

Company: **Ormat Nevada, INC**

Well: **Wister 85-20**

Field: **Salton Sea**

County: **Imperial**

State: **California**

[illegible]

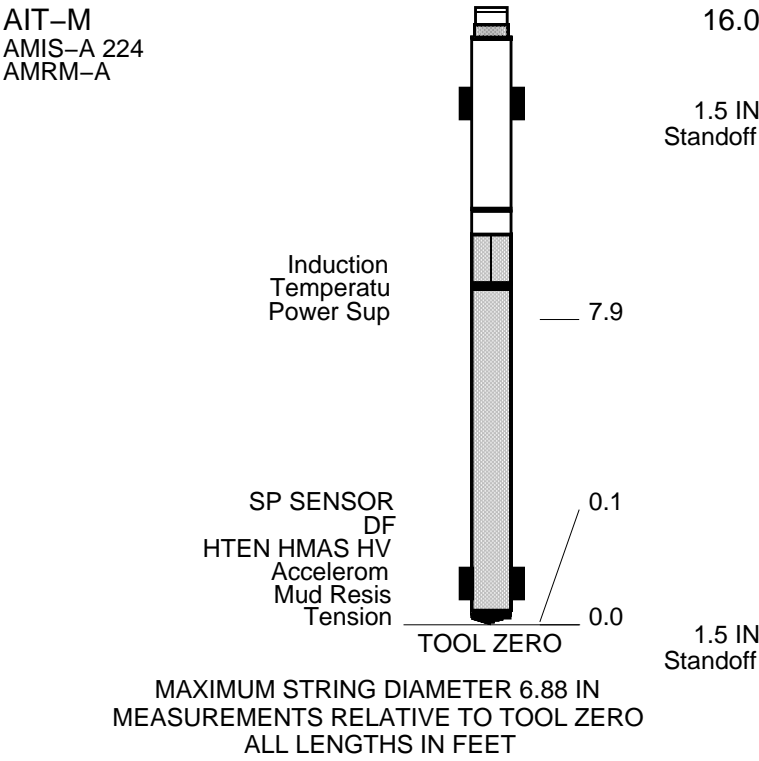
Logging Date				
Run Number				
Depth Driller				
Schlumberger Depth				
Bottom Log Interval				
Top Log Interval				
Casing Driller Size @ Depth		@		
Casing Schlumberger				
Bit Size				
Type Fluid In Hole				
Density	Viscosity			
Fluid Loss	PH			
MUD				
Source Of Sample				
RM @ Measured Temperature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

OTHER SERVICES1 OS1: NONE OS2: OS3: OS4: OS5:	OTHER SERVICES2 OS1: OS2: OS3: OS4: OS5:
REMARKS: RUN NUMBER 1	REMARKS: RUN NUMBER 2
TWO 1.5" STANDOFFS RAN ON INDUCTION TOOL	
CHLORIDES = 1240 PPM	
MAX TEMP = 158 DEG F	
HRMS EXTENDED ARM CALIPER USED DUE TO LARGE HOLE SIZE	
HOLE AND CEMENT VOLUME COMPUTED USING 13 3/8" FUTURE CASING	

RIG: GEODRILL 1	
CREW: SAL ALVAREZ, DAVID WHEAT	
THANK YOU FOR CHOOSING SCHLUMBERGER	
<div style="text-align: center;">RUN 1</div> <div>SERVICE ORDER #: PROGRAM VERSION: FLUID LEVEL:</div> <div>B2G5-00203 19C0-187</div>	<div style="text-align: center;">RUN 2</div> <div>SERVICE ORDER #: PROGRAM VERSION: FLUID LEVEL:</div>
LOGGED INTERVAL START STOP	LOGGED INTERVAL START STOP

EQUIPMENT DESCRIPTION

RUN 1	RUN 2
<div style="text-align: center; font-weight: bold;">SURFACE EQUIPMENT</div> <div>GSR-U/Y NCT-B CNB-AB NCS-VB</div>	
<div style="text-align: center; font-weight: bold;">DOWNHOLE EQUIPMENT</div> <p>The diagram shows a vertical column of downhole equipment. On the left, components are listed for Run 1. In the center, there's a schematic representation of the tools. On the right, depths are given in meters.</p> <ul style="list-style-type: none"> LEH-QT: 43.6m DTC-H: 40.6m ECH-KC DTCH0-A 9141 DTCH1-A 9141 HILTH-FTB: 37.6m HGNSD-H 4768 HMCA-H HGNH 3853 NLS-KL NSR-F 2395 HACCZ-H 5466 HCNT-H HGR HRCC-H 4927 HRMS-H 4763 HRGD-H 4828 GLS-VJ 5393 MCFL Device-H HILT Nucl. LS-H 28649 HILT Nucl. SS-H 42767 HILT Nucl. BS-H 42767 BOW-SPR NPV-N HRCC cart: 24.2m MCFL: 18.8m HILT cali: 18.3m HRDD-LS: 17.9m HRDD-SS HRDD-BS 	



Schlumberger

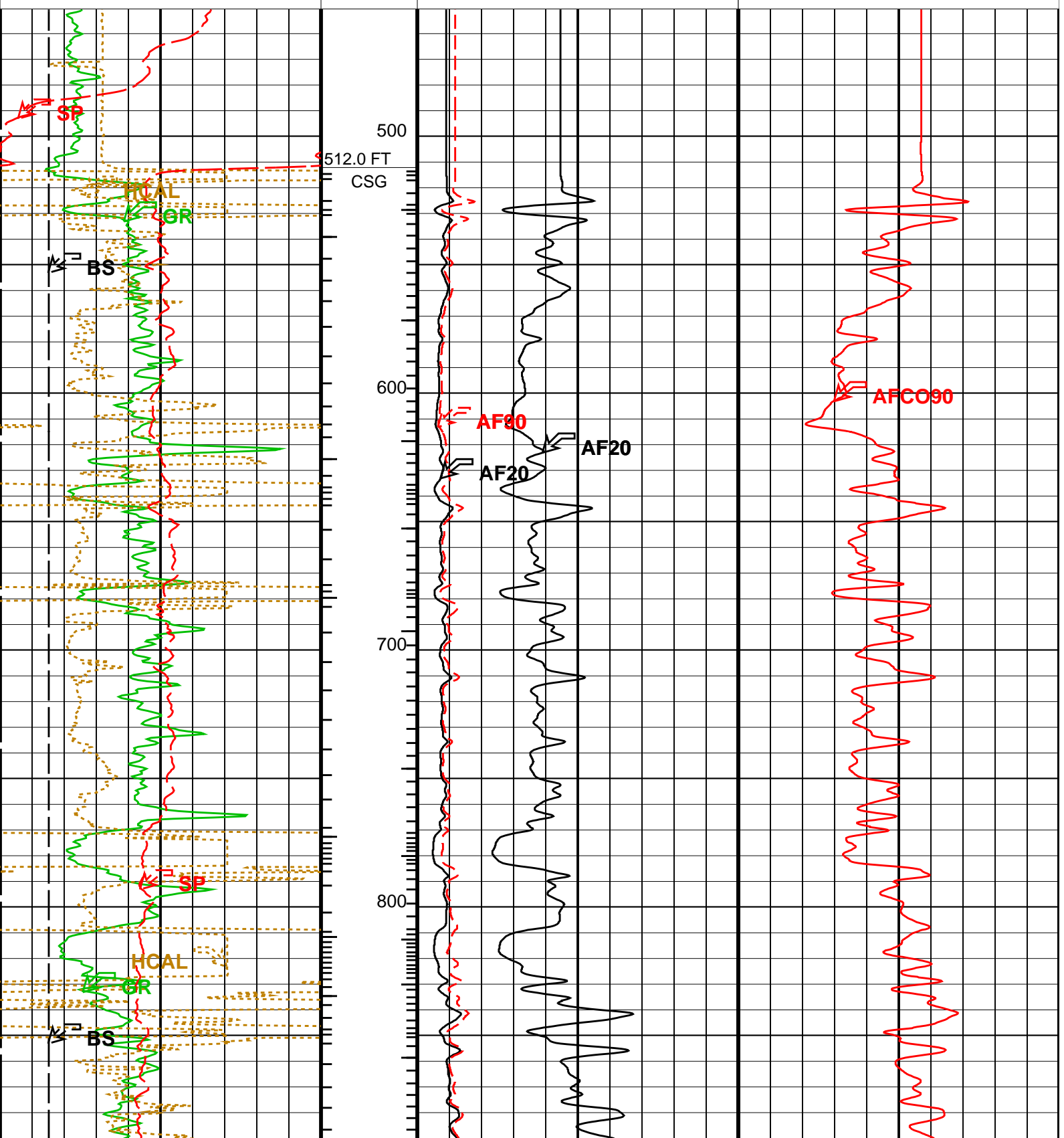
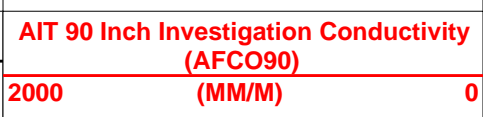
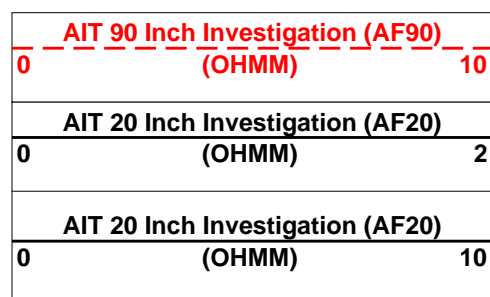
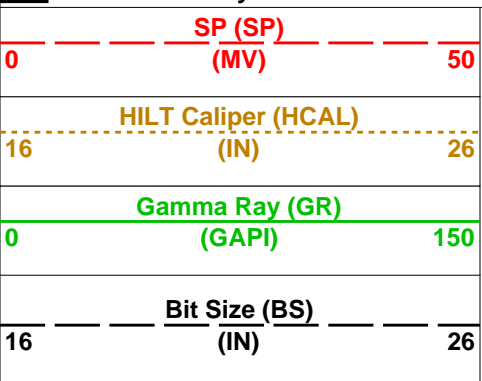
MAIN PASS S2
2" = 100'

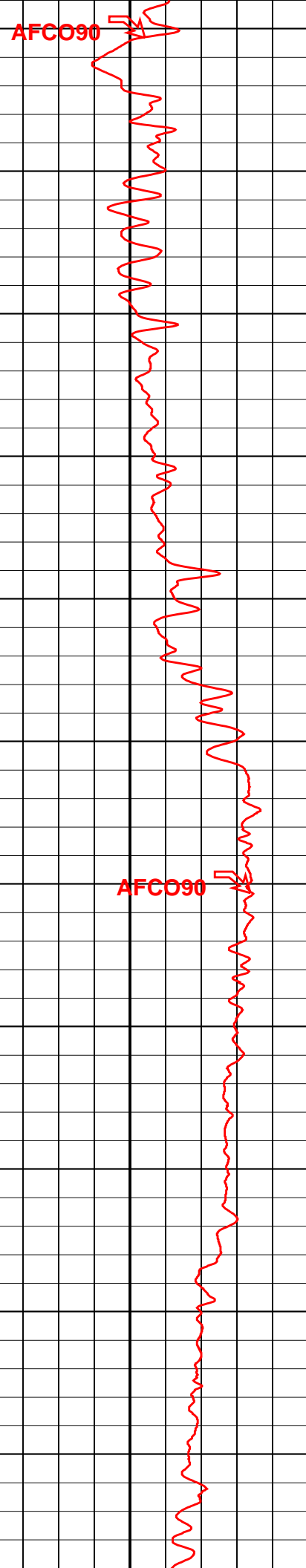
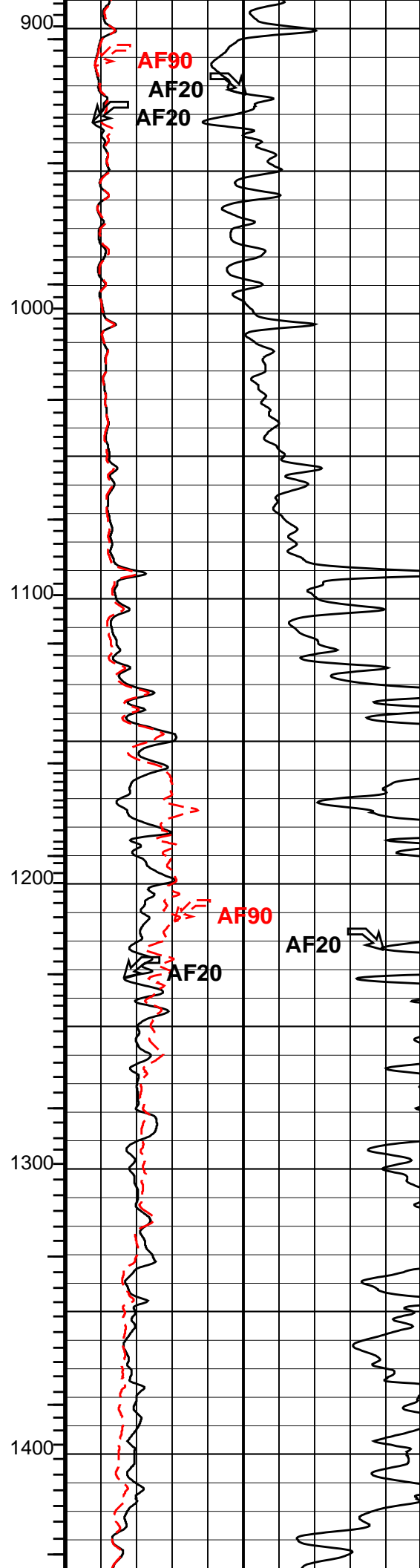
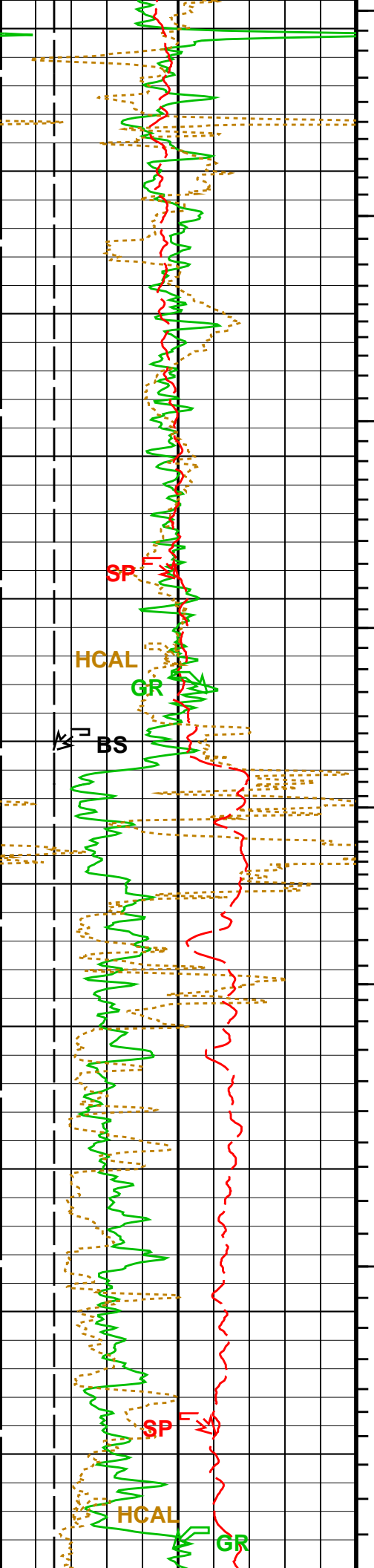
MAXIS Field Log

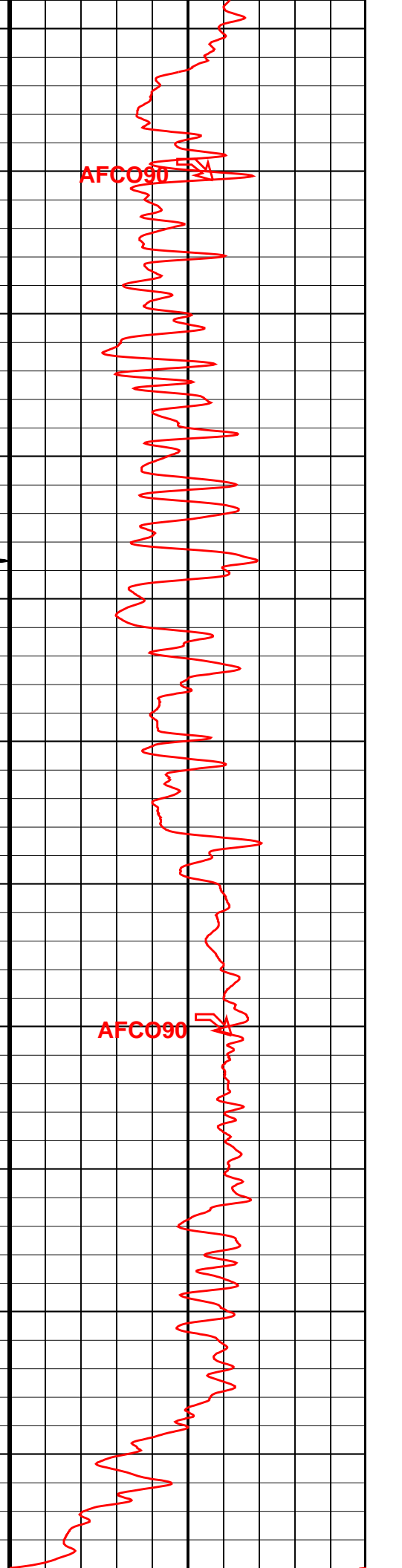
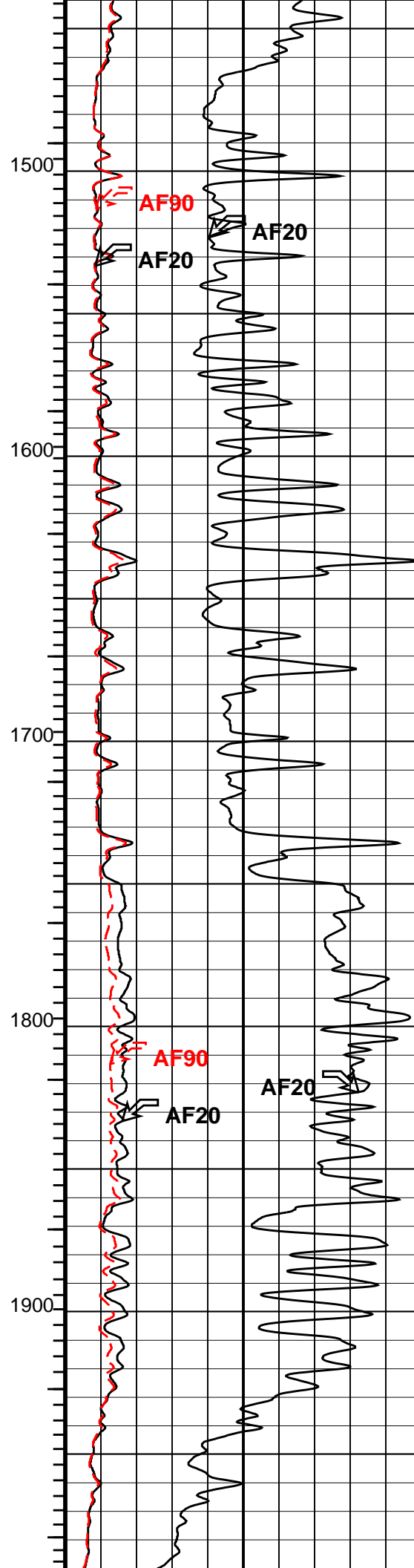
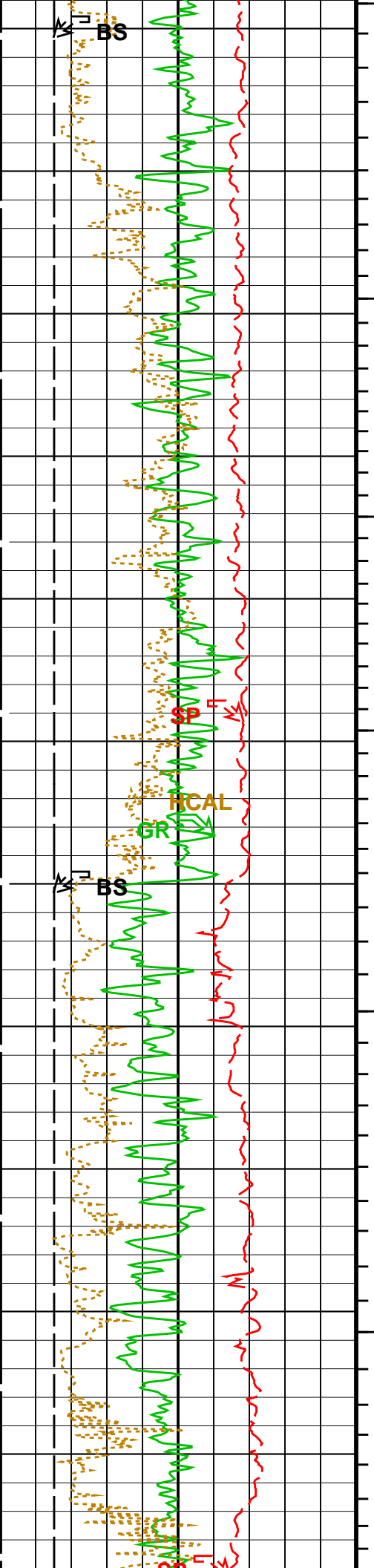
Company: Ormat Nevada, INCWell: Wister 85-20

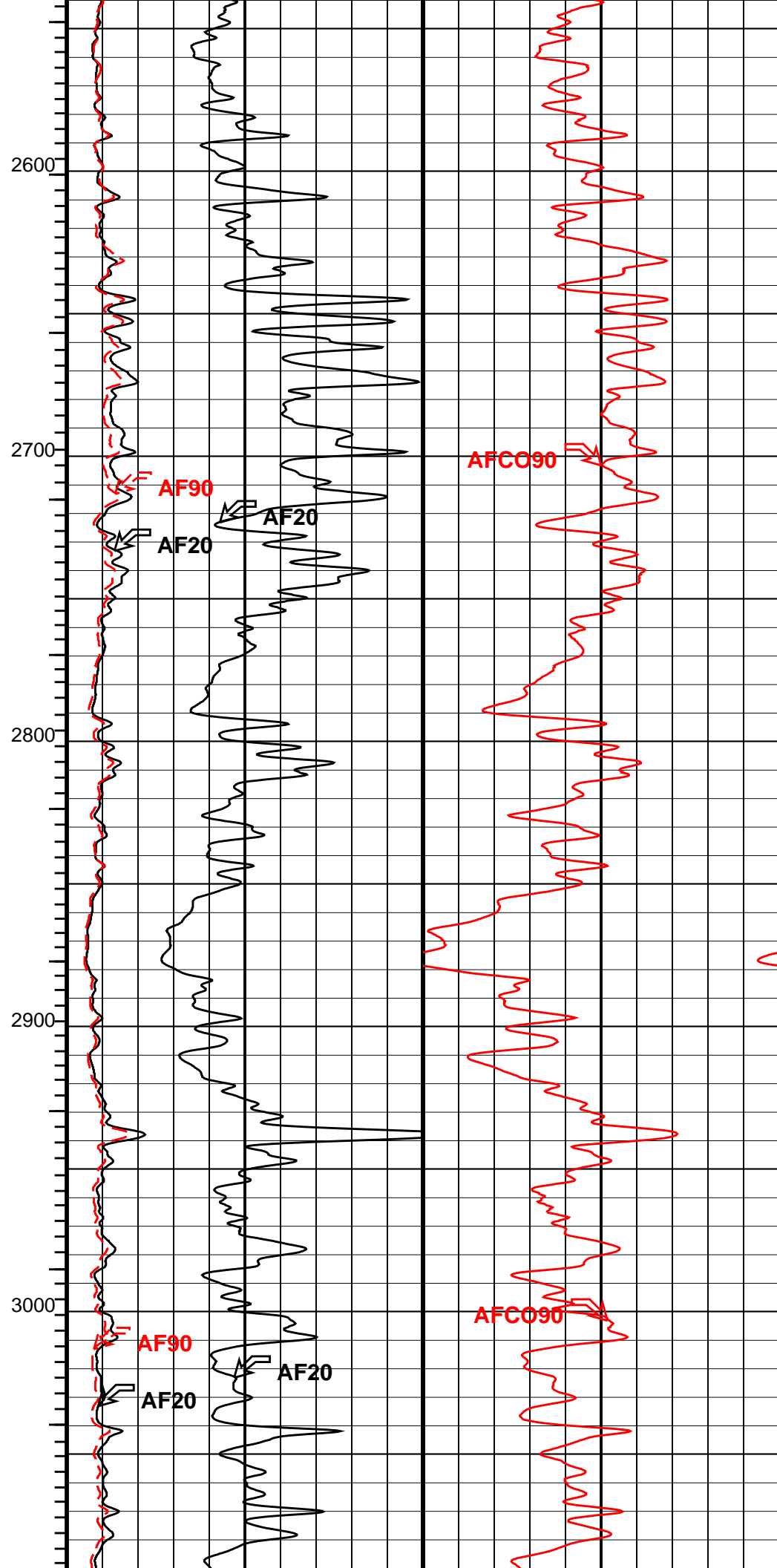
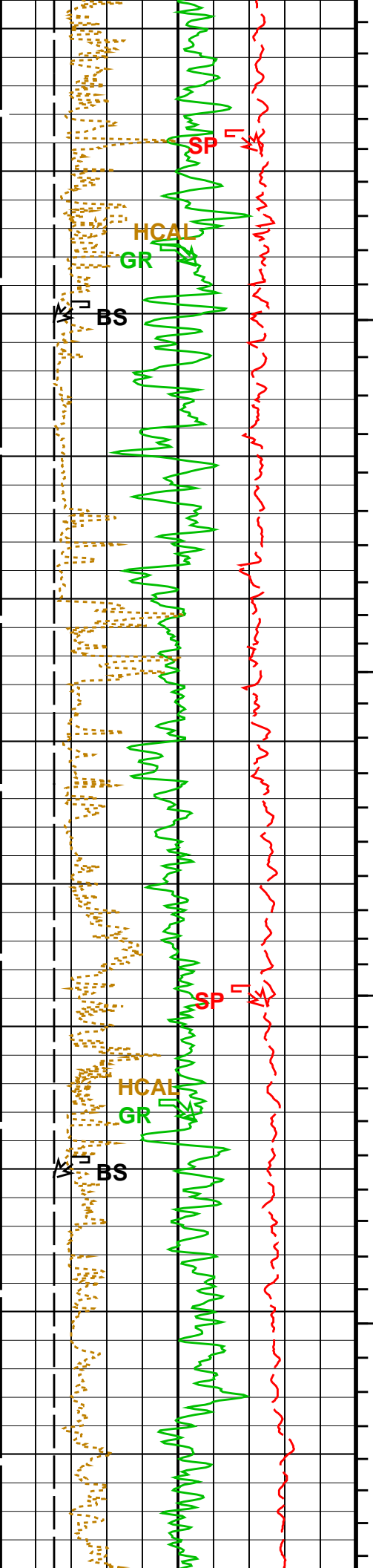
Input DLIS Files						
DEFAULT	AIT_TLD_MCFL_CNL_011LUP	FN:7	PRODUCER	18-Jul-2011 18:47	3490.5 FT	386.3 FT
Output DLIS Files						
DEFAULT	AIT_TLD_MCFL_CNL_025PUP	FN:13	PRODUCER	18-Jul-2011 19:56	3492.0 FT	450.0 FT
Integrated Hole/Cement Volume Summary						
Hole Volume = 6154.23 F3						
Cement Volume = 3258.00 F3 (assuming 13.38 IN casing O.D.)						
Computed from 3480.0 FT to 512.0 FT using data channel(s) HCAL						
OP System Version: 19C0-187						
AIT-M	19C0-187	HILTH-FTB		SRPC-4073-Q4_2010_OP19		
DTC-H	19C0-187					

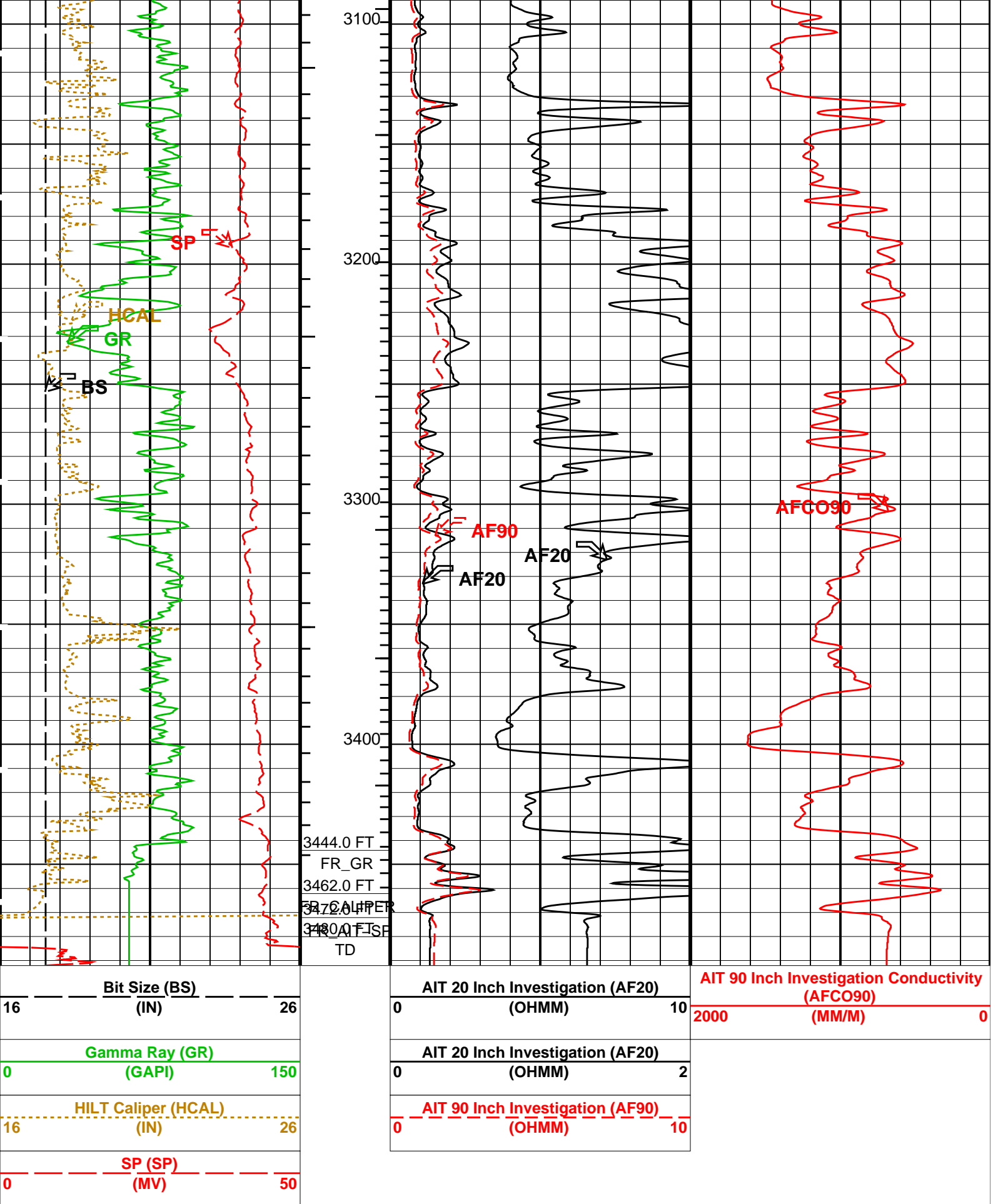
- PIP SUMMARY
- └ Integrated Cement Volume Major Pip Every 100 F3
 - └ Integrated Cement Volume Minor Pip Every 10 F3
 - └ Integrated Hole Volume Major Pip Every 100 F3
 - └ Integrated Hole Volume Minor Pip Every 10 F3











PIP SUMMARY

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

Parameters

DLIS Name	Description	Value	
AIT-M: Array Induction Tool – M			
ABHM	Array Induction Borehole Correction Mode	2_ComputeStandoff	
ABHV	Array Induction Borehole Correction Code Version Number	900	
ABLM	Array Induction Basic Logs Mode	6_One_Two_and_Four	
ABLV	Array Induction Basic Logs Code Version Number	223	
ACDE	Array Induction Casing Detection Enable	Yes	
ACEN	Array Induction Tool Centering Flag (in Borehole)	Eccentered	
ACSED	Array Induction Casing Shoe Estimated Depth	-50000	FT
AETP	Array Induction Enable Sonde Error Temp&Pres Corr	Yes	
AFRSV	Array Induction Response Set Version for Four ft Resolution	41.70.24.20	
AIGS	Array Induction Select Akisma Interpolation Gating	On	
AMRF	Array Induction Mud Resistivity Factor	1	
AORSV	Array Induction Response Set Version for One ft Resolution	41.70.24.20	
ARFV	Array Induction Radial Profiling Code Version Number	701	
ARPV	Array Induction Radial Parametrization Code Version Number	232	
ASTA	Array Induction Tool Standoff	1.5	IN
ATRSV	Array Induction Response Set Version for Two ft Resolution	41.70.24.20	
ATSE	Array Induction Temperature Selection(Sonde Error Correction)	Internal	
AULV	Array Induction User Level Control	Normal	
AZRSV	Array Induction Response Set Version for Z Resolution	00.10.25.00	
BHT	Bottom Hole Temperature (used in calculations)	158	DEGF
FEXP	Form Factor Exponent	2	
FNUM	Form Factor Numerator	1	
GCSE	Generalized Caliper Selection	HCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
GRSE	Generalized Mud Resistivity Selection	AITM_RESIST	
GTSE	Generalized Temperature Selection	HSTS_HTEM	
SHT	Surface Hole Temperature	68	DEGF
SPDR	SP Drift	0.01	MV/F
SPNV	SP Next Value	0	MV
HILTH-FTB: High resolution Integrated Logging Tool-DTS			
BHT	Bottom Hole Temperature (used in calculations)	158	DEGF
FEXP	Form Factor Exponent	2	
FNUM	Form Factor Numerator	1	
GCSE	Generalized Caliper Selection	HCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
GRSE	Generalized Mud Resistivity Selection	AITM_RESIST	
GTSE	Generalized Temperature Selection	HSTS_HTEM	
SHT	Surface Hole Temperature	68	DEGF
HOLEV: Integrated Hole/Cement Volume			
BHT	Bottom Hole Temperature (used in calculations)	158	DEGF
FCD	Future Casing (Outer) Diameter	13.375	IN
GCSE	Generalized Caliper Selection	HCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
GRSE	Generalized Mud Resistivity Selection	AITM_RESIST	
GTSE	Generalized Temperature Selection	HSTS_HTEM	
HVCS	Integrated Hole Volume Caliper Selection	AUTOMATIC	
SHT	Surface Hole Temperature	68	DEGF
System and Miscellaneous			
BS	Bit Size	17.500	IN
DFD	Drilling Fluid Density	9.40	LB/G
DO	Depth Offset for Playback	1.5	FT
DORL	Depth Offset for Repeat Analysis	1.0	FT
FLEV	Fluid Level	-50000.00	FT
MST	Mud Sample Temperature	97.60	DEGF
PP	Playback Processing	RECOMPUTE	
TD	Total Depth	3480	FT

Format: AIT_2 Vertical Scale: 2" per 100' Graphics File Created: 18-Jul-2011 19:56

OP System Version: 19C0-187

AIT-M	19C0-187	HILTH-FTB	SRPC-4073-Q4_2010_OP19
DTC-H	19C0-187		

Input DLIS Files

DEFAULT	AIT_TLD_MCFL_CNL_011LUP	FN:7	PRODUCER	18-Jul-2011 18:47	3490.5 FT	386.3 FT
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Output DLIS Files

DEFAULT	AIT_TLD_MCFL_CNL_025PUP	FN:13	PRODUCER	18-Jul-2011 19:56
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MAIN PASS S5

5" = 100'

MAXIS Field Log

Company: Ormat Nevada, INC

Well: Wister 85-20

Input DLIS Files

DEFAULT AIT_TLD_MCFL_CNL_011LUP FN:7 PRODUCER 18-Jul-2011 18:47 3490.5 FT 386.3 FT

Output DLIS Files

DEFAULT AIT_TLD_MCFL_CNL_025PUP FN:13 PRODUCER 18-Jul-2011 19:56 3492.0 FT 450.0 FT

Integrated Hole/Cement Volume Summary

Hole Volume = 6154.23 F3

Cement Volume = 3258.00 F3 (assuming 13.38 IN casing O.D.)

Computed from 3480.0 FT to 512.0 FT using data channel(s) HCAL

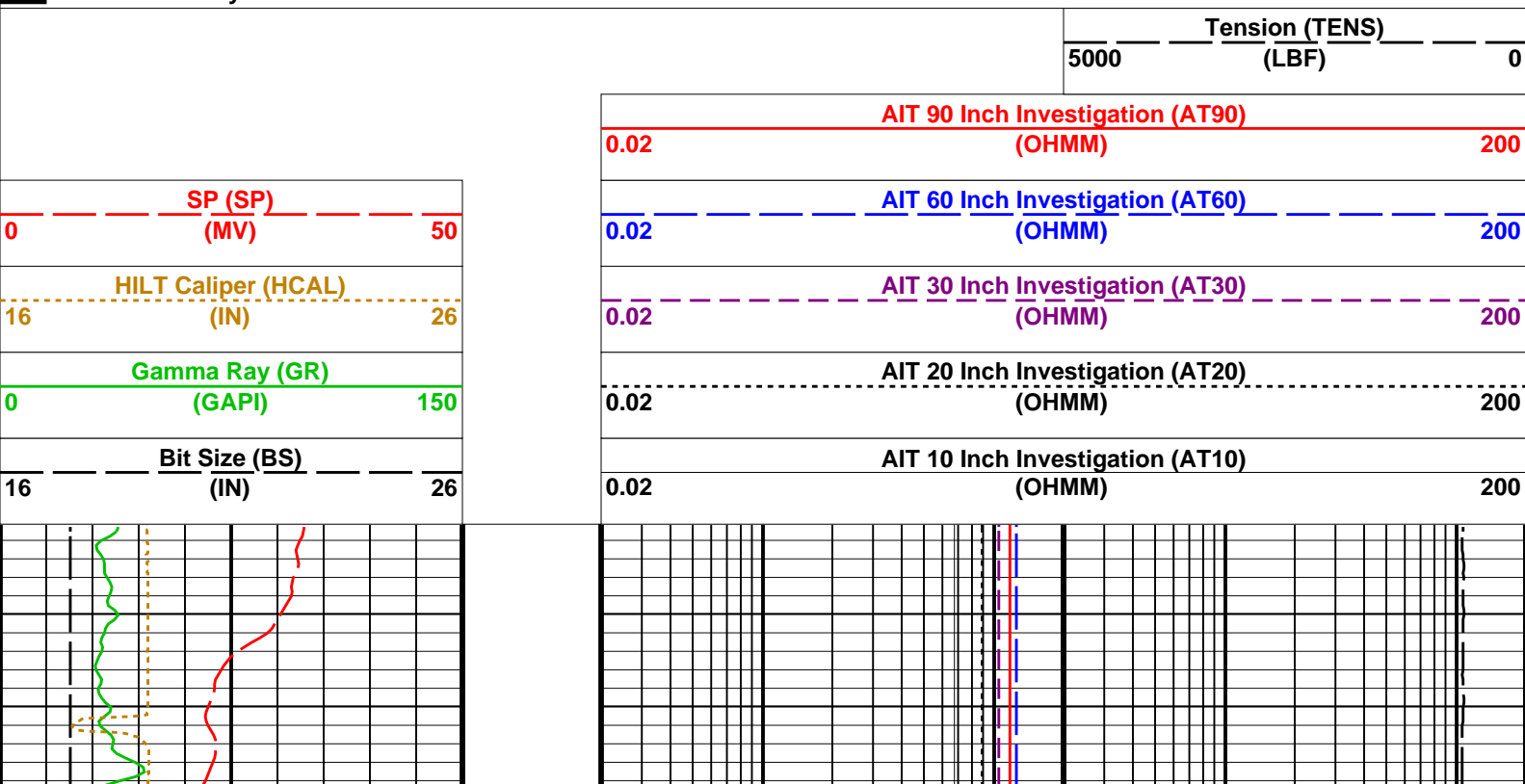
OP System Version: 19C0-187

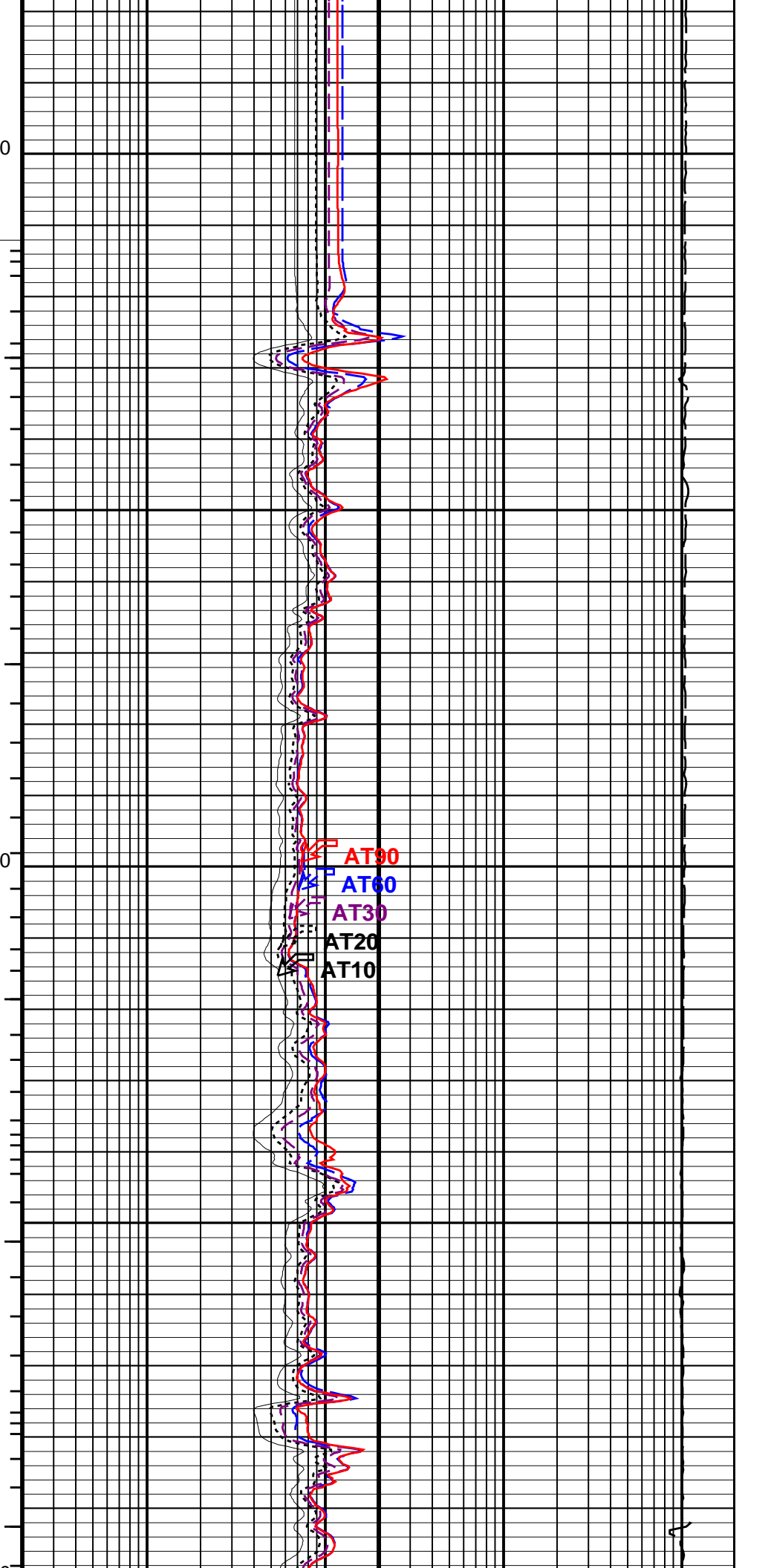
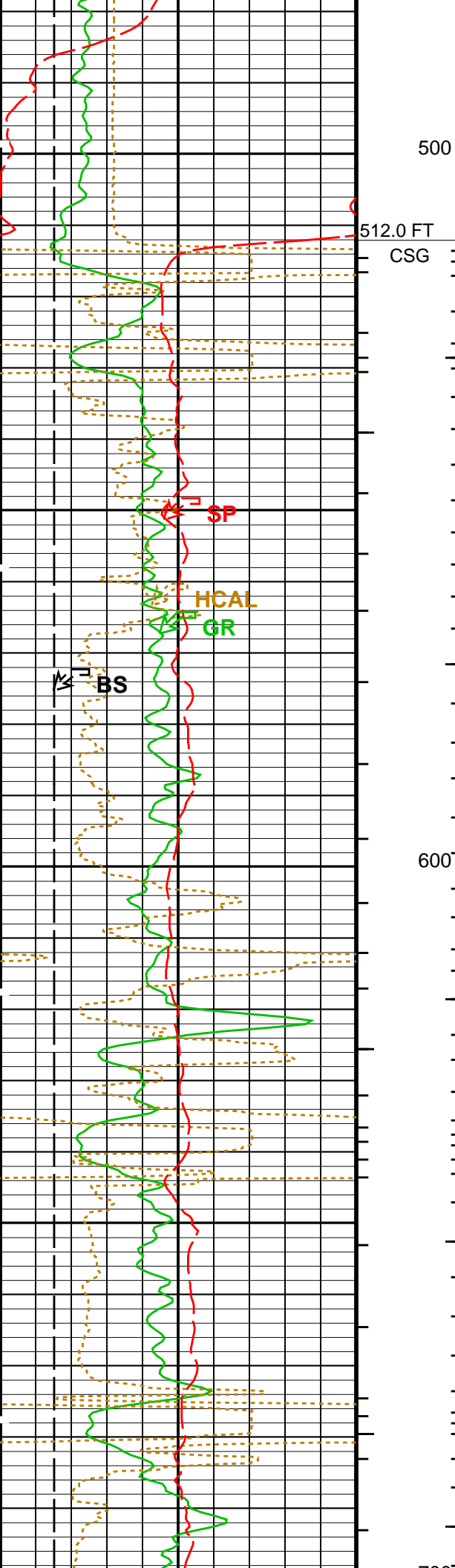
AIT-M 19C0-187
DTC-H 19C0-187
HILTH-FTB SRPC-4073-Q4_2010_OP19

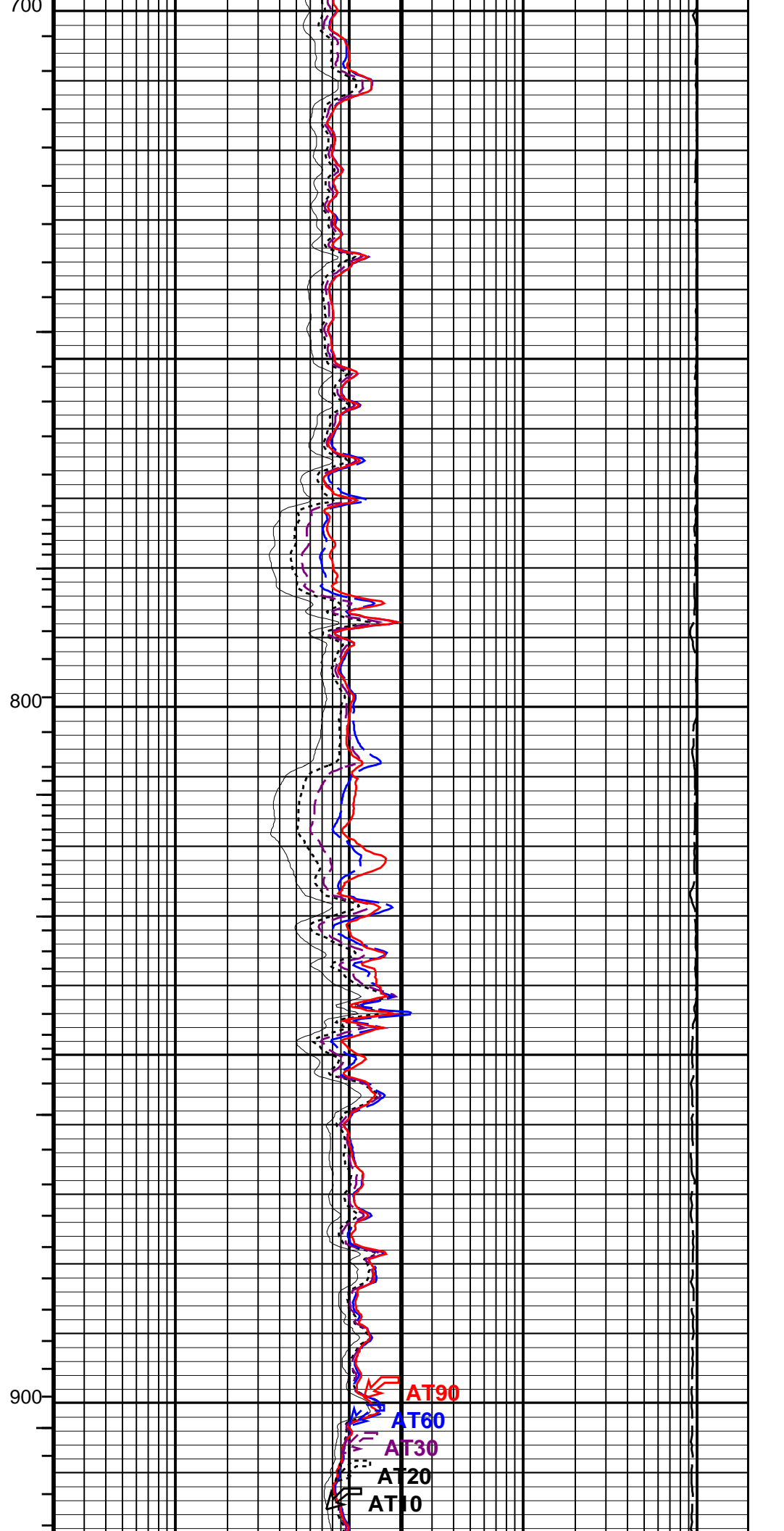
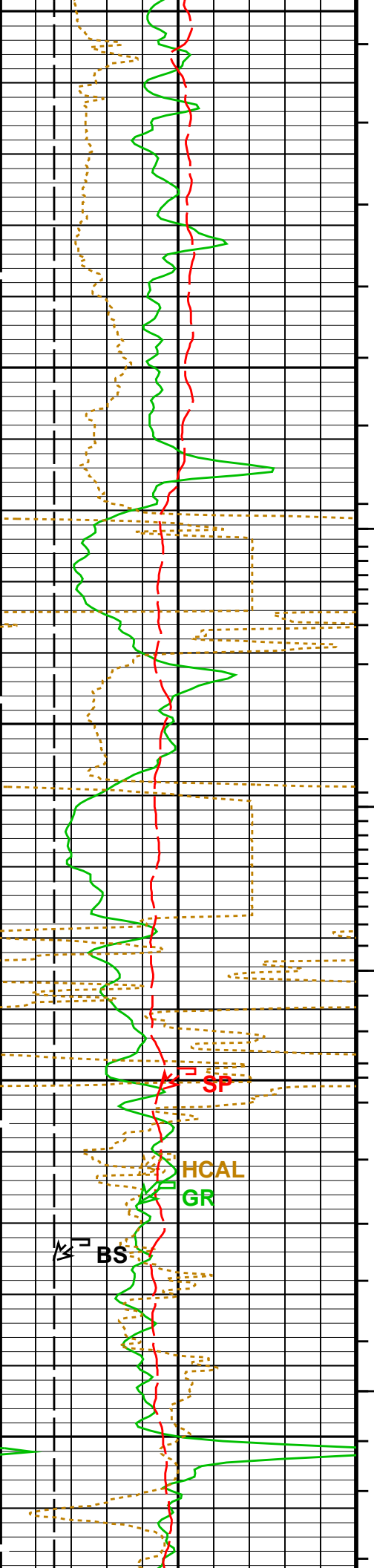
PIP SUMMARY

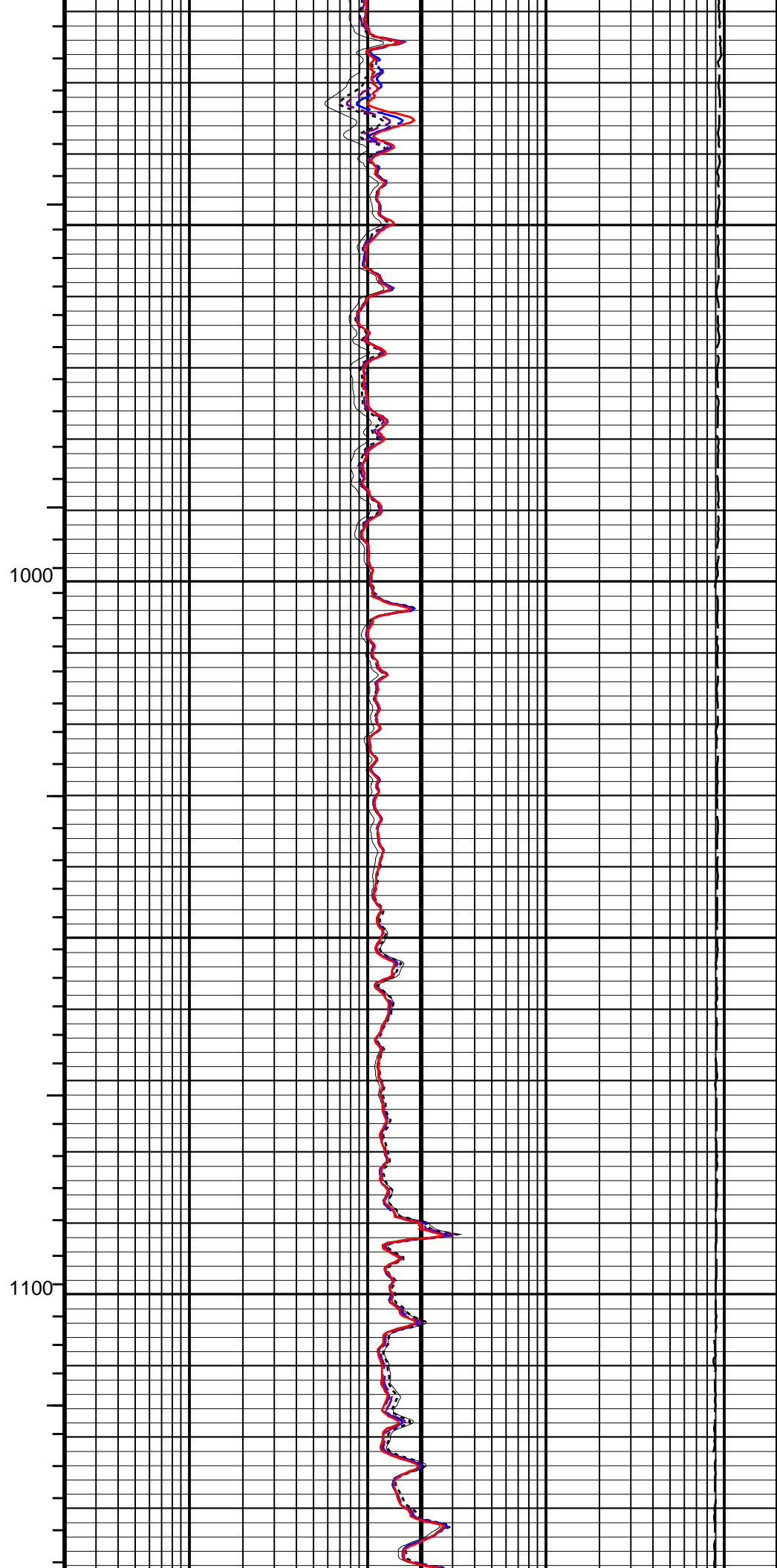
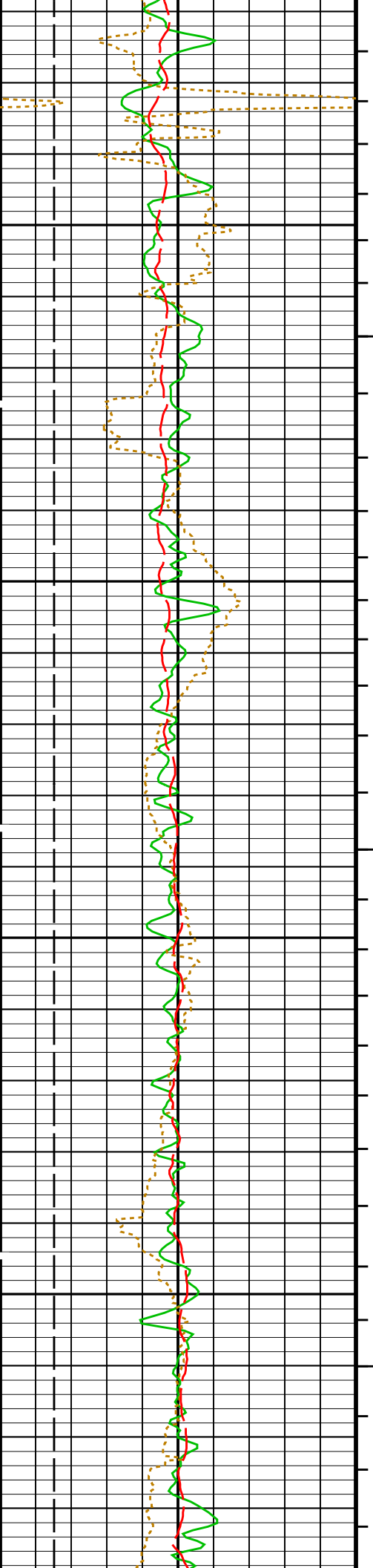
- └ Integrated Cement Volume Major Pip Every 100 F3
- └ Integrated Cement Volume Minor Pip Every 10 F3
 - └ Integrated Hole Volume Major Pip Every 100 F3
 - └ Integrated Hole Volume Minor Pip Every 10 F3

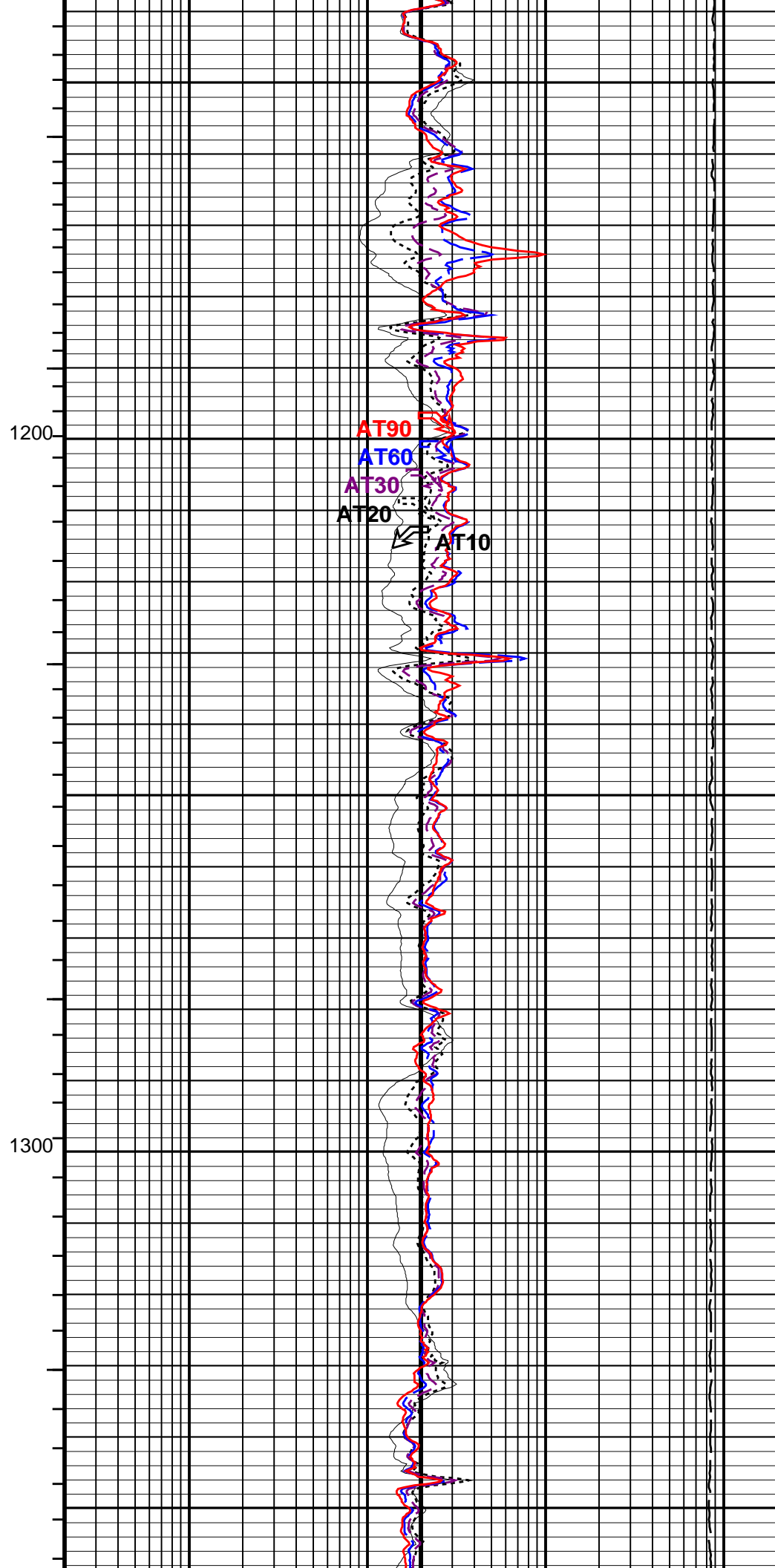
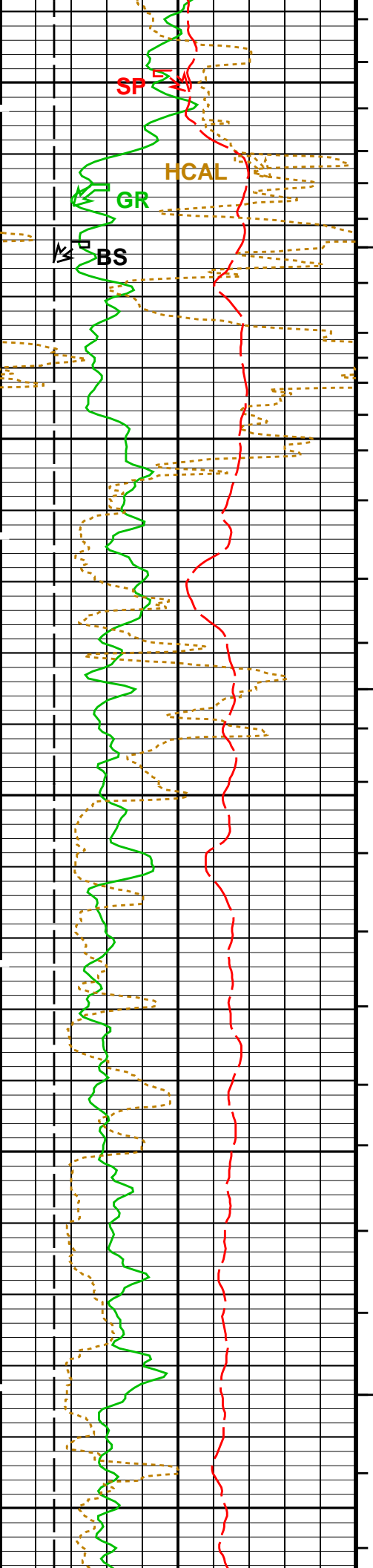
Time Mark Every 60 S

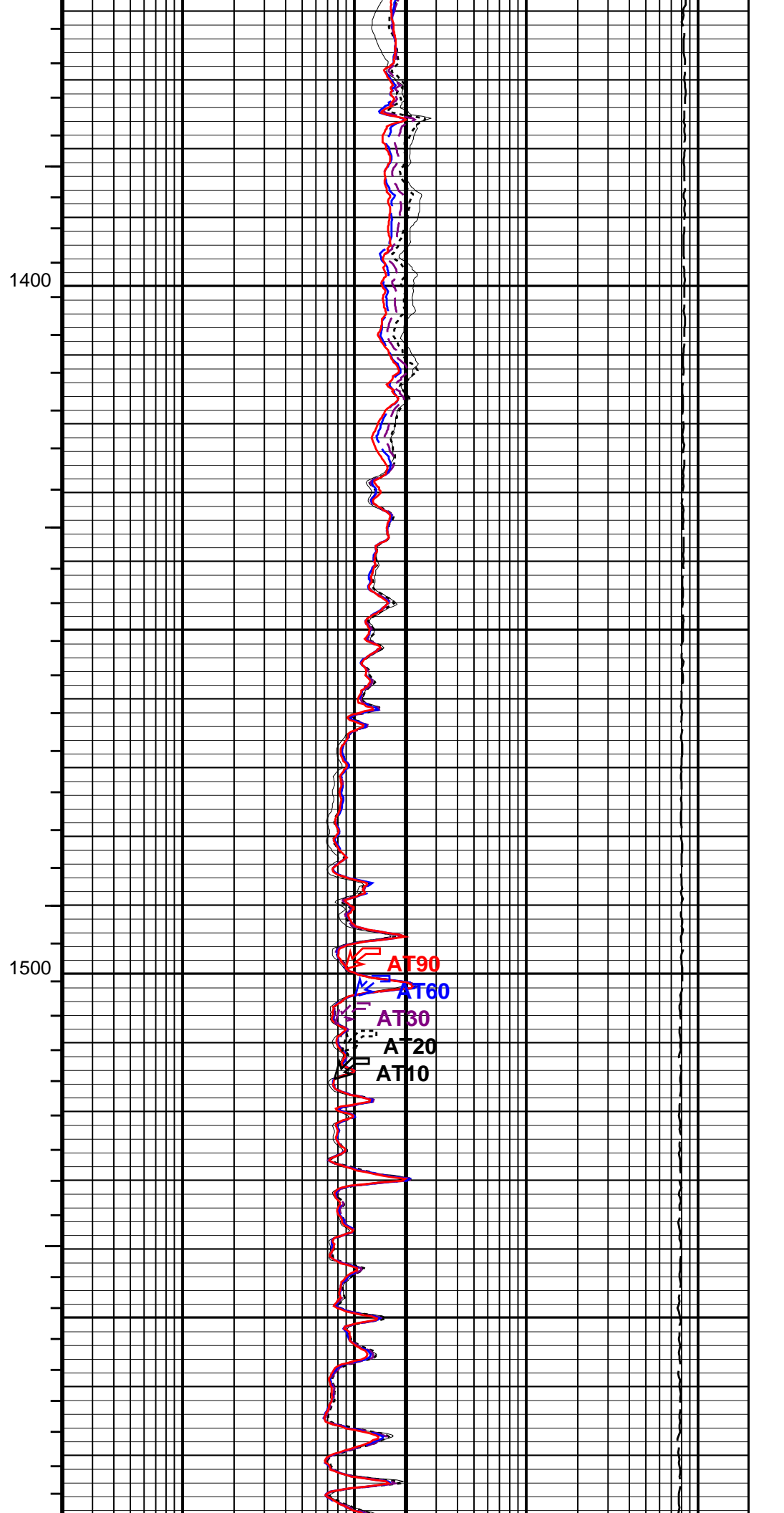
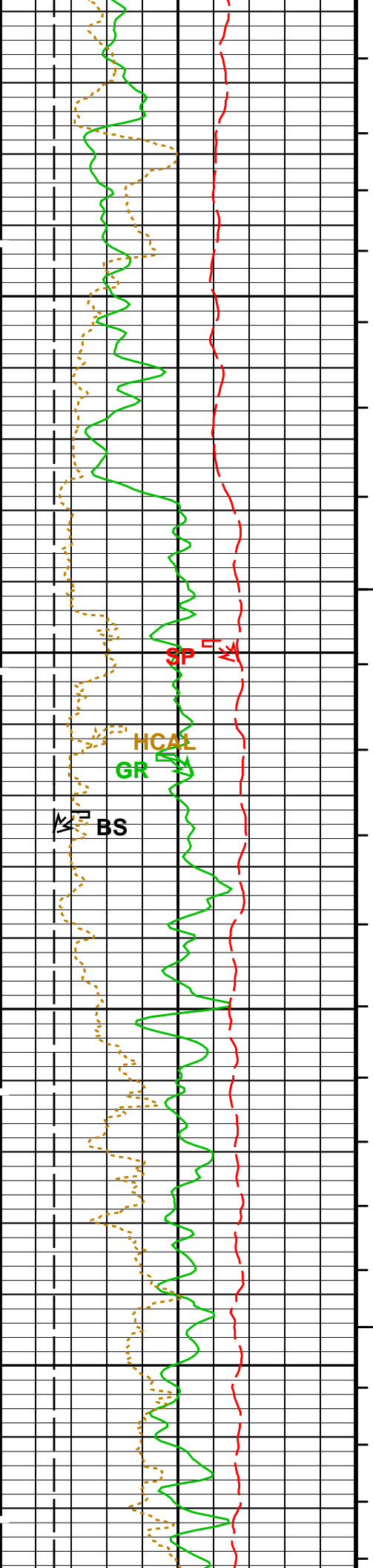


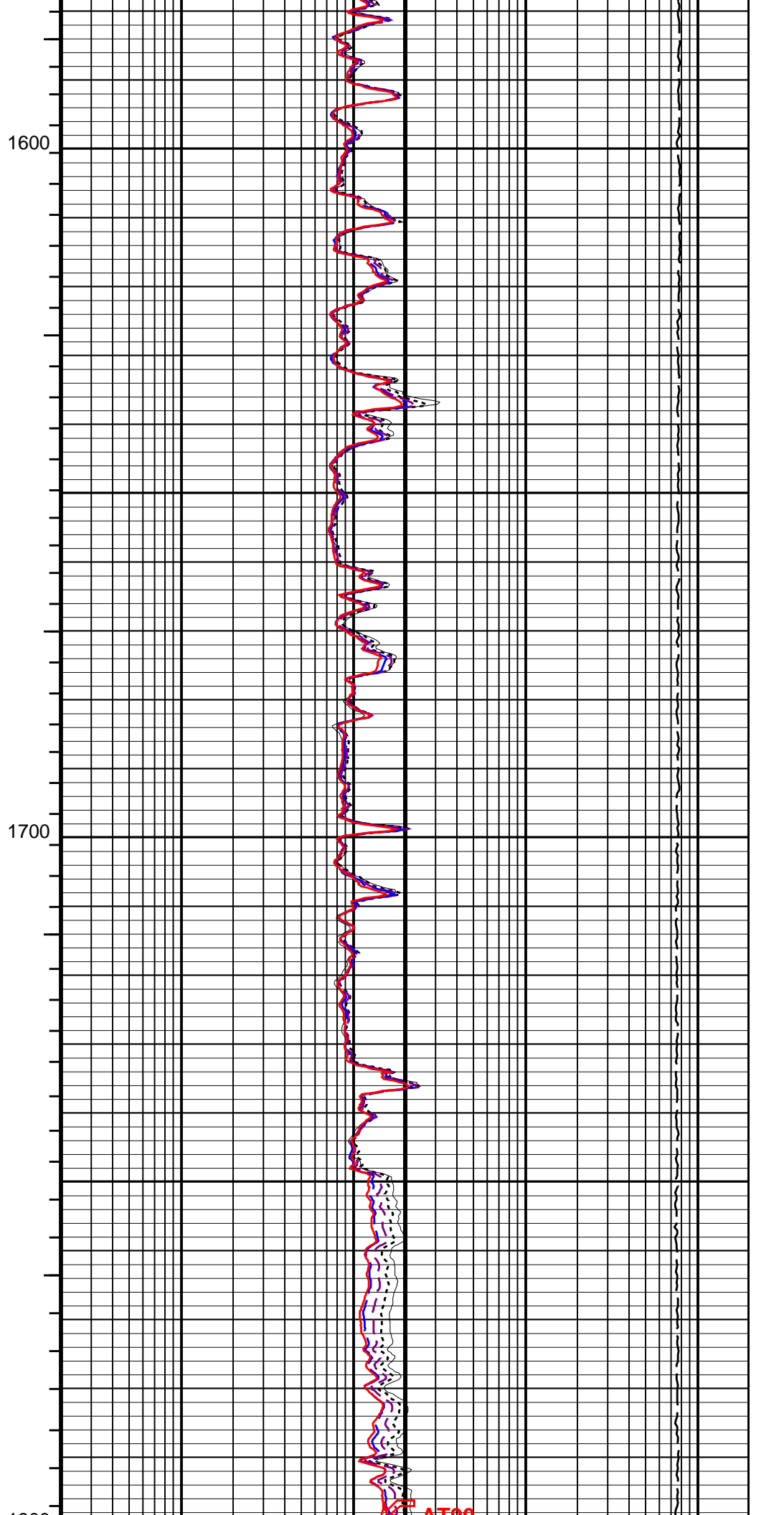
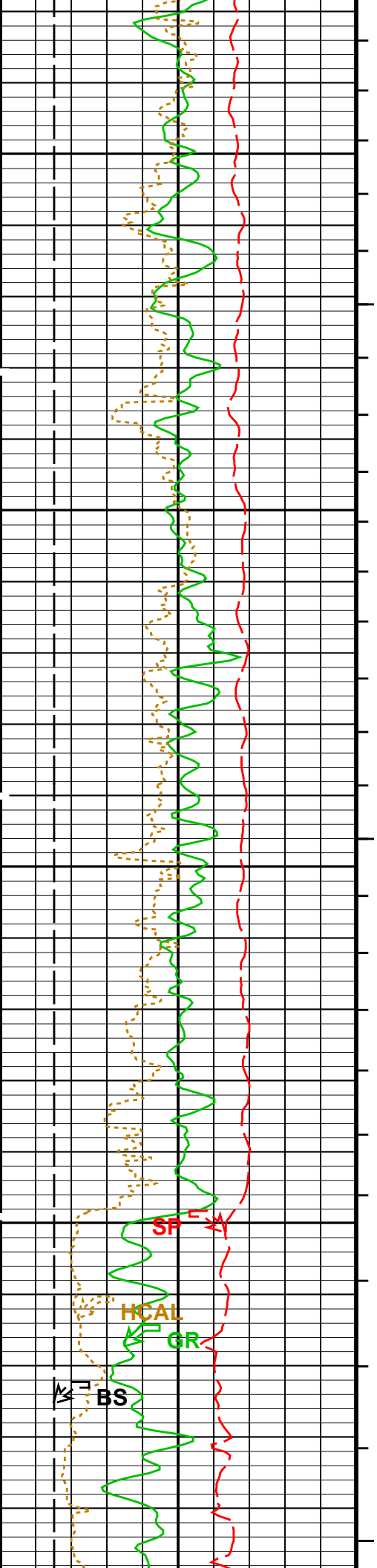


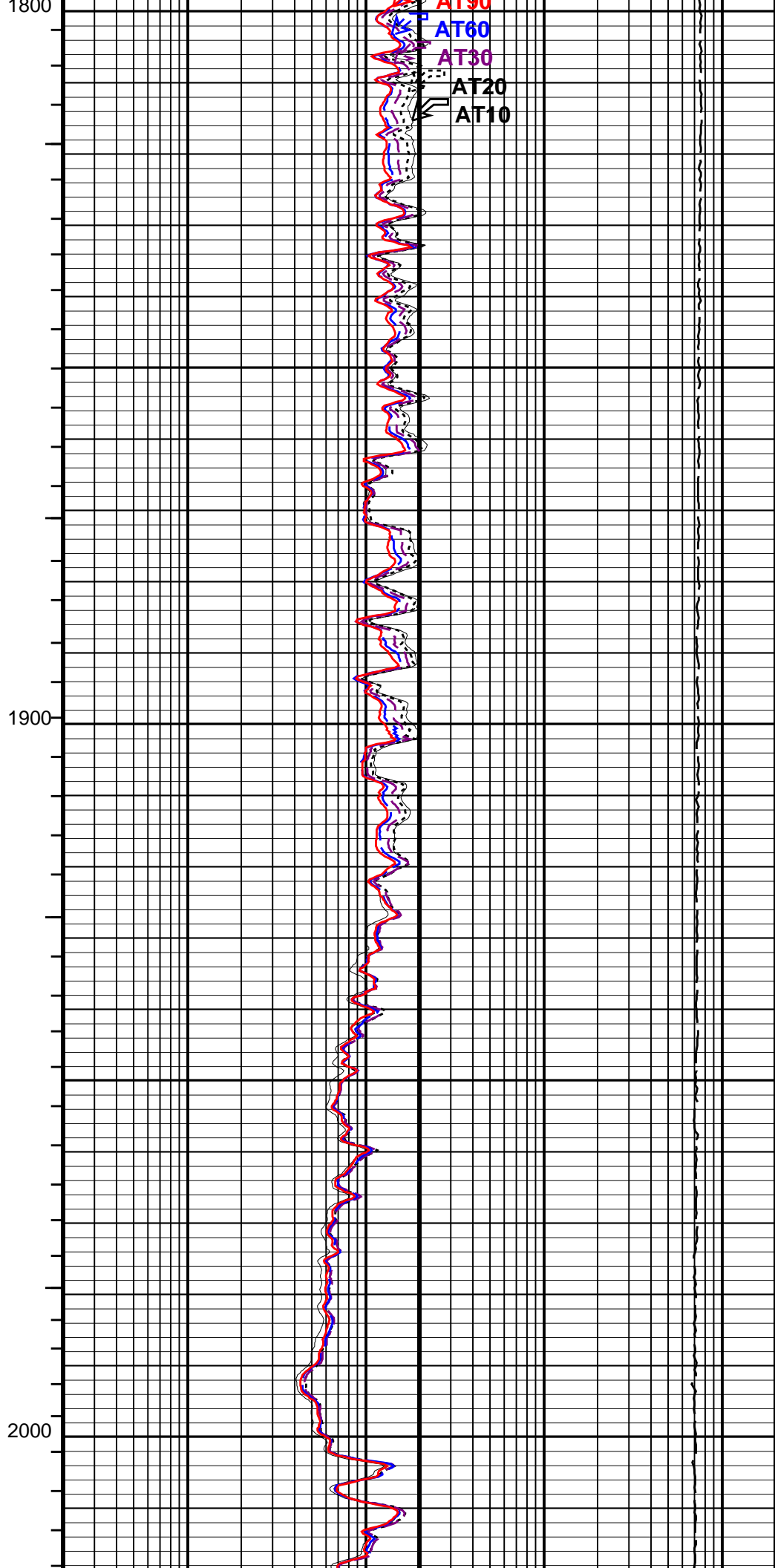
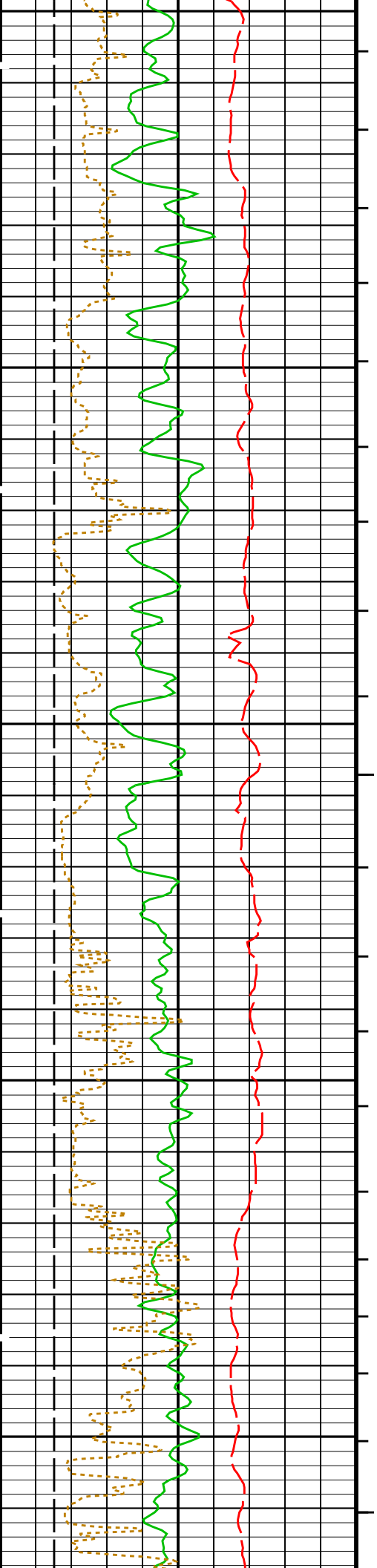


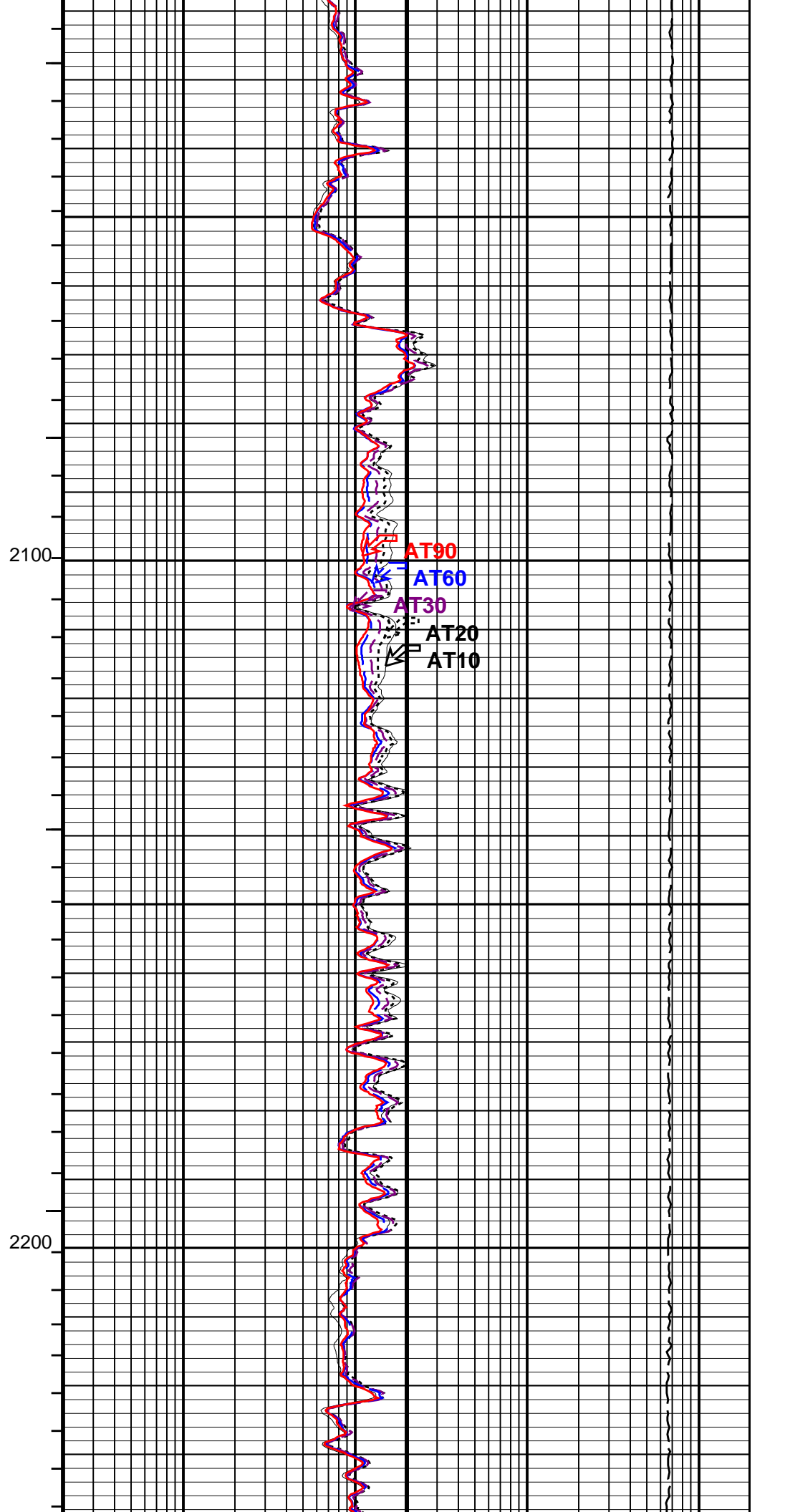
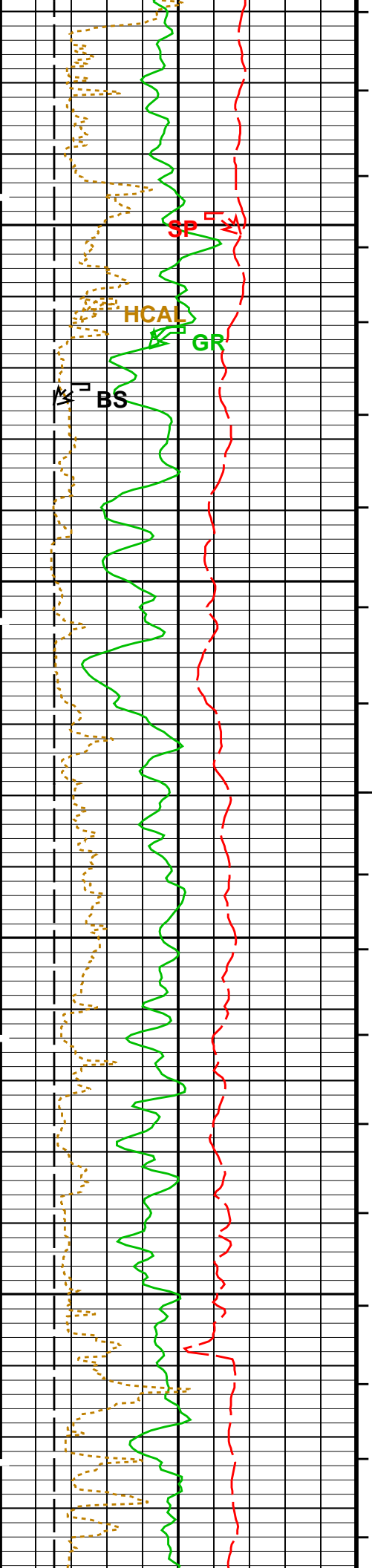


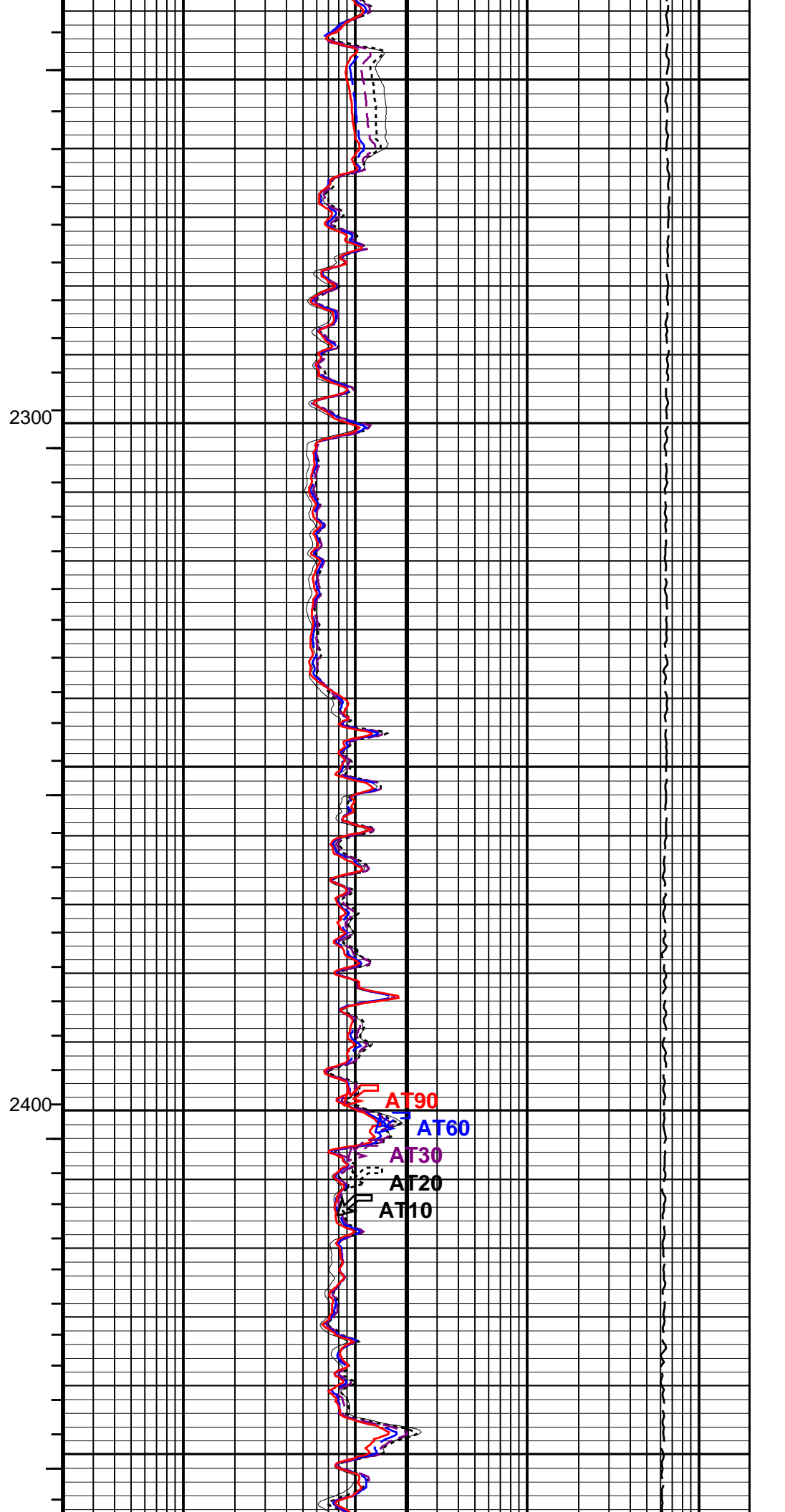
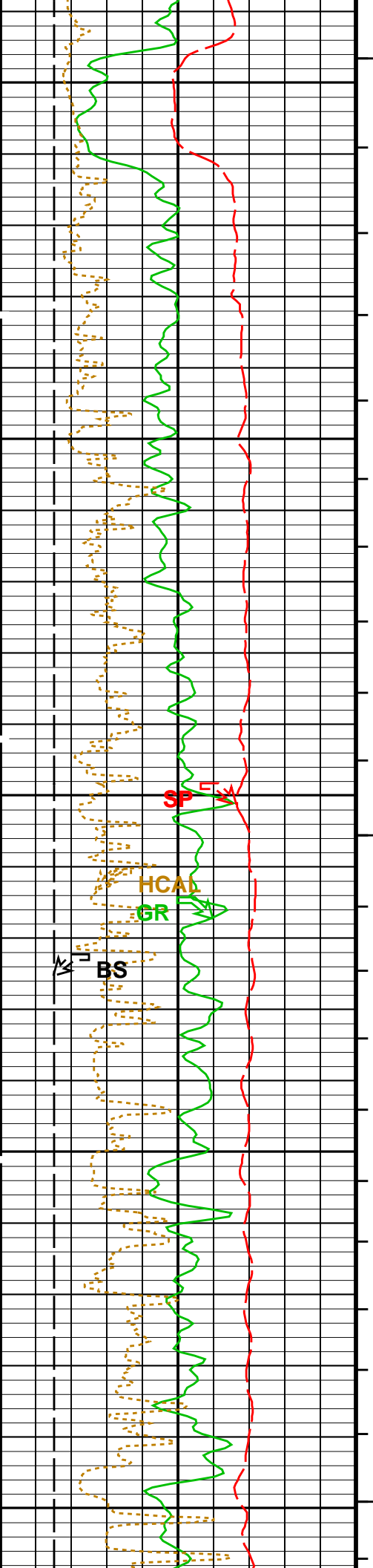


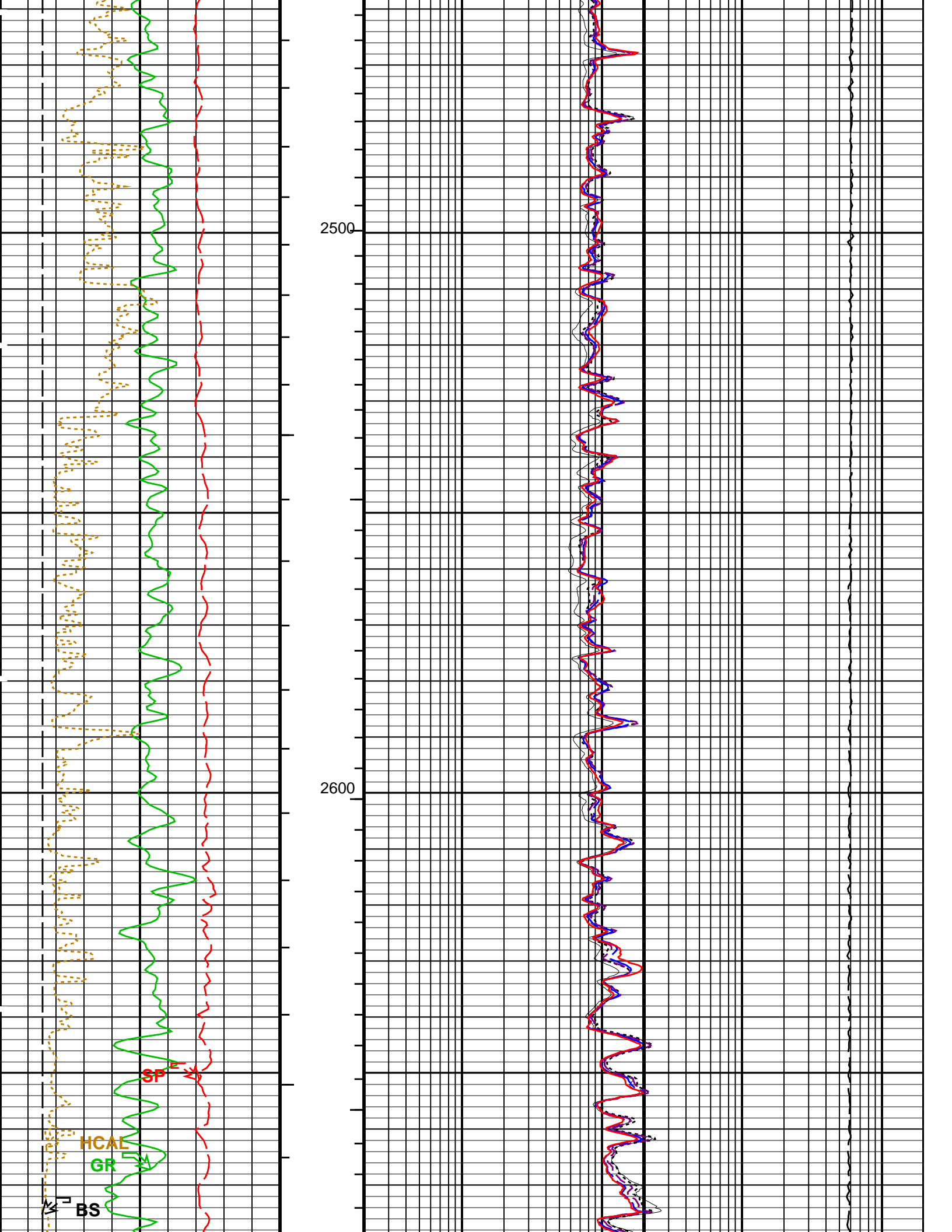


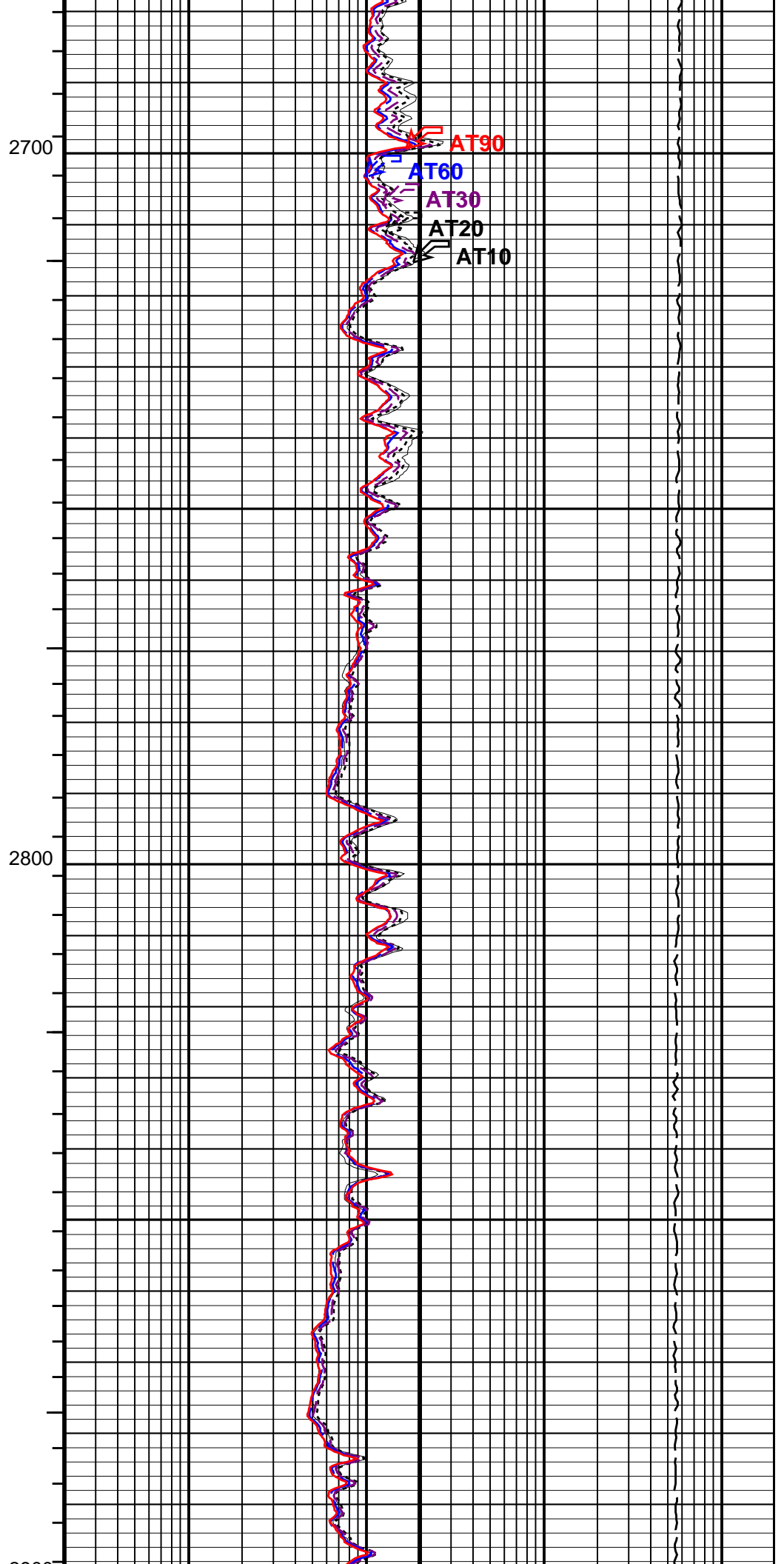
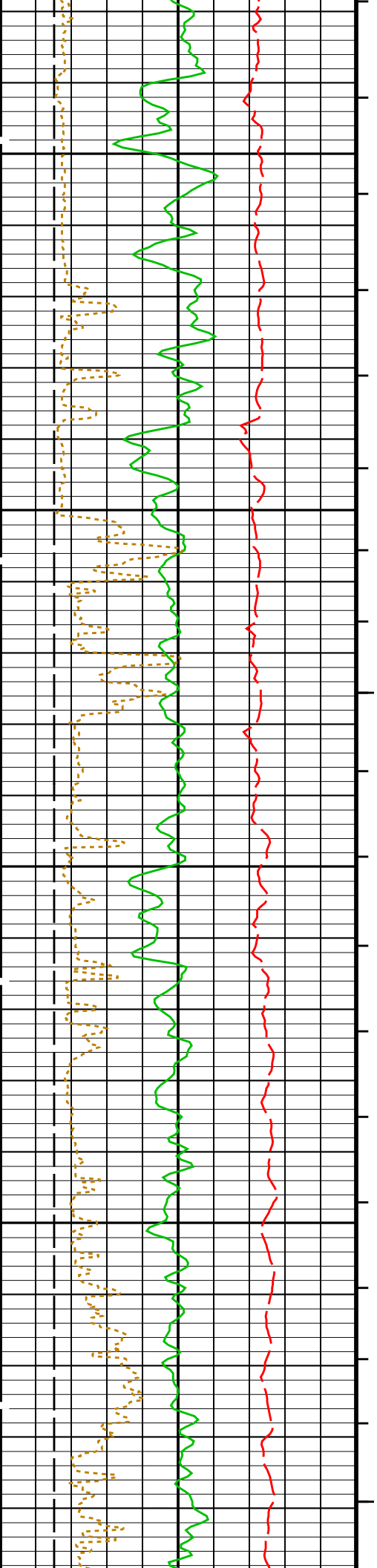


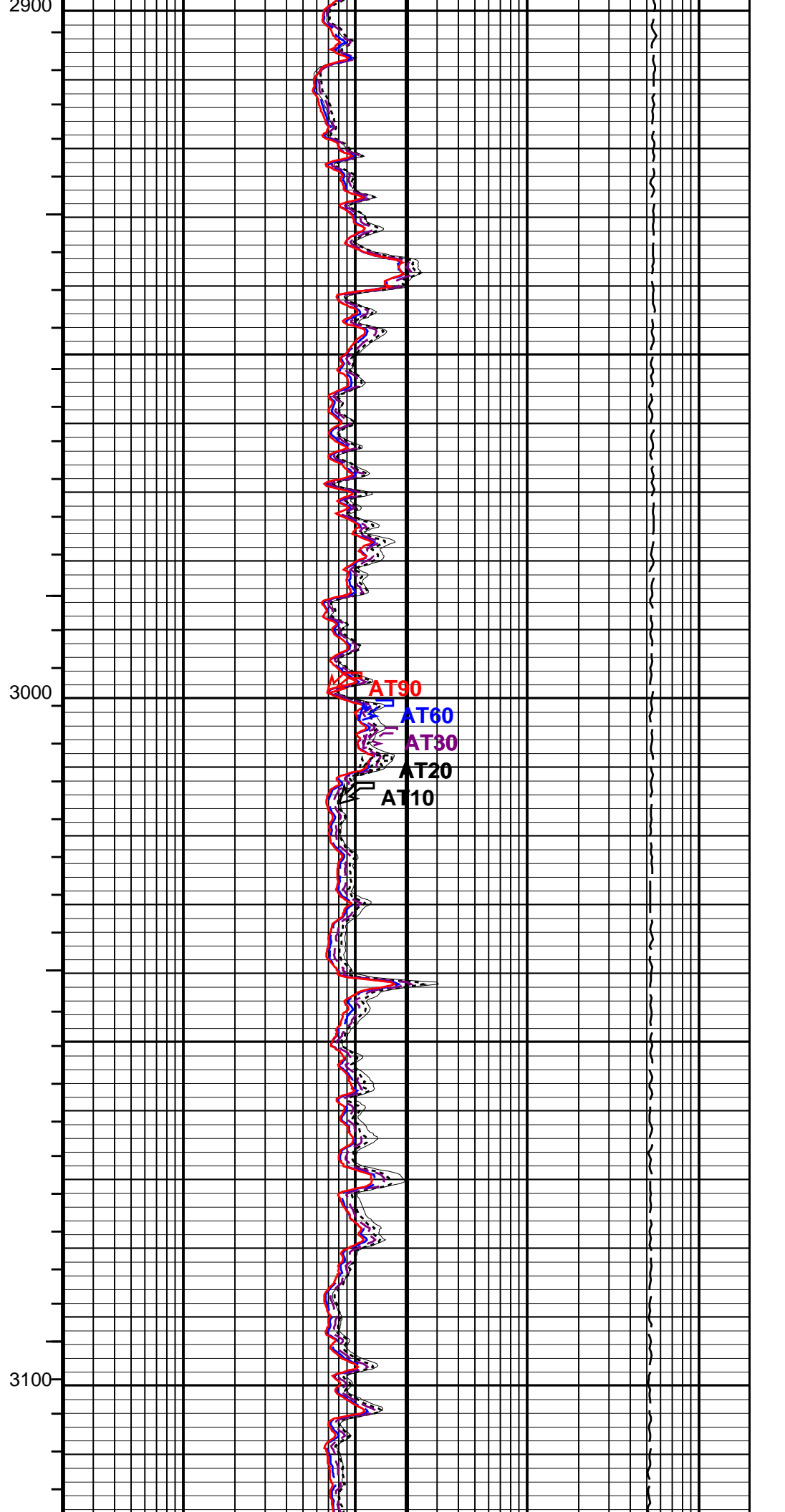
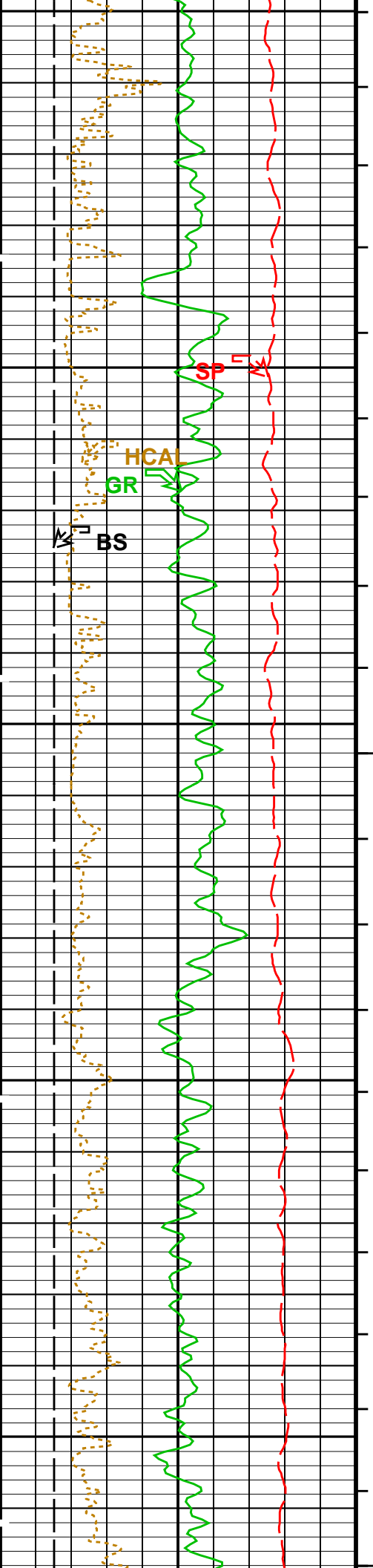


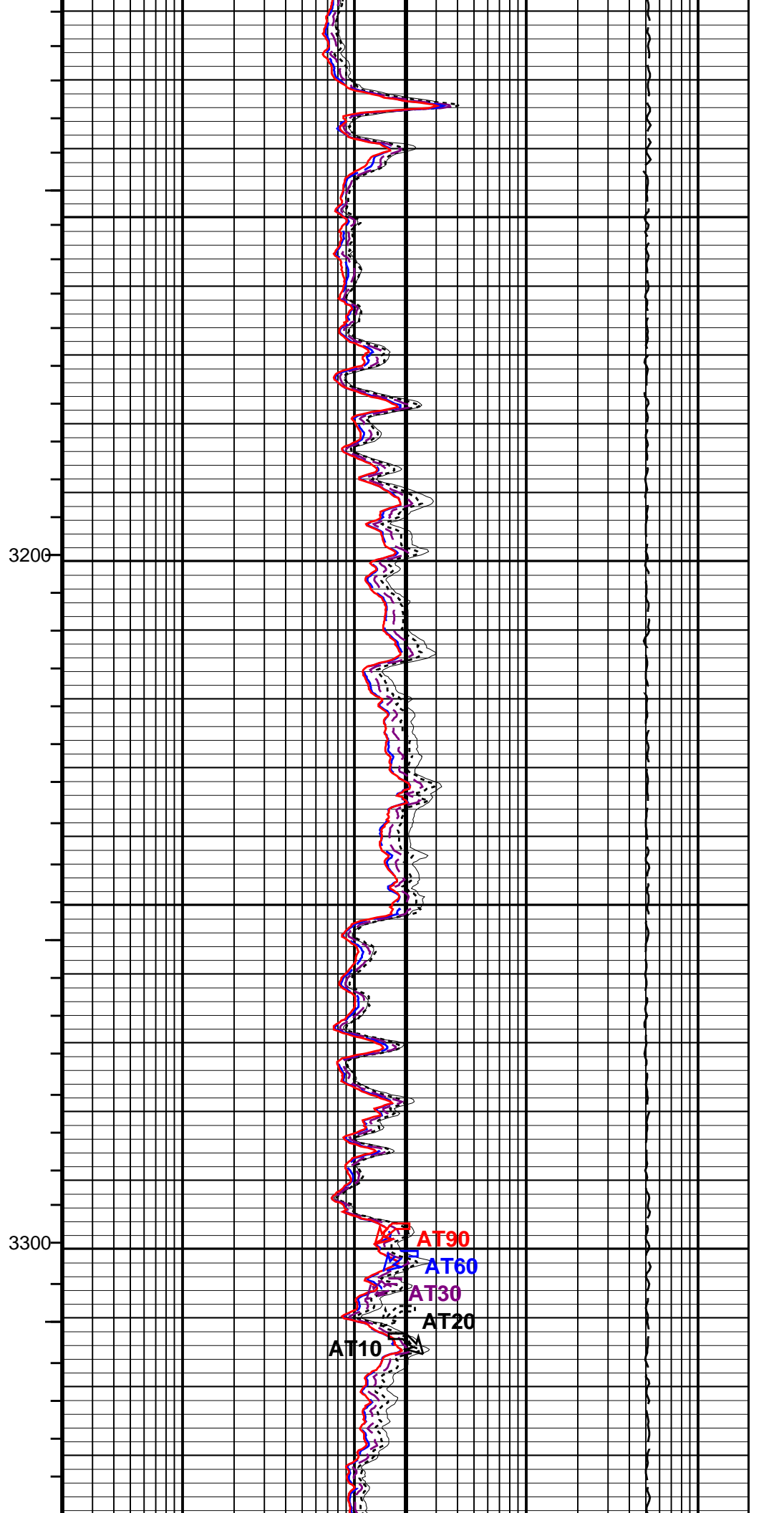
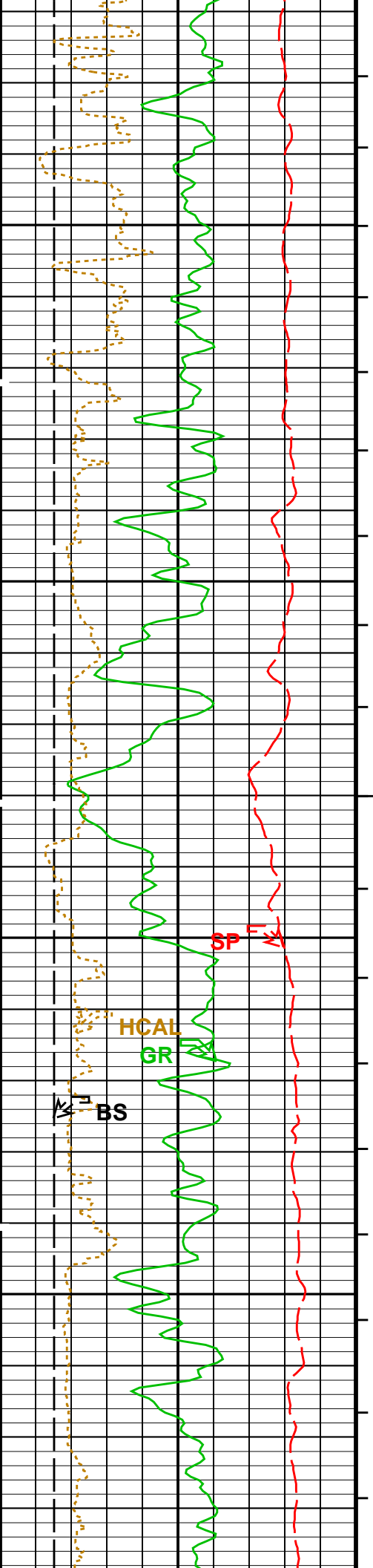


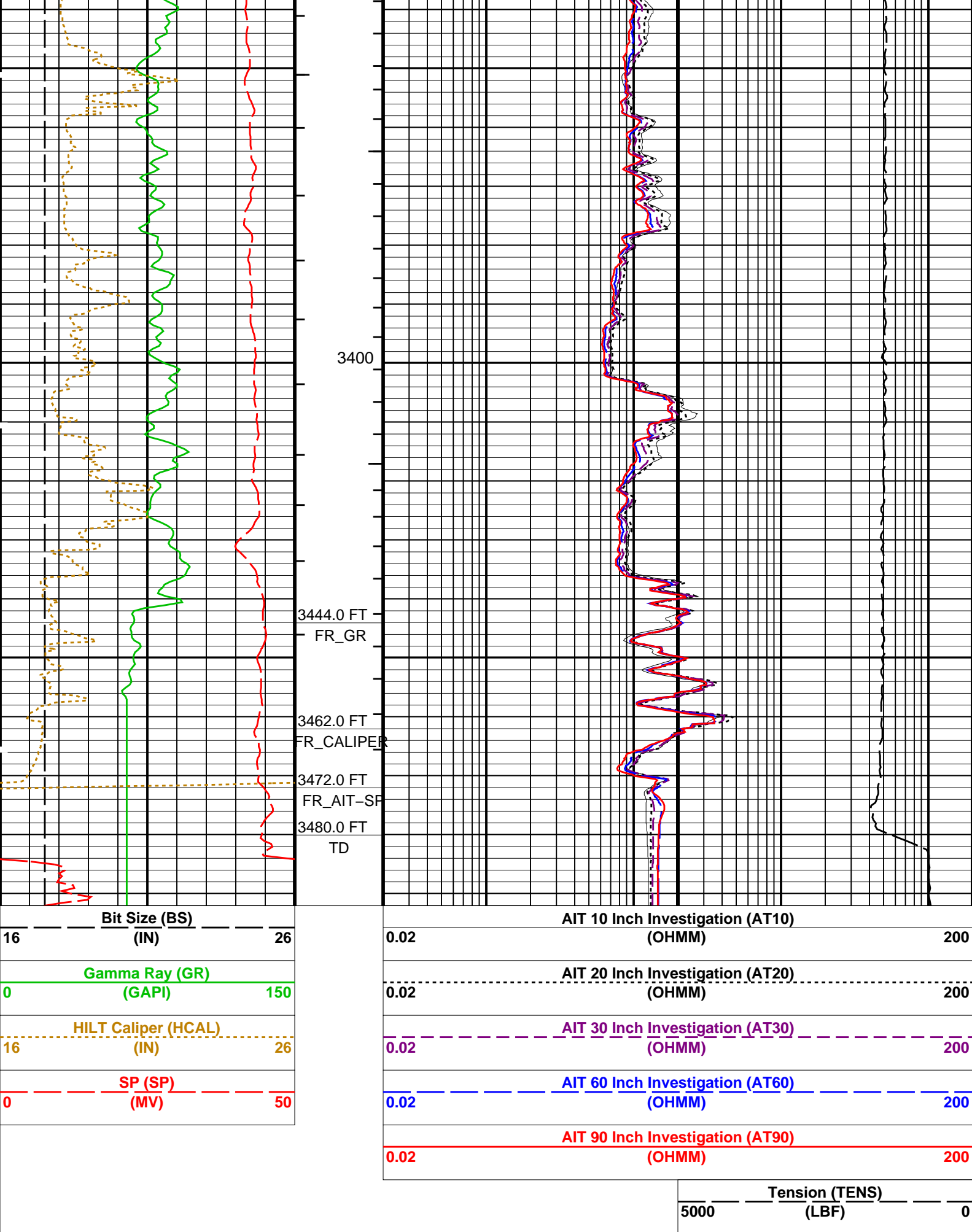












Time Mark Every 60 S

Parameters

DLIS Name	Description	Value	
AIT-M: Array Induction Tool - M			
ABHM	Array Induction Borehole Correction Mode	2_ComputeStandoff	
ABHV	Array Induction Borehole Correction Code Version Number	900	
ABLM	Array Induction Basic Logs Mode	6_One_Two_and_Four	
ABLV	Array Induction Basic Logs Code Version Number	223	
ACDE	Array Induction Casing Detection Enable	Yes	
ACEN	Array Induction Tool Centering Flag (in Borehole)	Eccentered	
ACSED	Array Induction Casing Shoe Estimated Depth	-50000	FT
AETP	Array Induction Enable Sonde Error Temp&Pres Corr	Yes	
AFRSV	Array Induction Response Set Version for Four ft Resolution	41.70.24.20	
AIGS	Array Induction Select Akima Interpolation Gating	On	
AMRF	Array Induction Mud Resistivity Factor	1	
AORSV	Array Induction Response Set Version for One ft Resolution	41.70.24.20	
ARFV	Array Induction Radial Profiling Code Version Number	701	
ARPV	Array Induction Radial Parametrization Code Version Number	232	
ASTA	Array Induction Tool Standoff	1.5	IN
ATRSV	Array Induction Response Set Version for Two ft Resolution	41.70.24.20	
ATSE	Array Induction Temperature Selection(Sonde Error Correction)	Internal	
AULV	Array Induction User Level Control	Normal	
AZRSV	Array Induction Response Set Version for Z Resolution	00.10.25.00	
BHT	Bottom Hole Temperature (used in calculations)	158	DEGF
FEXP	Form Factor Exponent	2	
FNUM	Form Factor Numerator	1	
GCSE	Generalized Caliper Selection	HCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
GRSE	Generalized Mud Resistivity Selection	AITM_RESIST	
GTSE	Generalized Temperature Selection	HSTS_HTEM	
SHT	Surface Hole Temperature	68	DEGF
SPDR	SP Drift	0.01	MV/F
SPNV	SP Next Value	0	MV
HILTH-FTB: High resolution Integrated Logging Tool-DTS			
BHT	Bottom Hole Temperature (used in calculations)	158	DEGF
FEXP	Form Factor Exponent	2	
FNUM	Form Factor Numerator	1	
GCSE	Generalized Caliper Selection	HCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
GRSE	Generalized Mud Resistivity Selection	AITM_RESIST	
GTSE	Generalized Temperature Selection	HSTS_HTEM	
SHT	Surface Hole Temperature	68	DEGF
HOLEV: Integrated Hole/Cement Volume			
BHT	Bottom Hole Temperature (used in calculations)	158	DEGF
FCD	Future Casing (Outer) Diameter	13.375	IN
GCSE	Generalized Caliper Selection	HCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
GRSE	Generalized Mud Resistivity Selection	AITM_RESIST	
GTSE	Generalized Temperature Selection	HSTS_HTEM	
HVCS	Integrated Hole Volume Caliper Selection	AUTOMATIC	
SHT	Surface Hole Temperature	68	DEGF
System and Miscellaneous			
BS	Bit Size	17.500	IN
DFD	Drilling Fluid Density	9.40	LB/G
DO	Depth Offset for Playback	1.5	FT
DORL	Depth Offset for Repeat Analysis	1.0	FT
FLEV	Fluid Level	-50000.00	FT
MST	Mud Sample Temperature	97.60	DEGF
PP	Playback Processing	RECOMPUTE	
TD	Total Depth	3480	FT

Format: AIT_5 Vertical Scale: 5" per 100'

Graphics File Created: 18-Jul-2011 19:56

OP System Version: 19C0-187

AIT-M	19C0-187	HILTH-FTB	SRPC-4073-Q4_2010_OP19
DTC-H	19C0-187		

Input DLIS Files

DEFAULT	AIT_TLD_MCFL_CNL_011LUP	FN:7	PRODUCER	18-Jul-2011 18:47	3490.5 FT	386.3 FT
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Output DLIS Files

Schlumberger**REPEAT PASS**
5" = 100'

MAXIS Field Log

Company: Ormat Nevada, INC

Well: Wister 85-20

Input DLIS Files

DEFAULT	AIT_TLD_MCFL_CNL_025PUP	FN:13	PRODUCER	18-Jul-2011 19:56	3492.0 FT	450.0 FT
DEFAULT	AIT_TLD_MCFL_CNL_022LUP	FN:12	PRODUCER	18-Jul-2011 19:48	853.5 FT	495.5 FT

Output DLIS Files

DEFAULT	AIT_TLD_MCFL_CNL_027PUP	FN:15	PRODUCER	18-Jul-2011 20:01	855.0 FT	497.0 FT
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Integrated Hole/Cement Volume Summary

Hole Volume = 855.58 F3

Cement Volume = 520.44 F3 (assuming 13.38 IN casing O.D.)

Computed from 855.0 FT to 512.0 FT using data channel(s) HCAL

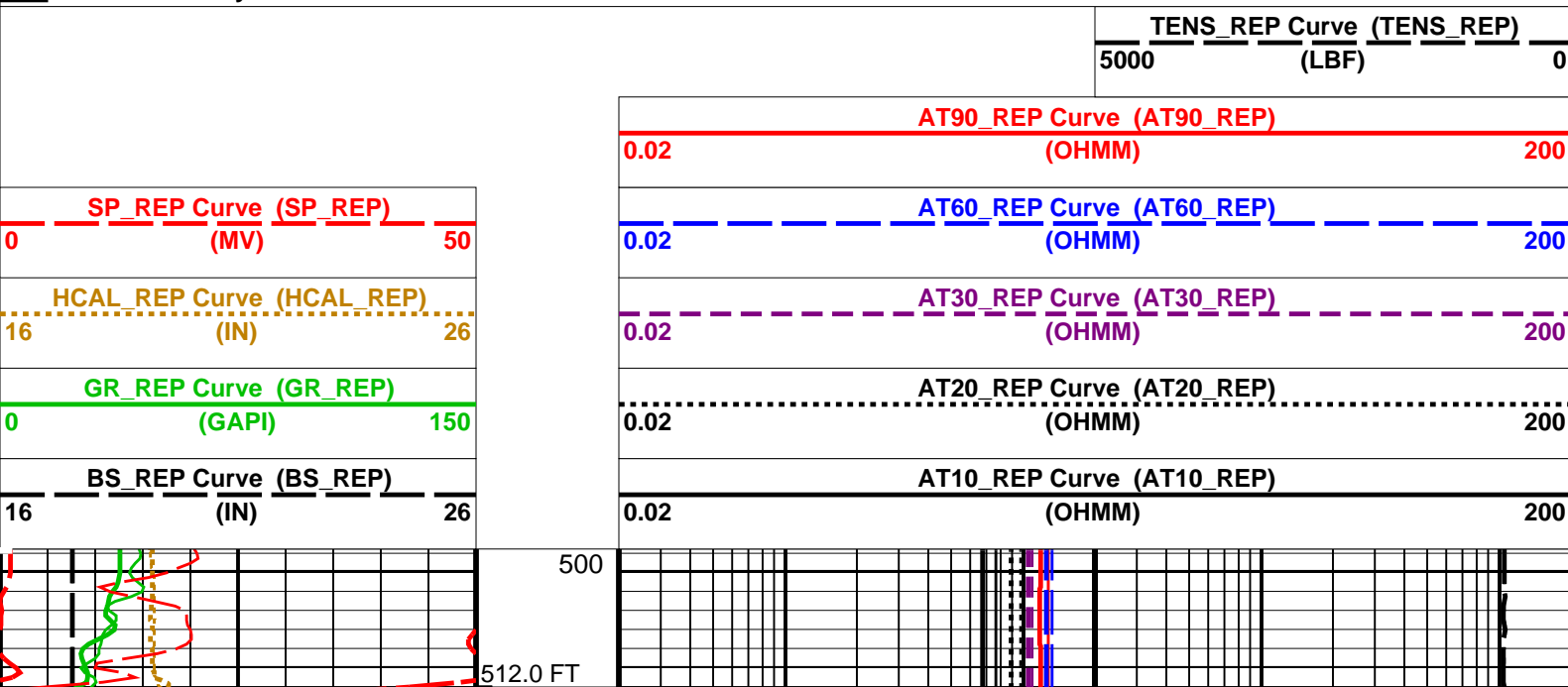
OP System Version: 19C0-187

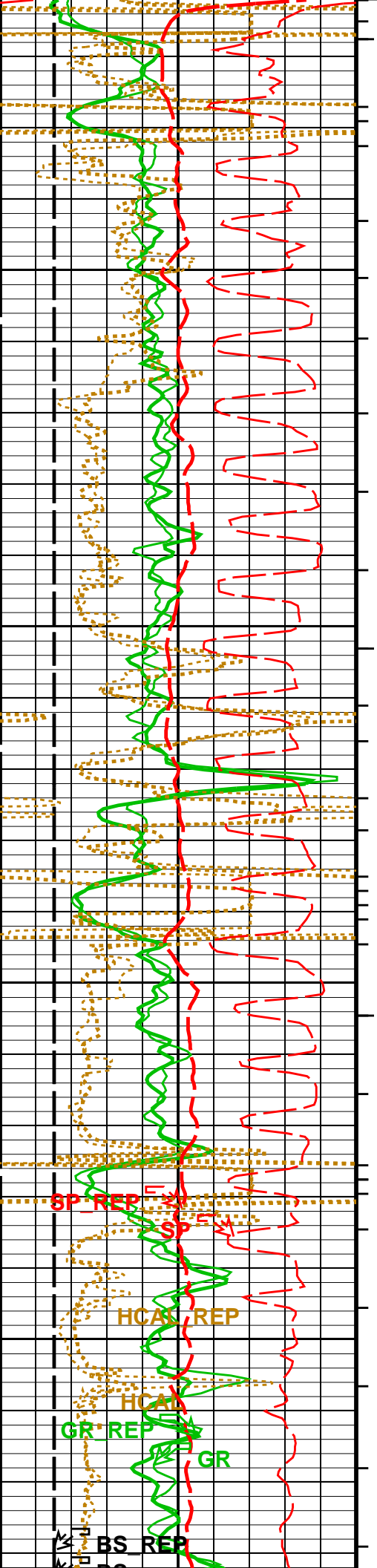
AIT-M	19C0-187	HILTH-FTB	SRPC-4073-Q4_2010_OP19
DTC-H	19C0-187		

PIP SUMMARY

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

Time Mark Every 60 S

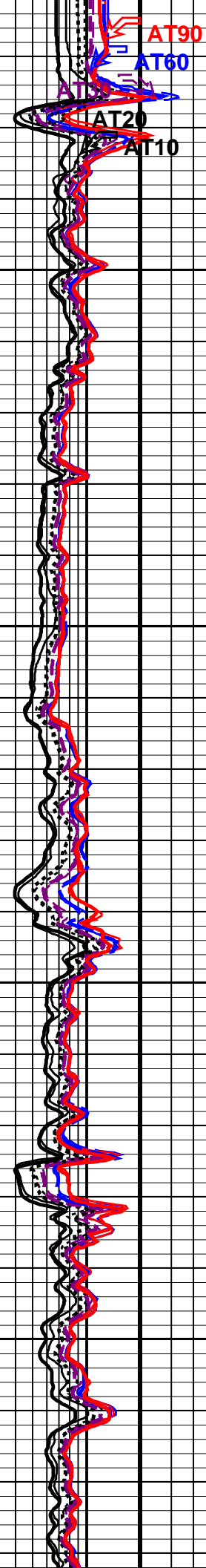


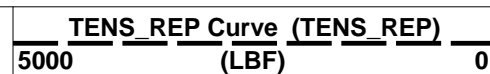
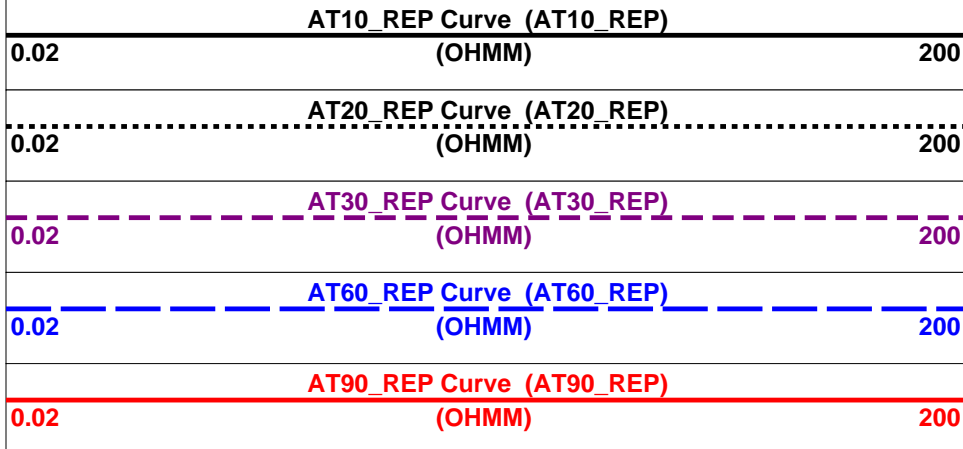
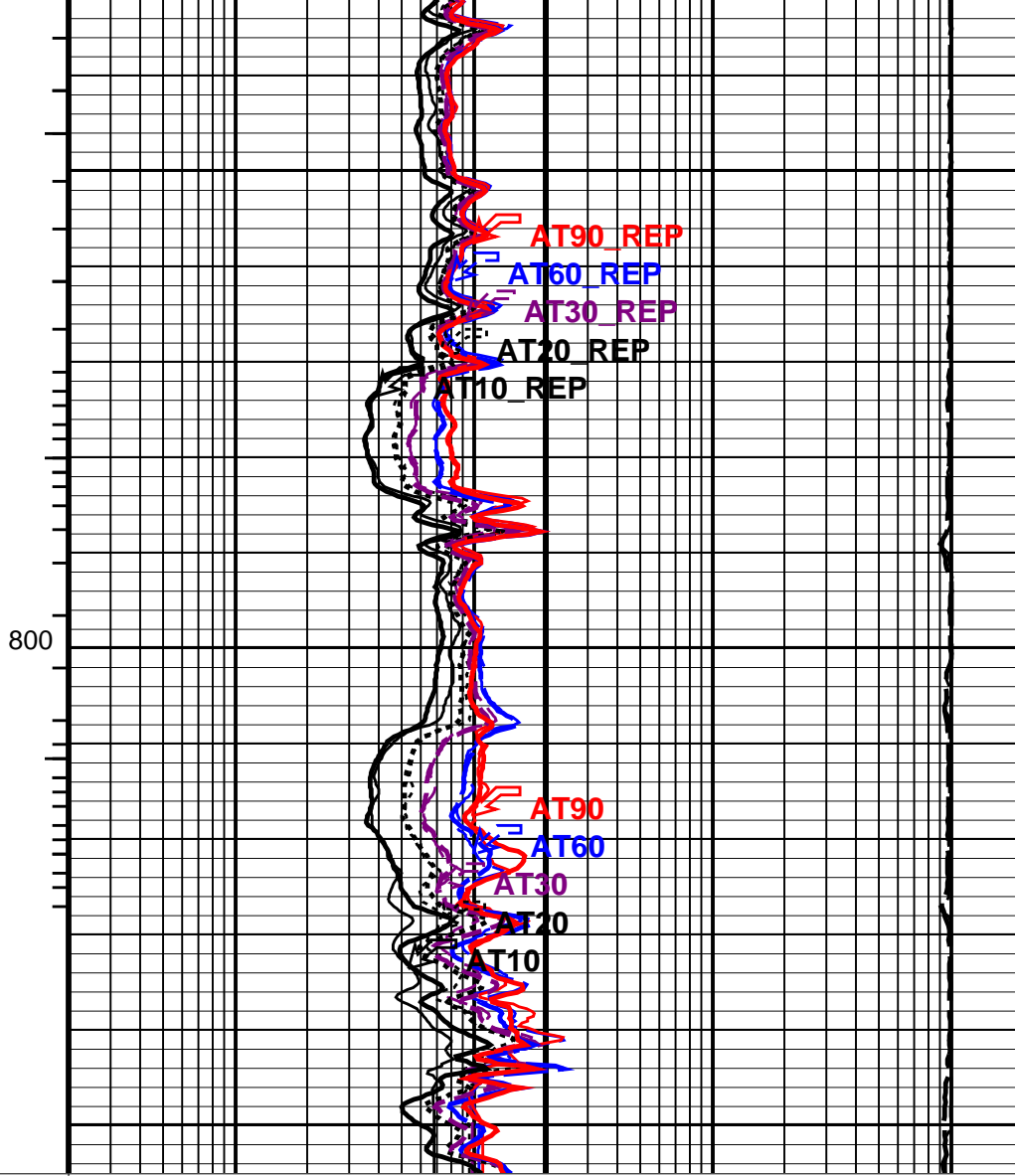
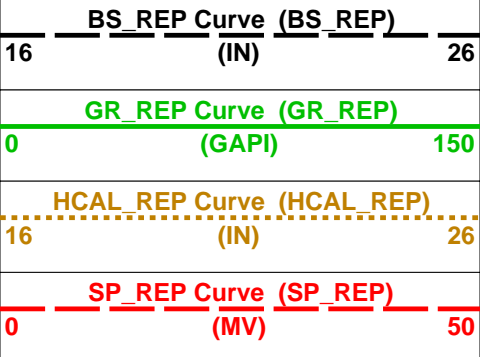
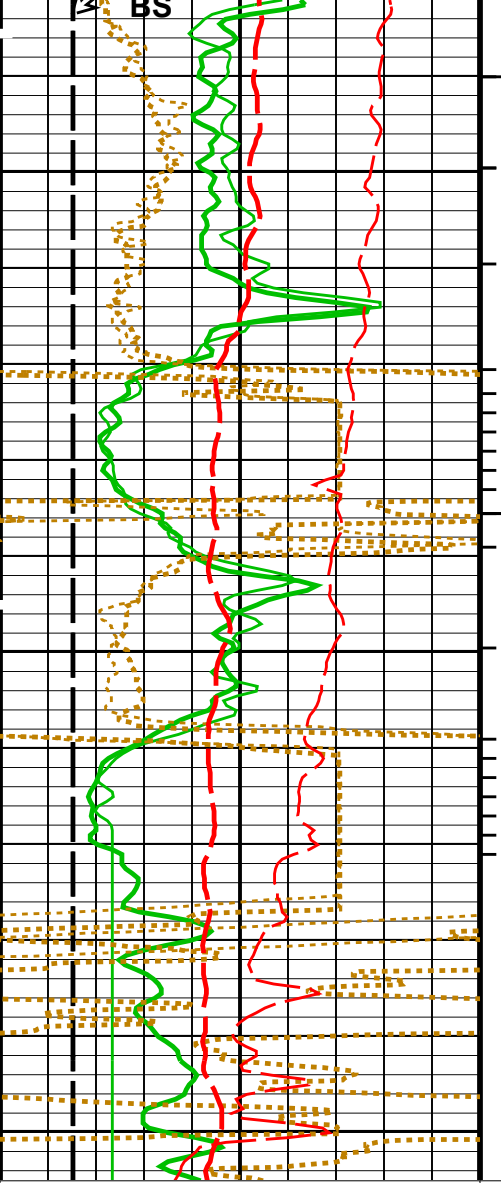


CSG

600

700





PIP SUMMARY

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

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value
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ABHM	AIT-M: Array Induction Tool - M Array Induction Borehole Correction Mode	2_ComputeStandoff
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ABHV	Array Induction Basic Logs Mode	6_One_Two_and_Four	900	
ABLM	Array Induction Basic Logs Code Version Number		223	
ABLV	Array Induction Casing Detection Enable		Yes	
ACDE	Array Induction Tool Centering Flag (in Borehole)		Eccentered	
ACEN	Array Induction Casing Shoe Estimated Depth		-50000	FT
ACSED	Array Induction Enable Sonde Error Temp&Pres Corr		Yes	
AETP	Array Induction Response Set Version for Four ft Resolution	41.70.24.20		
AFRSV	Array Induction Select Akima Interpolation Gating		On	
AIGS	Array Induction Mud Resistivity Factor		1	
AMRF	Array Induction Response Set Version for One ft Resolution	41.70.24.20		
AORSV	Array Induction Radial Profiling Code Version Number		701	
ARFV	Array Induction Radial Parametrization Code Version Number		232	
ARPV	Array Induction Tool Standoff		1.5	IN
ASTA	Array Induction Response Set Version for Two ft Resolution	41.70.24.20		
ATRSV	Array Induction Temperature Selection(Sonde Error Correction)		Internal	
ATSE	Array Induction User Level Control		Normal	
AULV	Array Induction Response Set Version for Z Resolution	00.10.25.00		
AZRSV	Bottom Hole Temperature (used in calculations)		158	DEGF
BHT	Form Factor Exponent		2	
FEXP	Form Factor Numerator		1	
FNUM	Generalized Caliper Selection		HCAL	
GCSE	Average Angular Deviation of Borehole from Normal		0	DEG
GDEV	Geothermal Gradient		0.01	DF/F
GGRD	Generalized Mud Resistivity Selection	AITM_RESIST		
GRSE	Generalized Temperature Selection	HSTS_HTEM		
GTSE	Surface Hole Temperature		68	DEGF
SHT	SP Drift		0	MV/F
SPDR	SP Next Value		0	MV
SPNV	HILTH-FTB: High resolution Integrated Logging Tool-DTS			
BHT	Bottom Hole Temperature (used in calculations)		158	DEGF
FEXP	Form Factor Exponent		2	
FNUM	Form Factor Numerator		1	
GCSE	Generalized Caliper Selection		HCAL	
GDEV	Average Angular Deviation of Borehole from Normal		0	DEG
GGRD	Geothermal Gradient		0.01	DF/F
GRSE	Generalized Mud Resistivity Selection	AITM_RESIST		
GTSE	Generalized Temperature Selection	HSTS_HTEM		
SHT	Surface Hole Temperature		68	DEGF
BHT	HOLEV: Integrated Hole/Cement Volume			
FCD	Bottom Hole Temperature (used in calculations)		158	DEGF
GCSE	Future Casing (Outer) Diameter		13.375	IN
GDEV	Generalized Caliper Selection		HCAL	
GGRD	Average Angular Deviation of Borehole from Normal		0	DEG
GRSE	Geothermal Gradient		0.01	DF/F
GTSE	Generalized Mud Resistivity Selection	AITM_RESIST		
HVCS	Generalized Temperature Selection	HSTS_HTEM		
SHT	Integrated Hole Volume Caliper Selection	AUTOMATIC		
BHT	Surface Hole Temperature		68	DEGF
BS	System and Miscellaneous			
DFD	Bit Size		17.500	IN
DO	Drilling Fluid Density		9.40	LB/G
DORL	Depth Offset for Playback		1.5	FT
FLEV	Depth Offset for Repeat Analysis		0.0	FT
MST	Fluid Level		-50000.00	FT
PP	Mud Sample Temperature		97.60	DEGF
TD	Playback Processing	RECOMPUTE		
	Total Depth		3480	FT

Format: AIT_5_REP Vertical Scale: 5" per 100' Graphics File Created: 18-Jul-2011 20:01

OP System Version: 19C0-187

AIT-M	19C0-187	HILTH-FTB	SRPC-4073-Q4_2010_OP19
DTC-H	19C0-187		

Input DLIS Files

DEFAULT	AIT_TLD_MCFL_CNL_025PUP	FN:13	PRODUCER	18-Jul-2011 19:56	3492.0 FT	450.0 FT
DEFAULT	AIT_TLD_MCFL_CNL_022LUP	FN:12	PRODUCER	18-Jul-2011 19:48	853.5 FT	495.5 FT

Output DLIS Files

DEFAULT	AIT_TLD_MCFL_CNL_027PUP	FN:15	PRODUCER	18-Jul-2011 20:01
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MAXIS Field Log

Calibration and Check Summary

Measurement	Nominal	Master	Before	After	Change	Limit	Units
Array Induction Tool – M Wellsite Calibration – Electronics Calibration Check – Thru Cal Mag. & Phase							
Master: 30–Apr–2011 16:22 Before: 18–Jul–2011 5:47							
Thru Cal Magnitude – 0	0	0.6104	0.6095	N/A	N/A	N/A	V
Thru Cal Magnitude – 1	0	1.249	1.247	N/A	N/A	N/A	V
Thru Cal Magnitude – 2	0	0.6200	0.6193	N/A	N/A	N/A	V
Thru Cal Magnitude – 3	0	0.7004	0.6995	N/A	N/A	N/A	V
Thru Cal Magnitude – 4	0	1.309	1.307	N/A	N/A	N/A	V
Thru Cal Magnitude – 5	0	1.908	1.906	N/A	N/A	N/A	V
Thru Cal Magnitude – 6	0	1.904	1.902	N/A	N/A	N/A	V
Thru Cal Magnitude – 7	0	1.370	1.368	N/A	N/A	N/A	V
Thru Cal Phase – 0	0	189.1	189.8	N/A	N/A	N/A	DEG
Thru Cal Phase – 1	0	188.0	188.7	N/A	N/A	N/A	DEG
Thru Cal Phase – 2	0	184.4	185.2	N/A	N/A	N/A	DEG
Thru Cal Phase – 3	0	183.6	184.4	N/A	N/A	N/A	DEG
Thru Cal Phase – 4	0	177.5	178.2	N/A	N/A	N/A	DEG
Thru Cal Phase – 5	0	175.8	176.6	N/A	N/A	N/A	DEG
Thru Cal Phase – 6	0	175.8	176.6	N/A	N/A	N/A	DEG
Thru Cal Phase – 7	0	175.0	175.8	N/A	N/A	N/A	DEG

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

Master: 30–Apr–2011 16:22 Before: 18–Jul–2011 5:47

Array Induction SPA Plus	991.0	990.7	990.7	N/A	N/A	N/A	MV
Array Induction SPA Zero	0	0.05296	0.06959	N/A	N/A	N/A	MV
Array Induction Temperature PI	0.9170	0.9179	0.9178	N/A	N/A	N/A	V
Array Induction Temperature Ze	0	0.00004926	0.00007513	N/A	N/A	N/A	V

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

Master: 30–Apr–2011 16:22

Test Loop Gain Correctio – 0	0	1.017	N/A	N/A	N/A	N/A	V
Test Loop Gain Correctio – 1	0	1.039	N/A	N/A	N/A	N/A	V
Test Loop Gain Correctio – 2	0	1.028	N/A	N/A	N/A	N/A	V
Test Loop Gain Correctio – 3	0	1.018	N/A	N/A	N/A	N/A	V
Test Loop Gain Correctio – 4	0	0.9945	N/A	N/A	N/A	N/A	V
Test Loop Gain Correctio – 5	0	0.9906	N/A	N/A	N/A	N/A	V
Test Loop Gain Correctio – 6	0	0.9975	N/A	N/A	N/A	N/A	V
Test Loop Gain Correctio – 7	0	1.009	N/A	N/A	N/A	N/A	V
Test Loop Gain Correctio – 0	0	0.1496	N/A	N/A	N/A	N/A	DEG
Test Loop Gain Correctio – 1	0	0.5529	N/A	N/A	N/A	N/A	DEG
Test Loop Gain Correctio – 2	0	0.06815	N/A	N/A	N/A	N/A	DEG
Test Loop Gain Correctio – 3	0	0.08682	N/A	N/A	N/A	N/A	DEG
Test Loop Gain Correctio – 4	0	0.1097	N/A	N/A	N/A	N/A	DEG
Test Loop Gain Correctio – 5	0	–0.03187	N/A	N/A	N/A	N/A	DEG
Test Loop Gain Correctio – 6	0	0.2686	N/A	N/A	N/A	N/A	DEG
Test Loop Gain Correctio – 7	0	–0.02693	N/A	N/A	N/A	N/A	DEG

Array Induction Tool – M Wellsite Calibration – Sonde Error Correction

Master: 30–Apr–2011 16:22

R Sonde Error Correction – 0	0	–97.13	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction – 1	0	166.0	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction – 2	0	115.1	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction – 3	0	51.42	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction – 4	0	28.27	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction – 5	0	11.37	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction – 6	0	9.719	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction – 7	0	–1.364	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction – 0	0	47.98	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction – 1	0	–84.05	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction – 2	0	66.44	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction – 3	0	–29.80	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction – 4	0	0.7177	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction – 5	0	7.304	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction – 6	0	0.2088	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction – 7	0	6.617	N/A	N/A	N/A	N/A	MM/M

Array Induction Tool – M Wellsite Calibration – Mud Gain Correction

Master: 30-Apr-2011 16:22

Coarse – Mag, Real, Imag – 0	0	1.064	N/A	N/A	N/A	N/A	
Coarse – Mag, Real, Imag – 1	0	1.064	N/A	N/A	N/A	N/A	
Coarse – Mag, Real, Imag – 2	0	1.064	N/A	N/A	N/A	N/A	
Fine – Mag, Real, Imag – 0	0	1.118	N/A	N/A	N/A	N/A	
Fine – Mag, Real, Imag – 1	0	1.118	N/A	N/A	N/A	N/A	
Fine – Mag, Real, Imag – 2	0	1.118	N/A	N/A	N/A	N/A	

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

Before: 18-Jul-2011 5:51

BS Window Ratio	0.7463	N/A	0.7430	N/A	N/A	N/A	
BS Window Sum	28920	N/A	28500	N/A	N/A	N/A	CPS
SS Window Ratio	0.4761	N/A	0.4761	N/A	N/A	N/A	
SS Window Sum	12130	N/A	12090	N/A	N/A	N/A	CPS
LS Window Ratio	0.3015	N/A	0.3012	N/A	N/A	N/A	
LS Window Sum	1411	N/A	1405	N/A	N/A	N/A	CPS

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

Before: 18-Jul-2011 5:51

BS PM High Voltage (Command)	1609	N/A	1603	N/A	N/A	N/A	V
SS PM High Voltage (Command)	1467	N/A	1461	N/A	N/A	N/A	V
LS PM High Voltage (Command)	1260	N/A	1255	N/A	N/A	N/A	V

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

Before: 18-Jul-2011 5:51

BS Crystal Resolution	12.63	N/A	12.52	N/A	N/A	N/A	%
SS Crystal Resolution	8.827	N/A	9.007	N/A	N/A	N/A	%
LS Crystal Resolution	8.306	N/A	8.254	N/A	N/A	N/A	%

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

Before: 18-Jul-2011 5:46

Raw B0 Resistivity	3875	N/A	3855	N/A	N/A	N/A	OHMM
Raw B1 Resistivity	3830	N/A	3792	N/A	N/A	N/A	OHMM
Raw B2 Resistivity	3830	N/A	3804	N/A	N/A	N/A	OHMM

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

Before: 18-Jul-2011 5:54

HILT Caliper Zero Measurement	8.000	N/A	6.630	N/A	N/A	N/A	IN
HILT Caliper Plus Measurement	12.00	N/A	9.688	N/A	N/A	N/A	IN

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

Before: 18-Jul-2011 5:45

Gamma Ray Background	30.00	N/A	49.85	N/A	N/A	N/A	GAPI
Gamma Ray (Jig – Bkgd)	165.0	N/A	179.2	N/A	N/A	15.00	GAPI

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

Master: 24-May-2011 13:48 Before: 18-Jul-2011 5:46

CNTC Background	27.22	27.22	26.41	N/A	N/A	4.083	CPS
CFTC Background	25.06	25.06	25.21	N/A	N/A	3.759	CPS

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

Master: 24-May-2011 13:48

Thermal Near Corr. (Tank)	5800	5728	N/A	N/A	N/A	N/A	CPS
Thermal Far Corr. (Tank)	2400	2413	N/A	N/A	N/A	N/A	CPS
CNTC/CFTC (Tank)	2.159	2.374	N/A	N/A	N/A	N/A	

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

Before: 18-Jul-2011 18:24

Z-Axis Acceleration	32.19	N/A	32.01	N/A	N/A	N/A	F/S2
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High resolution Integrated Logging Tool–DTS Master Calibration – Inversion results

Master: 25-Jun-2011 17:34

Rho Aluminum	2.596	2.597	--	--	--	--	G/C3
Rho Magnesium	1.686	1.689	--	--	--	--	G/C3
Pe Aluminum	2.570	2.500	--	--	--	--	
Pe Magnesium	2.650	2.643	--	--	--	--	

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

Master: 25-Jun-2011 17:34

BS Average Deviation	0	0.3203	--	--	--	--	%
BS Max Deviation	0	0.8885	--	--	--	--	%
SS Average Deviation	0	0.4897	--	--	--	--	%
SS Max Deviation	0	1.893	--	--	--	--	%
LS Average Deviation	0	0.7261	--	--	--	--	%
LS Max Deviation	0	1.767	--	--	--	--	%

The GLS-VJ source activity is acceptable.

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

NCT-B Water Temperature 64.0 DEGF.
Thermal Housing Size 3.379 IN.
NSR-F serial number 2395

Array Induction Tool – M / Equipment Identification

Primary Equipment:
Rm/SP Bottom Nose
Array Induction Sonde
AMRM – A
AMIS – A 224

Auxiliary Equipment:







Array Induction Tool – M Wellsite Calibration							
Electronics Calibration Check – Thru Cal Mag. & Phase							
Idx	Phase	Value	Thru Cal Magnitude V	Nominal	Value	Thru Cal Phase DEG	Nominal
0	Master	0.6104		0.6100	189.1		197.0
	Before	0.6095			189.8		
1	Master	1.249		1.270	188.0		196.0
	Before	1.247			188.7		
2	Master	0.6200		0.6200	184.4		192.0
	Before	0.6193			185.2		
3	Master	0.7004		0.7000	183.6		191.0
	Before	0.6995			184.4		
4	Master	1.309		1.340	177.5		185.0
	Before	1.307			178.2		
5	Master	1.908		1.960	175.8		182.0
	Before	1.906			176.6		
6	Master	1.904		1.960	175.8		181.0
	Before	1.902			176.6		
7	Master	1.370		1.410	175.0		175.0
	Before	1.368			175.8		
		60.00 % (Minimum)	140.0 % (Maximum)		Nom -60.00 (Minimum)	Nom + 60.00 (Maximum)	
Master: 30-Apr-2011 16:22				Before: 18-Jul-2011 5:47			

Array Induction Tool – M Wellsite Calibration					
Electronics Calibration Check – Auxiliary					
Phase	Array Induction SPA Plus MV	Value	Phase	Array Induction SPA Zero MV	Value
Master		990.7	Master		0.05296
Before		990.7	Before		0.06959
		941.0 (Minimum)	991.0 (Nominal)	1040 (Maximum)	
		-50.00 (Minimum)	0 (Nominal)	50.00 (Maximum)	
Phase	Array Induction Temperature Plus V	Value	Phase	Array Induction Temperature Zero V	Value
Master		0.9179	Master		4.926E-00
Before		0.9178	Before		7.513E-00
		0.8710 (Minimum)	0.9170 (Nominal)	0.9630 (Maximum)	
		-0.05000 (Minimum)	0 (Nominal)	0.05000 (Maximum)	
Master: 30-Apr-2011 16:22			Before: 18-Jul-2011 5:47		

















Array Induction Tool – M Wellsite Calibration					
Test Loop Gain Correction					
Idx	Value	Test Loop Gain Correction Magnitude V	Value	Test Loop Gain Correction Phase DEG	





0	1.017		0.1496			
	0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)	-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
1	1.039		0.5529			
	0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)	-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
2	1.028		0.06815			
	0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)	-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
3	1.018		0.08682			
	0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)	-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
4	0.9945		0.1097			
	0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)	-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
5	0.9906		-0.03187			
	0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)	-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
6	0.9975		0.2686			
	0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)	-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
7	1.009		-0.02693			
	0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)	-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
Master: 30-Apr-2011 16:22						

















Array Induction Tool – M Wellsite Calibration							
Sonde Error Correction							
Idx	Value	R Sonde Error Correction MM/M			Value	X Sonde Error Correction MM/M	
0	-97.13				47.98		
	-231.0 (Minimum)	-56.00 (Nominal)	119.0 (Maximum)		-2250 (Minimum)	0 (Nominal)	2250 (Maximum)
1	166.0				-84.05		
	114.0 (Minimum)	159.0 (Nominal)	204.0 (Maximum)		-625.0 (Minimum)	0 (Nominal)	625.0 (Maximum)
2	115.1				66.44		
	66.00 (Minimum)	111.0 (Nominal)	156.0 (Maximum)		-350.0 (Minimum)	0 (Nominal)	350.0 (Maximum)
3	51.42				-29.80		
	39.00 (Minimum)	64.00 (Nominal)	89.30 (Maximum)		-250.0 (Minimum)	0 (Nominal)	250.0 (Maximum)
4	28.27				0.7177		
	15.00 (Minimum)	25.00 (Nominal)	35.00 (Maximum)		-63.00 (Minimum)	0 (Nominal)	63.00 (Maximum)
5	11.37				7.304		
	4.000 (Minimum)	14.00 (Nominal)	24.00 (Maximum)		-50.00 (Minimum)	0 (Nominal)	50.00 (Maximum)
6	9.719				0.2088		
	5.000 (Minimum)	10.00 (Nominal)	15.00 (Maximum)		-30.00 (Minimum)	0 (Nominal)	30.00 (Maximum)
7	-1.364				6.617		
	-5.000 (Minimum)	0 (Nominal)	5.000 (Maximum)		-30.00 (Minimum)	0 (Nominal)	30.00 (Maximum)
Master: 30-Apr-2011 16:22							

Array Induction Tool – M Wellsite Calibration							
Mud Gain Correction							
Idx	Value	Coarse – Mag, Real, Imag			Value	Fine – Mag, Real, Imag	
0	1.064				1.118		
		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)		0.8000 (Minimum)	1.000 (Nominal)1.200 (Maximum)
1	1.064				1.118		
		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)		0.8000 (Minimum)	1.000 (Nominal)1.200 (Maximum)
2	1.064				1.118		
		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)		0.8000 (Minimum)	1.000 (Nominal)1.200 (Maximum)

	0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)	0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)
Master: 30-Apr-2011 16:22						

Array Induction Tool – M Master Calibration							
Electronics Calibration Check – Thru Cal Mag. & Phase							
Idx	Phase	Value	Thru Cal Magnitude V	Nominal	Value	Thru Cal Phase DEG	Nominal
0	Master	0.6104		0.6100	189.1		197.0
1	Master	1.249		1.270	188.0		196.0
2	Master	0.6200		0.6200	184.4		192.0
3	Master	0.7004		0.7000	183.6		191.0
4	Master	1.309		1.340	177.5		185.0
5	Master	1.908		1.960	175.8		182.0
6	Master	1.904		1.960	175.8		181.0
7	Master	1.370		1.410	175.0		175.0
		60.00 % (Minimum)	(Nominal)	140.0 % (Maximum)	Nom -60.00 (Minimum)	(Nominal)	Nom + 60.00 (Maximum)
Master: 30-Apr-2011 16:22							







Array Induction Tool – M Master Calibration							
Electronics Calibration Check – Auxiliary							
Phase	Array Induction SPA Plus MV		Value	Phase	Array Induction SPA Zero MV		Value
Master			990.7	Master			0.05296
	941.0 (Minimum)	991.0 (Nominal)	1040 (Maximum)		-50.00 (Minimum)	0 (Nominal)	50.00 (Maximum)
Phase	Array Induction Temperature Plus V		Value	Phase	Array Induction Temperature Zero V		Value
Master			0.9179	Master			4.926E-00
	0.8710 (Minimum)	0.9170 (Nominal)	0.9630 (Maximum)		-0.05000 (Minimum)	0 (Nominal)	0.05000 (Maximum)
Master: 30-Apr-2011 16:22							

Array Induction Tool – M Master Calibration								
Test Loop Gain Correction								
Idx	Value	Test Loop Gain Correction Magnitude V			Value	Test Loop Gain Correction Phase DEG		
0	1.017				0.1496			
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)		-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
1	1.039				0.5529			
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)		-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
2	1.028				0.06815			
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)		-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
3	1.018				0.08682			
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)		-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
4	0.9945				0.1097			
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)		-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
5	0.9906				-0.03187			
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)		-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
6	0.9975				0.2686			
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)		-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
7	1.009				-0.02693			
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)		-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
Master: 30-Apr-2011 16:22								

Array Induction Tool – M Master Calibration				
Sonde Error Correction				
Idx	Value	R Sonde Error Correction MM/M		X Sonde Error Correction MM/M

0	-97.13				47.98			
		-231.0 (Minimum)	-56.00 (Nominal)	119.0 (Maximum)		-2250 (Minimum)	0 (Nominal)	2250 (Maximum)
1	166.0				-84.05			
		114.0 (Minimum)	159.0 (Nominal)	204.0 (Maximum)		-625.0 (Minimum)	0 (Nominal)	625.0 (Maximum)
2	115.1				66.44			
		66.00 (Minimum)	111.0 (Nominal)	156.0 (Maximum)		-350.0 (Minimum)	0 (Nominal)	350.0 (Maximum)
3	51.42				-29.80			
		39.00 (Minimum)	64.00 (Nominal)	89.30 (Maximum)		-250.0 (Minimum)	0 (Nominal)	250.0 (Maximum)
4	28.27				0.7177			
		15.00 (Minimum)	25.00 (Nominal)	35.00 (Maximum)		-63.00 (Minimum)	0 (Nominal)	63.00 (Maximum)
5	11.37				7.304			
		4.000 (Minimum)	14.00 (Nominal)	24.00 (Maximum)		-50.00 (Minimum)	0 (Nominal)	50.00 (Maximum)
6	9.719				0.2088			
		5.000 (Minimum)	10.00 (Nominal)	15.00 (Maximum)		-30.00 (Minimum)	0 (Nominal)	30.00 (Maximum)
7	-1.364				6.617			
		-5.000 (Minimum)	0 (Nominal)	5.000 (Maximum)		-30.00 (Minimum)	0 (Nominal)	30.00 (Maximum)

Master: 30-Apr-2011 16:22

Array Induction Tool – M Master Calibration								
Mud Gain Correction								
Idx	Value	Coarse – Mag, Real, Imag			Value	Fine – Mag, Real, Imag		
0	1.064				1.118			
		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)
1	1.064				1.118			
		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)
2	1.064				1.118			
		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)
Master: 30-Apr-2011 16:22								

Master: 30-Apr-2011 16:22

High resolution Integrated Logging Tool–DTS / Equipment Identification

Primary Equipment:

HILT high–Resolution Mechanical Sonde
HILT Rxo Gamma–ray Device
HILT Micro Cylindrically Focused Log Dev
GR Logging Source
HILT High Res. Control Cartridge
HILT Gamma–Ray Neutron Sonde–DTS
HGNS Gamma–Ray Device
HGNS Neutron Detector with Alpha Source

HRMS – H 4763
HRGD – H 4828
MCFL – H
GLS – VJ 5393
HRCC – H 4927
HGNS – H 4768
HGR –
HCNT – H




Auxiliary Equipment:




Neutron Calibration Tank
Gamma Source Radioactive
HGNS Housing




NCT – B
GSR – U/Y
HGNS – 3853



High resolution Integrated Logging Tool–DTS Wellsite Calibration									
Stab Measurement Summary									
Phase	BS Window Ratio			Value	Phase	SS Window Ratio			Value
Before				0.7430	Before				0.4761
	0.7090 (Minimum)	0.7463 (Nominal)	0.7836 (Maximum)			0.4523 (Minimum)	0.4761 (Nominal)	0.4999 (Maximum)	
Phase	BS Window Sum CPS			Value	Phase	SS Window Sum CPS			Value
Before				28500	Before				12090
	27470	28920	30360			11520	12130	12730	
Phase	LS Window Ratio			Value	Phase	LS Window Sum CPS			Value
Before				0.3012	Before				1405
	0.2865 (Minimum)	0.3015 (Nominal)	0.3166 (Maximum)			1340	1411	1481	



(Minimum)	(Nominal)	(Maximum)	(Minimum)	(Nominal)	(Maximum)	(Minimum)	(Nominal)	(Maximum)
Before: 18-Jul-2011 5:51								





High resolution Integrated Logging Tool-DTS Wellsite Calibration														
Photo-multiplier High Voltages Calibrations														
Phase	BS PM High Voltage (Command) V			Value	Phase	SS PM High Voltage (Command) V			Value	Phase	LS PM High Voltage (Command) V			Value
Before				1603	Before				1461	Before				1255
	1509 (Minimum)	1609 (Nominal)	1709 (Maximum)		1367 (Minimum)	1467 (Nominal)	1567 (Maximum)			1160 (Minimum)	1260 (Nominal)	1360 (Maximum)		
Before: 18-Jul-2011 5:51														




High resolution Integrated Logging Tool–DTS Wellsite Calibration											
Crystal Quality Resolutions Calibration											
Phase	BS Crystal Resolution %		Value	Phase	SS Crystal Resolution %		Value	Phase	LS Crystal Resolution %		Value
Before			12.52	Before			9.007	Before			8.254
	11.63 (Minimum)	12.63 (Nominal)	13.63 (Maximum)		7.827 (Minimum)	8.827 (Nominal)	9.827 (Maximum)		7.306 (Minimum)	8.306 (Nominal)	9.306 (Maximum)
Before: 18–Jul–2011 5:51											


High resolution Integrated Logging Tool–DTS Wellsite Calibration														
MCFL Calibration														
Phase	Raw B0 Resistivity OHMM			Value	Phase	Raw B1 Resistivity OHMM			Value	Phase	Raw B2 Resistivity OHMM			Value
Before				3855	Before				3792	Before				3804
	3565 (Minimum)	3875 (Nominal)	4185 (Maximum)		3524 (Minimum)	3830 (Nominal)	4136 (Maximum)			3524 (Minimum)	3830 (Nominal)	4136 (Maximum)		
Before: 18–Jul–2011 5:46														

High resolution Integrated Logging Tool-DTS Wellsite Calibration									
HILT Caliper Calibration									
Phase	HILT Caliper Zero Measurement IN			Value	Phase	HILT Caliper Plus Measurement IN			Value
Before				6.630	Before				9.688
6.000 (Minimum)		8.000 (Nominal)		10.00 (Maximum)	9.000 (Minimum)		12.00 (Nominal)		15.00 (Maximum)
Before: 18-Jul-2011 5:54									



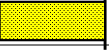

High resolution Integrated Logging Tool–DTS Wellsite Calibration									
Detector Calibration									
Phase	Gamma Ray Background GAPI			Value	Phase	Gamma Ray (Jig – Bkgd) GAPI			Value
Before				49.85	Before				179.2
	0 (Minimum)	30.00 (Nominal)	120.0 (Maximum)			157.1 (Minimum)	165.0 (Nominal)	206.3 (Maximum)	
Before: 18–Jul–2011 5:45									





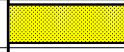

High resolution Integrated Logging Tool–DTS Wellsite Calibration									
Zero Measurement									
Phase	CNTC Background CPS			Value	Phase	CFTC Background CPS			Value
Master				27.22	Master				25.06
Before				26.41	Before				25.21
5.000 (Minimum)27.22 (Nominal)40.00 (Maximum)					5.000 (Minimum)25.06 (Nominal)40.00 (Maximum)				
Master: 24–May–2011 13:48					Before: 18–Jul–2011 5:46				



High resolution Integrated Logging Tool-DTS Wellsite Calibration														
Ratio Measurement														
Phase	Thermal Near Corr. (Tank) CPS			Value	Phase	Thermal Far Corr. (Tank) CPS			Value	Phase	CNTC/CFTC (Tank)			Value
Master				5728	Master				2413	Master				2.374
	4700 (Minimum)	5800 (Nominal)	6900 (Maximum)		1900 (Minimum)	2400 (Nominal)	2900 (Maximum)			2.120 (Minimum)	2.159 (Nominal)	2.540 (Maximum)		
Master: 24-May-2011 13:48														




High resolution Integrated Logging Tool-DTS Wellsite Calibration		
Accelerometer Calibration		
Phase	Z-Axis Acceleration F/S2	Value
Before		32.01

31.53 (Minimum)	32.19 (Nominal)	32.84 (Maximum)
Before: 18-Jul-2011 18:24		

High resolution Integrated Logging Tool-DTS Master Calibration					
Inversion results					
Phase	Rho Aluminum G/C3	Value	Phase	Rho Magnesium G/C3	Value
Master		2.597	Master		1.689
	2.586 (Minimum) 2.596 (Nominal) 2.606 (Maximum)			1.676 (Minimum) 1.686 (Nominal) 1.696 (Maximum)	
Phase	Pe Aluminum	Value	Phase	Pe Magnesium	Value
Master		2.500	Master		2.643
	2.470 (Minimum) 2.570 (Nominal) 2.670 (Maximum)			2.550 (Minimum) 2.650 (Nominal) 2.750 (Maximum)	
Master: 25-Jun-2011 17:34					

High resolution Integrated Logging Tool-DTS Master Calibration								
Deviation Summary								
Phase	BS Average Deviation %	Value	Phase	SS Average Deviation %	Value	Phase	LS Average Deviation %	Value
Master		0.3203	Master		0.4897	Master		0.7261
	-0.6000 (Minimum) 0 (Nominal) 0.6000 (Maximum)			-1.000 (Minimum) 0 (Nominal) 1.000 (Maximum)			-1.500 (Minimum) 0 (Nominal) 1.500 (Maximum)	
Phase	BS Max Deviation %	Value	Phase	SS Max Deviation %	Value	Phase	LS Max Deviation %	Value
Master		0.8885	Master		1.893	Master		1.767
	-1.600 (Minimum) 0 (Nominal) 1.600 (Maximum)			-2.500 (Minimum) 0 (Nominal) 2.500 (Maximum)			-3.500 (Minimum) 0 (Nominal) 3.500 (Maximum)	
Master: 25-Jun-2011 17:34								

High resolution Integrated Logging Tool-DTS Master Calibration					
Zero Measurement					
Phase	CNTC Background CPS	Value	Phase	CFTC Background CPS	Value
Master		27.22	Master		25.06
	5.000 (Minimum) 27.22 (Nominal) 40.00 (Maximum)			5.000 (Minimum) 25.06 (Nominal) 40.00 (Maximum)	
Master: 24-May-2011 13:48					

High resolution Integrated Logging Tool-DTS Master Calibration								
Tank Measurement								
Phase	Thermal Near Corr. (Tank) CPS	Value	Phase	Thermal Far Corr. (Tank) CPS	Value	Phase	CNTC/CFTC (Tank)	Value
Master		5728	Master		2413	Master		2.374
	4700 (Minimum) 5800 (Nominal) 6900 (Maximum)			1900 (Minimum) 2400 (Nominal) 2900 (Maximum)			2.120 (Minimum) 2.159 (Nominal) 2.540 (Maximum)	
Master: 24-May-2011 13:48								

DTS Telemetry Tool / Equipment Identification		
Primary Equipment:		
DTC-H Auxiliary Cartridge	DTCH - A	9141
DTC-H Telemetry Cartridge	DTCH - A	9141
Auxiliary Equipment:		
DTCH Telemetry Cartridge Housing	ECH - KC	

Well: **Wister 85-20**
Field: **Salton Sea**
County: **Imperial**
State: **California**

ARRAY INDUCTION / SP / GAMMA RAY
CALIPER