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BHP OPERATIONAL REVIEW FOR THE YEAR ENDED 30 JUNE 2019

- Exceeded full year production guidance for petroleum and met revised guidance for copper and iron ore. Metallurgical coal and energy coal production marginally below guidance predominantly as a result of lower than expected wash plant yields and adverse weather impacts during the June 2019 quarter.
- Group copper equivalent production increased by 11% in the June 2019 quarter reflecting a strong operational performance across the portfolio, particularly at Western Australia Iron Ore and Queensland Coal which achieved annualised run rates above 290 Mt (excluding the impact of Tropical Cyclone Veronica) and 48 Mt respectively during the quarter.
- Group copper equivalent production for the 2019 financial year declined by 2%⁽¹⁾, with annual production records at two petroleum and four minerals operations offset by grade and natural field decline, weather-related interruptions and several unplanned outages.
- We expect to achieve full year unit cost guidance⁽²⁾ at Petroleum, Escondida and Western Australia Iron Ore. Queensland Coal and New South Wales Energy Coal unit costs are expected to be marginally above guidance (based on 2019 financial year guidance exchange rates of AUD/USD 0.75 and USD/CLP 663).
- Group copper equivalent production⁽¹⁾ for the 2020 financial year is expected to be slightly higher than the 2019 financial year despite a ~7% decline in petroleum volumes largely due to natural field decline.
- In Petroleum, the Bélé-1, Tuk-1 and Hi-Hat-1 exploration wells in Trinidad and Tobago all encountered hydrocarbons during the quarter. Over the full year, seven out of nine wells drilled were successful.
- All major projects under development are tracking to plan.
- Underlying improvements in productivity were largely offset by the impact of unplanned production outages of US\$835 million during the first half, in addition to grade decline in copper and higher unit costs in coal. A negative movement of approximately US\$1 billion is now expected to be recorded for the 2019 financial year.

Production	FY19 (vs FY18)	Jun Q19 (vs Mar Q19)	Jun Q19 commentary
Petroleum (MMboe)	121 (+1%)	30 (+3%)	Higher seasonal gas volumes and higher uptime due to planned shutdowns in the previous quarter at Bass Strait.
Copper (kt)	1,689 (-4%)	444 (+6%)	Strong performance at all three Chilean operations partially offset by the impact of two minor production outages at Olympic Dam.
Iron ore (Mt)	238 (0%)	63 (+12%)	Increased production at Western Australia Iron Ore (WAIO) reflected the return to full capacity following Tropical Cyclone Veronica in March 2019.
Metallurgical coal (Mt)	42 (-1%)	12 (+20%)	Record production at BMC and improved mining performance across most operations following significant wet weather impacts in the previous quarter.
Energy coal (Mt)	27 (-6%)	7 (+10%)	Increased stripping performance at New South Wales Energy Coal (NSWEC), partially offset by the impact of adverse weather at Cerrejón
Nickel (kt)	87 (-6%)	29 (+49%)	Increased production reflected completion of final repairs and ramp up of the Kalgoorlie smelter in the prior quarter.

We expect the financial results for the second half of the 2019 financial year to reflect certain items as summarised in the table on page 3.

Summary

BHP Chief Executive Officer, Andrew Mackenzie:

“We finished the 2019 financial year with an 11 per cent increase in quarterly production, driven by strong operational performances across our portfolio, including annual production records at a number of our petroleum, copper, iron ore and metallurgical coal operations. Our overall production was broadly in line with last year, overcoming the impacts of weather, grade and natural field decline, and unplanned outages in the first half. Our exploration program delivered encouraging results, with seven out of nine petroleum wells successful and further evaluation of the Oak Dam copper prospect underway. Strong underlying performance puts us in a position to deliver higher volumes in the 2020 financial year. BHP’s suite of attractive options, together with our culture and transformation programs, will grow returns and create long-term financial and social value.”

Operational performance

Production and guidance are summarised below.

Production	FY19	Jun Q19	FY19 vs FY18	Jun Q19 vs Jun Q18	Jun Q19 vs Mar Q19	FY20 guidance	FY20e vs FY19
Petroleum (MMboe)	121	30	1%	4%	3%	110 - 116	(9%) - (4%)
Copper (kt)	1,689	444	(4%)	(4%)	6%	1,705 - 1,820	1% - 8%
Escondida (kt)	1,135	288	(6%)	(9%)	7%	1,160 - 1,230	2% - 8%
Other copper ⁽ⁱ⁾ (kt)	554	157	3%	6%	3%	545 - 590	(2%) - 6%
Iron ore ⁽ⁱⁱ⁾ (Mt)	238	63	0%	(2%)	12%	242 - 253	2% - 6%
WAIO (100% basis) (Mt)	270	71	(2%)	(1%)	12%	273 - 286	1% - 6%
Metallurgical coal (Mt)	42	12	(1%)	(1%)	20%	41 - 45	(3%) - 6%
Queensland Coal (100% basis) (Mt)	75	21	(1%)	(1%)	20%	73 - 79	(2%) - 6%
Energy coal (Mt)	27	7	(6%)	(18%)	10%	24 - 26	(13%) - (5%)
NSWEC (Mt)	18	5	(2%)	(14%)	19%	15 - 17	(18%) - (7%)
Cerrejón (Mt)	9	2	(13%)	(28%)	(8%)	~9	Broadly unchanged
Nickel (kt)	87	29	(6%)	12%	49%	~87	Broadly unchanged

(i) Other copper comprises Pampa Norte, Olympic Dam and Antamina.

(ii) Increase in BHP’s share of volumes reflects the expiry of the Wheelarra Joint Venture sublease in March 2018, with control of the sublease area reverted to the Jimblebar Joint Venture, which is accounted for on a consolidated basis with minority interest adjustments.

Major development projects

During the year, the North West Shelf Greater Western Flank-B project achieved first production ahead of schedule and under budget. The BHP Board also approved the Atlantis Phase 3 project in the US Gulf of Mexico.

At the end of the 2019 financial year, BHP had five major projects under development in petroleum, copper, iron ore and potash, with a combined budget of US\$11.1 billion over the life of the projects.

Summary of disclosures

BHP expects its financial results for the second half of the 2019 financial year to reflect certain items as summarised in the table below. The table does not provide a comprehensive list of all items impacting the period. The financial statements are the subject of ongoing work that will not be finalised until the release of the financial results on 20 August 2019. Accordingly the information is subject to update.

Description	H2 FY19 impact US\$M ⁽ⁱ⁾	Classification ⁽ⁱⁱ⁾
Continuing operations		
Unit costs for Petroleum, Escondida and WAIO expected to be in line with full year guidance, although tracking to upper limits	Refer footnote ⁽ⁱⁱⁱ⁾	↑ Operating costs
Queensland Coal and NSWEC unit costs expected to be marginally above full year guidance due to the impacts of higher stripping costs and wet weather in Queensland	Refer footnote ⁽ⁱⁱⁱ⁾	↑ Operating costs
Increase in closure and rehabilitation provision for closed mines ^(iv)	~250	↑ Operating costs
Restructuring and redundancy costs in relation to World Class Functions	~100	↑ Operating costs
Exploration expense (including petroleum and minerals exploration programs)	294	↑ Exploration expense
The Group's adjusted effective tax rate for the full year is expected to be at the higher end of the guidance range of 33 to 38 per cent	Refer footnote ⁽ⁱⁱⁱ⁾	↑ Taxation expense
Non-cash fair value adjustments related to interest rate and exchange rate movements are expected to increase net debt in the June 2019 half year	Refer footnote ⁽ⁱⁱⁱ⁾	↑ Net debt
Special dividend paid to shareholders on 30 January 2019	5,188	↑ Financing cash outflow
Dividends paid to non-controlling interests	~570	↑ Financing cash outflow
Provision for decommissioning the Germano dam at Samarco	~260	↑ Exceptional item charge
Financial impact on BHP Billiton Brasil of the Samarco dam failure	Refer footnote ⁽ⁱⁱⁱ⁾	↑ Exceptional item charge
Discontinued operations		
Net proceeds received from the sale of Onshore US (including final four instalment payments)	3,503	↑ Investing cash inflow

(i) Numbers are not tax effected, unless otherwise noted.

(ii) There will be a corresponding balance sheet, cash flow and/or income statement impact as relevant.

(iii) Financial impact is the subject of ongoing work and is not yet finalised.

(iv) Increase is attributable to closed mines managed by Petroleum due to their geographical location.

Underlying improvements in productivity were largely offset by the impact of unplanned production outages of US\$835 million during the December 2018 half year. Productivity for the June 2019 half year has been impacted by higher than expected unit costs at Queensland Coal (lower volumes, wet weather and increased contractor stripping costs); New South Wales Energy Coal (higher strip ratio and contractor stripping costs); and Nickel West (mine plan changes); in addition to expected grade decline in copper. As a result, we expect a negative movement in productivity of approximately US\$1 billion for the 2019 financial year, excluding the impact of Tropical Cyclone Veronica on our WAIO operations.

Average realised prices

The average realised prices achieved for our major commodities are summarised below.

Average realised prices ⁽ⁱ⁾	Jun H19	Dec H18	FY19	FY18	FY19 vs FY18	Jun H19 vs Jun H18	Jun H19 vs Dec H18
Oil (crude and condensate) (US\$/bbl)	63.29	69.91	66.59	60.57	10%	(7%)	(9%)
Natural gas (US\$/Mscf) ⁽ⁱⁱ⁾	4.42	4.67	4.55	4.44	2%	(8%)	(5%)
LNG (US\$/Mscf)	8.53	10.19	9.43	8.07	17%	(1%)	(16%)
Copper (US\$/lb) ⁽ⁱⁱⁱ⁾	2.70	2.54	2.62	3.00	(13%)	(8%)	6%
Iron ore (US\$/wmt, FOB)	77.74	55.62	66.68	56.71	18%	37%	40%
Metallurgical coal (US\$/t)	179.53	179.82	179.67	177.22	1%	(5%)	0%
Hard coking coal (US\$/t) ^(iv)	201.33	197.86	199.61	194.59	3%	(2%)	2%
Weak coking coal (US\$/t) ^(iv)	126.46	134.12	130.18	131.70	(1%)	(12%)	(6%)
Thermal coal (US\$/t) ^(v)	72.18	84.15	77.90	86.94	(10%)	(17%)	(14%)
Nickel metal (US\$/t)	12,444	12,480	12,462	12,591	(1%)	(11%)	0%

(i) Based on provisional, unaudited estimates. Prices exclude sales from equity accounted investments, third party product and internal sales, and represent the weighted average of various sales terms (for example: FOB, CIF and CFR), unless otherwise noted. Includes the impact of provisional pricing and finalisation adjustments.

(ii) Includes internal sales.

(iii) Comparative financial information has been restated for the new accounting standard, IFRS 15 Revenue from Contracts with Customers, which became effective from 1 July 2018.

(iv) Hard coking coal (HCC) refers generally to those metallurgical coals with a Coke Strength after Reaction (CSR) of 35 and above, which includes coals across the spectrum from Premium Coking to Semi Hard Coking coals, while weak coking coal (WCC) refers generally to those metallurgical coals with a CSR below 35.

(v) Export sales only; excludes Cerrejón. Includes thermal coal sales from metallurgical coal mines.

The majority of iron ore shipments were linked to the index price for the month of shipment, with price differentials predominantly a reflection of market fundamentals and product quality. The majority of metallurgical coal and energy coal exports were linked to the index price for the month of shipment or sold on the spot market at fixed or index-linked prices, with price differentials reflecting product quality.

At 30 June 2019, the Group had 322 kt of outstanding copper sales that were revalued at a weighted average price of US\$2.72 per pound. The final price of these sales will be determined in the 2020 financial year. In addition, 364 kt of copper sales from the 2018 financial year were subject to a finalisation adjustment in the current period. The provisional pricing and finalisation adjustments will decrease Underlying EBITDA⁽³⁾ by US\$242 million in the 2019 financial year and is included in the average realised copper price in the above table.

Corporate update

On 26 June 2019, BHP Western Australia Iron Ore and its Joint Venture Partners (JVPs) settled a dispute with the Western Australian Government in relation to a long-standing deduction made by BHP and its JVPs in the calculation of royalties. The settlement resolved all issues relating to this deduction and there is no assertion by the State that BHP, or its JVPs, have deliberately or knowingly sought to avoid or minimise the royalties payable to the State of Western Australia. As part of the settlement, BHP and its JVPs have ceased to claim the deduction in question and have agreed to make a payment of A\$250 million (100 per cent basis) to the State in resolution of the dispute. The payment will be made in the first half of the 2020 financial year.

In January 2019, BHP agreed to fund US\$438 million in financial support for the Renova Foundation until 31 December 2019 which will be offset against the Group's provision for the Samarco dam failure. In addition, in June 2019 BHP agreed to fund a short-term facility of up to US\$79 million to be made available to Samarco until 31 December 2019.

BHP is currently reviewing the assumptions used to determine the Group's provision for the Samarco dam failure, including an expected increase in the total cost estimate related to the timing of lifting the fishing ban, delays in the resettlement of communities impacted by the dam failure and increases in the number of people eligible for financial assistance and compensation. For the second half of the 2019 financial year, we are not yet in a position to provide an update to the ongoing potential financial impacts on BHP Billiton Brasil of the Samarco dam failure. Any financial impacts will continue to be treated as an exceptional item.

Due to legislative changes in Brazil, Samarco is currently progressing plans for the accelerated decommissioning of its upstream tailings dams (the Germano dam complex). The accelerated timing is expected to result in a provision of approximately US\$260 million (BHP share), as Samarco is not currently expected to generate sufficient cash flows to fund the required decommissioning costs. BHP will recognise this in its financial results for the second half of the 2019 financial year and treat it as an exceptional item.

Petroleum

Production

	FY19	Jun Q19	FY19 vs FY18	Jun Q19 vs Jun Q18	Jun Q19 vs Mar Q19
Crude oil, condensate and natural gas liquids (MMboe)	55	13	(4%)	(1%)	1%
Natural gas (bcf)	397	98	5%	8%	5%
Total petroleum production (MMboe)	121	30	1%	4%	3%

Petroleum - Total petroleum production increased by one per cent to 121 MMboe. Volumes are expected to decrease to between 110 and 116 MMboe in the 2020 financial year as a result of planned maintenance at Atlantis and natural field decline across the portfolio.

Crude oil, condensate and natural gas liquids production decreased by four per cent to 55 MMboe due to natural field decline across the portfolio and a 70-day planned dry dock maintenance program at Pyrenees completed during the September 2018 quarter. This decline was partly offset by higher uptime and stronger field performance at Atlantis and Mad Dog.

Natural gas production increased by five per cent to 397 bcf, reflecting increased tax barrels at Trinidad and Tobago in accordance with the terms of our Production Sharing Contract and higher uptime at North West Shelf. This was partially offset by planned maintenance at Trinidad and Tobago in the December 2018 quarter, the impact of Tropical Cyclone Veronica in Western Australia and natural field decline across the portfolio.

Projects

Project and ownership	Capital expenditure US\$M	Initial production target date	Capacity	Progress
Mad Dog Phase 2 (US Gulf of Mexico) 23.9% (non-operator)	2,154	CY22	New floating production facility with the capacity to produce up to 140,000 gross barrels of crude oil per day.	On schedule and budget. The overall project is 53% complete.
Atlantis Phase 3 (US Gulf of Mexico) 44% (non-operator)	696	CY20	New subsea production system that will tie back to the existing Atlantis facility, with capacity to produce up to 38,000 gross barrels of oil equivalent per day.	On schedule and budget. The overall project is 13% complete.

The Bass Strait West Barracouta project is tracking to plan and study work continues on the Ruby project in Trinidad and Tobago with an investment decision expected during the September 2019 quarter.

Petroleum exploration

Exploration and appraisal wells drilled during the June 2019 quarter are summarised below.

Well	Location	Target	Formation age	BHP equity	Spud date	Water depth	Total well depth	Status
Bélé-1	Trinidad & Tobago Block 23(a)	Gas	Pliocene	70% (BHP Operator)	2 March 2019	2,102 m	3,982 m	Hydrocarbons encountered; Plugged and abandoned
Tuk-1	Trinidad & Tobago Block 23(a)	Gas	Pliocene	70% (BHP Operator)	24 April 2019	1,954 m	4,511 m	Hydrocarbons encountered; Plugged and abandoned
Hi-Hat-1	Trinidad & Tobago Block 14	Gas	Pliocene	70% (BHP Operator)	20 May 2019	1,782 m	3,804 m	Hydrocarbons encountered; Plugged and abandoned
Achernar-1	Western Australia WA-28-P	Gas	Jurassic	15.8% (Woodside Operator)	2 May 2019	122 m	3,285 m	Dry hole; Plugged and abandoned

In Trinidad and Tobago, Phase 3 of our deepwater drilling campaign was completed. This campaign included three wells – Bélé-1, Tuk-1 and Hi-Hat-1 – which have all been successfully drilled and encountered gas. These three discoveries in our Northern licences have established additional volumes around the Bongos discovery and evaluations are ongoing. Technical work is underway to assess further exploration targets and commercial options for the Northern Gas play.

In Australia, as part of the North West Shelf Joint Venture, we participated in the Achernar-1 exploration to fulfil a well commitment on the WA-28-P exploration permit. The well was a dry hole and was plugged and abandoned.

In Mexico, we spud the Trion-3DEL appraisal well on 9 July 2019 to further delineate the scale and characterisation of the resource.

Petroleum exploration expenditure for the 2019 financial year was US\$685 million, of which US\$388 million was expensed.

Copper

Production

	FY19	Jun Q19	FY19 vs FY18	Jun Q19 vs Jun Q18	Jun Q19 vs Mar Q19
Copper (kt)	1,689	444	(4%)	(4%)	6%
Zinc (t)	98,112	22,469	(18%)	(38%)	8%
Uranium (t)	3,565	975	6%	(13%)	(12%)

Copper – Total copper production decreased by four per cent to 1,689 kt. Production of between 1,705 and 1,820 kt is expected in the 2020 financial year.

Escondida copper production decreased by six per cent to 1,135 kt, as an expected 12 per cent decline in copper grade was partially offset by record average concentrator throughput of 344 ktpd. Production of between 1,160 and 1,230 kt is expected in the 2020 financial year, underpinned by a further uplift in concentrator throughput, partly offset by an approximately five per cent reduction in copper grade of concentrator feed.

Pampa Norte copper production decreased by seven per cent to 247 kt due to adverse weather impacts in the March 2019 quarter and a production outage at Spence following a fire at the electro-winning plant in September 2018. This was partially offset by record ore milled at Spence and Cerro Colorado after implementing maintenance improvement initiatives as part of our broader transformation program. Production at Pampa Norte is expected to be between 230 and 250 kt in the 2020 financial year.

Olympic Dam copper production increased by 17 per cent to 160 kt as a result of the major smelter maintenance campaign in the prior period, which was partially offset by an unplanned acid plant outage in August 2018, and two minor production outages in May 2019 relating to the smelter and to the refinery crane. Underground operations continue to perform well, with record development kilometres achieved⁽⁴⁾. Production is expected to increase to between 180 and 205 kt in the 2020 financial year reflecting improved operational performance, partially offset by planned maintenance related to the replacement of the refinery crane (pre-work scheduled for the September 2019 quarter and physical replacement and commissioning scheduled for the March 2020 quarter). During the 2019 financial year, we successfully completed the heap leach research and development trial, confirming the viability of the technology to extract copper, uranium, gold and silver at Olympic Dam.

Antamina copper production increased by six per cent to 147 kt and zinc production decreased by 18 per cent to 98 kt, reflecting higher copper head grades and lower zinc head grades, in line with the mine plan. Antamina successfully completed a collective agreement with the SUTRACOMASA Union on 11 June 2019, for 36 months expiring on 31 July 2021. Copper production of approximately 135 kt and zinc production of approximately 110 kt is expected in the 2020 financial year.

During the June 2019 quarter, we went live with our Integrated Operations centre in Santiago, which enables planning, control and monitoring across the supply chains for Escondida and Spence.

Projects

Project and ownership	Capital expenditure US\$M	Initial production target date	Capacity	Progress
Spence Growth Option (Chile) 100%	2,460	FY21	New 95 ktpd concentrator is expected to increase Spence's payable copper in concentrate production by approximately 185 ktpa in the first 10 years of operation and extend the mining operations by more than 50 years.	On schedule and budget. The overall project is 60% complete.

Iron Ore

Production

	FY19	Jun Q19	FY19 vs FY18	Jun Q19 vs Jun Q18	Jun Q19 vs Mar Q19
Iron ore production (kt)	237,964	62,595	0%	(2%)	12%

Iron ore – Total iron ore production was broadly unchanged at 238 Mt (270 Mt on a 100 per cent basis). Production of between 242 and 253 Mt (273 and 286 Mt on a 100 per cent basis) is expected in the 2020 financial year as we undertake a significant maintenance program at Port Hedland. This program is designed to improve productivity and provide a stable base for our tightly coupled supply chain as we sustainably increase production towards 290 Mtpa (100 per cent basis). As part of this, a major car dumper maintenance campaign is planned for the September 2019 quarter, with a corresponding impact expected on production.

At WAIO, volumes were flat reflecting record production at Jimblebar and inventory impacts from the Mt Whaleback fire in the prior period. This was offset by the impacts of planned maintenance in the September 2018 quarter, a train derailment on 5 November 2018 and Tropical Cyclone Veronica in March 2019. The port ramp up subsequent to the cyclone was achieved on 10 April 2019. During the quarter, WAIO achieved an annualised run rate above 290 Mt, excluding the cyclone impact.

Mining and processing operations at Samarco remain suspended following the failure of the Fundão tailings dam and Santarém water dam on 5 November 2015.

Projects

Project and ownership	Capital expenditure US\$M	Initial production target date	Capacity	Progress
South Flank (Australia) 85%	3,061	CY21	Sustaining iron ore mine to replace production from the 80 Mtpa (100 per cent basis) Yandi mine.	On schedule and budget. The overall project is 39% complete.

Coal

Production

	FY19	Jun Q19	FY19 vs FY18	Jun Q19 vs Jun Q18	Jun Q19 vs Mar Q19
Metallurgical coal (kt)	42,401	11,894	(1%)	(1%)	20%
Energy coal (kt)	27,487	7,429	(6%)	(18%)	10%

Metallurgical coal – Metallurgical coal production was broadly flat at 42 Mt (75 Mt on a 100 per cent basis). Production is expected to be between 41 and 45 Mt (73 and 79 Mt on a 100 per cent basis) in the 2020 financial year. With major wash plant shutdowns at Goonyella, Peak Downs and Caval Ridge planned in the September 2019 quarter, volumes will be significantly weighted to the subsequent three quarters of the financial year.

At Queensland Coal, record annual production was achieved at BMC due to improved wash plant performance and increased yields at South Walker Creek and higher wash plant throughput at Poitrel following the purchase of the remaining 50 per cent of Red Mountain processing facility. Despite record stripping, BMA's production decreased slightly due to unfavourable weather impacts (March and June 2019 quarters) and lower wash plant yields (June 2019 quarter).

Energy coal – Energy coal production for the 2019 financial year decreased six per cent to 27 Mt. Production is expected to decrease to between 24 and 26 Mt in the 2020 financial year.

New South Wales Energy Coal production decreased by two per cent as record stripping performance was offset by higher strip ratios and lower wash plant yields as we progress through the monocline and optimise our mine plan to focus on higher quality products given widening quality differentials. In the 2020 financial year, the combination of the monocline and a changed product mix to focus on higher quality products is expected to result in a decrease in production to between 15 and 17 Mt.

Cerrejón production decreased by 13 per cent due to adverse weather and its impacts on mine sequencing. Production is expected to be approximately 9 Mt in the 2020 financial year.

Other

Nickel production

	FY19	Jun Q19	FY19 vs FY18	Jun Q19 vs Jun Q18	Jun Q19 vs Mar Q19
Nickel (kt)	87.4	28.7	(6%)	12%	49%

Nickel – Nickel West production decreased by six per cent to 87 kt as operations were suspended following a fire at the Kalgoorlie smelter in September 2018. The smelter returned to operation on 1 October 2018, with final repairs and ramp up completed in the March 2019 quarter. The Kwinana refinery achieved record saleable production of 74 kt in the 2019 financial year. Total nickel production is expected to be broadly unchanged in the 2020 financial year.

Potash project

Project and ownership	Investment US\$M	Scope	Progress
Jansen Potash (Canada) 100%	2,700	Investment to finish the excavation and lining of the production and service shafts, and to continue the installation of essential surface infrastructure and utilities.	The project is 84% complete and within the approved budget. Boring equipment has been removed from both shafts and preparation work for final shaft lining is continuing.

Minerals exploration

Minerals exploration expenditure for the 2019 financial year was US\$188 million, of which US\$128 million was expensed. Greenfield minerals exploration is predominantly focused on advancing copper targets within Chile, Ecuador, Peru, Canada, South Australia and the South-West United States.

During the June 2019 quarter, the second phase of the drilling program at Oak Dam was progressed, with 12,425 metres in 10 holes. The program tested lateral continuity, thicknesses and orientation of the central part of the mineralised system, with the drill results currently being evaluated and interpreted.

Consistent with our exploration focus on copper, in April 2019, BHP secured a five per cent interest in Midland Exploration Inc., which has copper exploration tenements in Canada.

In May 2019, BHP entered into a two-year, US\$2 million Exploration Financing Agreement with Riverside Resources to fund exploration in Mexico's north-eastern Sonora region. The exploration program will focus on the central part of the Laramide Copper Belt.

In July 2019, BHP entered into a binding earn-in and joint venture agreement with Luminex for its Tarqui and Tarqui 2 mining concessions in Ecuador. BHP will act as manager and operator of the joint venture company, and is preparing to continue exploration activities on the sites.

Variance analysis relates to the relative performance of BHP and/or its operations during the 2019 financial year compared with the 2018 financial year, unless otherwise noted. Production volumes, sales volumes and capital and exploration expenditure from subsidiaries are reported on a 100 per cent basis; production and sales volumes from equity accounted investments and other operations are reported on a proportionate consolidation basis. Numbers presented may not add up precisely to the totals provided due to rounding. Copper equivalent production based on 2019 financial year average realised prices.

The following footnotes apply to this Operational Review:

- (1) Excludes production from Onshore US.
- (2) 2019 financial year unit cost guidance: Petroleum <US\$11/boe, Escondida <US\$1.15/lb, WAIO <US\$15/t, Queensland Coal US\$68-72/t and NSWEC ~US\$51/t; based on exchange rates of AUD/USD 0.75 and USD/CLP 663.
- (3) Underlying EBIT and Underlying EBITDA are used to reflect the underlying performance of BHP. Underlying EBIT is earnings before net finance costs, taxation and any exceptional items. Underlying EBITDA is Underlying EBIT before depreciation, amortisation and impairment.
- (4) Based on business-as-usual development; excludes project development.

The following abbreviations may have been used throughout this report: barrels (bbl); billion cubic feet (bcf); cost and freight (CFR); cost, insurance and freight (CIF); dry metric tonne unit (dmu); free on board (FOB); grams per tonne (g/t); kilograms per tonne (kg/t); kilometre (km); metre (m); million barrels of oil equivalent (MMboe); million cubic feet per day (MMcf/d); million tonnes (Mt); million tonnes per annum (Mtpa); ounces (oz); pounds (lb); thousand barrels of oil equivalent (Mboe); thousand barrels of oil equivalent per day (Mboe/d); thousand ounces (koz); thousand standard cubic feet (Mscf); thousand tonnes (kt); thousand tonnes per annum (ktpa); thousand tonnes per day (ktpd); tonnes (t); and wet metric tonnes (wmt).

In this release, the terms 'BHP', 'Group', 'BHP Group', 'we', 'us', 'our' and ourselves' are used to refer to BHP Group Limited, BHP Group plc and, except where the context otherwise requires, their respective subsidiaries as defined in note 27 'Subsidiaries' in section 5.1 of BHP's 30 June 2018 Annual Report and Form 20-F, unless stated otherwise. Notwithstanding that this release may include production, financial and other information from non-operated assets, non-operated assets are not included in the BHP Group and, as a result, statements regarding our operations, assets and values apply only to our operated assets unless stated otherwise.

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Production summary

BHP interest	Quarter ended					Year to date	
	Jun 2018	Sep 2018	Dec 2018	Mar 2019	Jun 2019	Jun 2019	Jun 2018
Petroleum ⁽¹⁾							
Petroleum							
Conventional							
Crude oil, condensate and NGL (Mboe)	13,486	14,087	14,497	13,236	13,366	55,186	57,405
Natural gas (bcf)	90.7	112.3	93.9	92.9	97.8	396.9	377.0
Total (Mboe)	28,603	32,804	30,147	28,719	29,666	121,336	120,238
Copper ⁽²⁾							
Copper							
Payable metal in concentrate (kt)							
Escondida ⁽³⁾	57.5%	246.1	240.0	212.6	205.4	224.1	925.8
Antamina	33.8%	34.6	37.0	38.3	34.5	37.4	139.5
Total		280.7	277.0	250.9	239.9	261.5	1,029.3
Cathode (kt)							
Escondida ⁽³⁾	57.5%	70.1	55.4	71.9	62.4	63.5	287.5
Pampa Norte ⁽⁴⁾	100%	70.6	43.4	61.8	67.2	74.1	263.8
Olympic Dam	100%	42.0	33.3	31.6	50.2	45.2	136.7
Total		182.7	132.1	165.3	179.8	182.8	660.0
Total copper (kt)		463.4	409.1	416.2	419.7	444.3	1,689.3
Lead							
Payable metal in concentrate (t)							
Antamina	33.8%	546	563	600	456	770	3,434
Total		546	563	600	456	770	2,389
Zinc							
Payable metal in concentrate (t)							
Antamina	33.8%	35,983	30,558	24,237	20,848	22,469	119,800
Total		35,983	30,558	24,237	20,848	22,469	98,112
Gold							
Payable metal in concentrate (troy oz)							
Escondida ⁽³⁾	57.5%	68,345	63,578	73,726	73,998	74,704	229,102
Olympic Dam (refined gold)	100%	33,497	23,471	17,856	28,609	37,032	91,556
Total		101,842	87,049	91,582	102,607	111,736	392,974
Silver							
Payable metal in concentrate (troy koz)							
Escondida ⁽³⁾	57.5%	2,527	1,997	2,570	2,189	2,074	8,796
Antamina	33.8%	1,321	1,309	1,178	1,062	1,209	5,437
Olympic Dam (refined silver)	100%	278	213	212	230	268	792
Total		4,126	3,519	3,960	3,481	3,551	14,511
Uranium							
Payable metal in concentrate (t)							
Olympic Dam	100%	1,123	555	929	1,106	975	3,364
Total		1,123	555	929	1,106	975	3,565
Molybdenum							
Payable metal in concentrate (t)							
Antamina	33.8%	261	464	417	82	178	1,662
Total		261	464	417	82	178	1,141

Production summary

BHP interest	Quarter ended					Year to date		
	Jun 2018	Sep 2018	Dec 2018	Mar 2019	Jun 2019	Jun 2019	Jun 2018	
Iron Ore								
Iron Ore								
Production (kt) ⁽⁵⁾								
Newman	85%	18,500	16,378	17,578	15,608	17,058	66,622	67,071
Area C Joint Venture	85%	12,041	11,696	10,280	11,627	13,837	47,440	51,517
Yandi Joint Venture	85%	17,339	16,870	15,627	15,214	17,486	65,197	64,048
Jimblebar ⁽⁶⁾	85%	15,092	16,353	14,326	13,658	14,209	58,546	30,627
Wheelarra	85%	614	114	30	10	5	159	25,158
Samarco	50%	-	-	-	-	-	-	-
Total		63,586	61,411	57,841	56,117	62,595	237,964	238,421
Coal								
Metallurgical coal								
Production (kt) ⁽⁷⁾								
BMA	50%	9,220	7,744	7,694	7,608	9,090	32,136	32,893
BHP Mitsui Coal ⁽⁸⁾	80%	2,789	2,614	2,578	2,269	2,804	10,265	9,747
Total		12,009	10,358	10,272	9,877	11,894	42,401	42,640
Energy coal								
Production (kt)								
Australia	100%	6,261	3,982	4,311	4,552	5,412	18,257	18,541
Colombia	33.3%	2,762	2,658	2,356	2,199	2,017	9,230	10,617
Total		9,023	6,640	6,667	6,751	7,429	27,487	29,158
Other								
Nickel								
Saleable production (kt)								
Nickel West ⁽⁹⁾	100%	25.6	21.4	18.1	19.2	28.7	87.4	93.0
Total		25.6	21.4	18.1	19.2	28.7	87.4	93.0
Cobalt								
Saleable production (t)								
Nickel West	100%	277	249	154	194	302	899	1,060
Total		277	249	154	194	302	899	1,060

(1) LPG and ethane are reported as natural gas liquids (NGL). Product-specific conversions are made and NGL is reported in barrels of oil equivalent (boe). Total boe conversions are based on 6 bcf of natural gas equals 1 MMboe.

(2) Metal production is reported on the basis of payable metal.

(3) Shown on a 100% basis. BHP interest in saleable production is 57.5%.

(4) Includes Cerro Colorado and Spence.

(5) Iron ore production is reported on a wet tonnes basis.

(6) Shown on a 100% basis. BHP interest in saleable production is 85%.

(7) Metallurgical coal production is reported on the basis of saleable product. Production figures include some thermal coal.

(8) Shown on a 100% basis. BHP interest in saleable production is 80%.

(9) Production restated to include other nickel by-products.

Throughout this report figures in italics indicate that this figure has been adjusted since it was previously reported.

Production and sales report

		Quarter ended					Year to date	
		Jun	Sep	Dec	Mar	Jun	Jun	Jun
		2018	2018	2018	2019	2019	2019	2018
Petroleum - Conventional ⁽¹⁾								
Bass Strait								
Crude oil and condensate	(Mboe)	1,361	1,653	1,401	893	1,246	5,193	5,815
NGL	(Mboe)	1,428	1,840	1,447	849	1,299	5,435	6,132
Natural gas	(bcf)	29.9	35.1	25.2	21.0	30.6	111.9	125.9
Total petroleum products	(MMboe)	7.8	9.3	7.0	5.2	7.6	29.3	32.9
North West Shelf								
Crude oil and condensate	(Mboe)	1,267	1,514	1,520	1,431	1,357	5,822	5,560
NGL	(Mboe)	186	242	206	193	189	830	823
Natural gas	(bcf)	34.2	36.6	37.5	36.6	34.8	145.5	142.4
Total petroleum products	(MMboe)	7.2	7.9	8.0	7.7	7.3	30.9	30.1
Pyrenees								
Crude oil and condensate	(Mboe)	1,168	282	1,101	940	1,001	3,324	5,138
Total petroleum products	(MMboe)	1.2	0.3	1.1	0.9	1.0	3.3	5.1
Other Australia ⁽²⁾								
Crude oil and condensate	(Mboe)	7	7	8	6	7	28	32
Natural gas	(bcf)	13.9	13.8	13.9	13.0	12.2	52.9	56.7
Total petroleum products	(MMboe)	2.3	2.3	2.3	2.2	2.0	8.8	9.5
Atlantis ⁽³⁾								
Crude oil and condensate	(Mboe)	3,471	3,190	3,802	3,888	3,607	14,487	13,329
NGL	(Mboe)	217	215	268	275	248	1,006	878
Natural gas	(bcf)	1.5	1.5	1.9	2.0	2.2	7.6	6.7
Total petroleum products	(MMboe)	3.9	3.7	4.4	4.5	4.2	16.8	15.3
Mad Dog ⁽³⁾								
Crude oil and condensate	(Mboe)	581	1,270	1,158	1,258	1,246	4,932	3,972
NGL	(Mboe)	27	61	54	58	23	196	198
Natural gas	(bcf)	0.1	0.2	0.2	0.2	0.2	0.8	0.6
Total petroleum products	(MMboe)	0.6	1.4	1.2	1.3	1.3	5.3	4.3
Shenzi ⁽³⁾								
Crude oil and condensate	(Mboe)	2,110	2,016	2,024	1,881	1,725	7,646	9,237
NGL	(Mboe)	151	122	121	112	(2)	353	616
Natural gas	(bcf)	0.4	0.4	0.4	0.4	0.4	1.6	1.7
Total petroleum products	(MMboe)	2.3	2.2	2.2	2.1	1.8	8.3	10.1
Trinidad/Tobago								
Crude oil and condensate	(Mboe)	233	447	200	284	235	1,166	718
Natural gas	(bcf)	9.8	24.0	14.0	19.5	17.3	74.8	40.0
Total petroleum products	(MMboe)	1.9	4.4	2.5	3.5	3.1	13.6	7.4
Other Americas ^{(3) (4)}								
Crude oil and condensate	(Mboe)	313	207	218	284	272	981	938
NGL	(Mboe)	22	3	4	18	3	28	33
Natural gas	(bcf)	0.3	-	0.1	0.2	0.1	0.4	0.5
Total petroleum products	(MMboe)	0.4	0.2	0.2	0.3	0.3	1.1	1.1
UK ⁽⁵⁾								
Crude oil and condensate	(Mboe)	38	36	36	-	-	72	143
NGL	(Mboe)	18	21	21	-	-	42	88
Natural gas	(bcf)	0.6	0.7	0.7	-	-	1.4	2.5
Total petroleum products	(MMboe)	0.2	0.2	0.2	-	-	0.3	0.6
Algeria								
Crude oil and condensate	(Mboe)	888	961	908	866	910	3,645	3,755
Total petroleum products	(MMboe)	0.9	1.0	0.9	0.9	0.9	3.6	3.8

Production and sales report

Quarter ended					Year to date	
Jun 2018	Sep 2018	Dec 2018	Mar 2019	Jun 2019	Jun 2019	Jun 2018

Petroleum - Total ⁽¹⁾

Conventional

Crude oil and condensate	(Mboe)	11,437	11,583	12,376	11,731	11,606	47,296	48,637
NGL	(Mboe)	2,049	2,504	2,121	1,505	1,760	7,890	8,768
Natural gas	(bcf)	90.7	112.3	93.9	92.9	97.8	396.9	377.0
Total	(Mboe)	28,603	32,804	30,147	28,719	29,666	121,336	120,238

- (1) Total boe conversions are based on 6 bcf of natural gas equals 1 MMboe. Negative production figures represent finalisation adjustments.
- (2) Other Australia includes Minerva and Macedon.
- (3) Gulf of Mexico volumes are net of royalties.
- (4) Other Americas includes Neptune, Genesis and Overriding Royalty Interest.
- (5) BHP completed the sale of its interest in the Bruce and Keith oil and gas fields on 30 November 2018. The sale has an effective date of 1 January 2018.

Production and sales report

Quarter ended					Year to date	
Jun 2018	Sep 2018	Dec 2018	Mar 2019	Jun 2019	Jun 2019	Jun 2018

Copper

Metals production is payable metal unless otherwise stated.

Escondida, Chile ⁽¹⁾

Material mined	(kt)	106,788	107,260	105,580	103,936	100,693	417,469	416,411
Sulphide ore milled	(kt)	31,732	30,513	30,507	32,027	32,519	125,566	118,275
Average concentrator head grade	(%)	0.96%	0.94%	0.87%	0.82%	0.86%	0.87%	0.99%
Production ex mill	(kt)	253.6	241.9	219.9	216.9	230.9	909.6	956.1

Production

Payable copper	(kt)	246.1	240.0	212.6	205.4	224.1	882.1	925.8
Copper cathode (EW)	(kt)	70.1	55.4	71.9	62.4	63.5	253.2	287.5
- Oxide leach	(kt)	27.1	19.5	23.4	20.9	23.4	87.2	101.4
- Sulphide leach	(kt)	43.0	35.8	48.5	41.5	40.1	165.9	186.1
Total copper	(kt)	316.2	295.4	284.5	267.8	287.6	1,135.3	1,213.3

Payable gold concentrate	(troy oz)	68,345	63,578	73,726	73,998	74,704	286,006	229,102
Payable silver concentrate	(troy koz)	2,527	1,997	2,570	2,189	2,074	8,830	8,796

Sales

Payable copper	(kt)	260.3	216.5	229.2	212.0	223.4	881.1	920.4
Copper cathode (EW)	(kt)	80.9	53.2	72.3	56.6	67.5	249.6	288.3
Payable gold concentrate	(troy oz)	68,345	63,578	73,726	73,999	74,704	286,007	229,102
Payable silver concentrate	(troy koz)	2,527	1,997	2,570	2,189	2,074	8,830	8,796

(1) Shown on a 100% basis. BHP interest in saleable production is 57.5%.

Pampa Norte, Chile

<u>Cerro Colorado</u>								
Material mined	(kt)	17,918	18,488	19,875	15,561	13,534	67,458	77,256
Ore milled	(kt)	4,833	4,802	5,069	4,277	4,740	18,888	18,300
Average copper grade	(%)	0.58%	0.53%	0.62%	0.63%	0.64%	0.60%	0.59%

Production

Copper cathode (EW)	(kt)	19.0	14.2	19.4	18.2	23.4	75.2	63.3
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Sales

Copper cathode (EW)	(kt)	20.9	13.8	19.0	15.5	26.8	75.1	64.6
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Spence

Material mined	(kt)	23,103	23,007	21,661	18,632	19,213	82,513	89,976
Ore milled	(kt)	4,009	5,642	5,428	4,376	5,224	20,670	19,447
Average copper grade	(%)	1.11%	1.21%	1.10%	1.03%	1.02%	1.09%	1.13%

Production

Copper cathode (EW)	(kt)	51.6	29.2	42.4	49.0	50.7	171.3	200.5
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Sales

Copper cathode (EW)	(kt)	57.1	29.7	39.1	46.1	55.0	169.9	202.1
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Production and sales report

	Quarter ended					Year to date	
	Jun	Sep	Dec	Mar	Jun	Jun	Jun
	2018	2018	2018	2019	2019	2019	2018

Copper (continued)

Metals production is payable metal unless otherwise stated.

Antamina, Peru

Material mined (100%)	(kt)	59,002	62,470	62,850	57,900	58,994	242,214	235,428
Sulphide ore milled (100%)	(kt)	12,973	13,197	12,912	11,466	12,864	50,439	51,059
Average head grades								
- Copper	(%)	0.91%	0.96%	1.02%	1.04%	1.02%	1.01%	0.94%
- Zinc	(%)	1.19%	1.10%	0.85%	0.87%	0.86%	0.92%	1.03%

Production

Payable copper	(kt)	34.6	37.0	38.3	34.5	37.4	147.2	139.5
Payable zinc	(t)	35,983	30,558	24,237	20,848	22,469	98,112	119,800
Payable silver	(troy koz)	1,321	1,309	1,178	1,062	1,209	4,758	5,437
Payable lead	(t)	546	563	600	456	770	2,389	3,434
Payable molybdenum	(t)	261	464	417	82	178	1,141	1,662

Sales

Payable copper	(kt)	36.6	33.6	40.7	33.3	36.0	143.6	137.6
Payable zinc	(t)	33,088	31,822	26,072	20,595	21,750	100,239	115,108
Payable silver	(troy koz)	1,311	1,193	1,236	1,027	937	4,393	5,308
Payable lead	(t)	595	612	649	749	296	2,306	4,050
Payable molybdenum	(t)	388	208	535	256	127	1,126	1,749

Olympic Dam, Australia

Material mined ⁽¹⁾	(kt)	2,201	2,044	2,434	2,191	2,425	9,094	7,499
Ore milled	(kt)	2,171	1,242	2,157	2,371	2,195	7,965	7,215
Average copper grade	(%)	2.12%	2.05%	2.10%	2.22%	2.30%	2.18%	2.19%
Average uranium grade	(kg/t)	0.69	0.62	0.62	0.65	0.65	0.64	0.64

Production

Copper cathode (ER and EW)	(kt)	42.0	33.3	31.6	50.2	45.2	160.3	136.7
Payable uranium	(t)	1,123	555	929	1,106	975	3,565	3,364
Refined gold	(troy oz)	33,497	23,471	17,856	28,609	37,032	106,968	91,556
Refined silver	(troy koz)	278	213	212	230	268	923	792

Sales

Copper cathode (ER and EW)	(kt)	46.0	33.9	26.6	47.4	50.5	158.4	138.7
Payable uranium	(t)	1,230	765	828	550	1,427	3,570	2,757
Refined gold	(troy oz)	35,714	21,145	17,812	27,574	36,133	102,664	96,863
Refined silver	(troy koz)	307	216	177	241	257	891	846

(1) Material mined refers to run of mine ore mined and hoisted.

Production and sales report

Quarter ended					Year to date	
Jun 2018	Sep 2018	Dec 2018	Mar 2019	Jun 2019	Jun 2019	Jun 2018

Iron Ore

Iron ore production and sales are reported on a wet tonnes basis.

Pilbara, Australia

Production

Newman	(kt)	18,500	16,378	17,578	15,608	17,058	66,622	67,071
Area C Joint Venture	(kt)	12,041	11,696	10,280	11,627	13,837	47,440	51,517
Yandi Joint Venture	(kt)	17,339	16,870	15,627	15,214	17,486	65,197	64,048
Jimblebar ⁽¹⁾	(kt)	15,092	16,353	14,326	13,658	14,209	58,546	30,627
Wheelarra	(kt)	614	114	30	10	5	159	25,158
Total production	(kt)	63,586	61,411	57,841	56,117	62,595	237,964	238,421
Total production (100%)	(kt)	72,145	69,342	65,515	63,609	71,133	269,599	275,091

Sales

Lump	(kt)	15,173	15,014	14,020	13,603	15,296	57,933	58,207
Fines	(kt)	47,730	46,527	44,059	41,981	47,570	180,137	178,564
Total	(kt)	62,903	61,541	58,079	55,584	62,866	238,070	236,771
Total sales (100%)	(kt)	71,385	69,421	65,758	62,853	72,478	270,510	273,239

(1) Shown on a 100% basis. BHP interest in saleable production is 85%.

Samarco, Brazil ⁽¹⁾

Production	(kt)	-	-	-	-	-	-	-
Sales	(kt)	-	-	10	-	-	10	39

(1) Mining and processing operations remain suspended following the failure of the Fundão tailings dam and Santarém water dam on 5 November 2015.

Production and sales report

Quarter ended					Year to date	
Jun 2018	Sep 2018	Dec 2018	Mar 2019	Jun 2019	Jun 2019	Jun 2018

Coal

Coal production is reported on the basis of saleable product.

Queensland Coal

Production ⁽¹⁾

BMA		Jun 2018	Sep 2018	Dec 2018	Mar 2019	Jun 2019	Jun 2019	Jun 2018
Blackwater	(kt)	1,849	1,704	1,680	1,484	1,735	6,603	6,688
Goonyella	(kt)	2,639	1,989	1,813	2,141	2,620	8,563	7,961
Peak Downs	(kt)	1,658	1,131	1,685	1,468	1,649	5,933	6,350
Saraji	(kt)	1,201	1,111	1,288	1,250	1,243	4,892	5,053
Daunia	(kt)	629	620	419	470	669	2,178	2,556
Caval Ridge	(kt)	1,244	1,189	809	795	1,174	3,967	4,285
Total BMA	(kt)	9,220	7,744	7,694	7,608	9,090	32,136	32,893
Total BMA (100%)	(kt)	18,440	15,488	15,388	15,216	18,180	64,272	65,786
BHP Mitsui Coal ⁽²⁾								
South Walker Creek	(kt)	1,615	1,505	1,636	1,429	1,624	6,194	6,029
Poitrel	(kt)	1,174	1,109	942	840	1,180	4,071	3,718
Total BHP Mitsui Coal	(kt)	2,789	2,614	2,578	2,269	2,804	10,265	9,747
Total Queensland Coal	(kt)	12,009	10,358	10,272	9,877	11,894	42,401	42,640
Total Queensland Coal (100%)	(kt)	21,229	18,102	17,966	17,485	20,984	74,537	75,533

Sales

Coking coal	(kt)	8,489	7,356	7,514	7,221	7,932	30,023	29,941
Weak coking coal	(kt)	2,866	2,813	3,058	3,282	2,942	12,095	11,430
Thermal coal	(kt)	85	141	157	379	350	1,027	528
Total	(kt)	11,440	10,310	10,729	10,882	11,224	43,145	41,899
Total (100%)	(kt)	20,162	18,102	18,818	19,176	19,789	75,885	74,083

(1) Production figures include some thermal coal.

(2) Shown on a 100% basis. BHP interest in saleable production is 80%.

NSW Energy Coal, Australia

Production	(kt)	6,261	3,982	4,311	4,552	5,412	18,257	18,541
Sales								
Export thermal coal	(kt)	5,795	3,549	4,809	3,529	5,181	17,068	16,646
Inland thermal coal	(kt)	160	332	393	302	975	2,002	1,376
Total	(kt)	5,955	3,881	5,202	3,831	6,156	19,070	18,022

Cerrejón, Colombia

Production	(kt)	2,762	2,658	2,356	2,199	2,017	9,230	10,617
Sales thermal coal - export	(kt)	2,763	2,589	2,297	2,200	2,245	9,331	10,380

Production and sales report

Quarter ended					Year to date	
Jun 2018	Sep 2018	Dec 2018	Mar 2019	Jun 2019	Jun 2019	Jun 2018

Other

Nickel production is reported on the basis of saleable product

Nickel West, Australia

Mt Keith

Nickel concentrate	(kt)	55.6	50.2	44.9	52.5	52.8	200.4	204.8
Average nickel grade	(%)	18.8	18.9	19.8	19.2	19.5	77.4	80.9

Leinster

Nickel concentrate	(kt)	78.4	78.8	65.3	51.8	48.3	244.2	299.4
Average nickel grade	(%)	9.8	8.4	8.4	9.3	10.8	36.9	37.2

Saleable production

Refined nickel ^{(1) (2)}	(kt)	18.5	19.8	16.3	17.6	19.9	73.6	71.4
Intermediates and nickel by-products ^{(1) (3)}	(kt)	7.1	1.6	1.8	1.6	8.8	13.8	21.6
Total nickel ⁽¹⁾	(kt)	25.6	21.4	18.1	19.2	28.7	87.4	93.0

Cobalt by-products	(t)	277	249	154	194	302	899	1,060
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Sales

Refined nickel ^{(1) (2)}	(kt)	17.5	19.3	17.3	17.9	19.9	74.4	71.0
Intermediates and nickel by-products ^{(1) (3)}	(kt)	6.3	2.2	2.1	0.1	8.4	12.8	20.7
Total nickel ⁽¹⁾	(kt)	23.8	21.5	19.4	18.0	28.3	87.2	91.7

Cobalt by-products	(t)	277	249	154	194	302	899	1,060
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(1) Production and sales restated to include other nickel by-products.

(2) High quality refined nickel metal, including briquettes and powder.

(3) Nickel contained in matte and by-product streams.

Production and sales report

		Quarter ended					Year to date	
		Jun	Sep	Dec	Mar	Jun	Jun	Jun
		2018	2018	2018	2019	2019	2019	2018
Onshore US - Discontinued operations ⁽¹⁾⁽²⁾								
Eagle Ford ⁽³⁾								
Crude oil and condensate	(Mboe)	3,826	3,256	1,035	-	-	4,291	13,841
NGL	(Mboe)	1,767	1,919	614	-	-	2,533	7,278
Natural gas	(bcf)	13.9	13.8	4.3	-	-	18.1	54.7
Total petroleum products	(MMboe)	<u>7.9</u>	<u>7.5</u>	<u>2.4</u>	-	-	<u>9.8</u>	<u>30.2</u>
Permian ⁽³⁾								
Crude oil and condensate	(Mboe)	1,903	1,478	631	-	-	2,109	5,622
NGL	(Mboe)	770	687	284	-	-	971	2,282
Natural gas	(bcf)	6.4	4.8	1.9	-	-	6.7	18.6
Total petroleum products	(MMboe)	<u>3.7</u>	<u>3.0</u>	<u>1.2</u>	-	-	<u>4.2</u>	<u>11.0</u>
Haynesville ⁽³⁾								
Crude oil and condensate	(Mboe)	-	11	-	-	-	11	1
NGL	(Mboe)	-	-	-	-	-	-	-
Natural gas	(bcf)	33.1	39.0	13.9	-	-	52.9	105.3
Total petroleum products	(MMboe)	<u>5.5</u>	<u>6.5</u>	<u>2.3</u>	-	-	<u>8.8</u>	<u>17.6</u>
Fayetteville ⁽⁴⁾								
Natural gas	(bcf)	19.1	18.6	-	-	-	18.6	79.9
Total petroleum products	(MMboe)	<u>3.2</u>	<u>3.1</u>	-	-	-	<u>3.1</u>	<u>13.3</u>
Onshore US								
Crude oil and condensate	(Mboe)	5,729	4,745	1,666	-	-	6,411	19,464
NGL	(Mboe)	2,537	2,606	898	-	-	3,504	9,560
Natural gas	(bcf)	72.5	76.2	20.1	-	-	96.3	258.5
Total	(Mboe)	<u>20,349</u>	<u>20,051</u>	<u>5,914</u>	-	-	<u>25,965</u>	<u>72,107</u>

(1) Total boe conversions are based on 6 bcf of natural gas equals 1 MMboe. Negative production figures represent finalisation adjustments.

(2) Volumes are net of mineral holder royalties.

(3) BHP completed the sale of its interests in the Eagle Ford, Haynesville and Permian assets on 31 October 2018.

(4) BHP completed the sale of its Fayetteville assets on 28 September 2018.