



Magnetometer Editor : Anomaly Auto-detection Tool

By Judy Bragg

The Anomaly Auto-detection Tool attempts to automate the search for anomalies through a spike filter.

The Spike Limit defines a gate above and below an accepted gamma value. If the gamma value is outside the gate, it is rejected and the gate is expanded by adding the Gate Step to the Spike Limit. When a gamma value is accepted, the gate collapses to that gamma value level plus and minus the Spike Limit.

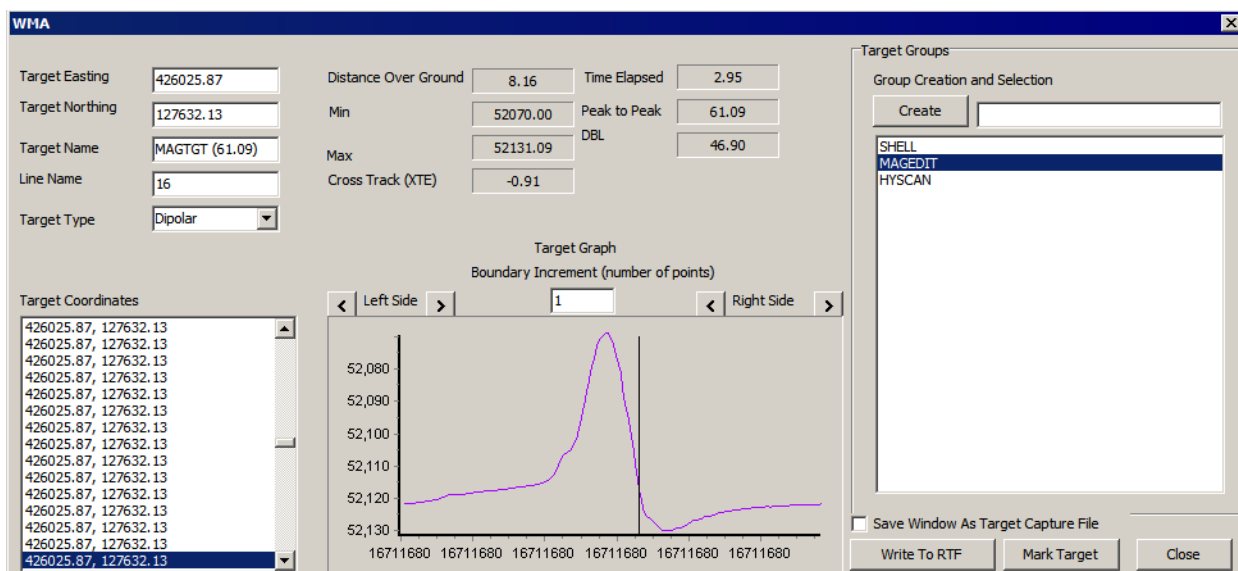
1. **Select TOOLS-ANOMALY AUTO-DETECTION.** The Anomaly Auto-detection dialog appears.

FIGURE 1. *Anomaly Auto-Detection*

Target Name	Start X	Start Y	End X	End Y	RecNumBeg	RecNumEnd
T1	426026.90	127633.00	426026.39	127632.59	6045	6134
MAGTGT (39.34)	426026.39	127632.591	425956.96675	127587.29225	6139	13865

2. **Enter a Spike Limit and Gate Step.** Purple lines show auto-detection range in the Profile window and data filtered by your auto-detect settings appear as proposed target ranges in the spreadsheet. If your results are not as expected, adjust your auto-detection settings.
3. **Examine each location from the spreadsheet window, marking targets as desired:**
 - a. **Choose a target in the spreadsheet.** Click anywhere in the row. The Profile window borders the target range in purple and the WMA (Whole Magnetic Analysis) window appears with the corresponding data.

FIGURE 2. *WMA Window*



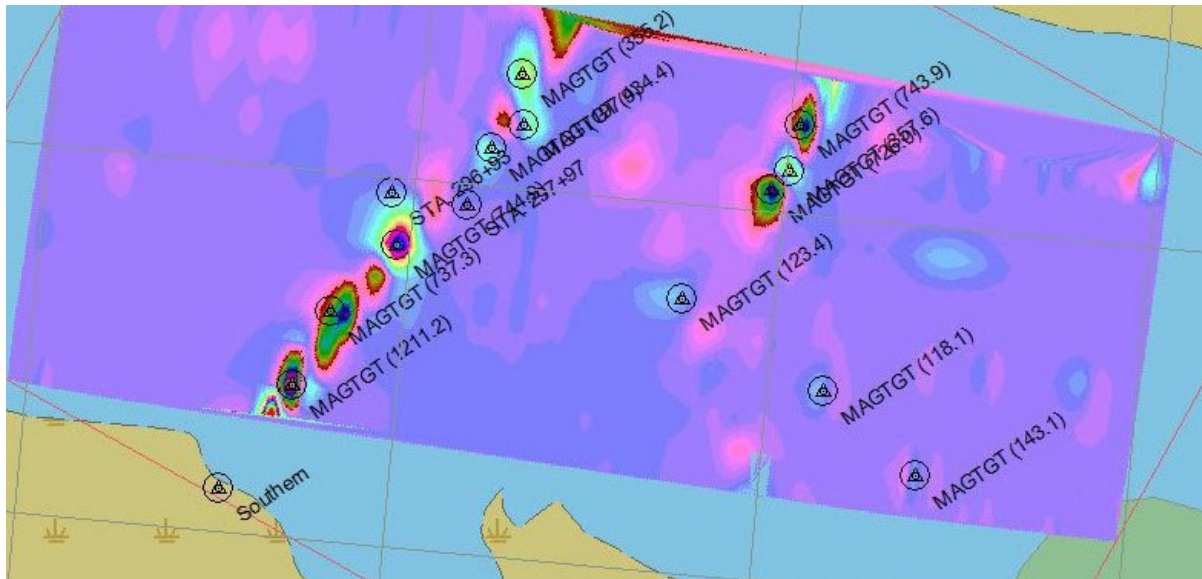
- b. **Adjust the target position and range** as needed.
- c. **Mark the target location.** (Optional).
- d. **Output the information to the RTF report.** (Optional.)
- e. **Click [Close].**

TARGETS IN THE MAGNETOMETER EDITOR

You can use targets to mark anomaly locations and store detailed data about each anomaly. These targets are named MAGTGT (gamma) and saved, by default, to the MAGEDIT target group, but you may choose another group or create a new one for your current target.

Alternatively, you can use quick targets to mark a simple position and gamma value. These targets are automatically named with the time-stamp of the target location and stored in the MAGEDIT target group

FIGURE 1-1. Magnetometer Targets Displayed in HYPACK®



MAGNETOMETER EDITOR RTF REPORT

This provides all of the statistical data about the selected data range and an optional screen capture of the WMA window. The program saves the report, by default, to the project Raw folder, but you can choose an alternate location. You can view your report in any word processing program that supports graphics.

FIGURE 2. Sample MAGNETOMETER EDITOR RTF Report

Name	Date	07/21/2010
MAGTGT (237.93)	Time	11:47:37
Survey File	Event	1272
10	X	425987.69
Capture File	Y	127621.79
C:\000 Test Projects1 MagScorpionimages4 25987.688726.127621.792016. 237.93.52121.781250.0.jpg	WGS84 Latitude	38 48 57.5515 N
	WGS84 Longitude	076 42 2.739 W
	P2P	237.93
	Minimum	51939.88
	Maximum	52177.82
	Time Elapsed	7.29
	Distance	19.52
	DBL	11.11

Notes	
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