



ASSOCIAZIONE INTERCOMUNALE AREA BAZZANESE
Comuni di Bazzano, Castello di Serravalle, Crespellano, Monte
San Pietro, Monteveglio, Savigno, Zola Predosa
Provincia di Bologna



**PIANO STRUTTURALE DEI COMUNI
DELL'AREA BAZZANESE**

MICROZONAZIONE SISMICA DEL COMUNE DI ZOLA PREDOSA
Allegati

Adozione: Del. C.C. n. ... del

Approvazione: Del. C.C. n. ... del

ASSOCIAZIONE INTERCOMUNALE AREA BAZZANESE
Presidente del comitato di Pianificazione Associata: ALFREDO PARINI

	Sindaci	Assessori
<i>Bazzano</i>	Elio RIGILLO	Moreno PEDRETTI
<i>Castello di Serravalle</i>	Milena ZANNA	Cesare GIOVANARDI
<i>Crespellano</i>	Alfredo PARINI	Alfredo PARINI
<i>Monte San Pietro</i>	Stefano RIZZOLI	Pierluigi COSTA
<i>Monteveglio</i>	Daniele RUSCIGNO	Daniele RUSCIGNO
<i>Savigno</i>	Augusto CASINI ROPA	Augusto CASINI ROPA
<i>Zola Predosa</i>	Stefano FIORINI	Stefano FIORINI

Responsabile dello studio

dr. geol. Samuel Sangiorgi

Ufficio di Piano

Marco LENZI (Coordinamento)

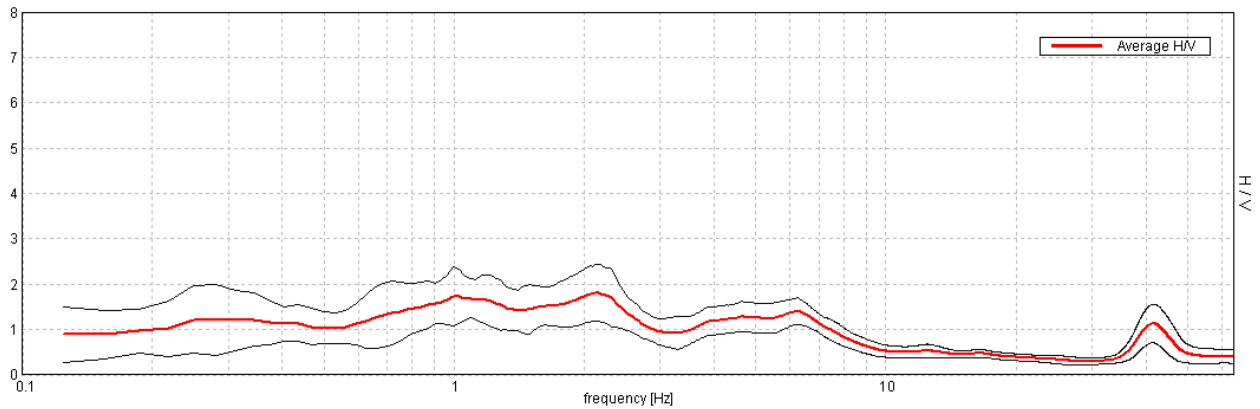
OTTOBRE 2013

ZOLA PREDOSA, 037060P1HVSR1

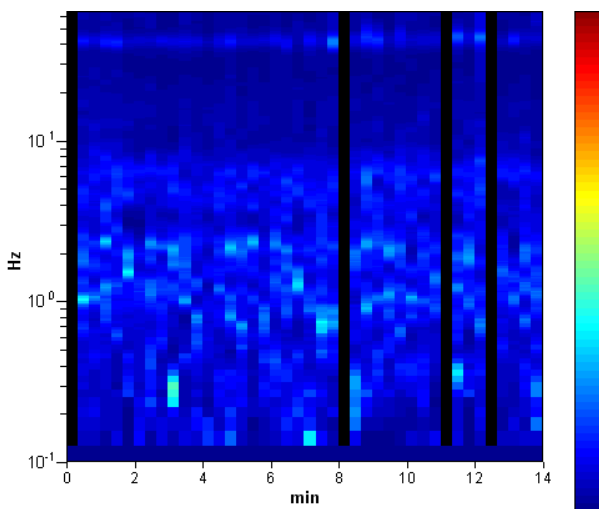
Instrument: TRZ-0108/01-10
Start recording: 09/04/13 11:01:43 End recording: 09/04/13 11:15:44
Channel labels: NORTH SOUTH; EAST WEST ; UP DOWN
Trace length: 0h14'00". Analyzed 90% trace (manual window selection)
Sampling rate: 128 Hz
Window size: 20 s
Smoothing type: Triangular window
Smoothing: 12%

HORIZONTAL TO VERTICAL SPECTRAL RATIO

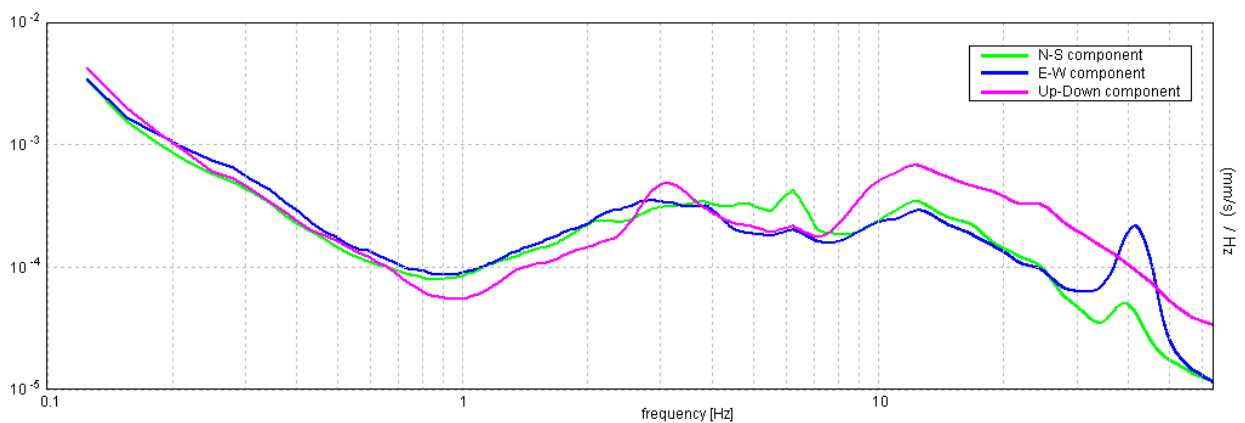
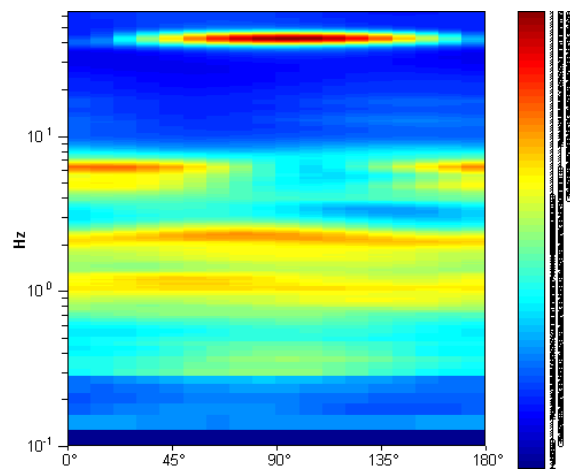
Max. H/V at 2.13 ± 0.19 Hz (in the range 0.0 - 64.0 Hz).



H/V TIME HISTORY



DIRECTIONAL H/V

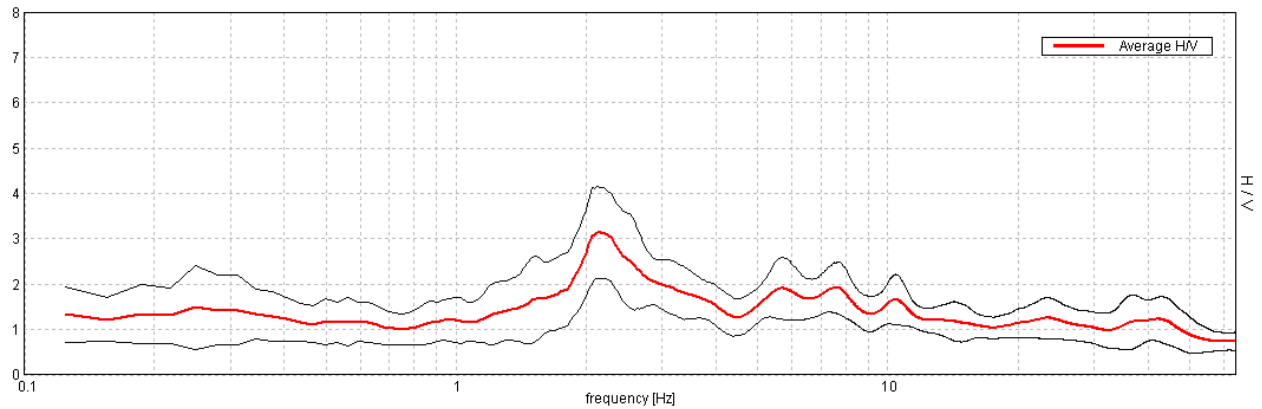


ZOLA PREDOSA, 037060P3HVSR3

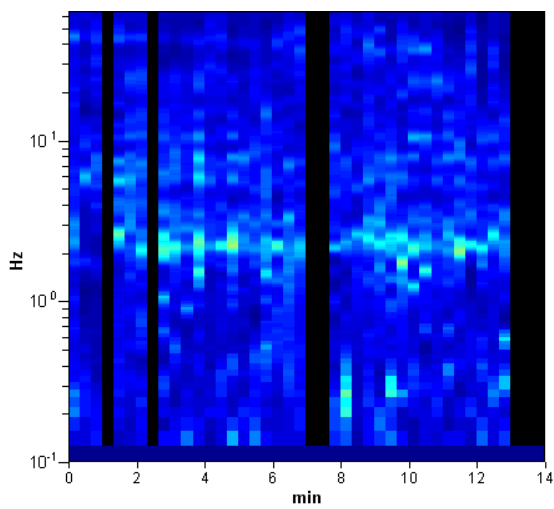
Instrument: TRZ-0108/01-10
 Start recording: 09/04/13 11:46:05 End recording: 09/04/13 12:00:06
 Channel labels: NORTH SOUTH; EAST WEST ; UP DOWN
 Trace length: 0h14'00". Analyzed 83% trace (manual window selection)
 Sampling rate: 128 Hz
 Window size: 20 s
 Smoothing type: Triangular window
 Smoothing: 12%

HORIZONTAL TO VERTICAL SPECTRAL RATIO

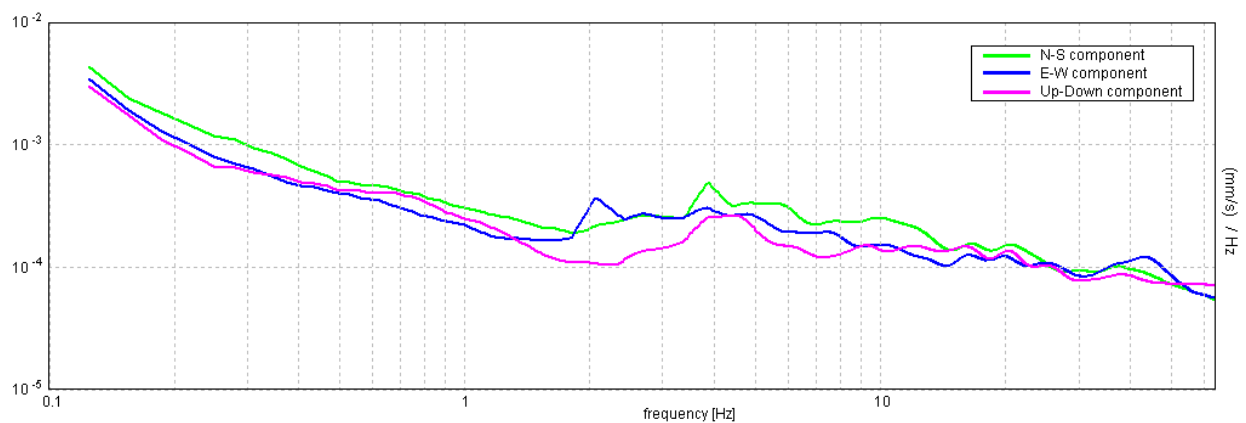
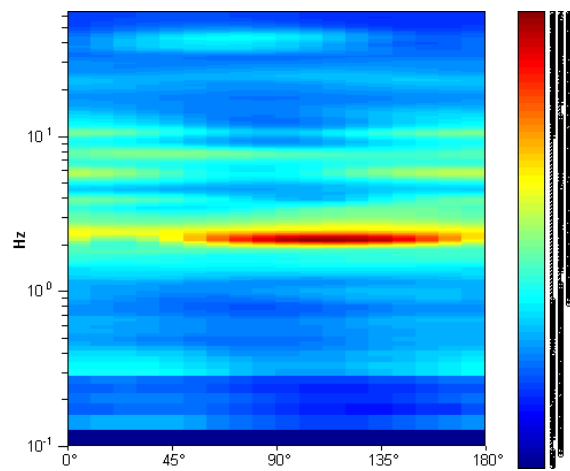
Max. H/V at 2.13 ± 0.48 Hz. (In the range 0.0 - 64.0 Hz).



H/V TIME HISTORY



DIRECTIONAL H/V

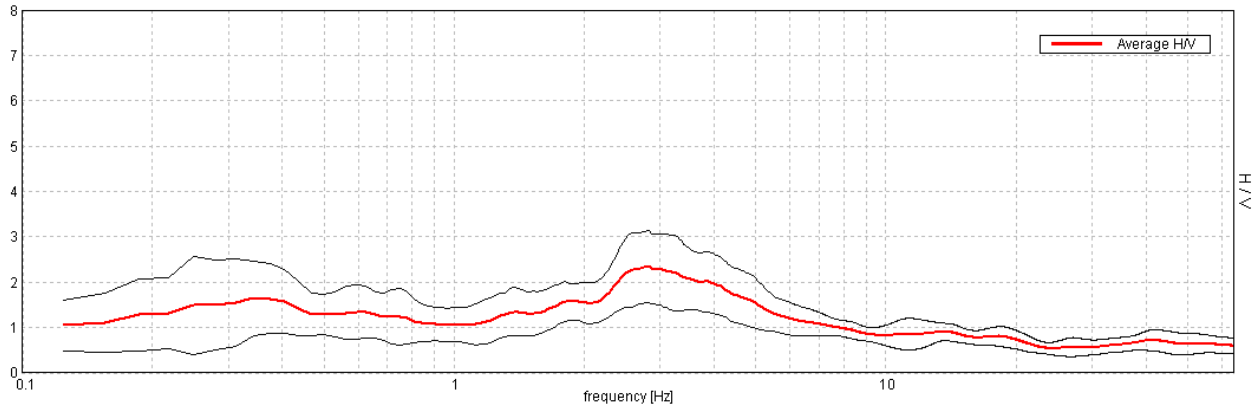


ZOLA PREDOSA, 037060P4HVSR4

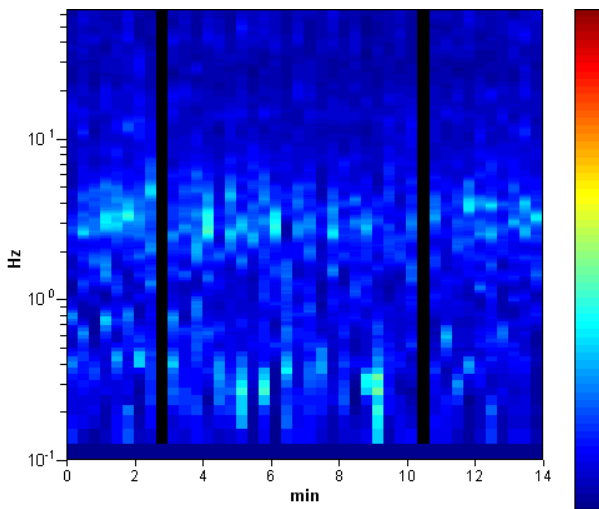
Instrument: TRZ-0108/01-10
 Start recording: 09/04/13 12:05:48 End recording: 09/04/13 12:19:49
 Channel labels: NORTH SOUTH; EAST WEST ; UP DOWN
 Trace length: 0h14'00". Analyzed 95% trace (manual window selection)
 Sampling rate: 128 Hz
 Window size: 20 s
 Smoothing type: Triangular window
 Smoothing: 12%

HORIZONTAL TO VERTICAL SPECTRAL RATIO

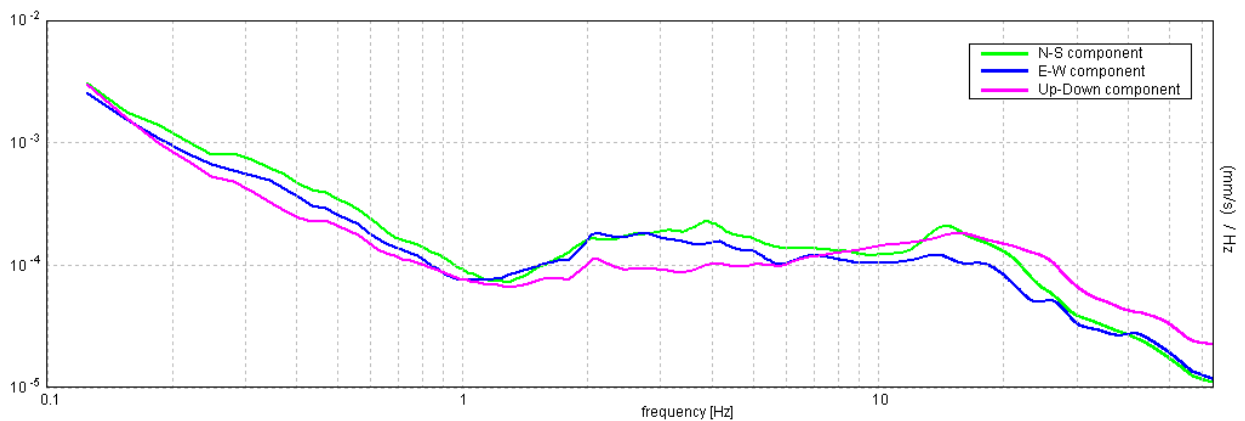
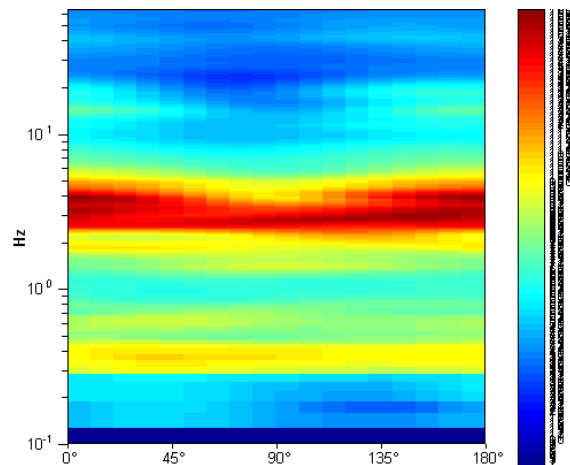
Max. H/V at 2.81 ± 0.13 Hz. (In the range 0.0 - 64.0 Hz).



H/V TIME HISTORY



DIRECTIONAL H/V

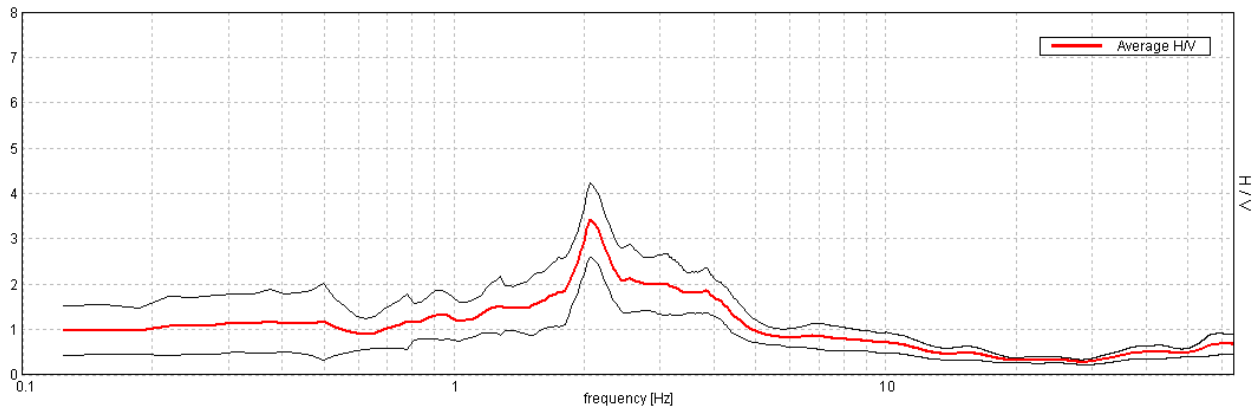


ZOLA PREDOSA, 037060P5HVSR5

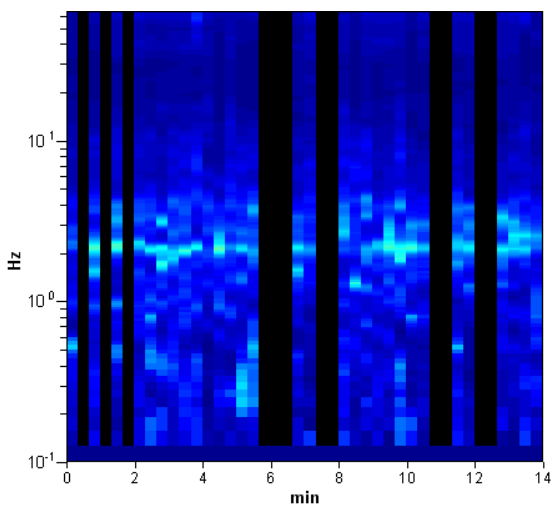
Instrument: TRZ-0108/01-10
 Start recording: 09/04/13 12:28:09 End recording: 09/04/13 12:42:10
 Channel labels: NORTH SOUTH; EAST WEST ; UP DOWN
 Trace length: 0h14'00". Analyzed 71% trace (manual window selection)
 Sampling rate: 128 Hz
 Window size: 20 s
 Smoothing type: Triangular window
 Smoothing: 12%

HORIZONTAL TO VERTICAL SPECTRAL RATIO

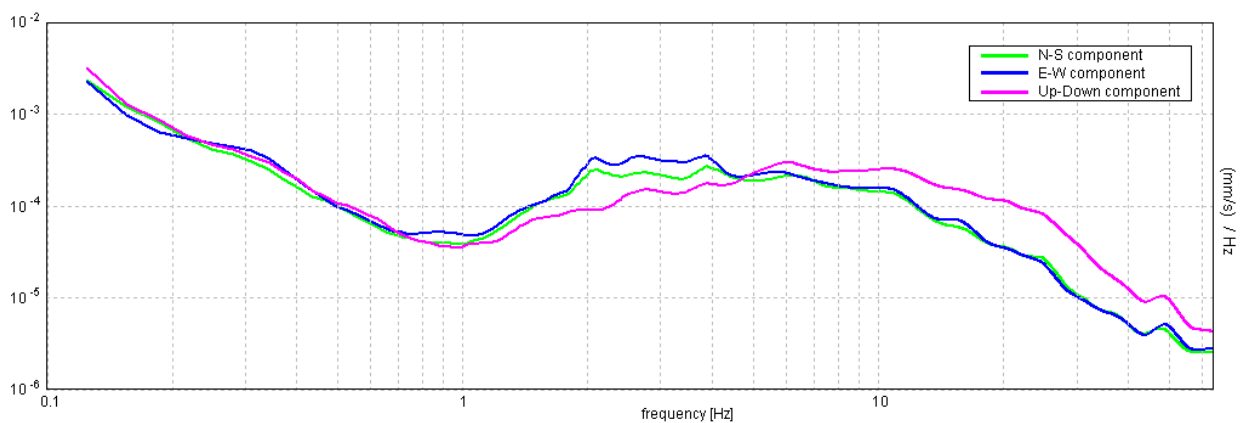
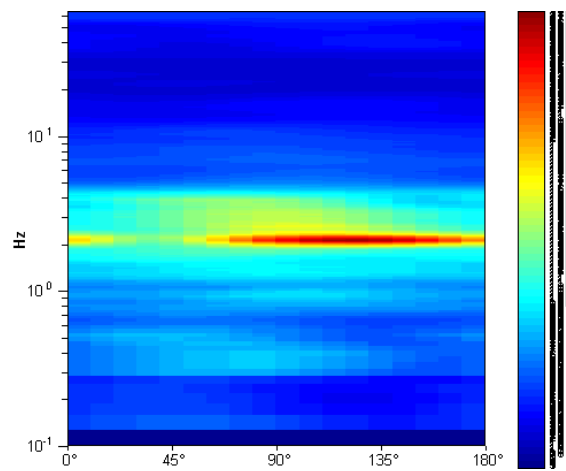
Max. H/V at 2.06 ± 0.11 Hz (in the range 0.0 - 64.0 Hz).



H/V TIME HISTORY



DIRECTIONAL H/V

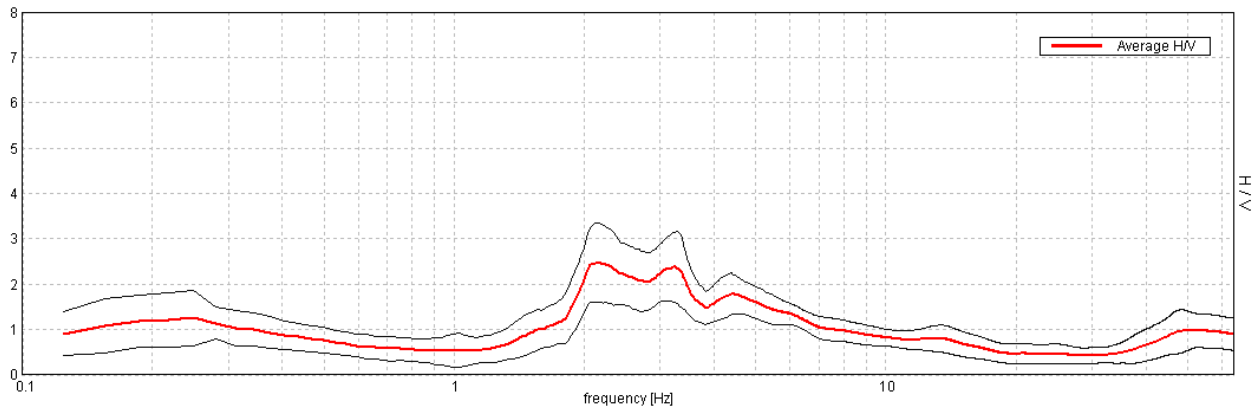


ZOLA PREDOSA, 037060P6HVS6

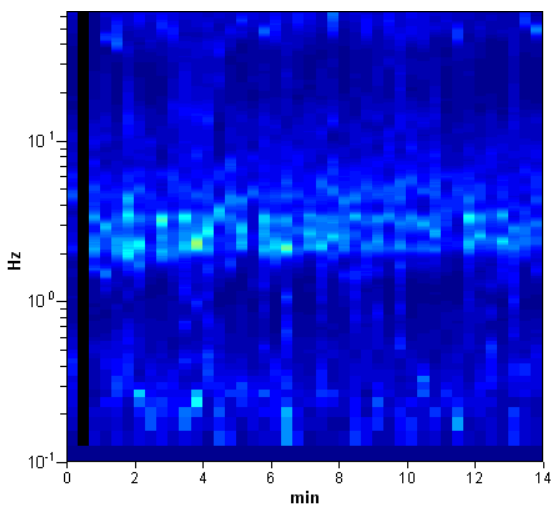
Instrument: TRZ-0108/01-10
 Start recording: 09/04/13 12:50:04 End recording: 09/04/13 13:04:05
 Channel labels: NORTH SOUTH; EAST WEST ; UP DOWN
 Trace length: 0h14'00". Analyzed 98% trace (manual window selection)
 Sampling rate: 128 Hz
 Window size: 20 s
 Smoothing type: Triangular window
 Smoothing: 12%

HORIZONTAL TO VERTICAL SPECTRAL RATIO

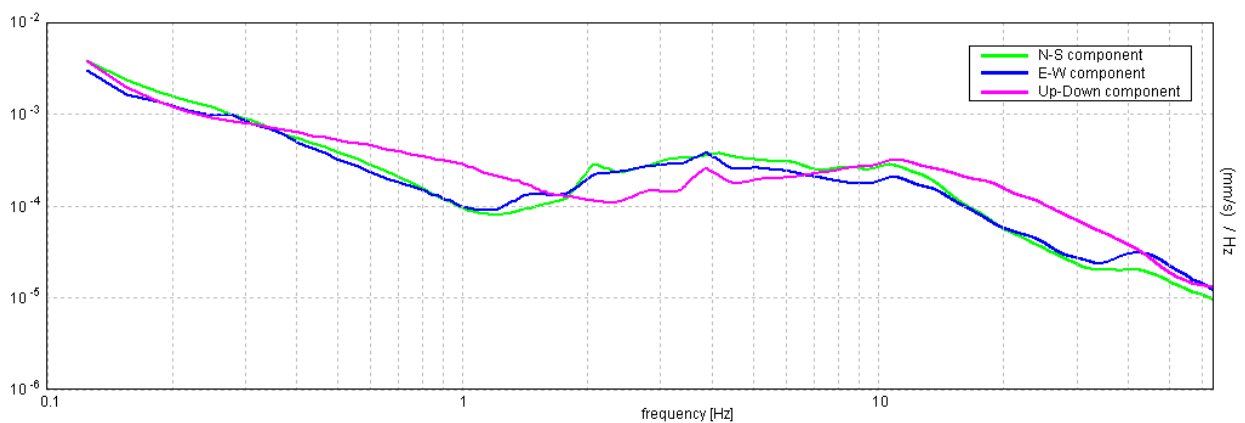
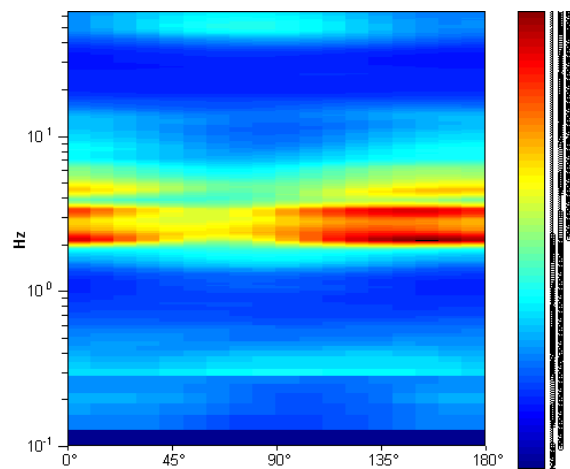
Max. H/V at 2.16 ± 0.12 Hz (in the range 0.0 - 64.0 Hz).



H/V TIME HISTORY



DIRECTIONAL H/V

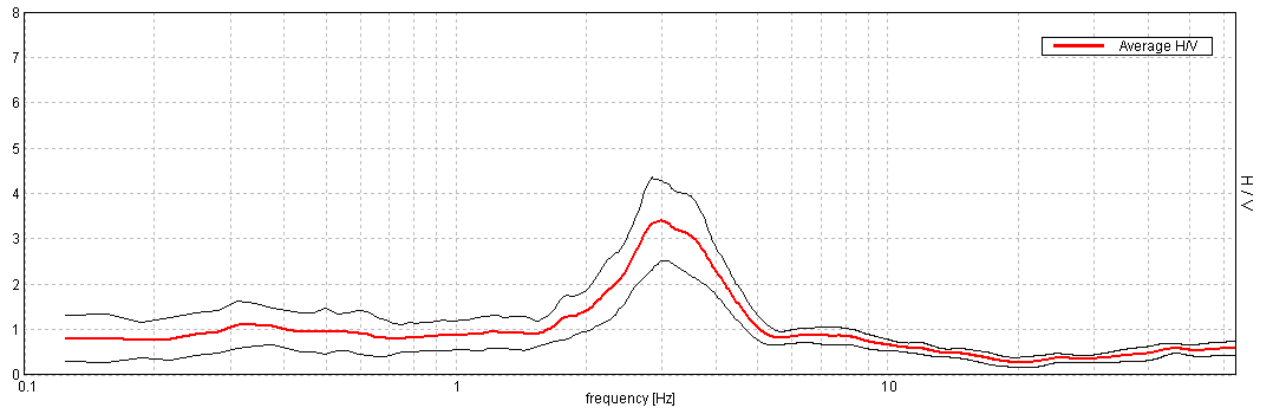


ZOLA PREDOSA, 037060P7HVS7

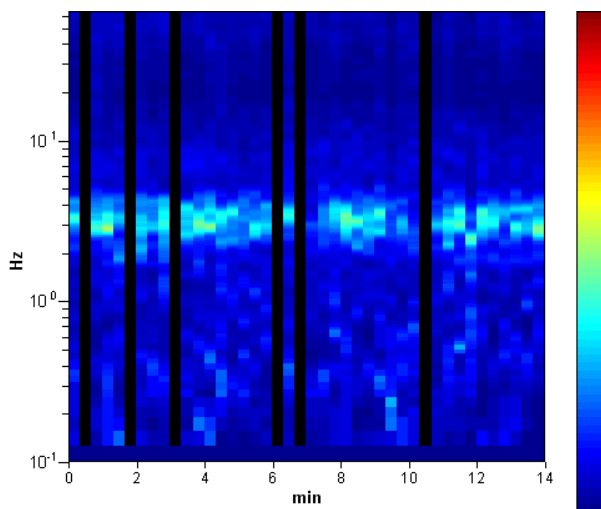
Instrument: TRZ-0108/01-10
 Start recording: 09/04/13 13:45:30 End recording: 09/04/13 13:59:31
 Channel labels: NORTH SOUTH; EAST WEST ; UP DOWN
 Trace length: 0h14'00". Analyzed 86% trace (manual window selection)
 Sampling rate: 128 Hz
 Window size: 20 s
 Smoothing type: Triangular window
 Smoothing: 12%

HORIZONTAL TO VERTICAL SPECTRAL RATIO

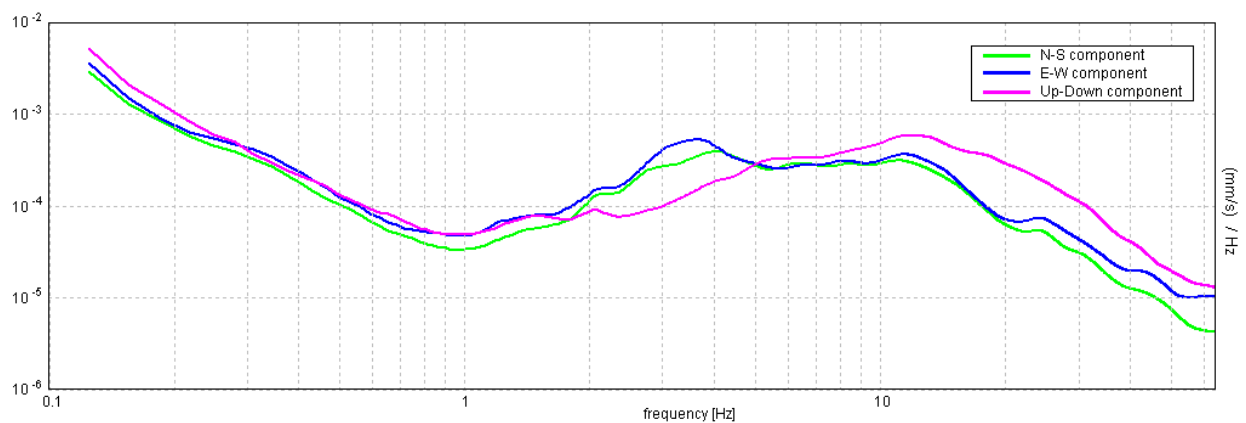
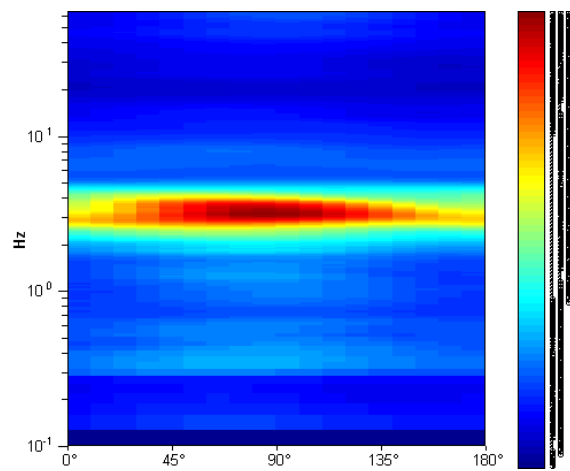
Max. H/V at 3.0 ± 0.04 Hz. (In the range 0.0 - 64.0 Hz).



H/V TIME HISTORY



DIRECTIONAL H/V

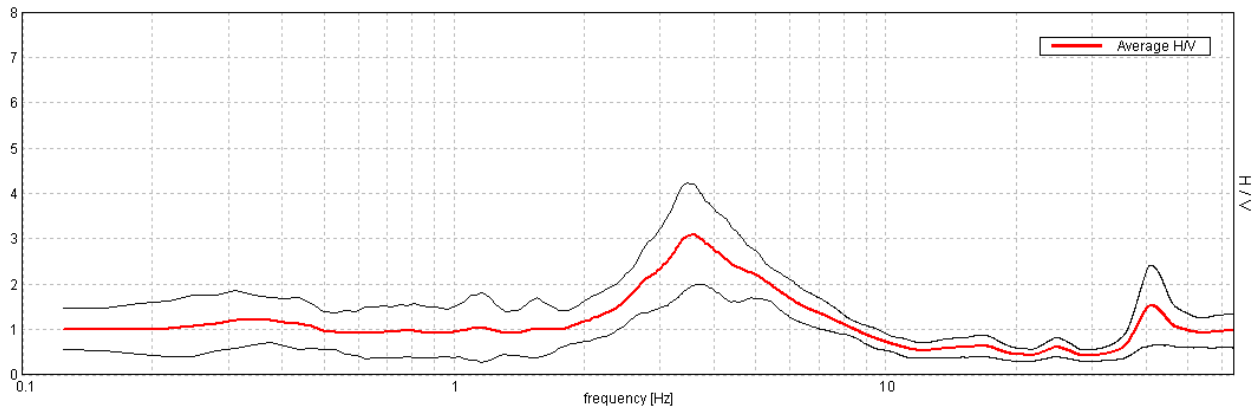


ZOLA PREDOSA, 037060P8HVSR8

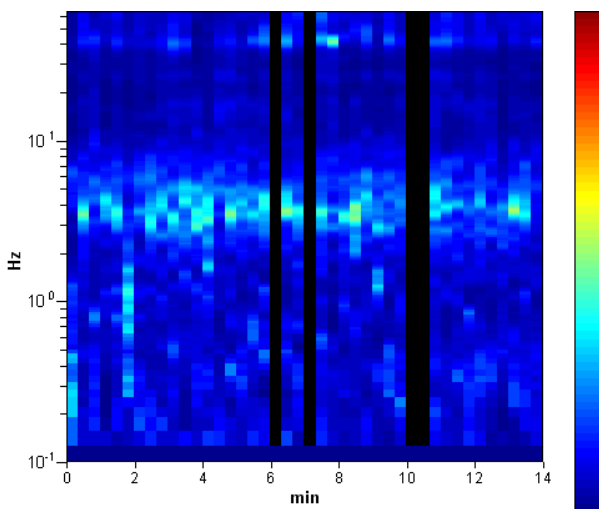
Instrument: TRZ-0108/01-10
 Start recording: 09/04/13 14:07:31 End recording: 09/04/13 14:21:32
 Channel labels: NORTH SOUTH; EAST WEST ; UP DOWN
 Trace length: 0h14'00". Analyzed 90% trace (manual window selection)
 Sampling rate: 128 Hz
 Window size: 20 s
 Smoothing type: Triangular window
 Smoothing: 12%

HORIZONTAL TO VERTICAL SPECTRAL RATIO

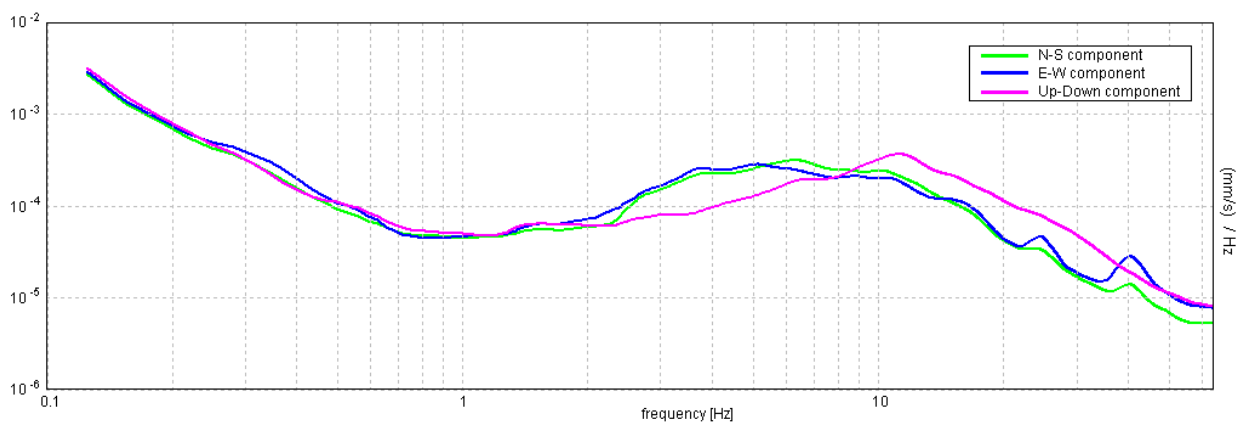
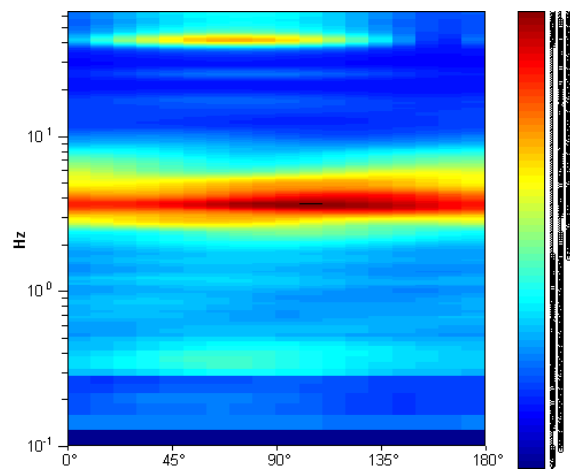
Max. H/V at 3.59 ± 0.19 Hz. (In the range 0.0 - 64.0 Hz).



H/V TIME HISTORY



DIRECTIONAL H/V

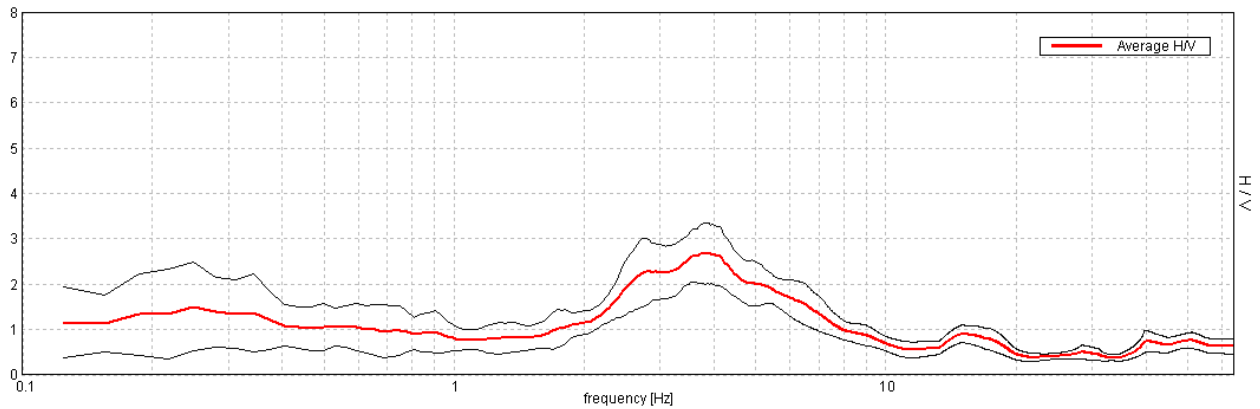


ZOLA PREDOSA, 037060P9HVS9

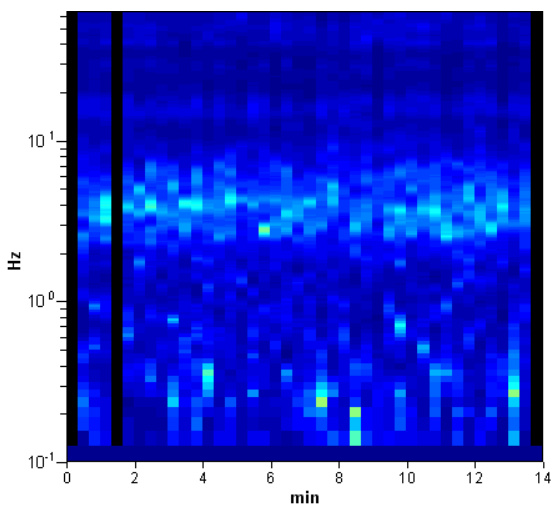
Instrument: TRZ-0108/01-10
 Start recording: 09/04/13 14:31:27 End recording: 09/04/13 14:45:28
 Channel labels: NORTH SOUTH; EAST WEST ; UP DOWN
 Trace length: 0h14'00". Analyzed 93% trace (manual window selection)
 Sampling rate: 128 Hz
 Window size: 20 s
 Smoothing type: Triangular window
 Smoothing: 12%

HORIZONTAL TO VERTICAL SPECTRAL RATIO

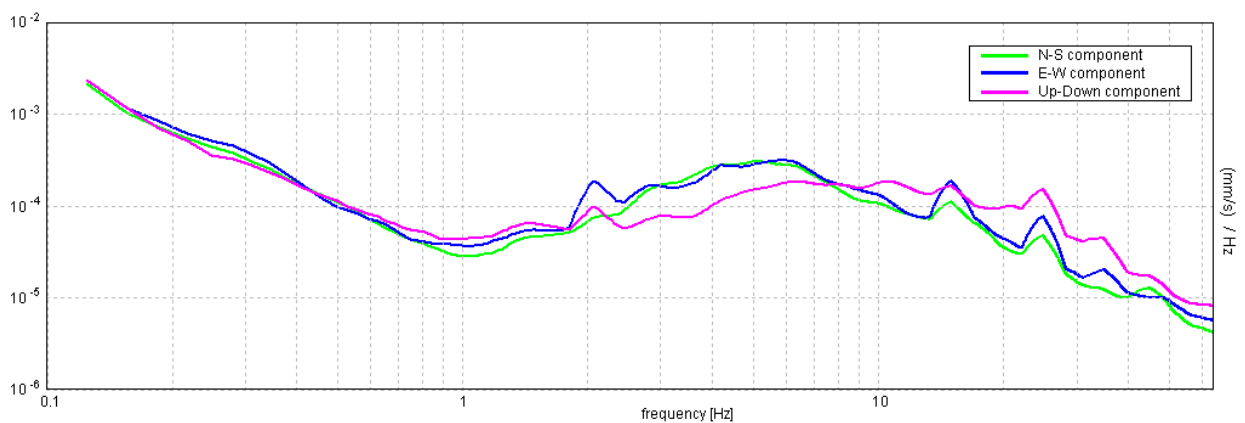
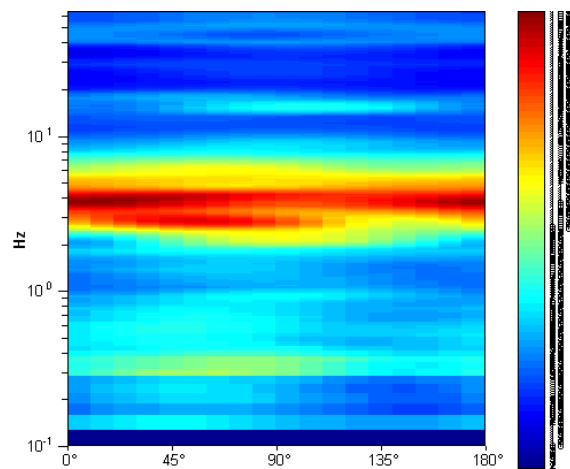
Max. H/V at 3.78 ± 0.09 Hz. (In the range 0.0 - 64.0 Hz).



H/V TIME HISTORY



DIRECTIONAL H/V

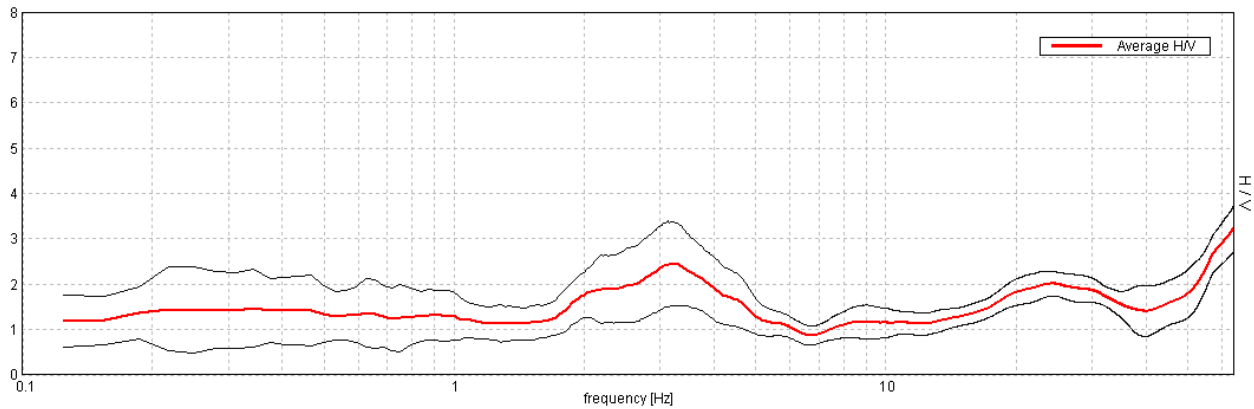


ZOLA PREDOSA, 037060P10HVSR10

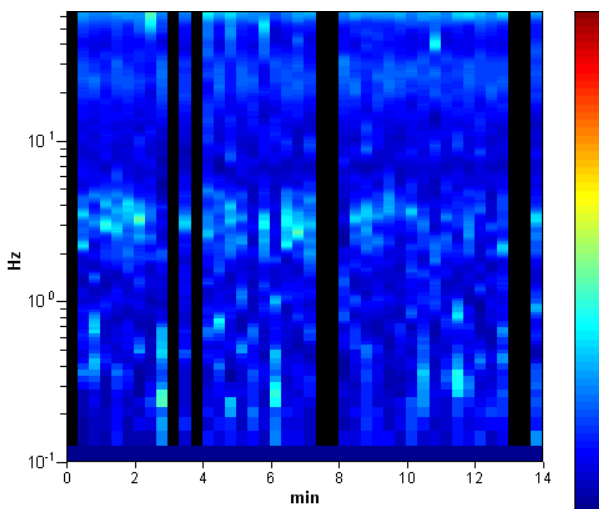
Instrument: TRZ-0108/01-10
 Start recording: 09/04/13 14:57:10 End recording: 09/04/13 15:11:11
 Channel labels: NORTH SOUTH; EAST WEST ; UP DOWN
 Trace length: 0h14'00". Analyzed 83% trace (manual window selection)
 Sampling rate: 128 Hz
 Window size: 20 s
 Smoothing type: Triangular window
 Smoothing: 12%

HORIZONTAL TO VERTICAL SPECTRAL RATIO

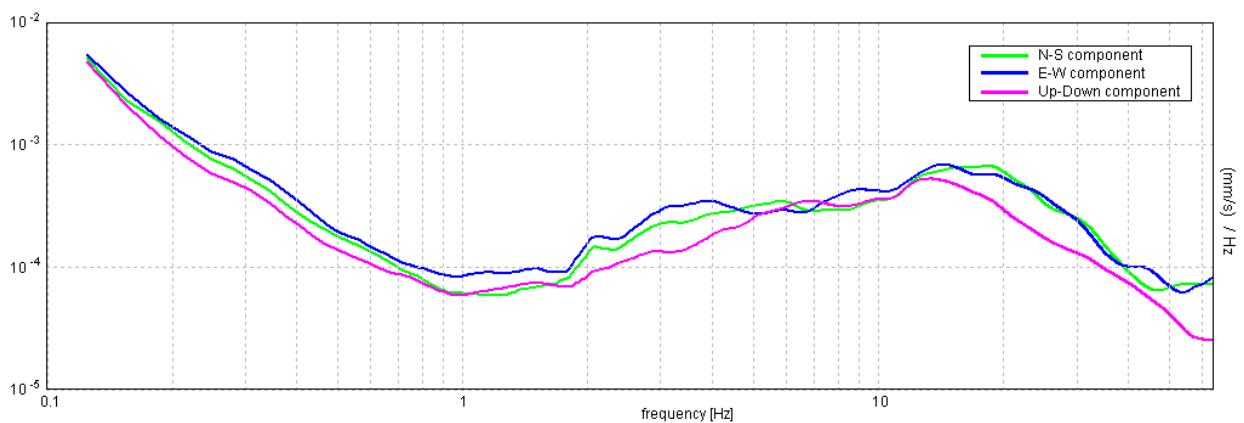
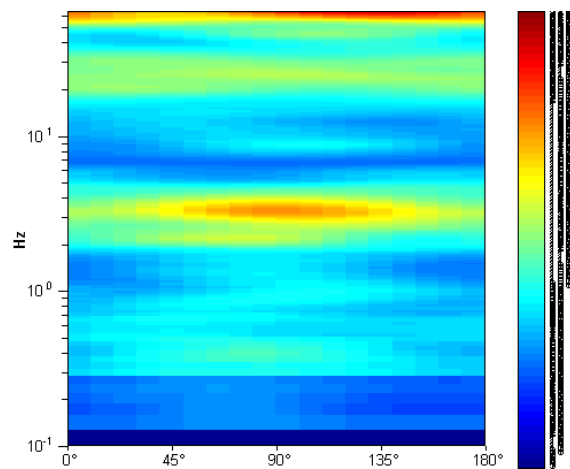
Max. H/V at 3.13 ± 0.06 Hz. (In the range 0.0 - 30.0 Hz).



H/V TIME HISTORY



DIRECTIONAL H/V

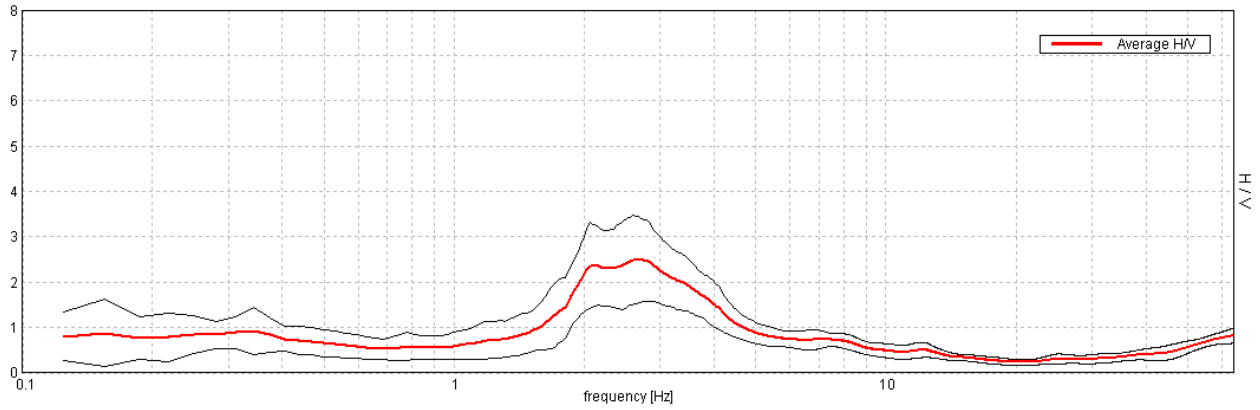


ZOLA PREDOSA, 037060P11HVSR11

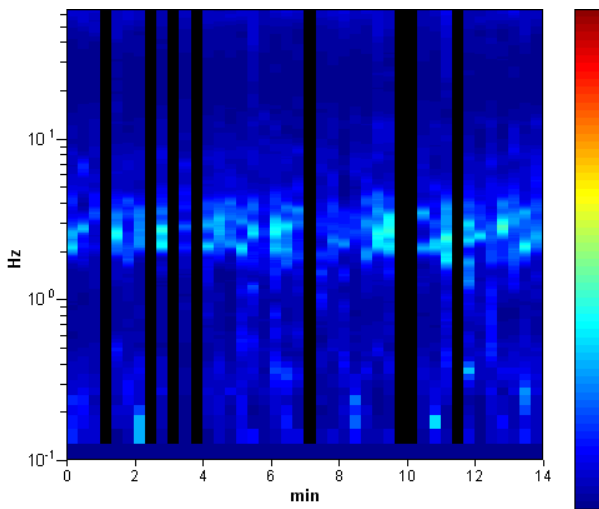
Instrument: TRZ-0108/01-10
 Start recording: 09/04/13 15:21:05 End recording: 09/04/13 15:35:06
 Channel labels: NORTH SOUTH; EAST WEST ; UP DOWN
 Trace length: 0h14'00". Analyzed 81% trace (manual window selection)
 Sampling rate: 128 Hz
 Window size: 20 s
 Smoothing type: Triangular window
 Smoothing: 12%

HORIZONTAL TO VERTICAL SPECTRAL RATIO

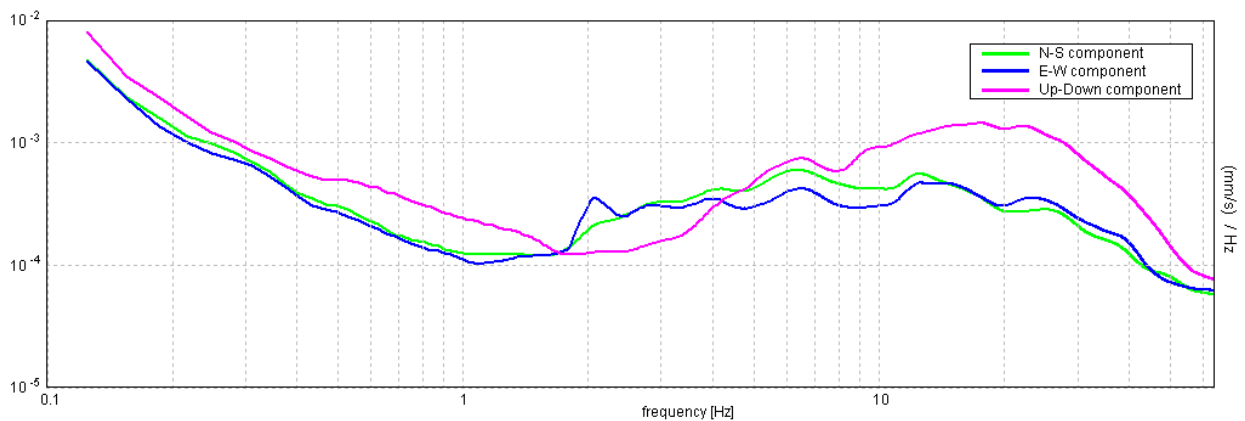
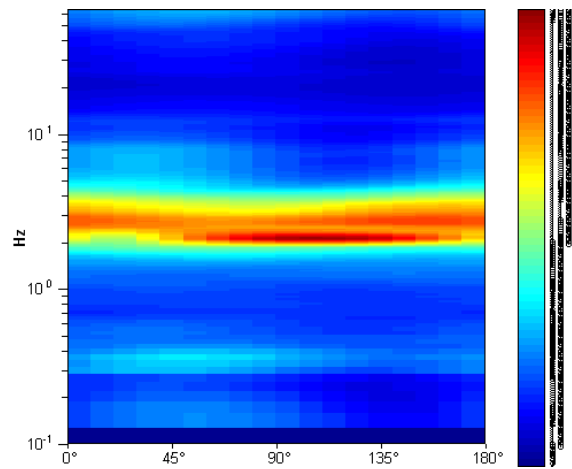
Max. H/V at 2.66 ± 0.05 Hz. (In the range 0.0 - 64.0 Hz).



H/V TIME HISTORY



DIRECTIONAL H/V

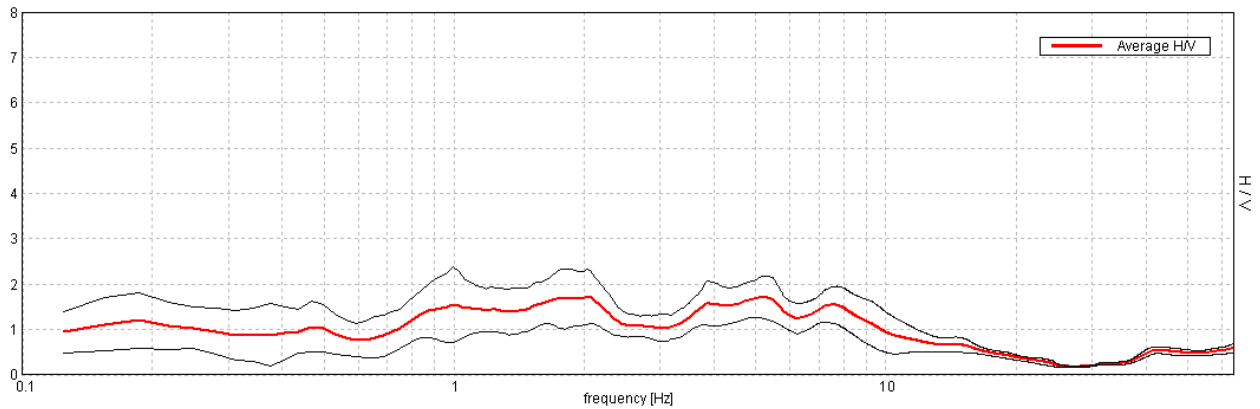


ZOLA PREDOSA, 037060P12HVSR12

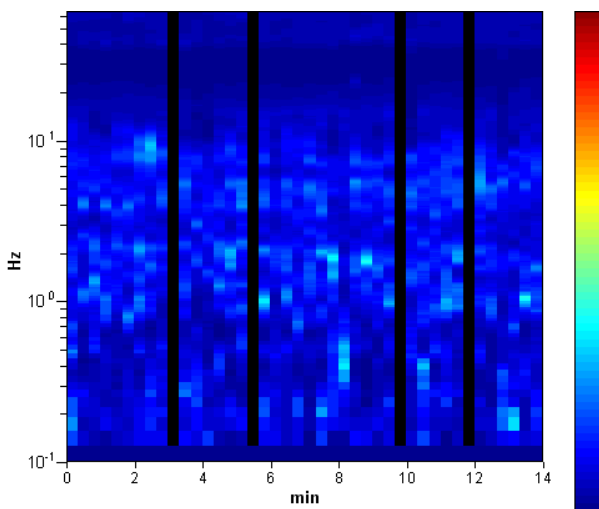
Instrument: TRZ-0108/01-10
 Start recording: 09/04/13 15:10:01 End recording: 09/04/13 16:24:02
 Channel labels: NORTH SOUTH; EAST WEST ; UP DOWN
 Trace length: 0h14'00". Analyzed 90% trace (manual window selection)
 Sampling rate: 128 Hz
 Window size: 20 s
 Smoothing type: Triangular window
 Smoothing: 12%

HORIZONTAL TO VERTICAL SPECTRAL RATIO

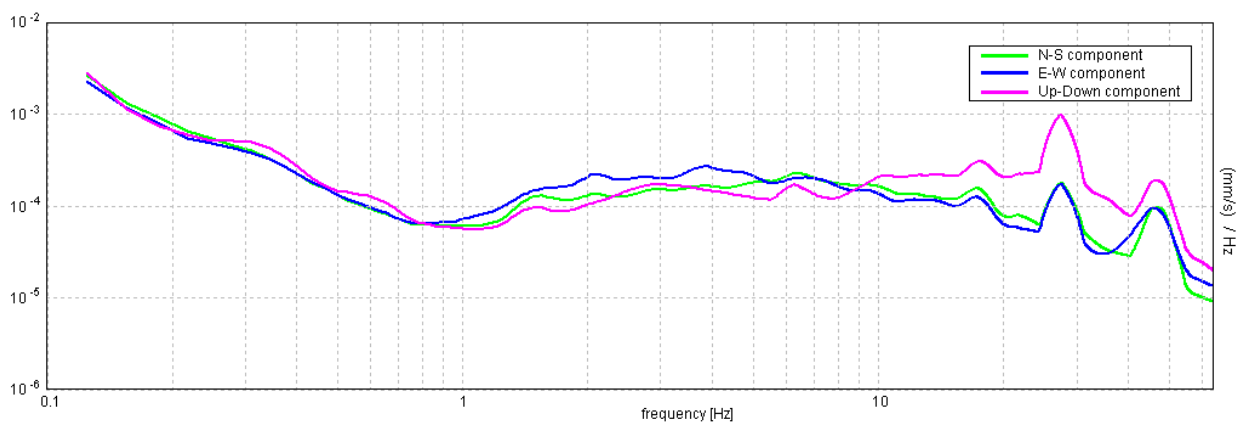
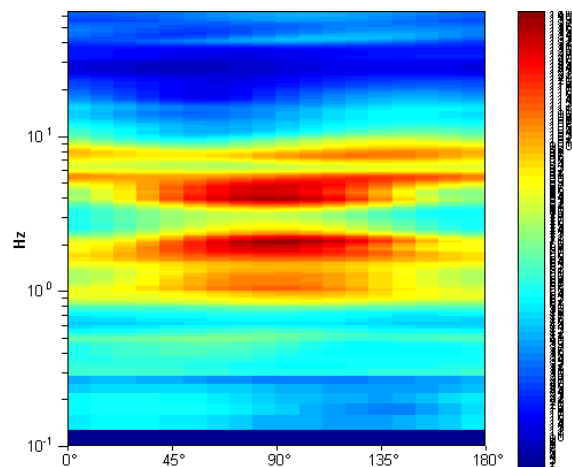
Max. H/V at 2.06 ± 0.18 Hz. (In the range 0.0 - 64.0 Hz).



H/V TIME HISTORY



DIRECTIONAL H/V

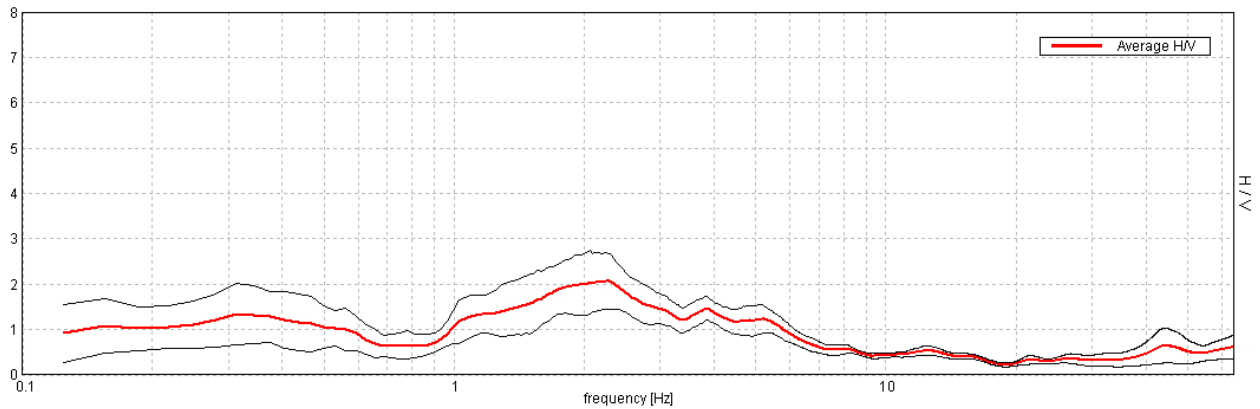


ZOLA PREDOSA, 037060P13HVSR13

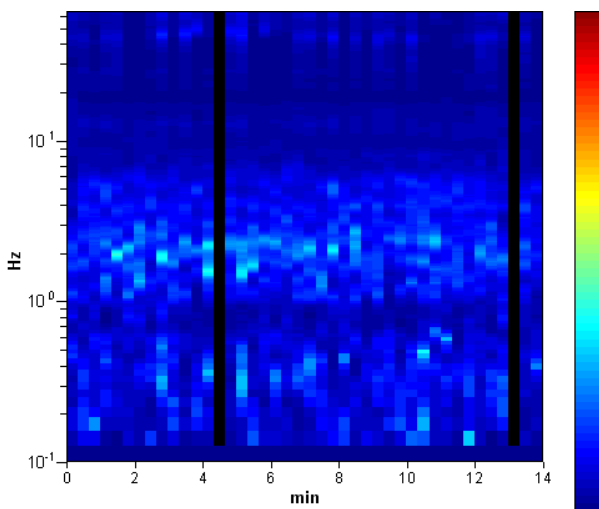
Instrument: TRZ-0108/01-10
 Start recording: 09/04/13 16:10:01 End recording: 09/04/13 16:24:02
 Channel labels: NORTH SOUTH; EAST WEST ; UP DOWN
 Trace length: 0h14'00". Analyzed 95% trace (manual window selection)
 Sampling rate: 128 Hz
 Window size: 20 s
 Smoothing type: Triangular window
 Smoothing: 12%

HORIZONTAL TO VERTICAL SPECTRAL RATIO

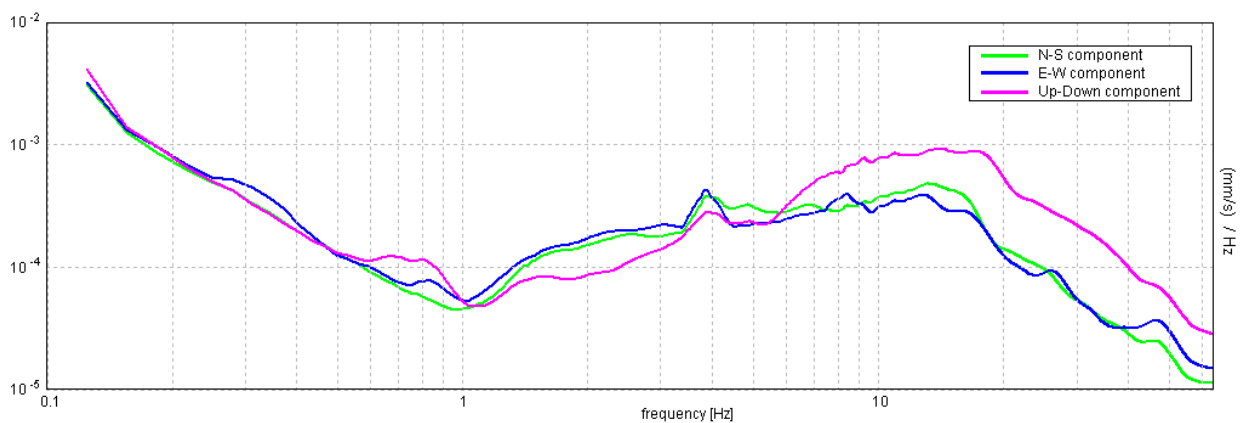
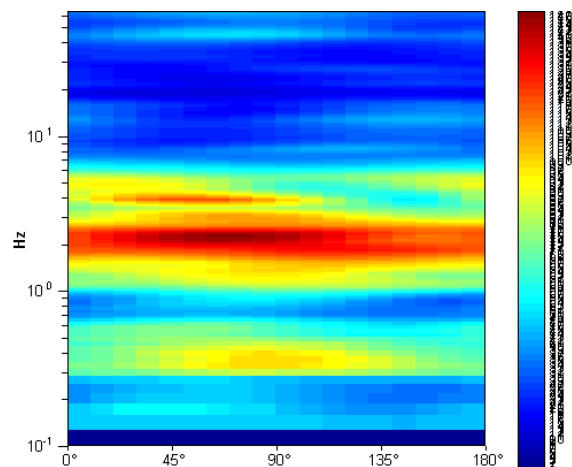
Max. H/V at 2.28 ± 0.13 Hz. (In the range 0.0 - 64.0 Hz).



H/V TIME HISTORY



DIRECTIONAL H/V

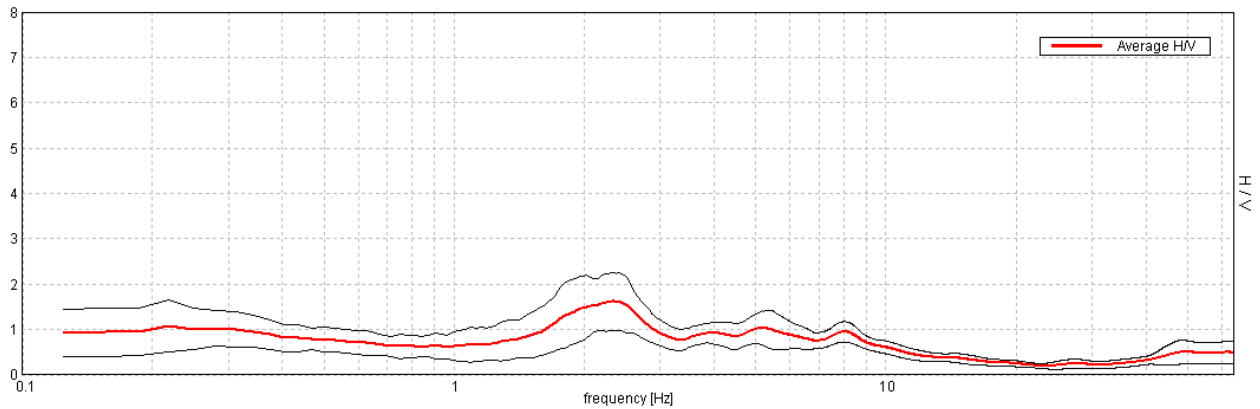


ZOLA PREDOSA, 037060P15HVSR15

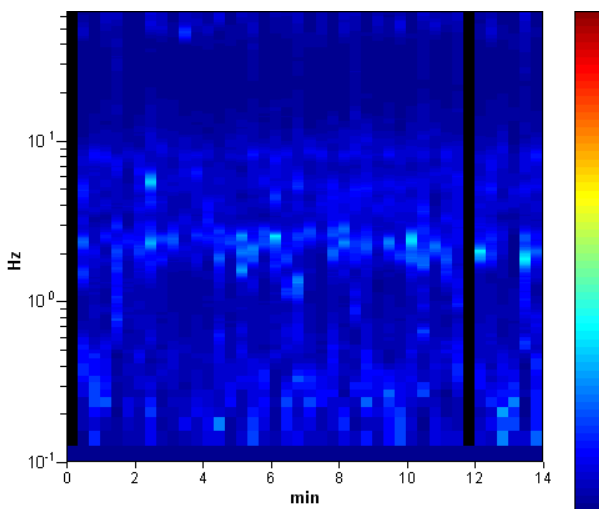
Instrument: TRZ-0108/01-10
 Start recording: 09/04/13 16:47:03 End recording: 09/04/13 17:01:04
 Channel labels: NORTH SOUTH; EAST WEST ; UP DOWN
 Trace length: 0h14'00". Analyzed 95% trace (manual window selection)
 Sampling rate: 128 Hz
 Window size: 20 s
 Smoothing type: Triangular window
 Smoothing: 12%

HORIZONTAL TO VERTICAL SPECTRAL RATIO

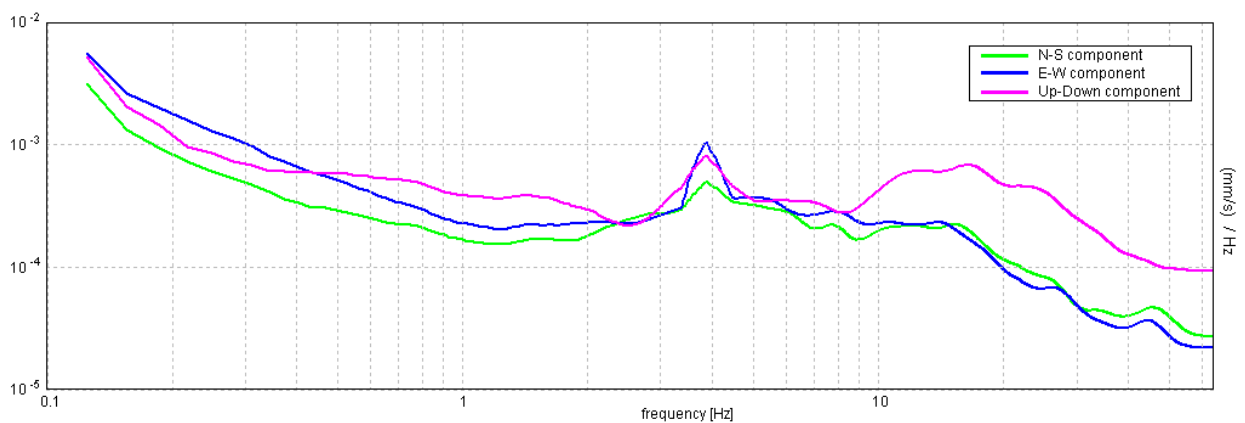
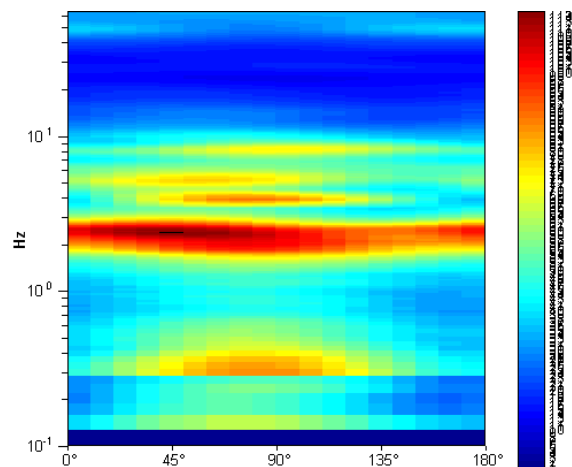
Max. H/V at 2.34 ± 0.15 Hz (in the range 0.0 - 64.0 Hz).



H/V TIME HISTORY



DIRECTIONAL H/V

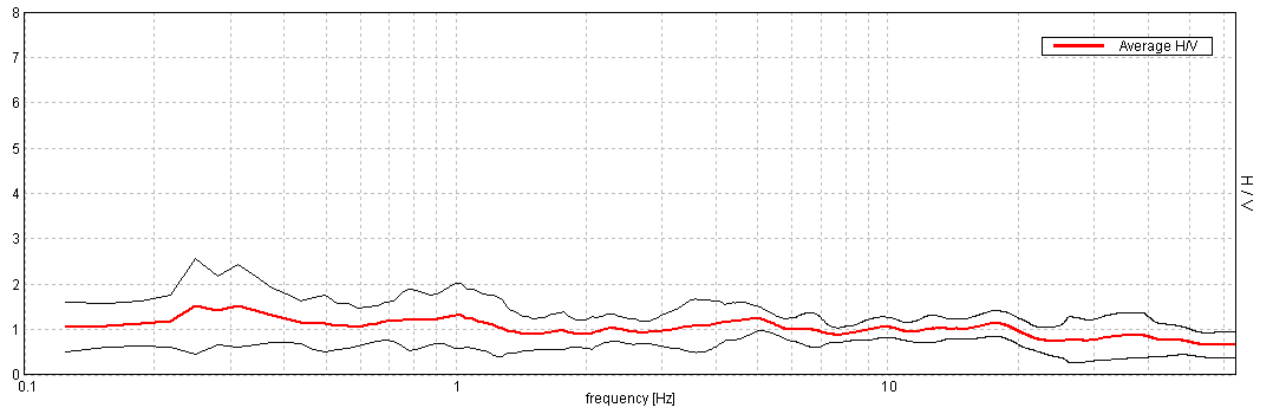


ZOLA PREDOSA, 037060P17HVSR17

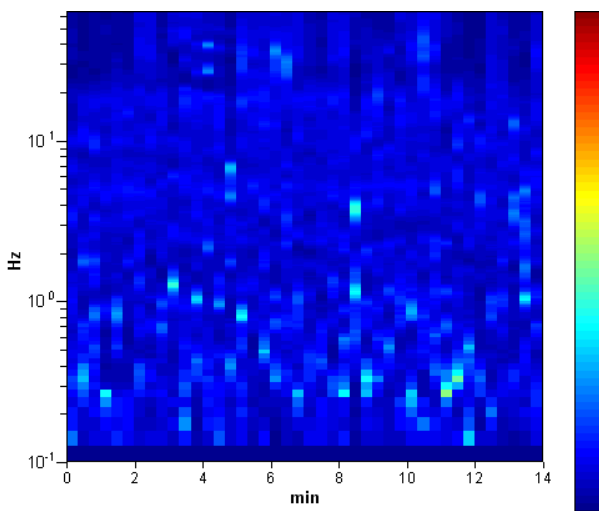
Instrument: TRZ-0108/01-10
 Start recording: 10/04/13 10:22:01 End recording: 10/04/13 10:36:02
 Channel labels: NORTH SOUTH; EAST WEST ; UP DOWN
 Trace length: 0h14'00". Analysis performed on the entire trace.
 Sampling rate: 128 Hz
 Window size: 20 s
 Smoothing type: Triangular window
 Smoothing: 12%

HORIZONTAL TO VERTICAL SPECTRAL RATIO

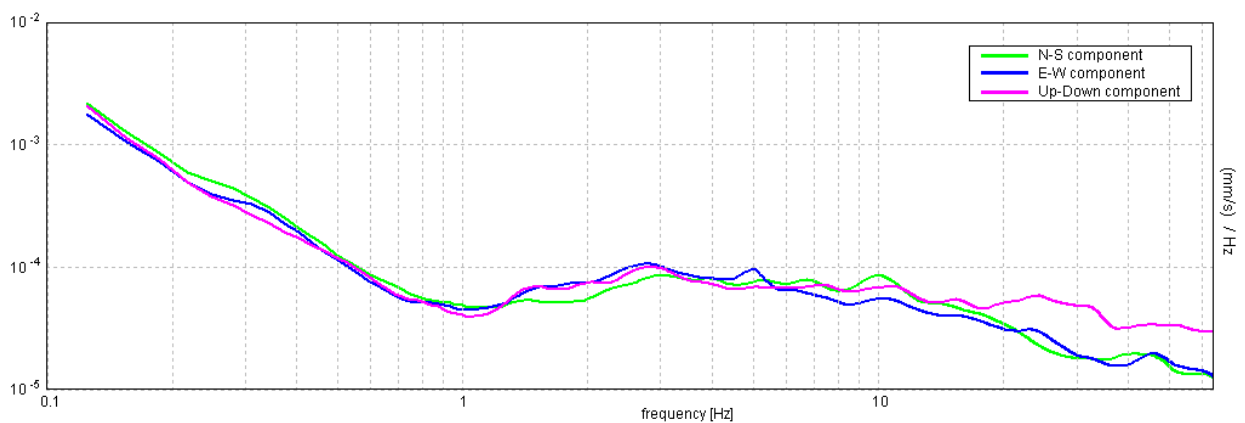
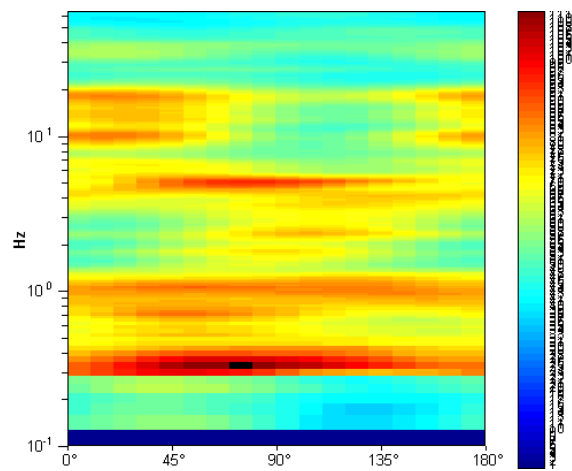
Max. H/V at 0.31 ± 0.02 Hz (in the range 0.0 - 64.0 Hz).



H/V TIME HISTORY



DIRECTIONAL H/V

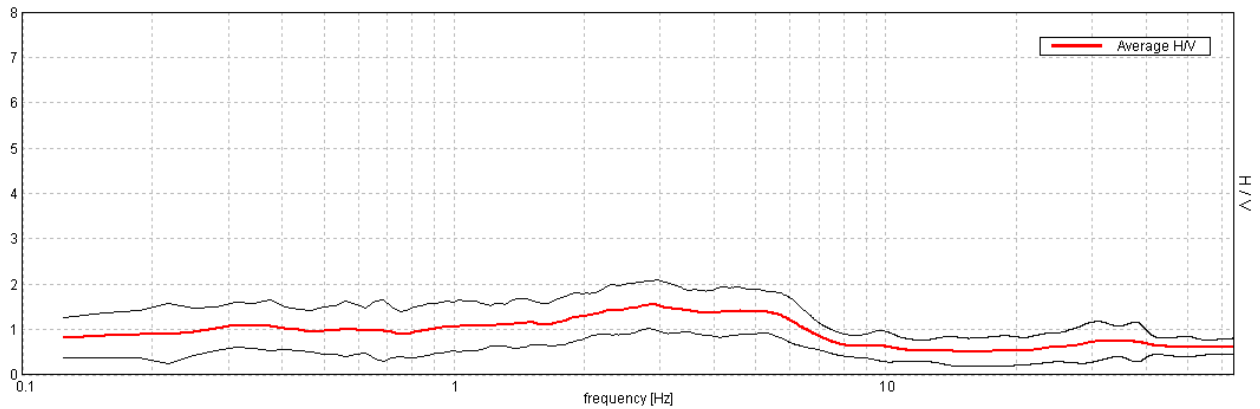


ZOLA PREDOSA, 037060P18HVSR18

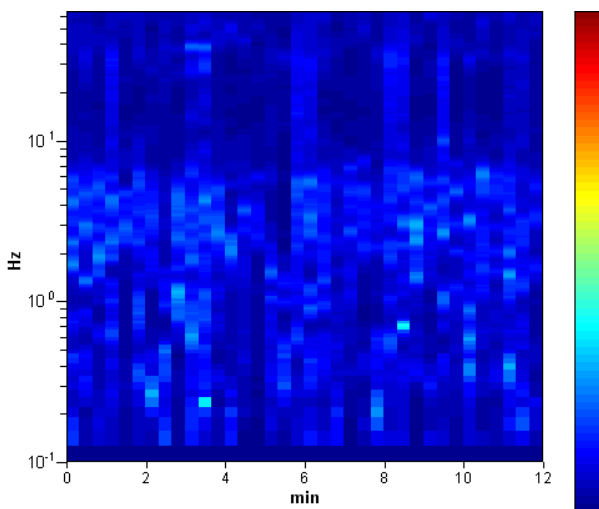
Instrument: TRZ-0108/01-10
 Start recording: 10/04/13 10:59:36 End recording: 10/04/13 11:11:37
 Channel labels: NORTH SOUTH; EAST WEST ; UP DOWN
 Trace length: 0h12'00". Analysis performed on the entire trace.
 Sampling rate: 128 Hz
 Window size: 20 s
 Smoothing type: Triangular window
 Smoothing: 12%

HORIZONTAL TO VERTICAL SPECTRAL RATIO

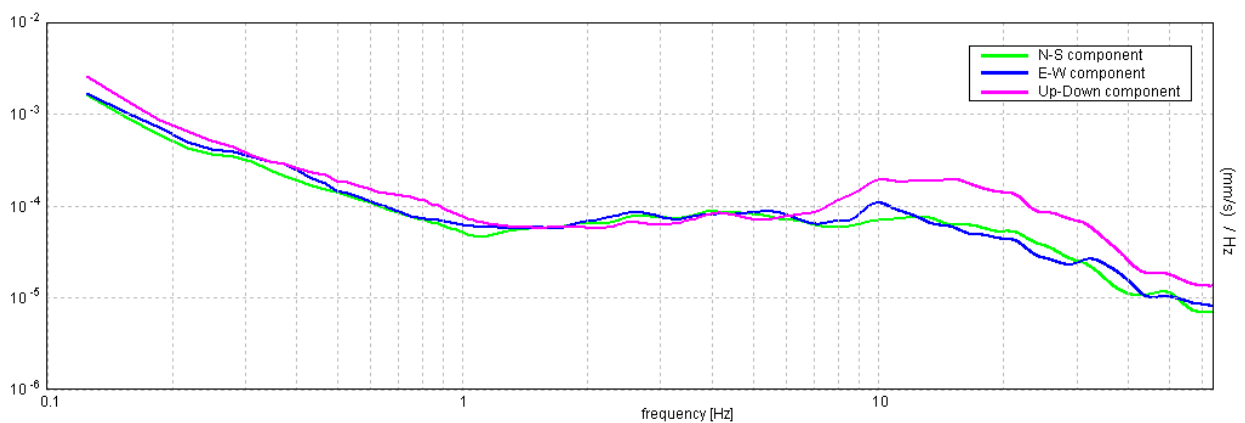
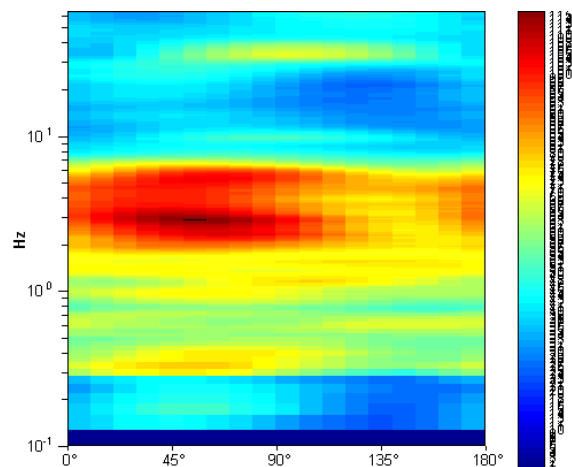
Max. H/V at 2.84 ± 0.24 Hz. (In the range 0.0 - 64.0 Hz).



H/V TIME HISTORY



DIRECTIONAL H/V

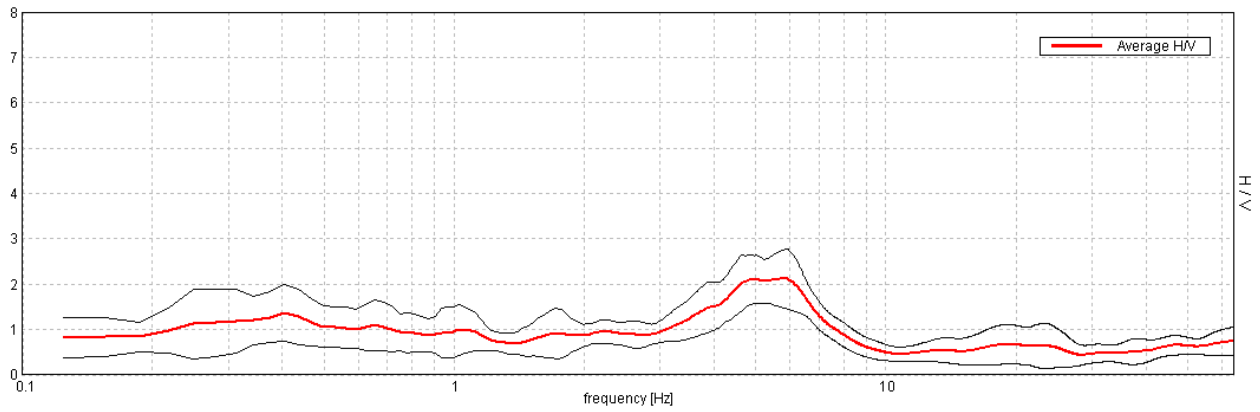


ZOLA PREDOSA, 037060P20HVSR20

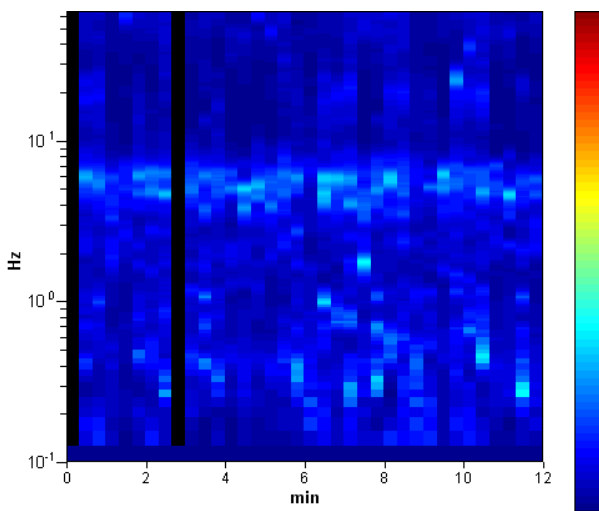
Instrument: TRZ-0108/01-10
 Start recording: 10/04/13 11:45:06 End recording: 10/04/13 11:57:07
 Channel labels: NORTH SOUTH; EAST WEST ; UP DOWN
 Trace length: 0h12'00". Analyzed 94% trace (manual window selection)
 Sampling rate: 128 Hz
 Window size: 20 s
 Smoothing type: Triangular window
 Smoothing: 12%

HORIZONTAL TO VERTICAL SPECTRAL RATIO

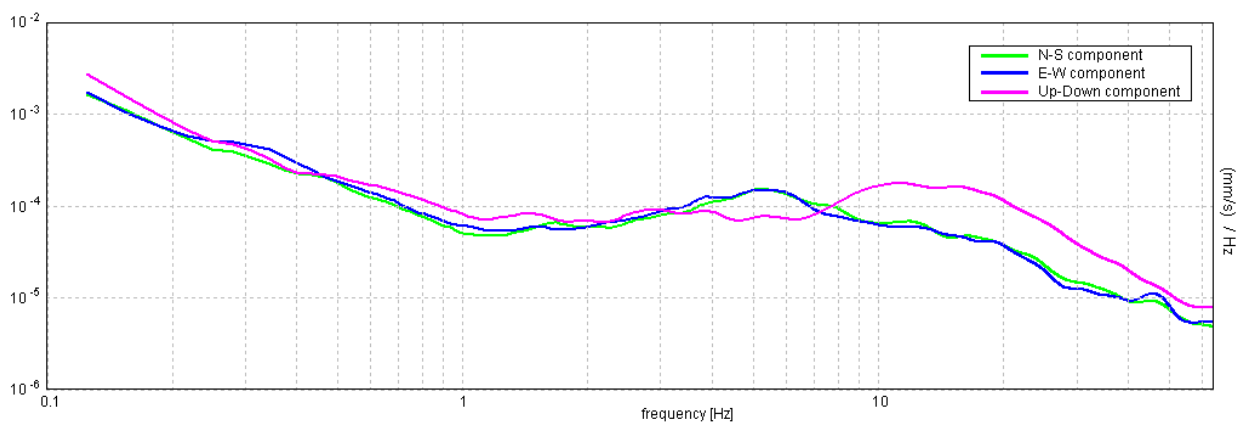
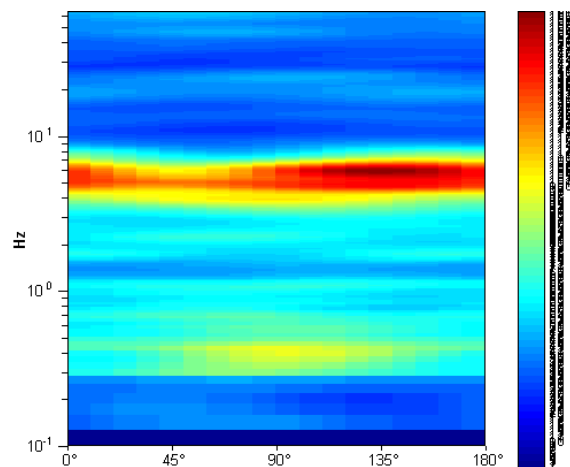
Max. H/V at 5.81 ± 0.13 Hz (in the range 0.0 - 64.0 Hz).



H/V TIME HISTORY



DIRECTIONAL H/V

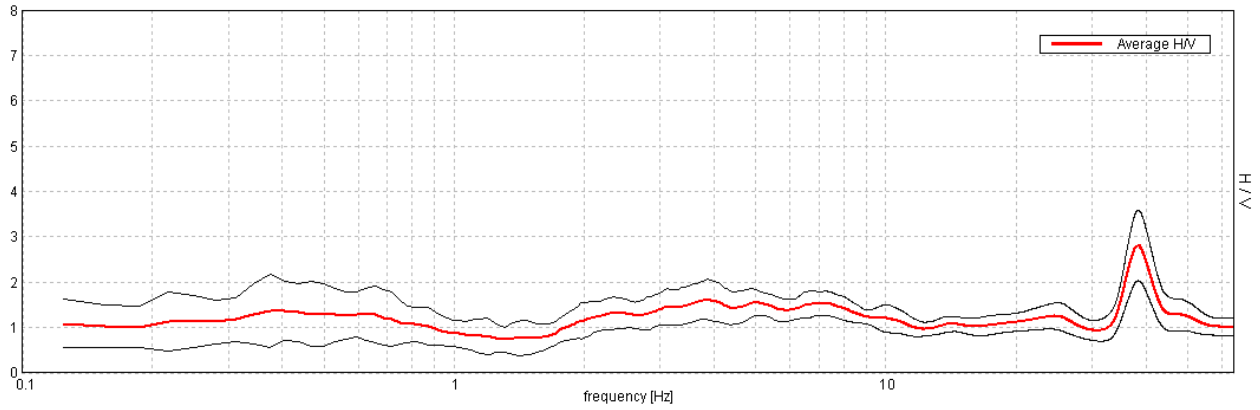


ZOLA PREDOSA, 037060P21HVSR21

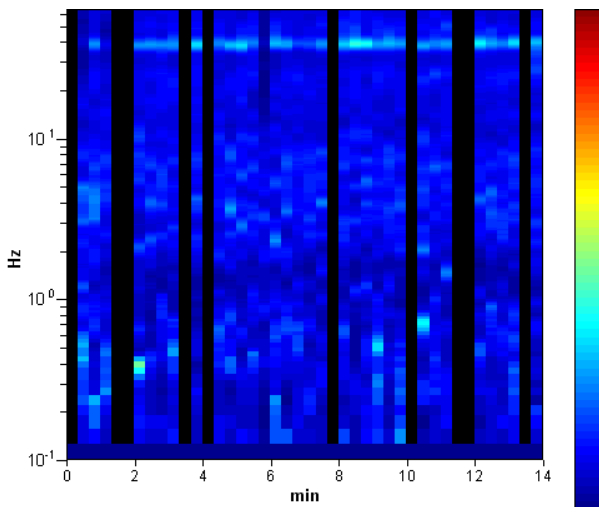
Instrument: TRZ-0108/01-10
 Start recording: 10/04/13 12:08:59 End recording: 10/04/13 12:23:00
 Channel labels: NORTH SOUTH; EAST WEST ; UP DOWN
 Trace length: 0h14'00". Analyzed 76% trace (manual window selection)
 Sampling rate: 128 Hz
 Window size: 20 s
 Smoothing type: Triangular window
 Smoothing: 12%

HORIZONTAL TO VERTICAL SPECTRAL RATIO

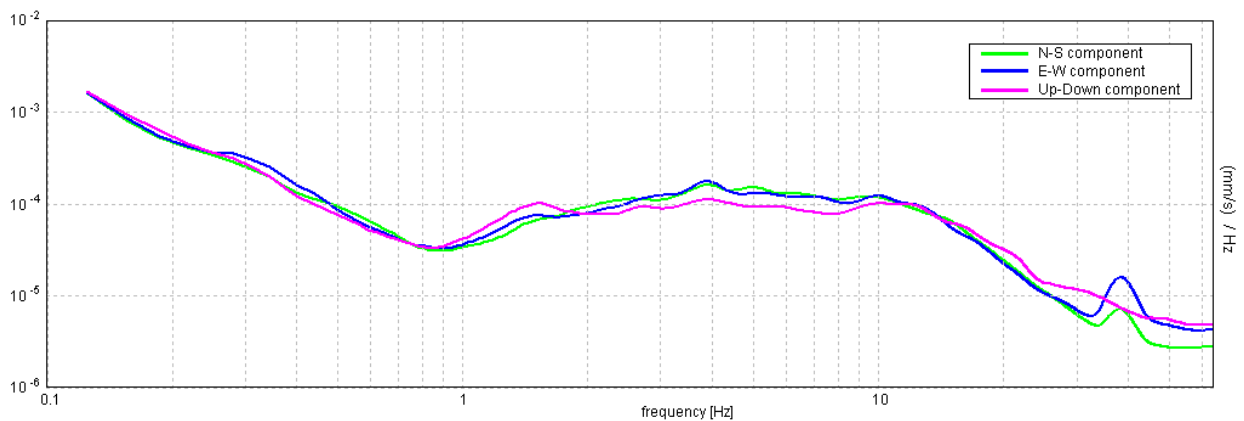
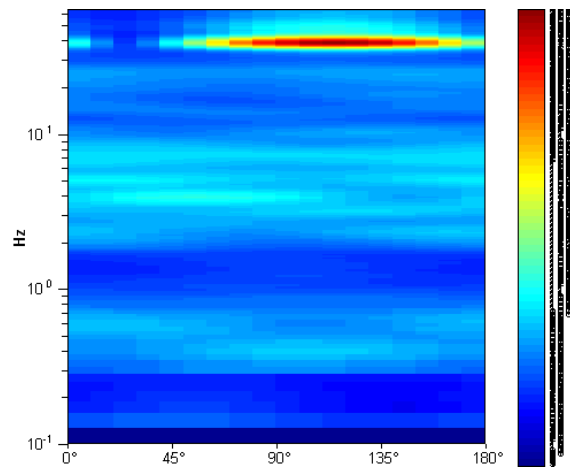
Max. H/V at 3.84 ± 0.82 Hz. (In the range 0.0 - 30.0 Hz).



H/V TIME HISTORY



DIRECTIONAL H/V

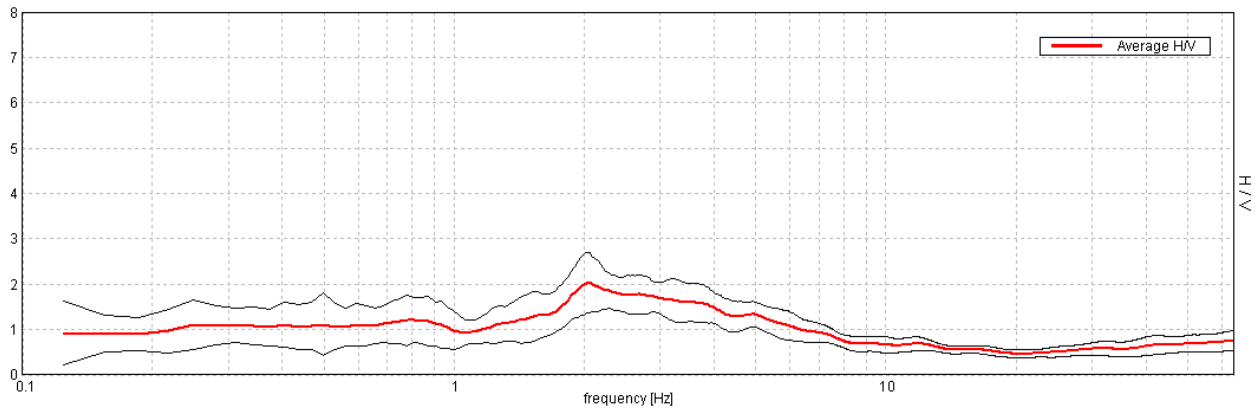


ZOLA PREDOSA, 037060P22HVSR22

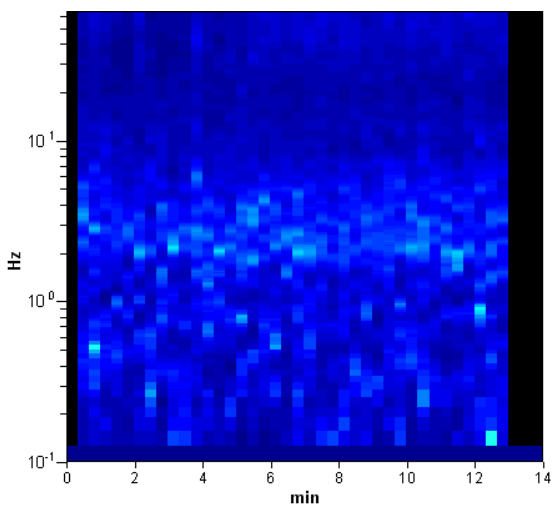
Instrument: TRZ-0108/01-10
 Start recording: 10/04/13 13:16:00 End recording: 10/04/13 13:30:01
 Channel labels: NORTH SOUTH; EAST WEST ; UP DOWN
 Trace length: 0h14'00". Analyzed 90% trace (manual window selection)
 Sampling rate: 128 Hz
 Window size: 20 s
 Smoothing type: Triangular window
 Smoothing: 12%

HORIZONTAL TO VERTICAL SPECTRAL RATIO

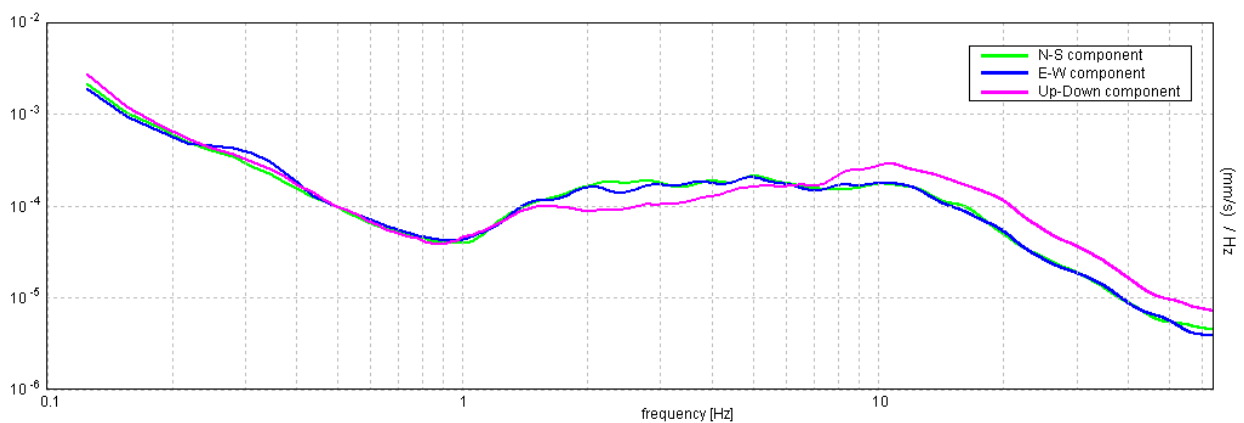
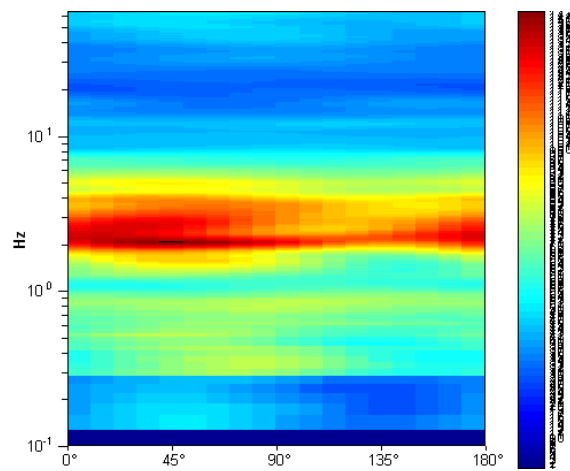
Max. H/V at 2.06 ± 0.19 Hz (in the range 0.0 - 64.0 Hz).



H/V TIME HISTORY



DIRECTIONAL H/V

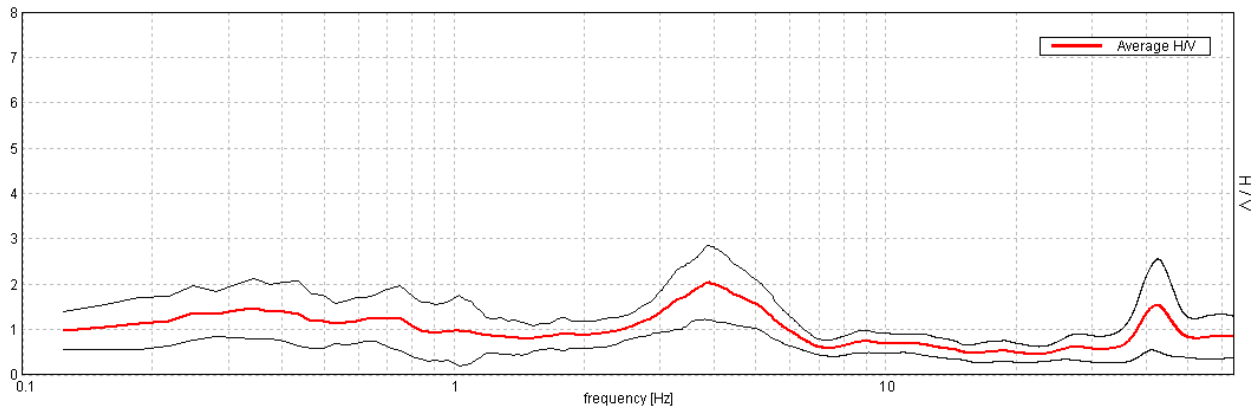


ZOLA PREDOSA, 037060P23HVSR23

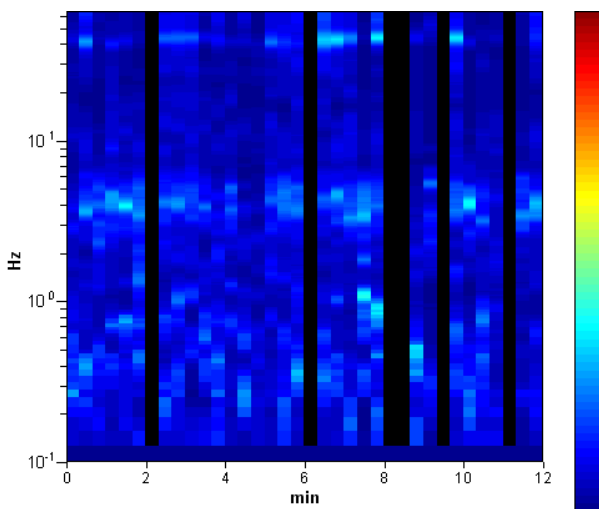
Instrument: TRZ-0108/01-10
 Start recording: 10/04/13 14:03:13 End recording: 10/04/13 14:15:14
 Channel labels: NORTH SOUTH; EAST WEST ; UP DOWN
 Trace length: 0h12'00". Analyzed 83% trace (manual window selection)
 Sampling rate: 128 Hz
 Window size: 20 s
 Smoothing type: Triangular window
 Smoothing: 12%

HORIZONTAL TO VERTICAL SPECTRAL RATIO

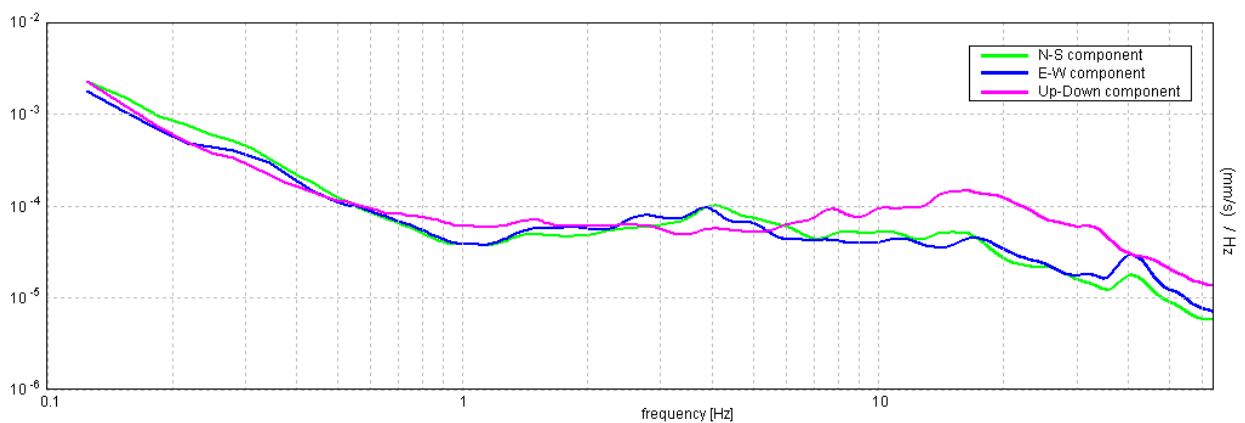
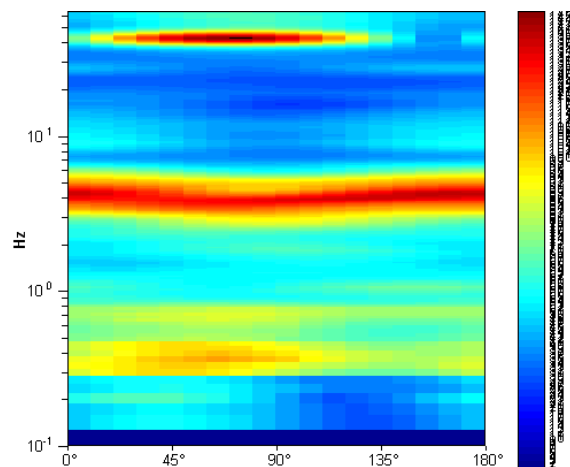
Max. H/V at 3.88 ± 0.35 Hz (in the range 0.0 - 64.0 Hz).



H/V TIME HISTORY



DIRECTIONAL H/V

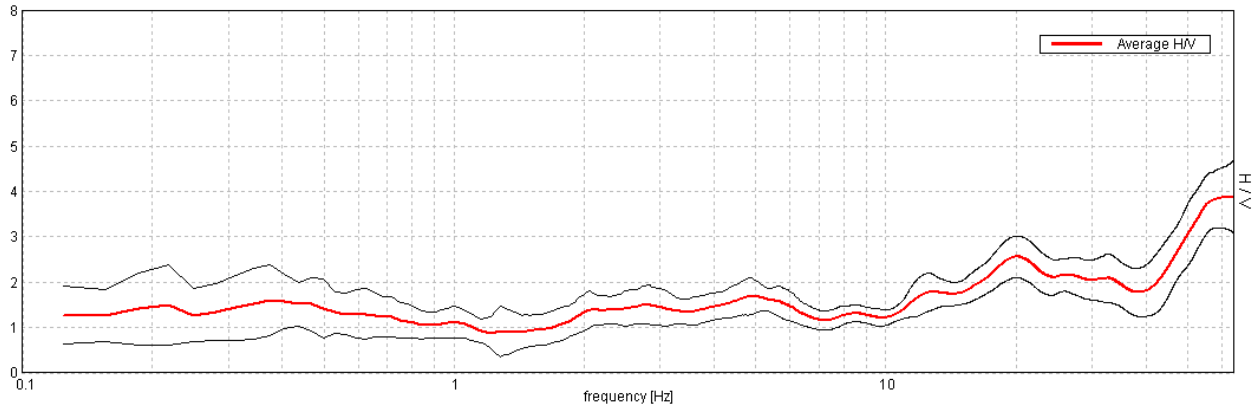


ZOLA PREDOSA, 037060P24HVSR24

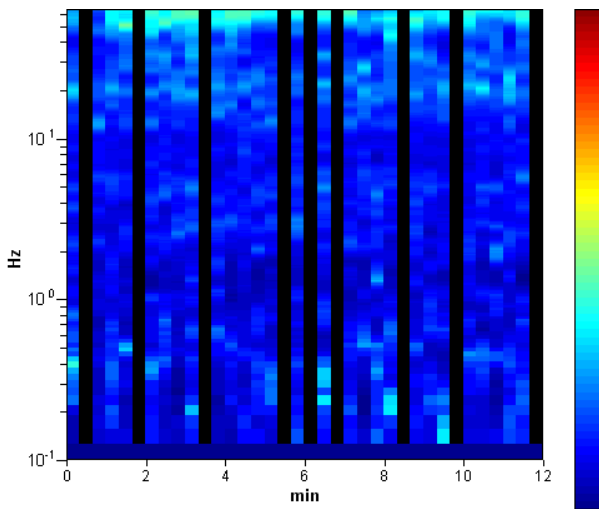
Instrument: TRZ-0108/01-10
 Start recording: 10/04/13 14:39:13 End recording: 10/04/13 14:51:14
 Channel labels: NORTH SOUTH; EAST WEST ; UP DOWN
 Trace length: 0h12'00". Analyzed 75% trace (manual window selection)
 Sampling rate: 128 Hz
 Window size: 20 s
 Smoothing type: Triangular window
 Smoothing: 12%

HORIZONTAL TO VERTICAL SPECTRAL RATIO

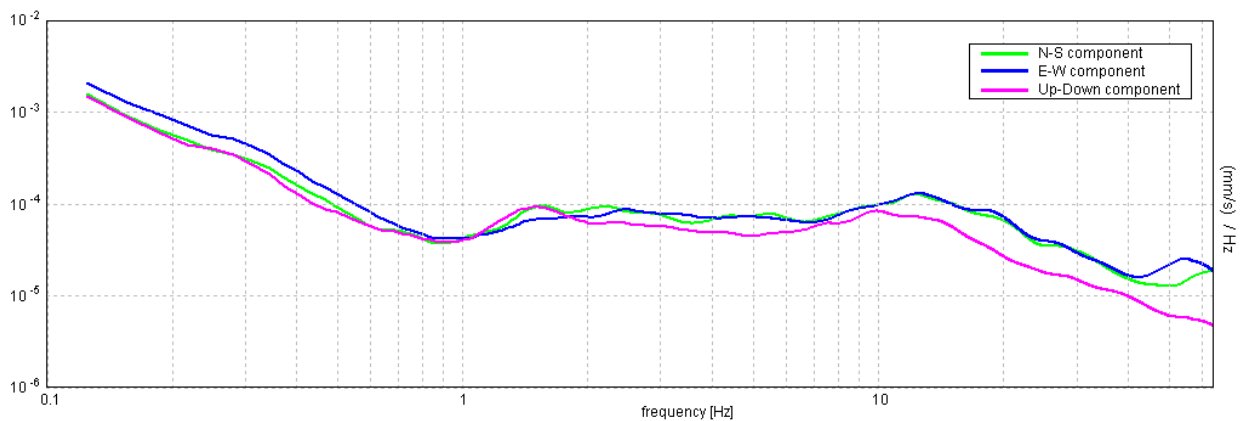
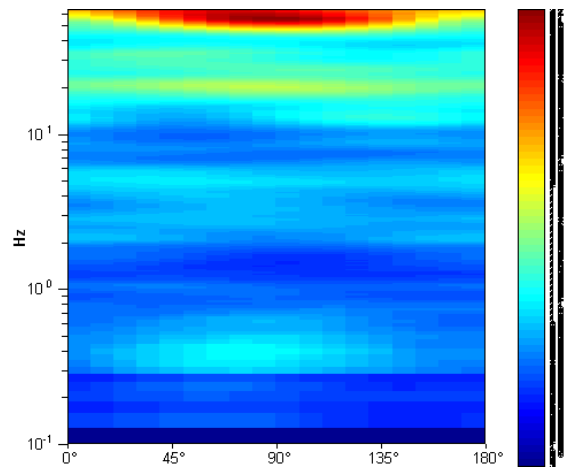
Max. H/V at 4.94 ± 1.5 Hz. (In the range 0.0 - 11.0 Hz).



H/V TIME HISTORY



DIRECTIONAL H/V

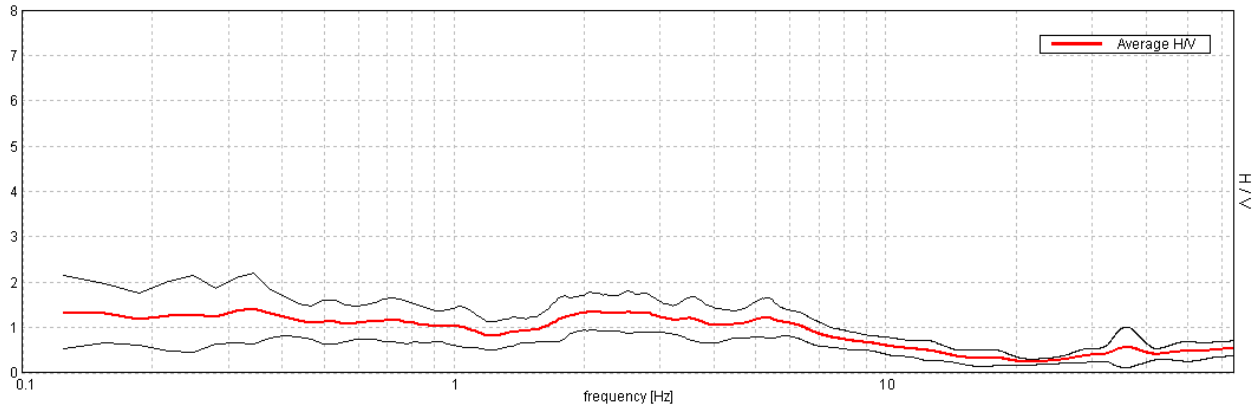


ZOLA PREDOSA, 037060P25HVSR25

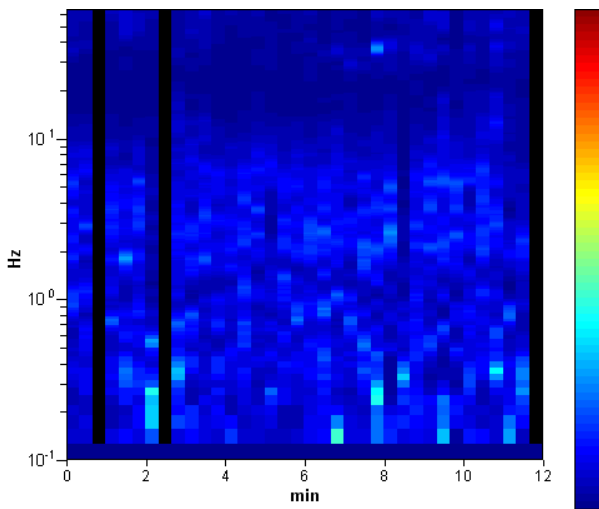
Instrument: TRZ-0108/01-10
 Start recording: 10/04/13 15:19:59 End recording: 10/04/13 15:32:00
 Channel labels: NORTH SOUTH; EAST WEST ; UP DOWN
 Trace length: 0h12'00". Analyzed 92% trace (manual window selection)
 Sampling rate: 128 Hz
 Window size: 20 s
 Smoothing type: Triangular window
 Smoothing: 12%

HORIZONTAL TO VERTICAL SPECTRAL RATIO

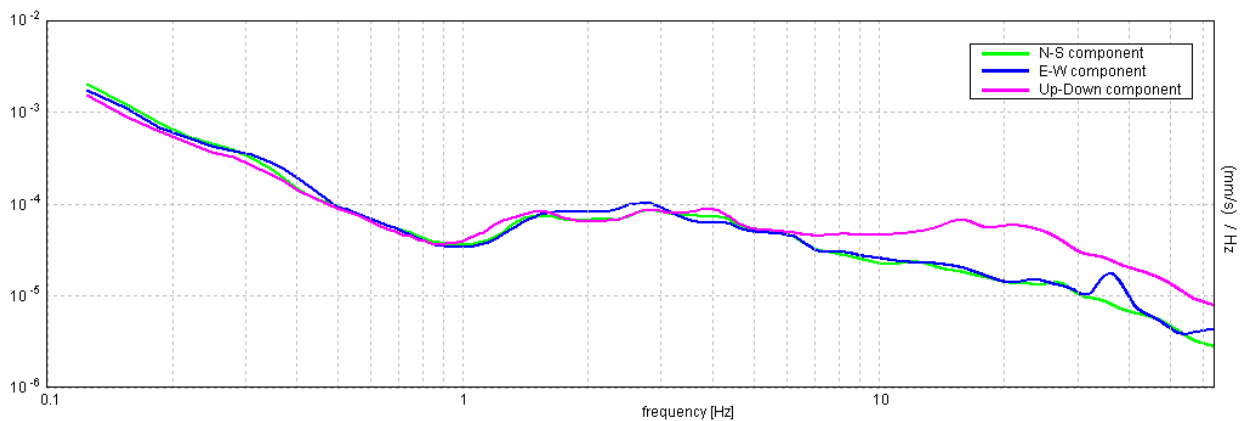
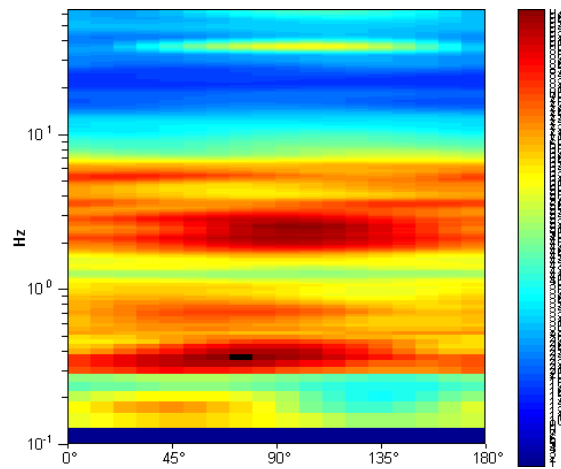
Max. H/V at 0.34 ± 0.37 Hz (in the range 0.0 - 64.0 Hz).



H/V TIME HISTORY



DIRECTIONAL H/V

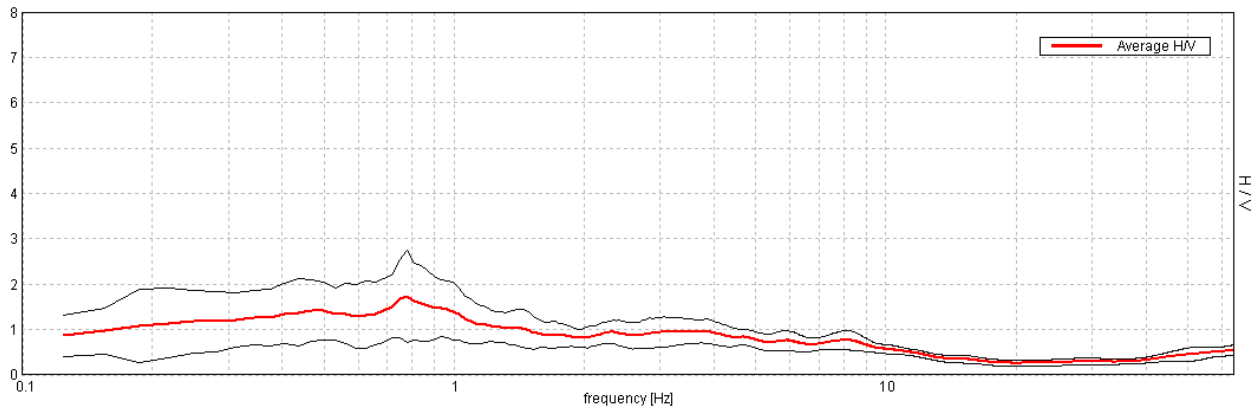


ZOLA PREDOSA, 037060P26HVSR26

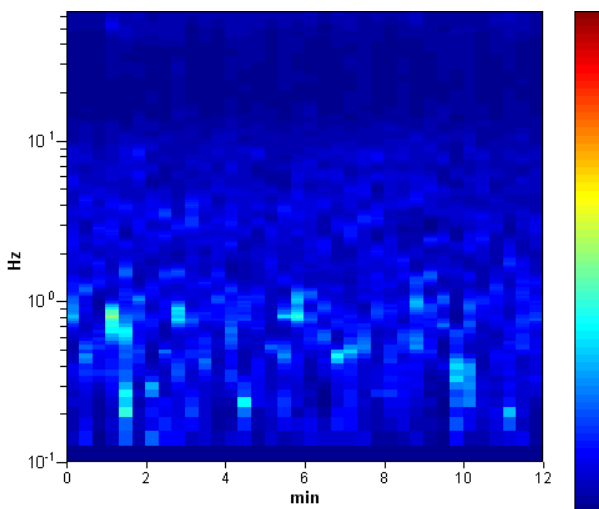
Instrument: TRZ-0108/01-10
 Start recording: 10/04/13 15:46:30 End recording: 10/04/13 15:58:31
 Channel labels: NORTH SOUTH; EAST WEST ; UP DOWN
 Trace length: 0h12'00". Analysis performed on the entire trace.
 Sampling rate: 128 Hz
 Window size: 20 s
 Smoothing type: Triangular window
 Smoothing: 12%

HORIZONTAL TO VERTICAL SPECTRAL RATIO

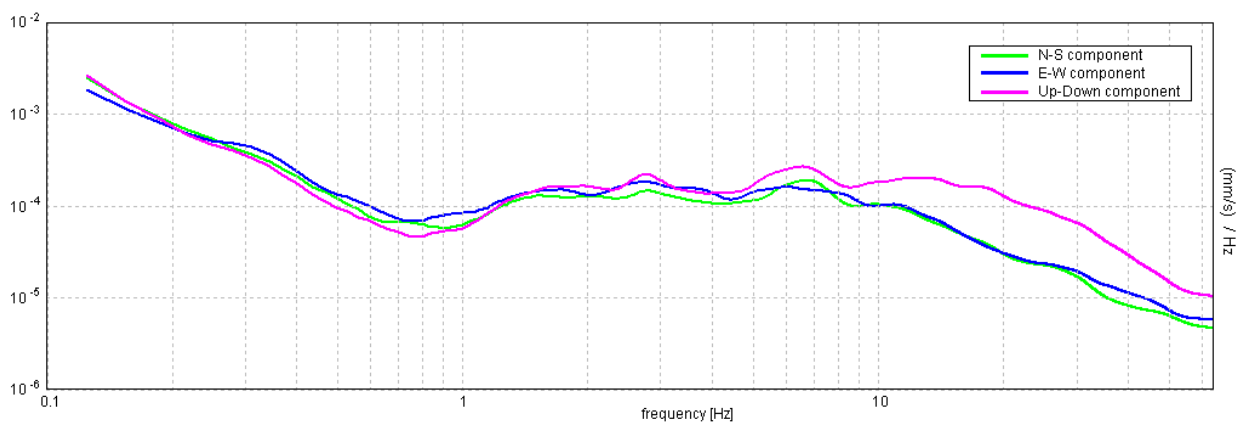
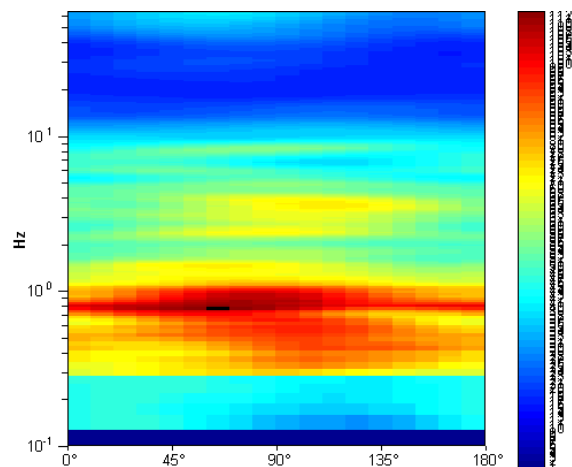
Max. H/V at 0.78 ± 0.0 Hz. (In the range 0.0 - 64.0 Hz).



H/V TIME HISTORY



DIRECTIONAL H/V

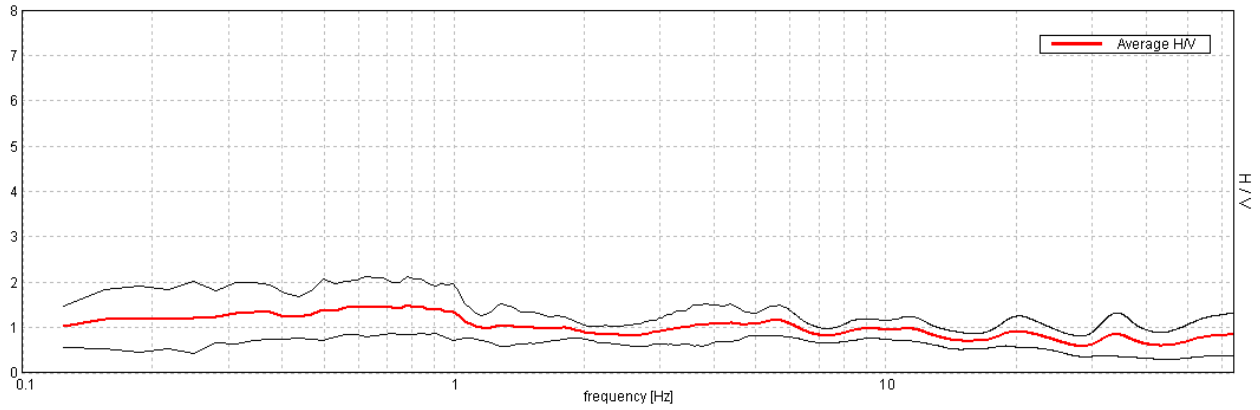


ZOLA PREDOSA, 037060P27HVSR27

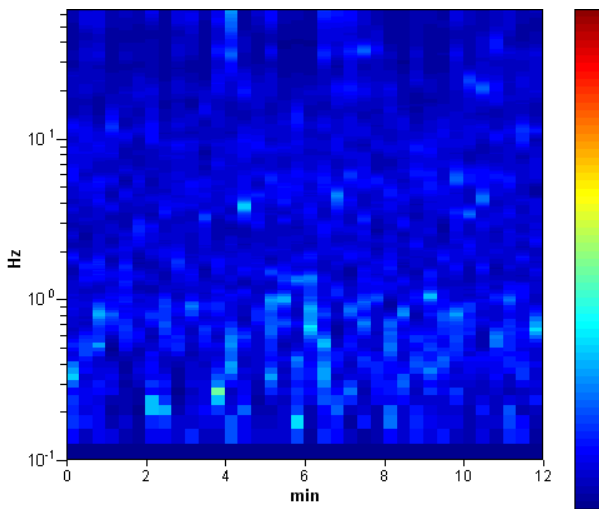
Instrument: TRZ-0108/01-10
 Start recording: 10/04/13 16:13:59 End recording: 10/04/13 16:26:00
 Channel labels: NORTH SOUTH; EAST WEST ; UP DOWN
 Trace length: 0h12'00". Analysis performed on the entire trace.
 Sampling rate: 128 Hz
 Window size: 20 s
 Smoothing type: Triangular window
 Smoothing: 12%

HORIZONTAL TO VERTICAL SPECTRAL RATIO

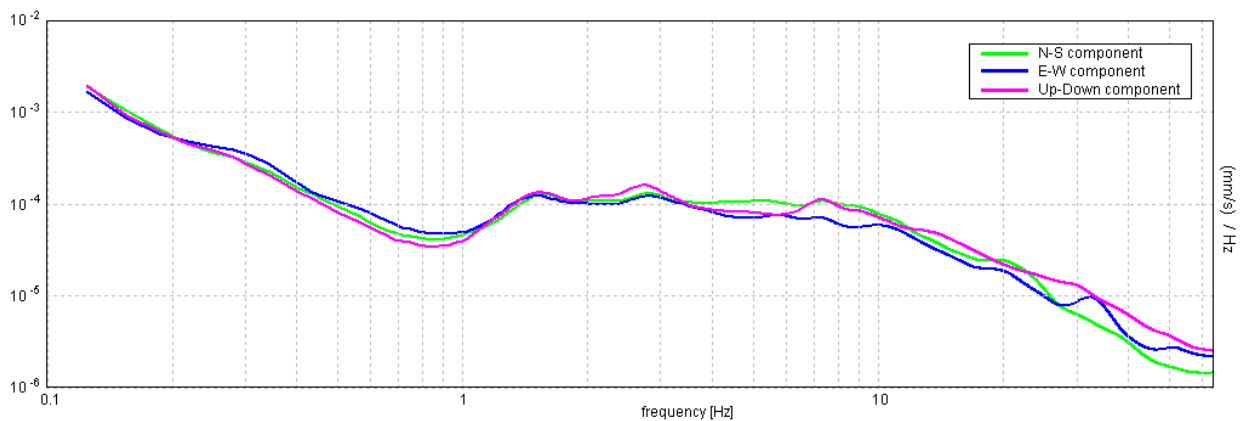
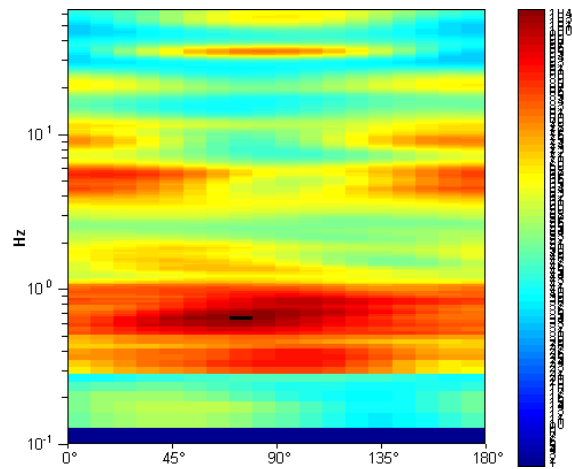
Max. H/V at 0.78 ± 0.05 Hz. (In the range 0.0 - 64.0 Hz).



H/V TIME HISTORY



DIRECTIONAL H/V

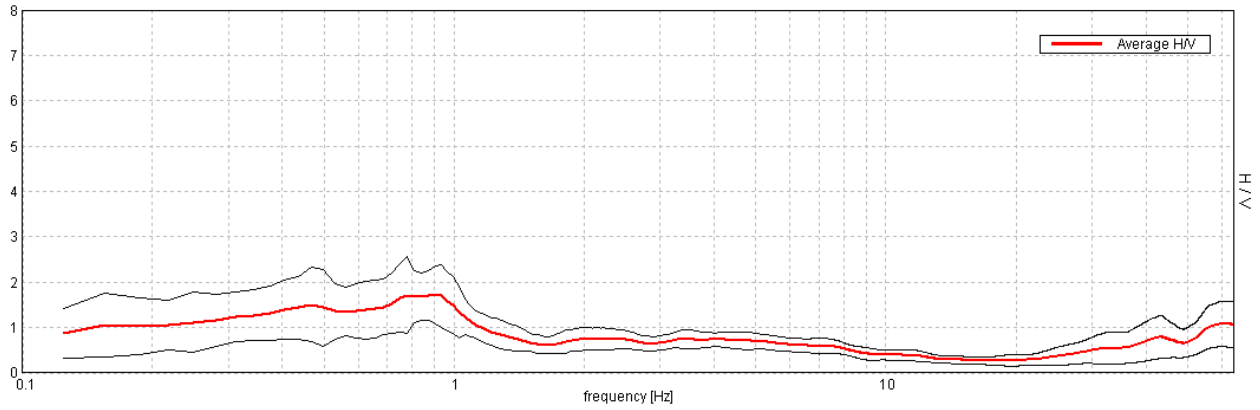


ZOLA PREDOSA, 037060P28HVSR28

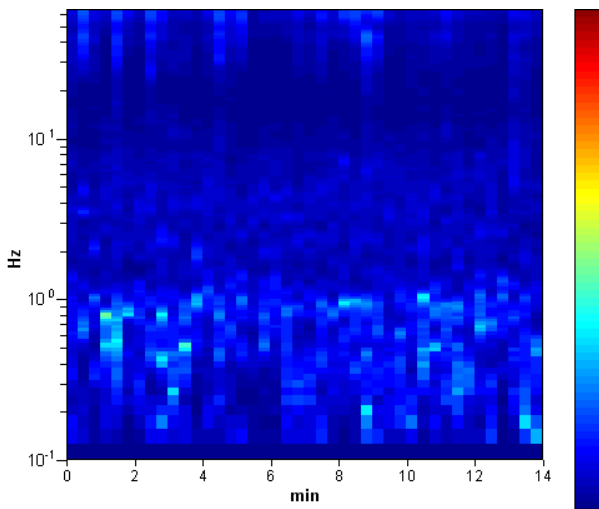
Instrument: TRZ-0108/01-10
 Start recording: 10/04/13 16:41:10 End recording: 10/04/13 16:55:11
 Channel labels: NORTH SOUTH; EAST WEST ; UP DOWN
 Trace length: 0h14'00". Analysis performed on the entire trace.
 Sampling rate: 128 Hz
 Window size: 20 s
 Smoothing type: Triangular window
 Smoothing: 12%

HORIZONTAL TO VERTICAL SPECTRAL RATIO

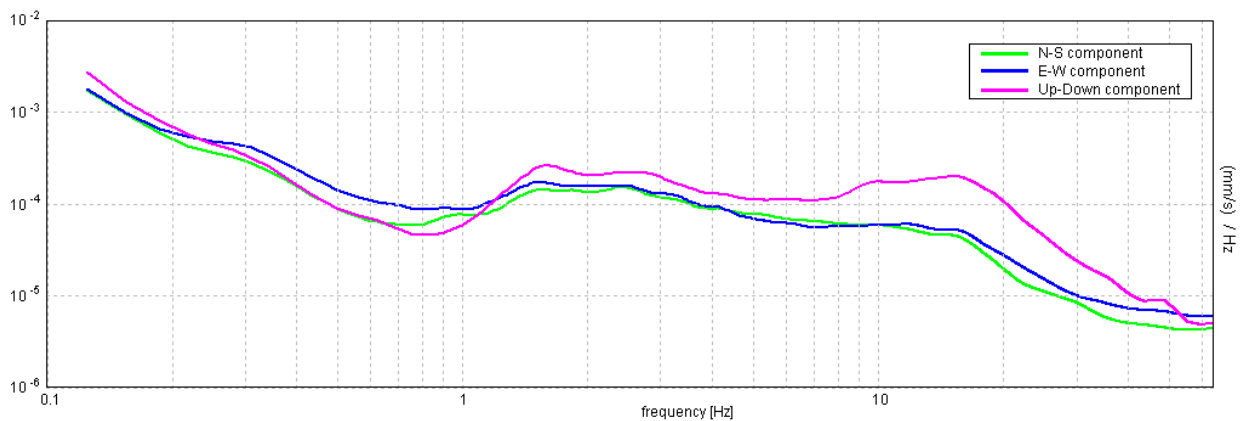
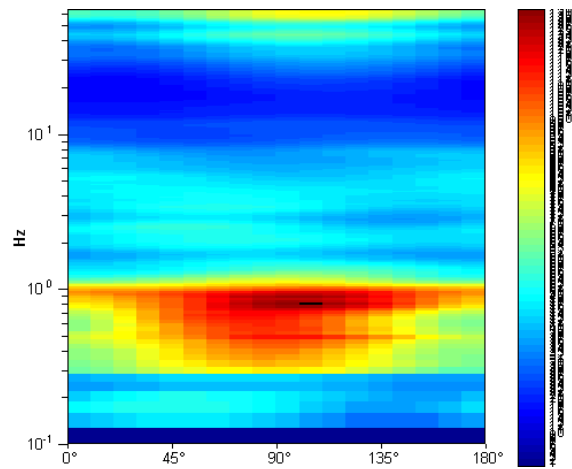
Max. H/V at 0.91 ± 0.04 Hz. (In the range 0.0 - 64.0 Hz).



H/V TIME HISTORY



DIRECTIONAL H/V

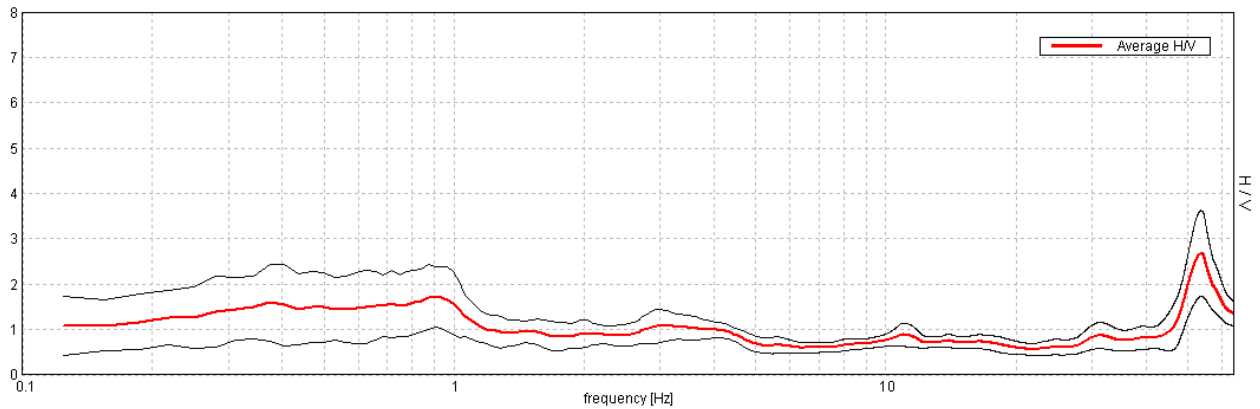


ZOLA PREDOSA-, 037060P29HVS29

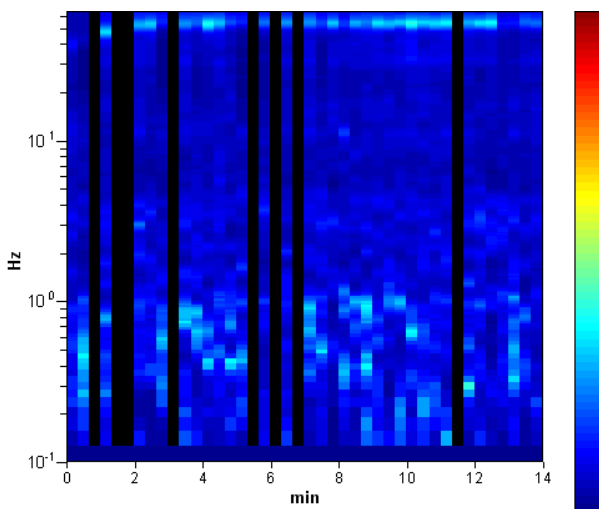
Instrument: TRZ-0108/01-10
 Start recording: 10/04/13 17:09:25 End recording: 10/04/13 17:23:26
 Channel labels: NORTH SOUTH; EAST WEST ; UP DOWN
 Trace length: 0h14'00". Analyzed 81% trace (manual window selection)
 Sampling rate: 128 Hz
 Window size: 20 s
 Smoothing type: Triangular window
 Smoothing: 12%

HORIZONTAL TO VERTICAL SPECTRAL RATIO

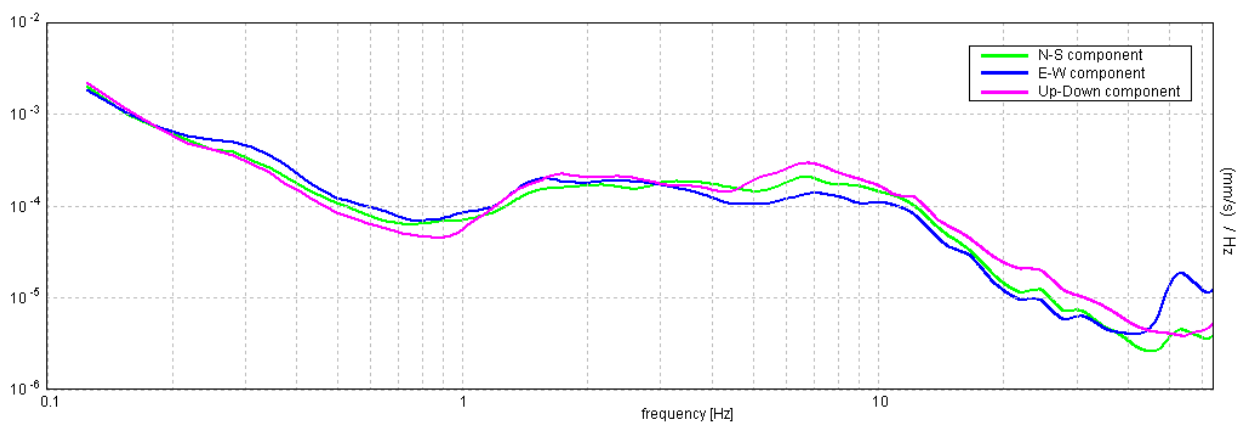
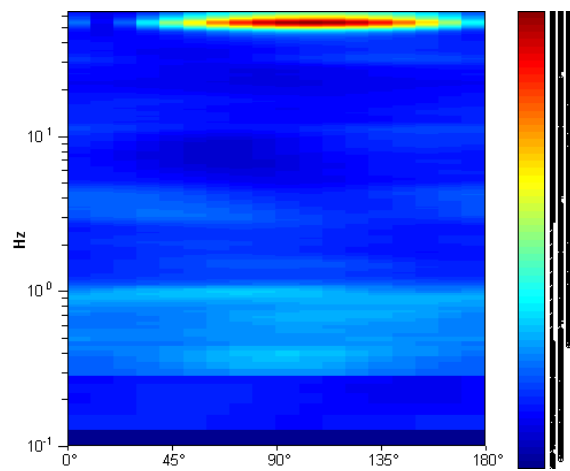
Max. H/V at 0.91 ± 0.12 Hz. (In the range 0.0 - 40.0 Hz).



H/V TIME HISTORY



DIRECTIONAL H/V

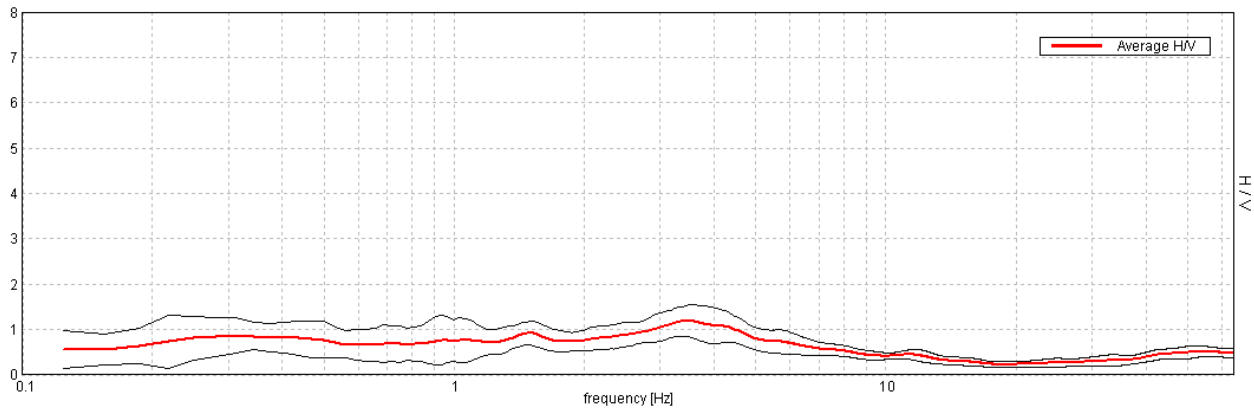


ZOLA PREDOSA, 037060P30HVSR30

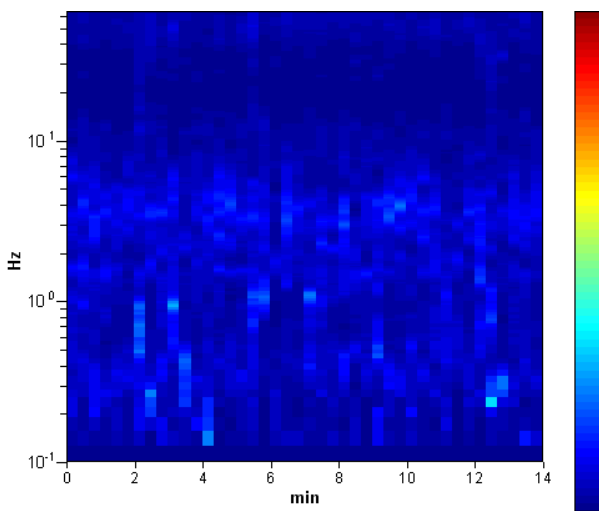
Instrument: TRZ-0108/01-10
 Start recording: 10/04/13 17:30:11 End recording: 10/04/13 17:44:12
 Channel labels: NORTH SOUTH; EAST WEST ; UP DOWN
 Trace length: 0h14'00". Analysis performed on the entire trace.
 Sampling rate: 128 Hz
 Window size: 20 s
 Smoothing type: Triangular window
 Smoothing: 12%

HORIZONTAL TO VERTICAL SPECTRAL RATIO

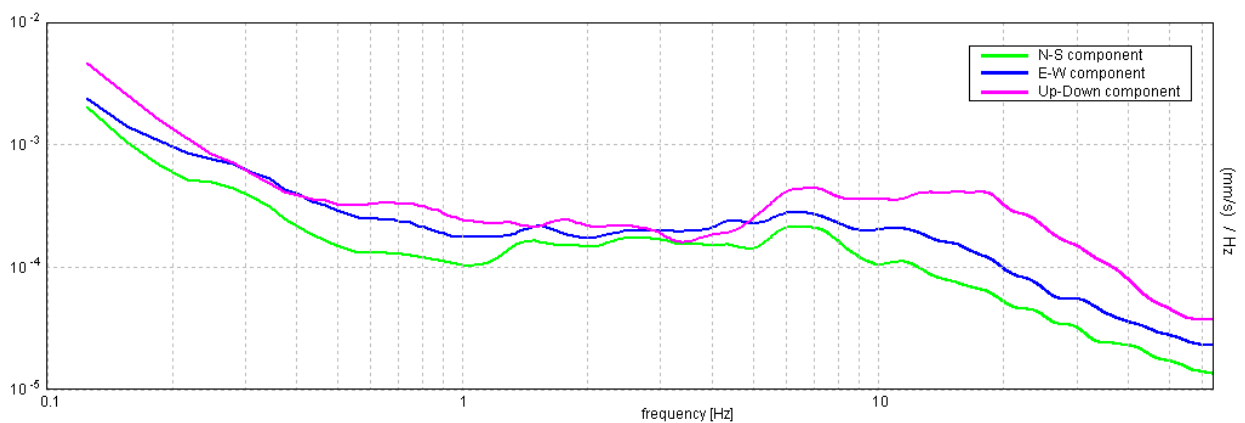
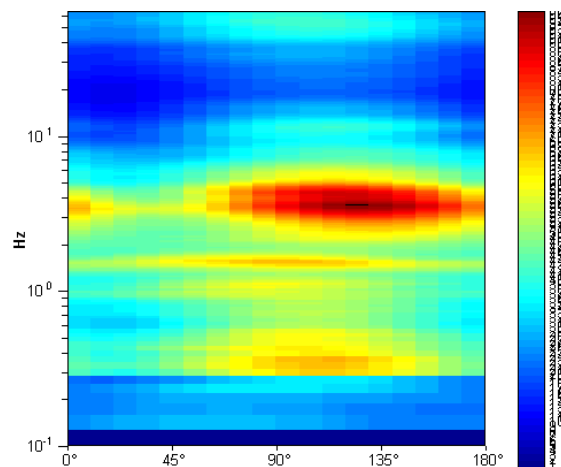
Max. H/V at 3.5 ± 0.15 Hz. (In the range 0.0 - 64.0 Hz).



H/V TIME HISTORY



DIRECTIONAL H/V

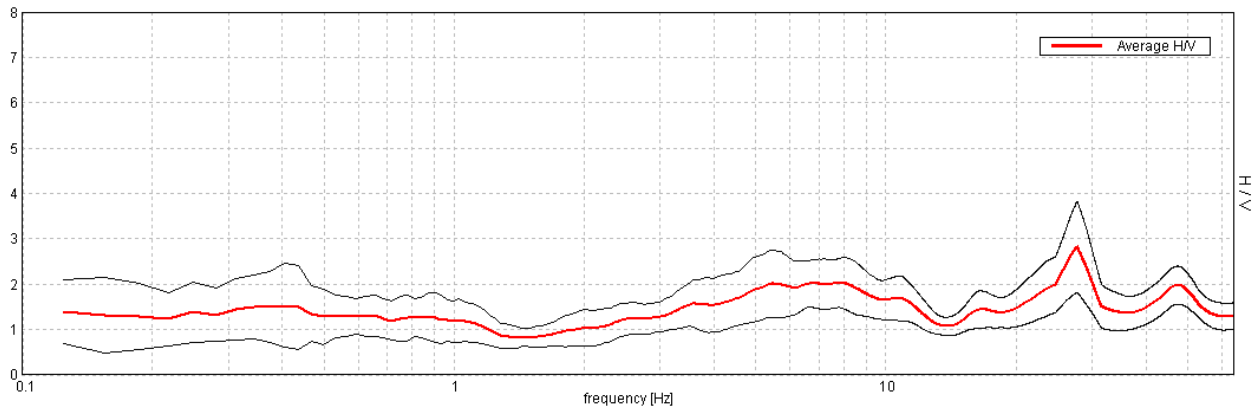


ZOLA PREDOSA, 037060P33HVSR33

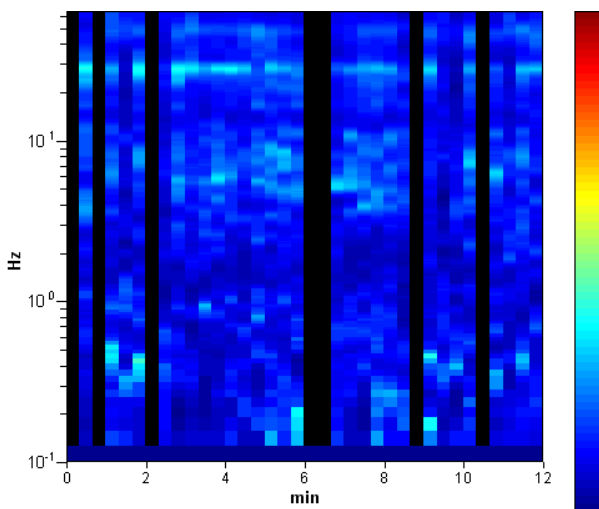
Instrument: TRZ-0108/01-10
Start recording: 11/04/13 10:35:45 End recording: 11/04/13 10:47:46
Channel labels: NORTH SOUTH; EAST WEST ; UP DOWN
Trace length: 0h12'00". Analyzed 81% trace (manual window selection)
Sampling rate: 128 Hz
Window size: 20 s
Smoothing type: Triangular window
Smoothing: 12%

HORIZONTAL TO VERTICAL SPECTRAL RATIO

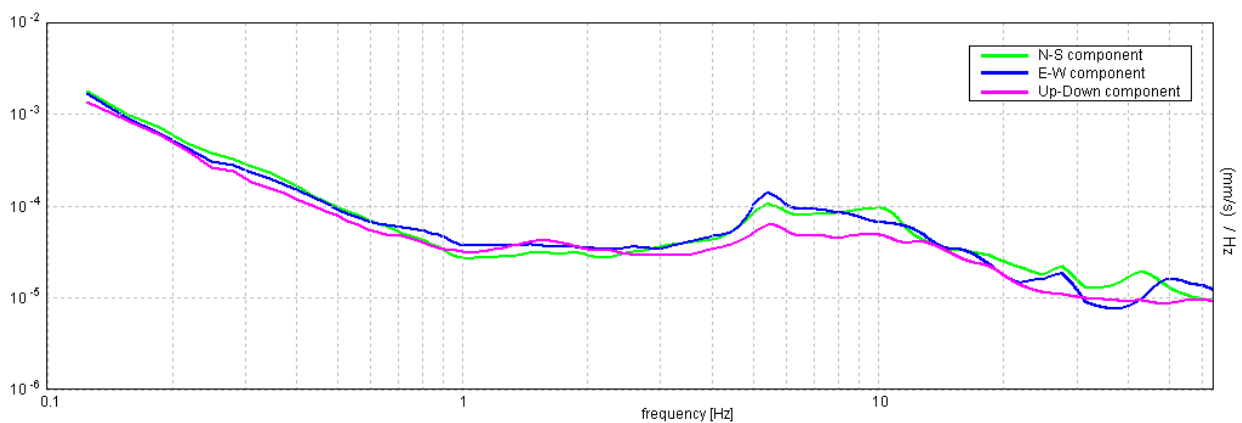
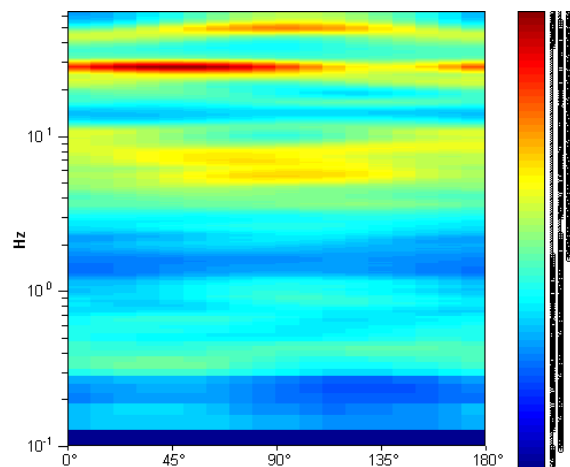
Max. H/V at 7.81 ± 1.54 Hz. (In the range 0.0 - 20.0 Hz).



H/V TIME HISTORY



DIRECTIONAL H/V

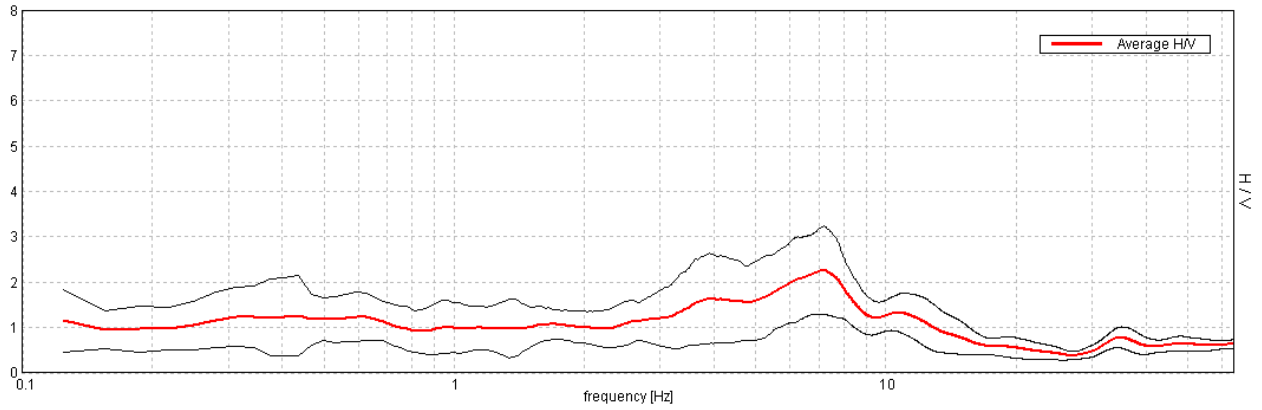


ZOLA PREDOSA, 037060P34HVSR34

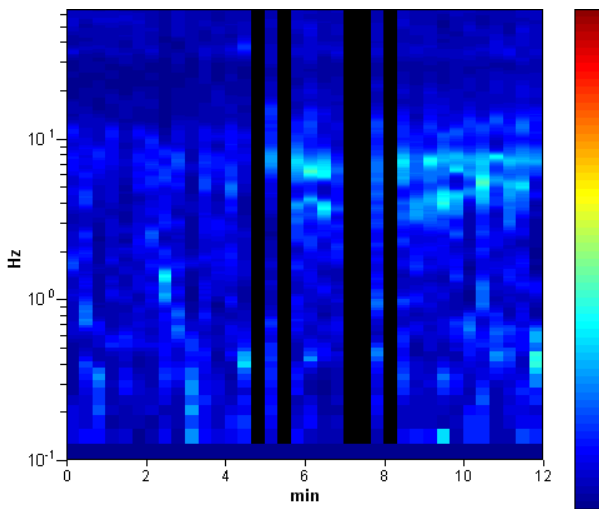
Instrument: TRZ-0108/01-10
 Start recording: 11/04/13 10:55:43 End recording: 11/04/13 11:07:44
 Channel labels: NORTH SOUTH; EAST WEST ; UP DOWN
 Trace length: 0h12'00". Analyzed 86% trace (manual window selection)
 Sampling rate: 128 Hz
 Window size: 20 s
 Smoothing type: Triangular window
 Smoothing: 12%

HORIZONTAL TO VERTICAL SPECTRAL RATIO

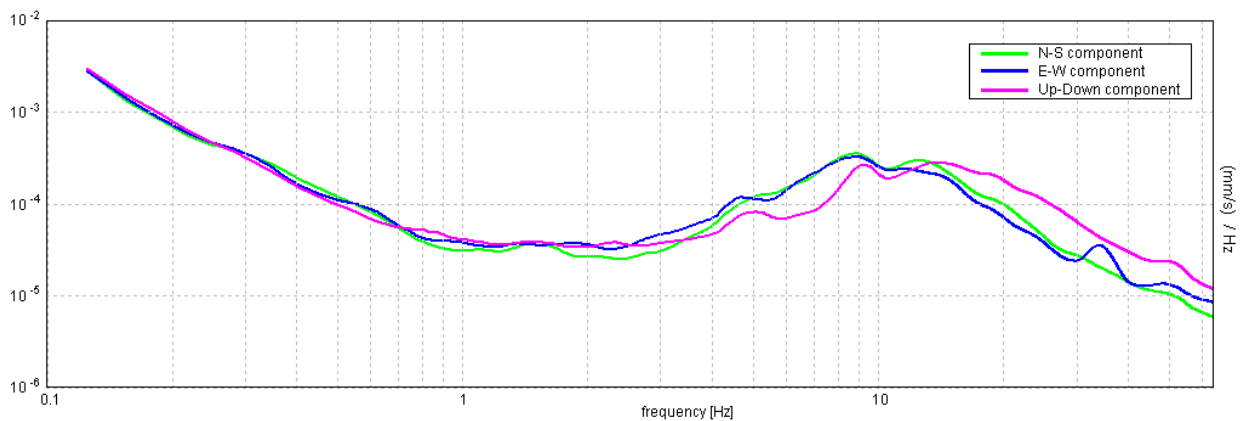
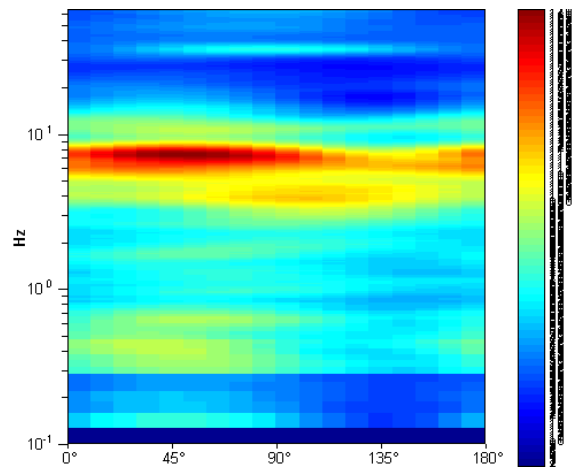
Max. H/V at 7.16 ± 0.97 Hz (in the range 0.0 - 64.0 Hz).



H/V TIME HISTORY



DIRECTIONAL H/V

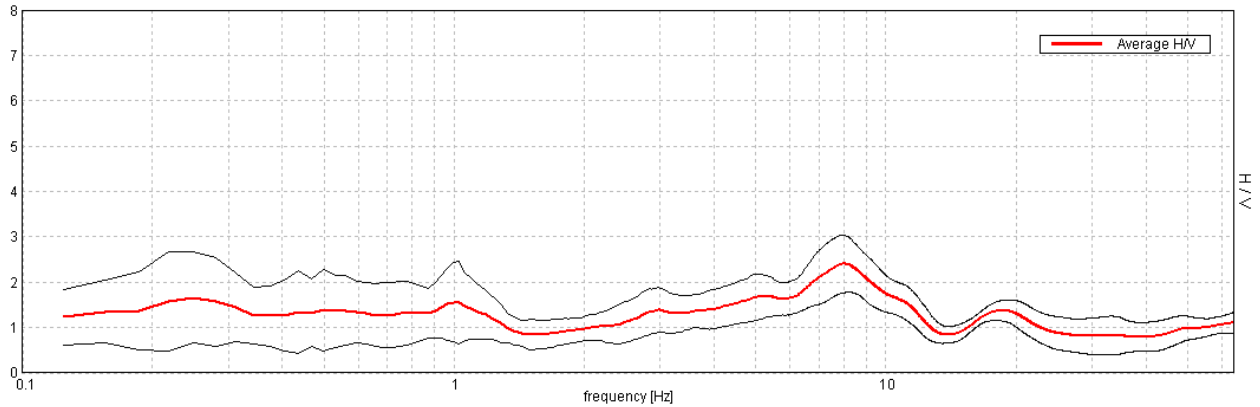


ZOLA PREDOSA, 037060P35HVSR35

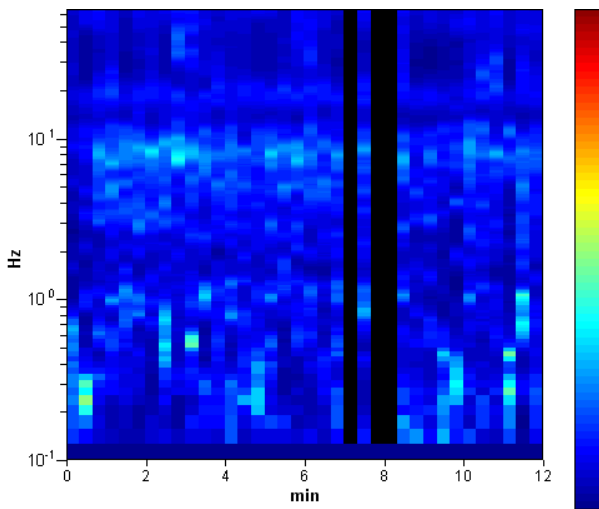
Instrument: TRZ-0108/01-10
 Start recording: 11/04/13 11:17:30 End recording: 11/04/13 11:29:30
 Channel labels: NORTH SOUTH; EAST WEST ; UP DOWN
 Trace length: 0h12'00". Analyzed 92% trace (manual window selection)
 Sampling rate: 128 Hz
 Window size: 20 s
 Smoothing type: Triangular window
 Smoothing: 12%

HORIZONTAL TO VERTICAL SPECTRAL RATIO

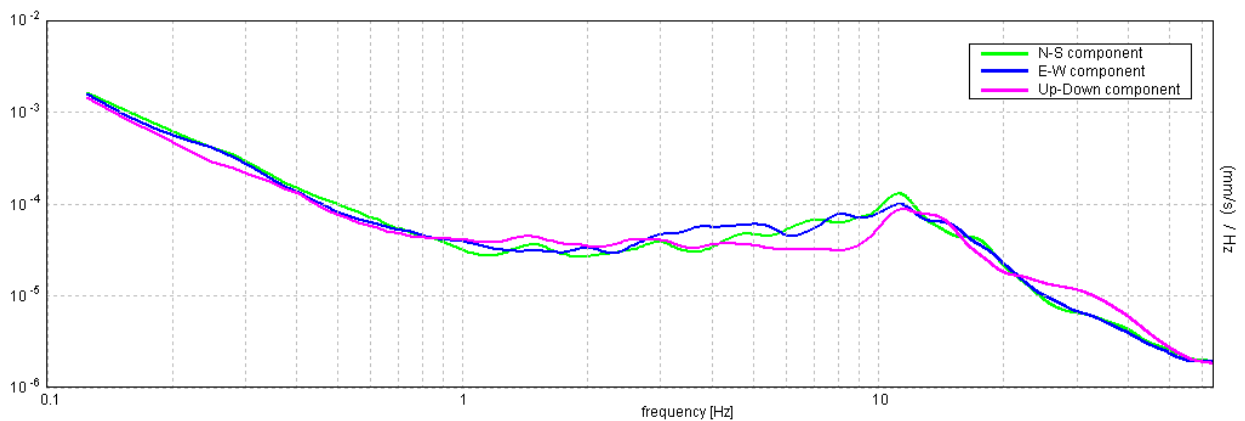
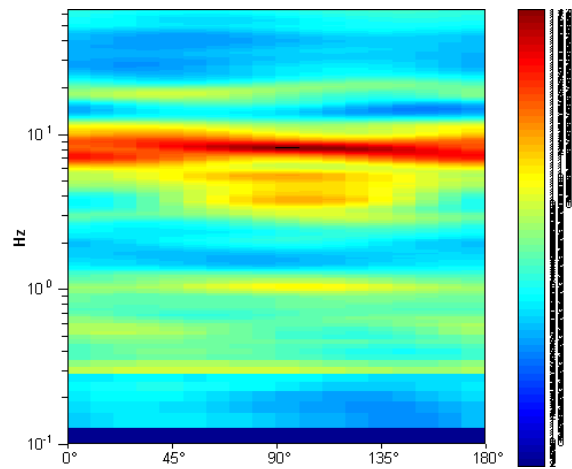
Max. H/V at 8.03 ± 1.08 Hz. (In the range 0.0 - 64.0 Hz).



H/V TIME HISTORY



DIRECTIONAL H/V

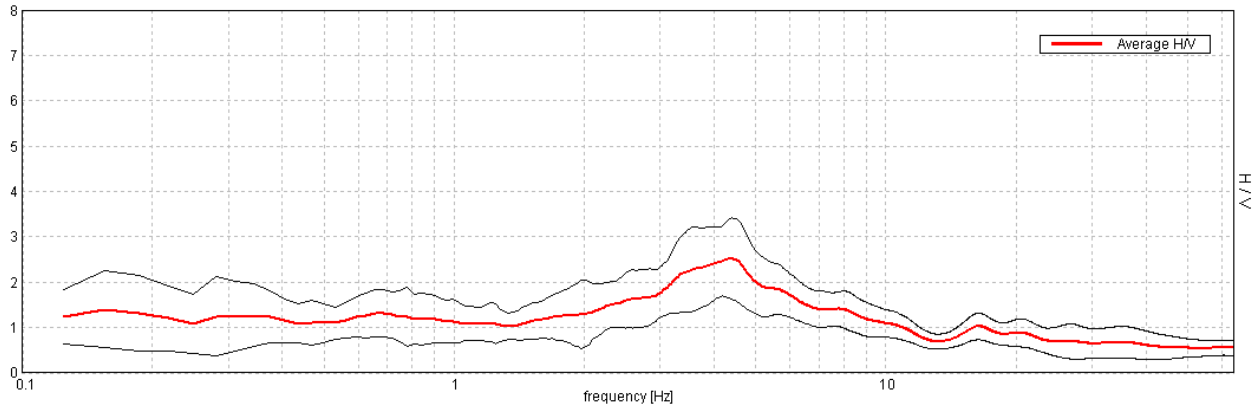


ZOLA PREDOSA, 037060P36HVSR36

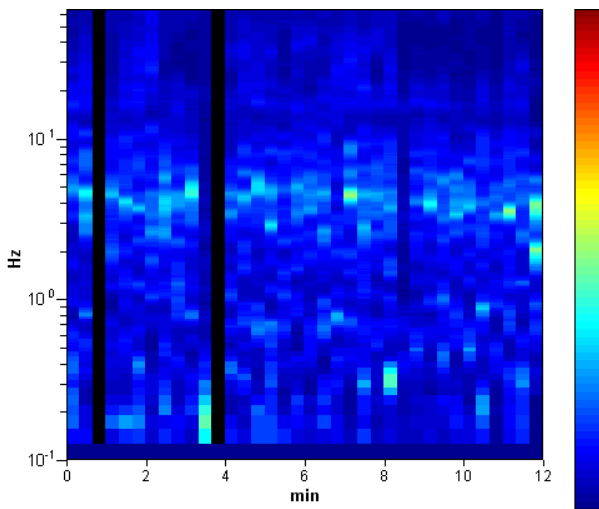
Instrument: TRZ-0108/01-10
 Start recording: 11/04/13 11:38:20 End recording: 11/04/13 11:50:21
 Channel labels: NORTH SOUTH; EAST WEST ; UP DOWN
 Trace length: 0h12'00". Analyzed 94% trace (manual window selection)
 Sampling rate: 128 Hz
 Window size: 20 s
 Smoothing type: Triangular window
 Smoothing: 12%

HORIZONTAL TO VERTICAL SPECTRAL RATIO

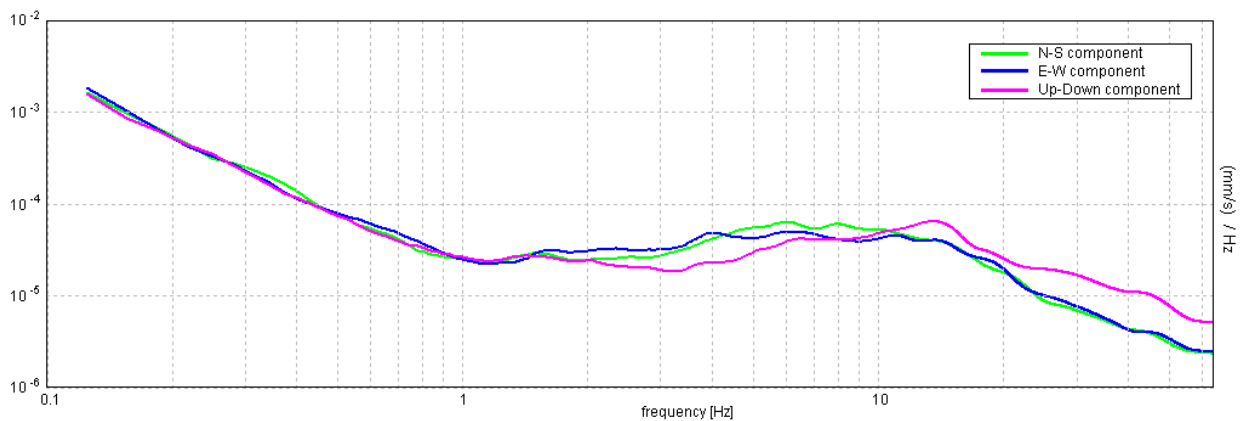
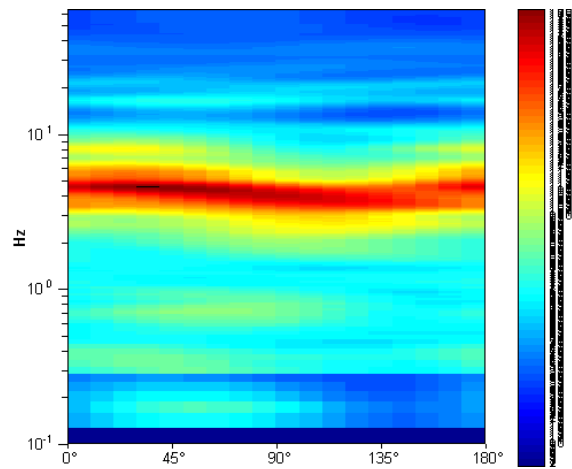
Max. H/V at 4.38 ± 0.04 Hz (in the range 0.0 - 64.0 Hz).



H/V TIME HISTORY



DIRECTIONAL H/V

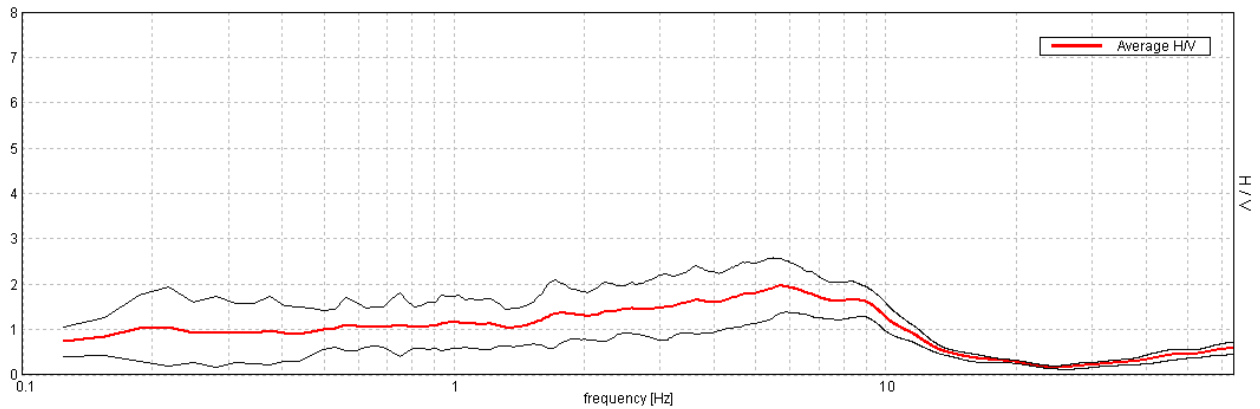


ZOLA PREDOSA, 037060P37HVSR37

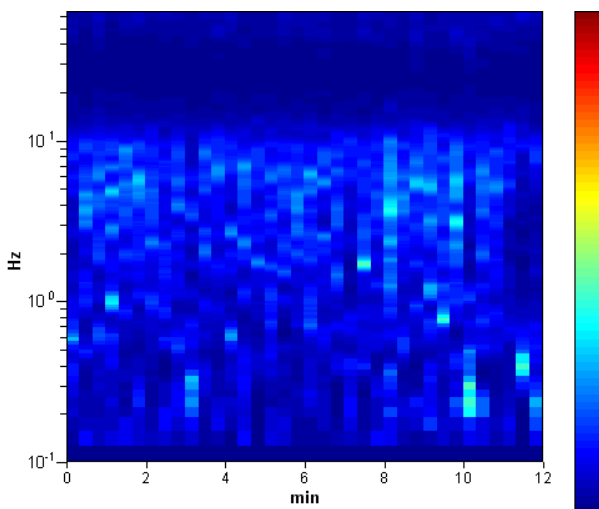
Instrument: TRZ-0108/01-10
 Start recording: 11/04/13 11:54:19 End recording: 11/04/13 12:06:20
 Channel labels: NORTH SOUTH; EAST WEST ; UP DOWN
 Trace length: 0h12'00". Analysis performed on the entire trace.
 Sampling rate: 128 Hz
 Window size: 20 s
 Smoothing type: Triangular window
 Smoothing: 12%

HORIZONTAL TO VERTICAL SPECTRAL RATIO

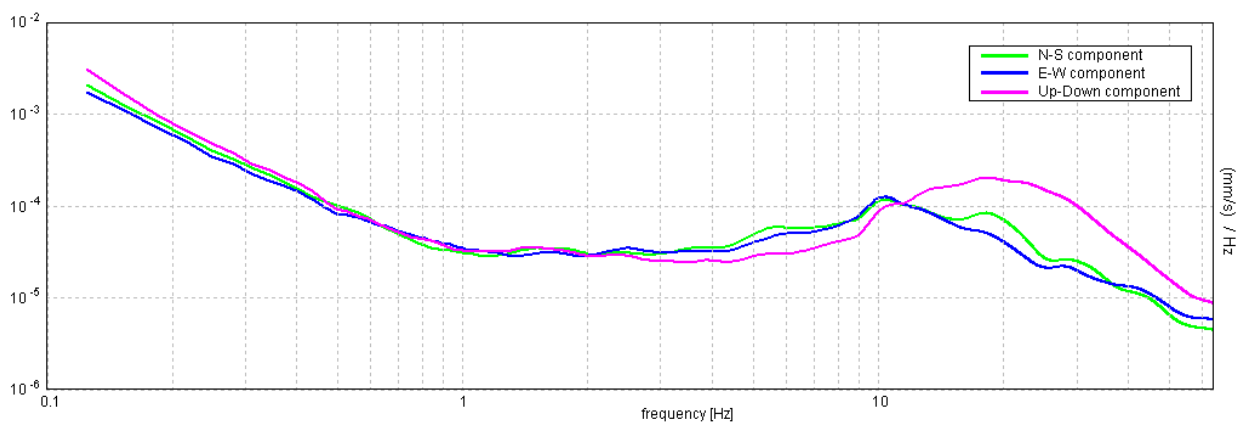
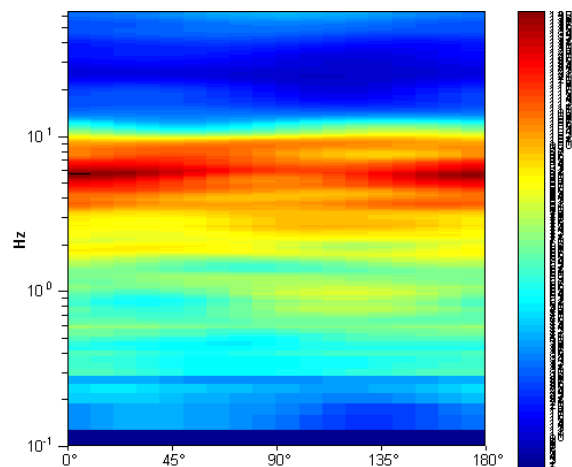
Max. H/V at 5.72 ± 0.36 Hz (in the range 0.0 - 64.0 Hz).



H/V TIME HISTORY



DIRECTIONAL H/V

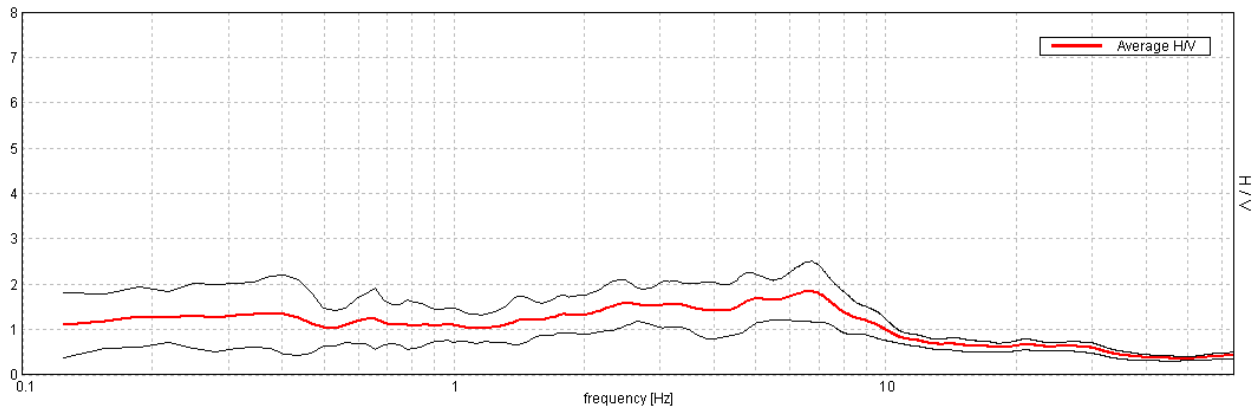


ZOLA PREDOSA, 037060P38HVSR38

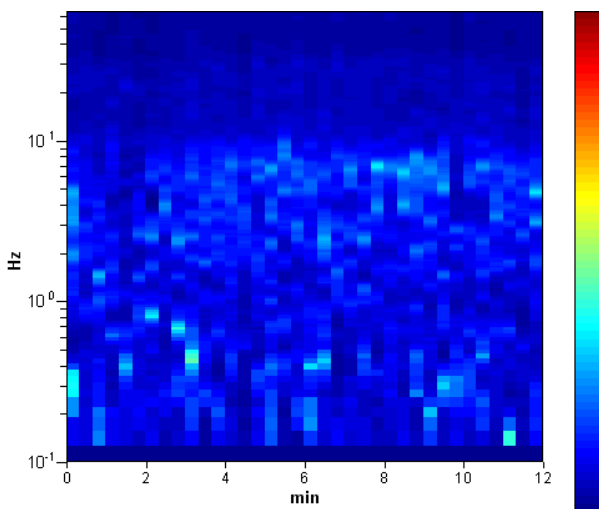
Instrument: TRZ-0108/01-10
Start recording: 11/04/13 12:11:00 End recording: 11/04/13 12:23:01
Channel labels: NORTH SOUTH; EAST WEST ; UP DOWN
Trace length: 0h12'00". Analysis performed on the entire trace.
Sampling rate: 128 Hz
Window size: 20 s
Smoothing type: Triangular window
Smoothing: 12%

HORIZONTAL TO VERTICAL SPECTRAL RATIO

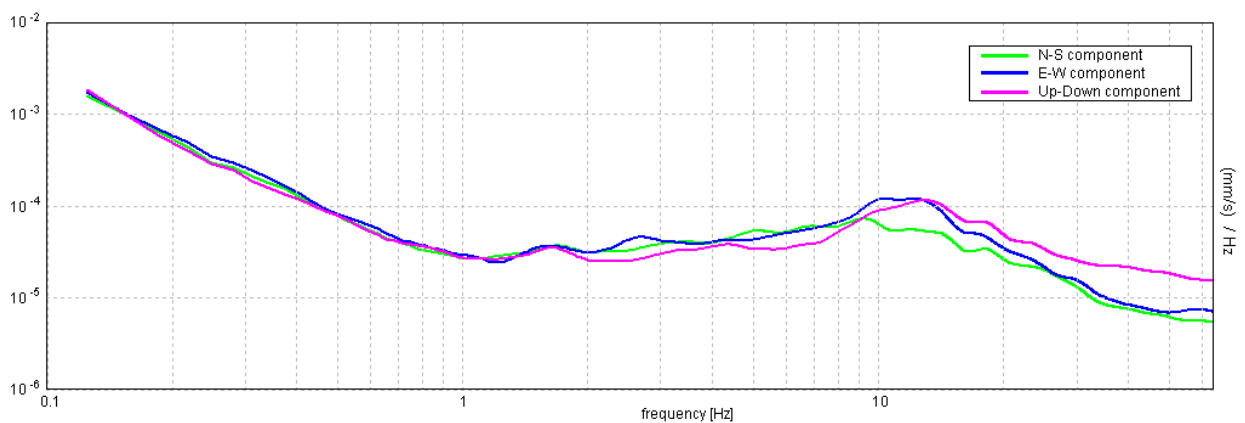
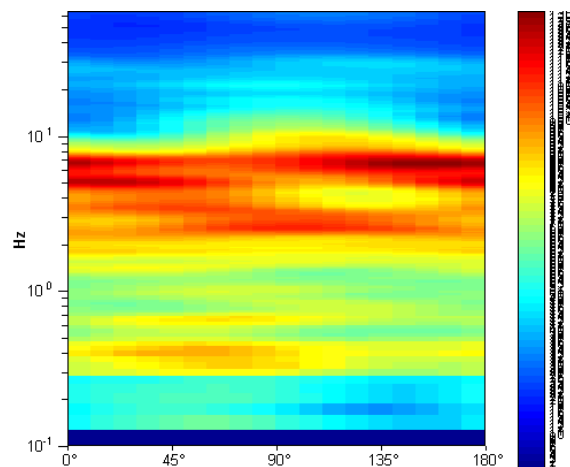
Max. H/V at 6.69 ± 1.34 Hz. (In the range 0.0 - 64.0 Hz).



H/V TIME HISTORY



DIRECTIONAL H/V

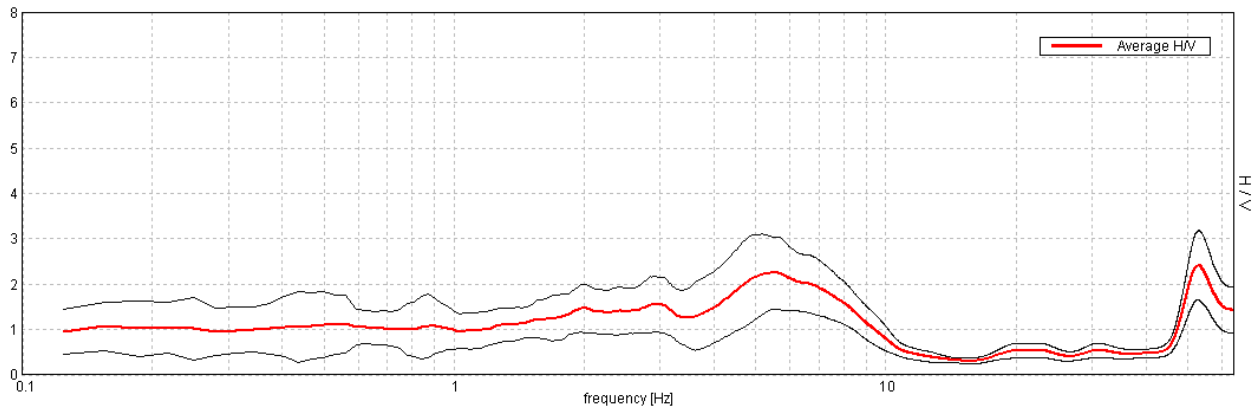


ZOLA PREDOSA, 037060P39HVSR39

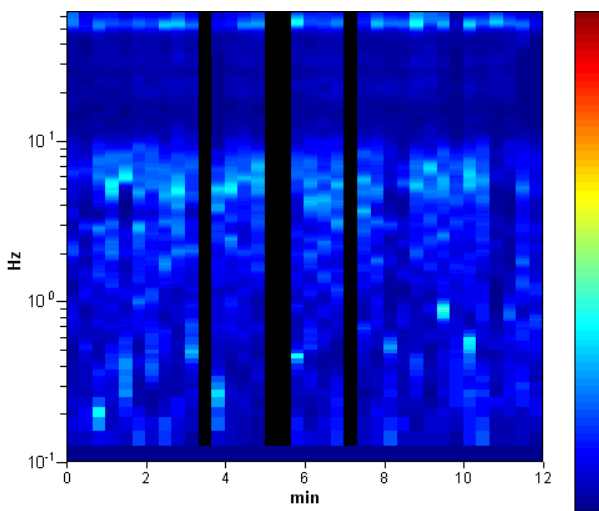
Instrument: TRZ-0108/01-10
 Start recording: 11/04/13 12:27:52 End recording: 11/04/13 12:39:53
 Channel labels: NORTH SOUTH; EAST WEST ; UP DOWN
 Trace length: 0h12'00". Analyzed 89% trace (manual window selection)
 Sampling rate: 128 Hz
 Window size: 20 s
 Smoothing type: Triangular window
 Smoothing: 12%

HORIZONTAL TO VERTICAL SPECTRAL RATIO

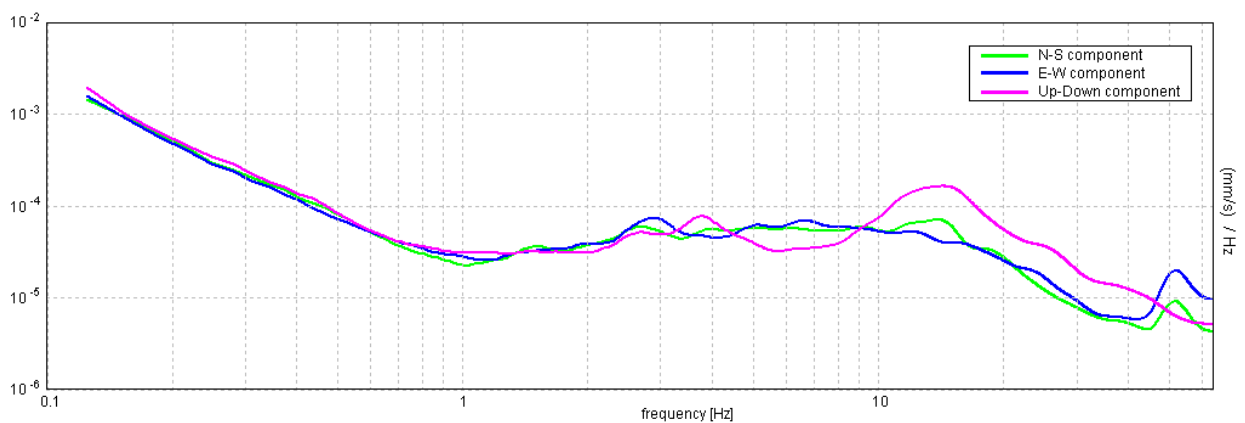
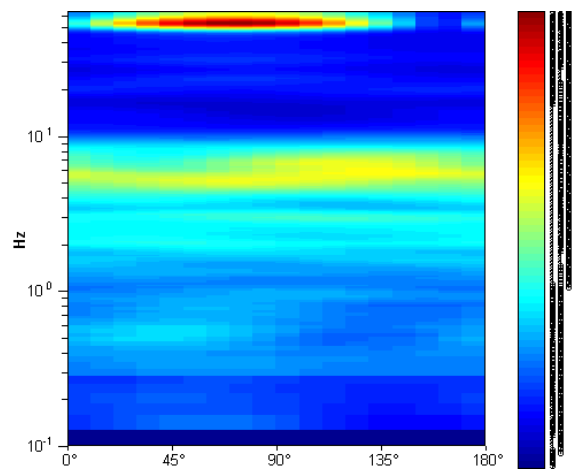
Max. H/V at 5.47 ± 0.42 Hz. (In the range 0.0 - 40.0 Hz).



H/V TIME HISTORY



DIRECTIONAL H/V

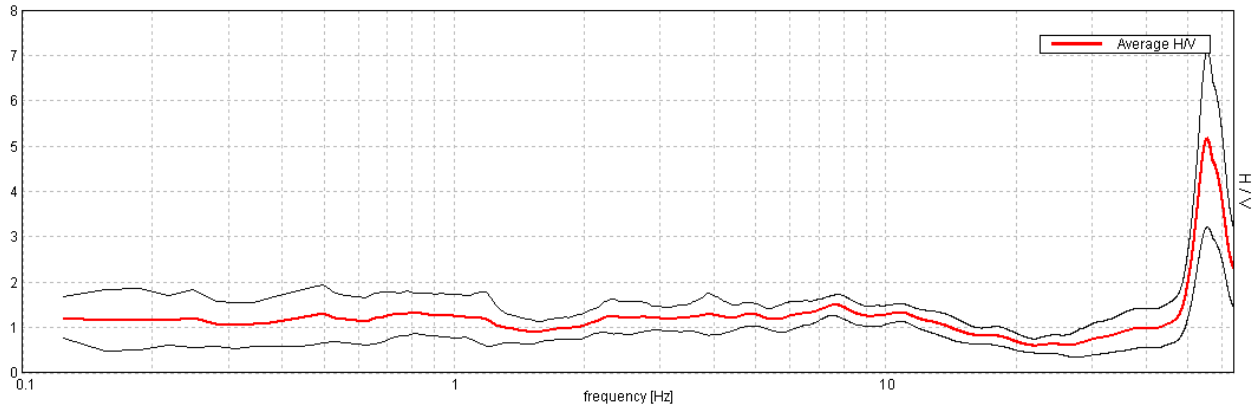


ZOLA PREDOSA, 037060P40HVSR40

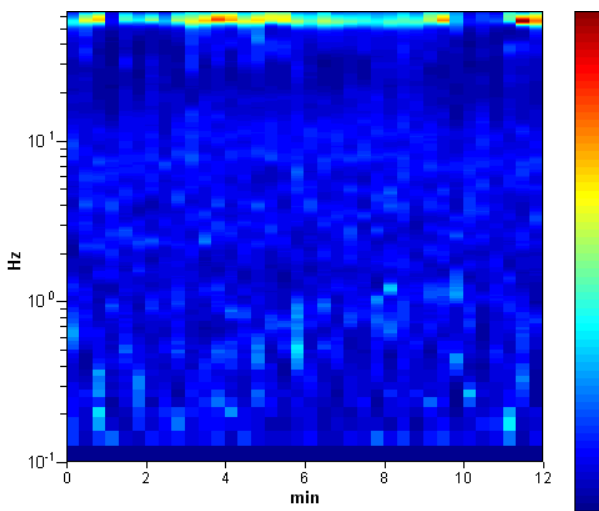
Instrument: TRZ-0108/01-10
 Start recording: 11/04/13 13:23:29 End recording: 11/04/13 13:35:30
 Channel labels: NORTH SOUTH; EAST WEST ; UP DOWN
 Trace length: 0h12'00". Analysis performed on the entire trace.
 Sampling rate: 128 Hz
 Window size: 20 s
 Smoothing type: Triangular window
 Smoothing: 12%

HORIZONTAL TO VERTICAL SPECTRAL RATIO

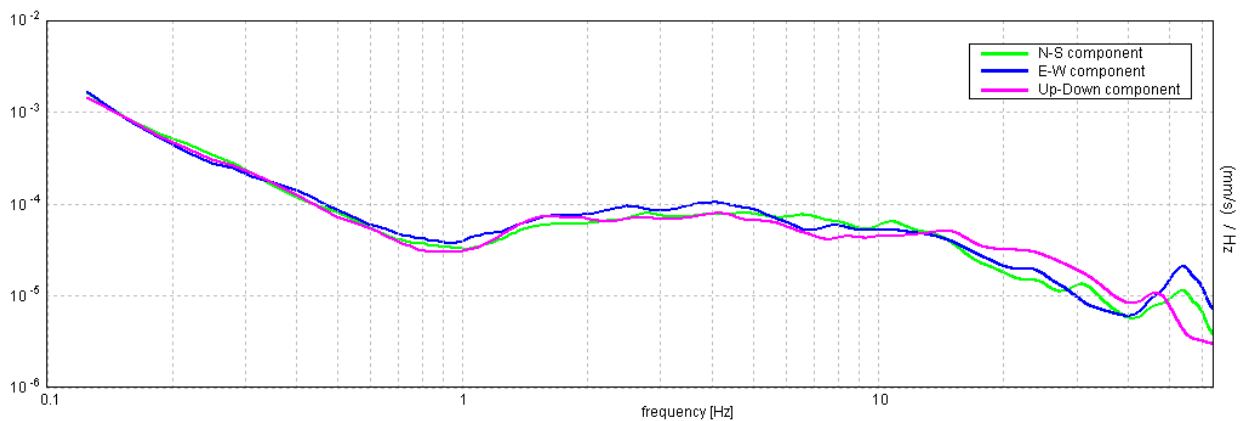
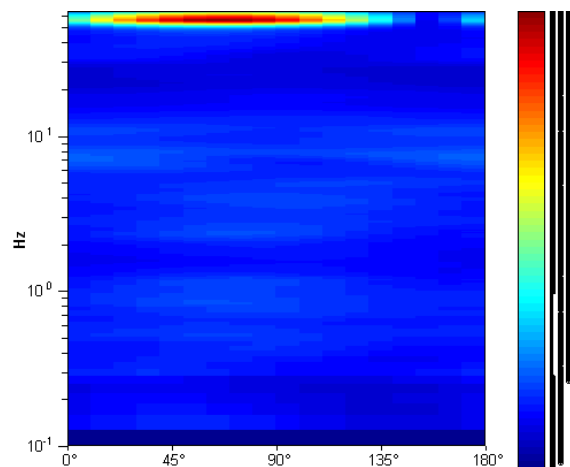
Max. H/V at 7.63 ± 1.25 Hz. (In the range 0.0 - 20.0 Hz).



H/V TIME HISTORY



DIRECTIONAL H/V

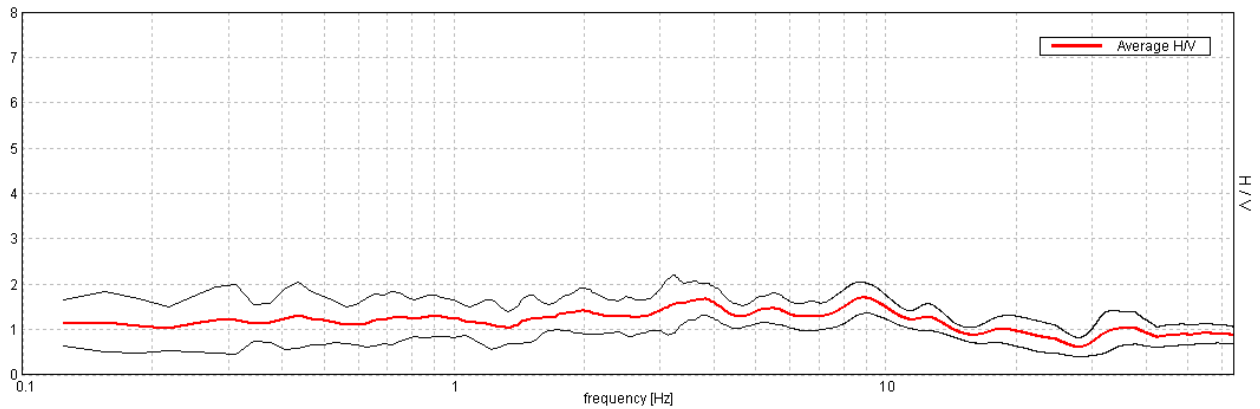


ZOLA PREDOSA, 037060P41HVSR41

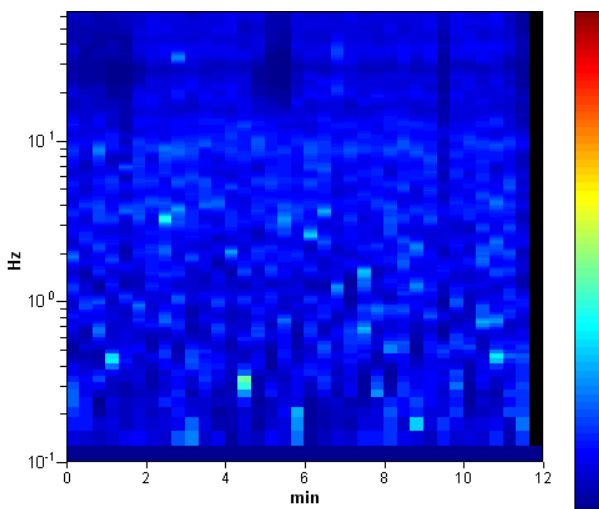
Instrument: TRZ-0108/01-10
 Start recording: 11/04/13 13:41:51 End recording: 11/04/13 13:53:52
 Channel labels: NORTH SOUTH; EAST WEST ; UP DOWN
 Trace length: 0h12'00". Analyzed 97% trace (manual window selection)
 Sampling rate: 128 Hz
 Window size: 20 s
 Smoothing type: Triangular window
 Smoothing: 12%

HORIZONTAL TO VERTICAL SPECTRAL RATIO

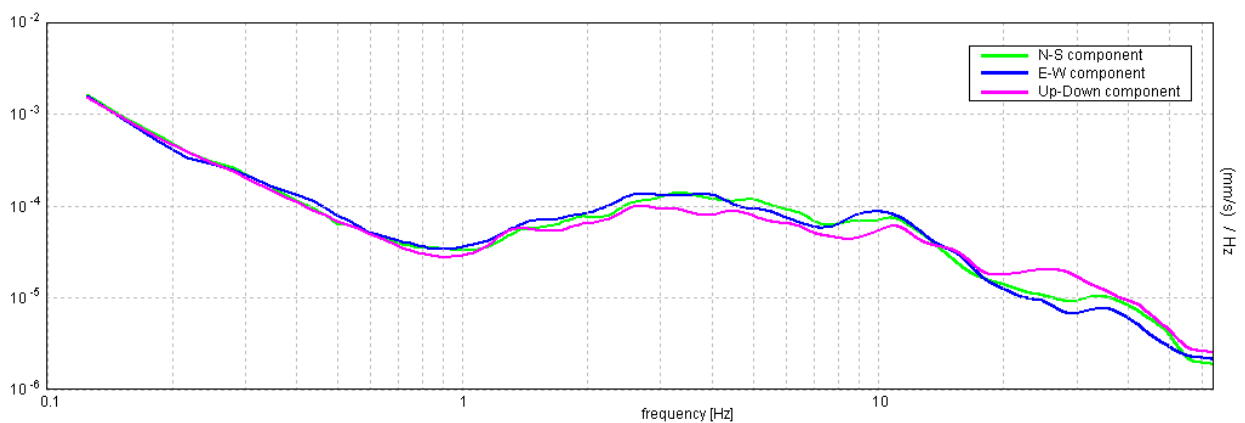
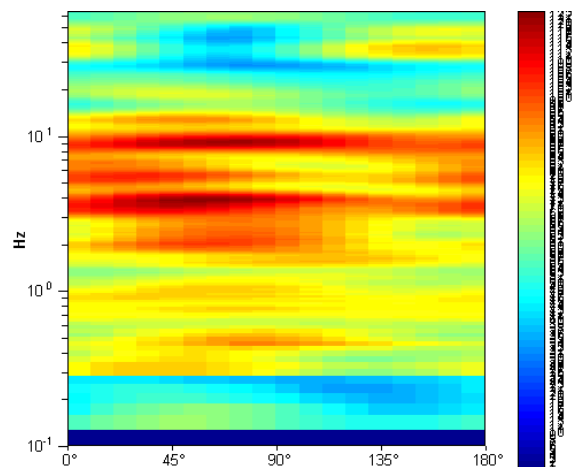
Max. H/V at 8.84 ± 1.35 Hz. (In the range 0.0 - 64.0 Hz).



H/V TIME HISTORY



DIRECTIONAL H/V

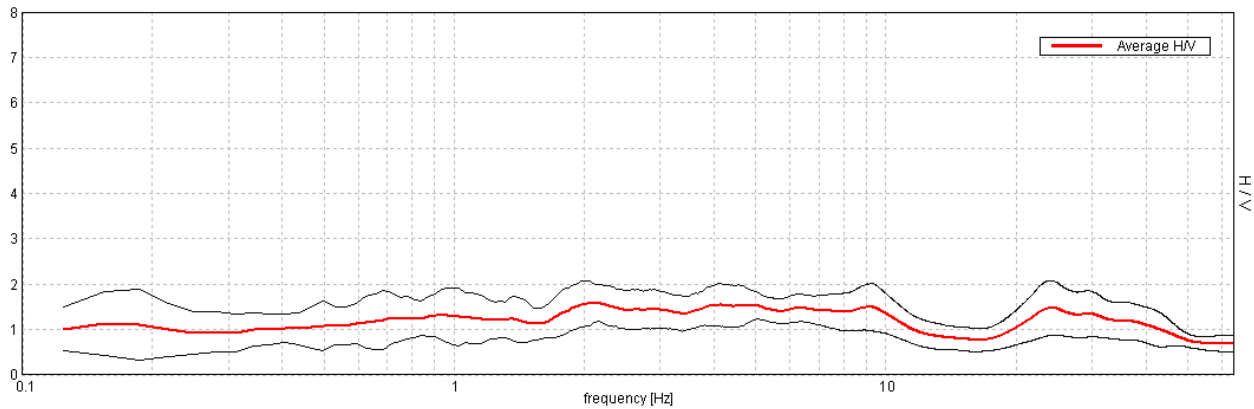


ZOLA PREDOSA, 037060P43HVSR43

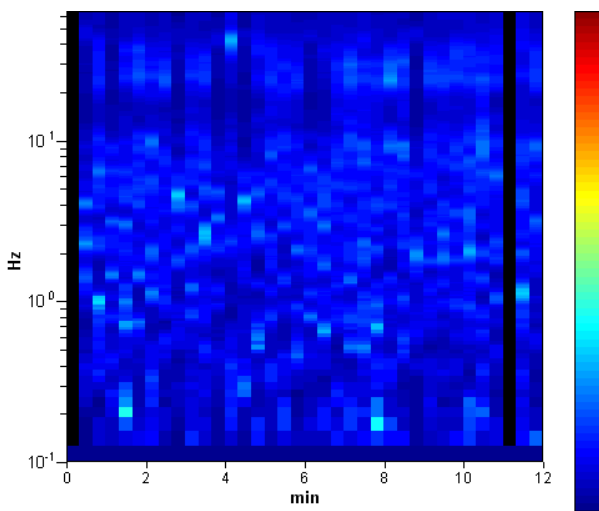
Instrument: TRZ-0108/01-10
 Start recording: 11/04/13 14:18:45 End recording: 11/04/13 14:30:46
 Channel labels: NORTH SOUTH; EAST WEST ; UP DOWN
 Trace length: 0h12'00". Analyzed 94% trace (manual window selection)
 Sampling rate: 128 Hz
 Window size: 20 s
 Smoothing type: Triangular window
 Smoothing: 12%

HORIZONTAL TO VERTICAL SPECTRAL RATIO

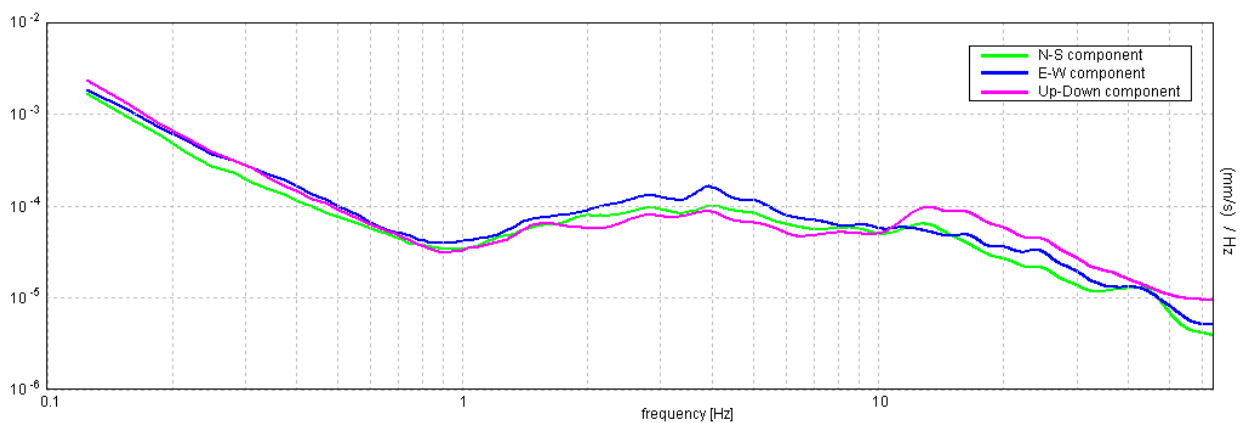
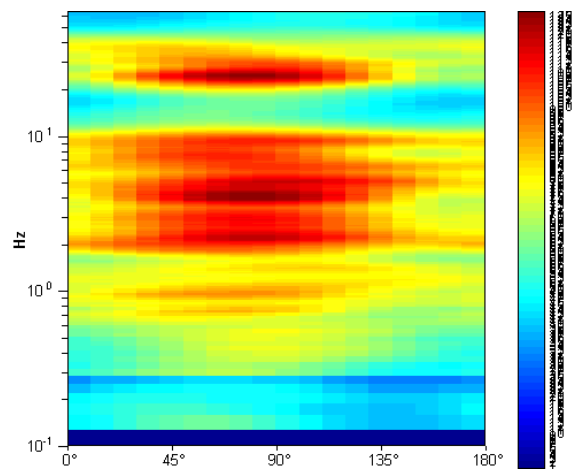
Max. H/V at 2.16 ± 0.56 Hz (in the range 0.0 - 64.0 Hz).



H/V TIME HISTORY



DIRECTIONAL H/V

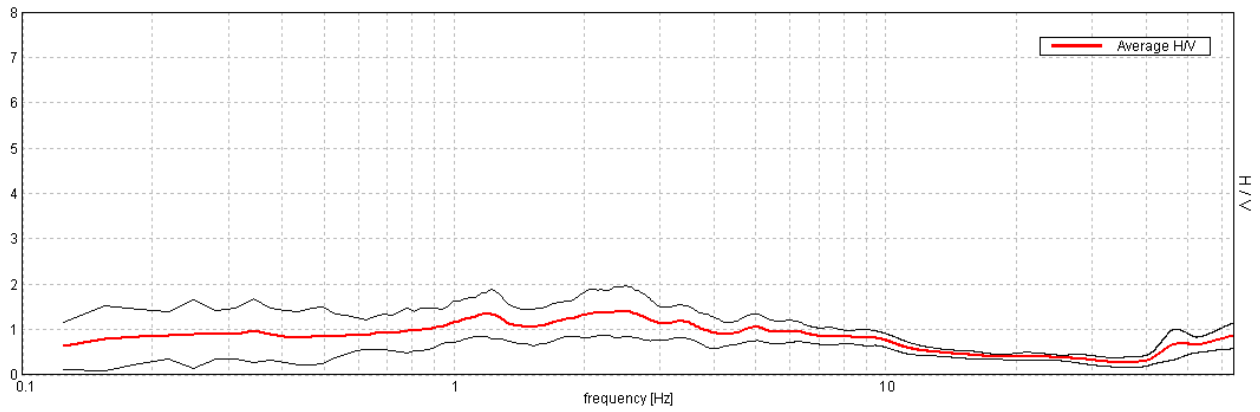


ZOLA PREDOSA, 037060P44HVSR44

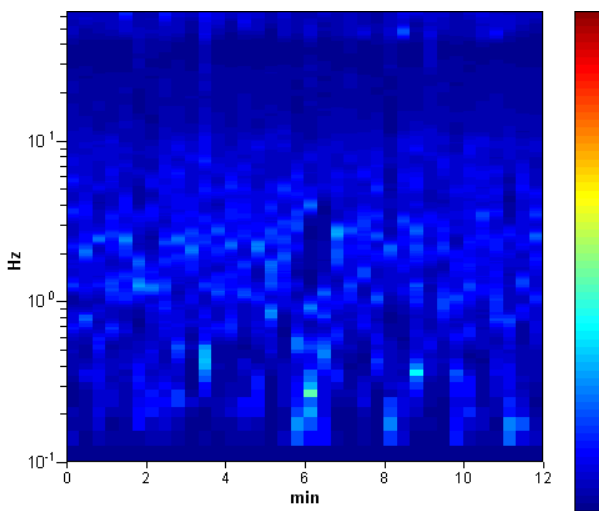
Instrument: TRZ-0108/01-10
 Start recording: 11/04/13 14:35:33 End recording: 11/04/13 14:47:34
 Channel labels: NORTH SOUTH; EAST WEST ; UP DOWN
 Trace length: 0h12'00". Analysis performed on the entire trace.
 Sampling rate: 128 Hz
 Window size: 20 s
 Smoothing type: Triangular window
 Smoothing: 12%

HORIZONTAL TO VERTICAL SPECTRAL RATIO

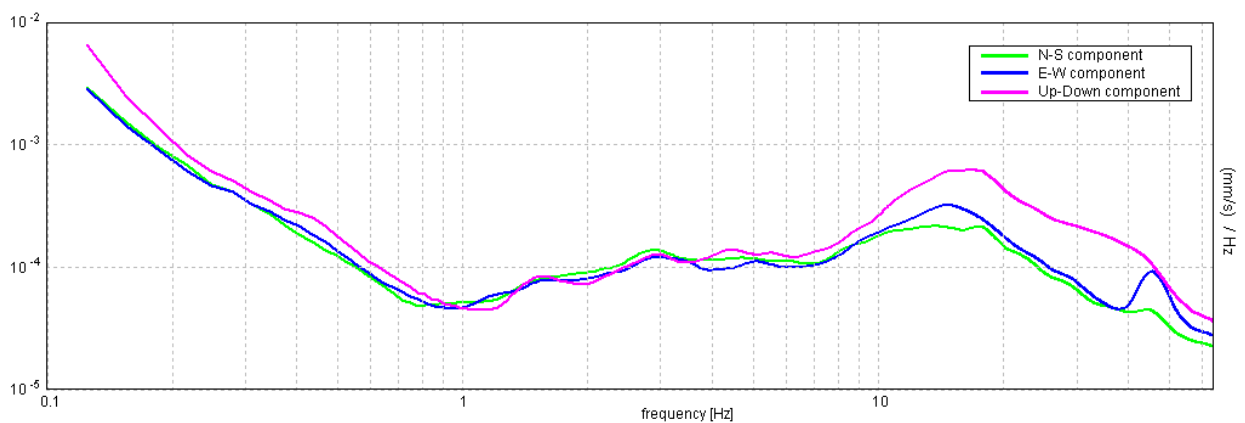
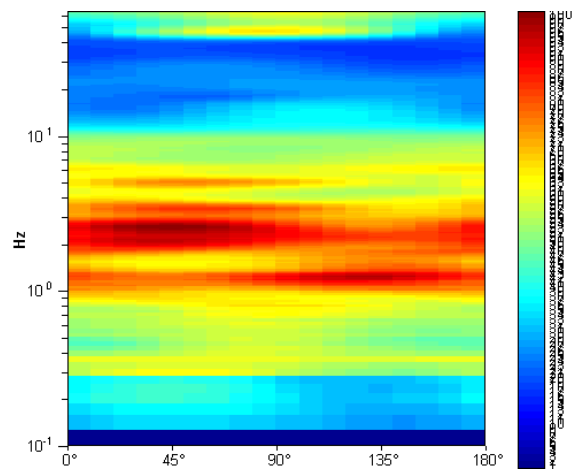
Max. H/V at 2.5 ± 0.26 Hz. (In the range 0.0 - 64.0 Hz).



H/V TIME HISTORY



DIRECTIONAL H/V

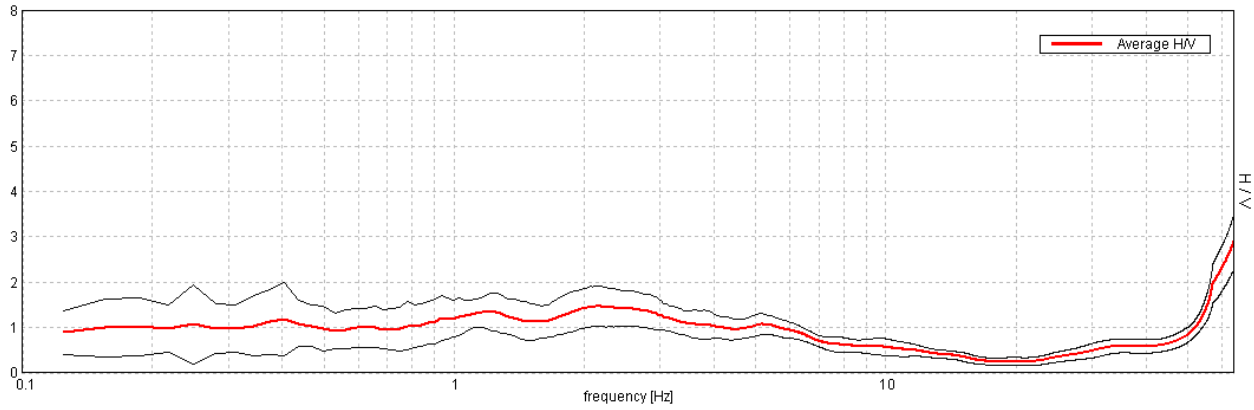


ZOLA PREDOSA, 037060P45HVSR45

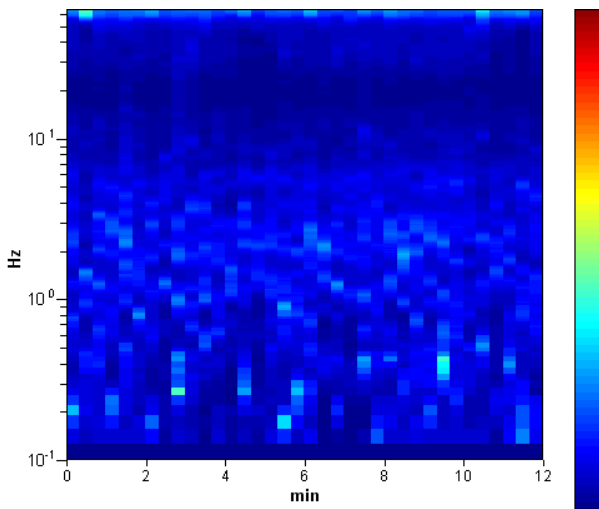
Instrument: TRZ-0108/01-10
 Start recording: 11/04/13 14:54:10 End recording: 11/04/13 15:06:11
 Channel labels: NORTH SOUTH; EAST WEST ; UP DOWN
 Trace length: 0h12'00". Analysis performed on the entire trace.
 Sampling rate: 128 Hz
 Window size: 20 s
 Smoothing type: Triangular window
 Smoothing: 12%

HORIZONTAL TO VERTICAL SPECTRAL RATIO

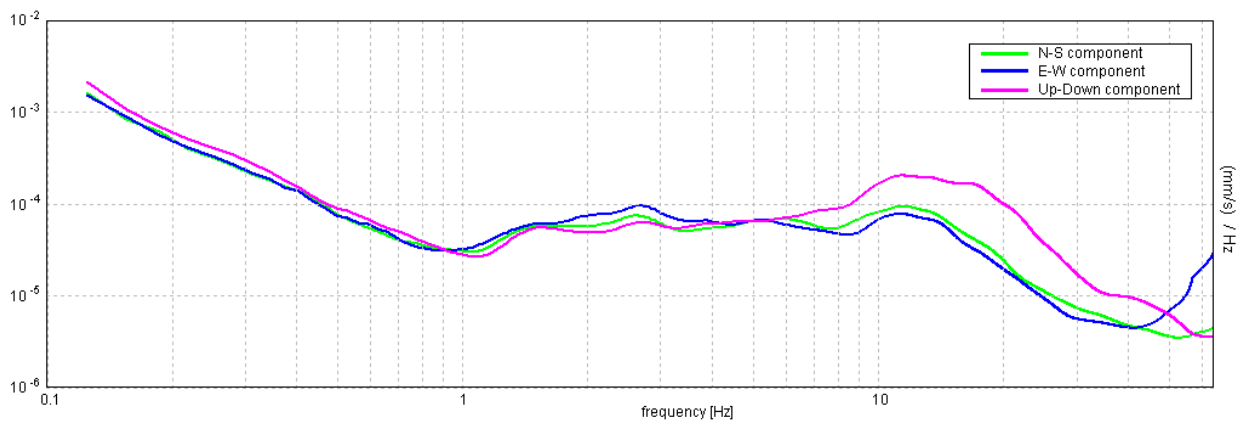
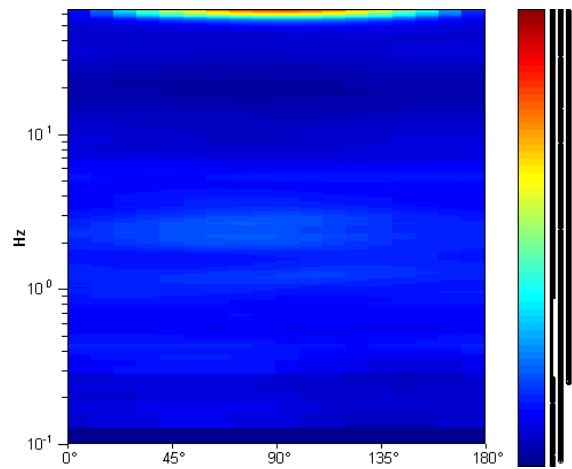
Max. H/V at 2.19 ± 0.26 Hz. (In the range 0.0 - 40.0 Hz).



H/V TIME HISTORY



DIRECTIONAL H/V

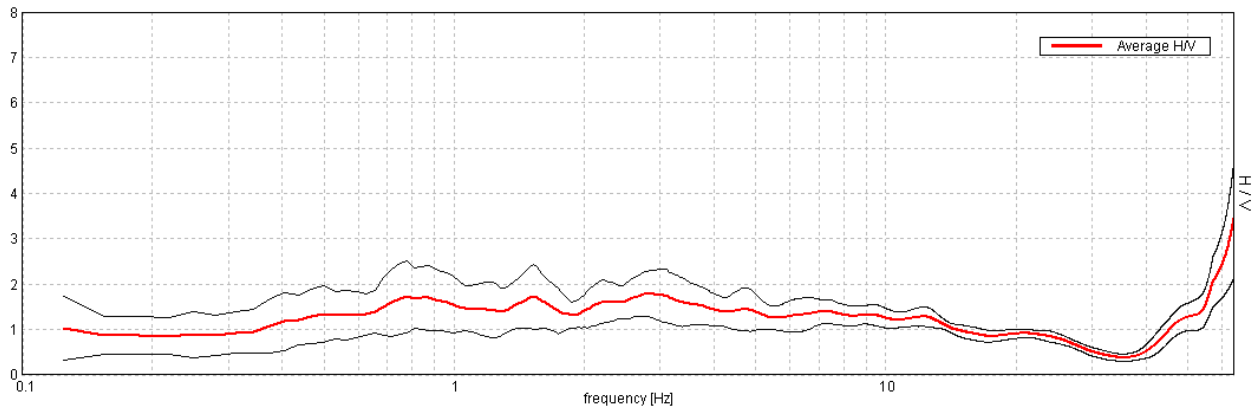


ZOLA PREDOSA, 037060P46HVSR46

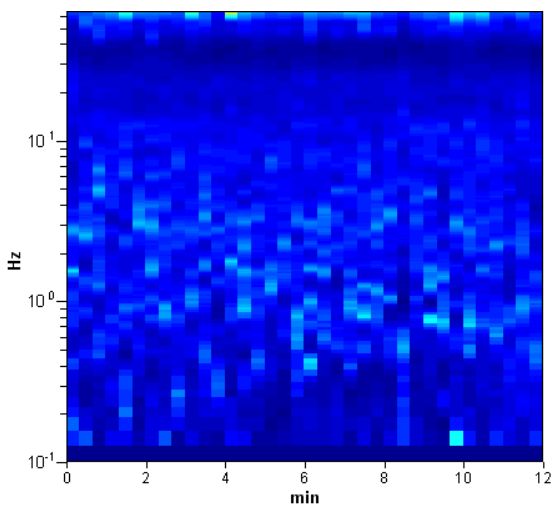
Instrument: TRZ-0108/01-10
 Start recording: 11/04/13 15:13:13 End recording: 11/04/13 15:25:14
 Channel labels: NORTH SOUTH; EAST WEST ; UP DOWN
 Trace length: 0h12'00". Analysis performed on the entire trace.
 Sampling rate: 128 Hz
 Window size: 20 s
 Smoothing type: Triangular window
 Smoothing: 12%

HORIZONTAL TO VERTICAL SPECTRAL RATIO

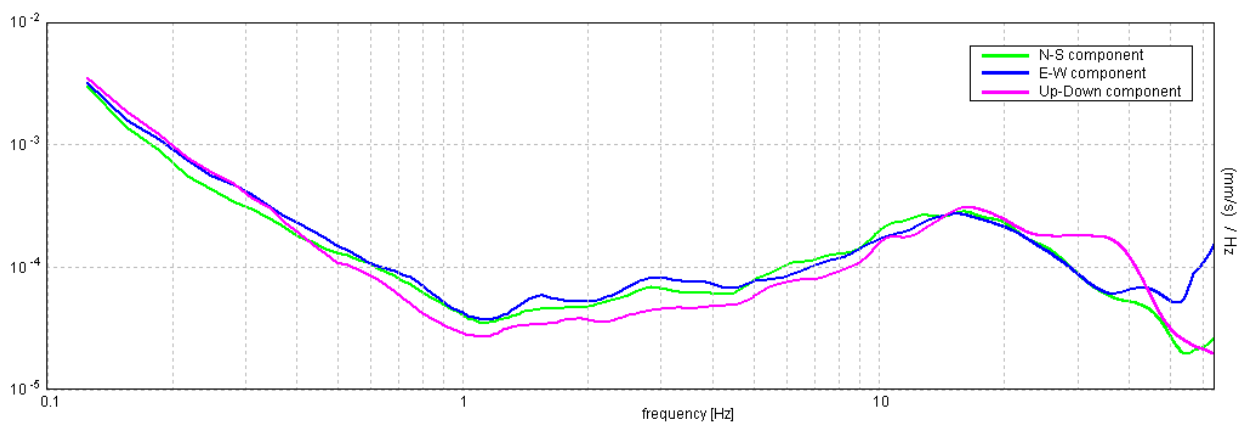
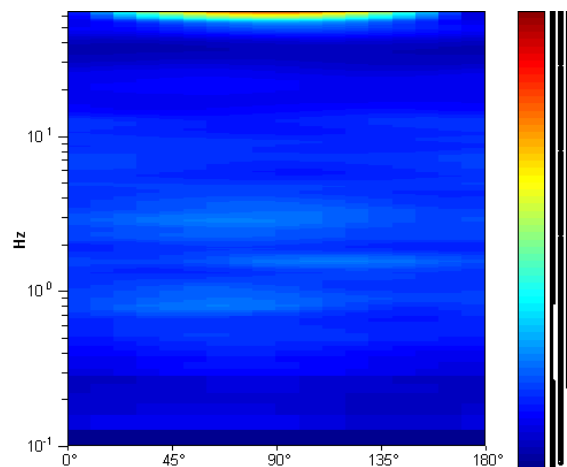
Max. H/V at 2.84 ± 0.15 Hz. (In the range 0.0 - 40.0 Hz).



H/V TIME HISTORY



DIRECTIONAL H/V

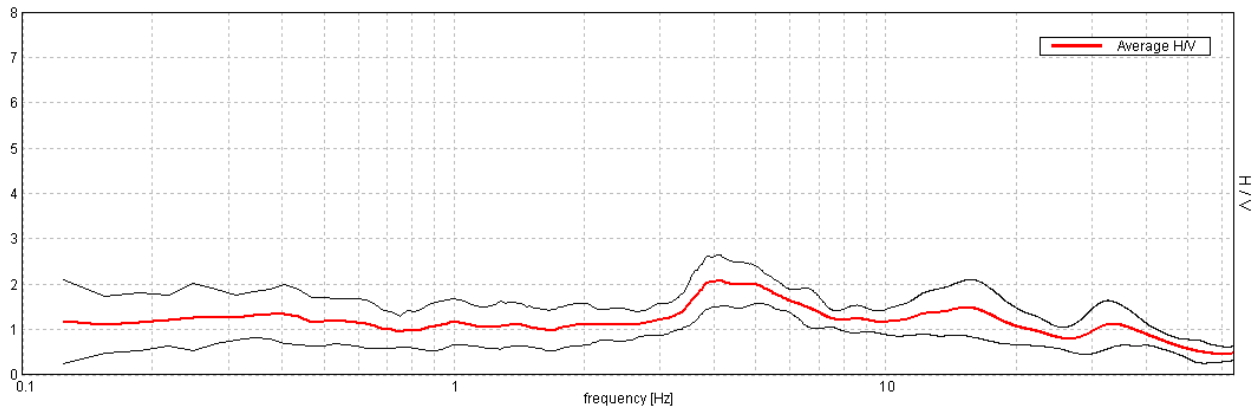


ZOLA PREDOSA, 037060P47HVSR47

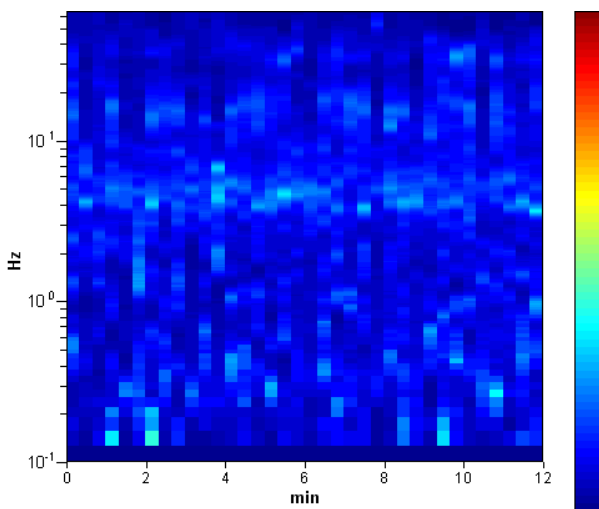
Instrument: TRZ-0108/01-10
 Start recording: 11/04/13 15:30:14 End recording: 11/04/13 15:42:15
 Channel labels: NORTH SOUTH; EAST WEST ; UP DOWN
 Trace length: 0h12'00". Analysis performed on the entire trace.
 Sampling rate: 128 Hz
 Window size: 20 s
 Smoothing type: Triangular window
 Smoothing: 12%

HORIZONTAL TO VERTICAL SPECTRAL RATIO

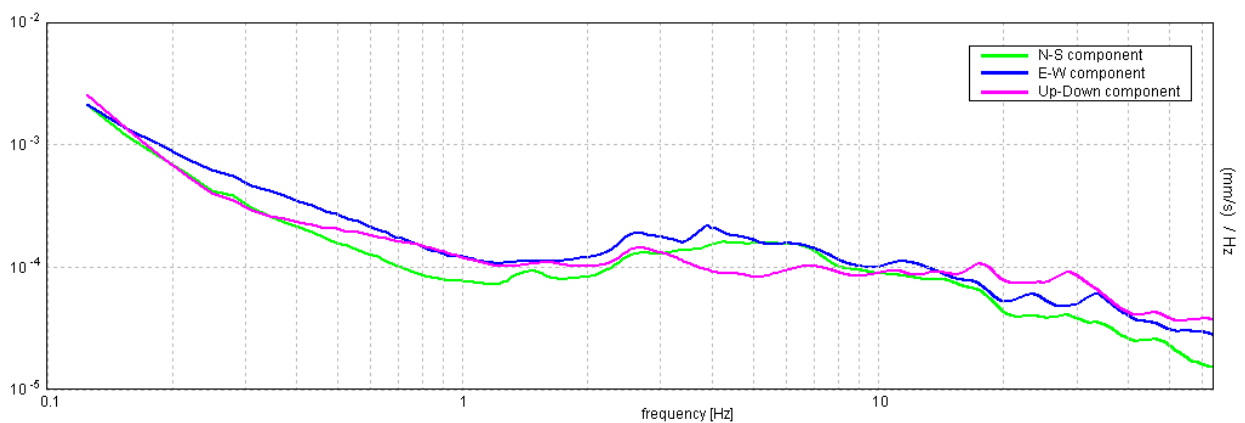
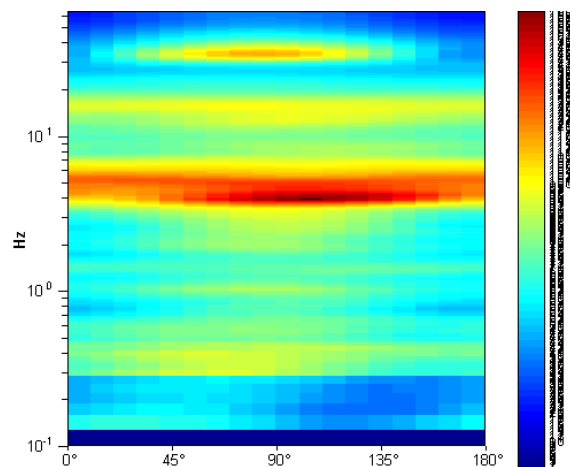
Max. H/V at 4.13 ± 0.23 Hz. (In the range 0.0 - 64.0 Hz).



H/V TIME HISTORY



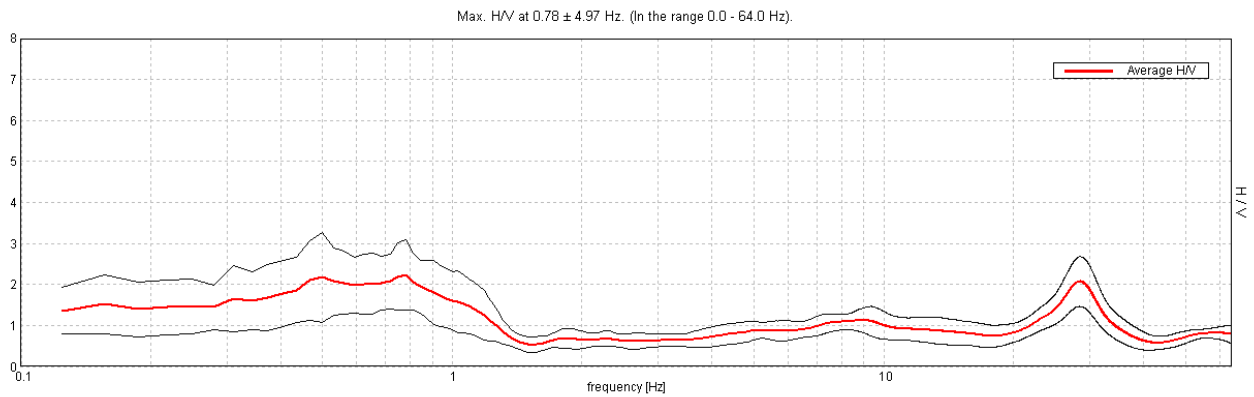
DIRECTIONAL H/V



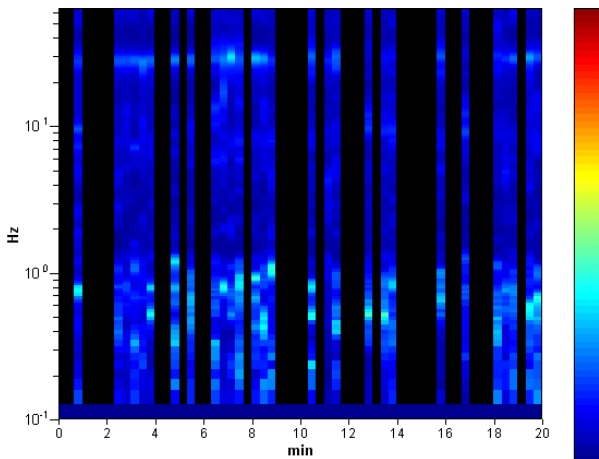
ZOLA PREDOSA, 037060P48HVSR48

Instrument: TRZ-0108/01-10
 Start recording: 08/07/13 12:28:21 End recording: 08/07/13 12:48:22
 Channel labels: NORTH SOUTH; EAST WEST ; UP DOWN
 Trace length: 0h20'00". Analyzed 47% trace (manual window selection)
 Sampling rate: 128 Hz
 Window size: 20 s
 Smoothing type: Triangular window
 Smoothing: 12%

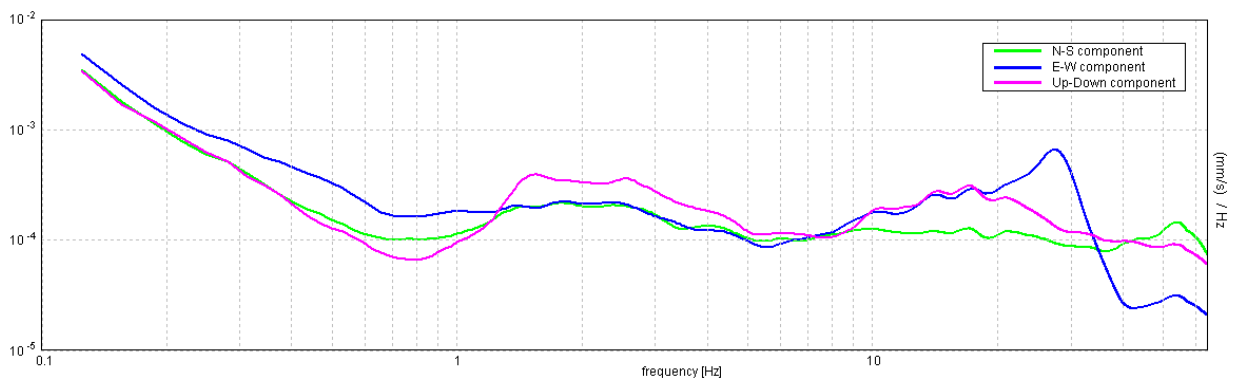
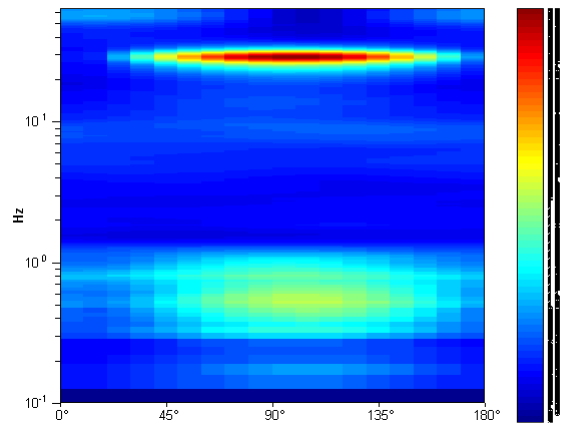
HORIZONTAL TO VERTICAL SPECTRAL RATIO



H/V TIME HISTORY



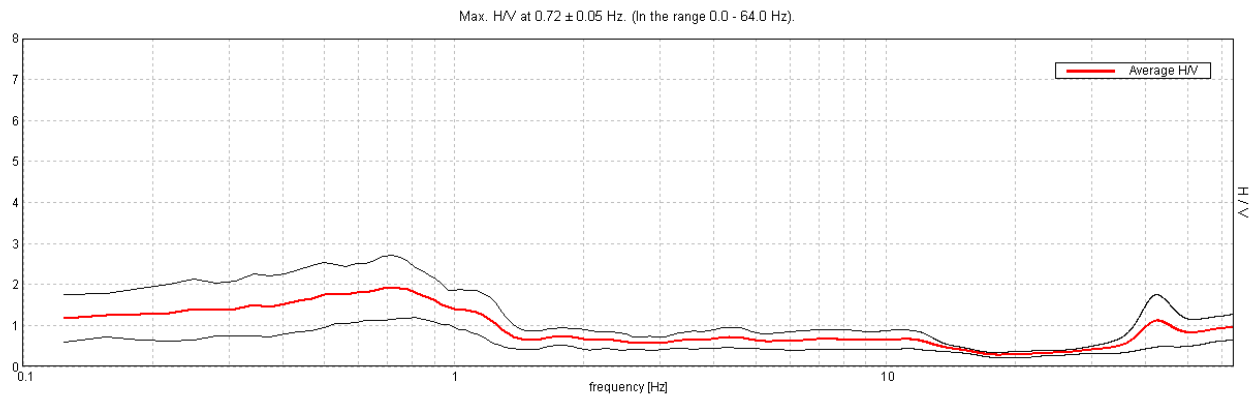
DIRECTIONAL H/V



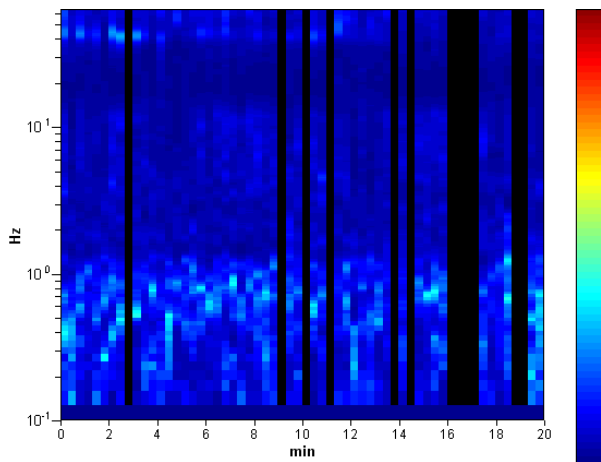
ZOLA PREDOSA, 037060P49HVSR49

Instrument: TRZ-0108/01-10
 Start recording: 08/07/13 13:22:44 End recording: 08/07/13 13:42:44
 Channel labels: NORTH SOUTH; EAST WEST ; UP DOWN
 Trace length: 0h20'00". Analyzed 80% trace (manual window selection)
 Sampling rate: 128 Hz
 Window size: 20 s
 Smoothing type: Triangular window
 Smoothing: 12%

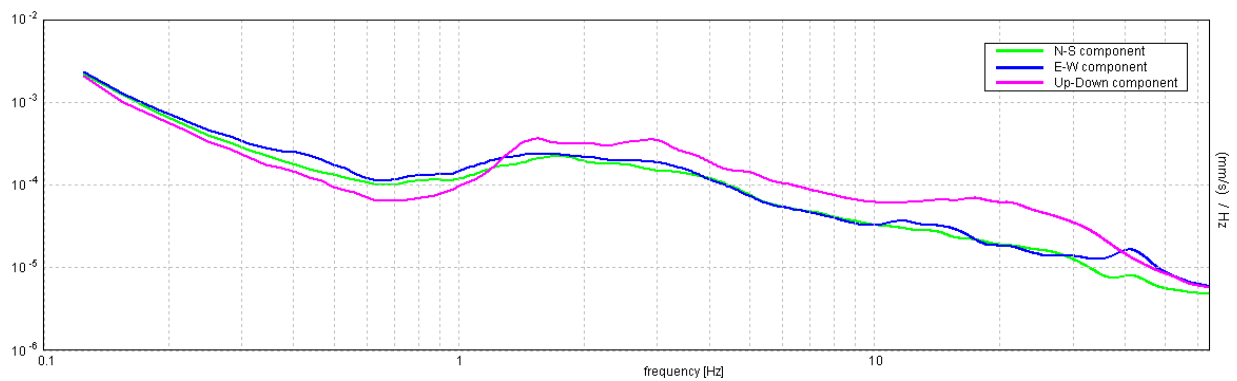
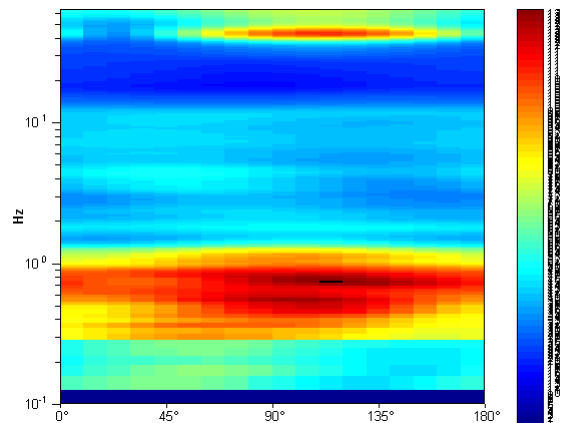
HORIZONTAL TO VERTICAL SPECTRAL RATIO



H/V TIME HISTORY



DIRECTIONAL H/V

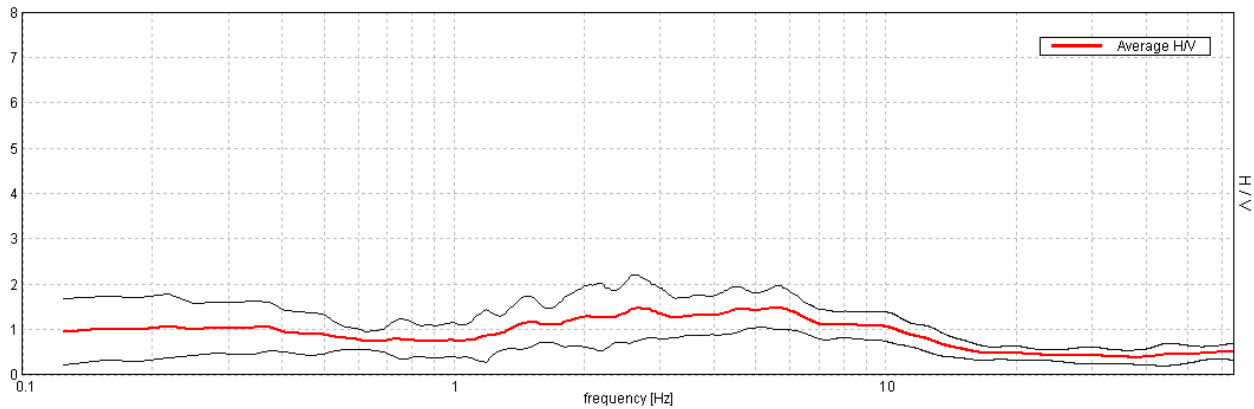


ZOLA PREDOSA, 037060P50HVSR50

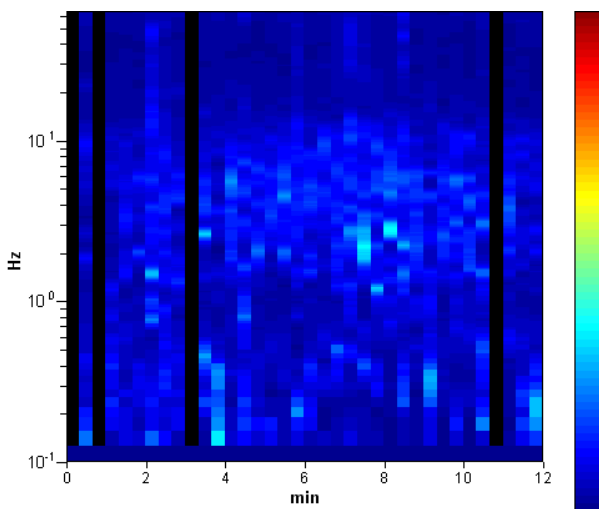
Instrument: TRZ-0108/01-10
 Start recording: 11/04/13 16:26:32 End recording: 11/04/13 16:38:33
 Channel labels: NORTH SOUTH; EAST WEST ; UP DOWN
 Trace length: 0h12'00". Analyzed 89% trace (manual window selection)
 Sampling rate: 128 Hz
 Window size: 20 s
 Smoothing type: Triangular window
 Smoothing: 12%

HORIZONTAL TO VERTICAL SPECTRAL RATIO

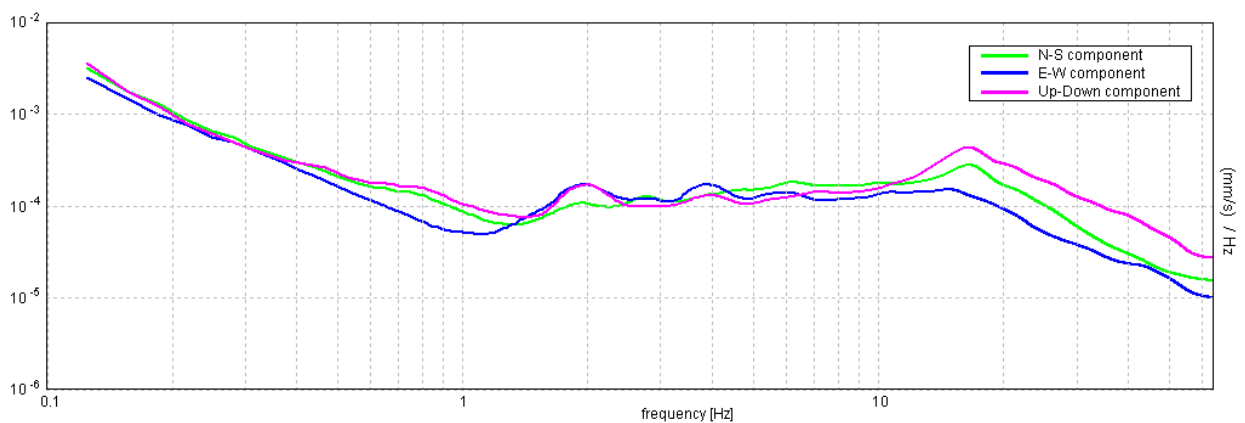
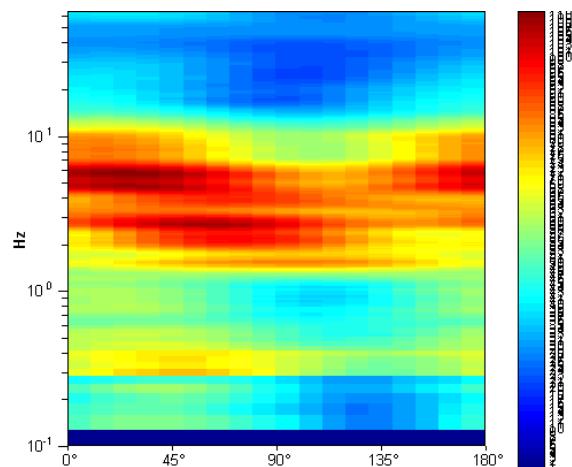
Max. H/V at 5.66 ± 1.17 Hz (in the range 0.0 - 64.0 Hz).



H/V TIME HISTORY



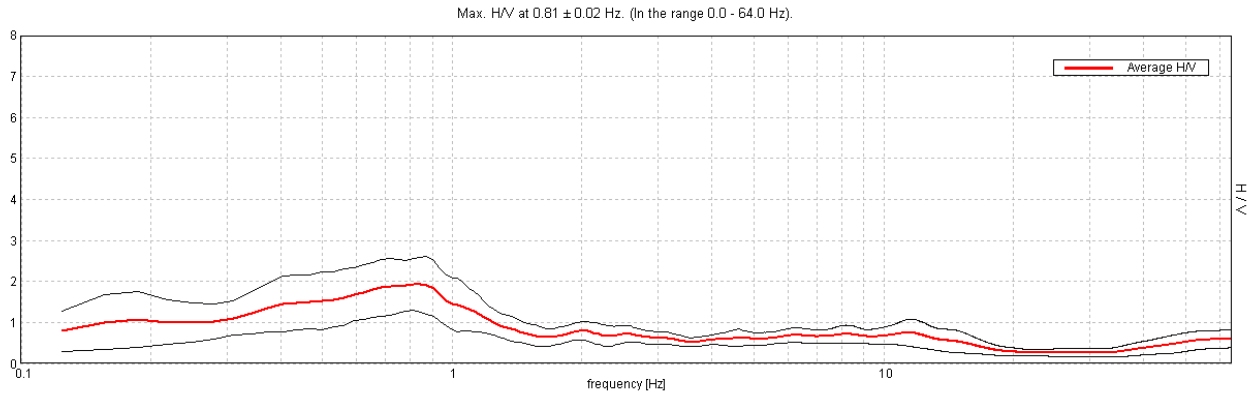
DIRECTIONAL H/V



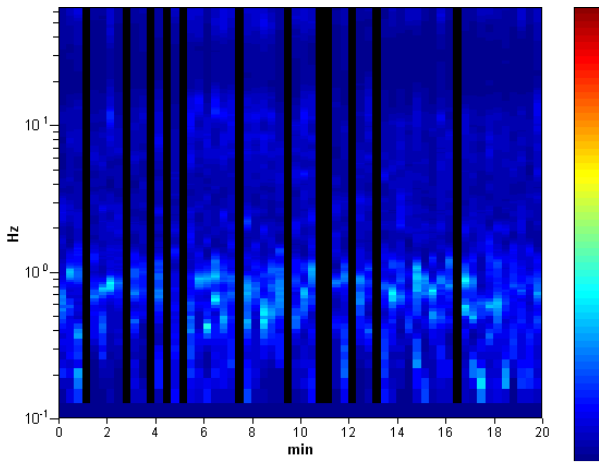
ZOLA PREDOSA, 037060P51HVSR51

Instrument: TRZ-0108/01-10
 Start recording: 08/07/13 13:51:38 End recording: 08/07/13 14:11:39
 Channel labels: NORTH SOUTH; EAST WEST ; UP DOWN
 Trace length: 0h20'00". Analyzed 80% trace (manual window selection)
 Sampling rate: 128 Hz
 Window size: 20 s
 Smoothing type: Triangular window
 Smoothing: 12%

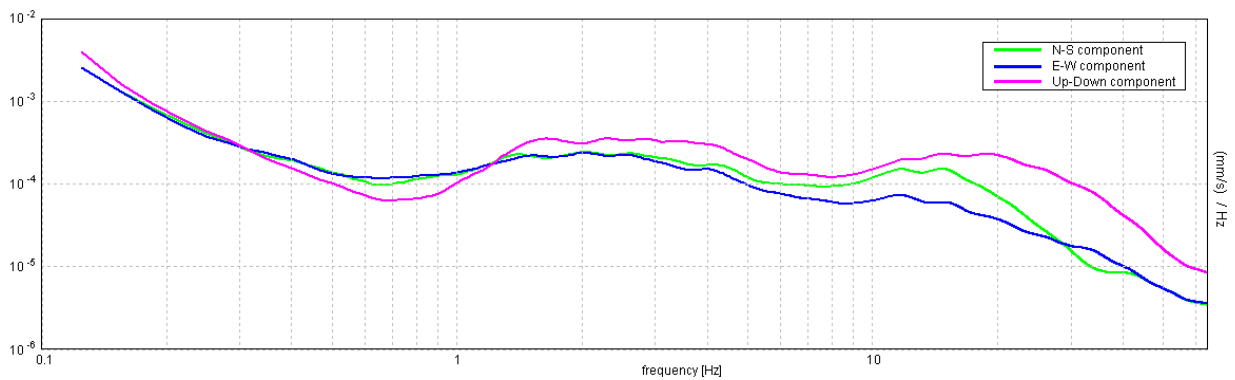
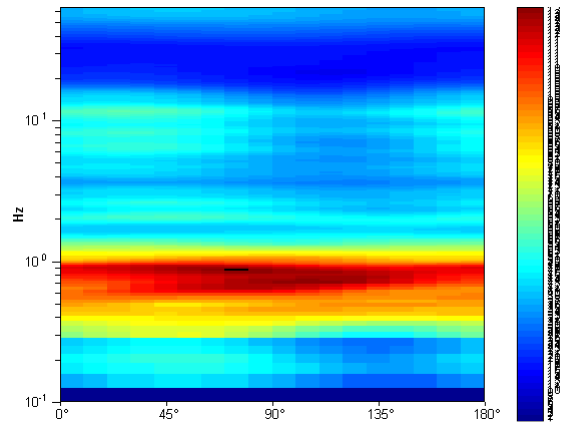
HORIZONTAL TO VERTICAL SPECTRAL RATIO



H/V TIME HISTORY



DIRECTIONAL H/V

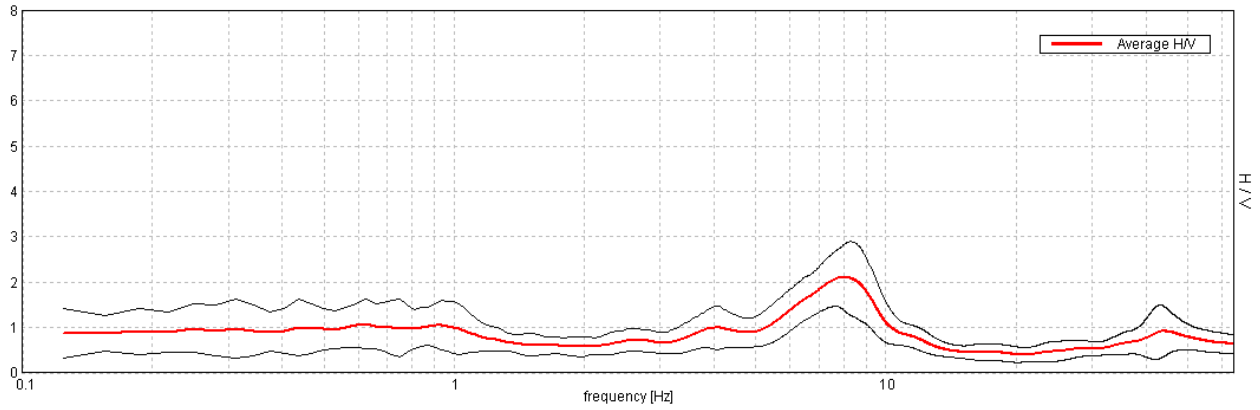


ZOLA PREDOSA, 037060P53HVSR53

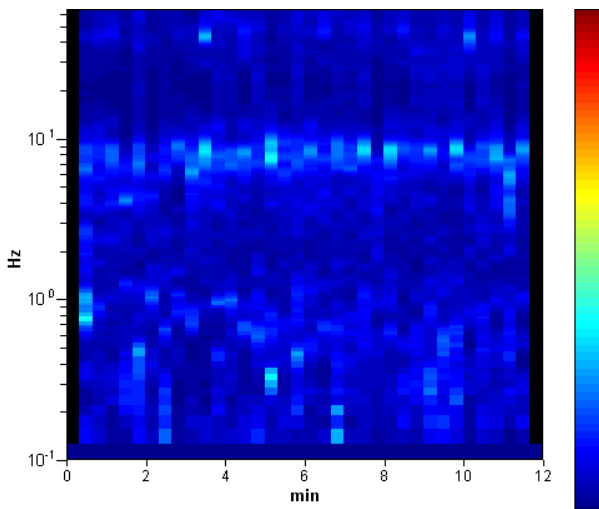
Instrument: TRZ-0108/01-10
 Start recording: 11/04/13 17:30:48 End recording: 11/04/13 17:42:49
 Channel labels: NORTH SOUTH; EAST WEST ; UP DOWN
 Trace length: 0h12'00". Analyzed 94% trace (manual window selection)
 Sampling rate: 128 Hz
 Window size: 20 s
 Smoothing type: Triangular window
 Smoothing: 12%

HORIZONTAL TO VERTICAL SPECTRAL RATIO

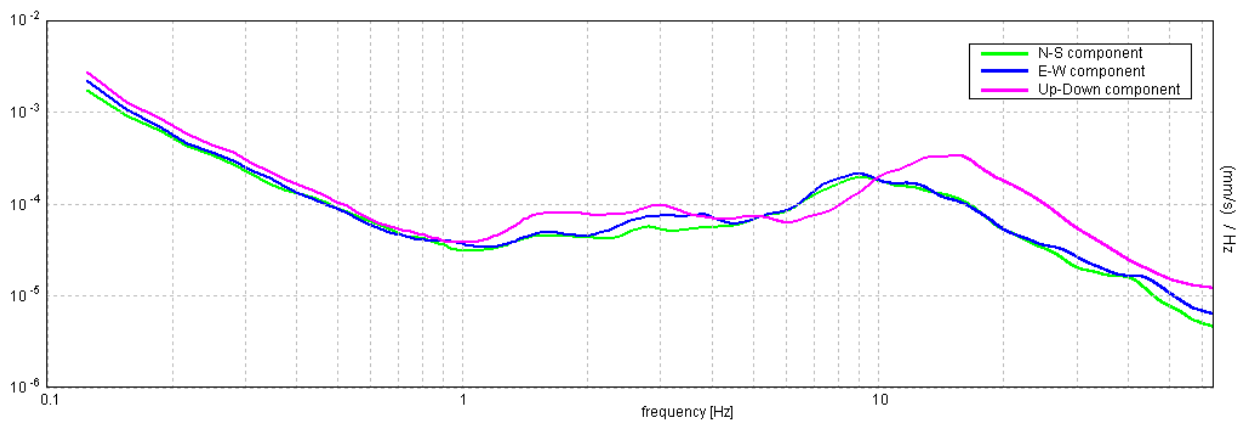
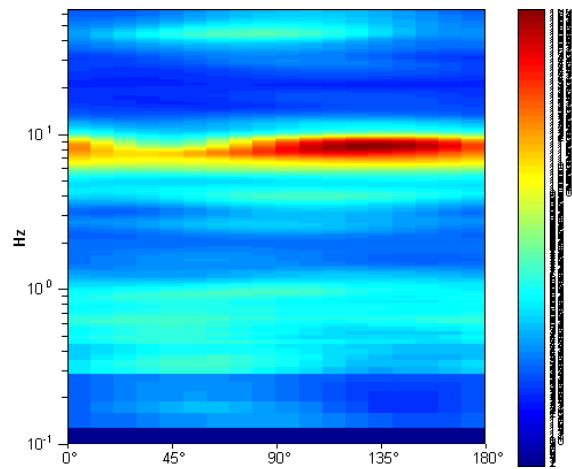
Max. H/V at 8.03 ± 0.64 Hz (in the range 0.0 - 64.0 Hz).



H/V TIME HISTORY



DIRECTIONAL H/V

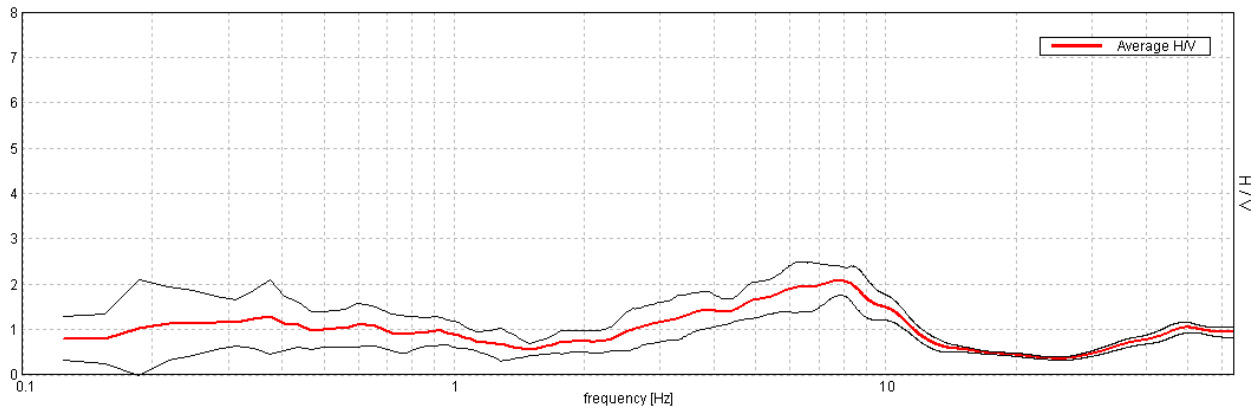


ZOLA PREDOSA, 037060P54HVSR54

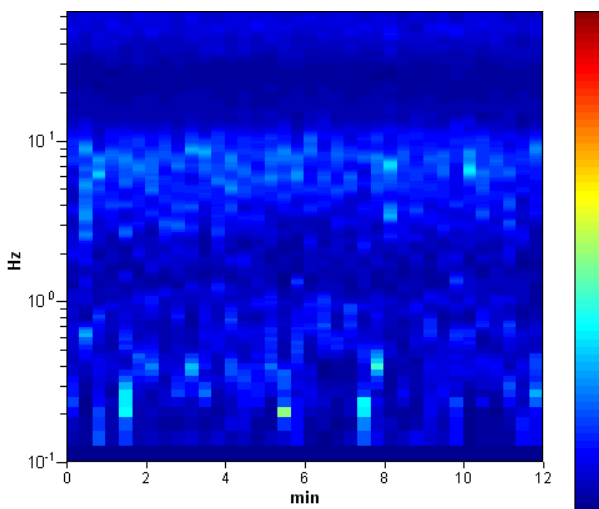
Instrument: TRZ-0108/01-10
 Start recording: 11/04/13 17:48:40 End recording: 11/04/13 18:00:40
 Channel labels: NORTH SOUTH; EAST WEST ; UP DOWN
 Trace length: 0h12'00". Analysis performed on the entire trace.
 Sampling rate: 128 Hz
 Window size: 20 s
 Smoothing type: Triangular window
 Smoothing: 12%

HORIZONTAL TO VERTICAL SPECTRAL RATIO

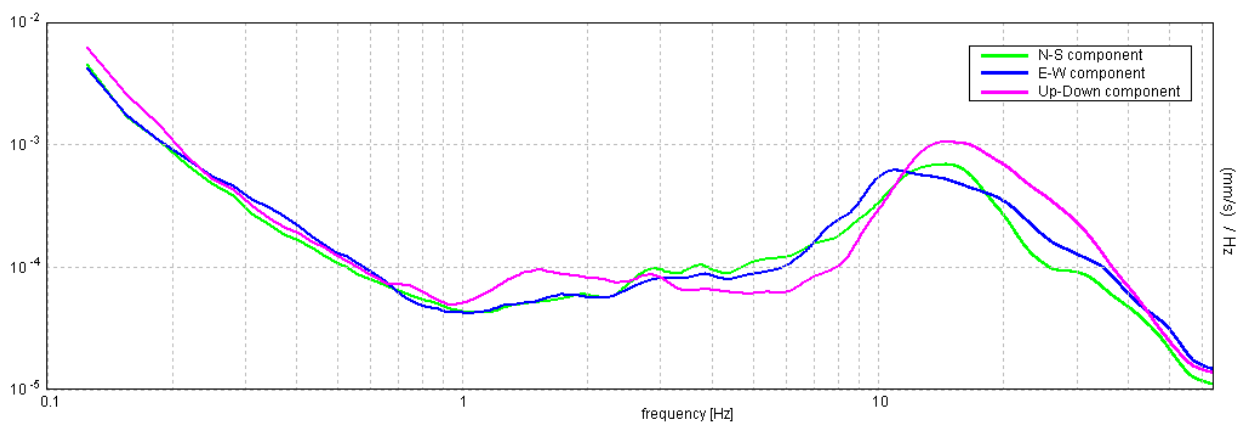
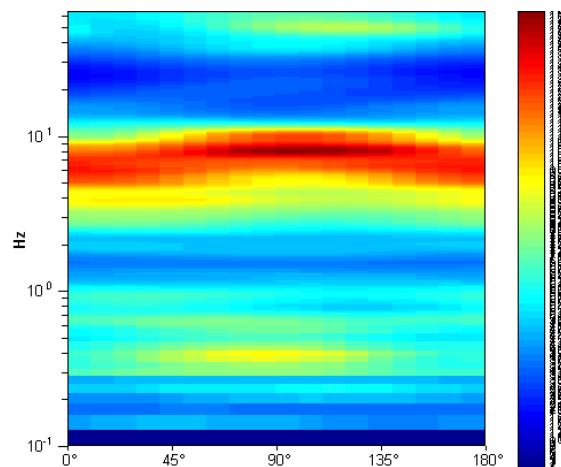
Max. H/V at 7.81 ± 0.44 Hz. (In the range 0.0 - 64.0 Hz).



H/V TIME HISTORY



DIRECTIONAL H/V

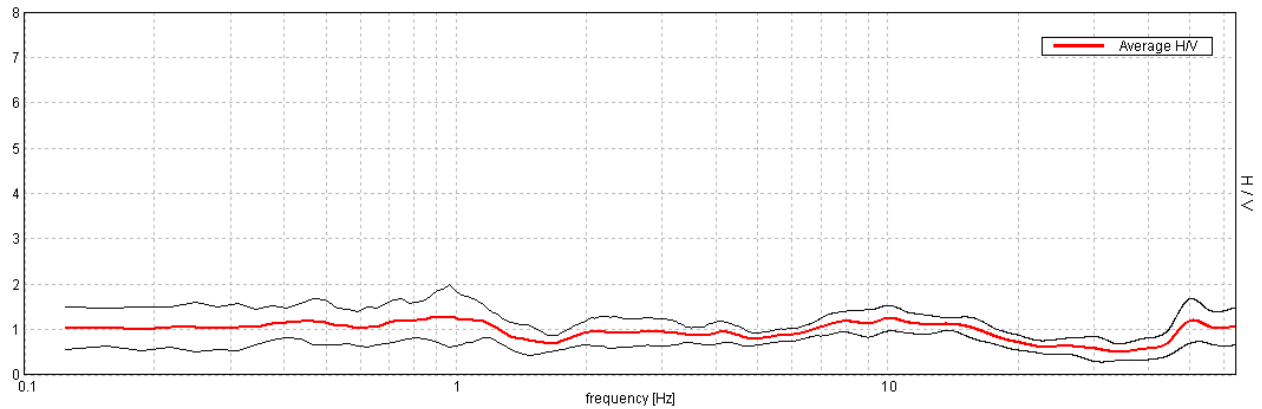


ZOLA PREDOSA, 037060P55HVSR55

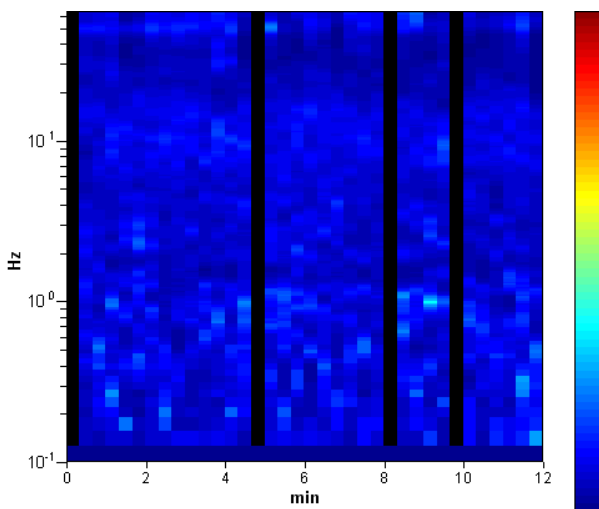
Instrument: TRZ-0108/01-10
 Start recording: 11/04/13 18:05:25 End recording: 11/04/13 18:17:26
 Channel labels: NORTH SOUTH; EAST WEST ; UP DOWN
 Trace length: 0h12'00". Analyzed 89% trace (manual window selection)
 Sampling rate: 128 Hz
 Window size: 20 s
 Smoothing type: Triangular window
 Smoothing: 12%

HORIZONTAL TO VERTICAL SPECTRAL RATIO

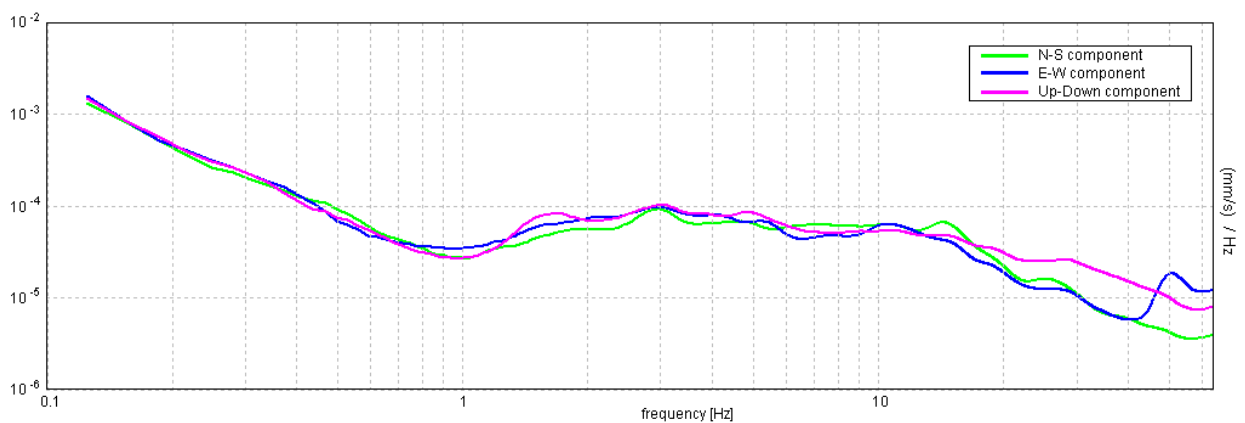
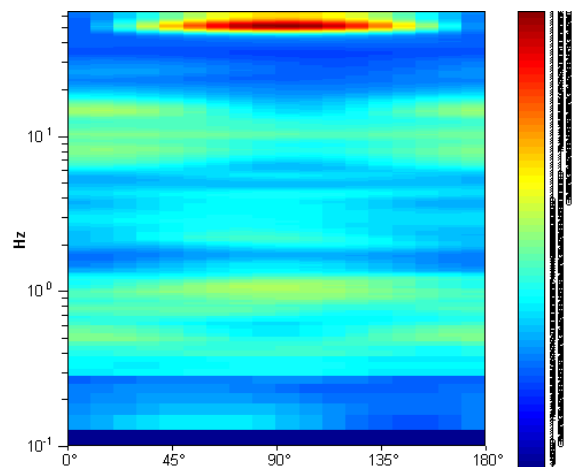
Max. H/V at 0.97 ± 10.5 Hz (in the range 0.0 - 64.0 Hz).



H/V TIME HISTORY



DIRECTIONAL H/V

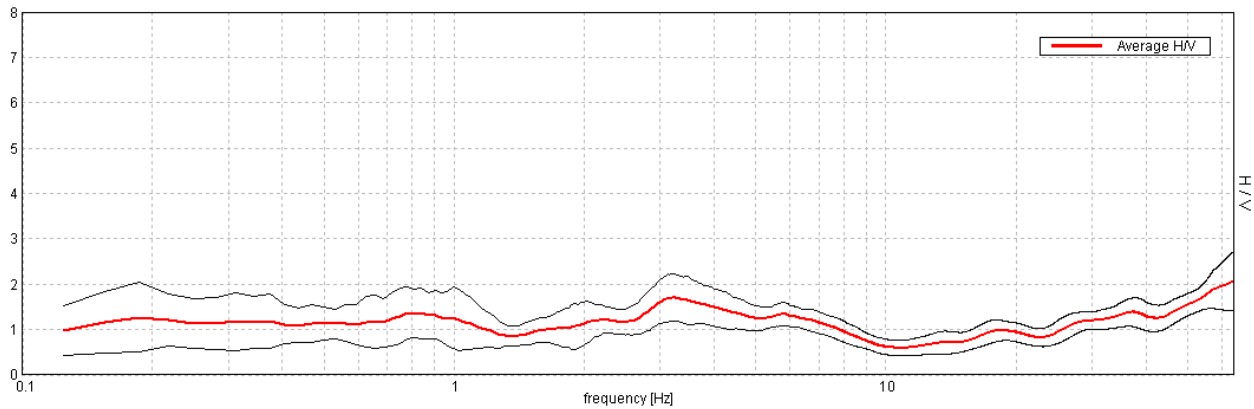


ZOLA PREDOSA, 037060P56HVSR56

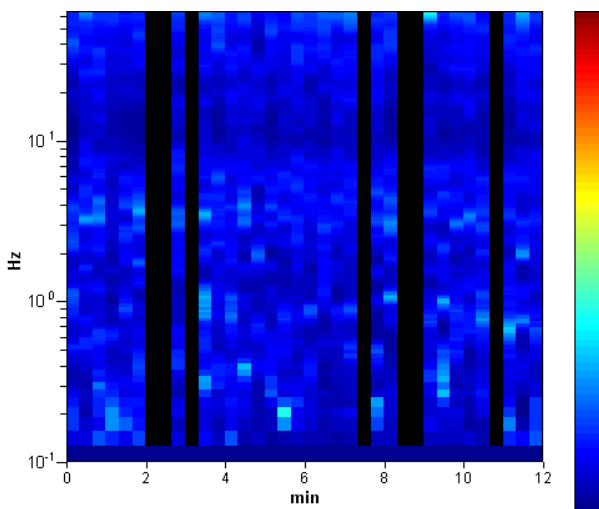
Instrument: TRZ-0153/01-11
 Start recording: 11/04/13 10:28:22 End recording: 11/04/13 10:40:22
 Channel labels: NORTH SOUTH; EAST WEST ; UP DOWN
 Trace length: 0h12'00". Analyzed 81% trace (manual window selection)
 Sampling rate: 128 Hz
 Window size: 20 s
 Smoothing type: Triangular window
 Smoothing: 12%

HORIZONTAL TO VERTICAL SPECTRAL RATIO

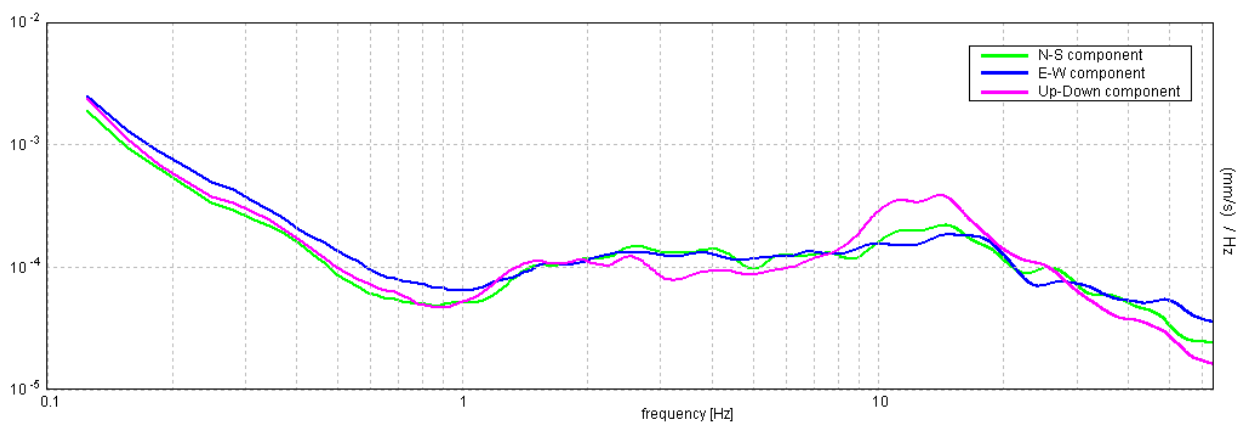
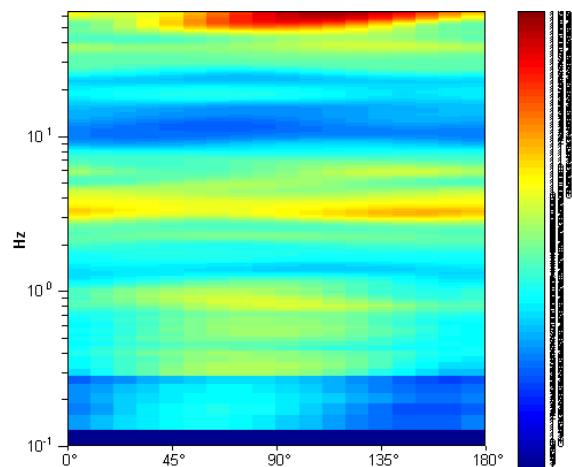
Max. H/V at 3.22 ± 0.17 Hz. (In the range 0.0 - 20.0 Hz).



H/V TIME HISTORY



DIRECTIONAL H/V

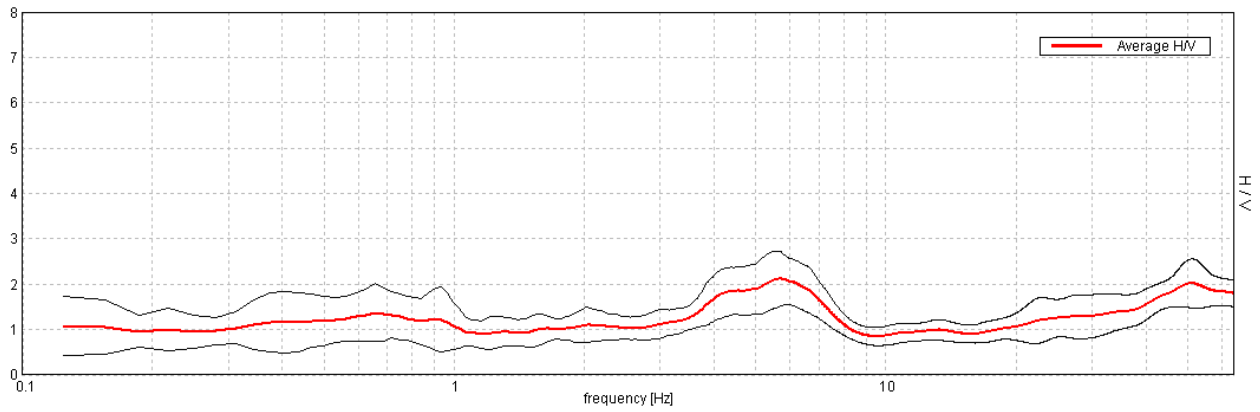


ZOLA PREDOSA, 037060P58HVSR58

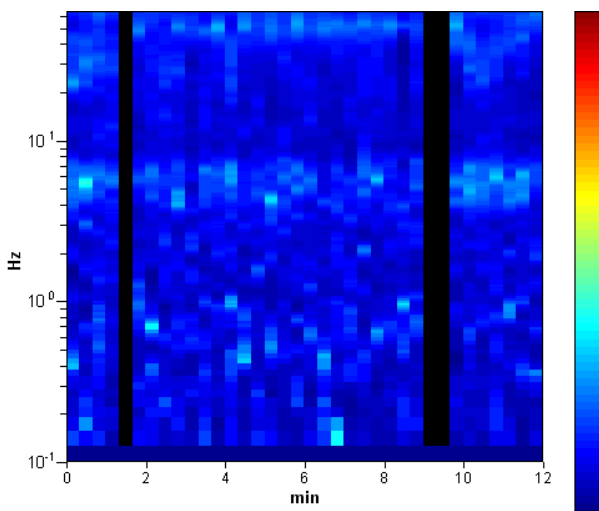
Instrument: TRZ-0153/01-11
 Start recording: 11/04/13 11:06:19 End recording: 11/04/13 11:18:19
 Channel labels: NORTH SOUTH; EAST WEST ; UP DOWN
 Trace length: 0h12'00". Analyzed 92% trace (manual window selection)
 Sampling rate: 128 Hz
 Window size: 20 s
 Smoothing type: Triangular window
 Smoothing: 12%

HORIZONTAL TO VERTICAL SPECTRAL RATIO

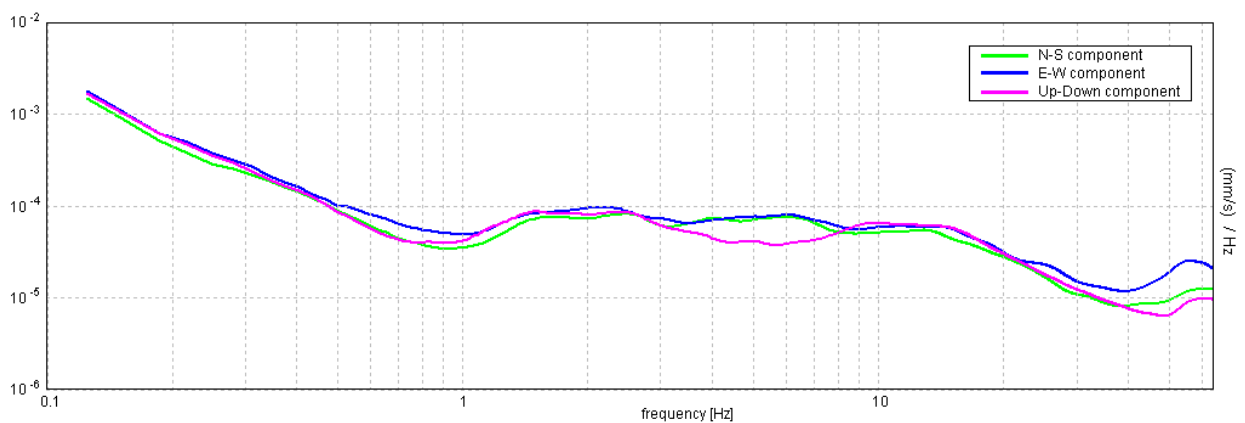
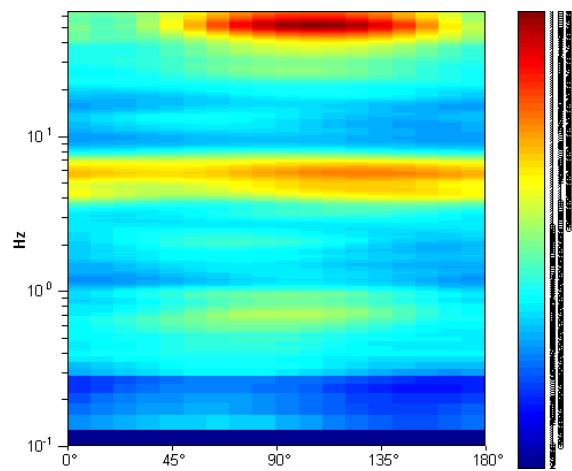
Max. H/V at 5.69 ± 0.33 Hz. (In the range 0.0 - 20.0 Hz).



H/V TIME HISTORY



DIRECTIONAL H/V

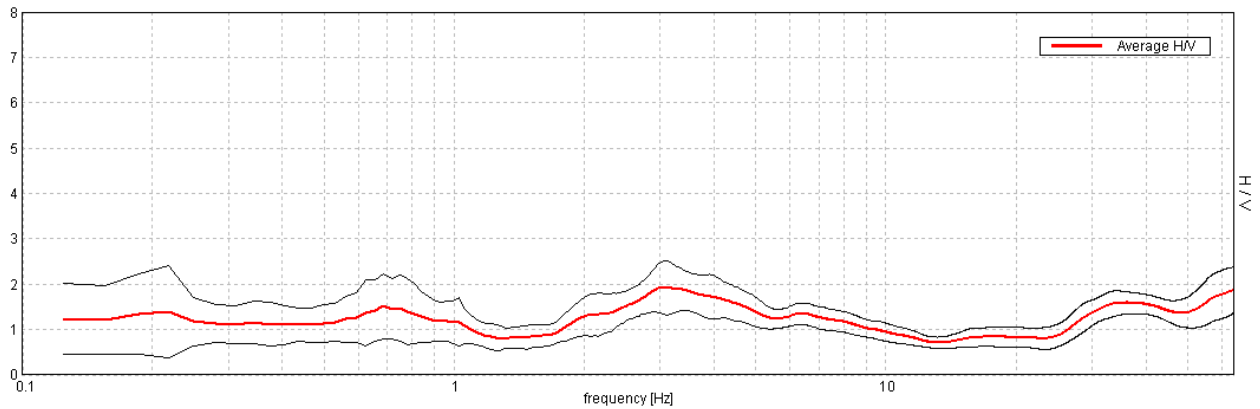


ZOLA PREDOSA, 037060P59HVSR59

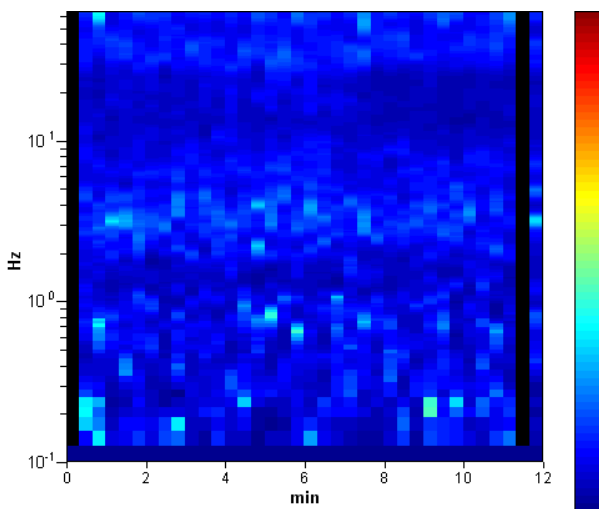
Instrument: TRZ-0153/01-11
 Start recording: 11/04/13 11:26:23 End recording: 11/04/13 11:38:23
 Channel labels: NORTH SOUTH; EAST WEST ; UP DOWN
 Trace length: 0h12'00". Analyzed 94% trace (manual window selection)
 Sampling rate: 128 Hz
 Window size: 20 s
 Smoothing type: Triangular window
 Smoothing: 12%

HORIZONTAL TO VERTICAL SPECTRAL RATIO

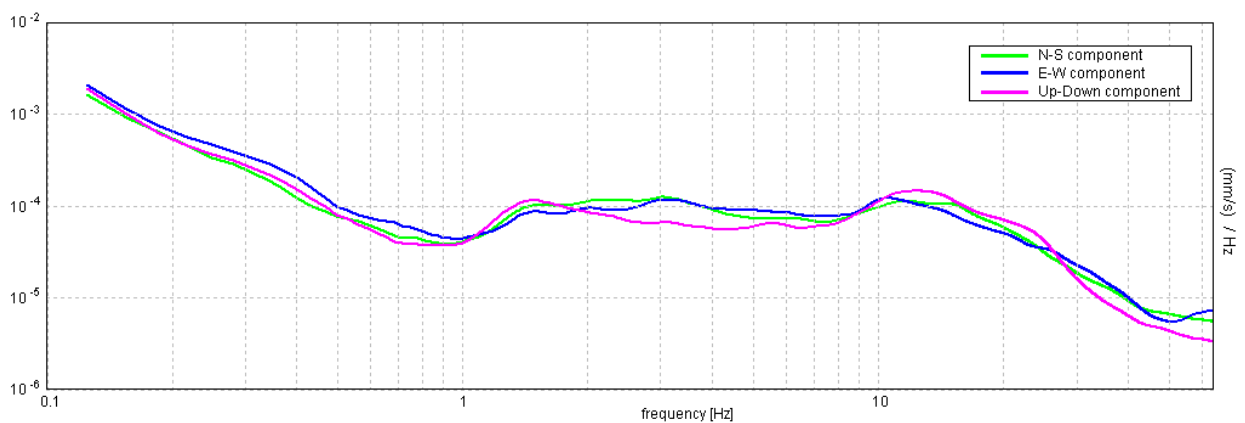
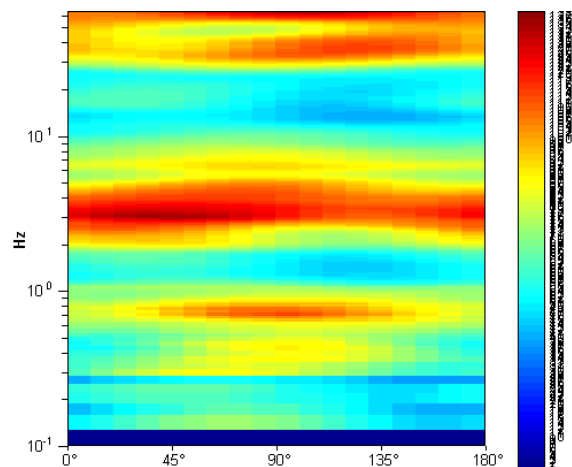
Max. H/V at 3.03 ± 5.24 Hz. (In the range 0.0 - 64.0 Hz).



H/V TIME HISTORY



DIRECTIONAL H/V

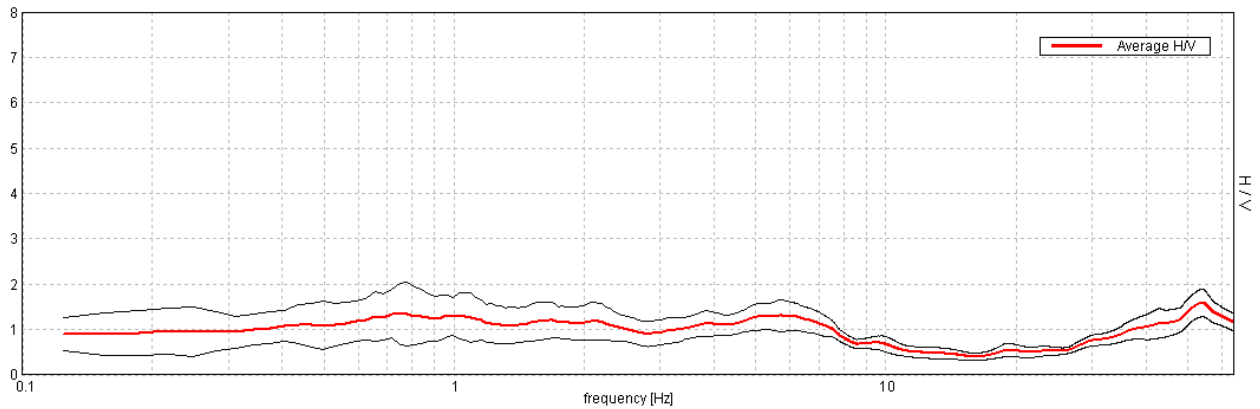


ZOLA PREDOSA, 037060P61HVSR61

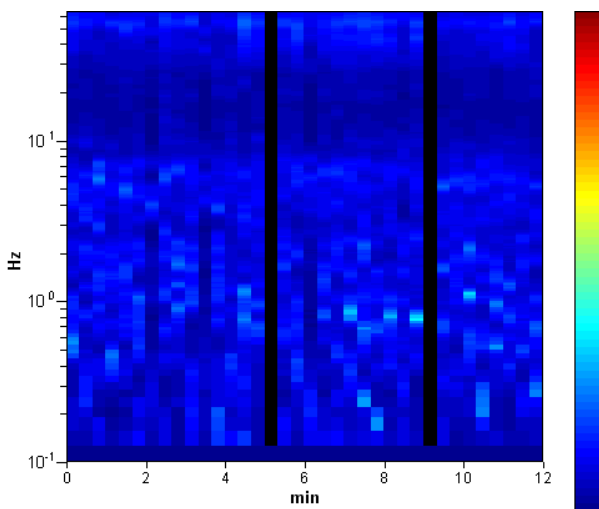
Instrument: TRZ-0153/01-11
 Start recording: 11/04/13 12:31:31 End recording: 11/04/13 12:43:31
 Channel labels: NORTH SOUTH; EAST WEST ; UP DOWN
 Trace length: 0h12'00". Analyzed 94% trace (manual window selection)
 Sampling rate: 128 Hz
 Window size: 20 s
 Smoothing type: Triangular window
 Smoothing: 12%

HORIZONTAL TO VERTICAL SPECTRAL RATIO

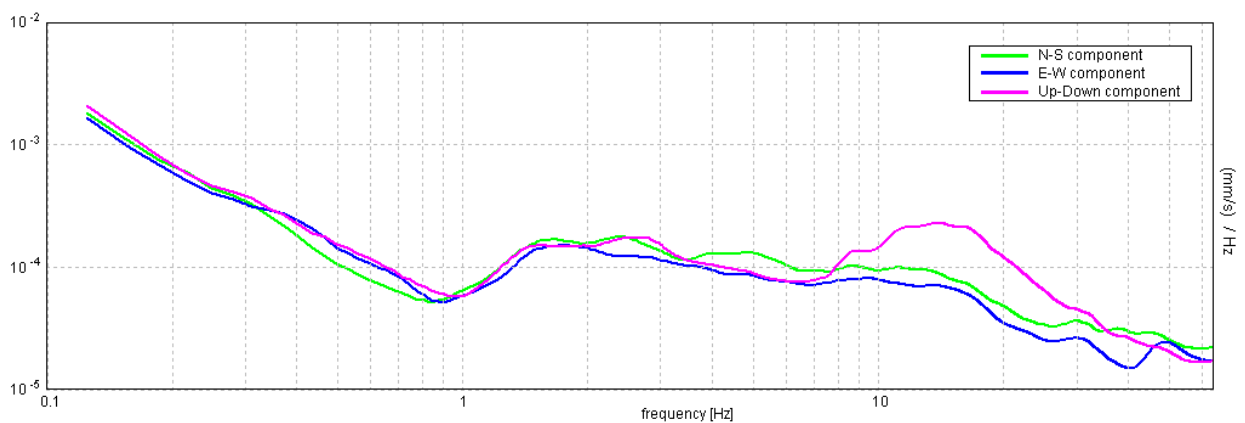
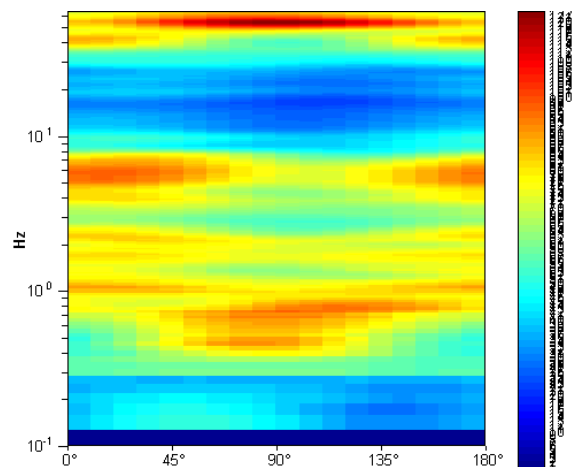
Max. H/V at 0.72 ± 1.24 Hz. (In the range 0.0 - 30.0 Hz).



H/V TIME HISTORY



DIRECTIONAL H/V

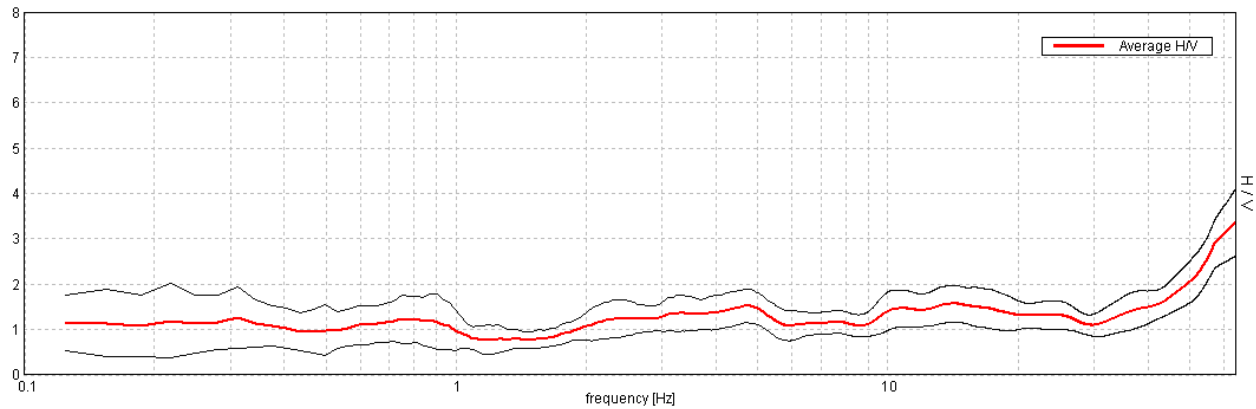


ZOLA PREDOSA, 037060P63HVSR63

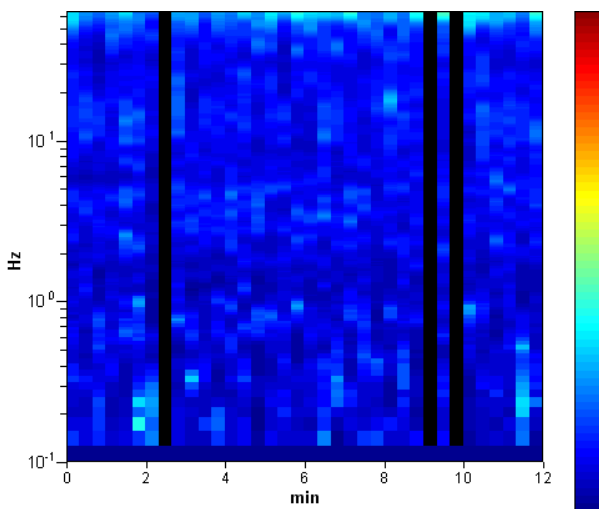
Instrument: TRZ-0153/01-11
 Start recording: 11/04/13 13:52:21 End recording: 11/04/13 14:04:21
 Channel labels: NORTH SOUTH; EAST WEST ; UP DOWN
 Trace length: 0h12'00". Analyzed 92% trace (manual window selection)
 Sampling rate: 128 Hz
 Window size: 20 s
 Smoothing type: Triangular window
 Smoothing: 12%

HORIZONTAL TO VERTICAL SPECTRAL RATIO

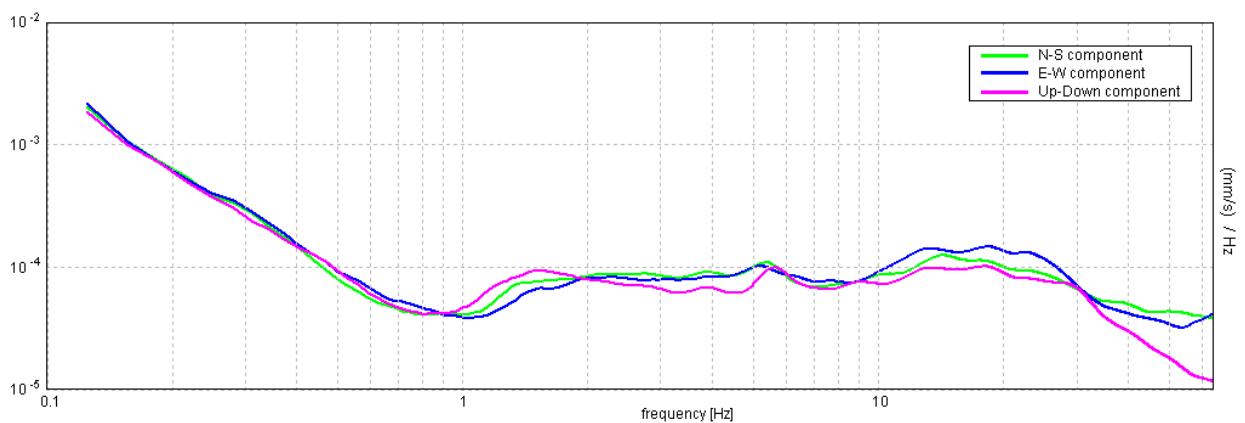
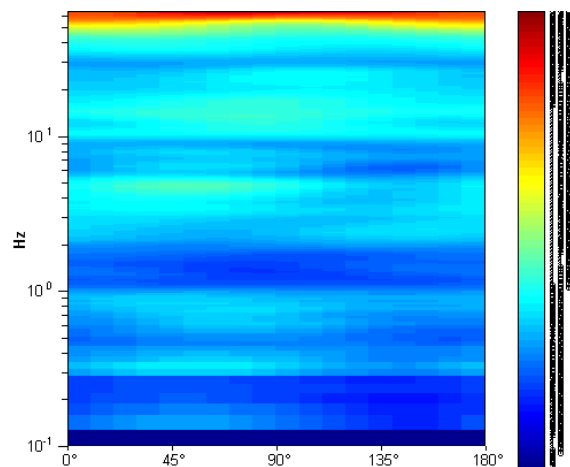
Max. H/V at 14.31 ± 1.63 Hz. (In the range 0.0 - 30.0 Hz).



H/V TIME HISTORY



DIRECTIONAL H/V

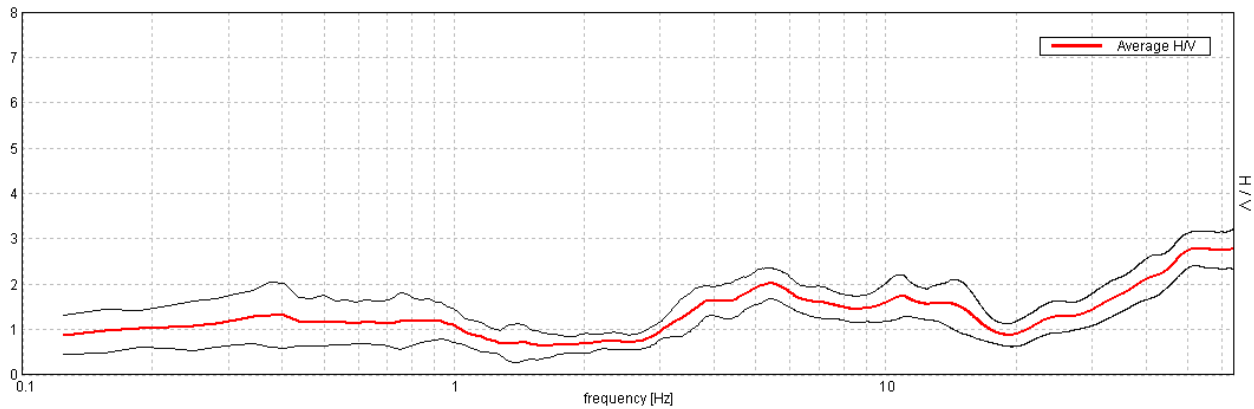


ZOLA PREDOSA, 037060P64HVSR64

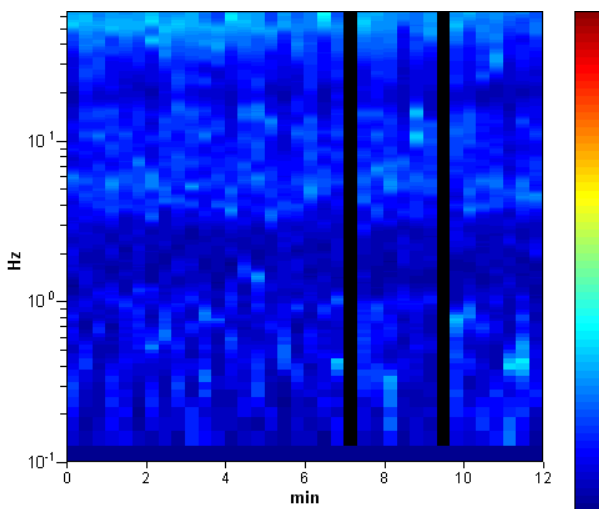
Instrument: TRZ-0153/01-11
 Start recording: 11/04/13 14:09:31 End recording: 11/04/13 14:21:31
 Channel labels: NORTH SOUTH; EAST WEST ; UP DOWN
 Trace length: 0h12'00". Analyzed 94% trace (manual window selection)
 Sampling rate: 128 Hz
 Window size: 20 s
 Smoothing type: Triangular window
 Smoothing: 12%

HORIZONTAL TO VERTICAL SPECTRAL RATIO

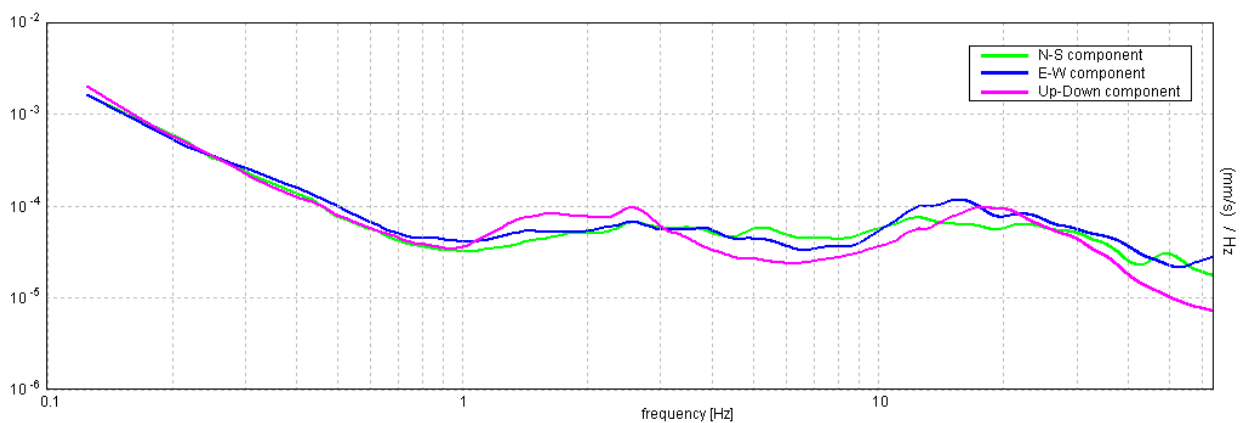
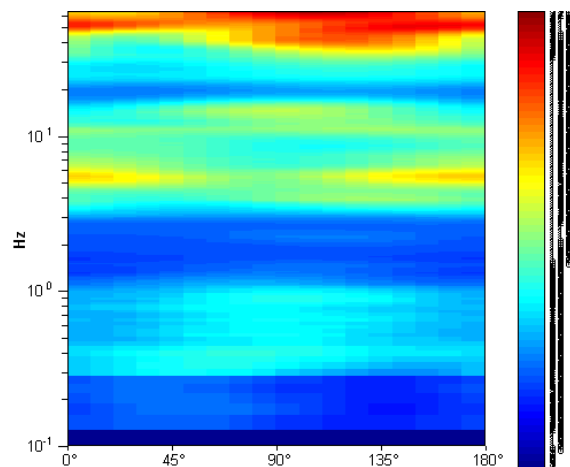
Max. H/V at 5.44 ± 0.04 Hz. (In the range 0.0 - 20.0 Hz).



H/V TIME HISTORY



DIRECTIONAL H/V

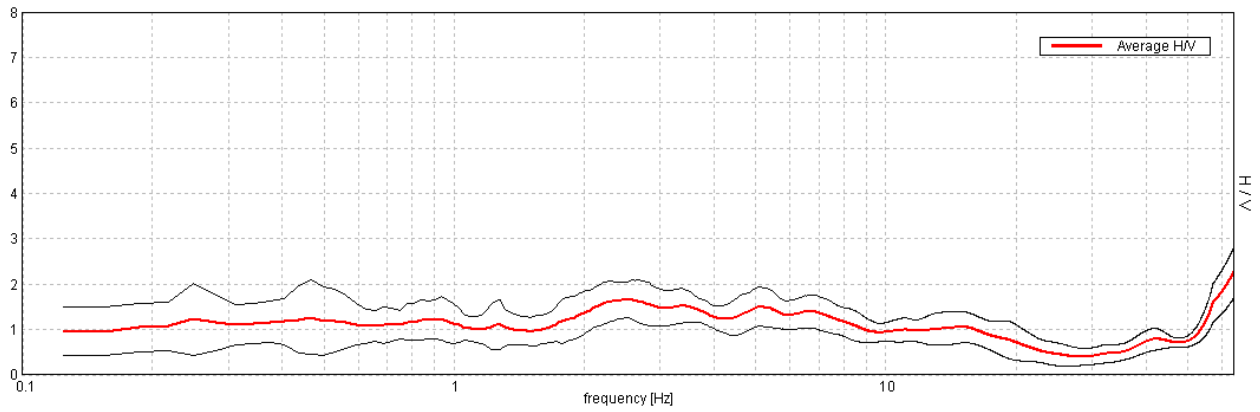


ZOLA PREDOSA, 037060P65HVSR65

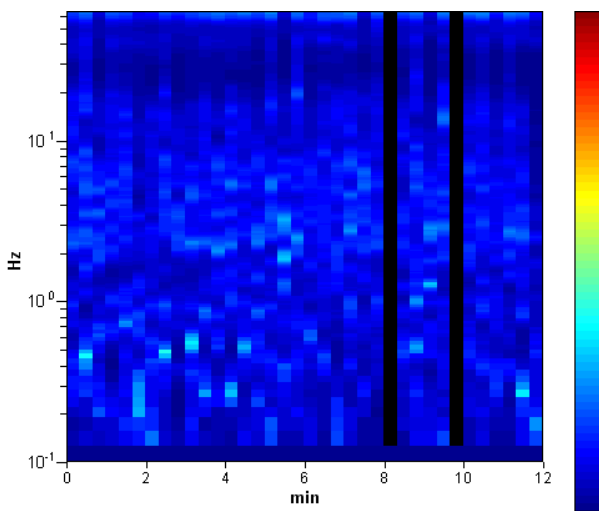
Instrument: TRZ-0153/01-11
 Start recording: 11/04/13 14:27:48 End recording: 11/04/13 14:39:48
 Channel labels: NORTH SOUTH; EAST WEST ; UP DOWN
 Trace length: 0h12'00". Analyzed 94% trace (manual window selection)
 Sampling rate: 128 Hz
 Window size: 20 s
 Smoothing type: Triangular window
 Smoothing: 12%

HORIZONTAL TO VERTICAL SPECTRAL RATIO

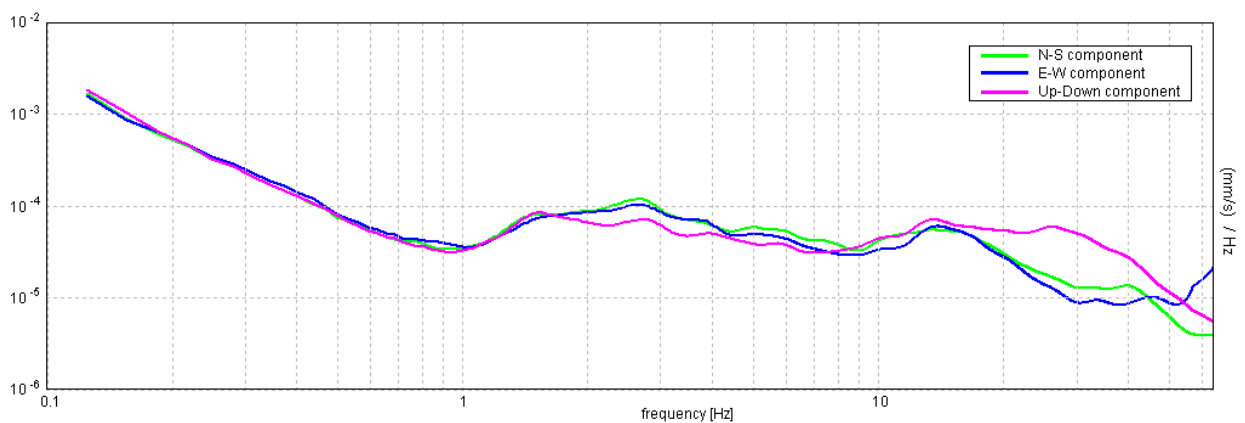
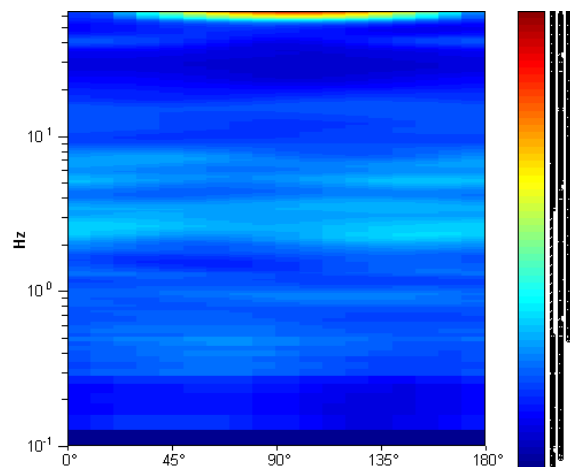
Max. H/V at 2.56 ± 0.2 Hz. (In the range 0.0 - 40.0 Hz).



H/V TIME HISTORY



DIRECTIONAL H/V

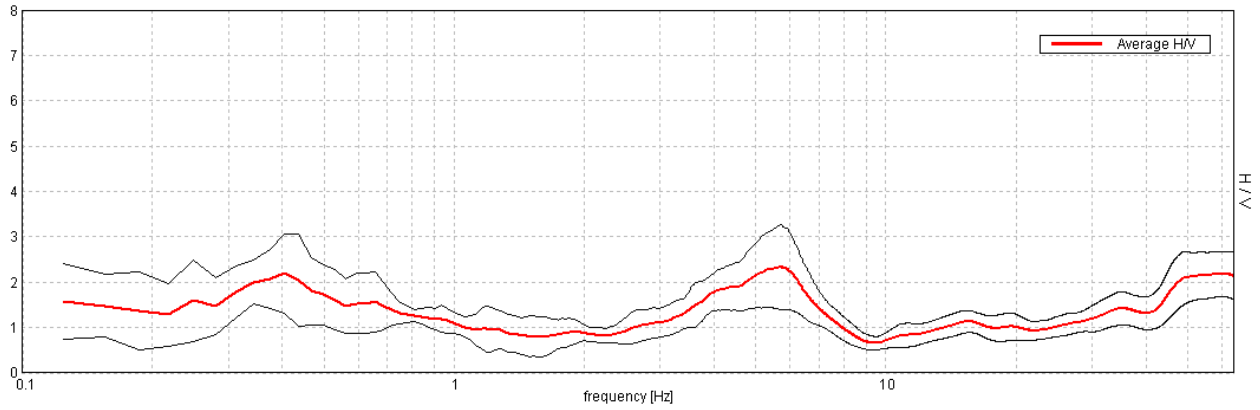


ZOLA PREDOSA, 037060P67HVSR67

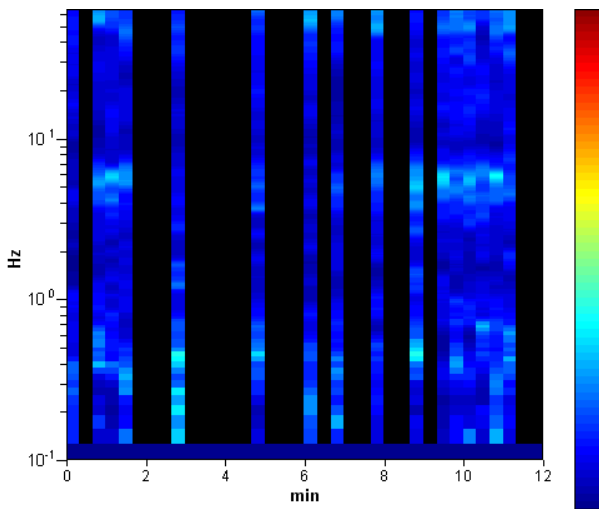
Instrument: TRZ-0153/01-11
 Start recording: 11/04/13 15:08:58 End recording: 11/04/13 15:20:58
 Channel labels: NORTH SOUTH; EAST WEST ; UP DOWN
 Trace length: 0h12'00". Analyzed 44% trace (manual window selection)
 Sampling rate: 128 Hz
 Window size: 20 s
 Smoothing type: Triangular window
 Smoothing: 12%

HORIZONTAL TO VERTICAL SPECTRAL RATIO

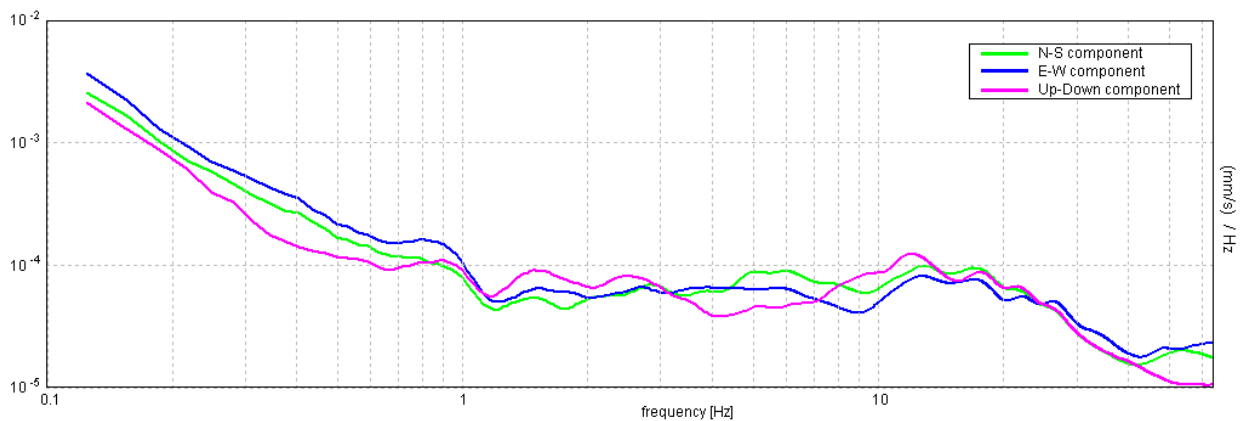
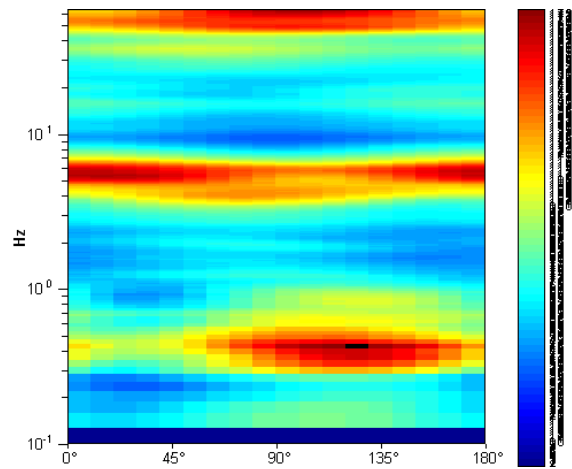
Max. H/V at 5.69 ± 2.53 Hz. (In the range 0.0 - 64.0 Hz).



H/V TIME HISTORY



DIRECTIONAL H/V

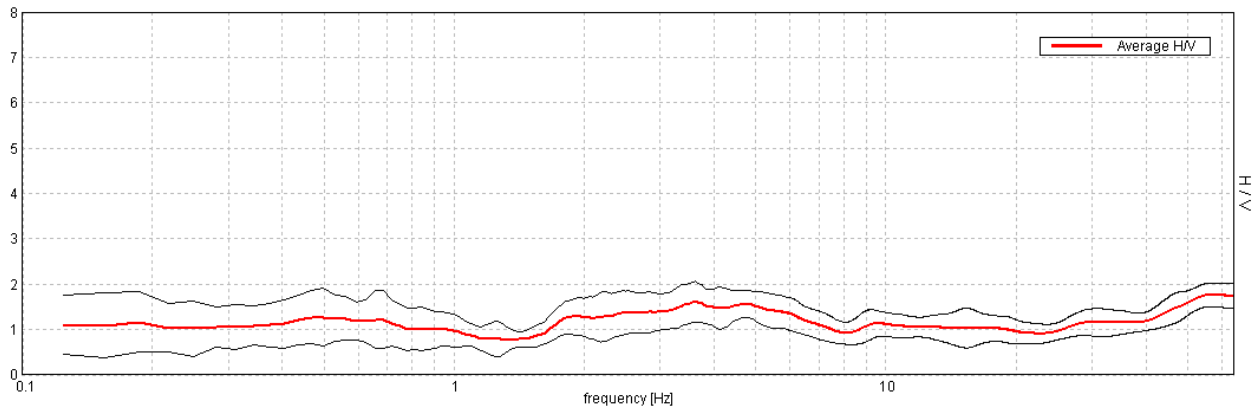


ZOLA PREDOSA, 037060P68HVSR68

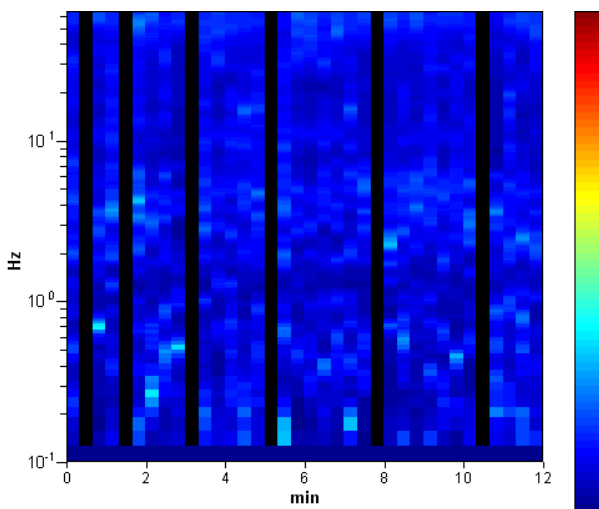
Instrument: TRZ-0153/01-11
 Start recording: 11/04/13 15:31:32 End recording: 11/04/13 15:43:32
 Channel labels: NORTH SOUTH; EAST WEST ; UP DOWN
 Trace length: 0h12'00". Analyzed 83% trace (manual window selection)
 Sampling rate: 128 Hz
 Window size: 20 s
 Smoothing type: Triangular window
 Smoothing: 12%

HORIZONTAL TO VERTICAL SPECTRAL RATIO

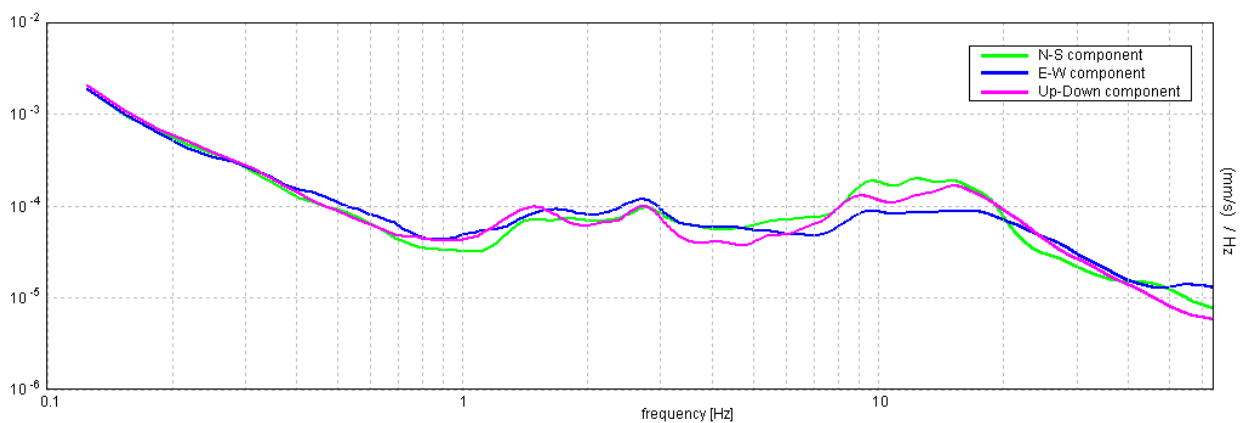
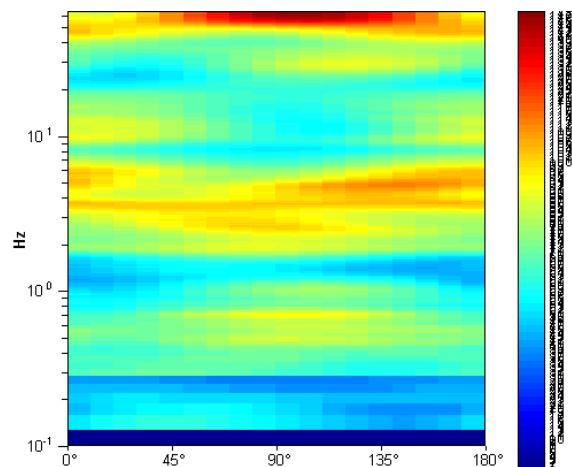
Max. H/V at 3.63 ± 0.25 Hz. (In the range 0.0 - 20.0 Hz).



H/V TIME HISTORY



DIRECTIONAL H/V

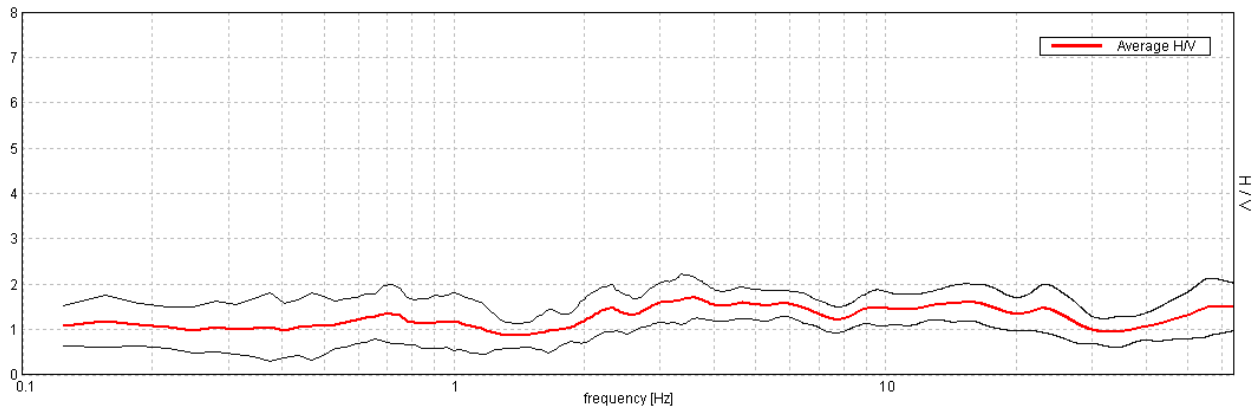


ZOLA PREDOSA, 037060P69HVSR69

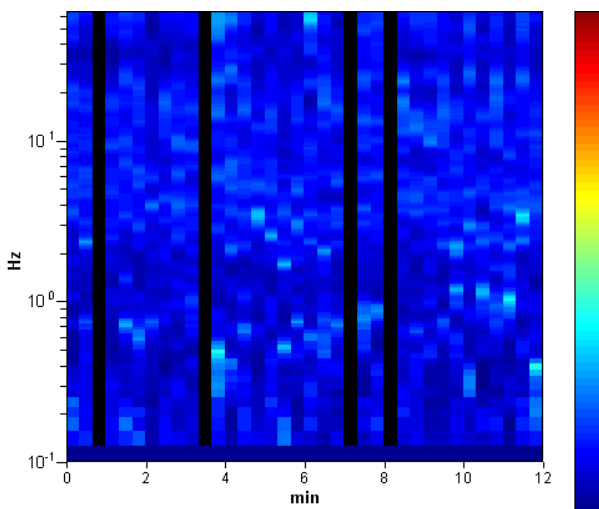
Instrument: TRZ-0153/01-11
 Start recording: 11/04/13 15:47:36 End recording: 11/04/13 15:59:36
 Channel labels: NORTH SOUTH; EAST WEST ; UP DOWN
 Trace length: 0h12'00". Analyzed 89% trace (manual window selection)
 Sampling rate: 128 Hz
 Window size: 20 s
 Smoothing type: Triangular window
 Smoothing: 12%

HORIZONTAL TO VERTICAL SPECTRAL RATIO

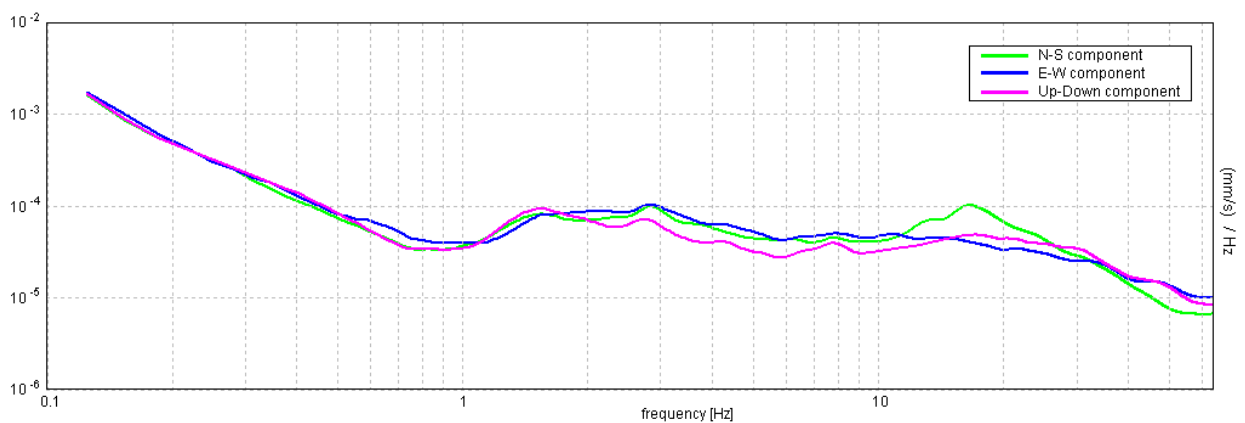
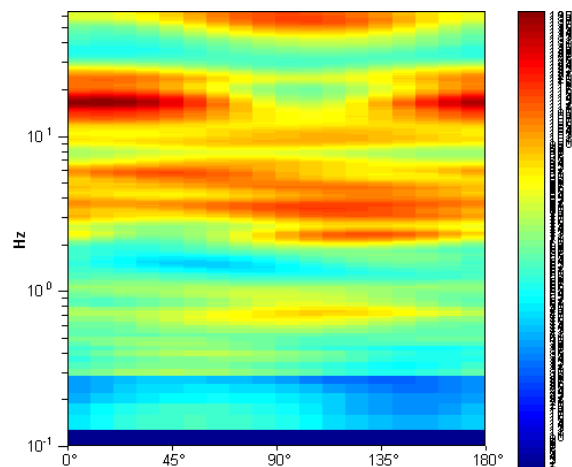
Max. H/V at 3.56 ± 1.56 Hz. (In the range 0.0 - 64.0 Hz).



H/V TIME HISTORY



DIRECTIONAL H/V

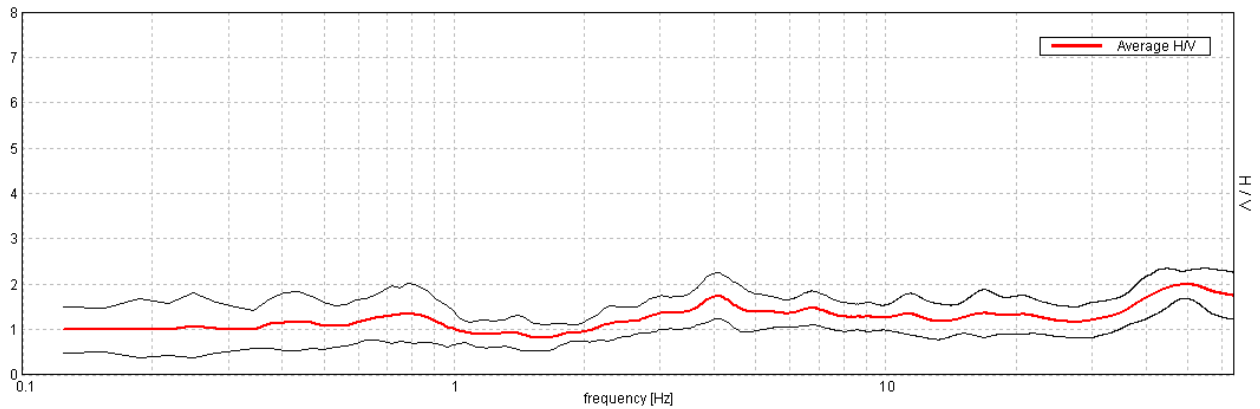


ZOLA PREDOSA, 037060P70HVSR70

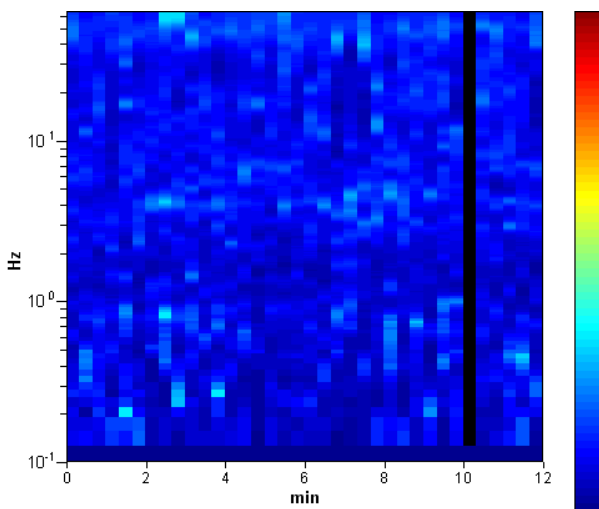
Instrument: TRZ-0153/01-11
 Start recording: 11/04/13 16:05:06 End recording: 11/04/13 16:17:06
 Channel labels: NORTH SOUTH; EAST WEST ; UP DOWN
 Trace length: 0h12'00". Analyzed 97% trace (manual window selection)
 Sampling rate: 128 Hz
 Window size: 20 s
 Smoothing type: Triangular window
 Smoothing: 12%

HORIZONTAL TO VERTICAL SPECTRAL RATIO

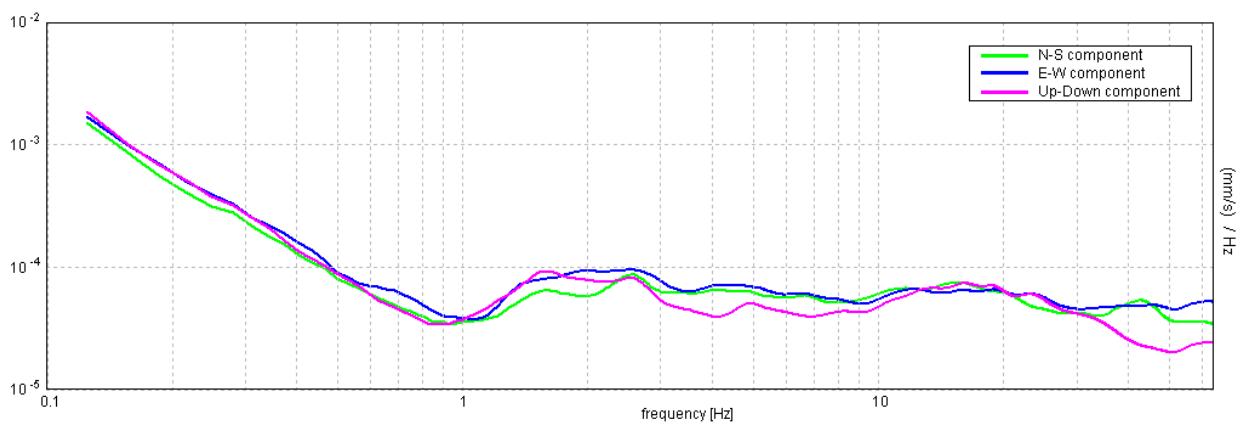
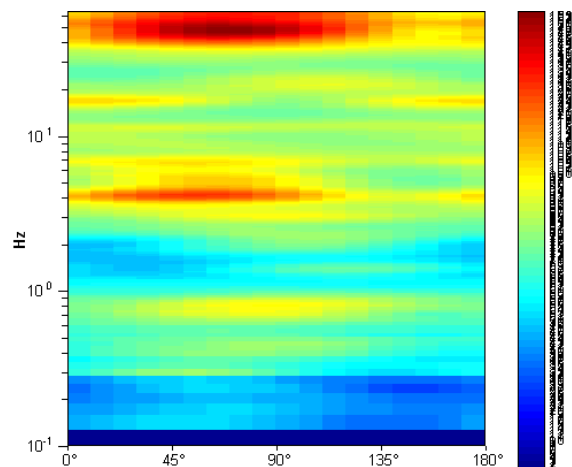
Max. H/V at 4.09 ± 0.61 Hz. (In the range 0.0 - 30.0 Hz).



H/V TIME HISTORY



DIRECTIONAL H/V

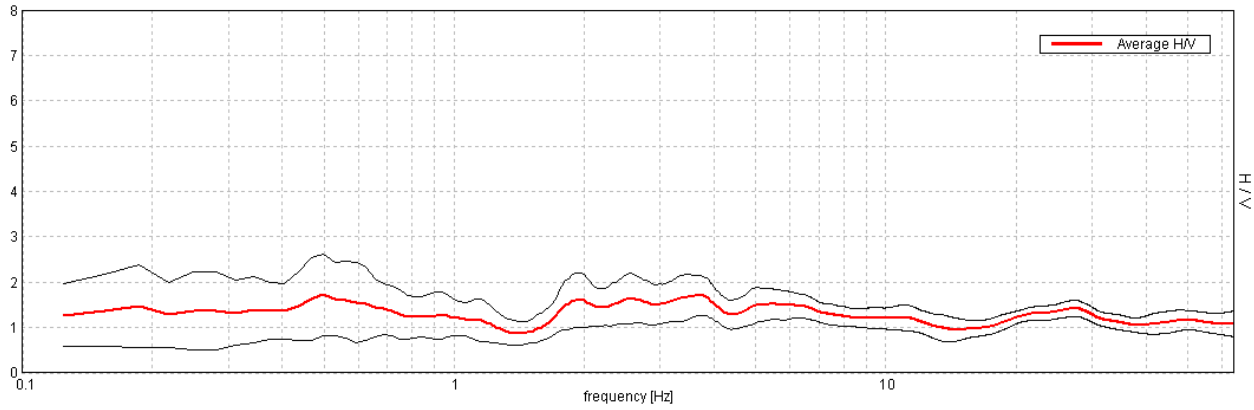


ZOLA PREDOSA, 037060P72HVSR72

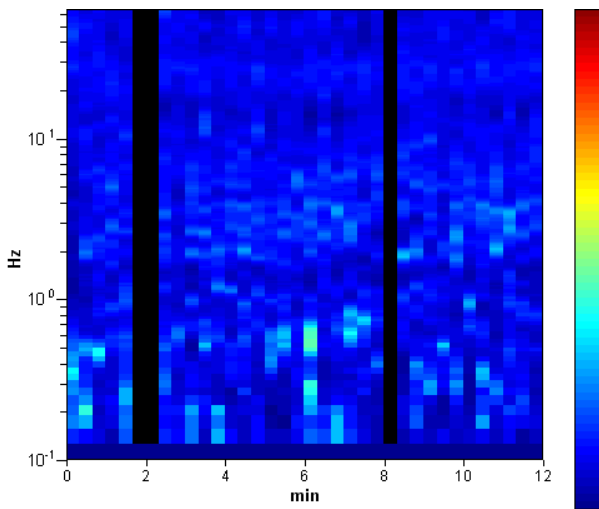
Instrument: TRZ-0153/01-11
 Start recording: 12/04/13 09:42:58 End recording: 12/04/13 09:54:58
 Channel labels: NORTH SOUTH; EAST WEST ; UP DOWN
 Trace length: 0h12'00". Analyzed 92% trace (manual window selection)
 Sampling rate: 128 Hz
 Window size: 20 s
 Smoothing type: Triangular window
 Smoothing: 12%

HORIZONTAL TO VERTICAL SPECTRAL RATIO

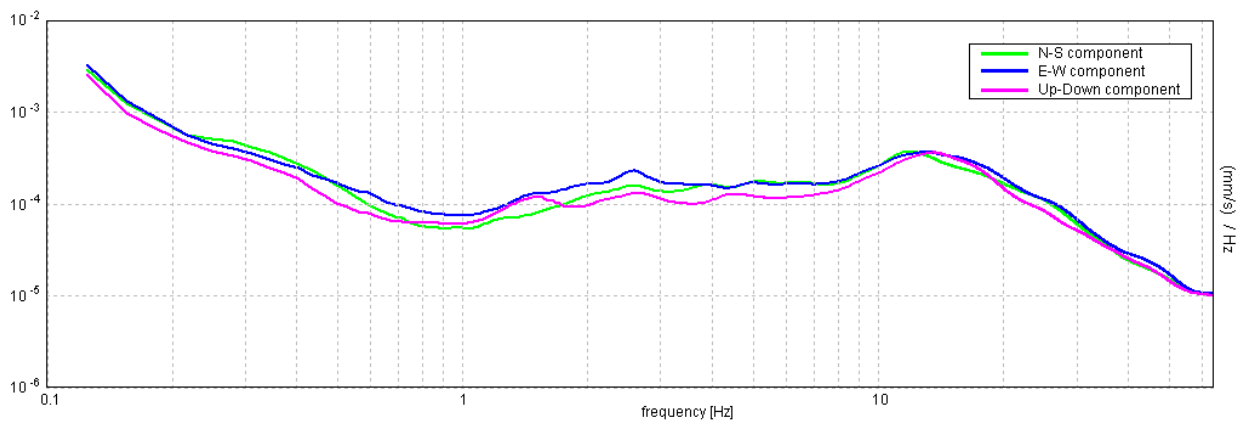
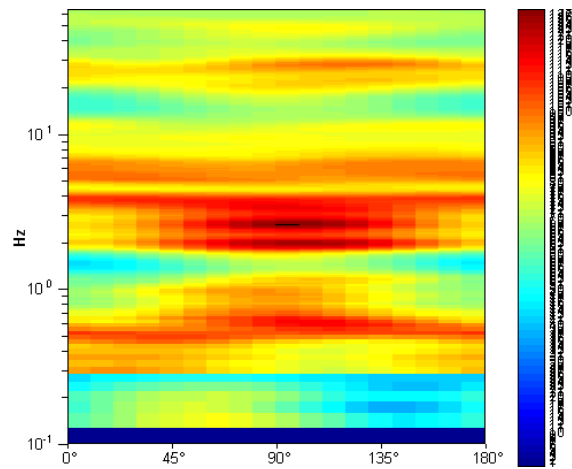
Max. H/V at 0.5 ± 0.04 Hz. (In the range 0.0 - 64.0 Hz).



H/V TIME HISTORY



DIRECTIONAL H/V

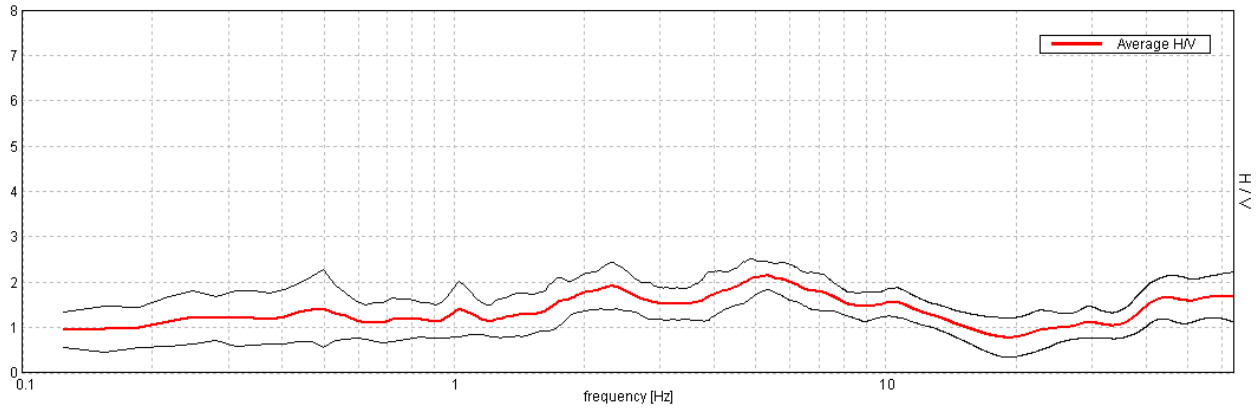


ZOLA PREDOSA, 037060P73HVSR73

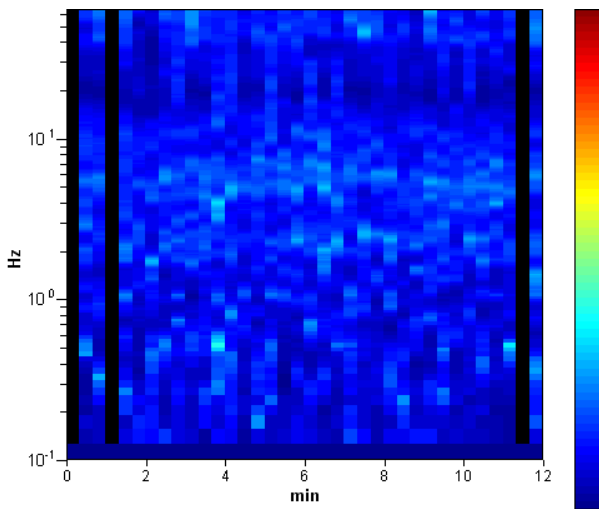
Instrument: TRZ-0153/01-11
 Start recording: 12/04/13 09:57:28 End recording: 12/04/13 10:09:28
 Channel labels: NORTH SOUTH; EAST WEST ; UP DOWN
 Trace length: 0h12'00". Analyzed 92% trace (manual window selection)
 Sampling rate: 128 Hz
 Window size: 20 s
 Smoothing type: Triangular window
 Smoothing: 12%

HORIZONTAL TO VERTICAL SPECTRAL RATIO

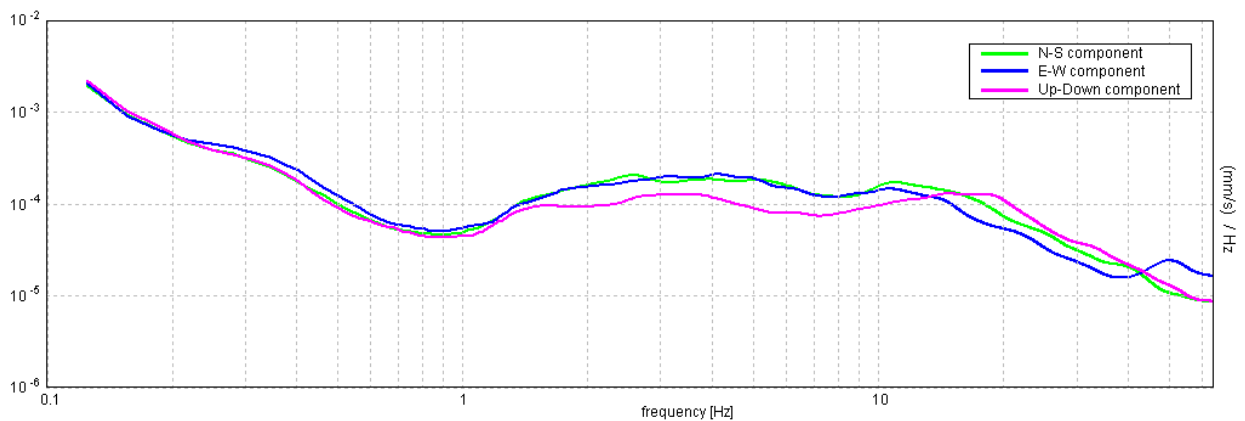
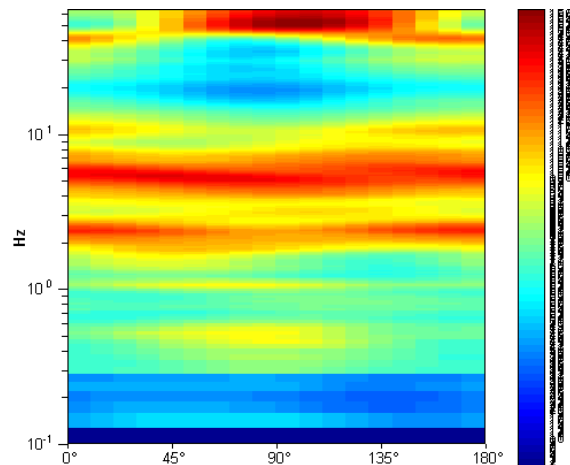
Max. H/V at 5.31 ± 3.69 Hz. (In the range 0.0 - 64.0 Hz).



H/V TIME HISTORY



DIRECTIONAL H/V

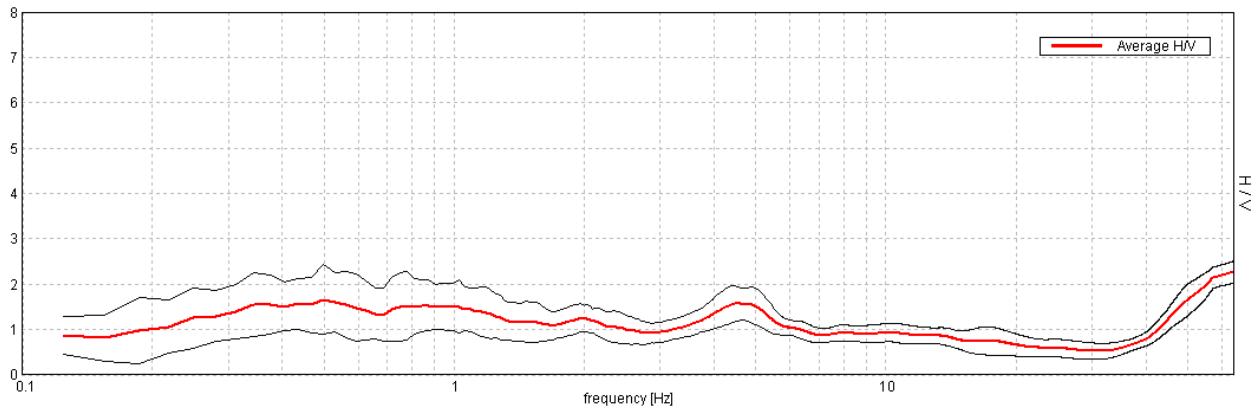


ZOLA PREDOSA, 037060P74HVSR74

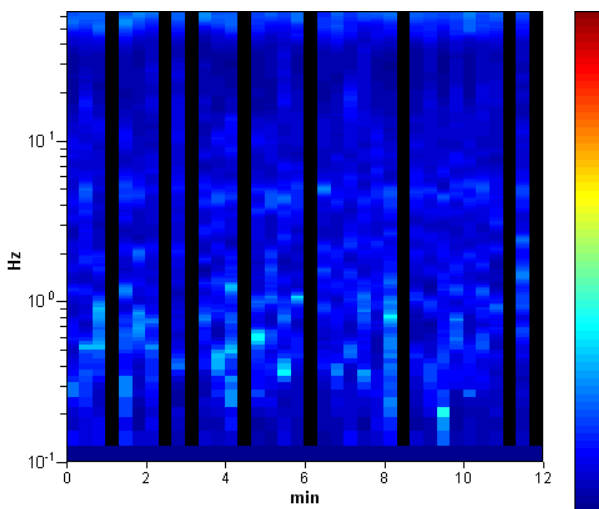
Instrument: TRZ-0153/01-11
 Start recording: 12/04/13 10:35:28 End recording: 12/04/13 10:47:28
 Channel labels: NORTH SOUTH; EAST WEST ; UP DOWN
 Trace length: 0h12'00". Analyzed 78% trace (manual window selection)
 Sampling rate: 128 Hz
 Window size: 20 s
 Smoothing type: Triangular window
 Smoothing: 12%

HORIZONTAL TO VERTICAL SPECTRAL RATIO

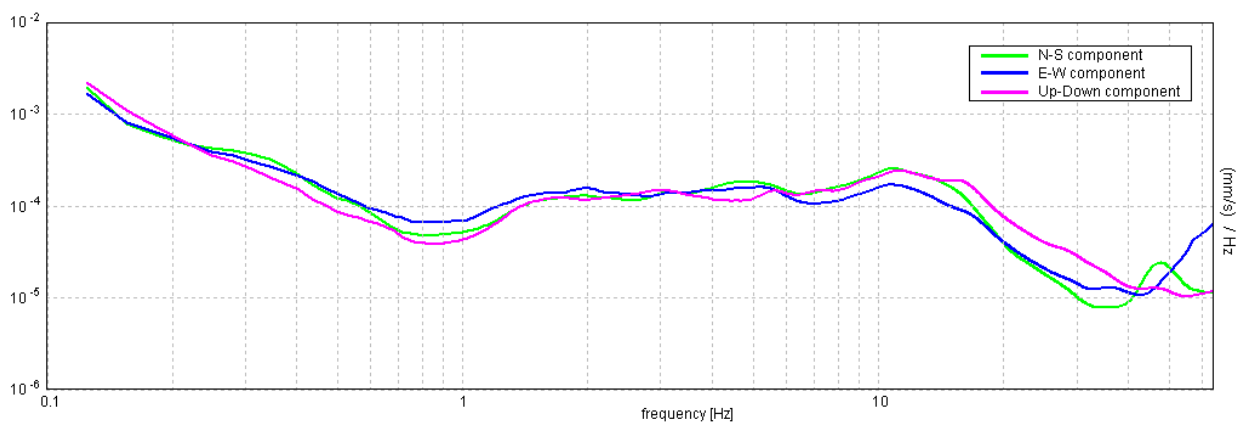
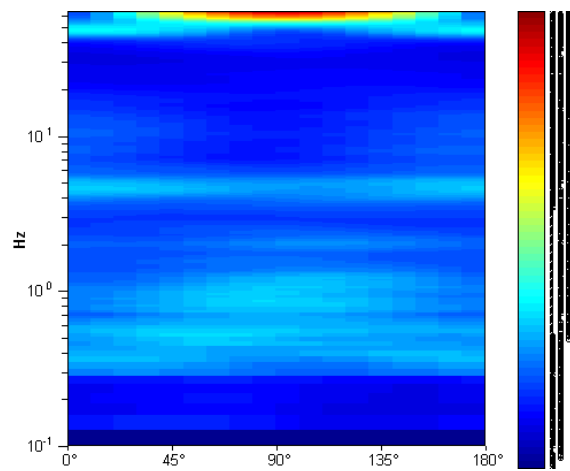
Max. H/V at 0.5 ± 0.02 Hz. (In the range 0.0 - 40.0 Hz).



H/V TIME HISTORY



DIRECTIONAL H/V

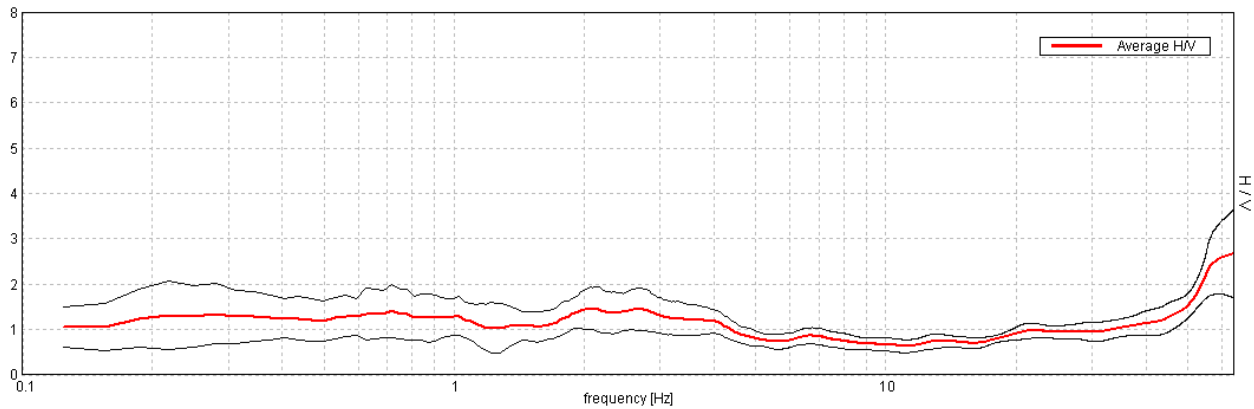


ZOLA PREDOSA, 037060P75HVSR75

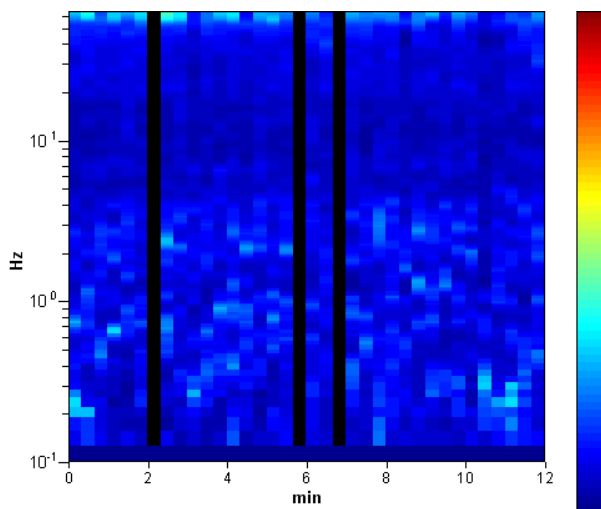
Instrument: TRZ-0153/01-11
Start recording: 12/04/13 10:51:57 End recording: 12/04/13 11:03:57
Channel labels: NORTH SOUTH; EAST WEST ; UP DOWN
Trace length: 0h12'00". Analyzed 92% trace (manual window selection)
Sampling rate: 128 Hz
Window size: 20 s
Smoothing type: Triangular window
Smoothing: 12%

HORIZONTAL TO VERTICAL SPECTRAL RATIO

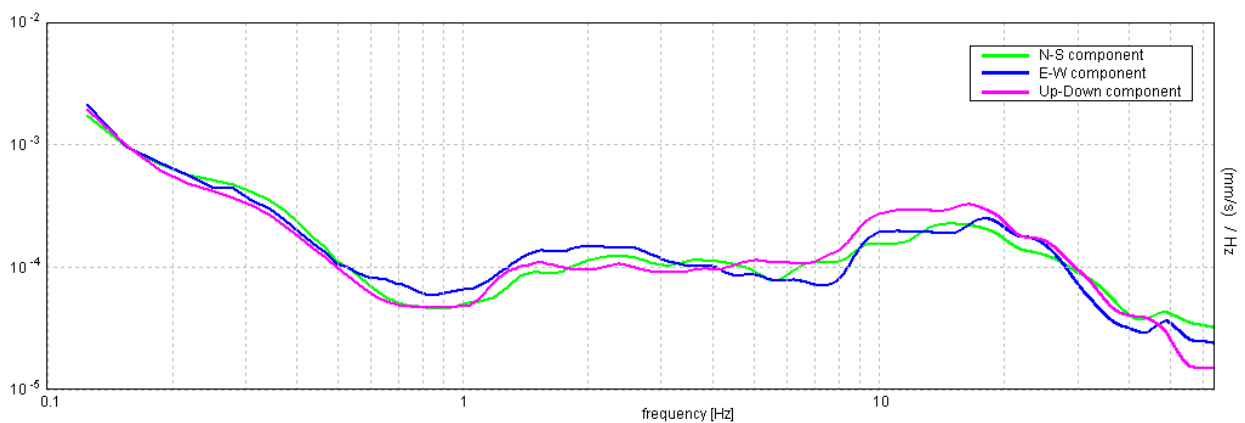
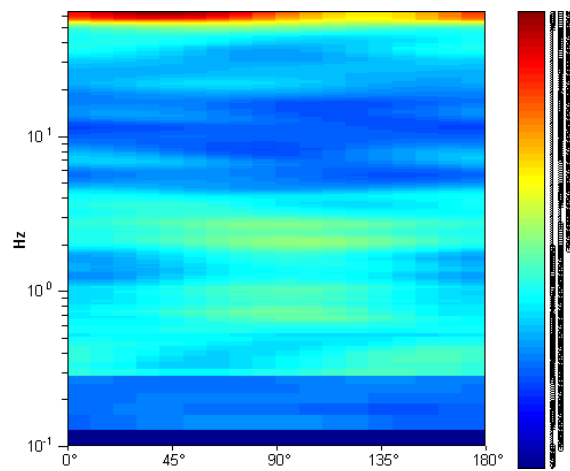
Max. H/V at 2.06 ± 0.41 Hz. (In the range 0.0 - 20.0 Hz).



H/V TIME HISTORY



DIRECTIONAL H/V

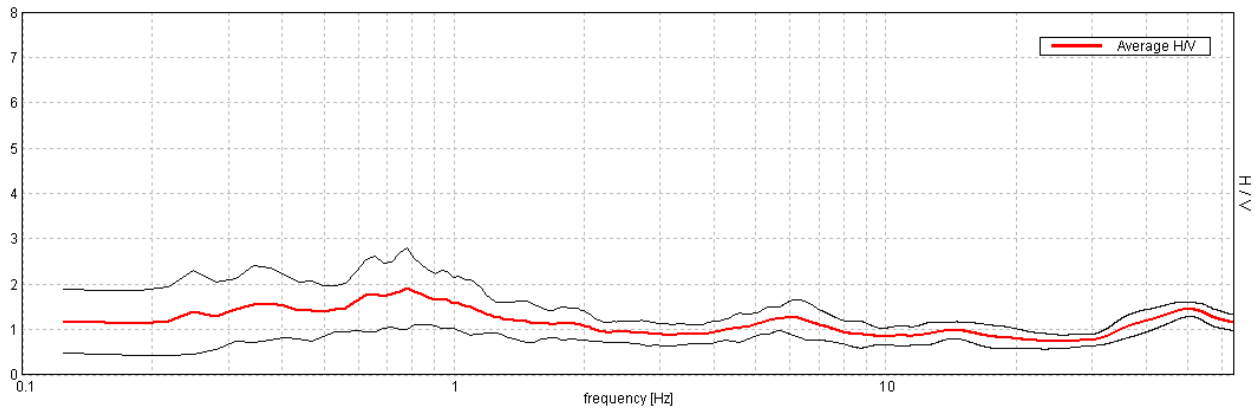


ZOLA PREDOSA, 037060P76HVSR76

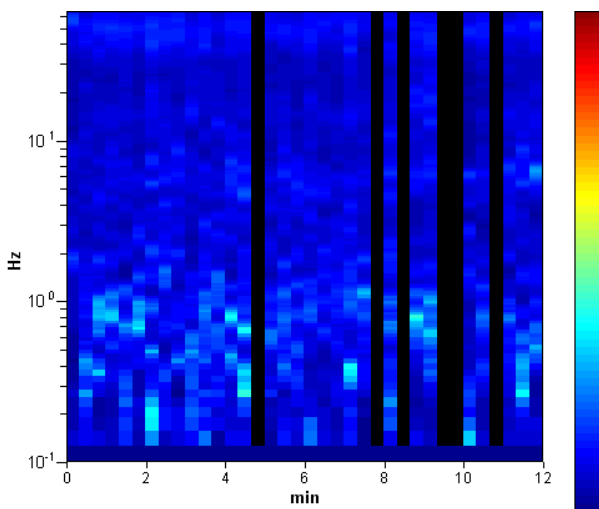
Instrument: TRZ-0153/01-11
 Start recording: 12/04/13 11:13:09 End recording: 12/04/13 11:25:09
 Channel labels: NORTH SOUTH; EAST WEST ; UP DOWN
 Trace length: 0h12'00". Analyzed 83% trace (manual window selection)
 Sampling rate: 128 Hz
 Window size: 20 s
 Smoothing type: Triangular window
 Smoothing: 12%

HORIZONTAL TO VERTICAL SPECTRAL RATIO

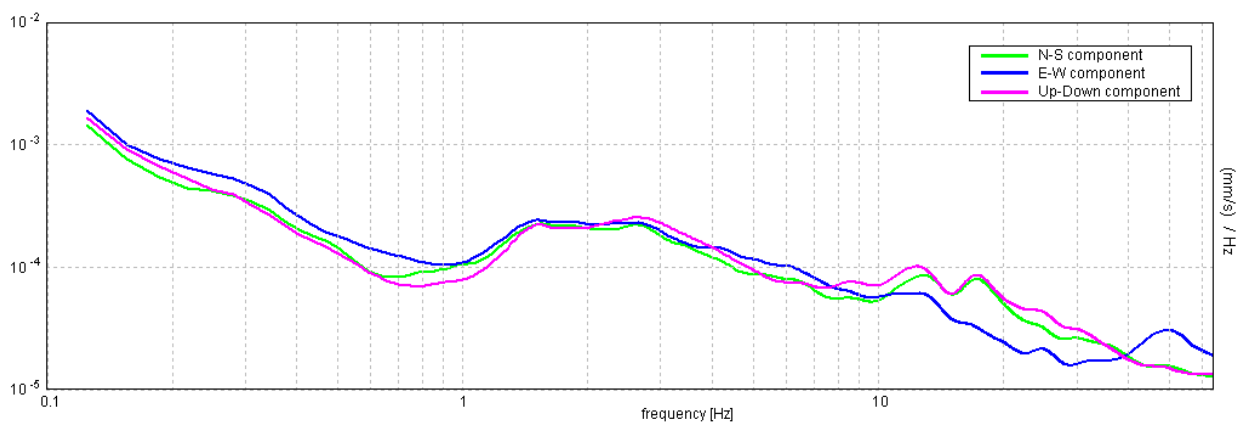
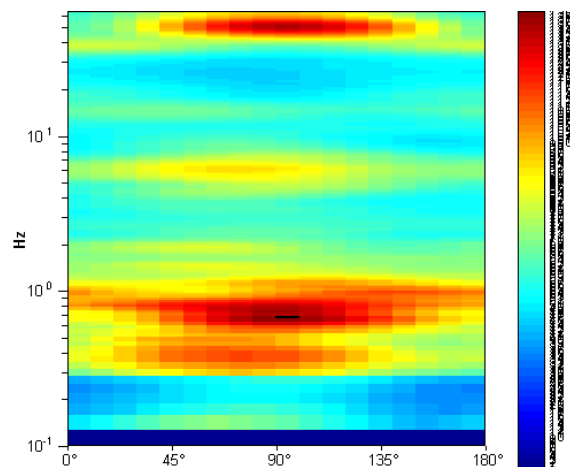
Max. H/V at 0.78 ± 3.74 Hz. (In the range 0.0 - 64.0 Hz).



H/V TIME HISTORY



DIRECTIONAL H/V

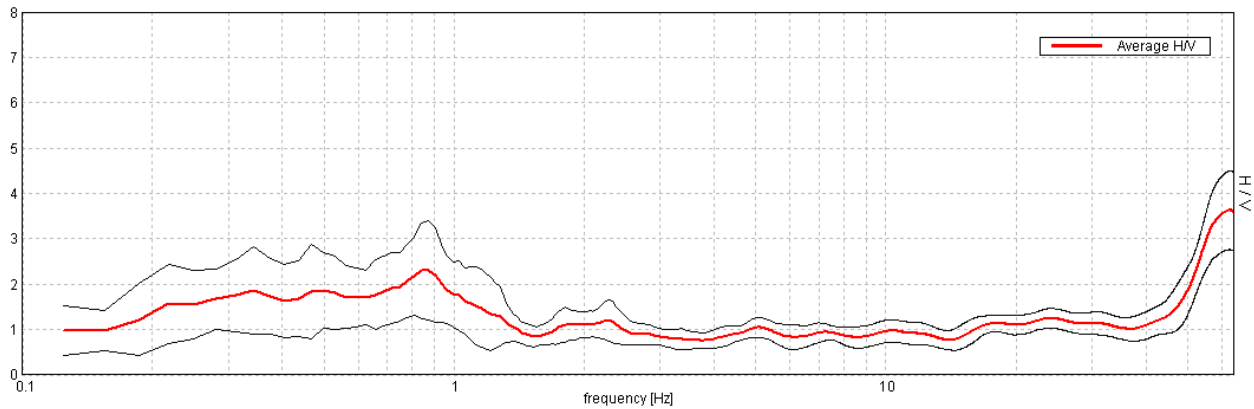


ZOLA PREDOSA, 037060P77HVSR77

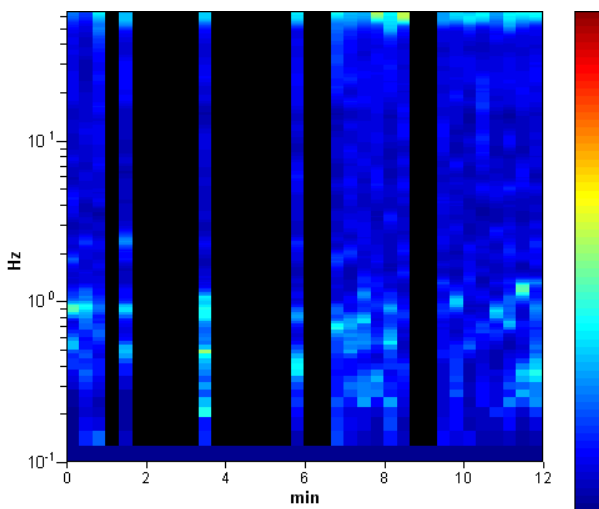
Instrument: TRZ-0153/01-11
 Start recording: 12/04/13 11:28:43 End recording: 12/04/13 11:40:43
 Channel labels: NORTH SOUTH; EAST WEST ; UP DOWN
 Trace length: 0h12'00". Analyzed 56% trace (manual window selection)
 Sampling rate: 128 Hz
 Window size: 20 s
 Smoothing type: Triangular window
 Smoothing: 12%

HORIZONTAL TO VERTICAL SPECTRAL RATIO

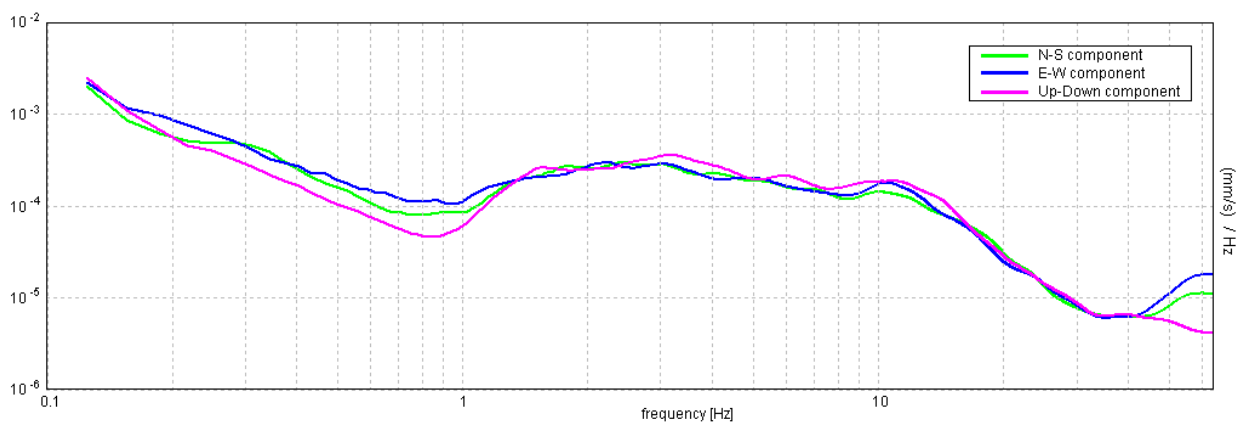
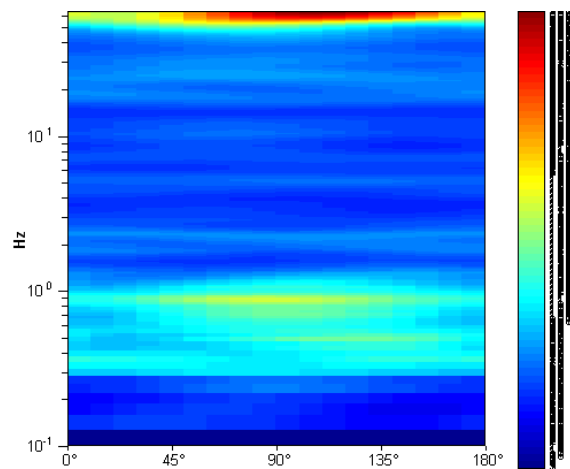
Max. H/V at 0.88 ± 0.0 Hz. (In the range 0.0 - 40.0 Hz).



H/V TIME HISTORY



DIRECTIONAL H/V

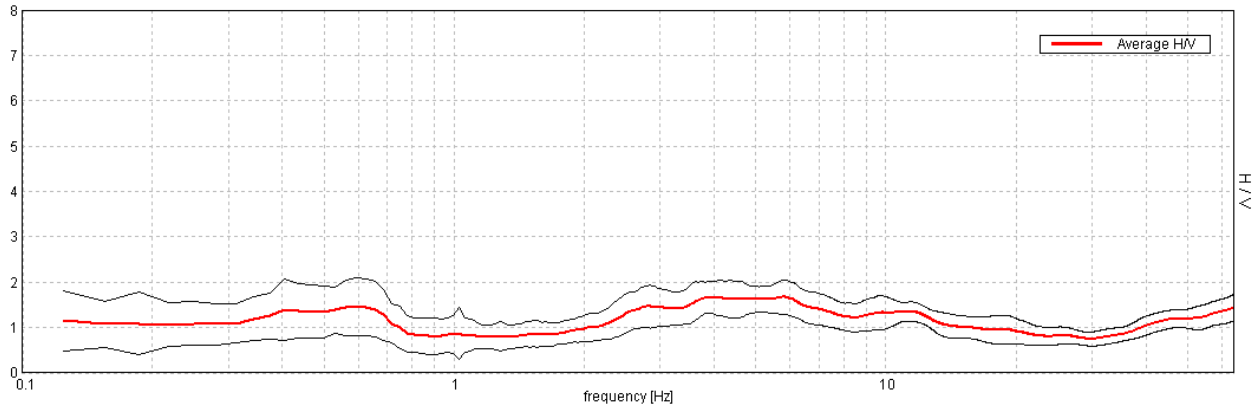


ZOLA PREDOSA, 037060P78HVSR78

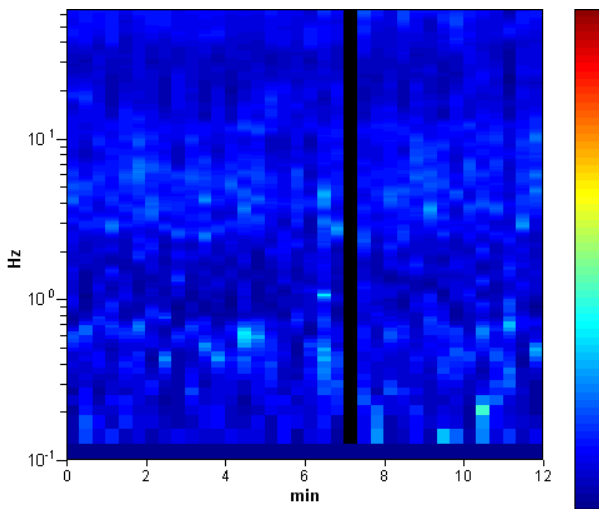
Instrument: TRZ-0153/01-11
 Start recording: 12/04/13 11:49:21 End recording: 12/04/13 12:01:21
 Channel labels: NORTH SOUTH; EAST WEST ; UP DOWN
 Trace length: 0h12'00". Analyzed 97% trace (manual window selection)
 Sampling rate: 128 Hz
 Window size: 20 s
 Smoothing type: Triangular window
 Smoothing: 12%

HORIZONTAL TO VERTICAL SPECTRAL RATIO

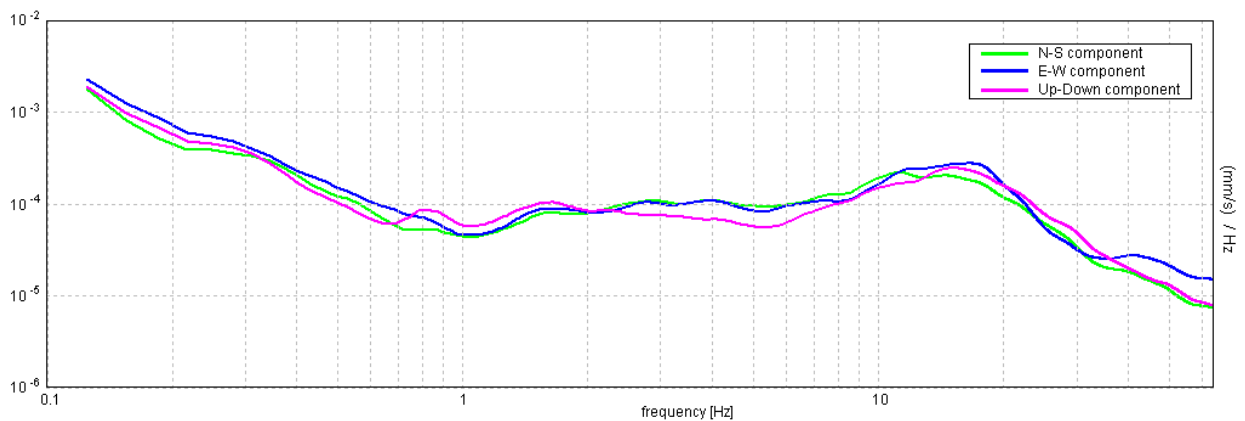
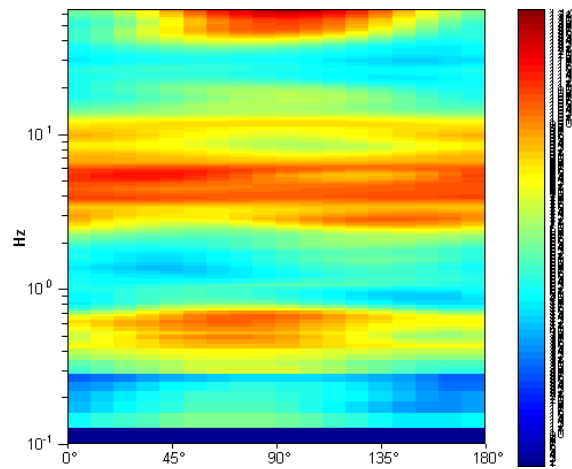
Max. H/V at 5.78 ± 0.45 Hz. (In the range 0.0 - 64.0 Hz).



H/V TIME HISTORY



DIRECTIONAL H/V

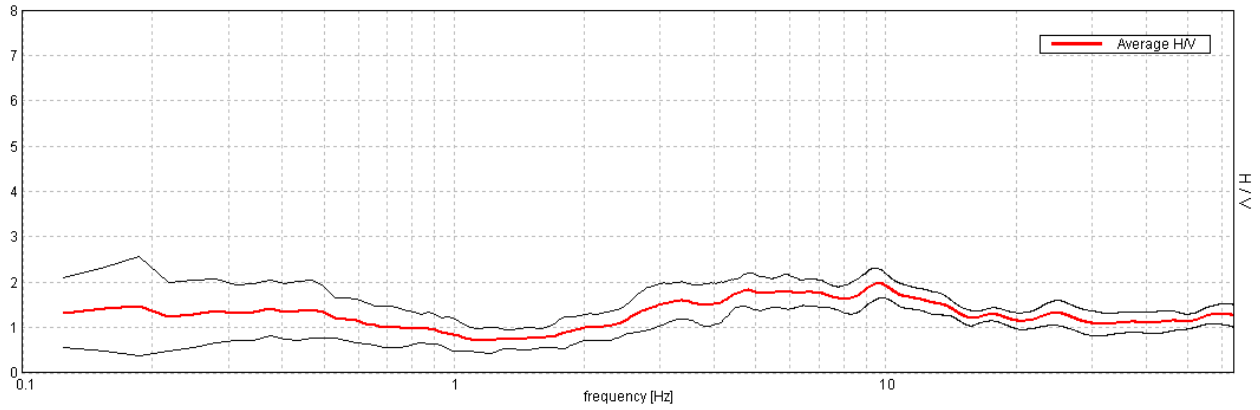


ZOLA PREDOSA, 037060P79HVSR79

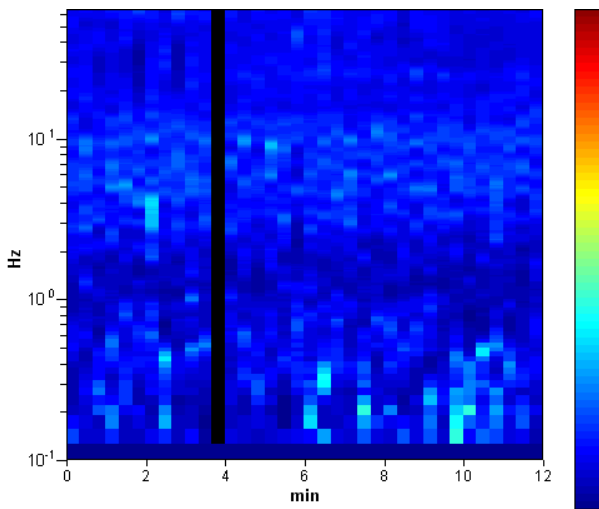
Instrument: TRZ-0153/01-11
 Start recording: 12/04/13 12:15:30 End recording: 12/04/13 12:27:30
 Channel labels: NORTH SOUTH; EAST WEST ; UP DOWN
 Trace length: 0h12'00". Analyzed 97% trace (manual window selection)
 Sampling rate: 128 Hz
 Window size: 20 s
 Smoothing type: Triangular window
 Smoothing: 12%

HORIZONTAL TO VERTICAL SPECTRAL RATIO

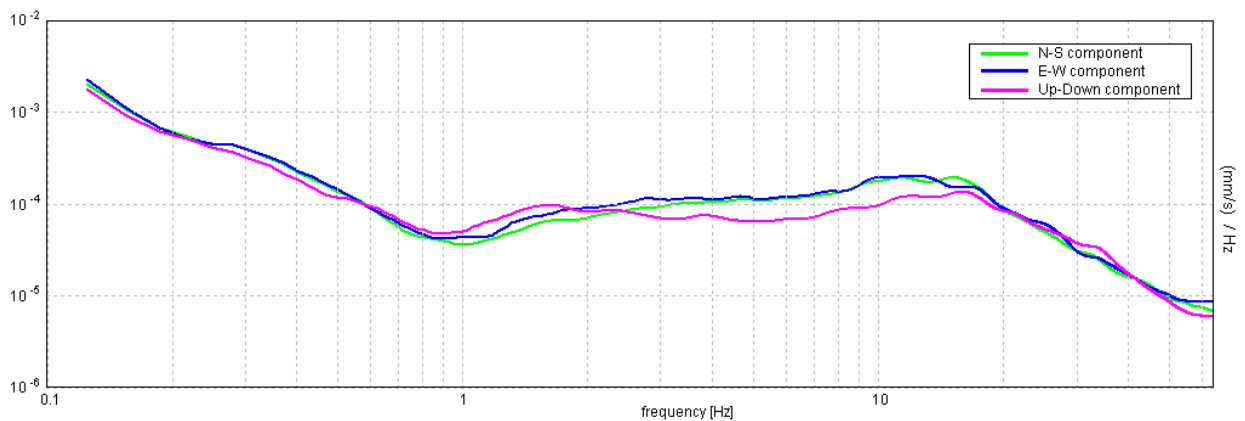
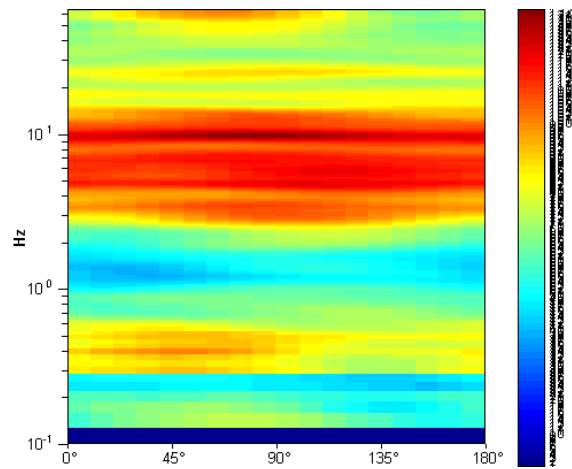
Max. H/V at 9.63 ± 0.68 Hz. (In the range 0.0 - 64.0 Hz).



H/V TIME HISTORY



DIRECTIONAL H/V

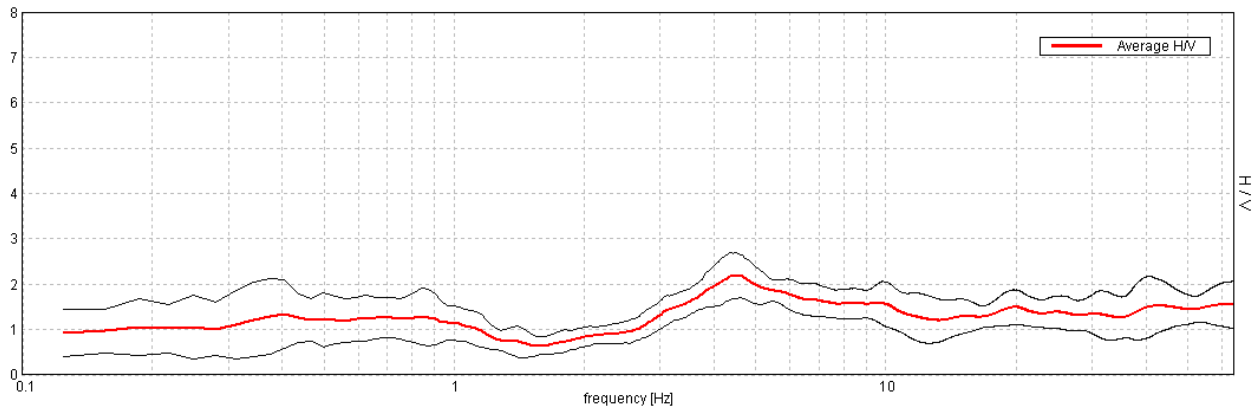


ZOLA PREDOSA, 037060P80HVSR80

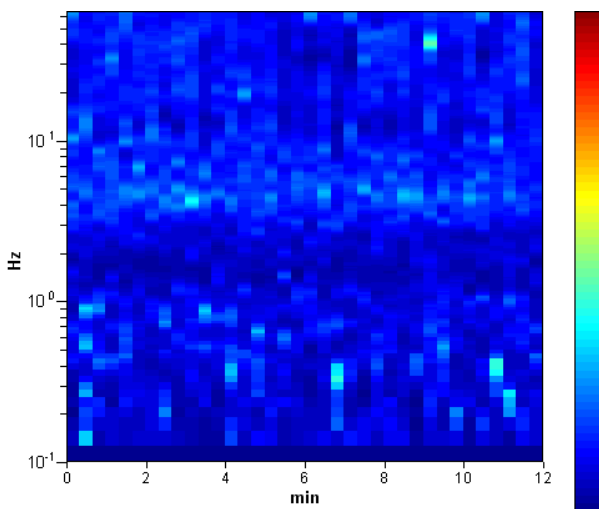
Instrument: TRZ-0153/01-11
 Start recording: 12/04/13 13:25:11 End recording: 12/04/13 13:37:11
 Channel labels: NORTH SOUTH; EAST WEST ; UP DOWN
 Trace length: 0h12'00". Analysis performed on the entire trace.
 Sampling rate: 128 Hz
 Window size: 20 s
 Smoothing type: Triangular window
 Smoothing: 12%

HORIZONTAL TO VERTICAL SPECTRAL RATIO

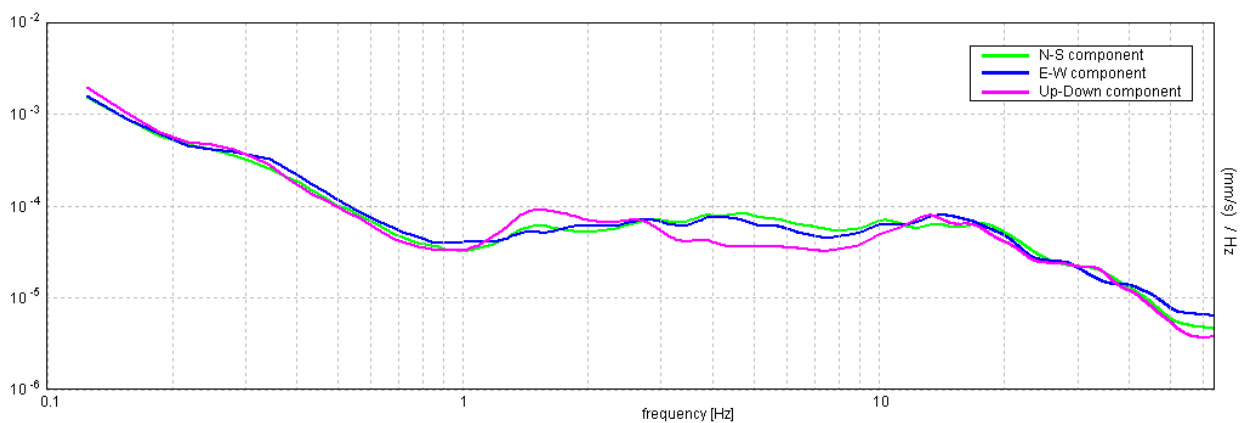
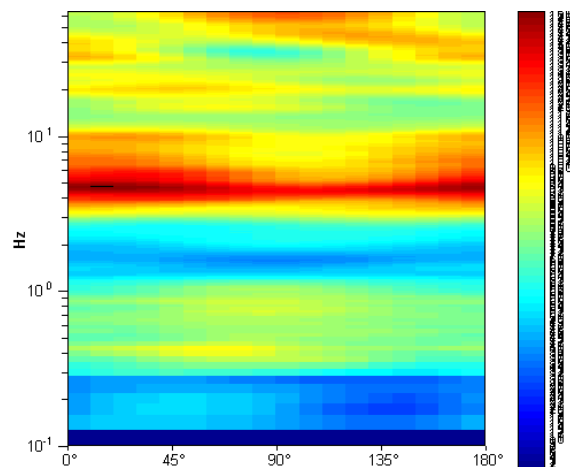
Max. H/V at 4.53 ± 3.42 Hz. (In the range 0.0 - 64.0 Hz).



H/V TIME HISTORY



DIRECTIONAL H/V

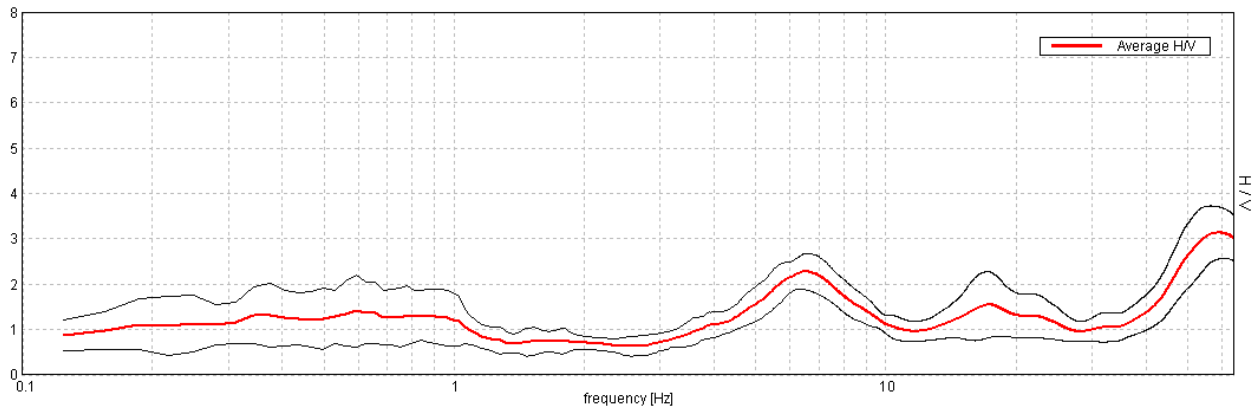


ZOLA PREDOSA, 037060P81HVSR81

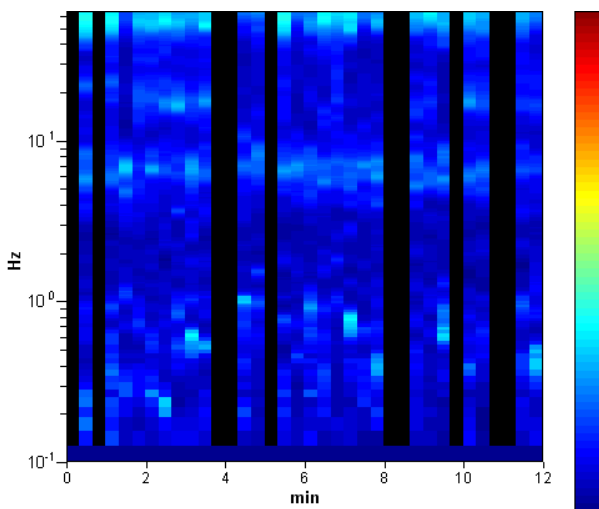
Instrument: TRZ-0153/01-11
 Start recording: 12/04/13 13:40:32 End recording: 12/04/13 13:52:32
 Channel labels: NORTH SOUTH; EAST WEST ; UP DOWN
 Trace length: 0h12'00". Analyzed 72% trace (manual window selection)
 Sampling rate: 128 Hz
 Window size: 20 s
 Smoothing type: Triangular window
 Smoothing: 12%

HORIZONTAL TO VERTICAL SPECTRAL RATIO

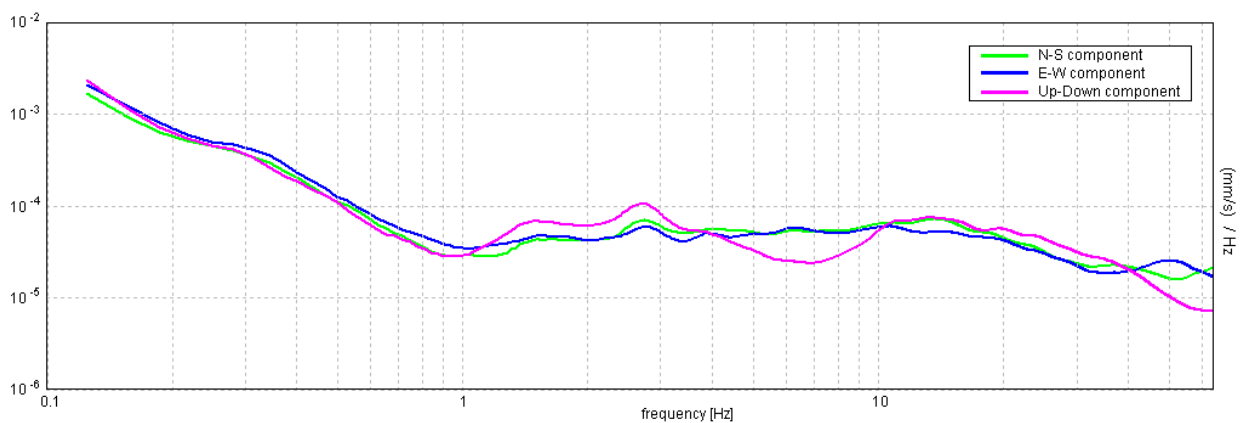
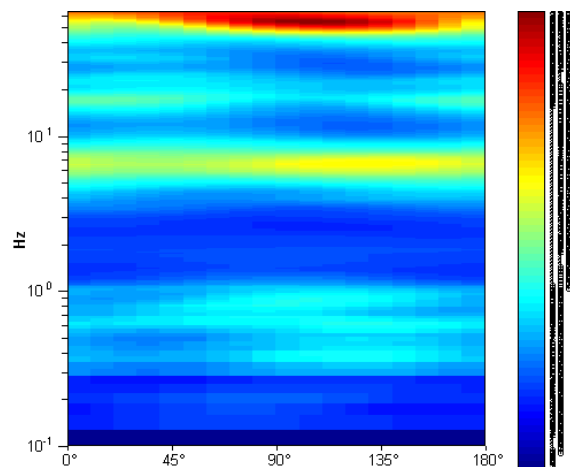
Max. H/V at 6.5 ± 0.09 Hz. (In the range 0.0 - 30.0 Hz).



H/V TIME HISTORY



DIRECTIONAL H/V

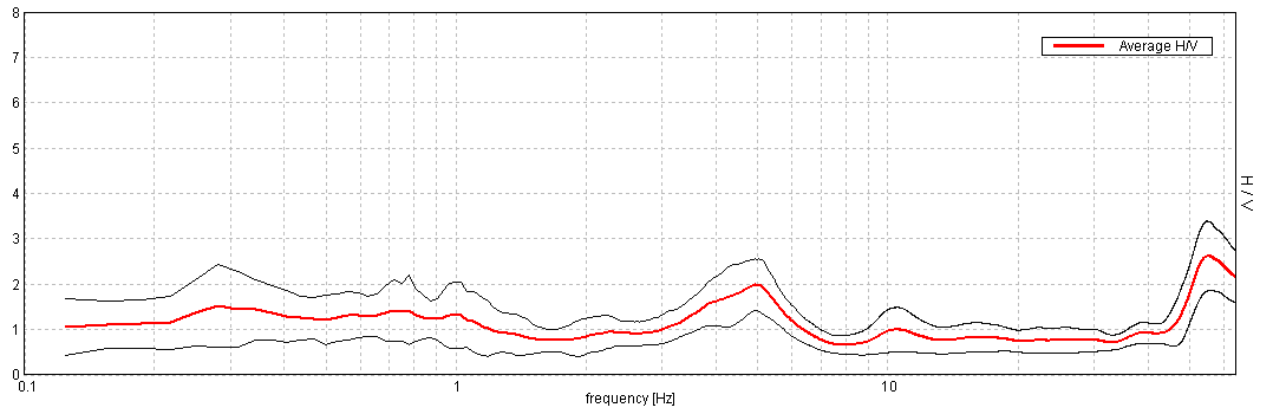


ZOLA PREDOSA, 037060P82HVSR82

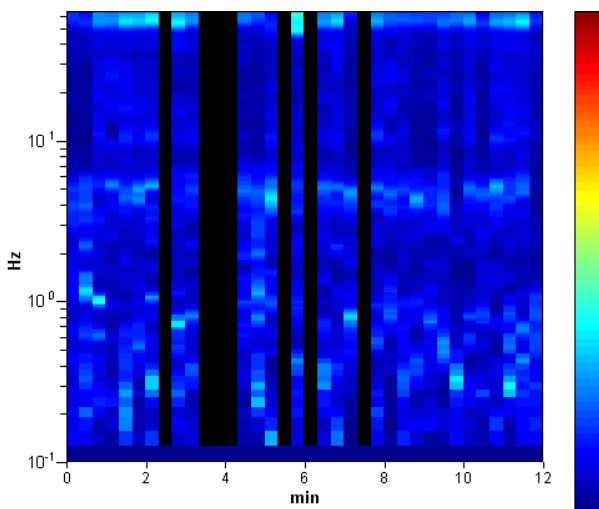
Instrument: TRZ-0153/01-11
 Start recording: 12/04/13 13:56:18 End recording: 12/04/13 14:08:18
 Channel labels: NORTH SOUTH; EAST WEST ; UP DOWN
 Trace length: 0h12'00". Analyzed 81% trace (manual window selection)
 Sampling rate: 128 Hz
 Window size: 20 s
 Smoothing type: Triangular window
 Smoothing: 12%

HORIZONTAL TO VERTICAL SPECTRAL RATIO

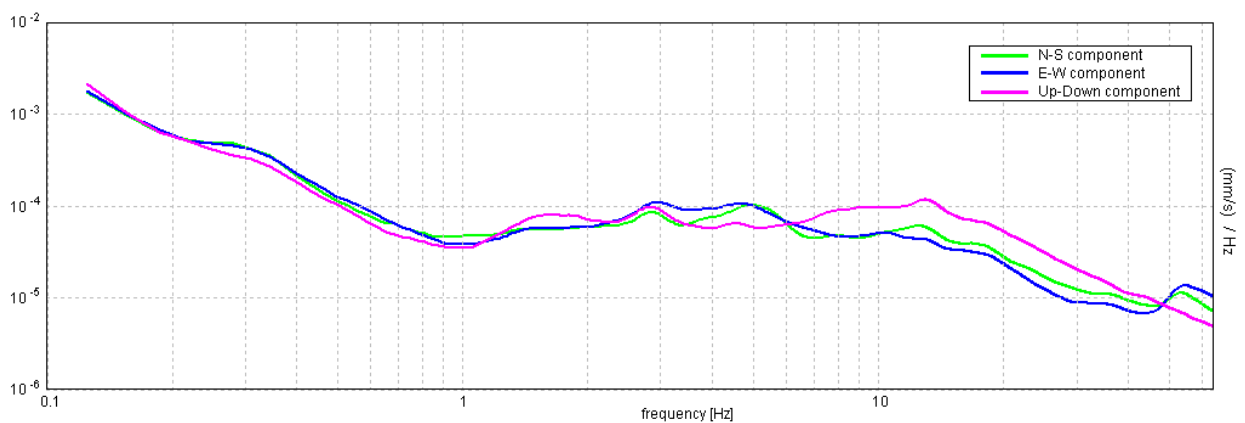
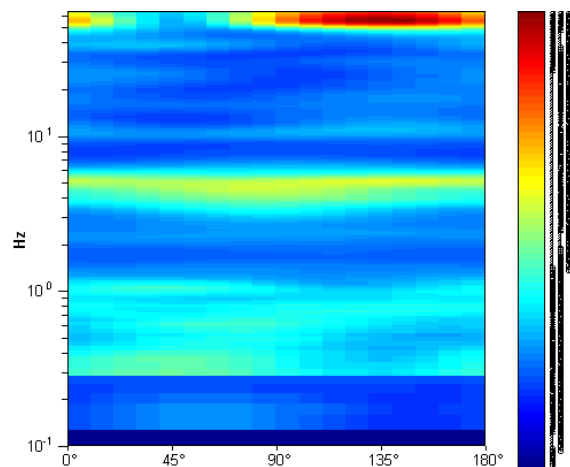
Max. H/V at 4.94 ± 0.49 Hz. (In the range 0.0 - 40.0 Hz).



H/V TIME HISTORY



DIRECTIONAL H/V

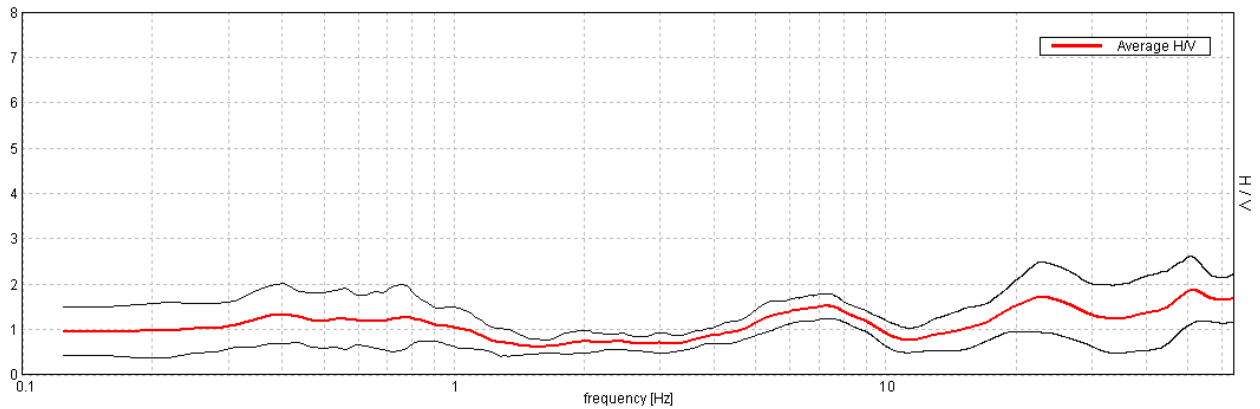


ZOLA PREDOSA, 037060P84HVSR84

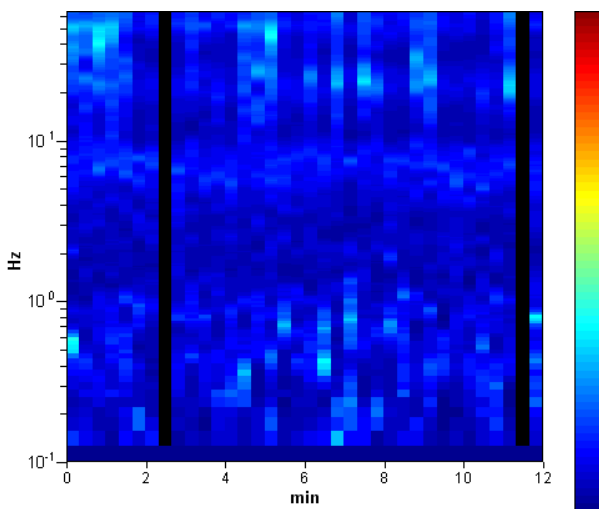
Instrument: TRZ-0153/01-11
 Start recording: 12/04/13 14:40:30 End recording: 12/04/13 14:52:30
 Channel labels: NORTH SOUTH; EAST WEST ; UP DOWN
 Trace length: 0h12'00". Analyzed 94% trace (manual window selection)
 Sampling rate: 128 Hz
 Window size: 20 s
 Smoothing type: Triangular window
 Smoothing: 12%

HORIZONTAL TO VERTICAL SPECTRAL RATIO

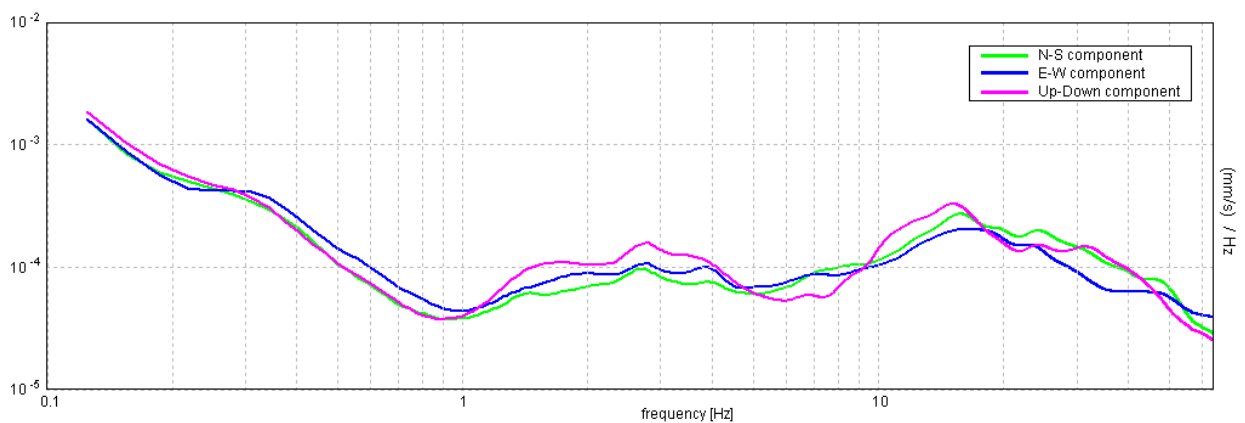
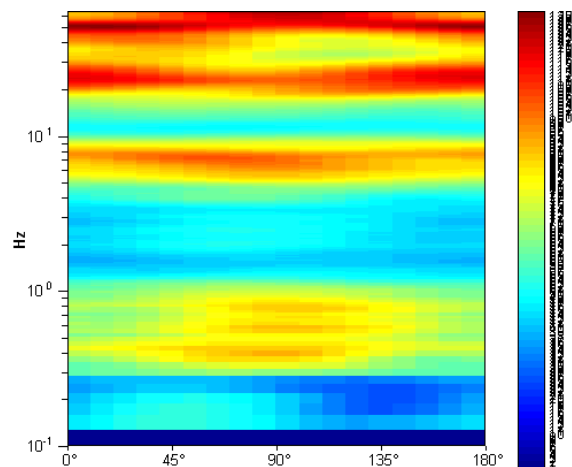
Max. H/V at 7.28 ± 0.93 Hz. (In the range 0.0 - 15.0 Hz).



H/V TIME HISTORY



DIRECTIONAL H/V

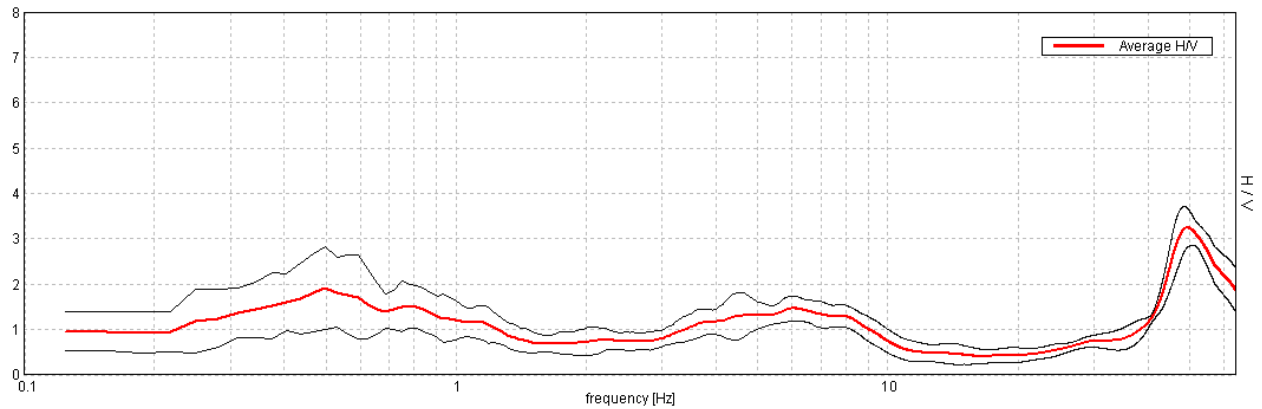


ZOLA PREDOSA, 037060P85HVSR85

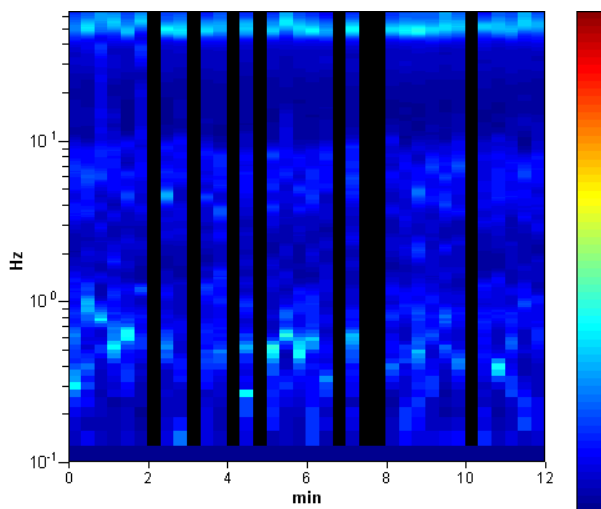
Instrument: TRZ-0153/01-11
 Start recording: 12/04/13 14:59:01 End recording: 12/04/13 15:11:01
 Channel labels: NORTH SOUTH; EAST WEST ; UP DOWN
 Trace length: 0h12'00". Analyzed 78% trace (manual window selection)
 Sampling rate: 128 Hz
 Window size: 20 s
 Smoothing type: Triangular window
 Smoothing: 12%

HORIZONTAL TO VERTICAL SPECTRAL RATIO

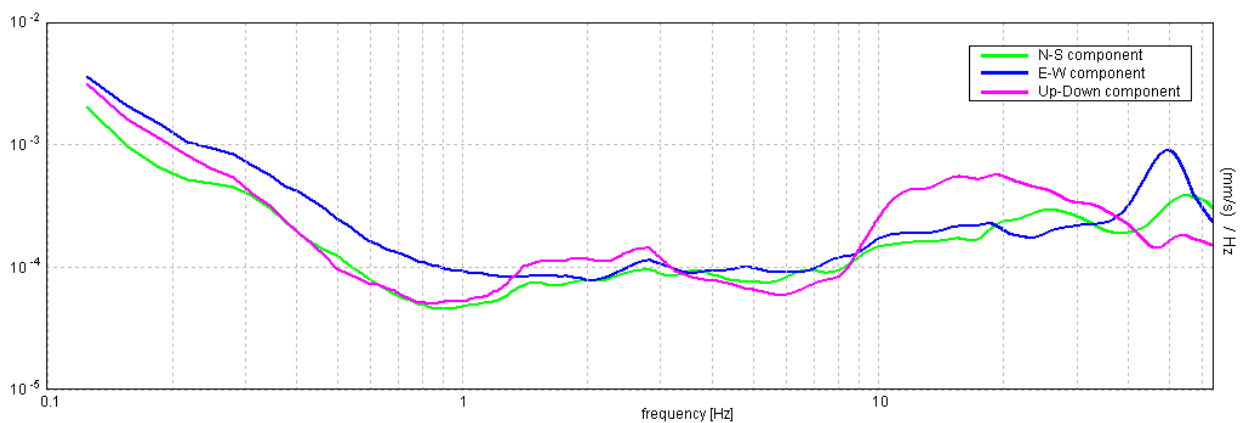
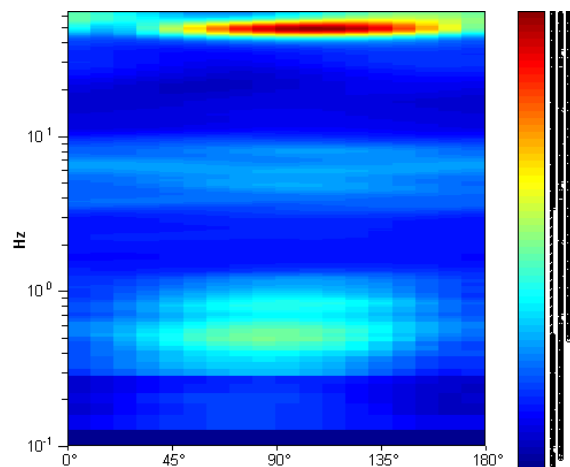
Max. H/V at 0.5 ± 0.04 Hz. (In the range 0.0 - 40.0 Hz).



H/V TIME HISTORY



DIRECTIONAL H/V

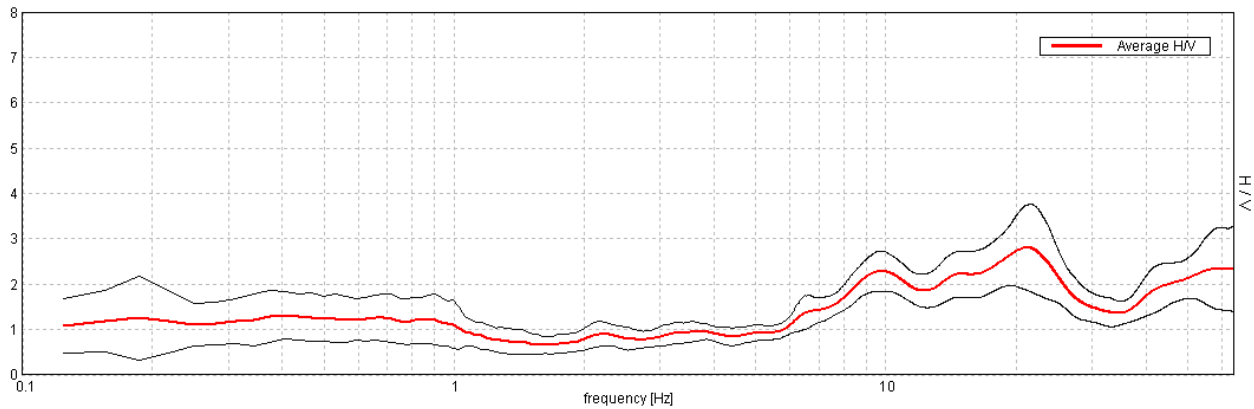


ZOLA PREDOSA, 037060P86HVSR86

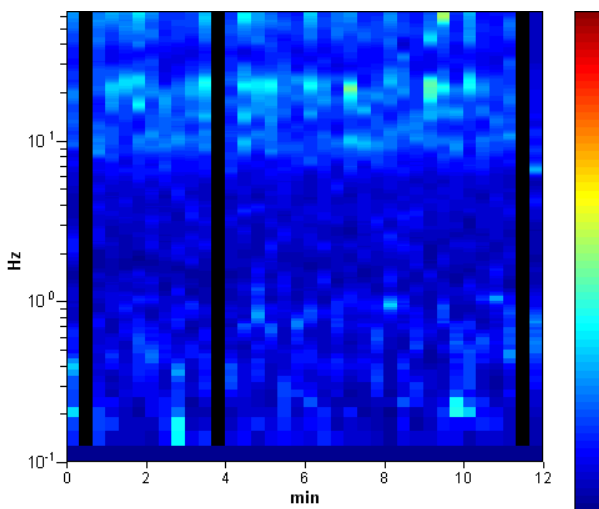
Instrument: TRZ-0153/01-11
 Start recording: 12/04/13 15:21:42 End recording: 12/04/13 15:33:42
 Channel labels: NORTH SOUTH; EAST WEST ; UP DOWN
 Trace length: 0h12'00". Analyzed 92% trace (manual window selection)
 Sampling rate: 128 Hz
 Window size: 20 s
 Smoothing type: Triangular window
 Smoothing: 12%

HORIZONTAL TO VERTICAL SPECTRAL RATIO

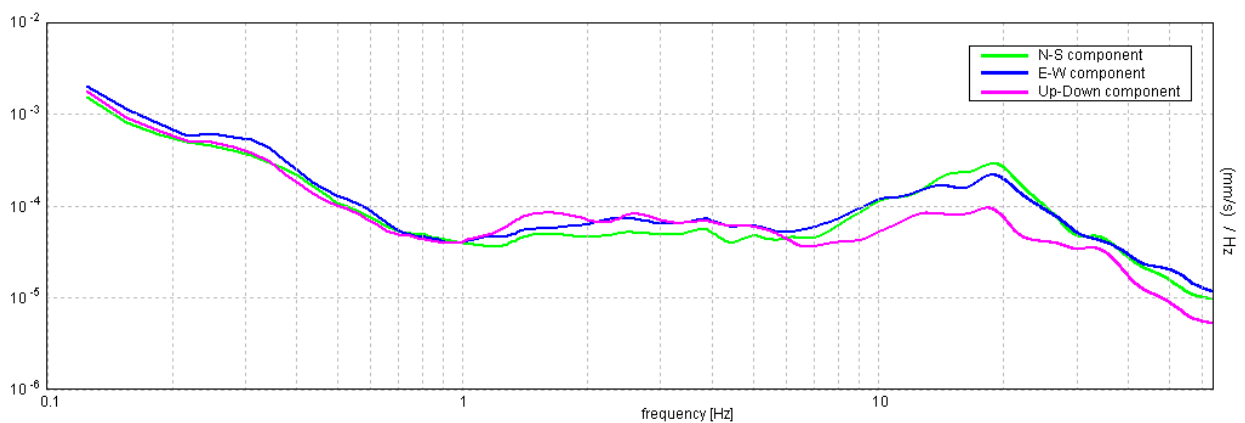
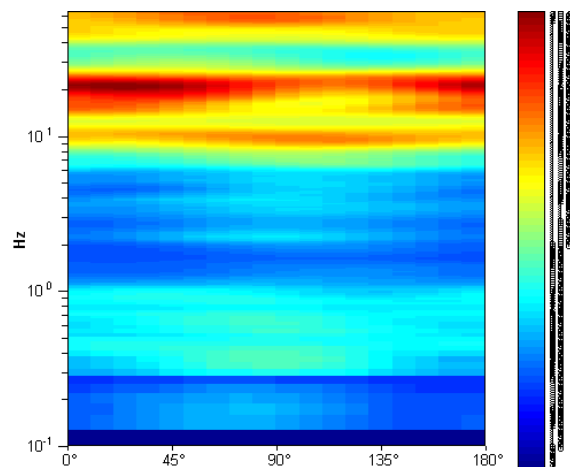
Max. H/V at 21.09 ± 6.82 Hz. (In the range 0.0 - 64.0 Hz).



H/V TIME HISTORY



DIRECTIONAL H/V

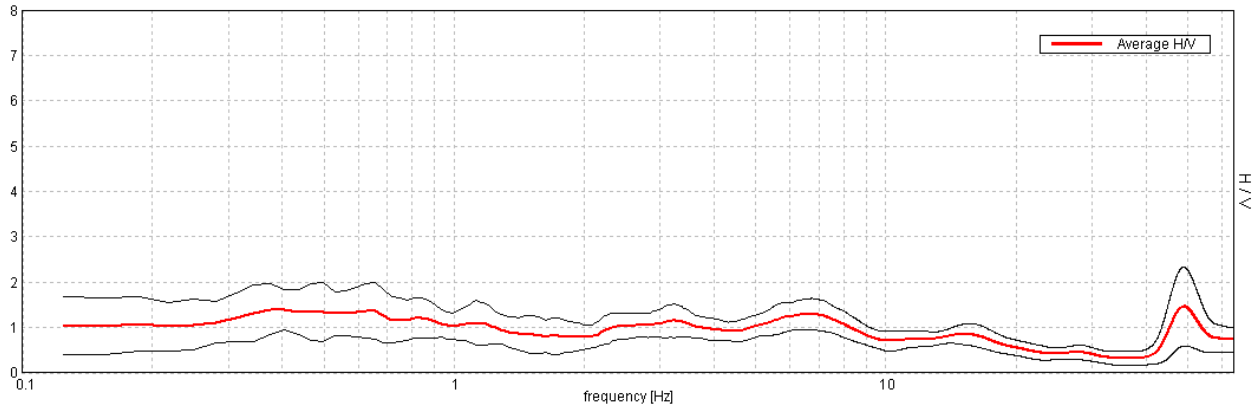


ZOLA PREDOSA, 037060P87HVSR87

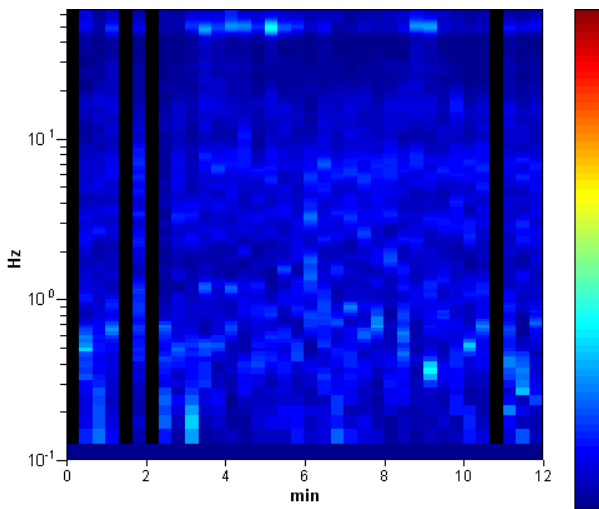
Instrument: TRZ-0153/01-11
 Start recording: 12/04/13 15:44:07 End recording: 12/04/13 15:56:07
 Channel labels: NORTH SOUTH; EAST WEST ; UP DOWN
 Trace length: 0h12'00". Analyzed 89% trace (manual window selection)
 Sampling rate: 128 Hz
 Window size: 20 s
 Smoothing type: Triangular window
 Smoothing: 12%

HORIZONTAL TO VERTICAL SPECTRAL RATIO

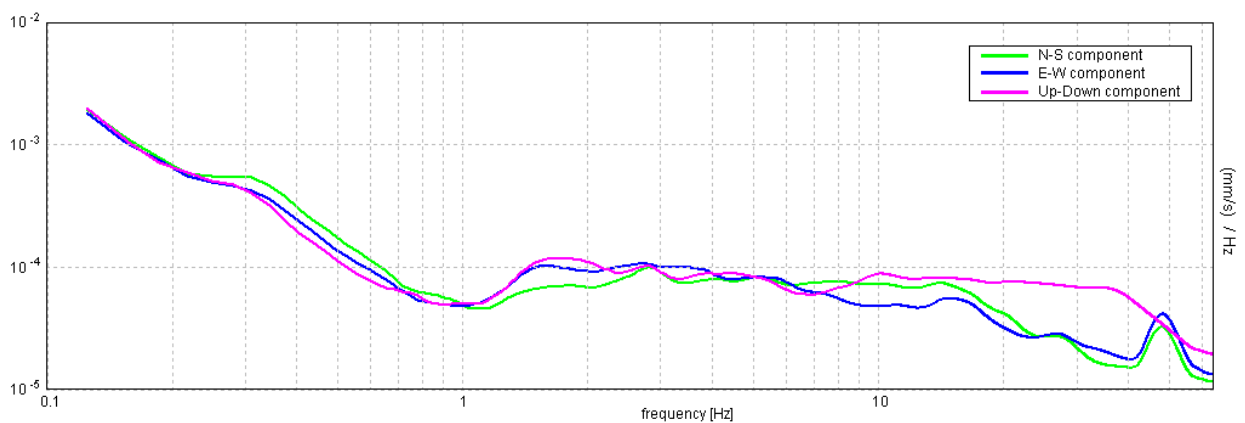
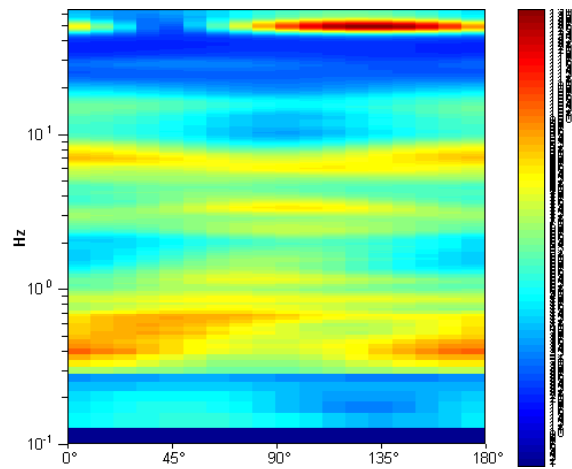
Max. H/V at 0.41 ± 0.05 Hz. (In the range 0.0 - 30.0 Hz).



H/V TIME HISTORY



DIRECTIONAL H/V

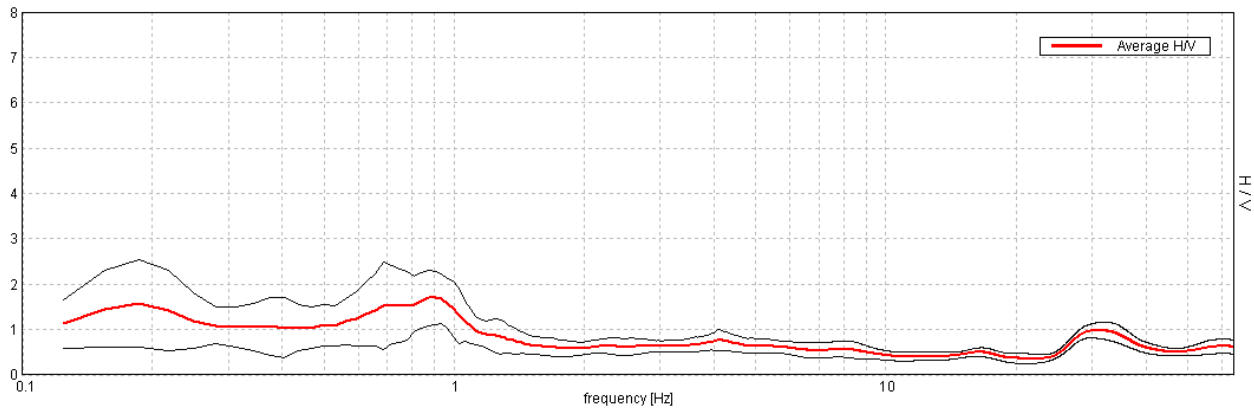


ZOLA PREDOSA, 037060P89HVSR89

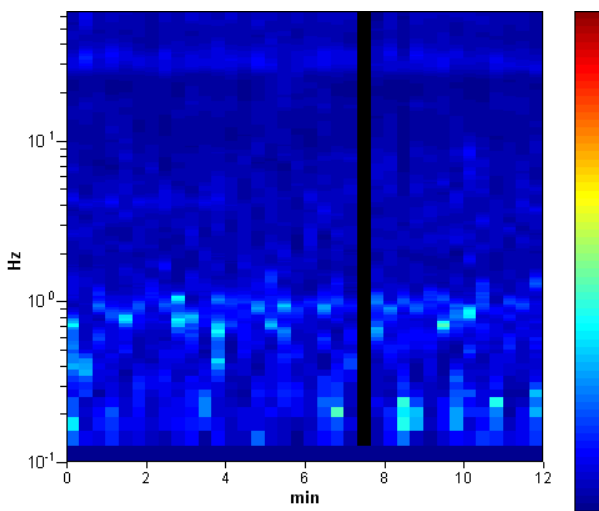
Instrument: TRZ-0153/01-11
 Start recording: 15/04/13 10:18:57 End recording: 15/04/13 10:30:57
 Channel labels: NORTH SOUTH; EAST WEST ; UP DOWN
 Trace length: 0h12'00". Analyzed 97% trace (manual window selection)
 Sampling rate: 128 Hz
 Window size: 20 s
 Smoothing type: Triangular window
 Smoothing: 12%

HORIZONTAL TO VERTICAL SPECTRAL RATIO

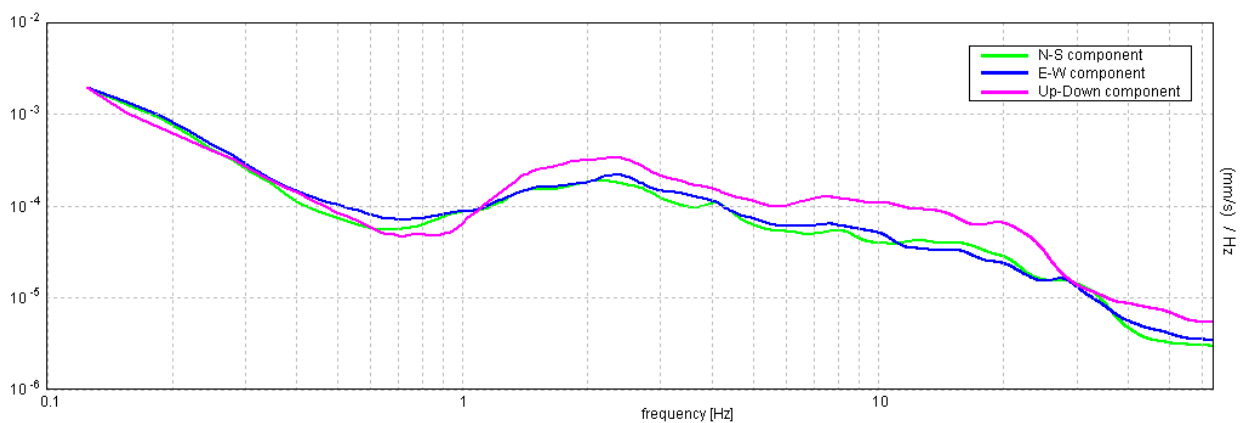
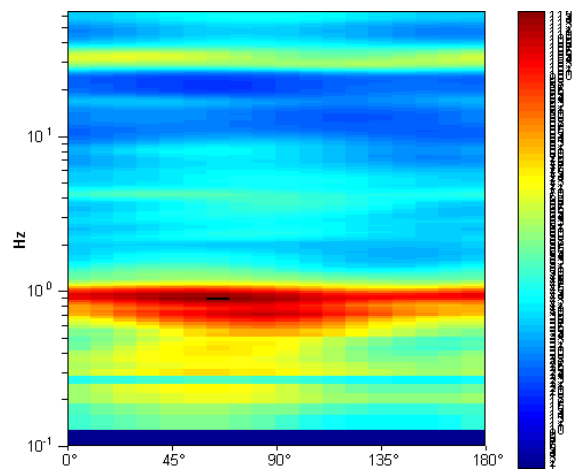
Max. H/V at 0.91 ± 0.07 Hz. (In the range 0.0 - 64.0 Hz).



H/V TIME HISTORY



DIRECTIONAL H/V

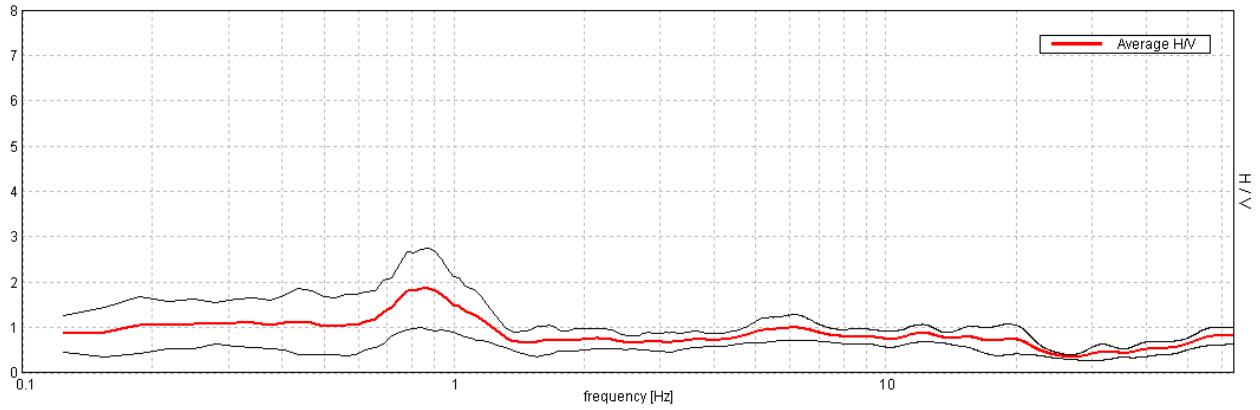


ZOLA PREDOSA, 037060P90HVSR90

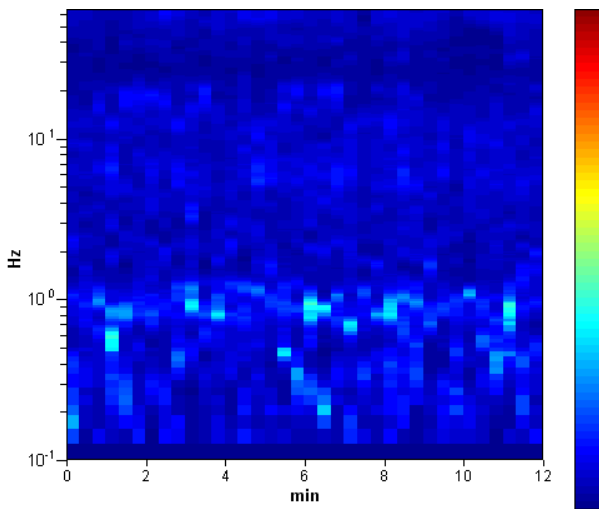
Instrument: TRZ-0153/01-11
 Start recording: 15/04/13 10:34:51 End recording: 15/04/13 10:46:51
 Channel labels: NORTH SOUTH; EAST WEST ; UP DOWN
 Trace length: 0h12'00". Analysis performed on the entire trace.
 Sampling rate: 128 Hz
 Window size: 20 s
 Smoothing type: Triangular window
 Smoothing: 12%

HORIZONTAL TO VERTICAL SPECTRAL RATIO

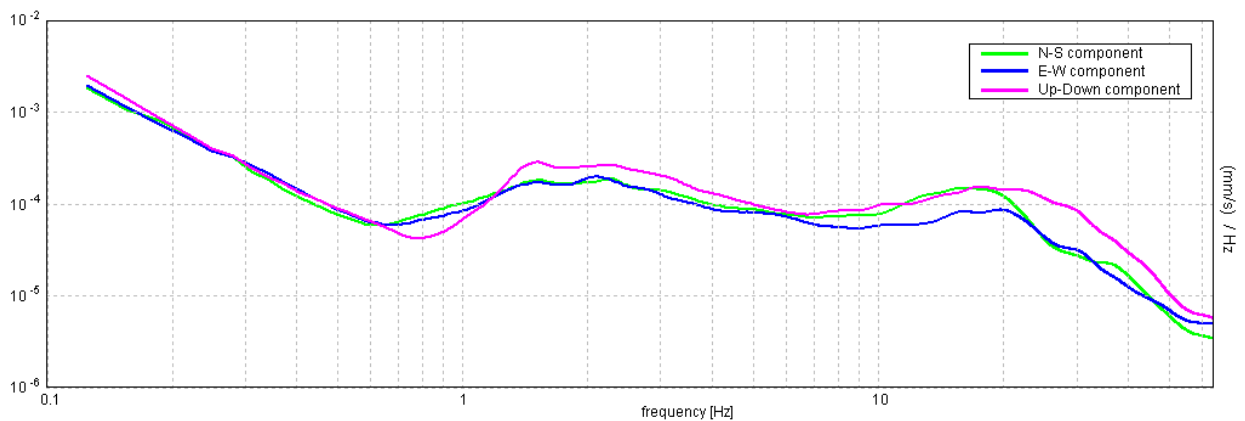
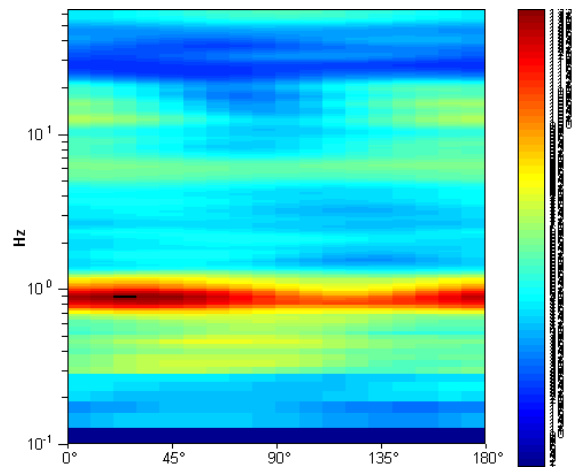
Max. H/V at 0.84 ± 0.06 Hz. (In the range 0.0 - 64.0 Hz).



H/V TIME HISTORY



DIRECTIONAL H/V

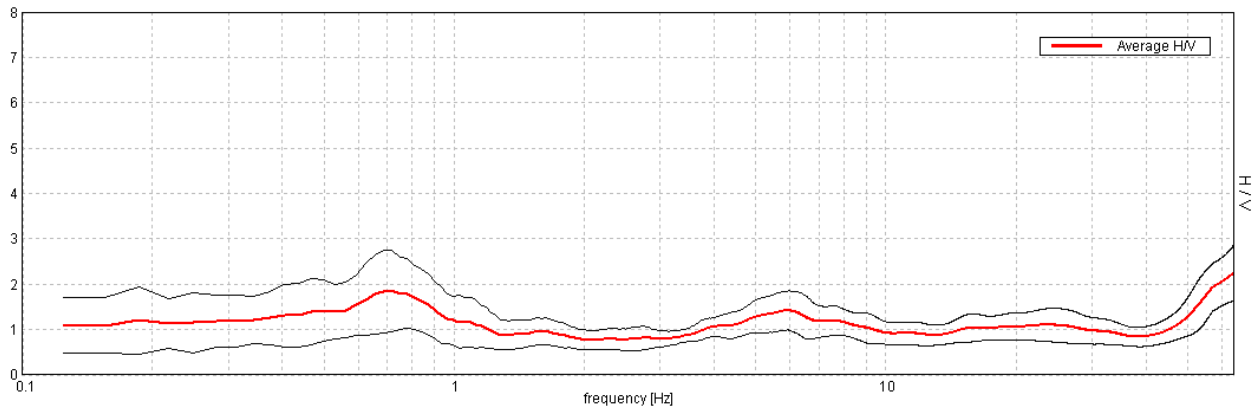


ZOLA PREDOSA, 037060P91HVSR91

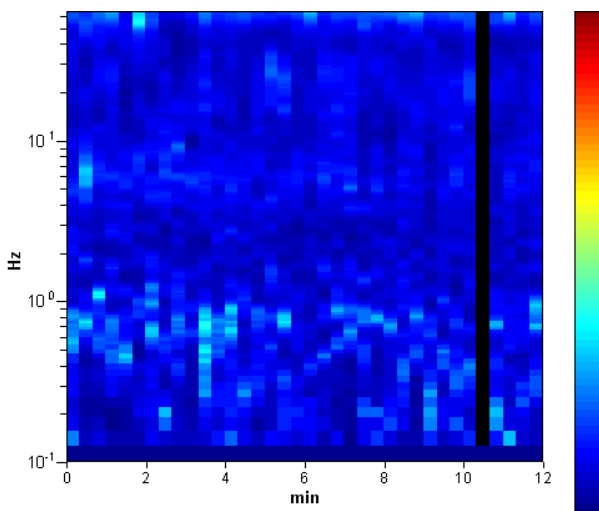
Instrument: TRZ-0153/01-11
 Start recording: 15/04/13 10:53:23 End recording: 15/04/13 11:05:23
 Channel labels: NORTH SOUTH; EAST WEST ; UP DOWN
 Trace length: 0h12'00". Analyzed 97% trace (manual window selection)
 Sampling rate: 128 Hz
 Window size: 20 s
 Smoothing type: Triangular window
 Smoothing: 12%

HORIZONTAL TO VERTICAL SPECTRAL RATIO

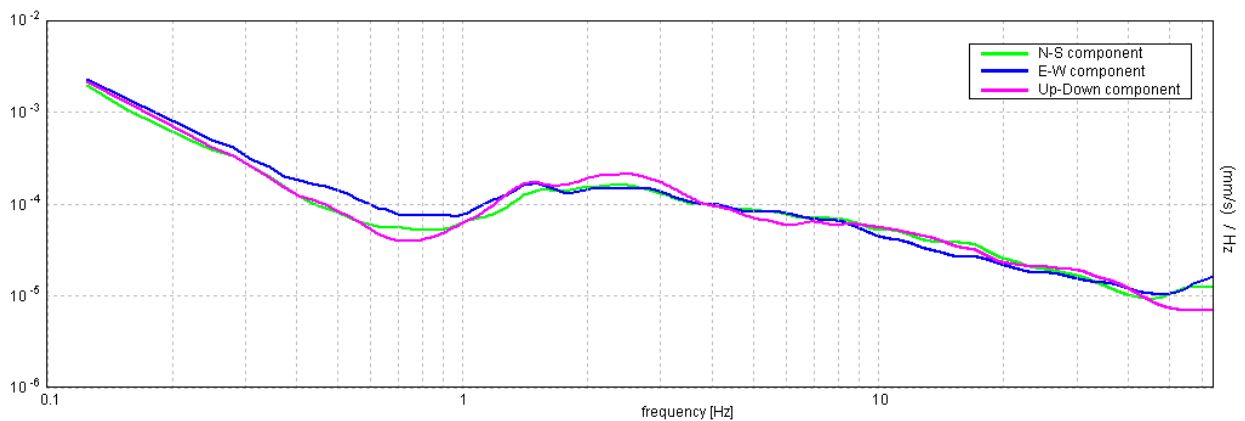
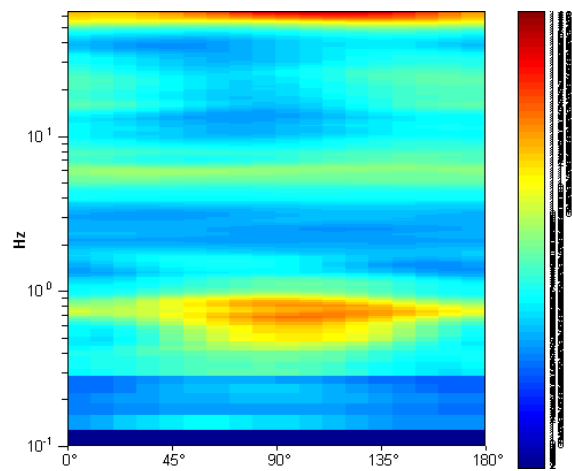
Max. H/V at 63.97 ± 14.45 Hz. (In the range 0.0 - 64.0 Hz).



H/V TIME HISTORY



DIRECTIONAL H/V

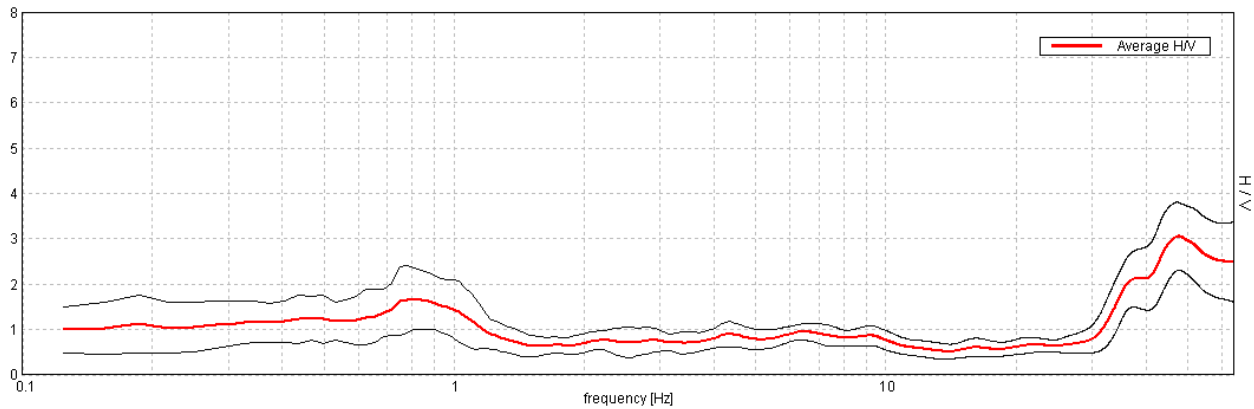


ZOLA PREDOSA, 037060P92HVSR92

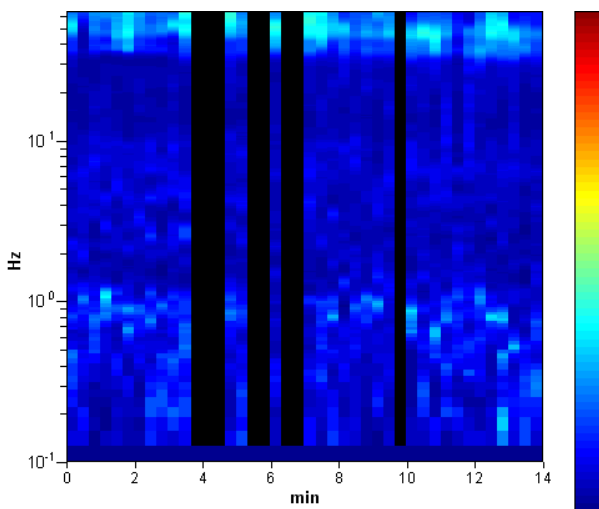
Instrument: TRZ-0153/01-11
 Start recording: 15/04/13 11:13:59 End recording: 15/04/13 11:27:59
 Channel labels: NORTH SOUTH; EAST WEST ; UP DOWN
 Trace length: 0h14'00". Analyzed 81% trace (manual window selection)
 Sampling rate: 128 Hz
 Window size: 20 s
 Smoothing type: Triangular window
 Smoothing: 12%

HORIZONTAL TO VERTICAL SPECTRAL RATIO

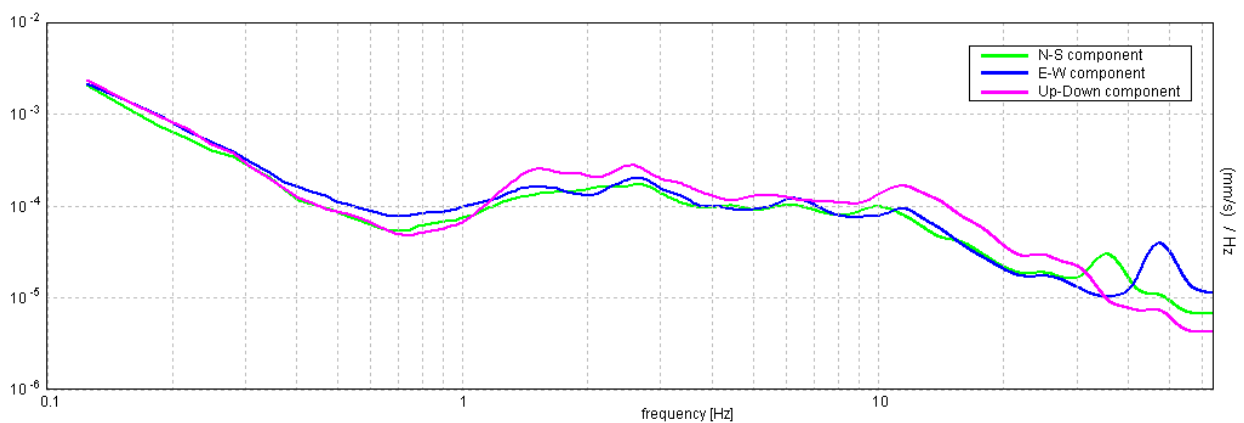
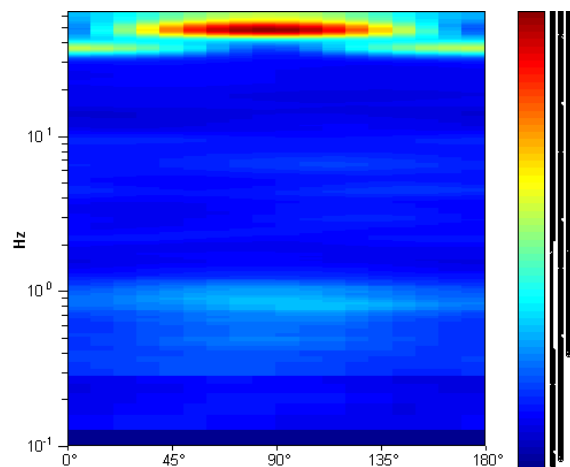
Max. H/V at 0.81 ± 0.04 Hz. (In the range 0.0 - 30.0 Hz).



H/V TIME HISTORY



DIRECTIONAL H/V

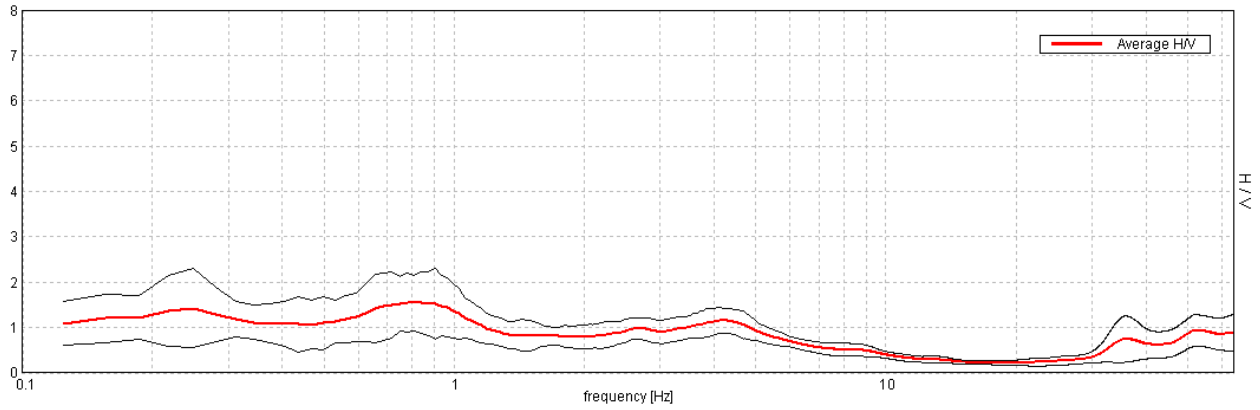


ZOLA PREDOSA, 037060P93HVSR93

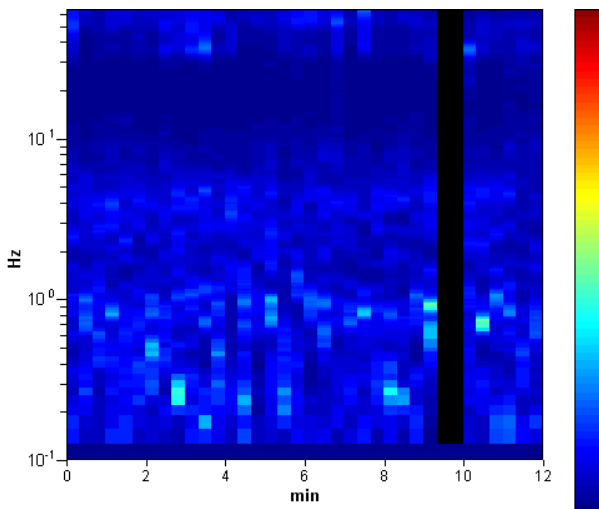
Instrument: TRZ-0153/01-11
 Start recording: 15/04/13 11:33:55 End recording: 15/04/13 11:45:55
 Channel labels: NORTH SOUTH; EAST WEST ; UP DOWN
 Trace length: 0h12'00". Analyzed 94% trace (manual window selection)
 Sampling rate: 128 Hz
 Window size: 20 s
 Smoothing type: Triangular window
 Smoothing: 12%

HORIZONTAL TO VERTICAL SPECTRAL RATIO

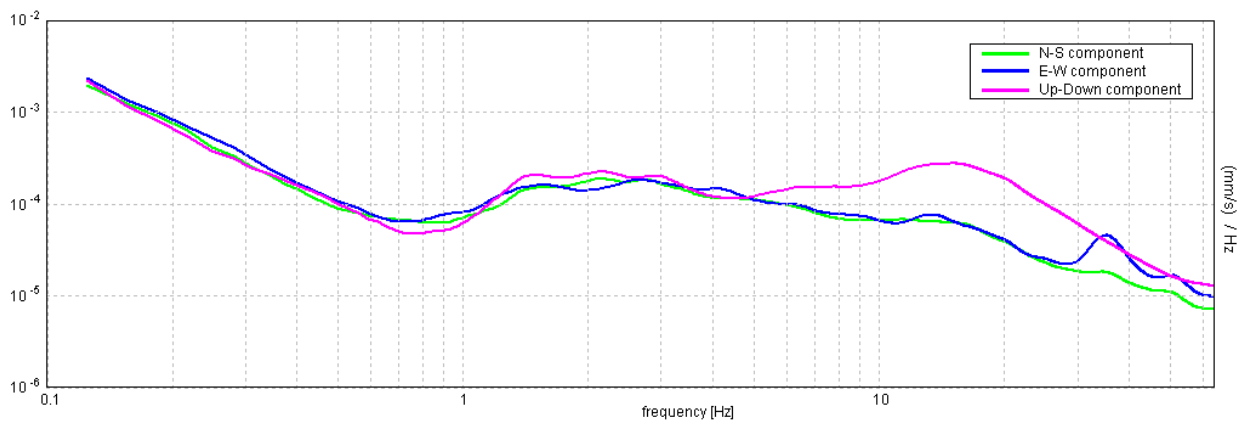
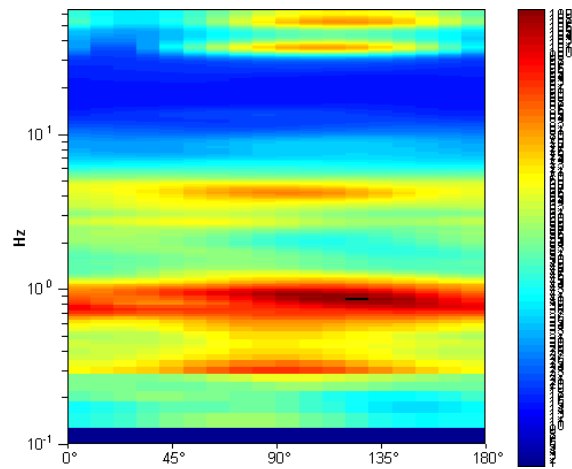
Max. H/V at 0.84 ± 2.96 Hz. (In the range 0.0 - 64.0 Hz).



H/V TIME HISTORY



DIRECTIONAL H/V

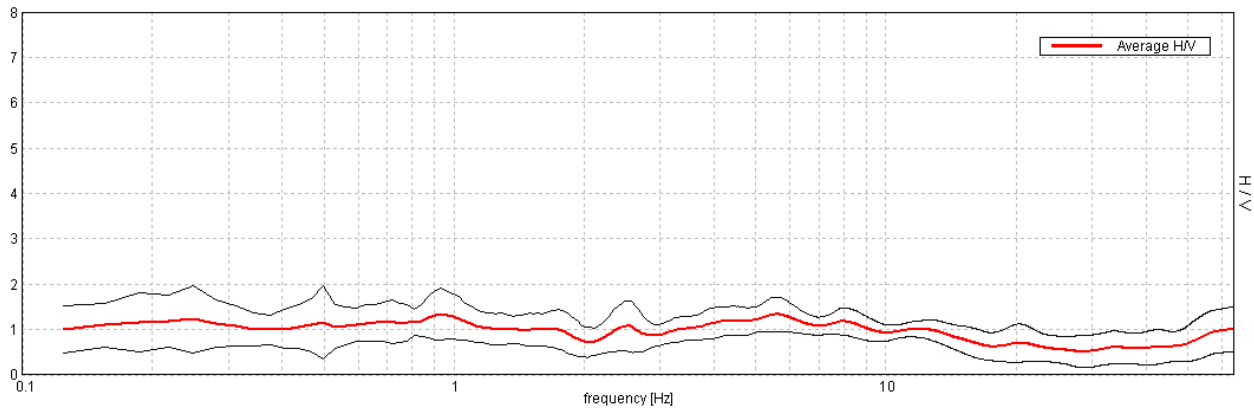


ZOLA PREDOSA, 037060P94HVSR94

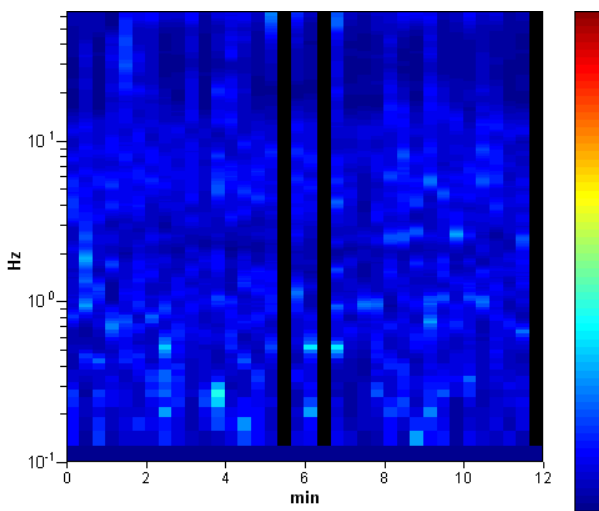
Instrument: TRZ-0153/01-11
 Start recording: 15/04/13 11:54:34 End recording: 15/04/13 12:06:34
 Channel labels: NORTH SOUTH; EAST WEST ; UP DOWN
 Trace length: 0h12'00". Analyzed 92% trace (manual window selection)
 Sampling rate: 128 Hz
 Window size: 20 s
 Smoothing type: Triangular window
 Smoothing: 12%

HORIZONTAL TO VERTICAL SPECTRAL RATIO

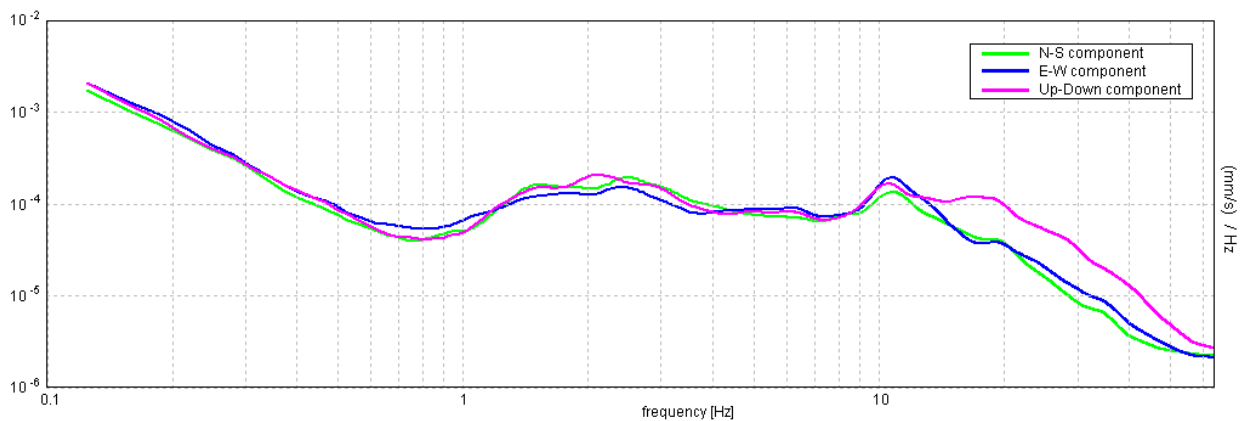
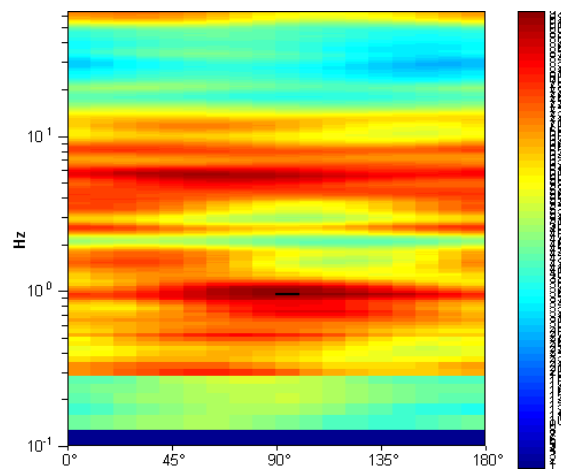
Max. H/V at 0.94 ± 0.25 Hz. (In the range 0.0 - 64.0 Hz).



H/V TIME HISTORY



DIRECTIONAL H/V

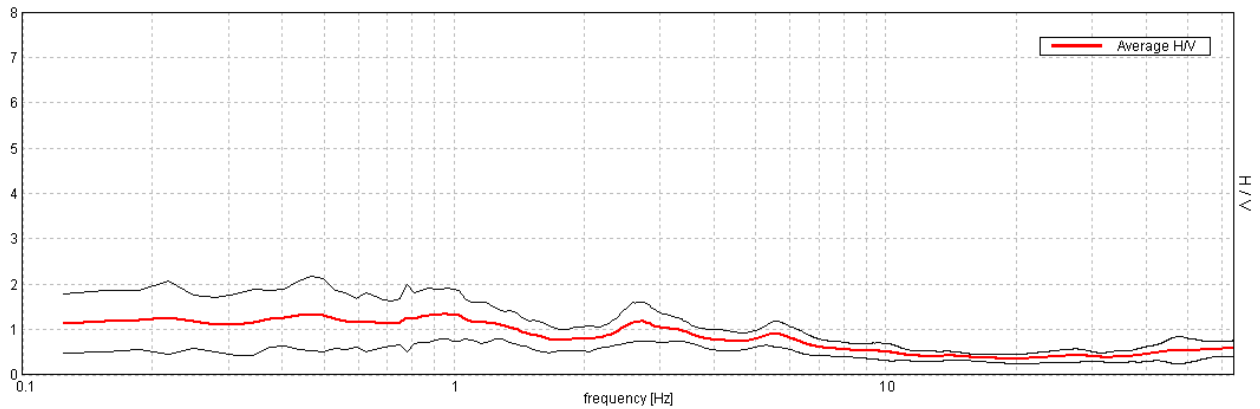


ZOLA PREDOSA, 037060P95HVSR95

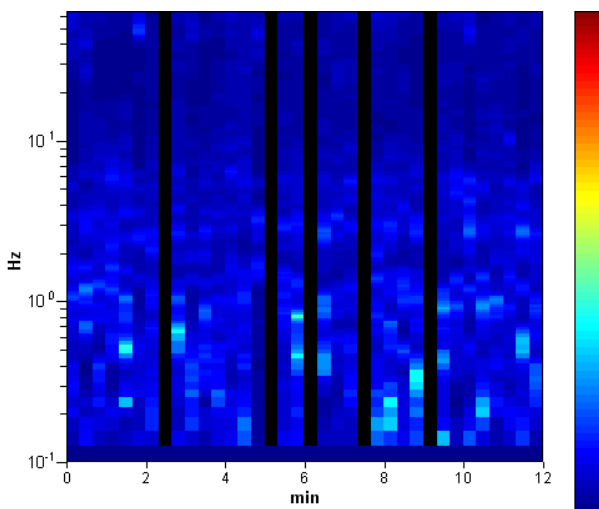
Instrument: TRZ-0153/01-11
 Start recording: 15/04/13 12:10:43 End recording: 15/04/13 12:22:43
 Channel labels: NORTH SOUTH; EAST WEST ; UP DOWN
 Trace length: 0h12'00". Analyzed 86% trace (manual window selection)
 Sampling rate: 128 Hz
 Window size: 20 s
 Smoothing type: Triangular window
 Smoothing: 12%

HORIZONTAL TO VERTICAL SPECTRAL RATIO

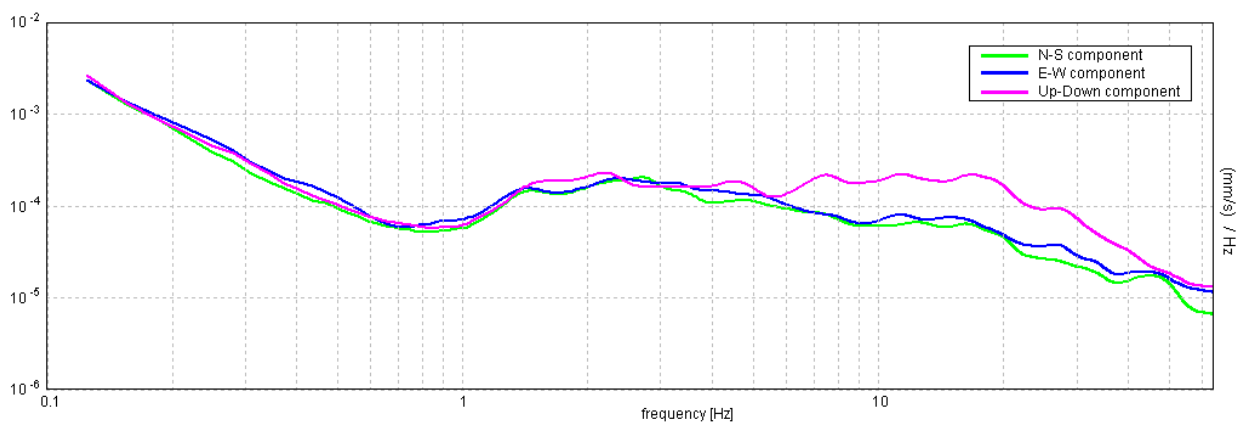
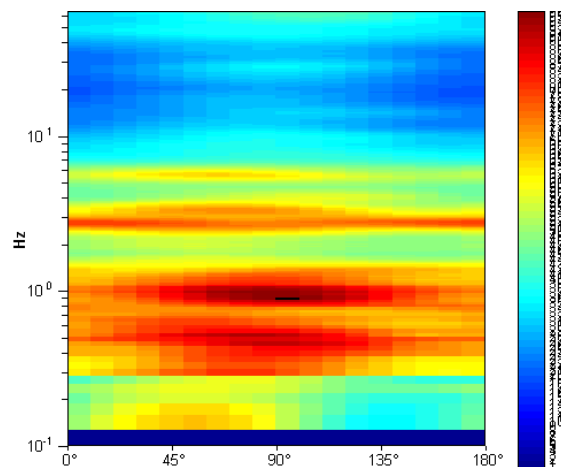
Max. H/V at 0.97 ± 0.15 Hz (in the range 0.0 - 64.0 Hz).



H/V TIME HISTORY



DIRECTIONAL H/V

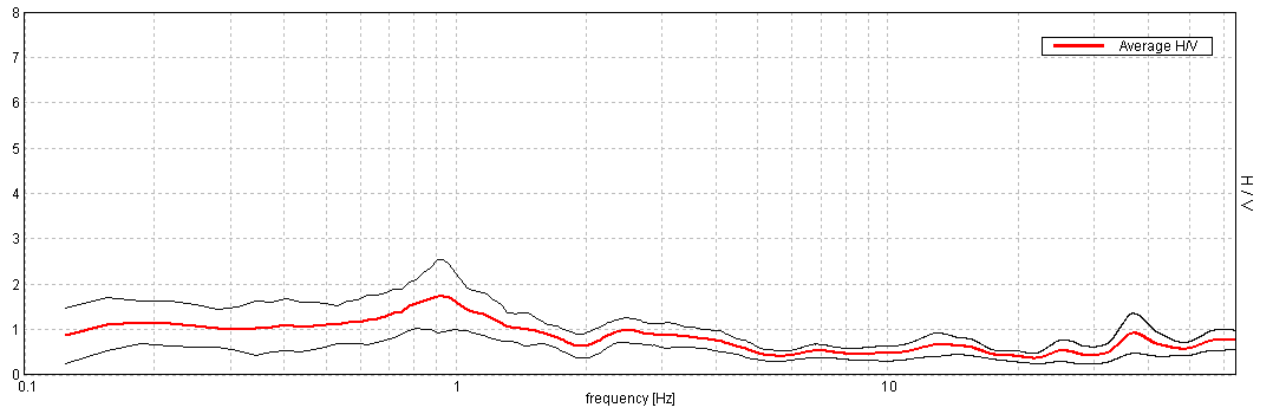


ZOLA PREDOSA, 037060P96HVSR96

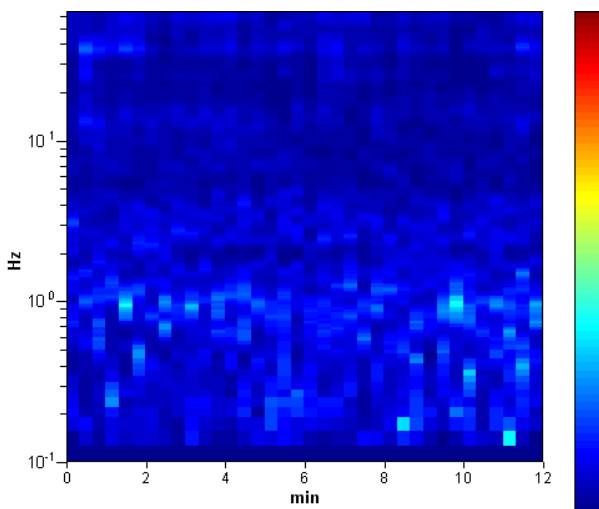
Instrument: TRZ-0153/01-11
 Start recording: 15/04/13 12:29:01 End recording: 15/04/13 12:41:01
 Channel labels: NORTH SOUTH; EAST WEST ; UP DOWN
 Trace length: 0h12'00". Analysis performed on the entire trace.
 Sampling rate: 128 Hz
 Window size: 20 s
 Smoothing type: Triangular window
 Smoothing: 12%

HORIZONTAL TO VERTICAL SPECTRAL RATIO

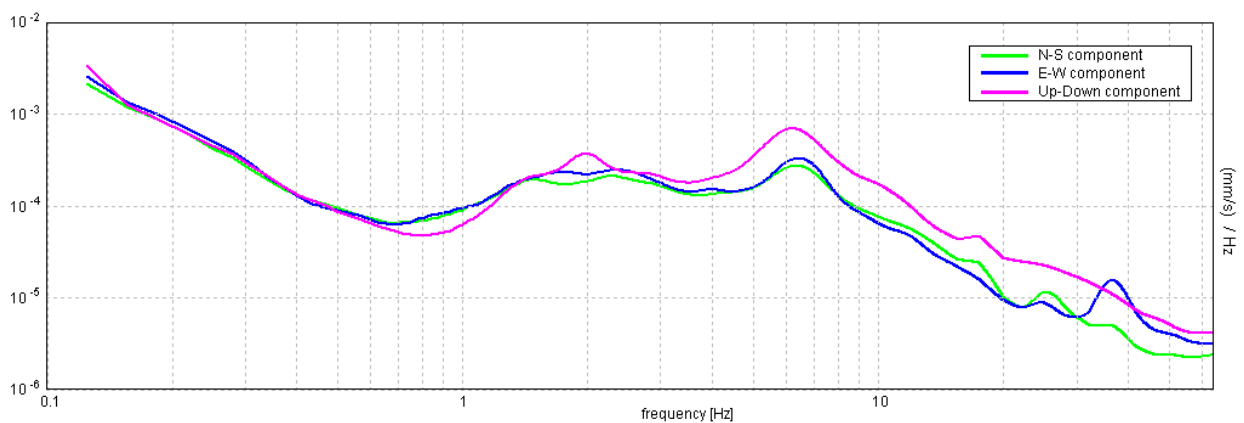
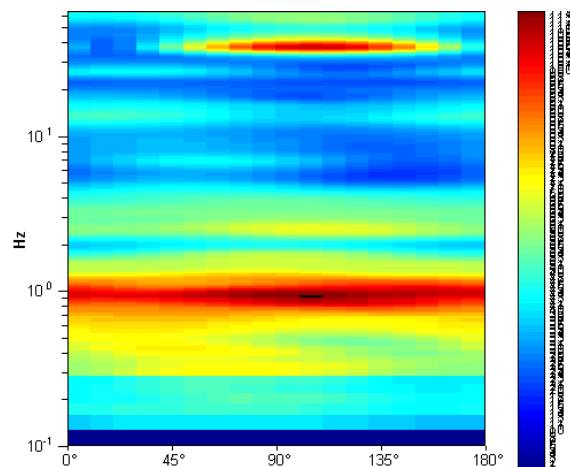
Max. H/V at 0.94 ± 0.12 Hz. (In the range 0.0 - 64.0 Hz).



H/V TIME HISTORY



DIRECTIONAL H/V

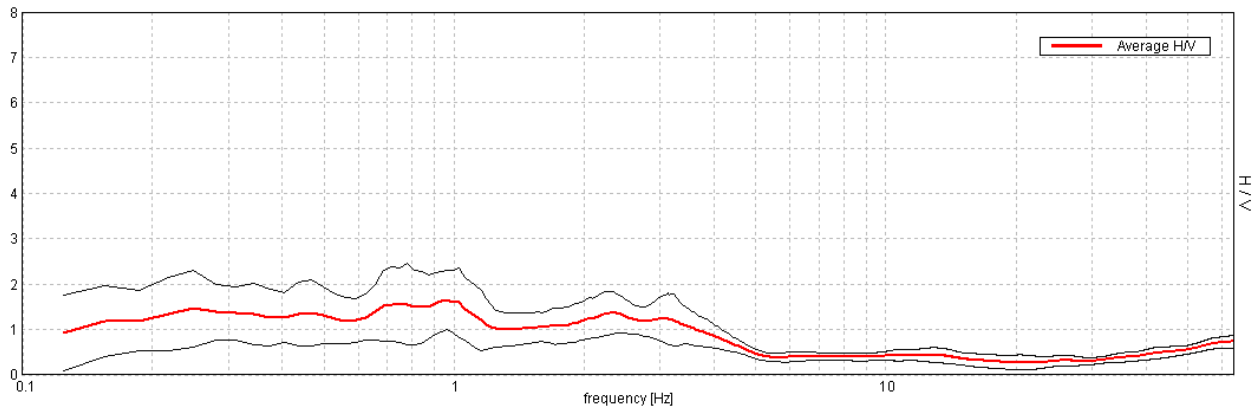


ZOLA PREDOSA, 037060P97HVSR97

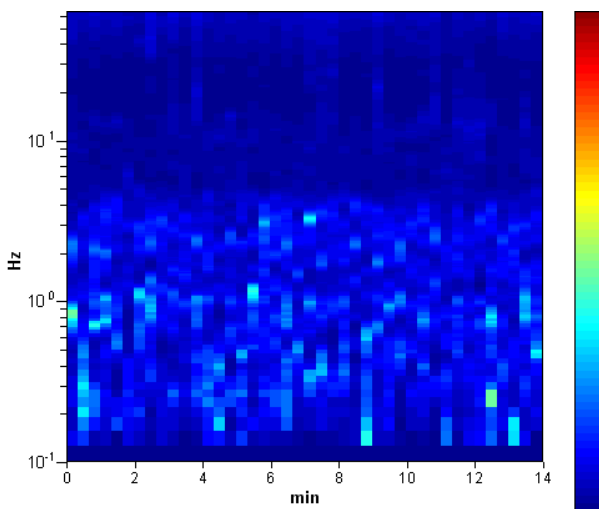
Instrument: TRZ-0153/01-11
 Start recording: 15/04/13 12:44:41 End recording: 15/04/13 12:58:42
 Channel labels: NORTH SOUTH; EAST WEST ; UP DOWN
 Trace length: 0h14'00". Analysis performed on the entire trace.
 Sampling rate: 128 Hz
 Window size: 20 s
 Smoothing type: Triangular window
 Smoothing: 12%

HORIZONTAL TO VERTICAL SPECTRAL RATIO

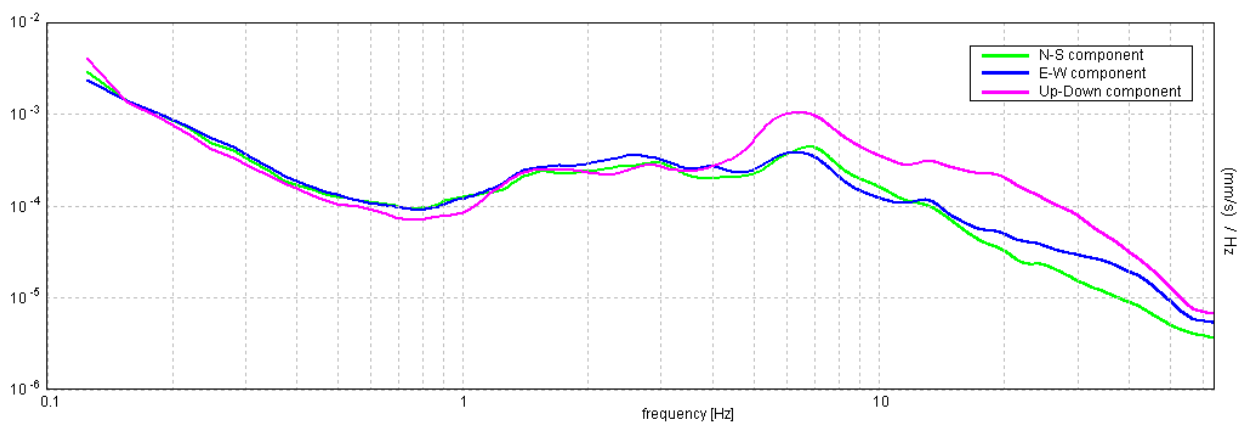
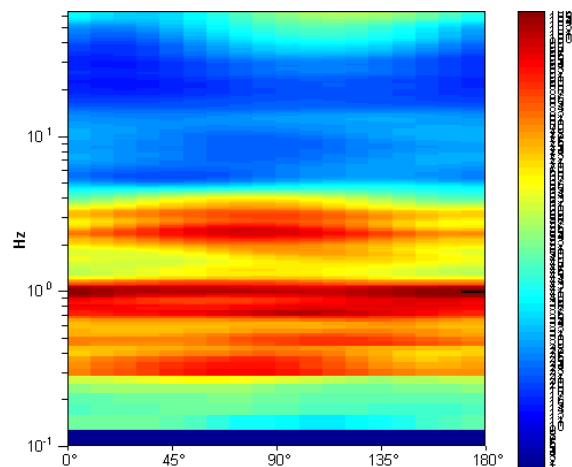
Max. H/V at 0.97 ± 0.04 Hz. (In the range 0.0 - 64.0 Hz).



H/V TIME HISTORY



DIRECTIONAL H/V

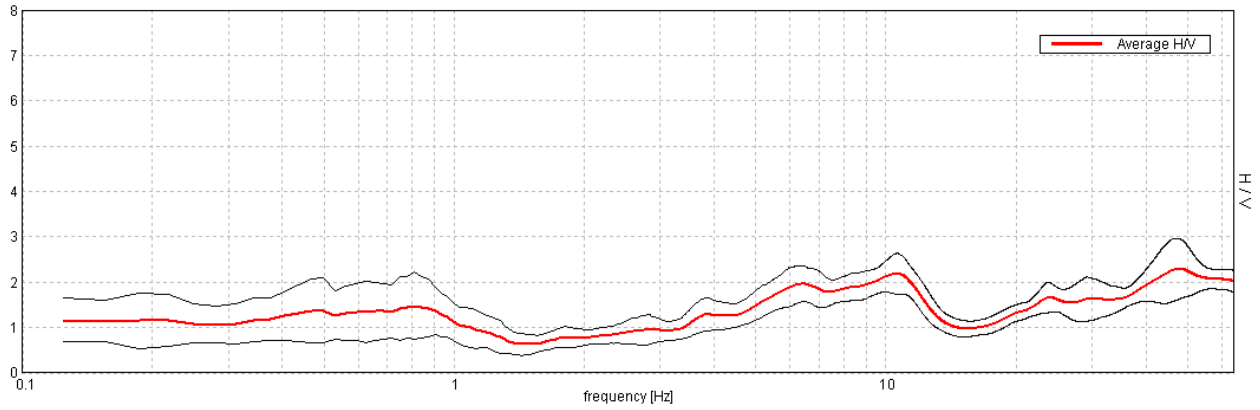


ZOLA PREDOSA, 037060P98HVSR98

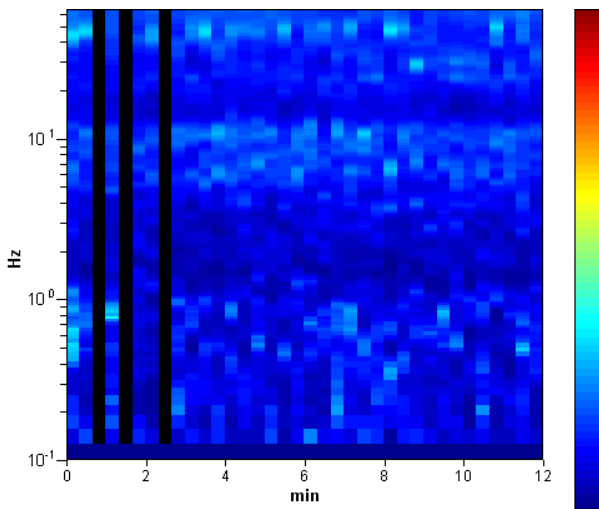
Instrument: TRZ-0108/01-10
 Start recording: 15/04/13 08:46:47 End recording: 15/04/13 08:58:48
 Channel labels: NORTH SOUTH; EAST WEST ; UP DOWN
 Trace length: 0h12'00". Analyzed 92% trace (manual window selection)
 Sampling rate: 128 Hz
 Window size: 20 s
 Smoothing type: Triangular window
 Smoothing: 12%

HORIZONTAL TO VERTICAL SPECTRAL RATIO

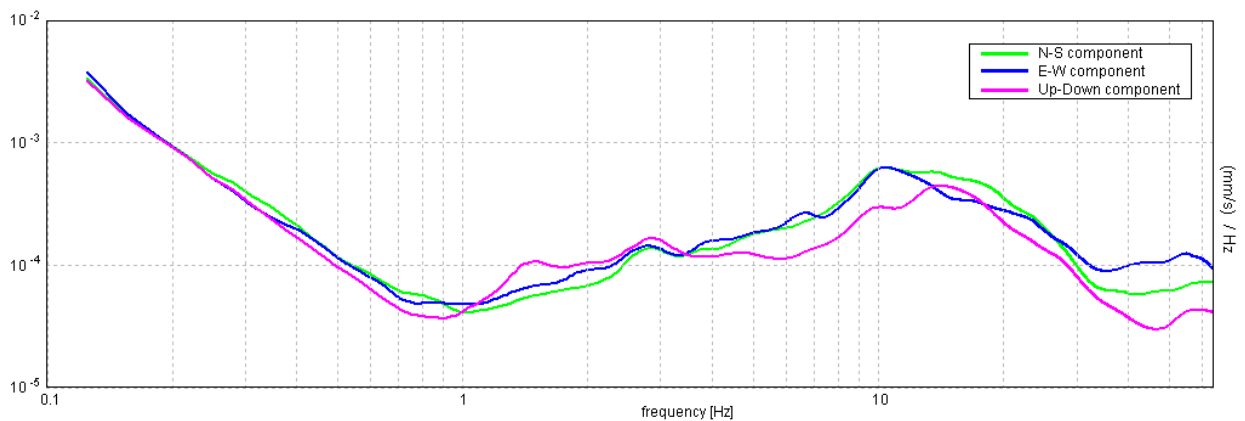
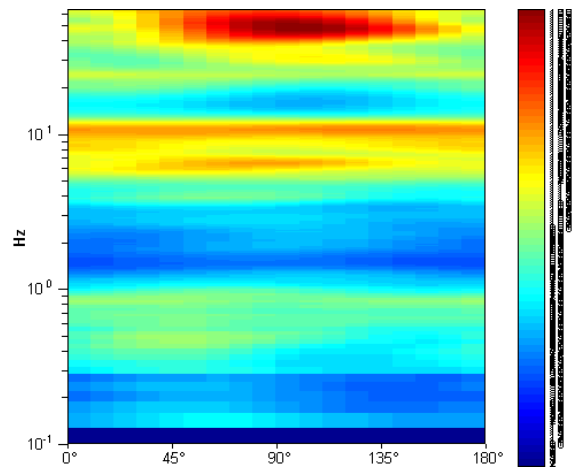
Max. H/V at 10.56 ± 1.38 Hz. (In the range 0.0 - 20.0 Hz).



H/V TIME HISTORY



DIRECTIONAL H/V

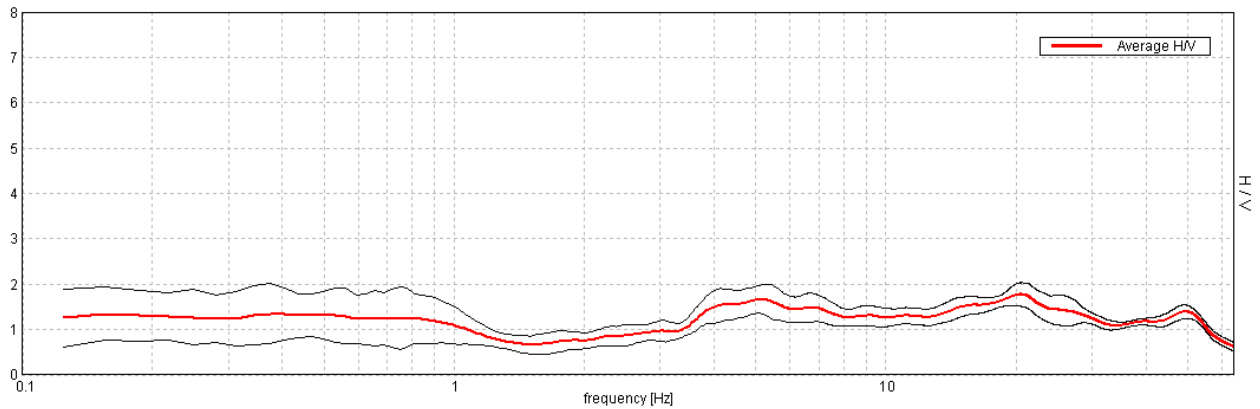


ZOLA PREDOSA, 037060P99HVSR99

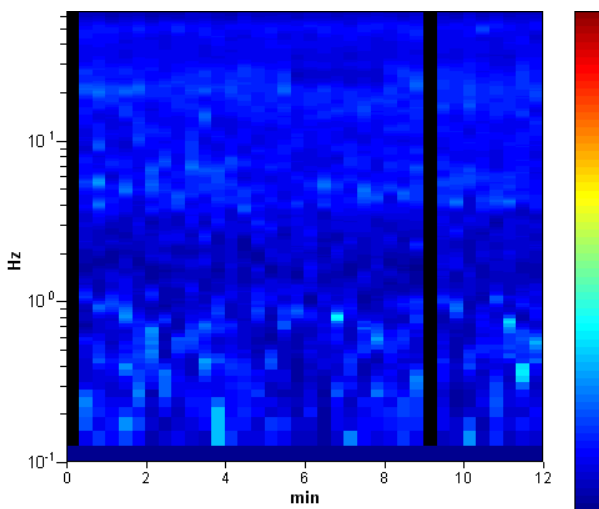
Instrument: TRZ-0108/01-10
 Start recording: 15/04/13 09:13:15 End recording: 15/04/13 09:25:16
 Channel labels: NORTH SOUTH; EAST WEST ; UP DOWN
 Trace length: 0h12'00". Analyzed 94% trace (manual window selection)
 Sampling rate: 128 Hz
 Window size: 20 s
 Smoothing type: Triangular window
 Smoothing: 12%

HORIZONTAL TO VERTICAL SPECTRAL RATIO

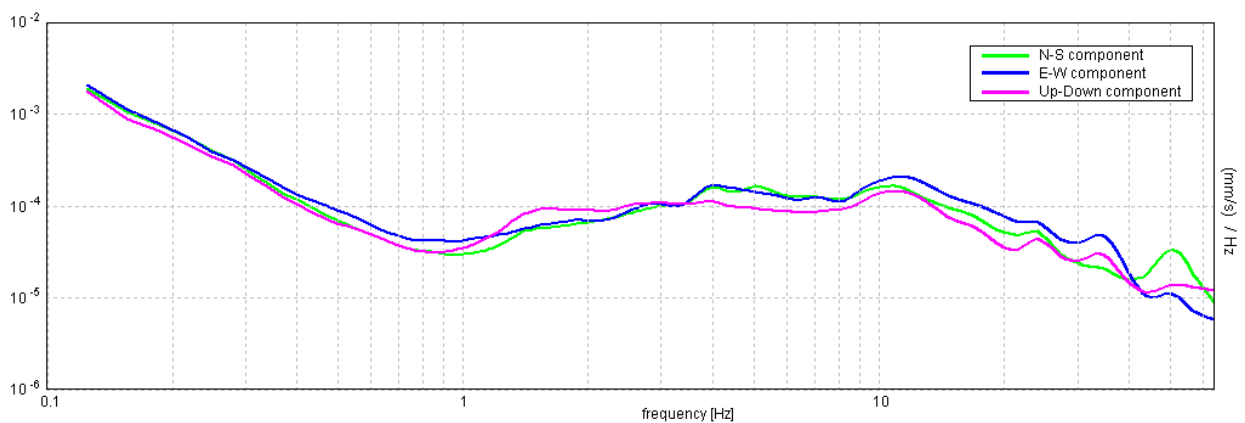
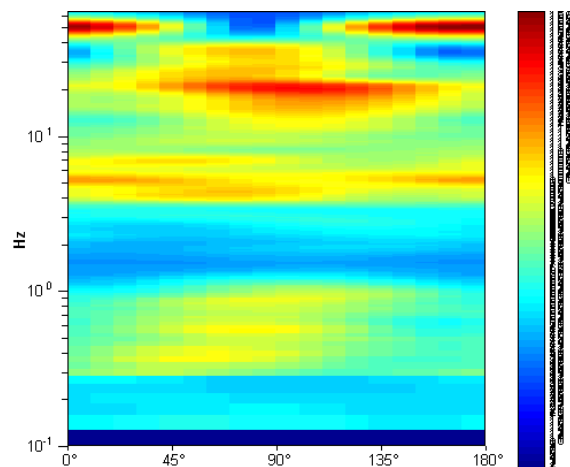
Max. H/V at 20.31 ± 1.52 Hz. (In the range 0.0 - 64.0 Hz).



H/V TIME HISTORY



DIRECTIONAL H/V

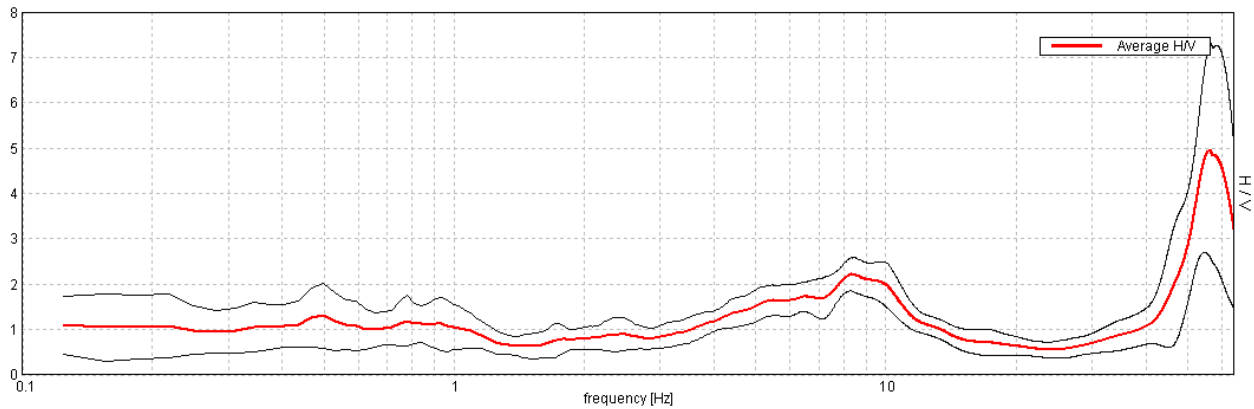


ZOLA PREDOSA, 037060P100HVSR100

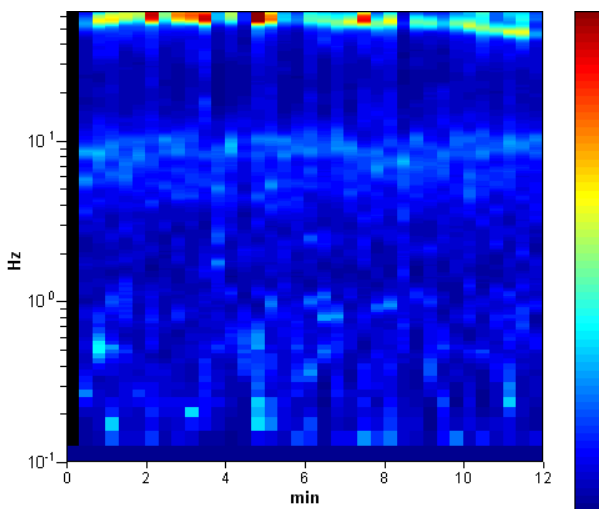
Instrument: TRZ-0108/01-10
Start recording: 15/04/13 09:38:10 End recording: 15/04/13 09:50:11
Channel labels: NORTH SOUTH; EAST WEST ; UP DOWN
Trace length: 0h12'00". Analyzed 97% trace (manual window selection)
Sampling rate: 128 Hz
Window size: 20 s
Smoothing type: Triangular window
Smoothing: 12%

HORIZONTAL TO VERTICAL SPECTRAL RATIO

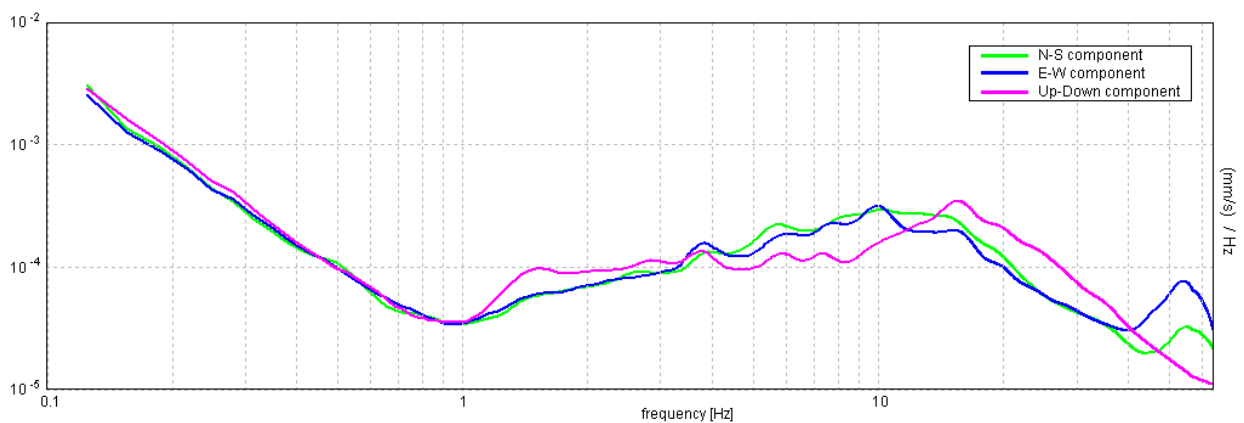
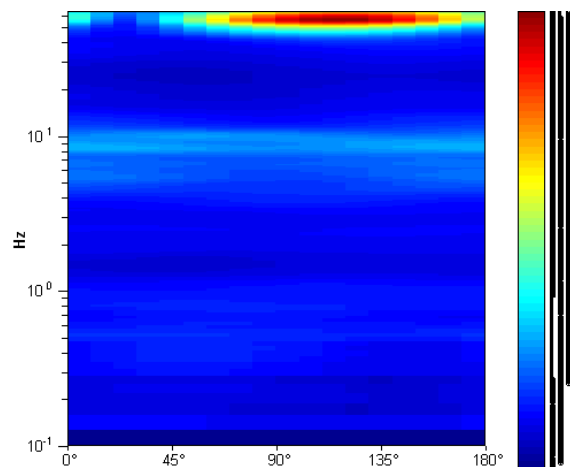
Max. H/V at 8.31 ± 0.01 Hz. (In the range 0.0 - 40.0 Hz).



H/V TIME HISTORY



DIRECTIONAL H/V

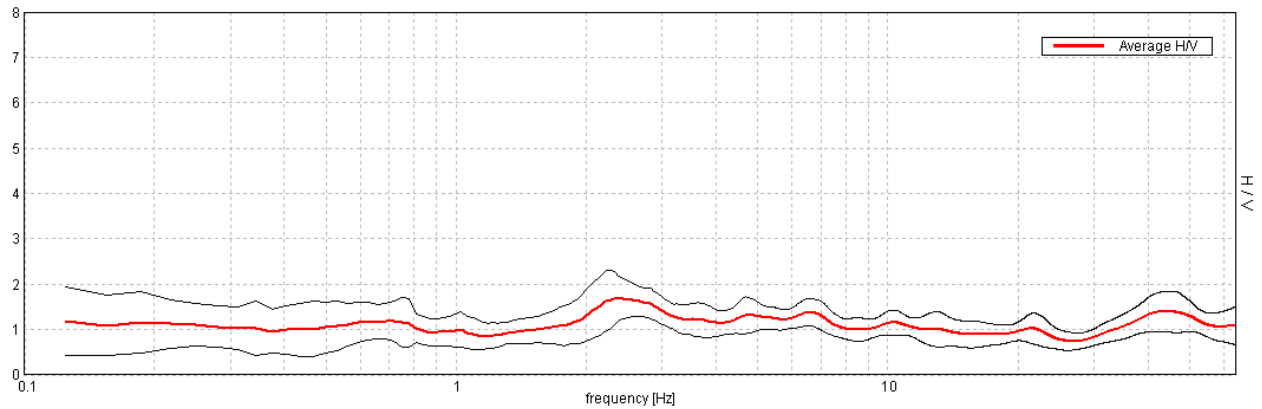


ZOLA PREDOSA, 037060P102HVSR102

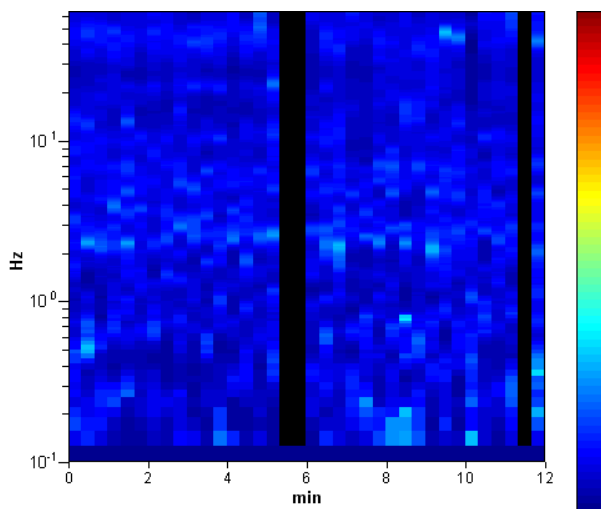
Instrument: TRZ-0108/01-10
 Start recording: 15/04/13 10:22:01 End recording: 15/04/13 10:34:02
 Channel labels: NORTH SOUTH; EAST WEST ; UP DOWN
 Trace length: 0h12'00". Analyzed 92% trace (manual window selection)
 Sampling rate: 128 Hz
 Window size: 20 s
 Smoothing type: Triangular window
 Smoothing: 12%

HORIZONTAL TO VERTICAL SPECTRAL RATIO

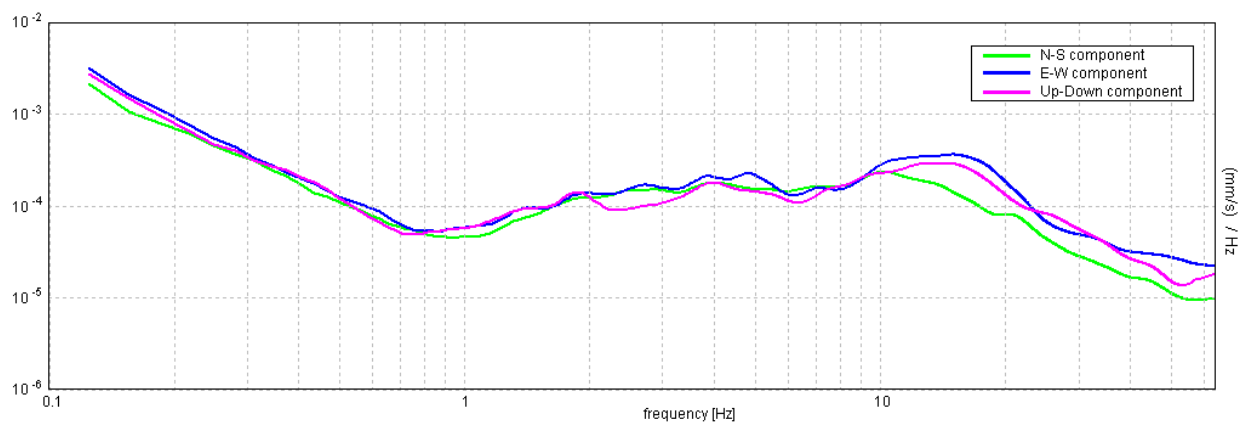
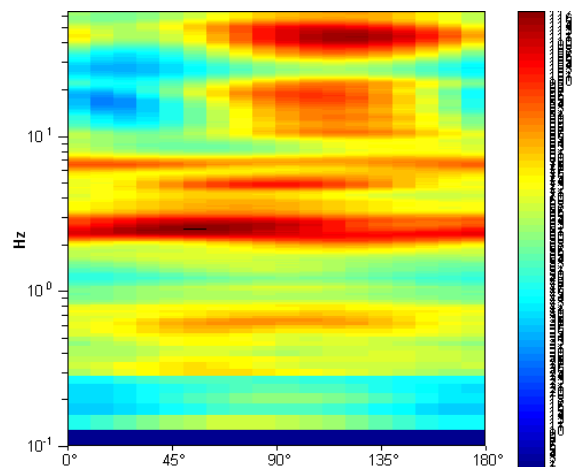
Max. H/V at 2.34 ± 0.17 Hz (in the range 0.0 - 64.0 Hz).



H/V TIME HISTORY



DIRECTIONAL H/V

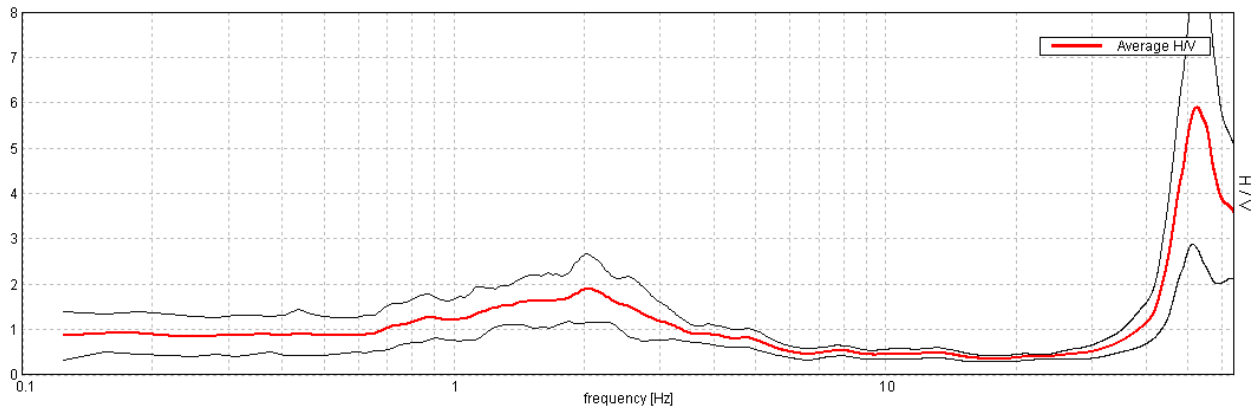


ZOLA PREDOSA, 037060P103HVSR103

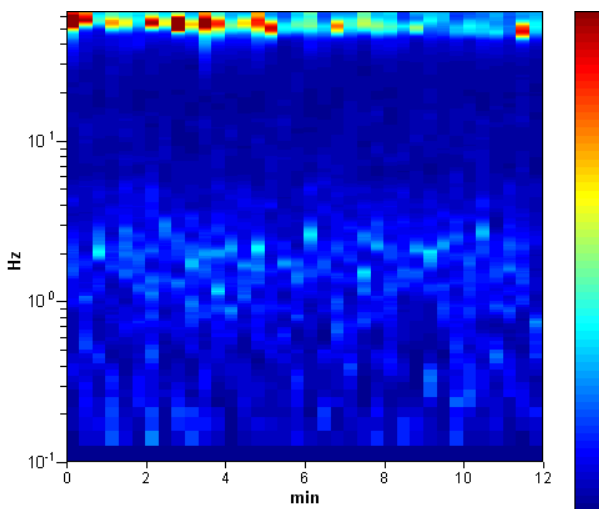
Instrument: TRZ-0108/01-10
 Start recording: 15/04/13 10:48:57 End recording: 15/04/13 11:00:58
 Channel labels: NORTH SOUTH; EAST WEST ; UP DOWN
 Trace length: 0h12'00". Analysis performed on the entire trace.
 Sampling rate: 128 Hz
 Window size: 20 s
 Smoothing type: Triangular window
 Smoothing: 12%

HORIZONTAL TO VERTICAL SPECTRAL RATIO

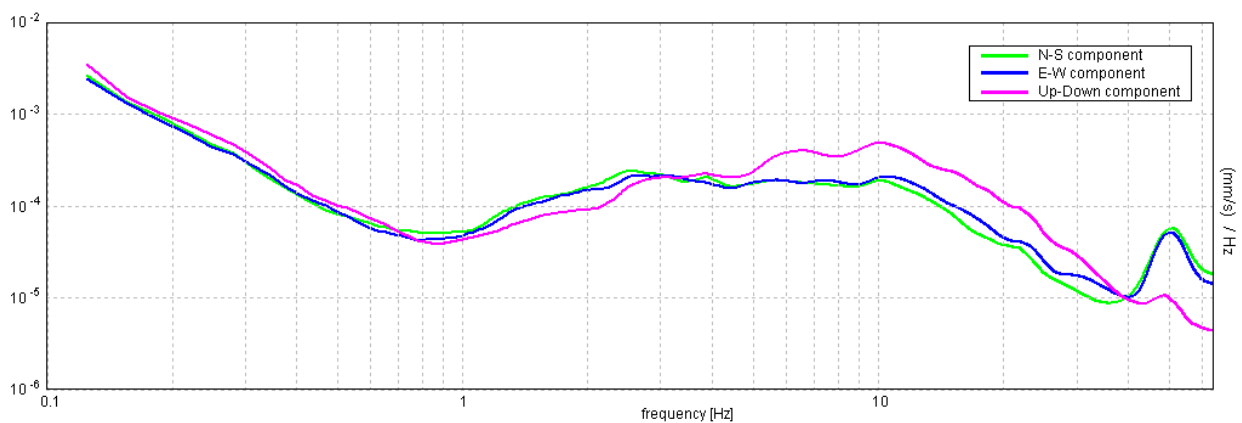
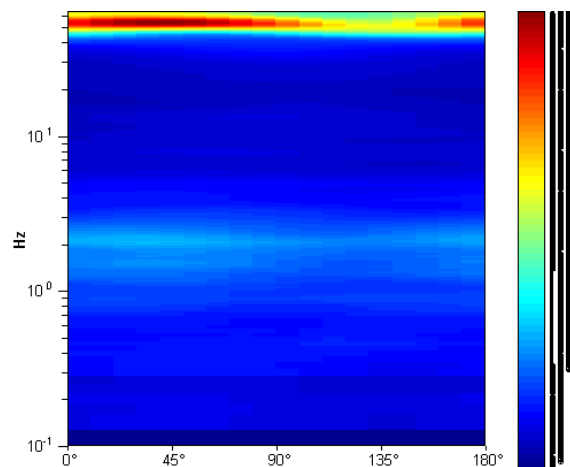
Max. H/V at 2.03 ± 0.04 Hz. (In the range 0.0 - 30.0 Hz).



H/V TIME HISTORY



DIRECTIONAL H/V

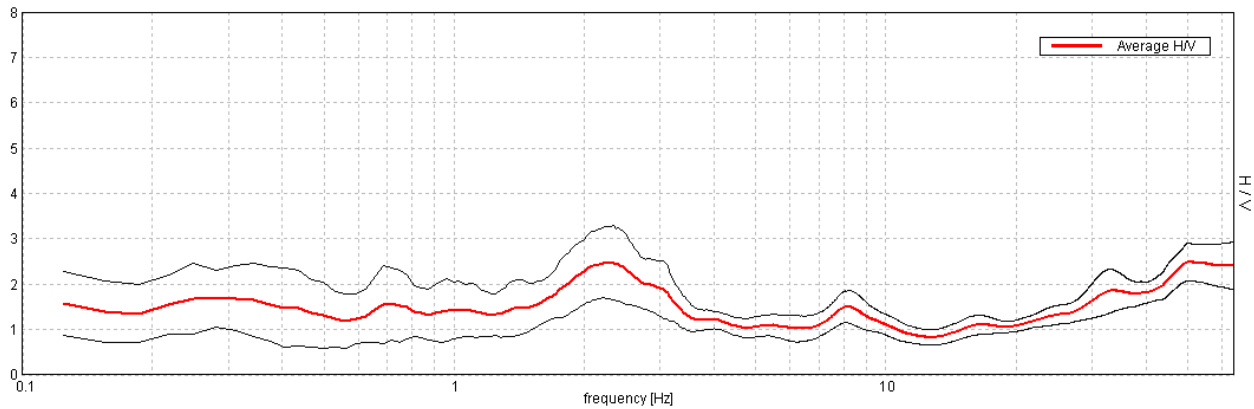


ZOLA PREDOSA, 037060P105HVSR105

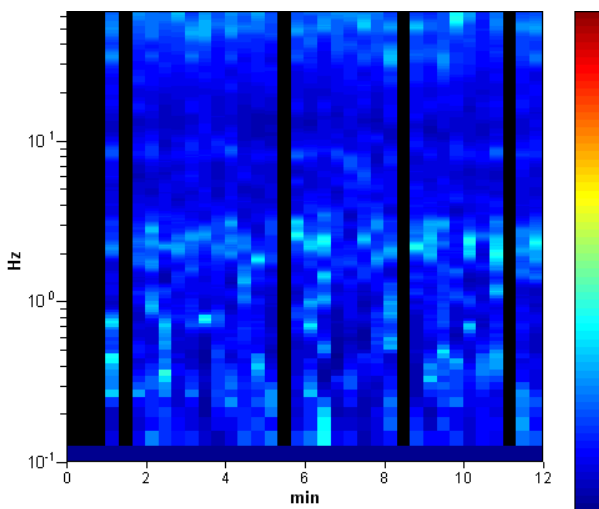
Instrument: TRZ-0108/01-10
 Start recording: 15/04/13 11:34:21 End recording: 15/04/13 11:46:22
 Channel labels: NORTH SOUTH; EAST WEST ; UP DOWN
 Trace length: 0h12'00". Analyzed 81% trace (manual window selection)
 Sampling rate: 128 Hz
 Window size: 20 s
 Smoothing type: Triangular window
 Smoothing: 12%

HORIZONTAL TO VERTICAL SPECTRAL RATIO

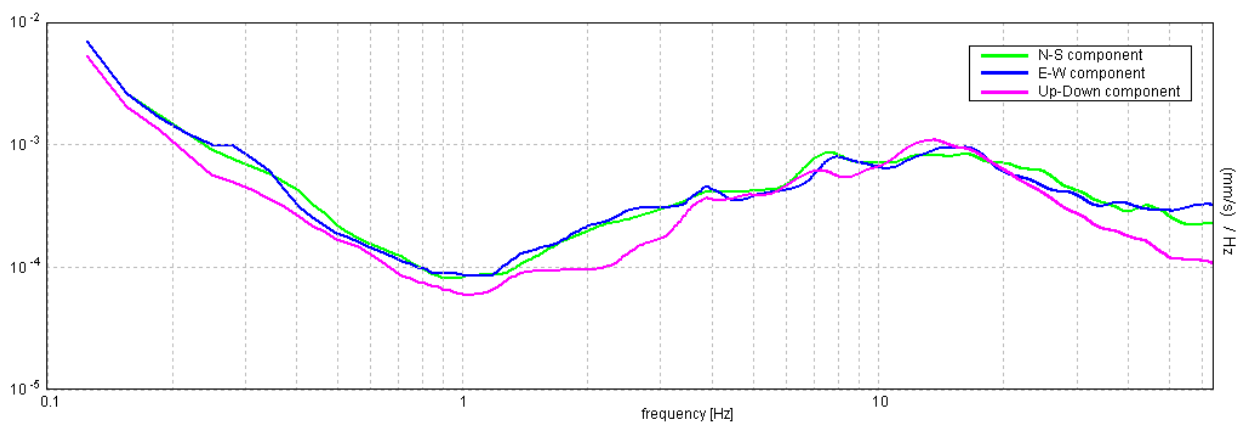
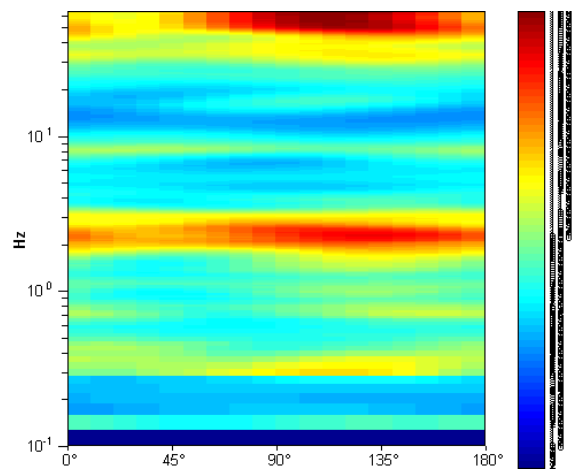
Max. H/V at 2.25 ± 0.24 Hz. (In the range 0.0 - 30.0 Hz).



H/V TIME HISTORY



DIRECTIONAL H/V

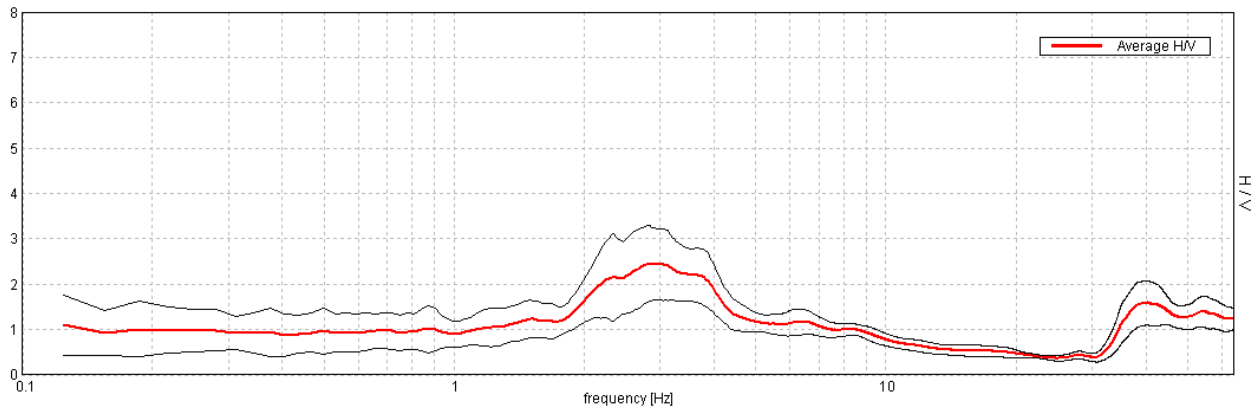


ZOLA PREDOSA, 037060P107HVSR107

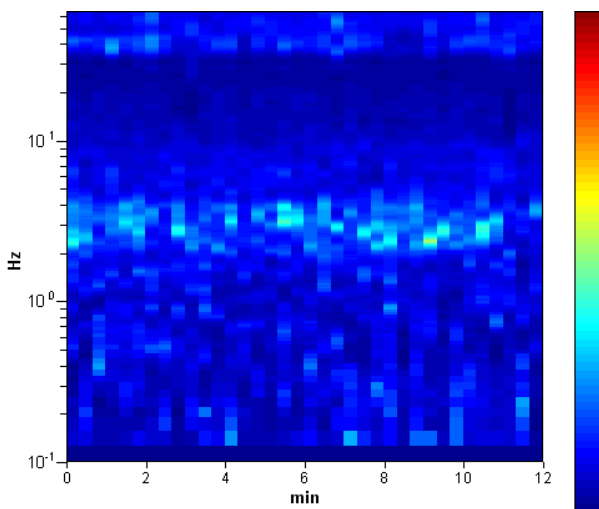
Instrument: TRZ-0108/01-10
Start recording: 15/04/13 12:08:03 End recording: 15/04/13 12:20:04
Channel labels: NORTH SOUTH; EAST WEST ; UP DOWN
Trace length: 0h12'00". Analysis performed on the entire trace.
Sampling rate: 128 Hz
Window size: 20 s
Smoothing type: Triangular window
Smoothing: 12%

HORIZONTAL TO VERTICAL SPECTRAL RATIO

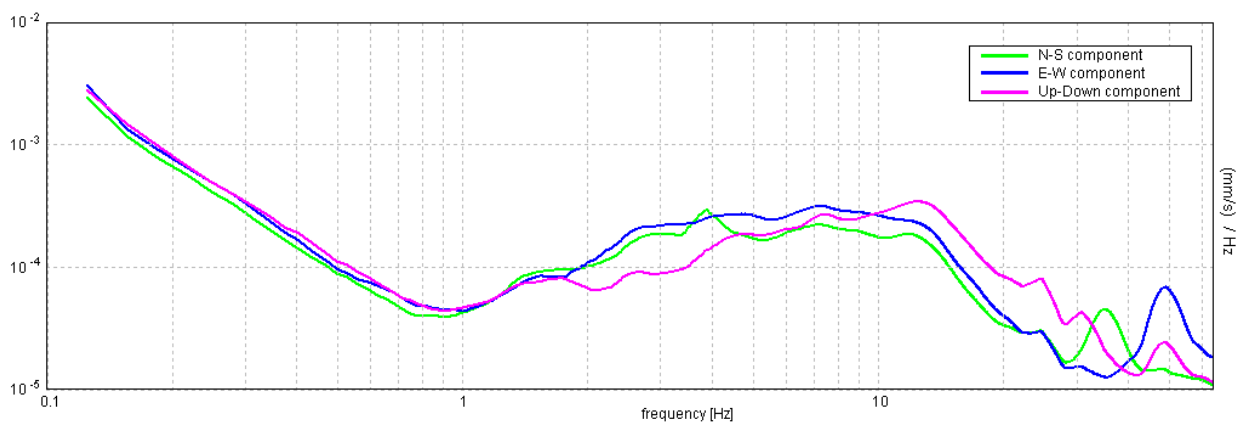
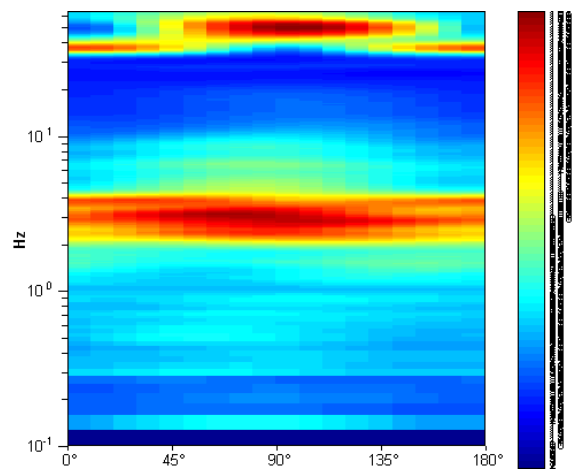
Max. H/V at 2.84 ± 0.09 Hz. (In the range 0.0 - 64.0 Hz).



H/V TIME HISTORY



DIRECTIONAL H/V

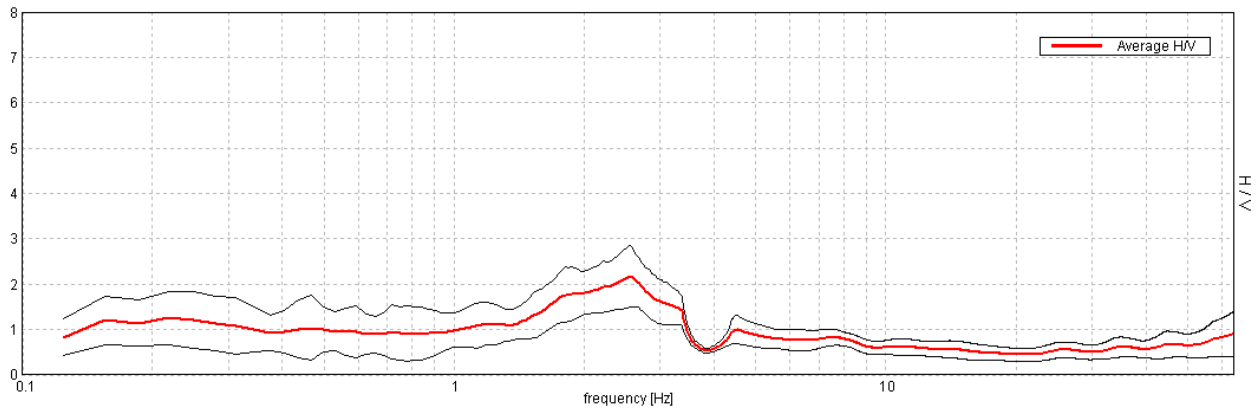


ZOLA PREDOSA, 037060P109HVSR109

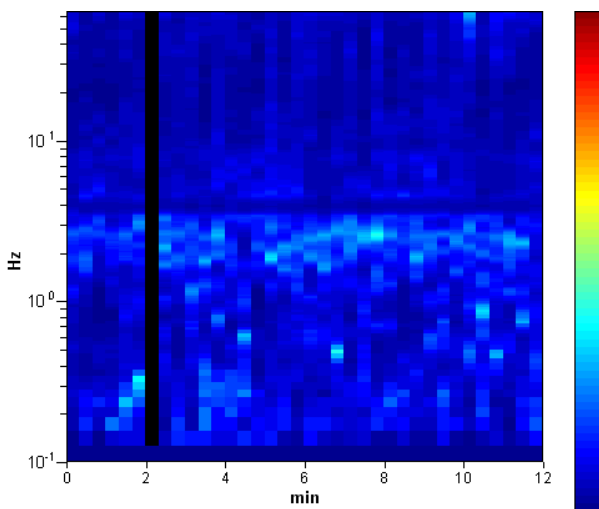
Instrument: TRZ-0153/01-11
 Start recording: 16/04/13 11:58:31 End recording: 16/04/13 12:10:31
 Channel labels: NORTH SOUTH; EAST WEST ; UP DOWN
 Trace length: 0h12'00". Analyzed 97% trace (manual window selection)
 Sampling rate: 128 Hz
 Window size: 20 s
 Smoothing type: Triangular window
 Smoothing: 12%

HORIZONTAL TO VERTICAL SPECTRAL RATIO

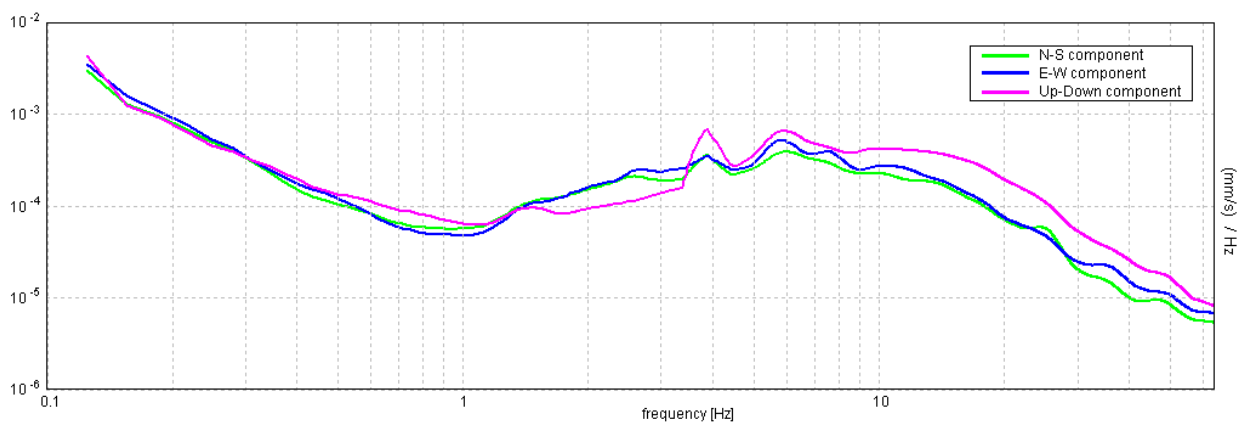
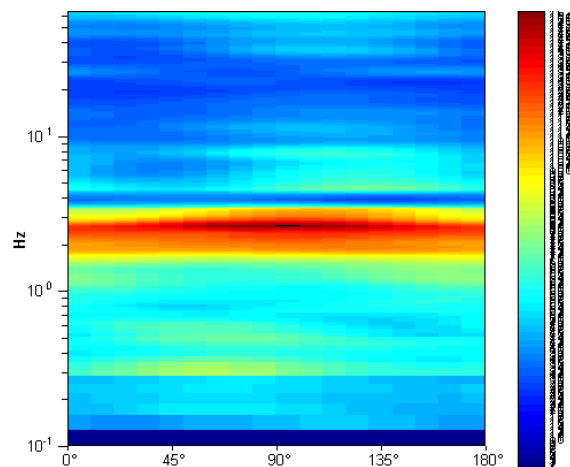
Max. H/V at 2.56 ± 0.01 Hz (in the range 0.0 - 64.0 Hz).



H/V TIME HISTORY



DIRECTIONAL H/V

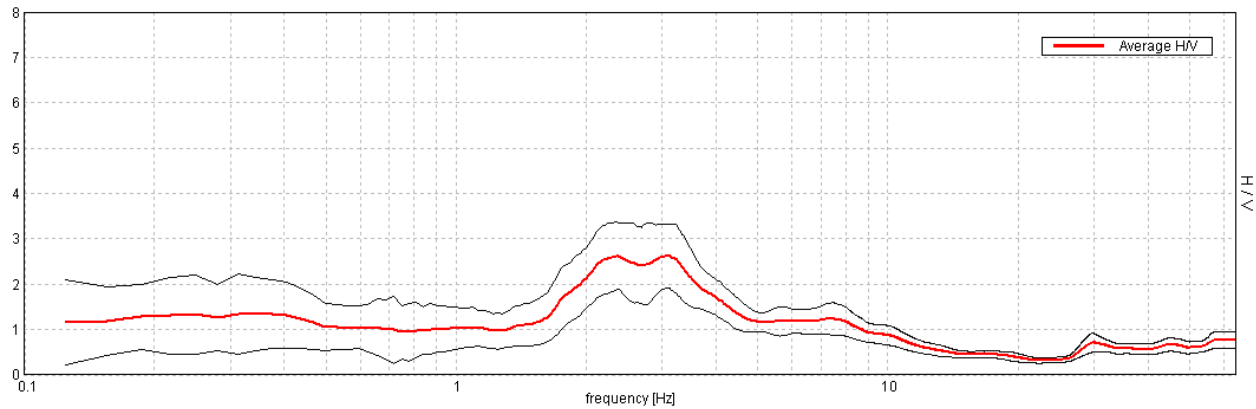


ZOLA PREDOSA, 037060P110VSR110

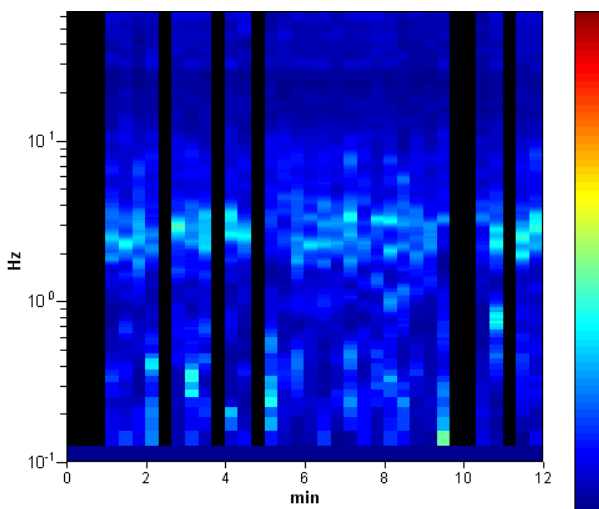
Instrument: TRZ-0153/01-11
 Start recording: 16/04/13 12:14:53 End recording: 16/04/13 12:26:53
 Channel labels: NORTH SOUTH; EAST WEST ; UP DOWN
 Trace length: 0h12'00". Analyzed 75% trace (manual window selection)
 Sampling rate: 128 Hz
 Window size: 20 s
 Smoothing type: Triangular window
 Smoothing: 12%

HORIZONTAL TO VERTICAL SPECTRAL RATIO

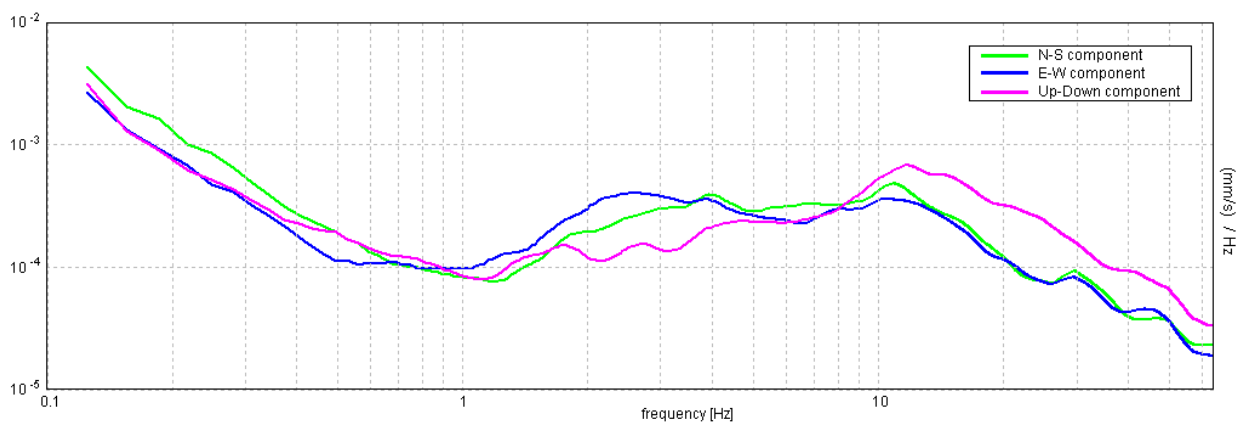
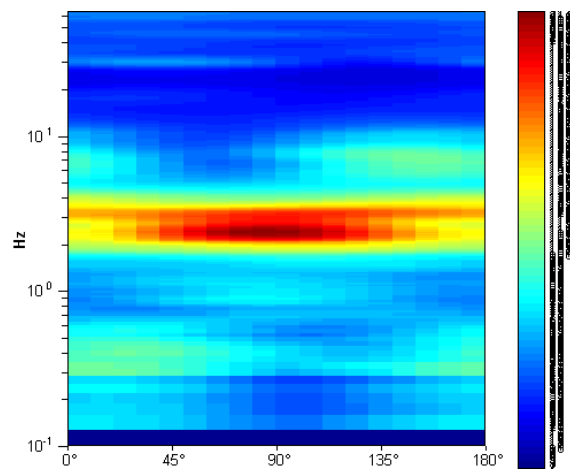
Max. H/V at 3.06 ± 0.24 Hz. (In the range 0.0 - 64.0 Hz).



H/V TIME HISTORY



DIRECTIONAL H/V

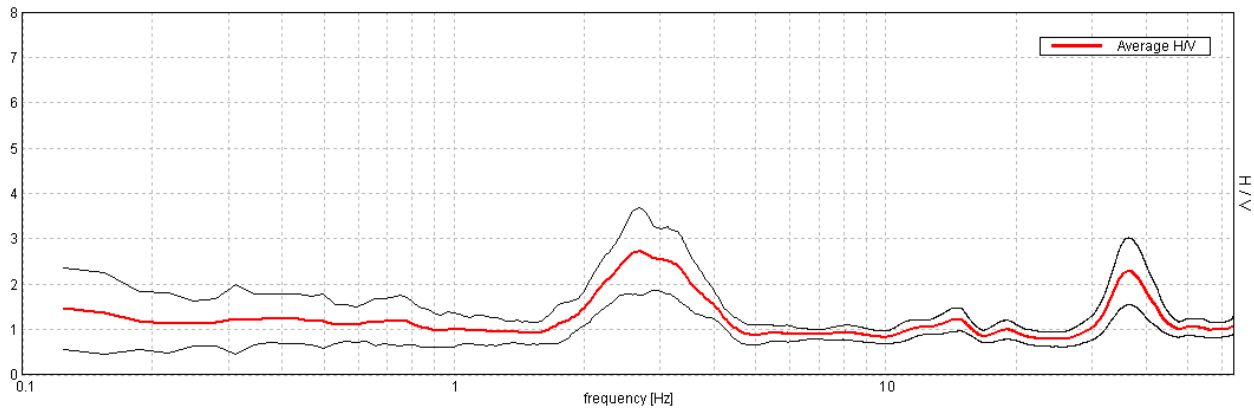


ZOLA PREDOSA, 037060P111HVSR111

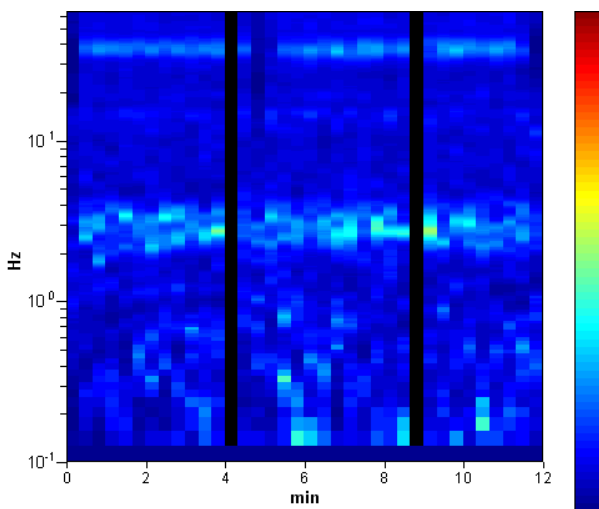
Instrument: TRZ-0153/01-11
 Start recording: 16/04/13 12:29:28 End recording: 16/04/13 12:41:28
 Channel labels: NORTH SOUTH; EAST WEST ; UP DOWN
 Trace length: 0h12'00". Analyzed 94% trace (manual window selection)
 Sampling rate: 128 Hz
 Window size: 20 s
 Smoothing type: Triangular window
 Smoothing: 12%

HORIZONTAL TO VERTICAL SPECTRAL RATIO

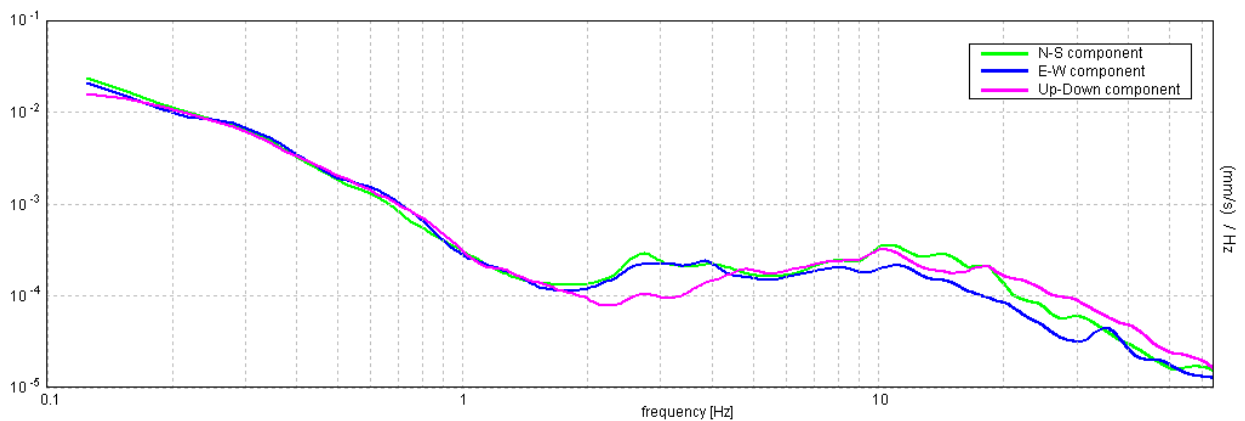
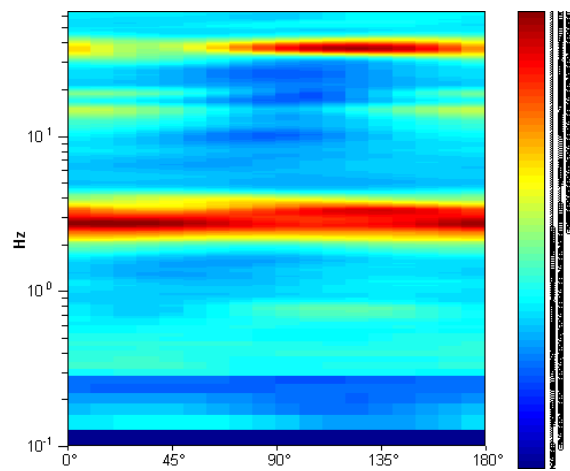
Max. H/V at 2.69 ± 0.14 Hz (in the range 0.0 - 64.0 Hz).



H/V TIME HISTORY



DIRECTIONAL H/V

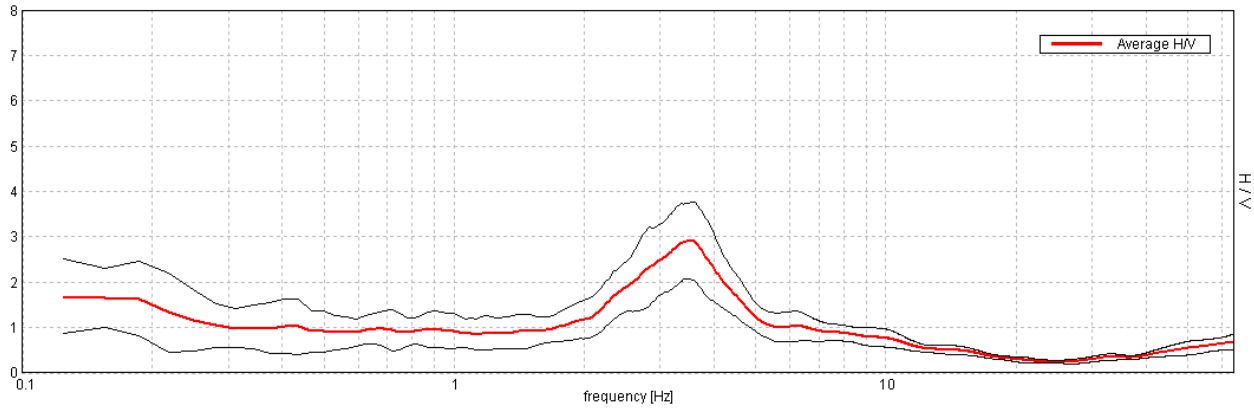


ZOLA PREDOSA, 037060P112HVSR112

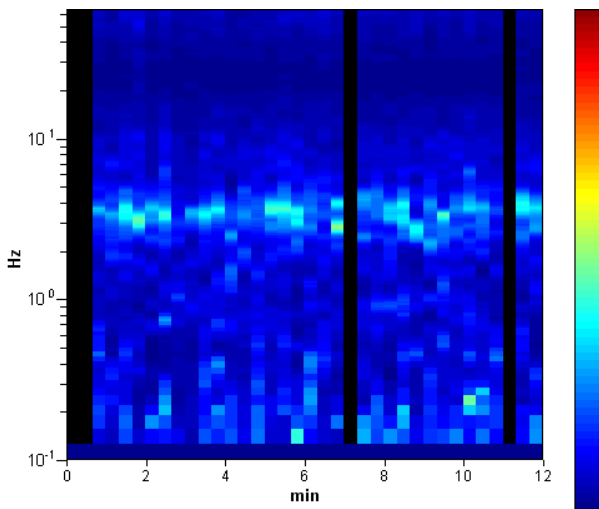
Instrument: TRZ-0153/01-11
 Start recording: 16/04/13 12:48:00 End recording: 16/04/13 13:00:00
 Channel labels: NORTH SOUTH; EAST WEST ; UP DOWN
 Trace length: 0h12'00". Analyzed 89% trace (manual window selection)
 Sampling rate: 128 Hz
 Window size: 20 s
 Smoothing type: Triangular window
 Smoothing: 12%

HORIZONTAL TO VERTICAL SPECTRAL RATIO

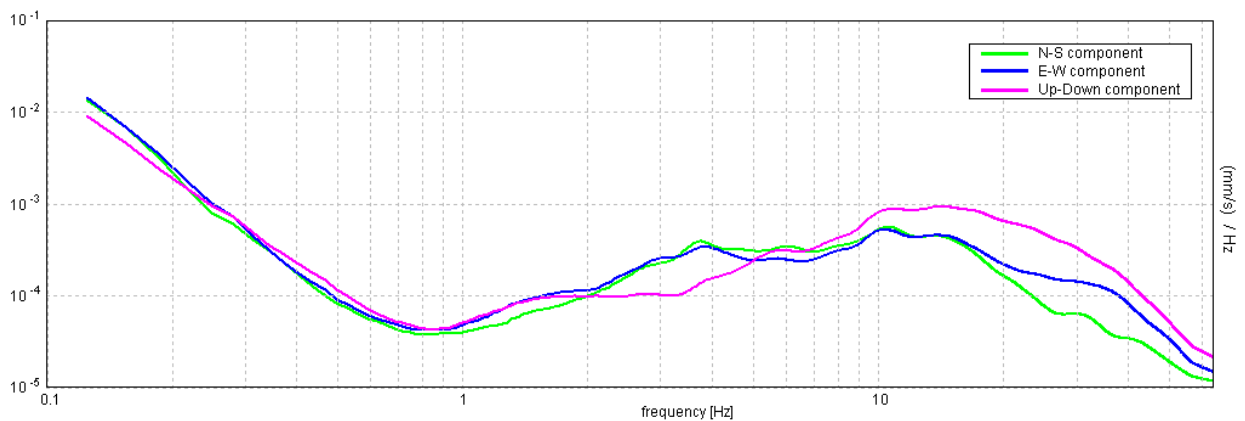
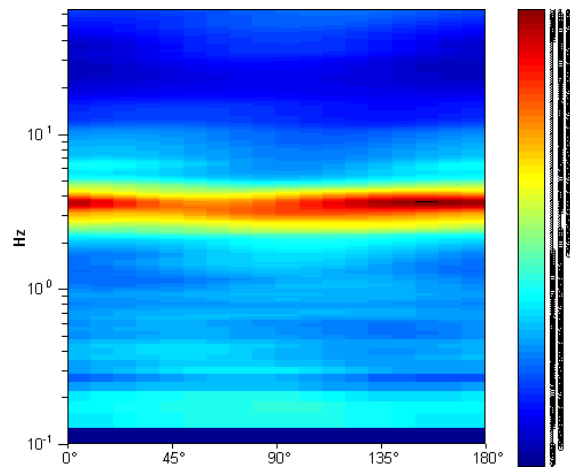
Max. H/V at 3.53 ± 0.05 Hz. (In the range 0.0 - 64.0 Hz).



H/V TIME HISTORY



DIRECTIONAL H/V

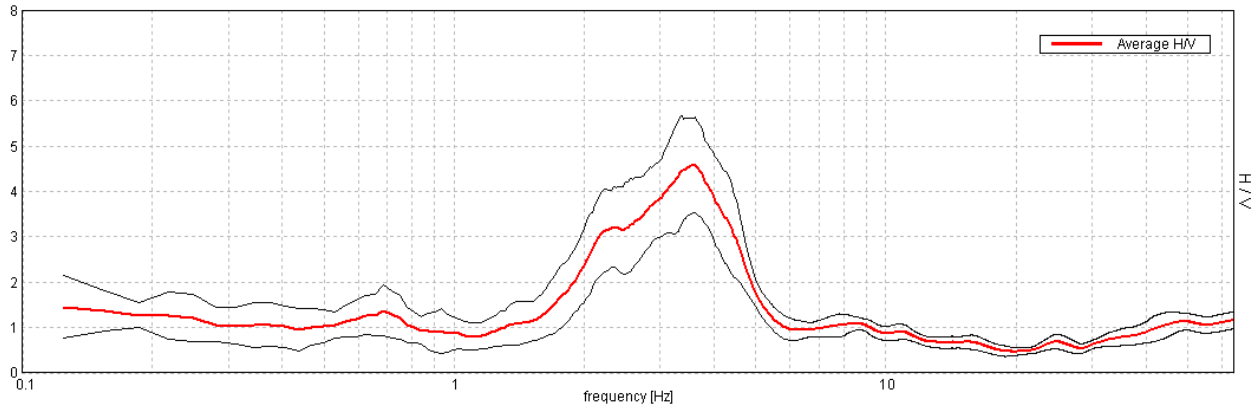


ZOLA PREDOSA, 037060P113HVSR113

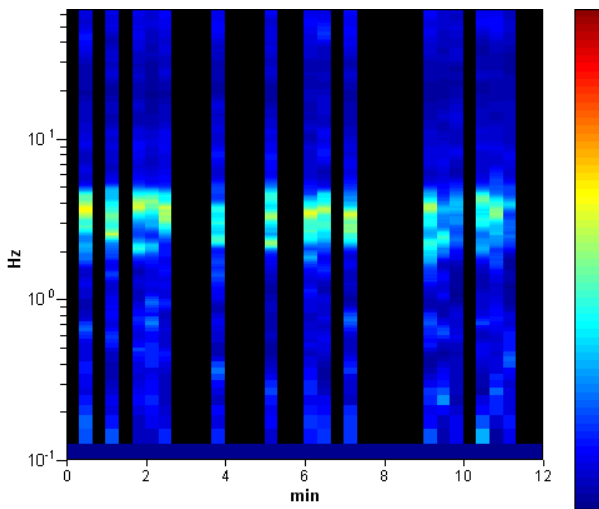
Instrument: TRZ-0153/01-11
 Start recording: 16/04/13 13:06:41 End recording: 16/04/13 13:18:41
 Channel labels: NORTH SOUTH; EAST WEST ; UP DOWN
 Trace length: 0h12'00". Analyzed 44% trace (manual window selection)
 Sampling rate: 128 Hz
 Window size: 20 s
 Smoothing type: Triangular window
 Smoothing: 12%

HORIZONTAL TO VERTICAL SPECTRAL RATIO

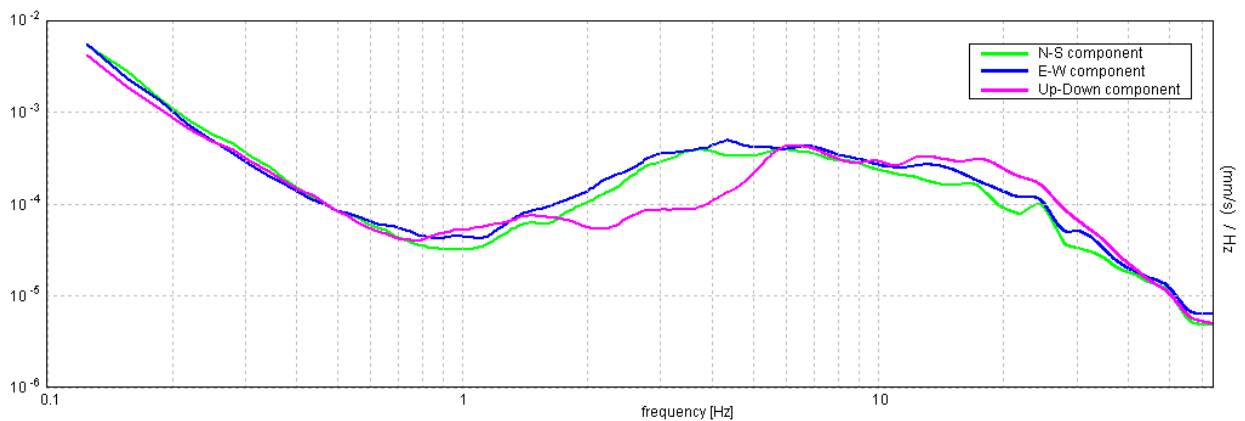
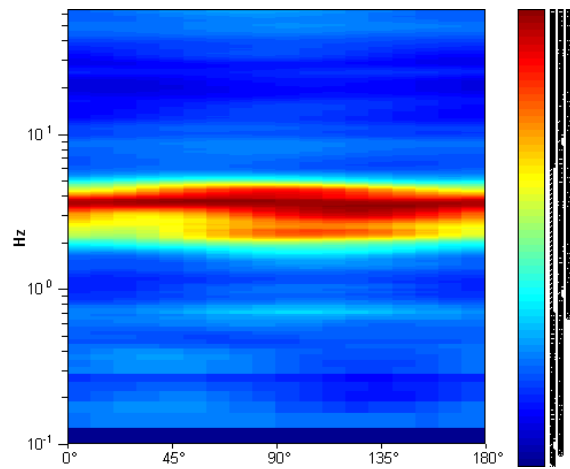
Max. H/V at 3.63 ± 0.04 Hz. (In the range 0.0 - 64.0 Hz).



H/V TIME HISTORY



DIRECTIONAL H/V

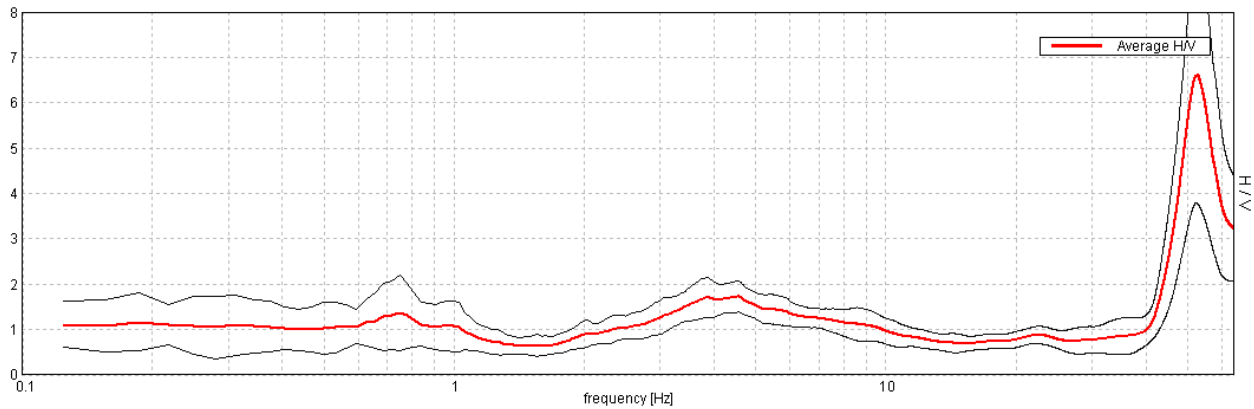


ZOLA PREDOSA, 037060P114HVSR114

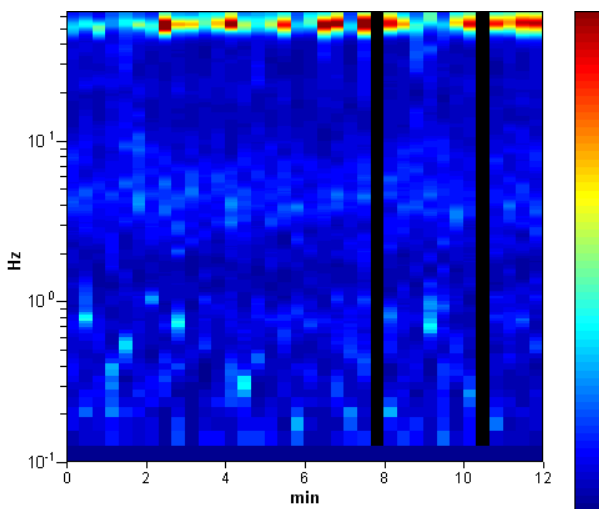
Instrument: TRZ-0153/01-11
 Start recording: 16/04/13 14:05:11 End recording: 16/04/13 14:17:11
 Channel labels: NORTH SOUTH; EAST WEST ; UP DOWN
 Trace length: 0h12'00". Analyzed 94% trace (manual window selection)
 Sampling rate: 128 Hz
 Window size: 20 s
 Smoothing type: Triangular window
 Smoothing: 12%

HORIZONTAL TO VERTICAL SPECTRAL RATIO

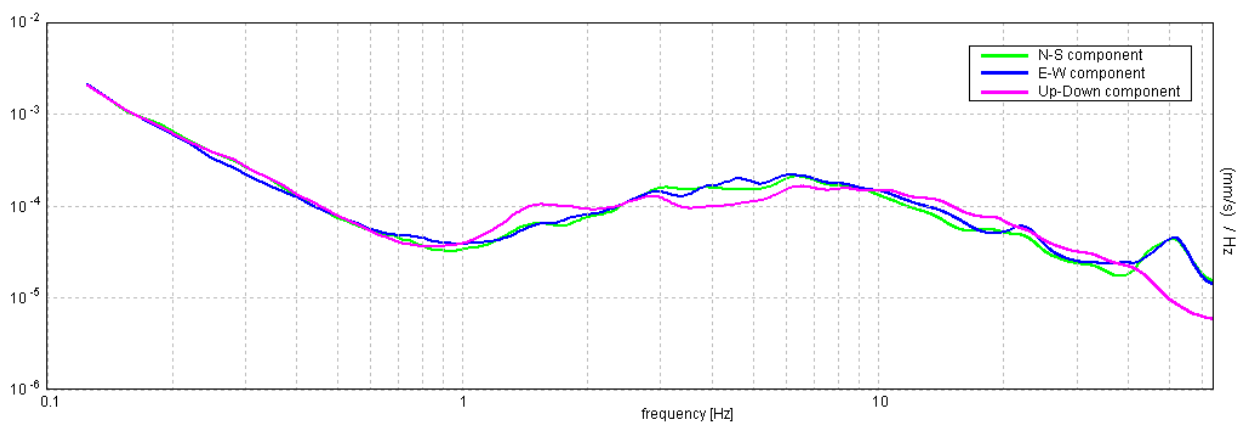
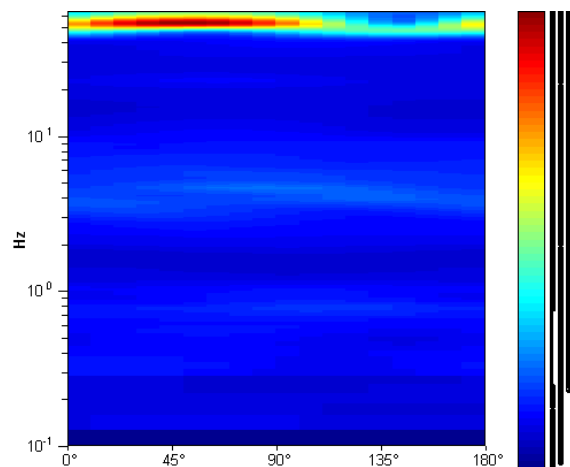
Max. H/V at 4.56 ± 0.49 Hz. (In the range 0.0 - 40.0 Hz).



H/V TIME HISTORY



DIRECTIONAL H/V

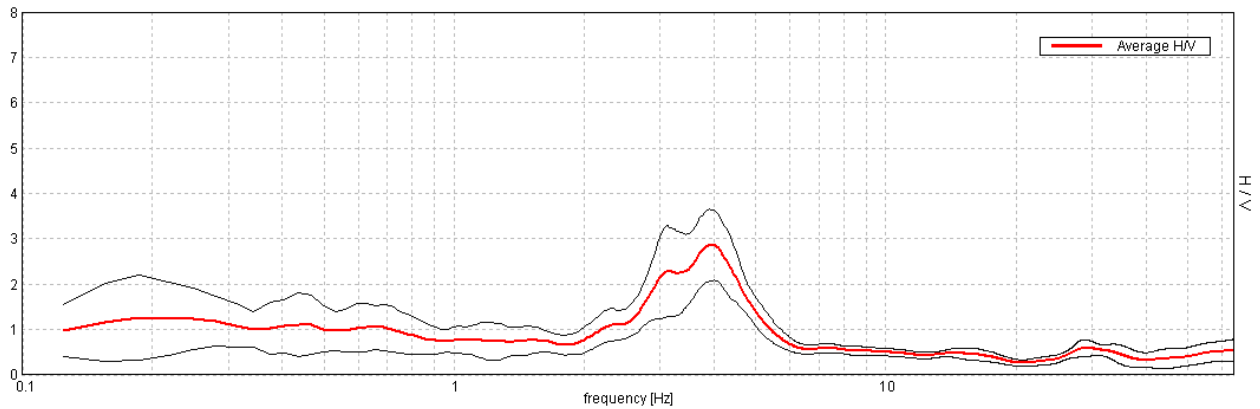


ZOLA PREDOSA, 037060P115HVS115

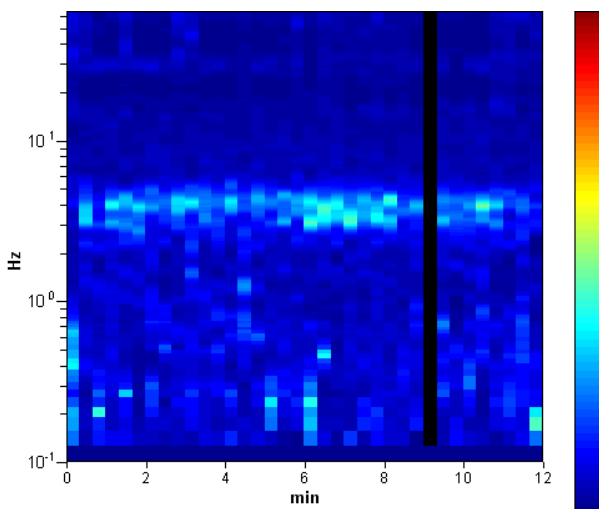
Instrument: TRZ-0153/01-11
 Start recording: 16/04/13 14:23:53 End recording: 16/04/13 14:35:53
 Channel labels: NORTH SOUTH; EAST WEST ; UP DOWN
 Trace length: 0h12'00". Analyzed 97% trace (manual window selection)
 Sampling rate: 128 Hz
 Window size: 20 s
 Smoothing type: Triangular window
 Smoothing: 12%

HORIZONTAL TO VERTICAL SPECTRAL RATIO

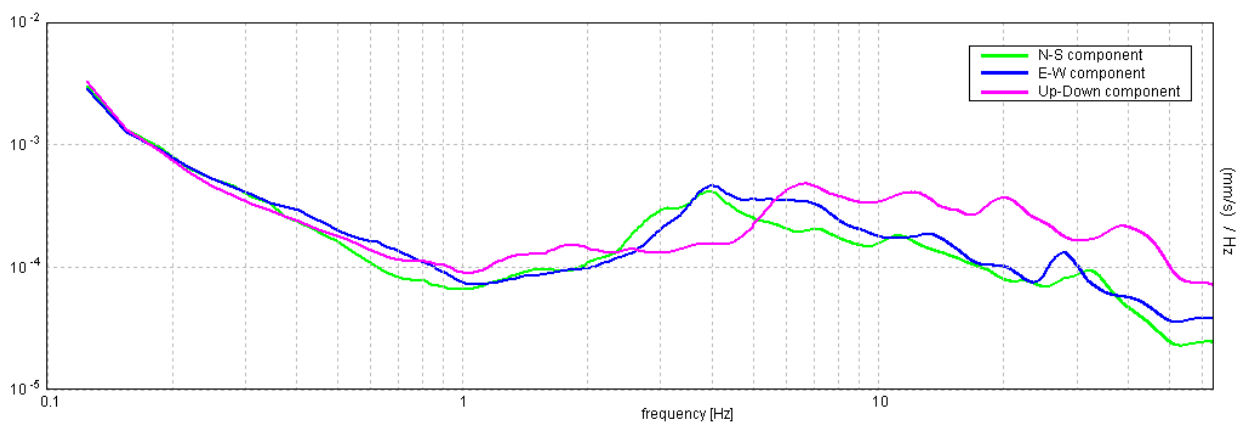
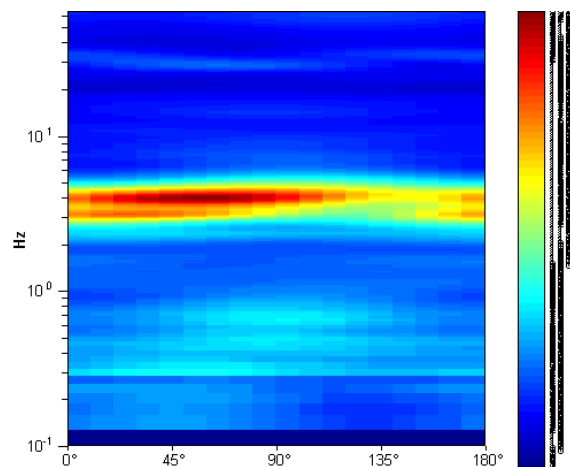
Max. H/V at 3.91 ± 0.37 Hz. (In the range 0.0 - 64.0 Hz).



H/V TIME HISTORY

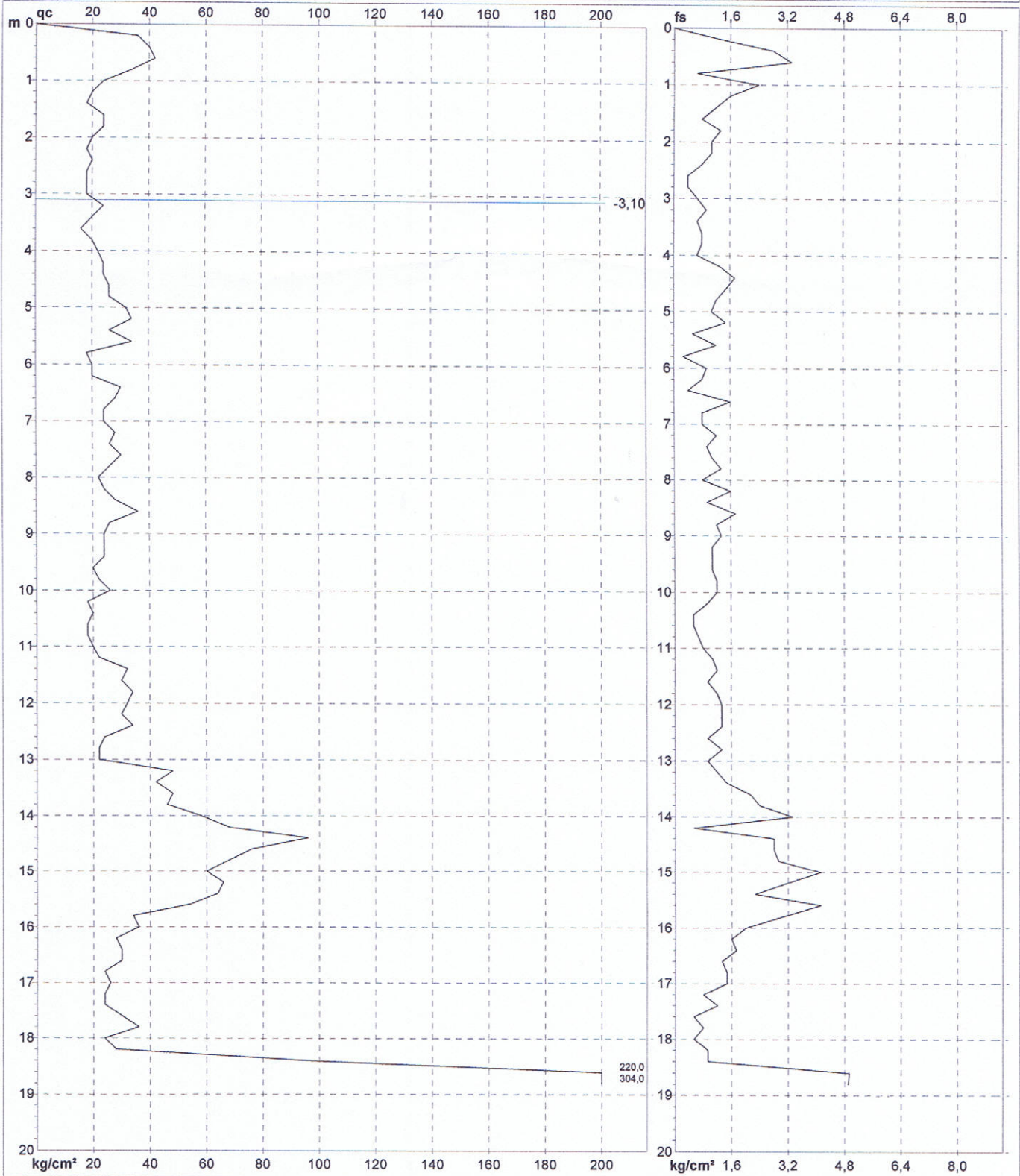


DIRECTIONAL H/V



PROVA PENETROMETRICA STATICA MECCANICA DIAGRAMMI DI RESISTENZA	CPT	2
	riferimento	430-2011

Committente: CIB s.p.a. et all Cantiere: via fratelli Cervi Località: Zola Predosa	U.M.: kg/cm ² Scala: 1:100 Pagina: 1 Elaborato:	Data esec.: 21/09/2011 Quota inizio: Falda: -3,10 m Foro chiuso
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	Penetrometro: TG63-200 Responsabile: Assistente:	Preforo: m Corr.astine: kg/ml Cod.ISTAT: 037060 Cod. punta:
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GEO-PROBE S.r.l.

- Indagini Geognostiche -

40033 CASALECCHIO DI RENO

Via Cimara, 119 - Tel. 051/61.33.072

CPT (CONE PENETRATION TEST)

N. 2

Rapporto di Prova N°:

/RSP

Committente:

Immobiliare Perla S.r.l.

Quota:

Località:

Zola Predosa (BO)

S.S. 569

Data prova:

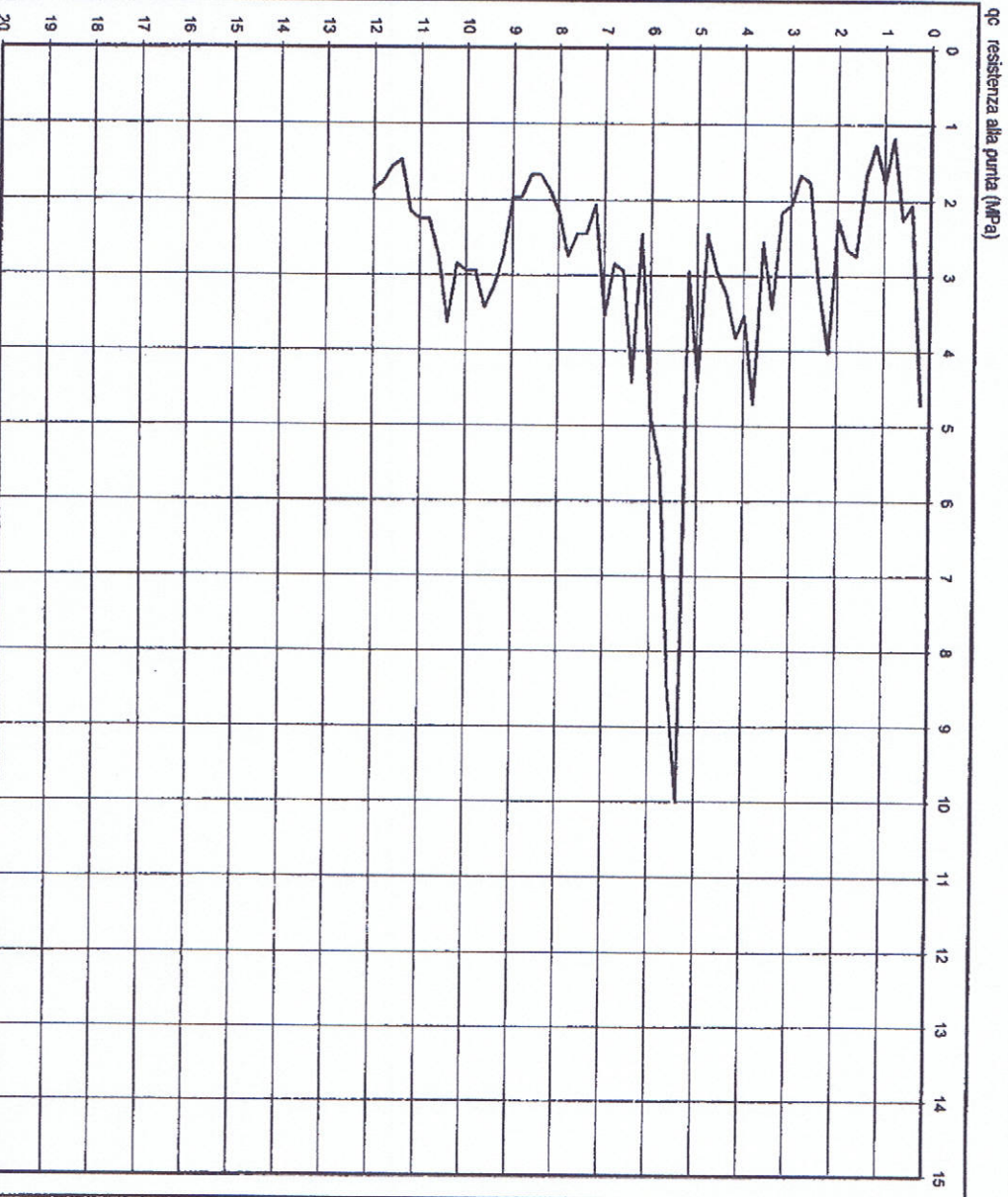
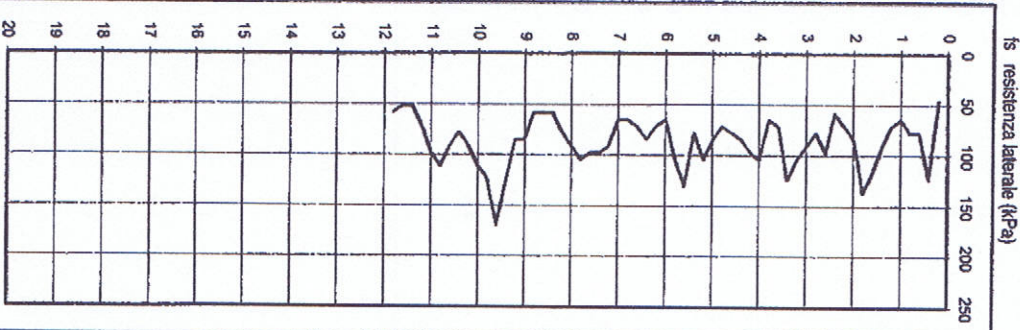
25/03/2002

Attrezzatura:

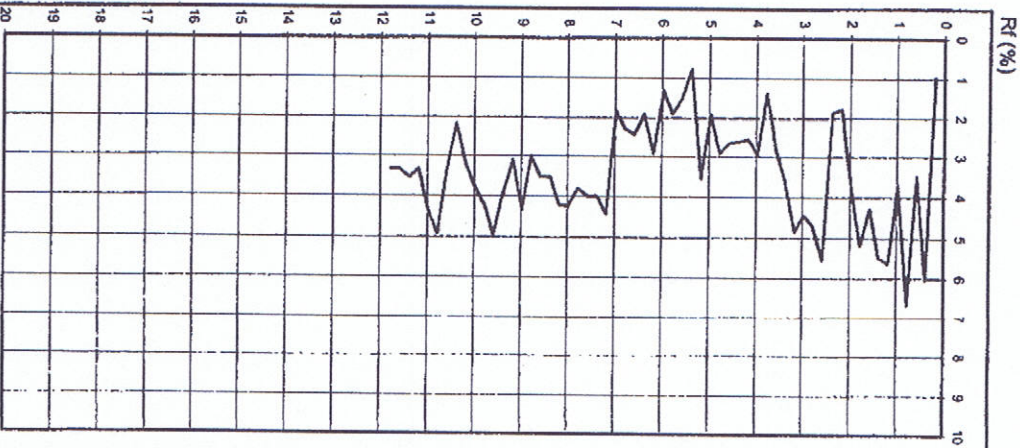
Penetrometro da 200 kN

Codice lavoro:

2002.101



Livello acqua da p.c.: 1,40 m



Note: ---

Procedura di prova	Normativa di riferimento	Rev.	Data emissione	Sperimentatore	Il Direttore di Laboratorio
IP_2	ASTM D 3441-94	0	25/03/2002	Dr. Tabarroni	Dr. Luca Conti

GEO-PROBE S.r.l.

- Indagini Geognostiche -

40033 CASALECCHIO DI RENO

Via Cimara, 119 - Tel. 051/61.33.072

CPT (CONE PENETRATION TEST)

N. 12

Committente :

Immobiliare Perla S.r.l.

Località :

Zola Predosa (BO)

S.S. 569

Attrezzatura :

Penetrometro da 200 KN

Rapporto di Prova N°:

/RSP

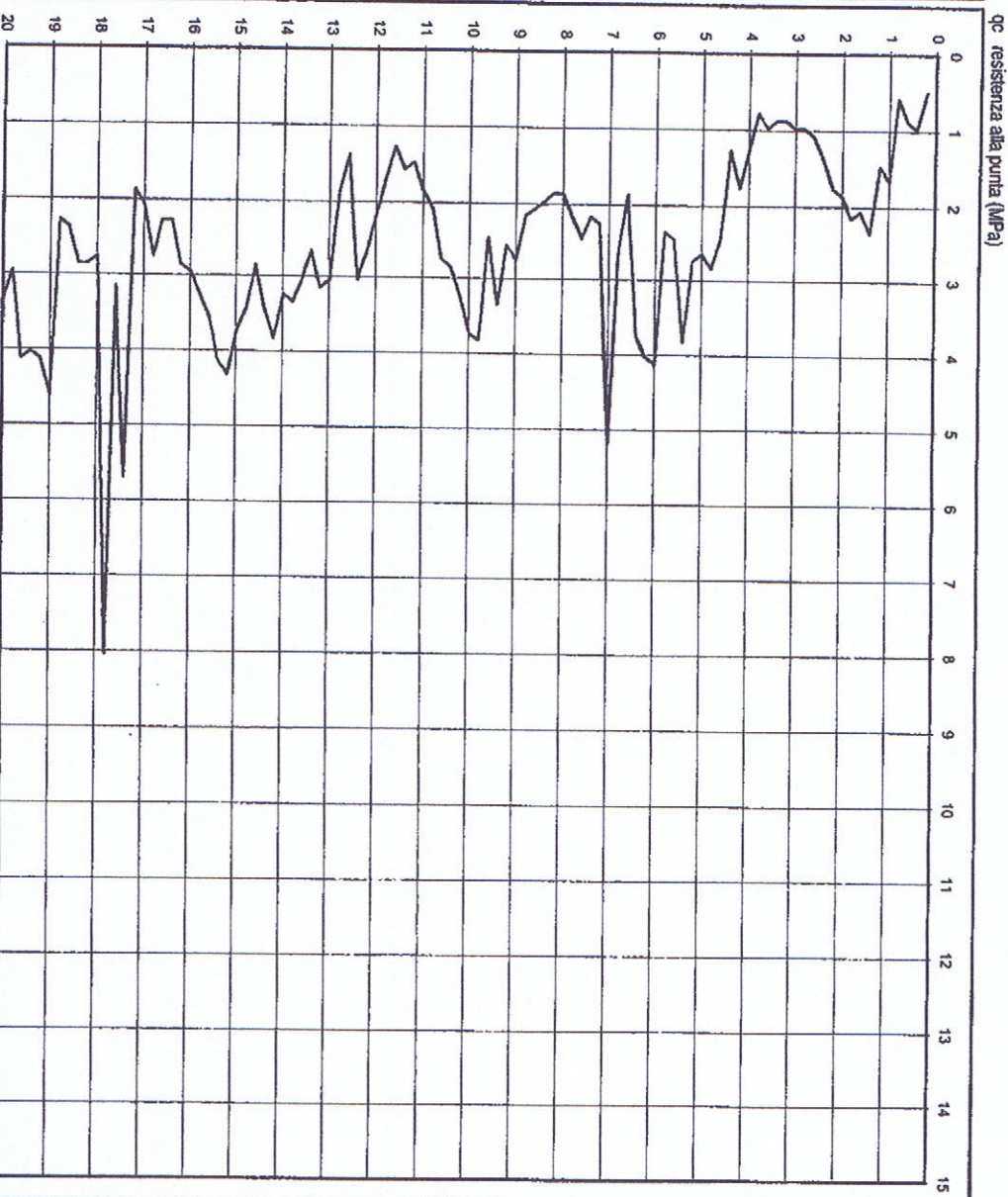
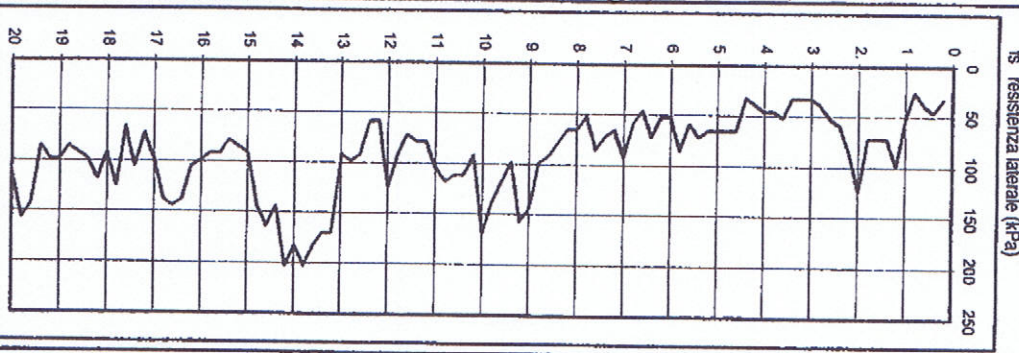
Quota:

Data prova :

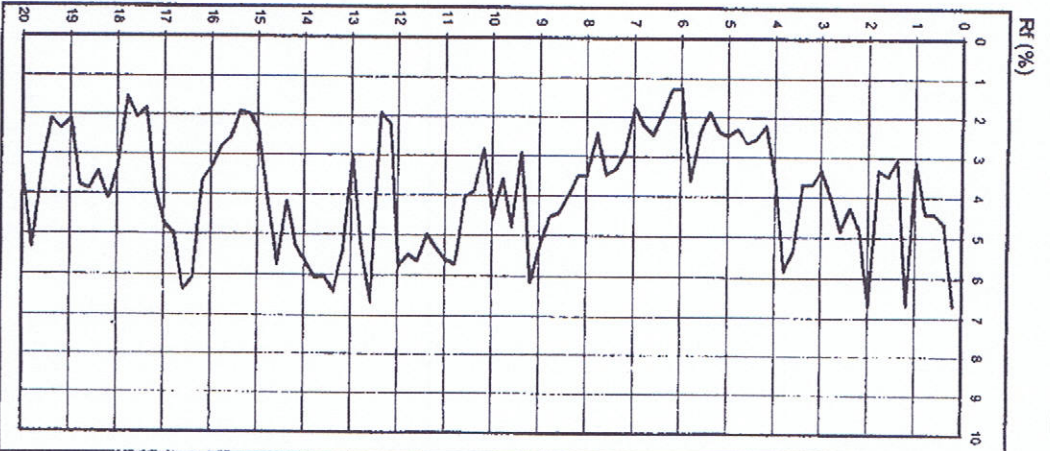
17/12/2004

Codice lavoro:

2002.101



Livello acqua da p.c.: 1,20 m



Note: --

Procedura di prova	Normativa di riferimento	Rev.	Data emissione	Sperimentatore	Il Direttore di Laboratorio
IP_2	ASTM D 3441-94	0	17/12/2004	Dr.	Dr. Luca Conti

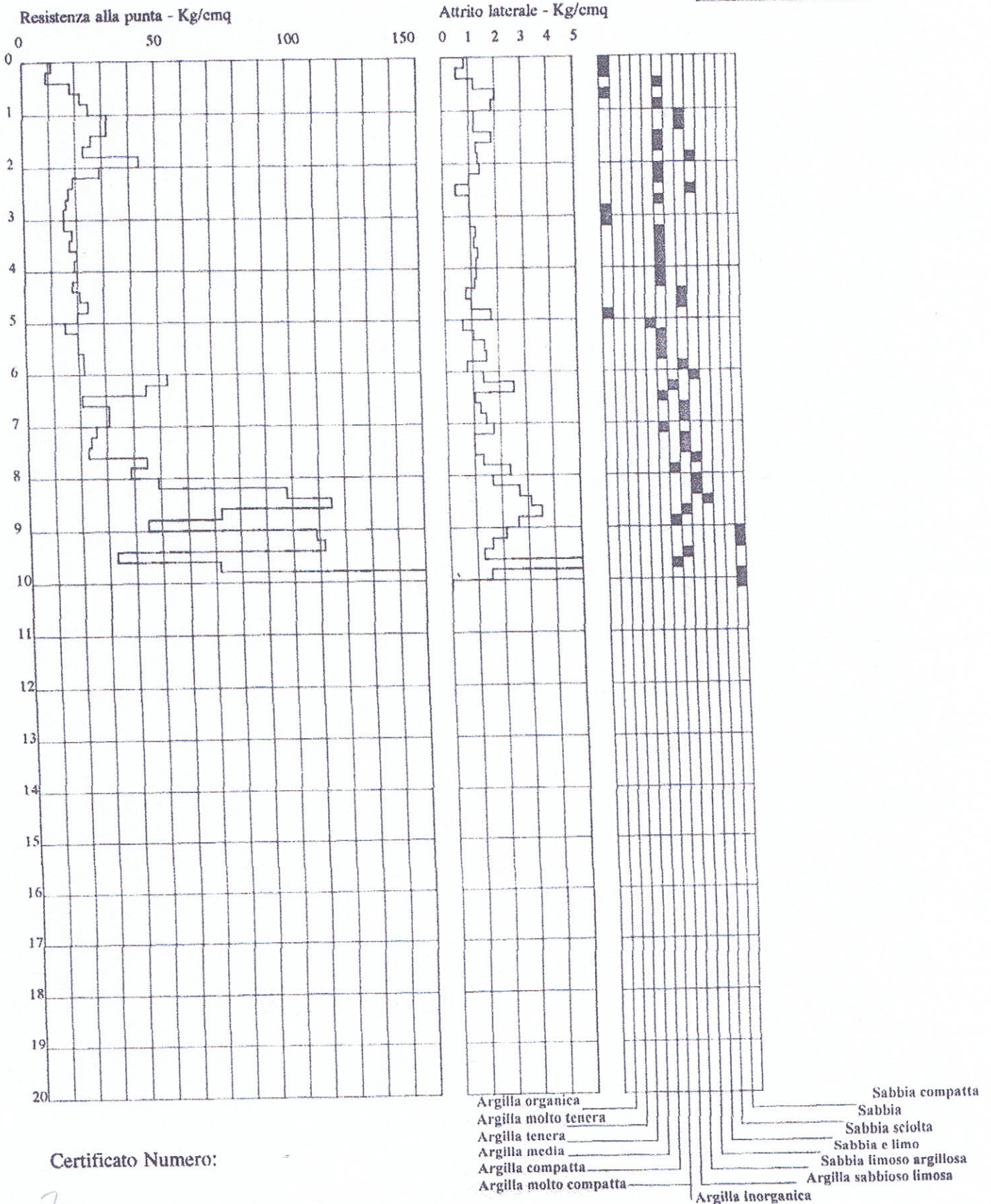
MOD.0_RSP_GRAF_CPT

037060 P119CPT119

Ditta esecutrice: Geo-probe
Comune: Zola Predosa
Cantiere: La Palazzina

Committente: Municipio
Via: Rigosa
Data esecuzione: 24/08/2000

Prova N. 1



Certificato Numero:

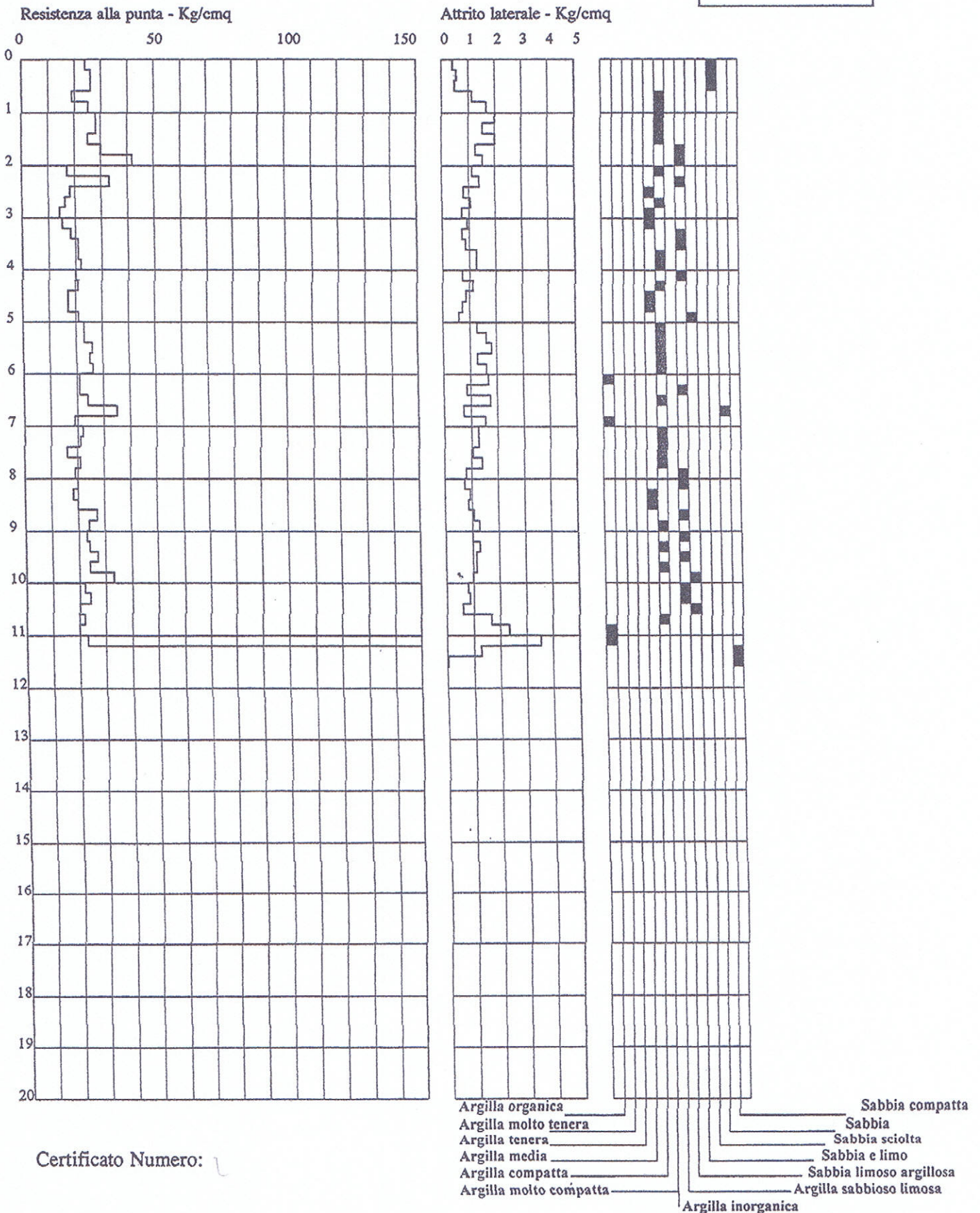
2

03706 P120 CPT120

Ditta esecutrice: Geo-probe
Comune: Zola Predosa
Cantiere: La Palazzina

Committente: Municipio
Via: Rigosa
Data esecuzione: 24/08/2000

Prova N. 2

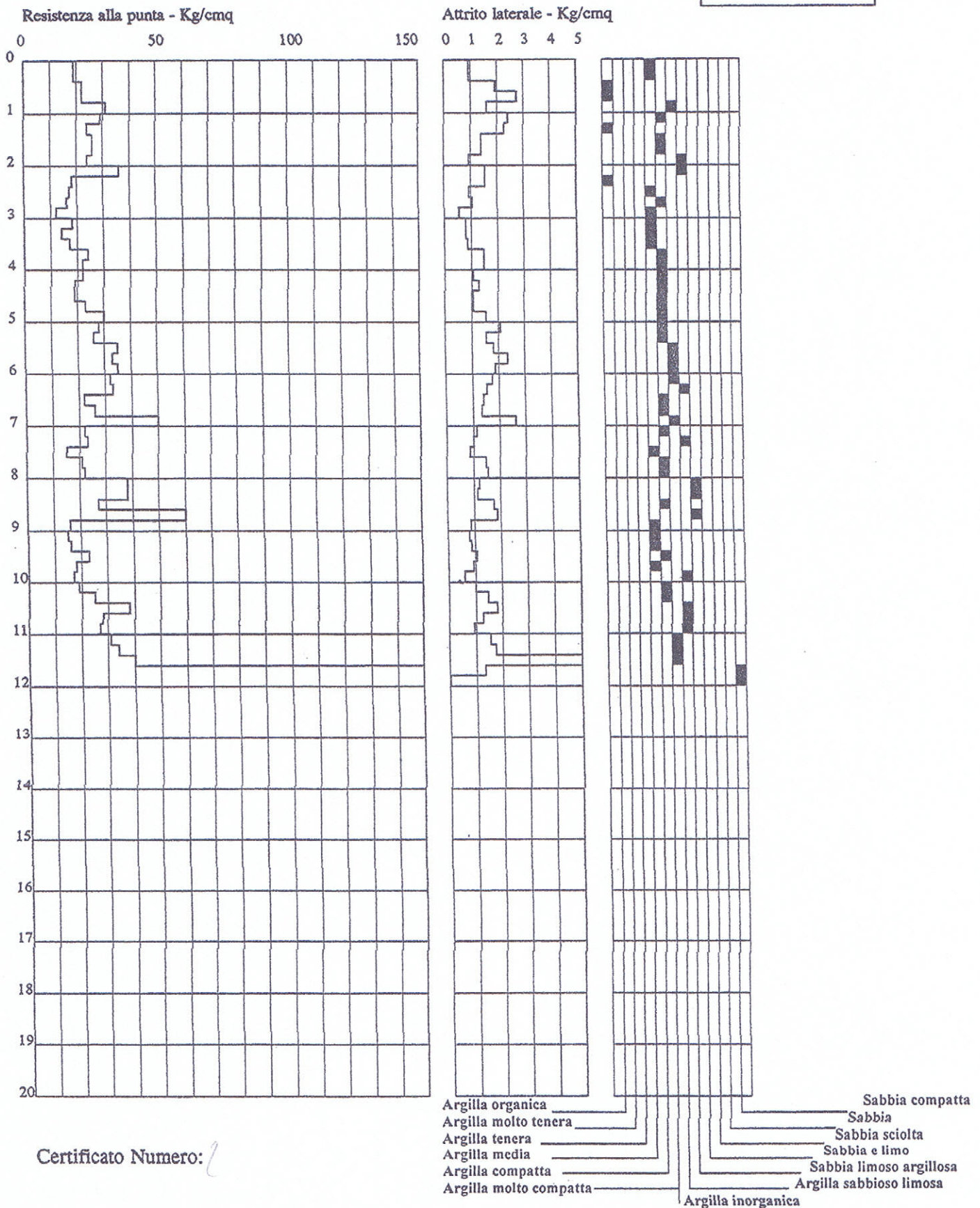


Certificato Numero: 1

Ditta esecutrice: Geo-probe
 Comune: Zola Predosa
 Cantiere: La Palazzina

Committente: Municipio
 Via: Rigosa
 Data esecuzione: 24/08/2000

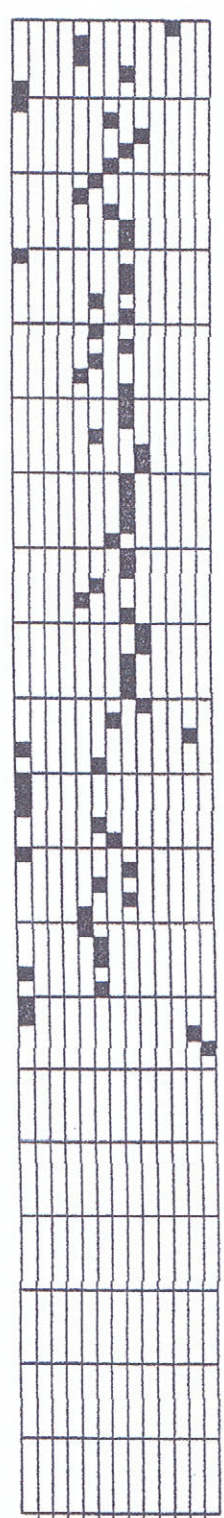
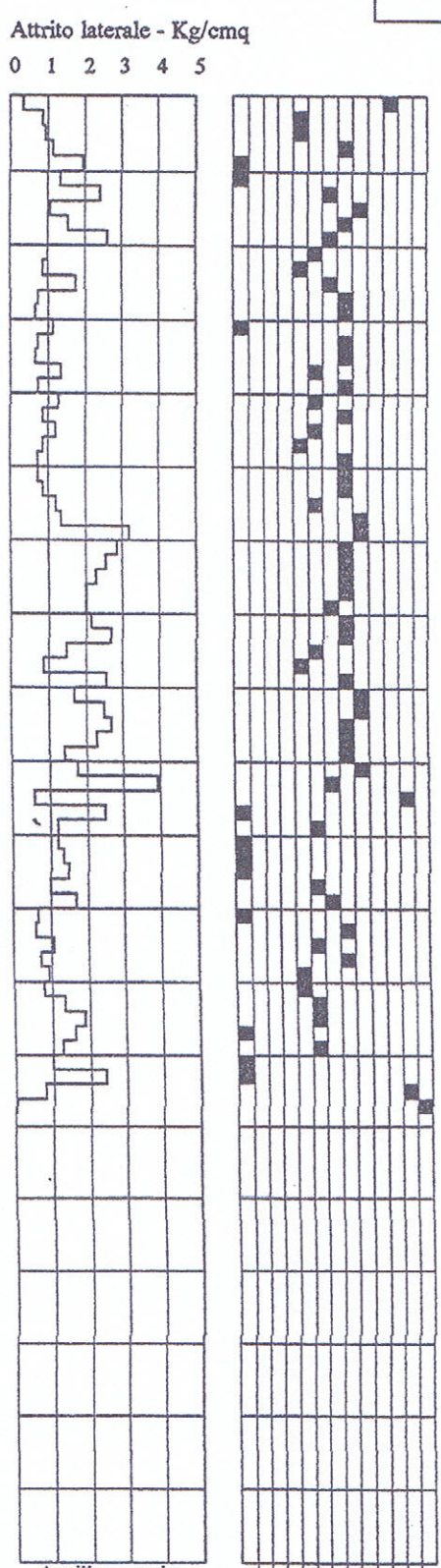
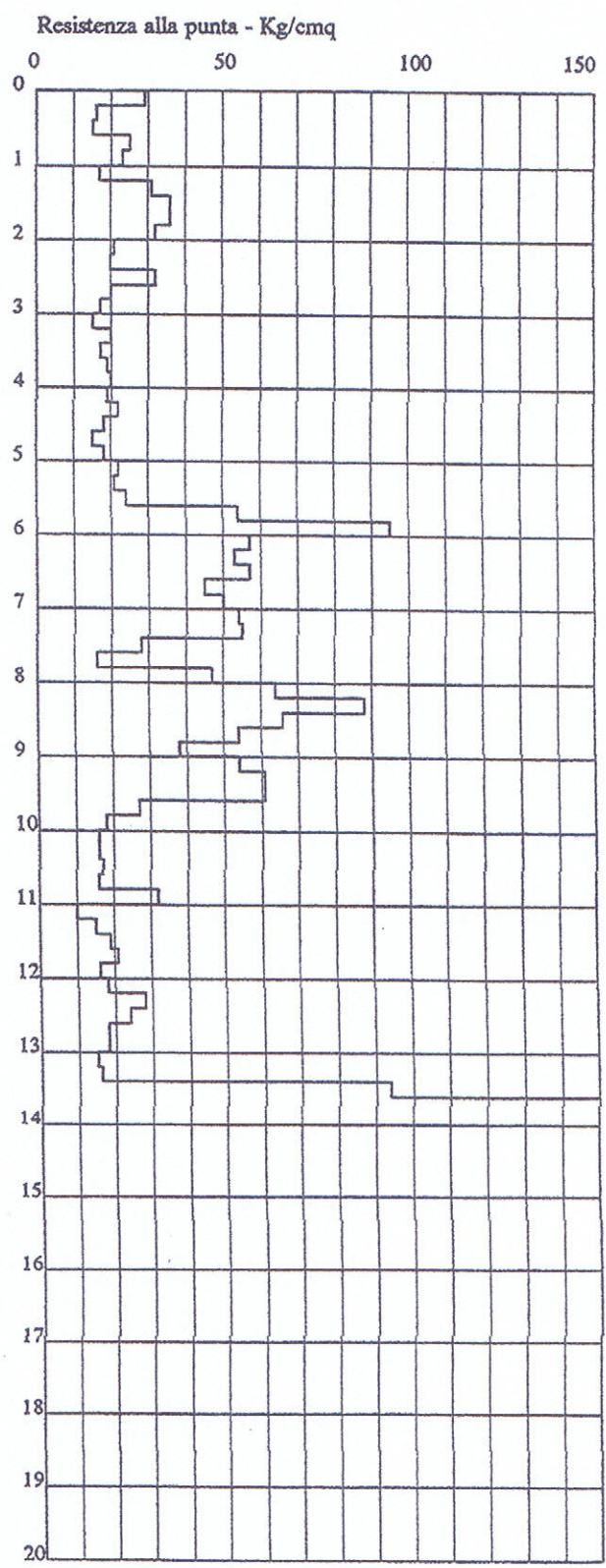
Prova N. 3 ■



037060 P192CPT 122

Ditta esecutrice: Geo-probe	Committente: Municipio
Comune: Zola Predosa	Via: Rigosa
Cantiere: La Palazzina	Data esecuzione: 24/08/2000

Prova N. 4	■
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Certificato Numero: 2

- Argilla organica
- Argilla molto tenera
- Argilla tenera
- Argilla media
- Argilla compatta
- Argilla molto compatta
- Argilla inorganica
- Sabbia compatta
- Sabbia
- Sabbia sciolta
- Sabbia e limo
- Sabbia limoso argillosa
- Argilla sabbioso limosa

Ditta esecutrice: GEO-PROBE

Committente: Municipio

Comune: Zola Predosa

Via: Comparto D3.8

Cantiere: I Portoni Vecchi

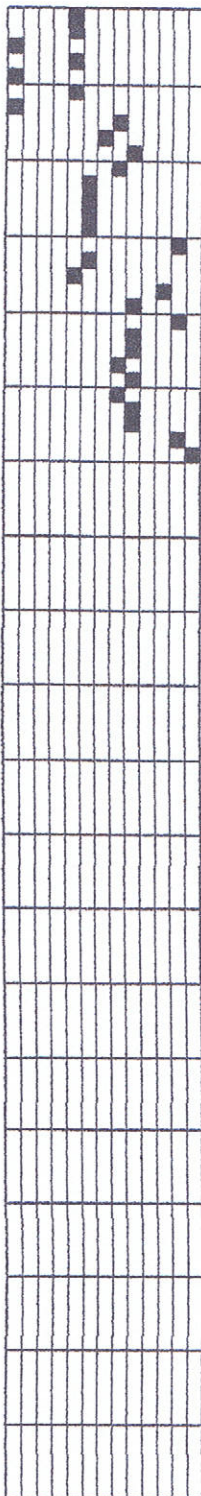
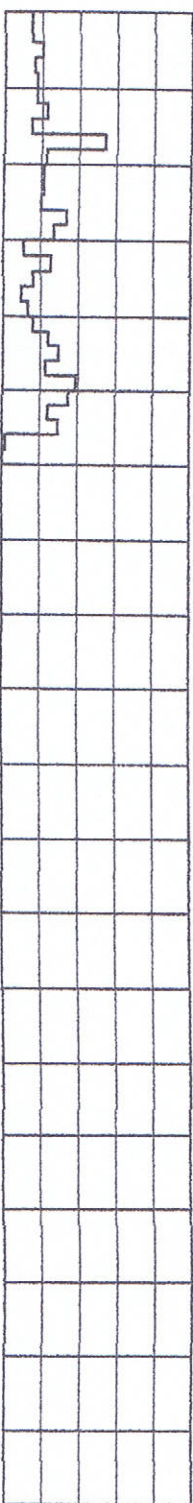
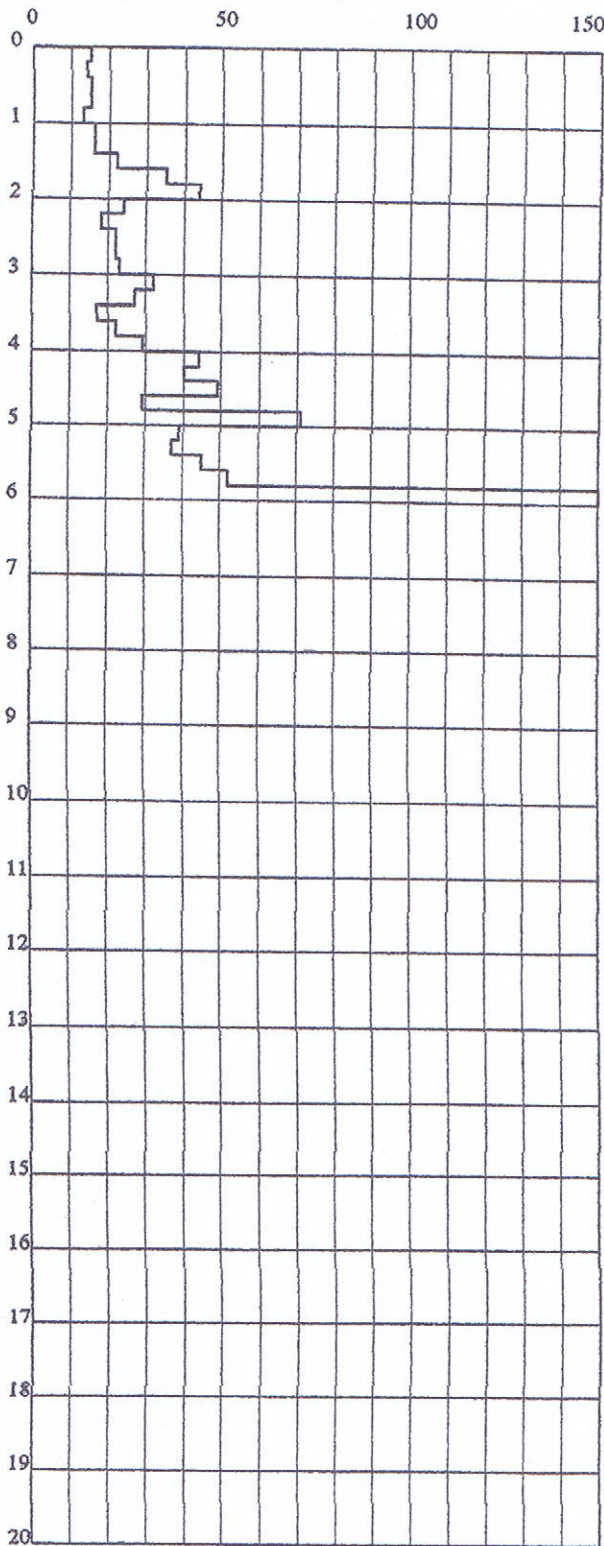
Data esecuzione: 09/08/01

Prova N. 02



Resistenza alla punta - Kg/cm²

Attrito laterale - Kg/cm²



- Argilla organica
- Argilla molto tenera
- Argilla tenera
- Argilla media
- Argilla compatta
- Argilla molto compatta

Certificato Numero: 3

03706 P124CP+124

Ditta esecutrice: GEO-PROBE
Comune: Zola Predosa
Cantiere: Riale

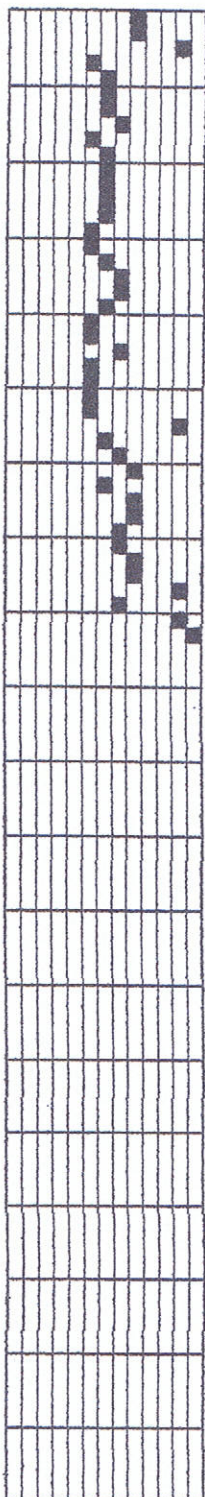
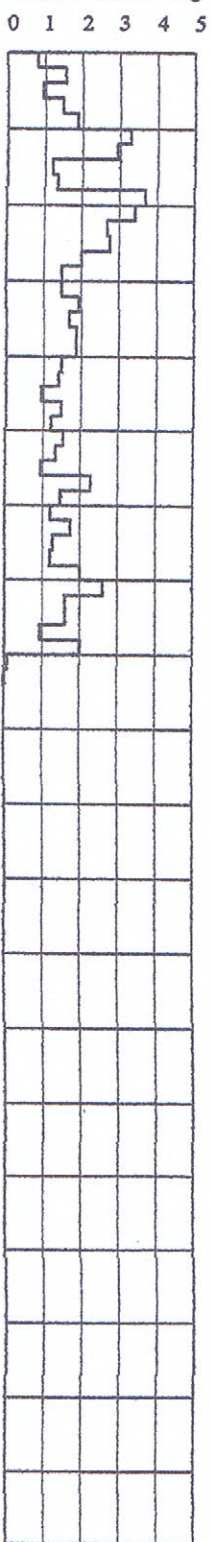
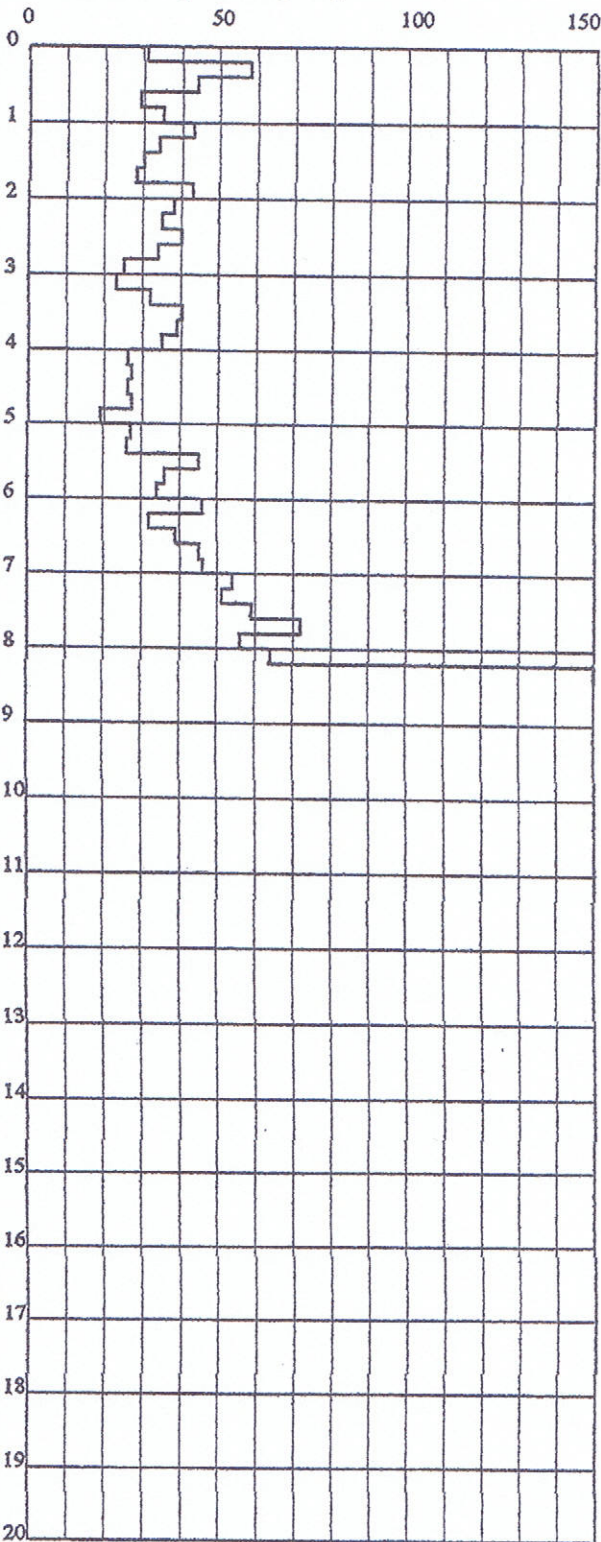
Committente: Municipio
Via: Comparto D1
Data esecuzione: 09/08/01

Prova N. 03



Resistenza alla punta - Kg/cm²

Attrito laterale - Kg/cm²



Certificato Numero: 3

- Argilla organica
- Argilla molto tenera
- Argilla tenera
- Argilla media
- Argilla compatta
- Argilla molto compatta

037060 P125CPT125

Ditta esecutrice: GEO-PROBE

Committente: Municipio

Prova N. 04

Comune: Zola Predosa

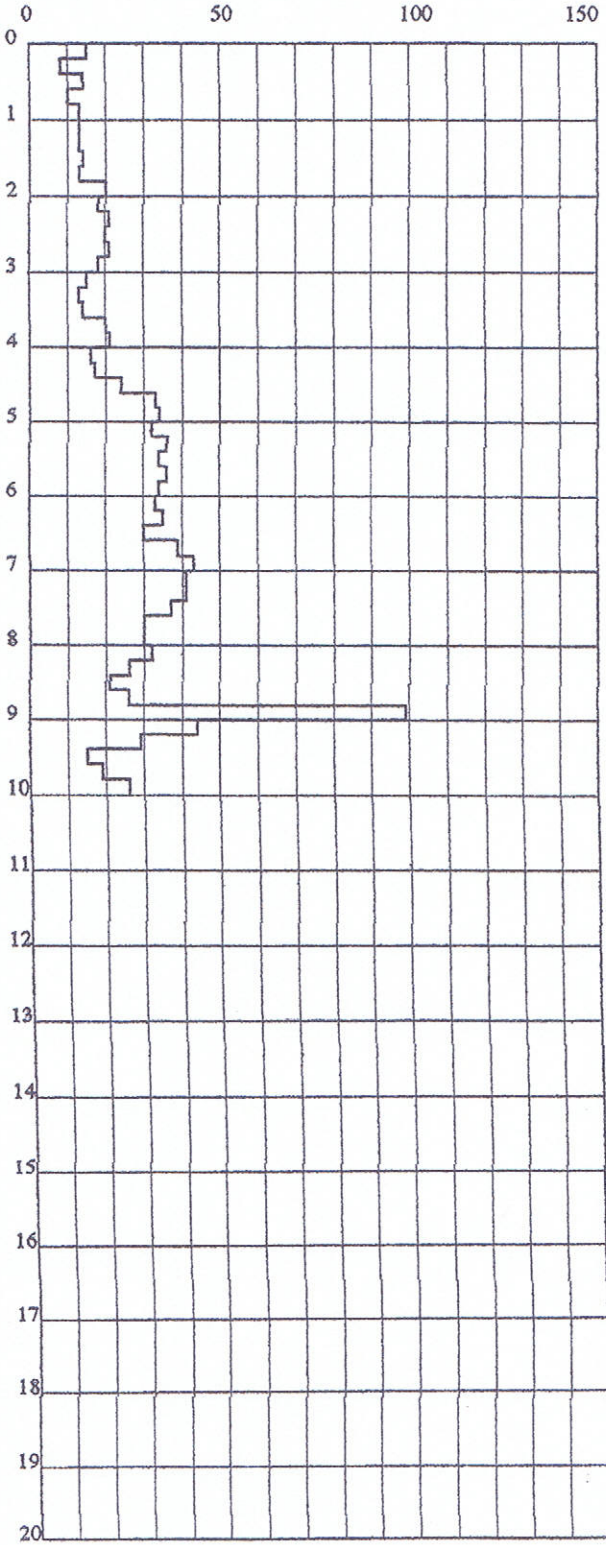
Via:

Cantiere: Ponte Ronca

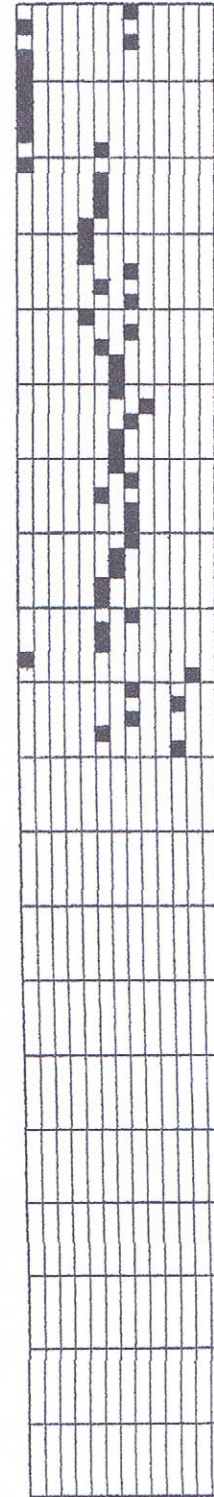
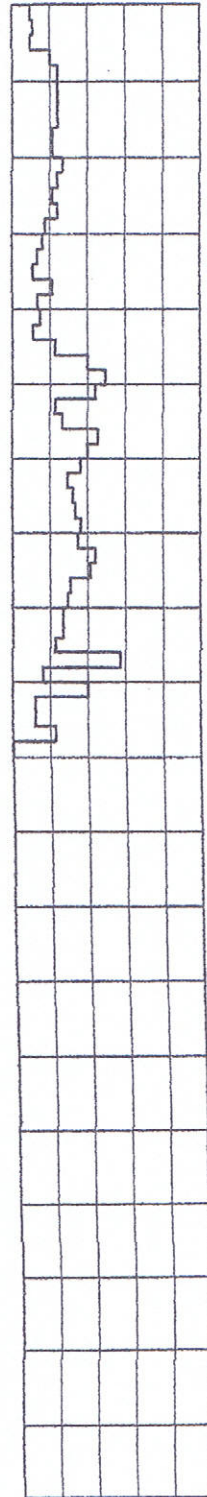
Data esecuzione: 09/08/2001

Resistenza alla punta - Kg/cmq

Attrito laterale - Kg/cmq



0 1 2 3 4 5



Certificato Numero: 3

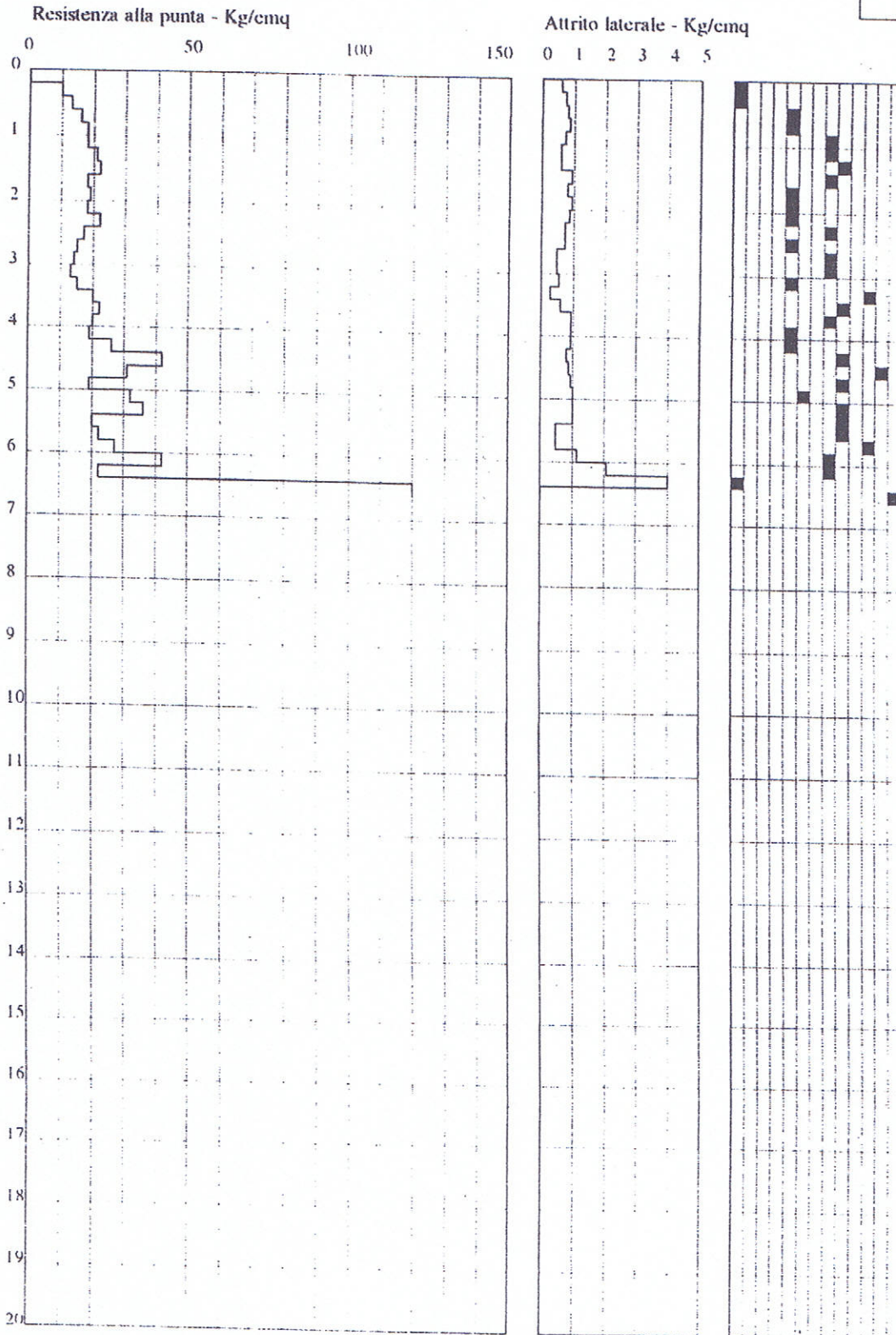
Argilla organica
Argilla molto tenera
Argilla tenera
Argilla media
Argilla compatta
Argilla molto compatta

037060 P126CPT126

Ditta esecutrice: VIEL & GALASSI
Comune: ZOLA PREDOSA
Cantiere: GESSO

Committente: ING. BASSI
Via: PIRANDELLO
Data esecuzione: 28/09/96

Prova N. PP8 ■



Certificato Numero: SVG040CPT09/96ZPR

4

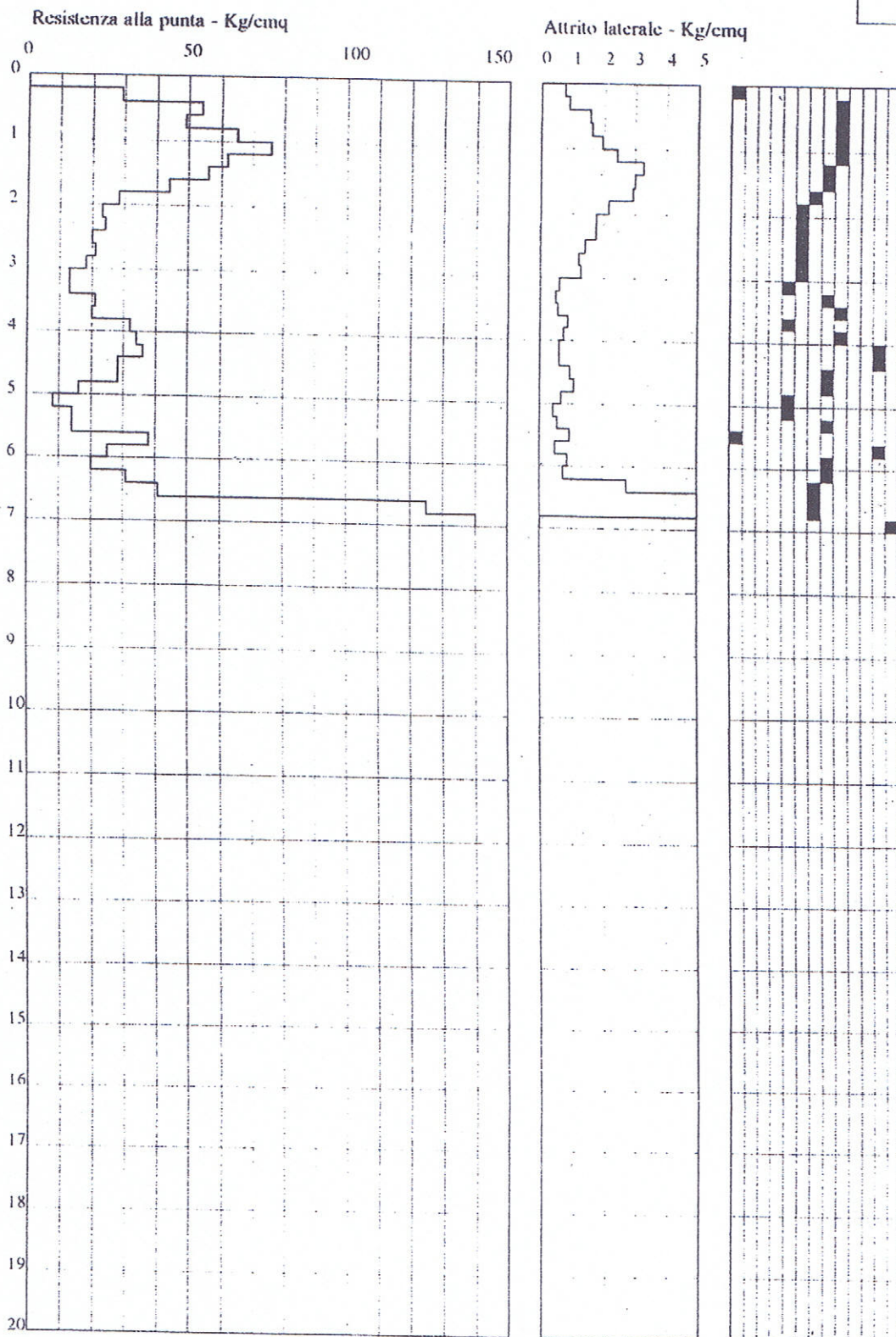
Argilla organica
Argilla molto tenera
Argilla tenera
Argilla media
Argilla compatta
Argilla molto compatta

037060 P 127 EPT 127

Ditta esecutrice: VIEL & GALASSI
Comune: ZOLA PREDOSA
Cantiere: GESSO

Committente: ING. BASSI
Via: PIRANDELLO
Data esecuzione: 28/09/96

Prova N. PP9 ■



Certificato Numero: SVG041CPT09/96ZPR

4

- Argilla organica
- Argilla molto tenera
- Argilla tenera
- Argilla media
- Argilla compatta
- Argilla molto compatta

037060P128CPT128

Ditta esecutrice: GEO-PROBE

Comune: Zola Predosa

Cantiere: Rivabella

Committente: Municipio

Via: Comparto B1.2

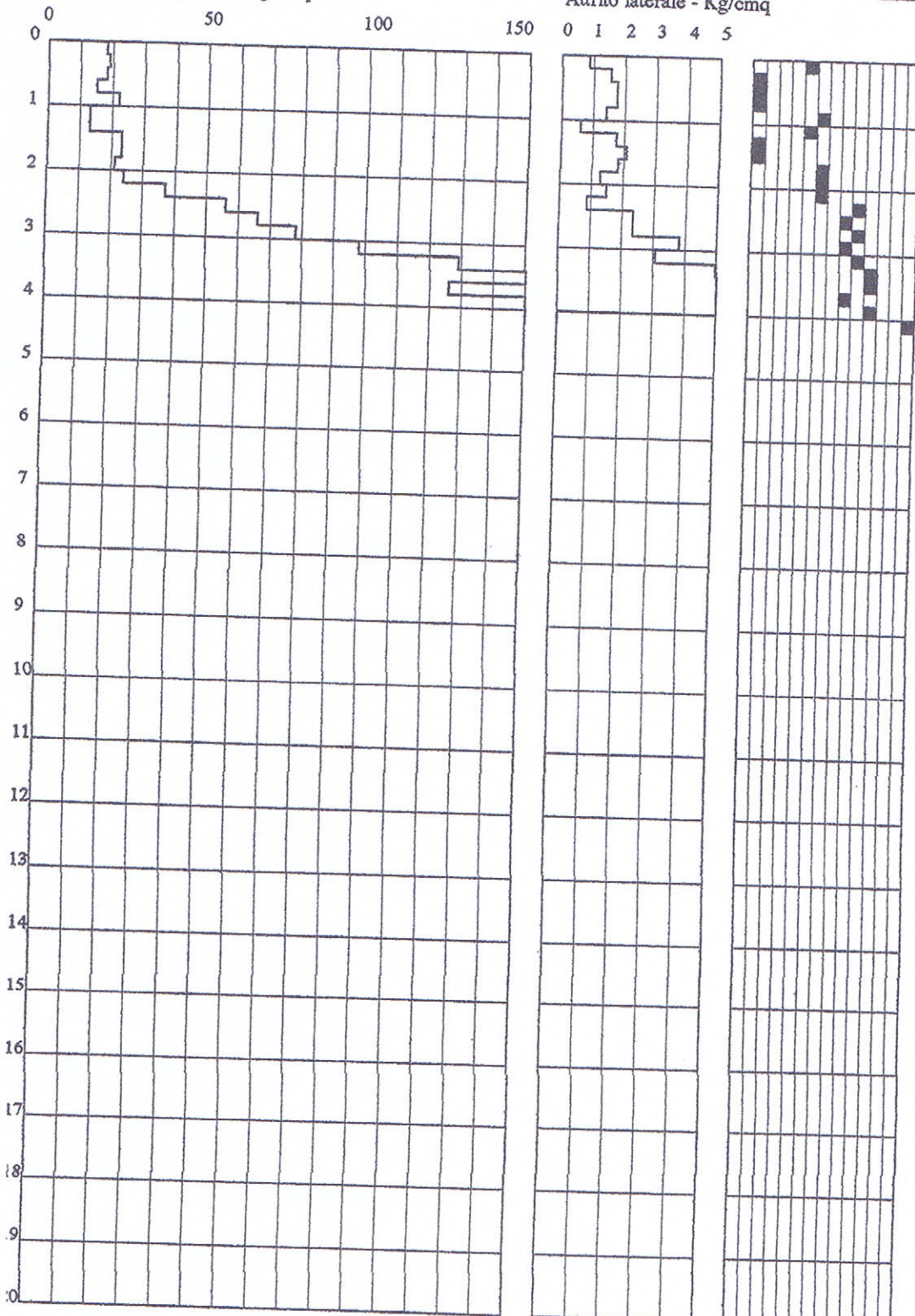
Data esecuzione: 09/08/01

Prova N. 01



Resistenza alla punta - Kg/cm²

Attrito laterale - Kg/cm²



- Argilla organica
- Argilla molto tenera
- Argilla tenera
- Argilla media
- Argilla compatta
- Argilla molto compatta

Certificato Numero: 3

037060 P129 CPT 129

Ditta esecutrice: VIEL & GALASSI

Comune: ZOLA PREDOSA

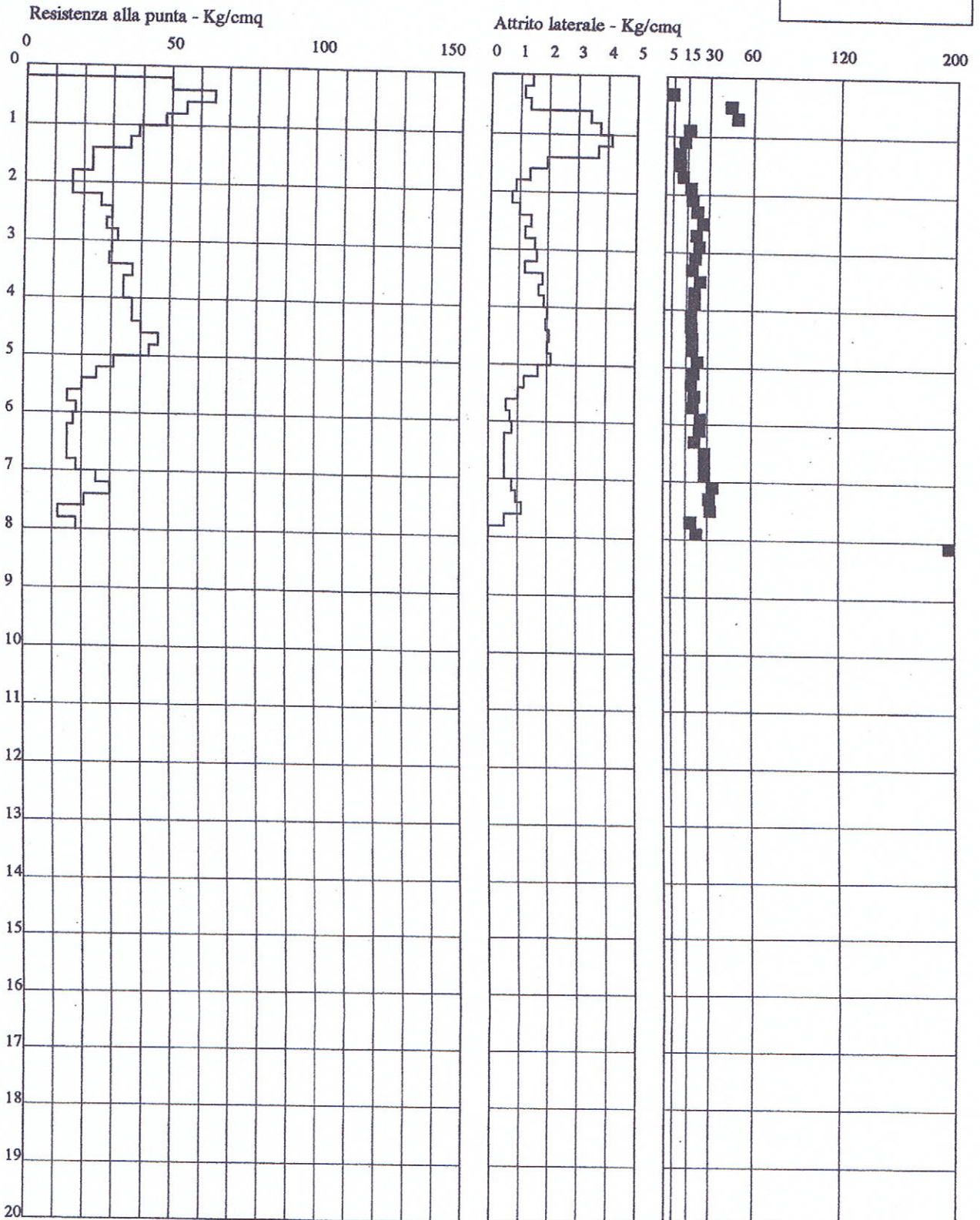
Cantiere: PONTE RONCA

Committente: MUNICIPIO

Via: LEONARDO DA VINCI

Data esecuzione: 21/12/96

Prova N. 01



Certificato Numero: 01 4

- Sabbie e ghiaie
- Sabbie
- Limi sabbiosi, sabbie limose
- Limi e argille
- Torbe e argille organiche

037060P28CPT134

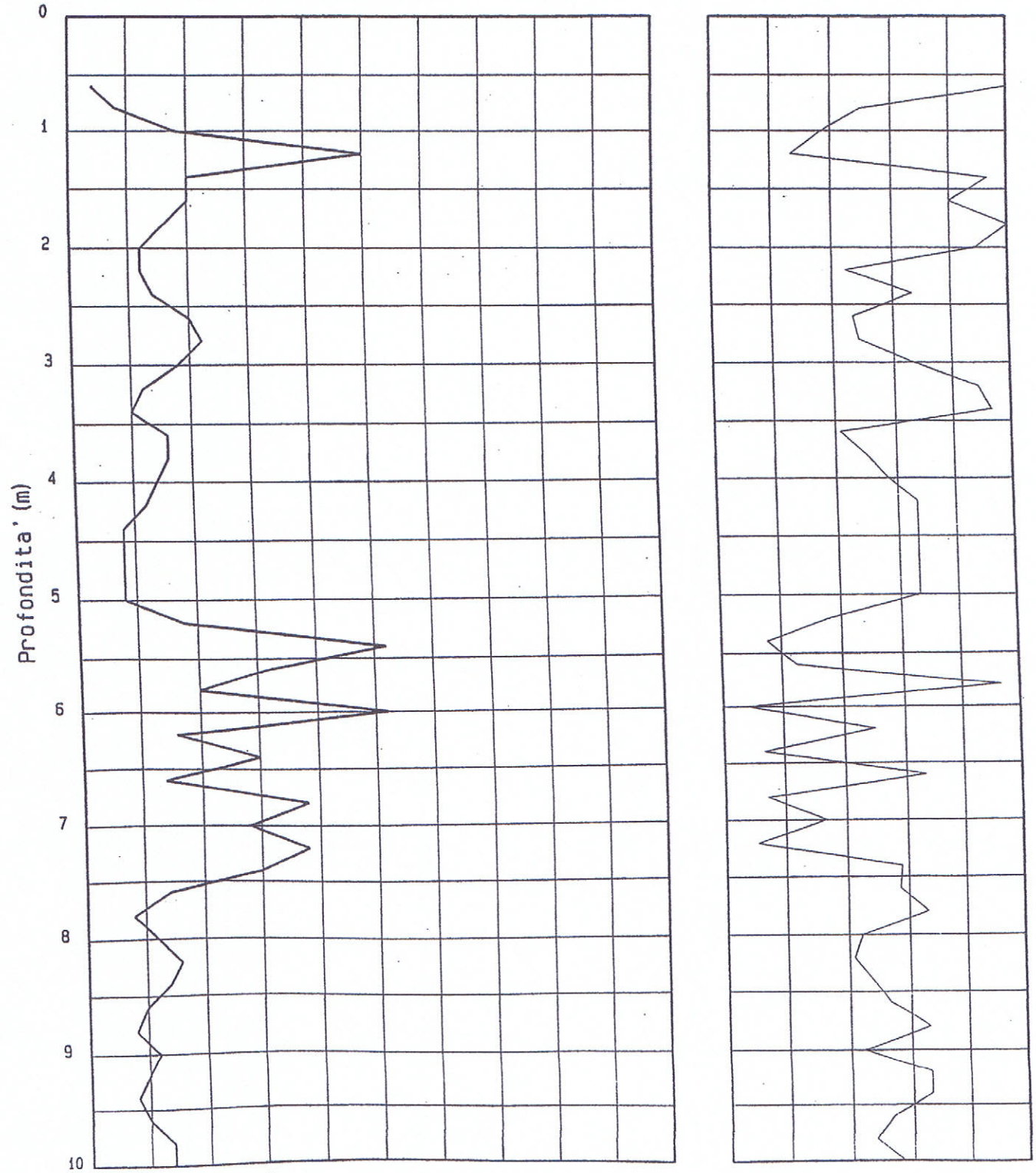
C.G.G. s.r.l.

Prova n°PP1

Committente : MIRAH s.r.l.
Localita' : Zola Predosa (BO)
Cantiere : Ponte Ronca
Data : 18-11-1993

PROVA PENETROMETRICA STATICA

qc (MPa) 0 1 2 3 4 5 6 7 8 9 FR (%) 0 2 4 6 8 10



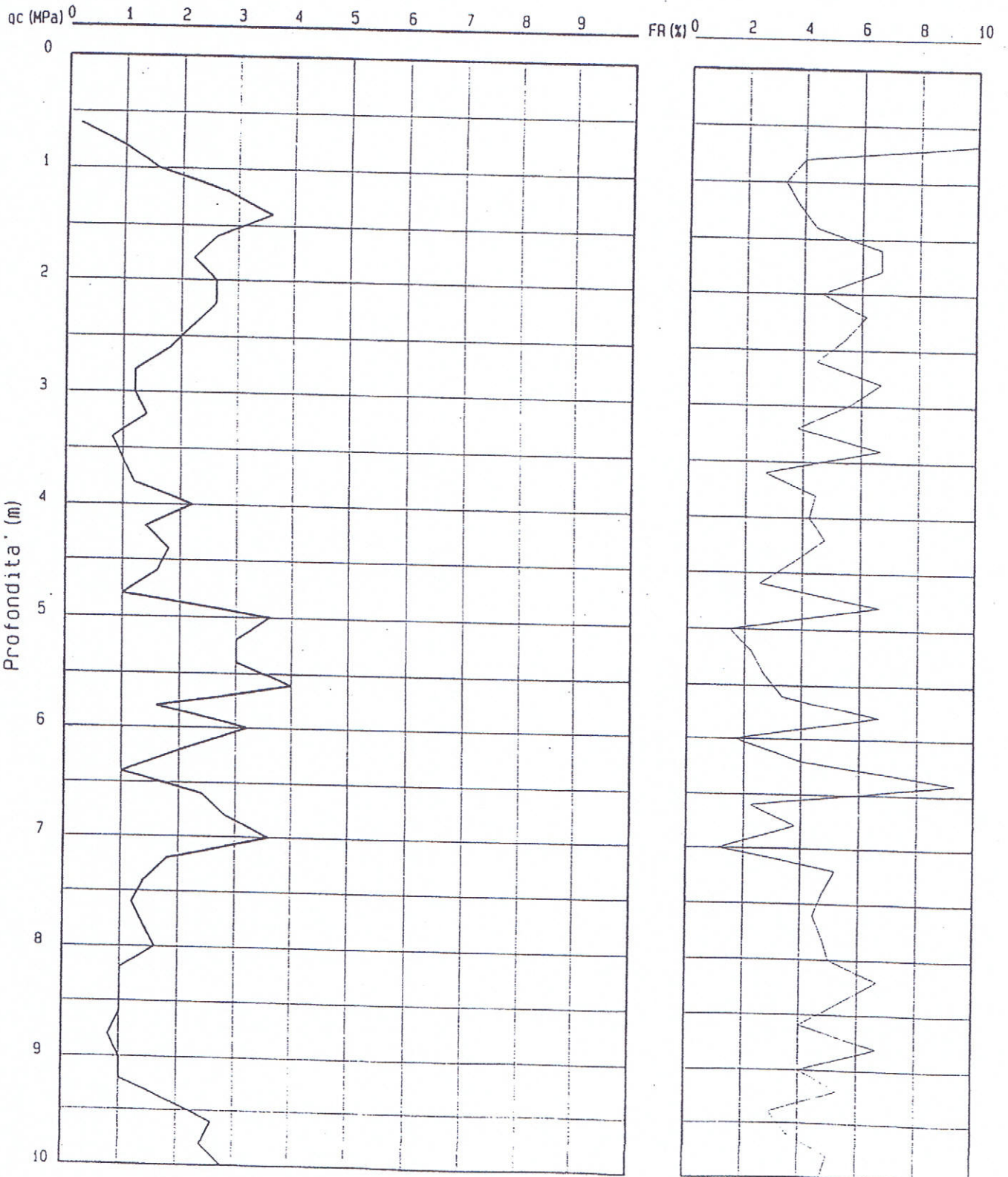
037060 P131 CPT132

C.G.G. s.r.l.

Prova n°PP3

Committente : MIRAH s.r.l.
Localita' : Zola Predosa (BO)
Cantiere : Ponte Ronca
Data : 18-11-1993

PROVA PENETROMETRICA STATICA

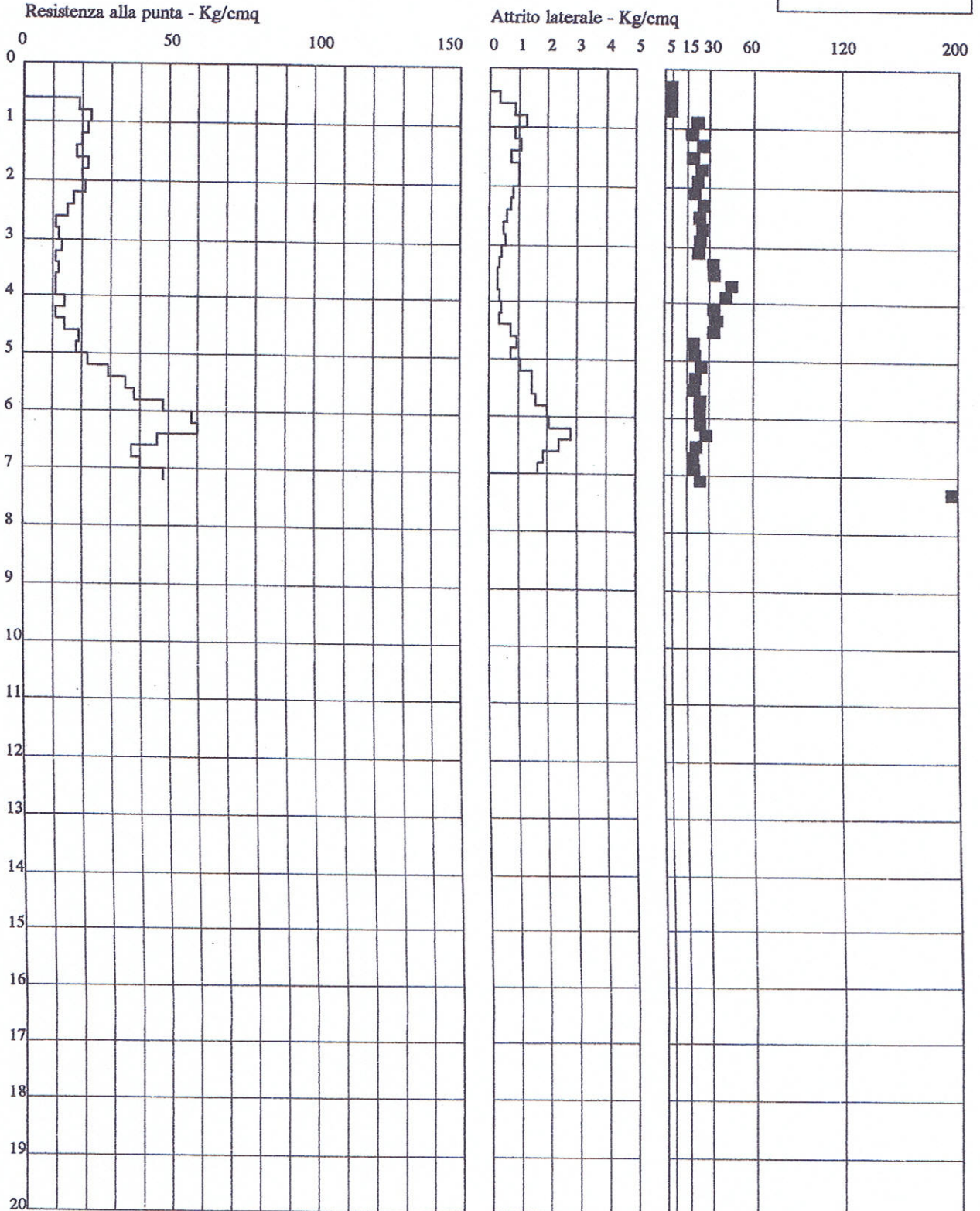


03706 P132 CPT 133

Ditta esecutrice: VIEL & GALASSI
Comune: ZOLA PREDOSA
Cantiere: PONTE RONCA

Committente: MUNICIPIO
Via: CAMPI TENNIS
Data esecuzione: 21/05/96

Prova N. PP4 ■



Certificato Numero: 4

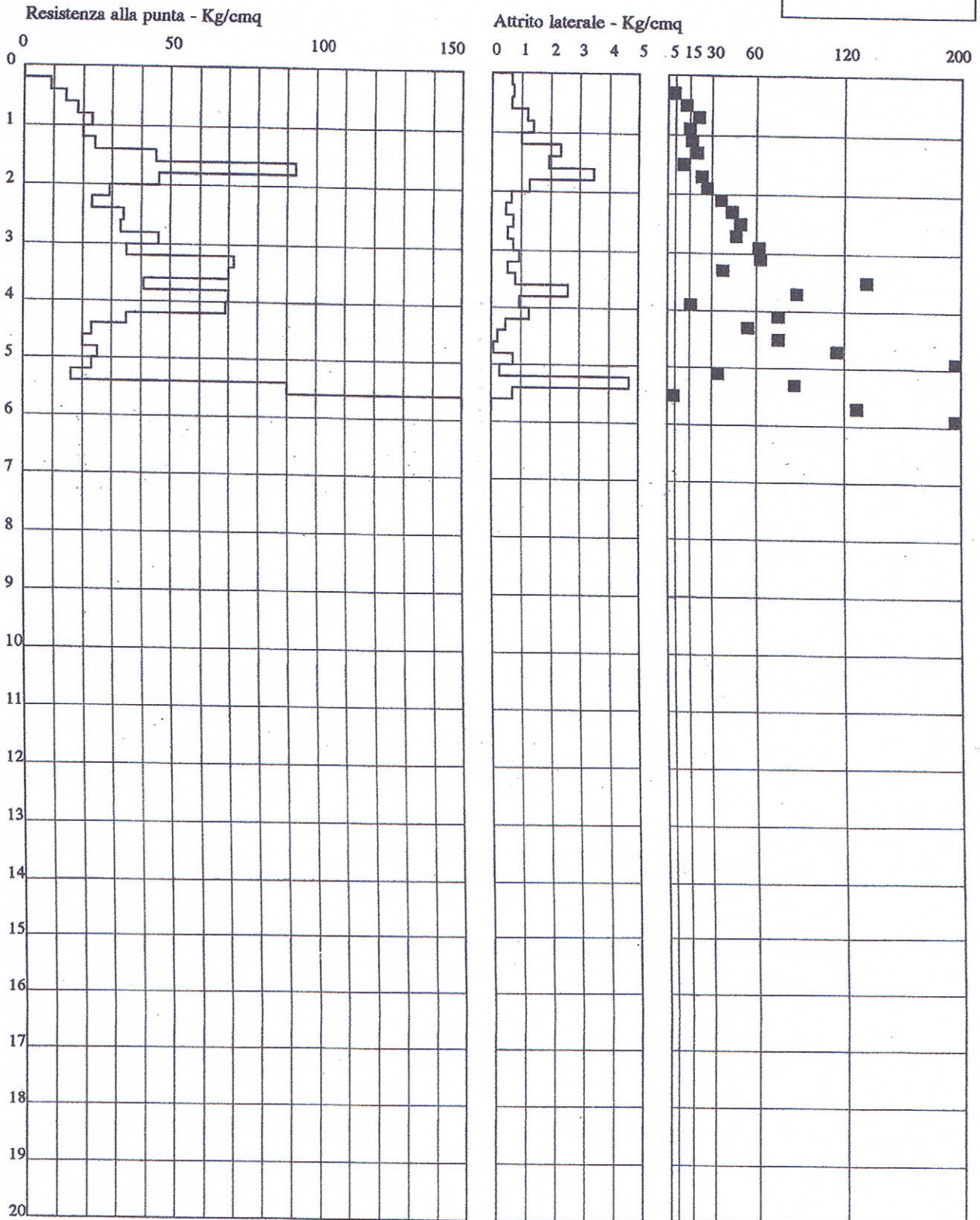
Sabbie e ghiaie
Sabbie
Limi sabbiosi, sabbie limose
Limi e argille
Torbe e argille organiche

03706 P133 CRT 134

Ditta esecutrice: VIEL & GALASSI
Comune: ZOLA PREDOSA
Cantiere: ZONA INDUSTRIALE

Committente: MUNICIPIO
Via: ROMA
Data esecuzione: 22/12/96

Prova N. 02 ■



Certificato Numero: 4

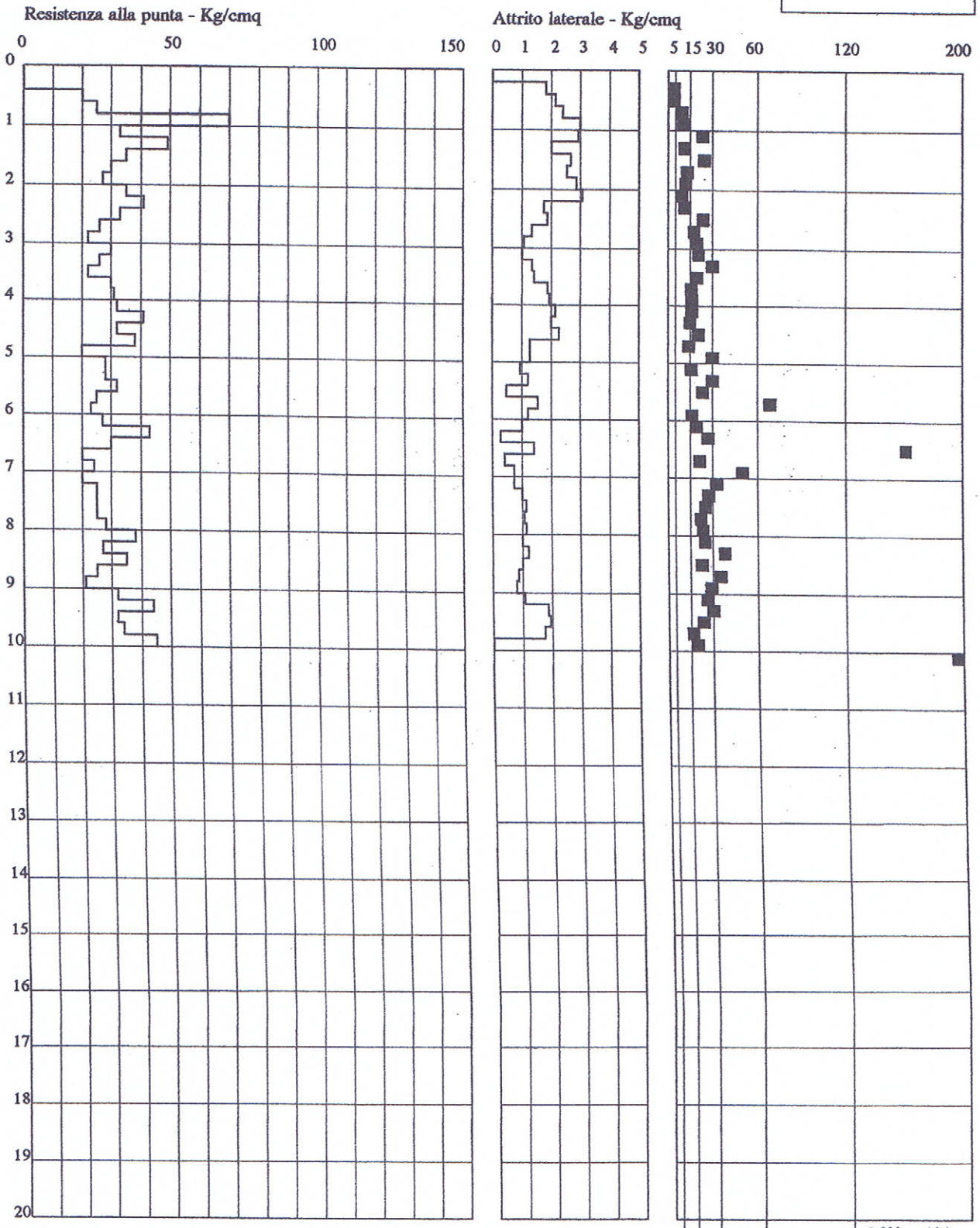
- Sabbie e ghiaie
- Sabbie
- Limi sabbiosi, sabbie limose
- Limi e argille
- Torbe e argille organiche

03706 P134 CRT 135

Ditta esecutrice: VIEL & GALASSI
Comune: ZOLA PREDOSA
Cantiere: ZONA INDUSTRIALE

Committente: MUNICIPIO
Via: TOSCANA
Data esecuzione: 22/12/96

Prova N. 04 ■



Certificato Numero: 4

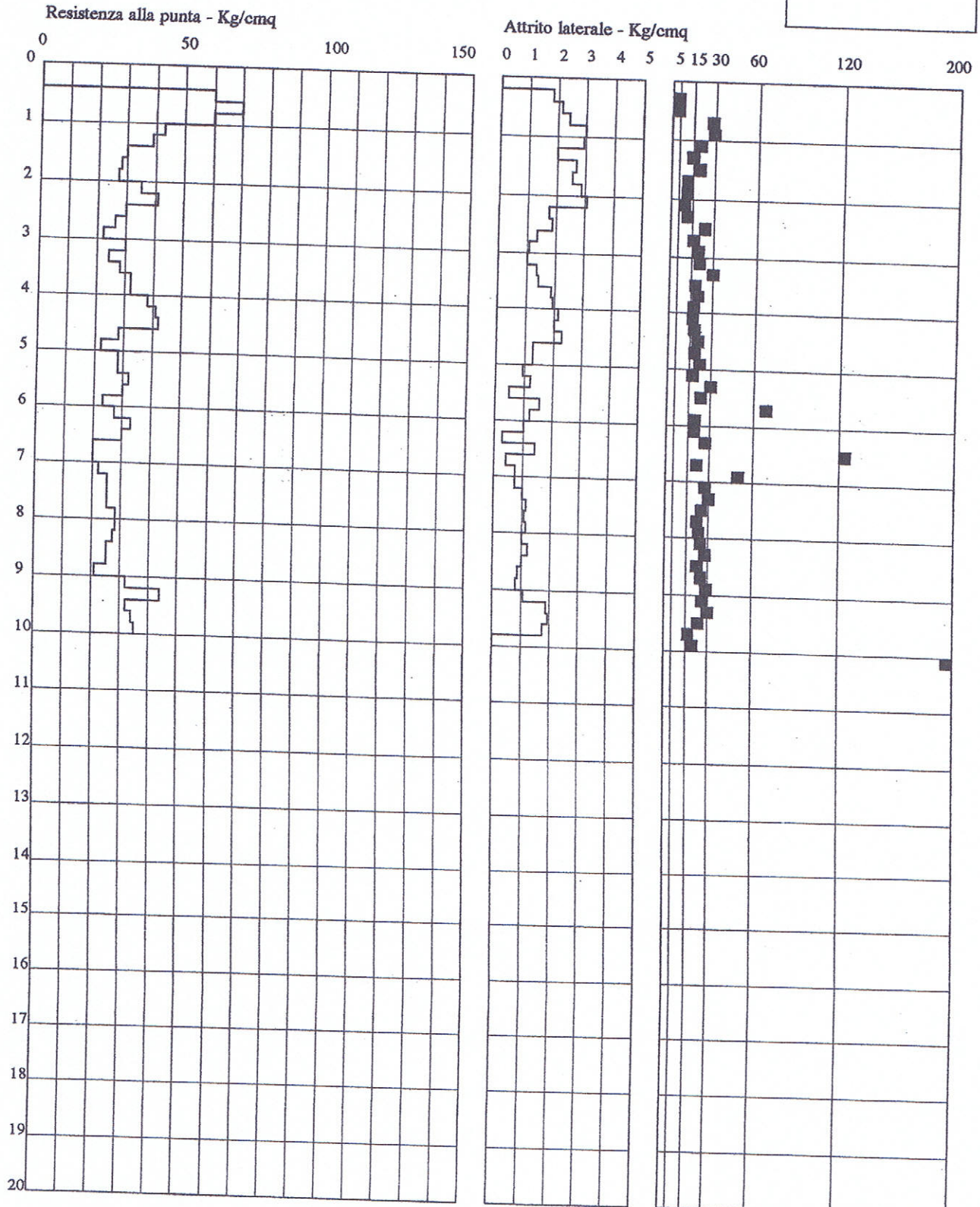
Sabbie e ghiaie
Sabbie
Limi sabbiosi, sabbie limose
Limi e argille
Torbe e argille organiche

037060.P135CPT136

Ditta esecutrice: VIEL & GALASSI
Comune: ZOLA PREDOSA
Cantiere: ZONA INDUSTRIALE

Committente: MUNICIPIO
Via: BALZANO
Data esecuzione: 22/12/96

Prova N. 05



Certificato Numero: 4

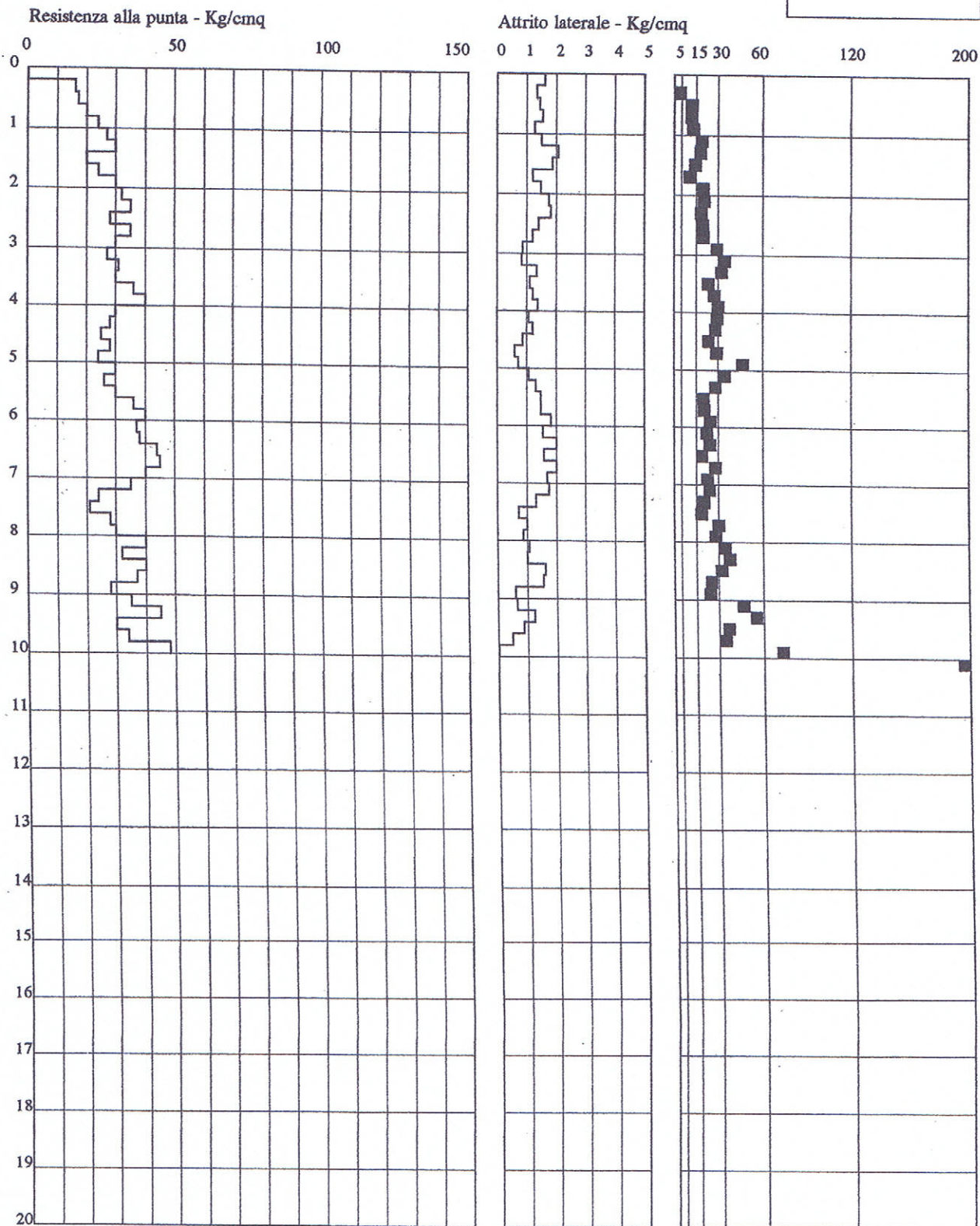
- Sabbie e ghiaie
- Sabbie
- Limi sabbiosi, sabbie limose
- Limi e argille
- Torbe e argille organiche

03706 P136 CRT 137

Ditta esecutrice: VIEL & GALASSI
Comune: ZOLA PREDOSA
Cantiere: ZONA INDUSTRIALE

Committente: MUNICIPIO
Via: PIEMONTE
Data esecuzione: 21/12/96

Prova N. 06



Certificato Numero: 4

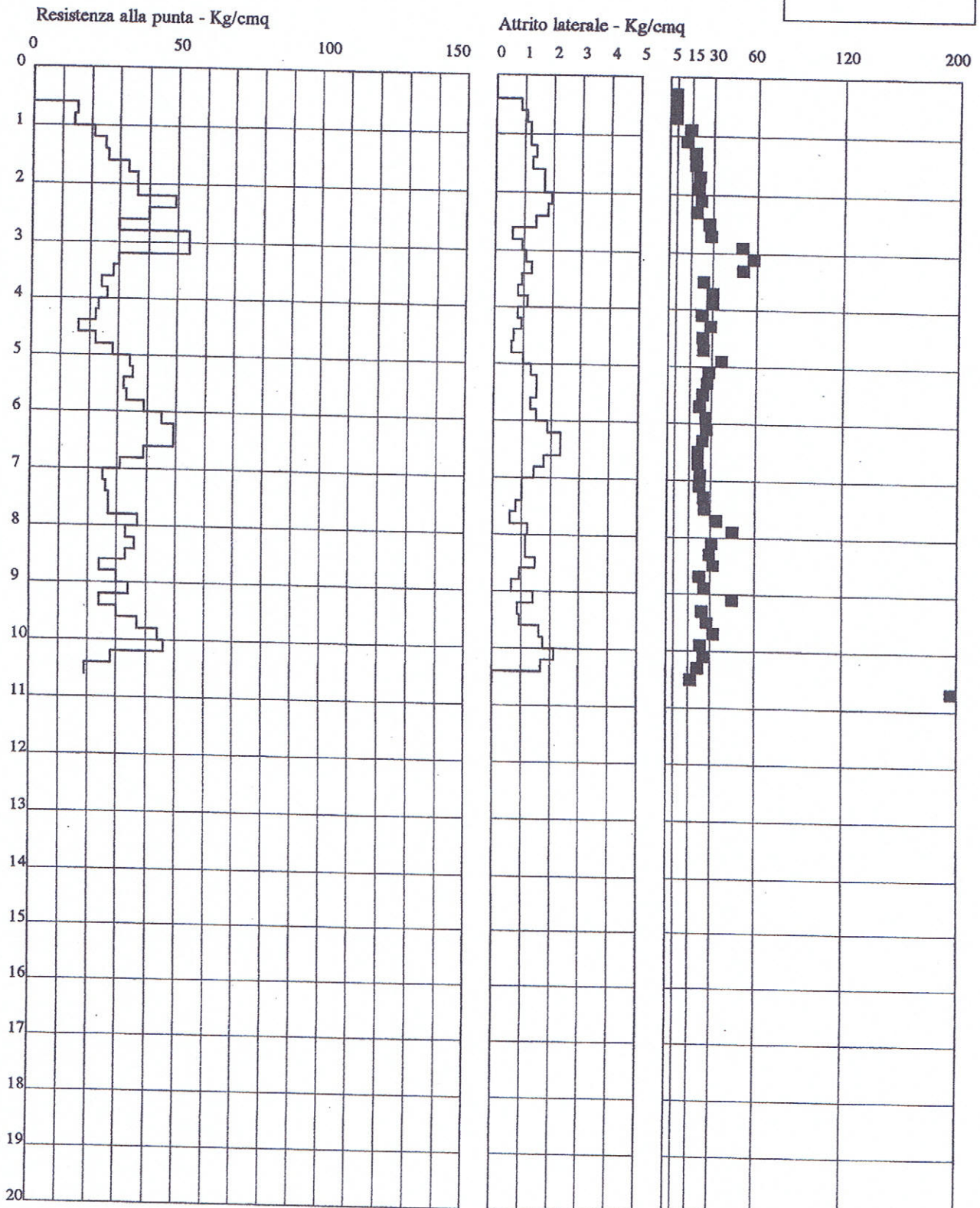
- Sabbie e ghiaie
- Sabbie
- Limi sabbiosi, sabbie limose
- Limi e argille
- Torbe e argille organiche

03706 P/137 CAT 138

Ditta esecutrice: VIEL & GALASSI
Comune: ZOLA PREDOSA
Cantiere: USL - ANFAS

Committente: USL BO. SUD
Via: ROMA
Data esecuzione: 28/03/95

Prova N. PP4 ■



Certificato Numero: 4

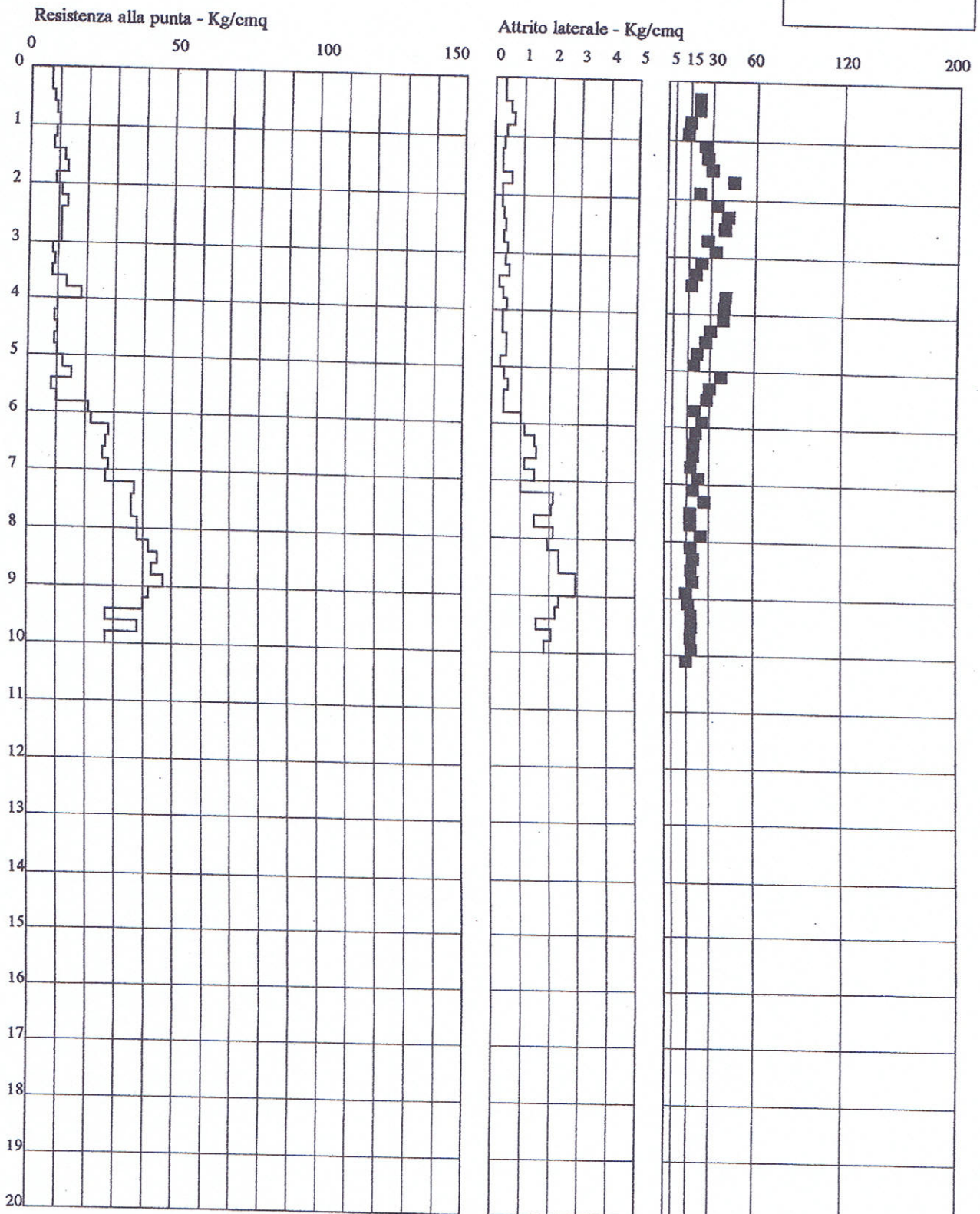
- Sabbie e ghiaie
- Sabbie
- Limi sabbiosi, sabbie limose
- Limi e argille
- Torbe e argille organiche

037060 P61 CPT 139

Ditta esecutrice: GEOPROBE
Comune: ZOLA PREDOSA
Cantiere: ZOLA CHIESA

Committente: COMUNE
Via:
Data esecuzione: 15/01/96

Prova N. PP3 ■

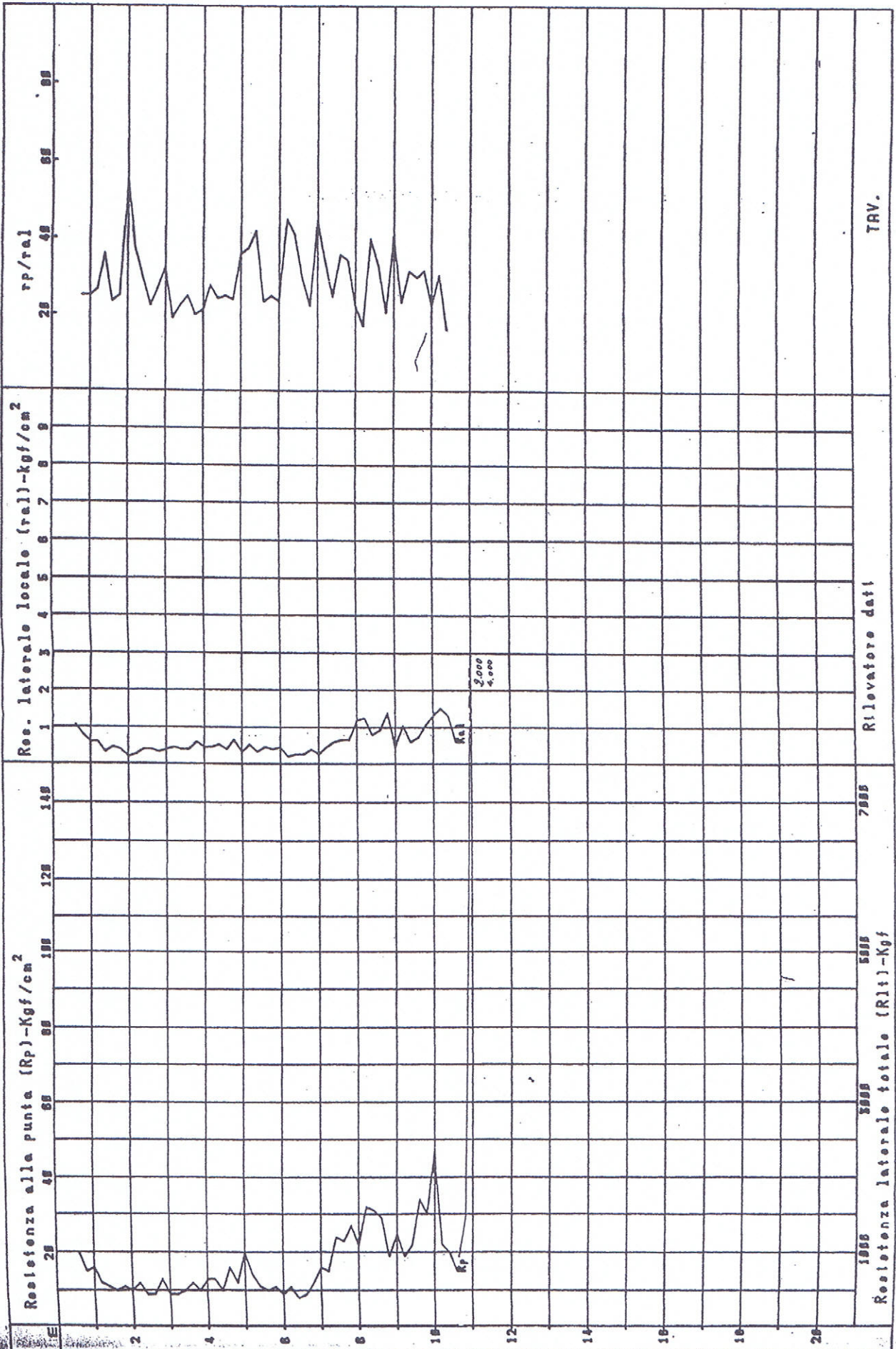


Certificato Numero: 4

- Sabbie e ghiaie
- Sabbie
- Limi sabbiosi, sabbie limose
- Limi e argille
- Torbe e argille organiche

037060 P138 CPT 140

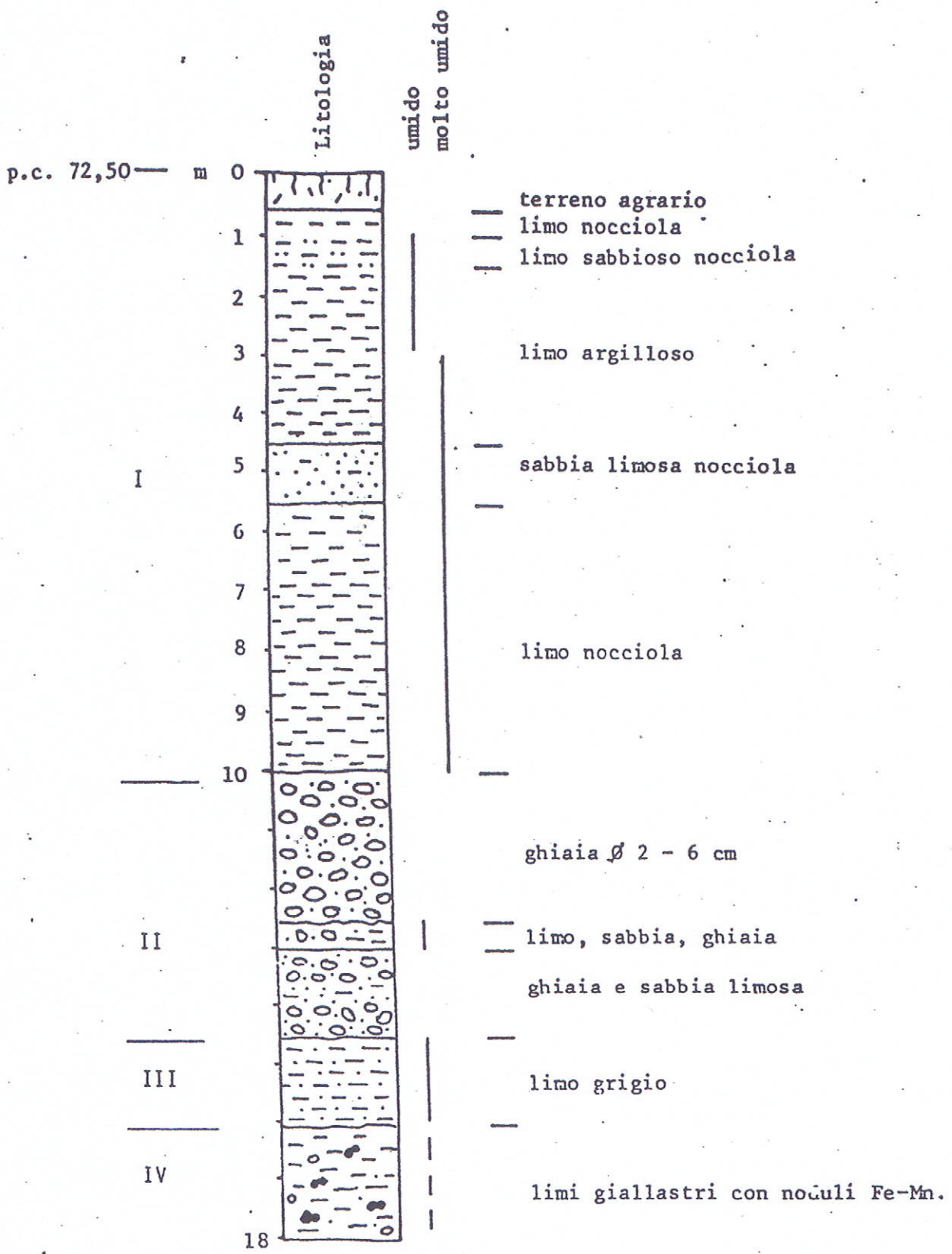
PROVA PENETROMETRICA STATICA N. PP4 bis
 Committente: CO. GE. MI.
 Localita': ZOLA PREDOSA
 Cantliere: Nuovo Municipio



1988
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 88000
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 92000
 94000
 96000
 98000
 100000

profondità metri	STRATI- GRAFIA	Quote Campioni SPT	DESCRIZIONE	Polso penetro- metri	vece test	SPT 15/3045	tipo di manovra percent. di recupero
5			suolo vegetale				
			limi a scheletro sabbioso	5			100
			sabbie fini limose (aging pronunciato)	>5 >5			100
			paleosuoli limoso sabbiosi (frustoli)	>5			
			paleosuoli limosi (aging) al letto sabbie fini rossicce	6 4			95
		C. D 1	sabbie fini, a letto limi colore rosso			6-6-7	
			limi a scheletro sabbioso sabbie medie	5			100
		C. D	0,20 di limi sabbiosi con organico Alternanze di paleosuolo limosi e sabbie medie o fini con poca matrice limosa. 0,4 di sabbie laminate.				80
			sabbia e ghiaia (ciottoli 2 cm)			17-25-18	
	10			0,40 di sabbia e ghiaietto			
			Ghiaia e sabbia rari intervalli con matrice limosa				manovre a secco 50
			Ghiaia con ciottoli grandi (lag deposit)				
			Ghiaia e sabbia con matrice limosa				
		C. D 2	Paleosuolo limoso argilloso variegato	0,8 1,8	1 1,6		pulizia fondo
15		C. D 3	Paleosuolo variegato (verdino e rosso)			5-7-10	
			Paleosuolo verdino con calcinelli grandi, noduli di Mn, rari frustoli	1,5 2,0	1,0 1,4		100
			Paleosuoli screziati argilloso limosi calcinelli	2,0 1,4	1,0 0,8		100
			Limi con ciottoli ????				perso 20
			Argille limose con organico, verso la base limi arg. con calcinelli poi limi sabbiosi	3 2	1,6 0,8		
		C. D 4	0,30 di paleosuolo, frana ghiaia da 11 metri			19-19-22	pulizia
			Argille limose scure carbonati pervasivi Argille limose screziate in rosso, frustoli, noduli di Mn.	2,5 4,0 2,5	1,2 2 1,4		PULIZIA FONDO ROSO 80
			Argille limose scure, paleosuoli rossi	3,0 4,0	1,6 2,2		
20							perso, ciottolo incastrato
		C. D 5	Alternanze di paleosuoli limoso arg. e Argilloso limosi variegati con Mn e frustoli	2 3,5	0,8 1,4		80 PULIZIA FONDO

037060 P14LS143



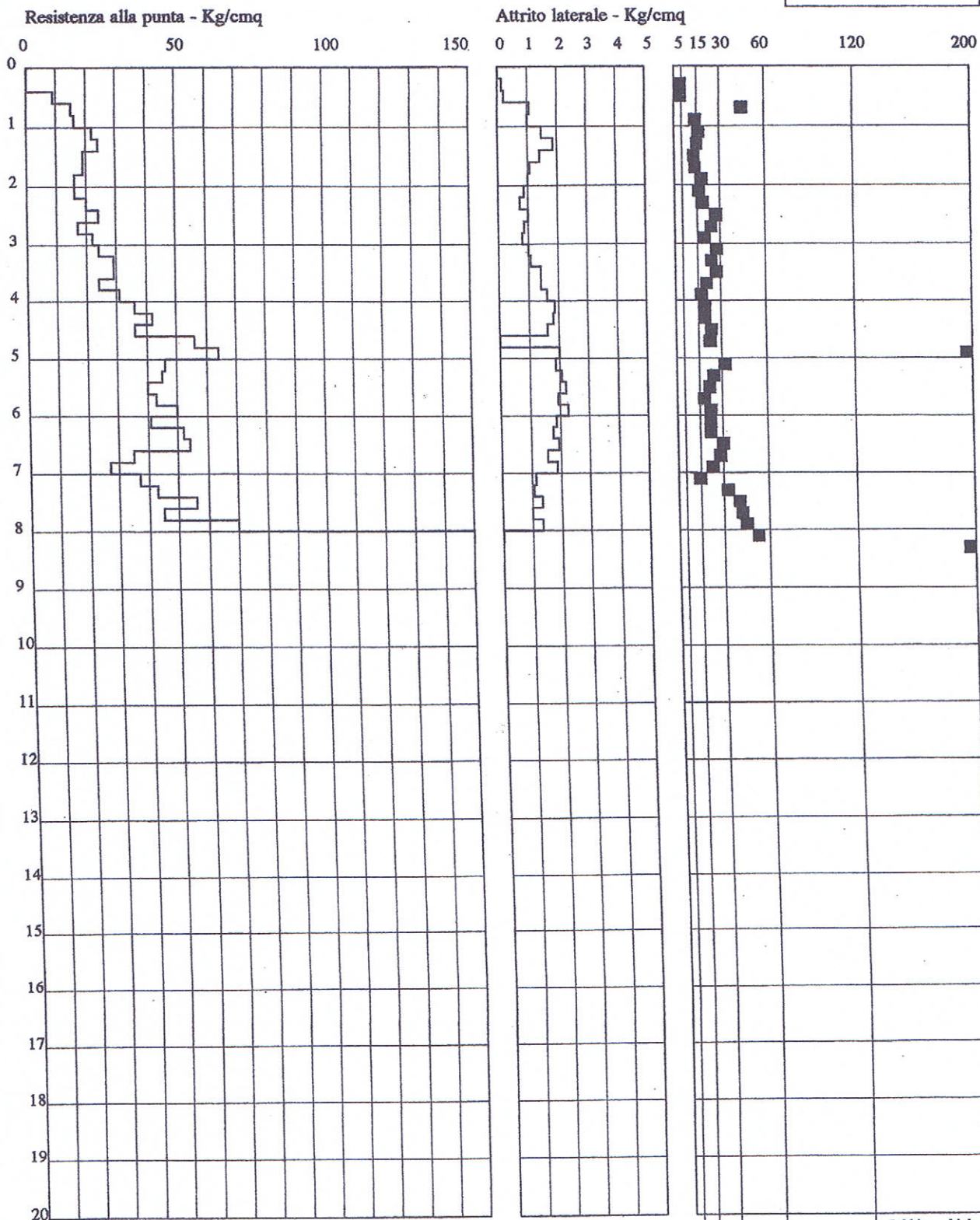
Tav. 5 - Stratigrafia del sondaggio S2 4

037060 P38 CPT.144

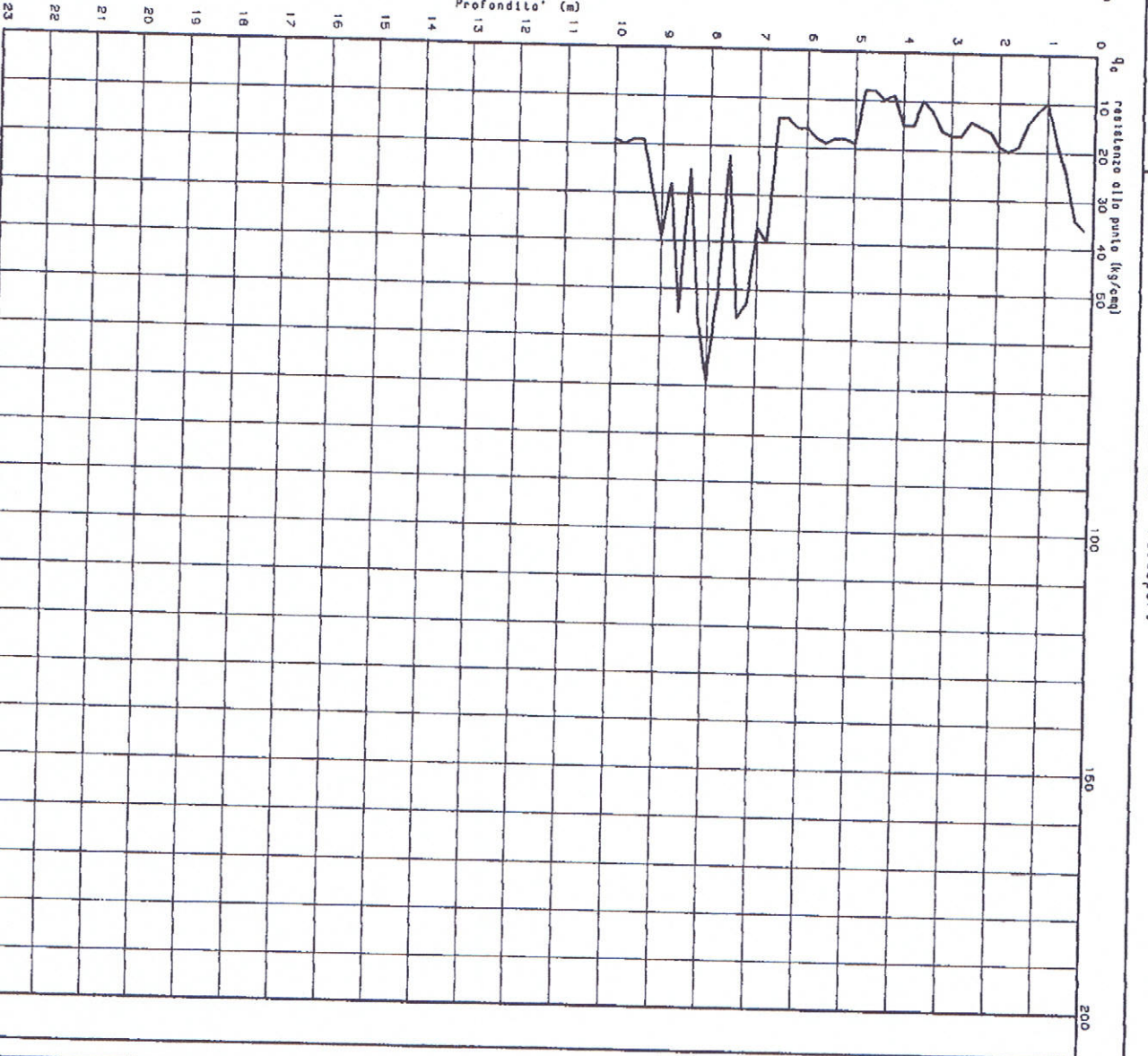
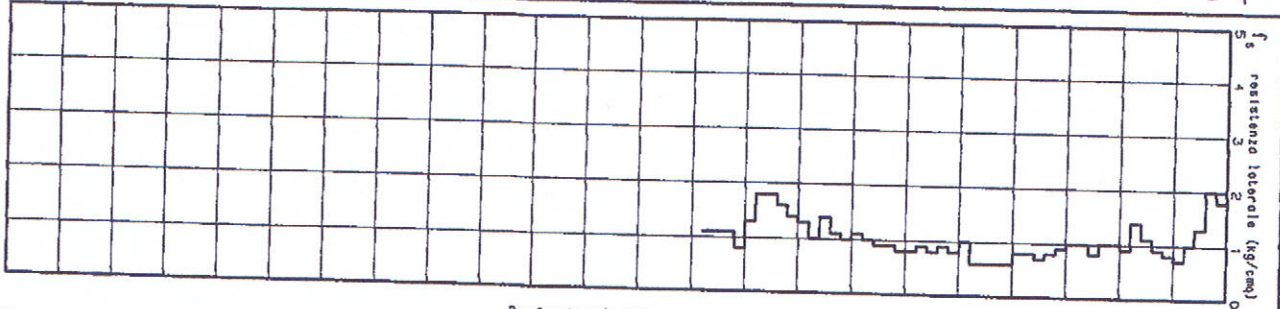
Ditta esecutrice: VIEL & GALASSI
Comune: ZOLA PREDOSA
Cantiere: GESSI

Committente: MUNICIPIO
Via: GESSO
Data esecuzione: 22/12/96

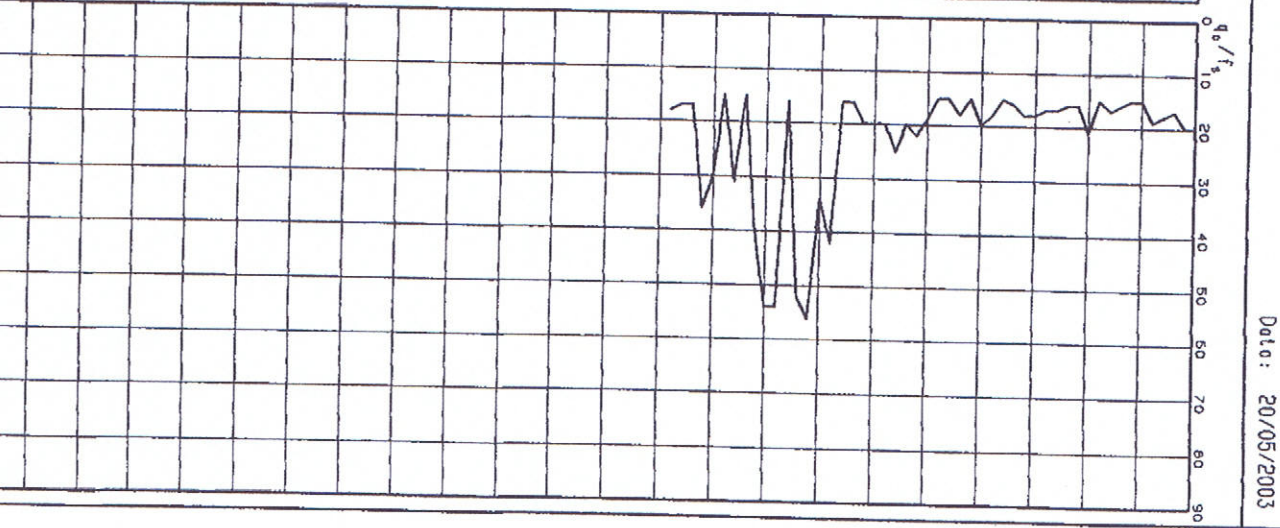
Prova N. 07 ■

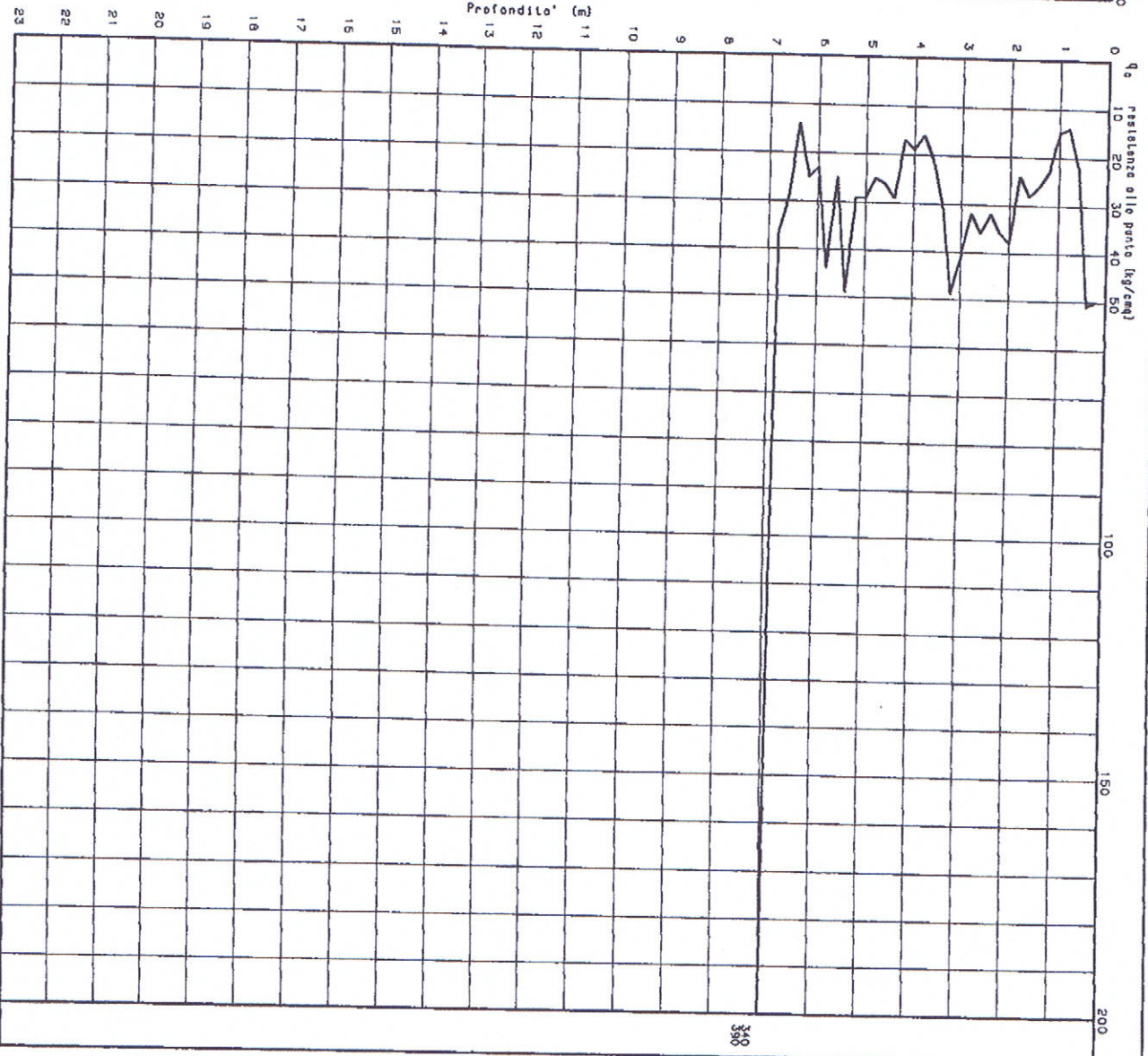
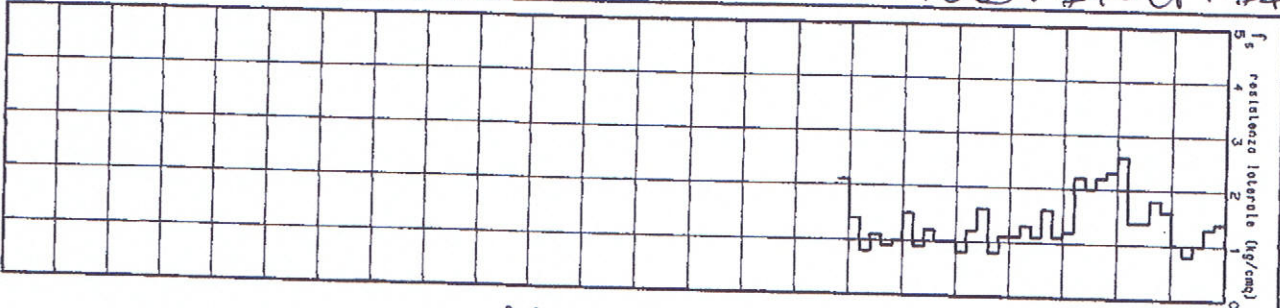


Certificato Numero: 4

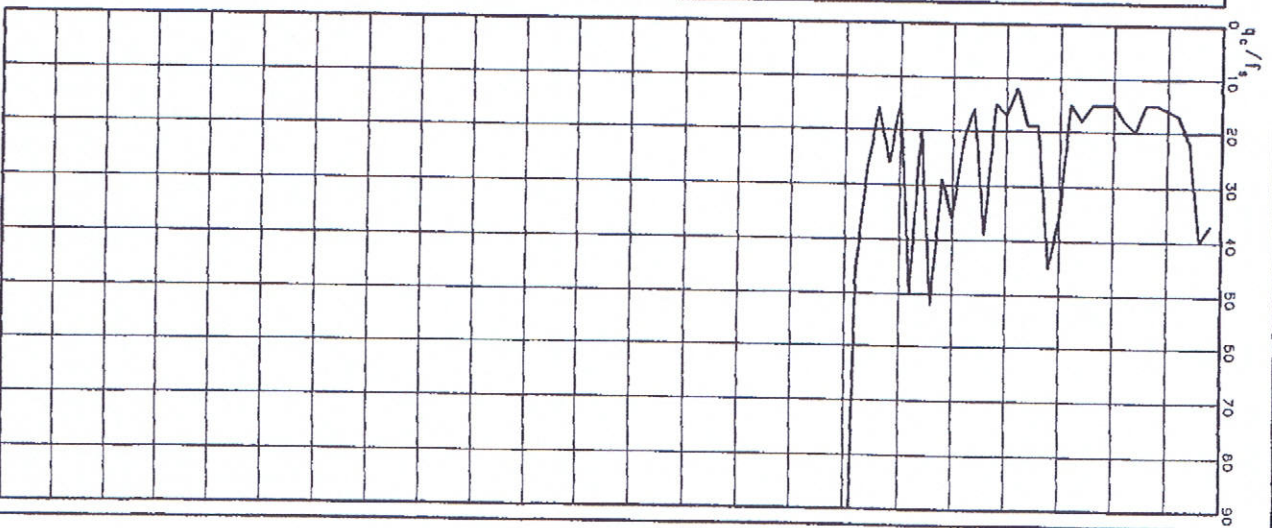


Livello acqua da p.c.: assente





Livello acqua da p.c.: assente



GEO-PROBE

40133 BOLOGNA

Via R. Grieco, 7 - Tel. 051/61.45.360

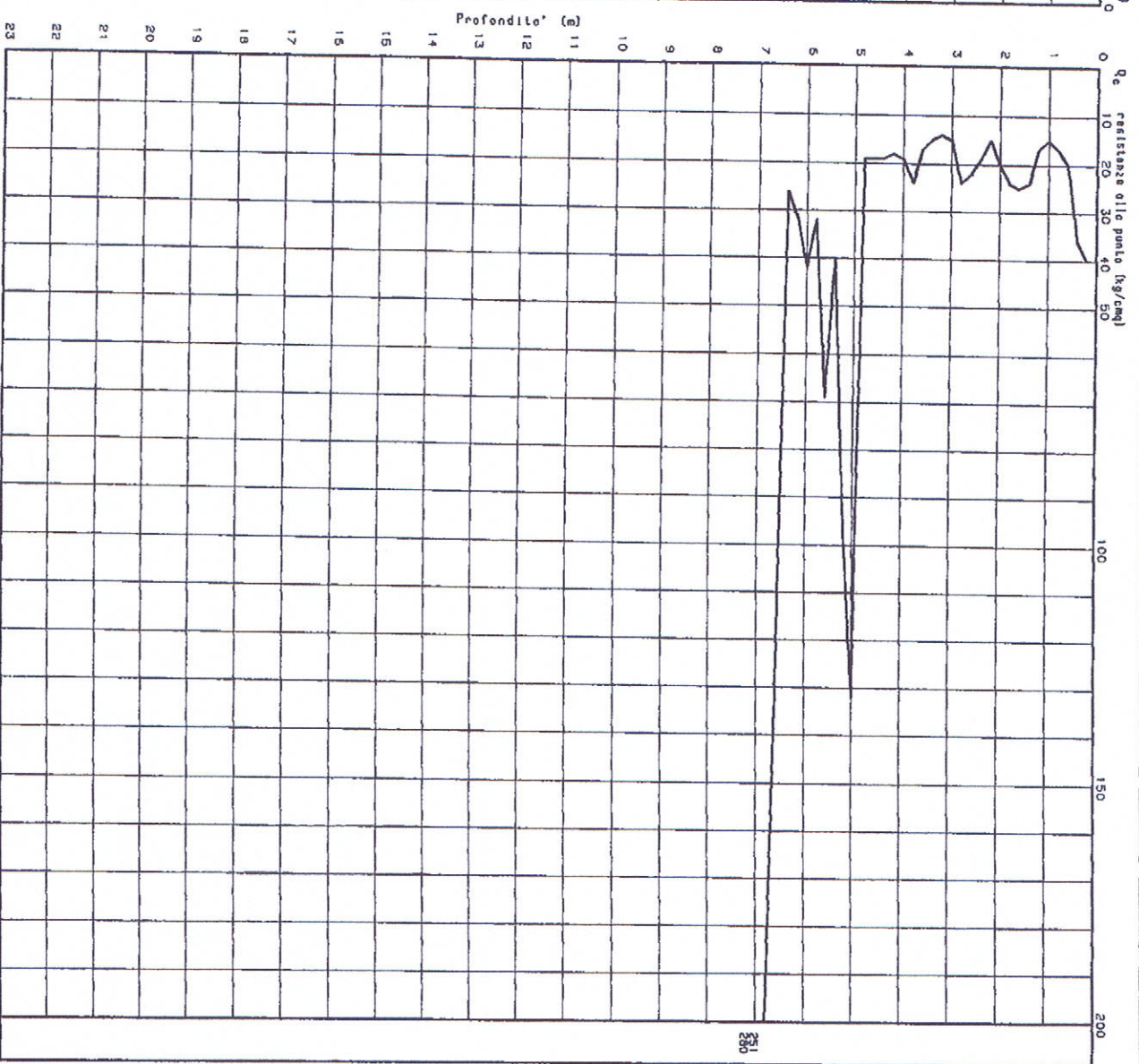
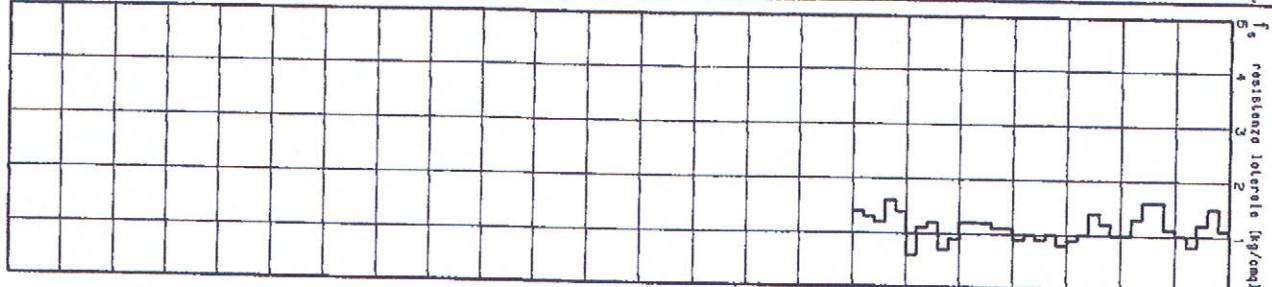
CPT (CONE PENETRATION TEST) N.8

Committente: Geom. Zanorini

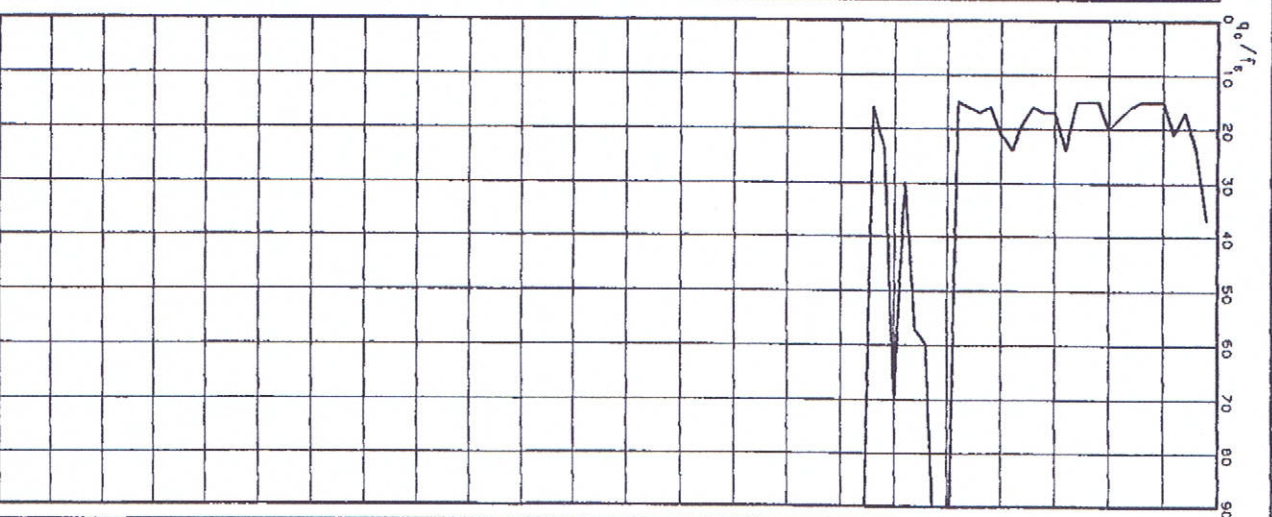
Località: Zola Predosa (BO) Palasport

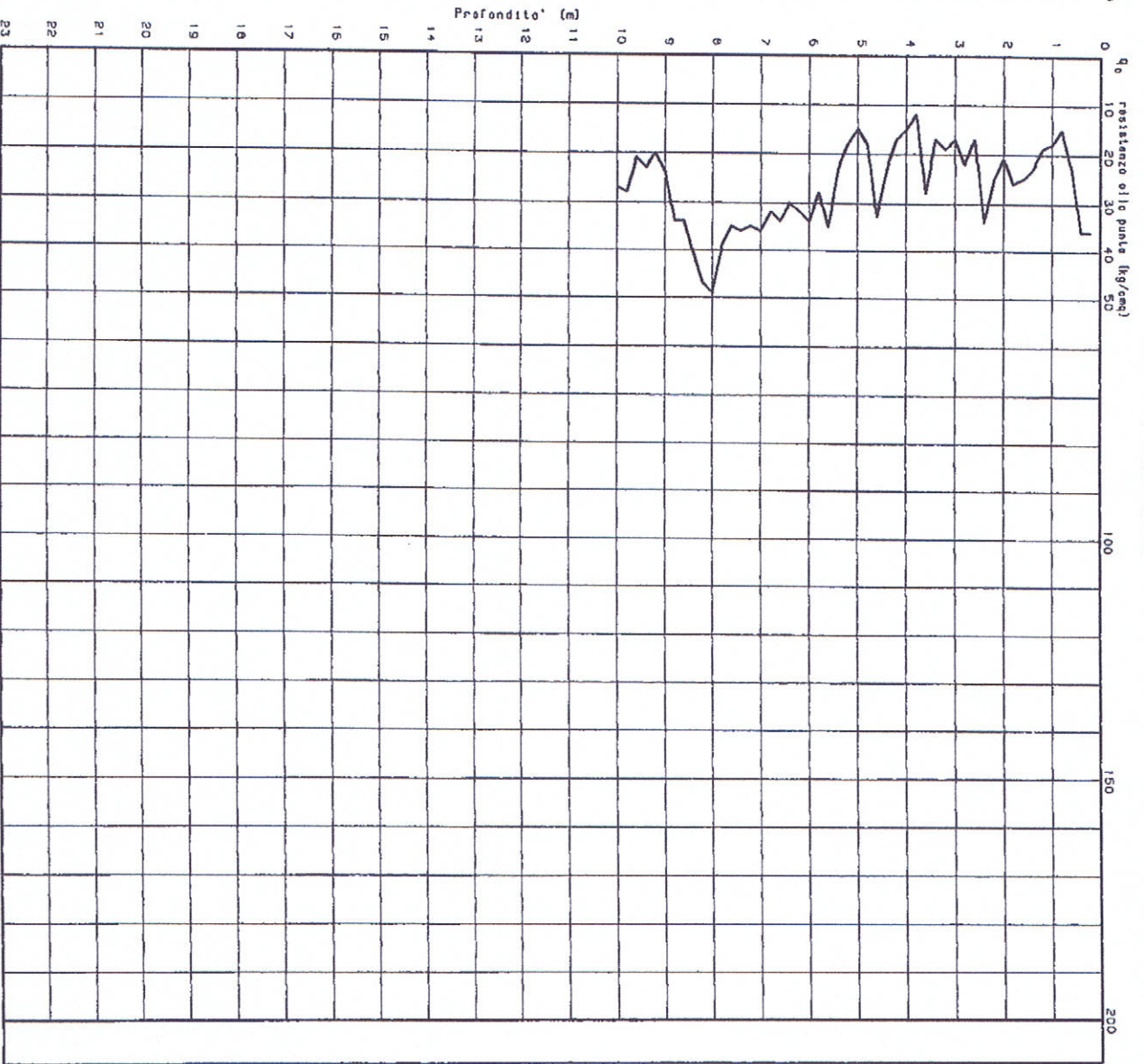
N. Certificato: 03175008

Data: 20/05/2003



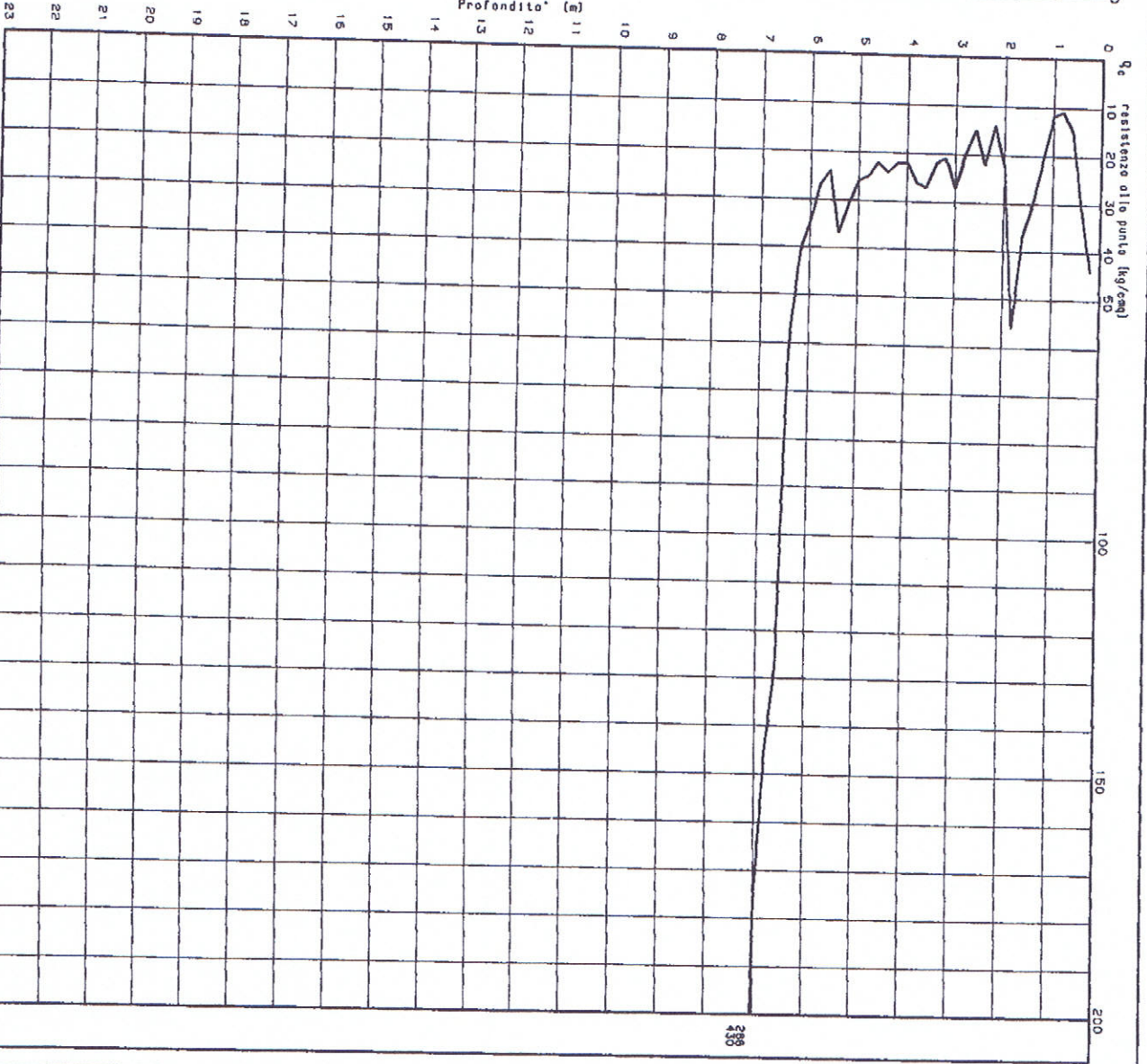
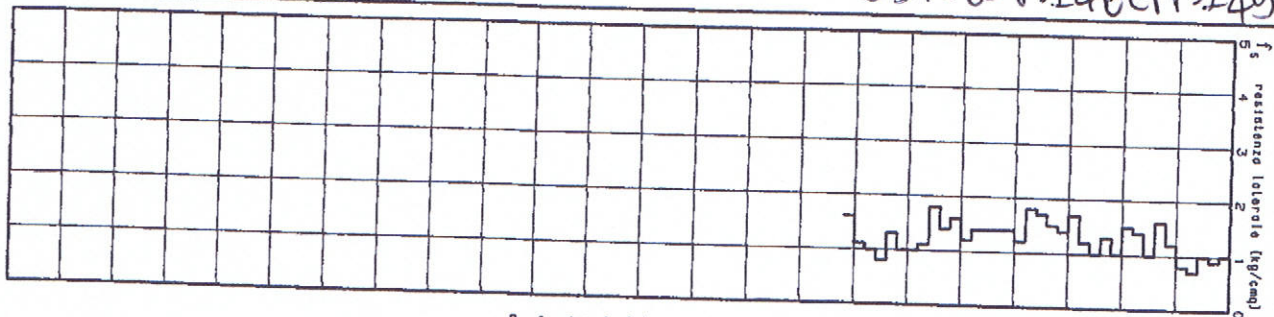
Livello acqua da p.o.: assente





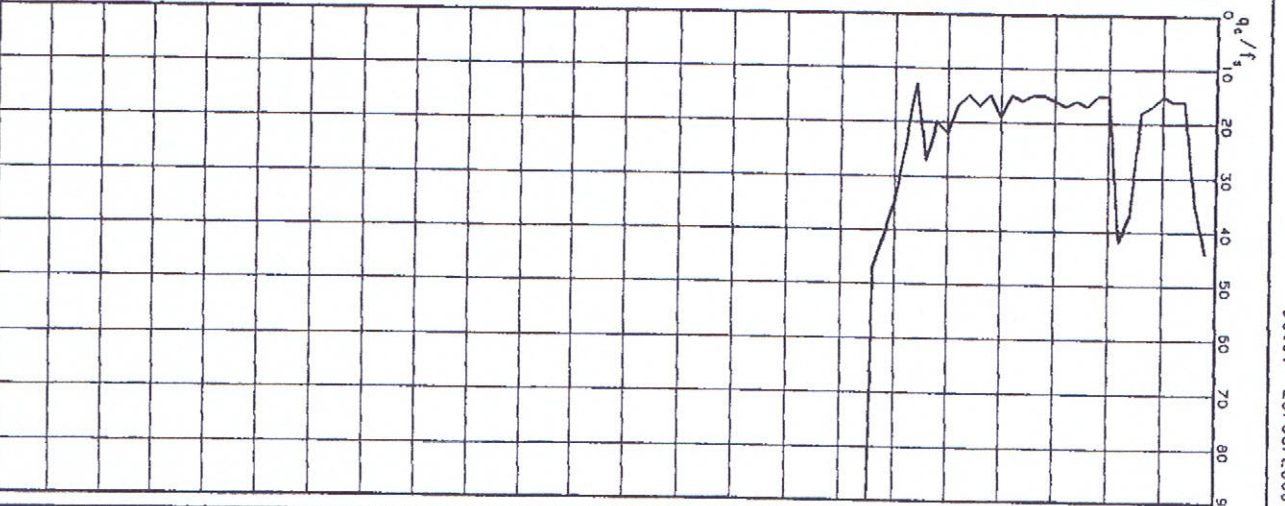
Livello acqua da p.o.: assente

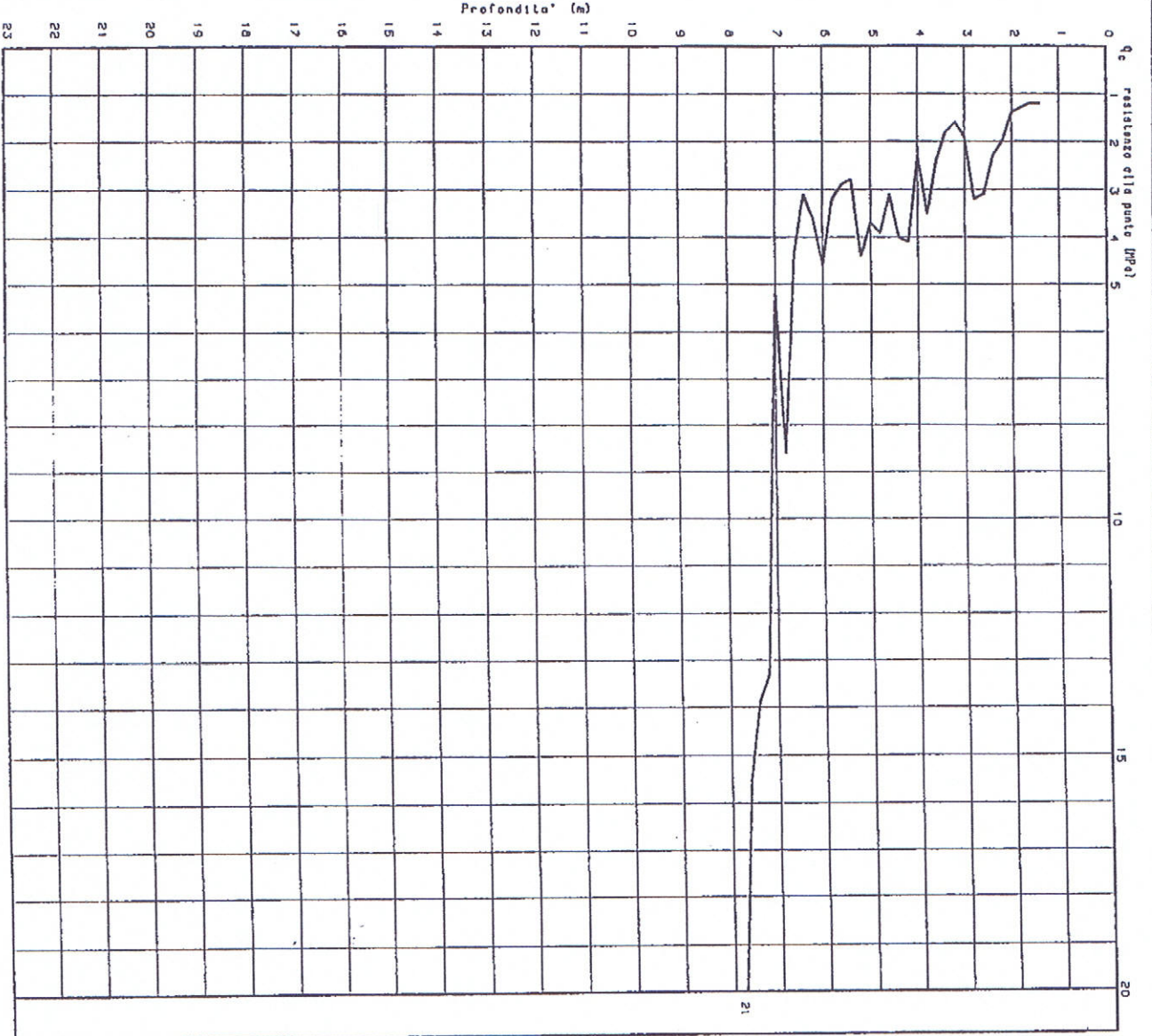
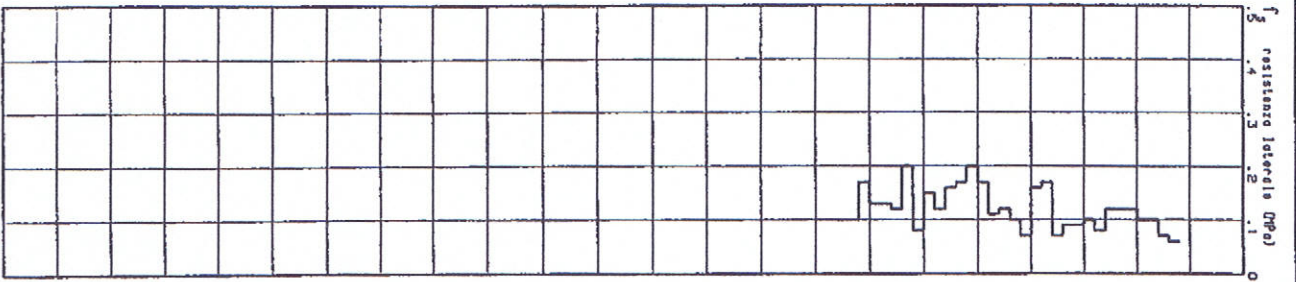




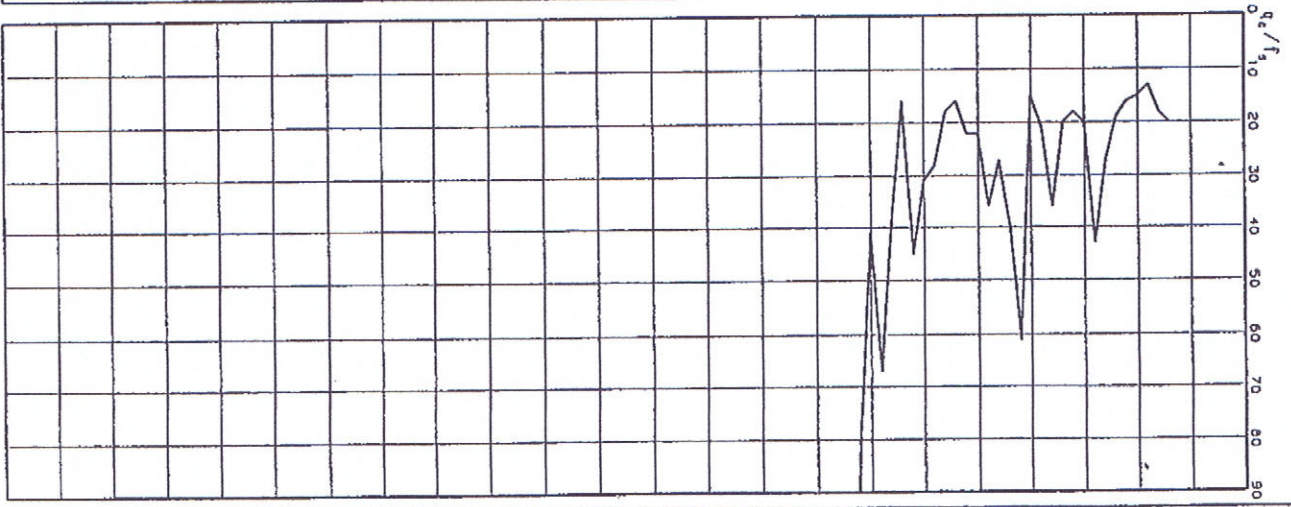
200

Livello acqua da p.c.: assente





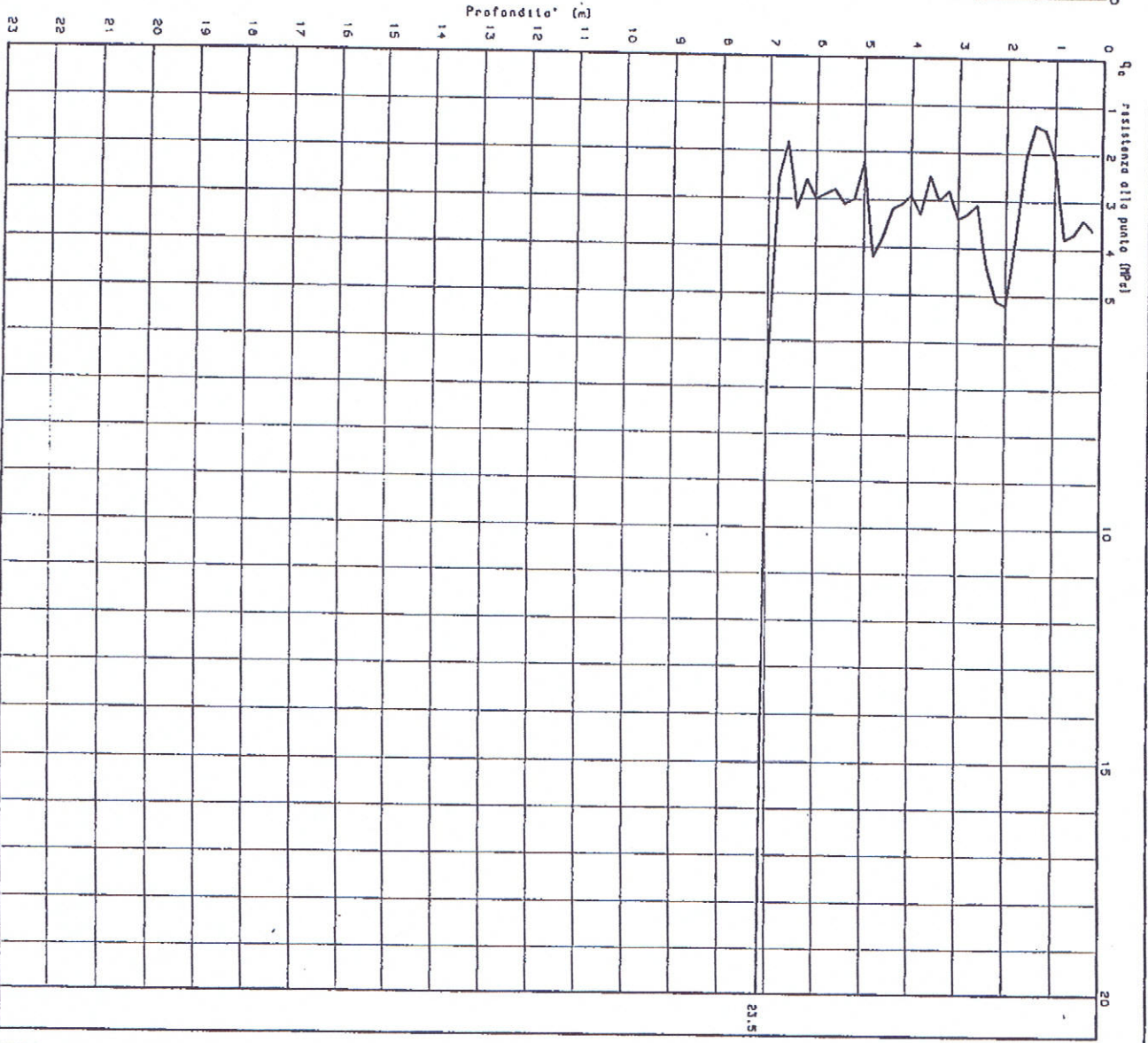
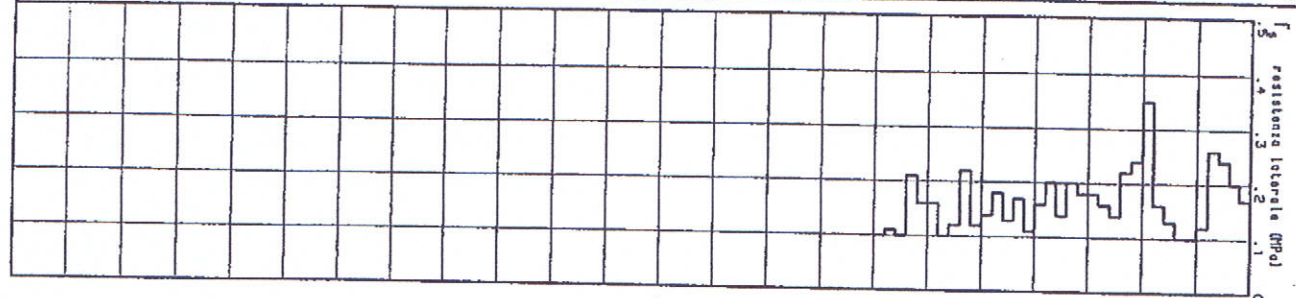
Quota di falda: assente



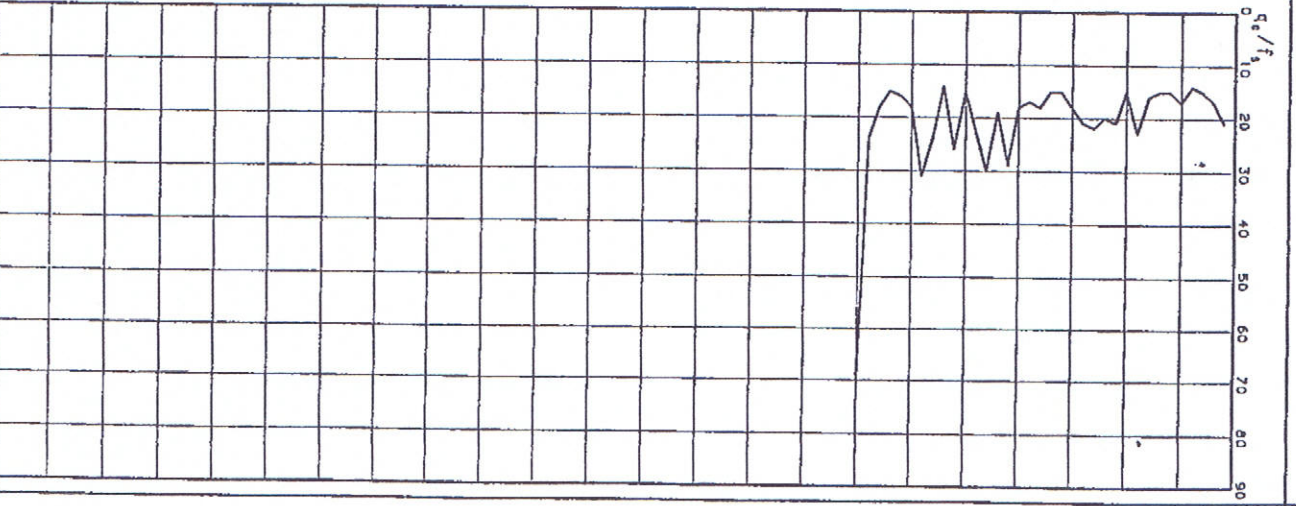
Via R. Grieco, 7 - Tel. 051/61.45.360

40133 BOLOGNA
 Committente: Thesis Engineering
 Località: Zola Predosa (BO) Ponte Ronco

CON PENETRATION TESTI N.5
 Data: 06/08/96



Quota di folla: assente



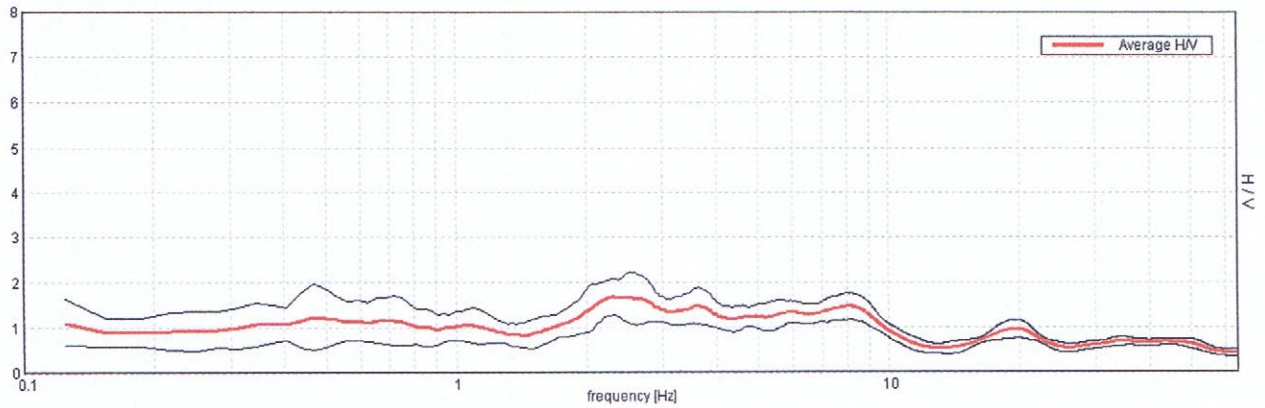
037060P149HVS R152

ZOLA PREDOSA, VARIANTE ANTICIPATORIA COMPARTO D3.11 - TR 1

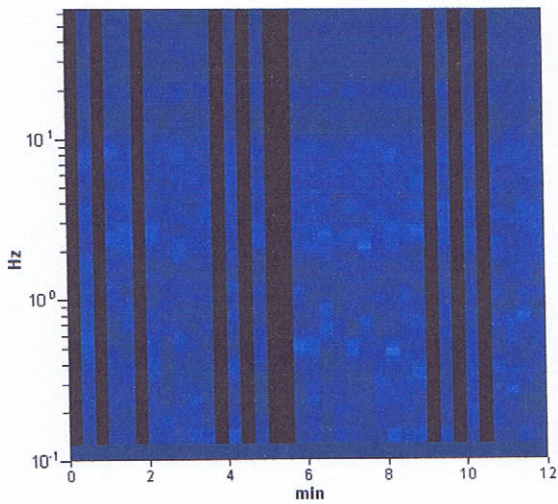
Instrument: TRZ-0108/01-10
Trace length: 0h12'00". Analyzed 72% trace (manual window selection)
Sampling rate: 128 Hz
Window size: 20 s
Smoothing type: Triangular window
Smoothing: 12%

HORIZONTAL TO VERTICAL SPECTRAL RATIO

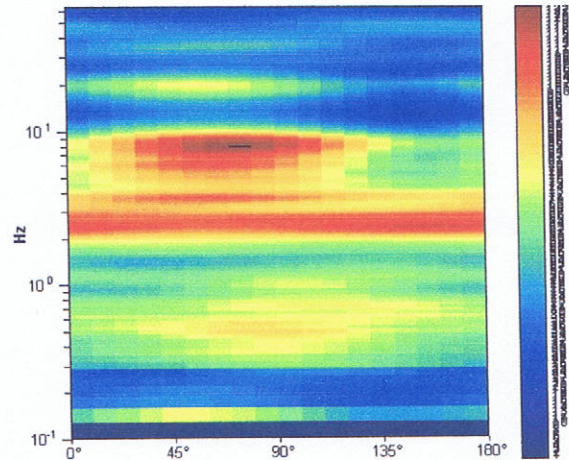
Max. HV at 2.31 ± 0.51 Hz (in the range 0.0 - 64.0 Hz)



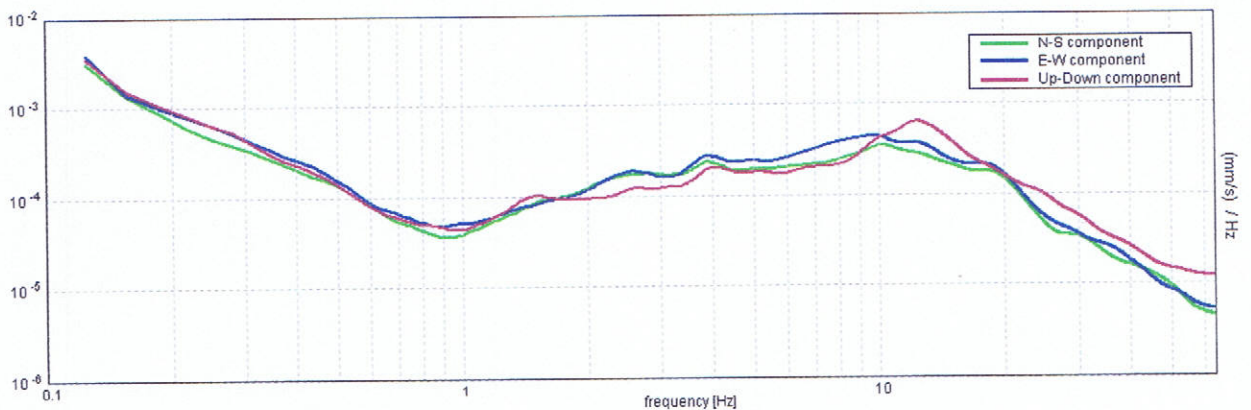
H/V TIME HISTORY



DIRECTIONAL H/V



SINGLE COMPONENT SPECTRA



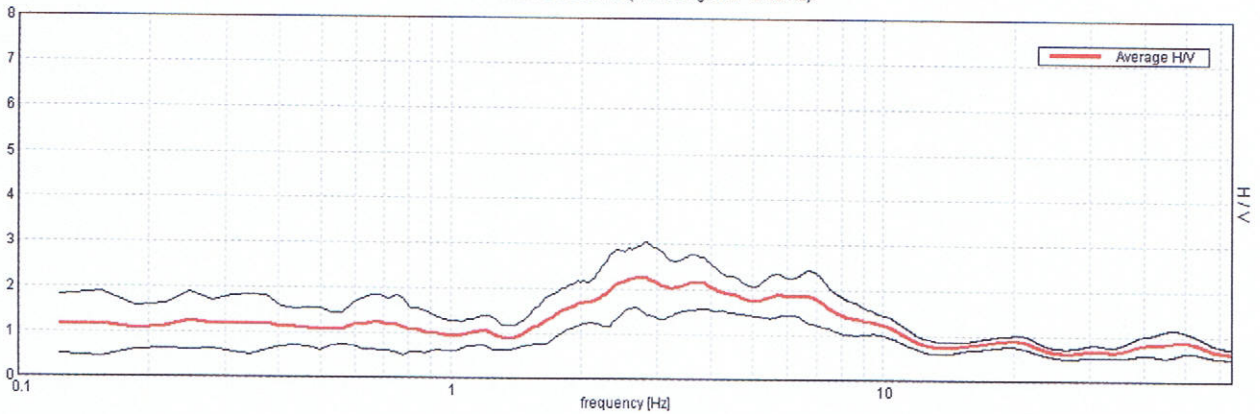
037060P150MVSR153

ZOLA PREDOSA, VARIANTE ANTICIPATORIA COMPARTO D3.11 - TR 2

Instrument: TRZ-0108/01-10
Trace length: 0h12'00". Analyzed 83% trace (manual window selection)
Sampling rate: 128 Hz
Window size: 20 s
Smoothing type: Triangular window
Smoothing: 12%

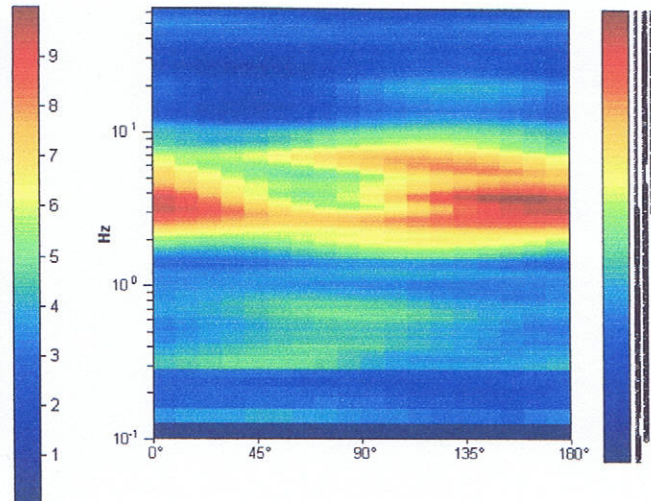
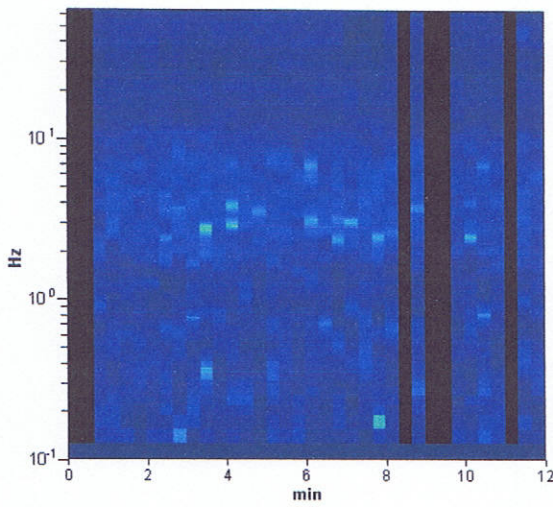
HORIZONTAL TO VERTICAL SPECTRAL RATIO

Max. H/V at 2.72 ± 0.32 Hz (in the range 0.0 - 64.0 Hz).

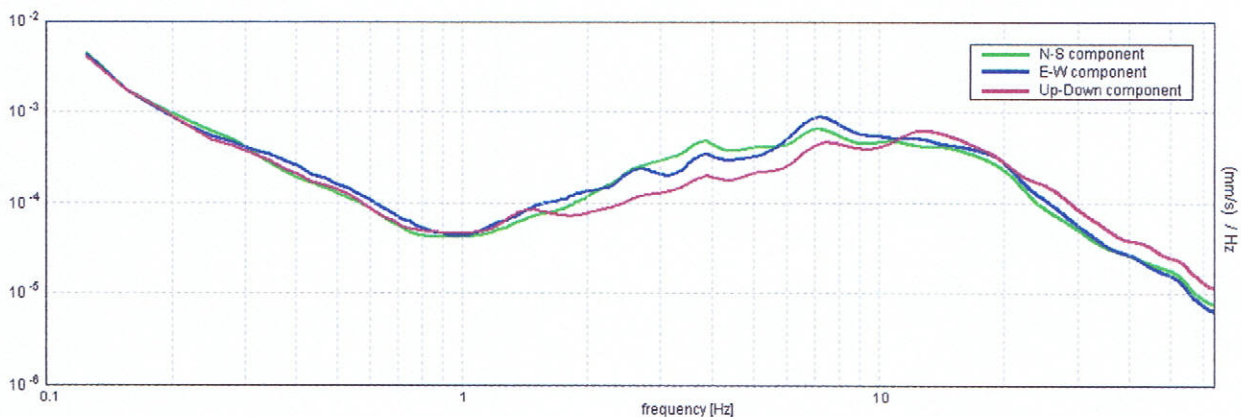


H/V TIME HISTORY

DIRECTIONAL H/V



SINGLE COMPONENT SPECTRA



037060 P151 HVSR 154

ZOLA PREDOSA, ZOLA PREDOSA TR1 VAR PRG

Instrument: TRZ-0108/01-10

Inizio registrazione: 01/03/00 06:27:33 Fine registrazione: 01/03/00 06:43:33

Nomi canali: NORTH SOUTH; EAST WEST; UP DOWN

Durata registrazione: 0h16'00"

Analyzed 71% trace (manual window selection)

Freq. campionamento: 128 Hz

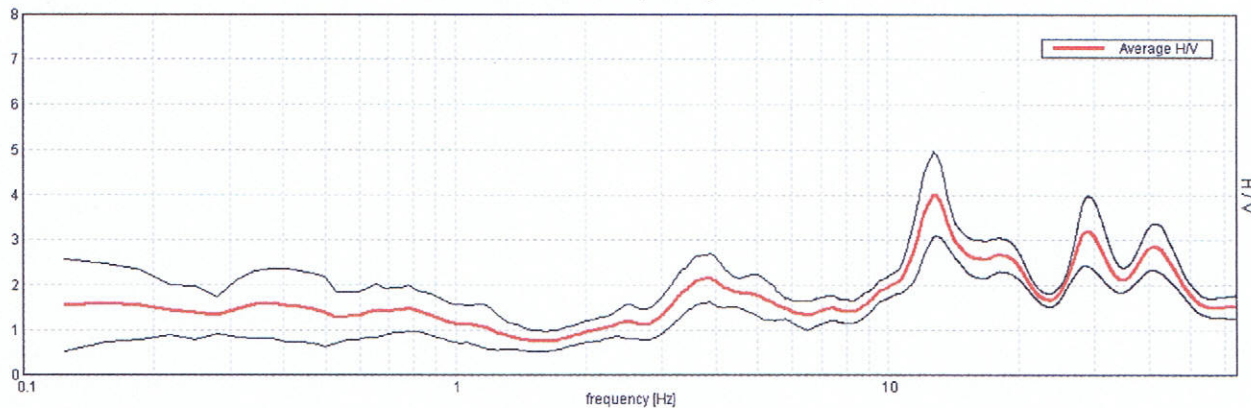
Window size: 20 s

Smoothing type: Triangular window

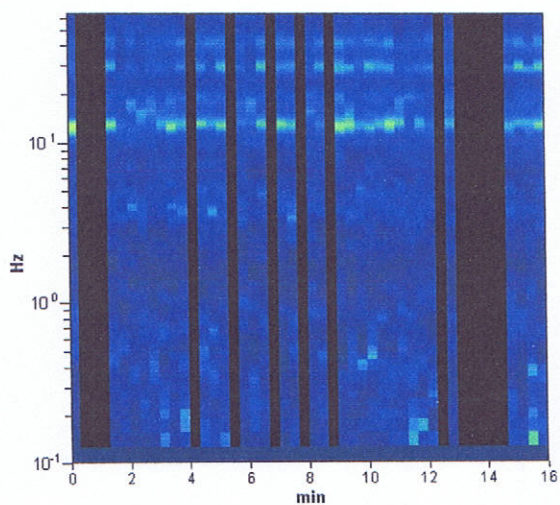
Smoothing: 12%

HORIZONTAL TO VERTICAL SPECTRAL RATIO

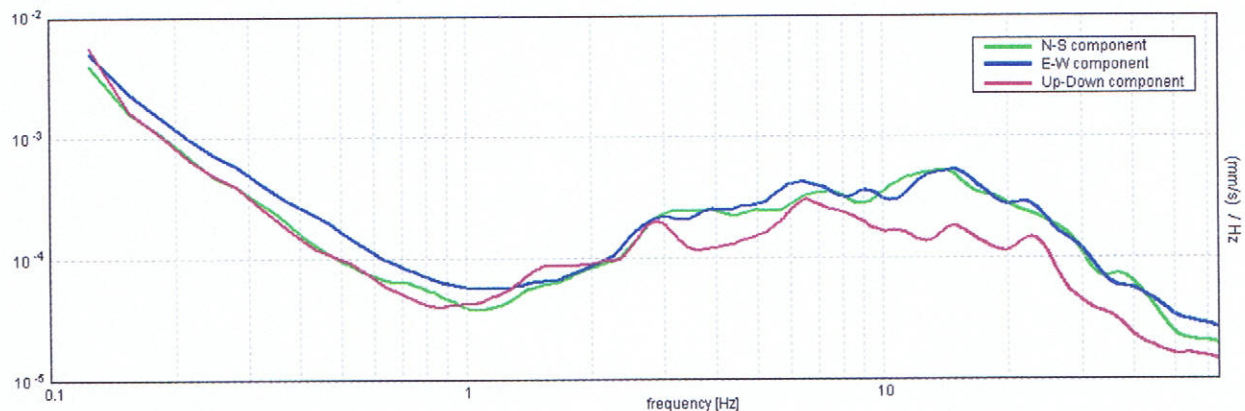
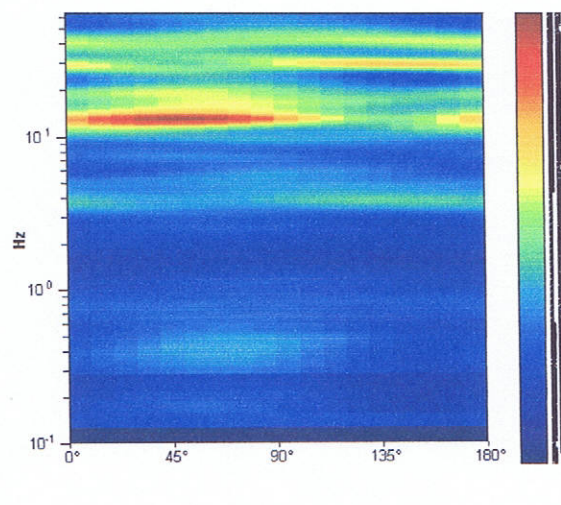
Max. H/V at 12.75 ± 0.03 Hz. (In the range 0.0 - 64.0 Hz).



H/V TIME HISTORY



DIRECTIONAL H/V



037060P152HVS&R155

ZOLA PREDOSA, ZOLA PREDOSA TR2 VARIANTE PRG

Strumento: TRZ-0108/01-10

Inizio registrazione: 01/03/00 07:05:21 Fine registrazione: 01/03/00 07:21:22

Nomi canali: NORTH SOUTH; EAST WEST; UP DOWN

Durata registrazione: 0h16'00".

Analizzato 90% tracciato (selezione manuale)

Freq. campionamento: 128 Hz

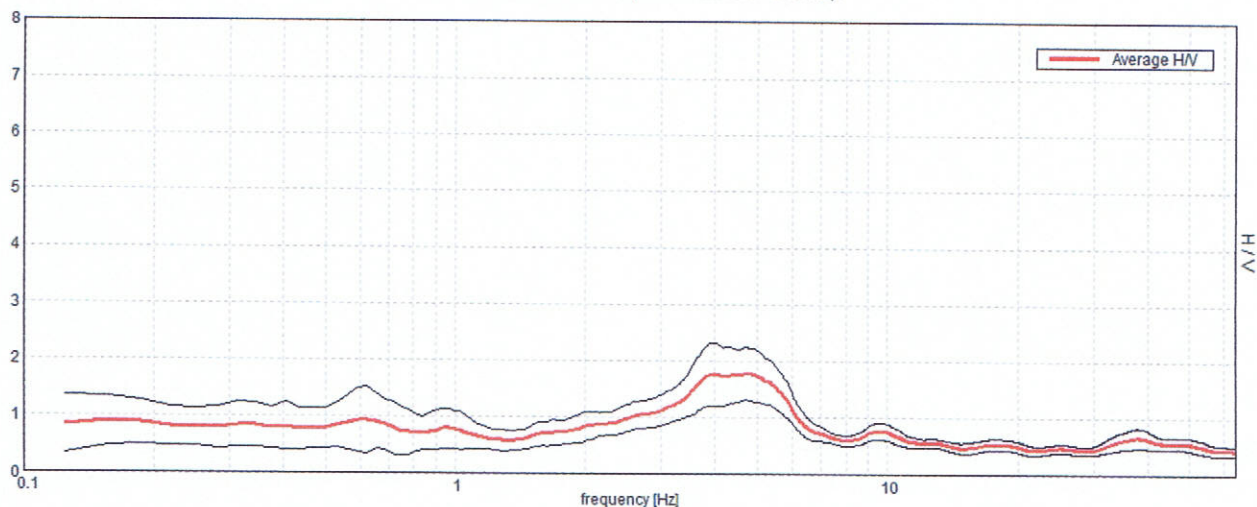
Lunghezza finestre: 20 s

Tipo di lisciamento: Triangular window

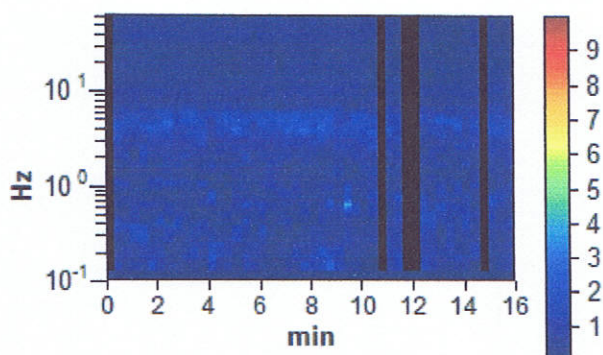
Lisciamento: 12%

HORIZONTAL TO VERTICAL SPECTRAL RATIO

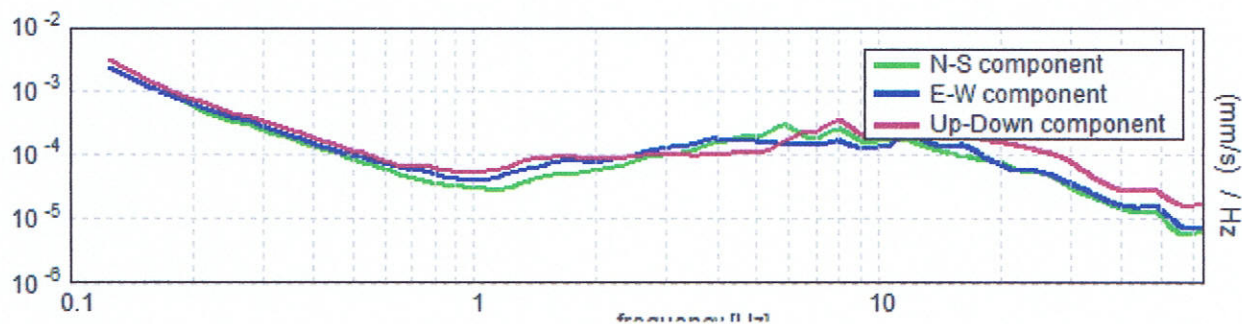
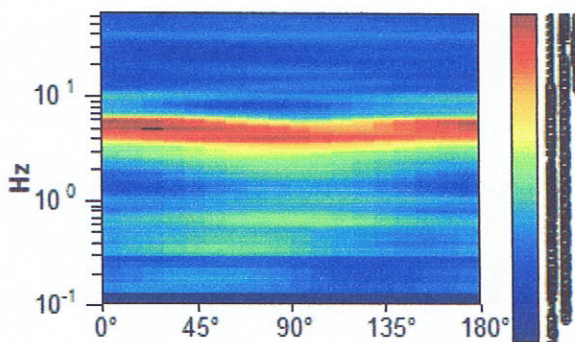
Picco H/V a 4.69 ± 0.16 Hz (nell'intervallo 0.0 - 64.0 Hz).



H/V TIME HISTORY



DIRECTIONAL H/V



037060P153HVSR156

ZOLA PREDOSA, ZOLA PREDOSA TR3 VARIANTE PRG

Instrument: TRZ-0108/01-10

Inizio registrazione: 01/03/00 07:47:20 Fine registrazione: 01/03/00 08:03:21

Nomi canali: NORTH SOUTH; EAST WEST; UP DOWN

Durata registrazione: 0h16'00".

Analyzed 90% trace (manual window selection)

Freq. campionamento: 128 Hz

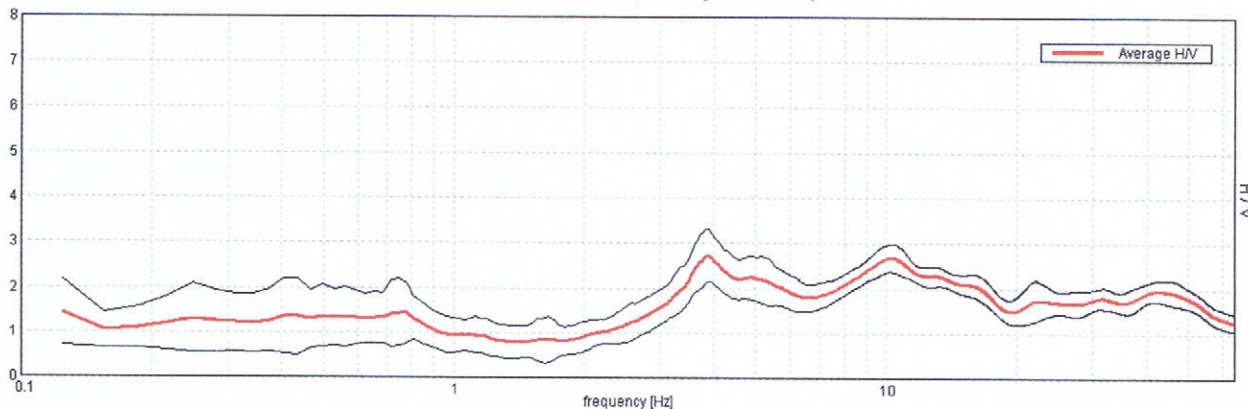
Window size: 20 s

Smoothing type: Triangular window

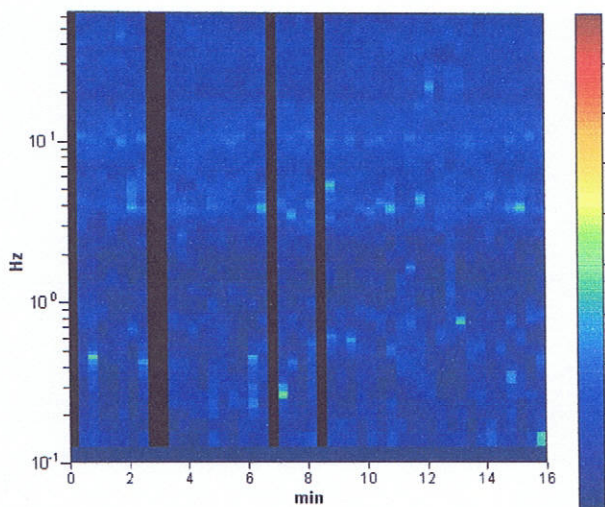
Smoothing: 12%

HORIZONTAL TO VERTICAL SPECTRAL RATIO

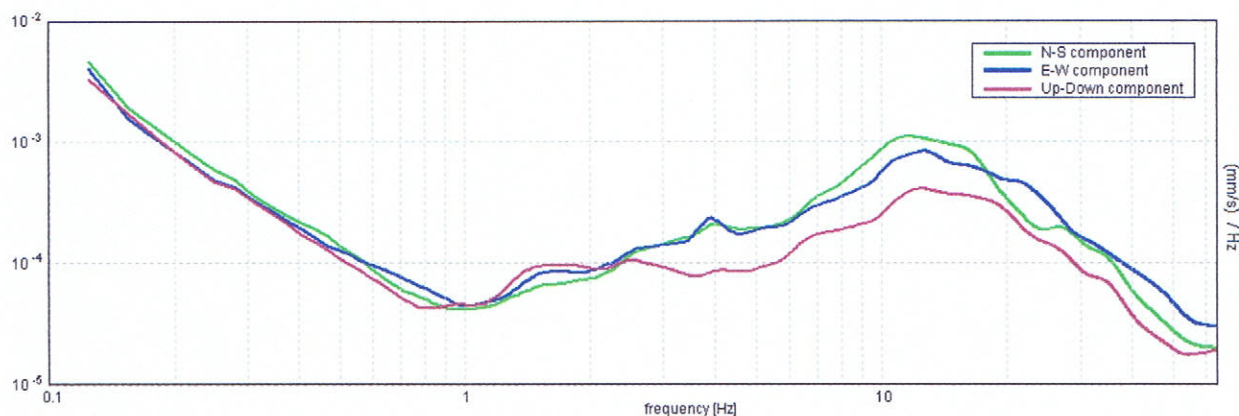
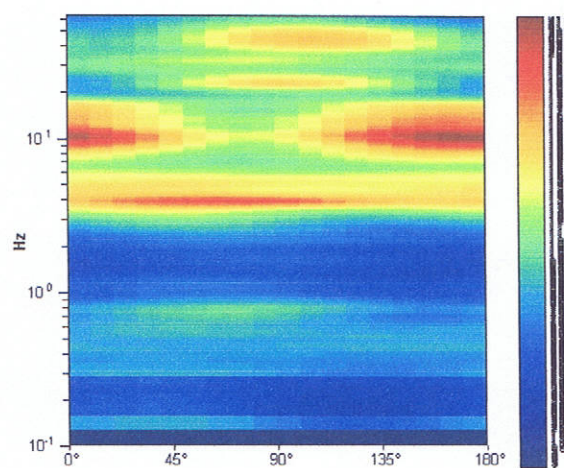
Max. H/V at 3.91 ± 1.27 Hz. (In the range 0.0 - 64.0 Hz).



H/V TIME HISTORY



DIRECTIONAL H/V



ZOLA PREDOSA, ZOLA PREDOSA TR4 VARIANTE PRG

Strumento: TRZ-0108/01-10

Inizio registrazione: 01/03/00 08:33:06 Fine registrazione: 01/03/00 08:49:07

Nomi canali: NORTH SOUTH; EAST WEST; UP DOWN

Durata registrazione: 0h16'00". Analizzato 81% tracciato (selezione manuale)

Freq. campionamento: 128 Hz

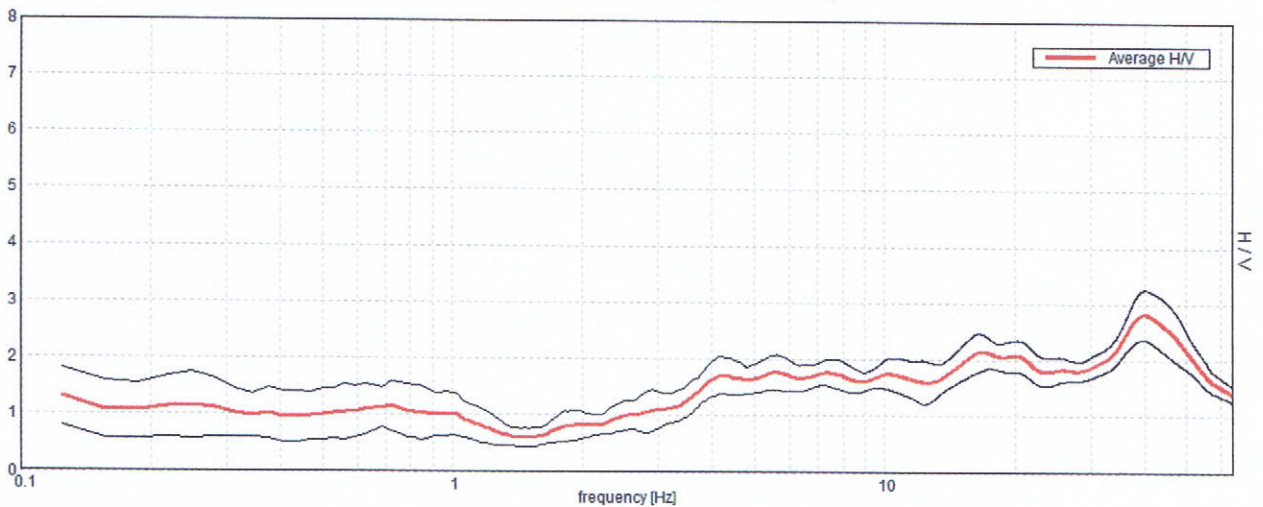
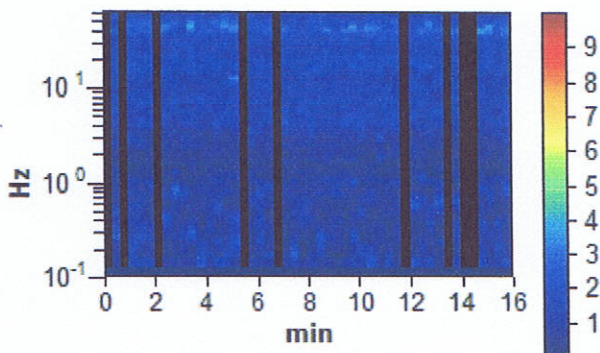
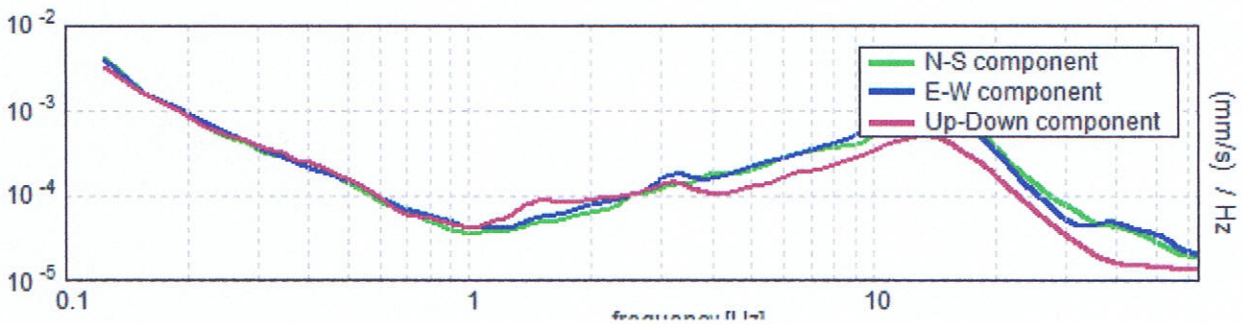
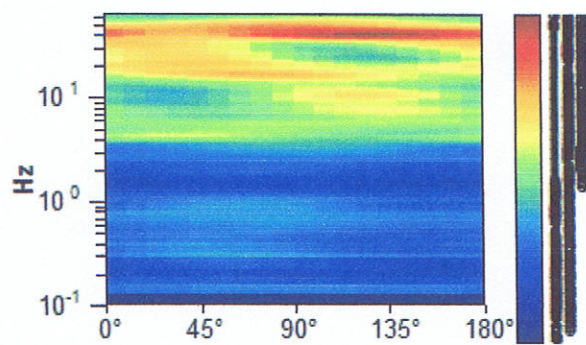
Lunghezza finestre: 20 s

Tipo di lisciamento: Triangular window

Lisciamento: 12%

HORIZONTAL TO VERTICAL SPECTRAL RATIO

Max. H/V at 40.09 ± 0.37 Hz. (In the range 0.0 - 64.0 Hz).

**H/V TIME HISTORY****DIRECTIONAL H/V**

037060P155HUSR158

ZOLA PREDOSA, ZOLA PREDOSA TR5 VARIANTE PRG

Strumento: TRZ-0108/01-10

Inizio registrazione: 01/03/00 09:00:09 Fine registrazione: 01/03/00 09:16:10

Nomi canali: NORTH SOUTH; EAST WEST; UP DOWN

Durata registrazione: 0h16'00".

Analizzato 73% tracciato (selezione manuale)

Freq. campionamento: 128 Hz

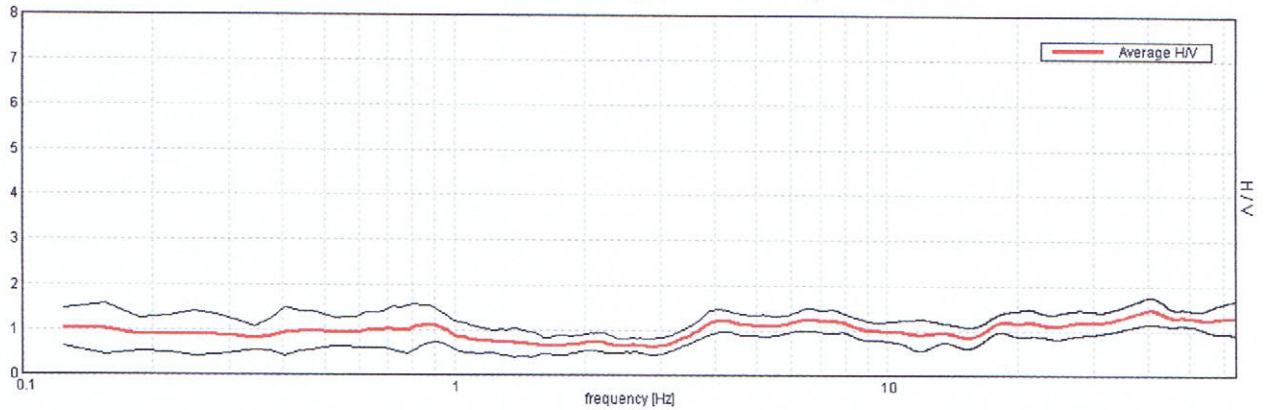
Lunghezza finestre: 20 s

Tipo di lisciamento: Triangular window

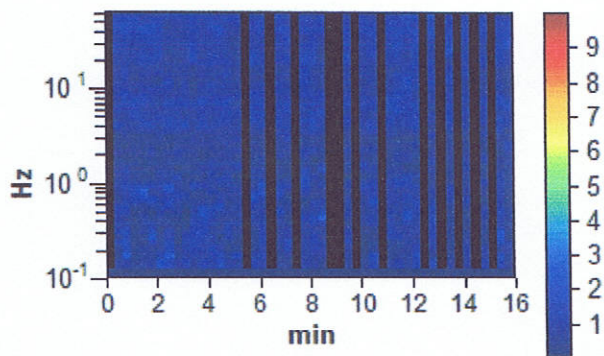
Lisciamento: 12%

HORIZONTAL TO VERTICAL SPECTRAL RATIO

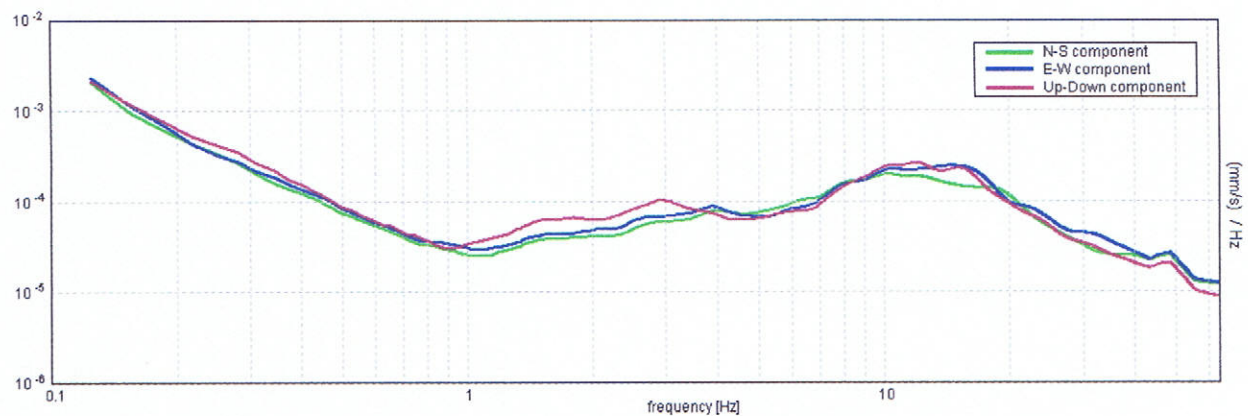
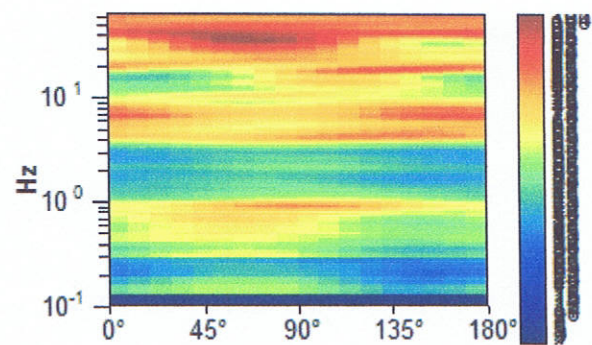
Picco H/V a 40.63 ± 2.17 Hz (nell'intervallo 0.0 - 64.0 Hz).



H/V TIME HISTORY



DIRECTIONAL H/V



037060P156HVR159

ZOLA PREDOSA, ZOLA PREDOSA TR6 VARIANTE PRG

Strumento: TRZ-0108/01-10

Inizio registrazione: 01/03/00 09:28:48 Fine registrazione: 01/03/00 09:44:49

Nomi canali: NORTH SOUTH; EAST WEST; UP DOWN

Durata registrazione: 0h16'00".

Analizzato 58% tracciato (selezione manuale)

Freq. campionamento: 128 Hz

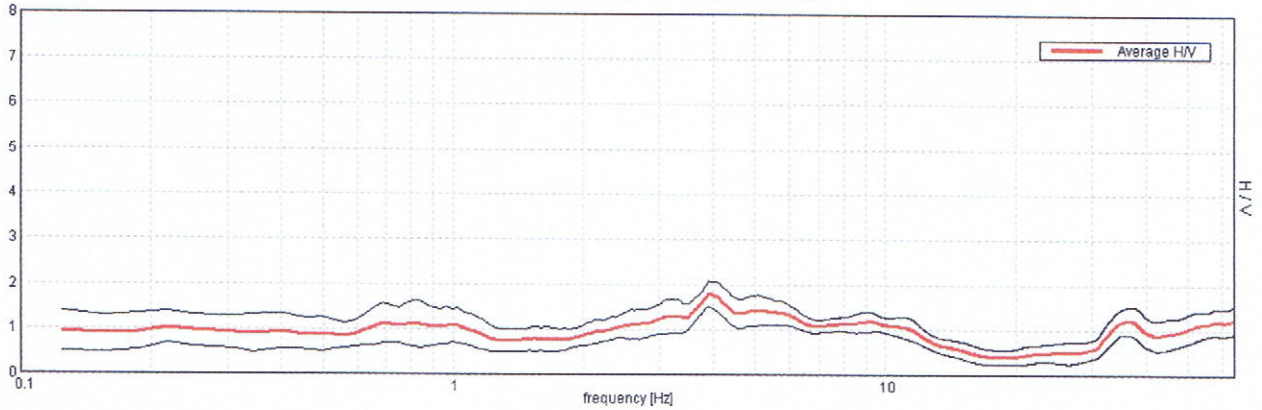
Lunghezza finestre: 20 s

Tipo di lisciamento: Triangular window

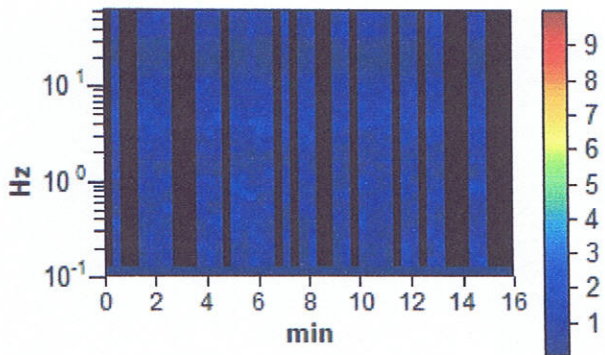
Lisciamento: 12%

HORIZONTAL TO VERTICAL SPECTRAL RATIO

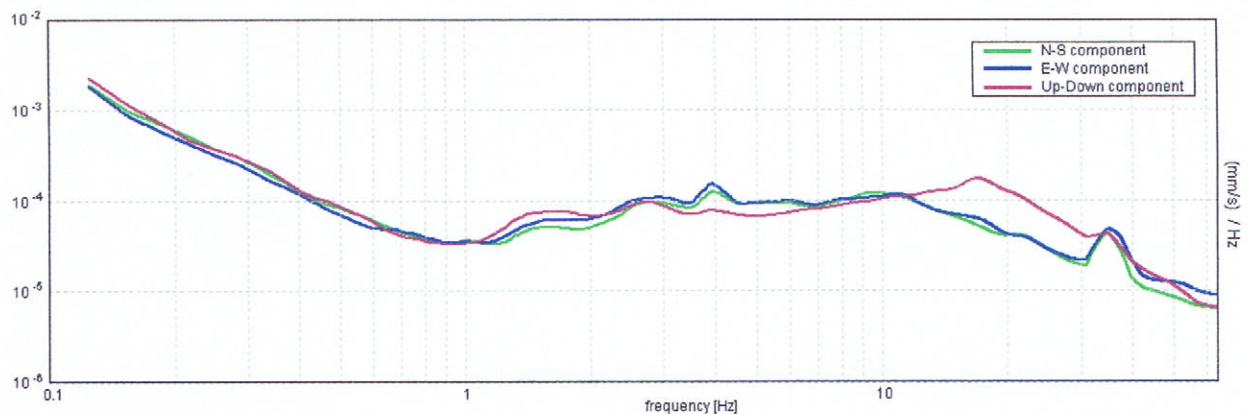
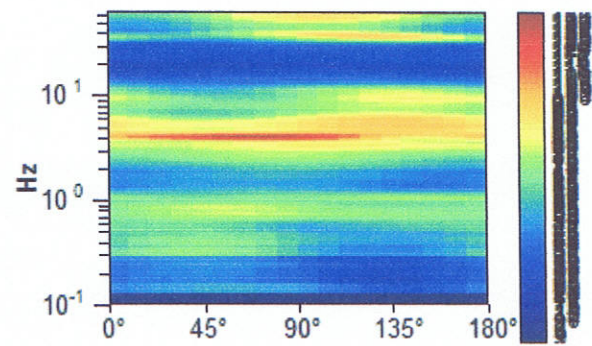
Picco H/V a 3.91 ± 4.11 Hz (nell'intervallo 0.0 - 64.0 Hz).



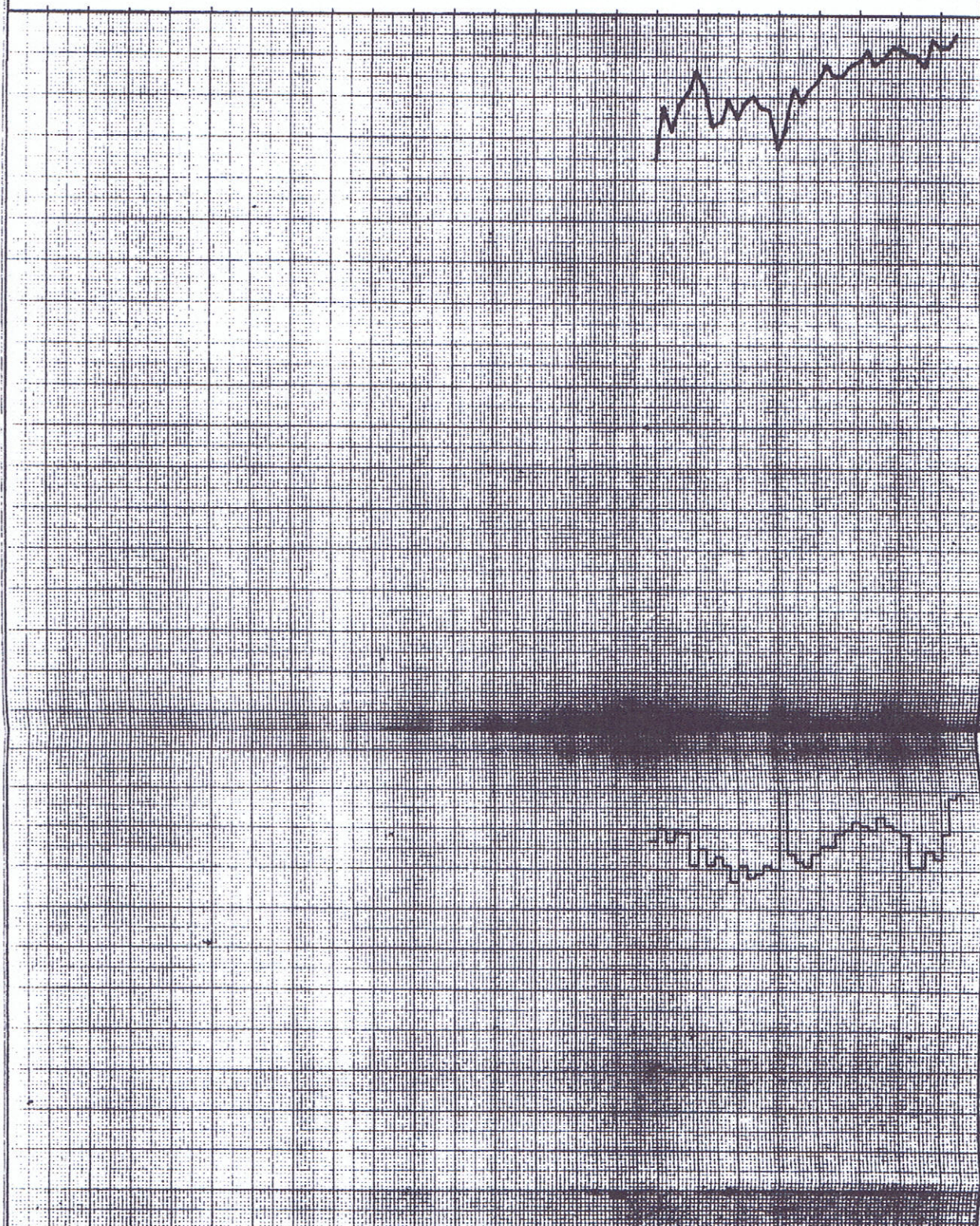
H/V TIME HISTORY



DIRECTIONAL H/V



Profondità (m)	
1'f	Resistenza laterale totale (kg)
rai	Resistenza di attrito locale (kg/cm ²)
rp	Resistenza alle punte (kg/cm ²)
50	100
150	200
250	300
350	400
450	500
550	600
650	700
750	800
850	900
950	10000
1050	11000
1150	12000
1250	13000
1350	14000
1450	15000



Legenda:

24.3	■	argilla
32.3	■	limo
44.3	■	loam (sabbia + limo + argilla)
62.3	■	sabbia limosa
80.3	■	sabbia
100	■	ghiaia

rp, rai

TAV. 9

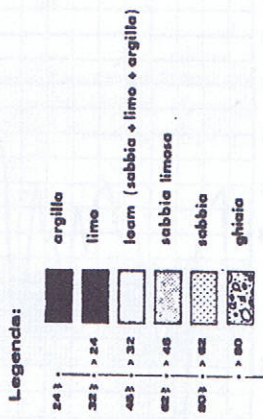
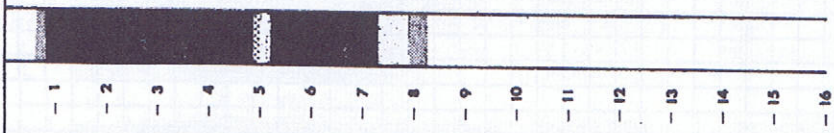
037060 P157CPT160

037060 P158 CPT161

CO.GE.MI.

Ritrovamento dati
VIEL
Elaborazione
VIEL

INTERPRETAZIONE STRATIGRAFICA
secondo Begemann



TAV. 9

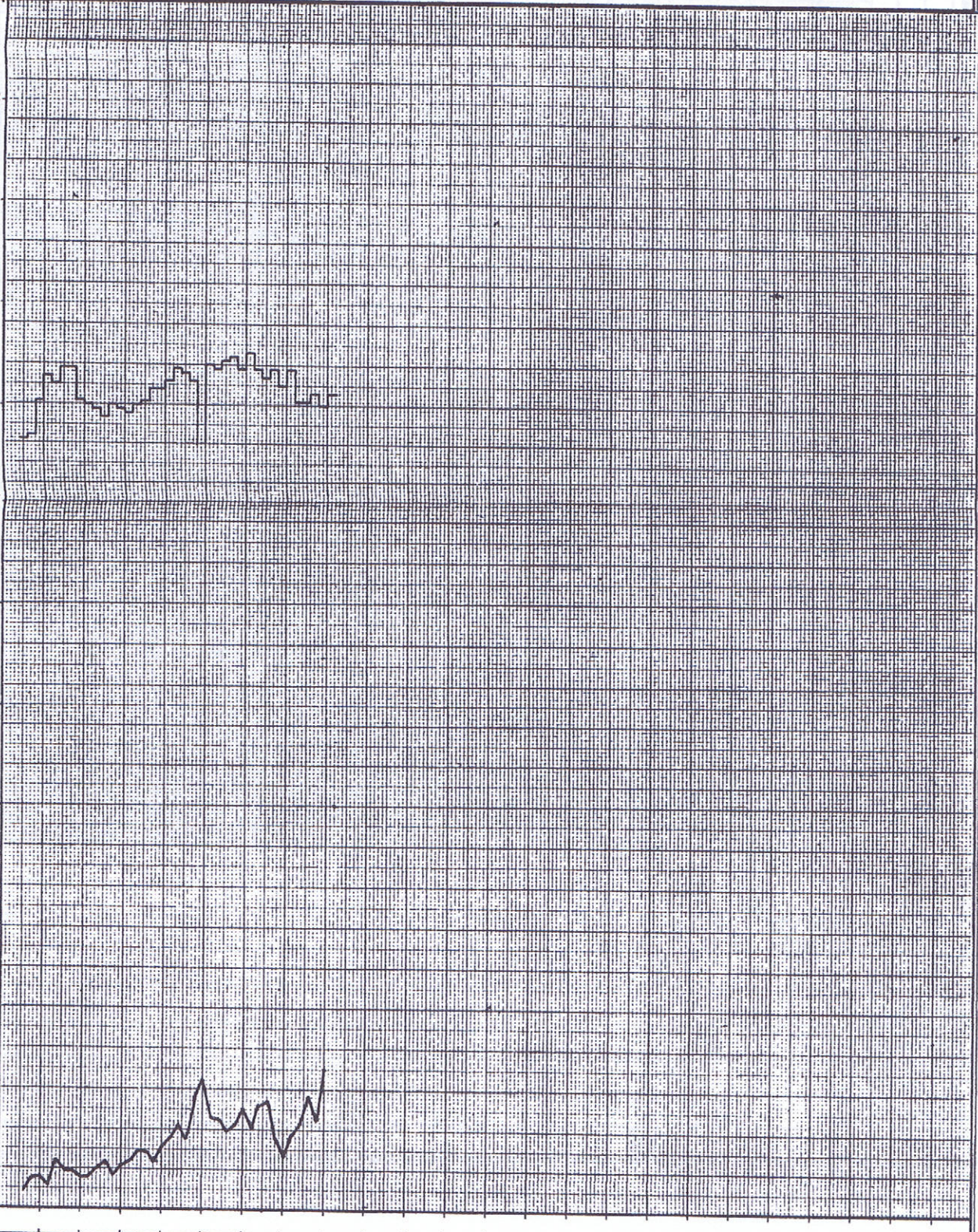
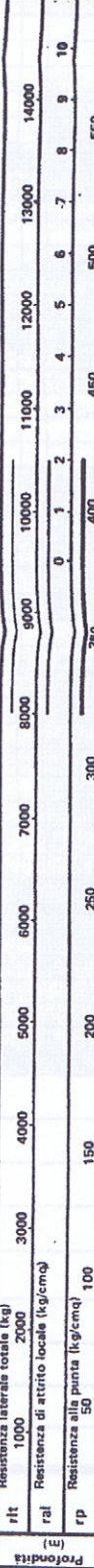
PROVA PENETROMETRICA N.º 9

22000041

COMMITTENTE: COMUNE BOLA P.S.E.D.O.S.A
LOCALITA':
CANTIERE:

DATA:

edil pali
40127 BOLOGNA
VIALE DELLA REPUBBLICA, 25
TEL. 51.63.52



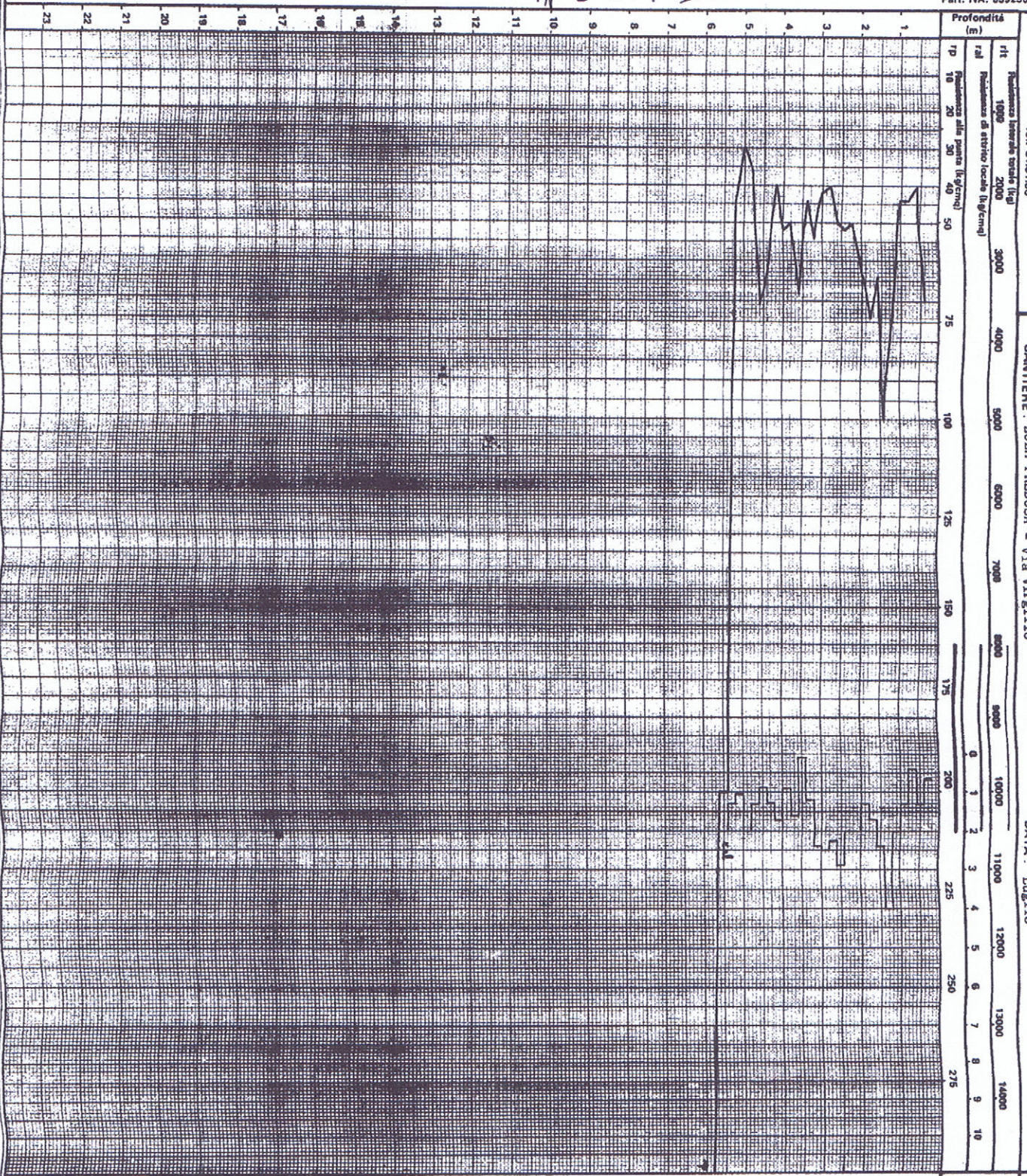
037060 P45 CPT 162

GEO-TECNICA S.R.L.
Viale Della Repubblica, 25
40127 BOLOGNA
Tel. 51.51.89

COMMITTENTE: SIG. PEDRETTI TONINO
LOCALITA':
CANTIERE: ZOLA PREDOSA - Via Virgilio

DATA: Luglio

IL GEOLOGO



Torbe
Argille molli
Argille
Argille limose
Limi argillosi
Limi sabbiosi
Sabbie limose
Sabbie fini
Sabbie grosse
Ghiaie e sabbie

99000021

037060 P159 OPT 163

SEZIONE GEOTECNICA

IL GEOLOGO

Classificazione dei terreni secondo la teoria di Bagnold

Argille molli	
Argille	
Argille limose	
Limiti argillosi	
Limiti sabbiosi	
Sabbie limose	
Sabbie fini	
Sabbie grosse	
Chiese e ghiaie	

PROVA PENETROMETRICA N.°1

220110

2200243a

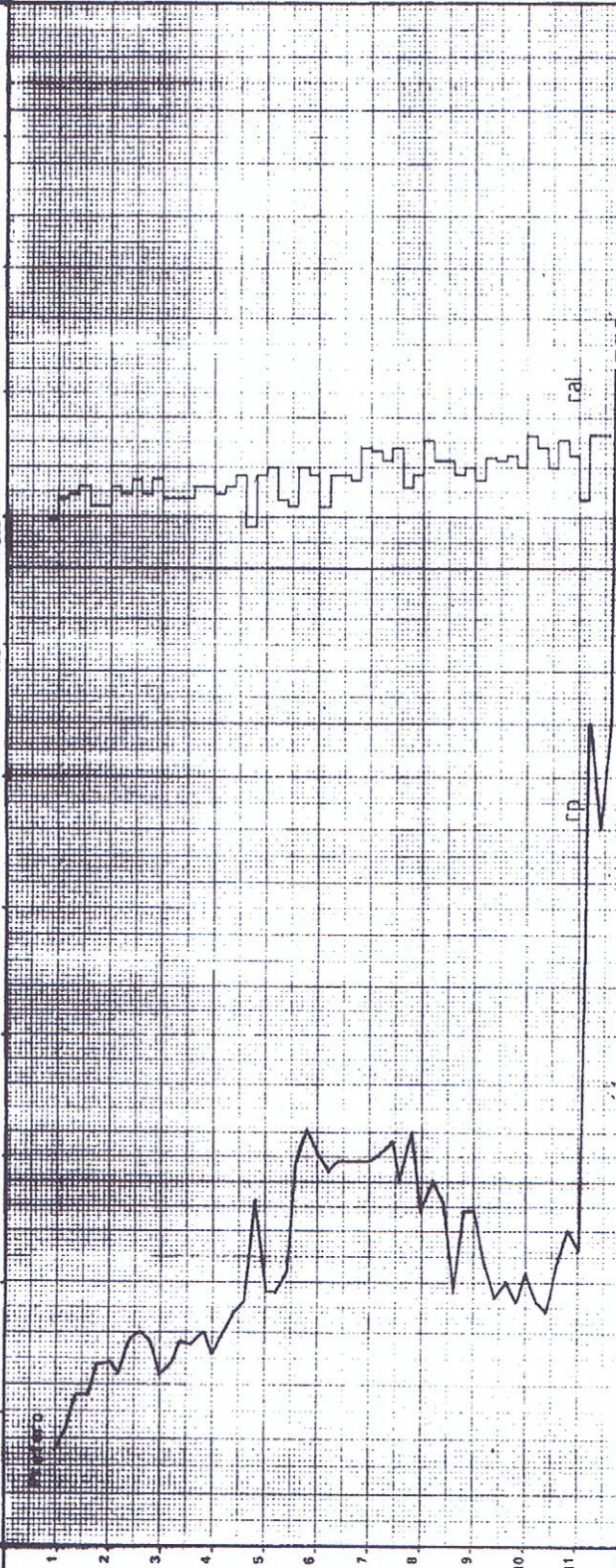
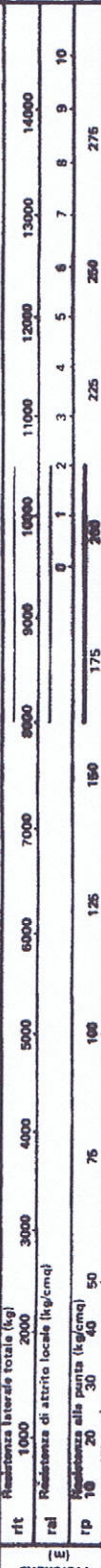
COMMITTENTE: Geom. GUERRIERI
LOCALITA': Riale (BO)
CANTIERE: Via Donizzetti, 14 - 16.-

DATA: Novembre 1985

CGIA 126348 Albo Naz. Costr. 20000

edilpali

40127 BOLOGNA
VIALE DELLA REPUBBLICA, 28
TEL. 51.63.52 - 51.51.89



160/85

037060 P/160 CPT 164

CCIAA 125249
edilpali
40127 BOLOGNA
VIALE DELLA REPUBBLICA, 25
TEL. 51.53.52

PROVA PENETROMETRICA N.° 10
22000000

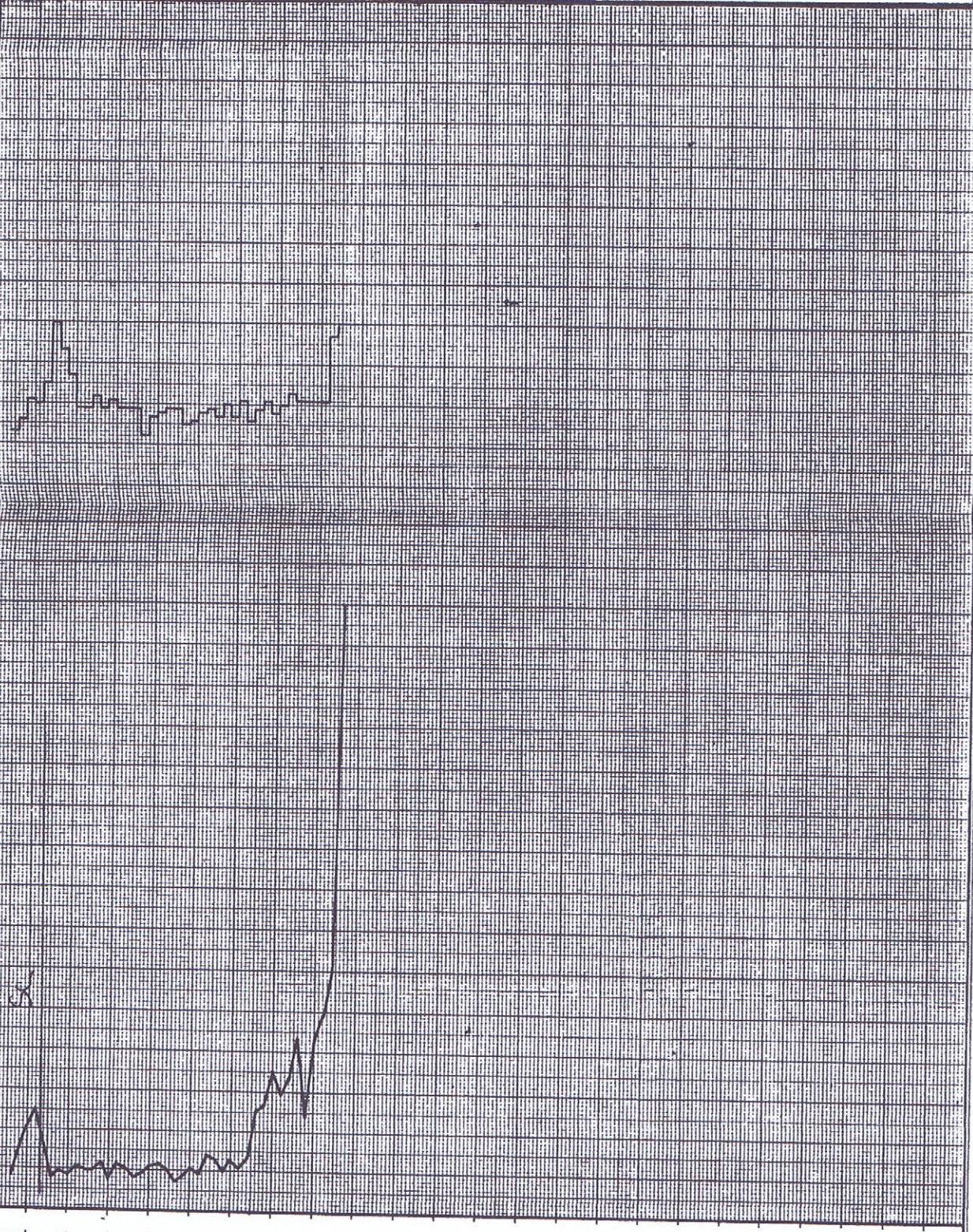
Bilanciamento dati
VIEL
Rilevazione
VIEL
CO.GE.MI.

COMMITTENTE: COMUNE S=LA PAEDOSA
LOCALITA':
CANTIERE:

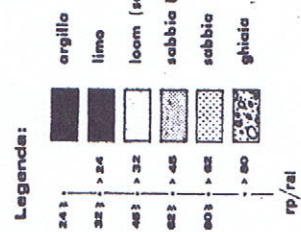
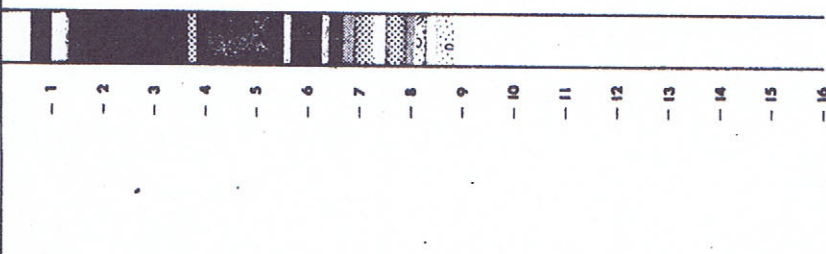
DATA:

Profondità (m)
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000
11000
12000
13000
14000

Resistenza laterale totale (kg)
Resistenza di attrito locale (kg/cmq)
Resistenza alla punta (kg/cmq)
rp/rai



INTERPRETAZIONE STRATIGRAFICA
secondo Begemann





SONDAGGIO PENETROMETRICO STATICO N.3

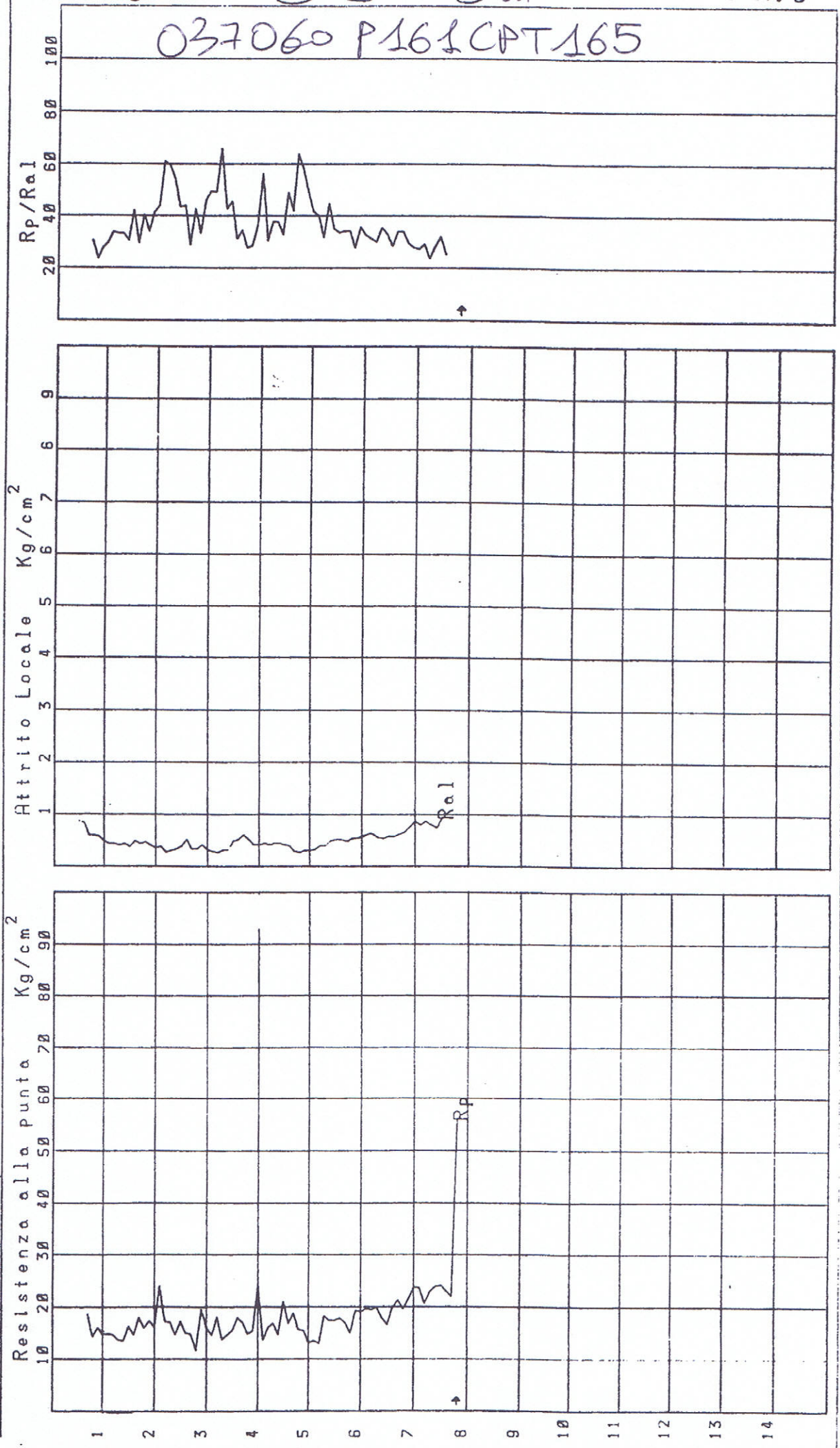
DINASTAR

Committente: Com. Zola Predosa
Localita': Zola Predosa (BO)
Cantiere: Climitero

Data: 18.07.88

200 C5413

037060 P161 CAT 165



037060P163DL167 2200 51

PROVA PENETROMETRICA DINAMICA N.12

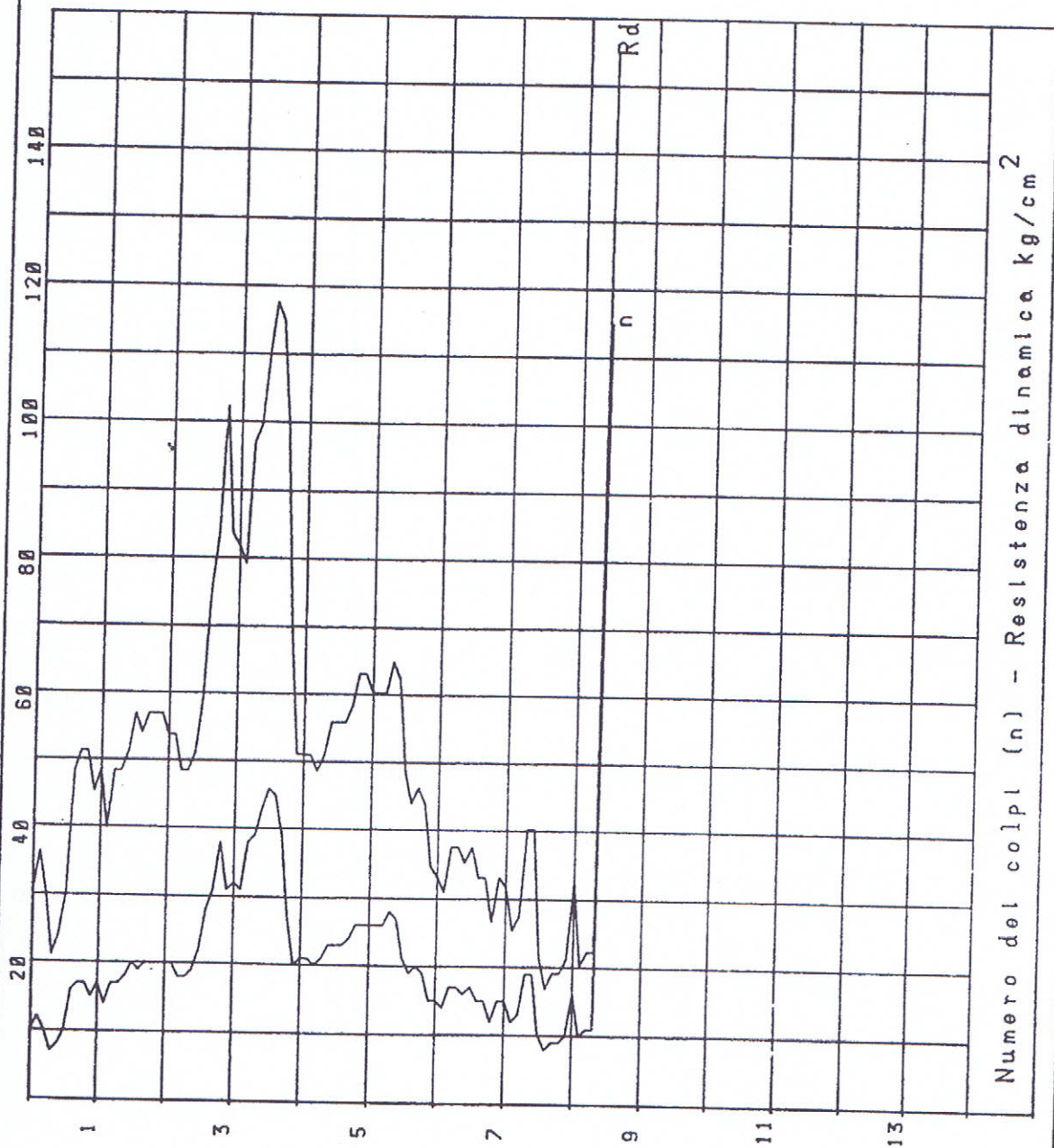
TAV. 0

LOC.: Zola Predosa (BO)

COMMITTENTE: Com. Zola Predosa

PESO DEL MAGLIO= 30kg
ALTEZZA DI CADUTA= 20cm
PESO DELL'INCUDINE= 26kg
PESO ASTE= 3.6 kg/m
AREA PUNTA= 10cm²

Livello falda : --m



037060 P164CPT168

CCIAA 125249



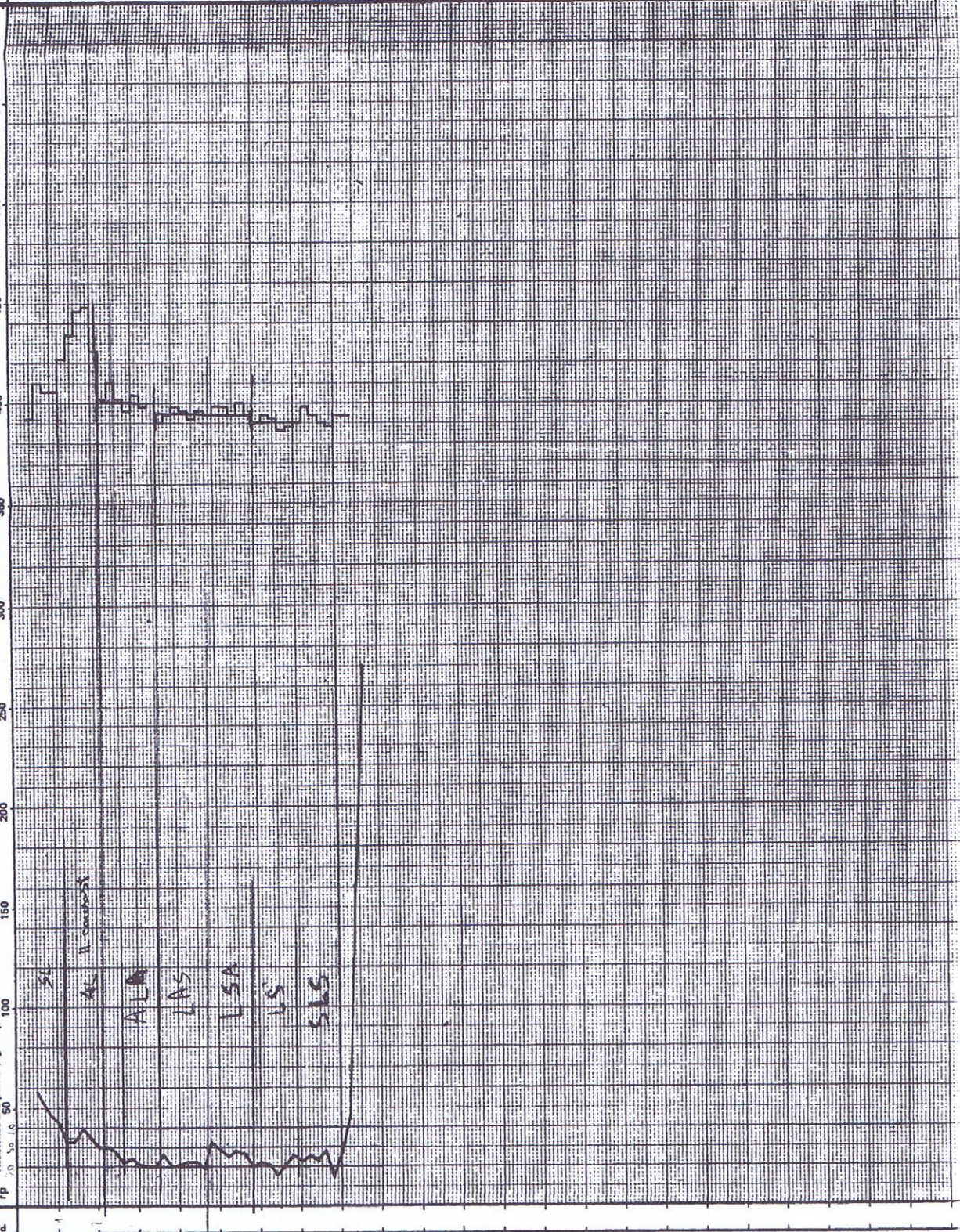
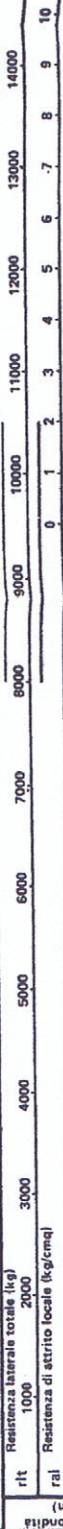
40127 BOLOGNA
VIALE DELLA REPUBBLICA, 25
TEL. 51.63.52

COMMITTENTE: COMUNE ZOLA PREDOSA
LOCALITA':
CANTIERE:

PROVA PENETROMETRICA N.° 8

2900038

DATA:

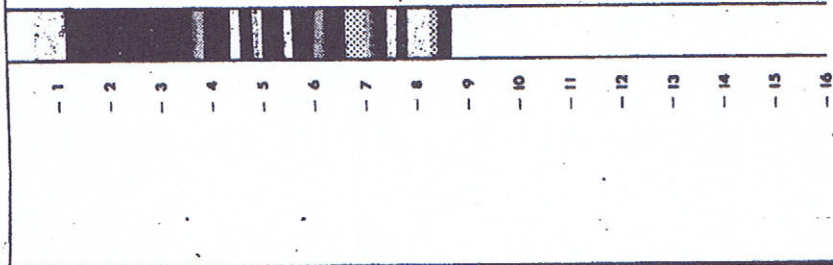


CO.GE.MI.

Bilivamento del VIEL

Elaborazione VIEL

INTERPRETAZIONE STRATIGRAFICA
secondo Begemann



Legenda:

- 243 | argilla
- 323 | > 24 | limo
- 483 | > 32 | loam (sabbia + limo + argilla)
- 683 | > 48 | sabbia limosa
- 803 | > 68 | sabbia
- > 80 | ghiaia

rp/ral

037060P165CPT169

CO.GE.MI.

INTERPRETAZIONE STRATIGRAFICA
secondo Begemann

Rilevamento dati

1/12

1/12

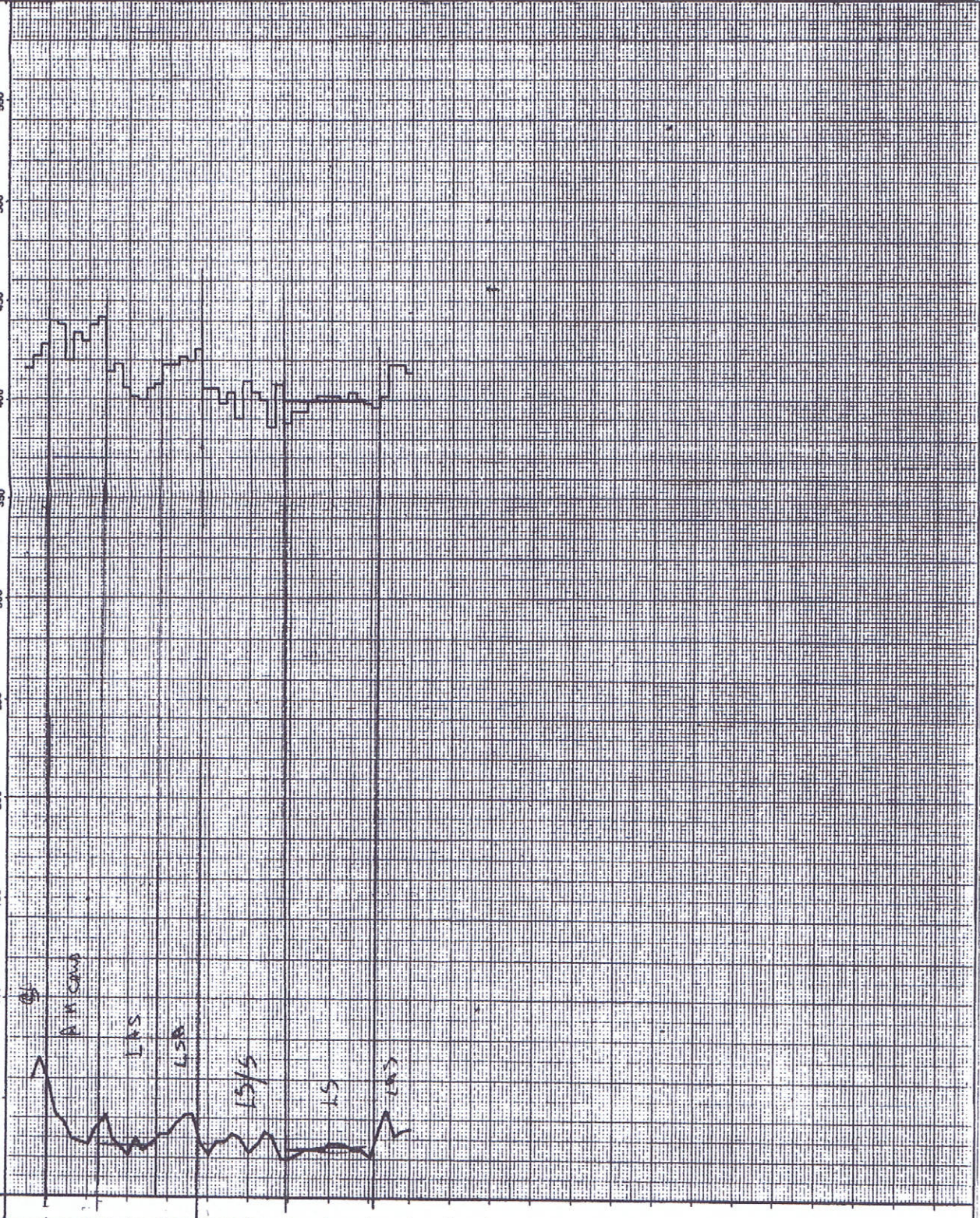
PROVA PENETROMETRICA N.° 11

DATA: 2200039

COMMITTENTE:
LOCALITA':
CANTIERE:

edilpali
40127 BOLOGNA
VIALE DELLA REPUBBLICA, 25
TEL. 51.63.62

Profondità (m)	100	150	200	250	300	350	400	450	500	550	600	650	7000	7500	8000	8500	9000	9500	10000	10500	11000	11500	12000	12500	13000	13500	14000	14500			
rtt Resistenza laterale totale (kg)																															
ral Resistenza di attrito locale (kg/cmq)																															
rp Resistenza alla punta (kg/cmq)																															



Legenda:

- argilla
- limo
- loam (sabbia + limo + argilla)
- sabbia limose
- sabbia
- ghiaie

TAV. 1/1

037060 P166CPT170



4017 BOLOGNA
VALE DELLA REPUBBLICA, 25
TEL. 01 63.63 - 5.151.89

COMMITTENTE: Municipio di Zola Predosa (Ing. Cocchi)
LOCALITA':
CANTIERE: Zola Predosa (Scuola Media)

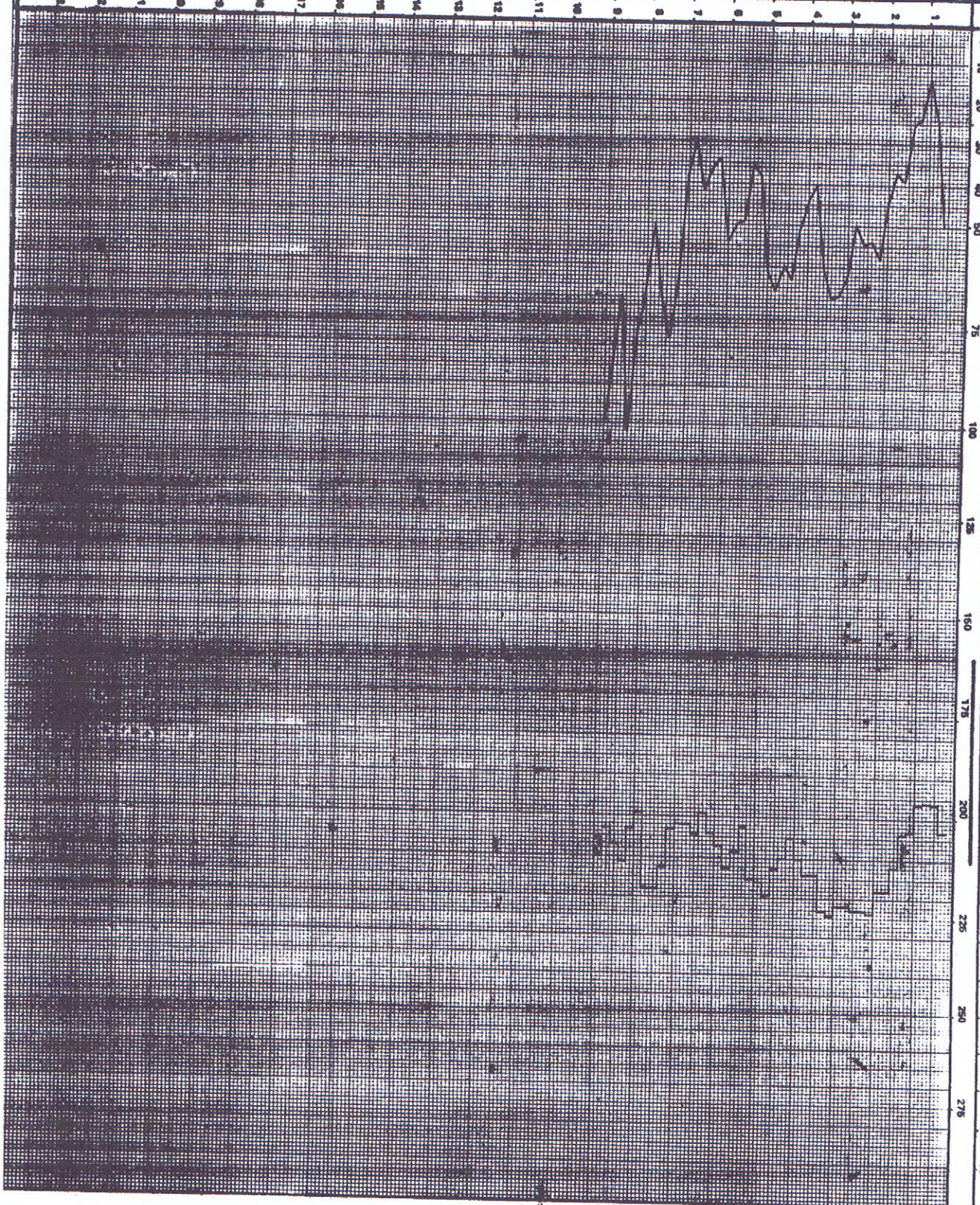
PROVA PENETROMETRICA N.° 4

28000019D

DATA: Dicembre 1988

IL GEOLOGO.....
SEZIONE GEOTECNICA

Profondità (m)	Resistenza laterale totale (kg)	Resistenza alla punta (kg/cm²)
0	1000	2000
1	3000	6000
2	4000	8000
3	5000	10000
4	6000	12000
5	7000	14000
6	8000	16000
7	9000	18000
8	10000	20000
9	11000	22000
10	12000	24000



Classificazione dei terreni secondo la scala di Beggsman
Torba
Argille molli
Argille
Argille limose
Limi argillosi
Limi sabbiosi
Sabbie limose
Sabbie fini
Sabbie grosse
Chista e sabbia

037060 P167 CPT 171

CCIAA 125248



40127 BOLOGNA
VIALE DELLA REPUBBLICA, 25
TEL. 51.63.52

COMMITTENTE: COMUNE ZOLA PREDOSA
LOCALITA':
CANTIERE:

PROVA PENETROMETRICA N.° 7

22000037

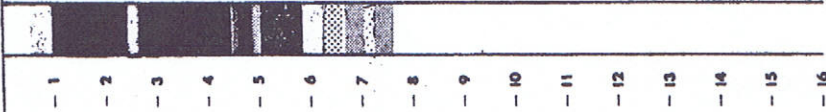
DATA:



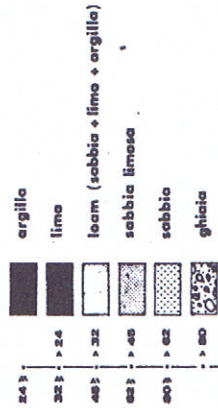
Elaborazione dati
VIEL
Elaborazione
VIEL

CO.GE.MI.

INTERPRETAZIONE STRATIGRAFICA
seconda Begemann



Legenda:



TAV. 7

037060 P168 CPT 172

STUDIO GEOLOGICO ASSOCIATO

GEOPROF

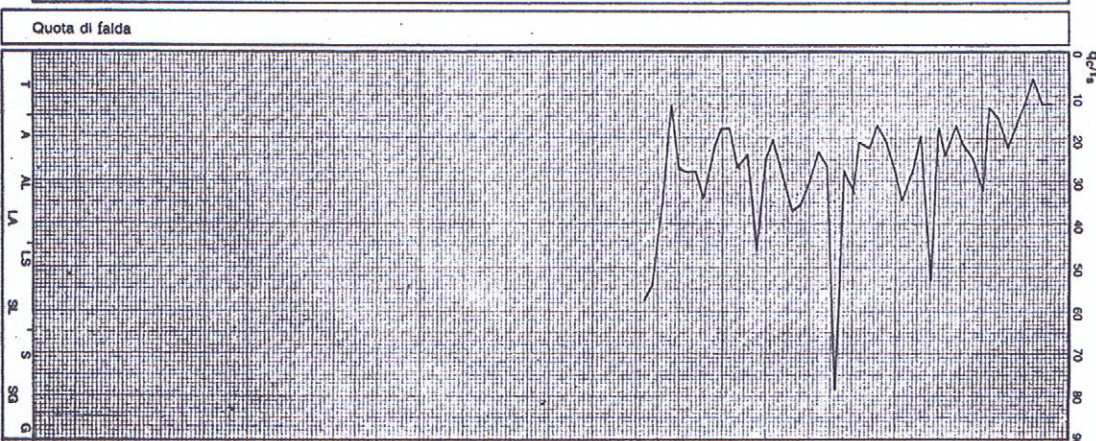
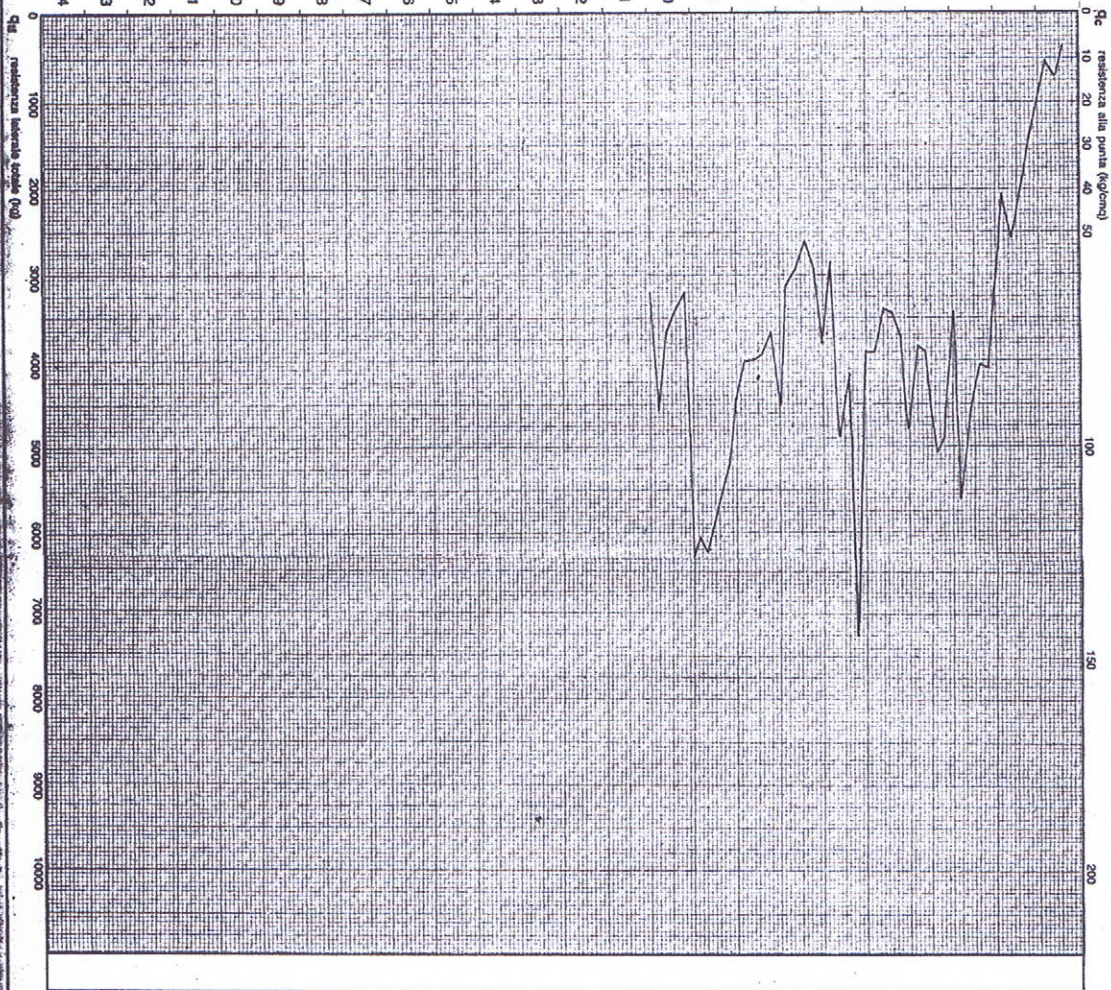
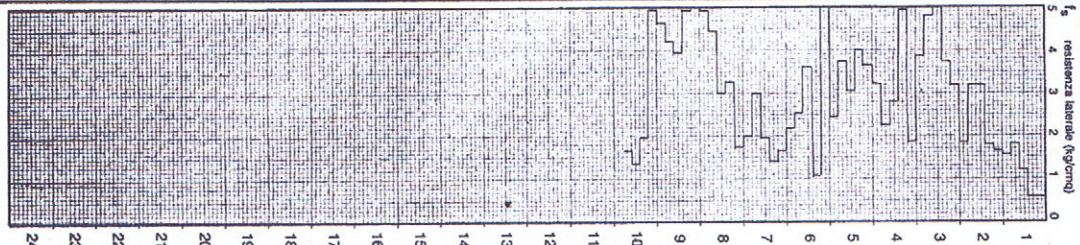
40134 BOLOGNA
Via C. Treves, 13/f - Tel. 051/42.35.10

Località: via Betoliani - Zola Predosa
Committente: dott. Tommasini

CPT (CONE PENETROMETER TEST) N.

Data: 23 Luglio 1990

2190 DCOOFA



037060P169 CPT 173

STUDIO GEOLOGICO ASSOCIATO

GEOPROCONS

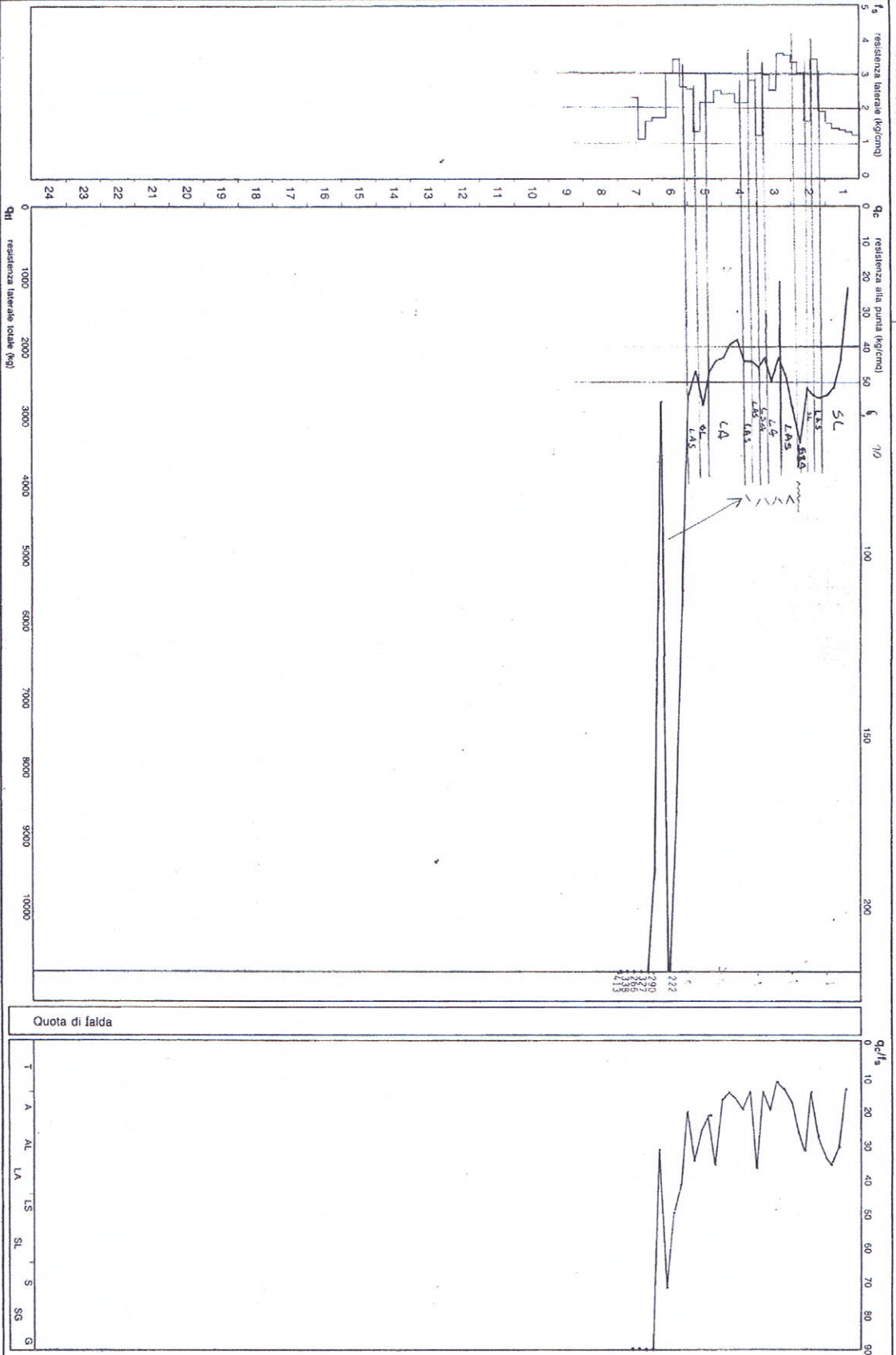
Via C. Treves, 13/1 - Tel. 051/423510
40134 BOLOGNA

Località: Zola Predosa - 80
Comittente: COMUNE

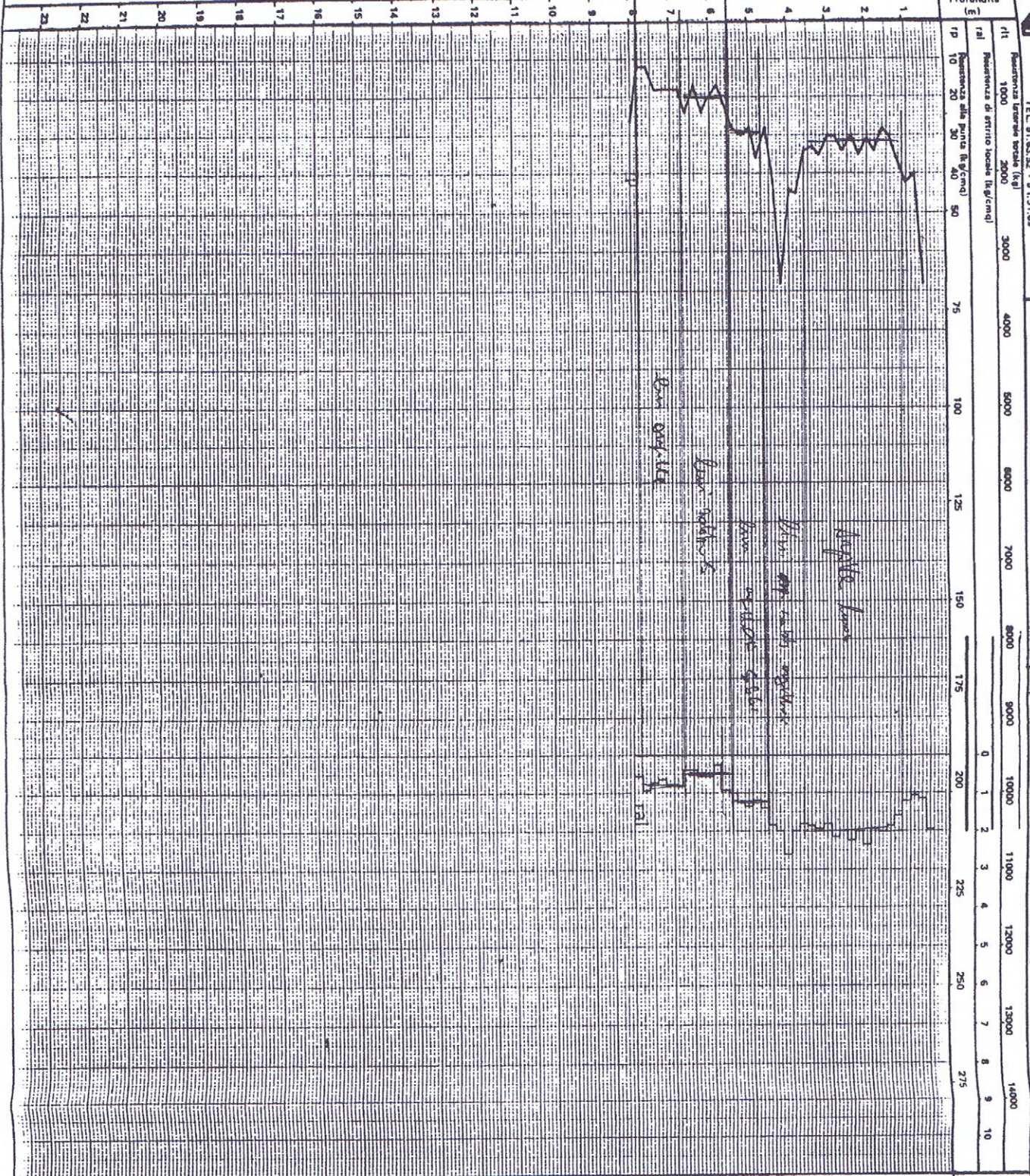
CPT (CONE PENETROMETER TEST) N. 3

Data: 12 Aprile 1990

2900004



Studio di Geologia Tecnica



Argille limose
limi argillosi
limi sabbiosi
torbe
argille
argille molli

Torbe	
Argille molli	
Argille	
Argille limose	
Limi argillosi	
Limi sabbiosi	
Sabbie limose	
Sabbie fini	
Sabbie grosse	
Griglia e sabbie	

037060 P 170 CPT 174

GEO-PROBE

40134 BOLOGNA

Via C. Treves, 13/1 - Tel. 051/42.35.10

CPT (CONE PENETROMETER TEST) N. 1

Località: Zola Predose

Data: 16/10/90

Committente: GE.M.CO

22000090

Profondità	Letture di campagna			Valori derivati									
	Q _c	Q _c + F _s	Q _t	F _s	f _s	q _c /f _s	q _{lt} (Q _t - Q _c)	Cu	φ	q _{c_m}	α	m _v	E
1	180												
	360	620											
	80	120											
	60	100											
2	70	110											
	100	150											
	100	160											
	100	190											
3	130	170											
	100	160											
	110	160											
	160	180											
4	160	200											
	110	150											
	90	140											
	90	170											
5	110	180											
	90	170											
	110	210											
	150	260											
6	210	540											
	1060	1160											
	1120	1220											
	2380												
7	350	1200											
	950	1110											
	3050		Sabbie grasse + ghiaie										
	3340												
8	3110												
9													
10													
11													
12													

037060 P171 CPT175

037060 P24CPT 176

PROVA PENETROMETRICA N.° 1

C.C.I.A.A. 125249 Albo Naz. Costr. 200870

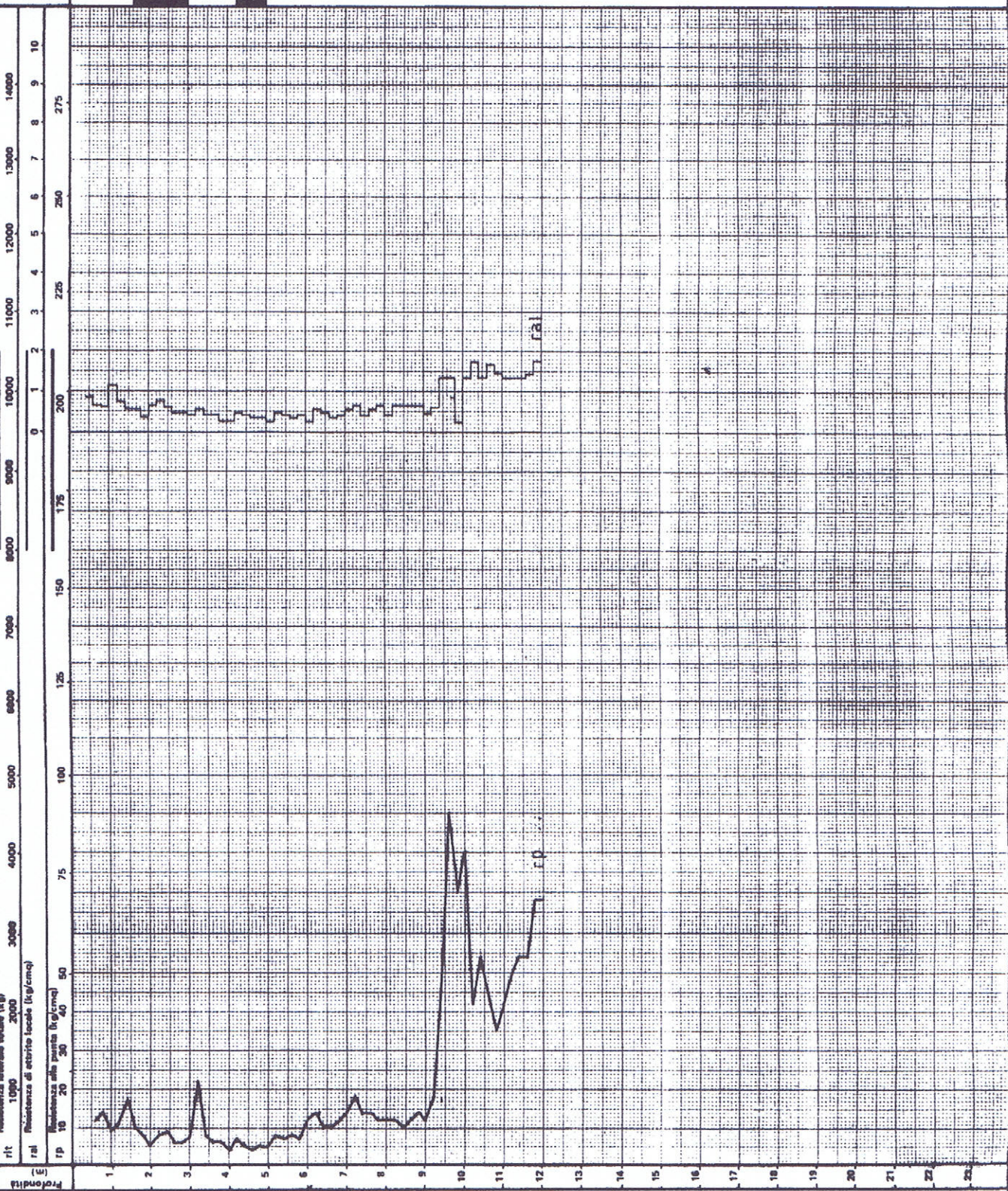
edipali
 40127 BOLOGNA
 VIALE DELLA REPUBBLICA, 25
 TEL. 51.63.52 - 51.51.89

COMMITTENTE: Impresa Donato Coltelli
 LOCALITA': Zola Predosa
 CANTIERE:

DATA: Agosto 1985

SEZIONE GEOTECNICA

IL GEOLOGO
 Classificazione dei terreni secondo la teoria di Siegmund



58/201

037060 P 172 CPT 177

STUDIO GEOLOGICO ASSOCIATO



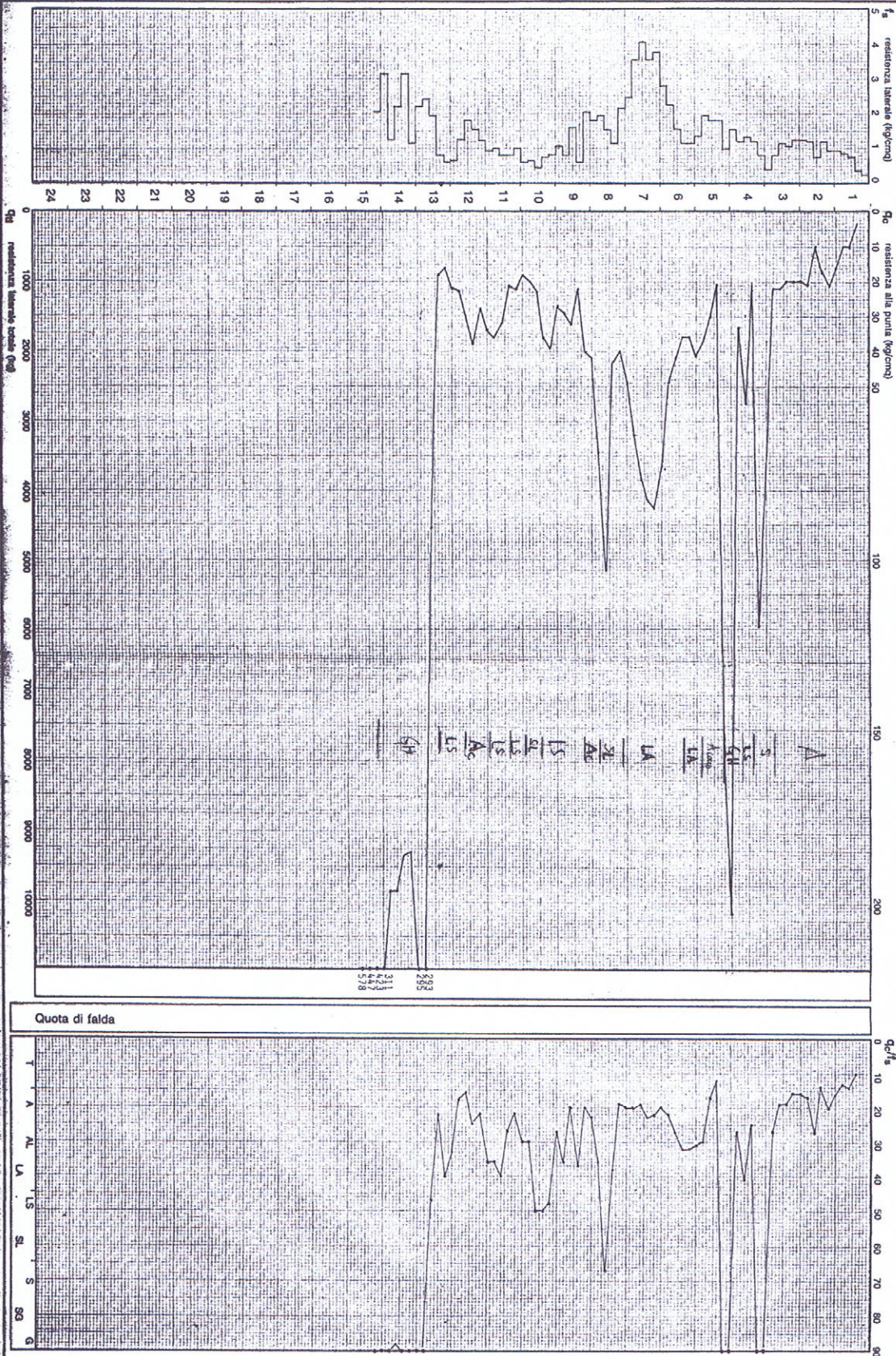
Via C. Treves, 13/F - Tel. 051/42.35.10

Località: V. Roma - Zola Predosa (Bo)
 Committente: COOP ANSALONI

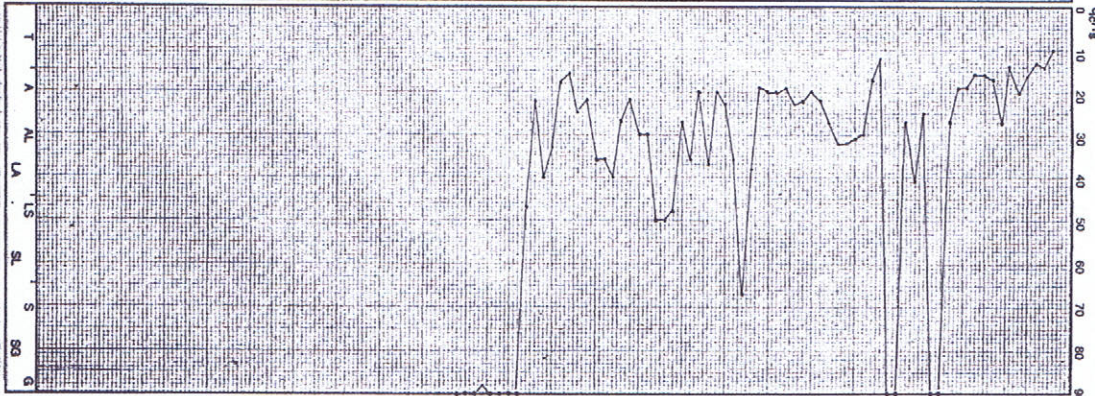
CPT (CONE PENETROMETER TEST) N. 1

Data: 01 Giugno 1990

Roberto



Quota di falda



037060 P173 CPT 178

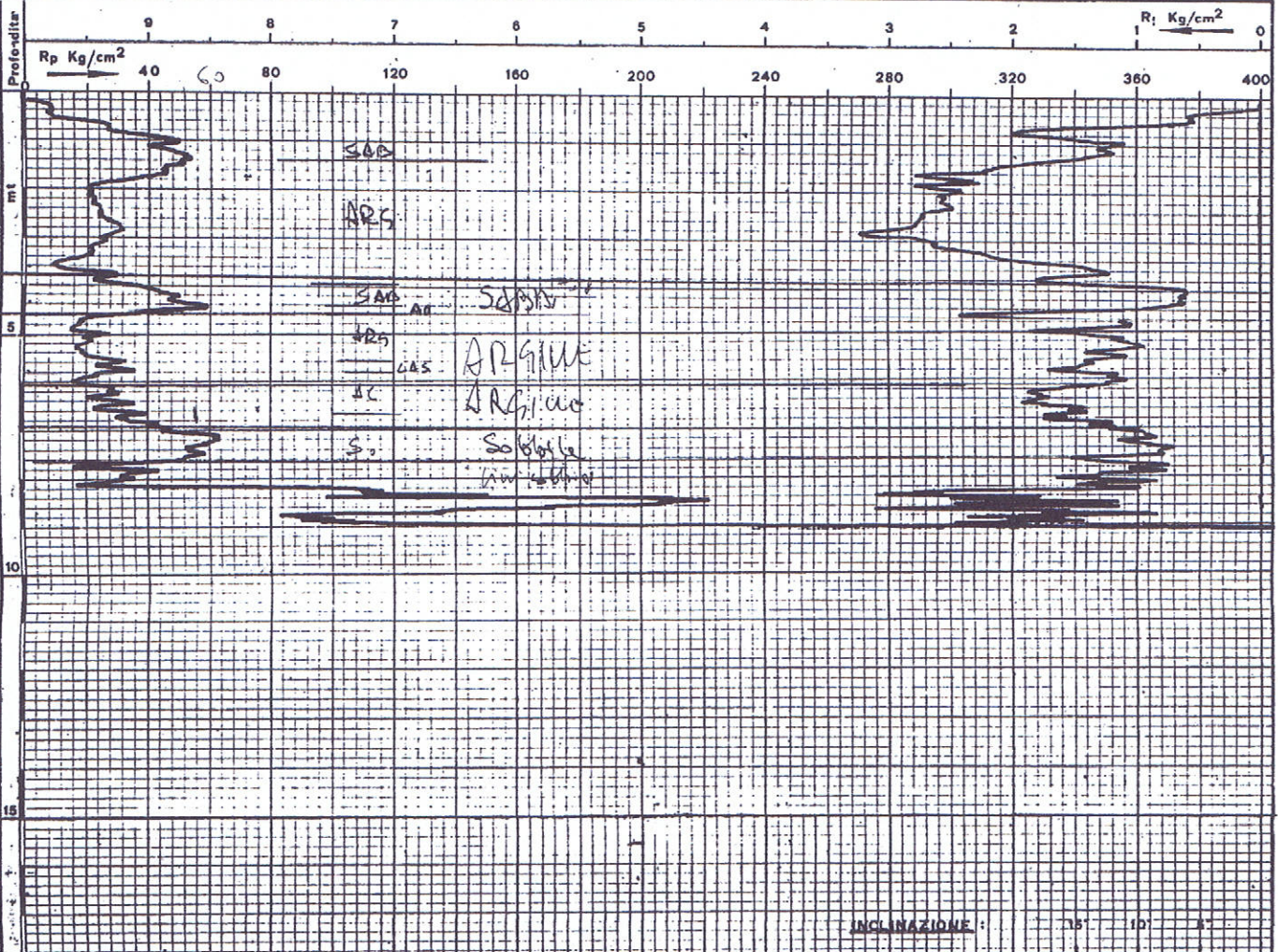
220110

C064

PROVA PENETROMETRICA STATICA

ESEGUITA CON PENETROMETRO DA 20 TONS E PUNTA ELETTRICA
TIPO S-E CON INCLINOMETRO INSERITO. NOTA: DIAGRAMMA
AUTOMATICO RIPRODOTTO IN FOTOCOPIA DALL'ORIGINALE

COMMITTENTE	LOCALITA'	PROVA N°	QUOTA	DATA	Osservazioni:	Firma Operatore
A1 BO-Casalecchio		15	8-3-89			



Rp = Resistenza alla punta
R = Attivita' laterale locale

037060P175CP+181

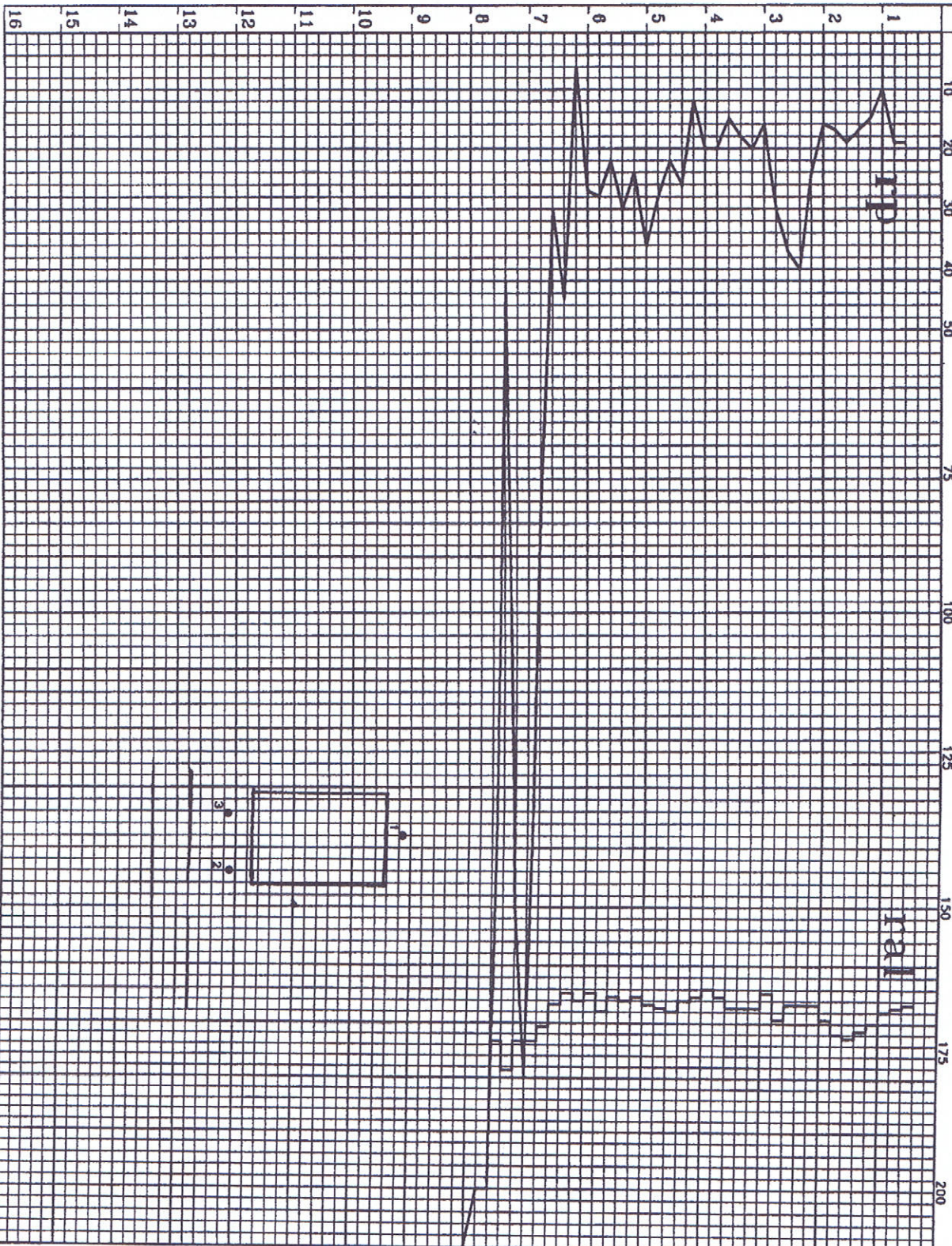
PROFONDITA' (metri)

GEO-TECNICA S.r.l.
 Viale Della Repubblica, 25 - 40127 BOLOGNA
 Tel. 051/515189 - P.I. 03925660379

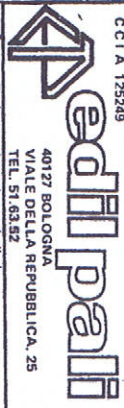
COMMITTENTE : DUE G.
 CANTIERE : ZOLA PREDOSA

PROVA PENETROMETRICA N. 01
 28000028A
 DATA : MAR 92

SEZIONE GEOTECNICA
 L. numero
 Classificazione dei terreni secondo la teoria del Bagnoun



Terre	Argille molli
Argille	Argille limose
Limf argillose	Limf sabbiosi
Sabbie limose	Sabbie fini
Sabbie grossi	Shale e Sabbie



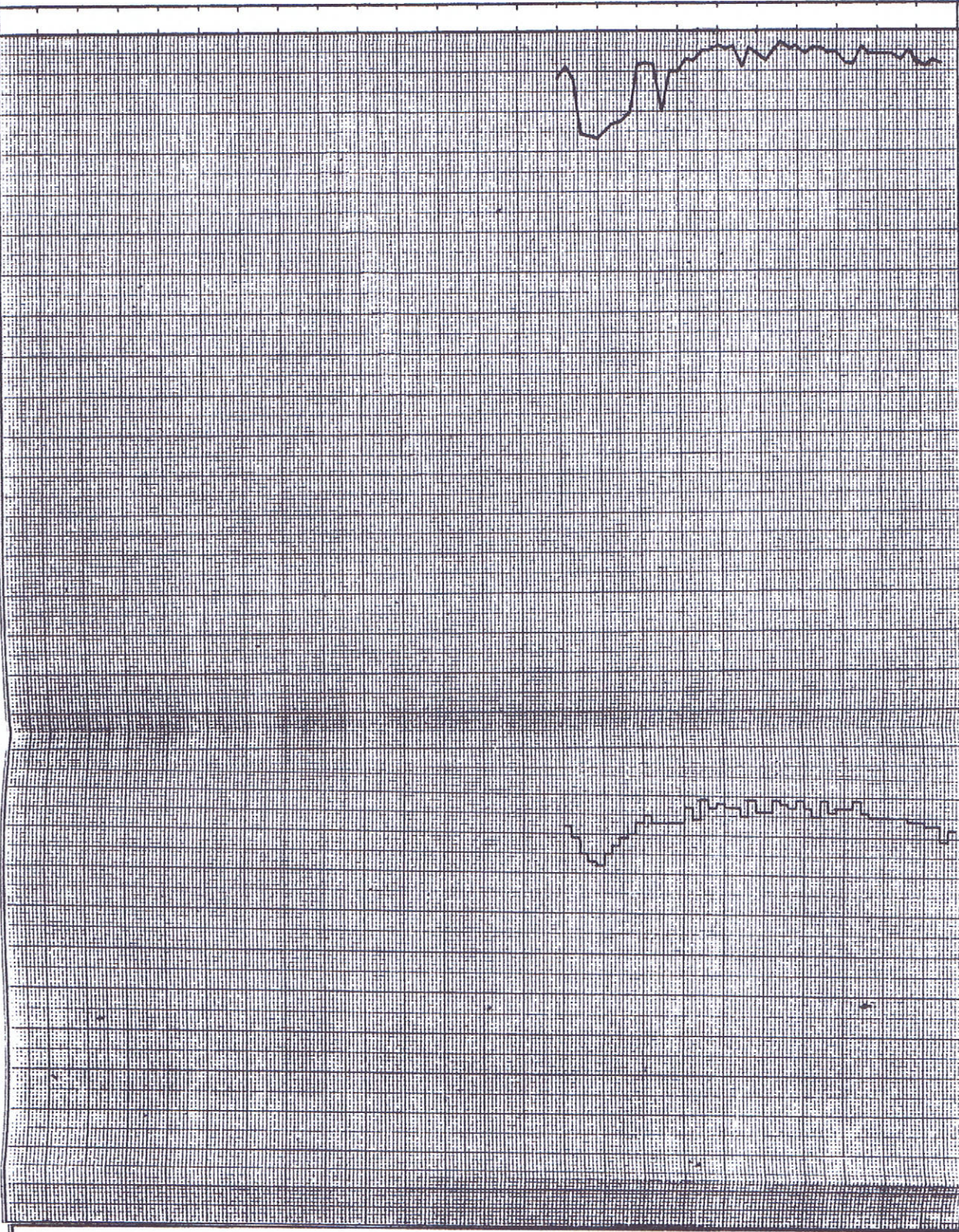
40127 BOLOGNA
VIALE DELLA REPUBBLICA, 25
TEL. 51.63.82

COMMITTENTE : **COMUNE FOLA PREDOSSA**
LOCALITA' :
CANTIERE :

PROVA PENETROMETRICA N.°

DATA : **28/00/034**

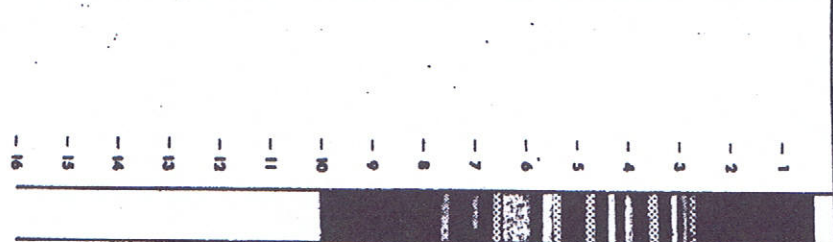
Profondità (m)	0	1000	2000	3000	4000	5000	6000	7000	8000	9000	10000	11000	12000	13000	14000
RP	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750
ra	1000	2000	3000	4000	5000	6000	7000	8000	9000	10000	11000	12000	13000	14000	15000
RP	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750



Interpretazione dell' **VIEL**
Indicazioni **VIEL**

CO.GEM.I.

INTERPRETAZIONE STRATIGRAFICA
secondo Essemann



037060 P22 CPT 182

Legenda:

- 2a 1 : argilla
- 2a 2 : limo
- 2a 3 : loam (sabbia + limo + argilla)
- 2a 4 : sabbia fessosa
- 2a 5 : sabbia
- 2a 6 : ghiaia

037060 P 176 OPT 183

SEZIONE GEOTECNICA

PROVA PENETROMETRICA N.° 1

2200024 A

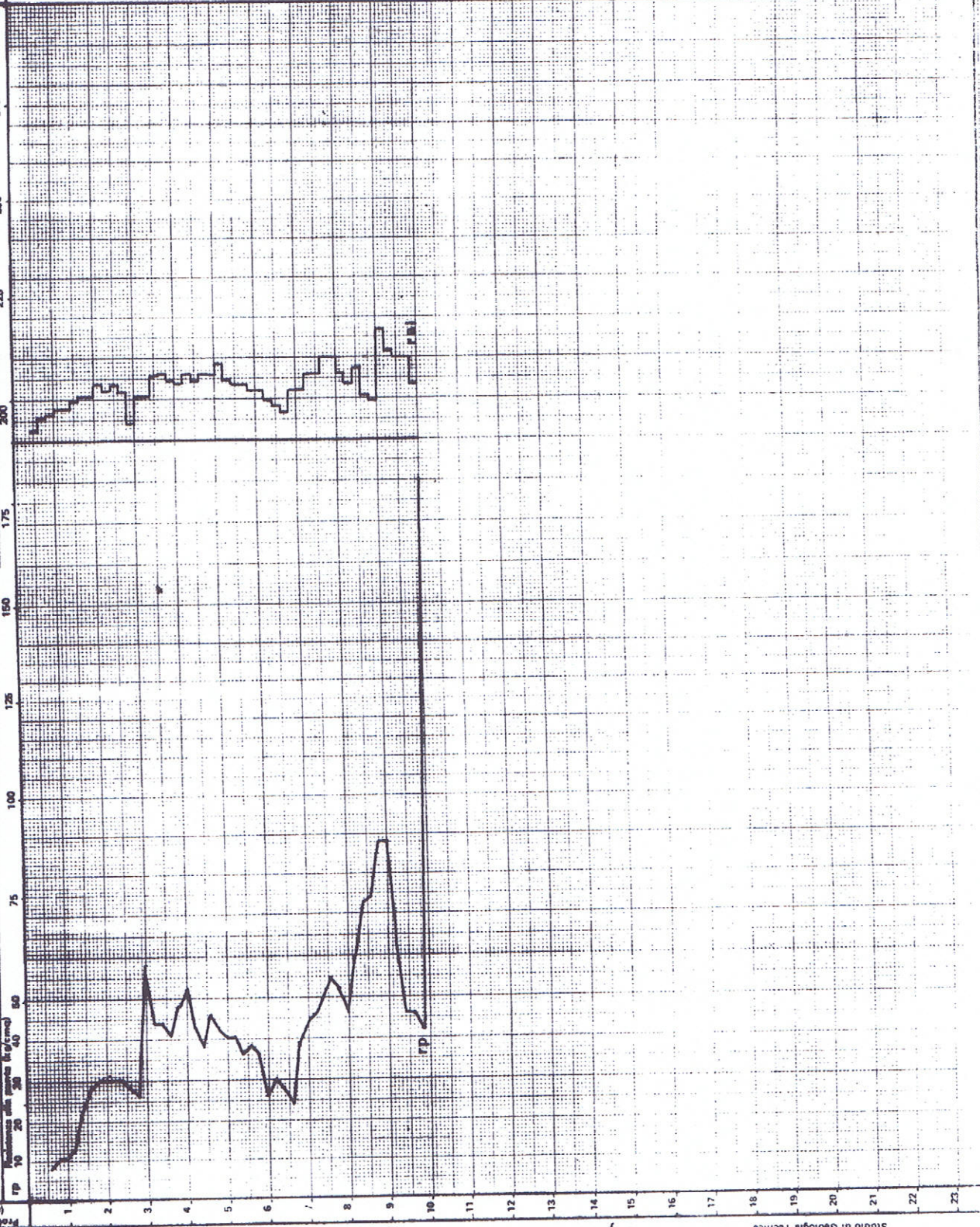
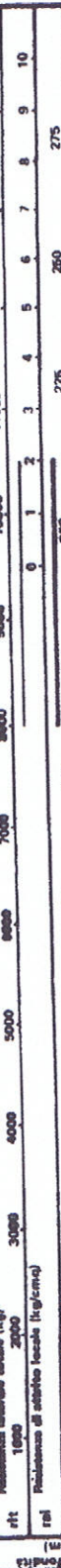
DATA: Febbraio 1986

COMMITTENTE: Coop. Muratori di Mirandola
LOCALITA':
CANTIERE: Zola Predosa (BO)

CCI A 125248 Albo Naz. Costr. 2018310

edilpali

40127 BOLOGNA
VIALE DELLA REPUBBLICA, 26
TEL. 01 63.62 - 51.51.89



Part. IVA: 00517660371

Studio di Geologia Tecnica

17/86

037060 P177 CPT 184

Sezione Geotecnica
COSTA Ilario
via varthema 15 BO

PROVA N°: 5 LOCALITA': CASALEZZO DI
COOP. COMUNALE EDILIZIA CASALEZZO DI
COMMIT. DI CASALEZZO DI DATA: 20-12-77

220PC099

Penetrometro statico «Gouda2oT»

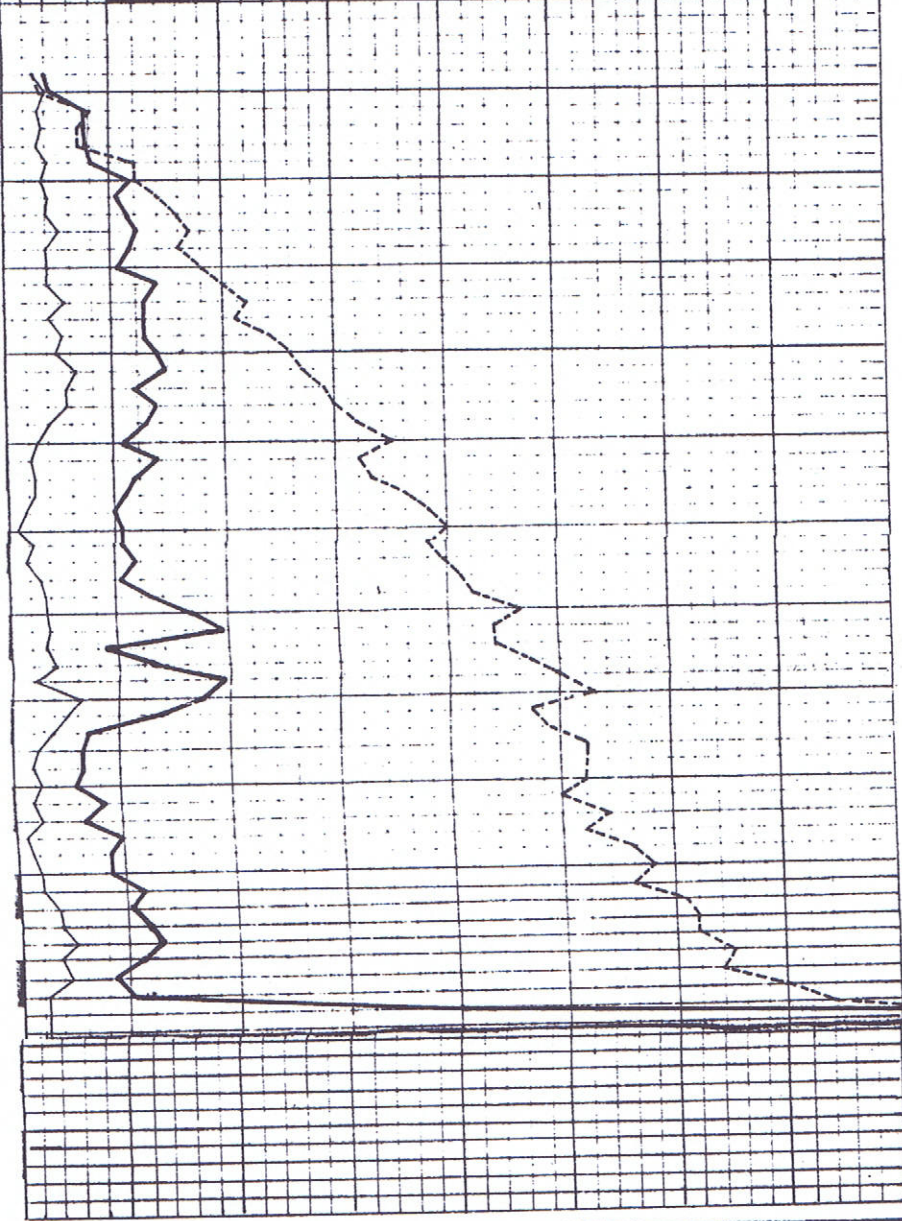
CARATTERISTICHE DELL'ATTREZZATURA.

Potenza massima 20.000 Kg.
Diametro della punta 3,57cm.
Superficie della base 10 cmq.

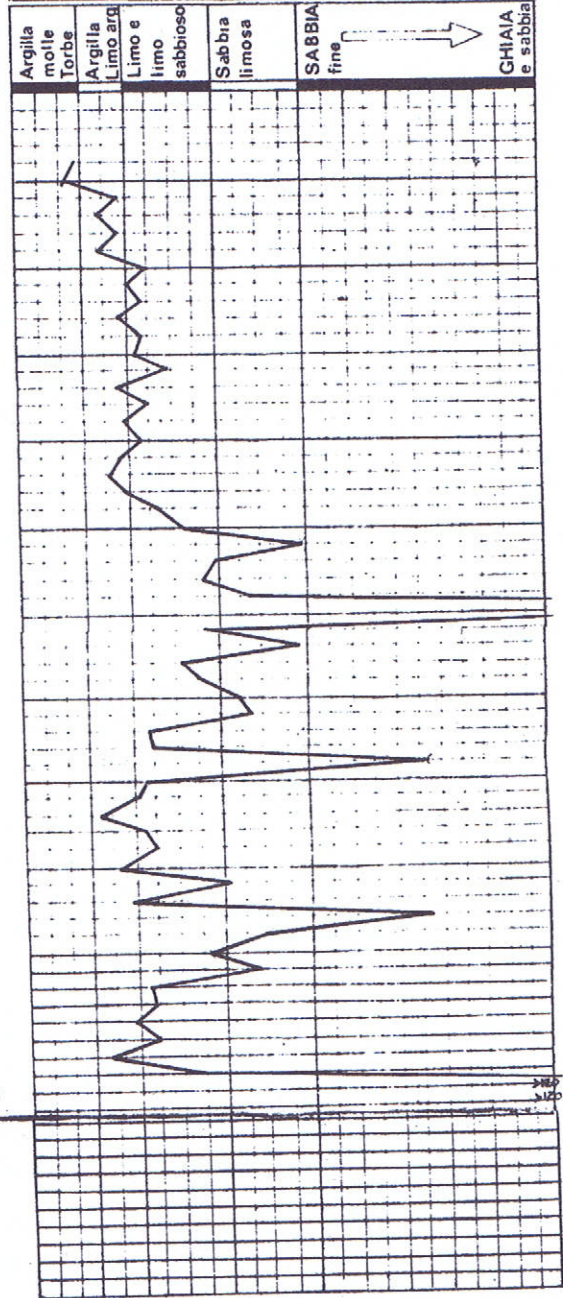
Frizione laterale totale. R_t Kg. 2000 4000 6000 8000

Resistenza di attrito locale. R_a (Kg/cmq). 5 10 15 20

Resistenza alla punta. R_p (Kg/cmq). 50 75 100 125 150 175 200



CLASSIFICAZIONE TERRENI. (Teoria Begemann)



NOTE: _____

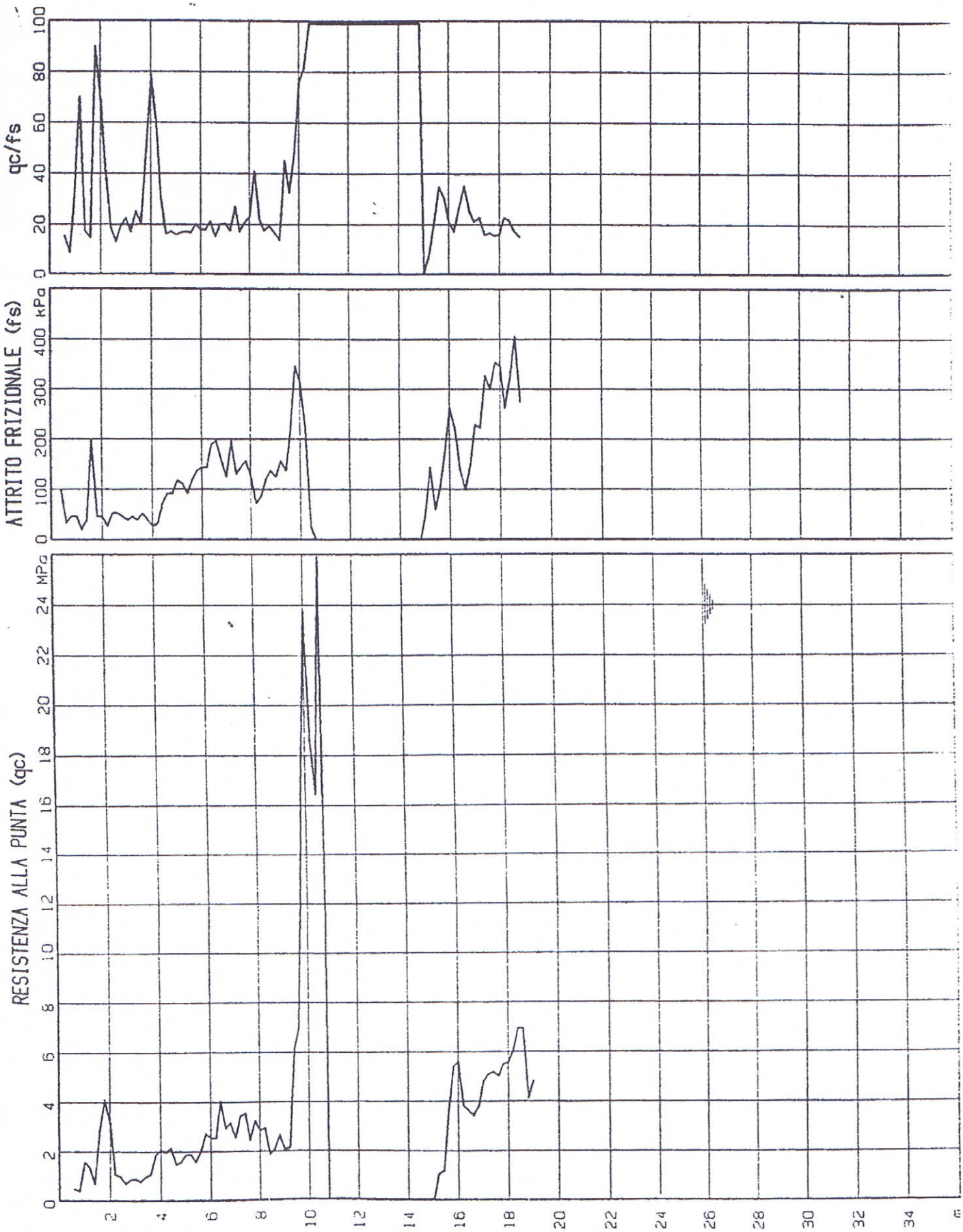
Livello H₂O mt. // . p.c. _____

IL GEOLOGO:
Costa Ilario
Tel 051 - 340698

037060P 72CPT 185

2200C 49

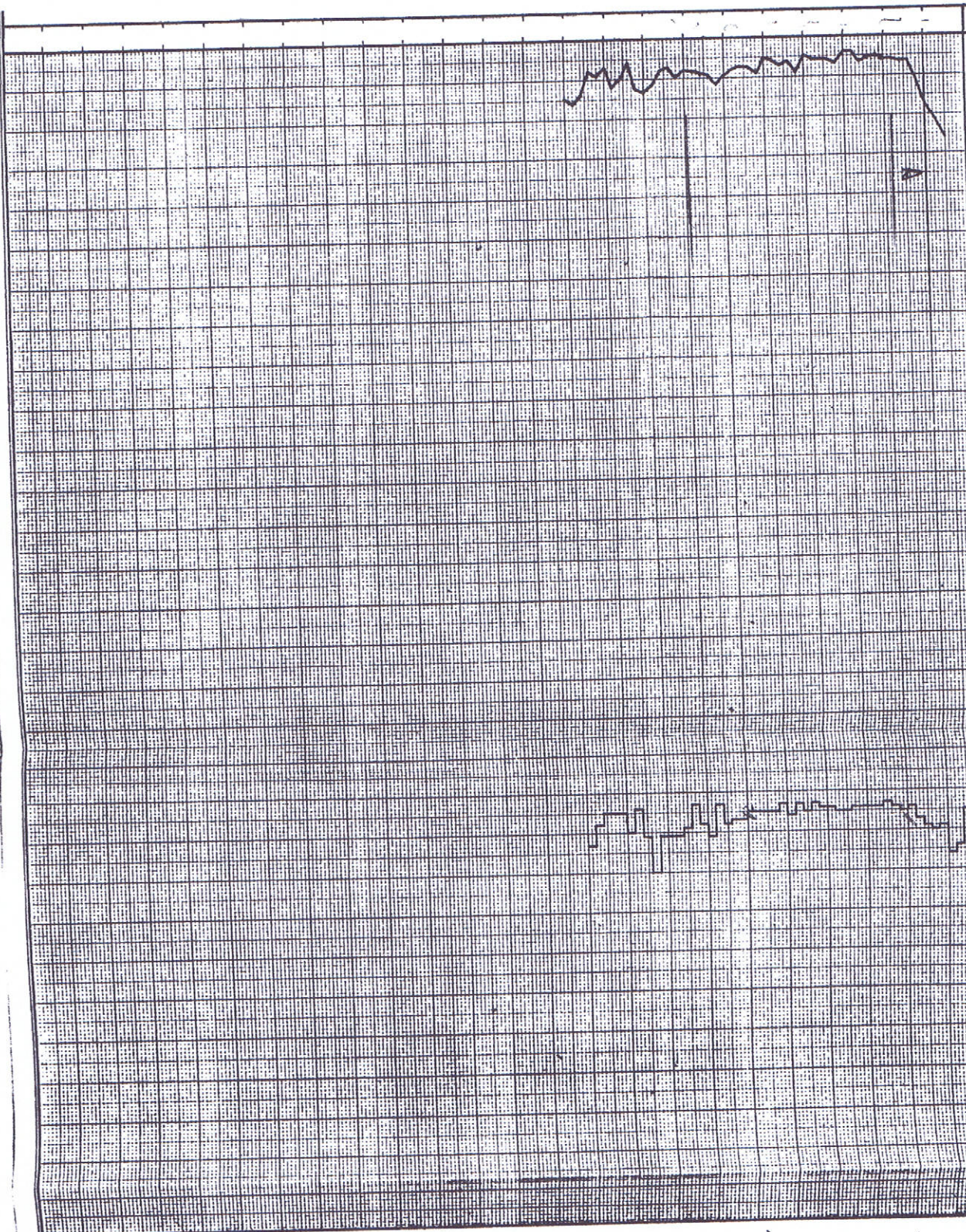
CPT N. 1	ESECUTORE: GEO-PROBE	DATA: 07/02/91
COMMITTENTE: COMUNE DI ZOLA PREDOSA	LOCALITA': ZOLA CHIESA	
CANTIERE: VIA MASINI	D.L.: DR. VIEL	TAV. 2



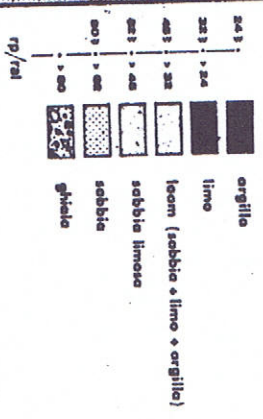
COMMITTENTE: *CO.MUNE ZOO. R. PREO.SA*
 LOCALITA':
 CANTIERE:

DATA: *29.10.06*

Profondità (m)
 r1 Resistenza laterale totale (kg/cm²)
 r2 Resistenza di attrito locale (kg/cm²)
 rp Resistenza alla punta (kg/cm²)



liberazione
 VIEL
INTERPRETAZIONE STRATIGRAFICA
 secondo Begemann



037 060 P 178 EPT 186

037060 P179 CPT 187

STUDIO GEOLOGICO ASSOCIATO

GEOPRO

40134 BOLOGNA
Via C. Treves, 13/I - Tel. 051/42.35.10

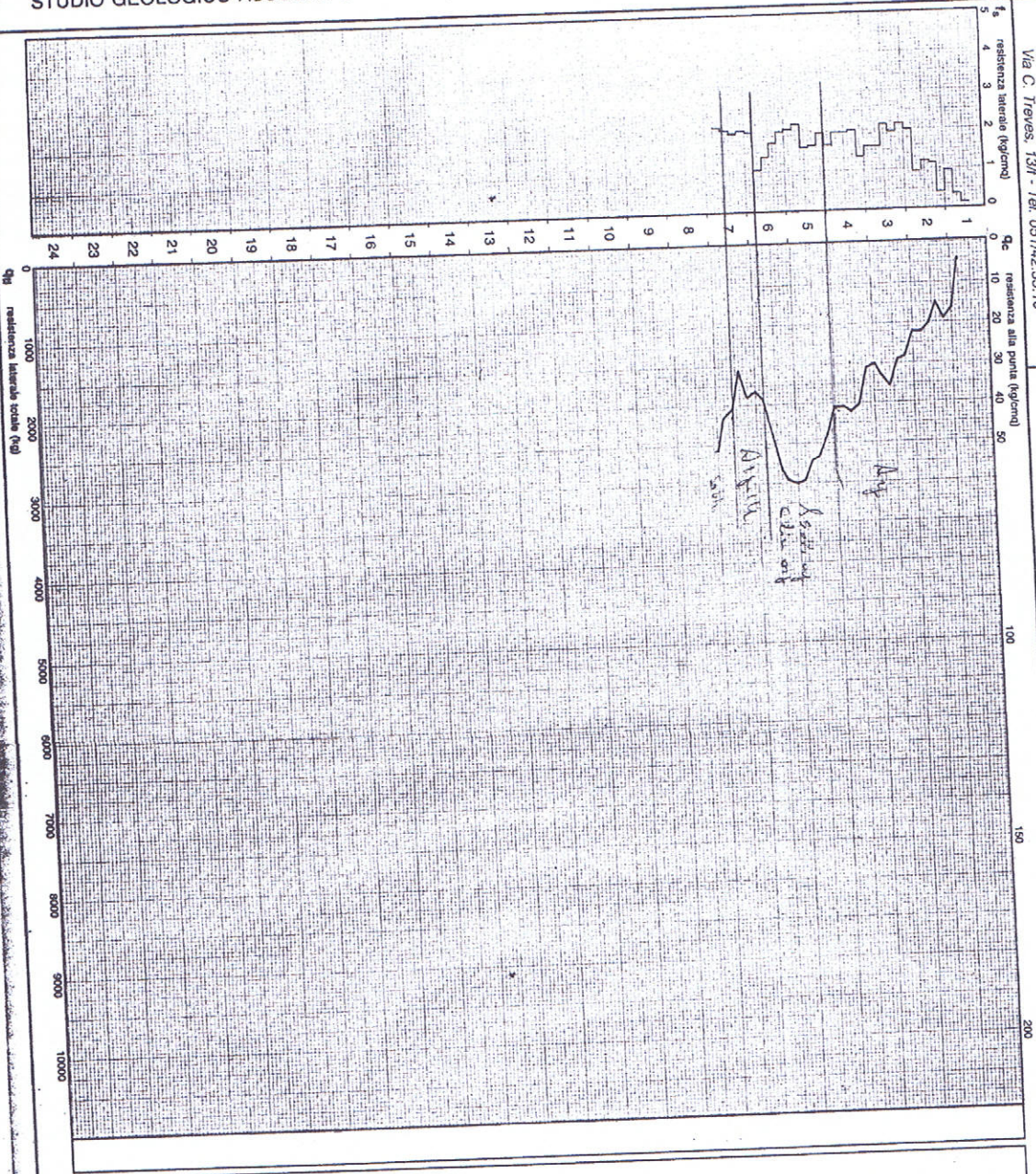
Località: v. Roma 54/A - Zola Predosa (BO)
Committente: MECCANICA NOVA S.p.A.

Data: 27 Aprile 1990

CPT (CONE PENETROMETER TEST)

N.

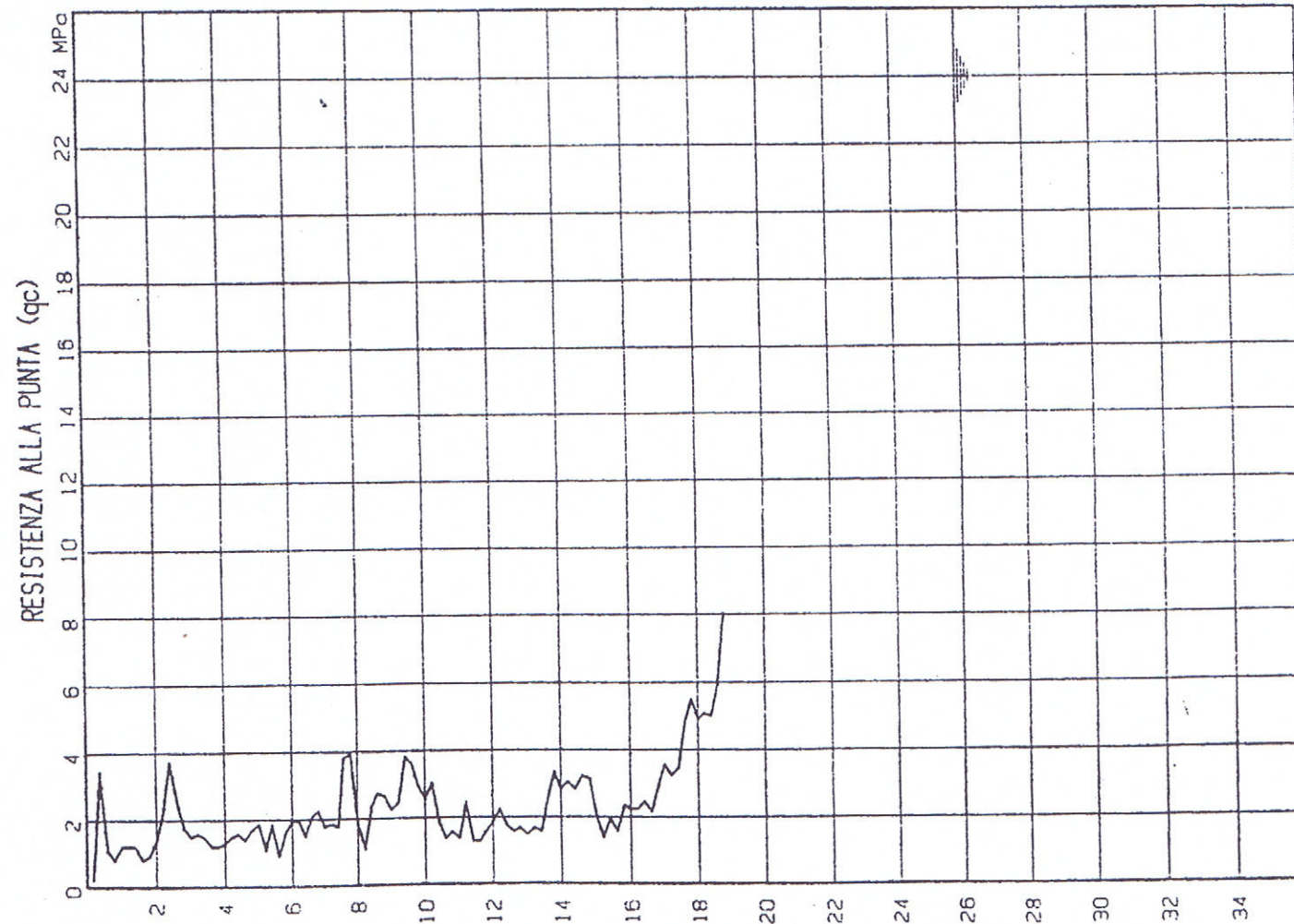
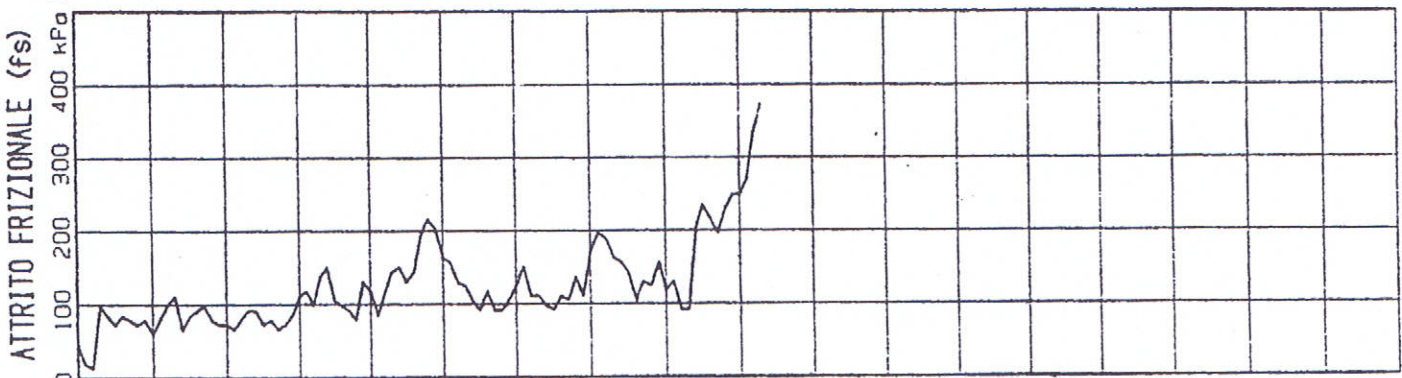
82000013



037060 P180 CPT 188

2200E50

CPT N. 2	ESECUTORE: GEO-PROBE	DATA: 07/02/91
COMMITTENTE: COMUNE DI ZOLA PREDOSA	LOCALITA': ZOLA CHIESA	
CANTIERE: VIA MASINI	D.L.: DR. VIEL	TAV. 4



037060 P 181 CPT 189

SEZIONE GEOTECNICA

PROVA PENETROMETRICA N.° 1

2800026A

DATA: Agosto 1985

COMMITTENTE: Impresa Geom. Martinelli

LOCALITA': Zola Predosa

CANTIERE:

CCIA 125249 Albo Naz. Costr. 200810

edipali
48137 BOLOGNA
VIALE DELLA REPUBBLICA, 25
TEL. 51.63.52 - 51.91.88

Resistenza laterale f_{lp} (kg/cm²)

Resistenza di attrito locale f_{ra} (kg/cm²)

Resistenza alla punta f_{rp} (kg/cm²)

Profondità (m)

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

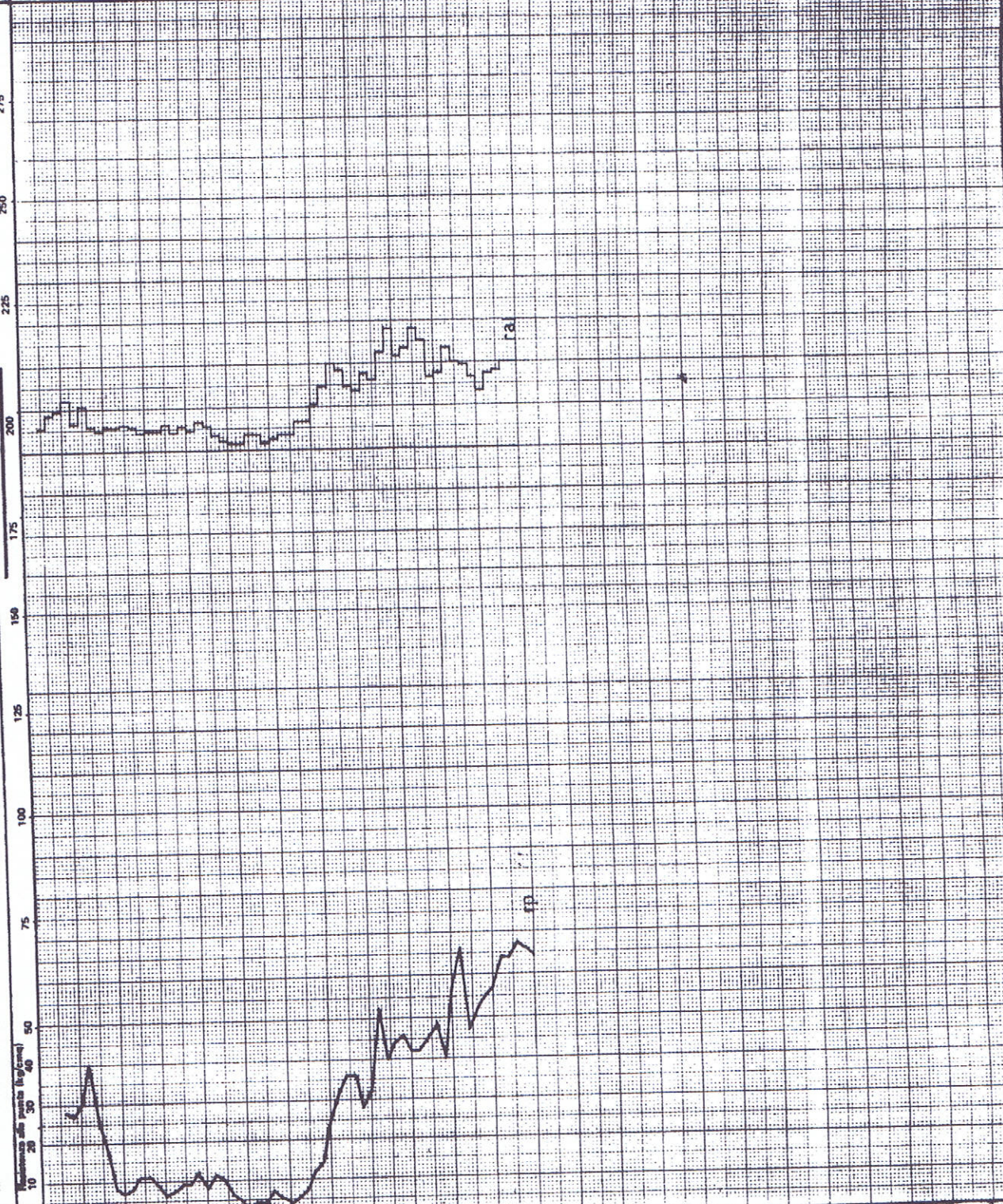
19

20

21

22

23



Perf. IVA: 00617660371

Studio di Geologia Tecnica

581001

IL GEOLOGO.....

Classificazione dei terreni secondo la teoria di Bagnemann

Chiaie e sabbie	
Sabbie grosse	
Sabbie fini	
Sabbie limose	
Limi sabbiosi	
Limi argillosi	
Argille limose	
Argille	
Argille molli	
Torbe	

037060P182CPT190

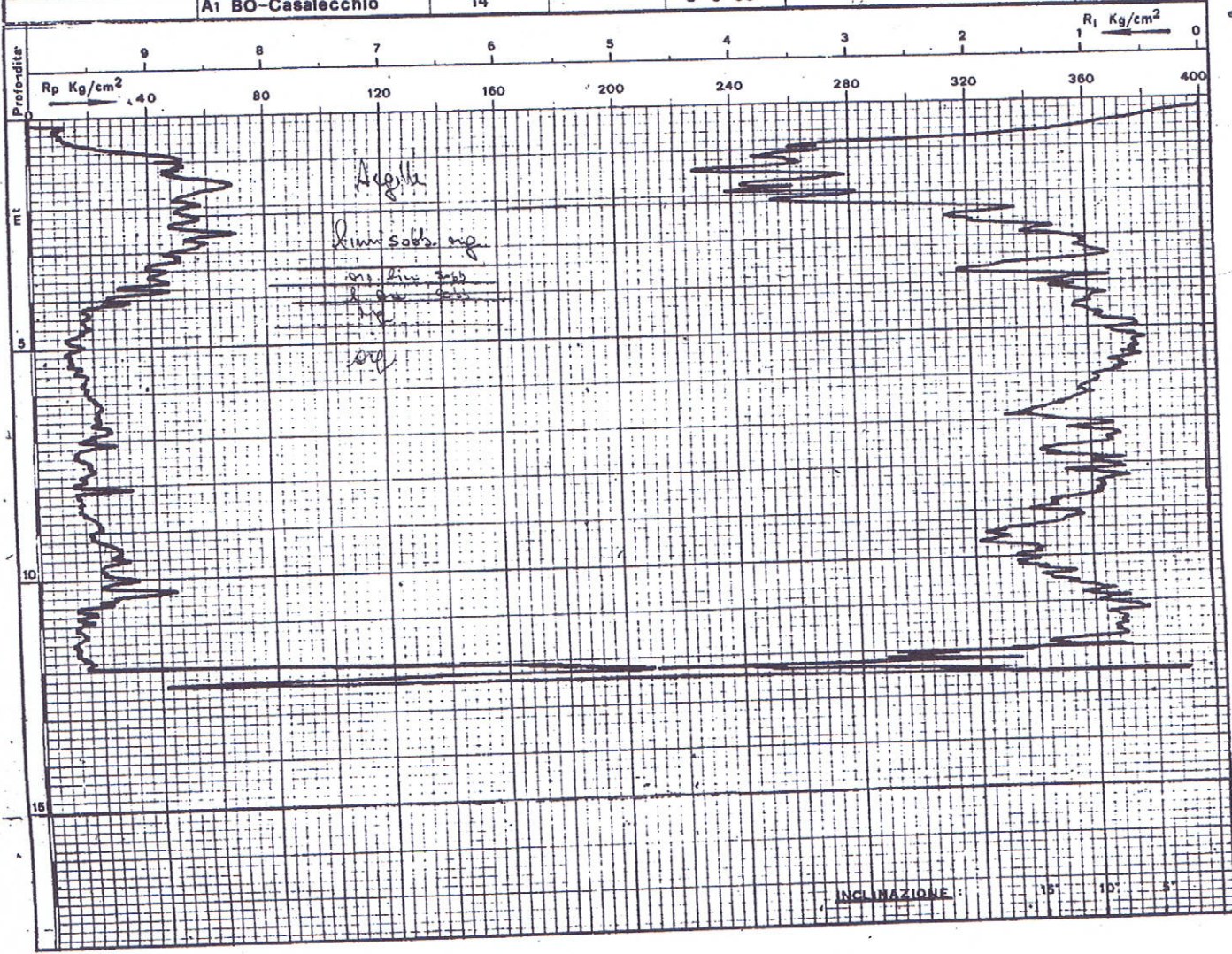
220110

COG3

PROVA PENETROMETRICA STATICA

ESEGUITA CON PENETROMETRO DA 20 TONS E PUNTA ELETTRICA
TIPO S-E CON INCLINOMETRO INSERITO. NOTA: DIAGRAMMA
AUTOMATICO RIPRODOTTO IN FOTOCOPIA DALL'ORIGINALE

COMMITTENTE	LOCALITA'	PROVA N°	QUOTA	DATA	Osservazioni:	Firma Operatore
	Ai BO-Casalecchio	14		8-3-89		



Rp = Resistenza alla punta

037060 P183C PT 191

PROVA PENETROMETRICA N.° 1

2200C025A

DATA: Agosto 1985

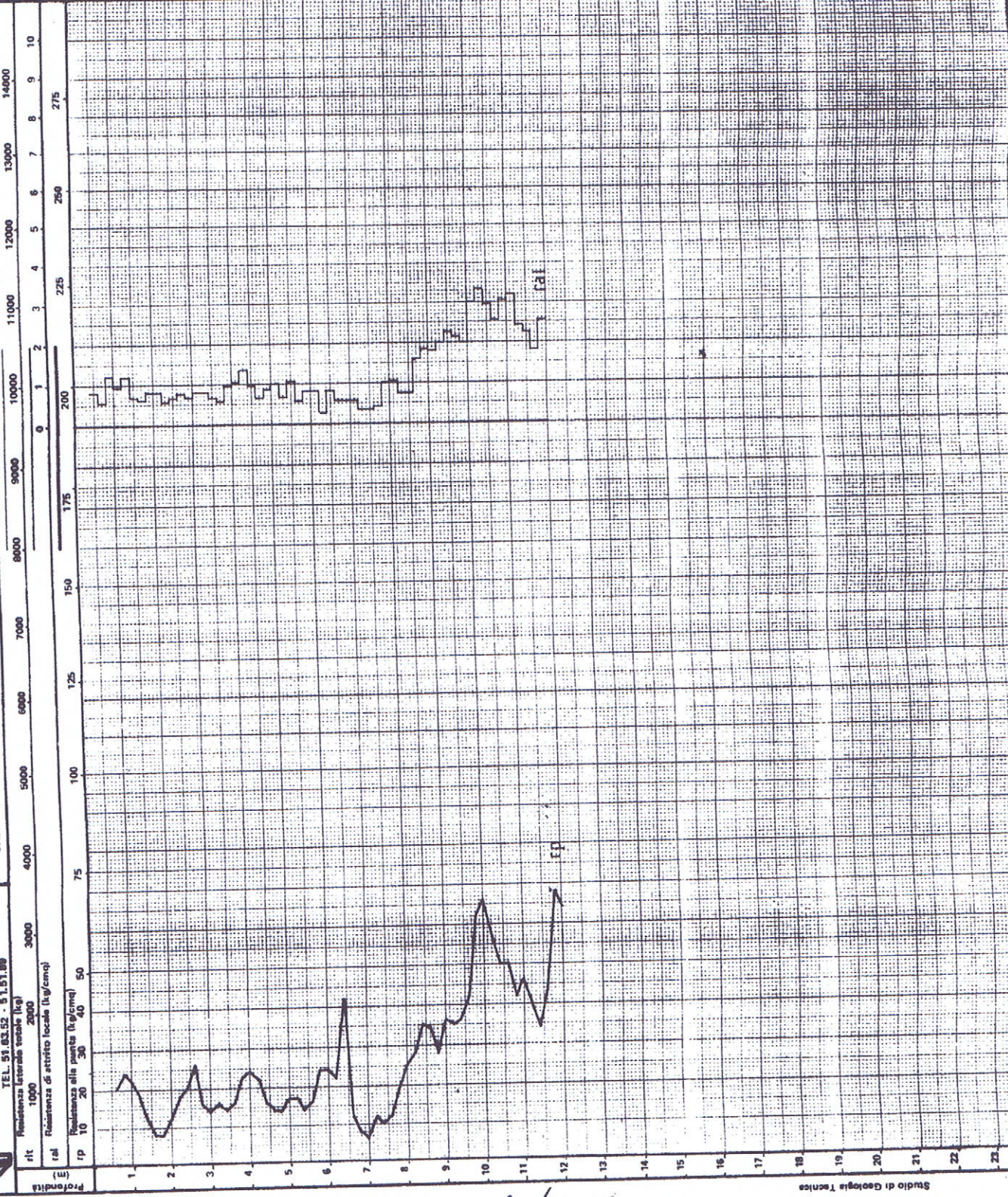
COMMITTENTE: Coup. Edific. Ansaloni
LOCALITA': Zo.a Predosa
CANTIERE:

CCIA 125249
Alba Naz. Costr. 200810
edilpali
40127 BOLOGNA
VIALE DELLA REPUBBLICA, 25
TEL. 51.63.52 - 51.51.88
Riduzione laterale totale (kg)
1000 2000
Riduzione di attrito locale (kg/cm²)

SEZIONE GEOTECNICA

IL GEOLOGO
Classificazione dei terreni secondo la teoria di Bergmann

Argille molli	
Argille	
Argille limose	
Limiti argillosi	
Limiti sabbiosi	
Sabbie limose	
Sabbie fini	
Sabbie grosse	
Ghiaie e sabbie	



Part. IVA: 00517560371

Studio di Geologia Tecnica

101/85

037060 P184CPT 192

STUDIO GEOLOGICO ASSOCIATO

GEOPROF

40134 BOLOGNA

Via C. Treves, 13/1 - Tel. 051/4235.10

Località:

v. Roma 54/A - Zola Predosa (BO)

Committente:

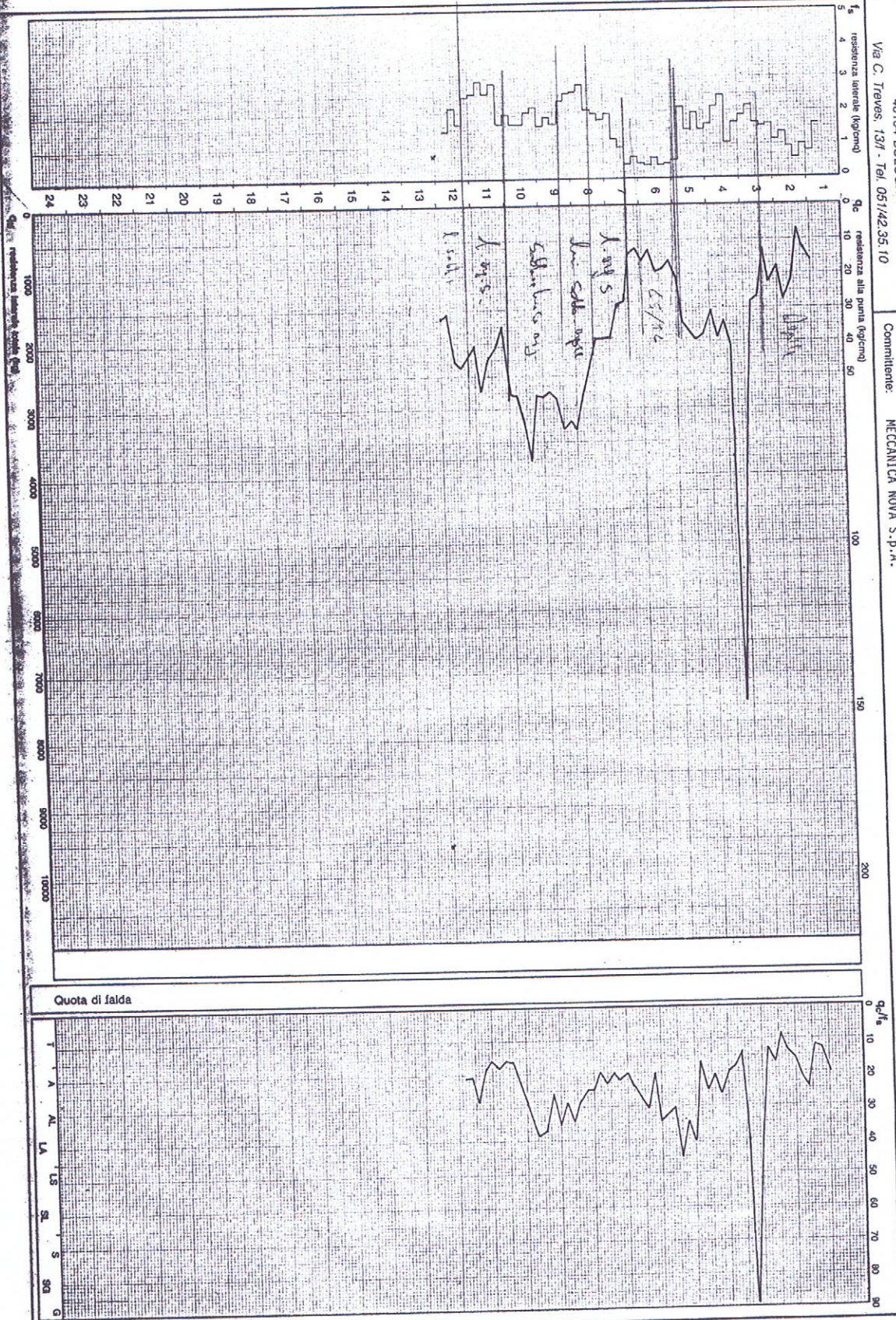
MECCANICA NOVA S.p.A.

CPT (CONE PENETROMETER TEST)

N. 2

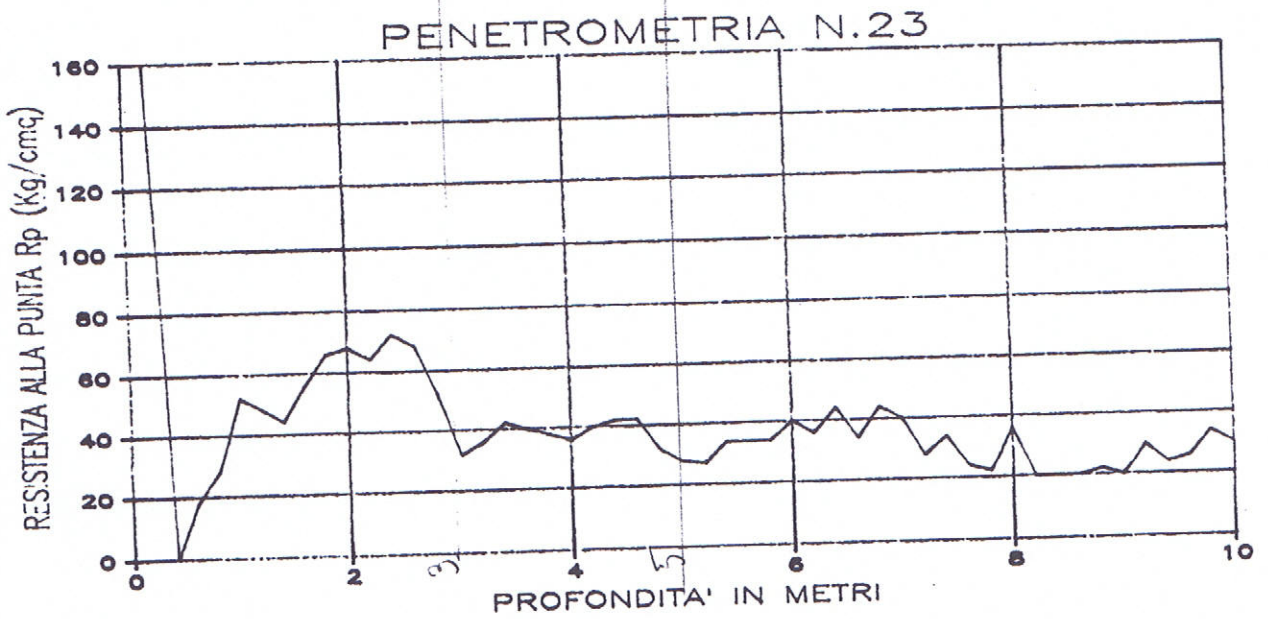
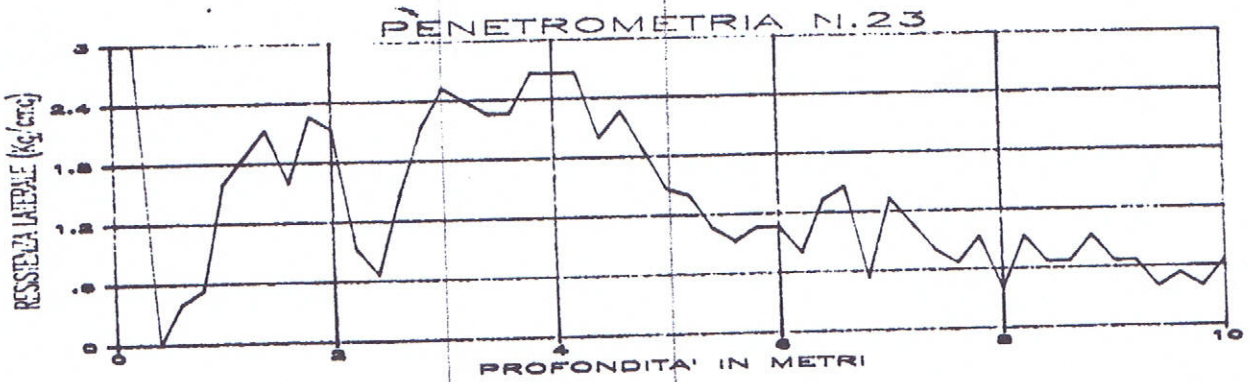
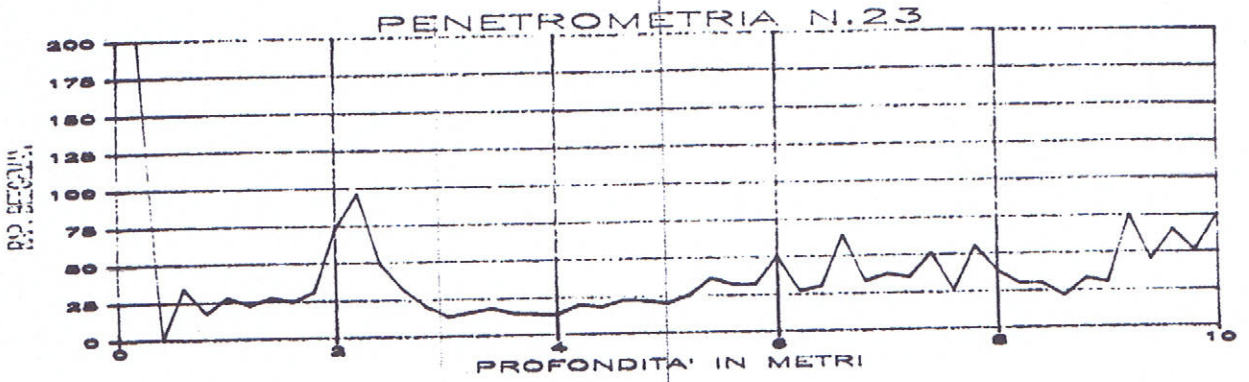
Data: 27 Aprile 1990

220006014



037060 P 185 CPT 193

J. D. O. P. C. 117



LAVORATORIO AUT. DAL 1941. LL. PP. IN BASE ALLA LEGGE 8 NOV. 1971, N. 1008

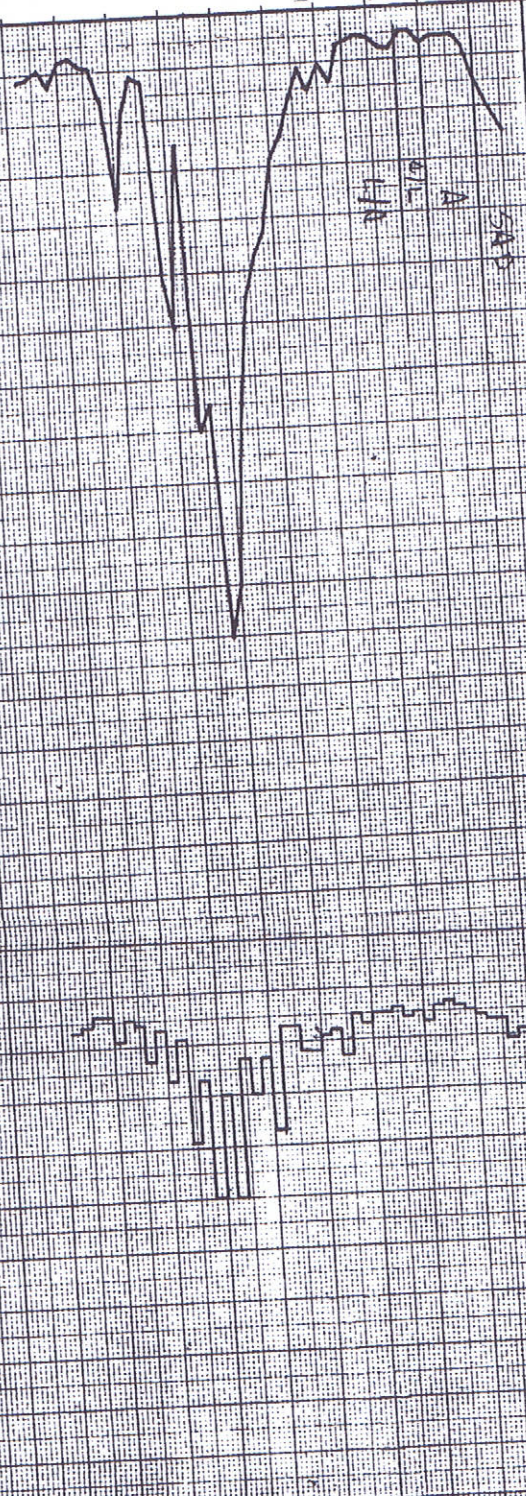
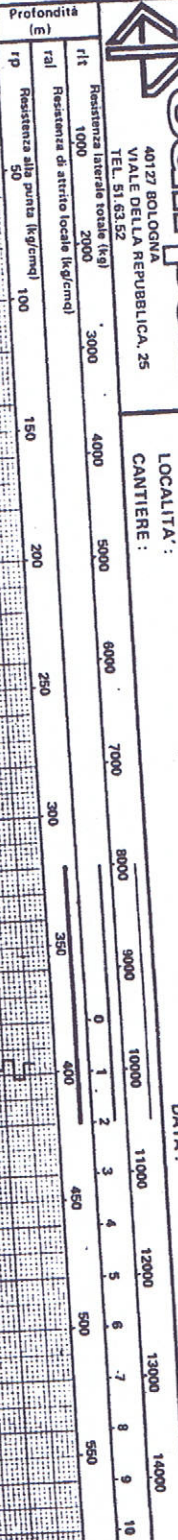


037060 P186 CPT194

COMMITTENTE: **COMUNE ZOLA PREDOSA**
 LOCALITÀ:
 CANTIERE:

PROVA PENETROMETRICA N. 4

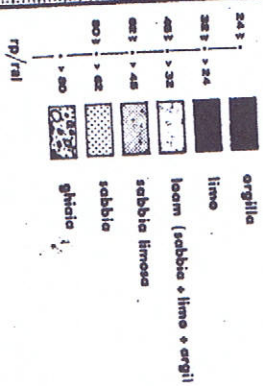
DATA: **29/06/03**



Riferimento con VIEL
 Siderometro VIEL

CO.GEM

INTERPRETAZIONE STRATIGRAFICI
 secondo Begemann



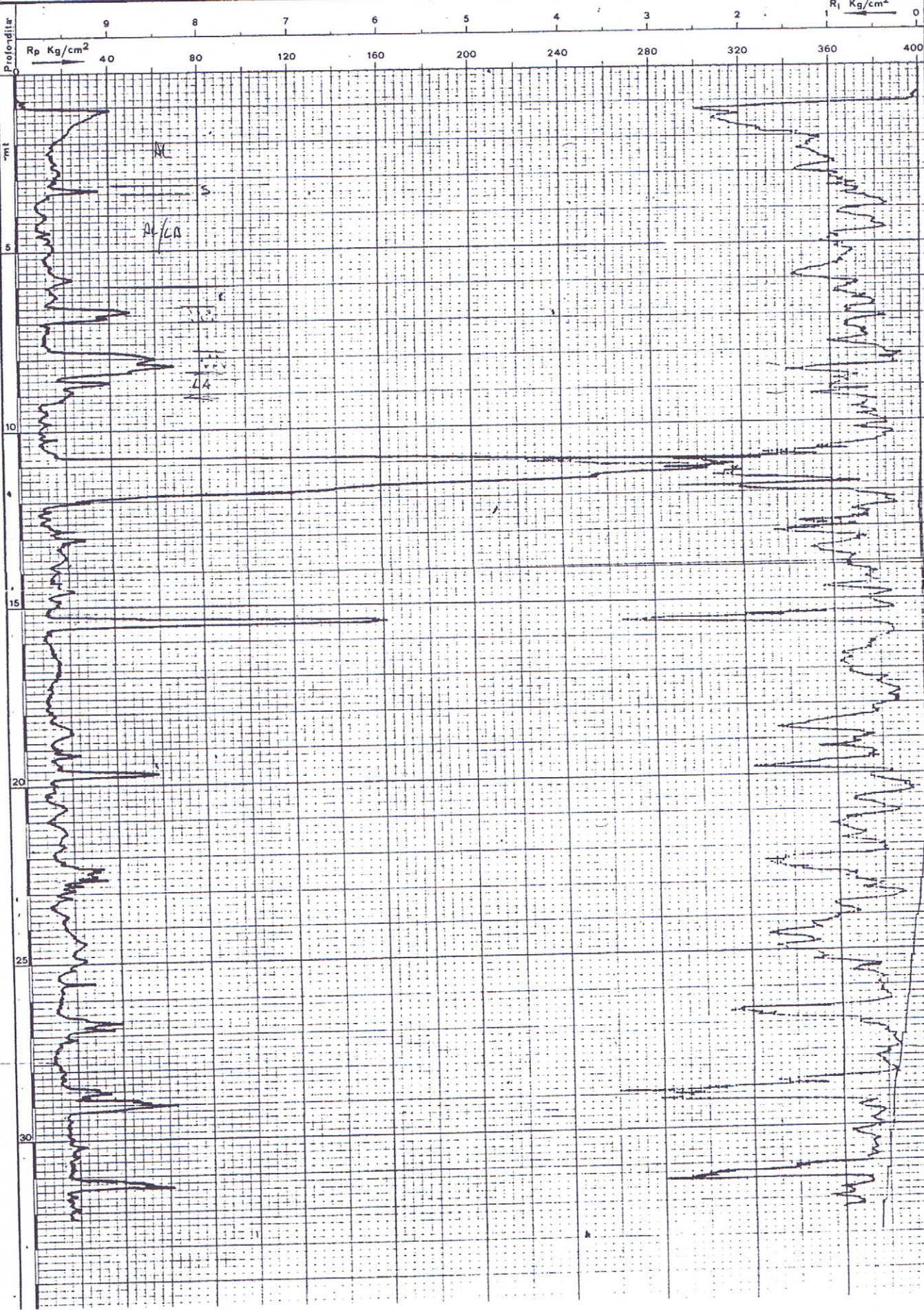
037060P187 CPT 195

PROVA PENETROMETRICA STATICA

ESEGUITA CON PENETROMETRO DA 20 TONS E PUNTA ELETTRICA
TIPO S-E CON INCLINOMETRO INSERITO. NOTA: DIAGRAMMA
AUTOMATICO RIPRODOTTO IN FOTOCOPIA DALL'ORIGINALE

220110 COG2

COMMITTENTE	LOCALITA'	PROVA N°	QUOTA	DATA	Osservazioni:	Firma Operatore
A1 BO-Casalecchio		13	3-3-89		pg 02	



037060 P188CPT196

Studio di Geologia Tecnica

C.C.I.A.A. 126249

edhipati

Albo Naz. Costr. 200830

40127 BOLOGNA
VIALE DELLA REPUBBLICA, 25
TEL. 51.63.82 - 51.51.89

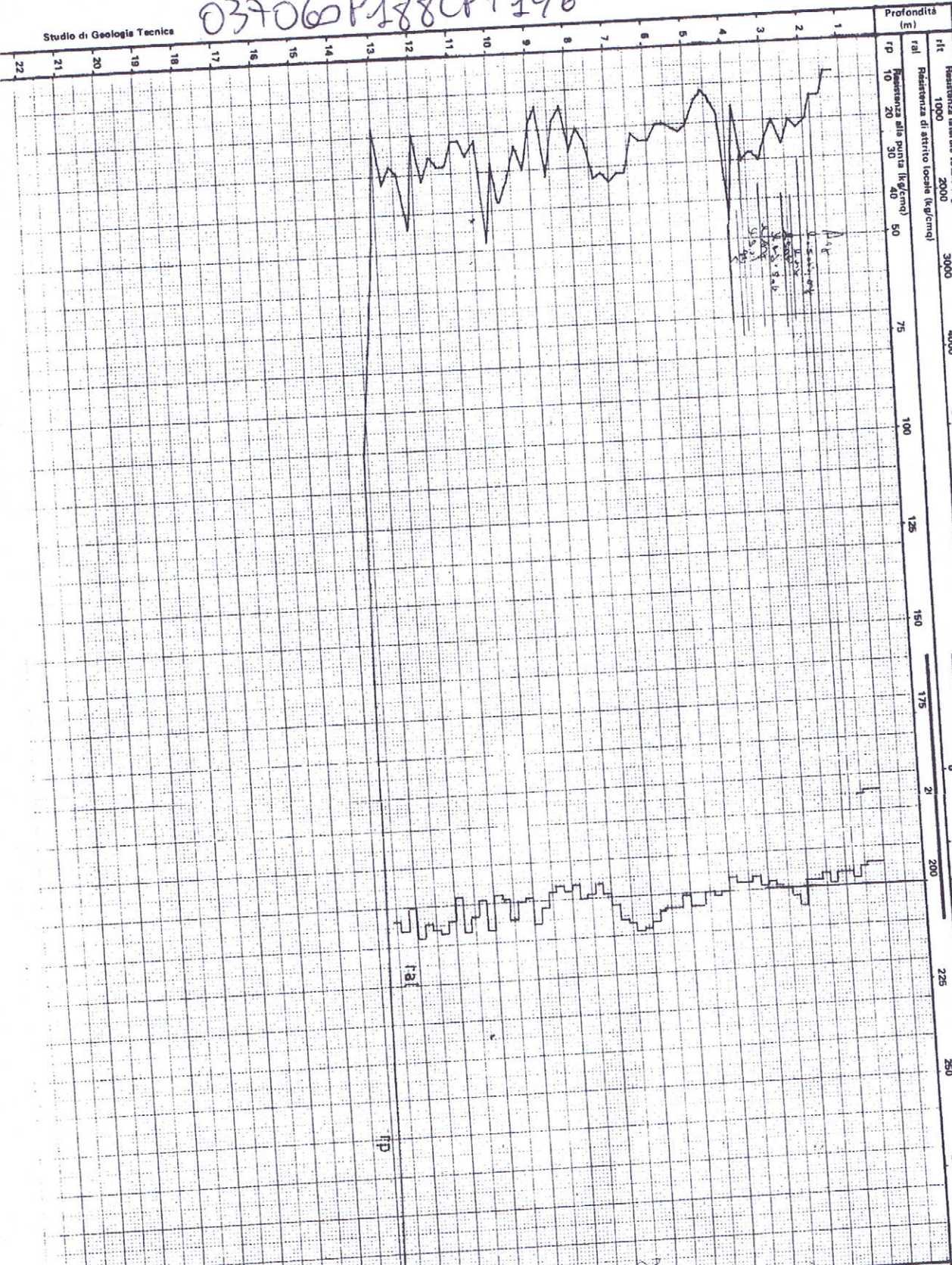
COMMITTENTE: INTERTABA S.p.A. Zola Predosa

LOCALITÀ: Zola Predosa (BO)

CANTIERE: Zola Predosa (BO)

DATA: Giugno 1988

PROVA PENETROMETRICA N.° 1



Torbe
Argille molli
Argille
Argille limose
Limi argillosi
Limi sabbiosi
Sabbie limose
Sabbie fini
Sabbie grosse
Ghiaie e sabbie

IL GEOLOGO

SEZIONE GEOTECNICA

22000029

Classificazione dei terreni secondo la scala di Sognmann

037060P189CPT197

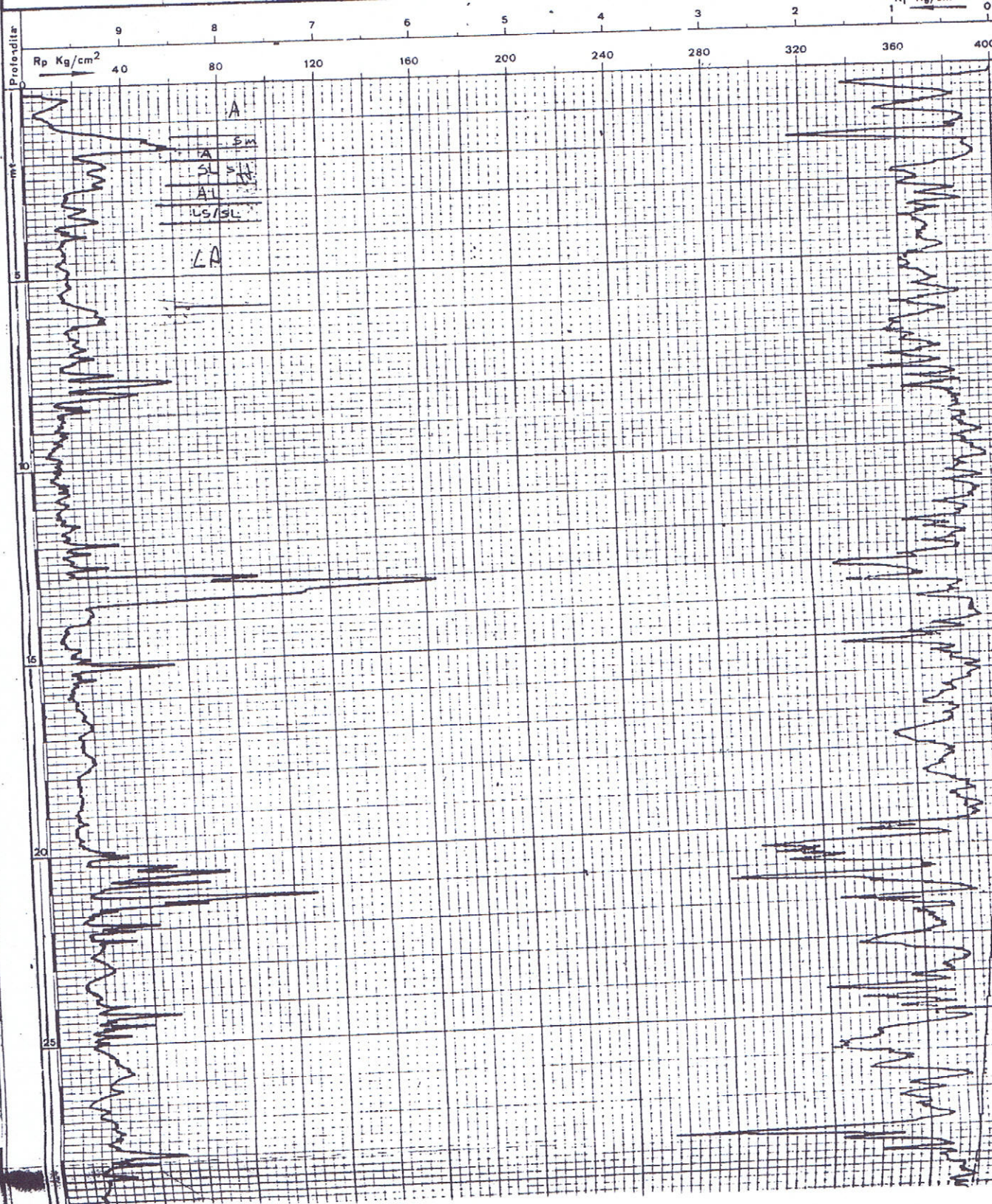
220110
C060

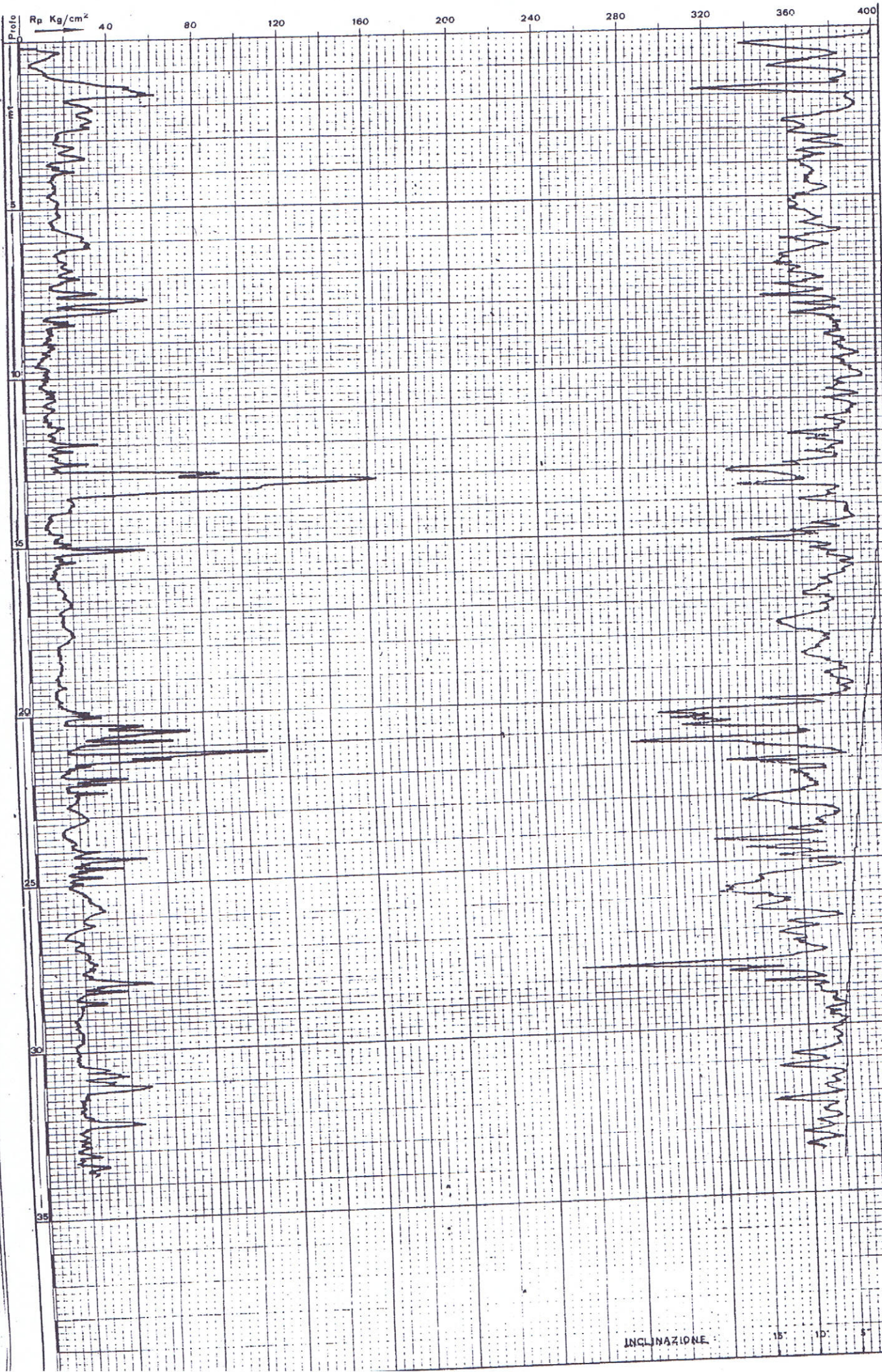
PENETROMATICO

PROVA PENETROMETRICA STATICA

ESEGUITA CON PENETROMETRO DA 20 TONS E PUNTA ELETTRICA
TIPO S-E CON INCLINOMETRO INSERITO. NOTA: DIAGRAMMA
AUTOMATICO RIPRODOTTO IN FOTOCOPIA DALL'ORIGINALE

COMMITTENTE	LOCALITA'	PROVA N°	QUOTA	DATA	Osservazioni:	Firma Operatore
	A1 BO-Casalecchio	11		7-3-89		





037060 P190 CPT 198

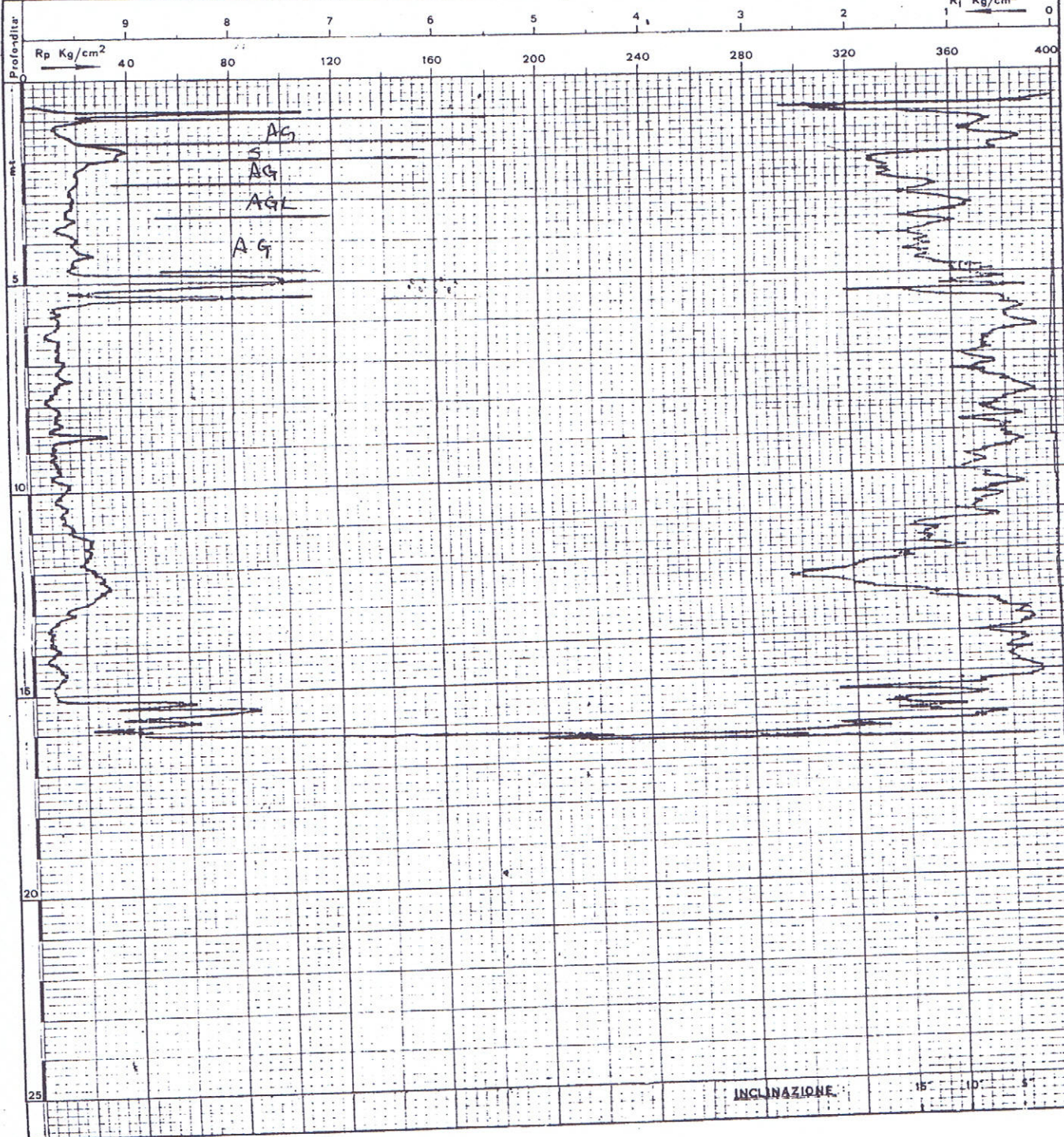
220110

C059

PROVA PENETROMETRICA STATICA

ESEGUITA CON PENETROMETRO DA 20 TONS E PUNTA ELETTRICA
TIPO S-E CON INCLINOMETRO INSERITO. NOTA: DIAGRAMMA
AUTOMATICO RIPRODOTTO IN FOTOCOPIA DALL'ORIGINALE

COMMITTENTE	LOCALITA'	PROVA N°	QUOTA	DATA	Osservazioni:	Firma Operatore
A1	BO-Casalecchio	10		9-3-89		



Rp = Resistenza alla punta



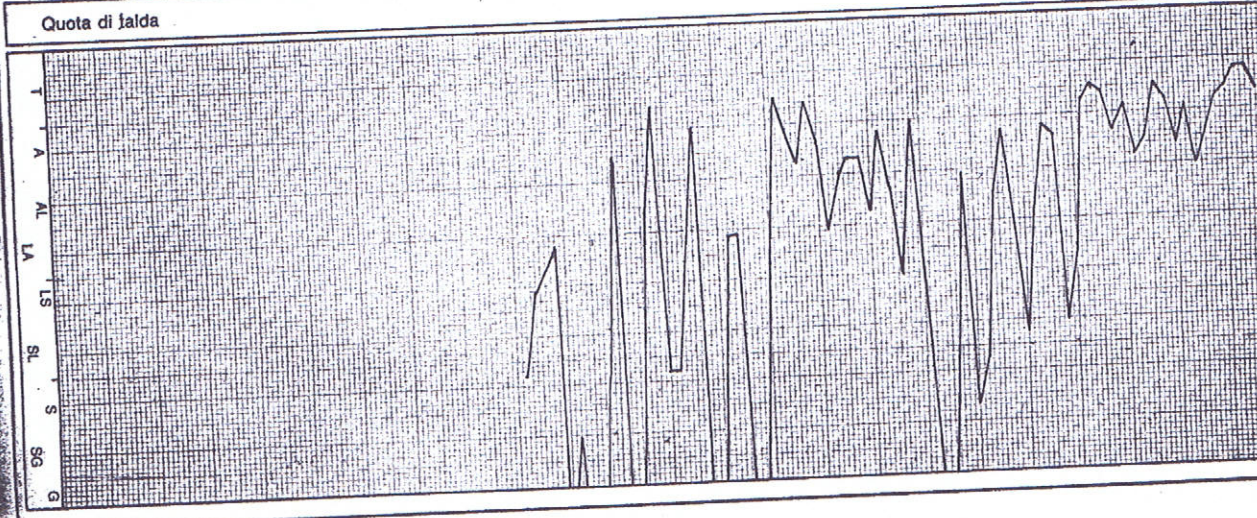
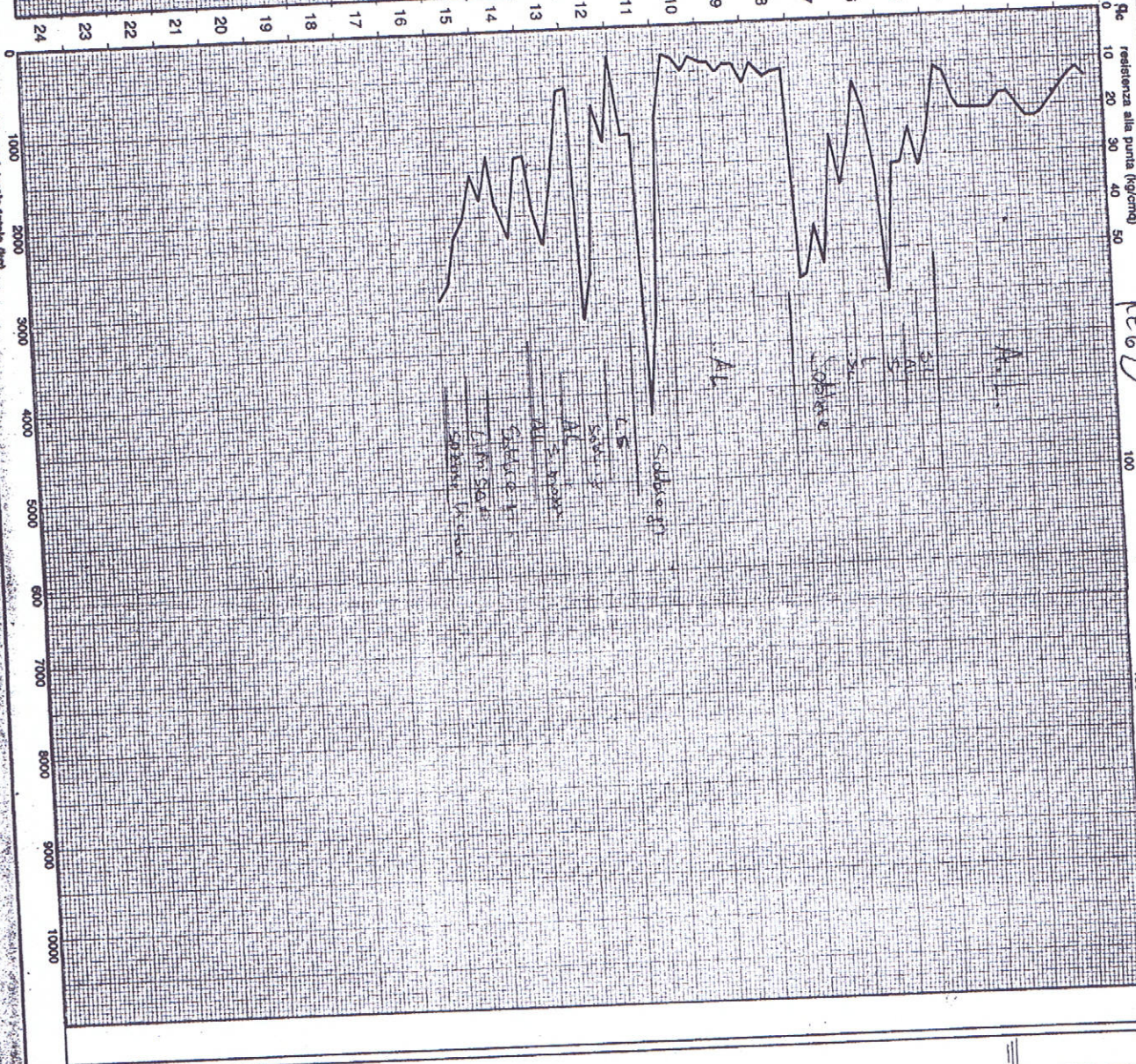
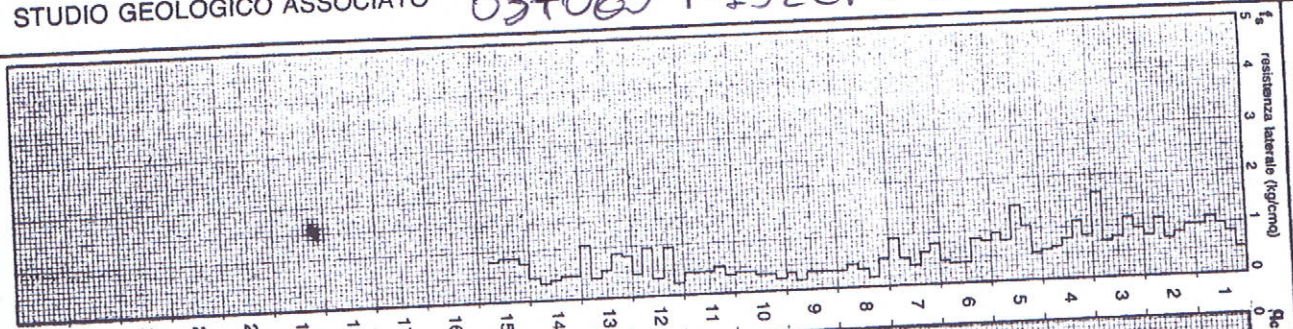
Via C. Treves, 13/ - Tel. 051/42.35.10

Località: V. M. di Canossa - Ponte Ronca (Zola Predosa - BO)
Comittente: EDIL CASE

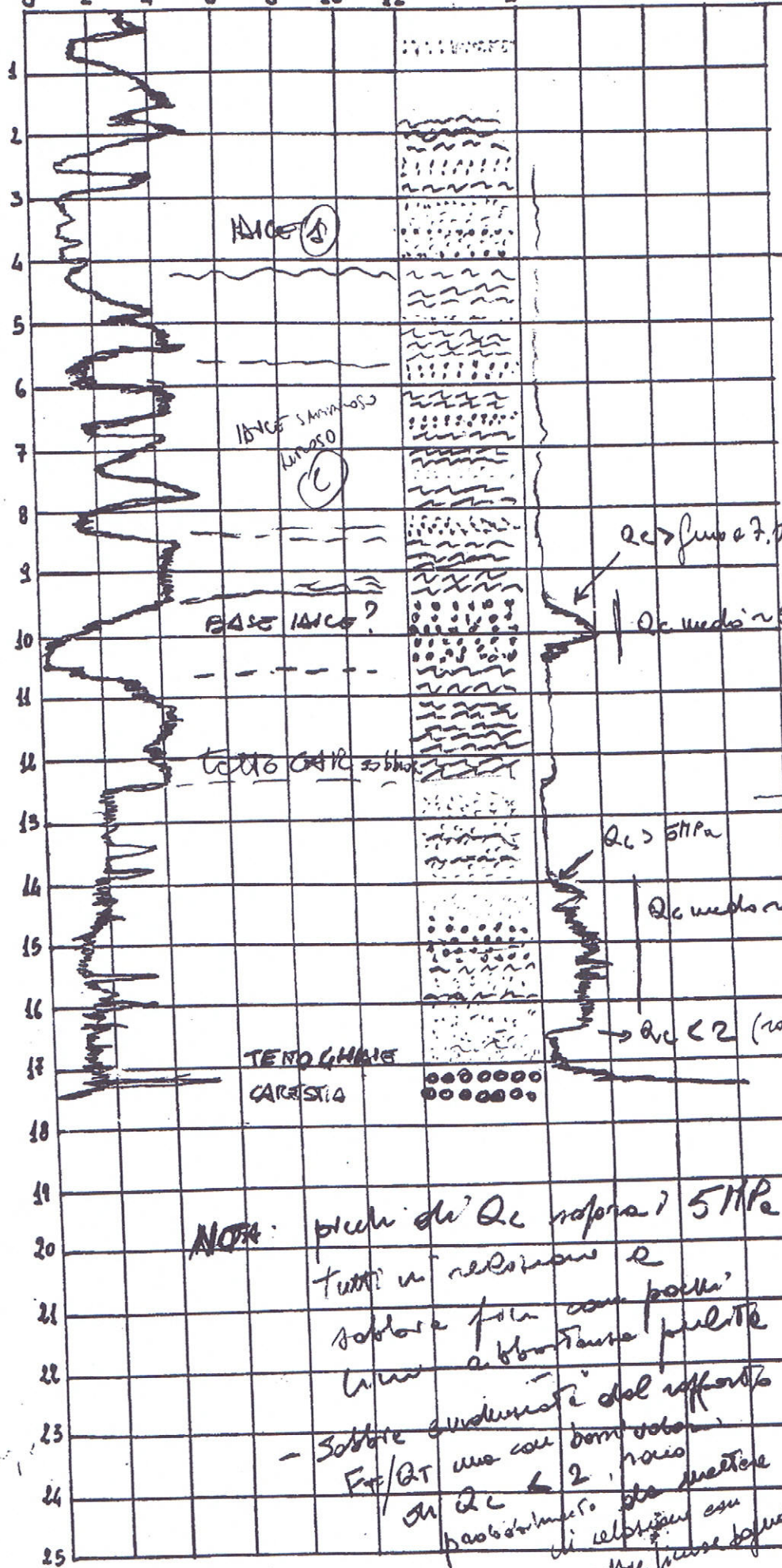
Data: 30 Aprile 1990

CPT (CONE PENETROMETER TEST)

220070 C16a



L AG 0 2 4 6 8 10 12 20 30 40 50



0,28	1,5	2,5
1,28	1,4	2,2
2,28	1,6	2,2
3,28	2,5	3,3
4,28	1,4	2,9
5,28	1,8	3,0
6,28	2,0	3,0
7,28	1,6	2,8
8,28	1,8	2,9
9,28	2,1	3,4

Re. mediamente alto.
 CORONA SCALA: INCLINOM. AL LIMITE IN SCALA

10,28	7,3	8,1
11,28	1,2	2,1
12,28	1,2	2,1
13,28	1,2	1,7

12,00 Qc > 4,0 } rotture lineari in falde?
 Qc > 1,2

14,28	5,3	6,2
15,28	3,5	2,8
16,28	1,8	3,1
17,28	2,6	3,9

INCLINOM. FORTESSIMA
 Qc < 2 (rotture lineari in falde?)
 17,56 39,9 36,2

SONDAGGIO INTERDITTO
 A 17,56 + ECCESSIVA
 REGIST. PUNTO
 Qc = 33,9
 Re = 36,2

DESCRIZIONE
 ASSE VERT. DIETRO

supe. slide dove
 zona di accostaggio
 profonda ~ 1,5 rotture
 fini poca lineare saggiate

NOTA: picchi di Qc sopra i 5 MPa
 tutti in relazione a
 rotture lineari con pochi
 mm a sfondamento pulite
 - rotture caratteristiche del rapporto
 Fr/BT una con domo rotta
 di Qc < 2, rocio
 parzialmente da mettere
 di relazione con
 rotture lineari saggiate

PROVA DI DISSIPAZIONE N° DA A DURATA
 220070 E 526

037060 P193C PTE 201

**Geotecnica**40127 BOLOGNA
Viale della Repubblica 25
Tel. 51.63.52 - 51.51.89

SONDAGGIO N. 1

SEZIONE GEOTECNICA

Quota iniziale:

Tipo avanzamento: Trivellazione a secco

Data: Luglio 1990

037060P45SD202

Profondità (m)	COMMITTENTE: Sig. Pedretti Tonino		LOCALITA': Zola Predosa Via Virgilio.	
	Idrologia	Colonna stratigrafica	DESCRIZIONE TERRENI	OSSERVAZIONI
0.3			Terreno agrario.-	
			Argilla limosa marron a contenuto in sabbia variabile con la profondità, colore marron.-	Terreno a consistenza dura - umidità scarsa.-
3.4			Limo abbondantemente sabbioso di colore giallastro.-	Terreno a consistenza dura - Umidità scarsa.-
5.0			Ghiaia mista a sabbia.-	Terreno incoerente - Umidità scarsa.-
6.0			A fine sondaggio H ₂ O = assente.-	

2200P021

143/90

037060P194SDS203

233/88

C C I A 125249



**Geotecnica
EDILPALI**
40127 BO. OGNA
Viale della Repubblica 25
Tel. 51.6352 - 51.51.89

SONDAGGIO N. 1

SEZIONE GEOTECNICA

220P023

Quota iniziale:

Tipo avanzamento: Trivellazione a secco

Data: Novembre 1988

COMMITTENTE: Sig. Musiani (Ing. Ospitali)

LOCALITA': Zola Predosa (BO)

Via Bertoloni, 35

Profondità (m)	Idrologia	Colonna stratigrafica	DESCRIZIONE TERRENI	OSSERVAZIONI	P.P.	Tor-van
					Kg/cm ²	Kg/cm
4.3			Argille limose giallo - brune rare ghiaie.-	Terreno di riporto - umidità lieve.-		
2.4			Ghiaie e ghiaietto addensati in scarsa matrice argilloso limosa.-	Terreno di riporto - umidità lieve.-		
2.5			Argille limose nocciola. Concrezioni calcaree e frustoli vegetali.	Terr. a cons. dura - umidità lieve.-		
3.4			Arg. lim. nocc. concrez. cal. e Frus. carb.	Terr. a Cons. dura - umidità scarsa.-		
3.3			limo sabbioso giallastro.-	Terr. a cons. dura - umidità lieve.-		
4.1			Argille grigio azzurre concrezioni calcaree.-	Terr. a cons. plastico dura, umid. scar.	2.6	1.9
5.0			Arg. deb. lim. di colore nocc. rari inclusi lapidei di natura gessosa.-	Terreno a consistenza plastico dura e umidità lieve.-	2.4	0.8
5.1			Sabb. grig. da med. a med. grossolane.-	Umidità media.-		
8.0			Argille debolmente limose di colore nocciola, rari inclusi lapidei di natura gessosa.-	Terreno a consistenza plastico-dura e umidità lieve.-	2.4	0.8

H₂O a fine sondaggio = assente.-

VIA BERTOLONI

51
107

037060P195 SDS204

CCIA 128248



**Geotecnica
EDILPALI**
40127 BOLOGNA
Viale della Repubblica 26
Tel 51 63 62 - 51 61 69

SONDAGGIO N. 1

SEZIONE GEOTECNICA

Quota iniziale:
Tipo avanzamento: Trivellazione a secco
Data: Febbraio 1985

10/85

COMMITTENTE: Ing. BRUTTOMESSO

LOCALITA': ZOLA PREDOSA
Via Serena

Profondità (m)

litologia

Colonna stratigrafica

DESCRIZIONE TERRENI

OSSERVAZIONI

P.P.
Kg/m³

0.3

Terreno agrario.-

Argilla limosa giallastra con
venature nerastre e calcinelli.

Terreno a consistenza plastica e plastica dura
- umidità da media a scarsa.-

3

Argilla limosa marron.-

Terreno a consistenza plastica dura - umidità scarsa.-

5

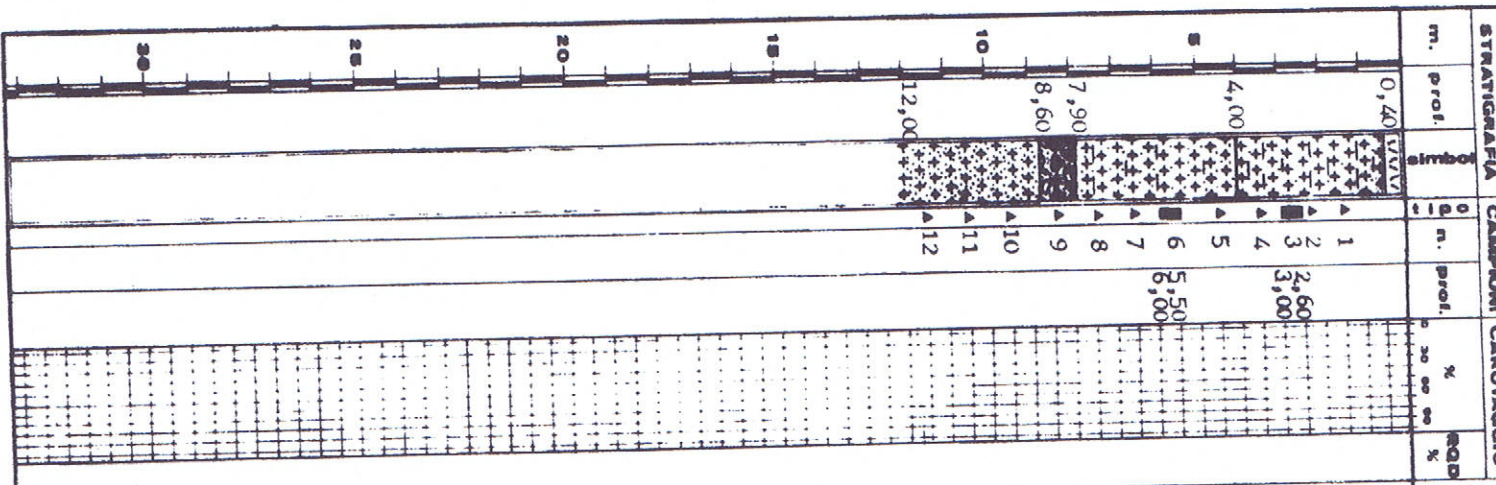
A fine sondaggio H₂O = assente.-

2200 PO 20A

037060 P40 S205

159 / P6

(b)



DESCRIZIONE STRATIGRAFICA classica di laboratorio (AG II)

Terreno vegetale.
 Limo argilloso debolmente sabbioso, giallo-marrone chiaro e/o scuro, inglobante ciottoli polidimensionali, da molto consistente a consistente, umidità media, con tracce di sostanze organiche, tendenzialmente poco plastico.

Idem, c.s. in aumento la frazione sabbiosa, a tonalità prevalente giallo-nocciola, nella matrice sono disseminati ciottoli di dimensioni ridotte, poco plastico, per lo più mediamente consistente, umidità media.

Chiara mista a limo sabbioso giallo-nocciola.
 Limo con sabbia, giallo-nocciola scuro, inglobante rari ciottoli polidimensionali, a partire dalla quota di 11 m, la matrice denuncia un aumento della frazione limosa-argillosa, umidità da media a scarsa.

2200 P018

Pratica N° 2.887/

COMPENSORIO 18
 COMUNE-Istat 560

-Ditta VIRO INNOCENTI SOCIETA' PER AZIONI 037060P196PA206
 residente a ZOLA PREDOSA (BO) in Via GARIBALDI 4
 -Pozzo ad uso INDUSTRIALE in Comune di ZOLA PREDOSA
 Frazione _____ Località _____ Mapp.N° _____ /Fg. 27

-Data di ultimazione della perforazione: 2° Semestre 1962
 -Ditta perforatrice: Alessandro Zagni - Via Tosarelli, 196 - CASTENASO


pc.76 220110 P 606

CARATTERISTICHE DEL POZZO
 *avanzamento (si o no) NO
 *diametro interno tubi mm. 253
 m: 40/50; ø mm. 191 da 50 a 102
 *profondità mt. 102

EQUIPAGGIAMENTO
 *tipo della pompa
Sommersa GARYENS UTA FL 10016/5
JN 3602
 *potenza Cv 30
kW
 *prevalenza mt. 70 - 60
 *portata lt/sec. 20 - 24

-Livello statico mt. 13
 -Portata pozzo: lt/sec. 11,7
 -Superficie irrigata:
 ha. _____ are _____ ca. _____
 -Consumo giornaliero (24 ore):
 metri cubi 25 ÷ 30

La Ditta sottoscritta afferma, sotto la propria responsabilità, che la presente dichiarazione è completa e veritiera.

Data 19/9/78
 Firma VIRO Innocenti S.p.A.
IL DIRETTORE AMMINISTRATIVO


STRATIGRAFIA DEL TERRENO		Falde captate
Indicare la natura dei terreni e le FALDE ACQUIFERE attraversati		
-da mt. <u>0</u>	a mt. <u>20</u> Argilla ✓	
-da mt. <u>20</u>	a mt. <u>24</u> Ghiaia asciutta ✓	
-da mt. <u>24</u>	a mt. <u>29</u> Argilla ✓	
-da mt. <u>29</u>	a mt. <u>34</u> Ghiaia ✓	Falda ✓
-da mt. <u>34</u>	a mt. <u>35</u> Argilla ✓	
-da mt. <u>35</u>	a mt. <u>39/40</u> Sabbia ✓	Falda ✓
-da mt. <u>40</u>	a mt. <u>97</u> Argilla ✓	
-da mt. <u>97</u>	a mt. <u>99</u> Sabbia ✓	Falda ✓
a mt. <u>102</u> termina il pozzo - Argilla ✓		

Localizzazione del pozzo					
Long.	<u>3</u>	<u>5</u>	<u>5</u>	Lat.	<u>43</u>
				Ha.	<u>2</u>
Quota piano campagna: m.s.l.m.					<u>7</u>
					<u>3</u>
					<u>9</u>

ANNOTAZIONI: _____

N.B. Qualora la Ditta sia in possesso di referti di analisi dell'acqua del pozzo, rilasciati da Laboratori o Gabinetti, è invitata ad allegarne copia.

037060P197PA207

Pratica N° 59/74

SCHEDA DA RITORNARE AL GENIO CIVILE

-Ditta MARANI GIORGIO. 131 220 MO P64B

residente a ZOLA PREDOSA in via FRATELLI BANDIERA 1

-Perforazione pozzo ad uso IRRIGUO PRIV. in Comune di ZOLA PREDOSA
~~approfondim.~~

Frazione CAPOLOGO località - F. 3 Mapp. N° 26 part. 389 altre

-Data di ultimazione dei lavori : 23 GIUGNO 1976

-Ditta perforatrice : CAVAZZONI FERRUCCIO

-Caratteristiche del pozzo:

avanpozzo (si o no) NO
 Ø interno tubi mm. 154

-profondità mt. 54

-Caratteristiche del gruppo

motore pompa:
 livello statico mt. 32
 tipo della pompa Sommerso

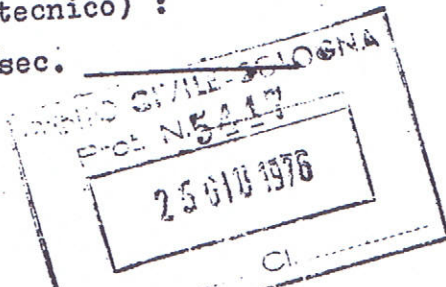
-prevalenza della pompa mt. 88
 tipo del motore Elettropompa
Hood tipo II 88; Circonferenza 2900

-potenza in HP. 6

-Portata : lt/sec. 220

-Superficie irrigata:
 ha. 10000 ca. -

-Fabbisogno (civile, industriale, zootecnico) :
 lt/sec. -



STRATIGRAFIA REALE DEL TERRENO

Indicare la natura dei terreni e le FALDE ACQUIFERE ATTRAVERSA-TE, Specificando se il tubo è fenestrato in corrispondenza

-da mt. 0 a mt. 5,60

Tenace di riporto - Argilloso

-da mt. 5,60 a mt. 11,45

Chiazza asciutte

-da mt. 11,45 a mt. 35,30

Argilla

-da mt. 35,30 a mt. 37,40

Sabbia fine

-da mt. 37,40 a mt. 42,50

Chiazza mista a sabbie e argilla

-da mt. 42,50 a mt. 45,30

Sabbia sottile

-da mt. 45,30 a mt. 46,85

Ghiaie e sabbie

-da mt. 46,85 a mt. 50,60

Sabbia sottile con acque

-da mt. 50,60 a mt. 54

Argille

La Ditta sottoscritta afferma, sotto la propria responsabilità, che la presente dichiarazione è completa e veritiera :

Data 23 Giugno 1976

Firma Marani Giorgio

LG _____
 LT _____

POZZO N. ~~1~~ ESEQUITO PER CONTO DEL Spett.

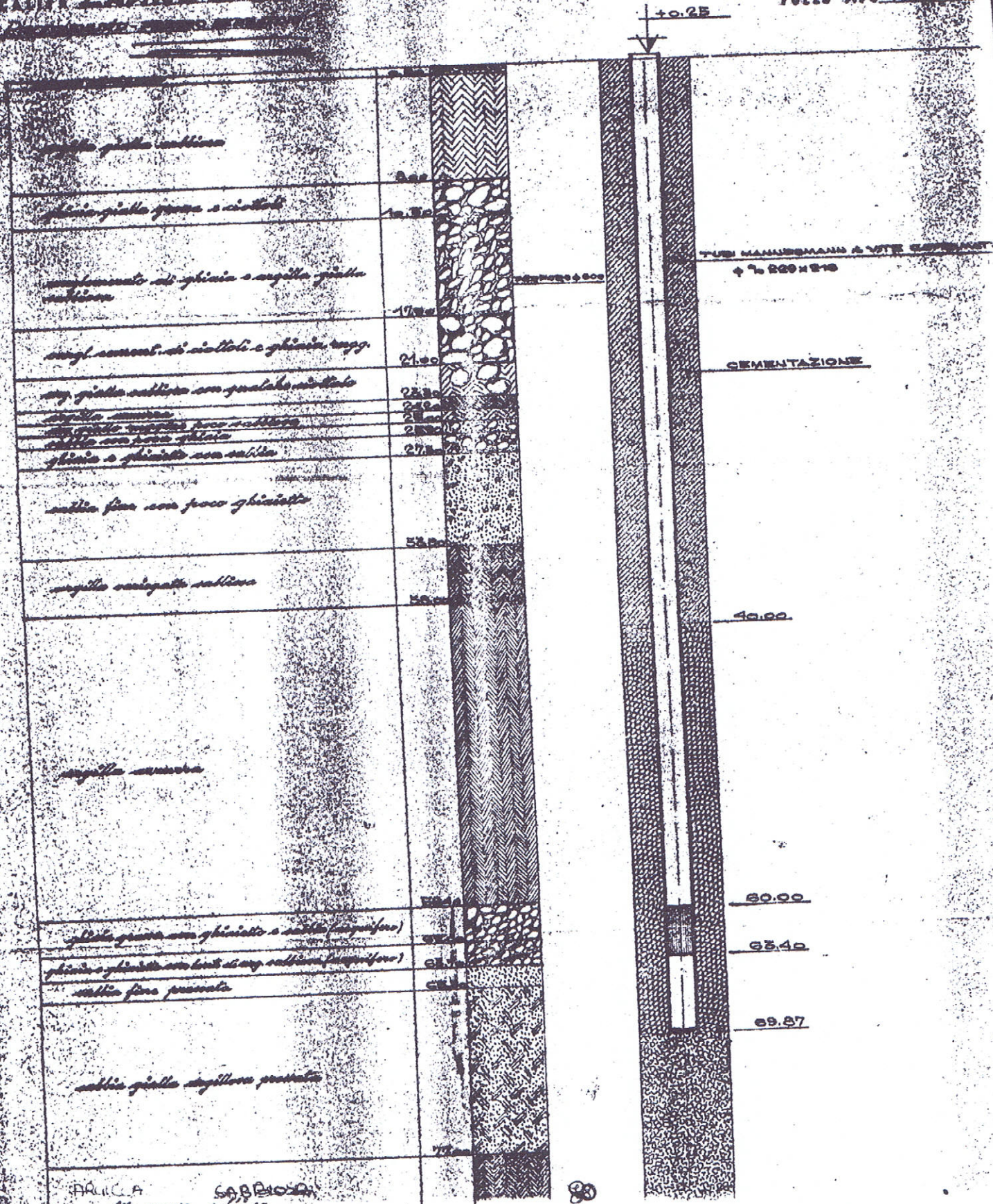
Comune di ZOLA PREDOSA

SEZIONE STRATIGRAFICA

037060P198PA208

INGEGNERE LARINO di SOVERA

POZZO 1170 di ...



125.50

LIVELLO STATICO ML 18.92

LIVELLO DINAMICO ML 35.75

DATI 1/10/10



T
+

GRUPPO I.F.S.A.P.A.
FARMACI PER IL VINO

gruppato per il vino



037060P87SD209

Quota iniziale:

Tipo avanzamento: Trivellazione a secco Ø 100 mm

Data: 05/09/1990

Profondità (m)	COMMITTENTE: Condominio - Via Albergati,16 Zola Predosa.-		LOCALITA': Zola Predosa Via Albergati,16	
	Idrologia	Colonna stratigrafica	DESCRIZIONE TERRENI	OSSERVAZIONI
4.2			Limo abbondantemente argilloso di colore nocciola. - Da - m.2,70 a - m.3,10 : abbondanza di concrezioni calcaree e di ossidi di Fe e Mn. Toni rossastri.-	Umidità scarsa Consistenza da dura a molto dura. - Da - m.2,50 umidità lieve consistenza dura.-
7.1			Argilla abbondantemente limosa di colore nocciola - Da - m.5,50: rari frustoli carboniosi e toni grigiastri.-	Umidità lieve Consistenza dura. Umidità medio scarsa consistenza dura.-
12.2			Limo da abbondantemente argilloso ad argilloso di colore nocciola.- - Da - m.10,80 : concrezioni calcaree ed ossidi di Fe Mn, rare tasche sabbiose di colore giallastro.e toni rossastri.-	Umidità lieve consistenza dura. - Da - m.8,20 consistenza duro plastica. Umidità lieve consistenza dura.-
14.0			Ghiaie medie di natura poligenica, ben addensate in scarsa matrice limo sabbiosa.-	Umidità scarsa.-
				A fine sondaggio H ₂ O = assente.- 2200P17

146/90

DITTA ZAGNI ALESSANDRO

VIA TOSARELLI 196 CASTENASO. (BO) TEL. 718216

POZZO N°2 ESEGUITO PER IL

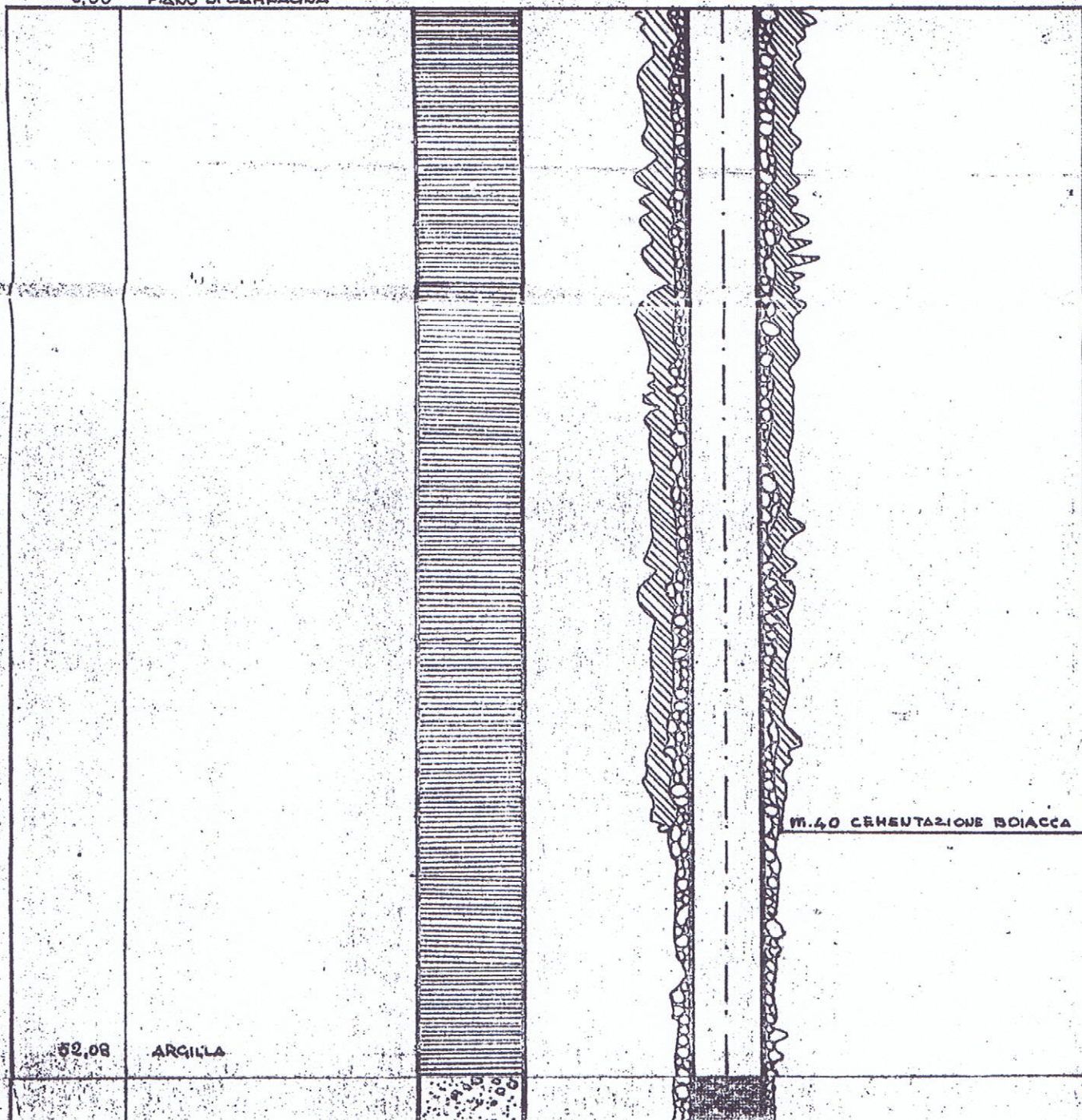
037060P199PA210

COMUNE DI ZOLA PREDOSA

220110 P 625

STRATIGRAFIA

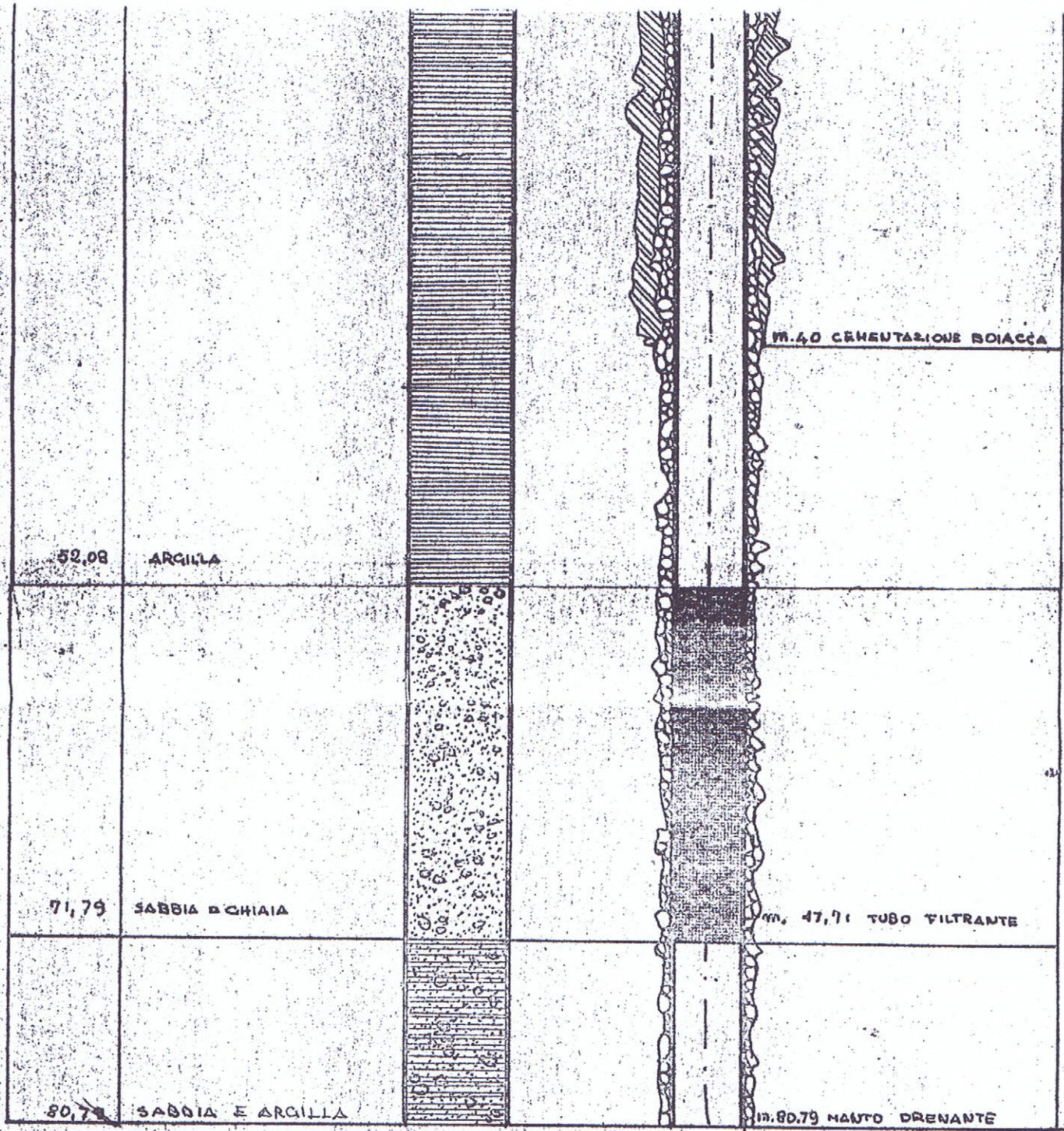
0.00 PIANO DI CAMPAGNA



PROFONDITA' TOTALE POZZO m. 80.79

ALTA

PROFONDITÀ



m. 17.71 TUBO COV. FILTRI DENSILVA

DIAMETRI 1:20

SCALE :

PROFONDITÀ 1:200

pozzo n° 6 eseguito per conto del

COMUNE di ZOLA PREDOSA

localita':

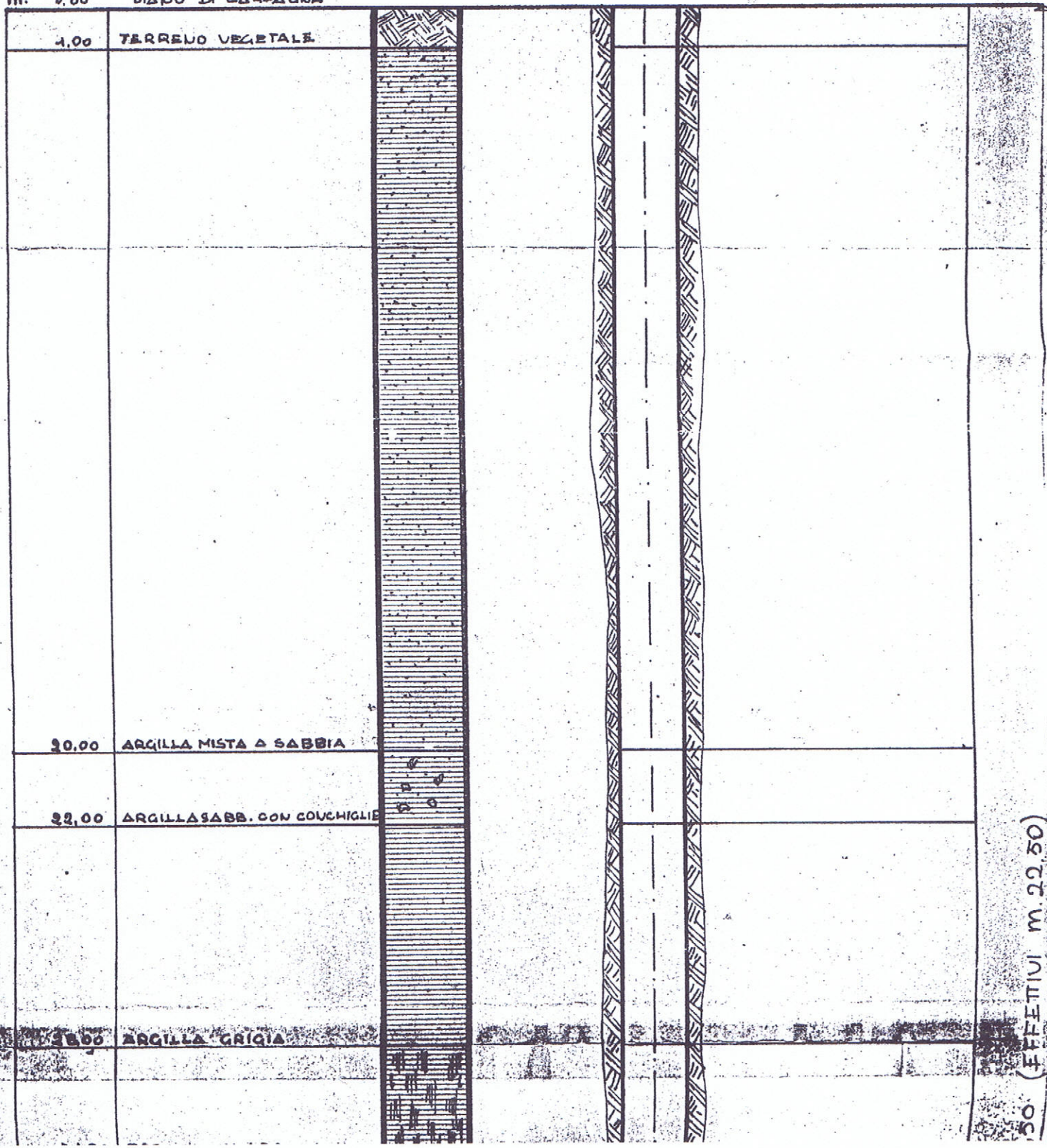
via raibolini (zola predosa)

037060P200PA211

220110
P618

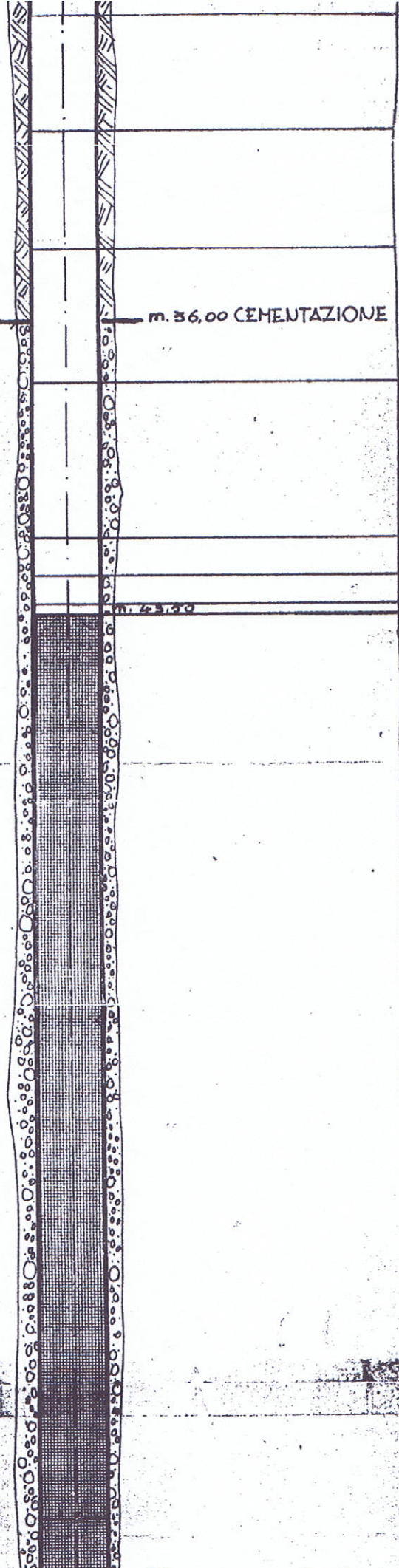
stratigrafia

m. 0.00 PIANO DI CAMPAGNA



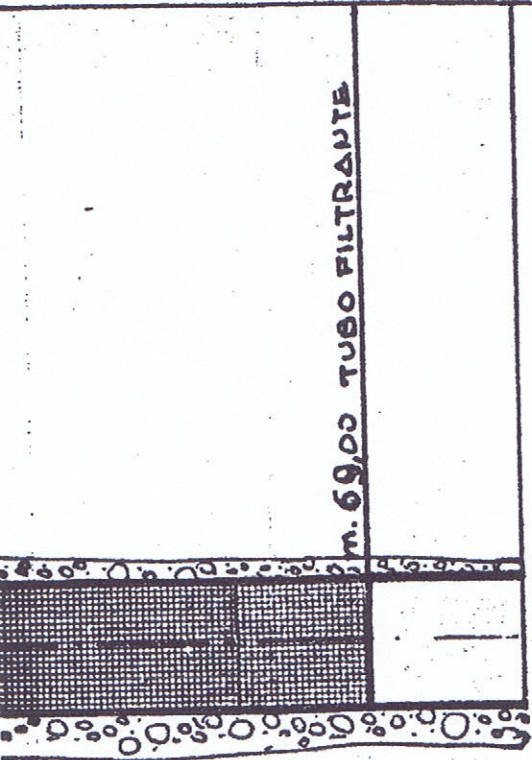
50 (EFFETTIVI M. 22.50)

28,00	ARGILLA GRIGIA	
31,00	TORBA CON ARGILLA	
34,00	ARGILLA GRIGIA	
37,50	LIMO IMPASTATO CON ARG.	
41,50	ARGILLA SABB. CON COLCHIGLIE	
42,50	ARGILLA PLASTICA CON QUALCHE PICCOLA GRANULA GRIGIA	
43,26	ARGILLA GIALLA	
43,96	GHIAIA	
44,96	CONGLOMERATO	
54,11	GHIAIA	



TA TOTALE M. 71,00 - TUBI IN ACCIAIO TRAFILATO MANNESMAN ϕ 340 x 315 mm - TUBI FILTRANTI M. 25,50 (EFF

PROFONDITA' TOTALE



m. 69,00 TUBO FILTRANTE

71,00 ARENARIA E SABBIA PRESSATA

R

72,00 ARGILLA GRIGIA

SCALA PROFONDITA' 1:100

SCALA DIAMETRO 1:20

LIVELLO STATICO m. 12,40

LIVELLO DINAMICO m. 27,45

PORTATA Q. 23 AL MIN.



037060 P2018242

ATTREZZATURA DI PERFORAZIONE MASSENZA PRIM 30 CAROTIERE SEMPLICE Ø 100 mm CORONE tipo
 RIVESTIMENTO m. CASSETTE n° 8 CAMP. IND. n° 4 tipo SHELBY CAMP. RIM. n°

LOG STRATIGRAFICO e GEOTECNICO

tipo C.I. { Ø: P.P.S.
 qd: P.P.G.

22010 P410

Prof. p.c.	SIMB. STR.	UT.	H ₂ O	PIEZ. INCL. ASS.	DESCRIZIONE LITOLOGICA RAPP. = 1:100	PROVE SPT INTENS. per colpo	P.P. Kg/m ³	T.V. Kg/cm ²	CI	% C	ANNOTAZIONI
0					Terreno vegetale con interposto materiale di riporto nel primo metro.						
1.50					Limo argilloso a tratti sabbioso marrone avana. Aumento della frazione sabbiosa oltre i 4.00 m. Presenti tracce di ossidazione e residui organici in avanzato stato di decomposizione. Molto consistente.		2.2	1.1	3.00		
5.00					Sabbia a grana fina limosa avana con interposti al tetto livelli limo sabbiosi di spessore decimetrico. Aumento della granulometria della frazione sabbiosa oltre i 6.00 m. Comparsa di livelli ghiaiosi di esiguo spessore oltre i 7.50 m. Mediamente addensata.	6.00 P.A. 4/4			3.40		
8.50					Ghiaia di pezzatura inferiore ai 5 cm, poligenica, morfologicamente evoluta immersa in matrice sabbiosa, talora limo sabbiosa, dal grigio al giallastro. Interposti rari livelli francamente sabbiosi di spessore decimetrico. Addensata.	10.00 P.C. 12/1/1/1					
10.80					Limo argilloso sabbioso avana con interposti livelli limo sabbiosi di esiguo spessore. Presenti tracce di materiale organico bituminoso, frammenti vegetali in avanzato stato di decomposizione e ciottolini carbonatici concrezionali dimensionalmente inferiori ai 0.5 cm. Interposto livello sabbioso marrone di spessore prossimo ai 50 cm oltre i 14.00 m. Da mediamente consistente a consistente.	15.00 P.A. 7/6/6	1.8	0.6	12.00		
16.50					Limo sabbioso debolmente argilloso avana con interposti livelli di limo con sabbie e rari livelli francamente sabbiosi di spessore decimetrico. Presenti rare tracce di materiale organico in avanzato stato di decomposizione e frequenti ciottolini carbonatici concrezionali. Consistente.		1.2	0.1	12.00		
21.00					Limo argilloso sabbioso avana con interposti livelli limo sabbiosi prevalenti oltre i 25.00 m. Presenti tracce di materiale organico bituminoso e ciottolini carbonatici concrezionali. Consistente.		1.4	0.7	18.50		
25.70					Ghiaia e ciottoli poligenici eterometrici morfologicamente evoluti immersi in matrice da limo sabbiosa a sabbiosa marroncina avana. Interposto livello limo sabbioso marroncino con inclusi ghiaiosi di pezzatura media prossima ai 2 cm intorno ai 30.00 m. Tracce di materiale organico carbonizzato e di ossidazione.	27.00 P.C. R	1.4	0.6	24.00		
35.00					Frazione ciottolosa abbondante fra i 27.00 m e i 29.00 m e oltre i 32.00 m. Molto addensata.	31.50 P.C. 11/7/11	1.2	0.9	24.50		
					- Chiusura sondaggio -						

Pratica No

109/69 / 104

COMPENSORIO

COMUNE-Istat

159

-Ditta FERT S.p.A.

037060 P202 PA213

residente a Zola Predosa in Via I. Nievo,

-Pozzo ad uso Industriale in Comune di Zola Predosa

Località Zola Predosa Mapp. No 21g / Fg. 20

-Data di ultimazione della perforazione: 1970

-Ditta perforatrice: Impresa perforazioni A. Rabitti-Bologna

220110 P621

CARATTERISTICHE DEL POZZO

*avanpozzo (si o no) SI

*diametro interno tubi mm. 250

*profondità mt. 120.00

EQUIPAGGIAMENTO

*tipo della pompa

*potenza 30 (CV) / mm (KW)

*prevalenza mt. 140

*portata lt/sec. _____

-Livello statico mt. 40.00

-Portata pozzo: lt/sec. 16

-Superficie irrigata: ha. _____ ca. _____

-Consumo giornaliero (24 ore): metri cubi 140

STRATIGRAFIA DEL TERRENO		Falde captate
Indicare la natura dei terreni e le FALDE ACQUIFERE attraversati		
-da mt. <u>0.00</u> a mt. <u>41.00</u>	<u>Argilla-Ghiaia asciutta</u>	
-da mt. <u>41.00</u> a mt. <u>62.00</u>	<u>Argilla plastica</u>	
-da mt. <u>62.00</u> a mt. <u>65.00</u>	<u>Ghiaia con acqua</u>	Filtro
-da mt. <u>65.00</u> a mt. <u>82.00</u>	<u>Argilla</u>	
-da mt. <u>82.00</u> a mt. <u>90.00</u>	<u>Ghiaia con acqua</u>	Filtro
-da mt. <u>90.00</u> a mt. <u>106.00</u>	<u>Argilla compatta</u>	
-da mt. <u>106.00</u> a mt. <u>116.00</u>	<u>Sabbia con acqua</u>	Filtro
-da mt. <u>116.00</u> a mt. <u>120.00</u>	<u>Argilla-Negativo</u>	

Localizzazione del pozzo.

Long. 11 Lat. 44 Ha. _____

Quota piano campagna: m.s.l.m. _____

La Ditta sottoscritta afferma, sotto la propria responsabilità, che la presente dichiarazione è completa e veritiera.

Data 29/9/1977

ANNOTAZIONI: Utilizz. per raffreddamenti

Firma S.p.A. F.E.R.T. Trattamenti Termici

Genio Civile Autorizz. Genio Civile

Per ing. Saccani Ferriani pi Renzo

N.B. : Qualora la Ditta sia in possesso di referti di analisi dell'acqua del pozzo, rilasciati da Laboratori o Gabinetti, è invitata ad allegarne copia.

pe 71 03706 P203 S214

TAVOLA 8.A

2200P405

ZOLA PREDOSA 21/03/91 SONDAGGIO N°1 CAR. CONT.

PROF	PO.	VANE	S.P.T.	-----	LITOLOGIA
					Terreno di riporto
	1.3				
	4.0				Limi
	4.0				
4.6	3.5				Sabbie fini limose
5.0	2.6				Limi a scheletro sabbioso fine
5.6	2.5	5.8			Sabbie fini e medie limose
6.2					Limi argillosi poco umidi compatti
6.6	3.1	8.8			
7.4					Sabbie da fini a medie con limi
7.9	1.6				Limi grigi con calcinelli
8.2	2.9	9.4			Limi arg. poco umidi rosso-verdi. schel.silt
	2.9				Limi rossastri leggermente sabbiosi con ma- teriale organico e frustoli carboniosi. presenza di plaghe grigie (3.0 al pocket)
9.2	3.8				
10.0	3.8				

fini

11.4	3.0	10.6		Carota persa. Probabili sabbie limose e sabbie fini
11.8	3.1			Limi rossastri come sopra
12.4	1.5			Passaggio a sabbie fini
12.6				Sabbie medie limose, rossastre poco addens.
12.8	2.8			Limi nocciola più plastici dei superiori
13.1			4-8-11	Sabbie fini e medie limose nocciola
	1.7			Limi rossastri con le caratteristiche già viste sopra (paleosuolo) Alla base livello di 10 cm carbonioso
	2.9			
15.5	3.1			Paleosuolo con frustoli vegetali
16.4				Carota persa. Probabili sabbie fini
17.3	1.6			Paleosuolo come quelli visti precedentemente con presenza di calcinelli, noduli carboniosi e qualche ciottolo alla base. Vari livelli di sabbie fini (5 cm)
19.5				
20.6	3.3			Limi nocciola con materiale organico in diminuzione, alternati a sabbie da medie a grossolane (sabbie gialle disturbate) poco addensate con tracce del paleosuolo superiore con ciottoli in matrice limosa
20.8	3.6	9.1		
21.1				
21.7		1.6		CAMPIONE 1. (Campionatore Osterberg) alla base Pebbly mudstone con ciottoli quasi a contarsi i primi 20 cm. Probabili Pebbly mud Limi siltosi con scarsa sostanza organica e vari ciottoli
22.4	1.0			Limi sabbiosi con ciottoli centimetrici frequenti passanti a sabbie fini ocracee
22.8	1.2	3.1		Materiale organico con ciottoli e sabbie f.
23.0				Sabbie f. passanti a sabbie gr.. Negli ultimi 10cm ciottoli (3-4cm) in mat. lim.sab.
23.3				
23.7			13-15-17	S.C.P.T.

				Ghiaie pluridecimetriche in matrice limoso-argillosa, difficoltà di attraversamento, recupero scarso
26.3				
26.7		44-26-25		
27.4				Ghiaie in matrice limoso sabbiosa con bordature manganesifere
27.6				Sabbia medio-grossolana
28.0				Passaggio graduale a sabbie medie giallo nocciola
	1.2			Sabbie grossolane (5 cm) passanti a sabbie fini
28.6				
28.8				Sabbie grossolane passanti a sabbie fini
29.2				Alternanza di sabbie grossolane e scarse sabbie medie
29.6		15-29-38		Sabbia nella parte alta, limi variegati nella parte basale (ultimi 20 cm)
	2.2			
	3.5			Paleosuolo molto variegato come quelli precedenti
32.2				

VANE TEST .. $C_u = \text{Valore misurato}/5$

fließ

037060 P204 PA215

220110

P641

Regione Emilia-Romagna

→ Scheda da ritornare al Genio Civile

Pratica N°

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COMPENSORIO

COMUNE-Istat

-Ditta S.P.A. OFFICINE MACCAFERRIresidente a ZOLA PREDOSA in via RISORGIMENTO 336-Pozzo ad uso INDUSTRIALE in Comune di Zola PredosaFrazione ZOLA CHIESA Località _____ Mapp. N° _____ / Fg. _____-Data di ultimazione della perforazione: (NOVEMBRE 1959 dam) NOV. '60 pag.-Ditta perforatrice: ZAGNI ALESSANDRO - BOLOGNA -

CARATTERISTICHE DEL POZZO

*avanpozso (sì o no) _____

*diametro interno tubi mm. 255*profondità mt. 75

EQUIPAGGIAMENTO

*tipo della pompa

UTA*potenza Cv 15*prevalenza mt. 117*portata lt/sec. 5,5-Livello statico mt. 40-Portata pozzo: (lt/sec. 8,3

-Superficie irrigata

ha. _____ are _____ ca. _____

-Consumo giornaliero (24 ore):

metri cubi _____

La Ditta sottoscritta afferma, sotto la propria responsabilità, che la presente dichiarazione è completa e veritiera.

Data 20/5/80

Firma _____

S.P.A. OFFICINE MACCAFERRI
MACCAFERRI & FIGLI

STRATIGRAFIA DEL TERRENO

Indicare la natura dei terreni e le
FALDE ACQUIFERE attraversatiP
R
T
I
C
I
P
A
L
I-da mt. 0,00 a mt. 23,50-da mt. 23,50 a mt. 28,50GHIAIA ACQUIFERA-da mt. 28,50 a mt. 52,50ARGILLA MISTA A GHIAIA-da mt. 52,50 a mt. 56,30GHIAIA ACQUIFERA-da mt. 56,30 a mt. 66,70ARGILLA-da mt. 66,70 a mt. 70,90GHIAIA ACQUIFERA-da mt. 70,90 a mt. 75,00ARGILLA

-da mt. _____ a mt. _____



Localizzazione del pozzo

Long. _____ Lat. _____ M. _____

Quota piano campagna s.l.m. 80,00

ANNOTAZIONI: _____

R.S. : Qualora la Ditta sia in possesso di referti di analisi dell'acqua del pozzo, rilasciati da Laboratori o Gabinetti, è invitata ad allegarne copia.

037060P205S216

TAVOLA 9.A

colonna
schemat. 10
secondo

2200P604

pe 41

ZOLA PREDOSA 22/03/91 SONDAGGIO N°2

PROF	FO.	VANE	S.P.T.	LITOLOGIA
				Terreno vegetale nella parte alta
	1.2			Sabbie nocciola da fini a medie in matrice limosa, spalmature ferrose e frustoli vegetali
2.5				
	1.6			Sabbie e limi molto disturbati dalla manovra
3.6				
4.0	1.5	3.4		Aumenta la frazione limosa, spalmature grigiastre
	1.7	3.6		Ulteriore aumento della frazione limosa
5.4	1.8	4.4		Passaggio a sabbie da fini a medie (sequenziale) fino a grossolane con ciottoli e resti di conchiglie nella parte basale, addensamento modesto
7.2				
8.5	1.0			Sabbie da fini a medie in matrice limosa grigiastra. Negli ultimi 20 cm le sabbie diventano gradualmente grossolane con ciottoli pluricentimetrici. Addensamento modesto

gest

9.5			Recupero scarso e molto disturbato.
9.7			Livelli di argilla intercalati a limi sabbiosi con ciottoli in prevalenza minori di 1 cm e rari piu' grossolani
	1.8		Sabbie gr. con ciottoli in matrice limosa
10.5			Limi argillosi (tipo paleosuolo) con sostanza organica, colore nocciola con venature rossastre passanti a sabbie da f. a gr. fino a ghiaie in abb. matrice sabbiosa. Add. mod.
10.9			Argille grigie
	3.5		Sabbie da m. a gr. con sporadici ciottoli
11.4			Limi grigi variegati in rosso (meno variegati dei corrispondenti dell'altro sondaggio)
11.5			Livello sabbioso di qualche centimetro
	2.8		Limi grigi variegati in rosso
12.0	3.0		
12.2			Recupero scarso. Probabili sabbie f. e limi
12.5			Sabbie medio fini in mat. limosa con ciottoli e livelli di limi con sup. ferromanganes.
	0.8		Paleosuolo limoso con evidenti noduli di manganese, con aumento verso il basso della frazione argillosa e di ferro-manganese, con netti resti vegetali al letto
13.5	0.5		
			Limi sabbiosi finissimi, verde-azzurri, scarsamente addensati, a granulometria omogenea, con livelli centimetrici di sabbie grossolane
14.6			
14.8			Sabbie f. con matrice limosa (colore verde)
			Sabbie medio-grossolane con matrice limosa e rari ciottoli, contenenti livelli centimetrici di sabbie grossolane (colore idem)
15.5			Limi con scheletro sab. e ciottoli (ramo f.)
15.9	2.6		
	3.2	7.4	Argilla limosa verde passante al letto a limo sabbioso dello stesso colore
	2.5		
16.5	2.6		
16.7			Come sopra con ciottoletti e mat. sabbioso f
	1.4	3.0	Limi (tipo paleosuolo) con modeste variegazioni ferro mang. in alto argillosi in basso sabbiosi. Al letto cong. f. in mat. lim. arg.
17.4	1.0		Paleosuolo molto variegato, compatto, contenente interstrati argillosi
	1.6		
	3.0	9.0	
	2.0		Paleosuolo molto rossastro (tipo sondaggio precedente) con noduli carboniosi e frustoli vegetali abbondanti, molto compatto con ciottoli verdi e abbondante sabbia fine
19.0	4.0		
			Paleosuolo con intervalli sabbiosi (5-6 cm) a matrice limosa con sporadici ciottoli e frustoli carboniosi
	3.0	9.0	
			(limi argillosi)
	1.5		
20.1			(limi sabbiosi)

Sciel

037 060 P 206 B 217

VIA T. G. ONESTI, 30 TELEF. (051) - 5592261

CANTIERE (A1) BOLOGNA, NORD - CASALECCHIO LOCALITA' CAVALCAVIA PRG. 131
 SONDAGGIO n° 310 [data: 23/2 - 29/2/88]
 quota s.l.m. ass. 66,80 m rel.

ATTREZZATURA DI PERFORAZIONE MASSENZA PRIM 30 CAROTIERE O CORONE tipo
 RIVESTIMENTO m. CASSETTE n° 9 CAMP. IND. n° 2 tipo HELIX CAMP. RIM. n°

LOG STRATIGRAFICO e GEOTECNICO

tipo C.I. { (P.P.S.)
 (R.P.G.)

220110

P 409

Prof. p.e.	SMB. STR.	UT.	H ₂ O	PIEZ. INCL. ASS.	DESCRIZIONE LITOLOGICA RAPP. = 1:	PROVESPT. RIFUNDO prof. e' n°/s	P.P. Kg/cm ²	T.V. Kg/cm ²	CL.	% C	ANNOTAZIONI
0					Terreno vegetale di natura limo sabbiosa con macerine di riporto nei primi 1,50 m.						
2.50					Sabbia a grana fina limosa avana con interposti rari livelli a frazione limosa prevalente. Frustoli vegetali indecomposti frequenti al tetto. Tracce di ossidazione. Poco addensata.	1.50 P.A. 3/4/5					
5											
6.80					Limo sabbioso e limi argilloni avana in frequente alternanza di strati di spessore inferiore al metro. Livello argilloso limoso grigiastro di spessore decimetrico al tetto. Tracce di materiale organico bituminoso e di ossidazione. Presenti ciottolini carbonatici concrezionali di dimensioni millimetriche. Aumento della frazione sabbiosa verso il letto. Da consistente a mediamente consistente.		1.5	0.8			
10							1	0.5	9.10		
12.50							1.1	0.5	9.10		
15					Ghiaia e ciottoli eterometrici poligenici morfologicamente evoluti immersi in matrice limo sabbiosa talora sabbiosa a grana grossolana dall'avana al marroncino. Aumento dell'addensamento oltre i 15.00 m. Da mediamente addensata ad addensata.	13.00 P.C. 5/12/16					
17.50							16.50 P.C. 9/10/20	0.6			
20.00					Limo sabbioso avana con interposti sottili livelli sabbiosi a grana fina limosa. Rare tracce di ossidazione e di materiale organico in avanzato stato di decomposizione. Comparsa di ghiaia dimensionalmente inferiore al centimetro in granuli isolati oltre i 19.50 m. Mediamente consistente.		0.9	0.65			
22.50					Ghiaia e ciottoli poligenici eterometrici morfologicamente evoluti in matrice limo sabbiosa avana. Mediamente addensata.	21.00 P.C. 19/16/15					19.50 CAMPIONAMENTO INDIURBATO NON RIUSCITO
25					Limi sabbiosi avana e limi argilloni dall'avana al grigiastro in frequente alternanza di strati. Interposto livello sabbioso di spessore decimetrico oltre i 24.00 m. Presenti ciottolini carbonatici concrezionali dimensionalmente inferiori ai 0.5 cm; tracce di ossidazione e di materiale organico bituminoso, frustoli vegetali in avanzato stato di decomposizione. Consistenti.		2.3				
28.50							2.1	0.85			
30							1.6	0.65	25.50		
32.00					Sabbia a grana fina limosa avana, limo con ghiaia a tratti. Interposti livelli di spessore centimetrico costituiti da ghiaia morfologicamente evoluta immersi in matrice sabbiosa limosa talora, oltre i 31.00 m. sabbiosa a grana grossolana. Molto addensata.	30.00 P.A. 27/34/16					
35.00					Limo argilloso debolmente sabbioso avana limo sabbioso a tratti. Comparsa al tetto di livello sabbioso con ghiaia. Molto addensato. Presenti tracce di materiale organico bituminoso, frustoli vegetali in avanzato stato di decomposizione, ciottolini carbonatici concrezionali. Consistente.	36.00 P.A. 21/8	1.1	0.9			
40								1.9			
45					- Chiusura sondaggio -						

037060P73PA218

220110 P642

Regione Emilia-Romagna

→ Scheda da ritornare al Genio Civile

Pratica N°

--	--	--	--	--	--

COMPRESORIO

COMUNE-Istat

-Ditta S.P.A. OFFICINE MACCAFERRI
 residente a ZOLA PREDOSA in Via RISORGIMENTO 336
 -Pozzo ad uso INDUSTRIALE In Comune di Zola Predosa
 Frazione ZOLA CHIESA Località _____ Mapp. N° 43 / Fig. 16
 -Data di ultimazione della perforazione: 1 - 2 - 1971
 -Ditta perforatrice: ELIA TORTORA - DZZANO EM. BO

CARATTERISTICHE DEL POZZO

*avanzopozzo (sì o no) _____
 *diametro interno tubi mm. 267
 *profondità mt. 124

EQUIPAGGIAMENTO

*tipo della pompa
KLEIN
 *potenza cv 17
 *prevalenza mt. 119
 *portata lt/sec. 550

-Livello statico mt. 62
 -Portata pozzo: lt/sec. 8,3
 -Superficie irrigata:
 ha. _____ are _____ ca. _____
 -Consumo giornaliero (24 ore):
 metri cubi 240
 * per entrambi: 1044

La Ditta sottoscritta afferma, sotto la propria responsabilità, che la presente dichiarazione è completa e veritiera.

Data 20/5/82

Firma S.P.A. OFFICINE MACCAFERRI
ELIA MACCAFERRI & FIGLI

STRATIGRAFIA DEL TERRENO

Indicare la natura dei terreni e le PALDE ACQUIFERE attraversati	Palde captato
-da mt. <u>0.00</u> a mt. <u>32,-</u>	—
-da mt. <u>32,-</u> a mt. <u>54,50</u> GHIAIA CON ACQUA E ARGILLA MISTA A GHIAIA	1
-da mt. <u>54,50</u> a mt. <u>67,50</u> ARGILLA MISTA A GHIAIA	—
-da mt. <u>67,50</u> a mt. <u>77,-</u> ARGILLA MISTA A GHIAIA	—
-da mt. <u>77,-</u> a mt. <u>83,10</u> GHIAIA CON ACQUA	1
-da mt. <u>83,10</u> a mt. <u>114,-</u> ARGILLA MISTA A GHIAIA	—
-da mt. <u>114,-</u> a mt. <u>117,-</u> GHIAIA CON ACQUA	1
-da mt. <u>117,-</u> a mt. <u>124,-</u> ARGILLA BLEU - CAOLINO GOMMOSO	—



Localizzazione del pozzo

Long. <u>10° 14' 25"</u>	Lat. <u>44° 29' 40"</u>	Ha. <u>80,0</u>
Quota piano campagna: m.s.l.m.		<u>80,0</u>

ANNOTAZIONI: _____

M.D. : Qualora la Ditta sia in possesso di referti di analisi dell'acqua del pozzo, rilasciati da Laboratori o Gabinetti, è invitata ad allegarne copia.

220110 P601

S. p. A. SUCCESSORI ING. A. BONARIVA

BOLOGNA

037060 P207 PA219

POZZO N. 4 ESEQUITO PER CONTO DEL

Comune di ZOLA PREDOSA

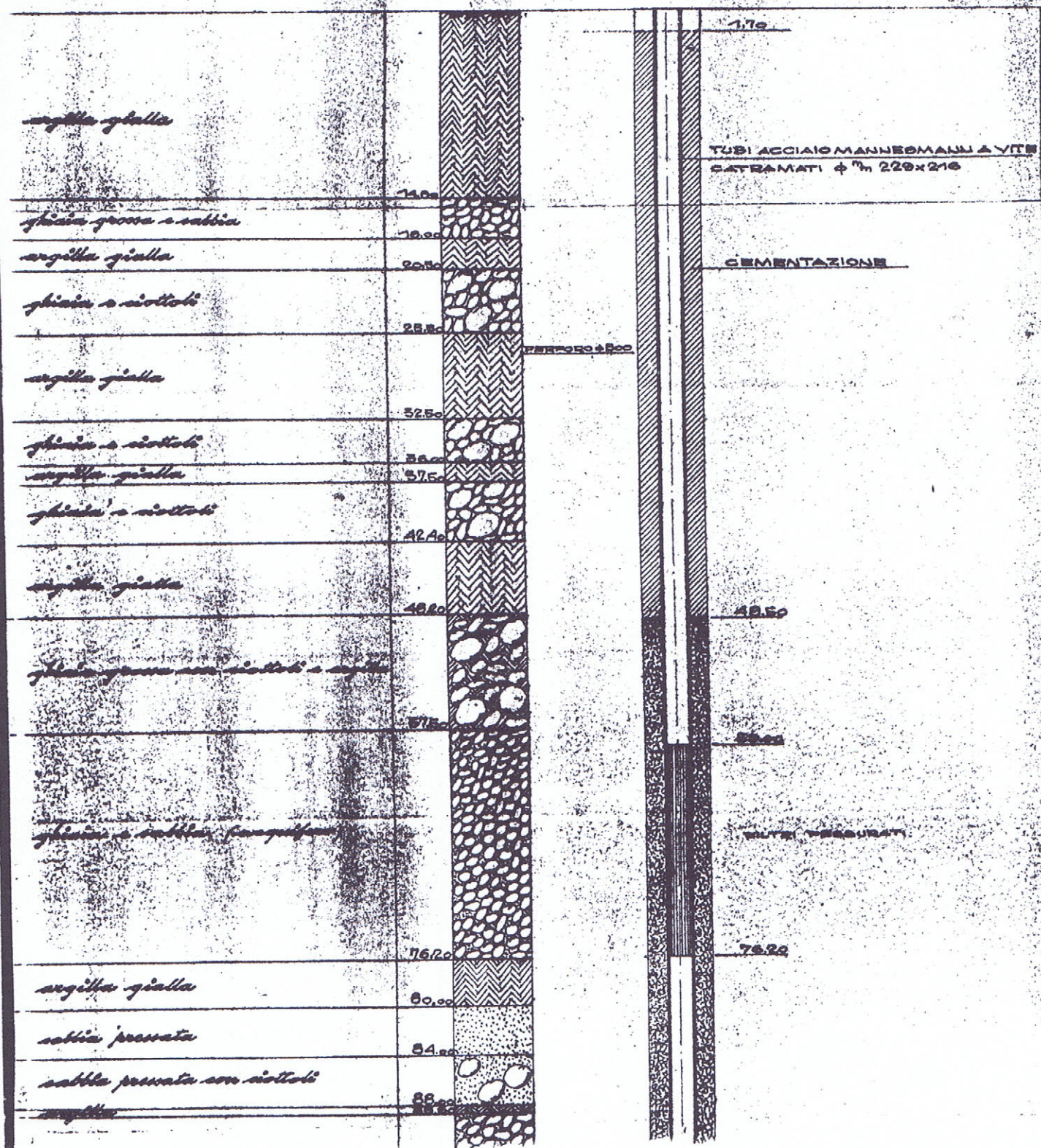
SEZIONE STRATIGRAFICA

VIA LAMINO DI SOPRA

Piemonte

pc 61

POZZO TIPO drenante



ghiaia grossa con ciottoli e argilla

77.00

59.00

ghiaia e sabbia (acquifero)

76.20

76.20

argilla gialla

80.00

sabbia pressata

84.00

sabbia pressata con ciottoli

88.00

ghiaia e sabbia pressata

92.00

92.30

argilla gialla

105.00

argilla molto scura

112.00

115.00

ghiaia (acquifero)

122.00

120.00

argilla gialla

125.00

125.00

125.00

FILTRI FESSURATI

FILTRI FESSURATI

PERFORATORE V.F.S.A.P.S.
PERFORATORE MICHEL LUIGI
ATA LAGLIO - 1970



LIVELLO STATICO M. 52.50
LIVELLO DINAMICO M. 52.50
PORTATA Q. 21.00
LITRI AL SECONDO

037060P208PA220

S. p. A. SUCCESSORI ING. A. BONARIVA
BOLOGNA

POZZO N. ~~5~~ ESEGUITO PER CONTO DEL *Spett.*

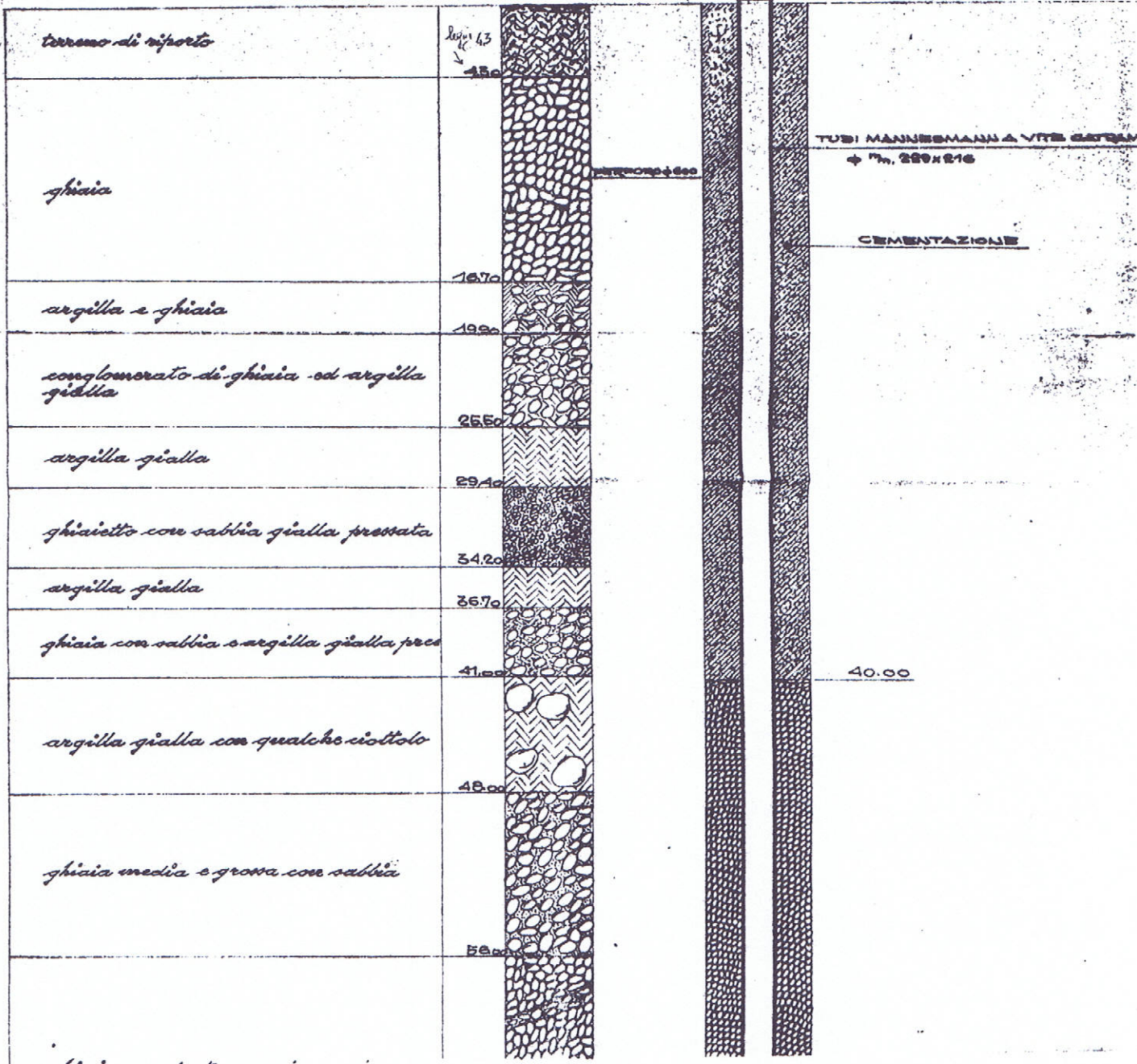
Comune di ZOLA PREDOSA

SEZIONE STRATIGRAFICA

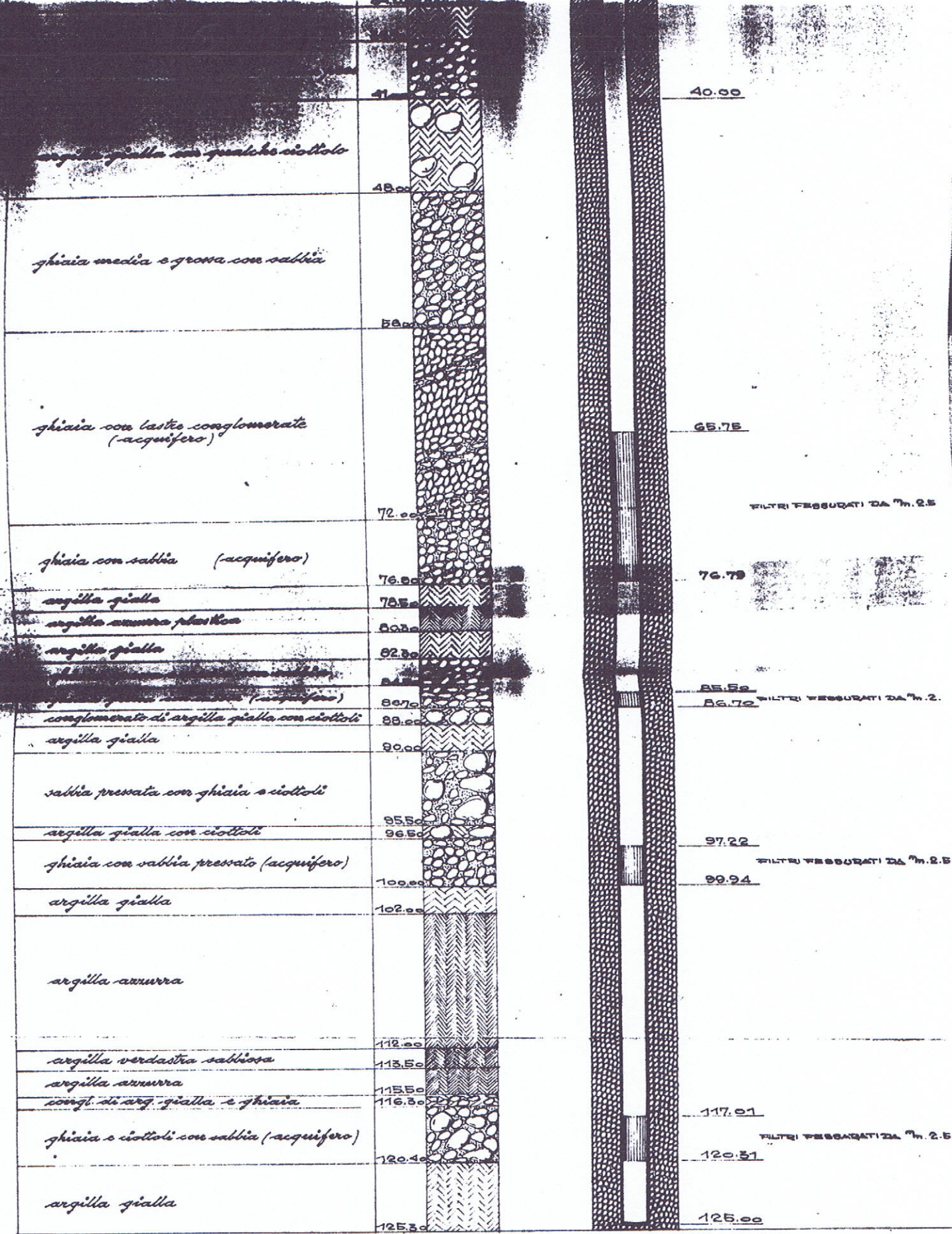
LOCALITÀ **LAVINO di SOPRA**

Via Piemonte - a mt. 20 dal pozzo N°1

POZZO TIPO *drainant*



220110
P.623



ARCHIVIO V.F.5.A.P.3.
 PERFORATORE POZZI VITTORIO
 DATA GENNAIO 1972



LIVELLO STATICO m. 73
 LIVELLO DINAMICO m. 76
 PORTATA Q. 18
 LITRI AL ES

037060P209B221

LOG STRATIGRAFICO e GEOTECNICO

tipo C.I. { (A) : P.P.S.
 (B) : R.P.G.

22010 P408

Prof. p.a.	SIMB. STR.	LIT.	H ₂ O	PIEZ. INCL. ABS.	DESCRIZIONE LITOLOGICA RAPP. = 1:	PROVESPT. INFO. prof. n° colpi	P.P. Kg/cm ²	T.V. Kg/cm ²	Cl.	% C	ANNOTAZIONI
1.30					Terreno vegetale e di riporto.						
					Limo sabbioso avana a tratti argilloso. Livelli limo argillosi di esiguo spessore più frequenti verso il tetto. Aumento della frazione sabbiosa in profondità. Presenti frustoli vegetali indecomposti fino a 2.00 m. Materiale organico in avanzato stato di decomposizione e tracce di concrezioni carbonatiche. Da molto consistente a mediamente addensata.	6.00 P.A.	3/6/2	1.75 1.2			
8.50					Sabbia a grana fina limosa avana/limo con sabbia a tratti. Diminuzione della frazione sabbiosa oltre i 12.00 m e contemporanea comparsa di rari ciottoli arrotondati carbonatici di dimensioni massime inferiori ai 2.00 cm. Presenti rari frustoli vegetali in decomposizione e tracce di laminazione. Aumento dell'addensamento oltre i 13.00 m. Mediamente addensata.	10.50 P.A.	5/6/2				
13.50					Sabbia a grana media avana con ghiaia e ciottoli poligenici eterometrici morfologicamente evoluti talora prevalenti. Matrice limo sabbiosa presente a tratti. Mediamente addensata.	15.00 P.C.	6/9/11				
17.80					Limo argilloso e limo sabbioso avana in fitta alternanza di strati di spessore medio prossimo ai 50 cm. Aumento della frazione sabbiosa oltre i 21.00 m. Livello sabbioso limoso decimetrico oltre i 21.80 m. Presenti concrezioni carbonatiche e tracce di ossidazione. Da mediamente a molto consistente.		1.6 0.9 1.8 1.8	0.4 0.75	20.50 21.00		
24.90					Sabbia a grana da fina a grossolana avana giallastra con rari livelli limosi di esiguo spessore interposti. Raro ghiaietto presente nei primi 2 m. Comparsa in profondità di ghiaia morfologicamente evoluta dimensionalmente inferiore ai 3.00 cm incl. ea preferibilmente in livelli limosi consistenti. Mediamente addensata.	25.50 P.A.	11/17	1.2 2.6		28.00	
31.50					Limo sabbioso talora argilloso dall'avana al grigio. Livello sabbioso grigio di spessore decimetrico con frammenti di gusci di molluschi oltre i 32.40 m. Tracce di ossidazione e di tartarato organico bituminoso. Consistente.	28.50 P.C.	9/9/11	1.2 1.4	0.85	33.50 34.00	
32.70					Argilla grigia con rare tracce di ossidazione e concrezioni carbonatiche dimensionalmente inferiori ai 0.5 cm. Comparsa livello limo sabbioso marroncino al letto contenente rari ciottolini alterati dimensionalmente inferiori al centimetro e rare tracce di materiale organico bituminoso. Molto consistente.		2 3.7 2.6 3.1	1.2			
36.00					- Chiusura sondaggio -						
45											

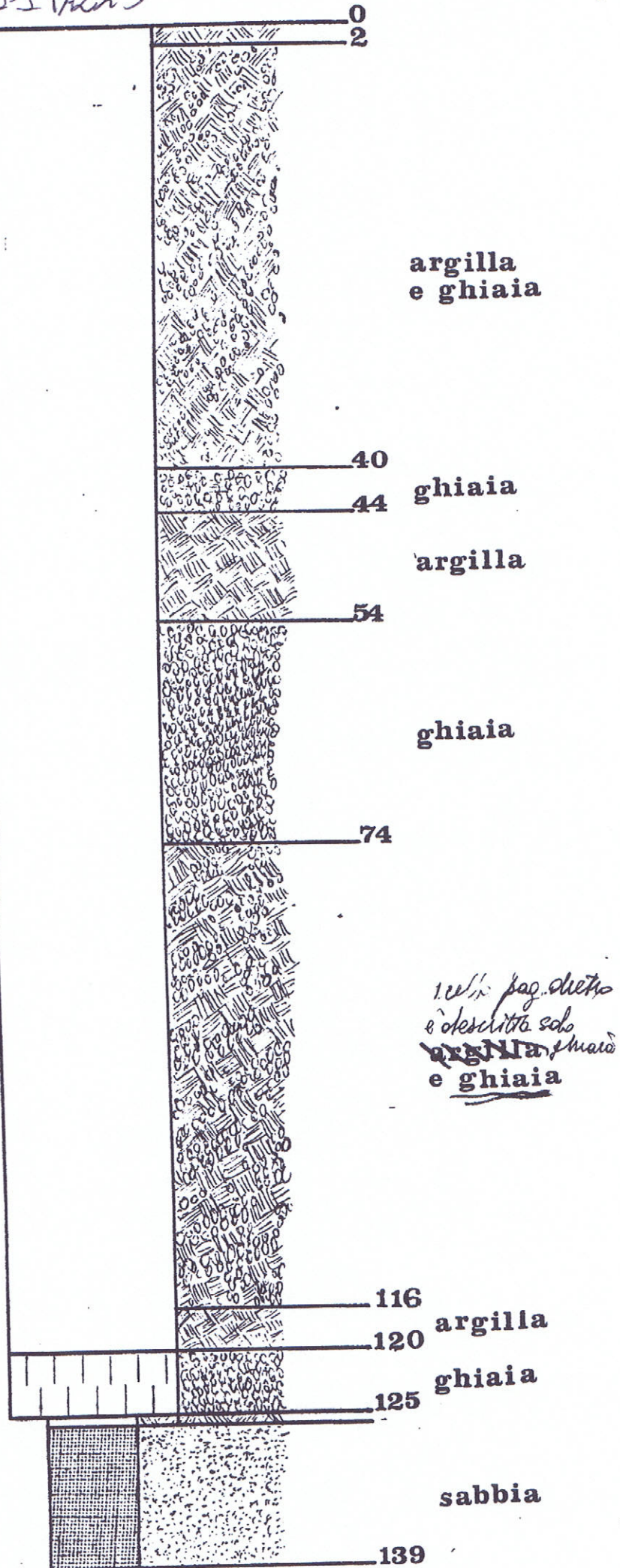
Handwritten notes and diagrams on the right margin, including a cross-section sketch and various annotations.

037060 P211 A223

220110

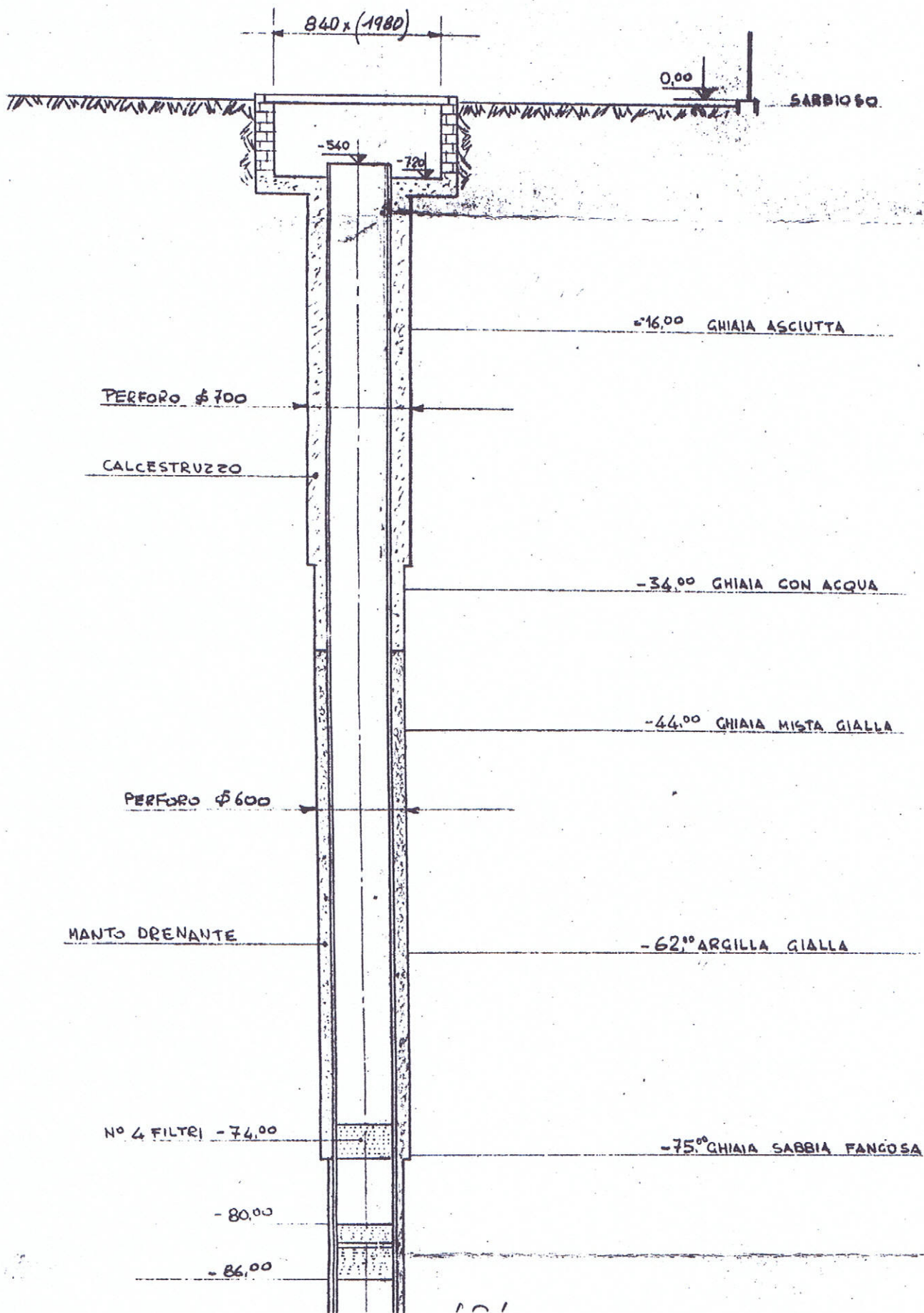
P635

POZZO n.2



037060 P 212 PA 224

220110 P 639



MANTO DRENANTE

-62,00 ARGILLA GIALLA

N° 4 FILTRI - 74,00

-75,00 GHIAIA SABBIA FANGOSA

- 80,00

- 86,00

624

ALLEG

PERFORO ϕ 500

- 100,00

POMPA

- 104,00

-106,00 GHIAIA CON ACQUA

-115,00 ARGILLA GIALLA SABBIOSA

-120 ARGILLA

TUBO DI RIVESTIMENTO ϕ esterno 404 mm.

INTERTADA S.S.B. INDIRIZZO	GRUPPO POZZO SEZIONE LONGITUDINALE	096
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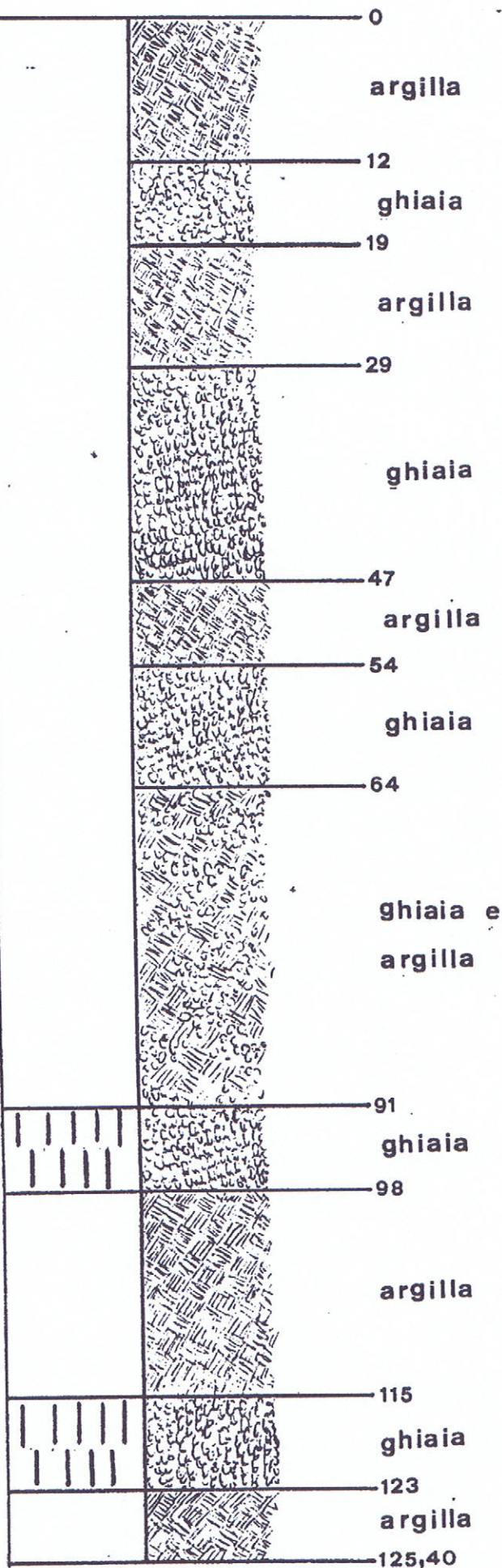
037060 P213PA 225

POZZO n.1

220110

P636

↓
corrisponde al
P737 della 220070
Archivio Jauszi
o al P686 della 210070/AVN



00111 Laboratorio di Roma
 (olografia)
 via Garibaldi, 130
 tel. (06) 57 95 51
 (ric. aerea)

GEIMCO

geotecnica
 e geologia applicata
 indagini minerarie
 e sui materiali
 costruttivi
 S.P.A.

037060 P214 S226

SONDAGGIO N° 19

605

COMMITTENTE:

LOCALITA':

CANTIERE:

Quota iniziale:

CASTELDEBOLE -

ZONA 4

p.c. 62

~~220 HP 675~~

220070 P 429

ST STERILE
 (Zona ALCISA)

Data: DIC. 1977

PROFONDITA' (m)		Colonna stratigrafica	DESCRIZIONE DEI TERRENI	OSSERVAZIONI
Progressiva	Parsoli			
1	100	100	Terreno agrario limoso sabbioso.	
2			Sabbie giallastre a grana molto fine, leggermente argillose.	
3				
4	400	300	Sabbie limose giallastre.	
5	500	400	Argille limose sabbiose grigio nerastre.	
6				
7				
8	800	500	Argille limose grigio scure.	
9				
10	1050	250	Sabbie inizialmente a grana fine quindi a grana da media a grossolana.	
11				
12				
13				
14				
15				
16				
17	1700	650	Ghiaie poligeniche a pezzatura $\phi = 4 - 5$ cm in matrice sabbiosa.	
18				
19	1900	200	Argille grigio azzurrastre.	
20	2050	150		
21				

Elaborazione dati

R. Casali

Direttore tecnico

Flaminio

S. p. A. SUCCESSORI ING. A. BONARIVA

BOLOGNA

037060 P215 PA227

POZZO n° 12/70

POZZO N. 3 ESEGUITO PER CONTO DEL Spett. pe. 61

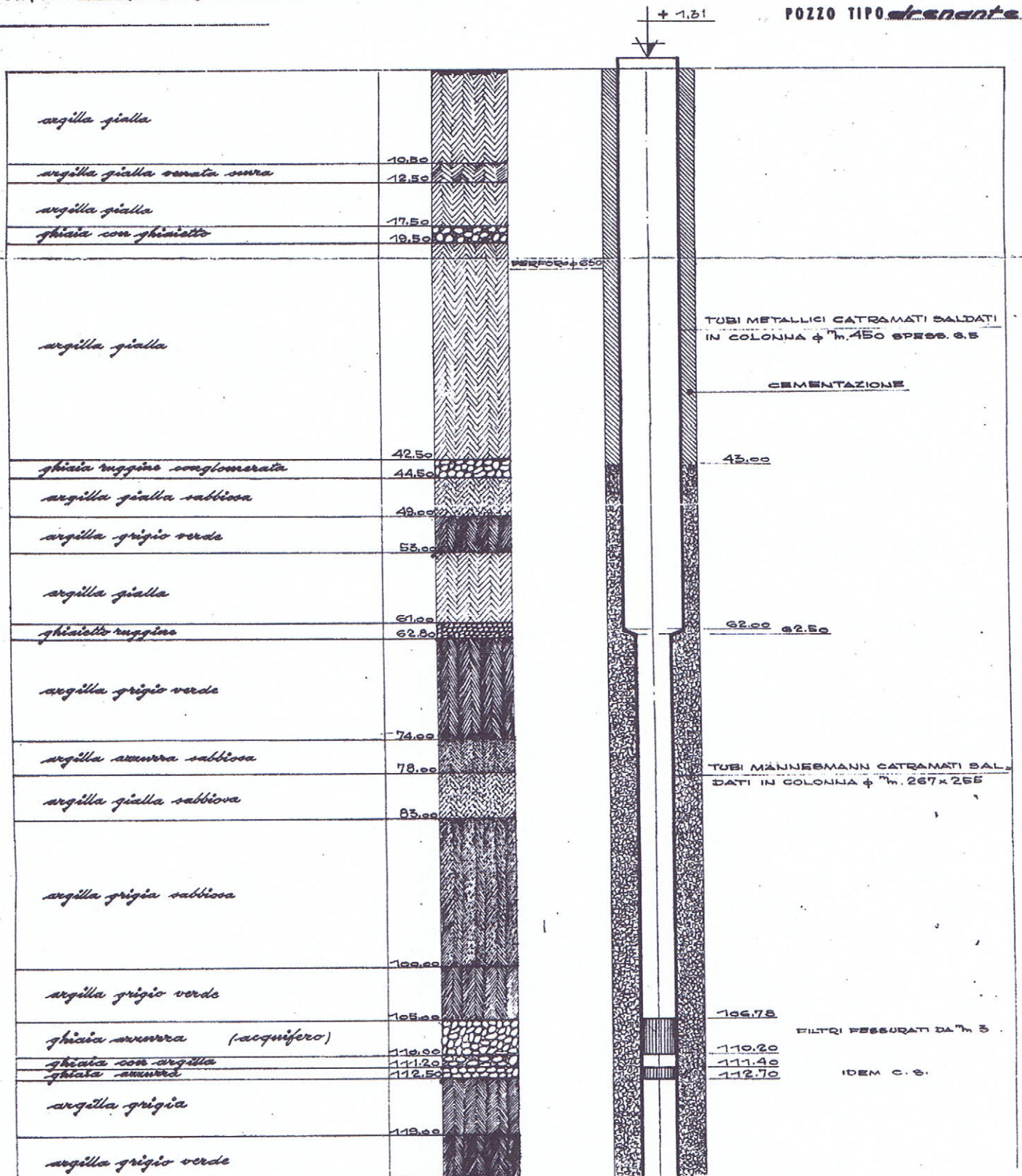
S.p.A. REDI - Bologna

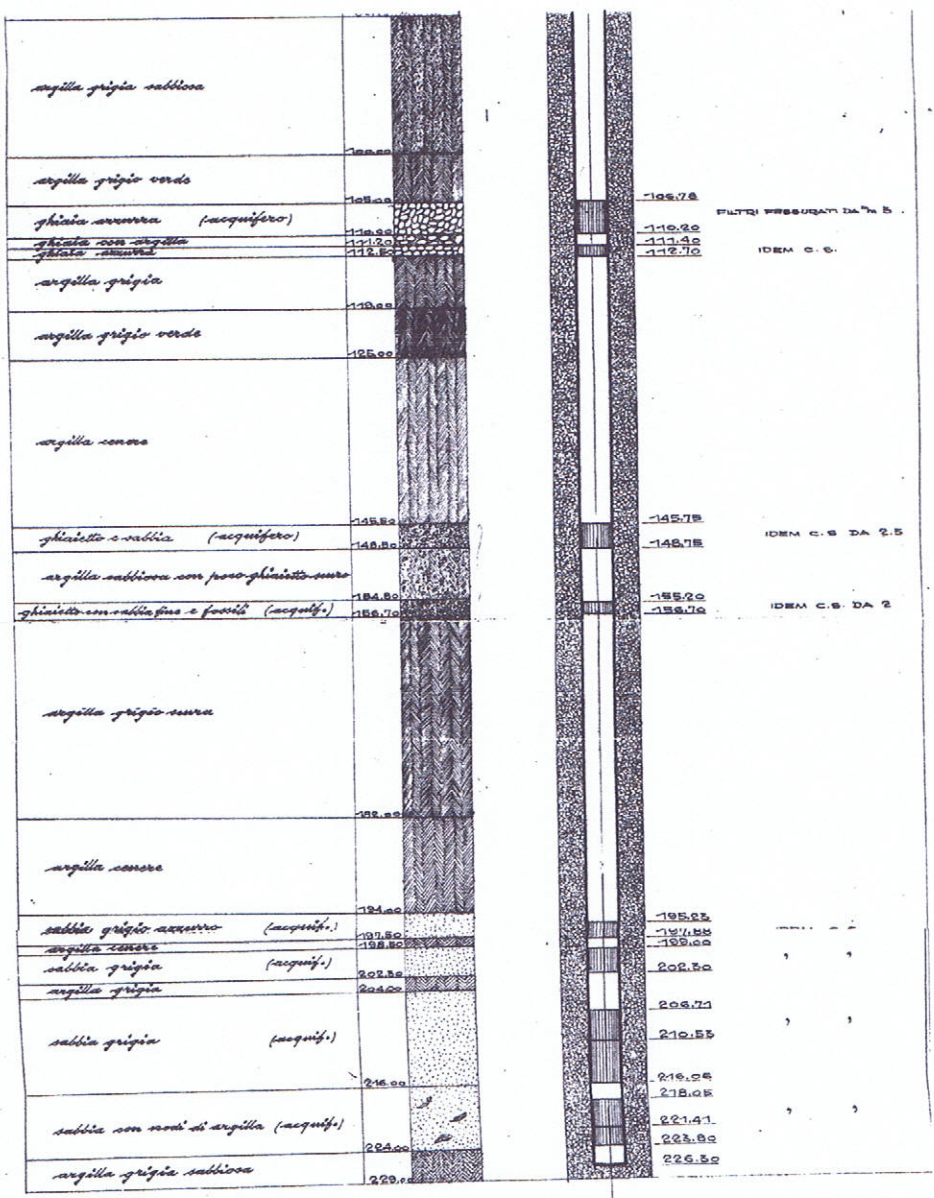
SEZIONE STRATIGRAFICA

LOCALITÀ BONTE RONCA di Zola Predosa

POZZO TIPO drainante

20070
P742





ARCHIVIO **V.F.S.A.P.**
 PERFORATORE **MARSI AUGUSTO**
 DATA **MAGGIO 1970**

LIVELLO STATICO m. **12.70**
 LIVELLO DINAMICO m. **59.80**
 PORTATA **0.30**
 LITRI AL SECCO

2) Catalizzatore di romo
 per
 corroidi 130
 (851) 87 85 81
 automatica)

GEIMCO
 S.P.A.

geologia
 e geologia applicata
 indagini minerarie
 e sui materiali
 costruttivi

037060P246/228

SONDAGGIO N° 18

604

OMMITTENTE:

OCALITA':

CASTELDEBOLE -

ANTIERE:

ZONA 4

vo,te iniziale:

P.C. 62

~~22049P430~~
 22049P430

FR FERTILE
 (Zona ALCISA)

Data: DIC. 1977

PROFONDITA' (m)		Colonna stratigrafica	DESCRIZIONE DEI TERRENI	OSSERVAZIONI
Aggiuntiva	Parziali			
100	100		Terreno agrario limoso sabbioso.	
4.00	2.00		Sabbie giallastre limoso argillose a grana fine.	
6.00	2.00		Limi argillosi e sabbie fini argillose fittamente stratificate.	
6.50	0.50		Ghiaie poligeniche molto limose. Sabbie a grana fine limose.	
7.50	1.00		Ghiaie poligeniche di varia pezzatura, associate a sabbie e sabbie limose a grana fine, media e grossolana.	
13.00	5.50		Ghiaie poligeniche in matrice fortemente limosa.	
15.00	2.00		Argille limoso sabbiose con residue presenze di piccoli ciottoli sparsi.	
17.00	2.00			
18				
19				
20				
21				

Elaborazione dati

P. Cal

Direttore tecnico

Manu

S. p. A. SUCCESSORI ING. A. BONARIVA

BOLOGNA

POZZO N° 1/74

POZZO N. _____ ESEGUITO PER CONTO DEL Stat.

S.p.A. REDI - Bologna

SEZIONE STRATIGRAFICA

pe 61

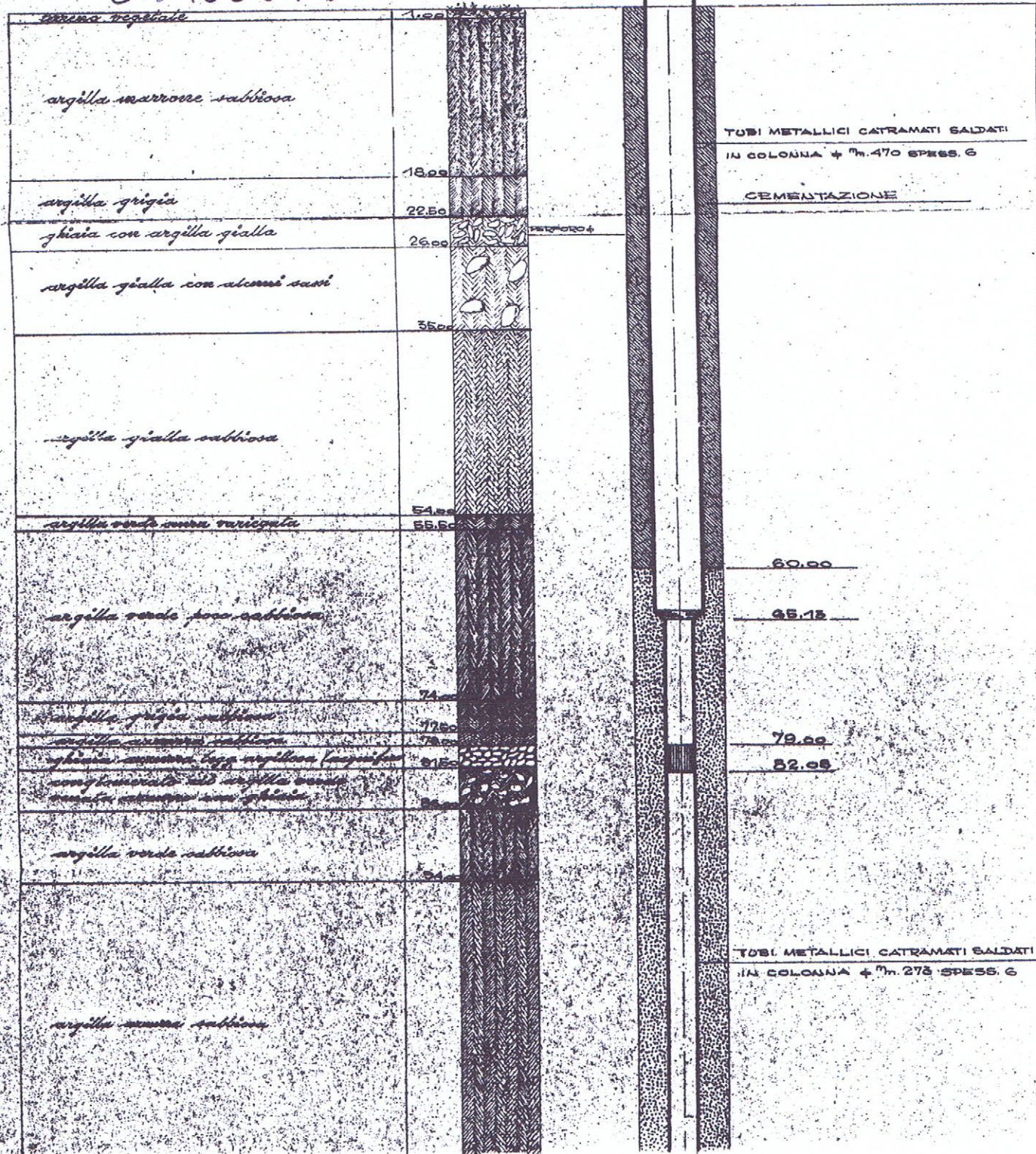
LOCALITÀ Ponte Ranca di Zola Predosa

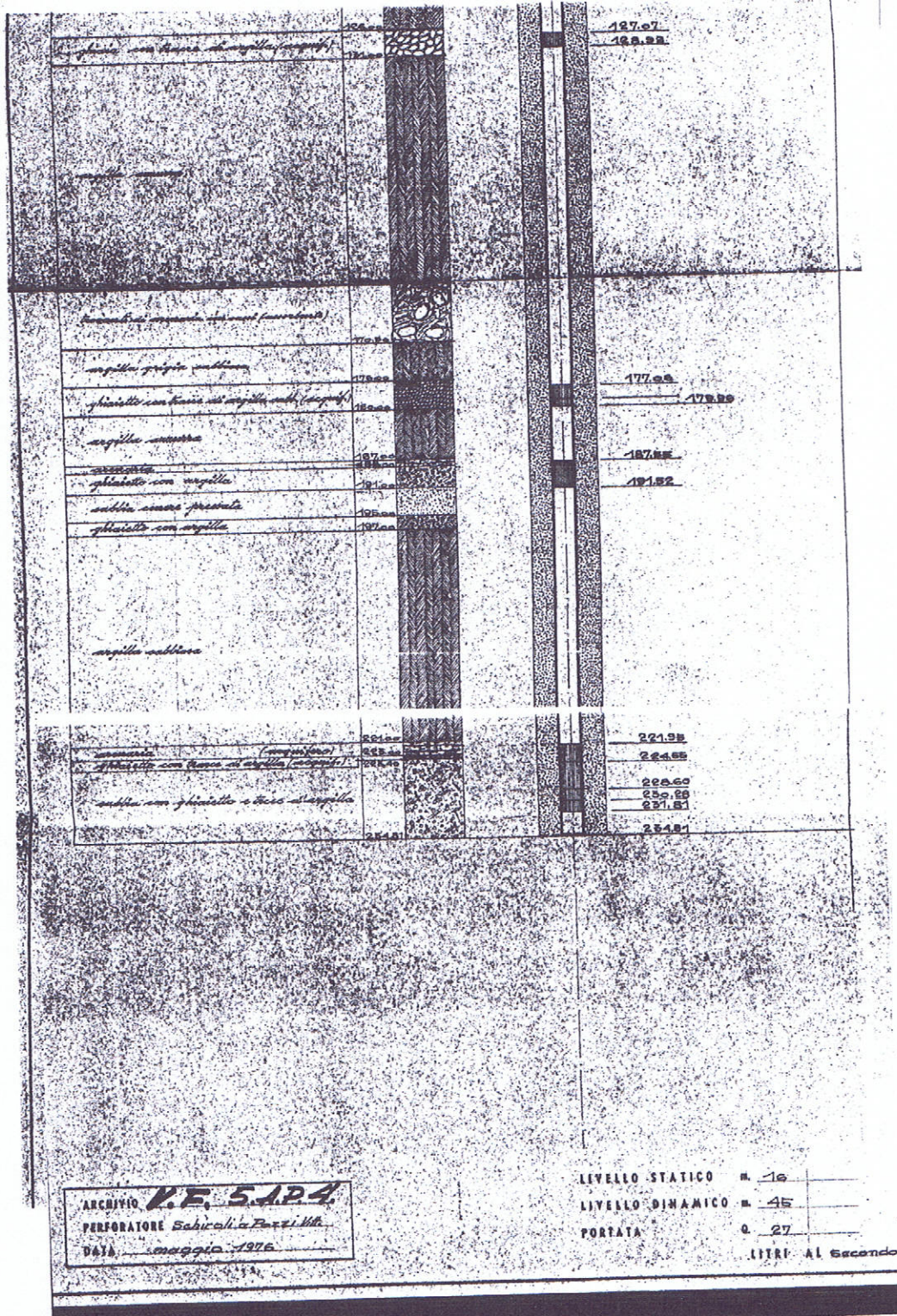
037060 P217 PA229

+0.30

POZZO TIPO drainante

2200fo e 241

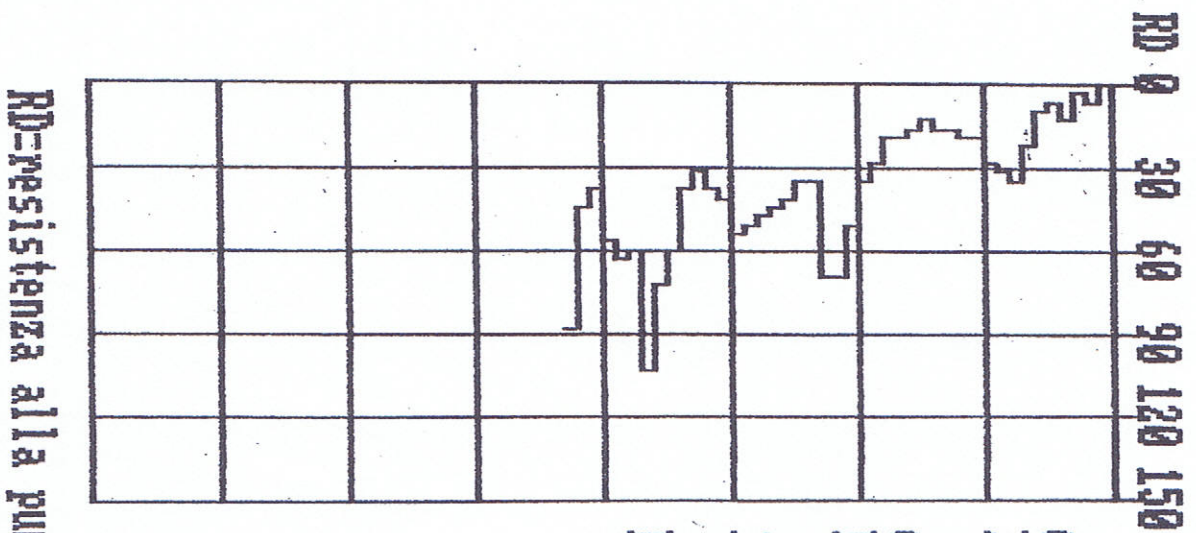
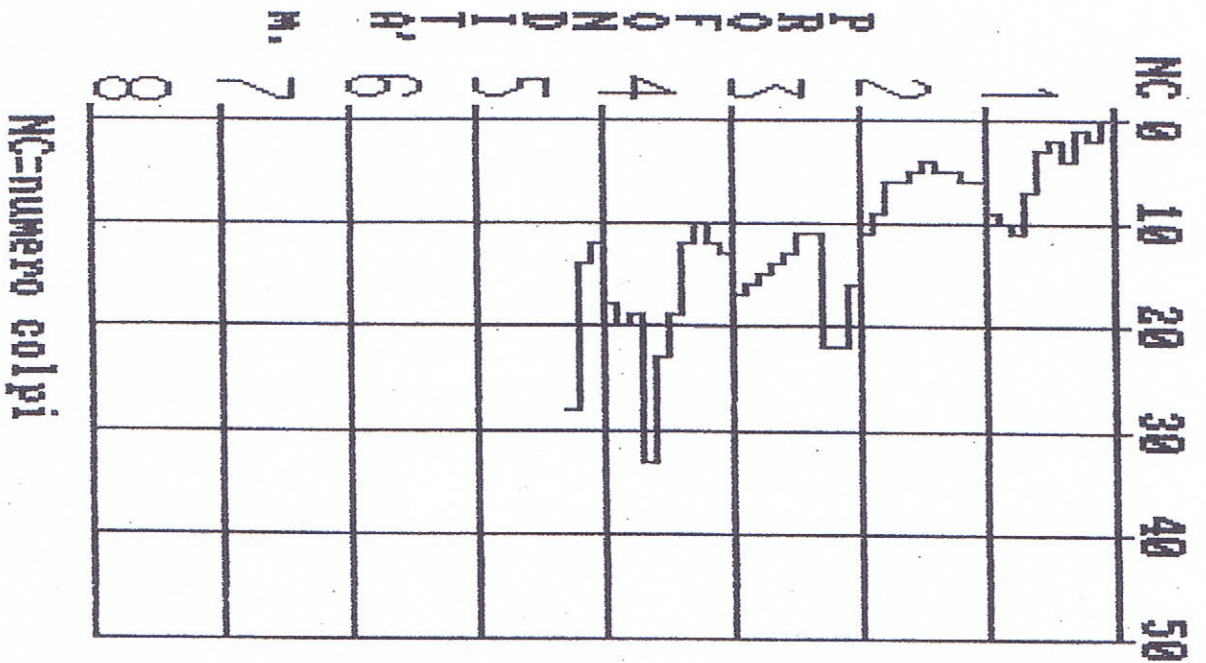




ARCHIVIO **V.E. 5124**
 PERFORATORE *Sabirali & Pizzi*
 DATA *1 maggio 1976*

LIVELLO STATICO n. 16
 LIVELLO DINAMICO n. 45
 PORTATA q. 27
 LITRI AL SECONDO

037060 P 139DL 230



Comune:
Zola Predosa

Committente:
Dr. Giovanni Uiel

14/12/1991

Prova N. PP7

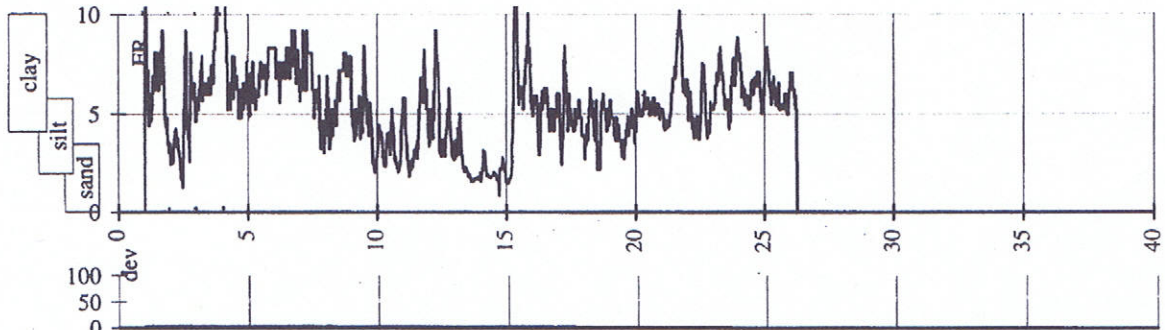
037060 P218 CPTU 238

SACCHETTO PADANA PERFORAZIONI s.r.l. ADRIA (Ro)

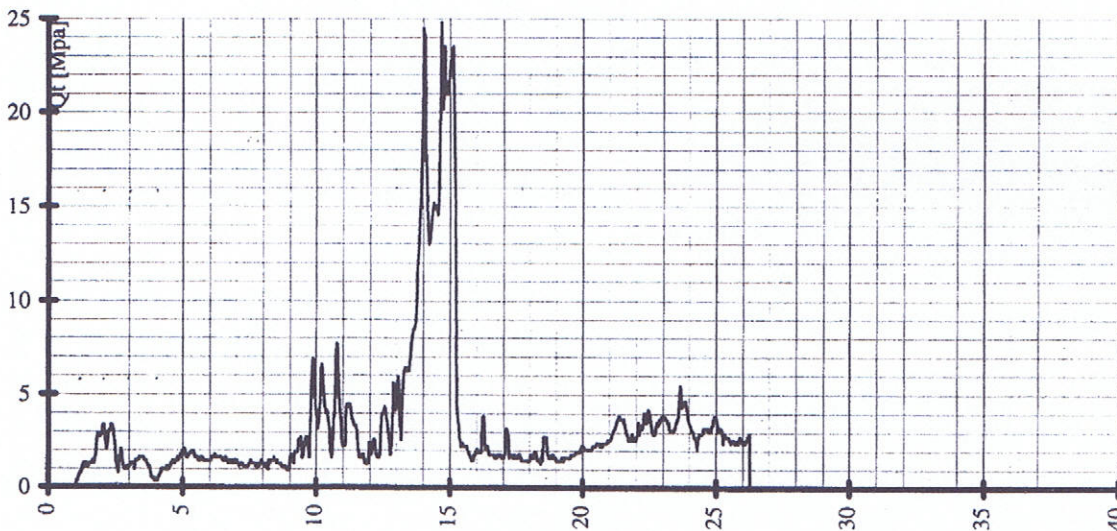
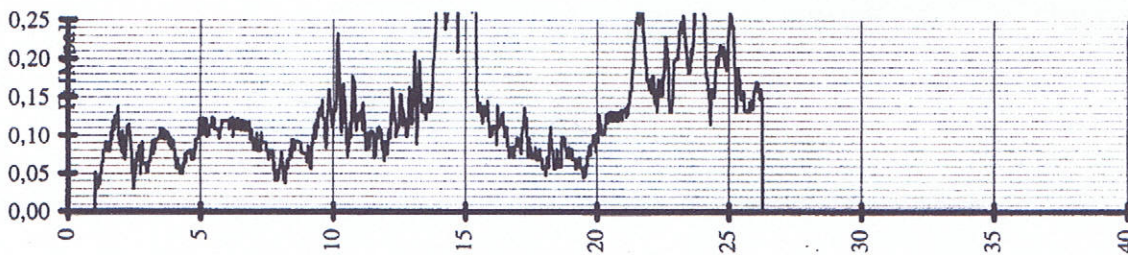
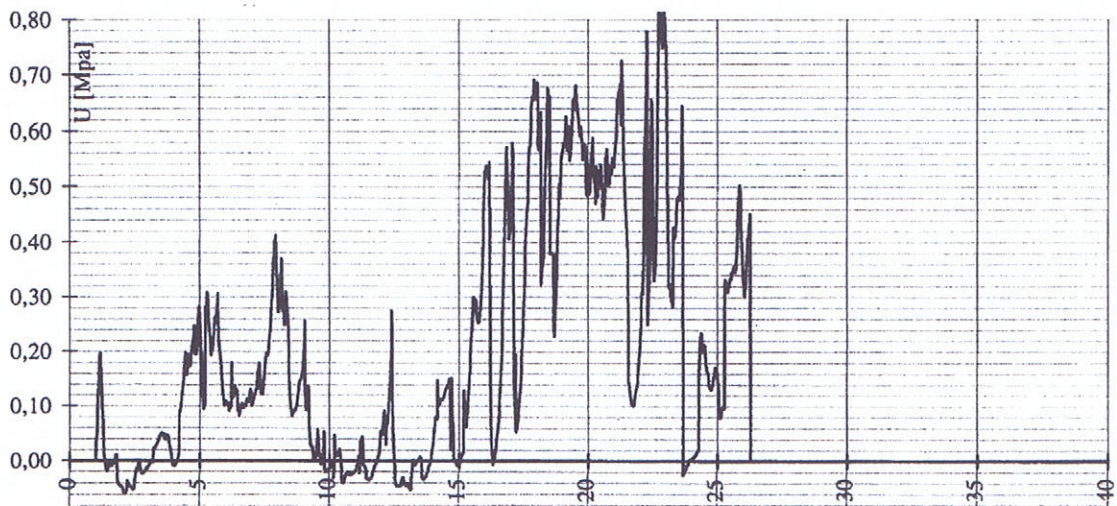
0426/900977 fax 900053

cptu507 fg200070AZ

28/02/96 falda-0,50



ve 48

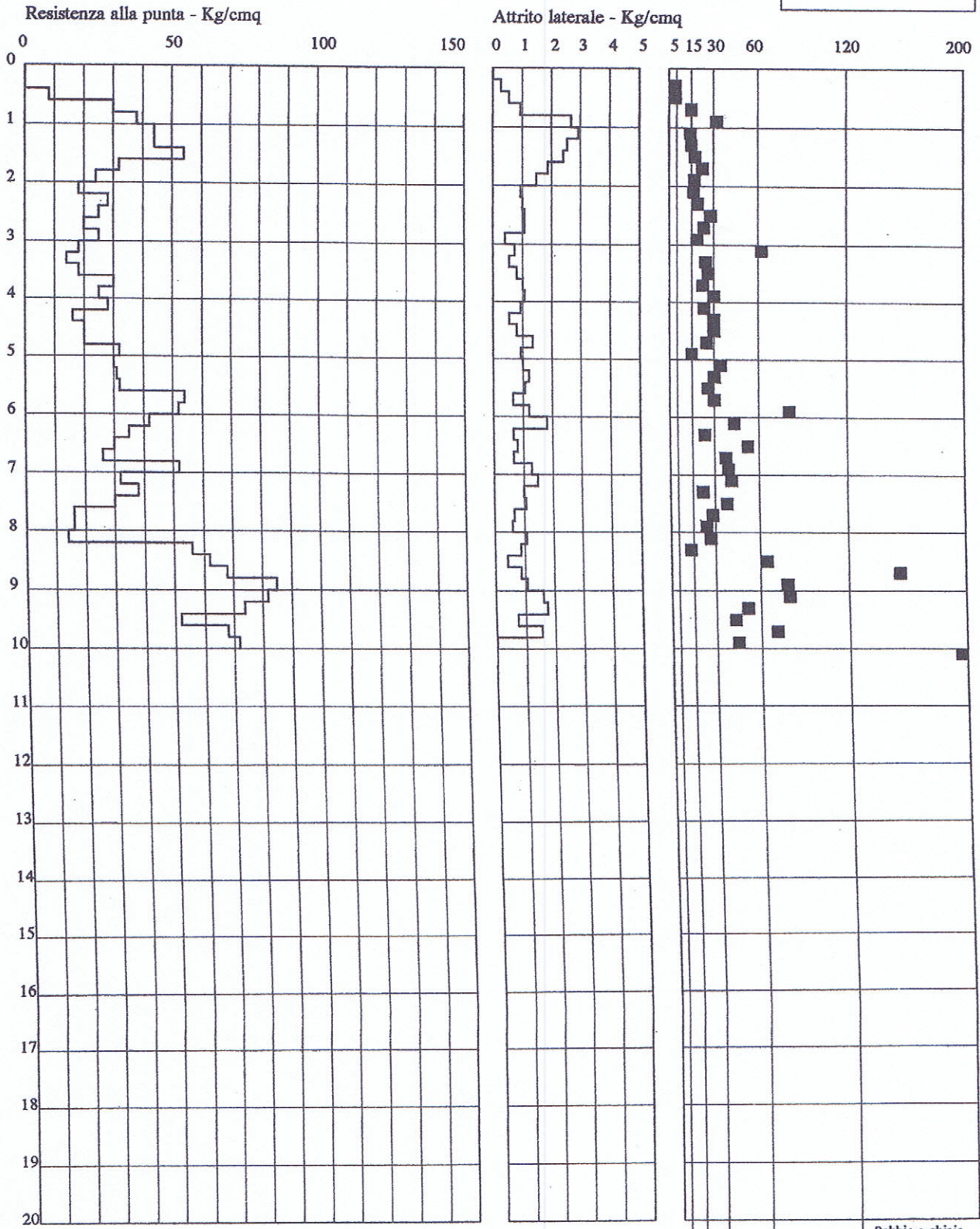


037060 P130 CPT.233

Ditta esecutrice: VIEL & GALASSI
Comune: ZOLA PREDOSA
Cantiere: PONTE RONCA

Committente: MUNICIPIO
Via: MATILDE DI CONOSSA
Data esecuzione: 21/12/96

Prova N. 03



Certificato Numero: 4

Sabbie e ghiaie
Sabbie
Limi sabbiosi, sabbie limose
Limi e argille
Torbe e argille organiche

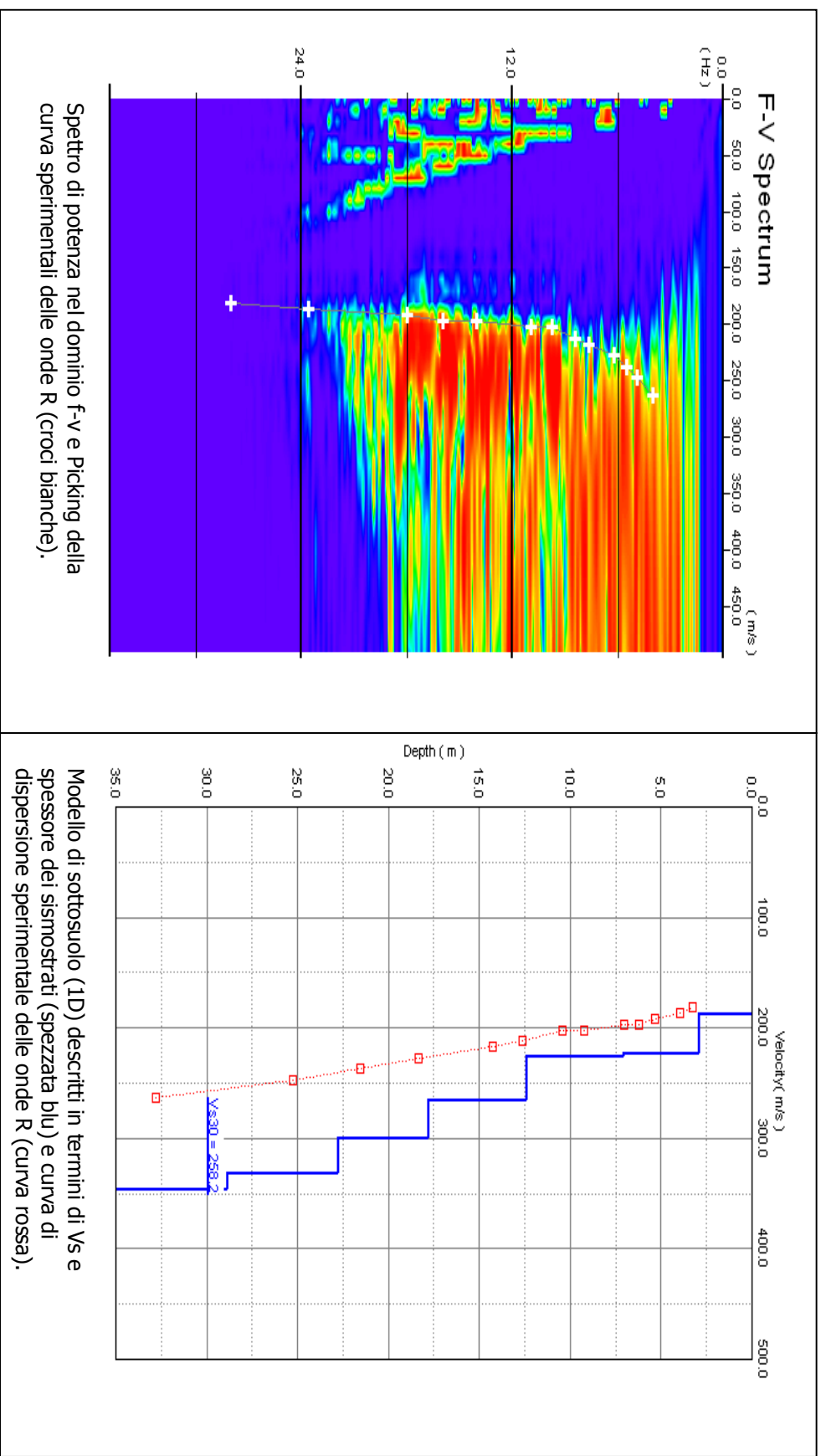
PROSPERZIONE SISMICA DI SUPERFICIE CON METODOLOGIA RE.MI.

prova n. 037060L1REM11

Sito di indagine: Comune di Zola Predosa

n. tracce	Δx (m)	Δt (ms)	T (s)	L tot (m)
25	3	2	32,0	69

Δx : interdistanza geofonica; Δt : passo di campionamento; T: durata registrazione; L tot: lunghezza profilo.



Spettro di potenza nel dominio f-v e Picking della curva sperimentali delle onde R (croci bianche).

Modello di sottosuolo (1D) descritti in termini di V_s e spessore dei sismostrati (spezzata blu) e curva di dispersione sperimentale delle onde R (curva rossa).

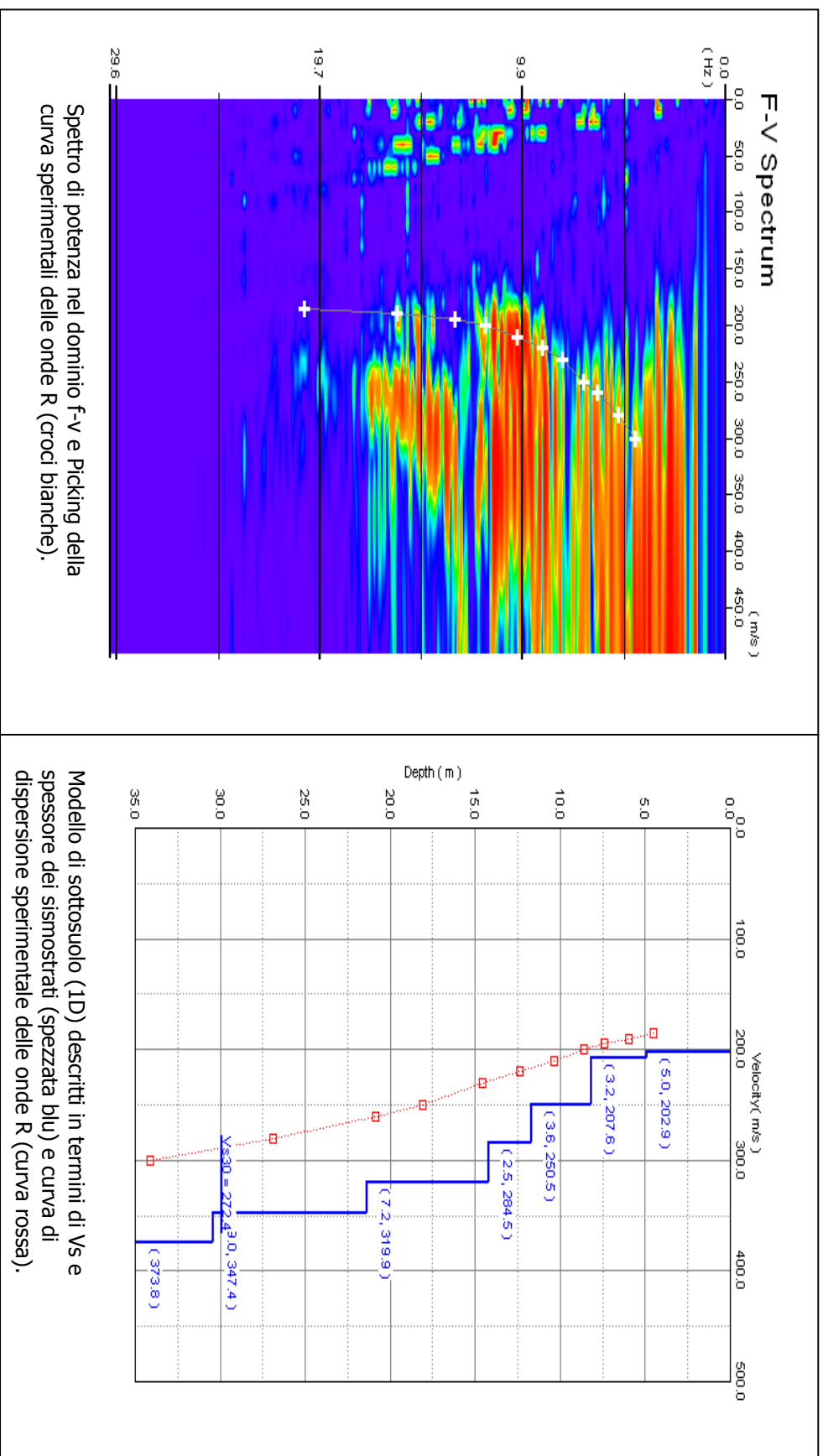
PROSPEZIONE SISMICA DI SUPERFICIE CON METODOLOGIA RE.MI.

prova n. 037060L2REM12

Sito di indagine: Comune di Zola Predosa

n. tracce	Δx (m)	Δt (ms)	T (s)	L tot (m)
25	3	2	32,0	69

Δx : interdistanza geofonica; Δt : passo di campionamento; T: durata registrazione; L tot: lunghezza profilo.



Spettro di potenza nel dominio f-v e Picking della curva sperimentali delle onde R (croci bianche).

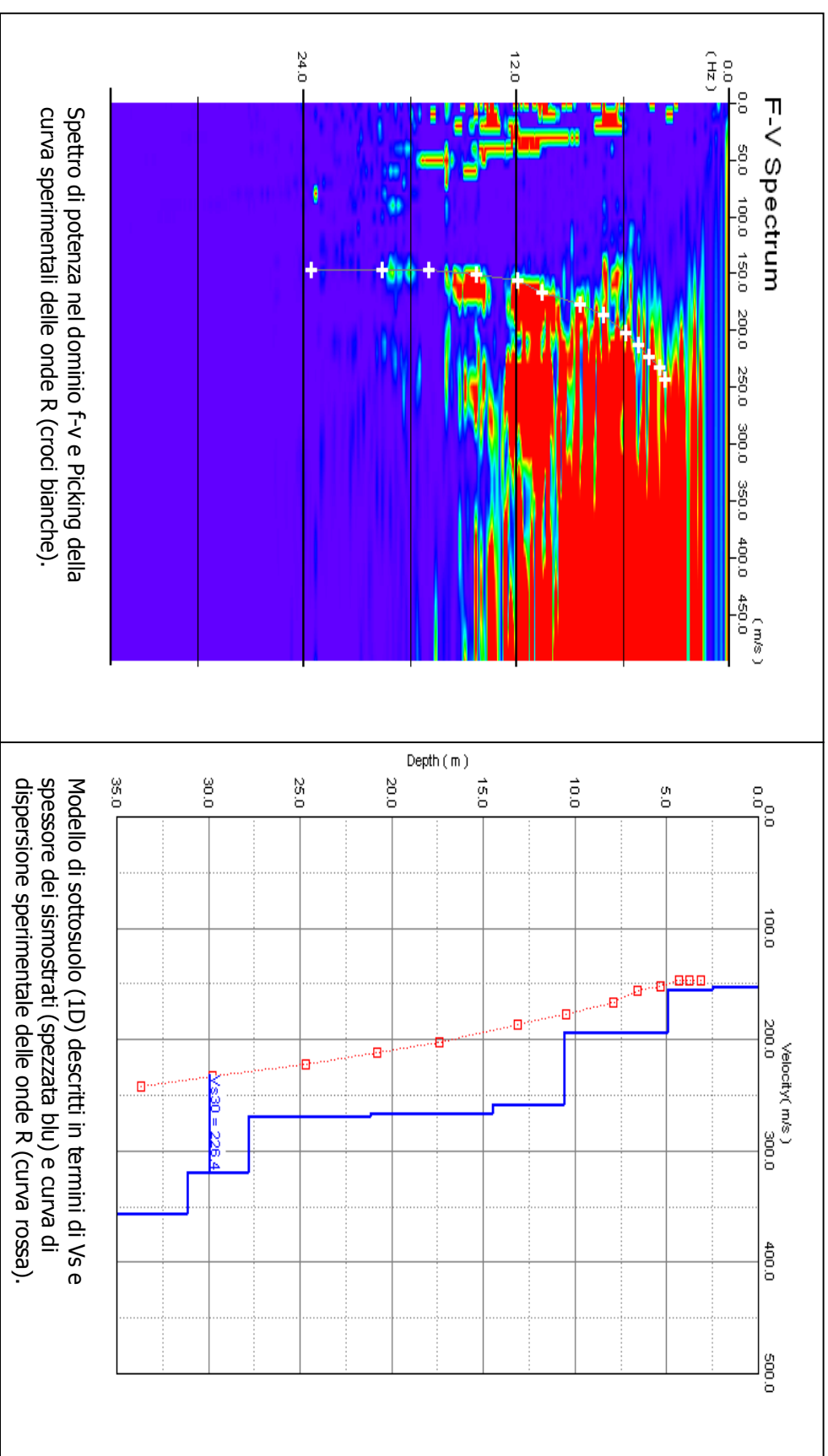
PROSPERZIONE SISMICA DI SUPERFICIE CON METODOLOGIA RE.MI.

prova n. 037060L3REM13

Sito di indagine: Comune di Zola Predosa

n. tracce	Δx (m)	Δt (ms)	T (s)	L tot (m)
25	3	2	32,0	69

Δx : interdistanza geofonica; Δt : passo di campionamento; T: durata registrazione; L tot: lunghezza profilo.



Spettro di potenza nel dominio f-v e Picking della curva sperimentali delle onde R (croci bianche).

Modello di sottosuolo (1D) descritti in termini di Vs e spessore dei sismostrati (spezzata blu) e curva di dispersione sperimentale delle onde R (curva rossa).

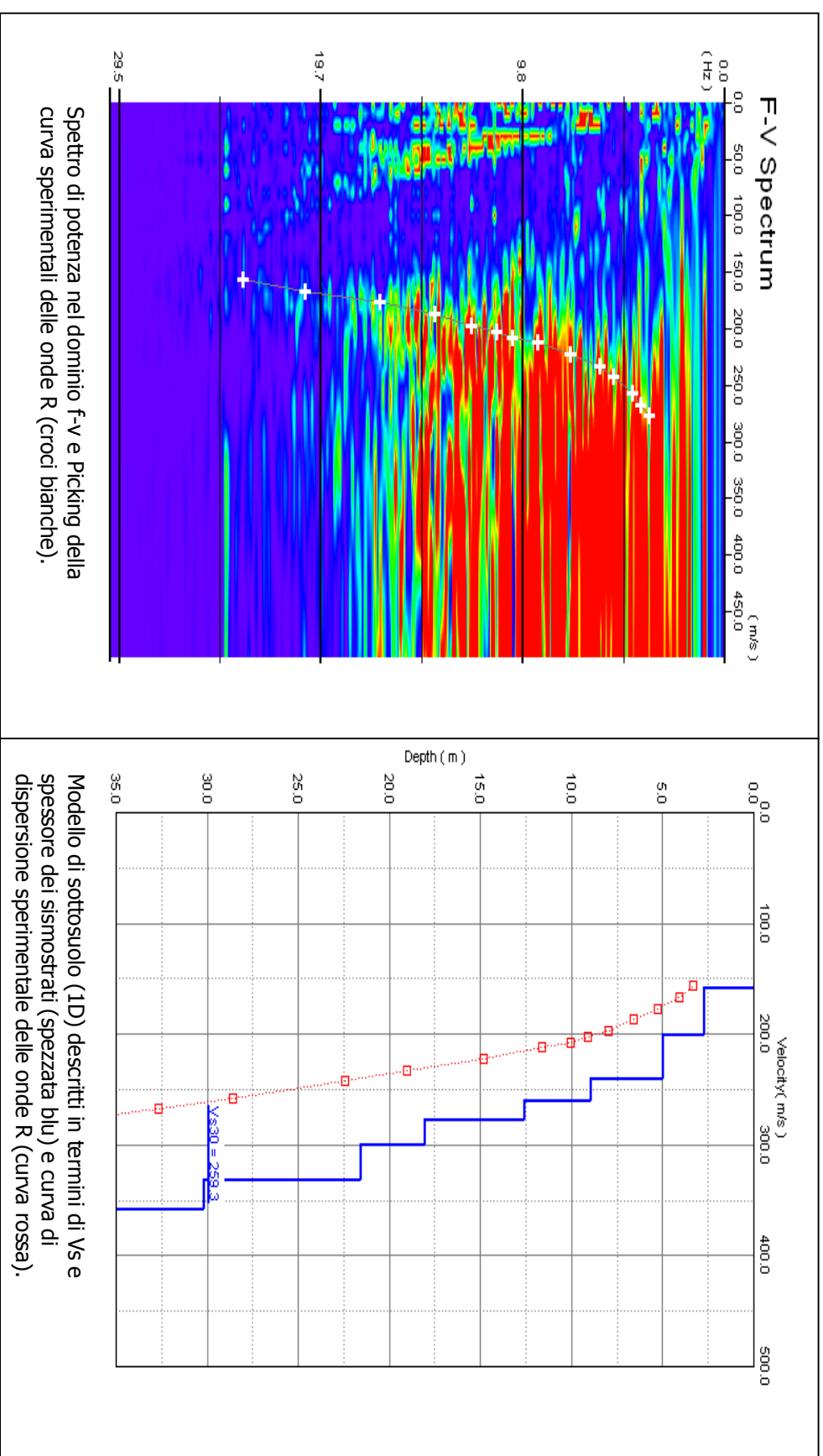
PROSPERZIONE SISMICA DI SUPERFICIE CON METODOLOGIA RE.MI.

prova n. 037060L4REM14

Sito di indagine: Comune di Zola Predosa

n. tracce	Δx (m)	Δt (ms)	T (s)	L tot (m)
25	3	2	32,0	69

Δx : interdistanza geofonica; Δt : passo di campionamento; T: durata registrazione; L tot: lunghezza profilo.



Spettro di potenza nel dominio f-v e Picking della curva sperimentali delle onde R (croci bianche).

Modello di sottosuolo (1D) descritti in termini di Vs e spessore dei sismostrati (spezzata blu) e curva di dispersione sperimentale delle onde R (curva rossa).

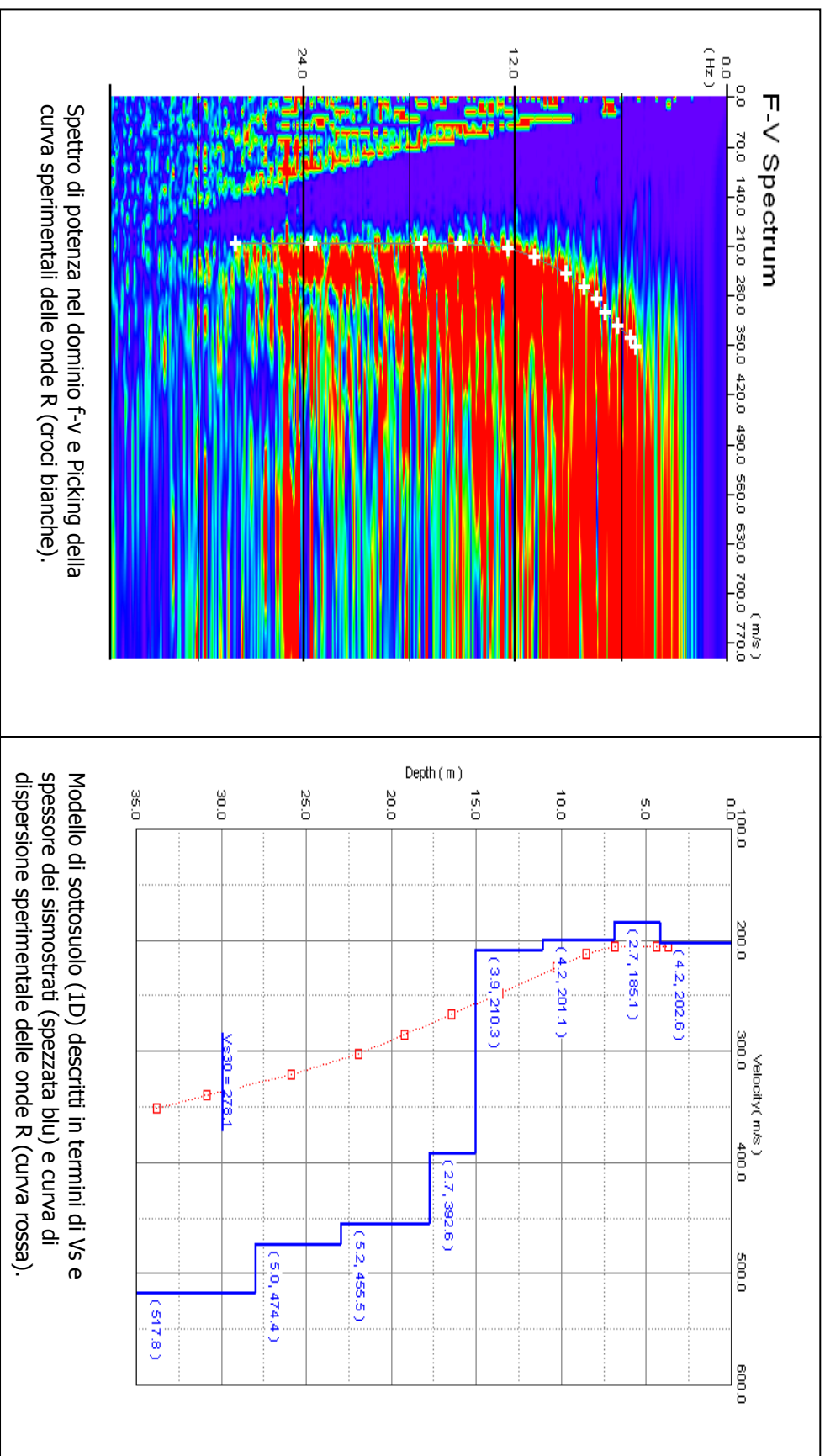
PROSPEZIONE SISMICA DI SUPERFICIE CON METODOLOGIA RE.MI.

prova n. 037060L5REMI5

Sito di indagine: Comune di Zola Predosa

n. tracce	Δx (m)	Δt (ms)	T (s)	L tot (m)
25	3	2	32,0	69

Δx : interdistanza geofonica; Δt : passo di campionamento; T: durata registrazione; L tot: lunghezza profilo.



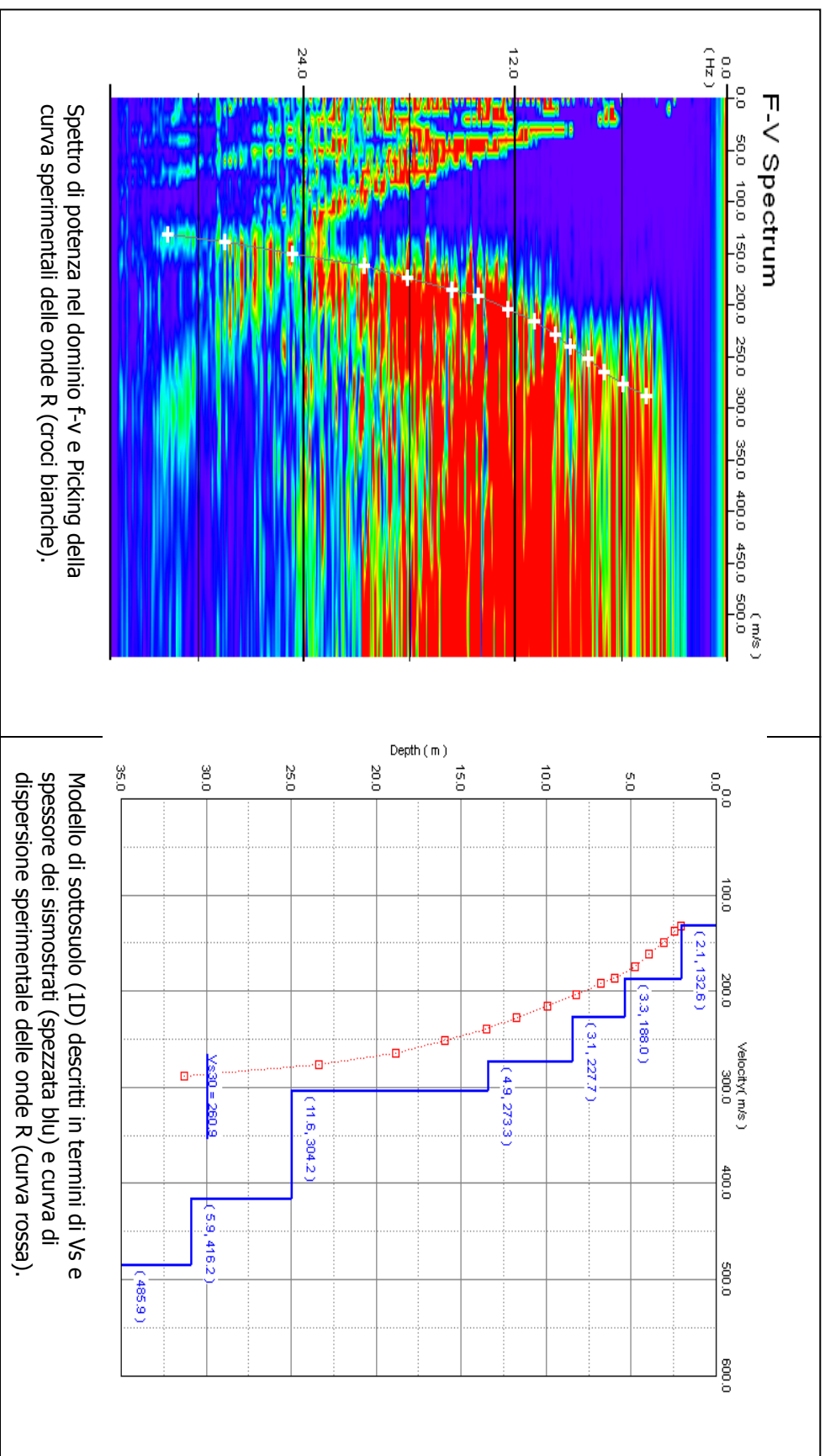
PROSPEZIONE SISMICA DI SUPERFICIE CON METODOLOGIA RE.MI.

prova n. 037060L6REM16

Sito di indagine: Comune di Zola Predosa

n. tracce	Δx (m)	Δt (ms)	T (s)	L tot (m)
25	3	2	32,0	69

Δx : interdistanza geofonica; Δt : passo di campionamento; T: durata registrazione; L tot: lunghezza profilo.



Spettro di potenza nel dominio f-v e Picking della curva sperimentali delle onde R (croci bianche).

Modello di sottosuolo (1D) descritti in termini di Vs e spessore dei sismostrati (spezzata blu) e curva di dispersione sperimentale delle onde R (curva rossa).

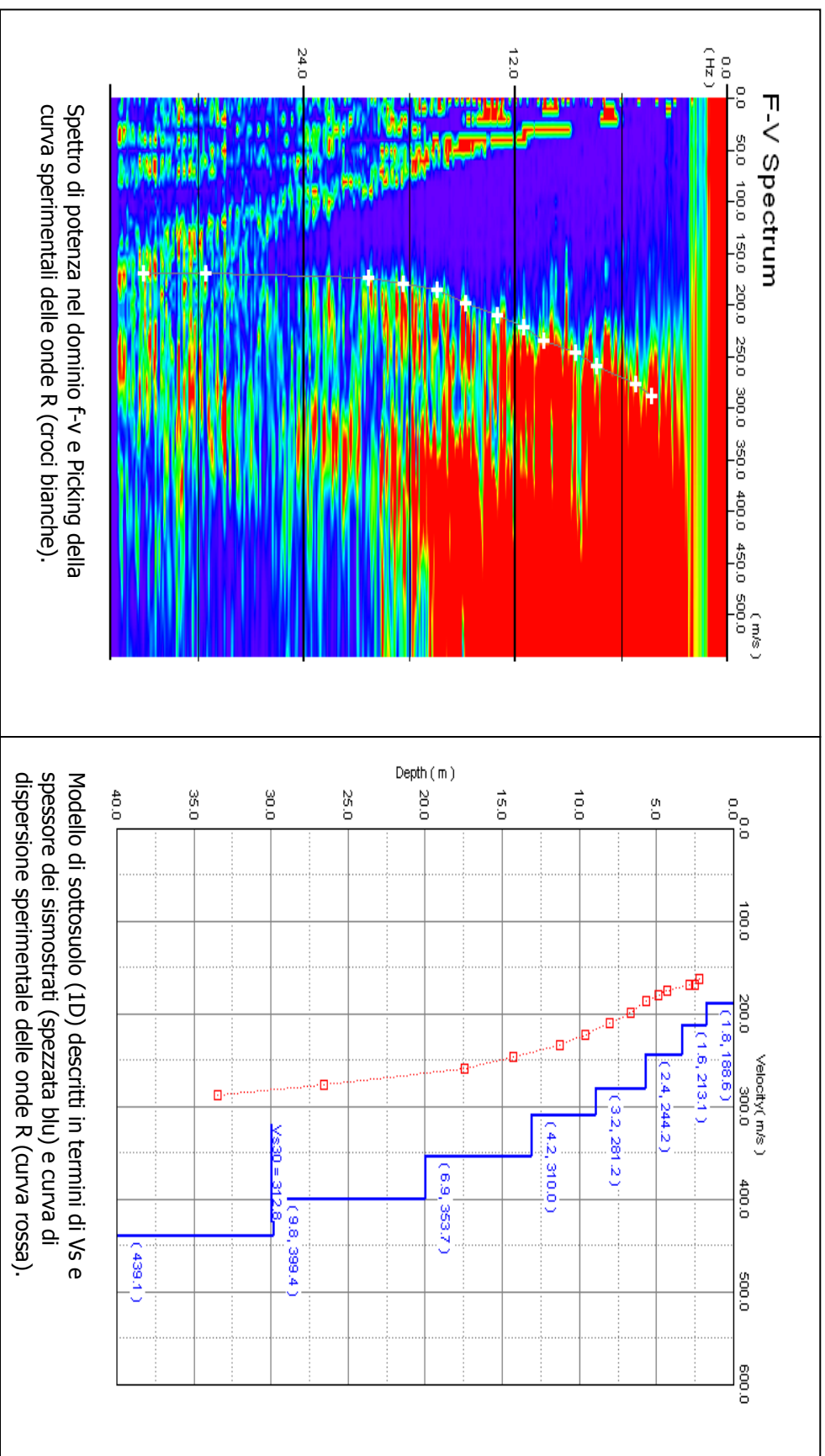
PROSPEZIONE SISMICA DI SUPERFICIE CON METODOLOGIA RE.MI.

prova n. 037060L7REM17

Sito di indagine: Comune di Zola Predosa

n. tracce	Δx (m)	Δt (ms)	T (s)	L tot (m)
25	3	2	32,0	69

Δx : interdistanza geofonica; Δt : passo di campionamento; T: durata registrazione; L tot: lunghezza profilo.



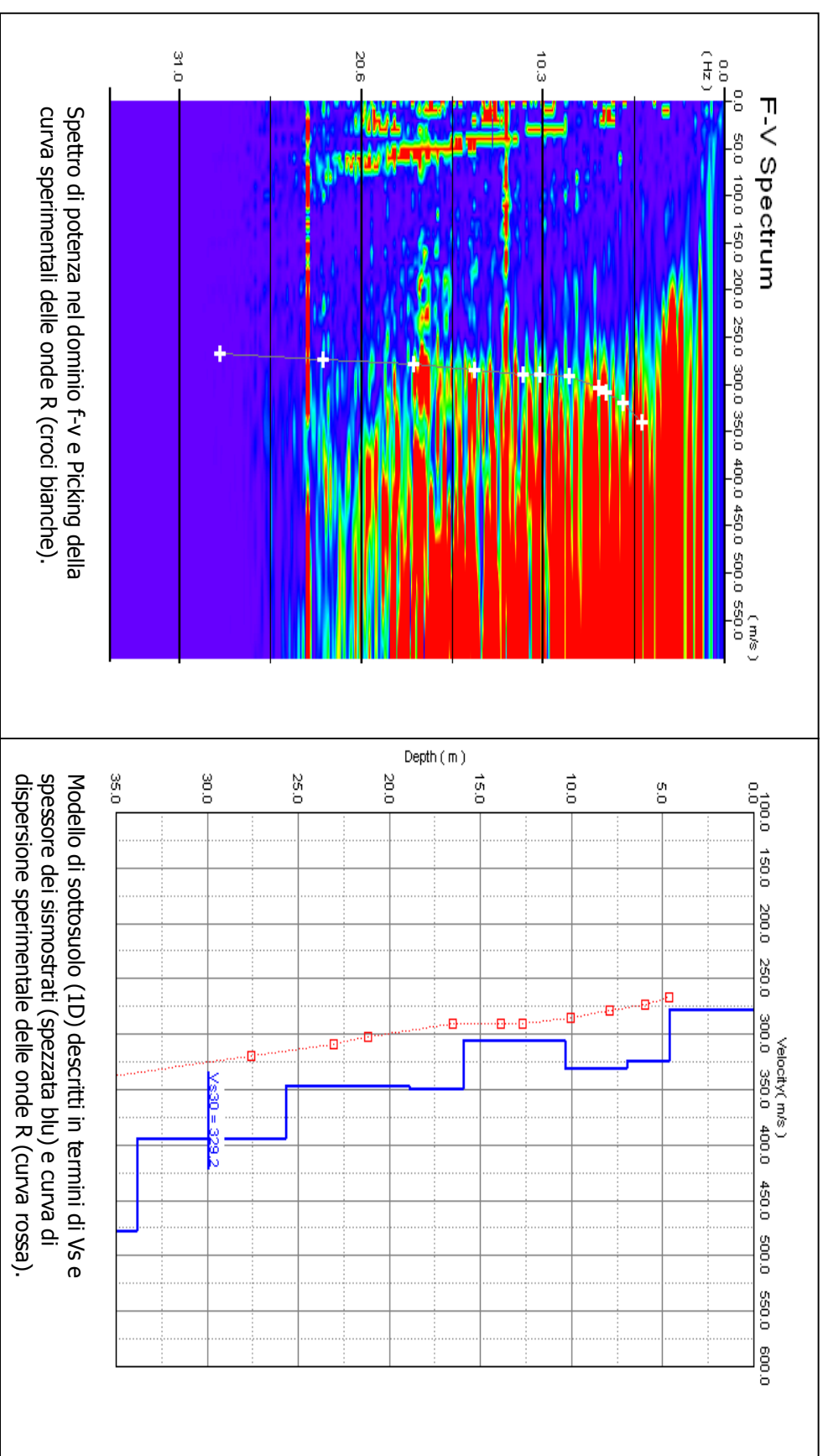
PROSPERZIONE SISMICA DI SUPERFICIE CON METODOLOGIA RE.MI.

prova n. 037060L8REM18

Sito di indagine: Comune di Zola Predosa

n. tracce	Δx (m)	Δt (ms)	T (s)	L tot (m)
25	3	2	32,0	69

Δx : interdistanza geofonica; Δt : passo di campionamento; T: durata registrazione; L tot: lunghezza profilo.



Spettro di potenza nel dominio f-v e Picking della curva sperimentali delle onde R (croci bianche).

Modello di sottosuolo (1D) descritti in termini di Vs e spessore dei sismostrati (spezzata blu) e curva di dispersione sperimentale delle onde R (curva rossa).

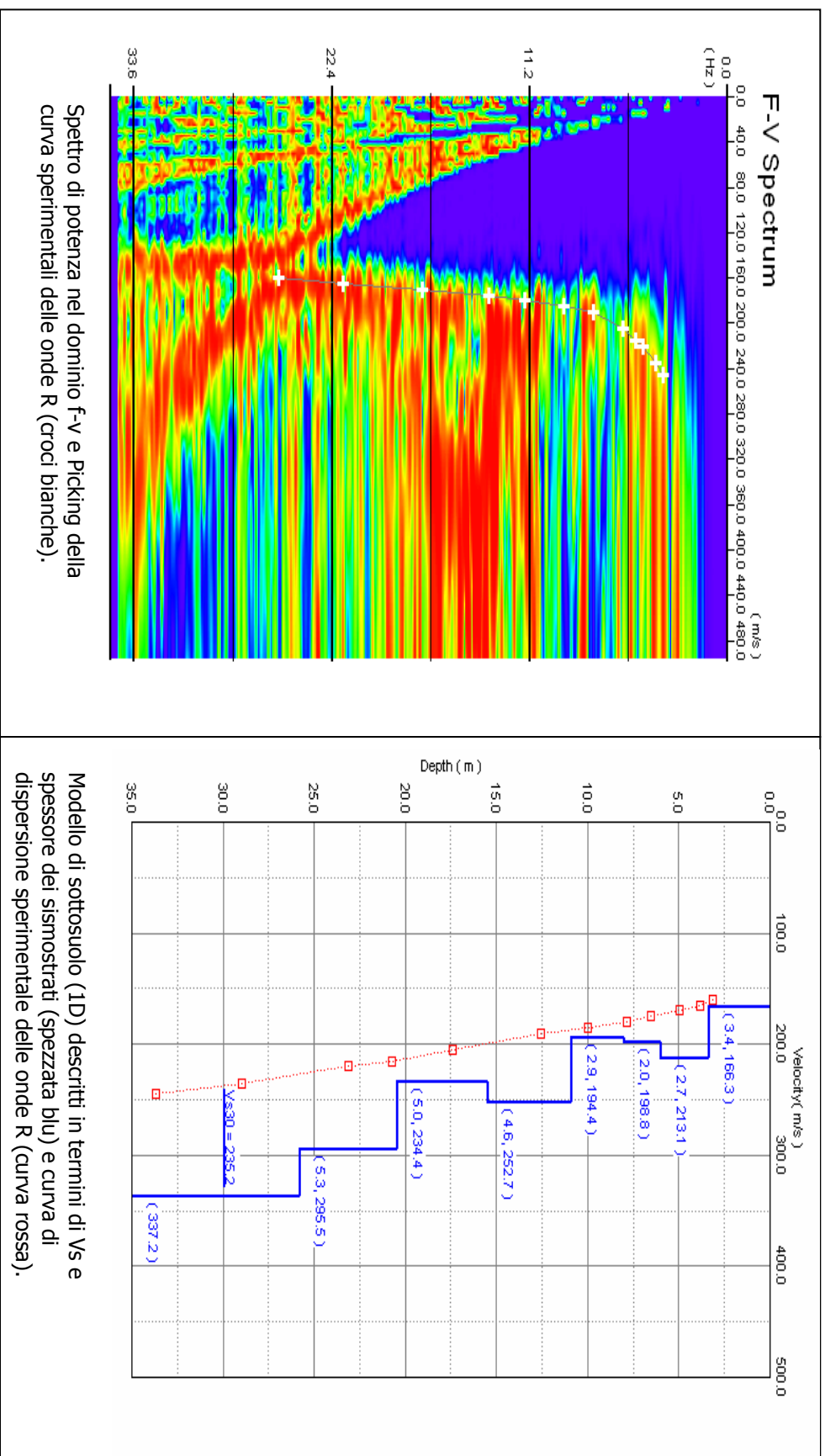
PROSPEZIONE SISMICA DI SUPERFICIE CON METODOLOGIA RE.MI.

prova n. 037060L9REMI9

Sito di indagine: Comune di Zola Predosa

n. tracce	Δx (m)	Δt (ms)	T (s)	L tot (m)
25	3	2	32,0	69

Δx : interdistanza geofonica; Δt : passo di campionamento; T: durata registrazione; L tot: lunghezza profilo.



Spettro di potenza nel dominio f-v e Picking della curva sperimentali delle onde R (croci bianche).

Modello di sottosuolo (1D) descritti in termini di Vs e spessore dei sismostrati (spezzata blu) e curva di dispersione sperimentale delle onde R (curva rossa).

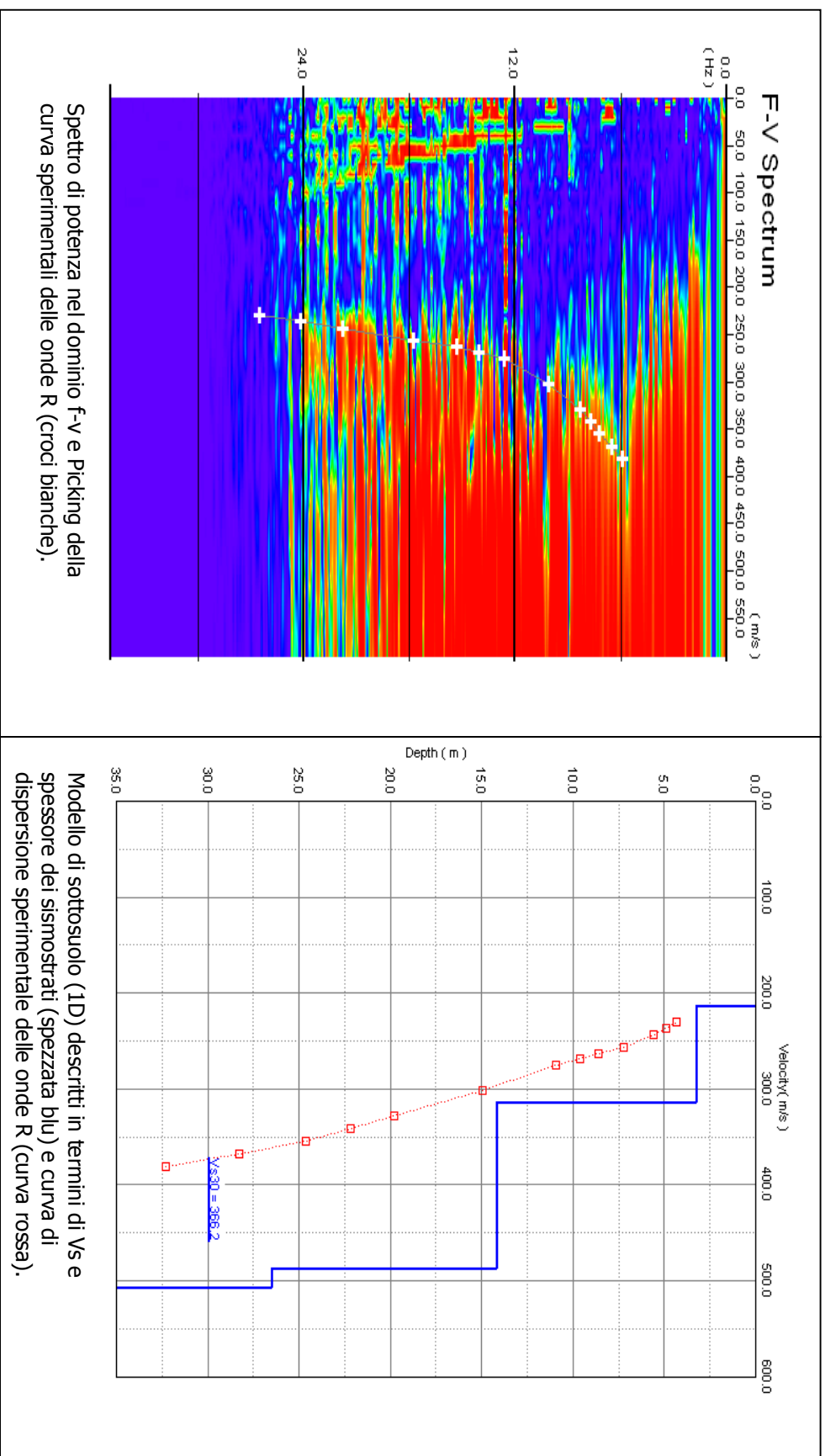
PROSPERZIONE SISMICA DI SUPERFICIE CON METODOLOGIA RE.MI.

prova n. 037060L10REM110

Sito di indagine: Comune di Zola Predosa

n. tracce	Δx (m)	Δt (ms)	T (s)	L tot (m)
25	3	2	32,0	69

Δx : interdistanza geofonica; Δt : passo di campionamento; T: durata registrazione; L tot: lunghezza profilo.



Spettro di potenza nel dominio f-v e Picking della curva sperimentali delle onde R (croci bianche).

Modello di sottosuolo (1D) descritti in termini di Vs e spessore dei sismostrati (spezzata blu) e curva di dispersione sperimentale delle onde R (curva rossa).

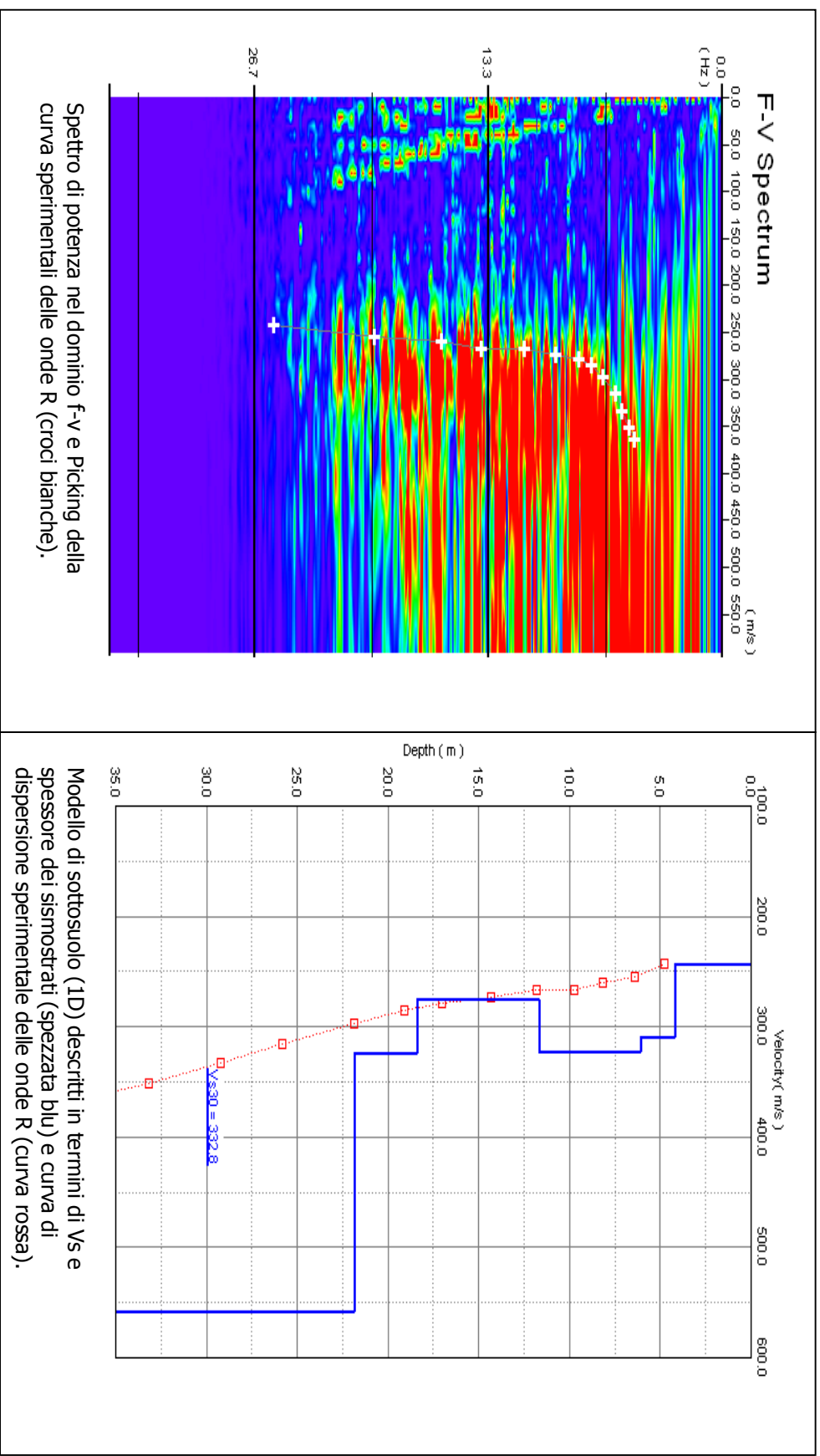
PROSPERZIONE SISMICA DI SUPERFICIE CON METODOLOGIA RE.MI.

prova n. 037060L11REM111

Sito di indagine: Comune di Zola Predosa

n. tracce	Δx (m)	Δt (ms)	T (s)	L tot (m)
25	3	2	32,0	69

Δx : interdistanza geofonica; Δt : passo di campionamento; T: durata registrazione; L tot: lunghezza profilo.



Spettro di potenza nel dominio f-v e Picking della curva sperimentali delle onde R (croci bianche).

Modello di sottosuolo (1D) descritti in termini di Vs e spessore dei sismostrati (spezzata blu) e curva di dispersione sperimentale delle onde R (curva rossa).

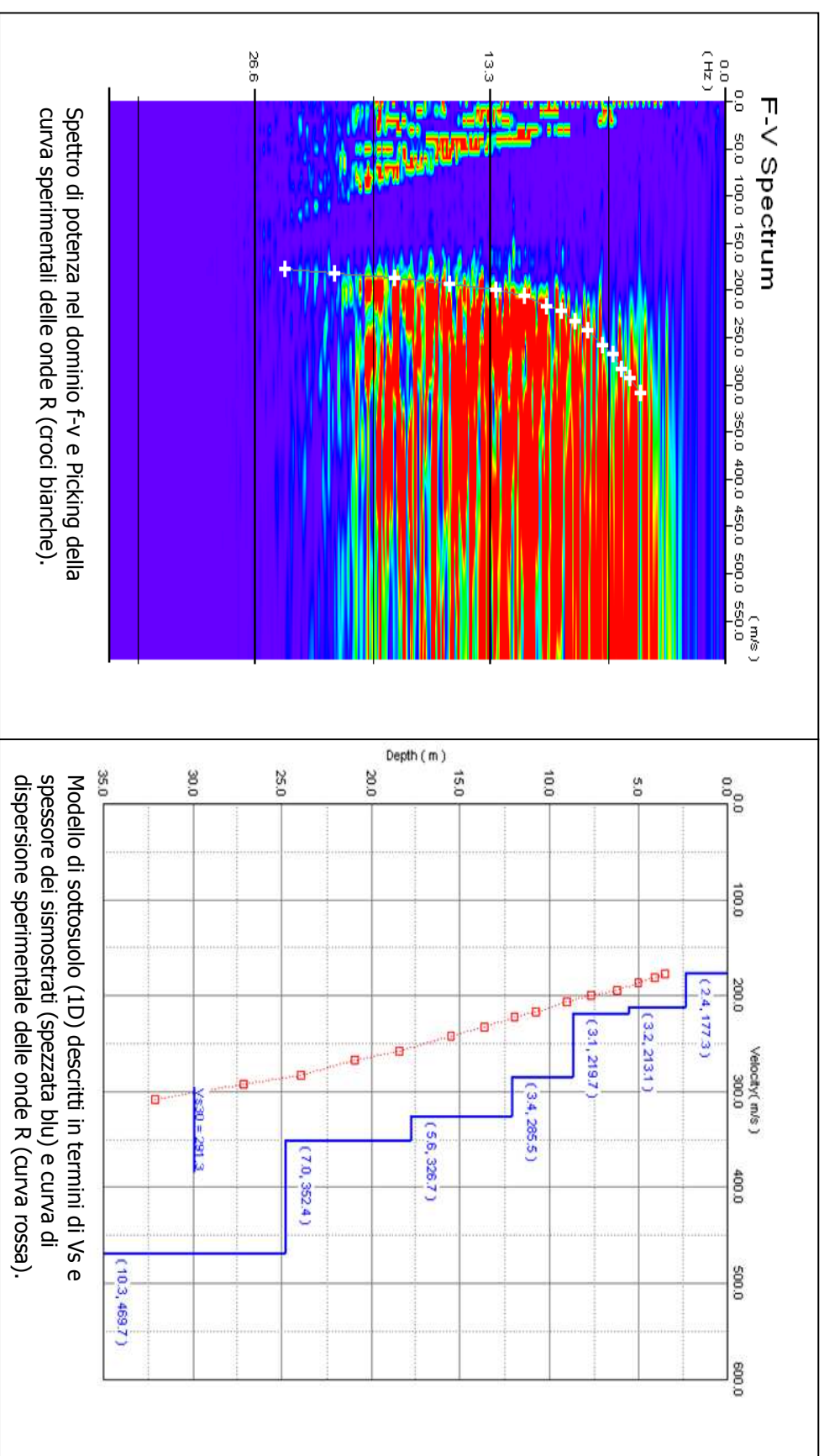
PROSPEZIONE SISMICA DI SUPERFICIE CON METODOLOGIA RE.MI.

prova n. 037060L12REM112

Sito di indagine: Comune di Zola Predosa

n. tracce	Δx (m)	Δt (ms)	T (s)	L tot (m)
25	3	2	32,0	69

Δx : interdistanza geofonica; Δt : passo di campionamento; T: durata registrazione; L tot: lunghezza profilo.



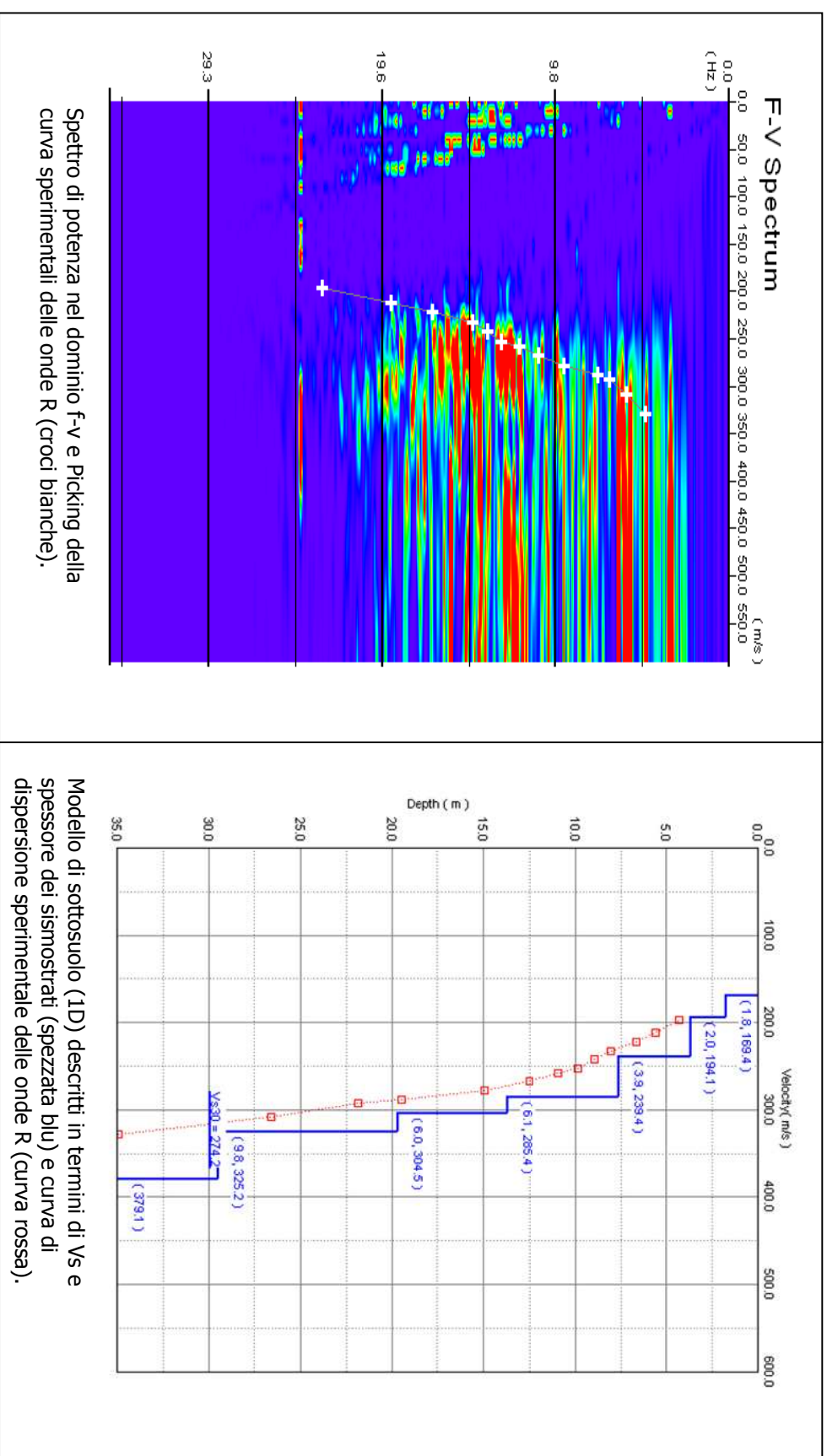
PROSPEZIONE SISMICA DI SUPERFICIE CON METODOLOGIA RE.MI.

prova n. 037060L13REM113

Sito di indagine: Comune di Zola Predosa

n. tracce	Δx (m)	Δt (ms)	T (s)	L tot (m)
25	3	2	32,0	69

Δx : interdistanza geofonica; Δt : passo di campionamento; T: durata registrazione; L tot: lunghezza profilo.



Spettro di potenza nel dominio f-v e Picking della curva sperimentali delle onde R (croci bianche).

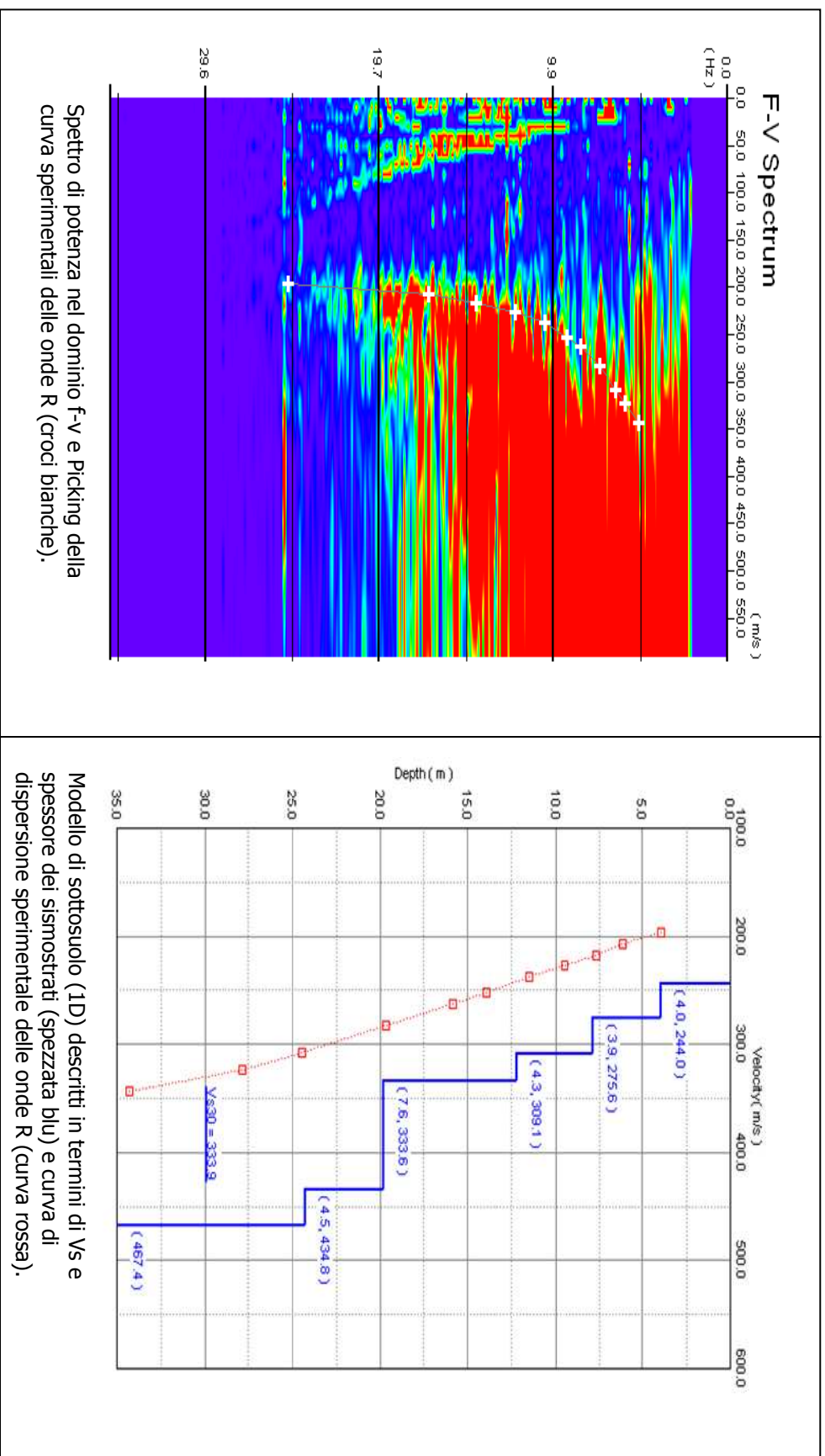
PROSPEZIONE SISMICA DI SUPERFICIE CON METODOLOGIA RE.MI.

prova n. 037060L14REM114

Sito di indagine: Comune di Zola Predosa

n. tracce	Δx (m)	Δt (ms)	T (s)	L tot (m)
25	3	2	32,0	69

Δx : interdistanza geofonica; Δt : passo di campionamento; T: durata registrazione; L tot: lunghezza profilo.



Spettro di potenza nel dominio f-v e Picking della curva sperimentali delle onde R (croci bianche).

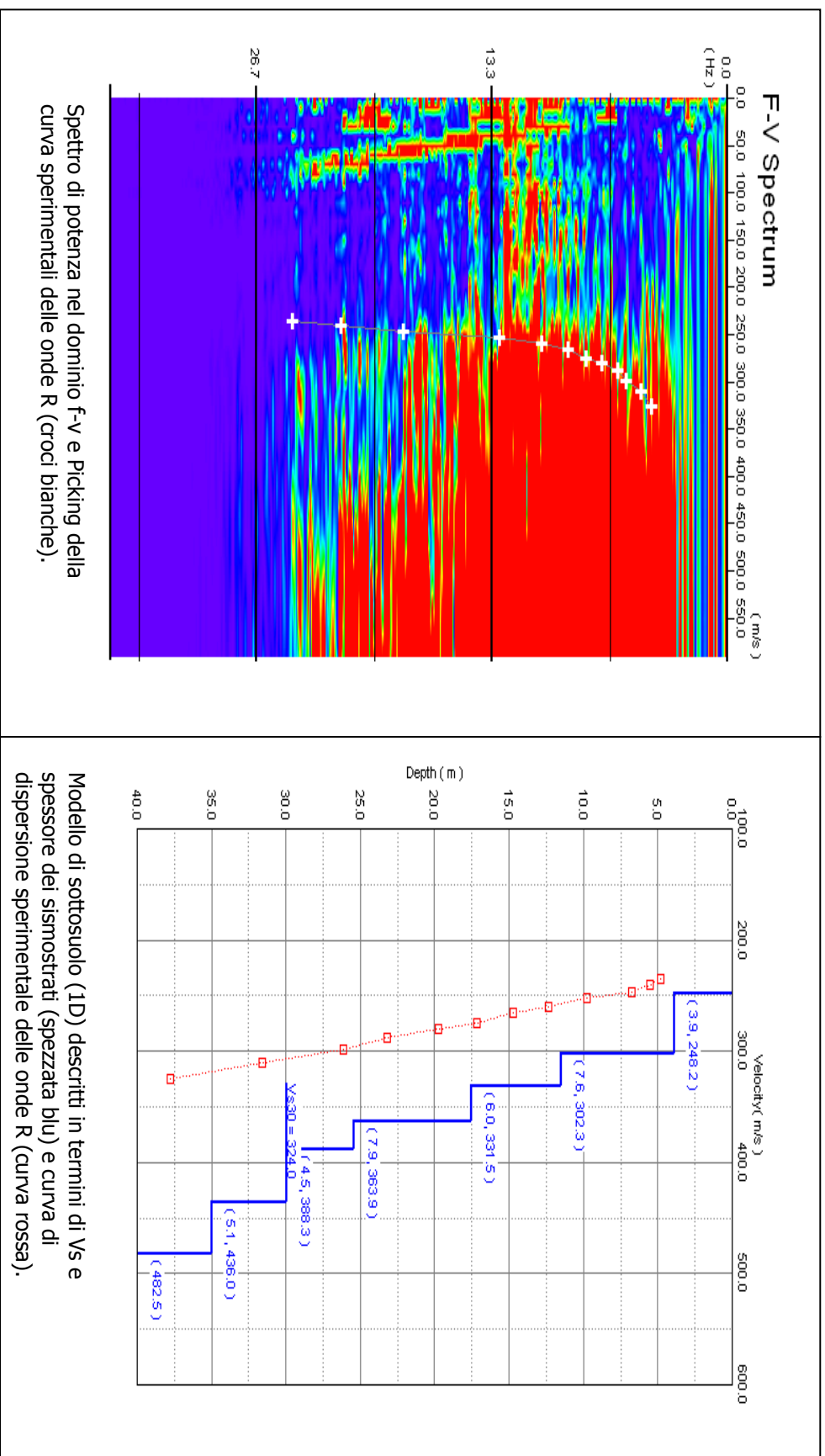
PROSPEZIONE SISMICA DI SUPERFICIE CON METODOLOGIA RE.MI.

prova n. 037060L15REM115

Sito di indagine: Comune di Zola Predosa

n. tracce	Δx (m)	Δt (ms)	T (s)	L tot (m)
25	3	2	32,0	69

Δx : interdistanza geofonica; Δt : passo di campionamento; T: durata registrazione; L tot: lunghezza profilo.



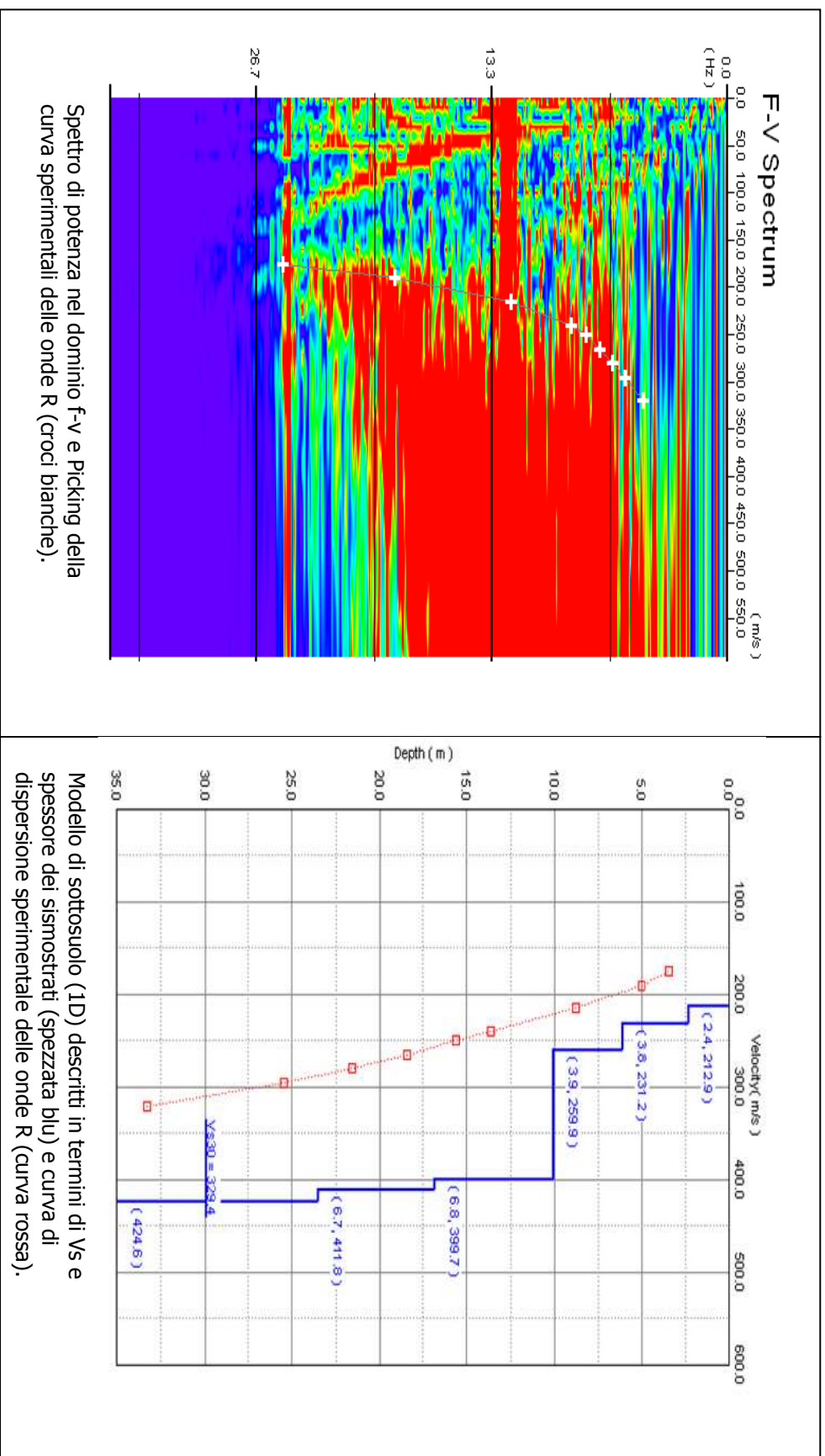
PROSPEZIONE SISMICA DI SUPERFICIE CON METODOLOGIA RE.MI.

prova n. 037060L16REM116

Sito di indagine: Comune di Zola Predosa

n. tracce	Δx (m)	Δt (ms)	T (s)	L tot (m)
25	3	2	32,0	69

Δx : interdistanza geofonica; Δt : passo di campionamento; T: durata registrazione; L tot: lunghezza profilo.



Spettro di potenza nel dominio f-v e Picking della curva sperimentali delle onde R (croci bianche).

Modello di sottosuolo (1D) descritti in termini di Vs e spessore dei sismostrati (spezzata blu) e curva di dispersione sperimentale delle onde R (curva rossa).

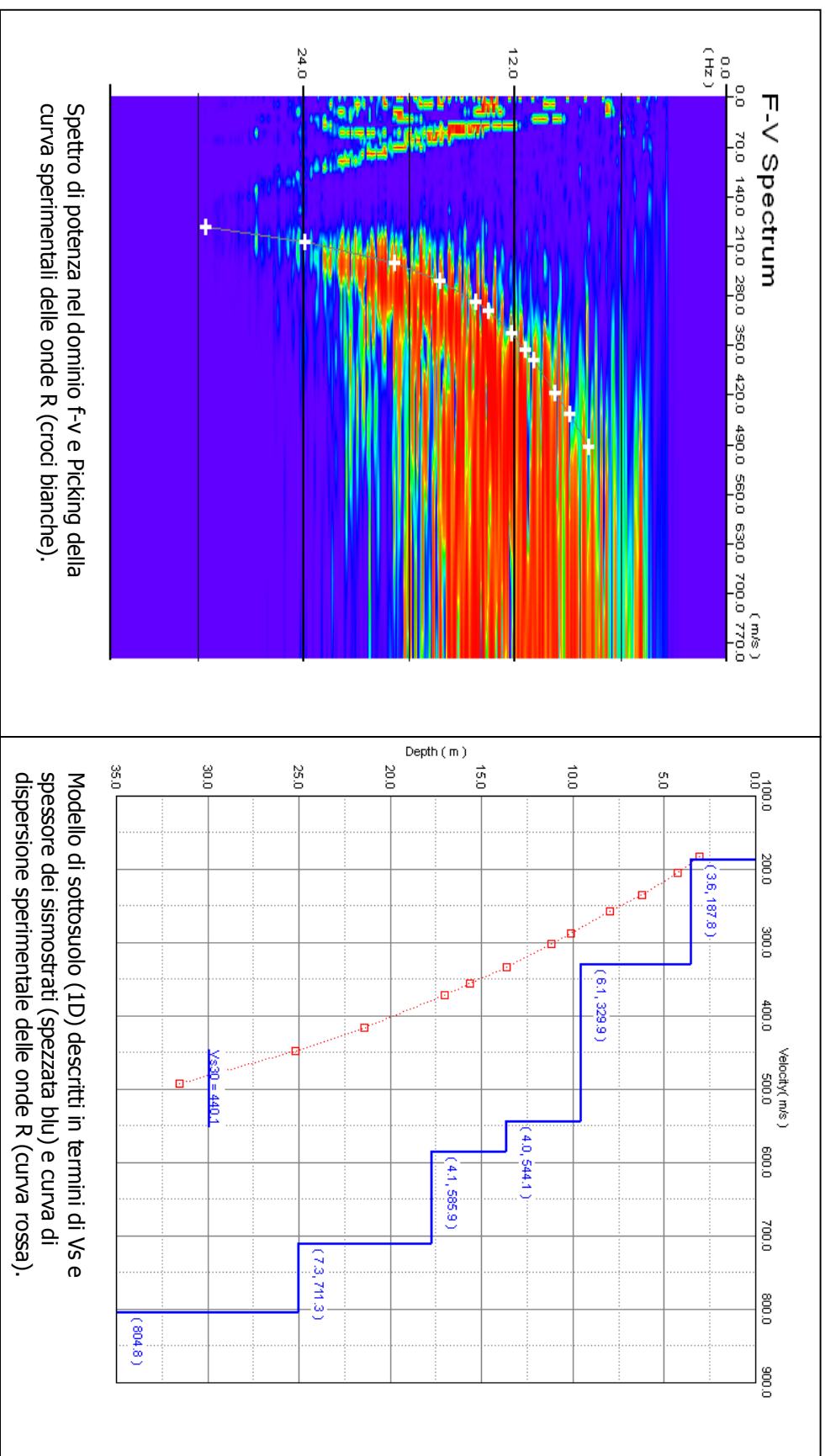
PROSPERZIONE SISMICA DI SUPERFICIE CON METODOLOGIA RE.MI.

prova n. 037060L17REM117

Sito di indagine: Comune di Zola Predosa

n. tracce	Δx (m)	Δt (ms)	T (s)	L tot (m)
25	3	2	32,0	69

Δx : interdistanza geofonica; Δt : passo di campionamento; T: durata registrazione; L tot: lunghezza profilo.



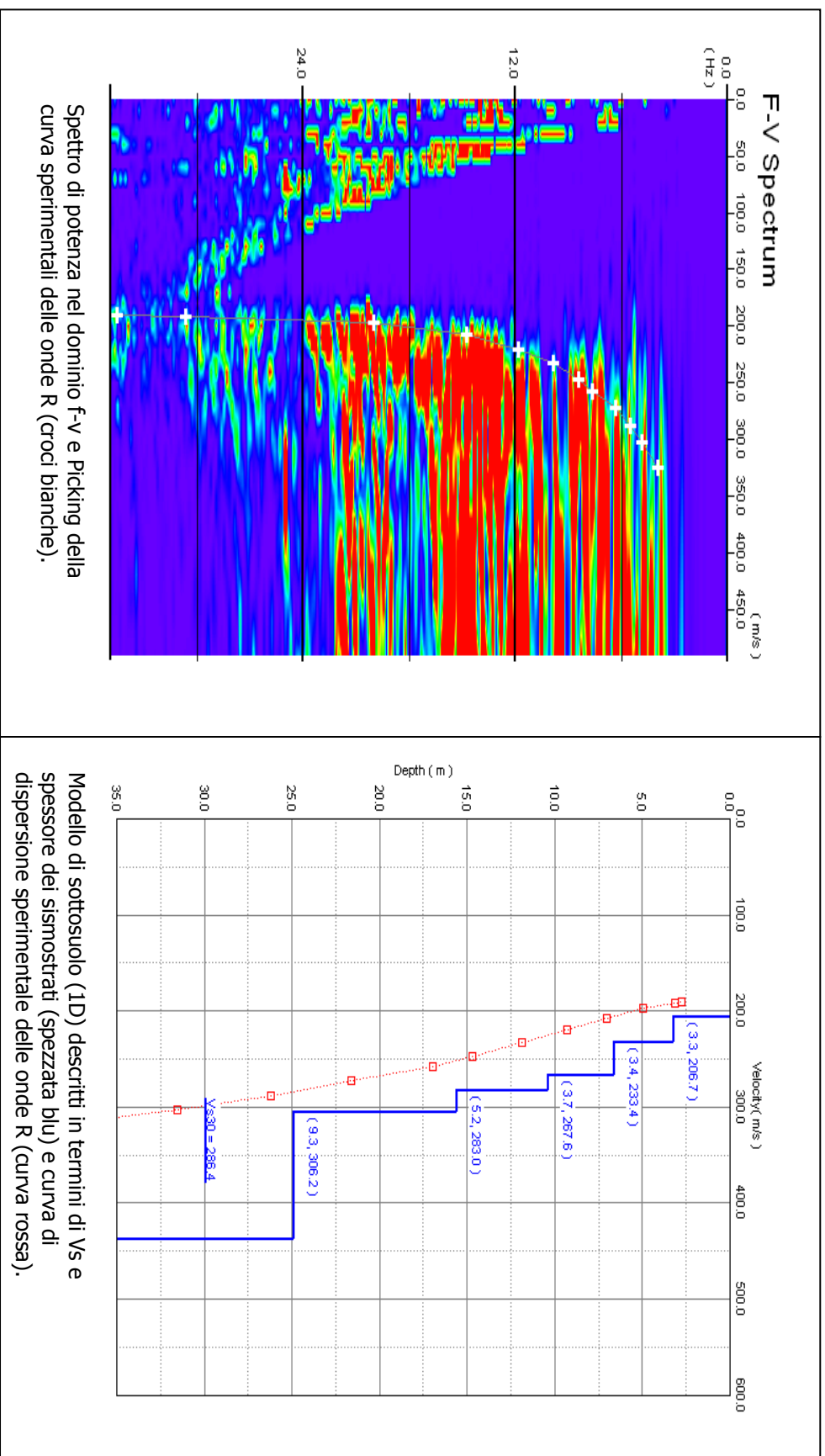
PROSPEZIONE SISMICA DI SUPERFICIE CON METODOLOGIA RE.MI.

prova n. 037060L18REM118

Sito di indagine: Comune di Zola Predosa

n. tracce	Δx (m)	Δt (ms)	T (s)	L tot (m)
25	3	2	32,0	69

Δx : interdistanza geofonica; Δt : passo di campionamento; T: durata registrazione; L tot: lunghezza profilo.



037060 L19MASW19



Indagine geofisica effettuata mediante tecnica MASW e HVSr per la determinazione della categoria di suolo di fondazione, sulla base della velocità media equivalente di propagazione delle onde di taglio entro 30 m di profondità (V_{S30}), dell'area sita in via Predosa n.84 nel comune di Zola Predosa (BO).

1 – Dati sperimentali tecnica MASW e risultati ottenuti

Strumentazione utilizzata.....sismografo digitale modello Dolang 24-bit
Numero di ricevitori verticali.....12
Spaziatura ricevitori.....3.00 m
Numero di campioni temporali.....4096
Frequenza di campionamento.....4000 Hz
Lunghezza traccia acquisita1 sec
Sorgente.....mazza 10 Kg

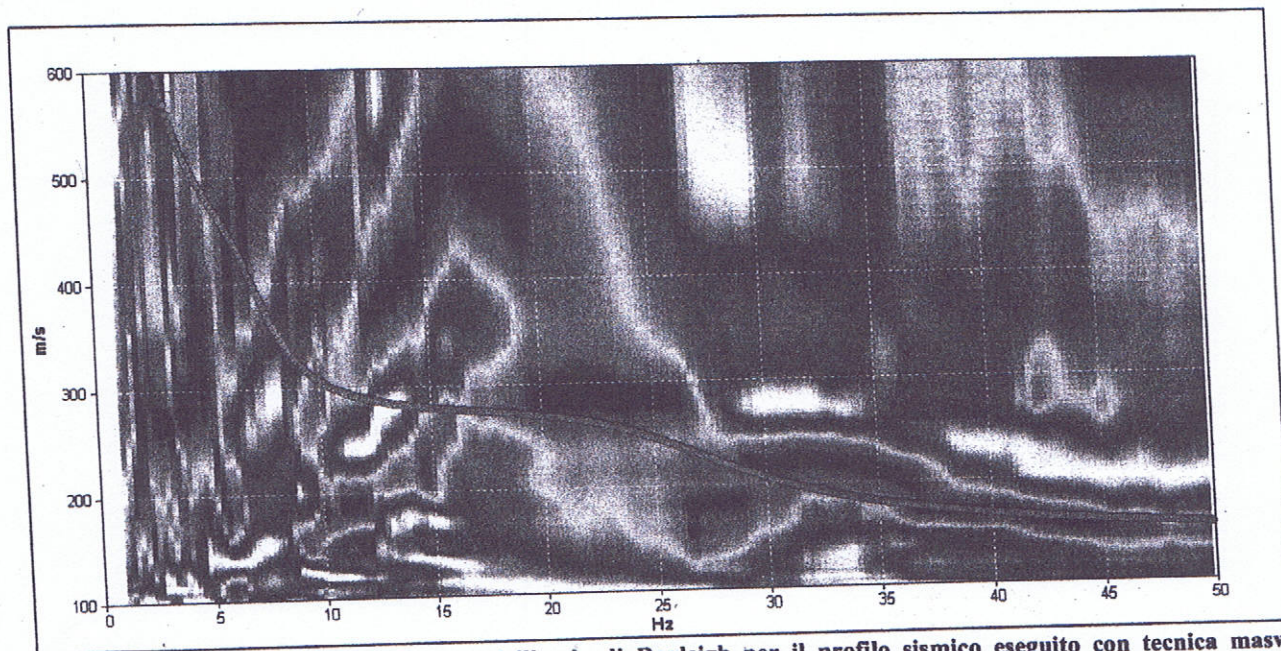


Figura 1 - Spettro di velocità di fase dell'onda di Rayleigh per il profilo sismico eseguito con tecnica masw (energizzazione ottenuta mediante battuta su piastra in alufer con mazza da 10 Kg). In blu il modo fondamentale della curva di dispersione teorica per il modello di sottosuolo proposto per il sito.

Indagine geofisica effettuata mediante tecnica MASW e HVSR per la determinazione della categoria di suolo di fondazione, sulla base della velocità media equivalente di propagazione delle onde di taglio entro 30 m di profondità (V_{s30}), dell'area sita in via Predosa n.84 nel comune di Zola Predosa (BO).

3 – Modello di sottosuolo ottenuto da fit congiunto prova in array (masw) e H/V

Profondità alla base dello strato [m]	Spessore [m]	Vs [m/s]	Rapporto di Poisson
1.50	1.50	150	0.49
3.00	1.50	190	0.49
18.00	15.00	310	0.40
63.00	45.00	570	0.35
113.00	50.00	760	0.35
inf.	inf.	920	0.35

$V_s(0.0-30.0)=344 \text{ m/s}$

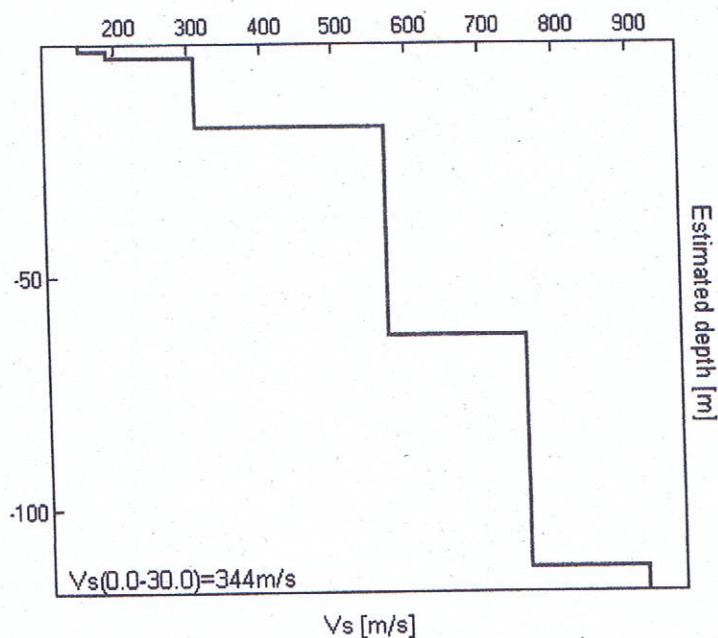


Figura 5 - Modello di velocità delle onde di taglio S (modello medio sotto il profilo effettuato) derivato da fit congiunto tecnica masw e tecnica H/V.

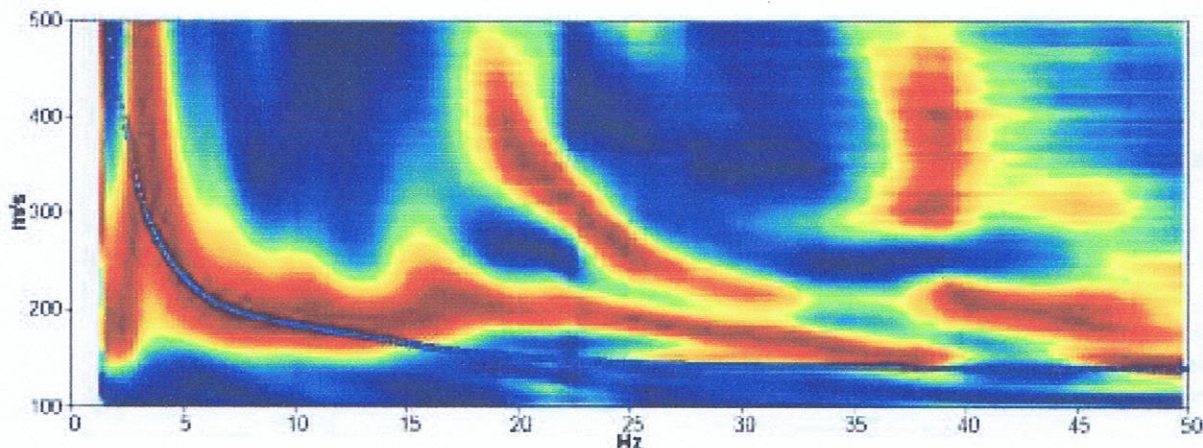
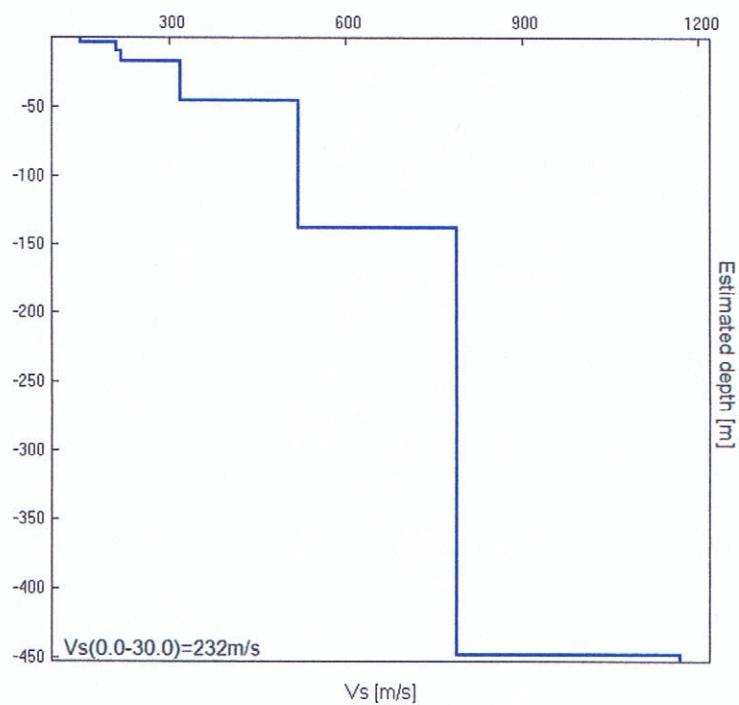


Fig. 8: Curva di dispersione del sito e la curva sintetica ricostruita.

Nella tabella e nel grafico seguenti vengono evidenziati gli strati sismici con le relative velocità delle onde S.

Strati sismici	Profondità [m]	Vs [m/s]
1	0 – 4.00	150
2	4.00 – 10.00	210
3	10.00 – 18.00	220
4	18.00 – 46.00	320
5	46.00 – 138.00	520
6	138.00 – 448.00	790
7	448.00 – inf.	1170



037060L21MASW21

037060L22MASW22

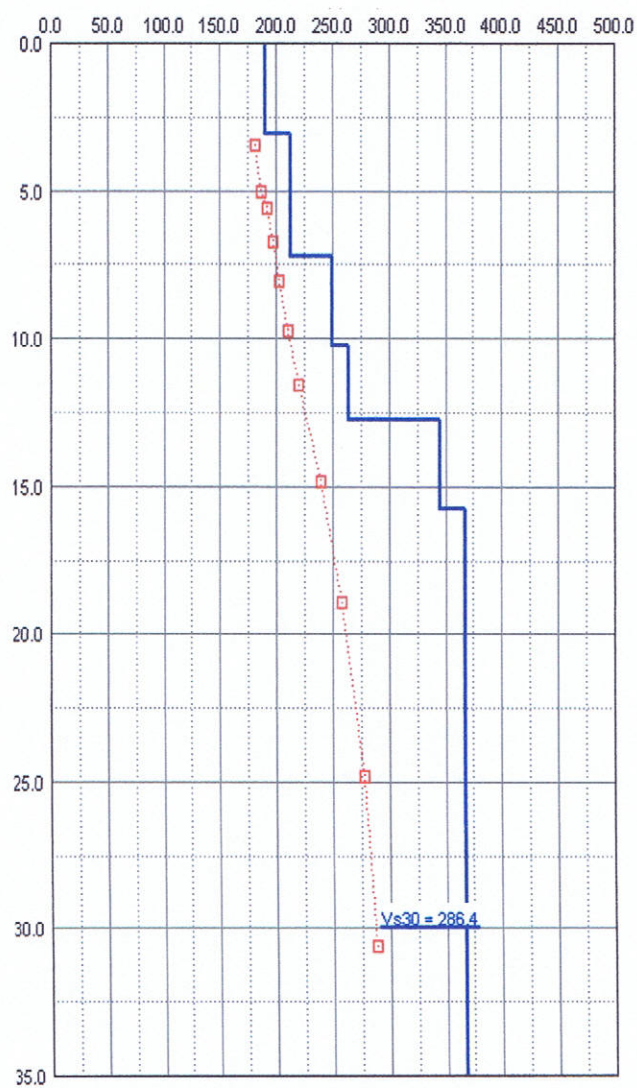
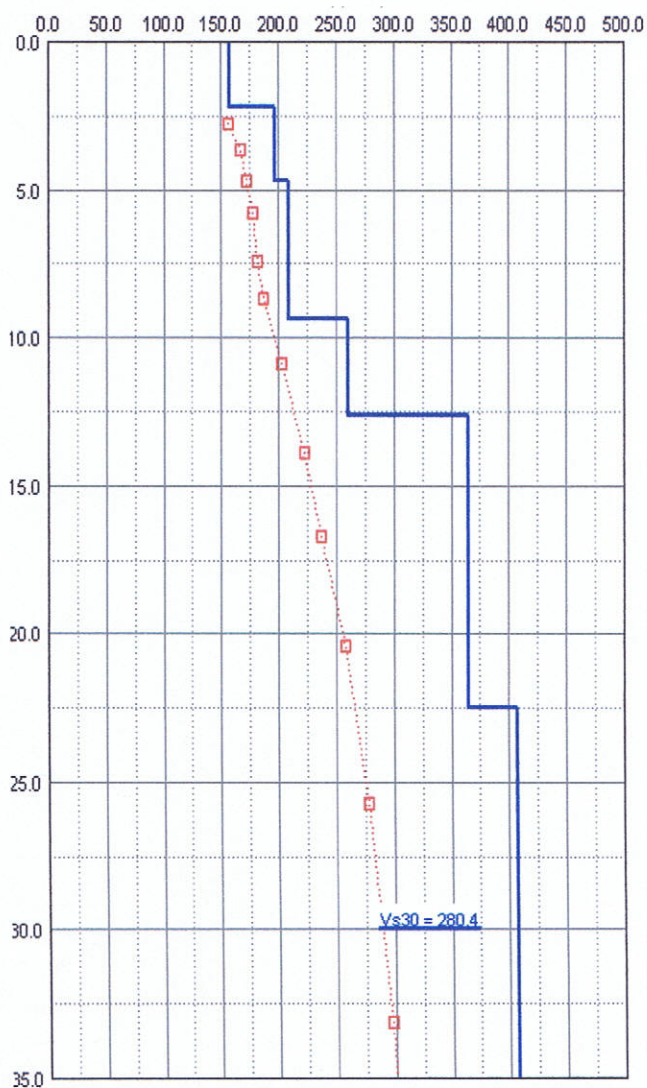


Figura 4.3 - Distribuzione delle Vs nel sottosuolo ricavate dalle prove MASW 1 (a sinistra) e MASW 2 (a destra)