# Penrith Water Resource Recovery Facility March Pollution Monitoring Summary

#### **EPL 1409**

Summary period: 01-03-2024 to 31-03-2024

Date obtained: 09-04-2024

Date published: 23-04-2024



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 sampling measure 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		

<sup>3</sup> 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	_	_	116	
biochemical oxygen demand	mg/L	every 6 days	6	<2	<2	<2	
cadmium	ug/L	monthly	1	-	_	<0.1	
copper	ug/L	monthly	1	-	_	7.1	
faecal coliforms	CFU/100mL	every 6 days	5	41	74	120	
hydrogen sulphide (unionised)	ug/L	monthly	1	-	_	<30	
iron	ug/L	monthly	1	-	_	131	
nitrogen (ammonia)	mg/L	every 6 days	6	0.03	0.04	0.05	
nitrogen (total)	mg/L	every 6 days	6	4.78	5.88	6.59	
phosphorus (total)	mg/L	every 6 days	6	80.0	0.11	0.13	
total suspended solids	mg/L	every 6 days	6	<2	3	19	
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 sampling number of minimum mean maximum measure frequency samples result result result							
chlorine (total residual)	mg/L	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 sampling number of minimum mean maximum measure frequency samples result result result						
Ceriodaphnia dubia immobilisation (EC50)	% Effluent/Vol						

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

## **Penrith Water Resource Recovery Facility February Pollution Monitoring Summary**

### **EPL 1409**

Summary period: 01-02-2024 to 29-02-2024

Date obtained: 13-03-2024

Date published: 25-03-2024



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 sampling measure frequency 3DGM limit 3DGM Actual within limits						
biochemical oxygen demand	mg/L	monthly	30	<2	yes		
total suspended solids	mg/L	monthly	10	4	yes		

<sup>3</sup> 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	-	_	128		
arsenic	ug/L	bi-annually	1	-	_	0.6		
biochemical oxygen demand	mg/L	every 6 days	4	<2	<2	2		
cadmium	ug/L	monthly	1	_	_	<0.1		
cobalt	ug/L	bi-annually	1	_	_	0.5		
copper	ug/L	monthly	1	-	_	5		
faecal coliforms	CFU/100mL	every 6 days	5	25	113	200		
hydrogen sulphide (unionised)	ug/L	monthly	1	-	_	<30		
iron	ug/L	monthly	1	-	_	101		
nickel	ug/L	bi-annually	1	-	_	2.6		
nitrogen (ammonia)	mg/L	every 6 days	4	0.04	0.25	0.45		
nitrogen (total)	mg/L	every 6 days	4	3.91	4.99	5.63		
phosphorus (total)	mg/L	every 6 days	4	0.15	0.16	0.19		
total suspended solids	mg/L	every 6 days	4	<2	<2	3		
zinc	ug/L	monthly	1	-	-	32		

EPA Point 21 Site code PR0021	Point description: Downstream of the St Marys Advanced Water Treatment Plant return stream					
pollutant	unit of sampling number of minimum mean maximum measure frequency samples result result 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 sampling number of minimum mean maximum measure frequency samples result result 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.

## Penrith Water Resource Recovery Facility January Pollution Monitoring Summary

### **EPL 1409**

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

Date obtained: 07-02-2024

Date published: 19-02-2024



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 sampling measure 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		

<sup>3</sup> 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 descrip	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	_	-	128		
biochemical oxygen demand	mg/L	every 6 days	6	<2	<2	<2		
cadmium	ug/L	monthly	1	_	-	<0.1		
copper	ug/L	monthly	1	_	-	7.8		
faecal coliforms	CFU/100mL	every 6 days	5	<1	180	380		
hydrogen sulphide (unionised)	ug/L	monthly	1	_	-	<30		
iron	ug/L	monthly	1	_	-	94		
nitrogen (ammonia)	mg/L	every 6 days	6	0.03	0.09	0.16		
nitrogen (total)	mg/L	every 6 days	6	4.69	5.35	5.81		
phosphorus (total)	mg/L	every 6 days	6	0.05	0.08	0.1		
total suspended solids	mg/L	every 6 days	6	<2	<2	<2		
zinc	ug/L	monthly	1	-	-	31		

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

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

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

# Penrith Water Resource Recovery Facility December Pollution Monitoring Summary



Summary period: 01-12-2023 to 31-12-2023

Date obtained: 10-01-2024

Date published: 22-01-2024



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 sampling measure 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		

<sup>3</sup> 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 descript	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	_	_	209		
biochemical oxygen demand	mg/L	every 6 days	5	<2	<2	<2		
cadmium	ug/L	monthly	1	_	-	<0.1		
copper	ug/L	monthly	1	_	-	7.2		
faecal coliforms	CFU/100mL	every 6 days	5	5	126	480		
hydrogen sulphide (unionised)	ug/L	monthly	1	_	-	<30		
iron	ug/L	monthly	1	_	-	134		
nitrogen (ammonia)	mg/L	every 6 days	5	0.02	0.17	0.73		
nitrogen (total)	mg/L	every 6 days	5	2.78	3.59	4.54		
phosphorus (total)	mg/L	every 6 days	5	0.05	0.07	0.08		
total suspended solids	mg/L	every 6 days	5	<2	<2	<2		
zinc	ug/L	monthly	1	-	-	27		

EPA Point 21 Site code PR0021	•	Point description: Downstream of the St Marys Advanced Water Treatment Plant return stream						
pollutant	unit of sampling number of minimum mean maximum measure frequency samples result result result							
chlorine (total residual)	mg/L	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 sampling number of minimum mean maximum measure frequency samples result result result						
Ceriodaphnia dubia immobilisation (EC50)	% Effluent/Vol						

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

# Penrith Water Resource Recovery Facility November Pollution Monitoring Summary

### EPL 1409'

Summary period: 01-11-2023 to 30-11-2023Á

Date obtained: 06-12-2023Á

Date published: 1I -12-2023Á



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 sampling measure 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		

<sup>3</sup> 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	-	-	156	
biochemical oxygen demand	mg/L	every 6 days	5	<2	<2	<2	
cadmium	ug/L	monthly	1	-	-	<0.1	
copper	ug/L	monthly	1	-	-	6.6	
faecal coliforms	CFU/100mL	every 6 days	5	15	45	82	
hydrogen sulphide (unionised)	ug/L	monthly	1	-	-	<30	
iron	ug/L	monthly	1	-	-	154	
nitrogen (ammonia)	mg/L	every 6 days	5	0.03	0.06	0.16	
nitrogen (total)	mg/L	every 6 days	5	2.97	4.74	5.93	
phosphorus (total)	mg/L	every 6 days	5	0.07	0.11	0.14	
total suspended solids	mg/L	every 6 days	5	<2	<2	<2	
zinc	ug/L	monthly	1	-	-	26	

EPA Point 21 Site code PR0021	·	Point description: Downstream of the St Marys Advanced Water Treatment Plant return stream						
pollutant	unit of measure							
chlorine (total residual)	mg/L	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 sampling number of minimum mean maximum measure frequency samples result result result						
Ceriodaphnia dubia immobilisation (EC50)	% Effluent/Vol						

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# Penrith Water Resource Recovery Facility October Pollution Monitoring Summary

#### **EPL 1409**

Summary period: 01-10-2023 to 31-10-2023

Date obtained: 03-11-2023

Date published: 17-11-2023



Licensee: Sydney Water Corporation

PO Box 399

PARRAMATTA NSW 2124

#### Table 1: 3 Day Geometric Mean data

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

<sup>3</sup> 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 descrip	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	_	-	132		
biochemical oxygen demand	mg/L	every 6 days	5	<2	<2	<2		
cadmium	ug/L	monthly	1	_	-	<0.1		
copper	ug/L	monthly	1	_	-	6.7		
faecal coliforms	CFU/100mL	every 6 days	5	1	26	100		
hydrogen sulphide (unionised)	ug/L	monthly	1	_	-	<30		
iron	ug/L	monthly	1	_	-	121		
nitrogen (ammonia)	mg/L	every 6 days	5	0.03	0.11	0.43		
nitrogen (total)	mg/L	every 6 days	5	4.29	5.74	6.93		
phosphorus (total)	mg/L	every 6 days	5	0.12	0.17	0.26		
total suspended solids	mg/L	every 6 days	5	<2	<2	<2		
zinc	ug/L	monthly	1	-	_	21		

EPA Point 21 Site code PR0021	•	Point description: Downstream of the St Marys Advanced Water Treatment Plant return stream						
pollutant	unit of sampling number of minimum mean maximum measure frequency samples result result result							
chlorine (total residual)	mg/L	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 sampling number of minimum mean maximum measure frequency samples result result result						
Ceriodaphnia dubia immobilisation (EC50)	% Effluent/Vol						

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

# Penrith Water Resource Recovery Facility September Pollution Monitoring Summary



Summary period: 01-09-2023 to 30-09-2023

Date obtained: 05-10-2023

Date published: 13-10-2023



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 sampling measure 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		

<sup>3</sup> 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 descrip	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	_	-	164		
biochemical oxygen demand	mg/L	every 6 days	5	<2	<2	<2		
cadmium	ug/L	monthly	1	-	_	<0.1		
copper	ug/L	monthly	1	-	_	3.6		
faecal coliforms	CFU/100mL	every 6 days	5	<1	10	23		
hydrogen sulphide (unionised)	ug/L	monthly	1	-	_	<30		
iron	ug/L	monthly	1	-	_	140		
nitrogen (ammonia)	mg/L	every 6 days	5	0.03	0.11	0.41		
nitrogen (total)	mg/L	every 6 days	5	4.35	5.91	8.68		
phosphorus (total)	mg/L	every 6 days	5	0.07	0.21	0.73		
total suspended solids	mg/L	every 6 days	5	<2	<2	<2		
zinc	ug/L	monthly	1	-	_	23		

EPA Point 21 Site code PR0021	•	Point description: Downstream of the St Marys Advanced Water Treatment Plant return stream						
pollutant	unit of sampling number of minimum mean maximur measure frequency samples result result 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 sampling number of minimum mean maximum measure frequency samples result result result							
Ceriodaphnia dubia immobilisation (EC50)	% Effluent/Vol							

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

## Penrith Water Resource Recovery Facility August Pollution Monitoring Summary

### **EPL 1409**

Summary period: 01-08-2023 to 31-08-2023

Date obtained: 05-09-2023

Date published: 14-09-2023



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 sampling measure 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		

<sup>3</sup> 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	-	_	143		
arsenic	ug/L	bi-annually	1	_	_	0.2		
biochemical oxygen demand	mg/L	every 6 days	5	<2	<2	<2		
cadmium	ug/L	monthly	1	_	_	<0.1		
cobalt	ug/L	bi-annually	1	_	_	0.5		
copper	ug/L	monthly	1	-	_	2.7		
faecal coliforms	CFU/100mL	every 6 days	5	<1	3	5		
hydrogen sulphide (unionised)	ug/L	monthly	1	-	_	<30		
iron	ug/L	monthly	1	-	_	170		
nickel	ug/L	bi-annually	1	-	_	2.2		
nitrogen (ammonia)	mg/L	every 6 days	5	0.02	0.03	0.05		
nitrogen (total)	mg/L	every 6 days	5	3.23	3.6	4.69		
phosphorus (total)	mg/L	every 6 days	5	0.07	0.07	0.08		
total suspended solids	mg/L	every 6 days	5	<2	<2	<2		
zinc	ug/L	monthly	1	-	-	25		

EPA Point 21 Site code PR0021	Point description: Downstream of the St Marys Advanced Water Treatment Plant return stream					
pollutant	unit of sampling number of minimum mean maximum measure frequency samples result result 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 sampling number of minimum mean maximum measure frequency samples result result result						
Ceriodaphnia dubia immobilisation (EC50)	% Effluent/Vol						

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

# Penrith Water Resource Recovery Facility July Pollution Monitoring Summary

### **EPL 1409**

Summary period: 01-07-2023 to 31-07-2023

Date obtained: 06-08-2023

Date published: 15-08-2023



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 sampling measure 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		

<sup>3</sup> 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 descrip	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	_	-	230		
biochemical oxygen demand	mg/L	every 6 days	5	<2	<2	<2		
cadmium	ug/L	monthly	1	_	-	<0.1		
copper	ug/L	monthly	1	_	-	3.4		
faecal coliforms	CFU/100mL	every 6 days	5	<1	10	22		
hydrogen sulphide (unionised)	ug/L	monthly	1	_	-	<30		
iron	ug/L	monthly	1	_	-	199		
nitrogen (ammonia)	mg/L	every 6 days	5	0.03	0.19	0.67		
nitrogen (total)	mg/L	every 6 days	5	3.26	3.59	4.25		
phosphorus (total)	mg/L	every 6 days	5	0.07	0.08	0.1		
total suspended solids	mg/L	every 6 days	5	<2	<2	<2		
zinc	ug/L	monthly	1	-	-	23		

EPA Point 21 Site code PR0021	·	Point description: Downstream of the St Marys Advanced Water Treatment Plant return stream						
pollutant	unit of measure							
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 sampling number of minimum mean maximun measure frequency samples result result result							
Ceriodaphnia dubia immobilisation (EC50)	% Effluent/Vol	monthly	1	-	-	61.6		

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