



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 21, 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 08/10/16 through 10/05/16.

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 cursive script 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 075*

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...\421420160810001.dtb 001	8/10/2016 16:15	0.5250 0.0	134 0.0	0.5200 0.0	0.5250 0.0	0.5125 0.0	4214 132	0.0800 132	6.9 x4
c:\myron\seismograph...\421420160811002.dtb 002	8/11/2016 11:04	0.1075 12.0	118 11.3	0.1075 12.0	0.0875 17.6	0.0675 15.7	4214 132	0.0800 132	6.9 x4
*c:\myron\seismograph...\421420160814003.dtb 003	8/14/2016 23:05	0.5250 0.0	134 0.0	0.5200 0.0	0.5250 0.0	0.5125 0.0	4214 132	0.0800 132	7.0 x4
c:\myron\seismograph...\421420160818004.dtb 004	8/18/2016 11:00	0.0025 0.0	135 341.3	0.0025 0.0	0.0025 0.0	0.0025 0.0	4214 132	0.0800 132	7.1 x4
c:\myron\seismograph...\421420160818005.dtb 005	8/18/2016 11:02	0.0025 0.0	137 146.2	0.0025 0.0	0.0025 0.0	0.0025 0.0	4214 132	0.0800 132	7.0 x4
c:\myron\seismograph...\421420160818006.dtb 006	8/18/2016 14:47	0.0025 0.0	132 341.3	0.0025 0.0	0.0025 0.0	0.0025 0.0	4214 132	0.0800 132	7.0 x4
c:\myron\seismograph...\421420160819007.dtb 007	8/19/2016 12:28	0.1200 13.6	112 11.3	0.0900 12.3	0.0725 29.2	0.1200 13.6	4214 132	0.0800 132	7.0 x4
c:\myron\seismograph...\421420160820008.dtb 008	8/20/2016 10:02	0.0025 0.0	134 341.3	0.0025 0.0	0.0025 0.0	0.0025 0.0	4214 132	0.0800 132	7.0 x4
*c:\myron\seismograph...\421420160823009.dtb 009	8/23/2016 22:03	0.5200 0.0	134 0.0	0.5200 0.0	0.5200 0.0	0.5100 0.0	4214 132	0.0800 132	7.0 x4
c:\myron\seismograph...\421420160825010.dtb 010	8/25/2016 01:23	0.0050 0.0	138 341.3	0.0025 0.0	0.0025 0.0	0.0050 0.0	4214 132	0.0800 132	7.1 x4
c:\myron\seismograph...\421420160827011.dtb 011	8/27/2016 04:40	0.0025 0.0	136 341.3	0.0025 0.0	0.0025 0.0	0.0025 0.0	4214 132	0.0800 132	7.1 x4
c:\myron\seismograph...\421420160829012.dtb 012	8/29/2016 13:18	0.1850 11.9	116 4.9	0.1850 11.9	0.1200 25.6	0.1425 17.6	4214 132	0.0800 132	7.1 x4
*c:\myron\seismograph...\421420160902013.dtb 013	9/2/2016 01:20	0.5225 0.0	134 0.0	0.5200 0.0	0.5225 0.0	0.5100 0.0	4214 132	0.0800 132	6.9 x4
*c:\myron\seismograph...\421420160905014.dtb 014	9/5/2016 13:21	0.5225 0.0	134 0.0	0.5200 0.0	0.5225 0.0	0.5125 0.0	4214 132	0.0800 132	7.1 x4
c:\myron\seismograph...\421420160908015.dtb 015	9/8/2016 05:05	0.0025 0.0	133 256.0	0.0025 0.0	0.0025 0.0	0.0025 0.0	4214 132	0.0800 132	7.0 x4

* Denotes a calibration event.

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Jim Hanley Property**

Record Name	Date	Peak (ips)	Acoustic (dB)	Radial (ips)	Vertical (ips)	Transverse (ips)	Seismic Trigger (ips)	Battery	
Number	Time	Hz	Hz	Hz	Hz	Hz	Serial Number	Acoustic Trigger dB	Gain
c:\myron\seismograph...\421420160909016.dtb 016	9/9/2016 12:47	0.1725 14.0	120 4.0	0.1450 10.6	0.0800 36.5	0.1725 14.0	4214	0.0800 132	7.0 x4
*c:\myron\seismograph...\421420160913017.dtb 017	9/13/2016 00:49	0.5225 0.0	134 0.0	0.5200 0.0	0.5225 0.0	0.5125 0.0	4214	0.0800 132	7.0 x4
*c:\myron\seismograph...\421420160916018.dtb 018	9/16/2016 12:50	0.5250 0.0	134 0.0	0.5200 0.0	0.5250 0.0	0.5100 0.0	4214	0.0800 132	7.1 x4
*c:\myron\seismograph...\421420160920019.dtb 019	9/20/2016 00:51	0.5200 0.0	134 0.0	0.5175 0.0	0.5200 0.0	0.5100 0.0	4214	0.0800 132	7.0 x4
c:\myron\seismograph...\421420160920020.dtb 020	9/20/2016 12:40	0.1300 13.4	119 5.5	0.1125 13.2	0.0675 24.9	0.1300 13.4	4214	0.0800 132	7.1 x4
*c:\myron\seismograph...\421420160924021.dtb 021	9/24/2016 00:41	0.5250 0.0	134 0.0	0.5200 0.0	0.5250 0.0	0.5125 0.0	4214	0.0800 132	7.0 x4
*c:\myron\seismograph...\421420160927022.dtb 022	9/27/2016 12:42	0.5250 0.0	134 0.0	0.5200 0.0	0.5250 0.0	0.5100 0.0	4214	0.0800 132	7.1 x4
c:\myron\seismograph...\421420160928023.dtb 023	9/28/2016 10:36	0.3600 8.9	110 22.7	0.1600 8.5	0.0950 28.4	0.3600 8.9	4214	0.0800 132	7.1 x4
*c:\myron\seismograph...\421420161001024.dtb 024	10/1/2016 22:38	0.5225 0.0	134 0.0	0.5200 0.0	0.5225 0.0	0.5125 0.0	4214	0.0800 132	7.1 x4
c:\myron\seismograph...\421420161003025.dtb 025	10/3/2016 13:19	0.1125 17.3	117 8.9	0.0800 21.7	0.0575 26.2	0.1125 17.3	4214	0.0800 132	7.1 x4
*c:\myron\seismograph...\421420161005026.dtb 026	10/5/2016 14:02	0.5225 0.0	134 0.0	0.5225 0.0	0.5225 0.0	0.5125 0.0	4214	0.0800 132	7.1 x4

* Denotes a calibration event.

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File Name: c:\myron\seismograph analysis\manteno\man75\421420160811002.dtb
 Number: 002
 Date: 8/11/2016
 Time: 11:04
 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: 6.9

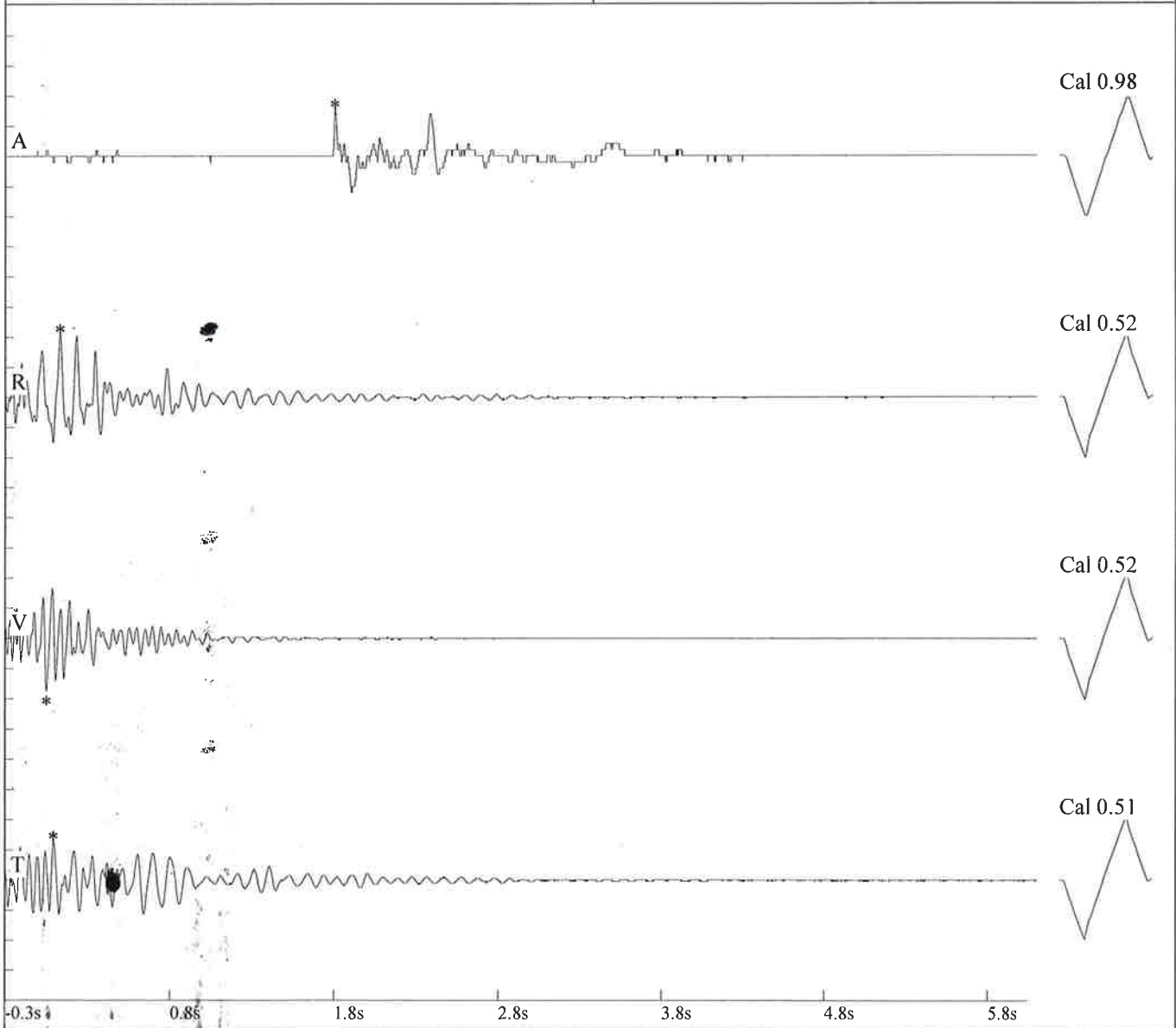
MSM

Amplitudes and Frequencies

Acoustic: 118 dB @ 11.3 Hz
Radial: 0.1075 in/sec @ 12.0Hz
Vertical: 0.0875 in/sec @ 17.6Hz
Transverse: 0.0675 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\man75\421420160819007.dtb

Number: 007

Date: 8/19/2016

Time: 12:28

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

10/29/11

Amplitudes and Frequencies

Acoustic: 112 dB @ 11.3 Hz

Radial: 0.0900 in/sec @ 12.3Hz

Vertical: 0.0725 in/sec @ 29.2Hz

Transverse: 0.1200 in/sec @ 13.6Hz

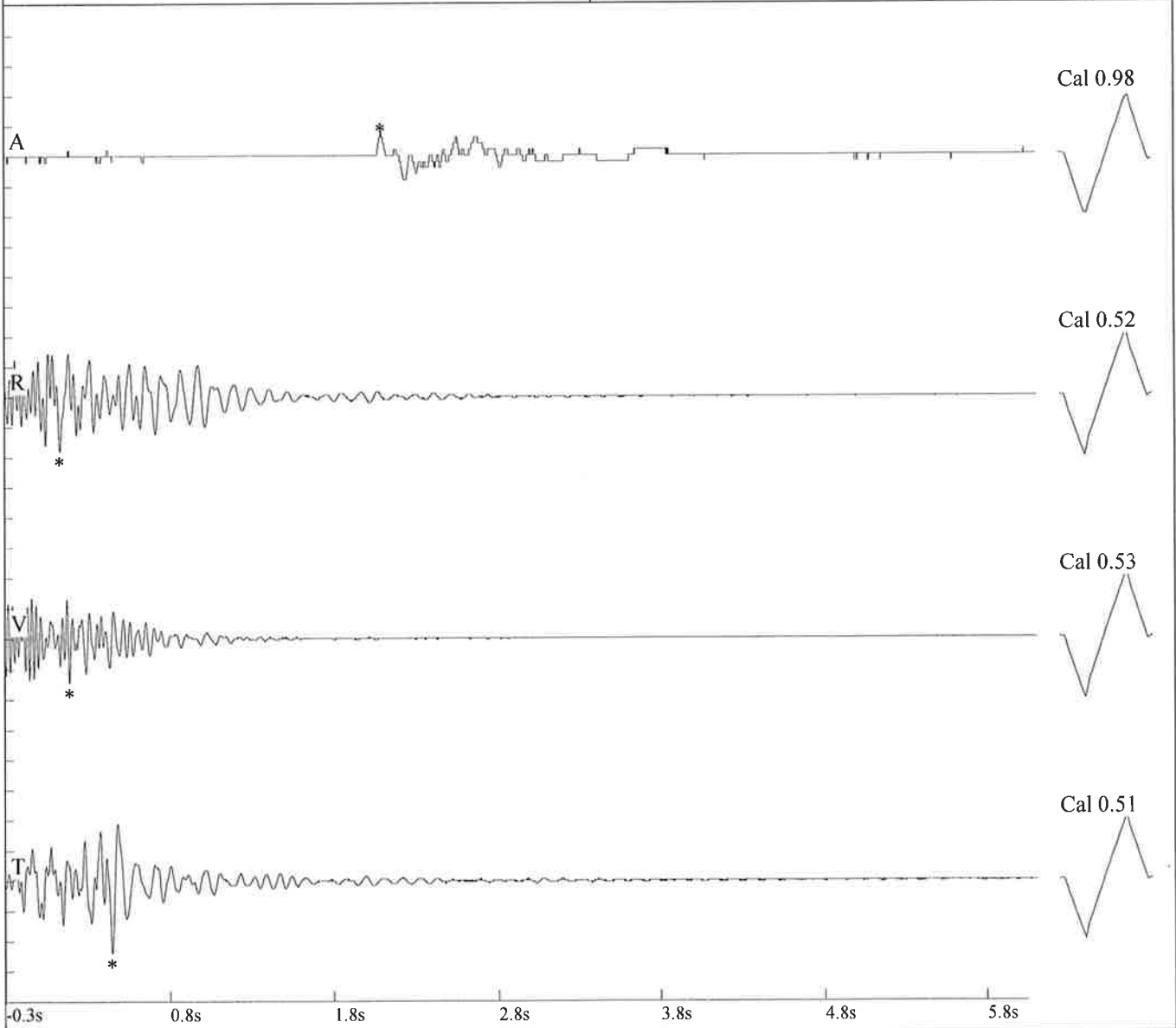
Graph Information

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\man75\421420160829012.dtb

Number: 012
 Date: 8/29/2016
 Time: 13:18
 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

M.S.M.

Amplitudes and Frequencies

Acoustic: 116 dB @ 4.9 Hz

***Radial:* 0.1850 in/sec @ 11.9Hz**

Vertical: 0.1200 in/sec @ 25.6Hz

Transverse: 0.1425 in/sec @ 17.6Hz

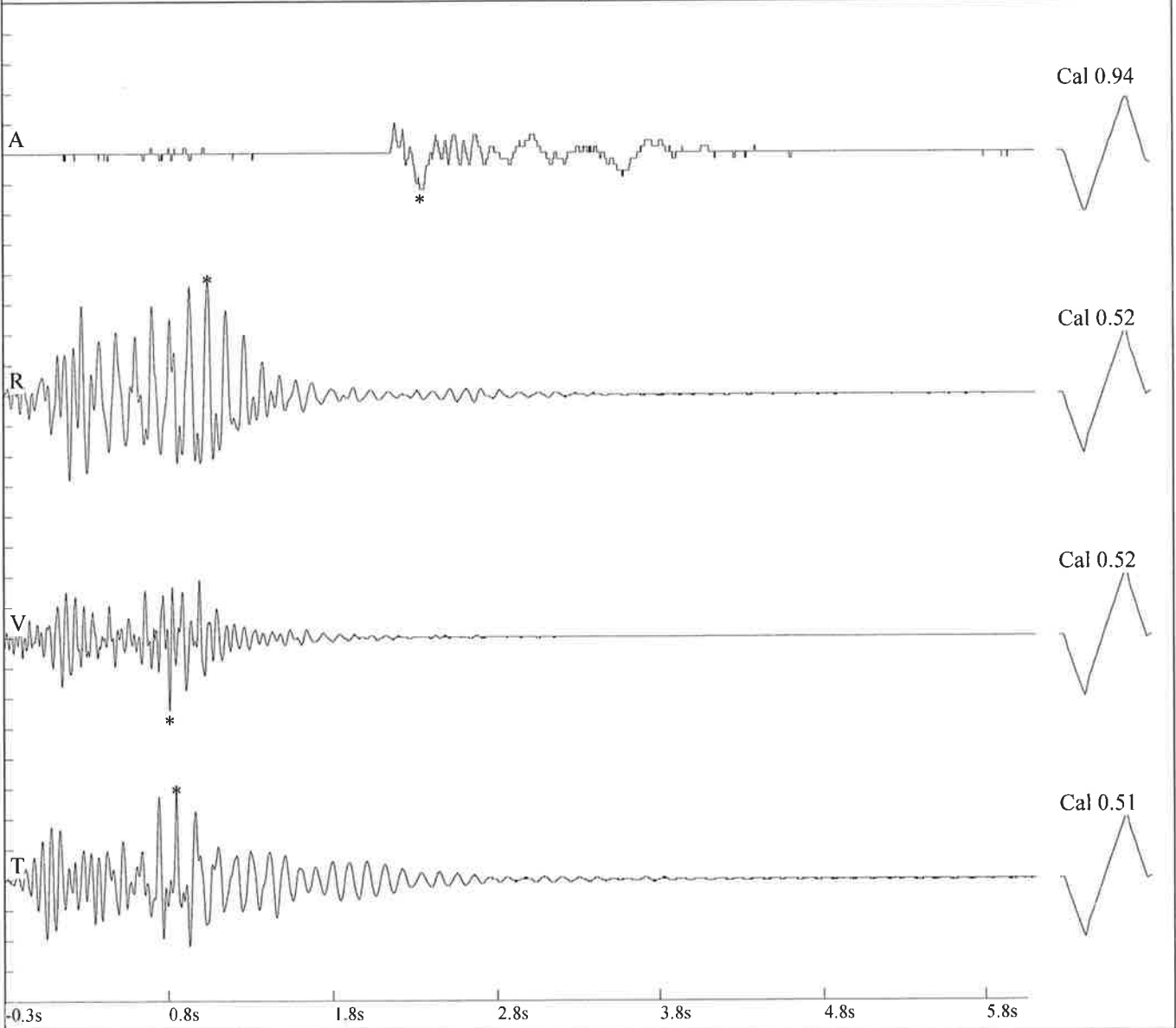
Graph Information

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\man75\421420160909016.dtb

Number: 016
 Date: 9/9/2016
 Time: 12:47
 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: 7.0

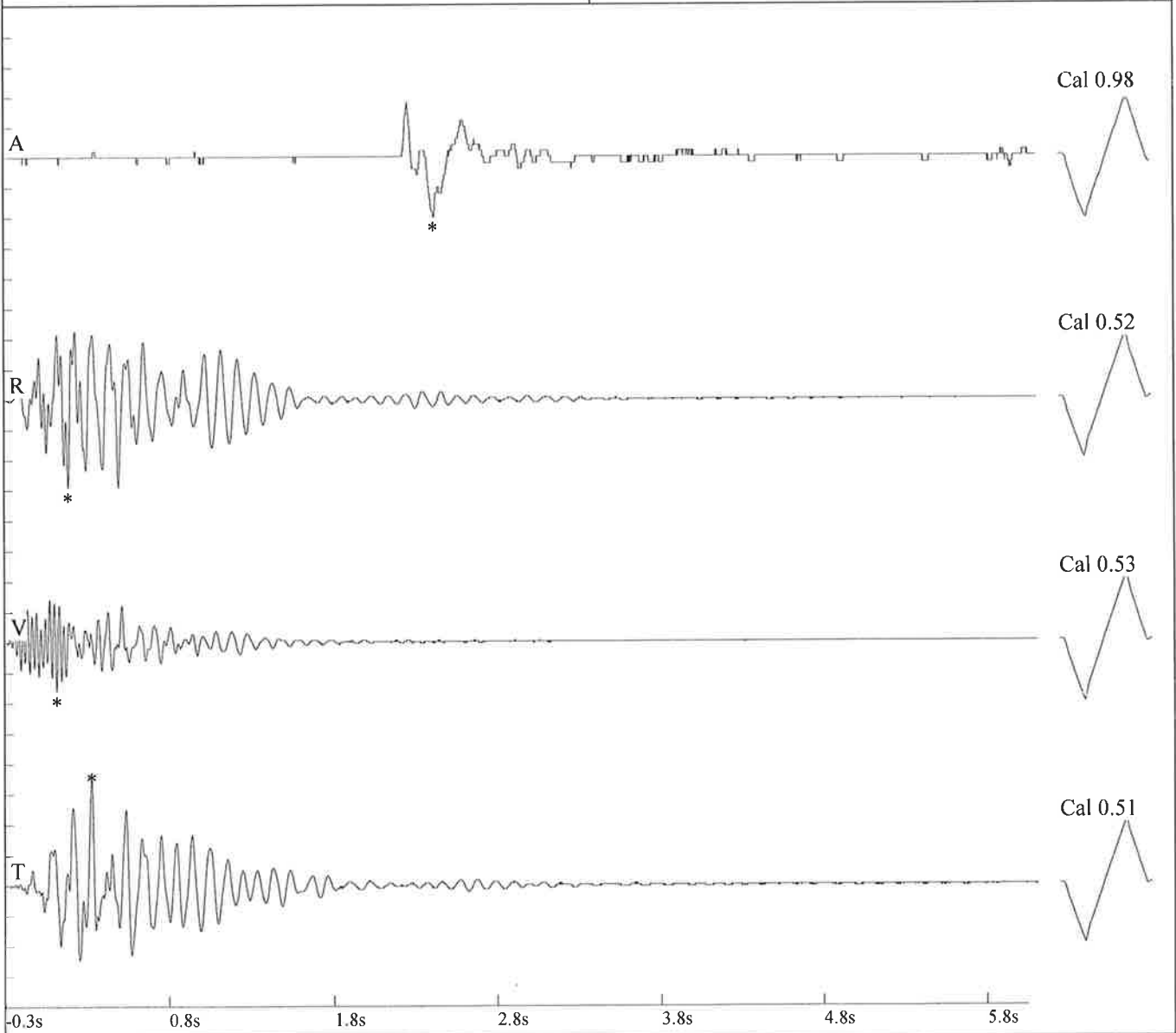
MAM

Amplitudes and Frequencies

Acoustic: 120 dB @ 4.0 Hz
Radial: 0.1450 in/sec @ 10.6Hz
Vertical: 0.0800 in/sec @ 36.5Hz
Transverse: 0.1725 in/sec @ 14.0Hz

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\man75\421420160920020.dtb

Number: 020
 Date: 9/20/2016
 Time: 12:40
 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

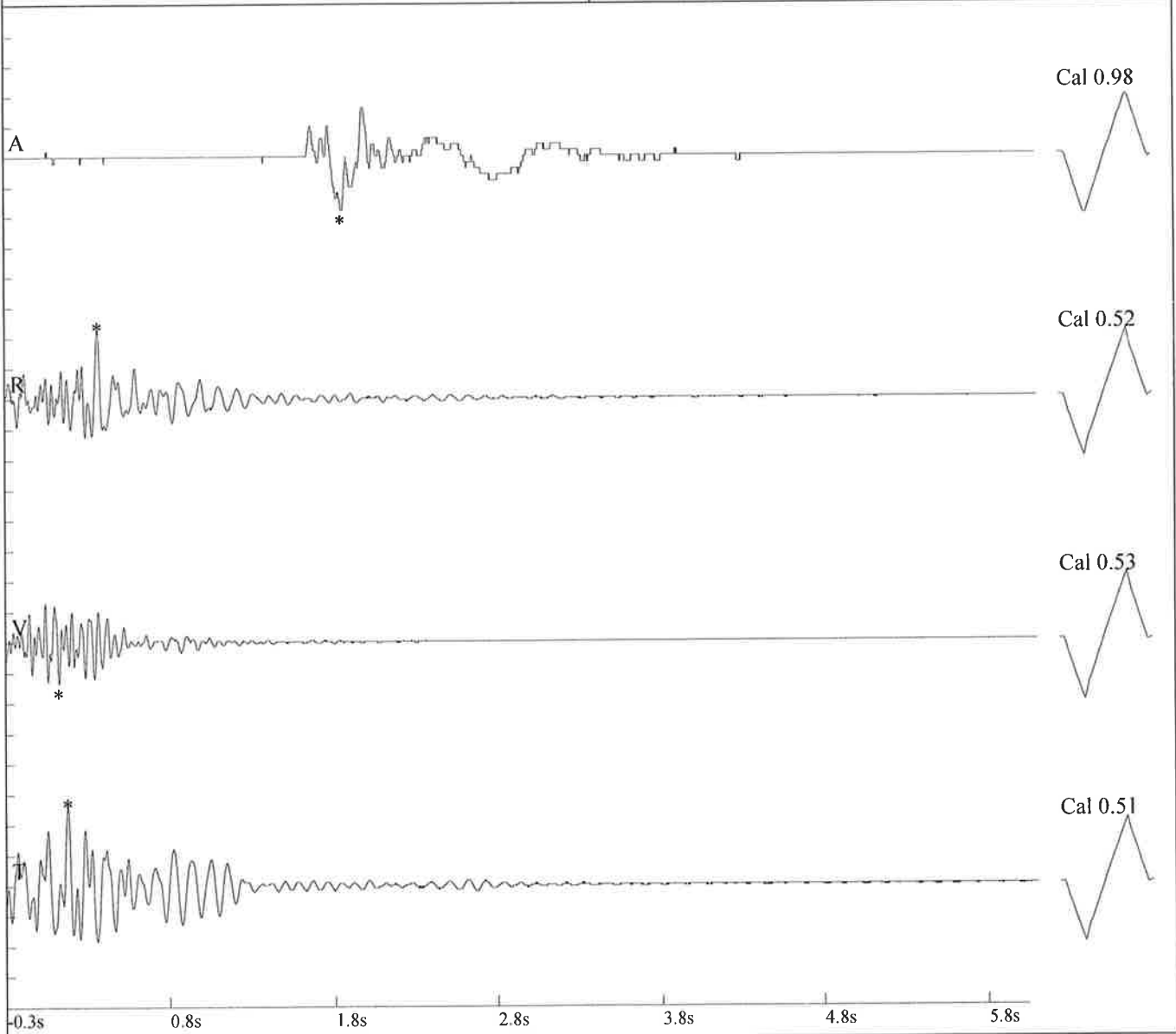
MLM

Amplitudes and Frequencies

Acoustic: 119 dB @ 5.5 Hz
Radial: 0.1125 in/sec @ 13.2Hz
Vertical: 0.0675 in/sec @ 24.9Hz
Transverse: **0.1300 in/sec @ 13.4Hz**

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



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Jim Hanley Property

File Name: c:\myron\seismograph analysis\manteno\man75\421420160928023.dtb

Number: 023

Date: 9/28/2016

Time: 10:36

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

M&M

Amplitudes and Frequencies

Acoustic: 110 dB @ 22.7 Hz

Radial: 0.1600 in/sec @ 8.5Hz

Vertical: 0.0950 in/sec @ 28.4Hz

Transverse: **0.3600 in/sec @ 8.9Hz**

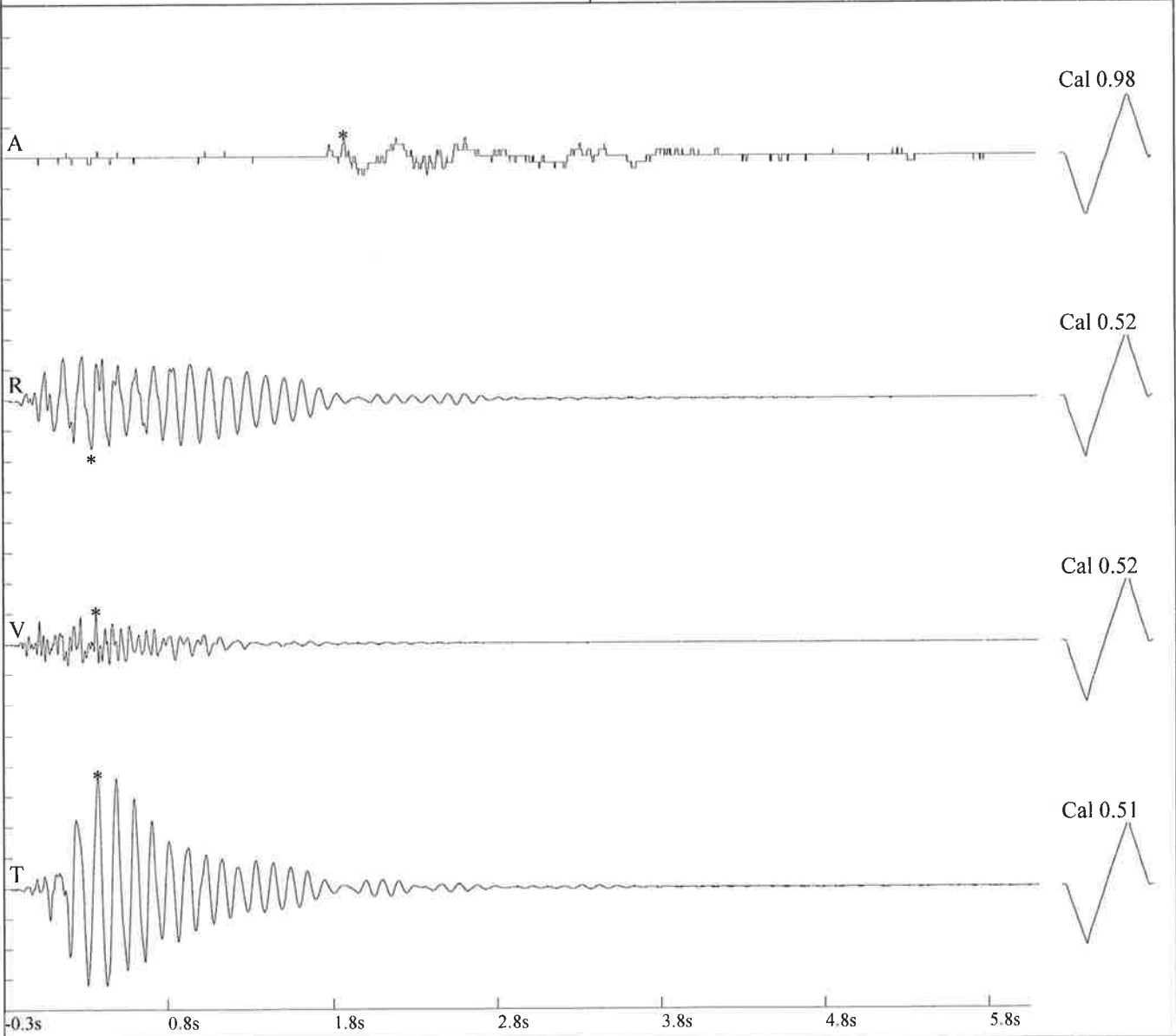
Graph Information

Duration: -0.250 s To: 6.000 s

Acoustic Scale: 126 dB

Seismic Scale: 0.40 in/sec (0.100 in/sec/div)

Time Intervals at: 1.00 s



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File Name: c:\myron\seismograph analysis\manteno\man75\421420161003025.dtb

Number: 025

Date: 10/3/2016

Time: 13:19

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

mdm

Amplitudes and Frequencies

Acoustic: 117 dB @ 8.9 Hz

Radial: 0.0800 in/sec @ 21.7Hz

Vertical: 0.0575 in/sec @ 26.2Hz

Transverse: 0.1125 in/sec @ 17.3Hz

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

