

03 May, 2024

Ingenia
Suite 1, 257 Gympie Road
Kedron, QLD - 4031.
Attention: Berny Connolly

Dear Berny,

RE: MERRY BEACH CARAVAN PARK, MONTHLY REVIEW OF LABORATORY RESULTS – SEWAGE TREATMENT AND REUSE SYSTEM – APRIL 2024

Further to recommendations in Merry Beach Annual Monitoring Report find below the monthly review of monitoring data for April 1 to April 28, 2024.

1. Collection of water samples

Water samples for selected monitoring points were collected on the following dates:

- o April 23 – Eff1, Eff2, SW1, SW2, SW3 and Influent.
- o April 23 - Drinking water samples from Beach Front Tank, Creek Tanks, Main Tank, Top Toilet Tank and Pretty Beach Tank.
- o In accordance with revised license conditions, Eff2 residual free chlorine was tested onsite on April 13, 20 and 27

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2. Review of monitoring results against POEO Act Environmental Protection License 5888 conditions

1. Effluent 1 (Eff1) (Monitoring Point 2)

Laboratory results were reviewed against License 5888 conditions for Eff1 (Monitoring Point 2), results are summarised in Table 1. Conclusions regarding Eff1 are:

- Laboratory results for Eff1 indicate license conditions were exceeded for nitrogen (total) during April. This is historically 'typical' occurrence.
- All other laboratory results for Eff1 were within license conditions during April.

Table 1: Review of monitoring results for Eff1 against License 5888 conditions.

Chemical	Units	License 5888 Conditions – Eff1 (Point 2)			Sampling Date 2024	
		50 percentile concentration limit	90 percentile concentration limit	100 percentile concentration limit	April 23	Complies?
BOD	mg/L		20	30	>2	✓
Faecal coliforms (FC)	CFU/100 mL	25		150	<1	✓
Nitrogen (total)	mg/L		10	15	54.4	✗
Oil and grease	mg/L	1.5		5	< 1	✓
pH	pH units			6.5 – 8.5	7.59	✓
Phosphorous (total)	mg/L	5.5		10	3.34	✓
Total suspended solids (TSS)	mg/L		10	20	<5	✓

2. Reuse Effluent (Eff2) (Monitoring Point 6)

Laboratory results were reviewed against License 5888 conditions for Eff2 (Monitoring Point 6), results are summarised in Table 2. Conclusions regarding Eff2 are:

- Onsite testing results for free residual chlorine was tested on 13, 17, and 23 April 2024 with results shown in Table 2. Further comment is provided below.
- Laboratory results for Eff2 indicate TSS license conditions were exceeded during April 2024. This is a minor exceedance and therefore MA recommends filters be removed, cleaned and inspected to ensure proper operation.
- All other laboratory results for Eff2 were within license conditions during April.

Table 2: Review of monitoring results for Eff2 against License 5888 conditions.

Chemical	Units	License 5888 Conditions – Eff2 (Point 6)			Sampling Dates 2024	
		50 percentile concentration limit	90 percentile concentration limit	100 percentile concentration limit	April 23	Complies?
Chlorine (free residual) (onsite testing) ¹	mg/L			> 2	2.4	✓
E. coli	CFU/100 mL			2	<1	✓
pH	pH units			6.5 – 8.5	7.60	✓
Total suspended solids (TSS)	mg/L			< 5	5	✗

Notes

- Free residual chlorine was tested onsite on 13 (2.2 mg/L), 20 (2.4 mg/L) and 27 (2.6 mg/L) April 2024; Chlorine average shown above (Table 2). Onsite free residual chlorine sampling for April 2024 is compliant with license conditions. Site process is to ensure that whenever Eff2 onsite chlorine results are < 2.0 mg/L, chlorine is manually dosed and effluent is retested before transfer.

As recommended previously, the pH in the effluent is above 7 which may impact on the disinfection effectiveness of chlorine as well as the effectiveness of alum dosing for phosphorus removal. We recommend pH in the STP be manually adjusted daily to maintain pH between 6.5 and 7.0 using pool acid.

3. Drinking water supply tank testing

Laboratory results were reviewed against National Drinking Water Quality Standards for drinking water at multiple tested tanks:

- All sample locations were within the standards for faecal coliforms with results (<1 CFU/100ml) for April 2024
- All sample locations were within the standards for *E. coli* with results (<1 CFU/100mL) for April 2024.

4. Review of Monitored Parameters

Surface water and results were reviewed for April.

All surface water and groundwater monitoring for April 2024 are generally consistent with previously reported periods and will continue to be monitored.

**For and on behalf of
MARTENS & ASSOCIATES PTY LTD**



TRYSTAN RICHARDS
Environmental Consultant