

DMM Safety Alert:

Flyrock Causes Injury and Property Damage

On May 21, 2015, a quarry blast propelled rocks up to approximately 2,400 feet injuring one person and causing damage to buildings and vehicles. The injured person was lying in bed in his home when he was struck by debris that fell from the ceiling after a rock came through the roof and ceiling and landed in his bedroom. The injured man was treated at a local emergency room for a non-serious head wound that required stitches. Rocks also struck a storefront breaking a plate glass window and damaging a vehicle parked nearby. The Virginia Division of Mineral Mining (DMM) continues to investigate complaints and reports of damage to other buildings and vehicles. DMM, the federal Mine Safety and Health Administration (MSHA), and the local Fire Marshal are investigating this blasting incident to determine what caused the flyrock to occur.

Flyrock is defined as any uncontrolled material generated by the effect of a blast that was hazardous to persons, or to property not owned or controlled by the (mine) operator. Flyrock is a serious safety hazard that can be prevented. In light of the seriousness of this recent incident, mine operators and certified blasters should thoroughly review their policies, procedures, and practices to ensure that flyrock is prevented. The risk of flyrock can be minimized by utilizing the following practices:

- Drillers must produce accurate drill logs that identify any and all anomalies and abnormalities encountered while drilling the boreholes.
- Blasters must closely examine the drill logs and blast site geology and conditions and make appropriate adjustments when designing and loading a shot.
- Blasters must accurately measure the burden on the free-face for each front row blast hole and adjust the stemming and/or use decking to maintain adequate burden throughout the powder column of each hole.
- The timing in blast designs must be adequate to allow for the desired rock movement. Blasters must adjust the timing while loading the shot if needed to compensate for actual blast site conditions.
- Video recording the blast is highly recommended. Filming must be done from a safe location that provides a clear, complete view of the shot. Blasters should carefully review the video of each shot in order to note any issues that may need to be addressed going forward.
- If a DMM approved blasting plan is a part of the mine's operational plan, ensure that all elements and specific requirements of the plan are being addressed and implemented. Mine operators and certified blasters have a responsibility to ensure the safety of miners and the public when blasting.



Ceiling damage at home where occupant was injured.



Rock that damaged a storefront.

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