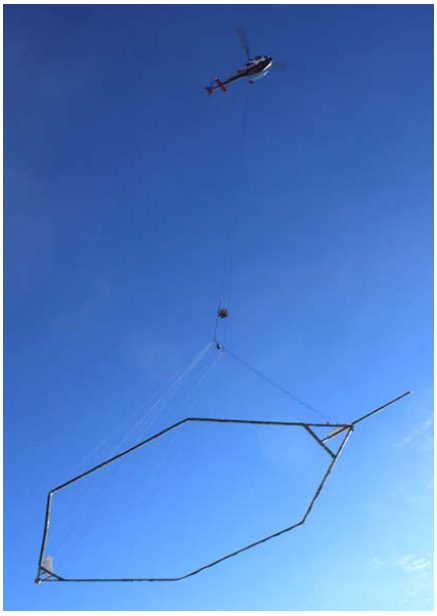
The World's First Helicopter TEM / Gravity / Mag systems

SkyTEM and Sander Geophysics have teamed to offer combined deep looking helicopter time-domain EM (TEM) systems with high resolution AIRGrav technology.

SkyTEM's recent R&D efforts have led to an increase of the dipole moment to over 1,000,000 NIA. This high powered system, SkyTEM516, is yet another breakthrough in SkyTEM's TEM technology. The system was flown over the industry standard test site, Caber, in conjunction with Sander Geophysics' AIRGrav system to compare SkyTEM data with other transient EM systems, and to demonstrate the added value of including high-resolution airborne gravity data over complex mineral deposits.

SkyTEM is the inventor of MultiMoment® TEM systems and holds a patent for this technology. All SkyTEM systems utilize MultiMoment® technology to deliver the combination of accurate high-resolution maps of subtle variations in geology from the very near surface to depths of hundreds of meters. An array of systems is available with a diverse range of map products. Inversions are available within 24 hours of acquisition and the company is proud to offer raw data for critical analysis.

AIRGrav is Sander Geophysics' purpose built airborne gravimeter. This unique gravimeter is mounted on a three-axis inertially stabilized platform, combined with extremely accurate Differential GPS (DGPS) to correct for aircraft movement due to turbulence and aircraft vibrations. AIRGrav offers a number of advantages over competing systems, including: 1) significantly better resolution and accuracy; 2) ability to operate under normal daytime flying conditions; 3) ability to provide high quality gravity data while flying in drape mode; 4) significant operational efficiencies; and 5) shorter time required for data acquisition and processing.



This combination of cutting edge helicopter-borne technologies on a single cost effective platform offers economic solutions to all exploration sectors. High resolution EM and gravity data can now be collected concurrently, and surveys can be drape flown at low altitudes and at lower speeds than fixed wing aircraft.

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Test Survey over the Caber Deposit with SkyTEM's SkyTEM516 and Sander Geophysics' AIRGrav

In February 2015 SkyTEM and Sander Geophysics conducted a test survey using SkyTEM's SkyTEM516 system combined with Sander Geophysics' AIRGrav airborne gravity system. The combined system test was flown over the well-known Caber deposit, 30 km west of Matagami in Québec, Canada. The massive sulphide deposit is located at an approximate depth of 150 m and is partly covered by conductive overburden, making it a challenging EM target.

The SkyTEM516 system has the highest dipole moment of all SkyTEM systems. The TEM system and magnetometer were towed below an Airbus Helicopters AS350-B3 helicopter, and the AIRGrav system was mounted inside the cabin of the helicopter. All systems worked flawlessly together and there was no adverse interaction.

The Caber test data presented below demonstrate the high spatial resolution and low noise properties which characterize SkyTEM data, as well as the obvious advantage in having simultaneous gravity data available to map geological structure. The TEM and magnetic data clearly image the deposit itself, whereas the gravity data maps the density contrast across the associated fault, providing valuable information related to the geological setting.

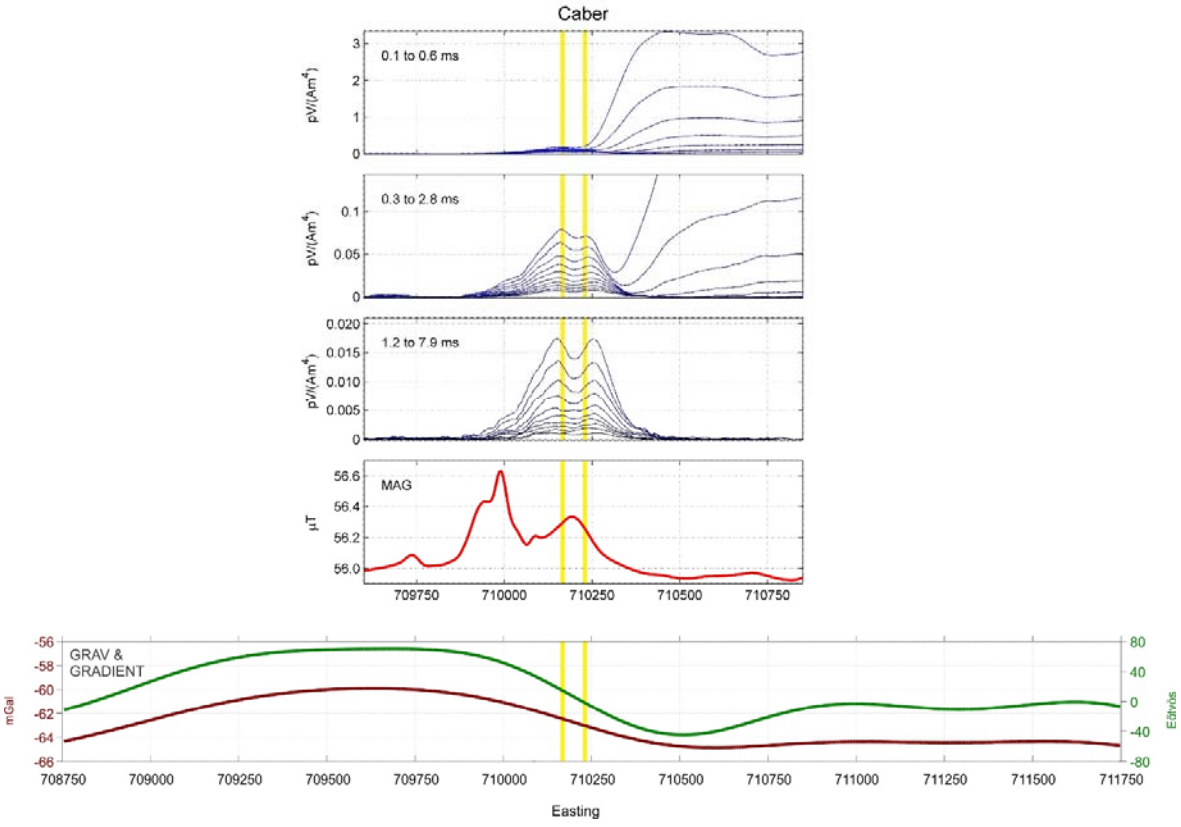

Figure 1. Combined SGL and SkyTEM results from the Caber test (location of Caber deposit shown by vertical yellow lines). The top three panels show various time gate dB/dt profiles for the z-component of the SkyTEM516 system. The fourth panel from the top shows the magnetic profile, and the bottom panel shows the Bouguer gravity in brown (regional trend removed) and its gradient in green, as acquired with Sander Geophysics' AIRGrav system.