



GeoSonics

REPORT

TO

846 MINE LLC
c/o QUALITY ENTERPRISES
3494 Shearwater Street
Naples, Florida 334117

DATE

May 15, 2023

SUBJECT

VIBRATION AND SOUND RECORDINGS SUMMARY

846 Mine
April 1, 2023 – April 30, 2023

Gallegos Residence
6750 Fawn Lane
Naples, Florida 34121

VIBRATION AND SOUND RECORDINGS SUMMARY

Construction Materials Mining Activities

846 Mine LLC

April 1, 2023 – April 30, 2023

PURPOSE

The purpose of this report is to summarize the results obtained from recordings made during blasting operations completed at the 846 Mine LLC. Blasting was conducted by the Austin Powder Company. The measurements made have also been compared to report compliance with the regulatory limits of the State of Florida, Division of State Fire Marshal for blasting operations permitted as Construction Materials Mining Activities.

PROCEDURE

Vibrations and atmospheric overpressure (airblast) levels, which were produced by blasting operations, were recorded with a GeoSonics, Inc. **Re:mote™** Seismograph System, Serial No. 7448. During the blasting, the instrument used was located at the south right of way of Fawn Lane north of the Gallegos residence, 6750 Fawn Lane, Naples, Florida 34120.

RESULTS

The maximum vibration level recorded during the report period occurred on April 24, 2023. The maximum half wave, peak particle velocity was 0.050 inch per second at 33.3 Hertz (Hz.). Under the restrictions of Chapter 552.30 of the State of Florida, vibration is limited to standards reported in U.S. Bureau of Mines, Report of Investigations No. 8507, Appendix B – Alternative Blast Level Criteria. The maximum particle velocity represents three percent of the allowable level of 1.65 inches per second for a frequency of 33 Hertz.

The Collier County conditional use permit limits peak particle velocity to a monthly calendar average of 0.20 inch per second. The average velocity during the report period was 0.040 inch per second.

The maximum air overpressure measured was 0.00059 pounds per square inch (105 dB). Limits on air overpressure are based upon the type of microphone used by the seismograph. The maximum level measured represents four percent of the recommended U.S. Bureau of Mines limit of 0.0129 pounds per square inch (133 dB) for a 2-Hertz microphone. The percentage calculation is based upon the pounds per square inch linear measurement level, rather than logarithmic decibel measurements.

Additionally, the conditions limit the maximum air overpressure (airblast) to 120 dB(L). The calendar averaged monthly level measured was 102.5 dB(L).

The specific levels measured during the report period are tabulated in the following summary.

Vibration Levels Summary

Date	Time	Longitudinal @ Frequency	Transverse @ Frequency	Vertical @ Frequency	Percent of Limit	Airblast dB / psi	Source of Event
04/12/23	10:29 a.m.	0.028 in./sec. @ 33.3 Hz	0.030 in./sec. @ 27.8 Hz	0.020 in./sec. @ 33.3 Hz	2.2% of 1.35 in./sec.	92 dB 0.00020 psi	846 Mine LLC 846 Mine
04/24/23	10:31 a.m.	0.050 in./sec. @ 33.3 Hz	0.048 in./sec. @ 33.3 Hz	0.048 in./sec. @ 33.3 Hz	3% of 1.65 in./sec.	105 dB 0.00059 psi	846 Mine LLC 846 Mine

The **Blast Numbers, Dates and Times** are as they appear on the Blast Logs.

The time history waveforms and seismograph results obtained during blasting operations at the 846 Mine LLC are included following the conclusion of this report.

Respectfully submitted,
GeoSonics, Inc.



Jeffrey A. Straw
Vice President & Area Manager

Seismic Analysis

USBM/USBM Waveform Report

Serial No: 7448 v10.29
Date: 04/12/2023 10:29:15 (UTC-4)
Event No: 1
Record Time: 15.0 s
Client: 846 Mine LLC
Operation: 846 Mine
Location: Gallegos Residence
Distance:
Operator: Geosonics FI
Comment: 6750 Fawn Ln
Seismic Trigger: 0.020 in/s

Summary Data

	L	T	V
PPV (in/s)	0.028	0.030	0.020
FREQ (Hz)	33.3	27.8	33.3
PD (.001")	0.59	0.50	0.48
PPA (g)	0.013	0.013	0.013
Peak Vector Sum:	0.033 in/s		
Peak Air Pressure:	92 db		
	0.00020 PSI @ 1.0 Hz		

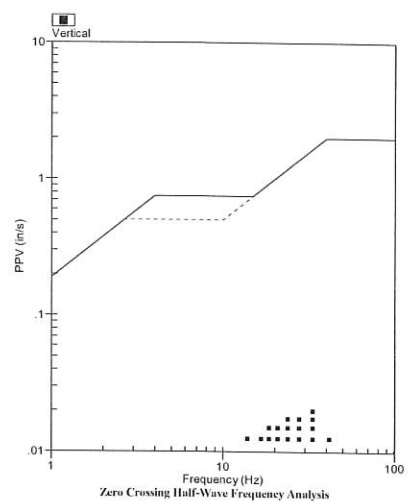
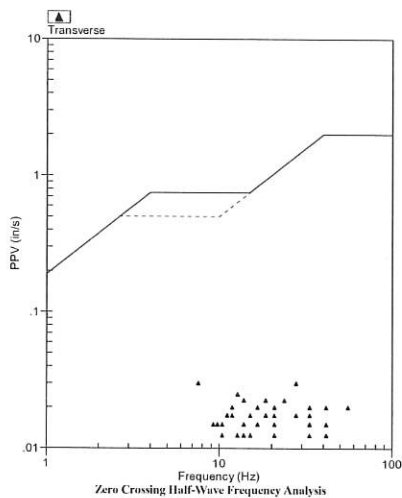
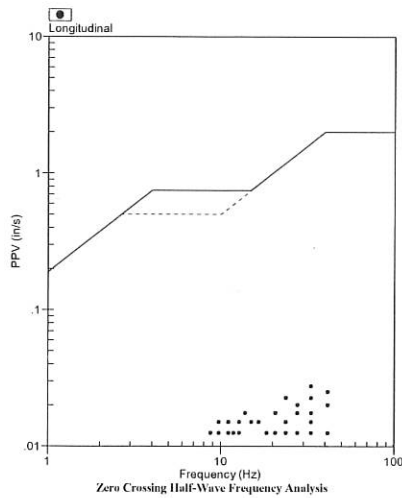
Additional Info:

NE CRN ROW
j-GEO-41704
N26 21 12.03 W81 34 35

Shaketable Calibrated: 09/06/2022

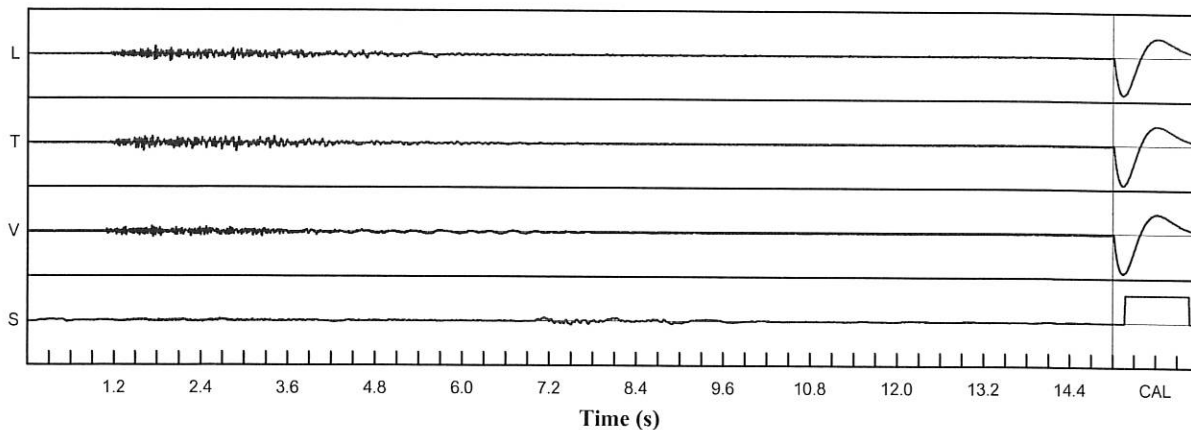
By: GeoSonics Inc.
359 Northgate Drive
Warrendale, PA 15086 U.S.A.
TEL: 724.934.2900 FAX: 724.934.2999

USBM Safe Blasting Levels



USBM/USBM Waveform Report

SN: 7448 Event: 1



Waveform Graph Scale

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

Seismic Analysis

USBM/Velocity Waveform Report

Serial No: 7448 v10.29
Date: 04/24/2023 10:31:28 (UTC-4)
Event No: 2
Record Time: 15.0 s
Client: 846 Mine LLC
Operation: 846 Mine
Location: Gallegos Residence
Distance:
Operator: Geosonics FI
Comment: 6750 Fawn Ln
Seismic Trigger: 0.020 in/s

Summary Data

	L	T	V
PPV (in/s)	0.050	0.048	0.048
FREQ (Hz)	33.3	33.3	33.3
PD (.001")	0.31	0.43	0.52
PPA (g)	0.026	0.026	0.026
Peak Vector Sum:	0.058 in/s		
Peak Air Pressure:	105 db		
	0.00059 PSI @ 9.3 Hz		

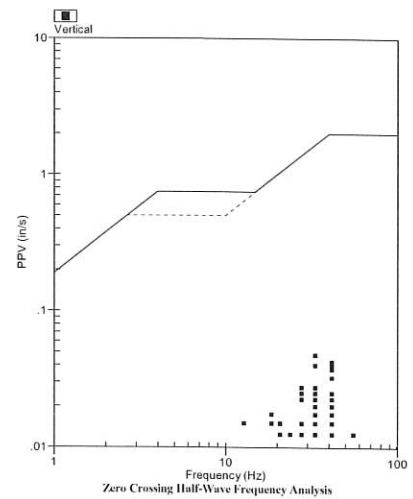
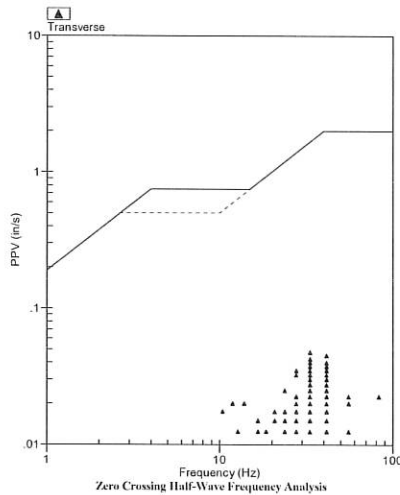
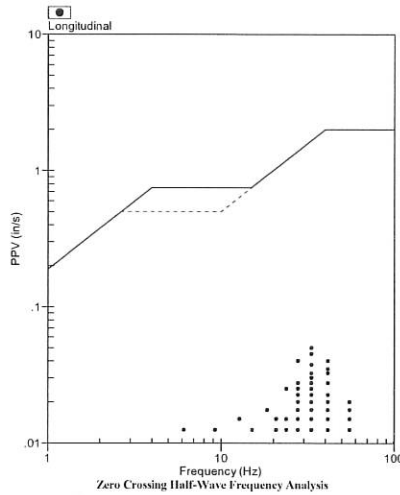
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Shaketable Calibrated: 09/06/2022

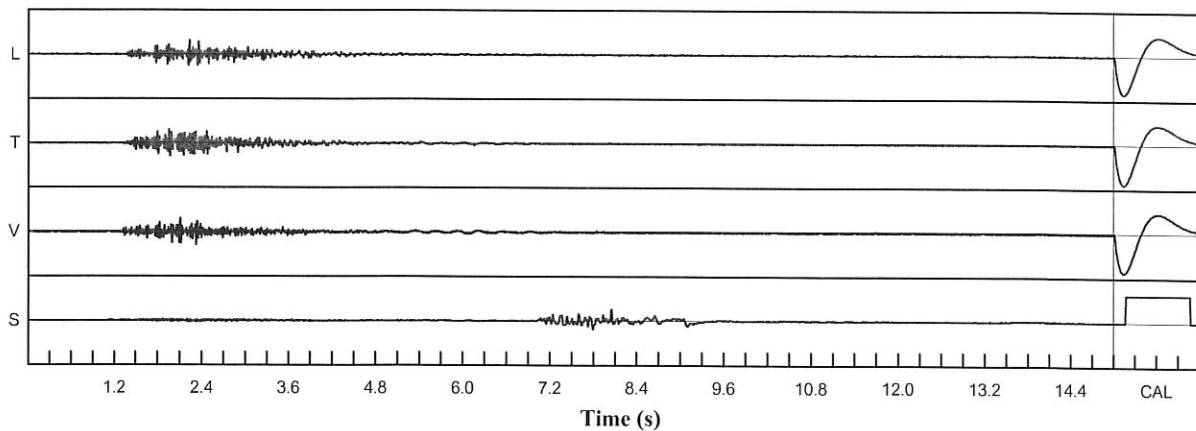
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USBM Safe Blasting Levels



Velocity Waveform

SN: 7448 Event: 2



Velocity Waveform Graph Scale

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