

Statutory (IBM) compliance for sites totaling >1,300 hectares (>11 sq km) leased to a publicly listed limestone miner in South India

Project overview and context

Pixel Vision was approached by a large listed company in May 2022 to carry out drone surveys compliant with the new IBM regulation. The mines in question were two large limestone mines of >1,000 hectares and >300 hectares respectively.

Approach

For the purpose of surveying the mine site, a single Skycopter X4 equipped with a multispectral Sony A6000 camera of 24.7 MP resolution was deployed. Given the requirement of a ground sampling distance of 5cm, the drone was flown to ensure an overlap of 70-80%. A total of 45 ground control points were used to provide georeferencing and the entire process including georeferencing and data collection took under ten days. This included delays due to poor weather. The project was challenging due to geomagnetic storms but the drone was flown without any mishap. A total of over 6,500 images were collected by the drone and this took about 5 days to process in its entirety, including revisions and validation.

Results

Pixel Vision successfully delivered output in accordance with the specifications set out by IBM. The very first draft was accepted by IBM and no revisions were required.

The following images are snippets of the final output with details redacted to preserve confidentiality.

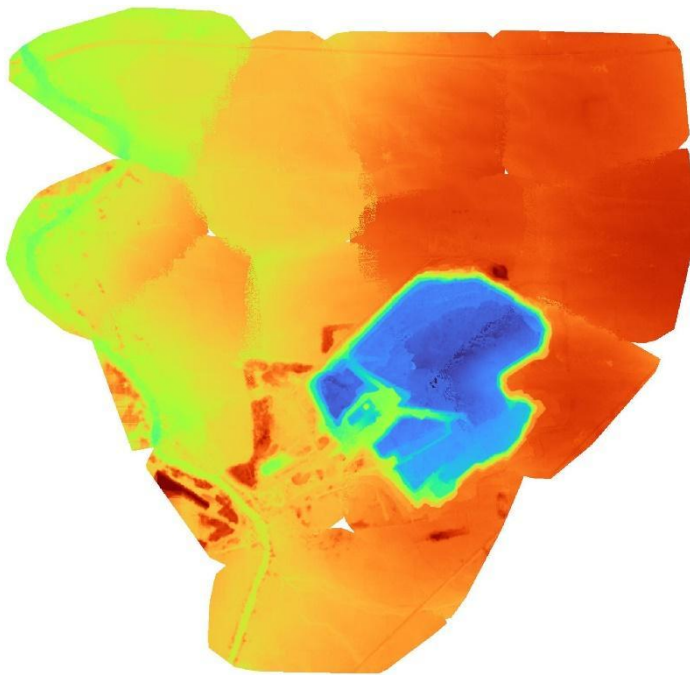


Image 11: Digital terrain model (DTM) of mine site with height from sea level represented by colour.



Image 12: Orthophoto of mine site.

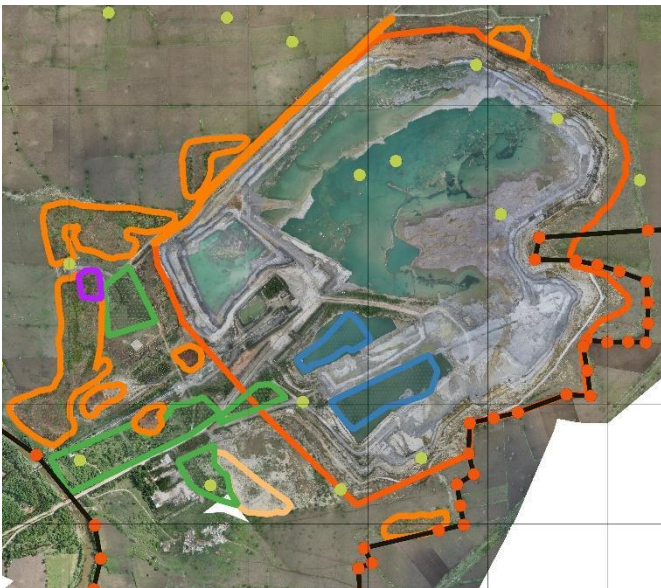


Image 13: Orthomosaic with markings indicating reclaimed area, mineral storage area, top soil, afforestation, actual excavation, lease boundary, water reservoir, pillar boundaries, ground control points, etc.