

Schlumberger

Company: **Whiting Oil and Gas Corporation**

Well: **Wildhorse 16-13L**

Field: **Wildcat**

County: **Weld**

State: **Colorado**

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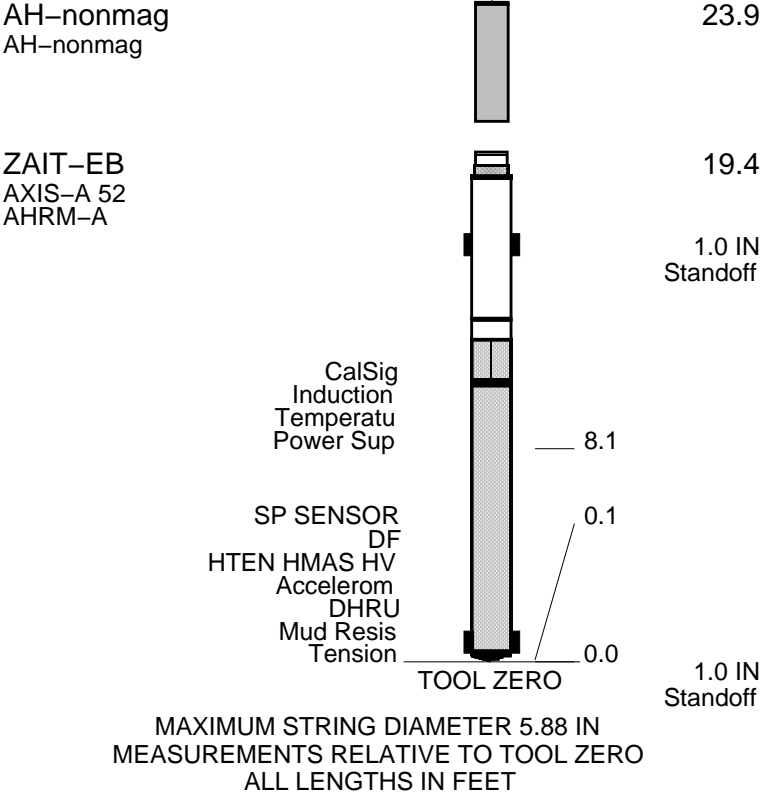
State: **Colorado**

[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		
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			

OTHER SERVICES1	OTHER SERVICES2
OS1: MSIP	OS1:
OS2: FMI	OS2:
OS3: RT Scanner	OS3:
OS4: CMR	OS4:
OS5: ECS	OS5:
REMARKS: RUN NUMBER 1	REMARKS: RUN NUMBER 2
This is the first run in hole	
Toolstring run as per tool sketch	
Matrix: Limestone (2.71 g/cc)	

Rig: Cade 21					
Crew: Alonzo Carrera, David Marquez					
RUN 1			RUN 2		
SERVICE ORDER #: PROGRAM VERSION: FLUID LEVEL:			SERVICE ORDER #: PROGRAM VERSION: FLUID LEVEL:		
CCN1-00014 19C2-270 200 ft					
LOGGED INTERVAL	START	STOP	LOGGED INTERVAL	START	STOP
EQUIPMENT DESCRIPTION					
RUN 1			RUN 2		
SURFACE EQUIPMENT					
WITM (DTS)-A					
GSR-U/Y					
NCT-B					
CNB-AB					
NCS-VB					
DOWNHOLE EQUIPMENT					
LEH-QT		59.5			
LEH-QT					
DTC-H	CTEM	55.6			
ECH-KC	TelStatus	53.5			
DTCH0-A	ToolStatu	53.5			
	HGNS HTEM	53.5			
	HMCA				
HILTH-FTB	HGNS Gamm	52.8			
HGNSD-H					
HMCA-H					
HGNH					
NLS-KL					
NSR-F 2554					
HACCZ-H 6991	HGNS Neut	47.0			
HCNT-H	HGNS Neut	46.5			
HGR					
HRCC-H	HGNS sens	44.1			
HRMS-H					
HRGD-H					
GLS-VJ 5240					
MCFL Device-H					
HILT Nucl. LS-H 28910	HRCC cart	40.1			
HILT Nucl. SS-H 42767					
HILT Nucl. BS-H 42767					
BOW-SPR					
NPV-N					
	MCFL	34.7			
	HILT cali	34.2			
	HRDD-LS				
	HRDD-SS				
	HRDD-BS	33.8			
AH-107		31.9			
AH-107					
AH-107		29.9			
AH-107					
GPIT-F		27.9			
GPIH-B					
GPIC-F					



Schlumberger

LINEAR INDUCTION 2" = 100'

MAXIS Field Log

Input DLIS Files

DEFAULT	AIT_IS_TLD_MCFL_CNL_012LUP	FN:11	PRODUCER	02-Jul-2013 19:58	10062.0 FT	1511.0 FT
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Output DLIS Files

DEFAULT	AIT_IS_TLD_MCFL_CNL_024PUP	FN:25	PRODUCER	02-Jul-2013 23:19	10062.0 FT	1511.0 FT
CUSTOMER	AIT_IS_TLD_MCFL_CNL_024PUC	FN:26	CUSTOMER	02-Jul-2013 23:19	10062.0 FT	1511.0 FT

Integrated Hole/Cement Volume Summary

Hole Volume = 4330.51 F3
Cement Volume = 2937.52 F3 (assuming 5.50 IN casing O.D.)
Computed from 10050.0 FT to 1607.0 FT using data channel(s) HCAL

OP System Version: 19C2-270

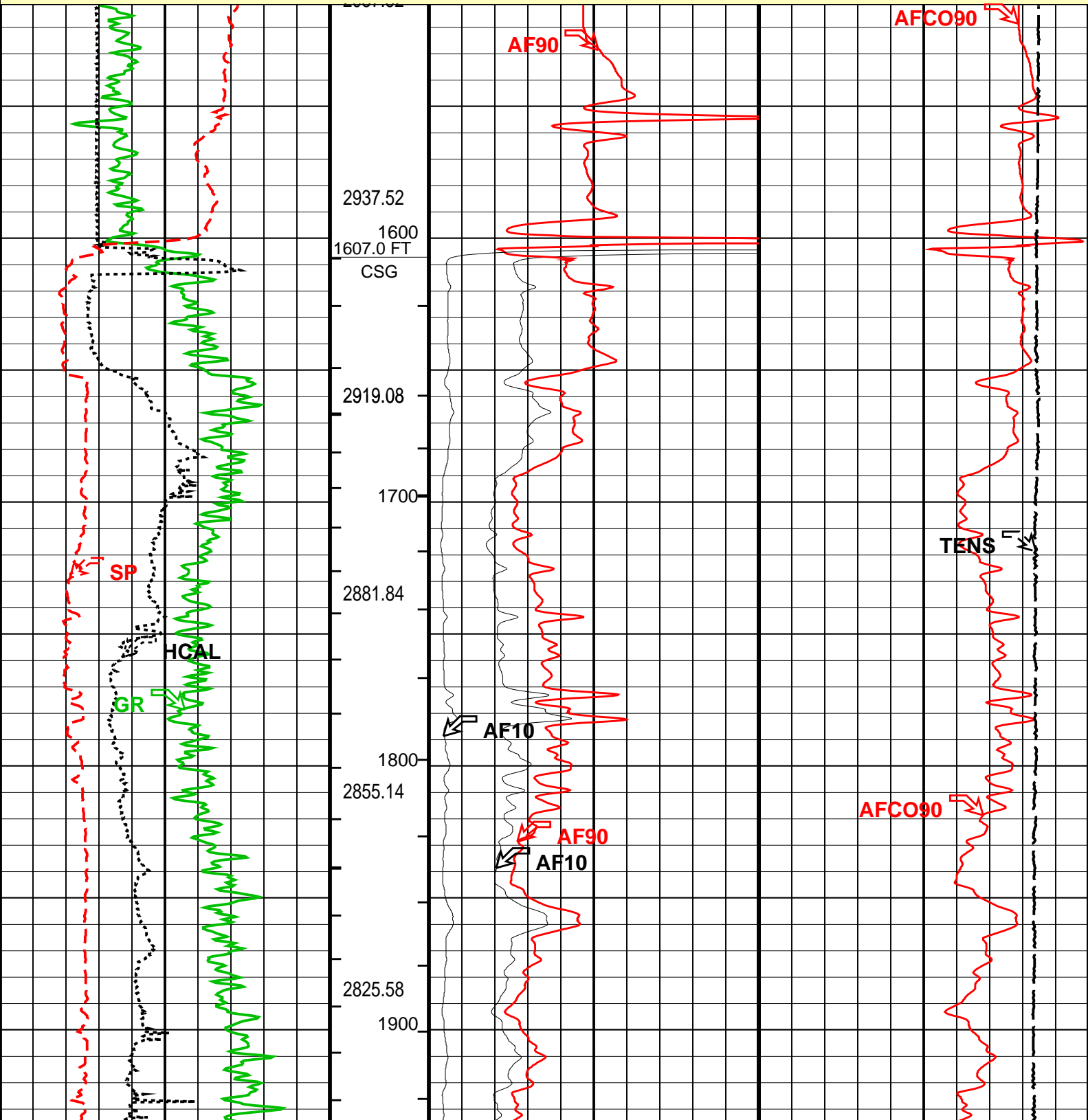
ZAIT-EB	19C2-270	GPIT-F	19C2-270
HILTH-FTB	19C2-270	DTC-H	19C2-270

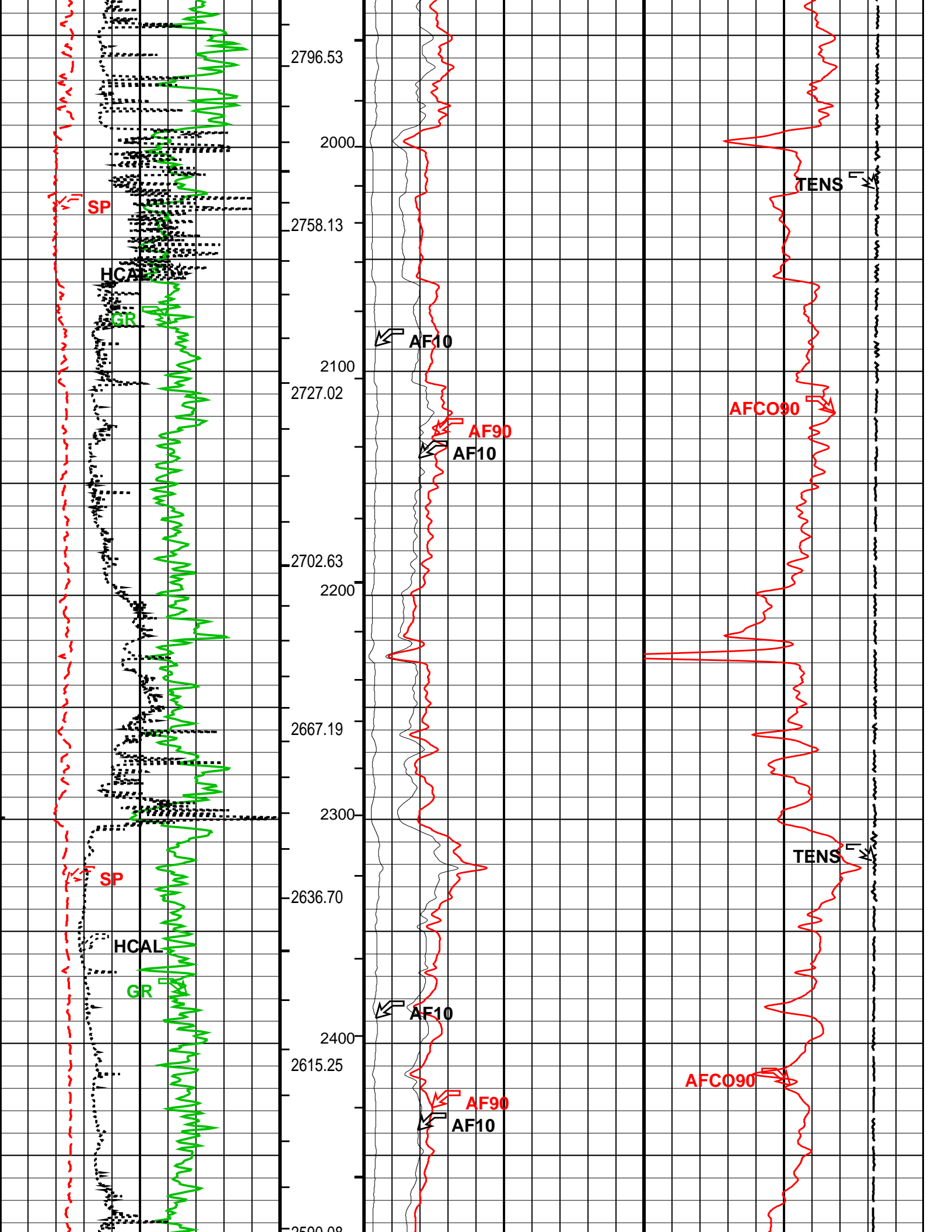
PIP SUMMARY

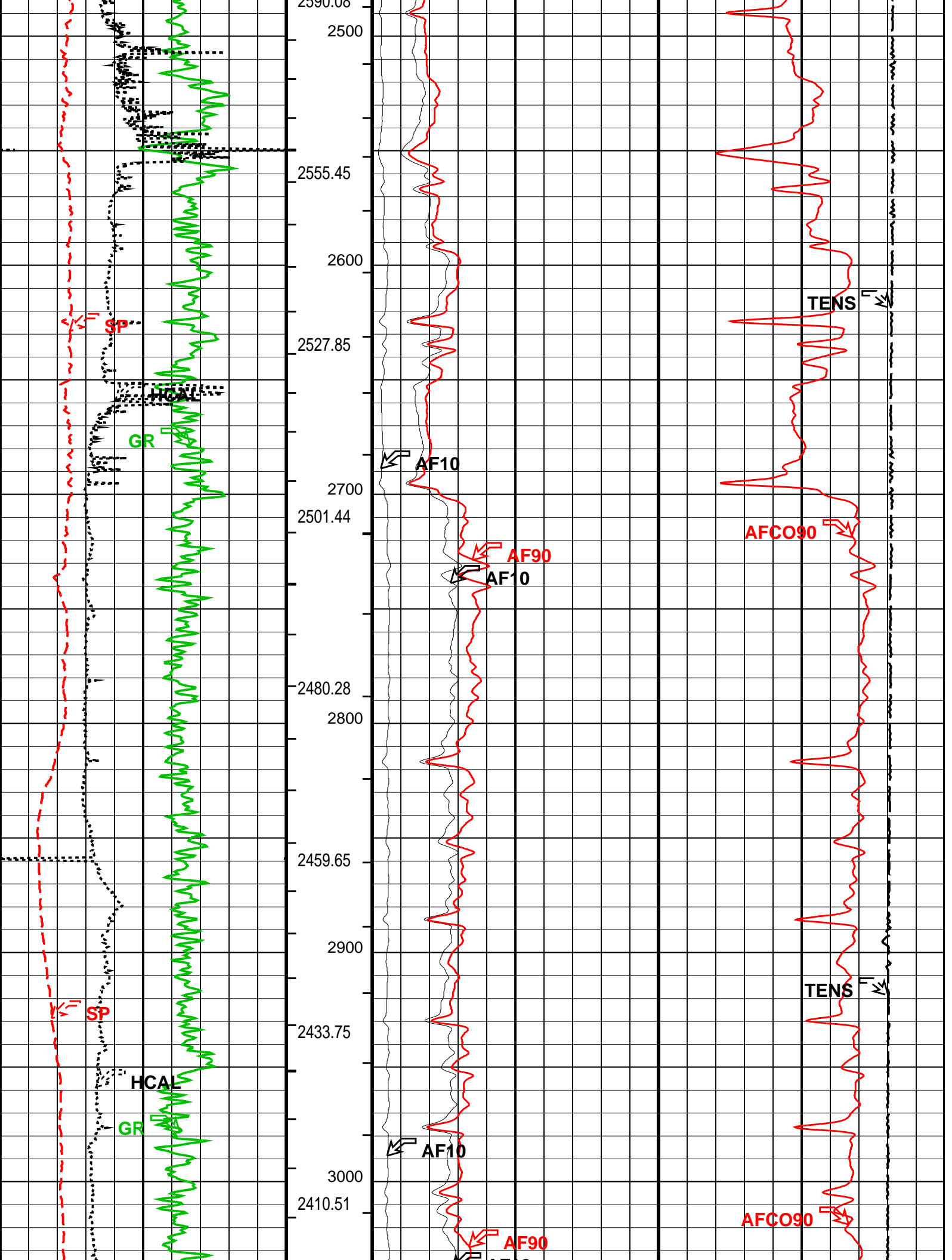
- ➔ Integrated Cement Volume Major Pip Every 100 F3
- ➔ Integrated Cement Volume Minor Pip Every 10 F3
- ➔ Integrated Hole Volume Major Pip Every 100 F3
- ➔ Integrated Hole Volume Minor Pip Every 10 F3

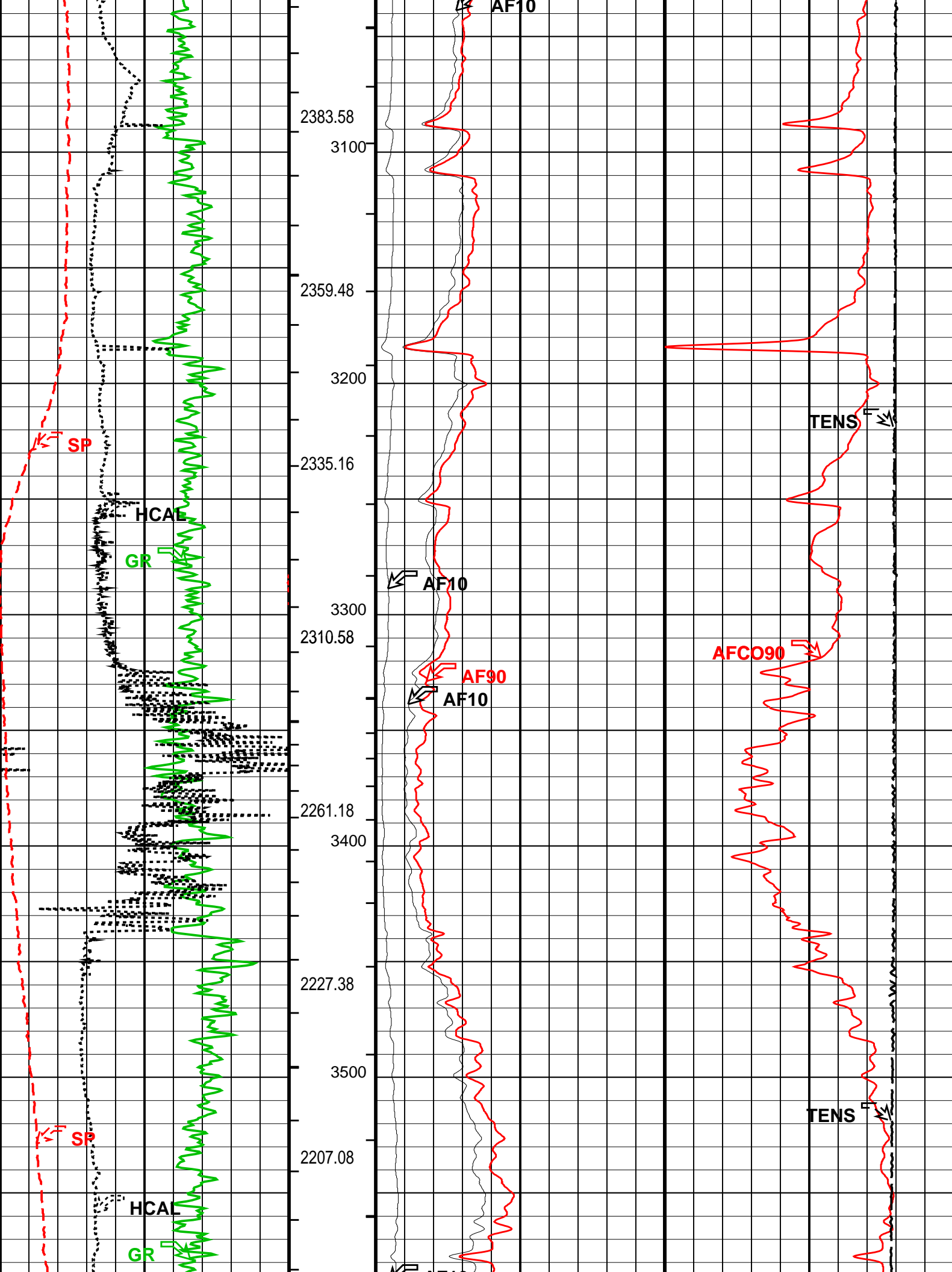
SP (SP) (MV)		AIT 10 Inch Investigation (AF10) (OHMM)		Tension (TENS) (LBF)	
-160	40	0	50	10000	0
Caliper (HCAL) (IN)		AIT 90 Inch Investigation (AF90) (OHMM)		AIT 90 Inch Investigation Conductivity (AFCO90) (MM/M)	
6	16	0	10	1000	0
Gamma Ray (GR) (GAPI)		AIT 10 Inch Investigation (AF10) (OHMM)			
0	150	0	10		
Gamma Ray Backup		Cement Volume (ICV) (F3)			

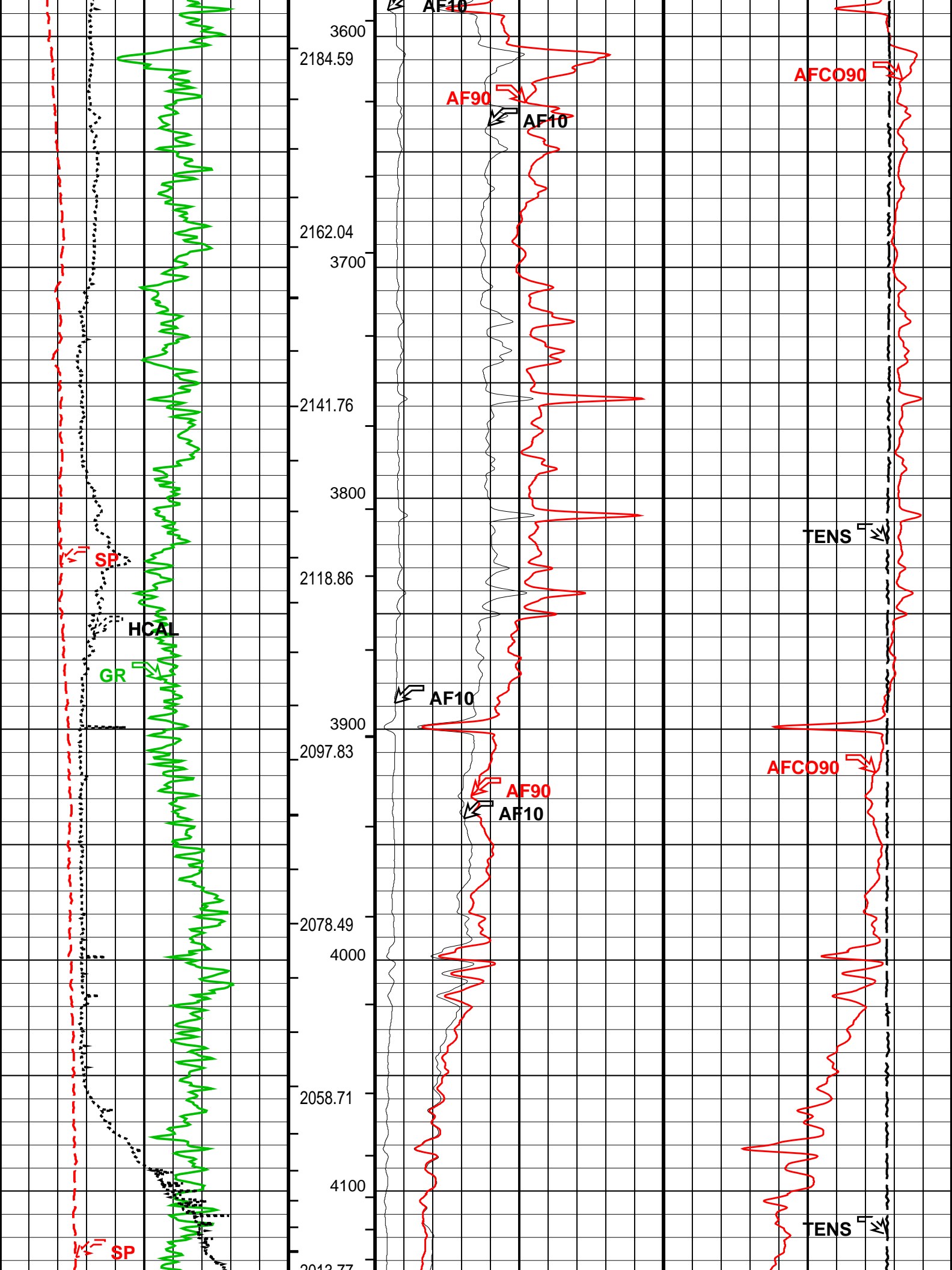
MAIN PASS: *** PLATFORM EXPRESS – ARRAY INDUCTION ***

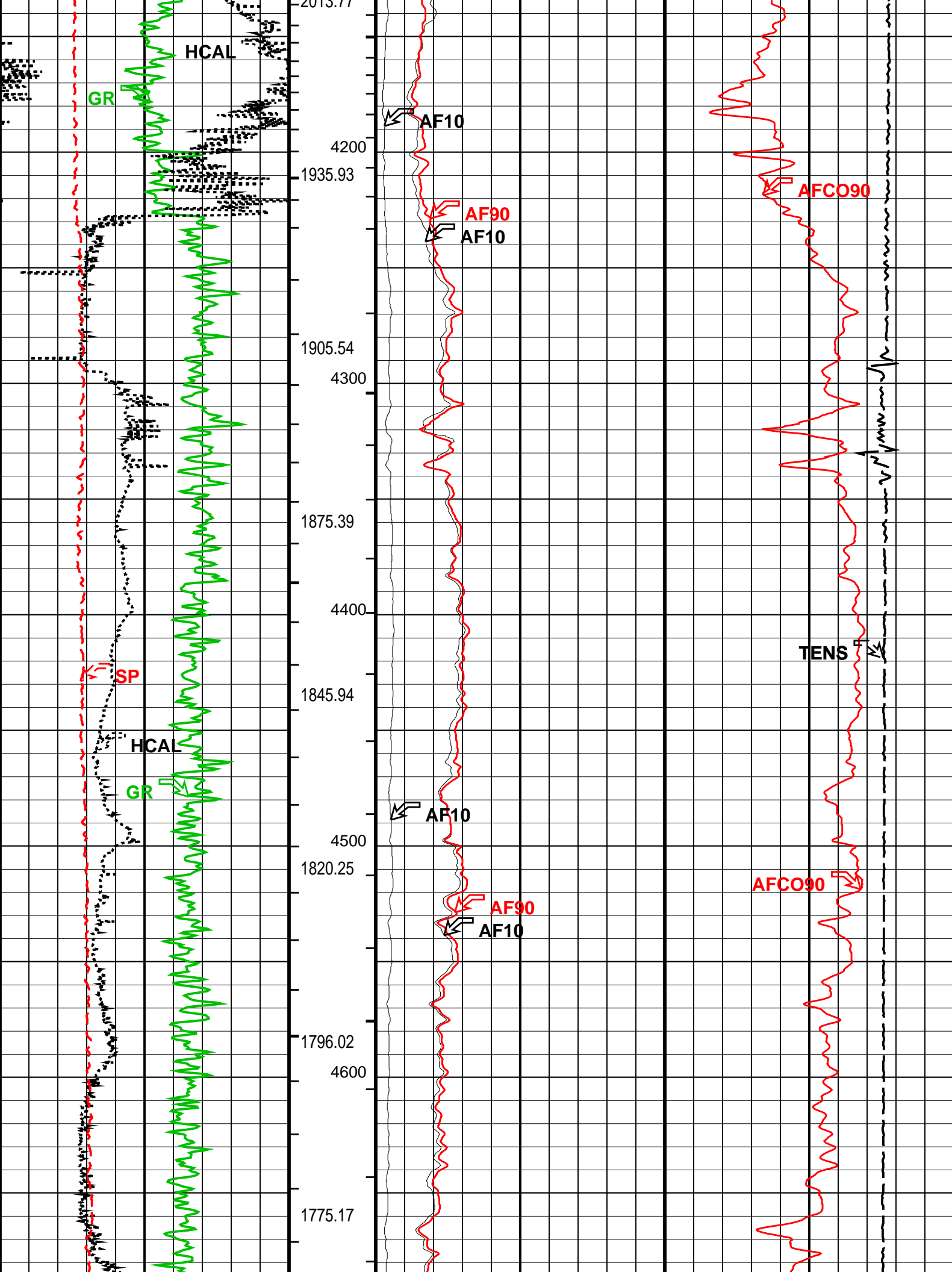


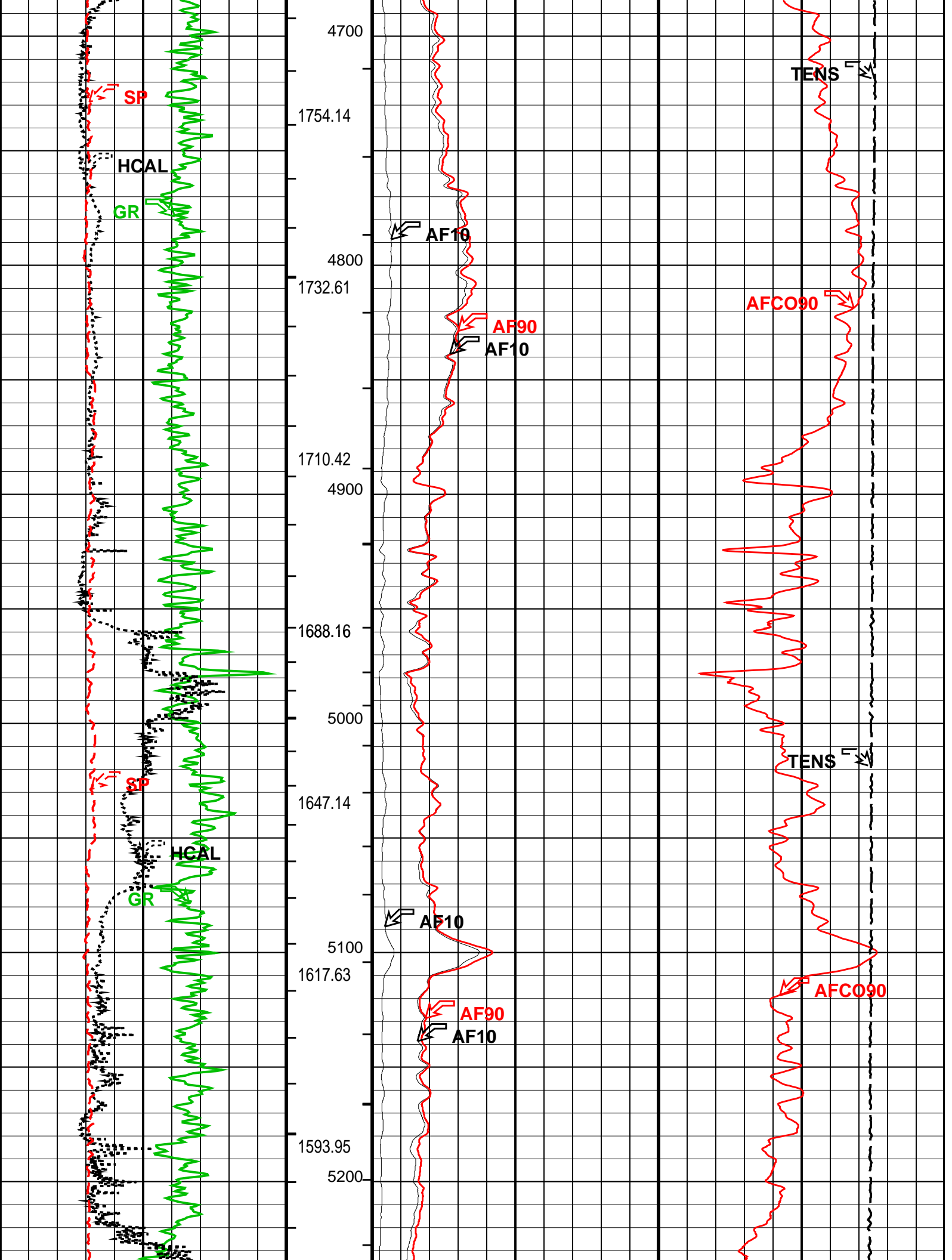


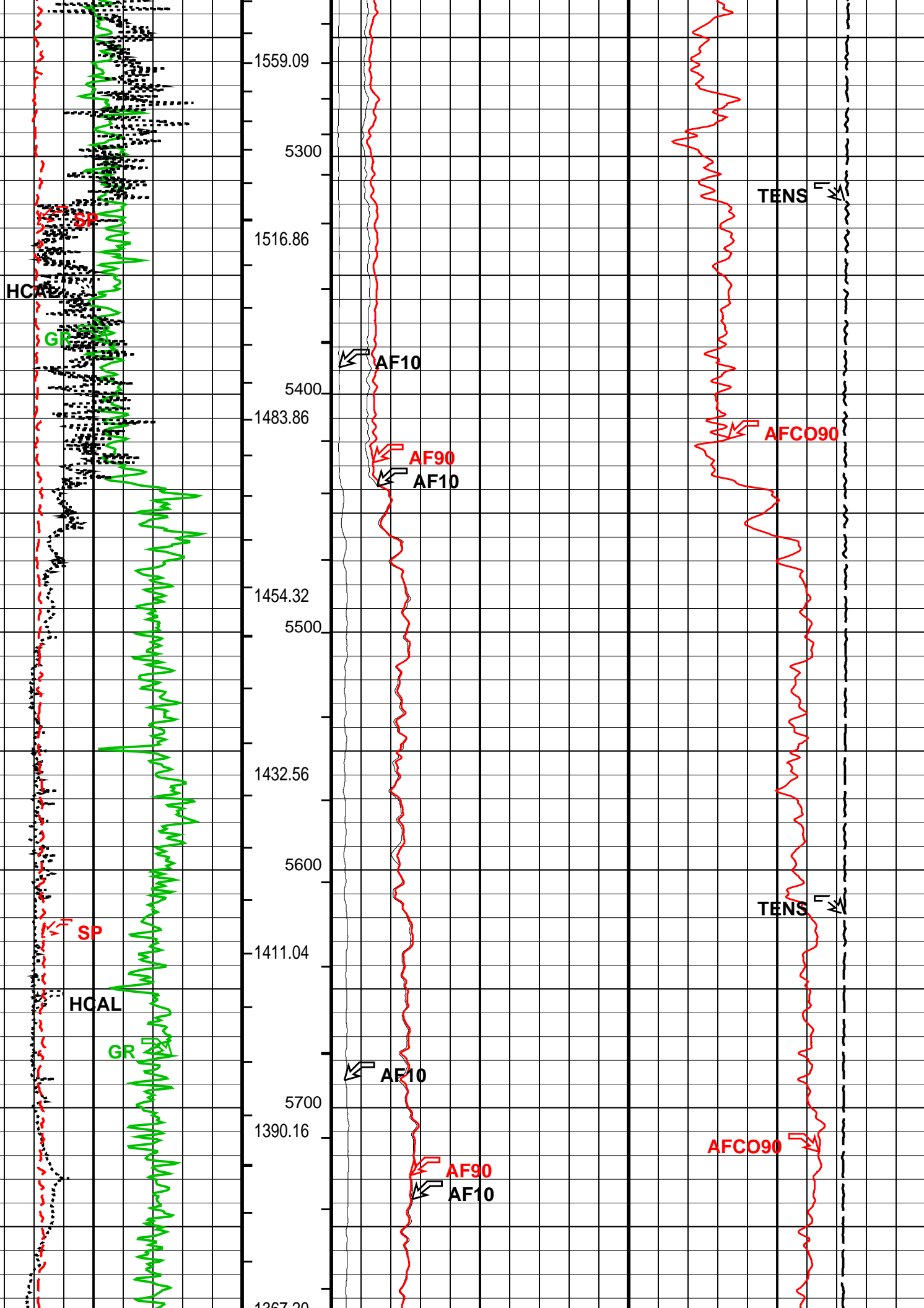


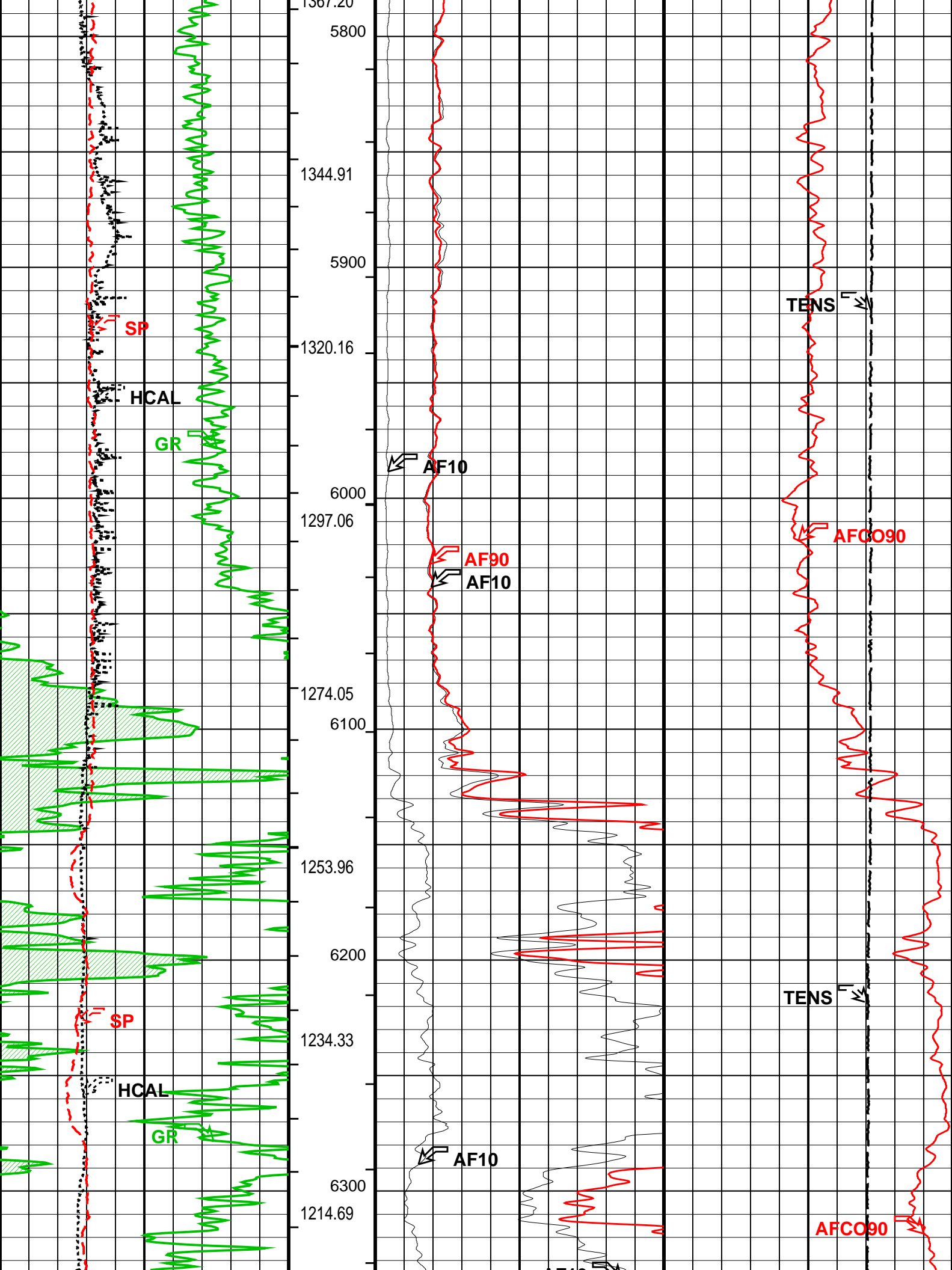


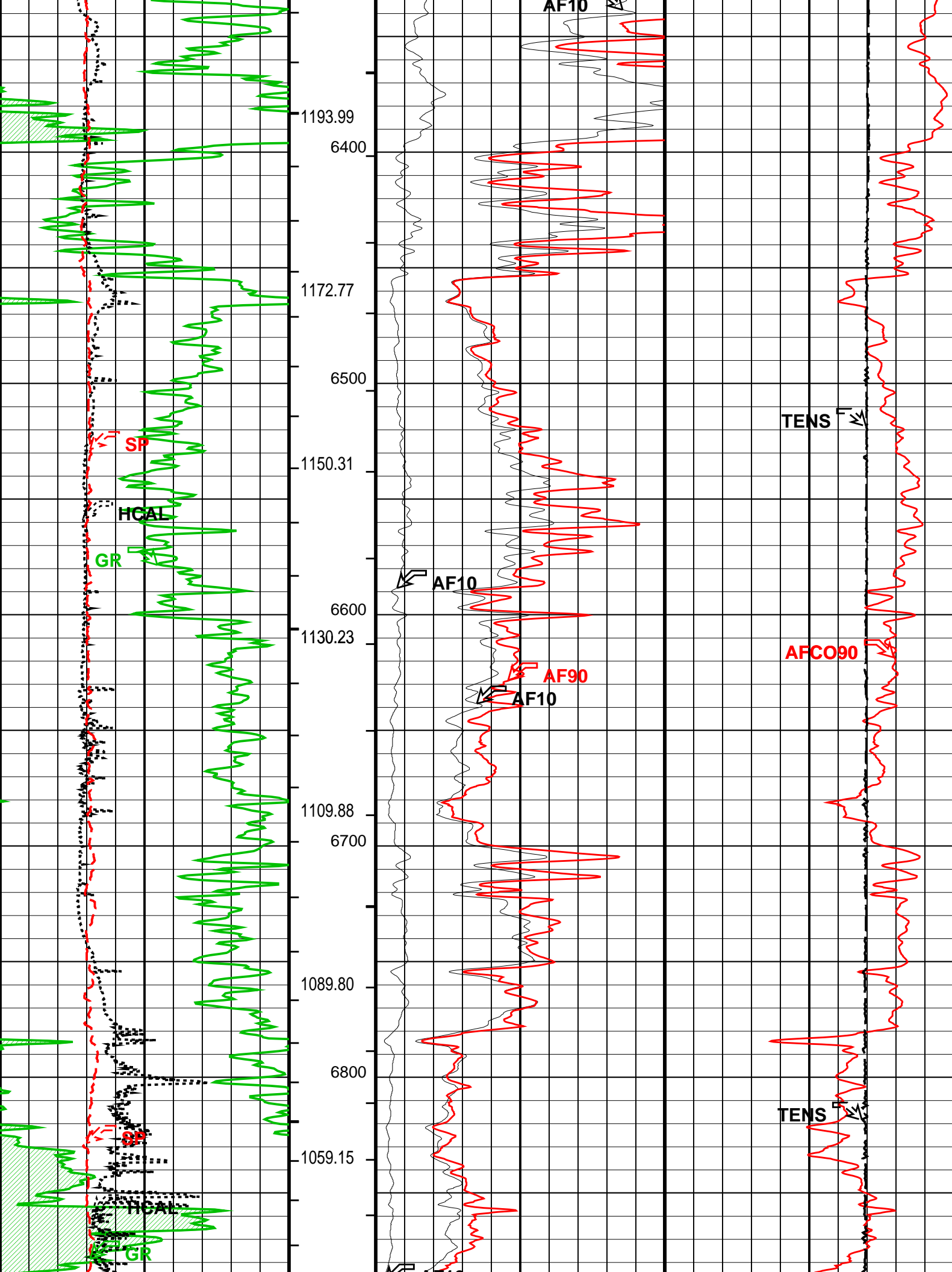


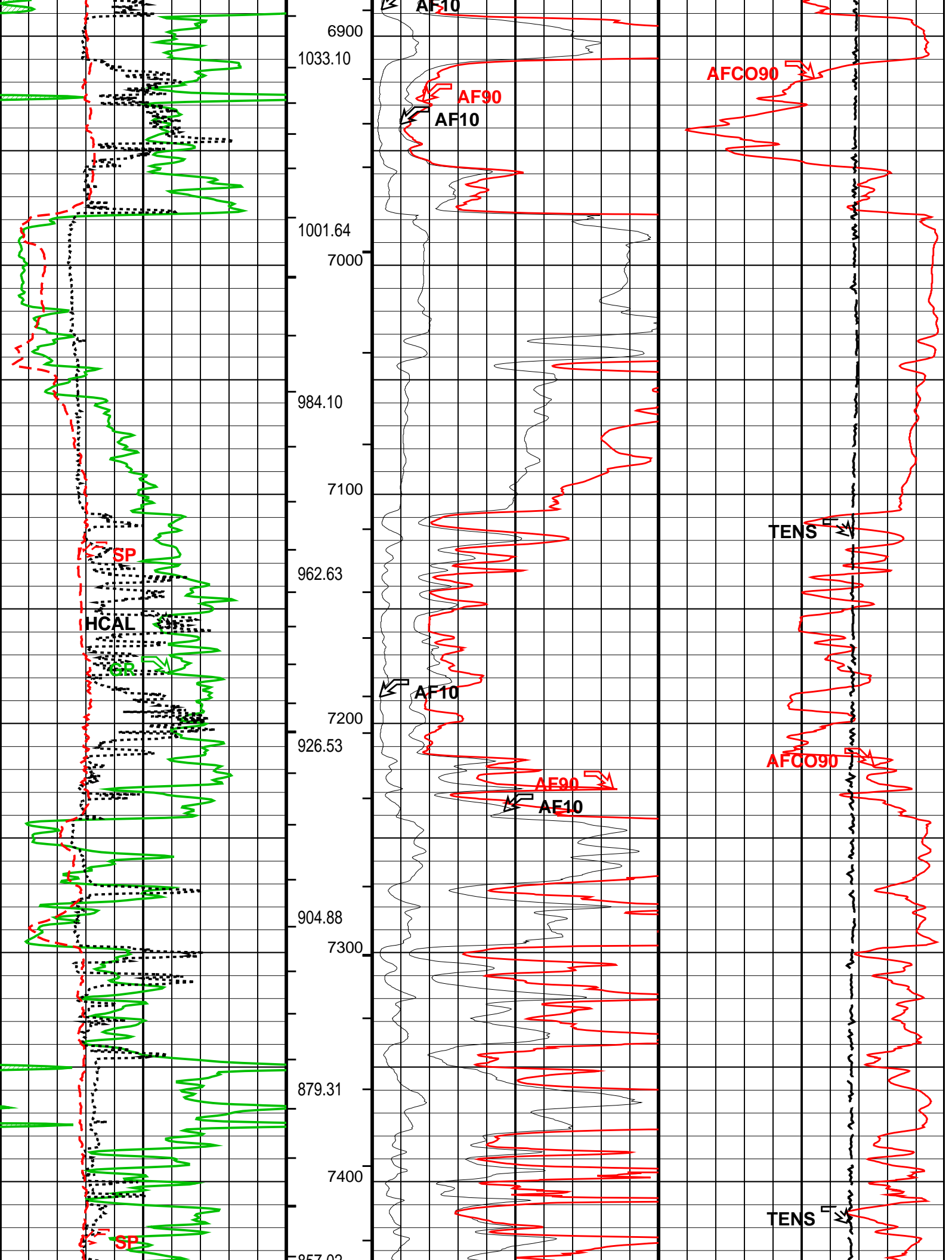


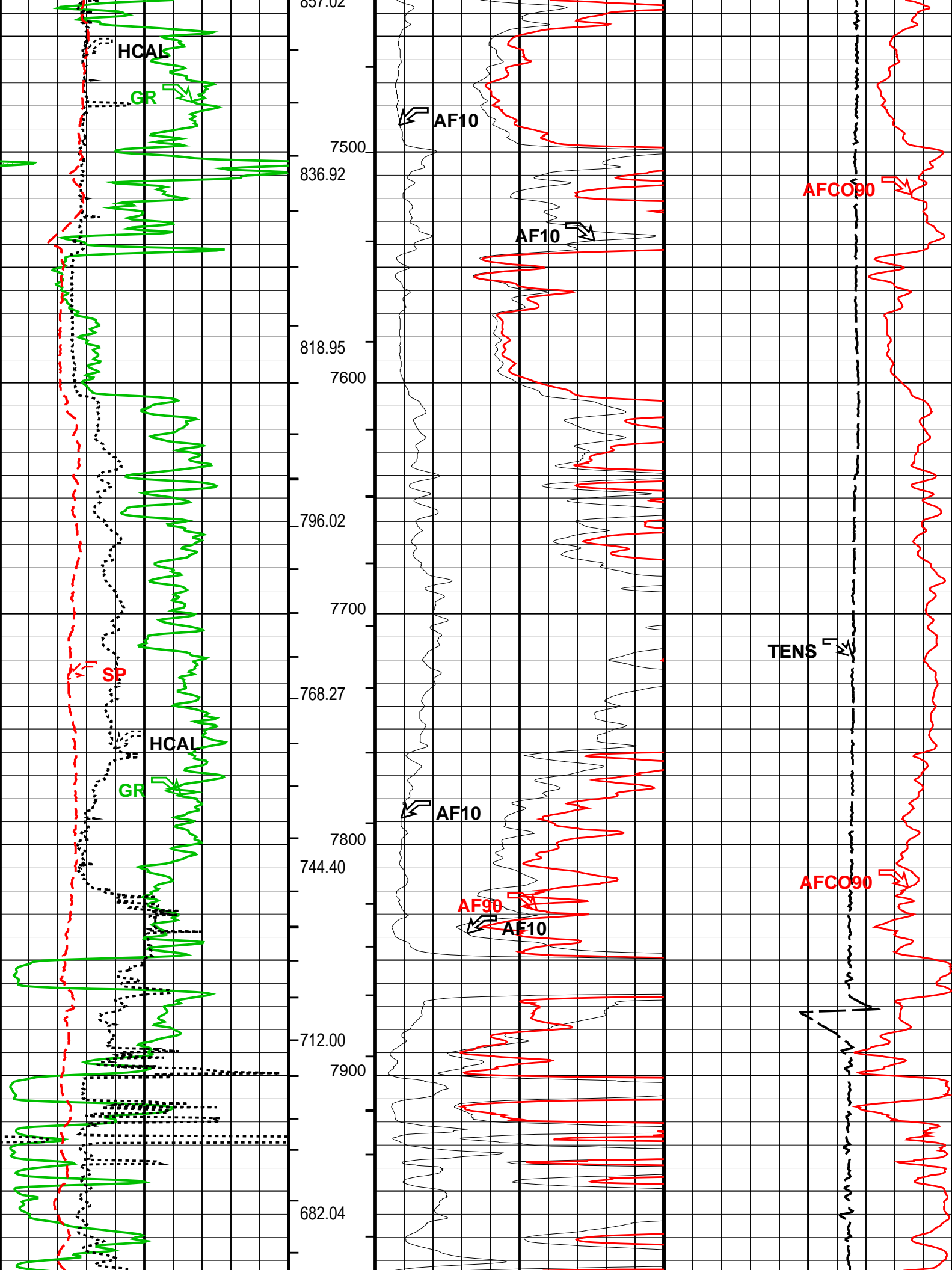


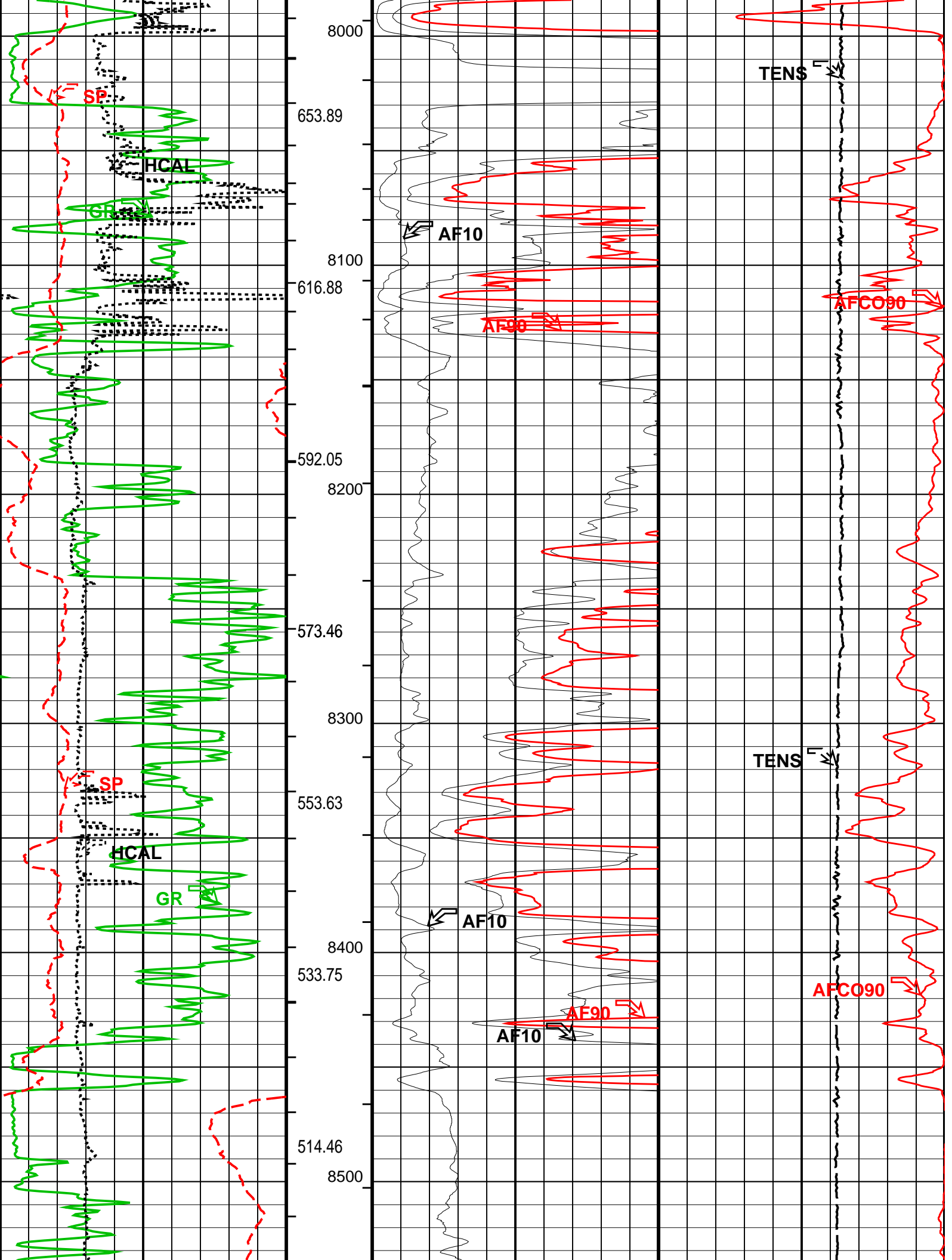


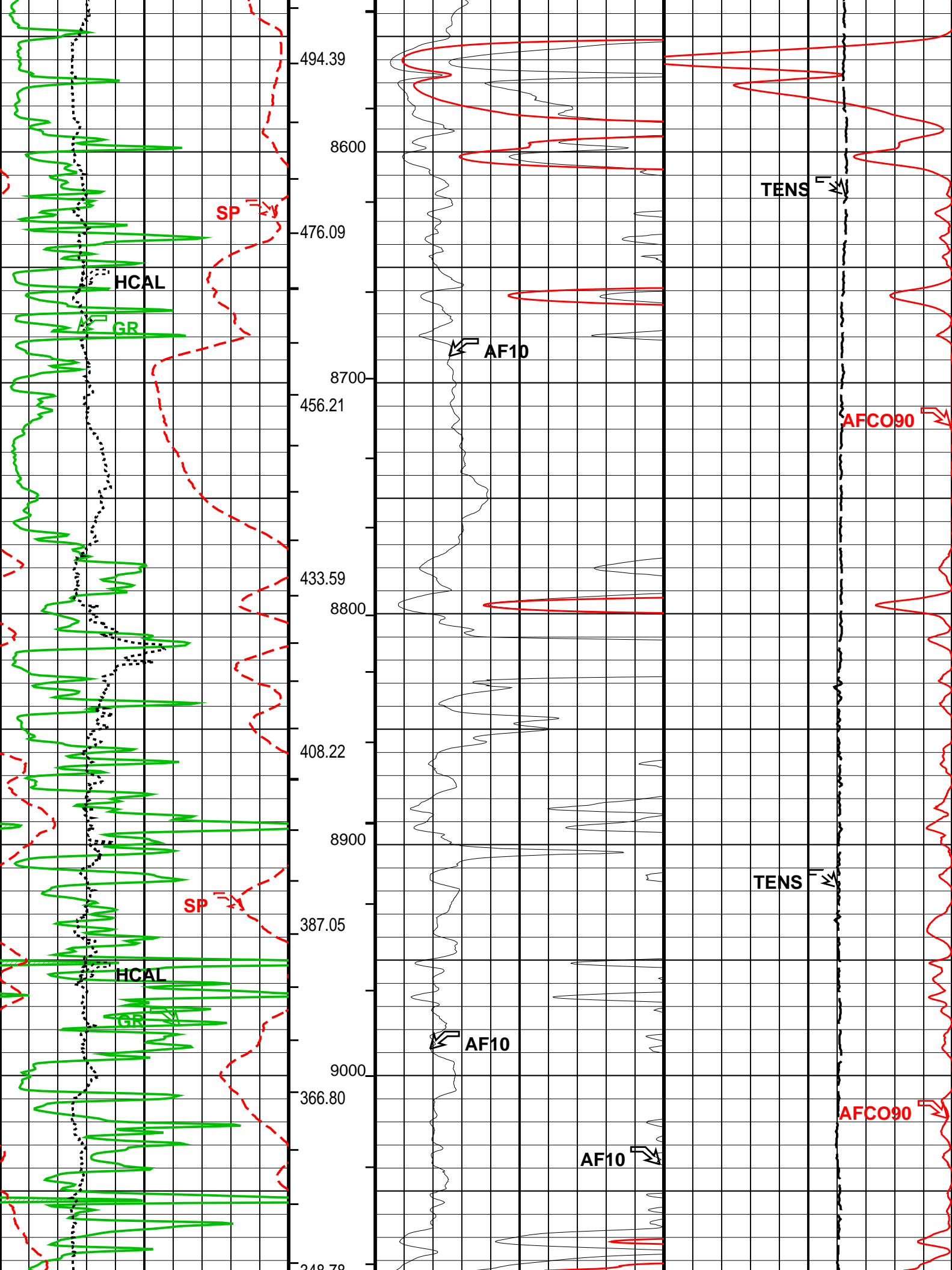


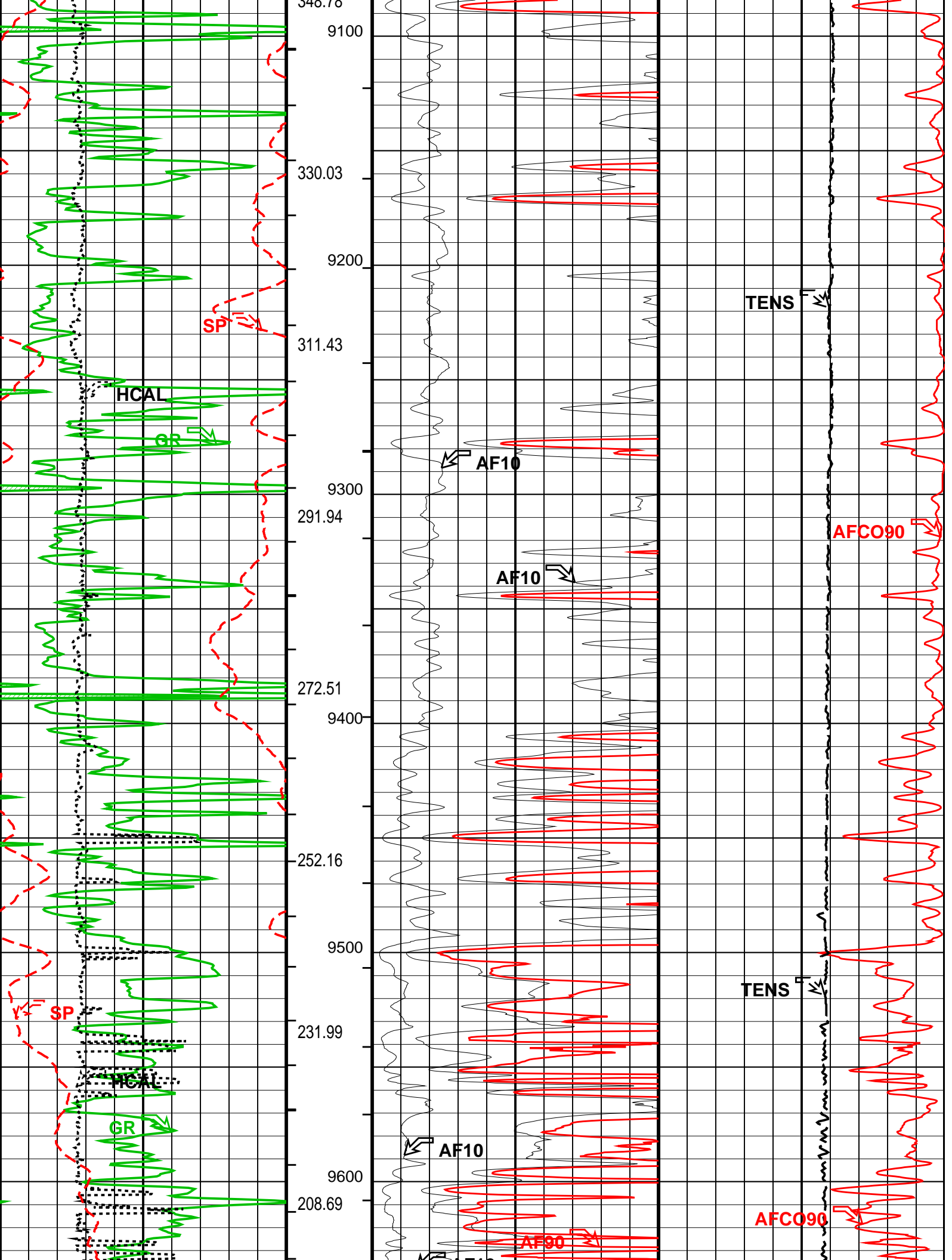


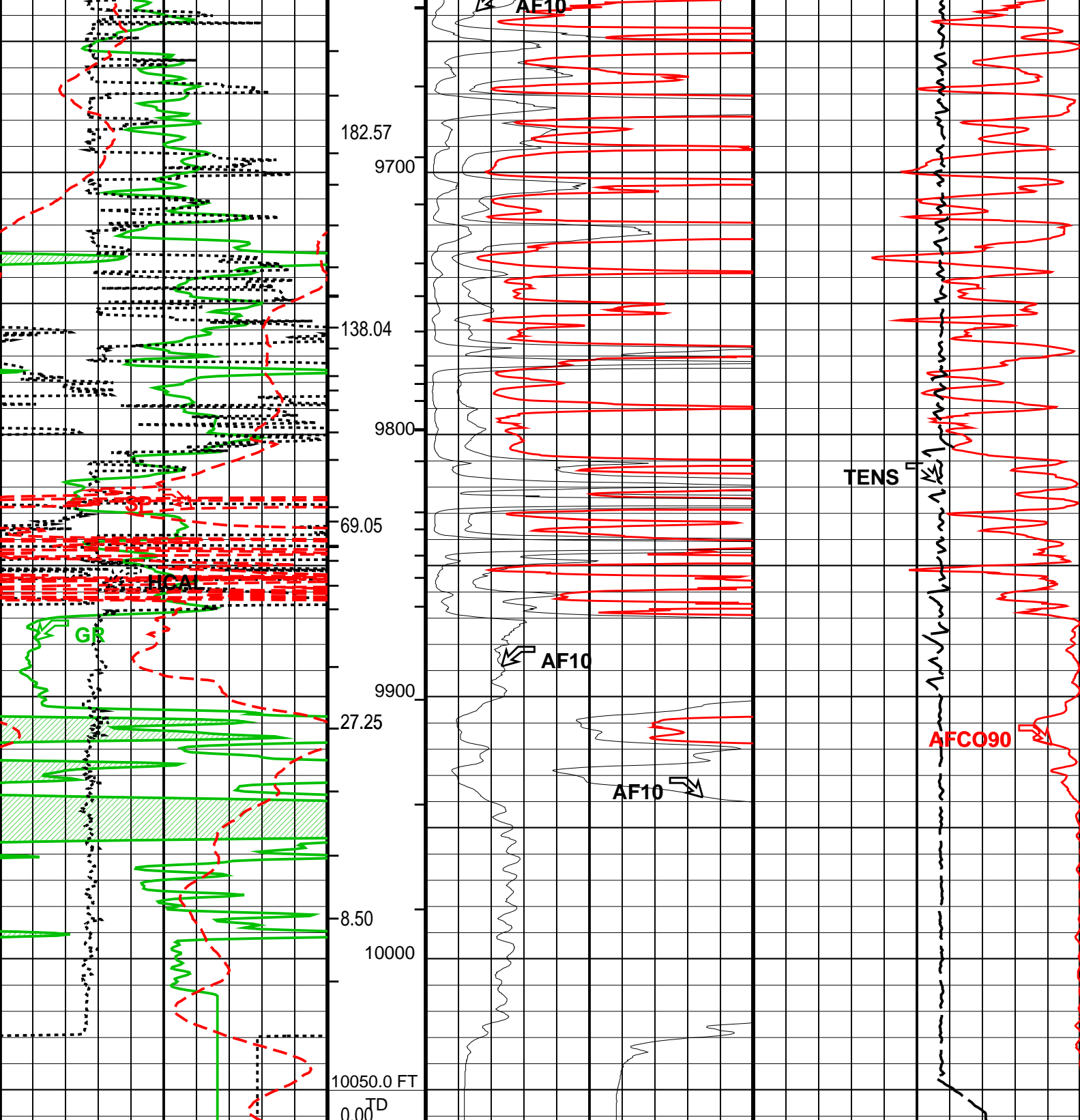












MAIN PASS: *** PLATFORM EXPRESS – ARRAY INDUCTION ***

<div>Gamma Ray Backup</div>	Cement Volume (ICV) (F3)	AIT 10 Inch Investigation (AF10)		AIT 90 Inch Investigation Conductivity (AF90)		
		0	(OHMM)	10	1000	(MM/M)
	<div>Gamma Ray (GR)</div> <div>0</div> <div>(GAPI)</div> <div>150</div>		AIT 90 Inch Investigation (AF90)		Tension (TENS)	
		0	(OHMM)	10	10000	(LBF)
AIT 10 Inch Investigation (AF10)						
<div>Caliper (HCAL)</div> <div>6</div> <div>(IN)</div> <div>16</div>		0	(OHMM)	50		
<div>SP (SP)</div> <div>-160</div> <div>(MV)</div> <div>40</div>						

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	
ZAIT-EB: 3-D Array Induction Tool – ZAIT-E			
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	No	
ACSED	Array Induction Casing Shoe Estimated Depth	-50000	FT
AFRSV	Array Induction Response Set Version for Four ft Resolution	41.70.24.20	
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	
ATRSV	Array Induction Response Set Version for Two ft Resolution	41.70.24.20	
BHT	Bottom Hole Temperature (used in calculations)	225	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	ZAIT_RESIST	
GTSE	Generalized Temperature Selection	HSTS_HTEM	
SHT	Surface Hole Temperature	68	DEGF
SPNV	SP Next Value	0	MV
TRI1DV	3D 1D Code Version Number	315	
TRIBHM	3D Induction Borehole Correction Mode	1_ComputeStandoff	
TRIBHV	Array Induction Borehole Correction Code Version Number	168	
TRIRSV	3D Induction Response Set Version	00.10.24.00	
TRIRT	3D Rotation Selector	NorTH	
TRISTA	3D Tool Standoff	1	IN
HILTH-FTB: High resolution Integrated Logging Tool-DTS			
BHT	Bottom Hole Temperature (used in calculations)	225	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	ZAIT_RESIST	
GTSE	Generalized Temperature Selection	HSTS_HTEM	
SHT	Surface Hole Temperature	68	DEGF
DIR: Directional Survey Computation			
SPVD	TVD of Starting Point	0	FT
TIMD	Along-hole depth of Tie-in Point	0	FT
TIVD	TVD of Tie-in Point	0	FT
FEQL: Formation Evaluation Quick Look			
FEXP	Form Factor Exponent	2	
FNUM	Form Factor Numerator	1	
HOLEV: Integrated Hole/Cement Volume			
BHT	Bottom Hole Temperature (used in calculations)	225	DEGF
FCD	Future Casing (Outer) Diameter	5.5	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	ZAIT_RESIST	
GTSE	Generalized Temperature Selection	HSTS_HTEM	
HVCS	Integrated Hole Volume Caliper Selection	AUTOMATIC	
SHT	Surface Hole Temperature	68	DEGF
PERT: Preliminary Evaluation – Real Time			
BHT	Bottom Hole Temperature (used in calculations)	225	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	ZAIT_RESIST	
GTSE	Generalized Temperature Selection	HSTS_HTEM	
SHT	Surface Hole Temperature	68	DEGF
RWA: Apparent Water Resistivity			
FEXP	Form Factor Exponent	2	
FNUM	Form Factor Numerator	1	
System and Miscellaneous			
BS	Bit Size	8.750	IN
DFD	Drilling Fluid Density	9.10	LB/G
DO	Depth Offset for Playback	0.0	FT
DORL	Depth Offset for Repeat Analysis	0.0	FT
FLEV	Fluid Level	200.00	FT
MST	Mud Sample Temperature	120.00	DEGF

OP System Version: 19C2-270

ZAIF-EB	19C2-270	GPIT-F	19C2-270
HILTH-FTB	19C2-270	DTC-H	19C2-270

Input DLIS Files

DEFAULT	AIT_IS_TLD_MCFL_CNL_012LUP	FN:11	PRODUCER	02-Jul-2013 19:58	10062.0 FT	1511.0 FT
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Output DLIS Files

DEFAULT	AIT_IS_TLD_MCFL_CNL_024PUP	FN:25	PRODUCER	02-Jul-2013 23:19
CUSTOMER	AIT_IS_TLD_MCFL_CNL_024PUC	FN:26	CUSTOMER	02-Jul-2013 23:19



MAIN INDUCTION 5" = 100'

MAXIS Field Log

Input DLIS Files

DEFAULT	AIT_IS_TLD_MCFL_CNL_012LUP	FN:11	PRODUCER	02-Jul-2013 19:58	10062.0 FT	1511.0 FT
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Output DLIS Files

DEFAULT	AIT_IS_TLD_MCFL_CNL_024PUP	FN:25	PRODUCER	02-Jul-2013 23:19	10062.0 FT	1511.0 FT
CUSTOMER	AIT_IS_TLD_MCFL_CNL_024PUC	FN:26	CUSTOMER	02-Jul-2013 23:19	10062.0 FT	1511.0 FT

Integrated Hole/Cement Volume Summary

Hole Volume = 4330.51 F3

Cement Volume = 2937.52 F3 (assuming 5.50 IN casing O.D.)

Computed from 10050.0 FT to 1607.0 FT using data channel(s) HCAL

OP System Version: 19C2-270

ZA1T-EB	19C2-270	GP1T-F	19C2-270
H1LTH-FTB	19C2-270	DTC-H	19C2-270

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

Time Mark Every 60 S

Tension (TENS)
(LBF)

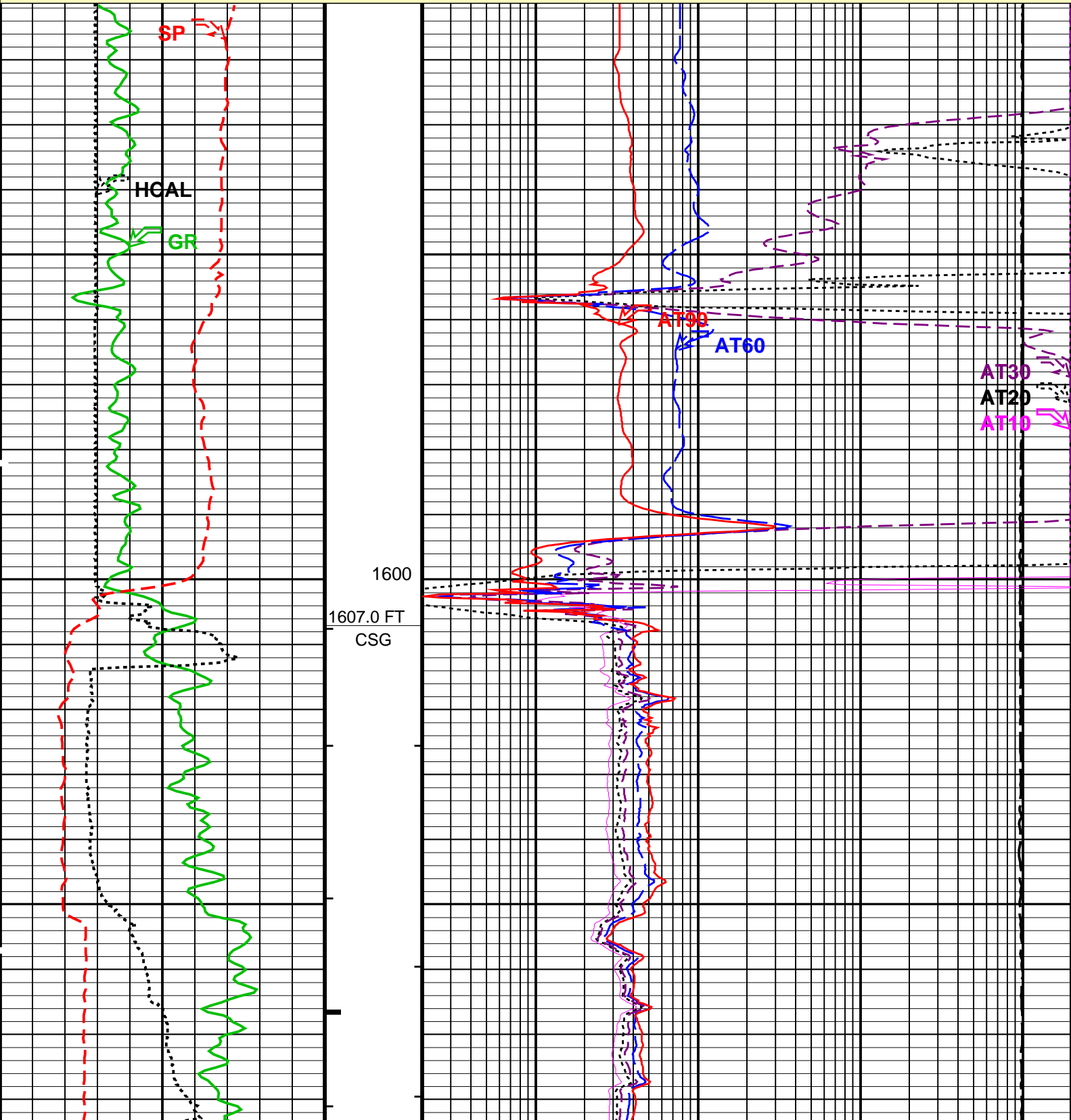
AIT 90 Inch Investigation (AT90)		
0.2	(OHMM)	2000

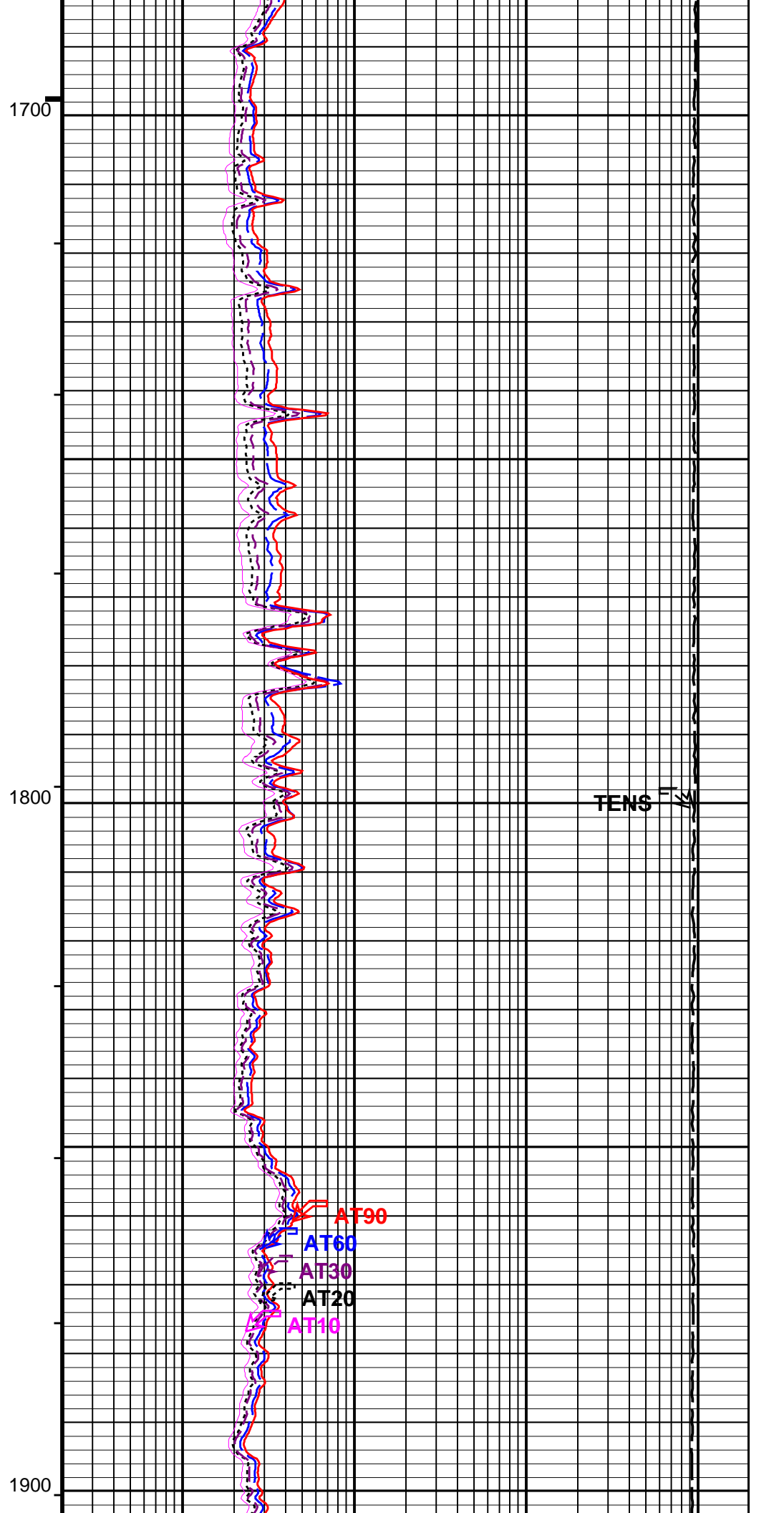
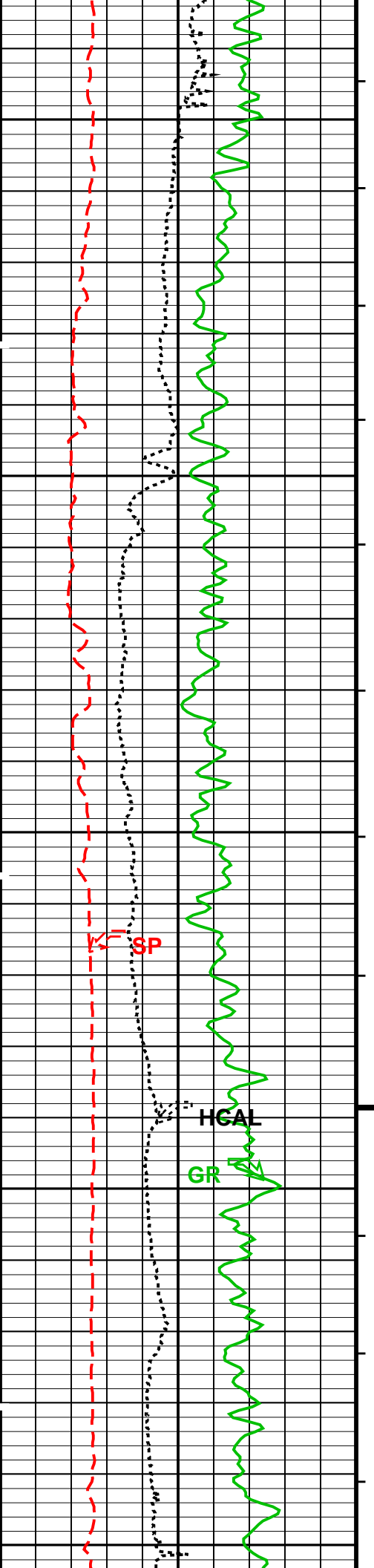
AIT 60 Inch Investigation (AT60)

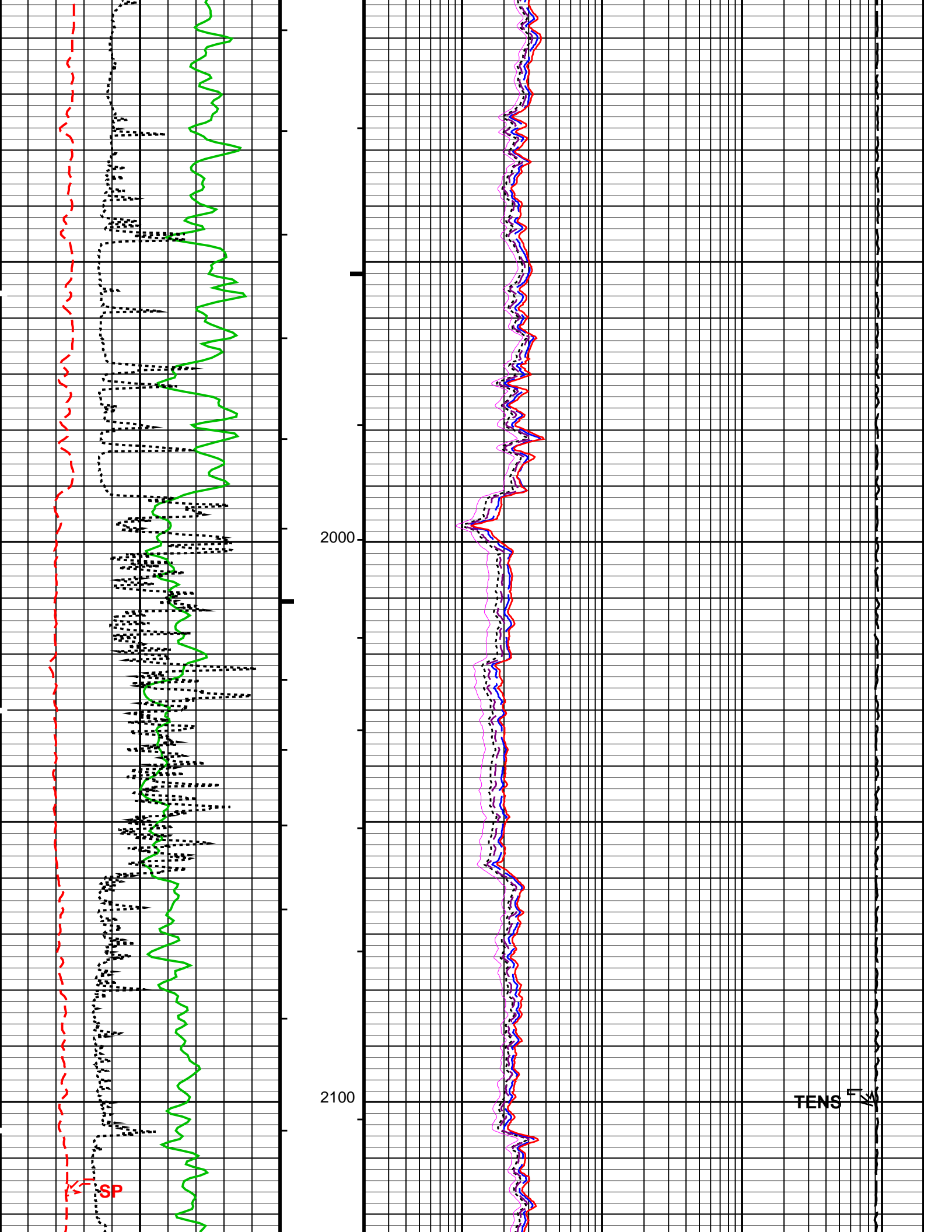
SP (SP)

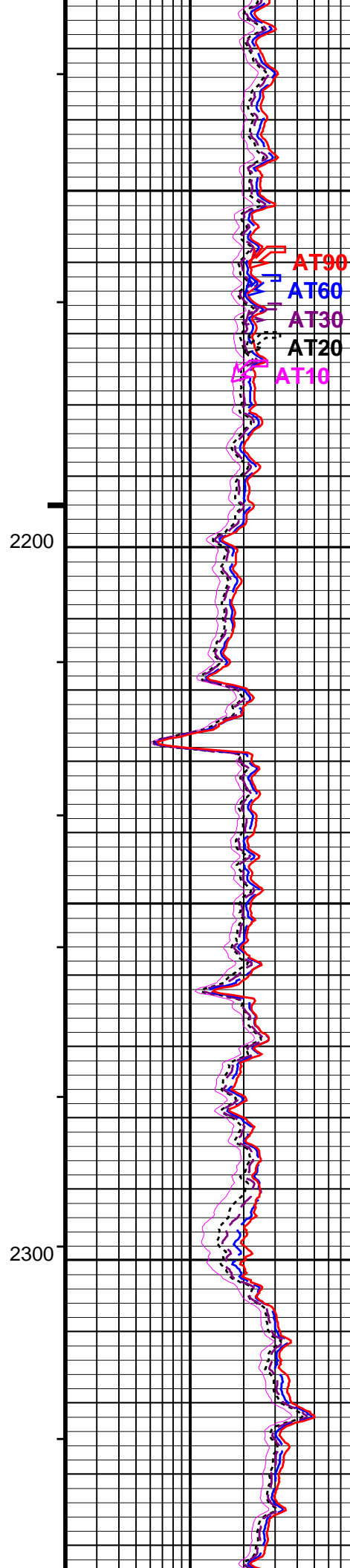
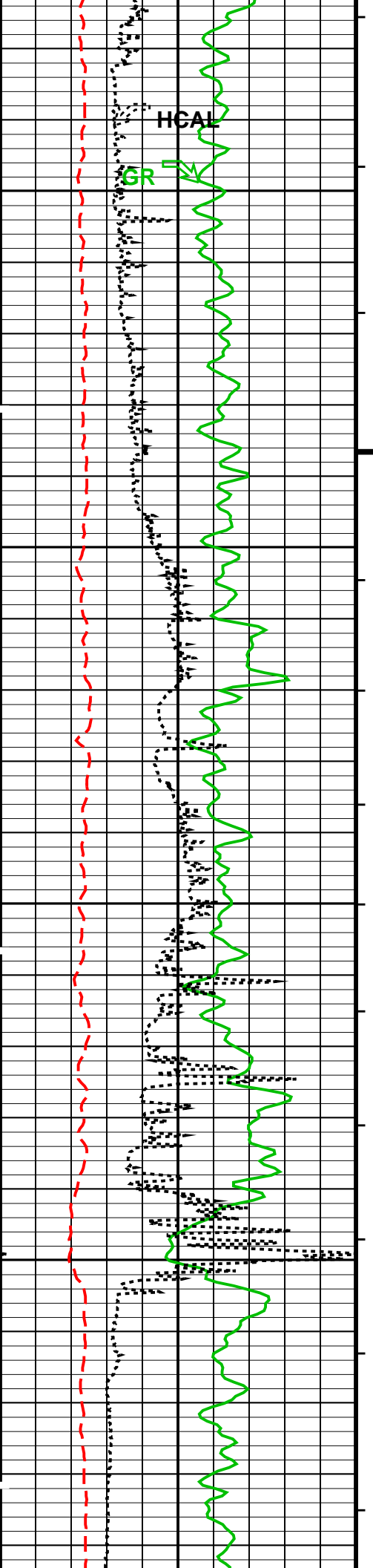
-160	(MV)	40		0.2	(OHMM)	2000
Caliper (HCAL) (IN)			Stuck Stretch (STIT)	AIT 30 Inch Investigation (AT30) (OHMM)		
6		16	0 (F) 50	0.2		2000
Gamma Ray (GR) (GAPI)			Tool/Tot. Drag	AIT 20 Inch Investigation (AT20) (OHMM)		
0		150		0.2		2000
Gamma Ray Backup			Cable Drag	AIT 10 Inch Investigation (AT10) (OHMM)		
				0.2		2000

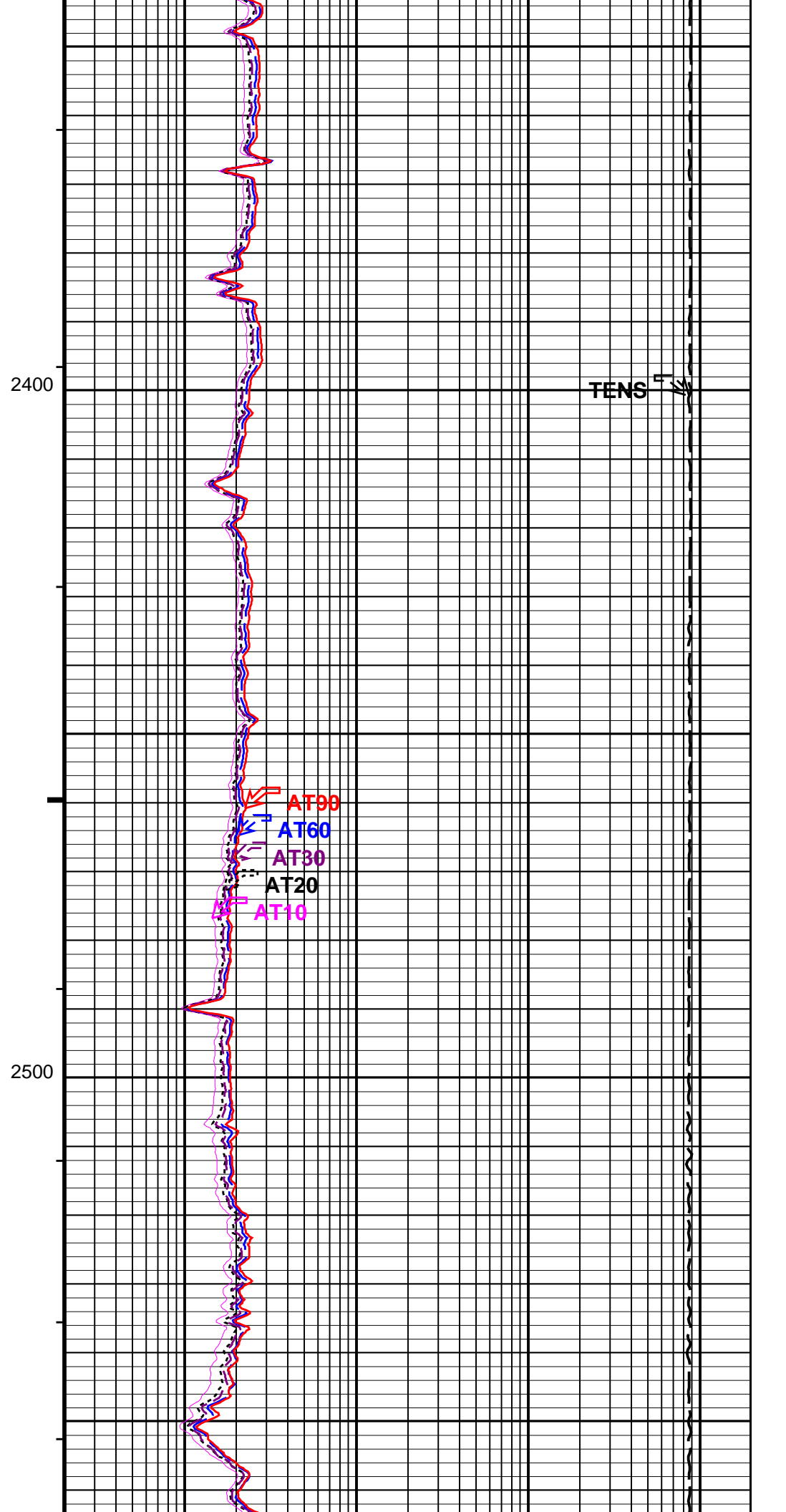
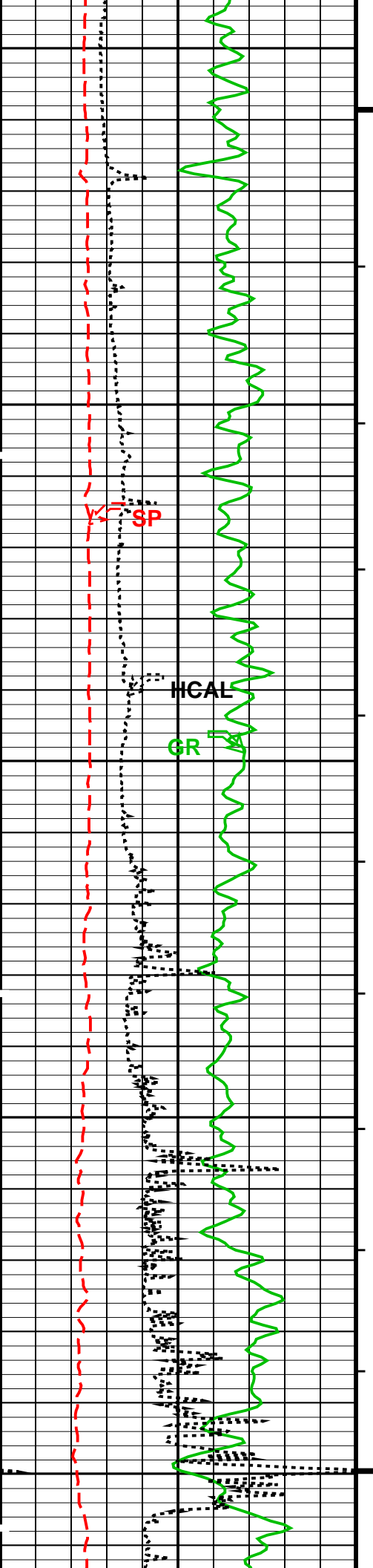
MAIN PASS: *** PLATFORM EXPRESS – ARRAY INDUCTION ***

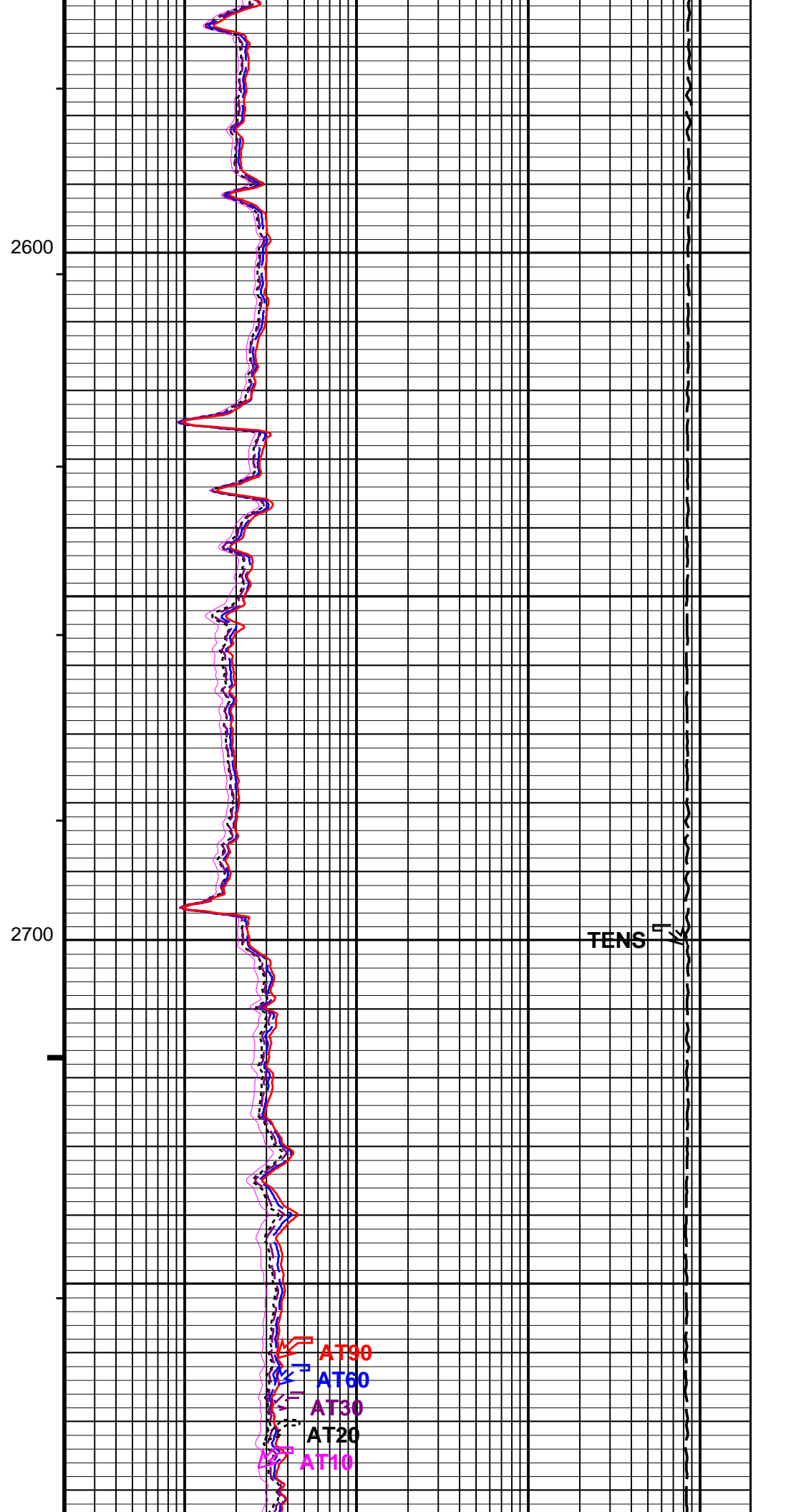
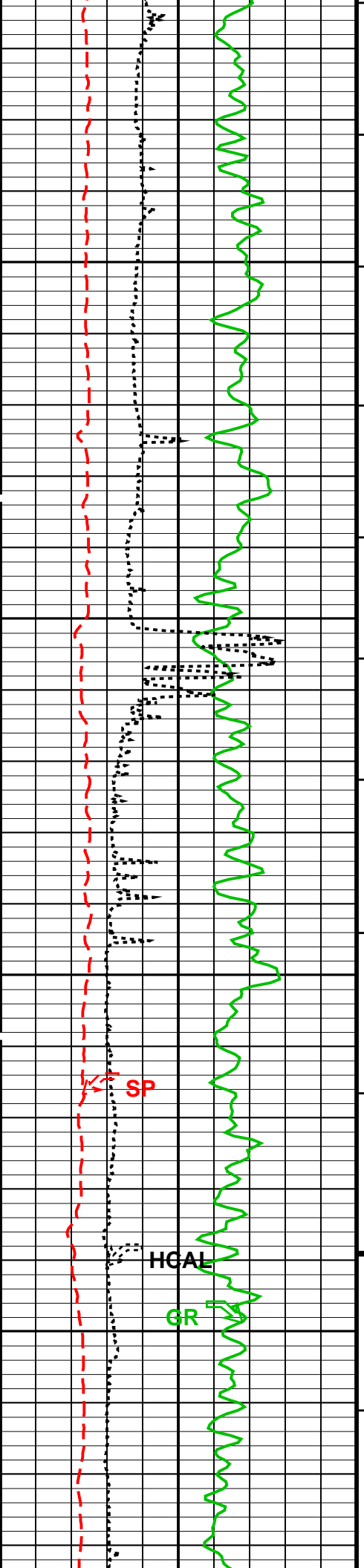


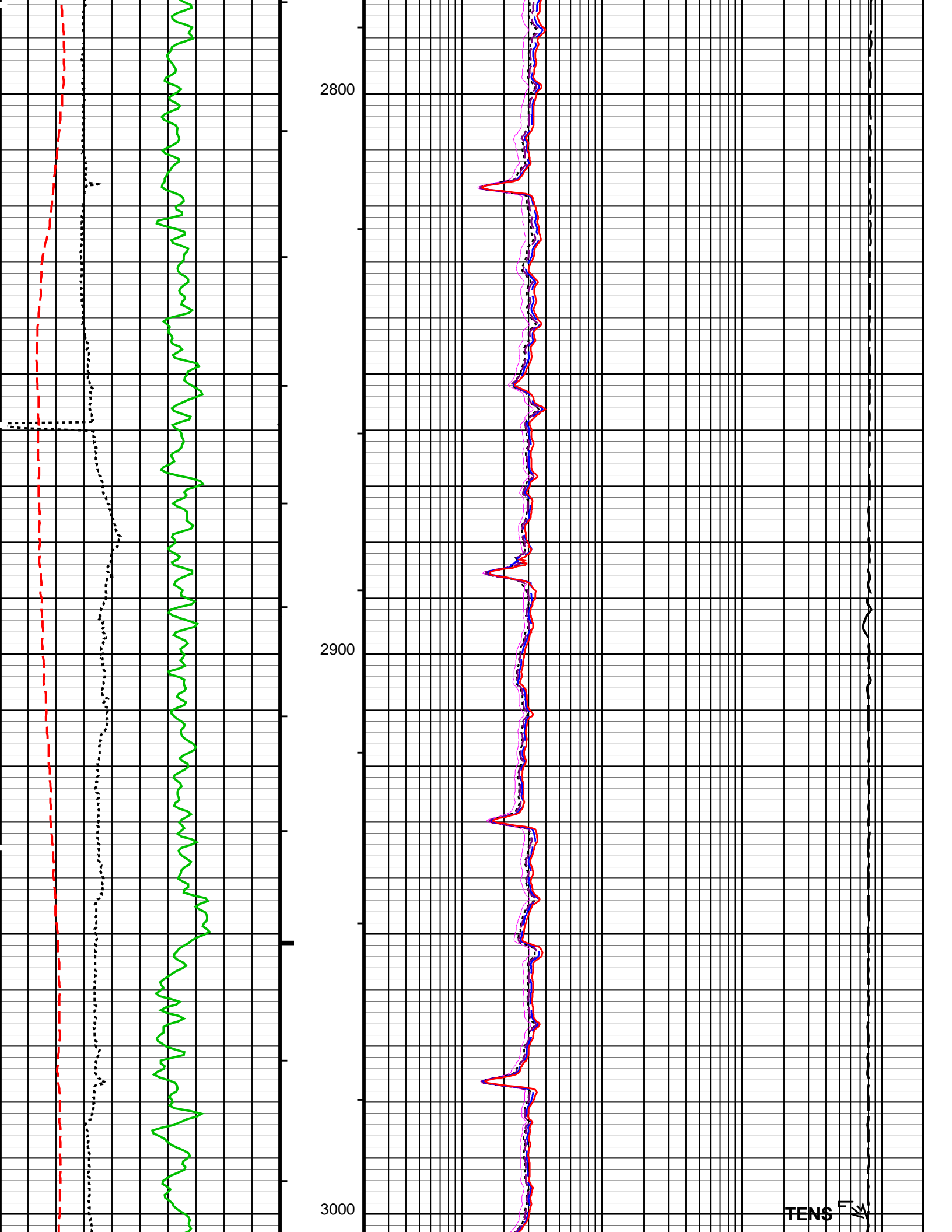


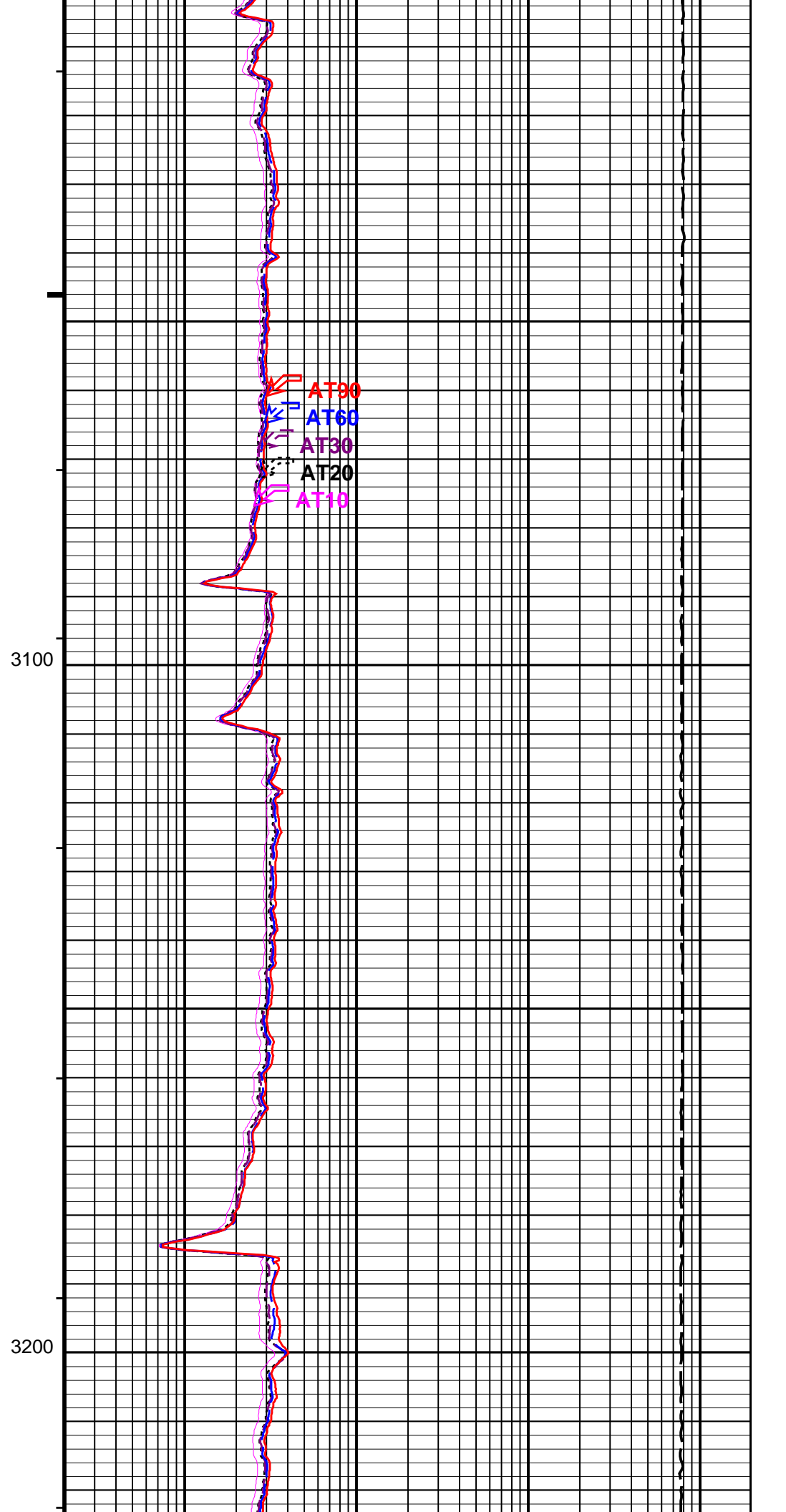
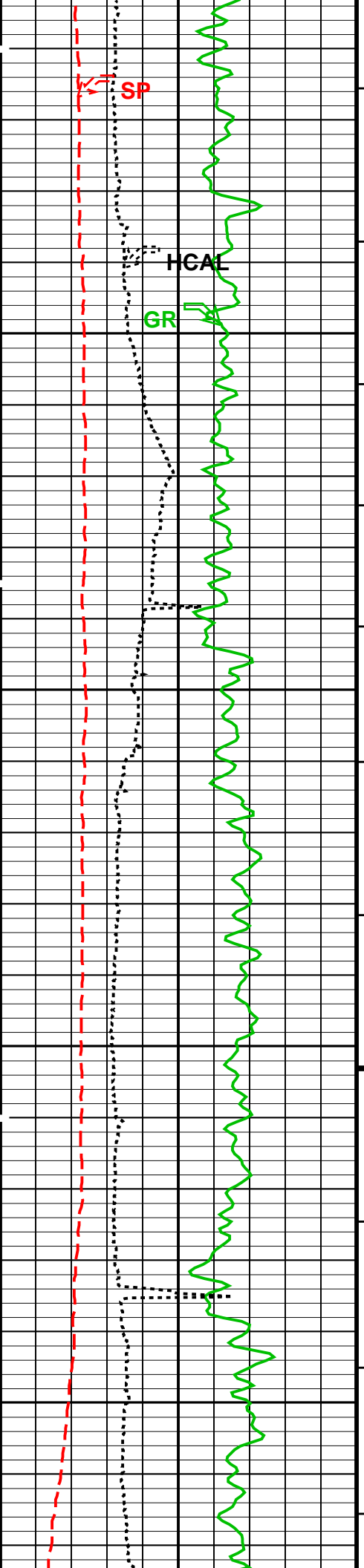


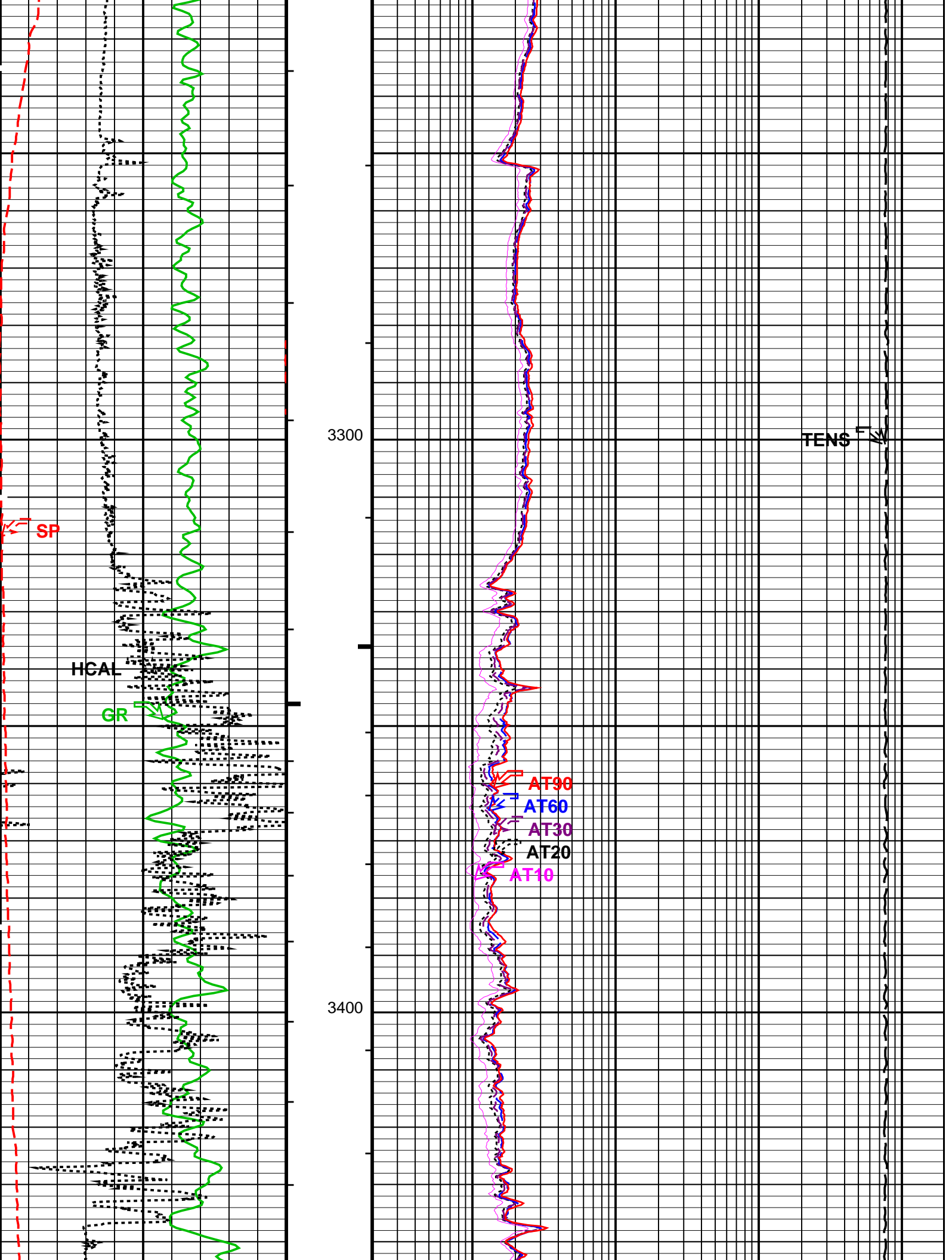


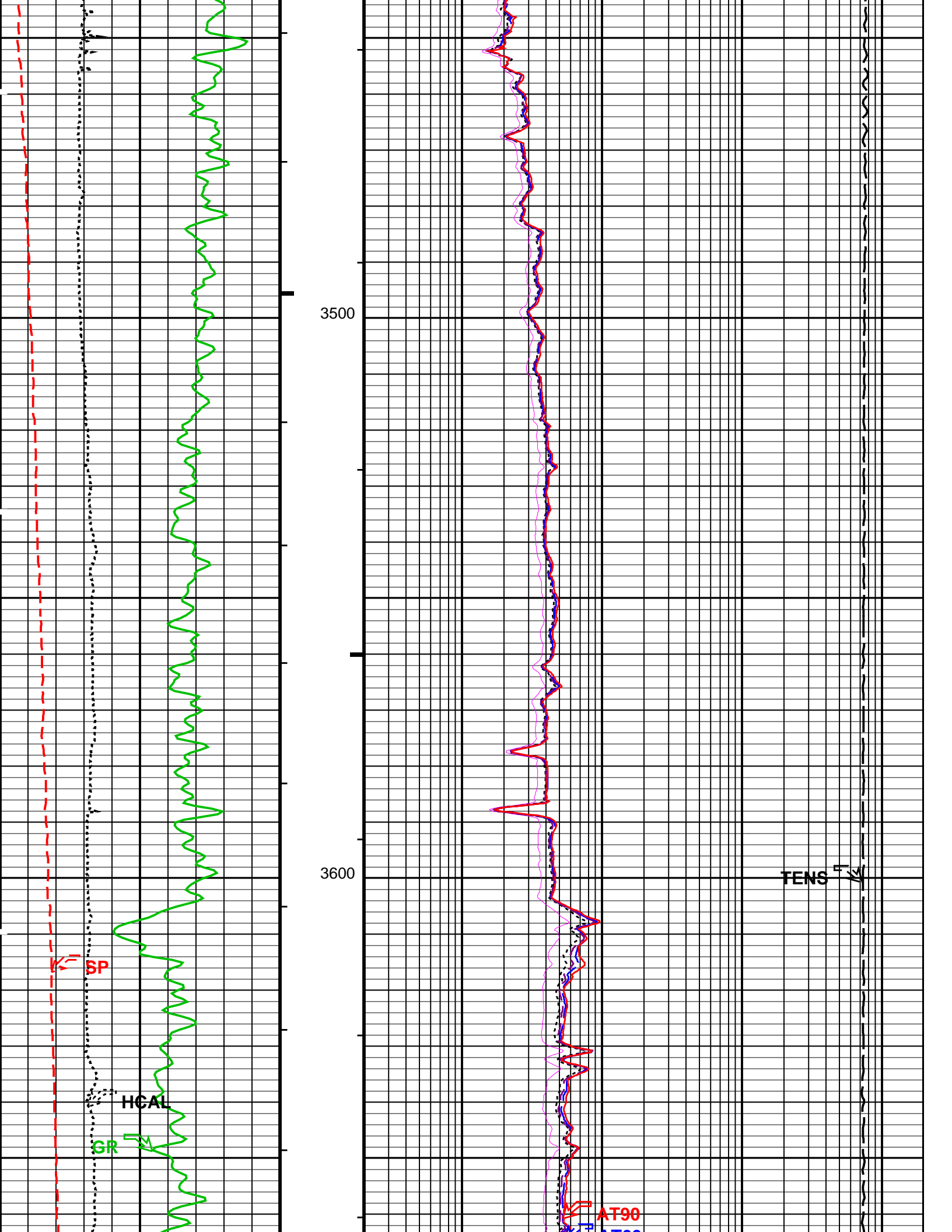


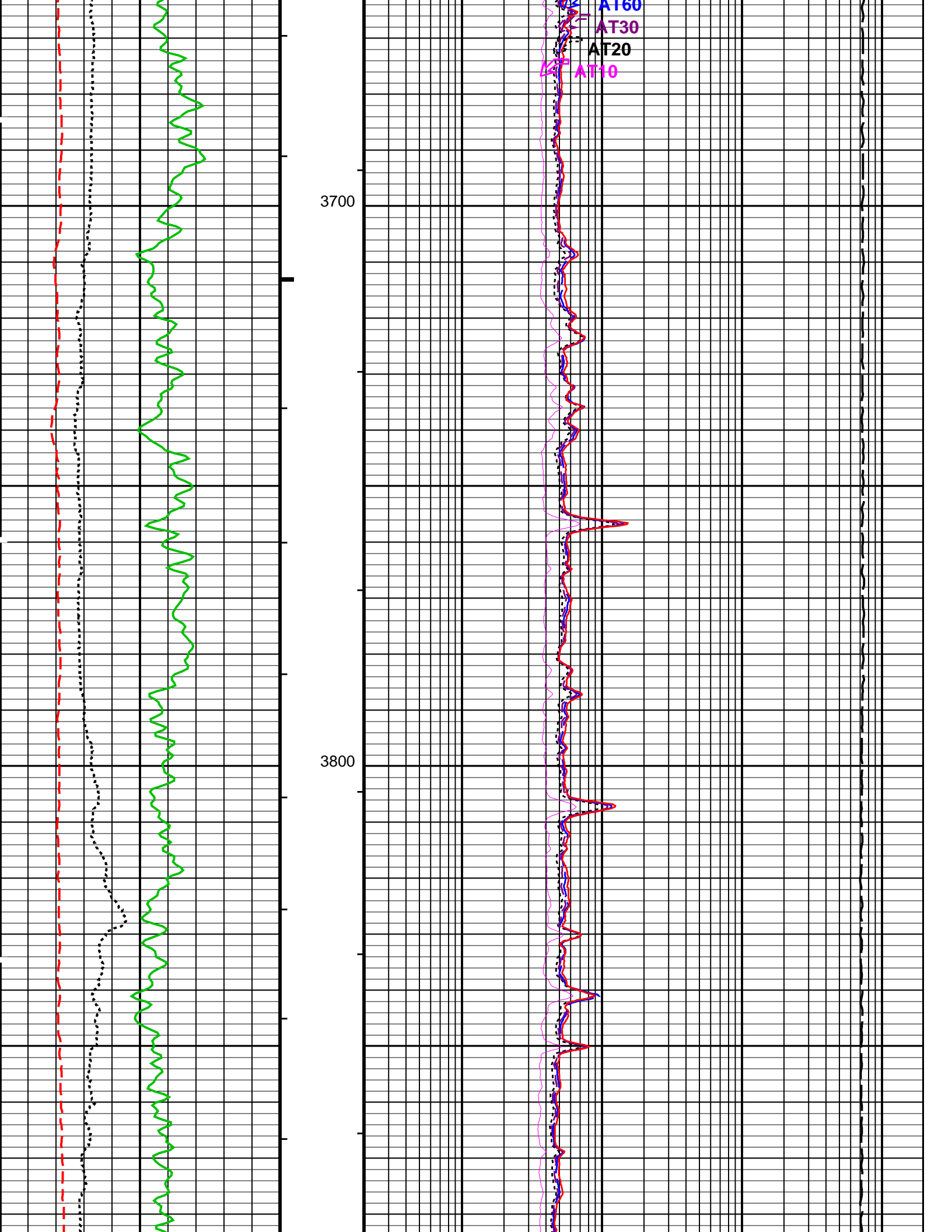


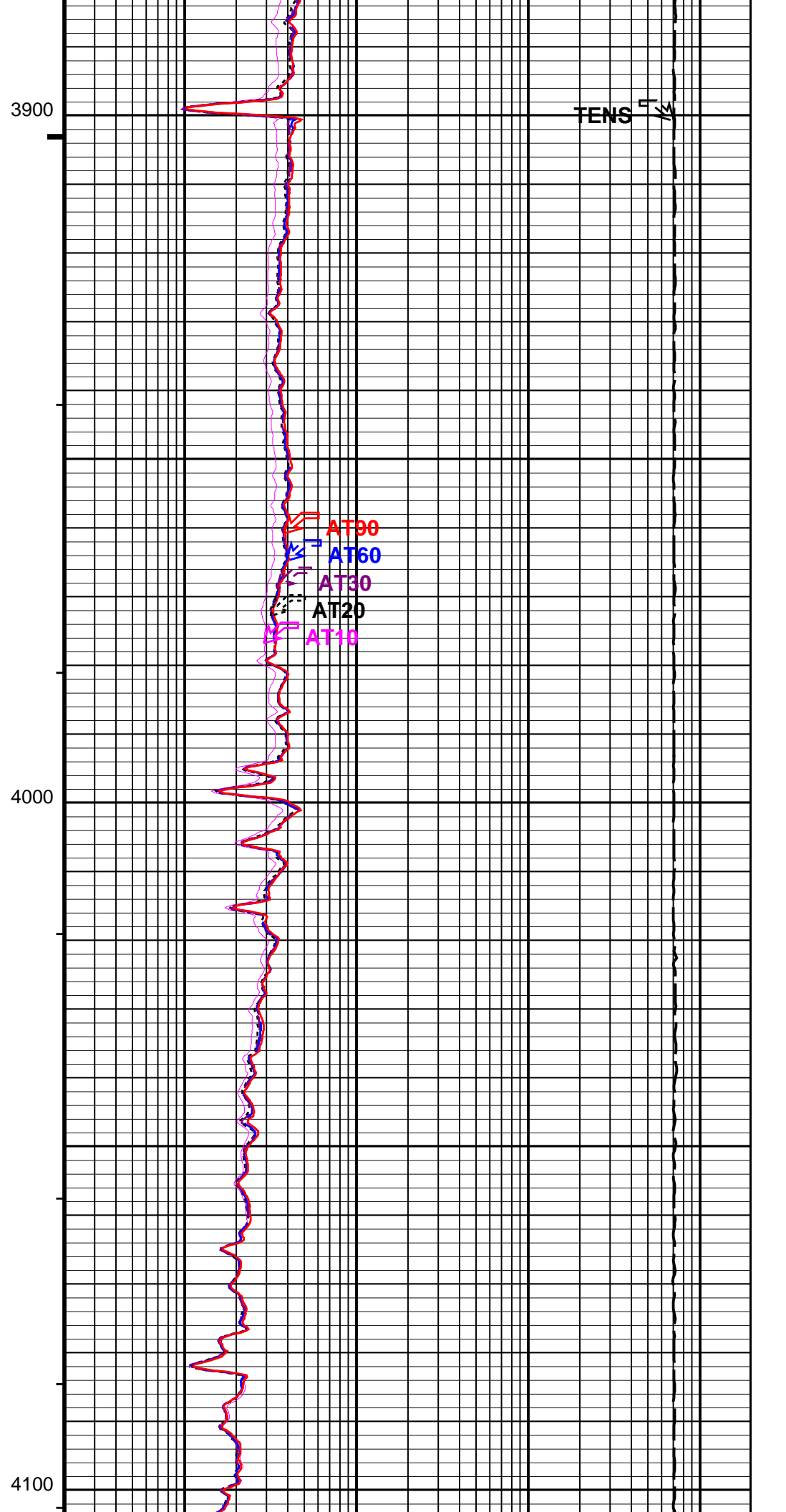
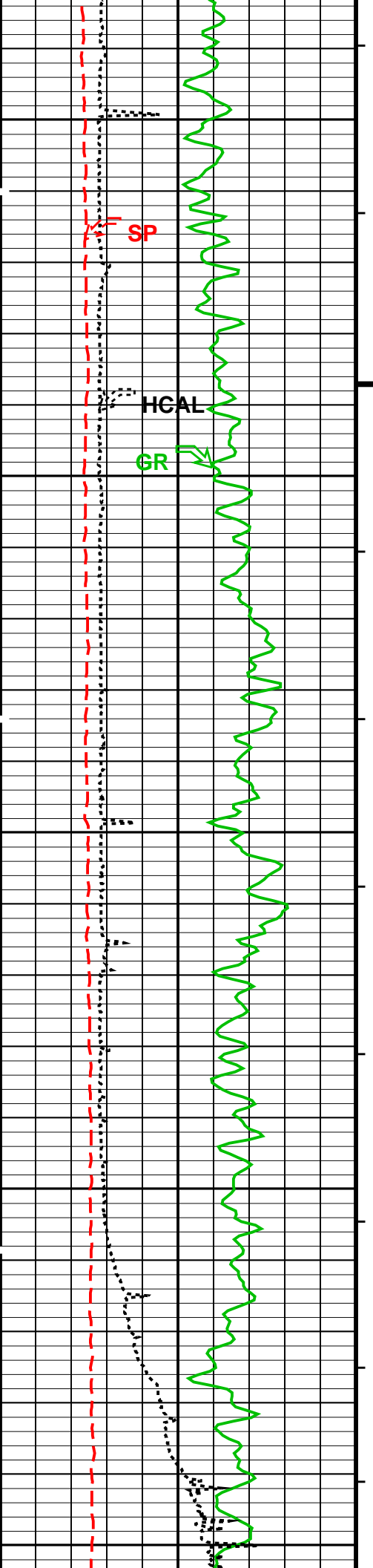


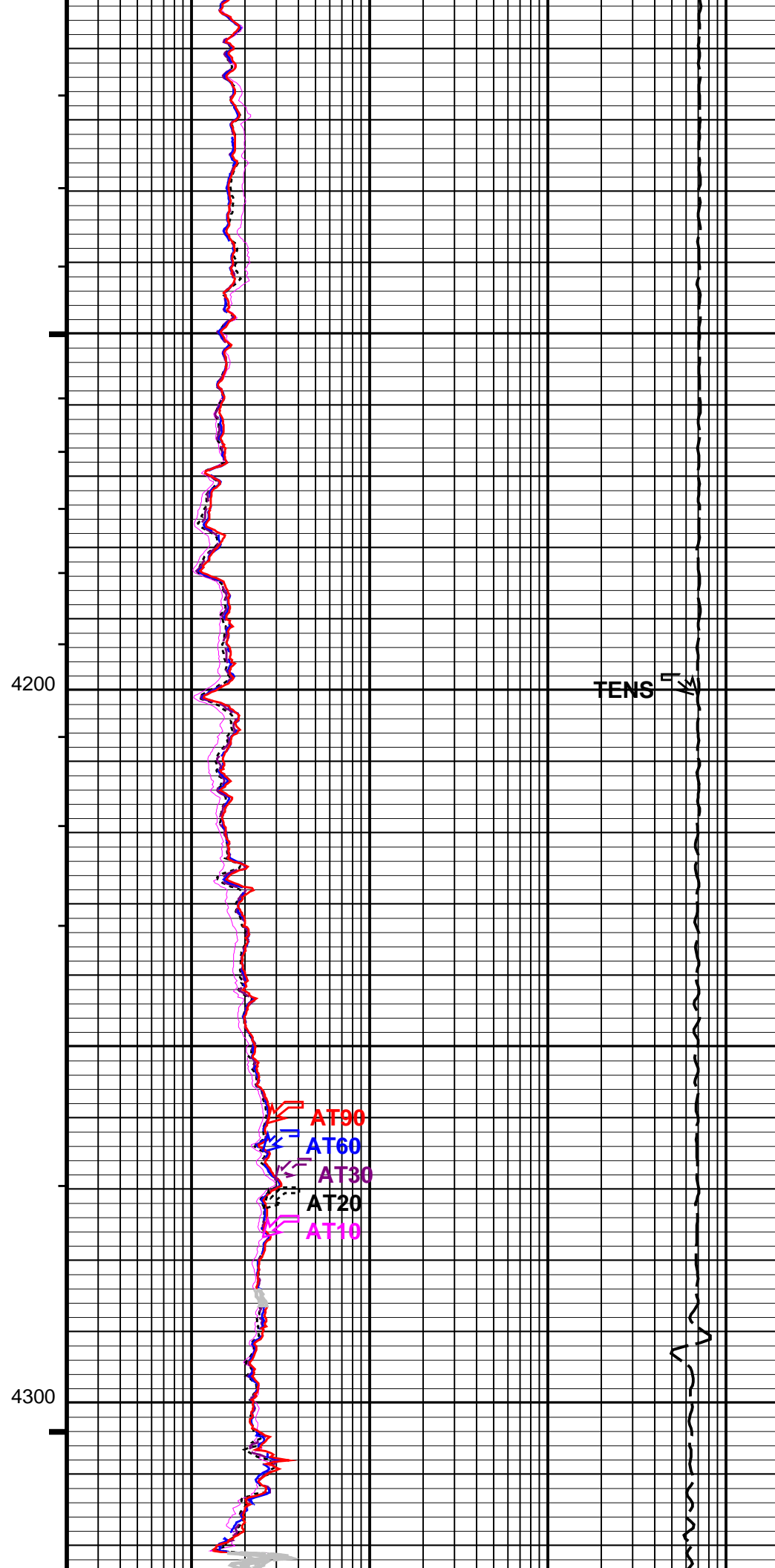
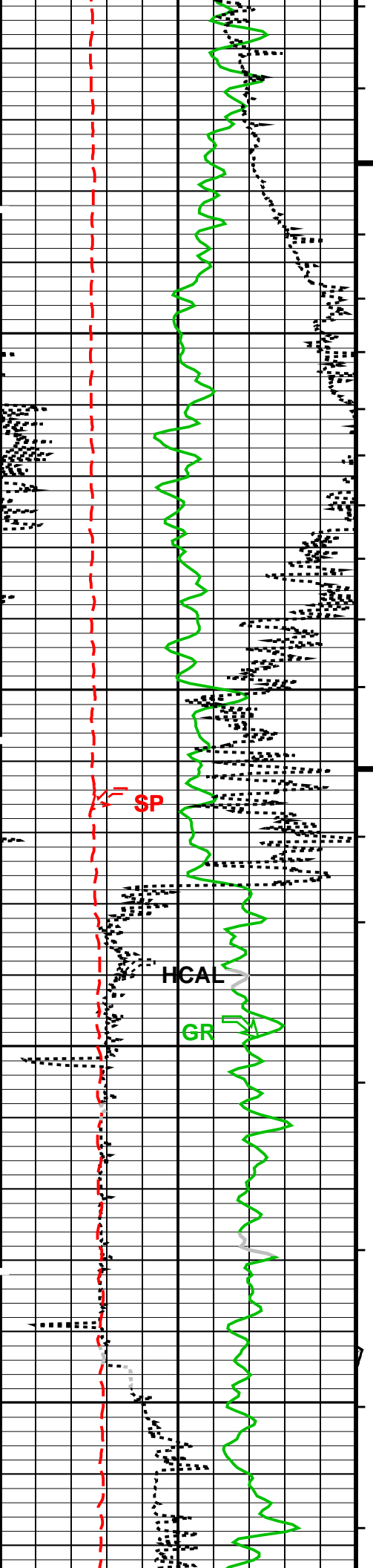


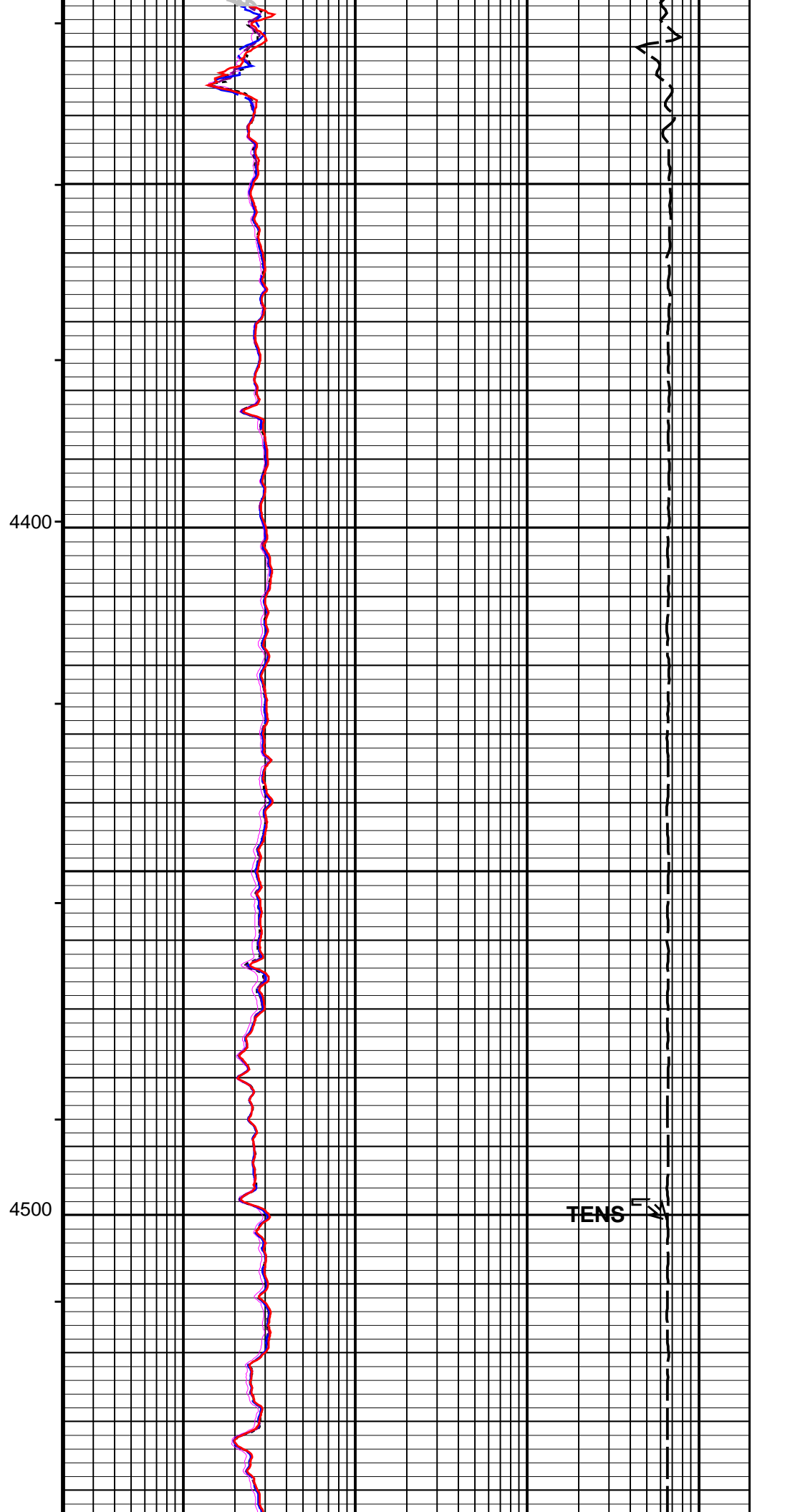
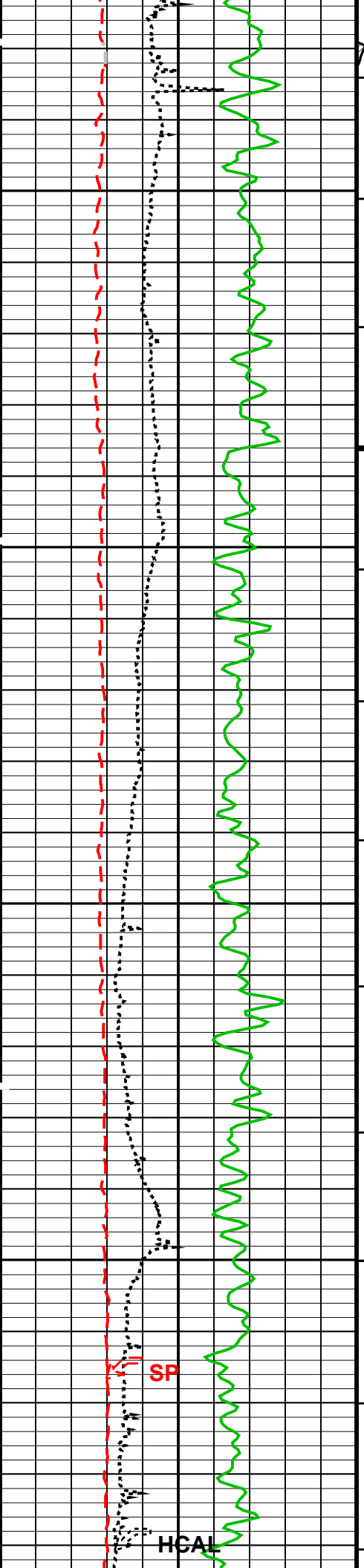


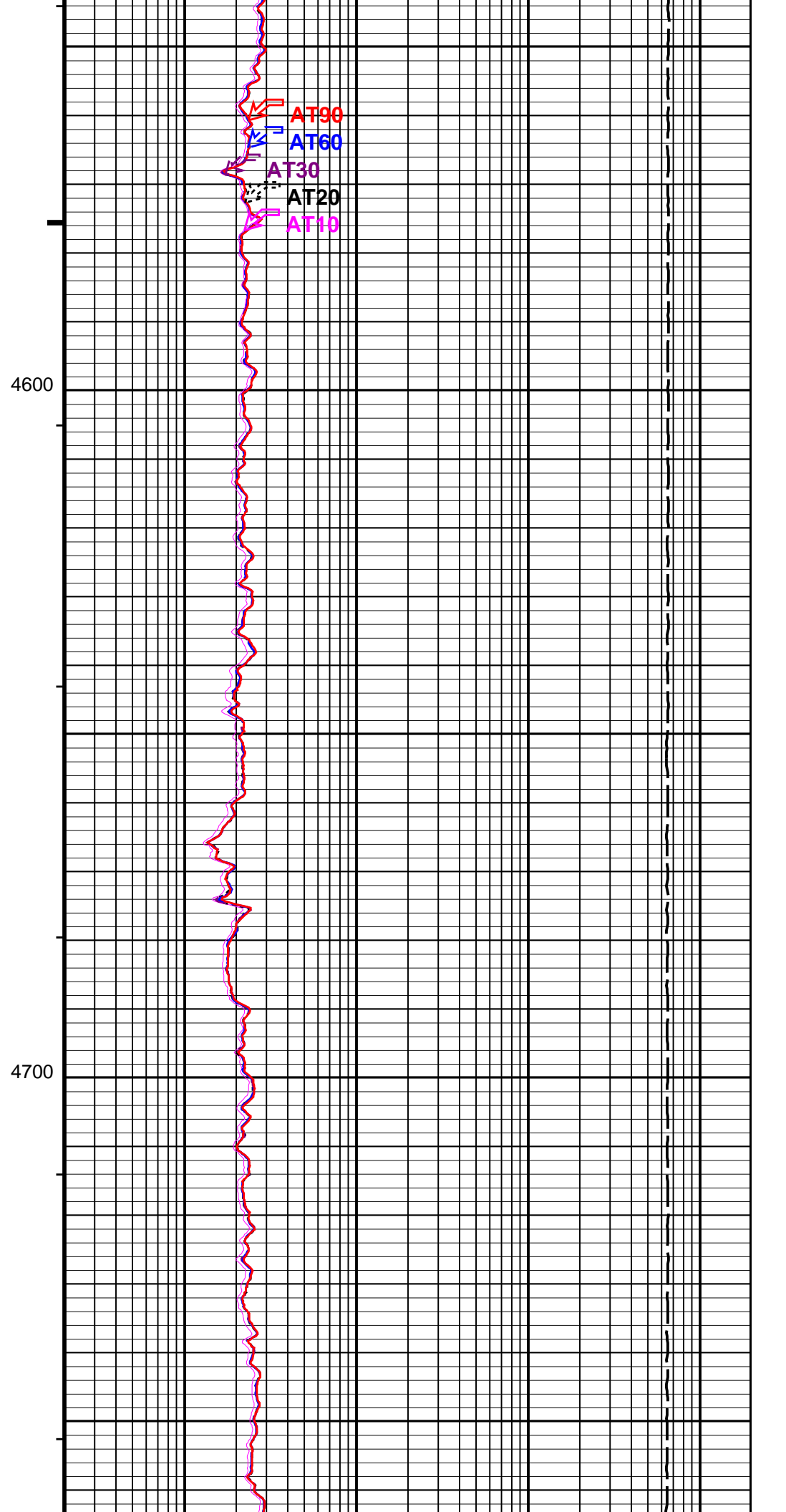
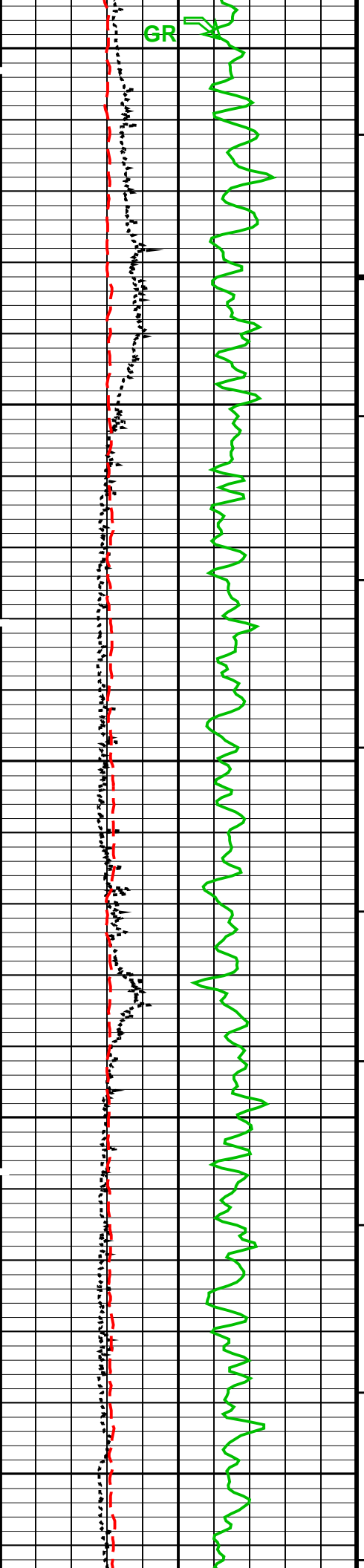


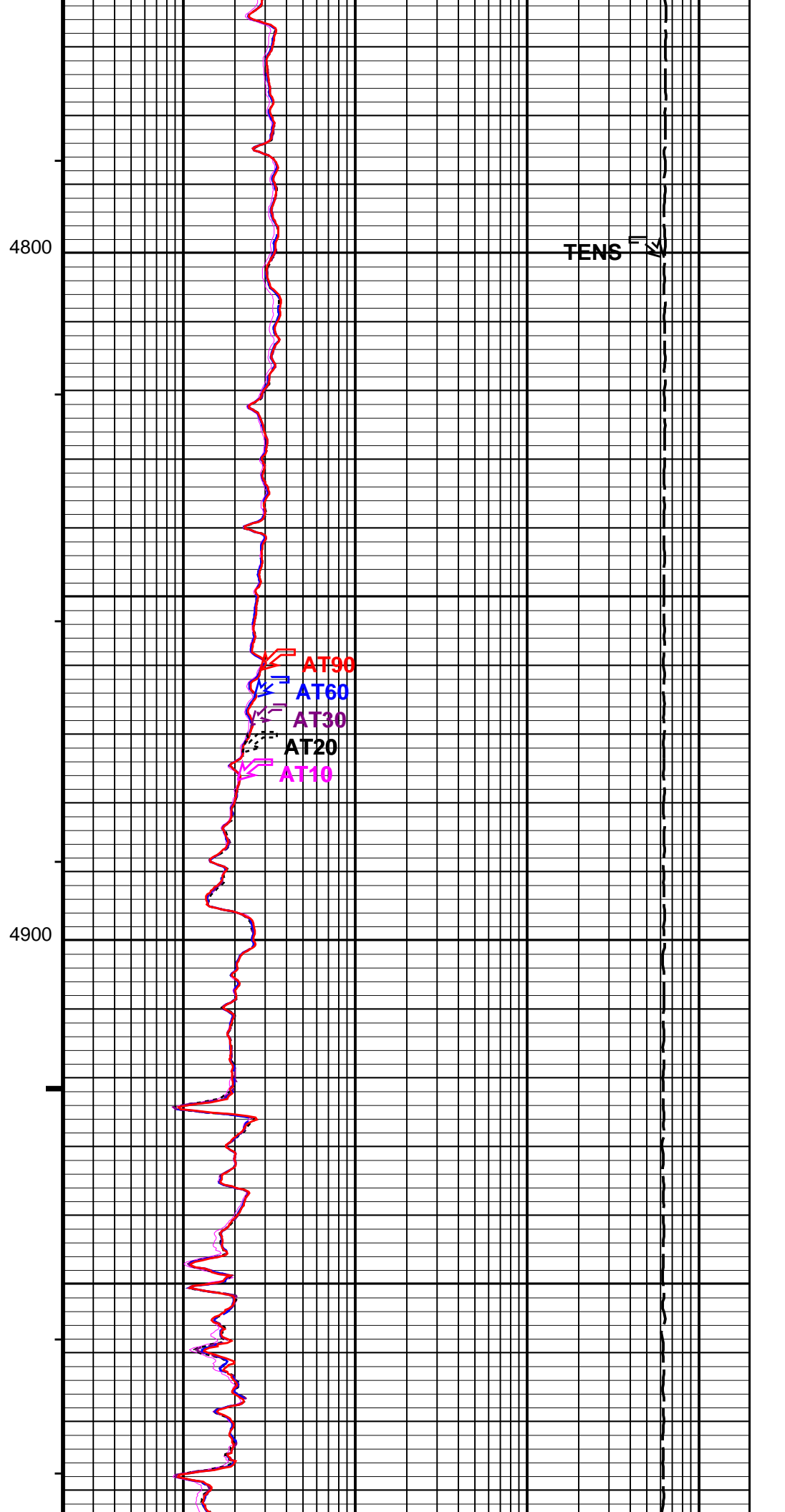
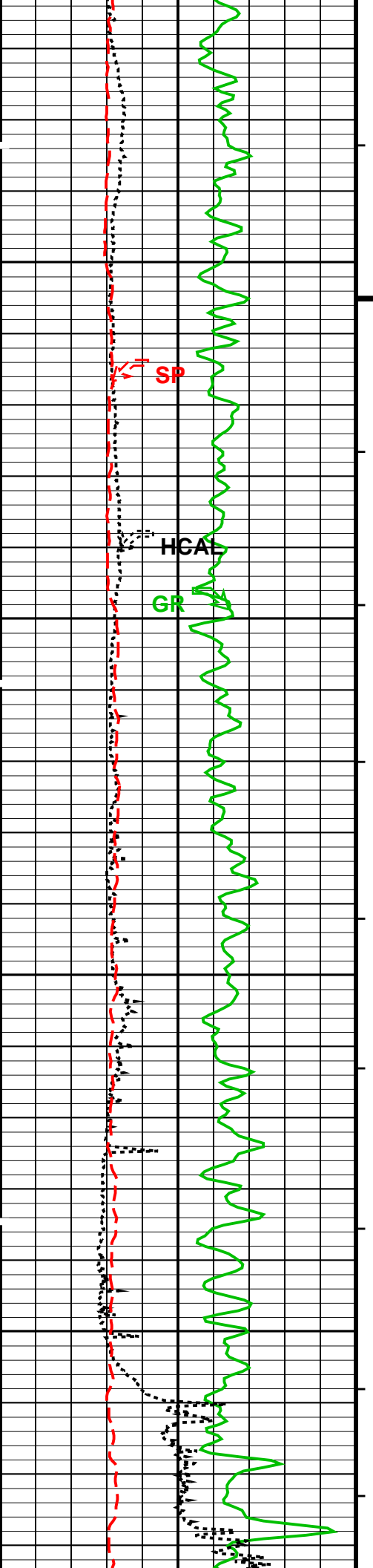


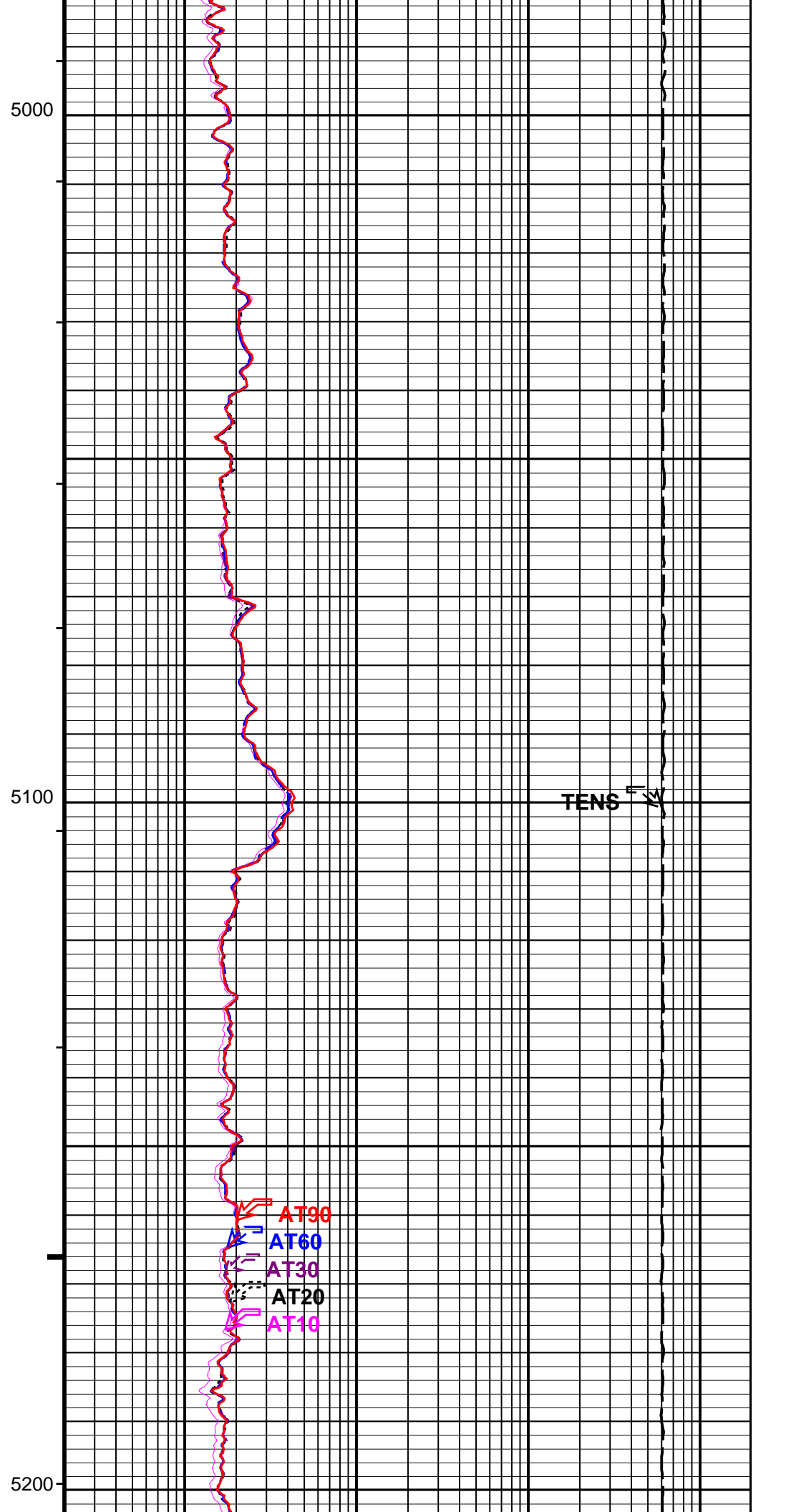
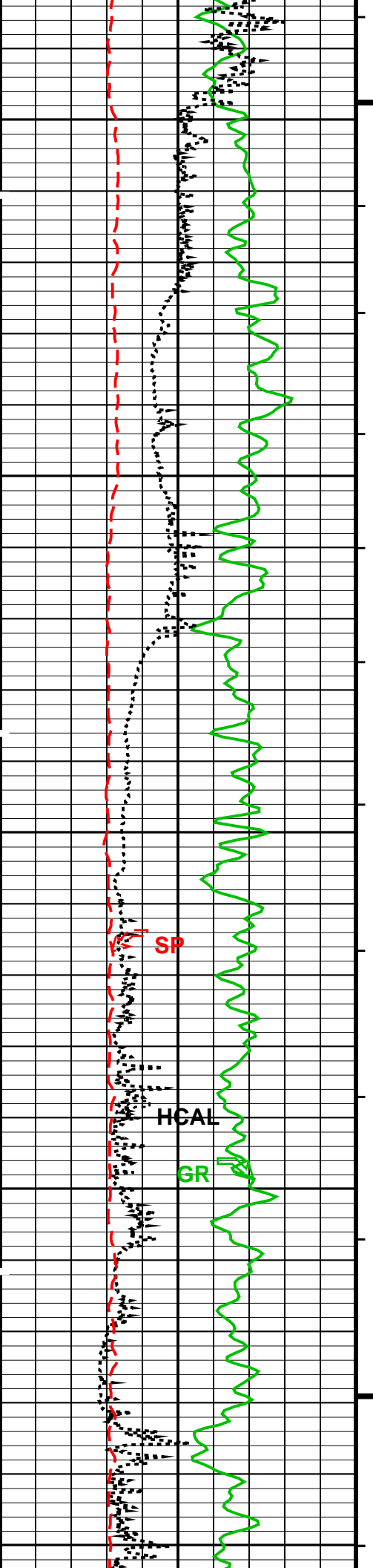


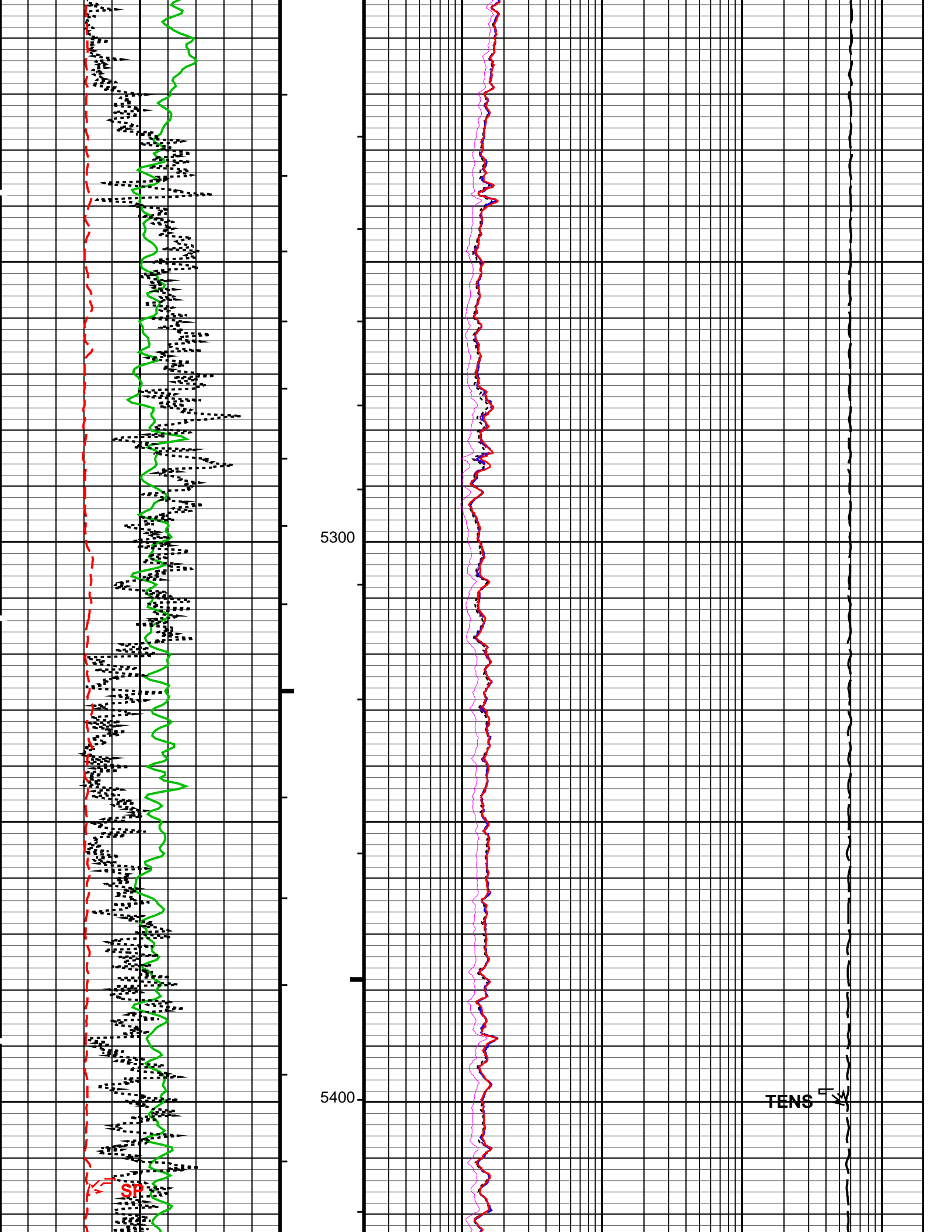


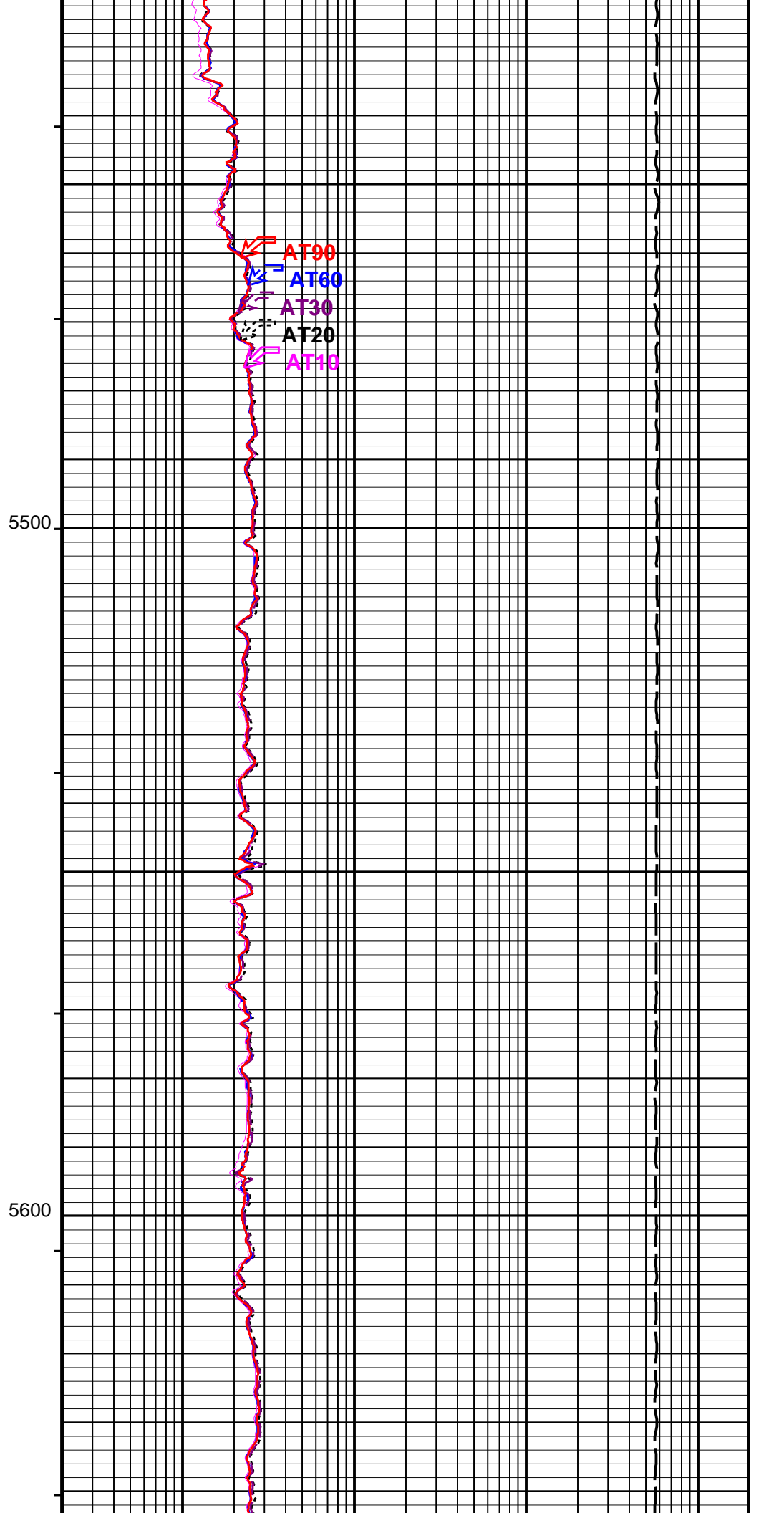
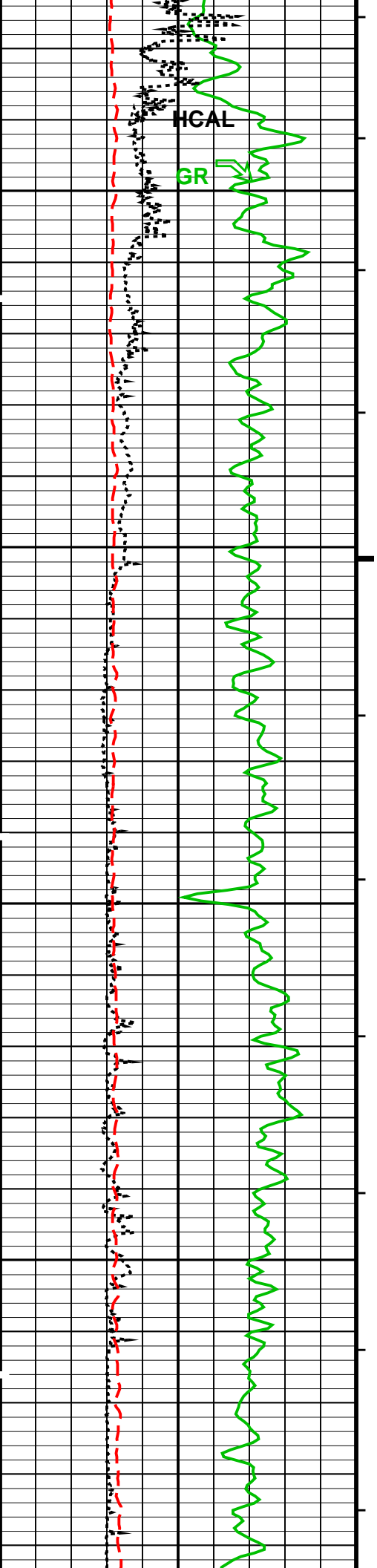


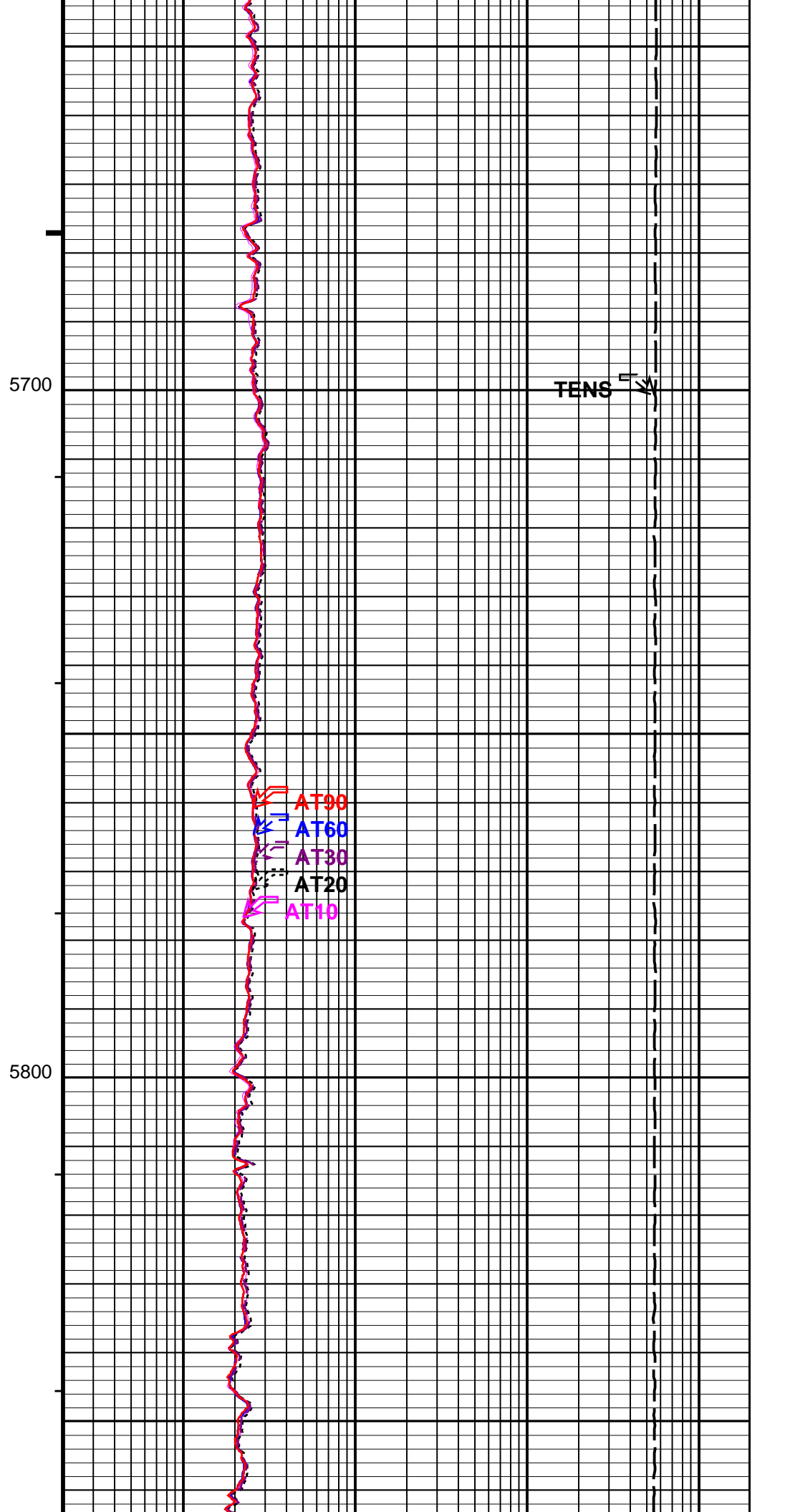
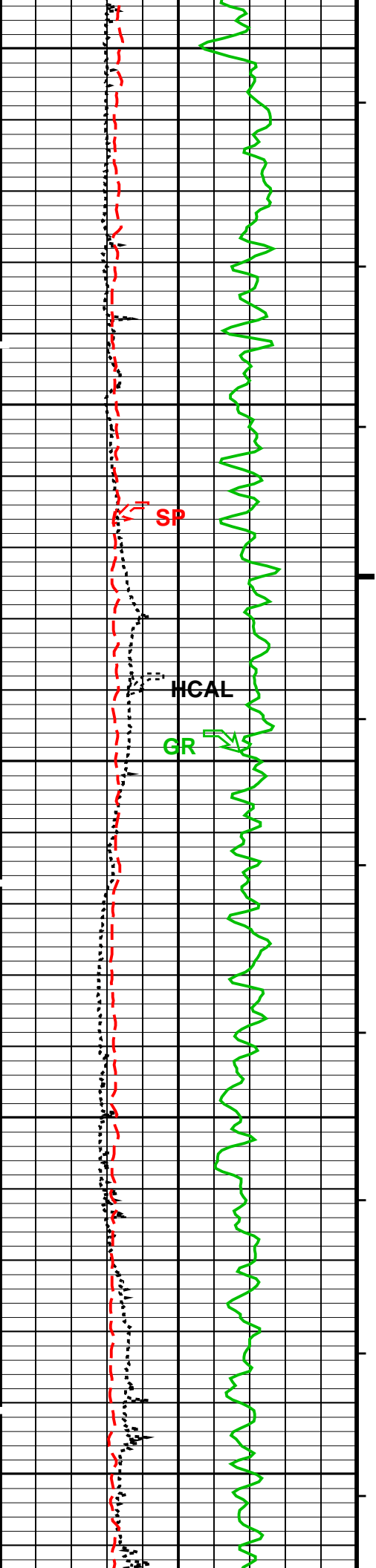


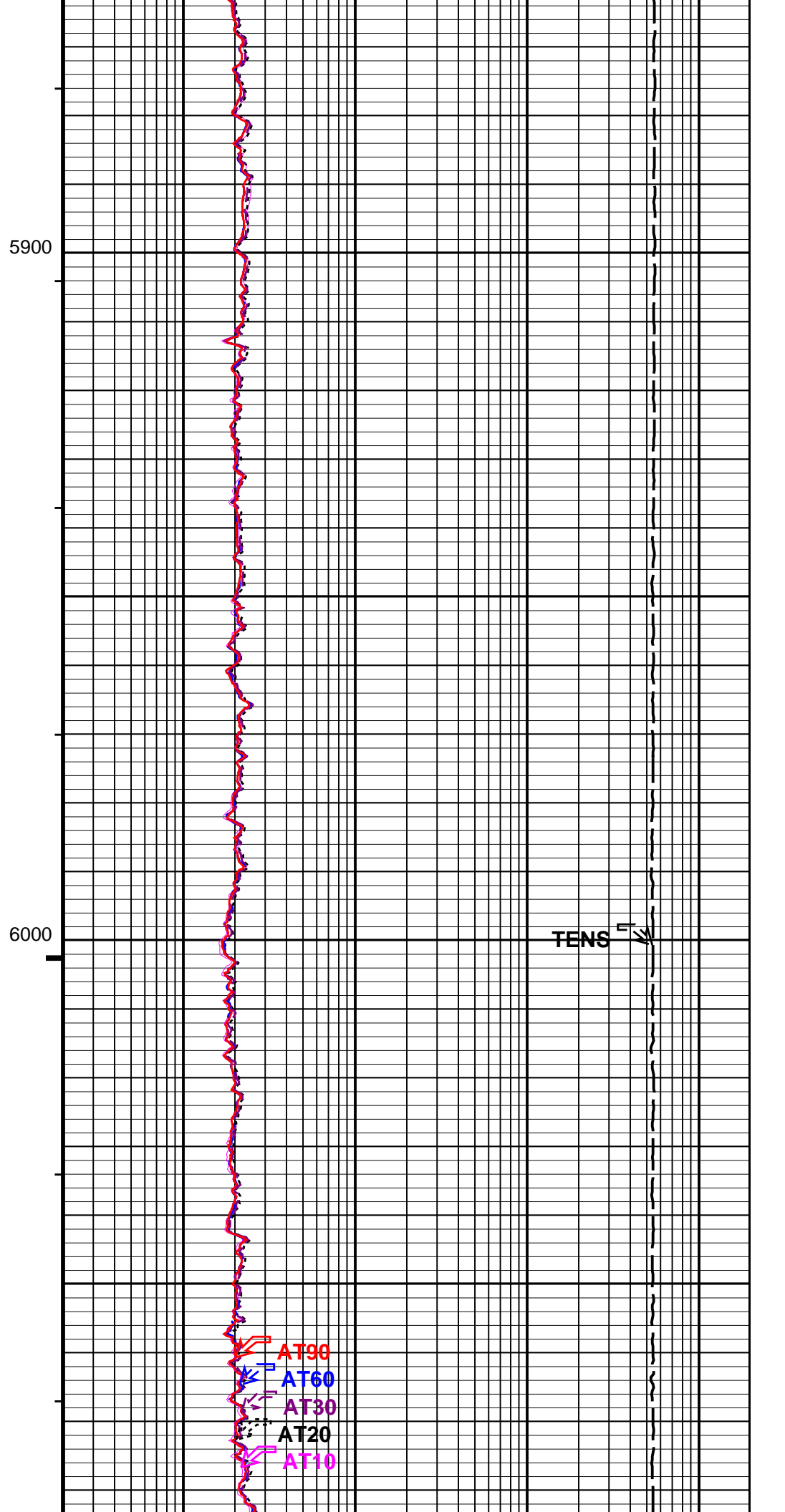
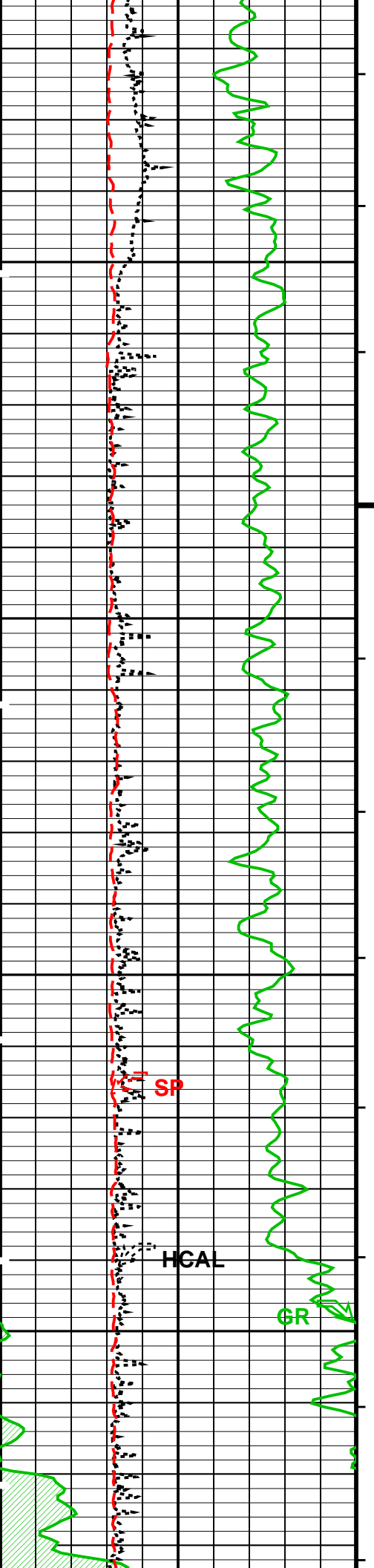


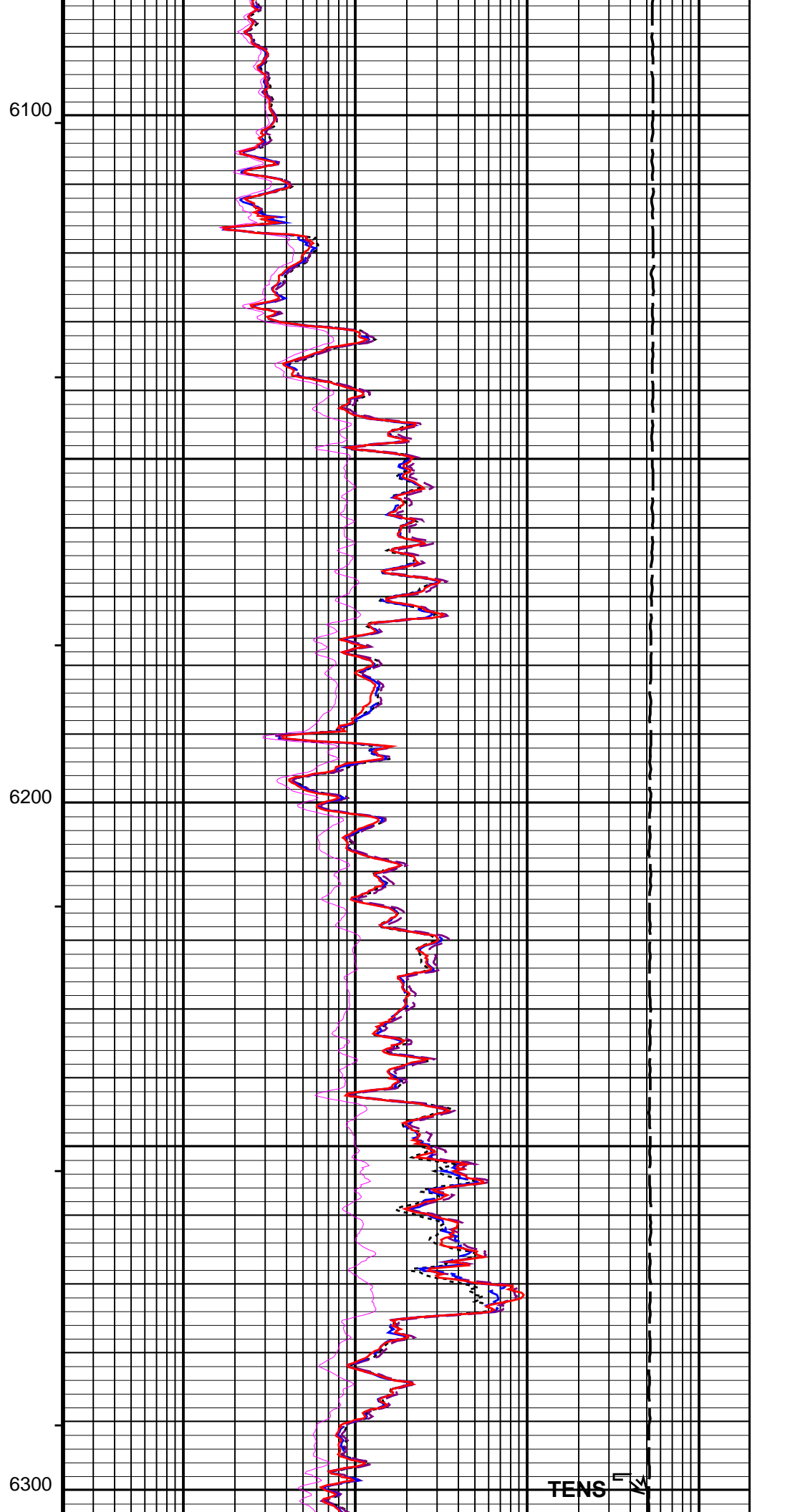
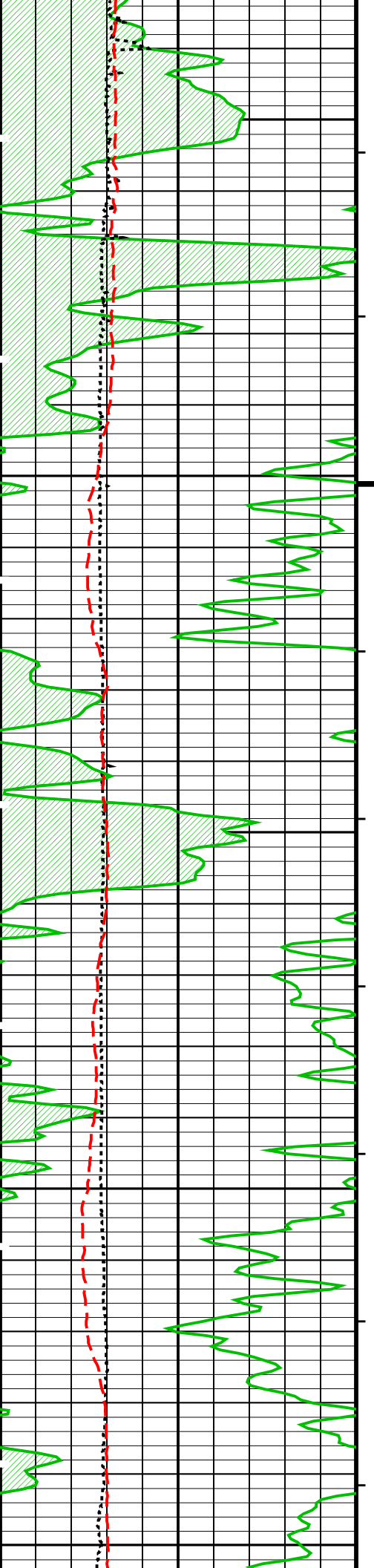





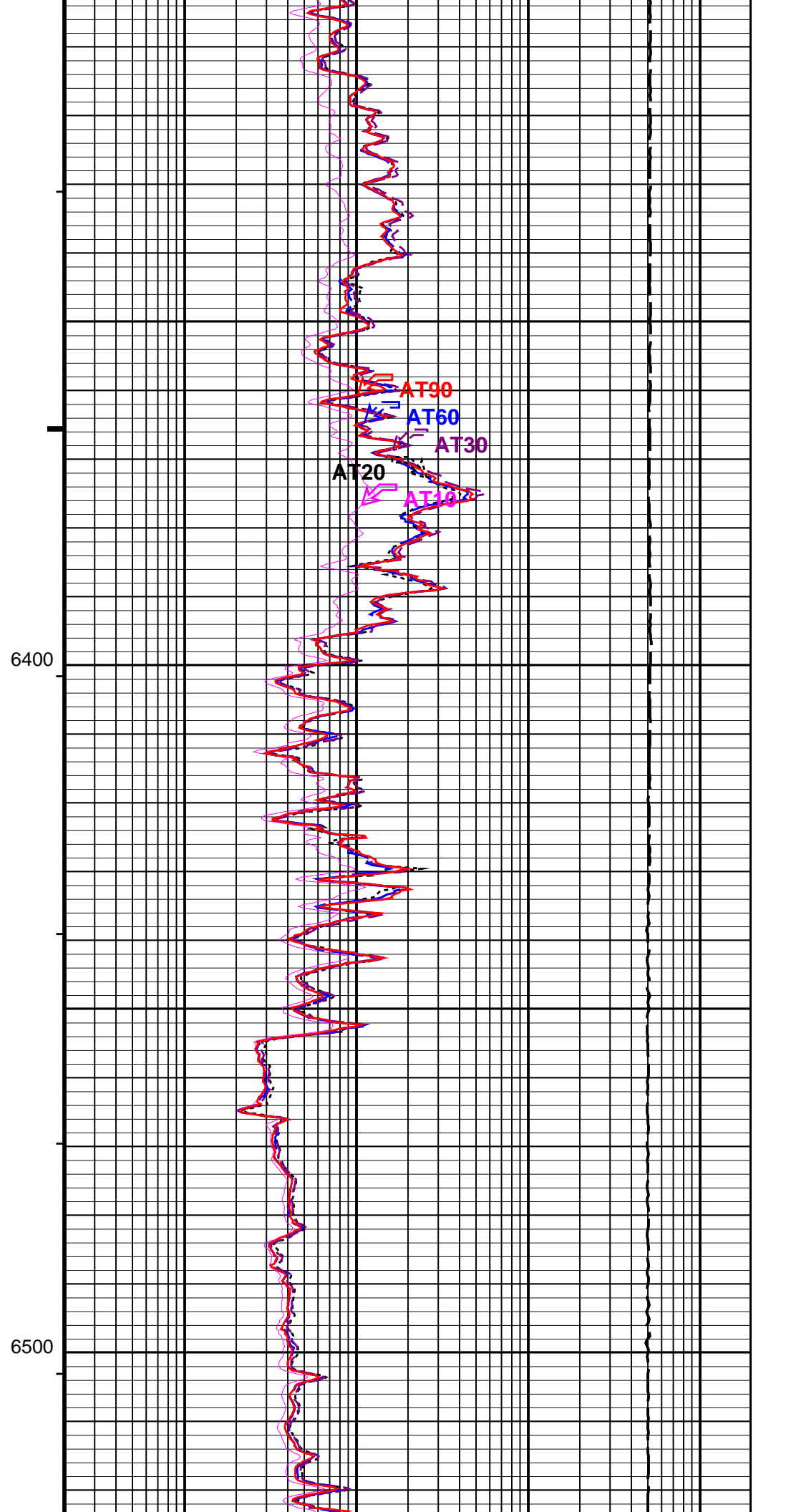
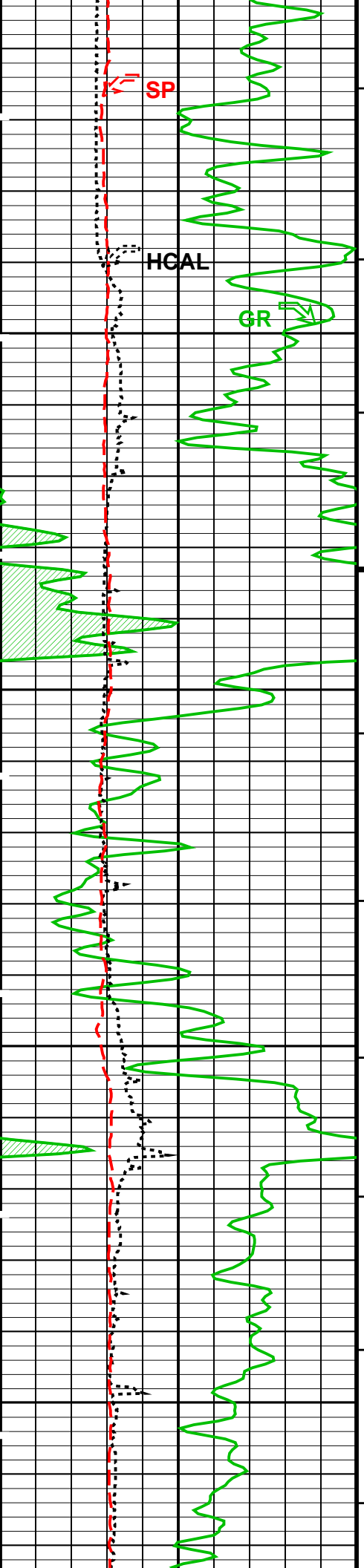


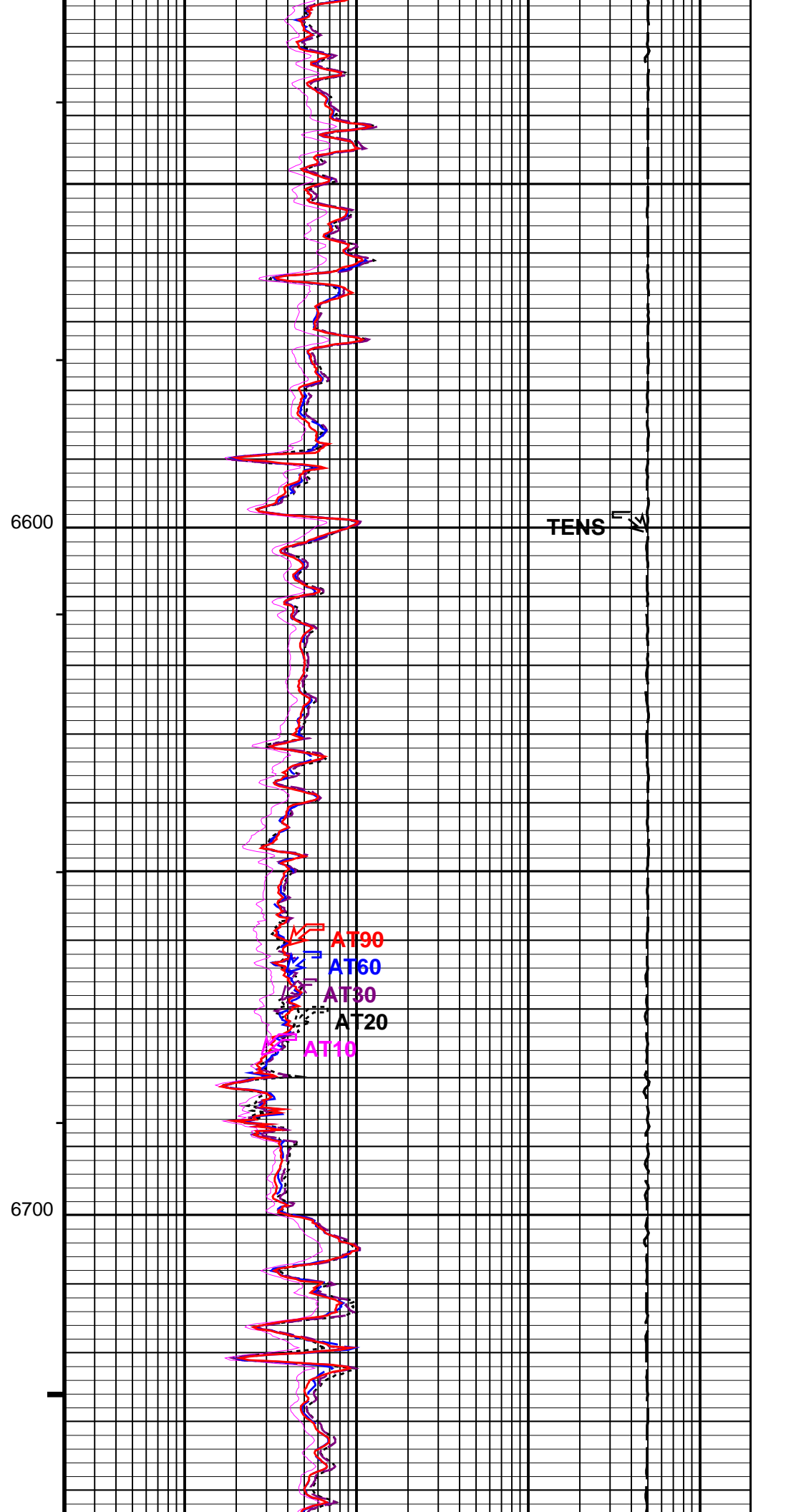
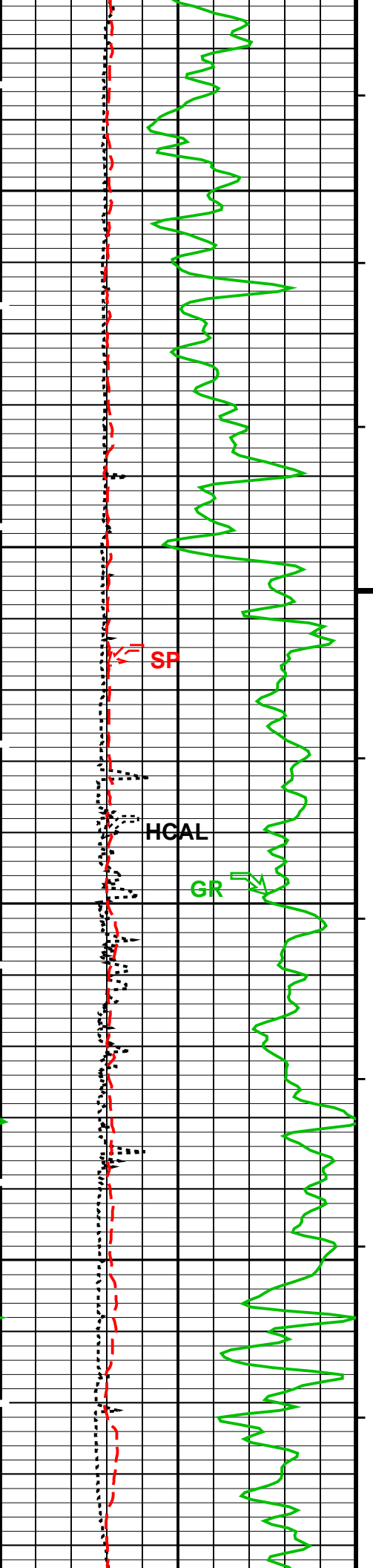


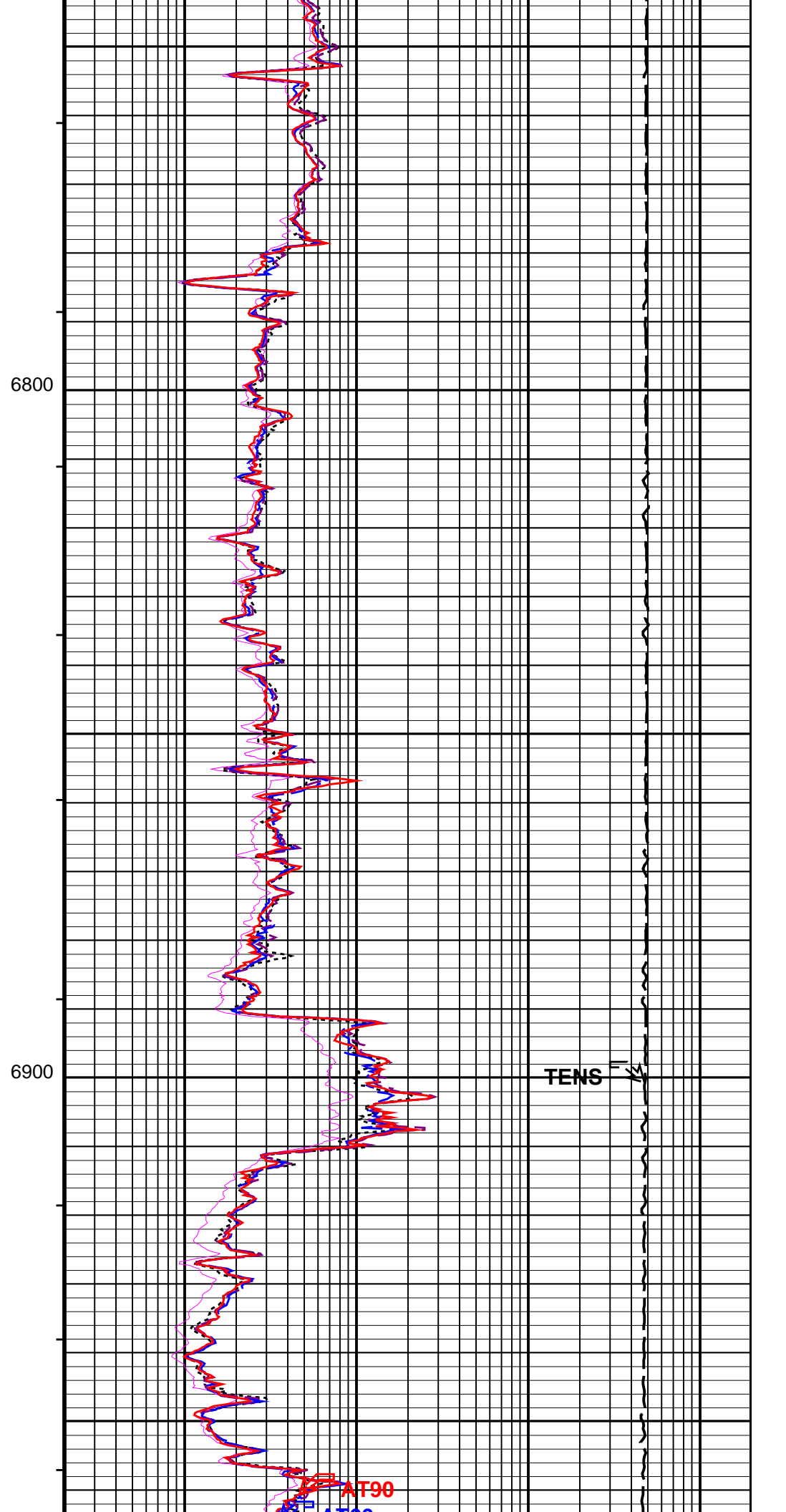
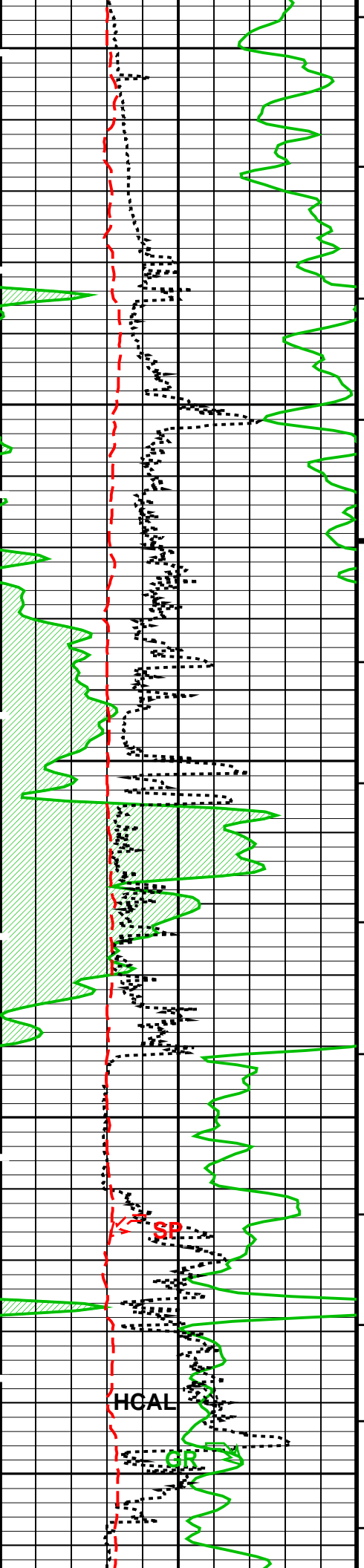


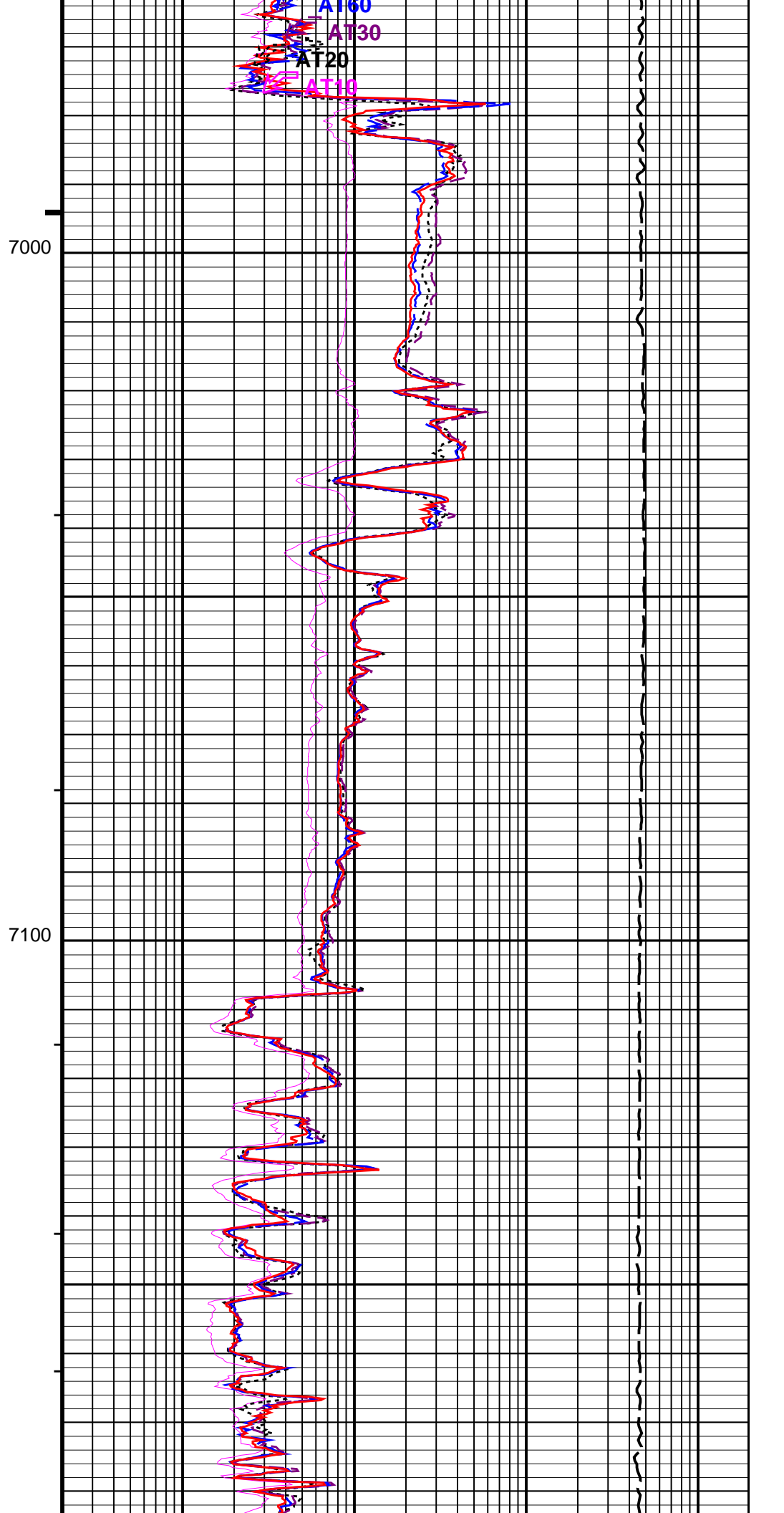
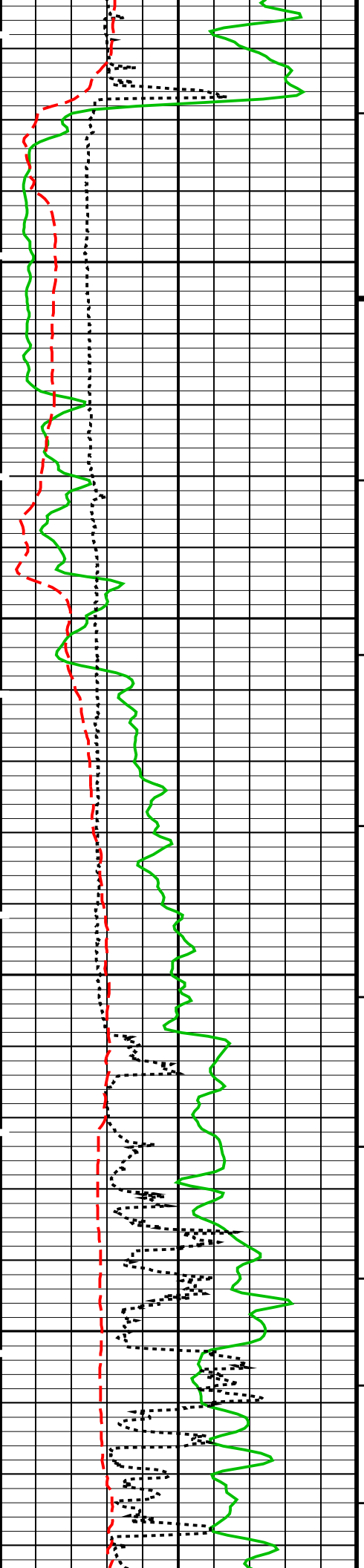


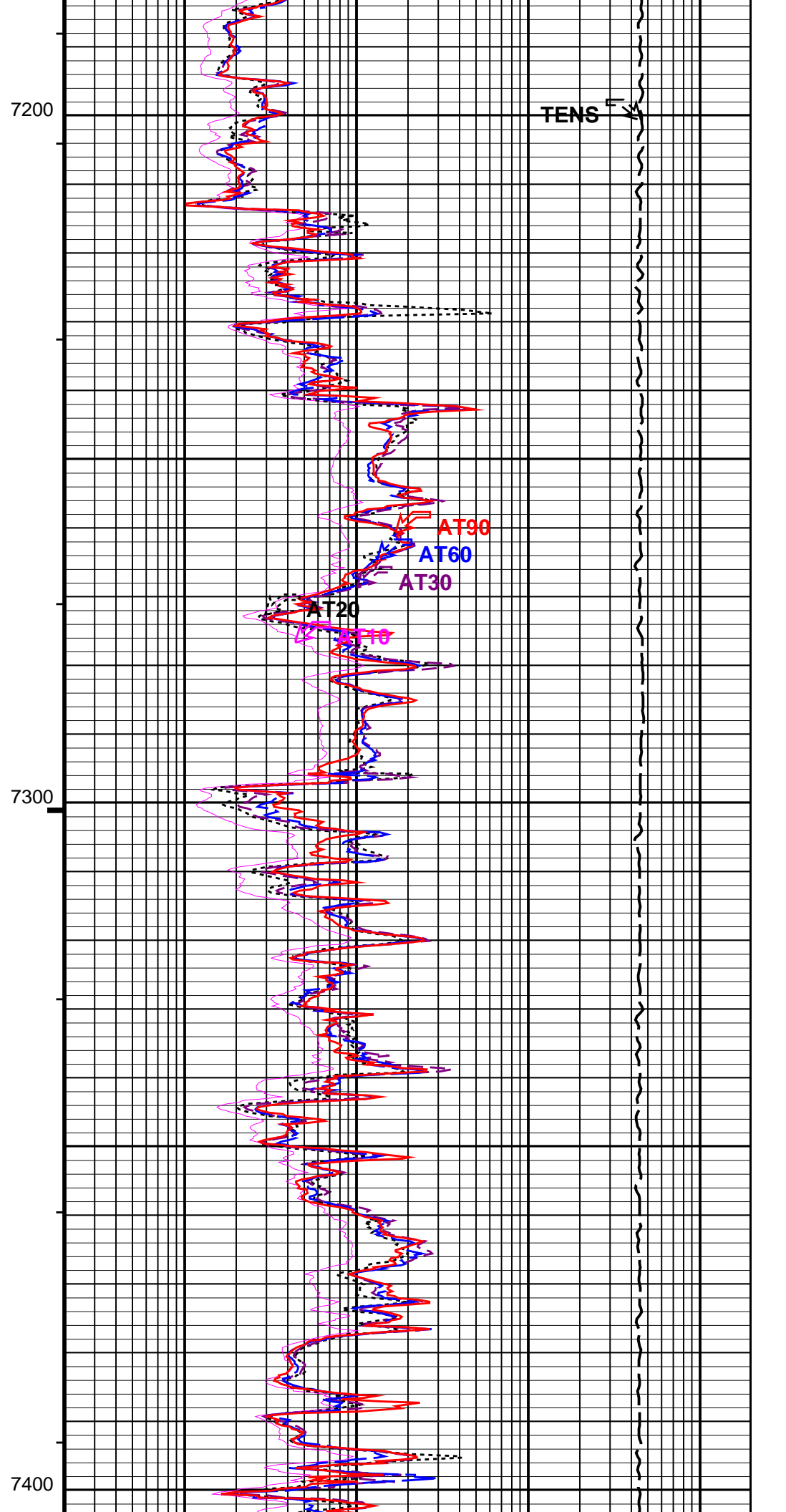
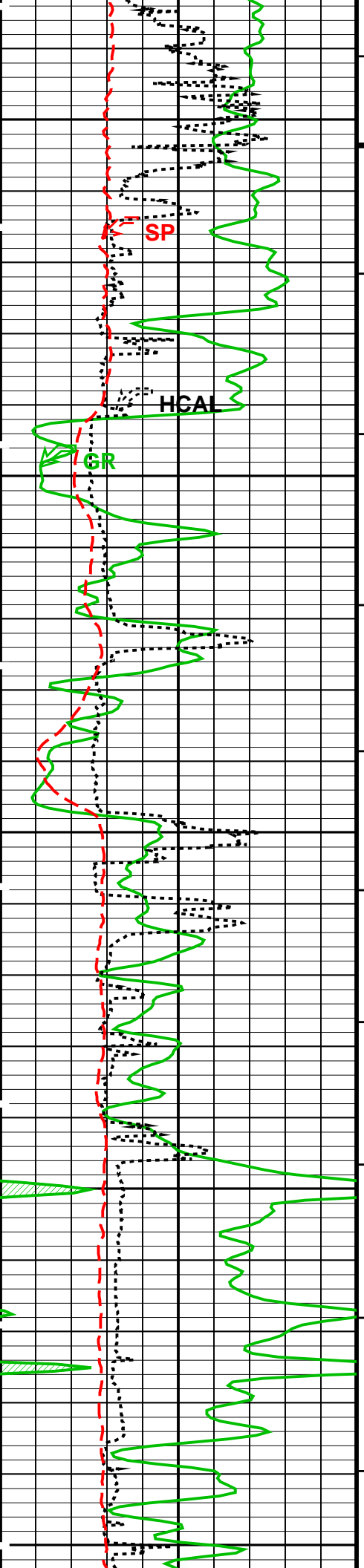
TENS 

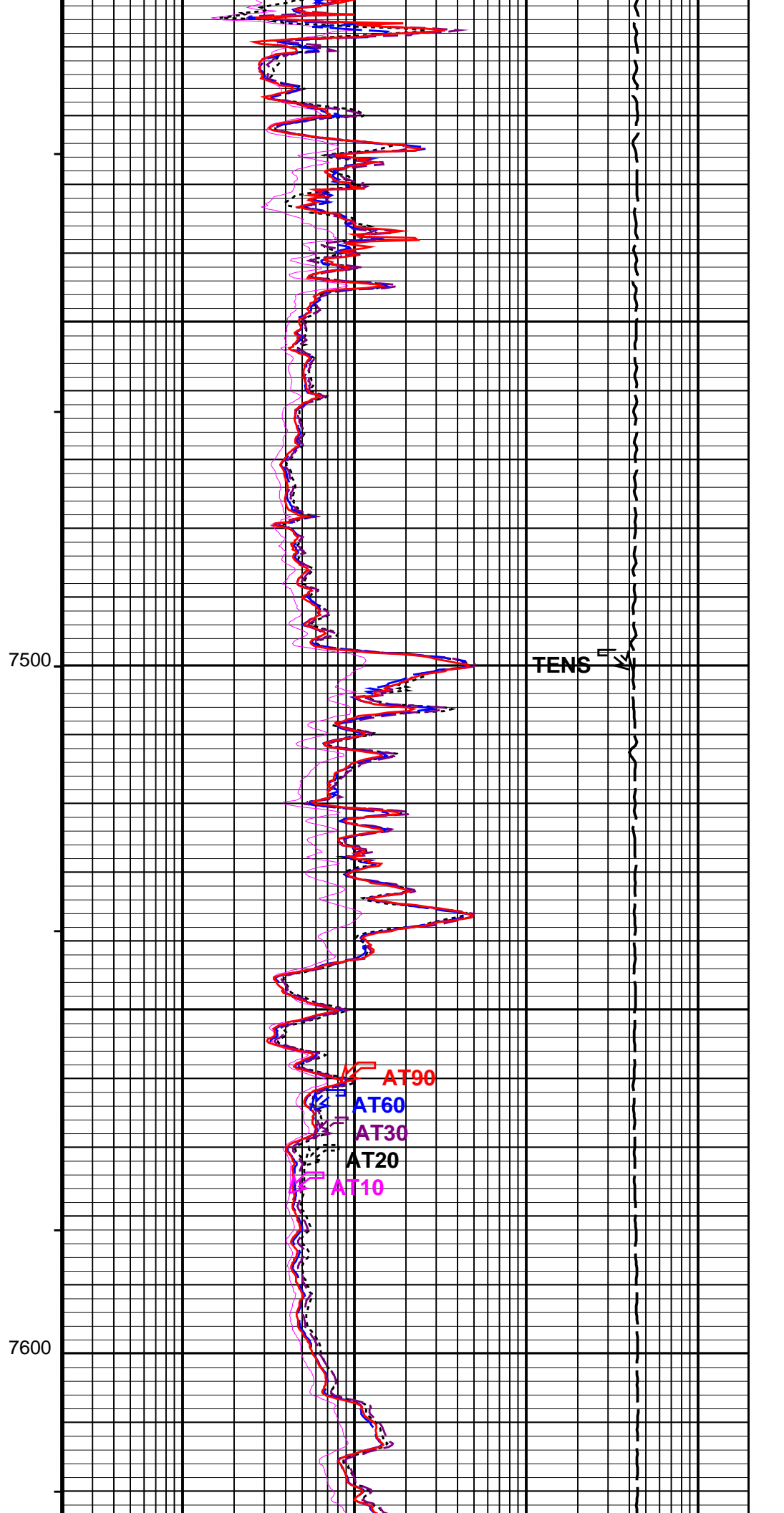
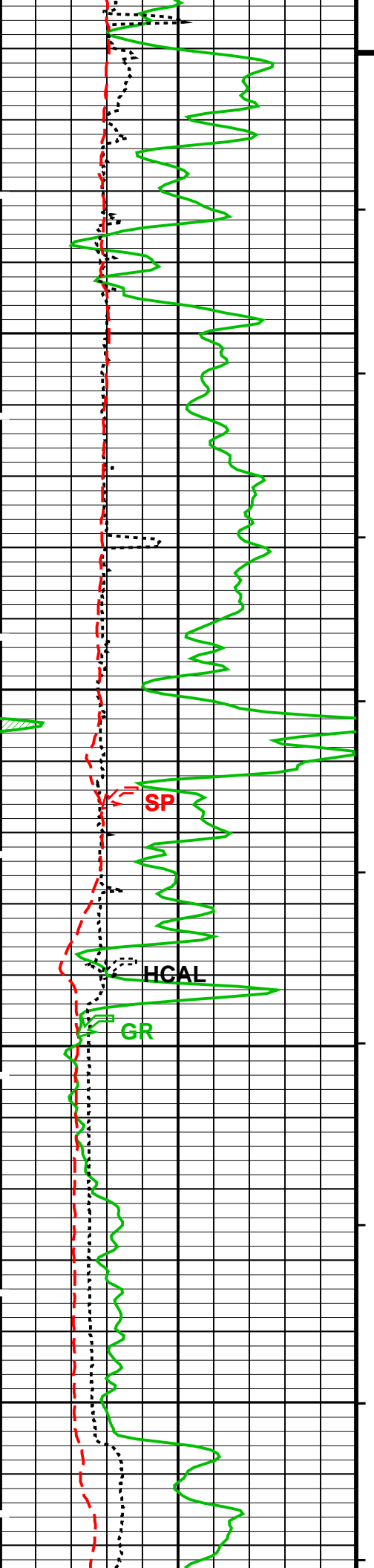


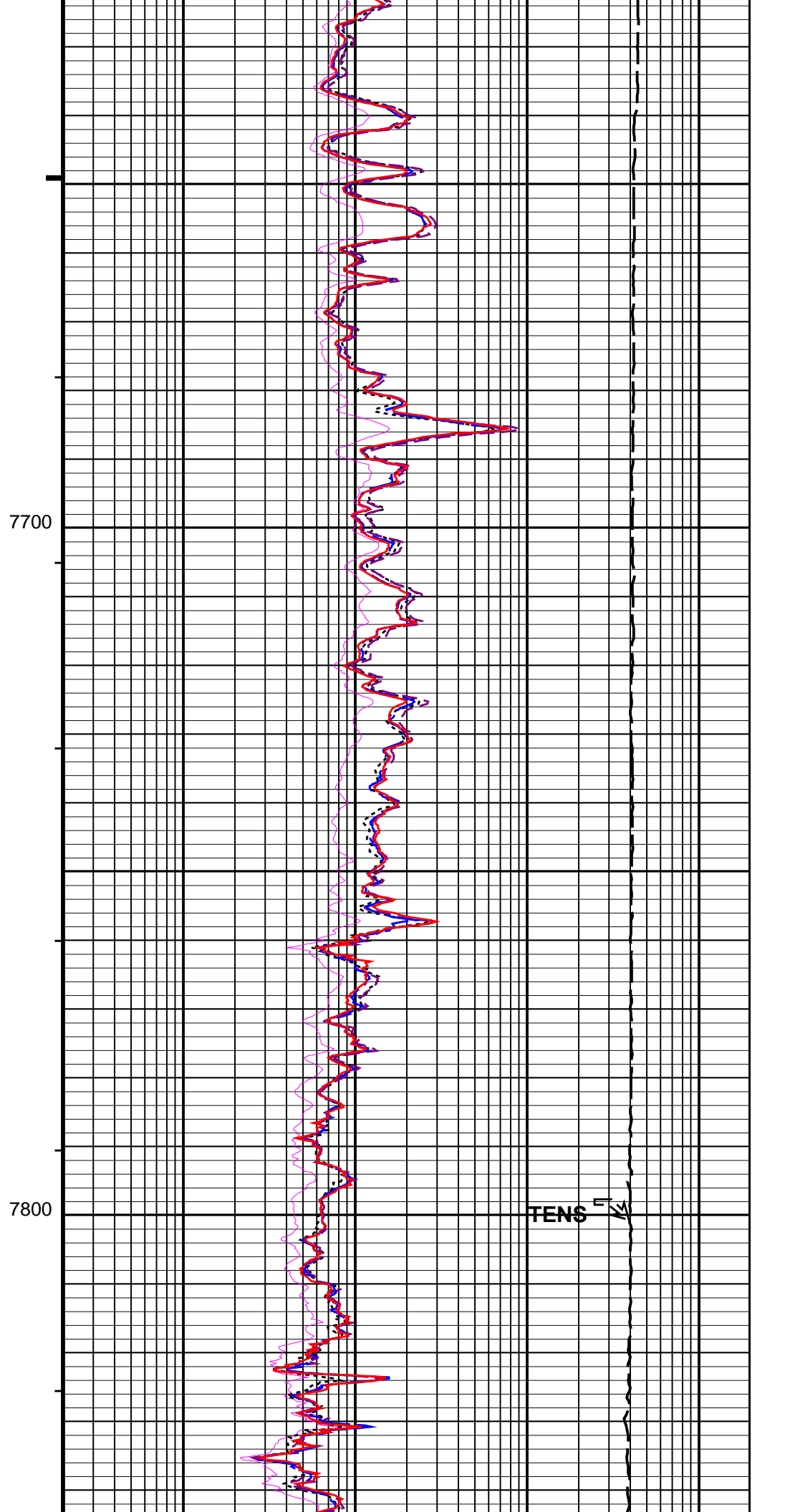
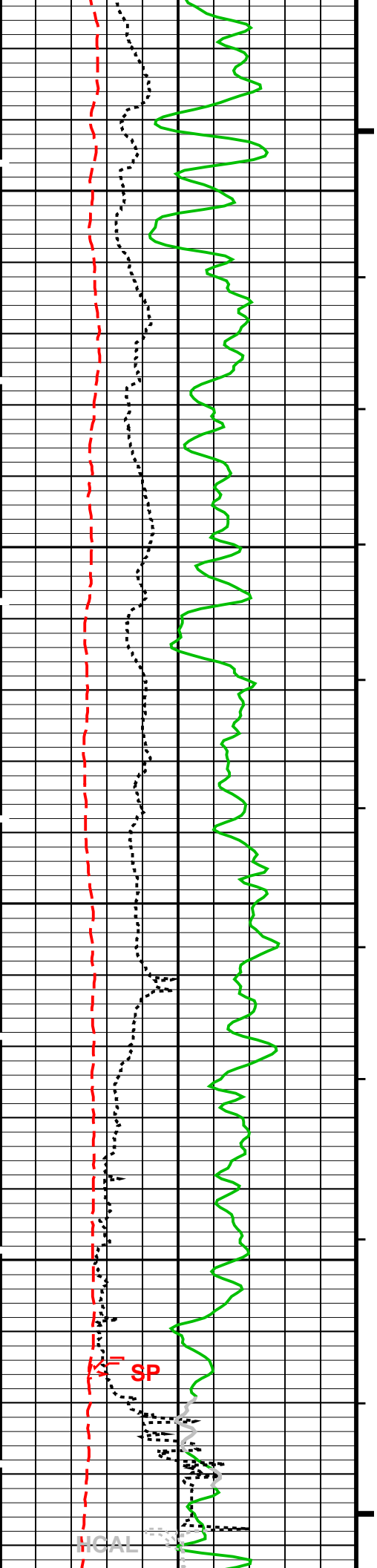


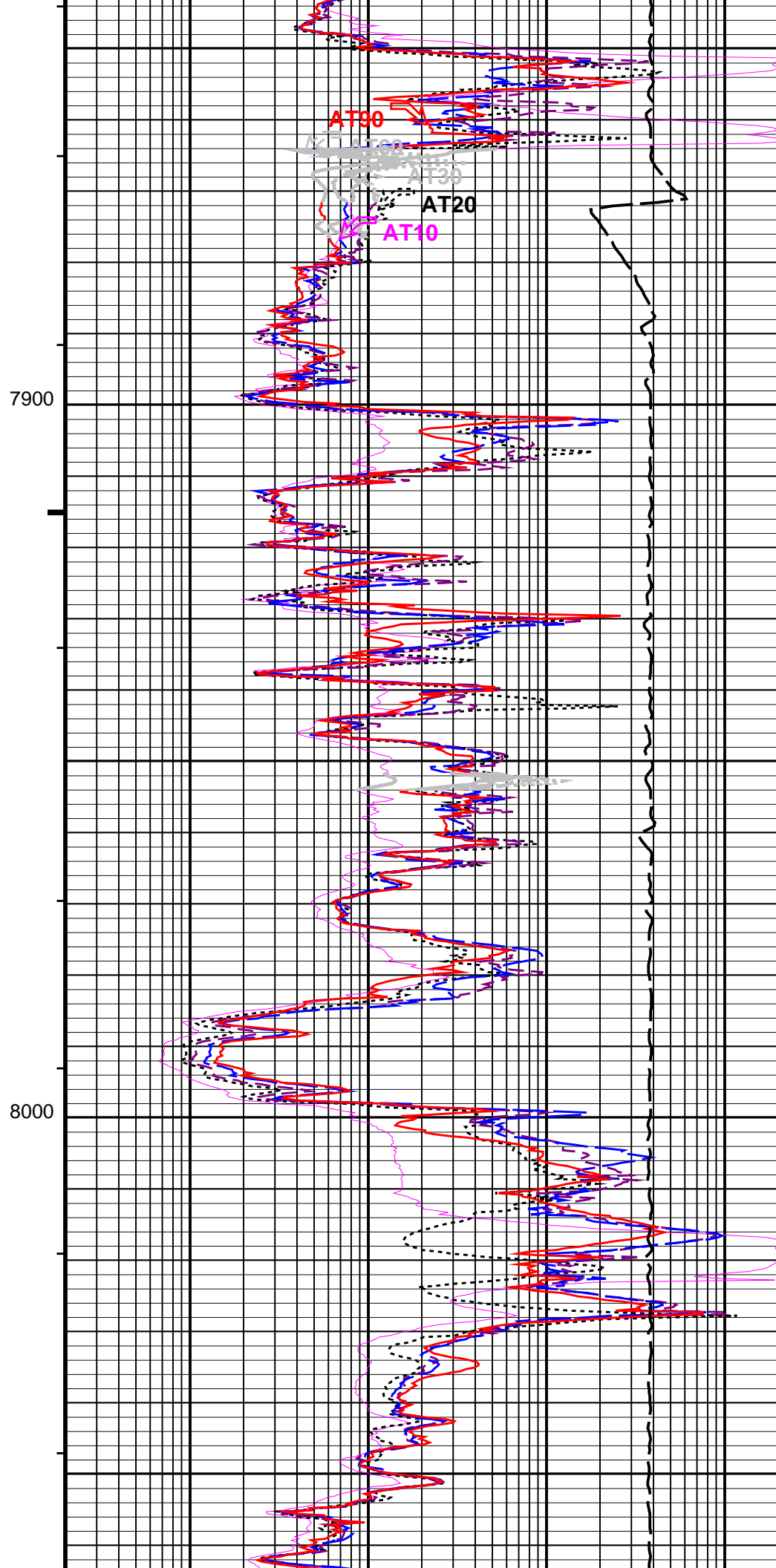
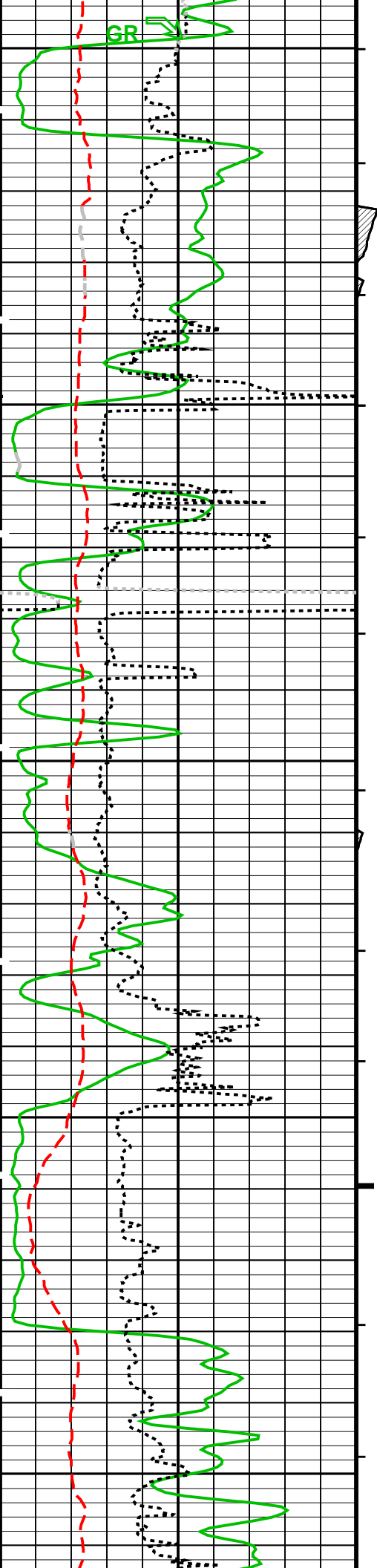


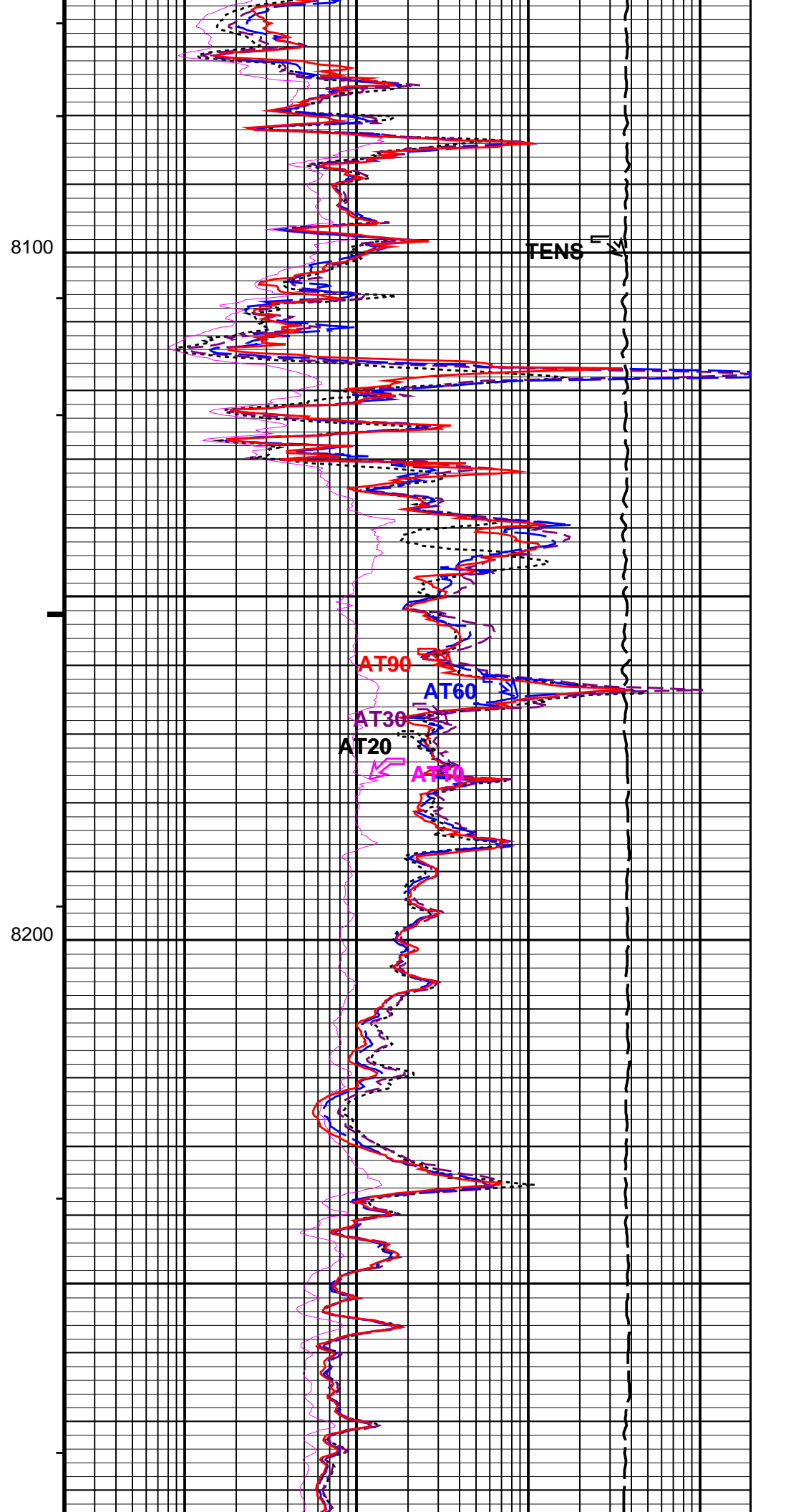
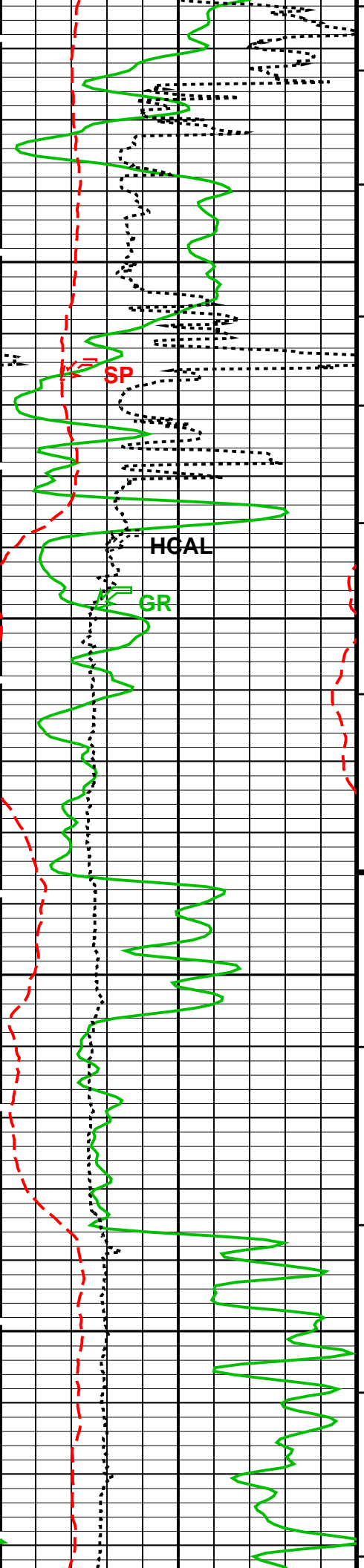


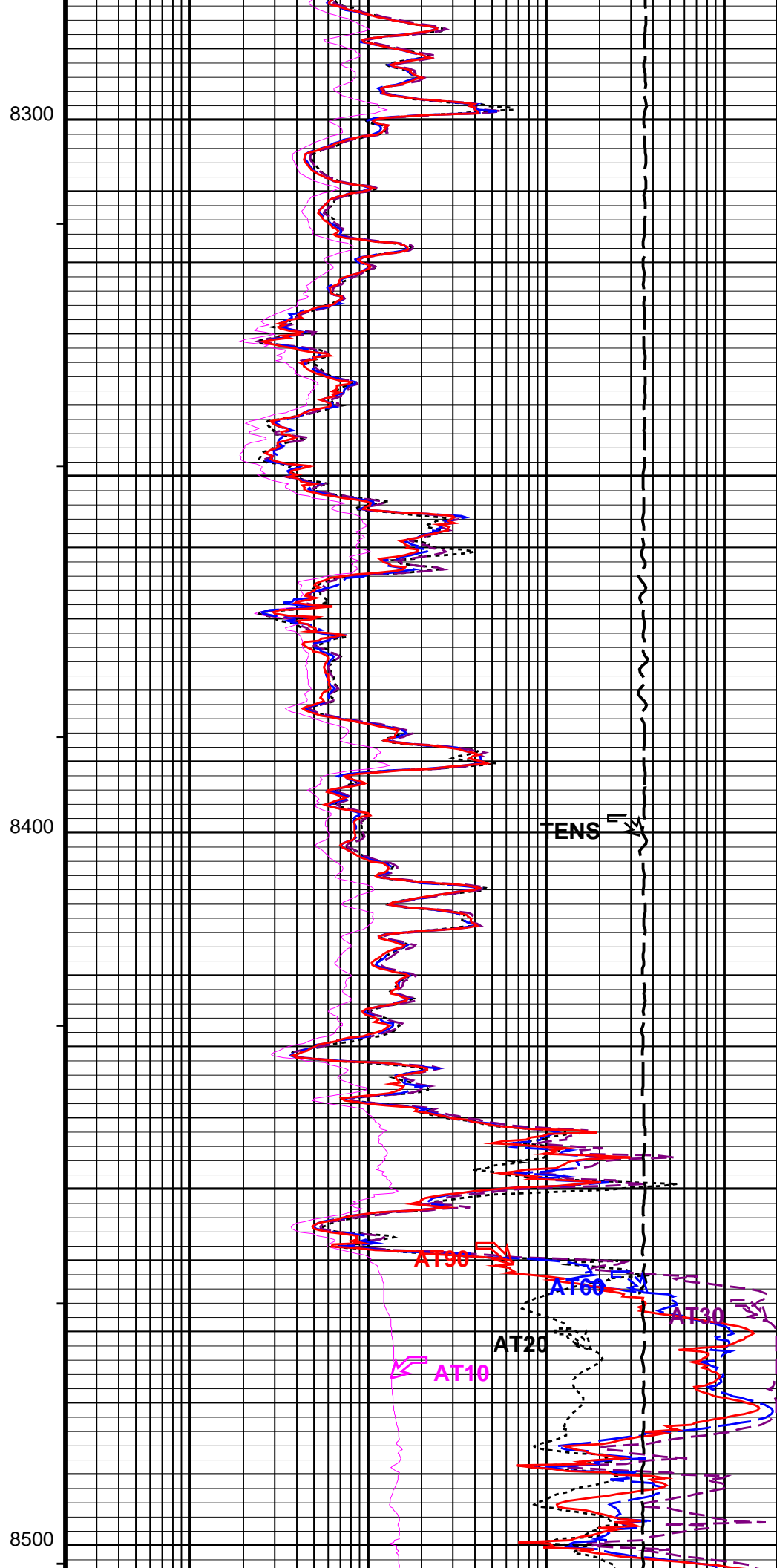
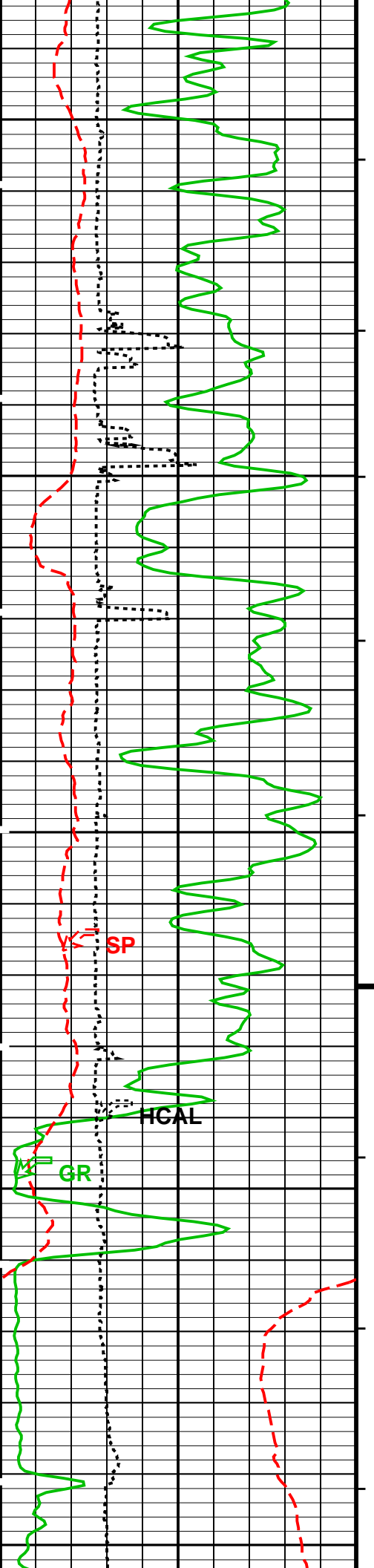


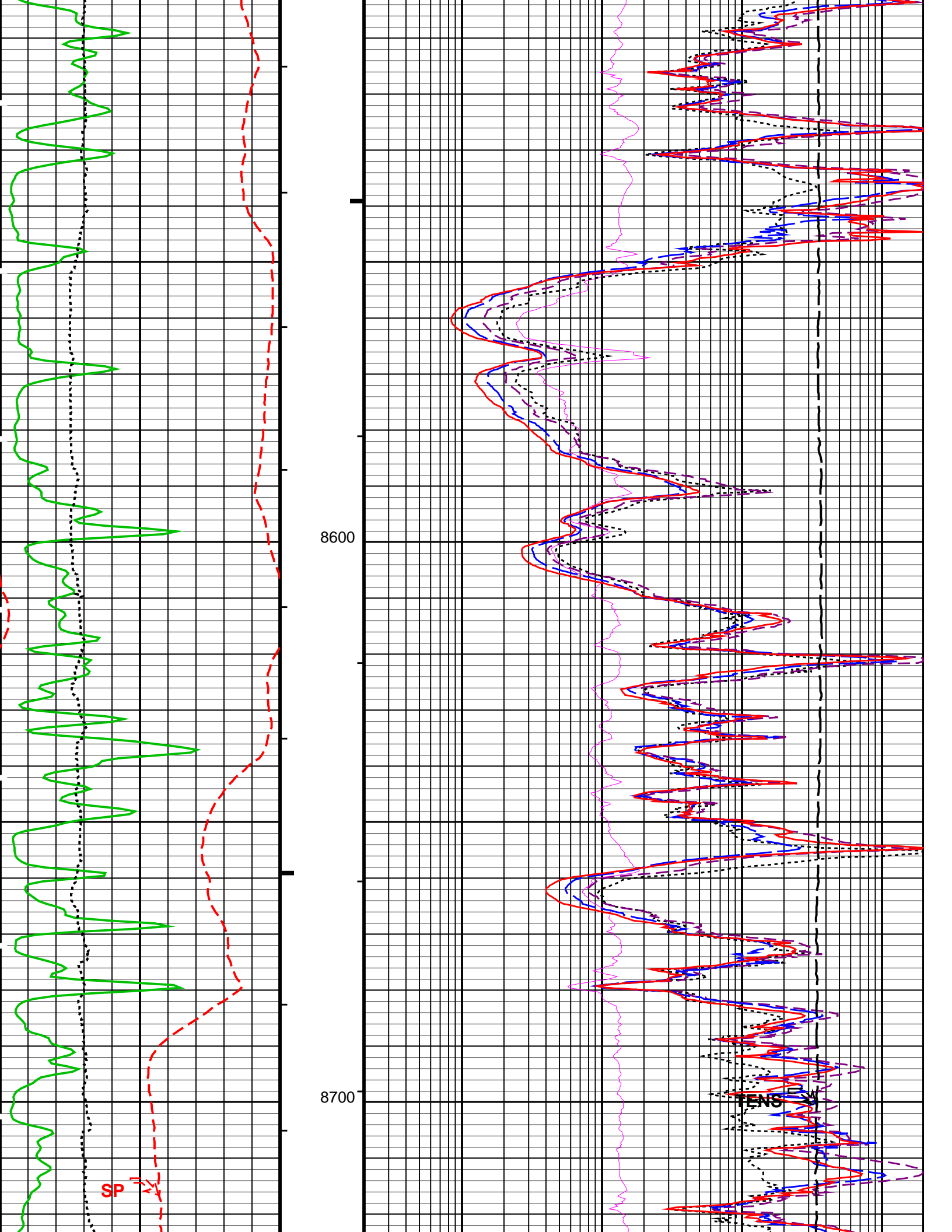


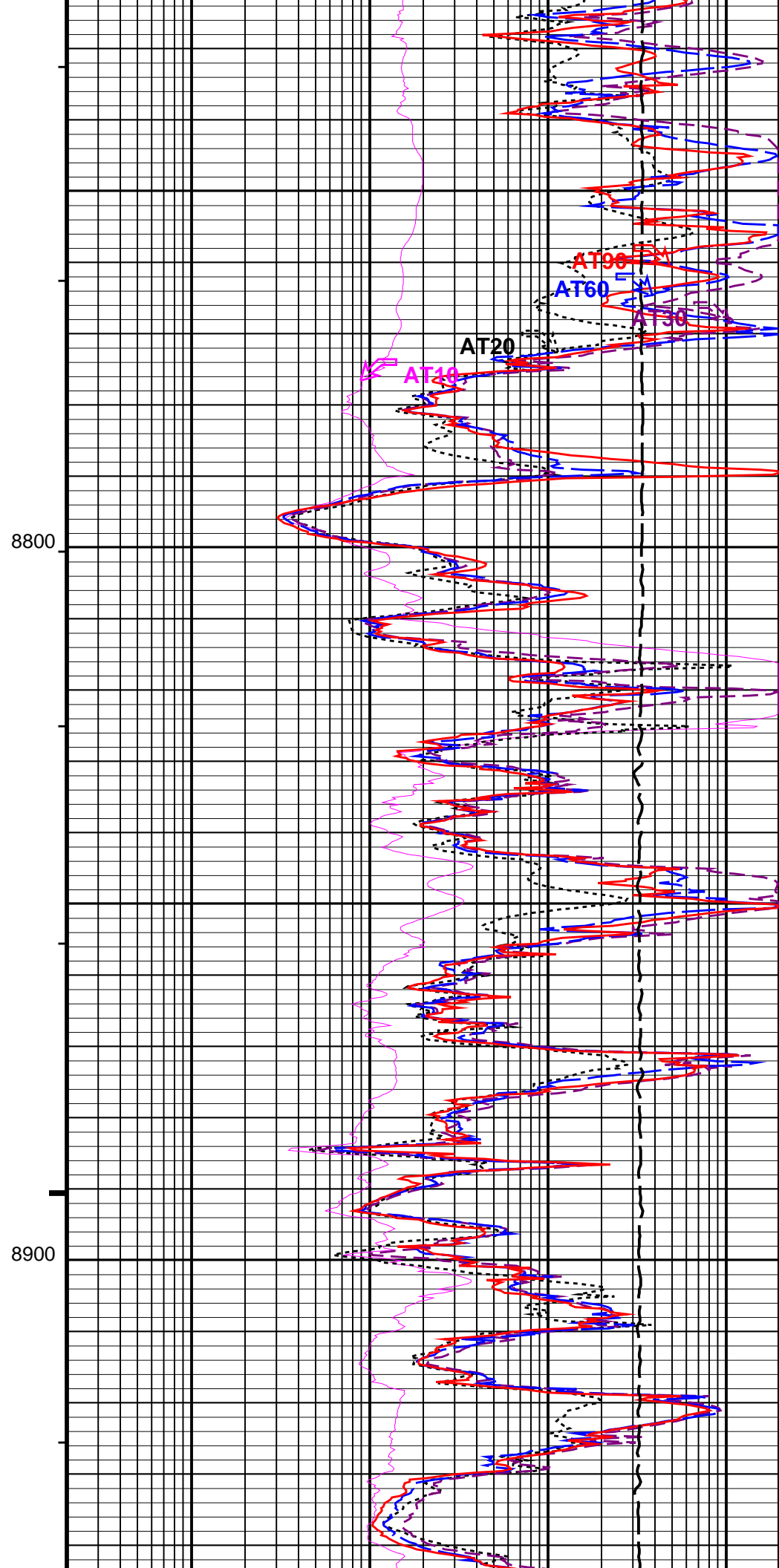
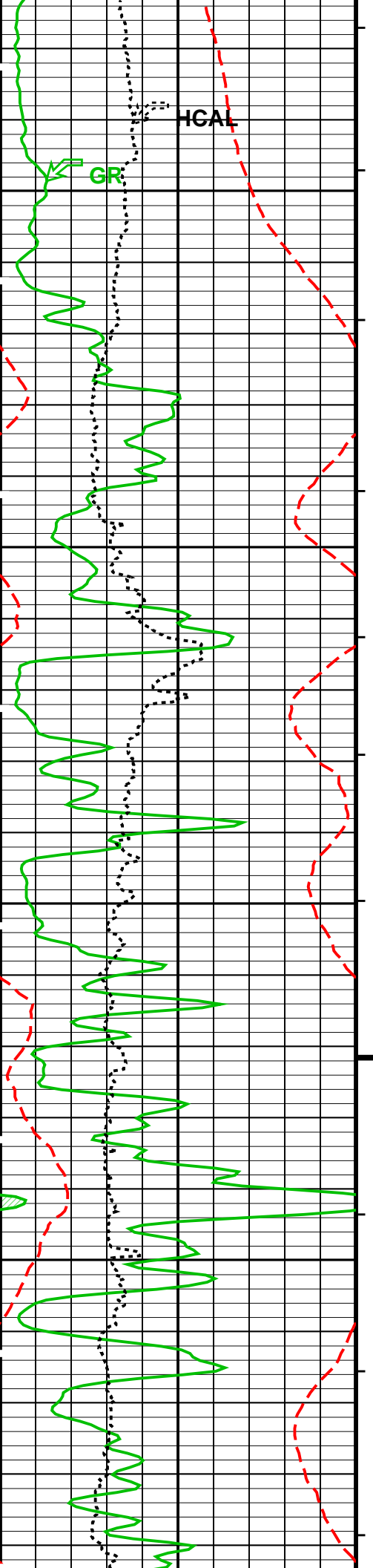


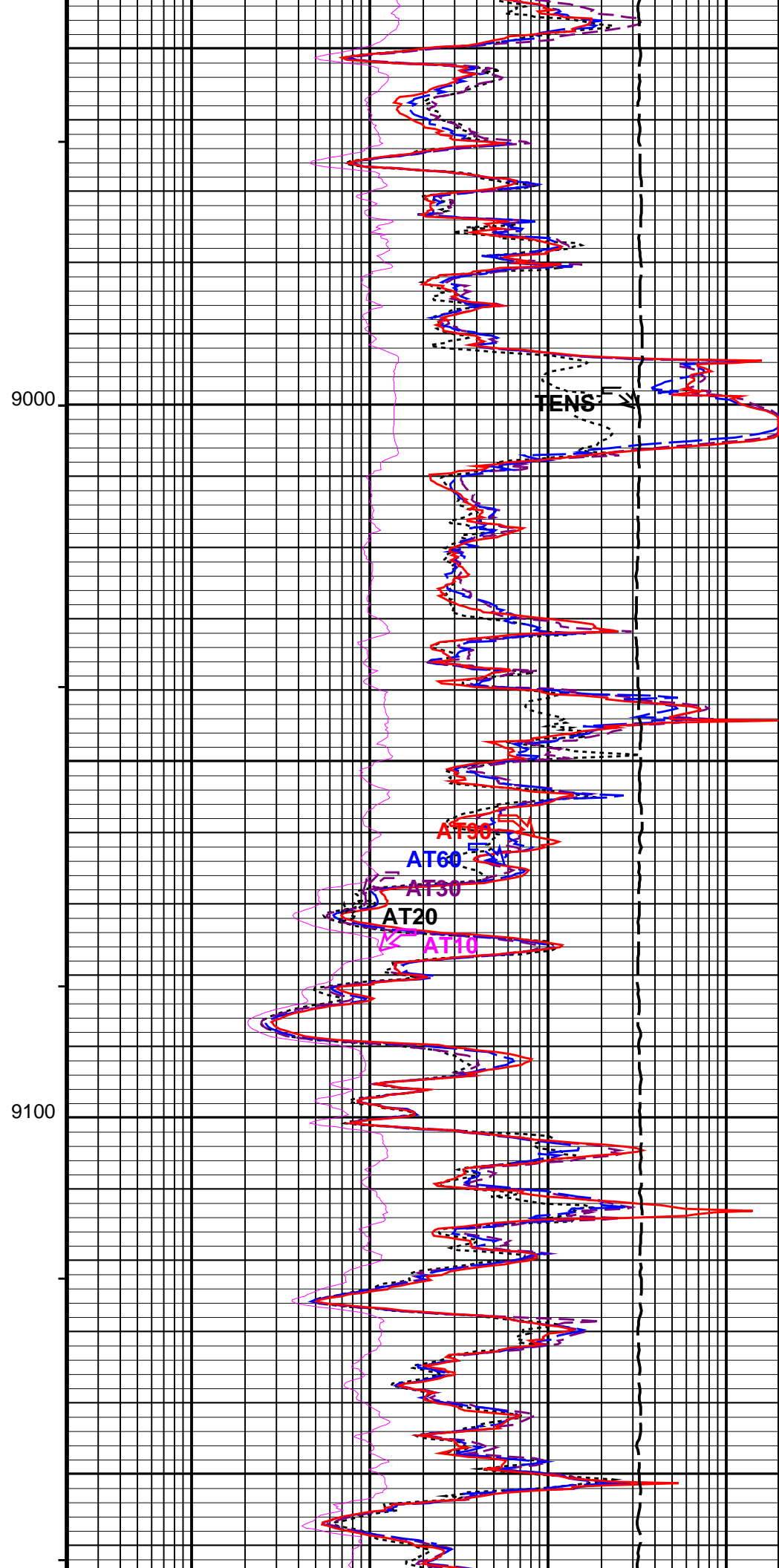
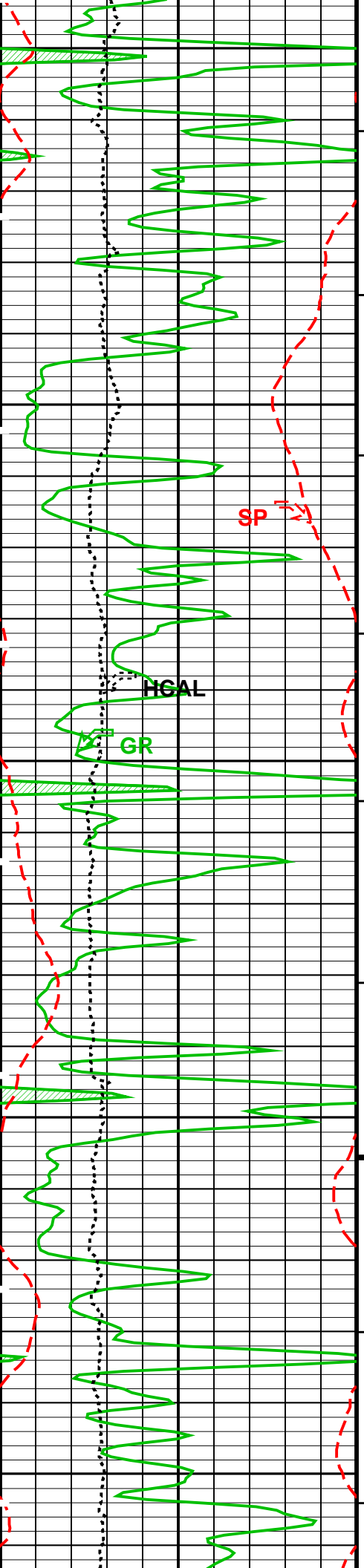


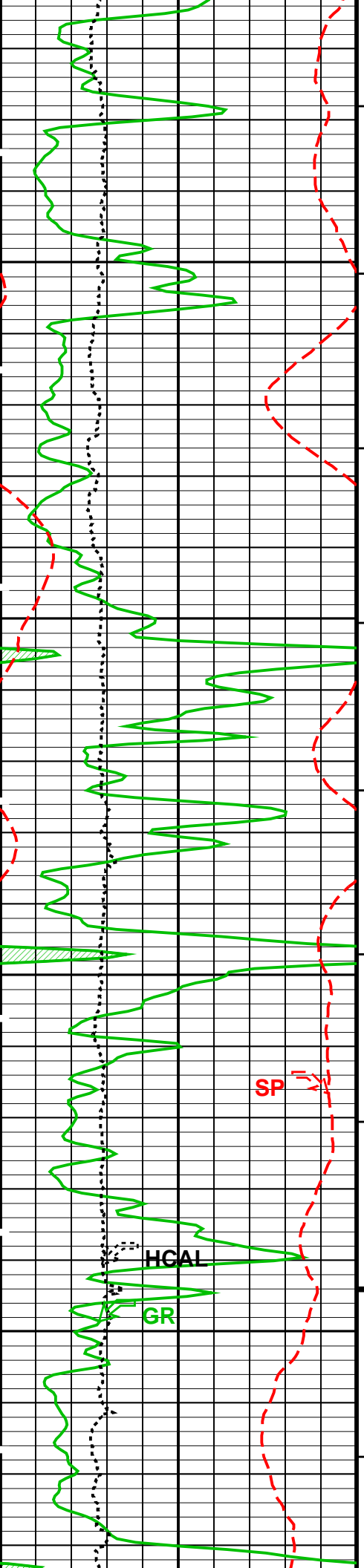












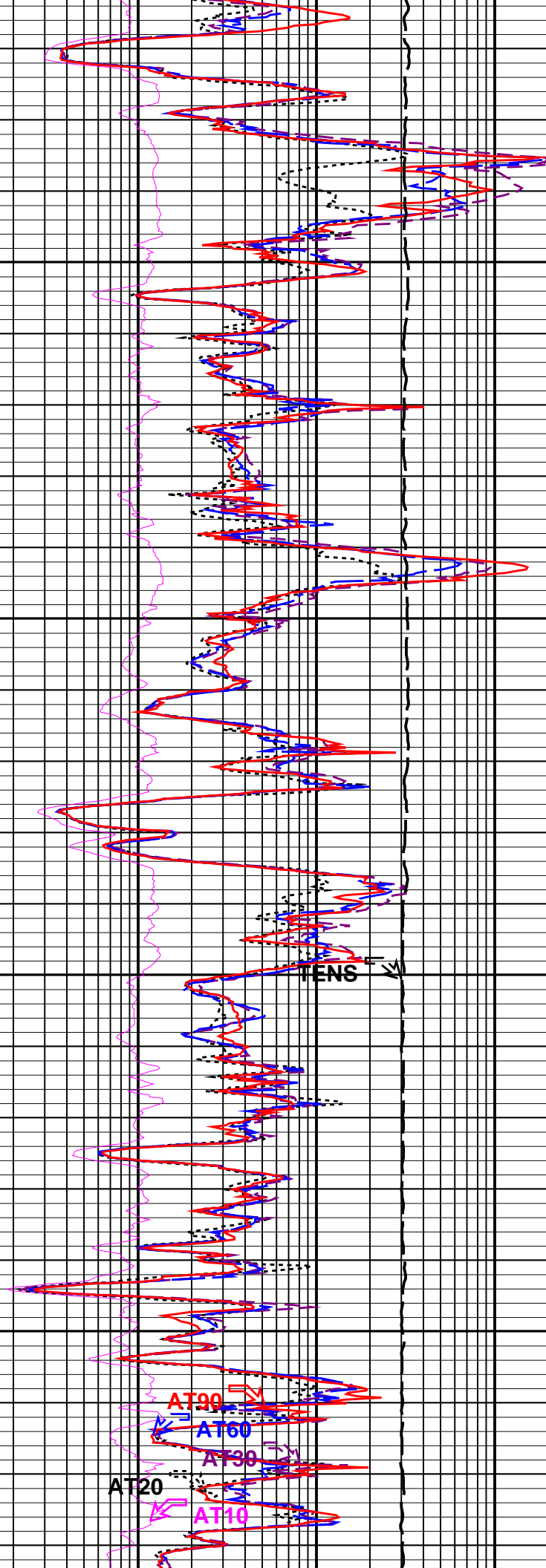
9200

9300

SP

HCAL

GR



TENS

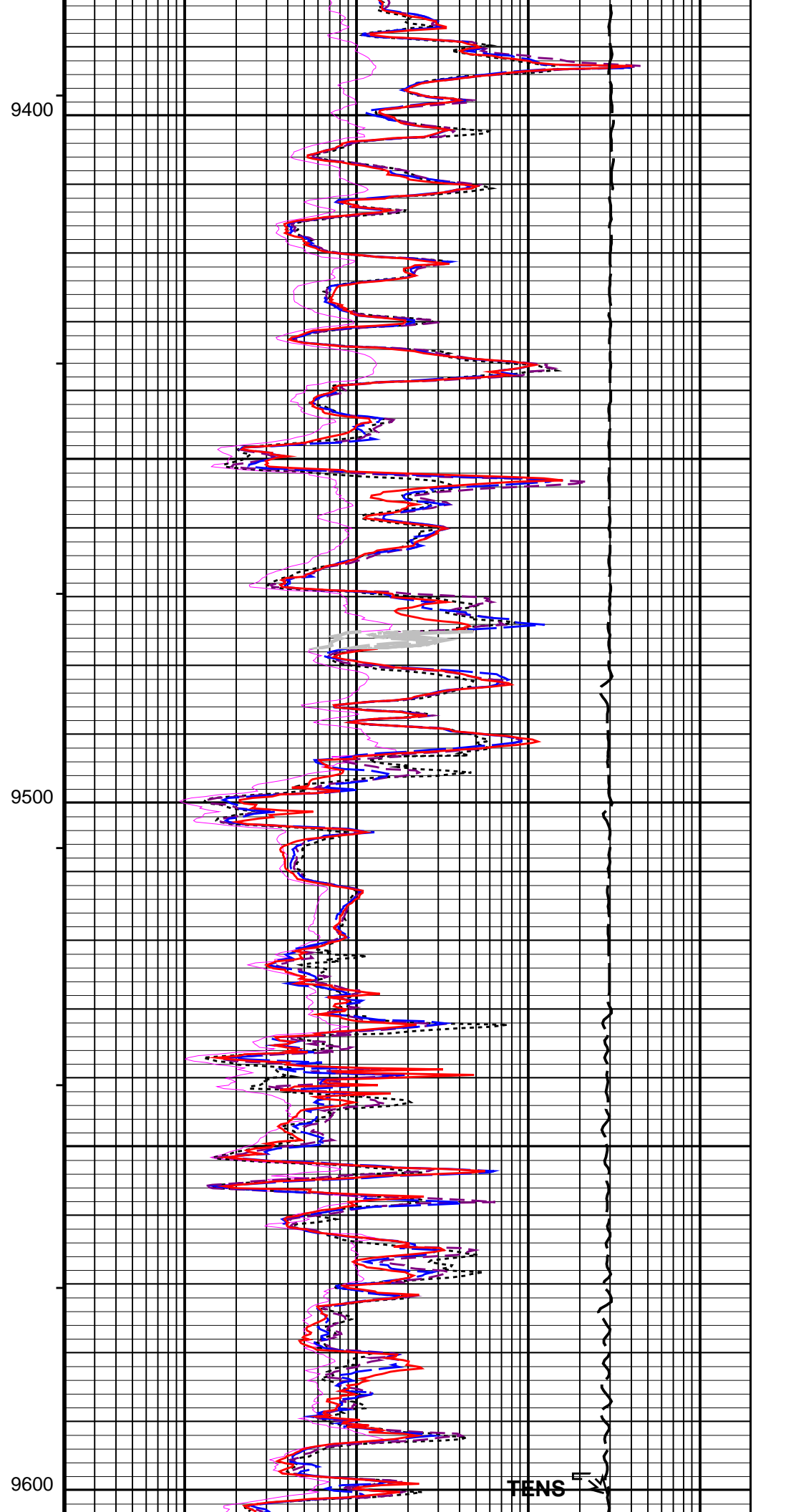
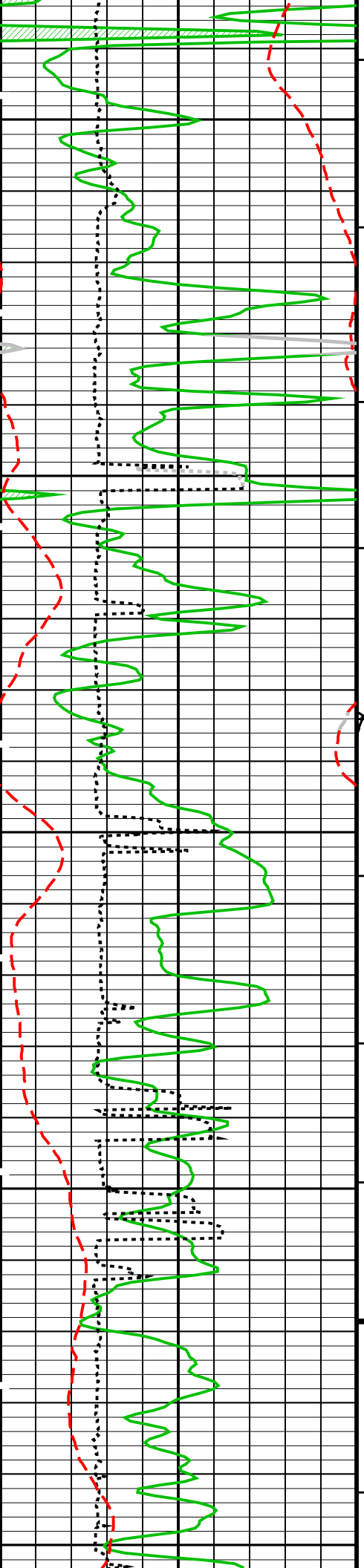
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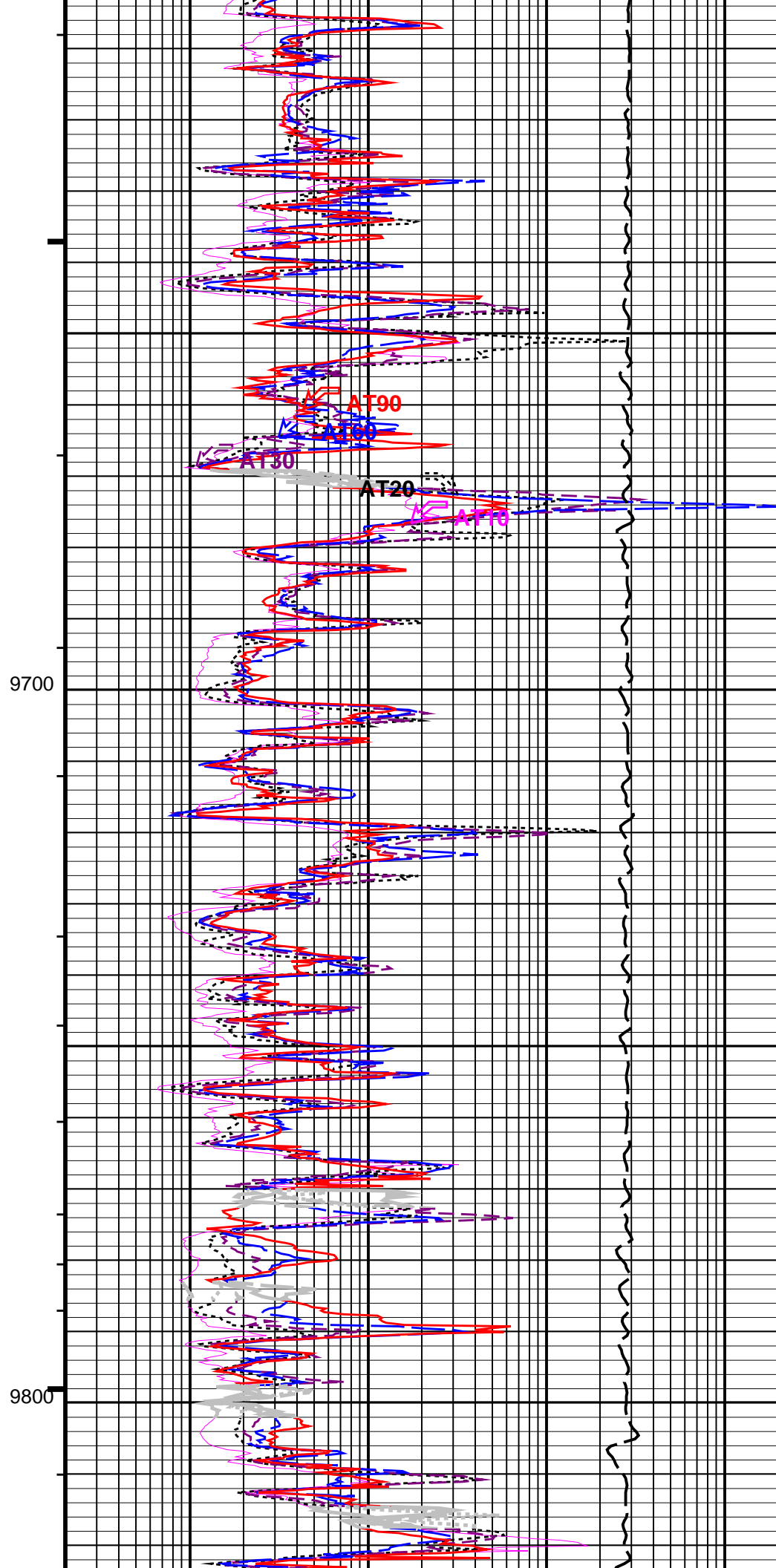
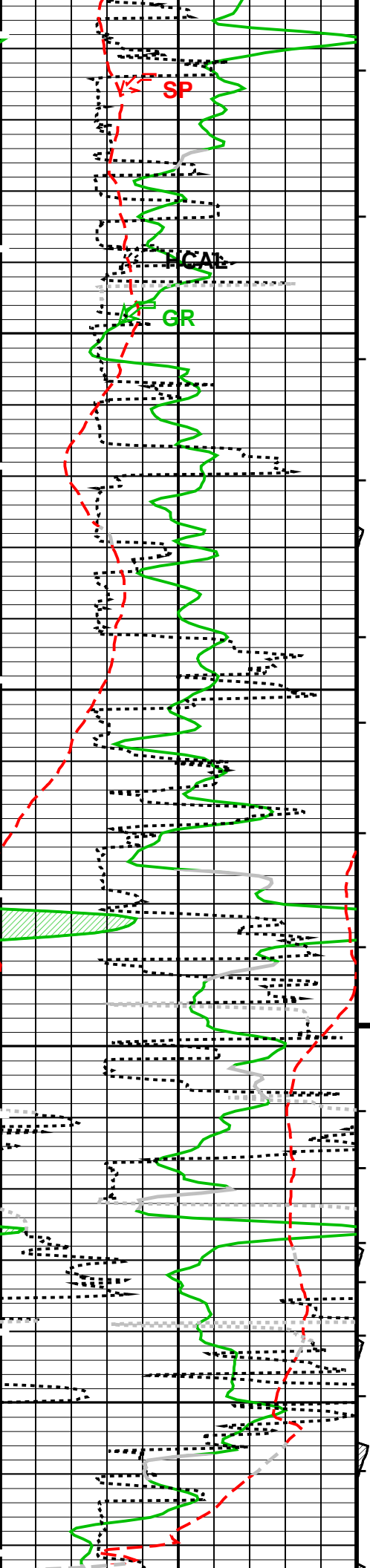
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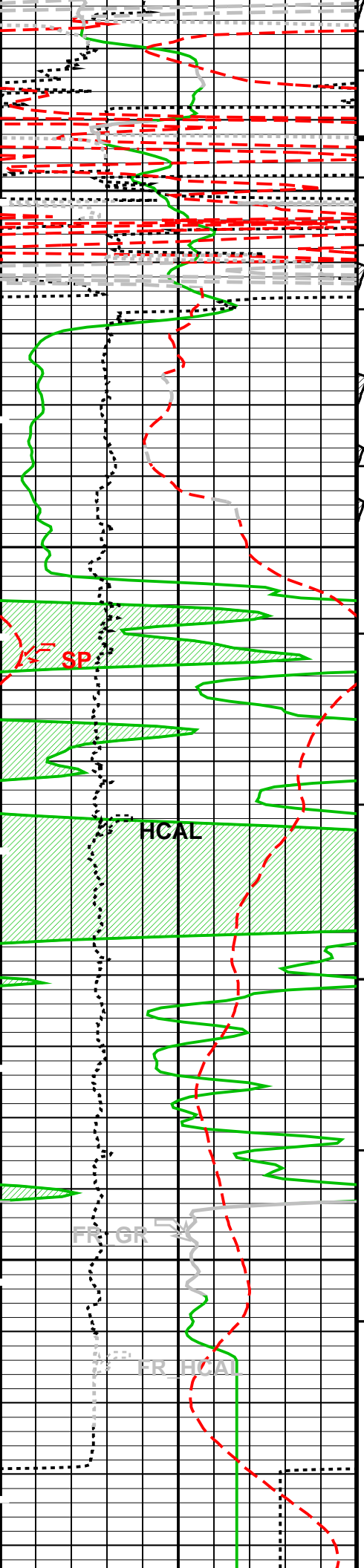
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AT20

AT10

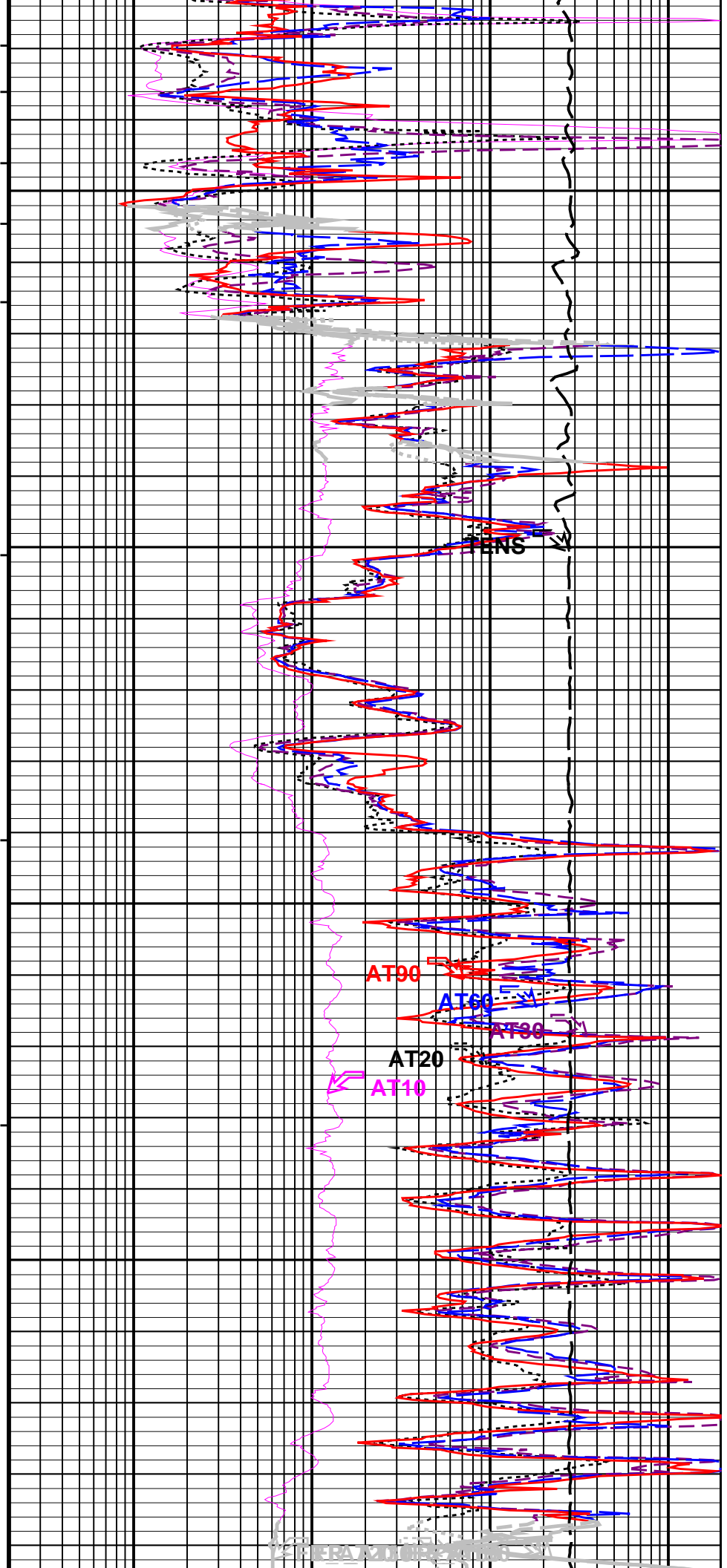


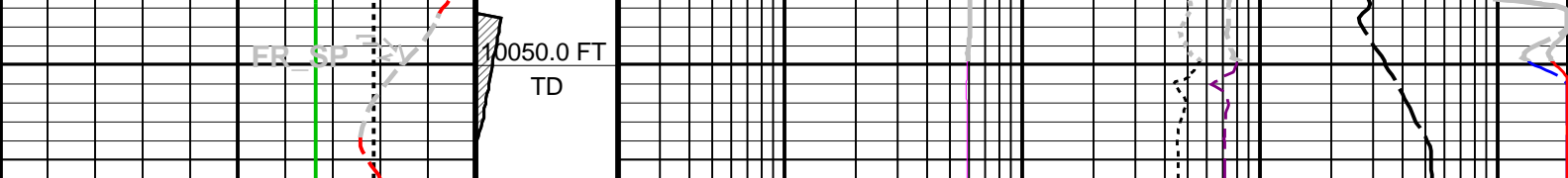




9900

10000





MAIN PASS: *** PLATFORM EXPRESS – ARRAY INDUCTION ***

Gamma Ray Backup	Cable Drag	AIT 10 Inch Investigation (AT10) (OHMM)	2000
Gamma Ray (GR) (GAPI)	Tool/Tot. Drag	AIT 20 Inch Investigation (AT20) (OHMM)	2000
Caliper (HCAL) (IN)	Stuck Stretch (STIT)	AIT 30 Inch Investigation (AT30) (OHMM)	2000
SP (SP) (MV)	0 (F) 50	AIT 60 Inch Investigation (AT60) (OHMM)	2000
		AIT 90 Inch Investigation (AT90) (OHMM)	2000
		Tension (TENS) (LBF)	0

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

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value
ZAIT-EB: 3-D Array Induction Tool – ZAIT-E		
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	No
ACSED	Array Induction Casing Shoe Estimated Depth	-50000 FT
AFRSV	Array Induction Response Set Version for Four ft Resolution	41.70.24.20
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
ATRSV	Array Induction Response Set Version for Two ft Resolution	41.70.24.20
BHT	Bottom Hole Temperature (used in calculations)	225 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	ZAIT_RESIST
GTSE	Generalized Temperature Selection	HSTS_HTEM
SHT	Surface Hole Temperature	68 DEGF
SPNV	SP Next Value	0 MV
TRI1DV	3D 1D Code Version Number	315
TRIBHM	3D Induction Borehole Correction Mode	1_ComputeStandoff
TRIBHV	Array Induction Borehole Correction Code Version Number	168
TRIRSV	3D Induction Response Set Version	00.10.24.00
TRIIRT	3D Rotation Selector	NorTH
TRISTA	3D Tool Standoff	1 IN
HILTH-FTB: High resolution Integrated Logging Tool-DTS		
BHT	Bottom Hole Temperature (used in calculations)	225 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	ZAIT_RESIST
GTSE	Generalized Temperature Selection	HSTS_HTEM
SHT	Surface Hole Temperature	68 DEGF
DIR: Directional Survey Computation		

SPVD	TVD of Starting Point	0	FT
TIMD	Along-hole depth of Tie-in Point	0	FT
TIVD	TVD of Tie-in Point	0	FT
FEQL: Formation Evaluation Quick Look			
FEXP	Form Factor Exponent	2	
FNUM	Form Factor Numerator	1	
HOLEV: Integrated Hole/Cement Volume			
BHT	Bottom Hole Temperature (used in calculations)	225	DEGF
FCD	Future Casing (Outer) Diameter	5.5	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	ZAITS_RESIST	
GTSE	Generalized Temperature Selection	HSTS_HTEM	
HVCS	Integrated Hole Volume Caliper Selection	AUTOMATIC	
SHT	Surface Hole Temperature	68	DEGF
PERT: Preliminary Evaluation - Real Time			
BHT	Bottom Hole Temperature (used in calculations)	225	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	ZAITS_RESIST	
GTSE	Generalized Temperature Selection	HSTS_HTEM	
SHT	Surface Hole Temperature	68	DEGF
STI: Stuck Tool Indicator			
LBFR	Trigger for MAXIS First Reading Label	TDL	
STKT	STI Stuck Threshold	2.5	FT
TDD	Total Depth - Driller	10060.00	FT
TDL	Total Depth - Logger	10050.00	FT
RWA: Apparent Water Resistivity			
FEXP	Form Factor Exponent	2	
FNUM	Form Factor Numerator	1	
System and Miscellaneous			
BS	Bit Size	8.750	IN
DFD	Drilling Fluid Density	9.10	LB/G
DO	Depth Offset for Playback	0.0	FT
DORL	Depth Offset for Repeat Analysis	0.0	FT
FLEV	Fluid Level	200.00	FT
MST	Mud Sample Temperature	130.00	DEGF
PP	Playback Processing	RECOMPUTE	
TD	Total Depth	10050	FT

Format: GRES Vertical Scale: 5" per 100'

Graphics File Created: 02-Jul-2013 23:19

OP System Version: 19C2-270

ZAITS-EB	19C2-270	GPITS-F	19C2-270
HILTH-FTB	19C2-270	DTC-H	19C2-270

Input DLIS Files

DEFAULT	AIT_IS_TLD_MCFL_CNL_012LUP	FN:11	PRODUCER	02-Jul-2013 19:58	10062.0 FT	1511.0 FT
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Output DLIS Files

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CUSTOMER	AIT_IS_TLD_MCFL_CNL_024PUC	FN:26	CUSTOMER	02-Jul-2013 23:19

Schlumberger

REPEAT ANALYSIS

MAXIS Field Log

Input DLIS Files

DEFAULT	AIT_IS_TLD_MCFL_CNL_012LUP	FN:11	PRODUCER	02-Jul-2013 19:58	10062.0 FT	1511.0 FT
DEFAULT	AIT_IS_TLD_MCFL_CNL_023PUP	FN:23	PRODUCER	02-Jul-2013 23:18	10069.5 FT	9742.5 FT

Output DLIS Files

DEFAULT	AIT_IS_TLD_MCFL_CNL_024PUP	FN:25	PRODUCER	02-Jul-2013 23:19
CUSTOMER	AIT_IS_TLD_MCFL_CNL_024PUC	FN:26	CUSTOMER	02-Jul-2013 23:19

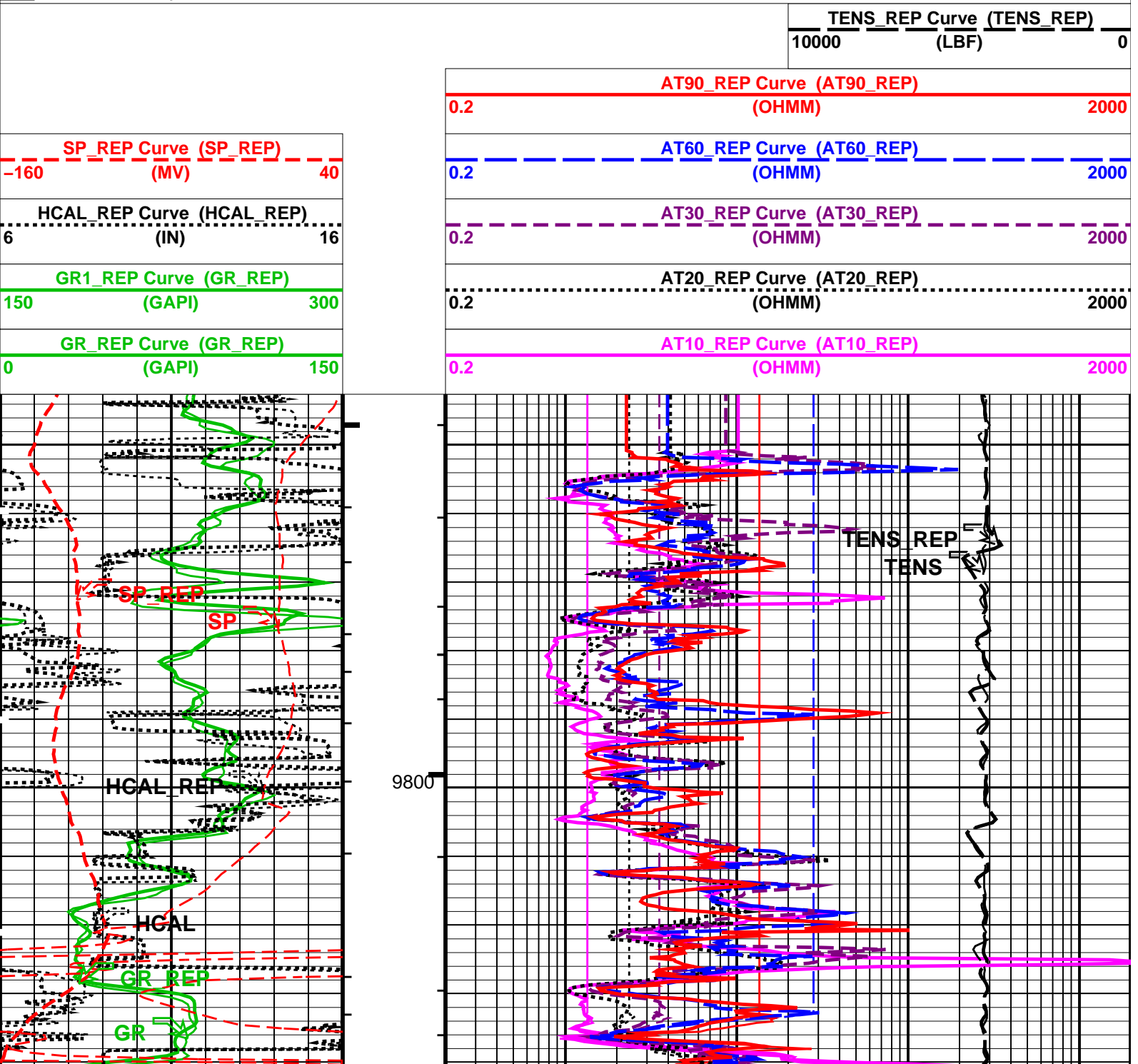
OP System Version: 19C2-270

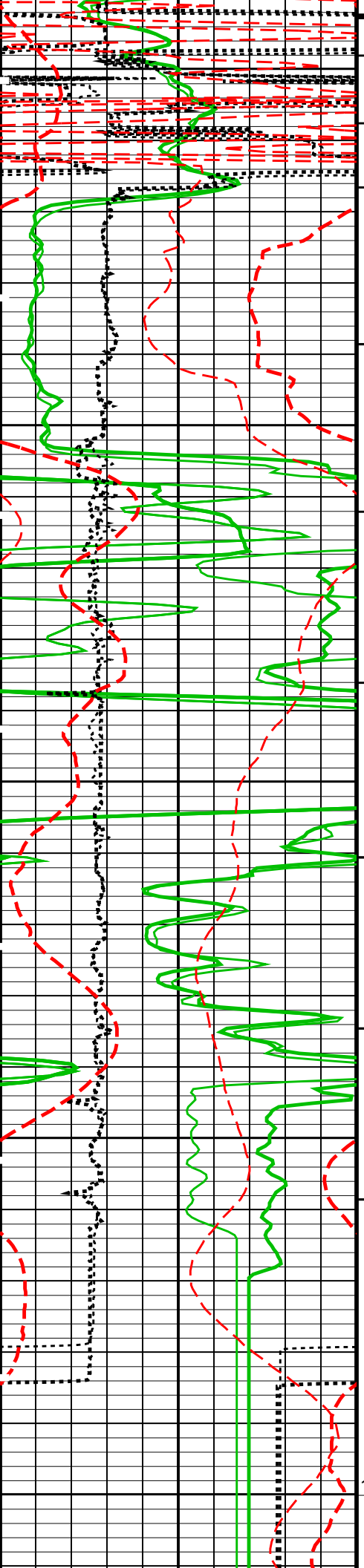
ZAITH-EB	19C2-270	GPIT-F	19C2-270
HILTH-FTB	19C2-270	DTC-H	19C2-270

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

Time Mark Every 60 S

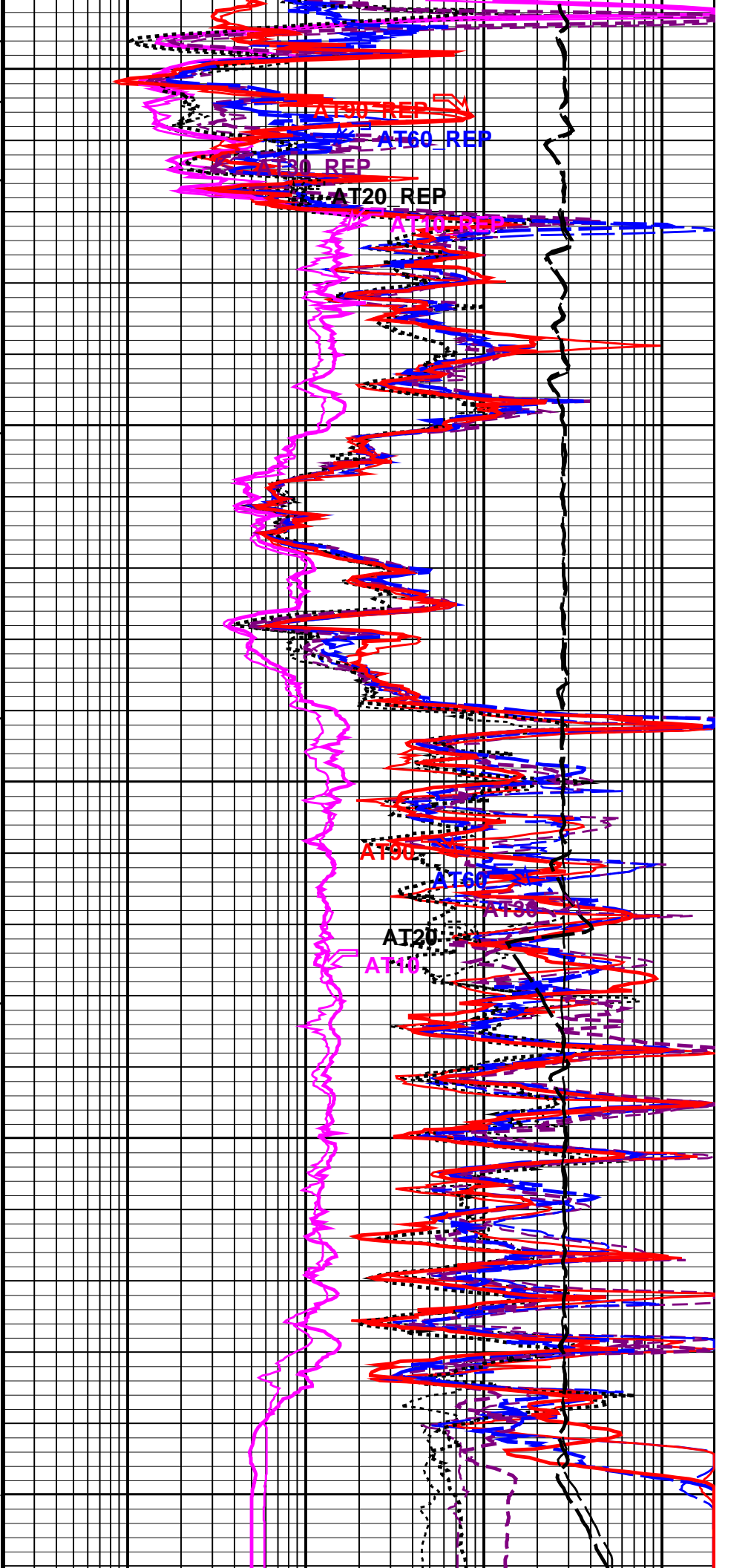


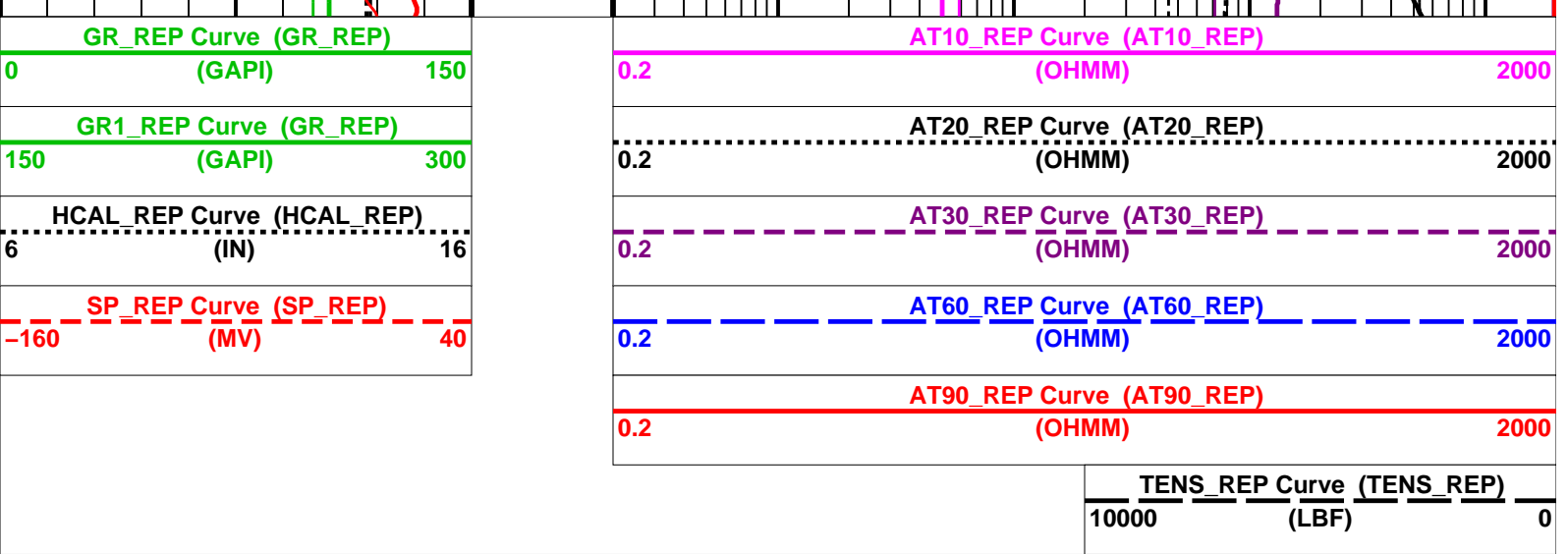


9900

10000

10050.0 FT
TD





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
Time Mark Every 60 S	

Parameters			
DLIS Name	Description	Value	
ZAIT-EB: 3-D Array Induction Tool – ZAIT-E			
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	No	
ACSED	Array Induction Casing Shoe Estimated Depth	-50000	FT
AFRSV	Array Induction Response Set Version for Four ft Resolution	41.70.24.20	
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	
ATRSV	Array Induction Response Set Version for Two ft Resolution	41.70.24.20	
BHT	Bottom Hole Temperature (used in calculations)	225	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	ZAIT_RESIST	
GTSE	Generalized Temperature Selection	HSTS_HTEM	
SHT	Surface Hole Temperature	68	DEGF
SPNV	SP Next Value	0	MV
TRI1DV	3D 1D Code Version Number	315	
TRIBHM	3D Induction Borehole Correction Mode	1_ComputeStandoff	
TRIBHV	Array Induction Borehole Correction Code Version Number	168	
TRIRSV	3D Induction Response Set Version	00.10.24.00	
TRIIRT	3D Rotation Selector	NorTH	
TRISTA	3D Tool Standoff	1	IN
HILTH-FTB: High resolution Integrated Logging Tool–DTS			
BHT	Bottom Hole Temperature (used in calculations)	225	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	ZAIT_RESIST	
GTSE	Generalized Temperature Selection	HSTS_HTEM	
SHT	Surface Hole Temperature	68	DEGF
DIR: Directional Survey Computation			
SPVD	TVD of Starting Point	0	FT
TIMD	Along-hole depth of Tie-in Point	0	FT
TIVD	TVD of Tie-in Point	0	FT
FEQL: Formation Evaluation Quick Look			
FEXP	Form Factor Exponent	2	
FNUM	Form Factor Numerator	1	
HOLEV: Integrated Hole/Cement Volume			
BHT	Bottom Hole Temperature (used in calculations)	225	DEGF
FCD	Future Casing (Outer) Diameter	5.5	IN
GCSE	Generalized Caliper Selection	HCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F

CONC	Geothermal Gradient	0.01	DT/F
GRSE	Generalized Mud Resistivity Selection	ZAITS RESIST	
HTSE	Generalized Temperature Selection	HSTS_HTEM	
HVCS	Integrated Hole Volume Caliper Selection	AUTOMATIC	
SHT	Surface Hole Temperature	68	DEGF
PERT: Preliminary Evaluation – Real Time			
BHT	Bottom Hole Temperature (used in calculations)	225	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	ZAITS RESIST	
HTSE	Generalized Temperature Selection	HSTS_HTEM	
SHT	Surface Hole Temperature	68	DEGF
RWA: Apparent Water Resistivity			
FEXP	Form Factor Exponent	2	
FNUM	Form Factor Numerator	1	
System and Miscellaneous			
BS	Bit Size	8.750	IN
DFD	Drilling Fluid Density	9.10	LB/G
DO	Depth Offset for Playback	0.0	FT
DORL	Depth Offset for Repeat Analysis	0.0	FT
FLEV	Fluid Level	200.00	FT
MST	Mud Sample Temperature	130.00	DEGF
PP	Playback Processing	RECOMPUTE	
TD	Total Depth	10050	FT

Format: GRES_REP

Vertical Scale: 5" per 100'

Graphics File Created: 02-Jul-2013 23:19

OP System Version: 19C2-270

ZAITS-EB	19C2-270	GPIT-F	19C2-270
HILTH-FTB	19C2-270	DTC-H	19C2-270

Input DLIS Files

DEFAULT	AIT_IS_TLD_MCFL_CNL_012LUP	FN:11	PRODUCER	02-Jul-2013 19:58	10062.0 FT	1511.0 FT
DEFAULT	AIT_IS_TLD_MCFL_CNL_023PUP	FN:23	PRODUCER	02-Jul-2013 23:18	10069.5 FT	9742.5 FT

Output DLIS Files

DEFAULT	AIT_IS_TLD_MCFL_CNL_024PUP	FN:25	PRODUCER	02-Jul-2013 23:19
CUSTOMER	AIT_IS_TLD_MCFL_CNL_024PUC	FN:26	CUSTOMER	02-Jul-2013 23:19

Schlumberger

BEFORE CALIBRATIONS

MAXIS Field Log

Calibration and Check Summary

Measurement	Nominal	Master	Before	After	Change	Limit	Units
3-D Array Induction Tool – ZAITS-EB Wellsite Calibration – Electronics Calibration Check – Thru Cal Mag. & Phase							
Master: 17-Jul-2012 17:34 Before: 2-Jul-2013 10:17							
Thru Cal Magnitude – 0	0	1.484	1.490	N/A	N/A	N/A	MM/M
Thru Cal Magnitude – 1	0	1.499	1.502	N/A	N/A	N/A	MM/M
Thru Cal Magnitude – 2	0	1.453	1.453	N/A	N/A	N/A	MM/M
Thru Cal Magnitude – 3	0	3.417	3.433	N/A	N/A	N/A	MM/M
Thru Cal Magnitude – 4	0	3.451	3.461	N/A	N/A	N/A	MM/M
Thru Cal Magnitude – 5	0	3.345	3.349	N/A	N/A	N/A	MM/M
Thru Cal Magnitude – 6	0	2.740	2.753	N/A	N/A	N/A	MM/M
Thru Cal Magnitude – 7	0	2.768	2.776	N/A	N/A	N/A	MM/M

Thru Cal Magnitude – 8	0	2.683	2.685	N/A	N/A	N/A	MM/M
Thru Cal Magnitude – 9	0	1.903	1.907	N/A	N/A	N/A	MM/M
Thru Cal Magnitude – 10	0	1.904	1.919	N/A	N/A	N/A	MM/M
Thru Cal Magnitude – 11	0	1.886	1.899	N/A	N/A	N/A	MM/M
Thru Cal Magnitude – 12	0	3.577	3.593	N/A	N/A	N/A	MM/M
Thru Cal Magnitude – 13	0	3.612	3.623	N/A	N/A	N/A	MM/M
Thru Cal Magnitude – 14	0	3.501	3.504	N/A	N/A	N/A	MM/M
Thru Cal Magnitude – 15	0	3.051	3.057	N/A	N/A	N/A	MM/M
Thru Cal Magnitude – 16	0	3.052	3.077	N/A	N/A	N/A	MM/M
Thru Cal Magnitude – 17	0	3.024	3.045	N/A	N/A	N/A	MM/M
Thru Cal Magnitude – 18	0	0.9467	0.9512	N/A	N/A	N/A	MM/M
Thru Cal Magnitude – 19	0	0.9554	0.9584	N/A	N/A	N/A	MM/M
Thru Cal Magnitude – 20	0	0.9259	0.9270	N/A	N/A	N/A	MM/M
Thru Cal Magnitude – 21	0	4.055	4.063	N/A	N/A	N/A	MM/M
Thru Cal Magnitude – 22	0	4.056	4.090	N/A	N/A	N/A	MM/M
Thru Cal Magnitude – 23	0	4.019	4.047	N/A	N/A	N/A	MM/M
Thru Cal Magnitude – 24	0	1.375	1.383	N/A	N/A	N/A	MM/M
Thru Cal Magnitude – 25	0	1.388	1.393	N/A	N/A	N/A	MM/M
Thru Cal Magnitude – 26	0	1.345	1.348	N/A	N/A	N/A	MM/M
Thru Cal Magnitude – 27	0	4.055	4.063	N/A	N/A	N/A	MM/M
Thru Cal Magnitude – 28	0	4.056	4.090	N/A	N/A	N/A	MM/M
Thru Cal Magnitude – 29	0	4.019	4.047	N/A	N/A	N/A	MM/M
Thru Cal Magnitude – 30	0	1.375	1.383	N/A	N/A	N/A	MM/M
Thru Cal Magnitude – 31	0	1.388	1.393	N/A	N/A	N/A	MM/M
Thru Cal Magnitude – 32	0	1.345	1.348	N/A	N/A	N/A	MM/M
Thru Cal Magnitude – 33	0	1.176	1.178	N/A	N/A	N/A	MM/M
Thru Cal Magnitude – 34	0	1.175	1.185	N/A	N/A	N/A	MM/M
Thru Cal Magnitude – 35	0	1.164	1.172	N/A	N/A	N/A	MM/M
Thru Cal Magnitude – 36	0	1.631	1.638	N/A	N/A	N/A	MM/M
Thru Cal Magnitude – 37	0	1.646	1.651	N/A	N/A	N/A	MM/M
Thru Cal Magnitude – 38	0	1.595	1.597	N/A	N/A	N/A	MM/M
Thru Cal Magnitude – 39	0	1.412	1.415	N/A	N/A	N/A	MM/M
Thru Cal Magnitude – 40	0	1.411	1.423	N/A	N/A	N/A	MM/M
Thru Cal Magnitude – 41	0	1.398	1.408	N/A	N/A	N/A	MM/M
Thru Cal Magnitude – 42	0	2.353	2.365	N/A	N/A	N/A	MM/M
Thru Cal Magnitude – 43	0	2.375	2.383	N/A	N/A	N/A	MM/M
Thru Cal Magnitude – 44	0	2.302	2.305	N/A	N/A	N/A	MM/M
Thru Cal Phase – 0	0	11.77	14.70	N/A	N/A	N/A	DEG
Thru Cal Phase – 1	0	10.92	13.01	N/A	N/A	N/A	DEG
Thru Cal Phase – 2	0	0.9479	3.005	N/A	N/A	N/A	DEG
Thru Cal Phase – 3	0	7.740	10.47	N/A	N/A	N/A	DEG
Thru Cal Phase – 4	0	6.902	8.792	N/A	N/A	N/A	DEG
Thru Cal Phase – 5	0	-3.072	-1.214	N/A	N/A	N/A	DEG
Thru Cal Phase – 6	0	12.23	15.26	N/A	N/A	N/A	DEG
Thru Cal Phase – 7	0	11.38	13.58	N/A	N/A	N/A	DEG
Thru Cal Phase – 8	0	1.382	3.547	N/A	N/A	N/A	DEG
Thru Cal Phase – 9	0	4.955	5.868	N/A	N/A	N/A	DEG
Thru Cal Phase – 10	0	3.432	4.653	N/A	N/A	N/A	DEG
Thru Cal Phase – 11	0	1.881	3.333	N/A	N/A	N/A	DEG
Thru Cal Phase – 12	0	11.80	14.70	N/A	N/A	N/A	DEG
Thru Cal Phase – 13	0	10.94	13.05	N/A	N/A	N/A	DEG
Thru Cal Phase – 14	0	0.9918	3.047	N/A	N/A	N/A	DEG
Thru Cal Phase – 15	0	4.963	5.865	N/A	N/A	N/A	DEG
Thru Cal Phase – 16	0	3.453	4.664	N/A	N/A	N/A	DEG
Thru Cal Phase – 17	0	1.901	3.343	N/A	N/A	N/A	DEG
Thru Cal Phase – 18	0	11.73	14.68	N/A	N/A	N/A	DEG
Thru Cal Phase – 19	0	10.89	13.02	N/A	N/A	N/A	DEG
Thru Cal Phase – 20	0	0.9383	3.020	N/A	N/A	N/A	DEG
Thru Cal Phase – 21	0	2.954	3.793	N/A	N/A	N/A	DEG
Thru Cal Phase – 22	0	1.440	2.586	N/A	N/A	N/A	DEG
Thru Cal Phase – 23	0	-0.1098	1.269	N/A	N/A	N/A	DEG
Thru Cal Phase – 24	0	7.739	10.44	N/A	N/A	N/A	DEG
Thru Cal Phase – 25	0	6.899	8.807	N/A	N/A	N/A	DEG
Thru Cal Phase – 26	0	-3.054	-1.203	N/A	N/A	N/A	DEG
Thru Cal Phase – 27	0	2.946	3.780	N/A	N/A	N/A	DEG
Thru Cal Phase – 28	0	1.436	2.579	N/A	N/A	N/A	DEG
Thru Cal Phase – 29	0	-0.1156	1.258	N/A	N/A	N/A	DEG
Thru Cal Phase – 30	0	7.731	10.46	N/A	N/A	N/A	DEG
Thru Cal Phase – 31	0	6.901	8.806	N/A	N/A	N/A	DEG
Thru Cal Phase – 32	0	-3.060	-1.205	N/A	N/A	N/A	DEG
Thru Cal Phase – 33	0	5.438	6.434	N/A	N/A	N/A	DEG
Thru Cal Phase – 34	0	3.941	5.236	N/A	N/A	N/A	DEG
Thru Cal Phase – 35	0	2.370	3.907	N/A	N/A	N/A	DEG
Thru Cal Phase – 36	0	12.25	15.25	N/A	N/A	N/A	DEG
Thru Cal Phase – 37	0	11.41	13.62	N/A	N/A	N/A	DEG
Thru Cal Phase – 38	0	1.459	3.614	N/A	N/A	N/A	DEG
Thru Cal Phase – 39	0	5.416	6.412	N/A	N/A	N/A	DEG
Thru Cal Phase – 40	0	3.920	5.223	N/A	N/A	N/A	DEG
Thru Cal Phase – 41	0	2.363	3.896	N/A	N/A	N/A	DEG
Thru Cal Phase – 42	0	12.20	15.25	N/A	N/A	N/A	DEG
Thru Cal Phase – 43	0	11.37	13.60	N/A	N/A	N/A	DEG
Thru Cal Phase – 44	0	1.404	2.570	N/A	N/A	N/A	DEG

Third Cal Phase - 44	0	1.404	3.579	N/A	N/A	N/A	DEG
3-D Array Induction Tool - ZAIT-EB Wellsite Calibration - Electronics Calibration Check - Auxilliary							
Master: 17-Jul-2012 17:34 Before: 2-Jul-2013 10:17							
Array Induction SPA Plus	0.8360	0.8425	0.8425	N/A	N/A	N/A	V
Array Induction SPA Zero	0	-0.0008885	-0.0008893	N/A	N/A	N/A	V
Array Induction Temperature PI	0.9798	0.9891	0.9893	N/A	N/A	N/A	V
Array Induction Temperature Ze	0	-0.001770	-0.001760	N/A	N/A	N/A	V
Array Induction CalSig Plus	5.000	5.013	5.013	N/A	N/A	N/A	V
Array Induction CalSig Zero	0	-0.01264	-0.01272	N/A	N/A	N/A	V
Array Induction Volt Plus	5.000	5.013	5.013	N/A	N/A	N/A	V
Array Induction Volt Zero	0	-0.01264	-0.01272	N/A	N/A	N/A	V

3-D Array Induction Tool - ZAIT-EB Wellsite Calibration - Field Check Sonde Error							
Master: 17-Jul-2012 17:34							
R Sonde Error Check - 0	0	0.8768	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check - 1	0	-8.460	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check - 2	0	-0.2346	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check - 3	0	0.1586	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check - 4	0	-2.006	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check - 5	0	-0.1444	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check - 6	0	0.09356	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check - 7	0	-0.7344	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check - 8	0	0.02038	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check - 9	0	-0.2112	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check - 10	0	0.06952	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check - 11	0	0.1413	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check - 12	0	-0.1485	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check - 13	0	-0.2748	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check - 14	0	-1.459	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check - 15	0	0.1561	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check - 16	0	0.3288	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check - 17	0	0.01729	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check - 18	0	0.009476	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check - 19	0	0.07878	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check - 20	0	-0.05011	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check - 21	0	-0.00004578	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check - 22	0	-0.01636	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check - 23	0	-0.4070	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check - 24	0	-0.06665	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check - 25	0	0.009807	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check - 26	0	-0.0003009	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check - 27	0	0.2296	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check - 28	0	0.1653	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check - 29	0	0.1038	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check - 30	0	-0.03671	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check - 31	0	0.2608	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check - 32	0	-0.8507	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check - 33	0	-0.3072	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check - 34	0	0.1051	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check - 35	0	0.06393	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check - 36	0	0.06533	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check - 37	0	0.07103	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check - 38	0	-0.06642	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check - 39	0	0.06441	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check - 40	0	-0.1331	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check - 41	0	-0.1926	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check - 42	0	-0.08327	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check - 43	0	-0.03356	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check - 44	0	0.01292	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check - 45	0	0.1815	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check - 46	0	-0.03699	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check - 47	0	0.3481	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check - 48	0	0.02344	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check - 49	0	-0.2052	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check - 50	0	-0.3714	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check - 51	0	0.04171	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check - 52	0	-0.02857	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check - 53	0	-0.008003	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check - 54	0	-0.04964	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check - 55	0	0.001317	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check - 56	0	0.004580	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check - 57	0	-0.007983	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check - 58	0	-0.03270	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check - 59	0	-0.007650	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check - 60	0	-0.02358	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check - 61	0	-0.003514	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check - 62	0	0.02410	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check - 63	0	0.06746	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check - 64	0	0.01019	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check - 65	0	-0.2117	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check - 66	0	0.05021	N/A	N/A	N/A	N/A	MM/M

R Sonde Error Check – 67	0	-0.4624	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check – 68	0	-0.1547	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check – 69	0	-0.1594	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check – 70	0	0.1116	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check – 71	0	-0.03944	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check – 72	0	0.04089	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check – 73	0	-0.01481	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check – 74	0	-0.0006365	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check – 75	0	0.01118	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check – 76	0	-0.004654	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check – 77	0	-0.1062	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check – 78	0	-0.01381	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check – 79	0	-0.1139	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check – 80	0	0.02617	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check – 81	0	0.2853	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check – 82	0	0.1240	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check – 83	0	0.1245	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check – 84	0	0.05487	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check – 85	0	-0.07480	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check – 86	0	-0.4918	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check – 87	0	0.2648	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check – 88	0	-0.06360	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check – 89	0	-0.06884	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check – 90	0	0.03490	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check – 91	0	-0.01005	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check – 92	0	0.05603	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check – 93	0	-0.03578	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check – 94	0	0.07159	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check – 95	0	-0.2276	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check – 96	0	-0.03868	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check – 97	0	-0.01046	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check – 98	0	-0.001964	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check – 99	0	-0.01048	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check – 100	0	0.3691	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check – 101	0	0.2172	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check – 102	0	0.1826	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check – 103	0	0.5148	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check – 104	0	0.2807	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check – 105	0	0.04119	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check – 106	0	-0.1157	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check – 107	0	0.3458	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check – 108	0	0.04482	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check – 109	0	-0.01942	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check – 110	0	-0.03776	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check – 111	0	-0.01619	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check – 112	0	-0.01419	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check – 113	0	0.04691	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check – 114	0	-0.03978	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check – 115	0	-0.07626	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Check – 116	0	-0.001239	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 0	0	3.648	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 1	0	-0.9678	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 2	0	-0.1396	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 3	0	-0.5683	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 4	0	0.2455	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 5	0	0.1829	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 6	0	-0.06827	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 7	0	-0.05511	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 8	0	0.01085	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 9	0	-0.4440	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 10	0	0.1240	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 11	0	1.072	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 12	0	-0.3848	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 13	0	-0.3294	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 14	0	-0.05670	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 15	0	1.247	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 16	0	-2.885	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 17	0	0.01416	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 18	0	-0.3017	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 19	0	-0.06738	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 20	0	0.3876	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 21	0	-0.2283	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 22	0	-0.1021	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 23	0	-0.1892	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 24	0	0.7020	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 25	0	-1.372	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 26	0	-0.04074	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 27	0	0.1987	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 28	0	0.2310	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 29	0	0.6383	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 30	0	-0.1242	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 31	0	7.783	N/A	N/A	N/A	N/A	MM/M

X Sonde Error Check – 31	0	-1.783	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 32	0	0.7845	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 33	0	3.155	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 34	0	-0.6987	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 35	0	-0.09846	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 36	0	0.1699	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 37	0	0.09726	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 38	0	0.3790	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 39	0	-0.1294	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 40	0	0.06270	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 41	0	0.2822	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 42	0	1.536	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 43	0	-0.3995	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 44	0	-0.07822	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 45	0	0.6924	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 46	0	0.4965	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 47	0	-0.1383	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 48	0	-0.1485	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 49	0	0.8258	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 50	0	0.3601	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 51	0	0.8813	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 52	0	-0.5822	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 53	0	-0.2641	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 54	0	0.1011	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 55	0	0.02788	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 56	0	-0.006073	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 57	0	-0.09327	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 58	0	0.06207	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 59	0	0.2796	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 60	0	0.4424	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 61	0	-0.2170	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 62	0	-0.06397	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 63	0	-0.01039	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 64	0	-0.1392	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 65	0	-0.2752	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 66	0	-0.05826	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 67	0	-0.04993	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 68	0	0.7906	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 69	0	1.136	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 70	0	0.3809	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 71	0	-0.02920	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 72	0	0.1115	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 73	0	0.02747	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 74	0	-0.2118	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 75	0	-0.07761	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 76	0	-0.01807	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 77	0	0.3138	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 78	0	0.5158	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 79	0	0.1849	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 80	0	0.009218	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 81	0	-0.009415	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 82	0	0.02902	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 83	0	0.1291	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 84	0	0.06401	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 85	0	0.7413	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 86	0	0.07848	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 87	0	3.524	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 88	0	0.4426	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 89	0	0.1112	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 90	0	-0.05607	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 91	0	-0.02539	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 92	0	-0.1392	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 93	0	-0.005074	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 94	0	-0.1803	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 95	0	0.1059	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 96	0	-0.1494	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 97	0	0.07344	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 98	0	-0.02630	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 99	0	-0.2696	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 100	0	0.2863	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 101	0	-0.4351	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 102	0	-0.2593	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 103	0	-0.1073	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 104	0	0.1513	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 105	0	0.2367	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 106	0	0.2122	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 107	0	-0.2288	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 108	0	-0.02660	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 109	0	-0.03287	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 110	0	-0.1143	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 111	0	-0.02131	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 112	0	0.1427	N/A	N/A	N/A	N/A	MM/M

X Sonde Error Check – 113	0	0.1387	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 114	0	0.08228	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 115	0	0.1218	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Check – 116	0	0.01759	N/A	N/A	N/A	N/A	MM/M

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

Before: 2–Jul–2013 10:18

BS Window Ratio	0.7389	N/A	0.7373	N/A	N/A	N/A	
BS Window Sum	25840	N/A	25940	N/A	N/A	N/A	CPS
SS Window Ratio	0.4833	N/A	0.4838	N/A	N/A	N/A	
SS Window Sum	11530	N/A	11500	N/A	N/A	N/A	CPS
LS Window Ratio	0.3002	N/A	0.3017	N/A	N/A	N/A	
LS Window Sum	1345	N/A	1342	N/A	N/A	N/A	CPS

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

Before: 2–Jul–2013 10:18

BS PM High Voltage (Command)	1315	N/A	1312	N/A	N/A	N/A	V
SS PM High Voltage (Command)	1905	N/A	1907	N/A	N/A	N/A	V
LS PM High Voltage (Command)	1302	N/A	1308	N/A	N/A	N/A	V

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

Before: 2–Jul–2013 10:18

BS Crystal Resolution	11.93	N/A	11.92	N/A	N/A	N/A	%
SS Crystal Resolution	10.34	N/A	10.35	N/A	N/A	N/A	%
LS Crystal Resolution	8.558	N/A	8.539	N/A	N/A	N/A	%

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

Before: 2–Jul–2013 10:11

Raw B0 Resistivity	3875	N/A	3854	N/A	N/A	N/A	OHMM
Raw B1 Resistivity	3830	N/A	3789	N/A	N/A	N/A	OHMM
Raw B2 Resistivity	3830	N/A	3809	N/A	N/A	N/A	OHMM

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

Before: 2–Jul–2013 10:05

HILT Caliper Zero Measurement	8.000	N/A	8.314	N/A	N/A	N/A	IN
HILT Caliper Plus Measurement	12.00	N/A	12.49	N/A	N/A	N/A	IN

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

Before: 2–Jul–2013 10:05

Gamma Ray Background	30.00	N/A	90.48	N/A	N/A	N/A	GAPI
Gamma Ray (Jig – Bkgd)	165.0	N/A	169.8	N/A	N/A	15.00	GAPI

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

Master: 17–May–2013 14:28 Before: 2–Jul–2013 10:06

CNTC Background	27.37	27.37	27.45	N/A	N/A	4.106	CPS
CFTC Background	27.33	27.33	27.94	N/A	N/A	4.100	CPS

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

Master: 17–May–2013 14:28

Thermal Near Corr. (Tank)	5800	5686	N/A	N/A	N/A	N/A	CPS
Thermal Far Corr. (Tank)	2400	2326	N/A	N/A	N/A	N/A	CPS
CNTC/CFTC (Tank)	2.159	2.445	N/A	N/A	N/A	N/A	

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

Before: 2–Jul–2013 18:57

Z–Axis Acceleration	32.19	N/A	32.09	N/A	N/A	N/A	F/S2
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The GLS–VJ source activity is acceptable.

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





















































































NCT–B Water Temperature 120.0 DEGF.
Thermal Housing Size 3.373 IN.
NSR–F serial number 2554

























































































3–D Array Induction Tool – ZAIT–EB / Equipment Identification

Primary Equipment:
Rm/SP Bottom Nose
3–D Array Induction Sonde

AHRM – A
AXIS – A

Auxiliary Equipment:

3-D Array Induction Tool – ZAIT–EB Wellsite Calibration							
Electronics Calibration Check – Thru Cal Mag. & Phase							
Idx	Phase	Value	Thru Cal Magnitude MM/M	Nominal	Value	Thru Cal Phase DEG	Nominal
0	Master	1.484		1.456	11.77		0
	Before	1.490			14.70		
1	Master	1.499		1.456	10.92		0
	Before	1.502			13.01		
2	Master	1.453		1.456	0.9479		0
	Before	1.453			3.005		
3	Master	3.417		3.352	7.740		0
	Before	3.433			10.47		
4	Master	3.451		3.352	6.902		0
	Before	3.461			8.792		
5	Master	3.345		3.352	-3.072		0
	Before	3.349			-1.214		
6	Master	2.740		2.680	12.23		0
	Before	2.753			15.26		
7	Master	2.768		2.680	11.38		0
	Before	2.776			13.58		
8	Master	2.683		2.680	1.382		0
	Before	2.685			3.547		
9	Master	1.903		1.956	4.955		0
	Before	1.907			5.868		
10	Master	1.904		1.956	3.432		0
	Before	1.919			4.653		
11	Master	1.886		1.956	1.881		0
	Before	1.899			3.333		
12	Master	3.577		3.537	11.80		0
	Before	3.593			14.70		
13	Master	3.612		3.537	10.94		0
	Before	3.623			13.05		
14	Master	3.501		3.537	0.9918		0
	Before	3.504			3.047		
15	Master	3.051		3.100	4.963		0
	Before	3.057			5.865		
16	Master	3.052		3.100	3.453		0
	Before	3.077			4.664		
17	Master	3.024		3.100	1.901		0
	Before	3.045			3.343		
18	Master	0.9467		0.9359	11.73		0
	Before	0.9512			14.68		
19	Master	0.9554		0.9359	10.89		0
	Before	0.9584			13.02		
20	Master	0.9259		0.9359	0.9383		0
	Before	0.9270			3.020		













































21	Master	4.055		4.081	2.954		0
	Before	4.063			3.793		
22	Master	4.056		4.081	1.440		0
	Before	4.090			2.586		
23	Master	4.019		4.081	-0.1098		0
	Before	4.047			1.269		
24	Master	1.375		1.362	7.739		0
	Before	1.383			10.44		
25	Master	1.388		1.362	6.899		0
	Before	1.393			8.807		
26	Master	1.345		1.362	-3.054		0
	Before	1.348			-1.203		
27	Master	4.055		4.081	2.946		0
	Before	4.063			3.780		
28	Master	4.056		4.081	1.436		0
	Before	4.090			2.579		
29	Master	4.019		4.081	-0.1156		0
	Before	4.047			1.258		
30	Master	1.375		1.362	7.731		0
	Before	1.383			10.46		
31	Master	1.388		1.362	6.901		0
	Before	1.393			8.806		
32	Master	1.345		1.362	-3.060		0
	Before	1.348			-1.205		
33	Master	1.176		1.220	5.438		0
	Before	1.178			6.434		
34	Master	1.175		1.220	3.941		0
	Before	1.185			5.236		
35	Master	1.164		1.220	2.370		0
	Before	1.172			3.907		
36	Master	1.631		1.635	12.25		0
	Before	1.638			15.25		
37	Master	1.646		1.635	11.41		0
	Before	1.651			13.62		
38	Master	1.595		1.635	1.459		0
	Before	1.597			3.614		
39	Master	1.412		1.464	5.416		0
	Before	1.415			6.412		
40	Master	1.411		1.464	3.920		0
	Before	1.423			5.223		
41	Master	1.398		1.464	2.363		0
	Before	1.408			3.896		
42	Master	2.353		2.353	12.20		0
	Before	2.365			15.25		













































43	Master	2.375		2.353	11.37		0
	Before	2.383			13.60		
44	Master	2.302		2.353	1.404		0
	Before	2.305			3.579		
		50.00 % (Minimum)	(Nominal)	150.0 % (Maximum)	Nom -85.00 (Minimum)	(Nominal)	Nom + 85.00 (Maximum)
Master: 17-Jul-2012 17:34				Before: 2-Jul-2013 10:17			













































3-D Array Induction Tool – ZAIT–EB Wellsite Calibration											
Electronics Calibration Check – Auxilliary											
Phase	Array Induction SPA Plus V			Value	Phase	Array Induction SPA Zero V			Value		
Master				0.8425	Master				-0.0008885		
Before				0.8425	Before				-0.0008893		
			0.7570 (Minimum)	0.8360 (Nominal)	0.9150 (Maximum)				-0.05000 (Minimum)	0 (Nominal)	0.05000 (Maximum)
Phase	Array Induction Temperature Plus V			Value	Phase	Array Induction Temperature Zero V			Value		
Master				0.9891	Master				-0.001770		
Before				0.9893	Before				-0.001760		
			0.8800 (Minimum)	0.9798 (Nominal)	1.076 (Maximum)				-0.05000 (Minimum)	0 (Nominal)	0.05000 (Maximum)
Phase	Array Induction CalSig Plus V			Value	Phase	Array Induction CalSig Zero V			Value		
Master				5.013	Master				-0.01264		
Before				5.013	Before				-0.01272		
			4.500 (Minimum)	5.000 (Nominal)	5.500 (Maximum)				-0.05000 (Minimum)	0 (Nominal)	0.05000 (Maximum)
Phase	Array Induction Volt Plus V			Value	Phase	Array Induction Volt Zero V			Value		
Master				5.013	Master				-0.01264		
Before				5.013	Before				-0.01272		
			4.500 (Minimum)	5.000 (Nominal)	5.500 (Maximum)				-0.05000 (Minimum)	0 (Nominal)	0.05000 (Maximum)
Master: 17-Jul-2012 17:34					Before: 2-Jul-2013 10:17						

3-D Array Induction Tool – ZAIT–EB Wellsite Calibration								
Field Check Sonde Error								
Idx	Value	R Sonde Error Check MM/M			Value	X Sonde Error Check MM/M		
0	0.8768				3.648			
		-1422 (Minimum)	0 (Nominal)	1422 (Maximum)		-33900 (Minimum)	0 (Nominal)	33900 (Maximum)
1	-8.460				-0.9678			
		-1422 (Minimum)	0 (Nominal)	1422 (Maximum)		-33900 (Minimum)	0 (Nominal)	33900 (Maximum)
2	-0.2346				-0.1396			
		-58.96 (Minimum)	0 (Nominal)	58.96 (Maximum)		-512.8 (Minimum)	0 (Nominal)	512.8 (Maximum)
3	0.1586				-0.5683			
		-278.1 (Minimum)	0 (Nominal)	278.1 (Maximum)		-14230 (Minimum)	0 (Nominal)	14230 (Maximum)
4	-2.006				0.2455			
		-278.1 (Minimum)	0 (Nominal)	278.1 (Maximum)		-14230 (Minimum)	0 (Nominal)	14230 (Maximum)
5	-0.1444				0.1829			
		-22.33 (Minimum)	0 (Nominal)	22.33 (Maximum)		-215.0 (Minimum)	0 (Nominal)	215.0 (Maximum)
6	0.09356				-0.06827			
		-93.73 (Minimum)	0 (Nominal)	93.73 (Maximum)		-5616 (Minimum)	0 (Nominal)	5616 (Maximum)
7	-0.7344				-0.05511			
		-93.73 (Minimum)	0 (Nominal)	93.73 (Maximum)		-5616 (Minimum)	0 (Nominal)	5616 (Maximum)
8	0.02038				0.01085			
		-12.70 (Minimum)	0 (Nominal)	12.70 (Maximum)		-58.98 (Minimum)	0 (Nominal)	58.98 (Maximum)

9	−0.2112	<div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div></div>	−0.4440	<div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div></div>
	−38.43 (Minimum)	0 (Nominal)	38.43 (Maximum)	−525.3 (Minimum)	0 (Nominal)	525.3 (Maximum)
10	0.06952	<div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div></div>	0.1240	<div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div></div>
	−322.0 (Minimum)	0 (Nominal)	322.0 (Maximum)	−10300 (Minimum)	0 (Nominal)	10300 (Maximum)
11	0.1413	<div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div></div>	1.072	<div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div></div>
	−183.7 (Minimum)	0 (Nominal)	183.7 (Maximum)	−7941 (Minimum)	0 (Nominal)	7941 (Maximum)
12	−0.1485	<div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div></div>	−0.3848	<div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div></div>
	−322.0 (Minimum)	0 (Nominal)	322.0 (Maximum)	−10300 (Minimum)	0 (Nominal)	10300 (Maximum)
13	−0.2748	<div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div></div>	−0.3294	<div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div></div>
	−38.43 (Minimum)	0 (Nominal)	38.43 (Maximum)	−525.3 (Minimum)	0 (Nominal)	525.3 (Maximum)
14	−1.459	<div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div></div>	−0.05670	<div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div></div>
	−183.7 (Minimum)	0 (Nominal)	183.7 (Maximum)	−7941 (Minimum)	0 (Nominal)	7941 (Maximum)
15	0.1561	<div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div></div>	1.247	<div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div></div>
	−131.2 (Minimum)	0 (Nominal)	131.2 (Maximum)	−10320 (Minimum)	0 (Nominal)	10320 (Maximum)
16	0.3288	<div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div></div>	−2.885	<div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div></div>
	−131.2 (Minimum)	0 (Nominal)	131.2 (Maximum)	−10320 (Minimum)	0 (Nominal)	10320 (Maximum)
17	0.01729	<div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div></div>	0.01416	<div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div></div>
	−10.52 (Minimum)	0 (Nominal)	10.52 (Maximum)	−106.6 (Minimum)	0 (Nominal)	106.6 (Maximum)
18	0.009476	<div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div></div>	−0.3017	<div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div></div>
	−38.65 (Minimum)	0 (Nominal)	38.65 (Maximum)	−259.4 (Minimum)	0 (Nominal)	259.4 (Maximum)
19	0.07878	<div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div></div>	−0.06738	<div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div></div>
	−120.8 (Minimum)	0 (Nominal)	120.8 (Maximum)	−5071 (Minimum)	0 (Nominal)	5071 (Maximum)
20	−0.05011	<div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div></div>	0.3876	<div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div></div>
	−56.45 (Minimum)	0 (Nominal)	56.45 (Maximum)	−3970 (Minimum)	0 (Nominal)	3970 (Maximum)
21	−4.578E−00	<div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div></div>	−0.2283	<div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div></div>
	−120.8 (Minimum)	0 (Nominal)	120.8 (Maximum)	−5071 (Minimum)	0 (Nominal)	5071 (Maximum)
22	−0.01636	<div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div></div>	−0.1021	<div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div></div>
	−38.65 (Minimum)	0 (Nominal)	38.65 (Maximum)	−259.4 (Minimum)	0 (Nominal)	259.4 (Maximum)
23	−0.4070	<div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div></div>	−0.1892	<div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div></div>
	−56.45 (Minimum)	0 (Nominal)	56.45 (Maximum)	−3970 (Minimum)	0 (Nominal)	3970 (Maximum)
24	−0.06665	<div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div></div>	0.7020	<div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div></div>
	−71.00 (Minimum)	0 (Nominal)	71.00 (Maximum)	−5119 (Minimum)	0 (Nominal)	5119 (Maximum)
25	0.009807	<div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div></div>	−1.372	<div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div></div>
	−71.00 (Minimum)	0 (Nominal)	71.00 (Maximum)	−5119 (Minimum)	0 (Nominal)	5119 (Maximum)
26	−0.0003009	<div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div></div>	−0.04074	<div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div></div>
	−4.790 (Minimum)	0 (Nominal)	4.790 (Maximum)	−55.66 (Minimum)	0 (Nominal)	55.66 (Maximum)
27	0.2296	<div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div></div>	0.1987	<div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div></div>
	−30.00 (Minimum)	0 (Nominal)	30.00 (Maximum)	−352.9 (Minimum)	0 (Nominal)	352.9 (Maximum)
28	0.1653	<div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div></div>	0.2310	<div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div></div>
	−159.9 (Minimum)	0 (Nominal)	159.9 (Maximum)	−6825 (Minimum)	0 (Nominal)	6825 (Maximum)
29	0.1038	<div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div></div>	0.6383	<div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div></div>
	−69.24 (Minimum)	0 (Nominal)	69.24 (Maximum)	−2661 (Minimum)	0 (Nominal)	2661 (Maximum)
30	−0.03671	<div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div></div>	−0.1242	<div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div></div>
	−159.9 (Minimum)	0 (Nominal)	159.9 (Maximum)	−6825 (Minimum)	0 (Nominal)	6825 (Maximum)

		(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)
31	0.2608				-7.783			
	-30.00	0	30.00		-352.9	0	352.9	
	(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)	
32	-0.8507				0.7845			
	-69.24	0	69.24		-2661	0	2661	
	(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)	
33	-0.3072				3.155			
	-58.94	0	58.94		-2491	0	2491	
	(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)	
34	0.1051				-0.6987			
	-58.94	0	58.94		-2491	0	2491	
	(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)	
35	0.06393				-0.09846			
	-8.280	0	8.280		-9138	0	9138	
	(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)	
36	0.06533				0.1699			
	-30.00	0	30.00		-175.1	0	175.1	
	(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)	
37	0.07103				0.09726			
	-50.66	0	50.66		-3387	0	3387	
	(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)	
38	-0.06642				0.3790			
	-22.87	0	22.87		-1332	0	1332	
	(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)	
39	0.06441				-0.1294			
	-50.66	0	50.66		-3387	0	3387	
	(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)	
40	-0.1331				0.06270			
	-30.00	0	30.00		-175.1	0	175.1	
	(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)	
41	-0.1926				0.2822			
	-22.87	0	22.87		-1332	0	1332	
	(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)	
42	-0.08327				1.536			
	-46.71	0	46.71		-1250	0	1250	
	(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)	
43	-0.03356				-0.3995			
	-46.71	0	46.71		-1250	0	1250	
	(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)	
44	0.01292				-0.07822			
	-3.760	0	3.760		-25.88	0	25.88	
	(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)	
45	0.1815				0.6924			
	-17.30	0	17.30		-176.4	0	176.4	
	(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)	
46	-0.03699				0.4965			
	-124.2	0	124.2		-4734	0	4734	
	(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)	
47	0.3481				-0.1383			
	-40.71	0	40.71		-1318	0	1318	
	(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)	
48	0.02344				-0.1485			
	-124.2	0	124.2		-4734	0	4734	
	(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)	
49	-0.2052				0.8258			
	-17.30	0	17.30		-176.4	0	176.4	
	(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)	
50	-0.3714				0.3601			
	-40.71	0	40.71		-1318	0	1318	
	(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)	
51	0.04171				0.8813			
	-21.65	0	21.65		-1487	0	1487	
	(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)	
52	-0.02857				-0.5822			
	-21.65	0	21.65		-1487	0	1487	
	(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)	

	(Minimum)	(Nominal)	(Maximum)		(Minimum)	(Nominal)	(Maximum)
53	−0.008003			−0.2641			
	−6.870 (Minimum)	0 (Nominal)	6.870 (Maximum)		−22.76 (Minimum)	0 (Nominal)	22.76 (Maximum)
54	−0.04964			0.1011			
	−14.16 (Minimum)	0 (Nominal)	14.16 (Maximum)		−88.85 (Minimum)	0 (Nominal)	88.85 (Maximum)
55	0.001317			0.02788			
	−19.50 (Minimum)	0 (Nominal)	19.50 (Maximum)		−2368 (Minimum)	0 (Nominal)	2368 (Maximum)
56	0.004580			−0.006073			
	−17.07 (Minimum)	0 (Nominal)	17.07 (Maximum)		−662.0 (Minimum)	0 (Nominal)	662.0 (Maximum)
57	−0.007983			−0.09327			
	−19.50 (Minimum)	0 (Nominal)	19.50 (Maximum)		−2368 (Minimum)	0 (Nominal)	2368 (Maximum)
58	−0.03270			0.06207			
	−14.16 (Minimum)	0 (Nominal)	14.16 (Maximum)		−88.85 (Minimum)	0 (Nominal)	88.85 (Maximum)
59	−0.007650			0.2796			
	−17.07 (Minimum)	0 (Nominal)	17.07 (Maximum)		−662.0 (Minimum)	0 (Nominal)	662.0 (Maximum)
60	−0.02358			0.4424			
	−11.09 (Minimum)	0 (Nominal)	11.09 (Maximum)		−742.3 (Minimum)	0 (Nominal)	742.3 (Maximum)
61	−0.003514			−0.2170			
	−11.09 (Minimum)	0 (Nominal)	11.09 (Maximum)		−742.3 (Minimum)	0 (Nominal)	742.3 (Maximum)
62	0.02410			−0.06397			
	−3.800 (Minimum)	0 (Nominal)	3.800 (Maximum)		−13.37 (Minimum)	0 (Nominal)	13.37 (Maximum)
63	0.06746			−0.01039			
	−12.07 (Minimum)	0 (Nominal)	12.07 (Maximum)		−90.68 (Minimum)	0 (Nominal)	90.68 (Maximum)
64	0.01019			−0.1392			
	−43.67 (Minimum)	0 (Nominal)	43.67 (Maximum)		−1646 (Minimum)	0 (Nominal)	1646 (Maximum)
65	−0.2117			−0.2752			
	−24.50 (Minimum)	0 (Nominal)	24.50 (Maximum)		−477.7 (Minimum)	0 (Nominal)	477.7 (Maximum)
66	0.05021			−0.05826			
	−43.67 (Minimum)	0 (Nominal)	43.67 (Maximum)		−1646 (Minimum)	0 (Nominal)	1646 (Maximum)
67	−0.4624			−0.04993			
	−12.07 (Minimum)	0 (Nominal)	12.07 (Maximum)		−90.68 (Minimum)	0 (Nominal)	90.68 (Maximum)
68	−0.1547			0.7906			
	−24.50 (Minimum)	0 (Nominal)	24.50 (Maximum)		−477.7 (Minimum)	0 (Nominal)	477.7 (Maximum)
69	−0.1594			1.136			
	−12.43 (Minimum)	0 (Nominal)	12.43 (Maximum)		−622.5 (Minimum)	0 (Nominal)	622.5 (Maximum)
70	0.1116			0.3809			
	−12.43 (Minimum)	0 (Nominal)	12.43 (Maximum)		−622.5 (Minimum)	0 (Nominal)	622.5 (Maximum)
71	−0.03944			−0.02920			
	−3.560 (Minimum)	0 (Nominal)	3.560 (Maximum)		−10.29 (Minimum)	0 (Nominal)	10.29 (Maximum)
72	0.04089			0.1115			
	−8.900 (Minimum)	0 (Nominal)	8.900 (Maximum)		−50.09 (Minimum)	0 (Nominal)	50.09 (Maximum)
73	−0.01481			0.02747			
	−8.150 (Minimum)	0 (Nominal)	8.150 (Maximum)		−815.4 (Minimum)	0 (Nominal)	815.4 (Maximum)
74	−0.0006365			−0.2118			
	−12.27 (Minimum)	0 (Nominal)	12.27 (Maximum)		−242.1 (Minimum)	0 (Nominal)	242.1 (Maximum)

75	0.01118			-0.07761		
	-8.150 (Minimum)	0 (Nominal)	8.150 (Maximum)	-815.4 (Minimum)	0 (Nominal)	815.4 (Maximum)
76	-0.004654			-0.01807		
	-8.900 (Minimum)	0 (Nominal)	8.900 (Maximum)	-50.09 (Minimum)	0 (Nominal)	50.09 (Maximum)
77	-0.1062			0.3138		
	-12.27 (Minimum)	0 (Nominal)	12.27 (Maximum)	-242.1 (Minimum)	0 (Nominal)	242.1 (Maximum)
78	-0.01381			0.5158		
	-6.910 (Minimum)	0 (Nominal)	6.910 (Maximum)	-309.5 (Minimum)	0 (Nominal)	309.5 (Maximum)
79	-0.1139			0.1849		
	-6.910 (Minimum)	0 (Nominal)	6.910 (Maximum)	-309.5 (Minimum)	0 (Nominal)	309.5 (Maximum)
80	0.02617			0.009218		
	-2.270 (Minimum)	0 (Nominal)	2.270 (Maximum)	-5.950 (Minimum)	0 (Nominal)	5.950 (Maximum)
81	0.2853			-0.009415		
	-14.82 (Minimum)	0 (Nominal)	14.82 (Maximum)	-41.94 (Minimum)	0 (Nominal)	41.94 (Maximum)
82	0.1240			0.02902		
	-26.75 (Minimum)	0 (Nominal)	26.75 (Maximum)	-1114 (Minimum)	0 (Nominal)	1114 (Maximum)
83	0.1245			0.1291		
	-22.91 (Minimum)	0 (Nominal)	22.91 (Maximum)	-425.6 (Minimum)	0 (Nominal)	425.6 (Maximum)
84	0.05487			0.06401		
	-26.75 (Minimum)	0 (Nominal)	26.75 (Maximum)	-1114 (Minimum)	0 (Nominal)	1114 (Maximum)
85	-0.07480			0.7413		
	-14.82 (Minimum)	0 (Nominal)	14.82 (Maximum)	-41.94 (Minimum)	0 (Nominal)	41.94 (Maximum)
86	-0.4918			0.07848		
	-22.91 (Minimum)	0 (Nominal)	22.91 (Maximum)	-425.6 (Minimum)	0 (Nominal)	425.6 (Maximum)
87	0.2648			3.524		
	-17.62 (Minimum)	0 (Nominal)	17.62 (Maximum)	-619.3 (Minimum)	0 (Nominal)	619.3 (Maximum)
88	-0.06360			0.4426		
	-17.62 (Minimum)	0 (Nominal)	17.62 (Maximum)	-619.3 (Minimum)	0 (Nominal)	619.3 (Maximum)
89	-0.06884			0.1112		
	-3.910 (Minimum)	0 (Nominal)	3.910 (Maximum)	-9.470 (Minimum)	0 (Nominal)	9.470 (Maximum)
90	0.03490			-0.05607		
	-11.24 (Minimum)	0 (Nominal)	11.24 (Maximum)	-18.45 (Minimum)	0 (Nominal)	18.45 (Maximum)
91	-0.01005			-0.02539		
	-6.130 (Minimum)	0 (Nominal)	6.130 (Maximum)	-563.2 (Minimum)	0 (Nominal)	563.2 (Maximum)
92	0.05603			-0.1392		
	-13.75 (Minimum)	0 (Nominal)	13.75 (Maximum)	-215.6 (Minimum)	0 (Nominal)	215.6 (Maximum)
93	-0.03578			-0.005074		
	-6.130 (Minimum)	0 (Nominal)	6.130 (Maximum)	-563.2 (Minimum)	0 (Nominal)	563.2 (Maximum)
94	0.07159			-0.1803		
	-11.24 (Minimum)	0 (Nominal)	11.24 (Maximum)	-18.45 (Minimum)	0 (Nominal)	18.45 (Maximum)
95	-0.2276			0.1059		
	-13.75 (Minimum)	0 (Nominal)	13.75 (Maximum)	-215.6 (Minimum)	0 (Nominal)	215.6 (Maximum)
96	-0.03868			-0.1494		
	-9.770 (Minimum)	0 (Nominal)	9.770 (Maximum)	-316.9 (Minimum)	0 (Nominal)	316.9 (Maximum)

97	(Minimum)	(Nominal)	(Maximum)	(Minimum)	(Nominal)	(Maximum)
	-0.01046			0.07344		
	-9.770	0	9.770	-316.9	0	316.9
	(Minimum)	(Nominal)	(Maximum)	(Minimum)	(Nominal)	(Maximum)
98	-0.001964			-0.02630		
	-2.110	0	2.110	-7.370	0	7.370
	(Minimum)	(Nominal)	(Maximum)	(Minimum)	(Nominal)	(Maximum)
99	-0.01048			-0.2696		
	-15.93	0	15.93	-35.54	0	35.54
	(Minimum)	(Nominal)	(Maximum)	(Minimum)	(Nominal)	(Maximum)
100	0.3691			0.2863		
	-22.00	0	22.00	-562.7	0	562.7
	(Minimum)	(Nominal)	(Maximum)	(Minimum)	(Nominal)	(Maximum)
101	0.2172			-0.4351		
	-29.21	0	29.21	-209.9	0	209.9
	(Minimum)	(Nominal)	(Maximum)	(Minimum)	(Nominal)	(Maximum)
102	0.1826			-0.2593		
	-22.00	0	22.00	-562.7	0	562.7
	(Minimum)	(Nominal)	(Maximum)	(Minimum)	(Nominal)	(Maximum)
103	0.5148			-0.1073		
	-15.93	0	15.93	-35.54	0	35.54
	(Minimum)	(Nominal)	(Maximum)	(Minimum)	(Nominal)	(Maximum)
104	0.2807			0.1513		
	-29.21	0	29.21	-209.9	0	209.9
	(Minimum)	(Nominal)	(Maximum)	(Minimum)	(Nominal)	(Maximum)
105	0.04119			0.2367		
	-23.81	0	23.81	-232.8	0	232.8
	(Minimum)	(Nominal)	(Maximum)	(Minimum)	(Nominal)	(Maximum)
106	-0.1157			0.2122		
	-23.81	0	23.81	-232.8	0	232.8
	(Minimum)	(Nominal)	(Maximum)	(Minimum)	(Nominal)	(Maximum)
107	0.3458			-0.2288		
	-10.69	0	10.69	-19.32	0	19.32
	(Minimum)	(Nominal)	(Maximum)	(Minimum)	(Nominal)	(Maximum)
108	0.04482			-0.02660		
	-9.300	0	9.300	-21.95	0	21.95
	(Minimum)	(Nominal)	(Maximum)	(Minimum)	(Nominal)	(Maximum)
109	-0.01942			-0.03287		
	-8.990	0	8.990	-293.9	0	293.9
	(Minimum)	(Nominal)	(Maximum)	(Minimum)	(Nominal)	(Maximum)
110	-0.03776			-0.1143		
	-16.85	0	16.85	-94.98	0	94.98
	(Minimum)	(Nominal)	(Maximum)	(Minimum)	(Nominal)	(Maximum)
111	-0.01619			-0.02131		
	-8.990	0	8.990	-293.9	0	293.9
	(Minimum)	(Nominal)	(Maximum)	(Minimum)	(Nominal)	(Maximum)
112	-0.01419			0.1427		
	-9.300	0	9.300	-21.95	0	21.95
	(Minimum)	(Nominal)	(Maximum)	(Minimum)	(Nominal)	(Maximum)
113	0.04691			0.1387		
	-16.85	0	16.85	-94.98	0	94.98
	(Minimum)	(Nominal)	(Maximum)	(Minimum)	(Nominal)	(Maximum)
114	-0.03978			0.08228		
	-14.21	0	14.21	-112.1	0	112.1
	(Minimum)	(Nominal)	(Maximum)	(Minimum)	(Nominal)	(Maximum)
115	-0.07626			0.1218		
	-14.21	0	14.21	-112.1	0	112.1
	(Minimum)	(Nominal)	(Maximum)	(Minimum)	(Nominal)	(Maximum)
116	-0.001239			0.01759		
	-1.760	0	1.760	-10.88	0	10.88
	(Minimum)	(Nominal)	(Maximum)	(Minimum)	(Nominal)	(Maximum)

Master: 17-Jul-2012 17:34

Primary Equipment:
GPIT Cartridge – F

GPIC – F

Auxiliary Equipment:
GPIT Housing – F

GPIH – B

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
HRGD – H
MCFL – H
GLS – VJ
HRCC – H
HGNS – H
HGR –
HCNT – H

5240







Auxiliary Equipment:

Neutron Calibration Tank
Gamma Source Radioactive
HGNS Housing

NCT – B
GSR – U/Y
HGNH –

High resolution Integrated Logging Tool–DTS Wellsite Calibration




Stab Measurement Summary

Phase	BS Window Ratio		Value	Phase	SS Window Ratio		Value	Phase	LS Window Ratio		Value
Before			0.7373	Before			0.4838	Before			0.3017
	0.7020 (Minimum)	0.7389 (Nominal)	0.7759 (Maximum)		0.4591 (Minimum)	0.4833 (Nominal)	0.5074 (Maximum)		0.2852 (Minimum)	0.3002 (Nominal)	0.3152 (Maximum)
Phase	BS Window Sum CPS		Value	Phase	SS Window Sum CPS		Value	Phase	LS Window Sum CPS		Value
Before			25940	Before			11500	Before			1342
	24550 (Minimum)	25840 (Nominal)	27130 (Maximum)		10950 (Minimum)	11530 (Nominal)	12110 (Maximum)		1277 (Minimum)	1345 (Nominal)	1412 (Maximum)

Before: 2–Jul–2013 10:18

High resolution Integrated Logging Tool–DTS Wellsite Calibration


Photo–multiplier High Voltages Calibrations

Phase	BS PM High Voltage (Command) V			Value	Phase	SS PM High Voltage (Command) V			Value	Phase	LS PM High Voltage (Command) V			Value
Before				1312	Before				1907	Before				1308
	1215 (Minimum)	1315 (Nominal)	1415 (Maximum)		1805 (Minimum)	1905 (Nominal)	2005 (Maximum)			1202 (Minimum)	1302 (Nominal)	1402 (Maximum)		

Before: 2–Jul–2013 10:18

High resolution Integrated Logging Tool–DTS Wellsite Calibration




Crystal Quality Resolutions Calibration

Phase	BS Crystal Resolution %		Value	Phase	SS Crystal Resolution %		Value	Phase	LS Crystal Resolution %		Value
Before			11.92	Before			10.35	Before			8.539
	10.93 (Minimum)	11.93 (Nominal)	12.93 (Maximum)		9.339 (Minimum)	10.34 (Nominal)	11.34 (Maximum)		7.558 (Minimum)	8.558 (Nominal)	9.558 (Maximum)

Before: 2–Jul–2013 10:18

High resolution Integrated Logging Tool–DTS Wellsite Calibration



MCFL Calibration

Phase	Raw B0 Resistivity OHMM			Value	Phase	Raw B1 Resistivity OHMM			Value	Phase	Raw B2 Resistivity OHMM			Value
Before				3854	Before				3789	Before				3809
	3565 (Minimum)	3875 (Nominal)	4185 (Maximum)		3524 (Minimum)	3830 (Nominal)	4136 (Maximum)			3524 (Minimum)	3830 (Nominal)	4136 (Maximum)		

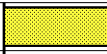

Before: 2–Jul–2013 10:11





High resolution Integrated Logging Tool–DTS Wellsite Calibration




HILT Caliper Calibration


HILT Caliper Calibration									
Phase	HILT Caliper Zero Measurement IN			Value	Phase	HILT Caliper Plus Measurement IN			Value
Before				8.314	Before				12.49
	6.000 (Minimum)	8.000 (Nominal)	10.00 (Maximum)			9.000 (Minimum)	12.00 (Nominal)	15.00 (Maximum)	

Before: 2–Jul–2013 10:05

High resolution Integrated Logging Tool–DTS Wellsite Calibration							
Detector Calibration							
Phase	Gamma Ray Background GAPI		Value	Phase	Gamma Ray (Jig – Bkgd) GAPI		Value
Before			90.48	Before			169.8
	0 (Minimum)	30.00 (Nominal)	120.0 (Maximum)		157.1 (Minimum)	165.0 (Nominal)	206.3 (Maximum)
Before: 2–Jul–2013 10:05							

High resolution Integrated Logging Tool–DTS Wellsite Calibration							
Zero Measurement							
Phase	CNTC Background CPS		Value	Phase	CFTC Background CPS		Value
Master			27.37	Master			27.33
Before			27.45	Before			27.94
5.000 (Minimum)			27.37 (Nominal)	40.00 (Maximum)			
5.000 (Minimum)			27.33 (Nominal)	40.00 (Maximum)			
Master: 17–May–2013 14:28				Before: 2–Jul–2013 10:06			

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			5686	Master			2326	Master			2.445
	4700 (Minimum)	5800 (Nominal)	6900 (Maximum)		1900 (Minimum)	2400 (Nominal)	2900 (Maximum)		2.120 (Minimum)	2.159 (Nominal)	2.540 (Maximum)
Master: 17–May–2013 14:28											

High resolution Integrated Logging Tool–DTS Wellsite Calibration			
Accelerometer Calibration			
Phase	Z–Axis Acceleration F/S2	Value	
Before		32.09	
	31.53 (Minimum)	32.19 (Nominal)	32.84 (Maximum)
Before: 2–Jul–2013 18:57			

DTS Telemetry Tool / Equipment Identification

Primary Equipment:

DTC–H Auxiliary Cartridge
DTC–H Telemetry Cartridge

DTCH – A
DTCH – A

Auxiliary Equipment:

DTCH Telemetry Cartridge Housing

ECH – KC

Company: **Whiting Oil and Gas Corporation**

Schlumberger

Well: **Wildhorse 16–13L**

Field: **Wildcat**

County: **Weld**

State: **Colorado**

Platform Express

Array Induction

Linear Correlation

