

BHP BILLITON LTD  
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## **BHP BILLITON QUARTERLY REPORT ON EXPLORATION AND DEVELOPMENT ACTIVITIES**

April 2002 - June 2002

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This report covers exploration and development activities for the quarter ended 30 June 2002. Unless otherwise stated, BHP Billiton's interest in the projects referred to in this report is 100 per cent.

### MINERALS DEVELOPMENT

#### Aluminium

Mozal 2 Expansion, Mozambique (BHP Billiton 47.11%)

Construction Work on the 253,000 tonne per annum Mozal II aluminium smelter project continued with steady progress during the quarter and remains on schedule for initial production towards the end of 2003. On site earthworks, drainage and piling is completed, civil work is almost completed and structural steel erection is continuing as is building cladding. At the end of June 2002, overall construction progress had reached 41 per cent. The mobilisation of mechanical, electrical and instrumentation contractors continues with the first major equipment now being installed. Commitments totalling over 95 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 share holders 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. At the end of June, earthworks and drainage were substantially completed and piling was well advanced. The initial civil works contracts have commenced and overall construction progress is at five per cent at the end of June. All long lead-time items of equipment have been ordered and all critical path activities are in place to allow for the first hot metal to be cast in April 2004. Commitments totalling approximately 60 per cent of the project budget of US\$449 million have been made and the project is on schedule and budget.

#### 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 additional 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 project continues to generally advance in accordance with the planned schedule. As of the end of June, construction had achieved 94 per cent complete against the plan of 91 per cent. Major unit operations are nearing mechanical completion and are advancing through the pre-commissioning phase. Of particular note is the turnover to operations of the Laguna Seca water reclaim, the new primary crusher, Coloso filter plant, and ship loading facilities at Coloso. 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 and commissioning of the Tintaya Oxide project was completed this quarter. The project achieved mechanical completion as defined in the contract with the EPCM contractor on 22 March 2002. This was 4 weeks and 2 days ahead of schedule. The project produced its first cathode in early April and reached design production levels in July, one month ahead of schedule. The project is currently being closed out and has been handed over to operations. The project was completed below budget with final capital cost of US\$120 million versus a budget of US\$138 million. The project also completed the entire construction phase without any lost time accidents in over 2.8 million manhours worked.

#### 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 of coking and thermal coal per year. As at the end of June, integration and construction activities are substantially complete and have been commissioned with the delivery of some further mining equipment the only outstanding activities. Now that the annualised production target of 13.5 million tonnes has been met the project is essentially completed and is under the authorised capital budget 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 2.6 mtpa of coking coal and 1mtpa of thermal coal. The main customer for the coking coal is the Port Kembla steelworks located only 7km from the mine site.

Construction activities are underway at all of the three main sites covering the coal loading facilities (Kemira Valley), mine surface facilities (Dendrobium) and ventilation shaft. Underground tunnelling at both the Dendrobium and Kemira Valley locations commenced in May after the successful completion of both portals. Approximately US\$55 million has been committed to date. The capital forecast and longwall startup schedule remain unchanged at US\$170 million and May 2005 respectively.

#### Mining Area C Project, 'C Deposit', Australia (BHP Billiton 85%)

Project approvals were achieved at the beginning of the quarter and the project has transitioned to implementation mode. The project provides for the development of a mine, processing plant, 38 kilometre rail spur and associated

infrastructure for an operation to build up 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\$123 million (BHP Billiton share US\$181 million).

Currently detailed engineering is in progress and contract and procurement packages are being tendered and awarded. During the quarter work has continued with the extraction and shipment of bulk sample material.

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.

#### Port & Capacity Expansion Project (PACE), Australia (BHP Billiton 85%)

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

Following approvals the project has transitioned to implementation mode. Detailed engineering is in progress and contract and procurement packages are being tendered and awarded.

#### Energy Coal

##### Mount Arthur North, Australia

The Mount Arthur North Mine will be capable of producing up to 15 million tonnes of raw thermal coal per annum when full production is achieved in 2006. The project is on schedule. Commitments during the quarter ending June 2002 were US\$66 million, with total commitments at June 2002 of US\$275 million. Capital expenditure for the quarter was US\$45 million. The project has completed its 12<sup>th</sup> month of an anticipated 32-month construction period. Forecast cost to completion is US\$411 million.

Construction activities are ramping up on site with the completion of Engineering activities in Brisbane and the delivery of procured items of equipment to site. Mining equipment deliveries have commenced and some equipment is already in operation.

##### San Juan Underground, USA

Surface facilities construction for the project has been completed and the general contractor has demobilized. Development mining underground continues with 85% of the development complete. All major equipment has been received. The longwall has been erected on the surface and testing is nearly complete. Longwall installation underground will begin during mid July. Start-up of the longwall is expected by November 2002. Project spending is forecast to be on budget at US\$146 million.

#### PETROLEUM DEVELOPMENT

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

Offshore pipeline installation commenced in early June and is approaching completion. The HDD shore crossing was successfully completed mid-June, and onshore tie-in work has commenced. Materials for the first phase of modification work on the platform are ready for mobilization offshore, and platform preparation work commenced

July 4th. First gas and gas-liquids production are scheduled for mid calendar 2003.

Laminaria Phase 2 Development, Australia (BHP Billiton 32.6%, non operated)

The project involves the drilling of two new infill subsea wells to accelerate production and access incremental reserves from the Laminaria oil field. Production from the project commenced in early June with initial daily production from the two wells at expected production forecast rates.

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

Construction of the fourth liquefaction processing train is 41% complete and on schedule. The second trunkline is 16% complete as per schedule, with construction of cables and tubing works commencing on the North Rankin production platform in June. Pipe lay is expected to commence late 2003 with commissioning planned for early 2004.

Minerva (BHP Billiton 90%, operated)

In May approval was announced for the development of the Minerva gas field in the offshore Otway Basin, Victoria, following the signing of a take or pay Gas Sales Agreement with Pelican Point Power Ltd for the provision of Minerva gas over a 10 year period. The development involves the drilling and installation of two subsea well completions, an offshore pipeline to the coast, subterranean shore crossing and the transport of the gas to an onshore gas processing facility where liquids will be removed prior to exporting the gas. BHP Billiton's share of the capital expenditure for the development will be around US\$123 million. First gas is scheduled for the first quarter 2004. A Lump Sum Turn Key contract for engineering and construction of the flowlines and gas plant has been awarded to a joint venture comprising McConnell Dowell Constructors (Australia) and Saipem (Portugal). A separate lump sum contract has been awarded to Cooper Cameron Singapore Pte Ltd for the design and manufacture of the subsea trees. Work is progressing on the development.

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

In March approval was announced for the 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, with production commencing in the third quarter of 2003. The development is being executed on a fast track basis. It will include drilling at least three producing wells and the construction of two additional 140MMscfd processing trains. The drilling of the first well should commence mid July 2002. The basic engineering design and the tendering process for the equipment packages and materials with long lead delivery times are complete. Facilities construction is ongoing and the project is on track to meet all its objectives.

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

The OHANET Development consists of the development of four gas-condensate reservoirs in the Illizi Basin in southern Algeria. The project will provide a gas treatment facility of 20 million standard cubic metres per day fed by 47 production wells, of which 32 will be new and 15 will be re-completions of existing oil producers. 3D seismic data acquisition across all reservoirs was completed in June 2001 and the data has been processed and incorporated into the reservoir models. By the end of June 2002 a total of 21 new wells had been drilled and completed and seven existing wells had been re-completed. Facilities engineering is effectively complete and the majority of equipment and bulk materials are now delivered at site. Overall construction progress is 54%, with 94% of all equipment at site and 64%

already installed. First production remains scheduled for late 2003.

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

The ROD Integrated Development 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 reinjected into the reservoir together with water to provide pressure support to the reservoir. Thirty-six development wells will be required, 10 of which will be recompletions of already drilled wells. The first development well commenced drilling in November 2001; at end-June 2002 the rig was working on the fifth development well. Critical long lead engineering items are progressing to schedule. The EPC (Engineer/Procure/Construct) contract with Saipem/Bouygues was formally signed on 13 April 2002 and engineering work is now fully underway. It is anticipated that site preparation will commence in September 2002. First production is scheduled for end first quarter 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 BHP Billiton acquired a 25% interest in the Caesar oil pipeline and a 22% interest in the Cleopatra gas pipeline. BHP Billiton's share of the capital costs for these new-build projects is estimated at \$100 million. Detailed engineering continues for both systems, which will transport product from the Mad Dog and Atlantis fields to pipelines closer to shore. Commissioning is expected in 2004.

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

BHP Billiton announced its sanction of the Mad Dog field in February, approving up to US\$335 million for development of the Gulf of Mexico oil and gas field. Detailed engineering work is underway. First production is expected at the end of calendar year 2004.

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

In May BHP Billiton approved up to US\$355 million to progress the development of the Atlantis field in the Gulf of Mexico. Detailed engineering work is underway, and full project approval is expected later this year.

## MINERALS EXPLORATION

The exploration group of BHP Billiton Minerals continued to pursue global exploration opportunities for key commodities of interest to the group utilising both the Junior Alliance Program and in house generative capabilities. This has led to continued growth and diversification in the exploration portfolio and increased quality exploration opportunities.

A third FALCON™ platform arrived in Australia and has commenced flying selected projects and areas. The other two units remain employed in South America and Africa.

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## PETROLEUM EXPLORATION

Exploration and appraisal wells drilled during the quarter or in the process of drilling as at 30 June 2002.

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<u>WELL</u>	<u>LOCATION</u>	<u>BHP Billiton</u> <u>EQUITY</u>	<u>STATUS</u>
Canteen-2	Trinidad Block 2(c)	45% BHP Billiton Operator	Hydrocarbons encountered.  Plugged and abandoned.
Angostura-2	Trinidad Block 2(c)	45% BHP Billiton Operator	Hydrocarbons encountered.  Plugged and abandoned.
Mokatika-1	Trinidad Block 2(c)	45% BHP Billiton Operator	Plugged and abandoned as a dry hole.
Boris North-1	Gulf of Mexico, Green Canyon 282	50% BHP Billiton Operator	Total depth at June 30 is 7143'.
Cascade-1	Gulf of Mexico, Walker Ridge 206	50% BHP Billiton Operator	Temporarily suspended. Encountered hydrocarbons.  See News Release of 3 June.
Atlantis-4*	Gulf of Mexico, Green Canyon 743	44% BHP Billiton; Operator: BP	Spud on 1 July.  *Drilling commenced in September quarter.
Neptune-3*	Gulf of Mexico, Atwater Valley 617	50% BHP Billiton Operator	Hydrocarbons encountered.  Plugged and abandoned.  *Drilling completed in September quarter. See News Release of 18 July.
Serra do Moco-1*	Angola, Block 22	15% BHP Billiton; Operator: Texaco	Plugged and abandoned as a dry hole.  *Drilled in March quarter.

Expenditure

Information related exploration expenditure will be included in the BHP Billiton full year results, to be released on 7 August 2002.

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 information can be found on our Internet site: <http://www.bhpbilliton.com>

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The BHP Billiton Group is headquartered in Australia