s	Master	1		11403		
		Before	11403	10833	11366	11973	
		Before-Master	-----	-----	-37	-----	
LS Window Ratio		Master	1.0000		0.3012		
		Before	0.3012	0.2862	0.3029	0.3163	
		Before-Master	-----	-----	0.0017	-----	
LS Window Sum	1/s	Master	1		1229		
		Before	1229	1168	1219	1291	
		Before-Master	-----	-----	-10	-----	

HDRS Density Calibration - Photo-multiplier High Voltages

Master (EEPROM):		11:33:48 18-Jan-2013		Before (Measured):		15:44:19 29-Jan-2013	
Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
BS PM High Voltage	V	Master		1000	1737	2400	
		Before		1000	1685	2400	
		Before-Master	-----	-100	-52	100	
SS PM High Voltage	V	Master		1000	1791	2400	
		Before		1000	1833	2400	
		Before-Master	-----	-100	42	100	
LS PM High Voltage	V	Master		1000	1434	2400	
		Before		1000	1455	2400	
		Before-Master	-----	-100	21	100	

HDRS Density Calibration - Crystal Quality Resolutions

Master (EEPROM):		11:33:48 18-Jan-2013		Before (Measured):		15:44:19 29-Jan-2013	
Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
BS Crystal Resolution	%	Master		5.00	10.47	25.00	
		Before		5.00	10.40	25.00	
		Before-Master	-----	-1.00	-0.07	1.00	
SS Crystal Resolution	%	Master		5.00	9.75	20.00	
		Before		5.00	10.64	20.00	
		Before-Master	-----	-1.00	0.89	1.00	
LS Crystal Resolution	%	Master		5.00	8.27	20.00	
		Before		5.00	8.15	20.00	
		Before-Master	-----	-1.00	-0.12	1.00	

HDRS MCFL Calibration - MCFL Accumulations

Before (Measured):		12:17:44 29-Jan-2013					
Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
Main Resistivity	ohm.m	Before	3875	3565	3824	4185	
Deep Resistivity	ohm.m	Before	3830	3524	3801	4136	

Shallow Resistivity	ohm.m	Before	3830	3524	3797	4136	
---------------------	-------	--------	------	------	------	------	--

HGNS-H (HILT Gamma-Ray and Neutron Sonde, 150 degC) Calibration - Run 1.1							
Primary Equipment :							
	HILT Gamma-Ray and Neutron Sonde, 150 degC		HGNS-H			3879	
Auxiliary Equipment :							
	HGNS Accelerometer, 150 degC		HACCZ-H			2948	
	AmBe Neutron Logging Source		NSR-F			5199	
Calibration Parameter :							
	Water Temperature						
	Housing Size						
	JIG-BKG (Jig minus background reference)		166				

HGNS Accelerometer Calibration - Accelerometer Accumulations							
Before (Measured):	11:17:29 30-Jan-2013						
Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
AZ Vertical Measurement	m/s2	Before	9.81	9.61	9.80	10.01	

HGNS Accelerometer EEPROM - Accelerometer EEPROM Read							
Master (EEPROM):	00:00:00 15-Apr-2004						
Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
Accelerometer Manufacturer		Master			QAT_160		
Accelerometer Reference Temperature	degC	Master		-1.0	25.0	50.0	
Accelerometer Coefficients - 0		Master	----	----	-1234.400	----	
Accelerometer Coefficients - 1		Master	----	----	26.320	----	
Accelerometer Coefficients - 2		Master	----	----	-0.007	----	
Accelerometer Coefficients - 3		Master	----	----	0.000	----	
Accelerometer Coefficients - 4		Master	----	----	2.747	----	
Accelerometer Coefficients - 5		Master	----	----	0.000	----	
Accelerometer Coefficients - 6		Master	----	----	0.000	----	
Accelerometer Coefficients - 7		Master	----	----	0.000	----	
Accelerometer Coefficients - 8		Master	----	----	298.800	----	
Accelerometer Coefficients - 9		Master	----	----	1.003	----	

HGNS Neutron Calibration - HGNS Neutron Accumulations							
Master (EEPROM):	21:51:08 10-Jan-2013	Before (Measured):	15:42:37 29-Jan-2013	After:			
Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
Near Zero Measurement	1/s	Master	0	5.0	27.2	40.0	
		Before	0	5.0	28.1	40.0	
		After	----	----	----	----	
		Before-Master	----	-4.1	0.9	4.1	
		After-Before	----	----	----	----	
Far Zero Measurement	1/s	Master	0	5.0	27.1	40.0	
		Before	0	5.0	27.6	40.0	
		After	----	----	----	----	
		Before-Master	----	-4.1	0.5	4.1	
		After-Before	----	----	----	----	
Near Plus Measurement - 0	1/s	Master	6031.0	4700.0	5360.0	6900.0	
		Before	----	----	----	----	
		After	----	----	----	----	
		Before-Master	----	----	----	----	
		After-Before	----	----	----	----	
Far Plus Measurement - 0	1/s	Master	2793.0	1900.0	2360.0	2900.0	
		Before	----	----	----	----	
		After	----	----	----	----	
		Before-Master	----	----	----	----	
		After-Before	----	----	----	----	
Near Corrected Plus Measurement - 0	1/s	Master		4700.0	5338.0	6900.0	
		Before	----	----	----	----	
		After	----	----	----	----	
		Before-Master	----	----	----	----	
		After-Before	----	----	----	----	
Far Corrected Plus Measurement - 0	1/s	Master		1900.0	2333.0	2900.0	

IR Corrected Plus Measurement - 0	1/s	Master	-----	1900.0	2333.0	2900.0	
		Before	-----	-----	-----	-----	
		After	-----	-----	-----	-----	
		Before-Master	-----	-----	-----	-----	
		After-Before	-----	-----	-----	-----	

HGNS Gamma-Ray Calibration - Gamma-Ray Accumulations

Before (Measured): 15:44:06 29-Jan-2013		After:					
Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
RGR Zero Measurement	gAPI	Before	30.0	0	32.9	120.0	
		After	-----	-----	-----	-----	
		After-Before	-----	-----	-----	-----	
RGR Plus Measurement	gAPI	Before	186.5	158.1	160.5	207.5	
		After	-----	-----	NOT DONE	-----	
		After-Before	-----	-----	-----	-----	
GR Calibration Gain		Before	0.89	0.80	1.03	1.05	
		After	-----	-----	-----	-----	
		After-Before	-----	-----	-----	-----	

GPIT-F (General-Purpose Inclinomometer Tool) Calibration - Run 1.1

Primary Equipment :							
GPIT DHRU Sensor Block - F			DHRU-F			1719	

GPIT-F Accelerometers Master Calibration - Signals and Temperature Correction for Accelerometers

Master (EEPROM): 00:00:00 26-Aug-2008							
Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
GPIT-F Accelero X Model[0,0]		Master	-----	-----	0.02083545	-----	
GPIT-F Accelero X Model[0,1]		Master	-----	-----	0.0006718004	-----	
GPIT-F Accelero X Model[1,0]		Master	-----	-----	9.363444E-05	-----	
GPIT-F Accelero X Model[1,1]		Master	-----	-----	-1.419544E-07	-----	
GPIT-F Accelero X Model[2,0]		Master	-----	-----	2.685801E-06	-----	
GPIT-F Accelero X Model[2,1]		Master	-----	-----	1.640218E-09	-----	
GPIT-F Accelero X Model[3,0]		Master	-----	-----	-1.750351E-08	-----	
GPIT-F Accelero X Model[3,1]		Master	-----	-----	-7.283021E-12	-----	
GPIT-F Accelero Y Model[0,0]		Master	-----	-----	0.03108478	-----	
GPIT-F Accelero Y Model[0,1]		Master	-----	-----	-0.0006634712	-----	
GPIT-F Accelero Y Model[1,0]		Master	-----	-----	-0.0004138362	-----	
GPIT-F Accelero Y Model[1,1]		Master	-----	-----	1.383469E-07	-----	
GPIT-F Accelero Y Model[2,0]		Master	-----	-----	-1.224624E-06	-----	
GPIT-F Accelero Y Model[2,1]		Master	-----	-----	-1.51153E-09	-----	
GPIT-F Accelero Y Model[3,0]		Master	-----	-----	1.025784E-08	-----	
GPIT-F Accelero Y Model[3,1]		Master	-----	-----	6.754733E-12	-----	
GPIT-F Accelero Z Model[0,0]		Master	-----	-----	0.02316506	-----	
GPIT-F Accelero Z Model[0,1]		Master	-----	-----	0.0006561076	-----	
GPIT-F Accelero Z Model[1,0]		Master	-----	-----	0.0004232987	-----	
GPIT-F Accelero Z Model[1,1]		Master	-----	-----	-1.412186E-07	-----	
GPIT-F Accelero Z Model[2,0]		Master	-----	-----	-1.26776E-06	-----	
GPIT-F Accelero Z Model[2,1]		Master	-----	-----	1.641676E-09	-----	
GPIT-F Accelero Z Model[3,0]		Master	-----	-----	-5.217573E-09	-----	
GPIT-F Accelero Z Model[3,1]		Master	-----	-----	-7.394943E-12	-----	

GPIT-F Accelerometers Master Calibration - Perpendicular Correction for Accelerometers

Master (EEPROM): 00:00:00 26-Aug-2008							
Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
GPIT-F Accelero Axis Model[0,0]		Master	-----	-----	-0.0001966913	-----	
GPIT-F Accelero Axis Model[0,1]		Master	-----	-----	0.0006901673	-----	
GPIT-F Accelero Axis Model[0,2]		Master	-----	-----	-0.0001628145	-----	
GPIT-F Accelero Axis Model[0,3]		Master	-----	-----	-5.680317E-05	-----	
GPIT-F Accelero Axis Model[0,4]		Master	-----	-----	4.07189E-05	-----	
GPIT-F Accelero Axis Model[0,5]		Master	-----	-----	8.292276E-05	-----	
GPIT-F Accelero Axis Model[0,6]		Master	-----	-----	0	-----	
GPIT-F Accelero Axis Model[1,0]		Master	-----	-----	-3.326675E-07	-----	
GPIT-F Accelero Axis Model[1,1]		Master	-----	-----	-4.654971E-06	-----	
GPIT-F Accelero Axis Model[1,2]		Master	-----	-----	-3.099905E-06	-----	
GPIT-F Accelero Axis Model[1,3]		Master	-----	-----	-1.677593E-06	-----	
GPIT-F Accelero Axis Model[1,4]		Master	-----	-----	1.571826E-06	-----	

GPIT-F Accelero Axis Model[1,5]		Master	----	----	1.489649E-06	----		
GPIT-F Accelero Axis Model[1,6]		Master	----	----	0	----		

GPIT-F Magnetometers Master Calibration - Signals and Temperature Correction for Magnetometer

Master (EEPROM):		00:00:00 26-Aug-2008						
Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit		
GPIT-F Magneto X Model[0,0]		Master	----	----	198.1605	----		
GPIT-F Magneto X Model[0,1]		Master	----	----	4.89094	----		
GPIT-F Magneto X Model[1,0]		Master	----	----	-7.675484	----		
GPIT-F Magneto X Model[1,1]		Master	----	----	-0.0007672089	----		
GPIT-F Magneto X Model[2,0]		Master	----	----	0.06957046	----		
GPIT-F Magneto X Model[2,1]		Master	----	----	1.237954E-05	----		
GPIT-F Magneto X Model[3,0]		Master	----	----	-0.0003306787	----		
GPIT-F Magneto X Model[3,1]		Master	----	----	-4.880398E-08	----		
GPIT-F Magneto Y Model[0,0]		Master	----	----	165.94	----		
GPIT-F Magneto Y Model[0,1]		Master	----	----	-4.940951	----		
GPIT-F Magneto Y Model[1,0]		Master	----	----	-5.017055	----		
GPIT-F Magneto Y Model[1,1]		Master	----	----	0.0008111733	----		
GPIT-F Magneto Y Model[2,0]		Master	----	----	0.07478225	----		
GPIT-F Magneto Y Model[2,1]		Master	----	----	-1.230758E-05	----		
GPIT-F Magneto Y Model[3,0]		Master	----	----	-0.0002725917	----		
GPIT-F Magneto Y Model[3,1]		Master	----	----	4.779239E-08	----		
GPIT-F Magneto Z Model[0,0]		Master	----	----	-3.884398	----		
GPIT-F Magneto Z Model[0,1]		Master	----	----	4.883152	----		
GPIT-F Magneto Z Model[1,0]		Master	----	----	-3.829239	----		
GPIT-F Magneto Z Model[1,1]		Master	----	----	-0.0009558625	----		
GPIT-F Magneto Z Model[2,0]		Master	----	----	0.02639634	----		
GPIT-F Magneto Z Model[2,1]		Master	----	----	1.401763E-05	----		
GPIT-F Magneto Z Model[3,0]		Master	----	----	-0.0001204358	----		
GPIT-F Magneto Z Model[3,1]		Master	----	----	-5.318234E-08	----		

GPIT-F Magnetometers Master Calibration - Perpendicular Correction for Magnetometer

Master (EEPROM):		00:00:00 26-Aug-2008						
Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit		
GPIT-F Magneto Axis Model[0,0]		Master	----	----	-0.0001320723	----		
GPIT-F Magneto Axis Model[0,1]		Master	----	----	0.002519899	----		
GPIT-F Magneto Axis Model[0,2]		Master	----	----	-0.002410411	----		
GPIT-F Magneto Axis Model[0,3]		Master	----	----	0.00206358	----		
GPIT-F Magneto Axis Model[0,4]		Master	----	----	0.002383545	----		
GPIT-F Magneto Axis Model[0,5]		Master	----	----	-0.002601481	----		
GPIT-F Magneto Axis Model[0,6]		Master	----	----	0	----		
GPIT-F Magneto Axis Model[1,0]		Master	----	----	2.377108E-06	----		
GPIT-F Magneto Axis Model[1,1]		Master	----	----	-9.225543E-06	----		
GPIT-F Magneto Axis Model[1,2]		Master	----	----	-5.170158E-06	----		
GPIT-F Magneto Axis Model[1,3]		Master	----	----	4.893004E-06	----		
GPIT-F Magneto Axis Model[1,4]		Master	----	----	-2.741137E-06	----		
GPIT-F Magneto Axis Model[1,5]		Master	----	----	1.069634E-06	----		
GPIT-F Magneto Axis Model[1,6]		Master	----	----	0	----		

GPIT-F DHRU102 Master Calibration -

Master (EEPROM):		00:00:00 22-Aug-2008						
Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit		
GPIT-F Electronic Coeff 1[0,0]		Master	----	----	-0.1425928	----		
GPIT-F Electronic Coeff 1[0,1]		Master	----	----	249.7813	----		
GPIT-F Electronic Coeff 1[1,0]		Master	----	----	-0.00934667	----		
GPIT-F Electronic Coeff 1[1,1]		Master	----	----	0.01745275	----		
GPIT-F Electronic Coeff 1[2,0]		Master	----	----	0.0002608125	----		
GPIT-F Electronic Coeff 1[2,1]		Master	----	----	-0.0003361361	----		
GPIT-F Electronic Coeff 1[3,0]		Master	----	----	-3.340233E-06	----		
GPIT-F Electronic Coeff 1[3,1]		Master	----	----	2.570753E-06	----		
GPIT-F Electronic Coeff 1[4,0]		Master	----	----	1.294355E-08	----		
GPIT-F Electronic Coeff 1[4,1]		Master	----	----	-7.670941E-09	----		
GPIT-F Electronic Coeff 2[0,0]		Master	----	----	0.5081379	----		
GPIT-F Electronic Coeff 2[0,1]		Master	----	----	249.7232	----		
GPIT-F Electronic Coeff 2[1,0]		Master	----	----	-0.004489578	----		
GPIT-F Electronic Coeff 2[1,1]		Master	----	----	0.01932923	----		

GPIT-F Electronic Coeff 2[2,0]		Master	----	----	0.000176937	----		
GPIT-F Electronic Coeff 2[2,1]		Master	----	----	-0.0003608702	----		
GPIT-F Electronic Coeff 2[3,0]		Master	----	----	-2.281621E-06	----		
GPIT-F Electronic Coeff 2[3,1]		Master	----	----	2.730957E-06	----		
GPIT-F Electronic Coeff 2[4,0]		Master	----	----	8.618913E-09	----		
GPIT-F Electronic Coeff 2[4,1]		Master	----	----	-8.099707E-09	----		
GPIT-F Electronic Coeff 3[0,0]		Master	----	----	-2.017343	----		
GPIT-F Electronic Coeff 3[0,1]		Master	----	----	249.8453	----		
GPIT-F Electronic Coeff 3[1,0]		Master	----	----	-0.007388029	----		
GPIT-F Electronic Coeff 3[1,1]		Master	----	----	0.01663022	----		
GPIT-F Electronic Coeff 3[2,0]		Master	----	----	0.000213988	----		
GPIT-F Electronic Coeff 3[2,1]		Master	----	----	-0.0003028827	----		
GPIT-F Electronic Coeff 3[3,0]		Master	----	----	-2.250001E-06	----		
GPIT-F Electronic Coeff 3[3,1]		Master	----	----	2.292859E-06	----		
GPIT-F Electronic Coeff 3[4,0]		Master	----	----	7.906366E-09	----		
GPIT-F Electronic Coeff 3[4,1]		Master	----	----	-6.965986E-09	----		

GPIT-F DHRU102 Master Calibration -								
Master (EEPROM):		00:00:00 22-Aug-2008						
Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit		
GPIT-F Electronic Coeff 4[0,0]		Master	----	----	-0.4362828	----		
GPIT-F Electronic Coeff 4[0,1]		Master	----	----	0.127975	----		
GPIT-F Electronic Coeff 4[1,0]		Master	----	----	0.02081654	----		
GPIT-F Electronic Coeff 4[1,1]		Master	----	----	4.840483E-06	----		
GPIT-F Electronic Coeff 4[2,0]		Master	----	----	-0.0001969435	----		
GPIT-F Electronic Coeff 4[2,1]		Master	----	----	-1.086873E-07	----		
GPIT-F Electronic Coeff 4[3,0]		Master	----	----	1.667087E-06	----		
GPIT-F Electronic Coeff 4[3,1]		Master	----	----	9.594155E-10	----		
GPIT-F Electronic Coeff 4[4,0]		Master	----	----	-3.872378E-09	----		
GPIT-F Electronic Coeff 4[4,1]		Master	----	----	-3.135457E-12	----		
GPIT-F Electronic Coeff 5[0,0]		Master	----	----	-0.4362828	----		
GPIT-F Electronic Coeff 5[0,1]		Master	----	----	0.127975	----		
GPIT-F Electronic Coeff 5[1,0]		Master	----	----	0.02081654	----		
GPIT-F Electronic Coeff 5[1,1]		Master	----	----	4.840483E-06	----		
GPIT-F Electronic Coeff 5[2,0]		Master	----	----	-0.0001969435	----		
GPIT-F Electronic Coeff 5[2,1]		Master	----	----	-1.086873E-07	----		
GPIT-F Electronic Coeff 5[3,0]		Master	----	----	1.667087E-06	----		
GPIT-F Electronic Coeff 5[3,1]		Master	----	----	9.594155E-10	----		
GPIT-F Electronic Coeff 5[4,0]		Master	----	----	-3.872378E-09	----		
GPIT-F Electronic Coeff 5[4,1]		Master	----	----	-3.135457E-12	----		
GPIT-F Electronic Coeff 6[0,0]		Master	----	----	-0.4362828	----		
GPIT-F Electronic Coeff 6[0,1]		Master	----	----	0.127975	----		
GPIT-F Electronic Coeff 6[1,0]		Master	----	----	0.02081654	----		
GPIT-F Electronic Coeff 6[1,1]		Master	----	----	4.840483E-06	----		
GPIT-F Electronic Coeff 6[2,0]		Master	----	----	-0.0001969435	----		
GPIT-F Electronic Coeff 6[2,1]		Master	----	----	-1.086873E-07	----		
GPIT-F Electronic Coeff 6[3,0]		Master	----	----	1.667087E-06	----		
GPIT-F Electronic Coeff 6[3,1]		Master	----	----	9.594155E-10	----		
GPIT-F Electronic Coeff 6[4,0]		Master	----	----	-3.872378E-09	----		
GPIT-F Electronic Coeff 6[4,1]		Master	----	----	-3.135457E-12	----		

HDRS-B (HILT Density and Rxo Sonde, 125 degC) Calibration - Run 1.1		
Primary Equipment :		
HILT High-Resolution Control Cartridge, 125 degC	HRCC-B	880
HILT Resistivity Gamma-Ray Density Device, 125 degC	HRGD-B	919
Auxiliary Equipment :		
HRDD Backscatter Detector	Backscatter	
HRDD Long Spacing Detector	Long Spacing	
HRDD Short Spacing Detector	Short Spacing	
Cesium 137 Gamma-Ray Logging Source	GSR-J	5285
HILT High-Resolution Control Cartridge, 125 degC	HRCC-B	880
HILT Resistivity Gamma-Ray Density Device, 125 degC	HRGD-B	919

Calibration Parameter :

Small Ring Size (Caliper Calibration Small Ring)

203.2

Large Ring Size (Caliper Calibration Large Ring)

304.8

HDRS Caliper Calibration - Caliper Accumulations

Before (Measured): 12:30:17 29-Jan-2013

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
Small Ring	mm	Before	203.2	152.4	228.7	254.0	
Large Ring	mm	Before	304.8	228.6	332.7	381.0	

HDRS Density Calibration - Inversion Results

Master (EEPROM): 15:30:56 28-Jan-2013

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
Rho Aluminum	kg/m3	Master	2596	2586	2599	2606	
Rho Magnesium	kg/m3	Master	1686	1676	1688	1696	
Pe Aluminum		Master	2.570	2.470	2.578	2.670	
Pe Magnesium		Master	2.650	2.550	2.622	2.750	

HDRS Density Calibration - Deviation Summary

Master (EEPROM): 15:30:56 28-Jan-2013

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
BS Average Deviation	%	Master	0	-0.6000	0.2529	0.6000	
BS Max Deviation	%	Master	0	-1.6000	0.6566	1.6000	
SS Average Deviation	%	Master	0	-1.0000	0.3478	1.0000	
SS Max Deviation	%	Master	0	-2.5000	1.5398	2.5000	
LS Average Deviation	%	Master	0	-1.5000	0.6316	1.5000	
LS Max Deviation	%	Master	0	-3.5000	1.4401	3.5000	

HDRS Density Calibration - Background Summary

Master (EEPROM): 15:30:56 28-Jan-2013

Before (Measured):

15:44:24 29-Jan-2013

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
BS Window Ratio		Master	1.0000		0.7679		
		Before	0.7679	0.7295	0.7639	0.8063	
		Before-Master	-----	-----	-0.0040	-----	
BS Window Sum	1/s	Master	1		8506		
		Before	8506	8081	8503	8932	
		Before-Master	-----	-----	-3	-----	
SS Window Ratio		Master	1.0000		0.4881		
		Before	0.4881	0.4637	0.4871	0.5125	
		Before-Master	-----	-----	-0.0010	-----	
SS Window Sum	1/s	Master	1		8884		
		Before	8884	8440	8908	9329	
		Before-Master	-----	-----	24	-----	
LS Window Ratio		Master	1.0000		0.3024		
		Before	0.3024	0.2873	0.2998	0.3175	
		Before-Master	-----	-----	-0.0026	-----	
LS Window Sum	1/s	Master	1		1056		
		Before	1056	1003	1052	1109	
		Before-Master	-----	-----	-4	-----	

HDRS Density Calibration - Photo-multiplier High Voltages

Master (EEPROM): 15:30:56 28-Jan-2013

Before (Measured):

15:44:24 29-Jan-2013

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
BS PM High Voltage	V	Master		1000	1211	2400	
		Before		1000	1222	2400	
		Before-Master	-----	-100	11	100	
SS PM High Voltage	V	Master		1000	1730	2400	
		Before		1000	1744	2400	
		Before-Master	-----	-100	14	100	
LS PM High Voltage	V	Master		1000	1542	2400	
		Before		1000	1549	2400	
		Before-Master	-----	-100	7	100	

HDRS Density Calibration - Crystal Quality Resolutions

Master (EEPROM): 15:30:56 28-Jan-2013

Before (Measured):

15:44:24 29-Jan-2013

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
BS Crvstal Resolution	%	Master		5.00	9.91	25.00	

		Before Before-Master	-----	5.00 -1.00	9.76 -0.15	25.00 1.00	
SS Crystal Resolution	%	Master Before Before-Master	-----	5.00 5.00 -1.00	10.23 10.40 0.17	20.00 20.00 1.00	
LS Crystal Resolution	%	Master Before Before-Master	-----	5.00 5.00 -1.00	9.55 9.83 0.28	20.00 20.00 1.00	

HDRS MCFL Calibration - MCFL Accumulations

Before:							
Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
Main Resistivity - 0	ohm.m	Before	-----	-----	-----	-----	
Deep Resistivity - 0	ohm.m	Before	-----	-----	-----	-----	
Shallow Resistivity - 0	ohm.m	Before	-----	-----	-----	-----	

EDTC-B (Enhanced Digital Telemetry Cartridge - Version B) Calibration - Run 1.1

Primary Equipment :			
Enhanced Digital Telemetry Cartridge - B		EDTC-B	9048
Calibration Parameter :			
Plus Reference (Jig minus background reference)		164	

EDTC-B Accelerometer Calibration - EDTC-B Accelerometer Calibration

Before (Measured): 11:13:47 30-Jan-2013							
Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
AZ Vertical Measurement	m/s2	Before	9.810	9.610	9.803	10.010	

EDTC-B Memory Data - EDTC-B Memory Data

Master (EEPROM): 11:13:02 30-Jan-2013							
Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
Initial PMT HV	V	Master			1612.000		
Accelerometer Serial Number		Master			1203		
Accelerometer Coefficients - 0		Master	-----	-----	3.003	-----	
Accelerometer Coefficients - 1		Master	-----	-----	0.000	-----	
Accelerometer Coefficients - 2		Master	-----	-----	0.000	-----	
Accelerometer Coefficients - 3		Master	-----	-----	0.000	-----	
Accelerometer Coefficients - 4		Master	-----	-----	0.000	-----	
Accelerometer Coefficients - 5		Master	-----	-----	0.000	-----	
Accelerometer Coefficients - 6		Master	-----	-----	0.000	-----	
Accelerometer Coefficients - 7		Master	-----	-----	-0.003	-----	
Accelerometer Coefficients - 8		Master	-----	-----	0.000	-----	
Accelerometer Coefficients - 9		Master	-----	-----	0.000	-----	
Accelerometer Coefficients - 10		Master	-----	-----	0.000	-----	
Accelerometer Coefficients - 11		Master	-----	-----	0.000	-----	
Gamma-Ray Detector Serial Number		Master			79224		

EDTC-B Gamma-Ray Calibration - Gamma Ray Coefficients

Before (Measured): 15:51:10 29-Jan-2013							
After:							
Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
Gamma Ray Gain		Before	1.000	0.900	1.082	1.100	
		After	-----	-----	-----	-----	
		After-Before	-----	-----	-----	-----	

EDTC-B Gamma-Ray Calibration - Gamma Ray Accumulations

Before (Measured): 15:51:10 29-Jan-2013							
After:							
Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
RGR Zero Measurement	gAPI	Before		0	30.235	120.000	
		After	-----	-----	-----	-----	
		After-Before	-----	-----	-----	-----	
RGR Plus Measurement	gAPI	Before	164.000	149.000	151.615	179.000	
		After			NOT DONE		
		After-Before	-----	-----	-----	-----	

LEH-QT (Logging Equipment Head - QT, 3-3/8 inch 31 pin HPHT with Tension Sensor) Calibration - Run 1.1

Primary Equipment :			Logging Equipment Head - QT, 3-3/8 inch 31 pin HPHT with Tension Sensor	LEH-QT	2135
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HTEN Master Calibration - HTEN Master Calibration

Master:							
Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
HTEN Shop Gain		Master	1.000	0.800	NOT DONE	4.500	
HTEN Shop Offset	lbf	Master	0	-4448.222	NOT DONE	4448.222	

HTEN Before Calibration - HTEN Before Calibration

Before:							
Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
RHTE Zero Measurement - 0	lbf	Before	----	----	----	----	
RHTE Plus Measurement - 0	lbf	Before	----	----	----	----	
HTEN Gain - 0		Before	----	----	----	----	
HTEN Offset - 0	lbf	Before	----	----	----	----	

Company:

CONOCOPHILLIPS CANADA RESOURCES CORP

Schlumberger

Well:

COPRC LOON CREEK O-6

Field:

LOON CREEK

Province:

NORTHWEST TERRITORIES

VERTICAL WELL

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