



# CASE STUDY

The **Rhosonics SDM** is compared against the nuclear standard for **alumina extraction**, at the Rio Tinto Gove site in Australia.

# CASE STUDY - RIO TINTO GOVE SITE, AUSTRALIA

## Introduction

Rio Tinto Gove, a prominent alumina extraction facility, recognized the need to optimize their process efficiency while prioritizing safety and reliability. This case study delves into their journey of implementing Rhosonics SDM (Slurry Density Meter) technology to revolutionize density measurement in their mud extraction process, replacing traditional radioactive density meters for a safer and more accurate solution.

## Challenges

Rio Tinto Gove faced significant challenges associated with traditional density measurement methods, which primarily use radioactive technology. Safety hazards and operational limitations prompted the search for alternative solutions that could provide precise density measurements without compromising employee safety or process reliability.

## Measuring task

The extraction of alumina from mud extracted from wastewater required accurate density measurements to ensure optimal process efficiency. Rio Tinto Gove sought a solution capable of reliably measuring the density of low-density mud (1.1 to 1.3 SG) while addressing concerns regarding the use of radioactive materials in their operations.



Fig. 1: The Rhosonics SDM installed at the Rio Tinto Gove site.

## Our solution

The Rhosonics SDM emerged as the preferred solution for Rio Tinto Gove, recommended by an engineer with prior experience at another Rio Tinto site.



The robust casing of the SDM, designed to withstand harsh environmental conditions, instilled confidence in its ability to deliver accurate density measurements. Furthermore, its ultrasonic technology offered a safer alternative to radioactive density meters, aligning with Rio Tinto Gove's commitment to safety and sustainability.

## Results

Since the installation of Rhosonics SDM, Rio Tinto Gove has experienced significant improvements in process control and efficiency. Real-time interpretation of trended data has replaced labor-intensive sampling processes, enabling timely adjustments and enhancing the quality of mud supplied to various parts of the plant. This has resulted in increased operational efficiency, reduced downtime, and improved overall productivity.

## Comparison data

The measurement data of both density meters were recorded and compared during the operation. The green line shows the measuring results of the Rhosonics SDM Slurry Density Meter and the blue line represents the radiation-based technology. The trends are similar, but the Rhosonics SDM matched better with the reference of laboratory samples.

	RHOSONICS - SDM
	NUCLEAR DENSITY METER

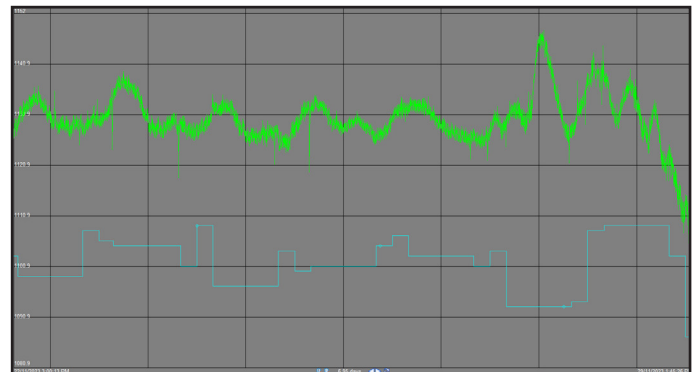


Fig. 2: Trend showing the Rhosonics SDM results versus the radiation-based density meter

## For further information

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