

## **New Study Shows Quarries Are Not Significant Sources of Crystalline Silica**

Kleinfelder, Inc. has published another report detailing the potential emissions related to operations at Liberty Quarry. This report, titled Potential Crystalline Silica Emissions and Exposure Associated with the Liberty Quarry and Other Activities in the Region, evaluates potential exposure of individuals to crystalline silica emissions from the proposed Liberty Quarry compared to individual exposure to regional sources of crystalline silica. The study found that the proposed **Liberty Quarry will not cause a significant increase in crystalline silica emissions.**

Crystalline silica is a basic component of soil in Southern California, found wherever there is sand and soil derived from granite and similar rocks. Crystalline silica exposure occurs when that rock or soil is ground into small particles which can become airborne. Because crystalline silica is an extremely hard material, only a small percentage of the bulk material can be reduced to a small enough particle to become airborne.

The key component of this study is a comparison of particulate emissions from Liberty Quarry, complete build out of the Red Hawk development, and the existing Interstate 15 (I-15) traffic through the city of Temecula. It was found that emission estimates of PM<sub>4</sub> and PM<sub>10</sub> crystalline silica from the proposed Liberty Quarry are about the same or significantly less than PM<sub>4</sub> crystalline silica emissions from current and everyday community activities.

### **Key findings of the report include:**

1. Ambient monitoring at two active California quarries containing the same amounts of crystalline silica as the proposed Liberty Quarry show their operations do not increase the ambient crystalline silica levels in the area. (Page 7)
2. The maximum ambient concentration of PM<sub>4</sub> crystalline silica from any sample (upwind or downwind) was only 3.7% of the state recommended exposure level (REL). The average ambient concentration of PM<sub>4</sub> crystalline silica was only 1.9% of the REL, meaning the average concentration is 98.1% BELOW what is considered safe for individual exposure.
3. Ambient concentrations of PM<sub>4</sub> crystalline silica immediately adjacent to active quarries are much less than levels potentially associated with health effects (i.e., (on the order of 5 percent or less of the potential health effects standard published by OEHHA). (Page 1)
4. Bulk crystalline silica content in the soil and rocks at the proposed Liberty Quarry site are the same or slightly less than at soils in the community of Red Hawk. (Page 1)
5. Ambient monitoring at the boundary of active quarries do not show an increase of ambient PM<sub>4</sub> concentrations due to quarry activities. This is due in part to a number of mitigation measures such as baghouse emission control on all crushers and screens and use of material load-out chutes to minimize the potential for dust generation during product loading. (Page 1)
6. The rock underlying the proposed Liberty Quarry site is not unique to the proposed site, and the same type of rock and crystalline silica is found throughout the region. (Page 2)
7. It was found that the crystalline silica percentage of PM<sub>4</sub> particles is only 44% of the crystalline silica percentage in bulk samples of the same rock. (Page 3)
8. Data shows that the PM<sub>4</sub> crystalline silica emissions associated with the proposed Liberty Quarry are less than 42% of the expected emissions from the Red Hawk development and less than 20% of the emissions from I-15 traffic through Temecula. (Page 8)