**INCREASE TO HAIL CREEK COAL RESERVES**

**6 March 2015**

To support the annual Mineral Resources and Ore Reserves review process detailed in Rio Tinto's 2014 Annual report released today, Rio Tinto Coal Australia has declared an increase of its managed coal reserves for its Hail Creek Mine in Queensland, Australia, resulting from the completion of studies and evaluations.

The updated Hail Creek Ore Reserves and Mineral Resources are reported under the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves, 2012 (JORC Code) and are set out in the following Tables 1 and 2 and a summary of information, with supporting technical detail in Appendix 1.

Marketable Ore Reserves at Hail Creek have increased by 25 million tonnes (Mt), from 60 Mt to 85 Mt.

The update is based on a rigorous examination of the mine and operations planning for the Hail Creek project Western Margin including:

- Reprocessing of a primary coal stream to introduce an additional thermal coal product into the operations and marketing plan.
- Analysing a vast dataset gathered over decades including updates from recent prefeasibility study drilling.
- Transforming the strategic mine planning processes and tools used to estimate Ore Reserves.
- Adopting more efficient Mineral Resource estimation methods.

The increases to the Hail Creek Ore Reserves have resulted from a broader programme of Orebody Knowledge and Strategic Mine Planning optimisation at Rio Tinto Coal Australia. This process will lead to periodic updates of the Mineral Resources and Ore Reserves for the projects and operations managed by Rio Tinto Coal Australia.

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## Table 1 – Ore Reserves

## Ore reserves

| | | | Reserves | | Marketable reserves | | Marketable reserves | | Marketable coal quality | | Average % yield to give marketable reserves | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Type of mine (a) | Coal type (b) | Proved | Probable at end 2014 | Proved | Probable at end 2014 | **Total 2014** | Total 2013 | **(c)** | (c) | | | **Marketable reserves** |
| **COAL (d)** | | | millions of tonnes | millions of tonnes | millions of tonnes | millions of tonnes | **millions of tonnes** | millions of tonnes | **Calorific value MJ/kg** | **Sulphur content %** | | | **millions of tonnes** |
| **Reserves at operating mines** | | | | | | | | | | | | | |
| **Rio Tinto Coal Australia** | | | | | | | | | | | | | |
| Hail Creek | O/C | SC + MC | 107 | 20 | 72 | 13 | **85** | 60 | **25.74** | 0.35 | 67 | 82.0 | **70** |

Notes

(a) Type of mine: O/P = open pit, O/C = open cut, U/G = underground,
(b) Coal type: SC: steam/thermal coal, MC: metallurgical/coking coal.
(c) Coals have been analysed on an "air dried" moisture basis in accordance with Australian Standards and gross calorific value and sulphur content are reported here on that basis. Marketable Reserves tonnages are reported on a product moisture basis.
(d) For coal, the yield factors shown reflect the impact of further processing, where necessary, to provide marketable coal. Hail Creek Marketable Reserves tonnes increased due to the inclusion of a thermal coal product derived from coarse plant rejects.

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## Table 2 – Mineral Resources

# Mineral resources

| COAL (c) | Likely mining method (a) | Coal type (b) | Coal resources at end 2014: Measured millions of tonnes | Indicated millions of tonnes | Inferred millions of tonnes | Total resources 2014 compared with 2013: **2014 millions of tonnes** | 2013 millions of tonnes | |
|---|---|---|---|---|---|---|---|---|
| **Rio Tinto Coal Australia** | | | | | | | | |
| Hail Creek | O/C | SC + MC | 60 | 79 | 33 | **172** | 172 | **82.0** |

Notes

(a) Likely mining method: O/C = open cut; U/G = underground
(b) Coal type: SC=steam/thermal coal, MC=metallurgical/coking coal.
(c) Rio Tinto reports coal Resources on an in situ moisture basis.

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**Summary of Information to Support Mineral Resource Estimates**

Mineral Resource Estimate upgrades for Hail Creek are supported by JORC Table 1 (Section 1 to 3) documents provided in Appendix 1 of this media release and also located at www.riotinto.com/JORC. The following summary of information for Mineral Resource Estimates is provided in accordance with Chapter 5.8 of ASX Listing Rules.

Geology and geological interpretation

Hail Creek is located in the northern part of the Bowen Basin which contains numerous important coal producing intervals in the Permian stratigraphy. The Late Permian Fort Cooper and Rangal Coal Measures host the coal deposits mined at Hail Creek. The main rock types of these measures are sandstone, siltstone and conglomerate, which occur with coal and tuffaceous claystone. Coal quality and geological structure, including coal seam continuity, faulting, and limits of oxidation, sub-crops and igneous intrusions are well defined. Geologic interpretations are supported by surface mapping of outcrops and mining exposures, geophysics (2D/3D seismic, airborne magnetics) and by a comprehensive database containing structural, coal quality and geotechnical data for 6,058 exploration, evaluation and pre-production drill holes.

Drilling techniques

The Hail Creek deposit has been extensively drilled using a combination of open hole and wireline coring techniques. Open holes comprise approximately 83% of all drilling completed with this method primarily employed for the purpose of coal and waste structure definition. Core drilling (predominantly 4C (100mm) but also HQ3 and PQ3 in size) is primarily employed for the purpose of coal quality (CQ), geotechnical and gas sampling. A limited number of 200mm large diameter holes have been drilled to obtain bulk volume samples for coal sizing and handling characterisation studies. This technique comprises just over 1% of total drilled metres.

Geophysical logging was completed for all drill holes employing a comprehensive suite of down hole tools to collect calliper, gamma, density, neutron and sonic measurements. Acoustic scanner measurements were also routinely completed for cored holes to obtain additional data for geotechnical assessments.

Sampling, sub-sampling method and sample analysis method

Total coal core recovery in drill core was above 95% for all holes. Sampling of drill core at Hail Creek was according to a universal standard set of instructions. Samples were bagged at the drill site and then transported to an external accredited laboratory for analysis. All samples were weighed, air-dried and then re-weighed before being crushed to a 19mm top size. A rotary splitter was used to divide the sample into portions available for further analysis.

Coal quality analysis was by a three-stage method comprising raw analysis for all plies followed by washability and product testing on composite samples. All sample treatment and analysis was conducted according to procedures which adhere to Australian or International equivalent standards in National Association of Testing Authorities certified laboratories.

Criteria used for classification

The classification of Mineral Resources into confidence categories was based on a standard process for all RTCA sites. Drill holes were assessed according to the value and reliability of contained data to contribute a point of observation to Mineral Resource classifications. Structure and coal quality confidence limits were plotted on a seam group basis with classification of coal inventory into areas of low, medium or high confidence. These were combined to delineate areas of Measured, Indicated and Inferred coal inventory as a basis for determining Mineral Resource tonnage estimates.

A range of drill hole spacing limits were defined to reflect the inherent variability of the six seam groups modelled within the deposits. Typical distances for structure confidence classification are 125m to 250m for high, 250m to 500m for medium and 1,500m to 3,000m for low. Typical distances for coal quality confidence classification are 250m to 500m for high, 500m to 1,000m for medium and 1,500m to 3,000m for low.

Estimation methodology

Modelling was completed using standard coal resource modelling software. For structural modelling a Finite Element Method (FEM) interpolator was used and for coal quality an inverse distance squared interpolator was used. All surfaces and coal qualities were interpolated into grids with 20 $m^2$ node spacing. Modelling was completed on an iterative basis by checking cross sections and contours of structural and coal quality attributes. Database values were posted on contours to provide a further check. A volume / tonnage check was completed with predecessor models to provide final validation.

Reasonable prospects for eventual economic extraction

A minimum coal thickness of 0.2m and density of 1.8 $g/m^3$ were applied as cut-off parameters for reporting Mineral Resources. Economic resources were defined by a “break even” ($0 margin) Lerchs-Grossman optimised shell for opencast coal – this effectively sets the maximum depth or lowermost seam to be considered.

**Summary of Information to Support Ore Reserve Estimates**

Ore Reserve Estimate upgrades for Hail Creek are supported by JORC Table 1 (Section 4) documents provided in Appendix 1 of this media release and located at www.riotinto.com/JORC. The following summary of information for Ore Reserve Estimates is provided in accordance with Chapter 5.9 of ASX Listing Rules.

Economic assumptions

Rio Tinto applies a common process to the generation of commodity prices across the group. This involves generation of long-term price curves based on current sales contracts, industry capacity analysis, global commodity consumption and economic growth trends. In this process, a price curve rather than a single price point is used to develop estimates of mine returns over the life of the project. The detail of this process and of the price point curves is commercially sensitive and is not disclosed.

Criteria used for classification

The stated Proved and Probable Ore Reserves directly coincide with the Measured and Indicated Mineral Resources, respectively. There are no Inferred or Unclassified resources included in the stated reserve numbers.

Mining and recovery factors

Mine design strips and blocks were applied to the in-situ coal resource model to generate the raw Reserves used to create a separate mine schedule database. The mine schedule database also reflects working sections or seam aggregations, mining methods and associated loss and dilution impacts. The mine schedule database was used as the basis for Ore Reserves reporting.

The Hail Creek mine utilises dragline, truck and shovel for waste movement, while coal is loaded using a combination of loaders and excavators with haulage to the Run Of Mine (ROM) hopper undertaken using rear dump trucks. The operations are supported by additional equipment including dozers, graders and water carts.

All pit end-walls have benched and battered designs based on typical Rio Tinto Coal Australia practice with allowances made for increasing depth of mining. The design provides for mining roadways and catch benches.

Cut-off grades

Working section or seam aggregation logic pre-determines what is defined as mineable coal by applying working section tests based on minimum coal thickness of 30cms.

Coal loss and dilution factors are also applied and vary by the equipment type uncovering the various coal seams (i.e. excavator/truck versus dragline). Typical roof and floor coal loss thickness ranges from 2cm–59cm. Typical roof and floor waste dilution thickness ranges from 4cm–16cm.

Processing

The processes used across the operating mines and projects are standard for the coal industry and so are well tested technologies. All samples were wash/cut-point tested and so the representativeness of test work undertaken is implicit in the Resource classification status.

In-seam dilution was included in sample testing.

Ore Reserve estimation was based on existing product specifications.

A secondary thermal product is a new feature of the reserves and is produced from the rejects streams of the primary products. The reserve is based on a 25% ash thermal that has been tested with the market throughout 2014.

Modifying factors

Rio Tinto Coal Australia has an extensive environmental and heritage approval and compliance process. No issues are expected that would impact on the Mineral Reserve estimate. Mining operations, management of waste, and storage/discharge of any solids,

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liquids or gases, meet current environmental requirements.  All necessary Government approvals are expected to be received within the timeframes anticipated in the life of mine (LOM) plan.

Hail Creek is an operating site with existing infrastructure in place to support the operation. The current LOM requires sustaining capital only to maintain the existing infrastructure.

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**Competent Persons Statement**

The information in this report that relates to Mineral Resources is based on information compiled by Dr Richard Ruddock, a Competent Person who is a Member of The Australasian Institute of Mining and Metallurgy. Dr Ruddock is a full-time employee of the company.

The information in this report that relates to Ore Reserves is based on information compiled by Mr Matthew Hillard, a Competent Person who is a Member of The Australasian Institute of Mining and Metallurgy. Mr Hillard is a full-time employee of the company.

Dr Ruddock and Mr Hillard have sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as Competent Persons as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Dr Ruddock and Mr Hillard consent to the inclusion in the report of the matters based on the information in the form and context in which it appears.

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## Appendix 1 Hail Creek JORC Table 1

The following table provides a summary of important assessment and reporting criteria used at Hail Creek Mine for the reporting of exploration results and coal Resources in accordance with the Table 1 checklist in *The Australasian Code for the Reporting of Exploration Results, Mineral Resources and Ore Reserves (The JORC Code, 2012 Edition)*. Criteria in each section apply to all preceding and succeeding sections.

### SECTION 1 SAMPLING TECHNIQUES AND DATA

| Criteria | Commentary |
|---|---|
| Sampling techniques | • A combination of open hole (predominantly for structural definition) and cored (for coal quality (CQ), geotechnical and gas sampling) have been used. |
| Drilling techniques | • 6,058 drill holes (578,879m) support the Resource estimate. Cored drilling represents 17% of the total metres, and open hole drilling 83%. The drill holes are up to 518m deep and average 84m. The drill holes were all nominally recorded as vertical with a redrill required if the hole exceeds specified deviation.<br>• Coring has predominantly been done using a 4C-sized bit (576 holes at 100mm) and open hole drilling to an equivalent hole diameter size. In addition a number of HQ-3, PQ-3 and large diameter (LD) holes have been drilled: 93 holes HQ-3 (63mm), 52 holes PQ-3 (83mm), and 78 holes LD (200mm) diameter sizes. |
| Drill sample recovery | • Standardised Rio Tinto Coal Australia logging systems are utilised for all drilling logging and sampling.<br>• Core recovery is recorded by the geologist while logging the drill hole. If core recovery for a coal ply is less than 95%, then that section of the hole is redrilled to ensure a representative sample is taken.<br>• Ply samples are checked for representativeness using a theoretical mass that is determined using analysed relative density, sample thickness and core diameter prior to composite definition.<br>• Open hole chip recovery is assessed qualitatively by the rig geologist. |
| Logging | • Core is geologically and geotechnically logged and open hole chip samples are taken every 1m and logged for lithology changes. Logging for lithology, grainsize, weathering and hardness is conducted using standard dictionary definitions. Colour and any additional qualitative comments are also recorded. All core is photographed on both a core table (0.5m increment) and a single 2.8m core tray basis for 4-C and PQ-3 and single 4.5m core tray basis for HQ-3. Chips are photographed in 20m × 1m intervals.<br>• All holes are logged using a comprehensive suite of downhole geophysics tools (calliper, gamma, density, neutron, sonic, verticality, temperature) with acoustic scanner (for geotechnical assessment) also run on cored holes. |
| Sub-sampling techniques and sample preparation | • Core sampling is completed at the drill site and based on set of standard criteria (determined by lithology and structure). Samples are bagged at the drill site and then transported to an external accredited laboratory for analysis as a complete hole batch.<br>• All samples are weighed, air-dried and then re-weighed before being crushed to a 19mm top size. A rotary splitter is used to divide the sample into portions available for further CQ analysis.<br>• CQ analysis is by a three stage method involving raw analysis on all plies followed by washability and product testing on composite samples as defined by the project geologist.<br>• All sample treatment and analysis is conducted according to procedures which adhere to Australian (or International equivalent) standards in a National Association of Testing Authorities certified laboratory. |

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| | |
|---|---|
| Quality of assay data and laboratory tests | • Non-formalised quality assurance/quality control (QAQC) involving duplicate samples is completed and, in addition, Rio Tinto Coal Australia checks laboratory round robin and basic reproducibility tests provided by the primary laboratory. All results are assessed via cross-plots and statistics for precision and accuracy. |
| Verification of sampling and assaying | • All CQ sampling and analysis is overseen and checked by other Rio Tinto personnel.<br>• Data transfer from site is covered by an agreed protocol. This system documents primary data, data entry procedures, data verification, and data storage (physical and electronic) into a geological database. |
| Location of data points | • The topographic grid has been constructed from an orthophoto DTM obtained from AAM Hatch on 18 June 2002. The grid has a 20m cell size and covers the entire Hail Creek Syncline as shown in Figure 2 below.<br>• All surveyed co-ordinates are within Australian Geodetic Datum 1984 (MGD84) MGA Zone 55.<br>• Drill hole collars were surveyed post drilling by licensed surveyors (Hail Creek Mine employees) using differential GPS with an accuracy of ±10mm.<br>• Downhole surveying has been undertaken using downhole verticality and calliper tools for all holes 2005 onwards. From all holes drilled and modelled at Hail Creek, 49% of cored holes have verticality data and 44% of open holes have verticality data recorded. |
| Data spacing and distribution | • Drill hole spacing for core holes is on an equilateral triangle grid of 500m or less. For open holes, spacing is on a 250m or less equilateral triangle grid. Holes for sub-crop delineation were drilled on a distance as required (observed <100m).<br>• Due to the maturity of the exploration, the majority of the recently drilled holes (2012 to 2014) were not set on a grid basis but rather governed by required data.<br>• Pre-production holes are based on sub-100m grid spacing (between 75m- 86m).<br>• All core samples are composited within defined seam boundaries. |
| Orientation of data in relation to geological structure | • The Coal Measures show relatively consistent layering and are not subject to steep dips – the orientation of drilling is therefore suitable for flat lying stratified deposits. |
| Sample security | • Core/chip samples are taken at the drill site and then transported daily to the exploration office for storage under refrigeration. Once the hole has been completed the samples are transported to the laboratory via a dedicated courier service again under refrigeration. |
| Audits or reviews | • Hail Creek has had three audits completed in the past six years, they include:<br>o An audit in September 2014 conducted by the Xstract Group (report: Rio Tinto Group Audit and Assurance Resources Internal Audit: Hail Creek Mine)<br>o An audit in October 2010 conducted by the Xstract Group (report: Resources and Reserves Internal Audit – Hail Creek Mine. Project No. P1361)<br>o An audit in November 2009 conducted by Snowden (report: Rio Tinto Corporate Assurance: Resources and Reserves Internal Audit – Hail Creek Mine. Project No. 00509).<br>• These reviews concluded that the fundamental data collection techniques are appropriate. |

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## SECTION 2 REPORTING OF EXPLORATION RESULTS

| Criteria | Commentary |
|---|---|

**Mineral tenement and land tenure status**

- Hail Creek Mine is operated under a joint venture agreement. The joint venture partners are listed below:
  - o Queensland Coal Pty Limited* (82% share)
  - o Marubeni (6.6667% share)
  - o Sumisho (3.3333% share)
  - o Nippon Steel Australia (8% share).

  ** A 100% owned subsidiary of Rio Tinto Ltd.*
- The area making up the Hail Creek Resource model makes up the eastern portion of ML 4738.
- Other licences and permits includes:
  - o two exploration permits
  - o two mining development licences.

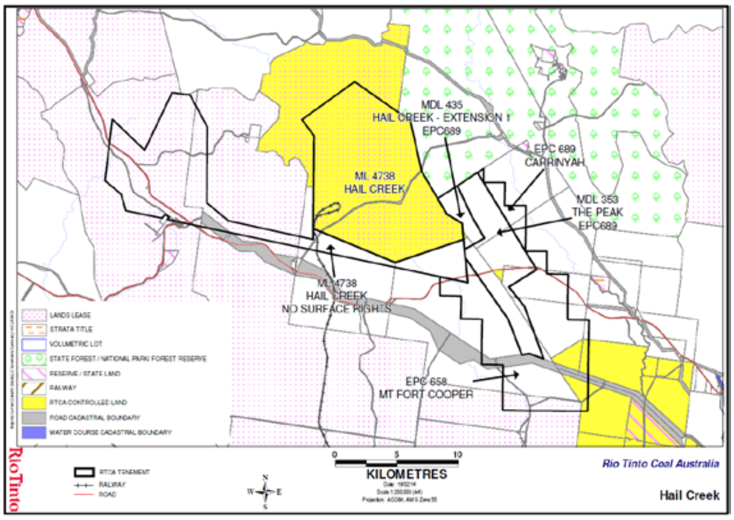


**Figure 1 HCM mining and tenements map**

**Exploration done by other parties**

- Small government and private coal exploration was undertaken between 1887 and 1969, but only small Reserves were reported for the Elphinstone and Kemmis Creek coalfields. The realisation of the Hail Creek syncline for coking coal was not until 1969. Mine administration undertook extensive exploration during the 1970s. The project partners took some poor options in testing the coal. Frequent changes of project ownership and personnel hampered the interpretation and documentation of this early work.
- All exploration of the Hail Creek Syncline after the major partnering of Rio Tinto in the early 1990s was conducted by Pacific Coal Pty Ltd followed by the current custodian, Rio Tinto Coal Australia Pty Ltd.

**Geology**

- Hail Creek is located in the northern part of the Bowen Basin which contains numerous important coal producing intervals in the Permian stratigraphy. The Late Permian Fort Cooper and Rangal Coal Measures host the coal deposits mined at Hail Creek. The main rock types of these measures are sandstone, siltstone and conglomerate, which occur with coal and tuffaceous claystone.

**Drill hole information**

- Drilling data summary of Hail Creek for periods 1993-2001 and 2003-2014:

**Table 1: Drilling activities for period 1993-2001**

| Year | | Open Holes | HQ3 Core | 100mm Core | Large Core | Totals |
|---|---|---|---|---|---|---|
| 1993 | N°. of holes | 7 | 2 | - | 8 | 17 |

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| | | | | | | |
|---|---|---|---|---|---|---|
| | Metres drilled | 612 | 88 | - | 369 | 1,069 |
| 1994 | N°. of holes | 46 | - | - | - | 46 |
| | Metres drilled | 4,220 | - | - | - | 4,220 |
| 1995-96 | N°. of holes | 392 | 19 | 53 | 11 | 475 |
| | Metres drilled | 26,903 | 718 | 4,712 | 705 | 33,038 |
| 1997 | N°. of holes | 65 | - | 13 | 34 | 112 |
| | Metres drilled | 7,566 | - | 844 | 2,008 | 10,417 |
| 1998 | N°. of holes | 602 | 1 | 50 | - | 653 |
| | Metres drilled | 29,263 | 37 | 2,698 | - | 31,998 |
| 2001 | N°. of holes | - | - | - | 6 | 6 |
| | Metres drilled | - | - | - | 292 | 292 |

**Table 2: Drilling activities for period 2003-2014**

| Year | Drilling Detail | Open Holes | HQ3 Core | PQ3 Core | 100mm Core | Large Core | Totals |
|---|---|---|---|---|---|---|---|
| 2003 | N°. of holes | 508 | 9 | - | 173 | 3 | 693 |
| | Metres drilled | 22,418 | 559 | - | 7,323 | 149 | 30,449 |
| 2004 | N°. of holes | 781 | 10 | - | 82 | 11 | 884 |
| | Metres drilled | 46,043 | 326 | - | 7,680 | 965 | 55,014 |
| 2005 | N°. of holes | 1,033 | 38 | - | 83 | 7 | 1,161 |
| | Metres drilled | 99,420 | 8,832 | - | 8,527 | 829 | 117,608 |
| 2006 | N°. of holes | 248 | - | - | 32 | - | 280 |
| | Metres drilled | 15,927 | - | - | 2,184 | - | 18,111 |
| 2007 | N°. of holes | 511 | - | - | 53 | - | 564 |
| | Metres drilled | 39,757 | - | - | 4,741 | - | 44,498 |
| 2008 | N°. of holes | 51 | 0 | 0 | 30 | 16 | 97 |
| | Metres drilled | 6,289 | 0 | 0 | 4,909 | 1,777 | 12,975 |
| 2009 | N°. of holes | 126 | 4 | 0 | 84 | 7 | 221 |
| | Metres drilled | 22,525 | 721 | 0 | 13,866 | 662 | 40,832 |
| 2010 | N°. of holes | 242 | - | - | 45 | 5 | 292 |
| | Metres drilled | 39,753 | - | - | 7,047 | 704 | 47,504 |
| 2011 | N°. of holes | 118 | 6 | 26 | 29 | 0 | 179 |
| | Metres drilled | 23,992 | 1,618 | 8,592 | 5,297 | 0 | 39,499 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 2012 | Nº. of holes | 134 | 5 | 12 | 12 | 0 | 162 |
| | | Metres drilled | 30,122 | 1,429 | 2,592 | 2,734 | 0 | 36,108 |
| | 2013 | Nº. of holes | 157 | 27 | 24 | 0 | 0 | 208 |
| | | Metres drilled | 45,429 | 7,298 | 4,654 | 0 | 0 | 57,381 |
| | 2014 | Nº. of holes | 41 | 2 | 23 | | | 66 |
| | | Metres drilled | 19,025 | 764 | 3,478 | | | 23,267 |

| | |
|---|---|
| Data aggregation methods | • Ply samples are combined to create composites (for washability and product coal analyses) representing mineable seam working sections. |
| Relationship between mineralisation widths and intercept lengths | • Based on drilling techniques and stratigraphy, the coal seam intercepts approximate true coal thickness. |

Diagrams

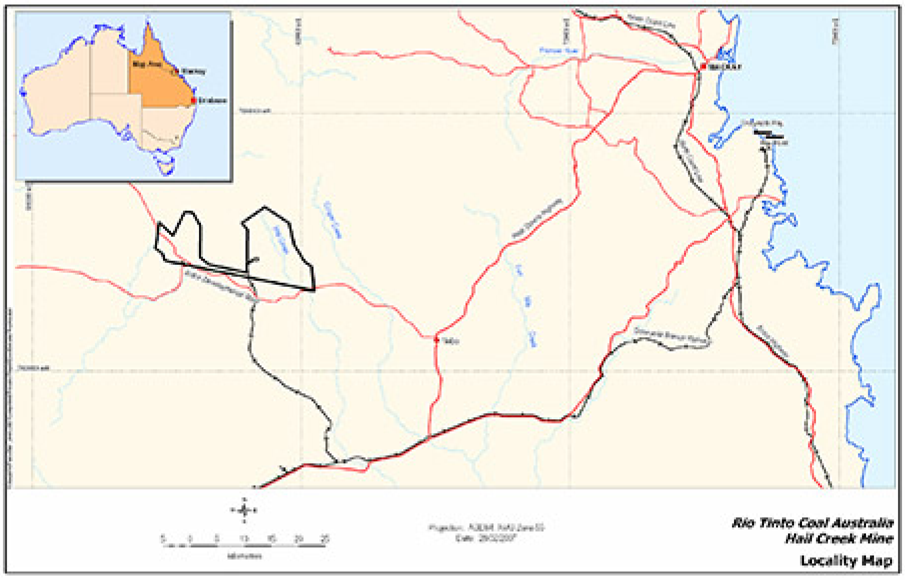
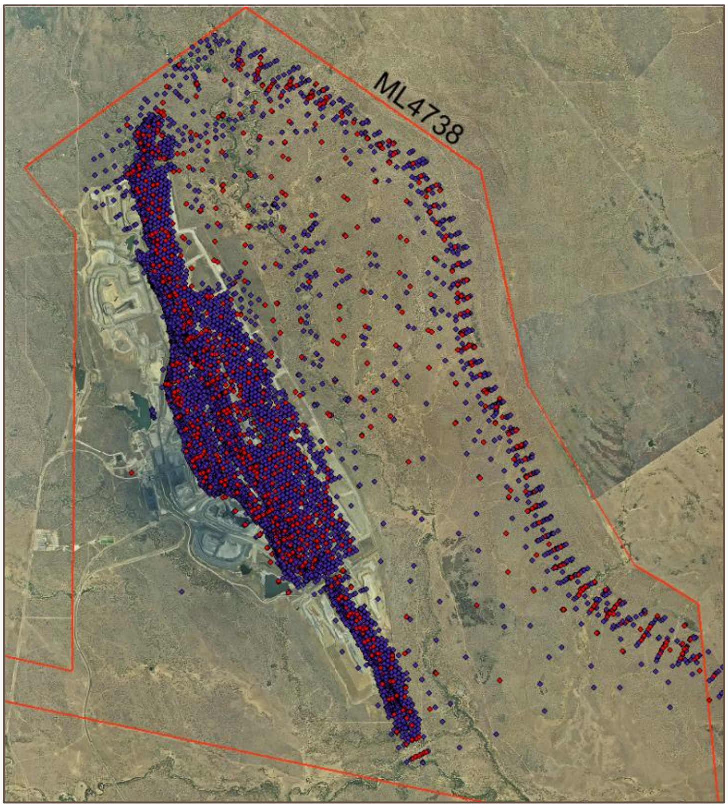
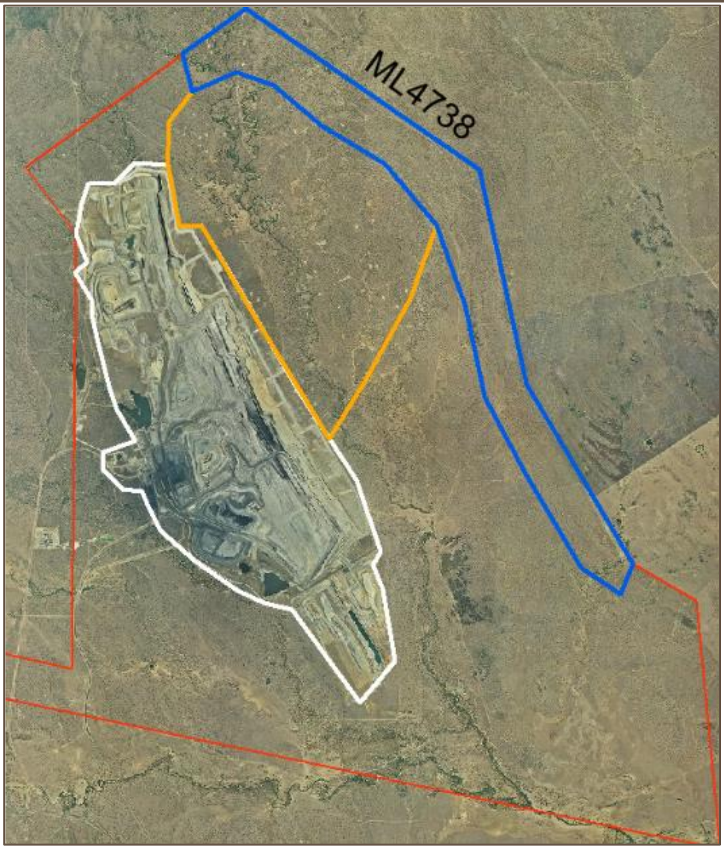



**Figure 2: Hail Creek location**



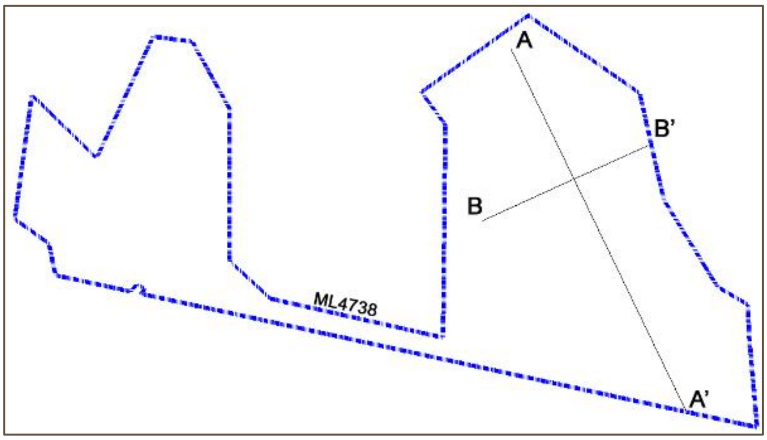

*Open holes (blue); cored holes (red)*

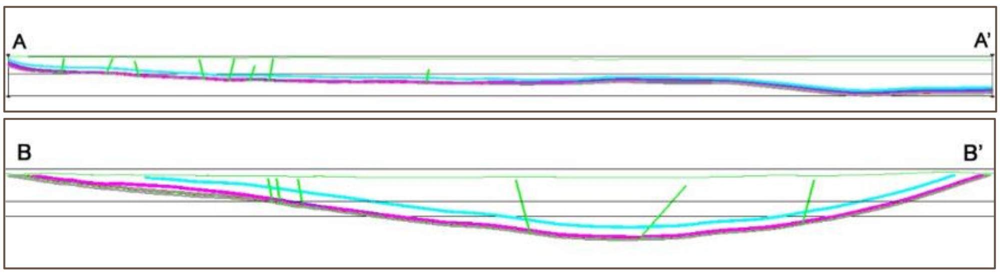
**Figure 3 Drill collar locations**




*Active pit (white), underground (orange), and eastern margin (blue) exploration targets*

**Figure 4 Current Hail Creek activities**




*Cross-section A is north to south / cross-section B is west to east*

**Figure 5 Hail Creek cross-sections**

| | |
|---|---|
| Balanced reporting | • Not applicable. Rio Tinto Coal Australia has not specifically released exploration results for these deposits. |
| Other substantive exploration data | • In addition to drilling, a 3D seismic survey (underground exploration target) and airborne magnetic surveys have been completed to delineate structure, faults, dykes, and alluvial limits. |
| Further work | • Drilling for both pre-production and strategic brownfields, and analytical (CQ, geotechnical, gas) results will be ongoing.<br>• Brownfields exploration includes a potential eastern margin, an underground Resource, and potential coal Resources in the south of the syncline. |

## SECTION 3 - ESTIMATION AND REPORTING OF MINERAL RESOURCES

| Criteria | Commentary |
|---|---|
| Database integrity | • All drill hole data are securely stored in a database which is stored on the Brisbane server and is backed up daily.<br>• Data are validated at the drill site and also prior to loading into the database by the responsible geologist.<br>• The database contains automated validation processes, during data loading to prevent un-validated data being loaded. |
| Site visits | • The Resources Competent Person visited Hail Creek in 2014. |
| Geological interpretation | • The deposit is a south-southeast plunging, asymmetrical syncline with all major structures defined. The deposit is part of a series of anticlines and synclines known as the Nebo Synclinorium. Infill drilling, 3D seismic, mining exposure and mapping has supported and refined the model. The current interpretation is thus considered to be robust. |
| Dimensions | • The deposit trends 14km north-northwest to south-southeast and is 6km in width. The deposit extends to a depth of 530m below the topographic surface in the south. |
| Estimation and modelling techniques | • Modelling was undertaken using resource modelling software. For structural modelling the Fine Element Method (FEM) interpolator is used and for CQ an inverse distance squared interpolator is used. All surfaces and coal qualities are interpolated into grids with 20m × 20m node spacing.<br>• The model is of the coal seams only and waste modelled by default and not assigned any grade. Resource estimates are therefore of the coal seams only and restricted on a whole seam group basis only.<br>• Modelling is completed on an iterative basis with checking of cross-sections and contours of structural and CQ attributes. Database values are posted on contours as a further check. A volume/tonnage check between the model and its predecessor are completed as a final validation. |
| Moisture | • All tonnages are estimated on an in situ moisture basis, which is determined to be air-dried moisture content plus 5%. |

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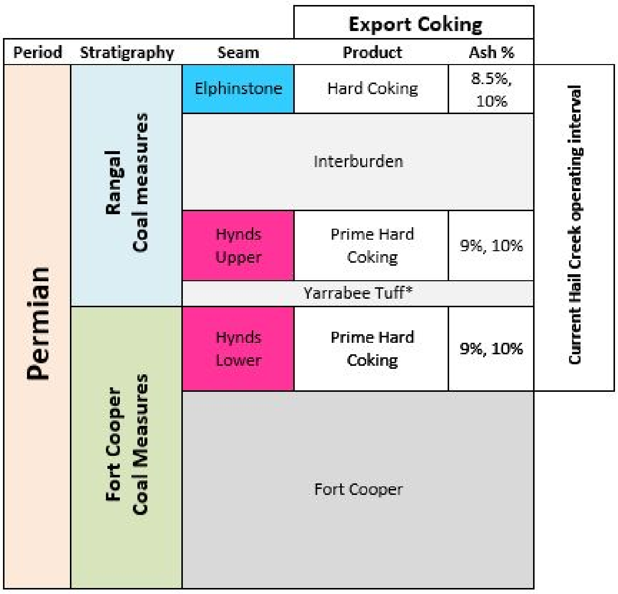
| Cut-off parameters | • Nominally coal is washed to produce two primary coking products:<br>o a premium low-ash (8.5 per cent) prime hard coking product<br>o a higher ash (10 per cent) hard coking product.<br>• Blending of coal from the two seams (Elphinstone and Hynds) is common.<br>• A secondary thermal product has recently been introduced from the rejects streams of the above products and is a 25% ash product.<br>• The site also produces smaller amounts of bypass thermal rejects.<br>• For all products, product moisture is 10%. Air-dried moisture is quoted at a 1.5% moisture basis. |
| Mining factors or assumptions | • Development of this Mineral Resource estimate assumes mining using standard Rio Tinto Coal Australia equipment.<br>• The assumed open-cut mining method is overburden removal via draglines, and conventional truck and shovel open pit coal mining.<br>• Mining practices utilise detailed extraction plans to effectively manage grade control. These extraction plans are generated from short term geological models, in pit visual inspections and survey monitoring and control.<br>• Conceptual underground mining will be by longwall methods.<br>• Expected mining by seam and product is illustrated in the figure below:<br><br>**The non-coal Yarrabee Tuff is included in Hynds coal extraction*<br>**Figure 6 Hail Creek operations and products by seam** |
| Metallurgical factors or assumptions | • It is assumed that a combination of density separation (magnetite/water) and fines flocculation processes used by Rio Tinto Coal Australia will be applicable for the processing of Hail Creek coal. |
| Environmental factors or assumptions | • Rio Tinto Coal Australia has an extensive environmental and heritage approval and compliance process. No issues are expected that would impact on the Mineral Resource estimate. |
| Bulk density | • All boreholes are reported on relative density (RD).<br>• The in situ relative density; i.e. the density of materials at an in situ moisture basis, was calculated using the Preston and Sanders equation:<br>RD2=[RD1*(100-M1)]/[100+RD1*(M2-M1)-M2]<br>*Where RD1 is true RD (ad), M1 is moisture (ad) and M2 is the in situ moisture.* |

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| Classification | • The classification of the Mineral Resources into varying confidence categories is based on a standardised process of utilising points of observation (PoO) (ie drill holes) according to their reliability and value in estimation. The points of observation are used to categorise structure and quality continuity (or both) or support continuity.<br>• Radii of influence are then plotted around PoO maps for structure and quality. The radii of influence were determined by consideration of the perceived and observed variability in structure and CQ for seams, and using small radii than that recommended in a geostatistical review previously undertaken.<br>• Areas of confidence (low, medium, high) are produced from these plots (structure, CQ for each seam) and these are finally combined to produce areas of Measured, Indicated and Inferred which are used to subdivide the resource tonnage estimates.<br>• In summary structural radii range 125-250m for high confidence, 250-500m for medium and 750-1,500m for low; and, for CQ 250-500m radii for high, 500-1,000m for medium and 1,500-3,000m for low confidence respectively.<br>• The Competent Person is satisfied that the stated Mineral Resource classification reflects the geological controls interpreted and the estimation constraints of the deposits. |
| Audits or reviews | • Hail Creek has had three audits completed in the past six years, they include:<br>o An audit in September 2014 conducted by the Xstract Group (report: Rio Tinto Group Audit and Assurance Resources Internal Audit: Hail Creek Mine)<br>o An audit in October 2010 conducted by the Xstract Group (report: Resources and Reserves Internal Audit – Hail Creek Mine. Project No. P1361)<br>o An audit in November 2009 conducted by Snowden (report: Rio Tinto Corporate Assurance: Resources and Reserves Internal Audit – Hail Creek Mine. Project No. 00509).<br>• These reviews concluded that the modelling and estimation techniques are appropriate |
| Discussion of relative accuracy/ confidence | • Rio Tinto Coal Australia operates multiple mines in New South Wales (NSW) and Queensland. The Mineral Resource data collection and estimation techniques used for the Hail Creek deposit are consistent with those applied at other deposits which are being mined. Reconciliation of actual production with the Mineral Resource estimates for the existing operational deposits are generally within three percent for tonnes. This result is indicative of a robust process.<br>• Accuracy and confidence of Mineral Resource estimation estimate has been accepted by the Competent Person. |

## SECTION 4 ESTIMATION AND REPORTING OF ORE RESERVES

| Criteria | Commentary |
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| Mineral Resource estimate for conversion to Ore Reserves | • A 3D gridded resource model of topography, structure and quality are used for in situ resource definition.<br>• Mine design strips and blocks are applied to the in situ resource model to generate the raw Reserves used to create a separate mine schedule database. The mine schedule database also reflects working sections or seam aggregations, mining methods and associated loss and dilution impacts. The mine schedule database is used as the basis for Coal Reserves reporting.<br>• Coal Resources are in addition to Coal Reserves. |

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| Site visits | • The Reserves Competent Person has visited Hail Creek Operations numerous times over 5 years of involvement. |
| Study status | • Hail Creek is an operating mine project. The reportable Ore Reserve is based on the Life of Mine (LOM) plan assumptions and has determined a mine plan that is technically achievable and economically viable, and that material modifying factors have been considered. |
| Cut-off parameters | • Periodic (<3yrs) pit optimisation work used to define pit shells is conducted using Rio Tinto economics prices and an estimate of unit operating costs including a $/ROMt allowance for sustaining capex.<br>• For annual JORC Reserves reporting purposes, detailed mine design and schedules are constructed to generate detailed cash flow schedules. This work includes identifying the mining sequence, equipment requirements, incremental and sustaining capital.<br>• A discounted cashflow analysis is conducted to re-assess under the latest economic assumptions the potential Reserves that remain net cashflow positive. |
| Mining factors or assumptions | • The Hail Creek mine utilises dragline, truck and shovel for waste movement, while coal is loaded using a combination of loaders and excavators with haulage to the Run Of Mine (ROM) hopper undertaken using rear dump trucks. The operations are supported by additional equipment including dozers, graders and water carts.<br>• All pit end-walls have benched and battered designs based on the existing operation with allowances made for increasing depth of mining. The design provides for mining roadways and catch benches.<br>• Working section or seam aggregation logic pre-determines what is defined as mineable coal by applying working section tests based on minimum coal thickness of 30cms.<br>• Coal loss and dilution factors are also applied and vary by the equipment type uncovering the various coal seams (i.e. excavator/truck versus dragline). Typical roof and floor coal loss thickness ranges from 2cm–59cm. Typical roof and floor waste dilution thickness ranges from 4cm–16cm.<br>• Life of Mine Plans for strategic planning purposes may contain Inferred Resources, provided that the LOM plan would not be compromised by non-inclusion of this coal. Inferred Resources included in LOM plans retain this designation and are not to be referred to as Reserves. Neither are they to be reported in JORC or Securities and Exchange Commission compliant reserve statements.<br>• Hail Creek mine has only limited (<14%) inferred coal within the existing LOM plan. |
| Metallurgical factors or assumptions | • Hail Creek has a coal handling and preparation plant (CHPP) that is operational, which is used as a coal handling plant and is also used to wash all coal.<br>• The processes used are standard for the coal industry and so are well tested technologies.<br>• All samples are wash/cut-point tested and so the representativeness of test work undertaken is implicit in the resource classification status.<br>• In-seam dilution is included in sample testing.<br>• Coal Reserve estimation is based on existing product specifications.<br>• A secondary thermal product is a new feature of the reserves and is produced from the rejects streams of the primary products.<br>• The additional reserve is based on a 25% ash thermal that has been tested with the market throughout 2014. |
| Environmental | • Coarse rejects are combined with fine tailings to form a co-disposal slurry that is |

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| | pumped to an emplacement area. Rejects material must be covered by inert waste rock material.<br>• Ex-pit dumps are offset from any creeks to prevent any constriction of creek flows.<br>• Overburden waste rock has low acid forming potential. |
| Infrastructure | • Hail Creek is an operating site with existing infrastructure in place to support the operation. The current LOM requires sustaining capital only to maintain the existing infrastructure. |
| Costs | • Based on detailed Annual Operating Plan (AOP) process. Beyond AOP, sustaining capex based on $/ROMt plus equipment replacements and additions required to deliver the mine plan.<br>• First principles estimating and aligned with AOP. Budget prices for major consumables and labour.<br>• Adjustments are made for ash.<br>• Commodity prices supplied by the economics and markets team, based on expected demand, and current supply, known expansions and expected incentivised supply.<br>• Exchange rates supplied by the economics and markets team.<br>• Transport charges obtained from coal chain team based on existing contracts and expected tonnages.<br>• State Government royalties are based on current Queensland (QLD) royalty rates. |
| Revenue factors | • Rio Tinto applies a common process to the generation of commodity prices across the group. This involves generation of long-term price curves based on current sales contracts, industry capacity analysis, global commodity consumption and economic growth trends. In this process, a price curve rather than a single price point is used to develop estimates of mine returns over the life of the project. The detail of this process and of the price point curves is commercially sensitive and is not disclosed. |
| Market assessment | • The supply and demand situation for coal is affected by a wide range of factors, and coal consumption changes with economic development and circumstances. Rio Tinto Coal Australia delivers products aligned with its Mineral Resources and Ore Reserves, these products have changed over time and successfully competed with coal products supplied by other companies. |
| Economic | • Economic inputs such as foreign exchange rates, carbon pricing, and inflation rates are also generated internally at Rio Tinto. The detail of this process is commercially sensitive and is not disclosed. |
| Social | • There are no Native Title Claims over Hail Creek that would impact on Reserves. No Reserves have been omitted on this basis.<br>• A process is embedded in the normal operating regime at Hail Creek to provide cultural heritage clearance such that no effects are expected to restrict the Hail Creek Reserves. As part of releasing a ground disturbance permit on site, authority must be gained to destroy/remove sites of cultural interest. This involves archaeological mapping and removal of artefacts prior to ground disturbance.<br>• There are no sites of European Cultural Heritage at Hail Creek. |
| Other | • Semi-quantitative risk assessments have been undertaken throughout the LOM and Reserve phases. No material naturally occurring risks have been identified through the above mentioned risk management processes. |
| Classification | • The Ore Reserves consist of 84% Proved Reserves and 16% Probable |

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| | Reserves.<br>• The Competent Person is satisfied that the stated Ore Reserve classification reflects the outcome of technical and economic studies. |
| Audits or reviews | • Hail Creek has had three audits completed in the past six years, they include:<br>o An audit in 2014 conducted by the Encompass mining group (reports: External review of the HCX PFS mine Planning Data and modelling – April 2014; External review of the HCX Step 2 PFSA Mine Planning Data and modelling – December 2014.)<br>o An audit in October 2010 conducted by the Xstract Group (report: Resources and Reserves Internal Audit – Hail Creek Mine. Project No. P1361)<br>o An audit in November 2009 conducted by Snowden (report: Rio Tinto Corporate Assurance: Resources and Reserves Internal Audit – Hail Creek Mine. Project No. 00509).<br>• These reviews concluded that the fundamental data collection and modelling techniques are appropriate and consistent with previously audited Hail Creek models. |
| Discussion of relative accuracy/ confidence | • Rio Tinto Coal Australia operates multiple mines in Queensland and NSW. The Ore Reserve estimation techniques utilised for the Hail Creek Operation are consistent with those applied across the other operations. Reconciliation of actual production with the Ore Reserve estimate for the existing operations is generally within 5% for tonnage and grade. This result is indicative of a robust Ore Reserve estimation process.<br>• Accuracy and confidence of modifying factors are generally consistent with the current operation. |