

BHP BILLITON LTD  
Form 6-K  
May 16, 2002  
26 April 2002  
Number: 23/02

BHP BILLITON QUARTERLY REPORT ON EXPLORATION  
AND DEVELOPMENT ACTIVITIES

January 2002 - March 2002

This report covers exploration and development activities for the quarter ended 31 March 2002. Unless otherwise stated, BHP Billiton's interest in the projects referred to in this report is 100 per cent.

MINERALS DEVELOPMENT

Aluminium

Mozal II Expansion, Mozambique (BHP Billiton 47.11%)

Construction Work on the 253,000 tonne per annum Mozal II aluminium smelter project continued during the quarter and remains on schedule for initial production towards the end of 2003. On site earthworks, drainage and piling is complete. Steady progress is being made on civil works and structural steel erection, while early building cladding has also commenced.

At the end of March 2002 overall construction progress had reached 22 per cent. The mobilisation of mechanical, electrical and instrumentation contractors will commence during April 2002. Commitments totalling over 90 per cent of the project budget of US\$860 million (BHP Billiton share US\$405 million) have been made and the project remains within budget.

BHP Billiton manages the project on behalf of the shareholders in Mozal S.A.R.L who are BHP Billiton (47.11 per cent), Mitsubishi Corporation (25 per cent), IDC South Africa (24.04 per cent) and the Government of Mozambique (3.85 per cent).

Hillside Expansion, South Africa

Main construction work on the 130,000 tonne per annum Hillside III aluminium smelter project commenced on 1 April 2002 with the mobilisation of earthworks and piling contractors.

All long lead-time items have been ordered and critical path activities are in place to allow for the first hot metal to be cast in July 2004. Commitments totalling over 22 per cent of the project budget of US\$442 million have been made and the project is on schedule.

Base Metals

Escondida Phase IV Expansion, Chile

**(BHP Billiton 57.5%)**

BHP Billiton and its joint venture partners in the Escondida copper mine in northern Chile continued development activities for the Escondida Phase IV development project during the quarter. The Phase IV expansion will increase ore processing capacity by 85 per cent resulting in an average copper production of 400,000 tonnes per annum (average total production of 1.2 million tonnes per annum) over the first five years.

The development has an estimated capital cost of US\$1,045 million (BHP Billiton share US\$600 million). The installation of major mechanical equipment continues to progress satisfactorily. All major engineered equipment is now on site. At the end of March 2002 the project was 75 per cent complete. A major milestone will be achieved during the early part of the next quarter with the commencement of water reclamation from the new Laguna Seca tailings system. Project mechanical completion is on track for September 2002 with full production expected to be achieved by April 2003.

Tintaya Oxide Project, Peru (BHP Billiton 99.9%)

Construction of the Tintaya Oxide project was completed this quarter. The project achieved mechanical completion as defined in the contract on 22 March 2002. This was about four weeks ahead of schedule. The project is now in the commissioning phase with first cathode expected next quarter (slightly ahead of schedule) and full production by mid 2002. The project remains on budget with an estimated capital cost of US\$138 million.

#### Carbon Steel Materials

Blackwater Integration Project, Australia (BHP Billiton 50%)

The project involves the creation of a single mining entity combining the South Blackwater open cut operations with the Blackwater mine to produce an estimated 13.5 million tonnes per annum (mtpa) of metallurgical and energy coal.

The project is 75 per cent complete with a new fleet of eight 300-tonne capacity haul trucks performing to specification. Further mining equipment including dozers, coal haulers and an excavator will be delivered throughout 2002. Pre-strip contracts have also been completed.

Blackwater has been functioning as a single operation for three months since the completion of the interlink haul road. When annualised, production for the January to March period has achieved the 13.5 mtpa rate. Construction of the new industrial facility is progressing on schedule for completion in April 2002 with the operations centre commissioned. All departments will be located in a single facility by March. Total project capital remains on target of US\$64 million (BHP Billiton share US\$32 million).

Dendrobium Coal Project, Australia

The Dendrobium Mine will be a low cost underground longwall operation capable of producing 5.2 mtpa of raw coal resulting in 2.6mtpa of metallurgical coal and 1mtpa of energy coal. The main customer for the metallurgical coal is the Port Kembla steelworks, located only seven kilometres from the mine site.

New South Wales Government and BHP Billiton Board Approvals were received in November 2001. Approximately US\$50 million has been committed to date with construction activities underway at all of the three main sites covering the coal loading facilities, mine surface facilities and ventilation shaft. The capital forecast and longwall start-up schedule remains unchanged at US\$170 million and May 2005 respectively.

Mining Area C Project, 'C Deposit', Australia (BHP Billiton 65%)

During the March 2002 quarter the Feasibility Study for the mine, plant, infrastructure and rail spur was completed and the submissions were prepared for project approvals. The project was subsequently approved on 3 April 2002 to

proceed to implementation.

The approval provides for the development of a mine, processing plant, 38-kilometre rail spur and associated infrastructure for an operation to build up production to 15 mtpa at Mining Area C, which is situated approximately 120 kilometres from Newman in Western Australia's Pilbara region. The capital cost is estimated to be US\$213 million (BHP Billiton share US\$181 million).

A joint venture has been signed with POSCO of South Korea for the development of the 'C Deposit' section of Mining Area C whereby POSCO will take a 20 per cent interest in the deposit.

### **Product and Capacity Expansion (PACE) Project, Australia (BHP Billiton 85%)**

During the March 2002 quarter the Feasibility Study for the PACE project was completed. The project was approved by the BHP Billiton Board and at the end of the quarter the finalisation of Western Australian State government approvals was in progress. It is expected that these approvals will be granted during April 2002.

The scope of the project provides for the upgrade of the BHP Billiton rail and port facilities in a staged process to meet the forecast increase in sales over the next decade. The approvals cover the first stage of PACE, which will increase capacity to 81 mtpa by 2004. Further stages will provide for capacity levels to exceed 90 mtpa. The estimated capital cost for Stage 1 is US\$351million (BHP Billiton share US\$299 million).

### Energy Coal

#### **Mount Arthur North, Australia**

The Mount Arthur North mine will be capable of producing up to 15 mtpa of raw energy coal when full production is achieved in 2006.

Commitments during the quarter ending March 2002 were US\$55 million, with total commitments at March 2002 of US\$209 million. Capital expenditure for the quarter was US\$28 million. Construction of the project is on schedule with nine months of an anticipated 32-month program completed. Forecast cost to completion has been reduced from US\$411 million to US\$355 million as per the March 2002 Definitive Estimate.

Detailed design and engineering reached 67 per cent completion during the first quarter of 2002. Critical pass schedule activities are progressing well with procured equipment and major contract work on or ahead of schedule. Mining equipment has been ordered and is in the process of being delivered. In addition, box cuts on both the upper and lower coal sequences within the central pit are being prepared for selective coal mining.

#### **San Juan Underground, New Mexico USA**

The project reached 94 per cent completion at the end of March. The longwall equipment has all been received and is being assembled on the surface for testing prior to underground installation. Surface facilities were 99 per cent complete at the end of the quarter with the ventilation shaft, fire brigade building, high-pressure pump station and conveyor system all having been completed during the period.

Start-up of the longwall is anticipated to take place in late September to November depending upon the geological conditions encountered during the development of the remaining roadways.

Project spending is forecast to be on budget at US\$146 million, with US\$135.6 million committed at the end of March 2002.

PETROLEUM DEVELOPMENT

Bream Pipeline, Australia (BHP Billiton 50%, non operated)

The five kilometre onshore section of the Bream pipeline was installed during the March quarter. Offshore pipeline installation and the shore crossing are scheduled to start mid-May 2002 (following completion of Duke Energy's Tasmanian Gas Pipeline installation work). Detailed design work for associated modifications on the Bream A production platform is complete and now undergoing final design review. Modification work on the platform is also scheduled to start during May 2002. First gas and gas-liquids production is scheduled for mid 2003.

Laminaria Phase II Development, Australia (BHP Billiton 32.6%, non operated)

The project entails two new infill sub-sea wells tied-back to the Northern Endeavour. Drilling commenced on Laminaria 8 in mid January and Laminaria 7 in late January as part of a batch drilling program. Laminaria 7 has been drilled to total depth and the well completion has been installed. Drilling has recently re-commenced on Laminaria 8.

North West Shelf expansion, Australia (BHP Billiton 16.67%, non operated)

The construction of the fourth liquefaction processing train is progressing and is 29 per cent complete as per forecast. The onsite mechanical erection contract was awarded in February 2002 and the second trunkline is progressing as per schedule (currently five per cent complete).

**Zamzama Field Development, Pakistan (BHP Billiton 38.5%, operated)**

In March 2002 approval was announced for the full-scale development of the Zamzama gas field, following the signing of separate Gas Sales and Purchase Agreements and a Gas Pricing Agreement with the Government of Pakistan, the Sui Southern Gas Company Limited and Sui Northern Gas Pipelines Limited. The agreements cover the supply of up to 320 million standard cubic feet per day of gas over a period of 20 years. The Zamzama development is being executed on a fast track basis and production is expected to commence in the third quarter of 2003. The basic engineering design and the tendering process for equipment packages and long lead-time materials is complete.

Ohanet Development, Algeria (BHP Billiton 45%, joint operating organisation comprising SONATRACH/BHP Billiton)

The Ohanet project consists of the development of four gas-condensate reservoirs in the Illizi Basin in southern Algeria. The project will encompass a 20 million cubic metre per day gas treatment facility fed by 47 production wells, 32 of which will be new and 15 will be re-completions of existing oil producers. 3-D seismic data acquisition across all reservoirs was completed in June 2001 and the data has been processed. By the end of March 2002 a total of 14 new wells had been drilled and completed and four existing wells had been re-completed.

Facilities engineering is effectively complete and the majority of equipment and bulk materials are now on site. Overall construction progress is 29 per cent. First production remains schedule for the third quarter of 2003.

ROD Integrated Development, Algeria (BHP Billiton 35.1%, joint operating entity comprising SONATRACH/BHP Billiton)

The ROD project consists of the development of six satellite oilfields in the Berkine Basin in eastern Algeria. The project will produce 80,000 barrels of Sahara Blend crude oil per day, with associated gas being re-injected into the reservoir (with water) to provide pressure support. It is anticipated that 36 development wells will be required, 10 of

which will be re-completions of already drilled wells. Drilling of the first development well commenced in November 2001 and at the end of March 2002 the rig was working on the fourth development well. Critical long lead engineering items are progressing to schedule. Bids for the EPC (Engineer/Procure/Construct) contract for the production facilities were received in mid-January 2002 and the contract was awarded to Saipem/Bouygues on 21 January. It is expected that the contract will be formally signed in April 2002. First production is scheduled for first quarter of 2004.

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

In February 2002 BHP Billiton acquired a 25 per cent interest in the Caesar oil pipeline and a 22 per cent interest in the Cleopatra gas pipeline. BHP Billiton's share of the capital costs for these new-build projects is estimated at US\$100 million. Detailed engineering continues for both systems, which will transport product from the Mad Dog and Atlantis fields to pipelines closer to shore. The hydrocarbons will then be sold into major markets in Texas and Louisiana. Commissioning is expected in 2004.

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

BHP Billiton announced it had sanctioned the Mad Dog field in February 2002, approving up to US\$335 million for development of the Gulf of Mexico oil and gas field. Detailed engineering work is underway. The project will encompass a SPAR facility with a daily production capacity of 80,000 barrels of oil and 40 million cubic feet of gas. First production is expected at the end of calendar year 2004.

**MINERALS EXPLORATION**

The exploration group of BHP Billiton Minerals continued to carry out global grass roots exploration for key commodities of interest to the Group. In addition, the Junior Alliance Program (third party alliances and joint ventures) has continued to expand, involving more companies and providing entry into new countries. Further success has also been experienced with Minotaur Resources Limited in South Australia.

An overview of BHP Billiton's Junior Alliance Program was presented in a public forum at the 2002 PDAC conference in Toronto, Canada. The program emphasises the use of distinctive capabilities and innovative commercial investments to gain the widest possible exposure to the results of third-party funded exploration.

The two FALCON™ units in South America and Africa continue to be fully employed and survey areas are being expanded.

**PETROLEUM EXPLORATION**

Exploration and appraisal wells drilled during the quarter or in the process of drilling as at 31 March 2002.

<u>WELL</u>	<u>LOCATION</u>	BHP Billiton EQUITY	<u>STATUS</u>

Kairi-2	Trinidad Block 2(c)	45% BHP Billiton (Operator)	Encountered hydrocarbon bearing sands. For more information see News Release of 7 March 2002.
Canteen-2	Trinidad Block 2(c)	45% BHP Billiton (Operator)	Drilling ahead at 3,168 feet.
Angostura-2	Trinidad Block 2(c)	45% BHP Billiton (Operator)	Drilling ahead at 6,760 feet.
Crapaud-1	Trinidad Block 2(ab)	50% BHP Billiton (Operator)	P&A. Non commercial quantities of hydrocarbons found.
Cascade-1	Gulf of Mexico, Walker Ridge 206	50% BHP Billiton (Operator)	Drilling ahead.
Kangandala-1	Block 21, Angola	30% BHP Billiton (Operator)	P&A. Dry.

#### EXPENDITURE

Information related to exploration expenditure will be included in the BHP Billiton third quarter Profit Report, to be released on 1 May 2002.

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#### MINERALS COMPETENCE AND RESPONSIBILITY

The following statements apply in respect of the information in this report that relates to any stated Mineral Resources or Ore Reserves.

- The information is based on and accurately reflects information compiled by the person named under each relevant section of the report
- Each named person is either a Corporate Member or Fellow of The Australasian Institute of Mining and Metallurgy or the Australian Institute of Geoscientists, or a Recognized Mining Professional under the ASX listing rules, and is a full-time employee of a member company of the BHP Billiton Group;
- Each named person has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he or she is undertaking to qualify as a Competent Person as defined in the 1999 Edition of the "Australasian Code for Reporting of Mineral Resources and Ore Reserves". Each named person consents to the inclusion in the report of the matters based on their information in the form and context in which it appears.

Further news and information can be found on our Internet site: [www.bhpbilliton.com](http://www.bhpbilliton.com)

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Registered in England and Wales  
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The BHP Billiton Group is headquartered in Australia