Released courtesy of Cameco Corporation, the following document pertains to a transient AMT (TAMT) survey (tipper only) conducted in March, 2005 in the Otish Basin of northern Quebec, Canada (Figure's 1, 2 and 3).

Figure 1: Regional Area Map

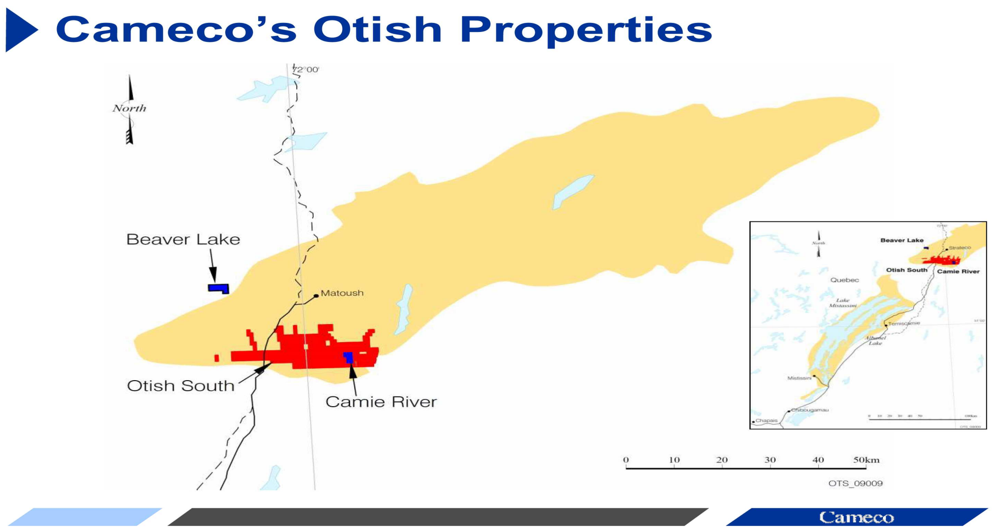

Figure 2: Property Map - Dr. Aubin, Cameco Corporation

Geophysical exploration in the Otish basin dates as far back as the 1960's. With particular reference to the Otish South property, the Very-Low-Frequency (VLF) method was utilized and delineated several shallow conductors near the southern edge of the Otish Basin (pers. comm. with the late Dr. Michael Leppin). In contrast to the Athabasca Basin, it was found that the Otish conductors are associated with magnetically susceptible sulphides, mainly pyrrhotite. Therefore, a TAMT tipper survey was conducted on the Otish South property (Figure 3) to delineate both shallow and deep basement conductors in order to assess their correlation with airborne magnetic and ground based gravity surveys. The goal being to establish whether or not cheaper airborne magnetic surveying could map the basement conductors property wide through their magnetic sulphide association.

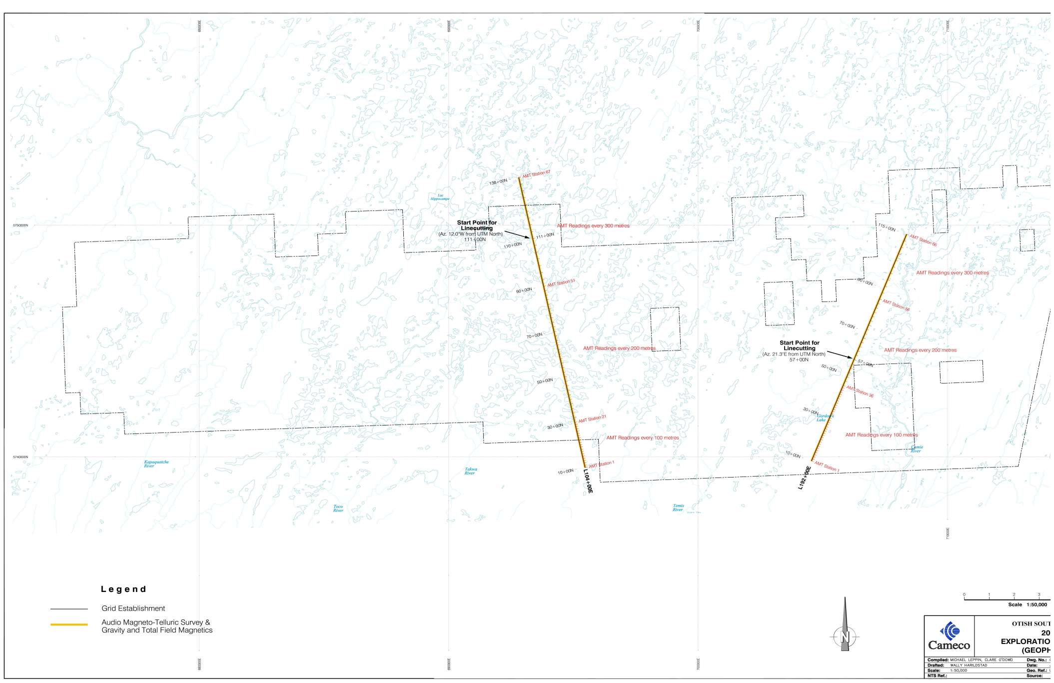

Figure 3: Local Area Map

Shown in Figure 4 is the T_y component of the tipper on Line 104+00E. This line was quite well oriented with respect to regional structure and therefore displayed very little activity on the T_x component, as would be expected in a two-dimensional case with co-ordinate system aligned with strike.

The shallow ”C1” and ”C2” conductors were discovered previously in the 1960's with VLF and are readily imaged with the TAMT tipper data as well. However, the deeper ”C3” and ”C4” conductors were newly discovered, although the ”C3” conductor is a weak response and poorly resolved. Note that station spacing varied in accord with depth to basement, being 100 m at the south end of line and increasing to 300 m at the north end of line. The increasing depth to basement can be seen in the tipper data as one moves from left to right in Figure 4. High frequency activity on the tipper diminishes and any crossovers that do occur, do so at lower frequency as we move deeper into the Otish basin.

Since the impedance was not collected, in order to invert the tipper data a resistivity ”level” had to be chosen a-priori. In this case, a background resistivity of 10,000 $\Omega - m$ was chosen, two-dimensional inversion of the tipper data on L104+00E is shown in Figure 5. The southern-most ”C1” conductor at 11N appears to be outcropping while the top of ”C2” is at approximately 100 m depth. However, the top of conductors ”C3” and ”C4” occur at approximately 350 and 500 m depth respectively, beyond the reach of VLF measurements made in the 20 kHz range. A comparison of the measured and modeled data shows an excellent fit to the measured T_y response (Figure 6).

The calculated vertical gradient of the magnetic field is shown in Figure 7 with L104+00E and interpreted TAMT tipper conductors. Correlation with the total field magnetic gradient is quite good but not ”one to one”. Conductors one, two and four correlate very well with strong magnetic gradient trends. The ”C3” conductor is weakly resolved and does not appear prominently on the magnetic gradient data, only a weak linear magnetic trend is present. Conversely, two stronger magnetic trends between the ”C3” and ”C2” conductors produce no measureable tipper response.

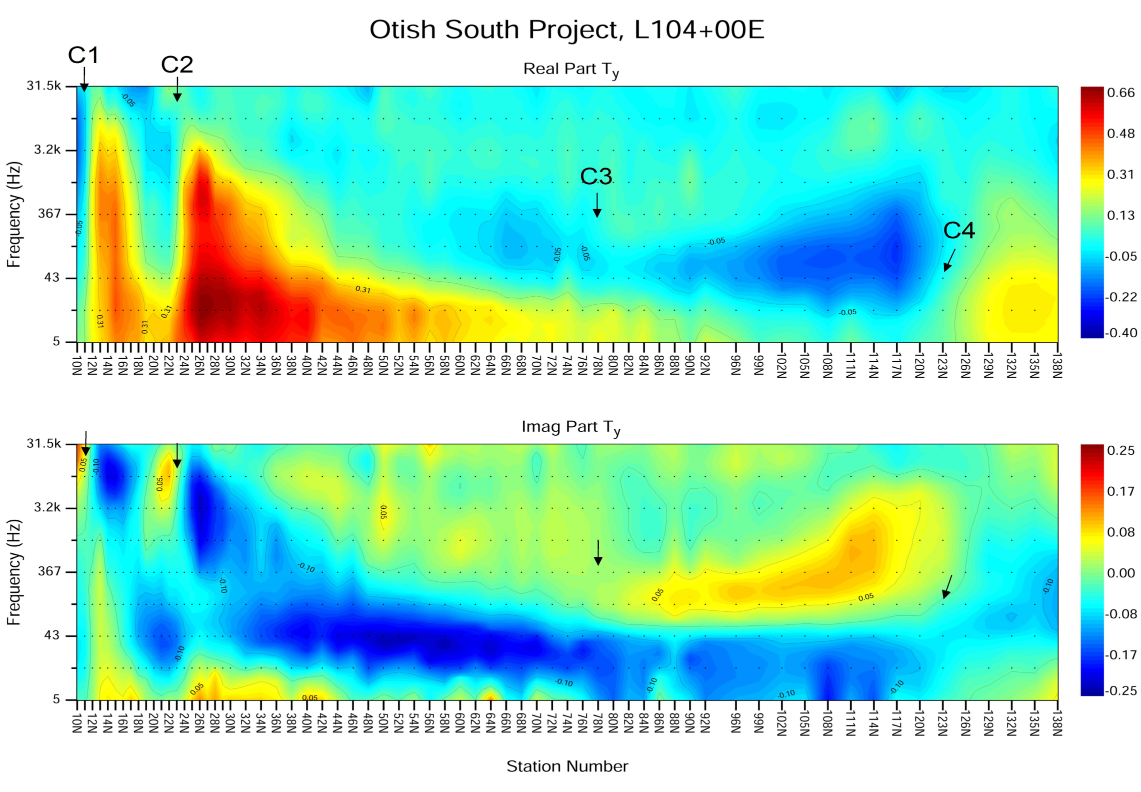

Figure 4: T_y with conductor picks

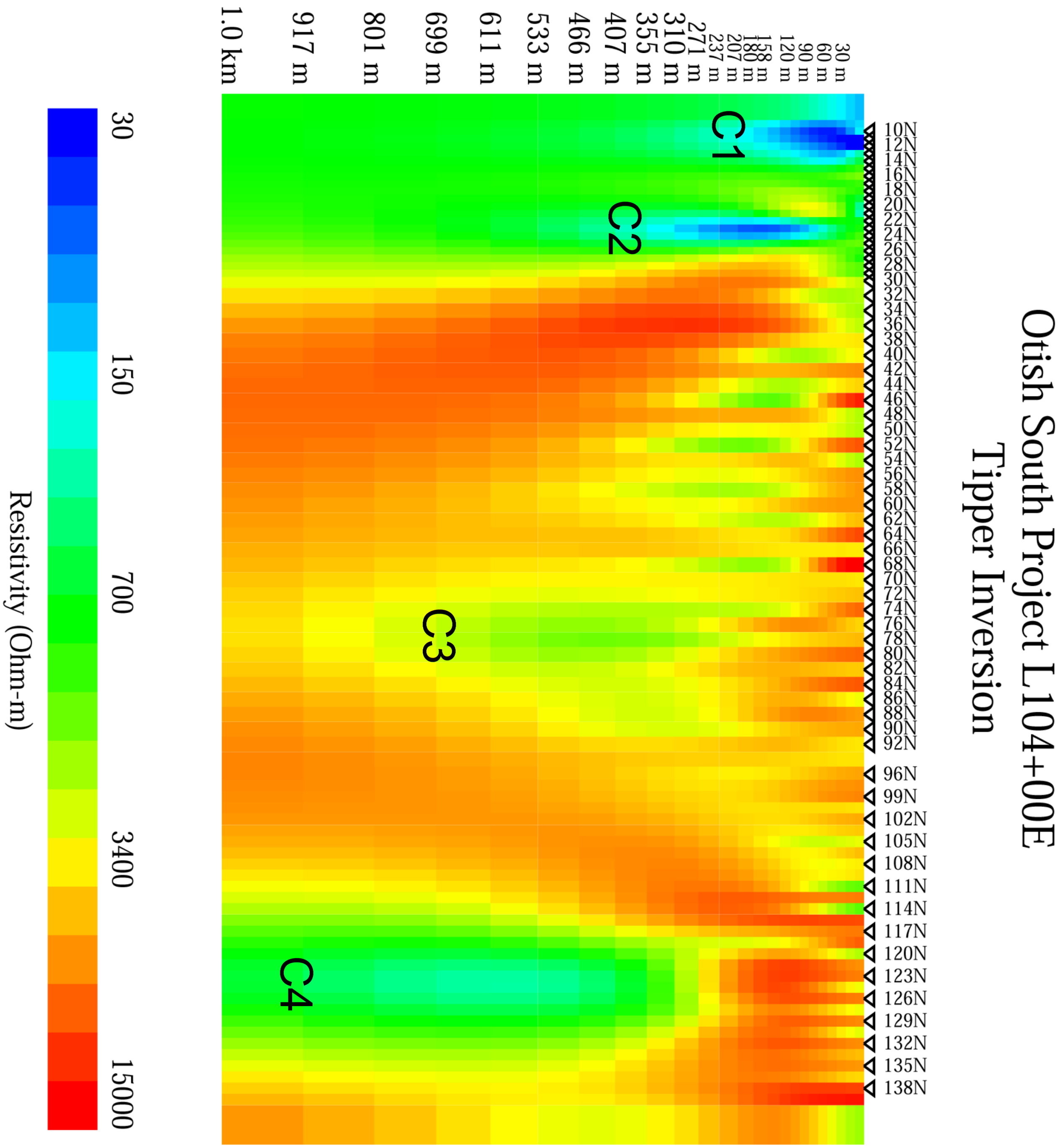

Figure 5: Two dimensional inverted results

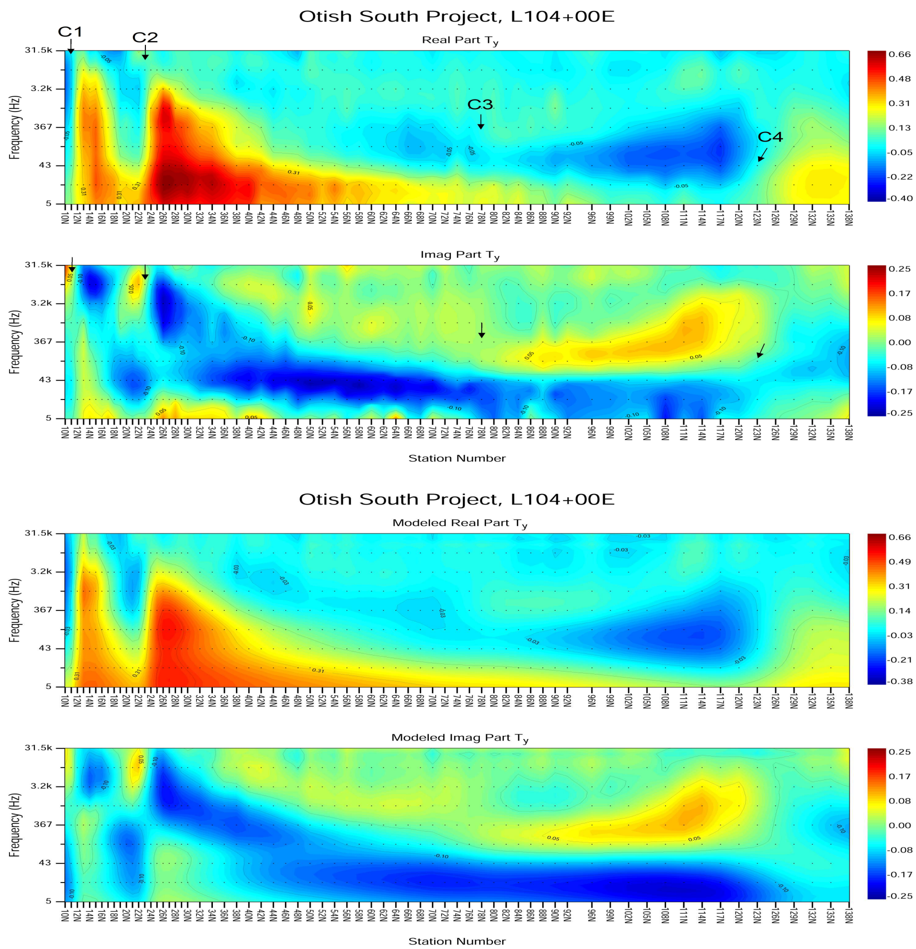

Figure 6: Measured and Modeled T_y

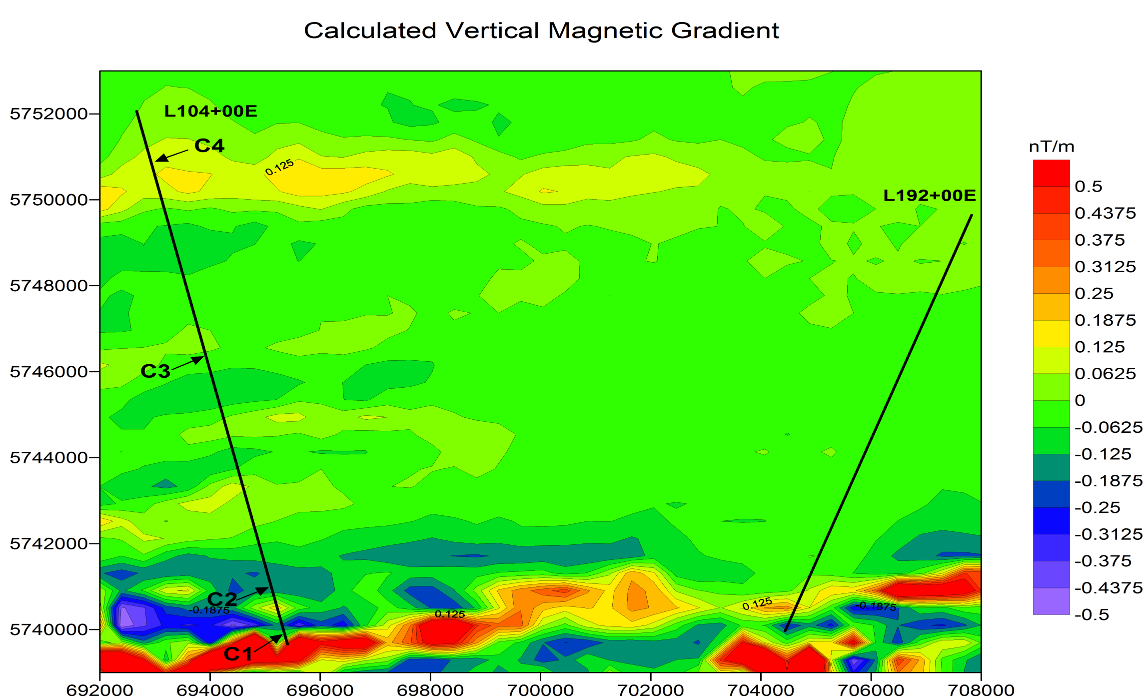

Figure 7: Potential Field Data

This case history highlights the much enhanced capabilities of wide bandwidth tipper data, as compared to VLF, in mapping basement conductors. In contrast to VLF, our tipper measurements are made with lightning sourced signals arriving from (ideally) many different directions resulting in earth response curves that are independent of source field orientation, a tensor measurement in other words. Coupling issues are therefore alleviated as is the preferential imaging of features parallel to the bearing of the source. Secondly, we make our tipper measurements across a much wider bandwidth (5 Hz to 32 kHz[1]) allowing for a much greater depth of penetration with increased sensitivity to a wider range of conductances.

If we consider the simple 2D model shown below in Figure 8, tipper amplitude "saturates" as conductance (conductivity$\times$thickness) is increased. High frequency tipper measurements saturate at very low conductance and are thus capable of discriminating only the poorest conductors, less than ≈ 1 Siemen in this case at 27 kHz (Figure 9). A 10 S conductor would be indistinguishable from a 100 S conductor based on the tipper response at 27 kHz. However, at 100 Hz, the situation is improved with the ability to discriminate conductors with less than 10 S conductance (Figure 9). At 10 Hz (Figure 10), a 40 S conductor may be distinguished from a 60S conductor, at 1 Hz, a 70 S conductor could be discriminated from a 90 S conductor (Figure 10).

Therefore, in order to avoid "bump hunting" due to saturated responses with little or no conductance discrimination, it's imperative to collect the widest bandwidth data possible with particular emphasis on sub 100 Hz data.

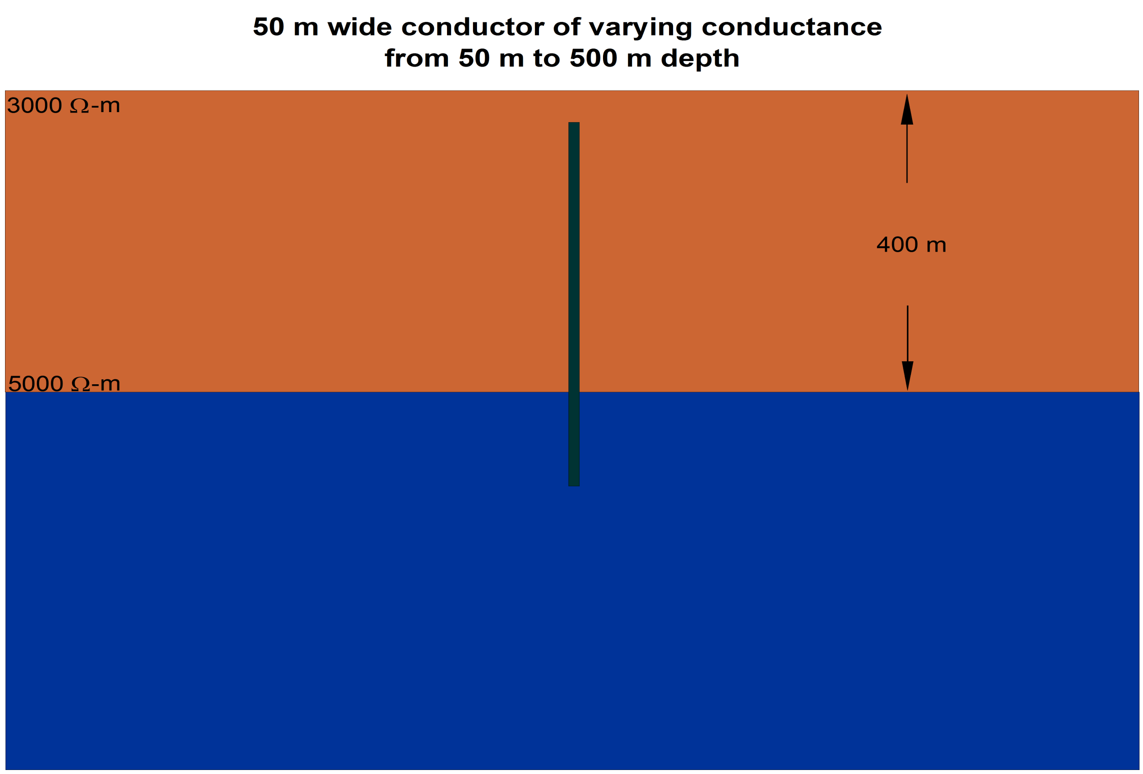

Figure 8: Isolated Conductor

[1]Instrument bandwidth is now 1 Hz to 32 kHz with extension to .001 Hz coming

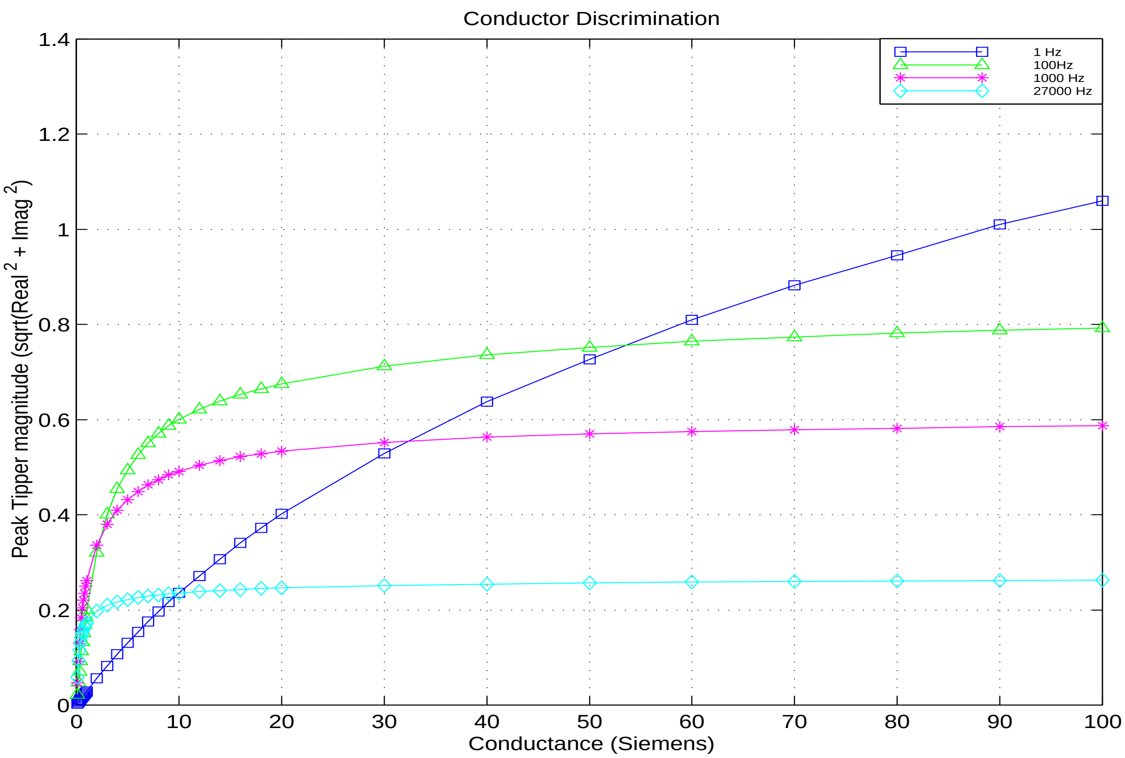

Figure 9: High Frequency Tipper amplitude response

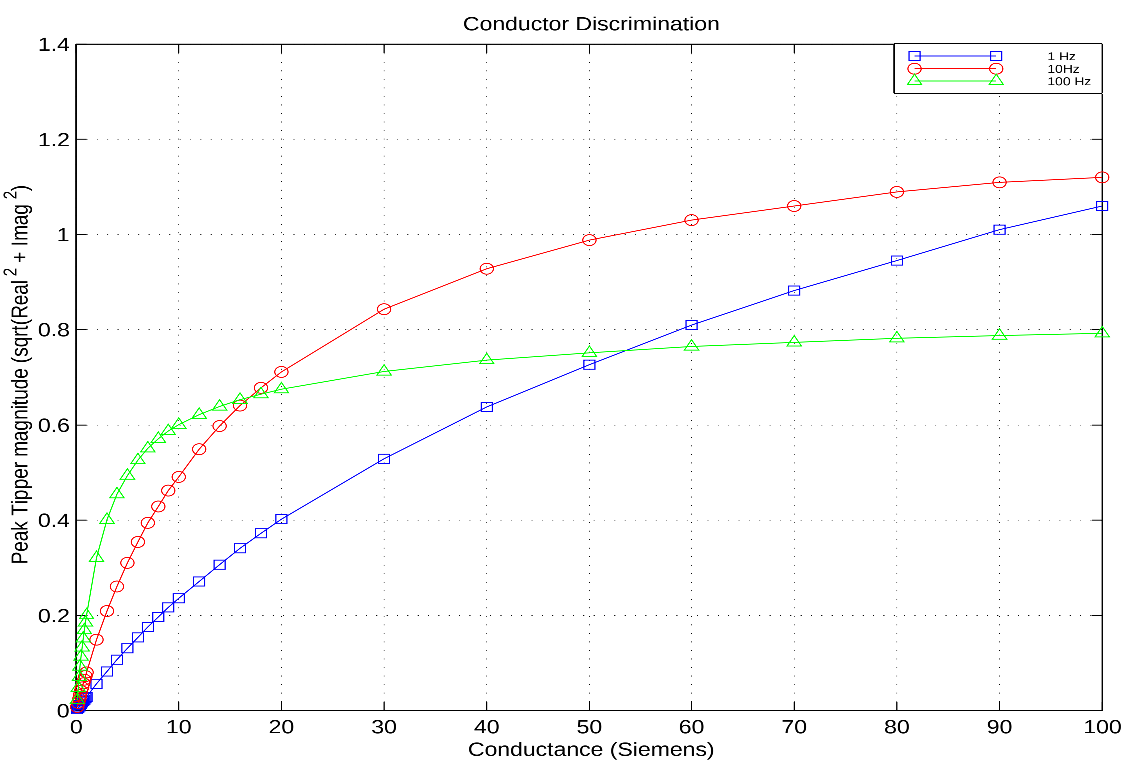

Figure 10: Low Frequency Tipper amplitude response