

BHP BILLITON LTD  
Form 6-K  
October 19, 2017

**UNITED STATES**  
**SECURITIES AND EXCHANGE COMMISSION**  
**Washington, D.C. 20549**  
**Form 6-K**  
**REPORT OF FOREIGN PRIVATE ISSUER**  
**PURSUANT TO RULE 13a-16 OR 15d-16**  
**UNDER THE SECURITIES EXCHANGE ACT OF 1934**  
**October 18, 2017**

**BHP BILLITON LIMITED**

**(ABN 49 004 028 077)**

**(Exact name of Registrant as specified in its charter)**

**VICTORIA, AUSTRALIA**

**(Jurisdiction of incorporation or organisation)**

**171 COLLINS STREET, MELBOURNE,**

**VICTORIA 3000 AUSTRALIA**

**(Address of principal executive offices)**

**BHP BILLITON PLC**

**(REG. NO. 3196209)**

**(Exact name of Registrant as specified in its  
charter)**

**ENGLAND AND WALES**

**(Jurisdiction of incorporation or organisation)**

**NOVA SOUTH, 160 VICTORIA STREET**

**LONDON, SW1E 5LB**

**UNITED KINGDOM**

**(Address of principal executive offices)**

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## NEWS RELEASE

**Release Time** IMMEDIATE  
**Date** 18 October 2017  
**Release Number** 32/17

**BHP OPERATIONAL REVIEW FOR THE QUARTER ENDED 30 SEPTEMBER 2017**

**All production and unit cost guidance remains unchanged for the 2018 financial year.**

**Good progress has been made on our latent capacity projects, with first production from the Los Colorados Extension project and the Olympic Dam Southern Mining Area achieved in the September 2017 quarter and the Caval Ridge Southern Circuit project progressing to plan.**

**All major projects under development are tracking to plan.**

**In Onshore US, our operated rig count increased from five to nine during the September 2017 quarter. Divestment of a small portion of the Hawkville acreage was completed during the quarter, with work underway to exit our remaining Onshore US assets for value.**

**In Petroleum exploration, evaluation of the positive drilling results from Wildling-2 is continuing, with a sidetrack also encountering oil in multiple horizons which will assist with establishing the scale of the discovery.**

<b>Production</b>	<b>Sep Q17</b>	<b>vs Sep Q16</b>	
Petroleum (MMboe)	50	(8%)	Lower volumes reflect natural field decline and the impact of Hurricane Harvey on US petroleum assets.
Copper (kt)	404	14%	Increased volumes at Escondida supported by the start-up of the Los Colorados Extension project and higher average copper grades and throughput.
Iron ore <sup>(1)</sup> (Mt)	56	(3%)	Improved mine productivity and record volumes at Jimblebar offset by the impact of planned maintenance and lower opening stockpile levels, following the fire at the Mt Whaleback screening plant in June 2017.
Metallurgical coal (Mt)	11	0%	Record production at Saraji mine and increased productivity across Queensland Coal mines offset by lower production at Broadmeadow.
Energy coal (Mt)	7	(2%)	Strong performance at New South Wales Energy Coal offset by the impacts of unfavourable weather at Cerrejón.

BHP Chief Executive Officer, Andrew Mackenzie, said: Our performance in the first quarter keeps us on track to deliver seven per cent volume growth in the 2018 financial year.

We manage the portfolio for value and returns. Our transition to lower-cost, high-return, latent capacity projects is delivering results, with first copper production achieved from the Los Colorados Extension project at Escondida and Olympic Dam's Southern Mining Area during the quarter.

Major development work has commenced on the recently approved growth projects, Mad Dog Phase 2 and the Spence Growth Option, with both set to become operational as their respective markets in oil and copper rebalance.

## Summary

### *Operational performance*

Production for the September 2017 quarter and guidance for the 2018 financial year are summarised in the table below.

Production	Sep Q17	Sep Q17	Sep Q17	FY18 guidance
		vs Sep Q16	vs Jun Q17	
Petroleum (MMboe)	50	(8%)	(3%)	180 - 190
Onshore US (MMboe)	17	(16%)	(12%)	61 - 67
Conventional (MMboe)	33	(3%)	2%	119 - 123
Copper (kt)	404	14%	4%	1,655 - 1,790
Escondida (kt)	268	23%	19%	1,130 - 1,230
Other copper <sup>(i)</sup> (kt)	136	(1%)	(16%)	525 - 560
Iron ore <sup>(ii)</sup> (Mt)	56	(3%)	(8%)	239 - 243
WAIO (100% basis) (Mt)	64	(4%)	(8%)	275 - 280 <sup>(iii)</sup>
Metallurgical coal (Mt)	11	0%	24%	44 - 46
Energy coal (Mt)	7	(2%)	(18%)	29 - 30

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

(ii) Excludes production from Samarco.

(iii) Subject to regulatory approvals to increase capacity above 270 Mt.

### *Major development projects*

On 17 August 2017, the BHP Board approved an investment of US\$2.5 billion for the development of the Spence Growth Option.

At the end of the September 2017 quarter, BHP had four major projects under development in Petroleum, Copper and Potash, with a combined budget of US\$7.5 billion over the life of the projects.

### *Corporate update*

On 20 September 2017, BHP released its Economic Contribution Report which shows the Group's direct economic contribution globally in the 2017 financial year was US\$26.1 billion. This includes US\$4.7 billion in taxes, royalties and other payments to governments. BHP's adjusted effective tax rate in the 2017 financial year was 34.0 per cent. When royalties are included, the rate was 44.0 per cent. In Australia, we anticipate making final corporate income tax cash payments in the first half of the 2018 financial year of approximately US\$1.2 billion relating to the prior year. On 22 September 2017, BHP successfully concluded its US\$2.9 billion multi-currency bond repurchase plan. The bond repurchase plan has extended BHP's average debt maturity profile and enhanced the Group's capital structure. The total cost in relation to the repurchase program was approximately US\$100 million, which will be reported in net finance costs in the December 2017 half year. This does not take into account the multi-year interest expense saving from a lower average debt balance following the bond repurchase program.

BHP Operational Review for the quarter ended 30 September 2017

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**Petroleum****Production**

	Sep Q17	Sep Q17 vs Sep Q16	Sep Q17 vs Jun Q17
Crude oil, condensate and natural gas liquids (MMboe)	22	(9%)	(8%)
Natural gas (bcf)	169	(7%)	1%
<b>Total petroleum production (MMboe)</b>	<b>50</b>	<b>(8%)</b>	<b>(3%)</b>

**Total petroleum production** Total petroleum production for the September 2017 quarter decreased by eight per cent to 50 MMboe. Guidance for the 2018 financial year remains unchanged at between 180 and 190 MMboe, comprising Conventional volumes between 119 and 123 MMboe and Onshore US volumes between 61 and 67 MMboe.

**Crude oil, condensate and natural gas liquids** Crude oil, condensate and natural gas liquids production for the September 2017 quarter declined by nine per cent to 22 MMboe.

Conventional liquids volumes decreased by five per cent to 15 MMboe reflecting natural field decline across the portfolio, the impact of Hurricane Harvey in the Gulf of Mexico and planned maintenance at North West Shelf.

Onshore US liquids volumes decreased by 15 per cent to 7 MMboe as a result of natural field decline and the impact of Hurricane Harvey, which more than offset additional wells put online in the Black Hawk and Permian.

**Natural gas** Natural gas production for the September 2017 quarter declined by seven per cent to 169 bcf.

Conventional gas volumes for the September 2017 quarter were broadly unchanged at 107 bcf. Onshore US gas volumes declined by 17 per cent reflecting natural field decline and the impact of Hurricane Harvey, partially offset by additional wells put online in the Black Hawk, Permian and Haynesville.

In the September 2017 quarter, we completed an agreement with Chevron and ExxonMobil to withdraw from our 4.95 per cent interest in the Genesis deepwater asset in the Gulf of Mexico, consistent with our aim to further simplify the portfolio. Financial closing is expected by the end of November 2017, with an effective date of 1 January 2017.

**Projects**

Project and ownership	Capital expenditure (US\$m)	Initial production target date	Capacity	Progress
North West Shelf Greater	314	CY19	To maintain LNG plant throughput from the North West Shelf operations.	On schedule and budget. The overall project is 57% complete.
Western Flank-B (Australia)				

**16.67% (non-operator)**

Mad Dog Phase 2	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 6% complete.
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(US Gulf of Mexico)

**23.9% (non-operator)**

Petroleum capital expenditure of approximately US\$2.0 billion is planned in the 2018 financial year. This includes Conventional capital expenditure of US\$0.8 billion, which remains focused on high-return infill drilling opportunities in the Gulf of Mexico, a life extension project at North West Shelf and investment in the Mad Dog Phase 2 project. Onshore US capital expenditure is expected to be approximately US\$1.2 billion reflecting increased development activity.

***Onshore US development activity***

Onshore US drilling and development expenditure for the September 2017 quarter was US\$131 million. Our operated rig count increased from five to nine during the quarter as two rigs in the Permian, and one in each of the Black Hawk and Haynesville, were added.



In the Permian, we continued to drill to meet ongoing Hold by Production obligations while also progressing sub-surface trials intended to de-risk future development.

BHP Operational Review for the quarter ended 30 September 2017

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In the Black Hawk, we observed better than expected performance in recent trials which improved completion designs, enhanced staggered laterals and demonstrated commerciality of Upper and Lower Eagle Ford co-development.

In the Haynesville, our hedging strategy continues to allow us to reduce price risk and secure average rates of return in excess of 20 per cent.

In the Fayetteville, we continue to work with partners to assess the potential of the Moorefield horizon. We anticipate participation in additional non-operated wells in the 2018 financial year.

September 2017 quarter		Liquids focused areas			Gas focused areas	
(September 2016 quarter)		Eagle Ford	Permian	Haynesville	Fayetteville	Total
Capital expenditure <sup>(i)</sup>	US\$ billion	0.1 (0.0)	0.1 (0.1)	0.0 (0.0)	0.0 (0.0)	0.1 (0.1)
Rig allocation	At period end	2 (1)	3 (1)	4 (0)	0 (0)	9 (2)
Net wells drilled and completed <sup>(ii)</sup>	Period total	5 (1)	1 (11)	0 (0)	0 (1)	6 (13)
Net productive wells	At period end	936 (928)	127 (116)	393 (395)	1,044 (1,044)	2,500 (2,483)

(i) Includes land acquisition, site preparation, drilling, completions, well site facilities, mid-stream infrastructure and pipelines.

(ii) Can vary between periods based on changes in rig activity and the inventory of wells drilled but not yet completed at period end.

The divestment of a small portion of the Hawkville acreage was completed in the September 2017 quarter. Work is underway to exit the remaining Onshore US assets for value.

### *Petroleum exploration*

Exploration and appraisal wells drilled during the September 2017 quarter are summarised below.

Well	Location	Target	BHP equity	Spud date	Water depth	Total well depth	Status
Wildling-2	US Gulf of Mexico	Oil	100%	15 April 2017	1,267 m	10,205 m	Hydrocarbons encountered, temporarily abandoned.
	GC520		(Operator)				
Wildling-2	US Gulf of Mexico	Oil	100%	11 August 2017	1,267 m	10,177 m	Hydrocarbons encountered, temporarily abandoned.
ST01	GC520		(Operator)				

The Wildling-2 well was spud on 15 April 2017 and drilling was completed on 11 August 2017. The Wildling-2 well encountered oil in multiple horizons. A sidetrack to the Wildling-2 well commenced on 11 August 2017 to further appraise the discovery and was completed on 26 September 2017. This also encountered oil in multiple horizons and will assist further with establishing the scale of the discovery.

In the US Gulf of Mexico, the Scimitar well spud on 1 October 2017 with results expected in the March 2018 quarter. BHP holds a 65 per cent working interest and is the operator of the Scimitar prospect, with partner Repsol (20 per cent working interest) and Statoil (15 per cent working interest).

In Mexico, an Exploration and Appraisal plan for the Trion contractual area license number CNH-A1-Trion/2016 (formerly referred to as blocks AE-0092 and AE-0093) was submitted to the Comisión Nacional de Hidrocarburos of Mexico by BHP and Pemex on 29 August 2017, in line with regulatory requirements.

In Trinidad and Tobago, we continued appraisal work to assess the potential commercialisation of the gas discovery at LeClerc. Preparations continued for Phase 2 deepwater exploration which is expected to commence in the second half of the 2018 financial year.

Petroleum exploration expenditure for the September 2017 quarter was US\$207 million, of which US\$78 million was expensed. A US\$715 million exploration program is planned for the 2018 financial year. This program includes the Scimitar exploration well in the US Gulf of Mexico and three wells in Trinidad and Tobago.

**Copper****Production**

	Sep Q17	Sep Q17 vs Sep Q16	Sep Q17 vs Jun Q17
Copper (kt)	404	14%	4%
Zinc (t)	29,201	90%	0%
Uranium oxide concentrate (t)	880	(4%)	19%

**Copper** Total copper production for the September 2017 quarter increased by 14 per cent to 404 kt. Guidance for the 2018 financial year remains unchanged at between 1,655 and 1,790 kt.

Escondida copper production for the September 2017 quarter increased by 23 per cent to 268 kt, supported by the start-up of the Los Colorados Extension (LCE) project on 10 September 2017 and higher average copper grade and throughput. LCE is expected to ramp-up to full capacity during the December 2017 quarter, enabling utilisation of the three concentrators, and support copper production of between 1,130 and 1,230 kt in the 2018 financial year.

Escondida and Union N°2 of Supervisors and Staff signed a new Collective Agreement, valid from 1 October 2017, which will have a duration of 36 months. The existing agreement with Union N°1 will expire on 1 August 2018.

Pampa Norte copper production for the September 2017 quarter decreased by seven per cent to 58 kt, despite record material mined at Cerro Colorado and record ore milled at Spence. The decrease was mainly due to unplanned maintenance at Spence's tank house during the quarter. Pampa Norte copper production for the 2018 financial year is expected to be higher than the prior year.

Olympic Dam copper production increased by three per cent to 42 kt with first ore achieved from the high-grade Southern Mining Area in the September 2017 quarter. Copper production of 150 kt is expected in the 2018 financial year as a major smelter maintenance campaign is undertaken. The maintenance campaign commenced on 21 August 2017 and will be phased through to the December 2017 quarter. On completion, improved operating performance, coupled with higher ore grades from the Southern Mining Area, will underpin an expected increase in production to approximately 215 kt in the 2019 financial year.

Antamina copper production for the September 2017 quarter increased by five per cent to 36 kt due to higher head grades. Copper production of approximately 125 kt is expected in the 2018 financial year as mining continues through a zinc-rich ore zone consistent with the mine plan. Zinc production of approximately 100 kt is expected for the 2018 financial year.

**Projects**

Project and ownership	Capital expenditure (US\$m)	Initial production target date	Capacity	Progress
Spence Growth Option	2,460	FY21		

(Chile) 100%	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.	Project approved on 17 August 2017.
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## Copper reserves

### *Hypogene Sulphide Ore Reserves at Spence*

BHP confirms the inclusion of significant additional Hypogene Sulphide Ore Reserves to the Spence declaration, and minor increases to the oxide and supergene sulphide reserves previously declared as at 30 June 2017.

The declaration of Hypogene Sulphide Ore Reserves (including minor contributions of transitional sulphide material) reflects the approval of capital expenditure (US\$2.46 billion) by BHP on 17 August 2017 for the construction of a concentrator and associated infrastructure at Spence. The Spence pit expansion to exploit the deeper hypogene material has resulted in a minor increase in Ore Reserves for the oxide and supergene sulphide ore types declared as at 30 June 2017. The Spence Growth Option (SGO) project has been assessed as technically achievable and economically viable.

The Spence Hypogene Sulphide Mineral Resources and Ore Reserves are a downward, continuous extension of the currently exploited Supergene Oxide and Sulphide Mineral Resources and Ore Reserves. The supergene oxide and sulphide material is currently processed in a leaching operation whereas the hypogene sulphide material will provide ore feed to a conventional sulphide milling and flotation concentrator plant.

The Spence deposit is centred on porphyry bodies that have intruded sedimentary and volcanic units. Vertically extensive hypogene chalcopyrite with or without molybdenite mineralisation is overprinted by supergene sulphide chalcocite with or without covellite mineralisation. The supergene sulphides are locally oxidised to a copper oxide assemblage. The contact between the supergene and underlying hypogene sulphide zones is transitional.

Reserves are estimated incorporating operational parameters, geotechnical constraints, costs and commodity prices as defined by BHP. Optimal pushback designs are developed by incorporating mine operational aspects, plant capacity, loading equipment and ore exposure to produce a mining production plan. The selection and design options take into account both processing route alternatives and are based on the optimal economic sequence according to operational restrictions. The current and future SGO project fleet size is estimated based on the optimal production levels to maximise the net present value given the existing infrastructure and geotechnical parameters.

Ore Reserves classification reflects the Mineral Resources classification, along with consideration of any uncertainties in relation to modifying factors. Key modifying factors, incorporating Spence's processing alternatives and unit capacities are copper content, mineral hardness, comminution and processing rates, and metallurgical recovery by plant. Approximate drill hole spacing, which is indicative of reserve classification, is presented in the table below.

### **Nominal drill grid spacing for Ore Reserves classification**

Classification	Oxide	Supergene Sulphide	Transitional and Hypogene Sulphides
Proved (maximum)	50m x 50m	70m x 70m	70m x 70m
Probable (maximum)	100m x 100m	100m x 100m	100m x 100m

The main economic driver for the planned process routes of supergene (leach) versus hypogene (concentrator) is based upon copper mineralisation species, refined by copper cut-off grade. The cut-off grades used to differentiate waste from mineralisation are 0.20 per cent total copper for the supergene, transitional and hypogene sulphide material for concentrator processing and 0.30 per cent total copper for the supergene sulphide and oxide material for heap leaching. These cut-off grades are based on break-even economic analysis and assume open-pit extraction (15m bench

height).

Copper in supergene oxide and sulphide mineralisation is currently recovered through heap and dump leaching and a solvent extraction and electrowinning plant. The construction of the SGO project facilities will add a new processing route, sulphide flotation and concentration of the hypogene copper sulphides (chalcopyrite) which are refractory to heap leaching technology. These facilities include: a primary crusher, a semi-autogenous grinding mill, two ball mills, a sulphide froth flotation plant and tailings storage facilities, combined with concentrate export and sea-water desalination and process water delivery facilities. The concentrator plant will generate molybdenum as a separate concentrate product stream, along with gold and silver credits in the copper concentrate.

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Concentrator metallurgical recoveries of between 82 and 91 per cent of total copper have been informed on the basis of extensive laboratory and pilot testwork. Studies indicate that arsenic content within the deposit can be managed to minimise product contamination risk. The revised Ore Reserves estimate for Spence as at 17 August 2017 is presented in the table below.

**Spence updated Ore Reserves<sup>(1)</sup> as at 17 August 2017 in 100 per cent terms reported in compliance with the ASX Listing Rules 2014**

Type	Cut-off TCu %	Proved Ore Reserves			As at 17 August 2017 Probable Ore Reserves			Total Ore Reserves			As at 30 June 2017 Total Ore Reserves					
		Mt	TCu %	SCu %	Mo ppm	Mt	TCu %	SCu %	Mo ppm	Mt	TCu %	SCu %	Mo ppm	Mt	TCu %	SCu %
3) (4) (5) (6)	0.30	37	0.64	0.43		1.4	0.84	0.66		38	0.64	0.43		35	0.65	0.45
le Low																
bility ergene	0.30	14	0.90	0.40		8.6	0.63	0.26		23	0.80	0.34		25	0.77	0.33
hide	0.30	114	0.58	0.07		26	0.59	0.10		140	0.58	0.07		112	0.79	0.11
M	0.10					9.4	0.37			9.4	0.37			9.4	0.37	0.14
sitional																
hide ogene	0.20	19	0.70		110	1.9	0.52		50	21	0.69		100			
hide	0.20	530	0.47		200	725	0.47		130	1,260	0.46		160			

Mt Million Tonnes, TCu Total Copper, SCu Acid Soluble Copper, Mo Molybdenum, % - Weight Per Cent, ppm Parts per Million, ROM Run of Mine

Table Footnotes:

- 1) These Ore Reserves were estimated by C González (MAusIMM) and are an update to Ore Reserves reported by F Barrera (MAusIMM) for the year ended 30 June 2017 in the 2017 BHP Annual Report which can be found at [www.bhp.com](http://www.bhp.com). Both Mr González and Mr Barrera are full time employees of BHP and have sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity which they are undertaking to qualify as Competent Persons as defined in the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. C González and F Barrera consent to the inclusion in this report of the matters based on the form and context in which they appear.
- 2) This is a first time Ore Reserves estimate declaration for Spence Transitional and Hypogene Sulphide Ore Types and revised estimate for other Ore Types. The Ore Reserves are supported by a forward-looking copper commodity price protocol based on supply and demand assumptions.
- 3) Ore Reserves are estimated as dry metric tonnes, on the basis of ore delivered to the process plant.
- 4) The revised Spence Reserves Life is estimated as 40 years based on the current stated Ore Reserves estimate divided by the current approved nominated production rate as at 17 August 2017.
- 5)



The Ore Reserves tabulated are held within existing, permitted mining tenements. BHP's mineral leases are of sufficient duration (or convey a legal right to renew for sufficient duration) to enable all reserves on the leased properties to be mined in accordance with current production schedules. Our Ore Reserves may include areas where some additional approvals remain outstanding, but where, based on the technical investigations we carry out as part of our planning process and our knowledge and experience of the approvals process, we expect that such approvals will be obtained as part of the normal course of business and within the time frame required by the current life of mine schedule.

- 6) The SGO project is not considered material at the BHP Group level.

**Iron Ore*****Production***

	Sep Q17	Sep Q17 vs Sep Q16	Sep Q17 vs Jun Q17
Iron ore <sup>(i)</sup> (kt)	55,587	(3%)	(8%)

(i) Represents Western Australia Iron Ore (WAIO). Excludes production from Samarco.

**Iron ore** Total iron ore production for the September 2017 quarter decreased by three per cent to 56 Mt, or 64 Mt on a 100 per cent basis. Guidance for the 2018 financial year remains unchanged at between 239 and 243 Mt, or between 275 and 280 Mt on a 100 per cent basis, with volumes weighted to the last three quarters of the year.

WAIO production for the September 2017 quarter was lower, as expected. Record production at Jimblebar was more than offset by the impact of lower opening stockpile levels, following the fire at the Mt Whaleback screening plant in June 2017, and planned maintenance in the September 2017 quarter. Mine productivity improved in the quarter as a result of increased plant availability and consistent feed rates. Stockpile levels have been rebuilt and are expected to be partially drawn down in the next quarter. Port debottlenecking activities will extend into the December 2017 quarter. BHP continues to work with the relevant authorities in relation to the necessary approvals to increase system capacity to 290 Mtpa (100 per cent basis).

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

**Coal*****Production***

	Sep Q17	Sep Q17 vs Sep Q16	Sep Q17 vs Jun Q17
Metallurgical coal (kt)	10,567	0%	24%
Energy coal (kt)	6,732	(2%)	(18%)

**Metallurgical coal** Metallurgical coal production for the September 2017 quarter was flat at 11 Mt. Guidance for the 2018 financial year remains unchanged at between 44 and 46 Mt.

At Queensland Coal, mining operations have recovered following the impacts of Cyclone Debbie, with record production at Saraji and increased production at Peak Downs and Caval Ridge, underpinned by an improvement in trucking hours and utilisation of latent wash-plant capacity. This was offset by lower production at Broadmeadow due to difficult roof conditions.

The Caval Ridge Southern Circuit project is progressing according to plan, with production expected to ramp-up early in the 2019 financial year.

**Energy coal** Energy coal production for the September 2017 quarter decreased by two per cent to 7 Mt. Guidance for the 2018 financial year is unchanged at approximately 29 to 30 Mt.

New South Wales Energy Coal production increased by seven per cent as it benefitted from improved stripping performance and additional bypass coal. This was offset by a 15 per cent decrease in volumes at Cerrejón, which was constrained following the impact of extreme wet weather at the end of June 2017.

**Other*****Nickel production***

	Sep Q17	Sep Q17 vs Sep Q16	Sep Q17 vs Jun Q17
Nickel (kt)	22.8	21%	(10%)

**Nickel** Nickel West production for the September 2017 quarter increased by 21 per cent to 23 kt of nickel primarily due to increased production from the Leinster and Mt Keith operations. Nickel production for the 2018 financial year is expected to remain broadly unchanged from the 2017 financial year.

***Potash project***

Project and ownership	Investment (US\$m)	Scope	Progress
Jansen Potash (Canada)	2,600	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 73% complete and within the approved budget. Shaft excavation is progressing.
100%			

**Minerals exploration**

Minerals exploration expenditure for the September 2017 quarter was US\$43 million, of which US\$32 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.

Variance analysis relates to the relative performance of BHP and/or its operations during the September 2017 quarter compared with the September 2016 quarter, 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. Copper equivalent production based on 2017 financial year average realised prices.

The following footnotes apply to this Operational Review:

(1) Excludes production from Samarco.

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 (dmtonne); free on board (FOB); grams per tonne

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(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 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).

BHP Operational Review for the quarter ended 30 September 2017

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Further information on BHP can be found at: [bhp.com](http://bhp.com)

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**Production summary**

	BHP interest	Quarter ended				Year to date		Sep 2016
		Sep 2016	Dec 2016	Mar 2017	Jun 2017	Sep 2017	Sep 2017	
<b>Petroleum <sup>(1)</sup></b>								
<b>Petroleum</b>								
<b>Crude oil, condensate and NGL (Mboe)</b>								
Onshore US		8,288	8,143	9,439	8,501	<b>7,079</b>	<b>7,079</b>	8,288
Conventional		15,959	15,768	15,369	15,612	<b>15,090</b>	<b>15,090</b>	15,959
Total		24,247	23,911	24,808	24,113	<b>22,169</b>	<b>22,169</b>	24,247
<b>Natural gas (bcf)</b>								
Onshore US		73.9	67.8	66.1	67.2	<b>61.4</b>	<b>61.4</b>	73.9
Conventional		107.8	97.1	88.4	99.5	<b>107.3</b>	<b>107.3</b>	107.8
Total		181.7	164.9	154.5	166.7	<b>168.7</b>	<b>168.7</b>	181.7
<b>Total petroleum production (MMboe)</b>								
		54.5	51.4	50.6	51.9	<b>50.3</b>	<b>50.3</b>	54.5
<b>Copper <sup>(2)</sup></b>								
<b>Copper</b>								
<b>Payable metal in concentrate (kt)</b>								
Escondida <sup>(3)</sup>	57.5%	147.0	162.6	67.6	162.4	<b>196.3</b>	<b>196.3</b>	147.0
Antamina	33.8%	34.1	32.0	29.2	38.5	<b>35.9</b>	<b>35.9</b>	34.1
Total		181.1	194.6	96.8	200.9	<b>232.2</b>	<b>232.2</b>	181.1
<b>Cathode (kt)</b>								
Escondida <sup>(3)</sup>	57.5%	70.5	71.5	27.2	62.8	<b>71.9</b>	<b>71.9</b>	70.5
Pampa Norte <sup>(4)</sup>	100%	62.1	53.8	66.1	72.3	<b>58.0</b>	<b>58.0</b>	62.1
Olympic Dam	100%	40.9	37.2	36.8	51.4	<b>42.0</b>	<b>42.0</b>	40.9
Total		173.5	162.5	130.1	186.5	<b>171.9</b>	<b>171.9</b>	173.5
<b>Total copper (kt)</b>								
		354.6	357.1	226.9	387.4	<b>404.1</b>	<b>404.1</b>	354.6
<b>Lead</b>								
<b>Payable metal in concentrate (t)</b>								
Antamina	33.8%	1,146	1,220	1,308	1,799	<b>1,415</b>	<b>1,415</b>	1,146
Total		1,146	1,220	1,308	1,799	<b>1,415</b>	<b>1,415</b>	1,146

**Zinc**

<b>Payable metal in concentrate (t)</b>								
Antamina	33.8%	15,367	22,406	20,653	29,076	<b>29,201</b>	<b>29,201</b>	15,367
Total		15,367	22,406	20,653	29,076	<b>29,201</b>	<b>29,201</b>	15,367

**Gold**

<b>Payable metal in concentrate (troy oz)</b>								
Escondida <sup>(3)</sup>	57.5%	27,561	37,784	11,572	33,941	<b>50,525</b>	<b>50,525</b>	27,561
Olympic Dam (refined gold)	100%	24,366	29,651	21,941	28,188	<b>13,101</b>	<b>13,101</b>	24,366
Total		51,927	67,435	33,513	62,129	<b>63,626</b>	<b>63,626</b>	51,927

**Silver**

<b>Payable metal in concentrate (troy koz)</b>								
Escondida <sup>(3)</sup>	57.5%	1,229	1,323	540	1,234	<b>1,737</b>	<b>1,737</b>	1,229
Antamina	33.8%	1,345	1,446	1,301	1,691	<b>1,596</b>	<b>1,596</b>	1,345
Olympic Dam (refined silver)	100%	163	188	174	243	<b>131</b>	<b>131</b>	163
Total		2,737	2,957	2,015	3,168	<b>3,464</b>	<b>3,464</b>	2,737

**Uranium**

<b>Payable metal in concentrate (t)</b>								
Olympic Dam	100%	916	1,060	948	737	<b>880</b>	<b>880</b>	916
Total		916	1,060	948	737	<b>880</b>	<b>880</b>	916

**Molybdenum**

<b>Payable metal in concentrate (t)</b>								
Antamina	33.8%	561	225	30	328	<b>402</b>	<b>402</b>	561
Total		561	225	30	328	<b>402</b>	<b>402</b>	561



**Production summary**

	BHP interest	Quarter ended				Year to date		Sep 2016
		Sep 2016	Dec 2016	Mar 2017	Jun 2017	Sep 2017	Sep 2017	
<b>Iron Ore</b>								
<b>Iron Ore</b>								
<b>Production (kt) <sup>(5)</sup></b>								
Newman	85%	18,008	17,751	16,283	16,241	<b>13,842</b>	<b>13,842</b>	18,008
Area C Joint Venture	85%	12,384	12,179	11,165	13,016	<b>13,099</b>	<b>13,099</b>	12,384
Yandi Joint Venture	85%	15,729	17,555	14,656	17,415	<b>14,559</b>	<b>14,559</b>	15,729
Jimblebar <sup>(6)</sup>	85%	6,057	5,178	4,824	5,891	<b>6,283</b>	<b>6,283</b>	6,057
Wheelarra	85%	5,409	7,386	6,647	7,578	<b>7,804</b>	<b>7,804</b>	5,409
Samarco	50%							
Total		57,587	60,049	53,575	60,141	<b>55,587</b>	<b>55,587</b>	57,587
<b>Coal</b>								
<b>Metallurgical coal</b>								
<b>Production (kt) <sup>(7)</sup></b>								
BMA	50%	8,384	8,684	7,996	6,394	<b>8,296</b>	<b>8,296</b>	8,384
BHP Mitsui Coal <sup>(8)</sup>	80%	2,145	1,929	2,138	2,100	<b>2,271</b>	<b>2,271</b>	2,145
Haju <sup>(9)</sup>	75%	102	27					102
Total		10,631	10,640	10,134	8,494	<b>10,567</b>	<b>10,567</b>	10,631
<b>Energy coal</b>								
<b>Production (kt)</b>								
USA	100%	451						451
Australia	100%	3,952	3,851	4,662	5,711	<b>4,235</b>	<b>4,235</b>	3,952
Colombia	33.3%	2,928	2,800	2,756	2,475	<b>2,497</b>	<b>2,497</b>	2,928
Total		7,331	6,651	7,418	8,186	<b>6,732</b>	<b>6,732</b>	7,331
<b>Other</b>								
<b>Nickel</b>								
<b>Saleable production (kt)</b>								
Nickel West	100%	18.8	22.1	19.0	25.2	<b>22.8</b>	<b>22.8</b>	18.8
Total		18.8	22.1	19.0	25.2	<b>22.8</b>	<b>22.8</b>	18.8

(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) Shown on a 100% basis. BHP interest in saleable production is 75%.
- 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		Sep 2016
		Sep 2016	Dec 2016	Mar 2017	Jun 2017	Sep 2017	Sep 2017	
<b>Petroleum <sup>(1)</sup></b>								
<b>Bass Strait</b>								
Crude oil and condensate	(Mboe)	1,922	1,770	1,355	1,552	<b>1,815</b>	<b>1,815</b>	1,922
NGL	(Mboe)	2,102	1,460	1,236	1,661	<b>1,950</b>	<b>1,950</b>	2,102
Natural gas	(bcf)	41.9	31.3	28.7	37.4	<b>42.6</b>	<b>42.6</b>	41.9
Total petroleum products	(MMboe)	11.0	8.4	7.4	9.4	<b>10.9</b>	<b>10.9</b>	11.0
<b>North West Shelf</b>								
Crude oil and condensate	(Mboe)	1,486	1,468	1,239	1,314	<b>1,474</b>	<b>1,474</b>	1,486
NGL	(Mboe)	292	263	200	209	<b>227</b>	<b>227</b>	292
Natural gas	(bcf)	38.7	36.9	32.2	32.5	<b>36.2</b>	<b>36.2</b>	38.7
Total petroleum products	(MMboe)	8.2	7.9	6.8	6.9	<b>7.7</b>	<b>7.7</b>	8.2
<b>Pyrenees</b>								
Crude oil and condensate	(Mboe)	1,676	1,726	1,509	1,606	<b>1,510</b>	<b>1,510</b>	1,676
Total petroleum products	(MMboe)	1.7	1.7	1.5	1.6	<b>1.5</b>	<b>1.5</b>	1.7
<b>Other Australia <sup>(2)</sup></b>								
Crude oil and condensate	(Mboe)	10	8	8	9	<b>9</b>	<b>9</b>	10
Natural gas	(bcf)	17.5	17.1	15.2	16.3	<b>16.1</b>	<b>16.1</b>	17.5
Total petroleum products	(MMboe)	2.9	2.9	2.5	2.7	<b>2.7</b>	<b>2.7</b>	2.9
<b>Atlantis <sup>(3)</sup></b>								
Crude oil and condensate	(Mboe)	3,054	3,263	3,881	3,637	<b>3,022</b>	<b>3,022</b>	3,054
NGL	(Mboe)	208	207	295	213	<b>218</b>	<b>218</b>	208
Natural gas	(bcf)	1.5	1.6	2.1	1.9	<b>1.6</b>	<b>1.6</b>	1.5
Total petroleum products	(MMboe)	3.5	3.7	4.5	4.2	<b>3.5</b>	<b>3.5</b>	3.5
<b>Mad Dog <sup>(3)</sup></b>								
Crude oil and condensate	(Mboe)	950	1,170	1,185	1,167	<b>1,020</b>	<b>1,020</b>	950
NGL	(Mboe)	36	52	59	68	<b>44</b>	<b>44</b>	36
Natural gas	(bcf)	0.1	0.2	0.2	0.2	<b>0.1</b>	<b>0.1</b>	0.1
Total petroleum products	(MMboe)	1.0	1.3	1.3	1.3	<b>1.1</b>	<b>1.1</b>	1.0
<b>Shenzi <sup>(3)</sup></b>								
Crude oil and condensate	(Mboe)	2,632	2,692	2,675	2,588	<b>2,291</b>	<b>2,291</b>	2,632
NGL	(Mboe)	94	131	161	179	<b>141</b>	<b>141</b>	94

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Natural gas	(bcf)	0.5	0.5	0.5	0.6	<b>0.4</b>	<b>0.4</b>	0.5
Total petroleum products	(MMboe)	2.8	2.9	2.9	2.9	<b>2.5</b>	<b>2.5</b>	2.8

**Eagle Ford** <sup>(4)</sup>

Crude oil and condensate	(Mboe)	3,871	4,008	5,451	4,278	<b>3,457</b>	<b>3,457</b>	3,871
NGL	(Mboe)	2,268	2,159	2,354	2,240	<b>1,856</b>	<b>1,856</b>	2,268
Natural gas	(bcf)	16.5	15.2	17.0	15.1	<b>13.8</b>	<b>13.8</b>	16.5
Total petroleum products	(MMboe)	8.9	8.7	10.6	9.0	<b>7.6</b>	<b>7.6</b>	8.9

**Permian** <sup>(4)</sup>

Crude oil and condensate	(Mboe)	1,415	1,378	1,202	1,336	<b>1,179</b>	<b>1,179</b>	1,415
NGL	(Mboe)	734	580	428	646	<b>587</b>	<b>587</b>	734
Natural gas	(bcf)	4.4	4.4	4.0	6.2	<b>4.5</b>	<b>4.5</b>	4.4
Total petroleum products	(MMboe)	2.9	2.7	2.3	3.0	<b>2.5</b>	<b>2.5</b>	2.9

**Haynesville** <sup>(4)</sup>

Crude oil and condensate	(Mboe)		3	1	1			
NGL	(Mboe)		15	3				
Natural gas	(bcf)	28.2	24.0	22.0	21.4	<b>21.5</b>	<b>21.5</b>	28.2
Total petroleum products	(MMboe)	4.7	4.0	3.7	3.6	<b>3.6</b>	<b>3.6</b>	4.7

**Fayetteville** <sup>(4)</sup>

Natural gas	(bcf)	24.8	24.2	23.1	24.5	<b>21.6</b>	<b>21.6</b>	24.8
Total petroleum products	(MMboe)	4.1	4.0	3.9	4.1	<b>3.6</b>	<b>3.6</b>	4.1

**Production and sales report**

		Quarter ended				Year to date		Sep 2016
		Sep 2016	Dec 2016	Mar 2017	Jun 2017	Sep 2017	Sep 2017	
<b>Petroleum <sup>(1)</sup> (continued)</b>								
<b>Trinidad/Tobago</b>								
Crude oil and condensate	(Mboe)	140	156	127	139	<b>118</b>	<b>118</b>	140
Natural gas	(bcf)	6.4	8.4	8.4	9.4	<b>9.7</b>	<b>9.7</b>	6.4
Total petroleum products	(MMboe)	1.2	1.6	1.5	1.7	<b>1.7</b>	<b>1.7</b>	1.2
<b>Other Americas <sup>(3)</sup> <sup>(5)</sup></b>								
Crude oil and condensate	(Mboe)	275	269	257	238	<b>229</b>	<b>229</b>	275
NGL	(Mboe)	1	5	6	10	<b>5</b>	<b>5</b>	1
Natural gas	(bcf)	0.1	0.1	0.1	0.1	<b>0.1</b>	<b>0.1</b>	0.1
Total petroleum products	(MMboe)	0.3	0.3	0.3	0.3	<b>0.3</b>	<b>0.3</b>	0.3
<b>UK</b>								
Crude oil and condensate	(Mboe)	69	63	72	64	<b>40</b>	<b>40</b>	69
NGL	(Mboe)	22	49	32	16	<b>39</b>	<b>39</b>	22
Natural gas	(bcf)	1.1	1.0	1.0	1.1	<b>0.5</b>	<b>0.5</b>	1.1
Total petroleum products	(MMboe)	0.3	0.3	0.3	0.3	<b>0.2</b>	<b>0.2</b>	0.3
<b>Algeria</b>								
Crude oil and condensate	(Mboe)	990	1,016	1,072	942	<b>938</b>	<b>938</b>	990
Total petroleum products	(MMboe)	1.0	1.0	1.1	0.9	<b>0.9</b>	<b>0.9</b>	1.0
<b>BHP Petroleum</b>								
<b>Crude oil and condensate</b>								
Onshore US	(Mboe)	5,286	5,389	6,654	5,615	<b>4,636</b>	<b>4,636</b>	5,286
Conventional	(Mboe)	13,204	13,601	13,380	13,256	<b>12,466</b>	<b>12,466</b>	13,204
Total	(Mboe)	18,490	18,990	20,034	18,871	<b>17,102</b>	<b>17,102</b>	18,490
<b>NGL</b>								
Onshore US	(Mboe)	3,002	2,754	2,785	2,886	<b>2,443</b>	<b>2,443</b>	3,002
Conventional	(Mboe)	2,755	2,167	1,989	2,356	<b>2,624</b>	<b>2,624</b>	2,755
Total	(Mboe)	5,757	4,921	4,774	5,242	<b>5,067</b>	<b>5,067</b>	5,757
<b>Natural gas</b>								
Onshore US	(bcf)	73.9	67.8	66.1	67.2	<b>61.4</b>	<b>61.4</b>	73.9

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Conventional	(bcf)	107.8	97.1	88.4	99.5	<b>107.3</b>	<b>107.3</b>	107.8
<b>Total</b>	<b>(bcf)</b>	<b>181.7</b>	<b>164.9</b>	<b>154.5</b>	<b>166.7</b>	<b>168.7</b>	<b>168.7</b>	<b>181.7</b>

**Total petroleum products**

Onshore US	(Mboe)	20,605	19,443	20,456	19,701	<b>17,312</b>	<b>17,312</b>	20,605
Conventional	(Mboe)	33,926	31,951	30,102	32,195	<b>32,973</b>	<b>32,973</b>	33,926
<b>Total</b>	<b>(Mboe)</b>	<b>54,530</b>	<b>51,394</b>	<b>50,558</b>	<b>51,896</b>	<b>50,286</b>	<b>50,286</b>	<b>54,530</b>

(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) Onshore US volumes are net of mineral holder royalties.

(5) Other Americas includes Neptune, Genesis and Overriding Royalty Interest.

**Production and sales report**

		Quarter ended				Year to date		
		Sep 2016	Dec 2016	Mar 2017	Jun 2017	Sep 2017	Sep 2017	
<b>Copper</b>								
Metals production is payable metal unless otherwise stated.								
<b>Escondida, Chile <sup>(1)</sup></b>								
Material mined	(kt)	106,504	90,863	26,045	93,389	<b>104,867</b>	<b>104,867</b>	106,504
Sulphide ore milled	(kt)	20,787	19,866	8,054	18,777	<b>24,080</b>	<b>24,080</b>	20,787
Average copper grade	(%)	0.87%	1.02%	1.01%	1.07%	<b>1.06%</b>	<b>1.06%</b>	0.87%
Production ex mill	(kt)	153.2	168.6	68.7	167.0	<b>204.2</b>	<b>204.2</b>	153.2
<b>Production</b>								
Payable copper	(kt)	147.0	162.6	67.6	162.4	<b>196.3</b>	<b>196.3</b>	147.0
Copper cathode (EW)	(kt)	70.5	71.5	27.2	62.8	<b>71.9</b>	<b>71.9</b>	70.5
- Oxide leach	(kt)	26.8	24.4	8.9	20.3	<b>22.4</b>	<b>22.4</b>	26.8
- Sulphide leach	(kt)	43.7	47.1	18.3	42.5	<b>49.5</b>	<b>49.5</b>	43.7
Total copper	(kt)	217.5	234.1	94.8	225.2	<b>268.2</b>	<b>268.2</b>	217.5
Payable gold concentrate	(troy oz)	27,561	37,784	11,572	33,941	<b>50,525</b>	<b>50,525</b>	27,561
Payable silver concentrate	(troy koz)	1,229	1,323	540	1,234	<b>1,737</b>	<b>1,737</b>	1,229
<b>Sales</b>								
Payable copper	(kt)	134.9	172.7	63.7	163.3	<b>195.1</b>	<b>195.1</b>	134.9
Copper cathode (EW)	(kt)	65.6	71.8	39.4	56.0	<b>61.6</b>	<b>61.6</b>	65.6
Payable gold concentrate	(troy oz)	27,561	37,784	11,572	33,941	<b>50,525</b>	<b>50,525</b>	27,561
Payable silver concentrate	(troy koz)	1,229	1,323	540	1,234	<b>1,737</b>	<b>1,737</b>	1,229

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

<b>Pampa Norte, Chile</b>								
<b>Cerro Colorado</b>								
Material mined	(kt)	13,011	14,286	15,178	15,760	<b>21,381</b>	<b>21,381</b>	13,011
Ore milled	(kt)	3,241	3,342	4,179	4,411	<b>3,951</b>	<b>3,951</b>	3,241
Average copper grade	(%)	0.68%	0.65%	0.57%	0.53%	<b>0.62%</b>	<b>0.62%</b>	0.68%

**Production**

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Copper cathode (EW)	(kt)	17.1	12.1	16.7	18.8	<b>13.3</b>	<b>13.3</b>	17.1
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**Sales**

Copper cathode (EW)	(kt)	16.4	13.7	15.6	19.8	<b>12.3</b>	<b>12.3</b>	16.4
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**Spence**

Material mined	(kt)	23,638	22,635	22,939	24,230	<b>22,314</b>	<b>22,314</b>	23,638
Ore milled	(kt)	4,713	5,187	5,225	4,968	<b>5,375</b>	<b>5,375</b>	4,713
Average copper grade	(%)	1.17%	1.19%	1.09%	1.13%	<b>1.21%</b>	<b>1.21%</b>	1.17%

**Production**

Copper cathode (EW)	(kt)	45.0	41.7	49.4	53.5	<b>44.7</b>	<b>44.7</b>	45.0
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**Sales**

Copper cathode (EW)	(kt)	41.2	41.5	49.0	55.7	<b>43.0</b>	<b>43.0</b>	41.2
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**Production and sales report**

		Quarter ended				Year to date		
		Sep 2016	Dec 2016	Mar 2017	Jun 2017	Sep 2017	Sep 2017	
<b>Copper (continued)</b>								
Metals production is payable metal unless otherwise stated.								
<b>Antamina, Peru</b>								
Material mined								
(100%)	(kt)	65,111	61,355	55,771	62,254	<b>59,216</b>	<b>59,216</b>	65,111
Sulphide ore milled								
(100%)	(kt)	13,522	13,399	11,955	13,229	<b>12,822</b>	<b>12,822</b>	13,522
Average head grades								
- Copper	(%)	0.84%	0.84%	0.88%	1.00%	<b>0.94%</b>	<b>0.94%</b>	0.84%
- Zinc	(%)	0.60%	0.83%	0.84%	0.95%	<b>0.99%</b>	<b>0.99%</b>	0.60%
<b>Production</b>								
Payable copper	(kt)	34.1	32.0	29.2	38.5	<b>35.9</b>	<b>35.9</b>	34.1
Payable zinc	(t)	15,367	22,406	20,653	29,076	<b>29,201</b>	<b>29,201</b>	15,367
Payable silver	(troy koz)	1,345	1,446	1,301	1,691	<b>1,596</b>	<b>1,596</b>	1,345
Payable lead	(t)	1,146	1,220	1,308	1,799	<b>1,415</b>	<b>1,415</b>	1,146
Payable molybdenum	(t)	561	225	30	328	<b>402</b>	<b>402</b>	561
<b>Sales</b>								
Payable copper	(kt)	32.8	33.0	30.2	36.9	<b>31.9</b>	<b>31.9</b>	32.8
Payable zinc	(t)	16,043	22,334	23,669	27,936	<b>25,224</b>	<b>25,224</b>	16,043
Payable silver	(troy koz)	1,277	1,388	1,304	1,513	<b>1,475</b>	<b>1,475</b>	1,277
Payable lead	(t)	767	1,100	1,475	1,493	<b>1,624</b>	<b>1,624</b>	767
Payable molybdenum	(t)	648	476			<b>168</b>	<b>168</b>	648
<b>Olympic Dam, Australia</b>								
Material mined <sup>(1)</sup>	(kt)	2,204	1,887	1,943	1,974	<b>1,851</b>	<b>1,851</b>	2,204
Ore milled	(kt)	2,279	2,116	2,112	2,097	<b>2,302</b>	<b>2,302</b>	2,279
Average copper grade	(%)	1.97%	2.00%	2.07%	2.30%	<b>2.10%</b>	<b>2.10%</b>	1.97%
Average uranium grade	(kg/t)	0.60	0.68	0.61	0.58	<b>0.55</b>	<b>0.55</b>	0.60
<b>Production</b>								
Copper cathode (ER and EW)	(kt)	40.9	37.2	36.8	51.4	<b>42.0</b>	<b>42.0</b>	40.9
Uranium oxide concentrate	(t)	916	1,060	948	737	<b>880</b>	<b>880</b>	916
Refined gold	(troy oz)	24,366	29,651	21,941	28,188	<b>13,101</b>	<b>13,101</b>	24,366
Refined silver	(troy koz)	163	188	174	243	<b>131</b>	<b>131</b>	163
<b>Sales</b>								
Copper cathode (ER and EW)	(kt)	37.5	41.2	33.5	51.5	<b>31.6</b>	<b>31.6</b>	37.5
Uranium oxide concentrate	(t)	1,085	883	839	1,298	<b>680</b>	<b>680</b>	1,085

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Refined gold	(troy oz)	21,901	28,234	22,333	24,726	<b>22,435</b>	<b>22,435</b>	21,901
Refined silver	(troy koz)	184	203	108	251	<b>219</b>	<b>219</b>	184

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

BHP Operational Review for the quarter ended 30 September 2017

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**Production and sales report**

		Quarter ended				Year to date		Sep 2016
		Sep 2016	Dec 2016	Mar 2017	Jun 2017	Sep 2017	Sep 2017	
<b>Iron Ore</b>								
Iron ore production and sales are reported on a wet tonnes basis.								
<b>Pilbara, Australia</b>								
<b>Production</b>								
Newman	(kt)	18,008	17,751	16,283	16,241	<b>13,842</b>	<b>13,842</b>	18,008
Area C Joint Venture	(kt)	12,384	12,179	11,165	13,016	<b>13,099</b>	<b>13,099</b>	12,384
Yandi Joint Venture	(kt)	15,729	17,555	14,656	17,415	<b>14,559</b>	<b>14,559</b>	15,729
Jimblebar <sup>(1)</sup>	(kt)	6,057	5,178	4,824	5,891	<b>6,283</b>	<b>6,283</b>	6,057
Wheelarra	(kt)	5,409	7,386	6,647	7,578	<b>7,804</b>	<b>7,804</b>	5,409
Total production	(kt)	57,587	60,049	53,575	60,141	<b>55,587</b>	<b>55,587</b>	57,587
Total production (100%)	(kt)	66,681	69,730	62,177	69,714	<b>64,287</b>	<b>64,287</b>	66,681
<b>Sales</b>								
Lump	(kt)	14,156	14,127	12,804	15,104	<b>13,896</b>	<b>13,896</b>	14,156
Fines	(kt)	42,278	45,447	41,043	46,249	<b>40,733</b>	<b>40,733</b>	42,278
Total	(kt)	56,434	59,574	53,847	61,353	<b>54,629</b>	<b>54,629</b>	56,434
Total sales (100%)	(kt)	65,368	69,196	62,513	71,149	<b>63,322</b>	<b>63,322</b>	65,368

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

**Samarco, Brazil <sup>(1)</sup>**

<b>Production</b>	(kt)							
<b>Sales</b>	(kt)	12		35				12

(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		Sep 2016
		Sep 2016	Dec 2016	Mar 2017	Jun 2017	Sep 2017	Sep 2017	
<b>Coal</b>								
Coal production is reported on the basis of saleable product.								
<b>Queensland Coal</b>								
<b>Production</b> <sup>(1)</sup>								
<b>BMA</b>								
Blackwater	(kt)	1,981	1,855	1,694	1,766	<b>1,985</b>	<b>1,985</b>	1,981
Goonyella	(kt)	2,123	2,204	1,871	1,157	<b>1,639</b>	<b>1,639</b>	2,123
Peak Downs	(kt)	1,520	1,715	1,582	1,238	<b>1,602</b>	<b>1,602</b>	1,520
Saraji	(kt)	1,238	1,307	1,276	913	<b>1,414</b>	<b>1,414</b>	1,238
Daunia	(kt)	646	680	674	560	<b>662</b>	<b>662</b>	646
Caval Ridge	(kt)	876	923	899	760	<b>994</b>	<b>994</b>	876
Total BMA	(kt)	8,384	8,684	7,996	6,394	<b>8,296</b>	<b>8,296</b>	8,384
<b>BHP Mitsui Coal</b> <sup>(2)</sup>								
South Walker Creek	(kt)	1,341	1,080	1,354	1,348	<b>1,400</b>	<b>1,400</b>	1,341
Poitrel	(kt)	804	849	784	752	<b>871</b>	<b>871</b>	804
Total BHP Mitsui Coal	(kt)	2,145	1,929	2,138	2,100	<b>2,271</b>	<b>2,271</b>	2,145
Total Queensland Coal	(kt)	10,529	10,613	10,134	8,494	<b>10,567</b>	<b>10,567</b>	10,529
<b>Sales</b>								
Coking coal	(kt)	7,240	7,658	7,133	5,496	<b>7,934</b>	<b>7,934</b>	7,240
Weak coking coal	(kt)	2,799	2,659	2,761	2,502	<b>3,150</b>	<b>3,150</b>	2,799
Thermal coal	(kt)	206	154	96	142	<b>102</b>	<b>102</b>	206
Total	(kt)	10,245	10,471	9,990	8,140	<b>11,186</b>	<b>11,186</b>	10,245

(1) Production figures include some thermal coal.

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

**Haju, Indonesia** <sup>(1)</sup>

<b>Production</b>	(kt)	102	27					102
<b>Sales - export</b>	(kt)	117						117

(1) Shown on 100% basis. BHP interest in saleable production is 75%. BHP completed the sale of IndoMet Coal on 14 October 2016.

**New Mexico, USA**

<b>Production</b>								
Navajo Coal <sup>(1)</sup>	(kt)	451						451

San Juan Coal <sup>(2)</sup>	(kt)							
<b>Total</b>	<b>(kt)</b>	<b>451</b>						<b>451</b>
<b>Sales thermal coal - local utility</b>		<b>105</b>						<b>105</b>

(1) The divestment of Navajo Coal was completed on 29 July 2016, with no further production reported by BHP. Management of Navajo Coal was transferred to Navajo Transitional Energy Company on 31 December 2016.

(2) BHP completed the sale of San Juan Mine on 31 January 2016.

<b>NSW Energy Coal, Australia</b>								
<b>Production</b>	(kt)	3,952	3,851	4,662	5,711	<b>4,235</b>	<b>4,235</b>	3,952
<b>Sales</b>								
Export thermal coal	(kt)	3,640	3,539	4,407	4,913	<b>3,622</b>	<b>3,622</b>	3,640
Inland thermal coal	(kt)	331	311	431	327	<b>405</b>	<b>405</b>	331
<b>Total</b>	<b>(kt)</b>	<b>3,971</b>	<b>3,850</b>	<b>4,838</b>	<b>5,240</b>	<b>4,027</b>	<b>4,027</b>	<b>3,971</b>
<b>Cerrejón, Colombia</b>								
<b>Production</b>	(kt)	2,928	2,800	2,756	2,475	<b>2,497</b>	<b>2,497</b>	2,928
<b>Sales thermal coal - export</b>	(kt)	2,905	2,722	2,613	2,803	<b>2,518</b>	<b>2,518</b>	2,905

**Production and sales report**

		Quarter ended				Year to date		
		Sep 2016	Dec 2016	Mar 2017	Jun 2017	Sep 2017	Sep 2017	
<b>Other</b>								
Nickel production is reported on the basis of saleable product								
<b>Nickel West, Australia</b>								
<b>Production</b>								
Nickel contained in concentrate	(kt)	0.3	0.2	0.2				0.3
Nickel contained in finished matte	(kt)	1.8	4.1	2.3	5.3	<b>6.8</b>	<b>6.8</b>	1.8
Nickel metal	(kt)	16.7	17.8	16.5	19.9	<b>16.0</b>	<b>16.0</b>	16.7
Total nickel production	(kt)	18.8	22.1	19.0	25.2	<b>22.8</b>	<b>22.8</b>	18.8
<b>Sales</b>								
Nickel contained in concentrate	(kt)	0.3	0.2	0.2				0.3
Nickel contained in finished matte	(kt)	1.8	4.1	2.2	4.9	<b>4.6</b>	<b>4.6</b>	1.8
Nickel metal	(kt)	16.5	17.6	17.1	18.1	<b>16.6</b>	<b>16.6</b>	16.5
Total nickel sales	(kt)	18.6	21.9	19.5	23.0	<b>21.2</b>	<b>21.2</b>	18.6

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

BHP Billiton Limited and BHP Billiton Plc

Date: October 18, 2017

By: /s/ Rachel Agnew  
Name: Rachel Agnew  
Title: Company Secretary