

PORT KEMBLA COAL TERMINAL
APRIL 2012 COMPLIANCE MONITORING

REPORT NO. 07355-NM-5
VERSION A

MAY 2012

PREPARED FOR

PORT KEMBLA COAL TERMINAL
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DOCUMENT CONTROL

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Wilkinson Murray is an independent firm established 50 years ago originally as Carr & Wilkinson. In 1976 Barry Murray joined founding partner Roger Wilkinson and the firm adopted the name which remains today. From a successful operation in Australia, Wilkinson Murray expanded its reach into Asia by opening a Hong Kong office early in 2006. 2010 saw the introduction of our Queensland office and 2011 the introduction of our Orange office to service a growing client base in these regions. From these offices, Wilkinson Murray services the entire Asia-Pacific region.



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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.

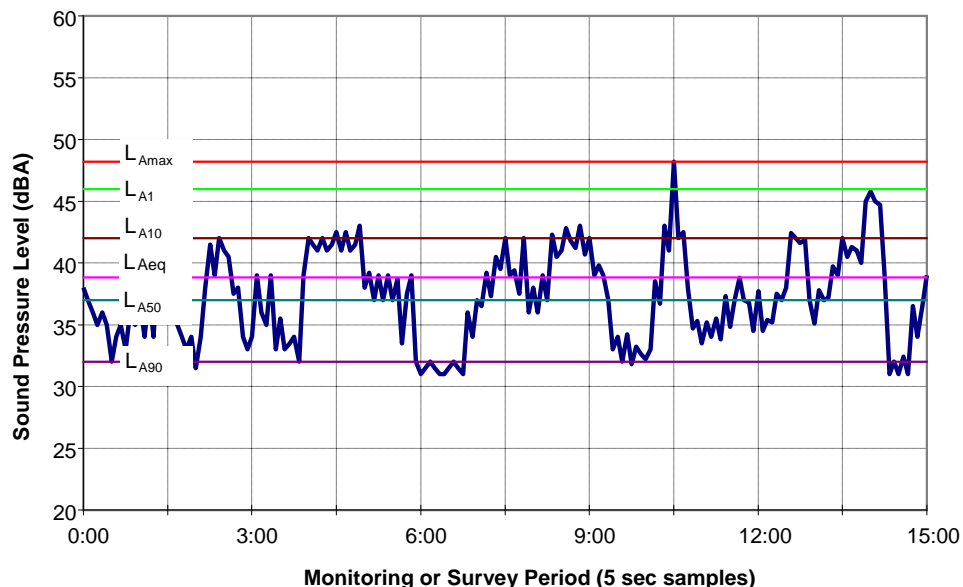
L_{A90} – The L_{A90} level is the noise level which is exceeded for 90% of the sample period. During the sample period, the noise level is below the L_{A90} level for 10% of the time. This measure is commonly referred to as the background noise level.

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 10th percentile (lowest 10th 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 monitoring of operations at Port Kembla Coal Terminal (PKCT), which was conducted on Monday, 23 April and Tuesday, 24 April, 2012.

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

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 receipt 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 and 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) $L_{Aeq,(15min)}$

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

Notes:

- 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 noise levels where applicable.*
- The noise emission limits identified in the above table apply under meteorological conditions of:*
 - *wind speeds of up to 3m/s at 10m above ground level; or*
 - *temperature inversion conditions of up to 3°C/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 3 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 were taken in the vicinity of the receival area.

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



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



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



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 *I/NP* 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 Directions L_{Aeq}** – The equivalent A-weighted sound pressure level for all directions (0° - 360°).
- **BarnOwl[®] PKCT Direction L_{Aeq}** – The equivalent A-weighted sound pressure level for the segment (arc) capturing the PKCT site (may include some traffic noise or other noise also in that segment). If this level is within criteria then compliance is demonstrated. It is noted that this is limited to no more than 15dB below BarnOwl[®] All Directions L_{Aeq} .
- **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 both PKCT northern + southern weather stations.
- **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 LAeq (dBA)	BarnOwl® All Directions LAeq (dBA)	SLM LA90 (dBA)	Wind Speed (m/s) and Direction	Stability Class	Compliance	Observations
24 Apr 2012 10.20 – 10.35	Day	51	<43	58	48	2.6-3.1 m/s; W - NW	C	YES Not Audible	At measurement location noise primarily from road traffic and rail noise. PKCT activities not audible. On-site typically 17 truck movements witnessed and a waiting train.
23 Apr 2012 20.50 – 21.05	Evening	50	<37	52	41	3.4 - 3.6 m/s, NW – N	D	YES Not Audible	At measurement location noise primarily from road traffic and rail noise. PKCT activities not audible. On-site typically 12 truck movements witnessed and a train arrival.
23 Apr 2012 21:05 –21:20	Evening	50	38	51	45	2 – 3.5 m/s; NW - N	F	YES Not Audible	At measurement location noise primarily from road traffic and rail noise. PKCT activities not audible. On-site typically 14 truck movements witnessed and train movements on-site.
23 Apr 2012 22:45 – 23:00	Night	49	37	49	44	3 – 3.3 m/s; W - NW	D	YES Not Audible	At measurement location noise primarily from road traffic and rail noise. PKCT activities not audible. On-site typically 12 truck movements witnessed and a train arrival.
23 Apr 2012 23:00 – 23:15	Night	49	32	46	44	2.6– 3.1 m/s; W - NW	D	YES Not Audible	At measurement location noise primarily from road traffic, local industry and golf course. PKCT activities not audible. On-site typically 11 truck movements witnessed. On-site typically 11 truck movements witnessed.

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

Start Date & Time	Period	Criteria (dBA)	BarnOwl® PKCT Direction LAeq (dBA)	BarnOwl® All Directions LAeq (dBA)	SLM LA90 (dBA)	Wind Speed (m/s) and Direction	Stability Class	Compliance	Observations
24 Apr 2012 9:35 – 9:50	Day	51	<40	55	54	2.1-2.9 m/s; SW - W	C	YES Not Audible	At measurement location noise primarily from road traffic. PKCT activities not audible On-site typically 9 truck movements witnessed and a train idling in the dumping area.
23 Apr 2012 20:05 – 20:20	Evening	50	<37	52	48	1.6–1.9 m/s; S – SW	E	YES Not Audible	At measurement location noise primarily from road traffic. PKCT activities not audible On-site typically 16 truck movements witnessed and a train arrival.
23 Apr 2012 20:20 – 20:35	Evening	50	<33	48	48	1.6-1.9 m/s; S - SW	F	YES Not Audible	At measurement location noise primarily from road traffic. PKCT activities not audible On-site typically 11 truck movements witnessed.
24 Apr 2012 1:05 – 1:20	Night	49	<34	49	46	3.3– 4.2m/s; SW – W	D	YES Not Audible	At measurement location noise primarily from road traffic. PKCT activities not audible On-site typically 11 truck movements witnessed and a train arrival
24 Apr 2012 1:20 – 1:35	Night	49	<34	49	48	2.34 – 3m/s; S - SW	D	YES Not Audible	At measurement location noise primarily from road traffic. PKCT activities not audible On-site typically 17 truck movements witnessed and a train unloading.

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

Start Date & Time	Period	Criteria (dBA)	BarnOwl® PKCT Direction L _{Aeq} (dBA)	BarnOwl® All Directions L _{Aeq} (dBA)	SLM L _{A90} (dBA)	Wind Speed (m/s) and Direction	Stability Class	Compliance	Observations
24 Apr 2012 10:50 – 11:05	Day	51	<47	62	56	3.5-4.4 m/s; NW - W	C	YES Not Audible	At measurement location noise primarily from road traffic. PKCT activities not audible On-site typically 21 truck movements witnessed and a train unloading.
23 Apr 2012 21:30 – 21:45	Evening	50	<39	54	49	1.5 – 2.2 m/s; W - NW	E	YES Not Audible	At measurement location noise primarily from road traffic. PKCT activities not audible On-site typically 11 truck movements witnessed and a train idling.
23 Apr 2012 21:45 – 22:00	Evening	50	<39	54	49	1.7 – 2 m/s; SW - W	F	YES Not Audible	At measurement location noise primarily from road traffic. PKCT activities not audible On-site typically 19 truck movements and a train unloading.
23 Apr 2012 22:00 – 22:15	Night	49	<40	55	50	2 – 2.1 m/s; SW – W	E	YES Not Audible	At measurement location noise primarily from road traffic. PKCT activities not audible On-site typically 17 truck movements witnessed.
23 Apr 2012 22:15 – 22:30	Night	49	<49	54	45	2.1-2.5 m/s; SW - W	D	YES Not Audible	At measurement location noise primarily from road traffic. PKCT activities not audible On-site typically 14 truck movements witnessed and a train arrival followed by the 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

Truck movements in the receivals area during the monitoring ranged from 9 – 21 in a period of 15 minutes. 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 such as going over grids, moving on-site and unloading 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

A coal train was unloaded between 21:47 and 23:06, during the evening measurements on (23 April), which continued during the night-time measurements. Another coal train was unloaded between 00:31 and 02:15 (24 April) which occurred during night-time measurements. During the daytime measurements, a coal train was unloaded between 9:47 and 11:15.

The typical main noise sources as experienced whilst on-site included: noise from locomotives moving, at idle and unloading. Locomotive noise is considered to be the dominant constant noise source and also likely to result in the typical maximum levels when moving.

Considering the monitoring at the residential locations, noise from trains either idling or unloading 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

A single ship was being loaded (Ship Loader 2) during the evening and night measurement period, in particular the period between 19:42 to 21:35, 22:32 to 00:15 and 0:39 to 1:11. As such measurements during the day period on 24 April exclude any contribution from ship loading. Such events were inaudible from the measurements locations.

6.2 Review of Noise from PKCT Direction

The measured noise levels using BarnOwl® in the direction from PKCT varied between 32dBA and <47dBA $L_{Aeq,15minutes}$. The measured noise levels from the direction capturing PKCT were within criteria for all times. We note that noise levels measured in the PKCT direction may have been influenced by extraneous sources in this direction that are not from the PKCT site, such as road/rail traffic noise and so are considered to be conservative.

7 CONCLUSION

Wilkinson Murray has conducted compliance noise monitoring for the Port Kembla Coal Terminal during the day, evening and night time periods on the 23 and 24 April, 2012, during typical operations.

During the measurements, Wilkinson Murray personnel were located on-site and witnessed the specific road and rail movements. Furthermore, discussions with PKCT personnel and a review of The Operations Reports confirm that a ship was being loaded during the evening measurements and and night-time measurement period.

At all locations, the noise from PKCT was inaudible.

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.

APPENDIX A
PKCT OPERATIONS REPORTS

Road Reival Log Report:

22/04/2012 7:00:00 AM To 25/04/2012 7:00:00 AM

3/05/2012 1:52:45 PM

From	To	O1	O2	D1	D2	Equipment	Delay_Description	Min	Tonnage	Cat
Log for Date :		<u>21/04/2012</u>								
6:32	7:10	Z3	CENC	STK4	11			38	620	
Log for Date :		<u>22/04/2012</u>								
7:09	7:30						CHANGING ZONES <i>Move stackers so RC1 can cut from SIP 11</i>	21		O
7:29	8:28	Z1&2	BHPA	STK4	4			59	1555	
8:14	8:26					PF2	FAULT <i>rotor vvvf drive fault</i>	12		E
8:28	15:08						OTHER <i>Road system isolated to allow for NCI cleaning</i>	400		O
15:06	16:44	Z1&2	BHPA	STK4	4			98	910	
19:26	21:51	Z1&2	BHPA	STK4	4			145	2387	
21:40	22:36						WAIT ON ROAD	56		O
22:23	1:00	Z1&2	BHPA	STK4	4			157	1743	
23:07	23:19					STK4	BELT RIP TRIP <i>BOOM CONVEYOR BELT SLIP</i>	12		E
23:24	23:37					STK4	BELT RIP TRIP <i>BOOM CONVEYOR BELT RIP</i>	14		E
1:01	2:18						DUMPING TRAIN TO WEST	77		O
2:16	6:48	Z1&2	BHPA	STK4	4			272	4064	
5:47	6:01					PF2	FAULT <i>VVVF rotor drive fault</i>	15		E

From	To	O1	O2	D1	D2	Equipment	Delay_Description	Min	Tonnage	Cat
6:42	7:04					PF2	CALIBRATION ERROR	22		E
6:58	7:50	Z1&2	BHPA	STK4	4			52	1231	
Log for Date :		<u>23/04/2012</u>								
7:51	8:36						DUMPING TRAIN TO WEST	45		O
8:34	9:24	Z3	NREA	STK1	19			50	530	
9:24	9:32						CHANGING ZONES	9		O
9:31	11:55	Z1&2	BHPA	STK4	4			144	4223	
11:28	11:35					STK4	PILE DETECT TIMEOUT	8		E
11:55	12:04						CHANGING ZONES	9		O
12:02	13:14	Z3	NREA	STK1	19			72	671	
12:07	12:32					PF1	CALIBRATION ERROR	25		E
12:36	13:05					PF1	CALIBRATION ERROR	29		E
13:14	13:21						CHANGING ZONES	7		O
13:19	14:24	Z1&2	BHPA	STK4	4			65	2659	
14:24	14:33						CHANGE ROAD FROM WEST TO EAS	9		O
14:31	14:51	Z3	NREA	STK1	19			20	619	
14:52	14:55	Z3	NREA	STK1	19			3	51	

From	To	O1	O2	D1	D2	Equipment	Delay_Description	Min	Tonnage	Cat
14:55	15:03						CHANGE ROAD FROM EAST TO WES	7		O
15:01	15:32	Z1&2	BHPA	STK4	4			31	1061	
15:33	15:47						CHANGING ZONES	14		O
15:45	17:13	Z3	NREA	STK1	19			88	923	
16:09	16:15					PF1	COMMUNICATION FAULT	6		E
17:07	17:20						CHANGING ZONES	13		O
17:19	18:26	Z1&2	BHPA	STK4	4			67	2670	
18:27	20:42	Z1&2	BHPA	STK4	4			135	3104	
20:41	21:00						CHANGE ROAD FROM WEST TO EAS	19		O
20:58	21:15	Z3	NREA	STK1	19			17	169	
21:09	21:26						CHANGE ROAD FROM EAST TO WES	17		O
21:24	22:47	Z1&2	BHPA	STK4	4			83	2651	
22:46	23:57						MAINTAINANCE INSPECTION	71		E
							<i>PF2 NCI</i>			
23:56	0:24	Z1&2	BHPA	STK4	4			28	1121	
0:24	1:23						DUMPING TRAIN TO WEST	58		O
1:21	2:18	Z1&2	BHPA	STK1	3			57	1514	
1:37	1:57					PF2	FAULT	20		E
							<i>ROTOR VVVF DRIVE FAULT</i>			
2:19	2:27						CHANGING ZONES	8		O

From	To	O1	O2	D1	D2	Equipment	Delay_Description	Min	Tonnage	Cat
2:25	3:23	Z1&2	BHPA	STK4	4			58	1212	
2:36	2:39					PF2	FAULT	3		E
							<i>ROTOR VVVF DRIVE FAULT</i>			
3:16	3:27					PF2	FAULT	11		E
							<i>ROTOR VVVF DRIVE FAULT</i>			
3:25	5:37	Z1&2	BHPA	STK4	4			132	1037	
3:52	5:04						WAIT ON ROAD	72		O
							<i>FILLING THE BINS</i>			
5:31	6:18						UNKNOWN	47		O
5:31	5:58						WAIT ON ROAD	27		O
							<i>FILLING BINS</i>			
5:56	6:16	Z1&2	BHPA	STK4	4			20	397	
6:15	6:21						STOCKPILE CHANGE	7		O
6:20	8:44	Z1&2	BHPA	STK4	4			144	3034	
6:47	7:12					NC1	LANYARD OPERATED	25		E
Log for Date :		<u>24/04/2012</u>								
8:11	8:13						UNKNOWN	2		O
8:45	9:34						DUMPING TRAIN TO WEST	49		O
9:33	10:09	Z1&2	BHPA	STK1	3			36	1160	
10:09	10:28						CHANGING ZONES	19		O
10:25	11:07	Z3	NREA	STK1	20			42	169	
10:30	10:48					PF1	CALIBRATION ERROR	18		E

From	To	O1	O2	D1	D2	Equipment	Delay_Description	Min	Tonnage	Cat
10:51	11:34					PF1	FAULT	43		E
11:32	11:34	Z3	NREA	STK1	20			2	26	
11:35	11:48						CHANGING ZONES	13		O
11:46	12:34	Z1&2	BHPA	STK4	4			48	957	
11:54	12:09					PF2	FAULT	15		E
12:32	12:47						<i>rotor vwf drive fault</i> CHANGING ZONES	15		O
12:42	13:15	Z3	NREA	STK1	20			33	1101	
12:52	12:58					PF1	POSITION FAULT	6		E
13:17	13:44						CHANGING ZONES	27		O
13:33	15:03	Z1&2	BHPA	STK1	3			90	2930	
15:02	15:14						STOCKPILE CHANGE	12		O
15:12	16:31	Z1&2	BHPA	STK4	4			79	553	
16:13	16:24						WAIT ON CARGO	11		O
16:28	16:58						CHANGING ZONES	30		O
16:56	17:09	Z3	NREA	STK1	20			13	454	
17:07	17:50						DUMPING TRAIN TO WEST	43		O
17:48	18:13	Z1&2	BHPA	STK4	4			25	681	

From	To	O1	O2	D1	D2	Equipment	Delay_Description	Min	Tonnage	Cat
18:13	19:25						WAIT ON CARGO	72		O
19:24	21:35	Z1&2	BHPA	STK4	4			131	1979	
22:12	22:41	Z3	NREA	STK1	20			29	696	
22:40	22:58						CHANGING ZONES	18		O
22:56	2:00	Z1&2	BHPB	STK4	6			184	2543	
23:54	0:06					PF2	FAULT	12		E
							<i>unexpected calibration fault</i>			
2:01	4:00						DUMPING TRAIN TO WEST	119		O
3:58	6:52	Z1&2	BHPB	STK4	6			174	1990	

Rail Receival Log Report:

22/04/2012 7:00:0 To 4/2012 7:00:00 AM

3/05/2012 1:53:21 PM

From	To	O1	O2	D1	D2	Equipment	Delay_Description	Min	Tonnage	Cat
Log for Date :		<u>21/04/2012</u>								
6:59	7:05						SYSTEM STARTUP	6		O
6:59	8:15	TM98	TAHA	STK1	7			76	3324	
Log for Date :		<u>22/04/2012</u>								
9:07	9:10						SYSTEM STARTUP	3		O
9:07	10:44	MC68	HELD	STK1	9			97	3116	
9:22	9:27						COAL STUCK IN WAGON	4		PN
9:31	9:33						COAL STUCK IN WAGON	3		PN
9:40	9:46						WAIT ON RAIL	6		PN
10:16	10:24						EXAMINER WORKING ON TRAIN	8		PN
							<i>investigating air leak</i>			
11:30	11:33						SYSTEM STARTUP	3		O
11:30	12:25	TM82	TAHA	STK1	7			55	2884	
16:18	16:27						SYSTEM STARTUP	9		O
16:19	17:52	TM72	TAHA	STK1	7			93	3308	
20:27	20:33						SYSTEM STARTUP	6		O
20:27	21:42	TM82	TAHA	STK1	7			75	3248	
0:00	0:09						SYSTEM STARTUP	9		O
0:00	0:54	MC92	HELD	STK1	9			54	1876	

From	To	O1	O2	D1	D2	Equipment	Delay_Description	Min	Tonnage	Cat
1:01	1:17						STOCKPILE CHANGE	16		O
							<i>Had to change job to stockpile 2 because we run out of room on stockpile 9 because it was full.</i>			
1:01	1:14						SYSTEM STARTUP	13		O
1:12	2:05	MC92	HELD	STK2	2			53	768	
1:16	1:22					NC7	UNDERSPEED	6		E
1:26	1:31					NC7	UNDERSPEED	4		E
1:32	1:37					NC7	UNDERSPEED	5		E
1:40	1:44					NC7	UNDERSPEED	5		E
4:10	4:15						SYSTEM STARTUP	5		O
4:10	5:34	TM94	TAHA	STK1	7			84	3304	
6:38	6:43						SYSTEM STARTUP	5		O
6:38	7:49	TM98	TAHA	STK1	7			71	2210	
Log for Date :		<u>23/04/2012</u>								
8:11	8:13						SYSTEM STARTUP	2		O
8:11	9:23	MC68	HELD	STK2	2			72	2664	
10:09	10:19						SYSTEM STARTUP	9		O
10:09	11:49	CG14	NREA	STK1	20			100	1640	
10:22	10:25						EXAMINER WORKING ON TRAIN	3		PN
15:41	15:50						SYSTEM STARTUP	10		O
15:41	17:12	MC86	HELD	STK2	2			91	2818	

From	To	O1	O2	D1	D2	Equipment	Delay_Description	Min	Tonnage	Cat
15:52	16:00					NC7	UNDERSPEED	8		E
16:29	16:31						WAGON DOORS FAULTY	3		PN
17:37	17:42						SYSTEM STARTUP	5		O
17:42	17:57					STK1	PACE COLLISION STOP	15		E
18:27	20:36	CG16	NREA	STK1	19			129	1628	
18:54	18:56						SYSTEM STARTUP	2		O
19:00	19:03						FAULT	3		O
							<i>tripper trasfer chute no2 fault</i>			
21:47	21:55						SYSTEM STARTUP	8		O
21:47	23:06	TM72	TAHA	STK1	7			79	3284	
0:31	0:37						SYSTEM STARTUP	5		O
0:31	2:15	MC92	HELD	STK2	2			104	2644	
0:38	0:43					NC7	UNDERSPEED	4		E
0:44	1:13					NC7	UNDERSPEED	28		E
							<i>FITTER TOPPING UP OIL ON NC7</i>			
2:13	2:15						UNKNOWN	2		O
							<i>Job Complete</i>			
2:42	2:48						SYSTEM STARTUP	6		O
2:42	3:26	CG18	NREA	STK1	20			44	1420	
3:14	3:17						UNKNOWN	3		O
4:51	4:57						SYSTEM STARTUP	5		O
4:51	6:28	TM82	TAHA	STK1	7			97	3232	

From	To	O1	O2	D1	D2	Equipment	Delay_Description	Min	Tonnage	Cat
5:09	5:25					GENERAL	LIMIT/PROXIMITY FAULT	15		E
6:59	7:08						LEVEL SENSER LIGHT FAULTY SYSTEM STARTUP	9		O
Log for Date :		<u>24/04/2012</u>								
7:01	8:35	TM98	TAHA	STK1	7			94	3368	
7:17	7:21						EXAMINER WORKING ON TRAIN	4		PN
7:31	7:37						EXAMINER WORKING ON TRAIN	6		PN
7:51	7:53						EXAMINER WORKING ON TRAIN	2		PN
9:47	9:54						SYSTEM STARTUP	6		O
9:47	11:15	BB88	CLXD	STK2	16			88	3326	
10:15	10:18						WAGON FAULTY	3		PN
13:13	13:15						SYSTEM STARTUP	2		O
13:13	15:04	MC68	HELD	STK2	2			111	2674	
13:28	14:06					STK2	FAULT	38		E
14:52	14:56						<i>long travel convertor run fault</i> EXAMINER WORKING ON TRAIN	4		PN
15:57	16:05						SYSTEM STARTUP	8		O
15:57	16:33	TM72	TAHA	STK1	7			36	880	
17:30	17:36						SYSTEM STARTUP	7		O
17:30	19:50	CG16	NREA	STK1	19			140	1680	
17:44	17:53						COAL STUCK IN WAGON	9		PN

From	To	O1	O2	D1	D2	Equipment	Delay_Description	Min	Tonnage	Cat
17:59	18:10						COAL STUCK IN WAGON	11		PN
18:21	18:25						COAL STUCK IN WAGON	3		PN
20:34	20:42						SYSTEM STARTUP	8		O
20:34	21:57	CB96	CENC	STK1	15			83	3072	
20:51	20:56						WAIT ON RAIL	5		PN
21:06	21:09						UNKNOWN	2		O
22:58	23:06						SYSTEM STARTUP	8		O
22:58	0:19	LS28	CENC	STK1	15			81	3404	
0:26	0:36						SYSTEM STARTUP	10		O
0:26	1:44	CA64	CENC	STK1	15			78	3472	
2:07	2:11						SYSTEM STARTUP	3		O
2:07	3:21	MC92	HELD	STK2	2			74	3148	
2:36	2:39						CHANGING CREW	3		PN
4:50	4:52						SYSTEM STARTUP	3		O
4:50	6:08	TM82	TAHA	STK1	7			78	3360	
6:19	6:31						SYSTEM STARTUP	12		O
6:19	7:31	TM98	TAHA	STK1	7			72	2280	

Ship Loading Log Report: Berth 2

22/04/2012 07:00 To 25/04/2012 07:00

Vessel Name PIERRE LD
 Start Date 22/04/12 9:41
 Berth Date 22/04/12 8:15
 Complete Date 24/04/12 2:26

From	To	PASS	O1	O2	D1	D2	Equipment	Delay_Description	Min	Tonnage	Cat
8:15	9:34							MASTERS INSTRUCTIONS	78		V
								<i>Opening Hatches : Rigging Gangway : Initial Survey</i>			
9:34	9:40						GENERAL	MOVE INTO HATCH	6		O
9:40	9:48						GENERAL	SYSTEM STARTUP	8		O
9:48	13:28	1	RC1	11	SL2	3			220	15604	
12:44	12:46							COAL GAP	1		O
12:52	12:55							COAL GAP	2		O
13:13	13:20							RECLAIMER REPOSITION	6		O
13:27	13:45							HATCH CHANGE	18		O
13:41	15:06	2	RC1	11	SL2	7			85	7017	
15:05	15:19							HATCH CHANGE	13		O
15:16	16:51	3	RC1	11	SL2	5			95	7002	
15:28	15:36						NC14	BELT SLIP TRIP	8		E
15:40	15:40							COAL GAP	1		O

Ship Loading Log Report: Berth 2

22/04/2012 07:00 To 25/04/2012 07:00

Vessel Name PIERRE LD
 Start Date 22/04/12 9:41
 Berth Date 22/04/12 8:15
 Complete Date 24/04/12 2:26

From	To	PASS	O1	O2	D1	D2	Equipment	Delay_Description	Min	Tonnage	Cat
16:50	17:00							HATCH CHANGE	10		O
17:00	17:08						RC1VIB	OVERLOAD <i>Feeder 2 thermal overload</i>	8		E
17:05	18:50	4	RC1	11	SL2	6			105	7009	
17:31	17:33							COAL GAP	3		O
18:50	19:00							MOVE INTO HATCH	10		O
19:00	19:09						RC1VIB	OVERLOAD <i>Feeder 2 thermal overload fault</i>	9		E
19:06	21:34	5	RC1	11	SL2	8			148	7031	
19:30	20:14						SL2BH_BRAK	FAULT <i>Fitter inspecting boom hoist brake to adjust or repair, brake causing problems.</i>	44		E
21:34	21:53							HATCH CHANGE	19		O
21:50	23:19	6	RC1	11	SL2	4			89	7014	
23:20	23:36							HATCH CHANGE	17		O

Ship Loading Log Report: Berth 2

22/04/2012 07:00 To 25/04/2012 07:00

Vessel Name PIERRE LD
 Start Date 22/04/12 9:41
 Berth Date 22/04/12 8:15
 Complete Date 24/04/12 2:26

From	To	PASS	O1	O2	D1	D2	Equipment	Delay_Description	Min	Tonnage	Cat
23:33	1:02	7	RC1	11	SL2	8			89	5904	
23:43	23:49						RC1BH	POSITION FAULT	6		E
23/4 0:51	0:52							COAL GAP	1		O
0:59	1:09							HATCH CHANGE	10		O
1:06	2:29	8	RC1	11	SL2	6			83	6588	
2:29	2:50						SL2LT_MOTO	OVERLOAD	21		E
2:50	2:59							MOVE INTO HATCH	9		O
2:56	6:01	9	RC1	11	SL2	1			185	13963	
6:00	6:59							MOVE INTO HATCH	59		O
6:46	8:47	10	RC1	11	SL2	9			121	6967	
7:43	7:47							RECLAIMER REPOSITION	4		O
8:42	8:44								2		O

Ship Loading Log Report: Berth 2

22/04/2012 07:00 To 25/04/2012 07:00

Vessel Name PIERRE LD
 Start Date 22/04/12 9:41
 Berth Date 22/04/12 8:15
 Complete Date 24/04/12 2:26

From	To	PASS	O1	O2	D1	D2	Equipment	Delay_Description	Min	Tonnage	Cat
8:48	8:59							HATCH CHANGE	11		O
8:56	10:41	11	RC1	11	SL2	7			105	6642	
10:40	10:57							HATCH CHANGE	17		O
10:54	13:21	12	RC1	11	SL2	2			147	6777	
11:44	12:15							SCOOPS FAULT	31		E
13:21	13:42							HATCH CHANGE	21		O
13:39	15:07	13	RC1	11	SL2	9			88	4559	
14:54	14:55							COAL GAP	2		O
15:02	16:15						RC1	PACE COLLISION STOP	73		E
16:07	17:15	14	RC1	14	SL2	9			68	2917	
16:37	16:40							COAL GAP	3		O
17:15	17:30							HATCH CHANGE	15		O

Ship Loading Log Report: Berth 2

22/04/2012 07:00 To 25/04/2012 07:00

Vessel Name PIERRE LD
 Start Date 22/04/12 9:41
 Berth Date 22/04/12 8:15
 Complete Date 24/04/12 2:26

From	To	PASS	O1	O2	D1	D2	Equipment	Delay_Description	Min	Tonnage	Cat
17:26	19:34	15	RC1	14	SL2	4			128	7632	
17:31	17:46						RC1	PACE COLLISION STOP	15		E
17:50	17:55							RECLAIMER REPOSITION	5		O
18:42	18:49							RECLAIMER REPOSITION	7		O
19:34	19:46							HATCH CHANGE	12		O
19:42	21:35	16	RC1	14	SL2	2			113	7131	
20:15	20:21						RC1	OVERLOAD	6		E
21:21	21:23							COAL GAP	1		O
21:33	21:49							HATCH CHANGE	16		O
21:49	22:25							MOVE SHIP	36		V
22:25	22:36							MOVE INTO HATCH	11		O
22:32	0:15	17	RC1	14	SL2	5			103	6802	

Ship Loading Log Report: Berth 2

22/04/2012 07:00 To 25/04/2012 07:00

Vessel Name PIERRE LD
 Start Date 22/04/12 9:41
 Berth Date 22/04/12 8:15
 Complete Date 24/04/12 2:26

From	To	PASS	O1	O2	D1	D2	Equipment	Delay_Description	Min	Tonnage	Cat
23:21	23:24							COAL GAP	3		O
23:26	23:28							COAL GAP	1		O
0:15	0:44							DRAFT CHECK	29		V
2A/A 0:39	1:11	18	RC1	14	SL2	8			32	1648	
0:52	0:57							WAIT ON STACKER	4		O
1:11	1:55						SL2	COMMUNICATION FAULT <i>SL2 NTH and STH Sub not active</i>	44		E
1:51	2:09	19	RC1	14	SL2	2			18	959	
2:09	2:26							DRAFT CHECK	17		V

Ship Loading Log Report: Berth 2

22/04/2012 07:00 To 25/04/2012 07:00

Vessel Name MAGSENGER 9
 Start Date 24/04/12 13:01
 Berth Date 24/04/12 11:30
 Complete Date 26/04/12 3:18

From	To	PASS	O1	O2	D1	D2	Equipment	Delay_Description	Min	Tonnage	Cat
11:30	13:01							MASTERS INSTRUCTIONS	91		V
								<i>Opening Hatches : Rigging Gangway : Initial Survey</i>			
13:01	13:21						RC1VIB	OVERLOAD	20		E
13:01	16:42	1	RC1	5	SL2	4			221	10090	
13:30	13:33							COAL GAP	3		O
14:27	14:28							COAL GAP	1		O
14:54	14:57							COAL GAP	2		O
15:17	15:20							COAL GAP	2		O
16:01	16:09							COAL GAP	8		O
16:40	17:00							HATCH CHANGE	20		O
16:54	19:01	2	RC1	5	SL2	2			127	7999	
18:01	18:08						RC1SL_CONV	FAULT	7		E
								<i>monitor fault</i>			
18:20	18:21							COAL GAP	1		O
19:00	19:14							HATCH CHANGE	14		O

Ship Loading Log Report: Berth 2

22/04/2012 07:00 To 25/04/2012 07:00

Vessel Name MAGSENGER 9
 Start Date 24/04/12 13:01
 Berth Date 24/04/12 11:30
 Complete Date 26/04/12 3:18

From	To	PASS	O1	O2	D1	D2	Equipment	Delay_Description	Min	Tonnage	Cat
19:14	19:29							STOCKPILE CHANGE	15		O
19:24	21:04	3	RC1	3	SL2	6			100	5577	
19:51	19:54							COAL GAP	3		O
20:17	20:21							POSITION RECLAIMER	4		O
20:44	20:45							COAL GAP	1		O
21:03	21:53							STOCKPILE CHANGE	50		O
21:49	22:51	4	RC1	4	SL2	6			62	3400	
21:53	22:00						RC1VIB	OVERLOAD	7		E
22:19	22:23							WAIT ON STACKER	4		O
22:50	23:10							HATCH CHANGE	20		O
23:07	5:38	5	RC1	4	SL2	3			391	17818	
23:56	23:59							COAL GAP	3		O
25/4 0:55	3:19						SMPRC	OVERLOAD	143		E

*Electrian and Fitter on TS4 sampler breakdown.
 TS8 Sampler needed washdown of system unit
 before problem could be addressed.*

Ship Loading Log Report: Berth 2

22/04/2012 07:00 To 25/04/2012 07:00

Vessel Name MAGSENGER 9
 Start Date 24/04/12 13:01
 Berth Date 24/04/12 11:30
 Complete Date 26/04/12 3:18

From	To	PASS	O1	O2	D1	D2	Equipment	Delay_Description	Min	Tonnage	Cat
3:53	3:56							COAL GAP	3		O
5:10	5:11							COAL GAP	1		O
5:38	5:45							HATCH CHANGE	7		O
5:45	6:12							STOCKPILE CHANGE	27		O
5:58	7:21	6	RC1	5	SL2	1			83	4989	