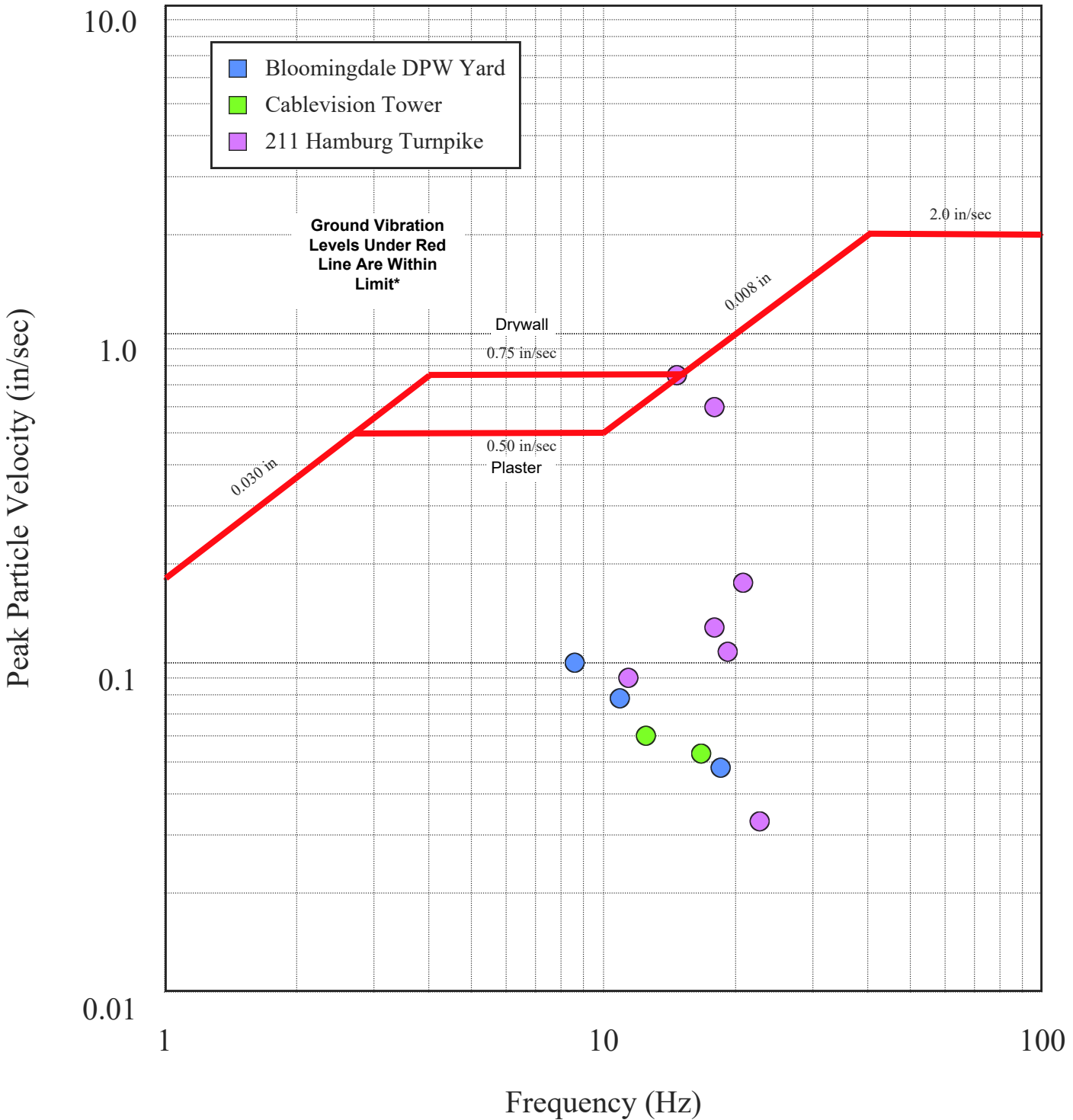


**Tilcon New Jersey
Pompton Lakes Quarry
Quarterly Blast Data Summary
1st Quarter 2017**

Date	Time	Recording Location	Within NJ Ground Vibration Limits*	Within NJ Air Overpressure Limits**
2/24/2017	12:30	211 Hamburg Turnpike	Yes	Yes
2/24/2017	12:30	Cablevision Tower	Yes	Yes
2/24/2017	12:30	Bloomingtondale DPW Yard	Yes	Yes
3/3/2017	10:59	211 Hamburg Turnpike	Yes	Yes
3/3/2017	10:59	Cablevision Tower	Yes	Yes
3/3/2017	10:59	Bloomingtondale DPW Yard	Yes	Yes
3/6/2017	13:20	211 Hamburg Turnpike	Yes	Yes
3/6/2017	13:20	Cablevision Tower	Yes	Yes
3/6/2017	13:20	Bloomingtondale DPW Yard	Yes	Yes
3/10/2017	12:00	211 Hamburg Turnpike	Yes	Yes
3/10/2017	12:00	Cablevision Tower	Yes	Yes
3/10/2017	12:00	Bloomingtondale DPW Yard	Yes	Yes
3/21/2017	10:59	211 Hamburg Turnpike	Yes	Yes
3/21/2017	10:59	Cablevision Tower	Yes	Yes
3/21/2017	10:59	Bloomingtondale DPW Yard	Yes	Yes
3/24/2017	13:00	211 Hamburg Turnpike	Yes	Yes
3/24/2017	13:00	Cablevision Tower	Yes	Yes
3/24/2017	13:00	Bloomingtondale DPW Yard	Yes	Yes
3/28/2017	11:00	211 Hamburg Turnpike	No	Yes
3/28/2017	11:00	Cablevision Tower	Yes	Yes
3/28/2017	11:00	Bloomingtondale DPW Yard	Yes	Yes
3/31/2017	12:30	211 Hamburg Turnpike	Yes	Yes
3/31/2017	12:30	Cablevision Tower	Yes	Yes
3/31/2017	12:30	Bloomingtondale DPW Yard	Yes	Yes

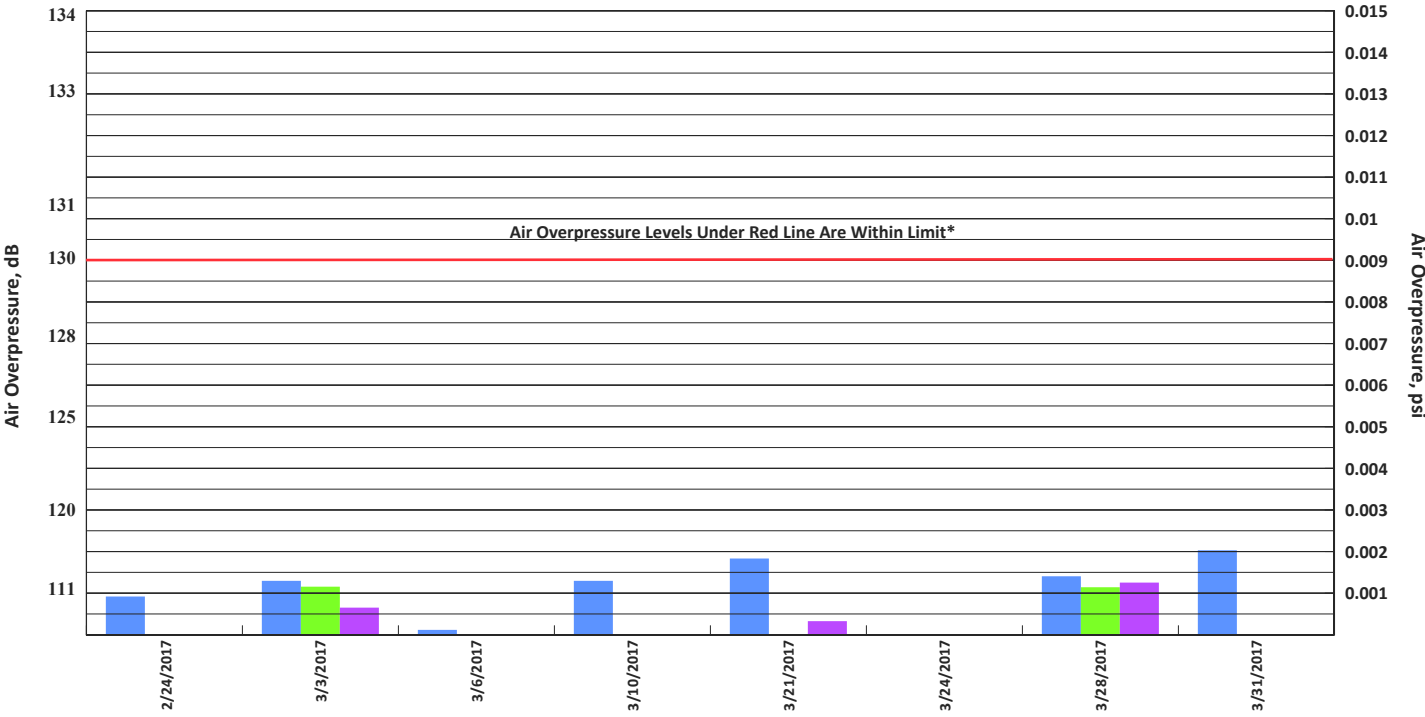
*State of New Jersey Administrative Code Title 12:190; Subchapter 7.26
**State of New Jersey Administrative Code Title 12:190; Subchapter 7.25

Comparison of Measured Blast Vibrations to Current U.S. Bureau of Mines Recommendations Tilcon New Jersey Pompton Lakes Quarry 1st Quarter 2017



*As per State of New Jersey Administrative Code Title 12:190; Subchapter 7.26

Air Overpressure Levels from Tilcon New Jersey - Pompton Lakes Quarry 1st Quarter 2017



*As per State of New Jersey Administrative Code Title 12.190; Subchapter 7.25

■ 211 Hamburg Turnpike
 ■ Cablevision Tower
 ■ Bloomingdale DPW Yard



April 25, 2017

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RE: 211 Hamburg Turnpike

This correspondence is in reference to the recent vibration monitoring results at the above referenced monitoring location. Two recent blasts occurred on March 28, 2017 and April 20, 2017. These blasts occurred in the southwest corner of the pit closest to 211 Hamburg Turnpike. On March 28, 2017 the blasting contractor (Maurer & Scott) set up a portable seismograph near the right front corner of the property near the stone wall and wooden fence. It is customary for the blasting contractor to set up a portable monitor at 211 Hamburg Turnpike when this location is the closest non-owned structure to the blast as required by the State of New Jersey.

The Vibra-Tech Re:mote Seismograph is a permanent monitor that is located to the left rear of the property. This location was selected for the Re:mote after consultation with the property owner and their desire to have the unit located in an inconspicuous location on the property so as not to interfere with the use of the property for social events.

On March 28, 2017, when the blasting contractor received a copy of Vibra-Tech's seismograph recording they noticed a significant difference between their recording and Vibra-tech's recording. The peak particle velocity recorded by Maurer & Scott at the right front corner of the property was 0.138 in/sec while Vibra-Tech's peak particle velocity at the left rear corner of the property was 0.748 in/sec. In addition, Vibra-Tech's seismogram exhibited very sinusoidal motion with frequencies clustered near 15 Hz. These locations are separated by a distance of approximate 230 feet. This difference was brought to Vibra-Tech's attention and discussed on April 19, 2017.

During discussions with Maurer & Scott on April 19th it was determined that another blast would occur on April 20th in the same area of the quarry as the blast detonated on March 28, 2017. For the blast on April 20, 2017, Maurer & Scott set a seismograph at their normal compliance location as well as one, near Vibra-Tech's Re:mote seismograph monitoring location. A review of the three (3) blast vibration recordings found that both seismographs at the Vibra-Tech location exhibited the same sinusoidal wave pattern as the recording on March 28th. These recordings had similar vibration levels with the Maurer & Scott seismograph recording 0.65 in/sec and the Vibra-Tech Re:mote recording 0.573 in/sec. The compliance seismograph near the front right corner of the property had a significantly lower peak particle velocity of 0.110 in/sec similar to what was observed on March 28, 2017.

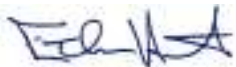
Given the results from the blasts on March 28, 2017 and April 20, 2017 it appears that the location at the left rear of the property exhibits some type of geologic response. This geologic response may be due to differences in the thickness and/or make-up of the near surface unconsolidated materials. This differential thickness or change in composition may have developed for several reasons.

- A review of the geologic mapping indicates that this area is underlain by unconsolidated surface sediments from the Pequannock glacial outwash which may have deposited material in a non-uniform manner both laterally and vertically.
- The seismic monitoring locations are located in the ancient stream valley of the Pequannock River that may have created an undulating erosional surface as it cut through gneissic bedrock that forms the valley. This undulating bedrock surface would later be covered by varied deposits of sand, gravel, and cobbles from the glacial outwash over time.

Vibra-Tech recommends relocating the Re:mote seismic monitor to a location that is closer to the structure that is located on this site so that the vibration events are more representative of what the structure is actually experiencing. If this is not possible because of the property owner's desire to have the unit located in an inconspicuous location, then perhaps the park across Hamburg Turnpike may be more appropriate.

Should you have any questions or require additional information, please do not hesitate to contact us.

Sincerely,
Vibra-Tech Engineers, Inc.



Ethan Huff
Area Manager



Douglas Rudenko P.G.
Vice President