

March 2014 Air Quality Summary Report

Licence Number: 13336

Licensee: Barangaroo Delivery Authority

Licensee Address: Lvl 21, 201 Kent Street, Sydney

Sampling period: 1-31 March 2014

Date provided to Licensee: 23 April 2014

Date published: 02 May 2014

March 2014 Air Quality Summary Report

Barangaroo South

This report has been compiled to summarise results of air quality monitoring at Barangaroo South in March 2014 in accordance with [EPL number 13336](#). This data is for samples taken from 1 to 31 March 2014. The data was provided to the Barangaroo Delivery Authority (the Licencee) on 23 April 2014.

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
- SISCO Air Quality: EPL Point 18 (close to EPL Point 8)

EPL Points 14, 15 & 16 have not been monitored to date, as they are associated with works that have not commenced. EPL Point 18 was not required for this stage of the works as the remediation trial has been completed.

Monitoring results

During March 2014 construction activities were undertaken in accordance with relevant management plans. General controls implemented during this reporting period included:

- Water cart spraying and road sweeping.
- Use of dust buster on bulk excavation, and spraying at other dust generating activities.
- Covering loads and stockpiles as appropriate.
- Housekeeping to keep exposed areas to a minimum.
- Ongoing monitoring of air and odour quality.

Metallic Compounds (including Lead)

Date	Monitoring Location	Concentration ($\mu\text{g}/\text{m}^3$)							
		Arsenic	Cadmium	Chromium	Copper	Nickel	Zinc	Lead	Mercury
5 Mar 2014	EPL point 5	0.0007	<0.0003	0.0039	0.0221	0.0036	0.0038	0.2080	<0.0005
	EPL point 8	0.0008	<0.0003	0.0050	0.0240	0.0043	0.0045	0.1510	<0.0005
	EPL point 13	0.0007	<0.0003	0.0038	0.0173	0.0038	0.0026	0.0614	<0.0005
11 Mar 2014	EPL point 5	0.0007	<0.0003	0.0046	0.0203	0.0075	0.0114	0.1060	<0.0005
	EPL point 8	0.0008	<0.0003	0.0048	0.0185	0.0090	0.0069	0.0980	<0.0005
	EPL point 13	0.0004	<0.0003	0.0037	0.0114	0.0052	0.0030	0.0472	<0.0005
17 Mar 2014	EPL point 5	0.0004	<0.0003	0.0037	0.0155	0.0036	0.0053	0.0521	<0.0005
	EPL point 8	*	*	*	*	*	*	*	*
	EPL point 13	*	*	*	*	*	*	*	*
23 Mar 2014	EPL point 5	<0.0003	<0.0003	0.0027	0.0125	0.0018	0.0032	0.0263	<0.0005
	EPL point 8	*	*	*	*	*	*	*	*
	EPL point 13	*	*	*	*	*	*	*	*
29 Mar 2014	EPL Point 5	0.0006	<0.0003	0.0031	0.0119	0.0033	0.0040	0.0564	<0.0005
	EPL Point 8	*	*	*	*	*	*	*	*
	EPL Point 13	<0.0003	<0.0003	0.0123	0.0292	0.0038	0.0087	0.3740	<0.0005
EPL Point 5 Annual Avg		-	-	-	-	-	-	0.0062	-
EPL Point 8 Annual Avg		-	-	-	-	-	-	0.0088	-
EPL Point 13 Annual Avg		-	-	-	-	-	-	0.0052	-

* Sample did not run due to the site shut down.

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 March 2014	57.8	55.3	36.4
11 March 2014	80.6	64.8	53.2
17 March 2014	53.5	*	*
23 March 2014	40.8	*	*
29 March 2014	47.1	*	70.0

* Sample did not run due to the site shut down.

PM10

Monitoring Parameter	EPL Point 5 ($\mu\text{g}/\text{m}^3$)	EPL Point 8 ($\mu\text{g}/\text{m}^3$)	EPL Point 13 ($\mu\text{g}/\text{m}^3$)
Average	17.8	21.7	18.0
Minimum (24hr)	3.6	9.9	5.4
Maximum (24hr)	49.2	45.4	37.4

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
5 March 2014	0.35	<0.062	0.22	<0.062	<0.062	<0.062
11 March 2014	1.36	0.10	1.12	0.08	0.38	<0.061
17 March 2014	0.29	<0.061	*	*	*	*
23 March 2014	<0.062	<0.062	*	*	*	*
29 March 2014	0.21	<0.061	*	*	<0.256	<0.256

* Sample did not run due to the site shut down.

Volatile Organic Compounds (VOCs) – Ambient & WTP discharge

Monitoring Parameter	EPL Point			
	5	8	13	17
Monitoring Type	Ambient	Ambient	Ambient	WTP emission
Average (ppm)	*	*	*	1.16
Minimum (ppm)	*	*	*	0.00
Maximum (ppm)	*	*	*	7.18
Limit	No licence limit, monitoring requirement only			20 mg/m^3 (10.2ppm)
Number of Exceedences	N/A	N/A	N/A	0

* The VOCs were continuously monitored with existing RaeGuard monitors, however the VOC data for all stations is considered invalid due to faulty PID instruments.

Frequency

Parameter	Frequency	EPL Point			
		5	8	13	17
TSP, PAHs, metallic compounds	Monitoring frequency required by licence	24 Hours every 6 days			NA
	No. of samples required by licence	5	5	5	NA
	No. of samples collected & analysed	5	2	3	NA
PM10, VOCs	Monitoring frequency required by licence	Continuous			
	No. of samples required by licence				
	No. of samples collected & analysed				