



December 2018 Water Quality Summary Report

One Sydney Harbour – Remediation Works

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: 20 January 2019

Date published: 20 January 2019

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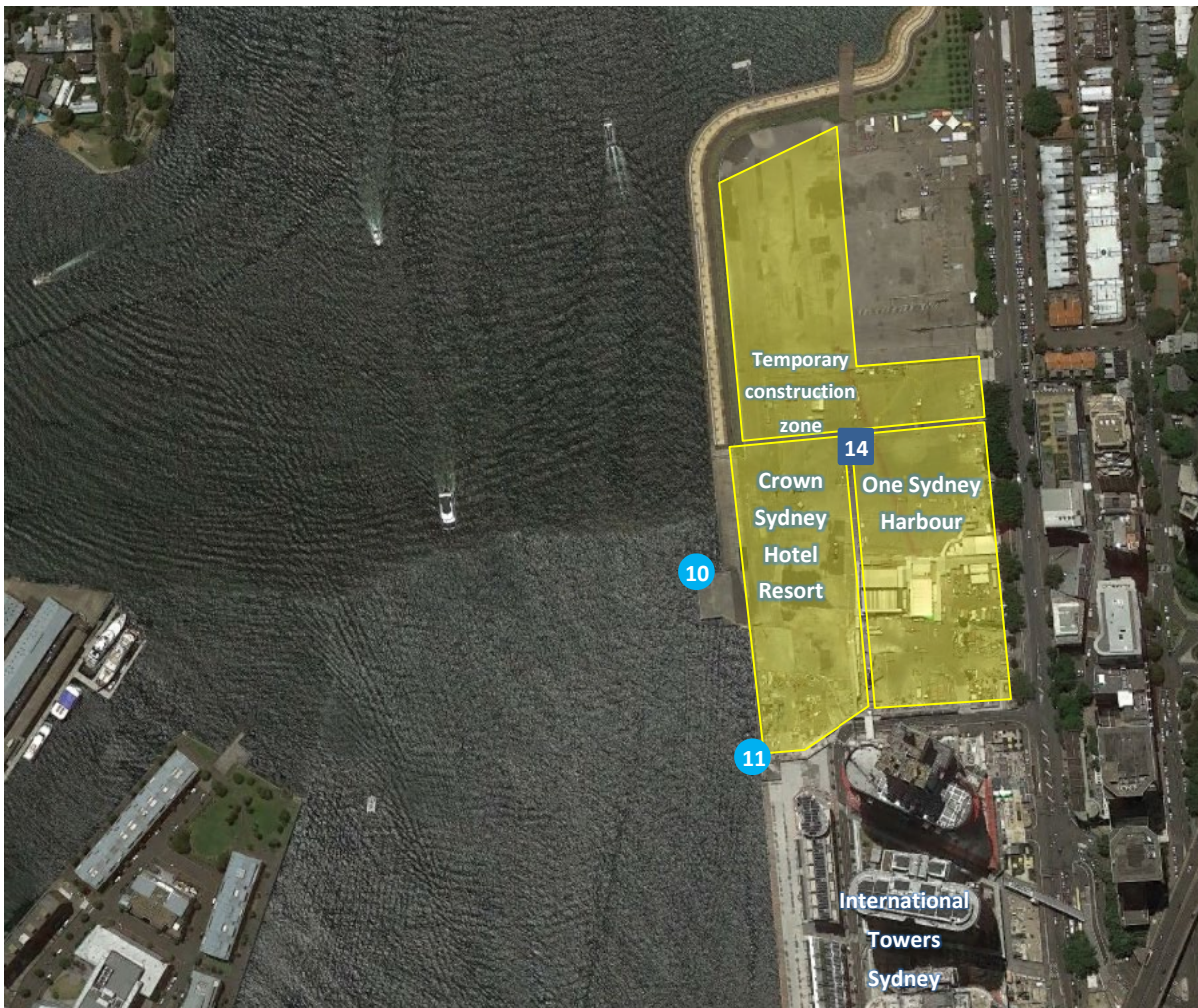
This report has been compiled to summarise results of water quality monitoring at Barangaroo South in December 2018 in accordance with [EPL number 13336](#). This data is for samples taken from 1 to 31 December 2018. The data was provided to the Barangaroo Delivery Authority (the Licencee) on 20 January 2019.

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

Water quality monitoring is carried out in accordance with all relevant authority and statutory requirements. Ambient monitoring in Darling Harbour measures 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
- 14 WTP Water Discharge Point
- X EPL point number

EPL Point 10 is the Nearfield 1 (NF1) location, and EPL Point 11 is the Nearfield 2 (NF2) location. EPL Point 14 is the discharge point for the Main water treatment plant (MWTP).

Monitoring results

WTP Discharge

During December, the Water Treatment Plant treated and discharged 10533.81 kL of water to EPL Point 14.

EPL Point 14

Pollutant	Units	Monitoring frequency	Limit			Min. Value	Max. Value	Median Value	Compliant	No. of Samples:	
			100 th %ile	90 th %ile	50 th %ile					Req'd	Comp.
Volume	kL	Daily		-	2593*	47.55	972.85	367.21#	Yes	Daily	Daily
Acenaphthene	µg/L	Varies	20		2	ND	ND	0.5	Yes	5	5
Acenaphthylene	µg/L	Varies	20		2	ND	ND	0.5	Yes	5	5
Ammonia as N	µg/L	Varies		2550	1700	100	140	120	Yes	5	5
Anthracene	µg/L	Varies	13.5		2	ND	ND	0.5	Yes	5	5
Arsenic	mg/L	Varies		0.116	0.0232	0.001	0.001	0.00025	Yes	5	5
Benzene	µg/L	Varies	20		2	ND	ND	0.5	Yes	5	5
Benz(a)anthracene	µg/L	Varies		750	500	ND	ND	0.5	Yes	5	5
Benzo(a) pyrene	µg/L	Varies	20		2	ND	ND	0.25	Yes	5	5
Benzo(b+j)fluoranthene	mg/L	Varies	0.02		0.002	ND	ND	0.0005	Yes	5	5
Benzo(k)fluoranthene	µg/L	Varies	20		2	ND	ND	0.5	Yes	5	5
Benzo(g,h,i)perylene	µg/L	Varies	20		2	ND	ND	0.5	Yes	5	5
Cadmium	mg/L	Varies	0.00775		0.0007	ND	ND	0.0001	Yes	5	5
Chromium (Trivalent)	mg/L	Varies		0.45	0.045	0.001	0.015	0.001	Yes	5	5
Chromium (hexavalent)	mg/L	Varies		0.45	0.027	0.001	0.001	0.001	Yes	5	5
Chrysene	µg/L	Varies	20		2	ND	ND	0.5	Yes	5	5
Copper	mg/L	Varies		0.013	0.0048	ND	ND	0.0005	Yes	5	5
Cyanide (WAD)	mg/L	Varies		0.035	0.014	ND	ND	0.001	Yes	5	5
Dibenz(a,h)anthracene	µg/L	Varies	20		2	ND	ND	0.5	Yes	5	5
Ethylbenzene	µg/L	Varies		120	80	ND	ND	1	Yes	5	5
Fluoranthene	µg/L	Varies	20		2	ND	ND	0.5	Yes	5	5
Fluorene	µg/L	Varies	20		2	ND	ND	0.5	Yes	5	5
Indeno(1,2,3-c,d)pyrene	µg/L	Varies	20		2	ND	ND	0.5	Yes	5	5
Lead	mg/L	Varies		0.1575	0.012	ND	ND	0.0001	Yes	5	5
Xylene (m & p)	µg/L	Varies		112.5	75	ND	ND	1	Yes	5	5
Mercury	mg/L	Varies	0.00175		0.0001	0.00004	0.00004	0.00004	Yes	5	5
Naphthalene	µg/L	Varies	375		50	ND	ND	0.5	Yes	5	5
Nickel	mg/L	Varies		0.076	0.074	0.0005	0.0021	0.001	Yes	5	5
Oil and Grease	mg/L	Varies	10			ND	ND	2.5	Yes	5	5
Xylene (o)	µg/L	Varies		525	350	ND	ND	1	Yes	5	5
pH (Lab)	pH_Units	Varies	6.5-8.5			7.4	7.66	7.44	Yes	5	5
Phenanthrene	µg/L	Varies	3.85		2	ND	ND	0.5	Yes	5	5
Phenol	µg/L	Varies		600	400	ND	ND	0.5	Yes	5	5
Pyrene	µg/L	Varies	20		2	ND	ND	0.5	Yes	5	5
Toluene	µg/L	Varies		270	180	ND	ND	1	Yes	5	5
TSS	mg/L	Varies	50			22	22	2.5	Yes	5	5
TPH C10-C14	mg/L	Varies	0.125		0.05	ND	ND	0.025	Yes	5	5
TPH C15-C28	mg/L	Varies	0.25		0.1	ND	ND	0.05	Yes	5	5
TPH C29-C36	mg/L	Varies	0.125		0.05	ND	ND	0.025	Yes	5	5
TRH C6 - C9	µg/L	Varies		100	20	ND	ND	10	Yes	5	5
Zinc	mg/L	Varies		0.095	0.043	ND	ND	0.0025	Yes	5	5
Dissolved Oxygen	mg/L	Varies				7.9	8.6	8.05	N/A	5	5
Turbidity	mg/L	Varies				0.2	0.5	0.2	N/A	5	5
Electrical conductivity	NTU	Varies				11,700	31,600	26,900	N/A	5	5
PCBs	uS/cm	Varies				ND	ND	0.5	N/A	5	5

N/A – no licence limit, monitoring requirement only

ND – not detected

– Mean used in place of Median

*100th Percentile



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 (%)	EPL Point 11 (%)
Monitoring frequency required by licence	Every 15 minutes	
NTU Samples Collected & Analysed	99.9	99.8
pH Samples Collected & Analysed	99.9	99.9
Conductivity Samples Collected & Analysed	99.5	97.7
Temperature Samples Collected & Analysed	99.9	99.9