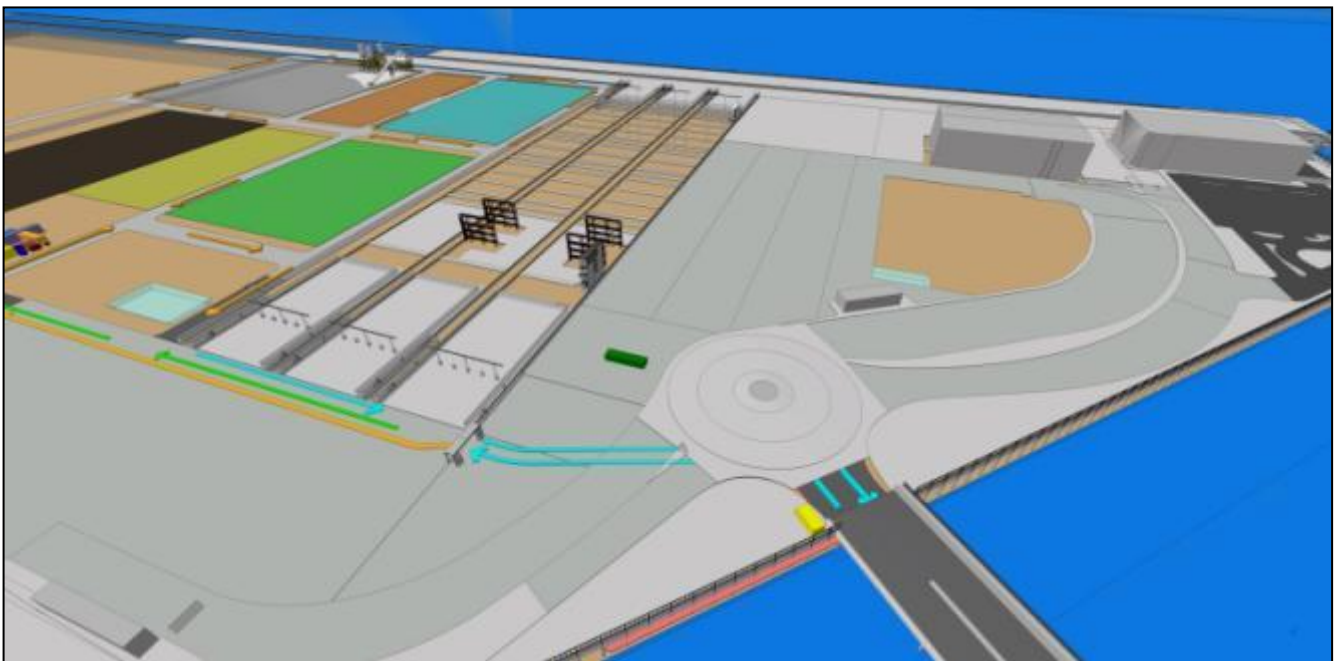


# Sydney Port Botany Terminal 3

## Monthly Environmental Monitoring Report

### November 2013





Client:	SICTL
Client's Representative:	Mott McDonald
LORA Contract No.:	G52

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**Revision History**

Rev	Date	Description	Reviewed	INT/Date	Authorised
0	03/12/13	Issue	JA	03/12/13	JA

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## 1.0 Introduction

This report provides results for environmental monitoring activities associated with the Terminal 3 expansion at Port Botany for the month of November 2013.

Monitoring has been undertaken for dust, noise, water quality and shorebird observations.

No environmental complaints have been received by Laing O'Rourke this month in regards to the Terminal 3 construction works.

### 1.1 Construction Activities

Laing O'Rourke construction activities undertaken for the month of November 2013 included the following:

- Earthworks and ground improvements
- Drainage activities
- Services works
- Concrete batch plant and paving operations
- Noise wall installation and painting
- Landscaping

## 2.0 Dust Monitoring and Air Quality

Four dust deposition gauges are installed in the areas surrounding the Port Botany Expansion. Dust deposition results for November 2013 have yet to be received from our laboratory. October 2013 results are reported in Appendix 1.

All results received for the deposition gauges are within EPA guidelines and Project criteria with the exception of one gauge located in the upper Penrhyn Estuary. The dust deposition gauge located in the upper Penrhyn Estuary returned a value of 4.3 g/m<sup>2</sup>.month which is slightly above the guideline of 4.0 g/m<sup>2</sup>.month. This is the first exceedance of dust deposition monitoring targets during the current phase of the port expansion project. It is noted that the above range of dates falls within the period of high bushfire activity around Sydney and surrounding regions during October 2013. Poor air quality was observed across the state during this time with an ash content of 3.9 g/m<sup>2</sup>.month given for the Penrhyn Estuary dust gauge. This is considered to have contributed to the exceedance of the project goal.

A real-time dust monitor has been installed at the Botany Golf Club for reporting of PM<sub>10</sub> particulate matter. Three exceedances of project criteria were observed during November 2013 and discussed in this section.

The real-time PM<sub>10</sub> monitor returned readings of 88µg/m<sup>3</sup> on 02/12/13, 94µg/m<sup>3</sup> on 03/12/13 and 94µg/m<sup>3</sup> on 08/12/13, which are in excess of the project daily average criteria of 50µg/m<sup>3</sup>. Readings on the 2<sup>nd</sup> and 8<sup>th</sup> December occurred during northerly winds, suggesting that any PM<sub>10</sub> particulate matter had originated from the opposite side of the monitor to the Terminal 3 site, further towards the industrial estates of Botany and Banksmeadow. Laing O'Rourke does not consider the Terminal 3 construction site to have contributed to these two results. The reading on the 3 December occurred on a Sunday when no Laing O'Rourke construction work was undertaken on the Terminal 3 site, with winds reaching 76km/hr from the south. Although no construction work was undertaken, the Terminal 3 site may have contributed to this reading.

In regards to the information above, Laing O'Rourke remains committed to the ongoing management of dust suppression across its Terminal 3 site and minimising offsite impacts. High winds were observed during the reporting period, consistently in excess of 50km/hr and at times reaching over 90km/hr from the south. The site is majority hard-stand area as large areas have now been paved with concrete, ready for operational purposes, with further paving to be undertaken. An additional, third water cart was brought to site during October and around 100,000 tonnes of stockpiled sand has been removed for recycling offsite, reducing risk of future dust emissions from the Terminal 3 construction area. A polymer 'spray sealant' has been applied to material stockpiled on the Southern end of Terminal 3 site, forming a hard crust over the material and

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minimising wind erosion effects by stabilising the material. Further polymer will be sprayed across the site during December 2013 to minimise potential offsite dust impacts.

Other construction contractors engaged by Patrick Stevedores, working adjacent the Terminal 3 site and Penrhyn Estuary have been notified of the exceedances in a combined approach to minimise offsite impacts of Port expansion works. No residential properties or road networks were impacted by dust and there have been no dust complaints received by the project during this monitoring period.

Dust monitoring results are outlined in Appendix 1.

### 3.0 Noise Monitoring

Monthly construction noise monitoring was undertaken during November 2013. Noise monitoring locations have been based on noise-sensitive receptors in the project Environmental Impact Statement and approved for the Port Botany Expansion construction activities.

Attended noise measurements were carried out for a period of 15 minutes at each location. During the monitoring event, observations were made on the weather as well as the surrounding noise sources and environment.

#### 3.1 Day time noise monitoring

Noise measurements were undertaken on 8<sup>th</sup> November 2013. Work activities being undertaken on the Terminal 3 project included earthworks, drainage and services activities, batch plant operation, paving, noise wall installation, landscaping and material deliveries.

The Interim Construction Noise Guideline (2009, DECCW) sets out management levels for noise at residences and how they are to be applied. This guideline has been used in conjunction with the project Environmental Impact Statement to determine noise goals for the project. Recorded LA<sub>eq</sub> levels exceeded the noise goals for noise emissions from the Port Botany expansion Project 5 of the 6 monitoring locations, however at each monitoring location extraneous, non-project related noises were the dominant noise sources. These noise sources included road traffic, both local and main, and aircraft noise. No Terminal 3 construction activities were audible at any monitoring locations.

It is noted that the intent of the Interim Construction Noise Guideline is to minimise noise impact from the construction works and is only applicable to the contribution of the noise from the Port Botany construction site. At the attended monitoring events, as has been noted on other stages of the Port Botany expansion project, the measured noise levels were controlled and dominated by other extraneous noise sources as listed above.

Noise monitoring results are shown in Appendix 2.

### 4.0 Soil and Water Quality Monitoring

Physical water parameters required to be monitored are pH, turbidity and visible oil and grease when dewatering activities are undertaken. Other contaminants may be tested for in areas of concern if the presence of contamination is observed.

#### 4.1 Water Monitoring

Water monitoring has been undertaken during November for dewatering activities undertaken during drainage works. All dewatering results have been compliant with the discharge criteria set in the project Environmental Impact Statement. Dewatering results are summarised in Appendix 3.

### 5.0 Shorebird Monitoring

No shorebird observations were obtained this month, no shorebirds were present on the Terminal construction site. With the noise wall installed around the perimeter of the site, birds present in Penrhyn Estuary cannot be seen.

## **6.0 Environmental Inspections and Audits**

Weekly environmental inspections have been undertaken during November 2013 for the Terminal 3 project site. Inspections have focused on dust suppression with dry conditions through the month. No significant environmental issues were observed or identified. Completed inspection sheets may be available on request.

## **7.0 Appendices**

- Appendix 1 – Dust Monitoring Results**
- Appendix 2 – Noise Monitoring Results**
- Appendix 3 – Water Monitoring Results**
- Appendix 4 – Terminal 3 Shorebird Observations**

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## Appendix 1 – Dust Monitoring Results

### Dust Deposition Gauge Results - October 2013

No.	Monitoring Location	Ash	Combustible matter	Total Soluble matter	Total Insoluble matter	Total Solids	Sample ID (File Reference)	EPA Guideline (Total Insoluble matter)	Comments (i.e. any exceedances of EPA objectives)	Work Activities / Observations During Monitoring Period
1	Upper Penrhyn Estuary	3.9	0.4	1.6	4.3	2.5	EN1304211-004	4	Above EPA guideline levels	Earthworks Drainage works Deliveries Paving Concrete batch plant Structural works Utilities Noise wall install Landscaping
2	Joseph Banks Park	1.4	1.1	0.6	2.5	3.1	EN1304211-001	4	Within EPA guideline levels	
3	Purcell Park	2.3	0.9	1.0	3.2	4.2	EN1304211-002	4	Within EPA guideline levels	
4	Botany Golf Course	1.2	0.2	1.1	1.4	2.5	EN1304211-004	4	Within EPA guideline levels	

All Units in g/m<sup>2</sup>.month



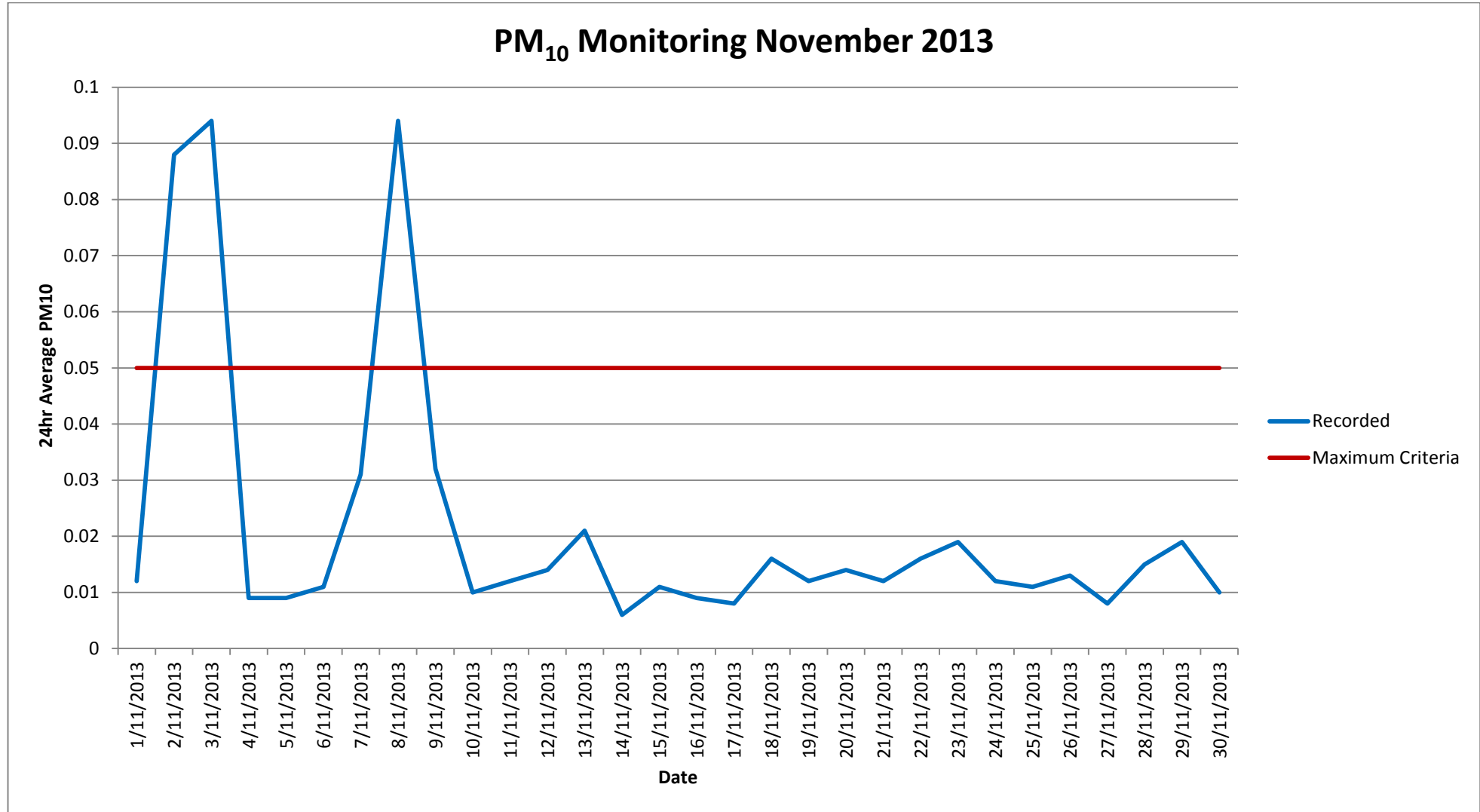
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## Dust Monitoring Locations



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PM<sub>10</sub> Monitoring Results – November 2013



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Appendix 2 – Noise Monitoring Results

Day Monitoring

Noise Sensitive Area	Monitoring Location	Date	Time (24hr) & Duration (mins)	Construction Activities	Standard or Out of Hours Works (Day/Evening/Night)	Weather Conditions	In Response to Complaint?	RBL (dBA) - from EIS	Noise Goal <sup>1</sup> (RBL+ 5dBA)	Recorded Noise Level LAeq (15 min) (dBA)	Recorded Noise Level LA1 (dBA)	Recorded Noise Level LA10 (dBA)	Recorded Noise Level L90 (dBA)	Noise Goal Difference (dBA)	Comments
Location 1 - Chelmsford Avenue	14 The Esplanade	8/11/2013	9:30	Ground improvement works Drainage works Material deliveries Batch Plant Pavement Works Noise Wall	Standard Day	Fine	No	49	54	64	66	65	62	10	Noise from Foreshore Rd traffic, aircraft noise, local traffic, park noise. Terminal 3 construction inaudible
Location 2 - Dent Street	34 Dent St	8/11/2013	10:40	Ground improvement works Drainage works Material deliveries Batch Plant Pavement Works Noise Wall	Standard Day	Fine	No	47	52	61	74	63	51	9	Local traffic and foreshore road noise, aircraft noise, park noise, golf lawn mowing. Terminal 3 construction inaudible
Location 3 - Jennings Street	42 Jenning St	8/11/2013	12:25	Ground improvement works Drainage works Material deliveries Batch Plant Pavement Works Noise Wall	Standard Day	Fine	No	40	45	65	77	66	46	20	Local traffic noise, aircraft noise. Terminal 3 construction inaudible
Location 4- North of Golf Course	3 Anniversary Rd	8/11/2013	10:00	Ground improvement works Drainage works Material deliveries Batch Plant Pavement Works Noise Wall	Standard Day	Fine	No	57	62	57	64	61	52	-5	Local traffic noise, aircraft noise. Terminal 3 construction inaudible
Location 5- Australia Avenue	74 Australia Ave	8/11/2013	11:30	Ground improvement works Drainage works Material deliveries Batch Plant Pavement Works Noise Wall	Standard Day	Fine	No	42	47	56	65	59	46	9	Local/distant traffic noise, aircraft noise, local industry. Terminal 3 construction inaudible
Location 6- Military Road	73 Wassell St	8/11/2013	13:05	Ground improvement works Drainage works Material deliveries Batch Plant Pavement Works Noise Wall	Standard Day	Fine	No	46	51	53	59	56	49	2	Noise from Bunnerong Rd, Local traffic noise, local industry, adjacent park. Terminal 3 construction inaudible

Note 1: Noise goals are applicable to the noise contribution from the Terminal 3 Port Botany Expansion related construction activities only



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Noise Monitoring Locations



Location 1	Location 2	Location 3	Location 4	Location 5	Location 6
14 The Esplanade	34 Dent St	42 Jennings St	3 Anniversary Rd	74 Australia Ave	73 Wassell St

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## Appendix 3 – November 2013 Terminal 3 Water Monitoring Results

Dewatering Location	Date	AM/PM	Meets Criteria	Discharge Location	Oil and Grease (visual)	Horiba Water Monitor	
						pH	Turbidity
SC15	1-Nov	AM	Yes	Estuary - SC15	No	7.3	12.6
SC15	1-Nov	PM	Yes	Estuary - SC15	No	7.2	14.3
SC15	4-Nov	AM	Yes	Estuary - SC15	No	7.4	10.6
SC15	4-Nov	PM	Yes	Estuary - SC15	No	7.4	7.8
SC15	5-Nov	AM	Yes	Estuary - SC15	No	6.9	2.6
SC15	5-Nov	PM	Yes	Estuary - SC15	No	7.8	18.2
SC15	6-Nov	AM	Yes	Estuary - SC15	No	7.6	16.4
SC15	6-Nov	PM	Yes	Estuary - SC15	No	7.4	13.4
SC15	7-Nov	AM	Yes	Estuary - SC15	No	7.4	13.5
SC15	7-Nov	PM	Yes	Estuary - SC15	No	7.5	16.2
SC15	8-Nov	AM	Yes	Estuary - SC15	No	7.1	14.9
SC15	8-Nov	PM	Yes	Estuary - SC15	No	8.1	8.7
Bay - SC15	4-Nov	AM	N/A	N/A	No	7.3	3.1

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### Appendix 4 – November 2013 Terminal 3 Shorebird Observations

There have been no shore bird sightings by project personnel during the reporting period.