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# Flight report

Prepared for Ben Gluskowski, Geoscapes

Marsden Park, NSW Saturday, 30 September 2017

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## Scope

Sydney Drone Operations were contracted by Geoscapes to carry out flights over an uninhabited undeveloped property at the end of Hollinsworth Road, Marsden Park NSW. The purpose of the flight was to provide images at three heights above ground level (6m, 13m & 18m) at all angles from a static location as near to Latitude: 33° 43' 26.47" S and Longitude: 150° 49' 51.20" E as practicable.



### Local conditions

Flights were conducted on site from approximately 0830 until 1030 on Saturday, 30th September 2017. The temperature experienced was between 18 and 22 degrees celsius, it was partly cloudy with light high-level cloud cover, visibility was good. Strong winds were observed, at times, estimated at gusts over 30kts, which were later reported by commercial news at being over 50kph, which is just out of standard operating guidelines for the drone used, which has resulted in some slightly angled horizon images in some instances.

As the site is uninhabited, no other people, vehicles or buildings were flown over or near.

### Equipment used

All images were captured using a DJI Phantom 4 remotely piloted aircraft "drone". The drone has a 20mm lens with a 94° FOV, giving a 35mm format equivalent and images were created in both JPG and RAW formats at a size of 4000 x 3000 pixels (12 megapixels). To reduce sun glare a Freewell UV polarising filter was used for some shots, while the rest were achieved with a Polar Pro ND4 filter; the more accurate images appear to have been collected by using the latter - which are the ones recommended for use, depending on individual requirements.

## Image capture location information

Images were captured at two locations as close to the coordinates provided as possible; the first location was partially obstructed at lower heights by a tree approximately 16m tall on the eastern side of the location so a second location was used as a visually similar location near to the coordinates that was not as obstructed.

Images were taken at the 3 required altitudes in all 4 compass headings (north, west, south, east) and additional images were captured at the 3 altitudes in a way that provided a full 360 degree capture, with minor overlapping.

Due to minor movements by the drone, and some GPS inaccuracies, the table below indicates the GPS ranges the drone operated at to provide images.

	Location 1	Location 2	Maximum altitude variation	
6m AGL	33° 43' 27.294" S 150° 49' 51.318" E	33° 43' 28.284" S 150° 49' 50.316" E	200mm	
13m AGL	33° 43' 27.264" S 150° 49' 51.282" E	33° 43' 28.224" S 150° 49' 50.316" E	500mm	
18m AGL	33° 43' 27.288" S 150° 49' 51.366" E	33° 43' 28.206" S 150° 49' 50.328" E	500mm	
Panorama images	Latitude: 33° 43' 27.048" S Longitude: 150° 49' 51.444" E		6m 13m 18m	100mm 200mm 400mm

The information in this report was collected with the intention of providing best efforts at accuracy based on readings provided by the drone's location systems. Minor variations should be expected to professional GPS / altitude readings from professional surveyor's equipment.