



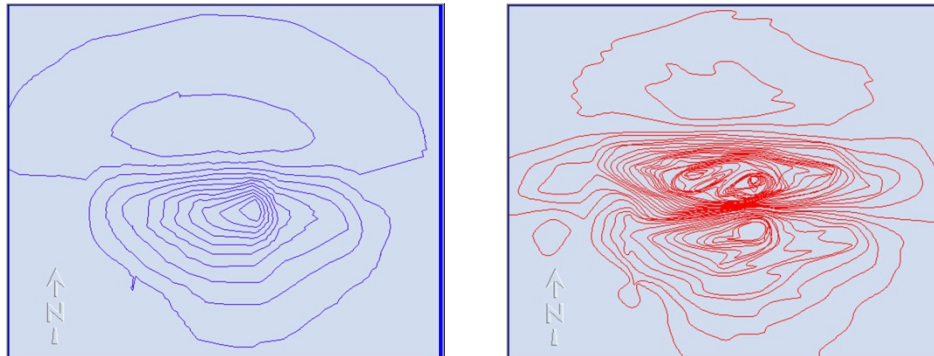
MAGNETOMETER Targets

By Jerry Knisley

During the HYPACK® Conference, there was a Magnetometer Expert Session. To get ready for that session, I sat with an old friend and looked at the slides I was going to show. One of the points that surprised me was how different a target looks when it is contoured using the actual gamma's versus when the target is contoured using the value computed by subtracting the previous reading from the current reading. I understood the difference in the types of data, but I was surprised by the contour effect it had.

The target in Figure 1 are of the same target. The blue contour is the target in regular gamma readings and the red contour is the target using the gratio values. As you can see, the targets are in the same place.

FIGURE 1. *Magnetometer Target—Gamma Readings (left) and Gratio Values (right)*



The blue target is useful because you can see a true dipolar target signature. The red target actually shows you multiple targets and multiple dipolar signatures that are not visible in the blue target. The reason for this is that the contours on the left are true gamma contours. A new contour is generated when the gamma reaches a certain level. The red target shows the changes in the target signature.

Figure 2 is taken from the SINGLE BEAM EDITOR of a target in the gratio style.

FIGURE 2. *A Gratio-style Target in the SINGLE BEAM EDITOR*

You can see jumps in the sine wave that make it irregular. Those are the changes in target signature that appear when using the gratio style for contours that are not available in the true gamma target contour.

Several of the magnetometers that are interfaced to the MAGNET driver in HYPACK® are designed to record the gratio value.

