

**BROWARD COUNTY BLASTING MONITORING DATA
FOR CITY OF MIRAMAR
BLASTING OCCURRING IN MIAMI-DADE COUNTY
APRIL 2018**

LOCATION #1: Riviera Isles (NE)

LOCATION #2: Riviera Isles (SW)

LOCATION #3: Hungtinton South

DATE	STATION LOCATION	TIME	READING (PPV)*
02/12/2018	LOCATION #1	11:30 AM	0.063
02/13/2018	LOCATION #1	1:16 PM	0.113
02/13/2018	LOCATION #2	1:18 PM	0.095
02/13/2018	LOCATION #3	1:15 PM	0.203
02/14/2018	LOCATION #1	1:37 PM	0.098
02/14/2018	LOCATION #2	1:40 PM	0.043
02/14/2018	LOCATION #3	1:36 PM	0.045
02/15/2018	LOCATION #3	10:01 AM	0.078
02/16/2018	LOCATION #1	11:31 AM	0.090
02/16/2018	LOCATION #2	11:33 AM	0.050
02/16/2018	LOCATION #3	11:30 AM	0.080
02/19/2018	LOCATION #1	2:01 PM	0.073
02/19/2018	LOCATION #2	2:04 PM	0.048
02/19/2018	LOCATION #3	2:00 PM	0.095
02/20/2018	LOCATION #1	1:16 PM	0.103
02/20/2018	LOCATION #2	1:19 PM	0.063
02/20/2018	LOCATION #3	1:15 PM	0.078
02/22/2018	LOCATION #1	1:33 PM	0.068
02/22/2018	LOCATION #2	1:35 PM	0.080
02/22/2018	LOCATION #3	1:32 PM	0.153
02/26/2018	LOCATION #1	2:01 PM	0.130
02/26/2018	LOCATION #2	2:04 PM	0.043
02/26/2018	LOCATION #3	2:00 PM	0.100
02/27/2018	LOCATION #1	1:35 PM	0.100
02/27/2018	LOCATION #2	1:38 PM	0.053
02/27/2018	LOCATION #3	1:34 PM	0.040

**BROWARD COUNTY BLASTING MONITORING DATA
FOR CITY OF MIRAMAR
BLASTING OCCURRING IN MIAMI-DADE COUNTY
APRIL 2018**

LOCATION #1: Riviera Isles (NE)

LOCATION #2: Riviera Isles (SW)

LOCATION #3: Hungtinton South

DATE	STATION LOCATION	TIME	READING (PPV)*
03/05/2018	LOCATION #1	2:02 PM	0.068
03/05/2018	LOCATION #2	2:05 PM	0.048
03/05/2018	LOCATION #3	2:01 PM	0.078
03/07/2018	LOCATION #1	11:39 AM	0.078
03/07/2018	LOCATION #3	11:37 AM	0.035
03/09/2018	LOCATION #1	1:18 PM	0.103
03/09/2018	LOCATION #2	1:21 PM	0.035
03/09/2018	LOCATION #3	1:17 PM	0.115
03/15/2018	LOCATION #1	1:48 PM	0.035
03/19/2018	LOCATION #1	1:22 PM	0.080
03/19/2018	LOCATION #2	1:25 PM	0.068
03/19/2018	LOCATION #3	1:20 PM	0.110
03/20/2018	LOCATION #1	10:48 AM	0.118
03/20/2018	LOCATION #2	10:51 AM	0.138
03/20/2018	LOCATION #3	10:46 AM	0.135
03/23/2018	LOCATION #2	10:59 AM	0.045

Seismic Analysis

USBM/Velocity Waveform Report

Serial No: 5148 v3.67
Date: 02/12/2018 11:30:44
Event No: 1
Record Time: 15.0 s
Client: City of Miramar
Operation: White Rock Quarries
Location: 17040 SW 53 Ct
Distance:
Operator: Pedro V.
Comment: In Ground
Seismic Trigger: 0.030 in/s

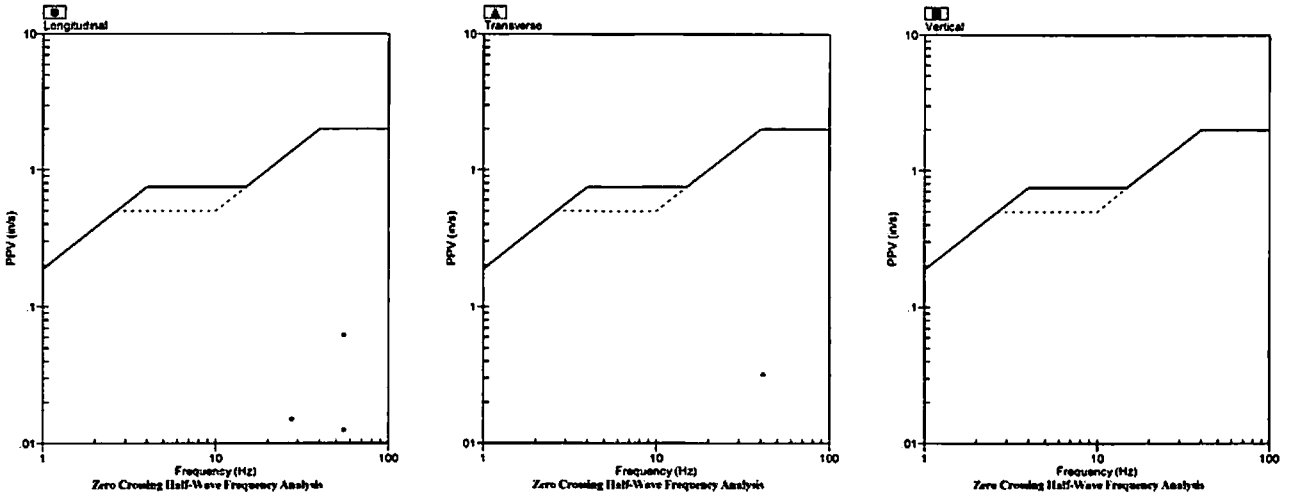
Summary Data

	L	T	V
PPV (in/s)	0.063	0.035	0.005
FREQ (Hz)	16.7	11.9	1.4
PD (.001")	0.69	0.42	0.10
PPA (g)	0.033	0.020	0.007
Peak Vector Sum:	0.073 in/s		
Peak Air Pressure:	83 db		
	0.00007 PSI @ 1.0 Hz		

Additional Info:

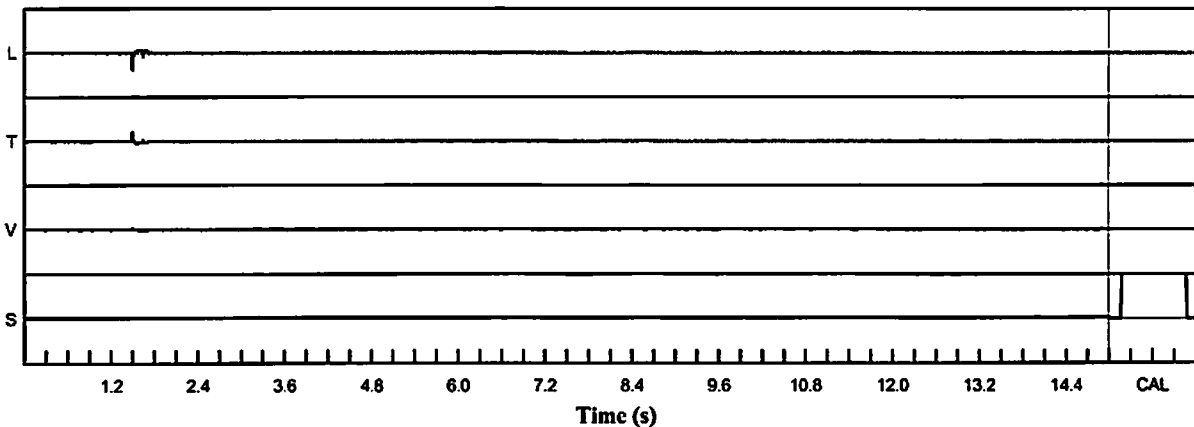
Shaketable Calibrated: 03/21/2017
By: GeoSonics Inc.
 359 Northgate Drive
 Warrendale, PA 15086 U.S.A.
 TEL: 724.934.2900 FAX: 724.934.2999

USBM Safe Blasting Levels



Velocity Waveform

SN: 5148 Event: 1



Velocity Waveform Graph Scale

Time Scale: 0.300 s
Seismic Scale: +/- 0.160 in/s
Sound Scale: +/- 0.0023 PSI

Seismic Analysis

USBM/Velocity Waveform Report

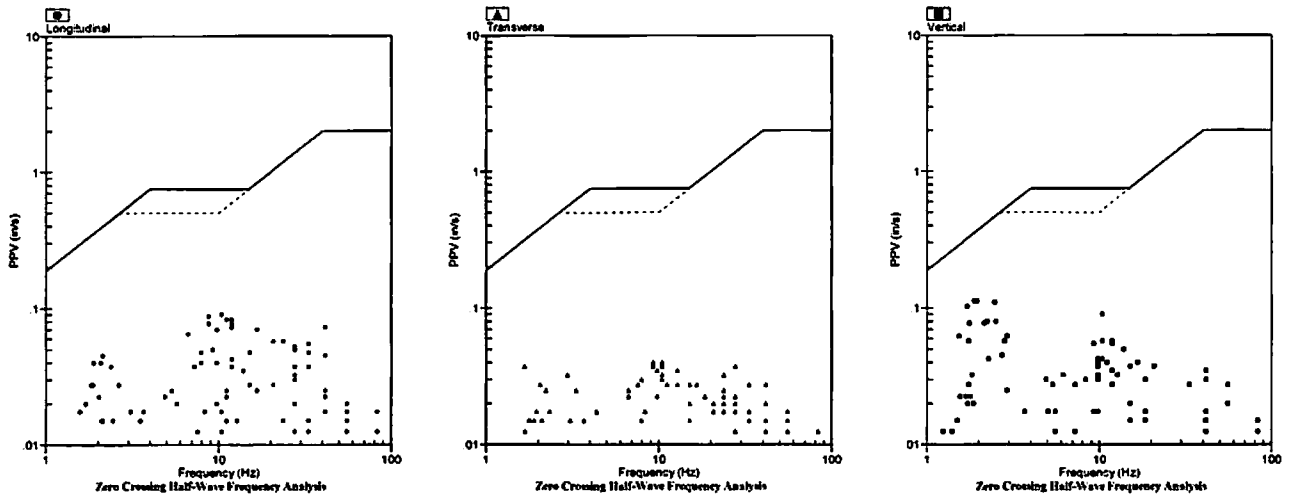
Serial No: 5148 v3.67
Date: 02/13/2018 13:16:10
Event No: 2
Record Time: 15.0 s
Client: City of Miramar
Operation: White Rock Quarries
Location: 17040 SW 53 Ct
Distance:
Operator: Pedro V.
Comment: In Ground
Seismic Trigger: 0.030 in/s

	L	T	V
PPV (in/s)	0.090	0.040	0.113
FREQ (Hz)	10.4	10.4	2.0
PD (.001")	3.11	2.07	9.91
PPA (g)	0.046	0.026	0.039
Peak Vector Sum:	0.115 in/s		
Peak Air Pressure:	123 db		
	0.00402 PSI @ 4.2 Hz		

Additional Info:

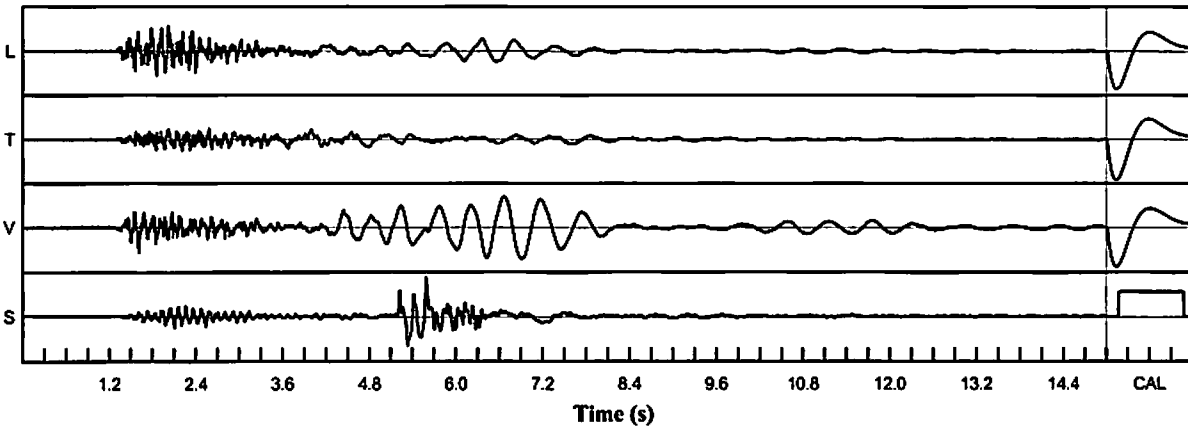
Shaketable Calibrated: 03/21/2017
By: GeoSonics Inc.
 359 Northgate Drive
 Warrendale, PA 15086 U.S.A.
 TEL: 724.934.2900 FAX: 724.934.2999

USBM Safe Blasting Levels



Velocity Waveform

SN: 5148 Event: 2



Velocity Waveform Graph Scale
Time Scale: 0.300 s
Seismic Scale: +/- 0.160 in/s
Sound Scale: +/- 0.0045 PSI

Seismic Analysis

USBM/Velocity Waveform Report

Serial No: 5148 v3.67
Date: 02/14/2018 13:37:43
Event No: 3
Record Time: 15.0 s
Client: City of Miramar
Operation: White Rock Quarries
Location: 17040 SW 53 Ct
Distance:
Operator: Pedro V.
Comment: In Ground
Seismic Trigger: 0.030 in/s

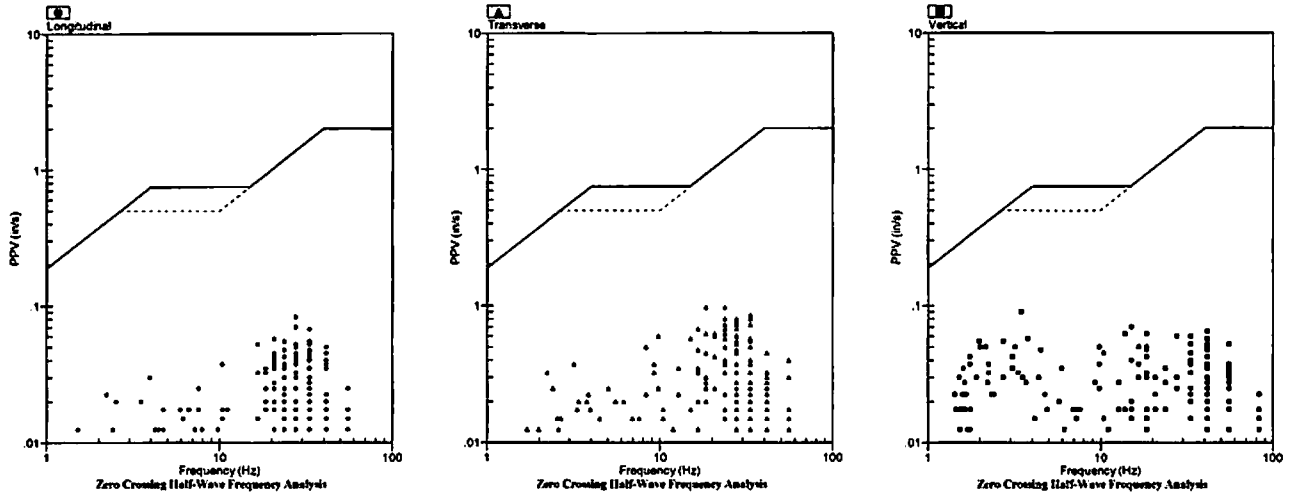
Summary Data

	L	T	V
PPV (in/s)	0.083	0.098	0.090
FREQ (Hz)	27.8	23.8	3.5
PD (.001")	1.48	1.82	3.89
PPA (g)	0.033	0.052	0.046
Peak Vector Sum:	0.113 in/s		
Peak Air Pressure:	109 db		
	0.00093 PSI @ 23.8 Hz		

Additional Info:

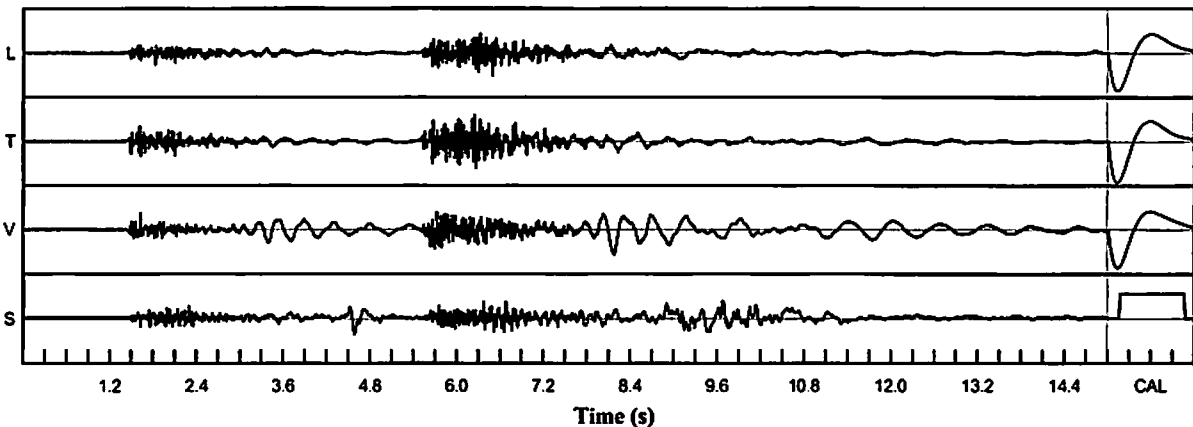
Shaketable Calibrated: 03/21/2017
By: GeoSonics Inc.
 359 Northgate Drive
 Warrendale, PA 15086 U.S.A.
 TEL: 724.934.2900 FAX: 724.934.2999

USBM Safe Blasting Levels



Velocity Waveform

SN: 5148 Event: 3



Velocity Waveform Graph Scale

Time Scale: 0.300 s
Seismic Scale: +/- 0.160 in/s
Sound Scale: +/- 0.0023 PSI

Seismic Analysis

USBM/Velocity Waveform Report

Serial No: 5148 v3.67
Date: 02/16/2018 11:31:25
Event No: 4
Record Time: 15.0 s
Client: City of Miramar
Operation: White Rock Quarries
Location: 17040 SW 53 Ct
Distance:
Operator: Pedro V.
Comment: In Ground
Seismic Trigger: 0.030 in/s

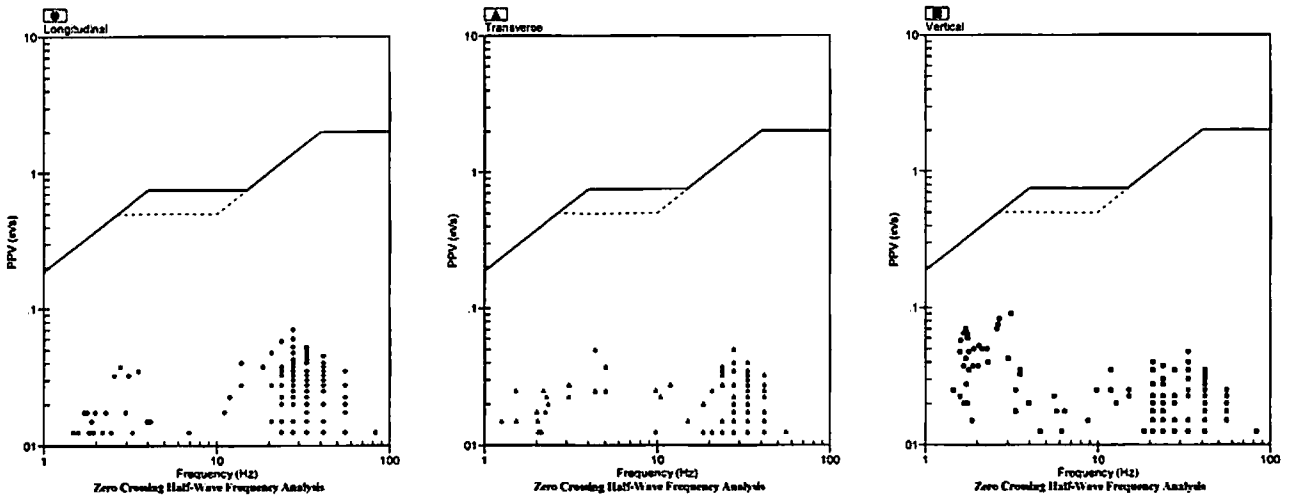
Summary Data

	L	T	V
PPV (in/s)	0.070	0.050	0.090
FREQ (Hz)	27.8	4.4	3.1
PD (.001")	1.82	2.10	6.28
PPA (g)	0.033	0.020	0.026
Peak Vector Sum:	0.093 in/s		
Peak Air Pressure:	117 db		
	0.00231 PSI @ 4.6 Hz		

Additional Info:

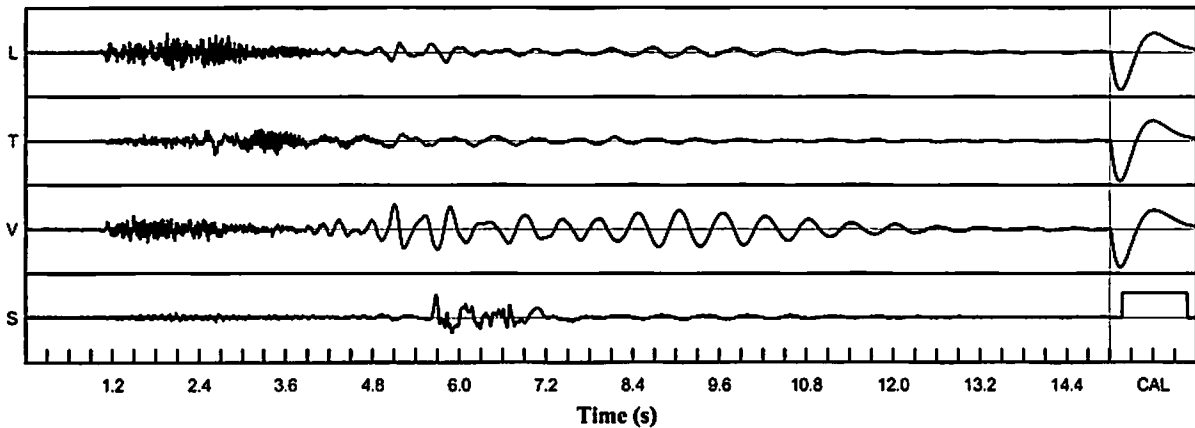
Shaketable Calibrated: 03/21/2017
By: GeoSonics Inc.
 359 Northgate Drive
 Warrendale, PA 15086 U.S.A.
 TEL: 724.934.2900 FAX: 724.934.2999

USBM Safe Blasting Levels



Velocity Waveform

SN: 5148 Event: 4



Velocity Waveform Graph Scale

Time Scale: 0.300 s
Seismic Scale: +/- 0.160 in/s
Sound Scale: +/- 0.0045 PSI

Seismic Analysis

USBM/Velocity Waveform Report

Serial No: 5148 v3.67
Date: 02/19/2018 14:01:39
Event No: 5
Record Time: 15.0 s
Client: City of Miramar
Operation: White Rock Quarries
Location: 17040 SW 53 Ct
Distance:
Operator: Pedro V.
Comment: In Ground
Seismic Trigger: 0.030 in/s

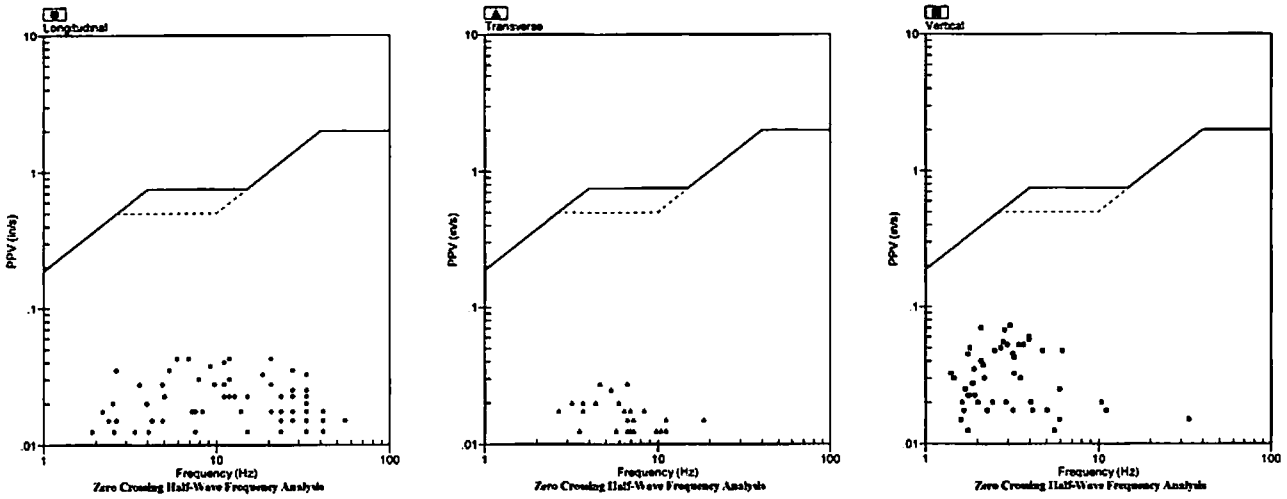
Summary Data

	L	T	V
PPV (in/s)	0.043	0.028	0.073
FREQ (Hz)	6.0	6.7	3.1
PD (.001")	1.23	1.03	4.05
PPA (g)	0.020	0.007	0.013
Peak Vector Sum:	0.078 in/s		
Peak Air Pressure:	115 db		
	0.00167 PSI @ 4.1 Hz		

Additional Info:

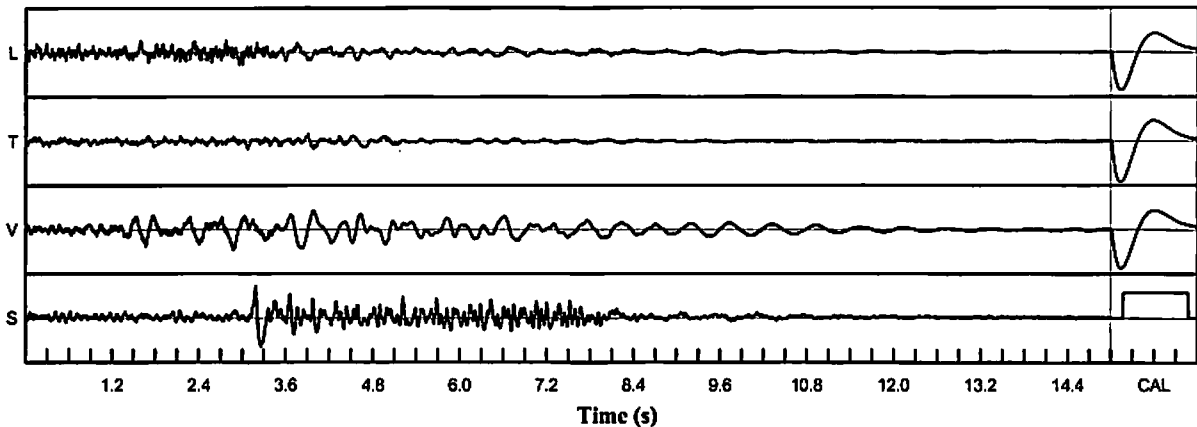
Shaketable Calibrated: 03/21/2017
By: GeoSonics Inc.
 359 Northgate Drive
 Warrendale, PA 15086 U.S.A.
 TEL: 724.934.2900 FAX: 724.934.2999

USBM Safe Blasting Levels



Velocity Waveform

SN: 5148 Event: 5



Velocity Waveform Graph Scale

Time Scale: 0.300 s
Seismic Scale: +/- 0.160 in/s
Sound Scale: +/- 0.0023 PSI

Seismic Analysis

USBM/Velocity Waveform Report

Serial No: 5148 v3.67
Date: 02/20/2018 13:16:54
Event No: 6
Record Time: 15.0 s
Client: City of Miramar
Operation: White Rock Quarries
Location: 17040 SW 53 Ct
Distance:
Operator: Pedro V.
Comment: In Ground
Seismic Trigger: 0.030 in/s

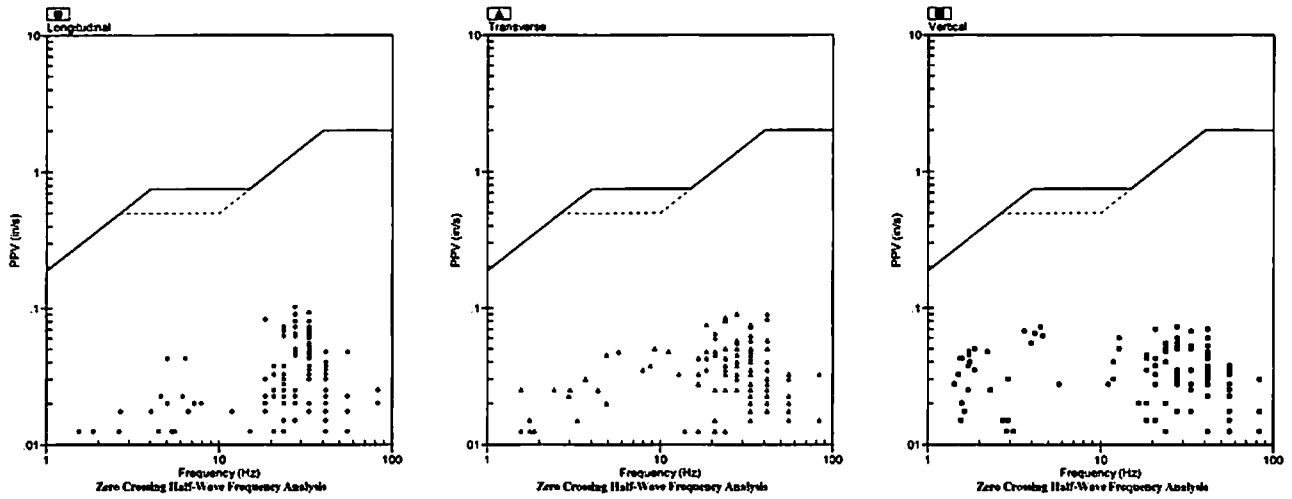
Summary Data

	L	T	V
PPV (in/s)	0.103	0.090	0.073
FREQ (Hz)	27.8	27.8	27.8
PD (.001")	1.43	1.59	4.41
PPA (g)	0.059	0.059	0.046
Peak Vector Sum:	0.113 in/s		
Peak Air Pressure:	111 db		
	0.00121 PSI @ 6.2 Hz		

Additional Info:

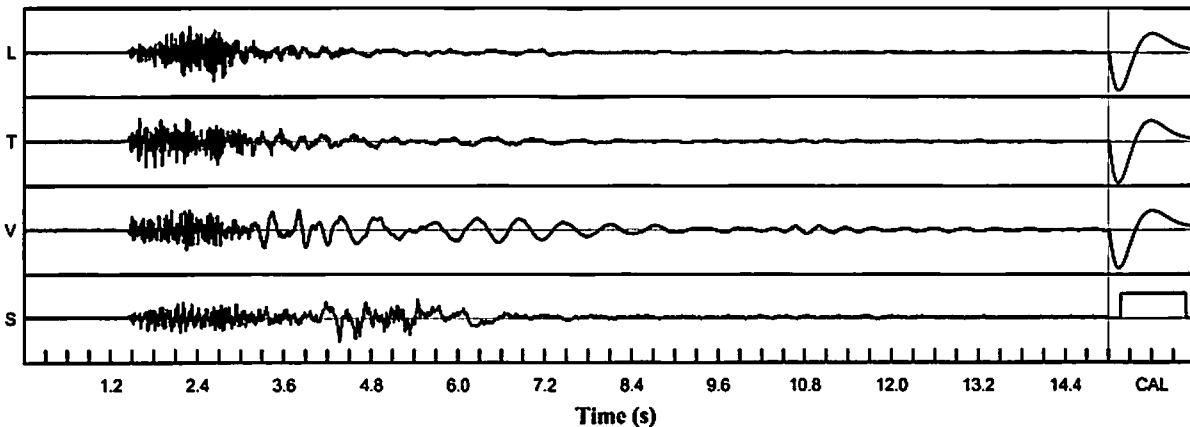
Shaketable Calibrated: 03/21/2017
By: GeoSonics Inc.
 359 Northgate Drive
 Warrendale, PA 15086 U.S.A.
 TEL: 724.934.2900 FAX: 724.934.2999

USBM Safe Blasting Levels



Velocity Waveform

SN: 5148 Event: 6



Velocity Waveform Graph Scale

Time Scale: 0.300 s
Seismic Scale: +/- 0.160 in/s
Sound Scale: +/- 0.0023 PSI

Seismic Analysis

USBM/Velocity Waveform Report

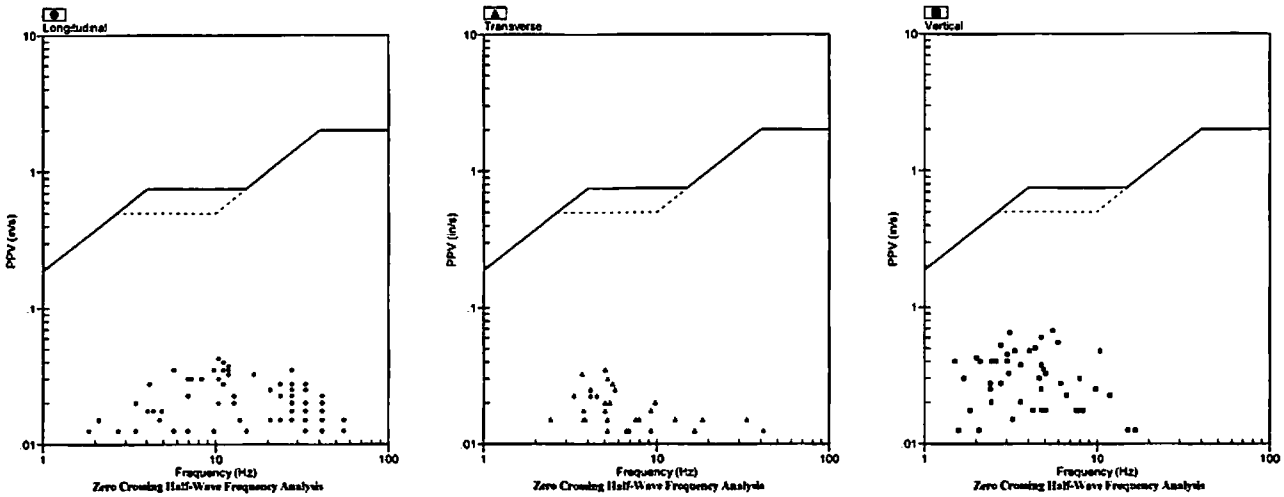
Serial No: 5148 v3.67
Date: 02/22/2018 13:33:14
Event No: 7
Record Time: 15.0 s
Client: City of Miramar
Operation: White Rock Quarries
Location: 17040 SW 53 Ct
Distance:
Operator: Pedro V.
Comment: In Ground
Seismic Trigger: 0.030 in/s

	L	T	V
PPV (in/s)	0.043	0.035	0.068
FREQ (Hz)	23.8	5.1	5.6
PD (.001")	1.14	1.17	3.25
PPA (g)	0.020	0.013	0.013
Peak Vector Sum:	0.070 in/s		
Peak Air Pressure:	112 db		
	0.00128 PSI @ 11.1 Hz		

Additional Info:

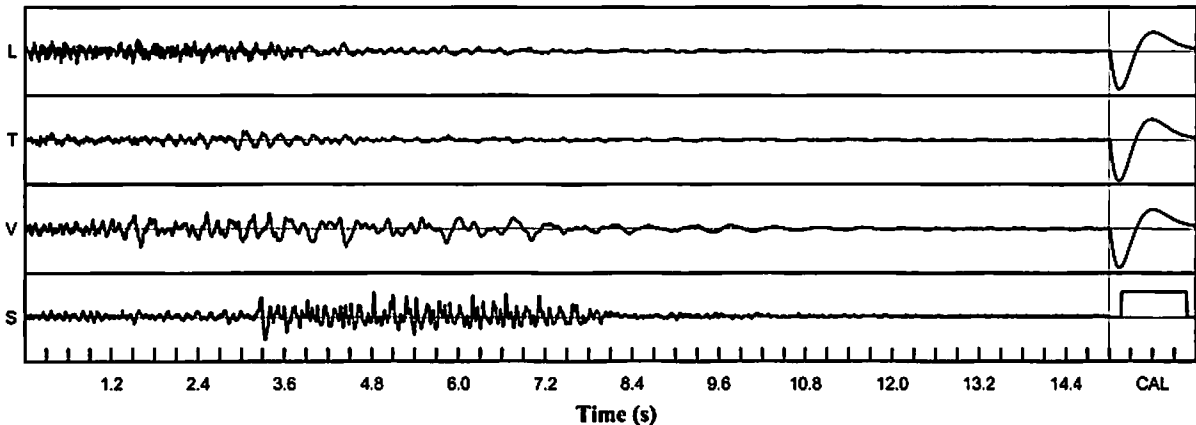
Shaketable Calibrated: 03/21/2017
By: GeoSonics Inc.
 359 Northgate Drive
 Warrendale, PA 15086 U.S.A.
 TEL: 724.934.2900 FAX: 724.934.2999

USBM Safe Blasting Levels



Velocity Waveform

SN: 5148 Event: 7



Velocity Waveform Graph Scale
Time Scale: 0.300 s
Seismic Scale: +/- 0.160 in/s
Sound Scale: +/- 0.0023 PSI

Seismic Analysis

USBM/Velocity Waveform Report

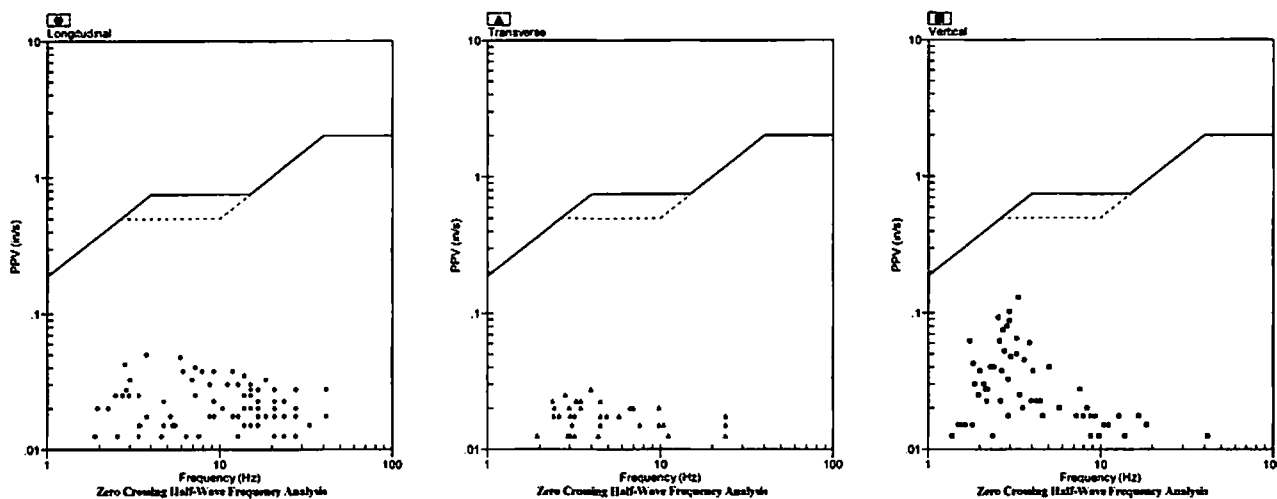
Serial No: 5148 v3.67
Date: 02/26/2018 14:01:56
Event No: 8
Record Time: 15.0 s
Client: City of Miramar
Operation: White Rock Quarries
Location: 17040 SW 53 Ct
Distance:
Operator: Pedro V.
Comment: In Ground
Seismic Trigger: 0.030 in/s

	L	T	V
PPV (in/s)	0.050	0.030	0.130
FREQ (Hz)	3.8	5.1	3.3
PD (.001")	2.16	1.23	6.07
PPA (g)	0.013	0.007	0.013
Peak Vector Sum:	0.135 in/s		
Peak Air Pressure:	118 db		
	0.00242 PSI @ 4.4 Hz		

Additional Info:

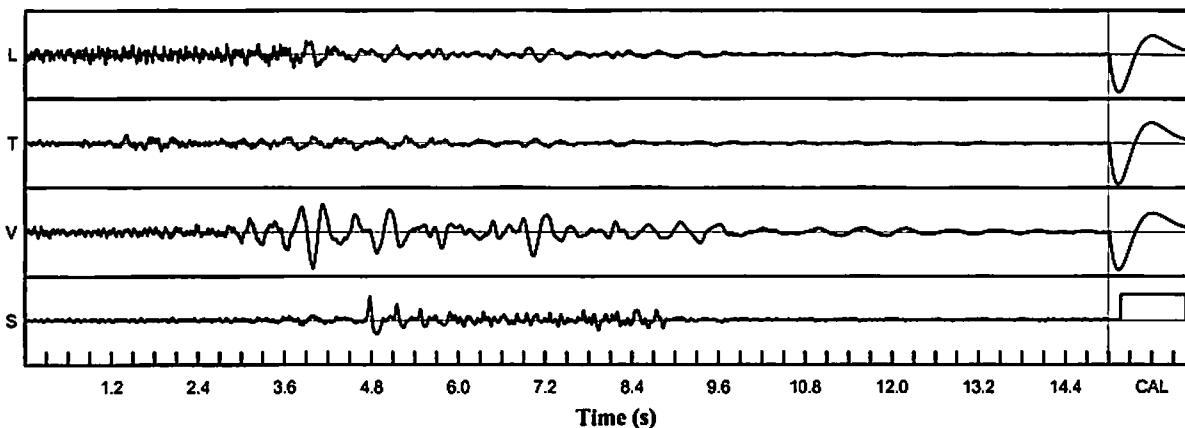
Shaketable Calibrated: 03/21/2017
By: GeoSonics Inc.
 359 Northgate Drive
 Warrendale, PA 15086 U.S.A.
TEL: 724.934.2900 **FAX:** 724.934.2999

USBM Safe Blasting Levels



Velocity Waveform

SN: 5148 Event: 8



Velocity Waveform Graph Scale
Time Scale: 0.300 s
Seismic Scale: +/- 0.160 in/s
Sound Scale: +/- 0.0045 PSI

Seismic Analysis

USBM/Velocity Waveform Report

Serial No: 5148 v3.67
Date: 02/27/2018 13:35:40
Event No: 9
Record Time: 15.0 s
Client: City of Miramar
Operation: White Rock Quarries
Location: 17040 SW 53 Ct
Distance:
Operator: Pedro V.
Comment: In Ground
Seismic Trigger: 0.030 in/s

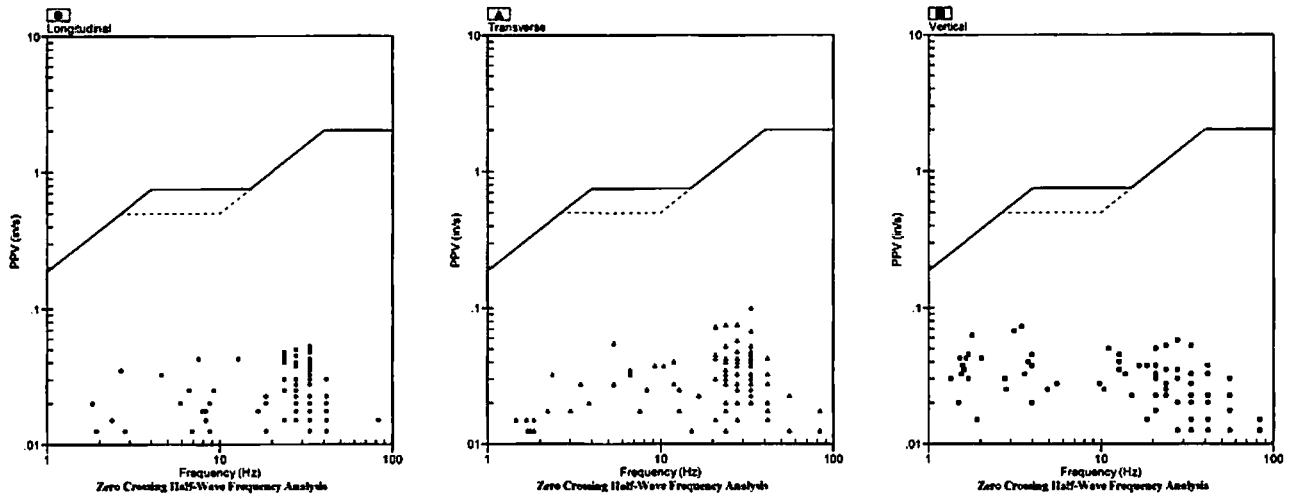
Summary Data

	L	T	V
PPV (in/s)	0.053	0.100	0.073
FREQ (Hz)	33.3	33.3	3.5
PD (.001")	1.48	1.64	4.30
PPA (g)	0.026	0.046	0.033
Peak Vector Sum:	0.108 in/s		
Peak Air Pressure:	110 db		
	0.00110 PSI @ 7.9 Hz		

Additional Info:

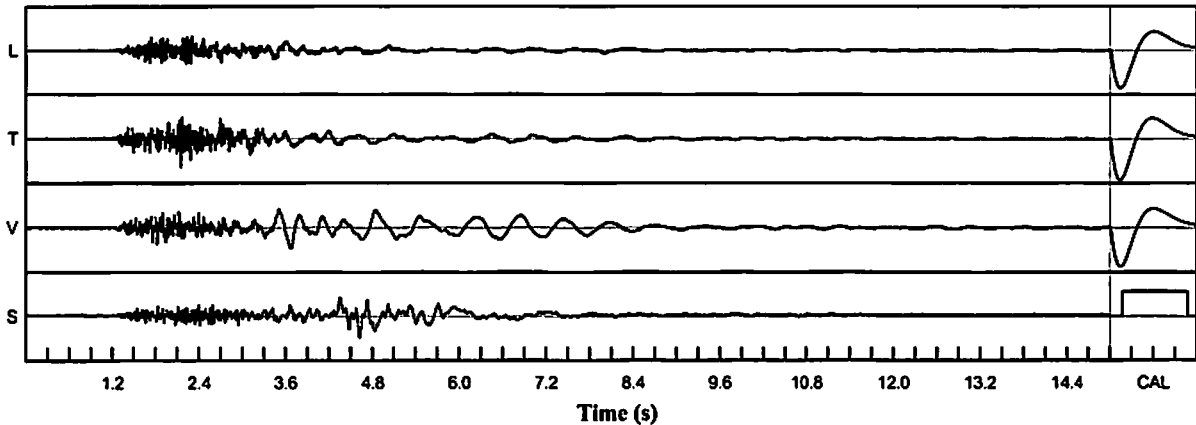
Shaketable Calibrated: 03/21/2017
By: GeoSonics Inc.
 359 Northgate Drive
 Warrendale, PA 15086 U.S.A.
 TEL: 724.934.2900 FAX: 724.934.2999

USBM Safe Blasting Levels



Velocity Waveform

SN: 5148 Event: 9



Velocity Waveform Graph Scale

Time Scale: 0.300 s
Seismic Scale: +/- 0.160 in/s
Sound Scale: +/- 0.0023 PSI

Seismic Analysis

USBM/Velocity Waveform Report

Serial No: 5148 v3.67
Date: 03/05/2018 14:02:32
Event No: 10
Record Time: 15.0 s
Client: City of Miramar
Operation: White Rock Quarries
Location: 17040 SW 53 Ct
Distance:
Operator: Pedro V.
Comment: In Ground
Seismic Trigger: 0.030 in/s

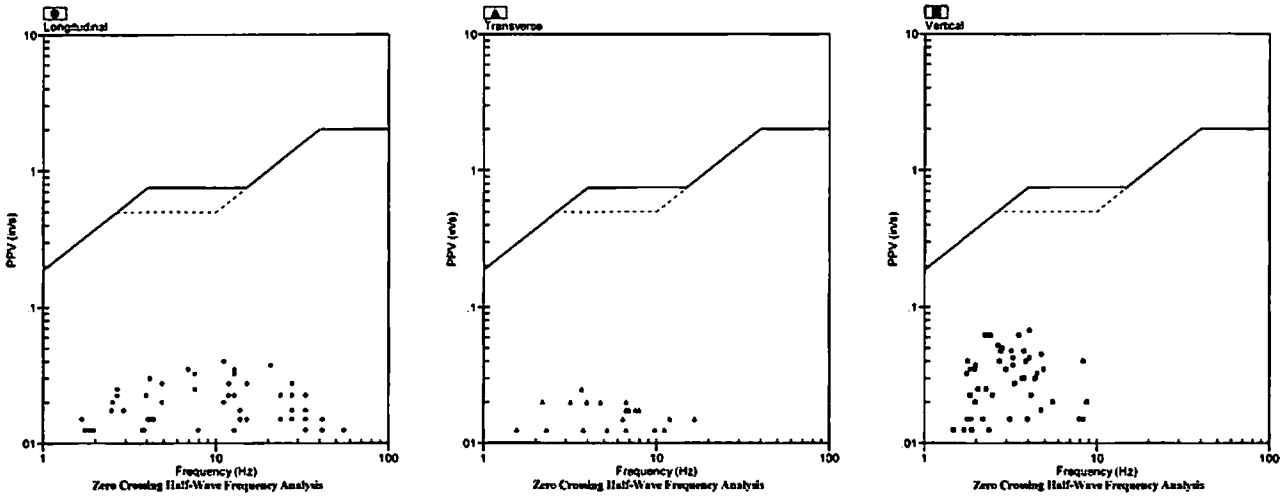
Summary Data

	L	T	V
PPV (in/s)	0.040	0.025	0.068
FREQ (Hz)	11.1	3.7	4.1
PD (.001")	1.32	1.19	4.22
PPA (g)	0.013	0.007	0.013
Peak Vector Sum:	0.068 in/s		
Peak Air Pressure:	116 db		
	0.00192 PSI @ 5.6 Hz		

Additional Info:

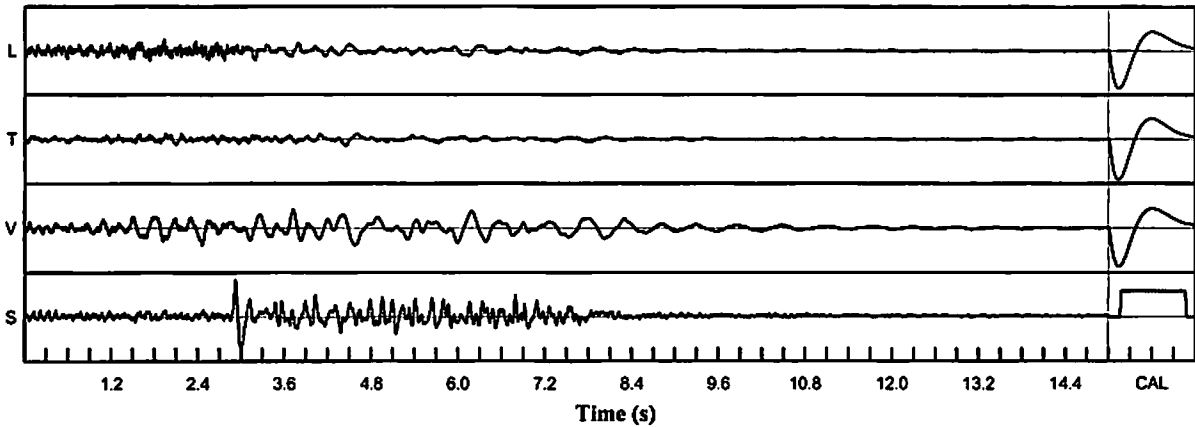
Shaketable Calibrated: 03/21/2017
By: GeoSonics Inc.
 359 Northgate Drive
 Warrendale, PA 15086 U.S.A.
 TEL: 724.934.2900 FAX: 724.934.2999

USBM Safe Blasting Levels



Velocity Waveform

SN: 5148 Event: 10



Velocity Waveform Graph Scale

Time Scale: 0.300 s
Seismic Scale: +/- 0.160 in/s
Sound Scale: +/- 0.0023 PSI

Seismic Analysis

USBM/Velocity Waveform Report

Serial No: 5148 v3.67
Date: 03/07/2018 11:39:04
Event No: 11
Record Time: 15.0 s
Client: City of Miramar
Operation: White Rock Quarries
Location: 17040 SW 53 Ct
Distance:
Operator: Pedro V.
Comment: In Ground
Seismic Trigger: 0.030 in/s

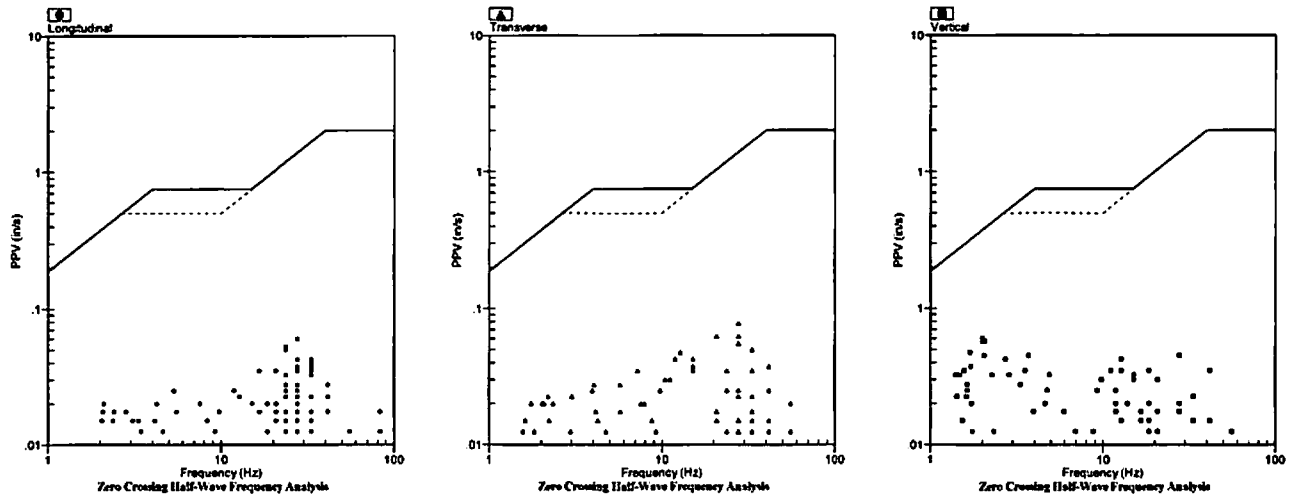
Summary Data

	L	T	V
PPV (in/s)	0.060	0.078	0.060
FREQ (Hz)	27.8	27.8	2.0
PD (.001")	1.28	1.90	4.62
PPA (g)	0.026	0.033	0.026
Peak Vector Sum:	0.095 in/s		
Peak Air Pressure:	115 db		
	0.00167 PSI @ 5.4 Hz		

Additional Info:

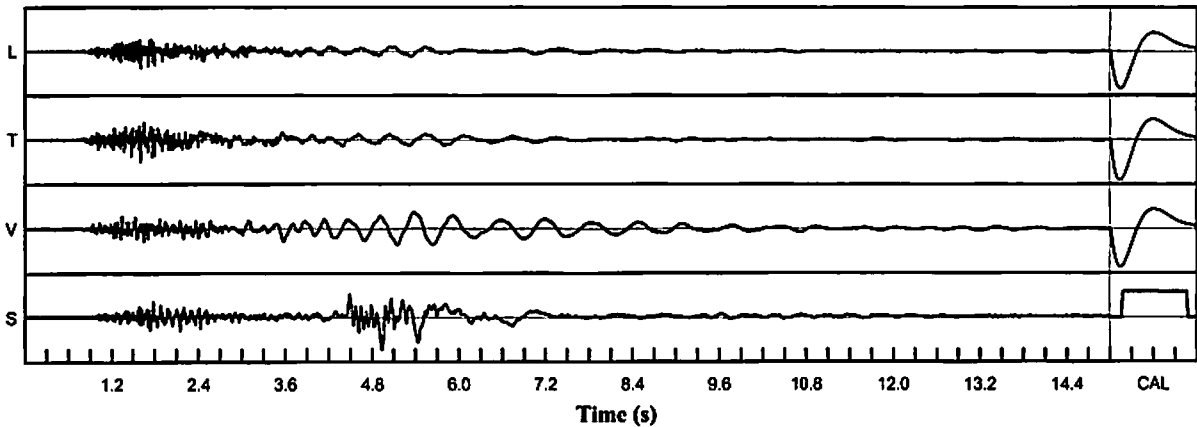
Shaketable Calibrated: 03/21/2017
By: GeoSonics Inc.
 359 Northgate Drive
 Warrendale, PA 15086 U.S.A.
 TEL: 724.934.2900 FAX: 724.934.2999

USBM Safe Blasting Levels



Velocity Waveform

SN: 5148 Event: 11



Velocity Waveform Graph Scale

Time Scale: 0.300 s
Seismic Scale: +/- 0.160 in/s
Sound Scale: +/- 0.0023 PSI

Seismic Analysis

USBM/Velocity Waveform Report

Serial No: 5148 v3.67
Date: 03/09/2018 13:18:21
Event No: 12
Record Time: 15.0 s
Client: City of Miramar
Operation: White Rock Quarries
Location: 17040 SW 53 Ct
Distance:
Operator: Pedro V.
Comment: In Ground
Seismic Trigger: 0.030 in/s

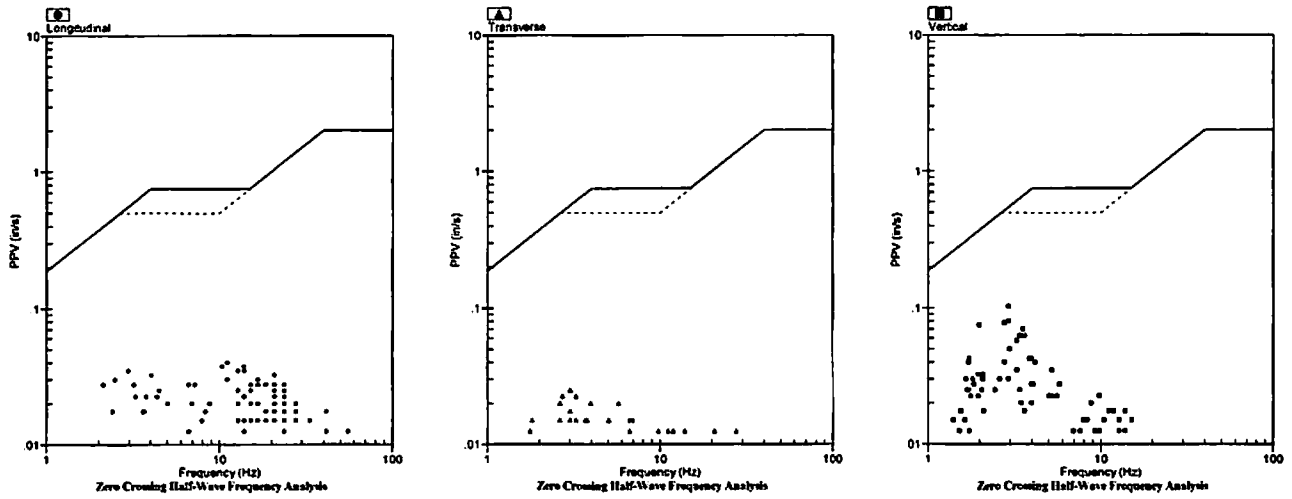
Summary Data

	L	T	V
PPV (in/s)	0.040	0.025	0.103
FREQ (Hz)	10.4	5.1	2.9
PD (.001")	1.77	1.33	5.09
PPA (g)	0.013	0.007	0.007
Peak Vector Sum:	0.108 in/s		
Peak Air Pressure:	117 db		
	0.00228 PSI @ 4.2 Hz		

Additional Info:

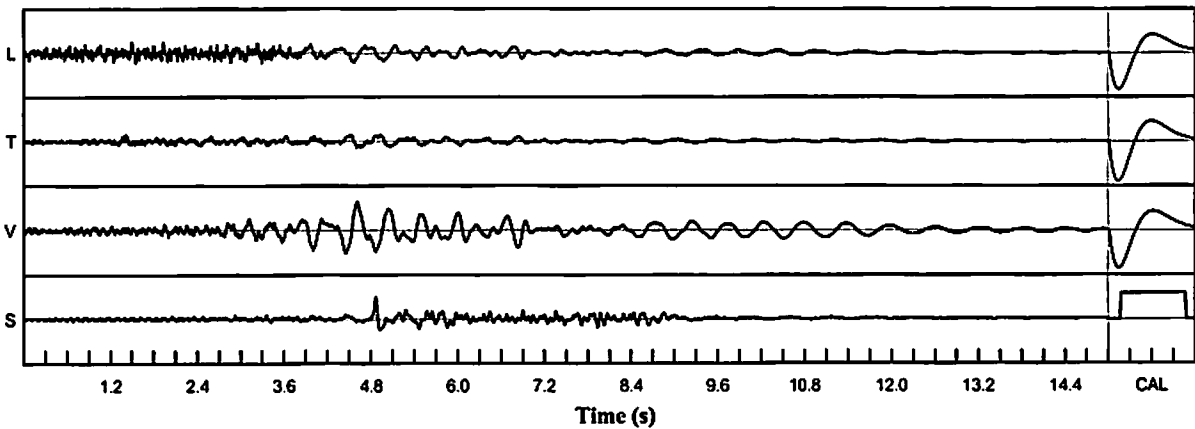
Shaketable Calibrated: 03/21/2017
By: GeoSonics Inc.
 359 Northgate Drive
 Warrendale, PA 15086 U.S.A.
 TEL: 724.934.2900 FAX: 724.934.2999

USBM Safe Blasting Levels



Velocity Waveform

SN: 5148 Event: 12



Velocity Waveform Graph Scale

Time Scale: 0.300 s
Seismic Scale: +/- 0.160 in/s
Sound Scale: +/- 0.0045 PSI

Seismic Analysis

USBM/Velocity Waveform Report

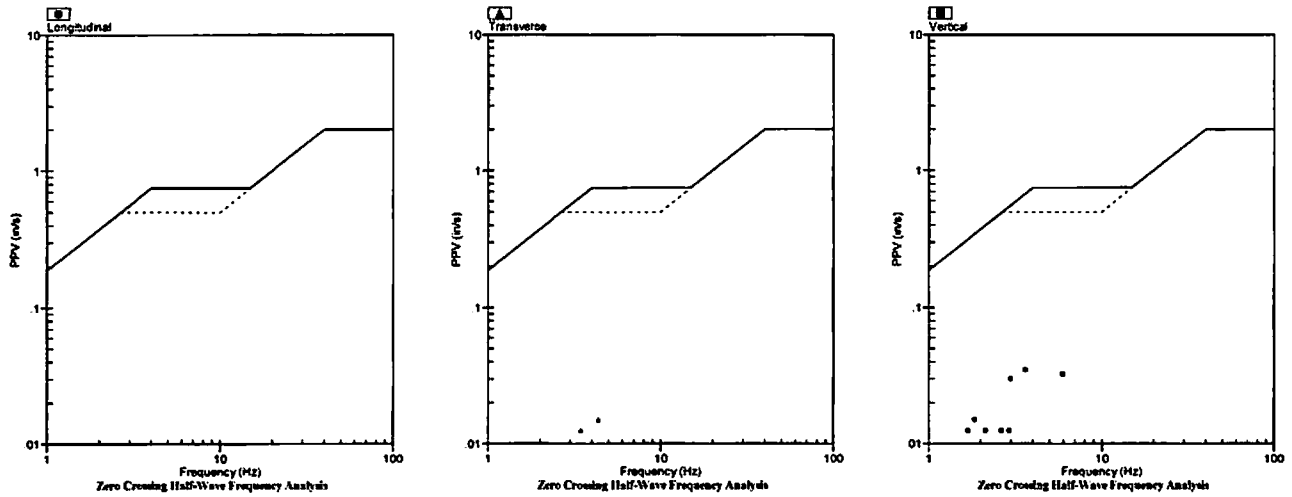
Serial No: 5148 v3.67
Date: 03/15/2018 13:48:22
Event No: 13
Record Time: 15.0 s
Client: City of Miramar
Operation: White Rock Quarries
Location: 17040 SW 53 Ct
Distance:
Operator: Pedro V.
Comment: In Ground
Seismic Trigger: 0.030 in/s

	L	T	V
PPV (in/s)	0.010	0.015	0.035
FREQ (Hz)	8.8	3.9	3.6
PD (.001")	0.47	0.56	1.57
PPA (g)	0.007	0.007	0.007
Peak Vector Sum:	0.038 in/s		
Peak Air Pressure:	107 db		
	0.00075 PSI @ 2.9 Hz		

Additional Info:

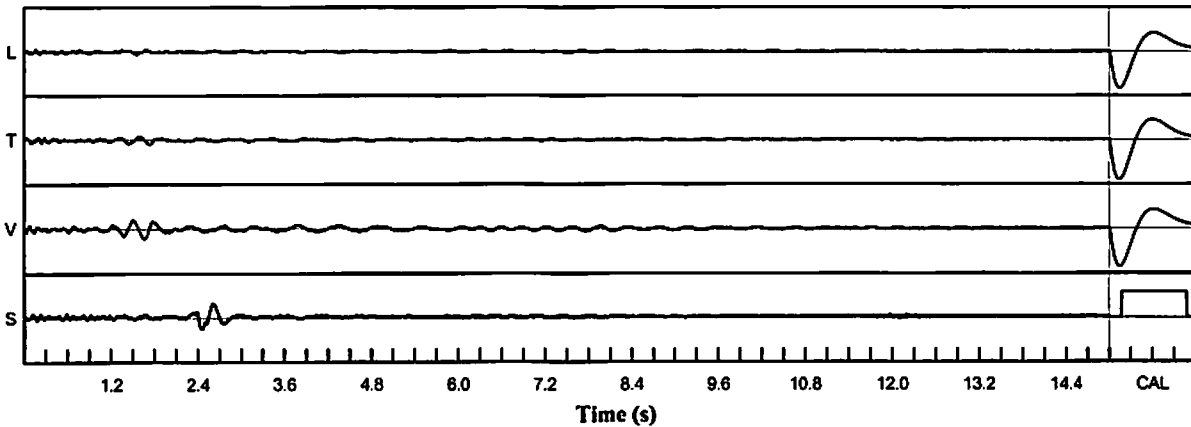
Shaketable Calibrated: 03/21/2017
By: GeoSonics Inc.
 359 Northgate Drive
 Warrendale, PA 15086 U.S.A.
 TEL: 724.934.2900 FAX: 724.934.2999

USBM Safe Blasting Levels



Velocity Waveform

SN: 5148 Event: 13



Velocity Waveform Graph Scale
Time Scale: 0.300 s
Seismic Scale: +/- 0.160 in/s
Sound Scale: +/- 0.0023 PSI

Seismic Analysis

USBM/Velocity Waveform Report

Serial No: 5148 v3.67
Date: 03/19/2018 13:22:04
Event No: 14
Record Time: 15.0 s
Client: City of Miramar
Operation: White Rock Quarries
Location: 17040 SW 53 Ct
Distance:
Operator: Pedro V.
Comment: In Ground
Seismic Trigger: 0.030 in/s

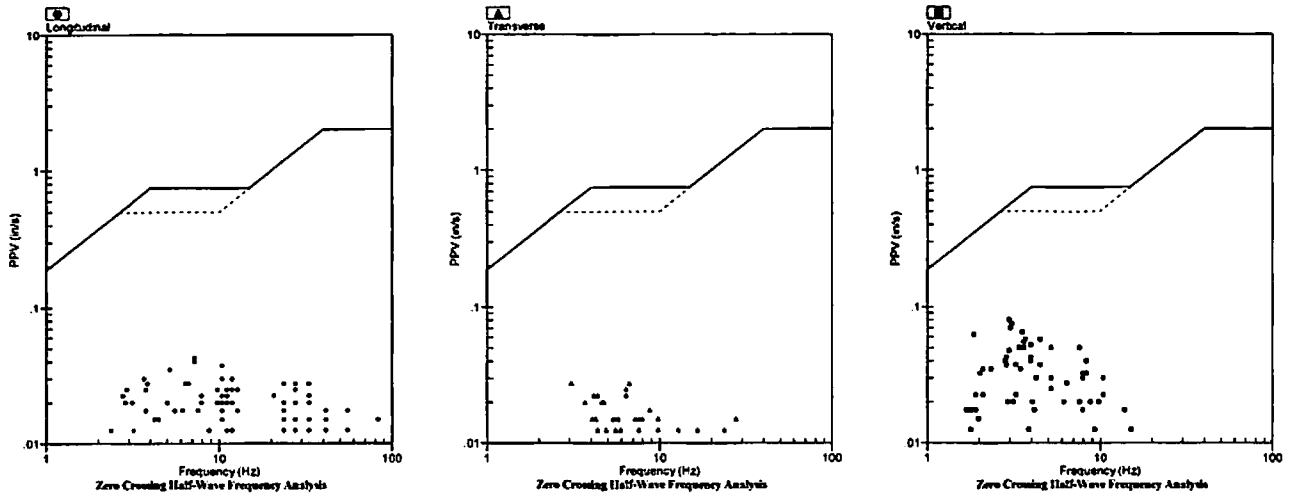
Summary Data

	L	T	V
PPV (in/s)	0.043	0.028	0.080
FREQ (Hz)	7.2	6.7	3.0
PD (.001")	1.42	1.02	4.29
PPA (g)	0.020	0.007	0.013
Peak Vector Sum:	0.085 in/s		
Peak Air Pressure:	111 db		
	0.00114 PSI @ 4.9 Hz		

Additional Info:

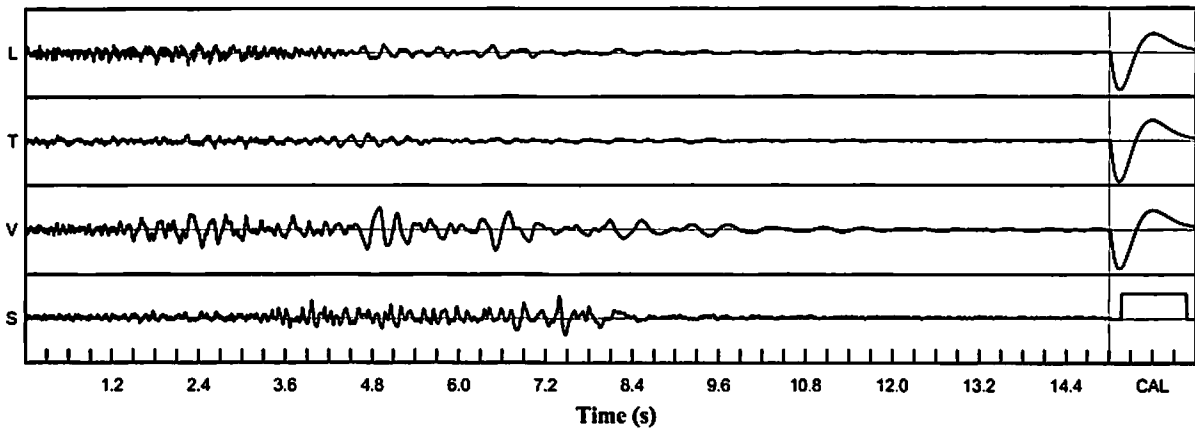
Shaketable Calibrated: 03/21/2017
By: GeoSonics Inc.
 359 Northgate Drive
 Warrendale, PA 15086 U.S.A.
 TEL: 724.934.2900 FAX: 724.934.2999

USBM Safe Blasting Levels



Velocity Waveform

SN: 5148 Event: 14



Velocity Waveform Graph Scale

Time Scale: 0.300 s
Seismic Scale: +/- 0.160 in/s
Sound Scale: +/- 0.0023 PSI

Seismic Analysis

USBM/Velocity Waveform Report

Serial No: 5148 v3.67
Date: 03/20/2018 10:48:17
Event No: 15
Record Time: 15.0 s
Client: City of Miramar
Operation: White Rock Quarries
Location: 17040 SW 53 Ct
Distance:
Operator: Pedro V.
Comment: In Ground
Seismic Trigger: 0.030 in/s

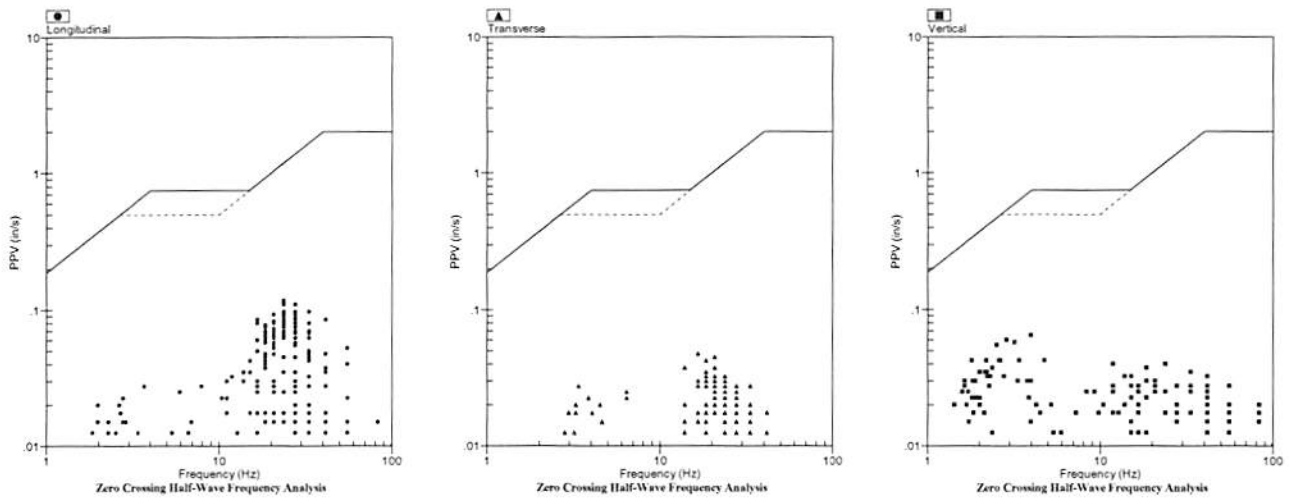
Summary Data

	L	T	V
PPV (in/s)	0.118	0.048	0.065
FREQ (Hz)	23.8	16.7	4.0
PD (.001")	1.08	1.16	3.39
PPA (g)	0.052	0.020	0.026
Peak Vector Sum:	0.118 in/s		
Peak Air Pressure:	106 db		
	0.00064 PSI @ 3.7 Hz		

Additional Info:

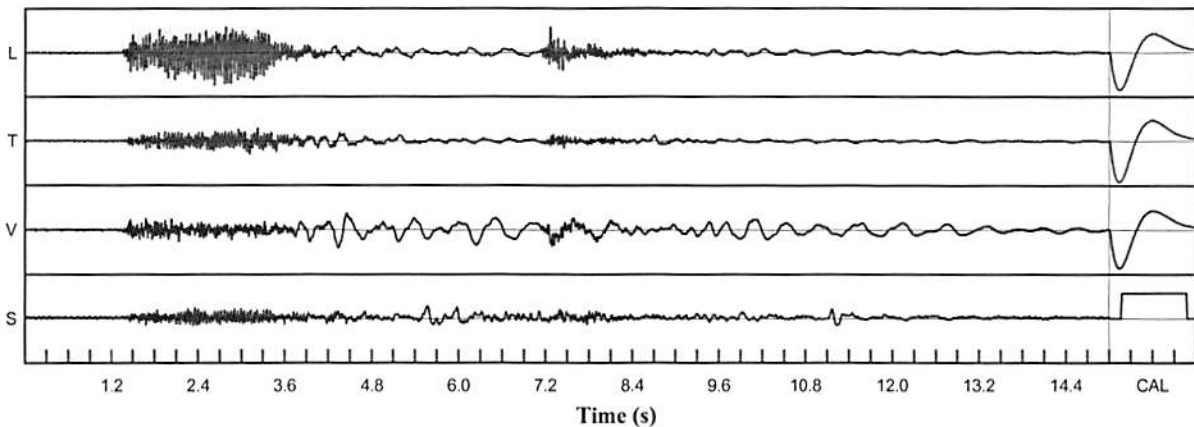
Shaketable Calibrated: 03/21/2017
By: GeoSonics Inc.
 359 Northgate Drive
 Warrendale, PA 15086 U.S.A.
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USBM Safe Blasting Levels



Velocity Waveform

SN: 5148 Event: 15



Velocity Waveform Graph Scale

Time Scale: 0.300 s
Seismic Scale: +/- 0.160 in/s
Sound Scale: +/- 0.0023 PSI

Seismic Analysis

USBM/Velocity Waveform Report

Serial No: 5149 v3.67
Date: 02/13/2018 13:18:39
Event No: I
Record Time: 15.0 s
Client: City of Miramar
Operation: White Rock Quarries
Location: 16171 SW 49 Ct
Distance:
Operator: Pedro V.
Comment: In Ground.
Seismic Trigger: 0.030 in/s

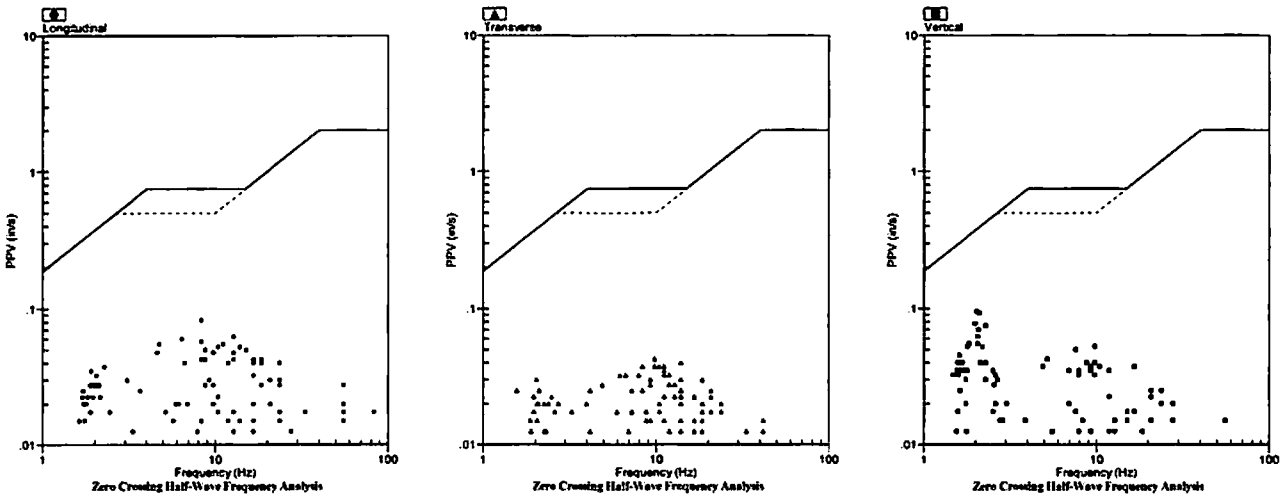
Summary Data

	L	T	V
PPV (in/s)	0.083	0.043	0.095
FREQ (Hz)	8.3	9.8	2.0
PD (.001")	2.75	2.22	7.33
PPA (g)	0.026	0.020	0.013
Peak Vector Sum:	0.098 in/s		
Peak Air Pressure:	102 db		
	0.00039 PSI @ 7.2 Hz		

Additional Info:

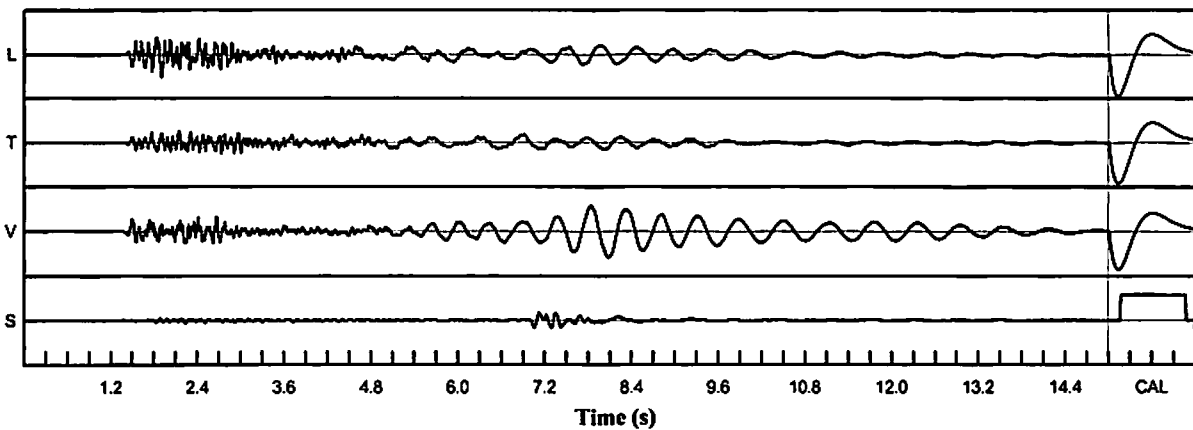
Shaketable Calibrated: 03/21/2017
By: GeoSonics Inc.
 359 Northgate Drive
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USBM Safe Blasting Levels



Velocity Waveform

SN: 5149 Event: I



Velocity Waveform Graph Scale

Time Scale: 0.300 s
Seismic Scale: +/- 0.160 in/s
Sound Scale: +/- 0.0023 PSI

Seismic Analysis

USBM/Velocity Waveform Report

Serial No: 5149 v3.67
Date: 02/14/2018 13:40:19
Event No: 2
Record Time: 15.0 s
Client: City of Miramar
Operation: White Rock Quarries
Location: 16171 SW 49 Ct
Distance:
Operator: Pedro V.
Comment: In Ground.
Seismic Trigger: 0.030 in/s

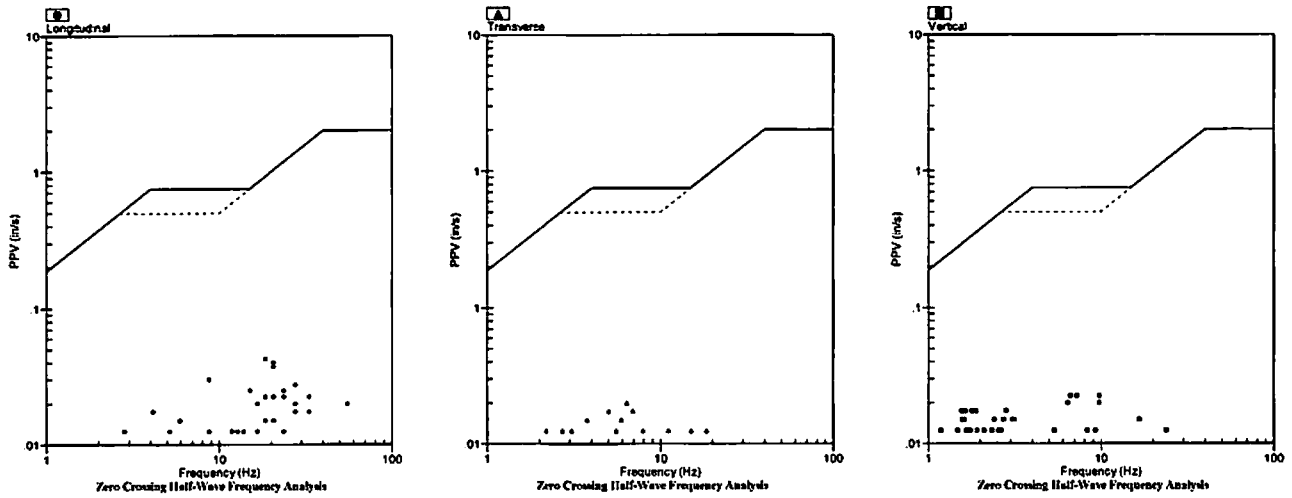
Summary Data

	L	T	V
PPV (in/s)	0.043	0.020	0.023
FREQ (Hz)	18.5	6.4	13.9
PD (.001")	0.83	0.86	1.60
PPA (g)	0.020	0.007	0.007
Peak Vector Sum:	0.043 in/s		
Peak Air Pressure:	82 db		
	0.00009 PSI @ 83.3 Hz		

Additional Info:

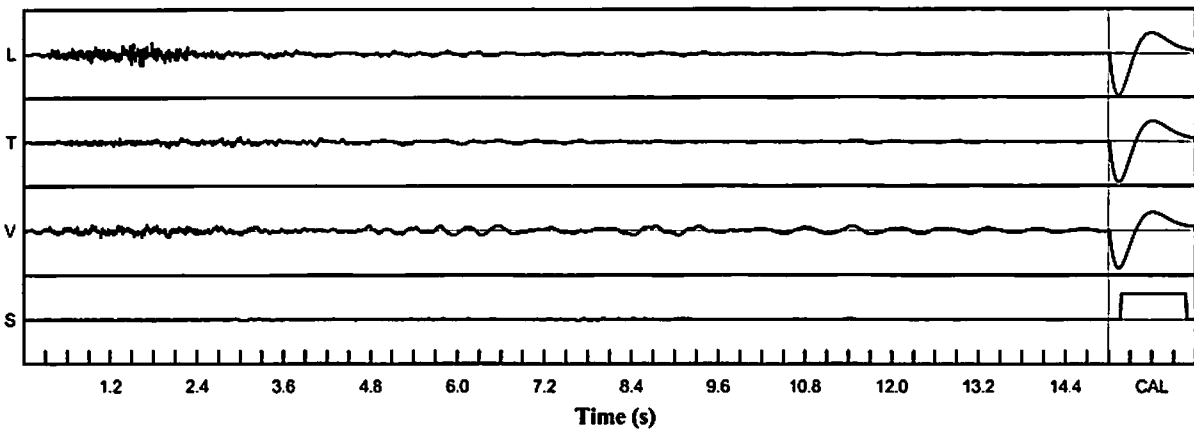
Shaketable Calibrated: 03/21/2017
By: GeoSonics Inc.
 359 Northgate Drive
 Warrendale, PA 15086 U.S.A.
 TEL: 724.934.2900 FAX: 724.934.2999

USBM Safe Blasting Levels



Velocity Waveform

SN: 5149 Event: 2



Velocity Waveform Graph Scale

Time Scale: 0.300 s
Seismic Scale: +/- 0.160 in/s
Sound Scale: +/- 0.0023 PSI

Seismic Analysis

USBM/Velocity Waveform Report

Serial No: 5149 v3.67
Date: 02/16/2018 11:33:57
Event No: 3
Record Time: 15.0 s
Client: City of Miramar
Operation: White Rock Quarries
Location: 16171 SW 49 Ct
Distance:
Operator: Pedro V.
Comment: In Ground.
Seismic Trigger: 0.030 in/s

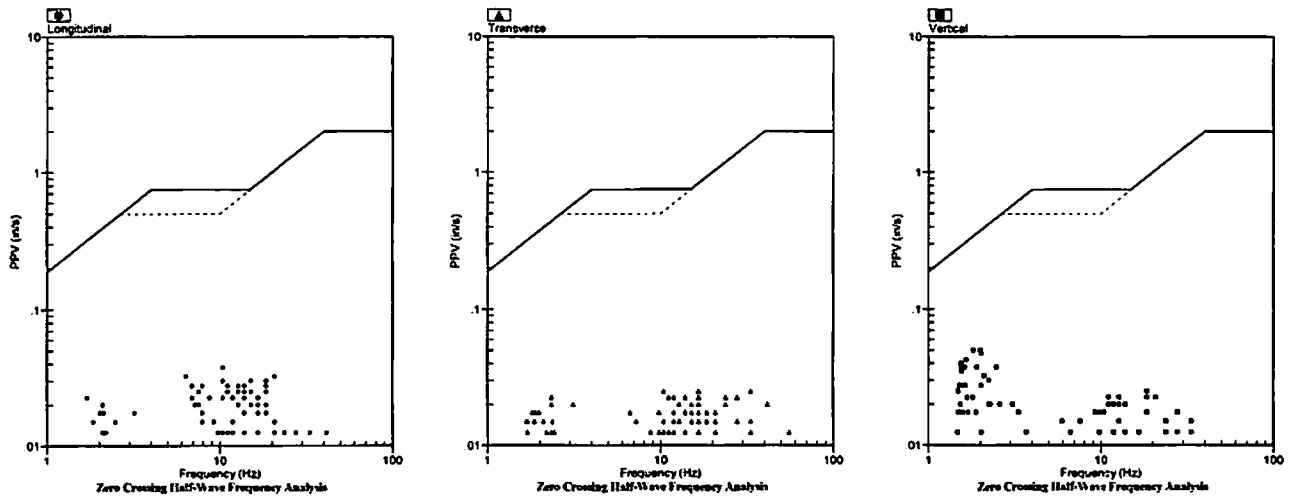
Summary Data

	L	T	V
PPV (in/s)	0.038	0.025	0.050
FREQ (Hz)	10.4	33.3	1.8
PD (.001")	1.45	1.41	4.29
PPA (g)	0.020	0.013	0.013
Peak Vector Sum:	0.055 in/s		
Peak Air Pressure:	101 db		
	0.00032 PSI @ 4.9 Hz		

Additional Info:

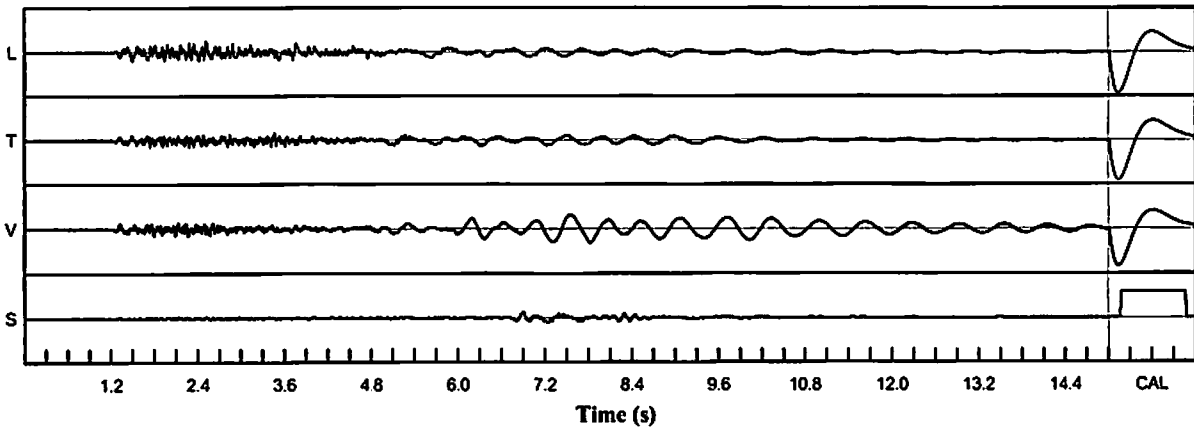
Shaketable Calibrated: 03/21/2017
By: GeoSonics Inc.
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USBM Safe Blasting Levels



Velocity Waveform

SN: 5149 Event: 3



Velocity Waveform Graph Scale

Time Scale: 0.300 s
Seismic Scale: +/- 0.160 in/s
Sound Scale: +/- 0.0023 PSI

Seismic Analysis

USBM/Velocity Waveform Report

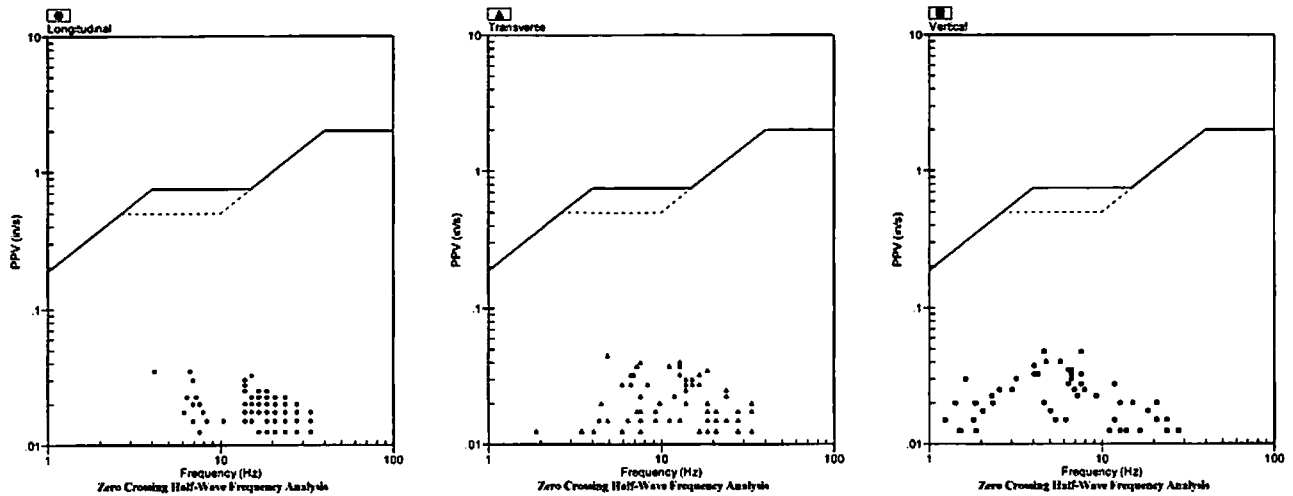
Serial No: 5149 v3.67
Date: 02/19/2018 14:04:15
Event No: 4
Record Time: 15.0 s
Client: City of Miramar
Operation: White Rock Quarries
Location: 16171 SW 49 Ct
Distance:
Operator: Pedro V.
Comment: In Ground.
Seismic Trigger: 0.030 in/s

	L	T	V
PPV (in/s)	0.035	0.045	0.048
FREQ (Hz)	4.2	4.9	5.2
PD (.001")	1.12	1.24	1.97
PPA (g)	0.013	0.013	0.013
Peak Vector Sum:	0.060 in/s		
Peak Air Pressure:	100 db		
	0.00029 PSI @ 3.9 Hz		

Additional Info:

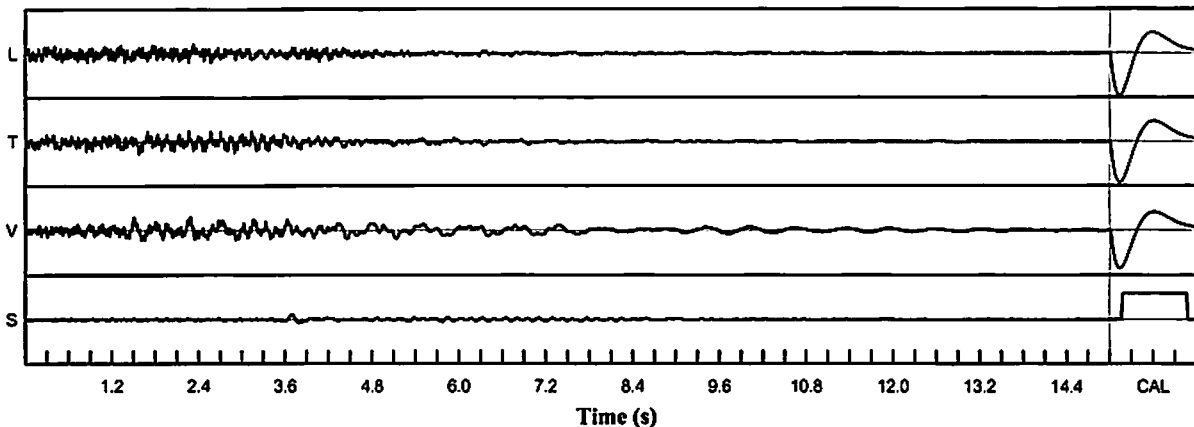
Shaketable Calibrated: 03/21/2017
By: GeoSonics Inc.
 359 Northgate Drive
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USBM Safe Blasting Levels



Velocity Waveform

SN: 5149 Event: 4



Velocity Waveform Graph Scale
Time Scale: 0.300 s
Seismic Scale: +/- 0.160 in/s
Sound Scale: +/- 0.0023 PSI

Seismic Analysis

USBM/Velocity Waveform Report

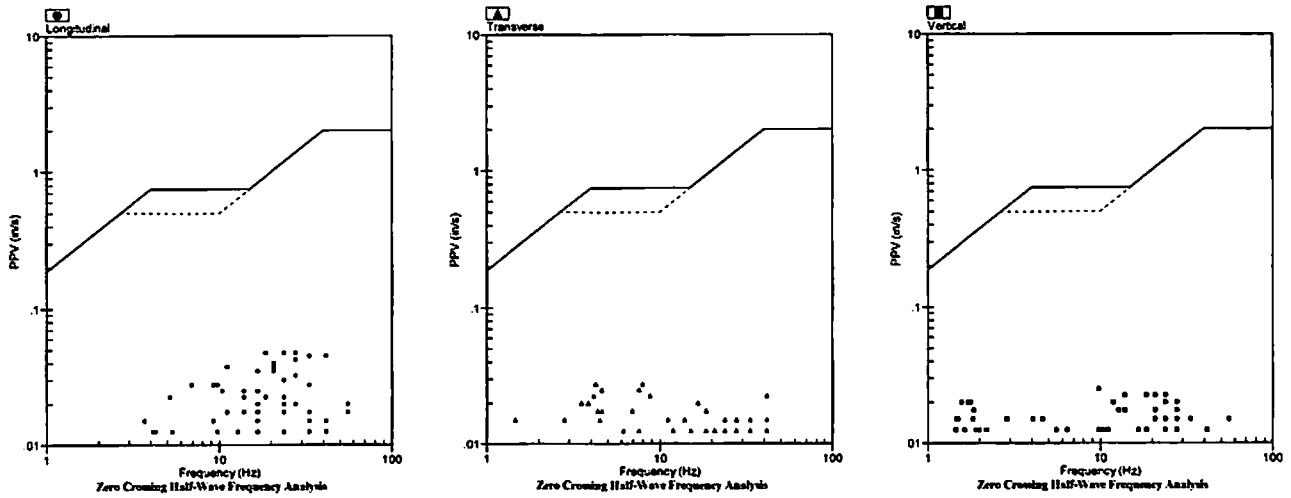
Serial No: 5149 v3.67
Date: 02/20/2018 13:19:32
Event No: 5
Record Time: 15.0 s
Client: City of Miramar
Operation: White Rock Quarries
Location: 16171 SW 49 Ct
Distance:
Operator: Pedro V.
Comment: In Ground.
Seismic Trigger: 0.030 in/s

	Summary Data		
	L	T	V
PPV (in/s)	0.063	0.028	0.025
FREQ (Hz)	23.8	7.9	9.8
PD (.001")	1.05	1.24	1.67
PPA (g)	0.026	0.013	0.013
Peak Vector Sum:	0.065 in/s		
Peak Air Pressure:	84 db		
	0.00011 PSI @ 166.7 Hz		

Additional Info:

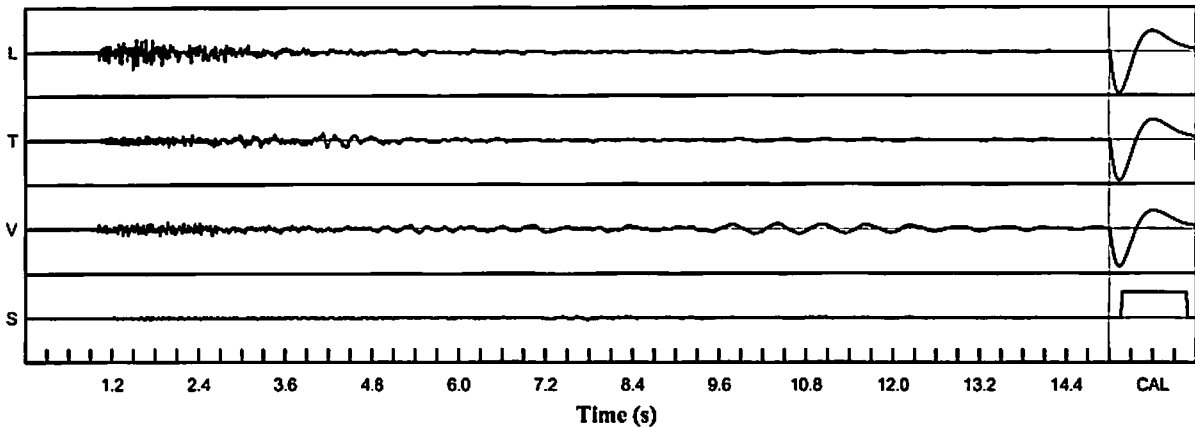
Shaketable Calibrated: 03/21/2017
By: GeoSonics Inc.
 359 Northgate Drive
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USBM Safe Blasting Levels



Velocity Waveform

SN: 5149 Event: 5



Velocity Waveform Graph Scale

Time Scale: 0.300 s
Seismic Scale: +/- 0.160 in/s
Sound Scale: +/- 0.0023 PSI

Seismic Analysis

USBM/Velocity Waveform Report

Serial No: 5149 v3.67
Date: 02/22/2018 13:35:50
Event No: 6
Record Time: 15.0 s
Client: City of Miramar
Operation: White Rock Quarries
Location: 16171 SW 49 Ct
Distance:
Operator: Pedro V.
Comment: In Ground.
Seismic Trigger: 0.030 in/s

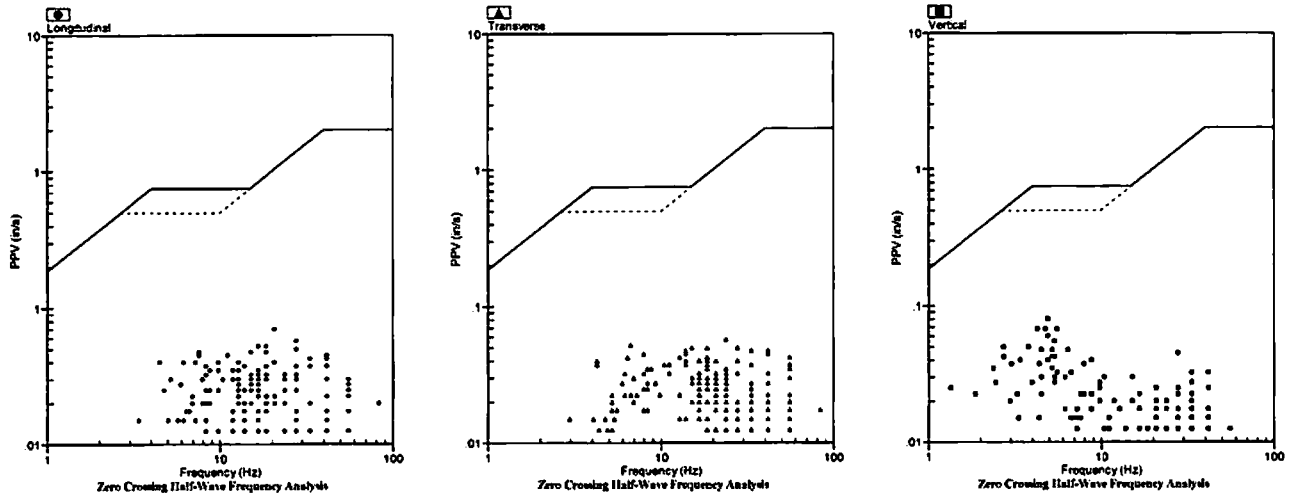
Summary Data

	L	T	V
PPV (in/s)	0.070	0.058	0.080
FREQ (Hz)	20.8	23.8	4.9
PD (.001")	1.34	1.41	2.86
PPA (g)	0.033	0.033	0.026
Peak Vector Sum:	0.090 in/s		
Peak Air Pressure:	87 db		
	0.00014 PSI @ 83.3 Hz		

Additional Info:

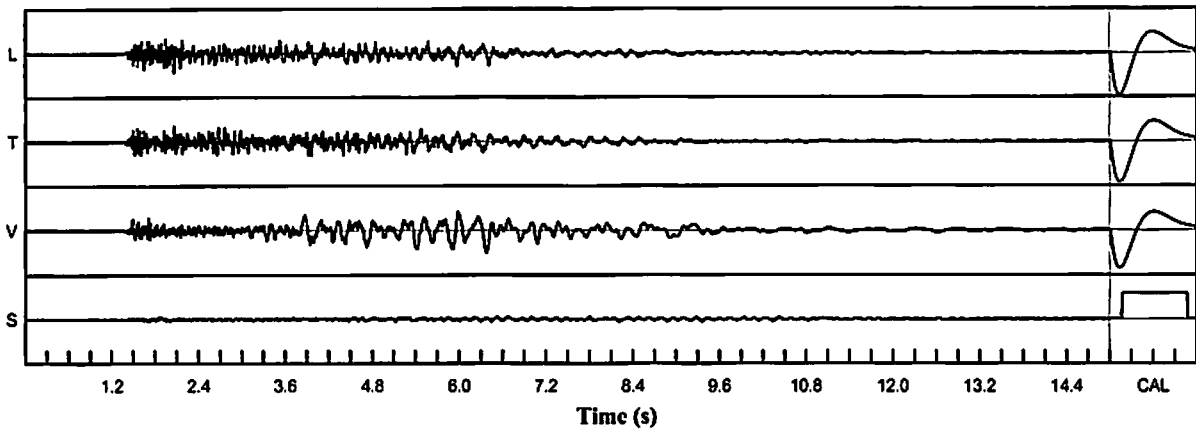
Shaketable Calibrated: 03/21/2017
By: GeoSonics Inc.
 359 Northgate Drive
 Warrendale, PA 15086 U.S.A.
 TEL: 724.934.2900 FAX: 724.934.2999

USBM Safe Blasting Levels



Velocity Waveform

SN: 5149 Event: 6



Velocity Waveform Graph Scale

Time Scale: 0.300 s
Seismic Scale: +/- 0.160 in/s
Sound Scale: +/- 0.0023 PSI

Seismic Analysis

USBM/Velocity Waveform Report

Serial No: 5149 v3.67
Date: 02/26/2018 14:04:39
Event No: 7
Record Time: 15.0 s
Client: City of Miramar
Operation: White Rock Quarries
Location: 16171 SW 49 Ct
Distance:
Operator: Pedro V.
Comment: In Ground.
Seismic Trigger: 0.030 in/s

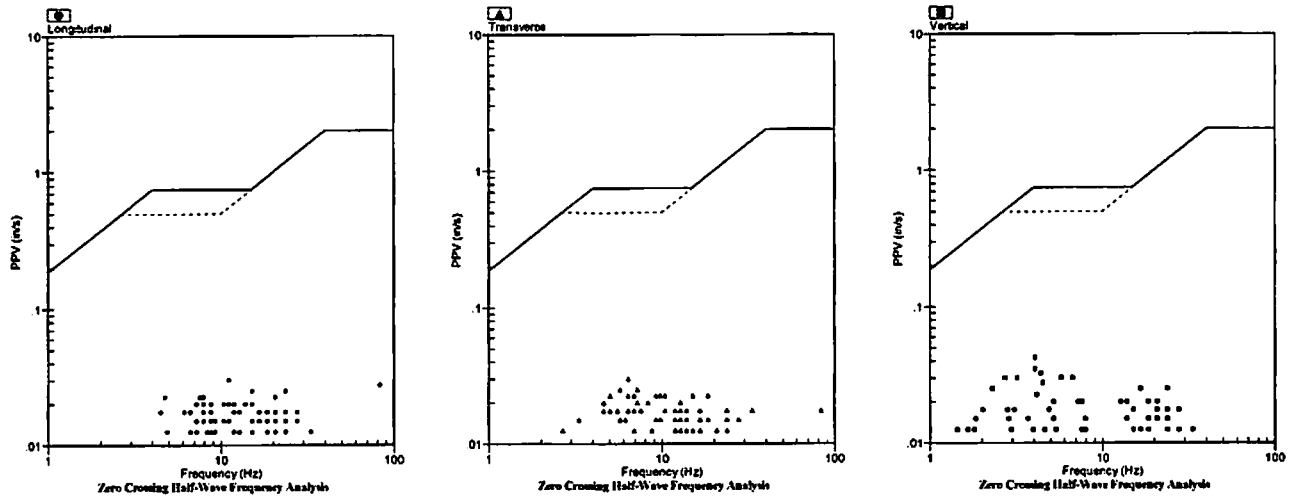
Summary Data

	L	T	V
PPV (in/s)	0.038	0.030	0.043
FREQ (Hz)	15.2	6.4	4.1
PD (.001")	1.03	0.97	1.79
PPA (g)	0.013	0.013	0.007
Peak Vector Sum:	0.048 in/s		
Peak Air Pressure:	102 db		
	0.00039 PSI @ 4.3 Hz		

Additional Info:

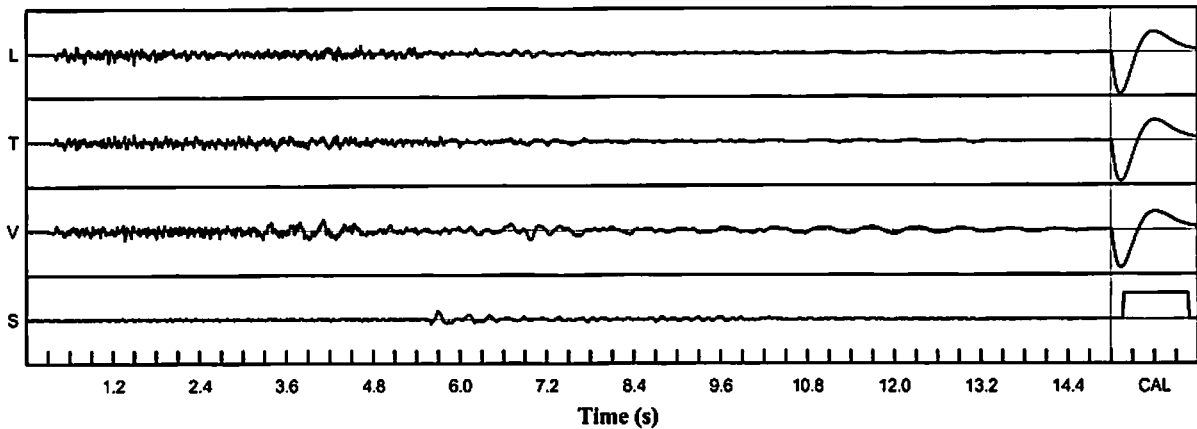
Shaketable Calibrated: 03/21/2017
By: GeoSonics Inc.
 359 Northgate Drive
 Warrendale, PA 15086 U.S.A.
 TEL: 724.934.2900 FAX: 724.934.2999

USBM Safe Blasting Levels



Velocity Waveform

SN: 5149 Event: 7



Velocity Waveform Graph Scale

Time Scale: 0.300 s
Seismic Scale: +/- 0.160 in/s
Sound Scale: +/- 0.0023 PSI

Seismic Analysis

USBM/Velocity Waveform Report

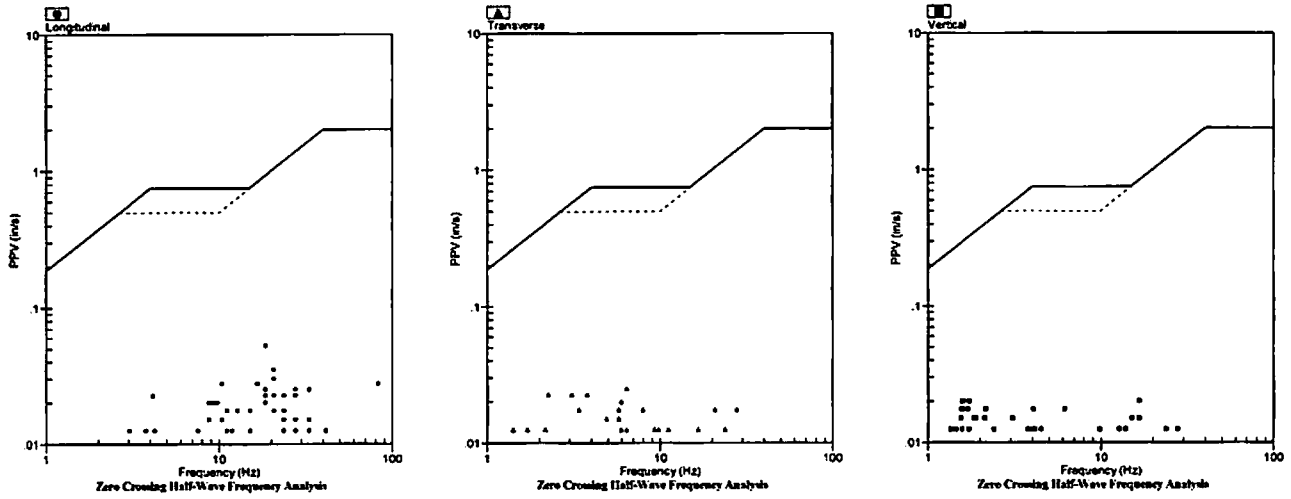
Serial No: 5149 v3.67
Date: 02/27/2018 13:38:25
Event No: 8
Record Time: 15.0 s
Client: City of Miramar
Operation: White Rock Quarries
Location: 16171 SW 49 Ct
Distance:
Operator: Pedro V.
Comment: In Ground.
Seismic Trigger: 0.030 in/s

	L	T	V
PPV (in/s)	0.053	0.025	0.020
FREQ (Hz)	18.5	6.4	16.7
PD (.001")	0.83	1.43	1.87
PPA (g)	0.020	0.007	0.013
Peak Vector Sum:	0.053 in/s		
Peak Air Pressure:	82 db		
	0.00009 PSI @ 41.7 Hz		

Additional Info:

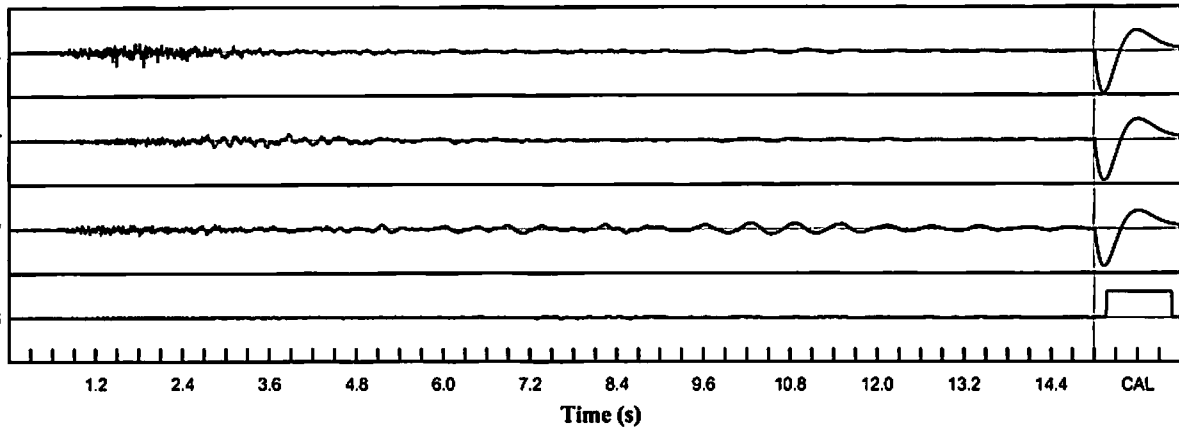
Shaketable Calibrated: 03/21/2017
By: GeoSonics Inc.
 359 Northgate Drive
 Warrendale, PA 15086 U.S.A.
 TEL: 724.934.2900 FAX: 724.934.2999

USBM Safe Blasting Levels



Velocity Waveform

SN: 5149 Event: 8



Velocity Waveform Graph Scale
Time Scale: 0.300 s
Seismic Scale: +/- 0.160 in/s
Sound Scale: +/- 0.0023 PSI

Seismic Analysis

USBM/Velocity Waveform Report

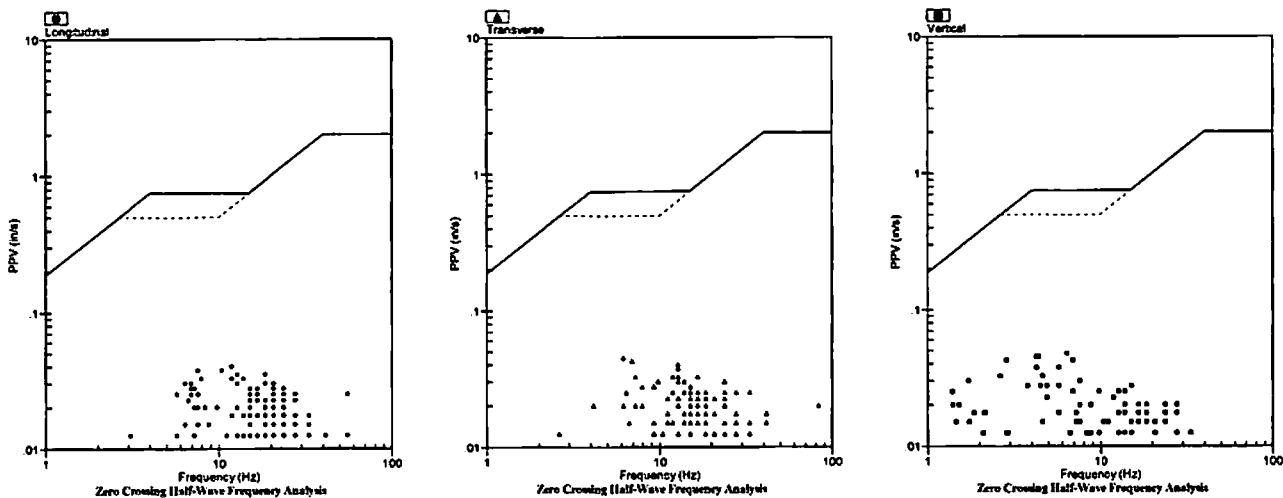
Serial No: 5149 v3.67
Date: 03/05/2018 14:05:20
Event No: 9
Record Time: 15.0 s
Client: City of Miramar
Operation: White Rock Quarries
Location: 16171 SW 49 Ct
Distance:
Operator: Pedro V.
Comment: In Ground.
Seismic Trigger: 0.030 in/s

	L	T	V
PPV (in/s)	0.043	0.045	0.048
FREQ (Hz)	13.9	6.2	6.4
PD (.001")	1.23	1.33	2.30
PPA (g)	0.013	0.013	0.013
Peak Vector Sum:	0.058 in/s		
Peak Air Pressure:	92 db		
	0.00020 PSI @ 3.5 Hz		

Additional Info:

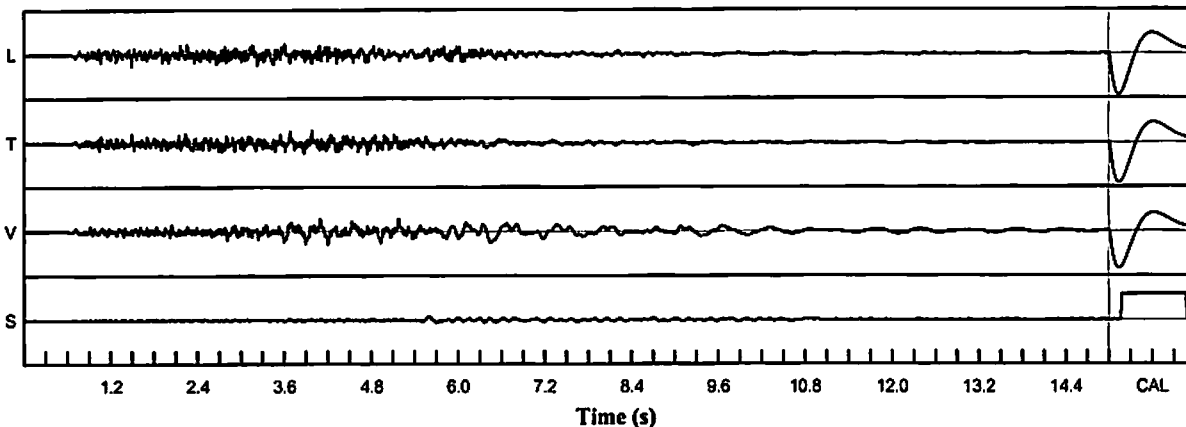
Shaketable Calibrated: 03/21/2017
By: GeoSonics Inc.
 359 Northgate Drive
 Warrendale, PA 15086 U.S.A.
 TEL: 724.934.2900 FAX: 724.934.2999

USBM Safe Blasting Levels



Velocity Waveform

SN: 5149 Event: 9



Velocity Waveform Graph Scale
Time Scale: 0.300 s
Seismic Scale: +/- 0.160 in/s
Sound Scale: +/- 0.0023 PSI

Seismic Analysis

USBM/Velocity Waveform Report

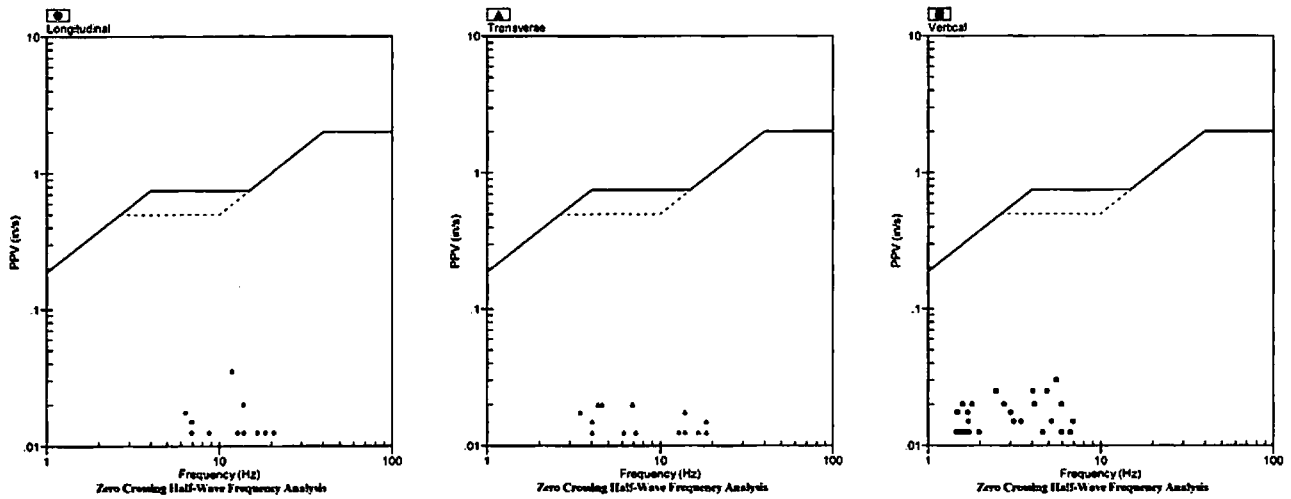
Serial No: 5149 v3.67
Date: 03/09/2018 13:21:18
Event No: 10
Record Time: 15.0 s
Client: City of Miramar
Operation: White Rock Quarries
Location: 16171 SW 49 Ct
Distance:
Operator: Pedro V.
Comment: In Ground.
Seismic Trigger: 0.030 in/s

	L	T	V
PPV (in/s)	0.035	0.025	0.033
FREQ (Hz)	11.9	33.3	3.1
PD (.001")	0.70	0.98	1.94
PPA (g)	0.007	0.013	0.007
Peak Vector Sum:	0.038 in/s		
Peak Air Pressure:	89 db		
	0.00016 PSI @ 3.5 Hz		

Additional Info:

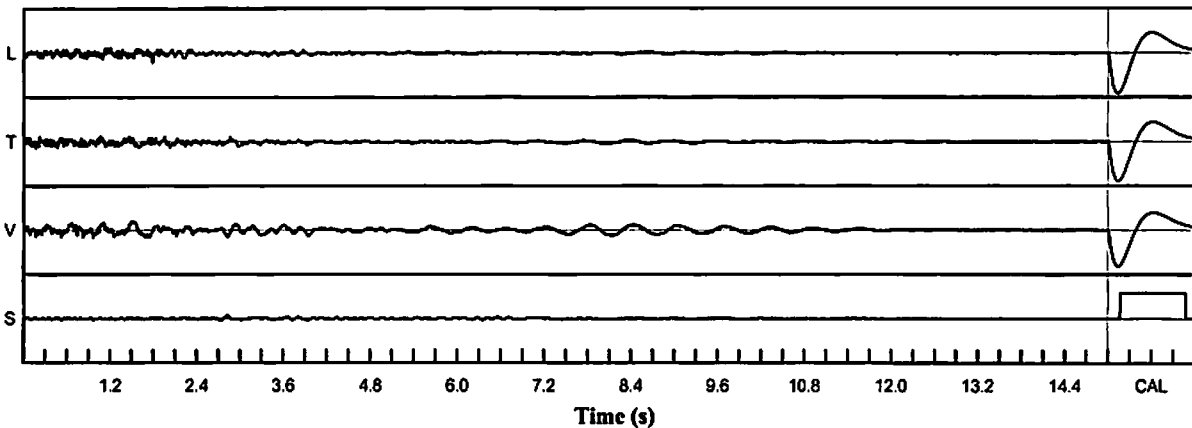
Shaketable Calibrated: 03/21/2017
By: GeoSonics Inc.
 359 Northgate Drive
 Warrendale, PA 15086 U.S.A.
 TEL: 724.934.2900 FAX: 724.934.2999

USBM Safe Blasting Levels



Velocity Waveform

SN: 5149 Event: 10



Velocity Waveform Graph Scale

Time Scale: 0.300 s
Seismic Scale: +/- 0.160 in/s
Sound Scale: +/- 0.0023 PSI

Seismic Analysis

USBM/Velocity Waveform Report

Serial No: 5149 v3.67
Date: 03/19/2018 13:25:08
Event No: 11
Record Time: 15.0 s
Client: City of Miramar
Operation: White Rock Quarries
Location: 16171 SW 49 Ct
Distance:
Operator: Pedro V.
Comment: In Ground.
Seismic Trigger: 0.030 in/s

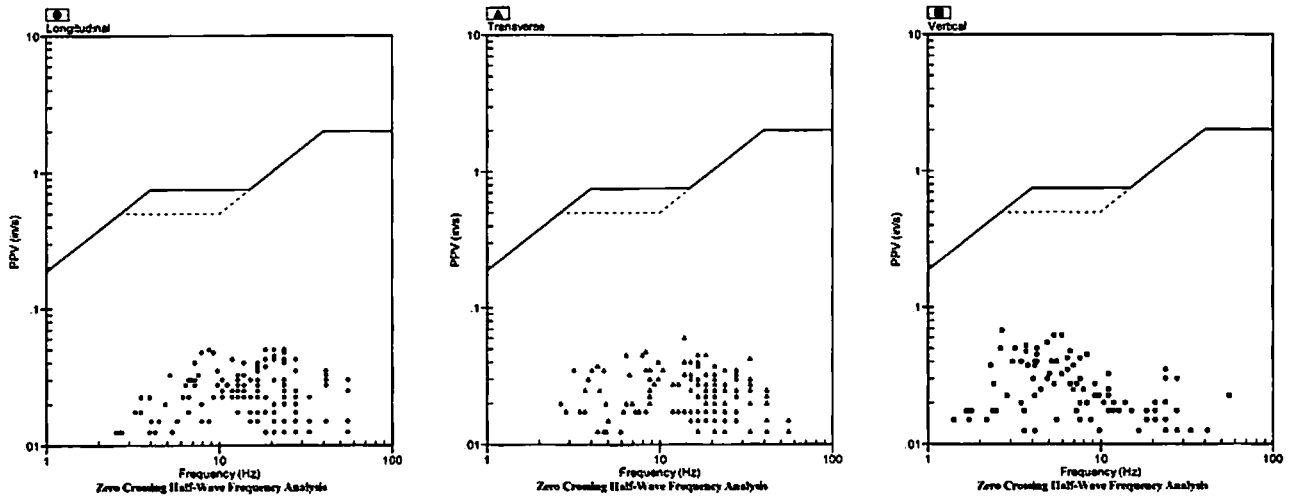
Summary Data

	L	T	V
PPV (in/s)	0.050	0.060	0.068
FREQ (Hz)	55.6	13.9	2.7
PD (.001")	1.17	1.49	3.26
PPA (g)	0.033	0.039	0.020
Peak Vector Sum:	0.073 in/s		
Peak Air Pressure:	95 db		
	0.00023 PSI @ 12.8 Hz		

Additional Info:

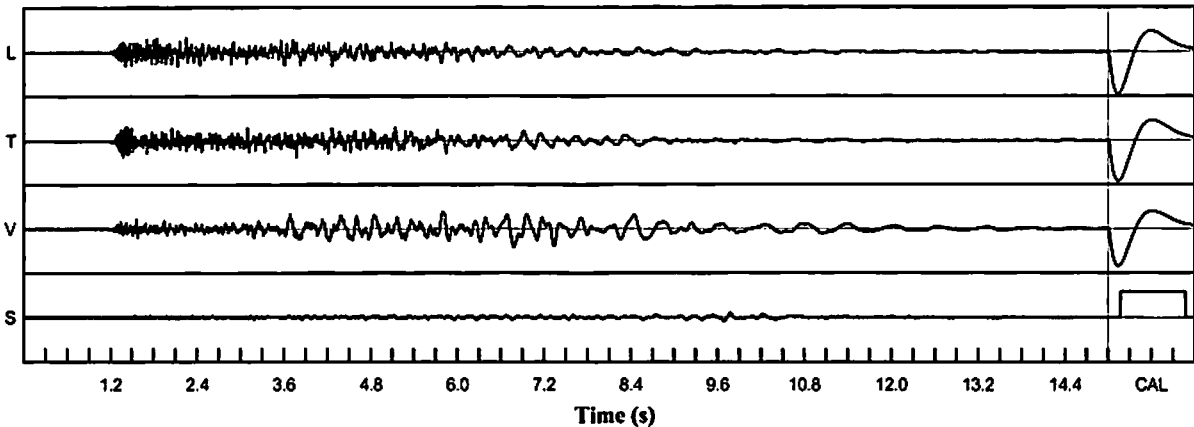
Shaketable Calibrated: 03/21/2017
By: GeoSonics Inc.
 359 Northgate Drive
 Warrendale, PA 15086 U.S.A.
 TEL: 724.934.2900 FAX: 724.934.2999

USBM Safe Blasting Levels



Velocity Waveform

SN: 5149 Event: 11



Velocity Waveform Graph Scale

Time Scale: 0.300 s
Seismic Scale: +/- 0.160 in/s
Sound Scale: +/- 0.0023 PSI

Seismic Analysis

USBM/Velocity Waveform Report

Serial No: 5149 v3.67
Date: 03/20/2018 10:51:24
Event No: 12
Record Time: 15.0 s
Client: City of Miramar
Operation: White Rock Quarries
Location: 16171 SW 49 Ct
Distance:
Operator: Pedro V.
Comment: In Ground.
Seismic Trigger: 0.030 in/s

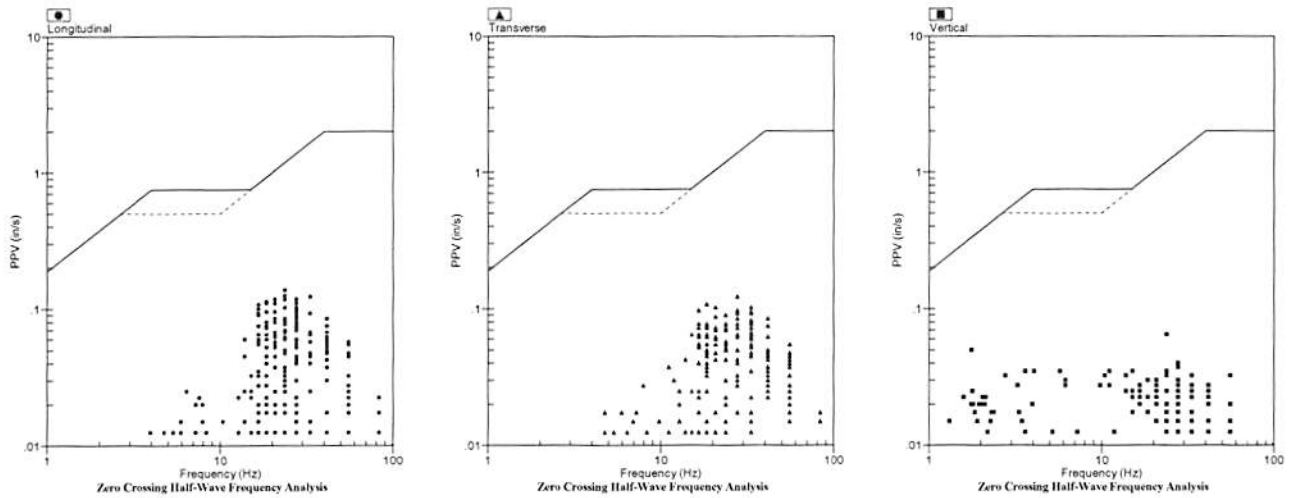
Summary Data

	L	T	V
PPV (in/s)	0.138	0.123	0.065
FREQ (Hz)	23.8	27.8	23.8
PD (.001")	1.13	1.10	2.19
PPA (g)	0.072	0.059	0.033
Peak Vector Sum:	0.165 in/s		
Peak Air Pressure:	89 db		
	0.00016 PSI @ 41.7 Hz		

Additional Info:

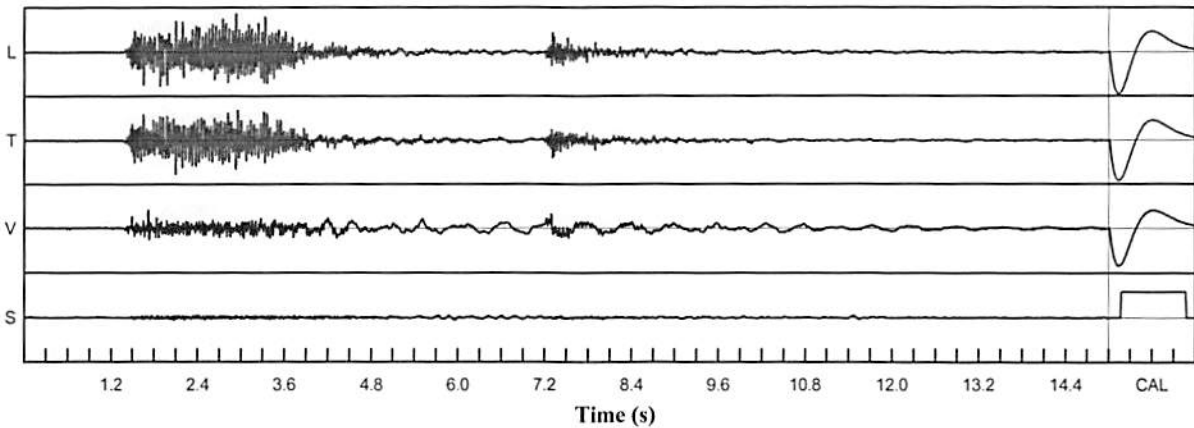
Shaketable Calibrated: 03/21/2017
By: GeoSonics Inc.
 359 Northgate Drive
 Warrendale, PA 15086 U.S.A.
 TEL: 724.934.2900 FAX: 724.934.2999

USBM Safe Blasting Levels



Velocity Waveform

SN: 5149 Event: 12



Velocity Waveform Graph Scale

Time Scale: 0.300 s
Seismic Scale: +/- 0.160 in/s
Sound Scale: +/- 0.0023 PSI

Seismic Analysis

USBM/Velocity Waveform Report

Serial No: 5149 v3.67
Date: 03/23/2018 10:59:44
Event No: 13
Record Time: 15.0 s
Client: City of Miramar
Operation: White Rock Quarries
Location: 16171 SW 49 Ct
Distance:
Operator: Pedro V.
Comment: In Ground.
Seismic Trigger: 0.030 in/s

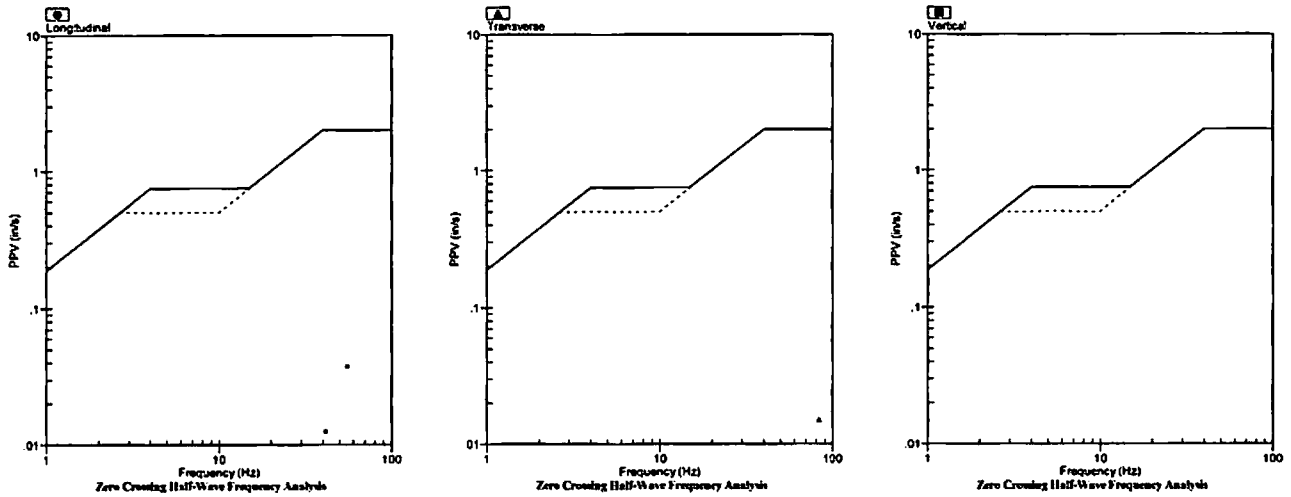
Summary Data

	L	T	V
PPV (in/s)	0.045	0.025	0.005
FREQ (Hz)	16.7	23.8	18.5
PD (.001")	0.57	0.22	0.12
PPA (g)	0.020	0.007	0.007
Peak Vector Sum:	0.050 in/s		
Peak Air Pressure:	76 db		
	0.00002 PSI @ 1.0 Hz		

Additional Info:

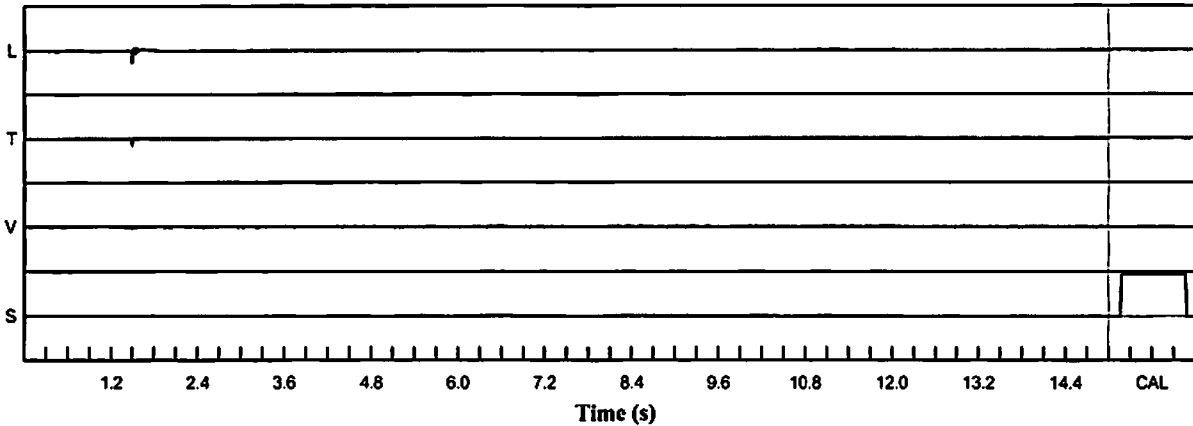
Shaketable Calibrated: 03/21/2017
By: GeoSonics Inc.
 359 Northgate Drive
 Warrendale, PA 15086 U.S.A.
 TEL: 724.934.2900 FAX: 724.934.2999

USBM Safe Blasting Levels



Velocity Waveform

SN: 5149 Event: 13



Velocity Waveform Graph Scale

Time Scale: 0.300 s
Seismic Scale: +/- 0.160 in/s
Sound Scale: +/- 0.0023 PSI

Seismic Analysis

USBM/Velocity Waveform Report

Serial No: 5150 v3.67
Date: 02/13/2018 13:15:19
Event No: 1
Record Time: 15.0 s
Client: City of Miramar
Operation: White Rock Quarries
Location: 5276 SW 152 Ct
Distance:
Operator: Pedro V.
Comment: In Ground.
Seismic Trigger: 0.030 in/s

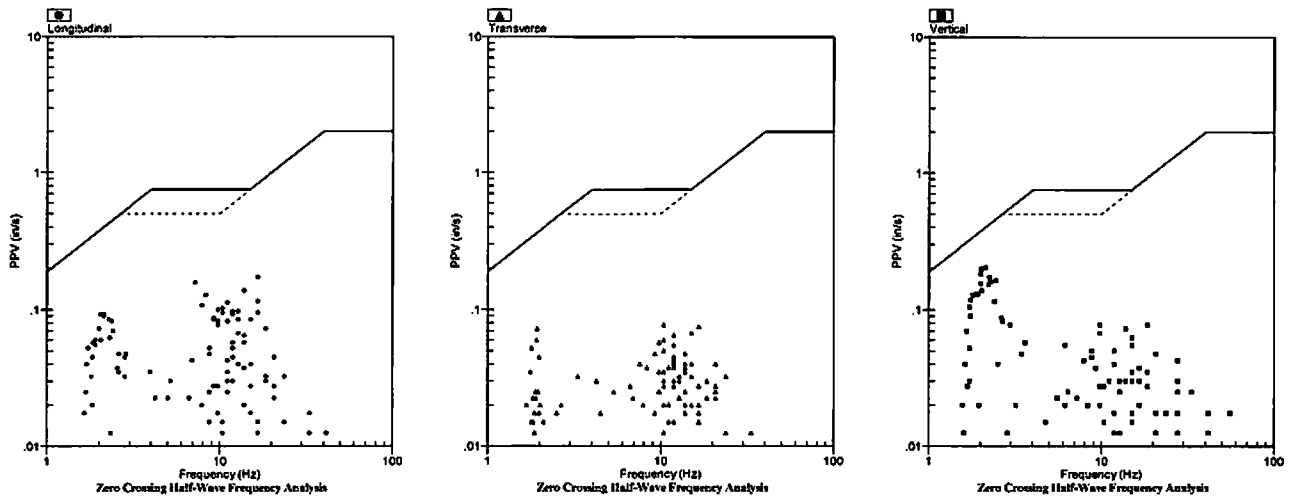
Summary Data

	L	T	V
PPV (in/s)	0.173	0.078	0.203
FREQ (Hz)	16.7	10.4	2.1
PD (.001")	6.34	5.03	15.95
PPA (g)	0.039	0.020	0.026
Peak Vector Sum:	0.203 in/s		
Peak Air Pressure:	111 db		
	0.00100 PSI @ 1.8 Hz		

Additional Info:

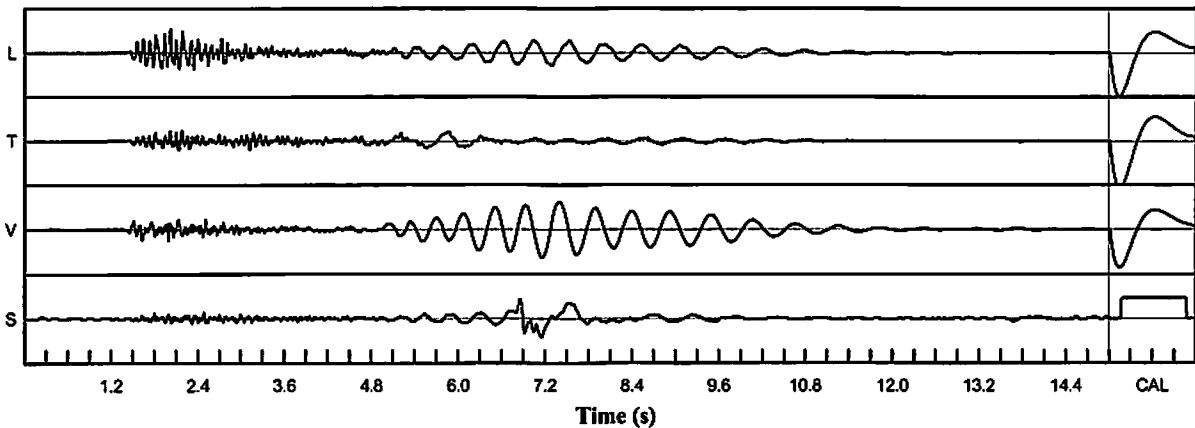
Shaketable Calibrated: 03/21/2017
By: GeoSonics Inc.
 359 Northgate Drive
 Warrendale, PA 15086 U.S.A.
 TEL: 724.934.2900 FAX: 724.934.2999

USBM Safe Blasting Levels



Velocity Waveform

SN: 5150 Event: 1



Velocity Waveform Graph Scale

Time Scale: 0.300 s
Seismic Scale: +/- 0.320 in/s
Sound Scale: +/- 0.0023 PSI

Seismic Analysis

USBM/Velocity Waveform Report

Serial No: 5150 v3.67
Date: 02/14/2018 13:36:55
Event No: 2
Record Time: 15.0 s
Client: City of Miramar
Operation: White Rock Quarries
Location: 5276 SW 152 Ct
Distance:
Operator: Pedro V.
Comment: In Ground.
Seismic Trigger: 0.030 in/s

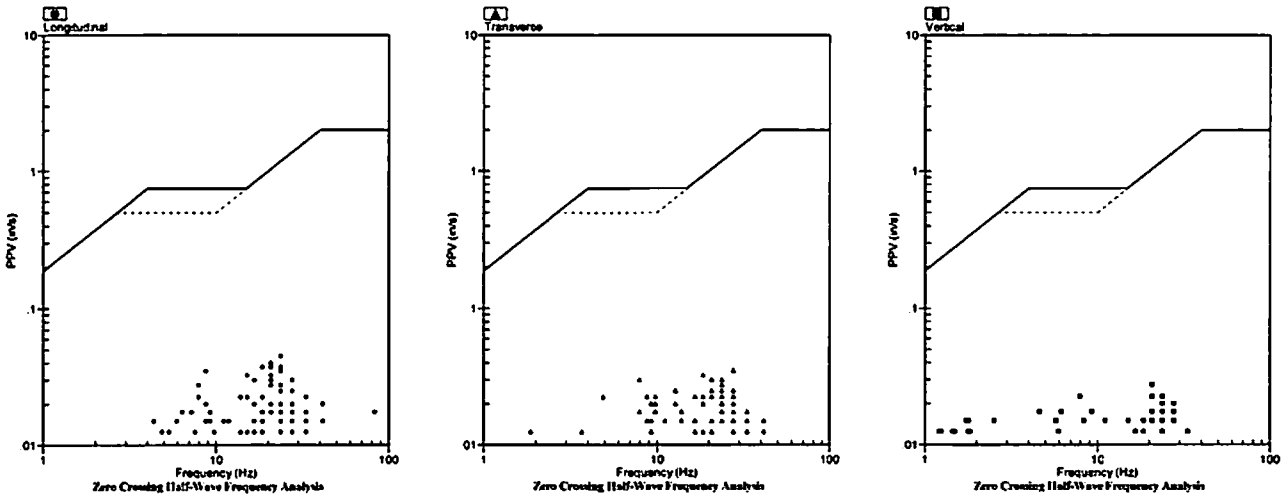
Summary Data

	L	T	V
PPV (in/s)	0.045	0.035	0.028
FREQ (Hz)	23.8	27.8	20.8
PD (.001")	0.92	0.86	1.36
PPA (g)	0.020	0.013	0.013
Peak Vector Sum:	0.058 in/s		
Peak Air Pressure:	98 db		
	0.00027 PSI @ 5.7 Hz		

Additional Info:

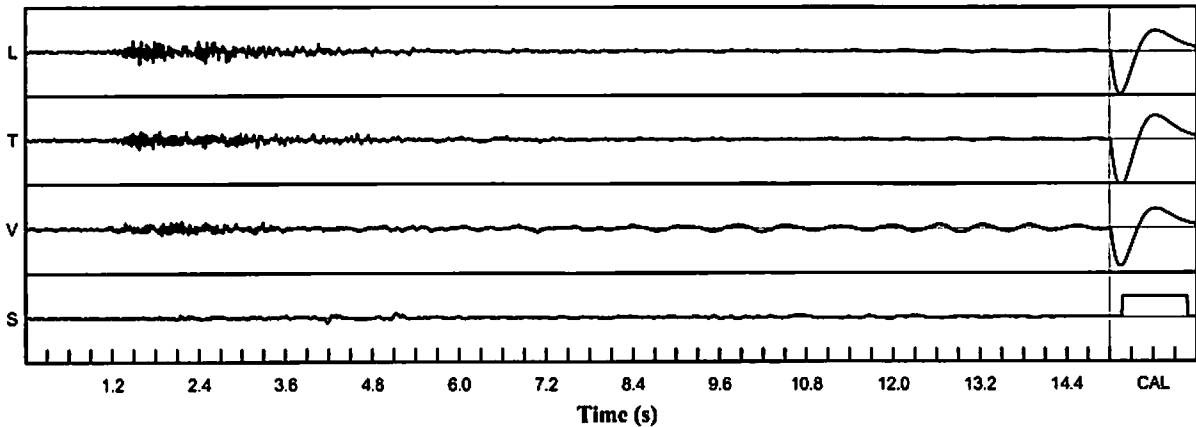
Shaketable Calibrated: 03/21/2017
By: GeoSonics Inc.
 359 Northgate Drive
 Warrendale, PA 15086 U.S.A.
 TEL: 724.934.2900 FAX: 724.934.2999

USBM Safe Blasting Levels



Velocity Waveform

SN: 5150 Event: 2



Velocity Waveform Graph Scale

Time Scale: 0.300 s
Seismic Scale: +/- 0.160 in/s
Sound Scale: +/- 0.0023 PSI

Seismic Analysis

USBM/Velocity Waveform Report

Serial No: 5150 v3.67
Date: 02/15/2018 10:01:30
Event No: 3
Record Time: 15.0 s
Client: City of Miramar
Operation: White Rock Quarries
Location: 5276 SW 152 Ct
Distance:
Operator: Pedro V.
Comment: In Ground.
Seismic Trigger: 0.030 in/s

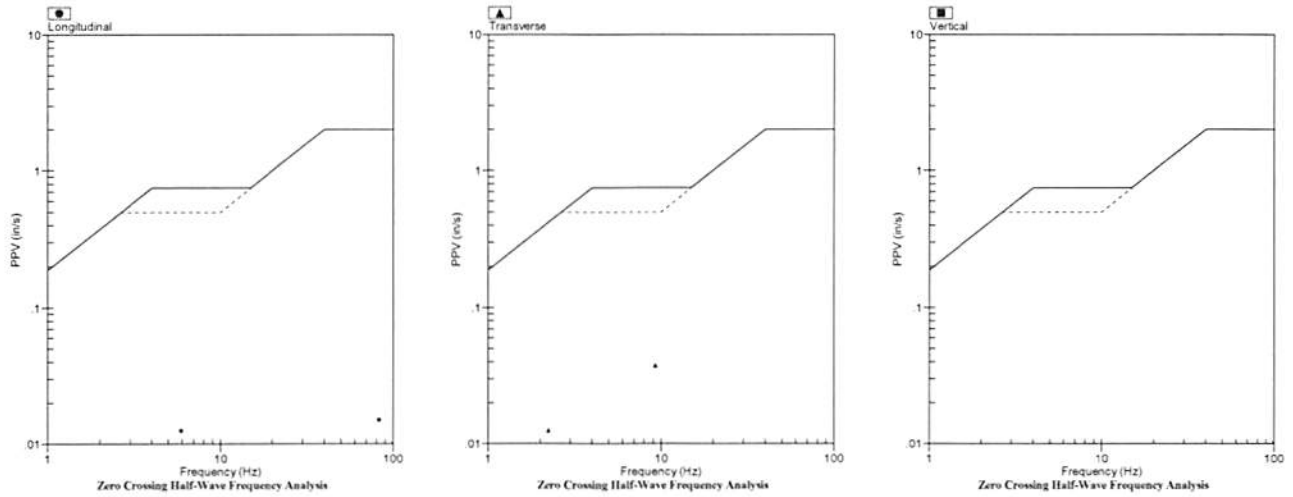
Summary Data

	L	T	V
PPV (in/s)	0.078	0.070	0.030
FREQ (Hz)	27.8	166.7	166.7
PD (.001")	0.82	0.93	0.37
PPA (g)	0.091	0.085	0.046
Peak Vector Sum:	0.085 in/s		
Peak Air Pressure:	113 db		
	0.00139 PSI @ 166.7 Hz		

Additional Info:

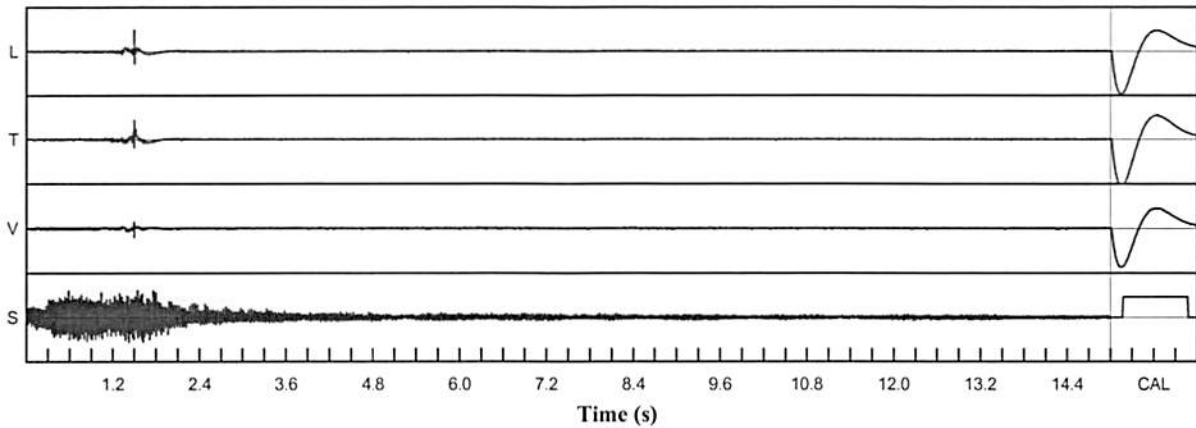
Shaketable Calibrated: 03/21/2017
By: GeoSonics Inc.
 359 Northgate Drive
 Warrendale, PA 15086 U.S.A.
 TEL: 724.934.2900 FAX: 724.934.2999

USBM Safe Blasting Levels



Velocity Waveform

SN: 5150 Event: 3



Velocity Waveform Graph Scale

Time Scale: 0.300 s
Seismic Scale: +/- 0.160 in/s
Sound Scale: +/- 0.0023 PSI

Seismic Analysis

USBM/Velocity Waveform Report

Serial No: 5150 v3.67
Date: 02/16/2018 11:30:30
Event No: 4
Record Time: 15.0 s
Client: City of Miramar
Operation: White Rock Quarries
Location: 5276 SW 152 Ct
Distance:
Operator: Pedro V.
Comment: In Ground.
Seismic Trigger: 0.030 in/s

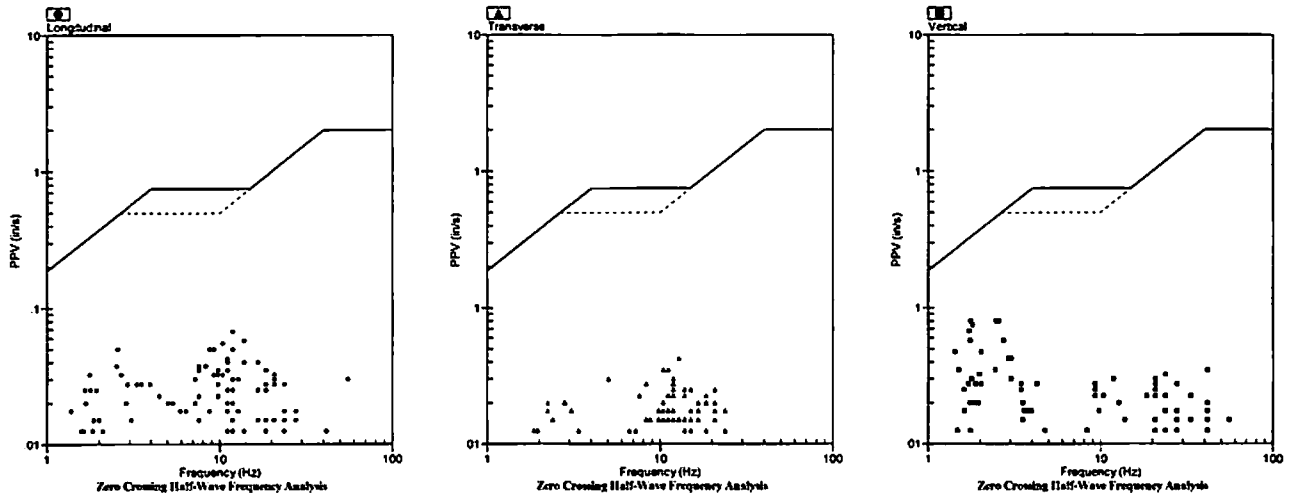
Summary Data

	L	T	V
PPV (in/s)	0.068	0.043	0.080
FREQ (Hz)	11.9	12.8	2.6
PD (.001")	2.49	1.11	7.45
PPA (g)	0.020	0.013	0.013
Peak Vector Sum:	0.080 in/s		
Peak Air Pressure:	104 db		
	0.00052 PSI @ 2.1 Hz		

Additional Info:

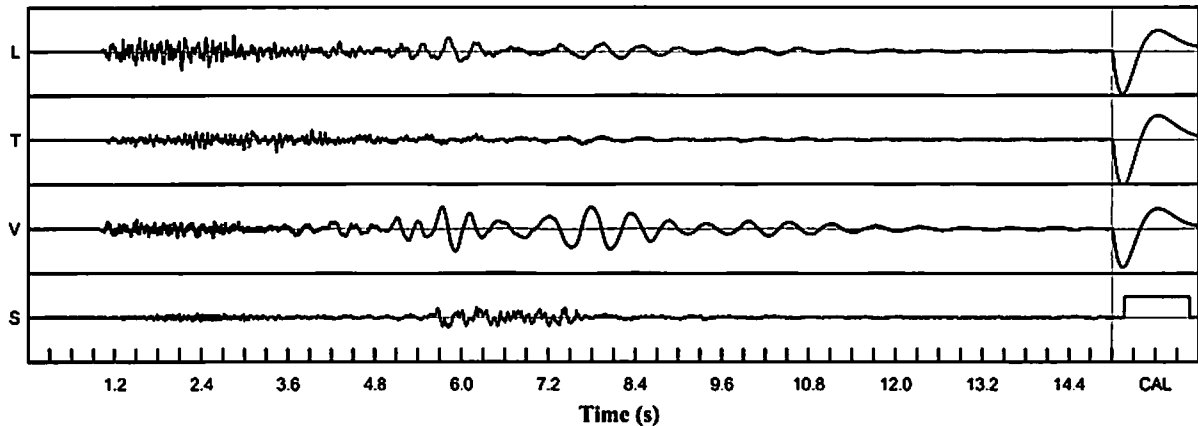
Shaketable Calibrated: 03/21/2017
By: GeoSonics Inc.
 359 Northgate Drive
 Warrendale, PA 15086 U.S.A.
TEL: 724.934.2900 **FAX:** 724.934.2999

USBM Safe Blasting Levels



Velocity Waveform

SN: 5150 Event: 4



Velocity Waveform Graph Scale

Time Scale: 0.300 s
Seismic Scale: +/- 0.160 in/s
Sound Scale: +/- 0.0023 PSI

Seismic Analysis

USBM/Velocity Waveform Report

Serial No: 5150 v3.67
Date: 02/19/2018 14:00:38
Event No: 5
Record Time: 15.0 s
Client: City of Miramar
Operation: White Rock Quarries
Location: 5276 SW 152 Ct
Distance:
Operator: Pedro V.
Comment: In Ground.
Seismic Trigger: 0.030 in/s

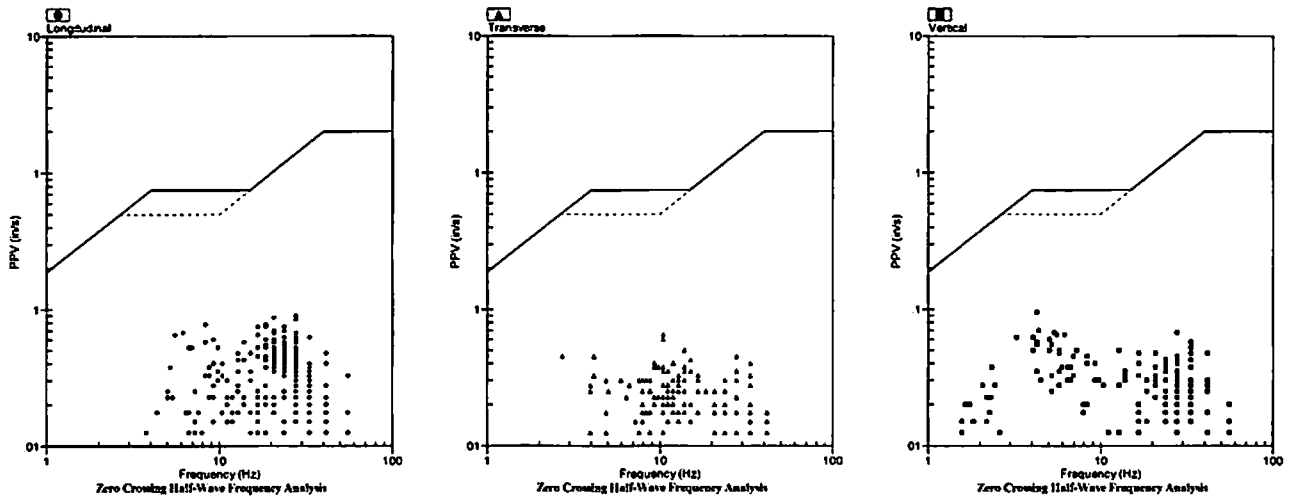
Summary Data

	L	T	V
PPV (in/s)	0.090	0.065	0.095
FREQ (Hz)	27.8	10.4	4.3
PD (.001")	1.73	1.64	2.94
PPA (g)	0.039	0.026	0.033
Peak Vector Sum:	0.108 in/s		
Peak Air Pressure:	103 db		
	0.00048 PSI @ 3.2 Hz		

Additional Info:

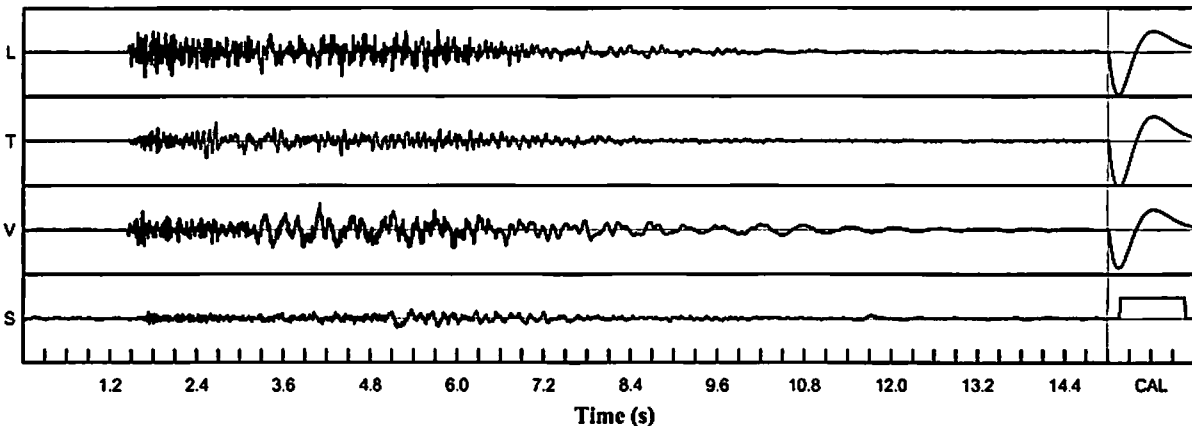
Shaketable Calibrated: 03/21/2017
By: GeoSonics Inc.
 359 Northgate Drive
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 TEL: 724.934.2900 FAX: 724.934.2999

USBM Safe Blasting Levels



Velocity Waveform

SN: 5150 Event: 5



Velocity Waveform Graph Scale

Time Scale: 0.300 s
Seismic Scale: +/- 0.160 in/s
Sound Scale: +/- 0.0023 PSI

Seismic Analysis

USBM/Velocity Waveform Report

Serial No: 5150 v3.67
Date: 02/20/2018 13:15:56
Event No: 6
Record Time: 15.0 s
Client: City of Miramar
Operation: White Rock Quarries
Location: 5276 SW 152 Ct
Distance:
Operator: Pedro V.
Comment: In Ground.
Seismic Trigger: 0.030 in/s

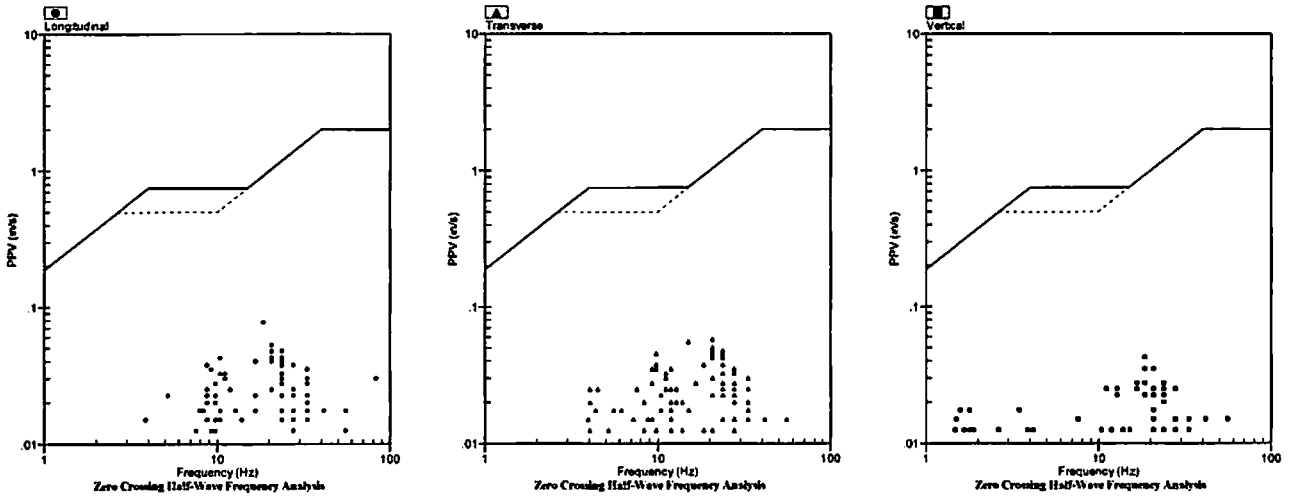
Summary Data

	L	T	V
PPV (in/s)	0.078	0.058	0.043
FREQ (Hz)	18.5	20.8	18.5
PD (.001")	1.01	1.06	1.54
PPA (g)	0.026	0.020	0.013
Peak Vector Sum:	0.095 in/s		
Peak Air Pressure:	100 db		
	0.00030 PSI @ 4.1 Hz		

Additional Info:

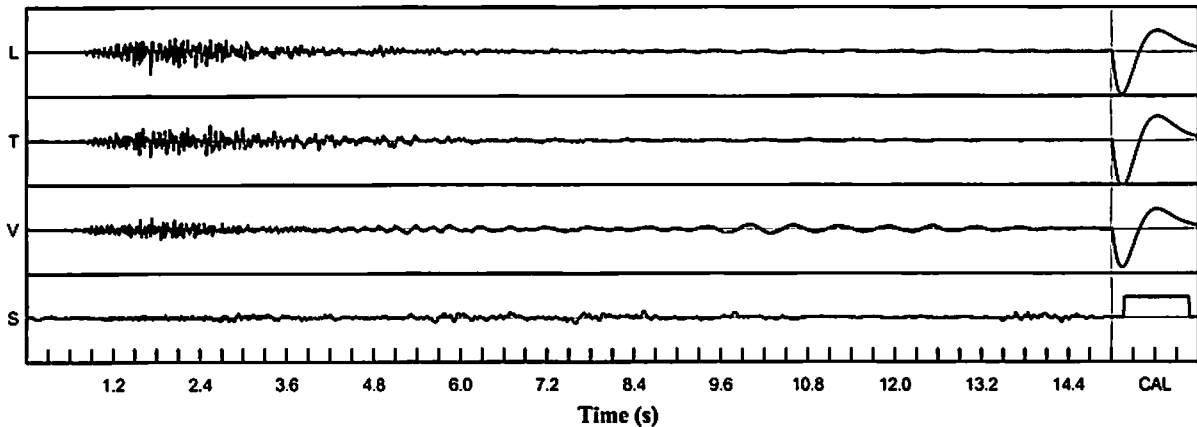
Shaketable Calibrated: 03/21/2017
By: GeoSonics Inc.
 359 Northgate Drive
 Warrendale, PA 15086 U.S.A.
 TEL: 724.934.2900 FAX: 724.934.2999

USBM Safe Blasting Levels



Velocity Waveform

SN: 5150 Event: 6



Velocity Waveform Graph Scale

Time Scale: 0.300 s
Seismic Scale: +/- 0.160 in/s
Sound Scale: +/- 0.0023 PSI

Seismic Analysis

USBM/Velocity Waveform Report

Serial No: 5150 v3.67
Date: 02/22/2018 13:32:10
Event No: 7
Record Time: 15.0 s
Client: City of Miramar
Operation: White Rock Quarries
Location: 5276 SW 152 Ct
Distance:
Operator: Pedro V.
Comment: In Ground.
Seismic Trigger: 0.030 in/s

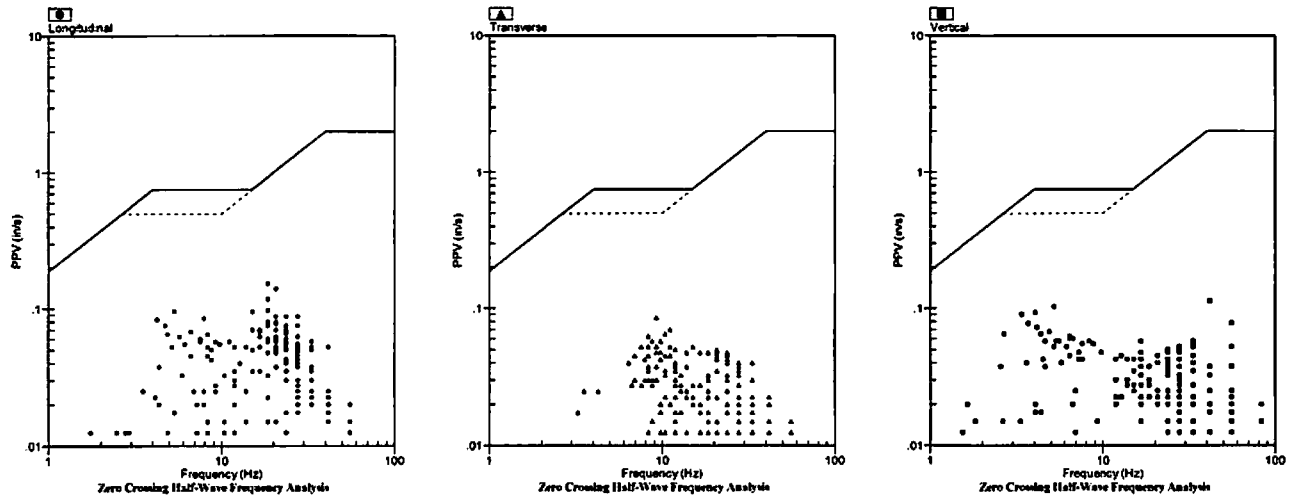
Summary Data

	L	T	V
PPV (in/s)	0.153	0.085	0.113
FREQ (Hz)	18.5	9.3	41.7
PD (.001")	2.36	1.56	3.65
PPA (g)	0.052	0.020	0.065
Peak Vector Sum:	0.178 in/s		
Peak Air Pressure:	104 db		
	0.00052 PSI @ 5.7 Hz		

Additional Info:

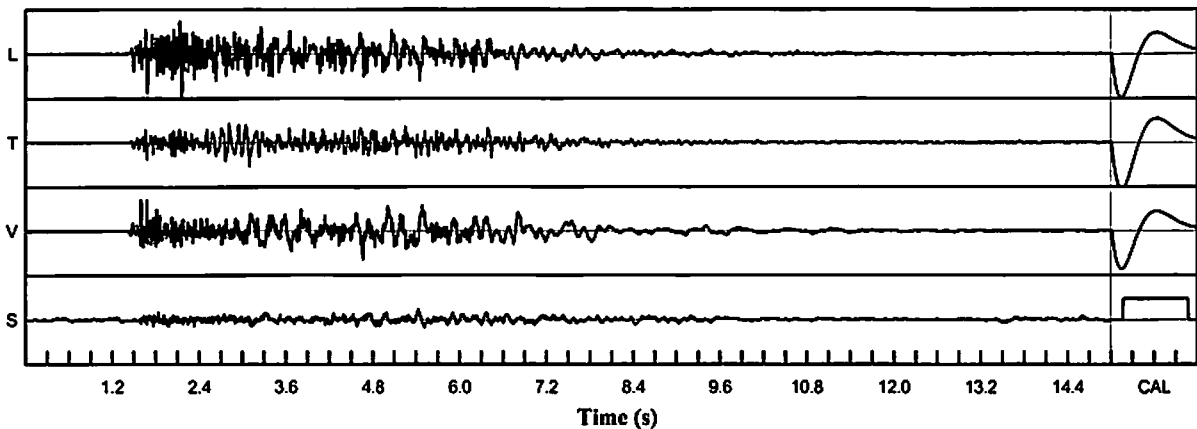
Shaketable Calibrated: 03/21/2017
By: GeoSonics Inc.
 359 Northgate Drive
 Warrendale, PA 15086 U.S.A.
 TEL: 724.934.2900 FAX: 724.934.2999

USBM Safe Blasting Levels



Velocity Waveform

SN: 5150 Event: 7



Velocity Waveform Graph Scale

Time Scale: 0.300 s
Seismic Scale: +/- 0.160 in/s
Sound Scale: +/- 0.0023 PSI

Seismic Analysis

USBM/Velocity Waveform Report

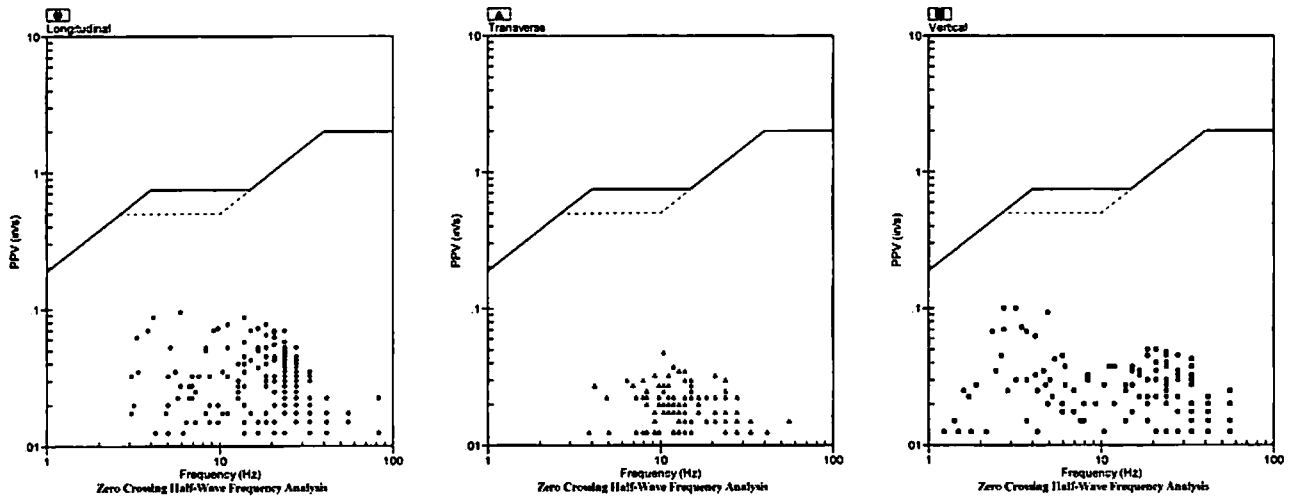
Serial No: 5150 v3.67
Date: 02/26/2018 14:00:49
Event No: 8
Record Time: 15.0 s
Client: City of Miramar
Operation: White Rock Quarries
Location: 5276 SW 152 Ct
Distance:
Operator: Pedro V.
Comment: In Ground.
Seismic Trigger: 0.030 in/s

	L	T	V
PPV (in/s)	0.095	0.048	0.100
FREQ (Hz)	6.0	10.4	3.2
PD (.001")	2.75	1.41	4.76
PPA (g)	0.033	0.013	0.026
Peak Vector Sum:	0.110 in/s		
Peak Air Pressure:	112 db		
	0.00123 PSI @ 6.4 Hz		

Additional Info:

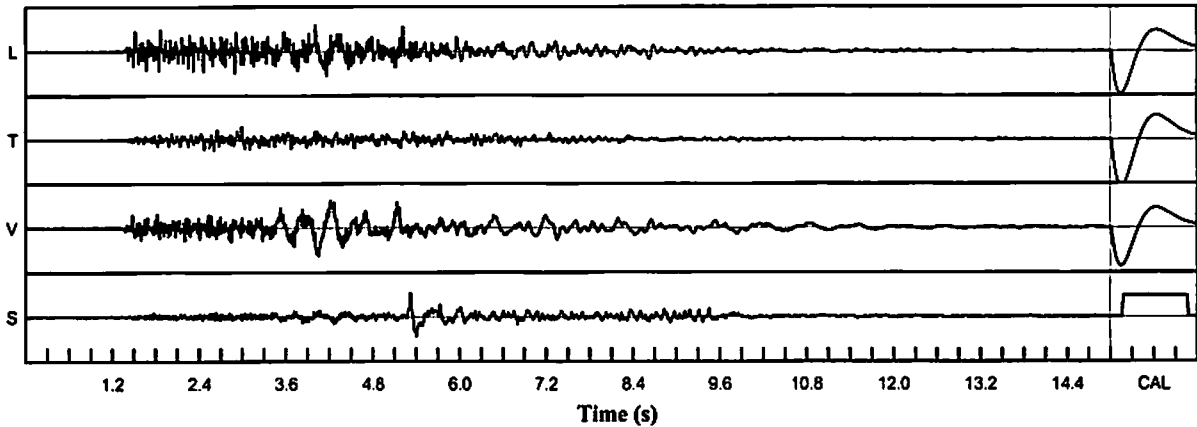
Shaketable Calibrated: 03/21/2017
By: GeoSonics Inc.
 359 Northgate Drive
 Warrendale, PA 15086 U.S.A.
 TEL: 724.934.2900 FAX: 724.934.2999

USBM Safe Blasting Levels



Velocity Waveform

SN: 5150 Event: 8



Velocity Waveform Graph Scale
Time Scale: 0.300 s
Seismic Scale: +/- 0.160 in/s
Sound Scale: +/- 0.0023 PSI

Seismic Analysis

USBM/Velocity Waveform Report

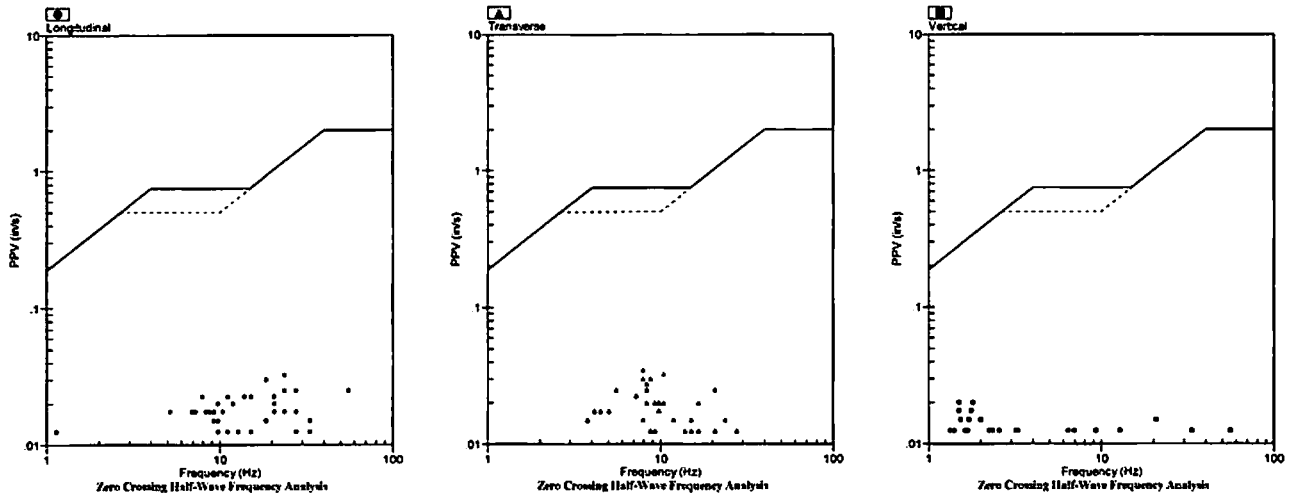
Serial No: 5150 v3.67
Date: 02/27/2018 13:34:35
Event No: 9
Record Time: 15.0 s
Client: City of Miramar
Operation: White Rock Quarries
Location: 5276 SW 152 Ct
Distance:
Operator: Pedro V.
Comment: In Ground.
Seismic Trigger: 0.030 in/s

	L	T	V
PPV (in/s)	0.040	0.035	0.023
FREQ (Hz)	18.5	7.9	20.8
PD (.001")	0.93	1.17	1.78
PPA (g)	0.020	0.013	0.013
Peak Vector Sum:	0.045 in/s		
Peak Air Pressure:	90 db		
	0.00018 PSI @ 1.0 Hz		

Additional Info:

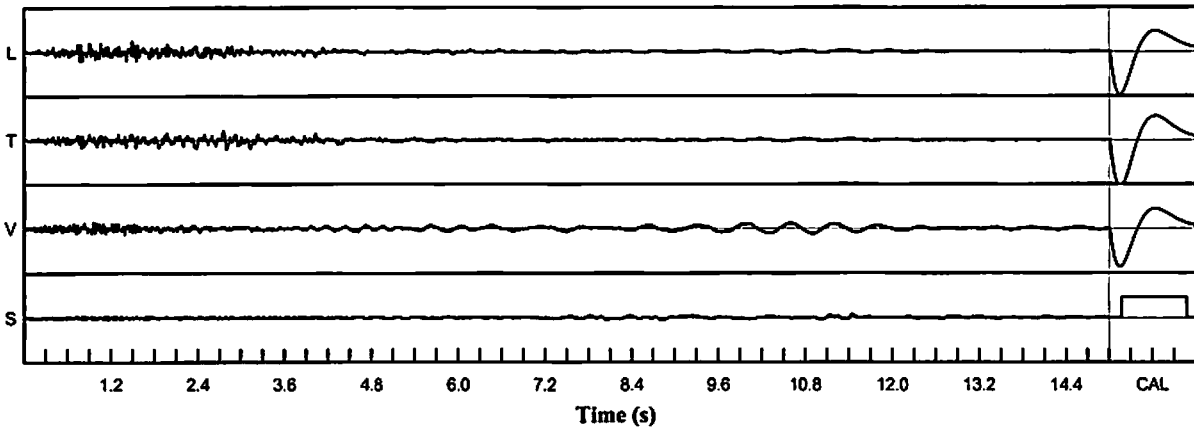
Shaketable Calibrated: 03/21/2017
By: GeoSonics Inc.
 359 Northgate Drive
 Warrendale, PA 15086 U.S.A.
 TEL: 724.934.2900 FAX: 724.934.2999

USBM Safe Blasting Levels



Velocity Waveform

SN: 5150 Event: 9



Velocity Waveform Graph Scale
Time Scale: 0.300 s
Seismic Scale: +/- 0.160 in/s
Sound Scale: +/- 0.0023 PSI

Seismic Analysis

USBM/Velocity Waveform Report

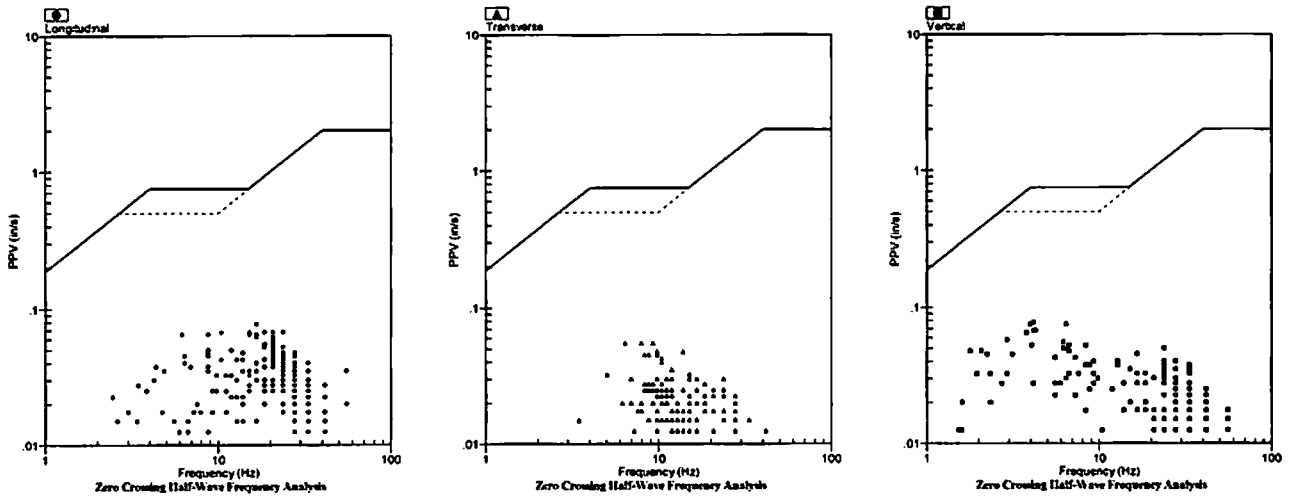
Serial No: 5150 v3.67
Date: 03/05/2018 14:01:15
Event No: 10
Record Time: 15.0 s
Client: City of Miramar
Operation: White Rock Quarries
Location: 5276 SW 152 Ct
Distance:
Operator: Pedro V.
Comment: In Ground.
Seismic Trigger: 0.030 in/s

	L	T	V
PPV (in/s)	0.078	0.055	0.078
FREQ (Hz)	16.7	9.3	4.2
PD (.001")	1.91	1.57	3.48
PPA (g)	0.026	0.013	0.020
Peak Vector Sum:	0.093 in/s		
Peak Air Pressure:	103 db		
	0.00048 PSI @ 2.7 Hz		

Additional Info:

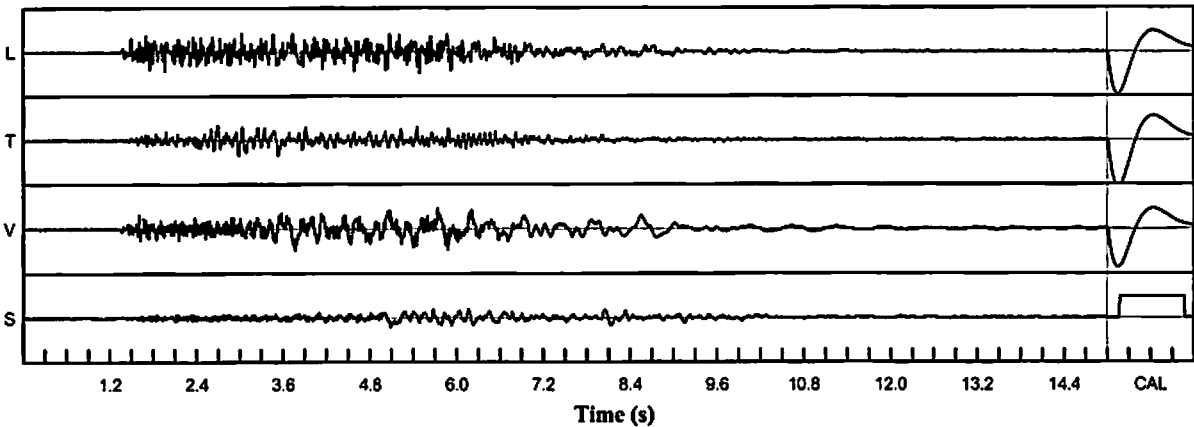
Shaketable Calibrated: 03/21/2017
By: GeoSonics Inc.
 359 Northgate Drive
 Warrendale, PA 15086 U.S.A.
 TEL: 724.934.2900 FAX: 724.934.2999

USBM Safe Blasting Levels



Velocity Waveform

SN: 5150 Event: 10



Velocity Waveform Graph Scale
Time Scale: 0.300 s
Seismic Scale: +/- 0.160 in/s
Sound Scale: +/- 0.0023 PSI

Seismic Analysis

USBM/Velocity Waveform Report

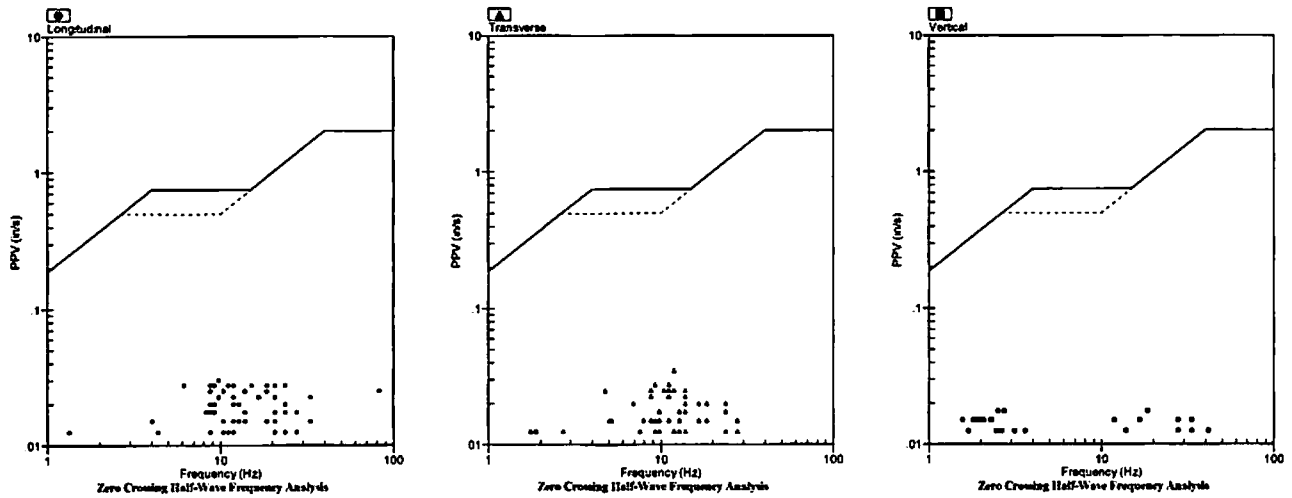
Serial No: 5150 v3.67
Date: 03/07/2018 11:37:49
Event No: 11
Record Time: 15.0 s
Client: City of Miramar
Operation: White Rock Quarries
Location: 5276 SW 152 Ct
Distance:
Operator: Pedro V.
Comment: In Ground.
Seismic Trigger: 0.030 in/s

	L	T	V
PPV (in/s)	0.035	0.035	0.018
FREQ (Hz)	18.5	11.9	27.8
PD (.001")	0.87	1.14	1.15
PPA (g)	0.013	0.013	0.007
Peak Vector Sum:	0.043 in/s		
Peak Air Pressure:	107 db		
	0.00073 PSI @ 5.2 Hz		

Additional Info:

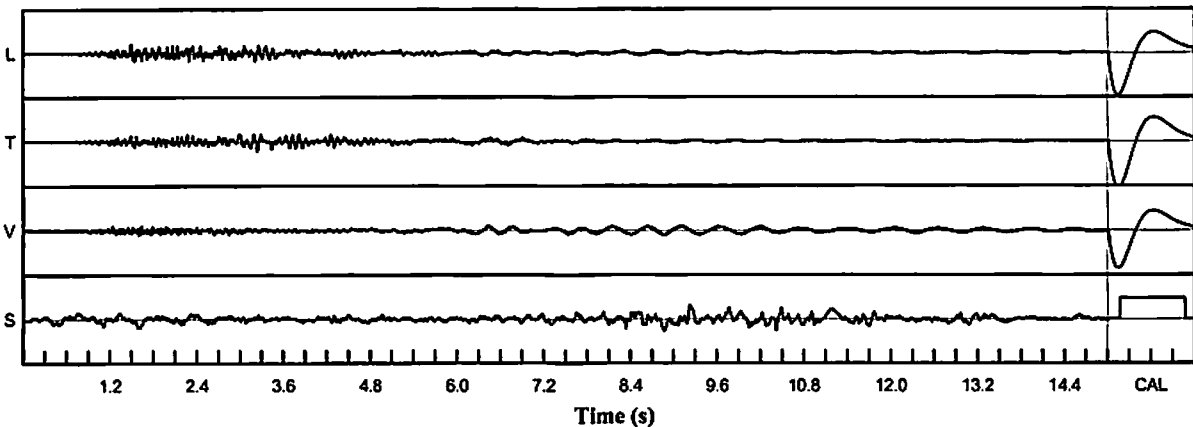
Shaketable Calibrated: 03/21/2017
By: GeoSonics Inc.
 359 Northgate Drive
 Warrendale, PA 15086 U.S.A.
 TEL: 724.934.2900 FAX: 724.934.2999

USBM Safe Blasting Levels



Velocity Waveform

SN: 5150 Event: 11



Velocity Waveform Graph Scale
Time Scale: 0.300 s
Seismic Scale: +/- 0.160 in/s
Sound Scale: +/- 0.0023 PSI

Seismic Analysis

USBM/Velocity Waveform Report

Serial No: 5150 v3.67
Date: 03/09/2018 13:17:02
Event No: 12
Record Time: 15.0 s
Client: City of Miramar
Operation: White Rock Quarries
Location: 5276 SW 152 Ct
Distance:
Operator: Pedro V.
Comment: In Ground.
Seismic Trigger: 0.030 in/s

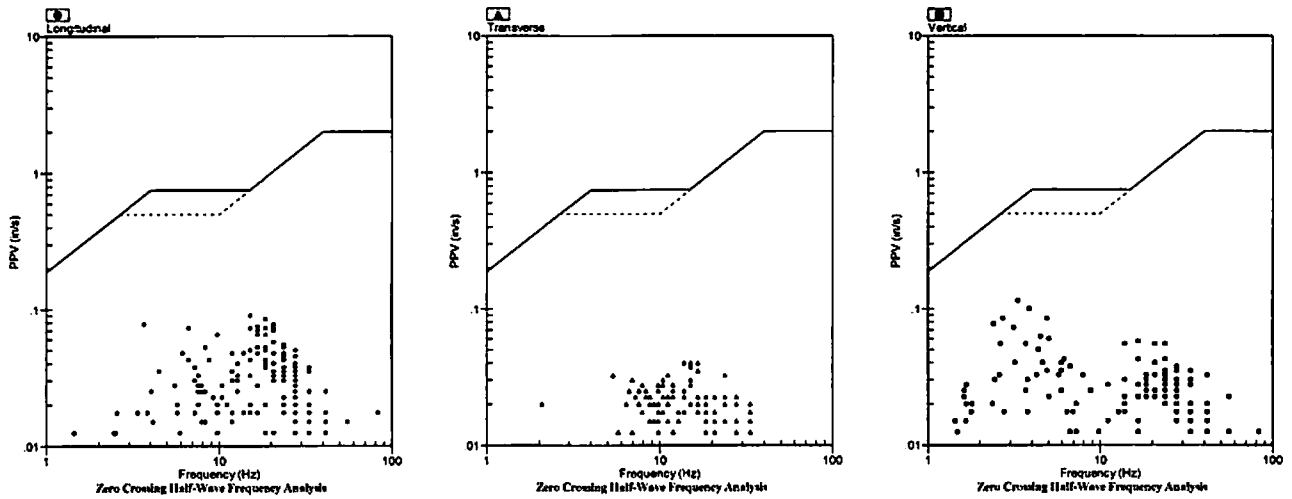
Summary Data

	L	T	V
PPV (in/s)	0.090	0.040	0.115
FREQ (Hz)	15.2	16.7	3.3
PD (.001")	2.53	1.02	4.45
PPA (g)	0.026	0.013	0.026
Peak Vector Sum:	0.118 in/s		
Peak Air Pressure:	102 db		
	0.00039 PSI @ 3.2 Hz		

Additional Info:

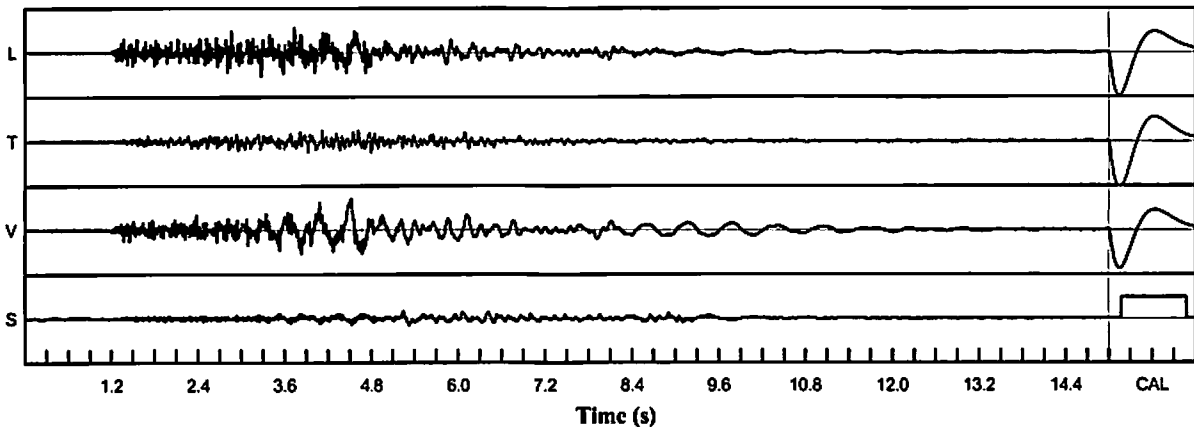
Shaketable Calibrated: 03/21/2017
By: GeoSonics Inc.
 359 Northgate Drive
 Warrendale, PA 15086 U.S.A.
 TEL: 724.934.2900 FAX: 724.934.2999

USBM Safe Blasting Levels



Velocity Waveform

SN: 5150 Event: 12



Velocity Waveform Graph Scale

Time Scale: 0.300 s
Seismic Scale: +/- 0.160 in/s
Sound Scale: +/- 0.0023 PSI

Seismic Analysis

USBM/Velocity Waveform Report

Serial No: 5150 v3.67
Date: 03/19/2018 13:20:34
Event No: 13
Record Time: 15.0 s
Client: City of Miramar
Operation: White Rock Quarries
Location: 5276 SW 152 Ct
Distance:
Operator: Pedro V.
Comment: In Ground.
Seismic Trigger: 0.030 in/s

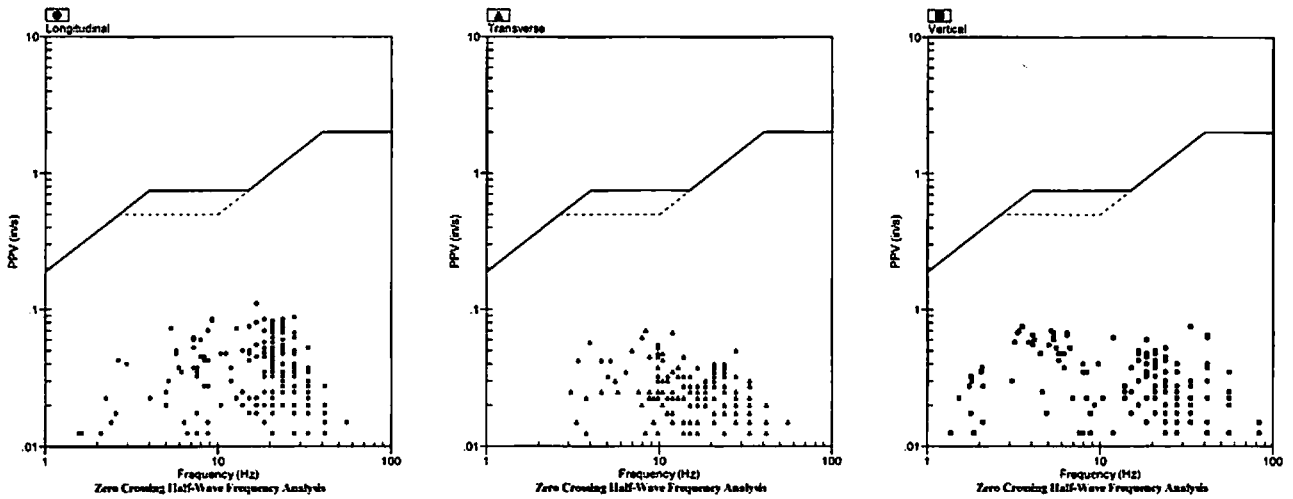
Summary Data

	L	T	V
PPV (in/s)	0.110	0.070	0.075
FREQ (Hz)	16.7	8.3	33.3
PD (.001")	1.93	1.35	3.45
PPA (g)	0.039	0.020	0.046
Peak Vector Sum:	0.113 in/s		
Peak Air Pressure:	106 db		
	0.00066 PSI @ 6.7 Hz		

Additional Info:

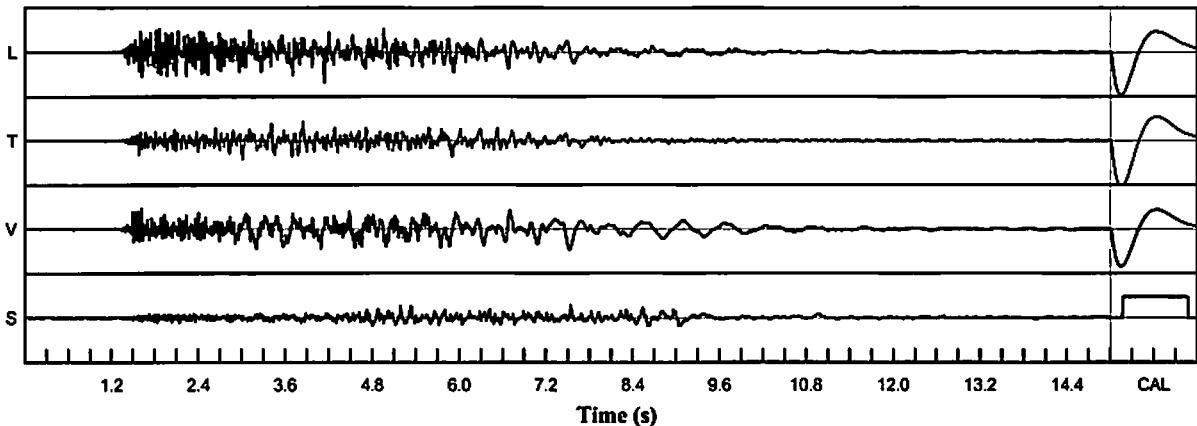
Shaketable Calibrated: 03/21/2017
By: GeoSonics Inc.
 359 Northgate Drive
 Warrendale, PA 15086 U.S.A.
 TEL: 724.934.2900 FAX: 724.934.2999

USBM Safe Blasting Levels



Velocity Waveform

SN: 5150 Event: 13



Velocity Waveform Graph Scale

Time Scale: 0.300 s
Seismic Scale: +/- 0.160 in/s
Sound Scale: +/- 0.0023 PSI

Seismic Analysis

USBM/Velocity Waveform Report

Serial No: 5150 v3.67
Date: 03/20/2018 10:46:48
Event No: 14
Record Time: 15.0 s
Client: City of Miramar
Operation: White Rock Quarries
Location: 5276 SW 152 Ct
Distance:
Operator: Pedro V.
Comment: In Ground.
Seismic Trigger: 0.030 in/s

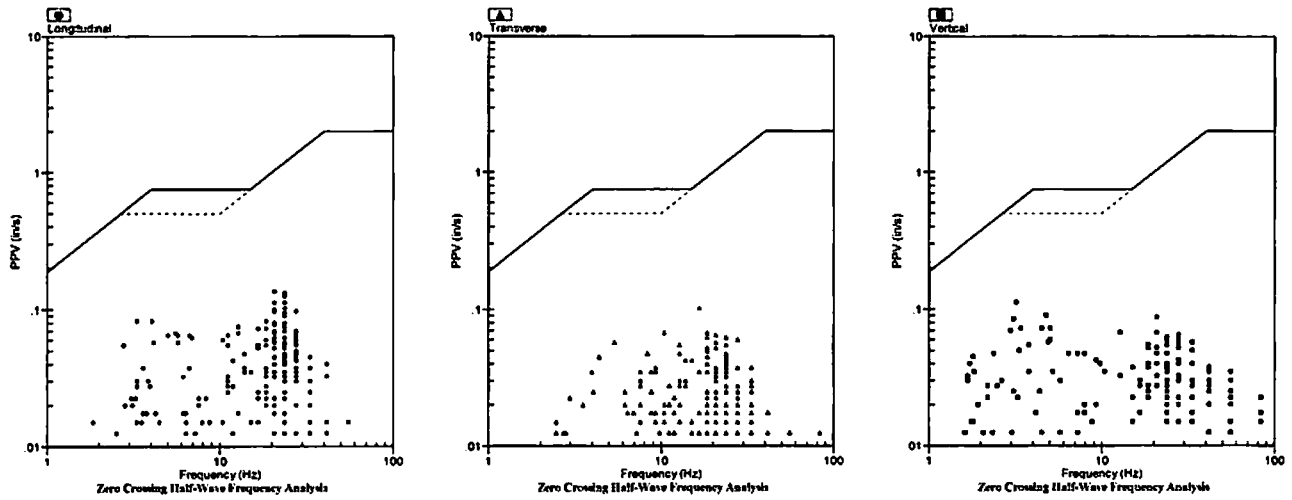
Summary Data

	L	T	V
PPV (in/s)	0.135	0.103	0.113
FREQ (Hz)	20.8	16.7	3.2
PD (.001")	2.71	1.55	3.78
PPA (g)	0.052	0.026	0.046
Peak Vector Sum:	0.150 in/s		
Peak Air Pressure:	104 db		
	0.00052 PSI @ 4.5 Hz		

Additional Info:

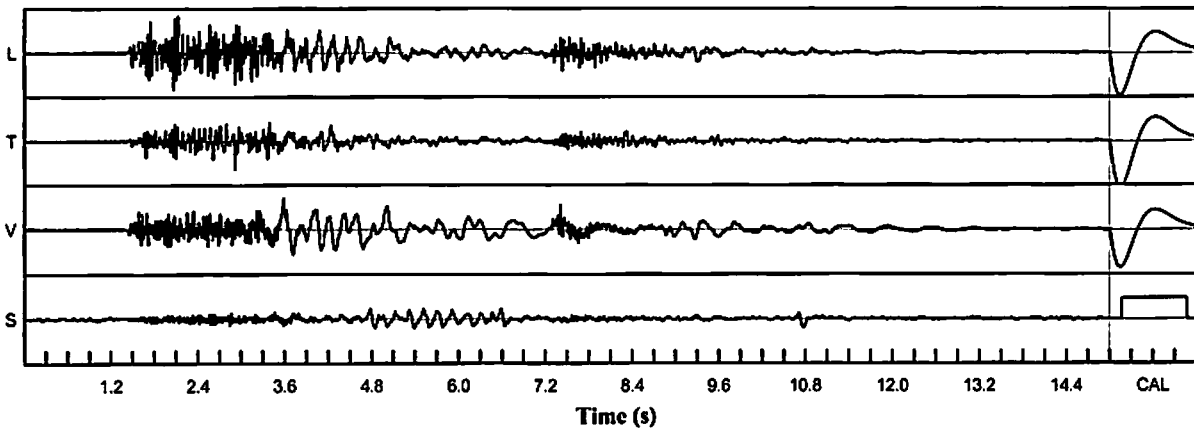
Shaketable Calibrated: 03/21/2017
By: GeoSonics Inc.
 359 Northgate Drive
 Warrendale, PA 15086 U.S.A.
 TEL: 724.934.2900 FAX: 724.934.2999

USBM Safe Blasting Levels



Velocity Waveform

SN: 5150 Event: 14



Velocity Waveform Graph Scale

Time Scale: 0.300 s
Seismic Scale: +/- 0.160 in/s
Sound Scale: +/- 0.0023 PSI