

## **Magnetometer Exploration Survey Frequently Asked Questions Information Sheet**

### **What is a magnetometer survey?**

A magnetometer survey is a form of geophysical survey. The survey can be undertaken by people carrying magnetometers on the ground or the magnetometer can be attached to an aircraft which flies lines at a fixed distance apart at a constant height above the terrain.

A magnetometer is a device that measures magnetism—the direction, strength, or relative change of a magnetic field at a particular location. Examples of magnetometers include compasses and metal detectors.

The magnetic survey method is a non-invasive geophysical method which ultimately measures the magnetic field associated with magnetic minerals in crustal rocks. This allows sub-surface geology to be mapped to reveal geological structures.

The NSW Government has been acquiring airborne magnetic data under various NSW Government funding initiatives and in collaboration with Geoscience Australia. About 88% of NSW has been surveyed at 400 m line spacing or closer

For further technical information see below links

### **Geoscience Australia**

<https://www.ga.gov.au/scientific-topics/disciplines/geophysics/magnetics>

### **Environmental and Geophysical Society**

<https://www.eegs.org/what-is-geophysics->

### **Why is Delta Coal doing the survey?**

Delta Coal is planning to conduct magnetometer surveys with an aerial drone over some of their mining and exploration leases. The magnetometer survey helps to map geological structures which could present safety and economic hazards for our underground mine workforce and business respectively.

Delta Coal's Chain Valley Colliery has been mining under and around Lake Macquarie for 60 years. To do this safely and economically, Chain Valley Colliery needs to understand future potential geologically related mining hazards.

### **Why now?**

The survey was delayed until after the spring school holidays to reduce any interaction with the public.



### **Who did we notify?**

A number of methods were used to notify stakeholders and the community of the upcoming surveys. These included newsletter drops to surrounding landowners, Conservation Risk Assessment and consent from the landowners, notification to the combined Chain Valley Colliery and Mannering Colliery Community Consultative committee of which Lake Macquarie City Council and Central Coast Council are members. These activities were proactively undertaken by Delta Coal to inform stakeholders and the community of the work and were part of our regular communications with the community.

### **Does magnetometer surveys impact the environment or sea life?**

No, this survey work has no material environmental impacts. To undertake a magnetometer survey, equipment is attached to a drone which is used to map the magnetic properties of the surrounding environment from a safe height range. The drone's flight plan has been designed to comply with applicable legislation and minimise impacts to the environment.

### **What additional precautions will you take?**

A CASA qualified pilot operates the drone and a spotter assists with maintaining of a visual line of sight, a flight plan is devised which takes into account; built features, public safety, other aircraft, areas of environmental significance and community interactions.

### **How do I keep up to date on the work?**

Phone the Community information line on 1800 689 260

Email: [info@deltacoal.com.au](mailto:info@deltacoal.com.au)

Website [deltacoal.com.au](http://deltacoal.com.au)

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