

December 2012 Air Quality Summary Report

Licence Number: 13336

Licensee: Barangaroo Delivery Authority

Licensee Address: Lvl 21, 201 Kent Street, Sydney

Sampling period: 1-31 December 2012

Date provided to Licensee: 23 January 2013

Date published: 31 January 2013

December 2012 Air Quality Summary Report

Barangaroo South

This report has been compiled to summarise results of air quality monitoring at Barangaroo South in December 2012 in accordance with [EPL number 13336](#). This data is for samples taken from 1 to 31 December 2012. The data was provided to the Barangaroo Delivery Authority (the Licencee) on 21 January 2013.

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.

Monitoring results

During December there was one PM10 guideline level exceedence. 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.

Metallic Compounds (including Lead)

Date	Monitoring Location	Concentration ($\mu\text{g}/\text{m}^3$)							
		Arsenic	Cadmium	Chromium	Copper	Nickel	Zinc	Lead	Mercury
4 Dec 2012	EPL point 5	0.0007	0.00015	0.0046	0.0192	0.0034	0.0493	0.0046	0.00025
	EPL point 8	0.0005	0.00015	0.0054	0.0200	0.0032	0.0626	0.0051	0.00025
	EPL point 13	0.0005	0.00015	0.0056	0.0174	0.0034	0.0562	0.0052	0.00025
10 Dec 2012	EPL point 5	0.00015	0.00015	0.0048	0.0111	0.0037	0.0440	0.0046	0.00025
	EPL point 8	0.00015	0.00015	0.0053	0.0141	0.0038	0.0528	0.0046	0.00025
	EPL point 13	0.00015	0.00015	0.0046	0.0148	0.0032	0.0404	0.0031	0.00025
16 Dec 2012	EPL point 5	0.00015	0.00015	0.0050	0.0226	0.0144	0.0642	0.0078	0.00025
	EPL point 8	0.0005	0.00015	0.0064	0.0317	0.0136	0.0982	0.0101	0.00025
	EPL point 13	0.00015	0.00015	0.0050	0.0182	0.0106	0.0457	0.0048	0.00025
20 Dec 2012	EPL point 5	0.0008	0.00015	0.0083	0.0213	0.0063	0.0832	0.0097	0.00025
	EPL point 8	0.001	0.00015	0.0093	0.0384	0.0076	0.165	0.0179	0.00025
	EPL point 13	0.0027	0.00015	0.0095	0.07	0.0107	0.117	0.0153	0.00025
EPL Point 5 Annual Avg		-	-	-	-	-	-	0.013	-
EPL Point 8 Annual Avg		-	-	-	-	-	-	0.008	-
EPL Point 13 Annual Avg		-	-	-	-	-	-	0.006	-
1 Hour Average Criteria (indicative purposes)		0.09	0.018	0.09	18	0.18	90	-	0.18
No. of 1 hr Exceedences		0	0	0	0	0	0	-	0
Annual Average Criteria		-	-	-	-	-	-	0.5	-

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 ($\mu\text{g}/\text{m}^3$)
4 December 2012	44.7	44.9	48.2
10 December 2012	66.4	61.4	45.0
16 December 2012	93.5	93.0	56.2
20 December 2012	138.0	121.0	164.0
Annual Average Criteria	90	90	90
Rolling Annual Average	50.3	56.0	42.5
Number of Exceedences	0	0	0

PM10

Monitoring Parameter	EPL Point 5	EPL Point 8	EPL Point 13
Average (ug/m ³)	27	25	29
Minimum (24hr) (ug/m ³)	0	11	6
Maximum (24hr) (ug/m ³)	49	54	49
24hr EPA Criteria (ug/m³)	50	50	50
Number of 24hr Exceedences	0	1	0

Polycyclic Aromatic Hydrocarbons (PAH)

Date	EPL Point 5 (ng/m ³)		EPL Point 8 (ng/m ³)		EPL Point 13 (ng/m ³)	
	Total PAH	Benzo(a) pyrene	Total PAH	Benzo(a) pyrene	Total PAH	Benzo(a) pyrene
4 December 2012	0.1	0.1	0.1	0.1	0.1	0.1
10 December 2012	0.1	0.1	0.1	0.1	0.1	0.1
16 December 2012	0.1	0.1	0.4	0.1	0.1	0.1
20 December 2012	0.1	0.1	0.1	0.1	0.94	0.1
1 Hour Avg Criteria (PAHs as BaP) (ng/m³)	400	400	400	400	400	400
Number of Exceedences	0	0	0	0	0	0

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)	NA	0.29	0.03	0.1
Minimum (ppm)	NA	0.0	0.0	0.0
Maximum (ppm)	NA	0.6	0.1	0.2
Limit	No licence limit, monitoring requirement only			20 mg/m³ (10.2ppm)
Number of Exceedences	N/A	N/A	N/A	0

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	4	4	4
	No. of samples collected & analysed	4	4	4
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

Note: The ReaGuard (VOC) was not functioning properly and the months data was lost for EPL point 5.