

Ground Control and Stockpiles – Information on Standard’s Requirements

1. Ground conditions, which create a hazard to persons, must be taken down or _____ before other work or travel in the area is permitted.
2. Areas where ground conditions create a hazard must be posted and have a _____ installed to impede unauthorized entry.
3. The mine operator must designate persons _____ in ground control who will examine and test the ground.
4. Scaling must be performed from a location, which will not expose persons to injury from _____ material, or other protection from _____ material shall be provided.
5. The length of the bar used for manual scaling is not specified in the standard. True____, False____
6. The quality of rock bolts used to support ground is specified in the MSHA’s standards. True____, False____
7. Designated persons must examine and, where applicable, test ground conditions prior to work commencing: a) in areas where work _____, b)after _____, c)as ground conditions _____ during the work shift, d) at least _____ for highwalls and banks adjoining travelways.
8. The angle of repose is: a) the acute angle (acute means less than 90 degrees) between the horizontal and the face of any stockpile, b) the acute angle between the horizontal and the face of a stockpile of dry, loose material, c) the acute angle between the horizontal and the face of a stockpile when the material is wet, d) between 36 and 39 degrees for most material.
9. When materials from a stockpile are being loaded into trucks, the driver should be: a) Inside the cab of their truck, b) outside on the driver’s side of the truck, c) outside on the passenger side of the truck.
10. The main danger of standing near a stockpile is: a) being run over, b) having dust blown in your eyes and nose, c) sloughing material, d) obstructed visibility.
11. It is safe to climb onto a stockpile if the material is at an angle less than the angle of repose. True____, False____
12. Under what conditions is it acceptable to do normal production work in areas where corrective measures for unstable ground conditions are underway? a) after the area has been inspected by a competent person, b) while the correction is being completed, c) Never.
13. Which of the following are steps that can be taken to help ensure that working below a highwall or pit wall is safe? a) Benching (or stair-stepping) the highwall/pit wall b) Clearing or scaling loose and overhanging material, c) Sloping the face to an angle less than the normal angle of repose, d)Placing a barricade to keep workers at a safe distance from the highwall.
14. If a full hopper stops feeding material to the belt below, what hazardous condition probably occurred? a) feeder stopped, b) belt stopped, c) slope failure, d) bridging over feeder.
15. What steps should a worker take to correct the problem discussed in 14? a) Scream at it so it knows it better not act up again, b) follow all steps of the lockout/tagout procedures specified for the equipment, c) Enter the hopper and jump up and down until the material flows freely, d) Bar down from a position outside the hopper.
16. Which of the following are indications of imminent slope or bank failure? a) Excessive material trickling off the face, b)Widening cracks along the top of the slope or bank, c)An increase in ground water running out of the face d)An Increase in bulging of the face, especially near the toe.
17. Which of the following are locations where caving of material may be encountered? a) Near edges of elevated roads, b)Near ponds or creeks, c)Near the edge of a highwall, pitwall, or excavation, d) On a stockpile, 5) In bins or hoppers.

1) Supported, 2)barrier, 3)experienced, 4)falling 5) False, 6) True 7) is about to take place, blasting, warrant, weekly 8) b & d, 9)a, 10) c, 11) False – engulfment (bridging) over feeders possible, 12)c, 13) all are correct, 14) d) 15) b,d, 16) all are correct, 17) all are correct.

Notes on Answers

2) The barrier is required when there is not a person in attendance. 5) This bar shall be of a length and design that will allow the removal of loose material without exposing the person performing this work to injury. 8) Note that wet material may slope at a higher angle due to adhesion of the wet particles and then slough when the material dries out. 10) When the slope steepens toward the angle of repose, the pile becomes unstable. Material piled wet will initially have a steeper angle of repose due to cohesion, but will become unstable as it dries out. 11) If the stockpile has a draw point underneath, bridging material may create a hollow cavern, which results in caving, engulfment, and suffocation of the person climbing the pile. 15) Engulfment is a danger when entering a hopper, and you need not be completely buried to suffocate. 17) Elevated roads are especially dangerous after a heavy rain.