



GeoSonics

REPORT

TO

846 MINE LLC
c/o QUALITY ENTERPRISES
3494 Shearwater Street
Naples, Florida 34117

DATE

May 15, 2023

SUBJECT

VIBRATION AND SOUND RECORDINGS SUMMARY

846 Mine
April 1, 2023 – April 30, 2023

Garrett Residence
2311 56th Avenue Northeast
Naples, Florida 34120

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. 10871. During the blasting, the instrument used was located at the northwest corner of the Garrett Residence, 2311 56th Avenue NE, 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 0.08 inch per second at 31.3 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 five percent of the allowable level of 1.55 inches per second for a frequency of 31 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 0.07 inch per second.

The maximum air overpressure measured was 0.00160 pounds per square inch (114 dB). Limits on air overpressure are based upon the type of microphone used by the seismograph. The maximum level measured represents 12.4% 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 110 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.	0.03 in./sec. @ 25.0 Hz	0.03 in./sec. @ 20.8 Hz	0.06 in./sec. @ 31.3 Hz	3.87% of 1.55 in./sec.	91 dB 0.00025 psi	846 Mine LLC 846 Mine
04/24/23	10:31 a.m.	0.04 in./sec. @ 27.8 Hz	0.07 in./sec. @ 27.8 Hz	0.08 in./sec. @ 31.3 Hz	5.16% of 1.55 in./sec.	114 dB 0.00160 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: 10871 v6.20
Date: 04/12/2023 10:29:13 (UTC-4)
Event No: 12
Record Time: 5.0 s
Client: 846 Mine LLC
Operation: 846 Mine
Location: Garrett Residence
Distance:
Operator: GeoSonics FL
Comment: 2311 56th Ave NE
Seismic Trigger: 0.02 in/s

Summary Data

	L	T	V
PPV (in/s)	0.03	0.03	0.06
FREQ (Hz)	25.0	20.8	31.3
PD (.001")	0.8	0.7	1.0
PPA (g)	0.03	0.03	0.03
Peak Vector Sum:	0.06 in/s		
Peak Air Pressure:	91 db		
	0.00025 PSI @ 2.3 Hz		

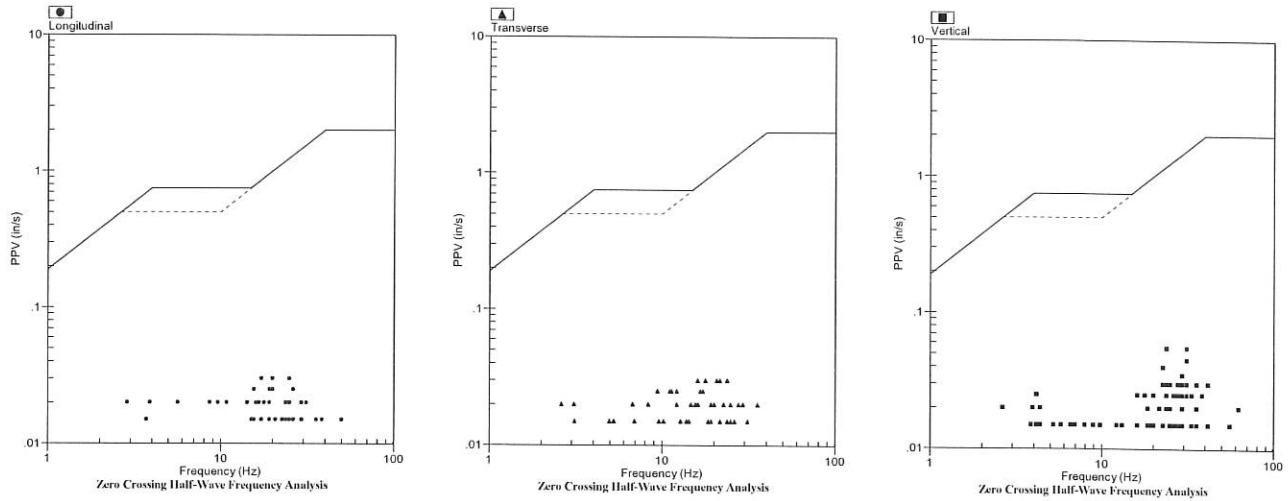
Additional Info:

NW cm of House
 j-GEO-40490
 N26 20 7 W81 33 43.4

Shaketable Calibrated: 12/05/2022

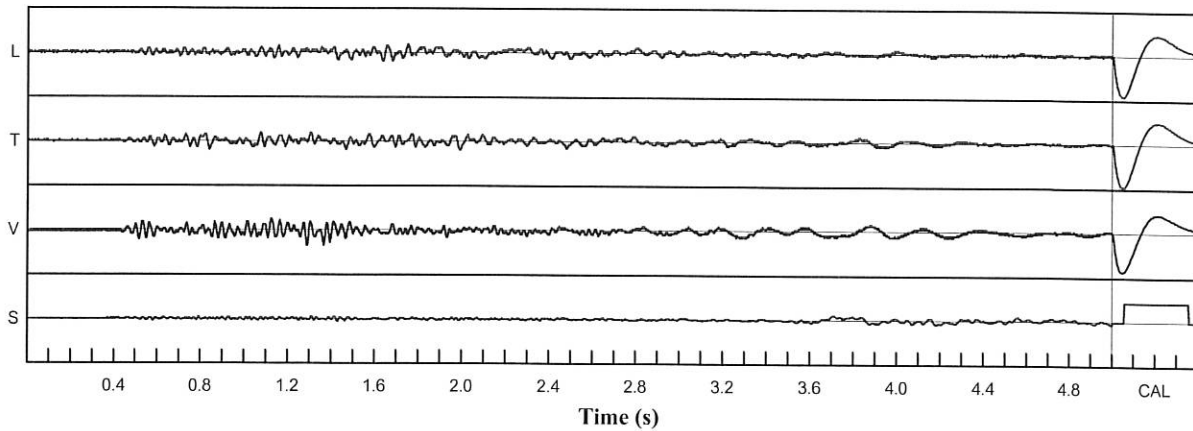
By: GeoSonics Inc.
 359 Northgate Drive
 Warrendale, PA 15086 U.S.A.
 TEL: 724.934.2900 FAX: 724.934.2999

USBM Safe Blasting Levels



USBM/USBM Waveform Report

SN: 10871 Event: 12



Waveform Graph Scale

Time Scale: 0.100 s
Seismic Scale: +/- 0.16
Sound Scale: +/- 0.0023 PSI

Seismic Analysis

USBM/Velocity Waveform Report

Serial No: 10871 v6.20
Date: 04/24/2023 10:31:31 (UTC-4)
Event No: 15
Record Time: 5.0 s
Client: 846 Mine LLC
Operation: 846 Mine
Location: Garrett Residence
Distance:
Operator: GeoSonics FL
Comment: 2311 56th Ave NE
Seismic Trigger: 0.02 in/s

Summary Data

	L	T	V
PPV (in/s)	0.04	0.07	0.08
FREQ (Hz)	27.8	27.8	31.3
PD (.001")	1.0	1.0	1.1
PPA (g)	0.04	0.04	0.04
Peak Vector Sum:	0.10 in/s		
Peak Air Pressure:	114 db		
	0.00160 PSI @ 5.0 Hz		

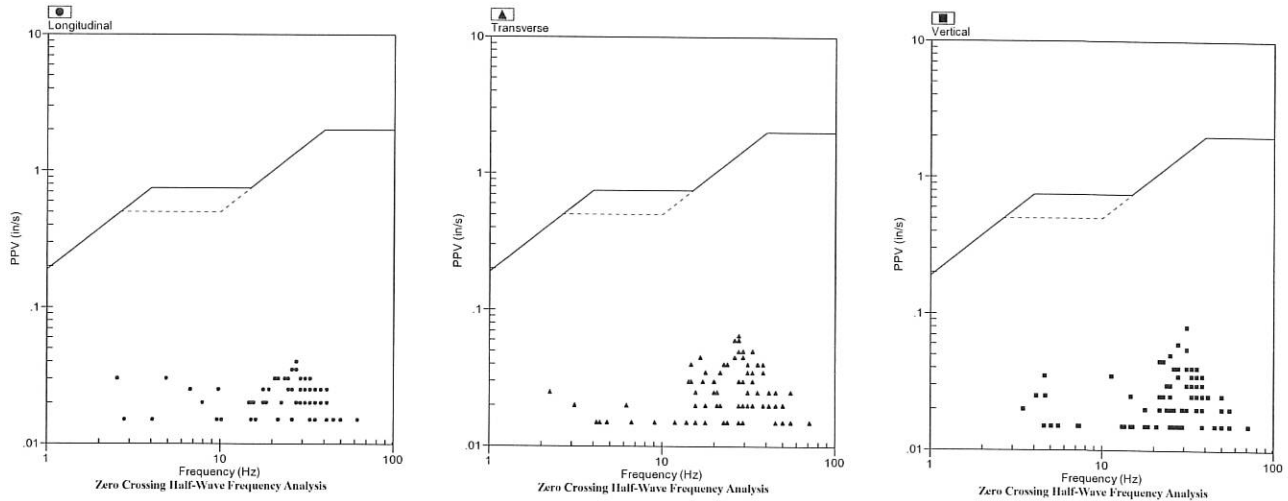
Additional Info:

NW cm of House
j-GEO-40490
N26 20 7 W81 33 43.4

Shaketable Calibrated: 12/05/2022

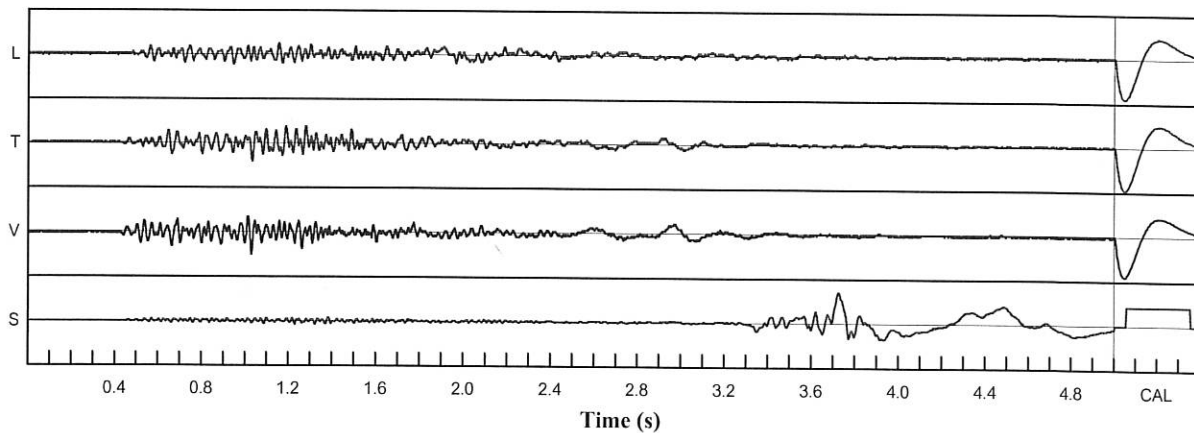
By: GeoSonics Inc.
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USBM Safe Blasting Levels



Velocity Waveform

SN: 10871 Event: 15



Velocity Waveform Graph Scale

Time Scale: 0.100 s
Seismic Scale: +/- 0.16 in/s
Sound Scale: +/- 0.0023 PSI