CASE STUDY

CORROSION LOGGING BY **MBTT3** IN VERTICAL WATER INJECTOR UNDER THE HOIST. 24 HOURS OPERATION

Location: West Africa

Well type: vertical water injector

Challenge:
The integrity issue in the 7” casing was determined by the pressure test during the Hoist operations.

Objectives:
Evaluate the integrity and localize the corrosion zone on the 7” casing ASAP.

Solution:
The MBTT3 corrosion logging was proposed as an industry-proven approach for corrosion evaluation.

Multi Barrier Thickness Tool (MBTT3)

MBTT3 is designed to evaluate the metal loss of the tubing and casing based on emission and measurement of an electromagnetic field with the following data processing. The tool provides a qualitative evaluation of tubulars thickness with an accuracy of 0.01 inches.

The technology is based on the induction of a current in a string by a pulsed magnetic field and the subsequent recording of electromagnetic field (EMF) decay in pipes. This parameter is used to determine casing wall thickness and to identify and characterize defects. Analysis of EMF decay at various time domains enables the evaluation of multi-string structures.

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Results

The corrosion logging results revealed severe casing corrosion of up to 47% of average circumferential metal loss with a typical indication of a through-wall defect.
In addition, multiple intervals of minor and moderate corrosion were also detected across the logged interval.

Major outcomes

- Casing through-wall corrosion was detected
- The job was completed within 24 hours including SL logging and results delivery
- A successful patching job was conducted based on the logging results