



Baker Atlas



FILE NO:	COMPANY	VULCAN MINERALS INC.
API NO:	WELL	VULCAN INVESTCAN RED BROOK #2
	FIELD	BAY ST. GEORGE BASIN
	PROVINCE	NEWFOUNDLAND AND LABRADOR
Ver. 3.87	LOCATION:	OTHER SERVICES
UID:		ZDL-CN-GR-CAL
N/A		HDIL-GR-CAL, CVL
LICENSE:	BH LOC. LSD:	GR-STAR, DSL
ADW 2009-116-03	LAT 48.2679591667	RCOR, VSP
	LONG -58.7501141667	XMAC-GR
PERMANENT DATUM	G.L.	ELEVATION
LOG MEASURED FROM	K.B.	6.3 M
DRILL MEAS. FROM	KELLY BUSHING	ABOVE P.D.
		ELEVATIONS:
		KB 63.4 M
		DF 63.1 M
		GL 57.1 M

DATE		27-NOV-2009			
RUN	TRIP	2	5		
SERVICE ORDER		CA210569			
DEPTH DRILLER		1965.0 M			
DEPTH LOGGER		NA			
BOTTOM LOGGED INTERVAL		1668.0 M			
TOP LOGGED INTERVAL		890.0 M			
CASING DRILLER		244.5 MM		②	885.0 M
CASING LOGGER		NA			
BIT SIZE		216.0 MM			
TYPE OF FLUID IN HOLE		POLYMER			
DENSITY	VISCOSITY	1260.0 G/L	80.0 S		
PH	FLUID LOSS	11.2	4.8 ML		
SOURCE OF SAMPLE		TOOL MEASURED			
RM AT MEAS. TEMP.		0.30 OHMM		②	23.4 DEGC
RMF AT MEAS. TEMP.		0.24 OHMM		②	23.4 DEGC
RMC AT MEAS. TEMP.		0.36 OHMM		②	23.4 DEGC
SOURCE OF RMF		RMC	CALCULATED		
RM AT BHT		0.30 OHMM		②	23.4 DEGC
TIME SINCE CIRCULATION		50.5 HOURS			
MAX. RECORDED TEMP.		NA			
EQUIP. NO.	LOCATION	EG555	OH NISKU		
RECORDED BY		R. NEUPANE			
WITNESSED BY		M. SMITH			

IN MAKING INTERPRETATIONS OF LOGS OUR EMPLOYEES WILL GIVE CUSTOMER THE BENEFIT OF THEIR BEST JUDGEMENT. BUT SINCE ALL INTERPRETATIONS ARE OPINIONS BASED ON INFERENCES FROM ELECTRICAL OR OTHER MEASUREMENTS, WE CANNOT, AND WE DO NOT GUARANTEE THE ACCURACY OR CORRECTNESS OF ANY INTERPRETATION. WE SHALL NOT BE LIABLE OR RESPONSIBLE FOR ANY LOSS, COST, DAMAGES, OR EXPENSES WHATSOEVER INCURRED OR SUSTAINED BY THE CUSTOMER RESULTING FROM ANY INTERPRETATION MADE BY ANY OF OUR EMPLOYEES.

BOREHOLE RECORD		
BIT SIZE	FROM	TO
444.5 MM	0.0 M	220.2 M
311.0 MM	220.2 M	895.0 M
216.0 MM	895.0 M	1965.0 M
NA	NA	NA

CASING RECORD				
SIZE	WEIGHT	GRADE	FROM	TO
339.7 MM	71.4 KG/M	J-55	0.0 M	220.2 M
244.5 MM	64.7 KG/M	L-80	0.0 M	331.8 M
244.5 MM	53.6 KG/M	J-55	331.8 M	895.0 M
177.8 MM	NA	NA	NA	NA

REMARKS

RUN 2 TRIP 5 : TIME STOPPED CIRCULATION: 25-NOV-2009 02:15

FLUID VISCOSITY ASSUMED TO BE 1.0 CP THEREFORE CALCULATED PERMEABILITY EQUALS MOBILITY.

PRESENTED PRESSURES ARE IN ABSOLUTE IN KPA AND ARE TEMPERATURE CORRECTED.

RIG: STONEHAM #11

CREW: J. HOUSE, R. NEUPANE, D. SCHNEIDER, A. MITTELSTADT, L. HICKS, J. ESCHNER, M. WONGER

## EQUIPMENT DATA

RUN	TRIP	TOOL	SERIES NO.	SERIAL NO.	POSITION
2	5	GR	1309XA	71390	FREE
2	5	FMT TEL	1966EA	94866	FREE
2	5	FMT MAND.	1966MB	117224	FREE
2	5	HP GAUGE	2172XE	359552	FREE
2	5	UPPER TANK	1966Z1	1409	FREE
2	5	LOWER TANK	1966Z2	368881	FREE

## INSTRUMENT CONFIGURATION

Source File: /dat1a/pass/vulcan/run5-tdg

CABLEHEAD

Series : CABL338  
 Mnemonic : CBLH  
 Diameter : 3.38"  
 Weight : 10.9 kg  
 Length : 187.6 cm  
 Measure Point: 83.8 cm: CABLEHEAD TOP

GAMMA RAY

Series : 1309XA  
 Mnemonic : GR  
 Diameter : 3.63"  
 Weight : 54.5 kg  
 Length : 198.4 cm  
 Measure Point: 40.6 cm: GR MP  
 Temp Rating : 204 deg. C  
 Press Rating : 1405 kg/cm2

FMT VPC HP ELECTRONICS

Series : 1966EA  
 Mnemonic : FMT  
 Diameter : 3.38"  
 Weight : 59.1 kg  
 Length : 243.8 cm  
 Temp Rating : 177 deg. C  
 Press Rating : 1405 kg/cm2

FMT MANDREL W HP PROBE

Series : 1966MB  
 Mnemonic : FMT  
 Diameter : 6.25"  
 Weight : 215.9 kg  
 Length : 512.8 cm  
 Measure Point: 301.0 cm: PACKER MP  
 Temp Rating : 174 deg. C  
 Press Rating : 843 kg/cm2



15.90 m

CABLEHEAD TOP — 15.06 m

GR MP — 12.65 m

PACKER MP — 7.68 m

**EXTRACTION SUB****FMT 2.5 GALLON BOTTOM TANK**

Series : 1966Z3  
Mnemonic : FMT  
Diameter : 4.38"  
Weight : 90.0 kg  
Length : 219.7 cm  
Temp Rating : 177 deg. C  
Press Rating : 1405 kg/cm2

**FMT 2.5 GALLON BOTTOM TANK**

Series : 1966Z3  
Mnemonic : FMT  
Diameter : 4.38"  
Weight : 90.0 kg  
Length : 219.7 cm  
Temp Rating : 177 deg. C  
Press Rating : 1405 kg/cm2

**BULL PLUG 3 3/8**

TOTAL LENGTH: 15.90 m  
TOTAL WEIGHT: 532.7 kg  
MAX DIAMETER: D'6.25"

0.00 m

Source File: /data/pass/vulcan/pta-fmt-plot.pcf

**PRESSURE SUMMARY REPORT – TRIP [01]**

Meta File: pta-hp-01.psr.meta

**FORMATION MULTI-TESTER  
PRESSURE TEST SUMMARY REPORT**

<b>COMPANY NAME</b>	VULCAN MINERALS INC.	<b>RUN</b>	2
<b>WELL NAME</b>	VULCAN INVESTCAN RED BROOK # 2	<b>OPERATION</b>	5
<b>FIELD</b>	BAY ST.GEORGE BASIN	<b>TRIP</b>	1
<b>REPORT DATE/TIME</b>	Fri Nov 27 08:12:09 2009		
<b>PACKER</b>	7-7/8 (in)	<b>GAUGE USED</b>	QUARTZ
<b>EXTENSION KIT</b>	16 (in)	<b>PROBE I.D.</b>	14.275 (mm)
<b>FLOW CONTROL</b>	<input type="checkbox"/>	<b>FILTER SIZE</b>	0.152 (mm)
<b>SNORKEL STOP</b>	Low Force	<b>RUBBER DUROMETER</b>	80

SNORKEL FACTOR
0.75

UPPER TANK VOL.
10.000
(L)

PRETEST VOLUME
10
(cm3)

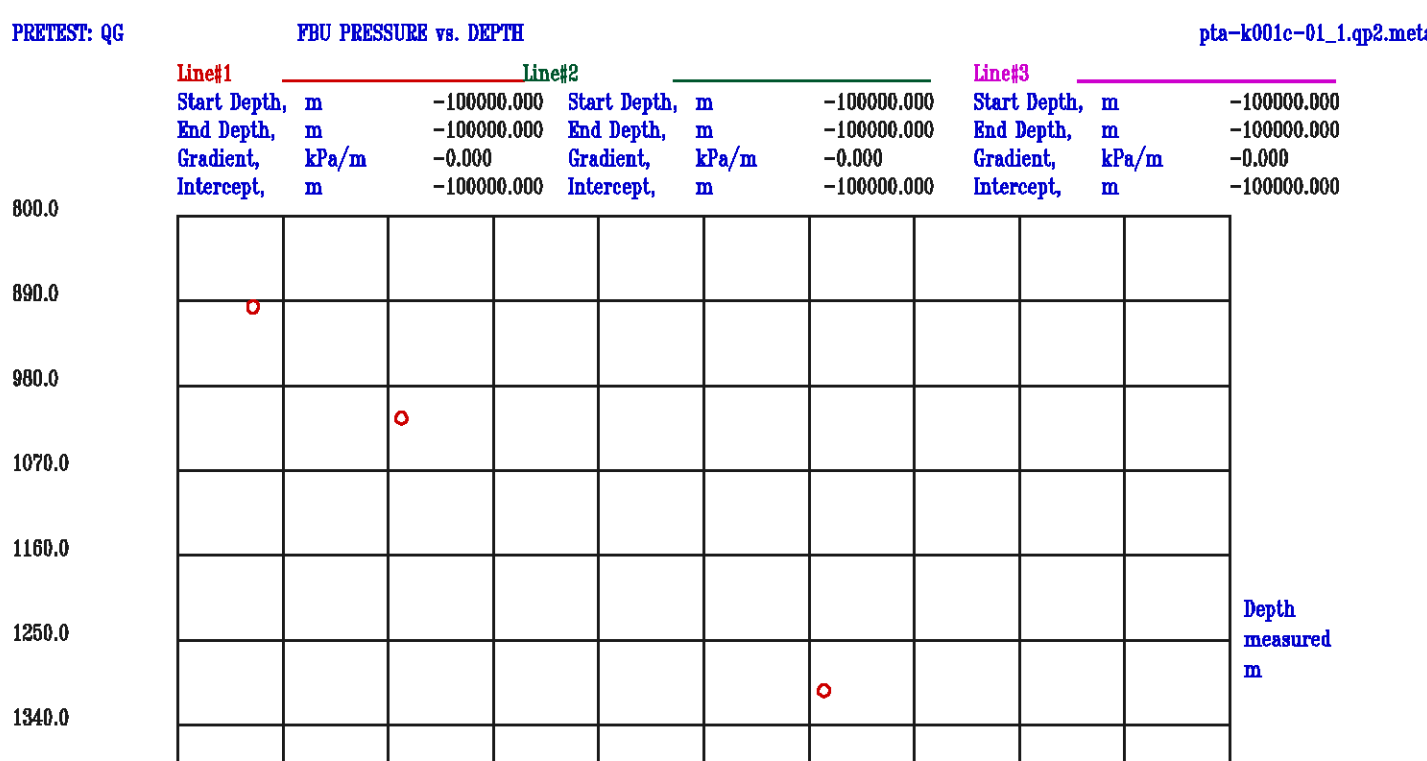
LOWER TANK VOL.
10.000
(L)

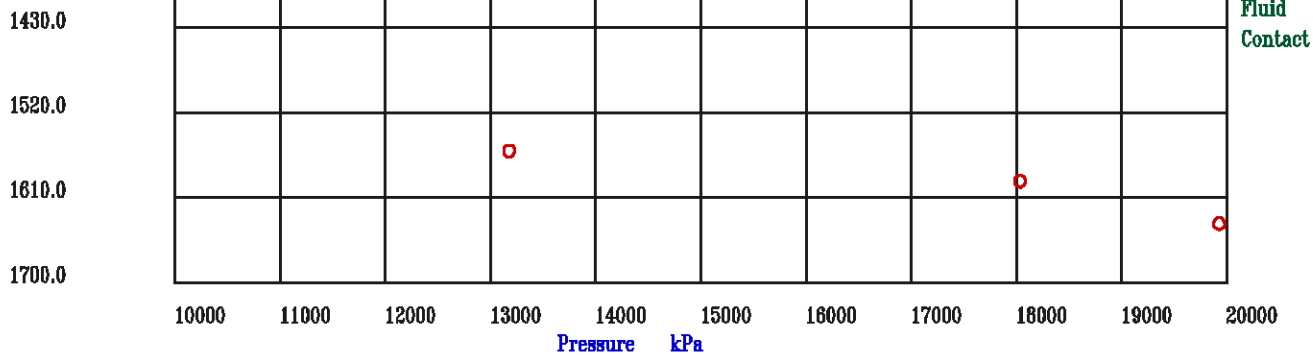
PRETEST DD RATE
Standard

TEST NO.	FILE NO.	MEASURED DEPTH (m)	TVD DEPTH (m)	FILL TIME (s)	SAND FACE PRESSURE (kPa)	FLOWING PRESSURE (kPa)	FINAL BUILDUP PRESSURE (kPa)	HYDRO-STATIC BEFORE (kPa)	HYDRO-STATIC AFTER (kPa)	DRAWDOWN PERMEA-BILITY (mD)	CHAMBER USED	
												REMARKS
1	02	1668.0	1668.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	P	NO SEAT
6	07	1638.3	1638.3	7.2	19939.1	3432.9	19939.1	20503.8	20501.7	1.4	P	GOOD TEST
8	09	1593.7	1593.7	7.8	18043.6	2841.4	18043.6	19935.9	19939.1	1.4	P	GOOD TEST
9	10	1561.7	1561.7	9.3	13180.3	1810.9	13179.9	19535.0	19522.5	1.6	P	GOOD TEST
12	14	1265.2	1265.2	0.0	0.0	0.0	0.0	15798.4	15787.2	0.0	P	TIGHT TEST
13	15	1182.3	1182.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	P	NO SEAT
16	18	1016.2	1016.2	6.8	12142.2	10676.8	12142.2	12694.4	12696.0	17.1	P	GOOD TEST
19	21	898.3	898.3	6.8	10722.7	4212.7	10722.4	11223.5	11221.1	3.9	P	GOOD TEST
20	22	890.0	890.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	P	NO SEAT
23	26	1305.3	1305.3	7.0	16150.6	1236.5	16150.6	16292.3	16301.9	1.6	P	GOOD TEST

PRESSURE GRADIENT ANALYSIS – TRIP [01]

Meta File: pta-k001c-01\_1.qp2.meta





Meta File: pta-k001c-01\_1.qp4.meta

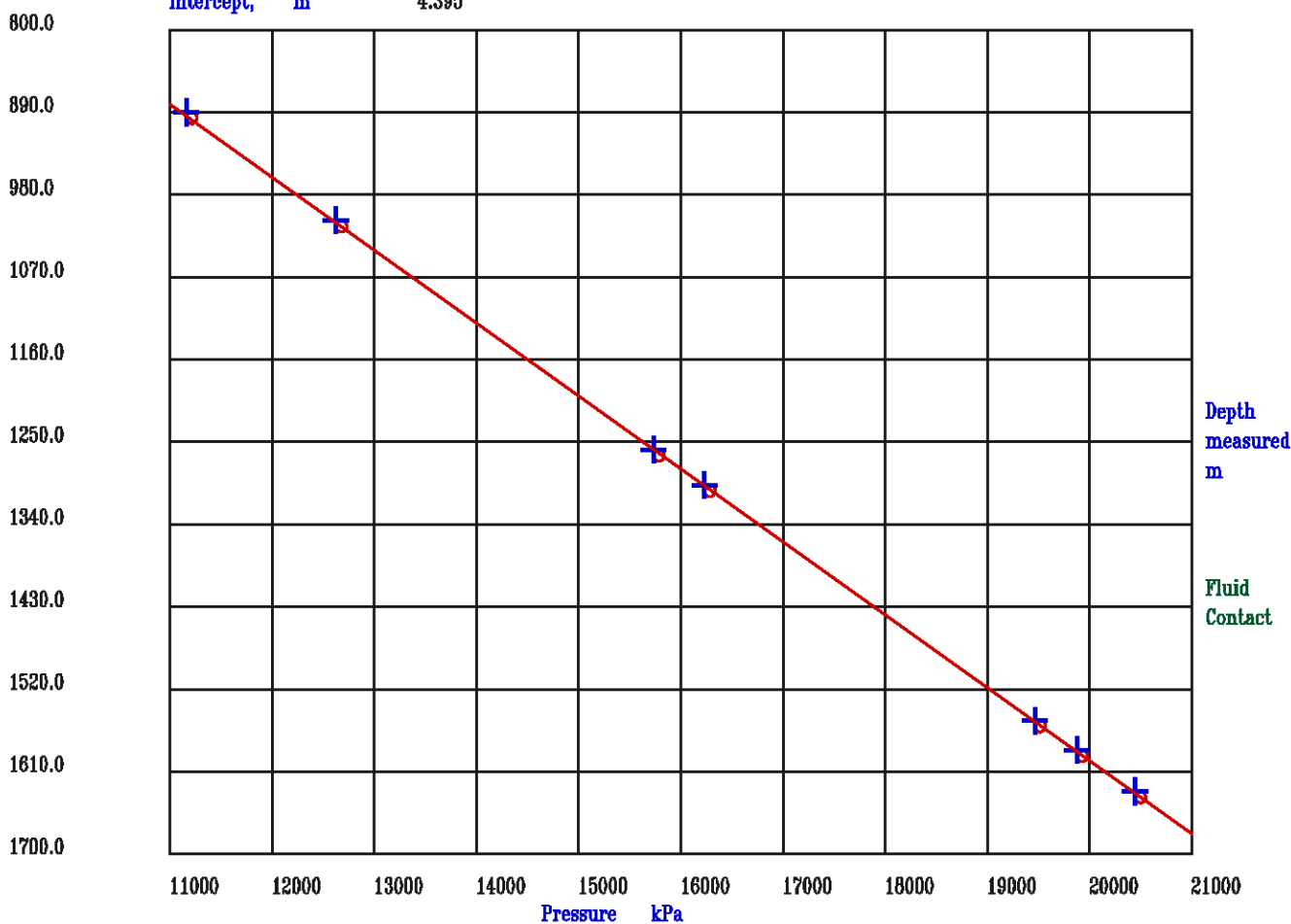
PRETEST: QG  
 [Before]  
 [After]

HYDROSTATIC PRESSURE vs. DEPTH

pta-k001c-01\_1.qp4.meta

Line#1

Start Depth, m	875.448
End Depth, m	1672.791
Gradient, kPa/m	12.542
Intercept, m	4.395



**PRESSURE TEST – Measured Depth 1668.0 m**  
**TVD Depth 1668.0 m**

PRETEST: QG

Measured Depth, m 1668.0

TVD Depth, m 1668.0

pta-k001c02.qp1.meta

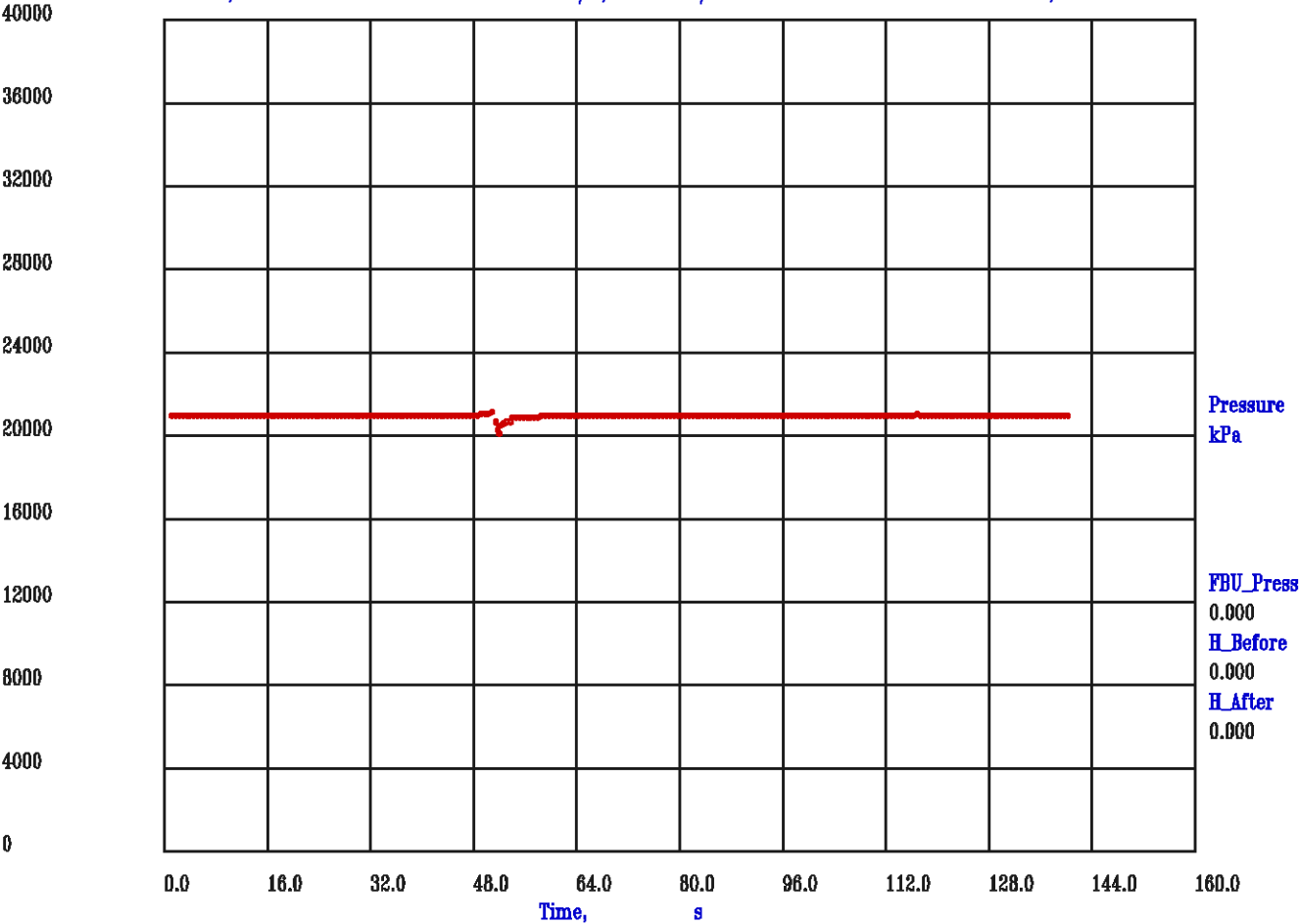
HISTORY PLOT: Elapsed Time vs. Pressure

DD Start, s0.000SF Press, kPa0.000Flow Rate, cm3/s0.000e+00

DD End, s0.000FF Press, kPa0.000Chamber Vol, cm310.000

BU Start, s0.000Kdd Perm, mD0.000e+00Fill Rate, min/L0.000e+00

BU End, s0.000kdd/u, mD/cP0.000e+00Time Est.UT, s0.000e+00



PARAMETER AND FILTER SUMMARY REPORT

FILE: k001c02.prm

LOGGING MODE: TIME

START TIME: 0.000 s

END TIME: 140.250 s

SYMMETRIC FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (s)	
GR	FILTER ()	medium (1)		START	END
FMT	FILTER ()	medium (1)		''	''
SPEED	FILTER ()	medium (1)		''	''
TENSION	FILTER ()	medium (1)		''	''

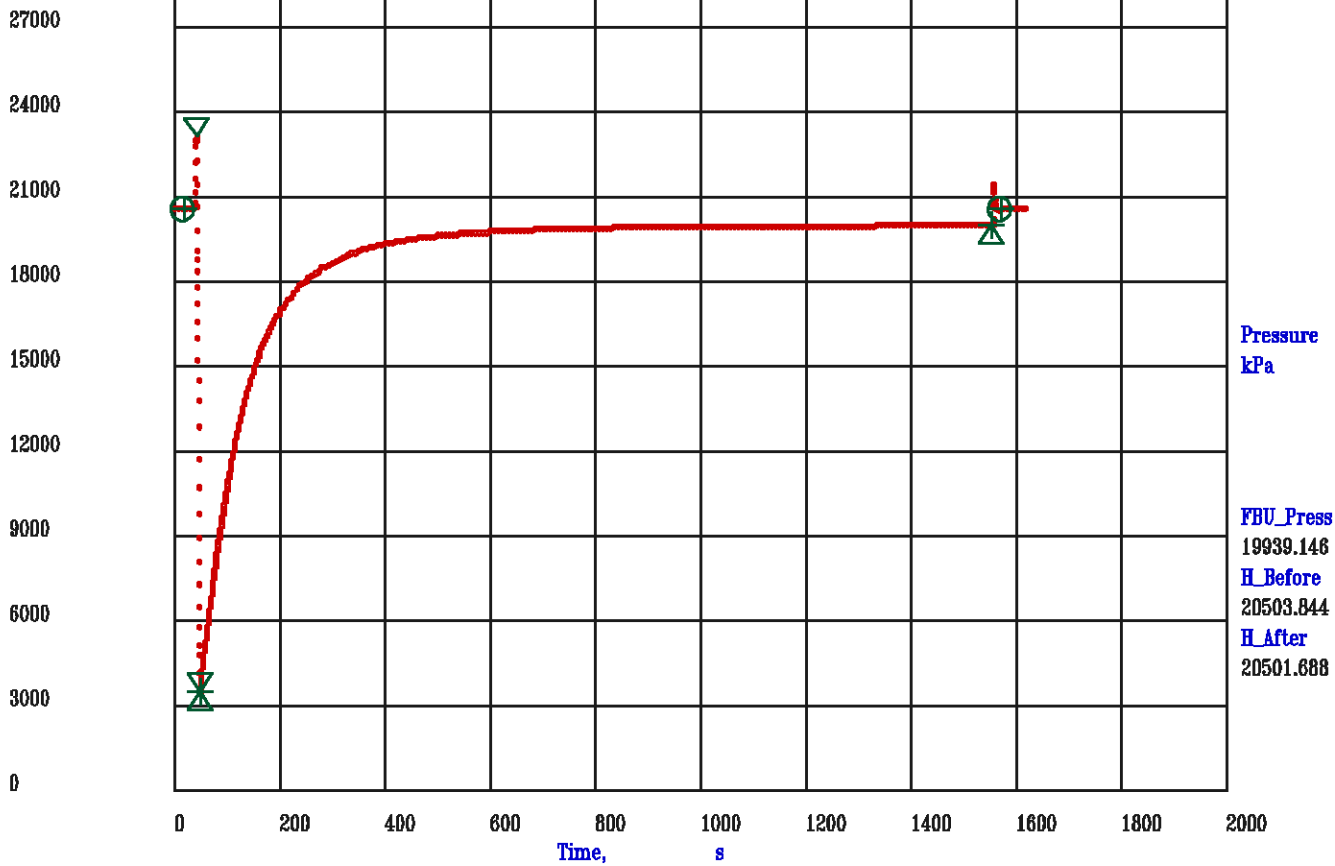
BOREHOLE & CEMENT

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (s)	
BIT SIZE	BIT SIZE	216.000	mm	START	END

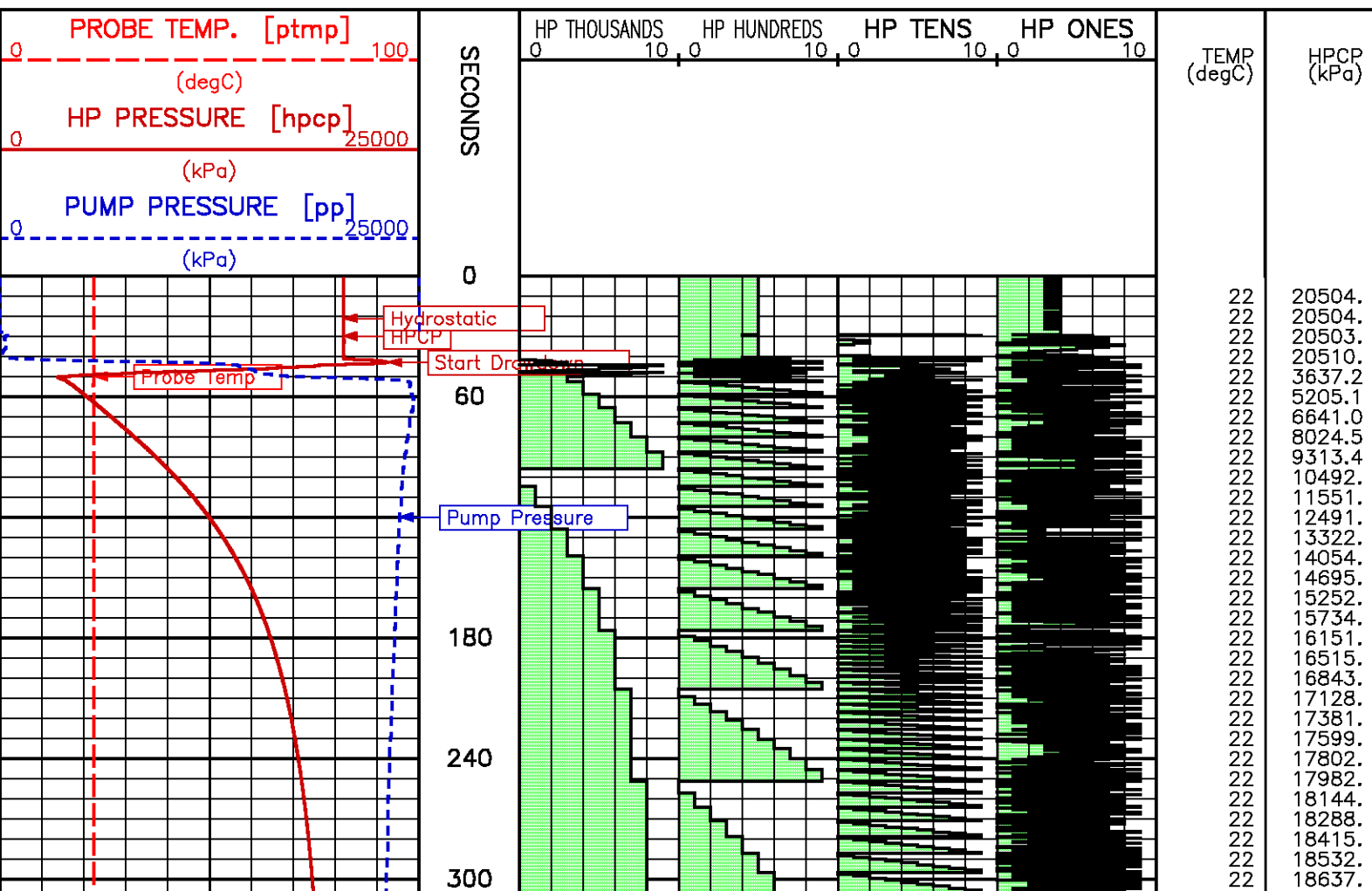
PRESSURE PROBE PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (s)	
MUD DENSITY	Mud Density	10.5000	lbm/gal	START	END
FMT TEMP CORR SOURCE	FIXED TEMPERATURE	21.0000	degC	START	10.750

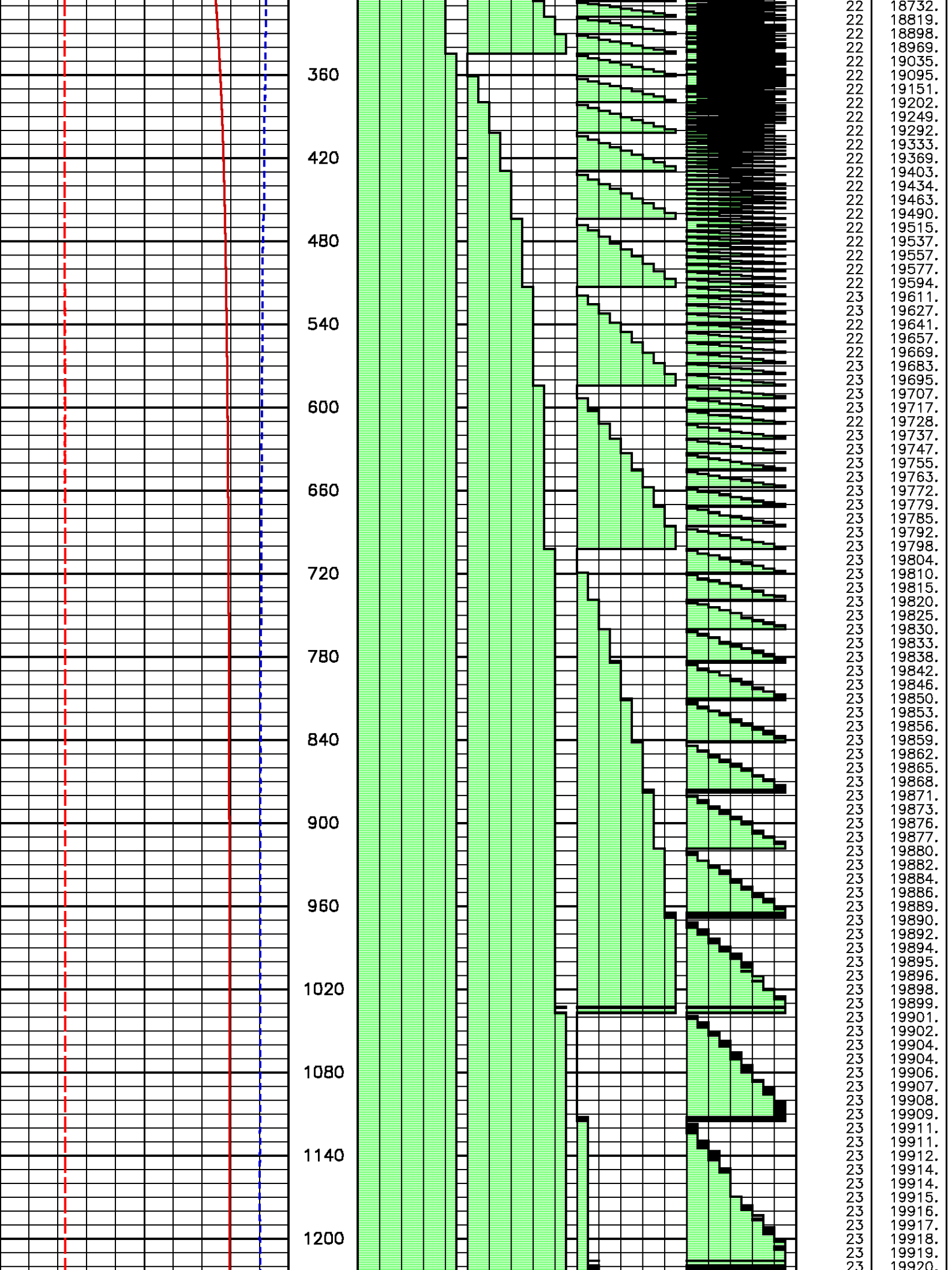




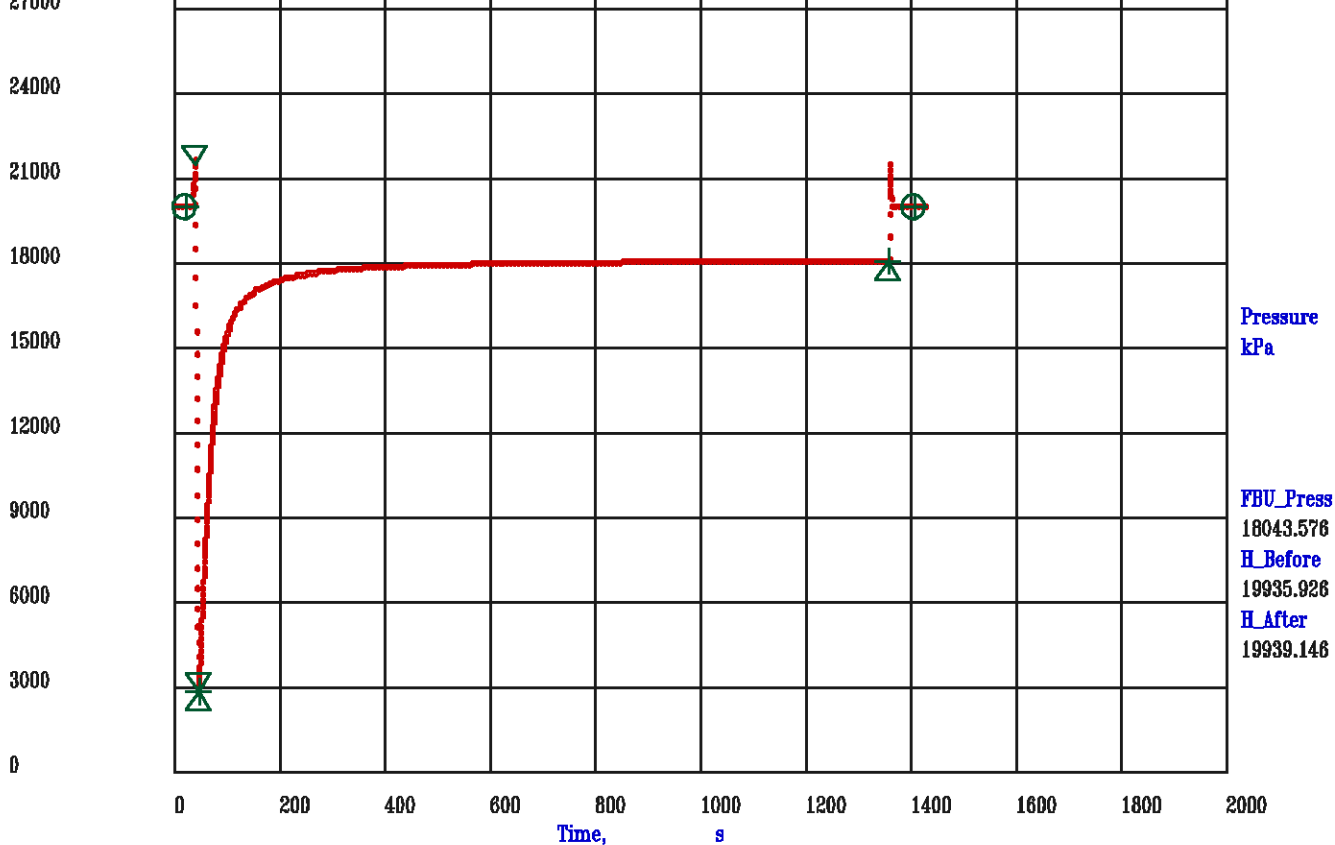
Data File : k001c07.aff  
Presentation: fmthp4-hp.log



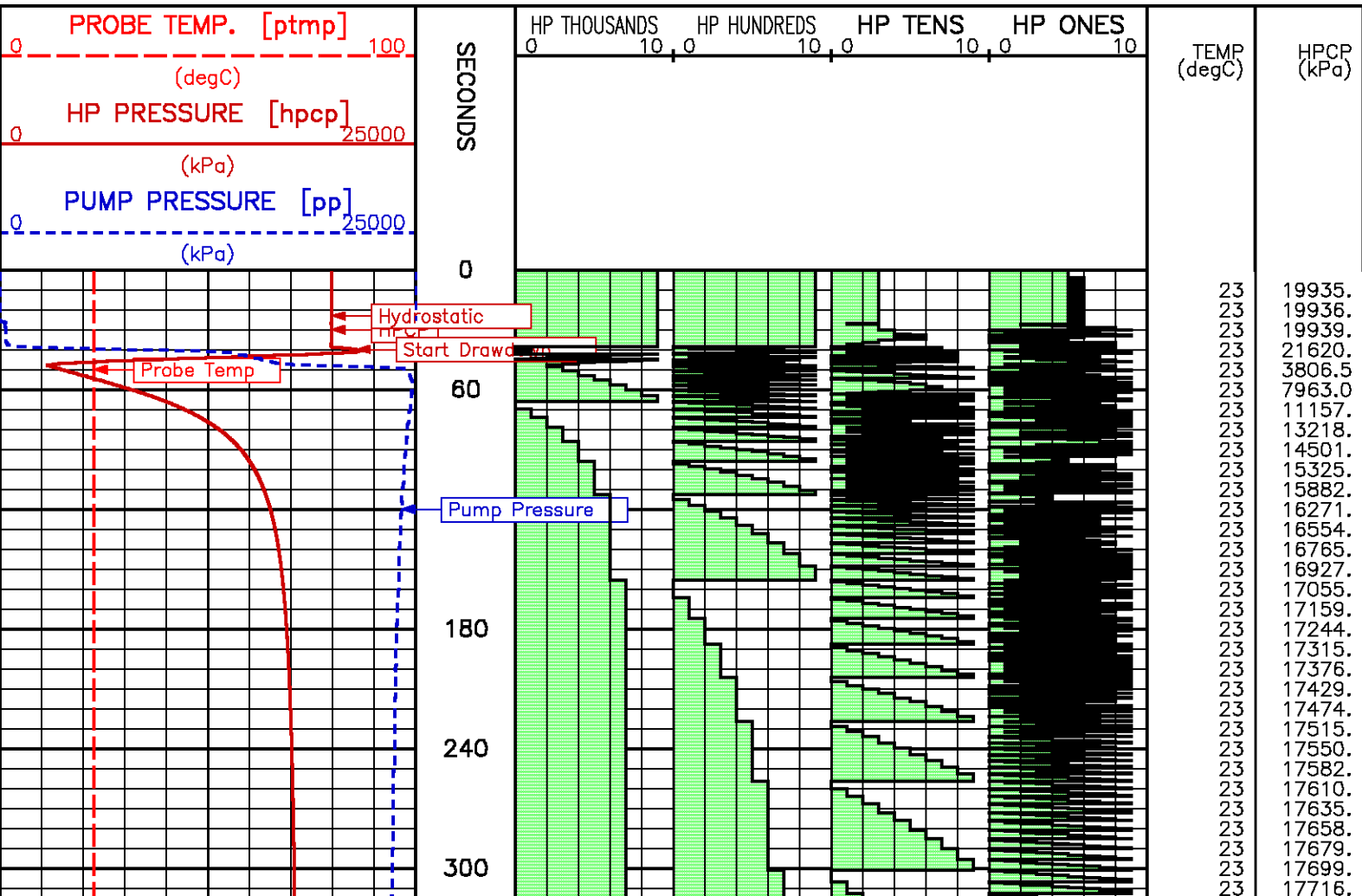


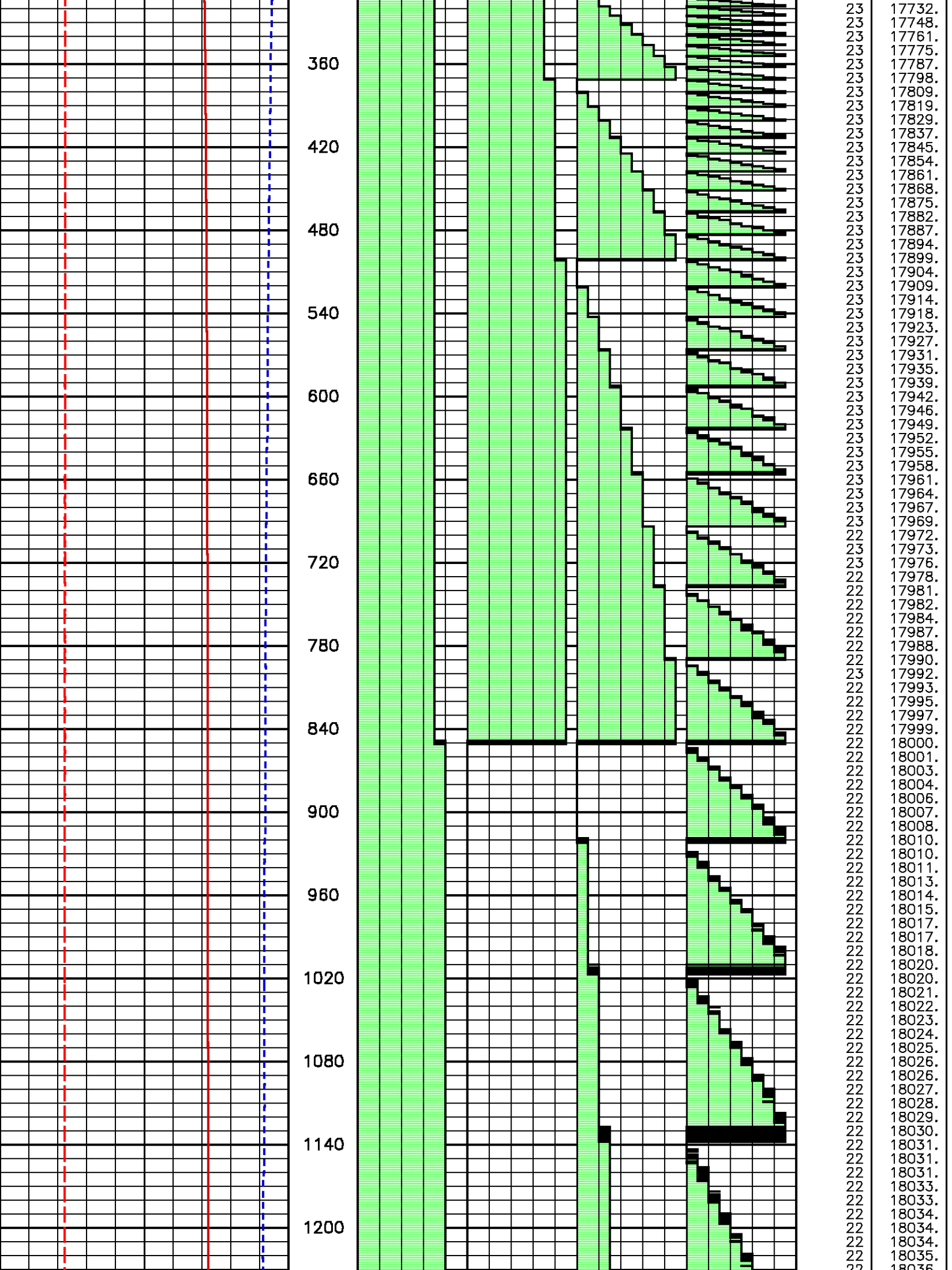


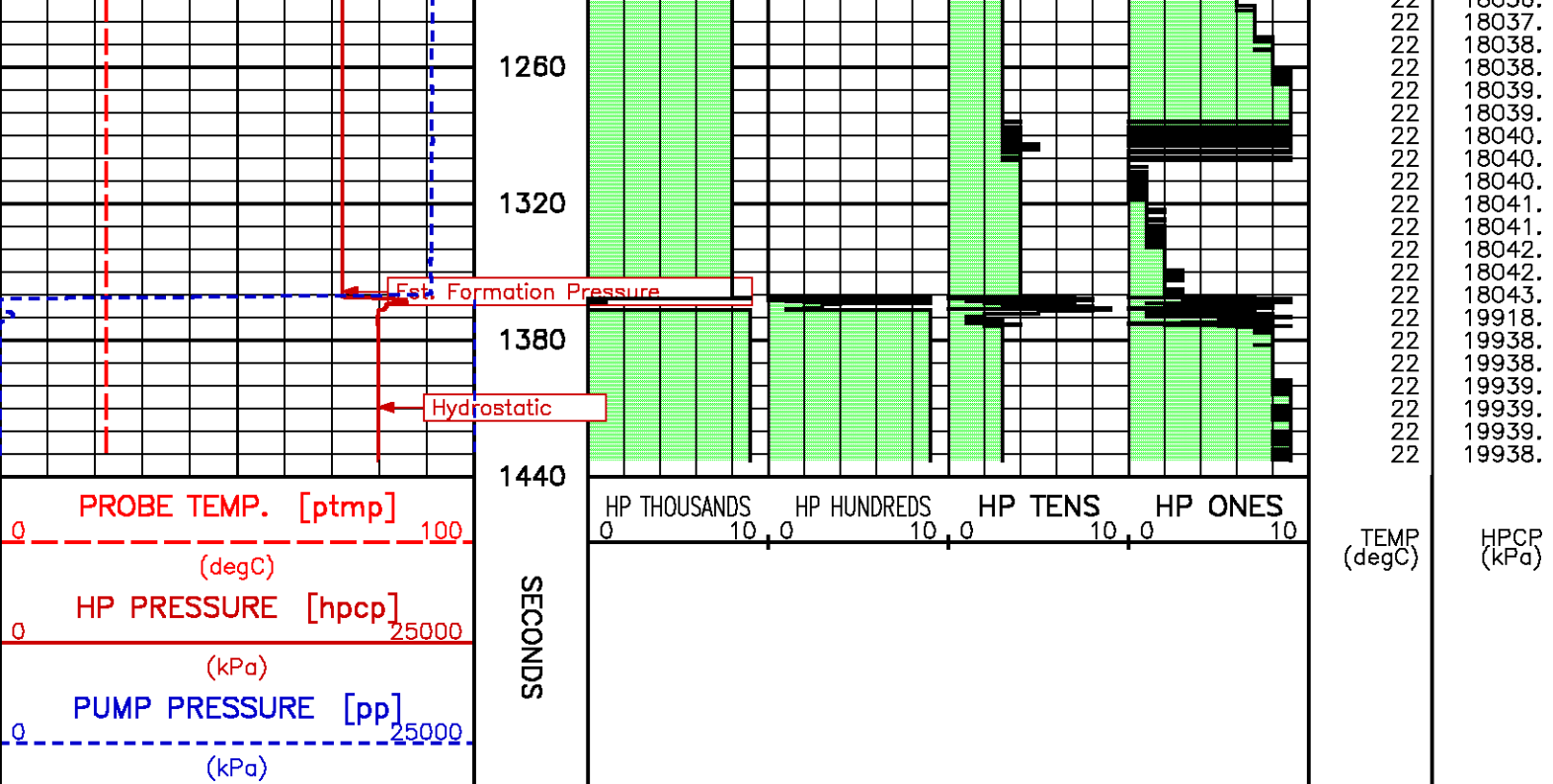




Data File : k001c09.aff  
Presentation: fmthp4-hp.log





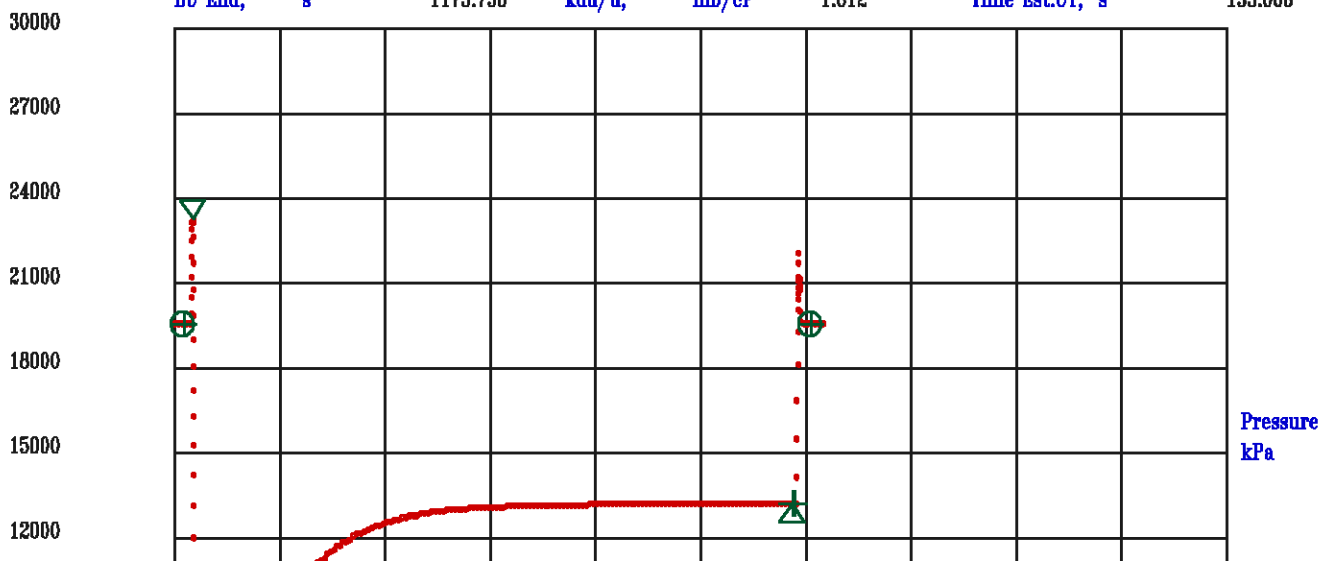


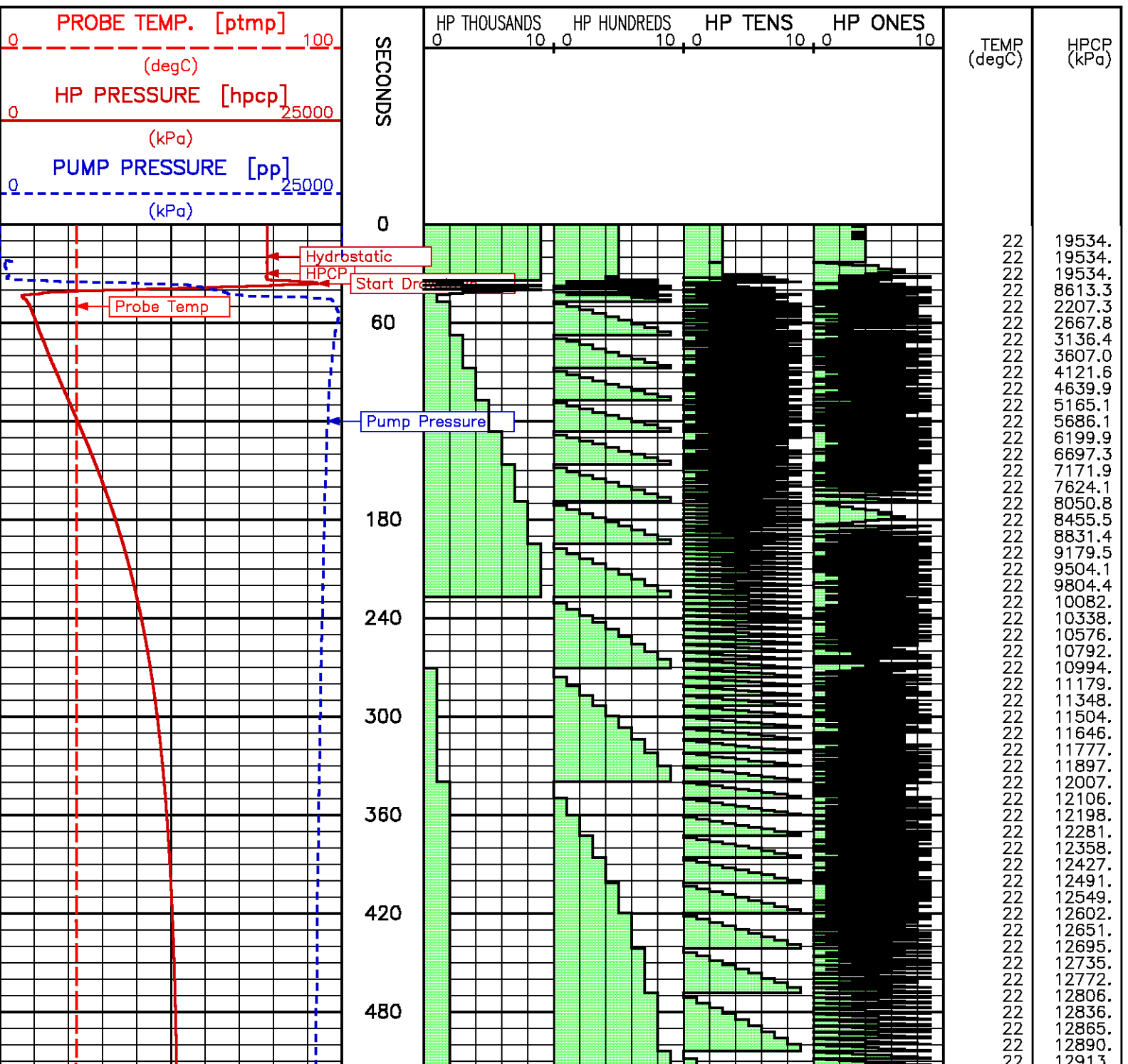
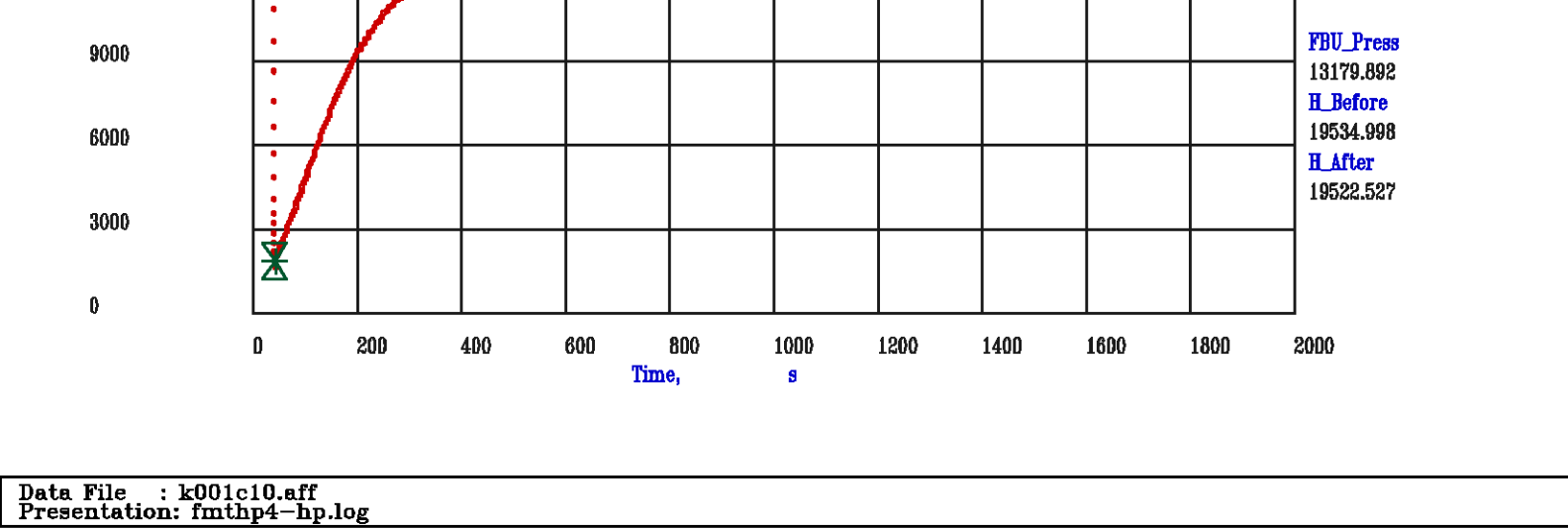
## PRESSURE TEST – Measured Depth 1561.7 m TVD Depth 1561.7 m

Meta File: pta-k001c10.qp1.meta

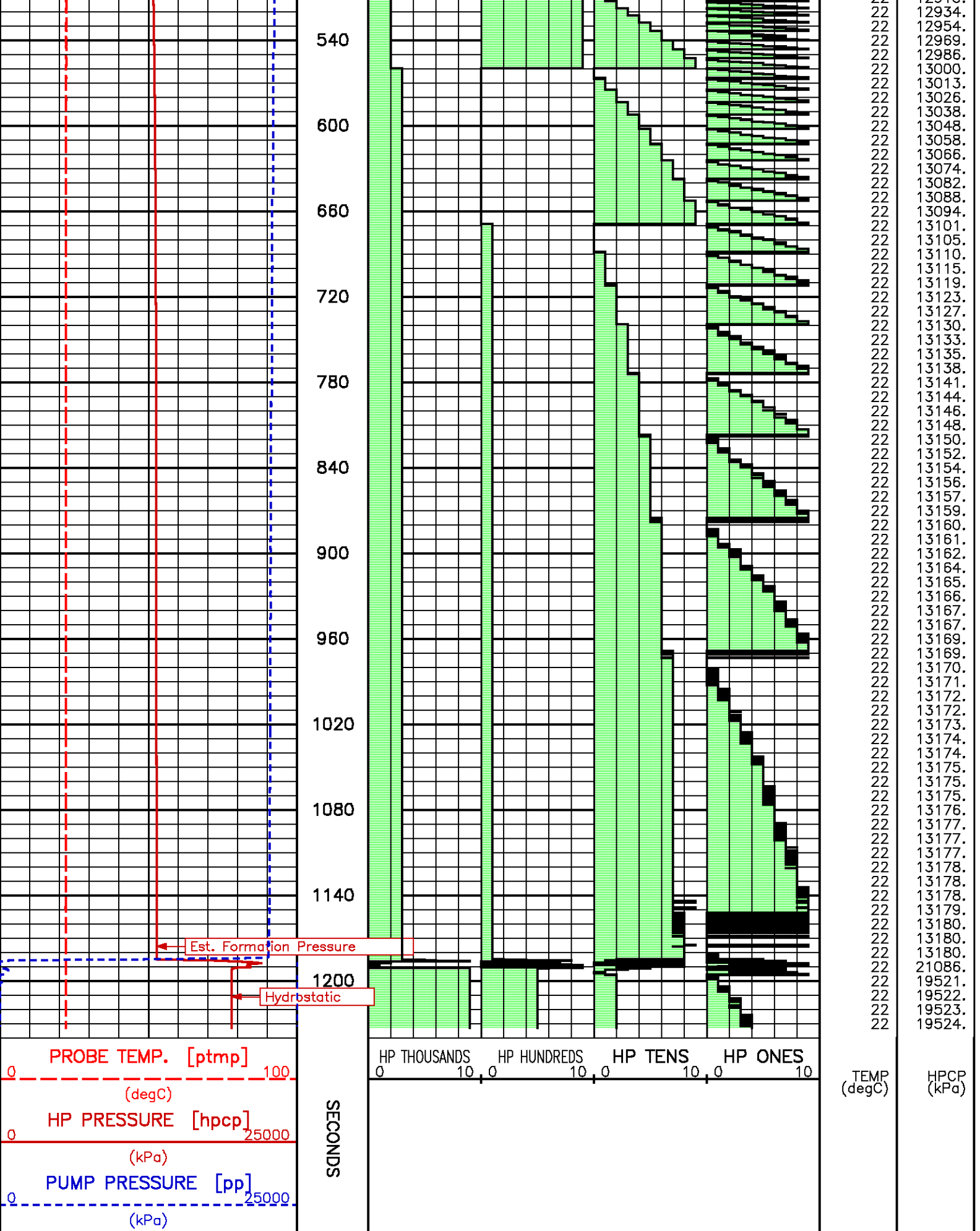
PRETEST: QG      Measured Depth, m 1561.7      TVD Depth, m 1561.7      pta-k001c10.qp1.meta  
 HISTORY PLOT: Elapsed Time vs. Pressure

DD Start,	s	36.000	SF Press,	kPa	13180.250	Flow Rate,	cm <sup>3</sup> /s	1.081
DD End,	s	45.250	FF Press,	kPa	1810.941	Chamber Vol,	cm <sup>3</sup>	10.000
BU Start,	s	45.250	Kdd Perm,	mD	1.612	Fill Rate,	min/L	13.301
BU End,	s	1175.750	kdd/u,	mD/cP	1.612	Time Est.UT,	s	133.006









**PRESSURE TEST – Measured Depth 1265.2 m**  
**TVD Depth 1265.2 m**

Meta File: pta-k001c14.qp1.meta

**PRETEST: QG**

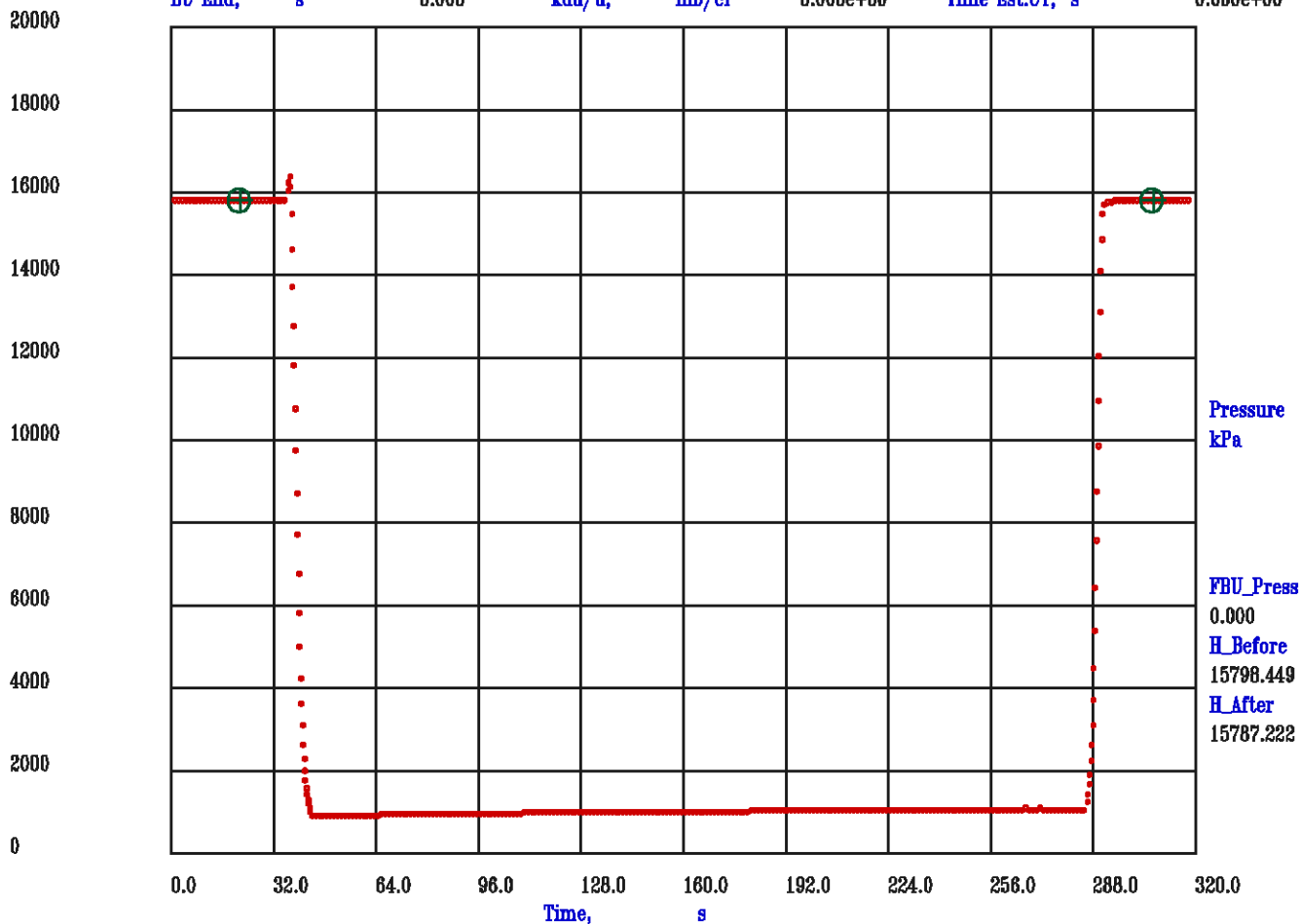
Measured Depth, m 1265.2

TVD Depth, m 1265.2

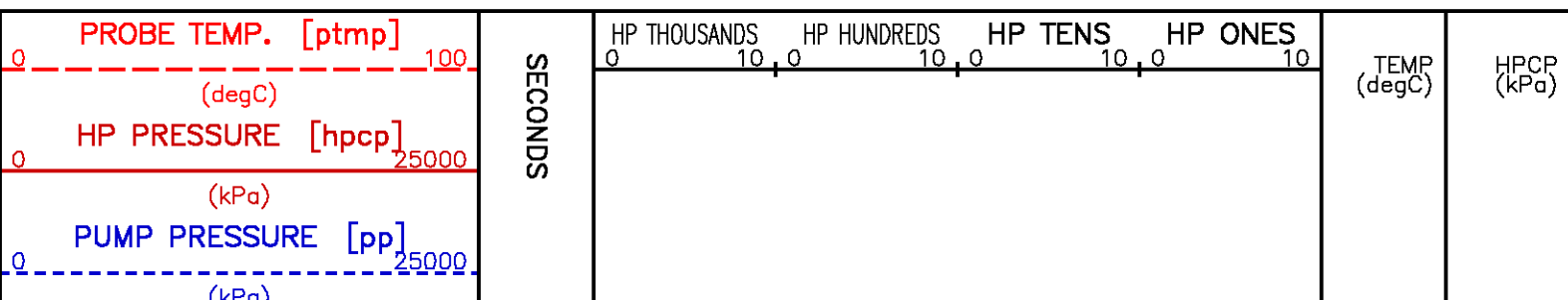
pta-k001c14.qp1.meta

### HISTORY PLOT: Elapsed Time vs. Pressure

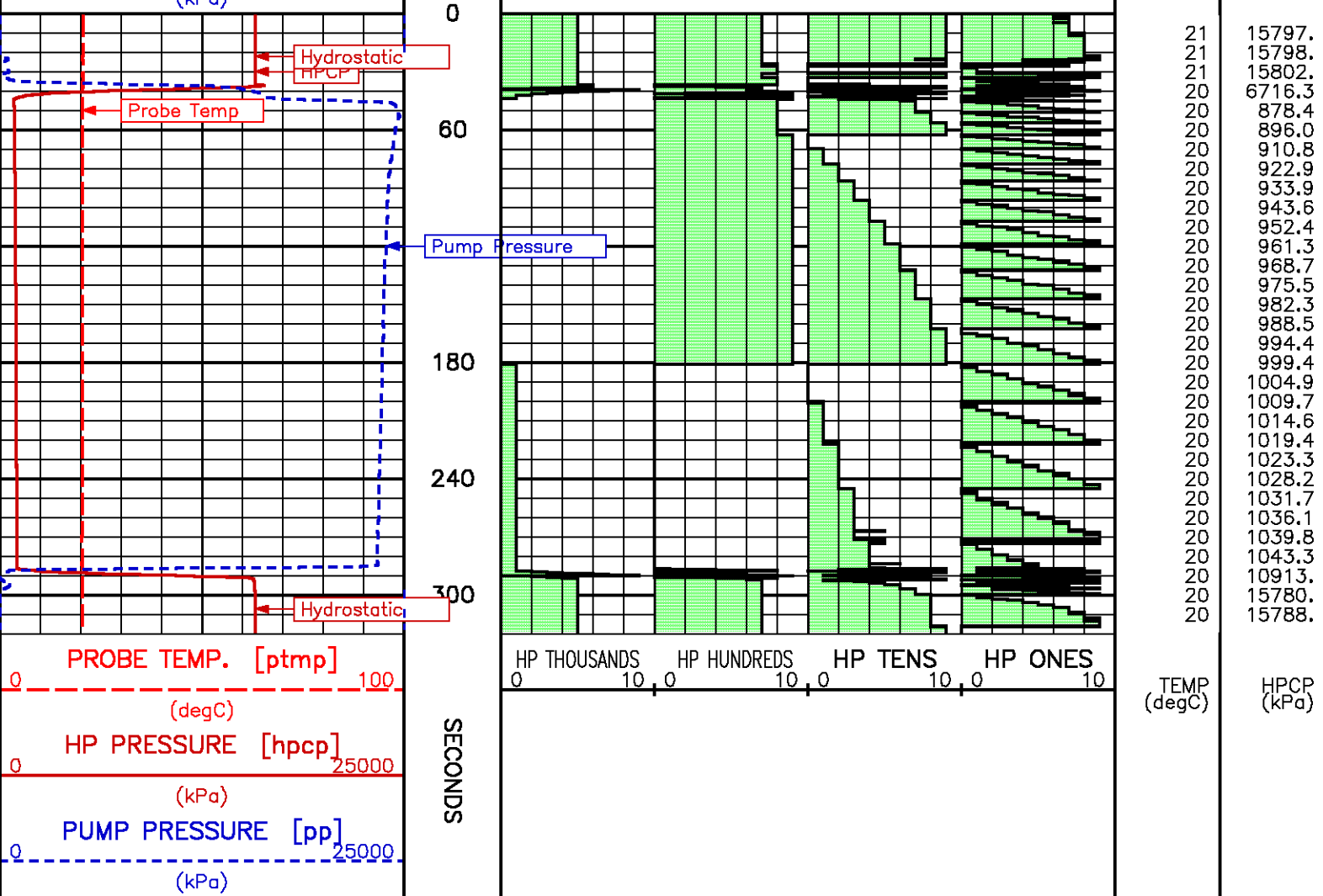
DD Start,	s	0.000	SF Press,	kPa	0.000	Flow Rate,	cm <sup>3</sup> /s	0.000e+00
DD End,	s	0.000	FF Press,	kPa	0.000	Chamber Vol,	cm <sup>3</sup>	10.000
HU Start,	s	0.000	Kdd Perm,	mD	0.000e+00	Fill Rate,	min/L	0.000e+00
HU End,	s	0.000	kdd/u,	mD/cP	0.000e+00	Time Est.UT,	s	0.000e+00



Data File : k001c14.aff  
Presentation: fmthp4-hp.log







## PRESSURE TEST – Measured Depth 1182.3 m TVD Depth 1182.3 m

Meta File: pta-k001c15.qp1.meta

PRETEST: QG

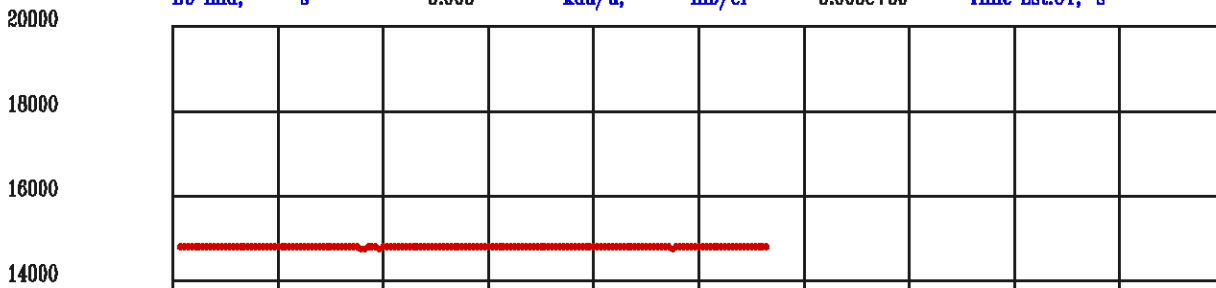
Measured Depth, m 1182.3

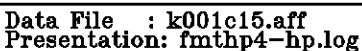
TVD Depth, m 1182.3

pta-k001c15.qp1.meta

HISTORY PLOT: Elapsed Time vs. Pressure

DD Start,	s	0.000	SF Press,	kPa	0.000	Flow Rate,	cm3/s	0.000e+00
DD End,	s	0.000	FF Press,	kPa	0.000	Chamber Vol,	cm3	10.000
BU Start,	s	0.000	Kdd Perm,	mD	0.000e+00	Fill Rate,	min/L	0.000e+00
BU End,	s	0.000	kdd/u,	mD/cP	0.000e+00	Time Est.UT,	s	0.000e+00





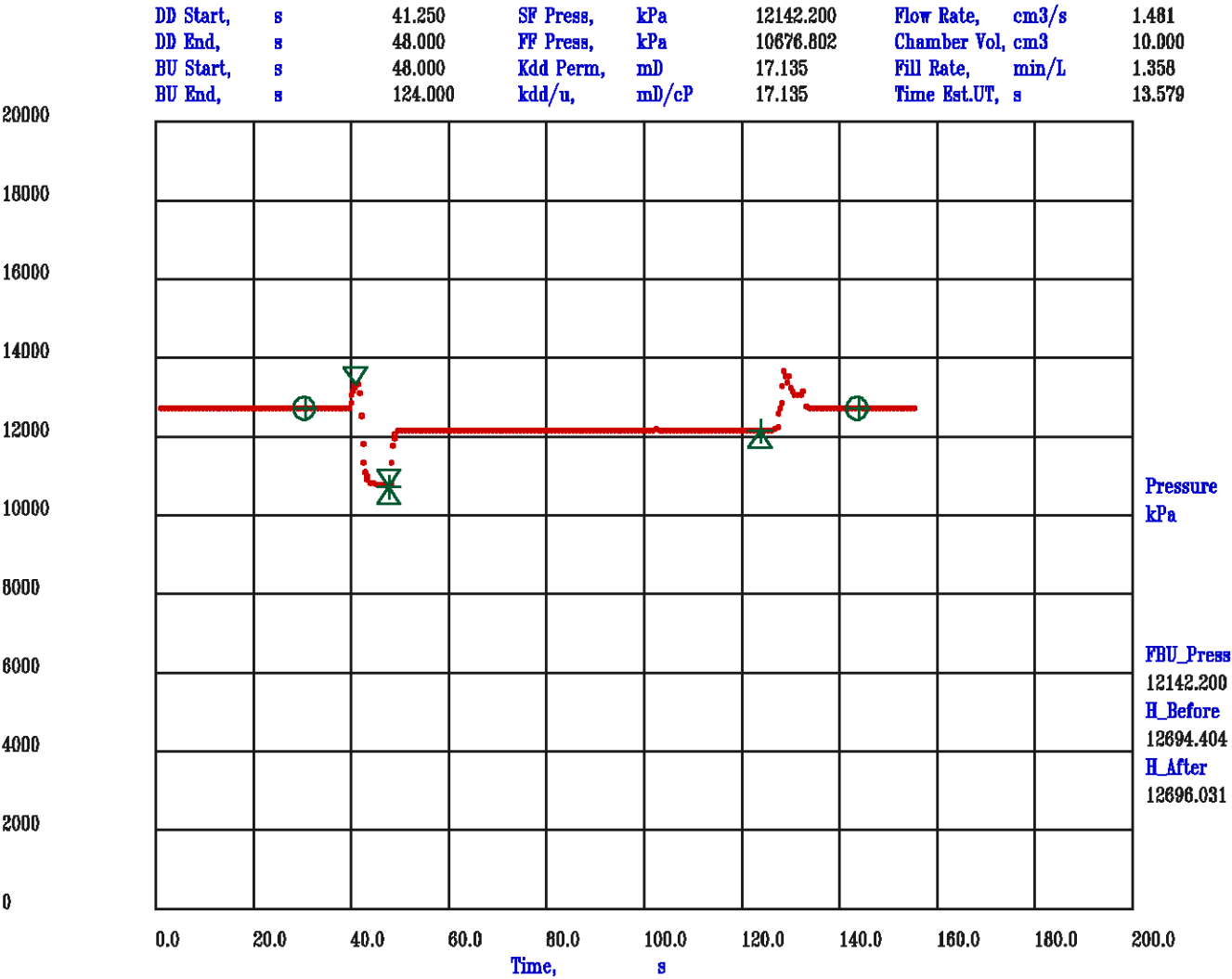
PRETEST: QG

Measured Depth, m 1016.2

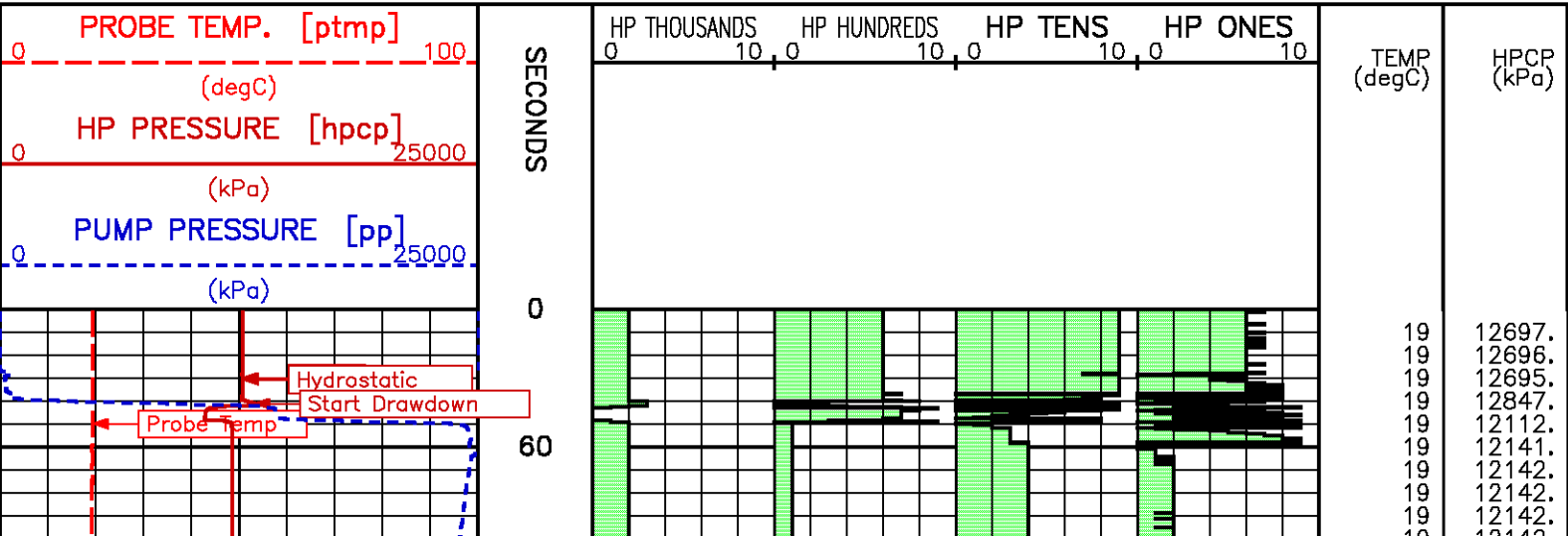
TVD Depth, m 1016.2

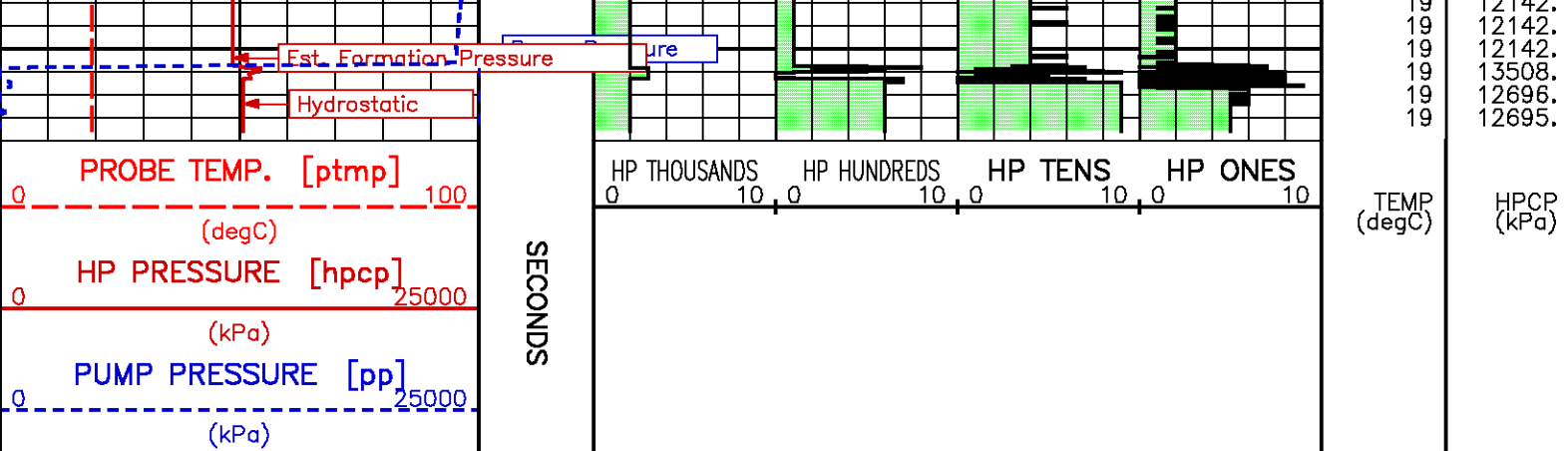
pta-k001c18.qp1.meta

HISTORY PLOT: Elapsed Time vs. Pressure



Data File : k001c18.aff  
Presentation: fmthp4-hp.log





## PRESSURE TEST – Measured Depth 898.3 m TVD Depth 898.3 m

Meta File: pta-k001c21.qp1.meta

PRETEST: QG

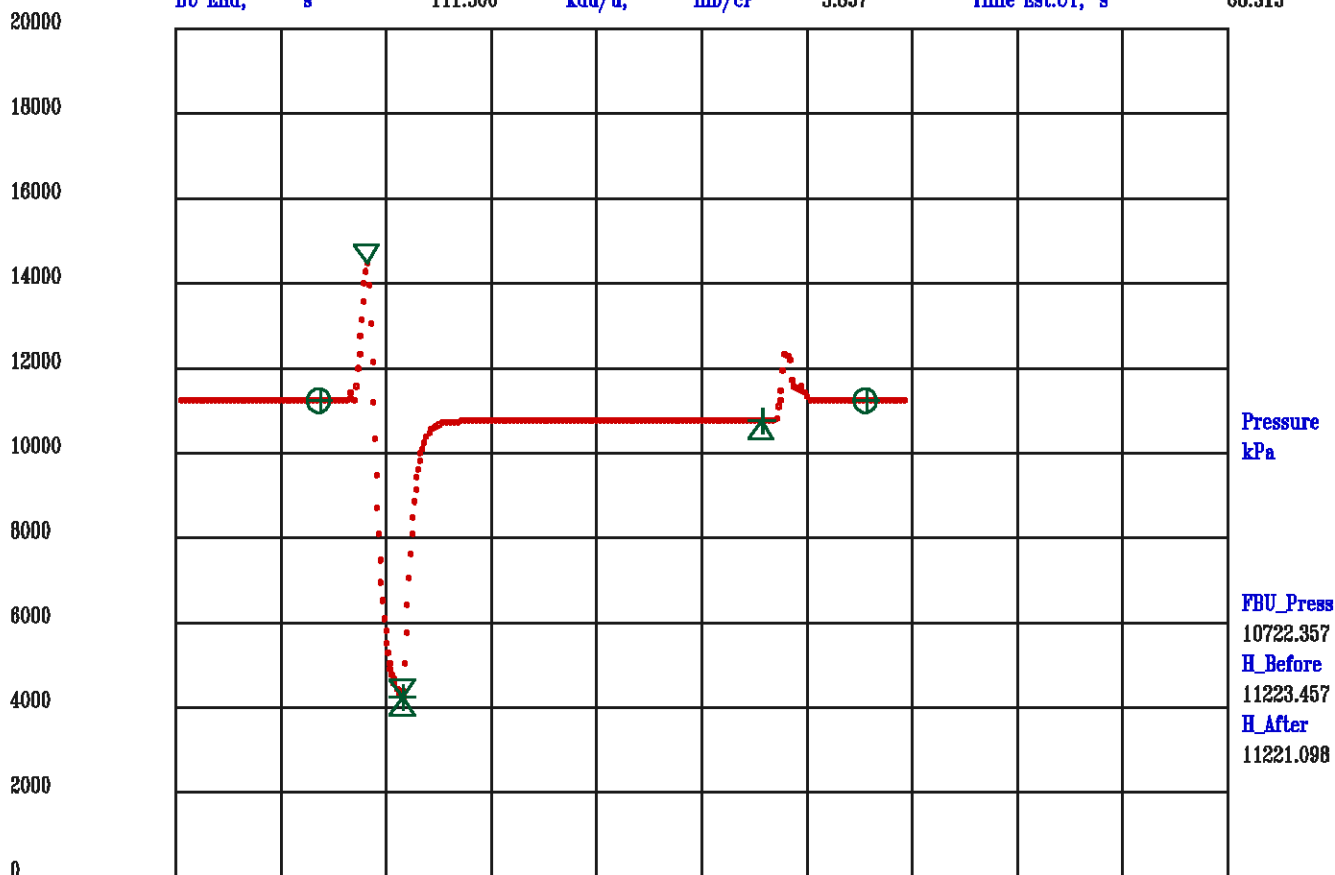
Measured Depth, m 898.3

TVD Depth, m 898.3

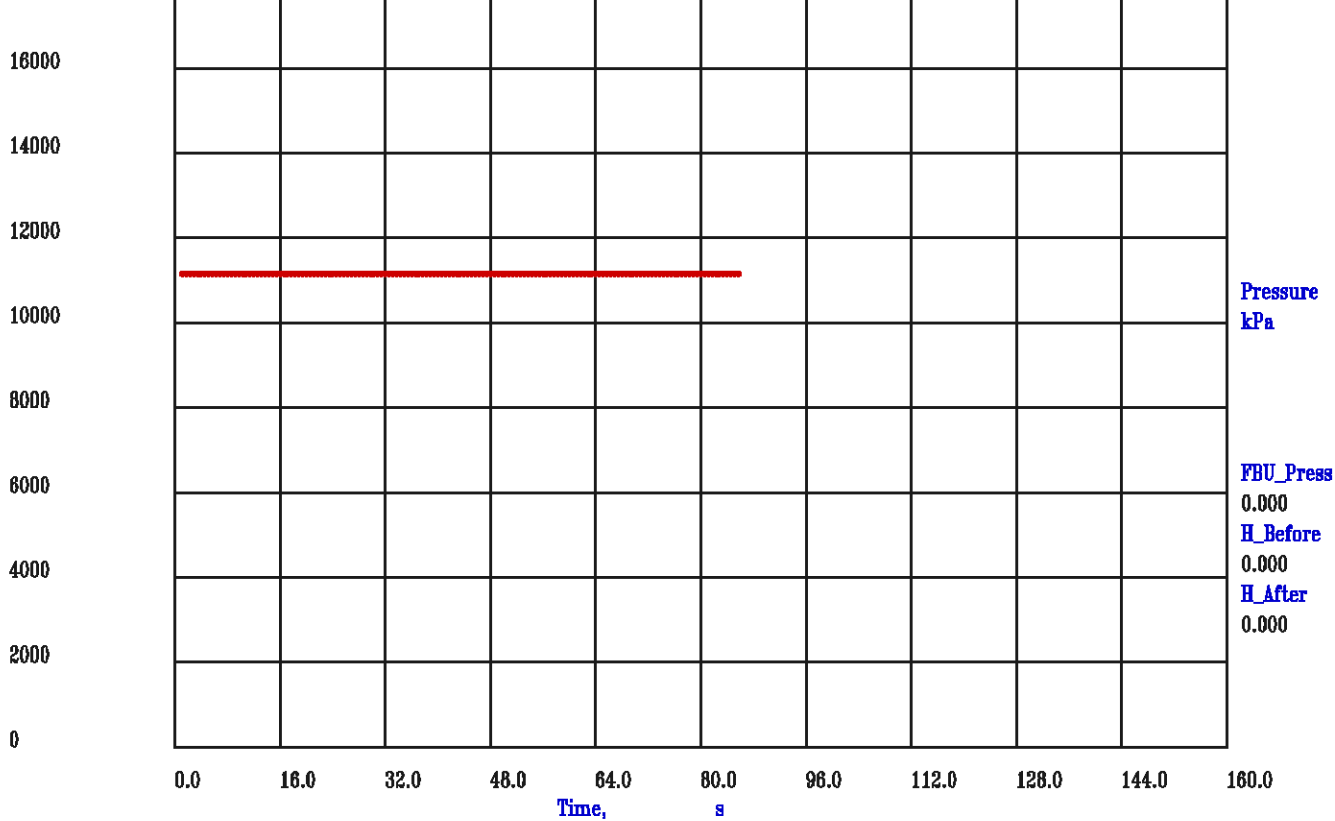
pta-k001c21.qp1.meta

HISTORY PLOT: Elapsed Time vs. Pressure

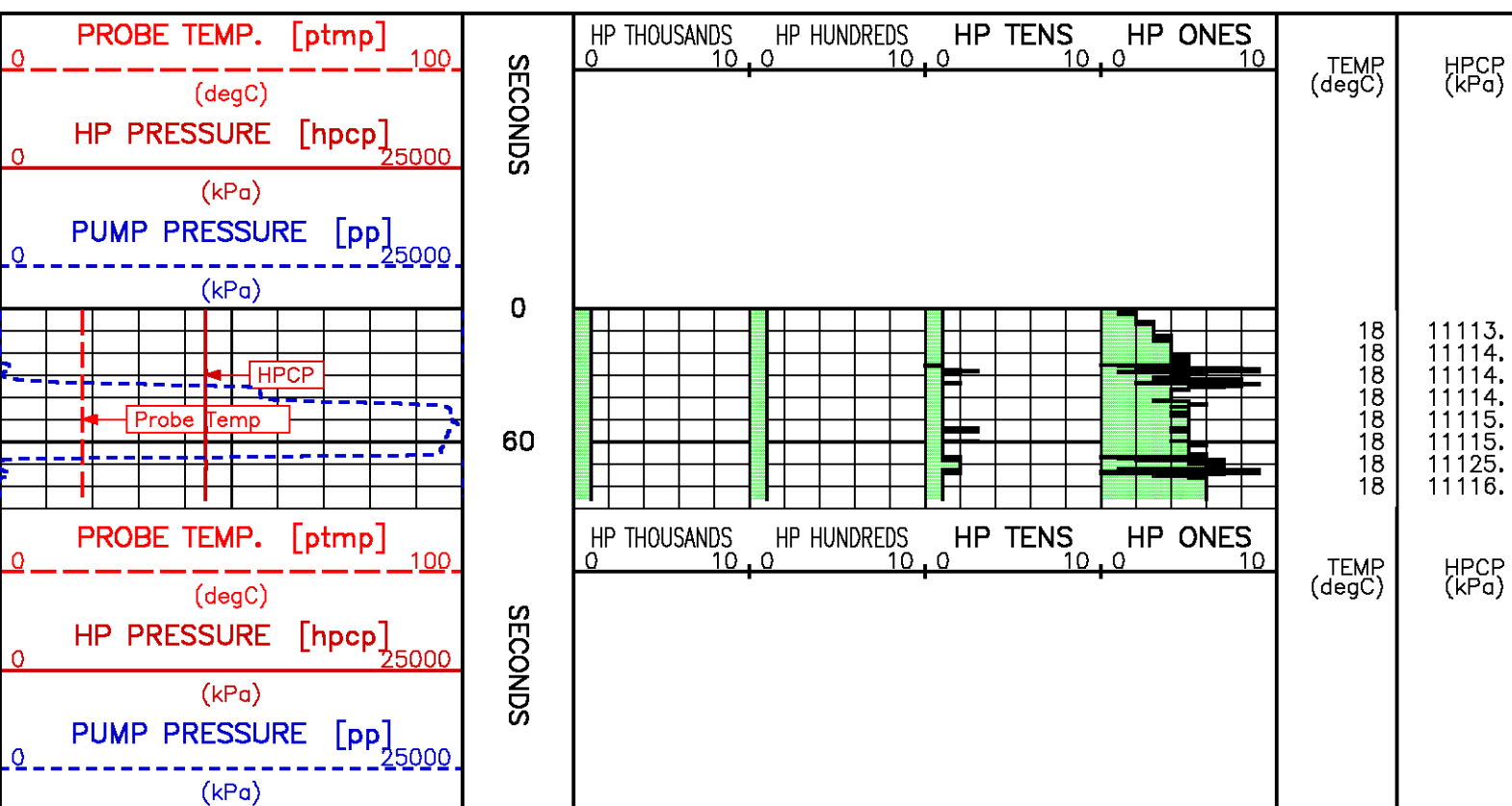
DD Start,	s	36.500	SF Press,	kPa	10722.721	Flow Rate,	cm <sup>3</sup> /s	1.481
DD End,	s	43.250	FF Press,	kPa	4212.691	Chamber Vol,	cm <sup>3</sup>	10.000
BU Start,	s	43.250	Kdd Perm,	mD	3.857	Fill Rate,	min/L	6.831
BU End,	s	111.500	kdd/u,	mD/cP	3.857	Time Est.UT,	s	68.313







Data File : k001c22.aff  
Presentation: fmthp4-hp.log



**PRESSURE TEST - Measured Depth 1305.3 m**

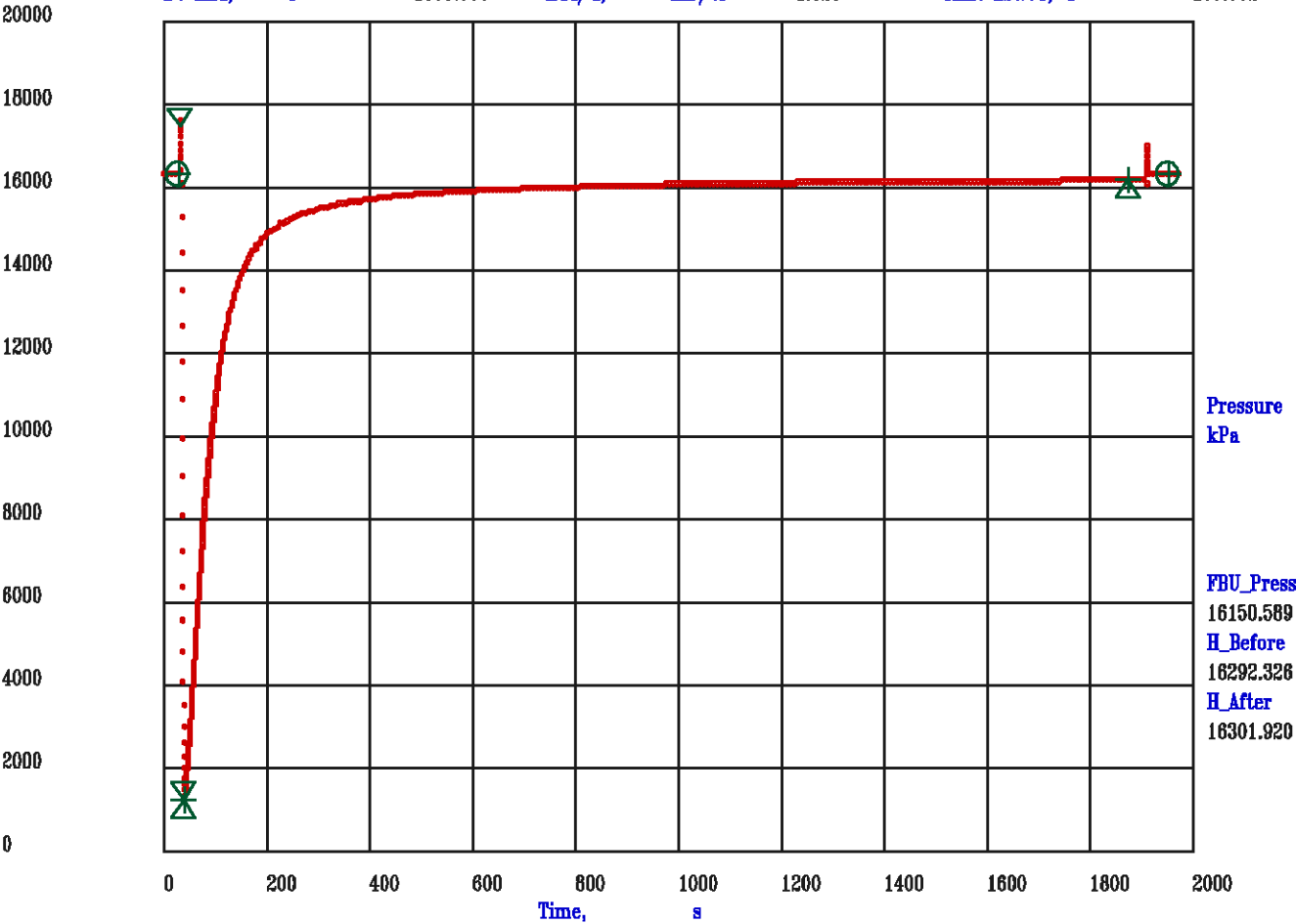
TVD Depth 1305.3 m

Meta File: pta-k001c26.qp1.meta

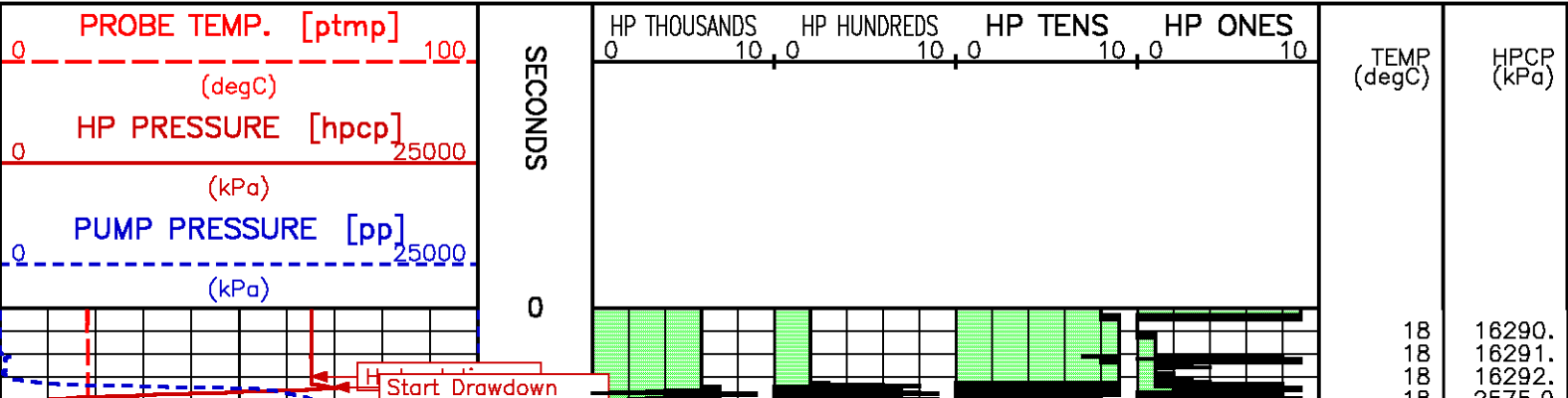
PRETEST: QG Measured Depth, m 1305.3 TVD Depth, m 1305.3 pta-k001c26.qp1.meta

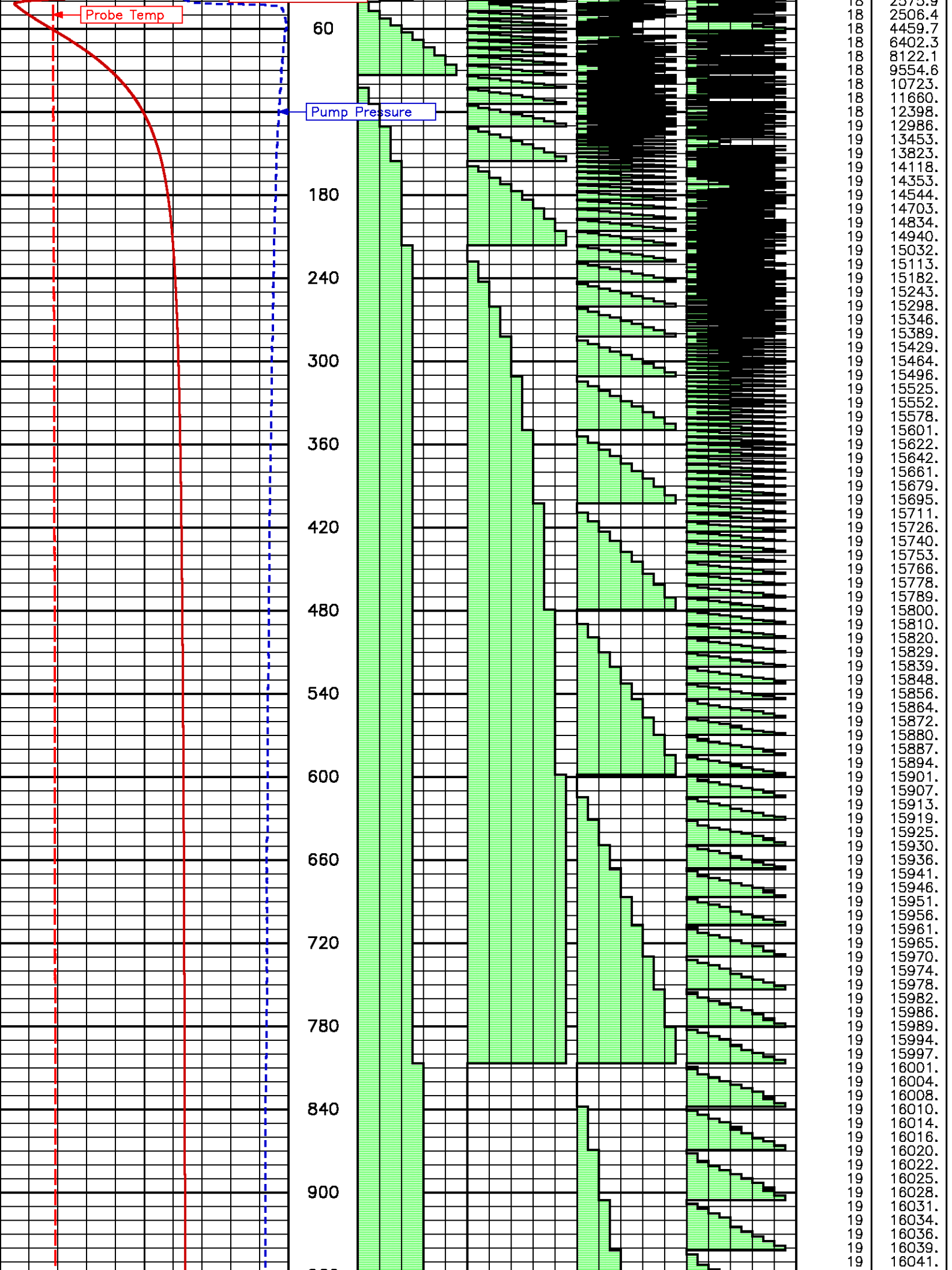
HISTORY PLOT: Elapsed Time vs. Pressure

DD Start,	s	34.750	SF Press,	kPa	16150.582	Flow Rate,	cm3/s	1.429
DD End,	s	41.750	FF Press,	kPa	1236.525	Chamber Vol,	cm3	10.000
BU Start,	s	41.750	Kdd Perm,	mD	1.623	Fill Rate,	min/L	10.775
BU End,	s	1877.750	kdd/u,	mD/cP	1.623	Time Est.UT,	s	107.752

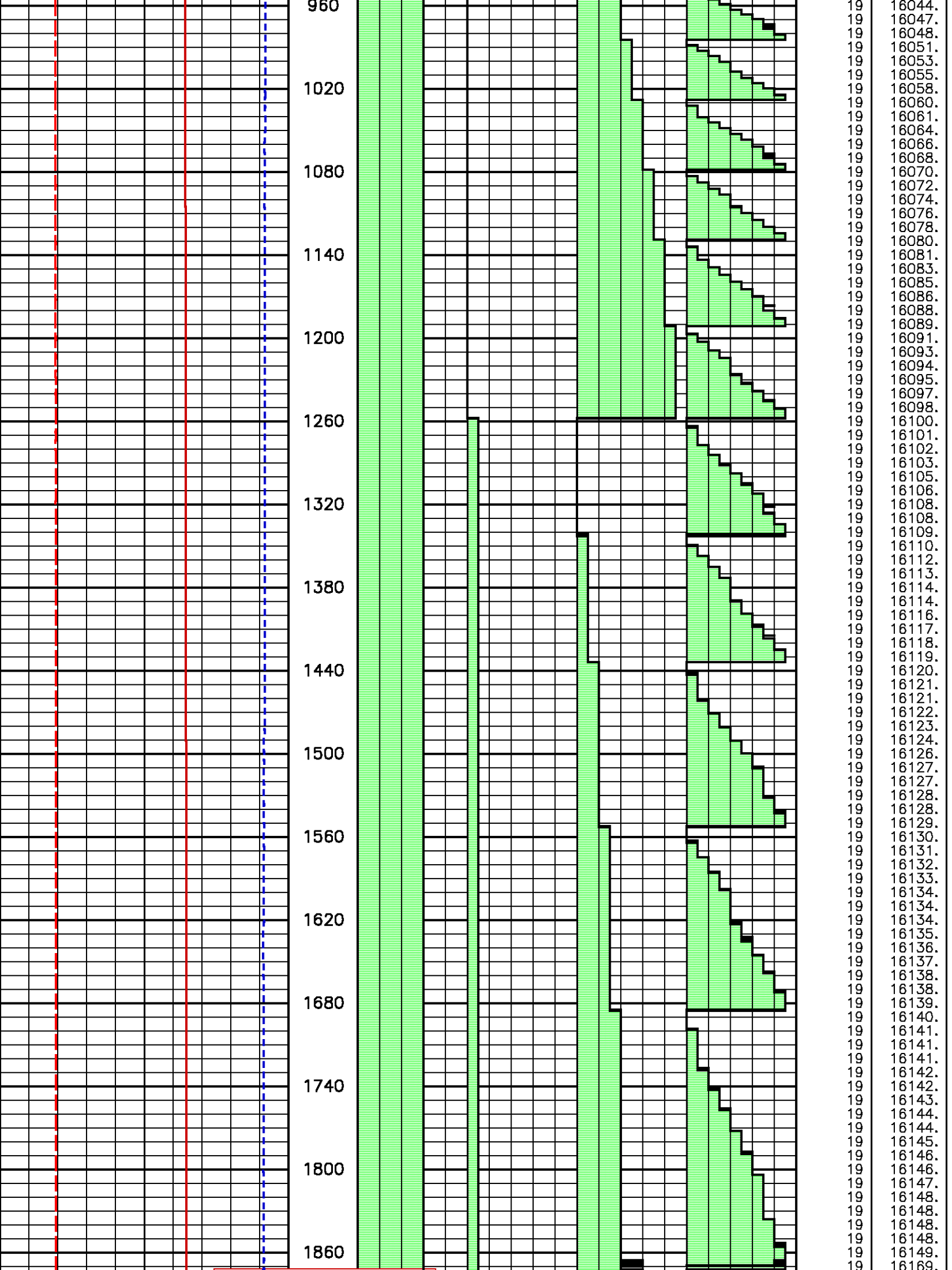


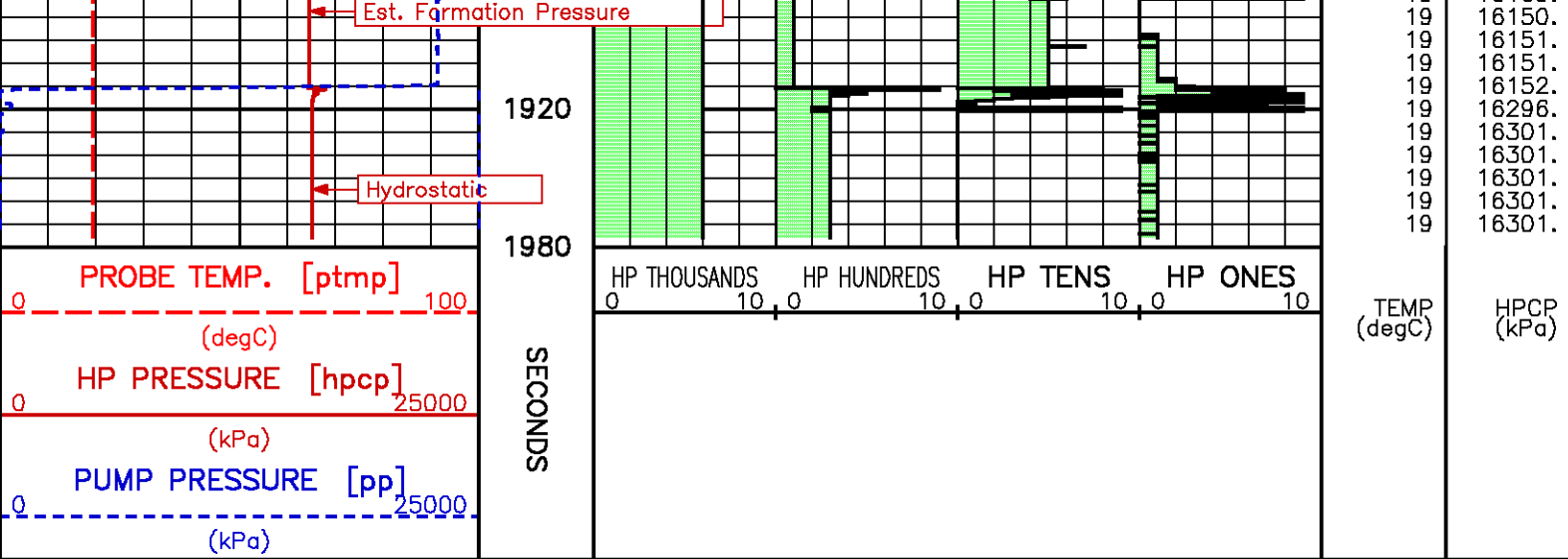
Data File : k001c26.aff  
Presentation: fmthp4-hp.log











## HYDROSTATIC GRADIENT ANALYSIS

PRETEST: QG

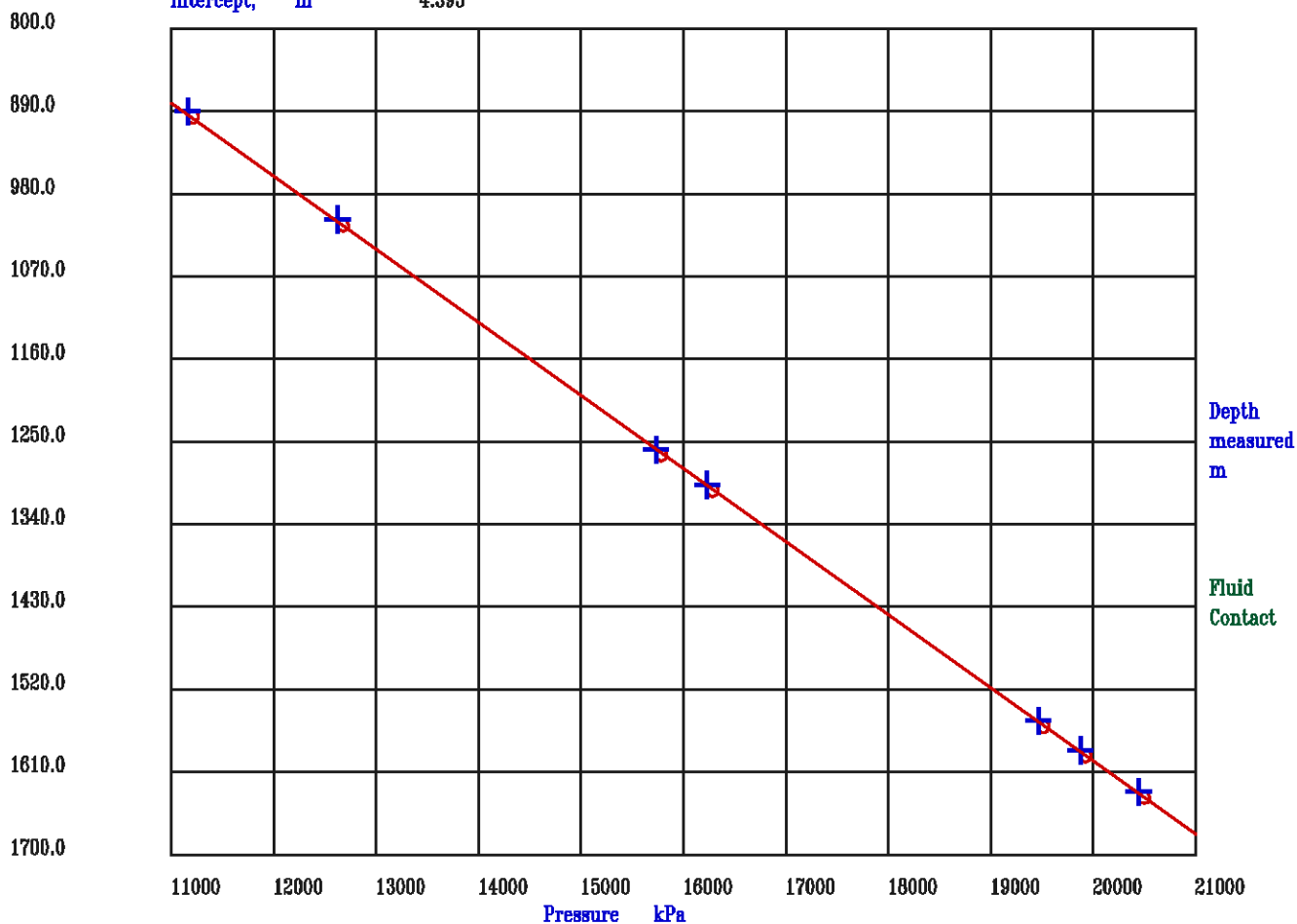
HYDROSTATIC PRESSURE vs. DEPTH

pta-k001c-01\_1.qp4.meta

Before  
After

Line#1

Start Depth, m 875.448  
End Depth, m 1672.791  
Gradient, kPa/m 12.542  
Intercept, m 4.395

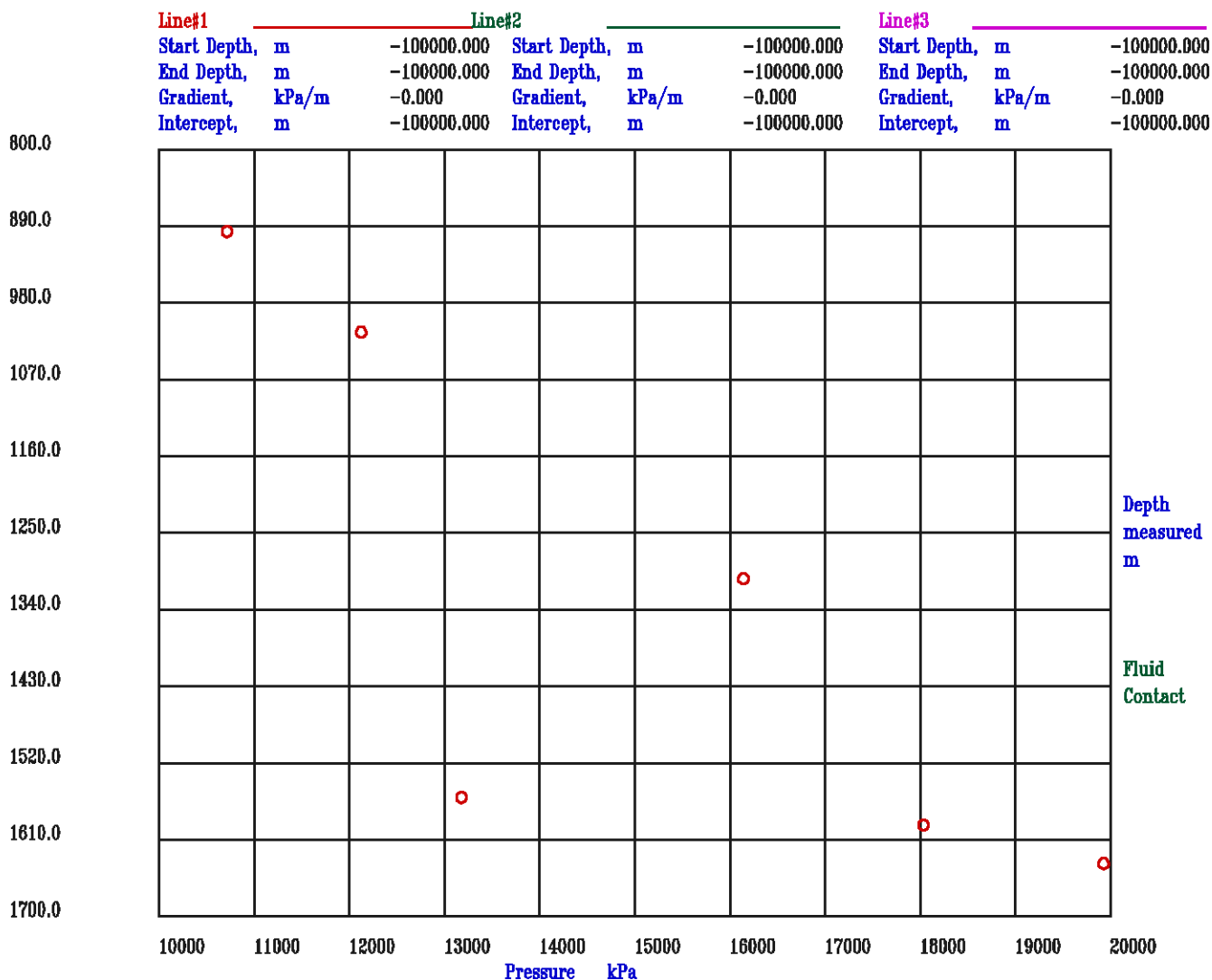


# PRESSURE GRADIENT ANALYSIS

PRETEST: QG

FBU PRESSURE vs. DEPTH

pta-k001c-01\_1.qp2.meta



## CALIBRATION / VERIFICATION SUMMARY

Source File: /dat1a/pass/vulcan/k001c.tp1

## GR PRIMARY CALIBRATION SUMMARY

TOOL #: 1309XA 071390

DATE/TIME PERFORMED: Fri Nov 27 02:21:21 2009

UNIT #: 3880TA HL6555

CALB JIG #: 4702NK VDA-305

	BACKGROUND (cts.raw)	CALBRTR ON (cts.raw)	CR DIFF (cts/s)	MULT	BACKGROUND (gAPI)	CALBRTR ON (gAPI)	CALBRTR (gAPI)
GR	27.18	209.86	182.7 170.0 242.0	0.821	22.32	172.32	150

## GR PRIMARY VERIFICATION SUMMARY

TOOL #: 1309XA 071390

DATE/TIME PERFORMED: Fri Nov 27 02:23:21 2009

UNIT #: 3880TA HL6555

VERI JIG #: 4702NK VDA-305

	BACKGROUND (cts.raw)	CALBRTR ON (cts.raw)	MULT	BACKGROUND (gAPI)	CALBRTR ON (gAPI)	DIFF. (gAPI)
GR	23.60	213.00	0.821	19.38	174.90	155.52 140.00 160.00

## HP PRIMARY CALIBRATION SUMMARY

GAUGE #: 2172XE 359552

DATE/TIME PERFORMED: Tue Jun 10 10:34:28 2008

UNIT #: 5753XA 10067203

	Temp	G	H	I	J
0		5.701827E+05	1.057143E+02	-2.275245E-04	3.373137E-10
1		1.553207E+01	1.655778E-03	1.709938E-09	1.370405E-12
2		2.804488E-02	1.076532E-05	-1.816127E-11	-4.539417E-15
3		-5.118243E-05	-9.134738E-08	1.011302E-12	-9.175088E-18
4		7.153809E-16	-3.355083E-19	4.009240E-23	-2.363696E-27
Coef Test	210.0	5.742072E+05	1.056908E+02	-2.186007E-04	3.399400E-10



COMPANY  
WELL  
FIELD  
PROVINCE

VULCAN MINERALS INC.  
VULCAN INVESTCAN RED BROOK #2  
BAY ST.GEORGE BASIN  
NEWFOUNDLAND AND LABRADOR

FILE NO:

API NO:

LOCATION:

ELEVATIONS:

KB 63.4 M

DF 63.1 M

CL 57.1 M

UID:

N/A

LICENSE:

ADW 2009-116-03

Baker Atlas





BH LOC. LSD:

LAT 48.2679591667 LONG -58.7501141667

GL 57.1 M

VER 2009-11-30

DATE

27-NOV-2009