

Penrith Water Resource Recovery Facility

September Pollution Monitoring Summary



EPL 1409

Summary period: 01-09-2024 to 30-09-2024

Date obtained: 09-10-2024

Date published: 23-10-2024

Licensee: Sydney Water Corporation

PO Box 399

PARRAMATTA NSW 2124

Table 1: 3 Day Geometric Mean data

EPA Point 5 Site code PR0005		Point description: At the outlet of the chlorine contact tank			
pollutant	unit of measure	sampling frequency	3DGM limit	3DGM Actual	within limits
biochemical oxygen demand	mg/L	monthly	30	<2	yes
total suspended solids	mg/L	monthly	10	2	yes

3 Day Geometric Mean (3DGM) is a way to average a set of values and is commonly used with water quality assessments which show a great deal of variability. 3DGM is calculated by multiplying the results of the analysis of three samples collected on three consecutive days and then taking the cubed root of that amount.

Table 2: Routine monitoring data

EPA Point 5 Site code PR0005		Point description: At the outlet of the chlorine contact tank				
pollutant	unit of measure	sampling frequency	number of samples	minimum result	mean result	maximum result
aluminium	ug/L	monthly	1	-	-	163
biochemical oxygen demand	mg/L	every 6 days	5	<2	<2	<2
cadmium	ug/L	monthly	1	-	-	<0.1
copper	ug/L	monthly	1	-	-	6.3
faecal coliforms	CFU/100mL	every 6 days	5	3	16	34
hydrogen sulphide (unionised)	ug/L	monthly	1	-	-	<30
iron	ug/L	monthly	1	-	-	133
nitrogen (ammonia)	mg/L	every 6 days	5	0.06	0.07	0.09
nitrogen (total)	mg/L	every 6 days	5	4.67	5.10	5.63
phosphorus (total)	mg/L	every 6 days	5	0.11	0.12	0.12
total suspended solids	mg/L	every 6 days	5	<2	<2	2
zinc	ug/L	monthly	1	-	-	37

EPA Point 21 Site code PR0021		Point description: Downstream of the St Marys Advanced Water Treatment Plant return stream				
pollutant	unit of measure	sampling frequency	number of samples	minimum result	mean result	maximum result
chlorine (total residual)	mg/L	every 6 days	5	<0.04	<0.04	<0.04

EPA Point 22 Site code PR0022		Point description: Upstream of the St Marys Advanced Water Treatment Plant return stream				
pollutant	unit of measure	sampling frequency	number of samples	minimum result	mean result	maximum result
Ceriodaphnia dubia immobilisation (EC50)	% Effluent/Vol	monthly	1	-	-	100

Average and percentile limits are only applied annually for routine monitoring data in Table 2.

Effluent quality monitoring results obtained from EPA Points 5, 21 and 22 are used to indicate the quality of water discharged at EPA Point 1 (discharge to waters).

Penrith Water Resource Recovery Facility

August Pollution Monitoring Summary



EPL 1409

Summary period: 01-08-2024 to 31-08-2024

Date obtained: 07-09-2024

Date published: 13-09-2024

Licensee: Sydney Water Corporation

PO Box 399

PARRAMATTA NSW 2124

Table 1: 3 Day Geometric Mean data

EPA Point 5 Site code PR0005		Point description: At the outlet of the chlorine contact tank			
pollutant	unit of measure	sampling frequency	3DGM limit	3DGM Actual	within limits
biochemical oxygen demand	mg/L	monthly	30	<2	yes
total suspended solids	mg/L	monthly	10	2	yes

3 Day Geometric Mean (3DGM) is a way to average a set of values and is commonly used with water quality assessments which show a great deal of variability. 3DGM is calculated by multiplying the results of the analysis of three samples collected on three consecutive days and then taking the cubed root of that amount.

Table 2: Routine monitoring data

EPA Point 5 Site code PR0005		Point description: At the outlet of the chlorine contact tank				
pollutant	unit of measure	sampling frequency	number of samples	minimum result	mean result	maximum result
aluminium	ug/L	monthly	1	-	-	175
arsenic	ug/L	bi-annually	1	-	-	<0.2
biochemical oxygen demand	mg/L	every 6 days	5	<2	<2	3
cadmium	ug/L	monthly	1	-	-	<0.1
cobalt	ug/L	bi-annually	1	-	-	0.8
copper	ug/L	monthly	1	-	-	8
faecal coliforms	CFU/100mL	every 6 days	6	<1	3	10
hydrogen sulphide (unionised)	ug/L	monthly	1	-	-	<30
iron	ug/L	monthly	1	-	-	168
nickel	ug/L	bi-annually	1	-	-	2.4
nitrogen (ammonia)	mg/L	every 6 days	5	0.07	0.12	0.18
nitrogen (total)	mg/L	every 6 days	5	5.15	5.65	6.35
phosphorus (total)	mg/L	every 6 days	5	0.11	0.13	0.15
total suspended solids	mg/L	every 6 days	5	<2	<2	2
zinc	ug/L	monthly	1	-	-	44

EPA Point 21 Site code PR0021		Point description: Downstream of the St Marys Advanced Water Treatment Plant return stream				
pollutant	unit of measure	sampling frequency	number of samples	minimum result	mean result	maximum result
chlorine (total residual)	mg/L	every 6 days	6	<0.04	<0.04	<0.04

EPA Point 22 Site code PR0022		Point description: Upstream of the St Marys Advanced Water Treatment Plant return stream				
pollutant	unit of measure	sampling frequency	number of samples	minimum result	mean result	maximum result
Ceriodaphnia dubia immobilisation (EC50)	% Effluent/Vol	monthly	1	-	-	100

Average and percentile limits are only applied annually for routine monitoring data in Table 2.

Effluent quality monitoring results obtained from EPA Points 5, 21 and 22 are used to indicate the quality of water discharged at EPA Point 1 (discharge to waters).

Penrith Water Resource Recovery Facility

July Pollution Monitoring Summary



EPL 1409

Summary period: 01-07-2024 to 31-07-2024

Date obtained: 18-08-2024

Date published: 27-08-2024

Licensee: Sydney Water Corporation

PO Box 399

PARRAMATTA NSW 2124

Table 1: 3 Day Geometric Mean data

EPA Point 5 Site code PR0005		Point description: At the outlet of the chlorine contact tank			
pollutant	unit of measure	sampling frequency	3DGM limit	3DGM Actual	within limits
biochemical oxygen demand	mg/L	monthly	30	<2	yes
total suspended solids	mg/L	monthly	10	<2	yes

3 Day Geometric Mean (3DGM) is a way to average a set of values and is commonly used with water quality assessments which show a great deal of variability. 3DGM is calculated by multiplying the results of the analysis of three samples collected on three consecutive days and then taking the cubed root of that amount.

Table 2: Routine monitoring data

EPA Point 5 Site code PR0005		Point description: At the outlet of the chlorine contact tank				
pollutant	unit of measure	sampling frequency	number of samples	minimum result	mean result	maximum result
aluminium	ug/L	monthly	1	-	-	268
biochemical oxygen demand	mg/L	every 6 days	6	<2	<2	<2
cadmium	ug/L	monthly	1	-	-	<0.1
copper	ug/L	monthly	1	-	-	8.1
faecal coliforms	CFU/100mL	every 6 days	5	<1	1	5
hydrogen sulphide (unionised)	ug/L	monthly	1	-	-	<30
iron	ug/L	monthly	1	-	-	184
nitrogen (ammonia)	mg/L	every 6 days	6	0.05	0.20	0.30
nitrogen (total)	mg/L	every 6 days	6	4.61	5.53	6.10
phosphorus (total)	mg/L	every 6 days	6	0.17	0.20	0.29
total suspended solids	mg/L	every 6 days	6	<2	<2	3
zinc	ug/L	monthly	1	-	-	42

EPA Point 21 Site code PR0021		Point description: Downstream of the St Marys Advanced Water Treatment Plant return stream				
pollutant	unit of measure	sampling frequency	number of samples	minimum result	mean result	maximum result
chlorine (total residual)	mg/L	every 6 days	5	<0.04	<0.04	<0.04

EPA Point 22 Site code PR0022		Point description: Upstream of the St Marys Advanced Water Treatment Plant return stream				
pollutant	unit of measure	sampling frequency	number of samples	minimum result	mean result	maximum result
Ceriodaphnia dubia immobilisation (EC50)	% Effluent/Vol	monthly	1	-	-	100

Average and percentile limits are only applied annually for routine monitoring data in Table 2.

Effluent quality monitoring results obtained from EPA Points 5, 21 and 22 are used to indicate the quality of water discharged at EPA Point 1 (discharge to waters).