

15. Cradle Valley STP

15.1 Activity and report details

Activity name	Cradle Mountain WWTP		
Activity address	Cradle Mountain Road, Cradle Valley		
Permit number	Permit Conditions Environmental – 7451	Date of issue	11/07/2007
EPN	8516/2	Date of issue	25/07/2013
Treatment level	Tertiary (E3) – (Nitrogen + Phosphorus)		
Authorised dry weather flows	500 kL/day		
Key influent source	Residential/Commercial		
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 15-1: Cradle Valley Sewage Treatment Plant



15.2 Monitoring and compliance summary

15.2.1 Flow data

Table 15-A: Flow monitoring summary

	Influent	Effluent	Reuse
Location name	Inlet	Pencil Pine Creek	Emergency firefighting scheme
Coordinates	E412189 N5397300	E410626 N5394379	NA
Method of measurement	In line meter	In line meter	NA
Date of last calibration/validation (if applicable).	12/11/2024	12/11/2024	NA

Table 15-B: Annual flow and rainfall data

Month	Average daily influent volume (kL/day)	Rainfall (mm/month) BOM Station ID 96077	Discharge to waters total effluent volume (ML)	Discharge to reuse total effluent volume (ML)
July 2024	301	170.2	8.56	--
August 2024	318	386.8	9.32	--
September 2024	467	455.9	3.89	--
October 2024	280	164.8	0.71	--
November 2024	251	132.5	6.79	--
December 2024	357	219.8	10.24	--
January 2025	265	35.7	2.52	--
February 2025	212	37.4	0.85	--
March 2025	223	59.8	3.39	--
April 2025	260	88.7	4.89	--
May 2025	285	111.8	5.72	--
June 2025	233	147.2	6.14	--
Annual 2024-25	288	2010.6	63.03	0.00
% of total discharge	--	--	100.0%	0.0%

* Power outages in the period were identified and effluent was diverted to the 3 ML storage lagoon and recirculated back through the plant.

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

15.3 Bypass events

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

15.4 Discharge compliance with permit limits

Table 15–C: Discharge compliance with permit limits

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	1.0	10	--	10	5	8.5	0.3	10	10
90th percentile	0.8	5	--	5	--	--	0.2	--	5
50th percentile	0.7	2	--	3	--	--	0.1	--	3
Minimum	--	--	--	--	--	6.5	--	--	--
Samples analysed									
Number required	52	52	--	52	52	52	52	52	52
Number analysed	46	47	--	46	47	48	47	47	47
Statistical summary									
Maximum	2.2	5.0	0.0	6.8	1.0	7.5	0.0	1	4.0
90th percentile	0.1	5.0	0.0	3.4	1.0	7.3	0.0	1	4.0
50th percentile	0.0	5.0	0.0	2.3	1.0	7.1	0.0	1	4.0
Minimum	0.0	5.0	0.0	0.4	1.0	6.3	0.0	1	4.0
EPN limit compliance									
% compliance with maximum	98%**	100%	--	100%	100%	100%	100%	100%	100%
% compliance with 90th percentile	98%**	100%	--	98%	--	--	100%	--	100%
% compliance with 50th percentile	98%**	0%	--	76%	--	--	100%	--	0%
% compliance with pH range	--	--	--	--	--	98%	--	--	--

* Minimum detection limit is 4.0 mg/L for TSS and 5 mg O₂/L for BOD.

**High ammonia due to power outage in October 2024. This was identified and effluent was diverted to the 3 ML storage lagoon and recirculated back through the plant.

Table 15-D: Mass loads to the environment

Mass Loads	EPN limit	Frequency	2024-25 result
Nitrogen	--	Annual	140.0
Phosphorous (kg)	--	Annual	0.8
Method	Flow weighted/Composite method		

Performance analysis (discharge to environment)

No effluent with parameter exceedances was discharged to the environment during the reporting period.

15.5 Reuse annual reporting

The Cradle Mountain STP supplies Class A recycled water to a storage tank and a small number of hydrants for fire-fighting purposes for the National Parks and Wildlife Service (NPWS) at Cradle Mountain.

In August 2024, an audit of the system operations against the requirements of the 2019 Recycled Water Management Plan was conducted. The audit identified several matters requiring action including outstanding actions. These included protocols to manage risk from recycled water during a fire, notification and training of staff, and several fire hydrants and fire wheels (signed and unsigned) not included in the 2019 management plan and the use of recycled water outside the 2019 management plan. Cradle Mountain RWS is to be included in the annual RWS auditing program from next reporting year 2025-26.

15.6 Ambient monitoring program
Table 15-E: Program details

Program	Water quality and biological monitoring as per requirements.
Status	Routine quarterly water quality and biannual biological monitoring.
Update	Water quality monitoring completed on a quarterly frequency as per EPN requirements (varied 2010). Biological monitoring conducted in autumn 2024 and spring 2025. Discharge to water was only recorded on the July 2024 sample date. No discharge to water occurred on the remaining three sampling occasions.
Comments	Water quality monitoring was completed per the EPN in the 2024 -2025 reporting period. Notable trends from these samples are: <ul style="list-style-type: none"> Ammonia levels were variable throughout the sites and between sampling dates. The July results were all less than the limit of reporting. While there were some exceedances of the default guideline value (DGV) on occasions, all results were recorded below the toxicant default guideline value (TDGV) for ammonia.

- There were no trends to indicate an impact on nitrate levels downstream of the discharge. All results were below the EPA DGV and the TDGV.
- Similar to the ammonia levels, total nitrogen results were variable across sites and between sampling events. There was one exceedance of the EPA DGV at the upstream site in April 2025.
- There were no significant trends in total phosphorus concentrations and all results were below the EPA DGV.
- Chlorophyll a levels were variable between locations. An elevated result was recorded at the upstream site in January 2025.
- Pathogen indicator (*Escherichia coli*) levels were detected in the Pencil Pine Creek at the upstream site and at the far downstream site in January 2025. This was not related to the STP discharge as there was no discharge at the time.

Consistent with previous years, discharge from the Cradle Mountain STP appears to have minimal impact on the receiving environment water quality. However, effort should be made to time the monitoring during discharge periods.

Biological monitoring was completed as per the EPN. A report has been provided separately to this AER.

15.7 Groundwater monitoring

Site Status: Green (2023–24 GME)

The groundwater monitoring network around the Cradle Valley STP provides good coverage around the ponds and consists of four monitoring bores (CDGW1–2 and CDGW4 –5). Annual sampling at the standard analytical suite was completed at the four monitoring bores in May 2025 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).

Annual sampling of the standard analytical suite is scheduled to continue at all four bores during the 2025–26 groundwater monitoring program.

15.8 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 work state-wide. This catchment ranked 36 out of 108 in priority.

15.9 Sludge and biosolids

The latest revision to the Sewage Sludge Management Plan (SSMP) includes full details of the actions undertaken during the reporting period. This STP was assessed as compliant with the 2024–25 SSMP.

Biosolids are removed regularly from site, no stockpiling occurs.

Table 15-F: Biosolids sludge classification

Parameter	Number of samples *	Maximum (mg/kg)	Mean (mg/kg)	Minimum (mg/kg)	BACC (mg/kg)	Contaminant classification
Arsenic	11	4.4	3.4	2.4	4.5	A
Cadmium	11	0.3	0.2	0.1	0.3	A
Chromium	11	13.5	9.5	7.3	12.7	A
Copper	11	275.0	231.3	198.0	284.6	B
Lead	11	5.5	3.7	2.7	5.1	A
Mercury	11	1.0	0.5	0.1	1.0	B
Nickel	11	12.6	10.3	8.9	12.6	A
Zinc	11	382.0	281.5	213.0	379.7	B

*No testing during February 2025 due to belt press being offline

Table 15-G: Volume and disposal destination

Quantity (DST)	Average solids content (%)	Stabilisation method	Stabilisation grade	Contamination grade	Biosolids classification	End use destination
18.3	11.3	Composting	Unclassified	B	Unclassified	Dulverton Composting facility

Notes:

DST = Dry solid tonne.

BACC = Biosolids Adjusted Contaminant Concentration.

15.10 Non-compliance with other permit requirements

There are no non-compliances for the reporting period.

15.11 Complaints and incident reporting

No complaints received during the reporting period.

Table 15-H: Incident reporting

Date	Category	Details	Mitigation actions
13/03/2025	Disinfection	The UV system has a number of UV globes offline.	Sufficient capacity in the storage lagoon to prevent discharge to the environment. Replacement globes installed on 14/03/2025.
11/02/2025	Disinfection	UV sporadically going into fault mode.	Storage lagoon used to capture effluent and prevent environmental discharge. Electrical contractor corrected issue.
9/10/2025	Treatment	Elevated ammonia in effluent due to the power outages attributed to the significant wet weather event affecting	Ceased discharge to environment with all effluent diverted to 3ML storage lagoon. Ammonia stabilised and discharge to

Date	Category	Details	Mitigation actions
		the quality of sludge and sludge age in the system.	environment recommenced on 31 October 2024.

15.12 Any other relevant information

For further information on Cradle Valley STP please contact TasWater on 13 6992

www.taswater.com.au