

## October 2012 Air Quality Summary Report

Licence Number: 13336

Licensee: Barangaroo Delivery Authority

Licensee Address: Lvl 21, 201 Kent Street, Sydney

Sampling period: 1-31 October 2012

Date provided to Licensee: 27 November 2012

Date published: 29 November 2012

# October 2012 Air Quality Summary Report

## Barangaroo South

This report has been compiled to summarise results of air quality monitoring at Barangaroo South in October 2012 in accordance with [EPL number 13336](#). This data is for samples taken from 1 to 31 October 2012. The data was provided to the Barangaroo Delivery Authority (the Licencee) on 27 October 2012.

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 lead, metallic compounds, polycyclic aromatic hydrocarbons, total solid particles, particulate matter less than 10 microns (PM10), and volatile organic compounds.

## Location of ambient air quality monitors

Ambient air quality monitoring devices are located at four locations around the site as shown below:



*Approximate locations of air monitoring equipment*

These locations correspond to the following licenced monitoring locations:

- Northern: EPL Point 5
- Eastern: EPL Point 8
- Southern: EPL Point 13
- Water Treatment Plant Air Quality: EPL Point 17

EPL Points 14, 15 & 16 have not been monitored to date, as they are associated with works that have not commenced.

## August monitoring results – air quality

During October there were two PM10 guideline level exceedences. All other air parameters were within guideline or trigger levels. Construction activities were undertaken in accordance with relevant management plans. General controls implemented during this reporting period included:

- Water cart spraying and road sweeping.
- Covering loads and stockpiles as appropriate.
- Housekeeping to keep exposed areas to a minimum.
- Ongoing monitoring of the air and odour quality.

The total suspended particles annual rolling average is below the annual goal and is trending downward.

### Metallic Compounds (including Lead)

Date	Monitoring Location	Concentration ( $\mu\text{g}/\text{m}^3$ )							
		Arsenic	Cadmium	Chromium	Copper	Nickel	Zinc	Lead	Mercury
5 Oct 2012	EPL Point 5	0.0004	0.00015	0.0048	0.0140	0.0077	0.0344	0.0084	0.00025
	EPL Point 8	0.0004	0.00015	0.0063	0.0244	0.0042	0.0563	0.0100	0.00025
	EPL Point 13	0.0004	0.00015	0.0047	0.0146	0.0028	0.0414	0.0088	0.00025
11 Oct 2012	EPL Point 5	0.0005	0.00015	0.0035	0.0146	0.0034	0.0381	0.0062	0.00025
	EPL Point 8	0.0004	0.00015	0.0040	0.0165	0.0035	0.0438	0.0069	0.00025
	EPL Point 13	0.0006	0.00015	0.0033	0.0136	0.0026	0.0365	0.0058	0.00025
17 Oct 2012	EPL Point 5	0.00015	0.00015	0.0045	0.0130	0.0020	0.0348	0.0079	0.00025
	EPL Point 8	0.0004	0.00015	0.0080	0.0178	0.0024	0.0576	0.0098	0.00025
	EPL Point 13	0.0003	0.00015	0.0042	0.0146	0.0026	0.0471	0.0073	0.00025
23 Oct 2012	EPL Point 5	0.00015	0.00015	0.0049	0.0108	0.0022	0.0277	0.0044	0.00025
	EPL Point 8	0.0005	0.00015	0.0071	0.0188	0.0026	0.0530	0.0091	0.00025
	EPL Point 13	0.00015	0.00015	0.0042	0.0115	0.0016	0.0251	0.0033	0.00025
29 Oct 2012	EPL Point 5	0.00015	0.00015	0.0053	0.0183	0.0016	0.0486	0.0070	0.00025
	EPL Point 8	0.0005	0.00015	0.0068	0.0239	0.0022	0.0718	0.0097	0.00025
	EPL Point 13	0.0007	0.00015	0.0055	0.0191	0.0021	0.0484	0.0082	0.00025
EPL Point 5 Annual Avg		-	-	-	-	-	-	0.013	-
EPL Point 8 Annual Avg		-	-	-	-	-	-	0.008	-
EPL Point 13 Annual Avg		-	-	-	-	-	-	0.006	-
<b>1 Hour Average Criteria (indicative purposes)</b>		<b>0.09</b>	<b>0.018</b>	<b>0.09</b>	<b>18</b>	<b>0.18</b>	<b>90</b>	-	<b>0.18</b>
<b>No. of 1 hr Exceedences</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	-	<b>0</b>
<b>Annual Average Criteria</b>		-	-	-	-	-	-	<b>0.5</b>	-

### Total Solid Particles (TSP)

Date	EPL Point 5 ( $\mu\text{g}/\text{m}^3$ )	EPL Point 8 ( $\mu\text{g}/\text{m}^3$ )	EPL Point 13 ( $\mu\text{g}/\text{m}^3$ )
5 October 2012	84.5	95.8	74.6
11 October 2012	37.5	31.8	20.0
17 October 2012	58.4	94.6	53.3
23 October 2012	53.2	74.0	36.6
29 October 2012	54.9	77.4	46.6
<b>Annual Average Criteria</b>	<b>90</b>	<b>90</b>	<b>90</b>
<b>Rolling Annual Average</b>	<b>47.2</b>	<b>54.6</b>	<b>42.1</b>
<b>Number of Exceedences</b>	<b>0</b>	<b>0</b>	<b>0</b>

PM10

Monitoring Parameter	EPL Point 5	EPL Point 8	EPL Point 13
Average (ug/m <sup>3</sup> )	29	23	30
Minimum (24hr) (ug/m <sup>3</sup> )	13	0	9
Maximum (24hr) (ug/m <sup>3</sup> )	56	39	53
<b>24hr EPA Criteria (ug/m<sup>3</sup>)</b>	<b>50</b>	<b>50</b>	<b>50</b>
<b>Number of 24hr Exceedences</b>	<b>1</b>	<b>0</b>	<b>1</b>

Polycyclic Aromatic Hydrocarbons (PAH)

Date	EPL Point 5 (ng/m <sup>3</sup> )		EPL Point 8 (ng/m <sup>3</sup> )		EPL Point 13 (ng/m <sup>3</sup> )	
	Total PAH	Benzo(a) pyrene	Total PAH	Benzo(a) pyrene	Total PAH	Benzo(a) pyrene
5 October 2012	0.1	0.1	0.1	0.1	0.1	0.1
11 October 2012	0.1	0.1	0.1	0.1	0.1	0.1
17 October 2012	0.1	0.1	0.51	0.1	0.1	0.1
23 October 2012	0.1	0.1	0.1	0.1	0.1	0.1
29 October 2012	0.1	0.1	0.1	0.1	0.1	0.1
<b>1 Hour Avg Criteria (PAHs as BaP) (ng/m<sup>3</sup>)</b>	<b>400</b>	<b>400</b>	<b>400</b>	<b>400</b>	<b>400</b>	<b>400</b>
<b>Number of Exceedences</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

Volatile Organic Compounds (VOCs) – Ambient & WTP discharge

Monitoring Parameter	EPL Point 5	EPL Point 8	EPL Point 13	EPL Point 17
Monitoring Type	Ambient	Ambient	Ambient	WTP emission
Average (ppm)	0.07	0.002	ND	0.0
Minimum (ppm)	0	0	ND	0.0
Maximum (ppm)	0.6	0.1	ND	0.1
<b>Limit</b>	<b>No licence limit, monitoring requirement only</b>			<b>20 mg/m<sup>3</sup> (10.2ppm)</b>
<b>Number of Exceedences</b>	N/A	N/A	N/A	<b>0</b>

ND - No data collected due to equipment fault

Frequency

Parameter	Frequency	EPL Point 5	EPL Point 8	EPL Point 13
TSP, PAHs, metallic compounds	Monitoring frequency required by licence	24 Hours every 6 days		
	No. of samples required by licence	5	5	5
	No. of samples collected & analysed	5	5	5
PM10, VOCs	Monitoring frequency required by licence	Continuous		
	No. of samples required by licence	Continuous	Continuous	Continuous
	No. of samples collected & analysed	Continuous	Continuous	Continuous