

Rio Tinto releases second quarter production results

17 July 2018

Rio Tinto chief executive J-S Jacques said “Operational performance was solid across most commodities, rounding out a strong first half performance for the Group. Our increasingly flexible Pilbara iron ore system continued to perform well. Our bauxite and copper businesses also delivered strong operating results, demonstrating the success of our ongoing mine-to-market productivity programme, which is increasingly important in an environment of rising cost inflation. Our sustained focus on cash generation, combined with disciplined capital allocation, will ensure we continue to deliver superior returns to our shareholders across the short, medium and long term.”

		Q2 2018	vs Q2 2017	vs Q1 2018	H1 2018	vs H1 2017
Pilbara iron ore shipments (100% basis)	Mt	88.5	+14%	+10%	168.8	+9%
Pilbara iron ore production (100% basis)	Mt	85.5	+7%	+3%	168.7	+7%
Bauxite	kt	13,279	+3%	+5%	25,931	+7%
Aluminium	kt	858	-3%	+1%	1,704	-4%
Mined copper	kt	156.8	+26%	+13%	296.1	+42%
Hard coking coal	kt	2,174	+40%	+97%	3,276	+4%
Titanium dioxide slag	kt	232	-27%	-21%	525	-19%
IOC iron ore pellets and concentrate	Mt	0.9	-68%	-63%	3.2	-39%

Key points

- Pilbara iron ore shipments of 88.5 million tonnes (100 per cent basis) in the second quarter were 14 per cent higher than the second quarter of 2017, benefiting from better weather and reflecting improved productivity across the system. Shipments in 2018 are expected to be at the upper end of the existing guidance range of 330 to 340 million tonnes (100 per cent basis).
- Bauxite production of 13.3 million tonnes was three per cent higher than the corresponding quarter of 2017, due to continued operational improvements. Third party shipments increased by ten per cent to 8.7 million tonnes due to firm demand.
- Aluminium production of 0.9 million tonnes was three per cent lower than the second quarter of 2017 due primarily to labour disruptions at the non-managed Becancour smelter in Canada and a power interruption at the Dunkerque smelter in France.
- Mined copper production of 156.8 thousand tonnes was 26 per cent higher than the corresponding quarter of 2017, reflecting strong production at Escondida following a labour union strike in the first half of last year.
- Hard coking coal production was 40 per cent higher than the corresponding quarter of 2017 due primarily to the impact of Cyclone Debbie last year.
- Titanium dioxide slag production was 27 per cent lower than the second quarter of 2017. Production was suspended at Rio Tinto Fer et Titane in Sorel-Tracy following a fatality on 26 April 2018. Production at Richards Bay Minerals has been impacted by ongoing labour disputes between contractors and their employees.
- Production at Iron Ore Company of Canada was significantly impacted in the second quarter, where operations were suspended while a new labour agreement was reached. Operations returned to normal production rates by the end of June 2018.
- Cost inflation is being experienced, particularly in the Aluminium group with higher raw material costs. Disruptions during the first half have also impacted unit costs at IOC and RBM.
- The major growth projects remain on track, with first bauxite shipment from Amrun expected in the first half of 2019 and construction of the first drawbell at Oyu Tolgoi Underground anticipated in mid-2020.
- The AutoHaul™ project achieved two major milestones, with regulatory approval on 18 May 2018 and the first loaded autonomous train journey from mine to port completed on 10 July 2018.

- Divestments announced in the first half of 2018 totalling \$5.0 billion pre-tax, subject to completion conditions, are all expected to complete by the end of 2018, including the Dunkerque and ISAL smelter sales and the Group's coking coal assets.
- On 12 July 2018, Rio Tinto announced that it had signed a non-binding Heads of Agreement with PT Indonesia Asahan Aluminium (Persero) (Inalum), and Freeport-McMoRan Inc. detailing the proposed principal terms for the sale of its entire interest in Grasberg to Inalum for \$3.5 billion. Given the terms that remain to be agreed, there is no certainty the transaction will complete and any final agreements will be subject to regulatory approvals.

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 2017 is excluded from Rio Tinto share of production data but assets sold in 2018 remain in comparisons.

IRON ORE

Rio Tinto share of production (million tonnes)

	Q2 2018	vs Q2 2017	vs Q1 2018	H1 2018	vs H1 2017
Pilbara Blend Lump	21.9	+11%	+6%	42.6	+9%
Pilbara Blend Fines	31.2	+11%	+5%	61.0	+11%
Robe Valley Lump	1.4	-2%	-10%	3.0	+4%
Robe Valley Fines	2.6	+18%	-15%	5.7	+25%
Yandicoogina Fines (HIY)	14.3	+6%	+3%	28.2	+4%
Total Pilbara production	71.5			140.5	
Total Pilbara production (100% basis)	85.5			168.7	

Pilbara operations

Pilbara operations produced 168.7 million tonnes (Rio Tinto share 140.5 million tonnes) in the first half of 2018, seven per cent higher than the same period of 2017. Second quarter production of 85.5 million tonnes (Rio Tinto share 71.5 million tonnes) was also seven per cent higher than the second quarter of 2017, reflecting favourable weather conditions compared to last year, the ramp-up of Silvergrass and the ongoing implementation of productivity improvements across the integrated system.

Sales of 168.8 million tonnes (Rio Tinto share 140.1 million tonnes) were nine per cent higher than the first half of 2017, with second quarter sales of 88.5 million tonnes (Rio Tinto share 73.5 million tonnes) some 14 per cent higher than the same period of last year. The continued improvement in productivity and flexibility across the system enabled Rio Tinto to benefit from strong lump premiums during the first half, with record lump sales achieved in the second quarter.

Approximately 17 per cent of sales in the quarter were priced by 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 31 per cent of sales in the quarter were made free on board (FOB), with the remainder sold including freight.

Achieved average pricing in the first half of 2018 was \$57.9 per wet metric tonne on an FOB basis (equivalent to \$63.0 per dry metric tonne). In 2017, the full year price achieved was \$59.6 per wet metric tonne (equivalent to \$64.8 per dry metric tonne).

Pilbara projects

The automation of the Pilbara train system (AutoHaul™) continues to advance, with approximately 65 per cent of trains at the end of the quarter having run in either a driver attended or autonomous mode and more than 3.3 million kilometres now completed in this mode of operation. AutoHaul™ received accreditation to run trains in autonomous mode from the National Rail Safety Regulator on 18 May 2018 and the first loaded autonomous train journey took place on 10 July 2018. Full implementation of the autonomous programme is expected by the end of 2018.

The Koodaideri feasibility study is on track for completion in 2018.

2018 guidance

As a result of the strong performance in the first half, Rio Tinto's Pilbara shipments in 2018 are expected to be at the upper end of the existing guidance range (330 to 340 million tonnes, 100 per cent basis). For the current year, shipments are expected to be more evenly distributed between the first and second halves compared to prior years, when shipments have typically been skewed to the second half following seasonal disruption in the first half.

ALUMINIUM

Rio Tinto share of production ('000 tonnes)

	Q2 2018	vs Q2 2017	vs Q1 2018	H1 2018	vs H1 2017
Rio Tinto Aluminium					
Bauxite	13,279	+3%	+5%	25,931	+7%
Alumina	1,999	-1%	+0%	3,988	-2%
Aluminium	858	-3%	+1%	1,704	-4%

Bauxite

Bauxite production of 13.3 million tonnes was three per cent higher than the second quarter of 2017, reflecting the continued implementation of operational improvements. Gove production was 18 per cent higher due to the continued debottlenecking of the materials handling system, whilst stronger production was also achieved at Weipa.

8.7 million tonnes of bauxite were shipped to third parties in the second quarter of 2018, ten per cent higher than the second quarter of 2017 due to firm demand.

Amrun

The Amrun project remains on schedule for first shipment in the first half of 2019. The stacker and reclaimer have been transported to site following completion of fabrication, whilst the shiploader assembly is also nearing completion.

Alumina

Alumina production for the quarter was one per cent lower than the corresponding period in 2017.

Although Rio Tinto is broadly balanced in alumina, it is exposed to long-term legacy alumina sales contracts, which are LME linked. The significant escalation in the alumina index price during the second quarter, as a result of industry supply disruptions, has considerably increased the financial impact of these legacy contracts.

Aluminium

Quarterly aluminium production was three per cent lower than the corresponding period last year, mainly due to an ongoing lock-out at the non-managed Becancour smelter, which began on 11 January 2018, as well as a power interruption at the Dunkerque smelter which occurred on 6 February 2018. Dunkerque has been progressively ramping up towards full production during the second quarter. Excluding these assets, aluminium production for the second quarter was one per cent higher than the second quarter of 2017, reflecting continued productivity creep.

Average realised aluminium prices in the first half of 2018 were \$2,547 per tonne (H1 2017: \$2,151 per tonne). This includes premiums for value-added products (VAP), which represented 58 per cent of primary metal sold in the first half of 2018 (H1 2017: 57 per cent) and generated attractive product premiums averaging \$222 per tonne of VAP sold (H1 2017: \$217 per tonne) on top of the physical market premiums. The mid-west premium increased from \$209 per tonne in the second half of 2017 to \$463 per tonne in the first half of 2018, partly reflecting the announcement on 1 March 2018 of a ten per cent tariff on aluminium imports into the United States under Section 232. The tariffs were effective from 1 June 2018 for Canada, with only Australia and Argentina remaining exempt.

As previously guided, significant raw material cost headwinds have been experienced by the Aluminium business, with the impact during the first half of 2018 already considerably exceeding the full year 2017 impact. This is expected to continue into the second half of 2018.

Furthermore, additional costs have been incurred as a result of the Becancour lock-out, whilst higher than expected power costs have been experienced in Australia due to higher coal prices impacting power contracts.

Following the announcement by the United States Treasury Department on 6 April 2018, that it was implementing sanctions on various Russian individuals and companies, Rio Tinto announced on 13 April

2018 that it had reviewed arrangements it had with impacted entities and was in the process of declaring force majeure on certain contracts. However, the wind-down period was extended until 23 October 2018 and no force majeure declarations have been made to date. Rio Tinto continues to monitor this situation closely.

Binding offers for the sale of the Aluminium Dunkerque smelter in France for \$500 million and the ISAL aluminium smelter in Iceland for \$345 million were announced in the first quarter of 2018. The sales are expected to complete in the third quarter of 2018, subject to satisfactory completion of consultations with key stakeholders and applicable regulatory clearances.

2018 guidance

Rio Tinto's expected share of production in 2018 remains unchanged at between 49 and 51 million tonnes of bauxite and 8.0 to 8.2 million tonnes of alumina. Aluminium guidance of 3.5 to 3.7 million tonnes will be adjusted following completion of the sale of the Aluminium Dunkerque and ISAL smelters.

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COPPER & DIAMONDS

Rio Tinto share of production ('000 tonnes)

	Q2 2018	vs Q2 2017	vs Q1 2018	H1 2018	vs H1 2017
Mined copper					
Rio Tinto Kennecott	51.2	+16%	+44%	86.6	-2%
Escondida	92.4	+35%	+2%	183.3	+92%
Grasberg	0.0	N/A	N/A	0.0	N/A
Oyu Tolgoi	13.2	+6%	+2%	26.2	+4%
Refined copper					
Rio Tinto Kennecott	40.7	+100%	+15%	76.0	+52%
Escondida	21.0	+12%	+1%	41.9	+55%
Diamonds ('000 carats)					
Argyle	3,476	+8%	-2%	7,027	+13%
Diavik	1,150	+3%	+8%	2,214	-2%

Rio Tinto Kennecott

Mined copper production in the second quarter of 2018 was 16 per cent higher than the second quarter of 2017 as mining activity moved into a higher grade area of the pit. Refined copper was significantly higher than the corresponding period of 2017, which was affected by a 27 day smelter shutdown, with a continued draw-down in concentrate inventories. Improved productivity of the mining fleet resulted in a significant improvement in material movement compared with the corresponding period of 2017.

Rio Tinto Kennecott continues to toll and purchase third party concentrate to optimise smelter utilisation, with 31.3 thousand tonnes of concentrate received for processing in the second quarter of 2018. Purchased and tolled copper concentrate are 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

Second quarter mined copper production at Escondida was 35 per cent higher than the same period of 2017, with first half production being 92 per cent higher than the first half of last year, which was impacted by a labour union strike. This performance also reflects the ramp-up of Escondida production to nameplate capacity following commissioning of the Los Colorados concentrator in the second half of 2017. Escondida's current labour agreement expires on 1 August 2018, and negotiations for a new agreement are in progress.

Oyu Tolgoi

Mined copper production from the open pit in the second quarter of 2018 was six per cent higher than the corresponding period of 2017 due to higher plant throughput.

Oyu Tolgoi Underground Project

Contractor numbers are approaching their peak, with a project workforce of over 7,500 at the end of June 2018, of which 89 per cent are Mongolian nationals. Shaft two equipping and headframe fit-out is in progress, and the shaft five ventilation system has been fully commissioned and is now operational. Construction of the first drawbell is still expected in mid-2020.

In February 2018 the Southern Region Power Sector Co-operation Agreement under which Oyu Tolgoi was committed to working with the Government of Mongolia on a Tavan Tolgoi Independent Power Provider project was cancelled. As a result the Government of Mongolia expects Oyu Tolgoi to deliver a domestic power source for the operation within four years (by February 2022).

Oyu Tolgoi is progressing studies and preparations for suitable power solutions and continues to discuss the provision of domestic power with the Government of Mongolia.

Grasberg

On 12 July 2018, Rio Tinto announced that it had signed a non-binding agreement with PT Indonesia Asahan Aluminium (Persero) (Inalum), and Freeport-McMoRan Inc. (FCX) in relation to the future ownership of the Grasberg mine in Indonesia. The Heads of Agreement details the proposed principal terms for the sale of Rio Tinto's entire interest pursuant to a joint venture agreement with PT Freeport Indonesia (PT-FI) in Grasberg to Inalum, Indonesia's state mining company, for \$3.5 billion.

Separately, the agreement sets out a proposed transaction between FCX and Inalum for the latter to buy an additional stake in Grasberg as well as additional terms relating to the future ownership and operation of Grasberg. All parties have committed to work towards agreeing and signing binding agreements before the end of the second half of 2018. Given the terms that remain to be agreed, there is no certainty that a transaction will be completed. Any final agreements will be subject to applicable government and regulatory approvals.

As part of the joint venture agreement, Rio Tinto is presently entitled to a 40 per cent share of production above an agreed threshold until the end of 2021 and 40 per cent of all production thereafter. Rio Tinto's full participation has been delayed due to the application of force majeure provisions in the joint venture agreement. The first full year in which Rio Tinto would participate to the full extent of 40 per cent of production is expected to be 2023.

In February 2018, PT-FI received an extension of its export permit to February 2019, with a temporary Mining Licence renewed on a short-term basis while PT-FI continues to engage with the Indonesian Government on matters pertaining to in-country processing, environmental regulation, share divestment strategy and the basis upon which operations at Grasberg will continue beyond 2021 with regard to the rights conferred by its Contract of Work.

Rio Tinto is reporting its metal share for the second quarter as zero and expects its metal share for 2018 to be zero.

Provisional pricing

At 30 June 2018, the Group had an estimated 264 million pounds of copper sales that were provisionally priced at 312 cents per pound. The final price of these sales will be determined during the second half of 2018. This compares with 250 million pounds of open shipments at 31 December 2017, provisionally priced at 304 cents per pound.

Diamonds

At Argyle, carat production was eight per cent higher than the second quarter of 2017 due to an increase in tonnes processed following improved plant availability.

At Diavik, carats recovered in the second quarter of 2018 were three per cent higher than the corresponding period in 2017 due to higher plant throughput. Development of the A21 project is ahead of schedule with first ore uncovered in March and the mine is expected to be at full production capacity during the fourth quarter of 2018.

2018 guidance

Rio Tinto's expected share of mined copper production for 2018 is unchanged at 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

	Q2 2018	vs Q2 2017	vs Q1 2018	H1 2018	vs H1 2017
Coal ('000 tonnes)					
Hard coking coal	2,174	+40%	+97%	3,276	+4%
Thermal coal (a)	1,011	-1%	-10%	2,130	+5%
Iron ore pellets and concentrate (million tonnes)					
IOC	0.9	-68%	-63%	3.2	-39%
Minerals ('000 tonnes)					
Borates – B ₂ O ₃ content	132	-1%	+7%	256	+0%
Salt	1,662	+13%	+10%	3,176	+36%
Titanium dioxide slag	232	-27%	-21%	525	-19%
Uranium ('000 lbs)					
Energy Resources of Australia	603	-11%	-10%	1,270	-20%
Rössing	928	+8%	+9%	1,776	+16%

(a) Production from Coal & Allied of 9.9 million tonnes (Rio Tinto share) prior to divestment on 1 September 2017 has been excluded from the comparisons above.

Coal

Quarterly hard coking coal production was 40 per cent higher than the second quarter of 2017 due to the impact of Cyclone Debbie at Hail Creek in 2017, and 97 per cent above the prior quarter production due to mine resequencing at Hail Creek and the longwall changeover and maintenance works at Kestrel in the previous quarter.

Second quarter thermal coal production was one per cent lower than the corresponding quarter of 2017. Thermal coal production for 2017 has been restated for comparability excluding production of 9.9 million tonnes (Rio Tinto share) from the now divested Coal & Allied assets.

On 1 June 2018, Rio Tinto announced it completed the sale of its 75 per cent interest in the Winchester South coal development project in Queensland, Australia, to Whitehaven Coal Limited. Total consideration of \$200 million is comprised of \$150 million in cash received on the date of completion and an unconditional cash payment of \$50 million due 12 months from the date of completion.

The sale of Rio Tinto's interests in the Kestrel and Hail Creek coal mines and Valeria coal development project are expected to complete during the second half of 2018, subject to satisfaction of completion conditions, with gross proceeds of \$3.95 billion.

Iron Ore Company of Canada (IOC)

Operations were suspended on 27 March 2018 whilst collective bargaining negotiations took place with the local union workforce. During the second quarter, a new labour agreement was reached, the workforce returned to work on 28 May 2018, and IOC achieved a safe and successful restart and ramp-up of operations to normal production rates by the end of June 2018.

During the period of suspended operations there was no production, with focus placed on asset care and maintenance and planning for the safe restart of operations. Over this period, IOC continued to incur costs associated with maintaining the mine and plant assets and infrastructure, resulting in higher unit costs in the first half of 2018.

Production was significantly impacted in the second quarter, with pellet production of 0.5 million tonnes (Rio Tinto share 0.3 million tonnes) and concentrate production for sale of 1.0 million tonnes (Rio Tinto share 0.6 million tonnes). Sales were also significantly lower, with 0.4 million tonnes (Rio Tinto share 0.3 million tonnes) of concentrate and pellets sold during the quarter.

Borates

Borates production was one per cent lower than the second quarter of 2017, with production aligned to customer demand.

Iron and Titanium (RTIT)

Titanium dioxide slag production for the quarter was 27 per cent lower compared to the second quarter of 2017.

On 26 April 2018 an employee suffered fatal injuries during an incident at the Rio Tinto Fer et Titane (RTFT) facility at Sorel-Tracy, Quebec, Canada. As a result, operations were suspended for a period of ten days while the incident was investigated and operations were confirmed to be safe to recommence. The safe restart and ramp-up to normal operations was achieved by 2 July 2018.

Slag production at Richard's Bay Minerals (RBM) continues to be impacted by ongoing labour disputes between contractors and their employees. Following a suspension in the first quarter, mine and smelter operations restarted on 11 April 2018, but due to equipment damage the mine will reach full capacity later this year. RBM declared force majeure on deliveries to its titanium dioxide feedstock customers, which will be lifted once the operation returns to normal capacity.

On 9 July 2018, a serious incident occurred at RBM's mining operation, resulting in the fatality of a security contractor. The incident is now the subject of a police investigation. Rio Tinto's highest priority is the safety of its people, and operations at RBM were temporarily suspended.

Two of nine furnaces at RTFT remain idle, one of which is currently being rebuilt, along with one of four furnaces at RBM. The focus remains on maximising the productivity of the furnaces currently in operation, and a decision to restart idle furnaces will be based on maximising value over volume.

Salt

Salt production in the second quarter of 2018 was 13 per cent higher than the same quarter of 2017.

Uranium

Energy Resources of Australia continues to process existing low grade stockpiles. 2018 second quarter production was 11 per cent lower than the same period of 2017 due to a planned plant shutdown and declining grades as laterite stocks are largely exhausted.

Production at Rössing in the second quarter of 2018 was eight per cent higher than the corresponding quarter of 2017 due to higher mill grades which were partially offset by lower throughput due to water supply interruptions.

2018 guidance

Coal production guidance remains at 7.5 to 8.5 million tonnes of hard coking coal and 3.8 to 4.5 million tonnes of thermal coal. This assumes continued ownership of the coal assets until the end of 2018, and will be adjusted following completion of the asset disposals.

At IOC, the revised guidance for 2018 production is 9.0 to 10.0 million tonnes of iron ore pellets and concentrates (previously 10.3 to 11.3 million tonnes) to take into consideration the full impact of the extension of the strike and associated suspension of operations in the second quarter.

Guidance for Rio Tinto's expected share of titanium dioxide slag production in 2018 is revised to 1.1 to 1.2 million tonnes (previously 1.1 to 1.3 million tonnes), to reflect the operational and labour disruptions encountered in the first half. Guidance may be further updated to reflect the ongoing disruptions mentioned above.

Guidance for Rio Tinto's expected share of boric oxide equivalent production in 2018 is unchanged at 0.5 million tonnes and guidance for uranium production in 2018 is unchanged at 6.2 to 7.2 million pounds.

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EXPLORATION AND EVALUATION

Pre-tax and pre-divestment expenditure on exploration and evaluation charged to the profit and loss account in the first half of 2018 was \$232 million, compared with \$175 million in the first half of 2017, driven primarily by increased activity at Resolution. Approximately 44 per cent of this expenditure was incurred by central exploration, 34 per cent by Copper & Diamonds, 13 per cent by Energy & Minerals and the remainder by Iron Ore and Aluminium.

There were no significant divestments of central exploration properties in the first half of 2018.

Exploration highlights

Rio Tinto has a strong portfolio of projects with activity in 17 countries across some eight commodities. The bulk of the exploration expenditure in this quarter was focused on copper targets in Australia, Botswana, Canada, Chile, Kazakhstan, Mongolia, Namibia, Papua New Guinea, Peru, Serbia, Uganda, United States and Zambia. Mine-lease exploration continued at a number of Rio Tinto managed businesses including Pilbara Iron, RTIT in Canada, Oyu Tolgoi and Weipa.

A summary of activity for the quarter is as follows:

Product Group	Evaluation projects	Advanced projects	Greenfield programmes
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: FalCon ¹ , Canada	Copper: Australia, Botswana, Chile, China, Kazakhstan, Mongolia, Namibia, Papua New Guinea, Peru, Serbia, US, Zambia Nickel: Canada, Uganda Diamonds: Canada
Energy & Minerals	Lithium borates: Jadar, Serbia Heavy mineral sands: Mutamba, Mozambique and Zulti South, South Africa Uranium: Roughrider, Canada	Potash: KP405, Canada	Uranium: Canada Heavy mineral sands: Tanzania
Iron Ore	Pilbara, Australia	Pilbara, Australia	

¹ Formerly Forte a la Corne

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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Rio Tinto production summary

Rio Tinto share of production

		Quarter			Half Year		% Change		
		2017 Q2	2018 Q1	2018 Q2	2017 H1	2018 H1	Q2 18 vs Q2 17	Q2 18 vs Q1 18	H1 18 vs H1 17
Principal Commodities									
Alumina	('000 t)	2,024	1,990	1,999	4,070	3,988	-1%	0%	-2%
Aluminium	('000 t)	888	846	858	1,777	1,704	-3%	1%	-4%
Bauxite	('000 t)	12,865	12,653	13,279	24,167	25,931	3%	5%	7%
Borates	('000 t)	133	124	132	256	256	-1%	7%	0%
Coal - hard coking	('000 t)	1,555	1,102	2,174	3,138	3,276	40%	97%	4%
Coal - thermal	('000 t)	1,022	1,119	1,011	2,022	2,130	-1%	-10%	5%
Copper - mined	('000 t)	124.7	139.3	156.8	208.9	296.1	26%	13%	42%
Copper - refined	('000 t)	39.1	56.1	61.7	77.1	117.9	58%	10%	53%
Diamonds	('000 cts)	4,335	4,616	4,626	8,487	9,241	7%	0%	9%
Iron Ore	('000 t)	67,699	71,436	72,336	133,925	143,773	7%	1%	7%
Titanium dioxide slag	('000 t)	316	294	232	647	525	-27%	-21%	-19%
Uranium	('000 lbs)	1,538	1,515	1,531	3,111	3,046	0%	1%	-2%
Other Metals & Minerals									
Gold - mined	('000 oz)	72.5	69.4	82.8	138.3	152.2	14%	19%	10%
Gold - refined	('000 oz)	43.0	40.8	48.4	94.2	89.2	12%	19%	-5%
Molybdenum	('000 t)	0.8	1.5	0.7	1.6	2.2	-6%	-51%	33%
Salt	('000 t)	1,476	1,514	1,662	2,327	3,176	13%	10%	36%
Silver - mined	('000 oz)	1,118	1,237	1,448	2,064	2,686	30%	17%	30%
Silver - refined	('000 oz)	729	867	461	1,131	1,328	-37%	-47%	17%

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	Q2 2017	Q3 2017	Q4 2017	Q1 2018	Q2 2018	H1 2017	H1 2018
ALUMINA								
Production ('000 tonnes)								
Jonquière (Vaudreuil)	100%	365	351	365	362	365	732	727
Jonquière (Vaudreuil) specialty Alumina plant	100%	32	30	29	31	32	63	64
Queensland Alumina	80%	756	720	773	717	752	1,496	1,469
São Luis (Alumar)	10%	93	94	93	87	87	183	174
Yarwun	100%	778	790	816	793	763	1,597	1,556
Rio Tinto total alumina production		2,024	1,984	2,077	1,990	1,999	4,070	3,988
ALUMINIUM								
Production ('000 tonnes)								
Australia - Bell Bay	100%	47	48	47	47	47	91	94
Australia - Boyne Island	59%	73	74	74	72	74	154	146
Australia - Tomago	52%	76	77	77	75	76	151	151
Canada - six wholly owned	100%	397	401	405	398	402	791	800
Canada - Alouette (Sept-Îles)	40%	60	60	60	58	58	119	116
Canada - Bécancour	25%	26	28	27	10	9	55	19
France - Dunkerque (a)	100%	71	71	72	51	52	141	104
Iceland - ISAL (Reykjavik) (b)	100%	53	53	54	52	53	104	105
New Zealand - Tiwai Point	79%	67	67	67	66	67	133	133
Oman - Sohar	20%	19	7	5	17	19	38	37
Rio Tinto total aluminium production		888	887	887	846	858	1,777	1,704
BAUXITE								
Production ('000 tonnes) (c)								
Gove	100%	2,780	2,809	3,224	3,124	3,274	5,168	6,398
Porto Trombetas	12%	489	492	426	353	393	845	745
Sangaredi	(d)	1,791	1,670	1,809	1,745	1,657	3,455	3,403
Weipa	100%	7,805	7,895	8,304	7,431	7,955	14,699	15,386
Rio Tinto total bauxite production		12,865	12,867	13,762	12,653	13,279	24,167	25,931

Rio Tinto share of production

	Rio Tinto interest	Q2 2017	Q3 2017	Q4 2017	Q1 2018	Q2 2018	H1 2017	H1 2018
BORATES								
Production ('000 tonnes B₂O₃ content)								
Rio Tinto Borates - borates	100%	133	140	120	124	132	256	256
COAL - hard coking								
Rio Tinto Coal Australia ('000 tonnes)								
Hail Creek Coal (e) (g)	82%	822	1,276	1,275	758	1,131	1,752	1,889
Kestrel Coal (f) (g)	80%	733	968	1,048	344	1,043	1,386	1,387
Rio Tinto total hard coking coal production		1,555	2,244	2,322	1,102	2,174	3,138	3,276
COAL - thermal								
Rio Tinto Coal Australia ('000 tonnes)								
Hail Creek Coal (e) (g)	82%	881	851	785	1,060	835	1,754	1,895
Kestrel Coal (f) (g)	80%	141	226	180	59	176	268	235
Rio Tinto total thermal coal production		1,022	1,076	966	1,119	1,011	2,022	2,130

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Rio Tinto share of production

	Rio Tinto interest	Q2 2017	Q3 2017	Q4 2017	Q1 2018	Q2 2018	H1 2017	H1 2018
COPPER								
Mine production ('000 tonnes) (c)								
Bingham Canyon	100%	44.0	25.8	34.8	35.4	51.2	88.2	86.6
Escondida	30%	68.3	82.5	92.9	90.9	92.4	95.5	183.3
Grasberg - Joint Venture (h)	40%	0.0	0.0	5.7	0.0	0.0	0.0	0.0
Oyu Tolgoi (i)	34%	12.5	12.4	15.2	13.0	13.2	25.2	26.2
Rio Tinto total mine production		124.7	120.6	148.6	139.3	156.8	208.9	296.1
Refined production ('000 tonnes)								
Escondida	30%	18.8	21.6	22.8	20.8	21.0	27.0	41.9
Rio Tinto Kennecott	100%	20.3	53.6	22.1	35.3	40.7	50.1	76.0
Rio Tinto total refined production		39.1	75.2	44.9	56.1	61.7	77.1	117.9
DIAMONDS								
Production ('000 carats)								
Argyle	100%	3,216	4,757	6,146	3,551	3,476	6,232	7,027
Diavik	60%	1,119	1,177	1,060	1,065	1,150	2,255	2,214
Rio Tinto total diamond production		4,335	5,933	7,207	4,616	4,626	8,487	9,241
GOLD								
Mine production ('000 ounces) (c)								
Bingham Canyon	100%	54.3	33.6	35.9	37.4	45.6	108.4	83.0
Escondida	30%	10.2	15.2	15.1	18.0	20.5	13.6	38.5
Grasberg - Joint Venture (h)	40%	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Oyu Tolgoi (i)	34%	8.0	10.4	11.7	14.0	16.8	16.3	30.8
Rio Tinto total mine production		72.5	59.1	62.6	69.4	82.8	138.3	152.2
Refined production ('000 ounces)								
Rio Tinto Kennecott	100%	43.0	54.1	55.4	40.8	48.4	94.2	89.2

Rio Tinto share of production

	Rio Tinto interest	Q2 2017	Q3 2017	Q4 2017	Q1 2018	Q2 2018	H1 2017	H1 2018
IRON ORE								
Production ('000 tonnes) (c)								
Hamersley mines	(j)	48,674	52,921	56,501	53,631	56,034	97,338	109,665
Hamersley - Channar	60%	1,903	1,596	1,345	1,136	1,227	3,538	2,363
Hope Downs	50%	6,287	5,978	5,987	5,342	5,783	11,505	11,126
Iron Ore Company of Canada	59%	2,683	3,171	2,733	2,364	871	5,262	3,236
Robe River - Pannawonica (Mesas J and A)	53%	3,676	4,461	4,580	4,672	4,048	7,486	8,720
Robe River - West Angelas	53%	4,475	4,776	4,509	4,290	4,373	8,797	8,663
Rio Tinto iron ore production ('000 tonnes)		67,699	72,903	75,656	71,436	72,336	133,925	143,773
Breakdown of Production:								
Pilbara Blend Lump		19,780	20,700	21,082	20,714	21,901	38,987	42,615
Pilbara Blend Fines		28,049	30,113	31,172	29,769	31,239	55,074	61,009
Robe Valley Lump		1,459	1,570	1,646	1,587	1,431	2,912	3,017
Robe Valley Fines		2,217	2,891	2,934	3,086	2,617	4,574	5,703
Yandicoogina Fines (HIY)		13,512	14,458	16,088	13,916	14,277	27,116	28,193
Pilbara iron ore production ('000 tonnes)		65,016	69,732	72,922	69,072	71,465	128,663	140,537
IOC Concentrate		1,299	1,450	1,163	799	572	2,408	1,370
IOC Pellets		1,384	1,722	1,571	1,566	299	2,854	1,865
IOC iron ore production ('000 tonnes)		2,683	3,171	2,733	2,364	871	5,262	3,236
Breakdown of Sales:								
Pilbara Blend Lump		18,218	18,044	18,861	18,062	19,424	34,251	37,485
Pilbara Blend Fines		28,779	32,421	35,575	30,746	35,158	59,276	65,904
Robe Valley Lump		1,262	1,391	1,388	1,223	1,264	2,438	2,487
Robe Valley Fines		2,370	3,174	3,287	2,996	3,255	4,743	6,250
Yandicoogina Fines (HIY)		13,371	14,963	15,731	13,578	14,388	26,491	27,966
Pilbara iron ore sales ('000 tonnes)		64,000	69,993	74,843	66,604	73,489	127,199	140,093
IOC Concentrate		939	1,362	1,559	746	62	2,132	808
IOC Pellets		1,489	1,590	1,615	1,574	202	2,904	1,776
IOC Iron ore sales ('000 tonnes)		2,428	2,952	3,173	2,320	263	5,036	2,584
Rio Tinto iron ore sales ('000 tonnes)		66,428	72,944	78,016	68,925	73,752	132,234	142,677

Rio Tinto share of production

	Rio Tinto interest	Q2 2017	Q3 2017	Q4 2017	Q1 2018	Q2 2018	H1 2017	H1 2018
MOLYBDENUM								
Mine production ('000 tonnes) (c)								
Bingham Canyon	100%	0.8	1.4	1.9	1.5	0.7	1.6	2.2
SALT								
Production ('000 tonnes)								
Dampier Salt	68%	1,476	1,227	1,535	1,514	1,662	2,327	3,176
SILVER								
Mine production ('000 ounces) (c)								
Bingham Canyon	100%	669	357	418	461	615	1,380	1,076
Escondida	30%	370	521	658	702	758	533	1,460
Grasberg - Joint Venture (h)	40%	0	0	0	0	0	0	0
Oyu Tolgoi (i)	34%	79	80	96	74	75	151	149
Rio Tinto total mine production		1,118	959	1,172	1,237	1,448	2,064	2,686
Refined production ('000 ounces)								
Rio Tinto Kennecott	100%	729	731	516	867	461	1,131	1,328
TITANIUM DIOXIDE SLAG								
Production ('000 tonnes)								
Rio Tinto Iron & Titanium (k)	100%	316	327	341	294	232	647	525
URANIUM								
Production ('000 lbs U₃O₈) (l)								
Energy Resources of Australia	68%	678	962	919	667	603	1,577	1,270
Rössing	69%	860	757	902	848	928	1,534	1,776
Rio Tinto total uranium production		1,538	1,718	1,821	1,515	1,531	3,111	3,046

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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) On 26 February 2018, Rio Tinto announced a binding offer to sell its 100% interest in the ISAL smelter.
- (c) 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.
- (d) Rio Tinto has a 22.95% shareholding in the Sangaredi mine but benefits from 45.0% of production.
- (e) On 20 March 2018, Rio Tinto announced a binding offer to sell its 82% interest in the Hail Creek mine.
- (f) On 27 March 2018, Rio Tinto announced a binding offer to sell its 80% interest in the Kestrel mine.
- (g) Kestrel and Hail Creek produce hard coking coal and thermal coal through their mining operations. Both mines may blend coal types at ports.
- (h) 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.
- (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, 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.
- (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 U₃O₈.

The Rio Tinto percentage shown above is at 30 June 2018.

Rio Tinto's interest in the Coal and Allied mines were sold in 2017. No data for these operations are included in the Share of production table.

Rio Tinto operational data

	Rio Tinto interest	Q2 2017	Q3 2017	Q4 2017	Q1 2018	Q2 2018	H1 2017	H1 2018
ALUMINA								
Smelter Grade Alumina - Aluminium Group								
Alumina production ('000 tonnes)								
<i>Australia</i>								
Queensland Alumina Refinery - Queensland	80.0%	946	900	966	896	940	1,870	1,836
Yarwun refinery - Queensland	100.0%	778	790	816	793	763	1,597	1,556
<i>Brazil</i>								
São Luis (Alumar) refinery	10.0%	931	937	934	871	869	1,826	1,740
<i>Canada</i>								
Jonquière (Vaudreuil) refinery - Quebec (a)	100.0%	365	351	365	362	365	732	727
<i>(a) Jonquière's (Vaudreuil's) production shows smelter grade alumina only and excludes hydrate produced and used for specialty alumina.</i>								
Specialty Alumina - Aluminium Group								
Specialty alumina production ('000 tonnes)								
<i>Canada</i>								
Jonquière (Vaudreuil) plant – Quebec	100.0%	32	30	29	31	32	63	64

Rio Tinto percentage interest shown above is at 30 June 2018. The data represent full production and sales on a 100% basis unless otherwise stated.

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Rio Tinto operational data

	Rio Tinto interest	Q2 2017	Q3 2017	Q4 2017	Q1 2018	Q2 2018	H1 2017	H1 2018
ALUMINIUM								
Primary Aluminium								
Primary aluminium production ('000 tonnes)								
<i>Australia</i>								
Bell Bay smelter - Tasmania	100.0%	47	48	47	47	47	91	94
Boyne Island smelter - Queensland	59.4%	124	125	124	122	124	259	246
Tomago smelter - New South Wales	51.6%	147	149	149	145	148	292	293
<i>Canada</i>								
Alma smelter - Quebec	100.0%	112	115	116	115	116	226	231
Alouette (Sept-Îles) smelter - Quebec	40.0%	149	150	150	144	146	298	290
Arvida smelter - Quebec	100.0%	43	43	44	43	43	84	86
Arvida AP60 smelter - Quebec	100.0%	15	14	14	13	13	29	26
Bécancour smelter - Quebec	25.1%	106	113	108	39	35	218	74
Grande-Baie smelter - Quebec	100.0%	57	58	58	57	58	114	115
Kitimat smelter - British Columbia	100.0%	109	108	110	108	109	216	217
Laterrière smelter - Quebec	100.0%	61	63	64	63	64	122	127
<i>France</i>								
Dunkerque smelter (a)	100.0%	71	71	72	51	52	141	104
<i>Iceland</i>								
ISAL (Reykjavik) smelter (b)	100.0%	53	53	54	52	53	104	105
<i>New Zealand</i>								
Tiwai Point smelter	79.4%	84	84	85	83	84	168	167
<i>Oman</i>								
Sohar smelter	20.0%	95	35	27	87	97	191	183

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

(b) On 26 February 2018, Rio Tinto announced a binding offer to sell its 100% interest in the ISAL smelter.

Rio Tinto percentage interest shown above is at 30 June 2018. The data represent full production and sales on a 100% basis unless otherwise stated.

Rio Tinto operational data

	Rio Tinto interest	Q2 2017	Q3 2017	Q4 2017	Q1 2018	Q2 2018	H1 2017	H1 2018
BAUXITE								
Bauxite production ('000 tonnes)								
<i>Australia</i>								
Gove mine - Northern Territory	100.0%	2,780	2,809	3,224	3,124	3,274	5,168	6,398
Weipa mine - Queensland	100.0%	7,805	7,895	8,304	7,431	7,955	14,699	15,386
<i>Brazil</i>								
Porto Trombetas (MRN) mine	12.0%	4,071	4,103	3,550	2,939	3,273	7,045	6,212
<i>Guinea</i>								
Sangaredi mine (a)	23.0%	3,979	3,711	4,020	3,878	3,683	7,678	7,561
Rio Tinto share of bauxite shipments								
Share of total bauxite shipments ('000 tonnes)		12,164	12,913	13,557	12,551	12,936	23,769	25,487
Share of third party bauxite shipments ('000 tonnes)		7,962	8,250	9,164	8,248	8,738	14,890	16,986

(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 30 June 2018. The data represent full production and sales on a 100% basis unless otherwise stated.

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Rio Tinto operational data

	Rio Tinto interest	Q2 2017	Q3 2017	Q4 2017	Q1 2018	Q2 2018	H1 2017	H1 2018
BORATES								
Rio Tinto Borates - borates	100.0%							
<i>US</i>								
Borates ('000 tonnes) (a)		133	140	120	124	132	256	256
<i>(a) Production is expressed as B₂O₃ content.</i>								
COAL								
Rio Tinto Coal Australia								
Hail Creek Coal mine (a)	82.0%							
<i>Queensland</i>								
Hard coking coal ('000 tonnes)		1,002	1,556	1,555	924	1,380	2,136	2,304
Thermal coal ('000 tonnes)		1,074	1,037	958	1,293	1,018	2,139	2,311
Hunter Valley Operations (b)	0.0%							
<i>New South Wales</i>								
Semi-soft coking coal ('000 tonnes)		284	445	-	-	-	1,084	-
Thermal coal ('000 tonnes)		3,539	2,112	-	-	-	6,390	-
Kestrel Coal mine (c)	80.0%							
<i>Queensland</i>								
Hard coking coal ('000 tonnes)		916	1,210	1,309	430	1,303	1,732	1,733
Thermal coal ('000 tonnes)		177	282	226	74	220	335	293
Mount Thorley Operations (b)	0.0%							
<i>New South Wales</i>								
Semi-soft coking coal ('000 tonnes)		389	149	-	-	-	726	-
Thermal coal ('000 tonnes)		746	703	-	-	-	1,308	-

Rio Tinto percentage interest shown above is at 30 June 2018. The data represent full production and sales on a 100% basis unless otherwise stated.

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Rio Tinto operational data

	Rio Tinto interest	Q2 2017	Q3 2017	Q4 2017	Q1 2018	Q2 2018	H1 2017	H1 2018
COAL (continued)								
Warkworth mine (b)	0.0%							
<i>New South Wales</i>								
Semi-soft coking coal ('000 tonnes)		202	44	-	-	-	470	-
Thermal coal ('000 tonnes)		1,696	1,305	-	-	-	3,216	-
Total hard coking coal production ('000 tonnes)		1,918	2,766	2,864	1,354	2,683	3,869	4,037
Total semi-soft coking coal production ('000 tonnes)		875	639	-	-	-	2,280	-
Total thermal coal production ('000 tonnes)		7,232	5,439	1,183	1,367	1,238	13,388	2,605
Total coal production ('000 tonnes)		10,026	8,844	4,047	2,721	3,921	19,538	6,642
Total coal sales ('000 tonnes)		9,871	9,298	4,092	3,050	3,717	18,664	6,767
Rio Tinto Coal Australia share (d)								
Share of hard coking coal sales ('000 tonnes)		1,717	2,511	2,429	1,368	2,228	3,241	3,596
Share of semi-soft coal sales ('000 tonnes) (e)		759	485	-	-	-	1,525	-
Share of thermal coal sales ('000 tonnes) (e)		4,539	3,804	896	1,119	791	8,486	1,910

(a) On 20 March 2018, Rio Tinto announced a binding offer to sell its 82% interest in the Hail Creek mine.

(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) On 27 March 2018, Rio Tinto announced a binding offer to sell its 80% interest in the Kestrel mine.

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

Rio Tinto percentage interest shown above is at 30 June 2018. The data represent full production and sales on a 100% basis unless otherwise stated.

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Rio Tinto operational data

	Rio Tinto interest	Q2 2017	Q3 2017	Q4 2017	Q1 2018	Q2 2018	H1 2017	H1 2018
COPPER & GOLD								
Escondida	30.0%							
<i>Chile</i>								
Sulphide ore to concentrator ('000 tonnes)		18,777	24,080	30,260	32,203	31,732	26,831	63,936
Average copper grade (%)		1.07	1.06	0.98	0.96	0.96	1.05	0.96
Mill production (metals in concentrates):								
Contained copper ('000 tonnes)		167.0	204.1	245.7	252.6	253.6	234.7	506.2
Contained gold ('000 ounces)		34	51	50	60	68	45	128
Contained silver ('000 ounces)		1,234	1,737	2,193	2,339	2,527	1,777	4,866
Recoverable copper in ore stacked for leaching ('000 tonnes) (a)		60.7	70.8	63.9	50.4	54.4	83.5	104.8
Refined production from leach plants:								
Copper cathode production ('000 tonnes)		62.8	71.9	76.1	69.4	70.1	90.0	139.5
<i>(a) The calculation of copper in material mined for leaching is based on ore stacked at the leach pad.</i>								
Freeport-McMoRan								
Grasberg mine (a)	0.0% (b)							
<i>Papua, Indonesia</i>								
Ore treated ('000 tonnes)		11,242	15,791	16,381	15,625	17,452	19,090	33,077
Average mill head grades:								
Copper (%)		1.03	0.91	1.03	1.12	1.04	1.08	1.08
Gold (g/t)		1.16	0.98	1.28	1.63	1.76	1.17	1.70
Silver (g/t)		4.09	3.96	4.36	4.68	2.57	4.57	3.57
Production of metals in concentrates:								
Copper in concentrates ('000 tonnes)		103.9	130.1	153.2	159.9	164.8	184.9	324.7
Gold in concentrates ('000 ounces)		358	417	579	693	845	606	1,538
Silver in concentrates ('000 ounces)		900	1,016	1,293	1,513	877	1,567	2,390
Sales of payable metals in concentrates: (c)								
Copper in concentrates ('000 tonnes)		124.6	109.6	154.3	157.4	160.4	186.3	317.8
Gold in concentrates ('000 ounces)		429	343	584	676	825	613	1,501
Silver in concentrates ('000 ounces)		851	666	1,044	1,184	698	1,255	1,882
<i>(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 Q2 2018 results show the forecast from FCX's most recent five-year plan, because FCX is not releasing its actual 100% operating data for Q2 2018 until the release of its 2018 second-quarter results on 25 July 2018.</i>								
<i>(b) Rio Tinto share of Grasberg production is 40% of the expansion.</i>								
<i>(c) Net of smelter deductions.</i>								
Rio Tinto percentage interest shown above is at 30 June 2018. The data represent full production and sales on a 100% basis unless otherwise stated.								

Rio Tinto operational data

	Rio Tinto interest	Q2 2017	Q3 2017	Q4 2017	Q1 2018	Q2 2018	H1 2017	H1 2018
COPPER & GOLD (continued)								
Rio Tinto Kennecott								
Bingham Canyon mine	100.0%							
<i>Utah, US</i>								
Ore treated ('000 tonnes)		10,709	10,092	9,074	9,260	8,974	20,216	18,234
Average ore grade:								
Copper (%)		0.47	0.29	0.43	0.43	0.63	0.49	0.53
Gold (g/t)		0.29	0.18	0.21	0.23	0.26	0.30	0.25
Silver (g/t)		2.66	1.51	1.89	2.25	2.73	2.93	2.49
Molybdenum (%)		0.025	0.032	0.036	0.025	0.025	0.025	0.025
Copper concentrates produced ('000 tonnes)		205	148	162	171	194	394	365
Average concentrate grade (% Cu)		21.5	17.3	21.5	20.7	26.4	22.4	23.7
Production of metals in copper concentrates:								
Copper ('000 tonnes) (a)		44.0	25.8	34.8	35.4	51.2	88.2	86.6
Gold ('000 ounces)		54	34	36	37	46	108	83
Silver ('000 ounces)		669	357	418	461	615	1,380	1,076
Molybdenum concentrates produced ('000 tonnes):		1.5	2.8	3.8	2.8	1.5	3.2	4.3
Molybdenum in concentrates ('000 tonnes)		0.8	1.4	1.9	1.5	0.7	1.6	2.2
Kennecott smelter & refinery								
	100.0%							
Copper concentrates smelted ('000 tonnes)		160	258	90	200	224	296	425
Copper anodes produced ('000 tonnes) (b)		32.6	50.6	12.1	42.4	44.4	66.3	86.9
Production of refined metal:								
Copper ('000 tonnes)		20.3	53.6	22.1	35.3	40.7	50.1	76.0
Gold ('000 ounces) (c)		43.0	54.1	55.4	40.8	48.4	94.2	89.2
Silver ('000 ounces) (c)		729	731	516	867	461	1,131	1,328

(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 30 June 2018. The data represent full production and sales on a 100% basis unless otherwise stated.

Rio Tinto operational data

	Rio Tinto interest	Q2 2017	Q3 2017	Q4 2017	Q1 2018	Q2 2018	H1 2017	H1 2018
COPPER & GOLD (continued)								
Turquoise Hill Resources								
Oyu Tolgoi mine (a)	33.5%							
<i>Mongolia</i>								
Ore Treated ('000 tonnes)		9,637	10,615	10,838	9,561	10,164	19,724	19,725
Average mill head grades:								
Copper (%)		0.51	0.48	0.53	0.51	0.48	0.51	0.50
Gold (g/t)		0.16	0.18	0.20	0.25	0.26	0.15	0.25
Silver (g/t)		1.38	1.34	1.54	1.32	1.17	1.34	1.24
Copper concentrates produced ('000 tonnes)		171.0	170.0	205.5	177.3	178.8	347.0	356.1
Average concentrate grade (% Cu)		21.8	21.7	22.0	21.9	22.0	21.7	22.0
Production of metals in concentrates:								
Copper in concentrates ('000 tonnes)		37.2	36.9	45.3	38.8	39.4	75.3	78.2
Gold in concentrates ('000 ounces)		23.9	30.9	34.8	41.8	50.0	48.6	91.7
Silver in concentrates ('000 ounces)		236	239	285	221	225	450	446
Sales of metals in concentrates:								
Copper in concentrates ('000 tonnes)		37.3	36.9	35.7	34.3	46.1	76.7	80.4
Gold in concentrates ('000 ounces)		23	28	27	31	51	55	82
Silver in concentrates ('000 ounces)		222	229	205	206	250	427	456

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

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Rio Tinto operational data

	Rio Tinto interest	Q2 2017	Q3 2017	Q4 2017	Q1 2018	Q2 2018	H1 2017	H1 2018
DIAMONDS								
Argyle Diamonds	100.0%							
<i>Western Australia</i>								
AK1 ore processed ('000 tonnes)		1,112	1,255	1,446	1,260	1,428	2,256	2,688
AK1 diamonds produced ('000 carats)		3,216	4,757	6,146	3,551	3,476	6,232	7,027
Diavik Diamonds	60.0%							
<i>Northwest Territories, Canada</i>								
Ore processed ('000 tonnes)		556	578	525	556	652	1,086	1,208
Diamonds recovered ('000 carats)		1,865	1,961	1,767	1,774	1,916	3,758	3,690

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Rio Tinto operational data

	Rio Tinto interest	Q2 2017	Q3 2017	Q4 2017	Q1 2018	Q2 2018	H1 2017	H1 2018
IRON ORE								
Rio Tinto Iron Ore								
<i>Western Australia</i>								
Pilbara Operations								
Saleable iron ore production ('000 tonnes)								
Hamersley mines	(a)	48,674	52,921	56,501	53,631	56,034	97,338	109,665
Hamersley - Channar	60.0%	3,172	2,661	2,241	1,893	2,045	5,896	3,939
Hope Downs	50.0%	12,575	11,956	11,975	10,685	11,567	23,010	22,252
Robe River - Pannawonica (Mesas J and A)	53.0%	6,936	8,416	8,642	8,816	7,637	14,124	16,453
Robe River - West Angelas	53.0%	8,444	9,011	8,507	8,094	8,252	16,598	16,346
Total production ('000 tonnes)		79,801	84,965	87,866	83,120	85,534	156,966	168,654
Breakdown of total production:								
Pilbara Blend Lump		24,671	25,342	25,496	24,831	26,253	48,288	51,084
Pilbara Blend Fines		34,682	36,748	37,641	35,556	37,368	67,437	72,924
Robe Valley Lump		2,753	2,962	3,106	2,993	2,699	5,494	5,693
Robe Valley Fines		4,183	5,454	5,535	5,823	4,937	8,630	10,760
Yandicoogina Fines (HIY)		13,512	14,458	16,088	13,916	14,277	27,116	28,193
Breakdown of total sales:								
Pilbara Blend Lump		21,561	21,959	22,377	21,457	22,954	41,723	44,410
Pilbara Blend Fines		35,871	40,305	43,039	37,320	42,638	72,551	79,957
Robe Valley Lump		2,382	2,624	2,619	2,307	2,386	4,600	4,693
Robe Valley Fines		4,472	5,989	6,202	5,652	6,141	8,948	11,793
Yandicoogina Fines (HIY)		13,371	14,963	15,731	13,578	14,388	26,491	27,966
Total sales ('000 tonnes) (b)		77,658	85,840	89,968	80,314	88,506	154,313	168,820
<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>								
Iron Ore Company of Canada	58.7%							
<i>Newfoundland & Labrador and Quebec in Canada</i>								
Saleable iron ore production:								
Concentrates ('000 tonnes)		2,212	2,469	1,980	1,360	974	4,101	2,334
Pellets ('000 tonnes)		2,356	2,932	2,675	2,667	510	4,860	3,177
IOC Total production ('000 tonnes)		4,569	5,401	4,655	4,027	1,484	8,961	5,510
Sales:								
Concentrates ('000 tonnes)		1,599	2,319	2,655	1,271	105	3,630	1,376
Pellets ('000 tonnes)		2,536	2,707	2,750	2,681	343	4,945	3,024
IOC Total Sales ('000 tonnes)		4,135	5,027	5,404	3,951	449	8,575	4,400
Global Iron Ore Totals								
Iron Ore Production ('000 tonnes)		84,370	90,365	92,521	87,146	87,018	165,927	174,164
Iron Ore Sales ('000 tonnes)		81,792	90,867	95,373	84,265	88,954	162,888	173,220

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Rio Tinto operational data

	Rio Tinto interest	Q2 2017	Q3 2017	Q4 2017	Q1 2018	Q2 2018	H1 2017	H1 2018
SALT								
Dampier Salt	68.4%							
<i>Western Australia</i>								
Salt production ('000 tonnes)		2,159	1,795	2,246	2,215	2,431	3,405	4,646
TITANIUM DIOXIDE SLAG								
Rio Tinto Iron & Titanium	100.0%							
<i>Canada and South Africa (Rio Tinto share) (a)</i>								
Titanium dioxide slag ('000 tonnes)		316	327	341	294	232	647	525
<i>(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.</i>								
URANIUM								
Energy Resources of Australia Ltd								
Ranger mine (a)	68.4%							
<i>Northern Territory, Australia</i>								
U ₃ O ₈ Production ('000 lbs)		991	1,407	1,343	975	881	2,306	1,856
<i>(a) ERA production data are drummed U₃O₈.</i>								
Rössing Uranium Ltd (a)	68.6%							
<i>Namibia</i>								
U ₃ O ₈ Production ('000 lbs)		1,254	1,103	1,314	1,236	1,352	2,235	2,589
<i>(a) Rössing production data are drummed U₃O₈.</i>								
Rio Tinto percentage interest shown above is at 30 June 2018. The data represent full production and sales on a 100% basis unless otherwise stated.								

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