

Changes to RTIO Ore Reserves

28 February 2020

Rio Tinto's 2019 Annual report, released to the market today, includes the first reporting of Ore Reserves at the Western Range iron ore deposit in the Pilbara, Western Australia, following completion of a pre-feasibility study in 2019.

Ore Reserves are reported in accordance with the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves, 2012 (JORC Code) and the ASX Listing Rules. ASX Listing Rule 5.9 sets out the supporting information that must be included in a release to the exchange when first reporting an Ore Reserve estimate in relation to a material mining project. That supporting information for the first reporting of Ore Reserves at the Western Range deposit is set out in this release and its appendix.

Ore Reserves are quoted in this release on a 100 per cent basis as dry product tonnes. Rio Tinto's Ore Reserves and Mineral Resources as at 31 December 2019, and Rio Tinto's interests, are set out in full in its 2019 Annual report.

During 2019, Rio Tinto's total estimated iron Ore Reserves decreased by 94 million tonnes after depletion from mining and the additions from Western Range reported today. Rio Tinto's ongoing resource development drilling program aims to maintain Ore Reserves coverage, ahead of future mining depletion rates. Total Ore Reserves now sit at 3,332 million tonnes¹. Separate to this, Rio Tinto's iron ore Mineral Resources sit at 23 billion tonnes¹.

This release and its appendix set out information supporting the first reporting of Ore Reserves for the Western Range 36W-50W deposit, which has increased Ore Reserves by 201 Mt of Brockman Ore.

Changes in Rio Tinto's Pilbara iron ore Ore Reserves between 31 December 2018 and 31 December 2019 are shown below in Table A.

**Table A - Aggregate changes to Rio Tinto's Pilbara iron ore Ore Reserve estimates¹
between 31 Dec 2018 and 31 Dec 2019 (100% basis)**

	Dry product (Mt)
2018 Ore Reserves	3,426
Western Range 36W-50W increases	201
Net amount of other changes (including depletions of 300 Mt due to production and minor increases totalling 5 Mt)	-295
2019 Ore Reserves	3,332

¹ Rio Tinto's Pilbara iron ore Ore Reserve and Mineral Resource estimates are reported in Rio Tinto's 2019 Annual report dated 26 February 2020 and released to the market on 28 February 2020. The Competent Persons responsible for that Ore Reserve reporting were R Bleakey, L Couto, R Sarin and R Verma, and the Competent Persons responsible for that Mineral Resource reporting were H McLean, P Savory and B Sommerville. Rio Tinto is not aware of any new information or data that materially affects these resource estimates, and confirms that all material assumptions and technical parameters underpinning the estimates continue to apply and have not materially changed. The form and context in which the competent persons' findings are presented have not been materially modified.

The location of the deposit involved is shown in Figure 1.

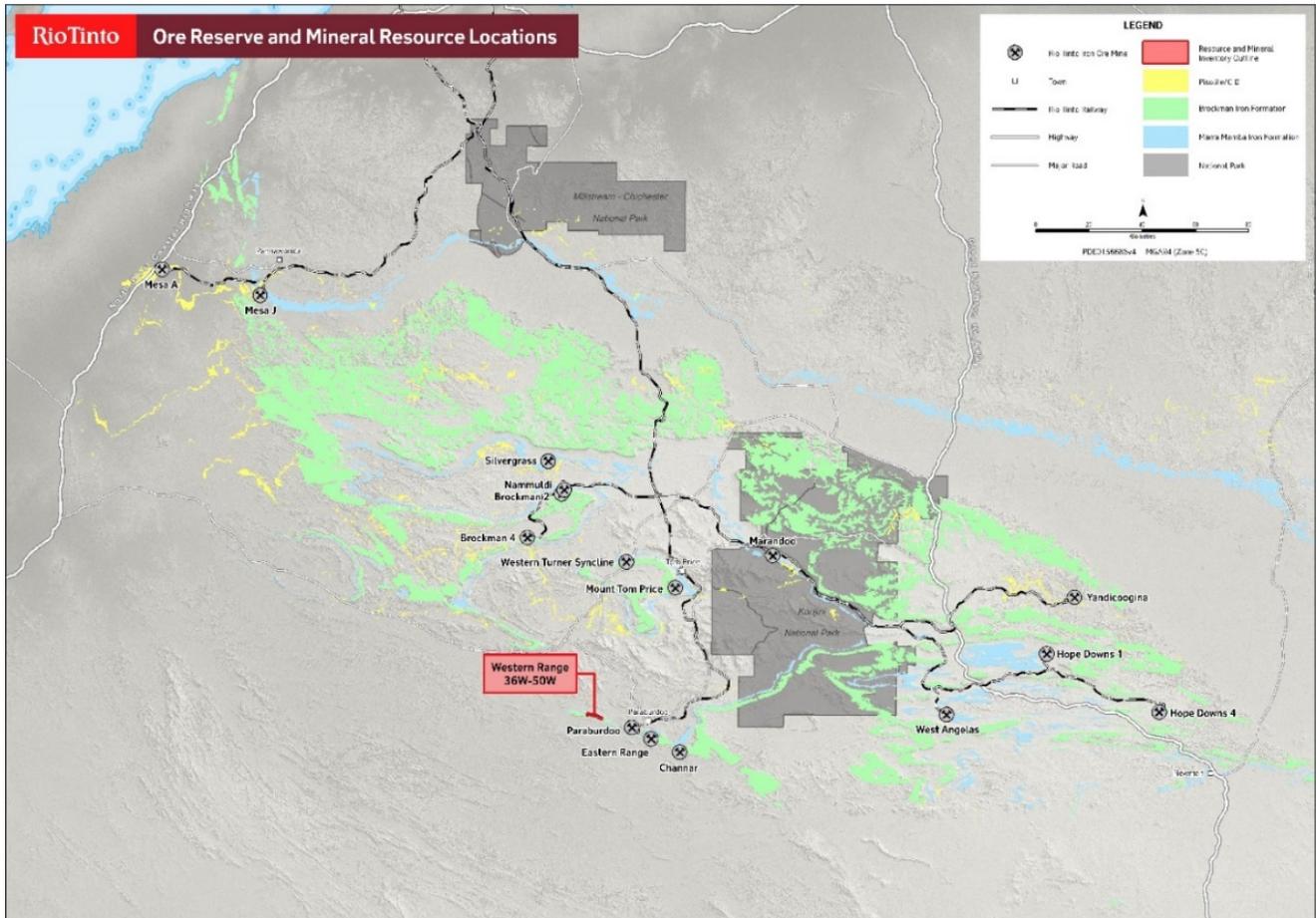


Figure 1 - Deposit Location Map.

Summary of information to support the Ore Reserve estimates

Western Range 36W–56W

Initial Ore Reserve estimates for the Western Range 36W–56W deposit are supported by the information set out in the appendix to this release and located on our website at riotinto.com/invest/financial-news-performance/resources-and-reserves in accordance with the Table 1 checklist in the JORC Code. The following summary information is provided in accordance with rule 5.9 of the ASX Listing Rules.

Geology, drilling techniques, and geological interpretation:

The Western Range 36W–56W deposit is located within the Hamersley Basin of Western Australia, the host to some of the most significant iron ore deposits in the world. The Western Range 36W–56W deposit mineralisation is primarily hosted by the Brockman Iron Formation with additional detrital mineralisation present.

Percussion and Reverse circulation (RC) drilling was carried out between 1979 and 2012. A total of 1020 holes were completed for 89,678 m. In addition to this, 76 diamond drill holes from 2003, 2011 and 2012 are available for geological interpretation, geotechnical and metallurgical assessments. Geophysical logging was completed for the majority of the drill holes, employing a suite of down-hole tools to obtain calliper, gamma, and other data to assist in the interpretation of the stratigraphy.

Geological modelling was performed by Rio Tinto Iron Ore geologists. The method involves interpretation of stratigraphy and mineralisation using surface geological mapping, lithological logging data, down-hole gamma data, and assay data.

Sampling, sub-sampling method and sample analysis method

Dry samples were collected at 2 m intervals (Reverse Circulation) and 1.5 m (Percussion). Sub-sampling at the rig was carried out utilising a riffle splitter (2002 and earlier) or a rotary cone splitter (2011-2012).

The sample was then sent for analytical testing at Rio Tinto's internal laboratory at Dampier (2002 and earlier) or Bureau Veritas Laboratories (formerly Ultratrace Laboratories) for the 2011-2012 drilling programs. The majority of the samples were oven dried at 105 degrees Celsius for a minimum of 24 hours. Samples were then crushed, split and pulverised to produce a 100-150 g sample of -150 µm (2002 onwards).

Fe, SiO₂, Al₂O₃, P, Mn, MgO, TiO₂, CaO and S were assayed using lithium metaborate fusion and X-Ray Fluorescence (XRF) analysis. Loss on Ignition (LOI) is determined using a Thermo-Gravimetric Analyser (TGA).

Greater detail of this process for each of the drilling generations is outlined in the appendix.

Estimation methodology

Modelling was completed using the Rio Tinto Iron Ore Pilbara geological modelling and estimation standards. Ordinary kriging and inverse distance weighting to the first and second power methods were used to estimate grades through the deposit.

Criteria used for classification

The Mineral Resource for the Western Range 36W-50W deposit has been classified into the category of Measured, Indicated and Inferred. The determination of the applicable category has considered the relevant factors (geology complexity, mineralisation continuity, sample spacing, data quality, and others as appropriate).

The Ore Reserve is the economically mineable part of a Mineral Resource. Ore Reserves include modifying factors such as, for example, mining and processing recoveries. For this deposit, economically mineable

Measured Mineral Resources convert to Proved Ore Reserves and the economically mineable Indicated Mineral Resources convert to Probable Ore Reserves.

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.

Mining and recovery factors

The Mineral Resource model was regularised to a block size which was determined to be the selective mining unit following an analysis of a range of selective mining units. Dilution and mining recovery were modelled by applying the regularisation process to the sub-block geological model.

Metallurgical models were applied to the regularised model in order to model product tonnage, grades and yields.

Pit optimisation utilising the Lerchs-Grossmann algorithm was undertaken applying applicable cost, revenue and geotechnical inputs. The resultant pit shells were used to develop detailed pit designs with due consideration of geotechnical, geometric and access constraints.

These pit designs were used as the basis for production scheduling and economic evaluation. Conventional mining methods (truck and shovel) similar to other Rio Tinto Iron Ore mines were selected.

The geotechnical parameters have been applied based on geotechnical studies informed by technical assessments of diamond drill holes drilled during the 2012 to 2019 drilling programmes, specifically drilled for geotechnical purposes on the surrounding host rock.

Processing

During drill campaigns from 2003-2018 a total of 3,382 m of metallurgical PQ diamond core were drilled in the Western Range 36W–50W deposit. Data obtained from this core formed the basis for metallurgical test work which was utilised to develop metallurgical models representing different metallurgical domains which were considered representative of the ore body. The metallurgical models predict product tonnage and grade parameters for lump and fines products.

The Western Range 36W–50W ore, if developed, would be processed through the Paraburdoo processing facility, which comprises a dry crushing and screening facility with desliming. This style of processing is well suited to the Brockman ore at the Western Range 36W–50W deposit. The proposed metallurgical process is a well-tested and proven processing methodology, having been utilised at Rio Tinto Iron Ore mining operations for decades.

It is planned to blend ore from Western Range 36W–50W with ore from other Rio Tinto Iron Ore mine sites to make a saleable ore product. Western Range 36W–50W ore if, developed, would not be marketed directly. This plan is in line with current Rio Tinto Iron Ore practices where ore from multiple mines is combined to produce the Pilbara Blend product.

Cut-off grades

The Western Range 36W–50W deposit will be reported using variable cut-off grade (VCoG), in line with a number of other Pilbara deposits. Application of VCoG allows the varying of the head grade across the life of the

deposit, to achieve desired product grades. At Western Range 36W–50W, this approximates to a cut-off of 58.5% Fe over the mine life.

Modifying factors

The Western Range 36W–50W deposit is located within existing Mining Lease AM70/00246 (ML246SA), which was granted pursuant to the Paraburdoo State Agreement.

Discussions about a Joint Venture covering the Western Range mining hub with China Baowu Group are continuing.

Access to the Western Range 36W–50W deposit will be via an access road from the existing Paraburdoo mine. If developed, a crusher and conveyer will be built at the Greater Western Range operations (incorporating the 27W, 36W-50W and 55-66W deposits), linking to the existing Paraburdoo mine processing plant. The Paraburdoo mine product stockpiles, rail and train load-out system will be utilised and ore will be railed to Rio Tinto ports at Dampier and Cape Lambert. The existing port and railway networks will have sufficient capacity to accommodate ore supply from the Western Range 36W-50W deposit.

Support facilities located at the Greater Western Range operations will include fixed plant workshop, bulk fuel storage and refuelling facilities, and bulk lube storage. Existing support facilities at the Paraburdoo mine will be utilised, including heavy and light vehicle workshops, explosive facility, and waste fines storage facility. Electric power will be supplied via a 33kV connection to the Rio Tinto transmission network at Paraburdoo. Water will be sourced from bores at Western Range, supplemented by a connection to Paraburdoo borefields. Residential and Fly in, Fly out operations personnel will be accommodated in the Paraburdoo town, and utilise the Paraburdoo airport.

The project is located in the Hamersley Range, which has rich history of Aboriginal occupation. Ethnographic and archaeological surveys of the area have been completed, and all known sites have been located, recorded and considered during mine planning and engineering activities.

Groundwater abstraction and quality will continue to be managed in accordance with the existing Greater Paraburdoo Groundwater Licences and associated Groundwater Operating Strategy, and any amendments as required. The Western Range 36W–50W deposit is located within the Shire of Ashburton. Rio Tinto Iron Ore has established an ongoing engagement with the Shire of Ashburton, which includes scheduled meetings and project updates.

The Greater Paraburdoo Iron Ore Hub (Proposal) was formally referred to the Environmental Protection Authority (EPA) under section 38 of the Environmental Protection Act 1986 (EP Act) on 5 November 2018. The Proposal was also referred to Department of the Environment and Energy (DEE). The delegate for the Commonwealth Minister for the Environment determined that the Proposal is a controlled action under s. 75 of the EPBC Act, requiring further assessment and approval.

The EPA is assessing the Proposal as an accredited assessment on behalf of the Commonwealth under s. 87 of the EPBC Act. The Environmental Scoping Document (ESD) identified the following key environmental factors relevant to the Proposal: Flora and Vegetation; Terrestrial Fauna; Subterranean Fauna; Inland Waters and Social Surroundings. The ESD was approved by the EPA in June 2019.

A Draft Environmental Review Document (ERD) was submitted to the EPA on 31 October 2019. The ERD provides assessment of the potential impacts of this Proposal on the key environmental factors to enable the EPA to determine the environmental acceptability of this Proposal. Rio Tinto is currently awaiting feedback from regulators on the Draft ERD.

For the Western Range 36W–50W, accuracy and confidence of modifying factors are generally consistent with the current level of study (Pre-Feasibility Study).

2019 Annual report Ore Reserves table, showing line items relating to Western Range 36W-50W

Type of mine (a)	Proved Ore Reserves at end 2019		Probable Ore Reserves at end 2019		Total Ore Reserves 2019 compared with 2018				Interest %	Recoverable metal	
	Tonnage	Grade	Tonnage	Grade	Tonnage		Grade				
	millions of tonnes	%Fe	millions of tonnes	%Fe	2019 of tonnes	2018 of tonnes	2019 %Fe	2018 %Fe			
IRON ORE (b) (c)											
Reserves at development projects											
Hamersley Iron (Australia)											
- Western Range (Brockman ore) (d)	O/P	171	62.7	29	61.4	201	-	62.5	-	100.0	201

(a) Type of mine: O/P = open pit, O/C = open cut, U/G = underground, D/O = dredging operation.

(b) Australian iron ore Reserves tonnes are reported on a dry weight basis. As Rio Tinto only markets blended iron ore products from multiple mine sources, a detailed breakdown of constituent elements by individual deposit is not reported.

(c) Reserves of bauxite, diamonds and iron ore are shown as recoverable Reserves of marketable product after accounting for all mining and processing losses. Mill recoveries are therefore not shown.

(d) Western Range (Brockman ore) Ore Reserves are reported for the first time following completion of a Pre-feasibility Study. A JORC Table 1 in support of this change will be released to the market contemporaneously with the release of this Annual report and can be viewed at riotinto.com/factsheets/JORC. Discussions about a Joint Venture covering the Western Range mining hub with China Baowu Group are continuing.

Competent Persons' Statement

The material in this report that relates to Mineral Resources for the Western Range 36W–56W deposit is based on information prepared by Mr Bruce Sommerville, a Competent Person who is a Member of The Australasian Institute of Mining and Metallurgy.

The material in this report that relates to Ore Reserves for the Western Range 36W–56W deposit is based on information prepared by Mr Rishi Verma, a Competent Person who is a Member of The Australasian Institute of Mining and Metallurgy.

Mr Sommerville and Mr Verma are both full-time employees of Rio Tinto.

Mr Sommerville and Mr Verma 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'.

Each of Mr Sommerville and Mr Verma consents to the inclusion in the report of the material based on information prepared by him in the form and context in which it appears.

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This announcement is authorised for release to the market by Rio Tinto's Group Company Secretary.

Western Range 36W–50W deposit - Table 1

The following table provides a summary of important assessment and reporting criteria used at the Western Range 36W–50W deposit for the reporting of Mineral Resources and Ore Reserves, 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	<ul style="list-style-type: none"> • Samples for geological logging and assay were collected via drilling. • Geological logging and assay samples were collected at 2 m intervals from Reverse Circulation (RC) drilling and from 1.5m intervals for Percussion drilling; all intervals were sampled. • Density and Metallurgical samples were collected from PQ Diamond core drilling. • Geotechnical samples were partly collected from HQ Diamond core drilling. • Mineralisation was determined by a combination of geological logging and geochemical assay results. • Reverse Circulation drilling utilised a rotary cone splitter beneath a cyclone return system to obtain a primary and secondary sample, with particular attention paid to samples collected being of comparable weights. The splitter produced two 8% samples ('A' and 'B') and one 84% reject sample. The primary 'A' sample was collected at 2 m intervals through 8% blades from the outer cone of the rotary cone splitter. • Percussion drilling utilised an extensive modified Schramm T64 rig with 900/350 air, which was supported by an auxiliary booster and high volume air compressors. All holes were drilled vertical. • The drill programmes were conducted on 120m x 60m and 60mx 60m drill patterns.
Drilling techniques	<ul style="list-style-type: none"> • Reverse Circulation drilling utilised a 140 mm diameter face sampling bit with a sample shroud, attached to a pneumatic piston hammer. This was used to penetrate the ground and deliver the sample up the 6 m drill rod inner tubes (4 m starter rod) through to the cyclone and the rotary cone splitter. • Diamond drilling was HQ and PQ core sizes using double and triple tube techniques. • Core Orientation data collected where possible, predominantly within BIF or hydrated zones or any consolidated core. • Percussion drilling utilised an extensive modified Schramm T64 rig with 900/350 air, which was supported by an auxiliary booster and high volume air compressors. • Dry drilling was implemented during all drilling programmes. • The drilling programmes were mostly vertical with some angled holes drilled (-60 to -85 degrees north and south), where there was limited area for a drill pad or specific Geotechnical requirements.
Drill sample recovery	<ul style="list-style-type: none"> • Direct recovery measurements of Reverse Circulation samples were not performed; however, a qualitative estimate of sample loss at the rig was made, and in most cases a good representative sample was collected. Sample weights were recorded at the laboratory, upon receipt and after oven drying during 2011- 2012 drilling programmes. • Diamond core recovery was maximised via the use of triple-tube sampling and additive drilling muds. • Diamond core recovery was recorded using rock quality designation (RQD) measurements with all cavities and core loss recorded in the Rio Tinto Iron Ore acquire™ database (RTIODB). In most cases 95% or above core recovery was achieved. • Sample recovery in some of the friable mineralisation may have been reduced: however this was unlikely to have a material impact on the reported assays for these intervals. • Thorough analysis of duplicate sample performance did not indicate any chemical bias as a result of inequalities in weights of samples.
Logging	<ul style="list-style-type: none"> • All drillholes were geologically logged utilising standard Rio Tinto Iron Ore Material Type Classification Scheme (RTIO MTCS) logging codes and entered into the Rio Tinto Iron Ore acquire™ database (RTIODB) on field Toughbook laptops. Pre-2004, this was performed using pre-formatted paper logging sheets and transferred manually to the RTIODB. • Internal training and validation of logging included RTIO MTCS identification and calibration workshops, peer reviews and validation of logging versus assay results. • Geological logging was performed on 2 m intervals for all Reverse Circulation drilling and 1.5m intervals for Percussion drilling.

	<ul style="list-style-type: none"> • Magnetic susceptibility readings were taken using a Kappameter for each interval. • Open-hole acoustic and optical televiewer image data was collected in specific Reverse Circulation holes throughout the deposit for structural analyses. • All Diamond drill core and Reverse Circulation chip piles were photographed digitally and files stored on Rio Tinto network servers. • 2011 and 2012: drillholes recorded in-rod gamma trace and deviation with calliper, density, resistivity, and magnetic susceptibility also captured for selected holes. • 2002: drillholes were logged for downhole deviation using a gyroscope and magnetic susceptibility. • Pre-2002: gamma logging was conducted using a portable downhole unit.
<p>Sub-sampling techniques and sample preparation</p>	<p><u>Sub-sampling techniques</u></p> <ul style="list-style-type: none"> • 2011 – 2012: <ul style="list-style-type: none"> ○ Dry Reverse Circulation drilling was sampled at 2 m intervals. Sub-sampling was carried out using a rotary cone splitter beneath a cyclone return system, producing approximate mass splits of: <ul style="list-style-type: none"> ○ 'A' Split – Analytical sample – 8% ○ 'B' Split – Retention sample – 8% all retention samples were placed in green plastic bags and stored in labelled 220 litre steel drums. ○ Bulk Reject – 84%. • 2002: <ul style="list-style-type: none"> ○ Dry Reverse Circulation drilling was sampled at 2m intervals. Sub-sampling was carried out using a 4-way Jones riffle splitter attached beneath the cyclone, with the final splits being: 87.5% waste; 6.25% laboratory sample and 6.25% retention sample. ○ The laboratory sample was collected in a calico bag, and the retention sample was collected in a plastic 'honey-pot' (a screw-top plastic jar). • Pre-2002: <ul style="list-style-type: none"> ○ Dry samples were collected at 2 m intervals (Reverse Circulation) and 1.5m (Percussion) utilising a riffle splitter. If the samples were wet, a dual adjustable divider, which filled a 20 litre bucket lined with a large calico sample bag, was used. These sample bags were then placed in sample racks for drying. ○ One reference sample of approximately 1 kg was collected in honey pot with a sample tag placed inside the container. <p><u>Sample preparation of the 'A' split sample:</u></p> <ul style="list-style-type: none"> • 2011 – 2012: <ul style="list-style-type: none"> ○ Samples were dried at 105° C. ○ Samples were crushed to -3 mm using a Boyd Crusher and split using a rotary sample divider to capture 1 – 2.5 kg samples. ○ Manual LM5 was used to pulverise the total sample (1 – 2.5 kg) to 90% of the weight passing through a 150 micron (µm) sieve. ○ A 100 g sub-sample was collected for analysis. • 2002: <ul style="list-style-type: none"> ○ The samples were dried for >16 hrs and then cooled before preparation. The samples barcode was read and a vial label printed. ○ The sample was either poured into the crusher splitter (samples < 7 kg) or a preliminary splitting stage was performed. ○ A 100 - 150 g portion was received in a labelled sample vial which travelled automatically to one of two automatic mills. The sample was pulverised for 90 seconds to 95% -150 µm. • Pre-2002: <ul style="list-style-type: none"> ○ The 5 kg drill sample was crushed to <3 mm, then passed through a Jones Riffle splitter and reduced to a 200 g sample. The sample was then dried at 105oC for three hours, then crushed in a Siebtechnik disc mill to minus 150 micron (µm) sieve. ○ A 0.4 g aliquot of the Siebtechnik milled sample was taken and made into a fused borate glass bead. The bead was analysed by using a Philips 1600 XRF machine.
<p>Quality of assay data and laboratory tests</p>	<p><u>Assay methods</u></p> <ul style="list-style-type: none"> • 2011 - 2012: <ul style="list-style-type: none"> ○ Fe, SiO₂, Al₂O₃, TiO₂, Mn, CaO, P, S, MgO, K₂O, Zn, Pb, Cu, Ba, V, Cr, Cl, As, Ni, Co, Sn, Sr, Zr and Na were assayed using industry standard lithium tetraborate and lithium metaborate fusion and X-Ray Fluorescence (XRF) analytical techniques.

- Loss on Ignition (LOI) was determined using an industry standard Thermo-Gravimetric Analyser (TGA) and was measured at three steps of temperatures: 140° - 425° C, 425° - 650° C, 650° - 1000° C.
- Samples were dispatched to Perth for preparation and analytical testing at Bureau Veritas Laboratories (formerly Ultratrace Laboratories).
- 2002:
 - Fe, SiO₂, Al₂O₃, TiO₂, Mn, CaO, P, S, and MgO, were assayed using industry standard lithium tetraborate and lithium metaborate fusion and X-Ray Fluorescence (XRF) analytical techniques.
 - Loss on ignition (LOI) was measured using a thermogravimetric analyser and measured at a single temperature (1000°C).
 - Samples were dispatched to Rio Tinto's internal laboratory at Dampier for preparation and analytical testing.
- Pre-2002:
 - Fe, SiO₂, Al₂O₃, TiO₂, MnO, CaO, P, S, and MgO, were assayed using a borate flux to make a fused glass bead. The bead was then analysed by XRF.
 - LOI determination was performed on a 1g sub sample, split from the millings which were heated to 900 C for 35 minutes using a LECO TGA 500 analyser.
 - Samples were dispatched to Rio Tinto's internal laboratory at Dampier for preparation and analytical testing.

Quality assurance measures:

- 2011 – 2012 to present:
 - Insertion of coarse reference standards by Rio Tinto Iron Ore geologists was undertaken at a rate of one in every 30 samples in mineralised zones, and one in every 60 samples in waste zones, with a minimum of one standard per drillhole. Reference material was prepared and certified by Rio Tinto Iron Ore following ISO 3082:2009 (Iron Ores – Sampling and sample preparation procedures) and ISO 9516-1:2003 (Iron Ores – Determination of various elements by X-ray fluorescence spectrometry – Part 1: Comprehensive procedure).
 - Coarse reference standards contained a trace of strontium carbonate added at time of preparation, for ease of identification.
 - Field duplicates were collected as a 'B' split retention sample, which was taken directly from the rig splitter. Duplicate insertion occurred at a frequency of one in 20. Trace zinc was included in the duplicate sample for identification.
 - At a frequency of one in 20, -3 mm splits and pulps were collected as laboratory splits and repeats respectively. These sub-samples were analysed at the same time as the original sample to identify grouping, segregation and delimitation errors.
 - Internal laboratory quality assurance and quality control measures involved the use of internal laboratory standards of certified reference material in the form of pulps, blanks and duplicates.
 - Random re-submission of pulps at an external laboratory was performed following analysis.
 - Chemical Analysis Testing (CAT) and Analytical Precision Testing (APT) samples were collected at a frequency of one per batch. They were submitted to a third party laboratory (Geostats Pty Ltd) to check analytical precision and accuracy, as part of the Rio Tinto Iron Ore quality assurance and quality control (RTIO QA/QC) procedures.
 - Analysis of the performance of certified standard and field duplicates has indicated an acceptable level of accuracy and precision without any significant bias.
- 2002:
 - A duplicate sample was collected from the mineralised zone, at a frequency of approximately one per hole for the purpose of measuring sampling precision. The duplicate sample replaced one of the retention samples and was allocated a laboratory sample number in sequence within the mineralised zone.
 - At an approximate rate of one every hole, a pre-prepared standard sample of known analysis was introduced into the samples, for the purpose of monitoring accuracy of the laboratory. These check standards were allocated a laboratory sample number in sequence within mineralised zone.
- Pre 2002:
 - Duplicate samples were taken from selected intervals at conclusion of drilling. Standards were also introduced into the system at a frequency of one per hole, or if the hole was <100 m in depth, at a frequency of approximately every 100 m of sampling.

Verification of sampling and assaying	<ul style="list-style-type: none"> Field data was logged directly onto field Toughbook laptops using pre-formatted and validated logging templates, with details uploaded to the Rio Tinto Iron Ore database (RTIODB) on a daily basis. Pre-2004 this was performed using pre-formatted paper logging sheets and transferred manually to the RTIODB. The assaying of post 2002 samples used in the Mineral Resource estimates were performed by independent National Association of Testing Authorities (NATA) certified laboratories. Samples from 2002 and earlier were assayed at Dampier which carried a ISO9001 accreditation. Assay data was returned electronically from the laboratory and uploaded into the RTIODB. Assay data was only accepted into the RTIODB once the quality control assessment was completed. Written procedures outline the processes of geological logging and data importing, quality assurance and quality control validation and assay importing. A robust, restricted-access database was in place to ensure that any requests to modify existing data go through appropriate channels and approvals, and that changes are tracked by date, time, and user. Assay data has not been adjusted. In 2011, twenty-six (26) PQ Diamond holes were drilled as twins for Metallurgical purposes. Analysis of the twinned drillhole assay data distributions (except for one hole which was used for metallurgical testing) showed that the drilling methods displayed similar grade and geological distributions, and verified the suitability for Reverse Circulation and Percussion samples to be used in the Mineral Resource estimate.
Location of data points	<ul style="list-style-type: none"> The drillholes were surveyed in Mine Grid of Australia 1994 (MGA94) Zone 50 coordinates using Differential Global Positioning System (DGPS) survey equipment, which was accurate to 10 cm in both horizontal and vertical directions. Upon receipt of the coordinate data it was validated against the planned drillhole coordinates, and then uploaded to the drillhole database. All holes were surveyed by qualified surveyors. Drillhole collar reduced level (RL) data was validated against 5 m 2013 LiDAR topographic survey and showed that the collar survey data was accurate. Down-hole surveys were conducted on every hole, with the exception of collapsed or otherwise hazardous holes. Significant, unexpected deviations were investigated and validated. Holes greater than 100 m depth were surveyed with an in-rod gyro tool. The pre-1997 drillholes were re-surveyed using DGPS; however, not all holes could be located and therefore the survey method for these holes is unknown and presumed to be planned coordinates. This has been taken into consideration in the resource classification.
Data spacing and distribution	<ul style="list-style-type: none"> The drill spacing was deemed appropriate for sufficient deposit knowledge by the Competent Person for the Mineral Resource classification applied. The drill spacing across the deposit is mostly 60 m x 60 m. The mineralised domains for the Western Range 36W-50W deposit have demonstrated sufficient continuity in both geology and grade to support the definition of Mineral Resources, and the classifications applied under the 2012 JORC Code guidelines. Sample compositing has not been performed.
Orientation of data in relation to geological structure	<ul style="list-style-type: none"> Drill lines were perpendicular to geological structure at an approximate of 333 degrees north. Drilling was predominantly vertical which is appropriate for the sub-horizontal to inclined stratigraphy of the majority of the deposit. Angled holes were drilled where appropriate and also for geotechnical purposes. While mineralisation was frequently intersected at an angle, the orientation of mineralisation relevant to drilling was not considered likely to have introduced any material bias.
Sample security	<ul style="list-style-type: none"> The sample chain of custody was managed by Rio Tinto Iron Ore Ltd. Analytical samples ('A' splits) were collected by field assistants, placed into bulk bags and delivered to Perth by a recognised freight service and then to the assay laboratory by a Perth-based courier service. Whilst in storage, the samples were kept in a locked yard. Retention samples ('B' splits) were collected and stored in drums at on-site facilities up to end of 2018 drill programmes. In 2019 retention samples in a form of 'B' splits were not collected, with a coarse crushed split of 3mm particle size were kept at laboratory instead. 150 g of excess pulps from primary samples were retained indefinitely at laboratories and external storage facilities at CTI Logistics Ltd in Perth, Western Australia.

Audits or reviews	<ul style="list-style-type: none"> External audits have not been performed specifically on sampling techniques or data. Internal Rio Tinto Iron Ore peer review processes and internal Rio Tinto technical reviews were completed. These reviews concluded that the fundamental data collection techniques were appropriate.
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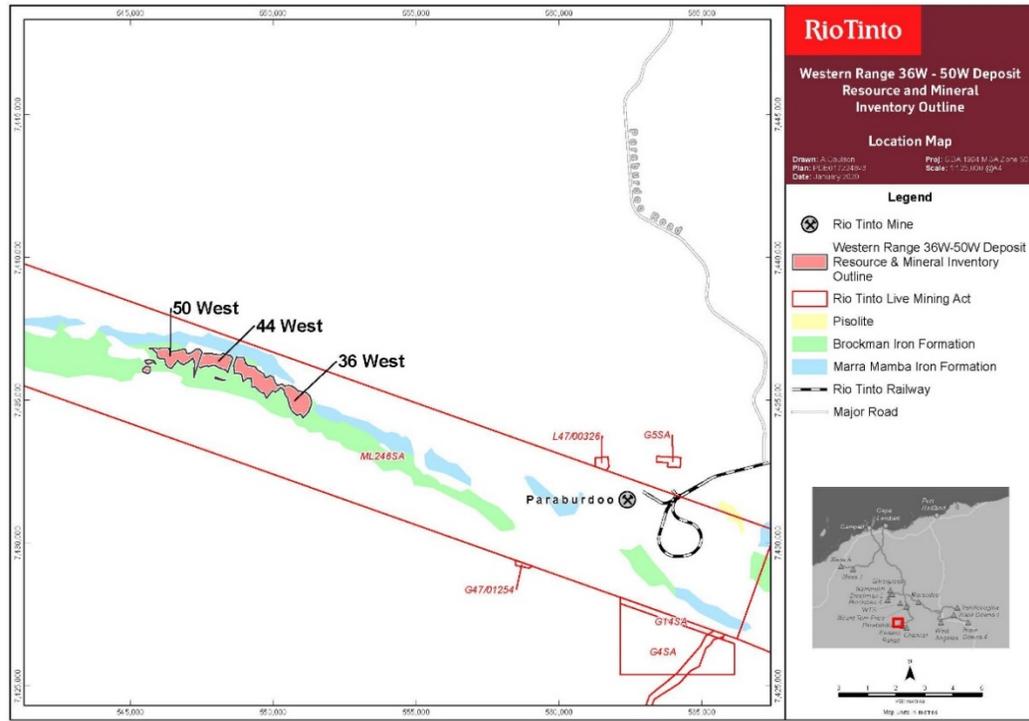
SECTION 2 REPORTING OF EXPLORATION RESULTS

Criteria	Commentary
Mineral tenement and land tenure status	<ul style="list-style-type: none"> The Western Range 36W-50W deposit is located within Mining Lease AM70/00246 (ML246SA). Discussions about a Joint Venture covering the Western Range mining hub with China Baowu Group are continuing.
Exploration done by other parties	<ul style="list-style-type: none"> 1968 and 1979 – 1996 exploration drilling was conducted by Hamersley Exploration (Task Force) and CRA Exploration; all data is currently available within Rio Tinto databases.
Geology	<ul style="list-style-type: none"> The Western Range 36W-50W deposit is a typical high phosphorus martite-goethite Brockman type deposit. Mineralisation occurs within both the Dales Gorge and Joffre Members of the Brockman Iron Formation. Minor mineralisation also occurs in the Whaleback Shale, Yandicoogina Shale and Weeli Wolli Members. There is minor detrital mineralisation, which occurs as shallow fan shaped deposits to the south of the range and small canga deposits close to the range front. Western Range is bounded to the east by the 36W SRF Fault and to the west by the 72W Fault. There are numerous smaller scale fault trending north-west and east-north-east. Numerous dolerite dyke intrusion cross cut faults and overprint faults. There are also numerous dolerite sills in the area within the Whaleback Shale, Joffre, Yandicoogina Shale and Weeli Wolli Members. Twenty-three (23) mapped faults lie within the Western Range 36W-50W deposit, with varying trend and throw. Two (2) of these faults show little to no throw and have therefore not been domained with the geological model. Several dolerite dykes bisect the area, and largely follow fault lines which tend to trend north-west to south-east. The major Joffre sill runs east to west across the area, and is offset by the north-west to south-east trending faults. Another minor sill lies within the Whaleback Shale 2 layer, but this is only present in 36W. Approximately 98% of the Mineral Resource lies above the water table.

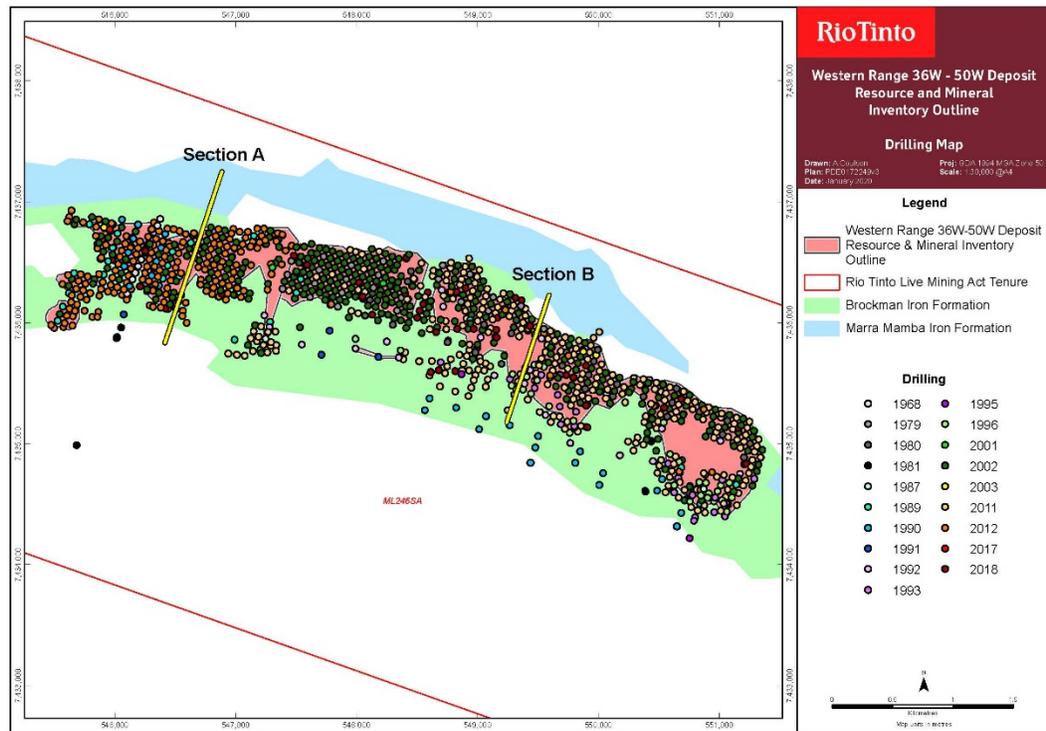
Drill hole Information	<ul style="list-style-type: none"> Summary of drilling data used for the Western Range 36W-50W Mineral Resource estimate: <table border="1" data-bbox="581 226 1224 905"> <thead> <tr> <th rowspan="2">Year</th> <th colspan="2">Percussion</th> <th colspan="2">Reverse Circulation</th> </tr> <tr> <th># Holes</th> <th>Metres</th> <th># Holes</th> <th>Metres</th> </tr> </thead> <tbody> <tr><td>1979</td><td>24</td><td>2,434</td><td>-</td><td>-</td></tr> <tr><td>1980</td><td>29</td><td>3,370</td><td>-</td><td>-</td></tr> <tr><td>1987</td><td>4</td><td>1,056</td><td>-</td><td>-</td></tr> <tr><td>1989</td><td>26</td><td>2,266</td><td>-</td><td>-</td></tr> <tr><td>1990</td><td>32</td><td>1,962</td><td>-</td><td>-</td></tr> <tr><td>1991</td><td>-</td><td>-</td><td>1</td><td>300</td></tr> <tr><td>1992</td><td>-</td><td>-</td><td>16</td><td>2,994</td></tr> <tr><td>1993</td><td>-</td><td>-</td><td>23</td><td>3,694</td></tr> <tr><td>1995</td><td>-</td><td>-</td><td>3</td><td>336</td></tr> <tr><td>1996</td><td>-</td><td>-</td><td>33</td><td>4,135</td></tr> <tr><td>2001</td><td>-</td><td>-</td><td>2</td><td>164</td></tr> <tr><td>2002</td><td>-</td><td>-</td><td>352</td><td>27,044</td></tr> <tr><td>2011</td><td>-</td><td>-</td><td>266</td><td>22,403</td></tr> <tr><td>2012</td><td>-</td><td>-</td><td>209</td><td>17,520</td></tr> <tr> <td>Total</td> <td>115</td> <td>11,088</td> <td>905</td> <td>78,590</td> </tr> </tbody> </table>	Year	Percussion		Reverse Circulation		# Holes	Metres	# Holes	Metres	1979	24	2,434	-	-	1980	29	3,370	-	-	1987	4	1,056	-	-	1989	26	2,266	-	-	1990	32	1,962	-	-	1991	-	-	1	300	1992	-	-	16	2,994	1993	-	-	23	3,694	1995	-	-	3	336	1996	-	-	33	4,135	2001	-	-	2	164	2002	-	-	352	27,044	2011	-	-	266	22,403	2012	-	-	209	17,520	Total	115	11,088	905	78,590
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Data aggregation methods	<ul style="list-style-type: none"> Sample compositing was not performed. Grade truncations were not performed. 																																																																																				
Relationship between mineralisation widths and intercept lengths	<ul style="list-style-type: none"> Geometry of the mineralisation with respect to the drillhole angle was well-defined in most areas of the deposit. Drilling is predominantly vertical which is appropriate for the sub-horizontal to inclined stratigraphy of the majority of the deposit. 																																																																																				

Diagrams

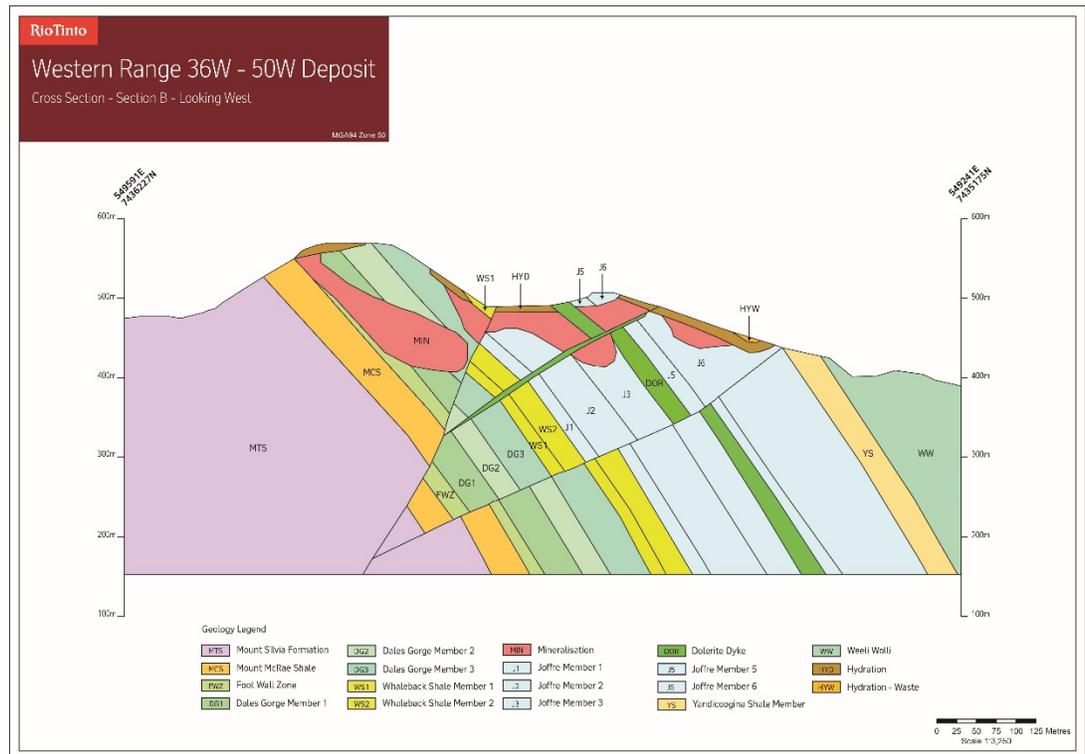
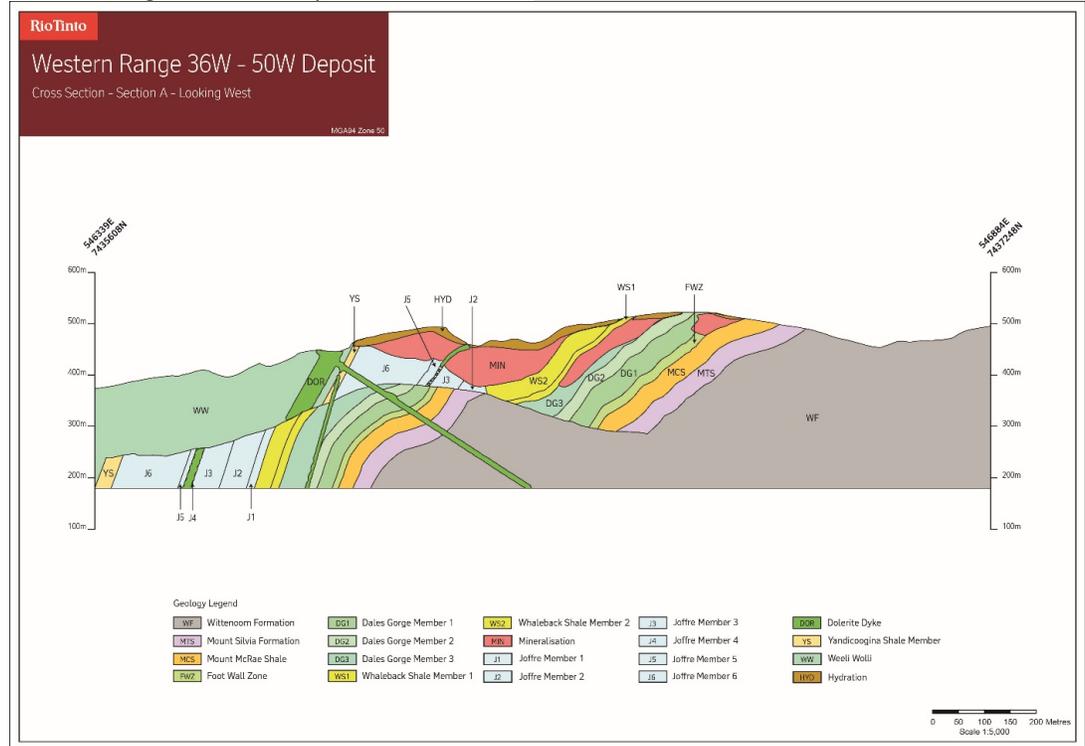
Western Range 36W-50W Deposit Location Map:



Western Range 36W-50W Deposit Drillhole Location Map:



Western Range 36W-50W Deposit Cross Sections:



Balanced reporting

- Not applicable, as Rio Tinto has not specifically released exploration results for this deposit.

Other substantive exploration data	<ul style="list-style-type: none"> Geological mapping data was collected across the Western Range 36W-50W deposit in 2011 at the 1:5,000 scale.
Further work	<ul style="list-style-type: none"> Further work at the Western Range 36W-50W deposit is required to better define the orebody and improve structural understanding. Additional infill Reverse Circulation drilling is required across the deposit. Diamond drilling for metallurgical, density, and geotechnical purposes is also required across Western Range 36W-50W deposit.

SECTION 3 ESTIMATION AND REPORTING OF MINERAL RESOURCES

Criteria	Commentary
Database integrity	<ul style="list-style-type: none"> All drilling data is securely stored in the Rio Tinto Iron Ore acQuire™ database (RTIODB), managed by dedicated personnel within Rio Tinto Iron Ore. The system is backed up nightly on servers located in Perth, Western Australia. The backup system was tested in November 2019, demonstrating that the system is effective. The import/exporting process requires limited keyboard transcription and has multiple built in safeguards to ensure information is not overwritten or deleted, these include: <ul style="list-style-type: none"> Data is imported and exported through automated interfaces, with limited manual input; Inbuilt validation checks ensure errors are identified prior to import; Once within the RTIODB, editing is very limited and warning messages ensure accidental changes were not made; Audit trail records updates and deletions should an anomaly be identified; Export interface ensures the correct tables, fields and format are selected. The drillhole database used for Mineral Resource estimation has been internally validated. Methods include checking: <ul style="list-style-type: none"> acQuire™ scripts for relational integrity, duplicates, total assay and missing / blank assay values; Grade ranges in each domain; Domain names; Survey data down-hole consistency; Null and negative grade values; Missing or overlapping intervals; Duplicate data. Drillhole data was also validated visually by domain and compared to the geological model.
Site visits	<ul style="list-style-type: none"> The Competent Person visited the Western Range 36W-50W deposit in 2018. There were no outcomes as a result of this visit.
Geological interpretation	<ul style="list-style-type: none"> Overall the Competent Person's confidence in the geological interpretation of the area is good, based on the quantity and quality of data available, and the continuity and nature of the mineralisation. Geological modelling was performed by Rio Tinto Iron Ore geologists. The method involves interpretation of stratigraphy using surface geological mapping, lithological logging data, down-hole gamma data, and assay data. Cross-sectional interpretation of each stratigraphic unit is performed followed by interpretation of mineralisation boundaries. Three-dimensional wireframes of the sectional interpretations are created to produce the geological model. The geological model is sub-divided into domains and both the composites and model blocks are coded with these domains. Mineralisation is continuous. It is affected by stratigraphy, structure and weathering. The drillhole spacing is sufficient to capture density, grade and geology variation for Mineral Resource reporting.
Dimensions	<ul style="list-style-type: none"> The Western Range 36W-50W deposit strikes approximately east-west with an along strike extent of approximately 6 km and a width of up to approximately 1 km. The mineralisation extends from surface to a depth of 250 m.

Estimation and modelling techniques	<ul style="list-style-type: none"> • Ten grade attributes (Fe, SiO₂, Al₂O₃, P, Mn, LOI, S, TiO₂, MgO, and CaO), and density were estimated for input into Mine Planning and Marketing assessments. • Statistical analysis was carried out on data from all domains. • The grade estimation process was completed using Maptek™ Vulcan™ software. • A block size of 30 m (X) × 30 m (Y) × 5 m (Z) was used for parent blocks. Parent blocks are sub-celled to the geological boundaries to preserve volume. • Estimates were completed on parent blocks. • Mineralised domains were predominantly estimated by ordinary kriging however those domains where creation of robust semi-variograms was deemed infeasible were estimated using inverse distance weighting to the second power. Non-mineralised domains were estimated by inverse distance weighting to the first power or a scripted average. These methods are deemed appropriate by the Competent Person for estimating the tonnes and grade of the reported Mineral Resources. • Grades were extrapolated to a maximum distance of approximately 450 m from data points. • A 'high yield limit' or grade-dependent restriction on a sample's range of influence was used for SiO₂, Mn, S, TiO₂ and MgO for selected domains. The limits differed for different domains and were selected based on histograms and the spatial distribution of the respective assay values. • The block model was validated using a combination of visual, statistical, and multivariate global change of support techniques in the absence of any production data. No production data is available for reconciliation.
Moisture	<ul style="list-style-type: none"> • All Mineral Resource tonnages are estimated and reported on a dry basis.
Cut-off parameters	<ul style="list-style-type: none"> • The cut-off grade for Brockman Iron Mineral Resource is material greater than or equal to 60% Fe. • The cut-off for Brockman Process Ore is material 50% ≤ Fe < 60% and ≤3% Al₂O₃ < 6%.
Mining factors or assumptions	<ul style="list-style-type: none"> • Development of this Mineral Resource assumes mining using standard Rio Tinto Iron Ore equipment and methods similar to other Rio Tinto Iron Ore operations. The assumed mining method is conventional truck and shovel, open pit mining at an appropriate bench height. Mining practices will include grade control utilising blast hole data. • Rio Tinto Iron Ore plans to blend ore from Western Range 36W–50W deposit with ore from other Rio Tinto Iron Ore mine sites to make a saleable ore product. This plan is in line with current Rio Tinto Iron Ore practices where ore from multiple mines is combined to produce the Pilbara Blend product.
Metallurgical factors or assumptions	<ul style="list-style-type: none"> • Standard crushing and screening processes used by Rio Tinto Iron Ore are assumed applicable for processing of the Western Range 36W–50W deposit.
Environmental factors or assumptions	<ul style="list-style-type: none"> • Rio Tinto Iron Ore has an extensive environmental approval process. A review of these requirements was undertaken as part of a Pre-feasibility Study and based on this work the proposal was determined to require formal State environmental assessment and approval. This is documented in greater detail in Section 4. • Mapping of oxidised shales, black carbonaceous shales, lignite, and the location of the water table, is used in prediction and planning for the treatment of potential environmental impacts. This process is in accordance with Rio Tinto's Chemically Reactive Mineral Waste Standard.
Bulk density	<ul style="list-style-type: none"> • Dry bulk density is derived from accepted gamma-density data collected at 10 cm intervals from down-hole geophysical sondes. Accepted gamma-density data is corrected for moisture using Diamond drill core specifically drilled throughout the deposit. • Dry core densities are generated via the following process: <ul style="list-style-type: none"> ○ The core volume is measured in the split and the mass of the core is measured and recorded. ○ Wet core densities are calculated by the split and by the tray. ○ Core recovery is recorded. ○ The core is then dried and dry core masses are measured and recorded. ○ Dry core densities are then calculated. • Accepted gamma-density values at Western Range 36W–50W were estimated using ordinary kriging, inverse distance weighted to the second power or scripted average in mineralised zones and inverse distance weighted to the second power or scripted average in waste zones.

Classification	<ul style="list-style-type: none"> The Mineral Resource has been classified into the categories of Measured, Indicated and Inferred. The determination of the applicable resource category has considered the relevant factors (geology, mineralisation continuity, sample spacing, data quality, and others). Measured Resource is bedded mineralisation that demonstrates good or reasonable geological and grade continuity and is drilled at 30 m × 30 m or 60 m × 60 m spacing. Indicated Resource is either bedded mineralisation that has reasonable geological and grade continuity, and is drilled at 120 m × 60 m or 120 m × 120 m spacing, or is hydrated mineralisation that overlies Measured bedded material Inferred Resource either has limited drilling and/or may be isolated from the main orebody and/or demonstrates poor grade continuity. Approximately 98% of the Western Range 36W–50W Mineral Resource lies above the water table. The Competent Person is satisfied that the stated Mineral Resource classification reflects the relevant factors of the deposit.
Audits or reviews	<ul style="list-style-type: none"> All stages of Mineral Resource estimation have undergone a documented internal peer review process, which has reviewed all phases of the process. The Resource estimate has been accepted by the peer reviewer as well as the Competent Person.
Discussion of relative accuracy/confidence	<ul style="list-style-type: none"> Rio Tinto Iron Ore operates multiple mines in the Pilbara region of Western Australia. The Mineral Resource data collection and estimation techniques used for Western Range 36W–50W deposit are consistent with those applied at other deposits which are being mined. Reconciliation of actual production with the Mineral Resource estimates for individual deposits is generally accurate to within ten percent for tonnes on an annual basis. This result is indicative of a robust process. The accuracy and confidence of the Mineral Resource estimate is consistent with the current level of study (Pre-Feasibility Study).

SECTION 4 ESTIMATION AND REPORTING OF ORE RESERVES

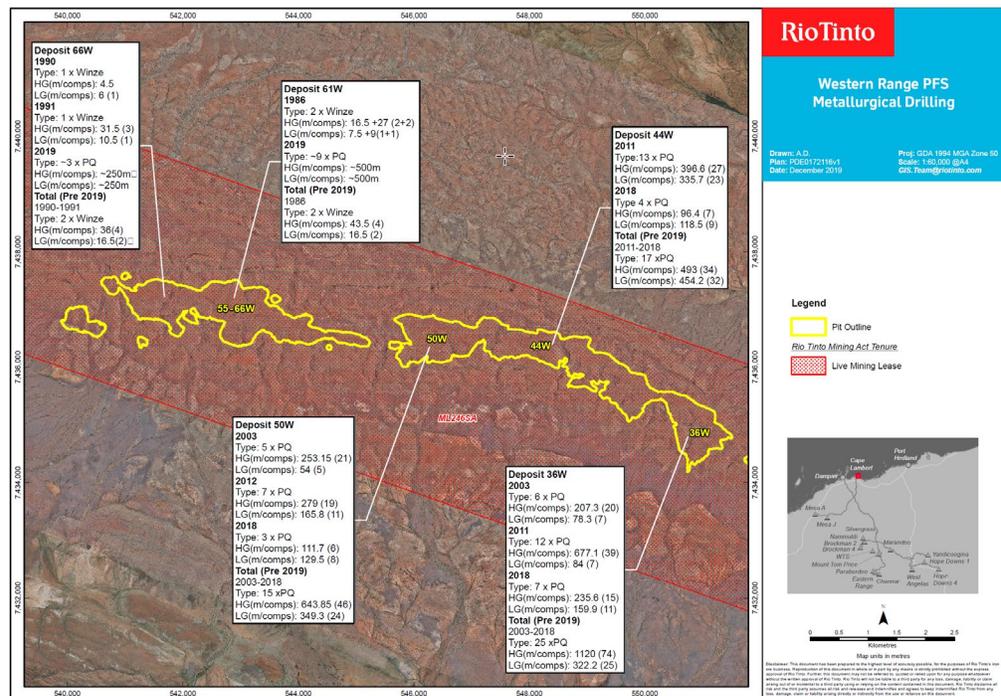
Criteria	Commentary
Mineral Resource estimate for conversion to Ore Reserves	<ul style="list-style-type: none"> Generation of the modifying factors for this Ore Reserve estimate were based on a Mineral Resource estimate for Western Range 36W–50W, completed in February 2014. The most recent Mineral Resource estimate together with the latest update of pit designs were used for reporting Ore Reserves. The declared Ore Reserves are for the Western Range 36W–50W deposit. Mineral Resources are reported additional to Ore Reserves.
Site visits	<ul style="list-style-type: none"> The Competent Person visited the Western Range 36W–50W deposit in 2018.
Study status	<ul style="list-style-type: none"> The Greater Paraburdoo minesite is an existing operation. The Western Range 36W–50W deposit forms an extension to the operating life of the Greater Paraburdoo operations. The Pre-Feasibility Study was completed in Q3 2019.
Cut-off parameters	<ul style="list-style-type: none"> The Western Range 36W–50W deposit will be reported using variable cut-off grade (VCoG), in line with a number of other Pilbara deposits. Application of VCoG allows the variation of the head grade across the life of the deposit, to achieve desired product grades. At Western Range 36W–50W, this approximates to a cut-off of 58.5% Fe over the mine life.
Mining factors or assumptions	<ul style="list-style-type: none"> The Mineral Resource models for Western Range 36W–50W were regularised to a block size of 15 m E × 15 m N × 10 m RL which was determined as the selective mining unit, following an analysis of a range of potential selective mining units. Metallurgical models were applied to the regularised model in order to model product tonnages, grades and yields. Pit optimisations utilising the Lerch-Grossmann algorithm with industry standard software were undertaken. This optimisation utilised the regularised Mineral Resource model, together with cost, revenue, and geotechnical inputs. The resultant pit shells were used to develop detailed pit designs with due consideration of geotechnical, geometric and access constraints. These pit designs were used as the basis for production scheduling and economic evaluation. During the above process, Inferred Mineral Resources were excluded from mine schedules and economic valuations were utilised to validate the economic viability of the Ore Reserves. Conventional mining methods (truck and shovel), similar to other Rio Tinto Iron Ore operating mines

were selected.

- Applied geotechnical parameters are based on geotechnical studies informed by technical assessment of 78 drill holes drilled, specifically for geotechnical purposes between 2012 and 2019. The resultant inter-ramp slope angles vary between 24° and 52°, depending on slope sector rock mass and/or structural geological conditions.
- The Pre-Feasibility Study considered the infrastructure requirements associated with the conventional truck and shovel mining operation, including crushing and conveying systems, dump & stockpile locations, maintenance facilities, access routes, explosive storage, water, and power.

Metallurgical factors or assumptions

- The Western Range 36W–50W ore will be processed through the Paraburdoo processing facility, which comprises a dry crushing and screening facility with desliming. This style of processing is well suited to the Brockman ore at Western Range 36W–50W deposit.
- Dry crushing and screening with desliming of fine ore has been utilised at Paraburdoo since 1996 and is well understood.
- Metallurgical drilling campaigns have been conducted at Greater Western Range operations (incorporating the 27W, 36W-50W and 55-66W deposits) from 2003-2018, with 57 PQ Diamond holes drilled specifically throughout the Western Range 36W–50W deposit. A total of 154 composites of high grade ore (totalling 2257m) and 81 composites of low grade ore (totalling 1125 m), were processed using the standard Brockman plant mimic, which has been calibrated to produce representative plant products. A map of the metallurgical drilling is shown below.



- The Diamond drill core test results were utilised to develop metallurgical models representing different metallurgical domains that were considered representative of the ore body. The metallurgical models predict product tonnage and grade parameters for lump and fines products.

Environmental

- The Greater Paraburdoo Iron Ore Hub (Proposal) was formally referred to the Environmental Protection Authority (EPA) under section 38 of the Environmental Protection Act 1986 (EP Act) on 5 November 2018. The EPA determined that the Proposal warrants assessment at the level of Public Environmental Review with a two week public review period (EPA Assessment No. 2189) on 7 December 2018.
- The Proposal was also referred to Department of the Environment and Energy (DEE) on 6 December 2018 (EPBC Act reference: EPBC 2018/8341) and on 24 January 2019, the delegate for the Commonwealth Minister for the Environment determined that the Proposal is a controlled action under s. 75 of the EPBC Act, requiring further assessment and approval.
- The EPA is assessing the Proposal as an accredited assessment on behalf of the Commonwealth under s. 87 of the EPBC Act. This assessment provides for a single environmental assessment process conducted by the State. At the completion of the assessment, the EPA's Report is provided

	<p>to the DEE assessing the likely impacts of the Proposal on Matters of National Environmental Significance.</p> <ul style="list-style-type: none"> • The Proponent (Rio Tinto) prepared an Environmental Scoping Document (ESD) in January 2019. The ESD identified the following key environmental factors relevant to the Proposal: Flora and Vegetation; Terrestrial Fauna; Subterranean Fauna; Inland Waters and Social Surroundings. The ESD was approved by the EPA in June 2019. • A Draft Environmental Review Document (ERD) was submitted to the EPA on 31 October 2019. The ERD provides assessment of the potential impacts of this Proposal on the key environmental factors to enable the EPA to determine the environmental acceptability of this Proposal. The Proponent is currently awaiting feedback from regulators on the Draft ERD.
Infrastructure	<ul style="list-style-type: none"> • Access to the Greater Western Range operations (incorporating the 27W, 36W-50W and 55-66W deposits) will be via an access road from the existing Paraburdoo mine. • A crusher and conveyor will be built at the Greater Western Range operations, linking to the existing Paraburdoo mine processing plant. The Paraburdoo mine product stockpiles, rail and train load-out system will be utilised. • Ore will be railed to Rio Tinto ports at Dampier and Cape Lambert. The existing port and railway networks have sufficient capacity to accommodate ore supply from the Western Range 36W-50W deposit. • Support facilities located at the Greater Western Range operations will include fixed plant workshop, bulk fuel storage and refuelling facilities, and bulk lube storage. • Existing support facilities at the Paraburdoo mine will be utilised including heavy and light vehicle workshops, explosive facility, and waste fines storage facility. • Electric power will be supplied to the Greater Western Range operations via a 33kV connection to the Rio Tinto transmission network at Paraburdoo. • Water for the Greater Western Range construction and operations will be sourced from bores at Western Range, supplemented by a connection to Paraburdoo borefields. • Residential and Fly in, Fly out operations personnel will be accommodated in the Paraburdoo town, and utilise the Paraburdoo airport.
Costs	<ul style="list-style-type: none"> • Operating costs were benchmarked against similar operating Rio Tinto Iron Ore mine sites. • The capital costs for Western Range 36W-50W are based on the Pre-Feasibility Study, utilising experience from the construction of similar Rio Tinto Iron Ore projects in the Pilbara, Western Australia. • Exchange rates were forecast by analysing and forecasting macro-economic trends in the Australian and World economy. • Transportation costs were based on existing operating experience at Rio Tinto Iron Ore mine sites in the Pilbara, Western Australia. • Allowances have been made for royalties to the Western Australian government and other private stakeholders.
Revenue factors	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • Rio Tinto Iron Ore plans to blend ore from Western Range 36W-50W deposit with ore from other Rio Tinto Iron Ore mine sites to make a saleable ore product. Western Range 36W-50W ore will not be marketed directly. This plan is in line with current Rio Tinto Iron Ore practices where ore from multiple mines is combined to produce the Pilbara Blend product. • Blending of iron ore from Brockman and Marra Mamba sources results in achieving Pilbara Blend Fe requirement, whilst reducing both the average values, and variability, of SiO₂, Al₂O₃, and P. This product attracts a market premium and accounts for annual sales in excess of 250 Mt/a. • The supply and demand situation for iron ore is affected by a wide range of factors. As iron and steel consumption changes with economic development and circumstances, Rio Tinto Iron Ore delivers products aligned with its Mineral Resources and Ore Reserves. These products have changed over time and successfully competed with iron ore products supplied by other companies.
Economic	<ul style="list-style-type: none"> • Economic inputs such as foreign exchange rates, carbon pricing, and inflation rates are also

	<p>generated internally at Rio Tinto. The detail of this process is commercially sensitive and is not disclosed.</p> <ul style="list-style-type: none"> • Sensitivity testing of the Western Range 36W-50W Brockman Ore Reserves using both Rio Tinto long-term prices and a range of published benchmark prices demonstrates a positive net present value for the project sufficient to meet Rio Tinto Limited investment criteria.
Social	<ul style="list-style-type: none"> • The Western Range 36W–50W deposit is located on Mining Lease AM70/00246 (ML246SA), granted pursuant to the Paraburdoo State Agreement. • Discussions about a Joint Venture covering the Western Range mining hub with China Baowu Group are continuing. • The Western Range 36W–50W deposit falls within the area of the Yinhawangka Native Title determination. • Extensive archaeological and ethnographic surveys have been undertaken over the majority of the Greater Paraburdoo area. Surveys are ongoing and will continue into 2020. These have been undertaken with full participation and involvement of the Yinhawangka People. • Groundwater abstraction and quality will continue to be managed in accordance with the existing Greater Paraburdoo Groundwater Licences and associated Groundwater Operating Strategy, and any amendments as required. • The Western Range 36W–50W deposit is located within the Shire of Ashburton. Rio Tinto Iron Ore has established an ongoing engagement with the Shire of Ashburton, which includes scheduled meetings and project updates.
Other	<ul style="list-style-type: none"> • Semi-quantitative risk assessments have been undertaken throughout the Greater Western Range study phases. No material naturally occurring risks have been identified through this process. • Discussions about a Joint Venture covering Western Range mining hub with China Baowu Group are continuing.
Classification	<ul style="list-style-type: none"> • The Ore Reserves for Western Range 36W–50W consist of 85% Proved Reserves and 15% Probable Reserves. • The Competent Person is satisfied that the stated Ore Reserve classification reflects the outcome of technical and economic studies.
Audits or reviews	<ul style="list-style-type: none"> • No external audits have been performed. • Internal Rio Tinto Iron Ore peer review processes and internal Rio Tinto technical reviews have been completed. These reviews concluded that the fundamental data collection techniques are appropriate.
Discussion of relative accuracy/confidence	<ul style="list-style-type: none"> • Rio Tinto Iron Ore operates multiple mines in the Pilbara region of Western Australia. The Ore Reserve estimation techniques utilised for the Western Range 36W–50W Brockman deposit are consistent with those applied at the existing operations. Reconciliation of actual production with the Ore Reserve estimate for individual deposits is generally within 10 percent for tonnes on an annual basis. This result is indicative of a robust Ore Reserve estimation process. • For the Western Range 36W–50W, accuracy and confidence of modifying factors are generally consistent with the current level of study (Pre-Feasibility Study).