

BHP BILLITON LTD  
Form 6-K  
January 28, 2005

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SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

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FORM 6-K

REPORT OF FOREIGN ISSUER  
PURSUANT TO RULE 13a-16 OR 15d-16 OF  
THE SECURITIES EXCHANGE ACT OF 1934

For the Date of

27 January 2005

BHP Billiton Limited

ABN 49 004 028 077

180 Lonsdale Street

Melbourne Victoria 3000

Australia

Indicate by check mark whether the registrant files or will file annual reports under cover of Form 20-F or Form 40-F.

Form 20-F	<input checked="" type="checkbox"/>		Form 40-F	<input type="checkbox"/>
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Indicate by check mark whether the registrant by furnishing the information contained in this Form is also thereby furnishing the information to the Commission pursuant to Rule 12g3-2(b) under the Securities Exchange Act of 1934

Yes	<input type="checkbox"/>		No	<input checked="" type="checkbox"/>
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If "Yes" is marked, indicate below the file number assigned to the registrant in connection with Rule 12g3-2(b):

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Date 27 January 2005  
Number 03/05

BHP BILLITON QUARTERLY REPORT ON EXPLORATION  
AND DEVELOPMENT ACTIVITIES

October 2004 - December 2004

This report covers exploration and development activities for the quarter ended 31 December 2004 and projects commissioned to the date of this report. Unless otherwise stated, BHP Billiton's interest in the projects referred to in this report is 100 per cent, and references to quarters are based on calendar years.

Five projects have been commissioned since the September 2004 quarter.

Of the remaining ten projects that were under construction during the quarter, all are tracking on or ahead of schedule and eight are within original Board approved expenditure limits. The exceptions are Atlantis and Dendrobium.

**PETROLEUM DEVELOPMENT**

**Mad Dog Development, Gulf of Mexico, USA (BHP Billiton 23.9%, non-operated)**

BHP Billiton announced its sanction of the Mad Dog oil and gas field in February 2002. The Mad Dog facility has a revised daily capacity of 100,000 barrels of crude oil (up from 80,000) and 60 million cubic feet of natural gas (up from 40 million). First production from Mad Dog was achieved on 13 January 2005. Budgeted capital expenditure is US\$368 million (BHP Billiton share). As the project has now been successfully commissioned, it will no longer be included in this report.

Greater Angostura Development, Trinidad (BHP Billiton 45%, operated)

In March 2003, BHP Billiton approved the first development phase of the Angostura oil and gas field off the northeast coast of Trinidad. First gas production from Angostura was achieved on 16 December 2004 and first oil was achieved on 9 January 2005. With a nameplate capacity of 100,000 barrels of oil equivalent per day, the development is expected to produce initially at a daily gross rate of 60,000 barrels of oil equivalent. Budgeted capital expenditure is US\$327 million (BHP Billiton share). As the project has now been successfully commissioned, it will no longer be included in this report.

**ROD Integrated Development, Algeria (BHP Billiton 36.04%, joint operating entity comprising BHP Billiton/SONATRACH)**

The ROD Integrated Development consists of six satellite oil fields in the Berkine Basin in eastern Algeria. Production of oil from these fields commenced to schedule in October 2004 at an initial rate of 20,000 barrels of oil per day, with initial processing taking place in the adjacent BRN processing facility. The construction of the ROD stand-alone oil reception, processing, storage and export facilities were successfully completed on 31 December 2004, and oil is being processed and exported through the new Central Processing Facility (CPF). Water will shortly be re-injected into the reservoir to provide pressure support, and commissioning of the gas injection facilities is nearing completion. Following a ramp-up in production, the CPF will process approximately 80,000 barrels of Saharan Blend crude oil per day. Budgeted capital expenditure is US\$192 million (BHP Billiton share). As the project has now been

successfully commissioned, it will no longer be included in this report.

Minerva, Australia (BHP Billiton 90%, operated)

In May 2002, BHP Billiton approved the Minerva gas field project in the offshore Otway Basin in Victoria. Construction of the gas plant was completed in December 2004 and the facilities handed over for commissioning. First production from Minerva was achieved on 18 January 2005, approximately two weeks later than the revised schedule. In the March 2004 quarter, budgeted capital expenditure was increased to US\$150 million (BHP Billiton share). As the project has now been successfully commissioned, it will no longer be included in this report.

Caesar/Cleopatra Transportation Systems, Gulf of Mexico, USA (BHP Billiton interest in Caesar pipeline, 25%; interest in Cleopatra pipeline, 22%. Non-operated)

BHP Billiton acquired respective 25 and 22 per cent interests in the Caesar oil and the Cleopatra gas pipelines. These pipelines will transport production from the Mad Dog and Atlantis fields to pipelines closer to shore. Commissioning of both Caesar and Cleopatra was to schedule in December 2004, with the commencement of oil and gas production from a third-party facility. Oil and gas production from the Mad Dog field has now commenced and is flowing through the Caesar and Cleopatra pipelines. Budgeted capital expenditure is US\$132 million (BHP Billiton share). As the project has now been successfully commissioned, it will no longer be included in this report.

**Atlantis Development, Gulf of Mexico, USA (BHP Billiton 44%, non-operated)**

BHP Billiton approved US\$1.1 billion for the development of the Atlantis oil and gas reserves in February 2003. During the quarter, the Board sanctioned an additional US\$121 million (BHP Billiton share) to enhance capacity and allow for inflationary related cost pressures. The facility will now have a gross nameplate daily capacity of 200,000 barrels of oil (up from 150,000) and 180 million cubic feet of natural gas. The initial development drilling campaign has been completed and the project remains on schedule for first production in the third quarter of 2006.

## MINERALS DEVELOPMENT

### Aluminium

Worsley Development Capital Projects (DCP), Australia (BHP Billiton 86%)

The Worsley Alumina Development Capital Projects were approved in May 2004 with a budget of US\$192 million (US\$165 million BHP Billiton share). The projects will increase alumina capacity by 250,000 tonnes per annum (215,000 tonnes per annum BHP Billiton share) to 3.5 million tonnes per annum (3.01 million tonnes per annum BHP Billiton share). Overall the projects are greater than 30 per cent complete. Engineering and procurement activities are well advanced and construction work is progressing with the major civil works almost complete. Erection of the desilication, precipitation and deep cone washer tanks has commenced. Commissioning of the DCP is scheduled for the first quarter of 2006.

### Base Metals

Escondida Norte, Chile (BHP Billiton 57.5%)

The development of the Escondida Norte pit, located approximately 5 kilometres north of the existing Escondida mining operations, was approved in June 2003. Pre-mine waste stripping continued during the quarter with total

material movement to the end of December 2004 equalling 126 million tonnes. Project development during the period involved the commencement of the crushing station and both silo structures, with work on the overland conveyor alignment continuing. Preparation for the commissioning of the electrical power distribution system has commenced. Overall project progress is approximately 55 per cent complete with pre-mine development, design and construction activities on track to meet first ore delivery to the crusher in the fourth quarter of 2005. Development costs are estimated at US\$400 million (BHP Billiton share US\$230 million).

### **Escondida Sulphide Leach, Chile (BHP Billiton 57.5%)**

The Escondida Sulphide Leach project was approved in April 2004. The project will produce 180,000 tonnes (103,500 tonnes BHP Billiton share) of copper cathode per annum, utilising a bacterially assisted leaching process on low-grade run-of-mine ore from both the Escondida and Escondida Norte pits. The resulting solutions will then be treated in conventional solvent extraction and electrowinning plants. Detailed engineering and procurement activities are continuing. Construction underway includes erection of the rhyolite crushing facilities, leach pad base preparation, mine haulage road tunnels, and the solvent extraction and electrowinning base preparation. Development costs are estimated at US\$870 million (US\$500 million BHP Billiton share) and production is scheduled to begin during the second half of 2006.

#### **Spence, Chile**

The Spence Project, approved in October 2004 will be a new open cut mine with associated plant facilities capable of producing 200,000 tonnes per annum of copper cathode through a combination of chemical and bacterial leaching. Engineering and procurement is well advanced and initial construction is underway. Major equipment orders including mine equipment and high voltage electrical equipment have been released for fabrication. The road relocation is over 80 per cent complete and construction of initial camp and office facilities has commenced. Recruitment of the senior operating team is complete and hiring of personnel for mine operations continues. Development costs are estimated at US\$990 million and production is scheduled to begin during the last quarter of 2006.

#### Carbon Steel Materials

##### **Dendrobium Coal Project, Australia**

The Dendrobium Mine will be a low cost underground longwall operation capable of producing 5.2 million tonnes per annum of raw coal (3.6 million tonnes per annum of clean coal). The mine surface facilities, ventilation shaft, washery upgrade and Kemira Valley Rail Coal Loading facilities have been successfully commissioned. Process commissioning of the first module of the thermal drier and mining development for Longwall 1 are progressing. Revised development costs are estimated at US\$200 million and production is scheduled to commence in mid 2005.

##### **Rapid Growth Project 2, Australia (BHP Billiton 85%)**

The Rapid Growth Project 2 (RGP2) was approved in October 2004. The project comprises increases in mine, rail and port capacity through the development of Ore Body 18 (OB18), purchases of additional rolling stock and a new car dumper at Finucane Island. Initial engineering activities are underway, and the tendering and procurement processes are commencing. The project will increase installed capacity at Western Australian Iron Ore to 118 million tonnes per annum by the second half of 2006. Development costs are estimated at US\$575 million (BHP Billiton share US\$489 million).

#### Diamonds and Specialty Products

##### **Panda Underground Project, EKATI Diamond Mine, Canada (BHP Billiton 80%)**

The Panda Underground Project, approved in May 2004, will be a 2,600 tonnes per day sub-level retreat mine that will deliver approximately 4.6 million tonnes of ore and 4.7 million carats of high value Panda diamonds to the EKATI process plant over a 6 year production life. Underground mine development is progressing to schedule while construction activities associated with the mine surface facilities are well advanced. Three of four ventilation shafts have been completed. Development costs are estimated at US\$182 million (BHP Billiton share US\$146 million), with first ore production on schedule for early 2005 and full production in early 2006.

Stainless Steel Materials

Ravensthorpe Nickel Project, Australia

The Ravensthorpe Nickel Project was approved in March 2004. The project includes the development of a mine, treatment plant and associated infrastructure near Ravensthorpe in Western Australia. The Ravensthorpe processing plant will produce a mixed nickel-cobalt hydroxide intermediate product (MHP). Engineering and procurement activities are proceeding to schedule. Significant contracts awarded during the period included the concrete works and site erected tanks. The construction water and power systems, stage 1 of the construction camp and the new regional airstrip are now fully operational, and sealing of the major access roads is well advanced. Development costs are estimated at US\$1.05 billion, with the first shipment of MHP expected by the second quarter of 2007.

Yabulu Extension Project, Australia

The Yabulu Extension Project was approved in March 2004. The metal refining section of the QNI Yabulu refinery near Townsville in Queensland is being expanded to process up to 220,000 tonnes of MHP. This additional processing capacity will increase refinery production to 76,000 tonnes of nickel and 3,500 tonnes of cobalt. Engineering and procurement activities are proceeding to schedule. Significant activities during the period included the awarding of the calciner contract and the tender of the plant infrastructure works. Development costs are estimated at US\$350 million, with first nickel metal production from the expanded Yabulu refinery expected by late 2007.

PETROLEUM EXPLORATION

Exploration and appraisal wells drilled during the quarter or in the process of drilling as at 31 December 2004.

WELL	LOCATION	BHP BILLITON EQUITY	STATUS
Scarborough-3	Australia, Exmouth Plateau	50% BHP Billiton and operator (1)	Currently pulling out of hole and extracting core sample for examination/analysis.
Joseph-1	Gulf of Mexico, High Island Block 10L	20% BHP Billiton; Shell operator	Drilling ahead.
Makalu-1	Gulf of Mexico, Mississippi Canyon	30% BHP Billiton; Chevron Texaco operator	Drilling ahead.

Shenzi-3 and Side Tracks	Gulf of Mexico, Green Canyon 653	44% BHP Billiton and operator	Hydrocarbons encountered.  See News Release of 15 November 2004
Shenzi-4	Gulf of Mexico, Green Canyon 653	44% BHP Billiton and operator	Drilling Ahead.
Mad Dog Southwest Ridge	Gulf of Mexico, Green Canyon 825	23.9% BHP Billiton;  BP Operator	Drilling Ahead.

(1) Sole risk - BHP Billiton funding 100% of the evaluation activity.

#### MINERALS EXPLORATION

The Minerals Exploration group of BHP Billiton continued to pursue global exploration opportunities for key commodities of interest utilising both the Junior Alliance Programme and in-house capabilities.

Exploration drilling continued on diamond targets in Canada, Botswana and Namibia; on porphyry copper targets in Chile and Pakistan; and on nickel targets in Australia and Canada. Exploration for iron ore, coal and bauxite was undertaken in a number of regions including Australia, India, Brazil and West Africa.

#### EXPLORATION EXPENDITURE

During the quarter, BHP Billiton spent US\$36 million on minerals exploration, of which US\$35 million was expensed, and US\$76 million on petroleum exploration, of which US\$25 million was expensed.

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Further information on BHP Billiton can be found on our Internet site:

<http://www.bhpbilliton.com>

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The BHP Billiton Group is headquartered in Australia

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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  
/s/ KAREN WOOD

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Karen Wood  
Title: Company Secretary  
Date:

27 January 2005