

## Environmental Geophysics



Mike Hatch  
Associate Editor for  
Environmental Geophysics  
[michael.hatch@adelaide.edu.au](mailto:michael.hatch@adelaide.edu.au)

### Mythbusters needed

In this *Preview* issue I would like to start a discussion about something that has been bothering me more and more lately, but is not necessarily part of my remit as the Associate Editor for Environmental Geophysics. I am concerned about the growing number of companies that are promoting (and making money from) geophysical exploration based on false science. In the last two years I have seen a company make extraordinary claims about its ability to discriminate minerals at pretty much impossible depths; a rehash of the old micro-lepton scam (see this item from *Physics World* debunking this – with some interesting comments: <http://physicsworld.com/cws/article/news/2002/jul/03/oil-companys-microlepton-technology-dismissed>); and two different companies promoting two, different, ‘new’ technologies to find water. All are obviously set up by people who have some knowledge of science, but use their knowledge to create impossible extensions to the known science, and then go on to sell and promise miracles. It only takes one or two explorers not to do the due-diligence that needs to be done and agree to run test surveys for these companies to make money.

The difficult thing here is that we don’t want to stifle creativity and actual technical advancement. The development of ground penetrating radar (GPR) starting in the 60s, the transient electromagnetic method (TEM) in the 80s, and nuclear magnetic resonance (NMR) in the 80s and 90s are examples

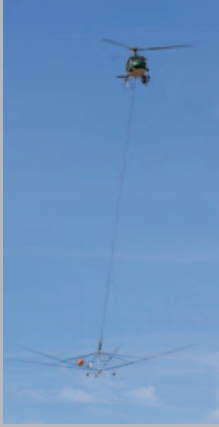

of legitimate innovation. All were great ideas, based on solid physics. Initial attempts at collecting data didn’t necessarily work so well but, with improvements primarily in electronics and then in software, each of these progressed and are now recognised as powerful geophysical techniques. Unfortunately for the scammers (and their claims of revolutionary insights to the science) the basic tenets of most of geophysics were established a long time ago (~1880 for Maxwell’s Equations), and the basics of how energy interacts with the earth is relatively well understood. Truly revolutionary changes in our understanding of these interactions will be recognised as such and will be published.

Why should the ASEG and its members care about these scams? It all comes down to the one sentence that the scammers are able to put on their

websites or in boardroom presentations that has the potential to lend some credibility to the companies’ claims. That sentence is: ‘As presented at ASEG’. Note that this is not even an endorsement by the ASEG, but that results were presented at a recognised, prestigious conference, with world-wide credibility.

Maybe the ASEG needs to set up a ‘Mythbusters Unit’ (thank you Graham Heinson for this great name) to investigate and expose these companies for what they are. I think it’s a great idea in the longer run, but maybe for now at least all Members of the ASEG should be on the lookout for this type of false science. We can all act in the front line to make sure that the scammers don’t get the oxygen that they need to thrive. Remember the old adages (slightly modified): ‘There are no silver bullets’; and: ‘When a company makes claims that sound too good to be true they usually are’!

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**GPX SURVEYS**  
 Airborne & Ground Geophysics  
 Greg Reudavey or Katherine McKenna  
 4 Hehir Street, Belmont WA 6104  
 T +61 8 9477 5111 F +61 8 9477 5211  
[info@gpxsurveys.com.au](mailto:info@gpxsurveys.com.au)

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