

## Rio Tinto releases fourth quarter production results

16 January 2018

Rio Tinto chief executive J-S Jacques said “The business performed well in the fourth quarter, and we finished the year in line with guidance across all major products. We shipped 90 million tonnes of iron ore from our world-class Pilbara assets, a record quarter which demonstrates the system’s growing flexibility. In 2017 we announced over \$8 billion of cash returns to shareholders and continued to reshape the portfolio. Our focus on value over volume and mine-to-market productivity, along with disciplined allocation of cash, will ensure that we continue to deliver superior shareholder returns in the short, medium and the long term.”

		Q4 2017	vs Q4 2016	vs Q3 2017	2017	2016
Pilbara iron ore shipments (100% basis)	Mt	90.0	+3%	+5%	330.1	+1%
Pilbara iron ore production (100% basis)	Mt	87.9	+3%	+3%	329.8	+0%
Bauxite	kt	13,762	+14%	+7%	50,796	+6%
Aluminium	kt	887	-3%	+0%	3,551	-1%
Mined copper	kt	148.6	+11%	+23%	478.1	-9%
Hard coking coal	kt	2,322	+6%	+3%	7,704	-5%
Titanium dioxide slag	kt	341	+14%	+4%	1,315	+25%
IOC iron ore pellets and concentrate	Mt	2.7	-0%	-14%	11.2	+5%

### Key points

- Pilbara iron ore shipments of 90.0 million tonnes in the fourth quarter were three per cent higher than the fourth quarter of 2016. Total shipments for 2017 of 330.1 million tonnes were in line with guidance.
- Bauxite production of 50.8 million tonnes was six per cent higher than 2016 and in line with upwardly revised full year guidance. Third party shipments increased by ten per cent to 32.3 million tonnes.
- Aluminium production of 3.6 million tonnes was in line with guidance with generally strong performance slightly offset by lower production at Boyne and Sohar.
- Mined copper production of 478.1 thousand tonnes was nine per cent lower than 2016 due primarily to the impact of a 43 day strike at Escondida in the first quarter. Production was in line with revised guidance.
- Titanium dioxide slag production of 1.3 million tonnes was 25 per cent higher than 2016, reflecting increased market demand, with strengthening pigment prices supported by low inventory and tight supply.
- Production and shipment guidance for 2018 remains unchanged from the estimates provided at the investor seminar held on 4 December 2017.
- The major growth projects remain on track. The Silvergrass iron ore mine was commissioned in the fourth quarter of 2017 and will continue to ramp up in 2018. Amrun is on schedule for first bauxite shipment in the first half of 2019 and construction of the first drawbell at Oyu Tolgoi Underground is expected in mid-2020.
- In November, Rio Tinto successfully completed an A\$750 million off-market buy-back in Rio Tinto Limited shares and in December completed a \$1.5 billion on-market buy-back of Rio Tinto plc shares. An additional \$1.925 billion on-market buy-back in Rio Tinto plc shares commenced on 27 December 2017 and is to be completed no later than 31 December 2018.
- On 10 January 2018, Rio Tinto announced it had received a binding offer for the sale of the Aluminium Dunkerque smelter in France for \$500 million, subject to final adjustments. The sale is expected to complete in the second quarter of 2018, subject to satisfactory completion of consultations with key stakeholders.

*All figures in this report are unaudited. All currency figures in this report are US dollars, and comments refer to Rio Tinto’s share of production, unless otherwise stated. To allow production numbers to be compared on a like-for-like basis, production from asset divestments completed in 2016 is excluded from Rio Tinto share of production data but assets sold in 2017 remain in comparisons.*

## IRON ORE

### Rio Tinto share of production (million tonnes)

	Q4 2017	vs Q4 2016	vs Q3 2017	2017	vs 2016
Pilbara Blend Lump	21.1	+3%	+2%	80.8	+4%
Pilbara Blend Fines	31.2	+1%	+4%	116.4	-1%
Robe Valley Lump	1.6	+1%	+5%	6.1	+0%
Robe Valley Fines	2.9	+2%	+1%	10.4	-8%
Yandicoogina Fines (HIY)	16.1	+6%	+11%	57.7	-1%
<b>Total Pilbara production</b>	<b>72.9</b>			<b>271.3</b>	
<b>Total Pilbara production</b> (100% basis)	<b>87.9</b>			<b>329.8</b>	

### ***Pilbara operations***

Pilbara operations produced 329.8 million tonnes (Rio Tinto share 271.3 million tonnes) in 2017. Fourth quarter production of 87.9 million tonnes (Rio Tinto share 72.9 million tonnes) was three per cent higher than the fourth quarter of 2016, reflecting the implementation of productivity projects across most sites. This strong performance was achieved despite a planned two week shutdown at Hope Downs 4 in December 2017, in line with the focus on value over volume.

Sales of 330.1 million tonnes (Rio Tinto share 272.0 million tonnes) were in line with 2016 sales. Strong fourth quarter sales of 90.0 million tonnes (Rio Tinto share 74.8 million tonnes) were three per cent higher than the fourth quarter of 2016, reflecting ongoing productivity improvements being made to the rail network, along with increased flexibility across the infrastructure system.

Approximately 17 per cent of sales in 2017 were priced with reference to the prior quarter's average index lagged by one month. The remainder was sold either on current quarter average, current month average or fixed on the spot market.

Approximately 67 per cent of 2017 sales were made on a cost and freight (CFR) basis, with the remainder sold free on board (FOB).

Achieved average pricing in 2017 was \$59.6 per wet metric tonne on an FOB basis (equivalent to \$64.8 per dry metric tonne).

### ***Pilbara projects***

Commissioning of the Silvergrass conveyor system is complete and the plant had processed around two million tonnes by the end of 2017. Production ramp-up will continue in 2018.

The automation of the Pilbara train system (AutoHaul™) continues to make strong progress with greater than 60 per cent of all train kilometres now completed in autonomous mode with a driver on board for supervision. The project is on schedule to be completed by the end of 2018.

The Koodaideri project feasibility study was approved for \$30.9 million in May 2017. The feasibility study will focus on obtaining necessary consent and permits and increasing orebody knowledge.

### ***2018 guidance***

Rio Tinto's Pilbara shipments in 2018 are expected to be between 330 and 340 million tonnes (100 per cent basis). This is subject to market conditions and any weather constraints, and partly reflects continued rail maintenance required in 2018.

## ALUMINIUM

### Rio Tinto share of production ('000 tonnes)

	Q4 2017	vs Q4 2016	vs Q3 2017	2017	vs 2016
<b>Rio Tinto Aluminium</b>					
Bauxite	13,762	+14%	+7%	50,796	+6%
Alumina	2,077	-1%	+5%	8,131	-1%
Aluminium	887	-3%	+0%	3,551	-1%

*Production from Lochaber in 2016 has been excluded from the comparable percentages above.*

#### **Bauxite**

Bauxite production of 50.8 million tonnes in 2017 was six per cent higher than 2016, reflecting strong operational performances at Gove and Weipa. Production at Gove was 23 per cent higher than 2016, benefitting from the planned production ramp-up associated with de-bottlenecking of capacity, whilst production at Weipa was five per cent higher than 2016. Fourth quarter production of 13.8 million tonnes was 14 per cent higher than the corresponding quarter of 2016.

The strong production performance enabled the Group to ship 32.3 million tonnes to third parties in 2017, ten per cent higher than 2016. Fourth quarter shipments were 25 per cent higher than the fourth quarter of 2016.

#### **Amrun**

The Amrun project is advancing to plan. All wharf modules are now installed and the process plant beneficiation modules and transfer tower are in location. Upcoming activities include completion of the stacker, reclaimer assembly and ship loader assembly. The project remains on schedule for first shipment in the first half of 2019.

#### **Alumina**

Alumina production for 2017 was in line with 2016, with a strong performance at Yarwun partially offset by lower production at the Queensland Alumina refinery due to major maintenance.

#### **Aluminium**

Aluminium production of 3.6 million tonnes in 2017 was one per cent lower than 2016. Strong operational performances were achieved across most sites, reflecting the implementation of productivity improvements across the business. This was offset by production curtailment at the Boyne smelter due to higher power prices in Queensland, and by lower production at the non-managed Sohar smelter due to a power interruption incident in the third quarter. Excluding these events, 2017 aluminium production was one per cent higher than 2016.

Average realised aluminium prices in 2017 were \$2,231 per tonne. This includes a \$221 per tonne premium for value-added product, which represented 57 per cent of aluminium sold, and the physical market premium.

On 10 January 2018, Rio Tinto announced it had received a binding offer for the sale of the Aluminium Dunkerque smelter in France for \$500 million, subject to final adjustments. The sale is expected to complete in the second quarter of 2018, subject to satisfactory completion of consultations with key stakeholders.

#### **2018 guidance**

Rio Tinto's share of production in 2018 is expected to be between 49 and 51 million tonnes of bauxite, 8.0 to 8.2 million tonnes of alumina and 3.5 to 3.7 million tonnes of aluminium (guidance to be adjusted following completion of the sale of the Aluminium Dunkerque smelter).

## COPPER & DIAMONDS

### Rio Tinto share of production ('000 tonnes)

	Q4 2017	vs Q4 2016	vs Q3 2017	2017	vs 2016
<b>Mined copper</b>					
Rio Tinto Kennecott	34.8	-23%	+35%	148.9	-3%
Escondida	92.9	+26%	+13%	270.8	-11%
Grasberg	5.7	N/A	N/A	5.7	N/A
Oyu Tolgoi	15.2	-0%	+23%	52.8	-22%
<b>Refined copper</b>					
Rio Tinto Kennecott	22.1	-67%	-59%	125.8	-20%
Escondida	22.8	+6%	+6%	71.4	-24%
<b>Diamonds ('000 carats)</b>					
Argyle	6,146	+71%	+29%	17,135	+23%
Diavik	1,060	+7%	-10%	4,492	+12%

#### ***Rio Tinto Kennecott***

Mined copper production in 2017 was three per cent lower than 2016, with lower grades partially offset by higher mill throughput. Fourth quarter production was 23 per cent lower than the corresponding period of 2016 as mining entered an anticipated area of lower grade. Higher grade material is expected to be accessed in 2018.

Refined copper production in 2017 was 20 per cent lower than 2016 due to the shutdown of the smelter following the fatality in October 2017. The smelter resumed production in November 2017 and is expected to draw down the increase in concentrate inventory during the first half of 2018.

Rio Tinto Kennecott continues to toll and purchase third party concentrate, with 161.4 thousand tonnes received for processing in 2017. Tolloed copper concentrate, which is smelted and returned to customers, is excluded from reported production figures.

The pushback of the south wall progressed during the quarter. It will extend the life of mine and remains on track for completion in 2020.

#### ***Escondida***

Mined copper production at Escondida in 2017 was 11 per cent lower than 2016 due to the labour union strike that impacted production in the first half of 2017. Fourth quarter production was 26 per cent higher than the corresponding quarter of 2016 due to an increase in concentrator throughput, largely driven by commissioning of the Los Colorados concentrator.

#### ***Oyu Tolgoi***

Mined copper production from the open pit in 2017 was 22 per cent lower than 2016, as phases 2 and 3, which were sources of higher grade ore, were fully depleted by the end of 2016. Despite this, the operation established new records for rates of total material moved and mill throughput in the year. Copper production in the fourth quarter was 23 per cent higher than the previous quarter due to improved mill availability and reduced ore hardness.

Oyu Tolgoi LLC has received, and is evaluating, a Tax Act (tax assessment) for approximately \$155 million from the Mongolian Tax Authority relating to an audit on taxes imposed and paid by Oyu Tolgoi LLC between 2013 and 2015.

### ***Oyu Tolgoi Underground Project***

New contractors continue to mobilise with the total project workforce at over 6,600 at the end of 2017, 89 per cent of whom are Mongolian nationals. Lateral development is on plan, completion of Shaft 2 sinking is imminent and completion of Shaft 5 sinking is expected by the end of first quarter of 2018. Six accommodation buildings in the Oyut II camp are now complete. An annual project review was completed in the fourth quarter, and construction of the first drawbell is expected in mid-2020.

### ***Grasberg***

Through a joint venture agreement with Freeport-McMoRan Inc. ("Freeport"), Rio Tinto is entitled to the cash flow associated with 40 per cent of material mined above an agreed threshold as a consequence of expansions and developments of the Grasberg facilities since 1998.

In January and February 2017, the Indonesian government issued new mining regulations to address exports of unrefined metals, including copper concentrates, and other matters related to the mining sector. These regulations impact PT Freeport Indonesia's ("PT-FI") operating rights, including its right to continue to export concentrate without restriction, and, as a result, had a significant impact on Rio Tinto's share of production in 2017. Rio Tinto's full participation beyond 2021 is likely to be delayed due to the application of force majeure provisions in the joint venture agreement between Rio Tinto and PT-FI.

In March 2017, the Indonesian government amended the regulations and issued a permit to PT-FI that allowed concentrate exports to resume in April 2017. PT-FI is applying for an extension of its export permit, which expires in February 2018.

Based on the latest available forecast from Freeport, approximately 5.7 thousand tonnes of copper and no gold production in 2017 has been attributed to Rio Tinto. Freeport is expected to announce its fourth quarter and full year 2017 results on 25 January 2018. No share of production was attributed to Rio Tinto for the first three quarters of 2017, based on expected Rio Tinto share at the time.

### ***Provisional pricing***

At 31 December 2017, the Group had an estimated 250 million pounds of copper sales that were provisionally priced at 304 cents per pound. The final price of these sales will be determined during the first half of 2018. This compares with 235 million pounds of open shipments at 31 December 2016, provisionally priced at 250 cents per pound.

### ***Diamonds***

At Argyle, 2017 carat production was 23 per cent higher than 2016 due to the additional processing of higher grade alluvial tailings.

At Diavik, carats recovered in 2017 were 12 per cent higher than 2016 due to higher recovered grades. Development of the A21 pipe remains on schedule.

### ***2018 guidance***

Rio Tinto's expected share of mined copper production for 2018 is expected to be between 510 and 610 thousand tonnes. Refined copper production is expected to be between 225 to 265 thousand tonnes.

Diamond production guidance for 2018 is between 17 and 20 million carats.

## ENERGY & MINERALS

### Rio Tinto share of production

	Q4 2017	vs Q4 2016	vs Q3 2017	2017	vs 2016
<b>Coal</b>					
Hard coking coal	2,322	+6%	+3%	7,704	-5%
Semi-soft coking coal (a)	0	-100%	-100%	2,020	-51%
Thermal coal (a)	966	-77%	-75%	13,933	-17%
<b>Iron ore pellets and concentrate (million tonnes)</b>					
IOC	2.7	-0%	-14%	11.2	+5%
<b>Minerals ('000 tonnes)</b>					
Borates – B <sub>2</sub> O <sub>3</sub> content	120	-1%	-14%	517	+3%
Salt	1,535	+11%	+25%	5,090	-2%
Titanium dioxide slag	341	+14%	+4%	1,315	+25%
<b>Uranium ('000 lbs)</b>					
Energy Resources of Australia	919	+1%	-4%	3,458	-2%
Rössing	902	+15%	+19%	3,192	+14%

*Production from Bengalla in 2016 has been excluded from the comparable percentages above.*

*(a) On 1 September 2017, Rio Tinto completed the sale of Coal & Allied. This included Coal & Allied's 67.6% interest in the Hunter Valley Operations mine, 80% interest in the Mount Thorley mine and 55.6% interest in the Warkworth mine. Production from these mines until 1 September 2017 is reported here.*

### Coal

Hard coking coal production in 2017 was five per cent lower than 2016 due to the impact of Cyclone Debbie in the first quarter of 2017. Fourth quarter production was six per cent higher than the corresponding quarter of 2016 reflecting strong operational performances at Kestrel and Hail Creek.

As announced on 1 September 2017, Rio Tinto completed the sale of Coal & Allied to Yancoal Australia for total consideration of \$2.69 billion, which included Coal & Allied's interests in the Hunter Valley Operations, Mount Thorley and Warkworth mines. The sale, coupled with mine production sequencing changes at Hunter Valley Operations and Mount Thorley Warkworth, resulted in semi-soft coking coal and thermal coal production being lower than 2016 by 51 per cent and 17 per cent respectively.

Hard coking coal prices achieved in the second half of 2017 averaged \$164 per tonne on an FOB basis compared to \$177 per tonne in the first half of 2017. Average prices realised for thermal coal were \$78 per tonne on an FOB basis in both the first half and second half of 2017.

### Iron Ore Company of Canada (IOC)

IOC pellet production of 10.5 million tonnes (Rio Tinto share 6.1 million tonnes) was seven per cent higher than 2016, with pellet demand continuing to be strong and product mix being optimised to meet customer demand. Concentrate production for sale of 8.5 million tonnes (Rio Tinto share 5.0 million tonnes) was two per cent higher than 2016.

The five per cent improvement in total production resulted in a four per cent improvement in sales to 19.0 million tonnes (Rio Tinto share 11.2 million tonnes).

### Borates

Borates production in 2017 was three per cent higher than 2016, with production aligned to market demand.

**Iron and Titanium (RTIT)**

Titanium dioxide slag production was 25 per cent higher in 2017, reflecting improved market demand. Market conditions for titanium dioxide continued to improve in 2017, with strengthening pigment prices supported by low inventory and tight supply. Consequently, feedstock demand has improved year-on-year.

One of nine furnaces at Rio Tinto Fer et Titane (RTFT) remains idle, along with one of four furnaces at Richards Bay Minerals. The focus remains on maximising the productivity of the furnaces currently in operation, and a decision to re-start idle furnaces will be based on maximising value over volume.

**Salt**

Salt production in 2017 was marginally lower than 2016. Fourth quarter production was 11 per cent higher than the corresponding period of 2016 as the business responded to improved market demand.

**Uranium**

Energy Resources of Australia continues to process existing stockpiles. 2017 production was two per cent lower than 2016.

Production at Rössing in 2017 was 14 per cent higher than 2016 due to higher grades.

**2018 guidance**

Guidance for Rio Tinto's expected share of 2018 production is 7.5 to 8.5 million tonnes of hard coking coal, 3.8 to 4.5 million tonnes of thermal coal, 11.5 to 12.5 million tonnes of iron ore pellets and concentrates, 0.5 million tonnes of boric oxide equivalent production, 1.2 to 1.4 million tonnes of titanium dioxide slag, and 6.2 to 7.2 million pounds of uranium.

## EXPLORATION AND EVALUATION

Pre-tax and pre-divestment expenditure on exploration and evaluation charged to the profit and loss account in 2017 was \$445 million (of which \$147 million was spent in the fourth quarter), compared with \$497 million in 2016. Approximately 46 per cent of this expenditure was incurred by central exploration, 34 per cent by Copper & Diamonds, ten per cent by Energy & Minerals and the remainder by Iron Ore and Aluminium.

There were no significant divestments of central exploration properties in 2017.

### **Exploration highlights**

Rio Tinto has a strong portfolio of projects with activity in 16 countries across some eight commodities. The bulk of the exploration expenditure in this quarter was focused on copper targets in Australia, Chile, Kazakhstan, Mongolia, Papua New Guinea, Peru, Serbia, United States and Zambia. Mine-lease exploration continued at a number of Rio Tinto managed businesses including Pilbara Iron, Richards Bay Minerals, Oyu Tolgoi and Weipa.

A summary of activity for the quarter is as follows:

<b>Product Group</b>	<b>Evaluation projects</b>	<b>Advanced projects</b>	<b>Greenfield programmes</b>
Aluminium	Cape York, Australia	Amargosa, Brazil	Australia, Laos
Copper & Diamonds	Copper/molybdenum: Resolution, US Copper: La Granja, Peru Copper/gold: Oyu Tolgoi, Mongolia	Nickel: Tamarack, US Diamonds: Fort a la Corne, Canada	Copper: Australia, Botswana, Chile, China, Kazakhstan, Mongolia, Namibia, Papua New Guinea, Peru, Serbia, US, Zambia Nickel: Australia, Canada Diamonds: Canada
Energy & Minerals	Lithium borates: Jadar, Serbia Heavy mineral sands: Mutamba, Mozambique and Zulti South, South Africa Iron Ore: Simandou, Guinea Uranium: Roughrider, Canada	Potash: KP405, Canada	Uranium: Canada Heavy mineral sands: Tanzania
Iron Ore	Pilbara, Australia	Pilbara, Australia	



## **Forward-looking statements**

This announcement may include "forward-looking statements" within the meaning of the US Private Securities Litigation Reform Act of 1995. All statements other than statements of historical facts included in this announcement, including, without limitation, those regarding Rio Tinto's production forecast or guidance, financial position, business strategy, plans and objectives of management for future operations (including development plans and objectives relating to Rio Tinto's products and reserve and resource positions), are forward-looking statements. The words "intend", "aim", "project", "anticipate", "estimate", "plan", "believes", "expects", "may", "should", "will", "target", "set to", "assumes" or similar expressions, commonly identify such forward looking statements.

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Nothing in this announcement should be interpreted to mean that future earnings per share of Rio Tinto plc or Rio Tinto Limited will necessarily match or exceed its historical published earnings per share.

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# Rio Tinto production summary

## Rio Tinto share of production

Quarter			Full Year		% Change		
2016 Q4	2017 Q3	2017 Q4	2016	2017	Q4 17 vs Q4 16	Q4 17 vs Q3 17	2017 vs 2016

### Principal Commodities

Alumina	('000 t)	2,104	1,984	<b>2,077</b>	8,192	<b>8,131</b>	-1%	5%	-1%
Aluminium	('000 t)	915	887	<b>887</b>	3,600	<b>3,551</b>	-3%	0%	-1%
Bauxite	('000 t)	12,120	12,867	<b>13,762</b>	47,703	<b>50,796</b>	14%	7%	6%
Borates	('000 t)	121	140	<b>120</b>	503	<b>517</b>	-1%	-14%	3%
Coal - hard coking	('000 t)	2,187	2,244	<b>2,322</b>	8,141	<b>7,704</b>	6%	3%	-5%
Coal - semi-soft coking	('000 t)	969	445	-	4,102	<b>2,020</b>	-100%	-100%	-51%
Coal - thermal	('000 t)	4,254	3,791	<b>966</b>	16,727	<b>13,933</b>	-77%	-75%	-17%
Copper - mined	('000 t)	133.8	120.6	<b>148.6</b>	523.3	<b>478.1</b>	11%	23%	-9%
Copper - refined	('000 t)	88.4	75.2	<b>44.9</b>	250.1	<b>197.2</b>	-49%	-40%	-21%
Diamonds	('000 cts)	4,574	5,933	<b>7,207</b>	17,953	<b>21,627</b>	58%	21%	20%
Iron Ore	('000 t)	73,633	72,903	<b>75,656</b>	281,321	<b>282,484</b>	3%	4%	0%
Titanium dioxide slag	('000 t)	300	327	<b>341</b>	1,048	<b>1,315</b>	14%	4%	25%
Uranium	('000 lbs)	1,690	1,718	<b>1,821</b>	6,342	<b>6,650</b>	8%	6%	5%

### Other Metals & Minerals

Gold - mined	('000 oz)	85.1	59.1	<b>62.6</b>	293.5	<b>260.1</b>	-26%	6%	-11%
Gold - refined	('000 oz)	40.6	54.1	<b>55.4</b>	135.4	<b>203.7</b>	37%	2%	50%
Molybdenum	('000 t)	1.8	1.4	<b>1.9</b>	2.8	<b>5.0</b>	10%	37%	75%
Salt	('000 t)	1,386	1,227	<b>1,535</b>	5,180	<b>5,090</b>	11%	25%	-2%
Silver - mined	('000 oz)	1,239	959	<b>1,172</b>	4,210	<b>4,194</b>	-5%	22%	0%
Silver - refined	('000 oz)	465	731	<b>516</b>	1,815	<b>2,378</b>	11%	-29%	31%

Throughout this report, figures in italics indicate adjustments made since the figure was previously quoted on the equivalent page. Production figures are sometimes more precise than the rounded numbers shown, hence small differences may result between the total of the quarter figures and the year to date figures.

## Rio Tinto share of production

	Rio Tinto interest	Q4 2016	Q1 2017	Q2 2017	Q3 2017	Q4 2017	Full Year 2016	Full Year 2017
<b>ALUMINA</b>								
<b>Production ('000 tonnes)</b>								
Jonquière (Vaudreuil)	100%	367	367	365	351	365	1,452	1,448
Jonquière (Vaudreuil) specialty Alumina plant	100%	31	31	32	30	29	115	122
Queensland Alumina	80%	789	739	756	720	773	3,078	2,988
São Luis (Alumar)	10%	96	89	93	94	93	371	370
Yarwun	100%	821	819	778	790	816	3,176	3,203
Rio Tinto total alumina production		2,104	2,047	2,024	1,984	2,077	8,192	8,131
<b>ALUMINIUM</b>								
<b>Production ('000 tonnes)</b>								
Australia - Bell Bay	100%	47	45	47	48	47	182	187
Australia - Boyne Island	59%	87	80	73	74	74	346	302
Australia - Tomago	52%	77	75	76	77	77	304	304
Canada - six wholly owned	100%	405	394	397	401	405	1,582	1,596
Canada - Alouette (Sept-Îles)	40%	61	60	60	60	60	244	239
Canada - Bécancour	25%	28	28	26	28	27	111	110
France - Dunkerque (a)	100%	71	70	71	71	72	280	284
Iceland - ISAL (Reykjavik)	100%	52	52	53	53	54	205	212
New Zealand - Tiwai Point	79%	68	66	67	67	67	269	267
Oman - Sohar	20%	19	19	19	7	5	77	51
Rio Tinto total aluminium production		915	889	888	887	887	3,600	3,551
<b>BAUXITE</b>								
<b>Production ('000 tonnes) (b)</b>								
Gove	100%	2,169	2,388	2,780	2,809	3,224	9,091	11,201
Porto Trombetas	12%	516	357	489	492	426	1,975	1,764
Sangaredi	(c)	1,735	1,665	1,791	1,670	1,809	7,210	6,934
Weipa	100%	7,700	6,893	7,805	7,895	8,304	29,427	30,898
Rio Tinto total bauxite production		12,120	11,303	12,865	12,867	13,762	47,703	50,796

## Rio Tinto share of production

	Rio Tinto interest	Q4 2016	Q1 2017	Q2 2017	Q3 2017	Q4 2017	Full Year 2016	Full Year 2017
<b>BORATES</b>								
<b>Production ('000 tonnes B<sub>2</sub>O<sub>3</sub> content)</b>								
Rio Tinto Borates - borates	100%	121	123	133	140	120	503	517
<b>COAL - hard coking</b>								
<b>Rio Tinto Coal Australia ('000 tonnes)</b>								
Hail Creek Coal (d)	82%	1,205	930	822	1,276	1,275	4,879	4,303
Kestrel Coal (d)	80%	981	653	733	968	1,048	3,262	3,402
Rio Tinto total hard coking coal production		2,187	1,583	1,555	2,244	2,322	8,141	7,704
<b>COAL - semi-soft coking</b>								
<b>Rio Tinto Coal Australia ('000 tonnes)</b>								
Hunter Valley (e)	0%	581	541	192	301	-	2,540	1,034
Mount Thorley (e)	0%	283	269	311	119	-	1,127	700
Warkworth (e)	0%	106	149	112	25	-	436	286
Rio Tinto total semi-soft coking coal production		969	959	616	445	-	4,102	2,020
<b>COAL - thermal</b>								
<b>Rio Tinto Coal Australia ('000 tonnes)</b>								
Hail Creek Coal (d)	82%	746	874	881	851	785	3,089	3,390
Hunter Valley (e)	0%	1,724	1,927	2,393	1,428	-	6,782	5,747
Kestrel Coal (d)	80%	217	127	141	226	180	676	674
Mount Thorley (e)	0%	828	450	597	562	-	2,235	1,609
Warkworth (e)	0%	739	845	943	725	-	3,945	2,512
Rio Tinto total thermal coal production		4,254	4,222	4,954	3,791	966	16,727	13,933

## Rio Tinto share of production

	Rio Tinto interest	Q4 2016	Q1 2017	Q2 2017	Q3 2017	Q4 2017	Full Year 2016	Full Year 2017
<b>COPPER</b>								
<b>Mine production ('000 tonnes) (b)</b>								
Bingham Canyon	100%	45.1	44.3	44.0	25.8	34.8	152.7	148.9
Escondida	30%	73.4	27.2	68.3	82.5	92.9	303.1	270.8
Grasberg - Joint Venture (f)	40%	0.0	0.0	0.0	0.0	5.7	0.0	5.7
Oyu Tolgoi (g)	34%	15.2	12.8	12.5	12.4	15.2	67.5	52.8
Rio Tinto total mine production		133.8	84.2	124.7	120.6	148.6	523.3	478.1
<b>Refined production ('000 tonnes)</b>								
Escondida	30%	21.5	8.2	18.8	21.6	22.8	93.6	71.4
Rio Tinto Kennecott	100%	67.0	29.8	20.3	53.6	22.1	156.5	125.8
Rio Tinto total refined production		88.4	38.0	39.1	75.2	44.9	250.1	197.2
<b>DIAMONDS</b>								
<b>Production ('000 carats)</b>								
Argyle	100%	3,584	3,016	3,216	4,757	6,146	13,958	17,135
Diavik	60%	989	1,136	1,119	1,177	1,060	3,995	4,492
Rio Tinto total diamond production		4,574	4,152	4,335	5,933	7,207	17,953	21,627
<b>GOLD</b>								
<b>Mine production ('000 ounces) (b)</b>								
Bingham Canyon	100%	57.2	54.1	54.3	33.6	35.9	153.2	177.9
Escondida	30%	11.3	3.4	10.2	15.2	15.1	39.8	43.9
Grasberg - Joint Venture (f)	40%	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Oyu Tolgoi (g)	34%	16.6	8.3	8.0	10.4	11.7	100.5	38.3
Rio Tinto total mine production		85.1	65.8	72.5	59.1	62.6	293.5	260.1
<b>Refined production ('000 ounces)</b>								
Rio Tinto Kennecott	100%	40.6	51.1	43.0	54.1	55.4	135.4	203.7

## Rio Tinto share of production

	Rio Tinto interest	Q4 2016	Q1 2017	Q2 2017	Q3 2017	Q4 2017	Full Year 2016	Full Year 2017
<b>IRON ORE</b>								
<b>Production ('000 tonnes) (b)</b>								
Hamersley mines	(h)	54,848	48,664	48,674	52,921	<b>56,501</b>	205,902	<b>206,760</b>
Hamersley - Channar	60%	1,119	1,635	1,903	1,596	<b>1,345</b>	5,839	<b>6,479</b>
Hope Downs	50%	5,794	5,218	6,287	5,978	<b>5,987</b>	23,505	<b>23,470</b>
Iron Ore Company of Canada	59%	2,743	2,579	2,683	3,171	<b>2,733</b>	10,661	<b>11,166</b>
Robe River - Pannawonica (Mesas J and A)	53%	4,493	3,809	3,676	4,461	<b>4,580</b>	17,371	<b>16,526</b>
Robe River - West Angelas	53%	4,636	4,322	4,475	4,776	<b>4,509</b>	18,044	<b>18,082</b>
Rio Tinto iron ore production ('000 tonnes)		73,633	66,226	67,699	72,903	<b>75,656</b>	281,321	<b>282,484</b>
Breakdown of Production:								
Pilbara Blend Lump		20,443	19,207	19,780	20,700	<b>21,082</b>	77,761	<b>80,770</b>
Pilbara Blend Fines		30,795	27,026	28,049	30,113	<b>31,172</b>	117,560	<b>116,359</b>
Robe Valley Lump		1,625	1,453	1,459	1,570	<b>1,646</b>	6,122	<b>6,128</b>
Robe Valley Fines		2,868	2,357	2,217	2,891	<b>2,934</b>	11,250	<b>10,398</b>
Yandicoogina Fines (HIY)		15,159	13,605	13,512	14,458	<b>16,088</b>	57,968	<b>57,663</b>
Pilbara iron ore production ('000 tonnes)		70,890	63,647	65,016	69,732	<b>72,922</b>	270,660	<b>271,318</b>
IOC Concentrate		1,124	1,109	1,299	1,450	<b>1,163</b>	4,907	<b>5,020</b>
IOC Pellets		1,618	1,470	1,384	1,722	<b>1,571</b>	5,754	<b>6,146</b>
IOC iron ore production ('000 tonnes)		2,743	2,579	2,683	3,171	<b>2,733</b>	10,661	<b>11,166</b>
Breakdown of Sales:								
Pilbara Blend Lump		18,071	16,033	18,218	18,044	<b>18,861</b>	67,929	<b>71,156</b>
Pilbara Blend Fines		34,842	30,497	28,779	32,421	<b>35,575</b>	126,521	<b>127,272</b>
Robe Valley Lump		1,502	1,176	1,262	1,391	<b>1,388</b>	5,397	<b>5,217</b>
Robe Valley Fines		3,053	2,373	2,370	3,174	<b>3,287</b>	11,942	<b>11,204</b>
Yandicoogina Fines (HIY)		14,969	13,120	13,371	14,963	<b>15,731</b>	57,062	<b>57,185</b>
Pilbara iron ore sales ('000 tonnes)		72,437	63,199	64,000	69,993	<b>74,843</b>	268,851	<b>272,034</b>
IOC Concentrate		1,148	1,193	939	1,362	<b>1,559</b>	4,899	<b>5,053</b>
IOC Pellets		1,764	1,415	1,489	1,590	<b>1,615</b>	5,862	<b>6,108</b>
IOC Iron ore sales ('000 tonnes)		2,912	2,608	2,428	2,952	<b>3,173</b>	10,761	<b>11,161</b>
Rio Tinto iron ore sales ('000 tonnes)		75,350	65,806	66,428	72,944	<b>78,016</b>	279,613	<b>283,195</b>

## Rio Tinto share of production

	Rio Tinto interest	Q4 2016	Q1 2017	Q2 2017	Q3 2017	Q4 2017	Full Year 2016	Full Year 2017
<b>MOLYBDENUM</b>								
<b>Mine production ('000 tonnes) (b)</b>								
Bingham Canyon	100%	1.8	0.9	0.8	1.4	1.9	2.8	5.0
<b>SALT</b>								
<b>Production ('000 tonnes)</b>								
Dampier Salt	68%	1,386	852	1,476	1,227	1,535	5,180	5,090
<b>SILVER</b>								
<b>Mine production ('000 ounces) (b)</b>								
Bingham Canyon	100%	751	711	669	357	418	1,943	2,156
Escondida	30%	397	163	370	521	658	1,791	1,712
Grasberg - Joint Venture (f)	40%	0	0	0	0	0	0	0
Oyu Tolgoi (g)	34%	91	72	79	80	96	476	326
Rio Tinto total mine production		1,239	946	1,118	959	1,172	4,210	4,194
<b>Refined production ('000 ounces)</b>								
Rio Tinto Kennecott	100%	465	402	729	731	516	1,815	2,378
<b>TITANIUM DIOXIDE SLAG</b>								
<b>Production ('000 tonnes)</b>								
Rio Tinto Iron & Titanium (i)	100%	300	332	316	327	341	1,048	1,315
<b>URANIUM</b>								
<b>Production ('000 lbs U<sub>3</sub>O<sub>8</sub>) (j)</b>								
Energy Resources of Australia	68%	908	900	678	962	919	3,544	3,458
Rössing	69%	781	673	860	757	902	2,798	3,192
Rio Tinto total uranium production		1,690	1,573	1,538	1,718	1,821	6,342	6,650



**Production data notes:**

*Production figures are sometimes more precise than the rounded numbers shown, hence small differences may result between the total of the quarter figures and the year to date figures.*

*(a) On 10 January 2018, Rio Tinto announced a binding offer to sell its 100% interest in the Dunkerque smelter.*

*(b) 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 represent production of marketable quantities of ore plus concentrates and pellets.*

*(c) Rio Tinto has a 22.95% shareholding in the Sangaredi mine but benefits from 45.0% of production.*

*(d) Kestrel and Hail Creek produce hard coking coal and thermal coal through their mining operations. Both mines may blend coal types at ports.*

*(e) On 1 September 2017, Rio Tinto completed the sale of Coal & Allied, a wholly owned subsidiary of Rio Tinto Coal Australia (RTCA) and production from these assets is included to this date. This included Coal & Allied's 67.6% interest in the Hunter Valley Operations mine, 80% interest in the Mount Thorley mine and 55.6% interest in the Warkworth mine. In an earlier restructuring of the Coal & Allied group completed on 3 February 2016, Rio Tinto had obtained 100% of Coal & Allied and retained a 67.6% interest in the newly created Hunter Valley Operations joint venture. Prior to restructuring, Rio Tinto's interest in the Hunter Valley Operations, Mount Thorley and Warkworth mines was 80%, 64% and 44.46% respectively.*

*(f) Through a joint venture agreement with Freeport-McMoRan (FCX), Rio Tinto is entitled to 40% of additional material mined as a consequence of expansions and developments of the Grasberg facilities since 1998.*

*(g) Rio Tinto owns a 33.52% indirect interest in Oyu Tolgoi through its 50.79% interest in Turquoise Hill Resources Ltd.*

*(h) Includes 100% of production from Paraburdoo, 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.*

*(i) Quantities comprise 100% of Rio Tinto Fer et Titane and Rio Tinto's 74% interest in Richards Bay Minerals (RBM).*

*(j) ERA and Rössing production reported are drummed U<sub>3</sub>O<sub>8</sub>.*

**The Rio Tinto percentage shown above is at 31 December 2017.**

*Rio Tinto's interest in the Lochaber aluminium smelter and Bengalla mine were sold in 2016. No data for these operations are included in the Share of production table.*

## Rio Tinto operational data

	Rio Tinto interest	Q4 2016	Q1 2017	Q2 2017	Q3 2017	Q4 2017	Full Year 2016	Full Year 2017
<b>ALUMINA</b>								
<b>Smelter Grade Alumina - Aluminium Group</b>								
Alumina production ('000 tonnes)								
<i>Australia</i>								
Queensland Alumina Refinery - Queensland	80.0%	987	924	946	900	966	3,848	3,735
Yarwun refinery - Queensland	100.0%	821	819	778	790	816	3,176	3,203
<i>Brazil</i>								
São Luis (Alumar) refinery	10.0%	957	895	931	937	934	3,707	3,697
<i>Canada</i>								
Jonquière (Vaudreuil) refinery - Quebec (a)	100.0%	367	367	365	351	365	1,452	1,448
<i>(a) Jonquière's (Vaudreuil's) production shows smelter grade alumina only and excludes hydrate produced and used for specialty alumina.</i>								
<b>Specialty Alumina - Aluminium Group</b>								
Specialty alumina production ('000 tonnes)								
<i>Canada</i>								
Jonquière (Vaudreuil) plant – Quebec	100.0%	31	31	32	30	29	115	122

**Rio Tinto percentage interest shown above is at 31 December 2017. The data represent full production and sales on a 100% basis unless otherwise stated.**

## Rio Tinto operational data

	Rio Tinto interest	Q4 2016	Q1 2017	Q2 2017	Q3 2017	Q4 2017	Full Year 2016	Full Year 2017
<b>ALUMINIUM</b>								
<b>Primary Aluminium</b>								
Primary aluminium production ('000 tonnes)								
<i>Australia</i>								
Bell Bay smelter - Tasmania	100.0%	47	45	47	48	47	182	187
Boyne Island smelter - Queensland	59.4%	147	135	124	125	124	583	508
Tomago smelter - New South Wales	51.6%	149	145	147	149	149	589	590
<i>Canada</i>								
Alma smelter - Quebec	100.0%	117	114	112	115	116	467	457
Alouette (Sept-Îles) smelter - Quebec	40.0%	153	149	149	150	150	609	598
Arvida smelter - Quebec	100.0%	43	41	43	43	44	172	171
Arvida AP60 smelter - Quebec	100.0%	15	15	15	14	14	60	57
Bécancour smelter - Quebec	25.1%	110	112	106	113	108	445	438
Grande-Baie smelter - Quebec	100.0%	58	57	57	58	58	227	229
Kitimat smelter - British Columbia	100.0%	109	107	109	108	110	408	433
Laterrière smelter - Quebec	100.0%	63	61	61	63	64	247	249
<i>France</i>								
Dunkerque smelter (a)	100.0%	71	70	71	71	72	280	284
<i>Iceland</i>								
ISAL (Reykjavik) smelter	100.0%	52	52	53	53	54	205	212
<i>New Zealand</i>								
Tiwai Point smelter	79.4%	85	84	84	84	85	339	337
<i>Oman</i>								
Sohar smelter	20.0%	97	96	95	35	27	386	253
<i>United Kingdom</i>								
Lochaber smelter (b)	0.0%	10	-	-	-	-	46	-

(a) On 10 January 2018, Rio Tinto announced a binding offer to sell its 100% interest in the Dunkerque smelter.

(b) On 16 December 2016, Rio Tinto completed the sale of its 100% interest in the Lochaber aluminium smelter.

**Rio Tinto percentage interest shown above is at 31 December 2017. The data represent full production and sales on a 100% basis unless otherwise stated.**

## Rio Tinto operational data

	Rio Tinto interest	Q4 2016	Q1 2017	Q2 2017	Q3 2017	Q4 2017	Full Year 2016	Full Year 2017
<b>BAUXITE</b>								
Bauxite production ('000 tonnes)								
<i>Australia</i>								
Gove mine - Northern Territory	100.0%	2,169	2,388	2,780	2,809	3,224	9,091	11,201
Weipa mine - Queensland	100.0%	7,700	6,893	7,805	7,895	8,304	29,427	30,898
<i>Brazil</i>								
Porto Trombetas (MRN) mine	12.0%	4,296	2,974	4,071	4,103	3,550	16,462	14,698
<i>Guinea</i>								
Sangaredi mine (a)	23.0%	3,856	3,699	3,979	3,711	4,020	16,023	15,409
<b>Rio Tinto share of bauxite shipments</b>								
Share of total bauxite shipments ('000 tonnes)		11,996	11,605	12,164	12,913	13,557	47,575	50,240
Share of third party bauxite shipments ('000 tonnes)		7,345	6,927	7,962	8,250	9,164	29,308	32,303

(a) Rio Tinto has a 22.95% shareholding in the Sangaredi mine but benefits from 45.0% of production.

**Rio Tinto percentage interest shown above is at 31 December 2017. The data represent full production and sales on a 100% basis unless otherwise stated.**

## Rio Tinto operational data

	Rio Tinto interest	Q4 2016	Q1 2017	Q2 2017	Q3 2017	Q4 2017	Full Year 2016	Full Year 2017
<b>BORATES</b>								
<b>Rio Tinto Borates - borates</b>	100.0%							
<i>US</i>								
Borates ('000 tonnes) (a)		121	123	133	140	120	503	517
<i>(a) Production is expressed as B<sub>2</sub>O<sub>3</sub> content.</i>								
<b>COAL</b>								
<b>Rio Tinto Coal Australia</b>								
<b>Bengalla mine (a)</b>	0.0%							
<i>New South Wales</i>								
Thermal coal ('000 tonnes)		-	-	-	-	-	1,476	-
<b>Hail Creek Coal mine</b>	82.0%							
<i>Queensland</i>								
Hard coking coal ('000 tonnes)		1,470	1,134	1,002	1,556	1,555	5,950	5,247
Thermal coal ('000 tonnes)		910	1,065	1,074	1,037	958	3,767	4,134
<b>Hunter Valley Operations (b)</b>	0.0%							
<i>New South Wales</i>								
Semi-soft coking coal ('000 tonnes)		859	800	284	445	-	3,720	1,529
Thermal coal ('000 tonnes)		2,550	2,851	3,539	2,112	-	9,925	8,502
<b>Kestrel Coal mine</b>	80.0%							
<i>Queensland</i>								
Hard coking coal ('000 tonnes)		1,227	816	916	1,210	1,309	4,077	4,252
Thermal coal ('000 tonnes)		271	159	177	282	226	846	843
<b>Mount Thorley Operations (b)</b>	0.0%							
<i>New South Wales</i>								
Semi-soft coking coal ('000 tonnes)		353	337	389	149	-	1,420	876
Thermal coal ('000 tonnes)		1,035	562	746	703	-	2,850	2,011

**Rio Tinto percentage interest shown above is at 31 December 2017. The data represent full production and sales on a 100% basis unless otherwise stated.**

## Rio Tinto operational data

	Rio Tinto interest	Q4 2016	Q1 2017	Q2 2017	Q3 2017	Q4 2017	Full Year 2016	Full Year 2017
<b>COAL (continued)</b>								
<b>Warkworth mine (b)</b>	0.0%							
<i>New South Wales</i>								
Semi-soft coking coal ('000 tonnes)		190	268	202	44	-	809	514
Thermal coal ('000 tonnes)		1,330	1,520	1,696	1,305	-	7,225	4,521
Total hard coking coal production ('000 tonnes)		2,697	1,950	1,918	2,766	2,864	10,027	9,499
Total semi-soft coking coal production ('000 tonnes)		1,402	1,405	875	639	-	5,950	2,919
Total thermal coal production ('000 tonnes)		6,096	6,156	7,232	5,439	1,183	26,090	20,010
Total coal production ('000 tonnes)		10,196	9,512	10,026	8,844	4,047	42,067	32,429
Total coal sales ('000 tonnes)		10,241	8,792	9,871	9,298	4,092	41,773	32,053
<b>Rio Tinto Coal Australia share (c)</b>								
Share of hard coking coal sales ('000 tonnes)		2,395	1,524	1,717	2,511	2,429	8,704	8,181
Share of semi-soft coal sales ('000 tonnes) (d)		1,043	765	759	485	-	4,144	2,010
Share of thermal coal sales ('000 tonnes) (d)		3,979	3,946	4,539	3,804	896	16,484	13,186

(a) Rio Tinto sold its interest in the Bengalla Joint Venture with an effective date of 1 March 2016.

(b) On 1 September 2017, Rio Tinto completed the sale of Coal & Allied, a wholly owned subsidiary of Rio Tinto Coal Australia (RTCA) and production from these assets is included to this date. This included Coal & Allied's 67.6% interest in the Hunter Valley Operations mine, 80% interest in the Mount Thorley mine and 55.6% interest in the Warkworth mine. In an earlier restructuring of the Coal & Allied group completed on 3 February 2016, Rio Tinto had obtained 100% of Coal & Allied and retained a 67.6% interest in the newly created Hunter Valley Operations joint venture. Prior to restructuring, Rio Tinto's interest in the Hunter Valley Operations, Mount Thorley and Warkworth mines was 80%, 64% and 44.46% respectively.

(c) Kestrel and Hail Creek produce hard coking coal and thermal coal through their mining operations. Both mines may blend coal types at ports.

(d) Sales relate only to coal mined by the operations and exclude traded coal.

**Rio Tinto percentage interest shown above is at 31 December 2017. The data represent full production and sales on a 100% basis unless otherwise stated.**

# Rio Tinto operational data

	Rio Tinto interest	Q4 2016	Q1 2017	Q2 2017	Q3 2017	Q4 2017	Full Year 2016	Full Year 2017
<b>COPPER &amp; GOLD</b>								
<b>Escondida</b>	30.0%							
<i>Chile</i>								
Sulphide ore to concentrator ('000 tonnes)		19,866	8,054	18,777	24,080	<b>30,260</b>	84,746	<b>81,171</b>
Average copper grade (%)		1.02	1.01	1.07	1.06	<b>0.98</b>	0.96	<b>1.03</b>
Mill production (metals in concentrates):								
Contained copper ('000 tonnes)		168.6	67.7	167.0	204.1	<b>245.7</b>	679.3	<b>684.5</b>
Contained gold ('000 ounces)		38	11	34	51	<b>50</b>	133	<b>146</b>
Contained silver ('000 ounces)		1,323	543	1,234	1,737	<b>2,193</b>	5,971	<b>5,707</b>
Recoverable copper in ore stacked for leaching ('000 tonnes) (a)		76.4	22.8	60.7	70.8	<b>63.9</b>	331.4	<b>218.2</b>
Refined production from leach plants:								
Copper cathode production ('000 tonnes)		71.5	27.2	62.8	71.9	<b>76.1</b>	312.1	<b>238.0</b>
<i>(a) The calculation of copper in material mined for leaching is based on ore stacked at the leach pad.</i>								
<b>Freeport-McMoRan</b>								
<b>Grasberg mine (a)</b>	0.0% (b)							
<i>Papua, Indonesia</i>								
Ore treated ('000 tonnes)		15,630	7,849	11,242	15,791	<b>18,736</b>	60,628	<b>53,617</b>
Average mill head grades:								
Copper (%)		1.08	1.15	1.03	0.91	<b>1.05</b>	0.91	<b>1.02</b>
Gold (g/t)		0.97	1.17	1.16	0.98	<b>1.23</b>	0.68	<b>1.13</b>
Silver (g/t)		3.67	5.26	4.09	3.96	<b>2.79</b>	3.09	<b>3.77</b>
Production of metals in concentrates:								
Copper in concentrates ('000 tonnes)		153.1	81.0	103.9	130.1	<b>180.3</b>	499.4	<b>495.4</b>
Gold in concentrates ('000 ounces)		409	248	358	417	<b>631</b>	1,094	<b>1,654</b>
Silver in concentrates ('000 ounces)		1,237	667	900	1,016	<b>1,023</b>	3,796	<b>3,606</b>
Sales of payable metals in concentrates: (c)								
Copper in concentrates ('000 tonnes)		140.6	61.7	124.6	109.6	<b>183.7</b>	478.0	<b>479.6</b>
Gold in concentrates ('000 ounces)		374	183	429	343	<b>646</b>	1,054	<b>1,602</b>
Silver in concentrates ('000 ounces)		907	404	851	666	<b>873</b>	2,909	<b>2,794</b>

(a) Through a joint venture agreement with Freeport-McMoRan (FCX), Rio Tinto is entitled to 40% of additional material mined as a consequence of expansions and developments of the Grasberg facilities since 1998. The Q4 2017 results show the forecast from FCX's most recent five-year plan, because FCX is not releasing its actual 100% operating data for Q4 2017 until the release of its 2017 fourth-quarter results on 25 January 2018.

(b) Rio Tinto share of Grasberg production is 40% of the expansion.

(c) Net of smelter deductions.

**Rio Tinto percentage interest shown above is at 31 December 2017. The data represent full production and sales on a 100% basis unless otherwise stated.**

## Rio Tinto operational data

	Rio Tinto interest	Q4 2016	Q1 2017	Q2 2017	Q3 2017	Q4 2017	Full Year 2016	Full Year 2017
<b>COPPER &amp; GOLD (continued)</b>								
<b>Rio Tinto Kennecott</b>								
<b>Bingham Canyon mine</b>	100.0%							
<i>Utah, US</i>								
Ore treated ('000 tonnes)		8,827	9,508	10,709	10,092	<b>9,074</b>	33,423	<b>39,382</b>
Average ore grade:								
Copper (%)		0.56	0.51	0.47	0.29	<b>0.43</b>	0.50	<b>0.43</b>
Gold (g/t)		0.31	0.32	0.29	0.18	<b>0.21</b>	0.24	<b>0.25</b>
Silver (g/t)		3.33	3.24	2.66	1.51	<b>1.89</b>	2.41	<b>2.33</b>
Molybdenum (%)		0.040	0.025	0.025	0.032	<b>0.036</b>	0.028	<b>0.029</b>
Copper concentrates produced ('000 tonnes)		190	189	205	148	<b>162</b>	648	<b>704</b>
Average concentrate grade (% Cu)		23.8	23.3	21.5	17.3	<b>21.5</b>	23.5	<b>21.1</b>
Production of metals in copper concentrates:								
Copper ('000 tonnes) (a)		45.1	44.3	44.0	25.8	<b>34.8</b>	152.7	<b>148.9</b>
Gold ('000 ounces)		57	54	54	34	<b>36</b>	153	<b>178</b>
Silver ('000 ounces)		751	711	669	357	<b>418</b>	1,943	<b>2,156</b>
Molybdenum concentrates produced ('000 tonnes):		3.4	1.7	1.5	2.8	<b>3.8</b>	5.6	<b>9.8</b>
Molybdenum in concentrates ('000 tonnes)		1.8	0.9	0.8	1.4	<b>1.9</b>	2.8	<b>5.0</b>
<b>Kennecott smelter &amp; refinery</b>								
	100.0%							
Copper concentrates smelted ('000 tonnes)		207	136	160	258	<b>90</b>	752	<b>644</b>
Copper anodes produced ('000 tonnes) (b)		42.7	33.7	32.6	50.6	<b>12.1</b>	163.8	<b>129.0</b>
Production of refined metal:								
Copper ('000 tonnes)		67.0	29.8	20.3	53.6	<b>22.1</b>	156.5	<b>125.8</b>
Gold ('000 ounces) (c)		40.6	51.1	43.0	54.1	<b>55.4</b>	135.4	<b>203.7</b>
Silver ('000 ounces) (c)		465	402	729	731	<b>516</b>	1,815	<b>2,378</b>

(a) Includes a small amount of copper in precipitates.

(b) New metal excluding recycled material.

(c) Includes gold and silver in intermediate products.

**Rio Tinto percentage interest shown above is at 31 December 2017. The data represent full production and sales on a 100% basis unless otherwise stated.**



## Rio Tinto operational data

	Rio Tinto interest	Q4 2016	Q1 2017	Q2 2017	Q3 2017	Q4 2017	Full Year 2016	Full Year 2017
<b>COPPER &amp; GOLD (continued)</b>								
<b>Turquoise Hill Resources</b>								
<b>Oyu Tolgoi mine (a)</b>	33.5%							
<i>Mongolia</i>								
Ore Treated ('000 tonnes)		9,819	10,087	9,637	10,615	<b>10,838</b>	38,152	<b>41,177</b>
Average mill head grades:								
Copper (%)		0.61	0.51	0.51	0.48	<b>0.53</b>	0.65	<b>0.51</b>
Gold (g/t)		0.25	0.15	0.16	0.18	<b>0.20</b>	0.36	<b>0.17</b>
Silver (g/t)		1.50	1.30	1.38	1.34	<b>1.54</b>	1.83	<b>1.39</b>
Copper concentrates produced ('000 tonnes)		206.7	176.0	171.0	170.0	<b>205.5</b>	846.6	<b>722.5</b>
Average concentrate grade (% Cu)		22.0	21.6	21.8	21.7	<b>22.0</b>	23.8	<b>21.8</b>
Production of metals in concentrates:								
Copper in concentrates ('000 tonnes)		45.5	38.1	37.2	36.9	<b>45.3</b>	201.3	<b>157.4</b>
Gold in concentrates ('000 ounces)		49.4	24.8	23.9	30.9	<b>34.8</b>	300.0	<b>114.3</b>
Silver in concentrates ('000 ounces)		273	215	236	239	<b>285</b>	1,420	<b>974</b>
Sales of metals in concentrates:								
Copper in concentrates ('000 tonnes)		37.6	39.5	37.3	36.9	<b>35.7</b>	188.9	<b>149.3</b>
Gold in concentrates ('000 ounces)		39	32	23	28	<b>27</b>	347	<b>111</b>
Silver in concentrates ('000 ounces)		239	205	222	229	<b>205</b>	1,280	<b>860</b>

(a) Rio Tinto owns a 33.52% indirect interest in Oyu Tolgoi through its 50.79% interest in Turquoise Hill Resources.

**Rio Tinto percentage interest shown above is at 31 December 2017. The data represent full production and sales on a 100% basis unless otherwise stated.**

## Rio Tinto operational data

	Rio Tinto interest	Q4 2016	Q1 2017	Q2 2017	Q3 2017	Q4 2017	Full Year 2016	Full Year 2017
<b>DIAMONDS</b>								
<b>Argyle Diamonds</b>	100.0%							
<i>Western Australia</i>								
AK1 ore processed ('000 tonnes)		1,283	1,144	1,112	1,255	<b>1,446</b>	5,097	<b>4,957</b>
AK1 diamonds produced ('000 carats)		3,584	3,016	3,216	4,757	<b>6,146</b>	13,958	<b>17,135</b>
<b>Diavik Diamonds</b>	60.0%							
<i>Northwest Territories, Canada</i>								
Ore processed ('000 tonnes)		539	531	556	578	<b>525</b>	2,214	<b>2,190</b>
Diamonds recovered ('000 carats)		1,649	1,894	1,865	1,961	<b>1,767</b>	6,658	<b>7,486</b>

**Rio Tinto percentage interest shown above is at 31 December 2017. The data represent full production and sales on a 100% basis unless otherwise stated.**

# Rio Tinto operational data

	Rio Tinto interest	Q4 2016	Q1 2017	Q2 2017	Q3 2017	Q4 2017	Full Year 2016	Full Year 2017
<b>IRON ORE</b>								
<b>Rio Tinto Iron Ore</b>								
<i>Western Australia</i>								
<b>Pilbara Operations</b>								
Saleable iron ore production ('000 tonnes)								
Hamersley mines	(a)	54,848	48,664	48,674	52,921	56,501	205,902	206,760
Hamersley - Channar	60.0%	1,866	2,725	3,172	2,661	2,241	9,731	10,798
Hope Downs	50.0%	11,588	10,435	12,575	11,956	11,975	47,010	46,941
Robe River - Pannawonica (Mesas J and A)	53.0%	8,477	7,188	6,936	8,416	8,642	32,776	31,182
Robe River - West Angelas	53.0%	8,748	8,154	8,444	9,011	8,507	34,044	34,116
Total production ('000 tonnes)		85,526	77,165	79,801	84,965	87,866	329,463	329,797
Breakdown of total production:								
Pilbara Blend Lump		24,902	23,618	24,671	25,342	25,496	95,915	99,127
Pilbara Blend Fines		36,988	32,755	34,682	36,748	37,641	142,804	141,826
Robe Valley Lump		3,066	2,741	2,753	2,962	3,106	11,551	11,563
Robe Valley Fines		5,411	4,446	4,183	5,454	5,535	21,226	19,619
Yandicoogina Fines (HIY)		15,159	13,605	13,512	14,458	16,088	57,968	57,663
Breakdown of total sales:								
Pilbara Blend Lump		21,943	20,161	21,561	21,959	22,377	82,383	86,059
Pilbara Blend Fines		42,225	36,679	35,871	40,305	43,039	155,431	155,895
Robe Valley Lump		2,835	2,218	2,382	2,624	2,619	10,183	9,843
Robe Valley Fines		5,761	4,476	4,472	5,989	6,202	22,533	21,140
Yandicoogina Fines (HIY)		14,969	13,120	13,371	14,963	15,731	57,062	57,185
Total sales ('000 tonnes) (b)		87,732	76,655	77,658	85,840	89,968	327,592	330,122
<i>(a) Includes 100% of production from Paraburdoo, 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.</i>								
<i>(b) Sales represent iron ore exported from Western Australian ports.</i>								
<b>Iron Ore Company of Canada</b>	58.7%							
<i>Newfoundland &amp; Labrador and Quebec in Canada</i>								
Saleable iron ore production:								
Concentrates ('000 tonnes)		1,915	1,889	2,212	2,469	1,980	8,357	8,549
Pellets ('000 tonnes)		2,756	2,504	2,356	2,932	2,675	9,798	10,467
IOC Total production ('000 tonnes)		4,671	4,392	4,569	5,401	4,655	18,155	19,016
Sales:								
Concentrates ('000 tonnes)		1,955	2,031	1,599	2,319	2,655	8,344	8,605
Pellets ('000 tonnes)		3,004	2,409	2,536	2,707	2,750	9,983	10,402
IOC Total Sales ('000 tonnes)		4,960	4,441	4,135	5,027	5,404	18,326	19,006
<b>Global Iron Ore Totals</b>								
Iron Ore Production ('000 tonnes)		90,196	81,558	84,370	90,365	92,521	347,619	348,814
Iron Ore Sales ('000 tonnes)		92,692	81,096	81,792	90,867	95,373	345,918	349,128

**Rio Tinto percentage interest shown above is at 31 December 2017. The data represent full production and sales on a 100% basis unless otherwise stated.**

## Rio Tinto operational data

	Rio Tinto interest	Q4 2016	Q1 2017	Q2 2017	Q3 2017	Q4 2017	Full Year 2016	Full Year 2017
<b>SALT</b>								
<b>Dampier Salt</b>	68.4%							
<i>Western Australia</i>								
Salt production ('000 tonnes)		2,028	1,246	2,159	1,795	2,246	7,578	7,446
<b>TITANIUM DIOXIDE SLAG</b>								
<b>Rio Tinto Iron &amp; Titanium</b>	100.0%							
<i>Canada and South Africa</i>								
<i>(Rio Tinto share) (a)</i>								
Titanium dioxide slag ('000 tonnes)		300	332	316	327	341	1,048	1,315

(a) Quantities comprise 100% of Rio Tinto Fer et Titane and Rio Tinto's 74% interest in Richards Bay Minerals' production. Ilmenite mined in Madagascar is being processed in Canada.

<b>URANIUM</b>								
<b>Energy Resources of Australia Ltd</b>								
<b>Ranger mine (a)</b>	68.4%							
<i>Northern Territory, Australia</i>								
U <sub>3</sub> O <sub>8</sub> Production ('000 lbs)		1,328	1,316	991	1,407	1,343	5,182	5,056
<i>(a) ERA production data are drummed U<sub>3</sub>O<sub>8</sub>.</i>								
<b>Rössing Uranium Ltd (a)</b>	68.6%							
<i>Namibia</i>								
U <sub>3</sub> O <sub>8</sub> Production ('000 lbs)		1,138	981	1,254	1,103	1,314	4,078	4,652
<i>(a) Rössing production data are drummed U<sub>3</sub>O<sub>8</sub>.</i>								

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