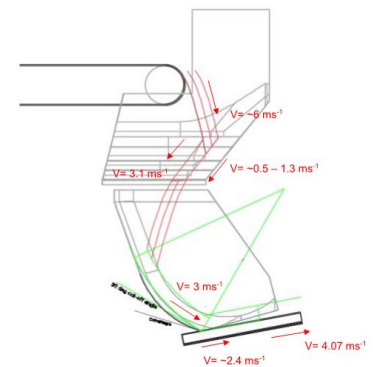
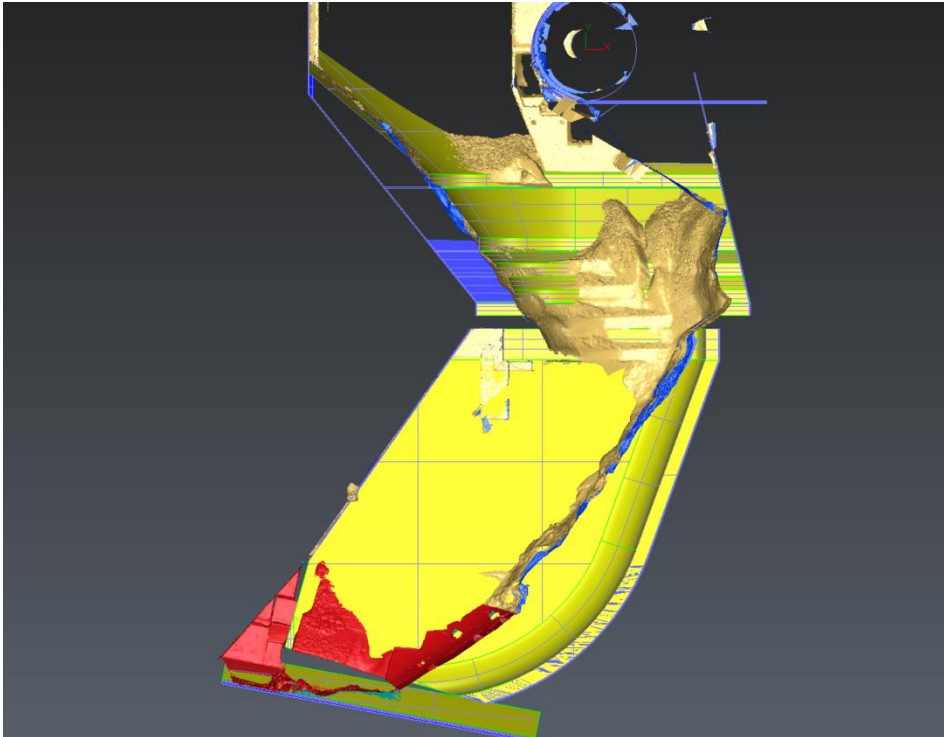




# Transfer Chute Flow Review Determining Conveyor Wear



Forefront Services was engaged to undertake a review of the ore flow through a transfer chute to identify the cause of premature wear of the conveyor top cover. No manufacturing drawings were available for the existing transfer; therefore, 3D terrestrial scanning technology was used to gather point cloud data from inside and outside the chute. From this data, a model of the internal surfaces was produced to assist with understanding the ore flow through the current configuration. Once the review of the existing installation was complete, and the reason for excessive top cover wear determined, a new design for the lower chute was developed. The review determined the new lower chute design needed to increase the horizontal velocity of the ore when delivering on to the conveyor, thus reducing slip in the impact zone and reducing top cover wear. The design was completed 2D continuum analysis confirmed the new design would achieve this requirement.

Forefront Services deliverables included:

- 3D point cloud of the existing chute, internal and external
- 3D model of the chute internals from the point cloud data
- Redesigned lower chute section
- 2D Continuum analysis of the redesigned lower chute
- A report detailing the findings from the original review, new chute calculations and the continuum analysis results

Forefront completed the project within budget and a final report detailing the outcomes of the review and subsequent recommendations was submitted for consideration by the client.

**Commodity:**  
Gold

**Location:**  
New South Wales

**Service:**  
3D Terrestrial Scanning, Engineering Design, 2D Continuum Analysis

