

## April 2012 Water Quality Summary Report

**Licence Number:** 13336

**Licensee:** Barangaroo Delivery Authority

**Licensee Address:** Lvl 21, 201 Kent Street, Sydney

**Sampling period:** 1-30 April 2012

**Date provided to Licensee:** 25 May 2012

**Date published:** 29 June 2012

# April 2012 Water Quality Summary Report

## Barangaroo South

This report has been compiled to summarise results of water quality monitoring at Barangaroo South during April 2012 in accordance with [EPL number 13336](#). This data is for samples taken from 1 to 30 April 2012. The data was provided to the Barangaroo Delivery Authority (the Licencee) on 25 May 2012.

Lend Lease 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. The water treatment plant discharge point is monitored for a variety of parameters, including volume.

### Locations of water quality monitoring

Ambient water quality monitoring devices are positioned at three locations within Darling Harbour as shown below. The location of the water treatment plant discharge point is adjacent to the Nearfield 1 location.



*Approximate locations of water monitoring equipment*

These locations correspond to the following licenced monitoring locations:

Water Discharge Point 1:	EPL Point 1
Nearfield 1:	EPL Point 2
Nearfield 2:	EPL Point 3
Background:	EPL Point 4

### April monitoring results

During the month of April, there were no exceedences of the water quality criteria for the ambient monitoring in Darling Harbour or the WTP discharge criteria.

## Water Discharge Point 1 – EPL Point 1

Pollutant	Units of measure	Limit	Min. Value	Max. Value	Exceedence (yes/no)	Monitoring frequency required by licence	No. of Samples:	
							Required	Completed
Volume	kL	6480	150	1530	No	Daily	30	30
Ammonia(N)	µg/L	910	ND	30	No	Varies*	5	5
Conductivity	uS/cm	N/A	250	5100	N/A	Varies*	5	5
Cyanide (total)	µg/L	4	ND	ND	No	Varies*	5	5
Dissolved Oxygen	mg/L	N/A	5.1	9.5	N/A	Varies*	5	5
Oil & Grease	mg/L	10	ND	ND	No	Varies*	5	5
pH	pH	6.5 - 8.5	6.8	7.9	No	Varies*	5	5
Sulphate (S)	mg/L	N/A	7.3	6500	N/A	Varies*	5	5
Suspended Solids	mg/L	50	ND	5.5	No	Varies*	5	5
Turbidity (NTU)	NTU	N/A	0.3	2.9	N/A	Varies*	5	5
Benzene	µg/L	500	ND	ND	No	Varies*	5	5
Ethylbenzene	µg/L	80	ND	ND	No	Varies*	5	5
o-Xylene	µg/L	350	ND	ND	No	Varies*	5	5
Toluene	µg/L	180	ND	ND	No	Varies*	5	5
Total m+p-Xylenes	µg/L	75	ND	ND	No	Varies*	5	5
Arsenic (filtered)	µg/L	2.3	ND	0.5	No	Varies*	5	5
Cadmium (filtered)	µg/L	0.7	ND	ND	No	Varies*	5	5
Copper (filtered)	µg/L	1.3	ND	ND	No	Varies*	5	5
Lead (filtered)	µg/L	4.4	ND	ND	No	Varies*	5	5
Mercury (filtered)	µg/L	0.1	ND	ND	No	Varies*	5	5
Nickel (filtered)	µg/L	7	ND	ND	No	Varies*	5	5
Zinc (filtered)	µg/L	15	ND	5	No	Varies*	5	5
Chromium (hexavalent)	µg/L	27	ND	ND	No	Varies*	5	5
Chromium (trivalent)	µg/L	4.4	ND	3	No	Varies*	5	5
Acenaphthene	µg/L	2	ND	ND	No	Varies*	5	5
Acenaphthylene	µg/L	2	ND	ND	No	Varies*	5	5
Anthracene	µg/L	2	ND	ND	No	Varies*	5	5
Benz(a)anthracene	µg/L	2	ND	ND	No	Varies*	5	5
Benzo(a)pyrene	µg/L	2	ND	ND	No	Varies*	5	5
Benzo(b)fluoranthene	µg/L	2	ND	ND	No	Varies*	5	5
Benzo(g,h,i)perylene	µg/L	2	ND	ND	No	Varies*	5	5
Benzo(k)fluoranthene	µg/L	2	ND	ND	No	Varies*	5	5
Chrysene	µg/L	2	ND	ND	No	Varies*	5	5
Dibenz(a,h)anthracene	µg/L	2	ND	ND	No	Varies*	5	5
Fluoranthene	µg/L	2	ND	ND	No	Varies*	5	5
Fluorene	µg/L	2	ND	ND	No	Varies*	5	5
Indeno(1,2,3-cd)pyrene	µg/L	2	ND	ND	No	Varies*	5	5
Naphthalene	µg/L	50	ND	ND	No	Varies*	5	5
Phenanthrene	µg/L	2	ND	ND	No	Varies*	5	5
Pyrene	µg/L	2	ND	ND	No	Varies*	5	5
Total PAH	µg/L	80	ND	ND	No	Varies*	5	5
Total PCB	µg/L	N/A	ND	ND	N/A	Varies*	5	5
Phenol	µg/L	400	ND	ND	No	Varies*	5	5
TRH C10-C14	µg/L	50	ND	ND	No	Varies*	5	5
TRH C15-C28	µg/L	100	ND	ND	No	Varies*	5	5
TRH C29-C36	µg/L	50	ND	ND	No	Varies*	5	5
TRH C6-C9	µg/L	20	ND	ND	No	Varies*	5	5

NA – no licence limit, monitoring requirement only

ND – not detected

\* Once prior to discharge during batch operation; once daily during intermittent continuous operation; once daily for the first fourteen days of continuous operation, then weekly.

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## Turbidity

Monitoring Parameter	EPL Point 2 (NTU)	EPL Point 3 (NTU)	EPL Point 4 (NTU)
Minimum	1.5	2.7	2.7
Maximum	22.6	32.6	29.9
Mean	3.8	5.3	7.3
Limit	Three successive readings > 50mg/L equiv. (63NTU)		Monitoring requirement only
Number of Exceedences	0	0	N/A

## Conductivity

Monitoring Parameter	EPL Point 2 (mS/cm)	EPL Point 3 (mS/cm)	EPL Point 4 (mS/cm)
Minimum	27.5	17.0	25.8
Maximum	53.3	53.1	53.1
Mean	47.9	46.5	47.9
Limit	No licence limit, monitoring requirement only		
Number of Exceedences	N/A	N/A	N/A

## pH

Monitoring Parameter	EPL Point 2	EPL Point 3	EPL Point 4
Minimum	7.7	7.6	7.7
Maximum	8.3	8.2	8.3
Mean	8.1	8.0	8.1
Limit	No licence limit, monitoring requirement only		
Number of Exceedences	N/A	N/A	N/A

## Temperature

Monitoring Parameter	EPL Point 2 (°C)	EPL Point 3 (°C)	EPL Point 4 (°C)
Minimum	18.28	18.08	18.84
Maximum	22.29	22.52	22.57
Mean	20.79	20.76	20.87
Limit	No licence limit, monitoring requirement only		
Number of Exceedences	N/A	N/A	N/A

## Frequency

Monitoring Parameter	EPL Point 2	EPL Point 3	EPL Point 4
Monitoring frequency required by licence	Every 15 minutes		
NTU Samples Collected & Analysed *	99.6%	99.7%	76.9%
pH Samples Collected & Analysed *	99.7%	99.7%	99.8%
Conductivity Samples Collected & Analysed *	99.7%	99.7%	99.9%
Temperature Samples Collected & Analysed *	99.7%	99.8%	99.9%

\* Based on the percentage of data recovery for the month

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