



December 2018 Water Quality Summary Report

Crown Sydney Hotel Resort

Licence Number: 13336

Licensee: Barangaroo Delivery Authority

Licensee Address: Level 27, 201 Kent Street, Sydney

Sampling period: 1 to 31 December 2018

Date provided to Licensee: 18 January 2019

Date published: 18 January 2019

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Barangaroo South – Crown Sydney Hotel Resort

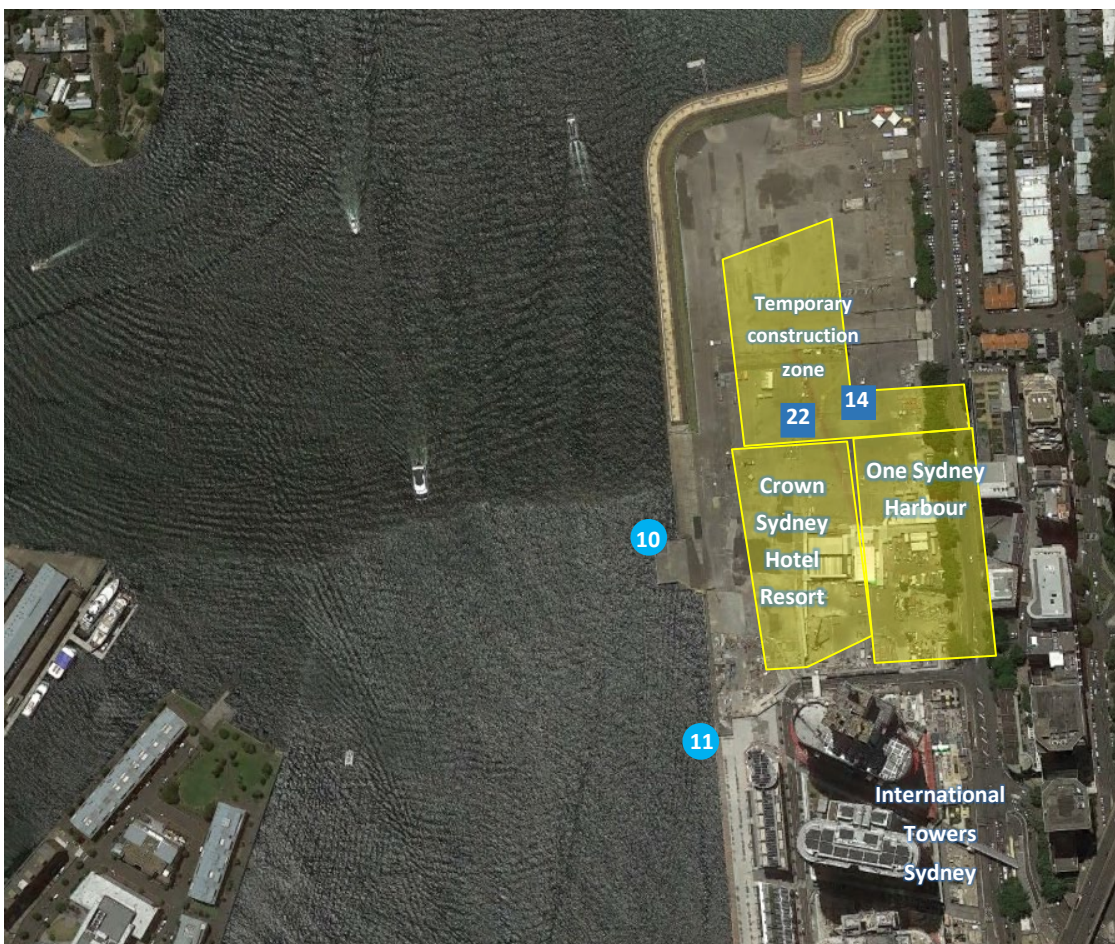
This report has been compiled to summarise results of water quality monitoring at Crown Sydney Hotel Resort (CSHR) in Barangaroo South, in accordance with [EPL number 13336](#). This data is for samples taken from 1 to 31 December 2018 and was provided to the Barangaroo Delivery Authority (the Licence holder) on 18 January 2019.

Water quality monitoring is undertaken at Barangaroo South to measure water quality and assist the construction team implement appropriate environmental controls on site.

The monitoring is carried out in accordance with all relevant authority and statutory requirements. In addition to the discharge water from the Water Treatment Plant (WTP), ambient monitoring is undertaken in Darling Harbour for conductivity, pH, temperature and turbidity.

Water quality monitoring locations

Water quality monitoring locations are located as shown below:



Approximate location of water quality monitoring equipment

Legend

- Ambient Water Quality Monitoring Location
- WTP Water Discharge Point
- X** EPL point number

EPL Point 10 is the Nearfield 1 (NF1) location, whilst EPL Point 11 is the Nearfield 2 (NF2) location. EPL Point 22 is the discharge point for the CSHR Water Treatment Plant (WTP).

Monitoring results

WTP Discharge

During December 2018, the Water Treatment Plant treated discharged 450kL of water to EPL Point 22.

EPL Point 22

Pollutant	Units of measure	Monitoring frequency required by licence	Limit			Min. Value	Max. Value	Median Value*	Compliant	No. of Samples	
			50 th %ile	90 th %ile	100 th %ile					Required	Complete
Volume#	kL	daily			2160	0	83	15	Yes	Daily	Daily
Acenaphthene	µg/L	Weekly	2		20	ND	ND	0.5	Yes	4	4
Acenaphthylene	µg/L	Weekly	2		20	ND	ND	0.5	Yes	4	4
Ammonia as N	µg/L	Weekly	1700	2550		20	30	25.0	Yes	4	4
Anthracene	µg/L	Weekly	2		13.5	ND	ND	0.5	Yes	4	4
Arsenic	µg/L	Weekly	23.2	116		0.3	ND	0.25	Yes	4	4
Benzene	µg/L	Weekly	500	750		ND	ND	0.5	Yes	4	4
Benz(a)anthracene	µg/L	Weekly	2		20	ND	ND	0.5	Yes	4	4
Benzo(a) pyrene	µg/L	Weekly	2		20	ND	ND	0.25	Yes	4	4
Benzo(b+j)fluoranthene	mg/L	Weekly	2		20	ND	ND	0.5	Yes	4	4
Benzo(k)fluoranthene	µg/L	Weekly	2		20	ND	ND	0.5	Yes	4	4
Benzo(g,h,i)perylene	µg/L	Weekly	2		20	ND	ND	0.5	Yes	4	4
Cadmium	µg/L	Weekly	0.7		7.75	ND	ND	0.1	Yes	4	4
Chromium (Trivalent)	µg/L	Weekly	27	450		ND	ND	0.5	Yes	4	4
Chromium (hexavalent)	µg/L	Weekly	45	450		ND	ND	0.5	Yes	4	4
Chrysene	µg/L	Weekly	2		20	ND	ND	0.5	Yes	4	4
Copper	µg/L	Weekly	4.8	13		ND	ND	0.5	Yes	4	4
Cyanide (WAD)	µg/L	Weekly	14	35		ND	ND	2	Yes	4	4
Dibenz(a,h)anthracene	µg/L	Weekly	2		20	ND	ND	0.5	Yes	4	4
Ethylbenzene	µg/L	Weekly	80	120		ND	ND	1	Yes	4	4
Fluoranthene	µg/L	Weekly	2		20	ND	ND	0.5	Yes	4	4
Fluorene	µg/L	Weekly	2		20	ND	ND	0.5	Yes	4	4
Indeno(1,2,3-c,d)pyrene	µg/L	Weekly	2		20	ND	ND	0.5	Yes	4	4
Lead	µg/L	Weekly	12	157.5		ND	ND	0.1	Yes	4	4
Xylene (m & p)	µg/L	Weekly	75	112.5		ND	ND	1	Yes	4	4
Mercury	µg/L	Weekly	0.1		1.75	ND	ND	0.05	Yes	4	4
Naphthalene	µg/L	Weekly	50		375	ND	ND	0.5	Yes	4	4
Nickel	µg/L	Weekly	74	76		17	35	35	Yes	4	4
Oil and Grease	mg/L	Weekly			10	ND	ND	2.5	Yes	4	4
Xylene (o)	µg/L	Weekly	350	525		ND	ND	1	Yes	4	4
pH (Lab)	pH Units	Weekly			6.5-8.5	6.63	7	6.86	Yes	4	4
Phenanthrene	µg/L	Weekly	2		3.85	ND	ND	0.5	Yes	4	4
Phenol	µg/L	Weekly	400	600		ND	ND	0.5	Yes	4	4
Pyrene	µg/L	Weekly	2		20	ND	ND	0.5	Yes	4	4
Toluene	µg/L	Weekly	180	270		ND	ND	1	Yes	4	4
TSS	mg/L	Weekly			50	ND	11	2.5	Yes	4	4
TPH C10-C14	µg/L	Weekly	50		125	ND	ND	25	Yes	4	4
TPH C15-C28	µg/L	Weekly	100		250	ND	ND	50	Yes	4	4
TPH C29-C36	µg/L	Weekly	50		125	ND	ND	25	Yes	4	4
TPH C6 - C9	µg/L	Weekly	20	100		ND	ND	10	Yes	4	4
Zinc	µg/L	Weekly	43	95		2	<5	2.5	Yes	4	4
Dissolved Oxygen	mg/L	Weekly				7	8.5	7	N/A	4	4
Turbidity	NTU	Weekly			63	ND	0.5	0.1	N/A	4	4
Electrical conductivity	µS/cm	Weekly				9850	27300	35200	N/A	4	4
PCBs	µg/L	Weekly				ND	ND	0.5	N/A	4	4

N/A – no licence limit, monitoring only ND – not detected # – Mean used in place of Median * – Median calculated for annual report period
 Sampling undertaken once prior to discharge during batch operation; or once prior to discharge for fourteen consecutive batch sampling events that meet the discharge limits, then weekly (where there has been a discharge). Commissioning phase complete in October 2017 and then sampling undertaken weekly.



There were no exceedances of turbidity criteria for ambient water quality monitoring in Darling Harbour during the month.

Turbidity

Monitoring Parameter	EPL Point 10 (NTU)	EPL Point 11 (NTU)
Minimum	0.4	0.0
Maximum	18.0	6.3
Mean	2.5	0.7
Limit	63	63

Conductivity

Monitoring Parameter	EPL Point 10 (mS/cm)	EPL Point 11 (mS/cm)
Minimum	37.7	42.7
Maximum	52.5	51.4
Mean	50.8	49.9
Limit	No licence limit, monitoring requirement only	

pH

Monitoring Parameter	EPL Point 10	EPL Point 11
Minimum	7.61	7.59
Maximum	7.96	8.18
Mean	7.83	8.02
Limit	No licence limit, monitoring requirement only	

Temperature

Monitoring Parameter	EPL Point 10 (°C)	EPL Point 11 (°C)
Minimum	20.04	20.27
Maximum	24.28	24.37
Mean	22.28	22.37
Limit	No licence limit, monitoring requirement only	

Frequency#

Monitoring Parameter	EPL Point 10 (NF1)	EPL Point 11 (NF2)
Monitoring frequency required by licence	Every 15 minutes	
NTU Samples Collected & Analysed	96.9%	97.8%
pH Samples Collected & Analysed	98.1%	97.8%
Conductivity Samples Collected & Analysed	94.7%	95.8%
Temperature Samples Collected & Analysed	99.3%	98.7%

Figures based on period from 23 March 2016 to 31 December 2018