

## **A secret weapon – if you want to find or operate a mine**

If an instrument is used by Falconbridge Limited in their Sudbury mines to define where the ore and waste are, one would assume that the same instrument be adopted by the prospectors to find where the ore is within the waste... Well, the mining industry has adopted it fast, but the prospectors are still hesitating. Let me explain :

### The industry...

In early 2000, after months of work and with the collaboration of Falconbridge-Craig Mine geologists team led by Bob Nikolic, Instrumentation GDD Inc. has introduced the new **SSW probe**. The SSW is a light, portable and efficient electromagnetic instrument which independently measures the content of conductive and/or magnetic material in the ore of a production hole. Since mid-1999, the SSW is being used in all Falconbridge-Sudbury mines (Ontario), and since January 2000, at the Raglan Mine (north of the Province of Quebec). The SSW determines the grade and localization of the ore. Therefore, you can make a log of your production hole to plan blasting sequences in order to minimize the dilution of the ore by waste. With the SSW system, one can drastically reduce the mining costs. One blast can pay back several times the cost of the instrumentation. If one can tell ore from waste, it makes sense to mine the ore and leave the waste in place, thus reducing the cost of blasting, transportation, mill processing, etc. No one would be surprised to hear that this instrument was quickly adopted by the mining industry. Falconbridge's staff is even able to grade the equivalent in Nickel based on the total response obtained without having to wait for the assays, saving time and money once more.

### The prospectors...

What is even more surprising is that the idea of using this technology comes from an instrument that has been available to prospectors for the last 20 years, the **Beep Mat**. One can pull a Beep Mat to detect hidden conductors under up to 3 meters of soil. Once a conductor is found, the Beep Mat can then identify where the conductor comes closest to the surface so that you can easily trench it. A sample, once assayed, will tell you whether the sulfides thus found are ore or waste.

A Beep Mat can even be dragged behind a snowmobile at a speed of 20 km/h. It will scan 10 feet deep, 10 times per second and will not miss any near-surface conductor. Such an approach will allow you to sample conductors for 1 % of the normal costs involved in exploration. It saves time and money and it is used extensively by a few very successful prospectors and companies.

The difference between a miner and a prospector is that the first sees a saving while the second sees an expense. At first, it seems that the prospector is right, but we all know that one might have to sample 100 trenches across conductors before finding a good showing. If

so, it is easy to conclude that the cheapest and fastest way to find a mine is to sample many conductors at a very low cost per site rather than drilling a few of them at a cost of \$ 10,000 to \$ 100,000 per conductor. The Beep Mat works wonders for prospectors : it helps them determine where the ore is hidden among the many barren conductors, just like the Falconbridge miners are doing in Sudbury and Raglan.

Gold, copper, nickel, palladium, silver and zinc sulfides are all often associated with conductors. You just need a tool to help you find where you can easily dig a trench to find out if the conductor contains gold or ...

The new Beep Mat, just like the SSW, will directly measure three parameters : the proximity and the volume of the conductor (HFR - conductor content), its intrinsic conductivity (Rt - conductor quality) and the susceptibility of the material (MAG - magnetite content).

The easier, the better...

Take a look at our web site at [www.gddinstrumentation.com](http://www.gddinstrumentation.com) for more case histories, prospecting courses, etc., to get yourself, your company or your Native nation on the road to success.



A Falconbridge crew (Steve Falconer and Chris Morley) logging production holes with the GDD SSW system at Craig Mine, Sudbury.

# Major nickel producers reduced dilution by probing blast holes with the GDD SSW probe

**Planned blast**

**Once probed**

