

Schlumberger

Company: Encana Oil & Gas (USA) Inc

Well: MCU 26-4A (I27W)

Field: Mamm Creek

County: Garfield

State: Colorado

Temperature Log
WPRE - CCL

County: Garfield

Field: Mamm Creek

Location: SHL: NESE 1967FT FSL & 516F

Well: MCU 26-4A (I27W)

Company: Encana Oil & Gas (USA) Inc

LOCATION

SHL: NESE 1967FT FSL & 516FT FEL
BHL: NWNW 710FT FNL & 948FT FWL
SH: 39.415579N x 107.752932W

Elev.: K.B. 7223.00 ft
G.L. 7201.00 ft
D.F. 7223.00 ft

Permament Datum: GROUND LEVEL
Log Measured From: Kelly Bushing
Drilling Measured From: Kelly Bushing

Elev.: 7201.00 ft
22.00 ft above Perm. Datum

API Serial No. 05-045-21608

Section 27

Township 7S

Range 93W

				Run 1	Run 2	Run
PVT DATA						
Oil Density						
Water Salinity						
Gas Gravity						
Bo						
Bw						
1/Bg						
Bubble Point Pressure						
Bubble Point Temperature						
Solution GOR						
Maximum Deviation						
CEMENTING DATA						
Primary/Squeeze				Primary		
Casing String No						
Lead Cement Type						
Volume						
Density						
Water Loss						
Additives						
Tail Cement Type						
Volume						
Density						
Water Loss						
Additives						
Expected Cement Top						

Logging Date	15-Jan-2013		
Run Number	1		
Depth Driller	10868 ft		
Schlumberger Depth	8500 ft		
Bottom Log Interval	8500 ft		
Top Log Interval	0 ft		
Casing Fluid Type	Water based mud		
Salinity			
Density	8.6 lbm/gal		
Fluid Level	0 ft		
BIT/CASING/TUBING STRING			
Bit Size			
From	0 ft		
To	10868 ft		
Casing/Tubing Size	4.500 in		
Weight	11.6 lbm/ft		
Grade			
From	0 ft		
To	10868 ft		
Maximum Recorded Temperatures	200 degF		
Logger On Bottom	Time		
Unit Number	Location		
Recorded By	7104 Fort Morgan		
Witnessed By	Christopher Ryan Parent		
	Tony Ketterling		

Logging Date			
Run Number			
Depth Driller			
Schlumberger Depth			
Bottom Log Interval			
Top Log Interval			
Casing Fluid Type			
Salinity			
Density			
Fluid Level			
BIT/CASING/TUBING STRING			
Bit Size			
From			
To			
Casing/Tubing Size			
Weight			
Grade			
From			
To			
Maximum Recorded Temperatures			
Logger On Bottom	Time		
Unit Number	Location		
Recorded By			
Witnessed By			

DEPTH SUMMARY LISTING

Date Created: 15-JAN-2013 17:06:24

Depth System Equipment

Depth Measuring Device		Tension Device		Logging Cable	
Type:	IDW-B	Type:	CMTD-C	Type:	1-25ZA-XXS
Serial Number:		Serial Number:	5052	Serial Number:	7104
Calibration Date:		Calibration Date:	10DEC2012	Length:	22000 FT
Calibrator Serial Number:	33	Calibrator Serial Number:	78135	Conveyance Method:	Wireline
Calibration Cable Type:	1-25ZA-XXS	Number of Calibration Points:	10	Rig Type:	LAND
Wheel Correction 1:	-3	Calibration RMS:			
Wheel Correction 2:	-2	Calibration Peak Error:			

Depth Control Parameters

Log Sequence:	First Log In the Well
Rig Up Length At Surface:	
Rig Up Length At Bottom:	
Rig Up Length Correction:	
Stretch Correction:	
Tool Zero Check At Surface:	

Depth Control Remarks

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.

DISCLAIMER

THE USE OF AND RELIANCE UPON THIS RECORDED-DATA BY THE HEREIN NAMED COMPANY (AND ANY OF ITS AFFILIATES, PARTNERS, REPRESENTATIVES, AGENTS, CONSULTANTS AND EMPLOYEES) IS SUBJECT TO THE TERMS AND CONDITIONS AGREED UPON BETWEEN SCHLUMBERGER AND THE COMPANY, INCLUDING: (a) RESTRICTIONS ON USE OF THE RECORDED-DATA; (b) DISCLAIMERS AND WAIVERS OF WARRANTIES AND REPRESENTATIONS REGARDING COMPANY'S USE OF AND RELIANCE UPON THE RECORDED-DATA; AND (c) CUSTOMER'S FULL AND SOLE RESPONSIBILITY FOR ANY INFERENCE DRAWN OR DECISION MADE IN CONNECTION WITH THE USE OF THIS RECORDED-DATA.

OTHER SERVICES1	OTHER SERVICES2
OS1:	OS1:
OS2:	OS2:
OS3:	OS3:
OS4:	OS4:
OS5:	OS5:
REMARKS: RUN NUMBER 1	REMARKS: RUN NUMBER 2
1. Maximum recorded temperature: 200DEGF.	
2. Estimated cement top, based on temperature profile: ~5550FT.	
3. Log ran from surface to 8500FT per client request.	

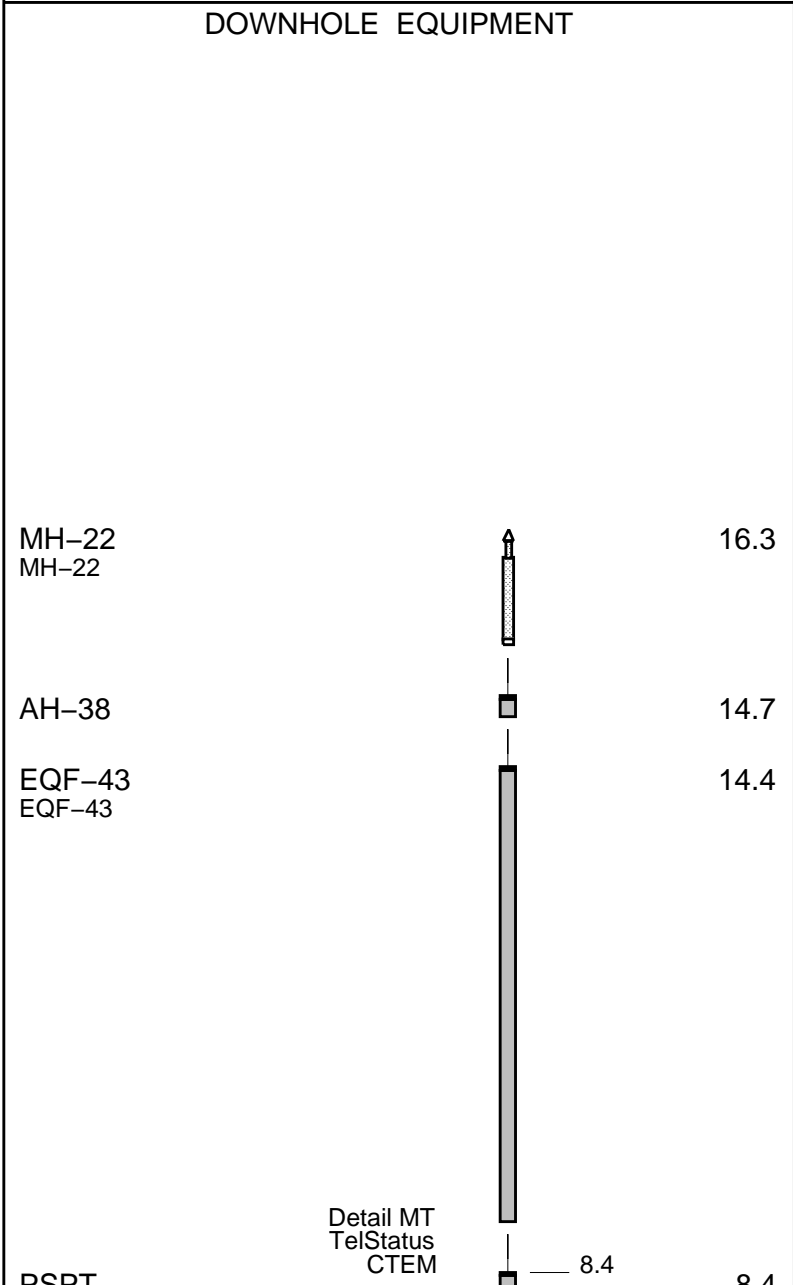
Your crew today has been Christopher Parent and Matt Steinman.	
Thank you for choosing E&P Wireline we appreciate your business!	

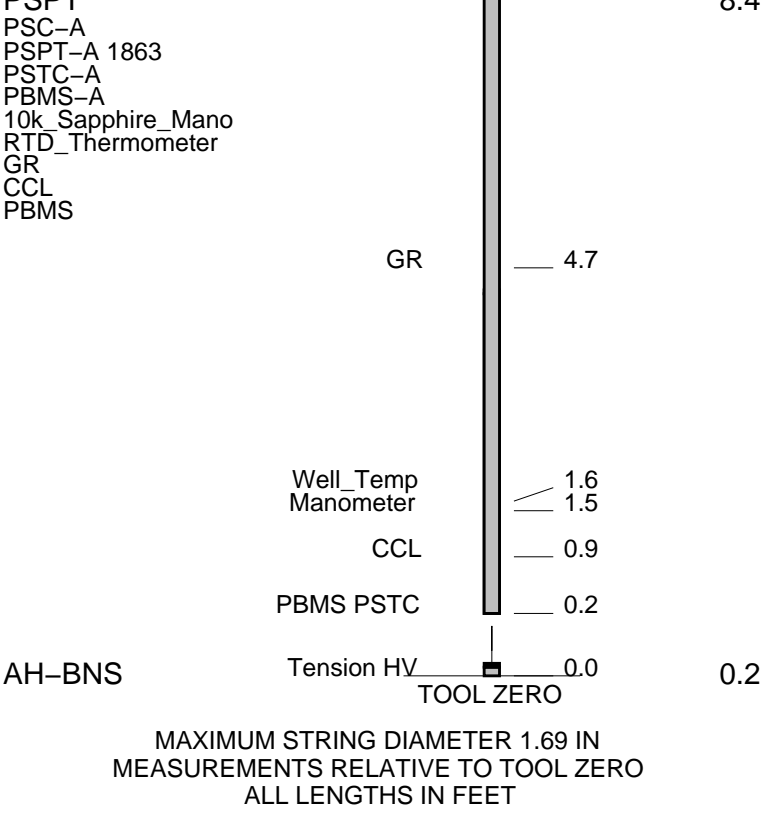
RUN 1			RUN 2		
SERVICE ORDER #:		BYKM-00077	SERVICE ORDER #:		
PROGRAM VERSION:		19C2-270	PROGRAM VERSION:		
FLUID LEVEL:		0 ft	FLUID LEVEL:		
LOGGED INTERVAL	START	STOP	LOGGED INTERVAL	START	STOP

EQUIPMENT DESCRIPTION					
RUN 1			RUN 2		

SURFACE EQUIPMENT

WITM-A 4132
 PSC_16MHZ

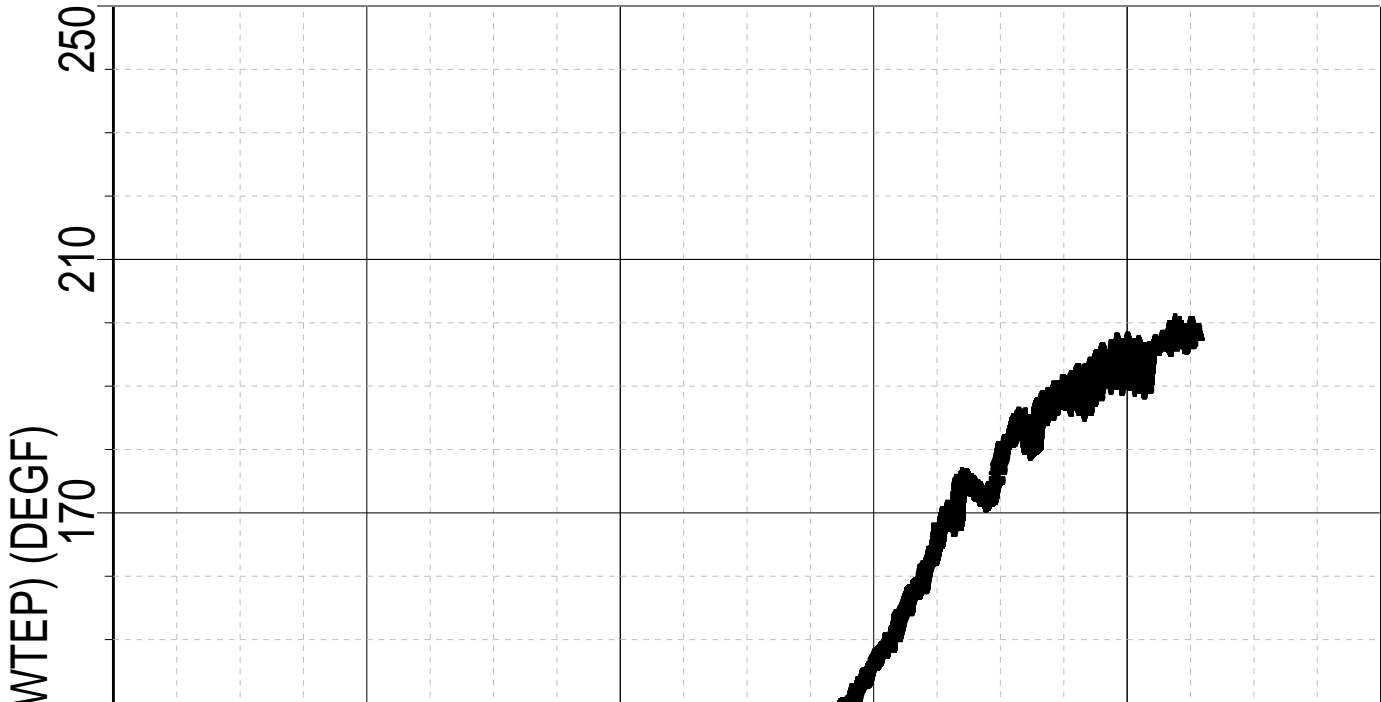


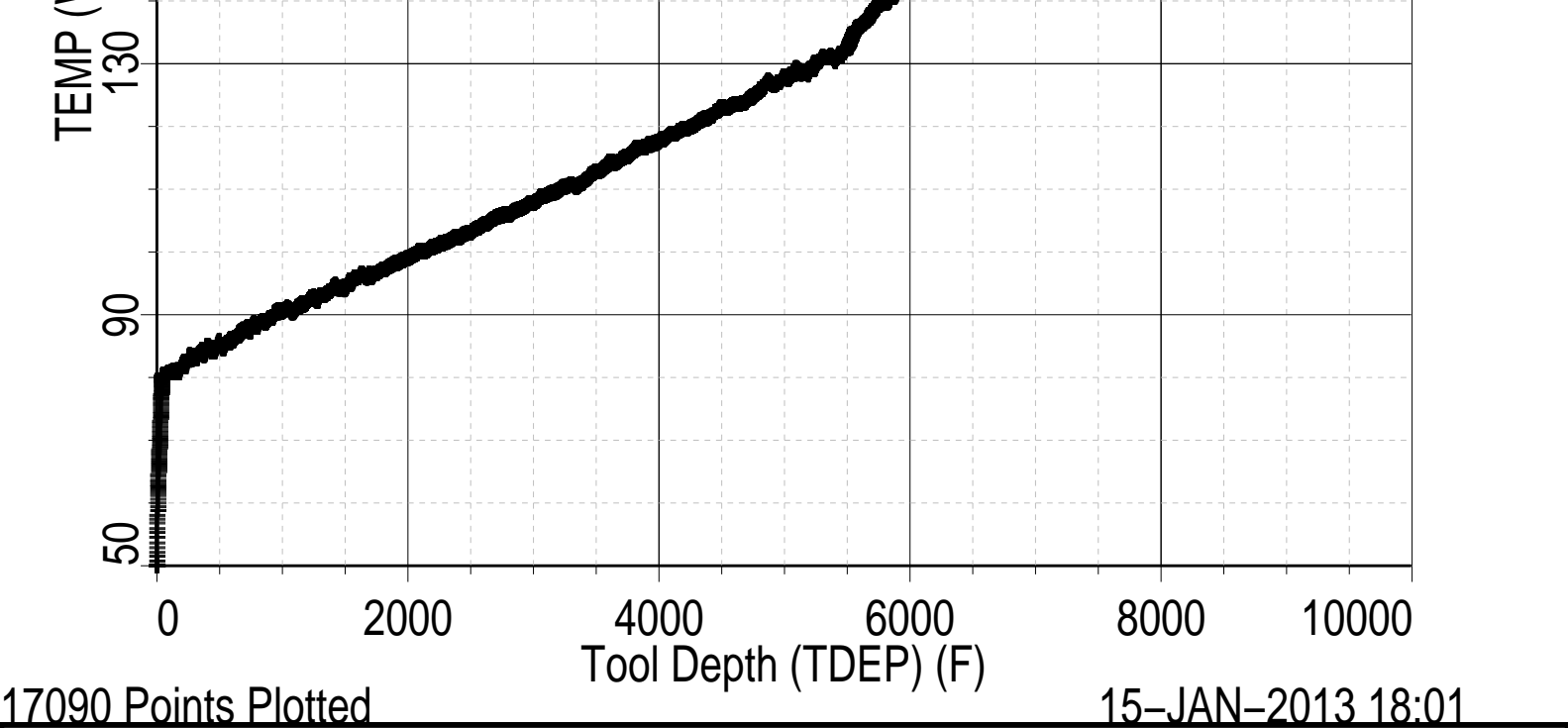


Temp Plot

MAXIS Field Log

Index: 8544.5 – -7.5 FT





Temp Main Pass

MAXIS Field Log

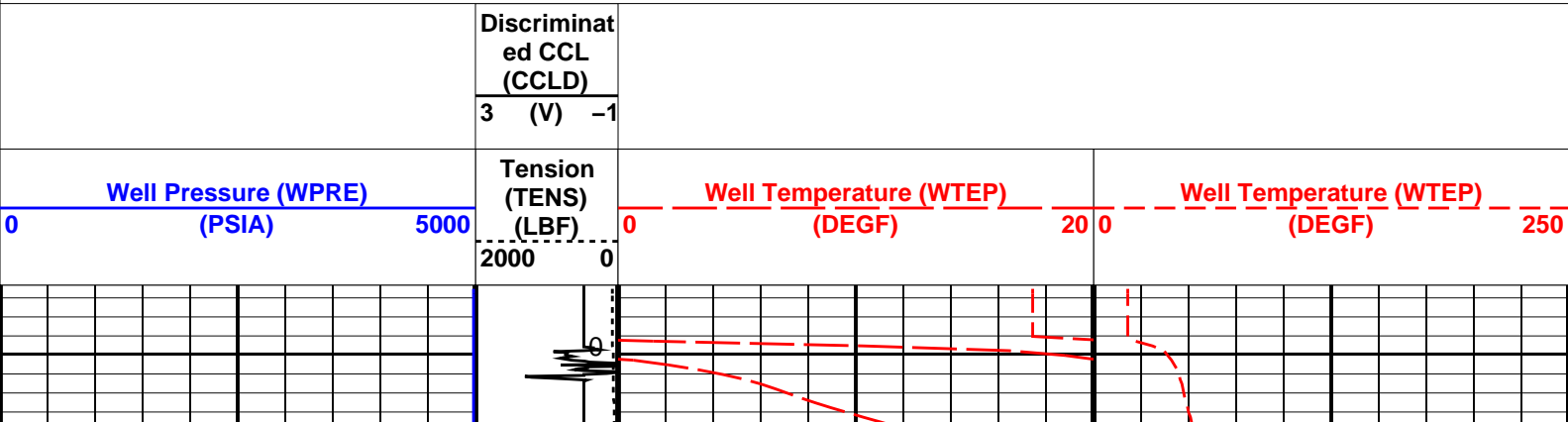
Company: Encana Oil & Gas (USA) Inc Well: MCU 26-4A (I27W)

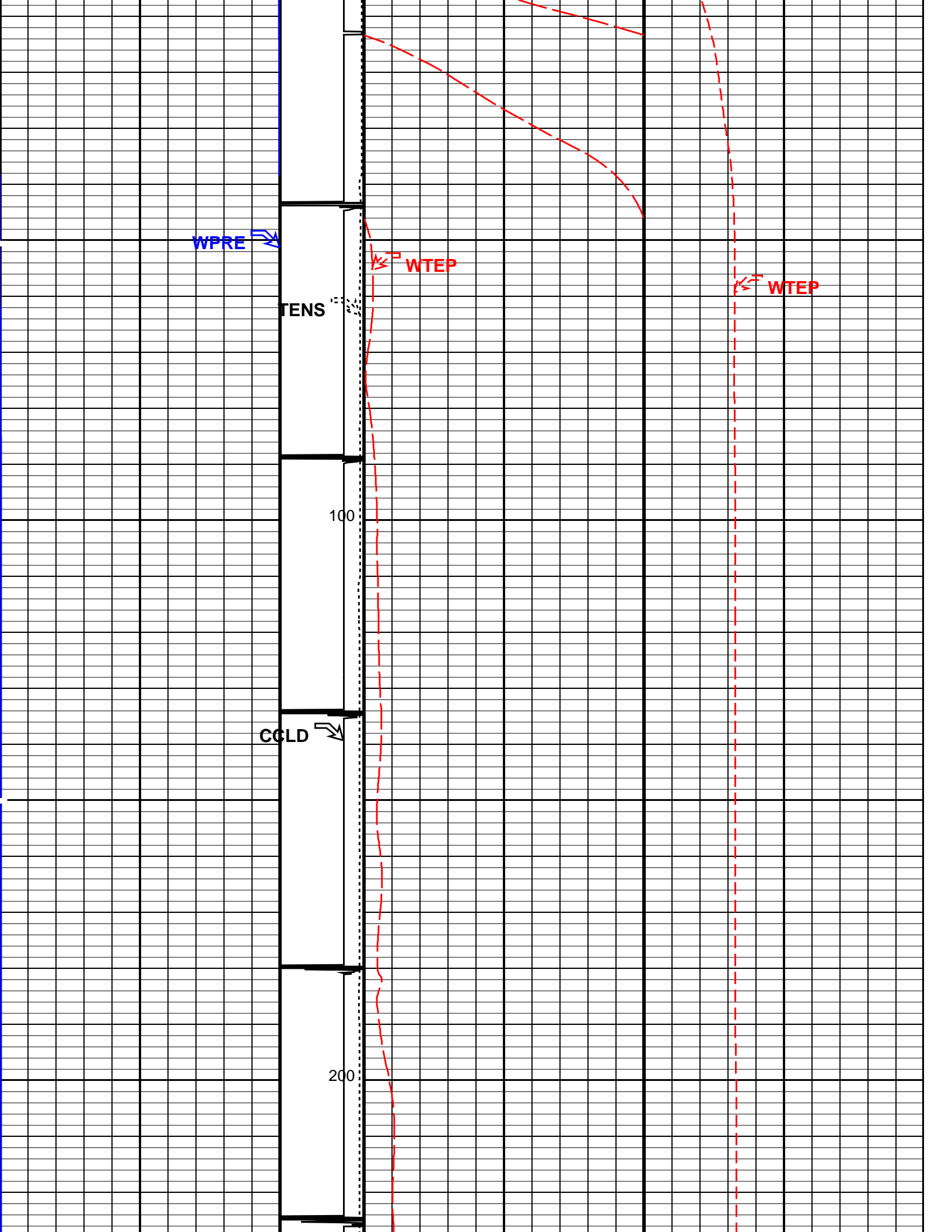
Input DLIS Files					
DEFAULT	Flip_PSP_003LUP	PRODUCER	15-Jan-2013 17:43	8544.5 FT	-7.5 FT
Output DLIS Files					
DEFAULT	PSP_008PUP	FN:8	PRODUCER	15-Jan-2013 17:57	8544.5 FT
CLIENT	PSP_008PUC	FN:9	CUSTOMER	15-Jan-2013 17:57	8544.5 FT

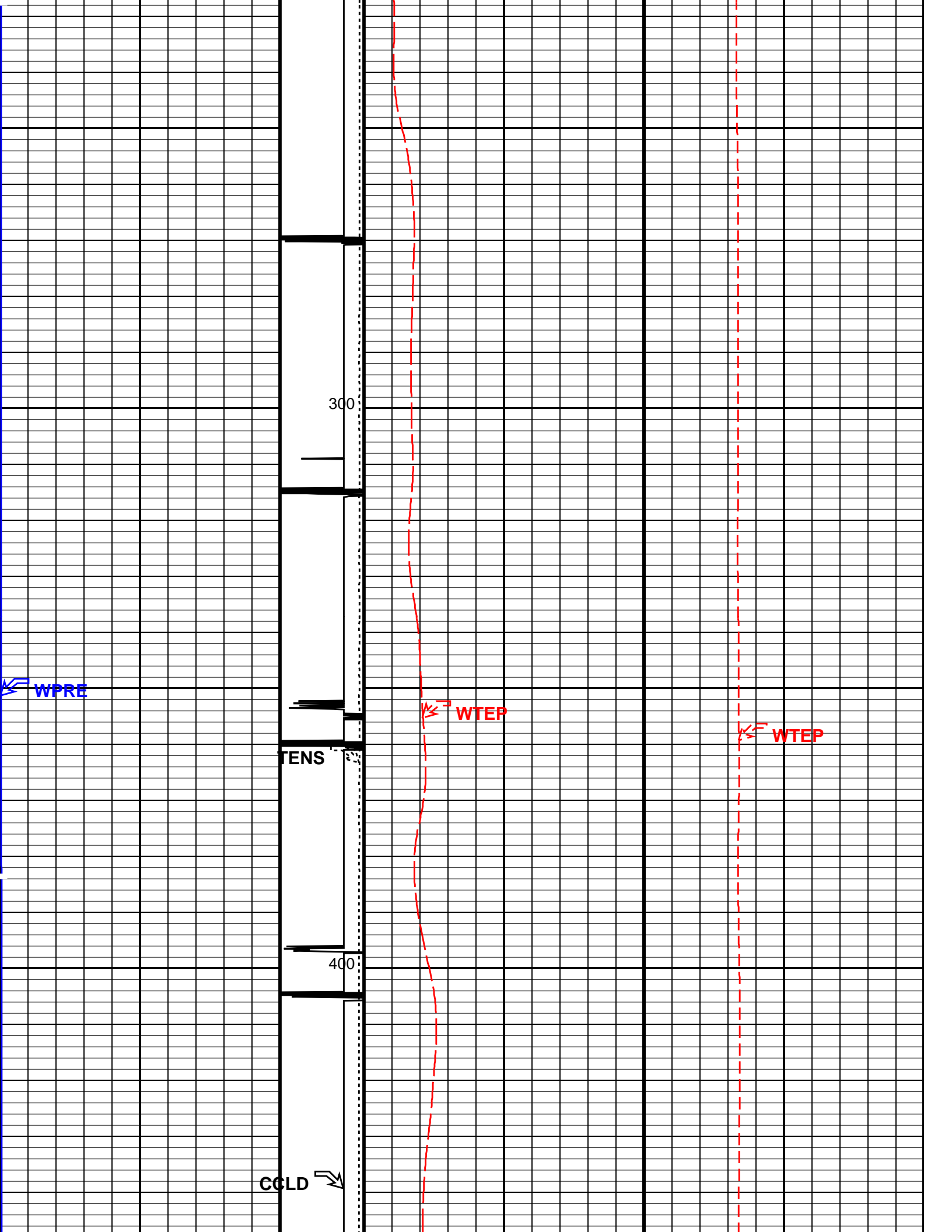
OP System Version: 19C2-270	
PSPT	19C2-270

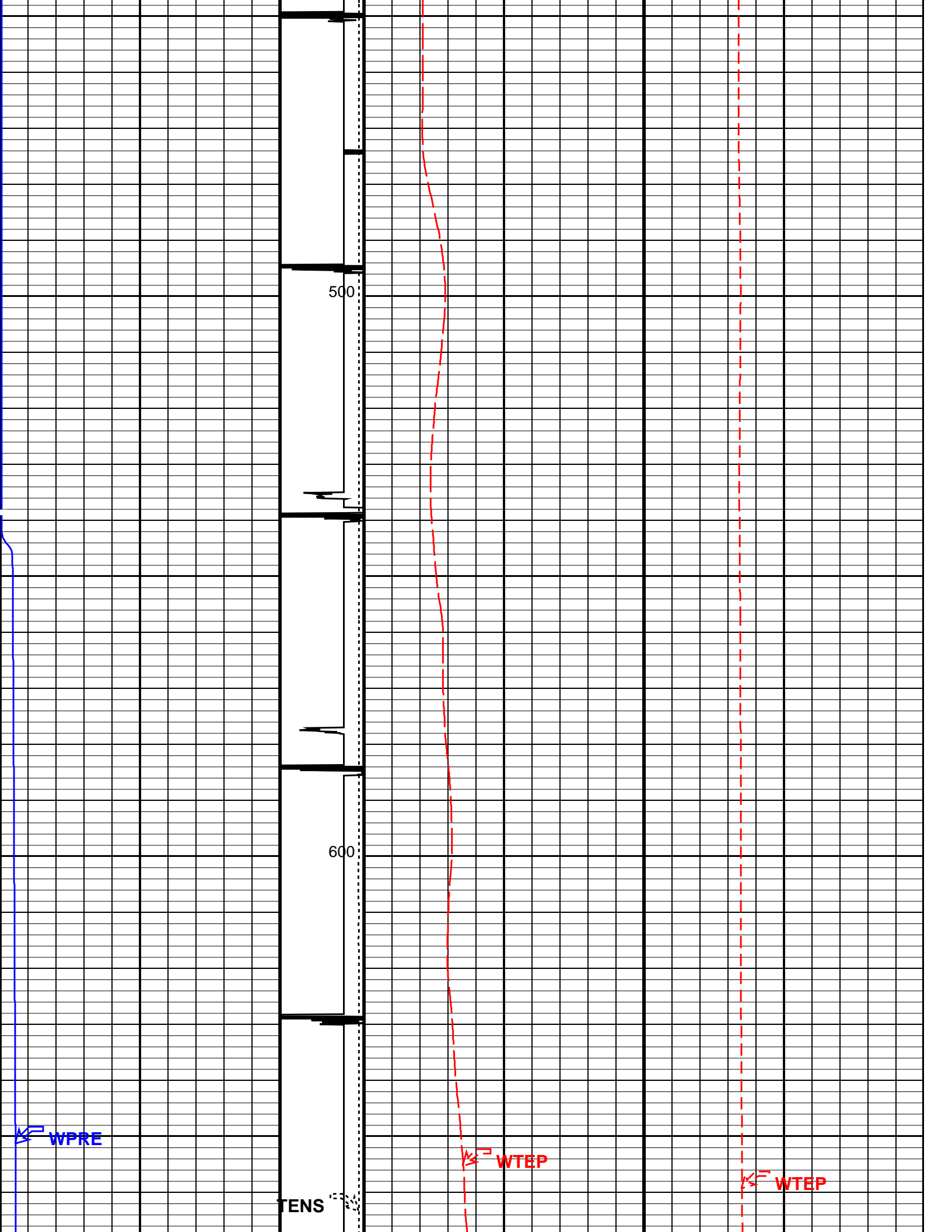
PIP SUMMARY

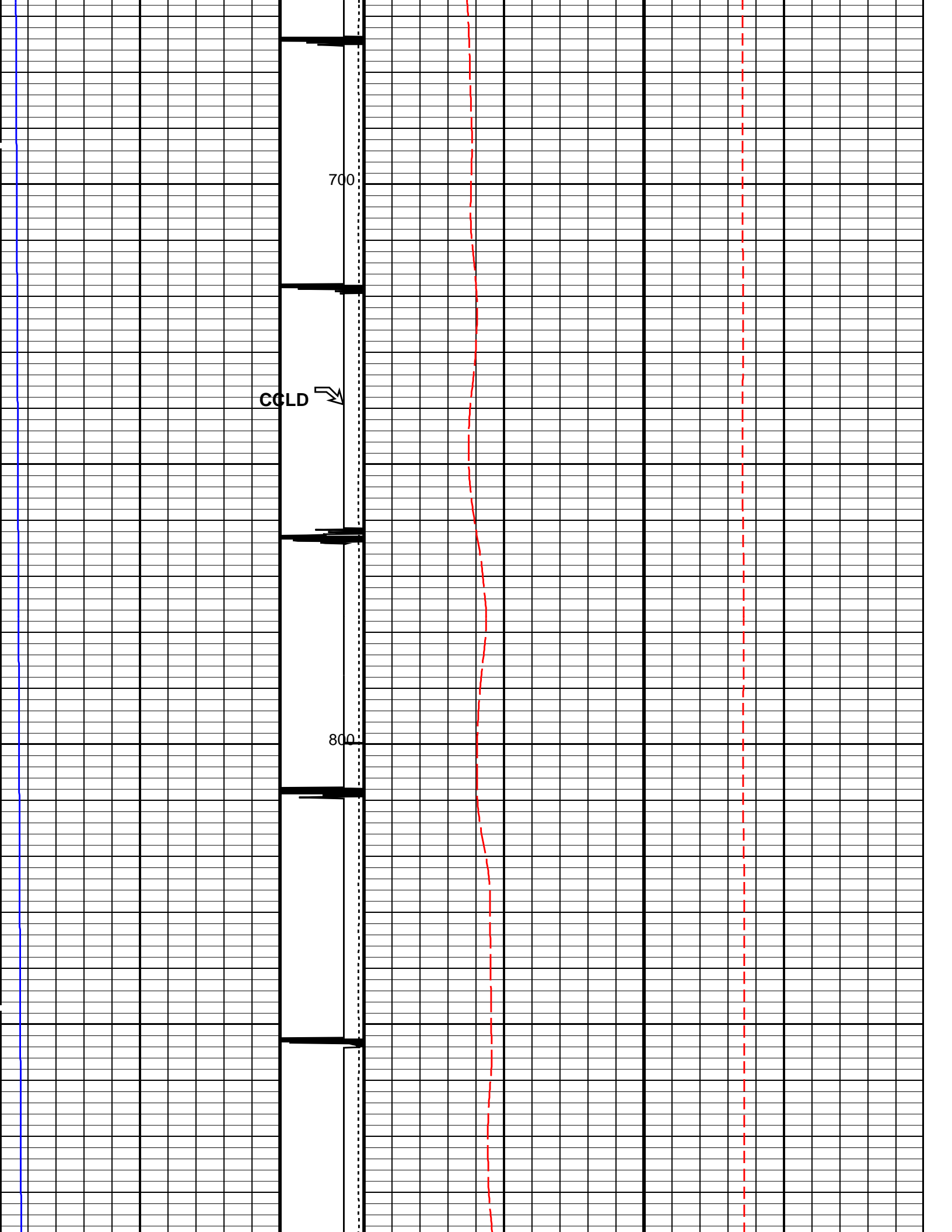
☒ Time Mark Every 60 S

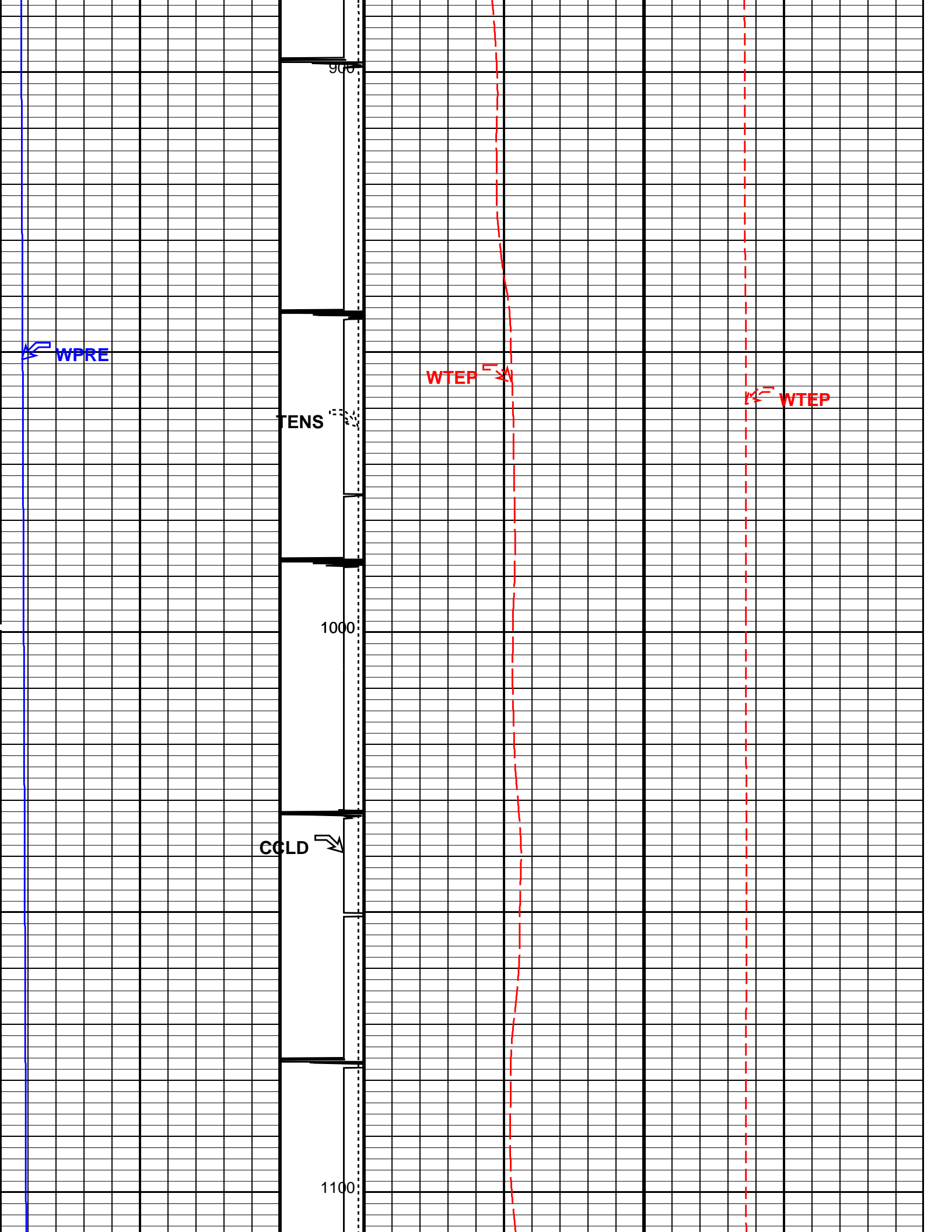


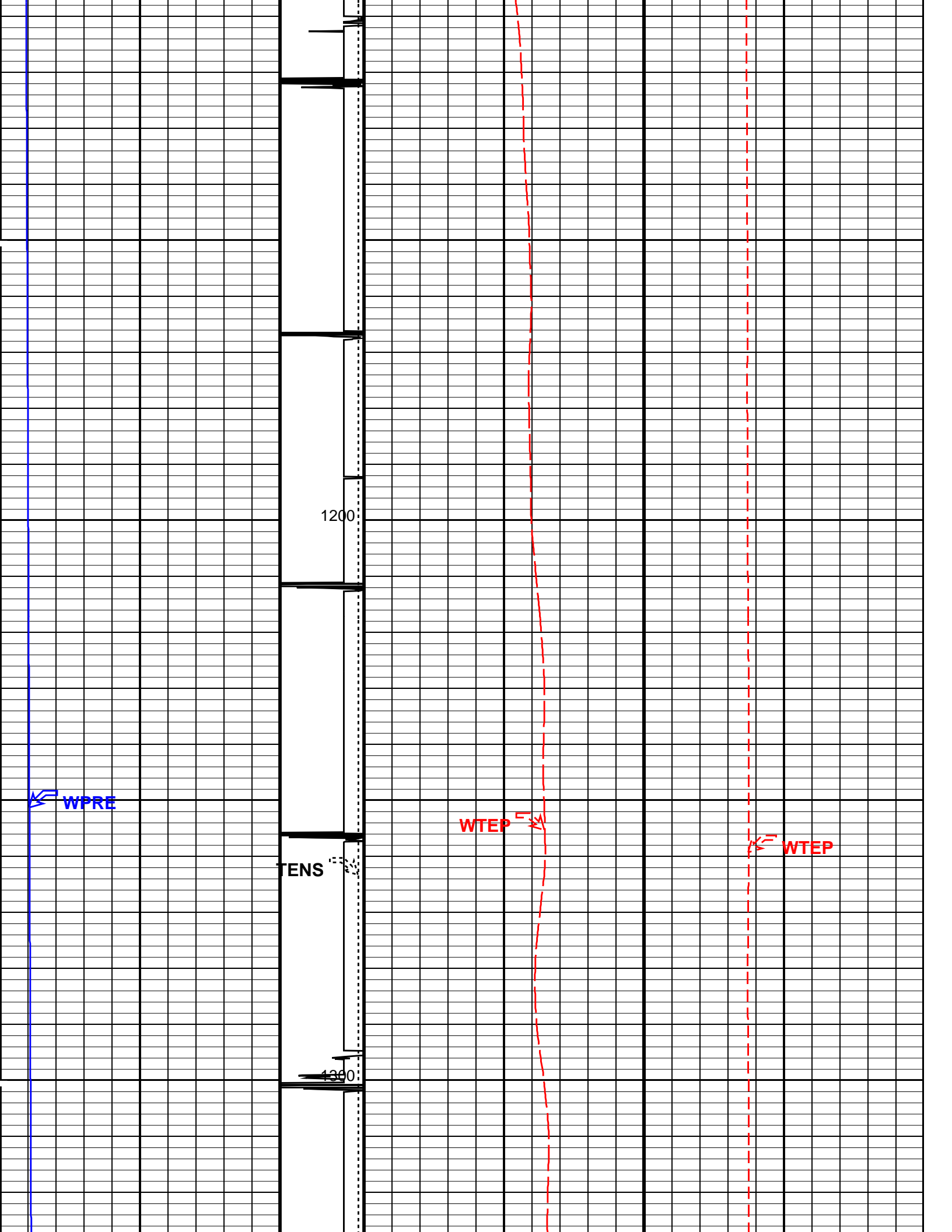


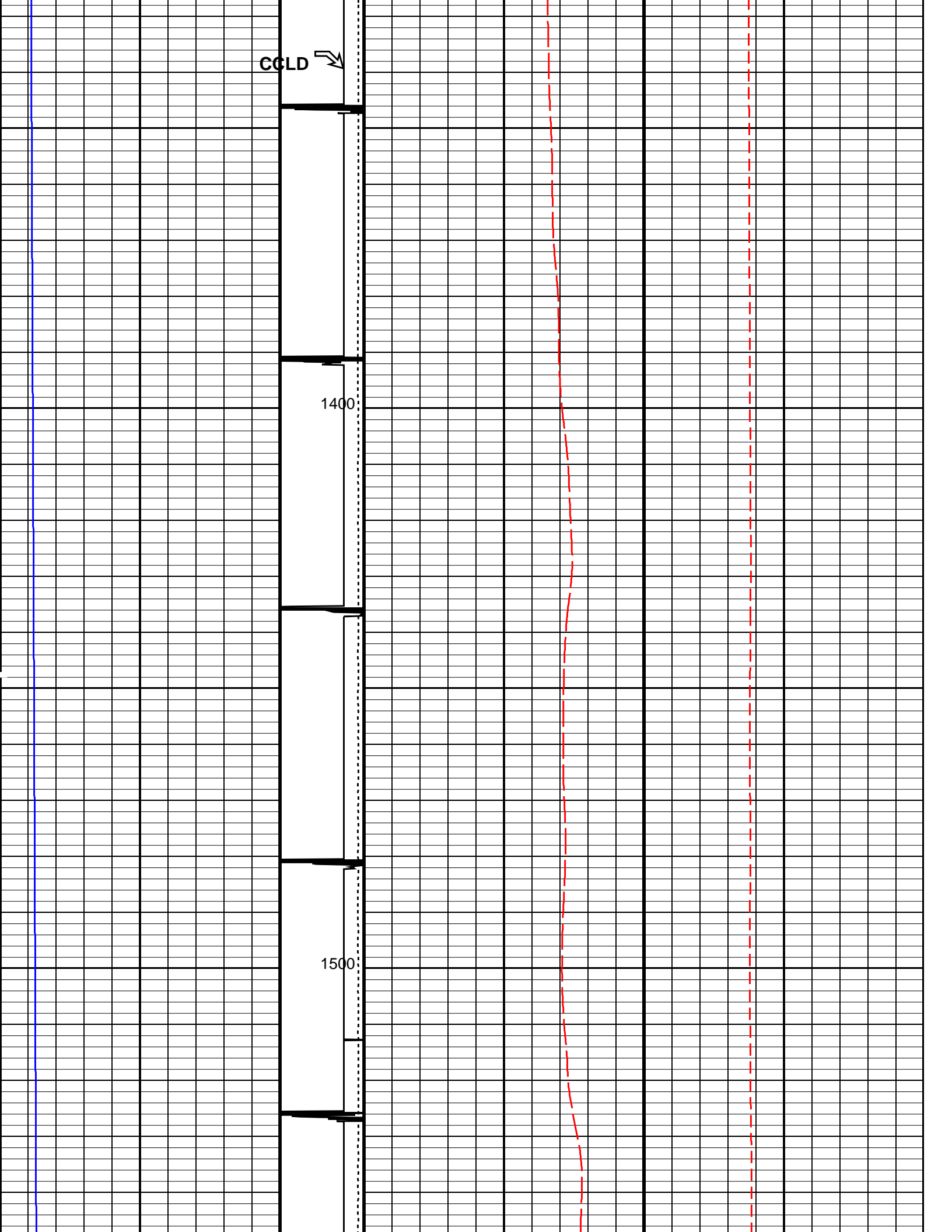












WPRE

TENS

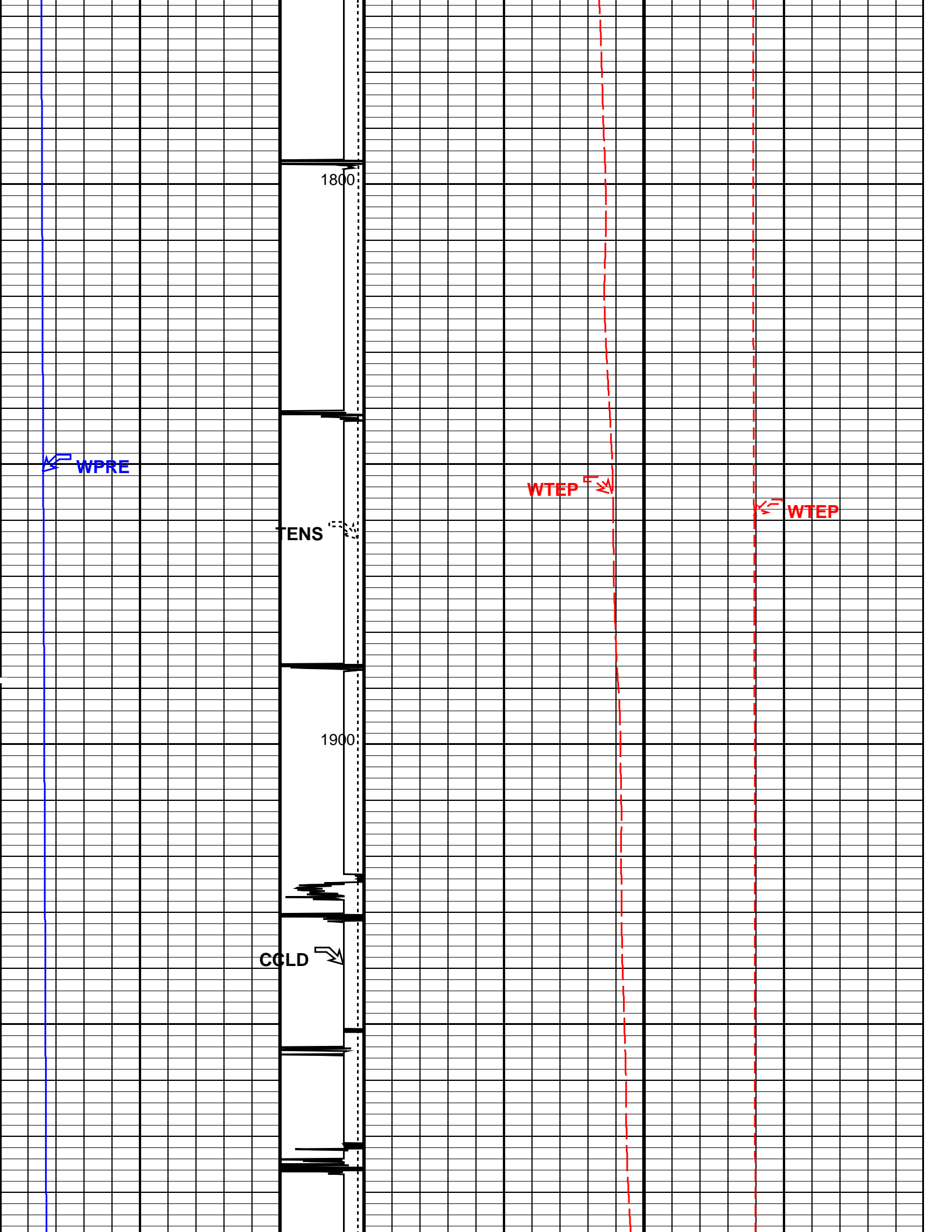
1600

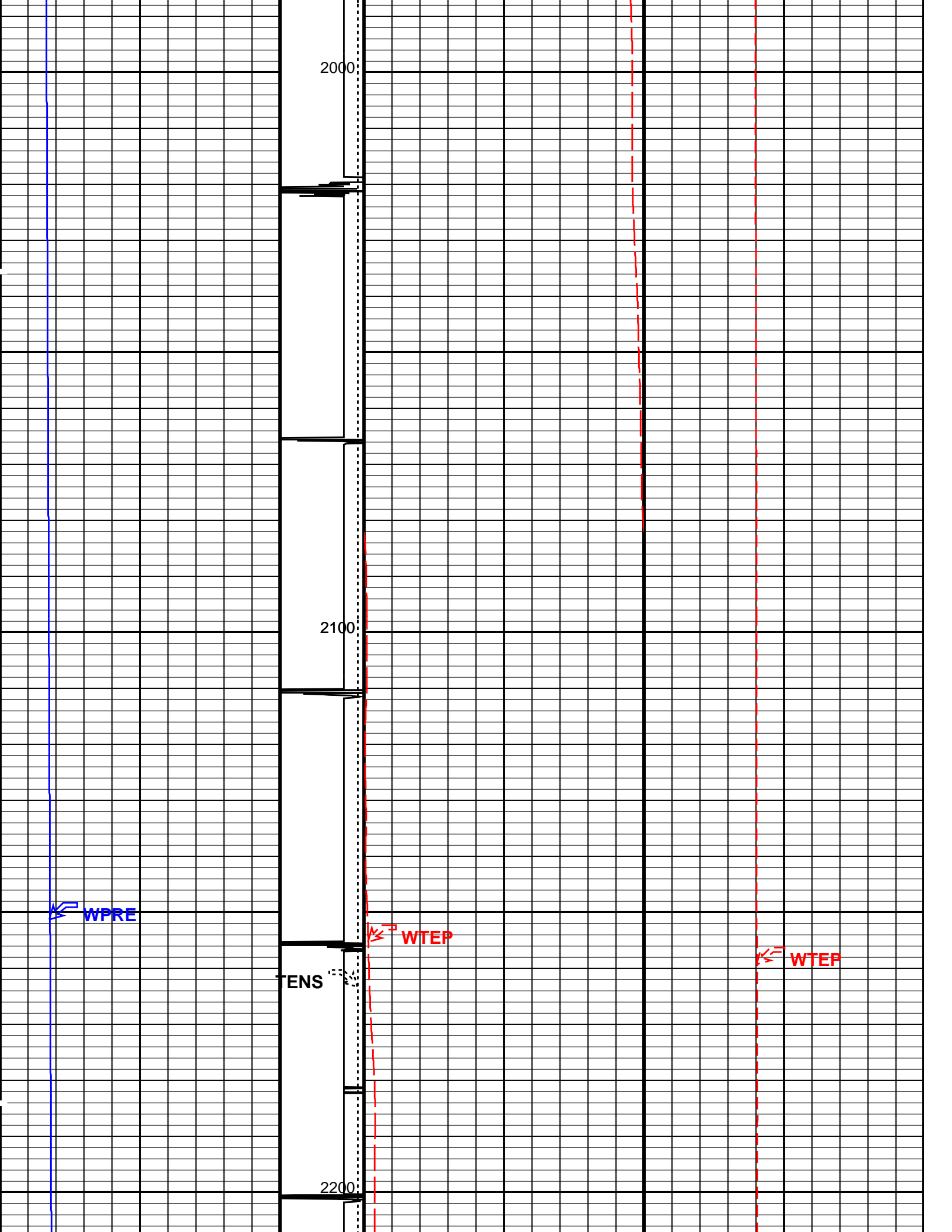
CCLD

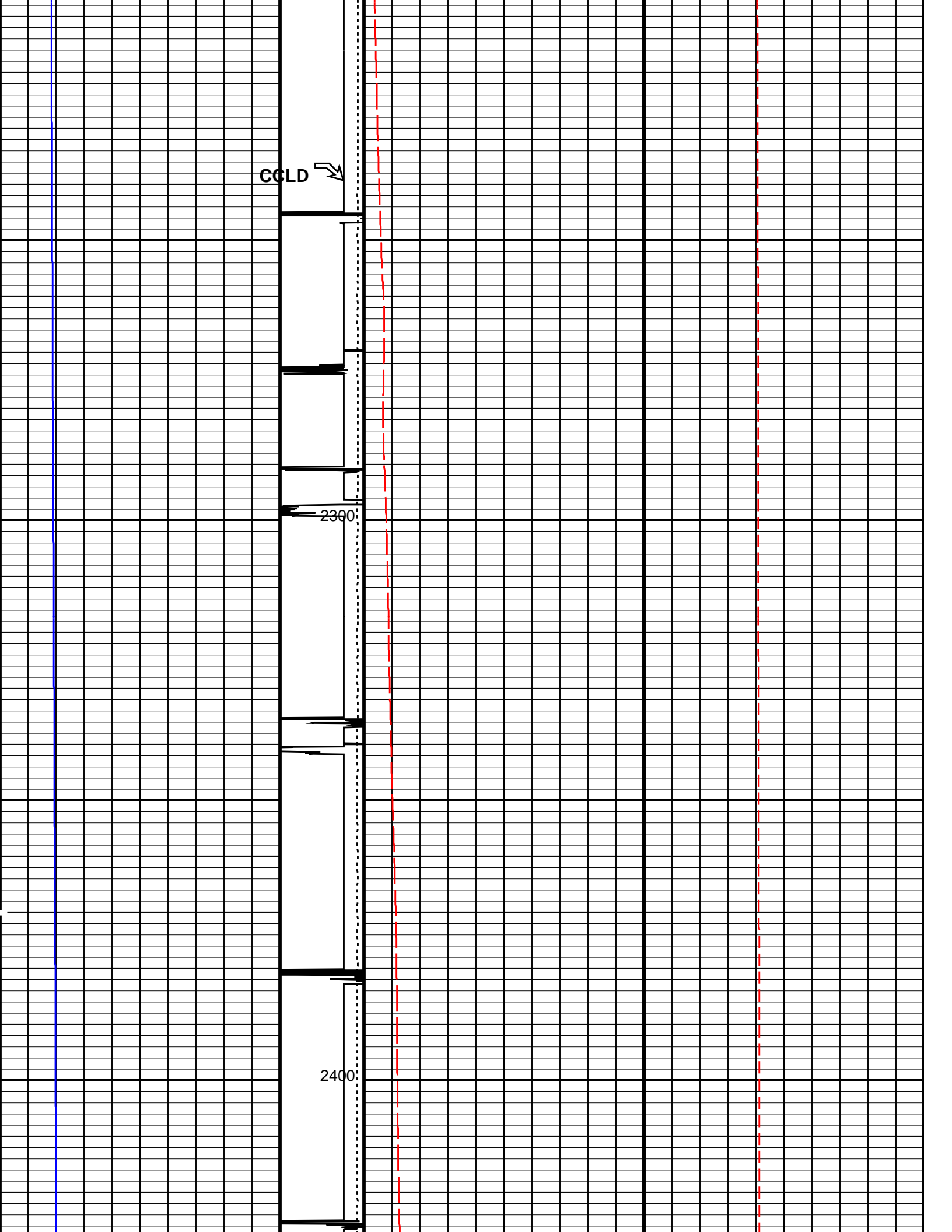
1700

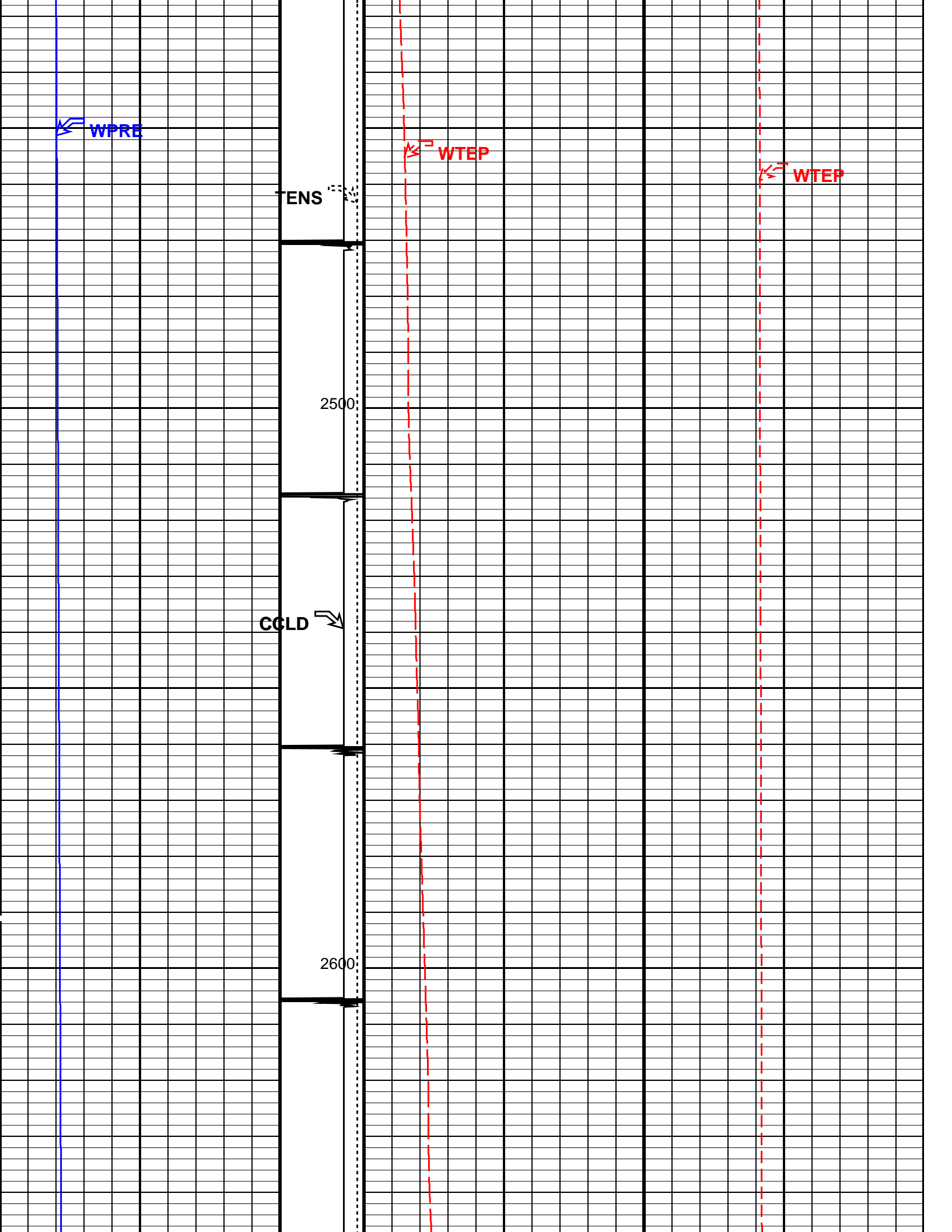
WTEP

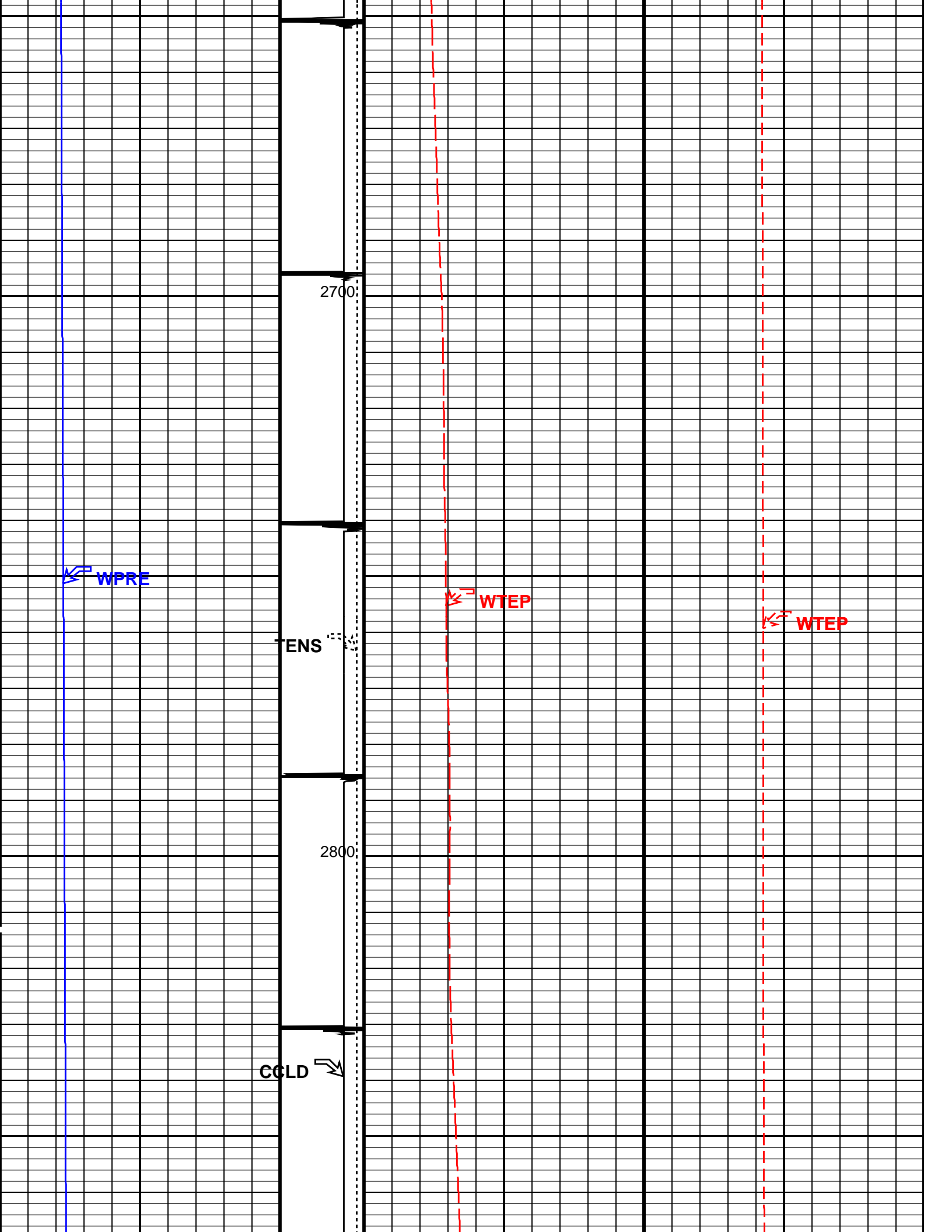
WTEP











2700

TENS

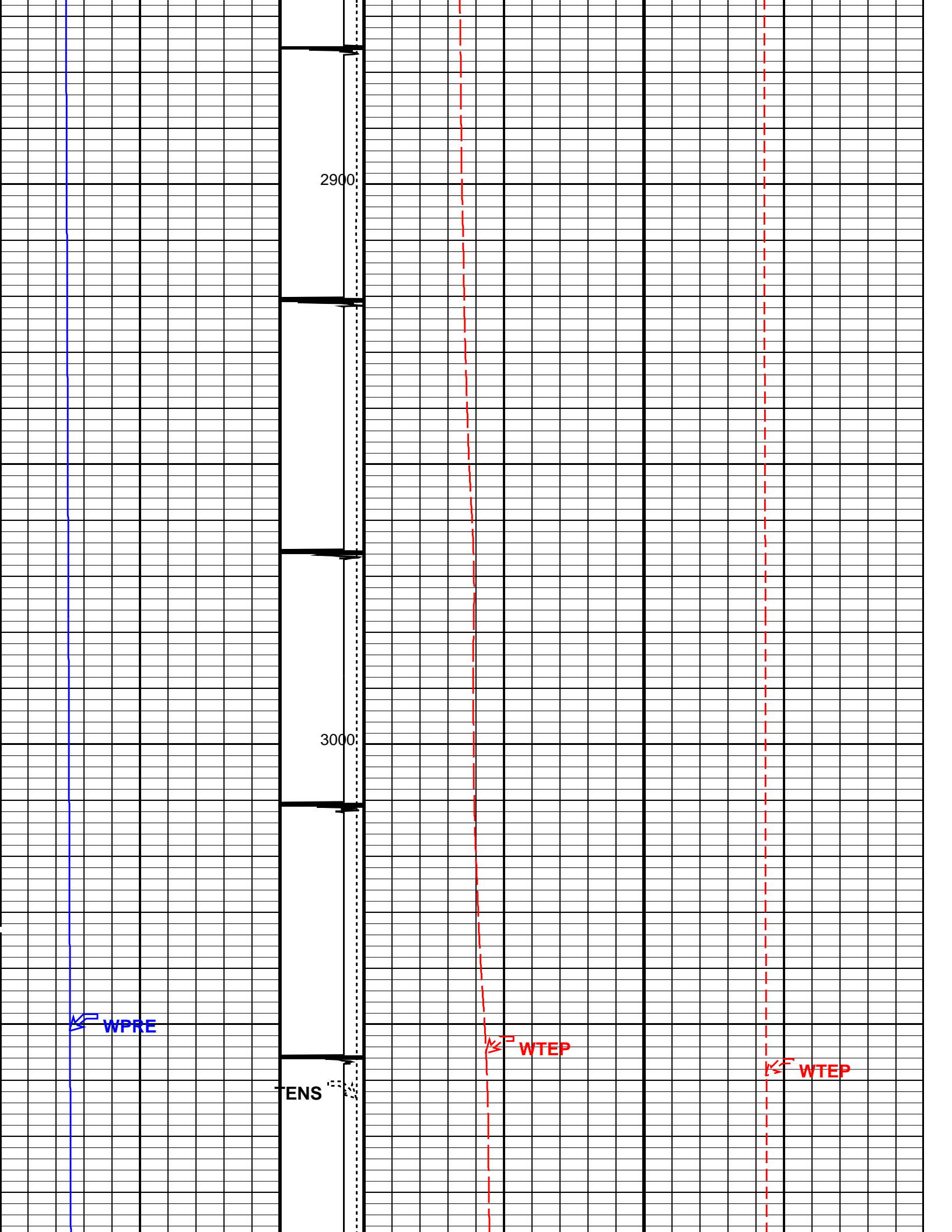
2800

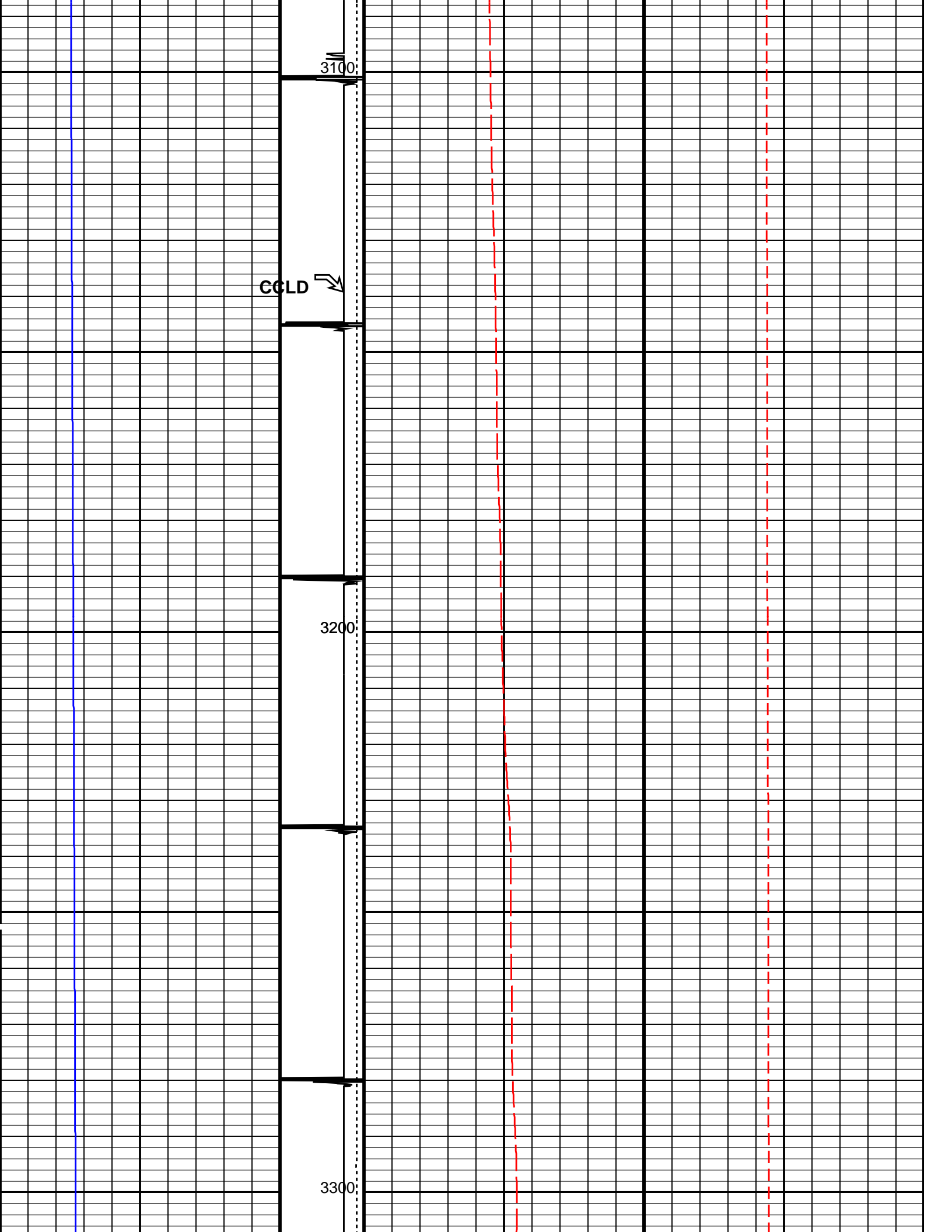
CCLD

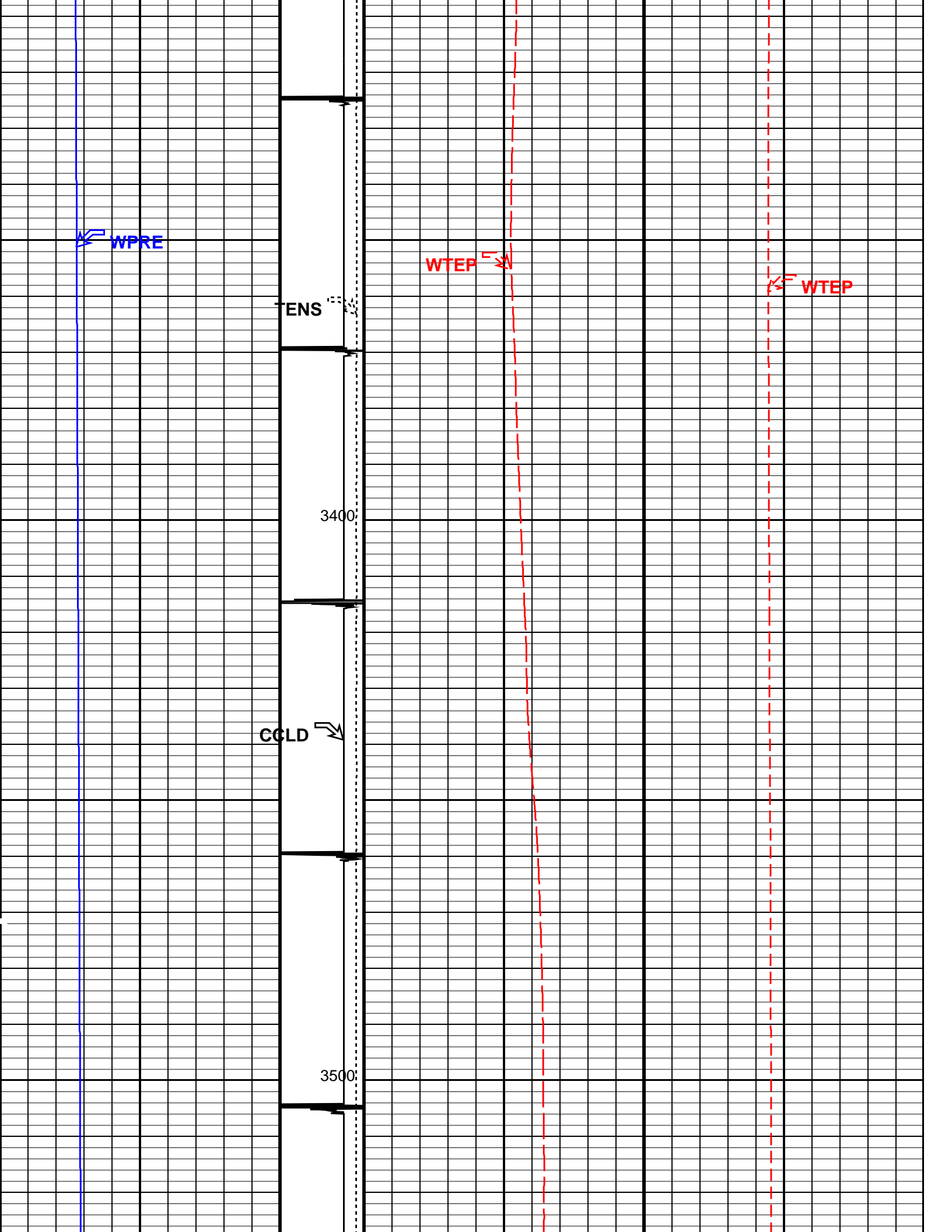
WPRE

WTEP

WTEP







WPRE

TENS

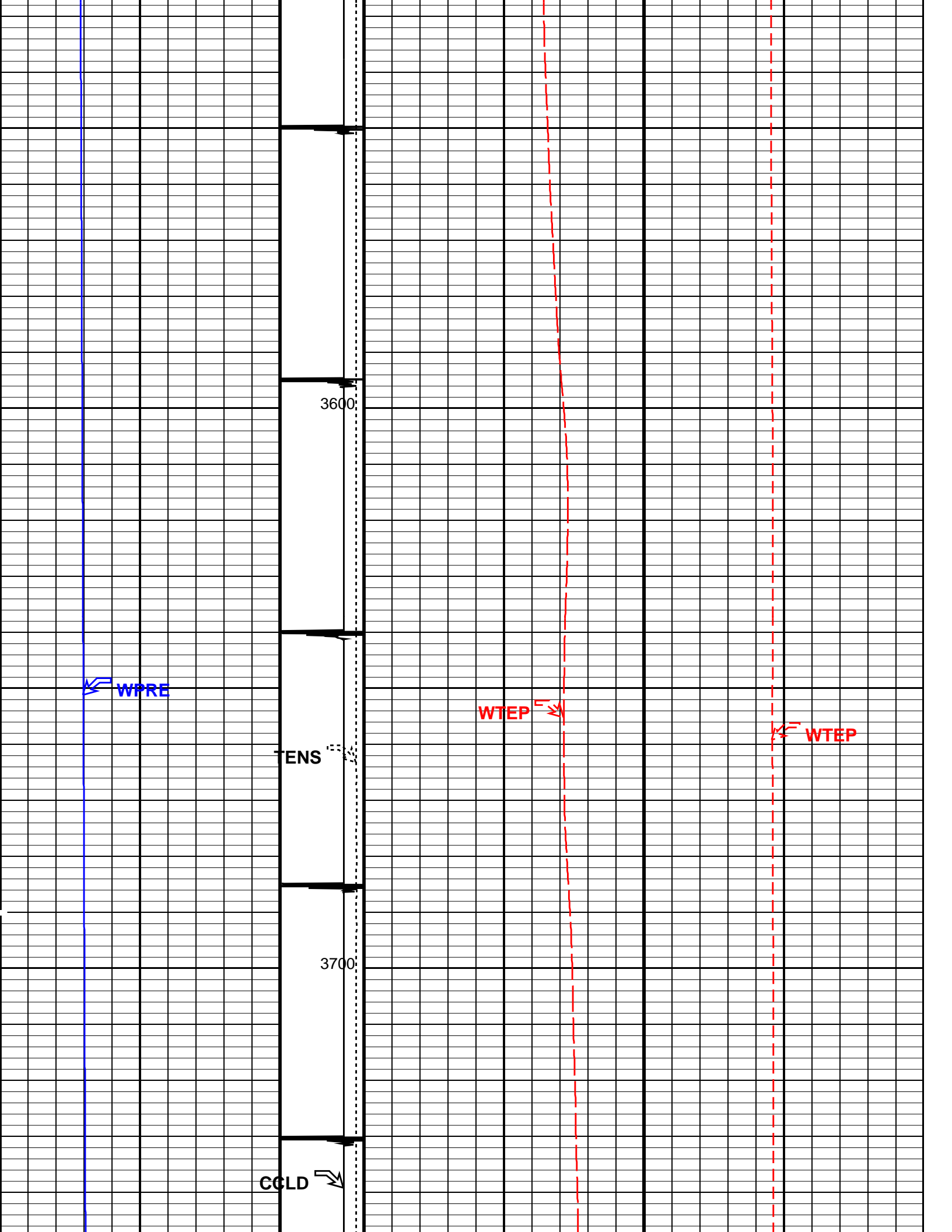
3400

CCLD

3500

WTEP

WTEP



WPRE

TENS

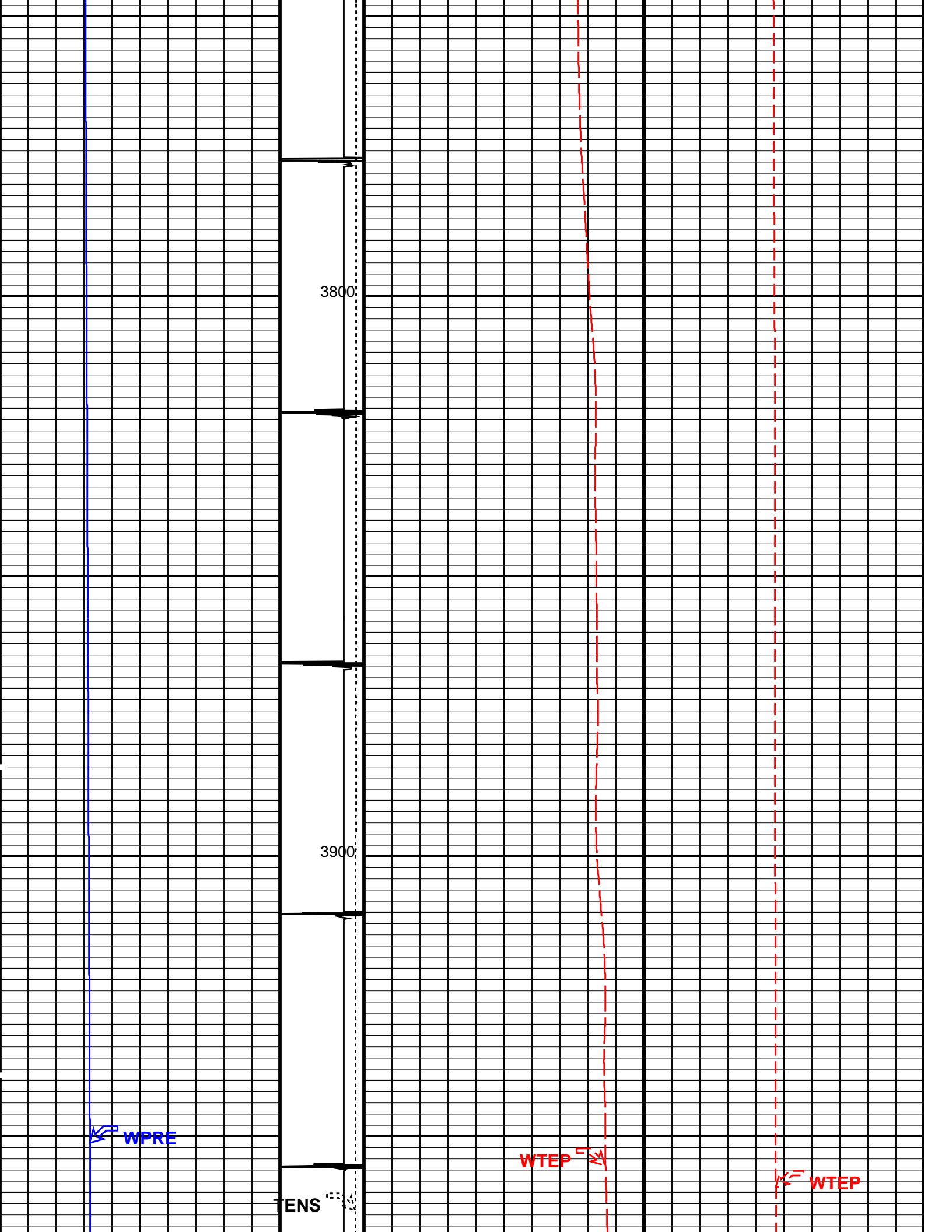
WTEP

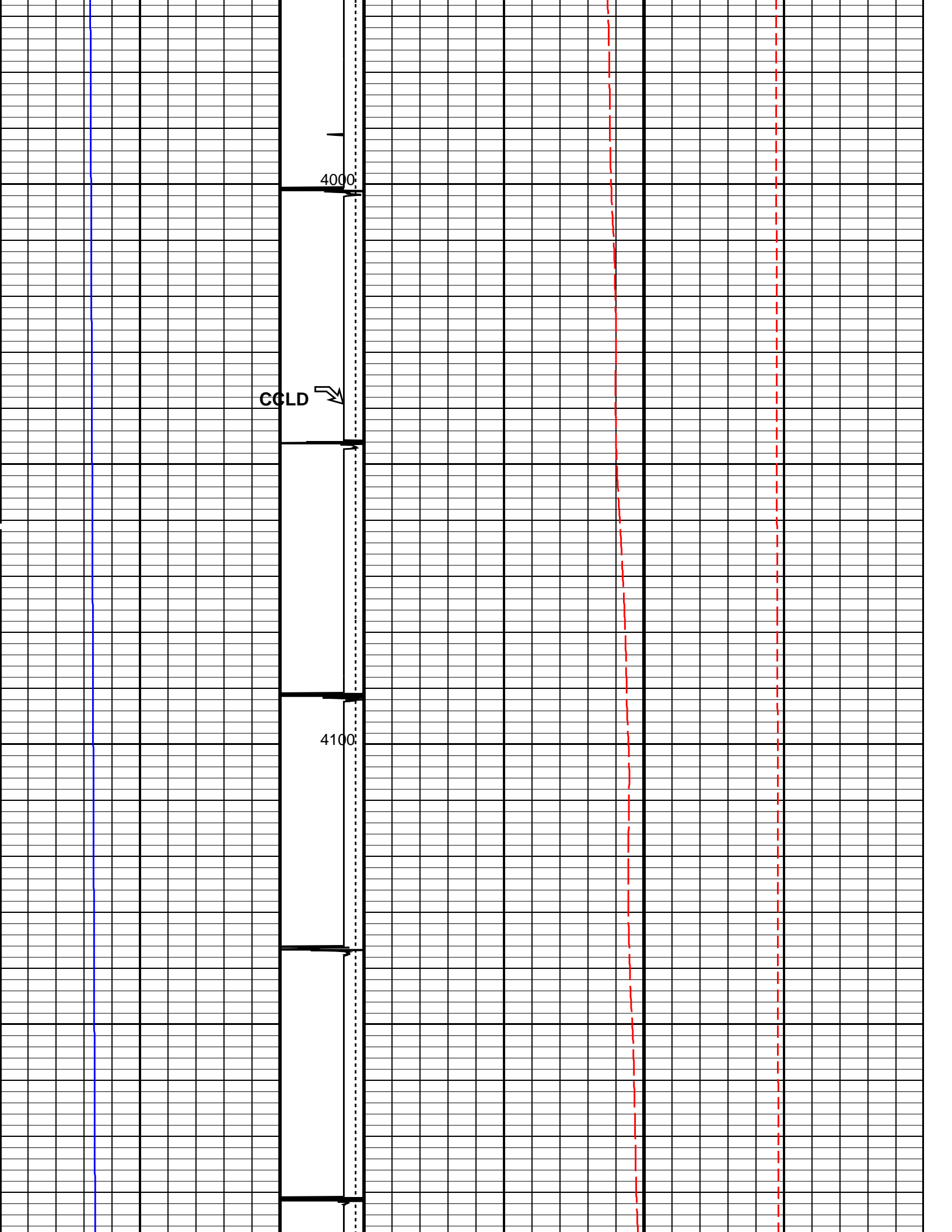
WTEP

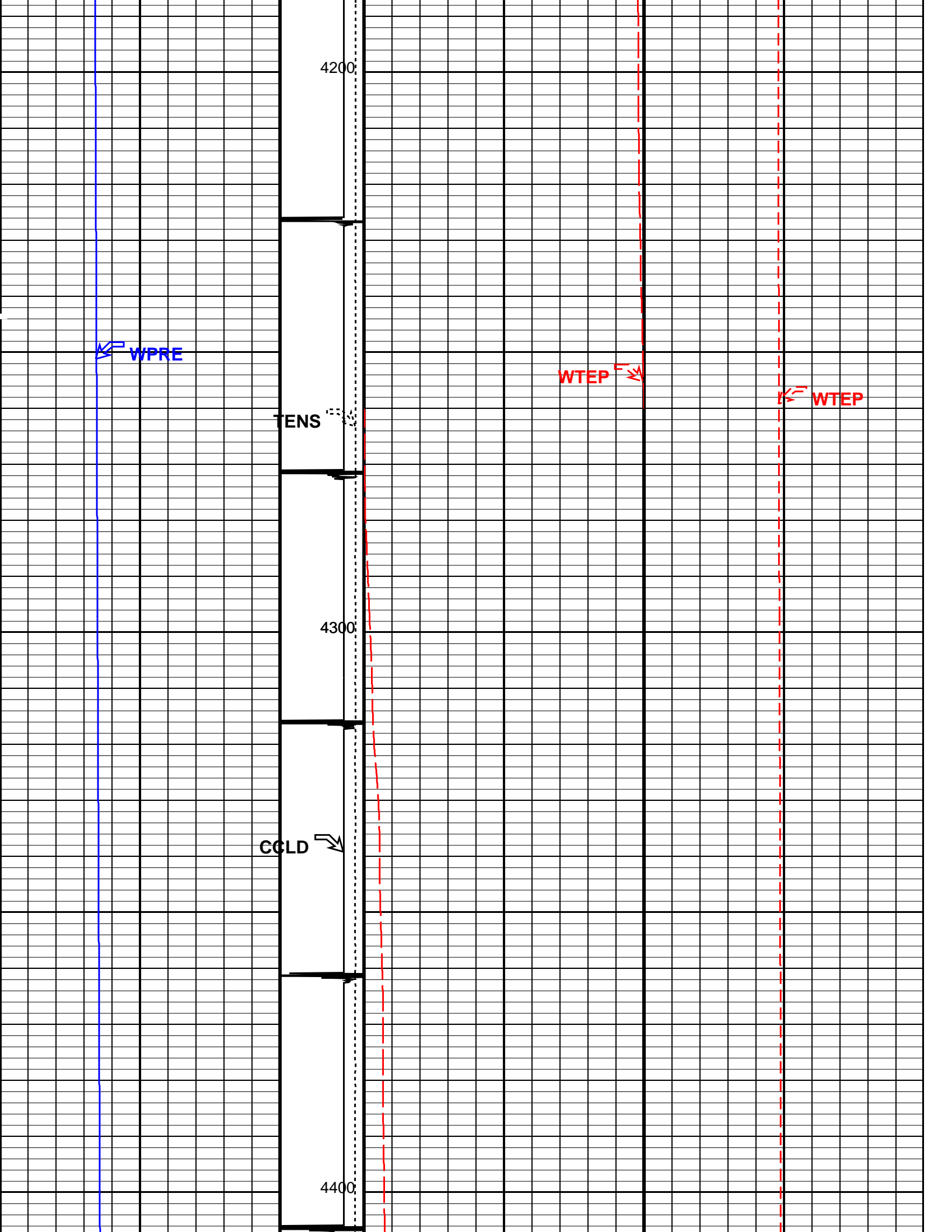
CCLD

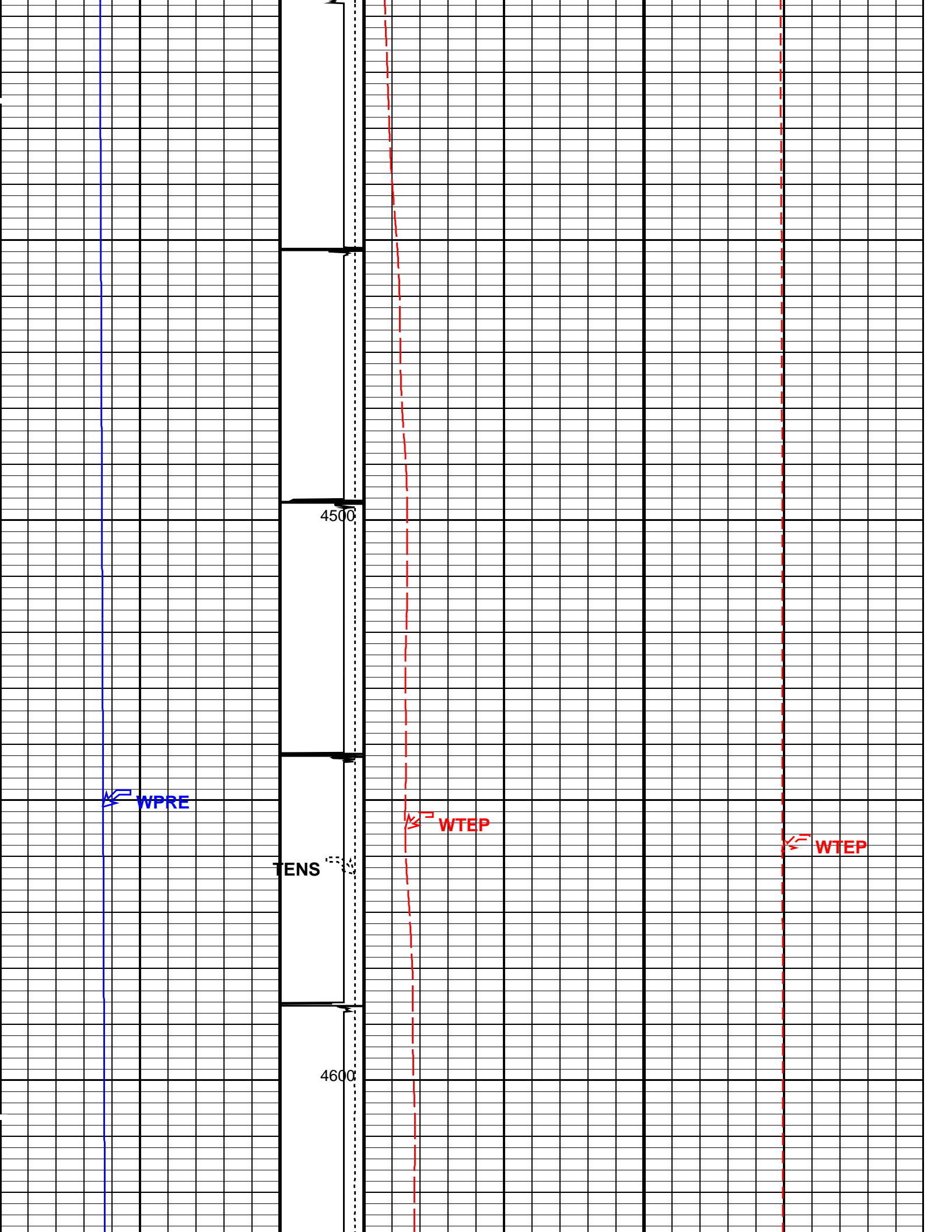
3600

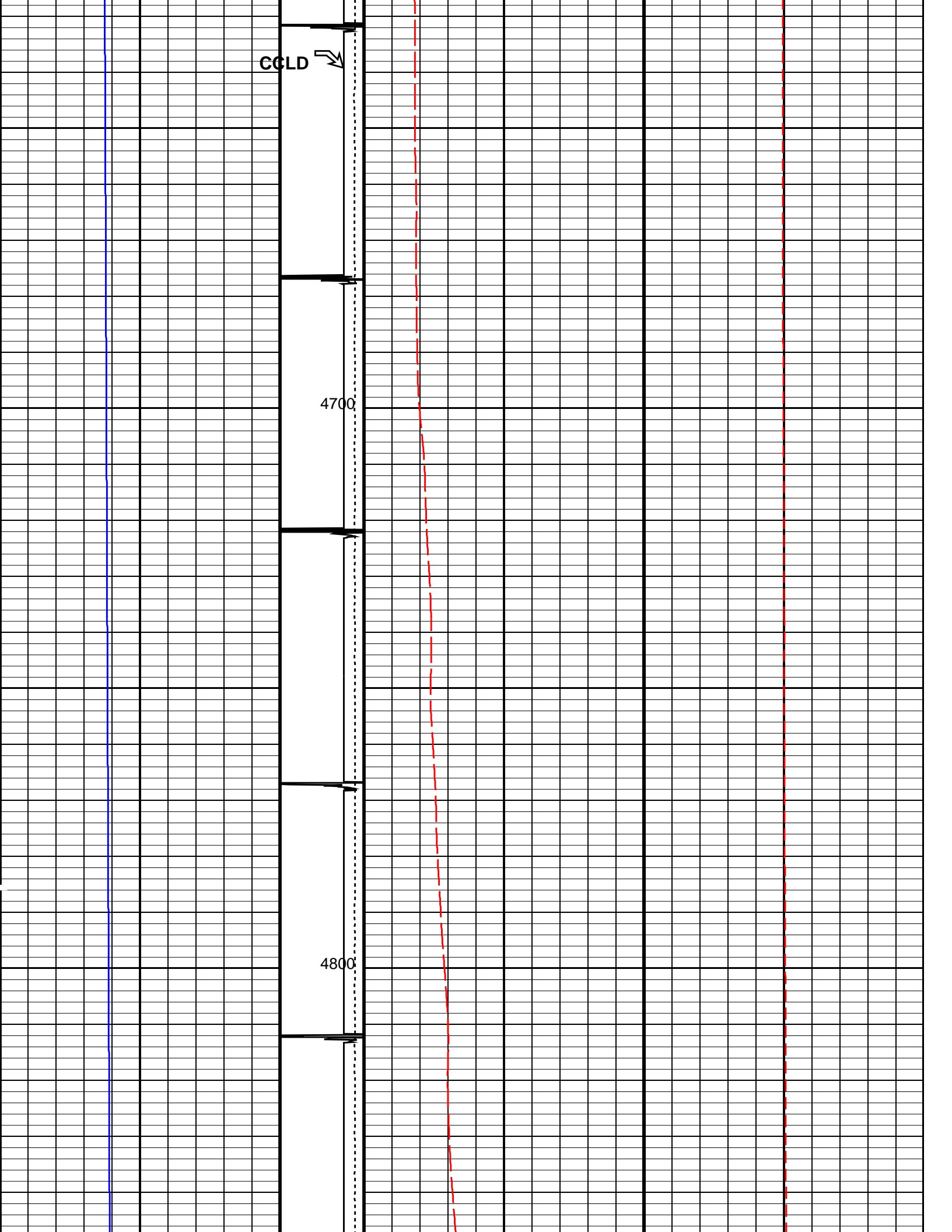
3700











WPRE

TENS

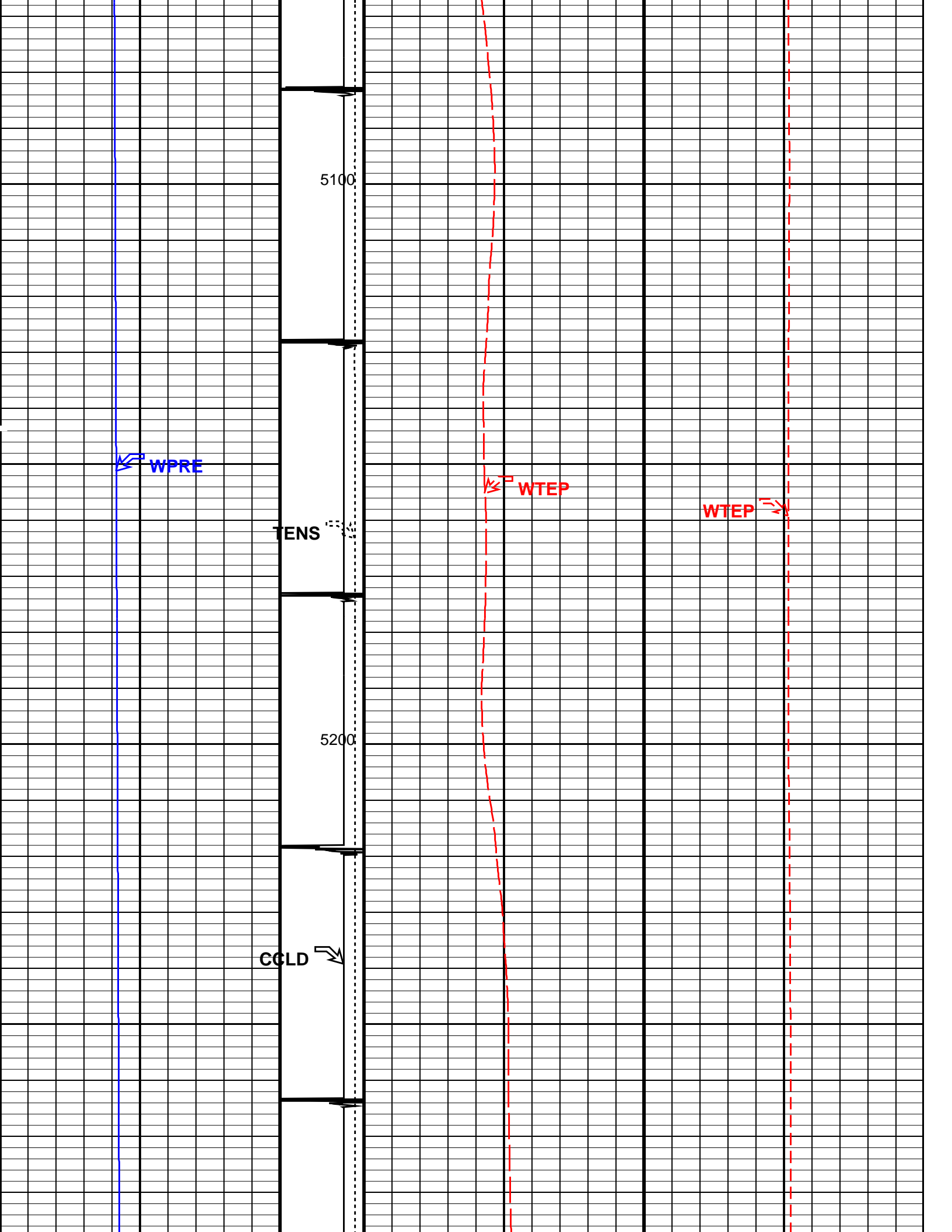
4900

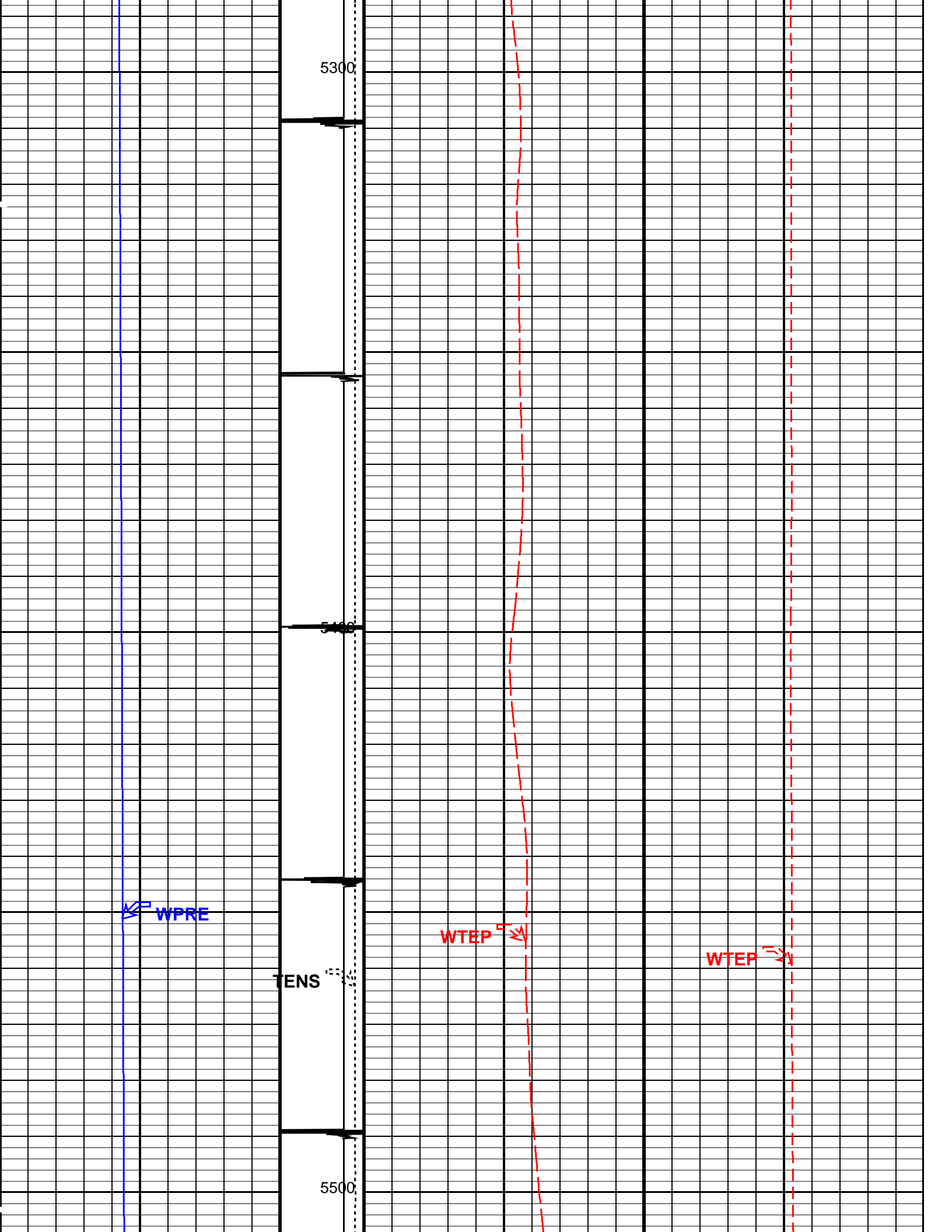
CCLD

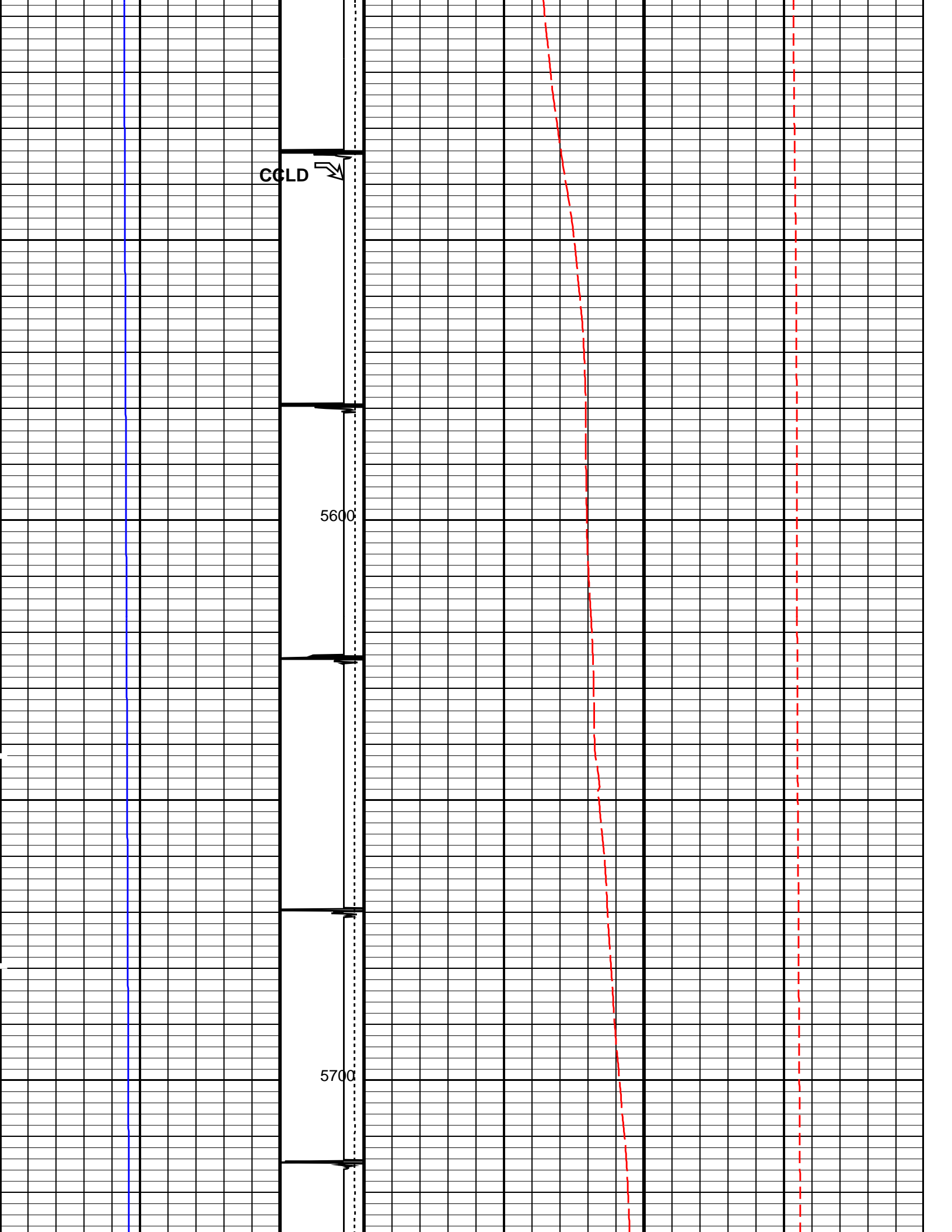
5000

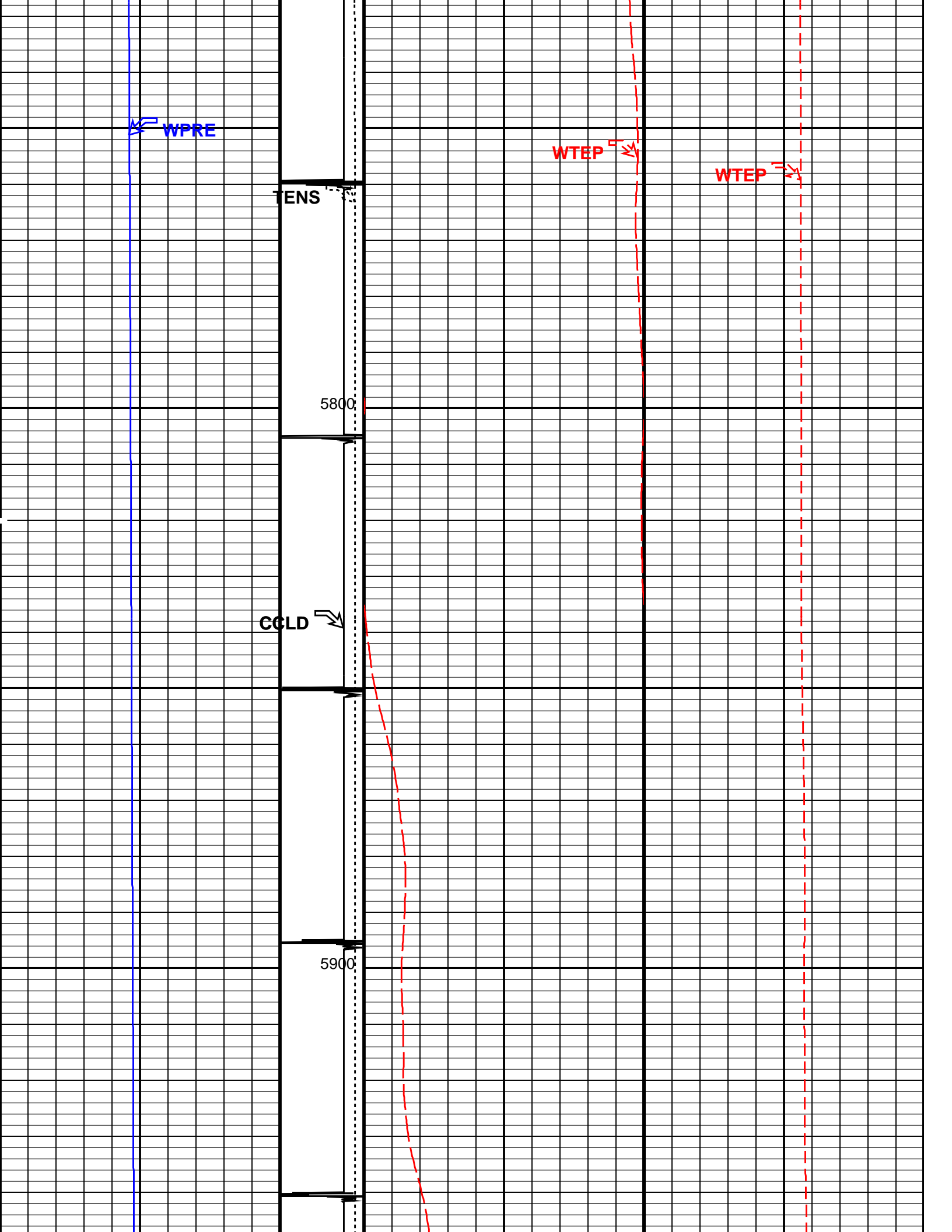
WTEP

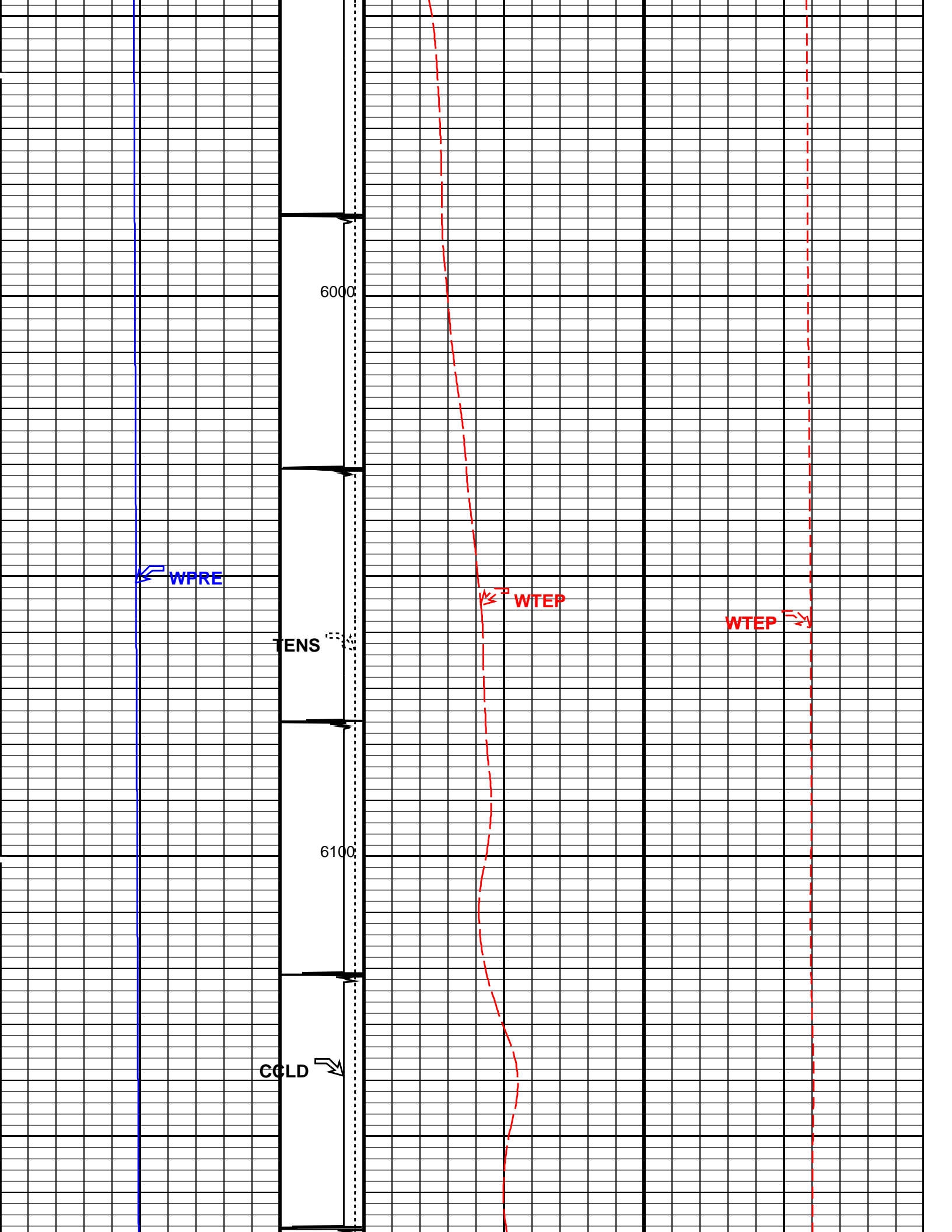
WTEP

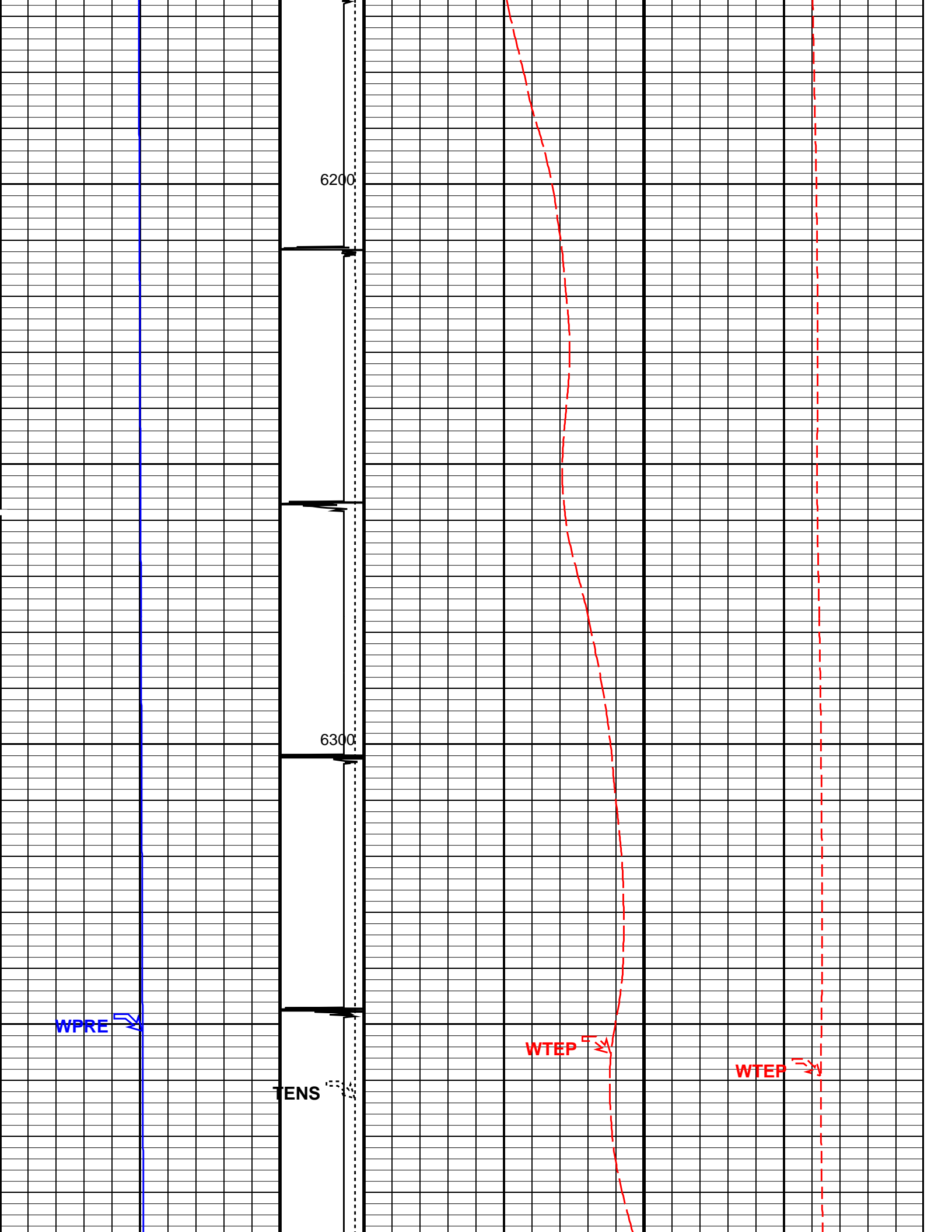


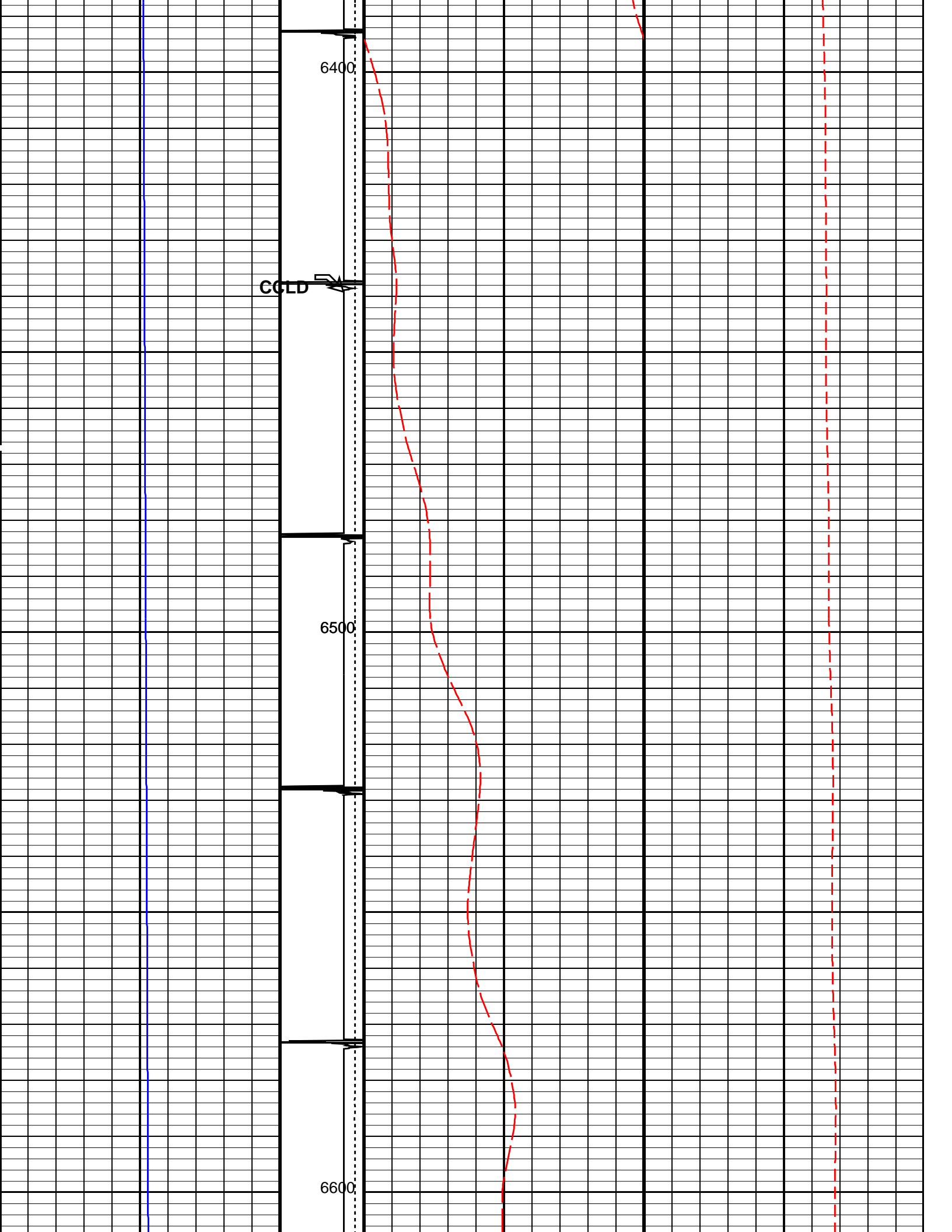


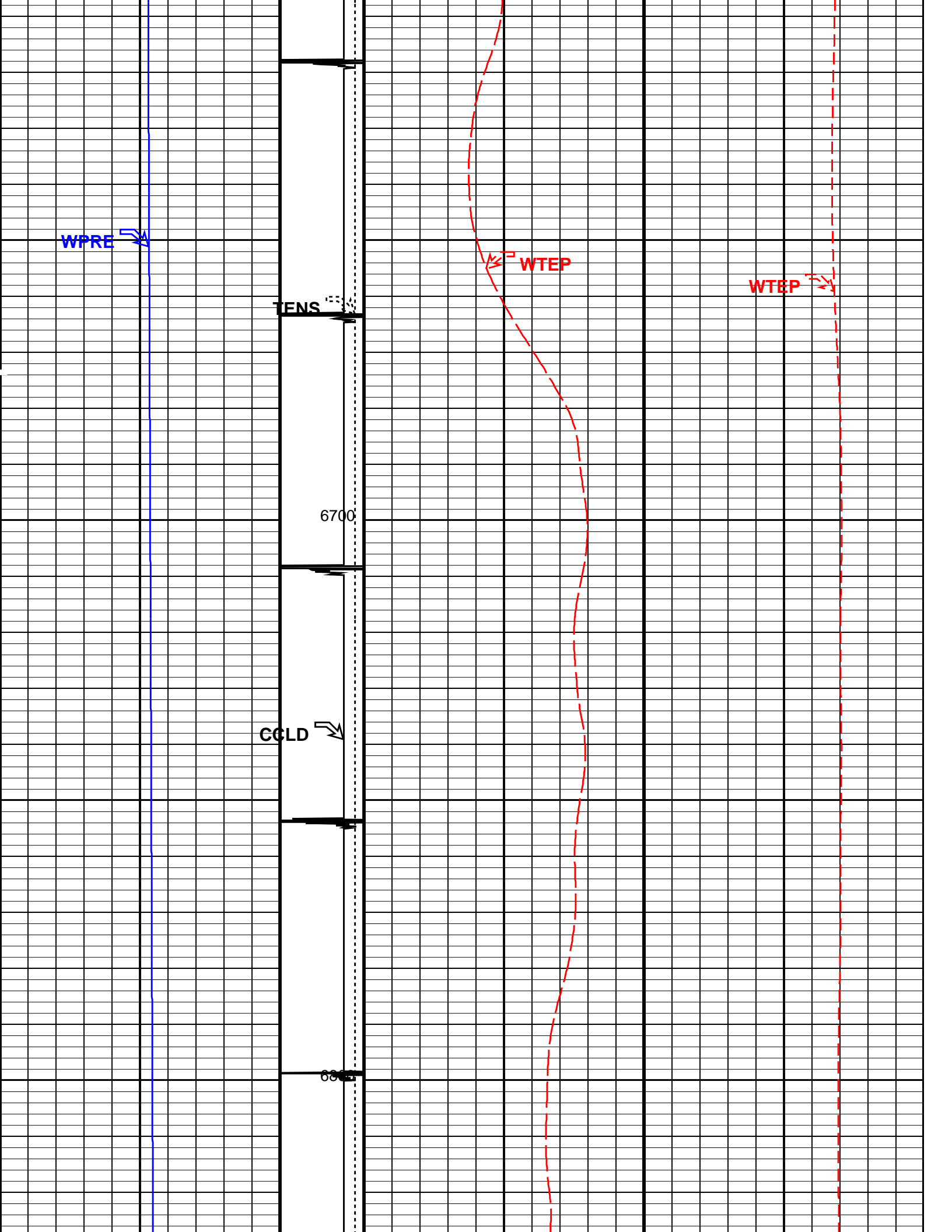


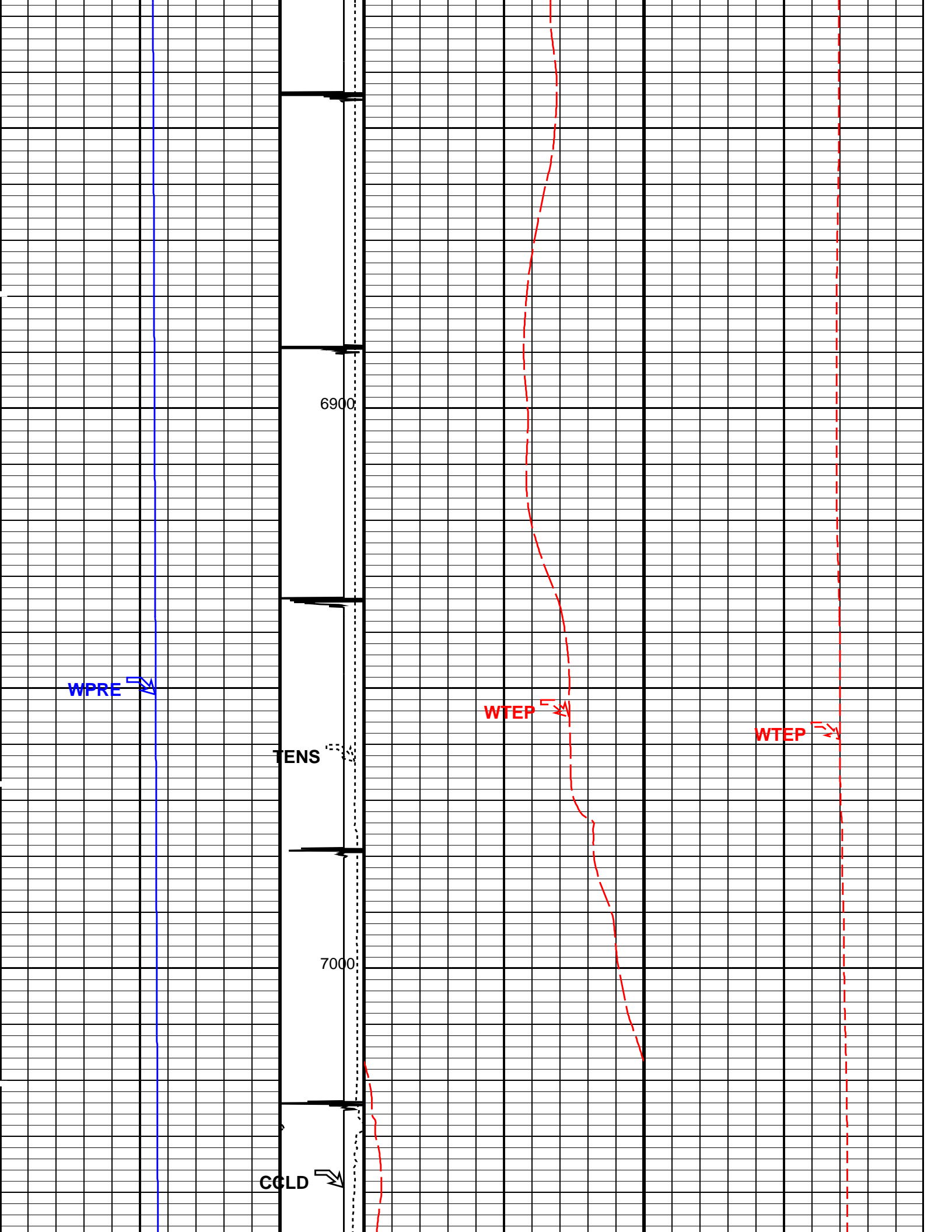


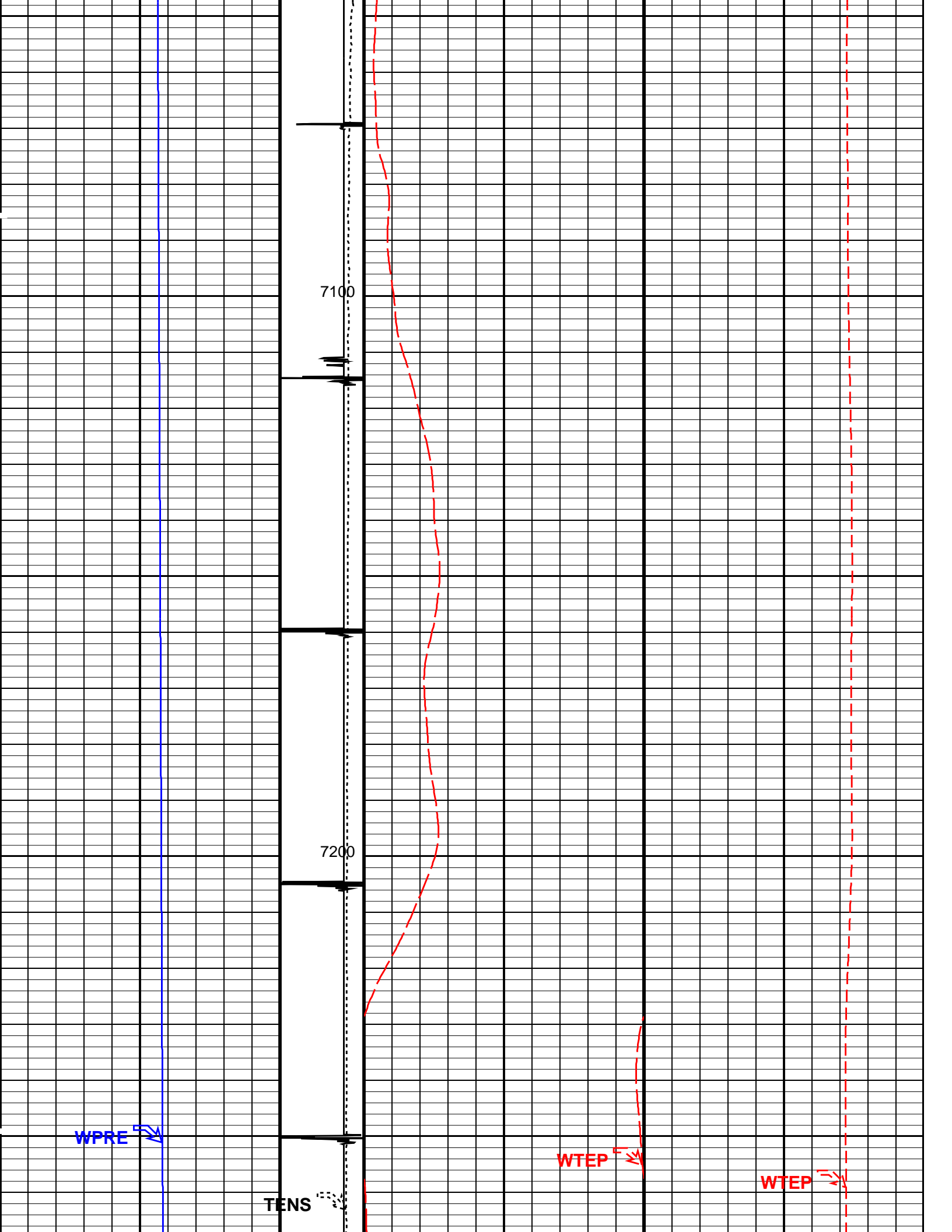


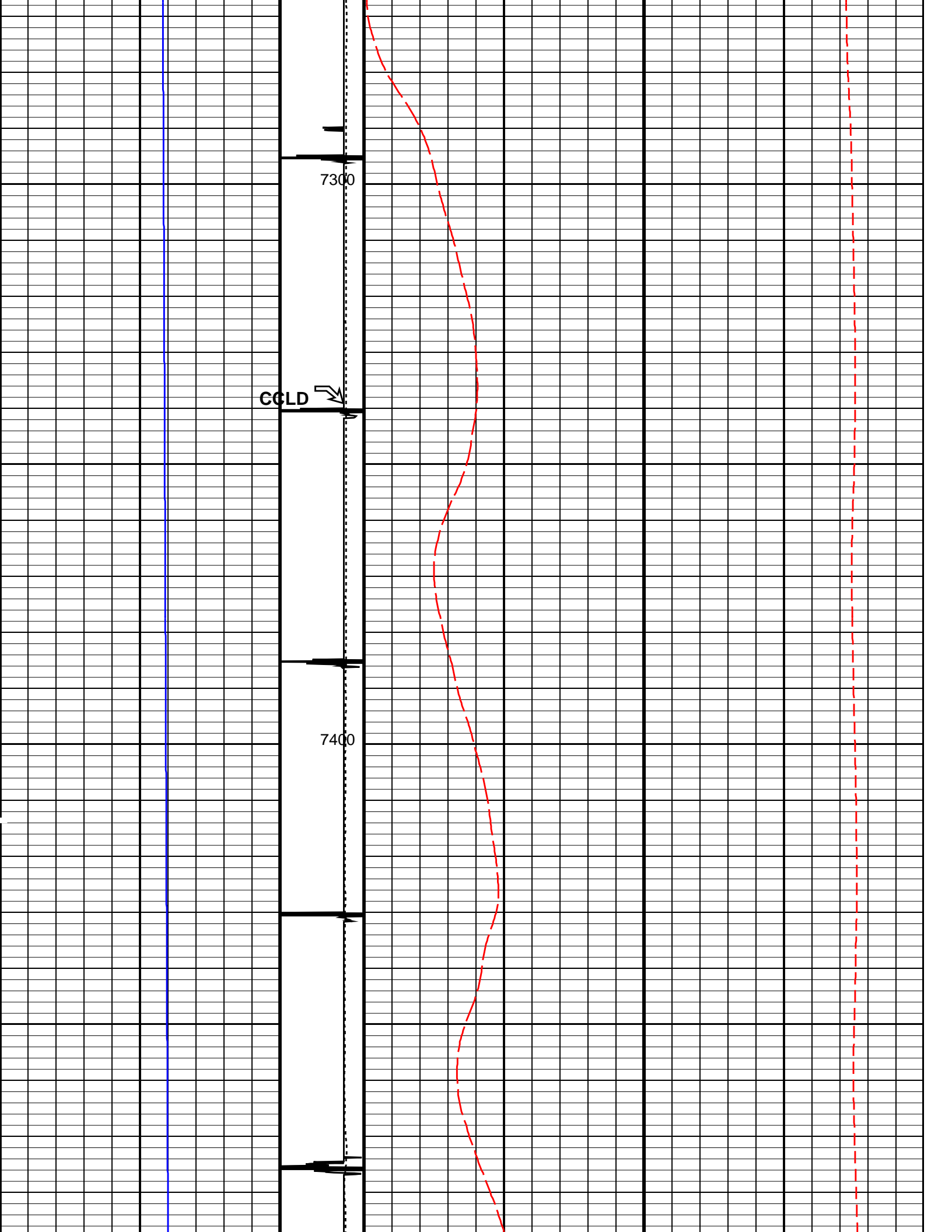


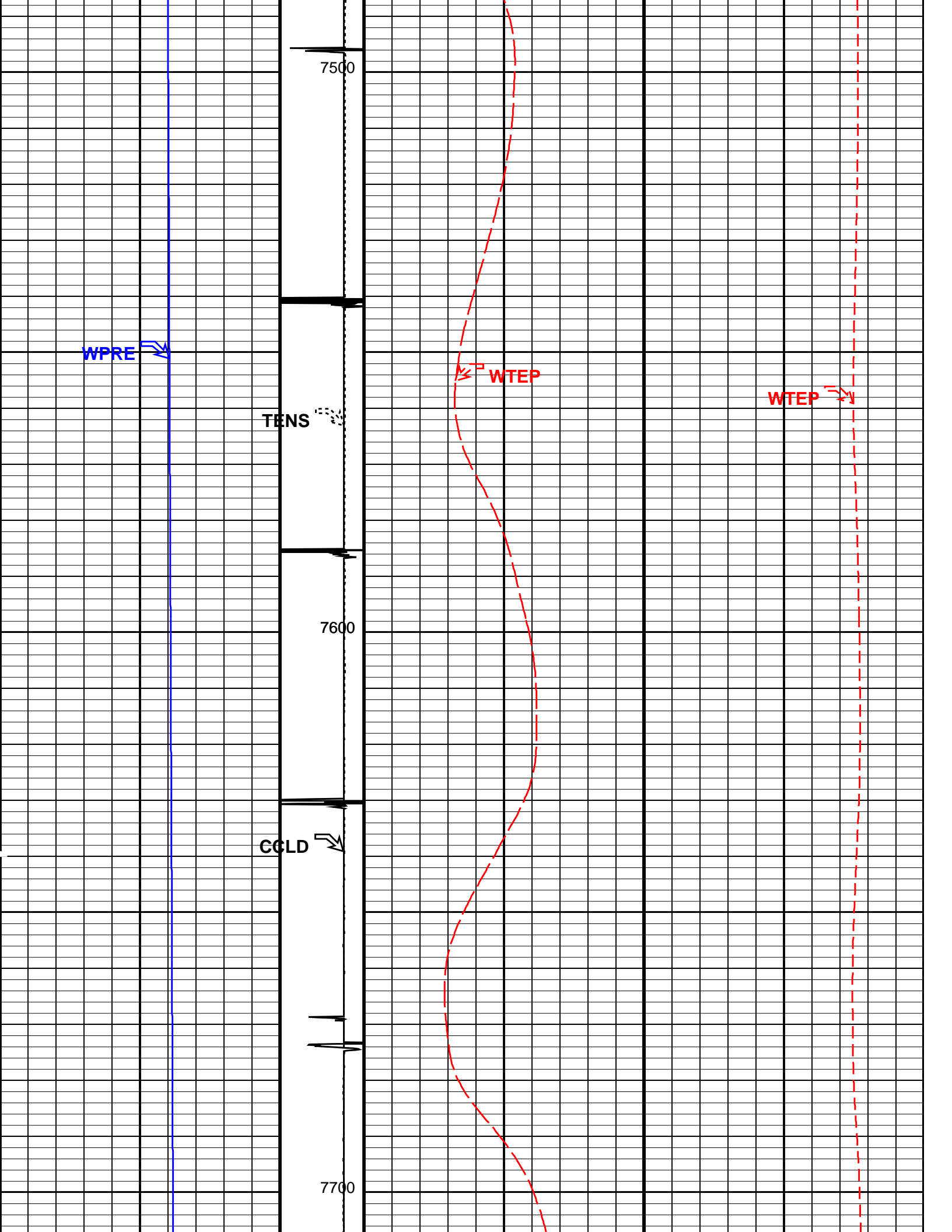


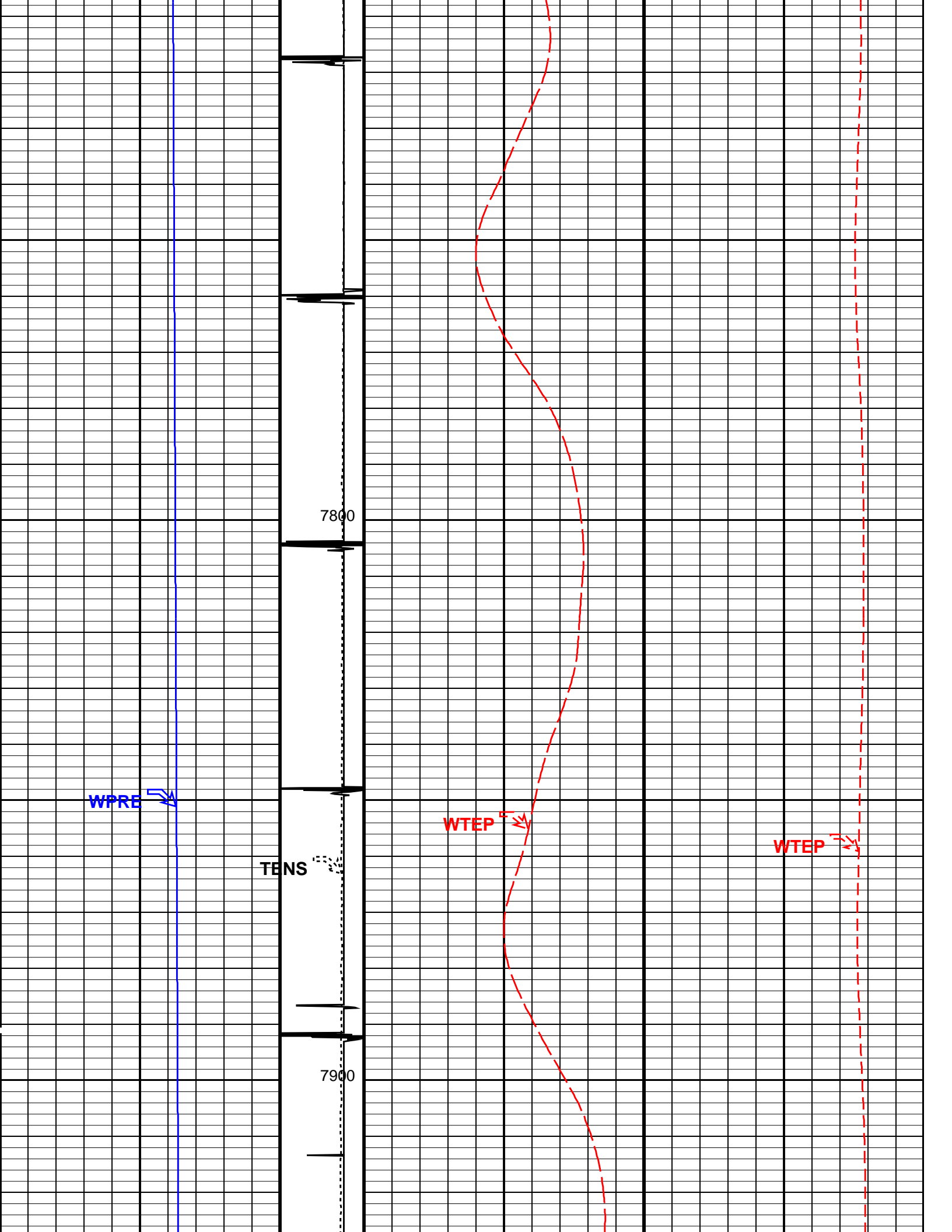


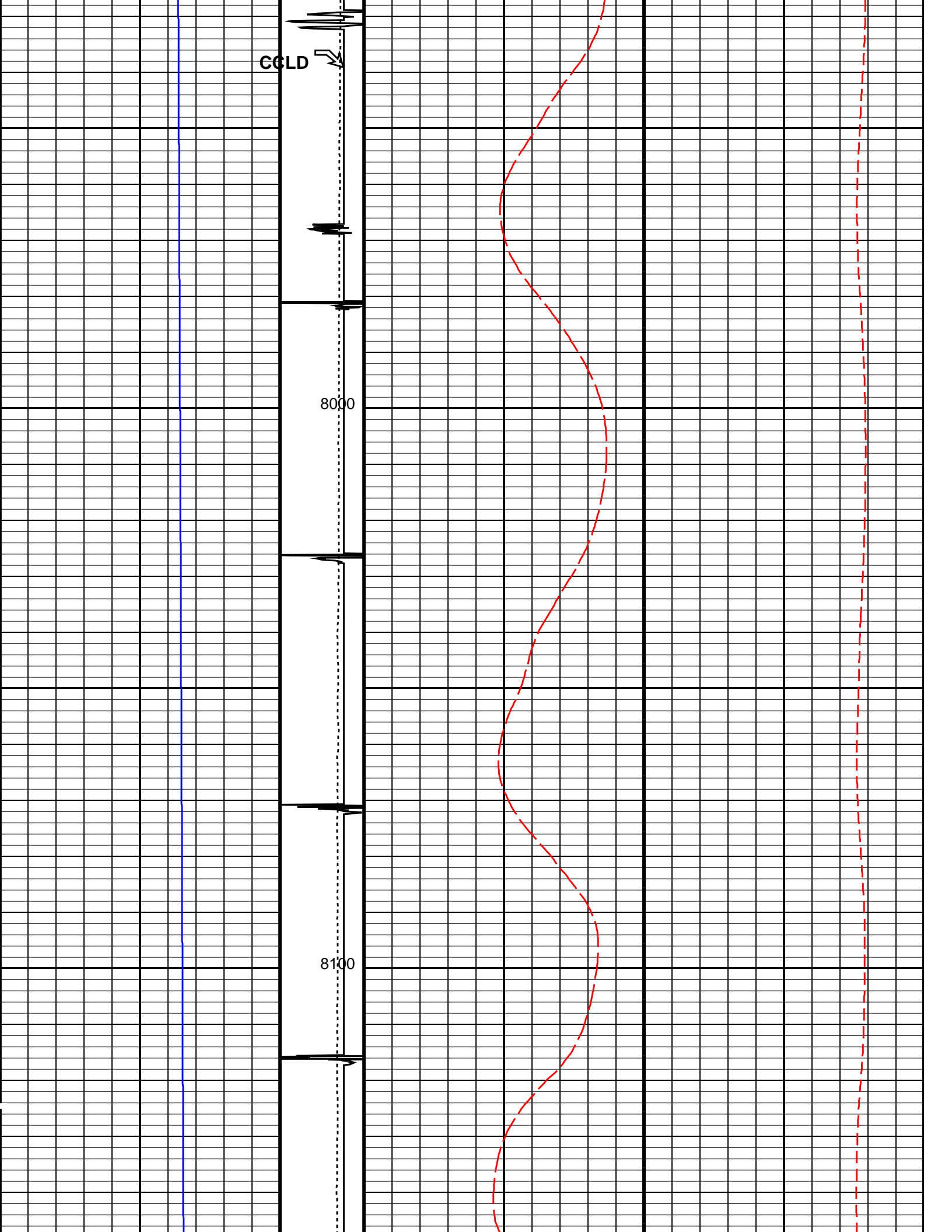












WPRE

TENS

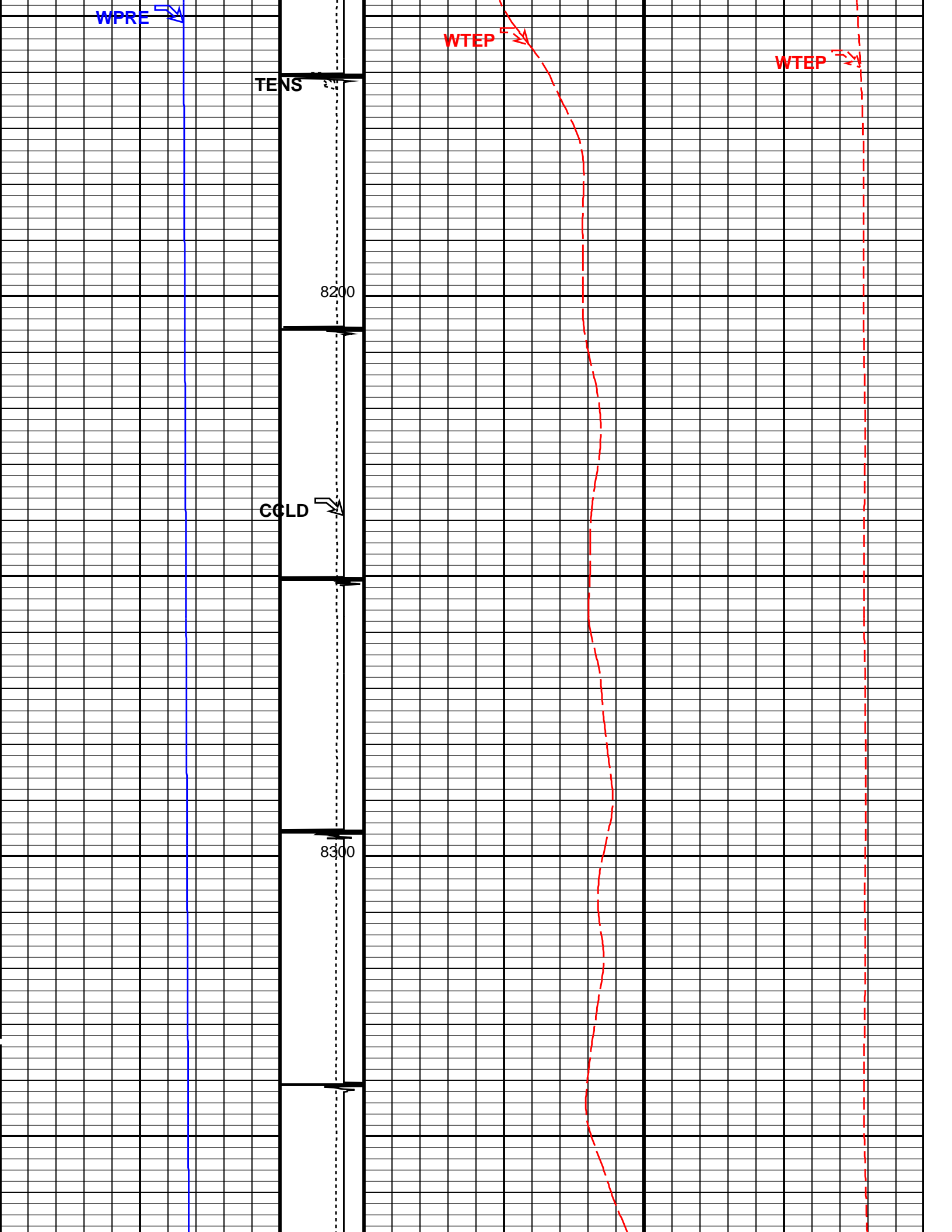
8200

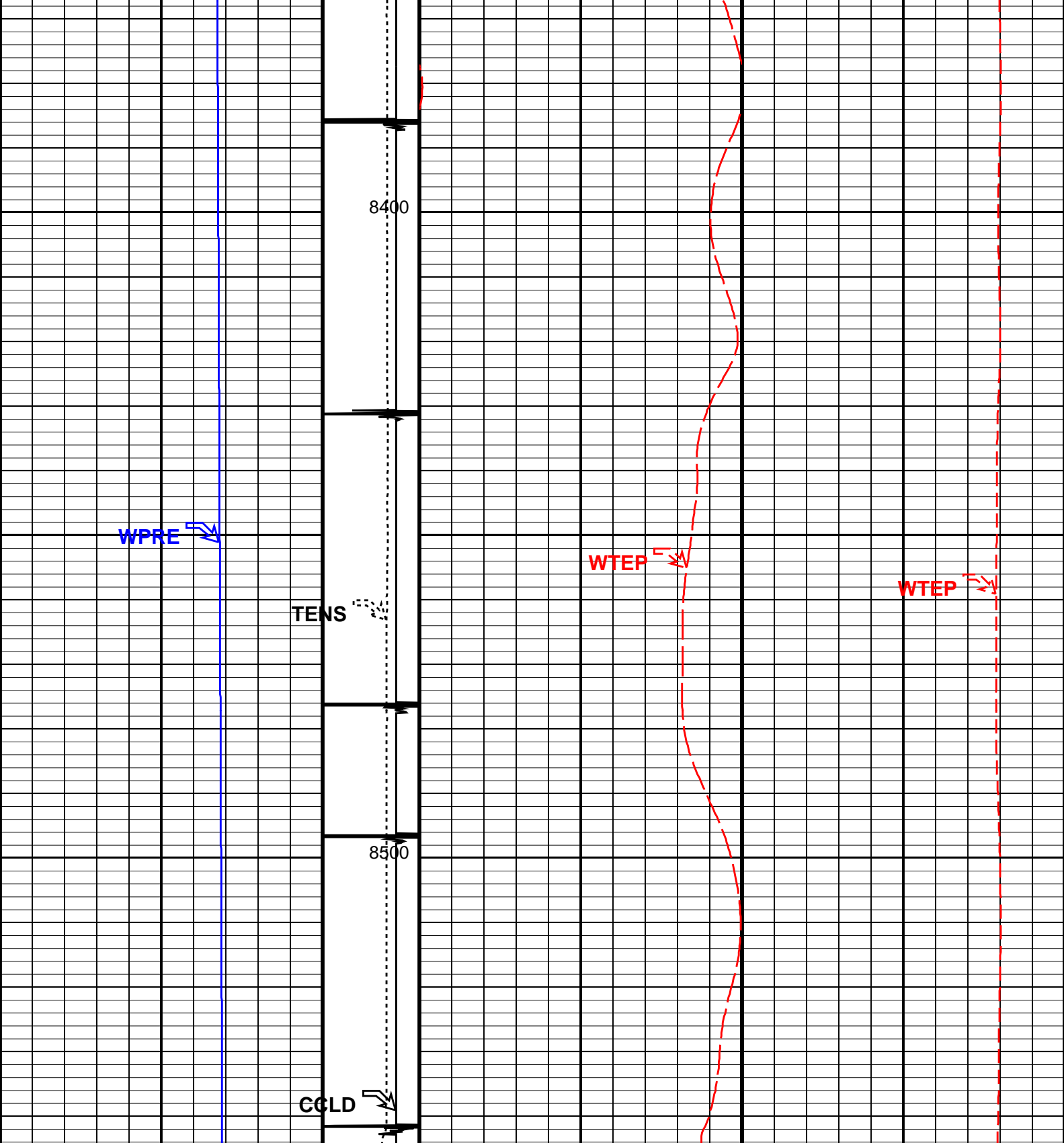
COLD

8300

WTEP

WTEP





Well Pressure (WP) (PSIA)	Tension (TENS) (LBF)	Well Temperature (WTEP) (DEGF)	Well Temperature (WTEP) (DEGF)
05000	20000	0200	0250
	Discriminat ed CCL (CCLD)		
	3(V)-1		

PIP SUMMARY

PSPT 19C2-270

Parameters

DLIS Name	Description	Value
System and Miscellaneous		
DO	Depth Offset for Playback	0.0 FT
DORL	Depth Offset for Repeat Analysis	0.0 FT
PP	Playback Processing	NORMAL

Input DLIS Files

DEFAULT	Flip_PSP_003LUP	PRODUCER	15-Jan-2013 17:43	8544.5 FT	-7.5 FT
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Output DLIS Files

DEFAULT	PSP_008PUP	FN:8	PRODUCER	15-Jan-2013 17:57	
CLIENT	PSP_008PUC	FN:9	CUSTOMER	15-Jan-2013 17:57	

Schlumberger

Temp Repeat Pass

MAXIS Field Log

Company: Encana Oil & Gas (USA) Inc Well: MCU 26-4A (I27W)

Input DLIS Files

DEFAULT	Flip_PSP_003LUP	PRODUCER	15-Jan-2013 17:43	8544.5 FT	-7.5 FT
DEFAULT	Flip_PSP_007LUP	PRODUCER	15-Jan-2013 17:56	5785.0 FT	5380.5 FT

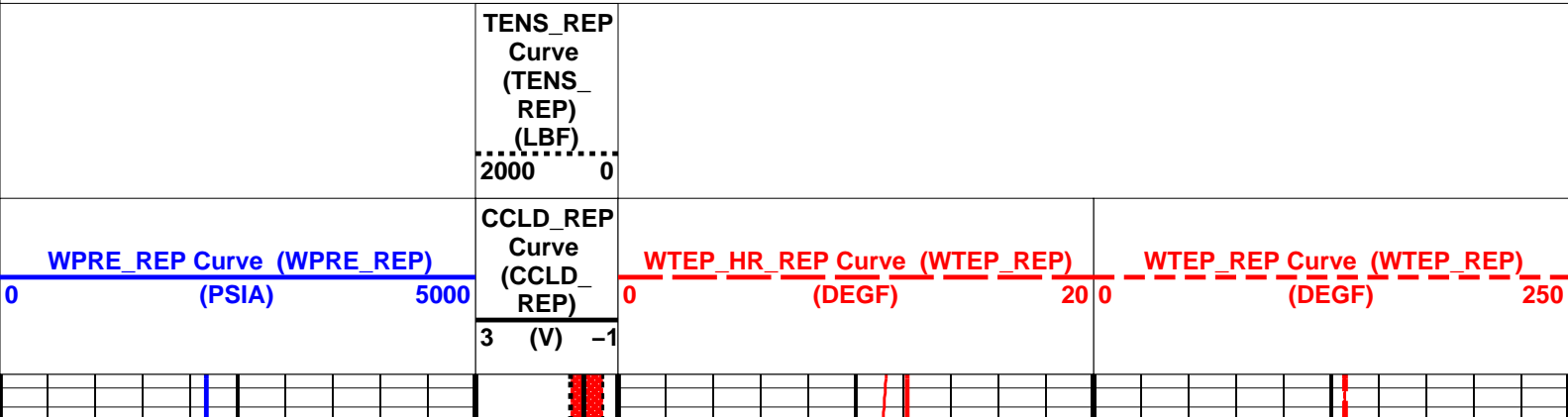
Output DLIS Files

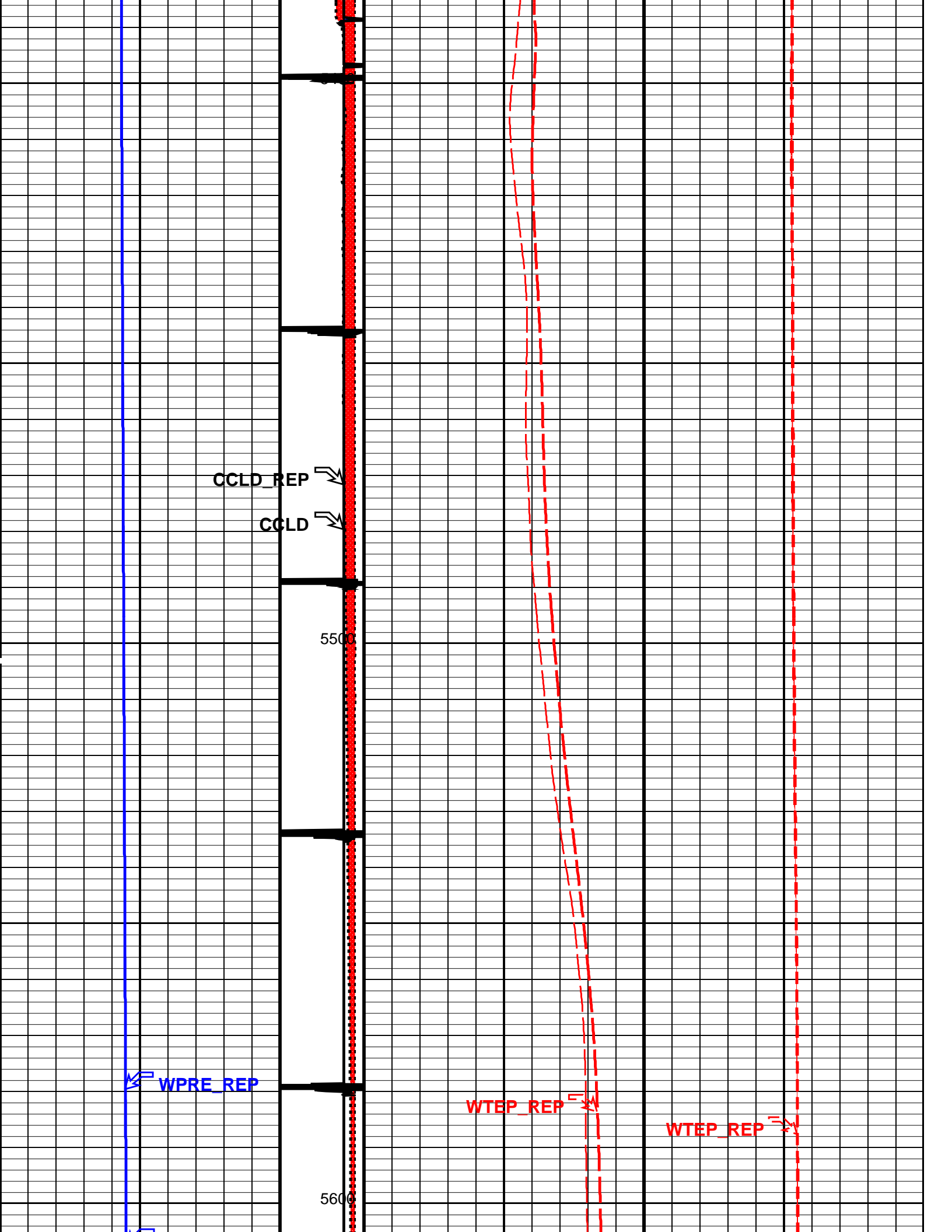
DEFAULT	PSP_008PUP	FN:8	PRODUCER	15-Jan-2013 17:57	
CLIENT	PSP_008PUC	FN:9	CUSTOMER	15-Jan-2013 17:57	

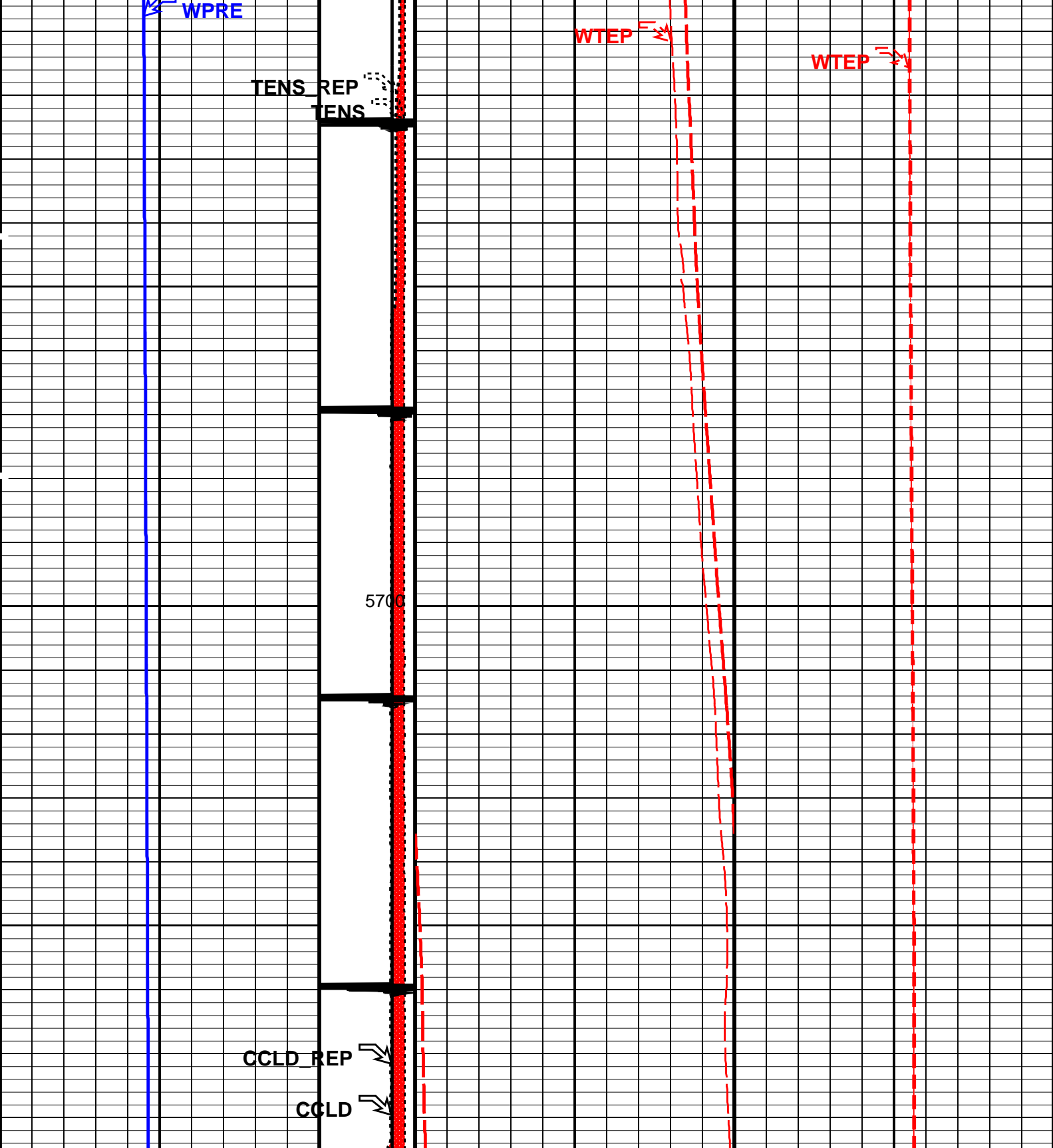
PSPT 19C2-270

PIP SUMMARY

Time Mark Every 60 S







WPRE_REP Curve (WPRE_REP) (PSIA)		WTEP_HR_REP Curve (WTEP_REP) (DEGF)		WTEP_REP Curve (WTEP_REP) (DEGF)	
0	5000	0	20	0	250
3 (V) -1					
TENS_REP Curve (TENS_ REP) (LBF)					
2000	0				

Time Mark Every 60 S

PIP SUMMARY

Format: Temp Log_REP

Vertical Scale: 5" per 100'

Graphics File Created: 15-Jan-2013 17:57

OP System Version: 19C2-270

PSPT

19C2-270

Parameters

DLIS Name	Description	Value
System and Miscellaneous		
DO	Depth Offset for Playback	0.0 FT
DORL	Depth Offset for Repeat Analysis	0.0 FT
PP	Playback Processing	NORMAL

Input DLIS Files

DEFAULT	Flip_PSP_003LUP	PRODUCER	15-Jan-2013 17:43	8544.5 FT	-7.5 FT
DEFAULT	Flip_PSP_007LUP	PRODUCER	15-Jan-2013 17:56	5785.0 FT	5380.5 FT

Output DLIS Files

DEFAULT	PSP_008PUP	FN:8	PRODUCER	15-Jan-2013 17:57
CLIENT	PSP_008PUC	FN:9	CUSTOMER	15-Jan-2013 17:57

Schlumberger

Calibrations

MAXIS Field Log

Client:	Encana Oil & Gas (USA) Inc	Tool:	PSP
Field:	Mamm Creek	Sub Type:	PBMS
Well:	MCU 26-4A (I27W)	Sensor:	Clock Model
Run date:	15-Jan-2013		

PBMS Digitalization Clock

Sonde Serial NB

Sensor Serial NB1863

Calib Date ddmmyy261007

Matrix Size16

Coeff CRC3AB0

Clock Coeff

Temp**0	Temp**1	Temp**2
Temp**0	Temp**3	Temp**4
Temp**0	Temp**5	

Temp**0	Temp**1	Temp**2
Temp**0	Temp**3	Temp**4
Temp**0	Temp**5	

Client: Encana Oil & Gas (USA) Inc

Field: Mamm Creek

Well: MCU 26–4A (I27W)

Run date: 15–Jan–2013

Tool: PSP

Sub Type: PBMS

Sensor: Sapphire

PBMS Sapphire 10kPsi Gauge

Sonde Serial NB

Sensor Serial NB

Calib Date ddmmyy

Matrix Size

Coeff CRC

COEFFICIENTS FOR SAPPHIRE PBMS–A.1863 S/N:

1863

261007

66

F756

Pres Coeff

	Tt**0	Tt**1	Tt**2
Tp**0	–.359590231743E+05	+.299188234803E+05	–.107446687531E+05
Tp**1	+.237648969480E+05	–.186021128720E+05	+.671109848596E+04
Tp**2	–.149422117989E+03	+.596502883584E+02	–.652553761493E+01
Tp**3	+.143644323931E+01	–.305754161348E+00	0.0
Tp**4	0.0	0.0	0.0
Tp**5	0.0	0.0	0.0

	Tt**3	Tt**4	Tt**5
Tp**0	+.180759727775E+04	–.117082497700E+03	0.0
Tp**1	–.113521285304E+04	+.740106734909E+02	0.0
Tp**2	0.0	0.0	0.0
Tp**3	0.0	0.0	0.0
Tp**4	0.0	0.0	0.0
Tp**5	0.0	0.0	0.0

PBMS Sapphire 10kPsi Gauge

Sonde Serial NB

Sensor Serial NB

Calib Date ddmmyy

:

1863

261007

Calib Date ddmmyy 201001
Matrix Size 66
Coeff CRC 89EB

Temp Coeff

	Tp**0	Tp**1	Tp**2
Tt**0	+.196657284828E+04	+.100051500932E+02	-.971524337955E+01
Tt**1	-.124071500899E+04	-.116824853877E+00	+.270298401768E+01
Tt**2	+.276001008305E+03	-.113239508435E+01	-.340525434373E-01
Tt**3	-.216436996942E+02	+.118632399044E+00	0.0
Tt**4	0.0	0.0	0.0
Tt**5	0.0	0.0	0.0

	Tp**3	Tp**4	Tp**5
Tt**0	+.255739855736E+01	-.250107203346E+00	0.0
Tt**1	-.674177192949E+00	+.655237399131E-01	0.0
Tt**2	0.0	0.0	0.0
Tt**3	0.0	0.0	0.0
Tt**4	0.0	0.0	0.0
Tt**5	0.0	0.0	0.0

Client: Encana Oil & Gas (USA) Inc
Field: Mamm Creek
Well: MCU 26-4A (I27W)
Run date: 15-Jan-2013

Tool: PSP
Sub Type: PBMS
Sensor: GR

PBMS Gamma Ray

Sonde Serial NB

Sensor Serial NB

Calib Date ddmmyy

Matrix Size

Coeff CRC

RESISTORS FOR GR SENSOR N.33499, TOOL PBMS-AA1863. SENSOR S/N:

33499

100402

12

DFA9

GR HV Rt

	Rt**0	Rt**1
Rt**0	+.150000000000e+04	+.241000000000e+04

Client: Encana Oil & Gas (USA) Inc

Field: Mamm Creek

Well: MCU 26–4A (I27W)

Run date: 15–Jan–2013

Tool: PSP

Sub Type: PBMS

Sensor: WellTemp RTD

PBMS RTD Well Thermometer

Sonde Serial NB

Sensor Serial NB

Calib Date ddmmyy

Matrix Size

Coeff CRC

COEFFICIENTS FOR RTD THERMOMETER PBMS–A.1863 S/N:

1863

261007

16

3DE3

WTemp Coeff

	Tt**0	Tt**1	Tt**2
Tt**0	–.445369658202E+03	+.231013910229E+03	–.562860354452E+02
	Tt**3	Tt**4	Tt**5
Tt**0	+.107489365785E+02	–.720697242025E+00	0.0