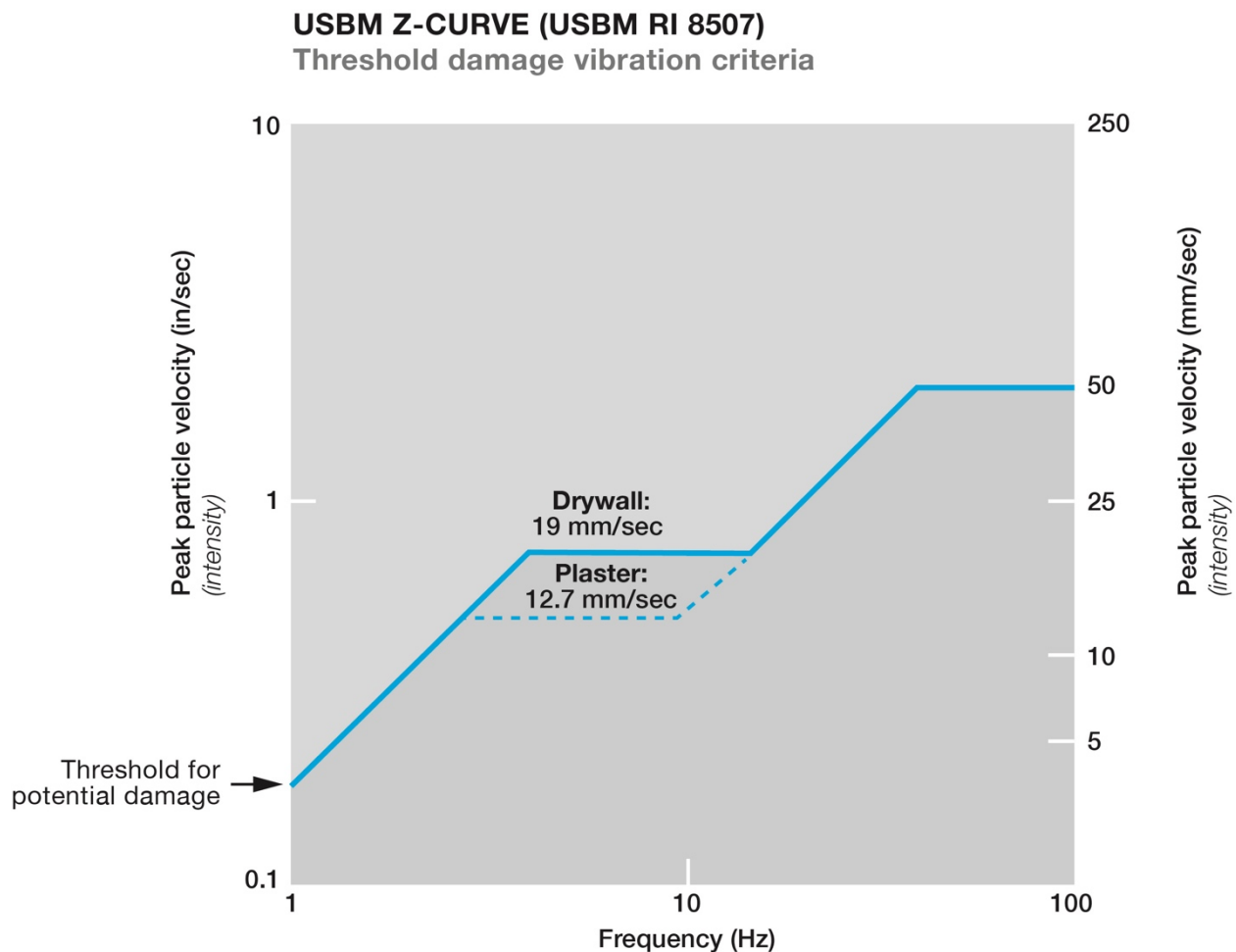


Understanding the Z-Curve

The Z-Curve line establishes a limit above which damage becomes possible, but it is crucial to note that damage does not automatically occur once this limit is breached. Damage would not actually occur in the average residence until ground vibrations reached significantly higher intensities than those outlined by the USBM Z-Curve. If the Z-Curve criteria is exceeded, the probability of damage is merely introduced and will incrementally increase with higher and higher vibration amplitudes.



Vibrations are occurring around us every day and are highly subjective. Each individual's perception and tolerance will influence the degree to which vibrations are a nuisance or objectionable. Humans and animals are far more sensitive to vibrations than a two-storey timber framed house, bridge or other structures.

Permanent Monitoring Units																
West Calgary Ring Road			92 Cougarstone Manor SW, Calgary, AB		9555 2 Avenue SW, Calgary, AB		97 Cougar Ridge Close SW, Calgary, AB		130 Cougarstone Close SW, Calgary, AB		128 Cougarstone Manor SW, Calgary, AB		152 Cougarstone Common SW, Calgary, AB		135 Cougarstone Common SW, Calgary, AB	
Blast Date:	Blast no.	Blast time:	PPV	AOP	PPV	AOP	PPV	AOP	PPV	AOP	PPV	AOP	PPV	AOP	PPV	AOP
8-Sep-20	WCRR-153	16:02	1.78mm/s	122.1dB(L)	1.52mm/s	115.6dB(L)	7.92mm/s	121.8dB(L)	0.51mm/s	126.8dB(L)	2.92mm/s	124.2dB(L)	1.14mm/s	115.2dB(L)	0.76mm/s	116.7dB(L)
9-Sep-20	WCRR-154	16:04	1.02mm/s	114.6dB(L)	2.41mm/s	119.9dB(L)	2.29mm/s	115.7dB(L)	0.51mm/s	104.2dB(L)	1.14mm/s	108.8dB(L)	0.64mm/s	107.5dB(L)	0.64mm/s	106.5dB(L)
10-Sep-20	WCRR-155	16:10	0.76mm/s	112.6dB(L)	1.52mm/s	118.7dB(L)	1.91mm/s	112.8dB(L)	0.51mm/s	102.8dB(L)	1.52mm/s	106.0dB(L)	0.64mm/s	106.5dB(L)	0.51mm/s	101.9dB(L)
11-Sep-20	WCRR-156	16:06	0.76mm/s	121.7dB(L)	1.40mm/s	114.0dB(L)	2.41mm/s	109.9dB(L)	0.38mm/s	110.6dB(L)	1.52mm/s	115.4dB(L)	0.64mm/s	104.9dB(L)	0.64mm/s	110.2dB(L)
		16:20	0.38mm/s	115.9dB(L)	0.89mm/s	112.6dB(L)	1.14mm/s	106.5dB(L)	0.25mm/s	121.3dB(L)	1.02mm/s	115.6dB(L)	0.38mm/s	104.9dB(L)	0.25mm/s	110.6dB(L)
12-Sep-20	WCRR-157	16:04	2.79mm/s	123.7dB(L)	1.27mm/s	111.8dB(L)	9.40mm/s	128.3dB(L)	0.51mm/s	109.2dB(L)	8.76mm/s	115.9dB(L)	1.78mm/s	115.2dB(L)	1.27mm/s	111.2dB(L)
14-Sep-20	WCRR-158	16:04	2.79mm/s	122.9dB(L)	1.02mm/s	114.4dB(L)	10.80mm/s	128.5dB(L)	0.38mm/s	112.6dB(L)	5.46mm/s	116.5dB(L)	1.14mm/s	116.7dB(L)	0.89mm/s	112.8dB(L)
15-Sep-20	WCRR-159	16:07	3.30mm/s	124.5dB(L)	1.14mm/s	112.0dB(L)	18.00mm/s	128.6dB(L)	0.51mm/s	112.6dB(L)	6.22mm/s	120.5dB(L)	1.27mm/s	119.7dB(L)	1.65mm/s	114.4dB(L)
16-Sep-20	WCRR-160	16:12	4.19mm/s	117.6dB(L)	0.76mm/s	111.5dB(L)	13.84mm/s	121.8dB(L)	0.51mm/s	106.5dB(L)	3.30mm/s	113.1dB(L)	1.14mm/s	110.2dB(L)	1.27mm/s	107.5dB(L)
18-Sep-20	WCRR-161	16:00	3.05mm/s	118.2dB(L)	0.64mm/s	110.2dB(L)	12.10mm/s	121.7dB(L)	0.38mm/s	102.8dB(L)	6.10mm/s	111.8dB(L)	0.89mm/s	111.8dB(L)	1.02mm/s	104.9dB(L)
19-Sep-20	WCRR-162	16:06	1.78mm/s	116.6dB(L)	0.76mm/s	108.0dB(L)	2.92mm/s	119.1dB(L)	0.51mm/s	104.9dB(L)	4.19mm/s	113.1dB(L)	0.76mm/s	112.3dB(L)	0.89mm/s	108.4dB(L)
22-Sep-20	WCRR-163	16:05	2.54mm/s	118.1dB(L)	0.64mm/s	109.2dB(L)	6.98mm/s	125.1dB(L)	0.64mm/s	107.0dB(L)	5.97mm/s	112.8dB(L)	1.65mm/s	113.1dB(L)	1.65mm/s	107.5dB(L)
23-Sep-20	WCRR-164	16:01	1.52mm/s	120.5dB(L)	0.51mm/s	112.8dB(L)	8.64mm/s	125.6dB(L)	0.25mm/s	107.5dB(L)	3.68mm/s	114.0dB(L)	0.76mm/s	112.0dB(L)	0.51mm/s	107.0dB(L)
24-Sep-20	WCRR-165	16:05	1.14mm/s	128.4dB(L)	0.76mm/s	125.0dB(L)	4.95mm/s	119.1dB(L)	0.25mm/s	133.8dB(L)	0.64mm/s	119.3dB(L)	0.51mm/s	122.7dB(L)	0.38mm/s	116.9dB(L)
25-Sep-20	WCRR-166	17:20	3.94mm/s	120.2dB(L)	0.51mm/s	109.2dB(L)	6.60mm/s	124.6dB(L)	0.64mm/s	111.8dB(L)	10.90mm/s	116.3dB(L)	1.78mm/s	115.9dB(L)	1.40mm/s	110.9dB(L)
28-Sep-20	WCRR-167	16:06	1.02mm/s	122.3dB(L)	2.03mm/s	123.1dB(L)	2.29mm/s	120.0dB(L)	0.38mm/s	120.1dB(L)	0.76mm/s	124.5dB(L)	0.51mm/s	114.0dB(L)	0.64mm/s	113.1dB(L)
29-Sep-20	WCRR-168	18:06	0.76mm/s	112.0dB(L)	1.14mm/s	114.4dB(L)	2.16mm/s	113.1dB(L)	0.25mm/s	101.9dB(L)	0.51mm/s	107.5dB(L)	0.38mm/s	106.5dB(L)	0.51mm/s	104.2dB(L)
30-Sep-20	WCRR-169	16:00	0.64mm/s	112.6dB(L)	1.40mm/s	117.5dB(L)	1.91mm/s	115.4dB(L)	0.25mm/s	101.0dB(L)	0.38mm/s	108.4dB(L)	0.38mm/s	107.5dB(L)	0.38mm/s	103.5dB(L)

Permanent Monitoring Units									
Crestmont			90 Valley Ridge Heights NW		254 Crestridge Place SW		148 Valley Meadow Close NW		Calgary Climbing Center
Blast Date:	Blast no.	Blast time:	PPV	AOP	PPV	AOP	PPV	AOP	
2-Sep-20	CM-07	18:00							
3-Sep-20	CM-08	16:28							
4-Sep-20	CM-09	18:24							

*Click on a highlighted cell to view the seismograph report for the corresponding date and location.

Date/Time Tran At 16:00:59 September 8, 2020
 Trigger Source Geo: 5.00 mm/s
 Range Geo: 254 mm/s
 Sample Rate 5.0 sec. At 1024 Sps
 Job Number 8177

Serial Number BE11251 V 10.72-8.17 MiniMate Plus
 Battery Level 6.8 Volts
 Unit Calibration October 23, 2019 by Instanetel
 File Name M2511MI9.TN0W

Post Event Notes

Notes

Location: 97 Cougar Ridge Close SW, Calgary, AB
 Client: McCaw's Drilling and Blasting
 User Name: Explotech Engineering Ltd.
 General: Sandbagged on ground

Extended Notes

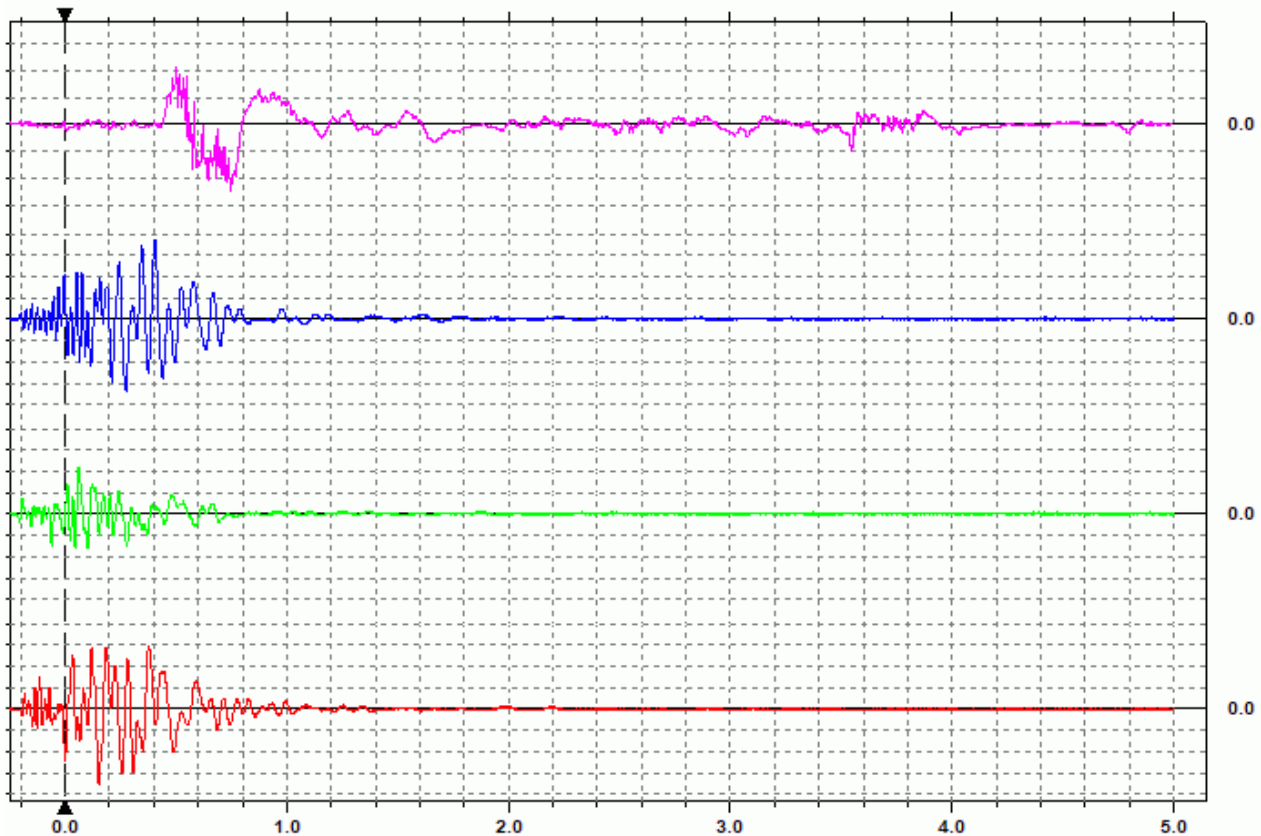
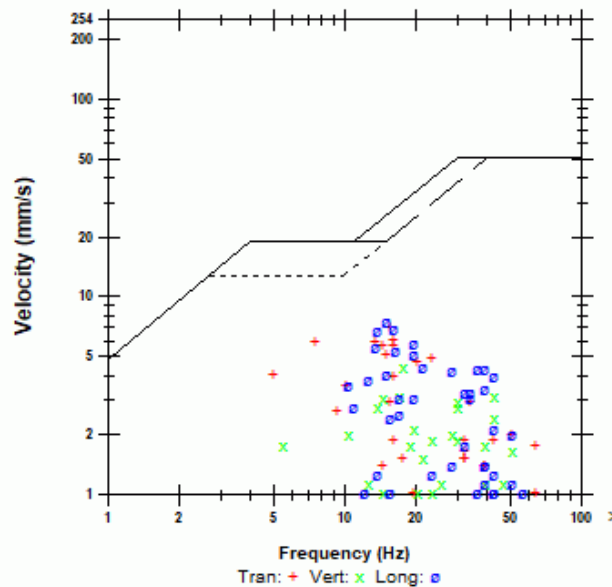
Combo Mode September 8, 2020 05:16:46
 Geophone is sandbagged under the stairs of the backyard deck at 97 Cougar Ridge Close SW adjacent ongoing blasting operations.

Microphone Linear Weighting
 PSPL 24.5 pa.(L) at 0.747 sec.
 ZC Freq 2.9 Hz
 Channel Test Disabled

	Tran	Vert	Long	
PPV	7.11	4.44	7.49	mm/s
ZC Freq	16	18	15	Hz
Time (Rel. to Trig)	0.151	0.061	0.404	sec
Peak Acceleration	0.0928	0.0795	0.106	g
Peak Displacement	0.101	0.0477	0.0747	mm
Sensor Check	Disabled	Disabled	Disabled	

Peak Vector Sum 7.92 mm/s At 0.375 sec.

USBM RI8507 And OSMRE



Date/Time Tran At 16:00:59 September 8, 2020
Trigger Source Geo: 5.00 mm/s
Range Geo: 254 mm/s
Sample Rate 5.0 sec. At 1024 Sps
Job Number 8177

Serial Number BE11251 V 10.72-8.17 MiniMate Plus
Battery Level 6.8 Volts
Unit Calibration October 23, 2019 by Instantel
File Name M251IM19.TN0W

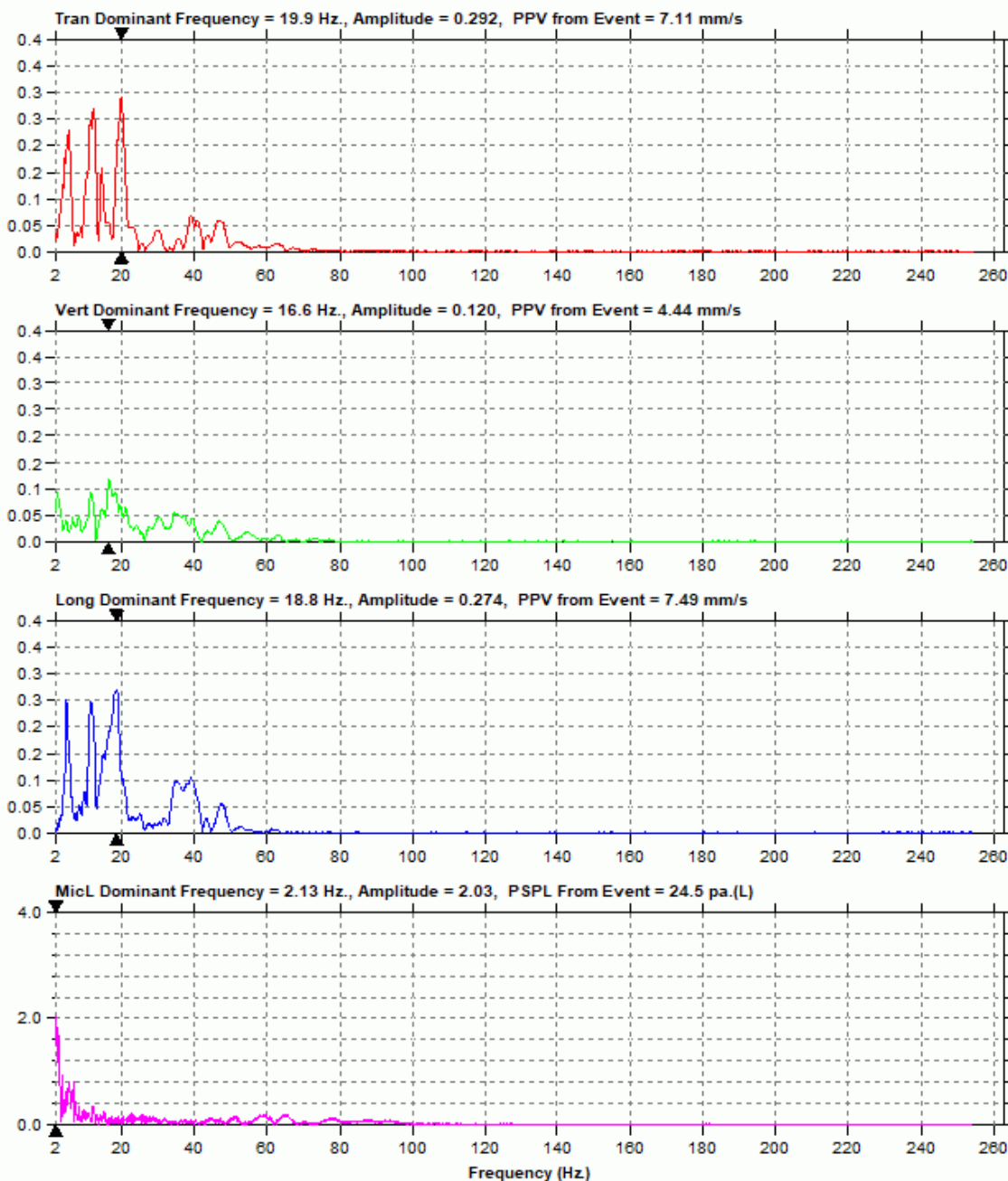
Notes

Location: 97 Cougar Ridge Close SW, Calgary, AB
Client: McCaw's Drilling and Blasting
User Name: Explotech Engineering Ltd.
General: Sandbagged on ground

Extended Notes

Combo Mode September 8, 2020 05:16:46
Geophone is sandbagged under the stairs of the backyard deck
at 97 Cougar Ridge Close SW adjacent ongoing blasting
operations.

Post Event Notes



Date/Time Tran At 16:02:36 September 12, 2020
 Trigger Source Geo: 5.00 mm/s
 Range Geo: 254 mm/s
 Sample Rate 5.0 sec. At 1024 Sps
 Job Number 8177

Serial Number BE11251 V 10.72-8.17 MiniMate Plus
 Battery Level 6.8 Volts
 Unit Calibration October 23, 2019 by Instatel
 File Name M251IMPO.KC0W

Notes

Location: 97 Cougar Ridge Close SW, Calgary, AB
 Client: McCaw's Drilling and Blasting
 User Name: Explotech Engineering Ltd.
 General: Sandbagged on ground

Post Event Notes

Extended Notes

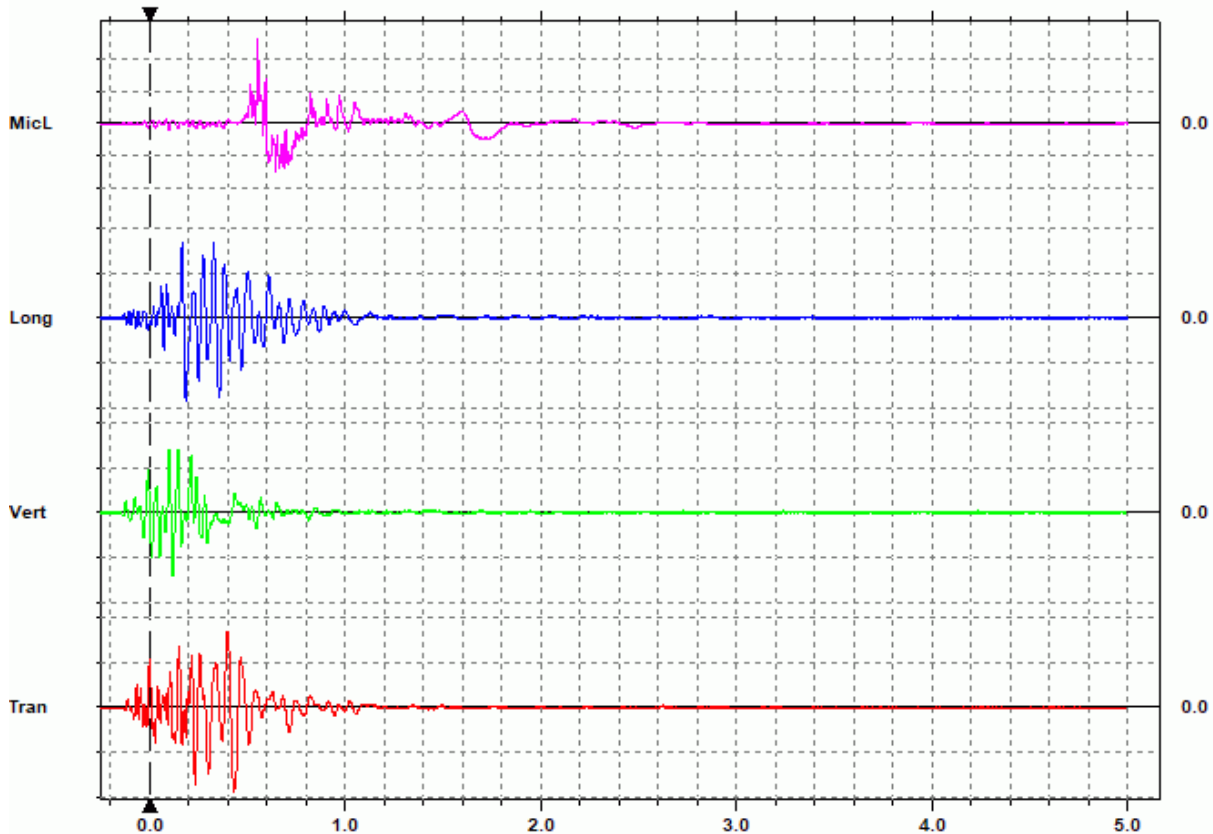
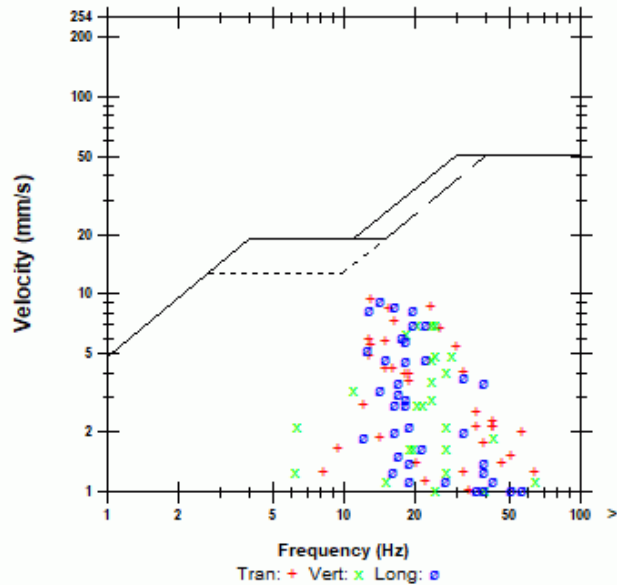
Combo Mode September 12, 2020 05:16:48
 Geophone is sandbagged under the stairs of the backyard deck at 97 Cougar Ridge Close SW adjacent ongoing blasting operations.

Microphone Linear Weighting
 PSPL 51.8 pa.(L) at 0.555 sec.
 ZC Freq 15 Hz.
 Channel Test Disabled

	Tran	Vert	Long	
PPV	9.40	7.11	9.27	mm/s
ZC Freq	13	20	14	Hz
Time (Rel. to Trig)	0.433	0.148	0.187	sec
Peak Acceleration	0.146	0.133	0.159	g
Peak Displacement	0.121	0.0495	0.0853	mm
Sensor Check	Disabled	Disabled	Disabled	

Peak Vector Sum 9.84 mm/s At 0.187 sec.

USBM R18507 And OSMRE



Date/Time Tran At 16:02:36 September 12, 2020
 Trigger Source Geo: 5.00 mm/s
 Range Geo: 254 mm/s
 Sample Rate 5.0 sec. At 1024 Sps
 Job Number 8177

Serial Number BE11251 V 10.72-8.17 MiniMate Plus
 Battery Level 6.8 Volts
 Unit Calibration October 23, 2019 by Instantel
 File Name M251IMPO.KC0W

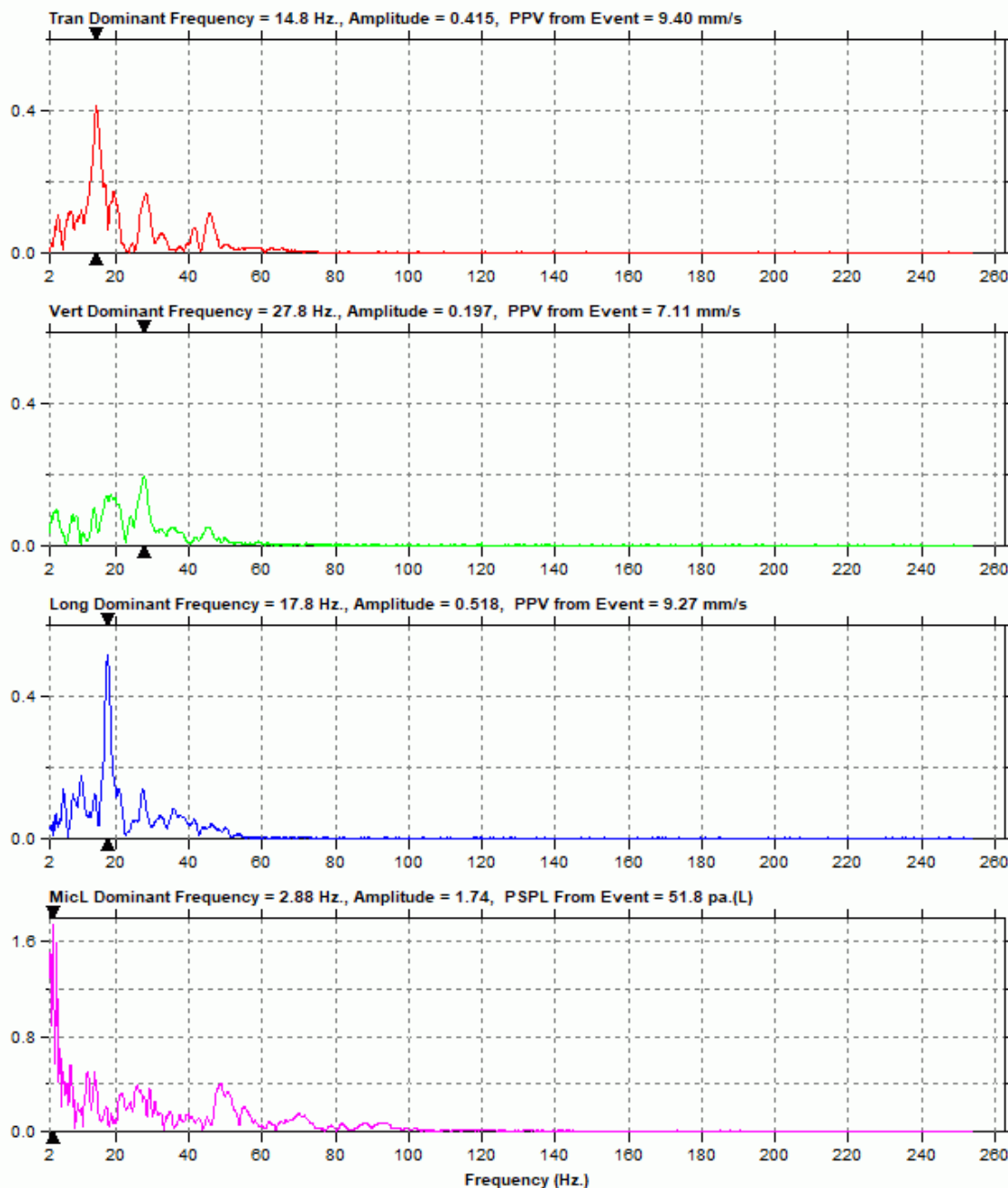
Notes

Location: 97 Cougar Ridge Close SW, Calgary, AB
 Client: McCaw's Drilling and Blasting
 User Name: Explotech Engineering Ltd.
 General: Sandbagged on ground

Extended Notes

Combo Mode September 12, 2020 05:16:46
 Geophone is sandbagged under the stairs of the backyard deck at 97 Cougar Ridge Close SW adjacent ongoing blasting operations.

Post Event Notes



Date/Time Tran At 16:02:02 September 14, 2020
 Trigger Source Geo: 5.00 mm/s
 Range Geo: 254 mm/s
 Sample Rate 5.0 sec. At 1024 Sps
 Job Number 8177

Serial Number BE11251 V 10.72-8.17 MiniMate Plus
 Battery Level 6.8 Volts
 Unit Calibration October 23, 2019 by InstanTel
 File Name M251IMTD.VE0W

Notes
 Location: 97 Cougar Ridge Close SW, Calgary, AB
 Client: McCaw's Drilling and Blasting
 User Name: Explotech Engineering Ltd.
 General: Sandbagged on ground

Post Event Notes

Extended Notes

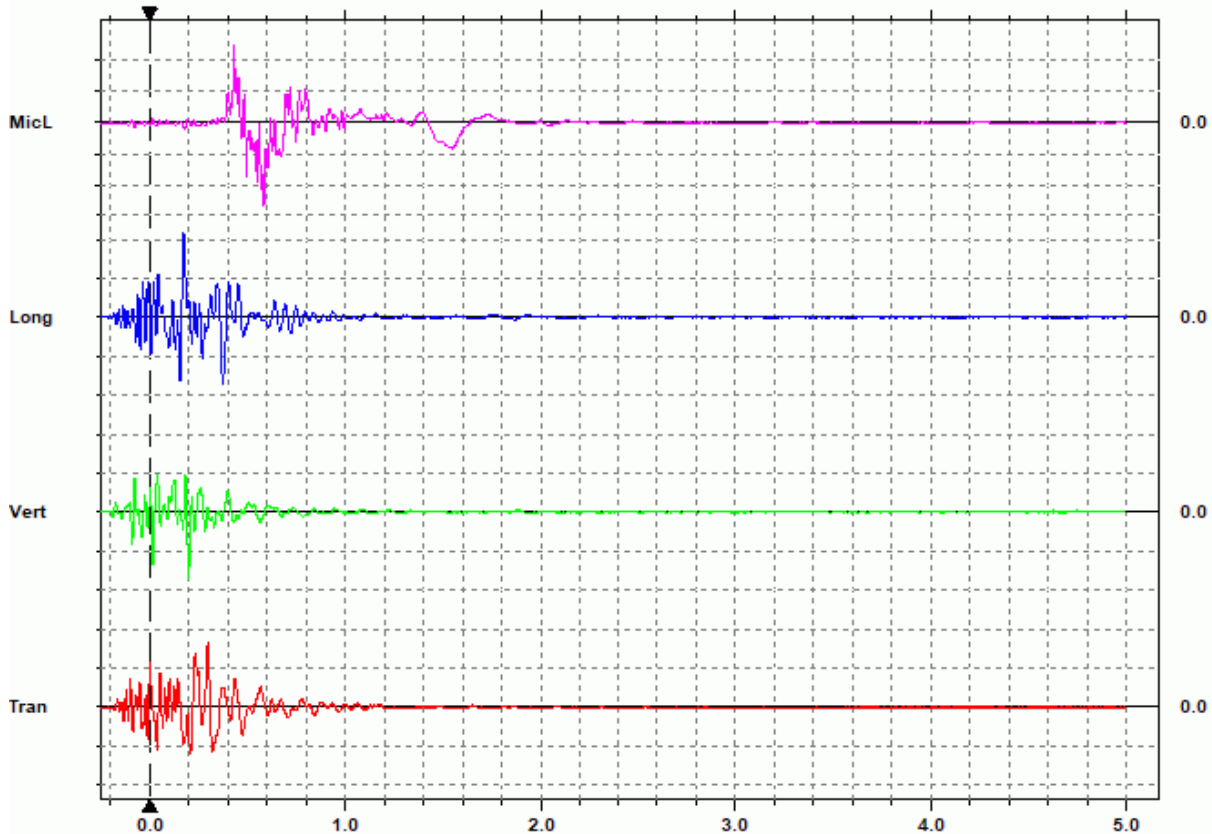
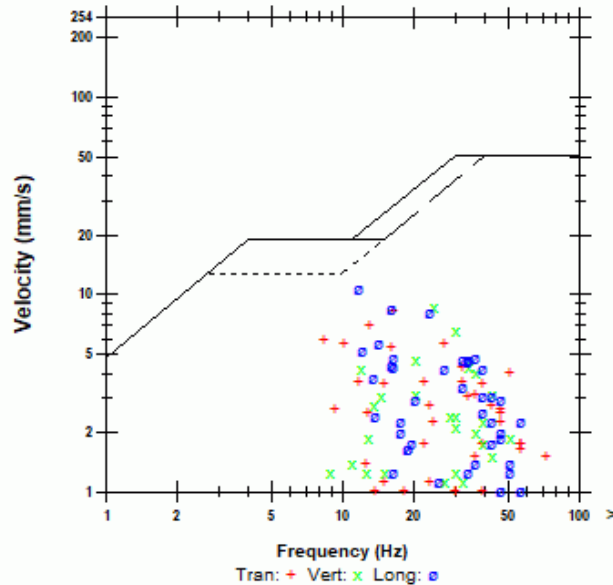
Combo Mode September 14, 2020 05:16:48
 Geophone is sandbagged under the stairs of the backyard deck at 97 Cougar Ridge Close SW adjacent ongoing blasting operations.

Microphone Linear Weighting
 PSPL 53.5 pa.(L) at 0.583 sec.
 ZC Freq 9.1 Hz
 Channel Test Disabled

	Tran	Vert	Long	
PPV	8.38	8.64	10.8	mm/s
ZC Freq	17	24	12	Hz
Time (Rel. to Trig)	0.298	0.198	0.174	sec
Peak Acceleration	0.146	0.146	0.172	g
Peak Displacement	0.103	0.0520	0.101	mm
Sensor Check	Disabled	Disabled	Disabled	

Peak Vector Sum 11.8 mm/s At 0.174 sec.

USBM R18507 And OSMRE



Date/Time Tran At 16:02:02 September 14, 2020
 Trigger Source Geo: 5.00 mm/s
 Range Geo: 254 mm/s
 Sample Rate 5.0 sec. At 1024 Sps
 Job Number 8177

Serial Number BE11251 V 10.72-8.17 MiniMate Plus
 Battery Level 6.8 Volts
 Unit Calibration October 23, 2019 by InstanTel
 File Name M251IMTD.VE0W

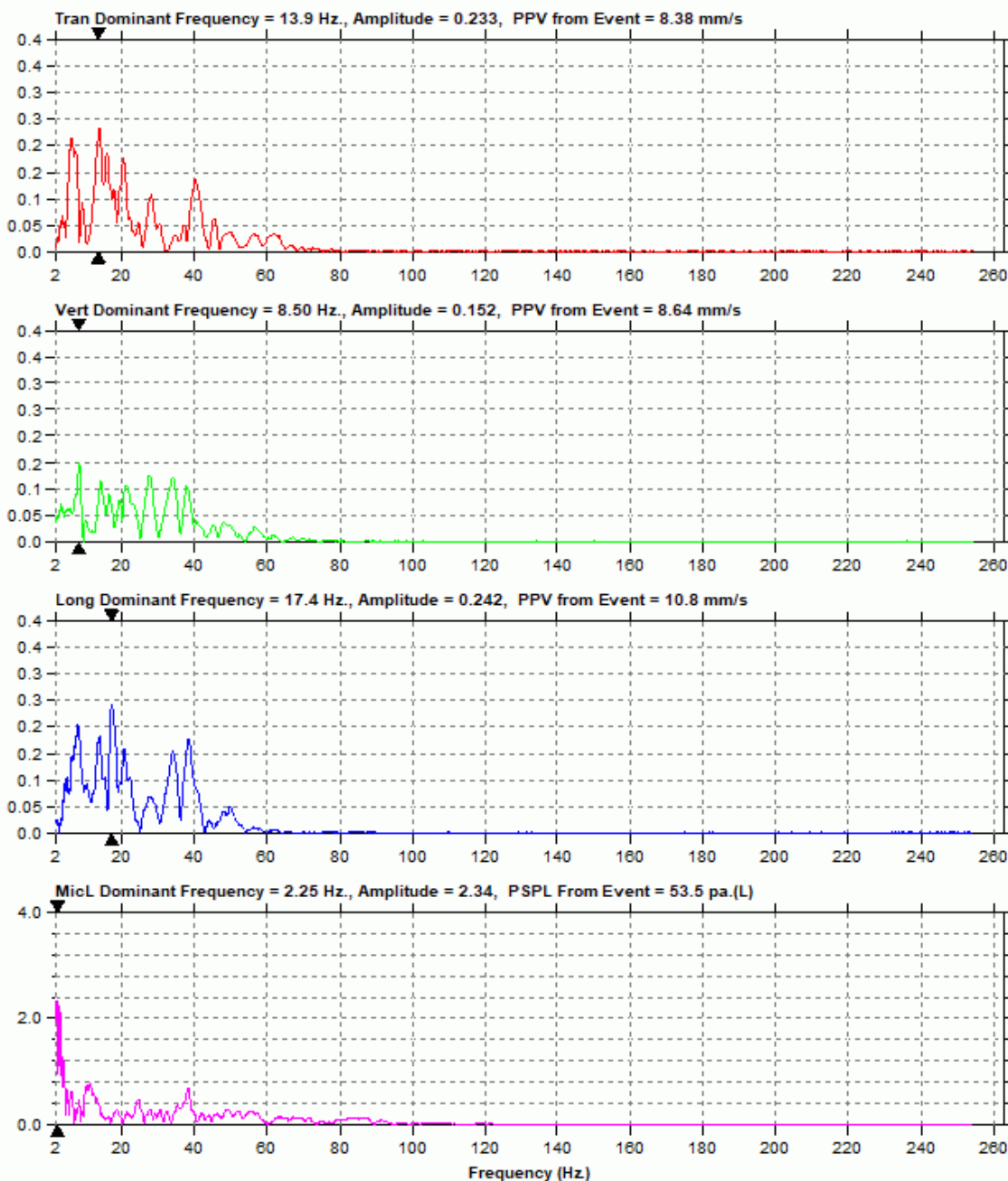
Notes

Location: 97 Cougar Ridge Close SW, Calgary, AB
 Client: McCaw's Drilling and Blasting
 User Name: Explotech Engineering Ltd.
 General: Sandbagged on ground

Extended Notes

Combo Mode September 14, 2020 05:16:48
 Geophone is sandbagged under the stairs of the backyard deck
 at 97 Cougar Ridge Close SW adjacent ongoing blasting
 operations.

Post Event Notes



Date/Time Vert At 16:05:24 September 15, 2020
 Trigger Source Geo: 5.00 mm/s
 Range Geo: 254 mm/s
 Sample Rate 5.0 sec. At 1024 Sps
 Job Number 8177

Serial Number BE11251 V 10.72-8.17 MiniMate Plus
 Battery Level 6.8 Volts
 Unit Calibration October 23, 2019 by Instantel
 File Name M251IMV8.P00W

Post Event Notes

Notes
 Location: 97 Cougar Ridge Close SW, Calgary, AB
 Client: McCaw's Drilling and Blasting
 User Name: Explotech Engineering Ltd.
 General: Sandbagged on ground

Extended Notes

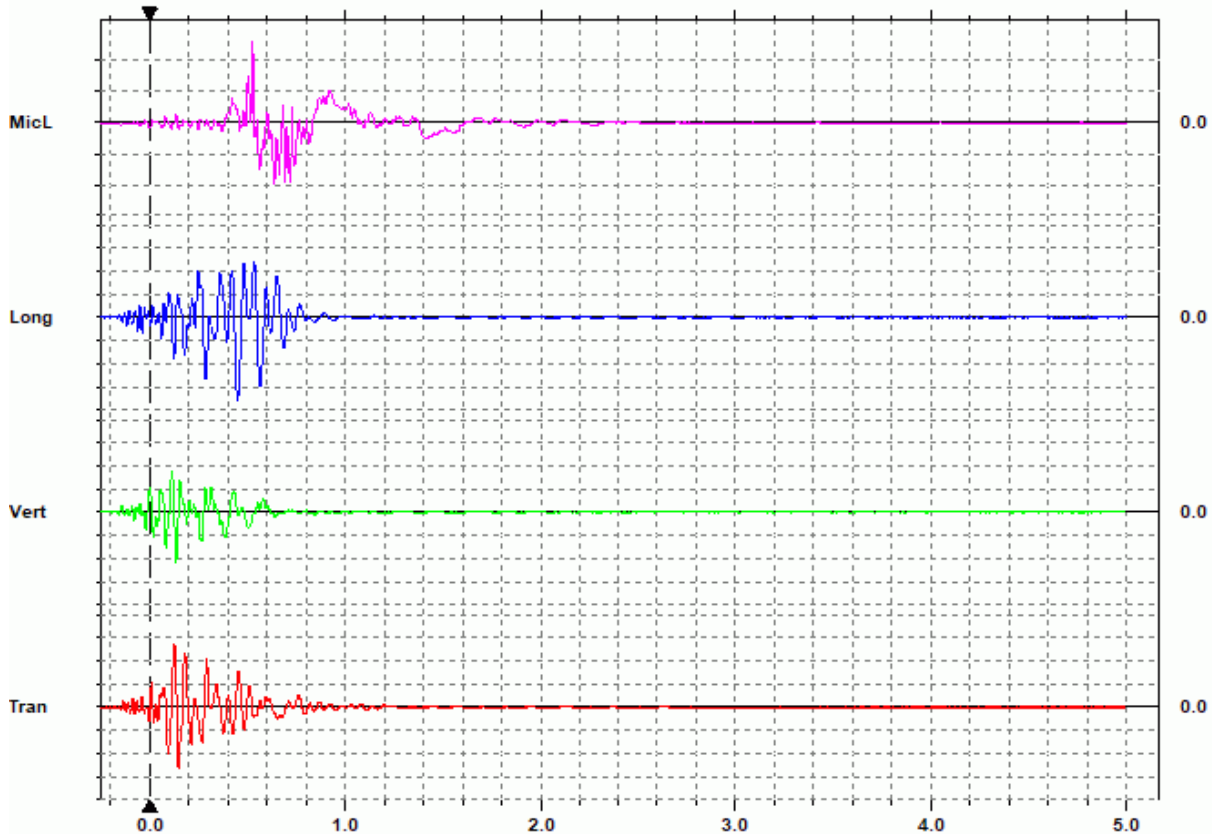
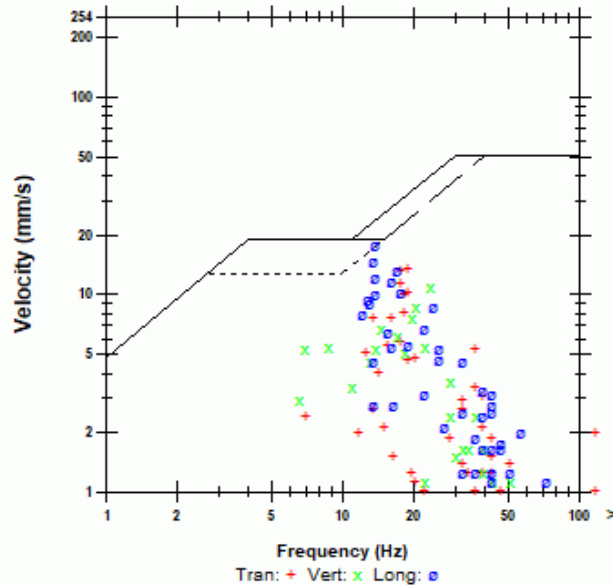
Combo Mode September 15, 2020 05:16:45
 Geophone is sandbagged under the stairs of the backyard deck at 97 Cougar Ridge Close SW adjacent ongoing blasting operations.

Microphone Linear Weighting
 PSPL 53.8 pa.(L) at 0.527 sec.
 ZC Freq 27 Hz.
 Channel Test Disabled

	Tran	Vert	Long	
PPV	13.7	10.9	18.0	mm/s
ZC Freq	19	23	14	Hz
Time (Rel. to Trig)	0.127	0.137	0.451	sec
Peak Acceleration	0.225	0.172	0.172	g
Peak Displacement	0.116	0.0895	0.202	mm
Sensor Check	Disabled	Disabled	Disabled	

Peak Vector Sum 19.3 mm/s At 0.452 sec.

USBM R18507 And OSMRE



Date/Time Vert At 16:05:24 September 15, 2020
Trigger Source Geo: 5.00 mm/s
Range Geo: 254 mm/s
Sample Rate 5.0 sec. At 1024 Sps
Job Number 8177

Serial Number BE11251 V 10.72-8.17 MiniMate Plus
Battery Level 6.8 Volts
Unit Calibration October 23, 2019 by Instantel
File Name M251IMV8.P00W

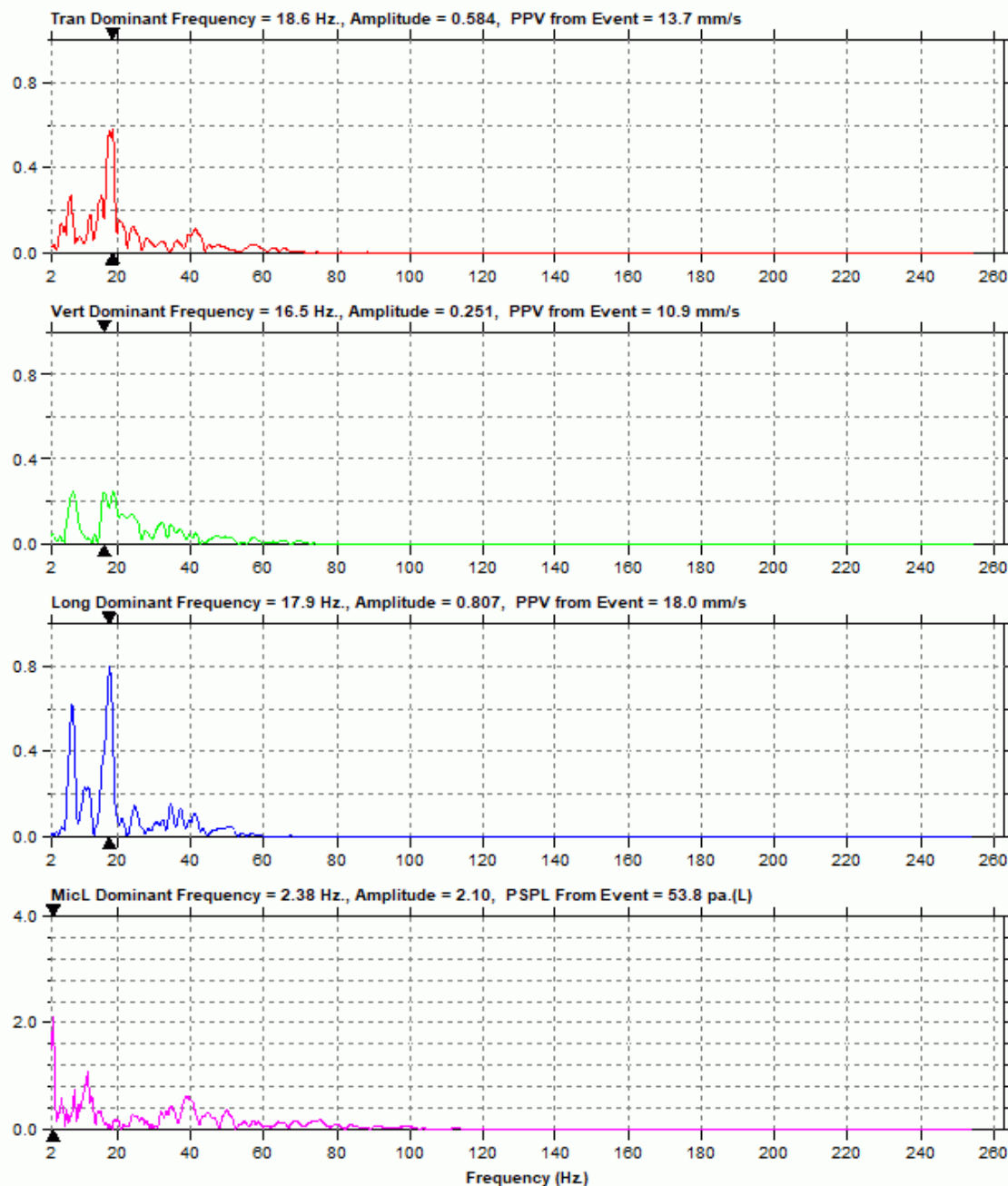
Notes

Location: 97 Cougar Ridge Close SW, Calgary, AB
Client: McCaw's Drilling and Blasting
User Name: Explotech Engineering Ltd.
General: Sandbagged on ground

Extended Notes

Combo Mode September 15, 2020 05:16:45
Geophone is sandbagged under the stairs of the backyard deck
at 97 Cougar Ridge Close SW adjacent ongoing blasting
operations.

Post Event Notes



Date/Time Tran At 16:10:47 September 16, 2020
 Trigger Source Geo: 5.00 mm/s
 Range Geo: 254 mm/s
 Sample Rate 5.0 sec. At 1024 Sps
 Job Number 8177

Serial Number BE11251 V 10.72-8.17 MiniMate Plus
 Battery Level 6.8 Volts
 Unit Calibration October 23, 2019 by InstanTel
 File Name M251IMX3.LZ0W

Notes
 Location: 97 Cougar Ridge Close SW, Calgary, AB
 Client: McCaw's Drilling and Blasting
 User Name: Explotech Engineering Ltd.
 General: Sandbagged on ground

Post Event Notes

Extended Notes

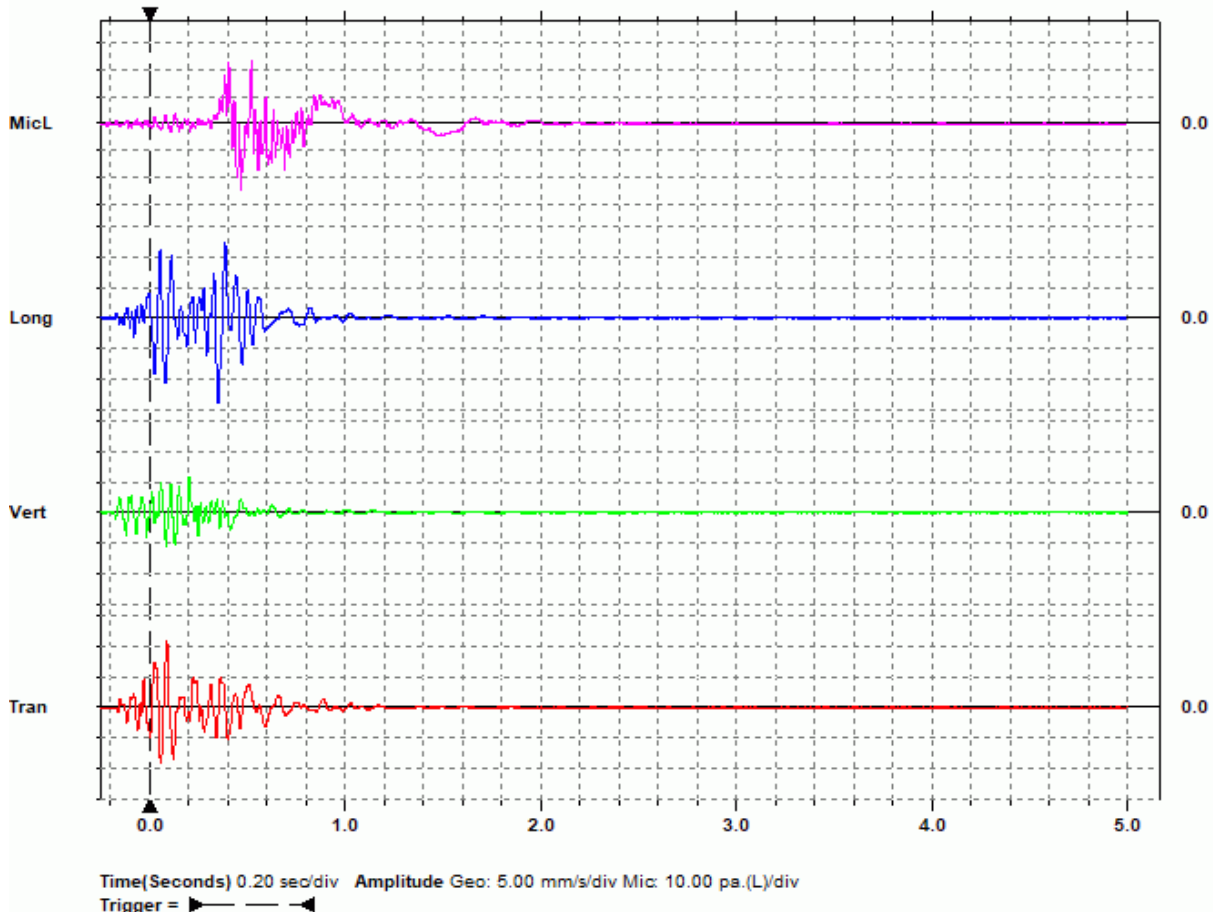
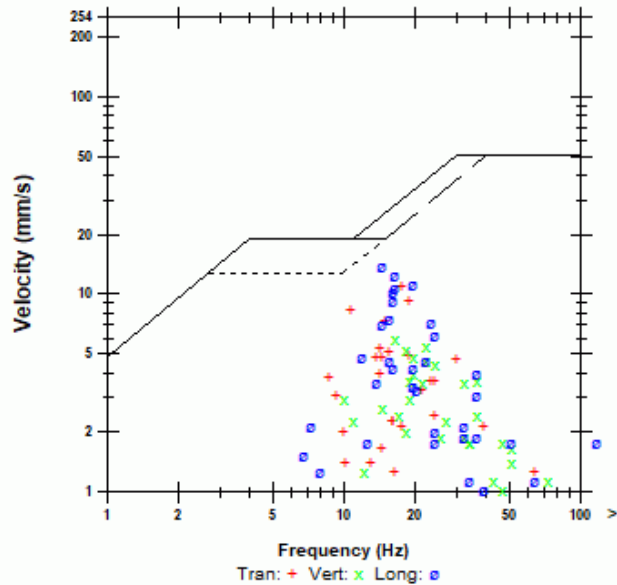
Combo Mode September 16, 2020 05:16:48
 Geophone is sandbagged under the stairs of the backyard deck at 97 Cougar Ridge Close SW adjacent ongoing blasting operations.

Microphone Linear Weighting
 PSPL 24.5 pa.(L) at 0.467 sec.
 ZC Freq 10 Hz.
 Channel Test Disabled

	Tran	Vert	Long	
PPV	10.9	5.97	13.8	mm/s
ZC Freq	18	17	15	Hz
Time (Rel. to Trig)	0.088	0.202	0.350	sec
Peak Acceleration	0.146	0.106	0.186	g
Peak Displacement	0.0925	0.0418	0.144	mm
Sensor Check	Disabled	Disabled	Disabled	

Peak Vector Sum 14.9 mm/s At 0.054 sec.

USBM R18507 And OSMRE



Date/Time Tran At 16:10:47 September 16, 2020
Trigger Source Geo: 5.00 mm/s
Range Geo: 254 mm/s
Sample Rate 5.0 sec. At 1024 Sps
Job Number 8177

Serial Number BE11251 V 10.72-8.17 MiniMate Plus
Battery Level 6.8 Volts
Unit Calibration October 23, 2019 by InstanTel
File Name M251IMX3.LZ0W

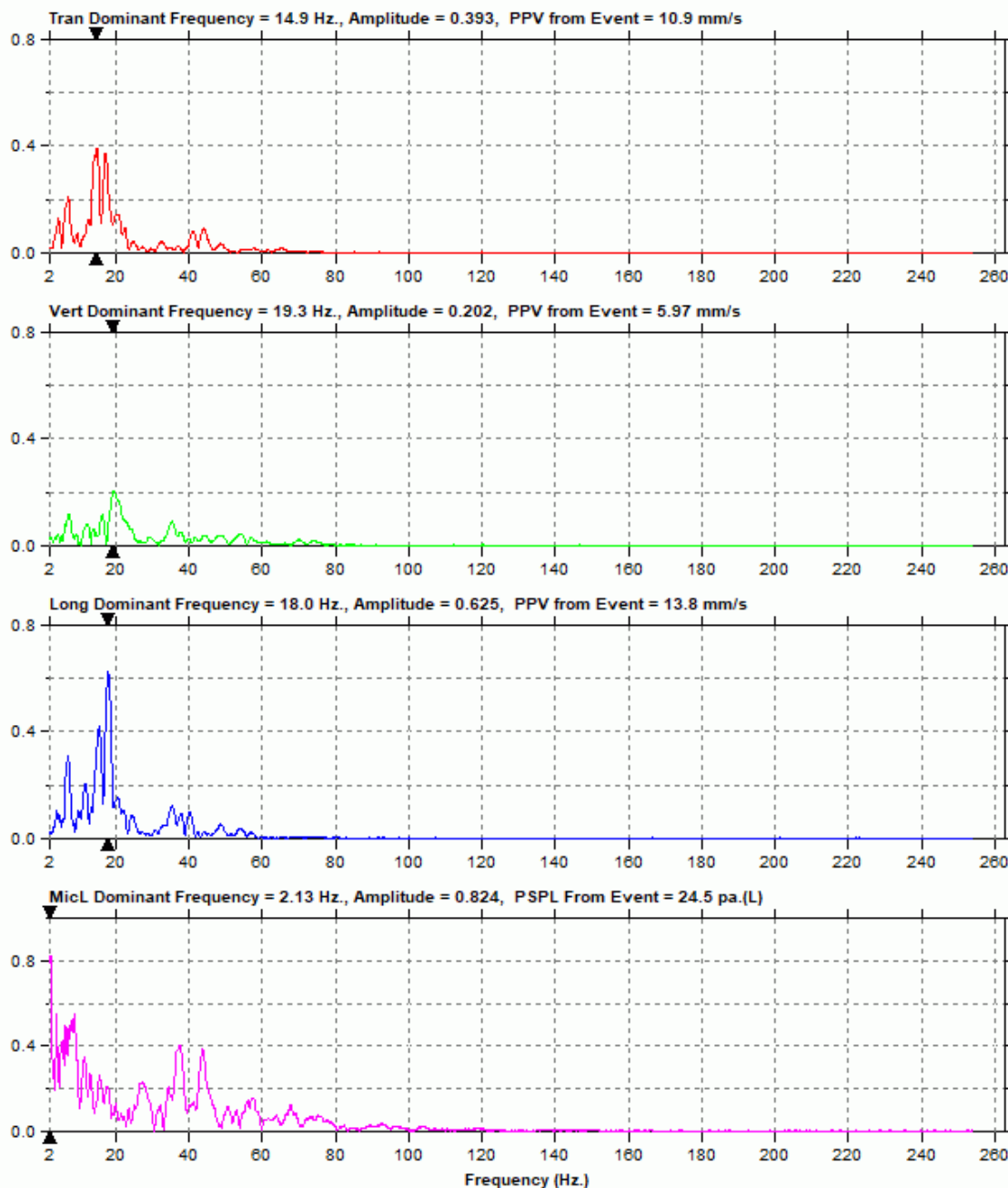
Notes

Location: 97 Cougar Ridge Close SW, Calgary, AB
Client: McCaw's Drilling and Blasting
User Name: Explotech Engineering Ltd.
General: Sandbagged on ground

Extended Notes

Combo Mode September 16, 2020 05:16:46
Geophone is sandbagged under the stairs of the backyard deck
at 97 Cougar Ridge Close SW adjacent ongoing blasting
operations.

Post Event Notes



Date/Time Long At 15:58:05 September 18, 2020
 Trigger Source Geo: 5.00 mm/s
 Range Geo: 254 mm/s
 Sample Rate 5.0 sec. At 1024 Sps
 Job Number 8177

Serial Number BE11251 V 10.72-8.17 MiniMate Plus
 Battery Level 6.8 Volts
 Unit Calibration October 23, 2019 by Instantel
 File Name M251IN0S.CT0W

Notes

Location: 97 Cougar Ridge Close SW, Calgary, AB
 Client: McCaw's Drilling and Blasting
 User Name: Explotech Engineering Ltd.
 General: Sandbagged on ground

Post Event Notes

Extended Notes

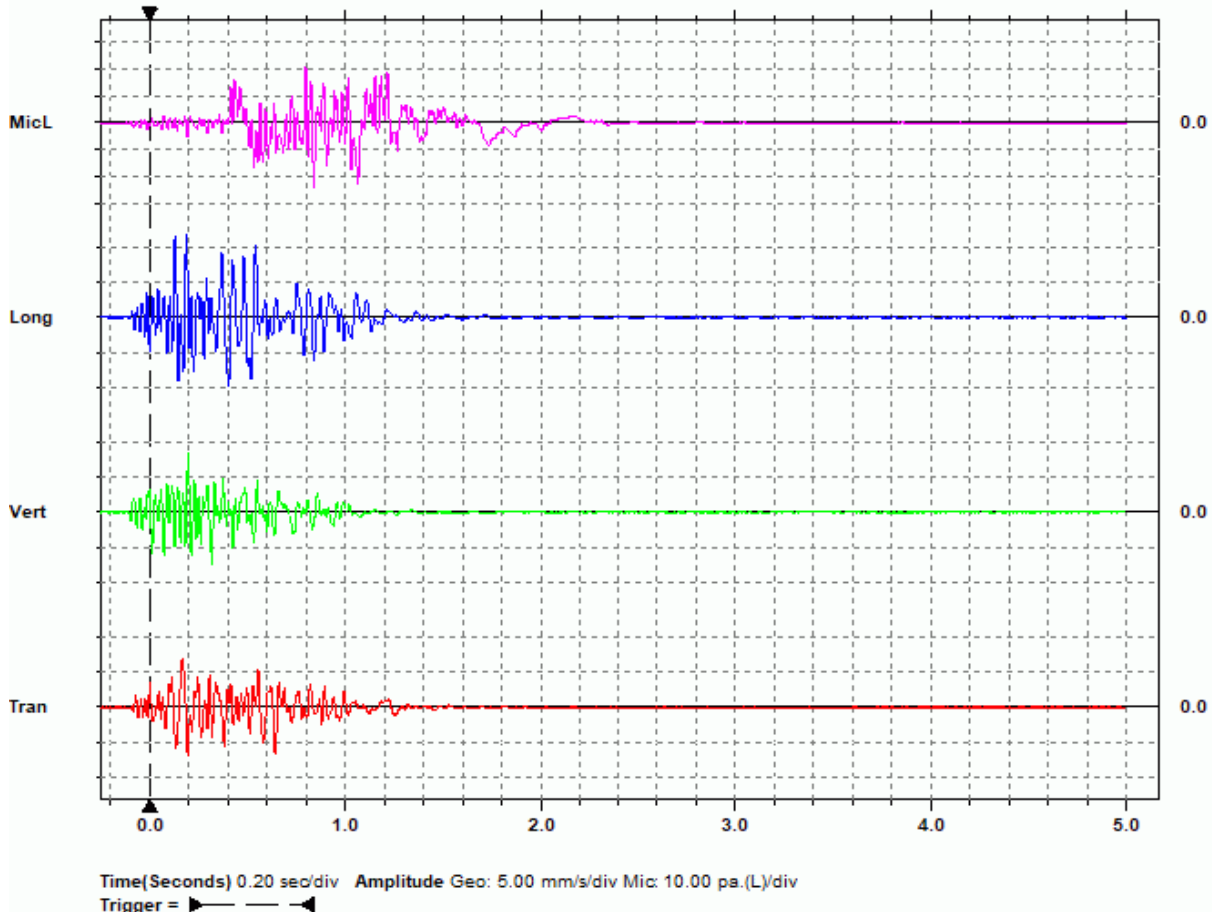
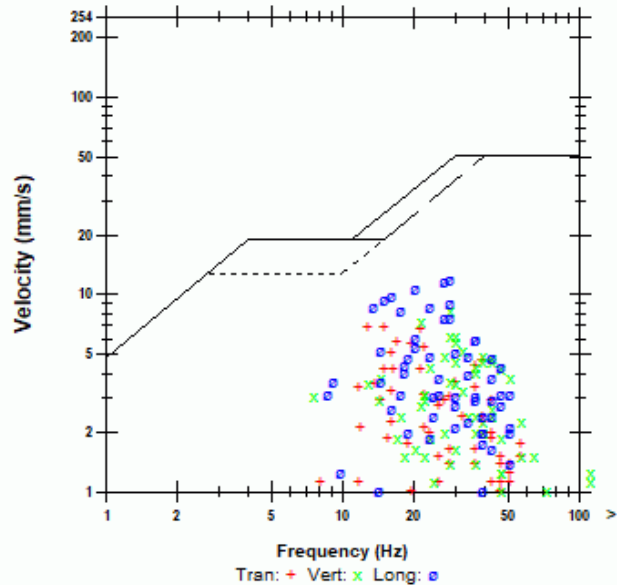
Combo Mode September 18, 2020 05:16:49
 Geophone is sandbagged under the stairs of the backyard deck at 97 Cougar Ridge Close SW adjacent ongoing blasting operations.

Microphone Linear Weighting
 PSPL 24.3 pa.(L) at 0.839 sec.
 ZC Freq 30 Hz.
 Channel Test Disabled

	Tran	Vert	Long	
PPV	6.86	8.38	12.1	mm/s
ZC Freq	15	28	28	Hz
Time (Rel. to Trig)	0.166	0.196	0.187	sec
Peak Acceleration	0.119	0.146	0.225	g
Peak Displacement	0.0718	0.0446	0.107	mm
Sensor Check	Disabled	Disabled	Disabled	

Peak Vector Sum 13.5 mm/s At 0.130 sec.

USBM RI8507 And OSMRE



Date/Time Long At 15:58:05 September 18, 2020
 Trigger Source Geo: 5.00 mm/s
 Range Geo: 254 mm/s
 Sample Rate 5.0 sec. At 1024 Sps
 Job Number 8177

Serial Number BE11251 V 10.72-8.17 MiniMate Plus
 Battery Level 6.8 Volts
 Unit Calibration October 23, 2019 by Instantel
 File Name M251IN0S.CT0W

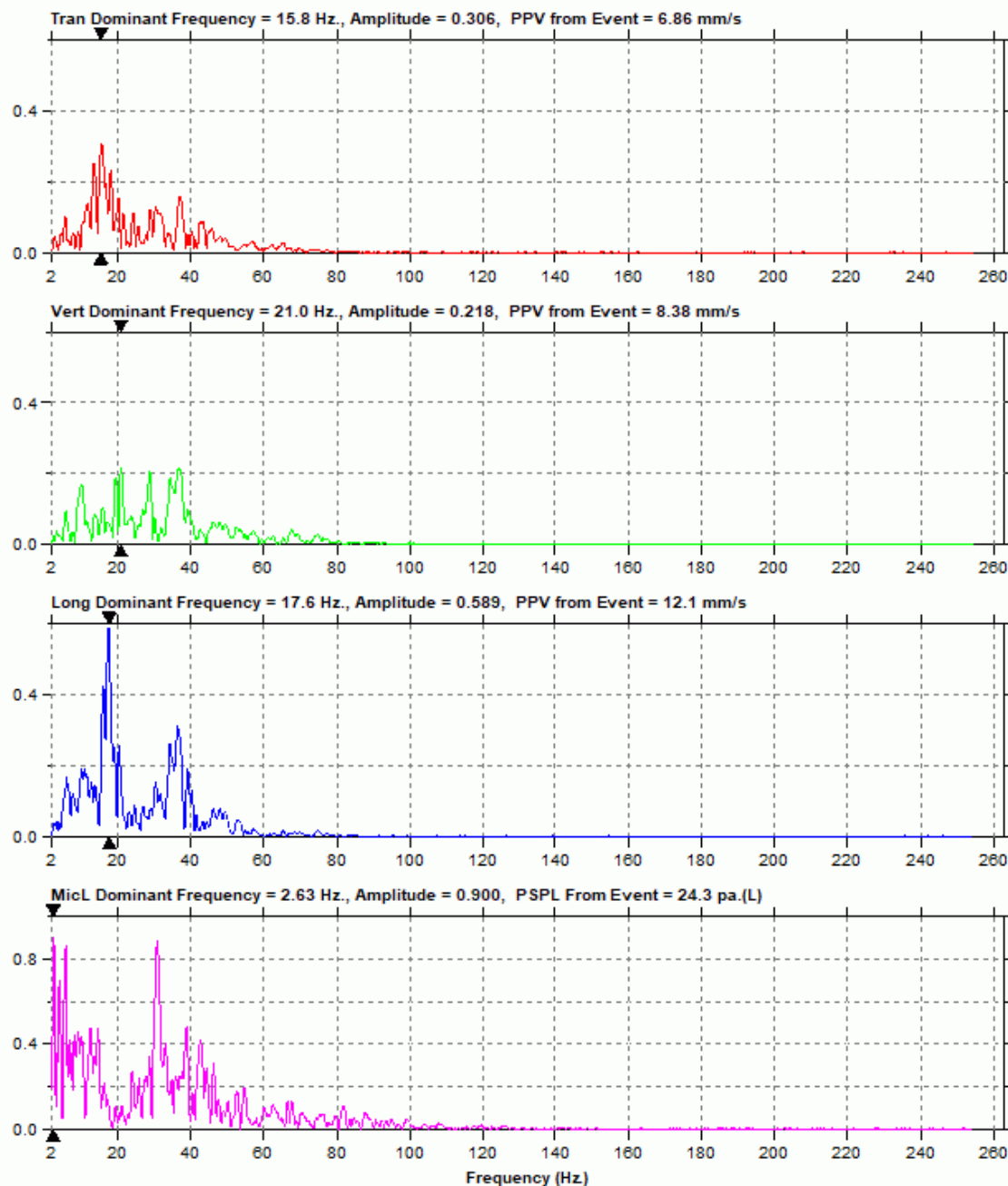
Notes

Location: 97 Cougar Ridge Close SW, Calgary, AB
 Client: McCaw's Drilling and Blasting
 User Name: Explotech Engineering Ltd.
 General: Sandbagged on ground

Extended Notes

Combo Mode September 18, 2020 05:16:49
 Geophone is sandbagged under the stairs of the backyard deck at 97 Cougar Ridge Close SW adjacent ongoing blasting operations.

Post Event Notes



Date/Time Long At 16:02:43 September 22, 2020
 Trigger Source Geo: 5.00 mm/s
 Range Geo: 254 mm/s
 Sample Rate 5.0 sec. At 1024 Sps
 Job Number 8177

Serial Number BE11251 V 10.72-8.17 MiniMate Plus
 Battery Level 6.8 Volts
 Unit Calibration October 23, 2019 by Instantel
 File Name M251IN87.8J0W

Notes
 Location: 97 Cougar Ridge Close SW, Calgary, AB
 Client: McCaw's Drilling and Blasting
 User Name: Explotech Engineering Ltd.
 General: Sandbagged on ground

Post Event Notes

Extended Notes

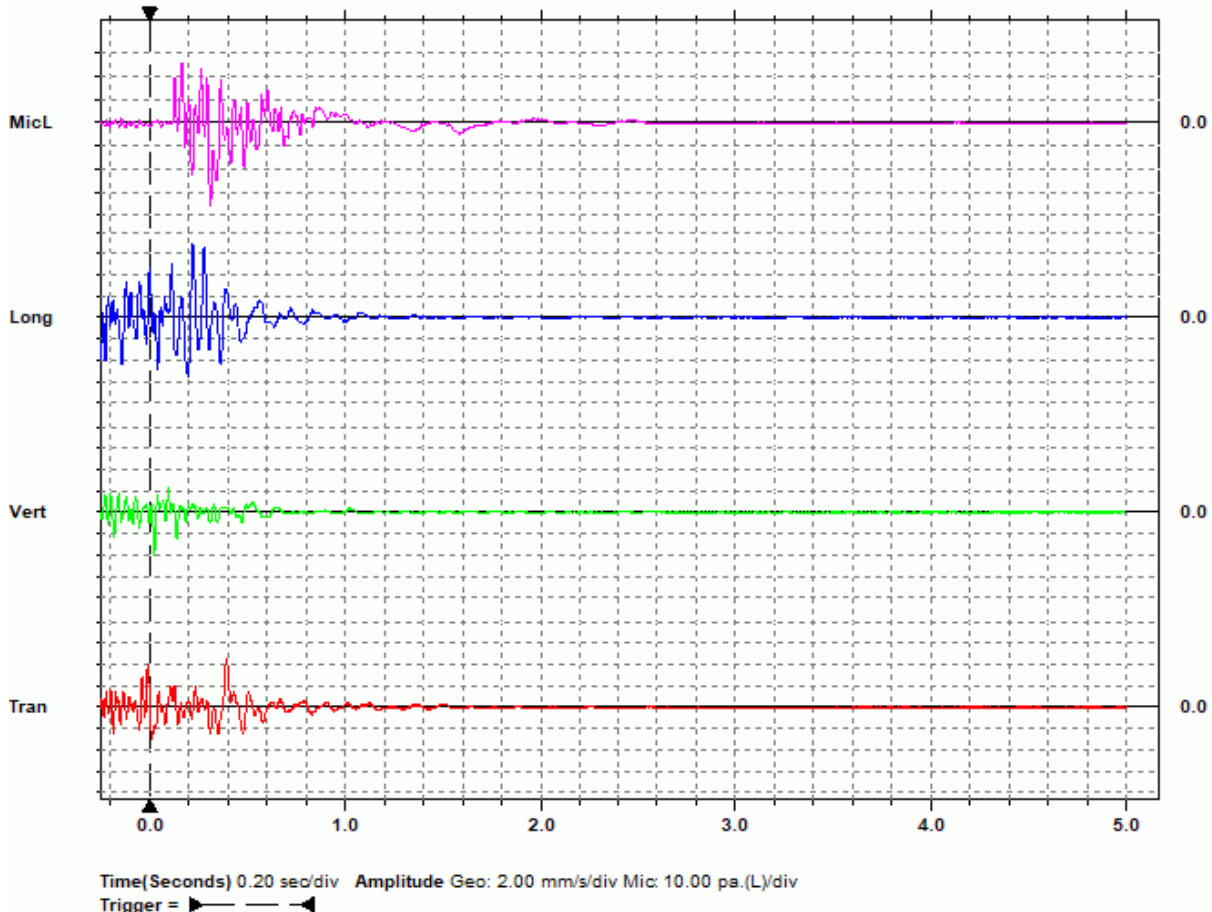
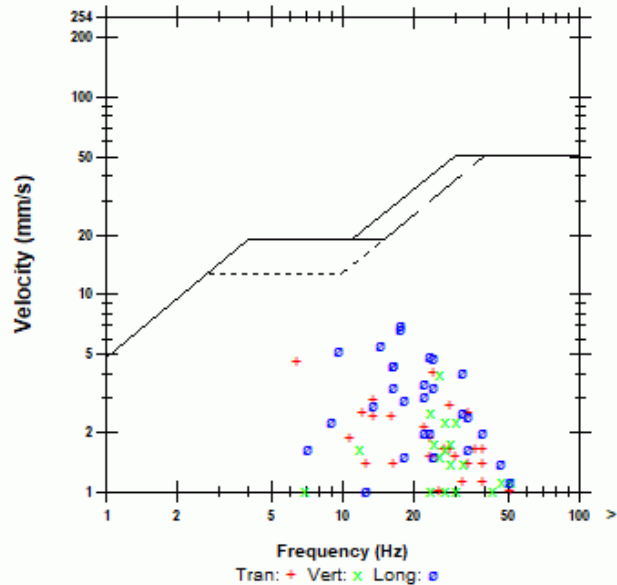
Combo Mode September 22, 2020 05:16:47
 Geophone is sandbagged under the stairs of the backyard deck at 97 Cougar Ridge Close SW adjacent ongoing blasting operations.

Microphone Linear Weighting
 PSPL 35.8 pa.(L) at 0.311 sec.
 ZC Freq 8.8 Hz.
 Channel Test Disabled

	Tran	Vert	Long	
PPV	4.57	3.94	6.98	mm/s
ZC Freq	6.4	26	18	Hz
Time (Rel. to Trig)	0.393	0.023	0.220	sec
Peak Acceleration	0.0663	0.0663	0.0928	g
Peak Displacement	0.0649	0.0236	0.0654	mm
Sensor Check	Disabled	Disabled	Disabled	

Peak Vector Sum 7.06 mm/s At 0.220 sec.

USBM RI8507 And OSMRE



Date/Time Long At 16:02:43 September 22, 2020
 Trigger Source Geo: 5.00 mm/s
 Range Geo: 254 mm/s
 Sample Rate 5.0 sec. At 1024 Sps
 Job Number 8177

Serial Number BE11251 V 10.72-8.17 MiniMate Plus
 Battery Level 6.8 Volts
 Unit Calibration October 23, 2019 by Instantel
 File Name M251IN87.8J0W

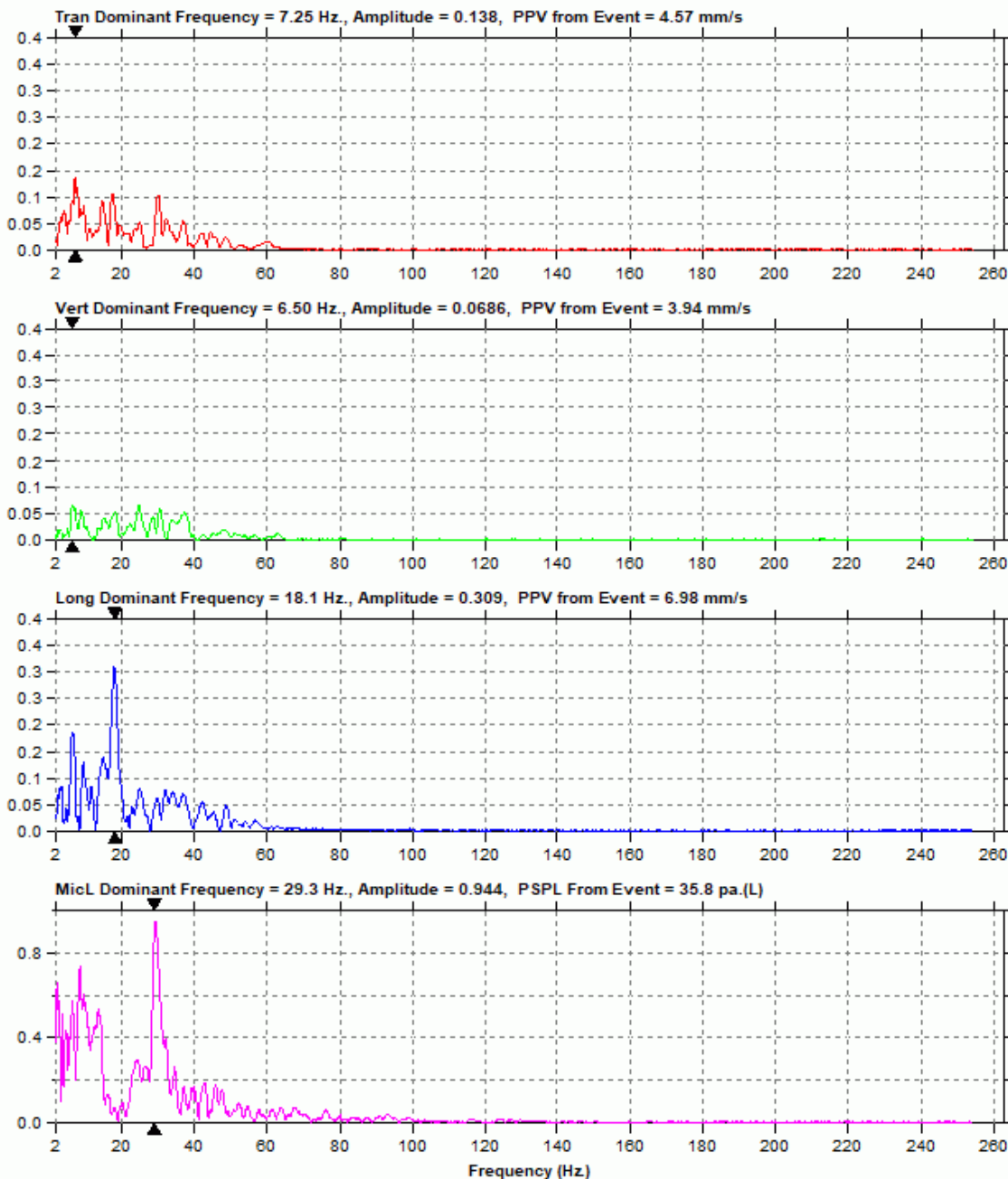
Notes

Location: 97 Cougar Ridge Close SW, Calgary, AB
 Client: McCaw's Drilling and Blasting
 User Name: Explotech Engineering Ltd.
 General: Sandbagged on ground

Extended Notes

Combo Mode September 22, 2020 05:16:47
 Geophone is sandbagged under the stairs of the backyard deck at 97 Cougar Ridge Close SW adjacent ongoing blasting operations.

Post Event Notes



Date/Time Long At 15:58:48 September 23, 2020
 Trigger Source Geo: 5.00 mm/s
 Range Geo: 254 mm/s
 Sample Rate 5.0 sec. At 1024 Sps
 Job Number 8177

Serial Number BE11251 V 10.72-8.17 MiniMate Plus
 Battery Level 6.8 Volts
 Unit Calibration October 23, 2019 by InstanTel
 File Name M251INA1.Q00W

Notes

Location: 97 Cougar Ridge Close SW, Calgary, AB
 Client: McCaw's Drilling and Blasting
 User Name: Explotech Engineering Ltd.
 General: Sandbagged on ground

Post Event Notes

Extended Notes

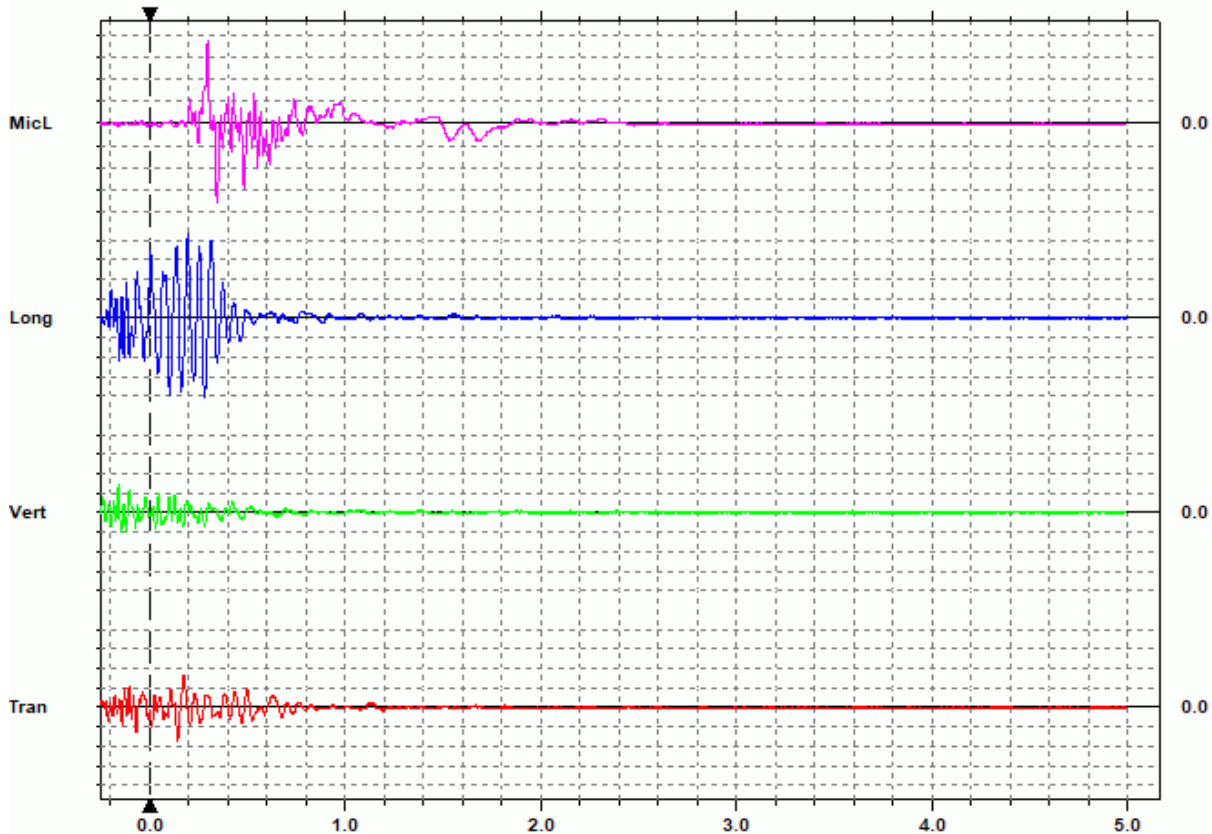
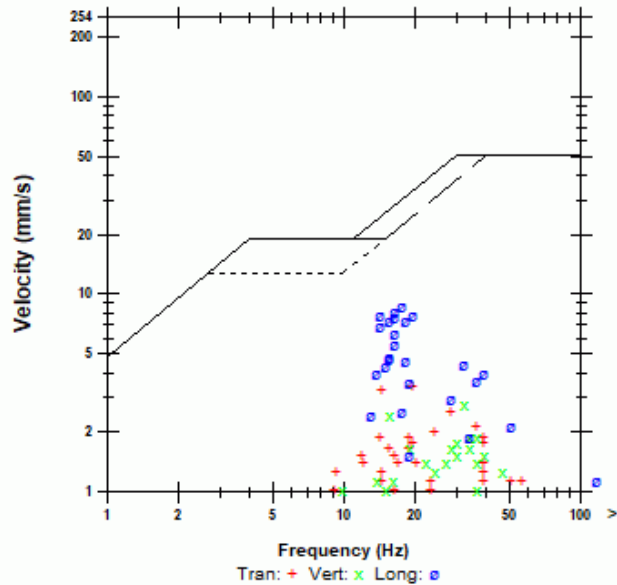
Combo Mode September 23, 2020 05:16:47
 Geophone is sandbagged under the stairs of the backyard deck at 97 Cougar Ridge Close SW adjacent ongoing blasting operations.

Microphone Linear Weighting
 PSPL 38.0 pa.(L) at 0.296 sec.
 ZC Freq 9.7 Hz.
 Channel Test Disabled

	Tran	Vert	Long	
PPV	3.43	2.79	8.64	mm/s
ZC Freq	20	32	18	Hz
Time (Rel. to Trig)	0.144	-0.160	0.193	sec
Peak Acceleration	0.0530	0.0530	0.119	g
Peak Displacement	0.0316	0.0169	0.0905	mm
Sensor Check	Disabled	Disabled	Disabled	

Peak Vector Sum 8.68 mm/s At 0.195 sec.

USBM R18507 And OSMRE



Date/Time Long At 15:58:48 September 23, 2020
 Trigger Source Geo: 5.00 mm/s
 Range Geo: 254 mm/s
 Sample Rate 5.0 sec. At 1024 Sps
 Job Number 8177

Serial Number BE11251 V 10.72-8.17 MiniMate Plus
 Battery Level 6.8 Volts
 Unit Calibration October 23, 2019 by Instantel
 File Name M251INA1.Q00W

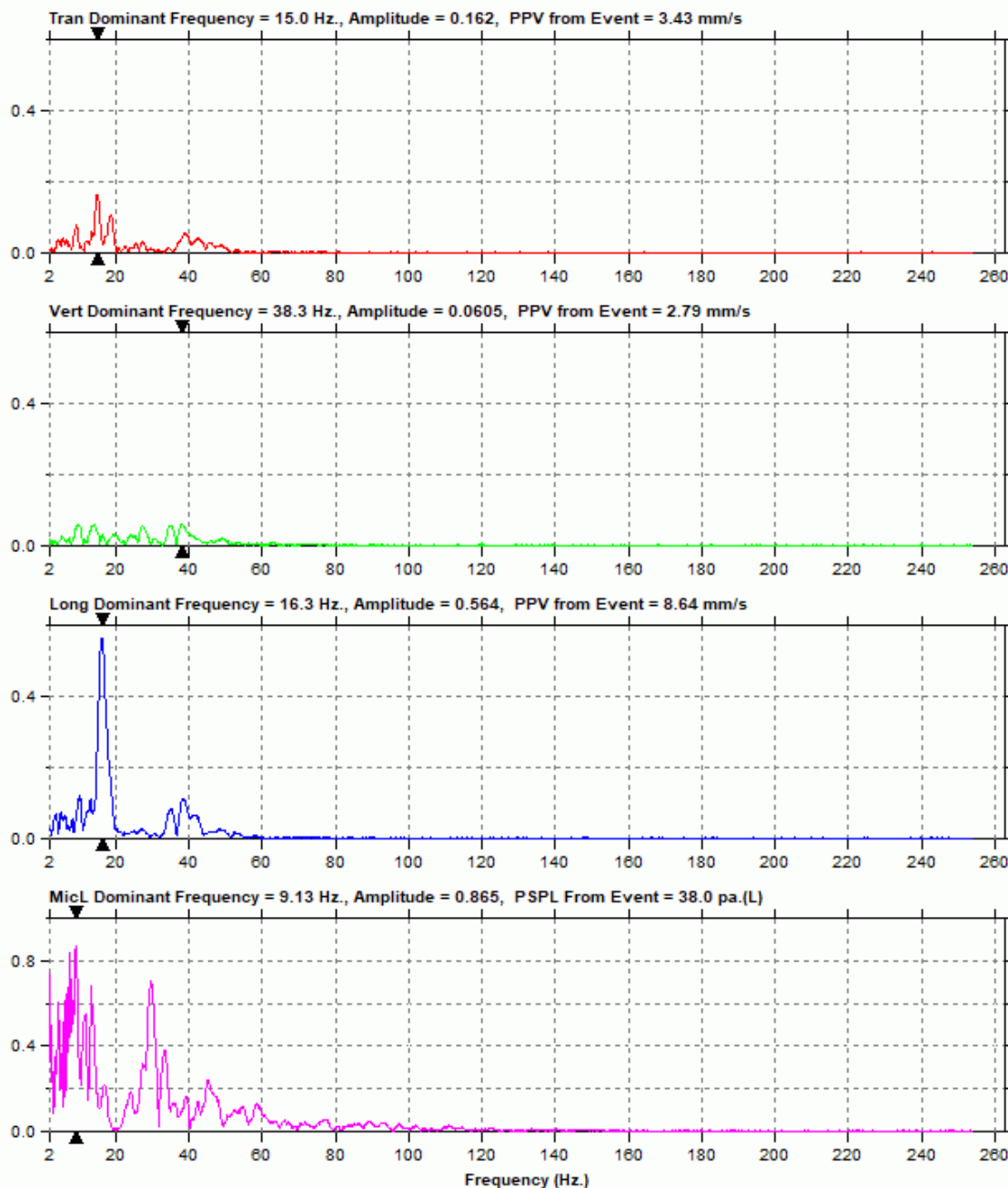
Notes

Location: 97 Cougar Ridge Close SW, Calgary, AB
 Client: McCaw's Drilling and Blasting
 User Name: Explotech Engineering Ltd.
 General: Sandbagged on ground

Extended Notes

Combo Mode September 23, 2020 05:16:47
 Geophone is sandbagged under the stairs of the backyard deck at 97 Cougar Ridge Close SW adjacent ongoing blasting operations.

Post Event Notes



Date/Time Long At 17:20:21 September 25, 2020
 Trigger Source Geo: 5.00 mm/s
 Range Geo: 254 mm/s
 Sample Rate 5.0 sec. At 1024 Sps
 Job Number 8177

Serial Number BE11251 V 10.72-8.17 MiniMate Plus
 Battery Level 6.8 Volts
 Unit Calibration October 23, 2019 by Instantel
 File Name M251INDU.TX0W

Post Event Notes

Notes
 Location: 97 Cougar Ridge Close SW, Calgary, AB
 Client: McCaw's Drilling and Blasting
 User Name: Explotech Engineering Ltd.
 General: Sandbagged on ground

Extended Notes

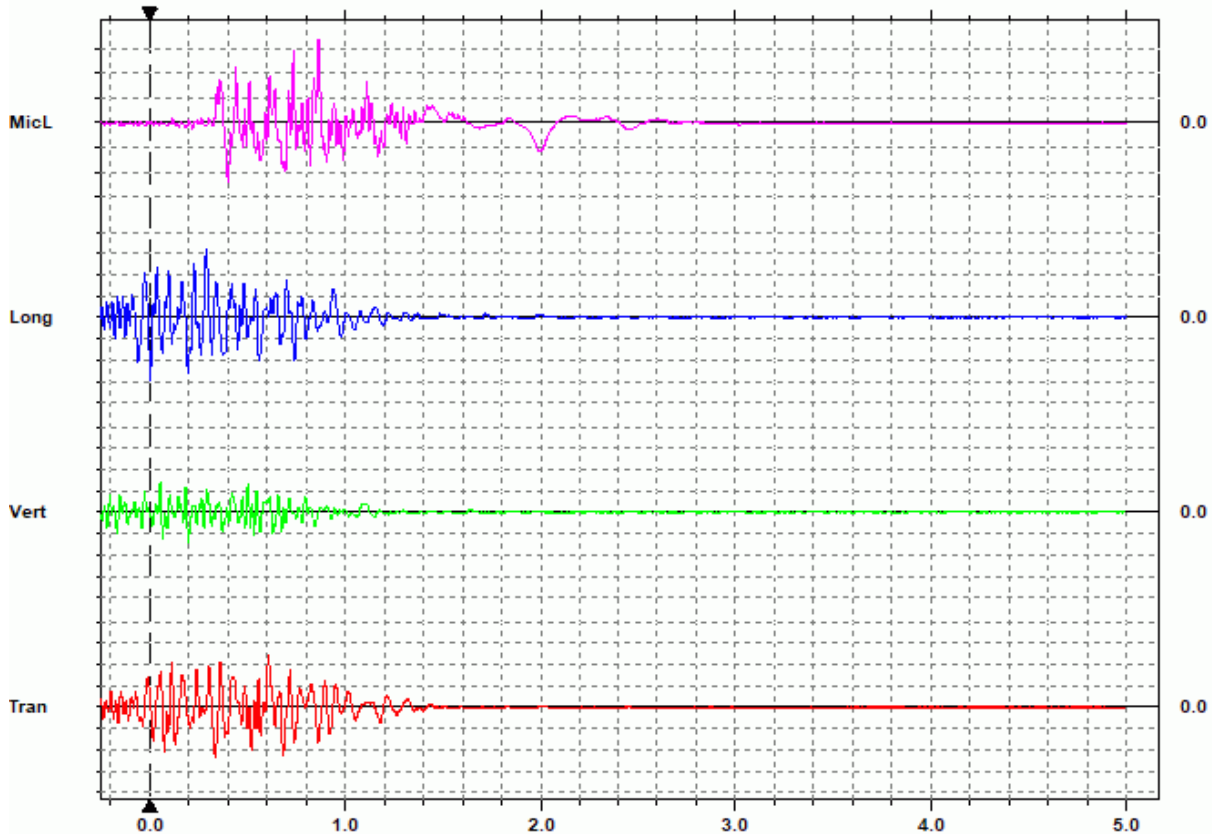
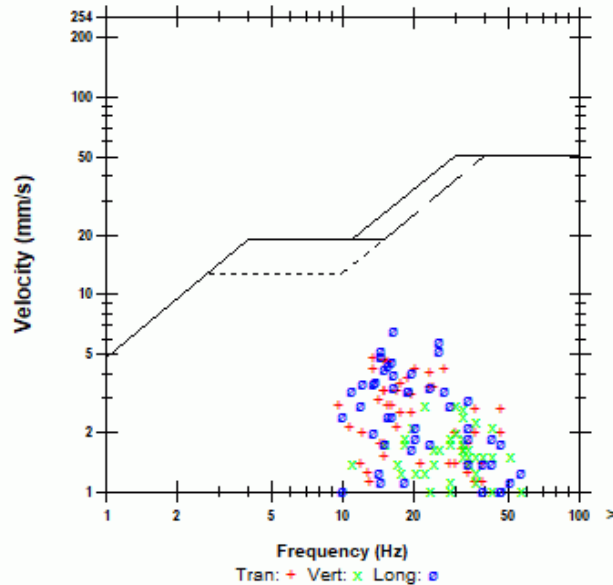
Combo Mode September 25, 2020 05:17:15
 Geophone is sandbagged under the stairs of the backyard deck at 97 Cougar Ridge Close SW adjacent ongoing blasting operations.

Microphone Linear Weighting
 PSPL 124.6 dB(L) at 0.863 sec.
 ZC Freq 11 Hz.
 Channel Test Disabled

	Tran	Vert	Long	
PPV	4.83	2.79	6.60	mm/s
ZC Freq	13	30	17	Hz
Time (Rel. to Trig)	0.605	0.053	0.289	sec
Peak Acceleration	0.0795	0.0663	0.0928	g
Peak Displacement	0.0481	0.0213	0.0527	mm
Sensor Check	Disabled	Disabled	Disabled	

Peak Vector Sum 6.84 mm/s At 0.289 sec.

USBM RI8507 And OSMRE



Time(Seconds) 0.20 sec/div Amplitude Geo: 2.00 mm/s/div Mic: 10.00 pa.(L)/div
 Trigger =

Date/Time Long At 17:20:21 September 25, 2020
 Trigger Source Geo: 5.00 mm/s
 Range Geo: 254 mm/s
 Sample Rate 5.0 sec. At 1024 Sps
 Job Number 8177

Serial Number BE11251 V 10.72-8.17 MiniMate Plus
 Battery Level 6.8 Volts
 Unit Calibration October 23, 2019 by Instantel
 File Name M251INDU.TX0W

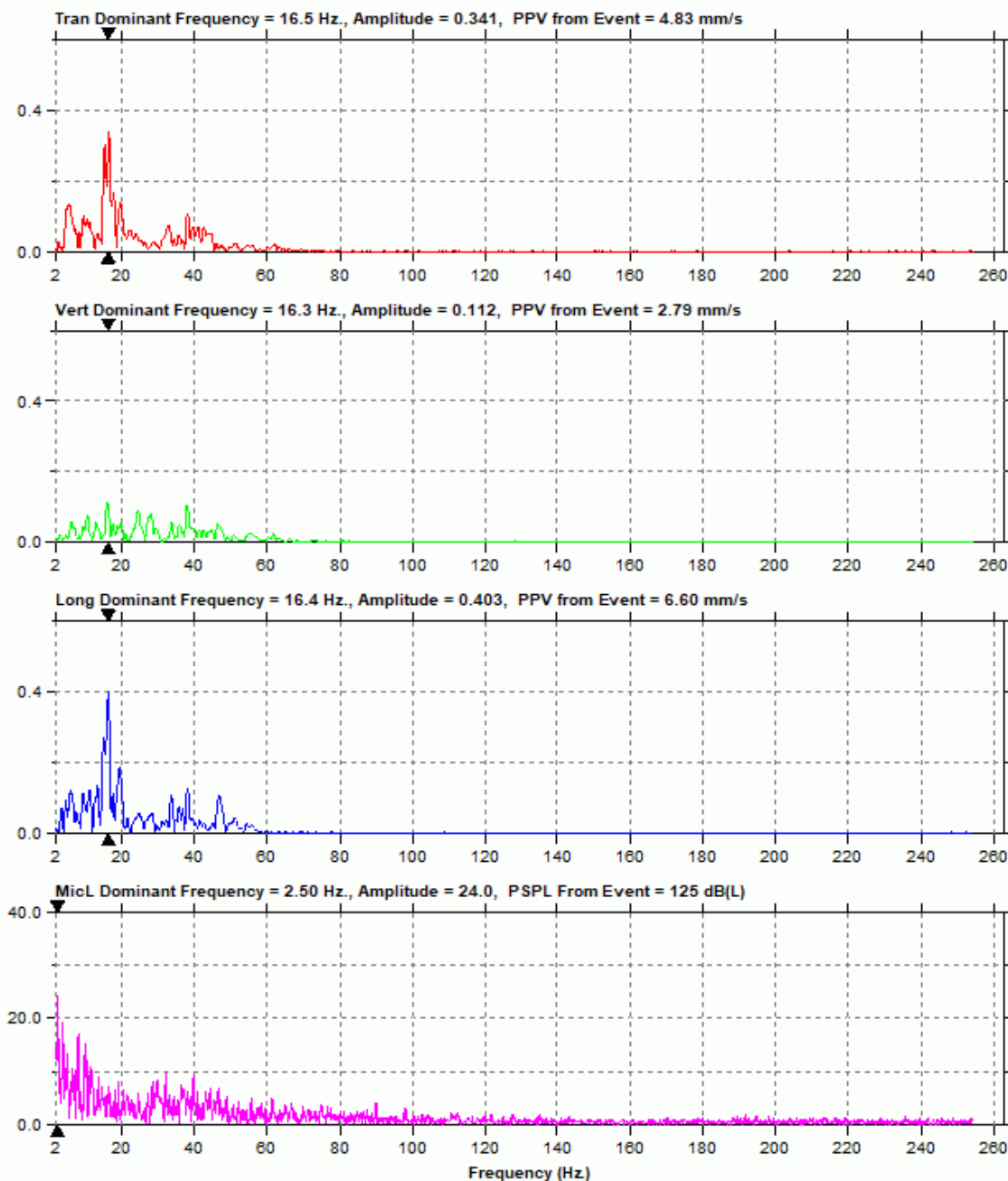
Notes

Location: 97 Cougar Ridge Close SW, Calgary, AB
 Client: McCaw's Drilling and Blasting
 User Name: Explotech Engineering Ltd.
 General: Sandbagged on ground

Extended Notes

Combo Mode September 25, 2020 05:17:15
 Geophone is sandbagged under the stairs of the backyard deck
 at 97 Cougar Ridge Close SW adjacent ongoing blasting
 operations.

Post Event Notes



Date/Time Vert At 16:03:00 September 12, 2020
 Trigger Source Geo: 5.00 mm/s
 Range Geo: 254 mm/s
 Sample Rate 5.0 sec. At 1024 Sps
 Job Number 8177

Serial Number BE9028 V 10.72-8.17 MiniMate Plus
 Battery Level 6.6 Volts
 Unit Calibration December 10, 2019 by InstanTel
 File Name K028IMPO.L00W

Notes
 Location: 128 Cougarstone Manor SW, Calgary, AB
 Client: McCaw's Drilling and Blasting
 User Name: Explotech Engineering Ltd.
 General: Sandbagged on ground

Post Event Notes

Extended Notes

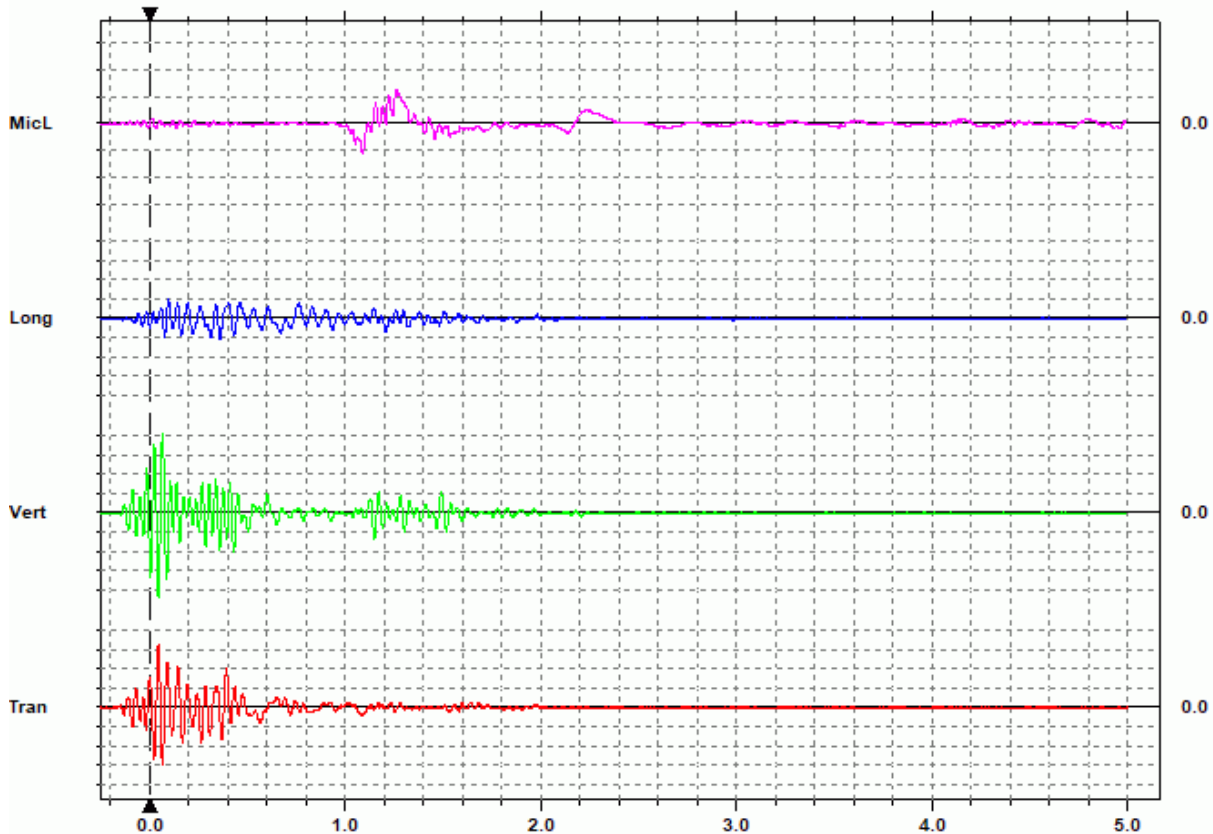
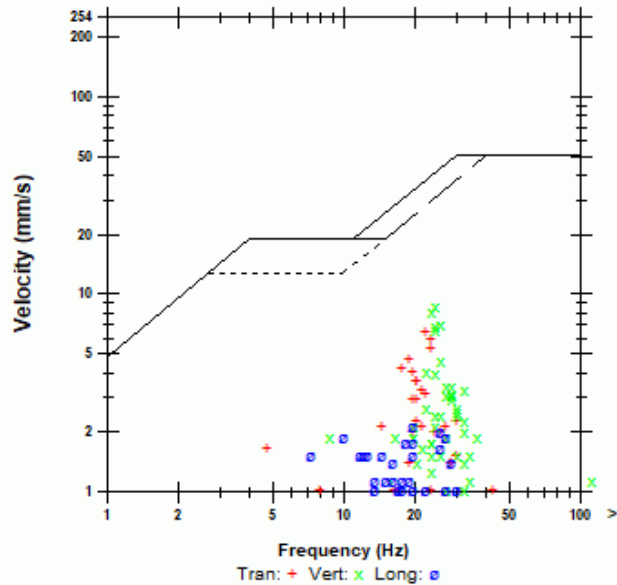
Combo Mode September 12, 2020 05:25:09
 Geophone is sandbagged in the backyard of 128 Cougarstone Manor SW adjacent ongoing blasting operations.

Microphone Linear Weighting
 PSPL 12.5 pa.(L) at 1.262 sec.
 ZC Freq 4.1 Hz.
 Channel Test Disabled

	Tran	Vert	Long	
PPV	6.48	8.76	2.16	mm/s
ZC Freq	22	24	20	Hz
Time (Rel. to Trig)	0.044	0.044	0.358	sec
Peak Acceleration	0.106	0.133	0.0398	g
Peak Displacement	0.0454	0.0583	0.0272	mm
Sensor Check	Disabled	Disabled	Disabled	

Peak Vector Sum 10.9 mm/s At 0.044 sec.

USBM R18507 And OSMRE



Date/Time Vert At 16:03:00 September 12, 2020
Trigger Source Geo: 5.00 mm/s
Range Geo: 254 mm/s
Sample Rate 5.0 sec. At 1024 Sps
Job Number 8177

Serial Number BE9028 V 10.72-8.17 MiniMate Plus
Battery Level 6.6 Volts
Unit Calibration December 10, 2019 by InstanTel
File Name K028IMPO.L00W

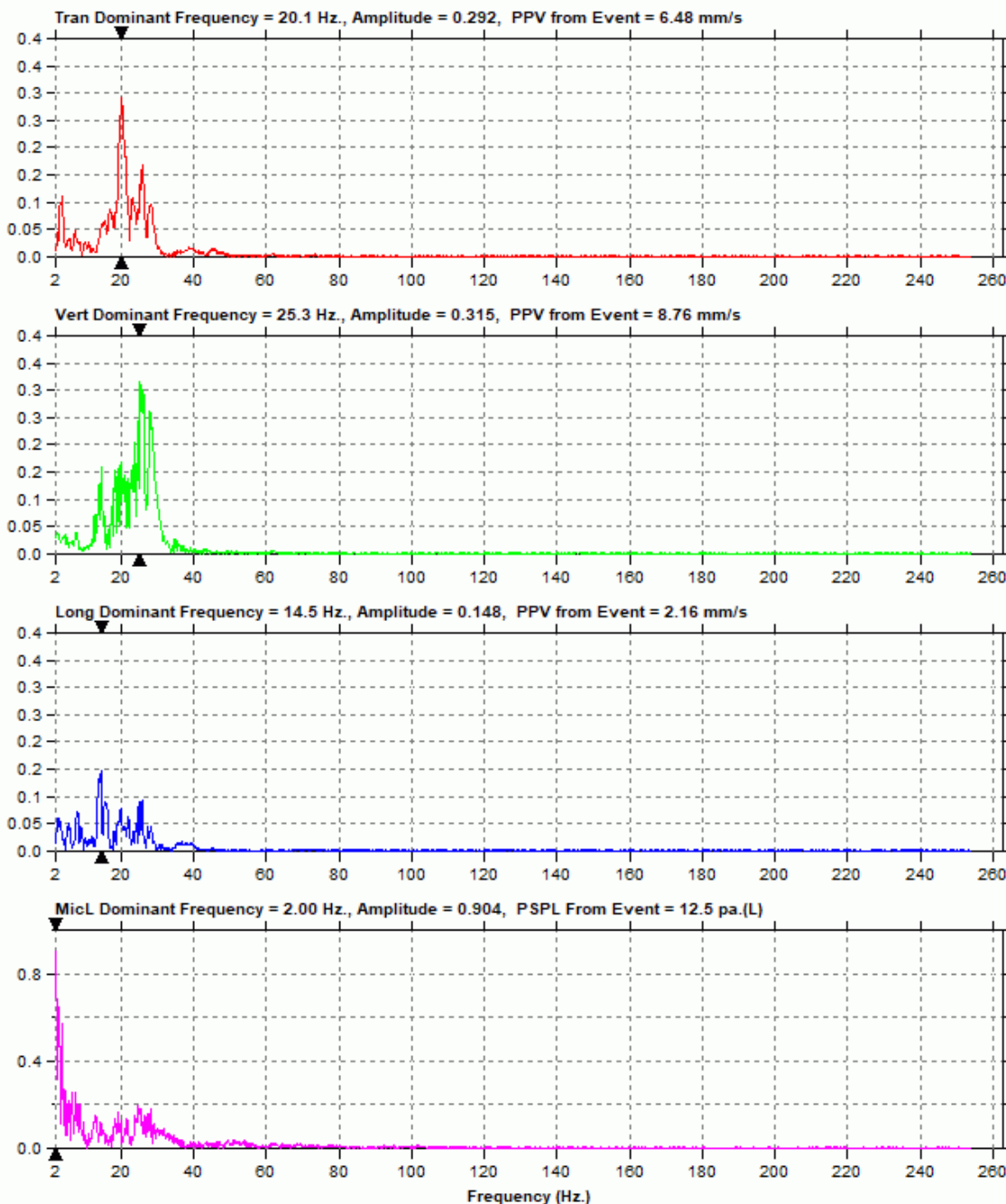
Notes

Location: 128 Cougarstone Manor SW, Calgary, AB
Client: McCaw's Drilling and Blasting
User Name: Explotech Engineering Ltd.
General: Sandbagged on ground

Extended Notes

Combo Mode September 12, 2020 05:25:09
Geophone is sandbagged in the backyard of 128 Cougarstone Manor SW adjacent ongoing blasting operations.

Post Event Notes



Date/Time Vert At 16:02:28 September 14, 2020
 Trigger Source Geo: 5.00 mm/s
 Range Geo: 254 mm/s
 Sample Rate 5.0 sec. At 1024 Sps
 Job Number 8177

Serial Number BE9028 V 10.72-8.17 MiniMate Plus
 Battery Level 6.7 Volts
 Unit Calibration December 10, 2019 by InstanTel
 File Name K028IMTD.W40W

Notes
 Location: 128 Cougarstone Manor SW, Calgary, AB
 Client: McCaw's Drilling and Blasting
 User Name: Explotech Engineering Ltd.
 General: Sandbagged on ground

Post Event Notes

Extended Notes

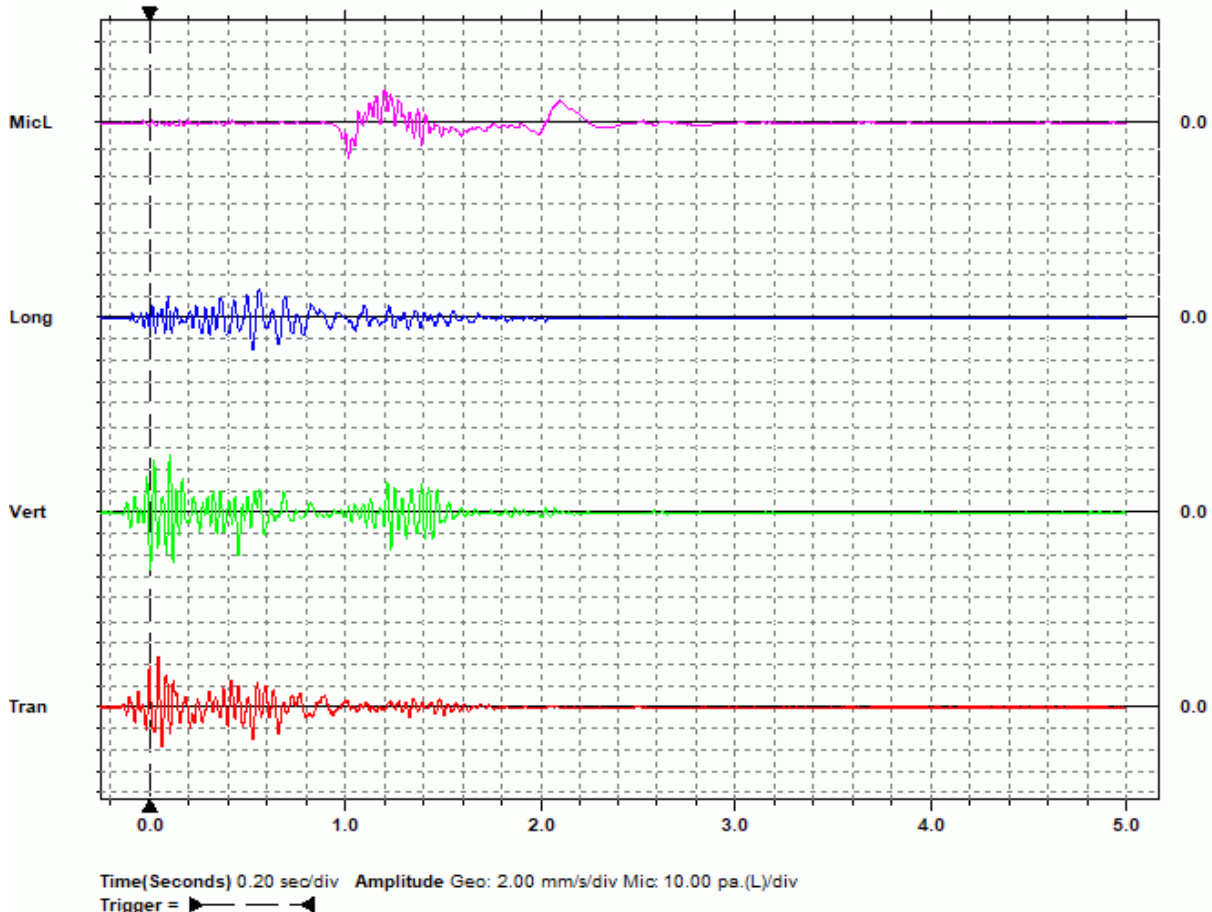
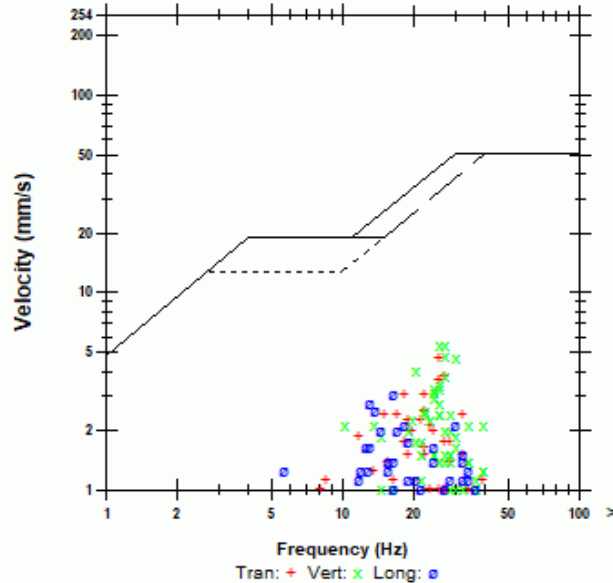
Combo Mode September 14, 2020 05:16:50
 Geophone is sandbagged in the backyard of 128 Cougarstone Manor SW adjacent ongoing blasting operations.

Microphone Linear Weighting
 PSPL 13.3 pa.(L) at 1.018 sec.
 ZC Freq 4.1 Hz.
 Channel Test Disabled

	Tran	Vert	Long	
PPV	4.70	5.46	3.05	mm/s
ZC Freq	26	26	17	Hz
Time (Rel. to Trig)	0.043	0.002	0.525	sec
Peak Acceleration	0.0795	0.0928	0.0398	g
Peak Displacement	0.0282	0.0347	0.0328	mm
Sensor Check	Disabled	Disabled	Disabled	

Peak Vector Sum 6.24 mm/s At 0.002 sec.

USBM R18507 And OSMRE



Date/Time Vert At 16:02:28 September 14, 2020
 Trigger Source Geo: 5.00 mm/s
 Range Geo: 254 mm/s
 Sample Rate 5.0 sec. At 1024 Sps
 Job Number 8177

Serial Number BE9028 V 10.72-8.17 MiniMate Plus
 Battery Level 6.7 Volts
 Unit Calibration December 10, 2019 by Instanetel
 File Name K028IMTD.W40W

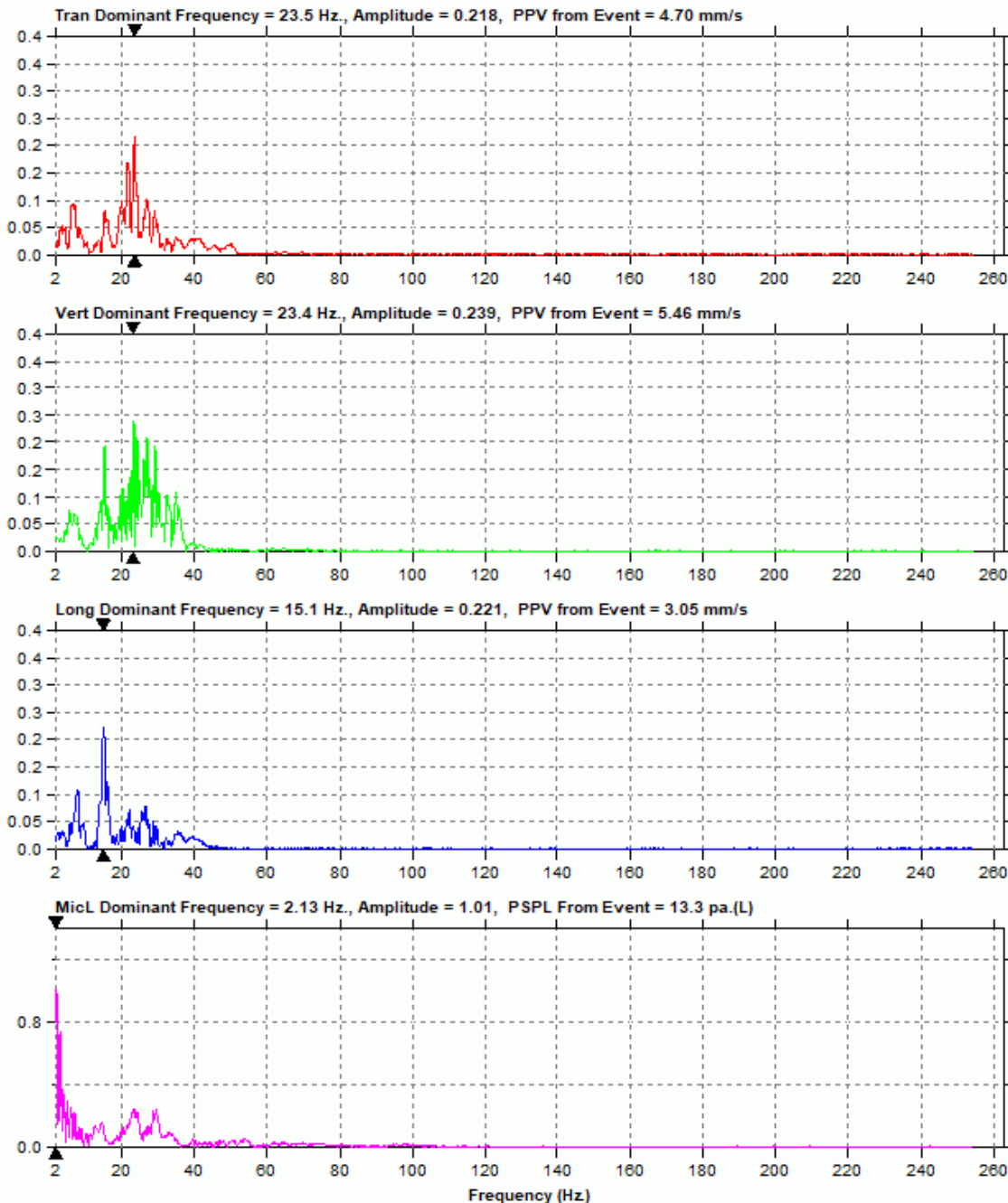
Notes

Location: 128 Cougarstone Manor SW, Calgary, AB
 Client: McCaw's Drilling and Blasting
 User Name: Explotech Engineering Ltd.
 General: Sandbagged on ground

Extended Notes

Combo Mode September 14, 2020 05:16:50
 Geophone is sandbagged in the backyard of 128 Cougarstone Manor SW adjacent ongoing blasting operations.

Post Event Notes



Date/Time Vert At 16:05:52 September 15, 2020
 Trigger Source Geo: 5.00 mm/s
 Range Geo: 254 mm/s
 Sample Rate 5.0 sec. At 1024 Sps
 Job Number 8177

Serial Number BE9028 V 10.72-8.17 MiniMate Plus
 Battery Level 6.7 Volts
 Unit Calibration December 10, 2019 by Instantel
 File Name K028IMV8.PS0W

Notes

Location: 128 Cougarstone Manor SW, Calgary, AB
 Client: McCaw's Drilling and Blasting
 User Name: Explotech Engineering Ltd.
 General: Sandbagged on ground

Post Event Notes

Extended Notes

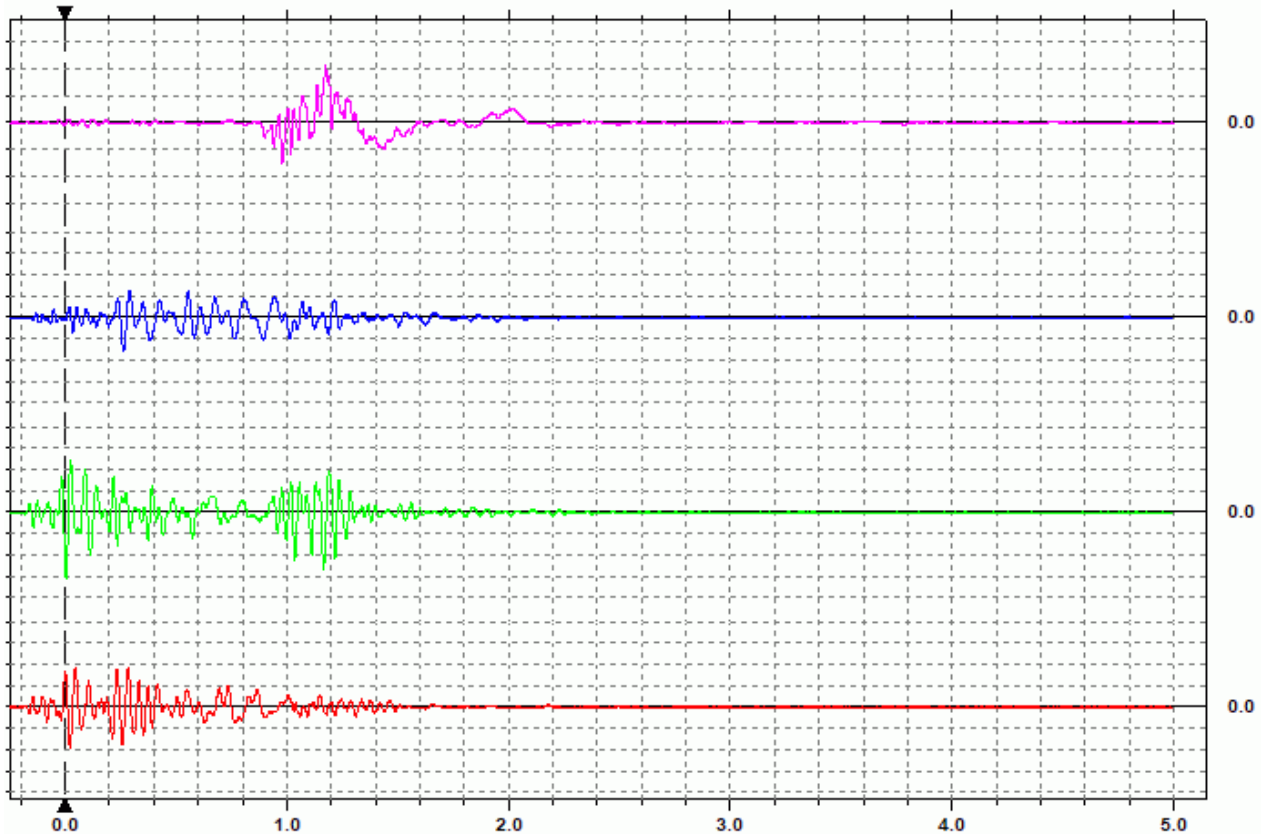
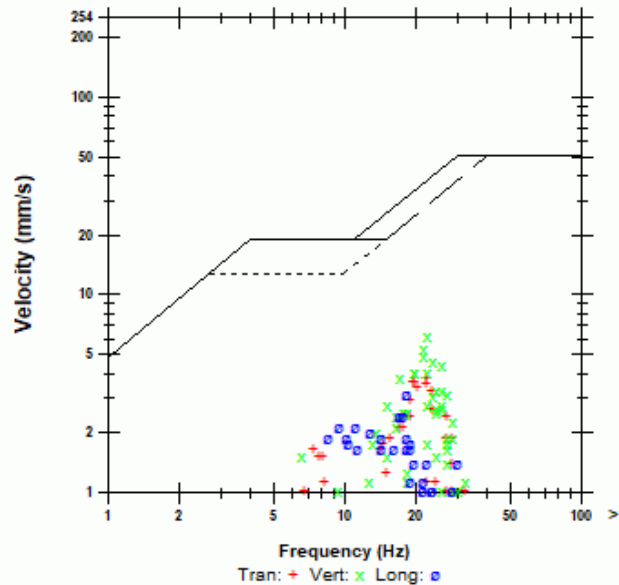
Combo Mode September 15, 2020 14:11:25
 Geophone is sandbagged in the backyard of 128 Cougarstone Manor SW adjacent ongoing blasting operations.

Microphone Linear Weighting
 PSPL 21.3 pa.(L) at 1.174 sec.
 ZC Freq 6.7 Hz.
 Channel Test Disabled

	Tran	Vert	Long	
PPV	3.81	6.22	3.17	mm/s
ZC Freq	22	22	18	Hz
Time (Rel. to Trig)	0.021	0.004	0.263	sec
Peak Acceleration	0.0663	0.0928	0.0530	g
Peak Displacement	0.0328	0.0423	0.0334	mm
Sensor Check	Disabled	Disabled	Disabled	

Peak Vector Sum 6.93 mm/s At 0.004 sec.

USBM R18507 And OSMRE



Date/Time Vert At 16:05:52 September 15, 2020
 Trigger Source Geo: 5.00 mm/s
 Range Geo: 254 mm/s
 Sample Rate 5.0 sec. At 1024 Sps
 Job Number 8177

Serial Number BE9028 V 10.72-8.17 MiniMate Plus
 Battery Level 6.7 Volts
 Unit Calibration December 10, 2019 by InstanTel
 File Name K028IMV8.PS0W

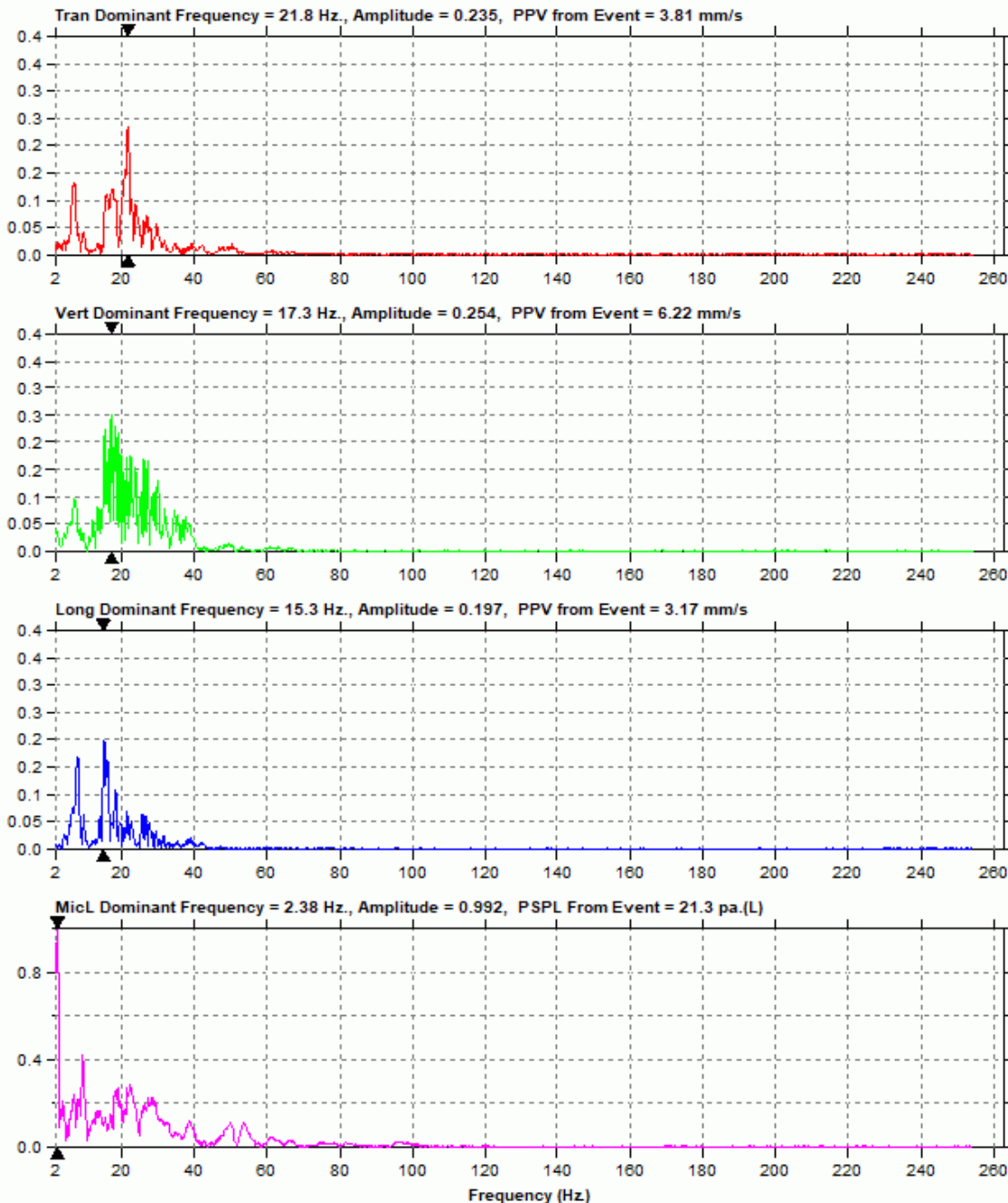
Notes

Location: 128 Cougarstone Manor SW, Calgary, AB
 Client: McCaw's Drilling and Blasting
 User Name: Explotech Engineering Ltd.
 General: Sandbagged on ground

Extended Notes

Combo Mode September 15, 2020 14:11:25
 Geophone is sandbagged in the backyard of 128 Cougarstone Manor SW adjacent ongoing blasting operations.

Post Event Notes



Date/Time Vert At 15:58:36 September 18, 2020
 Trigger Source Geo: 5.00 mm/s
 Range Geo: 254 mm/s
 Sample Rate 5.0 sec. At 1024 Sps
 Job Number 8177

Serial Number BE9028 V 10.72-8.17 MiniMate Plus
 Battery Level 6.6 Volts
 Unit Calibration December 10, 2019 by InstanTel
 File Name K028IN05.D00W

Notes
 Location: 128 Cougarstone Manor SW, Calgary, AB
 Client: McCaw's Drilling and Blasting
 User Name: Explotech Engineering Ltd.
 General: Sandbagged on ground

Post Event Notes

Extended Notes

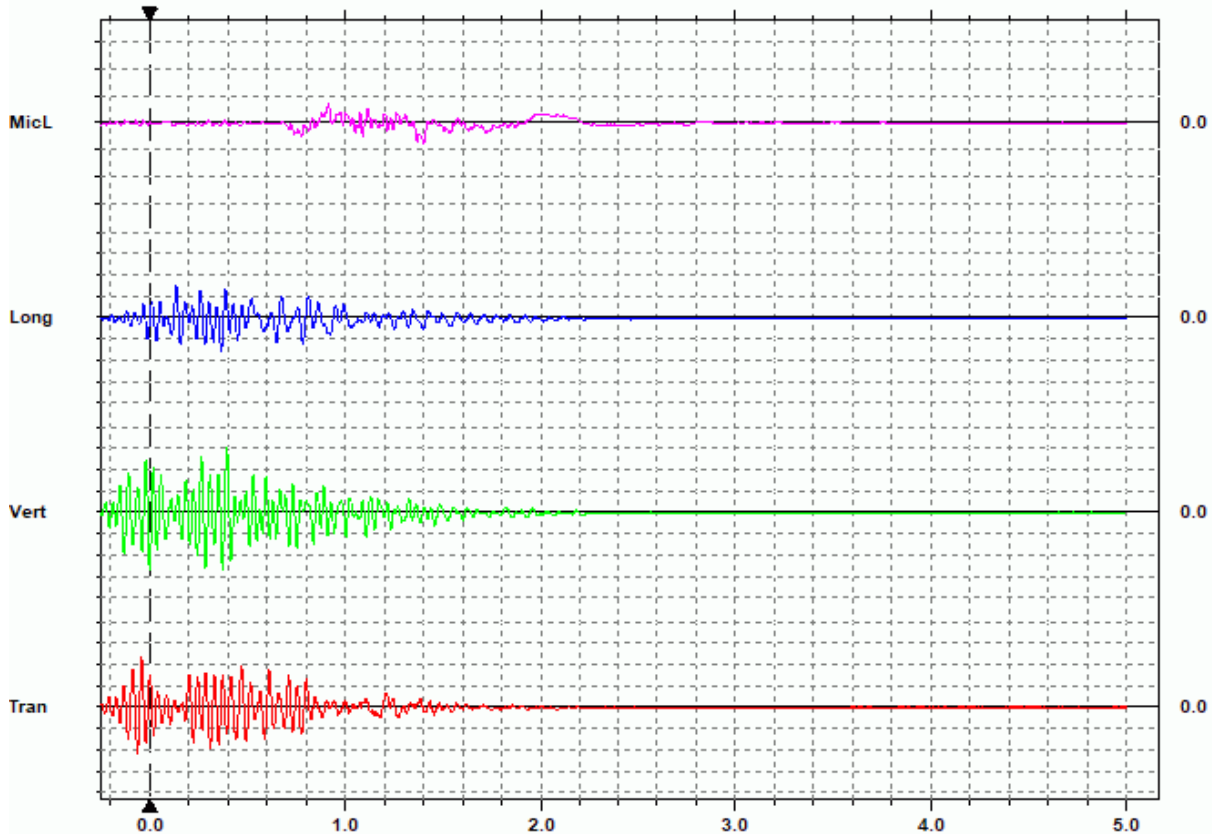
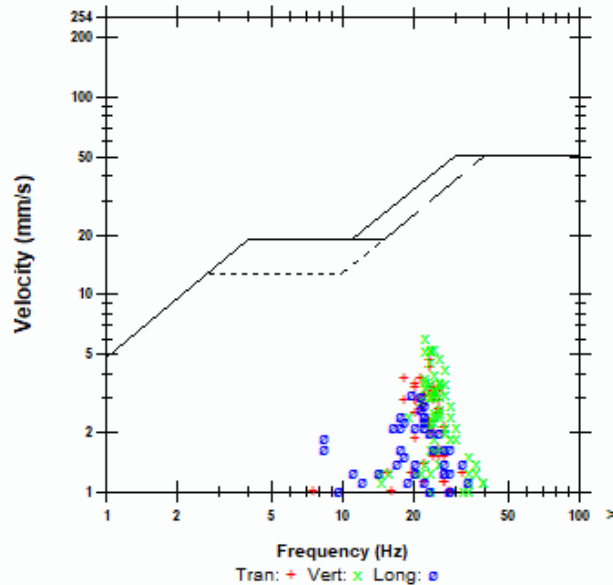
Combo Mode September 18, 2020 05:16:50
 Geophone is sandbagged in the backyard of 128 Cougarstone Manor SW adjacent ongoing blasting operations.

Microphone Linear Weighting
 PSPL 7.75 pa.(L) at 1.401 sec.
 ZC Freq 8.1 Hz.
 Channel Test Disabled

	Tran	Vert	Long	
PPV	4.70	6.10	3.17	mm/s
ZC Freq	23	22	20	Hz
Time (Rel. to Trig)	-0.038	0.396	0.368	sec
Peak Acceleration	0.0663	0.106	0.0530	g
Peak Displacement	0.0323	0.0446	0.0288	mm
Sensor Check	Disabled	Disabled	Disabled	

Peak Vector Sum 6.91 mm/s At 0.396 sec.

USBM R18507 And OSMRE



Time(Seconds) 0.20 sec/div Amplitude Geo: 2.00 mm/s/div Mic: 10.00 pa.(L)/div
 Trigger =

Date/Time Vert At 15:58:36 September 18, 2020
Trigger Source Geo: 5.00 mm/s
Range Geo: 254 mm/s
Sample Rate 5.0 sec. At 1024 Sps
Job Number 8177

Serial Number BE9028 V 10.72-8.17 MiniMate Plus
Battery Level 6.6 Volts
Unit Calibration December 10, 2019 by InstanTel
File Name K028IN0S.D00W

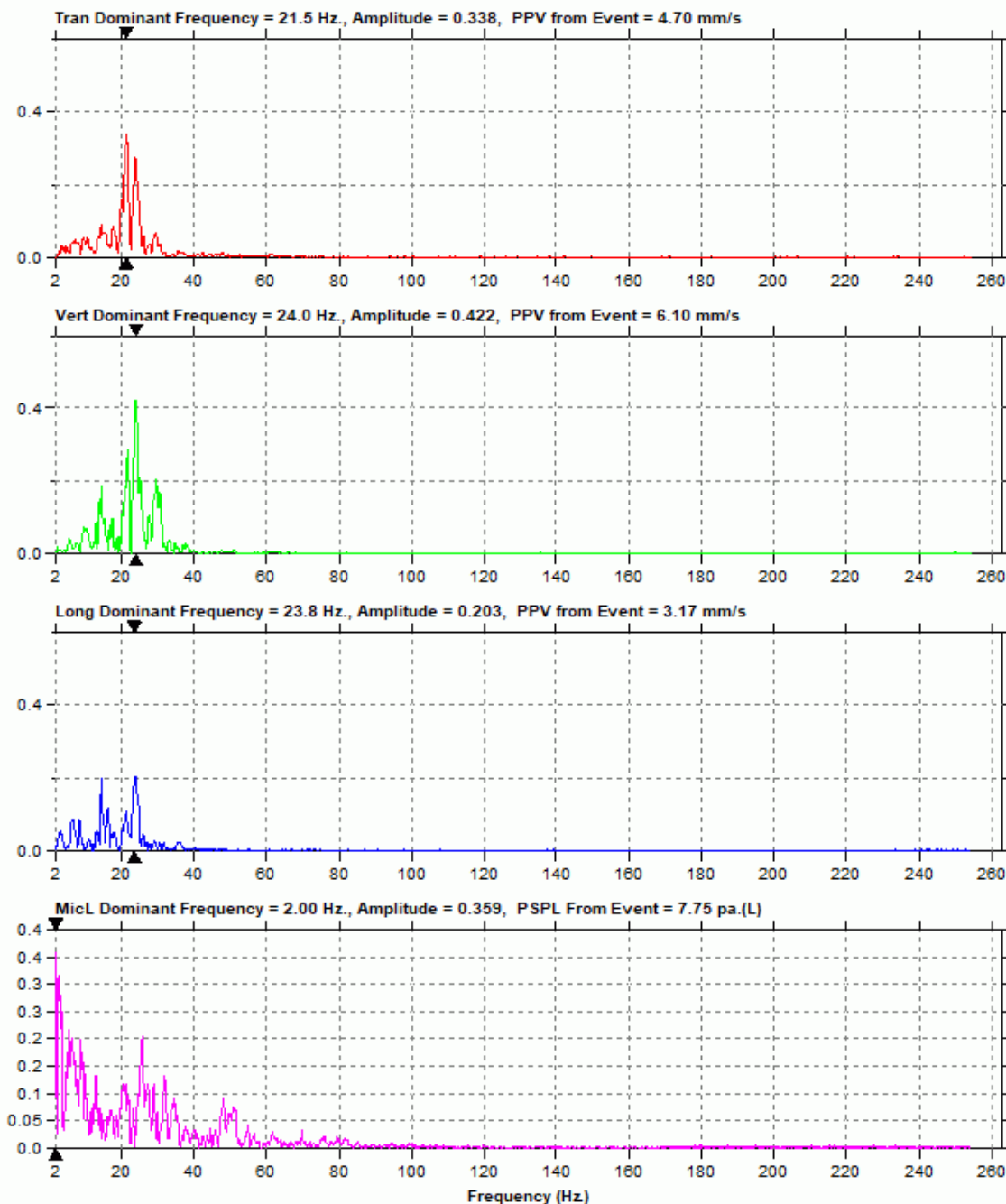
Notes

Location: 128 Cougarstone Manor SW, Calgary, AB
Client: McCaw's Drilling and Blasting
User Name: Explotech Engineering Ltd.
General: Sandbagged on ground

Extended Notes

Combo Mode September 18, 2020 05:16:50
Geophone is sandbagged in the backyard of 128 Cougarstone Manor SW adjacent ongoing blasting operations.

Post Event Notes



Date/Time Vert At 16:03:20 September 22, 2020
 Trigger Source Geo: 5.00 mm/s
 Range Geo: 254 mm/s
 Sample Rate 5.0 sec. At 1024 Sps
 Job Number 8177

Serial Number BE9028 V 10.72-8.17 MiniMate Plus
 Battery Level 6.7 Volts
 Unit Calibration December 10, 2019 by InstanTel
 File Name K028IN87.9K0W

Notes
 Location: 128 Cougarstone Manor SW, Calgary, AB
 Client: McCaw's Drilling and Blasting
 User Name: Explotech Engineering Ltd.
 General: Sandbagged on ground

Post Event Notes

Extended Notes

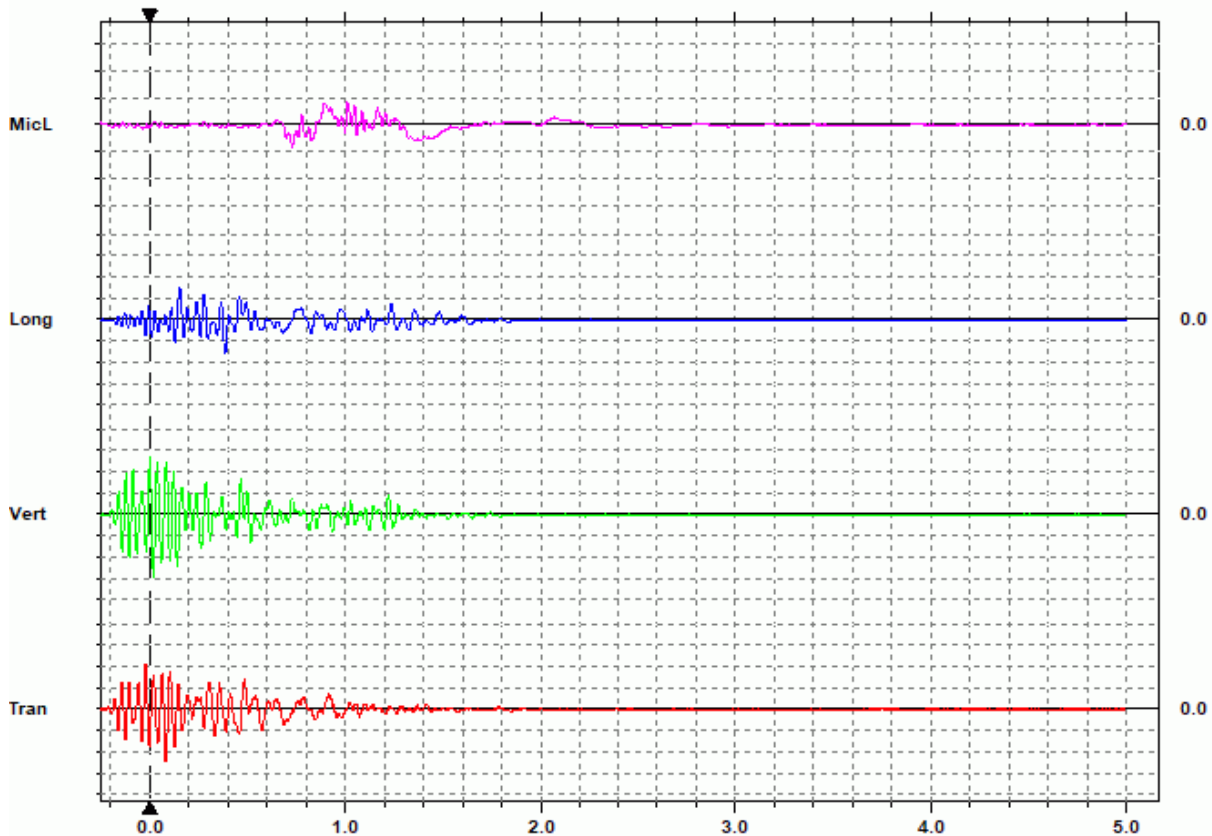
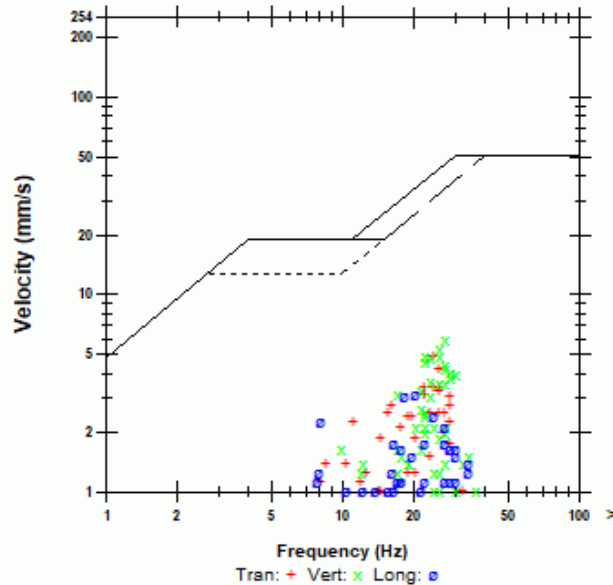
Combo Mode September 22, 2020 05:16:48
 Geophone is sandbagged in the backyard of 128 Cougarstone Manor SW adjacent ongoing blasting operations.

Microphone Linear Weighting
 PSPL 8.75 pa.(L) at 1.016 sec.
 ZC Freq 17 Hz.
 Channel Test Disabled

	Tran	Vert	Long	
PPV	4.95	5.97	3.17	mm/s
ZC Freq	24	27	20	Hz
Time (Rel. to Trig)	0.083	0.021	0.386	sec
Peak Acceleration	0.0795	0.106	0.0530	g
Peak Displacement	0.0335	0.0363	0.0379	mm
Sensor Check	Disabled	Disabled	Disabled	

Peak Vector Sum 6.93 mm/s At 0.084 sec.

USBM RI8507 And OSMRE



Date/Time Vert At 16:03:20 September 22, 2020
 Trigger Source Geo: 5.00 mm/s
 Range Geo: 254 mm/s
 Sample Rate 5.0 sec. At 1024 Sps
 Job Number 8177

Serial Number BE9028 V 10.72-8.17 MiniMate Plus
 Battery Level 6.7 Volts
 Unit Calibration December 10, 2019 by Instantel
 File Name K028IN87.9K0W

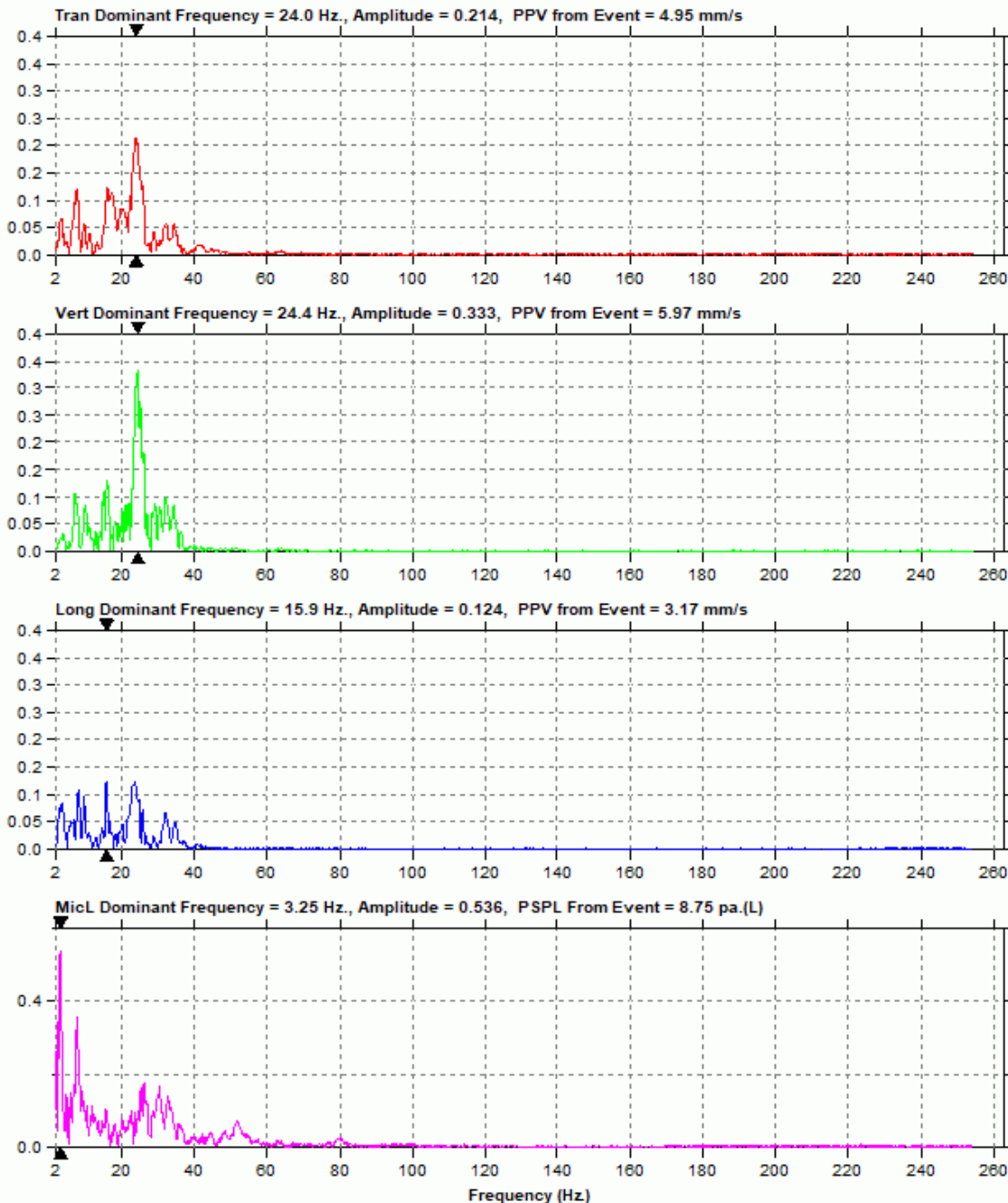
Notes

Location: 128 Cougarstone Manor SW, Calgary, AB
 Client: McCaw's Drilling and Blasting
 User Name: Explotech Engineering Ltd.
 General: Sandbagged on ground

Extended Notes

Combo Mode September 22, 2020 05:16:48
 Geophone is sandbagged in the backyard of 128 Cougarstone Manor SW adjacent ongoing blasting operations.

Post Event Notes



Date/Time Tran At 17:21:02 September 25, 2020
 Trigger Source Geo: 5.00 mm/s
 Range Geo: 254 mm/s
 Sample Rate 5.0 sec. At 1024 Sps
 Job Number 8177

Serial Number BE9028 V 10.72-8.17 MiniMate Plus
 Battery Level 6.7 Volts
 Unit Calibration December 10, 2019 by InstanTel
 File Name K028INDU.V20W

Post Event Notes

Notes
 Location: 128 Cougarstone Manor SW, Calgary, AB
 Client: McCaw's Drilling and Blasting
 User Name: Explotech Engineering Ltd.
 General: Sandbagged on ground

Extended Notes

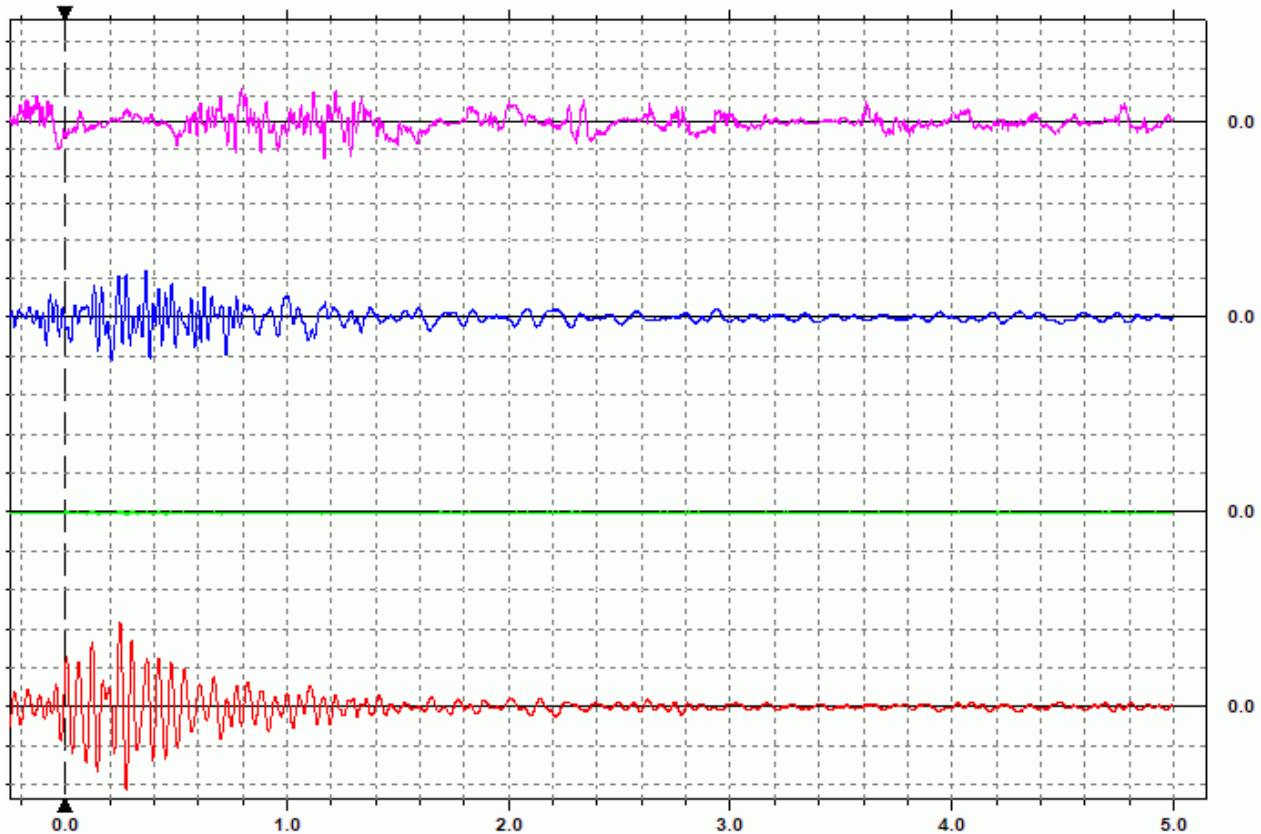
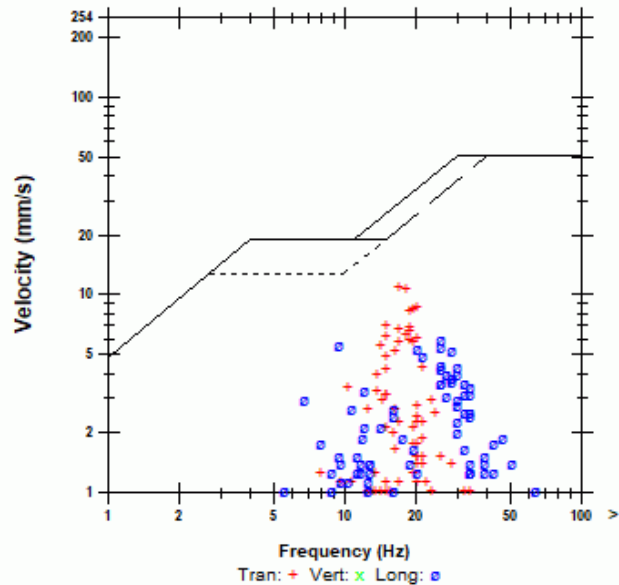
Combo Mode September 25, 2020 09:42:03
 Geophone is sandbagged in the backyard of 128 Cougarstone Manor SW adjacent ongoing blasting operations.

Microphone Linear Weighting
 PSPL 116.3 dB(L) at 1.168 sec.
 ZC Freq 34 Hz.
 Channel Test Disabled

	Tran	Vert	Long	
PPV	10.9	0.254	5.97	mm/s
ZC Freq	17	>100	28	Hz
Time (Rel. to Trig)	0.246	0.097	0.363	sec
Peak Acceleration	0.133	0.0265	0.106	g
Peak Displacement	0.0993	0.00050	0.0698	mm
Sensor Check	Disabled	Disabled	Disabled	

Peak Vector Sum 12.0 mm/s At 0.275 sec.

USBM RI8507 And OSMRE



Time(Seconds) 0.20 sec/div Amplitude Geo: 5.00 mm/s/div Mic: 10.00 pa.(L)/div
 Trigger = [arrow] [arrow] [arrow]

Created: September 25, 2020 (V - 10.72)

Format (c) 2006-2014 Xmark Corporation

Date/Time Tran At 17:21:02 September 25, 2020
 Trigger Source Geo: 5.00 mm/s
 Range Geo: 254 mm/s
 Sample Rate 5.0 sec. At 1024 Sps
 Job Number 8177

Serial Number BE9028 V 10.72-8.17 MiniMate Plus
 Battery Level 6.7 Volts
 Unit Calibration December 10, 2019 by InstanTel
 File Name K028INDU.V20W

Notes

Location: 128 Cougarstone Manor SW, Calgary, AB
 Client: McCaw's Drilling and Blasting
 User Name: Explotech Engineering Ltd.
 General: Sandbagged on ground

Extended Notes

Combo Mode September 25, 2020 09:42:03
 Geophone is sandbagged in the backyard of 128 Cougarstone Manor SW adjacent ongoing blasting operations.

Post Event Notes

