

# STATE OF COLORADO

DIVISION OF RECLAMATION, MINING AND SAFETY  
Department of Natural Resources

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Executive Director

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Director

## Memo

**To: File M-1978-208, Shaffers Crossing Quarry, Elk Creek Sand & Gravel, LLC**

**From: Tom Kaldenbach, Senior Environmental Protection Specialist**

*Tom Kaldenbach*

**Date: July 25, 2013**

**Re: Review of monitoring data from October 2, 2012 blast**

My inspection report from the October 16, 2012 inspection of the Shaffers Crossing Quarry indicated a need for a follow-up inspection for the purpose of evaluating off-site impacts of blasting. Based on the evaluation of seismic monitoring data provided by the operator (page 1 of the blast monitoring report, dated October 2, 2012, prepared by Matheson Mining Consultants, Inc.), such a follow-up inspection is not needed.

The Matheson report indicates peak particle velocities were less than 0.5 inches/second on adjoining properties (see attached copy of page 1 of the report).



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October 2, 2012

Mr. Jim Knoll  
Yenter Companies  
20300 Highway 72  
Arvada, CO 80007

Re: Elk Creek Sand & Gravel Quarry, Jefferson County, CO; October 2, 2012

Dear Mr. Knoll,

On October 2, 2012, Matheson Mining Consultants Inc. (MMC) monitored one production blast at the Elk Creek Sand & Gravel Quarry located @ CO HWY 285/South Elk Creek Rd. (near "Shaffer's Crossing") in Jefferson County, Colorado. Portable seismographs were deployed at four separate locations; one adjacent to the equipment maintenance building/well, on the Elk Creek Sand & Gravel Quarry property (Loc. 1), one at the Elk Creek Sand & Gravel office trailer/truck scale (Loc. 2), one at the residence of Rodger & Juliet Moores (Loc. 3), & one at Cliff Eden's shop building, directly across the street from the quarry (Loc. 4). Below is a table listing the location # / instrument serial number, distance & direction from the blast, peak particle velocity, and peak air overpressure measurements.

**Ground Vibration Summary**

Location (#) / Inst. Serial Number	Distance (yards) & Direction	Peak Particle Velocity (inches/sec)	Peak Air Overpressure dB(L)
(1) / BA10328	~105 - NW	1.03	127.6
(2) / BA10185	~140 - NNW	0.64	126.2
(3) / BA5738	~280 - SE	0.26	117.5
(4) / BA6752	~255 - West	0.23	127.8

The highest reading measured was at the closest distance; adjacent to the Elk Creek Sand & Gravel equipment maintenance building (where the well is located).

All four instruments recorded vibrations that are significantly less than the United States Bureau of Mines Report of Investigations 8507 and the Office of Surface Mining Reclamation and Enforcement non-damage standards for drywall in framed houses.

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