ACOUSTICS AND AIR

PORT KEMBLA COAL TERMINAL

FEBRUARY 2013 COMPLIANCE MONITORING

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PREPARED FOR

PORT KEMBLA COAL TERMINAL
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DOCUMENT CONTROL

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GLOSSARY OF ACOUSTIC TERMS

Most environments are affected by environmental noise which continuously varies, largely as a result of road traffic. To describe the overall noise environment, a number of noise descriptors have been developed and these involve statistical and other analysis of the varying noise over sampling periods, typically taken as 15 minutes. These descriptors, which are demonstrated in the graph below, are here defined.

Maximum Noise Level (L_{Amax}) – The maximum noise level over a sample period is the maximum level, measured on fast response, during the sample period.

L_{A1} – The L_{A1} level is the noise level which is exceeded for 1% of the sample period. During the sample period, the noise level is below the L_{A1} level for 99% of the time.

L_{A10} – The L_{A10} level is the noise level which is exceeded for 10% of the sample period. During the sample period, the noise level is below the L_{A10} level for 90% of the time. The L_{A10} is a common noise descriptor for environmental noise and road traffic noise.

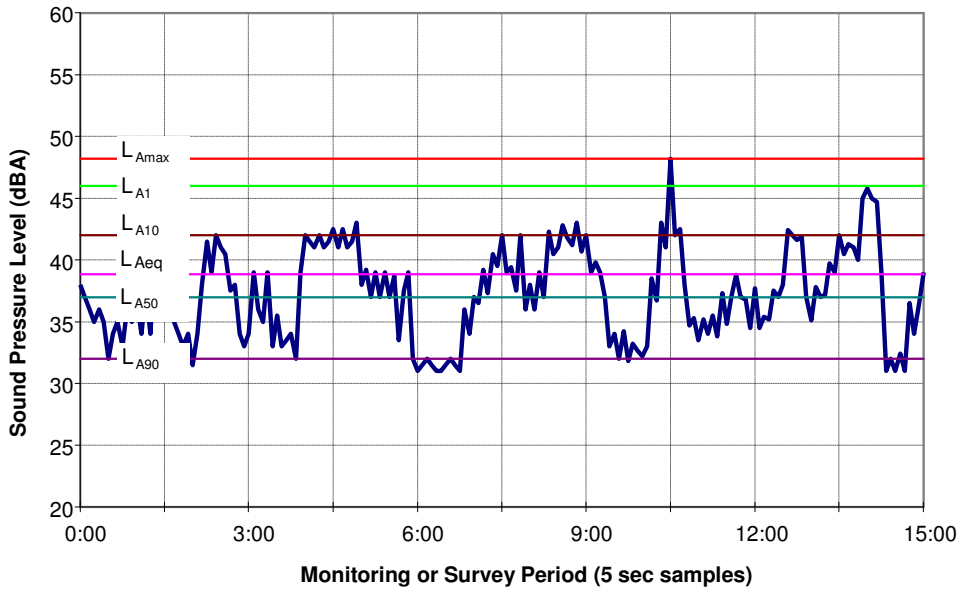
L_{A90} – The L_{A90} level is the noise level which is exceeded for 90% of the sample period. During the sample period, the noise level is below the L_{A90} level for 10% of the time. This measure is commonly referred to as the background noise level.

L_{Aeq} – The equivalent continuous sound level (L_{Aeq}) is the energy average of the varying noise over the sample period and is equivalent to the level of a constant noise which contains the same energy as the varying noise environment. This measure is also a common measure of environmental noise and road traffic noise.

ABL – The Assessment Background Level is the single figure background level representing each assessment period (daytime, evening and night time) for each day. It is determined by calculating the 10^{th} percentile (lowest 10^{th} percent) background level (L_{A90}) for each period.

RBL – The Rating Background Level for each period is the median value of the ABL values for the period over all of the days measured. There is therefore an RBL value for each period – daytime, evening and night time.

Typical Graph of Sound Pressure Level vs Time



1 INTRODUCTION

This report details the half-yearly noise compliance monitoring of operations at Port Kembla Coal Terminal (PKCT) conducted on Wednesday, 27 and Thursday, 28 February, 2013.

The results of this monitoring are compared to the noise limits as outlined in Department of Planning (DoP) Conditions of Approval (CoA) 08/0009, dated 12 June 2009.

These noise measurements occurred during typical operations and are therefore considered to appropriately represent any impacts on nearby residential receivers.

It is noted that during this set of measurements that Stacker 4 was offline; however, this is considered to have negligible impact regarding the throughput and acoustic impact.

2 SITE DESCRIPTION

The Port Kembla Coal Terminal (PKCT) is a major coal intermodal facility that receives coal by road and rail for loading onto ships for export.

Currently PKCT site operations are permitted 24 hours per day, 7 days per week. The site operations typically include:

- delivery of material by road and rail to receival hoppers;
- transfer of received coal via conveyor to stackers to be stockpiled prior to arrival of ship;
- transfer of products received to Bulk Product Berth to stockpile via front end loader;
- movement of stockpiled coal to the ship loader using bucket wheel reclaimers and conveyors;
- loading of coal to ship using the ship loader at Berth 102; and
- loading of product received at Bulk Product Berth to ship via ship loader at Berth 101.

Figure 2-1 and **Figure 2-2** shows the site plan of the PKCT site and its location relative to the surrounding receivers, respectively.

Figure 2-1 Site Plan for PKCT

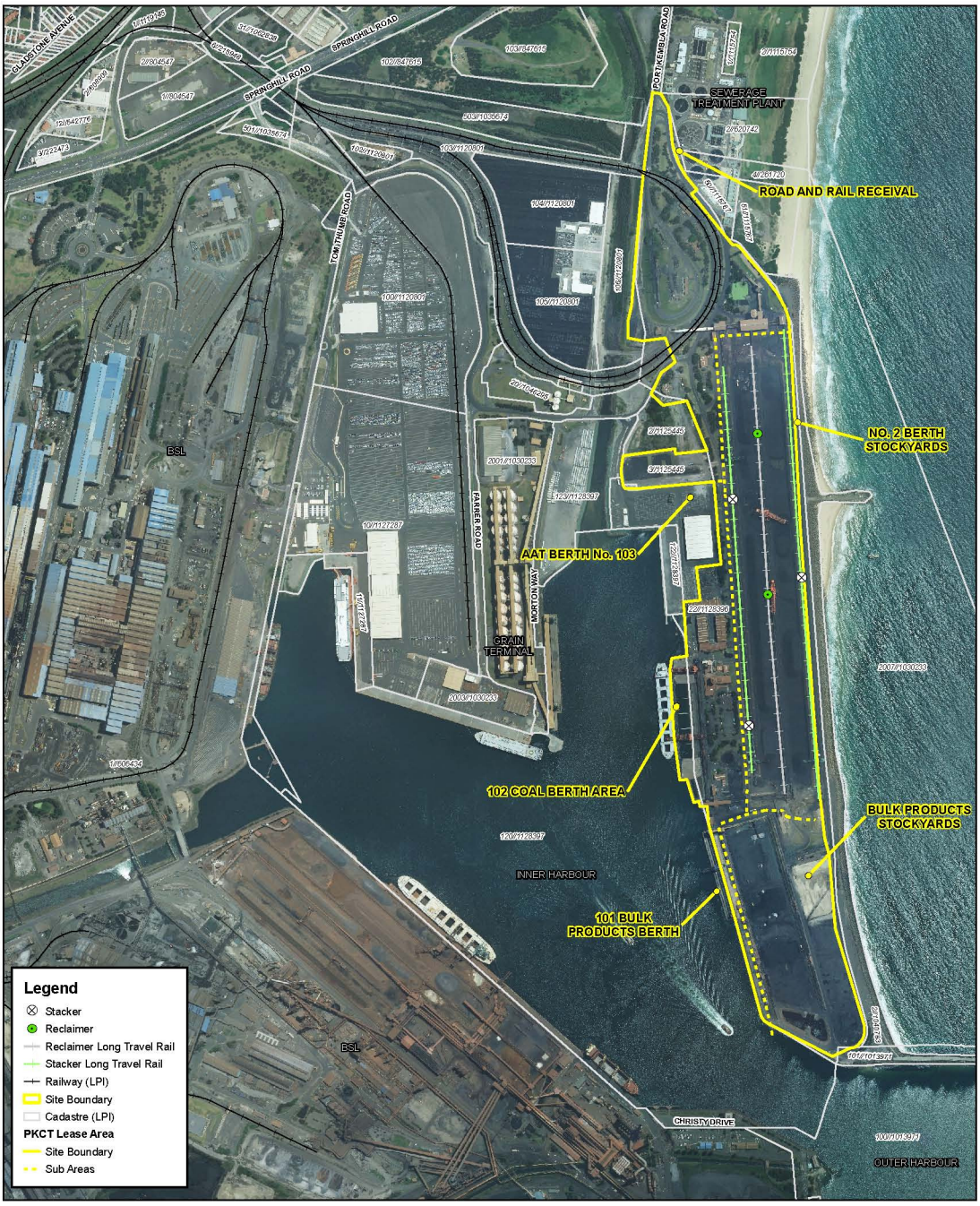


Figure 2-2 PKCT & Surrounding Receivers

3 LEGISLATIVE & OTHER REQUIREMENTS

3.1 Legislative Requirements

Legislation relating to the management of noise includes:

- Protection of the Environment Operations Act 1997 (POEO Act);
- Protection of the Environment Operations (General) Regulation 1998; and
- Protection of the Environment Operations (Noise Control) Regulation 2000.

3.2 Conditions of Approval

The CoA specifies the requirements with which PKCT must comply during its operations, with respect to noise. The CoA conditions for noise include the following:

NOISE

Impact Assessment Criteria

1. *The Proponent shall ensure that the noise generated by the project at any privately-owned residence does not exceed the criteria specified in Table 1 for the location nearest to that residence.*

Table 1 Noise impact assessment criteria dB(A) $L_{Aeq,(15min)}$

Location	***Time Period***	***Noise Criteria $L_{Aeq,(15min)}$ (dBA)***
Cnr Swan & Kembla Streets	*Day*	*51*
	Evening	*50*
	Night	*49*
Cnr Swan & Corrimal Streets	*Day*	*51*
	Evening	*50*
	Night	*49*
Cnr Keira & Fox Streets	*Day*	*55*
	Evening	*49*
	Night	*45*

Notes:

a) To determine compliance with the $L_{Aeq,(15min)}$ noise level limits in the above table, noise from the project is to be measured at the most affected point within the residential boundary. Where it can be demonstrated that direct measurement of noise from the project is impractical, the DECC may accept alternative means of determining compliance (see Chapter 11 of the NSW Industrial Noise Policy). The modification factors in Section 4 of the NSW Industrial Noise Policy shall also be applied to the measured nois levels were applicable.

b) The noise emission limits identified in the above table apply under meteorological conditions of:

- wind speecs of up to 3m/s at 10m above ground level; or

- temperature inversion conditions of up to 3ºC/100m, plus a 2m/s source-to-receiver component drainage flow wind at 10m above ground level for those receivers where applicable in accordance with the NSW Industrial Noise Policy.

However, if the Proponent has a written negotiated noise agreement with any landowner of the land listed in Table 1, and a copy of this agreement has been forward to the Department and DECC, then the Proponent may exceed the noise limits in Table 1 in accordance with the negotiated noise agreement.

Noise Monitoring Program

2. *The Proponent shall prepare and implement a Noise Monitoring Program for the project to the satisfaction of the Director-General. This program must:*

   a) *be developed in consultation with DECC.*

   b) *be submitted to the Director-General for approval within 6 months from the date of this approval, or as otherwise agreed by the Director-General; and*

   c) *include a:*

      - combination of attended and unattended noise monitoring measures;

      - noise monitoring protocol for evaluating compliance with the noise impact assessment criteria in this approval; and

      - reasonable and feasible best practice noise mitigation measures to ensure project specific noise criteria are met.

4 MONITORING INSTRUMENTATION & METHODOLOGY

Due to the complex nature of the noise environment, which involves numerous industrial sources, sub-arterial roadways and close proximity to the Wollongong town centre, traditional noise monitoring with a sound level meter cannot adequately measure the noise contribution from PKCT due to elevated background noise levels.

4.1 Monitoring Instrumentation

A BarnOwl® directional noise monitoring system was used to conduct the attended noise monitoring. Directional noise monitoring provides source detection and analysis of noise from the PKCT and excludes operator discretion in the attended monitoring.

BarnOwl® uses three microphones spaced 500mm apart. The microphone signals are digitised using 24-bit, state-of-the-art A-D conversion. Specially-developed, optimised signal analysis software allows inter-microphone time differences (and therefore source directions) to be evaluated for a ½-second noise sample while the next sample is being acquired. BarnOwl® can therefore provide real time tracking of noise sources, with source locations displayed on a monitor and/or saved for later analysis. The system can simultaneously record total noise, and a filtered signal excluding high-frequency sources such as insects. BarnOwl® measures in 5 degree increments.

A traditional non-directional sound level meter (SLM) has been used in previous monitoring. This monitoring has demonstrated the validity of BarnOwl® as a standalone monitoring system for this application and therefore an SLM is not required. On this occasion, a SLM (Bruel and Kjaer 2236) was used in conjunction with BarnOwl® for the convenience of multiple noise descriptors in real-time.

Field calibration of all three BarnOwl® microphones and the SLM was undertaken using a Bruel and Kjaer 4230 Portable Acoustic Calibrator. The levels measured were all in specification and no drift occurred.

4.2 Monitoring Locations

Monitoring was conducted as close as possible to the three locations detailed in the CoA, namely:

- Corner Swan & Kembla Streets – In the park on the southern side of Swan Street, opposite Kembla Street. This location is at the same height as nearby residences which are on the northern side of Swan Street;
- Corner Swan & Corrimal Streets – Previous measurements were undertaken just off the Golf Course Tee on the southern side of Swan Street. This location was again used for some measurements during this survey. An alternative measurement location, near the eastern end of Swan Street, was also used so as to minimize the influence of traffic noise (primarily from Corrimal Street and Springhill Road); and
- Corner Keira & Fox Streets – On the oval on the eastern side of Keira Street, opposite 392 Keira Street. This location is slightly below (-2m) nearby residences which are on the opposite side of Keira Street.

These noise monitoring locations were chosen to cause the least possible disturbance to nearby residents, particularly during late night monitoring, and also to differentiate local noise sources, typically traffic, from the PKCT direction.

During these measurements, Wilkinson Murray was also present at the receival area to observe the events occurring on-site during measurements at the three monitoring locations.

Figure 4-1 to **Figure 4-3** show the monitoring locations and the relative angular exposure to the PKCT operations. **Figure 4-4** shows the approximate locations where observations and measurements where taken in the vicinity of the receival area.

Figure 4-1 Monitoring Location 1 – Corner Swan & Kembla Streets

The angle of 35° is obtained by setting BarnOwl® to measure between angles 140° to 175°.

Figure 4-2 Monitoring Location 2 – Corner Swan & Corrimal Streets

The angle of 25° is obtained by setting BarnOwl® to measure between angles 170° to 195°.

Figure 4-3 Monitoring Location 3 – Corner Keira & Fox Streets

The angle of 40° is obtained by setting BarnOwl® to measure between angles 125° to 165°.

Figure 4-4 Monitoring Location – Receivals

5 MONITORING RESULTS

The results of the survey are summarised in **Table 5-1** to **Table 5-3**. Each field is defined as follows:

- **Start Date & Time** – The time and date that the measurement was started. All measurements were 15 minutes in duration (unless otherwise noted).
- **Period** – The *INP* time period for that measurement, Day (7.00am – 6.00pm), Evening (6.00pm – 10.00pm) or Night (10.00pm – 7.00am). Note that on Sundays and Public Holidays that the night ends / day begins at 8.00am.
- **Criteria** – As per CoA detailed in Section 3.2 of this report.
- **BarnOwl® All Noise L_{Aeq}** – The total L_{Aeq} averaged over the three microphones – this level is equivalent to that reported for a traditional sound level meter.
- **BarnOwl® PKCT Direction L_{Aeq}** – The total L_{Aeq} for the segment (arc) capturing the PKCT site (may also include some traffic noise or other noise in that segment). In addition, the BarnOwl® operator estimates the contribution directly from PKCT during times when traffic noise or other noise is minimised. This is done by observing the L_{Aeq} regularly within the 15-minute measurement period. Compliance is demonstrated when the Noise Limits are shown to be below BarnOwl PKCT Direction L_{Aeq}, in particular the operator estimated contribution. It is noted that this is limited to no more than 15dB below BarnOwl® All Noise L_{Aeq}, except when the operator estimate is during periods where other noise (i.e. traffic) is low.
- **SLM L_{A90}** – The sound pressure level exceeded for 90% of the measurement. This is commonly used to determine the background noise level in the environment.
- **Wind Speed and Direction** – Obtained from PKCT northern weather station.
- **Stability Class** – Pascal stability class derived from Bluescope Steel weather station.
- **Observations** – This field contains any comments regarding the noise environment, the relative audibility of noise from PKCT and any information of the site activities.

Table 5-1 Summary of Monitoring Results – Location 1 – Corner Swan & Kembla Streets

Date & Start Time	Period	Criteria (dBA)	BarnOwl® PKCT Direction (contribution) L_{Aeq} (dBA)	BarnOwl® All Noise L_{Aeq} (dBA)	SLM L_{A90} (dBA)	Wind Speed (m/s) and Direction	Stability Class	Compliance	Observations
27 Feb 2013 15.05 – 15.20	Day	51	<45 (26)	60	51	4.2 - 4.9 m/s NNE	D	YES Not Audible	At measurement location noise primarily from road traffic noise. PKCT activities not audible. On-site typically 4 truck movements witnessed and a train unloading.
27 Feb 2013 19.20 – 19.35	Evening	50	<45 (25 – 32)	60	47	1.3 - 2.3 m/s NE	D	YES Not Audible	At measurement location noise primarily from road traffic noise. PKCT activities not audible. On-site 1 truck movement witnessed and a train unloading.
28 Feb 2013 00.45. – 01.00	Night	49	29 (26 - 29)	44	42	0.9 - 2.2 m/s NE	F	YES Not Audible	At measurement location noise primarily from road traffic noise. PKCT activities not audible. On-site typically 7 truck movements witnessed. No other notable noise.
28 Feb 2013 01.00. – 01.15	Night	49	<33 (25 - 27)	48	41	1.7 - 2.3 m/s NNE - NE	F	YES Not Audible	At measurement location noise primarily from road traffic. PKCT activities not audible. On-site typically 7 truck movements witnessed. No other notable noise.

Table 5-2 Summary of Monitoring Results – Location 2 – Corner Swan & Corrimal Streets

Start Date & Time	Period	Criteria (dBA)	BarnOwl® PKCT Direction (contribution) L_{Aeq} (dBA)	BarnOwl® All Noise L_{Aeq} (dBA)	SLM L_{A90} (dBA)	Wind Speed (m/s) and Direction	Stability Class	Compliance	Observations
27 Feb 2013 14.35 – 14.50	Day	51	<47 (27 – 30)	62	50	4.0 – 5.0 m/s NNE	D	YES Not Audible	At measurement location noise primarily from road traffic. PKCT activities not audible. On-site typically 5 truck movements witnessed. No other notable site noise. Train unloading.
27 Feb 2013 19.50 – 20.05	Evening	50	<51 (33)	66	58	1.2 – 1.7 m/s NE	D	YES Not Audible	At measurement location noise primarily from road traffic. PKCT activities not audible. On-site typically 2 truck movements witnessed and a train arriving and unloading.
28 Feb 2013 00.00. – 00.15	Night	49	<36 (23 – 30)	51	41	0.4 – 0.9 m/s NNE - NE	D-E	YES Not Audible	At measurement location noise primarily from road traffic. PKCT activities not audible. On-site typically 6 truck movements. No other notable site noise.
28 Feb 2013 00.15. – 00.30	Night	49	<33 (21 – 29)	48	41	0.6 – 0.9 m/s NNE	E-F	YES Not Audible	At measurement location noise primarily from road traffic. PKCT activities not audible. On-site typically 10 truck movements. No other notable site noise.

Table 5-3 Summary of Monitoring Results – Location 3 – Corner Keira & Fox Streets

Start Date & Time	Period	Criteria (dBA)	BarnOwl® PKCT Direction (contribution) L_{Aeq} (dBA)	BarnOwl® All Noise L_{Aeq} (dBA)	SLM L_{A90} (dBA)	Wind Speed (m/s) and Direction	Stability Class	Compliance	Observations
27 Feb 2013 15.30 – 15.45	Day	51	<56 (35 – 36)	71	55	3.9 – 4.3 m/s NNE	D	YES Not Audible	At measurement location noise primarily from road traffic. PKCT activities not audible. Train unloading. On-site typically 9 truck movements. No other notable site noise.
27 Feb 2013 18.45 – 19.00	Evening	50	<45 (34 – 38)	60	51	1.9 – 3.1m/s NNE	D	YES Not Audible	At measurement location noise primarily from road traffic. PKCT activities not audible. On-site there were no truck movements witnessed. There was a train unloading.
28 Feb 2013 01.30. – 01.45	Night	49	<45 (34)	60	41	0.6 – 0.8 m/s N - NNE	E-F	YES Not Audible	At measurement location noise primarily from road traffic. PKCT activities not audible. On-site there were 12 truck movements witnessed and a train arriving.
28 Feb 2013 01.45. – 02.00	Night	49	<44 (34 – 35)	59	49	0.6 – 1.3m/s N - NNE	D-E	YES Not Audible	At measurement location noise primarily from road traffic. PKCT activities not audible. On-site there were 10 truck movements witnessed and a train unloading.

6 ASSESSMENT

6.1 PKCT Site Operations

The PKCT Operations Reports for the monitoring period are presented in Appendix A.

In addition to the above reports, during the measurements Wilkinson Murray personnel were located on-site and witnessed the specific road and rail movements.

A summary of the key acoustic points relevant to this assessment are summarised below:

6.1.1 Truck Movements

Over a period of 15-minutes, truck movements in the receivals area during the monitoring ranged from:

- Day 4 to 9
- Evening 0 to 2 (one 15-minute period did not include truck movements)
- Night 6 to 12

The typical main noise sources as experienced whilst on-site included: trucks going over grids; trucks unloading; trucks moving up over the rail bridge and truck engine and exhaust noise. Truck engine and exhaust noise is considered to be the dominant constant noise source. With respect to typical maximum noise levels, such levels were noted to occur from trucks moving over grids and unloading.

Considering the monitoring at the residential locations, noise from trucks was inaudible.

These sources were included in the BarnOwl® measurement segment (see **Figure 4-1**, **Figure 4-2** and **Figure 4-3**) and as such, have been included in the measurement contribution from the PKCT site.

6.1.2 Rail Movements

During each of the measurements periods, the following train movements have been noted:

Day	train unloading between 14:59 – 17:43
Evening	train unloading between 18:31 – 19:59
	train unloading between 20:00 – 21:24
Night	train unloading between 22:07 – 23:25
	train unloading between 01:45 – 02:56

During the night no trains were noted during measurements at Location 1 or Location 2.

The typical main noise sources as experienced whilst on-site included: noise from locomotives moving, at idle and unloading – a constant low level hum was noted to emanate from the train shed. Locomotive noise is considered to be the dominant constant noise source and also likely to result in the typical maximum levels when moving and unloading.

Considering the monitoring at the residential locations, noise from trains was inaudible.

These sources were included in the BarnOwl® measurement segment (see **Figure 4-1**, **Figure 4-2** and **Figure 4-3**) and as such, have been included in the measurement contribution from the PKCT site.

6.1.3 Ship Loading

During each of the measurements periods, the following ship loading movements have been noted:

Day + Evening	ship loading (Berth 101) between 03:54 & 22:40 on 27/02/2013
Night	same ship loading (Berth 101) between 01:14 & 14:53 on 28/02/2013

The night measurement coincided with two measurements at Location 3. As such, the other four night measurements exclude any contribution from ship loading.

These sources were included in the BarnOwl® measurement segment (see **Figure 4-1**, **Figure 4-2** and **Figure 4-3**) and as such, have been included in the measurement contribution from the PKCT site.

Considering the monitoring at the residential locations, noise from ship loading was inaudible.

6.2 Review of Noise from PKCT Direction

The estimated L_{Aeq} noise levels using BarnOwl® in the direction from PKCT varied as follows:

Day	26 to 36dBA
Evening	25 to 38dBA
Night	21 to 35dBA

The measured noise levels from the direction capturing PKCT were within criteria for all times at all locations.

7 CONCLUSION

Wilkinson Murray has conducted compliance noise monitoring for the Port Kembla Coal Terminal during the day, evening and night time periods on Wednesday, 27 and Thursday, 28 February 2013 during typical operations.

During the measurements, Wilkinson Murray personnel were located on-site and witnessed the specific road and rail movements. These were confirmed following a review of The Operations Reports. In addition, following discussions with PKCT personnel and a review of The Operations Reports confirm that a ship was being loaded during some of the noise measurements.

The methodology used has been able to conclusively demonstrate compliance of the CoA noise limits for all measurements at all locations during all the monitoring periods.

Furthermore, it can be concluded that the noise from PKCT was inaudible at all times during all measurements.

APPENDIX A

PKCT OPERATIONS REPORTS

Ship Loading Log Report:

Vessel Name CONTI LARIMAR

Start Date 25/02/13 17:00

Berth Date 25/02/13 15:27

Complete Date 09/03/13 01:18

From	To	O1	O2	D1	D2	Equipment	Delay_Description	Min	Tonnage	Cat
25/02/2013 15:27	16:45						MASTERS INSTRUCTIONS	78		V
25/02/2013 16:45	17:00						MOVE INTO HATCH	15		O
25/02/2013 17:00	22:11	FEL	ICCG	MSL	H3			1751	4001	J
25/02/2013 18:05	18:25					OTHER	OTHER	20		X
25/02/2013 19:33	19:40						WAIT ON SAMPLERS	7		X
25/02/2013 20:20	21:30					OTHER	OTHER	70		O
							CLEAN SCREENER			
25/02/2013 23:20	00:05					OTHER	OTHER	45		O
							meal break			
26/02/2013 02:30	03:00					OTHER	OTHER	30		O
							meal break			
26/02/2013 03:30	03:39						WAIT ON SAMPLERS	9		X
26/02/2013 04:21	04:28					MOB_TRUNLO	COMMUNICATION FAULT	7		E
26/02/2013 07:30	09:20					MOB_TRUNLO	OTHER	110		E
							clean up spillage around truck unloader			
26/02/2013 09:31	09:40						WAIT ON SAMPLERS	9		X
26/02/2013 09:48	10:10					MOB_TRUNLO	FAULT	22		E
							Truck unloader hydraulics			

Ship Loading Log Report:

Vessel Name CONTI LARIMAR

Start Date 25/02/13 17:00

Berth Date 25/02/13 15:27

Complete Date 09/03/13 01:18

From	To	O1	O2	D1	D2	Equipment	Delay_Description	Min	Tonnage	Cat
26/02/2013 10:40	11:30					OTHER	OTHER	50		O
							meal break			
26/02/2013 13:30	14:20					OTHER	OTHER	50		O
							meal break			
26/02/2013 16:34	17:17					OTHER	OTHER	43		O
							meal break			
26/02/2013 20:00	20:45					OTHER	OTHER	45		O
							Stopping to refuel machines and for meal breaks as well.			
26/02/2013 21:51	21:58						WAIT ON SAMPLERS	7		
26/02/2013 22:10	23:25						HATCH CHANGE	75		
							Had some problems with the Shiploader Locating Remote when changing hatches. Remote was showing that it was in two modes at the same time.			
26/02/2013 23:25	03:36						MOVE SHIP	251		
27/02/2013 03:46	03:54						MOVE INTO HATCH	8		
27/02/2013 03:54	22:40	FEL	ICCG	MSL	H1			1126	3405	J
27/02/2013 05:36	05:46						WAIT ON SAMPLERS	10		X
27/02/2013 05:46	06:01					MOB_TRUNLO	OTHER	15		O
							clean up nuts from around nut bin			

Ship Loading Log Report:

Vessel Name CONTI LARIMAR

Start Date 25/02/13 17:00

Berth Date 25/02/13 15:27

Complete Date 09/03/13 01:18

From	To	O1	O2	D1	D2	Equipment	Delay_Description	Min	Tonnage	Cat
27/02/2013 06:46	06:56					OTHER	EMPTY FINES BINS	10		T
27/02/2013 13:57	14:05					OTHER	WAIT ON SAMPLERS	8		X
27/02/2013 15:22	16:25					MOB_SL1	FAULT	63		E
							electrical work done on shiploader			
27/02/2013 18:05	18:13						OTHER	8		
							change drivers/toolbox talk			
27/02/2013 19:28	20:41						SCREENER MESH CHANGE	73		
							Stop to change screen decks,refuel machines and clean up around hopper			
27/02/2013 21:21	21:25						WAIT ON SAMPLERS	4		
27/02/2013 22:40	23:45						HATCH CHANGE	65		
							Set up before ship is moved and clean around hopper.			
27/02/2013 23:45	00:57						MOVE SHIP	72		
28/02/2013 00:57	01:14						MOVE INTO HATCH	17		
28/02/2013 01:14	14:53	FEL	ICC	MSL	H5			3699	7022	
28/02/2013 03:16	03:24						WAIT ON SAMPLERS	8		X
28/02/2013 08:16	08:50					OTHER	OTHER	34		O
							clean up around nut bin			

Ship Loading Log Report:

Vessel Name CONTI LARIMAR

Start Date 25/02/13 17:00

Berth Date 25/02/13 15:27

Complete Date 09/03/13 01:18

From	To	O1	O2	D1	D2	Equipment	Delay_Description	Min	Tonnage	Cat
28/02/2013 09:57	10:05						WAIT ON SAMPLERS	8		X
28/02/2013 11:30	12:15					OTHER	OTHER	45		T
							jj richards lunch break			
28/02/2013 13:32	13:40						WAIT ON SAMPLERS	8		X
28/02/2013 16:57	22:58						HEAVY RAIN	361		O
							Master does not want too much water in hatch while loading.Machine refueling also done in this time.SBS checking every hour with the master about loading conditions.			
28/02/2013 22:58	23:03						FAULT	5		O
							Start fault			
01/03/2013 00:13	06:30						HEAVY RAIN	377		V
							Master does not want too much water in hatch while loading.SBS checking every hour with the master about loading conditions.			
01/03/2013 08:29	11:32						HEAVY RAIN	183		V
							MASTER DID NOT WANT TO LOAD IN RAIN			
01/03/2013 11:43	12:04					MOB_RADSTK	FAULT	21		E
							will not start			
01/03/2013 13:29	14:03						WAIT ON SAMPLERS	34		X
01/03/2013 16:38	16:55						HEAVY RAIN	17		O

Ship Loading Log Report:

Vessel Name CONTI LARIMAR

Start Date 25/02/13 17:00

Berth Date 25/02/13 15:27

Complete Date 09/03/13 01:18

From	To	O1	O2	D1	D2	Equipment	Delay_Description	Min	Tonnage	Cat
01/03/2013 16:55	17:11						OPERATER UNAVAILABLE	16		X
01/03/2013 17:29	17:38						HEAVY RAIN	9		X
01/03/2013 17:48	17:55						WAIT ON SAMPLERS	7		X
01/03/2013 17:59	20:48							169		V
							Delay due to bollard repairs mixup,Captain has requested a tug to hold ship while repairs to bollard are carried out. operations have recommenced, tug is due at midnight.			
01/03/2013 22:59	23:04						WAIT ON SAMPLERS	5		X
01/03/2013 23:57	03:06						OTHER	189		V
							Loading operations stopped for repairs to shore bollard.			
02/03/2013 05:59	06:30						WEATHER	31		X
02/03/2013 10:53	11:02						WAIT ON SAMPLERS	9		O
02/03/2013 13:12	13:25						WEATHER	13		X
02/03/2013 13:55	14:30						WEATHER	35		X
02/03/2013 14:53	16:00						HATCH CHANGE	67		O
02/03/2013 16:01	16:46					MOB_SCR1	FAULT	45		E

Ship Loading Log Report:

Vessel Name CONTI LARIMAR

Start Date 25/02/13 17:00

Berth Date 25/02/13 15:27

Complete Date 09/03/13 01:18

From	To	O1	O2	D1	D2	Equipment	Delay_Description	Min	Tonnage	Cat
02/03/2013 16:05	16:21	FEL	ICCG	MSL	H3			1456	3671	
02/03/2013 17:06	17:11						WEATHER	5		X
02/03/2013 18:17	18:23						OTHER	6		O
							Dozer fuel up.			
02/03/2013 18:38	18:54						MEETING, TEAM SAFETY	16		O
							Tollbox talk.			
02/03/2013 19:53	19:59						WAIT ON SAMPLERS	6		X
02/03/2013 23:03	23:17						WAIT ON SAMPLERS	14		X
03/03/2013 02:39	05:32					MOB_TRUNLO	BLOCKED CHUTE	173		E
							Blocked truck unloader & clean under & around bin area.			
03/03/2013 07:34	07:44						WAIT ON SAMPLERS	10		X
03/03/2013 10:08	10:10						EMPTY FINES BINS	2		O
03/03/2013 11:36	12:09						OPERATER UNAVAILABLE	33		X
03/03/2013 12:33	12:36					MOB_TRUNLO	FAULT	3		E
							system dropped out			
03/03/2013 13:57	14:09						WAIT ON SAMPLERS	12		X
03/03/2013 16:21	17:33						HATCH CHANGE	72		O

Ship Loading Log Report:

Vessel Name	CONTI LARIMAR
Start Date	25/02/13 17:00
Berth Date	25/02/13 15:27
Complete Date	09/03/13 01:18

From	To	O1	O2	D1	D2	Equipment	Delay_Description	Min	Tonnage	Cat
03/03/2013 17:33	18:30						WASH DOWN	57		O
							Shiploader washdown.			
03/03/2013 18:30	18:40						MEETING, TEAM SAFETY	10		O
							Toolbox talk.			
03/03/2013 18:40	18:55						MASTERS INSTRUCTIONS	15		V
							Tighten lines & open hatch no2.			
03/03/2013 18:55	23:15	FEL	ICCG	MSL	H2			1700	5000	J
03/03/2013 20:10	20:30						OTHER	20		E
							Repairs to fines bin door.			
03/03/2013 22:20	22:26						WAIT ON SAMPLERS	6		X
04/03/2013 00:12	00:53						OPERATER UNAVAILABLE	41		X
							OPERATOR FROM JJ RICHARDS ON A MEAL BREAK.			
04/03/2013 02:45	03:06						WAIT ON SAMPLERS	21		X
04/03/2013 07:04	07:13						MEETING, GENERAL	9		O
							JJ Richards truck driver sign on and toolbox			
04/03/2013 07:34	07:45					MOB_TRUNLO	MAINTAINANCE INSPECTIO	11		E
04/03/2013 08:00	08:04					MOB_RADSTK	COMMUNICATION FAULT	4		E
04/03/2013 08:24	08:29						EMPTY FINES BINS	5		T

Ship Loading Log Report:

Vessel Name CONTI LARIMAR

Start Date 25/02/13 17:00

Berth Date 25/02/13 15:27

Complete Date 09/03/13 01:18

From	To	O1	O2	D1	D2	Equipment	Delay_Description	Min	Tonnage	Cat
04/03/2013 10:02	10:09						WAIT ON SAMPLERS	7		X
04/03/2013 11:31	12:20					OTHER	OTHER	49		T
							JJ Richards lunch break and BCE inspecting, cleaning truck unloader			
04/03/2013 14:05	14:13						WAIT ON SAMPLERS	8		X
04/03/2013 20:19	20:28						WAIT ON SAMPLERS	9		X
04/03/2013 23:15	23:36						OTHER	21		V
							Ships crew cleaning of hatch coaming, unable to move shiploader for hatch change.			
04/03/2013 23:36	23:55						HATCH CHANGE	19		O
04/03/2013 23:55	01:06					MOB_SL1	OTHER	71		O
							Wash down.			
05/03/2013 01:06	01:16						MOVE INTO HATCH	10		O
05/03/2013 01:16	13:34	FEL	ICCG	MSL	H4			2178	5001	J
05/03/2013 02:25	02:33						WAIT ON SAMPLERS	8		X
05/03/2013 07:49	08:04						MEETING, TEAM SAFETY	15		O
							C Taylor requested stop loading to conduct toolbox because of new truck movements/traffic management plan on Pad 31			

Ship Loading Log Report:

Vessel Name CONTI LARIMAR

Start Date 25/02/13 17:00

Berth Date 25/02/13 15:27

Complete Date 09/03/13 01:18

From	To	O1	O2	D1	D2	Equipment	Delay_Description	Min	Tonnage	Cat
05/03/2013 09:35	09:43						WAIT ON SAMPLERS	8		X
05/03/2013 11:35	13:57					MOB_TRUNLO	INSPECT BELT FOR DAMAG	142		E
							Truck unloader conveyor damaged, stopped for repairs			
05/03/2013 14:10	14:14					MOB_TRUNLO	COMMUNICATION FAULT	4		E
05/03/2013 18:18	18:33					MOB_SCR1	OTHER	15		O
							Screens need hosing out			
05/03/2013 18:52	19:05					MOB_TRUNLO	MAINTAINANCE REPAIRS	13		X
							Jeremy cleaning screener truck unloader			
05/03/2013 19:30	20:10					OTHER		40		O
							fuel dozzers			
05/03/2013 20:56	21:00					OTHER	OTHER	4		O
							Meal break			
05/03/2013 23:05	23:10					MOB_SCR1	BLOCKED CHUTE	5		O
06/03/2013 00:21	01:00					OTHER	OTHER	39		O
							tea break			
06/03/2013 01:29	01:46					MOB_TRUNLO	FAULT	17		E
							Tracking off			
06/03/2013 02:26	02:37						WAIT ON SAMPLERS	11		X

Ship Loading Log Report:

Vessel Name CONTI LARIMAR

Start Date 25/02/13 17:00

Berth Date 25/02/13 15:27

Complete Date 09/03/13 01:18

From	To	O1	O2	D1	D2	Equipment	Delay_Description	Min	Tonnage	Cat
06/03/2013 03:36	04:00						OTHER	24		O
							tea break			
06/03/2013 05:50	06:05						WAIT ON SAMPLERS	15		X
06/03/2013 07:06	11:56					MOB_RADSTK	INSPECT BELT FOR DAMAG	290		E
							Belt repairs will take a few hours			
06/03/2013 13:34	17:22					MOB_SL1	MAINTAINANCE REPAIRS	228		O
							Move ship along berth and ship loader bucket repairs also			
06/03/2013 17:22	18:25						HATCH CHANGE	63		O
06/03/2013 18:37	09:39	FEL	ICCG	MSL	H1			902	3451	J
06/03/2013 22:11	22:19						WAIT ON SAMPLERS	8		X
07/03/2013 00:54	01:08					MOB_SCR1		14		E
							Broken bolts on screener			
07/03/2013 01:42	01:49						WAIT ON SAMPLERS	7		X
07/03/2013 02:31	02:38						FAULT	7		E
							lost screens in control room old berth			
07/03/2013 05:52	06:01						WAIT ON SAMPLERS	9		X

Ship Loading Log Report:

Vessel Name CONTI LARIMAR

Start Date 25/02/13 17:00

Berth Date 25/02/13 15:27

Complete Date 09/03/13 01:18

From	To	O1	O2	D1	D2	Equipment	Delay_Description	Min	Tonnage	Cat
07/03/2013 06:09	06:33					MOB_SCR1	BLOCKED CHUTE	24		E
							Blockage under screener, stopped loading to hose out			
07/03/2013 09:39	11:03						HATCH CHANGE	84		O
07/03/2013 11:03	11:49						MAINTAINANCE REPAIRS	46		O
07/03/2013 11:49	09:10	FEL	ICCG	MSL	H2			1281	3242	J
07/03/2013 14:34	14:43						WAIT ON SAMPLERS	9		X
07/03/2013 15:05	15:12						EMPTY FINES BINS	7		T
07/03/2013 18:07	00:20					MOB_TRUNLO	OTHER	373		E
							Damaged belt Called belt repair crew			
08/03/2013 00:23	00:41					MOB_TRUNLO		18		E
							belt slipping			
08/03/2013 00:45	02:07					MOB_TRUNLO		82		E
							Found another hole in belt			
08/03/2013 02:49	02:56						WAIT ON SAMPLERS	7		
08/03/2013 05:41	05:49						WAIT ON SAMPLERS	8		
08/03/2013 09:10	09:15						OTHER	5		V
							Cleaning of hatches.			

Ship Loading Log Report:

Vessel Name CONTI LARIMAR

Start Date 25/02/13 17:00

Berth Date 25/02/13 15:27

Complete Date 09/03/13 01:18

From	To	O1	O2	D1	D2	Equipment	Delay_Description	Min	Tonnage	Cat
08/03/2013 09:15	09:23						HATCH CHANGE	8		O
08/03/2013 09:23	10:24	FEL	ICCG	MSL	H3			61	101	J
08/03/2013 09:23	09:51						FAULT	28		E
							Unable to reset the batch tonnage.			
08/03/2013 10:09	10:17						WAIT ON SAMPLERS	8		X
08/03/2013 10:24	12:42						HATCH CHANGE	138		O
08/03/2013 10:34	12:11					MOB_SL1		97		E
							Unable to connect remot control unit.			
08/03/2013 12:42	01:18	FEL	ICCG	MSL	H4			756	1931	J
08/03/2013 15:50	16:23					MOB_TRUNLO	OTHER	33		E
							Belt tracking & cleanup around truck unloader.			
08/03/2013 18:04	18:35					OTHER	OTHER	31		T
							jj richards meal break			
08/03/2013 18:35	19:38					MOB_SL1	BLOCKED CHUTE	63		E
							hose out blocked chute			
08/03/2013 19:38	19:48					OTHER	WAIT ON SAMPLERS	10		X
08/03/2013 19:59	20:16					MOB_SCR1	OTHER	17		E
							hose out screener			

Ship Loading Log Report:

Vessel Name CONTI LARIMAR

Start Date 25/02/13 17:00

Berth Date 25/02/13 15:27

Complete Date 09/03/13 01:18

From	To	O1	O2	D1	D2	Equipment	Delay_Description	Min	Tonnage	Cat
08/03/2013 20:38	23:04					OTHER	DRAFT CHECK	146		O
							stopped loading at 36786 on shore scales. There was some confusion on what tonnage is to be loaded on board. The tower still had 37700 and the max for the contract was 36750. Draft check was done. and found that there was 36610 accordining to the ship. Started loading and was stopped by the surveyors, we only put on 39 tonne when resumed loading in hatch 4.			
08/03/2013 23:36	01:18					OTHER	DRAFT CHECK	102		V
							shore scales were 36825 this was over loaded due to having incorrect loading plan. Loading plan still said 37700. surveyor had 37073 on his draft check.			

Road Receival Log Report: 27/02/2013 07:00:00 To 28/02/2013 07:00:00 *15/03/2013 16:21:49*

From	To	O1	O2	D1	D2	Equipment	Delay_Description	Min	Tonnage	Cat
Log for Date :		**26/02/2013**								
06:28	07:38	Z3	CENC	STK1	14			70	956	
06:55	07:05					PF1	CALIBRATION ERROR	10		E
Log for Date :		**27/02/2013**								
07:39	08:34					STK1BH	PILE DETECT TIMEOUT	56		E
08:09	08:52	Z1&2	BHPE	STK2	9			43	860	
08:52	10:23					STK4	ROLLER CHANGE *colloapesed roller*	91		E
10:21	12:37	Z3	CENC	STK1	14			136	1118	
12:43	14:12	Z1&2	BHPE	STK2	9			89	2082	
14:13	14:26						CHANGING ZONES	13		O
14:24	14:38	Z3	CENC	STK1	14			14	124	
14:39	15:02					STK1BH	PILE DETECT TIMEOUT	23		E
15:01	19:39	Z1&2	BHPE	STK2	9			278	3330	
19:45	19:56					STK2	IN POSITION *Position from Stockpile(9) to Stockpile(4) For BHPA from Z1&2. Distance Travelled :235Mtrs*	11		O
21:52	07:06	Z1&2	BHPA	STK2	4			554	5606	
23:19	00:26						WAIT ON CARGO	68		X

From	To	O1	O2	D1	D2	Equipment	Delay_Description	Min	Tonnage	Cat
02:34	03:25						WAIT ON CARGO	50		X
04:29	05:39						WAIT ON CARGO	70		X

Road Receival Log Report:

28/02/2013 07:00:00 **To** 01/03/2013 07:00:00 *15/03/2013 16:23:54*

From	To	O1	O2	D1	D2	Equipment	Delay_Description	Min	Tonnage	Cat
Log for Date :		**27/02/2013**								
21:52	07:06	Z1&2	BHPA	STK2	4			554	5606	
Log for Date :		**28/02/2013**								
07:07	10:42	Z1&2	BHPA	STK2	4			215	3420	
10:42	11:05						CHANGING ZONES	24		O
10:46	10:59					STK2	IN POSITION	13		O
							Position from Stockpile(4) to Stockpile(20) For NREA from Z3. Distance Travelled :251Mtrs			
11:03	12:03	Z3	NREA	STK2	20			60	866	
12:07	12:20					STK2	IN POSITION	13		O
							Position from Stockpile(20) to Stockpile(4) For BHPA from Z1&2. Distance Travelled :250Mtrs			
12:24	15:18	Z1&2	BHPA	STK2	4			174	5128	
15:16	15:40						CHANGING ZONES	24		O
15:19	15:33					STK2	IN POSITION	14		O
							Position from Stockpile(4) to Stockpile(20) For NREA from Z3. Distance Travelled :263Mtrs			
15:38	16:12	Z3	NREA	STK2	20			34	1046	
16:13	16:37						CHANGING ZONES	24		O
16:18	16:31					STK2	IN POSITION	13		O
							Position from Stockpile(20) to Stockpile(4) For BHPA from Z1&2. Distance Travelled :262Mtrs			
16:35	17:30	Z1&2	BHPA	STK2	4			55	2120	

From	To	O1	O2	D1	D2	Equipment	Delay_Description	Min	Tonnage	Cat
17:30	17:56						CHANGING ZONES	25		O
17:33	17:47					STK2	IN POSITION	14		O
							Position from Stockpile(4) to Stockpile(20) For NREA from Z3. Distance Travelled :267Mtrs			
17:54	18:17	Z3	NREA	STK2	20			23	756	
18:16	18:56						CHANGING ZONES	40		O
18:25	18:38					STK2	IN POSITION	13		O
							Position from Stockpile(20) to Stockpile(4) For BHPA from Z1&2. Distance Travelled :266Mtrs			
18:54	22:17	Z1&2	BHPA	STK2	4			203	3216	
22:17	22:46						CHANGING ZONES	29		O
22:24	22:37					STK2	IN POSITION	13		O
							Position from Stockpile(4) to Stockpile(20) For NREA from Z3. Distance Travelled :274Mtrs			
22:44	23:10	Z3	NREA	STK2	20			26	282	
23:03	01:24						CHANGING ZONES	140		O
23:20	23:34					STK2	IN POSITION	14		O
							Position from Stockpile(20) to Stockpile(4) For BHPA from Z1&2. Distance Travelled :273Mtrs			
23:41	02:26	Z1&2	BHPA	STK2	4			165	2276	
00:46	00:50					STK2	IN POSITION	4		O
							Position from Stockpile(4) to Stockpile(4) For BHPA from Z1&2. Distance Travelled :50Mtrs			
01:15	01:16					STK2	IN POSITION	1		O
							Position from Stockpile(4) to Stockpile(4) For BHPA from Z1&2. Distance Travelled :18Mtrs			

From	To	O1	O2	D1	D2	Equipment	Delay_Description	Min	Tonnage	Cat
02:27	02:48	Z3	BHPA	STK2	4			21	562	
02:48	07:00	Z1&2	BHPA	STK2	4			252	3898	

Rail Receival Log Report:

27/02/2013 07:00: **To** 8/02/2013 07:00:00 *15/03/2013 16:21:48*

From	To	O1	O2	D1	D2	Equipment	Delay_Description	Min	Tonnage	Cat
Log for Date :		**27/02/2013**								
08:43	08:50						SYSTEM STARTUP	7		O
08:43	10:14	LS76	CENC	STK1	14			91	3428	
09:41	09:51						WAGON DOORS FAULTY	10		PN
14:42	14:52					STK1	IN POSITION	10		O
							Position From Stockpile(14) to Stockpile(10) For CENC from CB46. Distance Travelled :112Mtrs			
14:59	15:07						SYSTEM STARTUP	8		O
14:59	17:43	CB46	CENC	STK1	10			164	2888	
15:35	15:39						WAGON DOORS FAULTY	3		PN
15:48	17:20					RLAUTO_UNL	FAULT	92		E
17:52	18:21					STK1	IN POSITION	29		O
							Position From Stockpile(10) to Stockpile(11) For TAHA from TM72. Distance Travelled :495Mtrs			
18:31	18:48						SYSTEM STARTUP	17		O
18:31	19:59	TM72	TAHA	STK1	11			88	3368	
20:00	20:07						SYSTEM STARTUP	7		O
20:00	21:24	TM82	TAHA	STK1	11			84	3340	
20:20	20:29						CHANGING CREW	9		PN
21:35	22:03					STK1	IN POSITION	28		O
							Position From Stockpile(11) to Stockpile(10) For CENC from CA64. Distance Travelled :470Mtrs			

From	To	O1	O2	D1	D2	Equipment	Delay_Description	Min	Tonnage	Cat
22:07	22:15						SYSTEM STARTUP	8		O
22:07	23:25	CA64	CENC	STK1	10			78	3332	
23:41	23:50					STK1	IN POSITION	9		O
							Position From Stockpile(10) to Stockpile(14) For CENC from LS74. Distance Travelled :99Mtrs			
01:45	01:54						SYSTEM STARTUP	9		O
01:45	02:56	LS74	CENC	STK1	14			71	3468	
03:05	03:27					STK1	IN POSITION	22		O
							Position From Stockpile(14) to Stockpile(11) For TAHA from TM94. Distance Travelled :358Mtrs			
04:12	04:19						SYSTEM STARTUP	7		O
04:12	05:33	TM94	TAHA	STK1	11			81	3452	
06:25	06:34						SYSTEM STARTUP	9		O
06:25	07:56	TM98	TAHA	STK1	11			91	3440	
06:47	06:50						WAGON DOORS FAULTY	3		PN

Rail Receival Log Report:

28/02/2013 07:00: **To** 1/03/2013 07:00:00 *15/03/2013 16:23:54*

From	To	O1	O2	D1	D2	Equipment	Delay_Description	Min	Tonnage	Cat
Log for Date :		**27/02/2013**								
06:25	07:56	TM98	TAHA	STK1	11			91	3440	
Log for Date :		**28/02/2013**								
08:01	08:13					STK1	IN POSITION	12		O
							Position From Stockpile(11) to Stockpile(12) For CENC from CB96. Distance Travelled :173Mtrs			
13:58	14:14						SYSTEM STARTUP	16		O
13:58	15:11	CB96	CENC	STK1	12			73	3076	
15:20	15:30					STK1	IN POSITION	10		O
							Position From Stockpile(12) to Stockpile(11) For TAHA from TM72. Distance Travelled :174Mtrs			
15:33	15:39						SYSTEM STARTUP	6		O
15:33	16:58	TM72	TAHA	STK1	11			85	3356	
17:02	17:23					STK1	IN POSITION	21		O
							Position From Stockpile(11) to Stockpile(14) For CENC from LS98. Distance Travelled :329Mtrs			
17:26	17:33						SYSTEM STARTUP	7		O
17:26	18:45	LS98	CENC	STK1	14			79	3238	
21:01	21:18					STK1		17		O
							Position From Stockpile(14) to Stockpile(10) For CENC from CA70. Distance Travelled :60Mtrs			
21:18	21:29					STK1		11		O
							Position From Stockpile(14) to Stockpile(10) For CENC from CA70. Distance Travelled :36Mtrs			

From	To	O1	O2	D1	D2	Equipment	Delay_Description	Min	Tonnage	Cat
21:45	21:45					STK1	IN POSITION	0		O
							Position Stacker via manual position task from position 345Mtrs to position 349Mtrs .Position from Stockpile(10) to Stockpile(10)			
21:58	21:59					STK1	IN POSITION	1		O
							Position From Stockpile(10) to Stockpile(10) For CENC from CA70. Distance Travelled :16Mtrs			
23:03	23:12						SYSTEM STARTUP	9		O
23:03	00:21	CA70	CENC	STK1	10			78	3302	
00:33	00:55					STK1	IN POSITION	22		O
							Position From Stockpile(10) to Stockpile(11) For TAHA from TM82. Distance Travelled :425Mtrs			
02:45	02:55						SYSTEM STARTUP	11		O
02:45	04:16	TM82	TAHA	STK1	11			91	3422	
06:10	06:14						SYSTEM STARTUP	5		O
06:10	07:32	TM94	TAHA	STK1	11			82	3352	