



## September 2017 Air Quality Summary Report

### Barangaroo South – Remediation Works

Licence Number: 13336

Licensee: Barangaroo Delivery Authority

Licensee Address: Level 21, 201 Kent Street, Sydney

Sampling period: 1-30 September 2017

Date provided to Licensee: 23 October 2017

Date published: 23 October 2017

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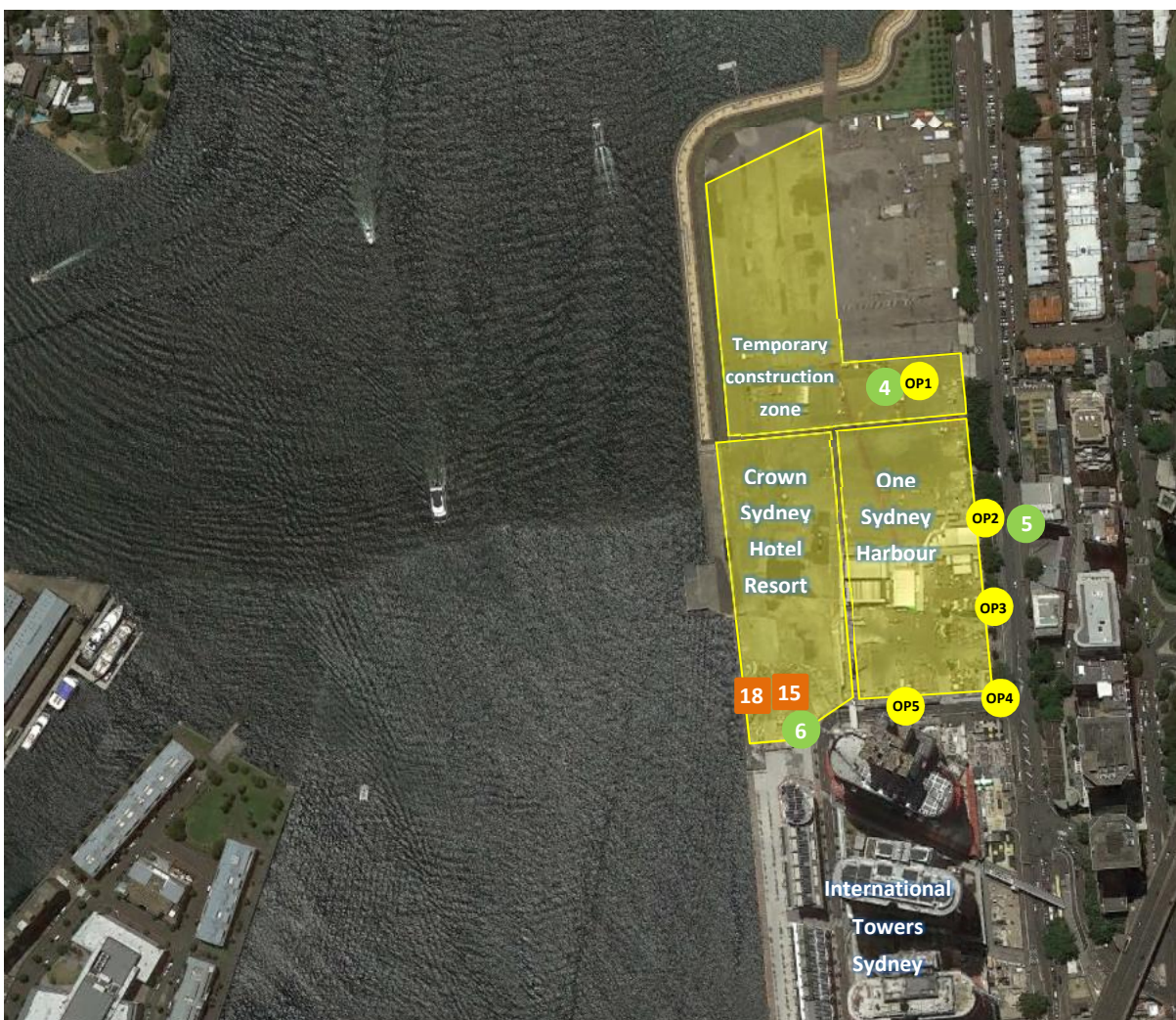
This report has been compiled to summarise results of air quality monitoring at Barangaroo South in September 2017 in accordance with [EPL number 13336](#). This data is for samples taken from 1 to 30 September 2017. The data was provided to the Barangaroo Delivery Authority (the Licencee) on 23 October 2017.

Lend Lease conducts continuous air quality monitoring at Barangaroo South to measure air quality and assist the construction team implement appropriate environmental controls on site.

Air quality monitoring is carried out in accordance with all relevant authority and statutory requirements. Monitoring parameters include particulate matter less than 10 microns (PM10), total solid particles (TSP), metals, polycyclic aromatic hydrocarbons (PAHs) and volatile organic compounds (VOCs).




## Air quality monitoring locations

Air quality monitoring locations are located as shown below:



Approximate location of air monitoring equipment

### Legend

-  Ambient Air Quality Monitoring – EPL Point
-  Ambient Odour Monitoring Point
-  Enclosure Discharge Point – EPL Point



## Monitoring results – Interim Water Treatment Plant

During September 2017 the Interim Water Treatment Plant (IWTP) treated water from the OSH remediation site. The water was treated and discharged in accordance with the premises EPL No. 13336. The air from the IWTP is cleaned through filter media and discharged via vents. These vents are monitored in accordance with EPL requirements. During its operation, there were two air discharges points (EPL Point 15 & 18) that were monitored in accordance with the EPL (continuously during operation). There were no exceedances of the VOC data associated with the Interim WTP for this month.

### Volatile Organic Compounds (VOCs) – Interim Water Treatment Plant

Monitoring Parameter	EPL Point 15 1 hour average	EPL Point 16 1 hour average	EPL Point 18 1 hour average
Average (mg/m <sup>3</sup> )	1.97	Not required	1.63
Minimum (mg/m <sup>3</sup> )	0.60	Not Required	0.00
Maximum (mg/m <sup>3</sup> )	3.80	Not required	2.20
Limit	5 mg/m <sup>3</sup>	5 mg/m <sup>3</sup>	5 mg/m <sup>3</sup>

## Monitoring results – Ambient air quality

Monitoring at ambient locations around the construction site was undertaken as per the EPL 13336.

These locations correspond to the following licenced monitoring locations, as shown in the figure above:

J Northern:	EPL Point 4
J Eastern:	EPL Point 5
J Southern:	EPL Point 6

### PM10

Monitoring Parameter	EPL Point 4 (µg/m <sup>3</sup> )	EPL Point 5 (µg/m <sup>3</sup> )	EPL Point 6 (µg/m <sup>3</sup> )
Average	28.4	*	3.2
Minimum (24hr)	14.2	*	8.4
Maximum (24hr)	43.8	*	0.6

\* PM10 monitor was unable to be operated due to site constraints.

### Volatile Organic Compounds (VOCs) – Ambient

Monitoring Parameter	EPL Point 4 (ppm)	EPL Point 5 (ppm)	EPL Point 6 (ppm)
Average	0	0	0
Minimum (24hr)	0	0	0
Maximum (24hr)	0	0	0

### Total Solid Particles (TSP)

Monitoring Parameter	EPL Point 4 - TSP (µg/m <sup>3</sup> )	EPL Point 6 - TSP (µg/m <sup>3</sup> )
05/09/2017	127.18	32.93
11/09/2017	108.57	44.34
17/09/2017	54.94	45.26
23/09/2017	119.65	111.90
29/09/2017	73.40	51.24
Rolling annual average	64.50	46.91
Annual average criteria	90	90

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PAHs

Monitoring Parameter	EPL Point 4 (ng/m <sup>3</sup> )		EPL Point 6 (ng/m <sup>3</sup> )	
	Total PAH	Benzo(a) pyrene	Total PAH	Benzo(a) pyrene
05/09/2017	<3	<2	<3	<2
11/09/2017	<3	<2	<3	<2
17/09/2017	<3	<2	<3	<2
23/09/2017	<3	<2	<3	<2
29/09/2017	<3	<2	<3	<2
1 Hour Average Criteria (indicative purposes) (PAHs as BaP) (ng/m <sup>3</sup> )	400			

Metals

Date	Location	Concentration (ng/m <sup>3</sup> )												
		Sb	As	Cd	Pb	Hg	Be	Cr	Co	Mn	Ni	Se	Sn	V
05/09/2017	EPL Point 4	<13	<5.2	<1.3	9.2	<0.5	<2.6	9.7	2.8	100	8.9	<13	<5.2	10
	EPL Point 6	<13	<5.2	<1.3	<2.6	<0.5	<2.6	2.5	<1.3	13	<2.6	<13	<5.2	<2.6
11/09/2017	EPL Point 4	<13	<5.2	<1.3	9.2	<0.5	<2.6	6.2	<1.3	49	5.1	<13	5.3	5.8
	EPL Point 6	<13	<5.2	<1.3	4.2	<0.5	<2.6	4.2	<1.3	24	<2.6	<13	<5.2	2.6
17/09/2017	EPL Point 4	<13	<5.2	<1.3	4.0	<0.5	<2.6	3.0	<1.3	20	<2.6	<13	<5.2	3.2
	EPL Point 6	<13	<5.2	<1.3	<2.6	<0.5	<2.6	2.3	<1.3	11	<2.6	<13	<5.2	<2.6
23/09/2017	EPL Point 4	<13	<5.2	<1.3	7.3	<0.5	<2.6	5.8	1.5	59	4.7	<13	6.9	6.7
	EPL Point 6	<13	<5.2	<1.3	5.9	<0.5	<2.6	4.9	<1.3	52	3.9	<13	<5.2	5.3
29/09/2017	EPL Point 4'	<13	<5.2	<1.3	5.0	<0.5	<2.6	4.0	<1.3	37	3.2	<13	<5.2	4.1
	EPL Point 6'	<13	<5.2	<1.3	3.1	<0.5	<2.6	3.3	<1.3	21	<2.6	<13	<5.2	<2.6
EPL Point 4 Annual Average		-	-	-	22.6	-	-	-	-	-	-	-	-	-
EPL Point 6 Annual Average		-	-	-	20.4	-	-	-	-	-	-	-	-	-
1 Hour Average Criteria (indicative purposes)		9	90	18	-	180	4	90	-	18000	180	-	-	-
No. of 1 hr Exceedances		0	0	0	0	0	0	0	-	0	0	-	-	-
Annual Average Criteria					500									

Frequencies – Ambient Monitoring

Parameter	Frequency	EPL Point 4	EPL Point 5	EPL Point 6
TSP, PAHs, metallic compounds	Monitoring frequency required by licence	24 Hours every 6 days		
	No. of samples required by licence	5	N/A	5
	No. of samples collected & analysed	5	N/A	5
VOCs	Monitoring frequency required by licence	Daily (during work)		
	No. of samples required by licence	24	24	24
	No. of samples collected & analysed	24	24	24
PM10	Monitoring frequency required by licence	Continuous		
	No. of samples required by licence			
	No. of samples collected & analysed			

Note: EPL Point 5 PM10 monitor was unable to be operated due to site constraints.

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