

Suggested Guidelines for Air Contaminant Sampling

1. The mine operator should first identify all job occupations on the ground and near the production of aggregate materials with potential exposure to dusts and/or fumes and sample each one to create a baseline reading for future reference. Suggested worker samples would be plant operator, primary crusher operator, driller, haul truck driver (pit and stockpile), loader operator (pit and stockpile), QC technicians, general maintenance workers, and shop maintenance workers if exposed to welding fumes and gases throughout the workday. A sample of one worker in each job classification should be enough to start.
2. Perform a quantitative sample of each selected employee's work environment using the proper dust pump and filter collection system attached to each worker. Samples are gathered for a prescribed amount of time in order to obtain an adequate reading of the environment workers are exposed to during a regular shift. The person doing the sampling must be present to ensure test equipment is worn and working properly throughout the shift. Equipment should be visually and physically checked every 90 to 120 minutes to ensure it is working properly. This sampling equipment can be rented or borrowed from several companies or agencies throughout the country.
3. The regulatory standard for sampling that MSHA accepts is the NIOSH 7500 method for determining an 8 hour weighted average. This testing method samples for respirable dust and silica quartz in Metal/Non-metal mines.
4. Samples must be analyzed by a certified laboratory technician. This service may be provided by the company from which you obtained the equipment or other laboratory. You should ask the laboratory to also check for the percent of quartz silica in your samples. If the quartz level is below 1% on your respirable dust samples, you should also conduct a total dust sample test. Always have a professionally trained and certified lab process your results. This way any question about the validity of the test results can be addressed by a certified technician who should be available to answer any questions and provide information about the equipment and testing methods used.
5. If test results come back with sample levels under the permissible exposure limits (P.E.L.) and meet all quality control requirements file them away for any future inspection visit from MSHA. This way you will have the records on hand when asked for your own independent sampling results. These results are also key evidence if MSHA does sampling and their results come in over the P.E.L. and to avoid a citation for not having done your own independent testing.
6. If test results indicate air quality levels are above the P.E.L. you must take corrective action in the form of engineering exposure controls, providing personal protective equipment or limiting worker's time in those work areas that exceeded the P.E.L. limits. Over-exposed workers must be enrolled in the company's Respiratory Protection Program. The written program must meet the regulation guidelines of MSHA 30 CFR 56.5005b. Employees will be informed of the hazards and how to manage those hazards from engineered measures to proper P.P.E.

7. Another exposure sample must be taken after any corrective action to ensure the worker is now within the proper exposure limits. According to MSHA's guidelines, samples do not have to be taken every year but rather on a regular basis or whenever there is a change to the worker's environment.
8. For future compliance, do qualitative examinations of the workplace to determine if any new dust problems exist. If a qualitative review of the work area(s) shows no signs of a problem with dust and or fumes, the operator can record these findings in a daily workplace examination log and/or other form of recordkeeping for future recollection. If a potential problem is found to exist, further sampling using the proper equipment may be necessary.

For more information on Dust and Fume sampling go to:

<http://www.msha.gov/S&HINFO/OPRSAMP/TOC.HTM>

<http://www.msha.gov/S&HINFO/ExposureGuidance/ExposureGuidance.asp>

<u>IH Equipment</u>	<u>Laboratories</u>
<p>Dawson Associates 922-B Hurricane Shoals Rd. Lawrenceville, GA 30043 Clint Anderson Phone: 800-282-4782 Email canderson1@dawsonassoc.com (This company provides all sampling equipment necessary for noise, dust, DPM, welding fume testing as well as services and calibrates the equipment.)</p>	<p>RJ Lee Group, Inc. 350 Hochberg Rd. Monroeville, PA 15146 Contact sales for pricing and account setup Phone: (724) 325-1776 Fax: (724) 733-1799 (This lab does RD/DPM/WF and other analysis for Vulcan)</p>
<p><u>Dust Sampling Equipment and Laboratory Services</u></p>	<p>Bureau Veritas 22345 Roethel Dr. Novi, MI 48375 Contact sales for pricing and account setup Phone: 248-344-1770 Fax: 248-344-2655 (This lab does DPM analysis for Vulcan)</p>
<p>Galson Laboratories 6601 Kirkville Road East Syracuse, New York 13057 Phone: (888) 432-5227 Website: www.galsonlabs.com Ask for Client Services (RiverStone Group has used this company supplying respirable dust and quartz sampling equipment to meet MSHA requirements. Galson's equipment loaner program provides a pre-calibrated (1.7LPM) pump, appropriate 10mm nylon cyclone, and a pre-weighed PVC filter cassette. After taking your sample, return everything paying for sample analysis.)</p>	