

# COMMENTS

**Project No:** EW110492-1

**Location:** Tambar Vale

**Sample Identification:** Tambar Vale Effluent Water

ANALYTE	UNITS	RESULTS	DESIRABLE LEVELS			COMMENTS
			SPRAYS	IRRIGATION	DOMESTIC	
TDS	mg/L	<b>26720</b>	<1000	500-1500	<900	Extremely High
Conductivity	mS/cm	<b>42.1</b>	<1.5	<2.0	<4.5	Extremely High
pH	pH units	<b>9.53</b>	6	6.0-7.5	6.0-8.0	Very Alkaline
Total Alkalinity	mg/L	<b>7444</b>	<50	400	200	Extremely High
Chlorides	mg/L	<b>16300</b>	<50	<350	300	Extremely High
Nitrate-N	mg/L	<b>0.38</b>	<5	25-125	<10	Acceptable
Phosphorus	mg/L	<b>0.48</b>	<0.10	<0.8-12.0	<0.20	Acceptable
Manganese	mg/L	<b>0.01</b>	<0.25	<2.0	<0.5	Very Low
Iron	mg/L	<b>0.18</b>	<0.20	<1.5	<5.0	Low
Potassium	mg/L	<b>2842</b>	<1.0	<3.5	<2.5	Extremely High
Calcium	mg/L	<b>0.1</b>	<50	<200	200-400	Very Low
Magnesium	mg/L	<b>0.1</b>	<40	<100	100-150	Very Low
Sodium	mg/L	<b>9626</b>	<100	<150	<300	Extremely High
Sodium Adsorption Ratio		<b>5126</b>	<1.5	<4.5	<9	Extremely Toxic
Total Hardness	mg/L	<b>0.7</b>	<150	<350	<250	Very Soft
TPH Bands C10-C36	µg/L	<b>&lt;100</b>	<100	<100	<100	Very Low

# SUITABILITY FOR USE

<b>Irrigation:</b>	<i>This water has an elevated level of total dissolved salts (TDS) sodium, in particular sodium, potassium, chloride and carbonate. <b>This water is totally unsuitable for irrigation.</b> The sodium adsorption Ratio (SAR) is used to predict the danger of sodium (Na) accumulation in the soil. All ornamentals, fruit trees (inc. citrus) and vegetables are sensitive to overhead watering where the sodium absorption ratio (SAR) is between 4 to 8 and chlorides are above 350mg/L. There are no crops or pastures that are tolerant to the high levels of salts in this water. This water should not be applied to soils with restricted drainage. Even with adequate drainage, special management for salinity control would be required.</i>
<b>Stock:</b>	<i>Water is the single most important component of any livestock enterprise and <b>this water is not suitable for any livestock</b> to drink. The high level of salts in this water renders it toxic for all stock including sheep.</i>
<b>Chemical Sprays:</b>	<i><b>This water is not suitable for use with chemical sprays.</b> This means it will not be recommended for use with certain pesticide, herbicide or fungicide products because of high alkalinity, sodium, potassium, chloride and pH.</i>
<b>Domestic:</b>	<i><b>This water will be unsuitable for domestic use.</b> Household equipment requires TDS to be less than 500mg/L. In regard to hot water systems, the safe upper limit for salinity is about 1.6 mS/cm and for iron 0.3mg/L and this water exceeds the threshold for salinity. Marginal iron levels can result in staining of domestic pipes (laundry) and plumbing fittings with a rust brown precipitate.</i>
<b>Drinking:</b>	<i><b>In regard to drinking, this water is toxic.</b> The upper limit in drinking water for chloride is 400mg/L, for sodium 180mg/L and TDS 500mg/L. Growths of iron bacteria, which concentrate iron, may cause taste and odour problems and lead to pipe restrictions, blockages and corrosion.</i>
<b>In General:</b>	<i><b>This sample of water is unacceptable for any use.</b> It is reasonably soft water which also contains extreme levels of potassium, sodium, chloride and carbonates. This water should be stored and disposed of according to DECCW guidelines.</i>

*S Cameron*

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