



ACFM Examination of Stainless Steel and Other Nonferrous Materials

MISTRAS Services, a member of MISTRAS Group Inc., offers a sophisticated surface examination technique for Stainless Steel (and other nonferrous metals) that utilizes High Frequency Alternating Current Field Measurement (ACFM) equipment. The ACFM unit is coupled with an 8-channel optical encoded array probe and state-of-the-art ASSIST software. This combination represents a quantum leap in the speed and accuracy of the ACFM technology. Not only does 8-channel technology enhance our coverage and interpretation ability, but the optical encoder and the ASSIST software reduce scan times by as much as 75%. Our ability to position and locate anomalies, and size them in real time for both length and depth, makes this the most efficient surface examination system commercially available.

The advantages of High Frequency Array ACFM include:

- Requires little if any surface preparation.
- Does not contaminate sterile environments.
- Very quick and efficient by utilizing a 2" wide array probe.
- Indications are sized for both length and depth in real time.
- Provides a permanent record of inspection that can be reviewed and audited for maximum accountability and repeatability.
- Superficial surface indications can be disregarded through Signal Interpretation.

Figure 1 depicts a typical ASSIST software screen display. It shows two cracks on the surface that are connected, but have different depths. Note that the 8 channels are presented in different colors to aid in interpretation, with defect dimensional information included at the top right of the screen. The data is formatted into three graphic displays: (1) the BX relates to depth, (2) the BZ relates to length, (3) the Butterfly is the BX and the BZ plotted against each other two dimensionally.

We analyze the data in real time and verify all crack-like indications to eliminate false indications. Reports are generated upon completion of the task.

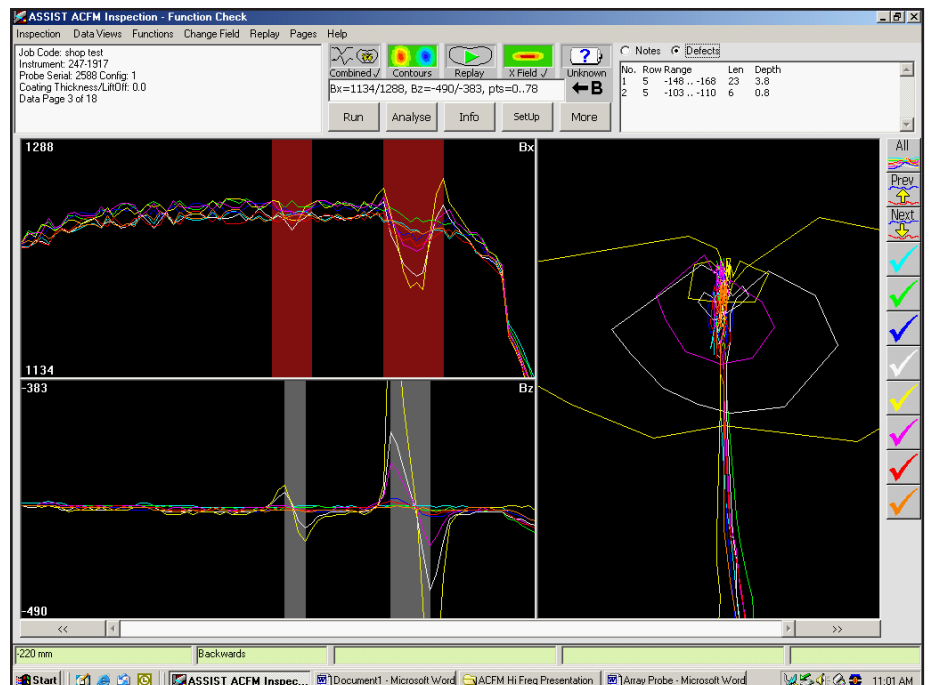


Figure 1: An actual ACFM screen capture indicating the length (Bx) and depth (Bz) of indications. The butterfly graph combines both Bx and Bz information

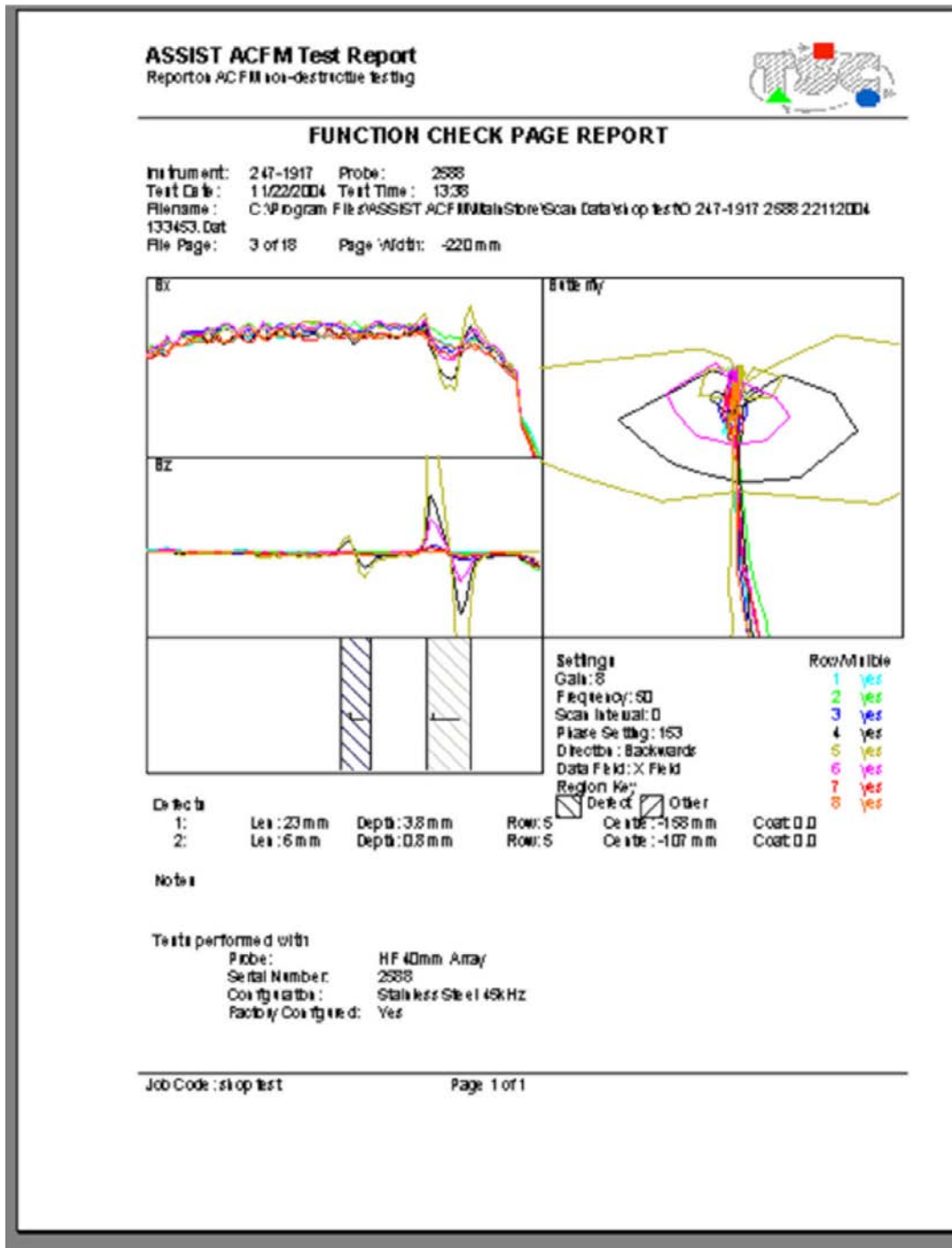


Figure 2 Sample Indication Data Sheet: ACFM Examination is an extremely quick and very reliable method of nonferrous metal inspection with the tremendous benefit of flaw length and depth sizing as shown in the report above.

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