

## 46. Railton STP

### 46.1. Activity and report details

Activity name	Railton STP		
Activity address	King Road, Railton		
Permit number	Licence to Operate - 3616	Date of issue	23/01/1989
EPN	8854/1	Date of issue	13/03/2013
	461/1		20/02/2004
Treatment level	Secondary Treatment		
Authorised dry weather flows	600 kL/day		
Key influent source	Residential		
Contact person	Kate Westgate (Manager Environmental Performance)		
Report author	Jake Crisp (Environmental Scientist)		
Contact details	Environment@taswater.com.au		
Date of submission	30 September 2025		

**Figure 46-1: Railton STP**



## 46.2. Monitoring and compliance summary

### 46.2.1. Flow data

**Table 46-A: Flow monitoring summary**

	Influent	Effluent	Reuse
Location name	Inlet	Red Water Creek	Effluent Reuse Scheme – Ag Irrigation
Coordinates	E 452024 N 5422704	E 452280 N 5422880	E 452812 N 5422460
Method of measurement	In line	Estimate based on influent	Estimate based on influent
Date of last calibration/validation (if applicable).	12/11/2024	NA – to be installed	NA – to be installed

**Table 46-B: Annual flow and rainfall data**

Month	Average Daily Influent Volume (kL/day)	Rainfall (mm/month) BOM Station ID 91332	Discharge to Waters Total Effluent Volume (ML)	Discharge to Reuse Total Effluent Volume (ML)
July 2024	475	117.4	12.35	2.38
August 2024	753	167.6	23.34	0.00
September 2024	1,430	131	42.89	0.00
October 2024	479	70.6	14.85	0.00
November 2024	385	103.2	9.62	1.92
December 2024	521	82.6	13.45	2.69
January 2025	222	62.8	0.00	6.87
February 2025	170	12.8	0.00	4.76
March 2025	165	37.2	0.00	5.11
April 2025	158	29.8	3.20	1.52
May 2025	154	38.4	4.78	0.00
June 2025	205	117.4	6.14	0.00
Annual 2024–25	427	970.8	130.63	25.26
% of Total Discharge	--	--	83.8%	16.2%

2024–25 monthly flow data was submitted directly to the EPA.

### 46.3. Bypass events

There were no bypass events associated with the STP during the reporting period.

#### 46.4. Discharge compliance with permit limits

**Table 46-C: Compliance Summary**

Parameter	Ammonia	BOD5	Chlorine	Nitrogen	Oil and grease	pH	Phosphorous	E coli	Total suspended solids
Permit/EPN limit	mg/L	mg/L	mg/L	mg/L	mg/L	Units	mg/L	MPN/100mL	mg/L
Maximum	30	50	--	40	10	8.5	10	--	50
90th Percentile	--	--	--	--	--	--	--	--	--
50th Percentile	--	--	--	--	--	--	--	1000.0	--
Minimum	--	--	--	--	--	6.5	--	--	--
Samples analysed									
Number required	12	12	--	12	12	12	12	12	12
Number analysed	12	12	--	12	12	12	12	12	12
Statistical summary									
Maximum	2.7	50.0	0.0	11.7	1.2	10.3	6.1	1624.0	68.0
90th Percentile	0.7	39.6	0.0	9.3	1.0	9.4	3.7	859.8	63.8
50th Percentile	0.1	16.5	0.0	4.7	1.0	8.9	3.0	228.0	44.0
Minimum	0.1	7.0	0.0	3.6	1.0	7.3	1.1	20.0	29.8
EPN Limit Compliance									
% compliance with Maximum	100%	100%	--	100%	100%	25%	100%	--	58%
% compliance with 90th percentile	--	--	--	--	--	--	--	--	--
% compliance with 50th percentile	--	--	--	--	--	--	--	92%	--
% compliance with pH range	--	--	--	--	--	25%	--	--	--

**Table 46-D: Mass loads to the environment**

Mass Loads	EPN Limit	Frequency	2024-25 result
Nitrogen (kg)	8800	Annual	892.5
Phosphorous (kg)	2200	Annual	327.5
Method	Time weighted/Grab sample method		

**Table 46-E: Performance analysis (discharge to environment)**

Effluent compliance parameter	Date(s) of non-compliance	Reasons for non-compliance	Actions to improve performance
TSS	11/07/2024 15/08/2024 17/10/2024	Elevated levels of algae are considered the main contributor to increased pH. Through photosynthesis, algae absorb carbon dioxide and produce oxygen, which can increase the pH levels in the effluent. In addition, high algae count contribute to elevated TSS, as the accumulated algal biomass increases the particulate matter present in the system.	No specific actions.
pH	11/07/2024 15/08/2024 11/09/2024		No specific actions.
	17/10/2024 10/12/2024 18/06/2025		

Note: Non-compliances only identified for the times STP has discharged to water.

No other parameters had exceedances in the reporting period.

#### 46.5. Reuse annual reporting

The Railton STP supplies treated effluent for irrigation purposes to the Railton recycled water scheme (RWS) located at P&N Dairies property. Minimal recycled water was supplied to the scheme in 2024–25 due to re-occurring blockages to the supply pipeline.

**Table 46-F: Reuse compliance summary**

	BOD5	pH	E coli
Permit/EPN limit	mg/L	Units	MPN/100ml
Maximum	50	9.0	10000
90th Percentile	--	--	--
50th Percentile	--	--	1000
Minimum	--	5.5	--
<b>Samples analysed</b>			
Number required	12	12	12
Number analysed	12	12	12
<b>Statistical summary</b>			
Maximum	50.0	10.3	1624
90th percentile	39.6	9.4	860
50th percentile	16.5	8.9	228
Minimum	7.0	7.3	20
<b>EPN Limit Compliance</b>			
% compliance with Maximum	100%	--	100%
% compliance with 90th percentile	--	--	--
% compliance with 50th percentile	--	--	92%
% compliance with pH range	--	58%	--

Note: Percentages reflective of complete data set for the year

**Table 46-G: Performance analysis (discharge to reuse)**

Reuse compliance parameter	Reasons for non-compliance	Actions to improve performance
pH	<p>22/01/2025 13/02/2025</p> <p>Algae is believed to be the primary reason for elevated pH.</p> <p>Algae is a source of oxygen and is fundamental to lagoon treatment.</p>	No specific actions

\* Non-compliances only identified for the times STP has discharged to reuse.

Annual soil sampling was completed at the four long-term monitoring sites (P1-P4) at the RWS in May 2025. The field component of the annual compliance audit was completed in conjunction with the soil sampling. A summary of the findings of the two programs is provided in Table 46-H.

**Table 46-H: Annual recycled water scheme compliance audit and soil monitoring summary**

Program	Compliance audit	Soil monitoring
<b>Compliance status</b>	Non-compliant Inadequate signage at recycled water storage Inadequate fencing around storage	Soil salinity continued to show seasonal fluctuations and no consistent trends across the property.  Nutrient levels were recorded within recommended ranges for agricultural production.
<b>Comments</b>	The customer noted recycled water supply contract is outstanding.	

Groundwater RWS status: Green

Railton RWS groundwater monitoring network consists of six monitoring bores, ID numbers RLGW1-4, RLGW8 and RLGW9. Bores RLGW3 and 4 are located downslope of the on-farm recycled water storage dam.

Bi-annual sampling was completed at bore ID's RLGW1 and RLGW8-9 in December 2024 and May 2025 as scheduled. Annual sampling (May 2025) was completed at bore ID's RLGW2-4 as scheduled.

The 2024-25 groundwater monitoring event recorded slightly elevated concentrations at several bores but all within previously recorded levels and generally stable. Bore ID RLGW9 (installed in 2020) requires additional monitoring events to analyse any impacts to groundwater.

Sampling is scheduled to continue at a bi-annual frequency at the extended analytical suite for bore ID's RLGW8 -9, and an annual frequency for bore ID's RLGW2-4 to be at the standard analytical suite. Sampling at bore ID RLGW1 is scheduled to be reduced to an annual frequency at the standard analytical suite.

## 46.6. Ambient monitoring program

**Table 46-I: Program details**

Program	Ambient monitoring required under EPA permit variation
<b>Status</b>	Ambient monitoring required under EPA permit variation (January 2024) within the Redwater Creek receiving environment.
<b>Update</b>	Ambient water quality monitoring from July - December 2024 and May - June 2025 was completed during the reporting period.
<b>Comments</b>	<p>Ambient water quality monitoring was conducted during effluent discharges into the Redwater Creek receiving environment. Effluent discharges to environment occurred from July - December 2024 and from April - June 2025 due to unavailability of the recycled water scheme. Key findings from the ambient water quality monitoring are summarised below:</p> <ul style="list-style-type: none"> <li>Ammonia levels did not exceed the ANZG toxicant Default Guideline Value (tDGV) either upstream or downstream of the STP effluent discharge however downstream levels were elevated above upstream levels on most monitoring occasions and exceeded the EPA DGVs for slightly to moderately disturbed ecosystems within the Mersey River catchment. This was particularly evident in July - September 2024 and in May - June 2025.</li> <li>Nitrate levels at both the upstream and downstream monitoring locations were within the draft ANZG tDGV on all times but exceeded the EPA DGV in July - October 2024 and in May - June 2025. Downstream nitrate levels were slightly higher but correlated with upstream levels during all monitoring months.</li> </ul>

- Total nitrogen levels downstream levels trended with and were slightly high than upstream levels on all monitoring occasions. Both locations exceeded the EPA DGV from July to October 2024.3. In May – June 2025, the downstream location was elevated above the upstream location and exceeded the EPA DGV.
- Total phosphorous levels downstream exceeded upstream levels and the EPA DGVs on all monitoring occasions.
- Enterococci levels at both the downstream and upstream monitoring location significantly exceeded the EPA low risk guideline values for waters with current or potential recreational use. There was no clear correlation between downstream with upstream levels and no clear STP impact from the effluent discharge in July – December 2024, but downstream levels significantly exceeded upstream levels in May – June 2025 indicating a likely impact from the STP effluent discharge.
- *E. coli* levels followed a similar pattern to enterococci, with both upstream and downstream levels exceeding the EPA low risk recreational guideline value on most occasions between July – December 2024 and downstream levels significantly exceeding upstream levels in May – June 2025. On most occasions, downstream levels exceeded the draft ANZG livestock drinking water guidelines.
- No potential toxin producing BGA were detected at any time at the downstream or upstream monitoring locations.

The Railton STP effluent discharge is affecting water quality downstream within the Redwater Creek receiving environment, especially in relation to elevated levels of the toxicant ammonia, the nutrient phosphorous and pathogen indicator organisms, the later especially in May – June 2025. These impacts are exacerbated by changes in seasonal river flows and additional agricultural inputs.

#### 46.7. Groundwater monitoring

Site Status: Green (2023–24)

Railton STP groundwater monitoring network consists of five groundwater bores. Bore ID numbers RLGW2, RLGW5 –7 are associated with the lagoons, predominately covering the northern to north–eastern edge of the STP, RLGW1 is adjacent to Redwater creek north of the STP and considered a background bore.

Bi–annual sampling was completed at bore ID’s RLGW1 and RLGW5–7 in December 2024 and May 2025 as scheduled. Annual sampling (May 2025) was completed at bore ID RLGW2 as scheduled.

The 2024–25 groundwater monitoring event report is due in September 2025. Any actions required following a review of the report will be provided by 21 January 2026 in the groundwater Summary Actions Report (SAR).

Bi–annual sampling is scheduled to continue at groundwater monitoring bores ID’s RLGW5–7 for the 2025–26 groundwater monitoring program. Annual sampling is scheduled to continue at bore ID RLGW2 and be introduced to bore ID RLGW1. All bores are scheduled to be sampled at the standard analytical suite.

#### 46.8. Inflow and infiltration (I&I)

The latest revision to the TasWater Inflow and Infiltration Management Plan includes details of the actions undertaken statewide to address I&I issues.

A Multi Criteria Assessment was undertaken by TasWater in 2024 to prioritise I&I investigation and works state–wide. This catchment was ranked 48 out of 108 in priority.

### 46.9. Sludge and biosolids

The latest revision to the Sewage Sludge Management Plan (SSMP) includes full details of the actions undertaken during the reporting period, the most recent sludge profiling results, and upcoming annual desludging program. This STP was assessed as compliant with the 2024–25 SSMP.

Sludge at this STP is captured within the three treatment lagoons, which will be periodically desludged as required. No stockpiling occurs at this site.

**Table 46–J: Desludging status and comments**

Desludging status	Comments
High Priority	Desludging of lagoons 1 and 2 are scheduled to occur in 2026, as per the current prioritisation planning schedule.

### 46.10. Non-compliance with other permit requirements

**Table 46–K: EPN non-compliances**

EPN condition	Description of non-conformance	Future actions to be taken
EPN 461/1		
20 Effluent quality limits for discharge to water	Discharge compliance with permit limits	See section 46.4 Discharge compliance with permit limits and Performance Analysis
EPN 8854/1		
EF3 Discharge Management Plan	Discharge Management Plan overdue.	TasWater acknowledges the non-compliance associated with the DMP condition. We are working towards the intent of the EPN condition to prioritise discharge risk reduction projects in line with our EPA endorsed Wastewater Risk Management Plan and Price and Service Plan process.

### 46.11. Complaints and incident reporting

No complaints or incidents reported during the reporting period.

### 46.12. Any other relevant information

**Table 46–L: Projects or significant operational events that occurred in FY 2024–25:**

Project or significant operational event	Progress
Mersey Central Coast Sewerage Regional Master Plan	The Mersey Central Coast Sewerage Regional Master Plan has been completed and includes the short term and long term considerations for the Railton STP. The STP is being considered for decommissioning and transfer to the Pardoe STP as part of the Pardoe Sewerage Improvement Plan (ParSIP). However, the STP may also be retained so long as current treatment and the existing recycled water scheme are operating effectively.

For further information on the Railton STP please contact TasWater on 13 6992

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