

**APPENDIX D**

**DOWNHOLE GEOPHYSICAL LOG**

# PACIFIC SURVEYS

## CALIPER BOREHOLE VOLUMES

Job No. 11604  
 Company WDC EXPLORATION & WELLS  
 Well MW-25  
 File No. Field PASADENA  
 County LOS ANGELES State CA

Location: PASADENA CITY YARDS  
 Other Services: ELOG/GR SONIC/VDL  
 Sec. Twp. Rge.

Permanent Datum	GROUND LEVEL	Elevation	Elevation
Log Measured From	GROUND LEVEL	above perm. datum	K.B.
Drilling Measured From	GROUND LEVEL		D.F.
			G.L.

Date	09-27-2004		
Run Number	ONE		
Depth Driller	815'		
Depth Logger	814'		
Bottom Logged Interval	814'		
Top Log Interval	10'		
Casing Driller	20'		
Casing Logger	20'		
Bit Size	12.25"		
Type Fluid in Hole	BENTONITE		
Density / Viscosity	N/A		
pH / Fluid Loss	N/A		
Source of Sample	PIT		
Rm @ Meas. Temp	9.5 @ 75 F		
Rmf @ Meas. Temp	8.5 @ 75 F		
Rmc @ Meas. Temp	N/A		
Source of Rmf / Rmc	N/A		
Rm @ BHT	N/A		
Time Circulation Stopped	10:00		
Time Logger on Bottom	14:00		
Max. Recorded Temperature	N/A		
Equipment Number	PS-1		
Location	LA		
Recorded By	T. HOWARD	RIDDER	
Witnessed By	D. CLEXTON		

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Comments

### XY Caliper Calibration Report

Serial Number:  
 Tool Model:  
 Performed: Thu Sep 09 15:12:51 2004

Short Comprobe  
 in  
 4  
 14

Large Ring.

X Caliper

Y Caliper

Reading with Small Ring:  
Reading with Large Ring:

199.6  
517.9

199.6  
517.9

cps  
cps

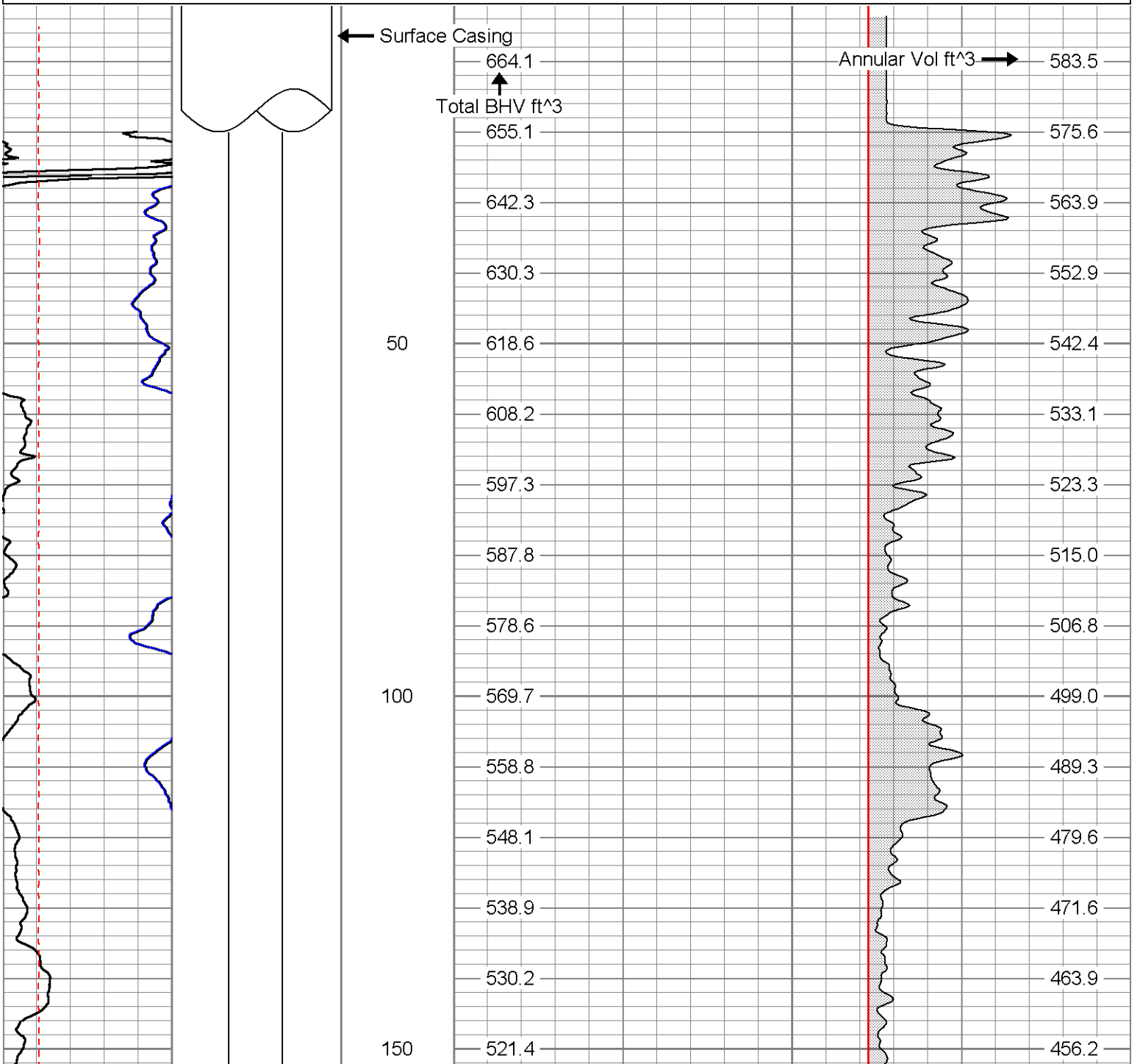
Gain:  
Offset:

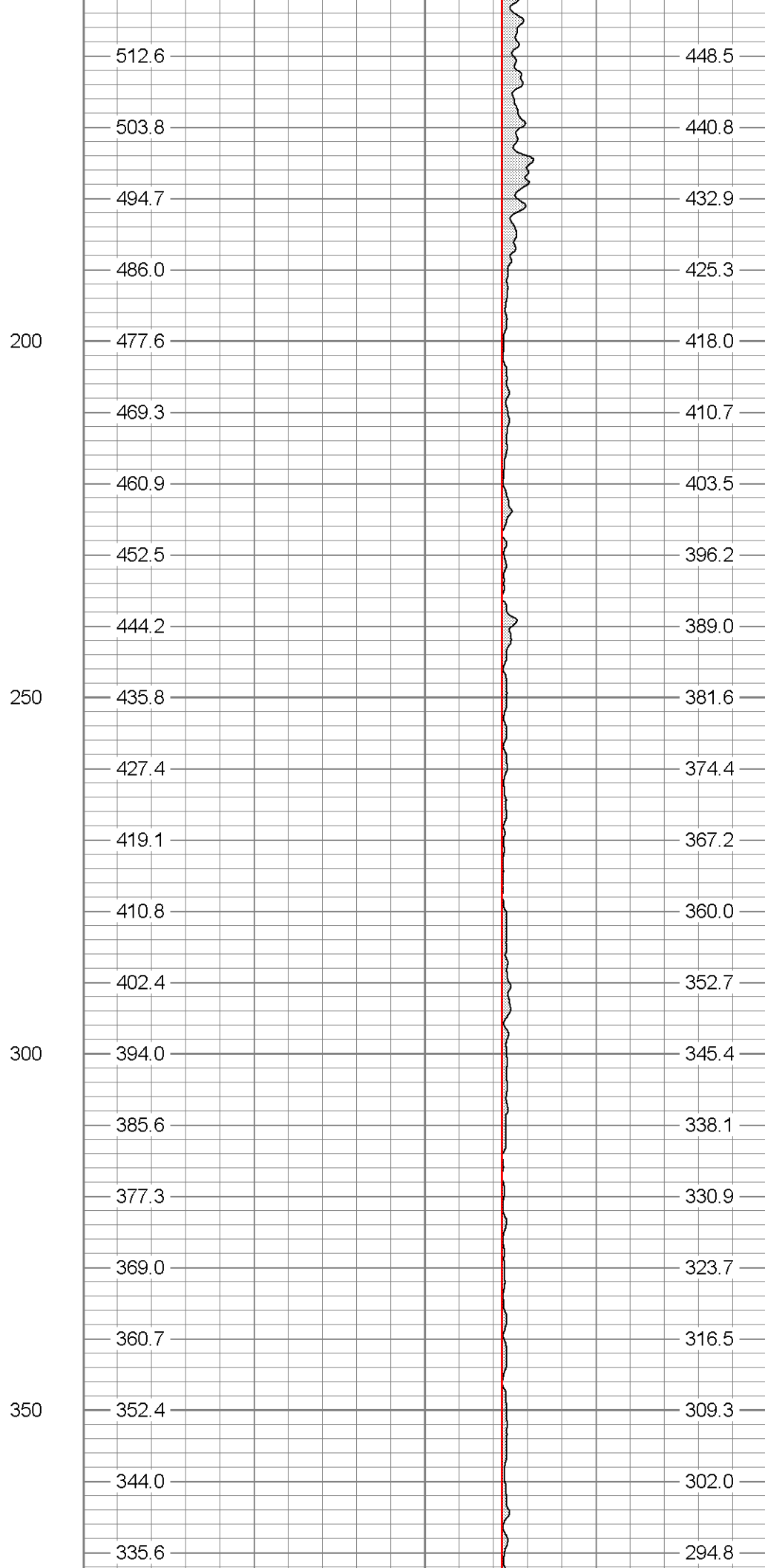
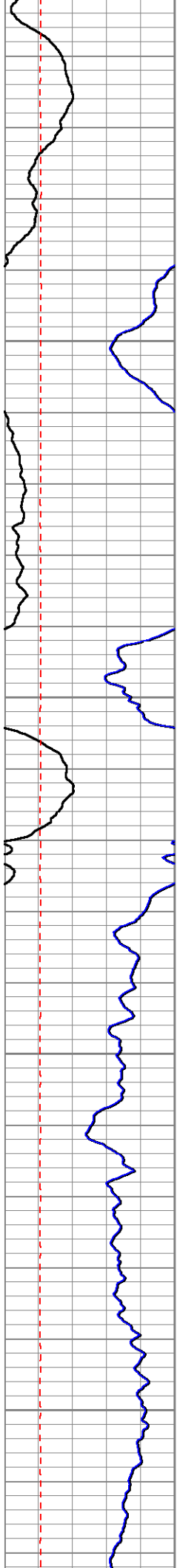
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-1.27081

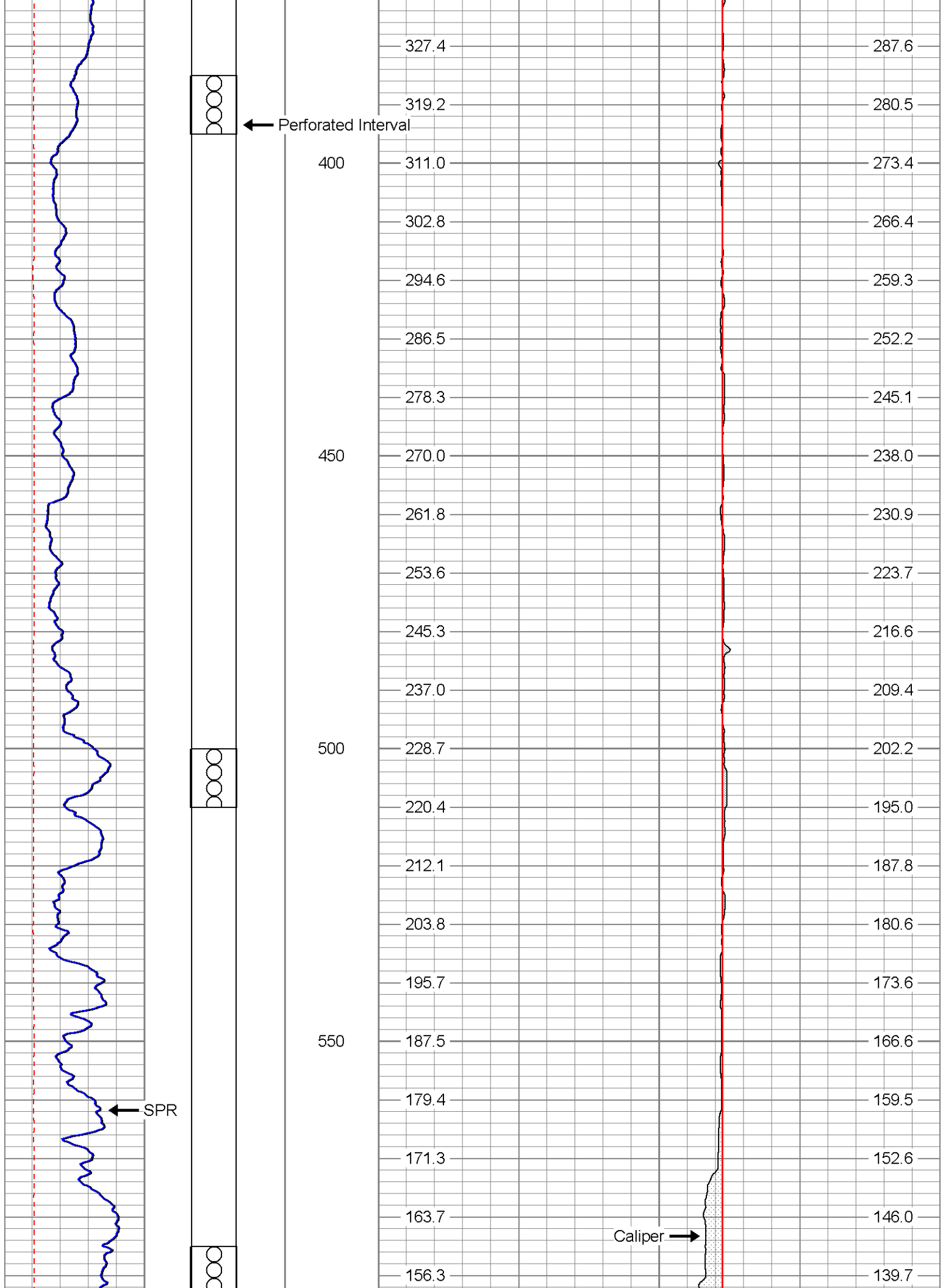
0.0314169  
-1.27081

Database File: 11604.db  
Dataset Pathname: WDC/City\_yard/run1/Cal.1  
Presentation Format: xyc2  
Dataset Creation: Mon Sep 27 14:36:52 2004 by Calc 6.2\_B4  
Charted by: Depth in Feet scaled 1:240

1(SPR (Ohm-m))0	CSG SCHLD	0	CALIPER (in)	20
0 LTEN (lb) 200		0	BIT SIZE (in)	20
0 SPR (Ohm-m))0		20	CALIPER back-up (in)	40



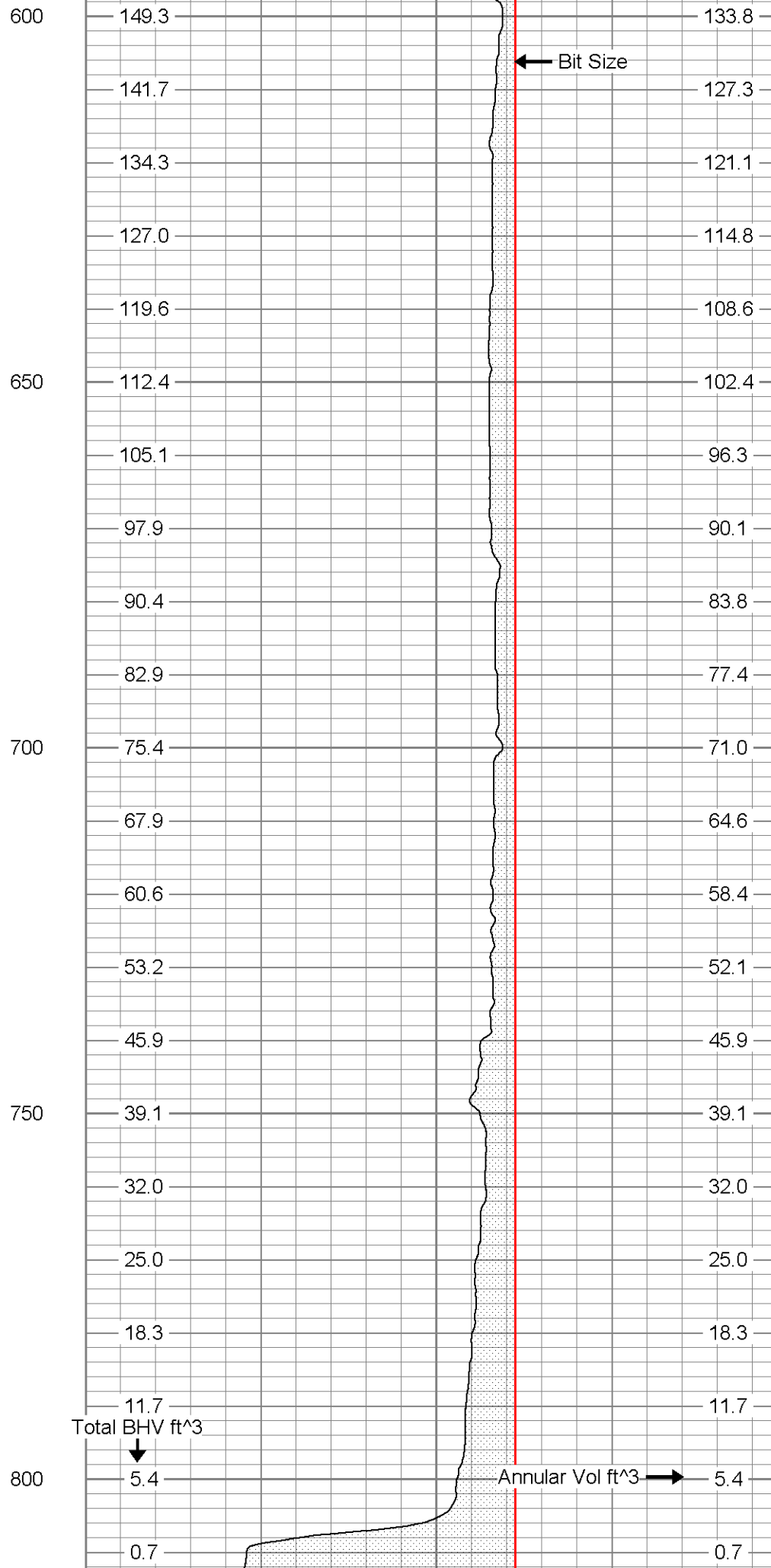
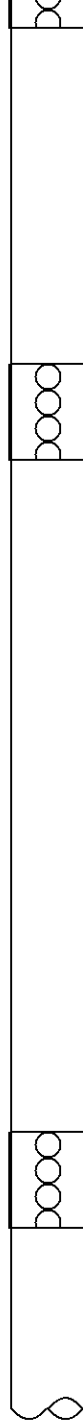
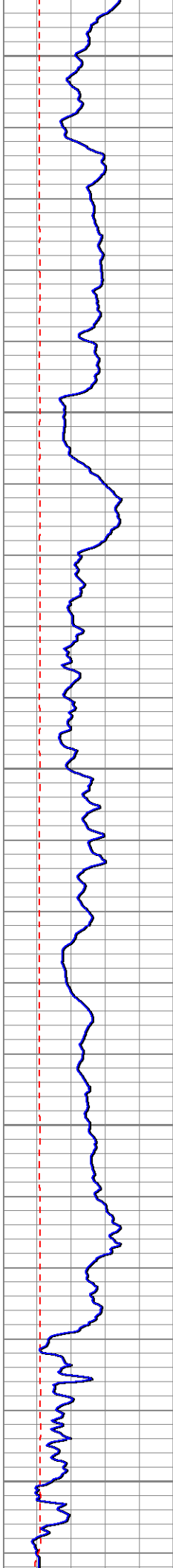


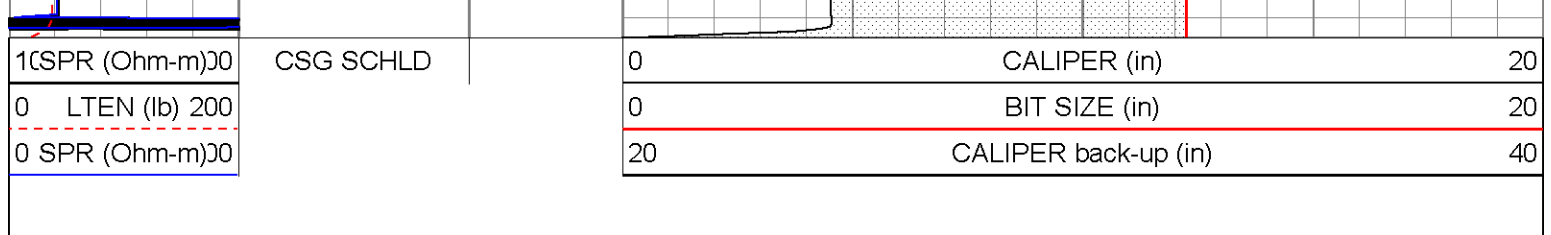


← Perforated Interval

← SPR

Caliper →





# PACIFIC SURVEYS

## ELECTRIC LOG GAMMA RAY

Job No. 11604  
 Company WDC EXPLORATION & WELLS  
 Well MW-25  
 File No. Field PASADENA  
 County LOS ANGELES State CA

Location: PASADENA CITY YARDS  
 Other Services: CALIPER SONIC/VDL  
 Sec. Twp. Rge.

Permanent Datum	GROUND LEVEL	Elevation	Elevation
Log Measured From	GROUND LEVEL	above perm. datum	K.B.
Drilling Measured From	GROUND LEVEL		D.F.
			G.L.

Date	09-27-2004		
Run Number	ONE		
Depth Driller	815'		
Depth Logger	814'		
Bottom Logged Interval	814'		
Top Log Interval	20'		
Casing Driller	20'		
Casing Logger	20'		
Bit Size	12.25"		
Type Fluid in Hole	BENTONITE		
Density / Viscosity	N/A		
pH / Fluid Loss	N/A		
Source of Sample	PIT		
Rm @ Meas. Temp	9.5 @ 75 F		
Rmf @ Meas. Temp	8.5 @ 75 F		
Rmc @ Meas. Temp	N/A		
Source of Rmf / Rmc	N/A		
Rm @ BHT	N/A		
Time Circulation Stopped	10:00		
Time Logger on Bottom	14:00		
Max. Recorded Temperature	N/A		
Equipment Number	PS-1		
Location	LA		
Recorded By	T. HOWARD	RIDDER	
Witnessed By	D. CLEXTON		

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Comments

ELOG Calibration Report

Serial:  
Model:

D1  
DTQ

Shop Calibration Performed:  
Before Survey Verification Performed:  
After Survey Verification Performed:

Thu Feb 12 18:50:48 2004  
Fri Mar 28 18:39:54 2003  
Thu Nov 20 13:45:24 2004



Shop Calibration

	Readings		References		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
Short	8.842	100.519	10.200	102.200	1.004	1.327
Long	6.083	95.489	10.200	102.200	1.029	-21.000
IEE	222.231	7097.889	0.243	7.768		A
VSN	79.981	8070.806	1.526	153.941		V
VLN	119.037	2050.833	2.270	39.117		V

Before Survey Verification

	Readings		References		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
Short	255.170	100.412	46.444	100.411	-0.349	135.426
Long	1150.040	103.869	103.264	103.264	0.219	80.559
IEE	140.620	6475.111	0.154	7.086		A
VSN	403.139	7304.796	7.689	139.330		V
VLN	454.231	1889.074	8.664	36.032		V

After Survey Verification

	Readings		References		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
Short	0.000	99.861	0.000	99.853	1.000	0.000
Long	0.000	102.069	102.055	102.055	1.000	0.000
IEE	129.370	6528.851	0.142	7.145		A
VSN	142.833	7325.000	2.724	139.715		V
VLN	114.778	1871.738	2.189	35.701		V

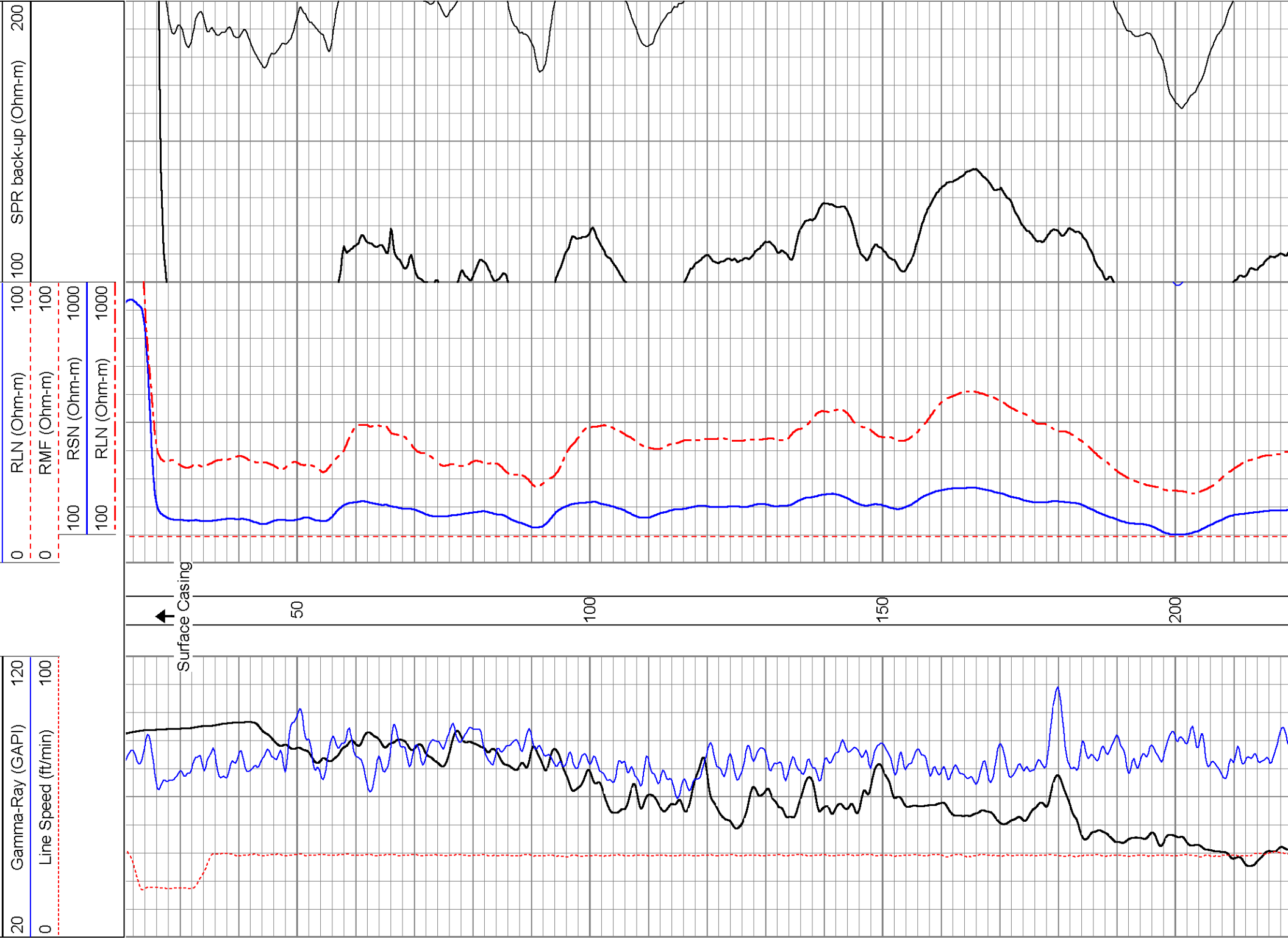
After Survey Verification compared to Before Survey Calibration

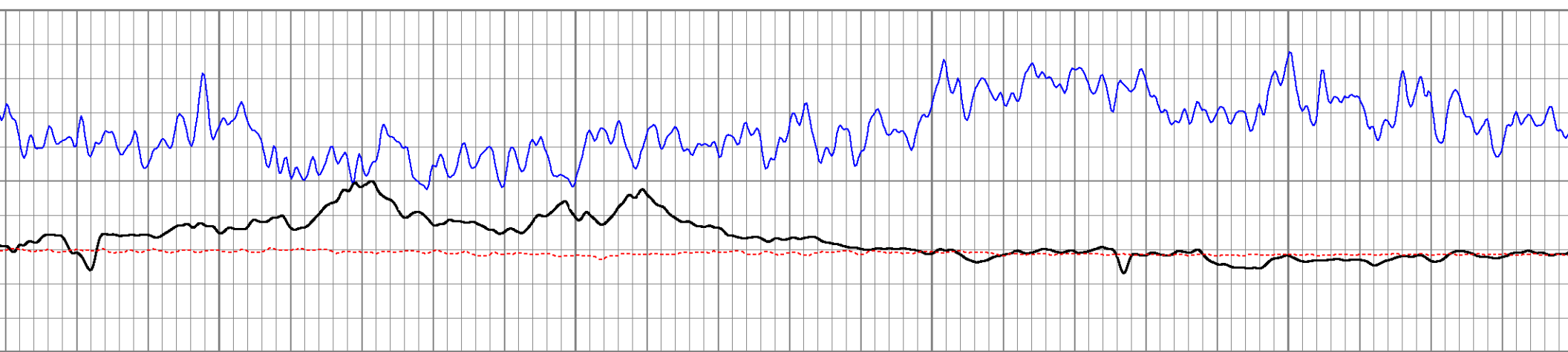
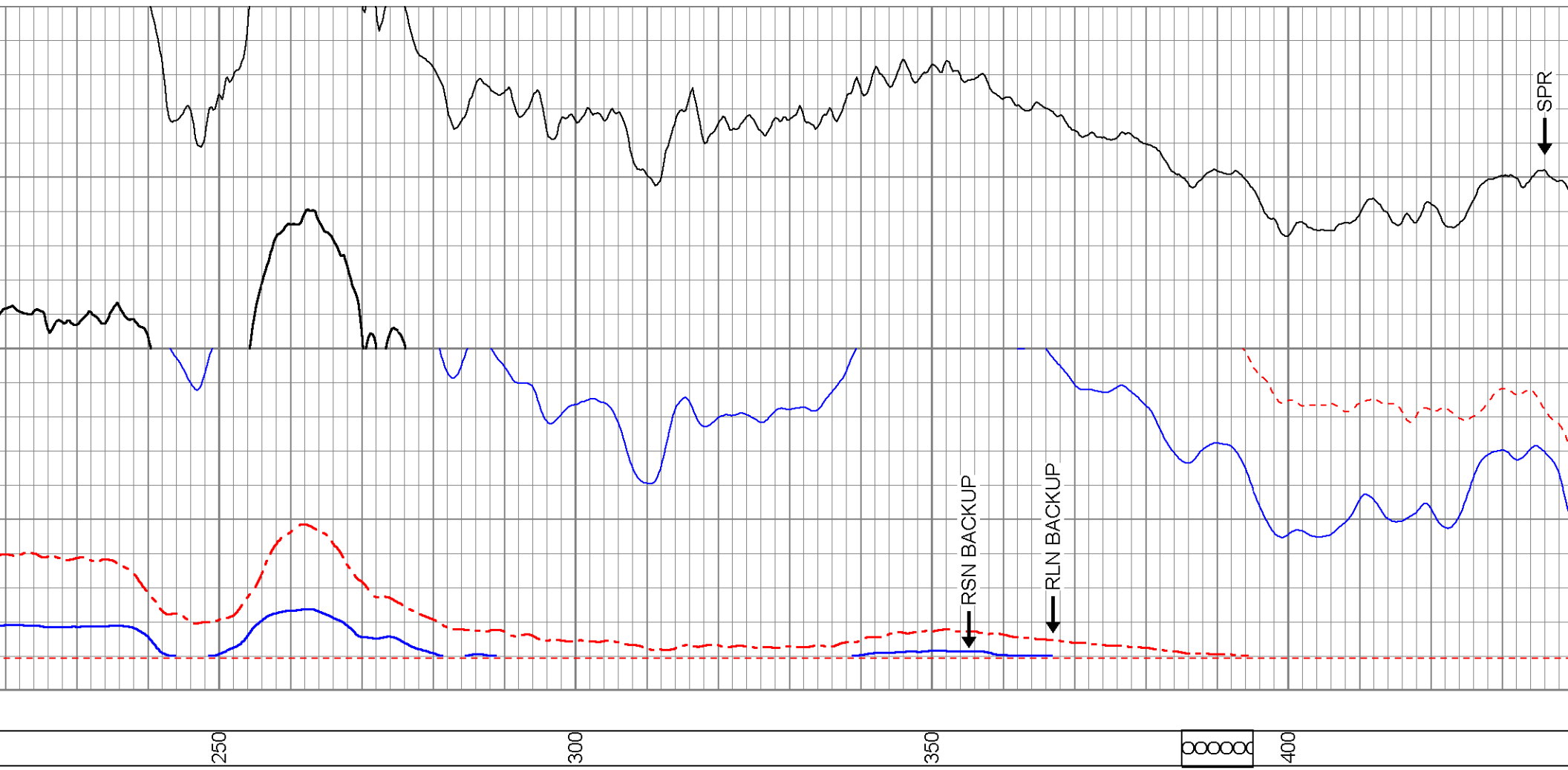
	Zero		Cal	
	Before	After	Before	After
Short	46.444	0.000	100.411	99.853
Long	331.945	0.000	103.264	102.055

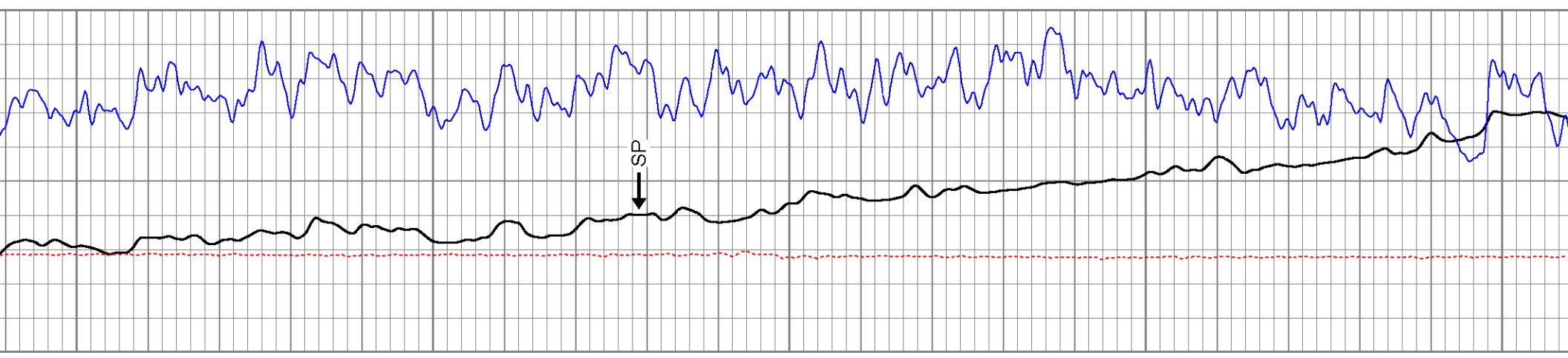
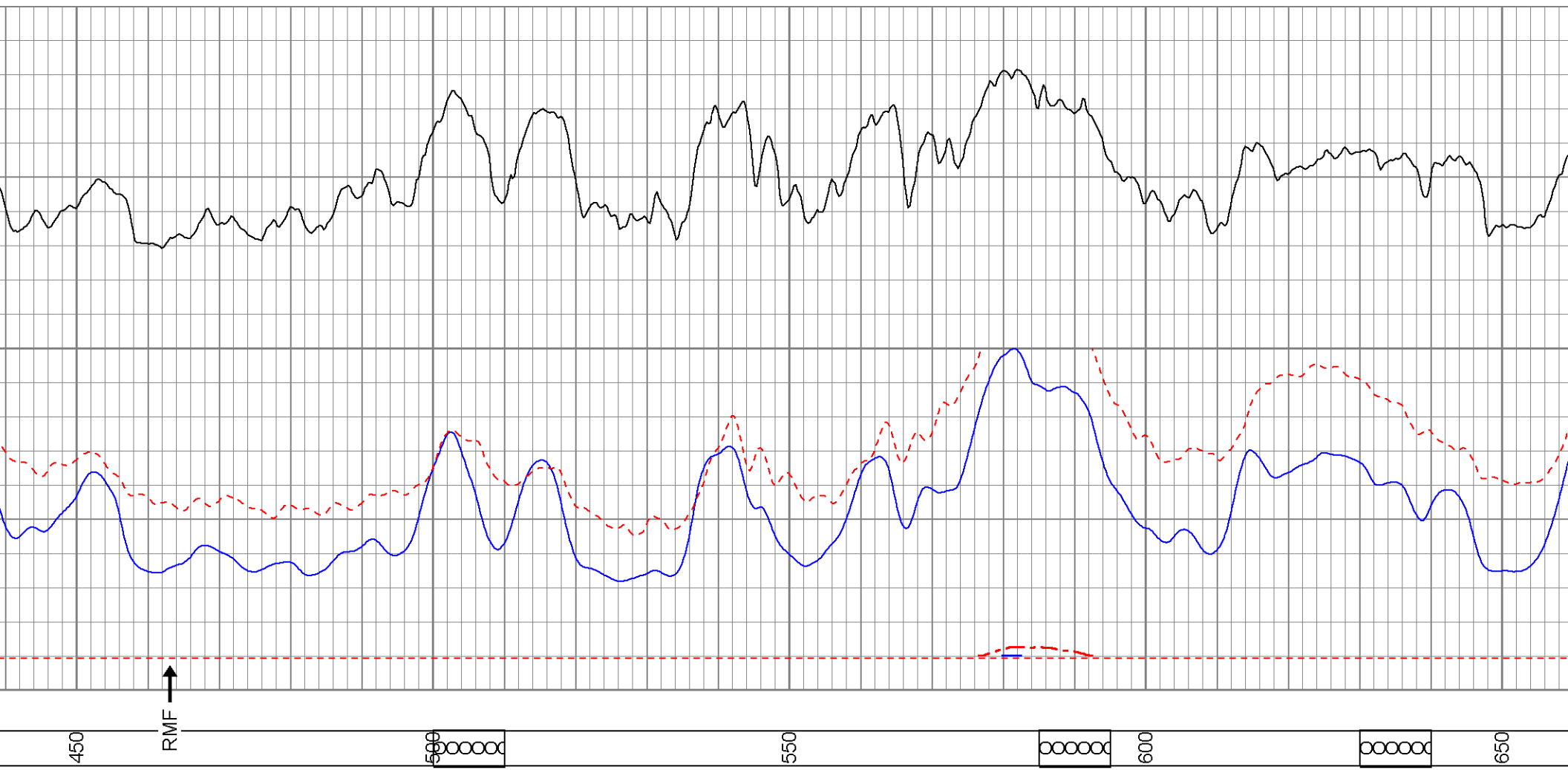
Gamma Ray Calibration Report

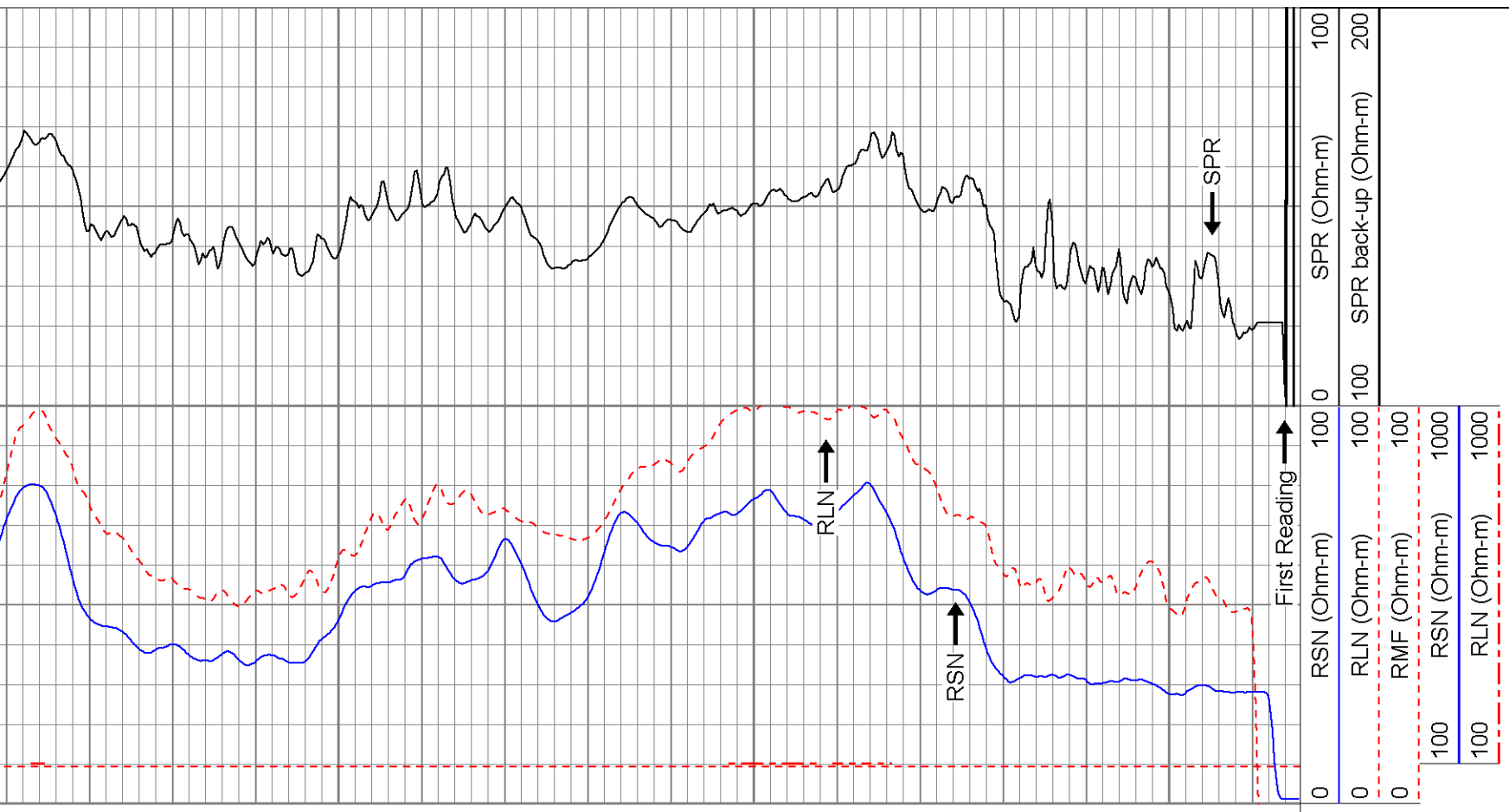
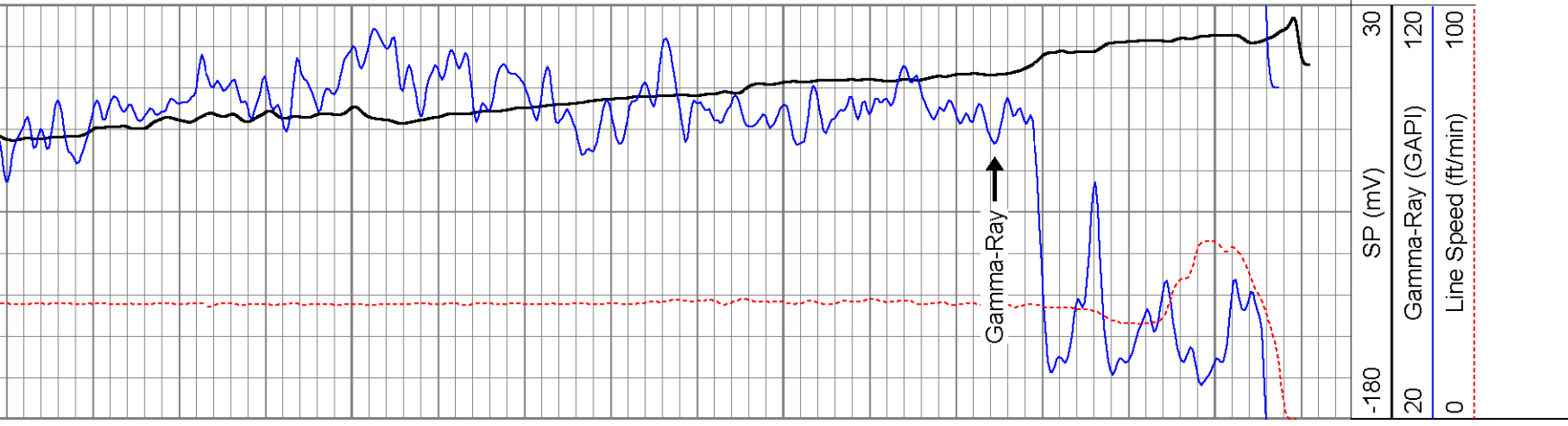
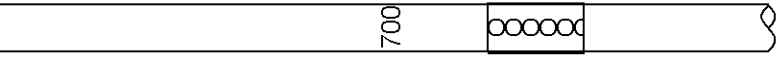
Serial Number: D1  
 Tool Model: ELOG  
 Performed: Mon Jan 26 16:20:05 2004  
 Calibrator Value: 162 GAPI  
 Background Reading: 172.547 cps  
 Calibrator Reading: 717.938 cps  
 Sensitivity: 0.297034 GAPI/cps

Database File: 11604.db  
 Dataset Pathname: WDC/City\_yard/run1/pass1  
 Presentation Format: elog  
 Dataset Creation: Mon Sep 27 11:04:27 2004 by Log 6.2\_B4  
 Charted by: Depth in Feet scaled 1:240









# PACIFIC SURVEYS

## SONIC/VDL GAMMA RAY SINGLE POINT RESISTIVITY

Job No. 11604  
 Company WDC EXPLORATION & WELLS  
 Well MW-25  
 File No. Field PASADENA  
 County LOS ANGELES State CA

Location: PASADENA CITY YARDS  
 Other Services: ELOG/GR CALIPER  
 Sec. Twp. Rge.

Permanent Datum GROUND LEVEL Elevation  
 Log Measured From GROUND LEVEL above perm. datum  
 Drilling Measured From GROUND LEVEL  
 K.B.  
 D.F.  
 G.L.

Date	09-27-2004		
Run Number	ONE		
Depth Driller	815'		
Depth Logger	814'		
Bottom Logged Interval	814'		
Top Log Interval	10'		
Casing Driller	20'		
Casing Logger	20'		
Bit Size	12.25"		
Type Fluid in Hole	BENTONITE		
Density / Viscosity	N/A		
pH / Fluid Loss	N/A		
Source of Sample	PIT		
Rm @ Meas. Temp	9.5 @ 75 F		
Rmf @ Meas. Temp	8.5 @ 75 F		
Rmc @ Meas. Temp	N/A		
Source of Rmf / Rmc	N/A		
Rm @ BHT	N/A		
Time Circulation Stopped	10:00		
Time Logger on Bottom	14:00		
Max. Recorded Temperature	N/A		
Equipment Number	PS-1		
Location	LA		
Recorded By	T. HOWARD	RIDDER	
Witnessed By	D. CLEXTON		

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Comments

Database File: 11604.db  
 Dataset Pathname: WDC/City\_yard/run1/SONIC  
 Presentation Format: slt  
 Dataset Creation: Mon Sep 27 13:14:54 2004 by Log 6.2\_B4  
 Charted by: Depth in Feet scaled 1:240

250 Delta Time (usec/ft) 50 (ITT (msec)) 500 Variable Density 5 ft 1600 500 Variable Density 5 ft 1600

