



Illinois Department of Natural Resources

One Natural Resources Way Springfield, Illinois 62702-1271
www.dnr.illinois.gov

Bruce Rauner, Governor

Wayne A. Rosenthal, Director

December 22, 2016

Village of Manteno

Attn: Ms. Janice Schulteis

98 East Third Street

Manteno, Illinois 60950

Dear Ms. Schulteis:

On 05/24/16 the Illinois Department of Natural Resources installed a blasting seismograph on property located at the [REDACTED], Manteno, Illinois. Enclosed, please find a copy of the seismographic data obtained at the Hanley location. This data includes blasting events occurring at the VCNA Prairie, Inc. – North Central Materials quarry from 10/05/16 through 12/07/16.

The first page(s) of digital information is a summary of all events recorded by the seismograph, including both blasting and non-blasting events. All subsequent pages are copies of the waveform analysis of the recorded events determined to be blast induced vibrations. The analysis of the waveforms indicate **compliance** with the regulatory limits established to prevent damage to protected structures.

Looking at the waveform analysis, four (4) channels of information are displayed. The first channel is the acoustic or airblast waveform. The regulatory airblast limit is 133 decibels (dB). The next three channels are the ground vibrations waveforms, measured in three (3) mutually perpendicular directions (Radial, Vertical and Transverse). The regulatory ground vibration limit is 1.0 inch per second (ips) for all three (3) directions of motion. If you have any questions concerning this seismograph information, please contact myself at (815) 216-2361 (cell).

Sincerely,

A handwritten signature in black ink that reads "Myron L. McCaskey".

Myron L. McCaskey – Blasting Specialist

Explosives and Aggregate Division

Office of Mines and Minerals

Enclosure

cc. M.McCaskey

P. Jaderholm

Illinois Department of Natural Resources
Office of Mines and Minerals
Explosives and Aggregate Division
VCNA Prairie Inc. - North Central Quarry
Jim Hanley Property *Man 076*

Record Name	Date	Peak (ips)	Acoustic (dB)	Radial (ips)	Vertical (ips)	Transverse (ips)	Serial Number	Seismic Trigger (ips)	Battery
Number	Time	Hz	Hz	Hz	Hz	Hz	dB	Gain	
*c:\myron\seismograph...\421420161005001.dtb 001	10/5/2016 14:53	0.5225 0.0	134 0.0	0.5225 0.0	0.5225 0.0	0.5125 0.0	4214 132	0.0800 132	6.9 x4
c:\myron\seismograph...\421420161006002.dtb 002	10/6/2016 05:53	0.0025 0.0	137 204.8	0.0025 0.0	0.0025 0.0	0.0025 0.0	4214 132	0.0800 132	6.9 x4
*c:\myron\seismograph...\421420161009003.dtb 003	10/9/2016 17:54	0.5225 0.0	134 0.0	0.5200 0.0	0.5225 0.0	0.5075 0.0	4214 132	0.0800 132	7.1 x4
*c:\myron\seismograph...\421420161013004.dtb 004	10/13/2016 05:55	0.5200 0.0	134 0.0	0.5175 0.0	0.5200 0.0	0.5075 0.0	4214 132	0.0800 132	7.0 x4
c:\myron\seismograph...\421420161014005.dtb 005	10/14/2016 12:08	0.1075 13.2	110 3.5	0.1075 13.2	0.0525 22.2	0.0800 15.7	4214 132	0.0800 132	7.2 x4
*c:\myron\seismograph...\421420161018006.dtb 006	10/18/2016 00:10	0.5225 0.0	134 0.0	0.5200 0.0	0.5225 0.0	0.5100 0.0	4214 132	0.0800 132	7.1 x4
c:\myron\seismograph...\421420161019007.dtb 007	10/19/2016 15:47	0.1050 25.6	117 14.8	0.1050 25.6	0.0500 26.2	0.0975 18.2	4214 132	0.0800 132	7.1 x4
*c:\myron\seismograph...\421420161023008.dtb 008	10/23/2016 03:49	0.5200 0.0	134 0.0	0.5175 0.0	0.5200 0.0	0.5075 0.0	4214 132	0.0800 132	7.0 x4
c:\myron\seismograph...\421420161026009.dtb 009	10/26/2016 12:15	0.0025 0.0	137 256.0	0.0025 0.0	0.0025 0.0	0.0025 0.0	4214 132	0.0800 132	7.2 x4
c:\myron\seismograph...\421420161028010.dtb 010	10/28/2016 14:55	0.1675 10.1	117 4.8	0.1100 9.6	0.0500 31.0	0.1675 10.1	4214 132	0.0800 132	7.2 x4
*c:\myron\seismograph...\421420161101011.dtb 011	11/1/2016 02:56	0.5200 0.0	134 0.0	0.5200 0.0	0.5200 0.0	0.5075 0.0	4214 132	0.0800 132	7.0 x4
c:\myron\seismograph...\421420161102012.dtb 012	11/2/2016 14:24	0.1025 13.4	118 4.9	0.1025 13.4	0.0450 16.2	0.0500 15.0	4214 132	0.0800 132	7.2 x4
c:\myron\seismograph...\421420161102013.dtb 013	11/2/2016 18:27	0.0025 0.0	138 256.0	0.0025 0.0	0.0025 0.0	0.0025 0.0	4214 132	0.0800 132	7.1 x4
*c:\myron\seismograph...\421420161106014.dtb 014	11/6/2016 06:29	0.5225 0.0	134 0.0	0.5175 0.0	0.5225 0.0	0.5100 0.0	4214 132	0.0800 132	7.1 x4
c:\myron\seismograph...\421420161109015.dtb 015	11/9/2016 16:17	0.0950 12.4	116 6.0	0.0950 12.4	0.0300 16.7	0.0700 15.7	4214 132	0.0800 132	7.3 x4

* Denotes a calibration event.

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Explosives and Aggregate Division
VCNA Prairie Inc. - North Central Quarry
Jim Hanley Property**

Record Name	Date	Peak (ips)	Acoustic (dB)	Radial (ips)	Vertical (ips)	Transverse (ips)	Serial Number	Seismic Trigger (ips)	Battery
Number	Time	Hz	Hz	Hz	Hz	Hz	dB	Gain	
*c:\myron\seismograph...\421420161113016.dtb 016	11/13/2016 04:18	0.5175 0.0	134 0.0	0.5150 0.0	0.5175 0.0	0.5050 0.0	4214 132	0.0800 132	7.0 x4
c:\myron\seismograph...\421420161115017.dtb 017	11/15/2016 16:17	0.0850 12.1	114 12.9	0.0825 9.8	0.0400 13.8	0.0850 12.1	4214	0.0800 132	7.3 x4
c:\myron\seismograph...\421420161118018.dtb 018	11/18/2016 15:51	0.0875 12.0	117 7.5	0.0875 12.0	0.0275 13.2	0.0400 12.9	4214	0.0800 132	7.0 x4
*c:\myron\seismograph...\421420161122019.dtb 019	11/22/2016 03:52	0.5100 0.0	134 0.0	0.5075 0.0	0.5100 0.0	0.4975 0.0	4214	0.0800 132	7.1 x4
*c:\myron\seismograph...\421420161125020.dtb 020	11/25/2016 15:53	0.5125 0.0	134 0.0	0.5125 0.0	0.5125 0.0	0.5025 0.0	4214	0.0800 132	7.4 x4
c:\myron\seismograph...\421420161128021.dtb 021	11/28/2016 02:22	0.0025 0.0	134 256.0	0.0025 0.0	0.0025 0.0	0.0025 0.0	4214	0.0800 132	7.2 x4
c:\myron\seismograph...\421420161128022.dtb 022	11/28/2016 21:31	0.0025 0.0	134 4.9	0.0025 0.0	0.0025 0.0	0.0025 0.0	4214	0.0800 132	7.2 x4
c:\myron\seismograph...\421420161130023.dtb 023	11/30/2016 14:46	0.0875 14.8	119 15.5	0.0700 13.6	0.0575 13.8	0.0875 14.8	4214	0.0800 132	7.2 x4
*c:\myron\seismograph...\421420161204024.dtb 024	12/4/2016 02:48	0.5150 0.0	134 0.0	0.5125 0.0	0.5150 0.0	0.5050 0.0	4214	0.0800 132	7.2 x4
c:\myron\seismograph...\421420161207025.dtb 025	12/7/2016 13:49	0.1300 12.4	116 12.4	0.0875 13.4	0.0450 19.6	0.1300 12.4	4214	0.0800 132	7.3 x4
*c:\myron\seismograph...\421420161207026.dtb 026	12/7/2016 14:57	0.5150 0.0	134 0.0	0.5150 0.0	0.5150 0.0	0.5050 0.0	4214	0.0800 132	7.2 x4

* Denotes a calibration event.

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File Name: c:\myron\seismograph analysis\manteno\man076\421420161014005.dtb

Number: 005
Date: 10/14/2016
Time: 12:08
Serial Number: 4214
Seismic Trigger: 0.0800 in/sec
Acoustic Trigger: 132 dB
Sample Rate: 2048
Duration: 6.0 Seconds
Pre-Trigger: 0.25 Seconds
Gain: 4x
Voltage: 7.2

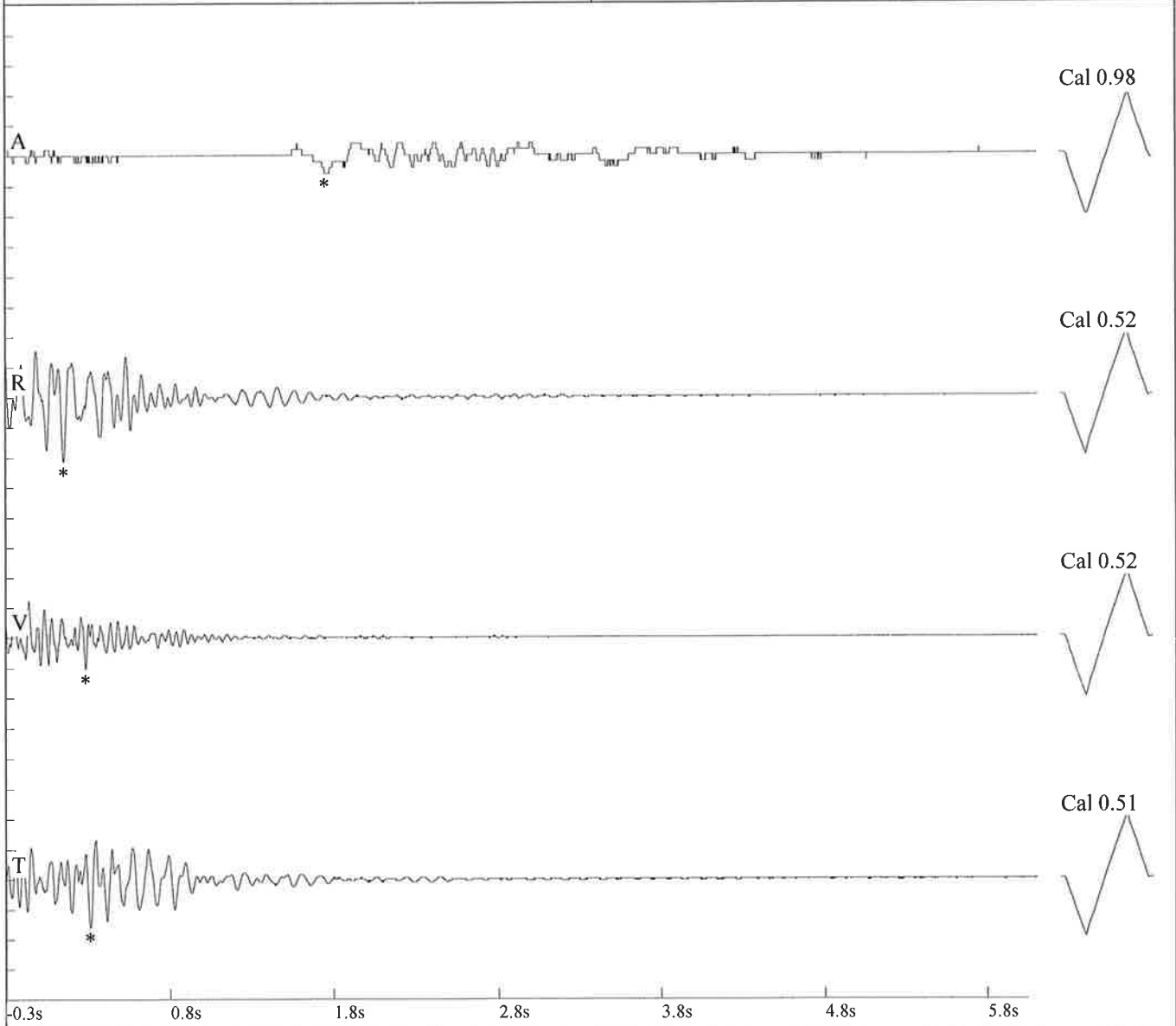
MM

Amplitudes and Frequencies

Acoustic: 110 dB @ 3.5 Hz
Radial: 0.1075 in/sec @ 13.2Hz
Vertical: 0.0525 in/sec @ 22.2Hz
Transverse: 0.0800 in/sec @ 15.7Hz

Graph Information

Duration: -0.250 s To: 6.000 s
Acoustic Scale: 126 dB
Seismic Scale: 0.20 in/sec (0.050 in/sec/div)
Time Intervals at: 1.00 s



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File Name: c:\myron\seismograph analysis\manteno\man076\421420161019007.dtb
 Number: 007
 Date: 10/19/2016
 Time: 15:47
 Serial Number: 4214
 Seismic Trigger: 0.0800 in/sec
 Acoustic Trigger: 132 dB
 Sample Rate: 2048
 Duration: 6.0 Seconds
 Pre-Trigger: 0.25 Seconds
 Gain: 4x
 Voltage: 7.1

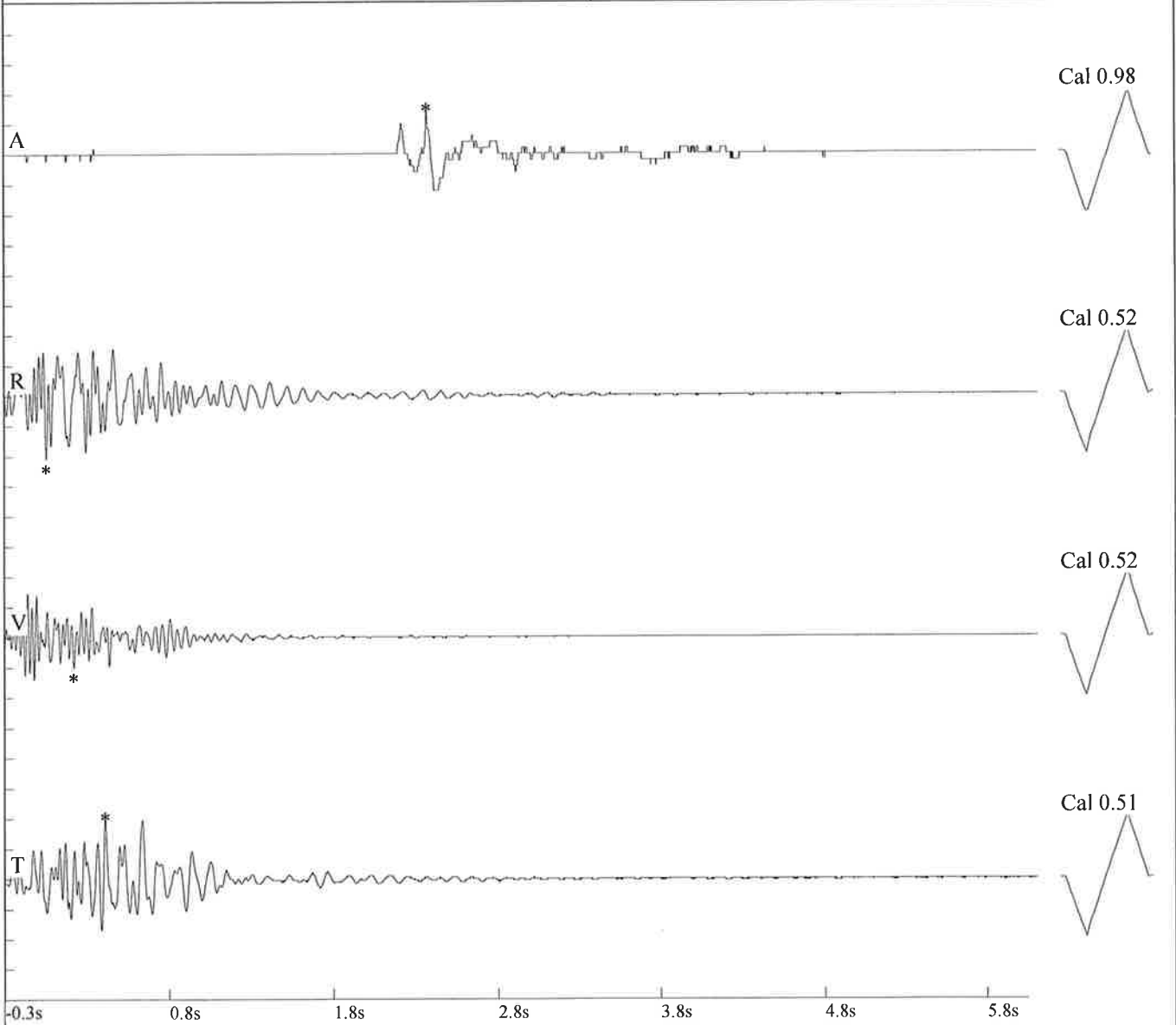
MAN

Amplitudes and Frequencies

Acoustic: 117 dB @ 14.8 Hz
***Radial:* 0.1050 in/sec @ 25.6Hz**
Vertical: 0.0500 in/sec @ 26.2Hz
Transverse: 0.0975 in/sec @ 18.2Hz

Graph Information

Duration: -0.250 s To: 6.000 s
Acoustic Scale: 126 dB
Seismic Scale: 0.20 in/sec (0.050 in/sec/div)
Time Intervals at: 1.00 s



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File Name: c:\myron\seismograph analysis\manteno\man076\421420161028010.dtb

Number: 010
 Date: 10/28/2016
 Time: 14:55
 Serial Number: 4214
 Seismic Trigger: 0.0800 in/sec
 Acoustic Trigger: 132 dB
 Sample Rate: 2048
 Duration: 6.0 Seconds
 Pre-Trigger: 0.25 Seconds
 Gain: 4x
 Voltage: 7.2

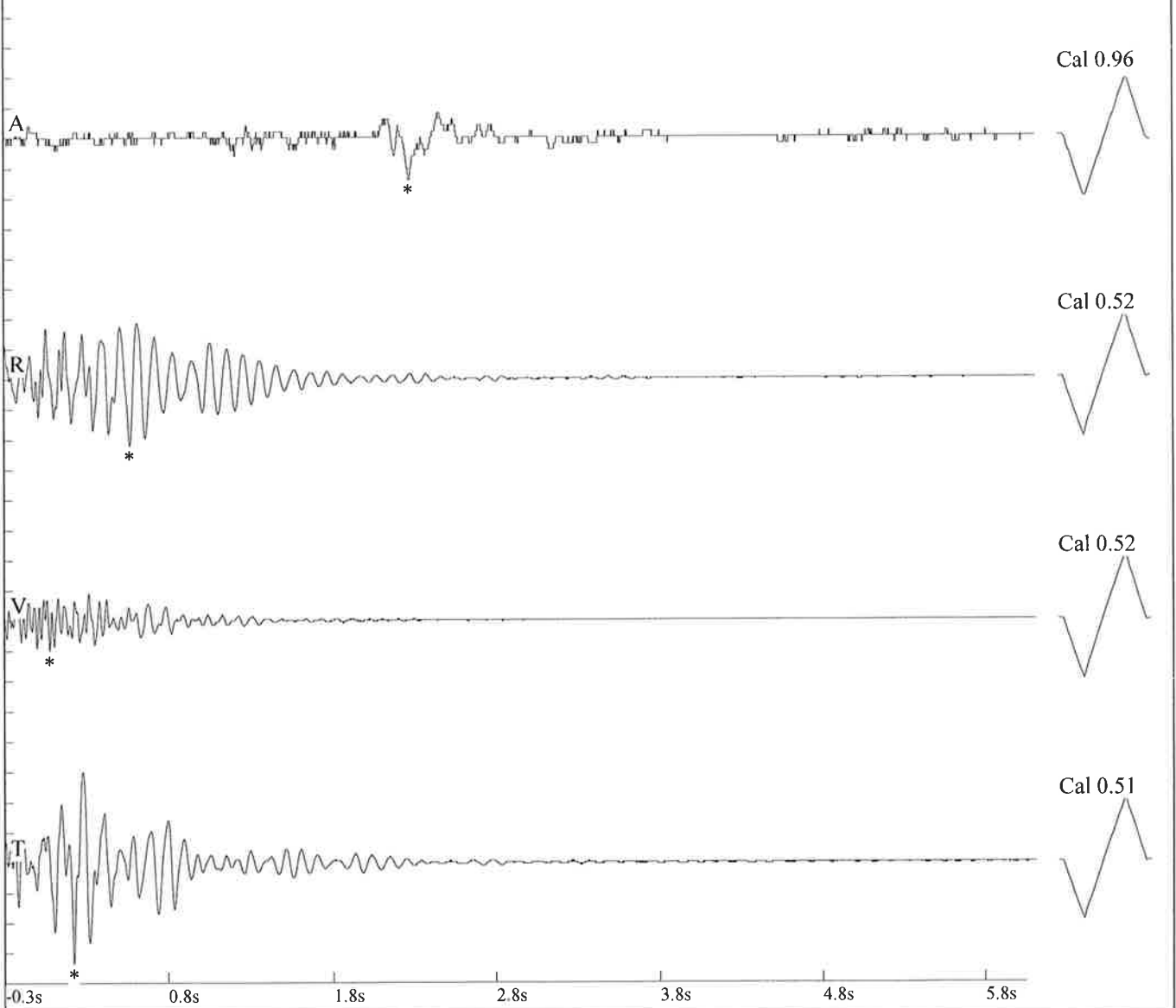
M 2.1

Amplitudes and Frequencies

Acoustic: 117 dB @ 4.8 Hz
Radial: 0.1100 in/sec @ 9.6Hz
Vertical: 0.0500 in/sec @ 31.0Hz
Transverse: 0.1675 in/sec @ 10.1Hz

Graph Information

Duration: -0.250 s To: 6.000 s
Acoustic Scale: 126 dB
Seismic Scale: 0.20 in/sec (0.050 in/sec/div)
Time Intervals at: 1.00 s



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File Name: c:\myron\seismograph analysis\manteno\man076\421420161102012.dtb
 Number: 012
 Date: 11/2/2016
 Time: 14:24
 Serial Number: 4214
 Seismic Trigger: 0.0800 in/sec
 Acoustic Trigger: 132 dB
 Sample Rate: 2048
 Duration: 6.0 Seconds
 Pre-Trigger: 0.25 Seconds
 Gain: 4x
 Voltage: 7.2

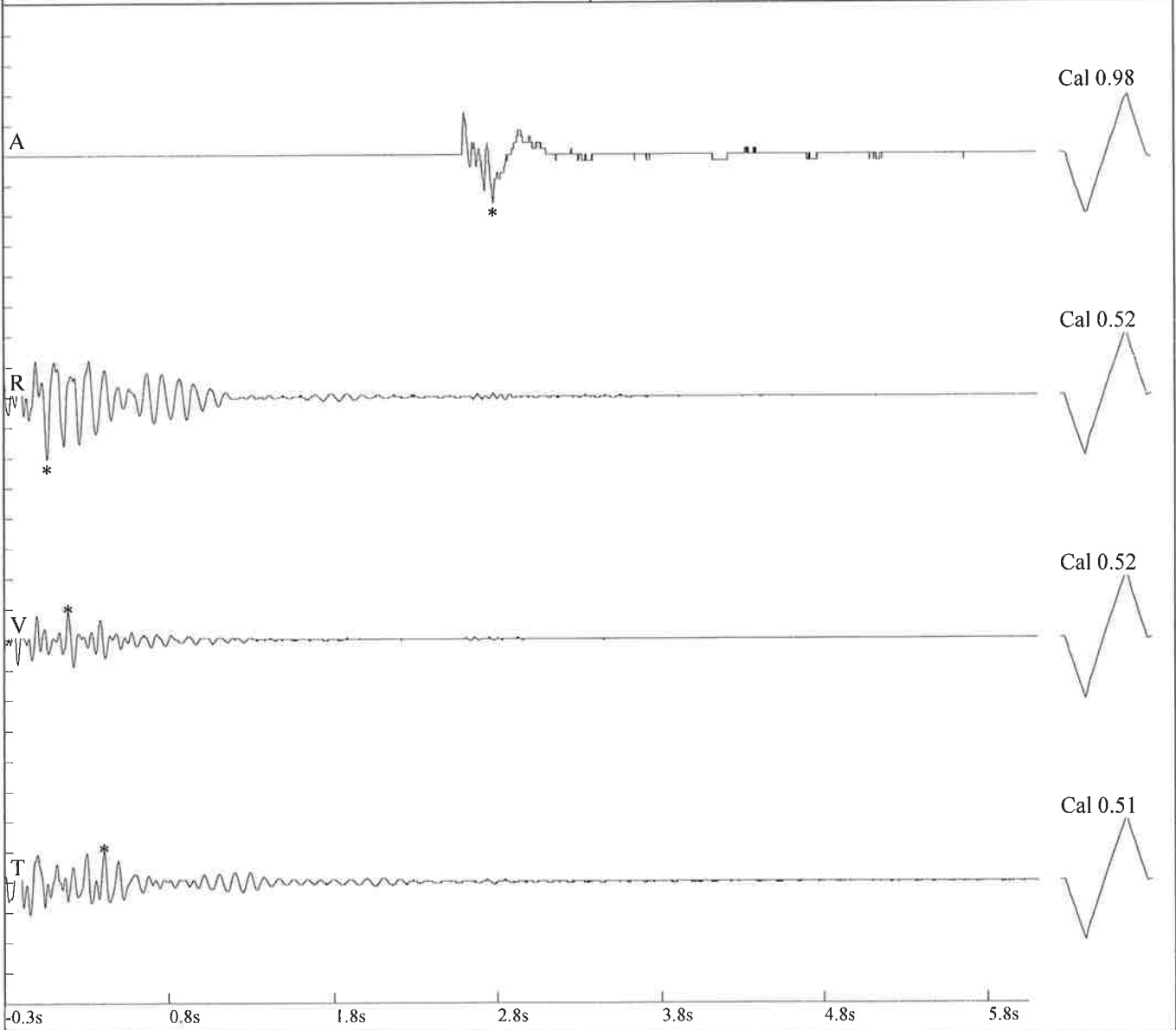
MJM

Amplitudes and Frequencies

Acoustic: 118 dB @ 4.9 Hz
Radial: 0.1025 in/sec @ 13.4Hz
Vertical: 0.0450 in/sec @ 16.2Hz
Transverse: 0.0500 in/sec @ 15.0Hz

Graph Information

Duration: -0.250 s To: 6.000 s
Acoustic Scale: 126 dB
Seismic Scale: 0.20 in/sec (0.050 in/sec/div)
Time Intervals at: 1.00 s



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File Name: c:\myron\seismograph analysis\manteno\man076\421420161109015.dtb
 Number: 015
 Date: 11/9/2016
 Time: 16:17
 Serial Number: 4214
 Seismic Trigger: 0.0800 in/sec
 Acoustic Trigger: 132 dB
 Sample Rate: 2048
 Duration: 6.0 Seconds
 Pre-Trigger: 0.25 Seconds
 Gain: 4x
 Voltage: 7.3

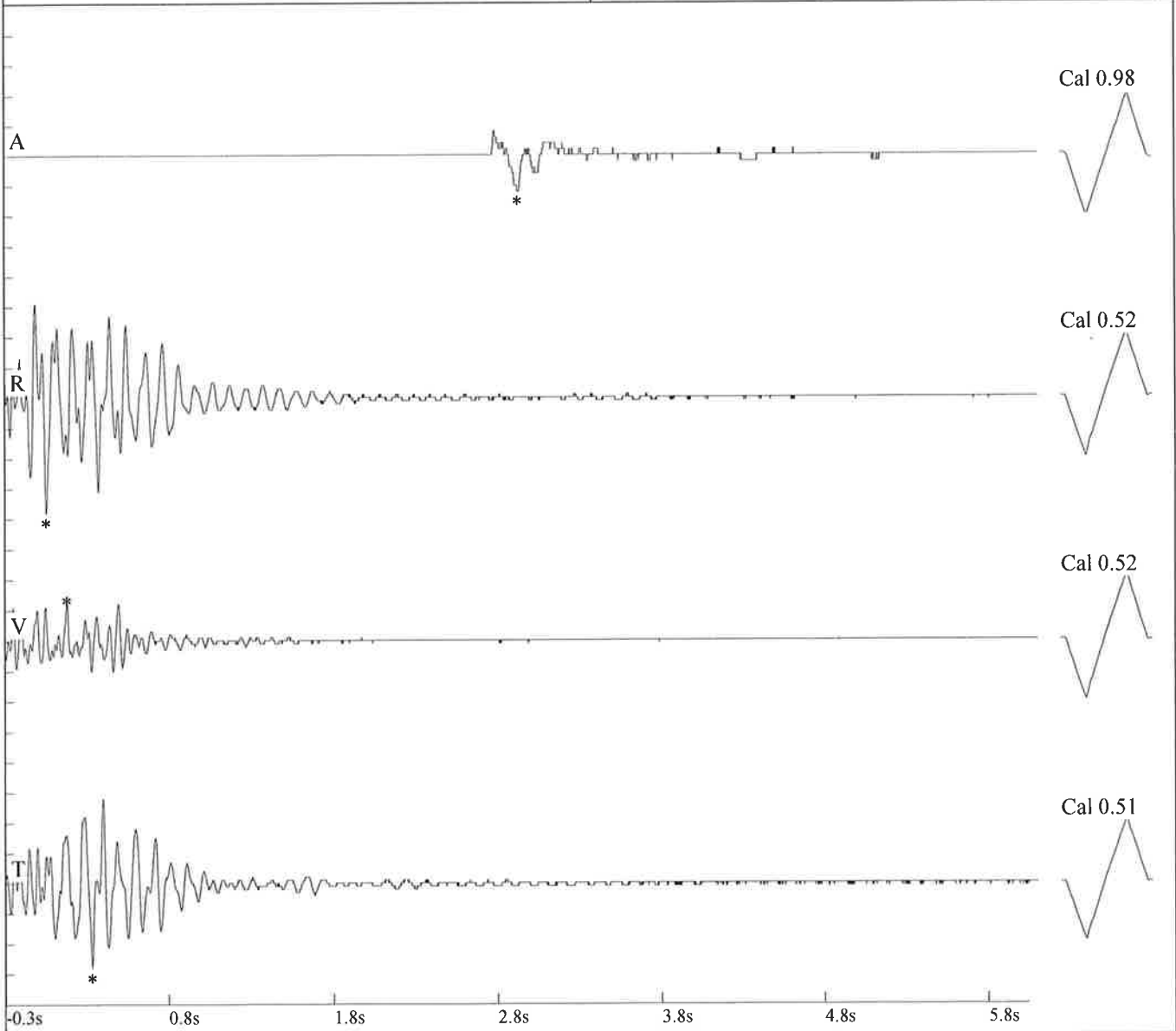
M&M

Amplitudes and Frequencies

Acoustic: 116 dB @ 6.0 Hz
Radial: 0.0950 in/sec @ 12.4Hz
Vertical: 0.0300 in/sec @ 16.7Hz
Transverse: 0.0700 in/sec @ 15.7Hz

Graph Information

Duration: -0.250 s To: 6.000 s
Acoustic Scale: 126 dB
Seismic Scale: 0.10 in/sec (0.025 in/sec/div)
Time Intervals at: 1.00 s

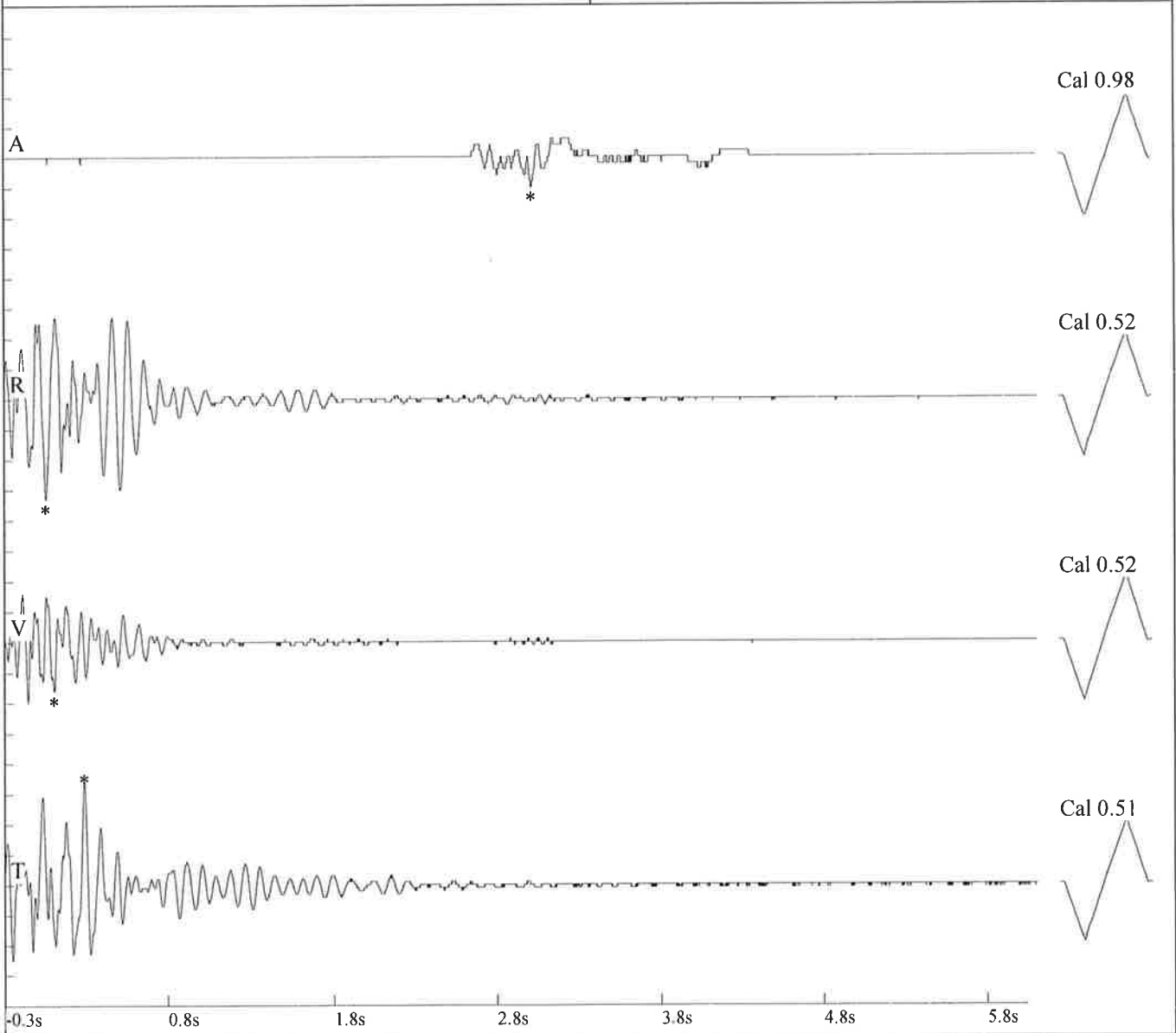


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File Name: c:\myron\seismograph analysis\manteno\man076\421420161115017.dtb
 Number: 017
 Date: 11/15/2016
 Time: 16:17
 Serial Number: 4214
 Seismic Trigger: 0.0800 in/sec
 Acoustic Trigger: 132 dB
 Sample Rate: 2048
 Duration: 6.0 Seconds
 Pre-Trigger: 0.25 Seconds
 Gain: 4x
 Voltage: 7.3

MSM

Amplitudes and Frequencies	Graph Information
Acoustic: 114 dB @ 12.9 Hz Radial: 0.0825 in/sec @ 9.8Hz Vertical: 0.0400 in/sec @ 13.8Hz Transverse: 0.0850 in/sec @ 12.1Hz	Duration: -0.250 s To: 6.000 s Acoustic Scale: 126 dB Seismic Scale: 0.10 in/sec (0.025 in/sec/div) Time Intervals at: 1.00 s



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File Name: c:\myron\seismograph analysis\manteno\man076\421420161118018.dtb
 Number: 018
 Date: 11/18/2016
 Time: 15:51
 Serial Number: 4214
 Seismic Trigger: 0.0800 in/sec
 Acoustic Trigger: 132 dB
 Sample Rate: 2048
 Duration: 6.0 Seconds
 Pre-Trigger: 0.25 Seconds
 Gain: 4x
 Voltage: 7.0

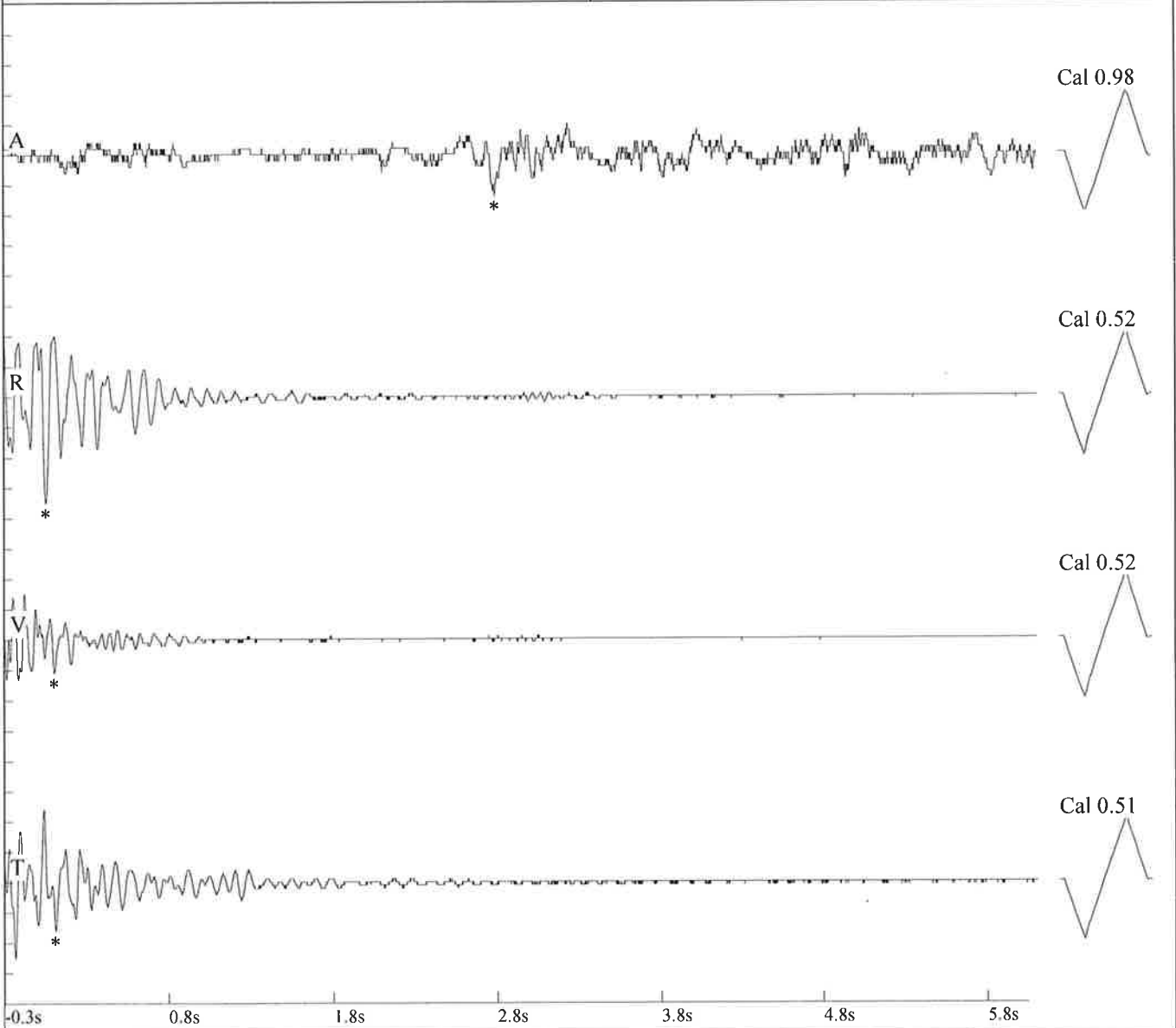
M. SM

Amplitudes and Frequencies

Acoustic: 117 dB @ 7.5 Hz
Radial: 0.0875 in/sec @ 12.0Hz
Vertical: 0.0275 in/sec @ 13.2Hz
Transverse: 0.0400 in/sec @ 12.9Hz

Graph Information

Duration: -0.250 s To: 6.000 s
Acoustic Scale: 126 dB
Seismic Scale: 0.10 in/sec (0.025 in/sec/div)
Time Intervals at: 1.00 s

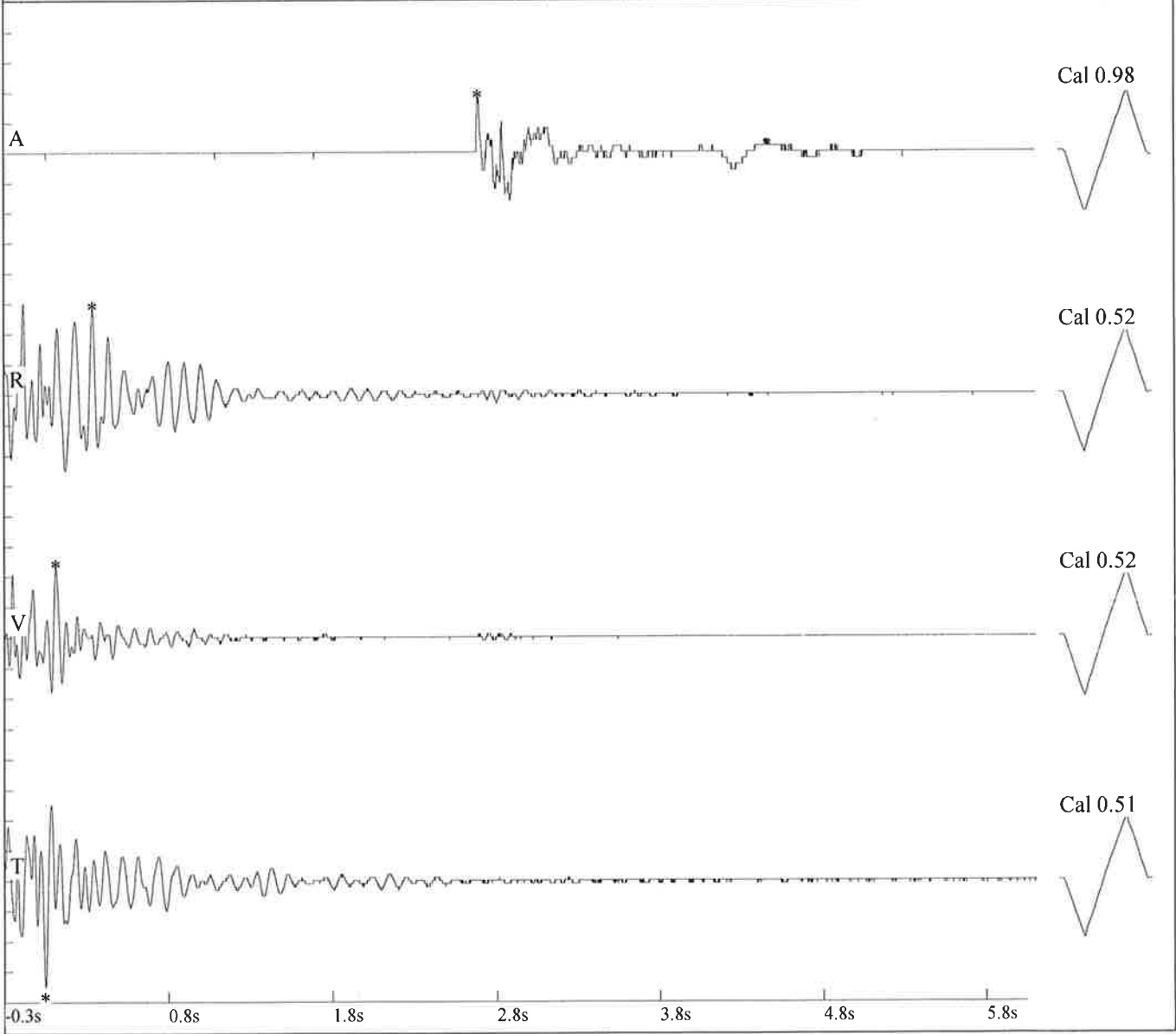


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File Name: c:\myron\seismograph analysis\manteno\man076\421420161130023.dtb
 Number: 023
 Date: 11/30/2016
 Time: 14:46
 Serial Number: 4214
 Seismic Trigger: 0.0800 in/sec
 Acoustic Trigger: 132 dB
 Sample Rate: 2048
 Duration: 6.0 Seconds
 Pre-Trigger: 0.25 Seconds
 Gain: 4x
 Voltage: 7.2

M&M

Amplitudes and Frequencies	Graph Information
Acoustic: 119 dB @ 15.5 Hz Radial: 0.0700 in/sec @ 13.6Hz Vertical: 0.0575 in/sec @ 13.8Hz Transverse: 0.0875 in/sec @ 14.8Hz	Duration: -0.250 s To: 6.000 s Acoustic Scale: 126 dB Seismic Scale: 0.10 in/sec (0.025 in/sec/div) Time Intervals at: 1.00 s



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File Name: c:\myron\seismograph analysis\manteno\man076\421420161207025.dtb

Number: 025

Date: 12/7/2016

Time: 13:49

Serial Number: 4214

Seismic Trigger: 0.0800 in/sec

Acoustic Trigger: 132 dB

Sample Rate: 2048

Duration: 6.0 Seconds

Pre-Trigger: 0.25 Seconds

Gain: 4x

Voltage: 7.3

M.M.

Amplitudes and Frequencies

Acoustic: 116 dB @ 12.4 Hz

Radial: 0.0875 in/sec @ 13.4Hz

Vertical: 0.0450 in/sec @ 19.6Hz

Transverse: 0.1300 in/sec @ 12.4Hz

Graph Information

Duration: -0.250 s To: 6.000 s

Acoustic Scale: 126 dB

Seismic Scale: 0.20 in/sec (0.050 in/sec/div)

Time Intervals at: 1.00 s

