

CASE STUDY

RAW WATER TANK 18M – SONAR ONLINE

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INTRODUCTION

An 18 metre Diameter Raw WATER Tank was required to have an Online Robotic Tank Floor Inspection conducted to extend the endorsement as the tank was due major overhaul but could not be removed from service due to operational ullage requirement.

OUTCOME

Just over 3 months later the tank was removed from service and internally inspected. The results of the two inspections were as follows:

Item	Out of Service	Robotic In-Service	DELTA
Tank Nominal	7.5 mm	7.5 mm	
T _{measured} Dec 2021		5.34 mm	
Statistical Prediction on T _{min}		3.83 mm	
Corrosion Rate		0.3 mm/yr.	
T _{minimum} Mar 2022	3.50 mm	3.75 mm	0.25
% Loss from Nominal	53.33 %	50.00%	3.33

The In-Service Robotic Inspection of the 18m Raw Water Tank with sludge up to 0.5m provided data that when projected forward to the time of the Out of Service UT was deemed to be incredibly accurate and comparable. A difference of 0.25 mm could be considered to be within the uncertainty of a manual UT reading and the percentages difference between the two methodologies was less than 4% using HOIS Statistical Analysis of Corrosion Data.