

Low frequency, broadband, pulsed EM can provide a range of solutions from one single scan. Adrok can complete linear scans and can now also planar profile scans. The results obtained can augment and add significant exploration value to existing data or as a first pass Greenfields targeting technique. For organisations carrying out large surveys, having the capacity to process for multiple "commodities" represents a significant return on exploration expenditure.

**One broadband pulsed EM scan can provide a plethora of information for your project!**

For each planar or linear scan, we collect a suite of data that can be used to extract unique geophysical properties of rocks and liquids beneath the surface.

For example, a single planar survey may target water (aquifers) in the basin cover rocks and sulfides in the basement rocks. Many companies have already taken advantage of this multi-commodity targeting capacity.

**Scan result used**

**Dielectric curve**

**Energy reflection (internally referred to as E%-log)**

**Energy and frequency harmonics**

**Energy-gamma and/or Energy & DC function**

**Target commodity**

**Principally water and/oil (hydrocarbon) targeting**

**Massive sulfide targeting**

**Lithology variation mapping**

**Disseminated sulfide targeting**

**Geothermal mapping and thermal characterization prior to drilling**



**How and why it works**

Water has a high dielectric permittivity ( $\epsilon_r, 80$ ) The relative amount of water found within a rock is typically related to the dielectric value, particularly in basin rocks where host sediments have  $\epsilon_r < 15$ .

Massive sulfides represent a good dielectric contrast with host rock types. Accordingly, the highest reflected energy is measured at a sharp dielectric boundary like layers of massive sulfide!

Energy and frequency harmonics can help differentiate different lithological layers because both the boundaries between lithologies and the lithologies themselves show different characteristics in E- and F-harmonics results.

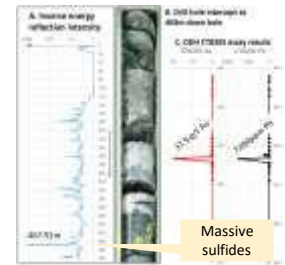
Key peaks and troughs in energy- and frequency-harmonics have been integrated into a weighted sulfide correlation criteria (WSSC) method specifically developed for targeting disseminated sulfides.

External clients have independently developed a correlative method of matching peaks in geothermal temperatures and peaks in E-gamma results. Accordingly, the E-gamma can be used to map anomalies in geothermal heat such as hot aquifers. Adrok can also use a combination of dielectrics and energy to extract changes in temperature with depth.

**Example deliverable**



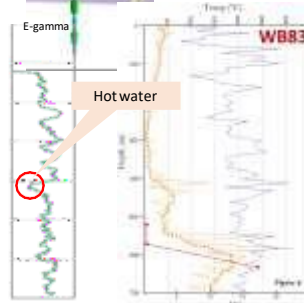
Aquifers



Massive sulfides



Disseminated sulfides



Hot water



Edinburgh, Vancouver, Brisbane