

Castle Hill Wastewater Treatment Plant

January Pollution Monitoring Summary



EPL 1725

Summary period: 01-01-2021 to 31-01-2021

Date obtained: 12-02-2021

Date published: 23-02-2021

Licensee: Sydney Water Corporation

PO Box 399

PARRAMATTA NSW 2124

Table 1: 3 Day Geometric Mean data

EPA Point 5 Site code CH0005		Point description: In the channel between the tertiary filters and the disinfection facilities			
pollutant	unit of measure	sampling frequency	3DGM limit	3DGM Actual	within limits
biochemical oxygen demand	mg/L	monthly	30	<2	yes
carbonaceous biochemical oxygen demand	mg/L	monthly	30	<2	yes
total suspended solids	mg/L	monthly	30	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 CH0005		Point description: In the channel between the tertiary filters and the disinfection facilities				
pollutant	unit of measure	sampling frequency	number of samples	minimum result	mean result	maximum result
aluminium	ug/L	monthly	1	-	-	63
biochemical oxygen demand	mg/L	every 6 days	5	<2	<2	<2
cadmium	ug/L	monthly	1	-	-	<0.1
carbonaceous biochemical oxygen demand	mg/L	every 6 days	5	<2	<2	<2
cobalt	ug/L	bi-annually	1	-	-	0.5
copper	ug/L	monthly	1	-	-	7.2
diazinon	ug/L	monthly	1	-	-	<0.1
iron	ug/L	monthly	1	-	-	39
nitrogen (ammonia)	mg/L	every 6 days	5	0.08	0.28	0.4
nitrogen (total)	mg/L	every 6 days	5	13.3	15.36	16.7
phosphorus (total)	mg/L	every 6 days	5	0.04	0.08	0.12
total suspended solids	mg/L	every 6 days	5	<2	<2	<2
zinc	ug/L	monthly	1	-	-	16

EPA Point 6 Site code CH0006		Point description: At the outlet from the STP disinfection facilities				
pollutant	unit of measure	sampling frequency	number of samples	minimum result	mean result	maximum result
Ceriodaphnia dubia immobilisation (EC50)	% Effluent/Vol	monthly	1	-	-	100
faecal coliforms	CFU/100mL	every 6 days	5	5	12	22
hydrogen sulphide (unionised)	ug/L	monthly	1	-	-	<30

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

Effluent quality monitoring results obtained from EPA Points 5 and 6 are used to indicate the quality of water discharged at EPA Point 1 (discharge to waters).

Castle Hill Wastewater Treatment Plant

December Pollution Monitoring Summary



EPL 1725

Summary period: 01-12-2020 to 31-12-2020

Date obtained: 08-01-2021

Date published: 18-01-2021

Licensee: Sydney Water Corporation

PO Box 399

PARRAMATTA NSW 2124

Table 1: 3 Day Geometric Mean data

EPA Point 5 Site code CH0005		Point description: In the channel between the tertiary filters and the disinfection facilities			
pollutant	unit of measure	sampling frequency	3DGM limit	3DGM Actual	within limits
biochemical oxygen demand	mg/L	monthly	30	3	yes
carbonaceous biochemical oxygen demand	mg/L	monthly	30	<2	yes
total suspended solids	mg/L	monthly	30	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 5 Site code CH0005		Point description: In the channel between the tertiary filters and the disinfection facilities				
pollutant	unit of measure	sampling frequency	number of samples	minimum result	mean result	maximum result
aluminium	ug/L	monthly	1	-	-	101
biochemical oxygen demand	mg/L	every 6 days	5	<2	<2	<2
cadmium	ug/L	monthly	1	-	-	<0.1
carbonaceous biochemical oxygen demand	mg/L	every 6 days	5	<2	<2	<2
copper	ug/L	monthly	1	-	-	6.7
diazinon	ug/L	monthly	1	-	-	<0.1
iron	ug/L	monthly	1	-	-	42
nitrogen (ammonia)	mg/L	every 6 days	5	0.11	0.16	0.23
nitrogen (total)	mg/L	every 6 days	5	12.6	14.96	16.5
phosphorus (total)	mg/L	every 6 days	5	0.05	0.08	0.12
total suspended solids	mg/L	every 6 days	5	<2	<2	3
zinc	ug/L	monthly	1	-	-	18

EPA Point 6 Site code CH0006		Point description: At the outlet from the STP disinfection facilities				
pollutant	unit of measure	sampling frequency	number of samples	minimum result	mean result	maximum result
Ceriodaphnia dubia immobilisation (EC50)	% Effluent/Vol	monthly	1	-	-	100
faecal coliforms	CFU/100mL	every 6 days	5	3	8406	42,000
hydrogen sulphide (unionised)	ug/L	monthly	1	-	-	<30

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

Effluent quality monitoring results obtained from EPA Points 5 and 6 are used to indicate the quality of water discharged at EPA Point 1 (discharge to waters).

Castle Hill Wastewater Treatment Plant

November Pollution Monitoring Summary



EPL 1725

Summary period: 01-11-2020 to 30-11-2020

Date obtained: 10-12-2020

Date published: 15-12-2020

Licensee: Sydney Water Corporation

PO Box 399

PARRAMATTA NSW 2124

Table 1: 3 Day Geometric Mean data

EPA Point 5 Site code CH0005		Point description: In the channel between the tertiary filters and the disinfection facilities			
pollutant	unit of measure	sampling frequency	3DGM limit	3DGM Actual	within limits
biochemical oxygen demand	mg/L	monthly	30	<2	yes
carbonaceous biochemical oxygen demand	mg/L	monthly	30	<2	yes
total suspended solids	mg/L	monthly	30	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 CH0005		Point description: In the channel between the tertiary filters and the disinfection facilities				
pollutant	unit of measure	sampling frequency	number of samples	minimum result	mean result	maximum result
aluminium	ug/L	monthly	1	-	-	80
biochemical oxygen demand	mg/L	every 6 days	5	<2	<2	<2
cadmium	ug/L	monthly	1	-	-	<0.1
carbonaceous biochemical oxygen demand	mg/L	every 6 days	5	<2	<2	<2
copper	ug/L	monthly	1	-	-	5.9
diazinon	ug/L	monthly	1	-	-	<0.1
iron	ug/L	monthly	1	-	-	42
nitrogen (ammonia)	mg/L	every 6 days	5	0.08	0.28	0.56
nitrogen (total)	mg/L	every 6 days	5	12.7	14.68	15.7
phosphorus (total)	mg/L	every 6 days	5	0.04	0.07	0.1
total suspended solids	mg/L	every 6 days	5	<2	<2	<2
zinc	ug/L	monthly	1	-	-	18

EPA Point 6 Site code CH0006		Point description: At the outlet from the STP disinfection facilities				
pollutant	unit of measure	sampling frequency	number of samples	minimum result	mean result	maximum result
Ceriodaphnia dubia immobilisation (EC50)	% Effluent/Vol	monthly	1	-	-	100
faecal coliforms	CFU/100mL	every 6 days	5	5	15	31
hydrogen sulphide (unionised)	ug/L	monthly	1	-	-	<30

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

Effluent quality monitoring results obtained from EPA Points 5 and 6 are used to indicate the quality of water discharged at EPA Point 1 (discharge to waters).

Castle Hill Wastewater Treatment Plant

October Pollution Monitoring Summary



EPL 1725

Summary period: 01-10-2020 to 31-10-2020

Date obtained: 10-11-2020

Date published: 13-11-2020

Licensee: Sydney Water Corporation

PO Box 399

PARRAMATTA NSW 2124

Table 1: 3 Day Geometric Mean data

EPA Point 5 Site code CH0005		Point description: In the channel between the tertiary filters and the disinfection facilities			
pollutant	unit of measure	sampling frequency	3DGM limit	3DGM Actual	within limits
biochemical oxygen demand	mg/L	monthly	30	<2	yes
carbonaceous biochemical oxygen demand	mg/L	monthly	30	<2	yes
total suspended solids	mg/L	monthly	30	<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 CH0005		Point description: In the channel between the tertiary filters and the disinfection facilities				
pollutant	unit of measure	sampling frequency	number of samples	minimum result	mean result	maximum result
aluminium	ug/L	monthly	1	-	-	107
biochemical oxygen demand	mg/L	every 6 days	5	<2	<2	<2
cadmium	ug/L	monthly	1	-	-	<0.1
carbonaceous biochemical oxygen demand	mg/L	every 6 days	5	<2	<2	<2
copper	ug/L	monthly	1	-	-	7.6
diazinon	ug/L	monthly	1	-	-	<0.1
iron	ug/L	monthly	1	-	-	34
nitrogen (ammonia)	mg/L	every 6 days	5	0.07	0.21	0.4
nitrogen (total)	mg/L	every 6 days	5	9.32	15.36	18
phosphorus (total)	mg/L	every 6 days	5	0.05	0.08	0.13
total suspended solids	mg/L	every 6 days	5	<2	<2	<2
zinc	ug/L	monthly	1	-	-	17

EPA Point 6 Site code CH0006		Point description: At the outlet from the STP disinfection facilities				
pollutant	unit of measure	sampling frequency	number of samples	minimum result	mean result	maximum result
Ceriodaphnia dubia immobilisation (EC50)	% Effluent/Vol	monthly	1	-	-	100
faecal coliforms	CFU/100mL	every 6 days	6	3	15	38
hydrogen sulphide (unionised)	ug/L	monthly	1	-	-	<30

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

Effluent quality monitoring results obtained from EPA Points 5 and 6 are used to indicate the quality of water discharged at EPA Point 1 (discharge to waters).

Castle Hill Wastewater Treatment Plant

September Pollution Monitoring Summary



EPL 1725

Summary period: 01-09-2020 to 30-09-2020

Date obtained: 15-10-2020

Date published: 23-10-2020

Licensee: Sydney Water Corporation

PO Box 399

PARRAMATTA NSW 2124

Table 1: 3 Day Geometric Mean data

EPA Point 5 Site code CH0005		Point description: In the channel between the tertiary filters and the disinfection facilities			
pollutant	unit of measure	sampling frequency	3DGM limit	3DGM Actual	within limits
biochemical oxygen demand	mg/L	monthly	30	<2	yes
carbonaceous biochemical oxygen demand	mg/L	monthly	30	<2	yes
total suspended solids	mg/L	monthly	30	<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 CH0005		Point description: In the channel between the tertiary filters and the disinfection facilities				
pollutant	unit of measure	sampling frequency	number of samples	minimum result	mean result	maximum result
aluminium	ug/L	monthly	1	-	-	62
biochemical oxygen demand	mg/L	every 6 days	5	<2	<2	<2
cadmium	ug/L	monthly	1	-	-	<0.1
carbonaceous biochemical oxygen demand	mg/L	every 6 days	5	<2	<2	<2
copper	ug/L	monthly	1	-	-	7.7
diazinon	ug/L	monthly	1	-	-	<0.1
iron	ug/L	monthly	1	-	-	31
nitrogen (ammonia)	mg/L	every 6 days	5	0.04	0.16	0.58
nitrogen (total)	mg/L	every 6 days	5	14.4	17.02	18.7
phosphorus (total)	mg/L	every 6 days	5	0.11	0.14	0.19
total suspended solids	mg/L	every 6 days	5	<2	<2	<2
zinc	ug/L	monthly	1	-	-	25

EPA Point 6 Site code CH0006		Point description: At the outlet from the STP disinfection facilities				
pollutant	unit of measure	sampling frequency	number of samples	minimum result	mean result	maximum result
Ceriodaphnia dubia immobilisation (EC50)	% Effluent/Vol	monthly	1	-	-	100
faecal coliforms	CFU/100mL	every 6 days	5	2	6	16
hydrogen sulphide (unionised)	ug/L	monthly	1	-	-	<30

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

Effluent quality monitoring results obtained from EPA Points 5 and 6 are used to indicate the quality of water discharged at EPA Point 1 (discharge to waters).

Note: biochemical oxygen demand monitoring commenced from September 2020.

Castle Hill Wastewater Treatment Plant

August Pollution Monitoring Summary



EPL 1725

Summary period: 01-08-2020 to 31-08-2020

Date obtained: 07-09-2020

Date published: 16-09-2020

Licensee: Sydney Water Corporation

PO Box 399

PARRAMATTA NSW 2124

Table 1: 3 Day Geometric Mean data

EPA Point 5 Site code CH0005		Point description: In the channel between the tertiary filters and the disinfection facilities			
pollutant	unit of measure	sampling frequency	3DGM limit	3DGM Actual	within limits
carbonaceous biochemical oxygen demand	mg/L	monthly	30	<2	yes
total suspended solids	mg/L	monthly	30	<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 CH0005		Point description: In the channel between the tertiary filters and the disinfection facilities				
pollutant	unit of measure	sampling frequency	number of samples	minimum result	mean result	maximum result
aluminium	ug/L	monthly	1	-	-	111
cadmium	ug/L	monthly	1	-	-	<0.1
carbonaceous biochemical oxygen demand	mg/L	every 6 days	6	<2	<2	<2
copper	ug/L	monthly	1	-	-	6.8
diazinon	ug/L	monthly	1	-	-	<0.1
iron	ug/L	monthly	1	-	-	41
nitrogen (ammonia)	mg/L	every 6 days	6	0.05	0.19	0.37
nitrogen (total)	mg/L	every 6 days	6	9.24	13.62	16.7
phosphorus (total)	mg/L	every 6 days	6	0.05	0.1	0.17
total suspended solids	mg/L	every 6 days	6	<2	<2	<2
zinc	ug/L	monthly	1	-	-	22

EPA Point 6 Site code CH0006		Point description: At the outlet from the STP disinfection facilities				
pollutant	unit of measure	sampling frequency	number of samples	minimum result	mean result	maximum result
Ceriodaphnia dubia immobilisation (EC50)	% Effluent/Vol	monthly	1	-	-	100
faecal coliforms	CFU/100mL	every 6 days	5	6	12	21
hydrogen sulphide (unionised)	ug/L	monthly	1	-	-	<30

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

Effluent quality monitoring results obtained from EPA Points 5 and 6 are used to indicate the quality of water discharged at EPA Point 1 (discharge to waters).

Castle Hill Wastewater Treatment Plant

July Pollution Monitoring Summary



EPL 1725

Summary period: 01-07-2020 to 31-07-2020

Date obtained: 04-08-2020

Date published: 14-08-2020

Licensee: Sydney Water Corporation

PO Box 399

PARRAMATTA NSW 2124

Table 1: 3 Day Geometric Mean data

EPA Point 5 Site code CH0005		Point description: In the channel between the tertiary filters and the disinfection facilities			
pollutant	unit of measure	sampling frequency	3DGM limit	3DGM Actual	within limits
carbonaceous biochemical oxygen demand	mg/L	monthly	30	<2	yes
total suspended solids	mg/L	monthly	30	<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 CH0005		Point description: In the channel between the tertiary filters and the disinfection facilities				
pollutant	unit of measure	sampling frequency	number of samples	minimum result	mean result	maximum result
aluminium	ug/L	monthly	1	-	-	94
cadmium	ug/L	monthly	1	-	-	<0.1
carbonaceous biochemical oxygen demand	mg/L	every 6 days	5	<2	<2	<2
cobalt	ug/L	monthly	1	-	-	0.4
copper	ug/L	monthly	1	-	-	6.7
diazinon	ug/L	monthly	1	-	-	<0.1
iron	ug/L	monthly	1	-	-	53
nitrogen (ammonia)	mg/L	every 6 days	5	0.04	0.16	0.52
nitrogen (total)	mg/L	every 6 days	5	12.8	15.52	18.4
phosphorus (total)	mg/L	every 6 days	5	0.11	0.18	0.22
total suspended solids	mg/L	every 6 days	5	<2	<2	<2
zinc	ug/L	monthly	1	-	-	19

EPA Point 6 Site code CH0006		Point description: At the outlet from the STP disinfection facilities				
pollutant	unit of measure	sampling frequency	number of samples	minimum result	mean result	maximum result
Ceriodaphnia dubia immobilisation (EC50)	% Effluent/Vol	monthly	1	-	-	100
faecal coliforms	CFU/100mL	every 6 days	5	1	12403	62,000
hydrogen sulphide (unionised)	ug/L	monthly	1	-	-	<30

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

Effluent quality monitoring results obtained from EPA Points 5 and 6 are used to indicate the quality of water discharged at EPA Point 1 (discharge to waters).