

Company: IMPERIAL OIL RESOURCES LIMITED

Well: ESSO 85 D6-12 COLDLK 5-1-1-65-4

Field: LEMING

Province: ALBERTA Status: \*\*MD\*\*

## PRODUCTION ANALYSIS

## TEMPERATURE / PRESSURE LOG

Province: ALBERTA  
Field: LEMING  
Location: 5-11-65-4W4  
Well: ESSO 85 D6-12 COLDLK 5-11-65-4  
Company: IMPERIAL OIL RESOURCES LIMITED

5-11-65-4W4 105051106504W400	Elev.: K.B. 600.50 m G.L. 597.50 m D.F. 600.50 m
Permanent Datum: Log Measured From: Drilling Measured From:	Ground Level Kelly Bushing Kelly Bushing
API Serial No. 0114442	Section: 05-11
	Township: 065
	Range: 04W4

Logging Date 10-May-2017

Run Number 1

Depth Driller 507.00 m

Schlumberger Depth 488.00 m

Bottom Log Interval 3.00 m

Top Log Interval 488.00 m

Casing Fluid Type Air

Salinity

Density 11.98 kg/m3

Fluid Level

BIT/CASING/TUBING STRING

Bit Size 215.90 mm

From 24.26 m

To 507.00 m

Casing/Tubing Size 73.025 mm

Weight 9.67 kg/m

Grade J55

From 3.01 m

To 490.74 m

Max Recorded Temperatures 138 degC

Logger on Bottom 10-May-2017 10:00:00

Unit Number D218 Location: NISKU

Recorded By Y.MUNOZ

Witnessed By GREG GELETTY

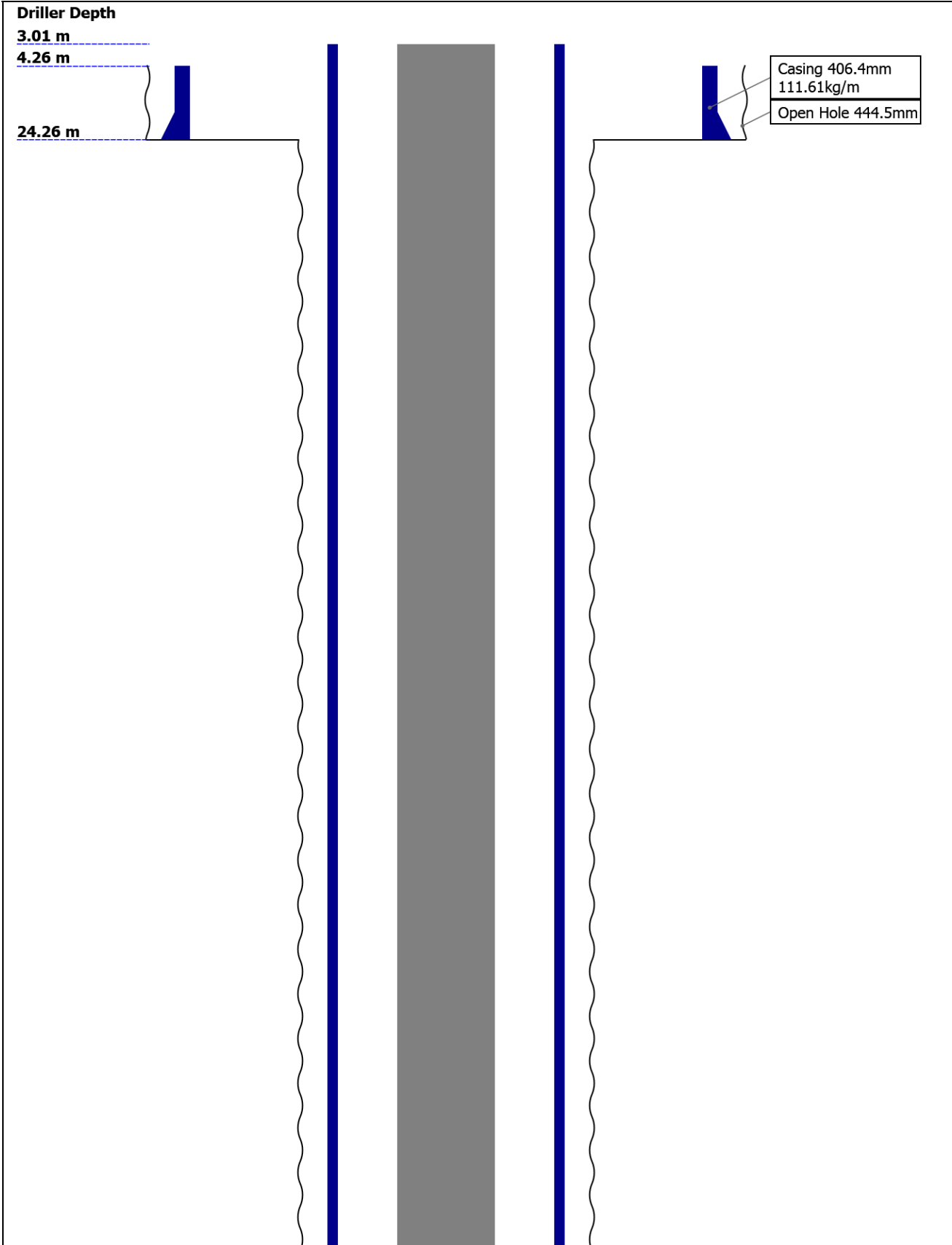
## Disclaimer

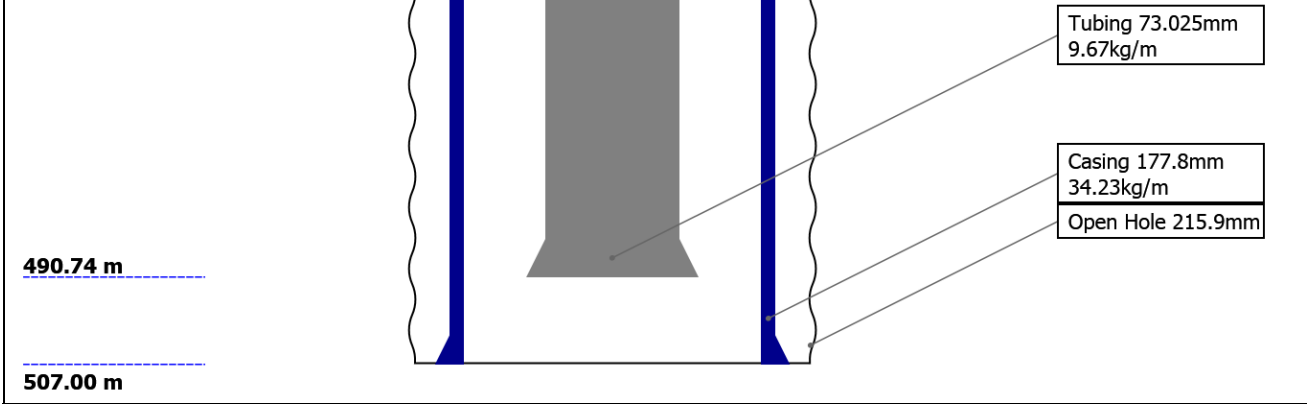
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Well Sketch





Borehole Size/Casing/Tubing Record

Bit						
Bit Size ( mm )	444.5	215.9				
Top Driller ( m )	4.26	24.26				
Top Logger ( m )	4.26	24.26				
Bottom Driller ( m )	24.26	507				
Bottom Logger ( m )	24.26	507				
Casing						
Size ( mm )	406.4	177.8				
Weight ( kg/m )	111.61	34.23				
Inner Diameter ( mm )	383.981	161.797				
Grade	K55	N80				
Top Driller ( m )	4.26	3.01				
Top Logger ( m )	4.26	3.01				
Bottom Driller ( m )	24.26	507				
Bottom Logger ( m )	24.26	483				
Tubing						
Size ( mm )	73.025					
Weight ( kg/m )	9.67					
Inner Diameter ( mm )	61.623					
Grade	J55					
Top Driller ( m )	3.01					
Top Logger ( m )	3.01					
Bottom Driller ( m )	490.74					
Bottom Logger ( m )	490.74					

Operational Run Summary

Parameter ( unit )	1					
Date Log Started	10-May-2017					
Time Log Started	08:27:21					
Date Log Finished						
Time Log Finished						
Top Log Interval ( m )						
Bottom Log Interval ( m )						

Total Depth ( m )						
Max Hole Deviation ( deg )						
Azimuth of Max Deviation ( deg )						
Bit Size ( mm )	215.900					
Logging Unit Number	D218					
Logging Unit Location	NISKU					
Recorded By	Y.MUNOZ					
Witnessed By	GREG GELETY					
Service Order Number	CZ35-00231					

## Remarks and Equipment Summary

1: Toolstring				1: Remarks
<b>Equip name</b> <b>MH-22</b>	<b>Length</b> <b>5.79</b>	<b>MP name</b>	<b>Offset</b>	PSN TOP 483.41 MKB BURST NIPPLE TOP 464.15 MKB PERFS: 458 MKB - 466 MKB 481 MKB - 489 MKB
<b>AH-38</b> <b>EQF-43</b>	<b>5.31</b> <b>5.22</b>			TOOL HANGING UP AT 300 MKB
				CWT AT 431.4 MKB MAX TEMP. RECOREDED 138 DEGC AT 460 MKB LAST FLUID MOVEMENT: 7-MAY-2017 6M3 BFW FOR WELL KILL
<b>HBMS-B:2814</b> HUDH-A:2814 PSC-A:2814 HSTC-A:2814 HBMC-A:2814 HTPS-A:2814	<b>3.39</b>			FLUID SHOT DATA: SITP = 1000 KPA 50/50 JTS SICP = 800 KPA 50/50 JTS SITP AFTER JOB 1000 KPA
		GR	1.87	
		CCL	1.14	
		PSTC	0.71	
		HSTC Tool String Bottom	0.00	
		CQG Pressure	0.28	
		Temperature	0.28	
		TOOL_ZERO		
Lengths are in m Maximum Outer Diameter = 52.451 mm Line: Sensor Location, Value: Gating Offset All measurements are relative to TOOL_ZERO				

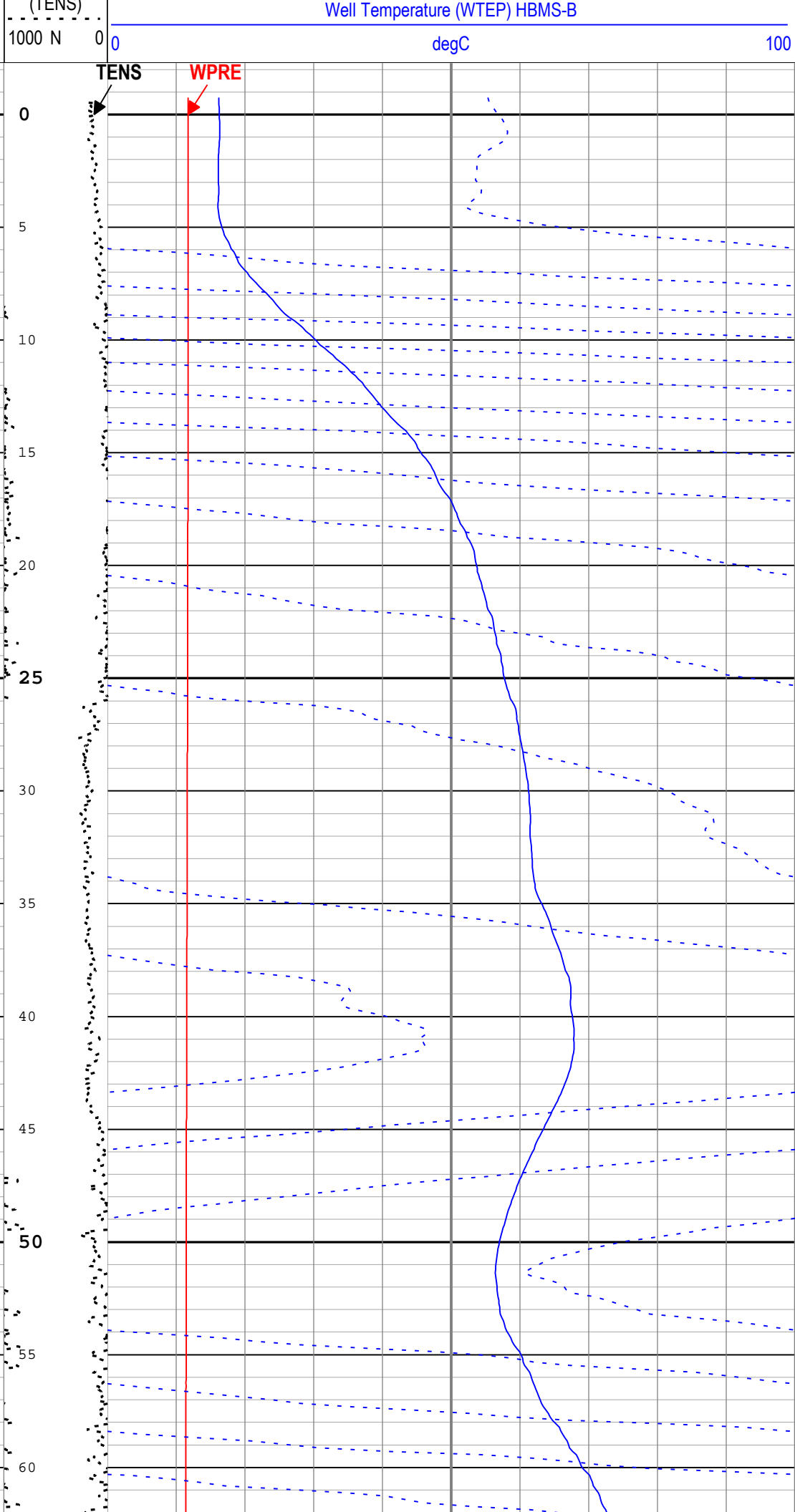
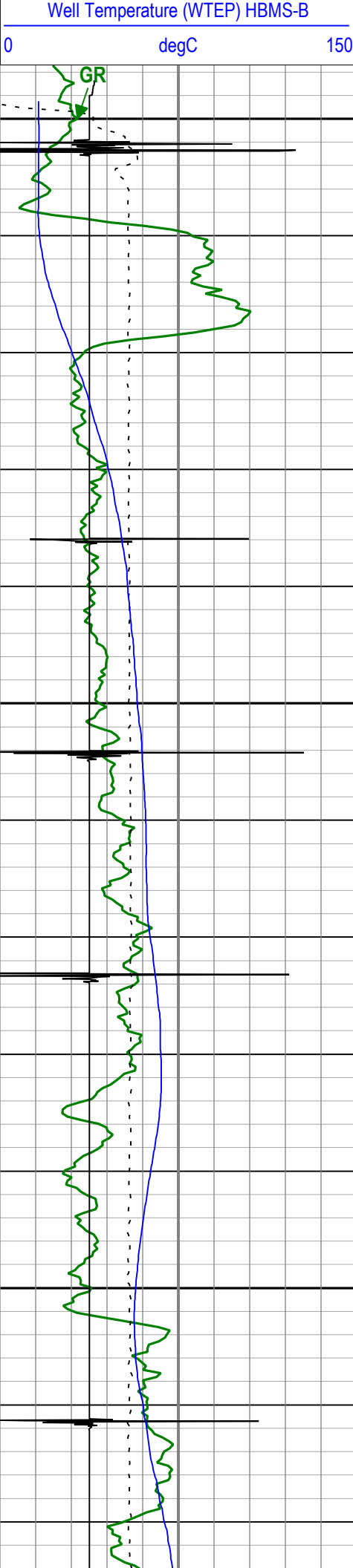
## Depth Summary

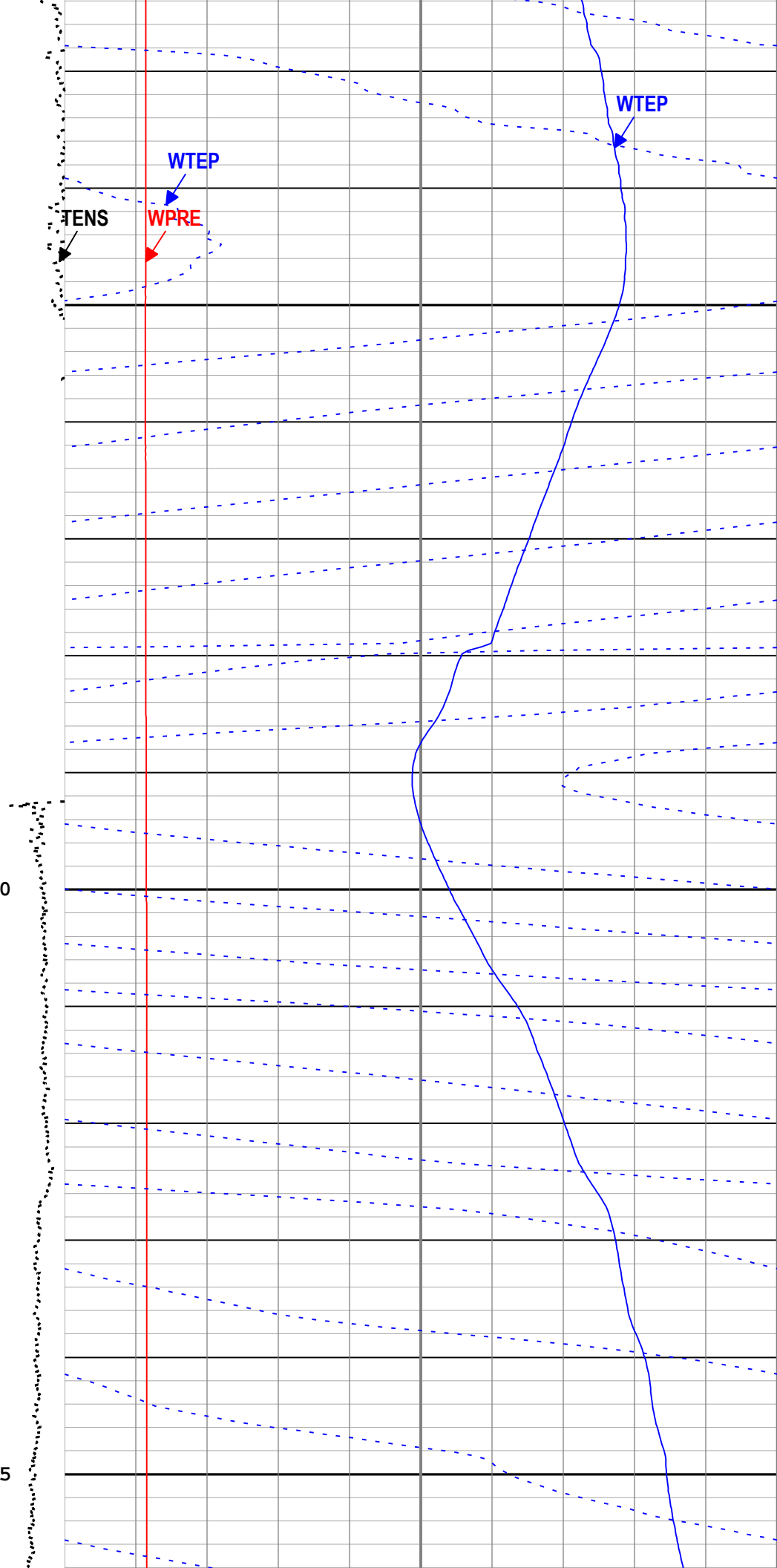
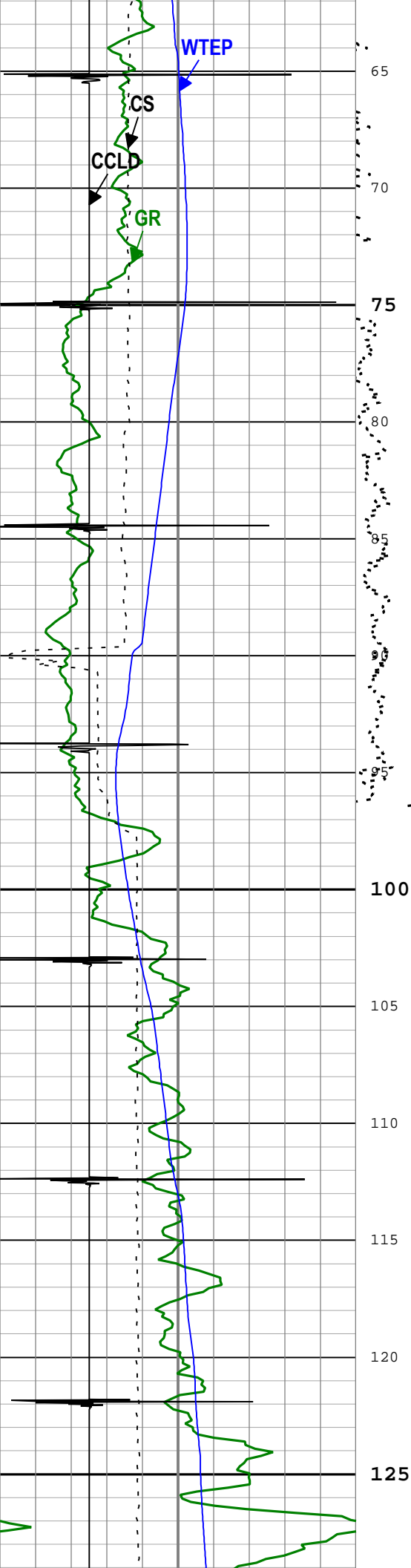
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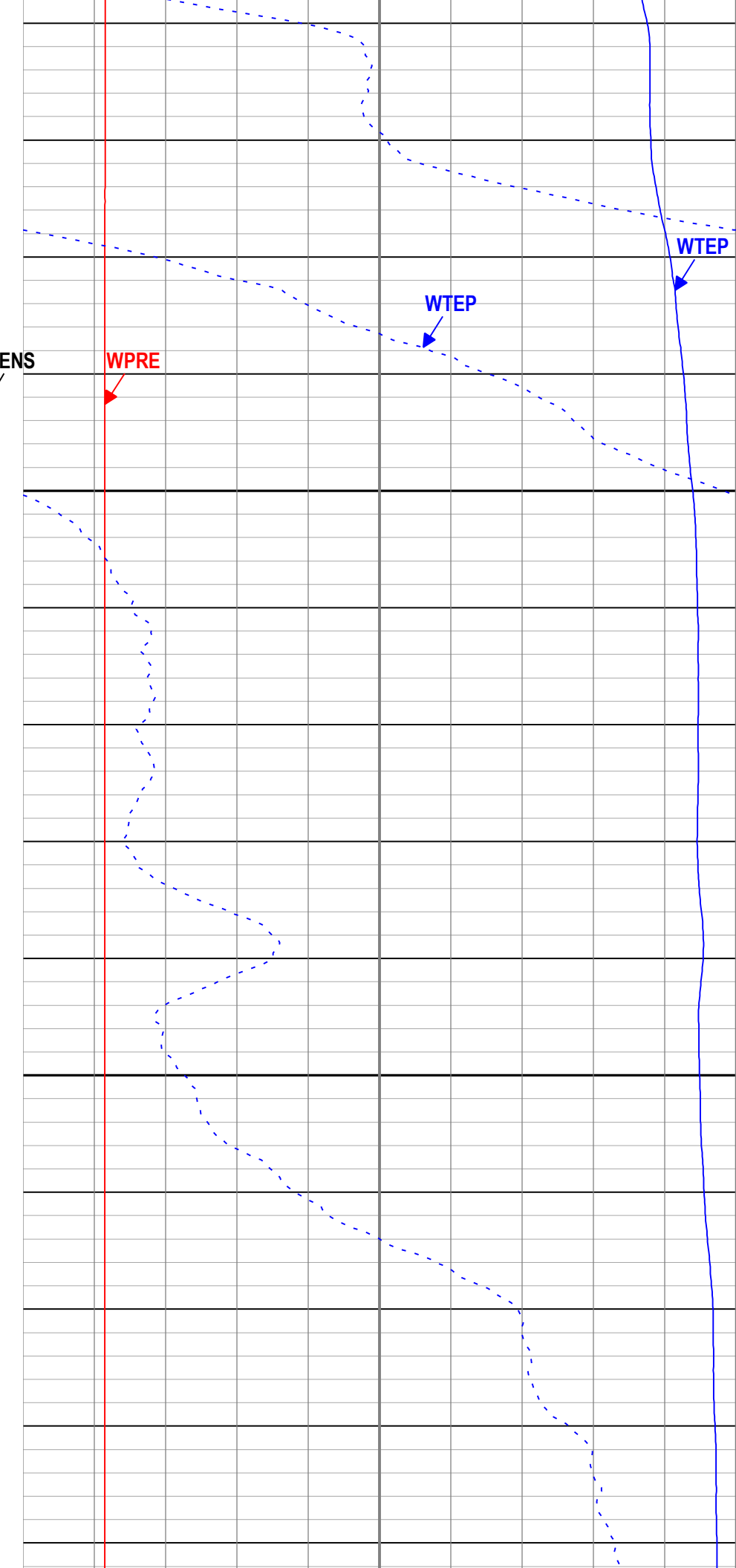
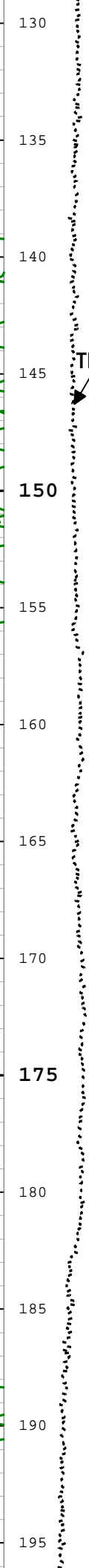
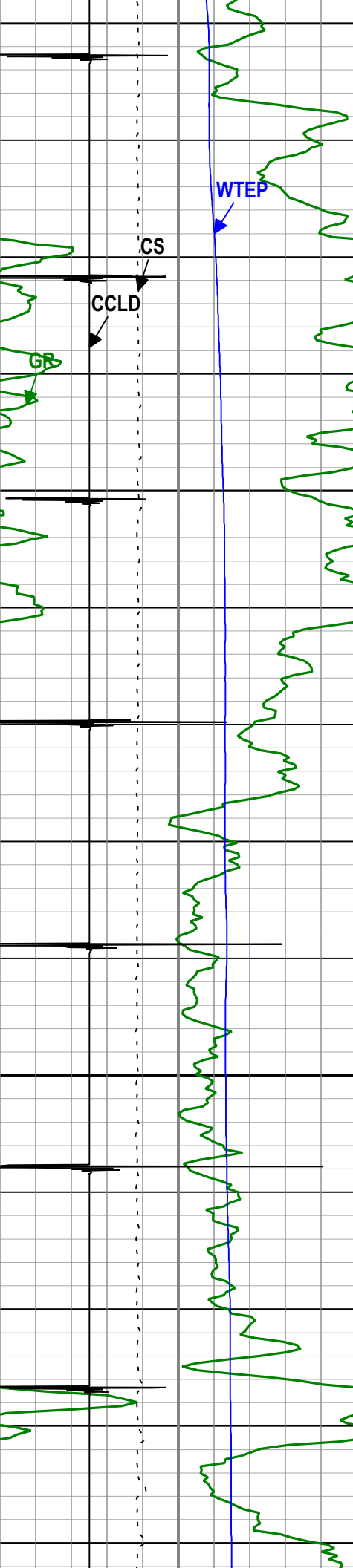
## Depth Measuring Device

Type	IDW-B		
Serial Number	6305		
Calibration Date	16-SEP-2015		
Calibrator Serial Number	4		
Calibration Cable Type	1-33A-SLC		
Wheel Correction 1	1		

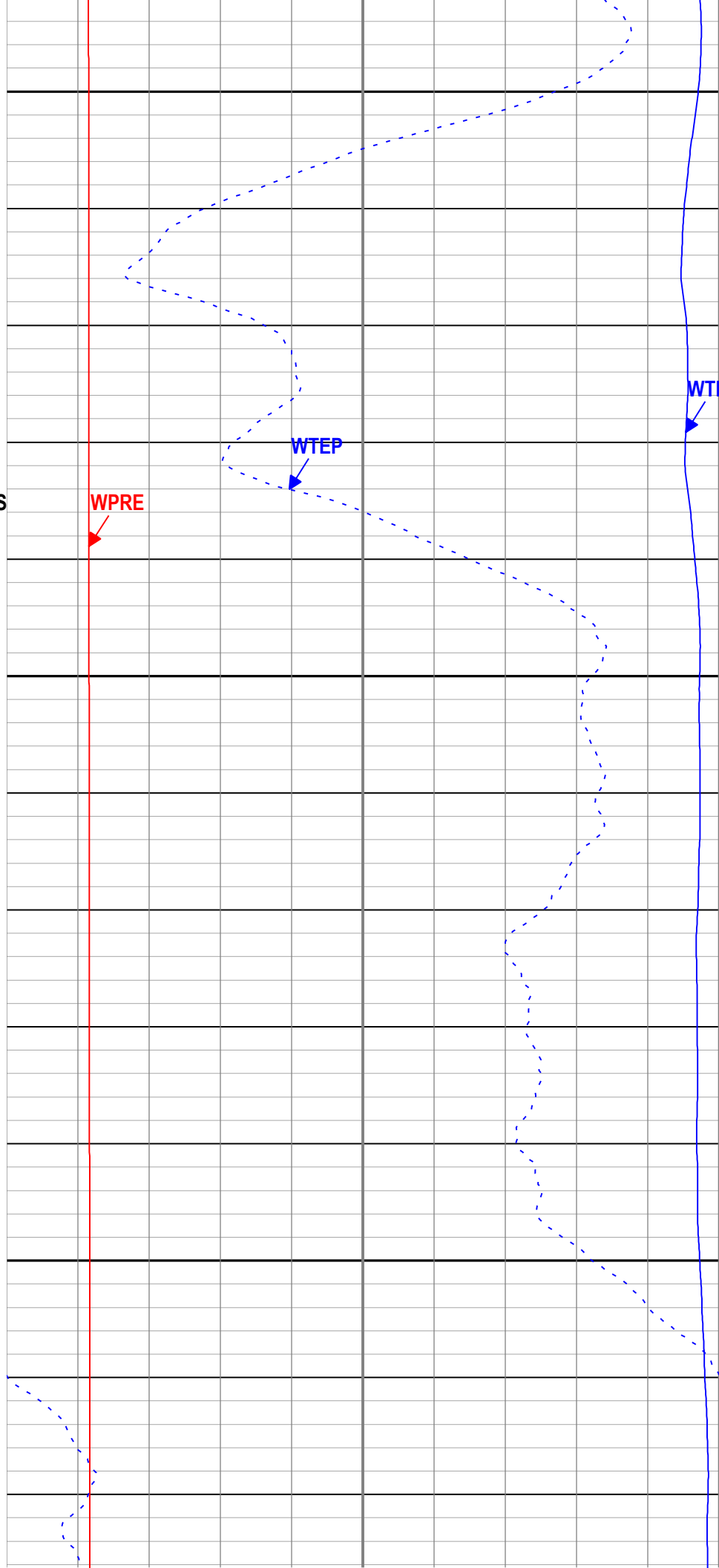
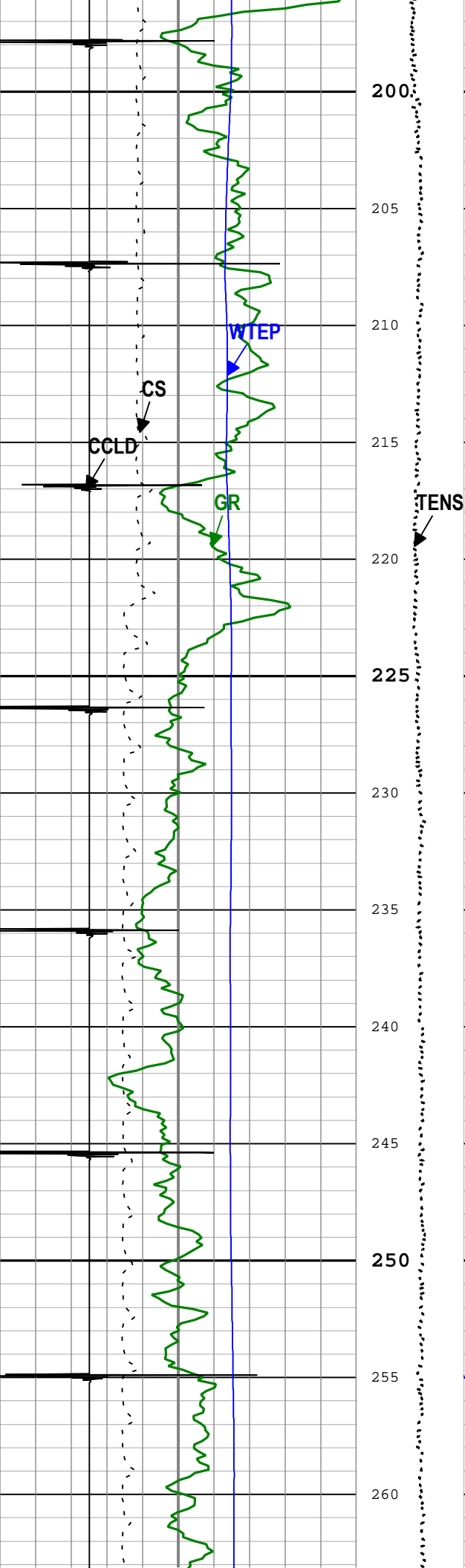
TIME_1900 - Time Marked every 60.00 (s)					
Gamma Ray (GR) HBMS-B					
0	gAPI	100			
CCL Discriminated Amplitude (CCLD) HBMS-B					
1	V	-3			
Cable Speed (CS)					
0	m/h	1500			
Cable Tension (TENS)					
			Well Pressure (WPRE) HBMS-B		
			0	kPa	10000
			Well Temperature (WTEP) HBMS-B		
			-2	degC	2

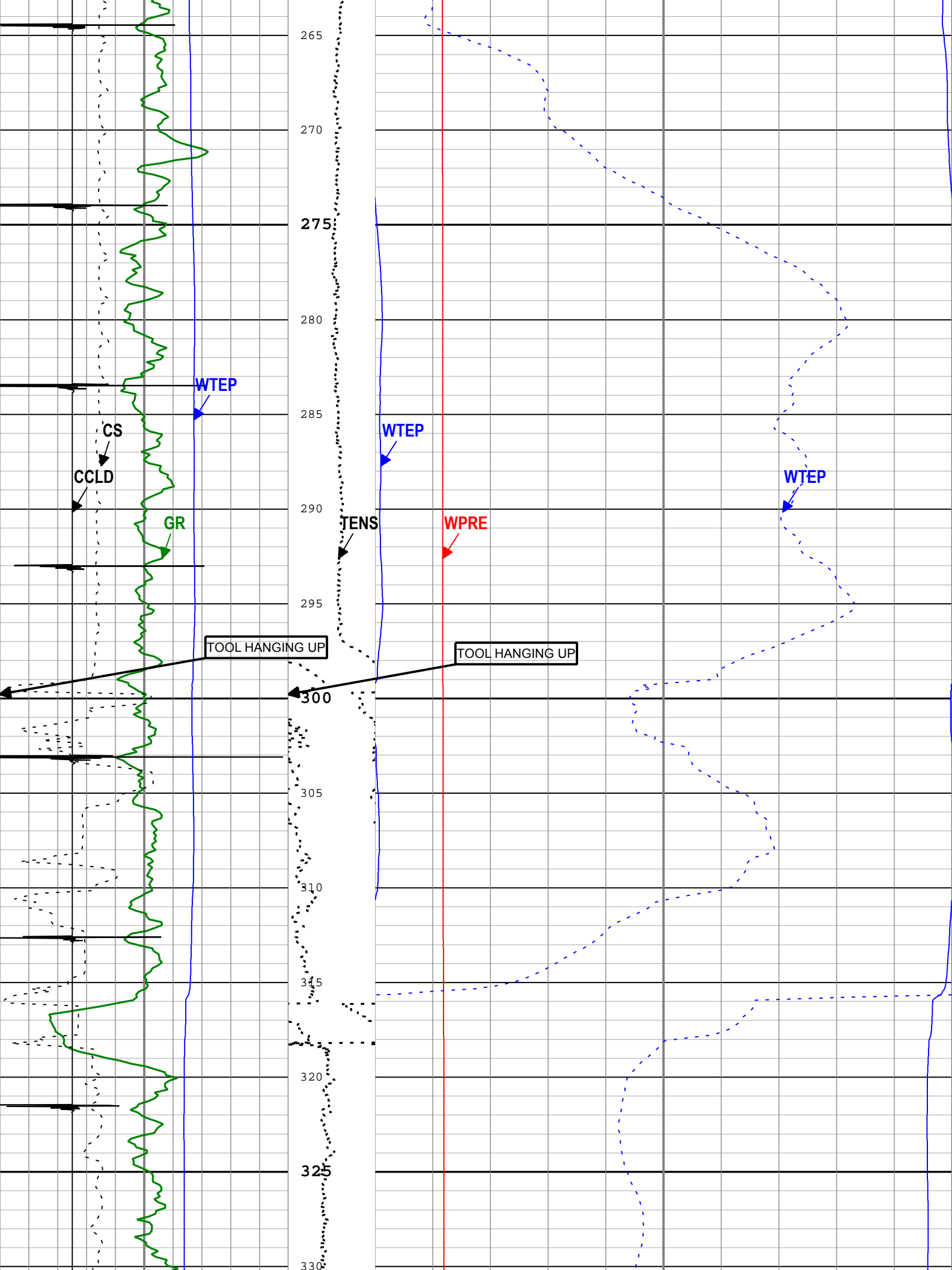


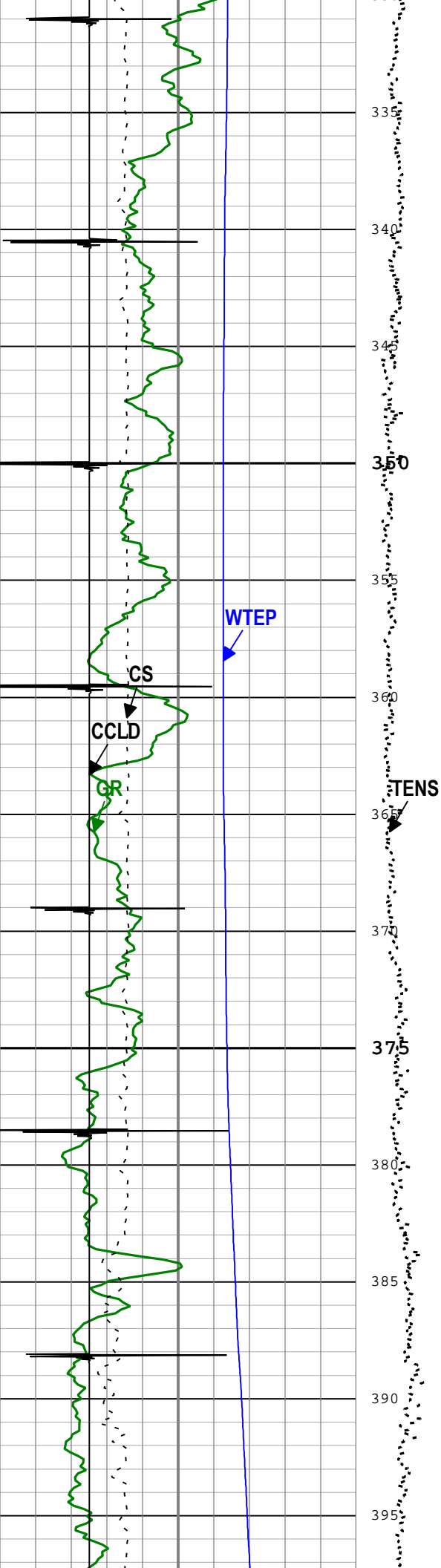


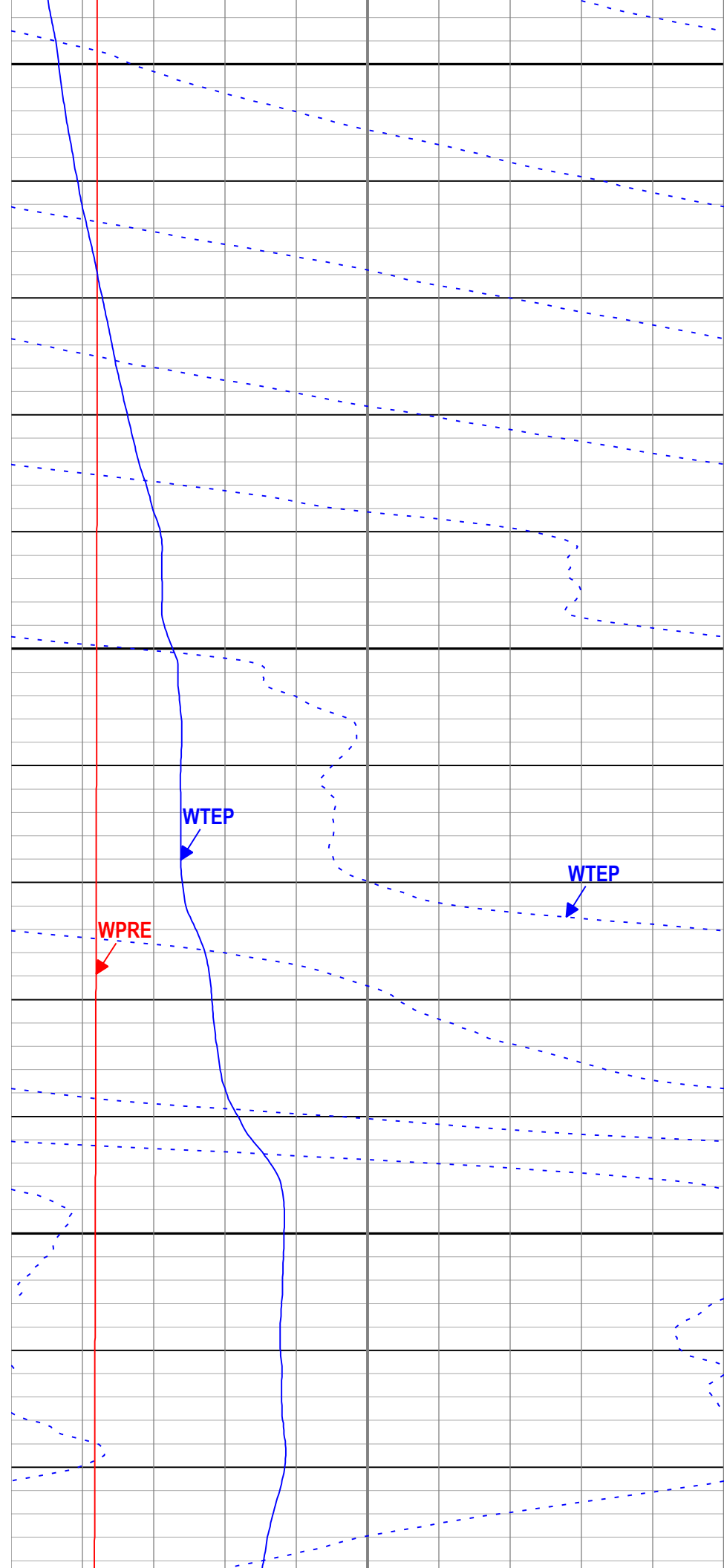
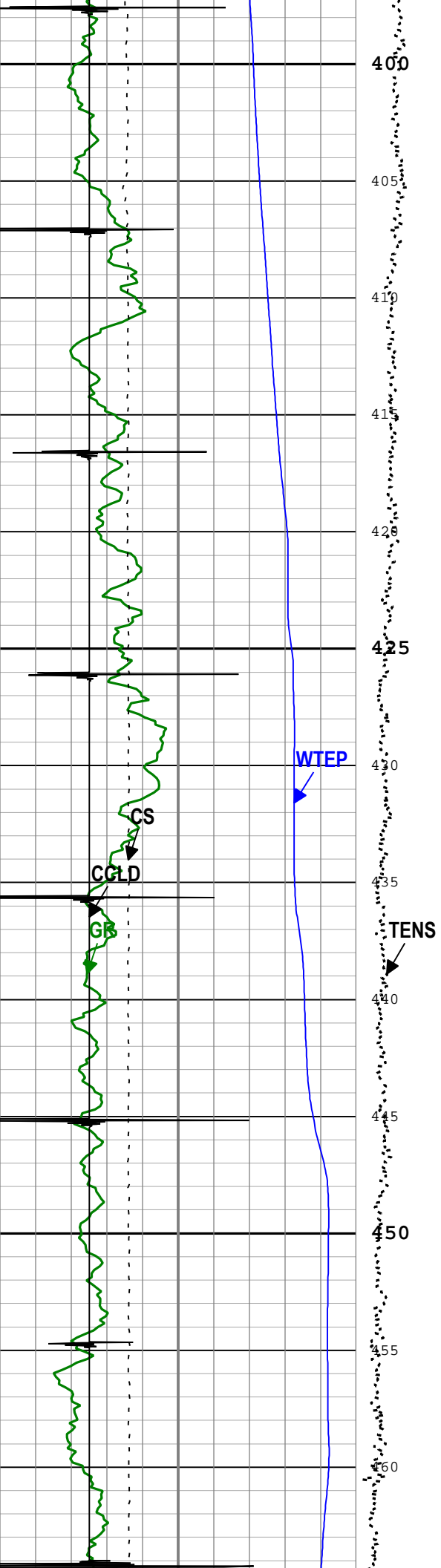


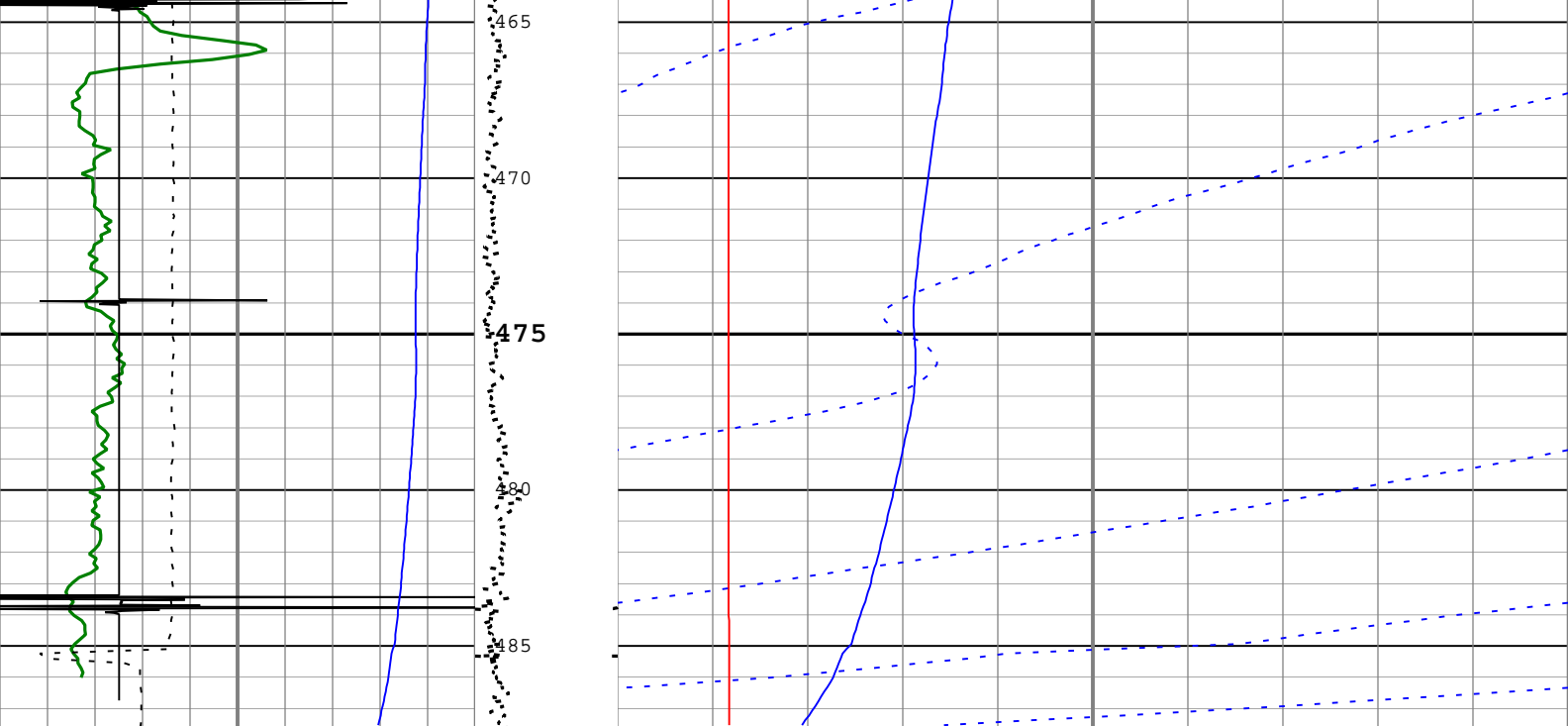












Gamma Ray (GR) HBMS-B		
0	gAPI	100
CCL Discriminated Amplitude (CCLD) HBMS-B		
1	V	-3
Cable Speed (CS)		
0	m/h	1500
Well Temperature (WTEP) HBMS-B		
0	degC	150

Cable Tension (TENS)	
1000 N	0

Well Pressure (WPRE) HBMS-B		
0	kPa	10000
Well Temperature (WTEP) HBMS-B		
-2	degC	2
Well Temperature (WTEP) HBMS-B		
0	degC	100

TIME\_1900 - Time Marked every 60.00 (s)

Description: PSP Depth    Format: Log ( TEMP DOWN PASS imperial )    Index Scale: 1:240    Index Unit: m    Index Type: Measured Depth    Creation Date: 10-

Channel Processing Parameters	
Tool Control Parameters	
1: Parameters	

Parameter	Description	Tool	Value	Unit
MAX_LOG_SPEED	Toolstring Maximum Logging Speed	WLSESSION	5486.4	m/h
PCCG	PSP Downhole CCL Gain	HBMS-B	12 dB	

Calibration Report	
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### HBMS-B (PSP HBMS-B Tool) Calibration - Run 1

Primary Equipment :				
HBMC		HBMC-A	2814	
HTPS		HTPS-A	2814	
Calibration Parameter :				
JIG-BKGD				

### PBMS Gamma Ray Check - HBMS Gamma Ray Accumulations

Before:							
Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
GR Zero Average - 0	gAPI	Before	----	----	----	----	
GR Zero Standard Deviation - 0	gAPI	Before	----	----	----	----	
GR Zero Accumulation - 0	gAPI	Before	----	----	----	----	
GR Plus Average - 0	gAPI	Before	----	----	----	----	
GR Plus Standard Deviation - 0	gAPI	Before	----	----	----	----	

GR Plus Standard Deviation - 0	gAPI	Before	-----	-----	-----	-----		
GR Plus Max Deviation - 0	gAPI	Before	-----	-----	-----	-----		
Jig-Background	gAPI	Before			NOT DONE			

### HBMS Gamma Ray Master Calibration

Master (EEPROM):	18:00:00 08-Nov-2004					
PBMS_GR_MODEL (Master)	GR Coefficients					
	Rt**0			Rt**1		
Rt**0	2000			2760		

### HBMS Well Temp Master Calibration

Master (EEPROM):	18:00:00 22-Jan-2009					
PBMS_RTD_THERM (Master)	RTD Coefficients					
	Tt**0	Tt**1	Tt**2	Tt**3	Tt**4	Tt**5
Tt**0	222.6832	-437.029	192.7131	-30.10149	1.765409	0

### HBMS CQG Master Calibration

Master (EEPROM):	18:00:00 22-Jan-2009					
PBMS_P_GAUGE_PRES (Master)	CQG Pressure Model Coefficients					
	Fb**0	Fb**1	Fb**2	Fb**3	Fb**4	Fb**5
Fc**0	7609.304	0.02135192	-1.584357E-07	-8.16788E-11	-1.499828E-15	-1.835433E-20
Fc**1	-1.076739	-1.311701E-05	-1.009642E-10	2.135793E-16	1.699682E-20	0
Fc**2	1.233041E-06	5.580883E-11	9.623179E-16	0	0	0
Fc**3	1.687505E-12	2.207179E-16	0	0	0	0
Fc**4	0	0	0	0	0	0
Fc**5	0	0	0	0	0	0
PBMS_P_GAUGE_TEMP (Master)	CQG Temperature Model Coefficients					
	Fc**0	Fc**1	Fc**2	Fc**3	Fc**4	Fc**5
Fb**0	115.71	-0.0002994552	7.05261E-09	1.099301E-13	-9.285097E-18	-1.101411E-21
Fb**1	-0.005891024	1.74777E-08	2.345432E-13	-3.02633E-18	-7.047549E-22	0
Fb**2	-3.6164E-08	4.172693E-13	1.584701E-18	0	0	0
Fb**3	-2.721567E-13	9.516966E-18	0	0	0	0
Fb**4	0	0	0	0	0	0
Fb**5	0	0	0	0	0	0
PBMS_CQG_FCLK_FREQ (Master)	CQG Clock Frequency Model Coefficients					
	(Fb'-Fc')**0	(Fb'-Fc')**1	(Fb'-Fc')**2	(Fb'-Fc')**3	(Fb'-Fc')**4	(Fb'-Fc')**5
(Fb'-Fc')**0	31087.12	0.00371583	5.971185E-07	-6.647913E-11	-5.011671E-16	5.965816E-21
PBMS_CQG_FCLK_TEMP (Master)	CQG Clock Temperature Model Coefficients					
	(Fb'-Fc')**0	(Fb'-Fc')**1	(Fb'-Fc')**2	(Fb'-Fc')**3	(Fb'-Fc')**4	(Fb'-Fc')**5
(Fb'-Fc')**0	112.0599	-0.005594933	-3.930061E-08	4.961088E-13	8.652569E-17	-6.547065E-21

Company:	IMPERIAL OIL RESOURCES LIMITED	Schlumberger
Well:	ESSO 85 D6-12 COLDLK 5-11-65-4	
Field:	LEMING	
Province:	ALBERTA	
Status:	**MD**	

PRODUCTION ANALYSIS  
TEMPERATURE / PRESSURE LOG