

UAV STOCKPILE SURVEYS



Reference: CS-43

GWP has been utilising UAV technology since 2012, the introduction of UAV technology to our business has kept us at the forefront of surveying practices.

Soon after adopting the technology we realised how UAV's were well suited for stockpile audit and analysis surveys. Traditionally stockpiles would have to be surveyed using a 'walk through' manual technique involving a surveyor climbing a stockpile in order to accurately characterise the shape and size.

This comes with a high risk to those undertaking the task, stockpiles are often steep, high and sometimes unstable. Stocking grounds are also often busy with both quarry plant and road haulage wagons and there are many blind spots when moving around on foot.

The use of UAV's minimises the exposure of survey personnel to these risks by removing the surveyor from the high risk areas whilst also reducing the time spent on site completing the task.

Accurately surveyed and carefully positioned Ground Control Points GCP's enable the data to be precisely positioned, scaled and remove distortion from within the survey model, once positioned correctly the data is processed using photogrammetric software and a densified 3D point cloud produced, the high resolution of the data (approx. 2cm ground sampling distance GSD) enables us to model the geometry of the stockpiles as accurately as possible.

GWP has generated an efficient workflow utilising 3D digital terrain modelling software to accurately calculate stockpile volumes. Careful consideration is given to modelling the ground surface profile beneath the stockpiles to ensure that the volumes are computed correctly.



Multirotor UAV in flight, stocking ground.



DTM Model (with stockpile identifiers)

Key contacts

For details and to discuss your requirements, please contact the following:

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