

Rio Tinto releases third quarter production results

16 October 2019

Rio Tinto chief executive J-S Jacques said “We have delivered improved production across the majority of our products in the third quarter, with a solid result at our Pilbara mines driving increased sales of iron ore into robust markets. Our strong value over volume approach, coupled with our focus on operational performance and disciplined allocation of capital, will continue to deliver superior returns to shareholders over the short, medium and long term.”

		Q3 2019	vs Q3 2018	vs Q2 2019	9 mths 2019	vs 9mths 2018
Pilbara iron ore shipments (100% basis)	Mt	86.1	+5%	+1%	240.6	-4%
Pilbara iron ore production (100% basis)	Mt	87.3	+6%	+10%	243.1	-3%
Bauxite	Mt	13.8	+9%	+3%	40.0	+3%
Aluminium	kt	789	-3%	-2%	2,388	-1%
Mined copper	kt	157.8	-1%	+15%	437.6	-4%
Titanium dioxide slag	kt	321	+8%	+6%	920	+12%
IOC iron ore pellets and concentrate	Mt	3.0	+3%	+17%	8.0	+30%

Operational update

- Pilbara iron ore shipments of 86.1 million tonnes (100% basis) in the third quarter were 5% higher than the third quarter of 2018. Pilbara iron ore production of 87.3 million tonnes (100% basis) was 6% higher than the third quarter of 2018 and 10% higher than the previous quarter, reflecting a good recovery from the operational and weather challenges experienced earlier in the year.
- Third quarter bauxite production and shipments to third parties were 9% and 23% higher, respectively, than the same period of 2018. Bauxite production from non-managed Joint Ventures was lower than planned year to date.
- Aluminium production of 0.8 million tonnes was 3% lower than the third quarter of 2018, primarily reflecting a preventive safety shutdown at one of the three pot-lines at ISAL in Iceland and earlier than planned pot relining at Kitimat in British Columbia, Canada.
- Mined copper production of 158 thousand tonnes was 1% lower than the third quarter of 2018, but 15% higher than the second quarter, reflecting higher grades at Kennecott and improved throughput at Escondida.
- At the Oyu Tolgoi underground project, the primary production shaft (shaft 2) remains on track for commissioning this month. Since July 2019, we have completed key infrastructure, including the central heating plant, the shaft 2 jaw crusher system and the surface discharge conveyor. Work continues on the mine re-design.
- Titanium dioxide slag production of 321 thousand tonnes was 8% higher than the third quarter of 2018, reflecting a continued improvement in operational performance and the restart of furnaces in 2019.
- Third quarter production at Iron Ore Company of Canada was 3% higher than the corresponding quarter of 2018 and 17% higher than the previous quarter, reflecting a return to normal operating conditions following the flooding incident which impacted June.
- Guidance is unchanged, with the exception of bauxite production, which has been revised to around 54 million tonnes (previously 56 to 59 million tonnes), and alumina production, which has been revised to around 7.7 million tonnes (previously 8.1 to 8.4 million tonnes).

- On 25 September 2019, Rio Tinto announced the signing of a Memorandum of Understanding with China Baowu Steel Group and Tsinghua University to develop and implement new methods to reduce carbon emissions and improve environmental performance across the steel value chain.
- Third quarter exploration and evaluation spend was \$177 million, 62% higher than the same period of 2018, primarily reflecting increased activity on advanced projects.

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 2018 is excluded from Rio Tinto share of production data.

IRON ORE

Rio Tinto share of production (million tonnes)

	Q3 2019	vs Q3 2018	vs Q2 2019	9 mths 2019	vs 9mths 2018
Pilbara Blend Lump	21.0	+2%	+6%	60.8	-4%
Pilbara Blend Fines	31.7	+6%	+11%	89.0	-2%
Robe Valley Lump	1.6	+12%	+37%	3.5	-22%
Robe Valley Fines	3.1	+12%	+44%	6.4	-24%
Yandicoogina Fines (HIY)	14.7	+2%	+5%	42.2	-1%
Total Pilbara production	72.2	+4%	+10%	201.9	-4%
Total Pilbara production (100% basis)	87.3	+6%	+10%	243.1	-3%
Total Pilbara shipments (a) (100% basis)	86.1	+5%	+1%	240.6	-4%

(a) Pilbara Blend sales include 6.7 million tonnes of alternate products in Q3 2019 and 10.7 million tonnes in the first nine months of 2019

Pilbara operations

Third quarter production of 87.3 million tonnes (Rio Tinto share 72.2 million tonnes) was 6% higher than the same quarter of 2018 and 10% higher than the previous quarter. This reflects a solid performance in the mines, with actions progressing as planned. Our increased focus on waste material movement and pit development will continue over 2019 and 2020 to improve mine performance and pit sequencing. Our cost guidance (below) reflects these additional mining activities.

A planned rail maintenance shut was executed late in the third quarter, starting on 25 September and completed on 6 October. Our cost and shipments guidance take into account the impact of this activity.

Third quarter sales of 86.1 million tonnes (Rio Tinto share 71.6 million tonnes) were 5% above the third quarter of 2018 and 1% higher than the previous quarter.

We sold 6.7 million tonnes of alternate products in the third quarter. These are included in the above sales figures. We expect to make additional sales of these products in the fourth quarter.

The majority of our iron ore shipments are priced by reference to the average index price for the month of shipment. We priced approximately 16% of sales in the first nine months of 2019 by reference to the prior quarter's average index lagged by one month, with the remainder sold either on current quarter average, current month average or on the spot market.

Pilbara projects

The Koodaideri iron ore mine is progressing to plan with engineering, procurement and construction activities on schedule. Preparatory works have commenced. We expect to produce first ore from Koodaideri in late 2021, consistent with previous guidance.

First ore from the Robe River Joint Venture sustaining production projects (West Angelas C&D and Mesa B, C and H at Robe Valley) is also anticipated in 2021, consistent with previous guidance. West Angelas received all regulatory approvals in early October 2019, and project construction has commenced. The Robe Valley projects continue to progress through the environmental and heritage approval processes. We are experiencing some delays for Mesa H environmental approvals.

2019 guidance

Our 2019 Pilbara shipments guidance is unchanged at between 320 and 330 million tonnes (100% basis), subject to weather.

Our iron ore unit cost guidance in 2019 remains at \$14 - \$15 per tonne.

ALUMINIUM

Rio Tinto share of production ('000 tonnes)

	Q3 2019	vs Q3 2018	vs Q2 2019	9 mths 2019	vs 9mths 2018
Rio Tinto Aluminium					
Bauxite	13,796	+9%	+3%	39,967	+3%
Bauxite third party shipments	10,361	+23%	+9%	28,680	+13%
Alumina	1,826	-7%	-3%	5,713	-4%
Aluminium	789	-3%	-2%	2,388	-1%

Bauxite

Third quarter bauxite production was 9% higher than the same period of 2018, with increased production across all sites.

We shipped 10.4 million tonnes of bauxite to third parties in the third quarter, 23% higher than the same period of 2018.

Alumina

Third quarter alumina production was 7% below the same period of 2018. Production at Yarwun was lower due to an extended 35-day shutdown, which included a planned five-year maintenance service of the cogeneration plant. Normal production has since resumed at Yarwun. Production at the Queensland Alumina non-managed JV was impacted by maintenance activities, with the site expected to ramp back to full capacity during the fourth quarter.

A project using industry-leading filter press technology to move to bauxite residue dry stacking and extend the life of the Vaudreuil refinery in Quebec is being commissioned in October. The project commenced in February 2018 and will be commissioned six weeks ahead of plan and under its budget of \$188 million (C\$250 million).

Aluminium

Third quarter aluminium production of 0.8 million tonnes was 3% lower than the same period of 2018, reflecting reduced production at ISAL in Iceland and Kitimat in British Columbia, Canada. Our Quebec and Pacific smelters continue to perform well, with third quarter and year to date production 1% higher than the same periods last year. This excludes the non-managed Becancour JV where the restart is progressing well, following a lock-out, with full ramp-up expected by mid-2020.

Production at ISAL was impacted by the preventive, safety driven shutdown of one of the three potlines due to process instability. This issue has been resolved and will result in an estimated 21 thousand tonnes production loss compared to last year, of which 17 thousand tonnes was in the third quarter.

Third quarter production at Kitimat was 15 thousand tonnes lower than the same period last year due to earlier than planned pot-lining replacement. We are accelerating work to minimise further production impacts. The estimated impact on fourth quarter production is reflected in our guidance below, with the 2020 impact to be determined by pot relining needs.

The aluminium industry continues to face challenging conditions in global markets and policy uncertainty, reflected in declining prices. We are focusing on enhancing the competitiveness of our smelters, including discussions with our Pacific stakeholders on energy pricing, to ensure the sustainability and global competitiveness of our Pacific smelters.

Kemano

At the Kemano hydro-power facility at Kitimat, tunnel boring continues to progress with a total of 1,753 metres excavated as at 30 September 2019.

2019 guidance

We now expect our share of bauxite production to be around 54 million tonnes (previously 56 to 59 million tonnes), reflecting weather related events in the first quarter, downtime to address commissioning items on new mines and lower production from the Pacific refineries.

We now expect our share of alumina production to be around 7.7 million tonnes (previously 8.1 to 8.4 million tonnes) due primarily to maintenance activities in the Pacific refineries.

We expect our share of aluminium production to be at the lower end of guidance (3.2 to 3.4 million tonnes), primarily reflecting lower than planned volumes at the ISAL, Kitimat and non-managed Becancour smelters.

COPPER & DIAMONDS

Rio Tinto share of production ('000 tonnes)

	Q3 2019	vs Q3 2018	vs Q2 2019	9 mths 2019	vs 9mths 2018
Mined copper					
Rio Tinto Kennecott	57.8	-2%	+40%	151.4	+4%
Escondida	90.5	+4%	+9%	248.1	-8%
Oyu Tolgoi	9.5	-28%	-27%	38.0	-4%
Refined copper					
Rio Tinto Kennecott	40.3	-26%	-36%	133.2	+2%
Escondida	16.8	+1%	-12%	54.5	-7%
Diamonds ('000 carats)					
Argyle	3,558	-7%	+8%	9,636	-11%
Diavik	994	-7%	-16%	3,191	-3%

Rio Tinto Kennecott

Third quarter mined copper production was 2% lower than the same period of 2018, but 40% higher than the previous quarter, as mining activity moved to an area of higher grades following the low grades experienced in the second quarter.

Refined copper production was lower than comparable prior periods, reflecting reduced copper concentrate availability from the previous quarter, a planned smelter shut-down in July and additional unplanned maintenance which reduced furnace online time.

Rio Tinto Kennecott continues to toll and purchase third party concentrate to optimise smelter utilisation, with 11.9 thousand tonnes of concentrate received for processing in the third quarter of 2019, compared with 6.3 thousand tonnes in the third quarter of 2018. Purchased and tolled copper concentrate are excluded from reported production figures.

Higher molybdenum grades were sustained in the third quarter, with production of 2.1 thousand tonnes, compared with 1.4 thousand tonnes in the same quarter in 2018.

Escondida

Third quarter mined copper production at Escondida was 4% higher than the same period of 2018, mainly due to higher concentrator throughput and an increase in recoverable copper in ore stacked for leaching.

Oyu Tolgoi

Mined copper production from the open pit in the third quarter of 2019 was 28% lower than the same period in 2018 and 27% lower than the prior quarter as mining activity moved to lower grade areas of the pit, as planned.

Oyu Tolgoi Underground Project

Commissioning milestones for the primary production shaft (shaft 2) remain on target for completion in October. Rope-up of the service and production hoists was completed as planned, and testing of the braking system has also been completed.

Since July 2019, we have also completed key infrastructure, including the central heating plant, the shaft 2 jaw crusher system and the surface discharge conveyor.

As previously announced on 16 July 2019, enhanced geotechnical information and data modelling suggests there may be some stability risks with the Feasibility Study 2016 mine design and so a number of mine design options are under consideration. Work is focusing on evaluating design options, including the impact of relocation or removal of some of the planned underground infrastructure, such as the mid-access drives and the ore handling system and options for panel sequencing.

Work on the final design of the first panel of mining, Panel 0, is still anticipated to continue until early 2020 and the Definitive Estimate, which will include the final estimate of cost and schedule for the remaining underground project, is still expected to be delivered in the second half of 2020.

Resolution Copper

On 9 August 2019, Rio Tinto announced that the Resolution Copper project in the US had achieved a major permitting milestone with the release of an independently prepared Draft Environmental Impact Statement for the project. The rigorous review, conducted by the US Forest Service over a six year period, included broad public engagement.

Diamonds

At Argyle, carat production in the third quarter of 2019 was 7% lower than the same period in 2018 due to lower recovered grade, partially offset by stronger mining and processing rates.

At Diavik, carats recovered in the third quarter were 7% lower than the third quarter of 2018 due to lower ore availability from both the underground and the A21 open pit.

2019 guidance

Our 2019 guidance (Rio Tinto share) is unchanged, with mined copper production of between 550 and 600 thousand tonnes, subject to grade availability, refined copper production of between 220 and 250 thousand tonnes and diamond production of between 15 and 17 million carats.

ENERGY & MINERALS

Rio Tinto share of production

	Q3 2019	vs Q3 2018	vs Q2 2019	9 mths 2019	vs 9mths 2018
Iron ore pellets and concentrate (million tonnes)					
IOC	3.0	+3%	+17%	8.0	+30%
Minerals ('000 tonnes)					
Borates – B ₂ O ₃ content	138	+1%	+0%	391	-1%
Titanium dioxide slag	321	+8%	+6%	920	+12%
Uranium ('000 lbs)					
Energy Resources of Australia	585	-29%	-6%	1,998	-4%
Rössing	170	-83%	-85%	2,114	-24%

Iron Ore Company of Canada (IOC)

Third quarter production available for sale at IOC was 3% higher than the corresponding period of 2018. It was 17% higher than the prior quarter, when production was impacted by a flooding incident in June.

Borates

Both the sodium borate and non-sodium borate refineries operated below capacity during the third quarter, aligned with market conditions. We will base any decision to increase refinery utilisation rates on maximising value over volume.

Iron and Titanium

Titanium dioxide feedstock production in the third quarter was 8% higher than the same period of 2018, reflecting improved operational performance and the restart of furnaces.

Eight of nine furnaces at Rio Tinto Fer et Titane (RTFT) are currently in operation, with three of four furnaces currently in operation at Richards Bay Minerals (RBM). This compares with six out of nine furnaces in operation at RTFT and three out of four at RBM in the third quarter of 2018. We will base our decision to re-start the remaining idled furnaces on maximising value over volume.

Zulti South project

Construction of the \$463 million Zulti South project at RBM in South Africa, which was forecast to commence in June, has been delayed due to ongoing negotiations with local communities.

Uranium

Energy Resources of Australia continues to process existing stockpiles. Third quarter production was 29% lower than the same period of 2018, reflecting lower grades.

Production from Rössing Uranium is reported up to the date of completion of divestment on 16 July 2019.

2019 guidance

Our 2019 guidance (Rio Tinto share) is unchanged, with iron ore pellets and concentrate production of between 10.7 and 11.3 million tonnes, titanium dioxide slag production of between 1.2 and 1.4 million tonnes and boric oxide equivalent production of 0.5 million tonnes.

EXPLORATION AND EVALUATION

Pre-tax and pre-divestment expenditure on exploration and evaluation charged to the profit and loss account in the first nine months of 2019 was \$464 million, compared with \$341 million in the first nine months of 2018, with increased spend at Resolution Copper and on central exploration Order of Magnitude studies in Australia and North America. Approximately 53% of this expenditure was incurred by central exploration, 35% by Copper & Diamonds, 7% by Energy & Minerals and the remainder by Iron Ore and Aluminium.

There were no significant divestments of central exploration properties in the third quarter of 2019.

Exploration highlights

Rio Tinto has a strong portfolio of projects with activity in 18 countries across some seven commodities. The bulk of the exploration expenditure in this quarter was focused on copper in Australia, Canada, Chile, Kazakhstan, Mongolia, Papua New Guinea, Namibia, Peru, Serbia, United States, Zambia and diamonds projects in Canada. Mine-lease exploration continued at a number of Rio Tinto managed businesses including Pilbara Iron in Australia, Oyu Tolgoi in Mongolia, Diavik in Canada, as well as Resolution and Boron in the US. A summary of activity for the quarter is as follows:

Commodities	Studies Stage	Advanced projects	Greenfield/ Brownfield programmes
Aluminium	Cape York, Australia	Amargosa, Brazil Sanxai, Laos	Cape York, Australia
Copper & Diamonds	Copper/molybdenum: Resolution, US	Copper: Winu, Australia, La Granja, Peru Nickel: Tamarack, US Diamonds: Falcon, Canada	Copper Greenfield: Australia, Chile, China, Kazakhstan, Mongolia, Namibia, Papua New Guinea, Peru, Serbia, US, Zambia Copper Brownfield: Resolution, US Oyu Tolgoi, Mongolia Nickel Greenfield: Canada, Finland, Uganda Diamonds Greenfield: Canada Diamonds Brownfield: Diavik, Canada
Energy & Minerals	Lithium borates: Jadar, Serbia Potash: KP405, Canada Heavy mineral sands: Mutamba, Mozambique	Uranium: Roughrider, Canada	Heavy mineral sands: Tanzania Industrial Minerals: Serbia
Iron Ore	Pilbara, Australia	Pilbara, Australia	Brownfield: Pilbara, Australia

Forward-looking statements

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

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

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Rio Tinto production summary

Rio Tinto share of production

	Quarter			9 Months		% Change			
	2018 Q3	2019 Q2	2019 Q3	2018 9 MTHS	2019 9 MTHS	Q3 19 vs Q3 18	Q3 19 vs Q2 19	9 MTHS 19 vs 9 MTHS 18	
Principal Commodities									
Alumina	(<i>'000 t</i>)	1,972	1,878	1,826	5,960	5,713	-7%	-3%	-4%
Aluminium	(<i>'000 t</i>)	814	803	789	2,414	2,388	-3%	-2%	-1%
Bauxite	(<i>'000 t</i>)	12,700	13,407	13,796	38,631	39,967	9%	3%	3%
Borates	(<i>'000 t</i>)	137	138	138	394	391	1%	0%	-1%
Copper - mined	(<i>'000 t</i>)	159.7	137.1	157.8	455.8	437.6	-1%	15%	-4%
Copper - refined	(<i>'000 t</i>)	70.8	82.3	57.1	188.6	187.7	-19%	-31%	0%
Diamonds	(<i>'000 cts</i>)	4,896	4,481	4,551	14,137	12,828	-7%	2%	-9%
Iron Ore	(<i>'000 t</i>)	72,010	68,141	75,117	215,782	209,839	4%	10%	-3%
Titanium dioxide slag	(<i>'000 t</i>)	297	303	321	822	920	8%	6%	12%
Uranium	(<i>'000 lbs</i>)	1,814	1,762	755	4,860	4,111	-58%	-57%	-15%
Other Metals & Minerals									
Gold - mined	(<i>'000 oz</i>)	101.4	111.6	87.8	253.7	314.8	-13%	-21%	24%
Gold - refined	(<i>'000 oz</i>)	50.3	52.9	60.8	139.5	155.4	21%	15%	11%
Molybdenum	(<i>'000 t</i>)	1.4	2.6	2.1	3.5	6.6	56%	-18%	86%
Salt	(<i>'000 t</i>)	1,481	1,269	1,392	4,657	3,972	-6%	10%	-15%
Silver - mined	(<i>'000 oz</i>)	1,384	1,403	1,320	4,070	4,203	-5%	-6%	3%
Silver - refined	(<i>'000 oz</i>)	730	734	664	2,058	2,014	-9%	-10%	-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	Q3 2018	Q4 2018	Q1 2019	Q2 2019	Q3 2019	9 MTHS 2018	9 MTHS 2019
ALUMINA								
Production ('000 tonnes)								
Jonqui�re (Vaudreuil)	100%	363	354	373	336	360	1,090	1,069
Jonqui�re (Vaudreuil) specialty Alumina plant	100%	31	29	25	31	28	95	85
Queensland Alumina	80%	748	742	711	668	669	2,216	2,047
S�o Luis (Alumar)	10%	85	92	86	86	99	259	271
Yarwun	100%	744	803	813	757	671	2,300	2,241
Rio Tinto total alumina production		1,972	2,020	2,008	1,878	1,826	5,960	5,713
ALUMINIUM								
Production ('000 tonnes)								
Australia - Bell Bay	100%	48	48	45	47	48	141	141
Australia - Boyne Island	59%	75	74	73	75	75	221	222
Australia - Tomago	52%	78	77	74	76	77	228	227
Canada - six wholly owned	100%	407	408	400	400	399	1,208	1,198
Canada - Alouette (Sept-�les)	40%	59	58	58	60	61	175	179
Canada - B�cancour	25%	8	8	4	4	4	26	12
Iceland - ISAL (Reykjavik)	100%	53	54	52	52	36	158	141
New Zealand - Tiwai Point	79%	68	70	71	69	70	200	210
Oman - Sohar	20%	20	20	19	19	20	56	58
Rio Tinto total aluminium production		814	817	796	803	789	2,414	2,388
BAUXITE								
Production ('000 tonnes) (a)								
Gove	100%	2,893	3,250	3,004	2,957	2,968	9,290	8,929
Porto Trombetas	12%	342	489	285	287	385	1,087	956
Sangaredi	(b)	1,261	1,204	1,558	1,630	1,749	4,664	4,938
Weipa	100%	8,204	6,847	7,917	8,533	8,695	23,590	25,144
Rio Tinto total bauxite production		12,700	11,790	12,763	13,407	13,796	38,631	39,967

(a) Mine production figures for metals refer to the total quantity of metal produced in concentrates, leach liquor or dor  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.

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

Rio Tinto share of production

	Rio Tinto interest	Q3 2018	Q4 2018	Q1 2019	Q2 2019	Q3 2019	9 MTHS 2018	9 MTHS 2019
BORATES								
Production ('000 tonnes B₂O₃ content)								
Rio Tinto Borates - borates	100%	137	118	115	138	138	394	391
COPPER								
Mine production ('000 tonnes) (a)								
Bingham Canyon	100%	59.1	58.3	52.5	41.1	57.8	145.7	151.4
Escondida	30%	87.4	79.7	74.8	82.9	90.5	270.7	248.1
Oyu Tolgoi (b)	34%	13.2	13.9	15.4	13.1	9.5	39.4	38.0
Rio Tinto total mine production		159.7	151.9	142.7	137.1	157.8	455.8	437.6
Refined production ('000 tonnes)								
Escondida	30%	16.6	21.6	18.7	19.0	16.8	58.5	54.5
Rio Tinto Kennecott	100%	54.2	64.6	29.6	63.3	40.3	130.2	133.2
Rio Tinto total refined production		70.8	86.1	48.3	82.3	57.1	188.6	187.7

(a) 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.

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

DIAMONDS								
Production ('000 carats)								
Argyle	100%	3,830	3,211	2,786	3,292	3,558	10,857	9,636
Diavik	60%	1,066	1,078	1,010	1,188	994	3,280	3,191
Rio Tinto total diamond production		4,896	4,290	3,796	4,481	4,551	14,137	12,828
GOLD								
Mine production ('000 ounces) (a)								
Bingham Canyon	100%	56.6	57.1	53.0	65.1	64.6	139.6	182.6
Escondida	30%	19.1	22.1	22.2	22.4	14.6	57.6	59.3
Oyu Tolgoi (b)	34%	25.8	39.1	40.2	24.1	8.6	56.6	72.9
Rio Tinto total mine production		101.4	118.4	115.4	111.6	87.8	253.7	314.8
Refined production ('000 ounces)								
Rio Tinto Kennecott	100%	50.3	58.6	41.7	52.9	60.8	139.5	155.4

(a) 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.

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

Rio Tinto share of production

	Rio Tinto interest	Q3 2018	Q4 2018	Q1 2019	Q2 2019	Q3 2019	9 MTHS 2018	9 MTHS 2019
IRON ORE								
Production ('000 tonnes) (a)								
Hamersley mines	(b)	54,583	56,364	51,218	50,087	55,567	164,248	156,871
Hamersley - Channar	60%	604	1,337	931	1,451	947	2,967	3,330
Hope Downs	50%	5,713	5,845	5,957	6,051	6,077	16,839	18,085
Iron Ore Company of Canada	59%	2,880	2,836	2,481	2,532	2,960	6,116	7,972
Robe River - Pannawonica (Mesas J and A)	53%	4,208	4,004	1,870	3,329	4,725	12,928	9,924
Robe River - West Angelas	53%	4,021	4,631	4,125	4,692	4,840	12,685	13,657
Rio Tinto iron ore production ('000 tonnes)		72,010	75,018	66,581	68,141	75,117	215,782	209,839
Breakdown of Production:								
Pilbara Blend Lump		20,554	21,674	19,978	19,842	21,015	63,169	60,836
Pilbara Blend Fines		29,921	31,652	28,779	28,463	31,713	90,930	88,955
Robe Valley Lump		1,470	1,409	635	1,201	1,650	4,488	3,486
Robe Valley Fines		2,738	2,595	1,235	2,128	3,075	8,441	6,438
Yandicoogina Fines (HIY)		14,446	14,852	13,473	13,975	14,704	42,639	42,151
Pilbara iron ore production ('000 tonnes)		69,129	72,182	64,101	65,610	72,156	209,666	201,867
IOC Concentrate		1,131	1,433	890	1,193	1,400	2,501	3,483
IOC Pellets		1,750	1,403	1,590	1,339	1,560	3,615	4,489
IOC iron ore production ('000 tonnes)		2,880	2,836	2,481	2,532	2,960	6,116	7,972
Breakdown of Sales:								
Pilbara Blend Lump		17,967	18,439	15,772	18,644	18,633	55,453	53,049
Pilbara Blend Fines		31,432	35,205	28,406	33,912	34,088	97,336	96,406
Robe Valley Lump		1,174	1,219	457	1,037	1,290	3,661	2,784
Robe Valley Fines		2,839	2,996	1,308	2,577	3,349	9,089	7,234
Yandicoogina Fines (HIY)		14,583	14,831	12,294	15,212	14,286	42,549	41,791
Pilbara iron ore sales ('000 tonnes) (c)		67,995	72,690	58,236	71,382	71,646	208,088	201,264
IOC Concentrate		1,521	1,558	516	1,315	1,425	2,329	3,256
IOC Pellets		1,659	1,516	1,576	1,423	1,229	3,435	4,228
IOC Iron ore sales ('000 tonnes)		3,180	3,073	2,092	2,738	2,654	5,763	7,484
Rio Tinto iron ore sales ('000 tonnes)		71,175	75,763	60,328	74,119	74,300	213,851	208,748

(a) 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.

(b) 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.

(c) Pilbara Blend sales include 6.7 million tonnes of alternate products in Q3 2019 and 10.7 million tonnes in YTD 2019

Rio Tinto share of production

	Rio Tinto interest	Q3 2018	Q4 2018	Q1 2019	Q2 2019	Q3 2019	9 MTHS 2018	9 MTHS 2019
MOLYBDENUM								
Mine production ('000 tonnes) (a)								
Bingham Canyon	100%	1.4	2.2	1.9	2.6	2.1	3.5	6.6
<i>(a) 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.</i>								
SALT								
Production ('000 tonnes)								
Dampier Salt	68%	1,481	1,496	1,310	1,269	1,392	4,657	3,972
SILVER								
Mine production ('000 ounces) (a)								
Bingham Canyon	100%	708	736	741	700	768	1,784	2,210
Escondida	30%	599	771	657	622	488	2,059	1,767
Oyu Tolgoi (b)	34%	77	80	83	80	64	227	227
Rio Tinto total mine production		1,384	1,586	1,481	1,403	1,320	4,070	4,203
Refined production ('000 ounces)								
Rio Tinto Kennecott	100%	730	807	617	734	664	2,058	2,014
<i>(a) 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.</i>								
<i>(b) Rio Tinto owns a 33.52% indirect interest in Oyu Tolgoi through its 50.79% interest in Turquoise Hill Resources Ltd.</i>								
TITANIUM DIOXIDE SLAG								
Production ('000 tonnes)								
Rio Tinto Iron & Titanium (a)	100%	297	294	296	303	321	822	920
<i>(a) Quantities comprise 100% of Rio Tinto Fer et Titane and Rio Tinto's 74% interest in Richards Bay Minerals (RBM).</i>								
URANIUM								
Production ('000 lbs U₃O₈) (a)								
Energy Resources of Australia	68%	820	924	793	620	585	2,090	1,998
Rössing (b)	0%	994	979	802	1,142	170	2,771	2,114
Rio Tinto total uranium production		1,814	1,904	1,595	1,762	755	4,860	4,111

(a) ERA and Rössing production reported are drummed U₃O₈.

(b) On 16 July 2019, Rio Tinto completed the sale of its entire 68.62% interest in the Rössing mine in Namibia to China National Uranium Corporation Limited. Production is reported up to the date of completion.

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.

The Rio Tinto percentage shown above is at 30 September 2019.

Rio Tinto's interest in the Kestrel, Hail Creek, Dunkerque and Grasberg operations were sold in 2018. No data for these operations are included in the Share of production table.

Rio Tinto operational data

	Rio Tinto interest	Q3 2018	Q4 2018	Q1 2019	Q2 2019	Q3 2019	9 MTHS 2018	9 MTHS 2019
ALUMINA								
Smelter Grade Alumina - Aluminium Group								
Alumina production ('000 tonnes)								
<i>Australia</i>								
Queensland Alumina Refinery - Queensland	80.0%	935	927	888	834	836	2,770	2,559
Yarwun refinery - Queensland	100.0%	744	803	813	757	671	2,300	2,241
<i>Brazil</i>								
São Luis (Alumar) refinery	10.0%	851	918	859	864	989	2,592	2,713
<i>Canada</i>								
Jonquière (Vaudreuil) refinery - Quebec (a)	100.0%	363	354	373	336	360	1,090	1,069
<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%	31	29	25	31	28	95	85

Rio Tinto percentage interest shown above is at 30 September 2019. The data represent full production and sales on a 100% basis unless otherwise stated.

Rio Tinto operational data

	Rio Tinto interest	Q3 2018	Q4 2018	Q1 2019	Q2 2019	Q3 2019	9 MTHS 2018	9 MTHS 2019
ALUMINIUM								
Primary Aluminium								
Primary aluminium production ('000 tonnes)								
<i>Australia</i>								
Bell Bay smelter - Tasmania	100.0%	48	48	45	47	48	141	141
Boyne Island smelter - Queensland	59.4%	126	125	122	126	125	371	374
Tomago smelter - New South Wales	51.6%	151	149	144	147	149	443	440
<i>Canada</i>								
Alma smelter - Quebec	100.0%	117	118	115	118	119	347	352
Alouette (Sept-Îles) smelter - Quebec	40.0%	148	146	144	150	153	438	447
Arvida smelter - Quebec	100.0%	43	44	43	44	45	129	131
Arvida AP60 smelter - Quebec	100.0%	13	13	14	15	15	39	44
Bécancour smelter - Quebec	25.1%	32	30	17	16	16	105	49
Grande-Baie smelter - Quebec	100.0%	59	59	58	58	59	174	174
Kitimat smelter - British Columbia	100.0%	110	109	106	102	96	327	304
Laterrière smelter - Quebec	100.0%	65	65	64	64	65	191	193
<i>France</i>								
Dunkerque smelter (a)	0%	66	57	-	-	-	170	-
<i>Iceland</i>								
ISAL (Reykjavik) smelter	100.0%	53	54	52	52	36	158	141
<i>New Zealand</i>								
Tiwai Point smelter	79.4%	85	88	89	87	88	252	264
<i>Oman</i>								
Sohar smelter	20.0%	98	99	97	97	98	281	292

(a) On 14 December 2018, Rio Tinto completed the sale of its 100% interest in the Dunkerque smelter. Production is reported up to the date of completion.

Rio Tinto percentage interest shown above is at 30 September 2019. The data represent full production and sales on a 100% basis unless otherwise stated.

Rio Tinto operational data

	Rio Tinto interest	Q3 2018	Q4 2018	Q1 2019	Q2 2019	Q3 2019	9 MTHS 2018	9 MTHS 2019
BAUXITE								
Bauxite production ('000 tonnes)								
<i>Australia</i>								
Gove mine - Northern Territory	100.0%	2,893	3,250	3,004	2,957	2,968	9,290	8,929
Weipa mine - Queensland	100.0%	8,204	6,847	7,917	8,533	8,695	23,590	25,144
<i>Brazil</i>								
Porto Trombetas (MRN) mine	12.0%	2,848	4,073	2,372	2,393	3,205	9,061	7,970
<i>Guinea</i>								
Sangaredi mine (a)	23.0%	2,803	2,675	3,463	3,623	3,887	10,364	10,973
Rio Tinto share of bauxite shipments								
Share of total bauxite shipments ('000 tonnes)		12,427	11,622	12,725	13,122	13,912	37,914	39,758
Share of third party bauxite shipments ('000 tonnes)		8,441	7,387	8,842	9,477	10,361	25,427	28,680

(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 September 2019. The data represent full production and sales on a 100% basis unless otherwise stated.

Rio Tinto operational data

	Rio Tinto interest	Q3 2018	Q4 2018	Q1 2019	Q2 2019	Q3 2019	9 MTHS 2018	9 MTHS 2019
BORATES								
Rio Tinto Borates - borates	100.0%							
<i>US</i>								
Borates ('000 tonnes) (a)		137	118	115	138	138	394	391
<i>(a) Production is expressed as B₂O₃ content.</i>								
COAL								
Rio Tinto Coal Australia								
Hail Creek Coal mine (a)	0.0%							
<i>Queensland</i>								
Hard coking coal ('000 tonnes)		396	-	-	-	-	2,700	-
Thermal coal ('000 tonnes)		449	-	-	-	-	2,760	-
Kestrel Coal mine (b)	0.0%							
<i>Queensland</i>								
Hard coking coal ('000 tonnes)		484	-	-	-	-	2,217	-
Thermal coal ('000 tonnes)		35	-	-	-	-	329	-
Total hard coking coal production ('000 tonnes)		880	-	-	-	-	4,917	-
Total thermal coal production ('000 tonnes)		485	-	-	-	-	3,089	-
Total coal production ('000 tonnes)		1,365	-	-	-	-	8,007	-
Total coal sales ('000 tonnes)		1,725	-	-	-	-	8,492	-
Rio Tinto Coal Australia share (c)								
Share of hard coking coal sales ('000 tonnes)		650	-	-	-	-	4,246	-
Share of thermal coal sales ('000 tonnes) (d)		754	-	-	-	-	2,664	-

(a) On 1 August 2018, Rio Tinto completed the sale of its 82% interest in the Hail Creek mine. Production is reported up to the date of completion.

(b) On 1 August 2018, Rio Tinto completed the sale of its 80% interest in the Kestrel mine. Production is reported up to the date of completion.

(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 30 September 2019. The data represent full production and sales on a 100% basis unless otherwise stated.

Rio Tinto operational data

	Rio Tinto interest	Q3 2018	Q4 2018	Q1 2019	Q2 2019	Q3 2019	9 MTHS 2018	9 MTHS 2019
COPPER & GOLD								
Escondida	30.0%							
<i>Chile</i>								
Sulphide ore to concentrator ('000 tonnes)		30,513	30,507	32,027	32,519	33,956	94,449	98,502
Average copper grade (%)		0.94	0.87	0.82	0.86	0.86	0.95	0.85
Mill production (metals in concentrates):								
Contained copper ('000 tonnes)		241.9	219.9	212.4	231.7	245.1	748.1	689.2
Contained gold ('000 ounces)		64	74	74	75	49	192	198
Contained silver ('000 ounces)		1,997	2,570	2,189	2,074	1,626	6,863	5,889
Recoverable copper in ore stacked for leaching ('000 tonnes) (a)		49.4	45.7	36.8	44.5	56.7	154.2	137.9
Refined production from leach plants:								
Copper cathode production ('000 tonnes)		55.4	71.9	62.4	63.5	55.9	194.9	181.8
<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)		17,535	14,049	-	-	-	50,261	-
Average mill head grades:								
Copper (%)		1.00	0.73	-	-	-	1.06	-
Gold (g/t)		1.77	1.08	-	-	-	1.73	-
Silver (g/t)		4.49	2.09	-	-	-	4.75	-
Production of metals in concentrates:								
Copper in concentrates ('000 tonnes)		158.7	85.4	-	-	-	484.3	-
Gold in concentrates ('000 ounces)		842	402	-	-	-	2,377	-
Silver in concentrates ('000 ounces)		1,439	545	-	-	-	4,500	-
Sales of payable metals in concentrates: (c)								
Copper in concentrates ('000 tonnes)		170.6	82.7	-	-	-	473.3	-
Gold in concentrates ('000 ounces)		903	399	-	-	-	2,320	-
Silver in concentrates ('000 ounces)		1,221	426	-	-	-	3,502	-

(a) Through a joint venture agreement with Freeport-McMoRan (FCX), Rio Tinto is entitled to 40% of additional material mined as a consequence of expansions and developments of the Grasberg facilities since 1998. The Q4 2018 results show the forecast from FCX's most recent five-year plan. On 21 December 2018, Rio Tinto completed the sale of its entire interest in the Grasberg mine in Indonesia to PT Indonesia Asahan Aluminium (Persero) (Inalum). Production is reported up to the date of completion.

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

(c) Net of smelter deduction

Rio Tinto percentage interest shown above is at 30 September 2019. The data represent full production and sales on a 100% basis unless otherwise stated.

Rio Tinto operational data

	Rio Tinto interest	Q3 2018	Q4 2018	Q1 2019	Q2 2019	Q3 2019	9 MTHS 2018	9 MTHS 2019
COPPER & GOLD (continued)								
Rio Tinto Kennecott								
Bingham Canyon mine	100.0%							
<i>Utah, US</i>								
Ore treated ('000 tonnes)		11,173	10,853	10,685	10,123	10,084	29,407	30,892
Average ore grade:								
Copper (%)		0.58	0.59	0.55	0.46	0.64	0.55	0.55
Gold (g/t)		0.26	0.26	0.25	0.33	0.30	0.25	0.29
Silver (g/t)		2.62	2.76	2.76	2.84	2.74	2.53	2.78
Molybdenum (%)		0.030	0.032	0.032	0.039	0.039	0.027	0.037
Copper concentrates produced ('000 tonnes)		233	222	207	161	207	598	575
Average concentrate grade (% Cu)		25.3	26.0	25.3	25.5	27.8	24.3	26.3
Production of metals in copper concentrates:								
Copper ('000 tonnes) (a)		59.1	58.3	52.5	41.1	57.8	145.7	151.4
Gold ('000 ounces)		57	57	53	65	65	140	183
Silver ('000 ounces)		708	736	741	700	768	1,784	2,210
Molybdenum concentrates produced ('000 tonnes):		2.8	4.5	3.8	5.0	4.3	7.0	13.0
Molybdenum in concentrates ('000 tonnes)		1.4	2.2	1.9	2.6	2.1	3.5	6.6
Kennecott smelter & refinery								
	100.0%							
Copper concentrates smelted ('000 tonnes)		246	262	204	207	160	670	571
Copper anodes produced ('000 tonnes) (b)		58.1	62.4	33.3	60.3	39.3	144.9	132.9
Production of refined metal:								
Copper ('000 tonnes)		54.2	64.6	29.6	63.3	40.3	130.2	133.2
Gold ('000 ounces) (c)		50.3	58.6	41.7	52.9	60.8	139.5	155.4
Silver ('000 ounces) (c)		730	807	617	734	664	2,058	2,014

(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 September 2019. The data represent full production and sales on a 100% basis unless otherwise stated.

Rio Tinto operational data

	Rio Tinto interest	Q3 2018	Q4 2018	Q1 2019	Q2 2019	Q3 2019	9 MTHS 2018	9 MTHS 2019
COPPER & GOLD (continued)								
Turquoise Hill Resources								
Oyu Tolgoi mine (a)	33.5%							
<i>Mongolia</i>								
Ore Treated ('000 tonnes)		9,652	9,361	9,255	10,394	10,040	29,377	29,689
Average mill head grades:								
Copper (%)		0.51	0.55	0.57	0.46	0.37	0.50	0.46
Gold (g/t)		0.38	0.56	0.58	0.31	0.14	0.29	0.34
Silver (g/t)		1.19	1.22	1.25	1.20	1.03	1.22	1.16
Copper concentrates produced ('000 tonnes)		179.8	189.0	210.1	180.6	131.3	535.9	522.1
Average concentrate grade (% Cu)		21.9	21.9	21.8	21.7	21.7	21.9	21.7
Production of metals in concentrates:								
Copper in concentrates ('000 tonnes)		39.4	41.5	45.8	39.2	28.4	117.6	113.4
Gold in concentrates ('000 ounces)		77.0	116.7	120.1	71.8	25.6	168.8	217.5
Silver in concentrates ('000 ounces)		230	238	247	239	191	676	677
Sales of metals in concentrates:								
Copper in concentrates ('000 tonnes)		36.0	40.2	38.5	46.6	32.5	116.4	117.6
Gold in concentrates ('000 ounces)		55	111	98	116	35	137	249
Silver in concentrates ('000 ounces)		201	216	200	245	207	657	652
<i>(a) Rio Tinto owns a 33.52% indirect interest in Oyu Tolgoi through its 50.79% interest in Turquoise Hill Resources.</i>								
DIAMONDS								
Argyle Diamonds	100.0%							
<i>Western Australia</i>								
AK1 ore processed ('000 tonnes)		1,465	1,292	1,248	1,427	1,716	4,153	4,390
AK1 diamonds produced ('000 carats)		3,830	3,211	2,786	3,292	3,558	10,857	9,636
Diavik Diamonds	60.0%							
<i>Northwest Territories, Canada</i>								
Ore processed ('000 tonnes)		670	651	620	671	628	1,879	1,919
Diamonds recovered ('000 carats)		1,776	1,797	1,683	1,980	1,656	5,467	5,319

Rio Tinto percentage interest shown above is at 30 September 2019. The data represent full production and sales on a 100% basis unless otherwise stated.

Rio Tinto operational data

	Rio Tinto interest	Q3 2018	Q4 2018	Q1 2019	Q2 2019	Q3 2019	9 MTHS 2018	9 MTHS 2019
IRON ORE								
Rio Tinto Iron Ore								
<i>Western Australia</i>								
Pilbara Operations								
Saleable iron ore production ('000 tonnes)								
Hamersley mines	(a)	54,583	56,364	51,218	50,087	55,567	164,248	156,871
Hamersley - Channar	60.0%	1,007	2,228	1,552	2,419	1,579	4,945	5,549
Hope Downs	50.0%	11,426	11,691	11,913	12,101	12,155	33,677	36,169
Robe River - Pannawonica (Mesas J and A)	53.0%	7,940	7,555	3,529	6,282	8,914	24,393	18,725
Robe River - West Angelas	53.0%	7,587	8,738	7,783	8,853	9,133	23,933	25,768
Total production ('000 tonnes)		82,542	86,576	75,995	79,741	87,347	251,196	243,083
Breakdown of total production:								
Pilbara Blend Lump		24,461	26,084	24,068	24,291	25,434	75,545	73,793
Pilbara Blend Fines		35,696	38,085	34,924	35,194	38,296	108,620	108,413
Robe Valley Lump		2,774	2,659	1,198	2,266	3,113	8,467	6,578
Robe Valley Fines		5,166	4,896	2,331	4,015	5,802	15,926	12,148
Yandicoogina Fines (HIY)		14,446	14,852	13,473	13,975	14,704	42,639	42,151
Breakdown of total sales:								
Pilbara Blend Lump		21,644	22,161	18,968	22,287	22,014	66,054	63,269
Pilbara Blend Fines		38,100	42,497	34,558	41,105	41,004	118,058	116,667
Robe Valley Lump		2,215	2,301	863	1,957	2,433	6,908	5,253
Robe Valley Fines		5,356	5,652	2,468	4,862	6,318	17,149	13,648
Yandicoogina Fines (HIY)		14,583	14,831	12,294	15,212	14,286	42,549	41,791
Total sales ('000 tonnes) (b) (c)		81,898	87,442	69,150	85,423	86,055	250,718	240,628
<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) Pilbara Blend sales include 6.7 million tonnes of alternate products in Q3 2019 and 10.7 million tonnes in the first nine months of 2019.</i>								
<i>(c) 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)		1,926	2,441	1,516	2,031	2,384	4,260	5,932
Pellets ('000 tonnes)		2,979	2,389	2,709	2,280	2,657	6,156	7,646
IOC Total production ('000 tonnes)		4,905	4,830	4,225	4,311	5,041	10,416	13,577
Sales:								
Concentrates ('000 tonnes)		2,590	2,653	878	2,239	2,427	3,966	5,544
Pellets ('000 tonnes)		2,825	2,581	2,684	2,424	2,093	5,849	7,201
IOC Total Sales ('000 tonnes)		5,415	5,234	3,562	4,663	4,520	9,815	12,745
Global Iron Ore Totals								
Iron Ore Production ('000 tonnes)		87,448	91,406	80,219	84,052	92,389	261,612	256,660
Iron Ore Sales ('000 tonnes)		87,314	92,676	72,712	90,085	90,576	260,533	253,373

Rio Tinto percentage interest shown above is at 30 September 2019. The data represent full production and sales on a 100% basis unless otherwise stated.

Rio Tinto operational data

	Rio Tinto interest	Q3 2018	Q4 2018	Q1 2019	Q2 2019	Q3 2019	9 MTHS 2018	9 MTHS 2019
SALT								
Dampier Salt	68.4%							
<i>Western Australia</i>								
Salt production ('000 tonnes)		2,167	2,188	1,917	1,856	2,036	6,813	5,810
TITANIUM DIOXIDE SLAG								
Rio Tinto Iron & Titanium	100.0%							
<i>Canada and South Africa</i>								
<i>(Rio Tinto share) (a)</i>								
Titanium dioxide slag ('000 tonnes)		297	294	296	303	321	822	920

(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.

URANIUM								
Energy Resources of Australia Ltd								
Ranger mine (a)	68.4%							
<i>Northern Territory, Australia</i>								
U ₃ O ₈ Production ('000 lbs)		1,199	1,351	1,160	906	855	3,056	2,921
<i>(a) ERA production data are drummed U₃O₈.</i>								
Rössing Uranium Ltd (a) (b)	0.0%							
<i>Namibia</i>								
U ₃ O ₈ Production ('000 lbs)		1,449	1,427	1,168	1,665	247	4,038	3,080

(a) Rössing production data are drummed U₃O₈.

(b) On 16 July 2019, Rio Tinto completed the sale of its entire 68.62% interest in the Rössing mine in Namibia to China National Uranium Corporation Limited. Production is reported up to the date of completion.

Rio Tinto percentage interest shown above is at 30 September 2019. The data represent full production and sales on a 100% basis unless otherwise stated.