

Production, Reserves and Operations

An employee at our QMM operation in Madagascar, where we delivered one of the best safety performances across the Group. The wind turbine generates power at the Diavik diamond mine in the Northwest Territories, Canada.

Taking action to fight climate change

Production, Reserves and Operations

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Production, Reserves and Operations

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Metals and Minerals Production

	Rio Tinto % share ^(a)	2020 Production		2019 Production		2018 Production	
		Total	Rio Tinto share	Total	Rio Tinto share	Total	Rio Tinto share
ALUMINA ('000 tonnes)							
Jonquière (Vaudreuil) (Canada) ^(b)	100.0%	1,424	1,424	1,413	1,413	1,444	1,444
Jonquière (Vaudreuil) specialty plant (Canada)	100.0%	94	94	109	109	124	124
Queensland Alumina (Australia)	80.0%	3,701	2,961	3,454	2,763	3,697	2,958
São Luis (Alumar) (Brazil)	10.0%	3,848	385	3,679	368	3,509	351
Yarwun (Australia)	100.0%	3,175	3,175	3,091	3,091	3,103	3,103
Rio Tinto total			8,039		7,744		7,980
ALUMINIUM ('000 tonnes)							
Alma (Canada)	100.0%	473	473	472	472	465	465
Alouette (Sept-Îles) (Canada)	40.0%	623	249	602	241	584	234
Arvida (Canada)	100.0%	169	169	175	175	173	173
Arvida AP60 (Canada)	100.0%	60	60	60	60	52	52
Bécancour (Canada)	25.1%	393	98	77	19	136	34
Bell Bay (Australia)	100.0%	192	192	189	189	189	189
Boyne Island (Australia)	59.4%	510	303	499	296	497	295
Grande-Baie (Canada)	100.0%	225	225	233	233	233	233
ISAL (Reykjavik) (Iceland)	100.0%	183	183	184	184	212	212
Kitimat (Canada)	100.0%	329	329	385	385	436	436
Laterrière (Canada)	100.0%	250	250	257	257	257	257
Sohar (Oman)	20.0%	397	79	391	78	380	76
Tiwai Point (New Zealand)	79.4%	333	265	351	279	341	270
Tomago (Australia)	51.6%	592	305	588	303	592	305
Rio Tinto total			3,180		3,171		3,231
BAUXITE ('000 tonnes)							
Gove (Australia)	100.0%	12,299	12,299	12,201	12,201	12,540	12,540
Porto Trombetas (MRN) (Brazil)	12.0%	11,629	1,395	11,060	1,327	13,134	1,576
Sangaredi (Guinea)	23.0% ^(c)	16,506	7,428	13,701	6,165	13,039	5,868
Weipa (Australia)	100.0%	35,009	35,009	35,411	35,411	30,437	30,437
Rio Tinto total			56,131		55,105		50,421
BORATES ('000 tonnes)^(d)							
Rio Tinto Borates – Boron (US)	100.0%	480	480	520	520	512	512
COPPER (mined) ('000 tonnes)							
Bingham Canyon (US)	100.0%	140.0	140.0	186.8	186.8	203.9	203.9
Escondida (Chile)	30.0%	1,125.9	337.8	1,138.6	341.6	1,167.9	350.4
Oyu Tolgoi (Mongolia) ^(e)	33.5%	149.6	50.2	146.3	49.1	159.1	53.3
Rio Tinto total			527.9		577.4		607.6
COPPER (refined) ('000 tonnes)							
Escondida (Chile)	30.0%	233.9	70.2	250.2	75.0	266.8	80.0
Rio Tinto Kennecott (US)	100.0%	84.8	84.8	184.6	184.6	194.7	194.7
Rio Tinto total			155.0		259.6		274.8
DIAMONDS ('000 carats)							
Argyle (Australia)	100.0%	10,945	10,945	12,999	12,999	14,069	14,069
Diavik (Canada)	60.0%	6,218	3,731	6,719	4,031	7,264	4,358
Rio Tinto total			14,676		17,030		18,427
GOLD (mined) ('000 ounces)							
Bingham Canyon (US)	100.0%	171.2	171.2	234.7	234.7	196.7	196.7
Escondida (Chile)	30.0%	169.5	50.9	246.7	74.0	265.6	79.7
Oyu Tolgoi (Mongolia) ^(e)	33.5%	181.9	61.0	241.8	81.1	285.4	95.7
Rio Tinto total			283.0		389.7		372.1
GOLD (refined) ('000 ounces)							
Rio Tinto Kennecott (US)	100.0%	117.5	117.5	218.7	218.7	198.0	198.0
IRON ORE ('000 tonnes)							
Hamersley mines (Australia)	^(f)	210,682	210,682	209,392	209,392	220,612	220,612
Hamersley – Channar (Australia) ^(g)	100.0%	9,175	6,139	7,970	4,782	7,173	4,304
Hope Downs (Australia)	50.0%	49,045	24,522	48,264	24,132	45,368	22,684
Iron Ore Company of Canada (Canada)	58.7%	17,715	10,402	17,943	10,536	15,245	8,952
Robe River – Robe Valley (Australia)	53.0%	30,295	16,056	26,951	14,284	31,947	16,932
Robe River – West Angelas (Australia)	53.0%	34,209	18,131	34,086	18,066	32,672	17,316
Rio Tinto total			285,932		281,192		290,800
MOLYBDENUM ('000 tonnes)							
Bingham Canyon (US)	100%	20.4	20.4	11.2	11.2	5.8	5.8

See notes on page 340.

Metals and Minerals Production

continued

	Rio Tinto % share ^(a)	2020 Production		2019 Production		2018 Production	
		Total	Rio Tinto share	Total	Rio Tinto share	Total	Rio Tinto share
SALT ('000 tonnes)							
Dampier Salt (Australia)	68.4%	7,111	4,861	7,931	5,422	9,001	6,153
SILVER (mined) ('000 ounces)							
Bingham Canyon (US)	100.0%	2,205	2,205	2,815	2,815	2,520	2,520
Escondida (Chile)	30.0%	6,196	1,859	7,687	2,306	9,433	2,830
Oyu Tolgoi (Mongolia) ^(c)	33.5%	876	293	867	290	914	306
Rio Tinto total			4,357		5,412		5,656
SILVER (refined) ('000 ounces)							
Rio Tinto Kennecott (US)	100.0%	1,363	1,363	2,853	2,853	2,865	2,865
TITANIUM DIOXIDE SLAG ('000 tonnes)							
Rio Tinto Iron & Titanium (Canada/South Africa) ^(f)	100.0%	1,120	1,120	1,206	1,206	1,116	1,116
URANIUM ('000 lbs U₃O₈)							
Energy Resources of Australia (Australia) ⁽ⁱ⁾	86.3%	3,471	2,870	3,860	2,640	4,407	3,014
Rössing (Namibia) ^(j)	–	–	–	3,080	2,114	5,465	3,750
Rio Tinto total			2,870		4,754		6,764

Production data notes:

Mine production figures for metals refer to the total quantity of metal produced in concentrates, leach liquor or doré bullion irrespective of whether these products are then refined onsite, except for the data for bauxite and iron ore which can represent production of marketable quantities of ore plus concentrates and pellets. Production figures are sometimes more precise than the rounded numbers shown, hence small differences may result from calculation of Rio Tinto share of production. Rio Tinto's interest in the Kestrel, Hail Creek, Dunkerque and Grasberg operations were sold in 2018. No data for these operations are included in the production table.

- Rio Tinto percentage share, shown above, is as at the end of 2020. The footnotes below include all ownership changes over the three years.
- Jonquière's (Vaudreuil's) production shows smelter grade alumina only and excludes hydrate produced and used for specialty alumina.
- Rio Tinto has a 22.95% shareholding in the Sangaredi mine but benefits from 45.0% of production.
- Borate quantities are expressed as B₂O₃.
- Rio Tinto owns a 33.52% indirect interest in Oyu Tolgoi through its 50.79% interest in Turquoise Hill Resources Ltd.
- Includes 100% of production from Paraburdo, Mt Tom Price, Marandoo, Yandicoogina, Brockman, Nammuldi, Silvergrass and the Eastern Range mines. Whilst Rio Tinto owns 54% of the Eastern Range mine, under the terms of the joint venture agreement, Hamersley Iron manages the operation and is obliged to purchase all mine production from the joint venture and therefore all of the production is included in Rio Tinto's share of production.
- Rio Tinto's ownership interest in Channar mine increased from 60% to 100%, following conclusion of its joint venture with Sinosteel Corporation upon reaching planned 290 million tonnes production on 22 October 2020. Production is reported at 100% from this date onward. Historic data is unchanged.
- Quantities comprise 100% of Rio Tinto Fer et Titane and Rio Tinto's 74% share of Richards Bay Minerals' production. Ilmenite mined in Madagascar is being processed in Canada.
- ERA report drummed U₃O₈. In February 2020, our interest in Energy Resources of Australia (ERA) increased from 68.4% to 86.3% as a result of new ERA shares issued to Rio Tinto under the Entitlement Offer and Underwriting Agreement to raise funds for the rehabilitation of the Ranger Project Area. Production is reported including this change from 1 March 2020.
- Rössing report drummed U₃O₈. On 16 July 2019, Rio Tinto completed the sale of its entire interest in the Rössing uranium mine in Namibia to China National Uranium Corporation Limited.

Ore Reserves

Ore Reserves and Mineral Resources for Rio Tinto managed operations are reported in accordance with the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves, December 2012 (the JORC Code) as required by the Australian Securities Exchange (ASX). Codes or guidelines similar to JORC with only minor regional variations have been adopted in South Africa, Canada, the US, Chile, Peru, the Philippines, the UK, Ireland and Europe. Together these Codes represent current best practice for reporting Ore Reserves and Mineral Resources.

The JORC Code envisages the use of reasonable investment assumptions, including the use of projected long-term commodity prices, in calculating Ore Reserve estimates. However, for US reporting, the US Securities and Exchange Commission requires historical price data to be used. For this reason, some Ore Reserves reported to the SEC in the Form 20-F may differ from those reported below.

Ore Reserve and Mineral Resource information in the tables below is based on information compiled by Competent Persons (as defined by JORC), most of whom are full time employees of Rio Tinto or related companies. Each has had a minimum of five years' relevant estimation experience and is a member of a recognised professional body whose members are bound by a professional code of ethics. Each Competent Person consents to the inclusion in this report of information they have provided in the form and context in which it appears. Competent Persons responsible for the estimates are listed on pages 350-351, by operation, along with their professional affiliation, employer and accountability for Ore Reserves and/or Mineral Resources. Where operations are not managed by Rio Tinto, the Ore Reserves are published as received from the managing company. The Ore Reserve figures in the following tables are as of 31 December 2020. Summary data for year end 2019 are shown for comparison. Metric units are used throughout. The figures used to calculate Rio Tinto's share of Ore Reserves are often more precise than the rounded numbers shown in the tables, hence small differences might result if the calculations are repeated using the tabulated figures.

Type of mine ^(a)	Proved ore reserves at end 2020		Probable ore reserves at end 2020		Total ore reserves 2020 compared with 2019				Average mill recovery %	Interest %	Rio Tinto share	
					2020	2019	2020	2019				
	Tonnage	Grade	Tonnage	Grade	Tonnage	Tonnage	Grade	Grade				
Bauxite^(b)	millions of tonnes	% Al ₂ O ₃	millions of tonnes	% Al ₂ O ₃	millions of tonnes	millions of tonnes	% Al ₂ O ₃	% Al ₂ O ₃			Recoverable mineral millions of tonnes	
Reserves at operating mines												
Gove (Australia) ^(c)	O/P	77	50.4	3.3	49.7	80	131	50.4	49.3	100.0	80	
Porto Trombetas (MRN) (Brazil) ^(d)	O/P	19	48.1	2.5	48.5	21	33	48.2	48.3	12.0	3	
Sangaredi (Guinea) ^(e)	O/P	359	47.1	37	48.1	396	428	47.2	47.1	23.0	91	
Weipa (Australia) ^(f)												
– Amrun ^(g)	O/P	211	54.1	833	53.9	1,044	1,253	54.0	53.1	100.0	1,044	
– East Weipa and Andoom ^(h)	O/P	100	51.4			100	146	51.4	50.8	100.0	100	
Total											1,318	
Borates⁽ⁱ⁾												
		millions of tonnes		millions of tonnes		millions of tonnes	millions of tonnes				Marketable product millions of tonnes	
Reserves at operating mines												
Rio Tinto Borates – Boron (US)	O/P	11		4		15	16			100.0	15	
Reserves at development projects												
Jadar (Serbia) ^(j)	U/G			2		2	–			100.0	2	
Copper												
		millions of tonnes	% Cu	millions of tonnes	% Cu	millions of tonnes	millions of tonnes	% Cu	% Cu		Recoverable metal millions of tonnes	
Reserves at operating mines												
Bingham Canyon (US) ^(k)	O/P	365	0.47	187	0.39	552	612	0.44	0.43	87	100.0	2,126
Escondida (Chile)												
– sulphide	O/P	3,359	0.69	1,792	0.57	5,151	5,366	0.65	0.65	83	30.0	8,320
– sulphide leach	O/P	1,324	0.42	324	0.41	1,648	1,642	0.42	0.42	41	30.0	0,856
– oxide ^(l)	O/P	72	0.62	111	0.52	183	224	0.56	0.59	60	30.0	0,182
Oyu Tolgoi (Mongolia)												
– Oyut open pit	O/P	283	0.52	460	0.39	743	783	0.44	0.44	78	33.5	0,860
– Oyut stockpiles ^(m)		57	0.32			57	48	0.32	0.33	73	33.5	0,045
Total												12,390
Reserves at development projects												
Oyu Tolgoi (Mongolia)												
– Hugo Dummett North ⁽ⁿ⁾	U/G			409	1.51	409	447	1.51	1.64	93	33.5	1,920
– Hugo Dummett North Extension ^(o)	U/G			39	1.56	39	32	1.56	1.64	93	29.5	0,166
Total												2,086

Ore Reserves

continued

Type of mine ^(a)	Total ore reserves 2020 compared with 2019								Average mill recovery %	Interest %	Rio Tinto share	
	Proved ore reserves at end 2020		Probable ore reserves at end 2020		2020		2019					
	Tonnage	Grade	Tonnage	Grade	Tonnage	Tonnage	Grade	Grade				
Recoverable diamonds												
Diamonds^(b)	millions of tonnes	carats per tonne	millions of tonnes	carats per tonne	millions of tonnes	millions of tonnes	carats per tonne	carats per tonne			millions of carats	
Reserves at operating mines												
Argyle (Australia) ^(b)	U/G				–	5.1	–	1.9		–	–	
Diavik (Canada) ^(a)	O/P + U/G	5.6	2.2	3.4	2.1	9	11	2.1	2.4	60.0	11.6	
Total											11.6	
Recoverable metal												
Gold	millions of tonnes	grammes per tonne	millions of tonnes	grammes per tonne	millions of tonnes	millions of tonnes	grammes per tonne	grammes per tonne			millions of ounces	
Reserves at operating mines												
Bingham Canyon (US) ^(a)	O/P	365	0.16	187	0.16	552	612	0.16	0.16	67	100.0	1.940
Oyu Tolgoi (Mongolia)												
– Oyuut open pit	O/P	283	0.40	460	0.24	743	783	0.30	0.29	67	33.5	1.620
– Oyuut stockpiles ^(m)		57	0.13			57	48	0.13	0.12	45	33.5	0.035
Total												3.595
Reserves at development projects												
Oyu Tolgoi (Mongolia)												
– Hugo Dummett North ⁽ⁿ⁾	U/G			409	0.29	409	447	0.29	0.34	79	33.5	1.012
– Hugo Dummett North Extension ^(a)	U/G			39	0.54	39	32	0.54	0.57	81	29.5	0.161
Total												1.174
Marketable product												
Iron Ore^{(s)(b)}	millions of tonnes	% Fe	millions of tonnes	% Fe	millions of tonnes	millions of tonnes	% Fe	% Fe			millions of tonnes	
Reserves at operating mines												
Hammersley Iron (Australia) ^(t)												
– Channar (Brockman ore) ^(u)	O/P	7	61.5	5	60.8	12	16	61.2	61.4	100.0		7
– Greater Brockman 2 Nammuldi (Brockman and Marra Mamba ore)	O/P	172	62.3	98	60.1	269	298	61.5	61.1	100.0		269
– Gudai-Darri (Brockman ore) ^(v)	O/P	286	62.2	275	61.3	561	516	61.8	61.7	100.0		561
– Brockman 4 (Brockman and Marra Mamba ore) ^(w)	O/P	211	62.3	69	60.6	280	345	61.9	61.9	100.0		280
– Marandoo (Marra Mamba ore) ^(x)	O/P	141	63.9	21	57.9	162	196	63.1	62.5	100.0		162
– Greater Tom Price (Brockman and Marra Mamba ore)	O/P	183	62.5	119	61.5	302	313	62.1	62.1	100.0		302
– Paraburdoo (Brockman ore) ^(y)	O/P	2	61.9	4	62.9	6	7	62.6	62.2	100.0		6
– Yandicoogina (Pisolite ore) ^(z)	O/P	460	58.3			460	509	58.3	58.3	100.0		460
Eastern Range JV (Australia) ^(t)												
– Eastern Range (Brockman ore) ^(aa)	O/P	18	61.4	4	60.3	22	28	61.2	61.6	54.0		12
Hope Downs JV (Australia) ^(t)												
– Hope Downs 1 (Marra Mamba ore) ^(bb)	O/P	76	62.7	64	60.2	140	165	61.6	61.4	50.0		70
– Hope Downs 4 (Brockman ore) ^(bb)	O/P	41	63.7	57	63.2	98	116	63.4	63.4	50.0		49
Robe River JV (Australia) ^(t)												
– Robe Valley (Pisolite ore)	O/P	172	56.4	154	56.2	326	344	56.3	56.4	53.0		173
– West Angelas (Marra Mamba ore) ^(cc)	O/P	105	62.0	69	61.5	173	201	61.8	61.9	53.0		92
Iron Ore Company of Canada (Canada) ^(dd)	O/P	296	65.0	214	65.0	510	528	65.0	65.0	58.7		299
Total												2,743
Reserves at development projects												
Hammersley Iron (Australia) ^(t)												
– Turee Central (Brockman ore)	O/P	72	62.0	6	61.4	78	78	61.9	61.9	100.0		78
– Western Range (Brockman ore) ^(ee)	O/P	106	62.2	53	62.0	159	201	62.2	62.5	100.0		159
Total												237

Type of mine ^(a)	Proved ore reserves at end 2020		Probable ore reserves at end 2020		Total ore reserves 2020 compared with 2019				Average mill recovery %	Interest %	Rio Tinto share	
	Tonnage	Grade	Tonnage	Grade	2020	2019	2020	2019				
	millions of tonnes	% Li ₂ O	millions of tonnes	% Li ₂ O	millions of tonnes	millions of tonnes	% Li ₂ O	% Li ₂ O				
Lithium											Marketable product	
											millions of tonnes	
Reserves at development projects												
Jadar (Serbia) ^(d)	U/G		17	1.8	17	–	1.8	–	84	100.0	0.25	
Molybdenum											Recoverable metal	
											millions of tonnes	
Reserves at operating mines												
Bingham Canyon (US) ^{(m)(k)}	O/P	365	0.035	187	0.023	552	612	0.031	0.034	55	100.0	0.094
Silver											Recoverable metal	
											millions of ounces	
Reserves at operating mines												
Bingham Canyon (US) ^(k)	O/P	365	2.10	187	2.13	552	612	2.11	2.04	73	100.0	27.337
Oyu Tolgoi (Mongolia)												
– Oyut open pit	O/P	283	1.32	460	1.13	743	783	1.20	1.21	53	33.5	5.103
– Oyut stockpiles ^(m)		57	0.93			57	48	0.93	0.93	47	33.5	0.267
Total												32.708
Reserves at development projects												
Oyu Tolgoi (Mongolia)												
– Hugo Dummett North ⁽ⁿ⁾	U/G		409	3.12	409	447	3.12	3.35	80	33.5	11.029	
– Hugo Dummett North Extension ^(o)	U/G		39	3.69	39	32	3.69	3.84	82	29.5	1.123	
Total												12.152
Titanium Dioxide Feedstock⁽⁹⁹⁾											Marketable product	
											millions of tonnes	
Reserves at operating mines												
QMM (Madagascar)	D/O	346	3.5	12	3.4	358	382	3.5	3.5	80.0	4.9	
RBM (South Africa)	D/O+O/P	931	2.3	495	2.6	1,426	1,500	2.4	2.4	74.0	11.3	
RTFT (Canada)	O/P			152	80.1	152	149	80.1	80.3	100.0	48.2	
Total												64.4

Ore Reserves

continued

Type of mine ^(a)	Proved ore reserves at end 2020				Probable ore reserves at end 2020				Total ore reserves 2020 compared with 2019				Average mill recovery %	Interest %	Rio Tinto share
	Tonnage		Grade		Tonnage		Grade		2020	2019	2020	2019			
	millions of tonnes	% U ₃ O ₈	millions of tonnes	% U ₃ O ₈	millions of tonnes	millions of tonnes	% U ₃ O ₈	% U ₃ O ₈	of tonnes	of tonnes	of tonnes	of tonnes			
Recoverable metal															
Uranium															
Reserves at operating mines															
Energy Resources of Australia (Australia)															
-	Ranger #3 stockpiles ^(hh)														
Marketable product															
Zircon^(h)															
Reserves at operating mines															
	QMM (Madagascar)	D/O	346	0.2	12	0.1	358	382	0.2	0.2			80.0		0.4
	RBM (South Africa)	D/O+O/P	931	0.3	495	0.4	1,426	1,500	0.3	0.3			74.0		2.8
Total															
3.1															

- (a) Type of mine: O/P = open pit, U/G = underground, D/O = dredging operation.
- (b) 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.
- (c) Gove Reserves are stated as dry tonnes and total alumina grade. Gove Reserve tonnes decreased following updated economic assumptions and mining depletion. 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/invest/financial-news-performance/resources-and-reserves.
- (d) Porto Trombetas (MRN) Reserves are stated as dry tonnes and available alumina grade. Reserve tonnes decreased following mining depletion.
- (e) Sangaredi Reserve tonnes are reported on a 3% moisture basis and alumina grades are reported as total alumina.
- (f) Weipa Reserves are stated as dry tonnes and total alumina grade.
- (g) Amrun Reserve tonnes decreased following updated economic assumptions and mining depletion. 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/invest/financial-news-performance/resources-and-reserves.
- (h) East Weipa and Andoom Reserve tonnes decreased following updated economic assumptions and mining depletion. 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/invest/financial-news-performance/resources-and-reserves.
- (i) Reserves of borates are expressed in terms of marketable product (B₂O₃) after all mining and processing losses.
- (j) A maiden in situ Reserve for Jadar of 16.6 million dry tonnes at 13.4% B₂O₃ and 1.81% Li₂O was released to the market by Rio Tinto on 10 December 2020 following the completion of a Pre-Feasibility Study. A JORC Table 1 in support of this change was released to the market and can be viewed at riotinto.com/invest/financial-news-performance/resources-and-reserves.
- (k) Bingham Canyon Reserve tonnes decreased following mining depletion.
- (l) Escondida Oxide Reserve tonnes decreased following a geological model update.
- (m) Oyuat stockpiles Reserve tonnes increased following mining production.
- (n) The Hugo Dummett North underground mine is currently under construction.
- (o) Hugo Dummett North Extension Reserve tonnes increased following changes to the underground mine design. These changes were reported to the market on 3 July 2020, with a subsequent update on 16 December 2020. A JORC Table 1 in support of the material change was released to the market in July and can be viewed at riotinto.com/invest/financial-news-performance/resources-and-reserves.
- (p) Argyle Reserves were depleted with the cessation of mining in November 2020.
- (q) Diavik Reserves are based on a nominal 1 millimetre lower cut-off size and a final re-crushing size of 5 millimetres. Diavik Reserve tonnes decreased following mining depletion.
- (r) Hugo Dummett North Reserve grade decreased following changes to the underground mine design. These changes were reported to the market on 3 July 2020, with a subsequent update on 16 December 2020. A JORC Table 1 in support of the material change was released to the market in July and can be viewed at riotinto.com/invest/financial-news-performance/resources-and-reserves.
- (s) Australian iron ore Reserve 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.
- (t) The updated assessment of Ore Reserves reflects measures Rio Tinto has put in place following the events in the Juukan Gorge on 24 May 2020. These measures are intended to protect a number of sites, and to mitigate impacts to sites where there are existing heritage approvals authorising mining impacts, or a decision has been made not to seek regulatory approval to conduct mining activities, given the heritage considerations identified by Traditional Owners. As a result, Rio Tinto has removed 54 million dry tonnes from Reserves across Brockman 4, Western Range, Gudai-Darri, Greater Brockman 2 Nammuldi and West Angelas, including the 17 million dry tonnes at Western Range, which is the subject of a separate JORC Table 1 report. Rio Tinto's approach to cultural heritage management generally will continue to evolve in response to changes in agreements with Traditional Owners, further engagement with Traditional Owners and changing heritage legislation. Any material changes to Ore Reserves as a result of the further refinement of Rio Tinto's approach will be disclosed at the appropriate time.
- (u) Channar (Brockman ore) Reserves were previously reported under Channar JV (Australia). Channar (Brockman ore) Reserve tonnes decreased following mining depletion and updated pit designs.
- (v) Gudai-Darri (Brockman ore) was previously reported as Koodaideri (Brockman ore) and classified as a development project.
- (w) Brockman 4 (Brockman and Marra Mamba ore) Reserve tonnes decreased following mining depletion and updated geological models, pit designs and cut-off grades.
- (x) Marandoo (Marra Mamba ore) Reserve tonnes decreased following mining depletion and an updated geological model.
- (y) Paraburdoo (Brockman ore) Reserve tonnes decreased following mining depletion and updated pit designs.
- (z) Yandicoogina (Pisolite ore) Reserve tonnes decreased following mining depletion.
- (aa) Eastern Range (Brockman ore) Reserve tonnes decreased following mining depletion.
- (bb) Hope Downs 1 (Marra Mamba ore) and Hope Downs 4 (Brockman ore) Reserve tonnes decreased following mining depletion.
- (cc) West Angelas (Marra Mamba ore) Reserve tonnes decreased following mining depletion and updated pit designs.
- (dd) Reserves at Iron Ore Company of Canada are reported as marketable product (57% pellets and 43% concentrate for sale) at a natural moisture content of 2%. The marketable product is derived from mined material comprising 703 million dry tonnes at 38.7% iron (Proved) and 507 million dry tonnes at 37.9% iron (Probable) using process recovery factors derived from current IOC concentrating and pellet operations.
- (ee) Western Range (Brockman ore) Reserve tonnes decreased following updates to the geological model and updated pit designs. 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/invest/financial-news-performance/resources-and-reserves. Joint venture discussions with China Baowu Group covering the Western Range mining hub are continuing.
- (ff) Bingham Canyon Reserves molybdenum grades interpolated from exploration drilling assays have been factored based on a long reconciliation history to blast hole and mill samples.
- (gg) The marketable product (TiO₂ slag) is shown after all mining and processing losses. The Reserves are expressed as in situ tonnes.
- (hh) Ranger #3 stockpiles Reserves were depleted with the cessation of mining due to the expiry of the Ranger Project Area mining lease in January 2021.
- (ii) The marketable product (zircon at RBM and zirsil at QMM) is shown after all mining and processing losses. The Reserves are expressed as in situ tonnes.

Mineral Resources

As required by the Australian Securities Exchange, the following tables contain details of other mineralisation that has a reasonable prospect of being economically extracted in the future but which is not yet classified as Proved or Probable Ore Reserves. This material is defined as Mineral Resources under the JORC Code. Estimates of such material are based largely on geological information with only preliminary consideration of mining, economic and other factors. While in the judgment of the Competent Person there are realistic expectations that all or part of the Mineral Resources will eventually become Proved or Probable Ore Reserves, there is no guarantee that this will occur as the result depends on further technical and economic studies and prevailing economic

conditions in the future. As in the case of Ore Reserves, managed operations' estimates are completed using or testing against Rio Tinto long-term pricing and market forecasts/scenarios. Mineral Resources are stated as additional to the Ore Reserves reported earlier. Where operations are not managed by Rio Tinto, the Mineral Resources are published as received from the managing company. Where new project Mineral Resources or Ore Reserves are footnoted as being reported for the first time, additional information about them can be viewed on the Rio Tinto website.

	Likely mining method ^(a)	Measured resources at end 2020		Indicated resources at end 2020		Inferred resources at end 2020		Total resources 2020 compared with 2019				Rio Tinto Interest %
		Tonnage	Grade	Tonnage	Grade	Tonnage	Grade	2020	2019	2020	2019	
		millions of tonnes	% Al ₂ O ₃	millions of tonnes	% Al ₂ O ₃	millions of tonnes	% Al ₂ O ₃	millions of tonnes	millions of tonnes	% Al ₂ O ₃	% Al ₂ O ₃	
Bauxite												
Gove (Australia) ^{(c)(b)}	O/P	23	48.6	9	48.6	2	49.6	34	28	48.7	48.2	100.0
Porto Trombetas (MRN) (Brazil) ^(d)	O/P	281	49.7	41	48.9	134	49.9	456	456	49.7	49.7	12.0
Sangaredi (Guinea) ^(e)	O/P	293	43.8	5,983	46.6	752	45.8	7,028	6,785	46.4	46.5	23.0
Weipa (Australia) ^(b)												
– East Weipa and Andoom ^(f)	O/P	35	51.1					35	11	51.1	52.1	100.0
– North of Weipa	O/P					1,330	52.0	1,330	1,330	52.0	52.0	100.0
– Amrun ^(g)	O/P	57	49.0	348	50.3	273	50.5	678	580	50.3	50.1	100.0
Borates^(h)												
Jadar (Serbia) ⁽ⁱ⁾	U/G			10		11		20	21			100.0
Copper												
Bingham Canyon (US)												
– Open Pit ^(j)	O/P	128	0.46	142	0.33	15	0.25	285	42	0.38	0.39	100.0
– North Rim Skarn	U/G	1	3.50	9	3.60	10	3.70	20	20	3.65	3.65	100.0
Escondida (Chile)												
– Chimborazo – sulphide	O/P			139	0.50	84	0.60	223	223	0.54	0.54	30.0
– Escondida – sulphide	O/P	417	0.61	1,591	0.48	10,237	0.53	12,245	11,934	0.53	0.52	30.0
– Escondida – mixed ^(k)	O/P	34	0.68	15	0.46	25	0.44	74	56	0.55	0.47	30.0
– Escondida – oxide ^(l)	O/P	24	0.83	7	0.70	5	0.59	36	35	0.77	0.67	30.0
– Pampa Escondida – sulphide	O/P	294	0.53	1,150	0.55	6,000	0.43	7,444	7,444	0.45	0.45	30.0
– Pinta Verde – sulphide	O/P			23	0.50	37	0.45	60	60	0.47	0.47	30.0
– Pinta Verde – oxide	O/P	109	0.60	64	0.53	15	0.54	188	188	0.57	0.57	30.0
La Granja (Peru)	O/P			130	0.85	4,190	0.50	4,320	4,320	0.51	0.51	100.0
Oyu Tolgoi (Mongolia)												
– Heruga ETG	U/G					1,448	0.41	1,448	1,448	0.41	0.41	29.5
– Heruga OT	U/G					105	0.42	105	105	0.42	0.42	33.5
– Hugo Dummett North ^(m)	U/G	57	1.86	397	1.34	764	0.80	1,218	1,155	1.02	0.94	33.5
– Hugo Dummett North Extension ⁽ⁿ⁾	U/G			86	1.59	167	1.02	253	254	1.21	1.21	29.5
– Hugo Dummett South	U/G					724	0.84	724	724	0.84	0.84	33.5
– Oyut Open Pit ^(o)	O/P	17	0.40	94	0.33	350	0.29	460	413	0.30	0.31	33.5
– Oyut Underground	U/G	10	0.47	56	0.38	166	0.39	233	257	0.39	0.39	33.5
Resolution Copper (US)	U/G			530	1.92	1,257	1.36	1,787	1,787	1.53	1.53	55.0
Winu (Australia) ^(p)	O/P					503	0.35	503	–	0.35	–	100.0
Diamonds												
Diavik (Canada)	O/P + U/G			0.2	2.3	1.2	2.5	1.5	1.5	2.5	2.7	60.0

Mineral Resources

continued

	Likely mining method ^(a)	Measured resources at end 2020		Indicated resources at end 2020		Inferred resources at end 2020		Total resources 2020 compared with 2019				Rio Tinto Interest %
		Tonnage	Grade	Tonnage	Grade	Tonnage	Grade	2020	2019	2020	2019	
		millions of tonnes	grammes per tonne	millions of tonnes	grammes per tonne	millions of tonnes	grammes per tonne	millions of tonnes	grammes per tonne	millions of tonnes	grammes per tonne	
Gold												
Bingham Canyon (US)												
– Open Pit ^(b)	O/P	128	0.24	142	0.16	15	0.21	285	42	0.20	0.17	100.0
– North Rim Skarn	U/G	1	2.10	9	1.70	10	1.50	20	20	1.62	1.62	100.0
Escondida (Chile)												
– Pampa Escondida – sulphide	O/P	294	0.07	1,150	0.10	6,000	0.04	7,444	7,444	0.05	0.05	30.0
Oyu Tolgoi (Mongolia)												
– Heruga ETG	U/G					1,448	0.40	1,448	1,448	0.40	0.40	29.5
– Heruga OT	U/G					105	0.30	105	105	0.30	0.30	33.5
– Hugo Dummett North ^{(c)(m)}	U/G	57	0.49	397	0.34	764	0.28	1,218	1,155	0.31	0.29	33.5
– Hugo Dummett North Extension ^(c)	U/G			86	0.54	167	0.36	253	254	0.42	0.42	29.5
– Hugo Dummett South	U/G					724	0.07	724	724	0.07	0.07	33.5
– Oyut Open Pit ^(c)	O/P	17	0.37	94	0.29	350	0.18	460	413	0.21	0.21	33.5
– Oyut Underground	U/G	10	0.87	56	0.57	166	0.39	233	257	0.45	0.48	33.5
Winu (Australia) ^(d)	O/P					503	0.27	503	–	0.27	–	100.0
Iron Ore^(a)												
Hamersley Iron (Australia) ^{(e)(f)}												
– Boolgeeda ^(g)	O/P					532	57.9	532	–	57.9	–	100.0
– Brockman	O/P	276	62.1	607	62.5	2,533	62.1	3,416	3,401	62.2	62.2	100.0
– Brockman Process Ore	O/P	218	57.3	231	56.9	765	57.4	1,214	1,190	57.3	57.3	100.0
– Marra Mamba	O/P	205	62.2	297	61.6	1,165	61.3	1,667	1,625	61.5	61.5	100.0
– Detrital	O/P			103	61.5	734	61.2	837	781	61.2	61.1	100.0
– Channel Iron Deposit	O/P	498	56.9	264	56.6	1,867	56.9	2,629	2,738	56.9	56.7	100.0
Eastern Range JV (Australia) ^(e)												
– Brockman	O/P	13	61.9	5	61.8	1	61.3	19	20	61.8	61.8	54.0
– Brockman Process Ore ^(h)	O/P	9	57.0	2	57.1	1	57.0	12	15	57.0	56.9	54.0
Hope Downs JV (Australia) ^(e)												
– Brockman	O/P	89	62.5	337	62.4	245	62.1	671	671	62.3	62.3	50.0
– Brockman Process Ore	O/P	42	57.0	163	56.8	175	55.9	380	387	56.4	56.4	50.0
– Marra Mamba	O/P	136	62.9	126	61.6	154	60.7	416	414	61.7	61.7	50.0
– Detrital	O/P			23	59.2	83	59.6	106	106	59.5	59.5	50.0
Rhodes Ridge JV (Australia) ^(e)												
– Brockman ⁽ⁱ⁾	O/P			565	63.9	1,880	62.9	2,445	2,027	63.1	62.9	50.0
– Brockman Process Ore ^(h)	O/P			176	57.6	724	56.8	900	660	56.9	56.8	50.0
– Marra Mamba ⁽ⁱ⁾	O/P			25	61.3	2,844	62.0	2,869	2,591	61.9	62.0	50.0
– Detrital ^(j)	O/P					420	60.3	420	328	60.3	60.1	50.0
Robe JV (Australia) ^(e)												
– Brockman ^(k)	O/P			156	62.5	559	61.4	715	646	61.7	61.6	53.0
– Brockman Process Ore	O/P			75	56.8	444	56.7	519	490	56.7	56.7	53.0
– Marra Mamba	O/P	158	62.0	210	61.5	129	61.5	497	514	61.7	61.6	53.0
– Detrital	O/P			22	59.5	101	61.1	123	122	60.8	60.8	53.0
– Channel Iron Deposit	O/P	189	55.0	1,589	58.7	2,619	55.4	4,397	4,278	56.6	56.8	53.0
Iron Ore Company of Canada (Canada) ^(aa)	O/P	151	40.9	675	38.4	954	38.1	1,781	1,792	38.4	38.4	58.7
Simandou (Guinea) ^(bb)	O/P	324	66.8	1,709	65.3	723	65.1	2,757	2,757	65.5	65.5	45.1

	Likely mining method ^(a)	Measured resources at end 2020		Indicated resources at end 2020		Inferred resources at end 2020		Total resources 2020 compared with 2019				Rio Tinto Interest %
		Tonnage	Grade	Tonnage	Grade	Tonnage	Grade	2020	2019	2020	2019	
		millions of tonnes	% Li ₂ O	millions of tonnes	% Li ₂ O	millions of tonnes	% Li ₂ O	millions of tonnes	millions of tonnes	% Li ₂ O	% Li ₂ O	
Lithium								millions of tonnes	millions of tonnes	% Li₂O	% Li₂O	
Jadar (Serbia) ^(cc)	U/G			55	1.7	84	1.8	139	136	1.8	1.9	100.0
Molybdenum								millions of tonnes	millions of tonnes	% Mo	% Mo	
Bingham Canyon (US)												
– Open Pit ^{(dd)(f)}	O/P	128	0.020	142	0.016	15	0.003	285	42	0.017	0.018	100.0
Oyu Tolgoi (Mongolia)												
– Heruga ETG	U/G					1,448	0.012	1,448	1,448	0.012	0.012	29.5
– Heruga OT	U/G					105	0.011	105	105	0.011	0.011	33.5
Resolution Copper (US)	U/G			530	0.039	1,257	0.035	1,787	1,787	0.036	0.036	55.0
Silver								millions of tonnes	millions of tonnes	grammes per tonne	grammes per tonne	
Bingham Canyon (US)												
– Open Pit ^(f)	O/P	128	2.12	142	1.48	15	1.86	285	42	1.79	2.10	100.0
– North Rim Skarn	U/G	1	20.00	9	21.00	10	21.00	20	20	20.95	20.95	100.0
Oyu Tolgoi (Mongolia)												
– Heruga ETG	U/G					1,448	1.46	1,448	1,448	1.46	1.46	29.5
– Heruga OT	U/G					105	1.58	105	105	1.58	1.58	33.5
– Hugo Dummett North ^{(n)(m)}	U/G	57	4.20	397	3.13	764	2.40	1,218	1,155	2.72	2.61	33.5
– Hugo Dummett North Extension ⁽ⁿ⁾	U/G			86	4.12	167	2.78	253	254	3.24	3.24	29.5
– Hugo Dummett South	U/G					724	1.88	724	724	1.88	1.88	33.5
– Oyut Open Pit ⁽ⁿ⁾	O/P	17	1.09	94	1.12	350	1.02	460	413	1.04	1.06	33.5
– Oyut Underground	U/G	10	1.28	56	1.15	166	1.23	233	257	1.21	1.19	33.5
Winu (Australia) ⁽ⁿ⁾	O/P					503	2.15	503	–	2.15	–	100.0
Titanium Dioxide Feedstock								millions of tonnes	millions of tonnes	% Ti Minerals	% Ti Minerals	
QMM (Madagascar)	D/O	469	4.2	804	4.3	154	3.1	1,427	1,427	4.1	4.1	80.0
RBM (South Africa) ^(ee)	D/O+O/P			11	12.3			11	13	12.3	13.3	74.0
RTFT (Canada)	O/P			11	84.9	16	79.2	27	27	81.6	81.6	100.0

Mineral Resources

continued

	Likely mining method ^(a)	Measured resources at end 2020		Indicated resources at end 2020		Inferred resources at end 2020		Total resources 2020 compared with 2019				Rio Tinto Interest %
								2020	2019	2020	2019	
		Tonnage	Grade	Tonnage	Grade	Tonnage	Grade	Tonnage	Grade	Tonnage	Grade	
Uranium												
		millions of tonnes	% U ₃ O ₈	millions of tonnes	% U ₃ O ₈	millions of tonnes	% U ₃ O ₈	millions of tonnes	millions of tonnes	% U ₃ O ₈	% U ₃ O ₈	
Energy Resources of Australia (Australia)												
- Jabiluka ^(f)	U/G	1.2	0.887	14	0.520	10	0.545	25	25	0.547	0.547	86.3
- Ranger #3 Deeps ^(gg)	U/G							-	20	-	0.224	-
- Ranger #3 stockpiles ^(gg)								-	27	-	0.040	-
Zircon												
		millions of tonnes	% Zircon	millions of tonnes	% Zircon	millions of tonnes	% Zircon	millions of tonnes	millions of tonnes	% Zircon	% Zircon	
QMM (Madagascar)	D/O	469	0.2	804	0.2	154	0.2	1,427	1,427	0.2	0.2	80.0
RBM (South Africa) ^(ee)	D/O+O/P			11	8.1			11	13	8.1	8.3	74.0

- (a) Likely mining method: O/P = open pit; U/G = underground; D/O = dredging operation.
- (b) Gove and Weipa Resources are stated as dry tonnes and total alumina grade.
- (c) Gove Resource tonnes increased following conversion of Reserves to Resources based on updated economic assumptions. 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/invest/financial-news-performance/resources-and-reserves.
- (d) Porto Trombetas (MRN) Resources are stated as dry tonnes and available alumina grade.
- (e) Sangaredi Resource tonnes are reported on a 3% moisture basis and alumina grades are reported as total alumina.
- (f) East Weipa and Andoom Resource tonnes increased following conversion of Reserves to Resources based on updated economic assumptions. 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/invest/financial-news-performance/resources-and-reserves.
- (g) Amrun Resource tonnes increased following conversion of Reserves to Resources following updated economic assumptions. 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/invest/financial-news-performance/resources-and-reserves.
- (h) Borates Resources are reported as in situ B₂O₃, rather than marketable product as in Reserves.
- (i) Jadar equivalent in situ Resource is 55.2 million tonnes at 17.9% B₂O₃ (Indicated) and 84.1 million tonnes at 12.6% B₂O₃ (Inferred). Jadar Resource tonnes decreased following an updated geological model which was partially offset by conversion of Resources to Reserves. This was released to the market by Rio Tinto on 10 December 2020. A JORC Table 1 in support of this change was released to the market and can be viewed at riotinto.com/invest/financial-news-performance/resources-and-reserves.
- (j) Bingham Canyon – Open Pit Resource tonnes increased and grade changed following a major pit design change on the completion of an Order of Magnitude 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/invest/financial-news-performance/resources-and-reserves.
- (k) Escondida – mixed Resource tonnes increased as a result of additional drilling, an updated geological model and updated pit designs.
- (l) Escondida – oxide Resource grade increased as a result of additional drilling, an updated geological model and updated pit designs.
- (m) The Hugo Dummett North Resources include approximately 1.5 million tonnes of stockpiled material at a grade of 0.27% copper, 0.09 grammes per tonnes gold and 0.67 grammes per tonnes silver.
- (n) Hugo Dummett North Resource tonnes increased and Hugo Dummett North Extension Resource tonnes decreased following changes to the underground mine design. These changes were reported to the market on 3 July 2020, with a subsequent update on 16 December 2020. A JORC Table 1 in support of the material change was released to the market in July and can be viewed at riotinto.com/invest/financial-news-performance/resources-and-reserves.
- (o) Oyut Open Pit Resource tonnes increased following a pit design update.
- (p) The maiden Winu Resource was reported to the market on 28 July 2020. A JORC Table 1 in support of this change was released to the market and can be viewed at riotinto.com/invest/financial-news-performance/resources-and-reserves.
- (q) Iron Ore Resources are reported on 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.
- (r) Channar Resource tonnes previously reported under Channar JV (Australia) are now reported under Hamersley Iron (Australia) Brockman and Brockman Process Ore following the completion of the joint venture arrangement.
- (s) The updated assessment of Mineral Resources reflects measures Rio Tinto has put in place following the events in the Juukan Gorge on 24 May 2020. These measures are intended to protect a number of sites, and to mitigate impacts to sites where there are existing heritage approvals authorising mining impacts, or a decision has been made not to seek regulatory approval to conduct mining activities, given the heritage considerations identified by Traditional Owners. The impact of the changes are not material to the total Resource. Rio Tinto's approach to cultural heritage management generally will continue to evolve in response to changes in agreements with Traditional Owners, further engagement with Traditional Owners and changing heritage legislation. Any material changes to Mineral Resources as a result of the further refinement of Rio Tinto's approach will be disclosed at the appropriate time.
- (t) Hamersley Iron (Australia) – Boolgeeda Resources are being reported for the first time with the addition of the Poonda deposit. 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/invest/financial-news-performance/resources-and-reserves.
- (u) Eastern Ranges JV (Brockman Process Ore) Resource tonnes have decreased following mining depletion and updated pit designs.
- (v) Rhodes Ridge JV (Brockman) Resource tonnes have increased following an updated geological model at Rhodes Ridge. 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/invest/financial-news-performance/resources-and-reserves.
- (w) Rhodes Ridge JV (Brockman Process Ore) Resources tonnes have increased following an updated geological model at Rhodes Ridge. 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/invest/financial-news-performance/resources-and-reserves.
- (x) Rhodes Ridge JV (Marra Mamba) Resources tonnes have increased mainly due to an updated geological model at Arrowhead. 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/invest/financial-news-performance/resources-and-reserves.
- (y) Rhodes Ridge JV (Detrital) Resource tonnes have increased mainly due to an updated geological model at Arrowhead. 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/invest/financial-news-performance/resources-and-reserves.
- (z) Robe JV (Brockman) Resource tonnes have increased due to an updated geological model.
- (aa) Resources at Iron Ore Company of Canada are reported as in-situ material on a dry basis. This in-situ material has the potential to produce marketable product (57% pellets and 43% concentrate for sale at a natural moisture content of 2%) comprising 64 million tonnes at 65% iron (Measured), 282 million tonnes at 65% iron (Indicated) and 389 million tonnes at 65% iron (Inferred) using process recovery factors derived from current IOC concentrating and pellet operations.
- (bb) Rio Tinto and Chinalco, who respectively own 45.05% and 39.95% of Simandou Blocks 3 and 4, are working with the government of Guinea to realise value from the world-class iron ore deposit. The government of Guinea owns a 15% stake in the project.
- (cc) Jadar Resource tonnes increased following an updated geological model which was partially offset by conversion of Resources to Reserves. This was released to the market by Rio Tinto on 10 December 2020. A JORC Table 1 in support of this change was released to the market and can be viewed at riotinto.com/invest/financial-news-performance/resources-and-reserves.
- (dd) Bingham Canyon open pit molybdenum grades interpolated from exploration drilling assays have been factored based on a long reconciliation history to blast hole and mill samples.
- (ee) RBM Resource tonnes decreased following mining depletion.
- (ff) In February 2020, Rio Tinto's interest in Energy Resources of Australia (ERA) increased from 68.4% to 86.3% as a result of new ERA shares issued to Rio Tinto under the Entitlement Offer and Underwriting Agreement to raise funds for the rehabilitation of the Ranger Project Area.
- (gg) Ranger #3 Deeps and Ranger #3 stockpiles Resources were depleted with the cessation of mining due to the expiry of the Ranger Project Area mining lease in January 2021.

Mineral Resources and Ore Reserves Corporate Governance

Mineral Resources and Ore Reserves governance

We have well-established governance processes to support the generation and publication of Mineral Resources and Ore Reserves, including a series of business unit and product group structures and processes independent of operational reporting.

Audit Committee

The Audit Committee's remit includes the governance of Mineral Resources and Ore Reserves. This includes an annual review of Mineral Resources and Ore Reserves at a Group level, as well as a review of findings and progress from the Group Internal Audit programme.

Ore Reserves Steering Committee

The Ore Reserves Steering Committee (ORSC), chaired by the Group Executive, Safety, Technical & Projects, meets at least quarterly. ORSC comprises senior representatives across our technical, financial, governance and business groups and oversees the appointment of Competent Persons nominated by the business units, review of Exploration Results, Mineral Resource or Ore Reserve data prior to public reporting and the development of Group Mineral Resource and Ore Reserve standards and guidance.

Orebody Knowledge Centre of Excellence

In 2019, we created the Orebody Knowledge Centre of Excellence, which contains a dedicated Orebody Knowledge Technical Assurance team. Orebody Knowledge Technical Assurance, in conjunction with the ORSC, is the guardian and author of Group Mineral Resource and Ore Reserve standards and guidance and is responsible for the governance and compilation of Group Mineral Resource, Ore Reserve and reconciliation reporting. The technical assurance team also monitors the external reporting environment, facilitates internal audits and monitors actions with Group Internal Audit.

Group Internal Audit

The Mineral Resource and Ore Reserve internal audits are conducted by independent external consulting personnel in a programme managed by Group Internal Audit with the assistance of the Orebody Knowledge Centre of Excellence and ORSC. During 2020, due to COVID-19 restrictions, two internal Mineral Resource and Ore Reserve audits were completed remotely. Material findings are reported outside of the product group reporting line to the Audit Committee, and all reports and action plans are reviewed by the ORSC for alignment to internal and external reporting standards.

Joint Ore Reserves Committee (JORC) compliance

We have continued developing internal systems and controls in order to meet JORC compliance in all external reporting, including the preparation of all reported data by Competent Persons as members of The Australasian Institute of Mining and Metallurgy (The AusIMM), Australian Institute of Geoscientists (AIG) or recognised professional organisations (RPOs). JORC Table 1 reports for new or materially upgraded significant deposits are released to the market; they are also available on the Group's website. JORC Table 1 and NI 43-101 technical reports generated by non-managed units or joint venture partners are referenced within the reporting footnotes with the location and initial reporting date identified.

Mineral Resources and Ore Reserves from externally managed operations, in which Rio Tinto holds a minority share, are reported as received from the managing entity. Figures from our managed operations are the responsibility of the managing directors of the business units and estimates are carried out by Competent Persons as defined by JORC.

2020 Highlights

- Orebody Knowledge Centre of Excellence with dedicated Orebody Knowledge Technical Assurance team manage and assure the Mineral Resource and Ore Reserve reporting
- Ongoing professional development: over 25 hours of virtual Competent Persons workshops and training run
- Independent auditing: two remote Mineral Resource and Ore Reserve audits completed

Competent Persons

	Association ^(e)	Employer	Accountability	Deposits
Bauxite				
G Rogers	AusIMM		Resources	Gove, East Weipa and Andoom, North of Weipa, Amrun
A McIntyre	AusIMM	Rio Tinto	Resources	Gove, East Weipa and Andoom, North of Weipa, Amrun
W Saba	AusIMM		Reserves	Gove, East Weipa and Andoom, Amrun
M Keerseemaker	AusIMM	CBG Consultant – Aluminpro	Reserves	
M A Diallo	AusIMM	Compagnie des Bauxites de Guinée	Resources	Sangaredi
M A H Monteiro	AusIMM	Mineração Rio de Norte	Resources	
J P M Franco	AusIMM	MRN Consultant	Reserves	Trombetas
Borates				
B Griffiths	SME	Rio Tinto	Resources and Reserves	Rio Tinto Borates – Boron
R Torres	AusIMM		Resources	
Copper				
A Schwarz	AusIMM	Rio Tinto	Resources	Resolution Copper ^(c)
H Martin	AusIMM		Resources	
M Bixley	AusIMM		Reserves	
O Dendev	AusIMM	Rio Tinto	Resources	Oyu Tolgoi ^{(b) (c) (d)}
F Prince	AusIMM		Reserves	
R Hayes	AusIMM		Resources	
E Mader	AusIMM		Reserves	
P Rodriguez	AusIMM	Rio Tinto	Resources	Bingham Canyon ^{(b) (c) (d)}
K Schroeder	AusIMM		Resources	
J Vickery	AusIMM		Resources and Reserves	
E Woods	AusIMM		Reserves	
R Maureira	AusIMM	Minera Escondida Ltda.	Resources	Escondida, Escondida – Chimborazo – sulphide, Pampa Escondida – sulphide ^(b) , Pinta Verde
F B Vargara	AusIMM		Reserves	Escondida
J Marshall	AusIMM	Rio Tinto	Resources	La Granja
J Pooe	AusIMM	Rio Tinto	Resources	Winu ^{(b) (d)}

	Association ^(a)	Employer	Accountability	Deposits
Diamonds				
S Brennan	AusIMM	Rio Tinto	Resources and Reserves	Argyle Diamonds
M Rayner	AusIMM		Resources and Reserves	
K Pollock	NAPEG	Rio Tinto	Resources and Reserves	Diavik
C Auld	NAPEG		Reserves	
M Kontzamanis	NAPEG		Reserves	
Iron ore				
K Tindale	AusIMM	Rio Tinto	Resources	Simandou
M McDonald	PEGNL	Rio Tinto	Resources	Iron Ore Company of Canada
S Roche	AusIMM		Reserves	
R Way	PEGNL		Resources	
R Williams	PEGNL		Reserves	
P Ziemendorf	AusIMM		Reserves	
N Brajkovich	AusIMM		Resources	
P Savory	AusIMM	Resources		
B Sommerville	AusIMM	Resources		
R Bleakey	AusIMM	Rio Tinto	Reserves	Rio Tinto Iron Ore – Hamersley, Eastern Range, Hope Downs, Robe
L Vilela Couto	AusIMM	Reserves		
R Sarin	AusIMM	Reserves		
R Verma	AusIMM	Reserves		
Lithium				
J Garcia	EFG	Rio Tinto	Resources	Jadar ^(e)
N Grubin	EFG		Resources	
M Sweeney	AusIMM		Resources	
G Davis	AusIMM		Reserves	
A Earl	AusIMM	Consultant – Snowden Group	Reserves	
Titanium dioxide feedstock				
F A Consuegra	APGO	Rio Tinto	Resources and Reserves	Rio Tinto Fer et Titane (RTFT)
J Dumouchel	OIQ		Resources	
D Gallant	OIQ		Reserves	
T Daling	SAIMM	Rio Tinto	Reserves	Richards Bay Minerals (RBM) ^(f)
A Louw	SACNASP		Resources	
S Mnuu	SACNASP		Resources	
P De Kock	SAIMM		Reserves	
F Hees	AusIMM	Rio Tinto	Resources	QMM Madagascar Minerals ^(f)
Uranium				
S Pevely	AusIMM	Rio Tinto	Resources and Reserves	Energy Resources of Australia – Ranger 3, Jabiluka

(a) AusIMM: Australasian Institute of Mining and Metallurgy
 APGO: Association of Professional Geoscientists of Ontario
 EFG: European Federation of Geologists
 NAPEG: Association of Professional Engineers, Geologists and Geophysicists of the Northwest Territories
 OIQ: L'Ordre des Ingénieurs du Québec
 PEGNL: Professional Engineers and Geoscientists Newfoundland and Labrador
 SACNASP: South African Council for Natural Scientific Professions
 SAIMM: South African Institute of Mining and Metallurgy
 SME: Society of Mining, Metallurgy and Exploration

(b) Includes gold
 (c) Includes molybdenum
 (d) Includes silver
 (e) Includes borates
 (f) Includes zircon

Mines and Production Facilities

Group mines as at 31 December 2020

Iron Ore

Property	Ownership	Operator	Location	Access	Title/lease/acreage
Hammersley Iron: Brockman 2 Brockman 4 Marandoo Mount Tom Price Nammuldi Paraburdoo Silvergrass Western Turner Syncline Yandicoogina	100% Rio Tinto	Rio Tinto	Pilbara region, Western Australia	Hammersley Iron/Robe railway and port network operated by Pilbara Iron	<p>Agreements for life of mine with Government of Western Australia, save for the Yandicoogina mining lease, which expires in 2039 with an option to extend for 21 years.</p> <p>Mount Tom Price, Marandoo, Brockman 2, Brockman 4, Nammuldi and Western Turner Syncline Mineral and Mining Lease held under Iron Ore (Hammersley Range) Agreement Act 1963.</p> <p>Area of ML4SA subject to current mining operations approx 15,339 ha.</p> <p>Area of M272SA subject to current mining operations approx 2,059 ha.</p> <p>Paraburdoo and Eastern Range Mineral Lease held under Iron Ore (Hammersley Range) Agreement Act 1968.</p> <p>Area of ML246SA subject to current mining operations approx 1,943 ha</p> <p>Yandicoogina Mining Lease held under Iron Ore (Yandicoogina) Agreement Act 1996.</p> <p>Area of M274SA subject to current mining operations approx 4,584 ha.</p>
Eastern Range	54% Rio Tinto Rio Tinto owns 54% of the Bao-Hi joint venture with the remaining 46% held by China Baowu Group	Rio Tinto	Pilbara region, Western Australia	Hammersley Iron/Robe railway and port network operated by Pilbara Iron	<p>Mineral lease expires in 2028 with successive options to extend by 21 years.</p> <p>Mineral Lease held under Iron Ore (Hammersley Range) Agreement Act 1963.</p> <p>Area of ML4SA subject to current mining operations approx 990 ha.</p>

Key permit conditions	History	Type of mine	Type of mineralisation	Processing plants and other available facilities	Power source
<p>State Agreement conditions are set by the Western Australian Government and broadly comprise environmental compliance and reporting obligations; closure and rehabilitation considerations; local procurement and community initiatives/investment requirements; and payment of taxes and government royalties.</p> <p>The current business also operates under an Indigenous Land Use Agreement (ILUA) which includes commitments for payments made to trust accounts; indigenous employment and business opportunities; and heritage and cultural protections.</p>	<p>Mount Tom Price began operations in 1966, followed by Paraburdoo in 1974. In the 1990s, Channar, Brockman 2, Marandoo and Yandicoogina achieved first ore. Since 2000, Eastern Ranges, Nammuldi, Brockman 4, Western Turner Syncline and Silvergrass have joined the network of Hamersley Iron mines.</p>	Open pit	<p>Brockman 2, Brockman 4, Tom Price, Paraburdoo and Western Turner Syncline: Mineralisation is hematite/ goethite mineralisation hosted within the Brockman Fm banded iron formations. Detrital deposits also occur at these sites. At Tom Price and Western Turner Syncline, some goethite/hematite mineralisation hosted within the Marra Mamba Fm also occurs. Marandoo and Silvergrass: mineralisation occurs as goethite/ haematite within the banded iron formations of the Marra Mamba Fm. Some detrital mineralisation also occurs. Yandicoogina goethite mineralisation occurring as pisolite ores within a paleo-channel; channel iron formations.</p>	<p>Process plants are largely dry crush and screen plants producing a lump and fines product. For the Silvergrass & Nammuldi mines, wet processing of the ore using cyclones also occurs at the Nammuldi plant. At Marandoo cyclones are used for processing the fines at Marandoo plant. At Tom Price and Western Turner Syncline processing is through the Tom Price plant; low grade fines are upgraded using heavy media cyclones and spirals while a heavy media separation is used to upgrade lumps. Paraburdoo is processed through the Paraburdoo process plant. Processing is via a dry crush and screen plants producing a lump and fines product with fines further processed by a 2 stage cyclone plant. Yandicoogina is dry crush and screen to fines only, with low grade being processed via wet scrubbing and calcification.</p>	Supplied through the integrated Hamersley and Robe power network operated by Pilbara Iron
<p>State Agreement conditions are set by the Western Australian Government and broadly comprise environmental compliance and reporting obligations; closure and rehabilitation considerations; local procurement and community initiatives/investment requirements; and payment of taxes and government royalties.</p> <p>The current business also operates under an Indigenous Land Use Agreement (ILUA) which includes commitments for payments made to trust accounts; indigenous employment and business opportunities; and heritage and cultural protections.</p>	<p>The Bao-Hi joint venture was established in 2002 and has delivered sales of more than 200 million tonnes of iron ore to China.</p>	Open pit	<p>Mineralisation is hematite/ goethite mineralisation hosted within the Brockman Fm banded iron formations.</p>	<p>Eastern Range is processed through the Paraburdoo process plant. Processing is via a dry crush and screen plants producing a lump and fines product with fines further processed by a 2 stage cyclone plant.</p>	Supplied through the integrated Hamersley and Robe power network operated by Pilbara Iron

Mines and Production Facilities

continued

Group mines as at 31 December 2020

Iron Ore continued

Property	Ownership	Operator	Location	Access	Title/lease/acreage
Channar	60% Rio Tinto The Channar Mining Joint Venture is 60% owned by Rio Tinto (through Channar Mining Pty Ltd) and 40% by Sinosteel Corporation (Sinosteel Channar Pty Ltd)	Rio Tinto	Pilbara region, Western Australia	Hammersley Iron/Robe railway and port network operated by Pilbara Iron	Mining lease expires in 2028 with an option to extend by up to five years. Mining Lease held under Iron Ore (Channar Joint Venture) Agreement Act 1987. Area of M265SA subject to current mining operations approx 1,876 ha.
Hope Downs 1	50% Rio Tinto. 50% Hancock Prospecting Pty Ltd	Rio Tinto	Pilbara region, Western Australia	Hammersley Iron/Robe railway and port network operated by Pilbara Iron	Mining lease expires in 2027 with two options to extend of 21 years each. Mining Lease held under Iron Ore (Hope Downs) Agreement Act 1992. Area of M282SA subject to current mining operations approx 3,912 ha.

Key permit conditions	History	Type of mine	Type of mineralisation	Processing plants and other available facilities	Power source
<p>State Agreement conditions are set by the Western Australian Government and broadly comprise environmental compliance and reporting obligations; closure and rehabilitation considerations; local procurement and community initiatives/investment requirements; and payment of taxes and government royalties.</p> <p>The current business also operates under an Indigenous Land Use Agreement (ILUA) which includes commitments for payments made to trust accounts; indigenous employment and business opportunities; and heritage and cultural protections.</p>	<p>The Channar Mining Joint Venture, established in 1987, was the first large-scale mining joint venture between Chinese and Australian companies. The joint venture was 60% owned by Rio Tinto and 40% by Sinosteel Corporation. It delivered sales of 290 million tonnes of iron ore to China. The Channar Mining Joint Venture came to a natural conclusion in quarter four 2020, at which time mining operations reverted to 100% Rio Tinto (Channar Mining Pty Ltd).</p>	Open pit	Channar Mineralisation is hematite/goethite mineralisation hosted within the Brockman Fm banded iron formations.	Channar is processed through the Paraburdoo process plant. Processing is via a dry crush and screen plants producing a lump and fines product with fines further processed by a 2 stage cyclone plant.	Supplied through the integrated Hamersley and Robe power network operated by Pilbara Iron
<p>State Agreement conditions are set by the Western Australian Government and broadly comprise environmental compliance and reporting obligations; closure and rehabilitation considerations; local procurement and community initiatives/investment requirements; and payment of taxes and government royalties.</p> <p>The current business also operates under an Indigenous Land Use Agreement (ILUA) which includes commitments for payments made to trust accounts; indigenous employment and business opportunities; and heritage and cultural protections.</p>	<p>Joint venture between Rio Tinto and Hancock Prospecting. Construction of Stage 1 to 22 million tonnes per annum commenced 2006 and first production occurred 2007. Stage 2 to 30 million tonnes per annum completed 2009.</p>	Open pit	Hope Downs 1 mineralisation occurs as goethite/ haematite within the banded iron formations of the Marra Mamba Fm. Some detrital mineralisation also occurs.	Hope Downs 1 is processed at the Hope Downs 1 process plant which is dry crush and screen plant producing a lump and fines product.	Supplied through the integrated Hamersley and Robe power network operated by Pilbara Iron

Mines and Production Facilities

continued

Group mines as at 31 December 2020

Iron Ore continued

Property	Ownership	Operator	Location	Access	Title/lease/acreage
Hope Downs 4	50% Rio Tinto. 50% Hancock Prospecting Pty Ltd	Rio Tinto	Pilbara region, Western Australia	Hammersley Iron/Robe railway and port network operated by Pilbara Iron	Mining lease expires in 2027 with two options to extend of 21 years each. Mining Lease held under Iron Ore (Hope Downs) Agreement Act 1992. Area of M282SA subject to current mining operations approx 3,138 ha.
Robe River Iron Associates: Robe Valley (Mesa A and Mesa J) West Angelas	53% Rio Tinto Robe River is a joint venture between Rio Tinto (53%), Mitsui Iron Ore Development (33%), and Nippon Steel Corporation (14%)	Rio Tinto	Pilbara region, Western Australia	Hammersley Iron/Robe railway and port network operated by Pilbara Iron	Agreements for life of mine with Government of Western Australia. Mineral Lease held under Iron Ore (Robe River) Agreement Act 1964. Area of ML248SA subject to current mining operations approx 10,598 ha.
Dampier Salt Port Hedland, Dampier and Lake Macleod	68.4% Rio Tinto Dampier Salt is a joint venture between Rio Tinto (68%), Marubeni Corporation (22%) and Sojitz (10%).	Rio Tinto (Dampier Salt Limited)	Gascoyne and Pilbara regions, Western Australia	Road and port	Mining and mineral leases expiring in 2034 at Dampier; 2029 at Port Hedland and 2031 at Lake MacLeod. Mineral Leases are held under Dampier Solar Salt Industry Agreement Act 1967, Leslie Solar Salt Industry Agreement Act 1966 and Evaporites (Lake MacLeod) Agreement Act 1967 respectively.

Key permit conditions	History	Type of mine	Type of mineralisation	Processing plants and other available facilities	Power source
<p>State Agreement conditions are set by the Western Australian Government and broadly comprise environmental compliance and reporting obligations; closure and rehabilitation considerations; local procurement and community initiatives/investment requirements; and payment of taxes and government royalties.</p> <p>The current business also operates under an Indigenous Land Use Agreement (ILUA) which includes commitments for payments made to trust accounts; indigenous employment and business opportunities; and heritage and cultural protections.</p>	<p>Joint venture between Rio Tinto and Hancock Prospecting. Construction of wet plant processing to 15 million tonnes per annum commenced 2011 and first production occurred 2013.</p>	Open pit	<p>Mineralisation at Hope Downs 4 is hematite/goethite mineralisation hosted within the Brockman Fm banded iron formations.</p>	<p>Hope Downs 4 ore is processed through the HD 4 plant. Process uses dry crushing followed by wet scrubbing and a 2 stage cyclone plant.</p>	<p>Supplied through the integrated Hamersley and Robe power network operated by Pilbara Iron</p>
<p>State Agreement conditions are set by the Western Australian Government and broadly comprise environmental compliance and reporting obligations; closure and rehabilitation considerations; local procurement and community initiatives/investment requirements; and payment of taxes and government royalties.</p> <p>The current business also operates under an Indigenous Land Use Agreement (ILUA) which includes commitments for payments made to trust accounts; indigenous employment and business opportunities; and heritage and cultural protections.</p>	<p>First shipment in 1972 from Robe Valley. Interest acquired in 2000 through North Limited acquisition. First ore was shipped from West Angelas in 2002.</p>	Open pit	<p>At West Angelas, mineralisation occurs as goethite/ haematite within the banded iron formations of the Marra Mamba Fm. Some detrital mineralisation also occurs. Robe valley deposits are comprised of goethite mineralisation occurring as pisolite ores within a paleo-channel; channel iron formations.</p>	<p>At West Angelas, ore processing is via dry crush and screen plants. In the Robe Valley, dry crush and screen plants, as well as wet processing plants (wet scrubbing and screening) are used to improve iron grades for some ores.</p>	<p>Supplied through the integrated Hamersley and Robe power network operated by Pilbara Iron</p>
<p>State Agreement conditions are set by the Western Australian Government and broadly comprise environmental compliance and reporting obligations; closure and rehabilitation considerations; local procurement and community initiatives/investment requirements; and payment of taxes and government royalties.</p>	<p>Construction of the Dampier field started in 1969; first shipment in 1972. Lake MacLeod was acquired in 1978 as an operating field. Port Hedland was acquired in 2001 as an operating field.</p>	Solar evaporation of seawater at Dampier and Port Hedland; underground brine at Lake MacLeod; extraction of gypsum at Lake MacLeod.	<p>Salt is grown every year through solar evaporation in permanent crystallising pans. Gypsum is present in the top layer covering most of the Lake Macleod.</p>	<p>Salt is processed through a washing plant, consisting of screening washbelts at Lake MacLeod, Screwball classifiers and static screens at Port Hedland and sizing screens, counter-current classifiers with dewatering screens and centrifuges at Dampier. Dampier produces shipping-ready product for immediate shiploading. Washed salt at Lake MacLeod and Port Hedland is dewatered on stockpiles.</p> <p>Lake Macleod also mines and processes gypsum in leaching heaps.</p>	<p>Long-term contracts with Hamersley Iron and Horizon Power and on-site generation</p>

Mines and Production Facilities

continued

Group mines as at 31 December 2020

Copper and Diamonds

Property	Ownership	Operator	Location	Access	Title/lease/acreage
Escondida	30% Rio Tinto – 57.5% BHP, 10% JECO Corporation consortium comprising Mitsubishi, JX Nippon Mining and Metals (10%), 2.5% JECO 2 Ltd	BHP	Atacama Desert, Chile	Pipeline and road to deep sea port at Coloso; road and rail	Rights conferred by Government under Chilean Mining Code. Thirteen mineral rights leases with a total 57,047 ha.
Rio Tinto Kennecott Bingham Canyon	100% Rio Tinto	Rio Tinto Kennecott Copper	Near Salt Lake City, Utah, US	Pipeline, road and rail	Wholly owned – approximately 95,000 acres in total.
Oyu Tolgoi	<p>Oyu Tolgoi is TRQ's principal and only material mineral resource property and is held through a 66% interest in Oyu Tolgoi LLC; the remaining 34% interest is held by the Government of Mongolia through Erdenes Oyu Tolgoi LLC.</p> <p>Rio Tinto, with other Rio Tinto affiliates, holds a 50.8% majority interest in TRQ, and is responsible for the day-to-day operational management and development of the Project.</p>	Rio Tinto	Khanbogd soum, Umnugovi province, Mongolia	Air and road	<p>Three mining licences are 100% held by Oyu Tolgoi LLC: MV-006708 (the Manakht licence: 4,533 ha), MV-006709 (the Oyu Tolgoi licence: 8,490 ha), and MV-006710 (the Khukh Khad licence: 1,763 ha).</p> <p>Two further licences are held in joint venture with Entrée Gold LLCMV-015226 (the Shivee Tolgoi Licence) and MV-015225 (the Javkhlant Licence).</p> <p>The licence term under the Minerals Law of Mongolia is 30 years with two 20-year extensions. First renewals are due in 2033 and 2039 for the Oyu Tolgoi and Entrée Gold licences respectively.</p>

Key permit conditions	History	Type of mine	Type of mineralisation	Processing plants and other available facilities	Power source
Annual tenement payments (during March per year)	Production started in 1990 and since then capacity has been expanded numerous times. In 1998 first cathode was produced from the oxide leach plant, and during 2006 the sulphide leach plant was inaugurated, a year after the start of Escondida Norte pit production. During 2016, the third concentrator plant was commissioned.	Open pit	Consists of a series of porphyry deposits containing copper, gold, silver, and molybdenum.	Los Colorados, Laguna Seca Line 1, and Laguna Seca Line 2 Concentrators. OLAP – oxide leach facility, SL Rom leach facility and SX/EW facility.	Supplied from grid under various contracts with local generating companies
<p>Permit conditions are established by Utah and US Government agencies and comprise:</p> <ul style="list-style-type: none"> – Environmental compliance and reporting – Closure and reclamation requirements 	Interest acquired in 1989. In 2012, the pushback of the south wall commenced, extending the mine life from 2018 to 2032.	Open pit	Porphyry and associated skarn deposits containing copper, gold, silver, and molybdenum.	Copperton concentrator, Garfield smelter, refinery, and precious metals plant, assay lab and tailings storage facilities.	Supply contract with Rocky Mountain Power
<p>Investment Agreement dated 6 October 2009, between the Government of Mongolia, Oyu Tolgoi LLC, TRQ, and Rio Tinto in respect of Oyu Tolgoi (Investment Agreement).</p> <p>Amended and Restated Shareholders Agreement dated 8 June 2011 among Oyu Tolgoi LLC, THR Oyu Tolgoi Ltd. (formerly Ivanhoe Oyu Tolgoi (BVI) Ltd.), Oyu Tolgoi Netherlands B.V. and Erdenes MGL LLC (ARSHA). Erdenes MGL LLC has since transferred its shares in Oyu Tolgoi LLC and its rights and obligations under the ARSHA to its subsidiary, Erdenes Oyu Tolgoi LLC.</p> <p>Underground Mine Development and Financing Plan (Underground Development Plan) dated 18 May 2015, between TRQ, the Government of Mongolia, Erdenes Oyu Tolgoi LLC, THR Oyu Tolgoi Ltd., Oyu Tolgoi Netherlands B.V., Rio Tinto and Oyu Tolgoi LLC.</p> <p>Power Source Framework Agreement dated 31 December 2018, between the Government of Mongolia and Oyu Tolgoi LLC, including the amendment to the PSFA dated 26 June 2020. This requires obtaining numerous permits and authorisations from Mongolian regulatory authorities.</p> <p>In terms of key government permits, Oyu Tolgoi LLC secured a land use permit until 2035 and water use permit until 2039 as well as the mineral rights.</p>	Oyu Tolgoi was first discovered in 1996. Construction began in late 2009 after signing of an Investment Agreement with the Government of Mongolia, and first concentrate was produced in 2012. First sales of concentrate were made to Chinese customers in 2013. In 2015, Underground Development Plan was signed with Government of Mongolia.	Ore Reserves have been reported at the Oyut and Hugo North deposits. The Oyut deposit is currently mined as an open pit using a conventional drill, blast, load, and haul method. The Hugo North deposit is currently being developed as an underground mine.	Consists of a series of porphyry deposits containing copper, gold, silver, and molybdenum.	One copper concentrator with a nominal feed capacity of 100ktpd comprising currently of 2 SAG mills, 4 ball mills, rougher and cleaner flotation circuits and up to 1Mtpa copper concentrate capacity. Other major facilities that support the isolated operations include Maintenance workshops, heating plant, sealed airstrip and terminal, and camp facilities with up to 6000 person capacity to accommodate current operations and the UG construction project. UG infrastructure in place includes several shafts for ore haulage, man haulage and ventilation plus a conveyor decline to surface and associated surface infrastructure.	Currently sources its power under an agreement with the Inner Mongolia Power International Cooperation Company Ltd. (IMPIC), via the Mongolian National Power Transmission Grid (NPTG) authority, with Grid power from China and supplementary diesel power generation at site. Signed Tavan Tolgoi Power Plant Power Source Framework agreement in December 2018.

Mines and Production Facilities continued

Group mines as at 31 December 2020

Copper and Diamonds continued

Property	Ownership	Operator	Location	Access	Title/lease/acreage
Argyle Diamonds	100% Rio Tinto	Rio Tinto	East Kimberley, Western Australia	Road and air	Mining tenement held under Diamond (Argyle Diamond Mines Joint Venture) Agreement Act 1981; M259SA: 60,690 ha
Diavik	60% Rio Tinto – 40% Dominion Diamond Mines ULC, a Calgary-based Canadian asset of U.S. conglomerate The Washington Companies	Diavik Diamond Mines (2012) Inc. is a Yellowknife-based Canadian subsidiary of Rio Tinto plc in London, UK	Northwest Territories (NWT), Canada	Air, ice road in winter	Three mineral rights leases with a total average of 8,016 (3,244 ha). Mining leases are issued by the NWT Government. One lease was renewed in 2017 and two leases were renewed in February 2018. The new leases will expire after 21 years.

Energy and Minerals

Property	Ownership	Operator	Location	Access	Title/lease/acreage
Rio Tinto Borates – Boron	100% Rio Tinto	Rio Tinto	California, United States	Road and rail	Land holdings include 13,493 acres (owned including mineral rights) for the mining operation, plant infrastructure, and tailings storage facility.
Rio Tinto Fer et Titane Lac Tio	100% Rio Tinto	Rio Tinto	Havre-Saint-Pierre, Province of Quebec, Canada	Rail and port (St Lawrence River)	A total of 6,534 hectares of licences including two mining concessions of total 609ha, granted by Province of Quebec in 1949 and 1951 which, subject to certain Mining Act restrictions, confer rights and obligations of an owner.
QIT Madagascar Minerals (80%)	QIT Madagascar Minerals is 80% owned by Rio Tinto and 20% owned by the Government of Madagascar.	Rio Tinto	Fort-Dauphin, Madagascar	Road and port	Mining lease covering 56,200 hectares, granted by central government.

Key permit conditions	History	Type of mine	Type of mineralisation	Processing plants and other available facilities	Power source
Permit conditions are set by the Western Australia State Government and comprise environmental compliance and reporting; environmental security and closure and rehabilitation planning; and payment of taxes and government royalties. The current business also operates under an Indigenous Land Use Agreement (ILUA) which includes commitments for payments made to trust accounts; indigenous employment and business opportunities; and heritage and cultural protections.	Mining commenced in 1982 with alluvial operations. Open pit extraction of the primary diamond pipe was carried out from 1985 to 2013. Interest increased from 59.7% following purchase of Ashton Mining in 2000. Underground mine project approved in 2005 and operational from 2013 to 2020.	Underground block cave (previously open pit).	Diamondiferous Lamproite deposit.	On-site process plant comprised of crushing and screening operations, heavy media concentration, x-ray diamond recovery, and tailings deposition.	Long-term contract with Ord Hydro Consortium (Pacific Hydro) coupled with on-site backup diesel generation.
Our key permit conditions are local employment, procurement and benefit sharing commitments; environmental compliance and reporting; environmental security and closure and rehabilitation planning; and payment of taxes and government royalties.	Deposits discovered in 1994-95. Construction approved in 2000. Diamond production started in 2003. Fourth pipe commenced production in 2018. Mine life through 2023-25.	Open pit and underground operations (Blast-hole stoping and Sub-level Retreat methods).	Diamondiferous, Kimberlite deposit.	Includes processing plant and accommodation facilities onsite.	On-site diesel generators; installed capacity 44MW and 9.2MW of wind capacity.
Key permit conditions	History	Type of mine	Type of mineralisation	Processing plants and other available facilities	Power source
Boron Operation currently has all State and Federal environmental and operational permits in place to continue the mining and processing operation. Regular updates to permits are ongoing.	Deposit discovered in 1925 and acquired by Rio Tinto in 1967.	Open pit	Sedimentary sequence of tincal and kernite containing interbedded claystone enveloped by facies consisting of ulexite and colemanite bearing claystone, and barren claystone.	Boron Operation consists of the open pit mine, an ore crushing and conveying system, 2 process plants (Primary Process and Boric Acid Plant), Shipping facility, and tailings storage facilities.	On-site co-generation units and local power grid
The property is held under Quebec provincial government mining concession permits (Concession minière No 368 and 381). Each is of one year duration renewable as long as the mine is in operation. RTFT has also a number of claims (exclusive exploration permits) covering ilmenite occurrences in the region of the mine. These claims are renewable every 2 years.	Production started 1950; interest acquired in 1989.	Open pit	Magmatic intrusion.	Lac Tio has a crushing facility, dedicated railway, stockpile at the train terminal, ship loader, office buildings at the mine and at the terminal and waste dumps.	Supplied by Hydro Quebec at regulated tariff
The permit has a validity of 30 years as of 12 th December 1996. Additional renewal for 10-years each period are granted at QMM's request. An annual fee is payable to government authorities following notification at the beginning of January.	Exploration project started in 1986; construction approved 2005. Ilmenite and zirsil production started 2008. QMM intends to extract ilmenite and zirsil from heavy mineral sands over an area of about 6,000 hectares along the coast over the next 40 years.	Mineral sand dredging	Coastal mineralised sands.	QMM has an operating Dredge, Dry Mine Unit, Heavy Mineral Concentrator, Mineral Separation Plant, Port and bulk loading facilities.	On-site heavy fuel oil generators

Mines and Production Facilities

continued

Group mines as at 31 December 2020

Energy and Minerals continued

Property	Ownership	Operator	Location	Access	Title/lease/acreage
Richards Bay Minerals	RBM is a joint venture between Rio Tinto (74%) and Blue Horizon – a consortium of investors and our Host Communities Mbonambi, Sokhulu, Mkhwanazi and Dube – which own 24%. The remaining shares are held in an employee trust.	Rio Tinto	Richards Bay, KwaZulu-Natal, South Africa	Rail, road and port	Mineral rights for Reserve 4 and Reserve 10 issued by South African State and converted to new order mining rights from 9 May 2012. Mining rights run until 8 May 2041 and covers 11,645 hectares including mined Tisand area.
Iron Ore Company of Canada (IOC)	IOC is a joint venture between Rio Tinto (58.7%), Mitsubishi (26.2%) and the Labrador Iron Ore Royalty Income Corporation (15.1%).	Rio Tinto	Labrador City, Province of Newfoundland and Labrador, Canada	Railway and port facilities in Sept-Îles, Quebec (owned and operated by IOC)	Mining leases, surface rights and a tailings disposal license are held by the Labrador Iron Ore Royalty Company (LIORC) under the Labrador Mining and Exploration Act. LIORC subleases these rights to IOC. The mining leases cover 10,356 hectares, the surface rights cover 8,805 hectares and the tailings license covers 2,784 hectares. These subleased rights are valid until 2050. In addition to the above rights, IOC also holds a number of mineral licenses, either directly or under sublease from LIORC.
Energy Resources of Australia – Ranger	86.3% Rio Tinto with the remaining 13.7% held by minority shareholders	Energy Resources of Australia	Northern Territory, Australia	Road, rail and port	ERA Mining Tenure comprises two leases; the Ranger Project Area (RPA, 79 km ²) which hosts the now mined out Ranger 1 and 3 uranium deposits, and MLN1 (73 km ²), which hosts the undeveloped Tier 1 Jabiluka uranium deposit. Mining tenure granted by Federal Government as per Section 41 of the Atomic Energy Act. The Authority to mine and process at Ranger is due to expire on 8 January 2021, when “ERA shall cease or suspend, as the case may be, all mining operations permitted under this Authority by 8 January 2021”.

Key permit conditions	History	Type of mine	Type of mineralisation	Processing plants and other available facilities	Power source
RBM operates in three lease areas, Tisand, Zulti North and Zulti South by means of a notarial deed. Tisand (which contains the stockpiled tails) and Zulti North leases are held by Tisand (Pty) Ltd. In September 2012, Rio Tinto completed the acquisition of BHP Billiton's entire interests in RBM. The acquisition resulted in Rio Tinto effectively doubling its holding (74%) in RBM. The remaining 26% of RBM is owned by a consortium of local communities and businesses (24%) and RBM employees (2%), in line with South Africa's Broad-Based Black Economic Empowerment legislation.	Production started 1977; initial interest acquired 1989. Fifth mining plant commissioned in 2000. One mining plant decommissioned in 2008. In September 2012, Rio Tinto doubled its holding in Richards Bay Minerals to 74% following the acquisition of BHP Billiton's entire interests.	Dune sand dredging	Coastal mineralised sands.	RBM manages and operates several dredges, dry mining units, heavy mineral concentrators and mineral separation plant. RBM has also a smelter with furnaces to produce titania slag, pig iron in addition to rutile and zircon.	Contract with Eskom
Several existing and valid Newfoundland and Labrador permits such as TMP Release, Tailings Disposal Licence, Approval for Asbestos Disposal Site at Main landfill Facility, Mill licence, PCB Storage Facility, Landfill, Water withdrawal and use of bodies of water, Dewatering & Excavation of Maggie Lake, Infilling of Carol Lake Lagoon and unnamed water body, Sewage System/Water Supply for Crusher Building. IOC holds also Federal Permits (Fish Habitat Compensation Agreement, Tailings Management Plan and dewatering.	Interest acquired in 2000 through North. Current operation began in 1962 and has processed over one billion tonnes of crude ore since. Annual capacity 23 million tonnes of concentrate of which 12.5 million tonnes can be pelletised.	Open pit	Oxide iron (specular hematite and magnetite).	Concentrator (gravity and magnetic separation circuits), Pellet plant, Warehouses, Workshops, Heating plant, Ore delivery system (crusher/conveyor and automated train system) Explosives plant, Train loadout facilities, Rail line (Labrador City to Sept-Îles), Stockyards, Shiploaders.	Supplied by Newfoundland and Labrador Hydro
RPA – Granted under s41 of the Atomic Energy Act – Authority to process uranium expires 8 Jan 2021. Lease expires 8 Jan 2026, allowing for 5 years of rehabilitation and closure activities. MLN1 – Northern Territory Mineral Lease granted in 1982 under the NT Mining Act for an initial period of 42 years – Expires in 2024, which can be renewed by the Minister for a further period not exceeding 10 years provided ERA has complied with the NT Mining Act and the conditions of MLN1.	Mining commenced 1981. Interest acquired through acquisition of North 2000. Open pit mining ended 2012, since then ERA has been processing ore stockpiles. Processing of uranium ore is legislated to finish on 8 January 2021.	Stockpile	Paleo-Proterozoic, structurally-hosted "unconformity-type" uraninite.	Crushing (primary, secondary and tertiary crushing circuits); Grinding plant; Leaching circuit; Counter Current Decant circuit; solvent extraction circuit; precipitation, drying and packing circuit; Neutralisation and tailings disposal system.	On-site diesel generation

Mines and Production Facilities

continued

Group mines as at 31 December 2020

Aluminium

Property	Ownership	Operator	Location	Access	Title/lease/acreage
CBG Sangaredi	Rio Tinto Group 22.95%, Guinean Government 49%, Alcoa 22.95%, Dadco Investments Limited 5.1%	La Compagnie des Bauxites de Guinée	Sangaredi, Guinea	Road, air and port	Mining concession expires in 2040. Leases comprise 2,939 km ² .
Gove	100% Rio Tinto	Rio Tinto through Rio Tinto Alumina Gove P/L	Gove, Northern Territory, Australia	Road, air and port	All leases were renewed in 2011 for a further period of 42 years. The residue disposal area is leased from the Arnhem Land Aboriginal Land Trust. The Northern Territory government is the lessor of the balance of the leases; however, on expiry of the 42-year renewed term, the land subject to the balances of the leases will all vest to the Arnhem Land Aboriginal Land Trust. Leases comprise 233.5 km ² .
MRN Porto Trombetas	MRN's shareholders are: Rio Tinto (12%), Vale (40%), Hydro (5%), South 32 (14.8%), CBA (Companhia Brasileira de Alumínio 10%) and Alcoa (18.2%). *Alcoa's 18.2% is comprised of Alcoa Alumínio (8.58%), AWA Brasil (4.62%) and AWA LLC (5%), each a subsidiary of Alcoa (10%).	MRN is a non-managed JV. All decisions are approved by shareholders Board of Directors	Porto Trombetas, Para, Brazil	Air or port	Mining concession granted by Brazilian Mining Agency (ANM), following the Brazilian mining code with no expiration date. The current 44 MRN mining leases cover 22 major plateaus, which spread across 143,000 hectares and all of them have the status of a mining concession.
Weipa/Ely	100% Rio Tinto	Rio Tinto through Rio Tinto Alumina Weipa P/L	Weipa, Queensland, Australia	Road, air and port	The Queensland Government Comalco (ML7024) lease expires in 2042 with an option of a 21-year extension, then two years' notice of termination; the Queensland Government Alcan lease (ML7031) expires in 2048 with a 21-year right of renewal with a two-year notice period. Leases comprise 2,716.9 km ² [ML7024 = 1340.8 km ² ; ML7031 = 1376.1 km ²].

Key permit conditions	History	Type of mine	Type of mineralisation	Processing plants and other available facilities	Power source
The obligations of CBG relative to health and safety of workers and to the environment and to the rehabilitation of mined out areas are subject to the Mining Code (2011) and Environmental Code of the Republic of Guinea.	Bauxite mining commenced in 1973. Shareholders are 51% Halco and 49% Government of Guinea. Rio Tinto holds a 45% interest in Halco. Expansion of the CBG bauxite mine, processing plant, port facility and associated infrastructure is currently near completion with ramp up to 18.5 million tonnes per annum underway.	Open cut	Bauxite	Drill, blast and crushing plant only to reduce oversize material – no screening required.	On-site generation (fuel oil)
Key permit conditions are prescribed by the Northern Territory Government in the form of a Mine Management Plan (MMP). The current MMP runs for a period of 12 years, until 2031, and authorises all activities at the operation. Lease payments are prescribed by the terms of the relevant leases.	Bauxite mining commenced in 1970, feeding both the Gove refinery, and export market capped at two million tonnes per annum. Bauxite export ceased in 2006 with feed intended for the expanded Gove refinery. Bauxite exports recommenced in 2008, increasing progressively following the curtailment of the refinery production in 2014 and the permanent shut decision made by the Board of Rio Tinto in October 2017. Current annual production capacity is 12.5 million tonnes on a dry basis.	Open cut	Bauxite	Crushing plant only to reduce oversize material – no screening required.	On-site diesel fired power station
With the exception of concessions from Amazonas State, the MRN mining leases are within the Saracá-Taquera National Forest, a preservation environmental area. However, the right of mining is preserved initially by the Federal law which created the National Forest (that is subsequent to mining concessions), as well as by the management plan, which acknowledges a formal mining zone within the confines of the National Forest. Environmental licensing is granted by Brazilian Environmental Agency (IBAMA) up to 2026 for East Zone. For West Zone it will require new licensing from 2027 to 2048.	Mineral extraction commenced in 1979. Initial production capacity 3.4 million tonnes annually. From 2003, production capacity up to 16.3 million tonnes per year on a dry basis.	Open cut	Consists of a series of bauxite tabular deposits with 2 mining plan sequencing: East Zone (1979 – 2025) and West Zone (2026–2048).	The beneficiation process is formed by a primary crusher, conveyors, scrubbers, secondary crushers, screenings, hydrocyclones and vacuum filters. The superfines tailings are pumped to a tailing system facility.	On-site generation (fuel oil + diesel)
The respective leases are subject to the Comalco Agreement Act (Comalco Agreement) and Alcan Agreement Act (Alcan Agreement); the relevant State Agreements for the Weipa operations. Key permit conditions are prescribed by the Queensland Government in the relevant Environmental Authority applicable to each lease (ML7024 and ML7031, respectively). Lease payments are subject to the terms of the leases and the respective State Agreements.	Bauxite mining commenced in 1961 at Weipa. Major upgrade completed in 1998. Rio Tinto interest increased from 72.4% to 100% in 2000. In 1997, Ely Bauxite Mining Project Agreement signed with local Aboriginal land owners. Bauxite Mining and Exchange Agreement signed in 1998 with Comalco to allow for extraction of ore at Ely. The Western Cape Communities Co-Existence Agreement, an Indigenous Land Use Agreement, was signed in 2001. Following the ramp up to full production of Amrun the current annual production of the Weipa mines is 35.5 million tonnes.	Open cut	Bauxite	Andoom, East Weipa and Amrun – wet crushing and screening plants to remove ultra fine proportion.	On-site generation (diesel) supplemented by a solar generation facility

Mines and Production Facilities

continued

Group smelters and refineries (Rio Tinto's interest 100% unless otherwise shown)

Smelter/refinery	Location	Title/lease	Plant type / Product	Capacity (based on 100% ownership)
Aluminium				
Alma	Alma, Quebec, Canada	100% freehold	Aluminium smelter producing aluminium rod, t-foundry, molten metal, high purity, remelt	473,000 tonnes per year aluminium
Alouette (40%)	Sept-Îles, Quebec, Canada	100% freehold	Aluminium smelter producing aluminium high purity, remelt	622,000 tonnes per year aluminium
Arvida	Saguenay, Quebec, Canada	100% freehold	Aluminium smelter producing aluminium billet, molten metal, remelt	174,000 tonnes per year aluminium
Arvida AP60	Saguenay, Quebec, Canada	100% freehold	Aluminium smelter producing aluminium high purity, remelt	60,000 tonnes per year aluminium
Bécancour (25.1%)	Bécancour, Quebec, Canada	100% freehold	Aluminium smelter producing aluminium slab, billet, t-foundry, remelt, molten metal	454,000 tonnes per year aluminium
Bell Bay	Bell Bay, Northern Tasmania, Australia	100% freehold	Aluminium smelter producing aluminium slab, molten metal, small form and t-foundry, remelt	192,000 tonnes per year aluminium
Boyne Smelters (59.4%)	Boyne Island, Queensland, Australia	100% freehold	Aluminium smelter producing aluminium billet, EC grade, small form and t-foundry, remelt	510,000 tonnes per year aluminium
ELYSIS (48.24%)	Saguenay, Quebec, Canada	100% freehold	Aluminium zero-carbon smelting pilot cell producing aluminium high purity	275 tonnes per year aluminium
Grande-Baie	Saguenay, Quebec, Canada	100% freehold	Aluminium smelter producing aluminium slab, molten metal, high purity, remelt	233,000 tonnes per year aluminium
ISAL	Reykjavik, Iceland	100% freehold	Aluminium smelter producing aluminium remelt, billet	212,000 tonnes per year aluminium
Jonquière (Vaudreuil)	Jonquière, Quebec, Canada	100% freehold	Refinery producing smelter grade alumina	1,560,000 tonnes per year alumina
Kitimat	Kitimat, British Columbia, Canada	100% freehold	Aluminium smelter producing aluminium slab, remelt, high purity	432,000 tonnes per year aluminium
Laterrière	Saguenay, Quebec, Canada	100% freehold	Aluminium smelter producing aluminium slab, remelt, molten metal	257,000 tonnes per year aluminium
Queensland Alumina (80%)	Gladstone, Queensland, Australia	73.3% freehold; 26.7% leasehold (of which more than 80% expires in 2026 and after)	Refinery producing smelter grade alumina	3,950,000 tonnes per year alumina
São Luis (Alumar) (10%)	São Luis, Maranhão, Brazil	100% freehold	Refinery producing smelter grade alumina	3,830,000 tonnes per year alumina
Sohar (20%)	Sohar, Oman	100% leasehold (expiring 2039)	Aluminium smelter producing aluminium, high purity, remelt	395,000 tonnes per year aluminium
Tiwai Point (New Zealand Aluminium Smelters) (79.4%)	Invercargill, Southland, New Zealand	19.6% freehold; 80.4% leasehold (expiring in 2029 and use of certain Crown land)	Aluminium smelter producing aluminium billet, slab, small form foundry, high purity, remelt	373,000 tonnes per year aluminium
Tomago (51.6%)	Tomago, New South Wales, Australia	100% freehold	Aluminium smelter producing aluminium billet, slab, remelt	590,000 tonnes per year aluminium
Yarwun	Gladstone, Queensland, Australia	97% freehold; 3% leasehold (expiring 2101 and after)	Refinery producing smelter grade alumina	3,200,000 tonnes per year alumina
Copper and Diamonds				
Rio Tinto Kennecott	Magna, Salt Lake City, Utah, US	100% freehold	Flash smelting furnace/Flash convertor furnace copper refinery and precious metals plant	335,000 tonnes per year refined copper

Group smelters and refineries (Rio Tinto's interest 100% unless otherwise shown)

Smelter/refinery	Location	Title/lease	Plant type / Product	Capacity (based on 100% ownership)
Energy and Minerals				
Boron	California, United States	100% freehold	Borates refinery	576,000 tonnes per year boric oxide
IOC Pellet plant (58.7%)	Labrador City, Province of Newfoundland and Labrador, Canada	100% freehold (asset), 100% leasehold (land) under sublease with Labrador Iron Ore Royalty Corporation for life of mine.	Pellet induration furnaces producing multiple iron ore pellet types	12.5 million tonnes per year pellet
Richards Bay Minerals (74%)	Richards Bay, South Africa	100% freehold	Ilmenite smelter	1,050,000 tonnes per year titanium dioxide slag, 565,000 tonnes per year iron
Rio Tinto Fer et Titane Sorel Plant	Sorel-Tracy, Quebec, Canada	100% freehold	Ilmenite smelter	1,300,000 tonnes per year titanium dioxide slag, 1,000,000 tonnes per year iron

Mines and Production Facilities

continued

Information on Group power plants (Rio Tinto's interest 100% unless otherwise shown)

Power plant	Location	Title/lease	Plant type / Product	Capacity (based on 100% ownership)
Iron Ore				
Cape Lambert power station (67%)	Cape Lambert, Western Australia, Australia	Lease	Two LM6000PS gas-fired turbines	80MW
Paraburdoo power station	Paraburdoo, Western Australia, Australia	Lease	Three LM6000PC gas-fired turbines One Frame5 dual-fuel turbine	138MW
West Angelas power station (67%)	West Angelas, Western Australia, Australia	Miscellaneous licence	Two LM6000PF dual-fuel turbines	80MW
Yurralyi Maya power station (84.2%)	Dampier, Western Australia, Australia	Miscellaneous licence	Four LM6000PD gas-fired turbines One LM6000PF gas-fired turbine (dual-fuel potential)	200MW
Aluminium				
Amrun power station	Amrun, Australia	100% leasehold	Diesel generation	24MW
Gladstone power station (42%)	Gladstone, Queensland, Australia	100% freehold	Thermal power station	1,680MW
Gove power station	Nhulunbuy, Northern Territory, Australia	100% leasehold	Diesel generation	24MW
Kemano power station	Kemano, British Columbia, Canada	100% freehold	Hydroelectric power	896MW
Quebec power stations	Saguenay, Quebec, Canada (Chute-à-Caron, Chute-à-la-Savane, Chute-des-Passes, Chute-du-Diable, Isle-Maligne, Shipshaw)	100% freehold (certain facilities leased from Quebec Government until 2058 pursuant to Peribonka Lease)	Hydroelectric power	3,147MW
Weipa power stations and solar generation facility	Lorim Point, Andoom, and Weipa, Australia	100% leasehold	Diesel generation supplemented by solar generation facility	38MW
Yarwun alumina refinery co-generation plant	Gladstone, Queensland, Australia	100% freehold	Gas turbine and heat recovery steam generator	160MW

Information on Group power plants (Rio Tinto's interest 100% unless otherwise shown)

Power plant	Location	Title/lease	Plant type / Product	Capacity (based on 100% ownership)
Copper and Diamonds				
Rio Tinto Kennecott power stations	Salt Lake City, Utah, US	100% freehold	Thermal power station	75MW
			Steam turbine running off waste heat boilers at the copper smelter	31.8MW
			Combined heat and power plant supplying steam to the copper refinery	6.2MW
Energy and Minerals				
Boron co-generation plant	Boron, California, US	100% freehold	Co-generation uses natural gas to generate steam and electricity, used to run Boron's refining operations	48MW
Energy Resources of Australia (Rio Tinto: 86.3%)	Ranger Mine, Jabiru, Northern Territory, Australia	Lease	Five diesel generator sets rated at 5.17MW; one diesel generator set rated at 2MW; four additional diesel generator sets rated at 2MW	35.8MW
IOC power station	Sept-Îles, Quebec, Canada	Statutory grant	Hydroelectric power	22MW
QMM power plant	Fort Dauphin, Madagascar	100% freehold	Diesel generation	24MW