



KASI Aviation's horizontal magnetic gradiometer system showing wing-tip pods and tail stinger Credit: KASI Aviation Services

chargeability characteristics of mineralized and non-mineralized lithologies and alteration zones.

In October, Toronto-based **Geosoft** announced its plans to deliver earth modelling solutions to the exploration community by releasing new 3-D inversion modelling technology in 2011. The new earth modelling capabilities will be available as an on-line service that is accessible within Geosoft's Oasis montaj earth mapping platform. Accessible to all geoscientists, this should contribute to improved 3-D understanding of the sub-surface.

Geotech Ltd. of Aurora, Ont., reported that 2010 proved to be very successful and marked a great return to exploration activity. The company attributed a number of new exploration successes to its new technological developments, which also made it possible to flourish in the new economic environment. As a result, new personnel were added and new offices were opened. Geotech offices are located in Canada, Mexico City, Rio de Janeiro and Santiago (opening 2011) and **Geotech Airborne Ltd.** offices can be found in Perth; St. Michael, Barbados; Accra, Ghana; Johannesburg and a new location Dubai.

GeoTechnologies is a Russian company based in Moscow, specializing in manufacturing geophysical equipment. The company, which is not yet well known outside Russia, has developed new helicopter-borne combined time-domain EM and magnetic survey technology named EQUATOR which was flown on its initial surveys in 2010.

Oshawa, Ont.-based **Impulse Geophysical Surveys** specializes in hardware and methodology to support innovative ground and airborne EM exploration technologies. The company mandate includes exploration for new deposits, delineation of geological structures and engineering geophysics. Airborne surveys include integrated magnetic, spectrometric and electromagnetic methods. Ground surveys include deep EM methods using TEM, MTEM (multi-delivery TEM) and CSEM (controlled source EM). Applications range from exploration for polymetallic ores to diamonds and hydrocarbons. In addition to surveys, the company plans to make new equipment and software commercially available.

KASI Aviation Services is a new division of **KalusAir Services** (Dorval, Que.) which has been in business since 1985. KASI Aviation was started in 2008 with one PA31 Navajo aircraft to supply airborne services to geophysical survey companies. The company now has three PA31 Navajos equipped for magnetometers, including horizontal gradient, radiometric, VLF and gravimeters. Aircraft are equipped with long-range fuel tanks, global tracking systems and are very magnetically clean. Over 250,000

line-km had been flown by the end of October 2010 in Quebec and northern Canada. Flight crew staff were increased to accommodate airborne geophysical companies like **Tundra**, **Geophysics GPR** and **Terraquest** which have used KASI on many surveys including for the Geological Survey of Canada and Quebec's **Ministère des Ressources Naturelles et de la Faune (MRNF)**.

For **Pico Envirotec Inc.** (PEI) of Concord, Ont., 2010 was a year of completion of a number of developments related to large projects in the natural resources market. Orders for turnkey integrated airborne systems were delivered to India, the United States, China, Pakistan and Egypt. PEI continued with the development of instrumentation for new automated airborne survey systems. The newly developed AGRS Gamma-ray Spectrometer was thoroughly tested and a number were delivered. New combined instrumentation was integrated under the new name IM-PAC, simplifying and reducing wiring and increasing reliability. In partnership with T.H.E.M. Geophysics of Gatineau, Que., PEI also completed and delivered a new high-sensitivity P-THEM Helicopter-borne Time Domain EM System.

Ottawa-based **Sander Geophysics** (SGL) carries out airborne gravity, magnetic, electromagnetic and radiometric surveys worldwide using fixed-wing aircraft and helicopters. The company specializes in high-resolution airborne surveys for petroleum and mineral exploration, and environmental mapping. SGL reported another successful year flying numerous combined gravity and magnetic surveys, as well as combined magnetic and radiometric surveys. The majority of SGL's surveys in 2010 were airborne gravity, including several large combined airborne gravity and magnetic surveys for petroleum exploration. Airborne gravity for mineral exploration saw SGL fly a helicopter gravity and magnetic survey for **Darnley Bay Resources** over the Darnley Bay gravity anomaly in the Northwest Territories. In the summer of 2010, Sander Geophysics took delivery of a de Havilland DHC-6 300 Twin Otter survey aircraft to support its airborne geophysical services. Formerly operated by the **Geological Survey of Finland** and the **British Geological Survey**, the aircraft came equipped with a frequency domain electromagnetic system, a stinger-mounted magnetometer, and a radiometric system. This "three in one" system has been used extensively in Europe and Africa to produce high-quality, high-resolution geophysical data. The addition of SGL's AIRGrav airborne gravity system will provide a unique suite of geophysical survey systems for mineral and petroleum exploration. This aircraft had been operating under Finnish civil aviation registration OH-KOG and has now been transferred to SGL's Air Operator Certificate under Canadian registration C-GSGE. The Twin Otter is especially suited to harsh environments where a twin turbine aircraft is preferable, such as offshore arctic surveys. The addition of the Twin Otter brings SGL's fleet to a total of 16 company owned and operated survey aircraft, all modified for airborne geophysical surveys.

SkyTEM Surveys (formerly SkyTEM Aps), headquartered in Beder, Denmark, is in its seventh year providing helicopter-borne TDEM surveys worldwide. The company is now incorporated in Canada as **SkyTEM Canada**, with offices based in Ottawa providing an operational base for logistical and backup support for North America. In addition, SkyTEM has established an operational base in Australia, and representatives in Eastern Europe and Asia.