

### Rio Tinto releases fourth quarter production results

17 January 2017

Rio Tinto chief executive J-S Jacques said “We have delivered a strong operational performance in 2016, underpinned by our drive for efficiency and maximising cash flow. Our disciplined approach remains in place in 2017, with the continued focus on productivity, cost reduction and commercial excellence. This will ensure that we continue to deliver value for our shareholders.”

		Q4 2016	vs Q4 2015	vs Q3 2016	2016	vs 2015
Pilbara iron ore shipments (100% basis)	Mt	87.7	+1%	+8%	327.6	+3%
Pilbara iron ore production (100% basis)	Mt	85.5	+4%	+3%	329.5	+6%
Bauxite	kt	12,120	+8%	-2%	47,703	+9%
Aluminium	kt	925	+7%	+0%	3,646	+10%
Mined copper	kt	133.8	+20%	+7%	523.3	+4%
Hard coking coal	kt	2,187	+15%	+1%	8,141	+4%
Semi-soft and thermal coal	kt	5,223	-13%	-3%	21,356	-4%
Titanium dioxide slag	kt	300	+35%	+12%	1,048	-4%

#### Highlights

- Pilbara iron ore shipments of 327.6 million tonnes (100 per cent basis) were in line with guidance and three per cent higher than 2015.
- Record bauxite production of 47.7 million tonnes exceeded full year guidance of 47 million tonnes, whilst third party shipments increased to 29.3 million tonnes.
- Aluminium production was ten per cent higher than 2015, with record annual production at ten smelters, notably at the modernised and expanded Kitimat smelter, which has produced at nameplate capacity since April 2016.
- Mined copper production was four per cent higher than 2015 at 523 thousand tonnes. This was below full year guidance, with no metal share delivered from Grasberg and lower than expected production at Kennecott.
- Rio Tinto's share of hard coking coal production was slightly above the top end of the guidance range due to strong operational performance, while semi-soft coking and thermal coal production of 21.4 million tonnes was in line.
- Titanium dioxide slag production continued to be aligned with market demand with a four per cent reduction on 2015.
- Production and shipments guidance for 2017 remains unchanged from the update given at our London investor seminar on 6 December 2016.
- On 23 November 2016, Rio Tinto announced it had reached an agreement to sell its aluminium assets at Lochaber, Scotland for a consideration totalling \$410 million. The sale was finalised on 16 December 2016.

*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 2015 have been excluded from Rio Tinto share of production data but assets sold in 2016 remain in comparisons.*

## IRON ORE

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

	Q4 2016	vs Q4 2015	vs Q3 2016	2016	vs 2015
Pilbara Blend Lump	20.4	+4%	+2%	77.8	+7%
Pilbara Blend Fines	30.8	+3%	+4%	117.6	+8%
Robe Valley Lump	1.6	+15%	+10%	6.1	+3%
Robe Valley Fines	2.9	+0%	+5%	11.2	0%
Yandicoogina Fines (HIY)	15.2	+11%	+3%	58.0	+7%

### *Pilbara operations*

Pilbara operations produced 329.5 million tonnes (Rio Tinto share 270.7 million tonnes) in 2016, six per cent higher than in 2015. Fourth quarter production of 85.5 million tonnes (Rio Tinto share 70.9 million tonnes) was four per cent higher than the same quarter of 2015. The strong production performance in 2016 is attributable to the ramp-up of expanded mines, operational productivity improvements and minimal disruption from weather events.

### *Pilbara sales*

Sales of 327.6 million tonnes (Rio Tinto share 268.9 million tonnes) in 2016 were three per cent higher than 2015, attributable to the newly expanded infrastructure and minimal disruption from weather events. Fourth quarter sales of 87.7 million tonnes (Rio Tinto share 72.4 million tonnes) were one per cent higher than the same quarter of 2015.

Sales in the quarter exceeded production by 2.2 million tonnes, primarily drawing down on inventories built at the ports in the third quarter due to maintenance.

Approximately 20 per cent of sales in 2016 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 on the spot market.

Approximately 62 per cent of 2016 sales were made on a cost and freight (CFR) basis, with the remainder sold free on board (FOB).

Achieved average pricing in 2016 was \$49.30 per wet metric tonne on an FOB basis (equivalent to \$53.60 per dry metric tonne).

### *Pilbara projects*

The second phase of the Nammuldi Incremental Tonnes (NIT) project was delivered in October, six weeks ahead of schedule, with an annual mine capacity of ten million tonnes. The Silvergrass project incrementally increases the Nammuldi operation by a further ten million tonnes a year, delivering high grade, low phosphorus ore into the Pilbara Blend. First ore is expected in the second half of 2017.

The AutoHaul® project will continue to progress during 2017 with extensive running of trains in automated mode, but with a driver remaining on board until all safety and reliability systems are thoroughly demonstrated.

### *2017 guidance*

Rio Tinto's Pilbara shipments in 2017 are expected to be between 330 and 340 million tonnes (100 per cent basis), subject to weather conditions.

## ALUMINIUM

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

	Q4 2016	vs Q4 2015	vs Q3 2016	2016	vs 2015
<b>Rio Tinto Aluminium</b>					
Bauxite	<b>12,120</b>	+8%	-2%	<b>47,703</b>	+9%
Alumina	<b>2,104</b>	+5%	+6%	<b>8,192</b>	+5%
Aluminium	<b>925</b>	+7%	+0%	<b>3,646</b>	+10%

#### ***Bauxite***

Bauxite production of 47.7 million tonnes during 2016 was nine per cent higher than 2015. Annual production records were achieved at Weipa (up six per cent), benefiting from increased plant throughput, as well as at Gove (up 21 per cent) through system improvements.

The strong production performance and healthy demand from China enabled the Group to ship 29.3 million tonnes to third parties in 2016, ten per cent higher than 2015, whilst fourth quarter shipments were 12 per cent higher than the corresponding quarter in 2015.

#### ***Amrun***

The Amrun project is advancing to schedule in both engineering and construction. All major contracts have been committed as planned. Site establishment continues with the construction accommodation village operational to 470 beds. The 40 kilometre main access road was completed in December 2016, with the river terminals expected to be operational in the first quarter of 2017.

#### ***Alumina***

Alumina production for 2016 increased five per cent compared with 2015, primarily due to operational improvements driving record production at the Yarwun refinery (up 11 per cent). The Jonquière and Alumar refineries also achieved record annual production.

#### ***Aluminium***

Aluminium production was ten per cent higher in 2016, due largely to Kitimat, which produced at nameplate capacity for a third consecutive quarter. Record annual production was achieved at ten smelters, whilst quarterly production records at seven smelters resulted in a seven per cent increase in production compared with the corresponding period in 2015.

On 23 November 2016, Rio Tinto announced it had reached an agreement to sell its assets at Lochaber, Scotland to SIMEC for consideration totalling \$410 million. The sale was finalised on 16 December 2016, with final proceeds to be received not later than 28 February 2017.

#### ***2017 guidance***

Rio Tinto's share of production in 2017 is expected to be 48 to 50 million tonnes of bauxite, 8.0 to 8.2 million tonnes of alumina and 3.5 to 3.7 million tonnes of aluminium.

## COPPER & DIAMONDS

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

	Q4 2016	vs Q4 2015	vs Q3 2016	2016	vs 2015
<b>Mined copper</b>					
Rio Tinto Kennecott	45.1	+76%	+25%	152.7	+66%
Escondida	73.4	+11%	+1%	303.1	-12%
Grasberg	0.0	N/A	N/A	0.0	N/A
Oyu Tolgoi	15.2	-21%	-2%	67.5	0%
<b>Refined copper</b>					
Rio Tinto Kennecott	67.0	+196%	+71%	156.5	+36%
Escondida	21.5	-19%	+1%	93.6	-4%
<b>Diamonds ('000 carats)</b>					
Argyle	3,584	+6%	+3%	13,958	+4%
Diavik	989	+10%	+7%	3,995	+4%

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

Mined copper production in 2016 was significantly higher than 2015 as mining progressed through an area of higher grades. Whilst fourth quarter production was 25 per cent higher than the previous quarter, it was below expectations due to lower throughput following reduced pit access at Bingham Canyon.

The higher mined production in 2016 resulted in improved refined copper production of 156.5 thousand tonnes, up 36 per cent.

Kennecott continues to toll third party concentrate to optimise smelter utilisation, with 315 thousand tonnes received for processing in 2016. Tolloed copper concentrate, which is smelted and returned to customers, is excluded from reported production figures.

#### ***Escondida***

Mined copper production at Escondida in 2016 was 12 per cent below 2015 due to lower grades and slightly reduced mill throughput. For the fourth quarter, improved mill throughput resulted in production being 11 per cent higher than the corresponding quarter in 2015. Refined copper production in the quarter was lower than the same period in 2015 due to lower oxide ore treated and lower grade material leached on the sulphide leach pad.

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

Mined copper production for 2016 was in line with 2015, as the impact of lower grades was offset by higher throughput, a new record for the mill. Copper production in the fourth quarter was in line with the previous quarter, albeit 21 per cent lower than the corresponding quarter of 2015 as a result of lower grades and challenges with processing and recovering copper from high pyrite ore.

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

Contractor mobilisation has continued to ramp up during the fourth quarter, with over 2000 personnel mobilised, 87 per cent of whom are Mongolian nationals. Works on underground mine development, the accommodation camp, conveyor to surface decline, sinking of shaft #2 and shaft #5 and critical facilities continue to progress. Focus is on completing the underground crusher and de-watering system to enable increased lateral development rates.

#### ***Grasberg***

Through a joint venture agreement with Freeport-McMoRan Inc. (Freeport), Rio Tinto is entitled to 40 per cent of material mined above an agreed threshold as a consequence of expansions and developments of the Grasberg facilities since 1998. Although 20 thousand tonnes of copper were notionally attributed to Rio Tinto for the nine months to September 2016 and reported in the third quarter operations review, productivity issues continued in the fourth quarter. This resulted in total 2016 copper production not

exceeding the threshold and accordingly, Rio Tinto's share of joint venture production for 2016 was revised to zero.

### **Provisional pricing**

At 31 December 2016, the Group had an estimated 235 million pounds of copper sales that were provisionally priced at 250 cents per pound. The final price of these sales will be determined during the first half of 2017. This compares with 252 million pounds of open shipments at 31 December 2015, provisionally priced at 217 cents per pound.

### **Diamonds**

At Argyle, 2016 carat production was four per cent higher than 2015 following the ramp-up of the underground mine, with higher ore throughput partially offset by a lower recovered grade.

Likewise at Diavik, carats recovered in 2016 were four per cent higher than 2015 due to higher ore throughput offsetting lower grades.

### **2017 guidance**

In 2017, Rio Tinto's share of mined copper production is expected to be between 525 and 665 thousand tonnes, with higher production at Escondida, and an expected share of joint venture production at Grasberg. Refined copper production is expected to be between 185 and 225 thousand tonnes.

Diamond production guidance for 2017 is 19 to 24 million carats.

## **ENERGY & MINERALS**

### **Rio Tinto share of production**

	<b>Q4 2016</b>	<b>vs Q4 2015</b>	<b>vs Q3 2016</b>	<b>2016</b>	<b>vs 2015</b>
<b>Coal</b>					
Hard coking coal	<b>2,187</b>	+15%	+1%	<b>8,141</b>	+4%
Semi-soft coking coal	<b>969</b>	+22%	-9%	<b>4,102</b>	+12%
Thermal coal	<b>4,254</b>	-18%	-2%	<b>17,254</b>	-7%
<b>Iron ore pellets and concentrate (million tonnes)</b>					
IOC	<b>2.7</b>	-5%	-6%	<b>10.7</b>	+3%
<b>Minerals ('000 tonnes)</b>					
Borates – B <sub>2</sub> O <sub>3</sub> content	<b>121</b>	+13%	-8%	<b>503</b>	+6%
Salt	<b>1,386</b>	-16%	+12%	<b>5,180</b>	-6%
Titanium dioxide slag	<b>300</b>	+35%	+12%	<b>1,048</b>	-4%
<b>Uranium ('000 lbs)</b>					
Energy Resources of Australia	<b>908</b>	-10%	-10%	<b>3,544</b>	+17%
Rössing	<b>781</b>	+13%	+24%	<b>2,798</b>	+49%

### **Coal**

Hard coking coal production was four per cent higher in 2016 and fourth quarter volumes were 15 per cent higher than the same quarter of 2015 due to longwall and plant outperformance at Kestrel.

Semi-soft coking coal production was 12 per cent higher than 2015 and fourth quarter volumes were 22 per cent higher than the corresponding period of 2015 due to mine production sequencing at Hunter Valley Operations and Mt Thorley Warkworth.

Increased thermal coal production from Hail Creek, Kestrel and Mt Thorley Warkworth partially offset lower volumes, which resulted from the restructure of Coal & Allied and the divestment of Bengalla in early 2016, delivering full year production that was seven per cent lower than 2015. Fourth quarter thermal coal

production was 18 per cent lower than the same quarter of 2015 due primarily to these ownership changes.

Coking coal prices achieved in the second half of 2016 averaged \$152 per tonne on an FOB basis compared to \$79 per tonne in the first half of 2016. Average prices realised for thermal coal were \$69 per tonne on an FOB basis in the second half of 2016 compared to \$51 per tonne in the first half of 2016.

#### ***Iron Ore Company of Canada (IOC)***

IOC pellet production of 9.8 million tonnes (Rio Tinto share 5.8 million tonnes) in 2016 was five per cent higher than 2015, while concentrate production of 8.4 million tonnes (Rio Tinto share 4.9 million tonnes) was in line with 2015 production.

The three per cent improvement in total production also resulted in a two per cent improvement in sales to 18.3 million tonnes (Rio Tinto share 10.8 million tonnes) in 2016.

#### ***Borates***

Borates production in 2016 was six per cent higher than in 2015, driven by higher market demand.

#### ***Rio Tinto Iron and Titanium (RTIT)***

Titanium dioxide slag production was four per cent lower in 2016 as RTIT continues to optimise production to align to demand and draw down remaining inventories. Fourth quarter volumes were 35 per cent higher than the same quarter of 2015, in line with improving sales. Two of nine furnaces at Rio Tinto Fer et Titane and one of four furnaces at Richards Bay Minerals are currently idled, reflecting lower demand for high grade feedstocks.

#### ***Salt***

Salt production in 2016 was six per cent lower than in 2015 as a result of lower market demand.

#### ***Uranium***

Energy Resources of Australia continues to process existing stockpiles. 2016 production was 17 per cent higher than 2015 due to higher mill throughput and recoveries.

Production at Rössing was 49 per cent higher than 2015, due to higher throughput and grades.

#### ***2017 guidance***

In 2017, Rio Tinto's share of production is expected to be 7.8 to 8.4 million tonnes of hard coking coal, 3.3 to 3.9 million tonnes of semi-soft coking coal, 17 to 18 million tonnes of thermal coal, 11.4 to 12.4 million tonnes of iron ore pellets and concentrates, 1.1 to 1.2 million tonnes of titanium dioxide slag, 0.5 million tonnes of boric oxide equivalent production, and 6.5 to 7.5 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 2016 was \$497 million (of which \$119 million was spent in the fourth quarter), compared with \$576 million in 2015. Approximately 41 per cent of 2016 expenditure was incurred by central exploration, 25 per cent by Copper & Diamonds, 25 per cent by Energy & Minerals and the remainder by Iron Ore and Aluminium.

On 28 October 2016, Rio Tinto and Chinalco signed a non-binding agreement to sell Rio Tinto's entire stake in the Simandou project in Guinea to Chinalco.

There were no significant divestments of central exploration properties in 2016.

#### ***Exploration highlights***

Rio Tinto has a strong portfolio of projects with activity in 14 countries across some eight commodities. Exploration activities were discontinued in China, India and Mexico during this quarter. The bulk of the exploration spend in this quarter was focused on copper targets in Australia, Botswana, Chile, Kazakhstan, Namibia, Peru, Serbia, United States and Zambia. Mine-lease exploration continued at a number of Rio

Tinto managed businesses including Pilbara Iron, Rio Tinto Coal Australia, Richards Bay Minerals, Oyu Tolgoi, Kennecott 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	Copper: Australia, Botswana, Chile, Kazakhstan, Mongolia, Namibia, Papua New Guinea, Peru, Serbia, US, Zambia Nickel: Australia, Canada Diamonds: Canada
Energy & Minerals	Coal: Hail Creek, Australia Lithium borates: Jadar, Serbia Heavy mineral sands: Mutamba, Mozambique and Zulti South, South Africa Iron Ore: Simandou, Guinea Uranium: Roughrider, Canada	Coal: Hunter Valley, Australia Potash: KP405, Canada	Uranium: Australia, Canada
Iron Ore	Pilbara, Australia	Pilbara, Australia	

## **Forward-looking statements**

This announcement may include "forward-looking statements" within the meaning of the 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		
2015 Q4	2016 Q3	<b>2016 Q4</b>	2015	<b>2016</b>	Q4 16 vs Q4 15	Q4 16 vs Q3 16	2016 vs 2015

### Principal Commodities

Alumina	('000 t)	2,011	1,981	<b>2,104</b>	7,788	<b>8,192</b>	5%	6%	5%
Aluminium	('000 t)	864	924	<b>925</b>	3,322	<b>3,646</b>	7%	0%	10%
Bauxite	('000 t)	11,211	12,422	<b>12,120</b>	43,677	<b>47,703</b>	8%	-2%	9%
Borates	('000 t)	107	132	<b>121</b>	476	<b>503</b>	13%	-8%	6%
Coal - hard coking	('000 t)	1,900	2,175	<b>2,187</b>	7,859	<b>8,141</b>	15%	1%	4%
Coal - semi-soft coking	('000 t)	797	1,066	<b>969</b>	3,647	<b>4,102</b>	22%	-9%	12%
Coal - thermal	('000 t)	5,182	4,346	<b>4,254</b>	18,638	<b>17,254</b>	-18%	-2%	-7%
Copper - mined	('000 t)	111.1	124.4	<b>133.8</b>	504.4	<b>523.3</b>	20%	7%	4%
Copper - refined	('000 t)	49.2	60.2	<b>88.4</b>	213.0	<b>250.1</b>	80%	47%	17%
Diamonds	('000 cts)	4,266	4,420	<b>4,574</b>	17,316	<b>17,953</b>	7%	3%	4%
Iron ore	('000 t)	70,427	71,431	<b>73,633</b>	263,048	<b>281,321</b>	5%	3%	7%
Titanium dioxide slag	('000 t)	223	267	<b>300</b>	1,089	<b>1,048</b>	35%	12%	-4%
Uranium	('000 lbs)	1,699	1,633	<b>1,690</b>	4,907	<b>6,342</b>	-1%	3%	29%

### Other Metals & Minerals

Gold - mined	('000 oz)	100.3	62.3	<b>85.1</b>	376.4	<b>293.5</b>	-15%	37%	-22%
Gold - refined	('000 oz)	31.0	29.7	<b>40.6</b>	179.0	<b>135.4</b>	31%	36%	-24%
Molybdenum	('000 t)	0.6	0.8	<b>1.8</b>	7.6	<b>2.8</b>	213%	121%	-63%
Salt	('000 t)	1,647	1,240	<b>1,386</b>	5,539	<b>5,180</b>	-16%	12%	-6%
Silver - mined	('000 oz)	707	1,011	<b>1,239</b>	3,311	<b>4,210</b>	75%	22%	27%
Silver - refined	('000 oz)	348	415	<b>465</b>	1,843	<b>1,815</b>	34%	12%	-2%

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	4Q 2015	1Q 2016	2Q 2016	3Q 2016	4Q 2016	Full Year 2015	Full Year 2016
<b>ALUMINA</b>								
<b>Production ('000 tonnes)</b>								
Jonqui�re (Vaudreuil)	100%	361	377	353	355	367	1,449	1,452
Jonqui�re (Vaudreuil) specialty alumina plant	100%	26	25	29	29	31	110	115
Queensland Alumina	80%	752	763	769	758	789	2,997	3,078
S�o Luis (Alumar)	10%	94	90	93	92	96	367	371
Yarwun	100%	778	785	823	747	821	2,864	3,176
Rio Tinto total alumina production		2,011	2,040	2,067	1,981	2,104	7,788	8,192
<b>ALUMINIUM</b>								
<b>Production ('000 tonnes)</b>								
Australia - Bell Bay	100%	49	45	45	46	47	191	182
Australia - Boyne Island	59%	86	86	86	87	87	344	346
Australia - Tomago	52%	75	75	76	77	77	299	304
Canada - six wholly owned	100%	346	375	398	404	405	1,273	1,582
Canada - Alouette (Sept-�les)	40%	61	61	61	61	61	242	244
Canada - B�cancour	25%	28	28	27	29	28	109	111
France - Dunkerque	100%	70	69	69	71	71	275	280
Iceland - ISAL (Reykjavik)	100%	50	50	52	51	52	201	205
New Zealand - Tiwai Point	79%	67	67	67	68	68	265	269
Oman - Sohar	20%	19	19	19	19	19	75	77
UK - Lochaber (a)	0%	12	12	12	12	10	47	46
Rio Tinto total aluminium production		864	887	911	924	925	3,322	3,646
<b>BAUXITE</b>								
<b>Production ('000 tonnes) (b)</b>								
Gove	100%	1,959	2,214	2,186	2,521	2,169	7,497	9,091
Porto Trombetas	12%	532	457	470	533	516	1,939	1,975
Sangaredi	(c)	1,820	1,892	1,857	1,726	1,735	6,577	7,210
Weipa	100%	6,899	6,524	7,560	7,642	7,700	27,663	29,427
Rio Tinto total bauxite production		11,211	11,088	12,073	12,422	12,120	43,677	47,703

## Rio Tinto share of production

	Rio Tinto interest	4Q 2015	1Q 2016	2Q 2016	3Q 2016	4Q 2016	Full Year 2015	Full Year 2016
<b>BORATES</b>								
<b>Production ('000 tonnes B<sub>2</sub>O<sub>3</sub> content)</b>								
Rio Tinto Minerals - borates	100%	107	127	123	132	121	476	503
<b>COAL - hard coking</b>								
<b>Rio Tinto Coal Australia ('000 tonnes)</b>								
Hail Creek Coal (d)	82%	1,134	1,224	1,202	1,248	1,205	5,099	4,879
Kestrel Coal (d)	80%	766	758	596	926	981	2,760	3,262
Rio Tinto total hard coking coal production		1,900	1,982	1,798	2,175	2,187	7,859	8,141
<b>COAL - semi-soft coking</b>								
<b>Rio Tinto Coal Australia ('000 tonnes)</b>								
Hunter Valley (e)	68%	548	677	440	842	581	2,373	2,540
Mount Thorley (e)	80%	163	363	331	150	283	895	1,127
Warkworth (e)	56%	87	135	121	75	106	380	436
Rio Tinto total semi-soft coking coal production		797	1,175	893	1,066	969	3,647	4,102
<b>COAL - thermal</b>								
<b>Rio Tinto Coal Australia ('000 tonnes)</b>								
Bengalla (f)	0%	693	527	-	-	-	2,662	527
Hail Creek Coal (d)	82%	702	895	661	787	746	2,661	3,089
Hunter Valley (e)	68%	2,351	1,364	2,098	1,596	1,724	8,039	6,782
Kestrel Coal (d)	80%	185	139	96	225	217	509	676
Mount Thorley (e)	80%	385	549	252	606	828	1,802	2,235
Warkworth (e)	56%	866	859	1,216	1,131	739	2,965	3,945
Rio Tinto total thermal coal production		5,182	4,331	4,323	4,346	4,254	18,638	17,254

## Rio Tinto share of production

	Rio Tinto interest	4Q 2015	1Q 2016	2Q 2016	3Q 2016	4Q 2016	Full Year 2015	Full Year 2016
<b>COPPER</b>								
<b>Mine production ('000 tonnes) (b)</b>								
Bingham Canyon	100%	25.7	34.2	37.2	36.2	45.1	92.0	152.7
Escondida	30%	66.2	79.4	77.7	72.6	73.4	344.7	303.1
Grasberg - Joint Venture (g) (h)	40%	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Oyu Tolgoi (i)	34%	19.2	19.3	17.3	15.6	15.2	67.8	67.5
Rio Tinto total mine production		111.1	132.9	132.2	124.4	133.8	504.4	523.3
<b>Refined production ('000 tonnes)</b>								
Escondida	30%	26.6	25.4	25.6	21.2	21.5	97.9	93.6
Rio Tinto Kennecott	100%	22.6	25.8	24.6	39.1	67.0	115.2	156.5
Rio Tinto total refined production		49.2	51.3	50.2	60.2	88.4	213.0	250.1
<b>DIAMONDS</b>								
<b>Production ('000 carats)</b>								
Argyle	100%	3,368	3,391	3,489	3,493	3,584	13,472	13,958
Diavik	60%	899	1,131	948	927	989	3,843	3,995
Rio Tinto total diamond production		4,266	4,522	4,436	4,420	4,574	17,316	17,953
<b>GOLD</b>								
<b>Mine production ('000 ounces) (b)</b>								
Bingham Canyon	100%	25.6	26.2	28.3	41.5	57.2	130.8	153.2
Escondida	30%	5.4	9.4	10.8	8.3	11.3	26.6	39.8
Grasberg - Joint Venture (g) (h)	40%	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Oyu Tolgoi (i)	34%	69.4	48.1	23.3	12.5	16.6	219.0	100.5
Rio Tinto total mine production		100.3	83.7	62.4	62.3	85.1	376.4	293.5
<b>Refined production ('000 ounces)</b>								
Rio Tinto Kennecott	100%	31.0	29.8	35.3	29.7	40.6	179.0	135.4

## Rio Tinto share of production

	Rio Tinto interest	4Q 2015	1Q 2016	2Q 2016	3Q 2016	4Q 2016	Full Year 2015	Full Year 2016
<b>IRON ORE</b>								
<b>Production ('000 tonnes) (b)</b>								
Hamersley mines	(j)	51,324	48,468	50,284	52,302	<b>54,848</b>	189,421	<b>205,902</b>
Hamersley - Channar	60%	1,564	1,523	1,432	1,764	<b>1,119</b>	6,337	<b>5,839</b>
Hope Downs	50%	5,845	5,900	5,924	5,888	<b>5,794</b>	22,373	<b>23,505</b>
Iron Ore Company of Canada	59%	2,878	2,419	2,573	2,925	<b>2,743</b>	10,388	<b>10,661</b>
Robe River - Pannawonica (Mesas J and A)	53%	4,273	4,450	4,221	4,208	<b>4,493</b>	17,216	<b>17,371</b>
Robe River - West Angelas	53%	4,544	4,611	4,452	4,344	<b>4,636</b>	17,313	<b>18,044</b>
Rio Tinto iron ore production ('000 tonnes)		<b>70,427</b>	<b>67,371</b>	<b>68,886</b>	<b>71,431</b>	<b>73,633</b>	263,048	<b>281,321</b>
Breakdown of Production:								
Pilbara Blend Lump		19,571	18,732	18,628	19,957	<b>20,443</b>	72,815	<b>77,761</b>
Pilbara Blend Fines		30,036	28,351	28,823	29,591	<b>30,795</b>	108,606	<b>117,560</b>
Robe Valley Lump		1,410	1,573	1,440	1,484	<b>1,625</b>	5,937	<b>6,122</b>
Robe Valley Fines		2,863	2,876	2,781	2,725	<b>2,868</b>	11,278	<b>11,250</b>
Yandicoogina Fines (HIY)		13,669	13,420	14,640	14,750	<b>15,159</b>	54,022	<b>57,968</b>
IOC Concentrate		1,683	1,242	1,207	1,334	<b>1,124</b>	4,929	<b>4,907</b>
IOC Pellets		1,196	1,178	1,366	1,591	<b>1,618</b>	5,459	<b>5,754</b>
Breakdown of Sales:								
Pilbara Blend Lump		18,001	15,291	17,552	17,014	<b>18,071</b>	63,030	<b>67,929</b>
Pilbara Blend Fines		34,098	30,522	31,025	30,132	<b>34,842</b>	125,224	<b>126,521</b>
Robe Valley Lump		1,334	1,272	1,276	1,346	<b>1,502</b>	5,317	<b>5,397</b>
Robe Valley Fines		3,256	2,893	2,927	3,069	<b>3,053</b>	11,867	<b>11,942</b>
Yandicoogina Fines (HIY)		14,569	12,533	14,553	15,008	<b>14,969</b>	54,843	<b>57,062</b>
IOC Concentrate		1,560	1,210	1,261	1,281	<b>1,148</b>	4,939	<b>4,899</b>
IOC Pellets		1,280	1,168	1,413	1,516	<b>1,764</b>	5,639	<b>5,862</b>
Rio Tinto iron ore sales ('000 tonnes)		<b>74,097</b>	<b>64,889</b>	<b>70,007</b>	<b>69,366</b>	<b>75,350</b>	270,858	<b>279,613</b>

## Rio Tinto share of production

	Rio Tinto interest	4Q 2015	1Q 2016	2Q 2016	3Q 2016	4Q 2016	Full Year 2015	Full Year 2016
<b>MOLYBDENUM</b>								
<b>Mine production ('000 tonnes) (b)</b>								
Bingham Canyon	100%	0.6	0.1	0.2	0.8	1.8	7.6	2.8
<b>SALT</b>								
<b>Production ('000 tonnes)</b>								
Dampier Salt	68%	1,647	1,438	1,117	1,240	1,386	5,539	5,180
<b>SILVER</b>								
<b>Mine production ('000 ounces) (b)</b>								
Bingham Canyon	100%	300	342	329	522	751	1,458	1,943
Escondida	30%	289	463	562	369	397	1,443	1,791
Grasberg - Joint Venture (g)	40%	0	0	0	0	0	0	0
Oyu Tolgoi (i)	34%	119	132	131	121	91	410	476
Rio Tinto total mine production		707	938	1,022	1,011	1,239	3,311	4,210
<b>Refined production ('000 ounces)</b>								
Rio Tinto Kennecott	100%	348	348	587	415	465	1,843	1,815
<b>TITANIUM DIOXIDE SLAG</b>								
<b>Production ('000 tonnes)</b>								
Rio Tinto Iron & Titanium (k)	100%	223	246	236	267	300	1,089	1,048
<b>URANIUM</b>								
<b>Production ('000 lbs U<sub>3</sub>O<sub>8</sub>) (l)</b>								
Energy Resources of Australia	68%	1,008	894	738	1,004	908	3,023	3,544
Rössing	69%	691	687	702	628	781	1,884	2,798
Rio Tinto total uranium production		1,699	1,581	1,439	1,633	1,690	4,907	6,342

**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 16 December 2016, Rio Tinto completed the sale of its 100% interest in the Lochaber aluminium 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) As a result of a restructure of the Coal & Allied group, which completed on 3 February 2016, Rio Tinto obtained 100% ownership of Coal & Allied and Mitsubishi obtained a direct interest of 32.4% in the newly created Hunter Valley Operations joint venture, which owns the Hunter Valley Operations mine. Updated ownership reflects these changes. Historical production prior to the date of the restructure, reflects previous ownership in the Hunter Valley Operations, Mt Thorley and Warkworth mines of 80%, 64% and 44.46% respectively.

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

(g) 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.

(h) Fourth-quarter 2016 adjustments to Grasberg forecasted full-year 2016 production resulted in adjustments to Rio Tinto's share of previously reported mine production in the first, second and third quarters of 2016.

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

(j) Includes 100% of production from Paraburdoo, Mt Tom Price, Marandoo, Yandicoogina, Brockman, Nammuldi 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.

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

(l) 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 2016.**

Rio Tinto's interest in the Murowa mine was sold in 2015. No data for this operation are included in the Share of Production table.



## Rio Tinto operational data

	Rio Tinto interest	4Q 2015	1Q 2016	2Q 2016	3Q 2016	4Q 2016	Full Year 2015	Full Year 2016
<b>ALUMINA</b>								
<b>Smelter Grade Alumina - Aluminium Group</b>								
Alumina production ('000 tonnes)								
<i>Australia</i>								
Queensland Alumina Refinery - Queensland	80.0%	940	953	961	947	987	3,747	3,848
Yarwun refinery - Queensland	100.0%	778	785	823	747	821	2,864	3,176
<i>Brazil</i>								
São Luis (Alumar) refinery	10.0%	937	903	931	916	957	3,667	3,707
<i>Canada</i>								
Jonquière (Vaudreuil) refinery - Quebec (a)	100.0%	361	377	353	355	367	1,449	1,452
<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%	26	25	29	29	31	110	115

**Rio Tinto percentage interest shown above is at 31 December 2016. The data represent full production and sales on a 100% basis unless otherwise stated.**

## Rio Tinto operational data

	Rio Tinto interest	4Q 2015	1Q 2016	2Q 2016	3Q 2016	4Q 2016	Full Year 2015	Full Year 2016
<b>ALUMINIUM</b>								
<b>Primary Aluminium</b>								
Primary aluminium production ('000 tonnes)								
<i>Australia</i>								
Bell Bay smelter - Tasmania	100.0%	49	45	45	46	47	191	182
Boyne Island smelter - Queensland	59.4%	146	145	145	147	147	579	583
Tomago smelter - New South Wales	51.6%	146	145	147	149	149	579	589
<i>Canada</i>								
Alma smelter - Quebec	100.0%	118	117	116	117	117	466	467
Alouette (Sept-Îles) smelter - Quebec	40.0%	153	152	152	152	153	606	609
Arvida smelter - Quebec	100.0%	44	43	43	43	43	173	172
Arvida AP60 smelter - Quebec	100.0%	15	15	15	15	15	59	60
Bécancour smelter - Quebec	25.1%	111	113	108	114	110	437	445
Grande-Baie smelter - Quebec	100.0%	57	56	56	58	58	221	227
Kitimat smelter - British Columbia	100.0%	51	83	107	109	109	110	408
Laterrière smelter - Quebec	100.0%	62	61	61	62	63	244	247
<i>France</i>								
Dunkerque smelter	100.0%	70	69	69	71	71	275	280
<i>Iceland</i>								
ISAL (Reykjavik) smelter	100.0%	50	50	52	51	52	201	205
<i>New Zealand</i>								
Tiwai Point smelter	79.4%	85	84	84	85	85	333	339
<i>Oman</i>								
Sohar smelter	20.0%	96	97	97	95	97	377	386
<i>United Kingdom</i>								
Lochaber smelter (a)	0.0%	12	12	12	12	10	47	46

(a) 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 2016. The data represent full production and sales on a 100% basis unless otherwise stated.**

## Rio Tinto operational data

	Rio Tinto interest	4Q 2015	1Q 2016	2Q 2016	3Q 2016	4Q 2016	Full Year 2015	Full Year 2016
<b>BAUXITE</b>								
Bauxite production ('000 tonnes)								
<i>Australia</i>								
Gove mine - Northern Territory	100.0%	1,959	2,214	2,186	2,521	2,169	7,497	9,091
Weipa mine - Queensland	100.0%	6,899	6,524	7,560	7,642	7,700	27,663	29,427
<i>Brazil</i>								
Porto Trombetas (MRN) mine	12.0%	4,437	3,805	3,920	4,441	4,296	16,162	16,462
<i>Guinea</i>								
Sangaredi mine (a)	23.0%	4,044	4,205	4,126	3,836	3,856	14,615	16,023
<b>Rio Tinto share of bauxite shipments</b>								
Share of total bauxite shipments ('000 tonnes)		10,890	11,153	11,683	12,743	11,996	43,462	47,575
Share of third party bauxite shipments ('000 tonnes)		6,576	6,768	7,101	8,093	7,345	26,569	29,308

(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 2016. The data represent full production and sales on a 100% basis unless otherwise stated.**

## Rio Tinto operational data

	Rio Tinto interest	4Q 2015	1Q 2016	2Q 2016	3Q 2016	4Q 2016	Full Year 2015	Full Year 2016
<b>BORATES</b>								
<b>Rio Tinto Minerals - borates</b>	100.0%							
<i>US</i>								
Borates ('000 tonnes) (a)		107	127	123	132	121	476	503

(a) Production is expressed as B<sub>2</sub>O<sub>3</sub> content.

<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)		2,166	1,476	-	-	-	8,319	1,476
<b>Hail Creek Coal mine</b>	82.0%							
<i>Queensland</i>								
Hard coking coal ('000 tonnes)		1,383	1,492	1,466	1,522	1,470	6,218	5,950
Thermal coal ('000 tonnes)		856	1,091	806	960	910	3,245	3,767
<b>Hunter Valley Operations (b)</b>	67.6%							
<i>New South Wales</i>								
Semi-soft coking coal ('000 tonnes)		685	964	651	1,245	859	2,966	3,720
Thermal coal ('000 tonnes)		2,939	1,911	3,104	2,361	2,550	10,048	9,925
<b>Kestrel Coal mine</b>	80.0%							
<i>Queensland</i>								
Hard coking coal ('000 tonnes)		957	948	745	1,158	1,227	3,450	4,077
Thermal coal ('000 tonnes)		231	173	120	281	271	637	846
<b>Mount Thorley Operations (b)</b>	80.0%							
<i>New South Wales</i>								
Semi-soft coking coal ('000 tonnes)		254	466	414	187	353	1,398	1,420
Thermal coal ('000 tonnes)		602	742	315	758	1,035	2,815	2,850

Rio Tinto percentage interest shown above is at 31 December 2016. The data represent full production and sales on a 100% basis unless otherwise stated.

## Rio Tinto operational data

	Rio Tinto interest	4Q 2015	1Q 2016	2Q 2016	3Q 2016	4Q 2016	Full Year 2015	Full Year 2016
<b>COAL (continued)</b>								
<b>Warkworth mine (b)</b>	55.6%							
<i>New South Wales</i>								
Semi-soft coking coal ('000 tonnes)		194	267	218	135	190	853	809
Thermal coal ('000 tonnes)		1,945	1,672	2,188	2,035	1,330	6,663	7,225
Total hard coking coal production ('000 tonnes)		2,340	2,440	2,210	2,680	2,697	9,668	10,027
Total semi-soft coking coal production ('000 tonnes)		1,133	1,697	1,284	1,567	1,402	5,217	5,950
Total thermal coal production ('000 tonnes)		8,739	7,065	6,533	6,395	6,096	31,727	26,090
Total coal production ('000 tonnes)		12,212	11,202	10,026	10,642	10,196	46,612	42,067
Total coal sales ('000 tonnes)		12,261	11,047	10,357	10,129	10,241	46,658	41,773
<b>Rio Tinto Coal Australia share (c)</b>								
Share of hard coking coal sales ('000 tonnes)		2,018	2,099	1,879	2,332	2,395	8,070	8,704
Share of semi-soft coal sales ('000 tonnes) (d)		784	1,122	1,075	904	1,043	3,609	4,144
Share of thermal coal sales ('000 tonnes) (d)		5,037	4,287	4,260	3,958	3,979	18,420	16,484

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

(b) As a result of a restructure of the Coal & Allied group, which completed on 3 February 2016, Rio Tinto obtained 100% ownership of Coal & Allied and Mitsubishi obtained a direct interest of 32.4% in the newly created Hunter Valley Operations joint venture, which owns the Hunter Valley Operations mine. Updated ownership reflects these changes. Historical production prior to the date of the restructure, reflects previous ownership in the Hunter Valley Operations, Mt Thorley and Warkworth mines of 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 2016. The data represent full production and sales on a 100% basis unless otherwise stated.**

## Rio Tinto operational data

	Rio Tinto interest	4Q 2015	1Q 2016	2Q 2016	3Q 2016	4Q 2016	Full Year 2015	Full Year 2016
<b>COPPER &amp; GOLD</b>								
<b>Escondida</b>	30.0%							
<i>Chile</i>								
Sulphide ore to concentrator ('000 tonnes)		18,076	21,188	22,905	20,787	19,866	85,186	84,746
Average copper grade (%)		0.99	0.99	0.94	0.87	1.02	1.21	0.96
Mill production (metals in concentrates):								
Contained copper ('000 tonnes)		138.6	175.8	181.7	153.2	168.6	828.5	679.3
Contained gold ('000 ounces)		18	31	36	28	38	89	133
Contained silver ('000 ounces)		962	1,544	1,874	1,229	1,323	4,812	5,971
Recoverable copper in ore stacked for leaching ('000 tonnes) (a)		81.8	88.8	77.4	88.9	76.4	320.3	331.4
Refined production from leach plants:								
Copper cathode production ('000 tonnes)		88.7	84.8	85.3	70.5	71.5	326.3	312.1

(a) The calculation of copper in material mined for leaching is based on ore stacked at the leach pad.

<b>Freeport-McMoRan Copper &amp; Gold</b>								
<b>Grasberg mine (a)</b>	0.0% (b)							
<i>Papua, Indonesia</i>								
Ore treated ('000 tonnes)		14,248	14,249	14,141	16,608	18,446	59,322	63,445
Average mill head grades:								
Copper (%)		0.75	0.69	0.84	1.02	1.29	0.67	0.98
Gold (g/t)		0.92	0.53	0.48	0.69	1.32	0.79	0.79
Silver (g/t)		2.92	2.23	2.88	3.45	3.45	2.50	3.05
Production of metals in concentrates:								
Copper in concentrates ('000 tonnes)		94.5	85.8	106.5	153.8	223.0	353.3	569.2
Gold in concentrates ('000 ounces)		355	196	179	310	651	1,270	1,336
Silver in concentrates ('000 ounces)		778	613	776	1,170	1,247	2,818	3,805
Sales of payable metals in concentrates: (c)								
Copper in concentrates ('000 tonnes)		88.7	86.9	96.8	153.7	206.2	337.8	543.6
Gold in concentrates ('000 ounces)		332	207	166	307	601	1,224	1,282
Silver in concentrates ('000 ounces)		567	510	562	928	920	2,134	2,921

(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 4Q 2016 results show the forecast from FCX's most recent five-year plan, because FCX is not releasing its actual 100% operating data for 4Q 2016 until the release of its 2016 fourth-quarter results on 25 January 2017.

(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 2016. The data represent full production and sales on a 100% basis unless otherwise stated.**

## Rio Tinto operational data

	Rio Tinto interest	4Q 2015	1Q 2016	2Q 2016	3Q 2016	4Q 2016	Full Year 2015	Full Year 2016
<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)		8,224	7,386	7,512	9,698	<b>8,827</b>	34,831	<b>33,423</b>
Average ore grade:								
Copper (%)		0.35	0.51	0.55	0.41	<b>0.56</b>	0.30	<b>0.50</b>
Gold (g/t)		0.15	0.19	0.18	0.25	<b>0.31</b>	0.18	<b>0.24</b>
Silver (g/t)		1.45	1.85	1.70	2.56	<b>3.33</b>	1.95	<b>2.41</b>
Molybdenum (%)		0.023	0.015	0.023	0.031	<b>0.040</b>	0.037	<b>0.028</b>
Copper concentrates produced ('000 tonnes)		136	153	152	154	<b>190</b>	470	<b>648</b>
Average concentrate grade (% Cu)		18.8	22.4	24.5	23.4	<b>23.8</b>	19.5	<b>23.5</b>
Production of metals in copper concentrates:								
Copper ('000 tonnes) (a)		25.7	34.2	37.2	36.2	<b>45.1</b>	92.0	<b>152.7</b>
Gold ('000 ounces)		26	26	28	41	<b>57</b>	131	<b>153</b>
Silver ('000 ounces)		300	342	329	522	<b>751</b>	1,458	<b>1,943</b>
Molybdenum concentrates produced ('000 tonnes):		1.2	0.2	0.3	1.6	<b>3.4</b>	14.9	<b>5.6</b>
Molybdenum in concentrates ('000 tonnes)		0.6	0.1	0.2	0.8	<b>1.8</b>	7.6	<b>2.8</b>

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

<b>Kennecott smelter &amp; refinery</b>	100.0%							
Copper concentrates smelted ('000 tonnes)		143	158	167	220	<b>207</b>	503	<b>752</b>
Copper anodes produced ('000 tonnes) (a)		24.7	32.0	33.1	56.1	<b>42.7</b>	96.0	<b>163.8</b>
Production of refined metal:								
Copper ('000 tonnes)		22.6	25.8	24.6	39.1	<b>67.0</b>	115.2	<b>156.5</b>
Gold ('000 ounces) (b)		31.0	29.8	35.3	29.7	<b>40.6</b>	179.0	<b>135.4</b>
Silver ('000 ounces) (b)		348	348	587	415	<b>465</b>	1,843	<b>1,815</b>

(a) New metal excluding recycled material.

(b) Includes gold and silver in intermediate products.

**Rio Tinto percentage interest shown above is at 31 December 2016. The data represent full production and sales on a 100% basis unless otherwise stated.**

## Rio Tinto operational data

	Rio Tinto interest	4Q 2015	1Q 2016	2Q 2016	3Q 2016	4Q 2016	Full Year 2015	Full Year 2016
<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)		9,369	9,662	9,525	9,146	<b>9,819</b>	34,537	<b>38,152</b>
Average mill head grades:								
Copper (%)		0.69	0.70	0.64	0.66	<b>0.61</b>	0.67	<b>0.65</b>
Gold (g/t)		0.92	0.63	0.33	0.21	<b>0.25</b>	0.78	<b>0.36</b>
Silver (g/t)		1.67	1.92	1.92	1.99	<b>1.50</b>	1.56	<b>1.83</b>
Copper concentrates produced ('000 tonnes)		231.8	229.5	207.1	203.2	<b>206.7</b>	788.5	<b>846.6</b>
Average concentrate grade (% Cu)		24.7	25.1	24.9	22.9	<b>22.0</b>	25.6	<b>23.8</b>
Production of metals in concentrates:								
Copper in concentrates ('000 tonnes)		57.3	57.6	51.7	46.6	<b>45.5</b>	202.2	<b>201.3</b>
Gold in concentrates ('000 ounces)		207.1	143.5	69.6	37.4	<b>49.4</b>	653.4	<b>300.0</b>
Silver in concentrates ('000 ounces)		355	395	391	361	<b>273</b>	1,223	<b>1,420</b>
Sales of metals in concentrates:								
Copper in concentrates ('000 tonnes)		54.7	51.2	54.4	45.7	<b>37.6</b>	201.3	<b>188.9</b>
Gold in concentrates ('000 ounces)		160	175	95	38	<b>39</b>	737	<b>347</b>
Silver in concentrates ('000 ounces)		360	305	395	341	<b>239</b>	1,158	<b>1,280</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 2016. The data represent full production and sales on a 100% basis unless otherwise stated.**



## Rio Tinto operational data

	Rio Tinto interest	4Q 2015	1Q 2016	2Q 2016	3Q 2016	4Q 2016	Full Year 2015	Full Year 2016
<b>DIAMONDS</b>								
<b>Argyle Diamonds</b>	100.0%							
<i>Western Australia</i>								
AK1 ore processed ('000 tonnes)		1,127	1,151	1,314	1,349	1,283	4,843	5,097
AK1 diamonds produced ('000 carats)		3,368	3,391	3,489	3,493	3,584	13,472	13,958
<b>Diavik Diamonds</b>	60.0%							
<i>Northwest Territories, Canada</i>								
Ore processed ('000 tonnes)		465	557	535	582	539	1,984	2,214
Diamonds recovered ('000 carats)		1,498	1,885	1,579	1,545	1,649	6,406	6,658
<b>Murowa Diamonds (a)</b>	0.0%							
<i>Zimbabwe</i>								
Ore processed ('000 tonnes)		-	-	-	-	-	212	-
Diamonds recovered ('000 carats)		-	-	-	-	-	99	-

(a) Rio Tinto sold its 77.8% interest in Murowa Diamonds with an effective date of 17 June 2015. Production data are shown up to that date.

**Rio Tinto percentage interest shown above is at 31 December 2016. The data represent full production and sales on a 100% basis unless otherwise stated.**

## Rio Tinto operational data

	Rio Tinto interest	4Q 2015	1Q 2016	2Q 2016	3Q 2016	4Q 2016	Full Year 2015	Full Year 2016
<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)	51,324	48,468	50,284	52,302	<b>54,848</b>	189,421	<b>205,902</b>
Hamersley - Channar	60.0%	2,606	2,539	2,386	2,941	<b>1,866</b>	10,561	<b>9,731</b>
Hope Downs	50.0%	11,690	11,799	11,847	11,775	<b>11,588</b>	44,745	<b>47,010</b>
Robe River - Pannawonica (Mesas J and A)	53.0%	8,062	8,395	7,964	7,940	<b>8,477</b>	32,482	<b>32,776</b>
Robe River - West Angelas	53.0%	8,573	8,700	8,400	8,196	<b>8,748</b>	32,665	<b>34,044</b>
Total production ('000 tonnes)		82,255	79,902	80,882	83,154	<b>85,526</b>	309,876	<b>329,463</b>
Breakdown of total production:								
Pilbara Blend Lump		24,116	23,355	23,180	24,478	<b>24,902</b>	90,643	<b>95,915</b>
Pilbara Blend Fines		36,408	34,732	35,098	35,986	<b>36,988</b>	132,728	<b>142,804</b>
Robe Valley Lump		2,660	2,969	2,717	2,799	<b>3,066</b>	11,202	<b>11,551</b>
Robe Valley Fines		5,402	5,427	5,248	5,141	<b>5,411</b>	21,280	<b>21,226</b>
Yandicoogina Fines (HIY)		13,669	13,420	14,640	14,750	<b>15,159</b>	54,022	<b>57,968</b>
Breakdown of total sales:								
Pilbara Blend Lump		21,960	19,149	20,914	20,377	<b>21,943</b>	78,574	<b>82,383</b>
Pilbara Blend Fines		41,266	37,199	38,807	37,200	<b>42,225</b>	152,706	<b>155,431</b>
Robe Valley Lump		2,516	2,400	2,408	2,540	<b>2,835</b>	10,031	<b>10,183</b>
Robe Valley Fines		6,144	5,459	5,523	5,790	<b>5,761</b>	22,390	<b>22,533</b>
Yandicoogina Fines (HIY)		14,569	12,533	14,553	15,008	<b>14,969</b>	54,843	<b>57,062</b>
Total sales ('000 tonnes) (b)		86,454	76,739	82,205	80,916	<b>87,732</b>	318,544	<b>327,592</b>

(a) Includes 100% of production from Paraburdoo, Mt Tom Price, Marandoo, Yandicoogina, Brockman, Nammuldi 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.

(b) Sales represent iron ore exported from Western Australian ports.

<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)		2,865	2,114	2,056	2,272	<b>1,915</b>	8,394	<b>8,357</b>
Pellets ('000 tonnes)		2,036	2,006	2,326	2,710	<b>2,756</b>	9,297	<b>9,798</b>
Sales:								
Concentrates ('000 tonnes)		2,656	2,060	2,147	2,182	<b>1,955</b>	8,411	<b>8,344</b>
Pellets ('000 tonnes)		2,180	1,990	2,407	2,582	<b>3,004</b>	9,603	<b>9,983</b>
<b>Global Iron Ore Totals</b>								
Iron Ore Production ('000 tonnes)		87,157	84,022	85,265	88,136	<b>90,196</b>	327,567	<b>347,619</b>
Iron Ore Sales ('000 tonnes)		91,291	80,789	86,759	85,679	<b>92,692</b>	336,558	<b>345,918</b>

**Rio Tinto percentage interest shown above is at 31 December 2016. The data represent full production and sales on a 100% basis unless otherwise stated.**

## Rio Tinto operational data

	Rio Tinto interest	4Q 2015	1Q 2016	2Q 2016	3Q 2016	4Q 2016	Full Year 2015	Full Year 2016
<b>SALT</b>								
<b>Dampier Salt</b>	68.4%							
<i>Western Australia</i>								
Salt production ('000 tonnes)		2,409	2,103	1,634	1,813	2,028	8,103	7,578
<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)		223	246	236	267	300	1,089	1,048

(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)		1,474	1,307	1,078	1,468	1,328	4,421	5,182
<i>(a) ERA production reported is 'drummed' U<sub>3</sub>O<sub>8</sub>.</i>								
<b>Rössing Uranium Ltd</b>	68.6%							
<i>Namibia</i>								
U <sub>3</sub> O <sub>8</sub> Production ('000 lbs)		1,007	1,001	1,023	916	1,138	2,747	4,078

Rio Tinto percentage interest shown above is at 31 December 2016. The data represent full production and sales on a 100% basis unless otherwise stated.