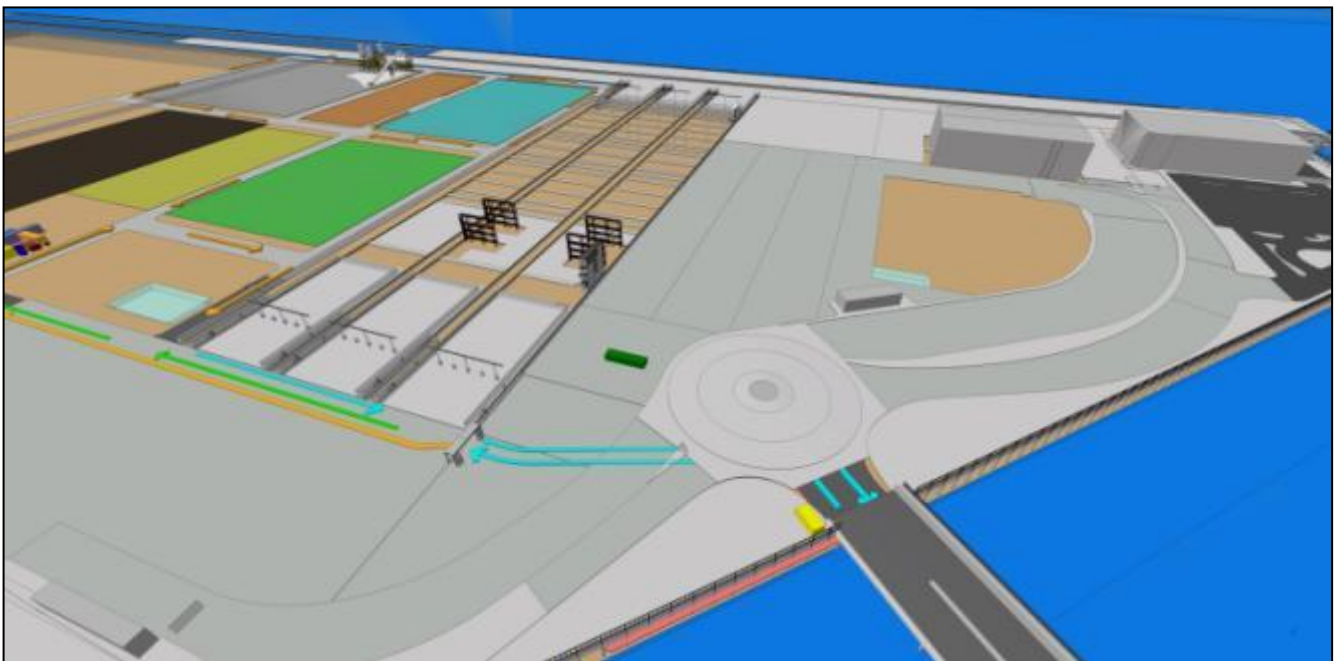


Sydney Port Botany Terminal 3

Monthly Environmental Monitoring Report

June 2013



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

Controlled Copy no.: 1

Revision History

Rev	Date	Description	Reviewed	INT/Date	Authorised
0	02/07/13	Issue	JA	02/07/13	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 June 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 expansion works.

1.1 Construction Activities

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

- Earthworks and ground improvements
- Drainage activities
- Site utilities
- Precast concrete fabrication for utilities and services work
- Concrete batch plant operations
- Concrete paving
- Noise wall construction
- Crane rail installation

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 June 2013 have yet to be received from our laboratory. May 2013 results are reported in Appendix 1.

A real-time dust monitor has been installed at the Botany Golf Club for reporting of PM₁₀ particulate matter. Two exceedances of project criteria were observed during June 2013 and discussed below.

The project real-time PM₁₀ monitor located at Botany Golf Course returned readings of 56µg/m³ on 10/06/13 and 61.2µg/m³ on 12/06/13, which is in excess of the project daily average criteria of 50µg/m³. It is noted, however, that the first reading occurred on the Queen's Birthday public holiday Monday when no Laing O'Rourke construction work was undertaken on the Terminal 3 site. It is also noted that wind speeds averaged only 5.84km/hr over this period with a maximum of 11.3km/hr, which is considered too low to generate any dust issues from the site. Due to wet weather on 12/06/13, only limited works were undertaken and the site was effectively too wet for dust emissions to affect offsite air quality. It is also noted that wind speeds averaged only 7.23km/hr over this period with a maximum of 19.3km/hr, which is considered too low to generate any dust issues from the site. Laing O'Rourke does not consider the Terminal 3 construction site to have contributed to these results.

Surrounding construction contractors have been contacted regarding the above results, with limited works undertaken due the public holiday and wet weather conditions. It is likely that these results could be generated with lawn and landscaping works undertaken in close proximity to the real-time monitor at Botany Golf Course. No dust or emissions have been observed leaving the Port Botany expansion site and no complaints regarding air quality or dust have been received by the project.

There have been no dust complaints received this month. All results considered representative of the project are within EPA and Project criteria. Dust monitoring results are given in this report and are outlined in Appendix 1.

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3.0 Noise Monitoring

Monthly construction noise monitoring was undertaken during June 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 6th June 2013. Work activities being undertaken on the Terminal 3 project included ground improvements and earthworks, stormwater drainage and services installation, batch plant operation, paving 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 LAeq levels exceeded the noise goals for noise emissions from the Port Botany expansion Project at five 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 June for dewatering activities undertaken during drainage works and headwall installation. 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

Shorebird observations from the Terminal 3 site during June 2013 are outlined in Appendix 4. With the shorebird breeding season over, sightings of target shorebirds around the Terminal 3 site have reduced.

6.0 Environmental Inspections and Audits

Weekly environmental inspections have been undertaken during June 2013 for the Terminal 3 project site. Inspections have focused on erosion and sediment controls with high rainfall at the end of 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

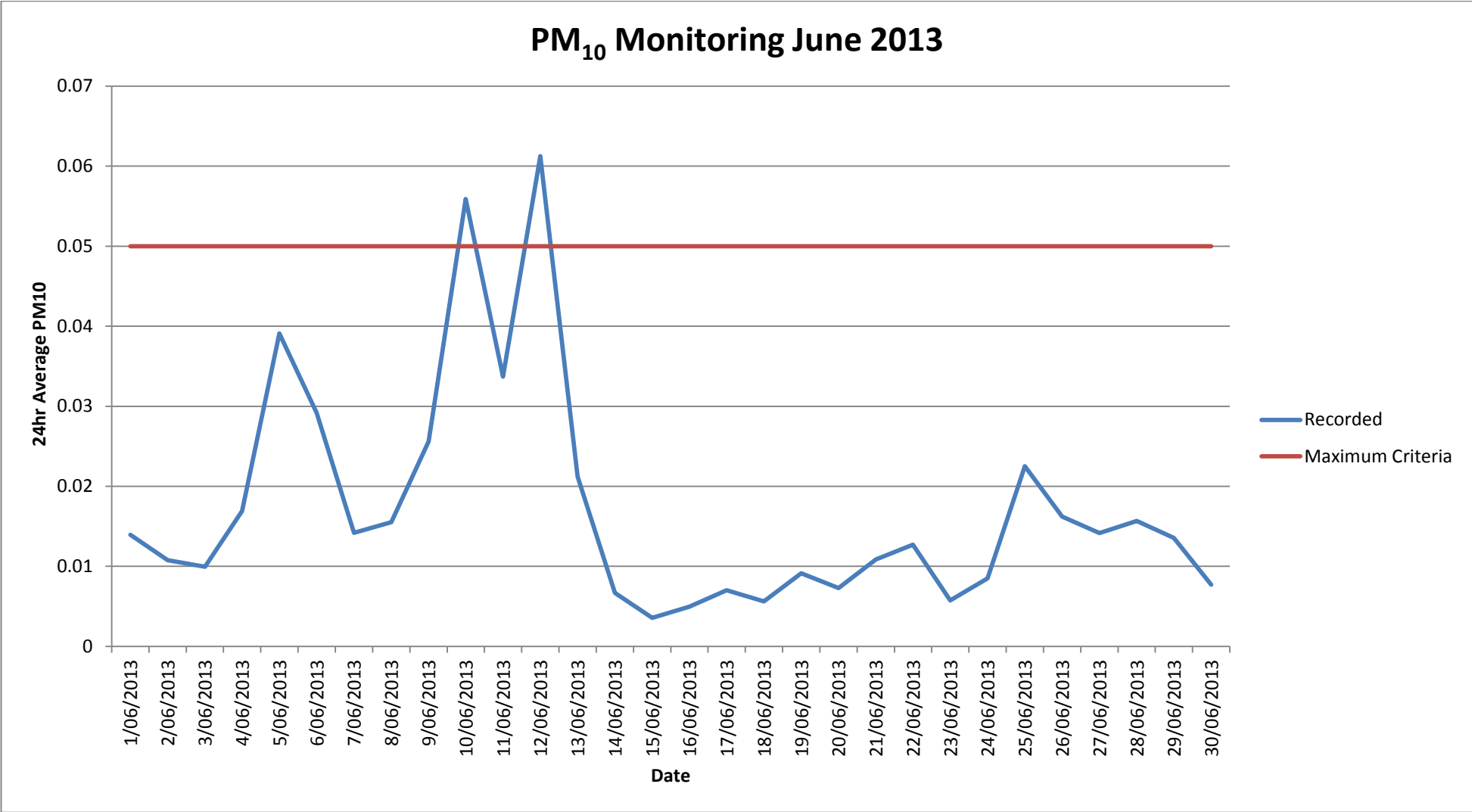
Dust Deposition Gauge Results - May 2013

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	0.9	0.1	1.0	1.0	2.0	EN1302238-003	4	Within EPA guideline levels	Earthworks Drainage works Deliveries Paving Concrete batch plant Structural works Utilities
2	14 The Esplanade	0.5	<0.1	1.6	0.5	2.1	EN1302238-001	4	Within EPA guideline levels	
3	74 Australia Ave	1.2	0.2	1.1	1.4	2.5	EN1302238-002	4	Within EPA guideline levels	
4	Botany Golf Course	0.4	0.1	0.2	0.5	0.7	EN1302238-004	4	Within EPA guideline levels	

All Units in g/m².month

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PM₁₀ Monitoring Results – June 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 ¹ (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	6/06/2013	11:00	Ground improvement works Drainage works Material deliveries Batch Plant Pavement Works	Standard Day	Fine	No	49	54	58	66	54	41	4	Noise from Foreshore Rd traffic, aircraft noise, local traffic, walkway noise. Terminal 3 construction inaudible
Location 2 - Dent Street	34 Dent St	6/06/2013	11:55	Ground improvement works Drainage works Material deliveries Batch Plant Pavement Works	Standard Day	Fine	No	47	52	58	67	60	50	6	Local traffic noise, aircraft noise, park noise. Terminal 3 construction inaudible
Location 3 - Jennings Street	42 Jennings St	6/06/2013	12:30	Ground improvement works Drainage works Material deliveries Batch Plant Pavement Works	Standard Day	Fine	No	40	45	64	69	63	51	19	Local traffic noise, aircraft noise. Terminal 3 construction inaudible
Location 4- North of Golf Course	3 Anniversary Rd	6/06/2013	11:25	Ground improvement works Drainage works Material deliveries Batch Plant Pavement Works	Standard Day	Fine	No	57	62	59	66	62	49	-3	Local traffic noise, aircraft noise. Terminal 3 construction inaudible
Location 5- Australia Avenue	74 Australia Ave	6/06/2013	13:35	Ground improvement works Drainage works Material deliveries Batch Plant Pavement Works	Standard Day	Fine	No	42	47	59	67	62	54	12	Local/distant traffic noise, aircraft noise, local industry. Terminal 3 construction inaudible
Location 6- Military Road	73 Wassell St	6/06/2013	13:00	Ground improvement works Drainage works Material deliveries Batch Plant Pavement Works	Standard Day	Fine	No	46	51	53	61	55	50	2	Noise from Bunnerong Rd, Local traffic noise, local industry. 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 – June 13 Terminal 3 Water Monitoring Results

Dewatering Location	Date	AM/PM	Meets Criteria	Discharge Location	Oil and Grease (visual)	Horiba Water Monitor	
						pH	Turbidity
SC12a	3/06/2013	AM	Yes	Adjacent Estuary	None	7.63	4.3
SC12a	3/06/2013	PM	Yes	Adjacent Estuary	None	7.62	2.2
SC12a	4/06/2013	AM	Yes	Adjacent Estuary	None	7.65	2.8
SC12a	4/06/2013	PM	Yes	Adjacent Estuary	None	7.58	3.1
SC12a	5/06/2013	AM	Yes	Adjacent Estuary	None	7.67	3.3
SC12a	5/06/2013	PM	Yes	Adjacent Estuary	None	7.61	4.2
SC12a	6/06/2013	AM	Yes	Adjacent Estuary	None	7.73	4.8
SC12a	6/06/2013	PM	Yes	Adjacent Estuary	None	7.64	3.9
SC12a	7/06/2013	AM	Yes	Adjacent Estuary	None	7.45	3.8
SC12a	7/06/2013	PM	Yes	Adjacent Estuary	None	7.66	4.5
SC12a	11/06/2013	AM	Yes	Adjacent Estuary	None	7.43	5.1
SC12a	11/06/2013	PM	Yes	Adjacent Estuary	None	7.5	4.0
SC12a	12/06/2013	AM	Yes	Adjacent Estuary	None	7.54	4.7
SC12a	12/06/2013	PM	Yes	Adjacent Estuary	None	7.55	5.3
SC12a	13/06/2013	AM	Yes	Adjacent Estuary	None	7.48	1.2
SC12a	13/06/2013	PM	Yes	Adjacent Estuary	None	7.52	0.4
SC12a	14/06/2013	AM	Yes	Adjacent Estuary	None	7.55	1.9
SC12a	14/06/2013	PM	Yes	Adjacent Estuary	None	7.58	1.1
SC12a	17/06/2013	AM	Yes	Adjacent Estuary	None	7.56	1.7
SC12a	17/06/2013	PM	Yes	Adjacent Estuary	None	7.86	1.8
SC12a	18/06/2013	AM	Yes	Adjacent Estuary	None	8.21	3.4
SC12a	18/06/2013	PM	Yes	Adjacent Estuary	None	7.89	8.1
SC12a	19/06/2013	AM	Yes	Adjacent Estuary	None	7.60	2.1
Estuary	3/06/2013	AM	N/A	N/A	None	7.63	2.3
Estuary	11/06/2013	AM	N/A	N/A	None	7.59	2.0
Estuary	18/06/2013	PM	N/A	N/A	None	7.96	2.4
SC13	13/06/2013	AM	Yes	Adjacent Bay	None	7.59	5.4
SC13	13/06/2013	PM	Yes	Adjacent Bay	None	7.50	5.6
SC13	14/06/2013	AM	Yes	Adjacent Bay	None	7.56	5.3
SC13	14/06/2013	PM	Yes	Adjacent Bay	None	7.60	5.8
SC13	17/06/2013	AM	Yes	Adjacent Bay	None	7.62	6.1
SC13	17/06/2013	PM	Yes	Adjacent Bay	None	7.63	6.3
SC13	18/06/2013	AM	Yes	Adjacent Bay	None	7.56	2.6
SC13	18/06/2013	PM	Yes	Adjacent Bay	None	7.45	2.8
SC13	19/06/2013	AM	Yes	Adjacent Bay	None	7.49	3.2
SC13	19/06/2013	PM	Yes	Adjacent Bay	None	7.48	2.9
SC13	20/06/2013	AM	Yes	Adjacent Bay	None	7.53	2.1
SC13	20/06/2013	PM	Yes	Adjacent Bay	None	7.52	2.9
SC13	21/06/2013	AM	Yes	Adjacent Bay	None	7.64	3.4
SC13	21/06/2013	PM	Yes	Adjacent Bay	None	7.48	3.8
SC13	24/06/2013	AM	Yes	Adjacent Bay	None	7.01	4.2
SC13	24/06/2013	PM	Yes	Adjacent Bay	None	7.43	3.6
SC13	25/06/2013	AM	Yes	Adjacent Bay	None	7.38	3.0
SC13	25/06/2013	PM	Yes	Adjacent Bay	None	7.42	3.8
SC13	26/06/2013	AM	Yes	Adjacent Bay	None	7.64	4.2

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SC13	26/06/2013	PM	Yes	Adjacent Bay	None	7.91	5.6
SC13	27/06/2013	AM	Yes	Adjacent Bay	None	7.88	4.8
SC13	27/06/2013	PM	Yes	Adjacent Bay	None	7.70	5.1
SC13	28/06/2013	AM	Yes	Adjacent Bay	None	7.71	6.9
SC13	28/06/2013	PM	Yes	Adjacent Bay	None	7.34	6.3
Bay	13/06/2013	AM	N/A	N/A	None	7.54	5.6
Bay	18/06/2013	AM	N/A	N/A	None	7.62	4.8
Bay	24/06/2013	AM	N/A	N/A	None	7.65	4.6
SC6 - SQID	24/06/2013	AM	Yes	Adjacent Bay	None	7.62	19.6
Bay	24/06/2013	AM	N/A	N/A	None	7.83	10.1
SC8	27/06/2013	AM	Yes	Adjacent Estuary	None	8.01	6.8
SC8	27/06/2013	PM	Yes	Adjacent Estuary	None	8.02	6.6
SC8	28/06/2013	AM	Yes	Adjacent Estuary	None	7.86	9.1
SC8	28/06/2013	PM	Yes	Adjacent Estuary	None	7.89	8.6
Estuary	27/06/2013	AM	N/A	N/A	None	7.64	3.8

Appendix 4 – June 13 Terminal 3 Shorebird Observations

Date	Bird Type	Location	Reported by	Action
3/06/2013	2 x Pied Oyster Catcher	Penrhyn Estuary adjacent SC12	J Ambler	Birds were within Penrhyn Estuary and outside active worksite and at no risk. No action required.
4/06/2013	2 x Pied Oyster Catcher	Penrhyn Estuary adjacent SC12	J Ambler	Birds were within Penrhyn Estuary and outside active worksite and at no risk. No action required.
5/06/2013	2 x Pied Oyster Catcher	Penrhyn Estuary adjacent SC12	J Ambler	Birds were within Penrhyn Estuary and outside active worksite and at no risk. No action required.
12/06/2013	1 x Bar Tailed Godwit	Upper Estuary – adjacent SC15	J Ambler	Birds were within Penrhyn Estuary and outside active worksite and at no risk. No action required.