

Shellharbour Water Resource Recovery Facility

June Pollution Monitoring Summary



EPL 211

Summary period: 01-06-2023 to 30-06-2023

Date obtained: 05-07-2023

Date published: 19-07-2023

Licensee: Sydney Water Corporation

PO Box 399

PARRAMATTA NSW 2124

Table 1: 3 Day Geometric Mean data

EPA Point 4 Site code SH0004		Point description: At the southern end of the secondary effluent channel				
pollutant	unit of measure	sampling frequency	3DGM limit	3DGM Actual	within limits	
total suspended solids	mg/L	monthly	50	8	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 4 Site code SH0004		Point description: At the southern end of the secondary effluent channel				
pollutant	unit of measure	sampling frequency	number of samples	minimum result	mean result	maximum result
aluminium	ug/L	monthly	1	-	-	37
biochemical oxygen demand	mg/L	every 6 days	5	4	4.6	6
carbonaceous biochemical oxygen demand	mg/L	every 6 days	5	3	3	4
copper	ug/L	monthly	1	-	-	1.8
diazinon	ug/L	monthly	1	-	-	<0.1
faecal coliforms	CFU/100mL	every 6 days	5	14	35	57
hydrogen sulphide (unionised)	ug/L	monthly	1	-	-	<30
nitrogen (ammonia)	mg/L	monthly	1	-	-	4.7
nonylphenol ethoxylate	ug/L	monthly	1	-	-	<5
sea urchin fertilisation (EC50)	% Effluent/Vol	monthly	1	-	-	100
total suspended solids	mg/L	every 6 days	5	6	8	9

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

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).

Shellharbour Water Resource Recovery Facility

May Pollution Monitoring Summary



EPL 211

Summary period: 01-05-2023 to 31-05-2023

Date obtained: 07-06-2023

Date published: 13-06-2023

Licensee: Sydney Water Corporation

PO Box 399

PARRAMATTA NSW 2124

Table 1: 3 Day Geometric Mean data

EPA Point 4 Site code SH0004		Point description: At the southern end of the secondary effluent channel				
pollutant	unit of measure	sampling frequency	3DGM limit	3DGM Actual	within limits	
total suspended solids	mg/L	monthly	50	11	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 4 Site code SH0004		Point description: At the southern end of the secondary effluent channel				
pollutant	unit of measure	sampling frequency	number of samples	minimum result	mean result	maximum result
aluminium	ug/L	monthly	1	-	-	39
biochemical oxygen demand	mg/L	every 6 days	5	4	5	6
carbonaceous biochemical oxygen demand	mg/L	every 6 days	5	4	4	5
copper	ug/L	monthly	1	-	-	4.3
diazinon	ug/L	monthly	1	-	-	<0.1
faecal coliforms	CFU/100mL	every 6 days	5	1	9	20
hydrogen sulphide (unionised)	ug/L	monthly	1	-	-	<30
nitrogen (ammonia)	mg/L	monthly	1	-	-	12.7
nonylphenol ethoxylate	ug/L	monthly	1	-	-	<5
sea urchin fertilisation (EC50)	% Effluent/Vol	monthly	1	-	-	100
total suspended solids	mg/L	every 6 days	5	7	9	10

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

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).

Shellharbour Water Resource Recovery Facility

April Pollution Monitoring Summary



EPL 211

Summary period: 01-04-2023 to 30-04-2023

Date obtained: 15-05-2023

Date published: 19-05-2023

Licensee: Sydney Water Corporation

PO Box 399

PARRAMATTA NSW 2124

Table 1: 3 Day Geometric Mean data

EPA Point 4 Site code SH0004		Point description: At the southern end of the secondary effluent channel				
pollutant	unit of measure	sampling frequency	3DGM limit	3DGM Actual	within limits	
total suspended solids	mg/L	monthly	50	6	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 4 Site code SH0004		Point description: At the southern end of the secondary effluent channel				
pollutant	unit of measure	sampling frequency	number of samples	minimum result	mean result	maximum result
aluminium	ug/L	monthly	1	-	-	31
biochemical oxygen demand	mg/L	every 6 days	5	3	4.8	7
carbonaceous biochemical oxygen demand	mg/L	every 6 days	5	2	4	6
copper	ug/L	monthly	1	-	-	5.4
diazinon	ug/L	monthly	1	-	-	<0.1
faecal coliforms	CFU/100mL	every 6 days	5	52	3131	15,000
hydrogen sulphide (unionised)	ug/L	monthly	1	-	-	<30
nitrogen (ammonia)	mg/L	monthly	1	-	-	<0.1
nonylphenol ethoxylate	ug/L	monthly	1	-	-	<5
sea urchin fertilisation (EC50)	% Effluent/Vol	monthly	1	-	-	100
total suspended solids	mg/L	every 6 days	5	5	10	16

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

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).

Shellharbour Water Resource Recovery Facility

March Pollution Monitoring Summary



EPL 211

Summary period: 01-03-2023 to 31-03-2023

Date obtained: 06-04-2023

Date published: 14-04-2023

Licensee: Sydney Water Corporation

PO Box 399

PARRAMATTA NSW 2124

Table 1: 3 Day Geometric Mean data

EPA Point 4 Site code SH0004		Point description: At the southern end of the secondary effluent channel				
pollutant	unit of measure	sampling frequency	3DGM limit	3DGM Actual	within limits	
total suspended solids	mg/L	monthly	50	10	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 4 Site code SH0004		Point description: At the southern end of the secondary effluent channel				
pollutant	unit of measure	sampling frequency	number of samples	minimum result	mean result	maximum result
aluminium	ug/L	monthly	1	-	-	58
biochemical oxygen demand	mg/L	every 6 days	5	<2	3	7
carbonaceous biochemical oxygen demand	mg/L	every 6 days	5	<2	<2	4
copper	ug/L	monthly	1	-	-	4.5
diazinon	ug/L	monthly	1	-	-	<0.1
faecal coliforms	CFU/100mL	every 6 days	5	19	154	480
hydrogen sulphide (unionised)	ug/L	monthly	1	-	-	<30
nitrogen (ammonia)	mg/L	monthly	1	-	-	0.3
nonylphenol ethoxylate	ug/L	monthly	1	-	-	<5
sea urchin fertilisation (EC50)	% Effluent/Vol	monthly	1	-	-	100
total suspended solids	mg/L	every 6 days	5	5	7	13

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

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).

Shellharbour Water Resource Recovery Facility

February Pollution Monitoring Summary



EPL 211

Summary period: 01-02-2023 to 28-02-2023

Date obtained: 07-03-2023

Date published: 17-03-2023

Licensee: Sydney Water Corporation

PO Box 399

PARRAMATTA NSW 2124

Table 1: 3 Day Geometric Mean data

EPA Point 4 Site code SH0004		Point description: At the southern end of the secondary effluent channel				
pollutant	unit of measure	sampling frequency	3DGM limit	3DGM Actual	within limits	
total suspended solids	mg/L	monthly	50	3	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 4 Site code SH0004		Point description: At the southern end of the secondary effluent channel				
pollutant	unit of measure	sampling frequency	number of samples	minimum result	mean result	maximum result
aluminium	ug/L	monthly	1	-	-	24
biochemical oxygen demand	mg/L	every 6 days	5	<2	5	21
carbonaceous biochemical oxygen demand	mg/L	every 6 days	5	<2	3	16
copper	ug/L	monthly	1	-	-	1.8
diazinon	ug/L	monthly	1	-	-	<0.1
faecal coliforms	CFU/100mL	every 6 days	5	3	6571	29,000
hydrogen sulphide (unionised)	ug/L	monthly	1	-	-	<30
nitrogen (ammonia)	mg/L	monthly	1	-	-	0.2
nonylphenol ethoxylate	ug/L	monthly	1	-	-	<5
sea urchin fertilisation (EC50)	% Effluent/Vol	monthly	1	-	-	100
total suspended solids	mg/L	every 6 days	5	<2	11	40

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

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).

Shellharbour Water Resource Recovery Facility

January Pollution Monitoring Summary



EPL 211

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

Date obtained: 06-02-2023

Date published: 15-02-2023

Licensee: Sydney Water Corporation

PO Box 399

PARRAMATTA NSW 2124

Table 1: 3 Day Geometric Mean data

EPA Point 4 Site code SH0004		Point description: At the southern end of the secondary effluent channel				
pollutant	unit of measure	sampling frequency	3DGM limit	3DGM Actual	within limits	
total suspended solids	mg/L	monthly	50	10	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 4 Site code SH0004		Point description: At the southern end of the secondary effluent channel				
pollutant	unit of measure	sampling frequency	number of samples	minimum result	mean result	maximum result
aluminium	ug/L	monthly	1	-	-	38
biochemical oxygen demand	mg/L	every 6 days	5	<2	5.4	18
carbonaceous biochemical oxygen demand	mg/L	every 6 days	5	<2	3	11
copper	ug/L	monthly	1	-	-	2.7
diazinon	ug/L	monthly	1	-	-	<0.1
faecal coliforms	CFU/100mL	every 6 days	5	27	221	610
hydrogen sulphide (unionised)	ug/L	monthly	1	-	-	<30
nitrogen (ammonia)	mg/L	monthly	1	-	-	0.2
nonylphenol ethoxylate	ug/L	monthly	1	-	-	<5
sea urchin fertilisation (EC50)	% Effluent/Vol	monthly	1	-	-	100
total suspended solids	mg/L	every 6 days	5	5	11	27

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

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).

Shellharbour Water Resource Recovery Facility

December Pollution Monitoring Summary



EPL 211

Summary period: 01-12-2022 to 31-12-2022

Date obtained: 06-01-2023

Date published: 18-01-2023

Licensee: Sydney Water Corporation

PO Box 399

PARRAMATTA NSW 2124

Table 1: 3 Day Geometric Mean data

EPA Point 4 Site code SH0004		Point description: At the southern end of the secondary effluent channel				
pollutant	unit of measure	sampling frequency	3DGM limit	3DGM Actual	within limits	
total suspended solids	mg/L	monthly	50	4	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 4 Site code SH0004		Point description: At the southern end of the secondary effluent channel				
pollutant	unit of measure	sampling frequency	number of samples	minimum result	mean result	maximum result
aluminium	ug/L	monthly	1	-	-	20
biochemical oxygen demand	mg/L	every 6 days	5	2	3.2	4
carbonaceous biochemical oxygen demand	mg/L	every 6 days	5	2	2	3
copper	ug/L	monthly	1	-	-	2
diazinon	ug/L	monthly	1	-	-	<0.1
faecal coliforms	CFU/100mL	every 6 days	5	26	46	100
hydrogen sulphide (unionised)	ug/L	monthly	1	-	-	<30
nitrogen (ammonia)	mg/L	monthly	1	-	-	<0.1
nonylphenol ethoxylate	ug/L	monthly	1	-	-	<5
sea urchin fertilisation (EC50)	% Effluent/Vol	monthly	1	-	-	100
total suspended solids	mg/L	every 6 days	5	4	6	11

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

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).

Shellharbour Water Resource Recovery Facility

November Pollution Monitoring Summary



EPL 211

Summary period: 01-11-2022 to 30-11-2022

Date obtained: 09-12-2022

Date published: 16-12-2022

Licensee: Sydney Water Corporation

PO Box 399

PARRAMATTA NSW 2124

Table 1: 3 Day Geometric Mean data

EPA Point 4 Site code SH0004		Point description: At the southern end of the secondary effluent channel				
pollutant	unit of measure	sampling frequency	3DGM limit	3DGM Actual	within limits	
total suspended solids	mg/L	monthly	50	6	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 4 Site code SH0004		Point description: At the southern end of the secondary effluent channel				
pollutant	unit of measure	sampling frequency	number of samples	minimum result	mean result	maximum result
aluminium	ug/L	monthly	1	-	-	40
biochemical oxygen demand	mg/L	every 6 days	5	3	4.2	6
carbonaceous biochemical oxygen demand	mg/L	every 6 days	5	3	4	5
copper	ug/L	monthly	1	-	-	3.3
diazinon	ug/L	monthly	1	-	-	<0.1
faecal coliforms	CFU/100mL	every 6 days	5	20	36	68
hydrogen sulphide (unionised)	ug/L	monthly	1	-	-	<30
nitrogen (ammonia)	mg/L	monthly	1	-	-	<0.1
nonylphenol ethoxylate	ug/L	monthly	1	-	-	<5
sea urchin fertilisation (EC50)	% Effluent/Vol	monthly	1	-	-	100
total suspended solids	mg/L	every 6 days	5	6	8	12

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

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).

Shellharbour Water Resource Recovery Facility

October Pollution Monitoring Summary



EPL 211

Summary period: 01-10-2022 to 31-10-2022

Date obtained: 07-11-2022

Date published: 15-11-2022

Licensee: Sydney Water Corporation

PO Box 399

PARRAMATTA NSW 2124

Table 1: 3 Day Geometric Mean data

EPA Point 4 Site code SH0004		Point description: At the southern end of the secondary effluent channel				
pollutant	unit of measure	sampling frequency	3DGM limit	3DGM Actual	within limits	
total suspended solids	mg/L	monthly	50	55	no ¹	

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 4 Site code SH0004		Point description: At the southern end of the secondary effluent channel				
pollutant	unit of measure	sampling frequency	number of samples	minimum result	mean result	maximum result
aluminium	ug/L	monthly	1	-	-	954
biochemical oxygen demand	mg/L	every 6 days	5	2	21	61
carbonaceous biochemical oxygen demand	mg/L	every 6 days	5	2	12	28
copper	ug/L	monthly	1	-	-	46.2
diazinon	ug/L	monthly	1	-	-	<0.1
faecal coliforms	CFU/100mL	every 6 days	6	20	120,000	350,000
hydrogen sulphide (unionised)	ug/L	monthly	1	-	-	<30
nitrogen (ammonia)	mg/L	monthly	1	-	-	1.6
nonylphenol ethoxylate	ug/L	monthly	1	-	-	<5
sea urchin fertilisation (EC50)	% Effluent/Vol	monthly	1	-	-	100
total suspended solids	mg/L	every 6 days	5	7	45	140

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

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).

¹Under Environment Protection License 311 conditions, as set by the NSW Environment Protection Authority, the 100 percentile limits are allowed to be exceeded during wet weather. Wet weather on 6th October resulted in plant operating under Environmental Protection License wet weather requirements.

Shellharbour Water Resource Recovery Facility

September Pollution Monitoring Summary



EPL 211

Summary period: 01-09-2022 to 30-09-2022

Date obtained: 10-10-2022

Date published: 21-10-2022

Licensee: Sydney Water Corporation

PO Box 399

PARRAMATTA NSW 2124

Table 1: 3 Day Geometric Mean data

EPA Point 4 Site code SH0004		Point description: At the southern end of the secondary effluent channel				
pollutant	unit of measure	sampling frequency	3DGM limit	3DGM Actual	within limits	
total suspended solids	mg/L	monthly	50	5	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 4 Site code SH0004		Point description: At the southern end of the secondary effluent channel				
pollutant	unit of measure	sampling frequency	number of samples	minimum result	mean result	maximum result
aluminium	ug/L	monthly	1	-	-	22
biochemical oxygen demand	mg/L	every 6 days	5	3	12.8	42
carbonaceous biochemical oxygen demand	mg/L	every 6 days	5	<2	6	19
copper	ug/L	monthly	1	-	-	2.5
diazinon	ug/L	monthly	1	-	-	<0.1
faecal coliforms	CFU/100mL	every 6 days	5	16	29	42
hydrogen sulphide (unionised)	ug/L	monthly	1	-	-	<30
nitrogen (ammonia)	mg/L	monthly	1	-	-	<0.1
nonylphenol ethoxylate	ug/L	monthly	1	-	-	<5
sea urchin fertilisation (EC50)	% Effluent/Vol	monthly	1	-	-	100
total suspended solids	mg/L	every 6 days	5	7	25	68

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

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).

Shellharbour Water Resource Recovery Facility

August Pollution Monitoring Summary



EPL 211

Summary period: 01-08-2022 to 31-08-2022

Date obtained: 08-09-2022

Date published: 14-09-2022

Licensee: Sydney Water Corporation

PO Box 399

PARRAMATTA NSW 2124

Table 1: 3 Day Geometric Mean data

EPA Point 4 Site code SH0004		Point description: At the southern end of the secondary effluent channel				
pollutant	unit of measure	sampling frequency	3DGM limit	3DGM Actual	within limits	
total suspended solids	mg/L	monthly	50	4	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 4 Site code SH0004		Point description: At the southern end of the secondary effluent channel				
pollutant	unit of measure	sampling frequency	number of samples	minimum result	mean result	maximum result
aluminium	ug/L	monthly	1	-	-	33
biochemical oxygen demand	mg/L	every 6 days	6	<2	2.83	6
carbonaceous biochemical oxygen demand	mg/L	every 6 days	6	<2	<2	4
copper	ug/L	monthly	1	-	-	3.9
diazinon	ug/L	monthly	1	-	-	<0.1
faecal coliforms	CFU/100mL	every 6 days	5	4	8	12
hydrogen sulphide (unionised)	ug/L	monthly	1	-	-	<30
nitrogen (ammonia)	mg/L	monthly	1	-	-	<0.1
nonylphenol ethoxylate	ug/L	monthly	1	-	-	<5
sea urchin fertilisation (EC50)	% Effluent/Vol	monthly	1	-	-	100
total suspended solids	mg/L	every 6 days	6	3	7	14

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

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).

Shellharbour Water Resource Recovery Facility

July Pollution Monitoring Summary



EPL 211

Summary period: 01-07-2022 to 31-07-2022

Date obtained: 17-08-2022

Date published: 25-08-2022

Licensee: Sydney Water Corporation

PO Box 399

PARRAMATTA NSW 2124

Table 1: 3 Day Geometric Mean data

EPA Point 4 Site code SH0004		Point description: At the southern end of the secondary effluent channel				
pollutant	unit of measure	sampling frequency	3DGM limit	3DGM Actual	within limits	
total suspended solids	mg/L	monthly	50	4	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 4 Site code SH0004		Point description: At the southern end of the secondary effluent channel				
pollutant	unit of measure	sampling frequency	number of samples	minimum result	mean result	maximum result
aluminium	ug/L	monthly	1	-	-	64
biochemical oxygen demand	mg/L	every 6 days	5	<2	7	29
carbonaceous biochemical oxygen demand	mg/L	every 6 days	5	<2	4	17
copper	ug/L	monthly	1	-	-	4.4
diazinon	ug/L	monthly	1	-	-	<0.1
faecal coliforms	CFU/100mL	every 6 days	5	5	20019	100,000
hydrogen sulphide (unionised)	ug/L	monthly	1	-	-	<30
nitrogen (ammonia)	mg/L	monthly	1	-	-	1.3
nonylphenol ethoxylate	ug/L	monthly	1	-	-	<5
sea urchin fertilisation (EC50)	% Effluent/Vol	monthly	1	-	-	55.2
total suspended solids	mg/L	every 6 days	5	4	18	71

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

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).