



September 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 30 September 2018

Date provided to Licensee: 19 October 2018

Date published: 19 October 2018

September 2018 Water Quality Summary Report

Barangaroo South – Crown Sydney Hotel Resort

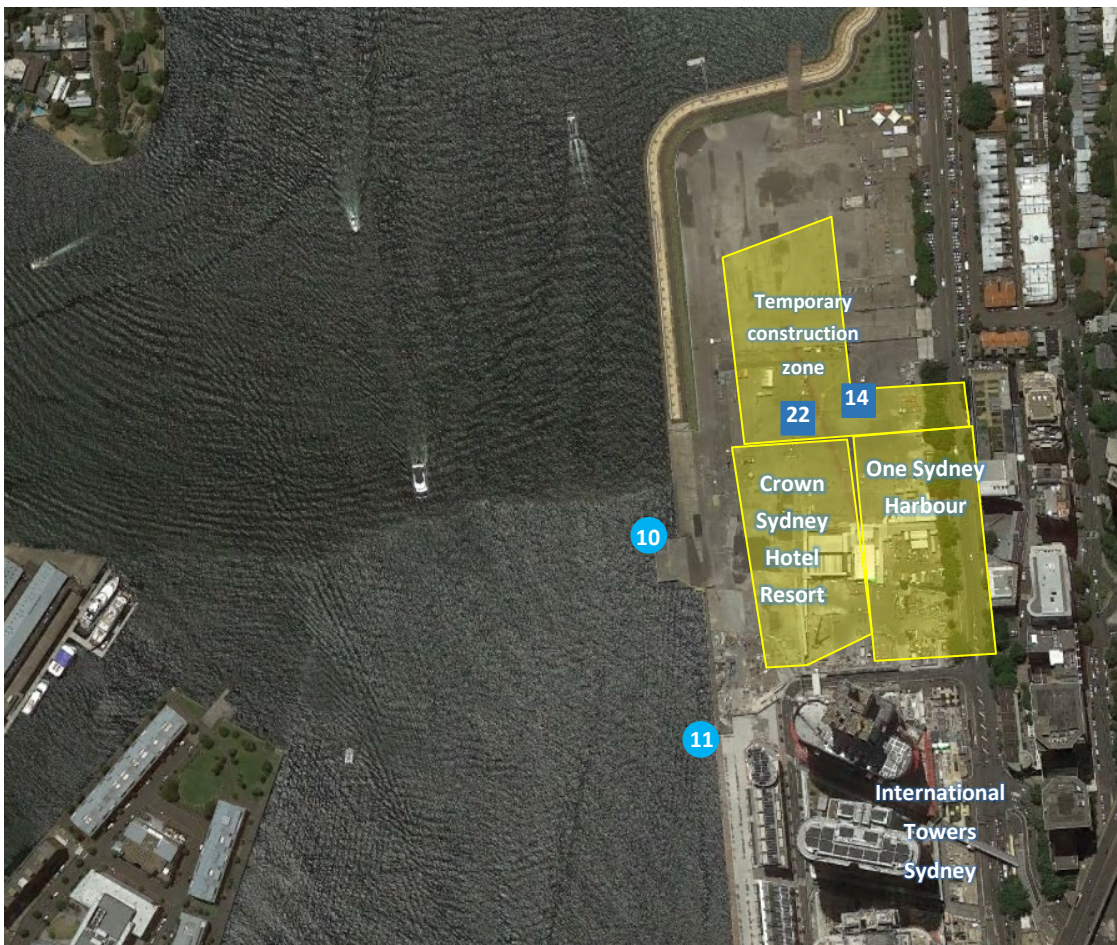
This report has been compiled to summarise results of water quality monitoring at Crown Sydney Hotel Resort (CSHR) in Barangaroo South, in accordance with [EPL number 13336](#). This data is for samples taken from 1 to 30 September 2018, and was provided to the Barangaroo Delivery Authority (the Licence holder) on 19 October 2018.

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 September 2018, the Water Treatment Plant treated discharged 761kL 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	
			100 th %ile	50 th %ile					Required	Completed
Volume#	kL	daily	2160		0	137	25.4	Yes	Daily	Daily
Acenaphthene	µg/L	Weekly	2		ND	ND	0.5	Yes	4	4
Acenaphthylene	µg/L	Weekly	2		ND	ND	0.5	Yes	4	4
Ammonia as N	µg/L	Weekly	1700	910	640	1110	105	Yes	4	4
Anthracene	µg/L	Weekly	2		ND	ND	0.5	Yes	4	4
Arsenic	µg/L	Weekly	23.2	2.3	ND	ND	0.25	Yes	4	4
Benzene	µg/L	Weekly	500		ND	ND	0.5	Yes	4	4
Benz(a)anthracene	µg/L	Weekly	2		ND	ND	0.5	Yes	4	4
Benzo(a) pyrene	µg/L	Weekly	2		ND	ND	0.25	Yes	4	4
Benzo(b+j)fluoranthene	mg/L	Weekly	2		ND	ND	0.5	Yes	4	4
Benzo(k)fluoranthene	µg/L	Weekly	2		ND	ND	0.5	Yes	4	4
Benzo(g,h,i)perylene	µg/L	Weekly	2		ND	ND	0.5	Yes	4	4
Cadmium	µg/L	Weekly	0.7		ND	ND	0.1	Yes	4	4
Chromium (Trivalent)	µg/L	Weekly	27		ND	ND	0.5	Yes	4	4
Chromium (hexavalent)	µg/L	Weekly	45		ND	ND	0.5	Yes	4	4
Chrysene	µg/L	Weekly	2		ND	ND	0.5	Yes	4	4
Copper	µg/L	Weekly	4.8	1.3	ND	ND	0.5	Yes	4	4
Cyanide	µg/L	Weekly	14	4	ND	ND	2	Yes	4	4
Dibenz(a,h)anthracene	µg/L	Weekly	2		ND	ND	0.5	Yes	4	4
Ethylbenzene	µg/L	Weekly	80		ND	ND	1	Yes	4	4
Fluoranthene	µg/L	Weekly	2		ND	ND	0.5	Yes	4	4
Fluorene	µg/L	Weekly	2		ND	ND	0.5	Yes	4	4
Indeno(1,2,3-c,d)pyrene	µg/L	Weekly	2		ND	ND	0.5	Yes	4	4
Lead	µg/L	Weekly	12	44	ND	ND	0.1	Yes	4	4
Xylene (m & p)	µg/L	Weekly	75		ND	ND	1	Yes	4	4
Mercury	µg/L	Weekly	0.1		ND	ND	0.05	Yes	4	4
Naphthalene	µg/L	Weekly	50		ND	ND	0.5	Yes	4	4
Nickel	µg/L	Weekly	74		28.6	39.2	28.45	Yes	4	4
Oil and Grease	mg/L	Weekly	10		ND	ND	2.5	Yes	4	4
Xylene (o)	µg/L	Weekly	350		ND	ND	1	Yes	4	4
pH (Lab)	pH Units	Weekly	6.5-8.5		6.84	7.69	7.56	Yes	4	4
Phenanthrene	µg/L	Weekly	2		ND	ND	0.5	Yes	4	4
Phenol	µg/L	Weekly	400		ND	ND	0.5	Yes	4	4
Pyrene	µg/L	Weekly	2		ND	ND	0.5	Yes	4	4
Toluene	µg/L	Weekly	180		ND	ND	1	Yes	4	4
TSS	mg/L	Weekly	50		ND	ND	2.5	Yes	4	4
TPH C10-C14	µg/L	Weekly	50		ND	ND	25	Yes	4	4
TPH C15-C28	µg/L	Weekly	100		ND	ND	50	Yes	4	4
TPH C29-C36	µg/L	Weekly	50		ND	ND	25	Yes	4	4
TPH C6 - C9	µg/L	Weekly	20		ND	ND	10	Yes	4	4
Zinc	µg/L	Weekly	43	15	ND	8	2.5	Yes	4	4
Dissolved Oxygen	mg/L	Weekly			4.6	7.8	5.6	N/A	4	4
Turbidity	NTU	Weekly			0.1	0.3	0.05	N/A	4	4
Electrical conductivity	µS/cm	Weekly			39000	43900	33250	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	0.0	0.3
Maximum	13.6	4.0
Mean	1.7	1.0
Limit	63	63

Conductivity

Monitoring Parameter	EPL Point 10 (mS/cm)	EPL Point 11 (mS/cm)
Minimum	42.2	45.0
Maximum	54.5	54.2
Mean	53.5	53.7
Limit	No licence limit, monitoring requirement only	

pH

Monitoring Parameter	EPL Point 10	EPL Point 11
Minimum	7.76	7.86
Maximum	8.11	8.18
Mean	7.96	8.01
Limit	No licence limit, monitoring requirement only	

Temperature

Monitoring Parameter	EPL Point 10 (°C)	EPL Point 11 (°C)
Minimum	13.98	13.80
Maximum	17.30	17.38
Mean	15.78	15.90
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	96.7%	97.5%
pH Samples Collected & Analysed	97.9%	97.5%
Conductivity Samples Collected & Analysed	94.5%	95.8%
Temperature Samples Collected & Analysed	99.2%	98.6%

Figures based on period from 23 March 2016 to 30 September 2018