

DMM Safety Alert:

Second Flyrock Incident in 2015

On June 15, 2015, a dangerous flyrock incident occurred in Virginia when a shot was initiated to create a water sump on the third level of a quarry. Rock from the blast traveled approximately 440 feet and struck a mine company vehicle containing two miners who were tasked to keep anyone from entering the blast area. Fortunately, no one was injured although the vehicle the two miners were in sustained minor damage.

This is the second flyrock incident in Virginia in 2015. The first one occurred on May 21, 2015, and resulted in rocks being propelled approximately 2,400 feet, injuring one person and causing damage to buildings and vehicles.

Sump and ramp shots are very different from regular production shots in that there is often little to no free face and the majority of the explosive energy is directed upward. Stemming ejections, like the June 15th incident, are a real concern when designing and initiating sump and ramp shots. The certified blaster must design the shot for adequate blast containment directing the explosive energy into the bore hole and the mass being blasted.

The Virginia Division of Mineral Mining advises the following when designing, loading, and initiating blasts:

- If you lack experience in a certain type of blasting, seek assistance from a more experienced blaster, technical support specialist, or consultant who has the specific expertise needed.
- When determining the boundaries of the blast area, the safety of all persons possibly impacted by the effects of the blast is the most important factor to be considered. The certified blaster in charge should include an extra margin of safety when establishing the blast area.
- Do not become complacent in designating the blast area. The boundaries of the blast area should be reviewed for each shot and adjusted to compensate for any unique conditions.
- The blaster should communicate the conditions and characteristics of each shot to all personnel involved in carrying out the shot so they are aware of all hazards associated with the shot.
- The certified blaster in charge must design and load a shot with sufficient burden, spacing, and stemming to prevent flyrock and other dangerous effects. For sump and ramp shots, the blaster must give extra attention when determining the amount of powder and stemming that will be used in each hole.

