

# THE AUSTIN ADVANTAGE

HIGHWAY SLIP  
REMEDICATION  
ENSURES SAFETY AND  
COMPLIANCE



## GENERAL INFORMATION

**Location:** Upstate New York

**Project Type:** Surface Limestone Quarry

**Products Used:**

- Paradigm Modeling Software
- E\*STAR Detonators
- Eagle E\*STAR Cast Boosters
- Hydromite 4400

**Project Lead:** Jason Staats, Technical Representative

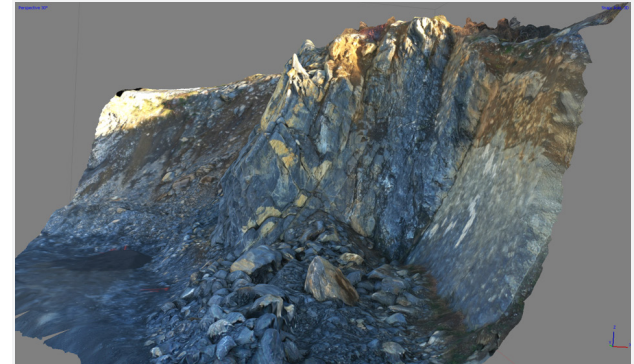
## THE HISTORY

This 70 foot tall area of broken, disjointed, and unstable rock was clearly unsafe to work below. The area borders on the life of mine boundary and had 56 feet of burden. In addition, there was room for only one row of mixed angled and vertical holes. A small remote drill was needed due to instability during drilling and hole size was limited to 3.5 inches in diameter. To further complicate the project, the customer had long standing issues with neighbor complaints, so minimizing vibration was also a consideration.

The customer was concerned about the condition of the rock face and was unwilling to allow their people to work or travel below it. Additionally, the blast was just off the life of mine boundary and excessive backbreak or any ejection would have put the quarry in danger of being fined.

## THE GOALS

1. Secure the unsafe wall.
2. Allow access to additional quarry reserves.
3. Meet production targets.



## THE CHALLENGES

The project had many inherent challenges. First, holes could only be inclined 10 degrees toward the face, due to drill limitations. The toe of the prominent, smooth parting seam on the final wall needed to be respected for long-term stability. Proximity to neighbors required ½ hole per delay maximum and the driller was unable to maintain the first hole on the open corner.

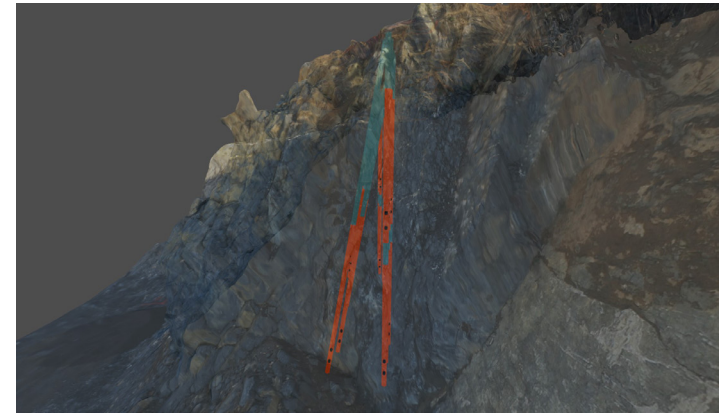
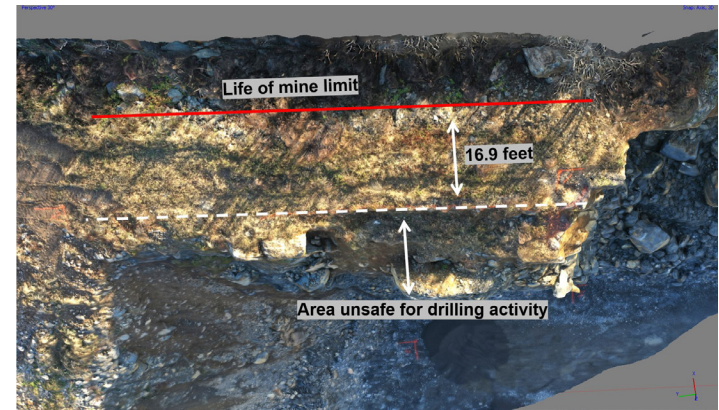
## THE AUSTIN SOLUTION

The blast was designed on site with Paradigm software. A two row shot consisting of vertical and 10 degree holes was used to help move the excessive burdens while maintaining a safe and stable final wall.

All holes were decked and custom loaded based on the designed powder factor as well as considerations for the vibration limitations. We used Paradigm to develop a unique timing plan to optimize performance and maintain compliance.

## THE OUTCOME

The area of the quarry that had its access cut off by the unsafe wall represented a significant portion of the quarry's reserves for the year's production goals. By removing this wall, we were able to allow them to proceed with their mining plan and meet their targets.



**AUSTIN POWDER**