## Azurite, Inc.

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RE: BYZANTINE QUARRY HIGHWALL INSPECTION, AUGUST 5, 2020

August 5 site conditions clear skies and 85F. The site has recently been worked to prepare for drilling operations of the second of potential work areas. The lowest process and stockpile level has been graded to <1% across the entire ~200'x ~600' area with several thousand tons of processed stone located at the south end. The west, highwall side of the lowest bench is covered with loose rock from the level immediately above, 25-30'above the production floor elevation. The loose rock at angle of repose (37) does not present a problem in itself. However, if rock is removed from its present location prior to blasting, the loader operator should be aware that bedrock directly behind the loose material is dipping in the direction of extraction and to limit disturbance of loose rock to no more than eight feet vertical from the process/stockpile floor level to minimize disturbance of loose rock that might be holding back larger chucks of bedrock near the top of the loose rock zone. If there is not very much material pushed in front of the blast face, then the lowest risk would be to shoot without prior removal of loose material.

The second bench, the drill collar bench, was reconnoitered end to end. The drill bench level, mostly 40' or more above the process/stockpile elevation(pit floor) is more variable in grade and includes a 20-30' run along the edge about 30'above the pit floor and the main bench behind of at least 70'to the west highwall about 40'above the pit floor. The drill bench level is about 600'long and terminates on both ends with vertical faces in bedrock outcrop intersected normal(perpendicular) to strike, showing a cross section cut of the dipping sedimentary beds at about 25 degrees eastward. The vertical faces show no sign of instability. Nevertheless, stockpile placement at the north end and berms of loose rock are placed to keep personnel and vehicles away from potential rock fall. The west side of the drill bench is the contact with undisturbed bedrock highwall. The contact is for most of the reach is formed of vertical cut in red mudstone and marl overlain by dipping beds of limestone rock for the top 15-20' of the highwall contact. The upper limestone beds are dipping toward the drill bench floor at 25 degrees. However, mining extraction earlier has removed the upper several to 10' of limestone rock, resulting in a angling back of the upper highwall contact now terminated along the clean plane of the remaining limestone bed. This has resulting in a very low risk of rock movement from the potential slippage plane since most of the rock in position to do so has already been mined.

The upper potential drill bench, if ever used, is about 35-40'above the current drill bench elevation and is actually the top of the bedding plane run of more resistant limestone rock that terminates along a ridgeline of limestone and a definitive drainage way of undisturbed terrain running m/l N/S parallel to the strike of the sedimentary rock and the drill bench direction. The shallow channel directs surface flows to the south and away from the highwall contact. The exposed bedrock along the top highwall contact was inspected at close range to ascertain if the bedrock lying on top of the red mudstone/marl below was disconnected along the rock type contact. No apparent loose bedrock noted. If and when this top bench is removed, it will expose undisturbed limestone outcrop making up the west side of the drainage channel described above and should present low risk of un-expected bedrock slippage along bedding plane.

## Conclusions:

The Byzantine Mine benches appear stable and being mined in a manner that reduces risk of rock movement that might present danger to mining personnel. Mine bench highwall contacts are maintained to result in the removal of any loose material remaining on bedding planes exposed along the highwall edges and placement of berms of loose rock to keep vehicles and personnel away from vertical highwall faces. Highwall contacts of limestone beds overlying mudstone and marl sediments exposed along the length of the mine benches show no sign of recent past or impending movement.

Respectfully Submitted,

KSKlco, Consulting Geologist Azurite, Inc. August 8, 2020