



## **MEMORANDUM**

To: Todd Mathes  
From: John Hinckley, Q.E.P.  
Subject: Additional Monitoring Comments  
Date: 19 June 2007

### **INTRODUCTION**

Resource Systems Group (RSG) has conducted additional review of ambient air monitoring data provided by Save Our Schoharie (SOS). Specifically, ambient air concentrations of particulate matter less than or equal to 2.5 microns in size (PM<sub>2.5</sub>) were measured at five locations around the quarry (see attached figure). Monitoring began on May 25<sup>th</sup> and will be finished this week. Monitoring was completed with a DustTrak™8520 aerosol monitor, according to manufacturer's recommendations and RSG guidance.

This memorandum will summarize selected time periods where elevated PM<sub>2.5</sub> concentrations were measured. These measurements correlate with the Cobleskill Stone Product (CSP) operating schedule, which indicates fugitive dust from the quarry is drifting over the CSP property line to neighboring residences.

**SUMMARY OF SELECTED EVENTS**

Figure 1 shows PM2.5 concentrations measured at the Lown residence on June 5<sup>th</sup>. This monitor was located in the front yard of the Lown residence, on the western side of Eastern Avenue, the primary access road for CSP. Recall Figure 2 of the RSG memorandum dated 23 March shows the fugitive dust generated along Eastern Avenue by CSP related trucks. The figure below shows how PM2.5 concentrations rise once the workday begins, at approximately 7:00 am and fall shortly after the workday ends, at approximately 5:00 pm. Another notable aspect of Figure 1 is the significant quantity of spikes occurring during workday hours. The spikes represent trucks passing the monitoring station as they enter or exit the quarry.

**Figure 1: PM2.5 Concentrations Measured at the Lown Residence on 5 June 2007**

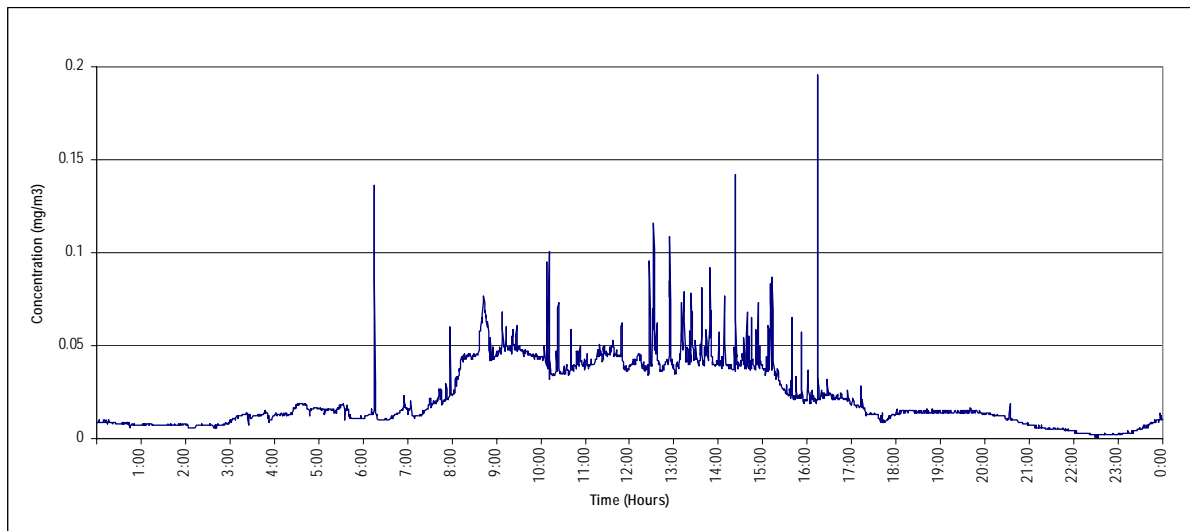


Figure 2 shows monitoring results at the Walker residence on June 5th. The overall shape of this curve is similar to that in Figure 1, with concentrations rising and declining with the beginning and end of the workday respectively. This figure differs from Figure 1 in that the spikes of Figure 1 are not present. This is because the Walker residence is located at the end of Prospect Avenue and is therefore further removed from periodic access road dust. The rise in particulate matter concentration is most likely from other quarry dust sources, such as the crusher and stockpiles as they are nearby.

**Figure 2: PM2.5 Concentrations Measured at the Walker Residence on 5 June 2007**

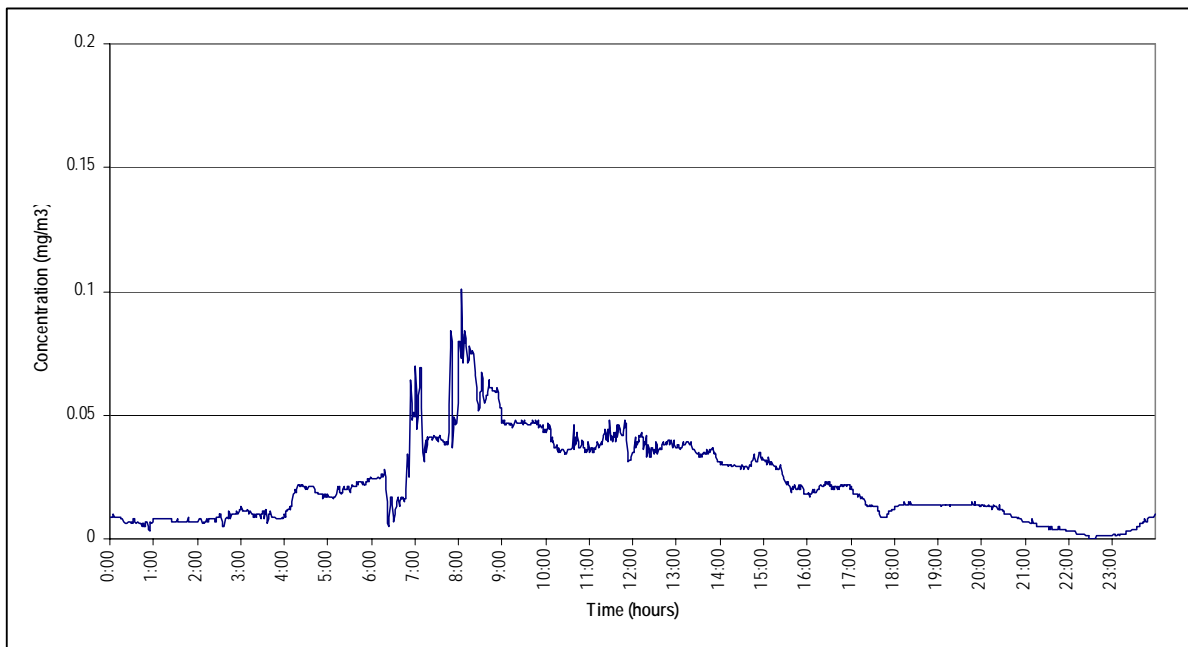


Figure 3 shows the Kennedy monitoring station on June 5<sup>th</sup>. Like the Lown and Walker Residences, the concentrations measured there are related to the quarry operating schedule. Like the Walker results, there are far less significant spikes in the data indicating the absence of periodic fugitive dust generated by trucking on the Eastern Avenue. While not as subject to entrained trucking dust, the prevailing westerly winds caused the Kennedy monitor to be subject to pit activities, such as hauling, loading, unloading and drilling. However, reduced pit activity was noted during the monitoring period by SOS representatives.

**Figure 3: PM2.5 Concentrations Measured at the Kennedy Residence on 5 June 2007**

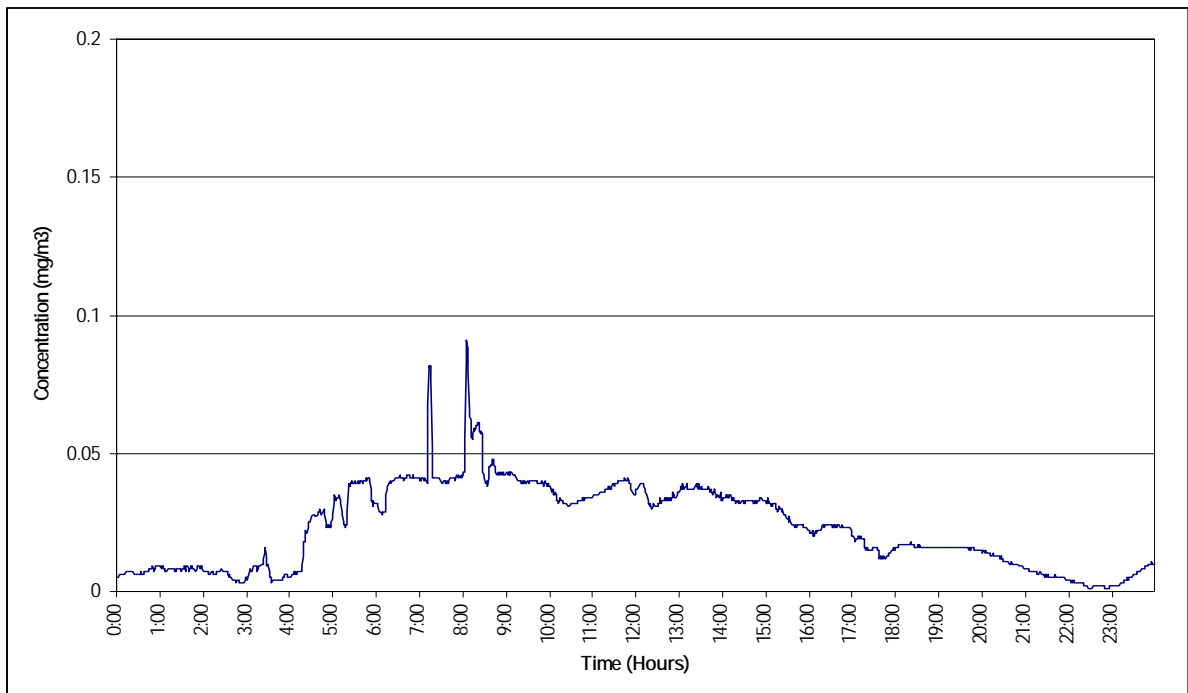
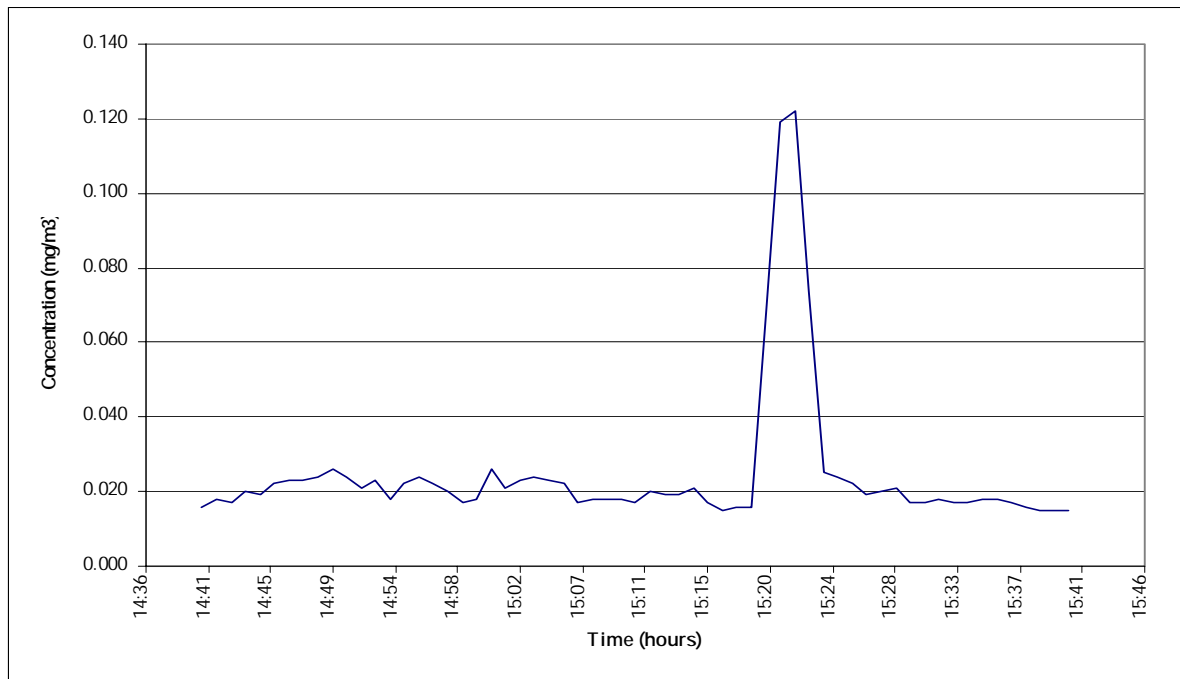


Figure 4 shows monitoring results at the Kennedy residence during a blast event on June 1<sup>st</sup>. Note the Kennedy residence is approximately 2,000 feet from the blasting area. Witnesses observed westerly winds (from the west) at approximately five to 10 miles per hour. This meteorology would carry emissions from the quarry to the Kennedy residence. As shown in the figure, the PM2.5 concentration spikes at approximately 3:20 pm, a short time after the blast was noted at approximately 3:15 PM. The maximum concentration shown (0.120 mg/m<sup>3</sup>) indicates a six-fold increase of PM2.5 concentration above the background concentration at the time the blast occurred (approximately 0.020 mg/m<sup>3</sup>). Note according to an SOS representative, the seismic readings associated with this blast were of moderate intensity.

**Figure 4: PM2.5 Concentrations Measured at the Kennedy Residence on 1 June 2007**



The Kennedy monitoring results demonstrate CSP blasting emissions will travel 2,000 feet or more from where blasting occurs. Therefore, given that wind blows from nearly every direction at some point in the year, it is highly probable that dust could affect anyone within 2,000 feet of where blasting occurs. In other words, imagine a 2,000 foot buffer around the proposed and/or existing quarry rim, where blasting occurs. Anyone within that buffer area could be exposed to fugitive dust from CSP.



**CONCLUSION**

Review of PM<sub>2.5</sub> monitoring results shows PM<sub>2.5</sub> concentrations at properties neighboring the CSP quarry are affected by CSP activities. Significant increases in PM<sub>2.5</sub> concentrations outside the quarry property line suggest fugitive quarry dust is not remaining within the property boundary. Note special condition #6 of the current permit states dust control measures should be implemented to prevent fugitive dust from leaving the property. Therefore, it is highly probable that CSP is violating the New York State nuisance regulation as well as its current permit. Recall the nuisance regulation is described in greater detail in the 23 March 2007 memorandum from RSG.

Figures 1 through 4 indicate quarry operations increase ambient PM<sub>2.5</sub> concentrations from approximately 10 µg/m<sup>3</sup> to approximately 40 µg/m<sup>3</sup> during working hours. Note the 24-hour National Ambient Air Quality Standard (NAAQS) for PM<sub>2.5</sub> is 35 µg/m<sup>3</sup> (24-hour average concentration). While the NAAQS did not appear to be exceeded during the monitoring period, the NAAQS could be exceeded in the future if quarry operations significantly increase in intensity or duration above what they were during the monitoring period.



## **APPENDIX A**

### **MONITORING LOCATIONS**



Mr. Bob Montione – Save Our Schoharie  
Cobleskill Stone Products, Inc. – Schoharie Quarry Expansion  
Cavanaugh Tocci Associates Sound Monitoring Data



Figure 1: Site plan showing Cavanaugh Tocci Associates sound monitoring locations