

What is a Quarry?

A quarry is an open-pit mining process designed specifically for the removal of large deposits of rock. Quarries can be found throughout our state and are located where a particular type of rock - such as granite, marble, or limestone - occurs near the earth's surface. Quarries produce crushed stone, sand and gravel for use in the construction of residential and commercial projects, as well as roads and public works projects.

How Modern Quarries Remove Rock

Drilling and blasting are methods used to remove rock from the quarry pit. Blasts are carefully designed to free rock using the least amount of explosive possible. First, holes are drilled into the rock following a predetermined pattern. Then, explosives are placed at the bottom of each hole and covered. Each hole is detonated separately within milliseconds of one another in order to control the intensity and direction of the blast vibration. The explosives are detonated to provide the smallest release of energy for the most efficient blast. The entire blasting process occurs in just a few seconds, and is monitored with instruments to record sound and vibration.

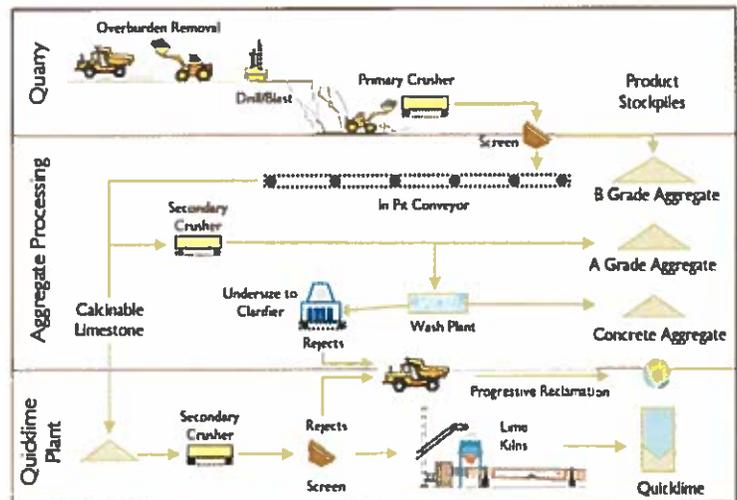


Figure 1 - www.sec.gov

Loading and Hauling Rock from the Pit

Once the quarry pit is created, mining equipment is used to transport the freed rock to the processing plant to be crushed and sorted into different sizes. At granite and some limestone quarries, large haul trucks are loaded with the rock and the rock is transported to the processing plant. In other limestone quarries, the pit is maintained as a lake and the rock is removed with a dragline excavator. This is considered wet mining.

Breaking, Separating and Transporting Rock through the Plant

A primary crusher reduces the size of the rock. The rock may then be further reduced in size by secondary crushers. Once crushing is complete, screens are used to separate the rock into specific sizes. Conveyor belts are used throughout this process to move the rock.

Dust and Water

Mining and moving rock around a processing plant can create fine particles of dust. Dust is typically controlled by using water spray, as needed, on the quarry road and in the mining process. Water (process water and rainwater) is typically recycled in a closed loop water system. Recycled water is stored in a pond where the sediment is allowed to accumulate. Under certain circumstances, some wastewater or stormwater may be discharged under a wastewater discharge permit.