

## 6. Bothwell STP

### 6.1 Activity and report details

<b>Activity name</b>	<b>Bothwell STP</b>		
<b>Activity address</b>	Hollow Tree Road, Bothwell		
<b>Permit number</b>	Licence to Operate - 2931	<b>Date of issue</b>	17/05/1984
<b>EPN</b>	440/2	<b>Date of issue</b>	19/12/2006
<b>Treatment level</b>	Secondary Treatment		
<b>Authorised dry weather flows</b>	155 kL/day		
<b>Key influent source</b>	Residential		
<b>Contact person</b>	Kate Westgate		
<b>Report author</b>	George Fitzgibbon		
<b>Contact details</b>	Environment@taswater.com.au		
<b>Date of submission</b>	30 September 2025		

**Figure 6-1: Bothwell Sewage Treatment Plant**



## 6.2 Monitoring and compliance summary

### 6.2.1 Flow data

**Table 6-A: Flow monitoring summary**

	Influent	Effluent	Reuse
<b>Location name</b>	Arthur Cres SPS, Inlet	Clyde River	Ag Irrigation (Rothamay)
<b>Coordinates</b>	E 500328 N 5307448	E 500029 N 5307235	E 499771 N 5306731
<b>Method of measurement</b>	In line meter	Estimate	Estimate
<b>Date of last calibration/validation (if applicable)</b>	16/09/2024	NA – meter to be installed	NA – meter to be installed

**Table 6-B: Annual flow and rainfall data**

Month	Average daily influent volume (kL/day)	Rainfall (mm/month) BOM station ID 95001	Discharge to waters total effluent volume (ML)	Discharge to reuse total effluent volume (ML)
July 2023	92	68	0.00	2.85
August 2023	135	92.2	0.00	4.18
September 2023	280	71	0.00	8.39
October 2023	88	32.2	0.00	2.73
November 2023	68	30.2	0.00	2.03
December 2023	72	71.2	0.00	2.22
January 2024	72	47	0.00	2.23
February 2024	47	4.6	0.00	1.30
March 2024	31	9	0.00	0.96
April 2024	53	33	0.00	1.59
May 2024	46	41	0.00	1.43
June 2024	54	4	0.00	1.62
Annual 2023–24	86	503.4	0.00	31.54
% of total discharge	--	--	0.0%	100.0%

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

## 6.3 Bypass events

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

## 6.4 Discharge compliance with permit limits

**Table 6-C: Compliance Summary**

	Ammonia as N	BOD5	Chlorine	Nitrogen	Oil and grease	pH	Phosphorus	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	10	40	--	15	10	10	5	200	50
90th percentile	--	--	--	--	--	--	--	--	--
50th percentile	--	--	--	--	--	--	--	--	--
Minimum	--	--	--	--	--	6.5	--	--	--
<b>Samples analysed</b>									
Number required	12	12	--	12	12	12	12	12	12
Number analysed	12	12	--	12	12	12	12	12	12
<b>Statistical summary</b>									
Maximum	7.8	30.0	0.0	12.0	4.0	8.8	5.6	15,531	131
90th percentile	6.7	25.9	0.0	12.0	2.6	8.7	4.6	790.2	28.7
50th percentile	0.9	7.5	0.0	4.9	1.0	7.9	3.6	52.0	8.9
Minimum	0.2	5.0	0.0	3.0	1.0	7.2	2.1	10.0	4.2
<b>EPN limit compliance</b>									
% compliance with maximum	100%	100%	--	100%	100%	100%	92%	75%	92%
% compliance with 90th percentile	--	--	--	--	--	--	--	--	--
% compliance with 50th percentile	--	--	--	--	--	--	--	--	--
% compliance with pH range	--	--	--	--	--	100%	--	--	--

**Table 6-D: Mass loads to the environment**

Mass Loads	EPN limit	Frequency	2024-25 result
Nitrogen (kg)	--	Annual	0.0
Phosphorous (kg)	--	Annual	0.0
Method	Time weighted/Grab sample method		

No parameters had exceedances in the reporting period as there was no discharge to water.

### 6.5 Reuse annual reporting

The Bothwell sewage treatment plant supplies recycled water for irrigation purposes to the recycled water scheme. One customer 'Rothamay' is on the scheme and is located adjacent to the sewage treatment plant.

**Table 6-E: Reuse compliance summary**

	BOD5	pH	E coli
Permit/EPN limit	mg/L	Units	MPN/100ml
Maximum	50	9.0	10,000
90th percentile	--	--	--
50th percentile	--	--	1,000
Minimum	--	5.5	--
<b>Samples analysed</b>			
Number required	12	12	12
Number analysed	12	12	12
<b>Statistical summary</b>			
Maximum	30.0	8.8	15,531
90th percentile	25.9	8.7	790
50th percentile	7.5	7.9	52
Minimum	5.0	7.2	10
<b>EPN limit compliance</b>			
% compliance with maximum	100%	--	92%
% compliance with 90th percentile	--	--	--
% compliance with 50th percentile	--	--	92%
% compliance with pH range	--	100%	--

**Table 6-F: Performance analysis (discharge to reuse)**

Reuse compliance parameter	Date(s) of non-compliance	Reasons for non-compliance	Actions to improve performance
<i>E. coli</i>	2/12/2024 16/01/2025 18/03/2025	Algae is believed to be the primary reason for elevated <i>E. coli</i> .  Algae is a source of oxygen and is fundamental to lagoon treatment. Most of the non-compliant results were in warmer months when algal blooms occur	No actions planned, exceedance only marginally over limit
TSS	2/12/2024	Elevated algae growth can increase suspended organic matter in the effluent, likely leading to the singular TSS exceedance.	No specific actions.
Phosphorus	18/03/2025	Likely attributed to phosphorus release during the algal decomposition process.	No specific actions.

No other parameters had exceedances in the reporting period when discharging to reuse.

The annual soil sampling was completed at two of the long-term soil monitoring sites (Sites 4 and 5) in November 2024. The field component of the annual compliance site visit was completed in conjunction with the soil monitoring with a further phone audit was completed in January 2025. A summary of the findings is provided in the below table.

**Table 6-G: Annual recycled water scheme compliance audit and soil monitoring summary**

Program	Compliance audit	Soil monitoring
<b>Outcome</b>	Non-compliant No management plan exists for this property.	Soil salinity and sodicity remain non-saline and non-sodic and at both sites which is generally the case across the property. Phosphorous potassium levels are elevated and is also similar across the property and not attributed to the application of recycled water.
<b>Comments</b>	Although no IEMP exists for the property all other matters (signage irrigation practices etc) were considered in accordance with guidelines.	

Site Status: Amber

Bothwell RWS groundwater monitoring network consists of two bores, ID numbers BOGW1 and BOGW2. Bore ID BOGW1 is located to the west of the recycled water irrigation area with bore ID BOGW2 situated in the centre of the pivot irrigation area.

6-Monthly sampling was of sampling at the extended analytical suite was completed at monitoring bore ID BOGW2 in October 2024 and March 2025 as scheduled. 6-Monthly sampling was completed at monitoring bore ID BOGW1 as scheduled at the standard

analytical suite (unscheduled – planning error). 6-Monthly sampling was also completed at the Recycled Water Storage for water characterisation analysis.

The 2024–25 groundwater monitoring event continued to record elevated concentrations of several parameters within historical levels at monitoring bore ID BOGW1. These levels have been identified as unlikely to be linked to recycled water irrigation.

6-Monthly sampling at the extended analytical suite for monitoring bore ID number BOGW2 and the Bothwell STP Reuse Storage Lagoon is scheduled for the 2025–26 monitoring program. 6-Monthly sampling at standard analytical suite is scheduled for bore ID number BOGW1.

## 6.6 Ambient monitoring program

**Table 6-H: Program details**

<b>Program</b>	Seasonal Discharge Program – Routine monitoring
<b>Status</b>	Monthly ambient monitoring is undertaken from July – December and again in May and June annually regardless of whether the STP is discharging to water or not.
<b>Update</b>	No discharge occurred in the reporting period
<b>Comments</b>	As no effluent discharges occurred during the reporting period no ambient water quality assessment was conducted to determine what impact the effluent discharge has on the Clyde River receiving environment.

## 6.7 Groundwater monitoring

Site Status: Amber

Bothwell STP’s groundwater network consists of three groundwater monitoring bores. Bore ID number BOGW3 is located to the north of the recycled water storage lagoon, with bore ID’s BOGW4 and 5 are located to the north and northeast of the primary STP lagoon.

6-Monthly sampling at the extended analytical suite was completed at all three groundwater monitoring bores in October 2024 and March 2025 as scheduled.

2024–25 monitoring identified increasing trends noted across the monitoring network and new maximum monitoring results recorded at monitoring Bore ID BOGW5.

6-monthly sampling at the standard analytical suite is scheduled to continue for all three bores during the 2025–26 monitoring program. In addition, surface water sampling at the three STP lagoons, and the Clyde River is also planned in 2025–26 sampling program to further investigate trends.

## 6.8 Inflow and infiltration (I&I)

The latest revision to the TasWater Inflow and Infiltration Management Plan includes details of the actions undertaken 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 60 out of 108 in priority.

## 6.9 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 fully 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 6-I: Desludging status and comments**

Desludging status	Comments
Low priority	Desludging is outside of the current prioritisation planning schedule

## 6.10 Non-compliance with other permit requirements

**Table 6-J: EPN non-compliances**

EPN condition	Description of non-conformance	Future actions to be taken
40 Reuse Quality Limits	Discharge compliance with reuse permit limits	See Section 6.5

## 6.11 Complaints and incident reporting

No complaints or incidents recorded in reporting period.

## 6.12 Any other relevant information

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

[www.taswater.com.au](http://www.taswater.com.au)