

Winmalee Wastewater Treatment Plant

2020-21 Pollution monitoring yearly limit summaries



EPL 1963

Summary period: 01-07-2020 to 30-06-2021

Date published: 13-08-2021

Licensee: Sydney Water Corporation

PO Box 399

PARRAMATTA NSW 2124

Table 1: 50 percentile yearly summary

EPA Point 4 Site code WM0004		Point description: Downstream of the chamber prior to discharge						
pollutant	unit of measure	sampling frequency	number of samples	minimum result	maximum result	50 percentile limit	50 percentile value	within limits
biochemical oxygen demand	mg/L	every 6 days	51	<2	7	10	<2	yes
Ceriodaphnia dubia immobilisation (EC50)	% Effluent/Vol	monthly	12	100	100	50	100	yes
nitrogen (ammonia) ¹	mg/L	every 6 days	46	0.01	4.62	0.9	0.12	yes
nitrogen (total) ¹	mg/L	every 6 days	46	4.82	10.1	10	7.96	yes
phosphorus (total)	mg/L	every 6 days	61	0.07	0.49	2	0.22	yes
total suspended solids ¹	mg/L	every 6 days	46	<2	14	5	<2	yes

Table 2: 50 percentile yearly summary

EPA Point 4 Site code WM0004		Point description: Downstream of the chamber prior to discharge						
pollutant	unit of measure	sampling frequency	number of samples	minimum result	maximum result	50 percentile limit	50 percentile value	within limits
nitrogen (ammonia) ¹	mg/L	every 6 days	15	0.01	3.65	2	0.79	yes
nitrogen (total) ¹	mg/L	every 6 days	15	6.15	11.4	15	8.59	yes
total suspended solids ¹	mg/L	every 6 days	15	<2	3	10	<2	yes

¹A licence variation has been in place from the 7th of April 2021 in order to complete facility upgrades which are underway, required by pollution reduction program (PRP 800). Sample results and corresponding limits for period 1st July 2020 to 7th April 2021 can be found in Table 1. Sample results and corresponding limits from 7th April to 30th June 2021 can be found in Table 2. These changes also apply to 90 percentile tables 4 and 5.

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Table 3: 80 percentile yearly summary

EPA Point 4 Site code WM0004		Point description: Downstream of the chamber prior to discharge						
pollutant	unit of measure	sampling frequency	number of samples	minimum result	maximum result	80 percentile limit	80 percentile value	within limits
faecal coliforms	CFU/100mL	every 6 days	60	<1	6,300	200	3	yes

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Table 4: 90 percentile yearly summary

EPA Point 4 Site code WM0004		Point description: Downstream of the chamber prior to discharge						
pollutant	unit of measure	sampling frequency	number of samples	minimum result	maximum result	90 percentile limit	90 percentile value	within limits
aluminium	ug/L	monthly	12	<5	207	270	6	yes
biochemical oxygen demand	mg/L	every 6 days	51	<2	7	15	<2	yes
chlorine (total residual)	mg/L	every 6 days	60	<0.04	<0.04	0.1	<0.04	yes
cobalt	ug/L	monthly	2	0.4	0.8	-	0.8	n/a
copper	ug/L	monthly	12	3.6	7.6	9	7.3	yes
diazinon	ug/L	monthly	12	<0.1	<0.1	2.4	<0.1	yes
iron	ug/L	monthly	12	42	1,200	880	279	yes
nitrogen (ammonia) ¹	mg/L	every 6 days	46	0.01	4.62	1.4	1.7	no ²
nitrogen (total) ¹	mg/L	every 6 days	46	4.82	10.1	15	9.44	yes
phosphorus (total)	mg/L	every 6 days	61	0.07	0.49	3	0.36	yes
total suspended solids ¹	mg/L	every 6 days	46	<2	14	10	<2	yes
zinc	ug/L	monthly	12	12	26	33	21	yes

²The Nitrogen (ammonia) 90th%-ile concentration limit exceedance was largely influenced by increasing inflows to Winmalee WRRF exceeding the treatment capacity of the biological processes, which has led to elevated ammonia concentration. A licence variation has been in place from the 7th April 2021 in order to complete the facility upgrades, which are underway, required by Pollution Reduction Program (PRP) 800.

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Table 5: 90 percentile yearly summary

EPA Point 4 Site code WM0004		Point description: Downstream of the chamber prior to discharge						
pollutant	unit of measure	sampling frequency	number of samples	minimum result	maximum result	90 percentile limit	90 percentile value	within limits
nitrogen (ammonia) ¹	mg/L	every 6 days	15	0.01	3.65	5	2.62	yes
nitrogen (total) ¹	mg/L	every 6 days	15	6.15	11.4	20	10.5	yes
total suspended solids ¹	mg/L	every 6 days	15	<2	3	15	<2	yes

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Table 6: Average yearly summary

EPA Point 4 Site code WM0004		Point description: Downstream of the chamber prior to discharge						
pollutant	unit of measure	sampling frequency	number of samples	minimum result	maximum result	Average Limit	Average value	within limits
aluminium	ug/L	monthly	12	<5	207	190	18	yes
cobalt	ug/L	monthly	2	0.4	0.8	-	0.6	n/a
copper	ug/L	monthly	12	3.6	7.6	7	5	yes
diazinon	ug/L	monthly	12	<0.1	<0.1	0.3	<0.1	yes
iron	ug/L	monthly	12	42	1,200	650	191	yes
zinc	ug/L	monthly	12	12	26	25	16	yes

Effluent quality monitoring results obtained from EPA Point 4 are used to indicate the quality of water discharged at EPA Point 1 (discharge to waters).

Note: Sydney Water commenced monitoring of biochemical oxygen demand from 1st September 2020. Historically, carbonaceous biochemical oxygen demand was monitored.