

“ We were looking for a way to survey the stopes to determine the extents of remnant pillars, stope HW and FW limits, and the accumulated material on sill pillars. The trial survey gave us the information we needed. ”

-Paul Matthews – Mineral Resource Manager

STOPE SCAN, COPPERTON MINE, EMESENT HOVERMAP

Shaun Davies



MINE/PROJECT LOCATION:
Copperton Mine, South Africa

YEAR OF PROJECT:
2022

CLIENT:
Orion Minerals

PROJECT FOCUS:
Shape and volume determination of old stopes via Hovermap scanner mounted on a drone.

COMMODITY:
Copper

DWYKA MINING SERVICES SOLUTION:
Emesent Hovermap scanner on drone

PROBLEM:

The mine was searching for a way to extract valuable data from old workings to accelerate and digitise the mining process. The primary areas of focus for the mine were to quantify the remaining pillars, evaluate the collapsed material at the base of the stopes, and determine the level of primary and secondary dilution. As safety is a top priority, utilising autonomy as an unmanned option was the natural choice to obtain quick and safe results.

SOLUTION:

The Emesent Hovermap scanner was mounted on a drone and flown into the stopes. The scan produced a detailed point cloud dataset that provided the client with electronic data, bringing their operation into the age of technology. The Hovermap tool's interoperability makes it suitable not only for drone use but also for delivering to the face via foot, vehicle, raise cage, telescopic mount, and other means.

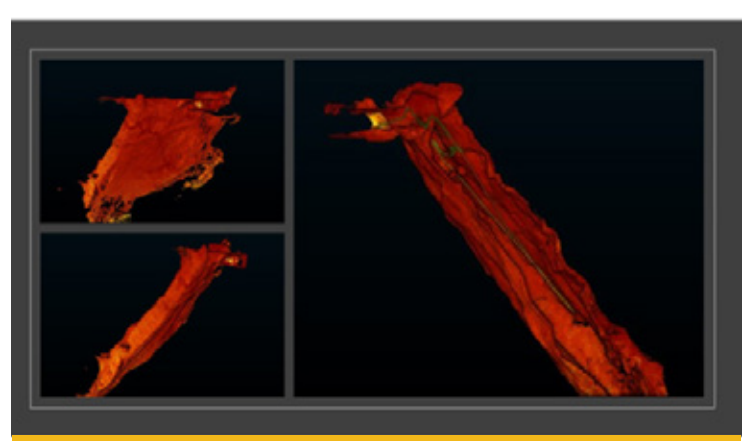
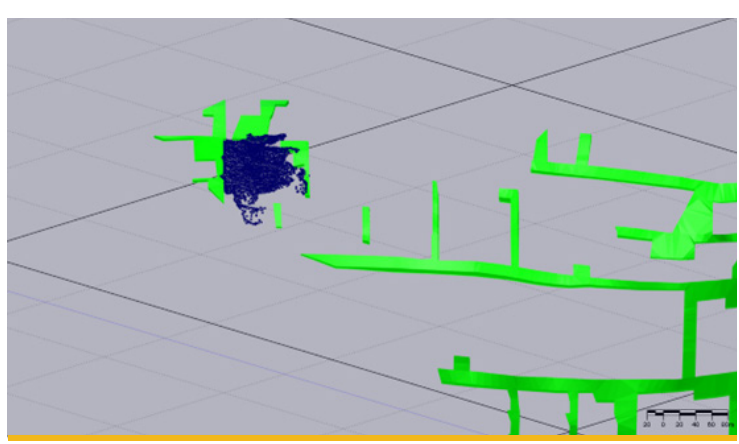
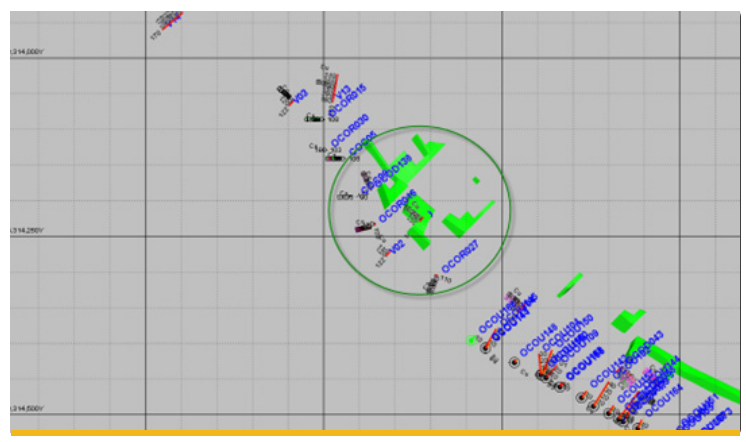
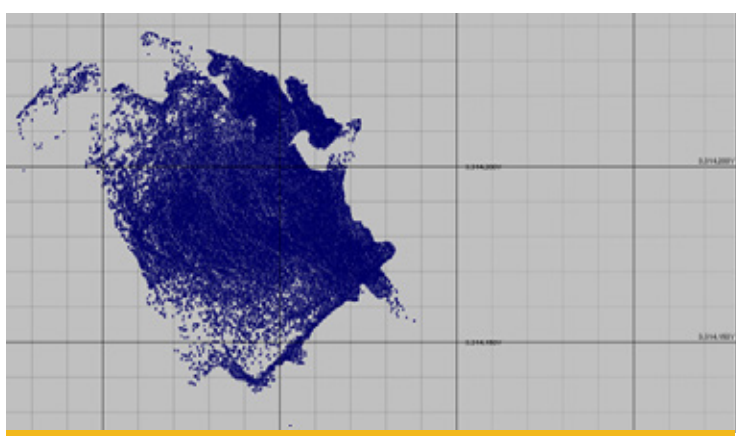
RESULT:

After just 5 minutes in the stope, the Emesent Hovermap scanner had completed a full scan of the area. The point cloud data was easily readable by the client's software and was overlaid onto the existing mine plan. The dataset was both rich and useful.

In summary, the Emesent Hovermap scanner was mounted onto a drone to record BVLOS (Beyond Visual Line of Sight) stope data of old workings. This provided the client with electronic data of areas for which there was little historical volumetric data available.

KEY TAKEAWAYS:

- ✓ Use of the Emesent Hovermap scanner on a drone provides a safe option for scanning underground voids inaccessible to personnel..
- ✓ Real-time visualisation of stopes not declared safe for personnel entry.
- ✓ Rapid data collection.
- ✓ BVLOS capability.



For more information on this case study and/or general info on Dwyka Mining Services, send us an email, or visit our website.

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