

## Case Study

20 March 2013

**Project:** Inspection of jacket welds.

**Problem:** Inspection of subsea jacket welds located on an aging asset was required; significant historical defects within the welds had been noted. Historically these welds were inspected using diver deployed methods; this is a costly approach which poses serious issues for diver safety. Sonomatic were approached in order to provide an automated solution for the inspection of the jacket welds.

**Solution:** In order to reduce the need for diver deployed inspections and the associated risks, Sonomatic have developed the MAG-Rover inspection tool (Figure 1). This approach can be deployed using a remotely operated vehicle (ROV) and controlled from the surface, removing the requirement for divers to be utilised during the inspection.

For this application, the MAG-Rover inspection tool completed time of flight diffraction (TOFD) scans over the areas of interest. In this case the MAG-Rover was able to deploy three separate probe arrangements simultaneously (Figure 2) allowing all of the required data to be obtained in a single scan.

This approach provided detailed information on the condition of the welds that were inspected. The results obtained using the MAG-Rover are considered to be superior to those obtained using diver deployed methods (Figure 3).

**Benefits:** The major benefits of Sonomatic's MAG-Rover inspection tool are:

- Fully ROV deployed.
- Removes safety issues associated with diver deployment.
- Improved scanning speed in comparison with diver deployed methods.
- Various probe arrangements utilised in a single scan.
- Accurate sizing of defects.
- Ability to inspect more welds per campaign.

Figure 1: MAG-Rover on location.

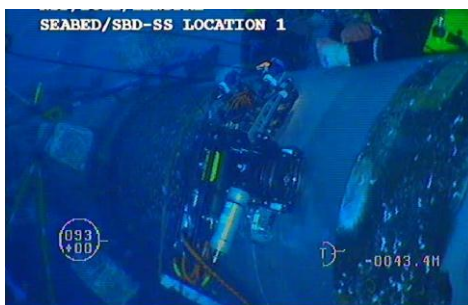
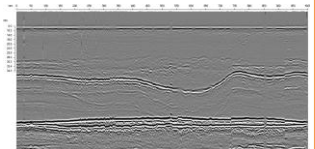


Figure 2: TOFD multi probe Inspection head on MAG-Rover.



Figure 3: Data comparison sets. Roller Skate data



MAG-Rover data

