

### **Troubleshooting Stratagem Magnetic Coil problem**

Please view attachment first.

These troubleshooting steps assume this is with the standard high-frequency BF-6 coils in the high-frequency mode, and not the BF-4 coils in the low-frequency mode. Something is wrong both in Hy and in Hx. Both show a huge low frequency signal of about 3 Hz that is saturating both H channels. It is unlikely the problem is with the mag coils themselves since both would not fail in the same way at the same time. Since you are using a negative gain (-1) the source must be very powerful. The first thing to do is to determine if the problem is environmental or in the instrument. If it is in the environment the coils would have to be sitting right next to a powerful transmitter. Of course the best thing to do is to take the Stratagem EH4 to an area where you know you normally get good data and run a parallel test. If you still have the same problem it is probably in the instrument. Do the following:

1. First try the test in a known quiet site to see if the problem is the signal level. If you do not see it in another location the problem is in the environment, not the equipment.
2. If you still see the problem at the quiet site, I would start by removing all the BE-26 buffered electrodes to confirm they are not somehow causing the problem and look at only the BF-6 coil voltages. If the problem goes away without the buffered electrodes then put them back on one at a time to see if one of them makes the problem reoccur. If so, then one of the electrodes is causing a short to the power supply and should be discarded.
3. If you continue to see the problem without the electrodes next remove Hy and only look at Hx. Do you still see the problem on Hy?
4. If so remove Hx and only look at Hy to confirm the problem is on both mag channels. If you see the problem on both coils and on both channels the problem is probably not in the coil.
5. Try using the spare communication cable, C1/30 to see if you have a bad comm cable.
6. If the problem does not track to cultural noise, one of the coils, one of the electrodes, or the communication cables then it must be either the AFE or the console.
7. If possible swap out a spare AFE and then Console to determine if one of these is the problem.

Once you have determined which part is bad, send it will need to be sent back for repair. If you cannot determine the bad part you will need to send the entire system back. You will be required to request an RMA number from our Support site at: <http://support.geometrics.com>

<http://support.geometrics.com/kb/questions.php?questionid=55>