

# AEROTEM II

## ADVANCED HELICOPTER-BORNE TIME DOMAIN ELECTROMAGNETICS

AeroTEM II is an innovative approach to geophysical surveying with its original concept of a concentric coil helicopter-borne time domain EM system.

Aeroquest has been continuously refining the system design as an exploration tool that is optimized to provide the maximum amount of information on a target conductor. The resulting combination of resolution, conductance discrimination, and geometric information is not possible with any other geophysical platform.



### FEATURES

- Focused footprint
- Multiple axis receiver coils, “Z” and “X”
- On-time and Off-time measurements
- Depth of exploration to 250 metres
- Very Portable
- Optional vertical gradient magnetics
- Higher sampling rate (13  $\mu$ s) is available for mapping resistive bodies, i.e. kimberlitic pipes

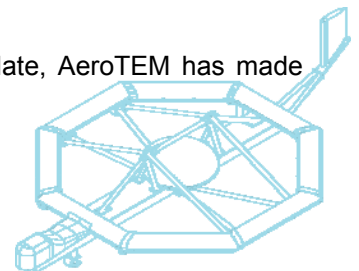
### ADVANTAGES

- Highly focused EM footprint provides outstanding delineation and characterization of subsurface conductors, superior to that provided by the much more expensive large-loop ground EM methods.
- This portable system can be dismantled and re-assembled for quick deployment to almost any geographic location.
- Rigid platform provides excellent results even in the most rugged terrain.
- Target responses are independent of bird heading, and show no hearing-bone effect across flight lines.
- Ideal system configuration for flying in a *low and slow*, tight line spacing survey mode for detailing known conductive targets to determine orientation for direct drilling.
- Optional Dual Magnetometers (one on the platform and one attached to the tow cable) allows for vertical gradient magnetics concurrent with EM surveying.

### DISCOVERIES

AeroTEM has become for many the system of choice for exploration programs. To date, AeroTEM has made significant discoveries including:

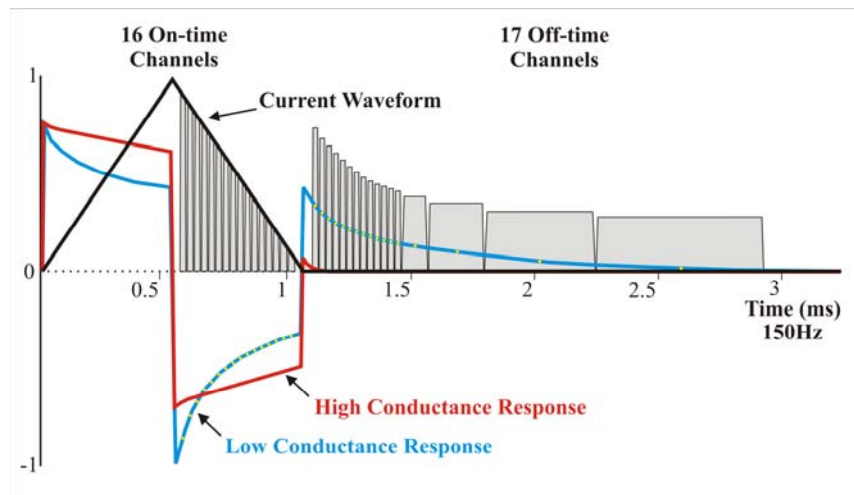
- |               |   |
|---------------|---|
| ■ Copper (Cu) | ■ Poly-Metallic Sulphide (Cu-Pb-Zn)                 |
| ■ Gold (Au)   | ■ Nickel-Copper-Platinum Group Elements (Ni-Cu-PGE) |
| ■ Diamonds    |   |



## SPECIFICATIONS

<b>Base operating frequency:</b>	125/150 Hz
<b>Transmitter waveform:</b>	Bipolar triangular pulse, 30-50% duty cycle
<b>Transmitter coil:</b>	Vertical dipole
<b>Receiver coils (3-axis):</b>	Concentric vertical Z axis, plus horizontal dipole in X (along line)
<b>Transmitter dipole moment:</b>	40,000 Am <sup>2</sup> peak @ 150 Hz typical
<b>Data output:</b>	16 on-time channels plus 17 off-time channels for all receivers plus full waveform streaming data
<b>Output sampling rate:</b>	10 per second for channel data 38,400 per second for streaming data
<b>Tow cable:</b>	40 m long, with Kevlar strain member and weak-link
<b>Overall bird dimensions:</b>	5 m diameter

## WAVEFORMS AND CHANNEL POSITIONING



## DEPTH OF EXPLORATION

