

**Duralie Coal Mine**

**Audit of rail haulage**

**Version 1.0**

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**Distribution:**

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## Appendix A: Train operations records

# 1. Introduction

In 2012 the Duralie Coal Mine had its Project Approval conditions modified to extend the hours that the Duralie Run of Mine (ROM) coal shuttle train can operate between the Duralie and Stratford mines in the Gloucester Valley of NSW. When the Modification was approved on November 1, 2012, conditions were included to require Duralie Coal Pty Ltd (DCPL) to commission a Rail Haulage Audit of the project to:

- review the existing rail haulage operations and determine whether all reasonable and feasible measures are being implemented to minimise the:
  - noise and dust impacts of these operations;
  - use of the shuttle train during the approved night-time hours;
  - dispatch of trains from the site between 9.25pm and 1am the following day; and
- recommend appropriate measures or actions to improve the efficiency of these rail haulage operations and minimise their associated impacts; and
- evaluate the use of the exceptional circumstances provision.

Palazzirail was requested by DCPL to undertake the required audit into the rail haulage logistics, specifically addressing the use of the shuttle train during the approved night-time hours and dispatch of trains from the site after 9.25pm, as outlined above.

The audit by palazzirail was conducted in November and December 2013. Following preparatory work and a review of available documentation a site visit was conducted on November 22 to the Duralie and Stratford mine sites to review and observe the loading and unloading operations respectively. Hosts for the site visit were Paul Kellner (Duralie) and Tony Dwyer (Stratford).

The audit conducted by palazzirail considered the logistics component of the operations only. DCPL separately identified and appointed suitably qualified experts to provide advice on the dust and noise components, as required by the conditions of approval.

## 2. Background

### 2.1 Duralie coal mine operations

Duralie Coal Mine is located in the Southern part of the Gloucester Basin, 20 Kilometres south of Stratford mine. Duralie is an open cut mining operation which started in March 2003. Duralie produces a high fluidity coking coal. To optimise the recovery of coal and improve project economics, Duralie coal is blended with other raw coal and washed to produce low ash coking coal and a higher ash thermal coal. Run of Mine (ROM) coal is transported to Stratford for washing by a shuttle train on the existing rail line. After washing, coal is railed to Newcastle Port for export or domestic use.

Figure 2-1 illustrates the location of Gloucester Basin in relation to other coal producing areas in NSW.



Figure 2-1 Location of Gloucester Basin (source <http://www.duraliecoal.com.au>)

### 2.2 The North Coast railway

The North Coast Railway extends from Telarah (Maitland) to Brisbane, a distance of around 800km. The railway is shown in Figure 2-2, which also illustrates the context of this railway line in relation to other railway lines in northern NSW. The corridor is configured as a single track with passing loops.



**Figure 2-2 North Coast Railway Line**

Management and operation of the North Coast railway line is undertaken by the Australian Rail Track Corporation, as part of its 60-year lease of the NSW component of the Defined Interstate Rail Network (DIRN). Day to day operations are controlled from Network Control Centre North (NCCN), located in Broadmeadow, a suburb of Newcastle.

The system of safeworking on the North Coast railway line is known as Centralised Train Control, or CTC. This system equips the corridor with colour light signals and motor worked points, all of which are remotely controlled from the control centre. Two network controllers manage the North Coast line, with the area of control divided geographically. The southern portion, in which the Duralie / Stratford operation falls, is known as Coast A, with the northern portion known as Coast B.

The predominant traffic on this corridor is interstate containerised freight traffic, with smaller amounts of steel and other freight traffic. Freight traffic operates primarily between Brisbane and Melbourne and between Brisbane and Sydney. Coal traffic is limited to the southern portion of the corridor, with the Stratford Coal Mine being the northernmost coal operation.

Passenger trains operate three times daily (each way) between Sydney and Brisbane / Grafton. Additional passenger trains operate between Newcastle and Dungog, to the south of Duralie and thus do not directly impact on the Duralie shuttle train operation.

## 2.3 Shuttle train route

The shuttle train operates over approximately 20km of the North Coast Railway Line, from Duralie Siding to Stratford Coal Loop. In this area the rail line broadly follows the Bucketts Way and Mammy Johnsons River; this route takes the shuttle train near the townships of Wards River and Craven. The surrounding valley is also populated with small farms.

Figure 2-3 illustrates the key elements of the Duralie shuttle train route, including the Duralie and Stratford mines, the surrounding townships and other features.

The journey from Duralie to Stratford and vice-versa typically takes 30 minutes.

## 2.4 Duralie Coal Siding

The origin of the shuttle train is Duralie Coal Siding, illustrated in Figure 2-4. This is a single ended siding of total length 1150, with the coal loader located approximately midway. This configuration permits the shuttle train to be fully accommodated on either side of the loading bin. The siding is connected to the North Coast Main Line at 272.770km through Duralie 53 points, which are controlled from NCCN Broadmeadow.

At the commencement of loading operations, the train is standing between the loading bin and the connection with the Main Line. The train is progressively moved under the loading bin as the train is loaded, with the train standing primarily on the far side of the loading bin on completion of loading. The loading operation typically takes between 60 and 75 minutes (1 hour to 1 hour 15 minutes).

## 2.5 Stratford Coal Loop

Stratford Coal Loop is the destination for the shuttle train operation and is illustrated in Figure 2-5. Both the dump station and coal loader are located on a single balloon loop, with sufficient space on either side to hold a full train clear of the dump station / coal loader. The coal loop is connected to the North Coast Main Line at Stratford Junction (291.783km) through Stratford 53 points, which are controlled from NCCN Broadmeadow. The bifurcation points, Stratford 54, are also controlled from NCCN Broadmeadow.

A train unloading at Stratford will proceed to the dump station then dump its load as it passes. As the unloader is located on a balloon loop, the train proceeds directly back to the main line with the same end leading (as against the operation at Duralie, where the train is reversed each time it is loaded). The unloading operation typically takes 75 minutes (1 hour 15 minutes).



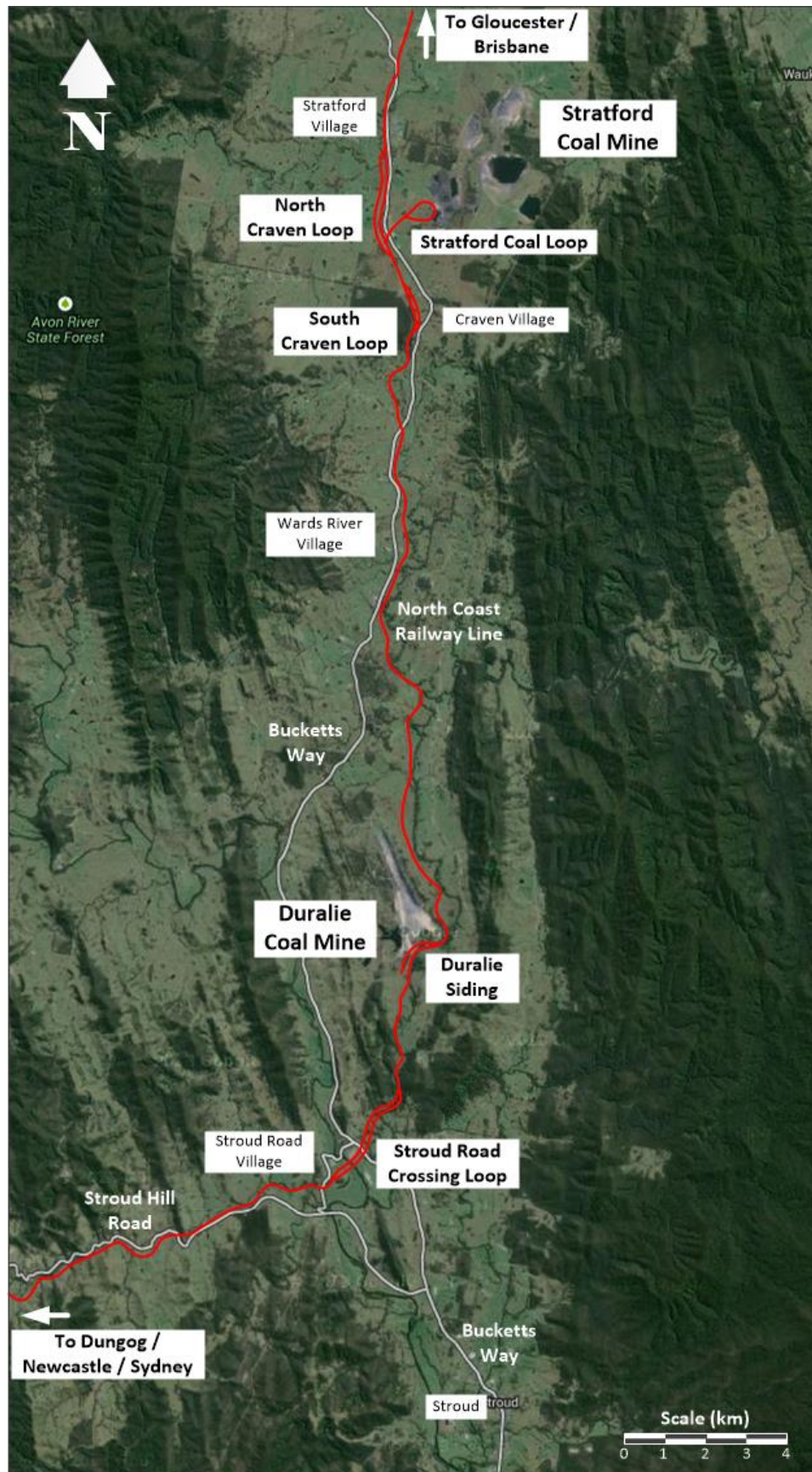


Figure 2-3 Map showing critical elements in the Duralie Coal shuttle train operation



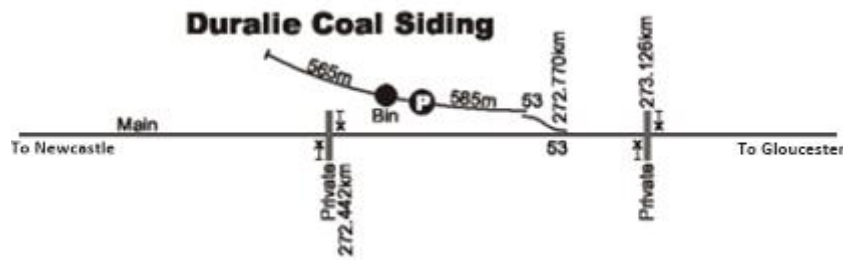


Figure 2-4 Duralie Coal Siding



Figure 2-5 Stratford Junction / Stratford Coal Loop

## 2.6 The Duralie shuttle train

The Duralie shuttle train is operated by Aurizon under contract to DCPL, with the operation managed by Aurizon staff from a facility at Duralie coal loader.

The shuttle train is a push-pull consist made up of 34 PHGH coal wagons and two locomotives (one at each end of the train). Length of the train is 603m including locomotives.

The maximum gross mass of the PHGH coal wagon is 100t, with tare mass being 22.4t giving a load of 77.6t per wagon. Total maximum load on the shuttle train is 2,628t.

Locomotives on the train at the time of the audit were one 6000 class locomotive and one 423 class locomotive.

### 3. Conditions of operation

The conditions placed on the operation of the Duralie shuttle train are documented in the Project Approval for the Duralie Coal Mine Extension, issued under Section 75J of the NSW Environmental Planning and Assessment Act 1979. Approval of the Duralie Extension Project was granted in November 2010. On 1 November 2012, the NSW Project Approval (08\_0203) was modified as a result of the Duralie Rail Hours Modification.

The conditions set out in the approval, as relevant to the operation of the shuttle train, are summarised below:

#### **SCHEDULE 2 ADMINISTRATIVE CONDITIONS**

##### **LIMITS ON APPROVAL**

6. The Proponent shall not extract more than 3 million tonnes of coal from the site in a calendar year.
7. The Proponent shall ensure that:
  - (a) all coal is transported from the site by rail;
  - (b) no more than 5 laden trains leave the site each day; and
  - (c) no more than 4 laden trains leave the site each day, when averaged over a 12 month period.
8. The Proponent shall:
  - (a) only dispatch shuttle trains from the site between 6am and 10pm;
  - (b) only receive shuttle trains on site between 6am and midnight; and
  - (c) only operate shuttle trains on the North Coast railway between midnight and 1am in exceptional circumstances.
- 8A. Within 12 hours of operating shuttle trains on the North Coast railway between midnight and 1am in exceptional circumstances, the Proponent shall provide a detailed explanation of the exceptional circumstances on its website.

In the above statements the following definitions apply:

**The site** – is defined as the Duralie Coal Mine site (i.e. not the Stratford site)

**Exceptional Circumstances** – Circumstances when ARTC determines that the shuttle train must operate on the North Coast railway between midnight and 1am because there have been significant disruptions to the services on the railway over the last 12 hours, or where there have been power outages at either the Stratford or Duralie mines that have materially affected the operation of the shuttle train on the North Coast railway

Further relevant requirements of the approval are:

#### **SCHEDULE 3 ENVIRONMENTAL PERFORMANCE CONDITIONS**

##### **TRANSPORT**

##### **Monitoring of Coal Transport**

48. The Proponent shall keep accurate records of:
  - (a) the amount of coal transported from the site each month, and make these records publically available on its website at the end of each calendar year; and

(b) the:

- number of train movements to and from the site each day;
- date and time of each train movement to the site between 10pm and midnight; and
- instances when the shuttle train is operated on the North Coast railway between midnight and 1am in exceptional circumstances.

and make these records publically available on its website on a fortnightly basis.

## **SCHEDULE 5 ENVIRONMENTAL MANAGEMENT, REPORTING AND AUDITING**

### **AUDITING**

#### **Independent Environmental Audit**

9A. By the end of December 2013, and with every Independent Environmental Audit thereafter, unless the Director-General directs otherwise, the Proponent shall commission and pay the full cost of a Rail Haulage Audit of the project. This audit must:

- (a) be conducted by a suitably qualified, experienced and independent experts whose appointment has been endorsed by the Director-General;
- (b) review the existing rail haulage operations and determine whether all reasonable and feasible measures are being implemented to minimise the:
  - noise and dust impacts of these operations;
  - use of the shuttle train during the approved night-time hours;
  - dispatch of trains from the site between 9.25pm and 1am the following day; and
- (c) recommend appropriate measures or actions to improve the efficiency of these rail haulage operations and minimise their associated impacts; and
- (d) evaluate the use of the exceptional circumstances provision in condition 8 of schedule 2, and the associated reporting on any use of this provision on the Proponent's website (see condition 8A in schedule 2).

9B. Within 6 weeks of the completion of this audit, or as otherwise agreed by the Director-General, the Proponent shall submit a copy of the audit report to the Director-General, together with its response to any recommendations contained in the audit report.

A number of other Project Approval conditions are included in Schedule 3, pertaining to noise and dust management (including noise and dust issues related to the operation of the Duralie shuttle). These issues have been investigated and are addressed in separate rail noise and rail dust audit reports and are therefore not listed here.

## 4. Operation and management of the shuttle train

### 4.1 Train planning and path allocation

Due to the variability in train operation on the North Coast railway, management of the shuttle train operation is a day to day task.

A nominal timetable for operation of the train has been agreed with ARTC however this is subject to day of operation variations. The train plan is faxed from Duralie to NCCN weekly to confirm Aurizon's intention to operate the shuttle train. A typical train plan includes 4 trains daily, as follows:

**Table 4-1 Typical daily train plan**

Train Number	Depart Duralie	Arrive Stratford	Train Number	Depart Stratford	Arrive Duralie
DU601	0615	0645	DU602	0805	0835
DU603	1015	1045	DU604	1205	1235
DU605	1345	1415	DU606	1535	1605
DU607	1745	1805	DU608	1925	1955

NCCN responds by return fax 2-3 days in advance of the day of operation with the approved train plan for each day. This amended plan will allow for other train operations, planned trackwork and other uses of the rail corridor.

Advice from DCPL and Aurizon staff is that the shuttle train typically only operates Monday to Saturday (with Saturday treated as a catch-up day) and that operation on Sundays is not practice. It is noted that the data provided by DCPL (including that on the DCPL website) indicates that between November 2012 and December 2013 the shuttle train operated on only one Sunday, 24 February 2013.

On the day of operation, further variability often means that the approved train plan is not met. Unfortunately for the Duralie operation, the shuttle train will inevitably be seen as the lowest priority on the network for the following reasons:

1. Passenger trains (XPTs) are treated as the highest priority and network controllers will take measures to ensure their passage is not impeded, through holding potentially conflicting trains longer than may be necessary to ensure clear passage.
2. Train movements on a single track corridor such as this are inherently sensitive to movements and delays of other trains. For this reason, the network controller will be

planning the movements of long distance freight trains well in advance to ensure effective operation. For southbound movements this is complicated by the need to have trains enter the Sydney metropolitan network at certain times to avoid peak hour congestion and to ensure a reasonable run through to Sydney.

3. The Stratford export train, which also uses Stratford Coal loop to load, will often be treated as a higher priority than the Duralie shuttle for the same reasons as described above. However, Aurizon staff noted that on occasion this train may be held at Stroud Road crossing loop to permit the shuttle to proceed in advance.
4. A short movement such as the Duralie shuttle will be easier to fit around longer distance train operations than vice versa.

The Duralie shuttle may also be delayed on occasion by track maintenance works

In addition to these reasons, the Duralie shuttle may be delayed by issues at loading and unloading. For example, on the day of site inspection of this audit the train was delayed at Duralie by lack of coal in the loading bin. This extended loading time by around 1 hour, so train DU603 was ready to proceed at 11:15 rather than 10:15 as per schedule (see Table 4-1). This then meant that the train was further delayed by the imminent passage of the XPT, so the shuttle was not able to depart Duralie until around 12:40.

Equally, Aurizon staff reported that at Stratford the shuttle train is not infrequently delayed behind the export coal train. Should the Duralie train arrive at Stratford while the Stratford export coal train is loading, the Duralie train must wait until the loading operation is complete before commencing to unload. The movements of the Stratford export train are largely unknown to the Duralie crew and there appears to be little attempt at coordination of operation between the Duralie and Stratford export trains – with what is done managed by the ARTC controller. It is noted that the trains are provided by different train operators (the Stratford export train is operated by Pacific National).

Given all the above issues, it is unsurprising that the data indicates that the Duralie train rarely operates to the train plan shown in Table 4-1, and that it is frequently the case that the number of trains operated on any given day is less than the planned four. Of the 396 days of data provided by DCPL (5 November 2012 to 5 December 2013 inclusive) the number of trains operated each day is as shown in Table 4-2. Figure 4-1 shows the performance over the time period.

Table 4-2 Number of trains operated

No. of trains	Total days	% of Total
0	104	26%
1	16	4%
2	51	13%
3	113	29%
4	112	28%
<b>Total</b>	<b>396</b>	<b>100%</b>

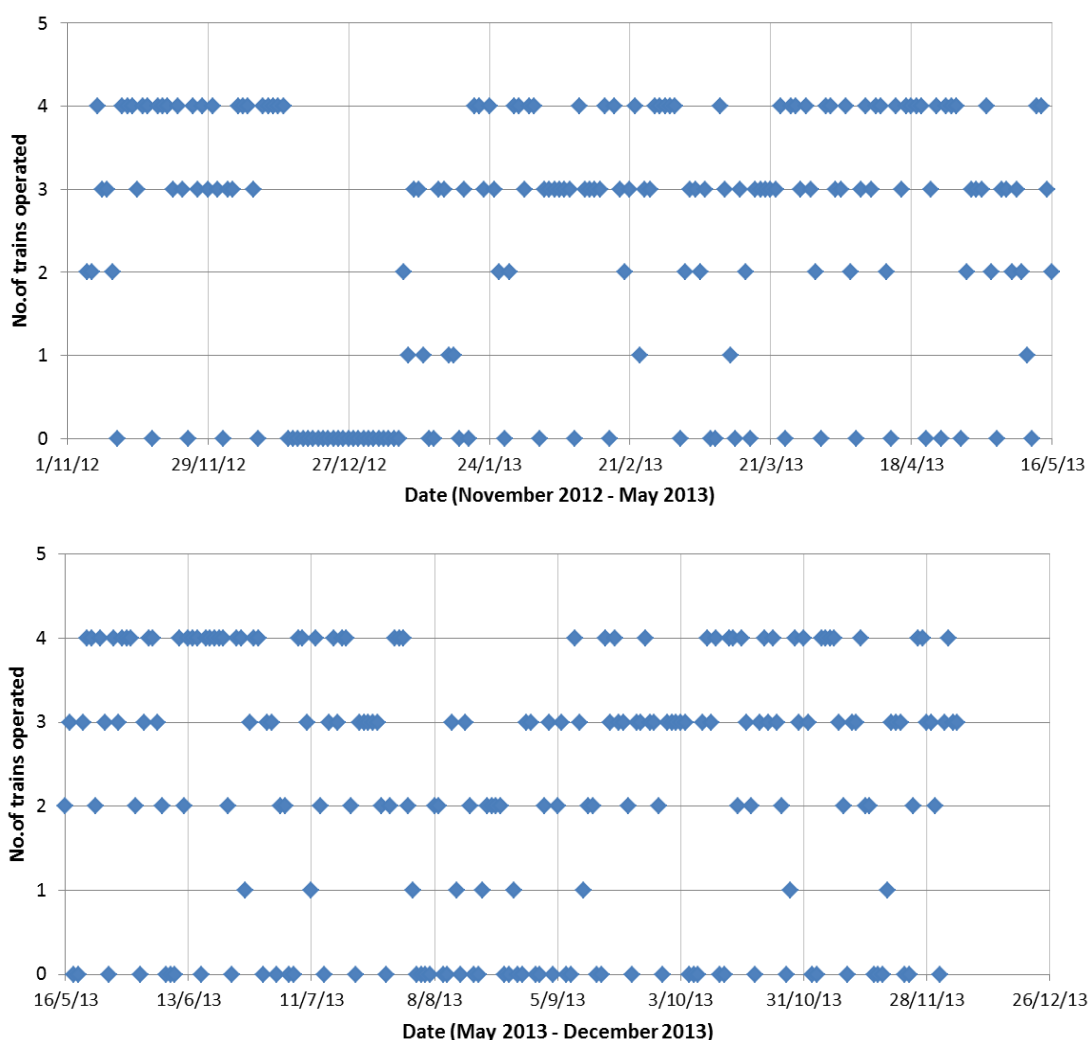


Figure 4-1 Number of trains operated over time



#### 4.1.1 Observations with respect to the Conditions of Operation

**Table 4-3 Observations with respect to the Conditions of Operation, train planning and path allocation**

Conditions of Operation	Observations
7. The Proponent shall ensure that:	
(a) all coal is transported from the site by rail;	<p>No attempt has been made to verify this requirement. The analysis has focussed on the operation of the Duralie coal shuttle.</p> <p>From the data provided by DCPL, a total of 1.947Mt was transported from the site by rail in the 12 month period from December 2012 to November 2013 (inclusive).</p>
(b) no more than 5 laden trains leave the site each day; and	<p>Based on the data provided, the operation complies with this requirement. There is no evidence to suggest that more than 5 laden trains have left the Duralie site on any given day in the period under analysis. Indeed, there is no evidence to suggest that 5 laden trains have left the site on any given day. A maximum of 4 are planned on any day and, given the vicissitudes of daily operation, even this number is frequently not achieved.</p> <p>The total round trip time, including loading and unloading, is 210 minutes or 3.5 hours. Assuming no interference from other events, 4 trains will take 14 hours, 5 trains will take 17.5 hours. Commencing at 6am gives 18 hours to midnight. Whilst it may be technically possible to operate 5 trains in the timeframe it is unlikely that this would ever be achieved – even if it was planned. It would not be possible to operate more than 5 laden trains on any given day within these timeframe restrictions without additional works, to, for example, speed up the loading and/or unloading operation.</p>
(c) no more than 4 laden trains leave the site each day, when averaged over a 12 month period.	<p>Based on the data provided, the operation complies with this requirement. As can be seen from Table 4-2 and Figure 4-1, the maximum number of trains that have left the site on any given day is 4, with that number only achieved on 28% of all days within the data set analysed. By inspection it is apparent that the average number of trains that have left the site over the 12 month period is less than 4.</p> <p>Over the period 1 December 2012 to 30 November 2013 the average number of trains departing the site per day was 2.227. In any 12 month period in the data provided the highest average number of trains departing the site per day was 2.293.</p>

## 4.2 Train operation

Following on from the process of agreeing a path with the ATRC controller, the shuttle train is able to operate between Duralie and Stratford as required.

The shuttle train is held at Duralie overnight. This allows the train to be loaded and ready to proceed to Stratford as soon as possible, as well as ensures that the Stratford Loop is clear thus posing no impediment to the export train (which can operate around the clock as required by operational demands).

During daily operation, the train driver compiles a 'traco', recording the actual timing of events (departure and arrive from Duralie and Stratford, load and unload start and finish times) along with the explanation of any delays.

The restrictions on operating times imposed by the Conditions of Operation have the following impacts:

- The train crew is rostered, and the train prepared, so that the first train to depart Duralie each morning is able to proceed at 6am or as soon as possible afterwards (other traffic permitting).
- Operation will continue each day until such a time that the train crew decides that another trip is not possible without the return train being delayed until after midnight. From experience Aurizon staff have concluded that the last train must depart Duralie before 9:40pm.

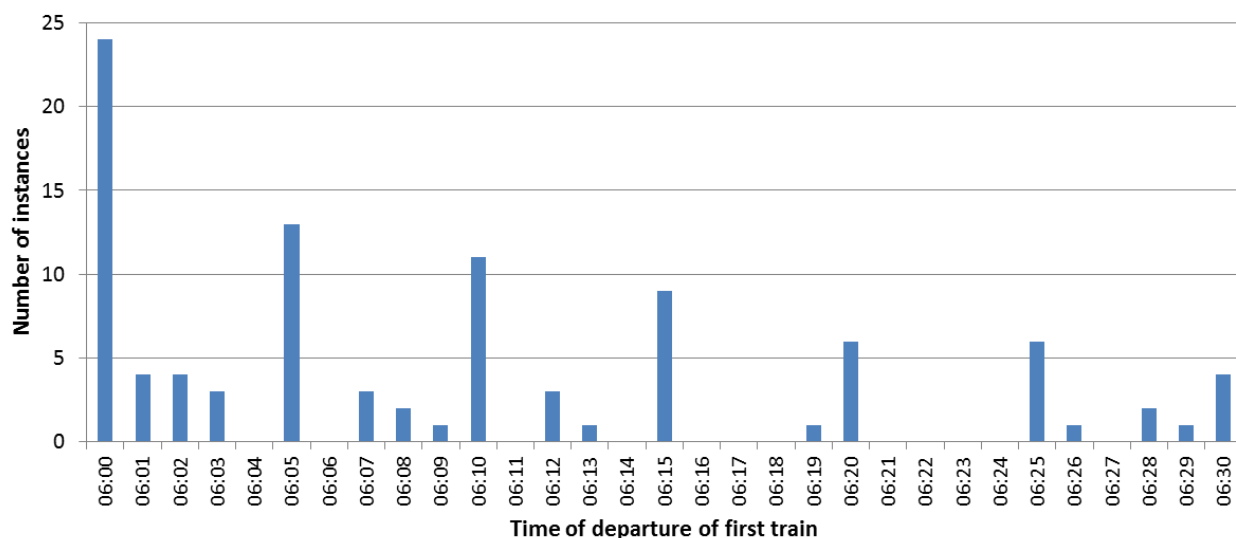
The traco sheets are used as a record of the actual operations, from which the reporting of train operations data required by DCPL is compiled. An analysis of the data provided by DCPL has been conducted as part of the audit.

### 1. Departure time from Duralie:

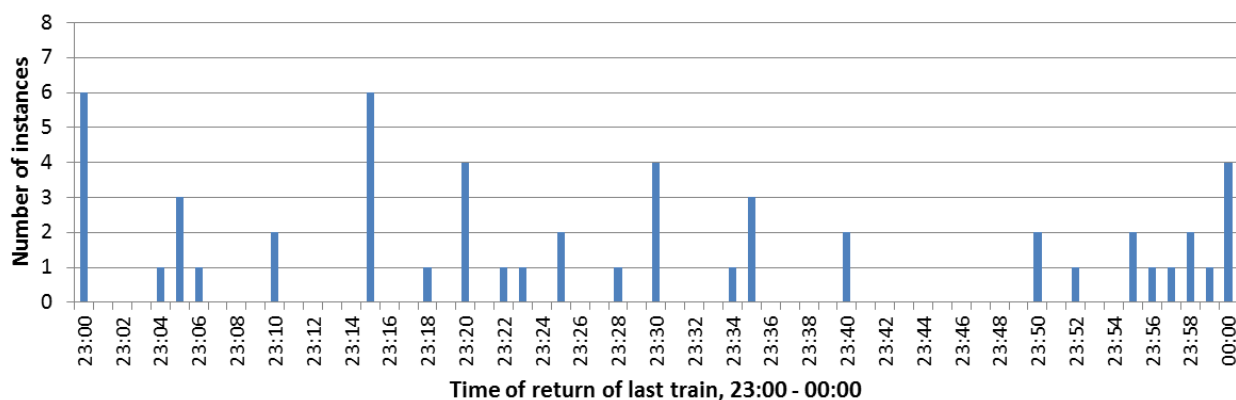
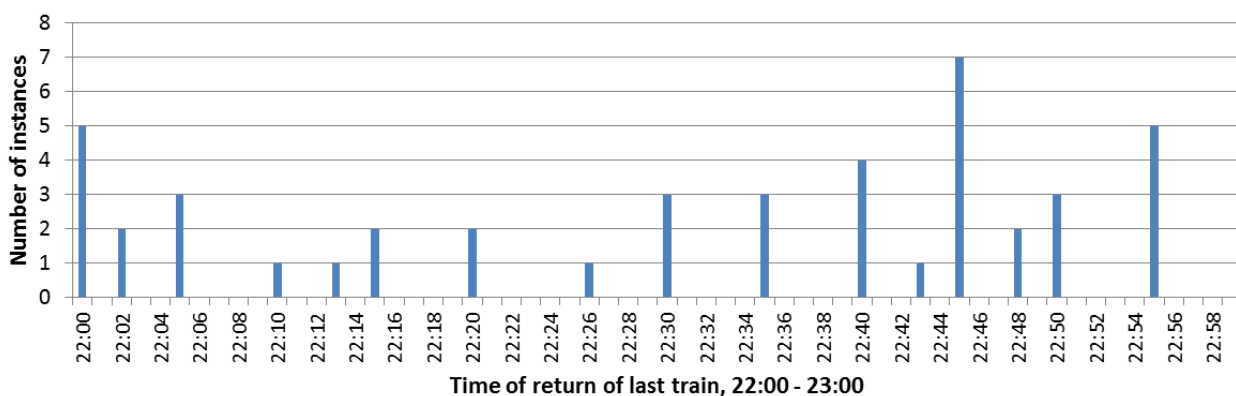
- Figure 4-2 provides a summary of the earliest departures from Duralie as recorded in the DCPL data, with all departures up to 06:30 shown (a total of 99 trains). The earliest recorded departures are at 06:00, in accordance with the Conditions of Operation.
- The latest time a train is recorded departing Duralie is 21:53, with a total of 10 train departure from Duralie after 21:30 over the year.

### 2. Return time to Duralie:

- Figure 4-3 provides a summary of all recorded times of train return to Duralie after 22:00 over the period. A total of 98 trains are recorded arriving back after 22:00, with the latest recorded return being midnight. It is noted that 4 trains are shown as returning at exactly midnight, with a further 7 trains recorded as returning to Duralie at 23:55 or later.
- The earliest recorded time of train return is 08:15. (Note that there is one record of a train returning to Duralie at 4:35 however this is obviously an error and should read 14:35).



**Figure 4-2** Departure time of the earliest trains from Duralie, December 2012 – November 2013



**Figure 4-3** Return time of trains to Duralie after 22:00, December 2012 – November 2013

To verify the data provided by DCPL, data was obtained from the ARTC control system indicating the times when the position of the points at Duralie Siding are reversed – that is ,

set for the movement of a train into or out of the siding. Data was obtained for October, November and early December 2013.

In general a reasonable correlation was found between the ARTC data and the records kept by DCPL. It would be reasonable to assume that the points are reset for the main line fairly quickly after the Duralie train has passed, providing a reasonably accurate time of departure or arrival. Conversely, the time recorded by the driver may be variable depending on the where the record was made (at the loading bin, once the train was on its way, etc.), approximations of the time (i.e. rounding to the nearest 5 minutes), etc. Variability seems greater for trains departing, which is likely due to the time being recorded by the driver as they departed from the loading bin, only to have to wait at the points for a path to be set out onto the main line. An example of this is on 4 December, where the Duralie train records departure at 18:20 but the data suggests that the train did not actually leave until around 18:47. Table 4-4 provides a summary of the data correlation for the days of 3 and 4 December 2013.

**Table 4-4 Comparison of ARTC data with DCPL record**

Date	Arrival / Departure	Points reverse	Points normal	DCPL record	Likely passage of train
3 December	Depart	6:34:49	6:38:14	6:45	6:36
3 December	Arrive	8:51:43	9:26:00	9:30	9:25
3 December	Depart	11:54:14	11:55:13	11:55	11:55
3 December	Arrive	14:10:08	14:41:22	14:45	14:45
3 December	Depart	16:30:07	16:31:34	16:35	16:30
3 December	Arrive	18:40:49	19:14:08	19:20	19:12
3 December	Depart	20:47:52	20:52:35	20:50	20:50
3 December	Arrive	22:12:41	23:36:41	23:40	23:35
4 December	Depart	7:34:37	7:35:41	8:00	7:35
4 December	Arrive	9:30:32	9:54:04	9:55	9:53
4 December	Depart	11:37:23	11:38:14	11:37	11:37
4 December	Arrive	16:26:03	16:41:43	16:45	16:40
4 December	Depart	18:43:20	18:49:46	18:20	18:45
4 December	Arrive	20:36:18	21:05:18	21:05	21:05

With respect to early departures there are two days of interest in the ARTC data:

- On 25 October DCPL's data shows the first train departing at 06:00. The ARTC data shows the points being set for the Duralie train at 05:52:43 then restored to the Main Line at 5:58:33. This suggests that the train probably departed between 05:54 and 05:57.
- On 9 November DCPL's data shows the first train departing at 06:00. ARTC data shows the points being set for the Duralie train at 05:38:31 then restored to the Main Line at 5:55:07. This suggests that the train probably departed at or before 05:54.

It is possible that in these instances the train controller has advised the Duralie crew that if they get away quickly they will get a path to Stratford but if they wait a few minutes there will be a clash with another train and they will be held at Duralie for hours. The incentive then is to get away a few minutes early.

There are a number of other days where the ARTC data shows the points being set for the Duralie train before 06:00 but restored to the Main Line after 06:00. The corresponding DCPL data indicates the train departed on or after 6:00.

With respect to late arrivals, the Duralie spreadsheet does not indicate any arrivals back at Duralie after midnight in the period covered by the ARTC. The data from ARTC offers no reason to question this.

- The latest arrival recorded by DCPL in the period is 23:56 on 28 October. The ARTC data shows that this train had fully arrived (i.e. points set back for the Main Line) by 23:52.
- On 26 November DCPL shows a train arrived at 23:26, whereas the ARTC data suggests 23:44.
- On 22 October DCPL shows a train arrived at Duralie at 23:50, whereas ARTC data shows 23:44.

Over the full year of data analysed, 4 instances of arrival at exactly midnight are recorded. None of these dates were reflected in the ARTC data so it was not possible to verify these arrival times during the course of the audit.

Given that no trains have been recorded as operating between midnight and 1am, there is no evidence that the Exceptional Circumstances clause has been invoked in the period under consideration. Indeed, in discussion with DCPL and Aurizon staff there was no apparent understanding of what circumstances could be declared exceptional, or how Exceptional Circumstances could be declared. As discussed previously, the focus of the Aurizon team appears to be to ensure that the final train does not depart Duralie if it is unlikely to be able to return by midnight (although it is noted that even in this instance a power supply failure at Stratford could affect DCPL's ability to unload the shuttle train, thus could delay a return trip and legitimately trigger the Exceptional Circumstances provisions).

#### 4.2.1 Observations with respect to the Conditions of Operation

**Table 4-5 Observations with respect to the Conditions of Operation, train operations**

Conditions of Operation	Observations
8. The Proponent shall:	
(a) only dispatch shuttle trains from the site between 6am and 10pm;	<p>Based on the analysis conducted, the operation is broadly compliant with this requirement.</p> <p>Practices adopted by Aurizon focus on having the first train ready to depart as soon as possible after 6am each morning, with the actual timing of the first departure dependant on the status of other operations on the North Coast Railway. There are two instances (in 3 months of available data) observed where data obtained from ARTC suggests that a train departed Duralie marginally before 6am; it is expected that these instances were caused by a need to fit in with other rail operations.</p> <p>There is no evidence of any trains departing Duralie after 10pm. From experience Aurizon staff have concluded that the last train must depart Duralie before 9:40pm to enable it to return before midnight.</p>
(b) only receive shuttle trains on site between 6am and midnight; and	<p>Based on the analysis conducted, the operation is compliant with this requirement.</p> <p>As noted above, Aurizon staff have concluded that the last train must depart Duralie before 9:40pm to enable it to return before midnight, and this has become an operational cut-off. Over the full year of data analysed, 4 instances of arrival at exactly midnight are recorded. None of these dates were reflected in the ARTC data available so it has not been possible to verify these arrival times during the course of the audit.</p>
(c) only operate shuttle trains on the North Coast railway between midnight and 1am in exceptional circumstances.	<p>Based on the analysis conducted, the operation is compliant with this requirement.</p> <p>There is no evidence that exceptional circumstances have been invoked in the year under review. Indeed, in discussion with DCPL and Aurizon staff there was no apparent understanding of what circumstances could be declared exceptional, or how exceptional circumstances could be declared.</p>



Conditions of Operation	Observations
8A. Within 12 hours of operating shuttle trains on the North Coast railway between midnight and 1am in exceptional circumstances, the Proponent shall provide a detailed explanation of the exceptional circumstances on its website.	Not applicable. There is no evidence that exceptional circumstances have been invoked in the year under review.

### 4.3 Management of the train load

Although not specifically addressed in the Conditions of Operation, management of the train load is an important for the overall efficiency of the shuttle operation. By maximising the load of each train the number of shuttle train trips can be minimised, leading to lower community impacts as well as lower costs of operation.

The shuttle train is a push-pull consist made up of 34 PHGH coal wagons and two locomotives. The maximum permitted gross mass of the PHGH coal wagon is 100t, with tare mass being 22.4t giving a load of 77.6t per wagon. Total maximum load on the shuttle train is 2,628t.

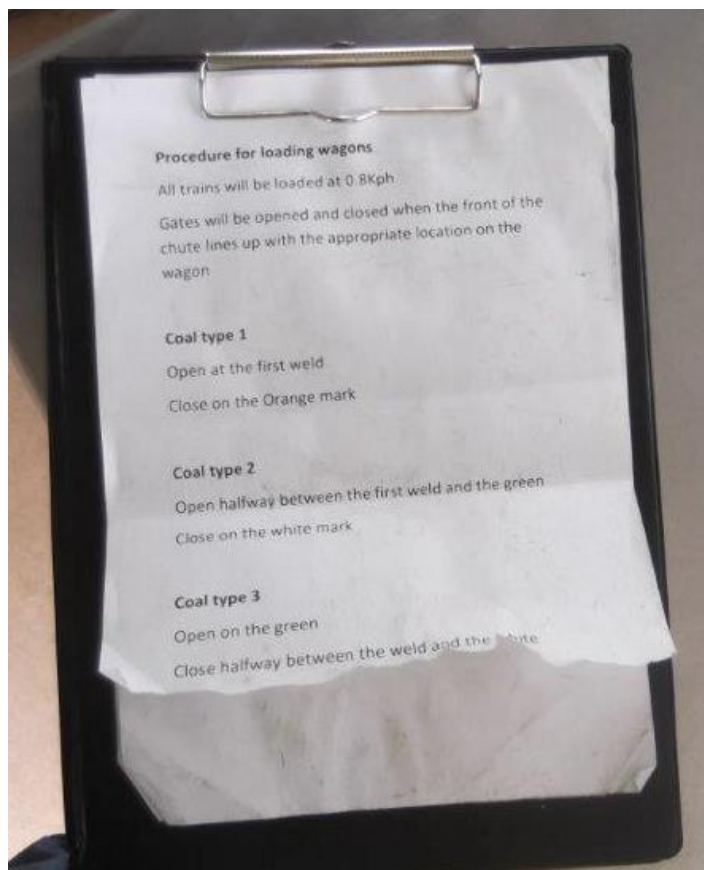
Optimum loading of the train has been the subject of much analysis. The loading arrangement at Duralie is based on volume rather than weight, with no permanent weighbridge installed. Complicating this is that the volume of the PHGH wagons could accommodate up to 100t of coal (ore gross mass of 120t / 30t axle loads) however this level of loading is not permitted on the North Coast Railway. This means that a judgement must be made of the appropriate volume of coal that reflects the desired weight,

An initial approach used a weighbridge to confirm the maximum gross weight of each wagon prior to departure however it was found that this on its own created a range of problems. Most notably, without guidance during loading, and with variability in the density of the coal, overweight wagons were occasionally found which then required the coal from that wagon to be dumped, leading to operational delays. In consequence, the loading staff tended to err on the side of caution, meaning that the train was most often not optimally loaded.

In response, an analysis was conducted by DCPL to test the resulting load under a range of conditions of coal type and condition, as well as different loading rules. The result of this process is a set of loading rules that are now applied by the Aurizon train crew. This process is illustrated in Figure 4-4 and Figure 4-5.

1. Coal is classified into Types 1, 2 and 3 depending on density, with (broadly) coking coal being Type 1, thermal or mixed coal being Type 2 and wet coal being Type 3. The type of coal is communicated to the train crew at the time of loading.
2. Loading operations are undertaken at 0.8km/h
3. Based on the type of coal, the loading chute is opened and closed at different times relative to three marks and a weld on each wagon. This ensures the overall load is the appropriate weight, as well as ensures the load is balanced in the wagon.

The total load delivered by each train is weighed at Stratford (after unloading) and it is these load figures that are recorded by DCPL.



**Figure 4-4 Procedure for loading wagons**



**Figure 4-5 Loading chute and wagon, showing green, orange and white marks**

Figure 4-6 provides a summary of the wagon and train loads for shuttle train operations between September and December 2013. It can be seen that, since September, the processes in place to manage loading have resulted in a reasonably consistent wagon and train load, with average wagon loads close to the maximum permitted. Clearly, the variability in loading that is evident in September is no longer the case.

There are a range of instances where the average wagon load exceeds the maximum permitted, which suggests that some fine tuning of the loading processes may be appropriate.

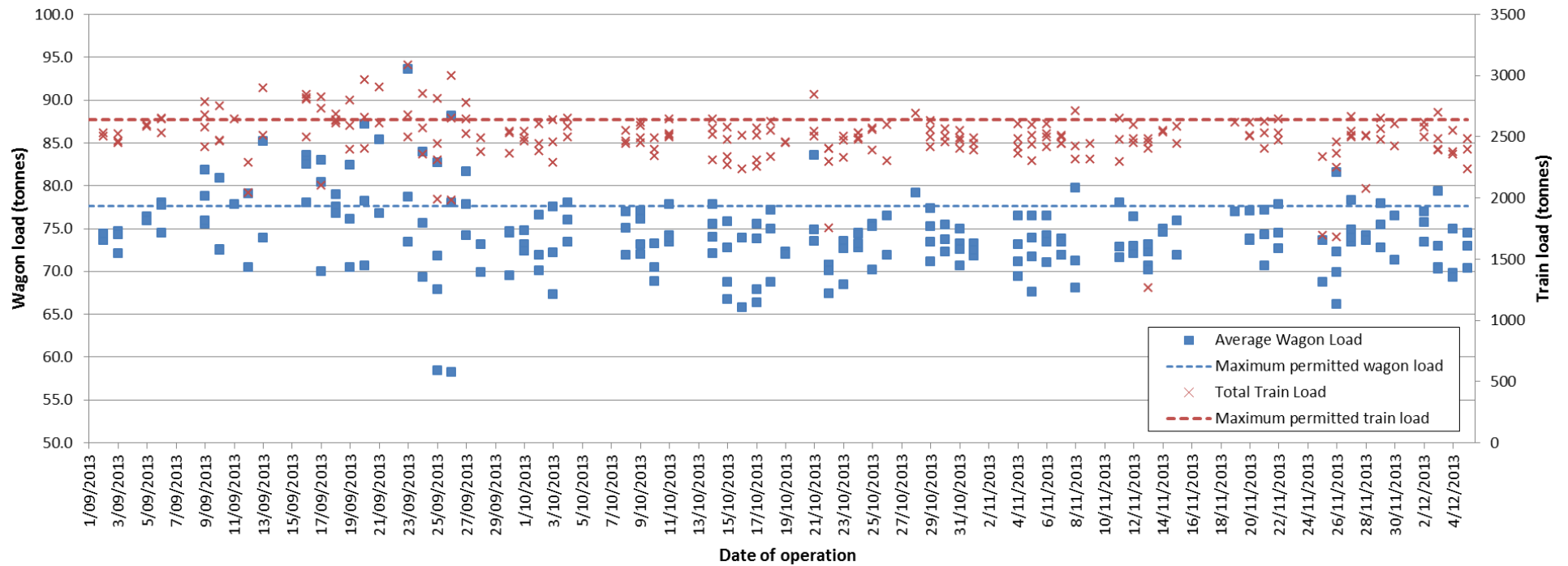
From time to time it is necessary for the train to depart Duralie without being full loaded. These circumstances are mostly as a result of opportunities in the train schedule, where by leaving earlier than planned would allow the train to obtain a path to Stratford that would be missed if the train waited to be fully loaded. Over the year reviewed the average number of wagons loaded per train was 33.46. 731 of a total of 819 trips (89.3%) had the full 34 wagons loaded.

#### **4.3.1 Observations with respect to the Conditions of Operation**

As noted previously, management of the train load is not specifically addressed in the Conditions of Operation. However, by maximising the load of each train the number of shuttle train trips can be minimised, leading to lower community impacts as well as lower costs of operation.

The conclusion of this analysis is that DCPL has taken reasonable steps to optimise the load of each train and that these steps are resulting in shuttle train loads that are consistently close to the maximum train load.

There are a range of instances where the average wagon load exceeds the maximum permitted, which suggests that some fine tuning of the loading processes may be appropriate, through investigating the circumstances on the specific days where overloading has occurred.



**Figure 4-6 Wagon and train loads, September to December 2013**

## 4.4 Maintenance of the train

As with management of the train load, maintenance of the train is not specifically addressed in the Conditions of Operation. However, effective maintenance will permit efficient operation of the train and will also minimise the potential for noise generation through defects such as wheel flats, brake squeal, etc.

A primary management process for defect identification is through roll-by inspection, which, by default, takes place during each loading and unloading operation. (This compares to a long distance freight train, which may undergo roll-by inspection once per day or less).

Brake continuity tests are undertaken by the train crew each morning, prior to commencement of operation at 6am.

Maintenance of wagons is undertaken periodically on site by Bradken, the wagon suppliers. This work is (where possible) scheduled for non-operating days – that is, Saturday or Sunday.

Maintenance of locomotives is undertaken by Aurizon at their facilities near Newcastle, typically on a weekend. When necessary, locomotives are swapped with alternatives to permit maintenance activities. Aurizon has advised that it maintains a pool of three locomotives that are approved for use by the Duralie shuttle train; with two in use and one available if a breakdown on one of the others occurs. Aurizon notes that a locomotive breakdown has not yet led to the cancellation of a train.

### 4.4.1 Observations with respect to the Conditions of Operation

As noted above, maintenance of the train is not specifically addressed in the Conditions of Operation. However, effective maintenance will permit efficient operation of the train and will also minimise the potential for noise generation.

The conclusion of this analysis is that DCPL and Aurizon have in place reasonable arrangements to undertake routine maintenance and to identify any defects that may impact on operational efficiency or noise generation.

## 4.5 Reporting of operational data

The Conditions of Operation include requirements for DCPL to keep and make available data on the operation of the shuttle train.

DCPL and Aurizon staff keep comprehensive records of the train operations which has been made available and referenced throughout the audit process and is referred to in this report. A sample of these records is provided in Appendix A.



#### 4.5.1 Observations with respect to the Conditions of Operation

**Table 4-6 Observations with respect to the Conditions of Operation, reporting of operational data**

Conditions of Operation	Observations
48. The Proponent shall keep accurate records of:	
(a) the amount of coal transported from the site each month, and make these records publically available on its website at the end of each calendar year; and	<p>This matter has not been a central factor in this audit of train operations.</p> <p>It has been observed that the DCPL keeps accurate records of the amount of coal transported from the site and this data has been used in the foregoing analysis. Records are publically available in the DCPL annual report published at <a href="http://www.duraliecoal.com.au/environment/annual-review.php">http://www.duraliecoal.com.au/environment/annual-review.php</a>.</p>
<p>(b) the:</p> <ul style="list-style-type: none"> <li>number of train movements to and from the site each day;</li> <li>date and time of each train movement to the site between 10pm and midnight; and</li> <li>instances when the shuttle train is operated on the North Coast railway between midnight and 1am in exceptional circumstances.</li> </ul> <p>and make these records publically available on its website on a fortnightly basis.</p>	<p>Based on the analysis conducted, DCPL is not fully compliant with this requirement.</p> <p>DCPL makes data available at <a href="http://www.duraliecoal.com.au/environment/shuttle_train_performance.php">http://www.duraliecoal.com.au/environment/shuttle_train_performance.php</a>. This includes:</p> <ul style="list-style-type: none"> <li>The number of train movements (treated as round trips, or loaded trains) each day, and</li> <li>The date and time of each train movement to the site between 10pm and midnight.</li> </ul> <p>As noted previously, there have been no recorded instances when the shuttle train has been operated between midnight and 1am.</p> <p>At the time of drafting of this audit report (12 December 2013) the most recent shuttle train performance data published was up to October 24, some 6 weeks prior. Thus at this point in time, train performance data was not being made available on a fortnightly basis. It is noted that the published train performance data had been updated during the period of review of the draft audit report by DCPL, so that at the time of finalising the report (23 December 2013) the published information included data to 19 December 2013.</p>

## 4.6 Additional observations with respect to the Conditions of Operation

The following are some additional observations with respect to the shuttle train performance and DCPL's compliance with the Conditions of Operation.

1. In general, the shuttle train appears well managed and operated. In particular:
  - A substantial amount of data is generated on the timetabling, day to day operation and other elements of the operation. This data has been made freely available for the purposes of this audit.
  - The DCPL staff that manage and monitor the shuttle train operation appear engaged and enthusiastic in their role and seem committed to ensure the operation remains effective and occurs within the parameters set in the Conditions of Operation.
  - The Aurizon train crews encountered during the audit process appear equally engaged in the effective management of the operation. A key challenge of their role is obviously to achieve the greatest level of coal transported whilst working within the vagaries of the railway and the Conditions of Operation.
2. There appears to be a lack of formal documentation on the processes to be adopted in the management of the shuttle train operation and in ensuring compliance with the Conditions of Operation. Many elements of the process appear to be organically developed rather than designed – for example the processes for management of the loading, as well as record keeping. Given that the effective operation of the shuttle train within the Conditions of Operation is an essential business process for the entire DCPL operation, it seems appropriate that the process is formalised and a Shuttle Train Management Plan put in place. This would assist to ensure a consistent approach is taken regardless of individual staff, and would demonstrate management oversight and governance.
3. In the absence of formal process documentation, much of the understanding of the Conditions of Operation appears to be derived from a single briefing session in November or December 2012. The result is that the staff involved tend to act cautiously, which ensures compliance with the conditions but may have a detrimental impact on the DCPL business. An example of this is the Exceptional Circumstances provisions, which appear to have never been invoked, with no understanding of how these may be invoked. The use of such provisions (where they apply) may provide commercial benefits to DCPL over current operations.
4. Whilst the Conditions of Approval permit the dispatch of trains from Duralie until 10pm, the audit is required to consider the dispatch of trains from the site between 9.25pm and 1am the following day and to recommend appropriate measures or actions to improve the efficiency of these rail haulage operations and minimise their associated impacts.

Over the period analysed a total of 13 train movements are recorded where the train has departed Duralie after 9:25 (as noted previously, the practice adopted is that the

latest a train will be permitted to depart is 9:40). Given this limited number of movements, it appears possible to transport the same amount of coal yet avoid any departures after 9:25 by instituting more movements on a Saturday. However, there are no doubt a range of factors that would influence the viability of such a choice.

This audit was to confirm adherence to the Conditions of Operation of the shuttle train included in the Duralie Coal Mine Extension Approval. However, during the course of the audit a Condition of Operation for the Stratford Coal Mine was raised. Condition 6, Schedule 3 of the Stratford Mine approval states:

**Rail Noise**

6. Unless the Director-General agrees otherwise, the Applicant shall ensure that the Stratford rail loop is only occupied simultaneously by two trains at night on:
  - (a) No more than 40 times in a calendar year before the end of 2013;
  - (b) No more than 25 times in a calendar year from the start of 2014, and
  - (c) No more than once a week.

For the purposes of this condition, "night" is defined as 10pm to 6am.

It is not known to the auditor what measures are in place at Stratford or elsewhere to manage compliance to this Condition of Operation (this matter was not specifically investigated in this audit). However, as noted previously there appears to be little coordination of operation between the Duralie and Stratford export trains. It would seem appropriate that some level of coordination be put in place, to ensure compliance with this Condition of Operation at Stratford (particularly as this condition will become more onerous from 2014 onwards) and to potentially eliminate inefficiencies in the operation of the shuttle train.

## 5. Summary and conclusions

Palazzirail was requested by DCPL to undertake an audit into the rail haulage logistics, as required by the Conditions of Operation of the shuttle train included in the Duralie Coal Mine Extension Approval.

The audit found that the shuttle train appears well managed and operated. The DCPL staff that manage and monitor the shuttle train operation appear engaged and enthusiastic in their role and seem committed to ensure the operation remains effective and occurs within the parameters set in the Conditions of Operation. The Aurizon train crews encountered during the audit process appear equally engaged in the effective management of the operation.

The documentation and evidence provide during the audit demonstrate that there are effective processes in place to manage:

- Scheduling of trains
- Day-to-day operation
- Management of train loading, and
- Train maintenance

A summary of the findings of the audit against the Conditions of Operation are as follows:

**Table 5-1 Summary of audit findings in relation to the Conditions of Operation**

Conditions of Operation	Observations	Compliant?	Recommendation
7. The Proponent shall ensure that:			
(a) all coal is transported from the site by rail;	No attempt has been made to verify this requirement. The audit has focussed on the operation of the Duralie coal shuttle.	<b>N/a</b>	
(b) no more than 5 laden trains leave the site each day; and	There is no evidence to suggest that more than 5 laden trains have left the Duralie site on any given day in the period under analysis.	<b>Yes</b>	
(c) no more than 4 laden trains leave the site each day, when averaged over a 12 month period.	Over the period assessed the average number of trains departing the site per day was 2.227.	<b>Yes</b>	
8. The Proponent shall:			
(a) only dispatch shuttle trains from the site between 6am and 10pm;	Practices focus on the first departure at 6am, however two instances have been observed where data obtained from ARTC suggests that a train departed Duralie marginally before 6am; it is expected that these instances were caused by a need to fit in with other rail operations. There is no evidence of any trains departing Duralie after 10pm.	<b>No</b>	It is recommended that the requirement that no train departs the site before 6am is reinforced with Aurizon staff.  <i>(This action has been completed and was confirmed by email from Aurizon on 20 December 2013.)</i>
(b) only receive shuttle trains on site between 6am and midnight; and	The latest time a train is recorded to be received at the Duralie site is midnight.	<b>Yes</b>	
(c) only operate shuttle trains on the North Coast railway between midnight and 1am in exceptional circumstances.	There is no evidence that exceptional circumstances have been invoked in the year under review.	<b>Yes</b>	

Conditions of Operation	Observations	Compliant?	Recommendation
8A. Within 12 hours of operating shuttle trains on the North Coast railway between midnight and 1am in exceptional circumstances, the Proponent shall provide a detailed explanation of the exceptional circumstances on its website.	There is no evidence that exceptional circumstances have been invoked in the year under review.	n/a	
48. The Proponent shall keep accurate records of:			
(a) the amount of coal transported from the site each month, and make these records publically available on its website at the end of each calendar year; and	This matter has not been a central factor in this audit of train operations.	n/a	
(b) the: <ul style="list-style-type: none"> <li>number of train movements to and from the site each day;</li> <li>date and time of each train movement to the site between 10pm and midnight; and</li> <li>instances when the shuttle train is operated on the North Coast railway between midnight and 1am in exceptional circumstances.</li> </ul> and make these records publically available on its website on a fortnightly basis.	<p>DCPL makes data available on its website however at the time of drafting of this report, train performance data was not being made available on a fortnightly basis.</p> <p><i>(It is noted that the published train performance data had been updated during the period of review of the draft audit report by DCPL.)</i></p>	No	It is recommended that DCPL review its procedures for posting of train performance data on its website to ensure that this information is made available consistently on a fortnightly basis.



**Table 5-2 Summary of other observations and recommendations**

Observations and recommendations
<p>The Conditions of Approval permit the dispatch of trains from Duralie until 10pm. However, the audit is required to consider the dispatch of trains from the site between 9.25pm and 1am the following day and to recommend appropriate measures or actions to improve the efficiency of these rail haulage operations and minimise their associated impacts.</p>
<p>Over the period analysed a total of 13 train movements are recorded where the train has departed Duralie after 9:25. Given this limited number of movements, it appears possible to transport the same amount of coal yet avoid any departures after 9:25 by instituting more movements on a Saturday. It is recommended that this issue be investigated by DCPL, Aurizon and ARTC to determine if it is feasible to reduce or eliminate dispatch of trains after 9.25pm.</p>
<p>The shuttle train operation appears well managed however there appears to be a lack of formal documentation on the processes to be adopted. It is recommended that the process is formalised and a Shuttle Train Management Plan put in place, which would assist to ensure a consistent approach is taken regardless of individual staff and would demonstrate management oversight and governance.</p>
<p>Condition 6, Schedule 3 of the Conditions of Operation for the Stratford Coal Mine states that the Stratford rail loop must only be occupied simultaneously by two trains at night no more than 25 times in a calendar year from the start of 2014, and no more than once a week.. It is recommended that some level of coordination be put in place between the Duralie shuttle train and the Stratford export train, to ensure compliance with this Condition of Operation at Stratford and to potentially eliminate inefficiencies in the operation of the shuttle train.</p>

## Appendix A

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### Train operations records

## Appendix A: Train operations records

The following data is provided in this Appendix A

- Base service plans for Monday 25 November 2013 to Friday 29 November 2013
- Service plans as amended by ARTC NCCN, for Tuesday 19 November 2013 to Thursday 21 November 2013
- Aurizon train traco (including actual records of operation and delays incurred, 2 pages each) from 23-24 September 2013, 9-10 October 2013, 19 October 2013 and 20-21 November 2013.
- Procedure for loading wagons
- Train consist details
- Wagon maintenance records from 20-21 July 2013
- Train examination certificate from 30 September 2013

Additional data referenced during the course of this audit includes:

- The published train operation data on the DCPL website ([http://www.duraliecoal.com.au/environment/shuttle\\_train\\_performance.php](http://www.duraliecoal.com.au/environment/shuttle_train_performance.php))
- Additional data on daily train movements and loads provided by DCPL.
- Data on the operation of 53 points at Duralie for October, November and December 2013, as provided by ARTC.



## DURALIE - STRATFORD DOMESTIC COAL PROGRAM

Broadmeadow Program

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Interail Australia

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Duralie

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**Day and Date of Service - Monday 25 November 2013**

**4 TRAIN PROGRAM**

Train Number	From	Departure Time	To	Arrival Time	PUSH/PULL CONFIGURATION
DU601	Duralie	0715	Stratford	0745	6000 Class, 34 LOADED PHGH, 423 CLASS & TRAIN LOAD 3400 TON = 630 METRES INC LOCOS
DU602	Stratford	0905	Duralie	0935	6000 Class, 34 LOADED PHGH, 423 CLASS & TRAIN LOAD 3400 TON = 630 METRES INC LOCOS Train Crew meal break on return
DU603	Duralie	1115	Stratford	1145	6000 Class, 34 LOADED PHGH, 423 CLASS & TRAIN LOAD 3400 TON = 630 METRES INC LOCOS
DU604	Stratford	1305	Duralie	1335	6000 Class, 34 LOADED PHGH, 423 CLASS & TRAIN LOAD 3400 TON = 630 METRES INC LOCOS
DU605	Duralie	1445	Stratford	1515	6000 Class, 34 LOADED PHGH, 423 CLASS & TRAIN LOAD 3400 TON = 630 METRES INC LOCOS
DU606	Stratford	1635	Duralie	1705	6000 Class, 34 LOADED PHGH, 423 CLASS & TRAIN LOAD 3400 TON = 630 METRES INC LOCOS Train Crew meal break on return
DU607	Duralie	1845	Stratford	1905	6000 Class, 34 LOADED PHGH, 423 CLASS & TRAIN LOAD 3400 TON = 630 METRES INC LOCOS
DU608	Stratford	2025	Duralie	2055	6000 Class, 34 LOADED PHGH, 423 CLASS & TRAIN LOAD 3400 TON = 630 METRES INC LOCOS

**FAXED**



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**Day and Date of Service - Tuesday 26 November 2013**

**4 TRAIN PROGRAM**

Train Number	From	Departure Time	To	Arrival Time	PUSH/PULL CONFIGURATION
DU601	Duralie	0615	Stratford	0645	6000 CLASS,34 LOADED PHGH,32 CLASS TRAIN LOAD 3400 TON=630 METRES INC LOCOS
DU602	Stratford	0805	Duralie	0835	6000 CLASS,34 LOADED PHGH,32 CLASS TRAIN LOAD 3400 TON=630 METRES INC LOCOS   Crew meal break on return
DU603	Duralie	1015	Stratford	1045	6000 CLASS,34 LOADED PHGH,32 CLASS TRAIN LOAD 3400 TON=630 METRES INC LOCOS
DU604	Stratford	1205	Duralie	1235	6000 CLASS,34 LOADED PHGH,32 CLASS TRAIN LOAD 3400 TON=630 METRES INC LOCOS
DU605	Duralie	1345	Stratford	1415	6000 CLASS,34 LOADED PHGH,32 CLASS TRAIN LOAD 3400 TON=630 METRES INC LOCOS
DU606	Stratford	1535	Duralie	1605	6000 CLASS,34 LOADED PHGH,32 CLASS TRAIN LOAD 3400 TON=630 METRES INC LOCOS   Crew meal break on return
DU607	Duralie	1745	Stratford	1805	6000 CLASS,34 LOADED PHGH,32 CLASS TRAIN LOAD 3400 TON=630 METRES INC LOCOS
DU608	Stratford	1925	Duralie	1955	6000 CLASS,34 LOADED PHGH,32 CLASS TRAIN LOAD 3400 TON=630 METRES INC LOCOS



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**Day and Date of Service - Wednesday 27 November 2013**

**4 TRAIN PROGRAM**

Train Number	From	Departure Time	To	Arrival Time	PUSH/PULL CONFIGURATION
DU601	Duralie	0615	Stratford	0645	6000 CLASS,34 LOADED PHGH,32 CLASS TRAIN LOAD 3400 TON=630 METRES INC LOCOS
DU602	Stratford	0805	Duralie	0835	6000 CLASS,34 LOADED PHGH,32 CLASS TRAIN LOAD 3400 TON=630 METRES INC LOCOS   Crew meal break on return
DU603	Duralie	1015	Stratford	1045	6000 CLASS,34 LOADED PHGH,32 CLASS TRAIN LOAD 3400 TON=630 METRES INC LOCOS
DU604	Stratford	1205	Duralie	1235	6000 CLASS,34 LOADED PHGH,32 CLASS TRAIN LOAD 3400 TON=630 METRES INC LOCOS
DU605	Duralie	1345	Stratford	1415	6000 CLASS,34 LOADED PHGH,32 CLASS TRAIN LOAD 3400 TON=630 METRES INC LOCOS
DU606	Stratford	1535	Duralie	1605	6000 CLASS,34 LOADED PHGH,32 CLASS TRAIN LOAD 3400 TON=630 METRES INC LOCOS   Crew meal break on return
DU607	Duralie	1745	Stratford	1805	6000 CLASS,34 LOADED PHGH,32 CLASS TRAIN LOAD 3400 TON=630 METRES INC LOCOS
DU608	Stratford	1925	Duralie	1955	6000 CLASS,34 LOADED PHGH,32 CLASS TRAIN LOAD 3400 TON=630 METRES INC LOCOS



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**Day and Date of Service - Thursday 28 November 2013**

**4 TRAIN PROGRAM**

Train Number	From	Departure Time	To	Arrival Time	PUSH/PULL CONFIGURATION
DU601	Duralie	0615	Stratford	0645	6000 CLASS,34 LOADED PHGH,32 CLASS TRAIN LOAD 3400 TON=630 METRES INC LOCOS
DU602	Stratford	0805	Duralie	0835	6000 CLASS,34 LOADED PHGH,32 CLASS TRAIN LOAD 3400 TON=630 METRES INC LOCOS Crew meal break on return
DU603	Duralie	1015	Stratford	1045	6000 CLASS,34 LOADED PHGH,32 CLASS TRAIN LOAD 3400 TON=630 METRES INC LOCOS
DU604	Stratford	1205	Duralie	1235	6000 CLASS,34 LOADED PHGH,32 CLASS TRAIN LOAD 3400 TON=630 METRES INC LOCOS
DU605	Duralie	1345	Stratford	1415	6000 CLASS,34 LOADED PHGH,32 CLASS TRAIN LOAD 3400 TON=630 METRES INC LOCOS
DU606	Stratford	1535	Duralie	1605	6000 CLASS,34 LOADED PHGH,32 CLASS TRAIN LOAD 3400 TON=630 METRES INC LOCOS Crew meal break on return
DU607	Duralie	1745	Stratford	1805	6000 CLASS,34 LOADED PHGH,32 CLASS TRAIN LOAD 3400 TON=630 METRES INC LOCOS
DU608	Stratford	1925	Duralie	1955	6000 CLASS,34 LOADED PHGH,32 CLASS TRAIN LOAD 3400 TON=630 METRES INC LOCOS



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### Day and Date of Service - Friday 29 November 2013

#### 4 TRAIN PROGRAM

Train Number	From	Departure Time	To	Arrival Time	PUSH/PULL CONFIGURATION
DU601	Duralie	0615	Stratford	0645	6000 CLASS,34 LOADED PHGH,32 CLASS TRAIN LOAD 3400 TON=630 METRES INC LOCOS
DU602	Stratford	0805	Duralie	0835	6000 CLASS,34 LOADED PHGH,32 CLASS TRAIN LOAD 3400 TON=630 METRES INC LOCOS Crew meal break on return
DU603	Duralie	1015	Stratford	1045	6000 CLASS,34 LOADED PHGH,32 CLASS TRAIN LOAD 3400 TON=630 METRES INC LOCOS
DU604	Stratford	1205	Duralie	1235	6000 CLASS,34 LOADED PHGH,32 CLASS TRAIN LOAD 3400 TON=630 METRES INC LOCOS
DU605	Duralie	1345	Stratford	1415	6000 CLASS,34 LOADED PHGH,32 CLASS TRAIN LOAD 3400 TON=630 METRES INC LOCOS
DU606	Stratford	1535	Duralie	1605	6000 CLASS,34 LOADED PHGH,32 CLASS TRAIN LOAD 3400 TON=630 METRES INC LOCOS Crew meal break on return
DU607	Duralie	1745	Stratford	1805	6000 CLASS,34 LOADED PHGH,32 CLASS TRAIN LOAD 3400 TON=630 METRES INC LOCOS
DU608	Stratford	1925	Duralie	1955	6000 CLASS,34 LOADED PHGH,32 CLASS TRAIN LOAD 3400 TON=630 METRES INC LOCOS





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**Day and Date of Service - Tuesday 19 November 2013**
**4 TRAIN PROGRAM**

Train Number	From	Departure Time	To	Arrival Time	PUSH/PULL CONFIGURATION
<del>DU601</del>	Duralie	0615 0750	Stratford	0645 0820	6000 CLASS, 34 LOADED PHGH, 32 CLASS TRAIN LOAD 3400 TON=630 METRES INC LOCOS
DU602	Stratford	0805 0930	Duralie	0835 1000	6000 CLASS, 34 LOADED PHGH, 32 CLASS TRAIN LOAD 3400 TON=630 METRES INC LOCOS Crew meal break on return
DU603	Duralie	1015 1140	Stratford	1045 1210	6000 CLASS, 34 LOADED PHGH, 32 CLASS TRAIN LOAD 3400 TON=630 METRES INC LOCOS
DU604	Stratford	1205 1320	Duralie	1235 1350	6000 CLASS, 34 LOADED PHGH, 32 CLASS TRAIN LOAD 3400 TON=630 METRES INC LOCOS
DU605	Duralie	1345 1500	Stratford	1415 1530	6000 CLASS, 34 LOADED PHGH, 32 CLASS TRAIN LOAD 3400 TON=630 METRES INC LOCOS
DU606	Stratford	1535 1710	Duralie	1605 1740	6000 CLASS, 34 LOADED PHGH, 32 CLASS TRAIN LOAD 3400 TON=630 METRES INC LOCOS Crew meal break on return
<del>DU607</del>	Duralie	1745 1855	Stratford	1805 1925	6000 CLASS, 34 LOADED PHGH, 32 CLASS TRAIN LOAD 3400 TON=630 METRES INC LOCOS
<del>DU608</del>	Stratford	1925 2038	Duralie	1955 2105	6000 CLASS, 34 LOADED PHGH, 32 CLASS TRAIN LOAD 3400 TON=630 METRES INC LOCOS

DU601-23  
DU603 **FAKED** cancelled. 0858

PATH APPROVED

up Date 16-11

PROGRAMME

ARTC BROADMEADOW

DU607-608  
CANCELLED A-80 @  
km

**FAKED**



# DURALIE - STRATFORD DOMESTIC COAL PROGRAM

Broadmeadow Program

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Interail Australia

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Duralie

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**Day and Date of Service - Wednesday 20 November 2013**
**4 TRAIN PROGRAM**

Train Number	From	Departure Time	To	Arrival Time	PUSH/PULL CONFIGURATION
DU601	Duralie	0615 0750	Stratford	0645 0820	6000 CLASS,34 LOADED PHGH,32 CLASS TRAIN LOAD 3400 TON=630 METRES NC LOCOS
DU602	Stratford	0805 0935	Duralie	0835 1035	6000 CLASS,34 LOADED PHGH,32 CLASS TRAIN LOAD 3400 TON=630 METRES INC LOCOS Crew meal break on return
DU603	Duralie	1015 1145	Stratford	1045 1215	6000 CLASS,34 LOADED PHGH,32 CLASS TRAIN LOAD 3400 TON=630 METRES NC LOCOS
DU604	Stratford	1205 1325	Duralie	1235 1355	6000 CLASS,34 LOADED PHGH,32 CLASS TRAIN LOAD 3400 TON=630 METRES NC LOCOS
DU605	Duralie	1345 1505	Stratford	1415 1535	6000 CLASS,34 LOADED PHGH,32 CLASS TRAIN LOAD 3400 TON=630 METRES NC LOCOS
DU606	Stratford	1535 1645	Duralie	1605 1715	6000 CLASS,34 LOADED PHGH,32 CLASS TRAIN LOAD 3400 TON=630 METRES INC LOCOS Crew meal break on return
DU607	Duralie	1745 1850	Stratford	1805 1920	6000 CLASS,34 LOADED PHGH,32 CLASS TRAIN LOAD 3400 TON=630 METRES NC LOCOS
DU608	Stratford	1925 2030	Duralie	1955 2100	6000 CLASS,34 LOADED PHGH,32 CLASS TRAIN LOAD 3400 TON=630 METRES NC LOCOS

DU607 - 8

CANCELLED 2140

PATH APPROVED

 Date 17-11  
 PROGRAMME  
 RTTC BROADMEADOW



# DURALIE - STRATFORD DOMESTIC COAL PROGRAM

Broadmeadow Program

Interail Australia  
DuraliePhone 02 4979 7129  
Fax 02 4979 7084Phone 02 4994 5715  
Fax 02 4994 5714

Day and Date of Service - Thursday 21 November 2013  
4 TRAIN PROGRAM

Train Number	From	Departure Time	To	Arrival Time	PUSH/PULL CONFIGURATION
DU601	Duralie	0615 0620	Stratford	0645 0650	6000 CLASS, 34 LOADED PHGH, 32 CLASS TRAIN LOAD 3400 TON=630 METRES, INC LOCOS
DU602	Stratford	0805 0800	Duralie	0835 0830	6000 CLASS, 34 LOADED PHGH, 32 CLASS TRAIN LOAD 3400 TON=630 METRES INC LOCOS Crew meal break on return
DU603	Duralie	1015 1020	Stratford	1045 1050	6000 CLASS, 34 LOADED PHGH, 32 CLASS TRAIN LOAD 3400 TON=630 METRES INC LOCOS
DU604	Stratford	1205 1205	Duralie	1235 1235	6000 CLASS, 34 LOADED PHGH, 32 CLASS TRAIN LOAD 3400 TON=630 METRES INC LOCOS
DU605	Duralie	1345 1350	Stratford	1415 1420	6000 CLASS, 34 LOADED PHGH, 32 CLASS TRAIN LOAD 3400 TON=630 METRES INC LOCOS
DU606	Stratford	1535 1615	Duralie	1605 1645	6000 CLASS, 34 LOADED PHGH, 32 CLASS TRAIN LOAD 3400 TON=630 METRES INC LOCOS Crew meal break on return
DU607	Duralie	1745 1800	Stratford	1805 1830	6000 CLASS, 34 LOADED PHGH, 32 CLASS TRAIN LOAD 3400 TON=630 METRES INC LOCOS
DU608	Stratford	1925 1940	Duralie	1955 2010	6000 CLASS, 34 LOADED PHGH, 32 CLASS TRAIN LOAD 3400 TON=630 METRES INC LOCOS

DU607 - 608

CANCELLED

@ 2045 21/11/13

PATH APPROVED

up Date 18-11  
PROGRAMME  
ARTC BROADMEADOW

GP NATIONAL		DURALIE TRAIN TRACO: DAY- MONDAY				DATE - 23 9 13	
		DRIVER 1		DRIVER 2		DRIVER 3	
DAY SHIFT		B HAYES		S BOTTRAL		P MOLLY	
AFTERNOON		D HAYES		I HAYES			
WORK SAFE							
LOCATION		Arrive		Depart		LOADING - UNLOADING DETAILS - Only submit times if Track is clear of debris on completion of loading and unloading	
		Timetable	Actual	Timetable	Actual		
Dep:	DURALIE 601			0715	0723	LOAD: START	0630 FINISH 0715
Arr:	STRAT	0745	0800			UNLOAD: START	0805 FINISH 0910
Dep:	STRAT 602			0905	0910		
Arr:	DURALIE	0935	1010			LOAD: START	1045 FINISH 1135
Dep:	DURALIE 603			1115	1145		
Arr:	STRAT	1145	1222			UNLOAD: START	1240 FINISH 1400
Dep:	STRAT 604			1305	1408		
Arr:	DURALIE	1335	1435			LOAD: START	1445 FINISH 1545
Dep:	DURALIE 605			1445	1600	ONE EMPTY	
Arr:	STRAT	1515	1630			UNLOAD: START	1640 FINISH 1807
Dep:	STRAT 606			1635	1850		
Arr:	DURALIE	1705	1815			LOAD: START	2005 FINISH 2200
Dep:	DURALIE 607			1845		CANCELLED	
Arr:	STRAT	1915				UNLOAD: START	FINISH
Dep:	STRAT 608			2330		CANCELLED	
Arr:	DURALIE 608	2359				UNLOAD: START	FINISH
TONNES							
601	1909	ALL TRAIN DELAYS TO BE RECORDED ON PAGE 2					
603	2085	REPORT ALL WAGON DEFECTS TO BRADKEN THEN NOTIFY G/COAL ASAP					
605	2816	BRADKEN - 0409777945 LOCO DEFECTS 6000 class - United Goninan - 0409450613					
607		LOCO DEFECTS - QRN Locomotives First Response - 0428192018					
TOTAL	6523	TRAINS PATHED 4		TRAINS ACHIEVED 43			



QF NATIONAL		DURALIE TRAIN TRACO: DAY- <u>TUESDAY</u> DATE - <u>24.9.13</u>							
		DRIVER 1		DRIVER 2		DRIVER 3		DRIVER 4(OPTIONAL)	
DAY SHIFT		<u>B HAYES</u>		<u>B. MULRY</u>		<u>B. MULRY</u>			
AFTERNOON		<u>MICHAEL</u>		<u>TULLOCH</u>		<u>MICHAEL</u>			
WORK SAFE									
LOCATION		Arrive		Depart		LOADING - UNLOADING DETAILS - Only submit times if Track is clear of debris on completion of loading and unloading			
		Timetable	Actual	Timetable	Actual				
Dep:	DURALIE 601			<u>0615</u>	<u>0628</u>	LOAD: START FINISH			
Arr:	STRAT	<u>0645</u>	<u>0725</u>			UNLOAD: START <u>0840</u> FINISH <u>1005</u>			
Dep:	STRAT 602			<u>0935</u>	<u>1030</u>				
Arr:	DURALIE	<u>1015</u>	<u>1105</u>			LOAD: START <u>1140</u> FINISH <u>1240</u>			
Dep:	DURALIE 603			<u>1125</u>	<u>1257</u>				
Arr:	STRAT	<u>1155</u>	<u>1325</u>			UNLOAD: START <u>1357</u> FINISH <u>1524</u>			
Dep:	STRAT 604			<u>1415</u>	<u>1552</u>				
Arr:	DURALIE	<u>1455</u>	<u>1622</u>			LOAD: START <u>1632</u> FINISH <u>1715</u>			
Dep:	DURALIE 605			<u>1620</u>	<u>1802</u>				
Arr:	STRAT	<u>1650</u>	<u>1846</u>			UNLOAD: START <u>1850</u> FINISH <u>2029</u>			
Dep:	STRAT 606			<u>1800</u>	<u>2035</u>				
Arr:	DURALIE	<u>1830</u>	<u>2005</u>			LOAD: START <u>2115</u> FINISH <u>2204</u>			
Dep:	DURALIE 607			<u>1940</u>					
Arr:	STRAT	<u>2010</u>				UNLOAD: START FINISH			
Dep:	STRAT 608			<u>1925</u>					
Arr:	DURALIE 608	<u>1955</u>				UNLOAD: START FINISH			
TONNES									
601	<u>2264</u>	ALL TRAIN DELAYS TO BE RECORDED ON PAGE 2							
603	<u>1767</u>	REPORT ALL WAGON DEFECTS TO BRADKEN THEN NOTIFY G/COAL ASAP							
605	<u>1982</u>	BRADKEN - 0409777945 LOCO DEFECTS 6000 class - United Goninan - 0409450613							
607		LOCO DEFECTS - QRN Locomotives First Response - 0428192018							
TOTAL	<u>5913</u>	TRAINS PATHED <u>4</u>		TRAINS ACHIEVED <u>3</u>					



24 9 13



INTERNATIONAL

## DURALIE TRAIN TRACO - DELAY FORM

[illegible]

QR NATIONAL COAL		DURALIE TRAIN TRACO: DAY- WEDNESDAY				DATE - 9.10.13	
		DRIVER 1		DRIVER 2		DRIVER 3	
DAY SHIFT		MICHAEL		DEARLE		TUNNEN	
AFTERNOON		B. HAYES		M. LYNCH		R. MOLRY	
WORK SAFE							
LOCATION		Arrive		Depart		LOADING - UNLOADING DETAILS - Only submit times if Track is clear of debris on completion of loading and unloading	
		Timetable	Actual	Timetable	Actual		
Dep: DURALIE	601			0605	0600	LOAD: START	FINISH
Arr: STRAT		0635	0635			UNLOAD: START 0640	FINISH 0800
Dep: STRAT	602			0810	0835		
Arr: DURALIE		0840	0850			LOAD: START 0905	FINISH 0950
Dep: DURALIE	603			1025	1030		
Arr: STRAT		1055	1105			UNLOAD: START 1110 0940	FINISH 1230
Dep: STRAT	604			1210	1250		
Arr: DURALIE		1240	1320			LOAD: START 1330	FINISH 1421
Dep: DURALIE	605			1355	1430		
Arr: STRAT		1425	1505			UNLOAD: START 1510	FINISH 1655
Dep: STRAT	606			1600	1715		
Arr: DURALIE		1630	1750			LOAD: START 1835	FINISH 1940
Dep: DURALIE	607			1750	2013		
Arr: STRAT		1820	2055			UNLOAD: START 2100	FINISH 2233
Dep: STRAT	608			1930	2238		
Arr: DURALIE	608	2000	2305			UNLOAD: START 2315	FINISH 0030
TONNES							
601	2457	ALL TRAIN DELAYS TO BE RECORDED ON PAGE 2					
603	2587	REPORT ALL WAGON DEFECTS TO BRADKEN THEN NOTIFY G/COAL ASAP					
606	2610	BRADKEN - 0409777945 LOCO DEFECTS 6000 class - United Goninan - 0409450613					
607	2449	LOCO DEFECTS - QRN Locomotives First Response - 0428192018					
TOTAL	10143	TRAINS PATHED 9		TRAINS ACHIEVED 4			



QR NATIONAL COAL		DURALIE TRAIN TRACO: DAY- Thurs -				DATE - 10-10-13		
		DRIVER 1		DRIVER 2		DRIVER 3		DRIVER 4(OPTIONAL)
DAY SHIFT		LAWER		S MULRY		MICHAEL		
AFTERNOON		D. RICHARDS		R. MURPHY		B. HAYES		
WORK SAFE								
LOCATION		Arrive		Depart		LOADING - UNLOADING DETAILS - Only submit times if Track is clear of debris on completion of loading and unloading		
		Timetable	Actual	Timetable	Actual			
Dep: DURALIE 601				0605	0605	LOAD: START FINISH		
Arr: STRAT		0635	0640			UNLOAD: START 0644 FINISH 0800		
Dep: STRAT 602				0825	0815			
Arr: DURALIE		0855	0842			LOAD: START 0847 FINISH 0929		
Dep: DURALIE 603				1015	1027			
Arr: STRAT		1045	1107			UNLOAD: START 1109 FINISH 1238		
Dep: STRAT 604				1205	1249			
Arr: DURALIE		1235	1316			LOAD: START 1330 FINISH 1500		
Dep: DURALIE 605				1440	1535			
Arr: STRAT		1510	1610			UNLOAD: START 1619 FINISH 1800		
Dep: STRAT 606				1845	1810			
Arr: DURALIE		1930	1840			LOAD: START 1850 FINISH 1920		
Dep: DURALIE 607								
Arr: STRAT						UNLOAD: START FINISH		
Dep: STRAT 608								
Arr: DURALIE 608						UNLOAD: START FINISH		
TONNES								
601	2342	ALL TRAIN DELAYS TO BE RECORDED ON PAGE 2						
603	2397	REPORT ALL WAGON DEFECTS TO BRADKEN THEN NOTIFY G/COAL ASAP						
605	2490	BRADKEN - 0409777945 LOCO DEFECTS 6000 class - United Goninan - 0409450613						
607		LOCO DEFECTS - QRN Locomotives First Response: 0428192018						
TOTAL	7239	TRAINS PATHED		3		TRAINS ACHIEVED		3

**FAXED**

QR NATIONAL		DURALIE TRAIN TRACO: DAY- SAT				DATE - 19.10.13.	
		DRIVER 1		DRIVER 2		DRIVER 3	
DAY SHIFT		DURALIE		MICHAEL		TULLOCH	
AFTERNOON							
WORK SAFE							
LOCATION		Arrive		Depart		LOADING - UNLOADING DETAILS - Only submit times if Track is clear of debris on completion of loading and unloading	
		Timetable	Actual	Timetable	Actual		
Dep: DURALIE	601			0610	0600	LOAD: START	FINISH
Arr: STRAT		0640	0640			UNLOAD: START 0645	FINISH 0800
Dep: STRAT	602			0755	0810		
Arr: DURALIE		0825	0830			LOAD: START 0840	FINISH 0930
Dep: DURALIE	603			1125	1035		
Arr: STRAT		1155	1105			UNLOAD: START 1115	FINISH @ 1230
Dep: STRAT	604			1310	1240		
Arr: DURALIE		1340	1315			LOAD: START	FINISH
Dep: DURALIE	605						
Arr: STRAT						UNLOAD: START	FINISH
Dep: STRAT	606						
Arr: DURALIE						LOAD: START	FINISH
Dep: DURALIE	607						
Arr: STRAT						UNLOAD: START	FINISH
Dep: STRAT	608						
Arr: DURALIE	608					UNLOAD: START	FINISH
TONNES							
601	2456	ALL TRAIN DELAYS TO BE RECORDED ON PAGE 2					
603	2447	REPORT ALL WAGON DEFECTS TO BRADKEN THEN NOTIFY G/COAL ASAP					
605		BRADKEN - 0409777945 LOCO DEFECTS 6000 class - United Goninan - 0409450613					
607		LOCO DEFECTS - QRN Locomotives First Response - 0428192018					
TOTAL	5003	TRAINS PATHED		2		TRAINS ACHIEVED 2	

FAKED

# DURALIE TRAIN TRACO - DELAY FORM



FROM

TO

REASON FOR DELAY

~~1035~~

0930

1035

CROSSING Wht. on TOA

EXED

QR NATIONAL COAL		DURALIE TRAIN TRACO: DAY- <u>WEDNESDAY</u>				DATE - <u>20-11-13</u>	
		DRIVER 1		DRIVER 2		DRIVER 3	
DAY SHIFT		<u>DEARLE</u>		<u>MICHAEL</u>		<u>TULLOCH</u>	
AFTERNOON		<u>S. BOTTRILL</u>		<u>D. RICHARDS</u>		<u>B. HAYES</u>	
WORK SAFE							
LOCATION	Arrive		Depart		LOADING - UNLOADING DETAILS - Only submit times if Track is clear of debris on completion of loading and unloading		
	Timetable	Actual	Timetable	Actual			
Dep: DURALIE 601			<u>0750</u>	<u>0830</u>	LOAD: START	FINISH	
Arr: STRAT	<u>0820</u>	<u>0900</u>			UNLOAD: START <u>0910</u>	FINISH <u>1030</u>	
Dep: STRAT 602			<u>0935</u>	<u>1035</u>			
Arr: DURALIE	<u>1035</u>	<u>1058</u>			LOAD: START <u>1110</u>	FINISH <u>1235</u>	
Dep: DURALIE 603			<u>1145</u>	<u>1330</u>			
Arr: STRAT	<u>1215</u>	<u>1400</u>			UNLOAD: START <u>1405</u>	FINISH <u>1530</u>	
Dep: STRAT 604			<u>1325</u>	<u>1615</u>			
Arr: DURALIE	<u>1355</u>	<u>1640</u>			LOAD: START <u>1655</u>	FINISH <u>1805</u>	
Dep: DURALIE 605			<u>1505</u>	<u>1850</u>			
Arr: STRAT	<u>1535</u>	<u>1925</u>			UNLOAD: START <u>1930</u>	FINISH <u>2055</u>	
Dep: STRAT 606			<u>1645</u>	<u>2100</u>			
Arr: DURALIE	<u>1715</u>	<u>2125</u>			LOAD: START <u>2135</u>	FINISH <u>2220</u>	
Dep: DURALIE 607			<u>1850</u>				
Arr: STRAT	<u>1920</u>				UNLOAD: START	FINISH	
Dep: STRAT 608			<u>2030</u>				
Arr: DURALIE 608	<u>2100</u>				UNLOAD: START	FINISH	
TONNES							
601	<u>2504</u>	<b>ALL TRAIN DELAYS TO BE RECORDED ON PAGE 2</b>					
603	<u>2598</u>						
605	<u>2639</u>	REPORT ALL WAGON DEFECTS TO BRADKEN THEN NOTIFY GCOAL ASAP					
607		BRADKEN - 0409777945 LOCO DEFECTS 6000 class - United Goninan - 0409450613					
		LOCO DEFECTS - QR Locomotives First Response - 0428 920 13					
TOTAL	<u>7631</u>	TRAINS PATHED <u>4</u>		TRAINS ACHIEVED <u>3</u>			

DV607-8 - CANCELLED DUE TRACK POSSESSION & LATE RUNNING.

# DURALIE TRAIN TRACO - DELAY FORM



FROM

TO

REASON FOR DELAY

0600 0750 CROSS 3x FREIGHTERS

0750 0830 CROSS FREIGHTER. AND FOLLOW WB STEEL TRAINS

0900 0910 WAIT ON BELTS TO START

1545 1615 KING FREIGHTERS + XPT'S

1735 1800 WAIT FOR COAL.

DV607-8 CANCELLED DUE LATE RUNNING +  
POSSESSION

main

110

40

30

180

FAKED



QR NATIONAL  
COALDURALIE TRAIN TRACO: DAY- THURSDAY DATE- 21.11.13

DRIVER 1

DRIVER 2

DRIVER 3

DRIVER 4 (OPTIONAL)

DAY SHIFT

B MULLIGFLAHERR MULLIG

AFTERNOON

S BETTILLB HAYESD RICHARDS

WORK SAFE

LOCATION

Arrive

Depart

LOADING - UNLOADING DETAILS - Only submit times if Track  
is clear of debris on completion of loading and unloading

Timetable

Actual

Timetable

Actual

Dep: DURALIE 601

06200629

LOAD: START

FINISH

Arr: STRAT

06500700

UNLOAD: START

0702

FINISH

0813

Dep: STRAT 602

08000818

Arr: DURALIE

08300925

LOAD: START

0953

FINISH

1049

Dep: DURALIE 603

10201140

Arr: STRAT

10501205

UNLOAD: START

1217

FINISH

1335

Dep: STRAT 604

12051345

Arr: DURALIE

12251410

LOAD: START

1425

FINISH

1510

Dep: DURALIE 605

13501620

Arr: STRAT

14201650

UNLOAD: START

1655

FINISH

1815

Dep: STRAT 606

16151825

Arr: DURALIE

16451940

LOAD: START

2155

FINISH

2355

Dep: DURALIE 607

1800

Arr: STRAT

1830

UNLOAD: START

FINISH

Dep: STRAT 608

18301940

Arr: DURALIE 608

2010

UNLOAD: START

FINISH

TONNES

601

2402

603

2622

605

2527

607

AMEX

TOTAL

7591

ALL TRAIN DELAYS TO BE RECORDED ON PAGE 2

REPORT ALL WAGON DEFECTS TO BRADKEN THEN NOTIFY G/COAL ASAP

BRADKEN - 0409777945

LOCO DEFECTS 6000 class - United Goninan - 0409450613

LOCO DEFECTS - QRN Locomotives First Response - 0428492018

TRAINS PATHED

4

TRAINS ACHIEVED

3

FAXED

THE UNIVERSITY OF CHICAGO

WILLIAM  
HARRIS

FAXED

## **Procedure for loading wagons**

All trains will be loaded at 0.8Kph

Gates will be opened and closed when the front of the chute lines up with the appropriate location on the wagon

### **Coal type 1**

Open at the first weld

Close on the Orange mark

### **Coal type 2**

Open halfway between the first weld and the green

Close on the white mark

### **Coal type 3**

Open on the green

Close halfway between the weld and the white





## DURALIE - PUSH/PULL TRAIN CONSIST

<b>TRAIN NO.</b>				<b>DEPART TIME</b>				<b>DATE</b>			
<b>ORIGIN</b> DURALIE			<b>DESTINATION</b> STRATFORD			<b>RETURN</b>		<b>DURALIE</b>			
<b>FUEL START</b>								<b>SIGN ON</b>			
<b>LOCO 1</b>				<b>DRIVER</b>			<b>DEPOT</b>		<b>DURALIE</b>		
<b>LOCO 2</b>				<b>CO/DR</b>			<b>DEPOT</b>		<b>DURALIE</b>		
<b>LOCO 3</b>				<b>ASS/DR</b>			<b>DEPOT</b>		<b>DURALIE</b>		
<b>LOCO 4</b>											
<b>REMEMBER - WORK SAFELY</b>				<b>TRAIN DIRECT CONTACT PHONE</b>				<b>0427 692 337</b>			

	CLASS	NUMBER	CL	DG	STATUS	GROSS MASS	LENGTH	DESTINATION	CONSIGNEE	CONTENTS
1	PHGH	19	N		L/E	22.4E - 100L	16.1	STRAT/DUR	G/COAL	LOAD/EMPTY
2	PHGH	20	J						G/COAL	
3	PHGH	21	S						G/COAL	
4	PHGH	22	E						G/COAL	
5	PHGH	13	F						G/COAL	
6	PHGH	14	Y						G/COAL	
7	PHGH	23	N						G/COAL	
8	PHGH	24	W						G/COAL	
9	PHGH	25	X						G/COAL	
10	PHGH	26	R						G/COAL	
11	PHGH	9	F						G/COAL	
12	PHGH	10	B						G/COAL	
13	PHGH	11	K						G/COAL	
14	PHGH	12	T						G/COAL	
15	PHGH	1	C						G/COAL	
16	PHGH	2	L						G/COAL	
17	PHGH	3	U						G/COAL	
18	PHGH	4	G						G/COAL	
19	PHGH	5	P						G/COAL	
20	PHGH	6	B						G/COAL	
21	PHGH	7	K						G/COAL	
22	PHGH	8	T						G/COAL	
23	PHGH	27	D						G/COAL	
24	PHGH	28	M						G/COAL	
25	PHGH	29	V						G/COAL	
26	PHGH	30	R						G/COAL	
27	PHGH	31	D						G/COAL	
28	PHGH	32	M						G/COAL	
29	PHGH	33	V						G/COAL	
30	PHGH	34	H						G/COAL	
31	PHGH	15	A						G/COAL	
32	PHGH	16	W						G/COAL	
33	PHGH	17	S						G/COAL	
34	PHGH	18	E						G/COAL	

TOTAL NO VEHICLES	34	LENGTH IN METRES including locos 603 meters
TOTAL TRAIN TONNAGE		Empty 762 tonnes    Loaded 3400 tonnes

**WORK SAFELY - REPORT ALL HAZARDS AND INCIDENTS**

FN 029.01

## Aurizon Duralie PHGH Wagon handover form – Portion A

I declare Aurizon Locomotives and Duralie Coal PHGH wagons have been locked out in accordance with Aurizon OP-INS-49 procedure and are fit to be handed over for maintenance purposes

Date...20-7-2013...

Time...1300.....

	Print Name	Signature
Driver 1	M. Hughes	<i>[Signature]</i>
Driver 2	B. Miller	<i>[Signature]</i>
Driver 3	F. Lauer	<i>[Signature]</i>

## BRADKEN®

## Bradken PHGH Wagon Hand back Return to service form Portion B

I declare Duralie Coal PHGH wagons have been repaired and maintained in accordance with Aurizon approved maintenance standards and are fit to be handed over to return to service

Date...21-7-2013...

Time...10:15.....

	Print Name	Signature
Maintainer 1	Jeff Swift	<i>[Signature]</i>
Maintainer 2	Alan Witenden	<i>[Signature]</i>
Maintainer 3		



QR NATIONAL

# TRAIN EXAMINATION CERTIFICATE

## ORIGINAL

Train Brake Certificate:

No. 32949

to remain with train until regulations require further train examination.

☒ ~~PULL (FX1)~~ ☒ ~~GENERAL (FX2)~~ ☒ ~~ECP STARTUP~~  
(Tick Applicable Box)

Test Location: Durahie

Date: 30-9-13 Train/Unit Number:

BRAKE PIPE LEAKAGE (UTM/FX1)..... kPa/Min	
BRAKE PIPE LEAKAGE (ECP/FX2)..... kPa/Min	
BRAKE RETENTION TIME..... MINUTES	
ECP Effective Retention Test	
.....kPa	.....kPa
START PRESSURE	FINISH PRESSURE
.....hrs	.....hrs
START TIME	FINISH TIME
EFFECTIVE RETENTION TIME..... MINUTES	
OTHER 3 WAGONS	LAST 3 WAGONS
Wagon 19	Wagon 16
" 20	" 17
" 21	" 18

EXAM COMMENCED

EXAM COMPLETED

0510 hrs 0545 hrs

Comments/Wagons with inoperative brakes.

Brake Pipe Leaky AND  
Continuity Test

☐ Train tested using Ground Plant

Examiner's Signature

Date

Driver's Signature

Date

30-9-13