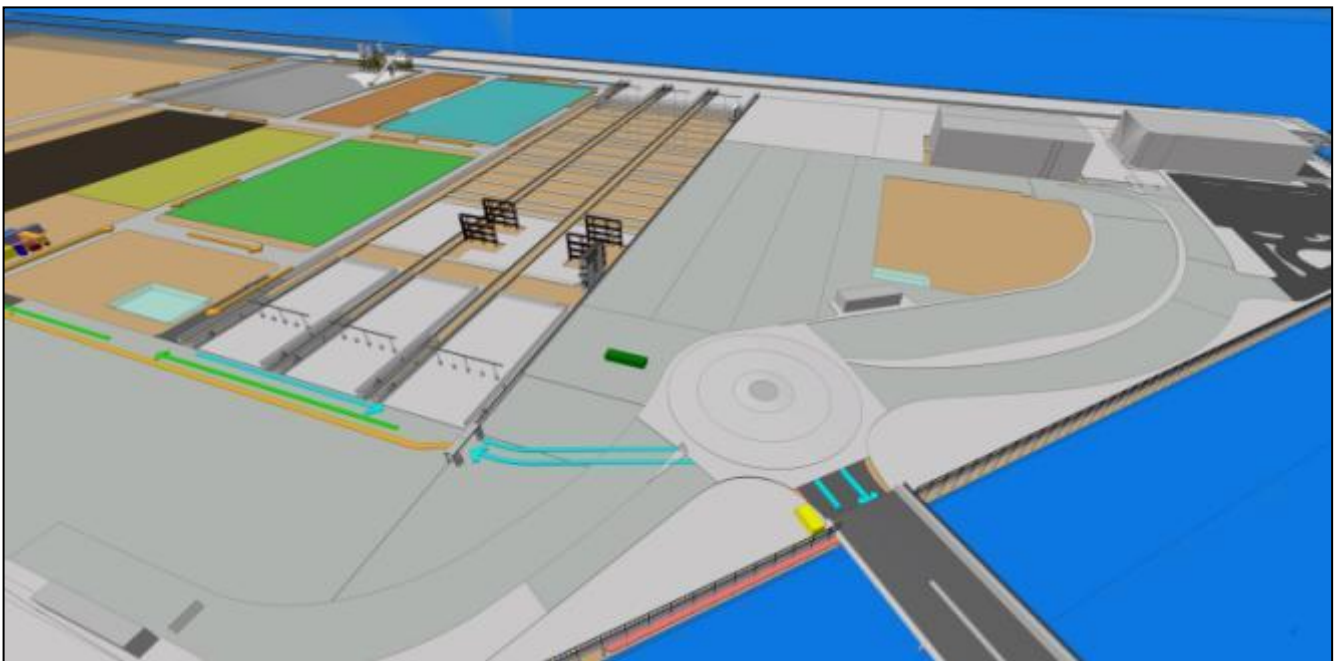


Sydney Port Botany Terminal 3

Monthly Environmental Monitoring Report

January 2013





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

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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 January 2013.

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

No official environmental complaints have been received this month in regards to the Terminal 3 expansion works.

1.1 Construction Activities

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

- Earthworks and ground improvements
- Drainage activities and headwall an SQID installation
- Precast concrete fabrication for utilities and services work
- Commencing of concrete batch plant installation
- Continuous Flight Augur piling for the stacking crane rail beams.

2.0 Dust Monitoring and Air Quality

Three dust deposition gauges are installed in the areas surrounding the Port Botany Expansion. Dust deposition results for January 2013 have yet to be received from our laboratory. Dust deposition results for December 2012 are given in this report and are outlined in Appendix 1. A real-time dust monitor has been installed at the Botany Golf Club for reporting of PM₁₀ particulate matter. No exceedances of project or EPA criteria have been observed during January 2013.

There has been no official dust complaints received this month. All results are within EPA and Project criteria.

3.0 Noise Monitoring

Monthly construction noise monitoring was undertaken during January 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 21st January 2013. Work activities being undertaken on the Terminal 3 project included ground improvements and earthworks, headwall and drainage works, concrete precast works, CFA piling operations 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

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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.

Day-time noise monitoring results are shown in Appendix 2.

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 January 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 3.

5.0 Shorebird Monitoring

Shorebird observations from the Terminal 3 site during January 2013 are outlined in Appendix 4. A little tern chick was found on site with two adults and monitored in conjunction with the project Avian Ecologist. The chick is thought to have taken flight with the adults and started its northward migration.

6.0 Environmental Inspections and Audits

Weekly environmental inspections have been undertaken during January 2013 for the Terminal 3 project site. No significant environmental issues were observed or identified.

It is noted that a citrus based material previously trialled for stockpiles and unused, reclaimed areas of the Terminal 3 site has proved to be successful. This product forms a hardened 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 – Dust Deposition Results**
- Appendix 2 – Day-time Noise Monitoring Results**
- Appendix 3 – Water Monitoring Results**
- Appendix 4 – Terminal 3 Shorebird Observations**

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Appendix 1 – Dust Deposition Results

Dust Deposition Gauge Results - December 2012										
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	1.1	0.4	1.1	1.5	2.6	EN1300168-003	4	Within EPA guideline levels	Eathworks Drainge works Material deliveries Concrete precast fabrication CFA Piling
2	14 The Esplanade	0.4	0.1	0.8	0.5	1.3	EN1300168-001	4	Within EPA guideline levels	
3	74 Australia Ave	0.8	0.2	1.5	1	2.5	EN1300168-002	4	Within EPA guideline levels	

All Units in g/m².month

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Appendix 2 – Day-time Noise Monitoring Results

Noise Monitoring Results - SPBT3 January 2013															
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	21/01/2013	8:20	Ground improvement works Headwall and drainage works Concrete precast works Material deliveries CFA Piling Works	Standard Day	Fine	No	49	54	57	70	55	46	3	Noise from Foreshore Rd traffic, aircraft noise, local traffic, birds in park
Location 2 - Dent Street	34 Dent St	21/01/2013	9:05	Ground improvement works Headwall and drainage works Concrete precast works Material deliveries CFA Piling Works	Standard Day	Fine	No	47	52	61	65	63	58	9	Local traffic noise, aircraft noise
Location 3 - Jennings Street	42 Jennings St	21/01/2013	11:30	Ground improvement works Headwall and drainage works Concrete precast works Material deliveries CFA Piling Works	Standard Day	Fine	No	40	45	57	59	56	40	12	Local traffic noise, some aircraft noise
Location 4 - North of Golf Course	3 Anniversary Rd	21/01/2013	10:00	Ground improvement works Headwall and drainage works Concrete precast works Material deliveries CFA Piling Works	Standard Day	Fine	No	57	62	61	68	58	55	-1	Local traffic noise, aircraft noise
Location 5 - Australia Avenue	74 Australia Ave	21/01/2013	10:35	Ground improvement works Headwall and drainage works Concrete precast works Material deliveries CFA Piling Works	Standard Day	Fine	No	42	47	49	56	50	41	2	Local/distant traffic noise, aircraft noise
Location 6 - Military Road	73 Wassell St	21/01/2013	12:30	Ground improvement works Headwall and drainage works Concrete precast works Material deliveries CFA Piling Works	Standard Day	Fine	No	46	51	56	64	59	45	5	Noise from Bunnerong Rd, Local traffic noise

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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Appendix 3 – Water Monitoring Results

Dewatering Discharge Monitoring						
Dewatering Location	Date	Meets Criteria	Discharge Location	Horiba Water Monitor		
				Oil and Grease (visual)	pH	Turbidity
SC3 - Outlet	5/1 AM	Yes	Adjacent Bay	None	7.64	0.7
SC3 - Outlet	5/1 PM	Yes	Adjacent Bay	None	7.83	1.7
SC3 - Outlet	7/1 AM	Yes	Adjacent Bay	None	7.98	0.9
SC3 - Outlet	7/1 PM	Yes	Adjacent Bay	None	8.03	0.4
SC3 - Outlet	8/1 AM	Yes	Adjacent Bay	None	7.59	1.9
SC3 - Outlet	8/1 PM	Yes	Adjacent Bay	None	7.42	1.1
SC3 - Outlet	9/1 AM	Yes	Adjacent Bay	None	8.12	0.6
SC3 - Outlet	9/1 PM	Yes	Adjacent Bay	None	7.87	0.6
SC3 - Outlet	10/1 AM	Yes	Adjacent Bay	None	7.54	0.3
SC3 - Outlet	10/1 PM	Yes	Adjacent Bay	None	7.56	1.2
SC3 - Outlet	11/1/AM	Yes	Adjacent Bay	None	7.89	1.1
SC3 - Outlet	11/1 PM	Yes	Adjacent Bay	None	8.12	1.8
SC3 - Outlet	14/1 AM	Yes	Adjacent Bay	None	8.02	0.4
SC3 - Outlet	14/1 PM	Yes	Adjacent Bay	None	7.35	1.6
SC3 - Outlet	15/1 AM	Yes	Adjacent Bay	None	7.52	2.1
SC3 - Outlet	15/1 PM	Yes	Adjacent Bay	None	7.17	1.6
SC3 - Outlet	16/1 AM	Yes	Adjacent Bay	None	7.58	0.2
SC3 - Outlet	16/1 PM	Yes	Adjacent Bay	None	7.29	0.0
SC3 - Outlet	17/1 AM	Yes	Adjacent Bay	None	7.83	0.9
SC3 - Outlet	17/1 PM	Yes	Adjacent Bay	None	7.26	1.0
SC3 - Outlet	18/1 AM	Yes	Adjacent Bay	None	7.45	1.1
SC3 - Outlet	18/1 PM	Yes	Adjacent Bay	None	7.76	1.1
SC3 - Outlet	21/1 AM	Yes	Adjacent Bay	None	7.81	0.7
SC3 - Outlet	21/1 PM	Yes	Adjacent	None	7.02	0.5

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			Bay			
SC3 - Outlet	22/1 AM	Yes	Adjacent Bay	None	7.12	1.3
SC3 - Outlet	22/1 PM	Yes	Adjacent Bay	None	7.31	0.6
SC3 - Outlet	23/1 AM	Yes	Adjacent Bay	None	7.91	1.3
SC3 - Outlet	23/1 PM	Yes	Adjacent Bay	None	7.53	0.4
SC3 - Outlet	24/1 AM	Yes	Adjacent Bay	None	7.79	1.9
SC3 - Outlet	24/1 PM	Yes	Adjacent Bay	None	7.86	0.3
SC3 - Outlet	25/1 AM	Yes	Adjacent Bay	None	7.43	1.2
SC3 - Outlet	25/1 PM	Yes	Adjacent Bay	None	7.45	0.8
SC3 - Outlet	28/1 AM	Yes	Adjacent Bay	None	8.21	0.7
SC3 - Outlet	28/1 PM	Yes	Adjacent Bay	None	7.48	1.6
SC3 - Outlet	29/1 AM	Yes	Adjacent Bay	None	7.28	1.3
SC3 - Outlet	29/1 PM	Yes	Adjacent Bay	None	7.65	2.0
SC3 - Outlet	30/1 AM	Yes	Adjacent Bay	None	7.49	0.8
SC3 - Outlet	30/1 PM	Yes	Adjacent Bay	None	7.31	0.2
SC3 - Outlet	31/1 AM	Yes	Adjacent Bay	None	7.83	0.3
SC3 - Outlet	31/1 PM	Yes	Adjacent Bay	None	7.75	1.3
Bay Reading	7/1 AM	N/A	N/A	None	7.89	0.4
Bay Reading	15/1 AM	N/A	N/A	None	7.37	1.0
Bay Reading	23/1 AM	N/A	N/A	None	7.99	0.8
Bay Reading	30/1 PM	N/A	N/A	None	7.64	1.5
SC10 - SQID	11/1 AM	Yes	Adjacent Bay	None	7.86	1.3
SC10 - SQID	11/1 PM	Yes	Adjacent Bay	None	8.23	1
SC10 - SQID	14/1 AM	Yes	Adjacent Bay	None	8.04	2.1
SC10 - SQID	14/1 PM	Yes	Adjacent Bay	None	7.96	0.6
SC10 - SQID	15/1 AM	Yes	Adjacent Bay	None	8.16	0.4
SC10 - SQID	15/1 PM	Yes	Adjacent Bay	None	8.12	1.5
SC10 - SQID	16/1 AM	Yes	Adjacent Bay	None	7.56	1.2
SC10 - SQID	16/1 PM	Yes	Adjacent Bay	None	7.75	0.6
SC10 - SQID	17/1 AM	Yes	Adjacent Bay	None	7.91	1.4

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SC10 - SQID	17/1 PM	Yes	Adjacent Bay	None	7.27	0.2
SC10 - SQID	18/1 AM	Yes	Adjacent Bay	None	7.19	0.1
SC10 - SQID	18/1 PM	Yes	Adjacent Bay	None	7.86	0.2
SC10 - SQID	21/1 AM	Yes	Adjacent Bay	None	7.39	0.1
SC10 - SQID	21/1 PM	Yes	Adjacent Bay	None	8.11	0.7
SC10 - SQID	22/1 AM	Yes	Adjacent Bay	None	7.89	1.4
SC10 - SQID	22/1 PM	Yes	Adjacent Bay	None	8.00	0.9
SC10 - SQID	23/1 AM	Yes	Adjacent Bay	None	8.11	1.2
SC10 - SQID	23/1 PM	Yes	Adjacent Bay	None	7.54	1.8
SC10 - SQID	24/1 AM	Yes	Adjacent Bay	None	7.61	1.3
SC10 - SQID	24/1 PM	Yes	Adjacent Bay	None	7.89	0.6
SC10 - SQID	25/1 AM	Yes	Adjacent Bay	None	7.64	0.4
SC10 - SQID	25/1 PM	Yes	Adjacent Bay	None	7.05	0.8
SC10 - SQID	28/1 AM	Yes	Adjacent Bay	None	7.32	0.6
SC10 - SQID	28/1 PM	Yes	Adjacent Bay	None	7.63	1.8
SC10 - SQID	29/1 AM	Yes	Adjacent Bay	None	7.98	0.3
SC10 - SQID	29/1 PM	Yes	Adjacent Bay	None	7.41	1.3
SC10 - SQID	30/1 AM	Yes	Adjacent Bay	None	7.28	0
SC10 - SQID	30/1 PM	Yes	Adjacent Bay	None	7.12	0.4
SC10 - SQID	31/1 AM	Yes	Adjacent Bay	None	7.52	0.2
SC10 - SQID	31/1 PM	Yes	Adjacent Bay	None	7.67	0.5
Estuary Reading	14/1 PM	N/A	N/A	None	7.86	0.6
Estuary Reading	21/1 AM	N/A	N/A	None	7.69	1.2
Estuary Reading	30/1 PM	N/A	N/A	None	7.89	1.4

Appendix 4 – Terminal 3 Shorebird Observations

Shorebird Monitoring Database - SPBT3 worksite				
Date	Bird Type	Location	Reported by	Action
15/01/2012	Pacific Golden Plover	12No. At SC10 revetment	J Ambler	Birds not near active works, no action required.
16/01/2012	Little Tern	2No. Adults and one chick at crane rail beam in future phase area 3A	Lachlan Government Survey Team	Inspection by Environment Manager undertaken, site cordoned off with water barriers and flagging, site team made aware of finding. Avian ecologist was contacted and confirmed Little Tern. No works forecast in this area. Monitoring of birds to continue.
22/01/2012	Little Tern	2No. Adults and one chick at crane rail beam in future phase area 3A	Phil Straw - Avian Ecologist	Ecologist on site to check on Little Tern chick. Advised that it should be flying in about a week.
22/01/2012	Pacific Golden Plover	10No. At SC10 revetment	J Ambler	Birds not near active works, no action required.
22/01/2012	Bar Tailed Godwit	2No. at SC10 revetment	J Ambler	Birds not near active works, no action required.
30/01/2012	Little Tern	7No. Off SC2 seawall	J Ambler	Birds not near active works, no action required.