Schlumberger

Company: **LAMONT DOHERTY EARTH OBSERVATORY**

Well: **TW #4**
Field: **WILDCAT**
County: **ROCKLAND** State: **NEW YORK**

County: ROCKLAND
Field: WILDCAT
Location: 41.002920 LAT
Well: TW #4
Company: LAMONT DOHERTY EARTH OB

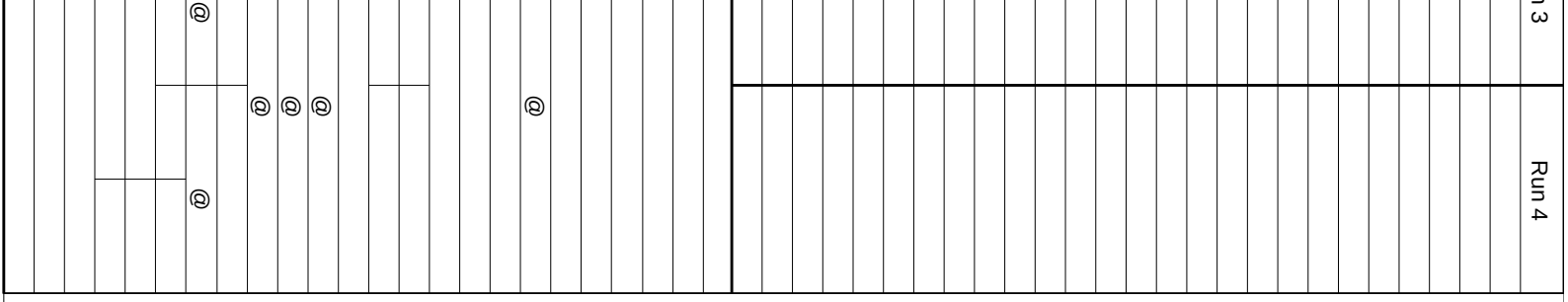
MAXIS EXPRESS
ARRAY INDUCTION
GAMMA RAY / CALIPER

LOCATION

41.002920 LAT −73.910610 LONG		Elev.: K.B. G.L. 389.00 ft D.F.	
Permanent Datum: GROUND LEVEL		Elev.: 389.00 ft	
Log Measured From: GROUND LEVEL		0.00 ft	above Perm. Datum
Drilling Measured From: GROUND LEVEL			
API Serial No. 31−087−30000−00−0(	Section 1	Township ORANGETOWN	QUAD: NYACK

	Run 1	Run 2	Run 3
Logging Date	3−Oct−2013		
Run Number	1		
Depth Driller	1802 ft		
Schlumberger Depth	1706 ft		
Bottom Log Interval	1693 ft		
Top Log Interval	750 ft		
Casing Driller Size @ Depth	4.500 in @ 750 ft	@	
Casing Schlumberger	750 ft		
Bit Size	3.780 in		
Type Fluid In Hole	FRESH WATER		
MUD Density / Viscosity	8.3 lbm/gal		
MUD Fluid Loss / PH			
MUD Source Of Sample			
RM @ Measured Temperature	@	@	
RMF @ Measured Temperature	@	@	
RMC @ Measured Temperature	@	@	
Source RMF / RMC			
RM @ MRT / RMF @ MRT	@ 71 / @ 71	@ / @	
Maximum Recorded Temperatures	71 degF		
Circulation Stopped / Time	25−Sep−2013		
Logger On Bottom / Time	3−Oct−2013 / 8:00		
Unit Number / Location	377 / BRADFORD		
Recorded By	FUNKHOUSER		
Witnessed By	NICK MALKEWICZ / DAN COLLINS		

	Run 1	Run 2	Run 3
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			
MUD Density / Viscosity			
MUD Fluid Loss / PH			
MUD Source Of Sample			
RM @ Measured Temperature	@		
RMF @ Measured Temperature	@		
RMC @ Measured Temperature	@		
Source RMF / RMC			
RM @ MRT / RMF @ MRT	@ / @		
Maximum Recorded Temperatures			
Circulation Stopped / Time			
Logger On Bottom / Time			
Unit Number / Location			
Recorded By			
Witnessed By			



DEPTH SUMMARY LISTING

Date Created: 4−OCT−2013 20:33:04

Depth System Equipment

Depth Measuring Device		Tension Device		Logging Cable	
Type:	IDW−B	Type:	CMTD−B/A	Type:	7−39P−LXS
Serial Number:	6399	Serial Number:	2013	Serial Number:	711079
Calibration Date:	03−JUL−2013	Calibration Date:	03−SEP−201	Length:	5500 FT
Calibrator Serial Number:	33	Calibrator Serial Number:	412906		
Calibration Cable Type:	7−39P−LXS	Number of Calibration Points:	10	Conveyance Method:	Wireline
Wheel Correction 1:	1	Calibration RMS:	7	Rig Type:	Rigless
Wheel Correction 2:	0	Calibration Peak Error:	16		

Depth Control Parameters

Log Sequence: Subsequent Log In the Well

Reference Log Name: BHC SONIC 1(A)
Reference Log Run Number: 1(A)
Reference Log Date: 03−OCT−2013

Depth Control Remarks

1. SLB DEPTH PROCEDURES FOLLOWED
2. IDW USED AS PRIMARY DEPTH
3. DRUM COUNTER AS SECONDARY DEPTH
4. LOG CORRELATED TO BHC RUN 1(A)
5.
6.

OTHER SERVICES1	OTHER SERVICES2
OS1: DENSITY	OS1:
OS2: NEUTRON	OS2:
OS3: INDUCTION	OS3:
OS4: SONIC	OS4:
OS5:	OS5:
REMARKS: RUN NUMBER 1	REMARKS: RUN NUMBER 2
THANK YOU FOR USING SCHLUMBERGER	
CEMENT 60 SACKS CLASS A CEMENT 13.8# / GAL	
YIELD 1.5 CU FT / SACK WATER 7.5GAL /SACK	

FILL 1.5 GAL / SACK WATER 4.6GAL/SACK

CREW: BOWEN /THIMLAR / ZOTARA

RUN 1		
SERVICE ORDER #:	BXW0−00331	
PROGRAM VERSION:	19C1−222	
FLUID LEVEL:		
LOGGED INTERVAL	START	STOP

RUN 2		
SERVICE ORDER #:		
PROGRAM VERSION:		
FLUID LEVEL:		
LOGGED INTERVAL	START	STOP

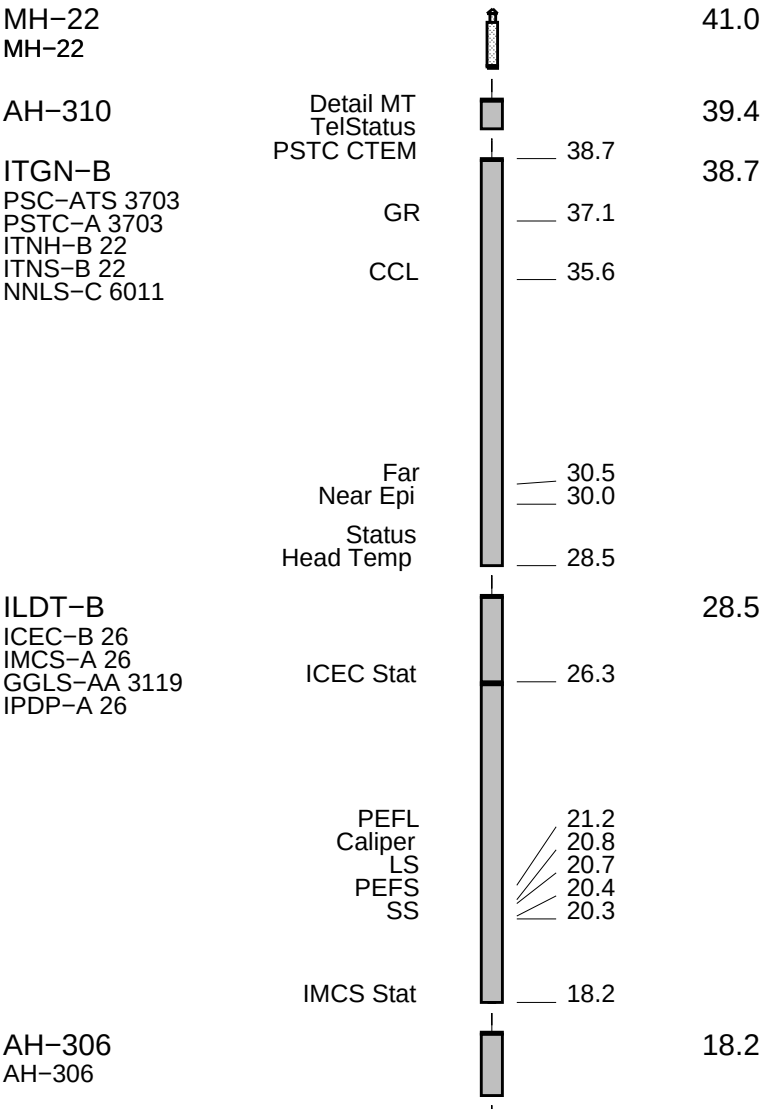
EQUIPMENT DESCRIPTION

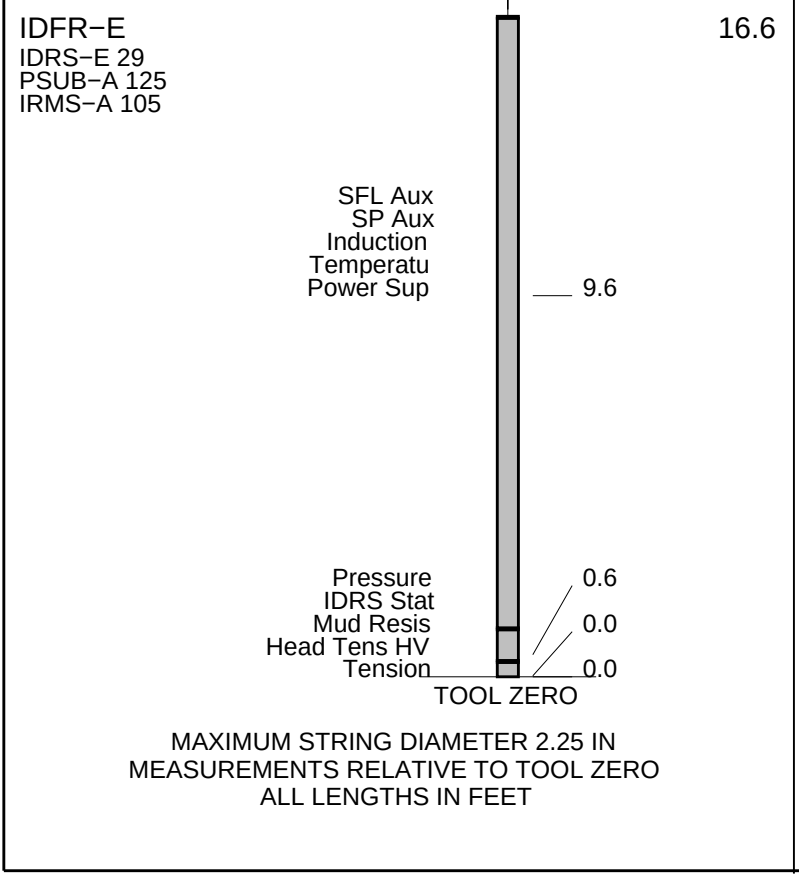
RUN 1 RUN 2

SURFACE EQUIPMENT

WITM−A
PSC_16MHZ

DOWNHOLE EQUIPMENT





Company: LAMONT DOHERTY EARTH OBSERVATORY **Well: TW #4**

Input DLIS Files

	IDL_LDL_CNL_017LUP	FN:16	03−Oct−2013 10:41	1710.0 FT	−13.0 FT

Output DLIS Files

DEFAULT	IDL_LDL_CNL_014PUP	FN:19	PRODUCER	04−Oct−2013 20:09
CUSTOMER	IDL_LDL_CNL_014PUC	FN:20	CUSTOMER	04−Oct−2013 20:09

Integrated Hole/Cement Volume Summary

Hole Volume = 21.37 F3

Cement Volume = 21.37 F3 (assuming 0.00 IN casing O.D.)

Computed from 1710.0 FT to 1441.0 FT using data channel(s) CALI

OP System Version: 19C1−222

IDFR−E	19C1−222	ILDT−B	19C1−222
ITGN−B	19C1−222		

PIP SUMMARY

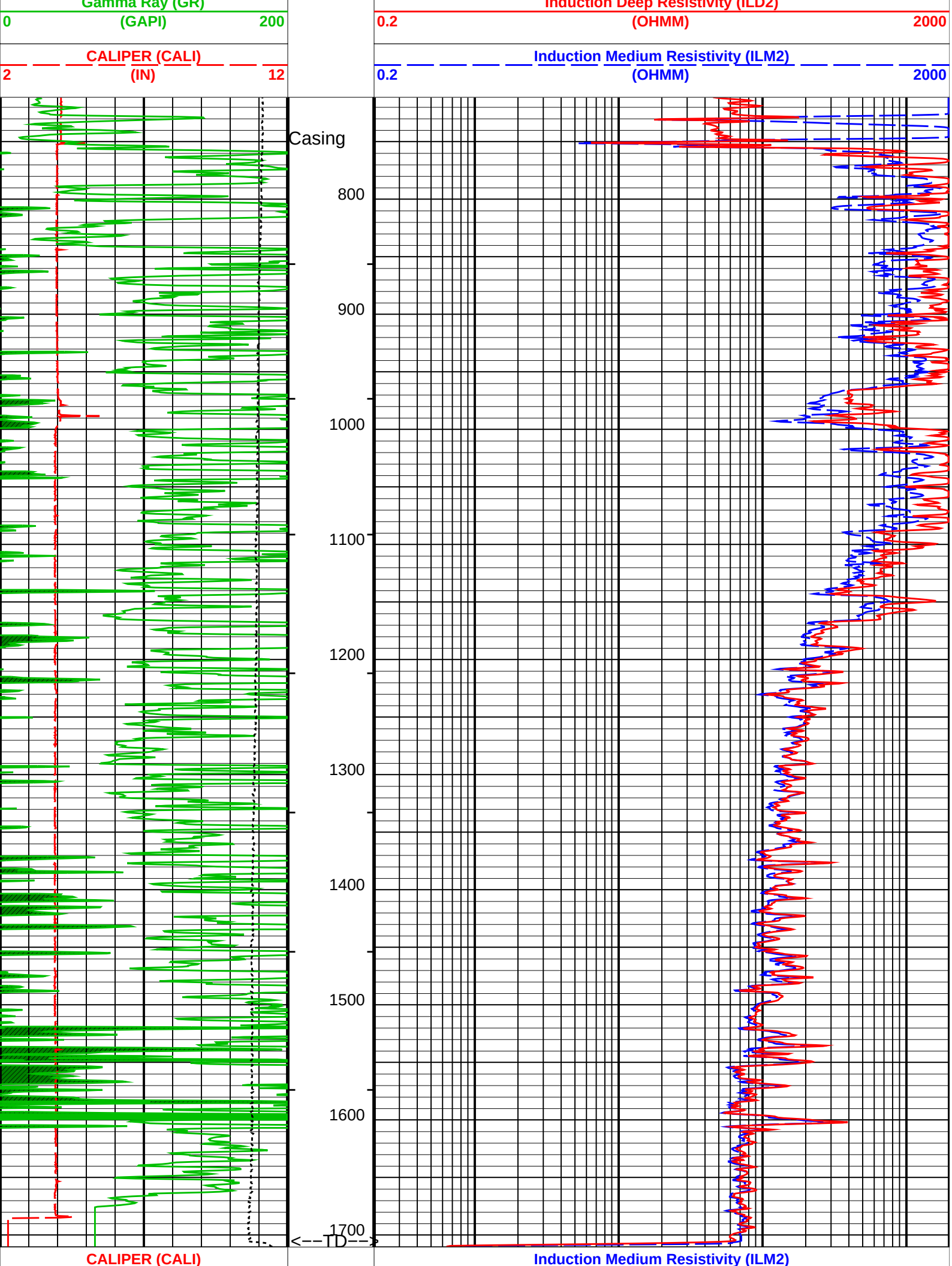
- Integrated Hole Volume Minor Pip Every 10 F3
- Integrated Hole Volume Major Pip Every 100 F3
- Integrated Cement Volume Minor Pip Every 10 F3
- Integrated Cement Volume Major Pip Every 100 F3

GR>400
From LHT1 to IFLEX/GammaRay/Curve_1

GR>200
From LHT1 to IFLEX/GammaRay/Curve

Tension (TENS)

5000 **(LBF)** **0**


Gamma Ray (GR)
0
(GAPI)
200
CALIPER (CALI)
2
(IN)
12
Induction Deep Resistivity (ILD2)
0.2
(OHMM)
2000
Induction Medium Resistivity (ILM2)
0.2
(OHMM)
2000
Casing
800
900
1000
1100
1200
1300
1400
1500
1600
1700
<--TD-->
CALIPER (CALI)
Induction Medium Resistivity (ILM2)

2 (IN) 12

Gamma Ray (GR)

0 (GAPI) 200

Tension (TENS)

5000 (LBF) 0

GR>200
From LHT1 to IFLEX/GammaRay/Curve

GR>400
From LHT1 to
IFLEX/GammaRay/Curve_1

0.2 (OHMM) 2000

Induction Deep Resistivity (ILD2)

0.2 (OHMM) 2000

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

Parameters

DLIS Name	Description	Value	
	IDFR−E: iFlex Dual Formation Resistivity Tool		
ABLV	Array Induction Basic Logs Code Version Number	223	
ACEN	Array Induction Tool Centering Flag (in Borehole)	Eccentered	
AETP	Array Induction Enable Sonde Error Temp&Pres Corr	Temp_On_Pres_On	
AFRSV	Array Induction Response Set Version for Four ft Resolution	03.00.02.00	
AIGS	Array Induction Select Akima Interpolation Gating	On	
AIGS_SFL_IDFR	SFL Select Akima Interpolation Gating	On	
ATRSV	Array Induction Response Set Version for Two ft Resolution	03.00.02.00	
ATSE_IDFR	IDFR Temperature RTD Selection(Sonde Error Correction)	RTD1	
AULV	Array Induction User Level Control	Normal	
BHC_SIG_T	BHC Formation Conductivity Input	13R	
BHPRSRC_IDFR	IDFR Pressure Source	BHPR_IDFR	
BHT	Bottom Hole Temperature (used in calculations)	73	DEGF
DFT_IFLEX	Drilling Fluid Type	WATER	
FEXP	Form Factor Exponent	2	
FNUM	Form Factor Numerator	1	
GCSE	Generalized Caliper Selection	CALI	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
GRSE	Generalized Mud Resistivity Selection	IDFR_RESIST	
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE	
ISOD	Induction Standoff Outer Diameter	2.25	IN
SHT	Surface Hole Temperature	68	DEGF
	ILDT−B: iFlex Litho Density Tool		
BHT	Bottom Hole Temperature (used in calculations)	73	DEGF
DFT_IFLEX	Drilling Fluid Type	WATER	
GCSE	Generalized Caliper Selection	CALI	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
GRSE	Generalized Mud Resistivity Selection	IDFR_RESIST	
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE	
PVN_ICEC	ICEC Computation Version	1.000	
SHT	Surface Hole Temperature	68	DEGF
	ITGN−B: iFlex Telemetry Gamma Neutron Tool		
BARI_ITGN	Barite Mud Presence Flag	NO	
BHT	Bottom Hole Temperature (used in calculations)	73	DEGF
DFT_IFLEX	Drilling Fluid Type	WATER	
GCSE	Generalized Caliper Selection	CALI	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
GRSE	Generalized Mud Resistivity Selection	IDFR_RESIST	
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE	
NICO	Neutron Interference Correction Option	YES	
PVN_ITGN	ITGN Computation Version	1.005	
SDAT	Standoff Data Source	SOCN	
SHT	Surface Hole Temperature	68	DEGF
SOCN	Standoff Distance	0	IN
TBHDS	Tool Borehole Diameter Source	CALI	
TBHTS	Tool Borehole Temperature Source	GTSE	
	HOLEV: Integrated Hole/Cement Volume		
BHT	Bottom Hole Temperature (used in calculations)	73	DEGF
FCD	Future Casing (Outer) Diameter	0	IN
GCSE	Generalized Caliper Selection	CALI	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG

GGRD	Geothermal Gradient	0.01	DF/F
GRSE	Generalized Mud Resistivity Selection	IDFR_RESIST	
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE	
HVCS	Integrated Hole Volume Caliper Selection	AUTOMATIC	
SHT	Surface Hole Temperature	68	DEGF
	System and Miscellaneous		
BS	Bit Size	3.780	IN
DFD	Drilling Fluid Density	8.30	LB/G
DO	Depth Offset for Playback	−0.5	FT
FLEV	Fluid Level	−50000.00	FT
MST	Mud Sample Temperature	−50000.00	DEGF
PP	Playback Processing	OFF	
TD	Total Depth	1802	FT

Format: brad_ind_2in_1 Vertical Scale: 1" per 100' Graphics File Created: 04−Oct−2013 20:09

OP System Version: 19C1−222

IDFR−E	19C1−222	ILDT−B	19C1−222
ITGN−B	19C1−222		

Input DLIS Files

IDL_LDL_CNL_017LUP	FN:16	03−Oct−2013 10:41	1710.0 FT	−13.0 FT

Output DLIS Files

DEFAULT	IDL_LDL_CNL_014PUP	FN:19	PRODUCER	04−Oct−2013 20:09
CUSTOMER	IDL_LDL_CNL_014PUC	FN:20	CUSTOMER	04−Oct−2013 20:09

Company: LAMONT DOHERTY EARTH OBSERVATORY Well: TW #4

Input DLIS Files

IDL_LDL_CNL_017LUP	FN:16	03−Oct−2013 10:41	1710.0 FT	−13.0 FT

Output DLIS Files

DEFAULT	IDL_LDL_CNL_014PUP	FN:19	PRODUCER	04−Oct−2013 20:09
CUSTOMER	IDL_LDL_CNL_014PUC	FN:20	CUSTOMER	04−Oct−2013 20:09

Integrated Hole/Cement Volume Summary

Hole Volume = 21.37 F3

Cement Volume = 21.37 F3 (assuming 0.00 IN casing O.D.)

Computed from 1710.0 FT to 1441.0 FT using data channel(s) CALI

OP System Version: 19C1−222

IDFR−E	19C1−222	ILDT−B	19C1−222
ITGN−B	19C1−222		

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

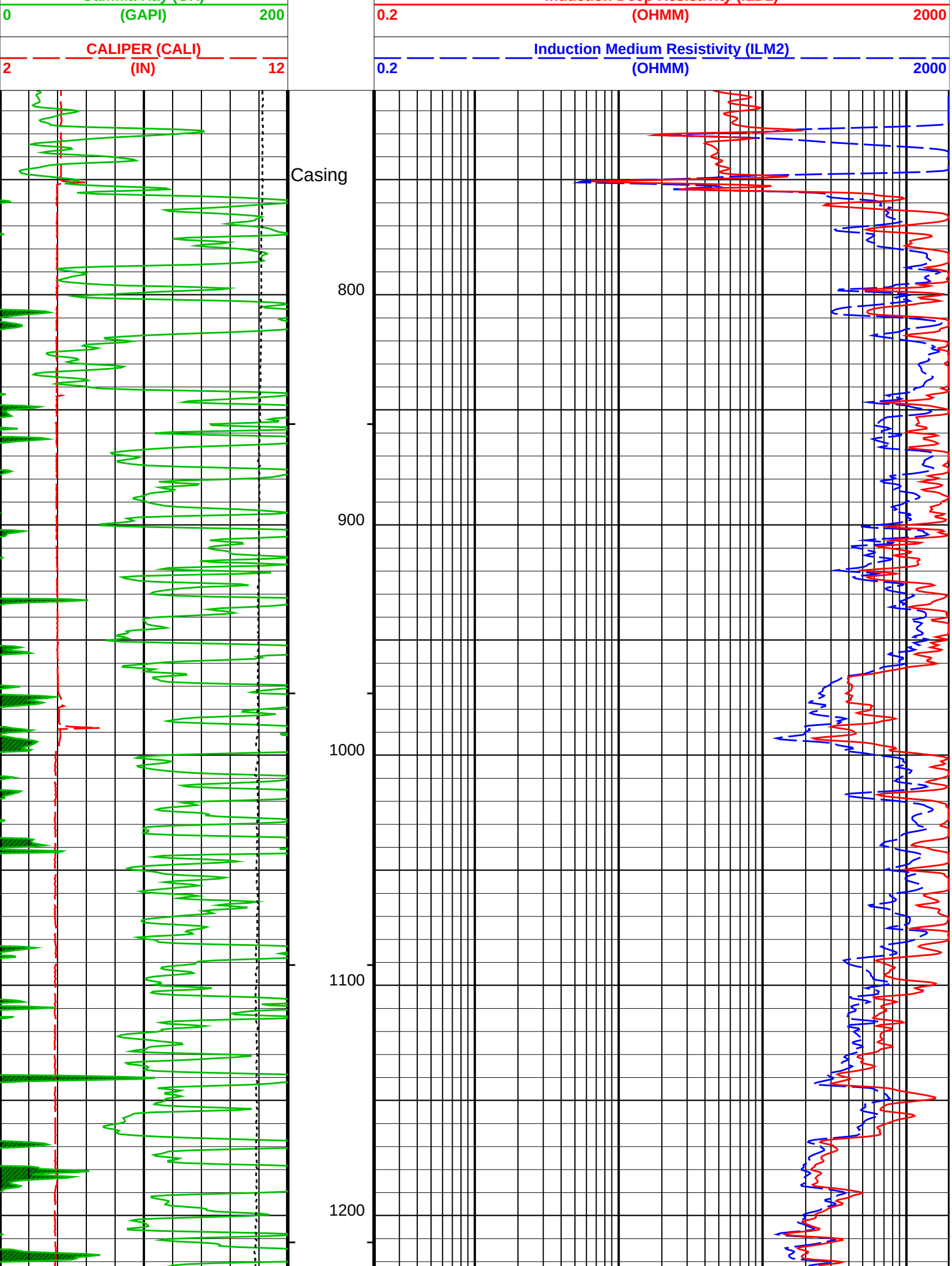
GR>400
From LHT1 to
IFLEX/GammaRay/Curve_1

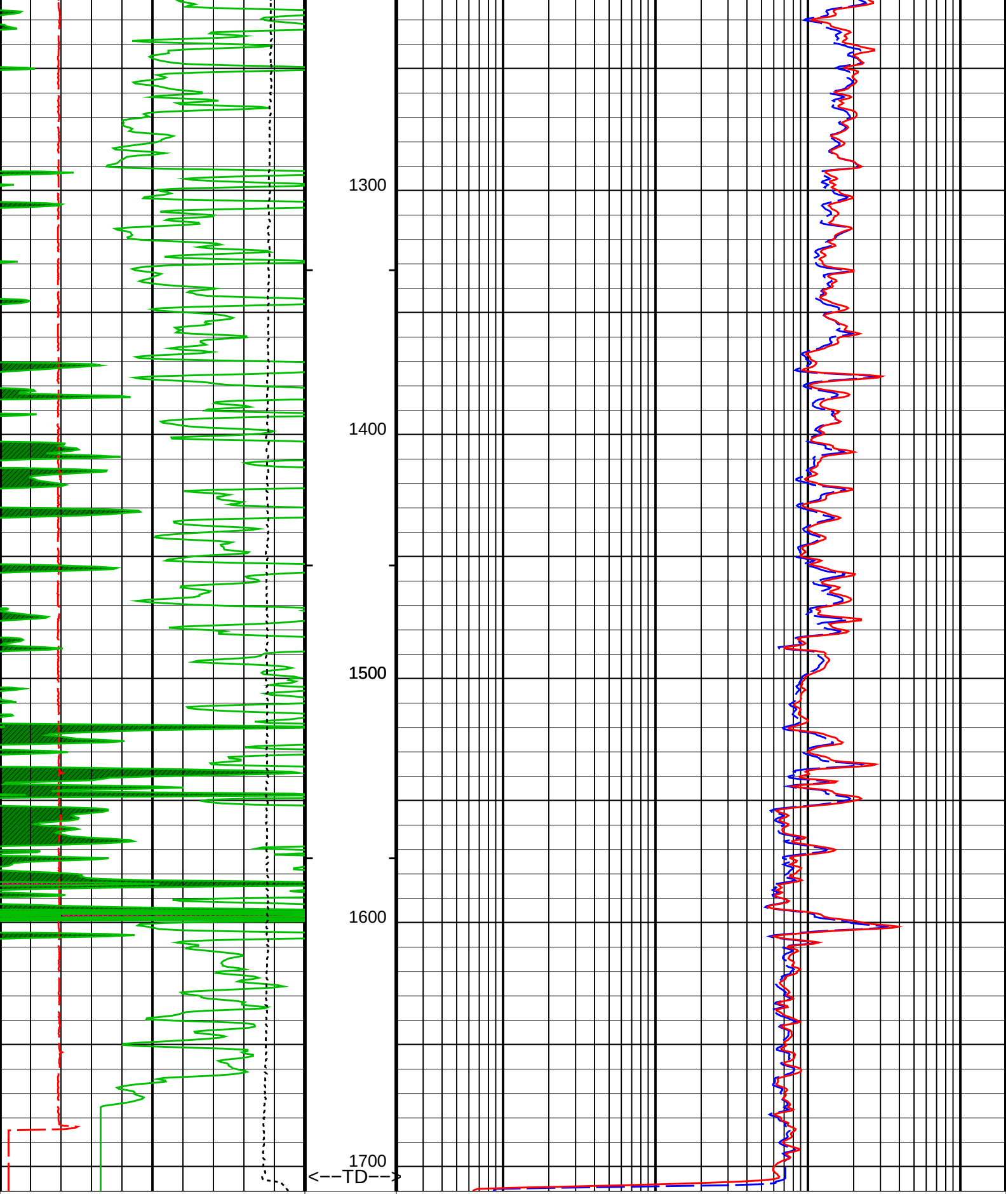
GR>200
From LHT1 to IFLEX/GammaRay/Curve

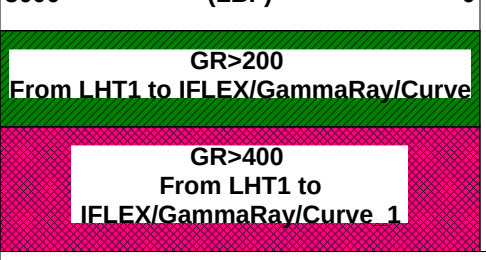
Tension (TENS)
5000 (LBF) 0

Gamma Ray (GR)

Induction Deep Resistivity (ILD2)


0
(GAPI)
200
CALIPER (CALI)
2
(IN)
12
0.2
(OHMM)
2000
Induction Medium Resistivity (ILM2)
0.2
(OHMM)
2000
Casing
800
900
1000
1100
1200


1300
1400
1500
1600
1700
<--TD-->
CALIPER (CALI)
2
(IN)
12
Gamma Ray (GR)
0
(GAPI)
200
Tension (TENS)
5000
(LBF)
0
Induction Medium Resistivity (ILM2)
0.2
(OHMM)
2000
Induction Deep Resistivity (ILD2)
0.2
(OHMM)
2000



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

Parameters

DLIS Name	Description	Value	
IDFR−E: iFlex Dual Formation Resistivity Tool			
ABLV	Array Induction Basic Logs Code Version Number	223	
ACEN	Array Induction Tool Centering Flag (in Borehole)	Eccentered	
AETP	Array Induction Enable Sonde Error Temp&Pres Corr	Temp_On_Pres_On	
AFRSV	Array Induction Response Set Version for Four ft Resolution	03.00.02.00	
AIGS	Array Induction Select Akima Interpolation Gating	On	
AIGS_SFL_IDFR	SFL Select Akima Interpolation Gating	On	
ATRSV	Array Induction Response Set Version for Two ft Resolution	03.00.02.00	
ATSE_IDFR	IDFR Temperature RTD Selection(Sonde Error Correction)	RTD1	
AULV	Array Induction User Level Control	Normal	
BHC_SIG_T	BHC Formation Conductivity Input	13R	
BHPRSRC_IDFR	IDFR Pressure Source	BHPR_IDFR	
BHT	Bottom Hole Temperature (used in calculations)	73	DEGF
DFT_IFLEX	Drilling Fluid Type	WATER	
FEXP	Form Factor Exponent	2	
FNUM	Form Factor Numerator	1	
GCSE	Generalized Caliper Selection	CALI	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
GRSE	Generalized Mud Resistivity Selection	IDFR_RESIST	
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE	
ISOD	Induction Standoff Outer Diameter	2.25	IN
SHT	Surface Hole Temperature	68	DEGF
ILDT−B: iFlex Litho Density Tool			
BHT	Bottom Hole Temperature (used in calculations)	73	DEGF
DFT_IFLEX	Drilling Fluid Type	WATER	
GCSE	Generalized Caliper Selection	CALI	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
GRSE	Generalized Mud Resistivity Selection	IDFR_RESIST	
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE	
PVN_ICEC	ICEC Computation Version	1.000	
SHT	Surface Hole Temperature	68	DEGF
ITGN−B: iFlex Telemetry Gamma Neutron Tool			
BARI_ITGN	Barite Mud Presence Flag	NO	
BHT	Bottom Hole Temperature (used in calculations)	73	DEGF
DFT_IFLEX	Drilling Fluid Type	WATER	
GCSE	Generalized Caliper Selection	CALI	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
GRSE	Generalized Mud Resistivity Selection	IDFR_RESIST	
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE	
NICO	Neutron Interference Correction Option	YES	
PVN_ITGN	ITGN Computation Version	1.005	
SDAT	Standoff Data Source	SOCN	
SHT	Surface Hole Temperature	68	DEGF
SOCN	Standoff Distance	0	IN
TBHDS	Tool Borehole Diameter Source	CALI	
TBHTS	Tool Borehole Temperature Source	GTSE	
HOLEV: Integrated Hole/Cement Volume			
BHT	Bottom Hole Temperature (used in calculations)	73	DEGF
FCD	Future Casing (Outer) Diameter	0	IN
GCSE	Generalized Caliper Selection	CALI	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
GRSE	Generalized Mud Resistivity Selection	IDFR_RESIST	
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE	
HVCS	Integrated Hole Volume Caliper Selection	AUTOMATIC	
SHT	Surface Hole Temperature	68	DEGF
System and Miscellaneous			
BS	Bit Size	3.780	IN
DFD	Drilling Fluid Density	8.30	LB/G

DO	Depth Offset for Playback	−0.5	FT
FLEV	Fluid Level	−50000.00	FT
MST	Mud Sample Temperature	−50000.00	DEGF
PP	Playback Processing	OFF	
TD	Total Depth	1802	FT

Format: brad_ind_2in Vertical Scale: 2" per 100' Graphics File Created: 04−Oct−2013 20:09

OP System Version: 19C1−222

IDFR−E	19C1−222	ILDT−B	19C1−222
ITGN−B	19C1−222		

Input DLIS Files

IDL_LDL_CNL_017LUP	FN:16	03−Oct−2013 10:41	1710.0 FT	−13.0 FT

Output DLIS Files

DEFAULT	IDL_LDL_CNL_014PUP	FN:19	PRODUCER	04−Oct−2013 20:09
CUSTOMER	IDL_LDL_CNL_014PUC	FN:20	CUSTOMER	04−Oct−2013 20:09

Company: LAMONT DOHERTY EARTH OBSERVATORY Well: TW #4

Input DLIS Files

IDL_LDL_CNL_017LUP	FN:16	03−Oct−2013 10:41	1710.0 FT	−13.0 FT

Output DLIS Files

DEFAULT	IDL_LDL_CNL_014PUP	FN:19	PRODUCER	04−Oct−2013 20:09
CUSTOMER	IDL_LDL_CNL_014PUC	FN:20	CUSTOMER	04−Oct−2013 20:09

Integrated Hole/Cement Volume Summary

Hole Volume = 21.37 F3

Cement Volume = 21.37 F3 (assuming 0.00 IN casing O.D.)

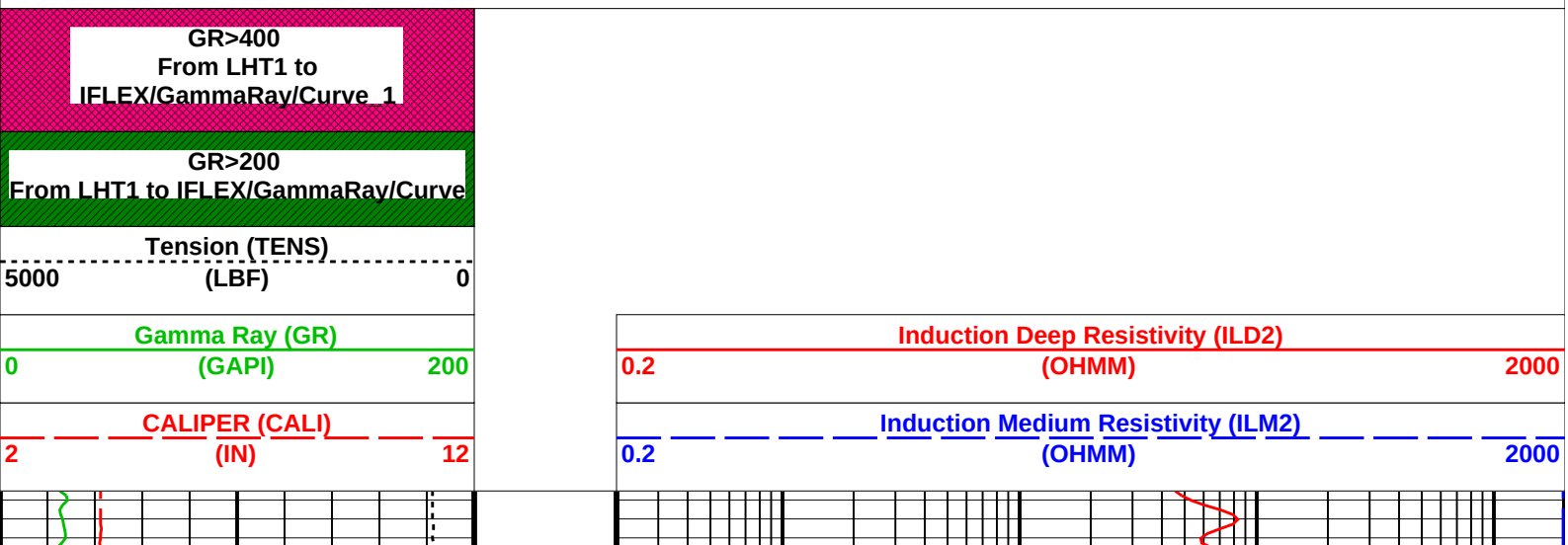
Computed from 1710.0 FT to 1441.0 FT using data channel(s) CALI

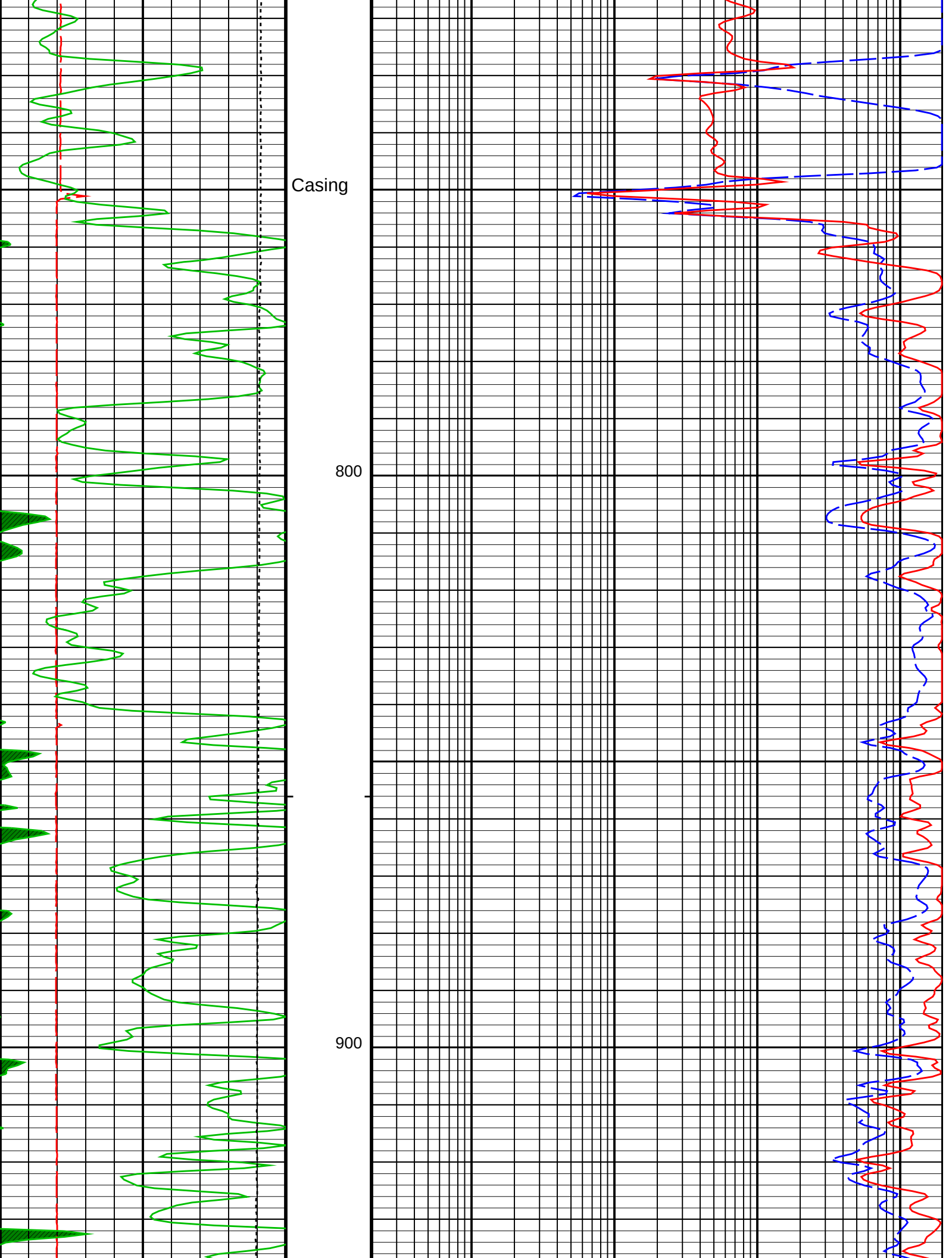
OP System Version: 19C1−222

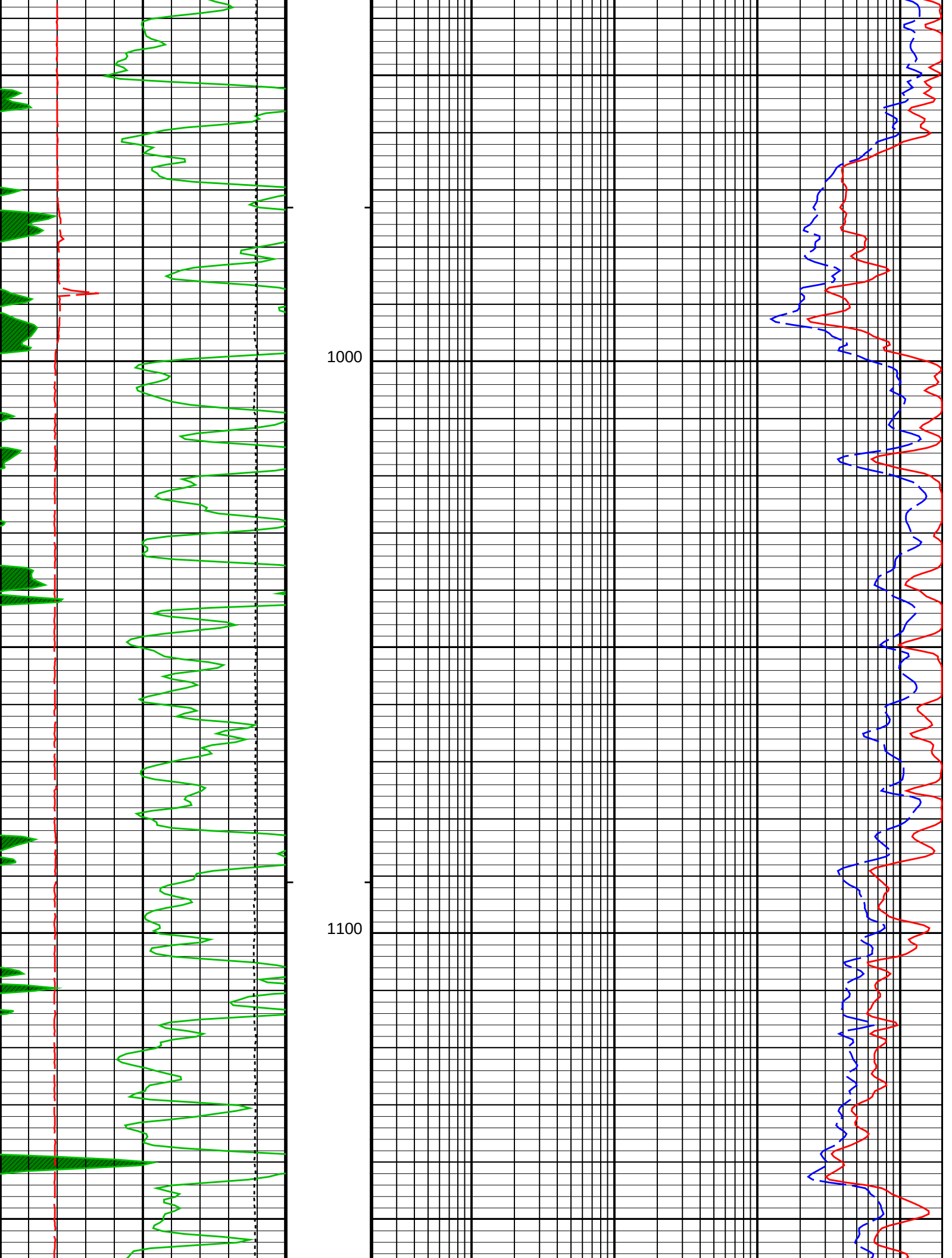
IDFR−E	19C1−222	ILDT−B	19C1−222
ITGN−B	19C1−222		

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




Casing
800
900


1000
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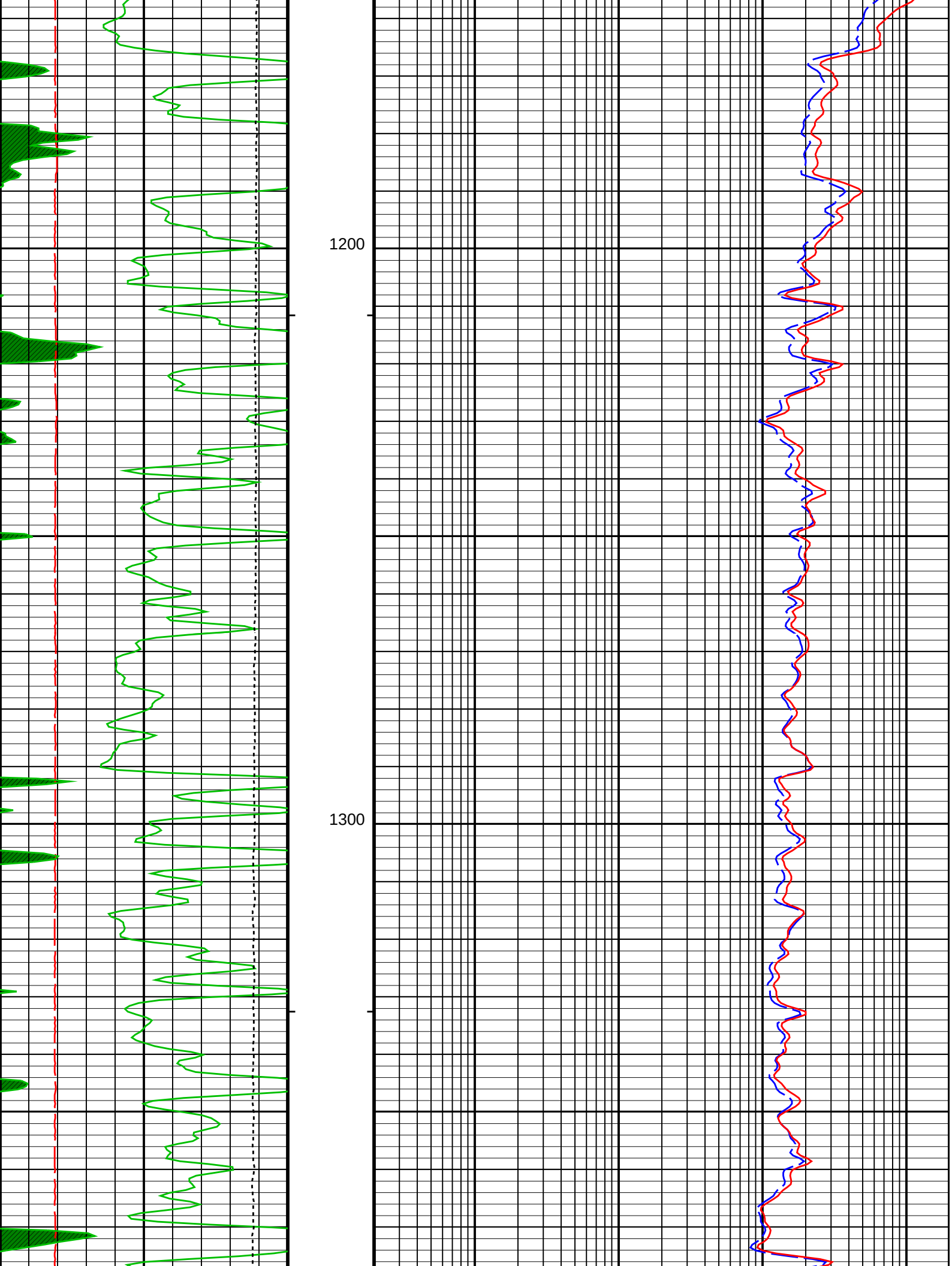
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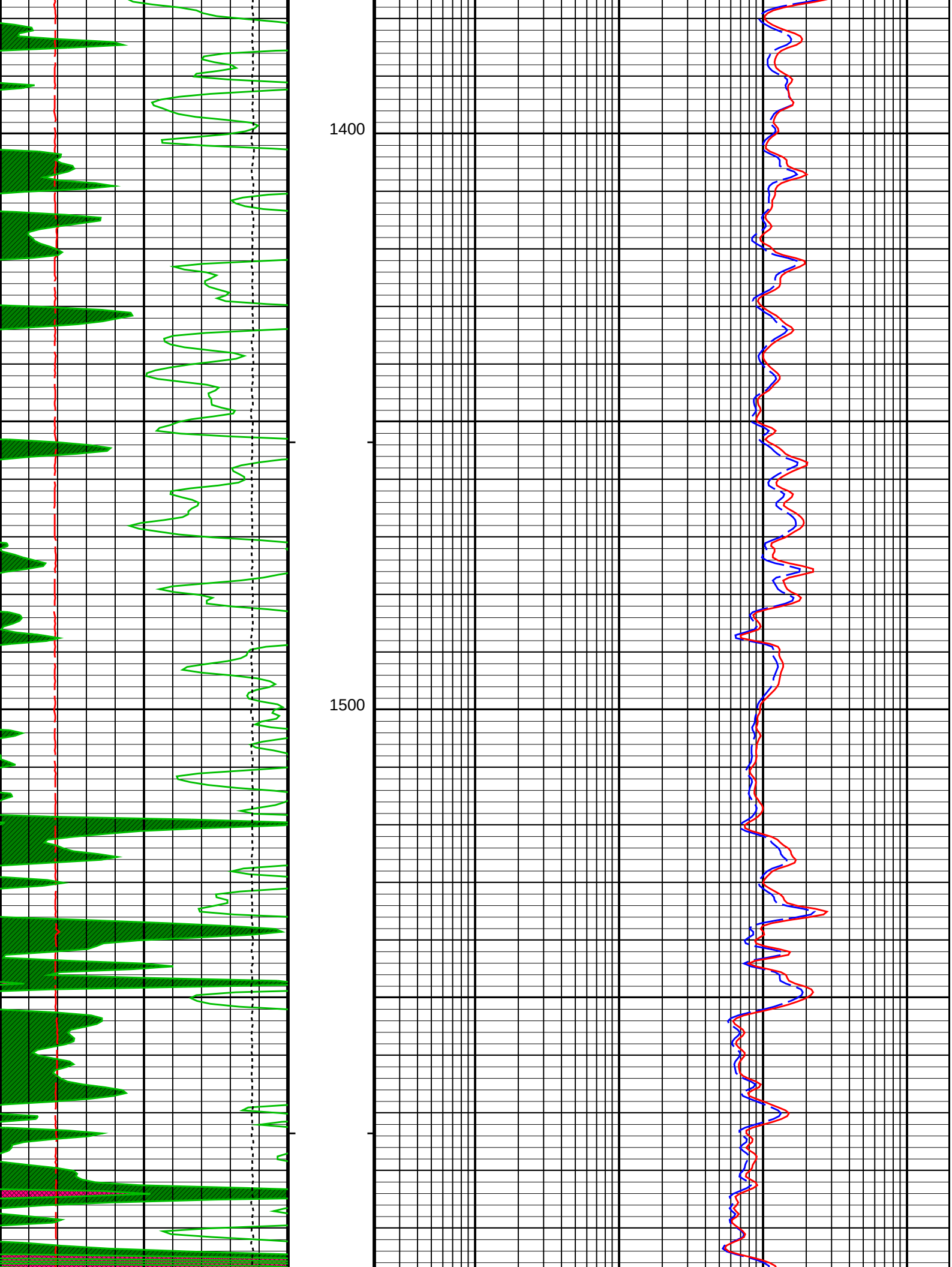
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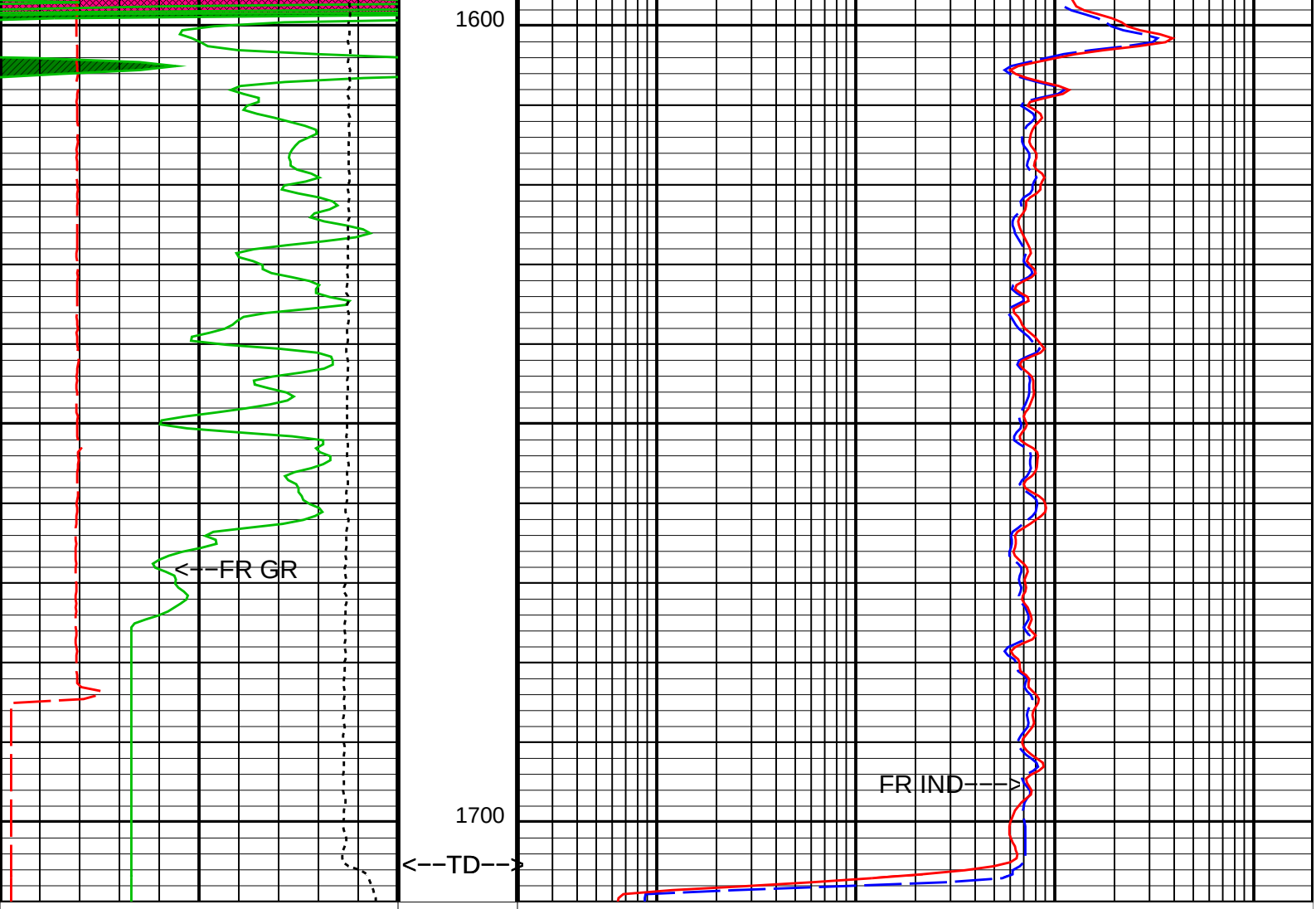


CALIPER (CALI)
2 (IN) 12

Gamma Ray (GR)
0 (GAPI) 200

Tension (TENS)
5000 (LBF) 0

GR>200
From LHT1 to IFLEX/GammaRay/Curve

GR>400
From LHT1 to
IFLEX/GammaRay/Curve_1

Induction Medium Resistivity (ILM2)
0.2 (OHMM) 2000

Induction Deep Resistivity (ILD2)
0.2 (OHMM) 2000

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

Parameters

DLIS Name	Description	Value
	IDFR-E: iFlex Dual Formation Resistivity Tool	
ABLV	Array Induction Basic Logs Code Version Number	223
ACEN	Array Induction Tool Centering Flag (in Borehole)	Eccentered
AETP	Array Induction Enable Sonde Error Temp&Pres Corr	Temp_On_Pres_On
AFRSV	Array Induction Response Set Version for Four ft Resolution	03.00.02.00
AIGS	Array Induction Select Akima Interpolation Gating	On
AIGS_SFL_IDFR	SFL Select Akima Interpolation Gating	On
ATRSV	Array Induction Response Set Version for Two ft Resolution	03.00.02.00
ATSE_IDFR	IDFR Temperature RTD Selection(Sonde Error Correction)	RTD1

AULV	Array Induction User Level Control	Normal	
BHC_SIG_T	BHC Formation Conductivity Input	13R	
BHPRSRC_IDFR	IDFR Pressure Source	BHPR_IDFR	
BHT	Bottom Hole Temperature (used in calculations)	73	DEGF
DFT_IFLEX	Drilling Fluid Type	WATER	
FEXP	Form Factor Exponent	2	
FNUM	Form Factor Numerator	1	
GCSE	Generalized Caliper Selection	CALI	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
GRSE	Generalized Mud Resistivity Selection	IDFR_RESIST	
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE	
ISOD	Induction Standoff Outer Diameter	2.25	IN
SHT	Surface Hole Temperature	68	DEGF
ILDT−B: iFlex Litho Density Tool			
BHT	Bottom Hole Temperature (used in calculations)	73	DEGF
DFT_IFLEX	Drilling Fluid Type	WATER	
GCSE	Generalized Caliper Selection	CALI	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
GRSE	Generalized Mud Resistivity Selection	IDFR_RESIST	
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE	
PVN_ICEC	ICEC Computation Version	1.000	
SHT	Surface Hole Temperature	68	DEGF
ITGN−B: iFlex Telemetry Gamma Neutron Tool			
BARI_ITGN	Barite Mud Presence Flag	NO	
BHT	Bottom Hole Temperature (used in calculations)	73	DEGF
DFT_IFLEX	Drilling Fluid Type	WATER	
GCSE	Generalized Caliper Selection	CALI	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
GRSE	Generalized Mud Resistivity Selection	IDFR_RESIST	
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE	
NICO	Neutron Interference Correction Option	YES	
PVN_ITGN	ITGN Computation Version	1.005	
SDAT	Standoff Data Source	SOCN	
SHT	Surface Hole Temperature	68	DEGF
SOCN	Standoff Distance	0	IN
TBHDS	Tool Borehole Diameter Source	CALI	
TBHTS	Tool Borehole Temperature Source	GTSE	
HOLEV: Integrated Hole/Cement Volume			
BHT	Bottom Hole Temperature (used in calculations)	73	DEGF
FCD	Future Casing (Outer) Diameter	0	IN
GCSE	Generalized Caliper Selection	CALI	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
GRSE	Generalized Mud Resistivity Selection	IDFR_RESIST	
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE	
HVCS	Integrated Hole Volume Caliper Selection	AUTOMATIC	
SHT	Surface Hole Temperature	68	DEGF
System and Miscellaneous			
BS	Bit Size	3.780	IN
DFD	Drilling Fluid Density	8.30	LB/G
DO	Depth Offset for Playback	−0.5	FT
FLEV	Fluid Level	−50000.00	FT
MST	Mud Sample Temperature	−50000.00	DEGF
PP	Playback Processing	OFF	
TD	Total Depth	1802	FT

Format: BRAD_IND_S5 Vertical Scale: 5" per 100’ Graphics File Created: 04−Oct−2013 20:09

OP System Version: 19C1−222

IDFR−E	19C1−222	ILDT−B	19C1−222
ITGN−B	19C1−222		

Input DLIS Files

IDL_LDL_CNL_017LUP	FN:16	03−Oct−2013 10:41	1710.0 FT	−13.0 FT

Output DLIS Files

DEFAULT	IDL_LDL_CNL_014PUP	FN:19	PRODUCER	04−Oct−2013 20:09
CUSTOMER	IDL_LDL_CNL_014PUC	FN:20	CUSTOMER	04−Oct−2013 20:09

Company: LAMONT DOHERTY EARTH OBSERVATORY Well: TW #4

Input DLIS Files

	IDL_LDL_CNL_016LUP	FN:15		03−Oct−2013 10:41	1710.0 FT	1440.0 FT

Output DLIS Files

DEFAULT	IDL_LDL_CNL_012PUP	FN:15	PRODUCER	04−Oct−2013 19:59	1710.0 FT	1440.0 FT
CUSTOMER	IDL_LDL_CNL_012PUC	FN:16	CUSTOMER	04−Oct−2013 19:59	1710.0 FT	1440.0 FT

Integrated Hole/Cement Volume Summary

Hole Volume = 21.37 F3

Cement Volume = 21.37 F3 (assuming 0.00 IN casing O.D.)

Computed from 1710.0 FT to 1441.0 FT using data channel(s) CALI

OP System Version: 19C1−222

IDFR−E	19C1−222	ILDT−B	19C1−222
ITGN−B	19C1−222		

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

GR>400
From LHT1 to
IFLEX/GammaRay/Curve_1

GR>200
From LHT1 to IFLEX/GammaRay/Curve

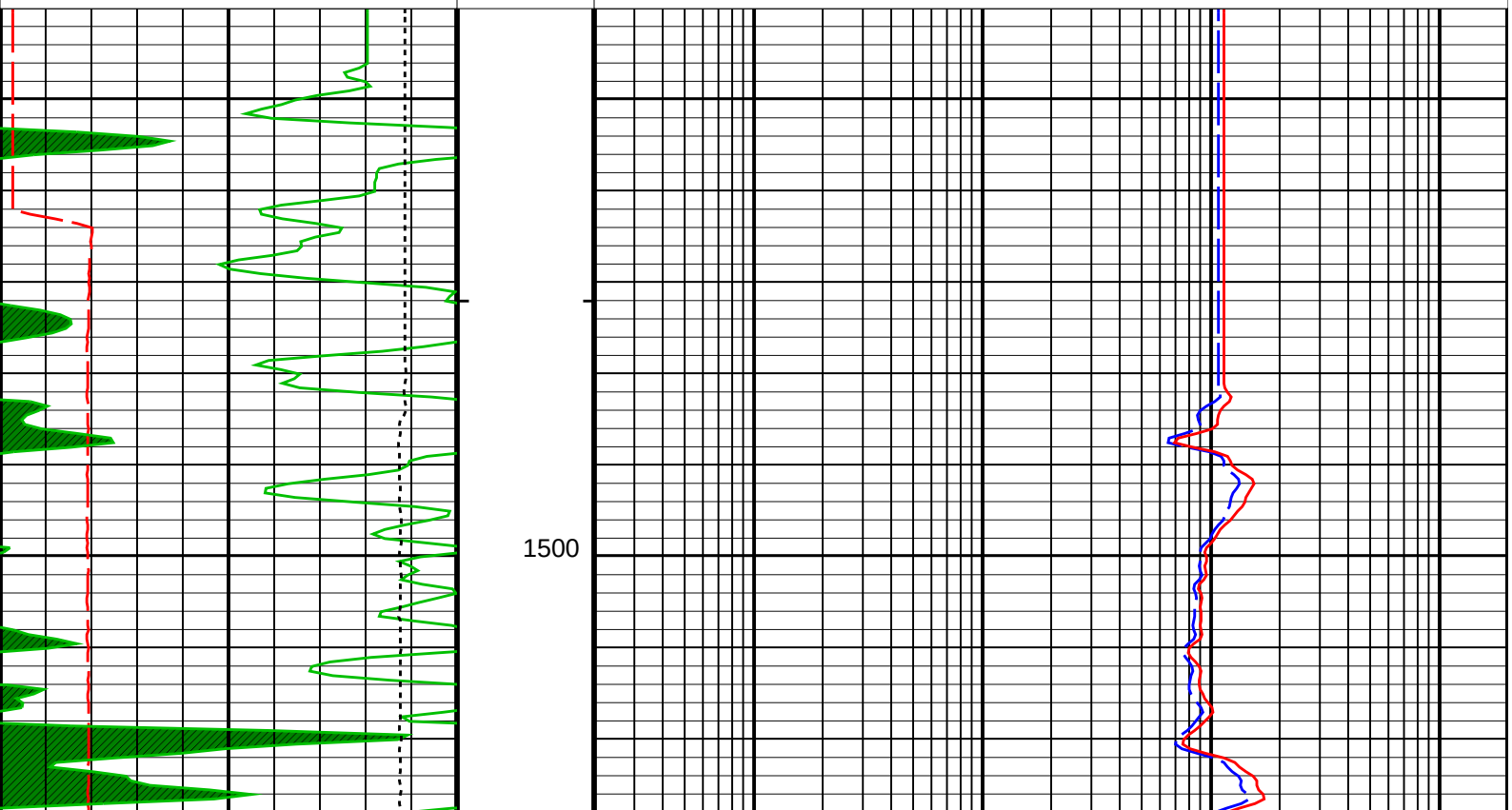
Tension (TENS)
5000 (LBF) 0

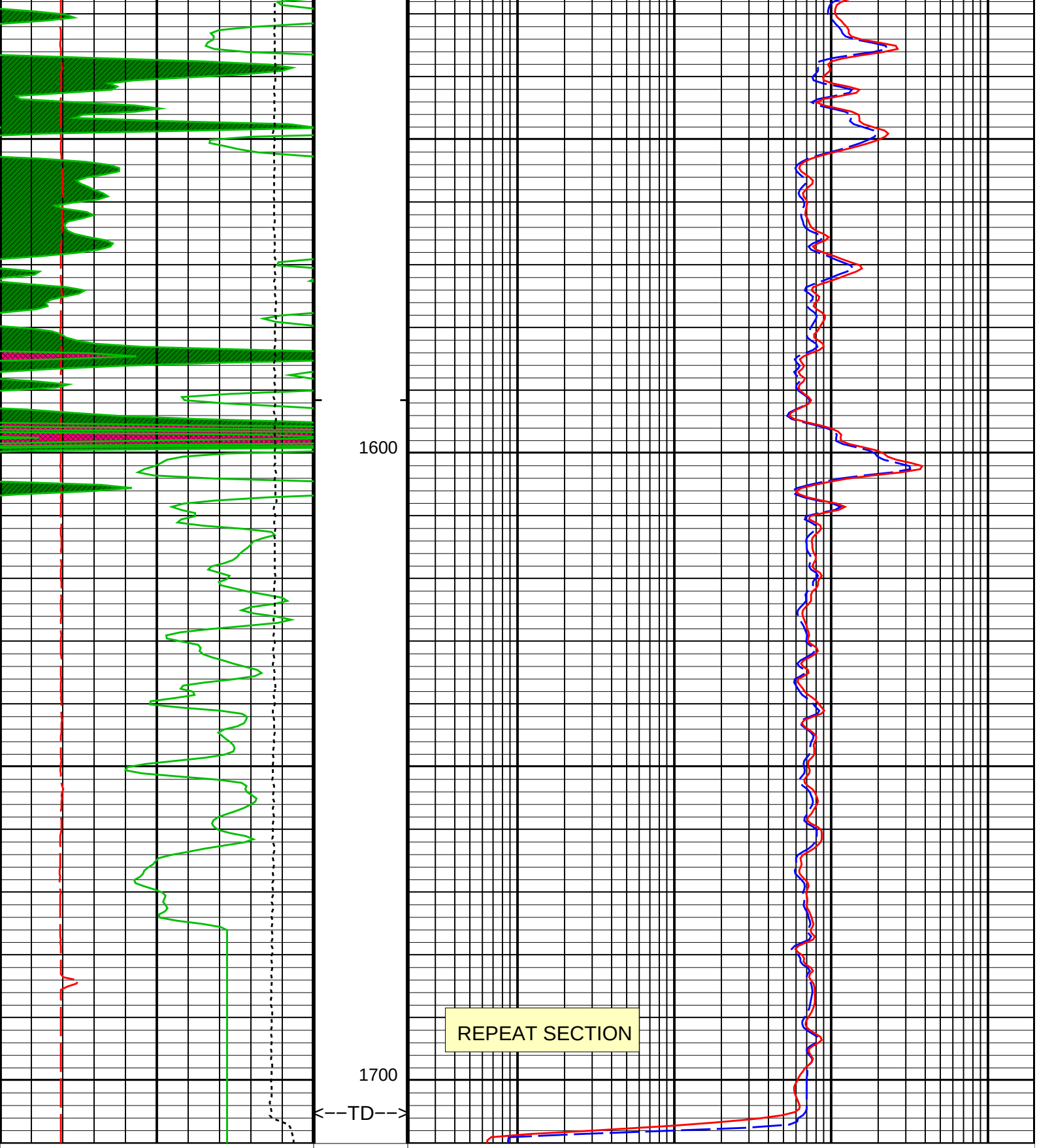
Gamma Ray (GR)
0 (GAPI) 200

CALIPER (CALI)
2 (IN) 12

Induction Deep Resistivity (ILD2)
0.2 (OHMM) 2000

Induction Medium Resistivity (ILM2)
0.2 (OHMM) 2000





CALIPER (CALI)
2 (IN) 12

Gamma Ray (GR)
0 (GAPI) 200

Tension (TENS)
5000 (LBF) 0

GR>200
From LHT1 to IFLEX/GammaRay/Curve

Induction Medium Resistivity (ILM2)
0.2 (OHMM) 2000

Induction Deep Resistivity (ILD2)
0.2 (OHMM) 2000

GR>400
From LHT1 to
IFLEX/GammaRay/Curve_1

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

Parameters

DLIS Name	Description	Value	
	IDFR−E: iFlex Dual Formation Resistivity Tool		
ABLV	Array Induction Basic Logs Code Version Number	223	
ACEN	Array Induction Tool Centering Flag (in Borehole)	Eccentered	
AETP	Array Induction Enable Sonde Error Temp&Pres Corr	Temp_On_Pres_On	
AFRSV	Array Induction Response Set Version for Four ft Resolution	03.00.02.00	
AIGS	Array Induction Select Akima Interpolation Gating	On	
AIGS_SFL_IDFR	SFL Select Akima Interpolation Gating	On	
ATRSV	Array Induction Response Set Version for Two ft Resolution	03.00.02.00	
ATSE_IDFR	IDFR Temperature RTD Selection(Sonde Error Correction)	RTD1	
AULV	Array Induction User Level Control	Normal	
BHC_SIG_T	BHC Formation Conductivity Input	13R	
BHPRSRC_IDFR	IDFR Pressure Source	BHPR_IDFR	
BHT	Bottom Hole Temperature (used in calculations)	73	DEGF
DFT_IFLEX	Drilling Fluid Type	WATER	
FEXP	Form Factor Exponent	2	
FNUM	Form Factor Numerator	1	
GCSE	Generalized Caliper Selection	CALI	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
GRSE	Generalized Mud Resistivity Selection	IDFR_RESIST	
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE	
ISOD	Induction Standoff Outer Diameter	2.25	IN
SHT	Surface Hole Temperature	68	DEGF
	ILDT−B: iFlex Litho Density Tool		
BHT	Bottom Hole Temperature (used in calculations)	73	DEGF
DFT_IFLEX	Drilling Fluid Type	WATER	
GCSE	Generalized Caliper Selection	CALI	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
GRSE	Generalized Mud Resistivity Selection	IDFR_RESIST	
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE	
PVN_ICEC	ICEC Computation Version	1.000	
SHT	Surface Hole Temperature	68	DEGF
	ITGN−B: iFlex Telemetry Gamma Neutron Tool		
BARI_ITGN	Barite Mud Presence Flag	NO	
BHT	Bottom Hole Temperature (used in calculations)	73	DEGF
DFT_IFLEX	Drilling Fluid Type	WATER	
GCSE	Generalized Caliper Selection	CALI	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
GRSE	Generalized Mud Resistivity Selection	IDFR_RESIST	
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE	
NICO	Neutron Interference Correction Option	YES	
PVN_ITGN	ITGN Computation Version	1.005	
SDAT	Standoff Data Source	SOCN	
SHT	Surface Hole Temperature	68	DEGF
SOCN	Standoff Distance	0	IN
TBHDS	Tool Borehole Diameter Source	CALI	
TBHTS	Tool Borehole Temperature Source	GTSE	
	HOLEV: Integrated Hole/Cement Volume		
BHT	Bottom Hole Temperature (used in calculations)	73	DEGF
FCD	Future Casing (Outer) Diameter	0	IN
GCSE	Generalized Caliper Selection	CALI	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
GRSE	Generalized Mud Resistivity Selection	IDFR_RESIST	
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE	
HVCS	Integrated Hole Volume Caliper Selection	AUTOMATIC	
SHT	Surface Hole Temperature	68	DEGF
	System and Miscellaneous		
BS	Bit Size	3.780	IN
DFD	Drilling Fluid Density	8.30	LB/G
DO	Depth Offset for Playback	−0.5	FT
FLEV	Fluid Level	−50000.00	FT
MST	Mud Sample Temperature	−50000.00	DEGF
PP	Playback Processing	NORMAL	
TD	Total Depth	1802	FT

Format: BRAD_IND_S5 Vertical Scale: 5" per 100' Graphics File Created: 04-Oct-2013 19:59

OP System Version: 19C1-222

IDFR-E	19C1-222	ILDT-B	19C1-222
ITGN-B	19C1-222		

Input DLIS Files

IDL_LDL_CNL_016LUP	FN:15	03-Oct-2013 10:41	1710.0 FT	1440.0 FT

Output DLIS Files

DEFAULT	IDL_LDL_CNL_012PUP	FN:15	PRODUCER	04-Oct-2013 19:59	
CUSTOMER	IDL_LDL_CNL_012PUC	FN:16	CUSTOMER	04-Oct-2013 19:59	

Company: LAMONT DOHERTY EARTH OBSERVATORY Well: TW #4

Input DLIS Files

IDL_LDL_CNL_020LUP	FN:19	03-Oct-2013 10:41	905.0 FT	594.0 FT

Output DLIS Files

DEFAULT	IDL_LDL_CNL_013PUP	FN:17	PRODUCER	04-Oct-2013 20:05	905.0 FT	593.5 FT
CUSTOMER	IDL_LDL_CNL_013PUC	FN:18	CUSTOMER	04-Oct-2013 20:05	905.0 FT	593.5 FT

Integrated Hole/Cement Volume Summary

Hole Volume = 21.37 F3

Cement Volume = 21.37 F3 (assuming 0.00 IN casing O.D.)

Computed from 1710.0 FT to 1441.0 FT using data channel(s) CALI

OP System Version: 19C1-222

IDFR-E	19C1-222	ILDT-B	19C1-222
ITGN-B	19C1-222		

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

GR>400
From LHT1 to
IFLEX/GammaRay/Curve_1

GR>200
From LHT1 to IFLEX/GammaRay/Curve

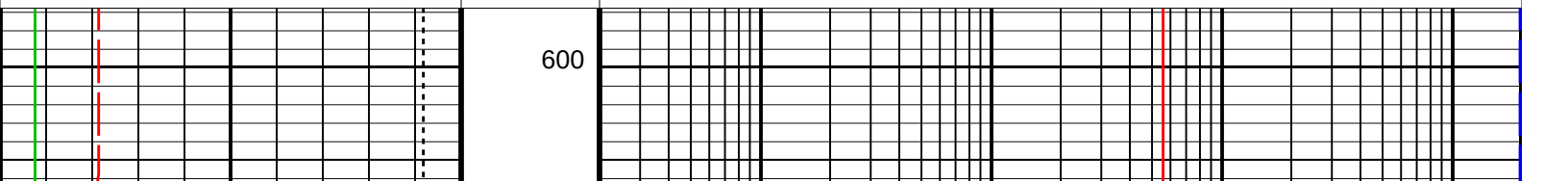
Tension (TENS)
5000 (LBF) 0

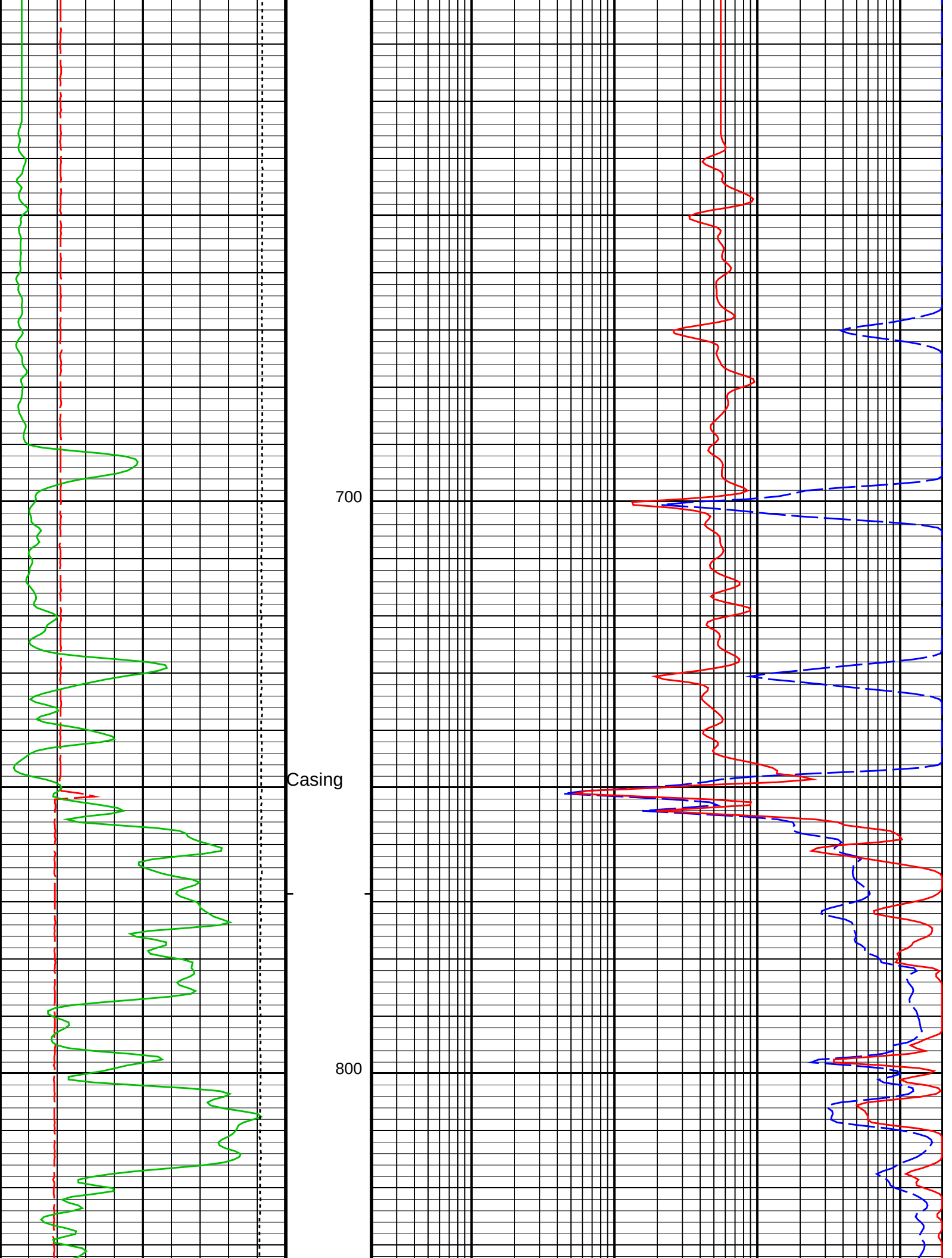
Gamma Ray (GR)
0 (GAPI) 200

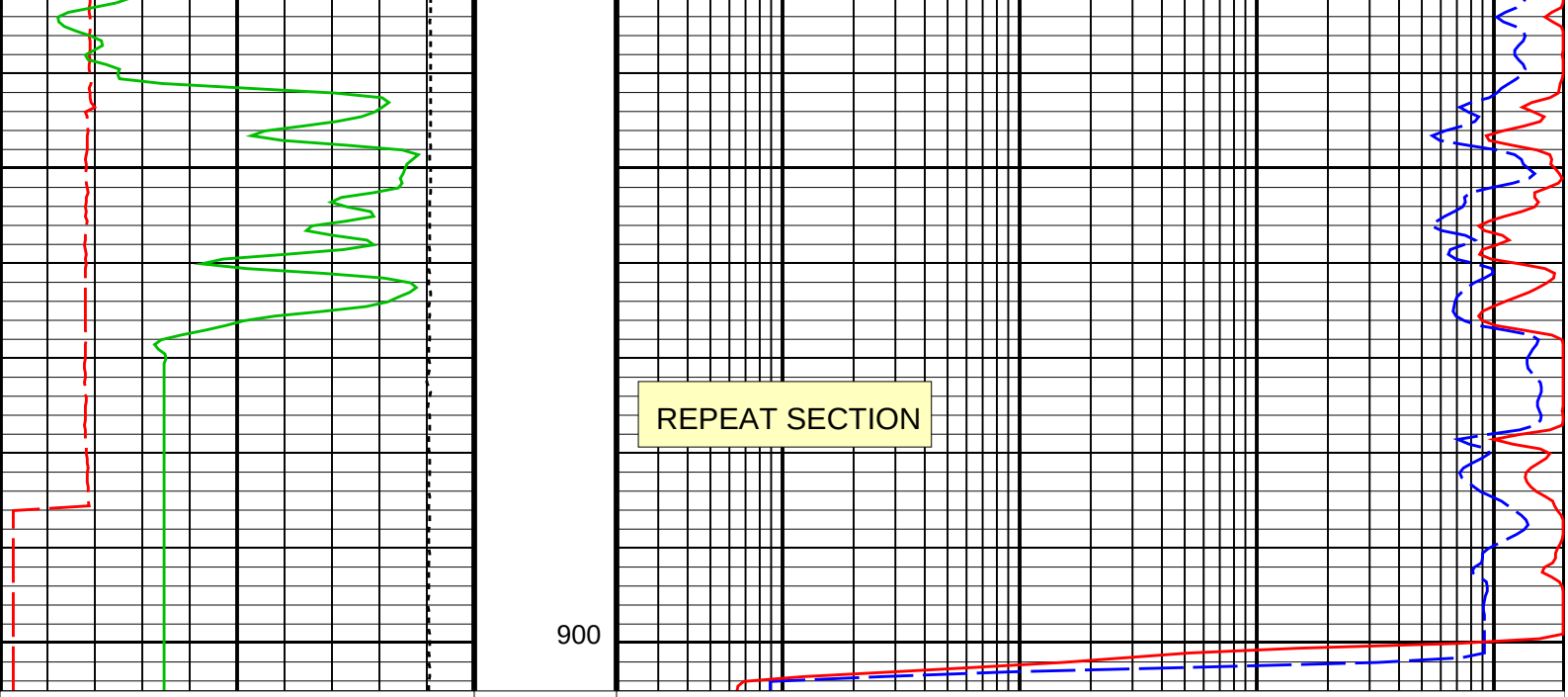
CALIPER (CALI)
2 (IN) 12

Induction Deep Resistivity (ILD2)
0.2 (OHMM) 2000

Induction Medium Resistivity (ILM2)
0.2 (OHMM) 2000




700
Casing
800



CALIPER (CALI)
2 (IN) 12

Gamma Ray (GR)
0 (GAPI) 200

Tension (TENS)
5000 (LBF) 0

Induction Medium Resistivity (ILM2)
0.2 (OHMM) 2000

Induction Deep Resistivity (ILD2)
0.2 (OHMM) 2000

GR>200
From LHT1 to IFLEX/GammaRay/Curve

GR>400
From LHT1 to
IFLEX/GammaRay/Curve_1

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

Parameters

DLIS Name	Description	Value	
	IDFR−E: iFlex Dual Formation Resistivity Tool		
ABLV	Array Induction Basic Logs Code Version Number	223	
ACEN	Array Induction Tool Centering Flag (in Borehole)	Eccentered	
AETP	Array Induction Enable Sonde Error Temp&Pres Corr	Temp_On_Pres_On	
AFRSV	Array Induction Response Set Version for Four ft Resolution	03.00.02.00	
AIGS	Array Induction Select Akima Interpolation Gating	On	
AIGS_SFL_IDFR	SFL Select Akima Interpolation Gating	On	
ATRSV	Array Induction Response Set Version for Two ft Resolution	03.00.02.00	
ATSE_IDFR	IDFR Temperature RTD Selection(Sonde Error Correction)	RTD1	
AULV	Array Induction User Level Control	Normal	
BHC_SIG_T	BHC Formation Conductivity Input	13R	
BHPRSRC_IDFR	IDFR Pressure Source	BHPR_IDFR	
BHT	Bottom Hole Temperature (used in calculations)	73	DEGF
DFT_IFLEX	Drilling Fluid Type	WATER	
FEXP	Form Factor Exponent	2	
FNUM	Form Factor Numerator	1	
GCSE	Generalized Caliper Selection	CALI	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
GRSE	Generalized Mud Resistivity Selection	IDFR_RESIST	
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE	
ISOD	Induction Standoff Outer Diameter	2.25	IN
SHT	Surface Hole Temperature	68	DEGF
	ILDT−B: iFlex Litho Density Tool		
BHT	Bottom Hole Temperature (used in calculations)	73	DEGF

BHT	Bottom Hole Temperature (used in calculations)	73	DEGF
DFT_IFLEX	Drilling Fluid Type	WATER	
GCSE	Generalized Caliper Selection	CALI	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
GRSE	Generalized Mud Resistivity Selection	IDFR_RESIST	
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE	
PVN_ICEC	ICEC Computation Version	1.000	
SHT	Surface Hole Temperature	68	DEGF
ITGN−B: iFlex Telemetry Gamma Neutron Tool			
BARI_ITGN	Barite Mud Presence Flag	NO	
BHT	Bottom Hole Temperature (used in calculations)	73	DEGF
DFT_IFLEX	Drilling Fluid Type	WATER	
GCSE	Generalized Caliper Selection	CALI	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
GRSE	Generalized Mud Resistivity Selection	IDFR_RESIST	
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE	
NICO	Neutron Interference Correction Option	YES	
PVN_ITGN	ITGN Computation Version	1.005	
SDAT	Standoff Data Source	SOCN	
SHT	Surface Hole Temperature	68	DEGF
SOCN	Standoff Distance	0	IN
TBHDS	Tool Borehole Diameter Source	CALI	
TBHTS	Tool Borehole Temperature Source	GTSE	
HOLEV: Integrated Hole/Cement Volume			
BHT	Bottom Hole Temperature (used in calculations)	73	DEGF
FCD	Future Casing (Outer) Diameter	0	IN
GCSE	Generalized Caliper Selection	CALI	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
GRSE	Generalized Mud Resistivity Selection	IDFR_RESIST	
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE	
HVCS	Integrated Hole Volume Caliper Selection	AUTOMATIC	
SHT	Surface Hole Temperature	68	DEGF
System and Miscellaneous			
BS	Bit Size	3.780	IN
DFD	Drilling Fluid Density	8.30	LB/G
DO	Depth Offset for Playback	−0.5	FT
FLEV	Fluid Level	−50000.00	FT
MST	Mud Sample Temperature	−50000.00	DEGF
PP	Playback Processing	OFF	
TD	Total Depth	1802	FT

Format: BRAD_IND_S5 **Vertical Scale: 5" per 100'** **Graphics File Created: 04−Oct−2013 20:05**

OP System Version: 19C1−222

IDFR−E	19C1−222	ILDT−B	19C1−222
ITGN−B	19C1−222		

Input DLIS Files

	IDL_LDL_CNL_020LUP	FN:19	03−Oct−2013 10:41	905.0 FT	594.0 FT

Output DLIS Files

DEFAULT	IDL_LDL_CNL_013PUP	FN:17	PRODUCER	04−Oct−2013 20:05
CUSTOMER	IDL_LDL_CNL_013PUC	FN:18	CUSTOMER	04−Oct−2013 20:05

Calibration and Check Summary

Measurement	Nominal	Master	Before	After	Change	Limit	Units
iFlex Litho Density Tool Wellsite Calibration − Detector Calibration							
Master: 31−Jul−2013 10:06 Before: 30−Sep−2013 5:01							
SS Window 1 Count Rate Master	1140	1084	1081	N/A	N/A	N/A	CPS
SS Window 2 Count Rate Master	1470	1391	1388	N/A	N/A	N/A	CPS
SS Window 3 Count Rate Master	760.0	718.0	712.5	N/A	N/A	N/A	CPS
SS Window 4 Count Rate Master	770.0	734.5	729.9	N/A	N/A	N/A	CPS
LS Window 1 Count Rate Master	79.00	74.28	86.00	N/A	N/A	N/A	CPS
LS Window 2 Count Rate Master	94.00	88.50	88.19	N/A	N/A	N/A	CPS
LS Window 3 Count Rate Master	280.0	255.0	254.8	N/A	N/A	N/A	CPS
LS Window 4 Count Rate Master	146.0	135.7	134.1	N/A	N/A	N/A	CPS

iFlex Litho Density Tool Wellsite Calibration − Detector Calibration
Master: 31−Jul−2013 10:06

SS Window 1 Count Rate Water L	27000	26760	N/A	N/A	N/A	N/A	CPS
SS Window 2 Count Rate Water L	23000	21470	N/A	N/A	N/A	N/A	CPS
SS Window 3 Count Rate Water L	13400	12480	N/A	N/A	N/A	N/A	CPS
SS Window 4 Count Rate Water L	11800	10900	N/A	N/A	N/A	N/A	CPS
LS Window 1 Count Rate Water L	1210	1177	N/A	N/A	N/A	N/A	CPS
LS Window 2 Count Rate Water L	1600	1454	N/A	N/A	N/A	N/A	CPS
LS Window 3 Count Rate Water L	2100	1928	N/A	N/A	N/A	N/A	CPS
LS Window 4 Count Rate Water L	530.0	490.5	N/A	N/A	N/A	N/A	CPS

iFlex Litho Density Tool Wellsite Calibration − Detector Calibration
Master: 31−Jul−2013 10:06

SS Window 1 Count Rate Water H	23000	18430	N/A	N/A	N/A	N/A	CPS
SS Window 2 Count Rate Water H	22000	18750	N/A	N/A	N/A	N/A	CPS
SS Window 3 Count Rate Water H	12800	11020	N/A	N/A	N/A	N/A	CPS
SS Window 4 Count Rate Water H	11300	9673	N/A	N/A	N/A	N/A	CPS
LS Window 1 Count Rate Water H	950.0	789.9	N/A	N/A	N/A	N/A	CPS
LS Window 2 Count Rate Water H	1380	1187	N/A	N/A	N/A	N/A	CPS
LS Window 3 Count Rate Water H	2000	1729	N/A	N/A	N/A	N/A	CPS
LS Window 4 Count Rate Water H	500.0	452.5	N/A	N/A	N/A	N/A	CPS

iFlex Litho Density Tool Wellsite Calibration − Detector Calibration
Master: 31−Jul−2013 10:06

SS Window 1 Count Rate Magnesi	28000	27660	N/A	N/A	N/A	N/A	CPS
SS Window 2 Count Rate Magnesi	24000	23000	N/A	N/A	N/A	N/A	CPS
SS Window 3 Count Rate Magnesi	13500	12590	N/A	N/A	N/A	N/A	CPS
SS Window 4 Count Rate Magnesi	11000	10130	N/A	N/A	N/A	N/A	CPS
LS Window 1 Count Rate Magnesi	5400	5063	N/A	N/A	N/A	N/A	CPS
LS Window 2 Count Rate Magnesi	6900	6285	N/A	N/A	N/A	N/A	CPS
LS Window 3 Count Rate Magnesi	8500	7735	N/A	N/A	N/A	N/A	CPS
LS Window 4 Count Rate Magnesi	1500	1384	N/A	N/A	N/A	N/A	CPS

iFlex Telemetry Gamma Neutron Tool Wellsite Calibration − Background
Master: 27−Aug−2013 10:57 Before: 30−Sep−2013 5:03

Near Thermal Count Rate Master	27.00	27.47	27.64	N/A	N/A	N/A	CPS
Far Thermal Count Rate Master	10.00	10.10	10.62	N/A	N/A	N/A	CPS
Epithermal Count Rate Master B	27.00	27.99	27.12	N/A	N/A	N/A	CPS

iFlex Telemetry Gamma Neutron Tool Wellsite Calibration − Tank Measurement
Master: 27−Aug−2013 10:57

Near Thermal Count Rate Tank M	7978	7858	N/A	N/A	N/A	N/A	CPS
Far Thermal Count Rate Tank Me	2847	2734	N/A	N/A	N/A	N/A	CPS
Epithermal Count Rate Tank Mea	813.0	797.5	N/A	N/A	N/A	N/A	CPS

iFlex Dual Formation Resistivity Tool / Equipment Identification

Primary Equipment:

iFlex Resitivity Mud Sensor	IRMS − A	105
iFlex Resistivity Pressure Sub	PSUB − A	125
iFlex Dual Formation Resistivity Sonde	IDRS − E	29

Auxiliary Equipment:

iFlex Litho Density Tool / Equipment Identification

Primary Equipment:

Mechanical Control Sonde	IMCS − A	26
Gamma Gamma Logging Source	GGLS − AA	3119
Powered Density Pad	IPDP − A	26
Caliper Electronics Cartridge	ICEC − B	26

Auxiliary Equipment:

iFlex Litho Density Tool Wellsite Calibration
Detector Calibration

Phase	SS Window 1 Count Rate Master Bkgd CPS	Value
Master		1084
Before		1081

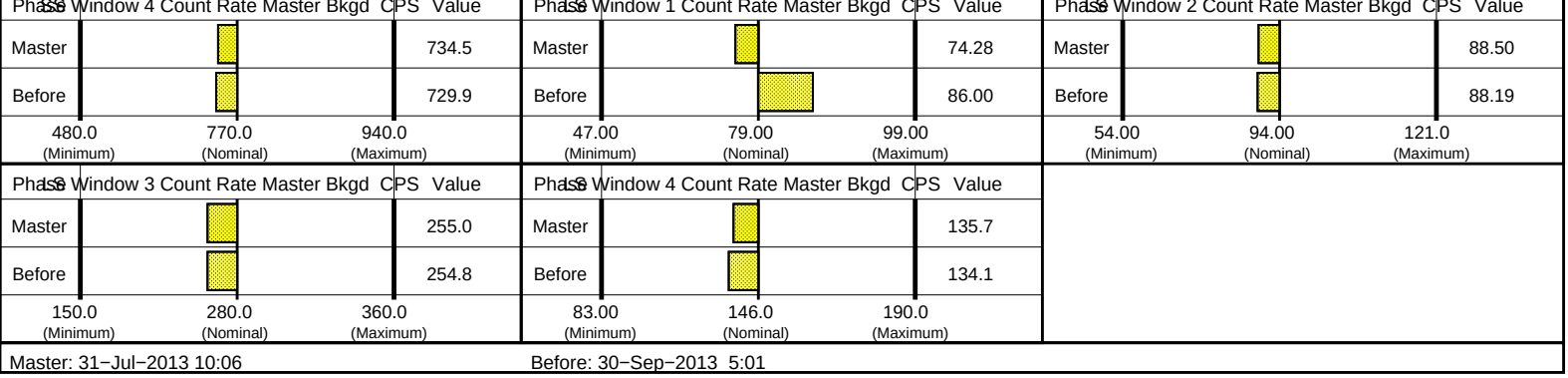
730.0 (Minimum) 1140 (Nominal) 1370 (Maximum)

Phase	SS Window 2 Count Rate Master Bkgd CPS	Value
Master		1391
Before		1388

990.0 (Minimum) 1470 (Nominal) 1720 (Maximum)

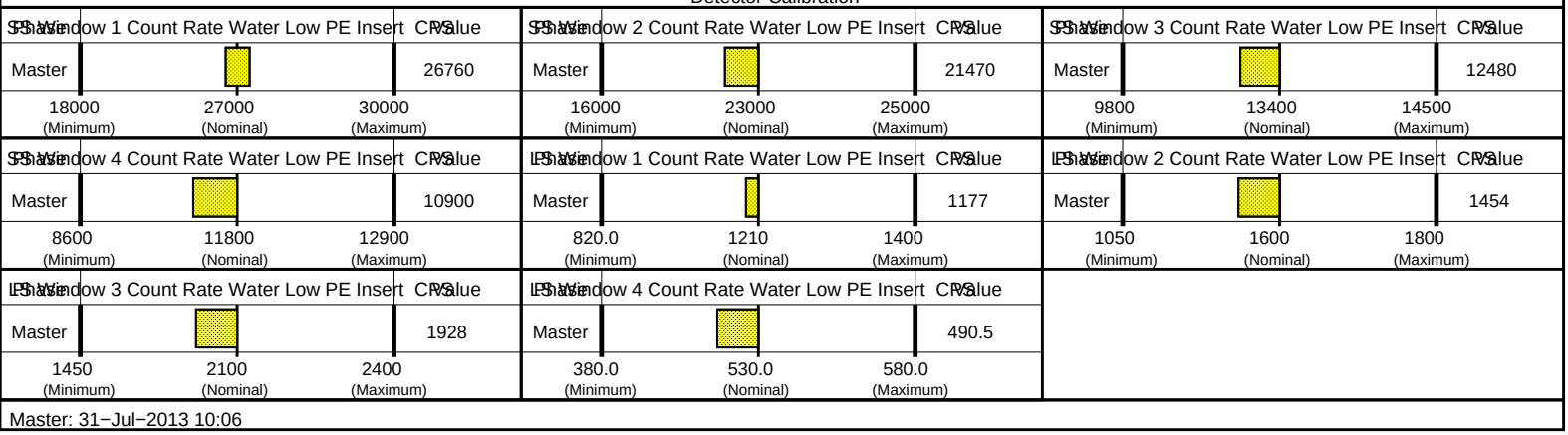
Phase	SS Window 3 Count Rate Master Bkgd CPS	Value
Master		718.0
Before		712.5

490.0 (Minimum) 760.0 (Nominal) 900.0 (Maximum)



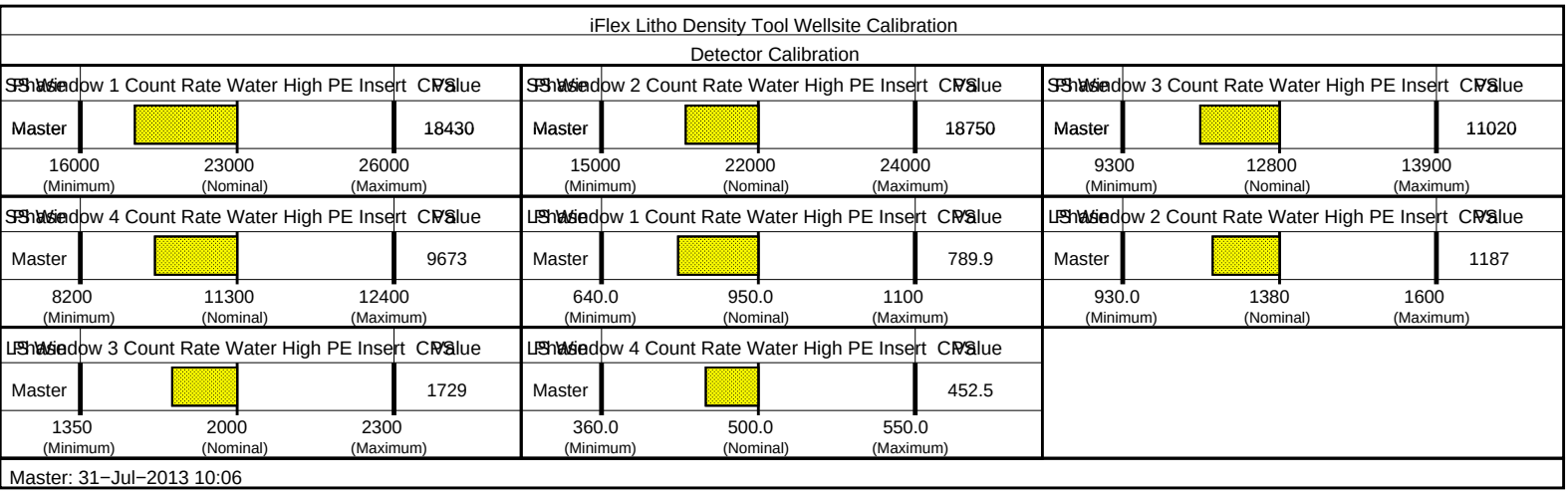
iFlex Litho Density Tool Wellsite Calibration

Detector Calibration



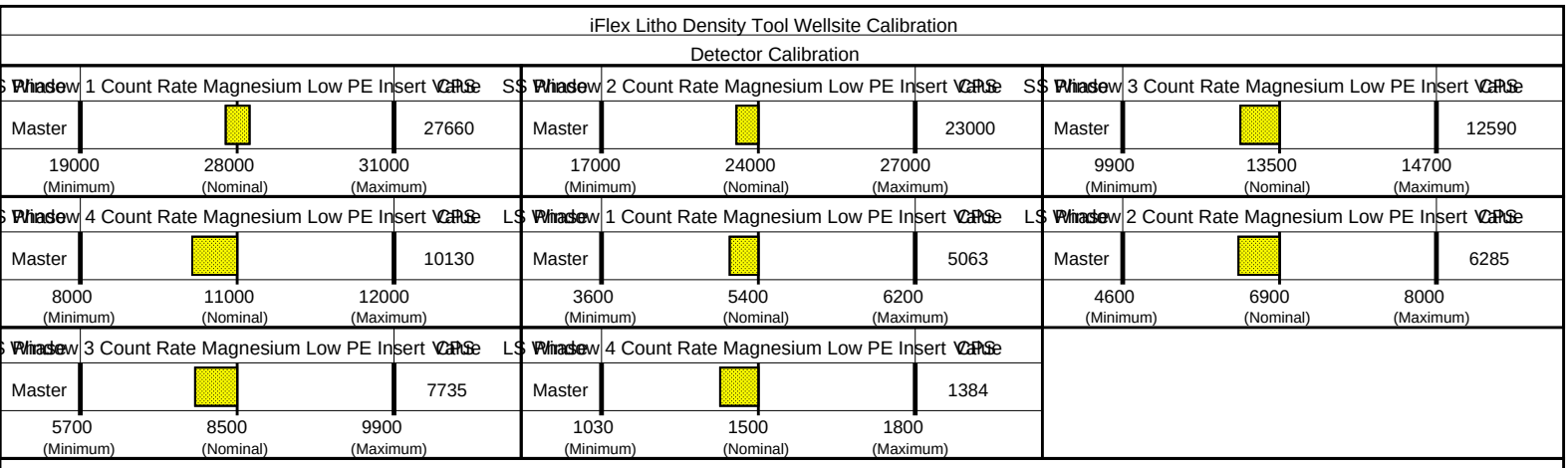
iFlex Litho Density Tool Wellsite Calibration

Detector Calibration



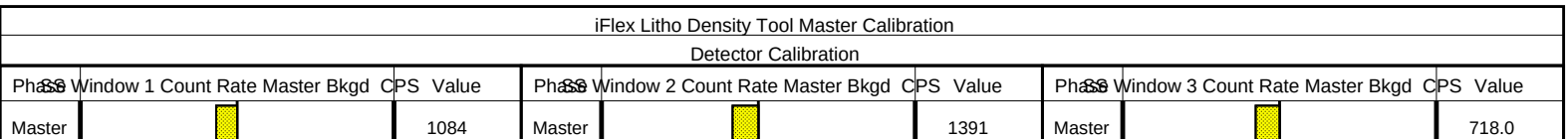
iFlex Litho Density Tool Wellsite Calibration

Detector Calibration



iFlex Litho Density Tool Master Calibration

Detector Calibration



730.0 (Minimum)	1140 (Nominal)	1370 (Maximum)	
990.0 (Minimum)	1470 (Nominal)	1720 (Maximum)	
490.0 (Minimum)	760.0 (Nominal)	900.0 (Maximum)	

Phase SS Window 4 Count Rate Master Bkgd CPS Value			
Master			734.5
480.0 (Minimum)	770.0 (Nominal)	940.0 (Maximum)	
Phase LS Window 1 Count Rate Master Bkgd CPS Value			
Master			74.28
47.00 (Minimum)	79.00 (Nominal)	99.00 (Maximum)	
Phase LS Window 2 Count Rate Master Bkgd CPS Value			
Master			88.50
54.00 (Minimum)	94.00 (Nominal)	121.0 (Maximum)	
Phase SS Window 3 Count Rate Master Bkgd CPS Value			
Master			255.0
150.0 (Minimum)	280.0 (Nominal)	360.0 (Maximum)	
Phase LS Window 4 Count Rate Master Bkgd CPS Value			
Master			135.7
83.00 (Minimum)	146.0 (Nominal)	190.0 (Maximum)	

Master: 31−Jul−2013 10:06

iFlex Litho Density Tool Master Calibration

Detector Calibration

SS Window 1 Count Rate Water Low PE Insert CPS Value			
Master			26760
18000 (Minimum)	27000 (Nominal)	30000 (Maximum)	
SS Window 2 Count Rate Water Low PE Insert CPS Value			
Master			21470
16000 (Minimum)	23000 (Nominal)	25000 (Maximum)	
SS Window 3 Count Rate Water Low PE Insert CPS Value			
Master			12480
9800 (Minimum)	13400 (Nominal)	14500 (Maximum)	
SS Window 4 Count Rate Water Low PE Insert CPS Value			
Master			10900
8600 (Minimum)	11800 (Nominal)	12900 (Maximum)	
LS Window 1 Count Rate Water Low PE Insert CPS Value			
Master			1177
820.0 (Minimum)	1210 (Nominal)	1400 (Maximum)	
LS Window 2 Count Rate Water Low PE Insert CPS Value			
Master			1454
1050 (Minimum)	1600 (Nominal)	1800 (Maximum)	
LS Window 3 Count Rate Water Low PE Insert CPS Value			
Master			1928
1450 (Minimum)	2100 (Nominal)	2400 (Maximum)	
LS Window 4 Count Rate Water Low PE Insert CPS Value			
Master			490.5
380.0 (Minimum)	530.0 (Nominal)	580.0 (Maximum)	

Master: 31−Jul−2013 10:06

iFlex Litho Density Tool Master Calibration

Detector Calibration

SS Window 1 Count Rate Water High PE Insert CPS Value			
Master			18430
16000 (Minimum)	23000 (Nominal)	26000 (Maximum)	
SS Window 2 Count Rate Water High PE Insert CPS Value			
Master			18750
15000 (Minimum)	22000 (Nominal)	24000 (Maximum)	
SS Window 3 Count Rate Water High PE Insert CPS Value			
Master			11020
9300 (Minimum)	12800 (Nominal)	13900 (Maximum)	
SS Window 4 Count Rate Water High PE Insert CPS Value			
Master			9673
8200 (Minimum)	11300 (Nominal)	12400 (Maximum)	
LS Window 1 Count Rate Water High PE Insert CPS Value			
Master			789.9
640.0 (Minimum)	950.0 (Nominal)	1100 (Maximum)	
LS Window 2 Count Rate Water High PE Insert CPS Value			
Master			1187
930.0 (Minimum)	1380 (Nominal)	1600 (Maximum)	
LS Window 3 Count Rate Water High PE Insert CPS Value			
Master			1729
1350 (Minimum)	2000 (Nominal)	2300 (Maximum)	
LS Window 4 Count Rate Water High PE Insert CPS Value			
Master			452.5
360.0 (Minimum)	500.0 (Nominal)	550.0 (Maximum)	

Master: 31−Jul−2013 10:06

iFlex Litho Density Tool Master Calibration

Detector Calibration

SS Window 1 Count Rate Magnesium Low PE Insert CPS Value			
Master			27660
19000 (Minimum)	28000 (Nominal)	31000 (Maximum)	
SS Window 2 Count Rate Magnesium Low PE Insert CPS Value			
Master			23000
17000 (Minimum)	24000 (Nominal)	27000 (Maximum)	
SS Window 3 Count Rate Magnesium Low PE Insert CPS Value			
Master			12590
9900 (Minimum)	13500 (Nominal)	14700 (Maximum)	
SS Window 4 Count Rate Magnesium Low PE Insert CPS Value			
Master			10130
8000 (Minimum)	11000 (Nominal)	12000 (Maximum)	
LS Window 1 Count Rate Magnesium Low PE Insert CPS Value			
Master			5063
3600 (Minimum)	5400 (Nominal)	6200 (Maximum)	
LS Window 2 Count Rate Magnesium Low PE Insert CPS Value			
Master			6285
4600 (Minimum)	6900 (Nominal)	8000 (Maximum)	
LS Window 3 Count Rate Magnesium Low PE Insert CPS Value			
Master			7735
5700 (Minimum)	8500 (Nominal)	9900 (Maximum)	
LS Window 4 Count Rate Magnesium Low PE Insert CPS Value			
Master			1384
1030 (Minimum)	1500 (Nominal)	1800 (Maximum)	

Master: 31−Jul−2013 10:06

iFlex Telemetry Gamma Neutron Tool / Equipment Identification

Primary Equipment:

Telemetry Gamma Neutron Sonde	ITNS − B	22

Neutron Neutron Logging Source − contain	NNLS − C	6011
Telemetry Gamma Neutron Housing	ITNH − B	22
PSP Supply and Telemetry Cartridge	PSTC − A	3703
PSP Telemetry Cartridge	PSC − ATS	3703
PSC 16.384MHz oscillator	PSC_ −	

Auxiliary Equipment:

iFlex Telemetry Gamma Neutron Tool Wellsite Calibration

Background

Phase	Near Thermal Count Rate Master Bkgd CPS	Value	Phase	Far Thermal Count Rate Master Bkgd CPS	Value	Phase	Epithermal Count Rate Master Bkgd CPS	Value
Master		27.47	Master		10.10	Master		27.99
Before		27.64	Before		10.62	Before		27.12
	20.00 (Minimum) 27.00 (Nominal) 40.00 (Maximum)			7.000 (Minimum) 10.00 (Nominal) 17.00 (Maximum)			20.00 (Minimum) 27.00 (Nominal) 40.00 (Maximum)	

Master: 27−Aug−2013 10:57 Before: 30−Sep−2013 5:03

iFlex Telemetry Gamma Neutron Tool Wellsite Calibration

Tank Measurement

Phase	Near Thermal Count Rate Tank Meas CPS	Value	Phase	Far Thermal Count Rate Tank Meas CPS	Value	Phase	Epithermal Count Rate Tank Meas CPS	Value
Master		7858	Master		2734	Master		797.5
	7322 (Minimum) 7978 (Nominal) 8580 (Maximum)			2578 (Minimum) 2847 (Nominal) 3106 (Maximum)			746.0 (Minimum) 813.0 (Nominal) 881.0 (Maximum)	

Master: 27−Aug−2013 10:57

iFlex Telemetry Gamma Neutron Tool Master Calibration

Tank Measurement

Phase	Near Thermal Count Rate Tank Meas CPS	Value	Phase	Far Thermal Count Rate Tank Meas CPS	Value	Phase	Epithermal Count Rate Tank Meas CPS	Value
Master		7858	Master		2734	Master		797.5
	7322 (Minimum) 7978 (Nominal) 8580 (Maximum)			2578 (Minimum) 2847 (Nominal) 3106 (Maximum)			746.0 (Minimum) 813.0 (Nominal) 881.0 (Maximum)	

Master: 27−Aug−2013 10:57

Company: **LAMONT DOHERTY EARTH OBSERVATORY**

Schlumberger

Well: **TW #4**
Field: **WILDCAT**
County: **ROCKLAND**
State: **NEW YORK**

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