VALIDATING THE GEDEX HD-AGG™ AIRBORNE GRAVITY GRADIOMETER

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The Gedex High-Definition Airborne Gravity Gradiometer (HD-AGG™) was designed and developed to deliver measurements of the gravitational field with improved signal-to-noise and resolution. The system has been under development for more than 10 years and is approaching the point of commercial deployment. Knowledge of the gradiometer components being measured, noise character and resolution of the system will allow end-users to appropriately select exploration targets and to determine eventual survey parameters.

The validation of the Gedex system has been progressive in nature consisting of laboratory tests and flight tests in a Cessna Caravan after successive modifications. The lab experiments consist of static tests to establish the noise floor, signal confirmation tests and dynamic testing on a 6 degree-of-freedom shaker. The airborne testing includes high altitude flights to confirm the noise level and character of the system over long periods. Low-level flights have been carried out to establish resolution and noise levels under survey conditions. These have been conducted over areas where high resolution terrain data and ground gravity exists and geology is known. We present datasets from our validation program and discuss our path forward.