

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

**LOCATION #1: Riviera Isles (NE)**

**LOCATION #2: Riviera Isles (SW)**

**LOCATION #3: Hungtinton South**

DATE	STATION LOCATION	TIME	READING (PPV)*
04/30/2018	LOCATION #1	3:02 PM	0.038
04/30/2018	LOCATION #3	11:45 AM	0.200
05/01/2018	LOCATION #1	1:32 PM	0.170
05/01/2018	LOCATION #2	1:32 PM	0.090
05/01/2018	LOCATION #3	1:31 PM	0.058
05/02/2018	LOCATION #1	2:32 PM	0.060
05/03/2018	LOCATION #1	1:17 PM	0.175
05/03/2018	LOCATION #2	1:17 PM	0.045
05/03/2018	LOCATION #3	1:16 PM	0.055
05/07/2018	LOCATION #1	2:52 PM	0.060
05/08/2018	LOCATION #1	1:33 PM	0.143
05/08/2018	LOCATION #2	1:33 PM	0.095
05/08/2018	LOCATION #3	1:32 PM	0.065
05/09/2018	LOCATION #1	11:42 AM	0.058
05/09/2018	LOCATION #2	11:43 AM	0.043
05/10/2018	LOCATION #1	3:02 PM	0.078
05/10/2018	LOCATION #2	3:02 PM	0.055
05/10/2018	LOCATION #3	3:01 PM	0.095
05/11/2018	LOCATION #1	10:32 AM	0.060
05/11/2018	LOCATION #3	9:38 AM	0.190
05/15/2018	LOCATION #1	2:03 PM	0.090
05/15/2018	LOCATION #2	2:03 PM	0.110
05/15/2018	LOCATION #3	2:02 PM	0.048
05/16/2018	LOCATION #1	10:48 AM	0.058
05/18/2018	LOCATION #1	1:48 PM	0.060

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

**LOCATION #1: Riviera Isles (NE)**

**LOCATION #2: Riviera Isles (SW)**

**LOCATION #3: Hungtinton South**

<b>DATE</b>	<b>STATION LOCATION</b>	<b>TIME</b>	<b>READING (PPV)*</b>
05/21/2018	LOCATION #1	1:33 PM	0.078
05/21/2018	LOCATION #2	1:33 PM	0.035
05/21/2018	LOCATION #3	1:32 PM	0.033
05/22/2018	LOCATION #1	1:17 PM	0.213
05/22/2018	LOCATION #2	1:18 PM	0.060
05/22/2018	LOCATION #3	1:16 PM	0.085
05/23/2018	LOCATION #1	1:19 PM	0.043
05/23/2018	LOCATION #2	1:20 PM	0.033
05/23/2018	LOCATION #3	1:18 PM	0.040
05/24/2018	LOCATION #1	2:33 PM	0.095
05/24/2018	LOCATION #3	2:32 PM	0.068

# Seismic Analysis

## USBM/Velocity Waveform Report

**Serial No:** 5148 v3.67  
**Date:** 04/30/2018 15:01:35  
**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

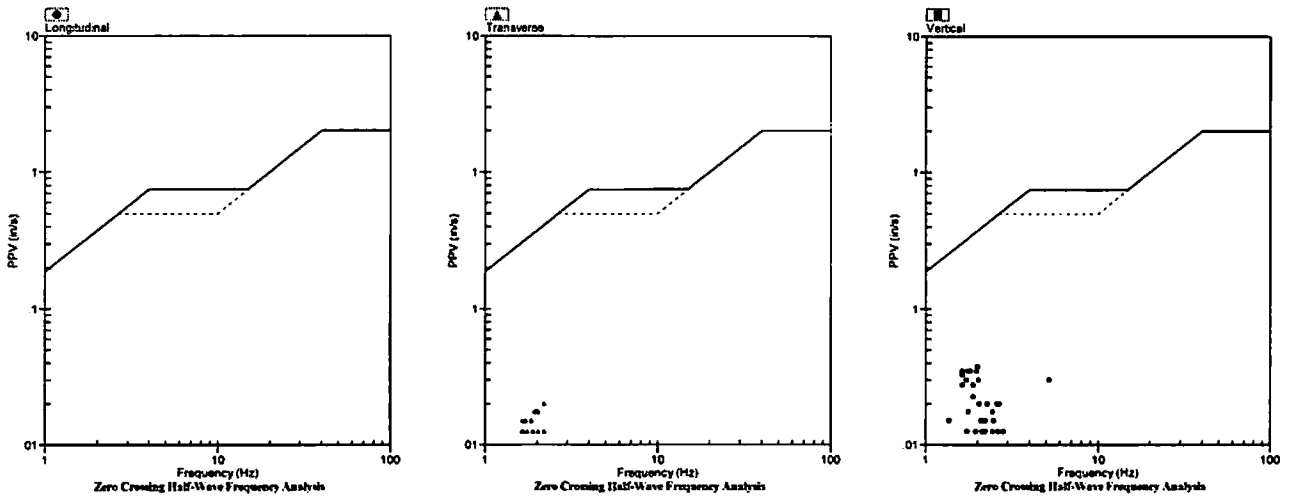
### Summary Data

	L	T	V
<b>PPV (in/s)</b>	0.020	0.020	0.038
<b>FREQ (Hz)</b>	1.7	2.2	2.0
<b>PD (.001")</b>	1.35	1.47	3.30
<b>PPA (g)</b>	0.007	0.007	0.007
<b>Peak Vector Sum:</b>	0.040 in/s		
<b>Peak Air Pressure:</b>	95 db		
	0.00032 PSI @ 2.4 Hz		

### Additional Info:

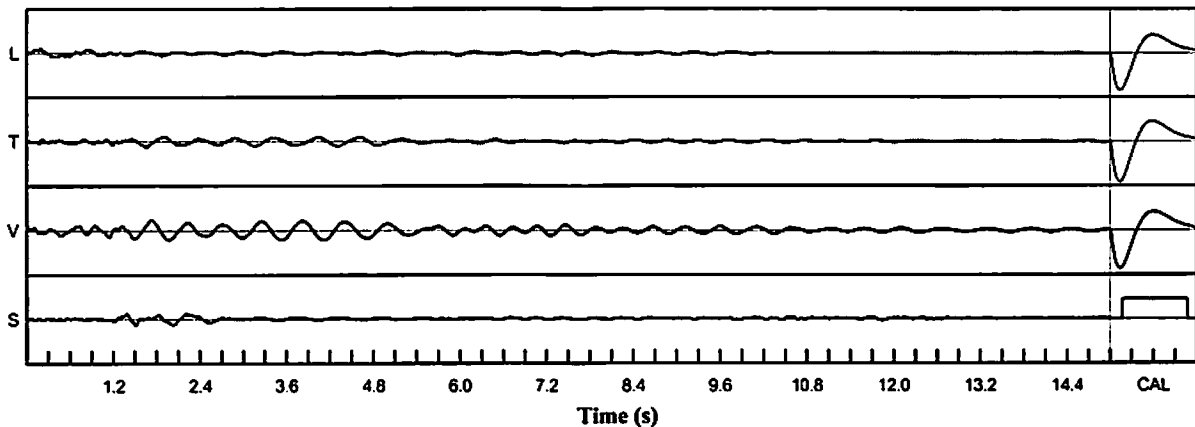
**Shaketable Calibrated:** 04/12/2018  
**By:** GeoSonics Inc.  
 359 Northgate Drive  
 Warrendale, PA 15086 U.S.A.  
 TEL: 724.934.2900 FAX: 724.934.2999

### 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:** 05/01/2018 13:31:30  
**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

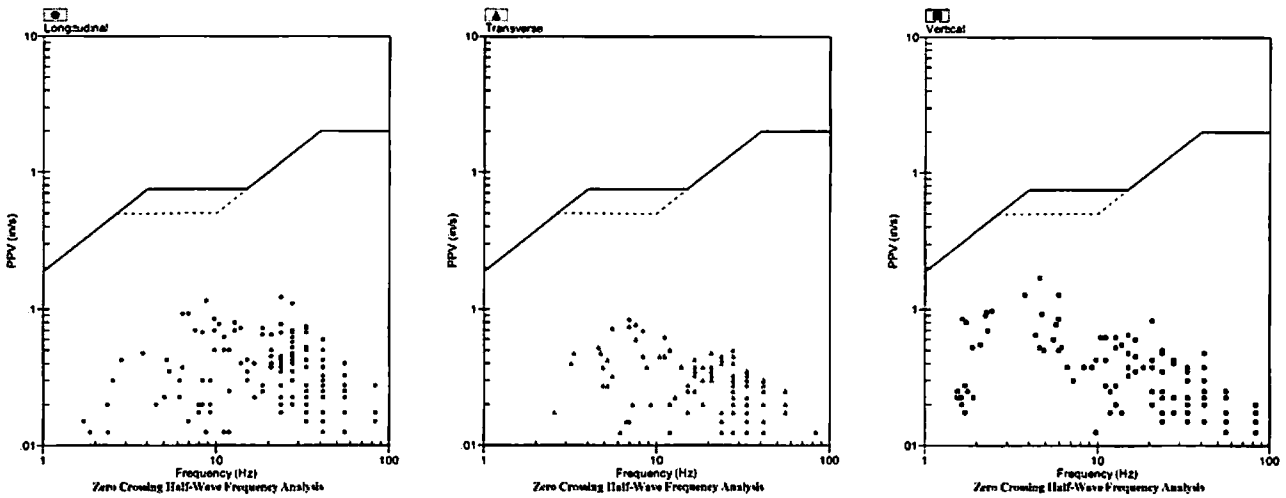
### Summary Data

	L	T	V
PPV (in/s)	0.123	0.085	0.170
FREQ (Hz)	23.8	6.9	4.6
PD (.001")	2.50	2.22	5.63
PPA (g)	0.052	0.026	0.033
Peak Vector Sum:	0.180 in/s		
Peak Air Pressure:	113 db		
	0.00150 PSI @ 6.2 Hz		

### Additional Info:

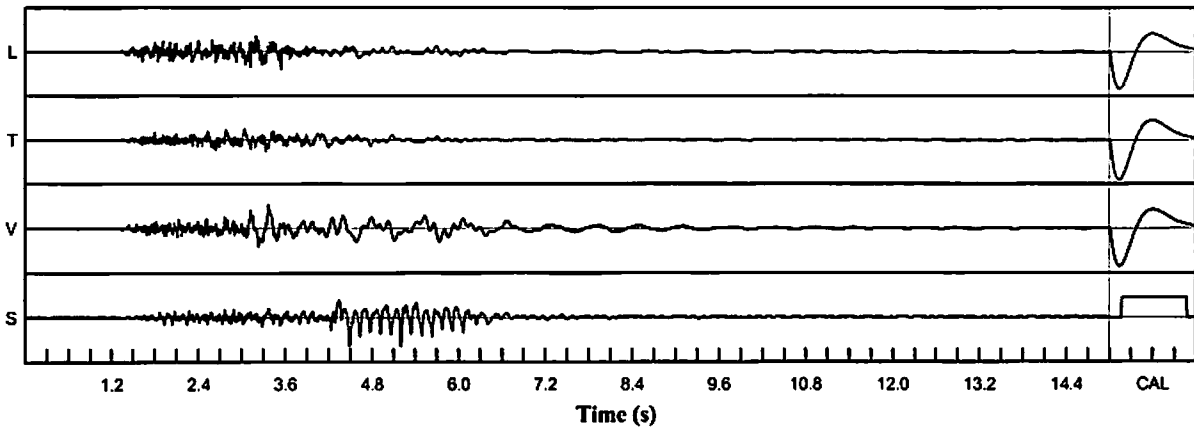
**Shaketable Calibrated:** 04/12/2018  
**By:** GeoSonics Inc.  
 359 Northgate Drive  
 Warrendale, PA 15086 U.S.A.  
 TEL: 724.934.2900 FAX: 724.934.2999

### USBM Safe Blasting Levels



### Velocity Waveform

SN: 5148 Event: 2



### Velocity Waveform Graph Scale

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

# Seismic Analysis

## USBM/Velocity Waveform Report

**Serial No:** 5148 v3.67  
**Date:** 05/02/2018 14:31:48  
**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

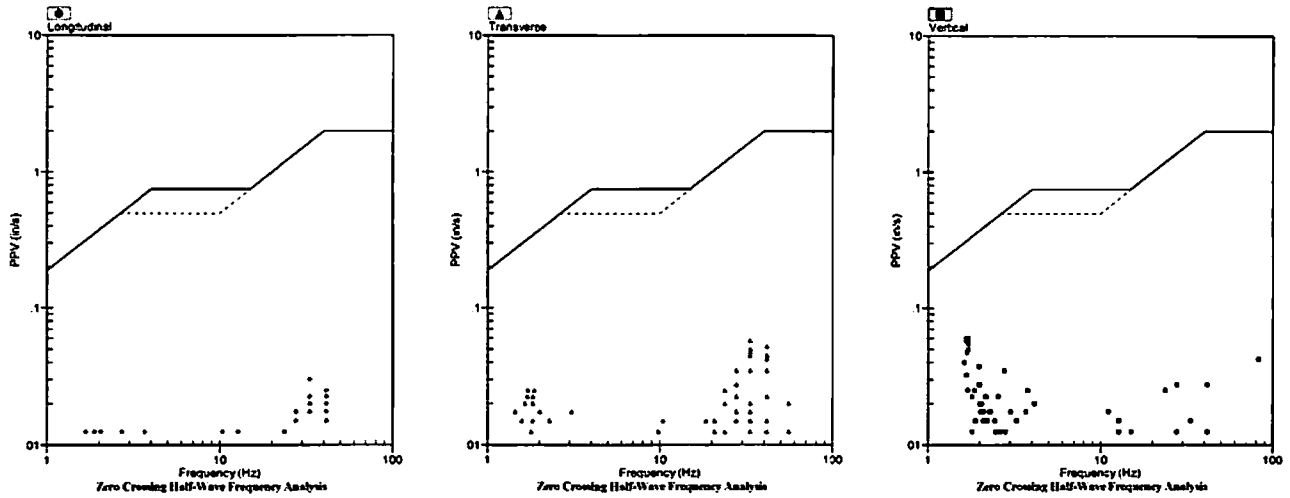
### Summary Data

	L	T	V
PPV (in/s)	0.030	0.058	0.060
FREQ (Hz)	33.3	33.3	1.7
PD (.001")	1.03	2.16	5.51
PPA (g)	0.020	0.039	0.020
Peak Vector Sum:	0.065 in/s		
Peak Air Pressure:	106 db		
	0.00057 PSI @ 2.2 Hz		

### Additional Info:

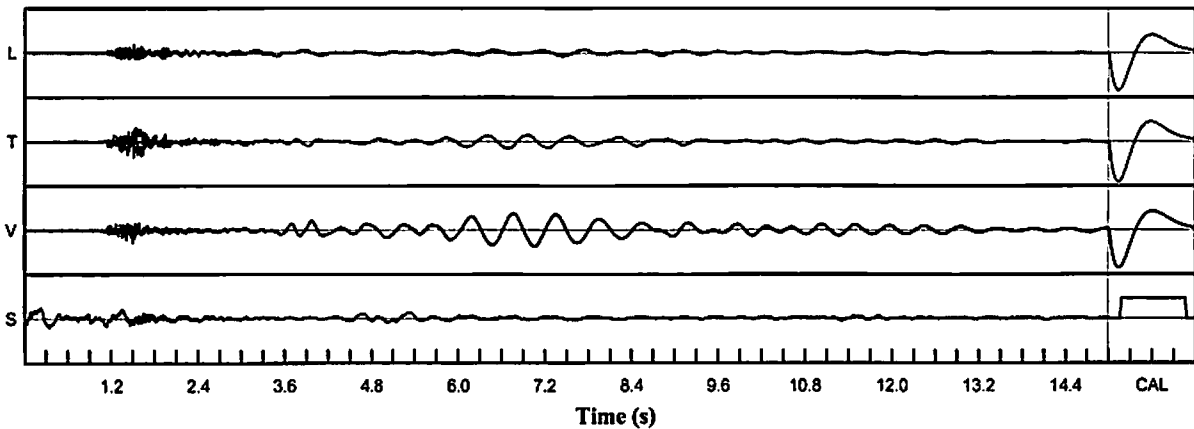
**Shaketable Calibrated:** 04/12/2018  
**By:** GeoSonics Inc.  
 359 Northgate Drive  
 Warrendale, PA 15086 U.S.A.  
 TEL: 724.934.2900 FAX: 724.934.2999

### 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:** 05/03/2018 13:16:34  
**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

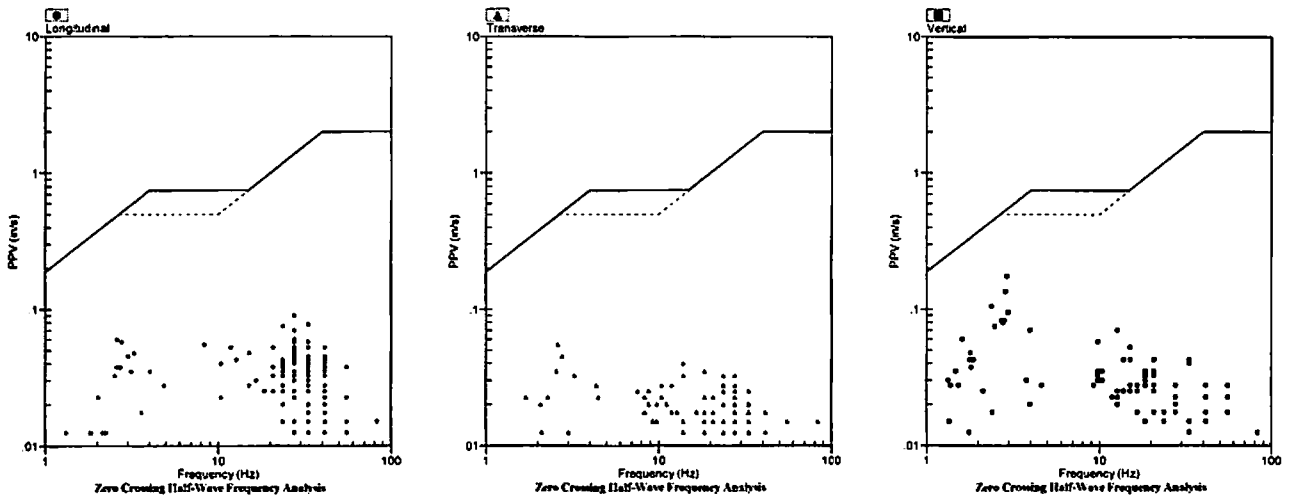
### Summary Data

	L	T	V
<b>PPV (in/s)</b>	0.090	0.055	0.175
<b>FREQ (Hz)</b>	27.8	2.6	2.9
<b>PD (.001")</b>	3.29	2.68	9.65
<b>PPA (g)</b>	0.039	0.020	0.020
<b>Peak Vector Sum:</b>	0.178 in/s		
<b>Peak Air Pressure:</b>	111 db		
	0.00121 PSI @ 6.7 Hz		

### Additional Info:

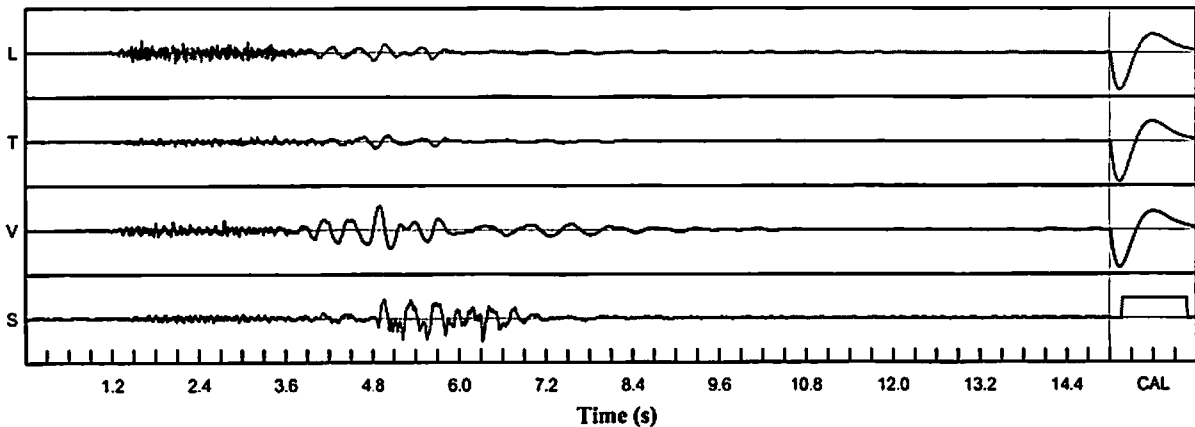
**Shaketable Calibrated:** 04/12/2018  
**By:** GeoSonics Inc.  
 359 Northgate Drive  
 Warrendale, PA 15086 U.S.A.  
 TEL: 724.934.2900 FAX: 724.934.2999

### USBM Safe Blasting Levels



### Velocity Waveform

SN: 5148 Event: 4



### Velocity Waveform Graph Scale

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

# Seismic Analysis

## USBM/Velocity Waveform Report

**Serial No:** 5148 v3.67  
**Date:** 05/07/2018 14:52:08  
**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

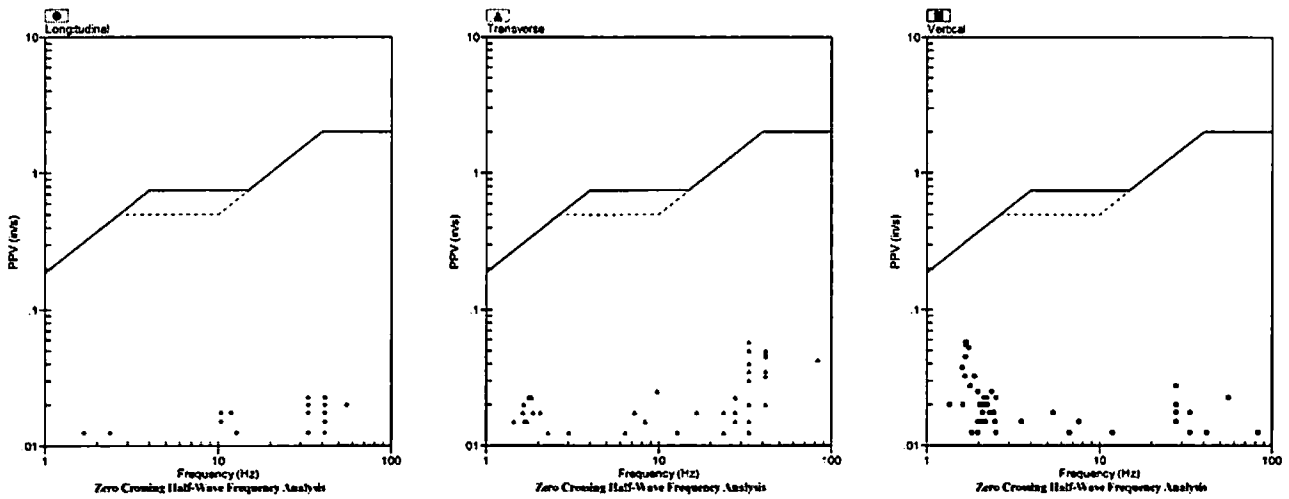
### Summary Data

	L	T	V
PPV (in/s)	0.025	0.060	0.058
FREQ (Hz)	33.3	27.8	1.7
PD (.001")	0.97	2.05	5.28
PPA (g)	0.013	0.033	0.020
Peak Vector Sum:	0.065 in/s		
Peak Air Pressure:	98 db		
	0.00039 PSI @ 1.8 Hz		

### Additional Info:

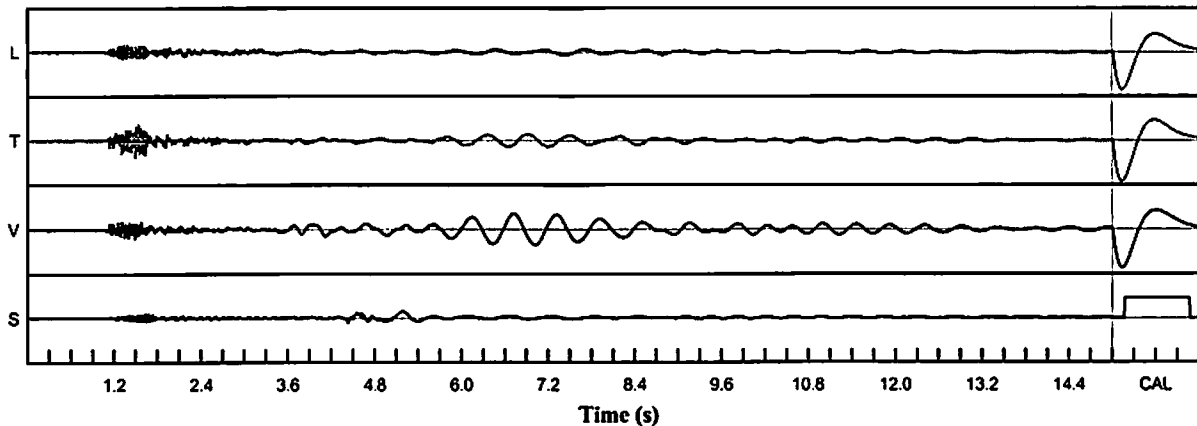
**Shaketable Calibrated:** 04/12/2018  
**By:** GeoSonics Inc.  
 359 Northgate Drive  
 Warrendale, PA 15086 U.S.A.  
 TEL: 724.934.2900 FAX: 724.934.2999

### 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:** 05/08/2018 13:33:01  
**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

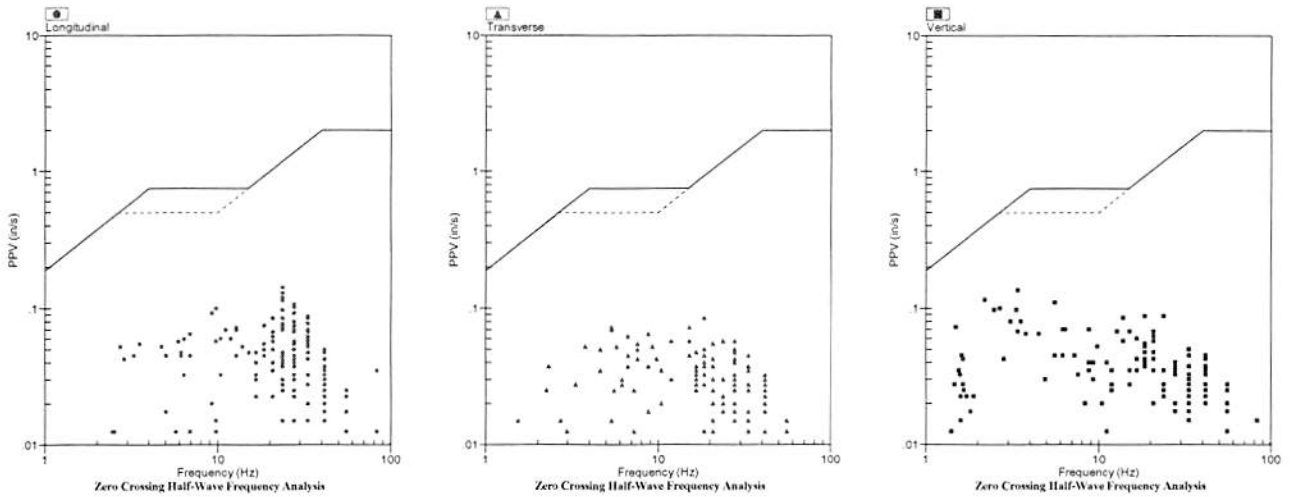
### Summary Data

	L	T	V
PPV (in/s)	0.143	0.085	0.135
FREQ (Hz)	23.8	18.5	3.4
PD (.001")	2.44	2.77	8.19
PPA (g)	0.052	0.039	0.046
Peak Vector Sum:	0.143 in/s		
Peak Air Pressure:	110 db		
	0.00103 PSI @ 6.7 Hz		

### Additional Info:

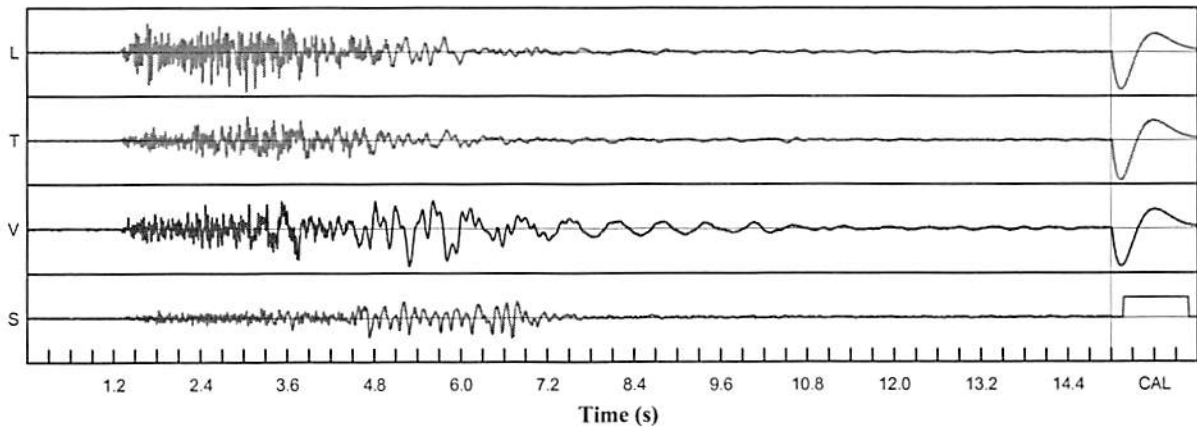
**Shaketable Calibrated:** 04/12/2018  
**By:** GeoSonics Inc.  
 359 Northgate Drive  
 Warrendale, PA 15086 U.S.A.  
 TEL: 724.934.2900 FAX: 724.934.2999

### 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:** 05/09/2018 11:42:12  
**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

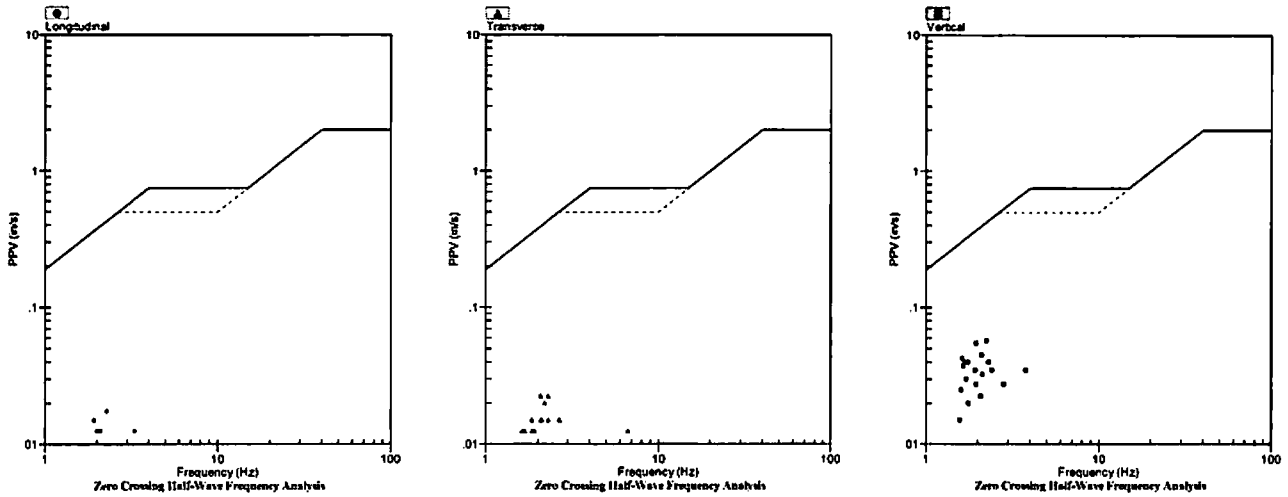
### Summary Data

	L	T	V
PPV (in/s)	0.018	0.023	0.058
FREQ (Hz)	2.3	2.3	2.3
PD (.001")	1.12	1.40	4.17
PPA (g)	0.007	0.007	0.007
Peak Vector Sum:	0.060 in/s		
Peak Air Pressure:	101 db		
	0.00046 PSI @ 2.6 Hz		

### Additional Info:

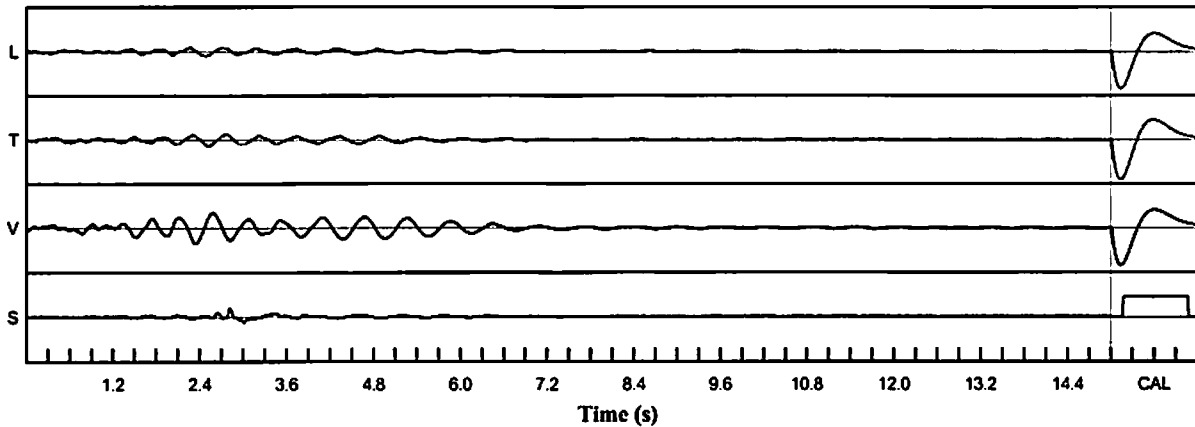
**Shaketable Calibrated:** 04/12/2018  
**By:** GeoSonics Inc.  
 359 Northgate Drive  
 Warrendale, PA 15086 U.S.A.  
 TEL: 724.934.2900 FAX: 724.934.2999

### 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:** 05/10/2018 15:01:58  
**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

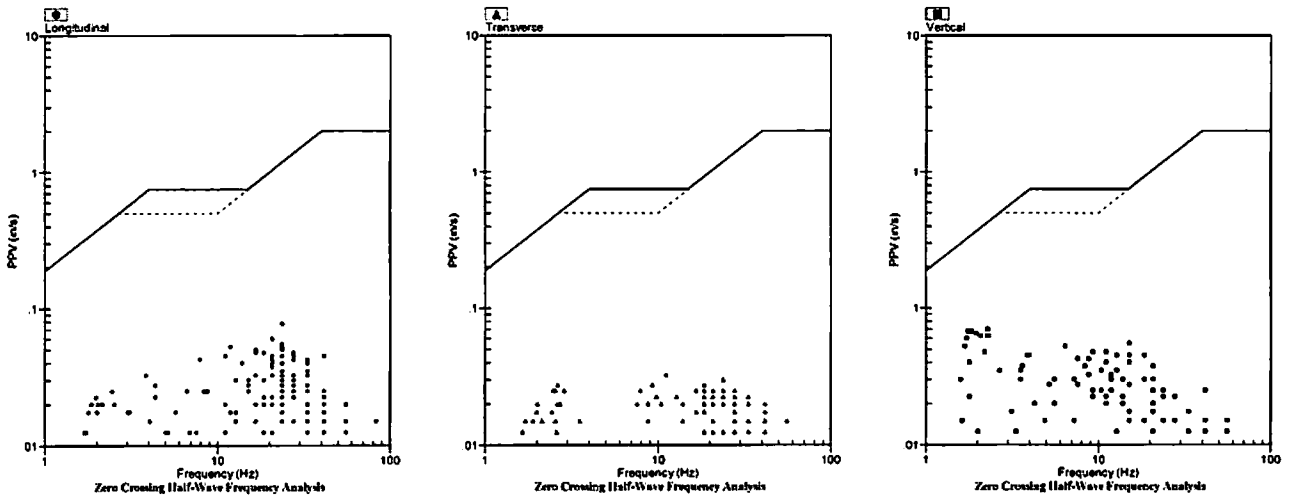
### Summary Data

	L	T	V
<b>PPV (in/s)</b>	0.078	0.033	0.070
<b>FREQ (Hz)</b>	23.8	11.1	2.3
<b>PD (.001")</b>	1.62	1.42	5.90
<b>PPA (g)</b>	0.039	0.013	0.020
<b>Peak Vector Sum:</b>	0.083 in/s		
<b>Peak Air Pressure:</b>	107 db		
	0.00071 PSI @ 7.9 Hz		

### Additional Info:

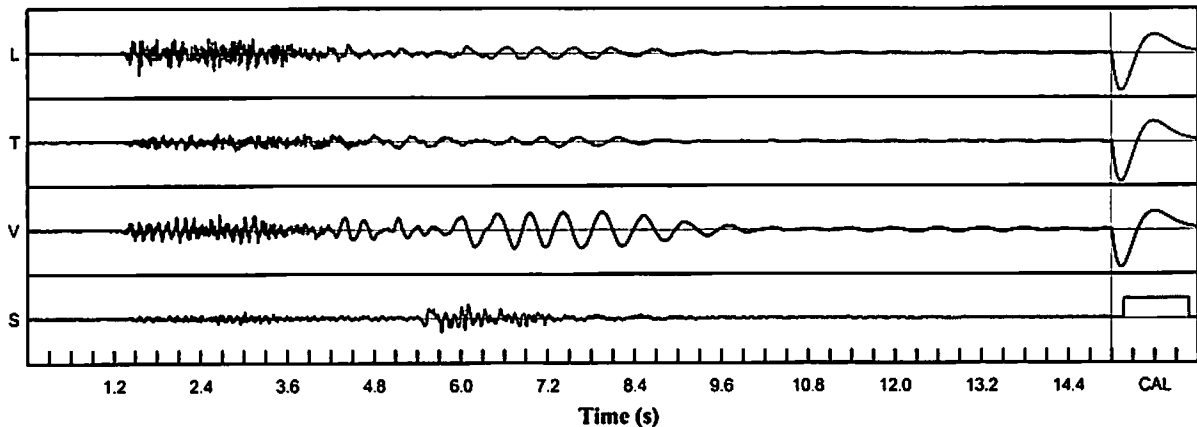
**Shaketable Calibrated:** 04/12/2018  
**By:** GeoSonics Inc.  
 359 Northgate Drive  
 Warrendale, PA 15086 U.S.A.  
 TEL: 724.934.2900 FAX: 724.934.2999

### 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:** +/- 0.0023 PSI

# Seismic Analysis

## USBM/Velocity Waveform Report

**Serial No:** 5148 v3.67  
**Date:** 05/11/2018 10:32:15  
**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

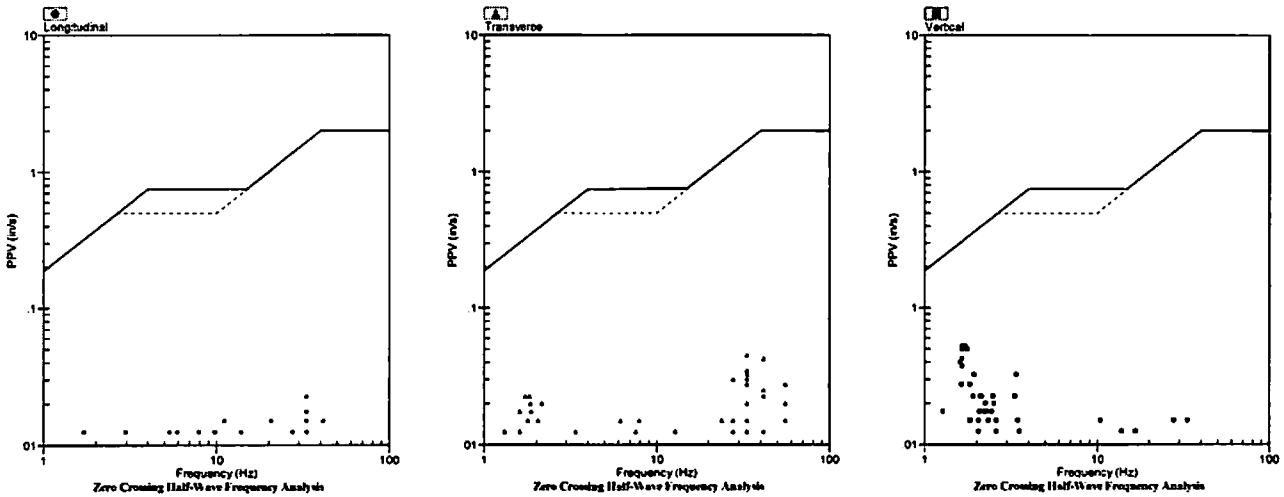
### Summary Data

	L	T	V
PPV (in/s)	0.030	0.060	0.053
FREQ (Hz)	33.3	27.8	1.7
PD (.001")	0.98	1.94	4.93
PPA (g)	0.020	0.026	0.013
Peak Vector Sum:	0.065 in/s		
Peak Air Pressure:	95 db		
	0.00032 PSI @ 1.2 Hz		

### Additional Info:

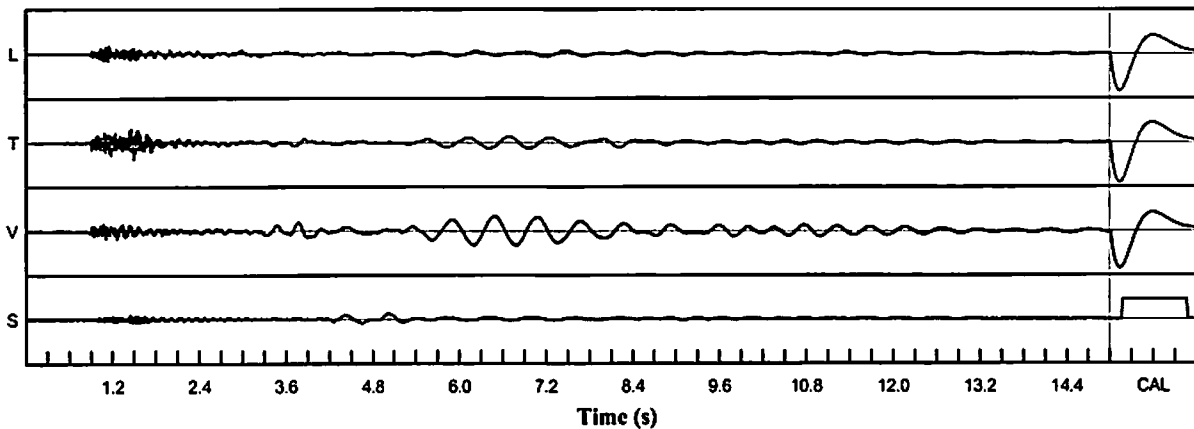
**Shaketable Calibrated:** 04/12/2018  
**By:** GeoSonics Inc.  
 359 Northgate Drive  
 Warrendale, PA 15086 U.S.A.  
 TEL: 724.934.2900 FAX: 724.934.2999

### 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:** 05/15/2018 14:02:40  
**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

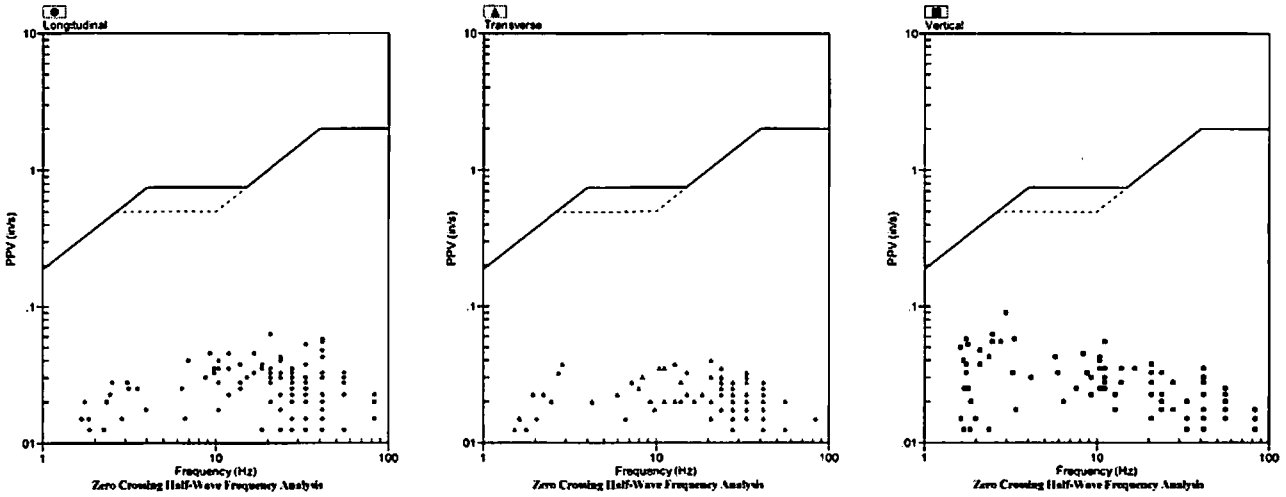
### Summary Data

	L	T	V
PPV (in/s)	0.063	0.040	0.090
FREQ (Hz)	20.8	20.8	3.0
PD (.001")	1.40	1.68	4.54
PPA (g)	0.039	0.026	0.026
Peak Vector Sum:	0.093 in/s		
Peak Air Pressure:	110 db		
	0.00107 PSI @ 5.6 Hz		

### Additional Info:

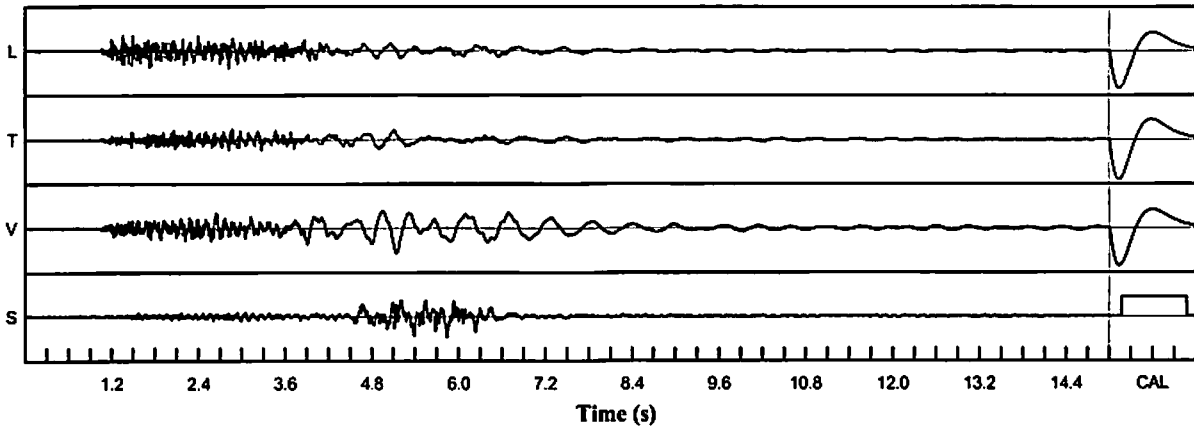
**Shaketable Calibrated:** 04/12/2018  
**By:** GeoSonics Inc.  
 359 Northgate Drive  
 Warrendale, PA 15086 U.S.A.  
 TEL: 724.934.2900 FAX: 724.934.2999

### 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:** 05/16/2018 10:47:51  
**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

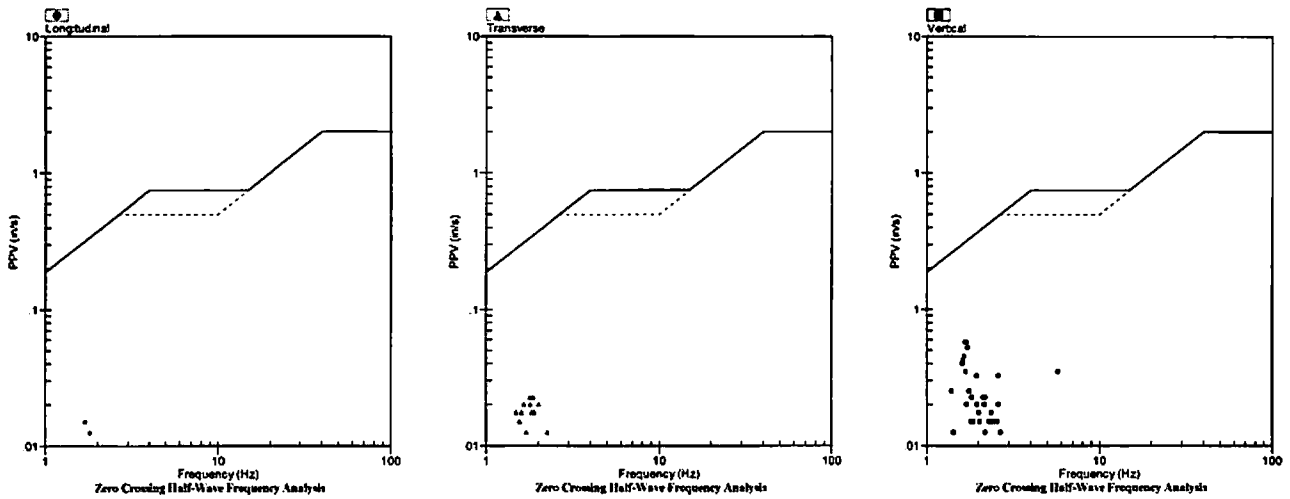
### Summary Data

	L	T	V
<b>PPV (in/s)</b>	0.015	0.023	0.058
<b>FREQ (Hz)</b>	7.2	1.9	1.7
<b>PD (.001")</b>	1.11	2.03	5.34
<b>PPA (g)</b>	0.007	0.007	0.007
<b>Peak Vector Sum:</b>	0.060 in/s		
<b>Peak Air Pressure:</b>	98 db		
	0.00039 PSI @ 12.8 Hz		

### Additional Info:

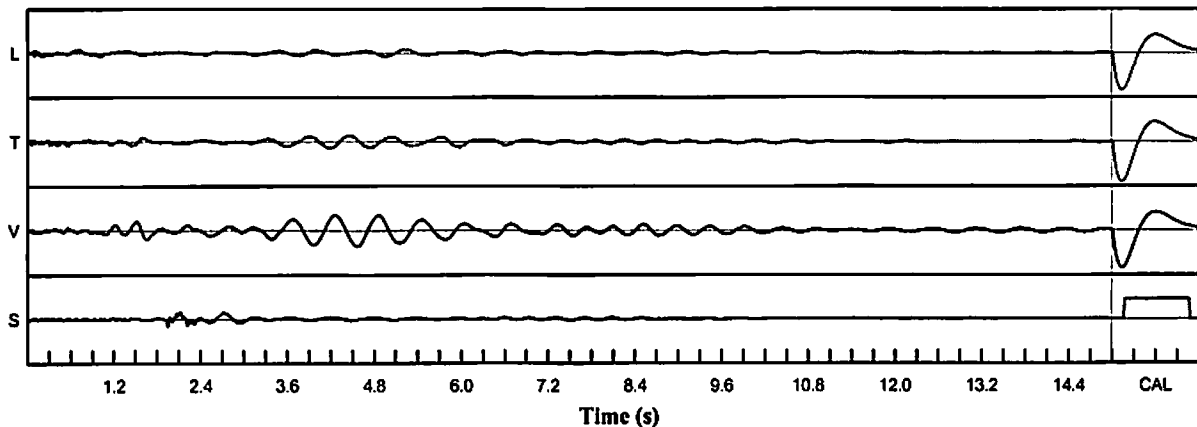
**Shaketable Calibrated:** 04/12/2018  
**By:** GeoSonics Inc.  
 359 Northgate Drive  
 Warrendale, PA 15086 U.S.A.  
 TEL: 724.934.2900 FAX: 724.934.2999

### 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:** 05/18/2018 13:48:09  
**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

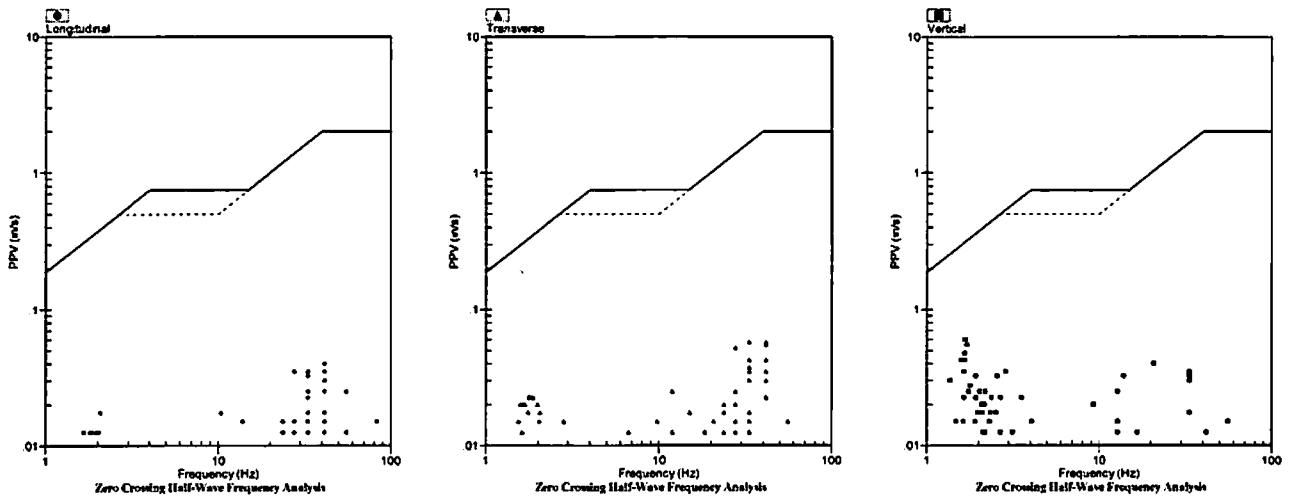
### Summary Data

	L	T	V
PPV (in/s)	0.040	0.058	0.060
FREQ (Hz)	41.7	33.3	1.7
PD (.001")	1.12	2.07	5.57
PPA (g)	0.020	0.033	0.020
Peak Vector Sum:	0.070 in/s		
Peak Air Pressure:	99 db		
	0.00043 PSI @ 3.2 Hz		

### Additional Info:

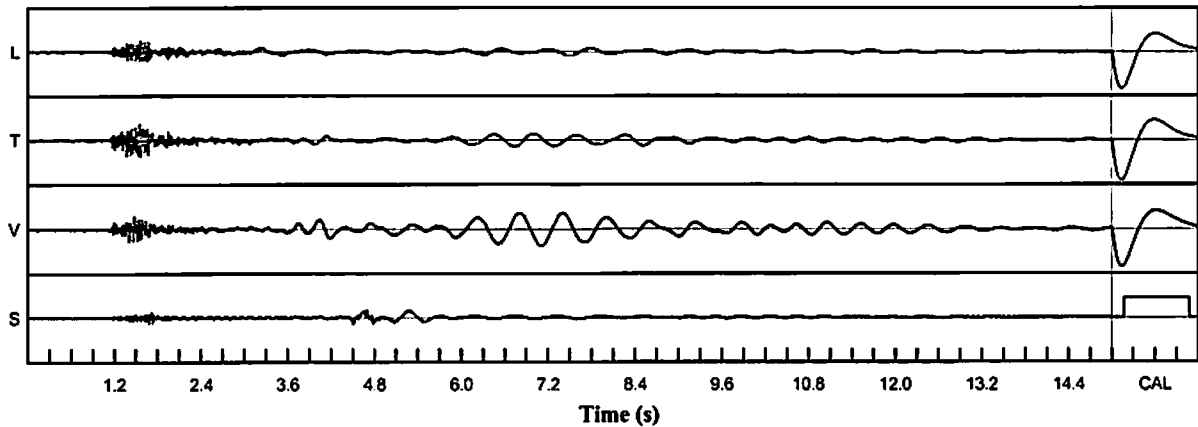
**Shaketable Calibrated:** 04/12/2018  
**By:** GeoSonics Inc.  
 359 Northgate Drive  
 Warrendale, PA 15086 U.S.A.  
 TEL: 724.934.2900 FAX: 724.934.2999

### 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:** +/- 0.0023 PSI

# Seismic Analysis

## USBM/Velocity Waveform Report

**Serial No:** 5148 v3.67  
**Date:** 05/21/2018 13:32:46  
**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

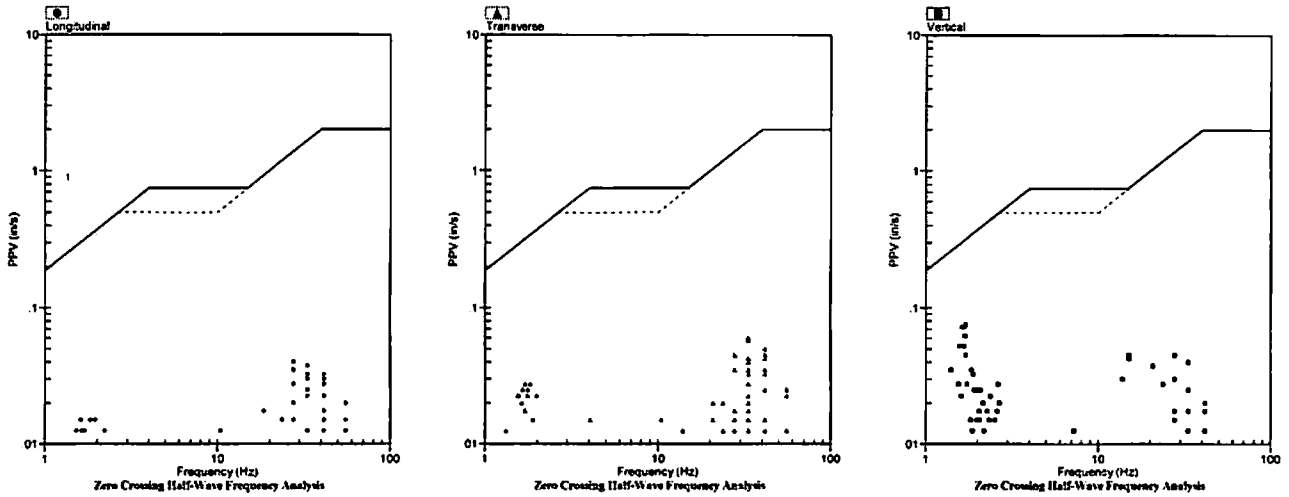
### Summary Data

	L	T	V
<b>PPV (in/s)</b>	0.040	0.060	0.075
<b>FREQ (Hz)</b>	27.8	33.3	1.7
<b>PD (.001")</b>	1.30	2.47	6.96
<b>PPA (g)</b>	0.026	0.033	0.026
<b>Peak Vector Sum:</b>	0.078 in/s		
<b>Peak Air Pressure:</b>	93 db		
	0.00028 PSI @ 1.6 Hz		

### Additional Info:

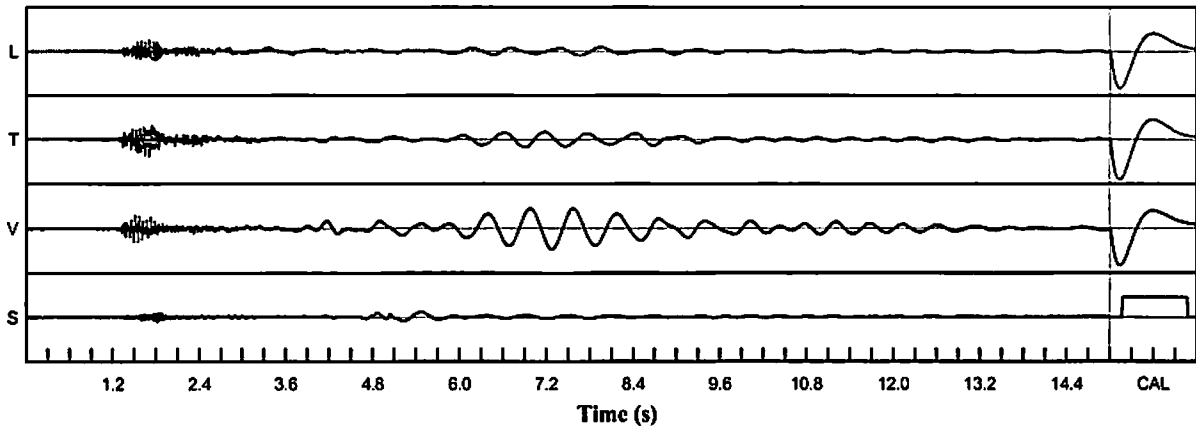
**Shaketable Calibrated:** 04/12/2018  
**By:** GeoSonics Inc.  
 359 Northgate Drive  
 Warrendale, PA 15086 U.S.A.  
 TEL: 724.934.2900 FAX: 724.934.2999

### 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:** 05/22/2018 13:17:05  
**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

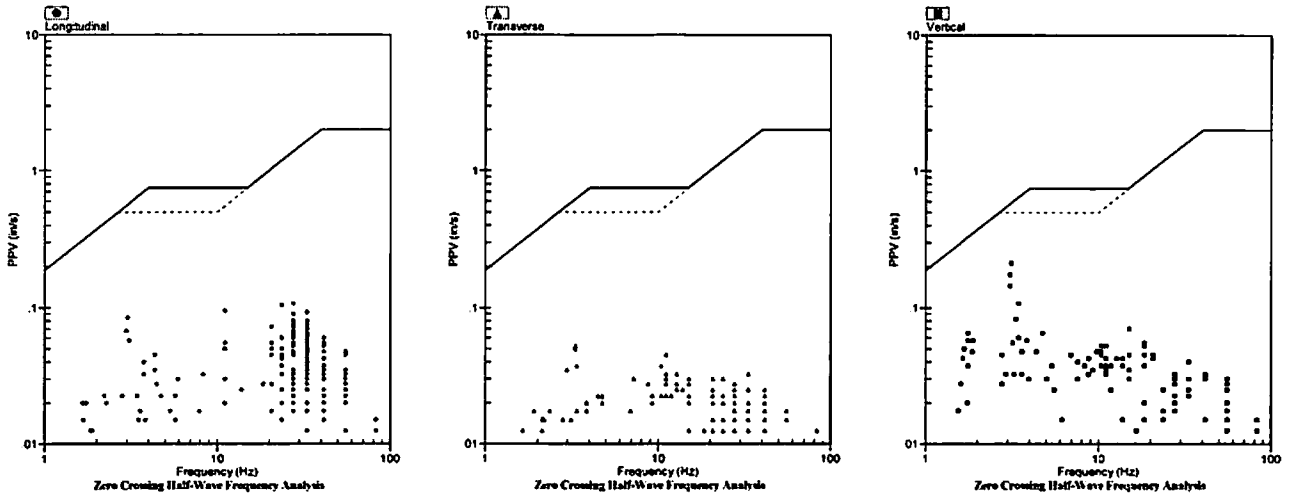
### Summary Data

	L	T	V
PPV (in/s)	0.108	0.053	0.213
FREQ (Hz)	27.8	3.3	3.1
PD (.001")	4.03	2.37	10.60
PPA (g)	0.052	0.020	0.033
Peak Vector Sum:	0.218 in/s		
Peak Air Pressure:	114 db		
	0.00153 PSI @ 6.0 Hz		

### Additional Info:

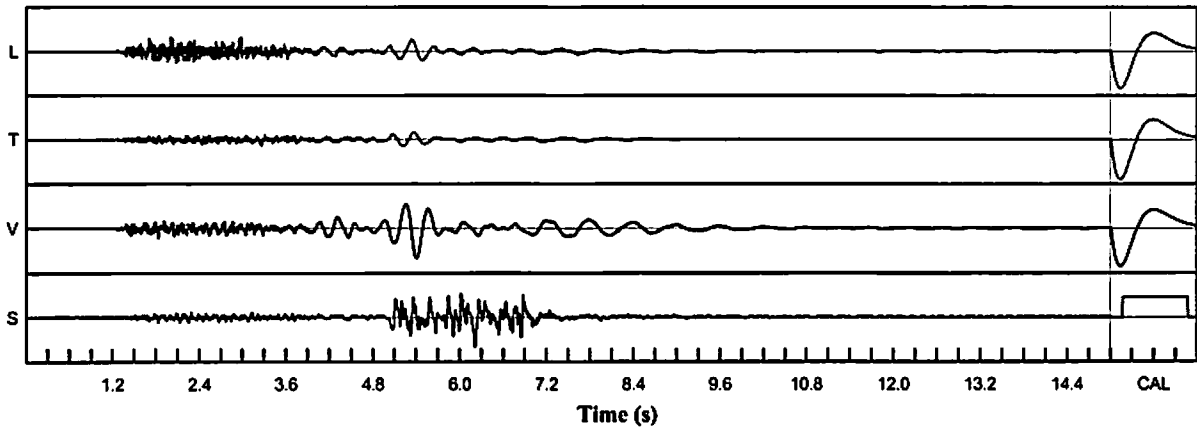
**Shaketable Calibrated:** 04/12/2018  
**By:** GeoSonics Inc.  
 359 Northgate Drive  
 Warrendale, PA 15086 U.S.A.  
 TEL: 724.934.2900 FAX: 724.934.2999

### USBM Safe Blasting Levels



### Velocity Waveform

SN: 5148 Event: 14



### Velocity Waveform Graph Scale

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



# Seismic Analysis

## USBM/Velocity Waveform Report

**Serial No:** 5148 v3.67  
**Date:** 05/23/2018 13:19:21  
**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

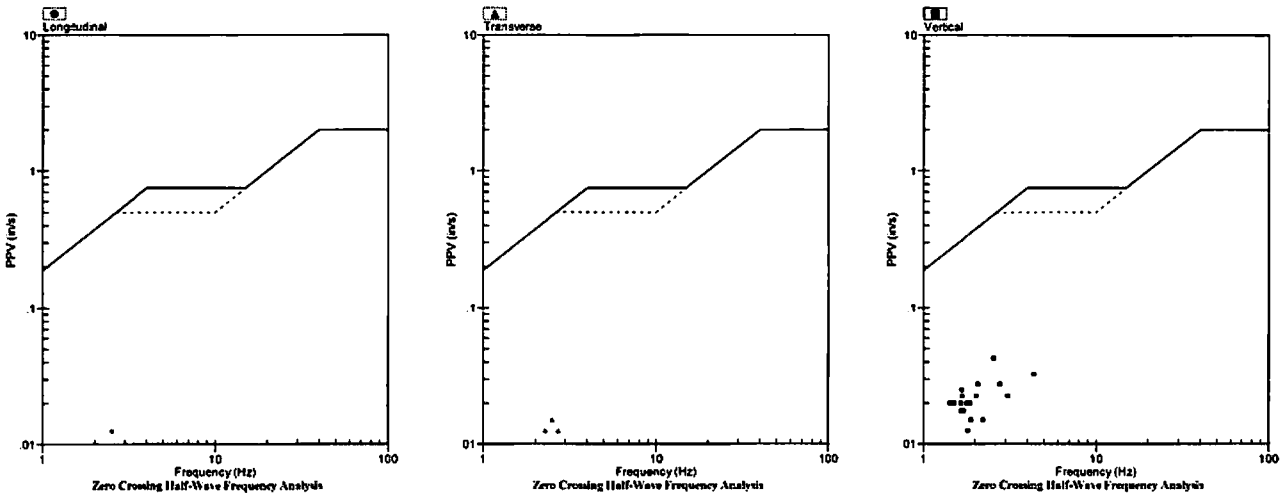
### Summary Data

	L	T	V
<b>PPV (in/s)</b>	0.013	0.015	0.043
<b>FREQ (Hz)</b>	2.5	2.4	2.6
<b>PD (.001")</b>	0.71	0.85	2.69
<b>PPA (g)</b>	0.007	0.007	0.007
<b>Peak Vector Sum:</b>	0.043 in/s		
<b>Peak Air Pressure:</b>	95 db		
	0.00032 PSI @ 6.4 Hz		

### Additional Info:

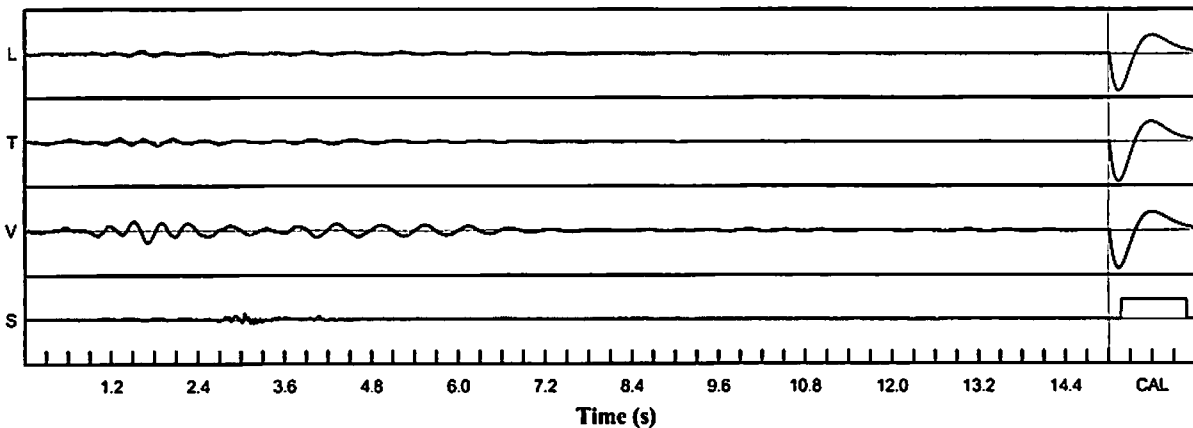
**Shaketable Calibrated:** 04/12/2018  
**By:** GeoSonics Inc.  
 359 Northgate Drive  
 Warrendale, PA 15086 U.S.A.  
 TEL: 724.934.2900 FAX: 724.934.2999

### USBM Safe Blasting Levels



### Velocity Waveform

SN: 5148 Event: 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

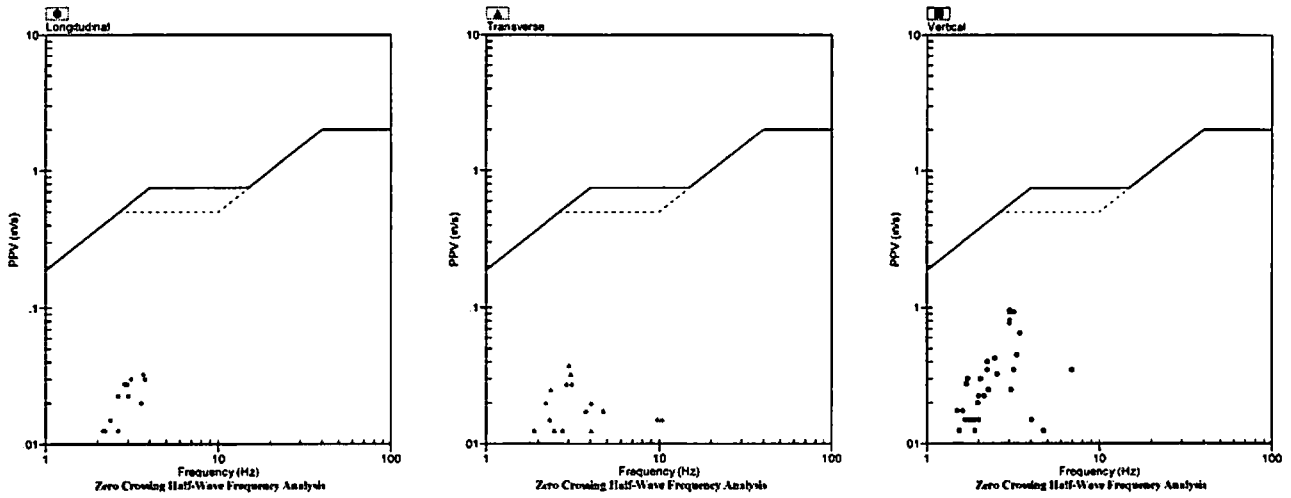
**Serial No:** 5148 v3.67  
**Date:** 05/24/2018 14:33:02  
**Event No:** 16  
**Record Time:** 15.0 s  
**Client:** City of Miramar  
**Operation:** White Rock Quarries  
**Location:** 17040 SW 53 Ct  
**Distance:**  
**Operator:** Pedro V.  
**Comment:** In Ground  
**Seismic Trigger:** 0.030 in/s

	L	T	V
<b>PPV (in/s)</b>	0.033	0.038	0.095
<b>FREQ (Hz)</b>	3.7	3.0	3.0
<b>PD (.001")</b>	1.44	1.80	4.85
<b>PPA (g)</b>	0.013	0.007	0.013
<b>Peak Vector Sum:</b>	0.098 in/s		
<b>Peak Air Pressure:</b>	104 db		
	0.00053 PSI @ 4.6 Hz		

**Additional Info:**

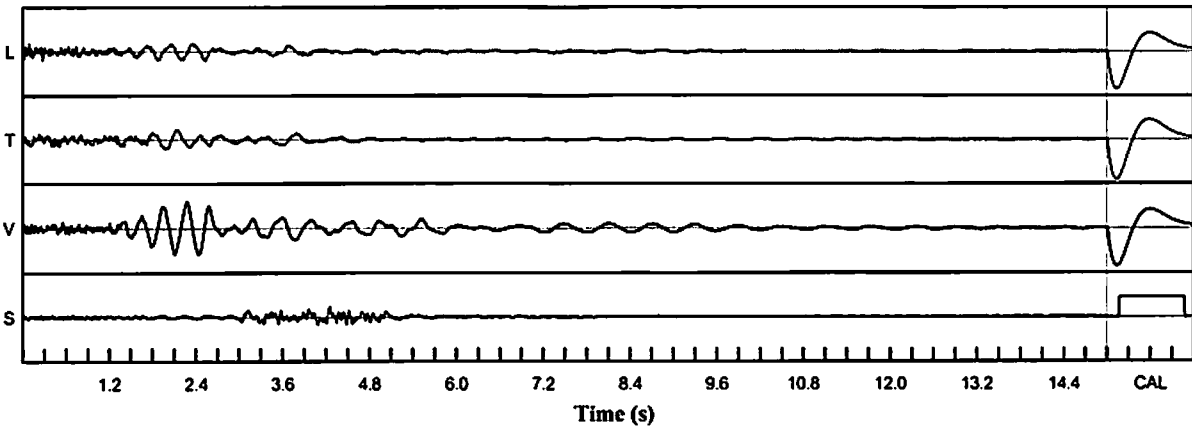
**Shaketable Calibrated:** 04/12/2018  
**By:** GeoSonics Inc.  
 359 Northgate Drive  
 Warrendale, PA 15086 U.S.A.  
 TEL: 724.934.2900 FAX: 724.934.2999

### USBM Safe Blasting Levels



### Velocity Waveform

SN: 5148 Event: 16



**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:** 05/01/2018 13:31:34  
**Event No:** 1  
**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

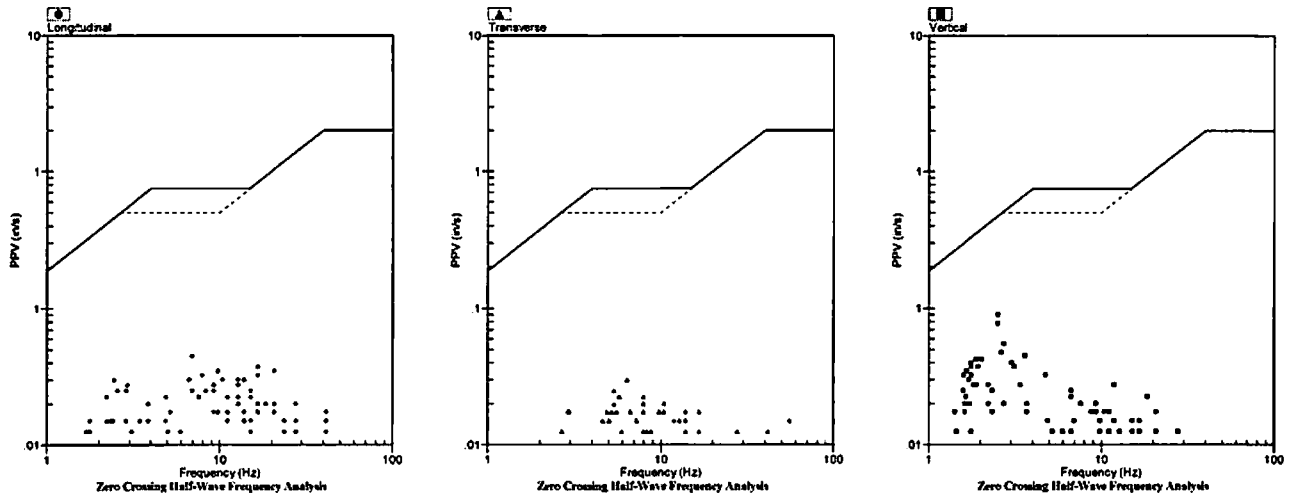
### Summary Data

	L	T	V
PPV (in/s)	0.045	0.030	0.090
FREQ (Hz)	6.9	6.4	2.5
PD (.001")	1.83	1.13	4.75
PPA (g)	0.020	0.013	0.007
Peak Vector Sum:	0.090 in/s		
Peak Air Pressure:	101 db		
	0.00036 PSI @ 3.5 Hz		

### Additional Info:

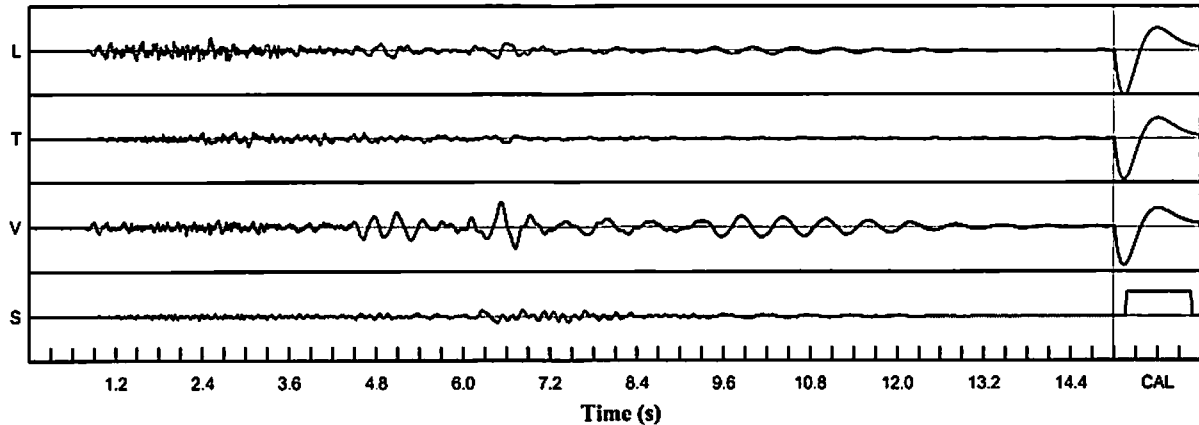
**Shaketable Calibrated:** 04/12/2018  
**By:** GeoSonics Inc.  
 359 Northgate Drive  
 Warrendale, PA 15086 U.S.A.  
 TEL: 724.934.2900 FAX: 724.934.2999

### USBM Safe Blasting Levels



### Velocity Waveform

SN: 5149 Event: 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:** 5149 v3.67  
**Date:** 05/03/2018 13:16:39  
**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

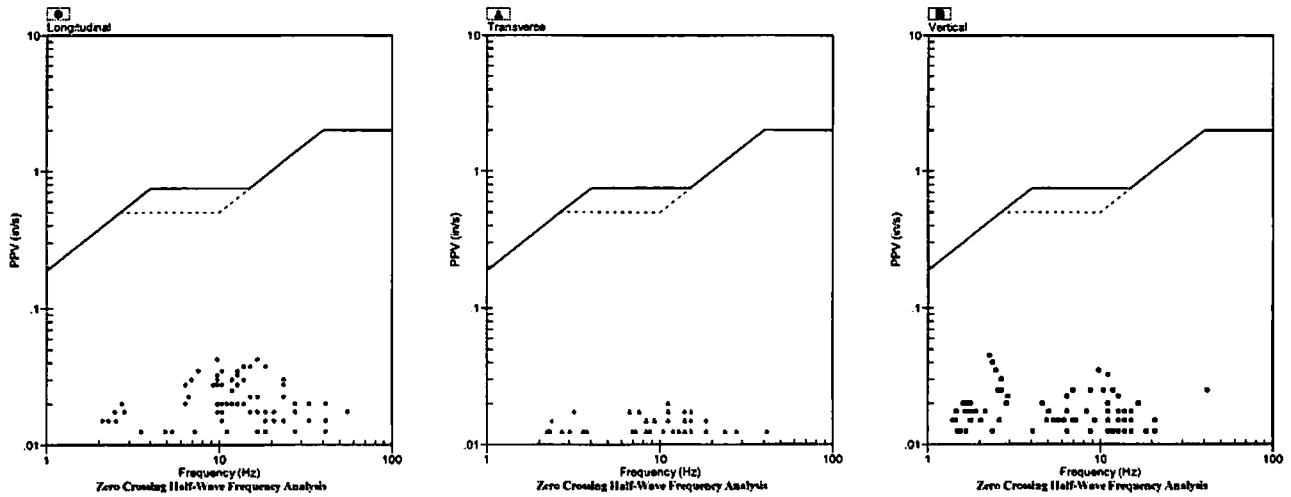
### Summary Data

	L	T	V
PPV (in/s)	0.043	0.020	0.045
FREQ (Hz)	16.7	11.1	2.3
PD (.001")	1.30	1.03	2.88
PPA (g)	0.020	0.007	0.007
Peak Vector Sum:	0.050 in/s		
Penk Air Pressure:	104 db		
	0.00055 PSI @ 2.1 Hz		

### Additional Info:

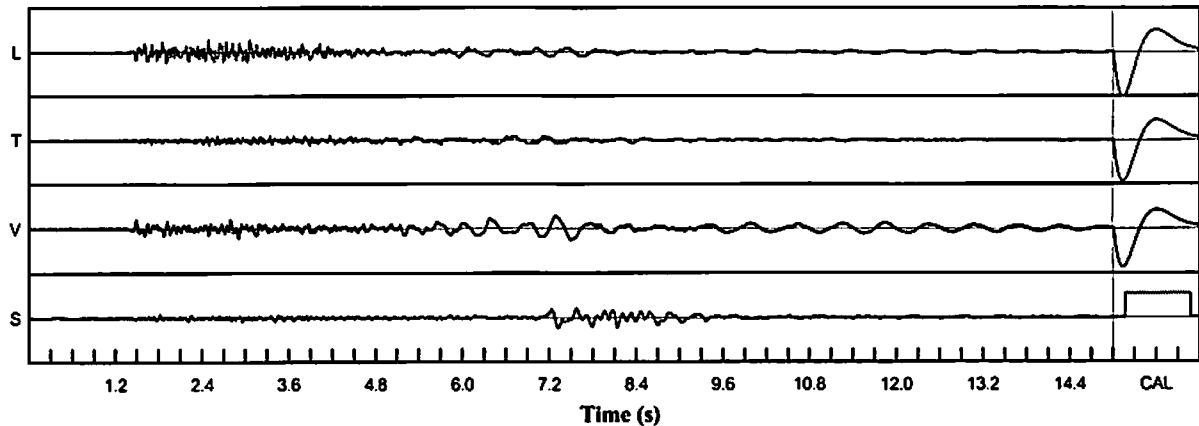
**Shaketable Calibrated:** 04/12/2018  
**By:** GeoSonics Inc.  
 359 Northgate Drive  
 Warrendale, PA 15086 U.S.A.  
 TEL: 724.934.2900 FAX: 724.934.2999

### 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:** 05/08/2018 13:33:11  
**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

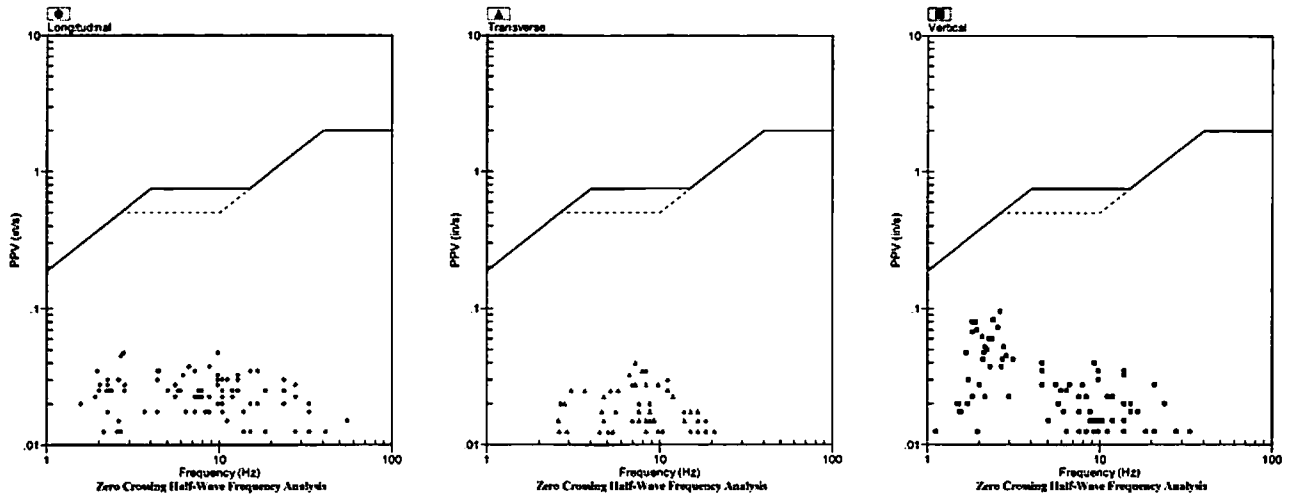
### Summary Data

	L	T	V
PPV (in/s)	0.048	0.040	0.095
FREQ (Hz)	9.8	7.2	2.6
PD (.001")	2.35	1.27	6.70
PPA (g)	0.013	0.007	0.013
Peak Vector Sum:	0.098 in/s		
Peak Air Pressure:	106 db		
	0.00062 PSI @ 2.9 Hz		

### Additional Info:

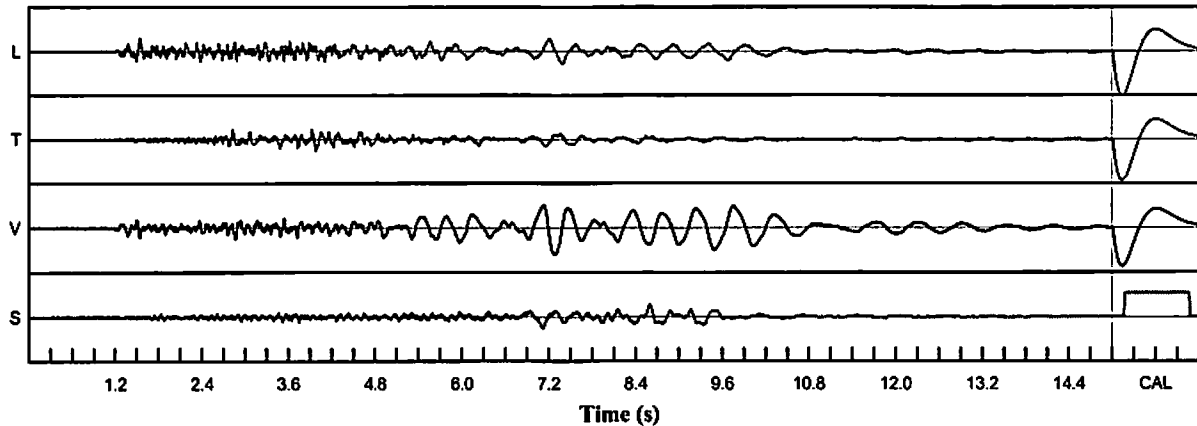
**Shaketable Calibrated:** 04/12/2018  
**By:** GeoSonics Inc.  
 359 Northgate Drive  
 Warrendale, PA 15086 U.S.A.  
 TEL: 724.934.2900 FAX: 724.934.2999

### USBM Safe Blasting Levels



### Velocity Waveform

SN: 5149 Event: 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:** 05/09/2018 11:42:31  
**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

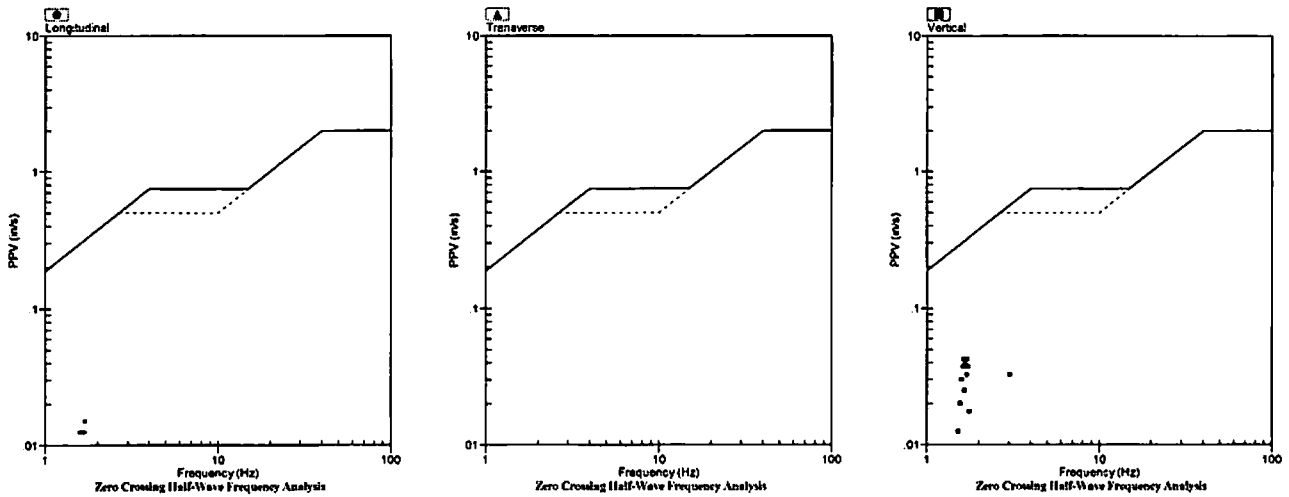
### Summary Data

	L	T	V
<b>PPV (in/s)</b>	0.015	0.008	0.043
<b>FREQ (Hz)</b>	1.7	2.8	1.7
<b>PD (.001")</b>	1.13	0.45	4.11
<b>PPA (g)</b>	0.007	0.007	0.007
<b>Peak Vector Sum:</b>	0.043 in/s		
<b>Peak Air Pressure:</b>	84 db		
	0.00011 PSI @ 1.0 Hz		

### Additional Info:

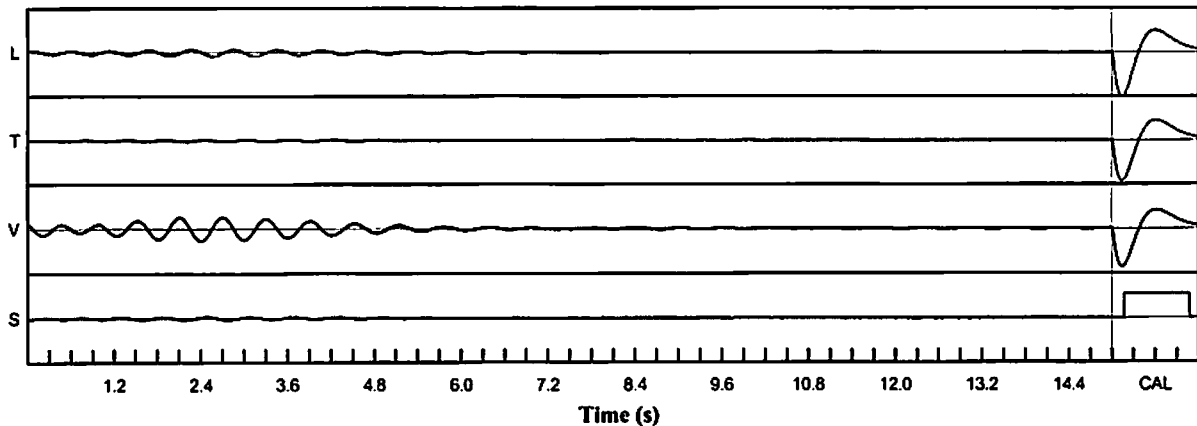
**Shaketable Calibrated:** 04/12/2018  
**By:** GeoSonics Inc.  
 359 Northgate Drive  
 Warrendale, PA 15086 U.S.A.  
 TEL: 724.934.2900 FAX: 724.934.2999

### USBM Safe Blasting Levels



### Velocity Waveform

SN: 5149 Event: 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

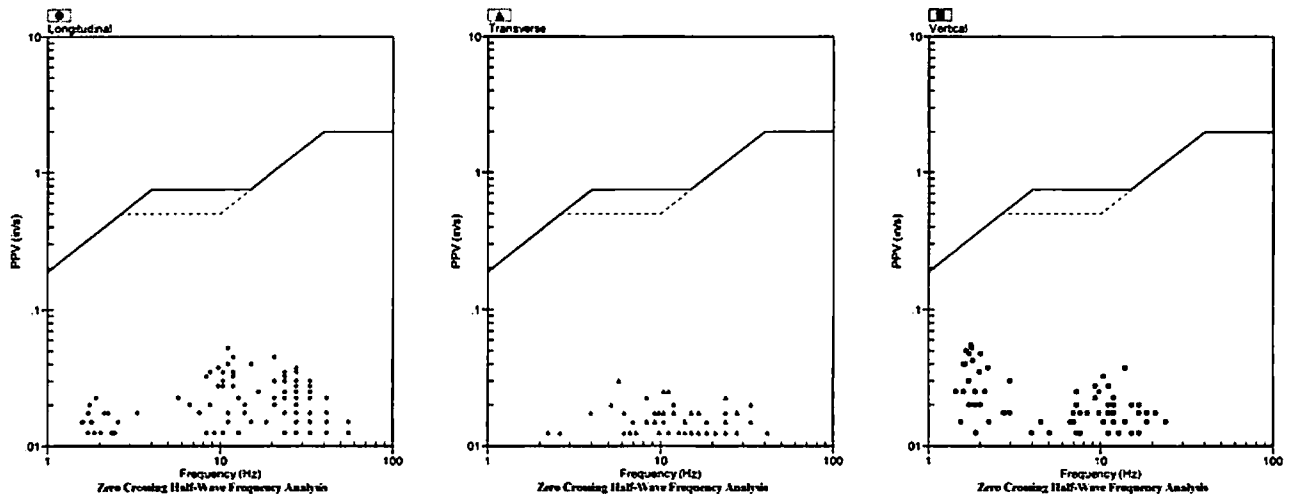
**Serial No:** 5149 v3.67  
**Date:** 05/10/2018 15:02:11  
**Event No:** 5  
**Record Time:** 15.0 s  
**Client:** City of Miramar  
**Operation:** White Rock Quarries  
**Location:** 16171 SW 49 Ct  
**Distance:**  
**Operator:** Pedro V.  
**Comment:** In Ground  
**Seismic Trigger:** 0.030 in/s

	L	T	V
<b>PPV (in/s)</b>	0.053	0.030	0.055
<b>FREQ (Hz)</b>	11.1	5.7	1.8
<b>PD (.001")</b>	1.47	0.89	4.81
<b>PPA (g)</b>	0.020	0.013	0.007
<b>Peak Vector Sum:</b>	0.055 in/s		
<b>Peak Air Pressure:</b>	103 db		
	0.00046 PSI @ 6.4 Hz		

**Additional Info:**

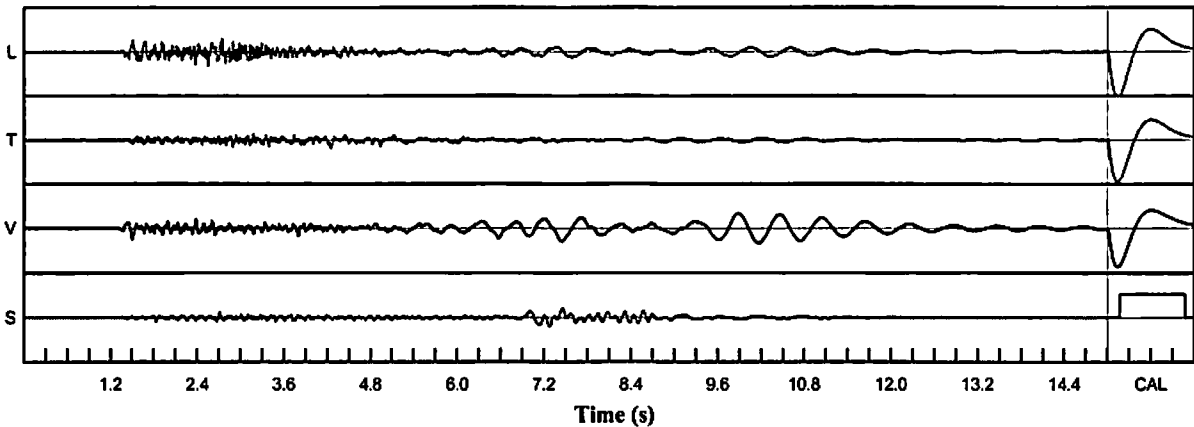
**Shaketable Calibrated:** 04/12/2018  
**By:** GeoSonics Inc.  
 359 Northgate Drive  
 Warrendale, PA 15086 U.S.A.  
 TEL: 724.934.2900 FAX: 724.934.2999

### USBM Safe Blasting Levels



### Velocity Waveform

SN: 5149 Event: 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:** 05/15/2018 14:02:57  
**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

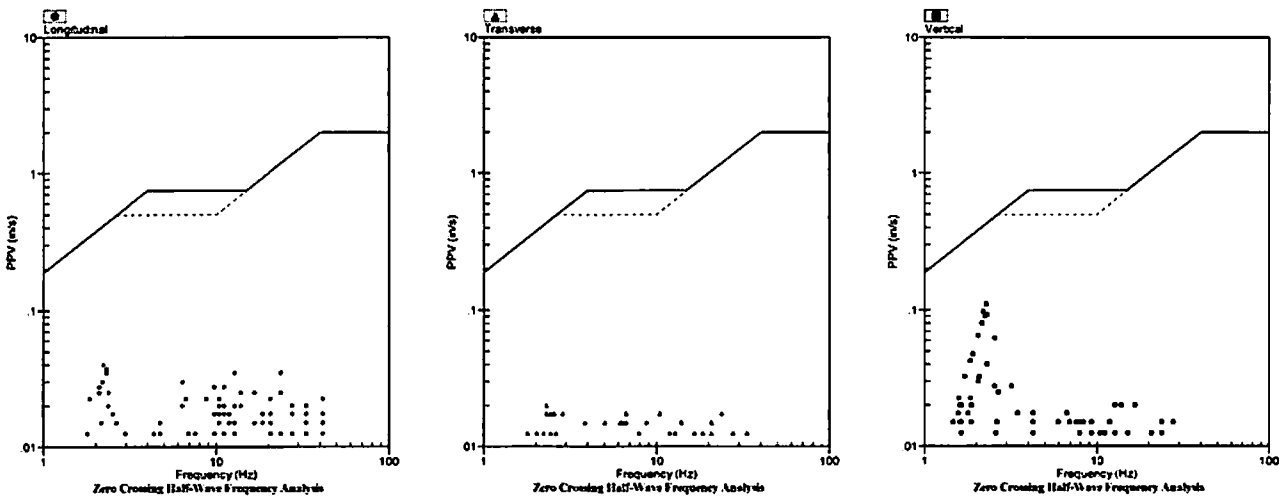
### Summary Data

	L	T	V
PPV (in/s)	0.040	0.020	0.110
FREQ (Hz)	2.2	2.3	2.3
PD (.001")	2.77	1.16	7.47
PPA (g)	0.013	0.007	0.007
Peak Vector Sum:	0.110 in/s		
Peak Air Pressure:	108 db		
	0.00075 PSI @ 4.3 Hz		

### Additional Info:

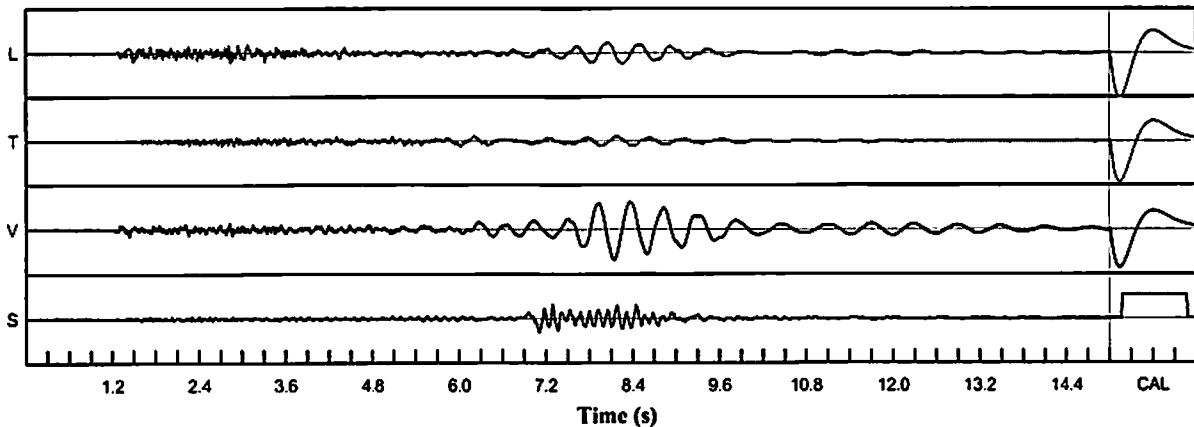
**Shaketable Calibrated:** 04/12/2018  
**By:** GeoSonics Inc.  
 359 Northgate Drive  
 Warrendale, PA 15086 U.S.A.  
 TEL: 724.934.2900 FAX: 724.934.2999

### 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:** 05/21/2018 13:33:21  
**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

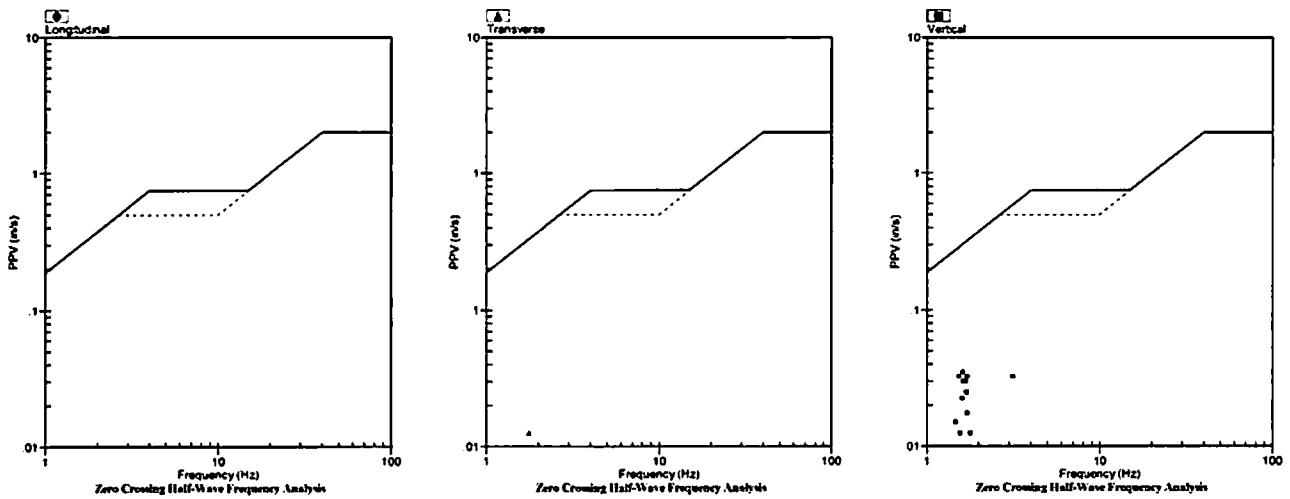
### Summary Data

	L	T	V
PPV (in/s)	0.010	0.013	0.035
FREQ (Hz)	1.8	1.9	1.6
PD (.001")	0.75	1.01	3.10
PPA (g)	0.007	0.007	0.007
Peak Vector Sum:	0.035 in/s		
Peak Air Pressure:	84 db		
	0.00011 PSI @ 33.3 Hz		

### Additional Info:

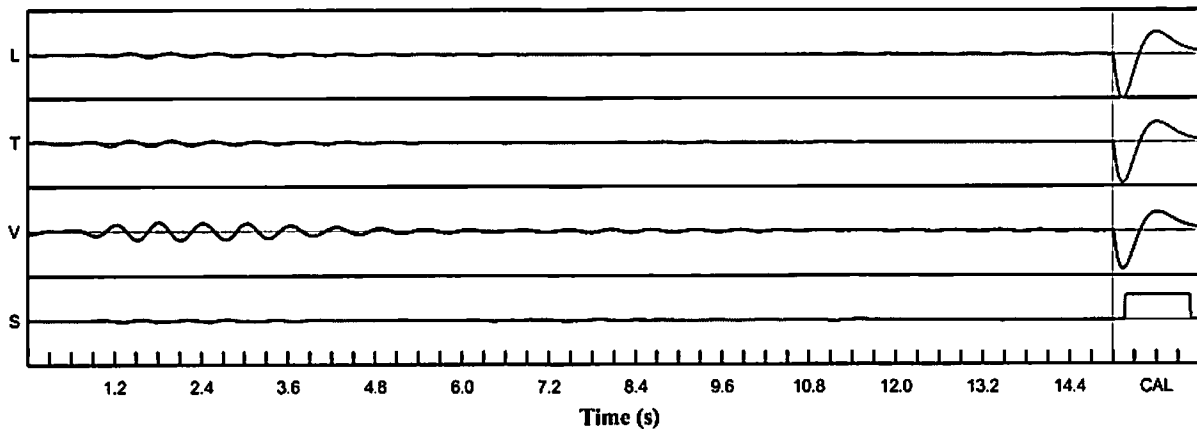
**Shaketable Calibrated:** 04/12/2018  
**By:** GeoSonics Inc.  
 359 Northgate Drive  
 Warrendale, PA 15086 U.S.A.  
 TEL: 724.934.2900 FAX: 724.934.2999

### 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:** 05/22/2018 13:17:30  
**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

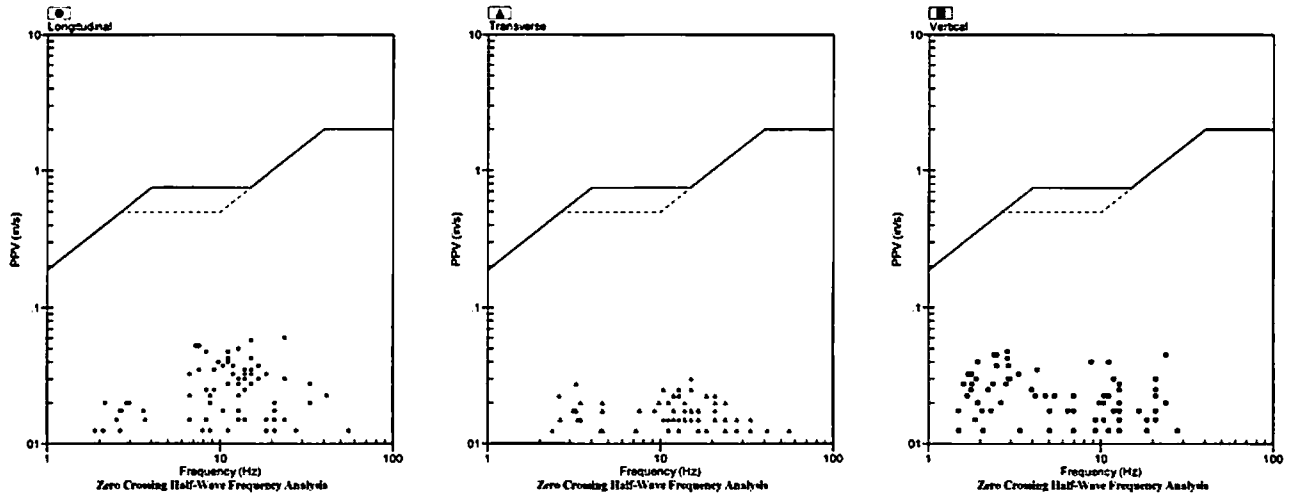
### Summary Data

	L	T	V
<b>PPV (in/s)</b>	0.060	0.030	0.048
<b>FREQ (Hz)</b>	11.1	15.2	2.9
<b>PD (.001")</b>	1.31	1.24	3.02
<b>PPA (g)</b>	0.020	0.013	0.013
<b>Peak Vector Sum:</b>	0.073 in/s		
<b>Peak Air Pressure:</b>	108 db		
	0.00077 PSI @ 4.6 Hz		

### Additional Info:

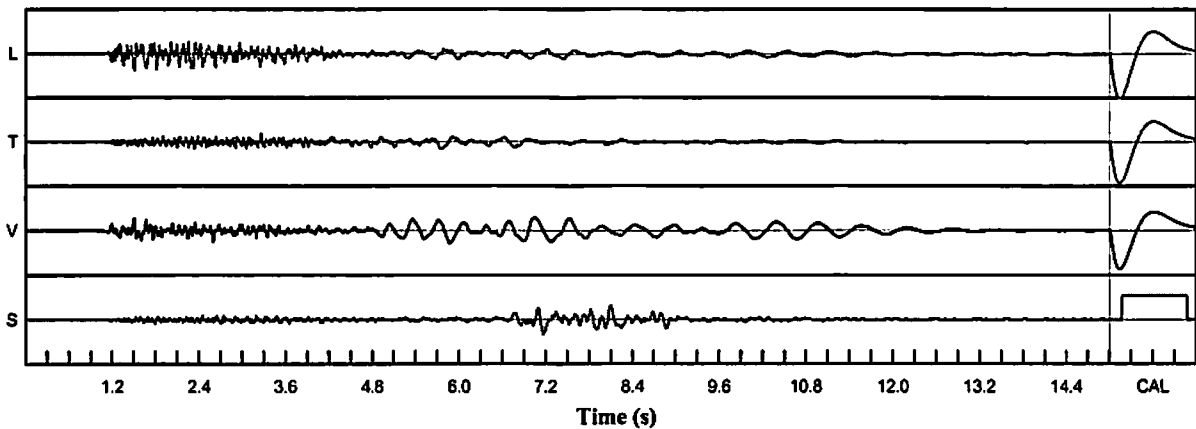
**Shaketable Calibrated:** 04/12/2018  
**By:** GeoSonics Inc.  
 359 Northgate Drive  
 Warrendale, PA 15086 U.S.A.  
**TEL:** 724.934.2900 **FAX:** 724.934.2999

### 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:** 05/23/2018 13:19:55  
**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

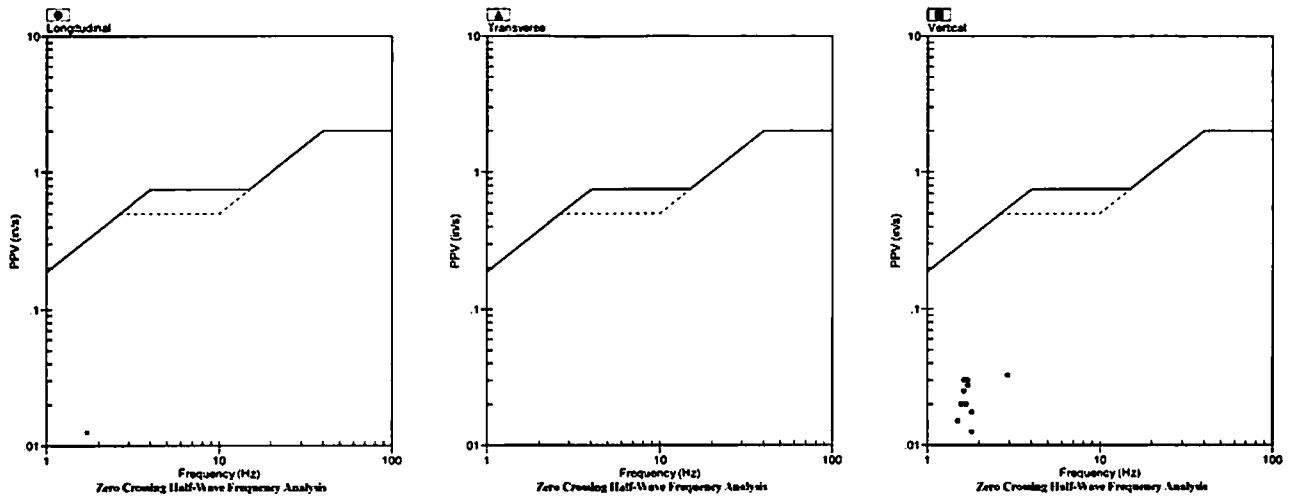
### Summary Data

	L	T	V
<b>PPV (in/s)</b>	0.013	0.005	0.033
<b>FREQ (Hz)</b>	1.7	9.8	1.7
<b>PD (.001")</b>	0.84	0.42	2.93
<b>PPA (g)</b>	0.007	0.007	0.007
<b>Peak Vector Sum:</b>	0.033 in/s		
<b>Peak Air Pressure:</b>	82 db		
	0.00009 PSI @ 55.6 Hz		

### Additional Info:

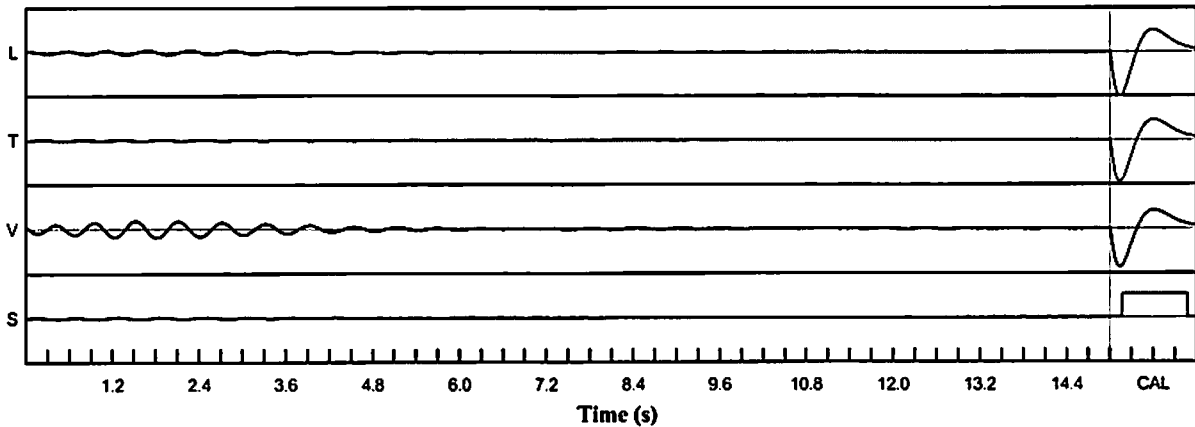
**Shaketable Calibrated:** 04/12/2018  
**By:** GeoSonics Inc.  
 359 Northgate Drive  
 Warrendale, PA 15086 U.S.A.  
 TEL: 724.934.2900 FAX: 724.934.2999

### 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:** 5150 v3.67  
**Date:** 04/30/2018 11:44:55  
**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

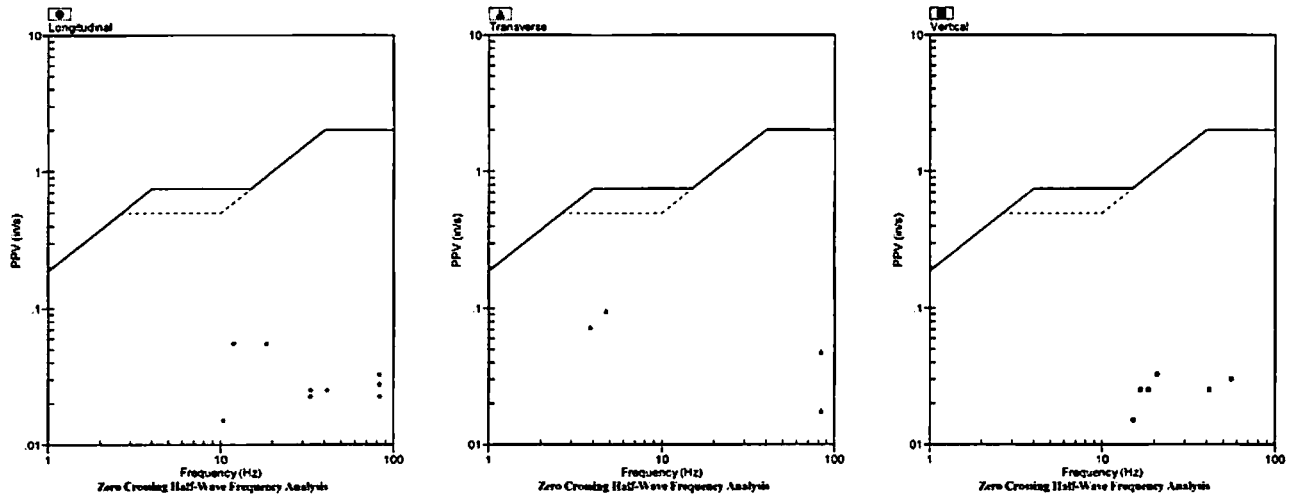
### Summary Data

	L	T	V
<b>PPV (in/s)</b>	0.058	0.200	0.158
<b>FREQ (Hz)</b>	10.4	166.7	20.8
<b>PD (.001")</b>	0.64	4.96	0.43
<b>PPA (g)</b>	0.098	0.260	0.163
<b>Peak Vector Sum:</b>	0.258 in/s		
<b>Peak Air Pressure:</b>	102 db		
	0.00039 PSI @ 1.5 Hz		

### Additional Info:

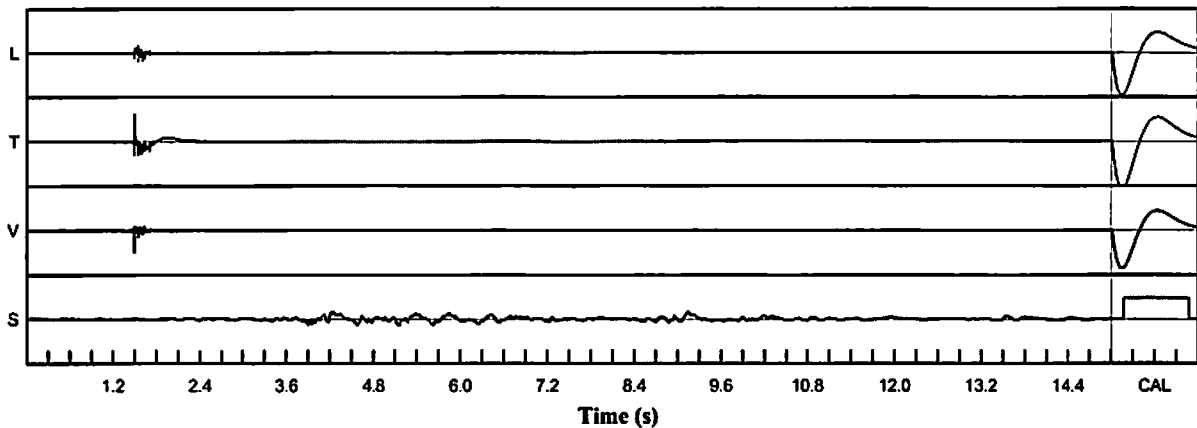
**Shaketable Calibrated:** 04/19/2018  
**By:** GeoSonics Inc.  
 359 Northgate Drive  
 Warrendale, PA 15086 U.S.A.  
 TEL: 724.934.2900 FAX: 724.934.2999

### 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:** 05/01/2018 13:31:04  
**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

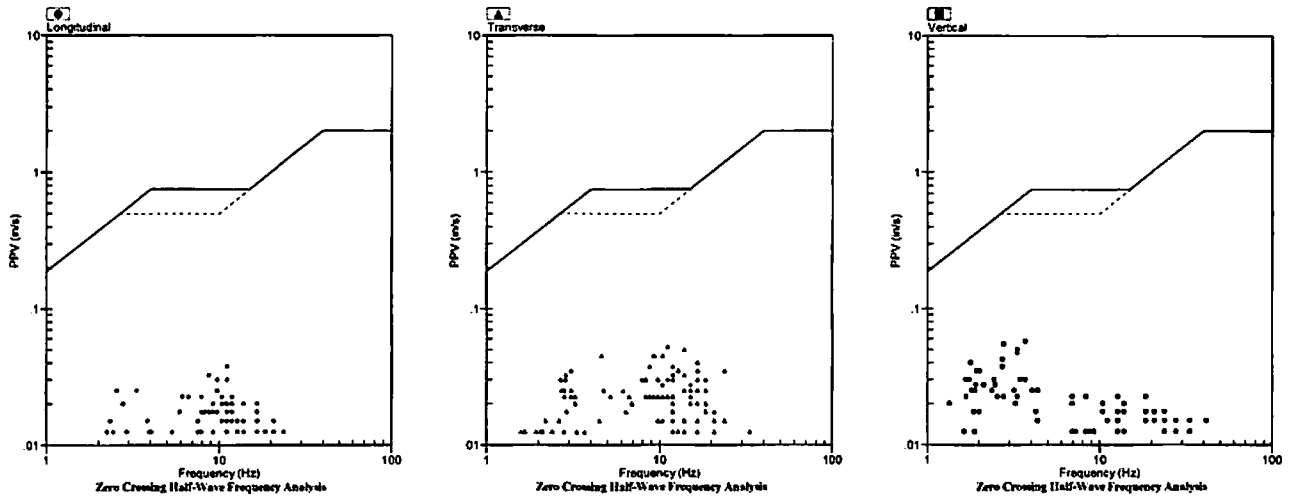
### Summary Data

	L	T	V
PPV (in/s)	0.038	0.053	0.058
FREQ (Hz)	11.1	11.1	3.7
PD (.001")	1.03	1.69	3.10
PPA (g)	0.007	0.013	0.007
Peak Vector Sum:	0.060 in/s		
Peak Air Pressure:	101 db		
	0.00036 PSI @ 4.0 Hz		

### Additional Info:

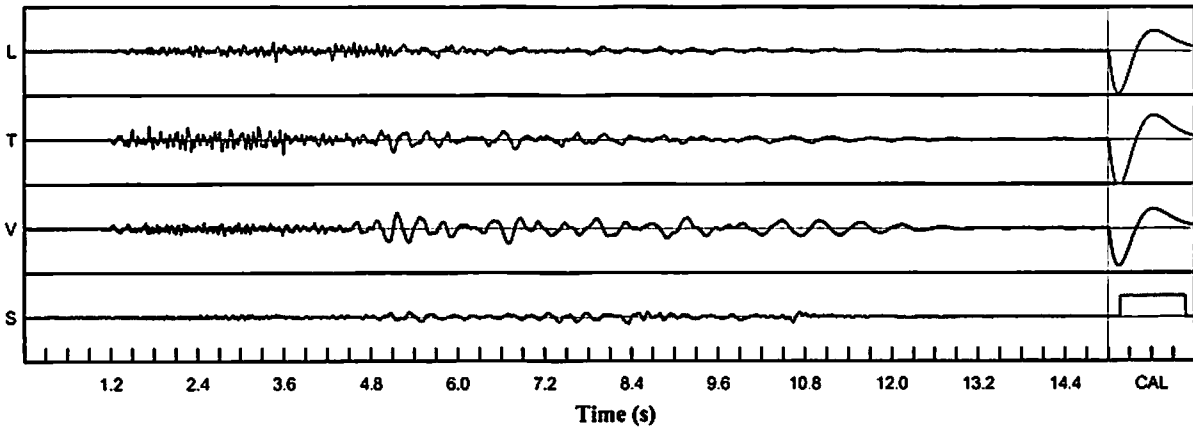
**Shaketable Calibrated:** 04/19/2018  
**By:** GeoSonics Inc.  
 359 Northgate Drive  
 Warrendale, PA 15086 U.S.A.  
 TEL: 724.934.2900 FAX: 724.934.2999

### 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:** 05/03/2018 13:16:06  
**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

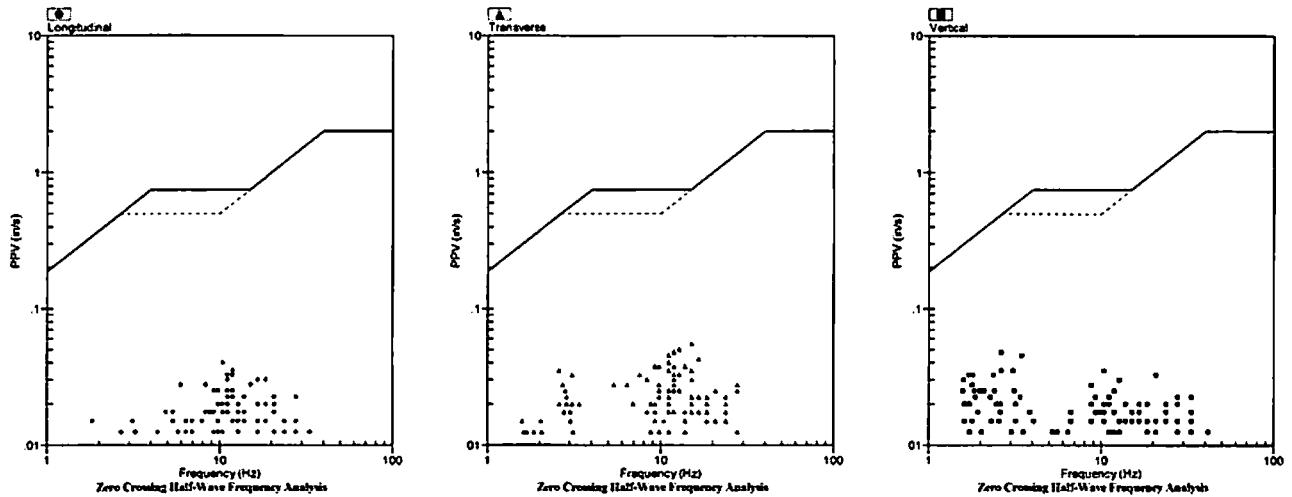
### Summary Data

	L	T	V
PPV (in/s)	0.040	0.055	0.048
FREQ (Hz)	10.4	15.2	2.6
PD (.001")	0.86	1.72	3.02
PPA (g)	0.013	0.013	0.013
Peak Vector Sum:	0.063 in/s		
Peak Air Pressure:	106 db		
	0.00066 PSI @ 4.4 Hz		

### Additional Info:

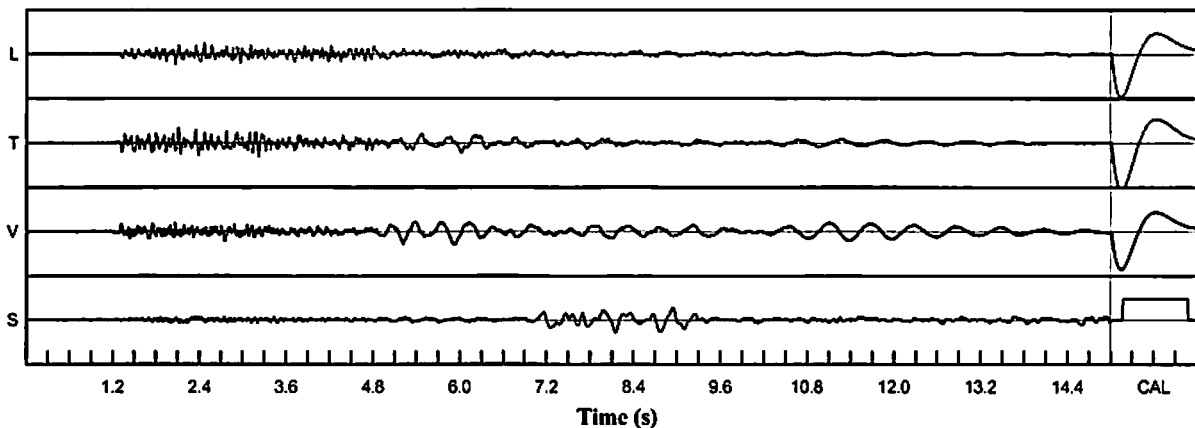
**Shaketable Calibrated:** 04/19/2018  
**By:** GeoSonics Inc.  
 359 Northgate Drive  
 Warrendale, PA 15086 U.S.A.  
 TEL: 724.934.2900 FAX: 724.934.2999

### 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:** 05/08/2018 13:32:28  
**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

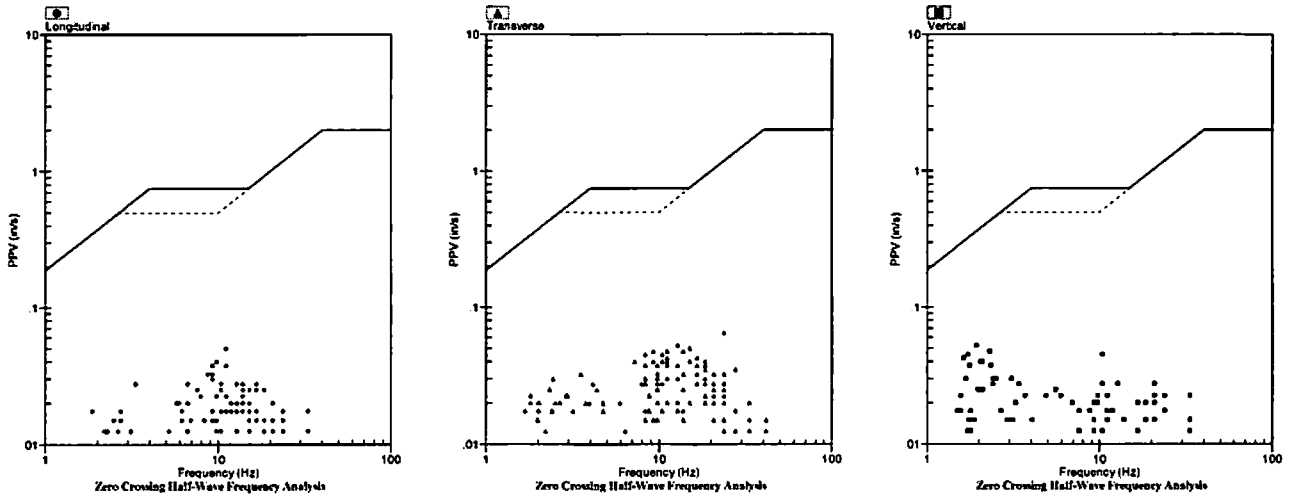
### Summary Data

	L	T	V
PPV (in/s)	0.050	0.065	0.053
FREQ (Hz)	11.1	11.1	1.9
PD (.001")	1.15	1.85	4.24
PPA (g)	0.013	0.020	0.013
Peak Vector Sum:	0.068 in/s		
Peak Air Pressure:	101 db		
	0.00036 PSI @ 4.3 Hz		

### Additional Info:

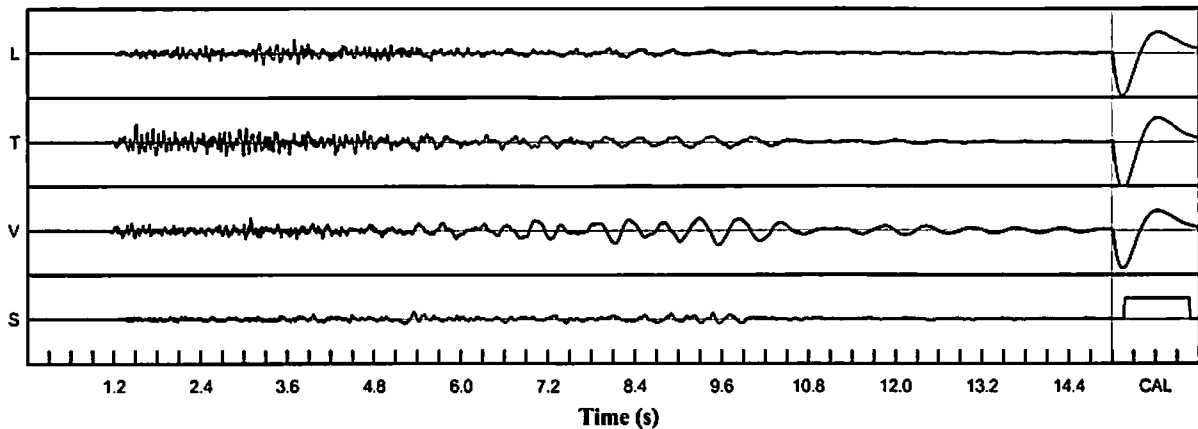
**Shaketable Calibrated:** 04/19/2018  
**By:** GeoSonics Inc.  
 359 Northgate Drive  
 Warrendale, PA 15086 U.S.A.  
 TEL: 724.934.2900 FAX: 724.934.2999

### 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:** 05/10/2018 15:01:23  
**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

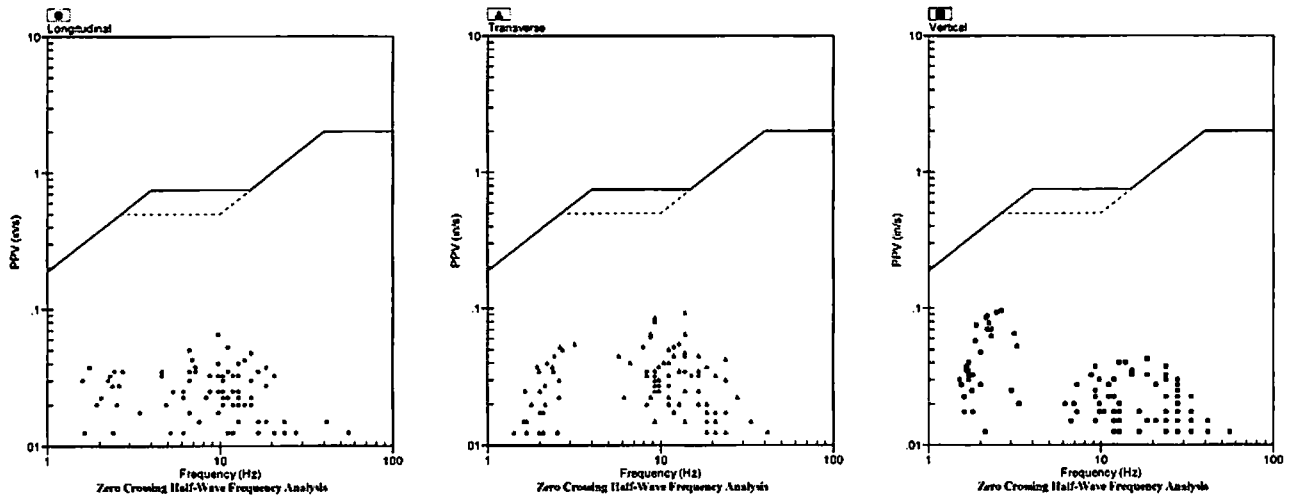
### Summary Data

	L	T	V
<b>PPV (in/s)</b>	0.065	0.093	0.095
<b>FREQ (Hz)</b>	9.8	13.9	2.6
<b>PD (.001")</b>	2.13	2.78	6.34
<b>PPA (g)</b>	0.013	0.020	0.020
<b>Peak Vector Sum:</b>	0.110 in/s		
<b>Peak Air Pressure:</b>	103 db		
	0.00046 PSI @ 6.0 Hz		

### Additional Info:

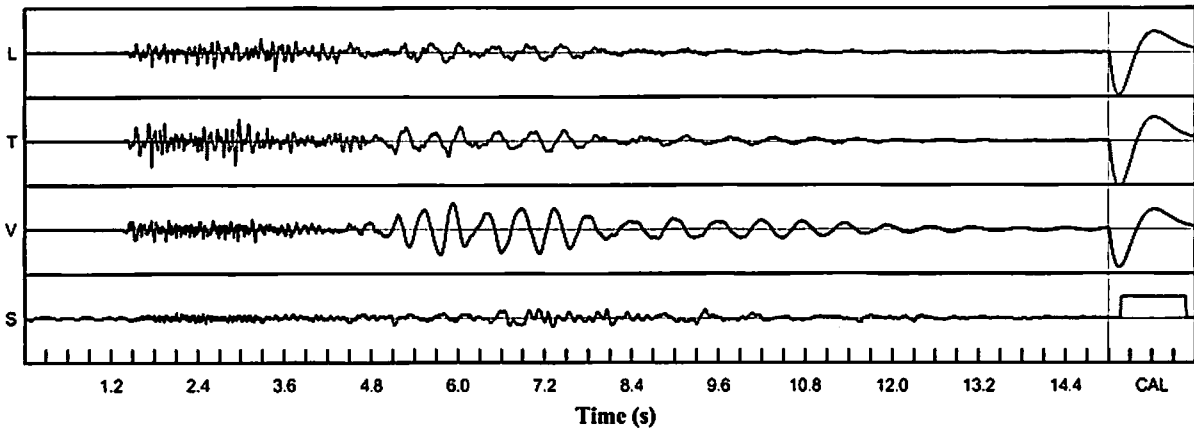
**Shaketable Calibrated:** 04/19/2018  
**By:** GeoSonics Inc.  
 359 Northgate Drive  
 Warrendale, PA 15086 U.S.A.  
 TEL: 724.934.2900 FAX: 724.934.2999

### USBM Safe Blasting Levels



### Velocity Waveform

SN: 5150 Event: 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:** 05/11/2018 09:38:04  
**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

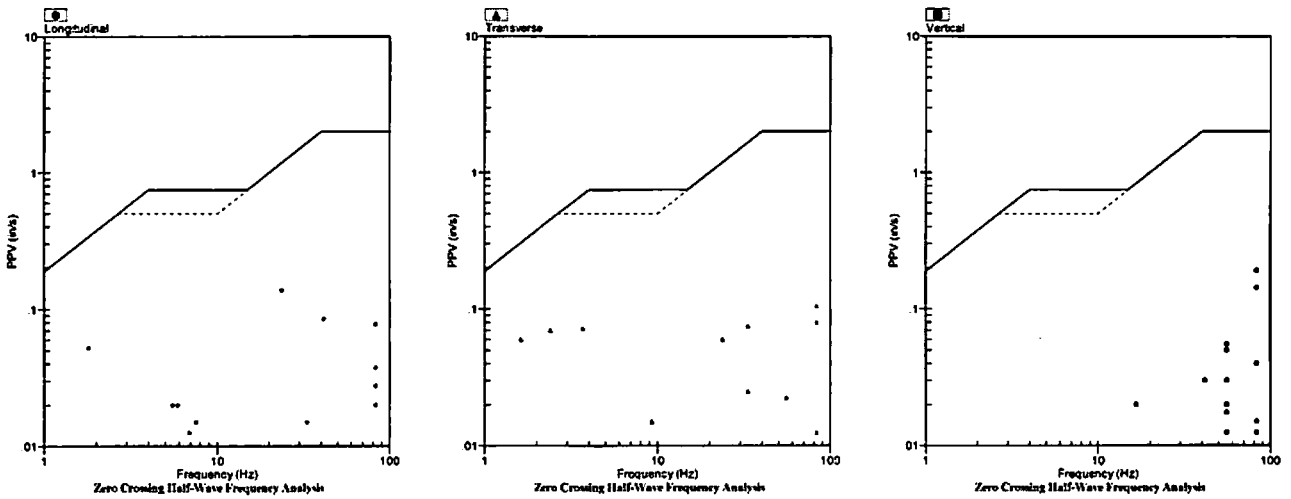
### Summary Data

	L	T	V
PPV (in/s)	0.138	0.120	0.190
FREQ (Hz)	166.7	166.7	83.3
PD (.001")	2.27	6.99	0.52
PPA (g)	0.169	0.176	0.286
Peak Vector Sum:	0.208 in/s		
Peak Air Pressure:	90 db		
	0.00018 PSI @ 83.3 Hz		

### Additional Info:

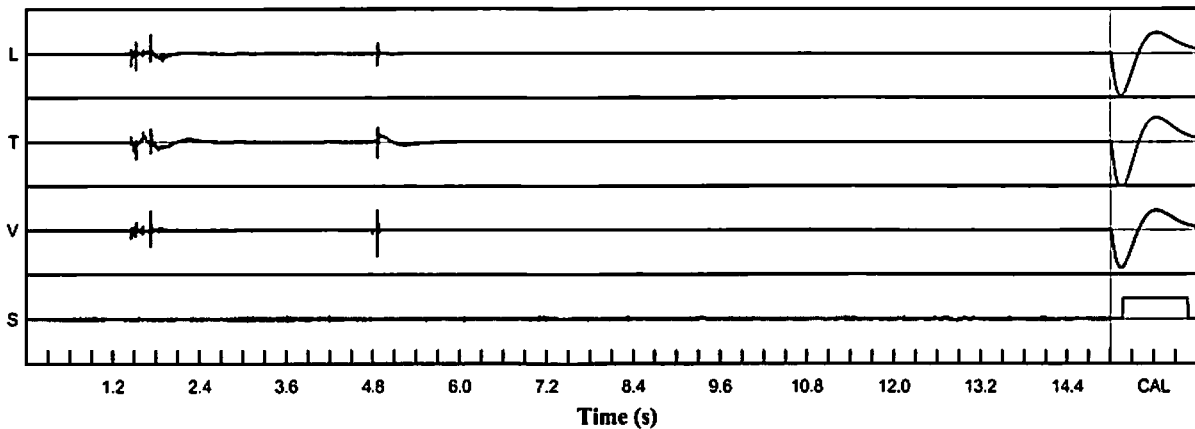
**Shaketable Calibrated:** 04/19/2018  
**By:** GeoSonics Inc.  
 359 Northgate Drive  
 Warrendale, PA 15086 U.S.A.  
 TEL: 724.934.2900 FAX: 724.934.2999

### USBM Safe Blasting Levels



### Velocity Waveform

SN: 5150 Event: 6



### Velocity Waveform Graph Scale

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

# Seismic Analysis

## USBM/Velocity Waveform Report

**Serial No:** 5150 v3.67  
**Date:** 05/15/2018 14:02:00  
**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

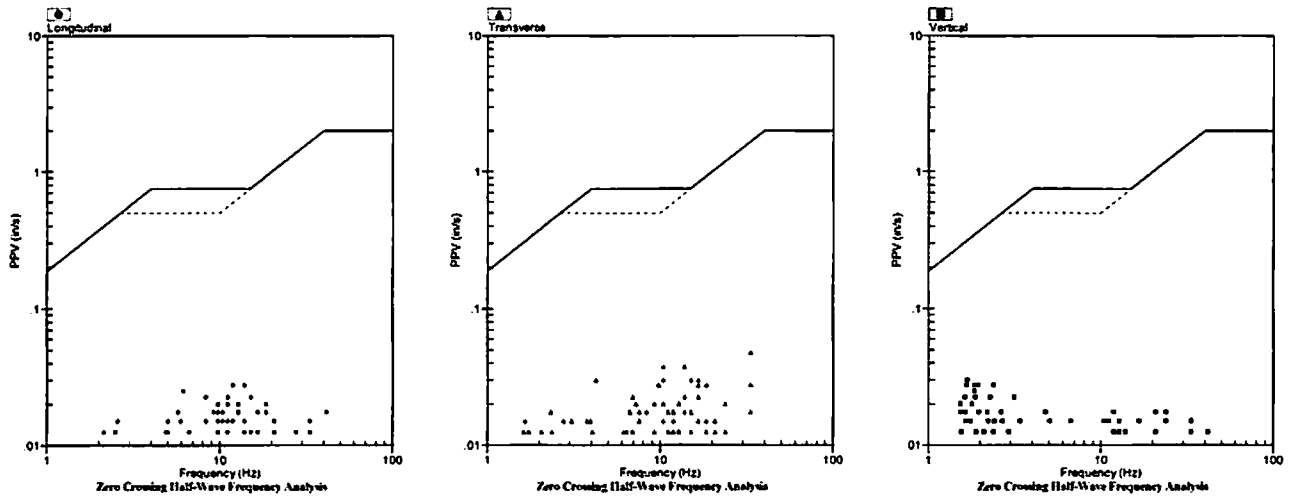
### Summary Data

	L	T	V
PPV (in/s)	0.028	0.048	0.030
FREQ (Hz)	13.9	9.8	1.7
PD (.001")	0.84	1.15	2.50
PPA (g)	0.007	0.013	0.013
Peak Vector Sum:	0.053 in/s		
Peak Air Pressure:	109 db		
	0.00086 PSI @ 7.2 Hz		

### Additional Info:

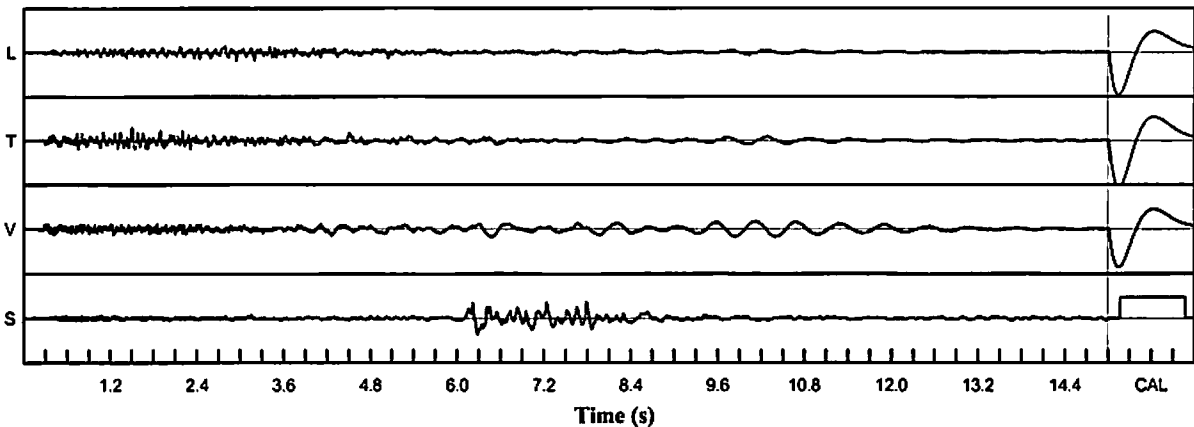
**Shaketable Calibrated:** 04/19/2018  
**By:** GeoSonics Inc.  
 359 Northgate Drive  
 Warrendale, PA 15086 U.S.A.  
 TEL: 724.934.2900 FAX: 724.934.2999

### 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:** 05/21/2018 13:32:13  
**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

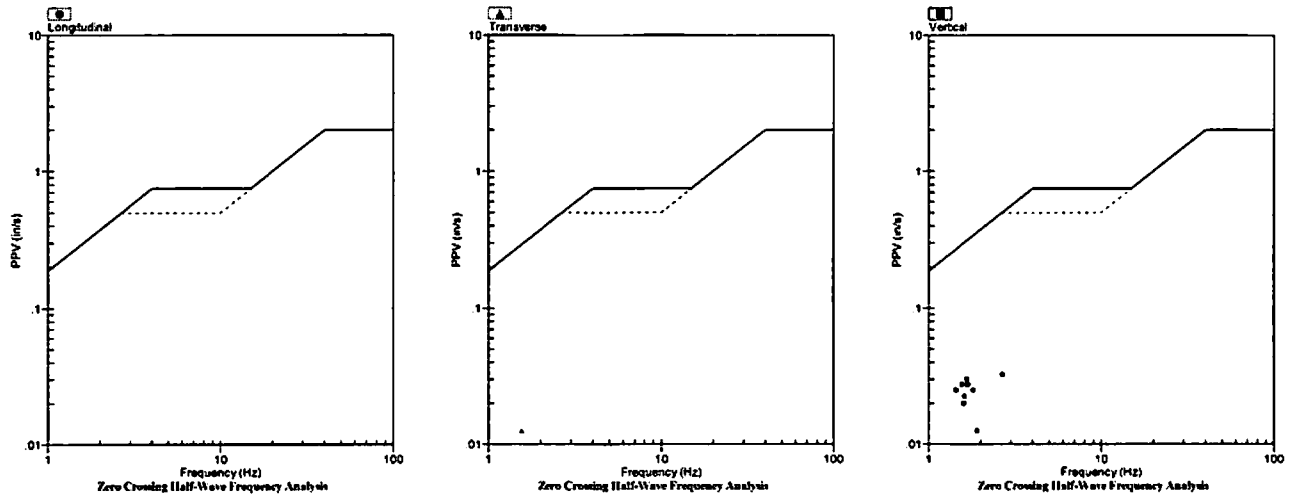
### Summary Data

	L	T	V
PPV (in/s)	0.008	0.013	0.033
FREQ (Hz)	1.5	1.6	1.6
PD (.001")	0.47	0.97	2.86
PPA (g)	0.007	0.007	0.007
Peak Vector Sum:	0.033 in/s		
Peak Air Pressure:	95 db		
	0.00023 PSI @ 6.0 Hz		

### Additional Info:

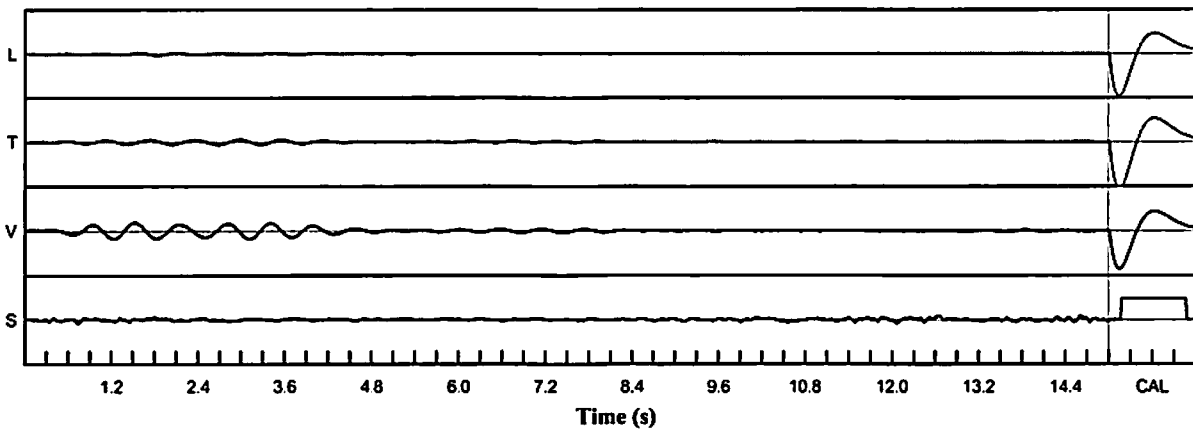
**Shaketable Calibrated:** 04/19/2018  
**By:** GeoSonics Inc.  
 359 Northgate Drive  
 Warrendale, PA 15086 U.S.A.  
 TEL: 724.934.2900 FAX: 724.934.2999

### 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:** 05/22/2018 13:16:17  
**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

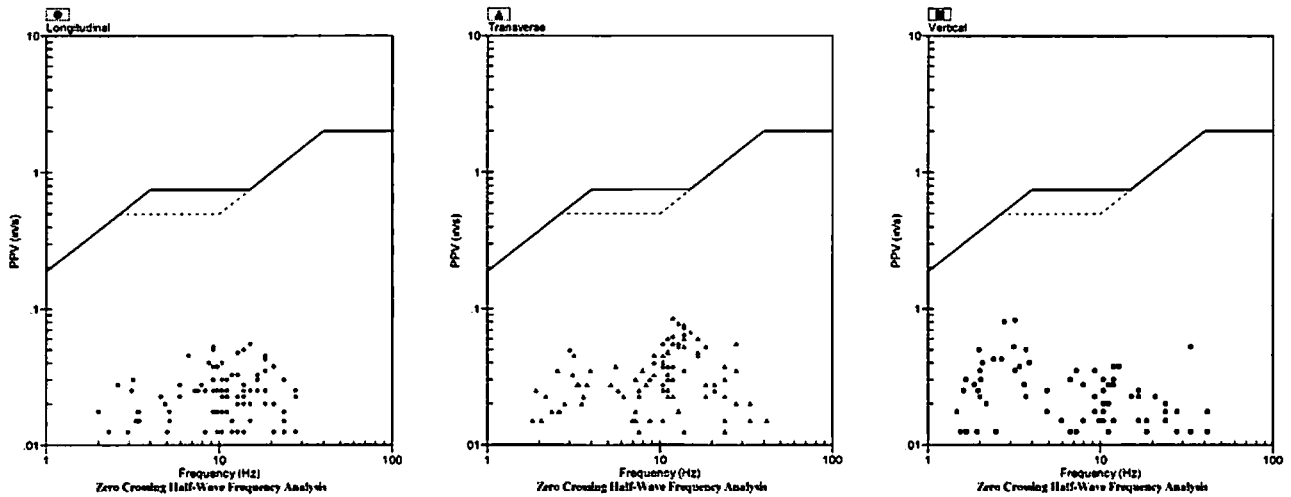
### Summary Data

	L	T	V
<b>PPV (in/s)</b>	0.055	0.085	0.083
<b>FREQ (Hz)</b>	15.2	11.9	3.2
<b>PD (.001")</b>	1.74	2.38	4.23
<b>PPA (g)</b>	0.013	0.033	0.020
<b>Peak Vector Sum:</b>	0.093 in/s		
<b>Peak Air Pressure:</b>	111 db		
	0.00103 PSI @ 6.7 Hz		

### Additional Info:

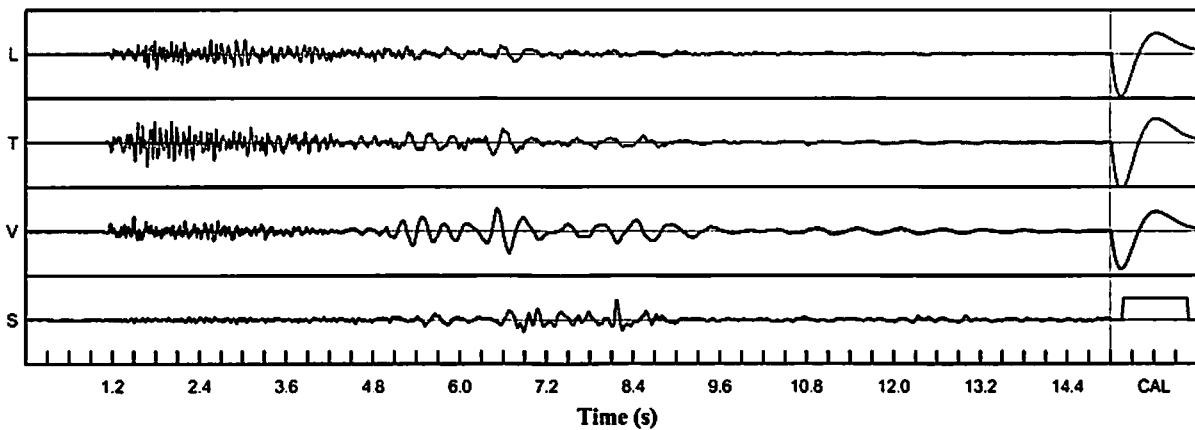
**Shaketable Calibrated:** 04/19/2018  
**By:** GeoSonics Inc.  
 359 Northgate Drive  
 Warrendale, PA 15086 U.S.A.  
 TEL: 724.934.2900 FAX: 724.934.2999

### 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:** 05/23/2018 13:18:28  
**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

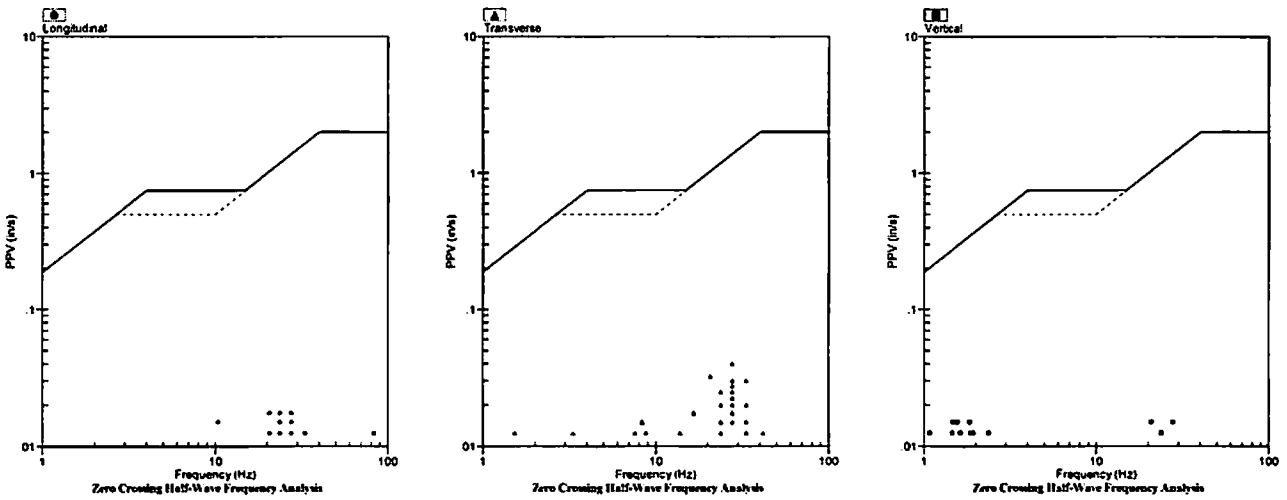
### Summary Data

	L	T	V
PPV (in/s)	0.020	0.040	0.015
FREQ (Hz)	23.8	23.8	27.8
PD (.001")	0.85	0.89	1.29
PPA (g)	0.007	0.020	0.007
Peak Vector Sum:	0.045 in/s		
Peak Air Pressure:	103 db		
	0.00046 PSI @ 1.4 Hz		

### Additional Info:

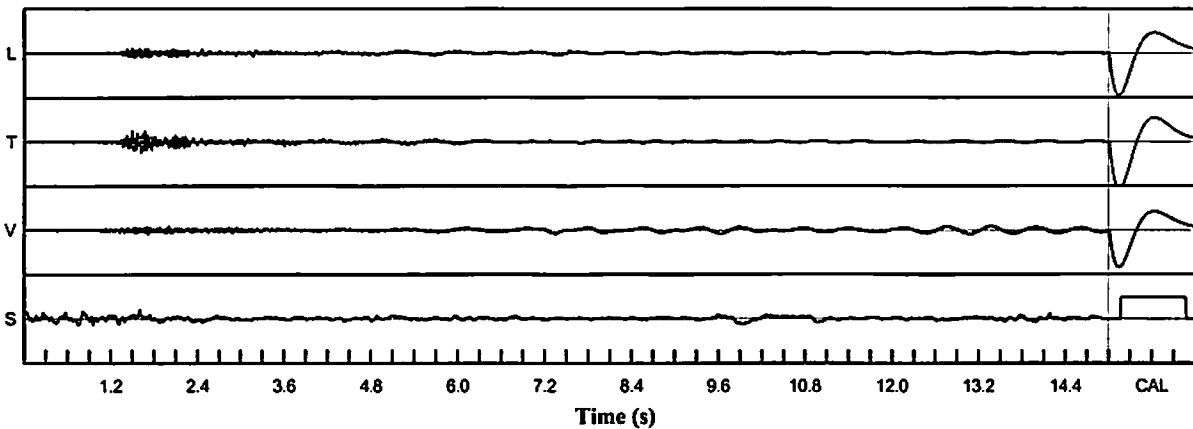
**Shaketable Calibrated:** 04/19/2018  
**By:** GeoSonics Inc.  
 359 Northgate Drive  
 Warrendale, PA 15086 U.S.A.  
 TEL: 724.934.2900 FAX: 724.934.2999

### 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

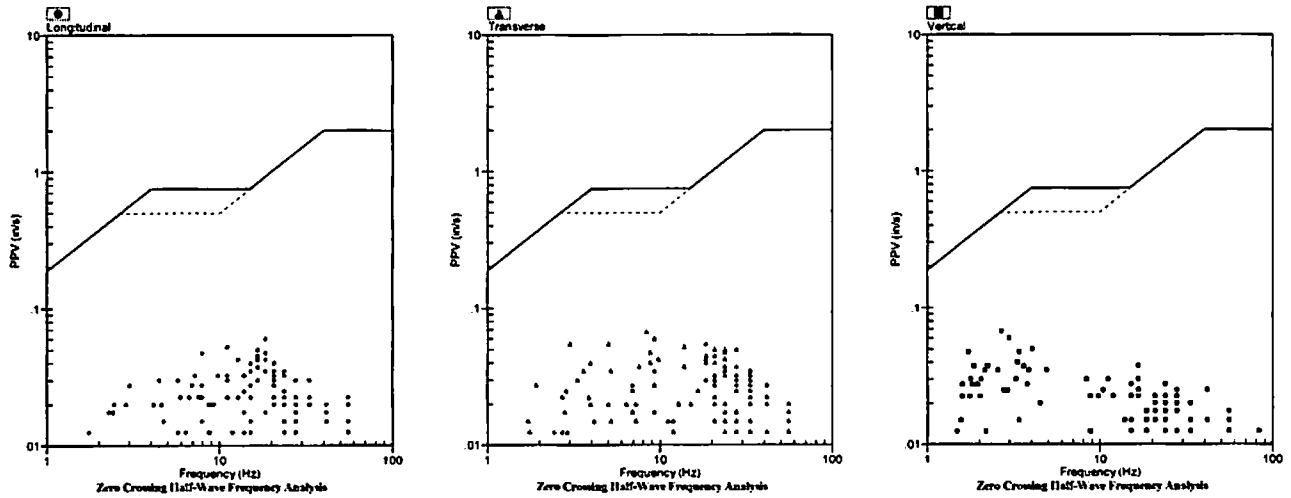
**Serial No:** 5150 v3.67  
**Date:** 05/24/2018 14:32:09  
**Event No:** 11  
**Record Time:** 15.0 s  
**Client:** City of Miramar  
**Operation:** White Rock Quarries  
**Location:** 5276 SW 152 Ct  
**Distance:**  
**Operator:** Pedro V.  
**Comment:** In Ground  
**Seismic Trigger:** 0.030 in/s

	L	T	V
<b>PPV (in/s)</b>	0.060	0.068	0.068
<b>FREQ (Hz)</b>	18.5	8.3	2.7
<b>PD (.001")</b>	1.10	1.80	3.77
<b>PPA (g)</b>	0.020	0.026	0.020
<b>Peak Vector Sum:</b>		0.080 in/s	
<b>Peak Air Pressure:</b>		106 db	
		0.00068 PSI @ 4.4 Hz	

**Additional Info:**

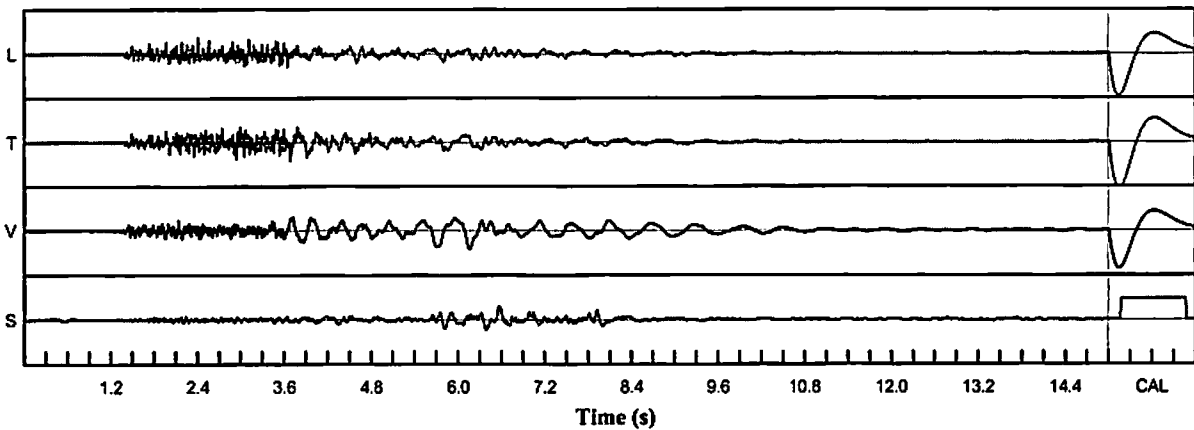
**Shaketable Calibrated:** 04/19/2018  
**By:** GeoSonics Inc.  
 359 Northgate Drive  
 Warrendale, PA 15086 U.S.A.  
 TEL: 724.934.2900 FAX: 724.934.2999

### 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