

### OUR CLIENT



- A leading producer of grape alcohol and tartrate products from winery wastes



- Based in Nuriootpa, South Australia

- Liquid wastewater is treated through a joint venture between Tarac and a major local winery in the region.
- The facility is known as the North Para Environment Control (NPEC)



Treated water is used to irrigate local vineyards and pasture + replace use of mains water in Tarac's processes

### THE CHALLENGE

Costly mains water used for the site production processes + steam generation + cooling

↗ **40** MLD to **70** MLD per year



Wine production in Barossa increased = wastewater volumes increased



High Biochemical Oxygen Demand (BOD) + suspended solids

= several stages of treatment needed before safe environmental disposal



Transport logistics and cost of transporting wastewater to the NPEC treatment plant on an adjacent site

### THE ASK

PROXA was engaged to undertake a Feasibility Study to:

- 1.** Review the operation of the existing NEPC wastewater treatment plant.
- 2.** Investigate the potential to increase the quantity of treated water for reuse on site.

### FEASIBILITY STUDY OBJECTIVES

Provide Tarac with a guide to achieve production growth opportunities, sustainability objectives and decide their future CAPEX expenditure requirements.

- Establish the treatment capacity of the existing WWTP.
- Develop an analysis of the existing system.
- Identify opportunities to recover and reuse 600 kL/day of treated water.
- Identify opportunities to improve solids management, site water balance management and saline water management.

### THE FINDINGS

The Feasibility Study report identified numerous issues with the operation of the primary, secondary and tertiary stages of treatment in the NPEC WWTP. PROXA made recommendations to:

- a.** Improve solids removal from the wastewater before it leaves the Tarac site.
- b.** Improve operation of the primary (anaerobic) treatment process.
- c.** Improve operation of the secondary (aerobic lagoons) treatment.
- d.** Upgrade the existing MF/RO plant to increase the volume of water that can be recycled for Tarac's use.

## THE OUTCOME

As a follow up to item (a) on the front, Tarac engaged PROXA in 2019 to construct a pilot plant to undertake trials into the treatment of the wastewater to remove solids before being sent to the NEPC WWTP. The pilot plant included chemical dosing facilities for pH adjustment and flocculation and a lamella type clarifier for solids separation. The pilot trials showed the following:



“Tarac continues to investigate and implement programmes to reduce its use of water from the ‘mains’ system and move closer to relying on the use of recycled water.”

- David Love , BE Hons (Chem), MEngSc (Environmental), Water and Wastewater Consultant, PROXA

## HOW PROXA ADDED VALUE

By conducting a comprehensive Feasibility Study, the client was able to:

- ✓ Understand where production growth opportunities lay
- ✓ Gain guidance regarding sustainability objectives
- ✓ Identify future CAPEX expenditure requirements



Contact us to learn how we can promote water security for your company.

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