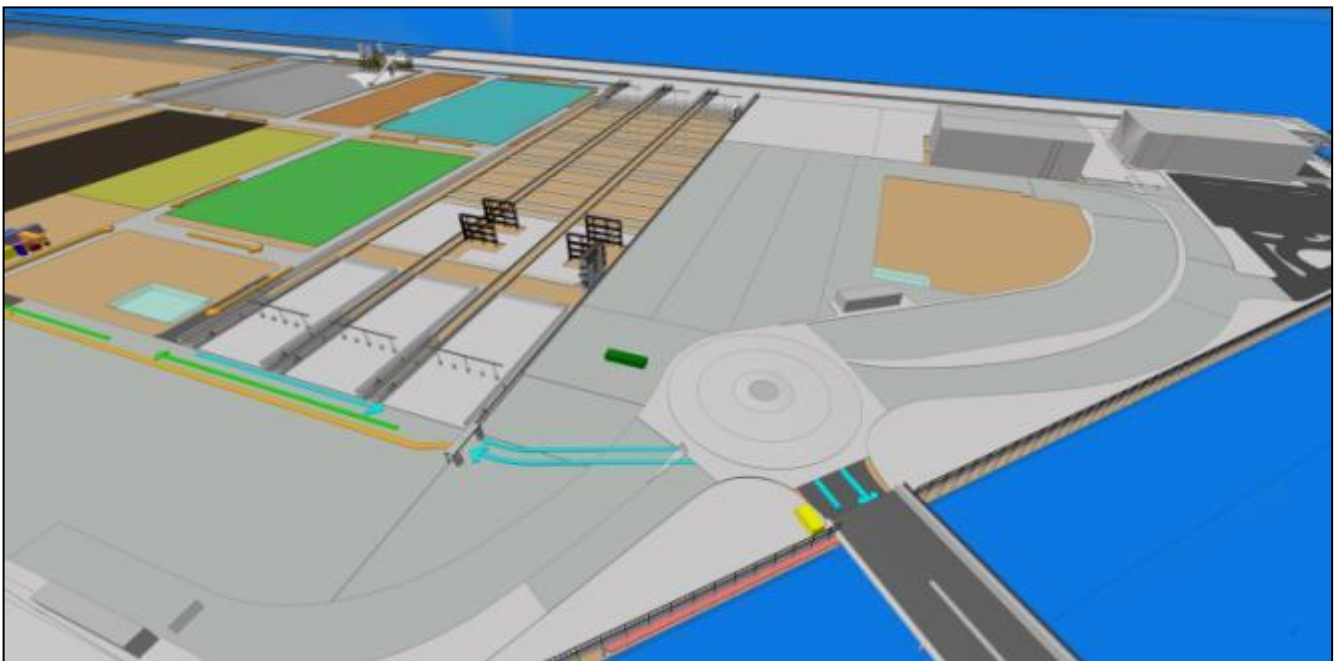


Sydney Port Botany Terminal 3

Monthly Environmental Monitoring Report

November 2012



SPBT3 Monthly Environmental Report – Nov 12

Client:	SICTL
Client's Representative:	Mott McDonald
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SPBT3 Monthly Environmental Report – Nov 12

Contents:

1.0 Introduction	4
1.1 Construction Activities.....	4
2.0 Dust Monitoring and Air Quality	4
3.0 Noise Monitoring	4
3.1 Day time noise monitoring	4
3.2 Night time noise monitoring	5
4.0 Soil and Water Quality Monitoring	5
4.1 Water Monitoring.....	5
4.2 Soil Monitoring	5
5.0 Shorebird Monitoring	5
6.0 Environmental Inspections and Audits	5
7.0 Appendices	6
Appendix 1 – Day-time Noise Monitoring Results	7
Appendix 2 – Water Monitoring Results	8
Appendix 3 – Terminal 3 Shorebird Observations	12

SPBT3 Monthly Environmental Report – Nov 12

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 2012.

Monitoring is undertaken for dust, noise, soil and water quality (where required).

One environmental complaint has been received this month in regards to the Terminal 3 expansion works. A complaint regarding vibration was received from a residential address. Vibration monitoring has been organised with the resident and undertaken. Results will be given in next month's environmental report once investigations are complete.

1.1 Construction Activities

Construction activities undertaken for the month of October 2012 included the following:

- Final set up of site sheds, offices and temporary haul roads
- Earthworks and ground improvements
- Drainage activities and headwall installation
- Concrete precast sections have been made on site for future services and utilities works.

2.0 Dust Monitoring and Air Quality

Three dust deposition gauges are installed in the areas surrounding the Port Botany Expansion. Dust deposition results have yet to be received from our laboratory. Dust deposition results for November will be given in the following environmental report. There has been no dust complaints received this month.

A real-time dust monitor is set to be installed at Botany Golf Club for reporting of PM₁₀ particulate matter. Results will be given in future environmental monitoring reports.

3.0 Noise Monitoring

Monthly construction noise monitoring was undertaken during November 2012. 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 30th November 2012. Work activities being undertaken on the Terminal 3 project included ground improvement works, drainage and headwalls 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 all locations except one, 3 Anniversary Road, Botany. 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.

Construction activities at the Terminal 3 project site were inaudible in all cases.

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.

SPBT3 Monthly Environmental Report – Nov 12

Day-time noise monitoring results are shown in Appendix 1.

3.2 Night time noise monitoring

No night time monitoring was required to be undertaken for the Terminal 3 project site.

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 the installation of drainage headwalls and Stormwater Quality Improvement Devices (SQIDs) and approaching drainage lines on the border of the Terminal 3 site. All dewatering results have been compliant with the discharge criteria set in the project Environmental Impact Statement. Dewatering results are summarised in Appendix 2.

4.2 Soil Monitoring

No soil sampling was required during November. Soil sampling may be required for future works if materials are to be taken off site or if potential acid sulphate soils (PASS) are encountered during excavations. No acid sulphate soils were identified this month.

5.0 Shorebird Monitoring

Shorebird observations from the Terminal 3 site during November 2012 are outlined in Appendix 3. Little Terns have been noted flying over the site with neighbouring land tenants and the project avian ecologist has been notified.

6.0 Environmental Inspections and Audits

Weekly environmental inspections have been undertaken during November for the Terminal 3 project site. No significant environmental issues were observed or identified.

It is noted that fresh applications of *Dust Bloc* emulsion have been undertaken for unused, reclaimed areas of the Terminal 3 site. This emulsion product forms a heavy crust on the top layer of the sand to prevent dusty conditions during high winds.

Completed inspection sheets may be available on request.

7.0 Appendices

Appendix 1 – Day-time Noise Monitoring Results

Appendix 2 – Water Monitoring Results

Appendix 3 – Terminal 3 Shorebird Observations

SPBT3 Monthly Environmental Report – Nov 12

Appendix 1 – Day-time Noise Monitoring Results

Noise Monitoring Results - SPBT3 November 2012															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	30/11/2012	8:15	Ground improvement works Headwall and drainage works Material deliveries	Standard Day	Fine	No	49	54	63	78	61	50	9	Noise from Foreshore Rd traffic, aircraft noise, local traffic
Location 2 - Dent Street	34 Dent St	30/11/2012	8:55	Ground improvement works Headwall and drainage works Material deliveries	Standard Day	Fine	No	47	52	58	67	60	55	6	Local traffic noise, aircraft noise
Location 3 - Jennings Street	42 Jenning St	30/11/2012	11:15	Ground improvement works Headwall and drainage works Material deliveries	Standard Day	Fine	No	40	45	58	67	59	39	13	Local traffic noise, some aircraft noise
Location 4- North of Golf Course	3 Anniversary Rd	30/11/2012	9:45	Ground improvement works Headwall and drainage works Material deliveries	Standard Day	Fine	No	57	62	56	64	57	55	-6	Local traffic noise, aircraft noise
Location 5- Australia Avenue	74 Australia Ave	30/11/2012	10:30	Ground improvement works Headwall and drainage works Material deliveries	Standard Day	Fine	No	42	47	51	62	53	43	4	Local/distant traffic noise, aircraft noise
Location 6- Military Road	73 Wassell St	30/11/2012	12:15	Ground improvement works Headwall and drainage works Material deliveries	Standard Day	Fine	No	46	51	62	70	64	48	11	Noise from Bunnerong Rd

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

SPBT3 Monthly Environmental Report – Nov 12

Appendix 2 – Water Monitoring Results

Dewatering Discharge Monitoring						
Dewatering Location	Date	Meets Criteria	Discharge Location	Horiba Water Monitor		
				Oil and Grease (visual)	pH	Turbidity
SC2 - SQIDs	01/11/12 AM	Yes	Adjacent Bay	None	7.56	0.2
SC2 - SQIDs	01/11/12 PM	Yes	Adjacent Bay	None	7.89	0.0
SC2 - SQIDs	02/11/12 AM	Yes	Adjacent Bay	None	7.32	0.0
SC2 - SQIDs	02/11/12 PM	Yes	Adjacent Bay	None	7.56	0.8
SC2 - SQIDs	05/11/12 AM	Yes	Adjacent Bay	None	7.46	2.1
SC2 - SQIDs	05/11/12 PM	Yes	Adjacent Bay	None	7.12	2.5
SC2 - SQIDs	06/11/12 AM	Yes	Adjacent Bay	None	8.25	1.6
SC2 - SQIDs	06/11/12 PM	Yes	Adjacent Bay	None	8.12	0.5
SC2 - SQIDs	07/11/12 AM	Yes	Adjacent Bay	None	7.90	0.3
SC2 - SQIDs	07/11/12 PM	Yes	Adjacent Bay	None	7.86	0.0
SC2 - SQIDs	08/11/12 AM	Yes	Adjacent Bay	None	8.47	0.8
SC2 - SQIDs	08/11/12 PM	Yes	Adjacent Bay	None	8.24	0.5
SC2 - SQIDs	09/11/12 AM	Yes	Adjacent Bay	None	8.21	0.2
SC2 - SQIDs	09/11/12 PM	Yes	Adjacent Bay	None	7.43	1.6
SC2 - SQIDs	12/11/2012 AM	Yes	Adjacent Bay	None	7.42	1.1
SC2 - SQIDs	12/11/2012 PM	Yes	Adjacent Bay	None	7.09	0.3
SC2 - SQIDs	13/11/2012 AM	Yes	Adjacent Bay	None	7.89	0.0
SC2 - SQIDs	13/11/2012 PM	Yes	Adjacent Bay	None	8.13	0.0
SC2 - SQIDs	14/11/2012 AM	Yes	Adjacent Bay	None	8.02	0.0
SC2 - SQIDs	14/11/2012 PM	Yes	Adjacent Bay	None	7.98	0.3
SC2 - SQIDs	15/11/2012 AM	Yes	Adjacent Bay	None	8.00	0.8
SC2 - SQIDs	15/11/2012 PM	Yes	Adjacent Bay	None	8.03	1.5
SC2 - SQIDs	16/11/2012 AM	Yes	Adjacent Bay	None	7.06	1.6
SC2 - SQIDs	16/11/2012 PM	Yes	Adjacent Bay	None	7.32	0.2
SC2 - SQIDs	19/11/2012 AM	Yes	Adjacent Bay	None	7.13	0.9
SC2 - SQIDs	19/11/2012 PM	Yes	Adjacent Bay	None	7.90	0.3
SC2 - SQIDs	20/11/2012 AM	Yes	Adjacent Bay	None	7.32	0.2
SC2 - SQIDs	20/11/2012 PM	Yes	Adjacent Bay	None	7.65	0.0
SC2 - SQIDs	21/11/2012 AM	Yes	Adjacent Bay	None	7.35	0.6
SC2 - SQIDs	21/11/2012 PM	Yes	Adjacent Bay	None	7.17	0.9
SC2 - SQIDs	22/11/2012 AM	Yes	Adjacent Bay	None	7.90	1.3
SC2 - SQIDs	22/11/2012 PM	Yes	Adjacent Bay	None	8.12	1.6
SC2 - SQIDs	23/11/2012 AM	Yes	Adjacent Bay	None	8.37	1.8
SC2 - SQIDs	23/11/2012 PM	Yes	Adjacent Bay	None	8.18	1.7
SC2 - SQIDs	26/11/2012 AM	Yes	Adjacent Bay	None	7.99	1.9
SC2 - SQIDs	26/11/2012 PM	Yes	Adjacent Bay	None	7.87	0.0
SC2 - SQIDs	27/11/2012 AM	Yes	Adjacent Bay	None	7.06	0.0
SC2 - SQIDs	27/11/2012 PM	Yes	Adjacent Bay	None	7.90	0.1
SC2 - SQIDs	28/11/2012 AM	Yes	Adjacent Bay	None	7.39	0.2
SC2 - SQIDs	28/11/2012 PM	Yes	Adjacent Bay	None	7.09	0.0

SPBT3 Monthly Environmental Report – Nov 12

SC3 - Headwall	08/11/12 PM	Yes	Adjacent Bay	None	8.10	0.0
SC3 - Headwall	09/11/12 AM	Yes	Adjacent Bay	None	7.98	1.4
SC3 - Headwall	09/11/12 PM	Yes	Adjacent Bay	None	7.56	0.3
SC3 - Headwall	12/11/2012 AM	Yes	Adjacent Bay	None	7.32	0.4
SC3 - Headwall	12/11/2012 PM	Yes	Adjacent Bay	None	7.19	0.5
SC3 - Headwall	13/11/2012 AM	Yes	Adjacent Bay	None	7.34	0.7
SC3 - Headwall	13/11/2012 PM	Yes	Adjacent Bay	None	7.29	0.3
SC3 - Headwall	14/11/2012 AM	Yes	Adjacent Bay	None	7.15	0.1
SC3 - Headwall	14/11/2012 PM	Yes	Adjacent Bay	None	7.10	0.9
SC3 - Headwall	15/11/2012 AM	Yes	Adjacent Bay	None	7.87	0.3
SC3 - Headwall	15/11/2012 PM	Yes	Adjacent Bay	None	7.45	1.6
SC3 - Headwall	16/11/2012 AM	Yes	Adjacent Bay	None	7.32	1.4
SC3 - Headwall	16/11/2012 PM	Yes	Adjacent Bay	None	7.91	0.8
SC3 - Headwall	19/11/2012 AM	Yes	Adjacent Bay	None	7.56	1.1
SC3 - Headwall	19/11/2012 PM	Yes	Adjacent Bay	None	8.46	0.5
SC3 - Headwall	20/11/2012 AM	Yes	Adjacent Bay	None	8.16	0.0
SC3 - Headwall	20/11/2012 PM	Yes	Adjacent Bay	None	8.11	0.0
SC3 - Headwall	21/11/2012 AM	Yes	Adjacent Bay	None	7.99	0.5
SC3 - Headwall	21/11/2012 PM	Yes	Adjacent Bay	None	7.37	0.4
SC3 - Headwall	22/11/2012 AM	Yes	Adjacent Bay	None	7.16	1.3
SC3 - Headwall	22/11/2012 PM	Yes	Adjacent Bay	None	7.11	1.8
SC3 - Headwall	23/11/2012 AM	Yes	Adjacent Bay	None	7.91	2.1
SC3 - Headwall	23/11/2012 PM	Yes	Adjacent Bay	None	8.07	1.6
SC3 - Headwall	26/11/2012 AM	Yes	Adjacent Bay	None	8.37	1.9
SC3 - Headwall	26/11/2012 PM	Yes	Adjacent Bay	None	8.22	2.2
Bay Reading	01/11/12 AM	N/A	N/A	None	7.89	0.8
Bay Reading	07/11/12 PM	N/A	N/A	None	7.68	1.2
Bay Reading	08/11/12 PM	N/A	N/A	None	8.22	0
Bay Reading	14/11/12 PM	N/A	N/A	None	7.87	0.3
Bay Reading	22/11/12 PM	N/A	N/A	None	8.03	1.1
Bay Reading	27/11/12 AM	N/A	N/A	None	7.45	0.1
SC6 - SQIDs	05/11/12 AM	Yes	Adjacent Bay	None	7.40	0.8
SC6 - SQIDs	05/11/12 PM	Yes	Adjacent Bay	None	7.62	1.2
SC6 - SQIDs	06/11/12 AM	Yes	Adjacent Bay	None	7.51	1.4
SC6 - SQIDs	06/11/12 PM	Yes	Adjacent Bay	None	7.56	0.0
SC6 - SQIDs	07/11/12 AM	Yes	Adjacent Bay	None	7.57	0.3
SC6 - SQIDs	07/11/12 PM	Yes	Adjacent Bay	None	7.12	0.0
SC6 - SQIDs	08/11/12 AM	Yes	Adjacent Bay	None	7.86	1.3
SC6 - SQIDs	08/11/12 PM	Yes	Adjacent Bay	None	7.92	0.8
SC2a - SQIDs	09/11/12 AM	Yes	Adjacent Bay	None	8.32	0.0
SC2a - SQIDs	09/11/12 PM	Yes	Adjacent Bay	None	8.34	0.0
SC2a - SQIDs	12/11/2012 AM	Yes	Adjacent Bay	None	7.98	0.0
SC2a - SQIDs	12/11/2012 PM	Yes	Adjacent Bay	None	7.21	0.2
SC2a - SQIDs	13/11/2012 AM	Yes	Adjacent Bay	None	7.38	0.1
SC2a - SQIDs	13/11/2012 PM	Yes	Adjacent Bay	None	7.36	0.5
SC2a - SQIDs	14/11/2012 AM	Yes	Adjacent Bay	None	7.01	0.7

SPBT3 Monthly Environmental Report – Nov 12

SC2a - SQIDs	14/11/2012 PM	Yes	Adjacent Bay	None	7.11	0.3
SC2a - SQIDs	15/11/2012 AM	Yes	Adjacent Bay	None	7.32	0.3
SC2a - SQIDs	15/11/2012 PM	Yes	Adjacent Bay	None	7.91	0.0
SC2a - SQIDs	16/11/2012 AM	Yes	Adjacent Bay	None	7.28	0.0
SC2a - SQIDs	16/11/2012 PM	Yes	Adjacent Bay	None	7.43	0.1
SC2a - SQIDs	19/11/2012 AM	Yes	Adjacent Bay	None	8.2	0.0
SC2a - SQIDs	19/11/2012 PM	Yes	Adjacent Bay	None	8.21	0.5
SC2a - SQIDs	20/11/2012 AM	Yes	Adjacent Bay	None	7.45	0.3
SC2a - SQIDs	20/11/2012 PM	Yes	Adjacent Bay	None	8.02	0.6
SC2a - SQIDs	21/11/2012 AM	Yes	Adjacent Bay	None	8.21	1.6
SC2a - SQIDs	21/11/2012 PM	Yes	Adjacent Bay	None	8.01	1.3
SC2a - SQIDs	22/11/2012 AM	Yes	Adjacent Bay	None	7.67	0.3
SC2a - SQIDs	22/11/2012 PM	Yes	Adjacent Bay	None	7.37	0.9
SC2a - SQIDs	23/11/2012 AM	Yes	Adjacent Bay	None	7.91	1.7
SC2a - SQIDs	23/11/2012 PM	Yes	Adjacent Bay	None	7.32	1.4
SC2a - SQIDs	26/11/2012 AM	Yes	Adjacent Bay	None	7.22	1.9
SC2a - SQIDs	26/11/2012 PM	Yes	Adjacent Bay	None	7.09	2.1
SC2a - SQIDs	27/11/2012 AM	Yes	Adjacent Bay	None	8.32	1.6
SC2a - SQIDs	27/11/2012 PM	Yes	Adjacent Bay	None	7.89	2.7
SC2a - SQIDs	28/11/2012 AM	Yes	Adjacent Bay	None	7.12	2.9
SC2a - SQIDs	28/11/2012 PM	Yes	Adjacent Bay	None	7.89	0.7
SC2a - SQIDs	29/11/2012 AM	Yes	Adjacent Bay	None	7.24	0.0
SC2a - SQIDs	29/11/2012 PM	Yes	Adjacent Bay	None	7.98	0.3
SC2a - SQIDs	30/11/2012 AM	Yes	Adjacent Bay	None	8.23	0.6
SC2a - SQIDs	30/11/2012 PM	Yes	Adjacent Bay	None	8.31	1.2
Bay Reading	05/11/12 AM	N/A	N/A	None	7.98	0.9
Bay Reading	07/11/12 AM	N/A	N/A	None	7.43	0.6
Bay Reading	14/11/12 PM	N/A	N/A	None	7.42	1.7
Bay Reading	22/11/12 PM	N/A	N/A	None	7.81	2.1
Bay Reading	27/11/12 AM	N/A	N/A	None	7.16	1.9
SC5 - SQIDs	27/11/2012 AM	Yes	Adjacent Bay	None	8.09	3.6
SC5 - SQIDs	27/11/2012 PM	Yes	Adjacent Bay	None	7.69	2.2
SC5 - SQIDs	28/11/2012 AM	Yes	Adjacent Bay	None	7.92	2.6
SC5 - SQIDs	28/11/2012 PM	Yes	Adjacent Bay	None	8.32	1.8
Estuary Reading	27/11/12 AM	N/A	N/A	None	7.82	1.2
SC10 - Headwalls	08/11/12 AM	Yes	Adjacent Bay	None	7.34	0.9
SC10 - Headwalls	08/11/12 PM	Yes	Adjacent Bay	None	7.36	0.7
SC5a - SQIDs	27/11/2012 AM	Yes	Adjacent Bay	None	8.06	2.4
SC5a - SQIDs	27/11/2012 PM	Yes	Adjacent Bay	None	8.12	3.1
SC5a - SQIDs	28/11/2012 AM	Yes	Adjacent Bay	None	7.98	1.8
SC5a - SQIDs	28/11/2012 PM	Yes	Adjacent Bay	None	7.12	3.2

SPBT3 Monthly Environmental Report – Nov 12

SC5a - SQIDs	29/11/2012 AM	Yes	Adjacent Bay	None	7.45	4.1
SC5a - SQIDs	29/11/2012 PM	Yes	Adjacent Bay	None	7.48	0.4
SC5a - SQIDs	30/11/2012 AM	Yes	Adjacent Bay	None	7.63	2.8
SC5a - SQIDs	30/11/2012 PM	Yes	Adjacent Bay	None	7.29	3.2

SPBT3 Monthly Environmental Report – Nov 12

Appendix 3 – Terminal 3 Shorebird Observations

Shorebird Monitoring Database - SPBT3 worksite				
Date	Bird Type	Location	Reported by	Action
5/11/2012	Little Tern	Flying above stockpile located in SC8	W Sinclear	Bird deterrents installed immediately - reflective tape / mock owls. Works on stockpile undertaken to deter terns from landing and roosting (as directed by Avian Ecologist Phil Straw).
9/11/2012	Bar Tailed Godwit	SC10 revetment	J Ambler	The bird flew away from site when approached. Avian ecologist Phil Straw notified via email.
19/11/2012	Little Tern	8 No. flying above SC13, around knuckle corner	J Ambler	Inspection of SC13 to deter birds from site and ensure no terns roosting on site. Dust Bloc application continued through SC13 to increase dust control and deter terns from landing/roosting on site.
20/11/2012	Little Tern	2 No. Flying over BU4	J Ambler	Inspection of area to deter birds from site and ensure no terns roosting on site. Dust Bloc application continued through SC13 to increase dust control and deter terns from landing/roosting on site.
21/11/2012	Little Tern	4 No. Flying over Patricks Knuckle site	J Ambler	Further bird deterrents installed in SC13 - reflective tape, mock owls. Air horn used to scare birds from landing on LOR site.
23/11/2012	Pacific Golden Plover	6 No. At tug berth area	J Ambler	Continue to work in northern section of site (stockpile relocation, trimming, compaction) to deter birds from coming into the site.
	Little Tern	2 No. Landed on Patricks Knuckle site	J Ambler	Contact and inform Patricks personnel.
28/11/2012	Pied Oyster Catcher	In Penrhyn Estuary sandflats, 40m from silt curtain	J Ambler	No action required