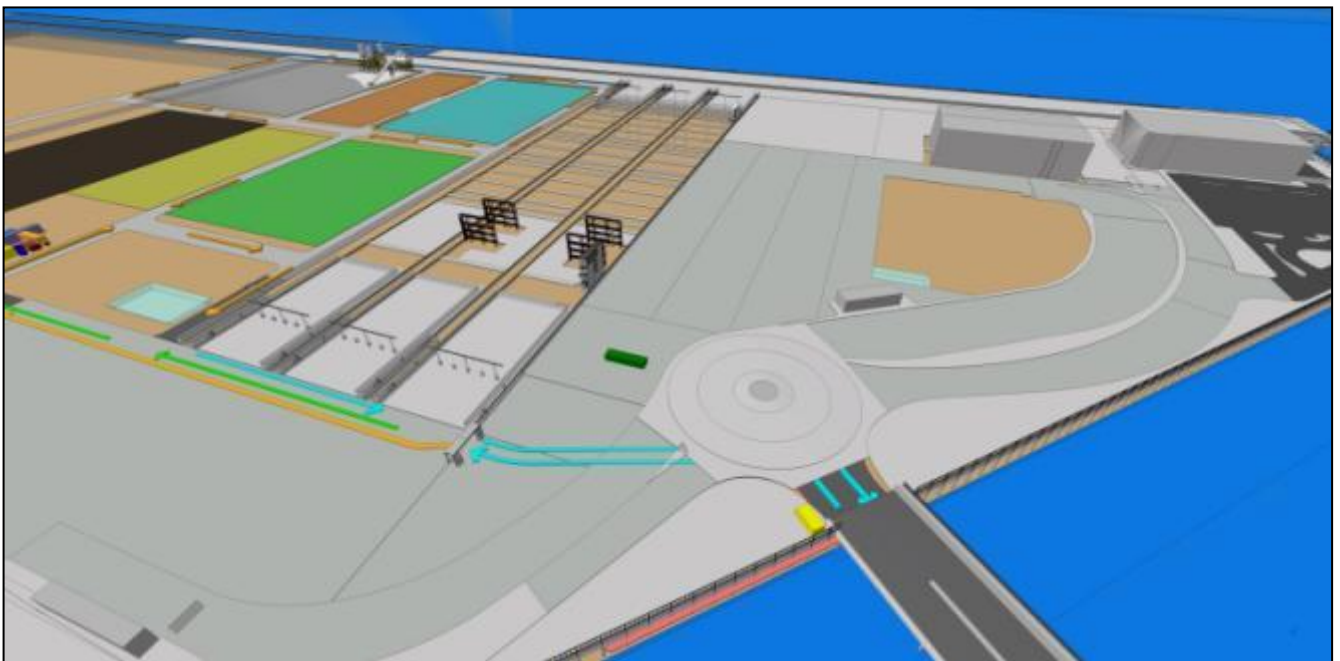


Sydney Port Botany Terminal 3

Monthly Environmental Monitoring Report

July 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	01/08/13	Issue	JA	01/08/13	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 July 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 July 2013 included the following:

- Earthworks and ground improvements
- Drainage activities
- Site utilities
- Concrete batch plant and paving operations
- Noise wall installation
- 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 July 2013 have yet to be received from our laboratory. June 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. Technical difficulties were encountered with this monitor resulting in lost data from July 12th to July 26th. It is noted that no observations of dust leaving site were recorded and that no dust complaints were received during this period. All technical issues have since been resolved.

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.

3.0 Noise Monitoring

Monthly construction noise monitoring was undertaken during July 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 15th July 2013. Work activities being undertaken on the Terminal 3 project included ground improvements and earthworks, stormwater drainage and services installation, 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 LAeq levels exceeded the noise goals for noise emissions from the Port Botany expansion Project at four locations, however at each monitoring location extraneous, non-project related noises were the dominant noise sources. These

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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 July 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

Few shorebird sightings are being received across the Project, with all sightings being restricted to the adjacent Penrhyn Estuary. Shorebird observations from the Terminal 3 site during July 2013 are outlined in Appendix 4.

6.0 Environmental Inspections and Audits

Weekly environmental inspections have been undertaken during July 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

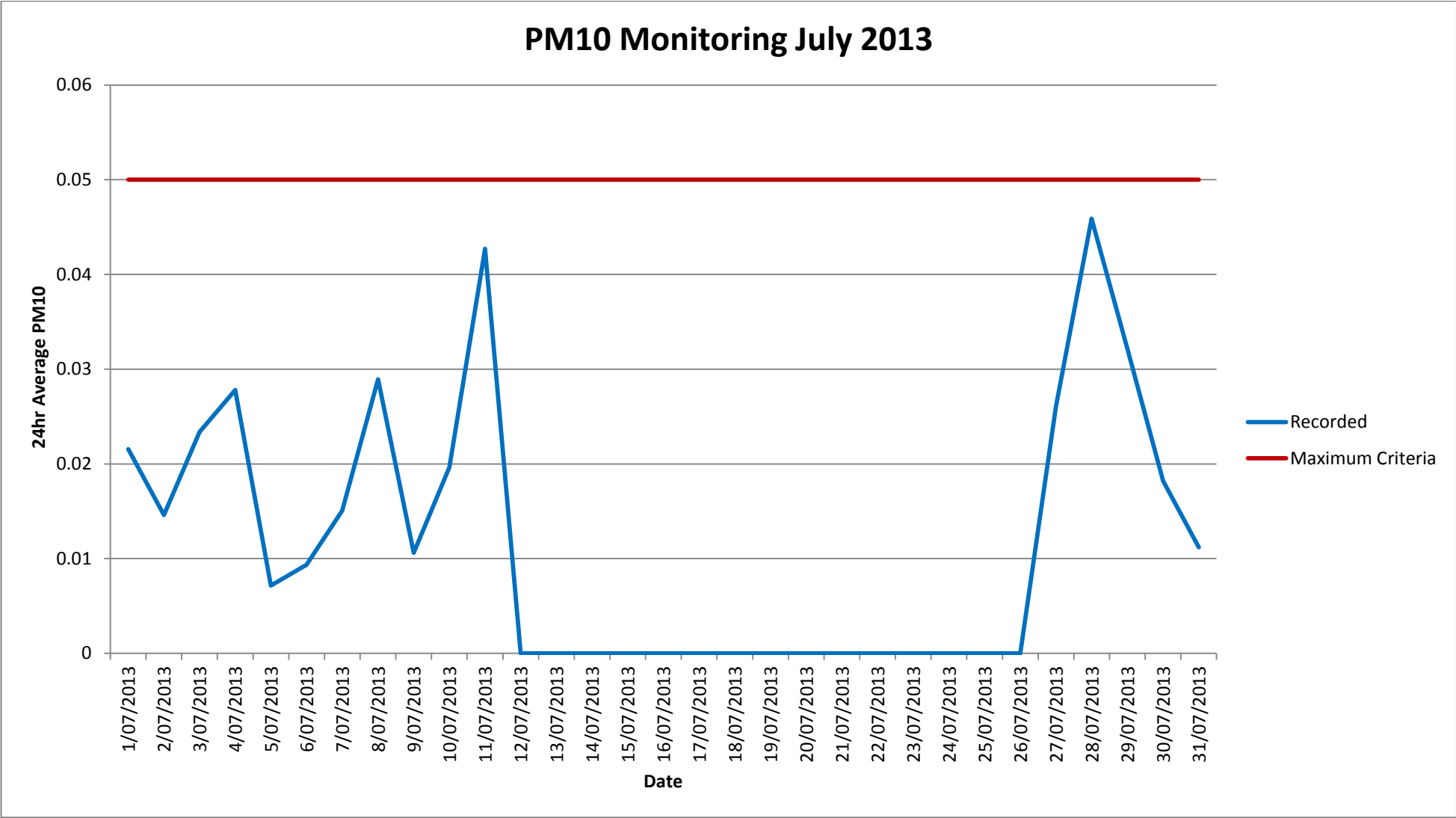
Dust Deposition Gauge Results - June 2013

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	0.7	2.2	1.6	3.8	EN1302719-003	4	Within EPA guideline levels	Earthworks Drainage works Deliveries Paving Concrete batch plant Structural works Utilities
2	14 The Esplanade	0.4	1.0	0.7	1.4	2.1	EN1302719-001	4	Within EPA guideline levels	
3	74 Australia Ave	0.6	0.8	<0.1	1.4	1.4	EN1302719-002	4	Within EPA guideline levels	
4	Botany Golf Course	0.9	0.3	3.9	1.2	5.1	EN1302719-004	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 Monitoring Results - SPBT3 June 2013															LAING O'ROURKE
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	15/07/2013	11:30	Ground improvement works Drainage works Material deliveries Batch Plant Pavement Works	Standard Day	Fine	No	49	54	56	61	59	53	2	Noise from Foreshore Rd traffic, aircraft noise, local traffic, park noise. Terminal 3 construction inaudible
Location 2 - Dent Street	34 Dent St	15/07/2013	12:20	Ground improvement works Drainage works Material deliveries Batch Plant Pavement Works	Standard Day	Fine	No	47	52	60	64	62	55	8	Local traffic and foreshore road noise, aircraft noise, park noise. Terminal 3 construction inaudible
Location 3 - Jennings Street	42 Jenning St	15/07/2013	13:05	Ground improvement works Drainage works Material deliveries Batch Plant Pavement Works	Standard Day	Fine	No	40	45	68.9	83.3	67	44	23.9	Local traffic noise, aircraft noise. Terminal 3 construction inaudible
Location 4- North of Golf Course	3 Anniversary Rd	15/07/2013	11:55	Ground improvement works Drainage works Material deliveries Batch Plant Pavement Works	Standard Day	Fine	No	57	62	58	65	63	45	-4	Local traffic noise, aircraft noise. Terminal 3 construction inaudible
Location 5- Australia Avenue	74 Australia Ave	15/07/2013	14:10	Ground improvement works Drainage works Material deliveries Batch Plant Pavement Works	Standard Day	Fine	No	42	47	50	72	55	46	3	Local/distant traffic noise, aircraft noise, local industry. Terminal 3 construction inaudible
Location 6- Military Road	73 Wassell St	15/07/2013	13:30	Ground improvement works Drainage works Material deliveries Batch Plant Pavement Works	Standard Day	Fine	No	46	51	51	60	55	44	0	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 – July 2013 Terminal 3 Water Monitoring Results

Dewatering Location	Date	AM/PM	Meets Criteria	Discharge Location	Oil and Grease (visual)	Horiba Water Monitor	
						pH	Turbidity
ASC1	3-Jul	AM	Yes	Estuary - SC10	No	7.2	0.3
ASC1	3-Jul	PM	Yes	Estuary - SC10	No	7.3	0.4
ASC1	4-Jul	AM	Yes	Estuary - SC10	No	7.8	1.4
ASC1	4-Jul	PM	Yes	Estuary - SC10	No	7.6	1.6
ASC1	5-Jul	AM	Yes	Estuary - SC10	No	7.4	1.2
ASC1	5-Jul	PM	Yes	Estuary - SC10	No	7.3	2.4
ASC1	8-Jul	AM	Yes	Estuary - SC10	No	6.8	0.8
ASC1	8-Jul	PM	Yes	Estuary - SC10	No	6.9	4.2
ASC1	9-Jul	AM	Yes	Estuary - SC10	No	7.2	3.2
ASC1	9-Jul	PM	Yes	Estuary - SC10	No	7.4	4.8
ASC1	10-Jul	AM	Yes	Estuary - SC10	No	7.2	4.6
ASC1	10-Jul	PM	Yes	Estuary - SC10	No	7.6	3.2
ASC1	11-Jul	AM	Yes	Estuary - SC10	No	7.5	2.6
ASC1	11-Jul	PM	Yes	Estuary - SC10	No	8.1	0.3
ASC1	12-Jul	AM	Yes	Estuary - SC10	No	7.7	5.4
ASC1	12-Jul	PM	Yes	Estuary - SC10	No	7.5	4.6
ASC1	15-Jul	AM	Yes	Estuary - SC10	No	7.6	3.8
ASC1	15-Jul	PM	Yes	Estuary - SC10	No	7.4	4.6
ASC1	16-Jul	AM	Yes	Estuary - SC10	No	7.8	4
ASC1	16-Jul	PM	Yes	Estuary - SC10	No	7.5	2.2
ASC1	17-Jul	AM	Yes	Estuary - SC10	No	7.3	1.8
ASC1	17-Jul	PM	Yes	Estuary - SC10	No	7.3	1.7
ASC1	18-Jul	AM	Yes	Estuary - SC10	No	7.2	2.3
ASC1	18-Jul	PM	Yes	Estuary - SC10	No	7.4	3
Estuary - SC10	3-Jul	AM	N/A	N/A	No	7.8	0.5
Estuary - SC10	9-Jul	AM	N/A	N/A	No	7.9	1.2
Estuary - SC10	17-Jul	AM	N/A	N/A	No	7.8	0.8
ASC3	8-Jul	AM	Yes	Estuary - SC05	No	6.9	2.3
ASC3	8-Jul	PM	Yes	Estuary - SC05	No	6.8	3.6
ASC3	9-Jul	AM	Yes	Estuary - SC05	No	7	3.4
ASC3	9-Jul	PM	Yes	Estuary - SC05	No	7.4	3.1
ASC3	10-Jul	AM	Yes	Estuary - SC05	No	7.3	3.7
ASC3	10-Jul	PM	Yes	Estuary - SC05	No	7.8	2.8
ASC3	11-Jul	AM	Yes	Estuary - SC05	No	7.3	4.2
ASC3	11-Jul	PM	Yes	Estuary - SC05	No	7.2	2.5
ASC3	12-Jul	AM	Yes	Estuary - SC05	No	7.2	2.6
ASC3	12-Jul	PM	Yes	Estuary - SC05	No	6.8	3.8
ASC3	15-Jul	AM	Yes	Estuary - SC05	No	7.3	3.9
ASC3	15-Jul	PM	Yes	Estuary - SC05	No	7.4	1.2
ASC3	16-Jul	AM	Yes	Estuary - SC05	No	7.3	0.7
ASC3	16-Jul	PM	Yes	Estuary - SC05	No	7.9	0.5
ASC3	17-Jul	AM	Yes	Estuary - SC05	No	7.8	2.4
ASC3	17-Jul	PM	Yes	Estuary - SC05	No	7.1	2.5
ASC3	18-Jul	AM	Yes	Estuary - SC05	No	7	4.9
ASC3	18-Jul	PM	Yes	Estuary - SC05	No	7.1	4.8

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ASC3	19-Jul	AM	Yes	Estuary - SC05	No	7.3	3.6
ASC3	19-Jul	PM	Yes	Estuary - SC05	No	7.5	4.6
ASC3	22-Jul	AM	Yes	Estuary - SC05	No	7.2	4.1
ASC3	22-Jul	PM	Yes	Estuary - SC05	No	7.6	5.2
Estuary - SC10	8-Jul	AM	N/A	N/A	No	7.7	0.5
Estuary - SC10	16-Jul	AM	N/A	N/A	No	7.7	1.6
Estuary - SC10	22-Jul	PM	N/A	N/A	No	7.3	1.1
SC12a	1-Jul	AM	Yes	Estuary SC12	No	7.6	5.6
SC12a	1-Jul	PM	Yes	Estuary SC12	No	7.4	5.8
SC12a	2-Jul	AM	Yes	Estuary SC12	No	7.3	4.9
SC12a	2-Jul	PM	Yes	Estuary SC12	No	7.8	6.6
SC12a	3-Jul	AM	Yes	Estuary SC12	No	7.4	5.2
SC12a	3-Jul	PM	Yes	Estuary SC12	No	7.7	2.4
Estuary - SC12	1-Jul	AM	N/A	N/A	No	7.8	1.9
SC07	3-Jul	AM	Yes	Bay - SC07	No	7.8	5.6
SC07	3-Jul	PM	Yes	Bay - SC07	No	7.4	5.3
SC07	4-Jul	AM	Yes	Bay - SC07	No	7.4	5.2
SC07	4-Jul	PM	Yes	Bay - SC07	No	6.8	6.5
SC07	5-Jul	AM	Yes	Bay - SC07	No	6.7	3.2
SC07	5-Jul	PM	Yes	Bay - SC07	No	7	3.4
SC07	8-Jul	AM	Yes	Bay - SC07	No	7.1	5.3
SC07	8-Jul	PM	Yes	Bay - SC07	No	7.2	4.8
SC07	9-Jul	AM	Yes	Bay - SC07	No	6.9	4.6
SC07	9-Jul	PM	Yes	Bay - SC07	No	7.8	4.9
SC07	10-Jul	AM	Yes	Bay - SC07	No	7.6	5.3
SC07	10-Jul	PM	Yes	Bay - SC07	No	7.7	2.8
SC07	11-Jul	AM	Yes	Bay - SC07	No	7.7	5.6
SC07	11-Jul	PM	Yes	Bay - SC07	No	7.9	4.3
SC07	12-Jul	AM	Yes	Bay - SC07	No	8	1.1
SC07	12-Jul	PM	Yes	Bay - SC07	No	7.5	4.4
SC07	15-Jul	AM	Yes	Bay - SC07	No	7.4	6.6
SC07	15-Jul	PM	Yes	Bay - SC07	No	7.6	5.6
SC07	16-Jul	AM	Yes	Bay - SC07	No	7.4	7.3
SC07	16-Jul	PM	Yes	Bay - SC07	No	7.8	5.6
SC07	17-Jul	AM	Yes	Bay - SC07	No	7.7	6.3
SC07	17-Jul	PM	Yes	Bay - SC07	No	7.8	6.6
SC07	18-Jul	AM	Yes	Bay - SC07	No	7	7.9
SC07	18-Jul	PM	Yes	Bay - SC07	No	7.3	10.2
SC07	19-Jul	AM	Yes	Bay - SC07	No	7.1	4.6
SC07	19-Jul	PM	Yes	Bay - SC07	No	7.1	4.7
SC07	22-Jul	AM	Yes	Bay - SC07	No	7.9	8.5
SC07	22-Jul	PM	Yes	Bay - SC07	No	6.9	9.2
SC07	23-Jul	AM	Yes	Bay - SC07	No	7.5	11.6
SC07	23-Jul	PM	Yes	Bay - SC07	No	7.4	10.5
SC07	24-Jul	AM	Yes	Bay - SC07	No	7.2	3.2
SC07	24-Jul	PM	Yes	Bay - SC07	No	7.3	2.5
SC07	25-Jul	AM	Yes	Bay - SC07	No	7	2.1
SC07	25-Jul	PM	Yes	Bay - SC07	No	7.4	5.1
SC07	26-Jul	AM	Yes	Bay - SC07	No	7.4	3.2

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SC07	26-Jul	PM	Yes	Bay - SC07	No	7.2	2.6
SC07	29-Jul	AM	Yes	Bay - SC07	No	6.9	2.4
SC07	29-Jul	PM	Yes	Bay - SC07	No	7.4	0.8
SC07	30-Jul	AM	Yes	Bay - SC07	No	7.3	2.4
SC07	30-Jul	PM	Yes	Bay - SC07	No	6.9	1.3
SC07	31-Jul	AM	Yes	Bay - SC07	No	7.5	6.8
SC07	31-Jul	PM	Yes	Bay - SC07	No	7.1	4.9
Bay - SC07	3-Jul	AM	N/A	N/A	No	7.9	2.1
Bay - SC07	9-Jul	AM	N/A	N/A	No	7.8	1.4
Bay - SC07	15-Jul	AM	N/A	N/A	No	7.8	2.6
Bay - SC07	22-Jul	AM	N/A	N/A	No	7.4	1.8
Bay - SC08	29-Jul	AM	N/A	N/A	No	7.3	0.8

Appendix 4 – July 2013 Terminal 3 Shorebird Observations

Date	Bird Type	Location	Reported by	Action
09/07/13	2 x Pied Oyster Catcher	Penrhyn Estuary adjacent SC14	J Ambler	Birds were within Penrhyn Estuary and outside active worksite and at no risk. No action required.
19/07/13	2 x Pied Oyster Catcher	Penrhyn Estuary adjacent SC14	J Ambler	Birds were within Penrhyn Estuary and outside active worksite and at no risk. No action required.
31/07/13	2 x Pied Oyster Catcher	Penrhyn Estuary adjacent SC15	J Ambler	Birds were within Penrhyn Estuary and outside active worksite and at no risk. No action required.