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BHP BILLITON QUARTERLY REPORT ON  
EXPLORATION AND DEVELOPMENT ACTIVITIES

April 2001 - June 2001

This report covers exploration and development activities for the quarter ended 30 June, 2001. 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% interest)

The Boards of BHP Billiton, Mitsubishi Corporation of Japan and the Industrial Development Corporation of South Africa Ltd (IDC) announced the decision to proceed with the Mozal expansion project (Mozal 2) on 21 June 2001. The project will add a further 253,000 tonnes per annum (tpa) of aluminium capacity at the smelter near Maputo, at a construction cost of US\$860 million (BHP Billiton share US\$405 million), equivalent to a competitive US\$3,400 per tonne of new capacity. Construction has commenced and commissioning is scheduled for late 2003, with full production expected after six months.

Hillside 3 Expansion, South Africa

(BHP Billiton 100% interest)

A feasibility study into the construction of a third potline (of half size) thereby adding a further

130,000 tons per annum (25%) to Hillside's current capacity of 500,000 tons per annum is near completion.

Base Metals

Antamina Project, Peru

(BHP Billiton 33.75% interest)

Mechanical completion of the US\$2.3 billion Antamina copper/zinc project was achieved on 15 May 2001, more than two months ahead of schedule. Commissioning and ramp up to design throughput capacity of the concentrator (70,000 tonnes per day), the concentrate pipeline and port facilities has proceeded well. It is anticipated that the project will reach design throughput level well ahead of schedule and under budget. Almost the entire construction workforce has now been demobilised.

Escondida Phase IV Expansion, Chile

(BHP Billiton 57.5% interest)

BHP Billiton and its joint venture partners in the Escondida copper mine in northern Chile continued development activities for the Escondida Phase IV 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 of production. The development has an estimated capital cost of US\$1,045 million (BHP Billiton share US\$600 million). All major equipment purchases and contracting activities have been committed, major bulk earthworks and concreting is well advanced and structural steel installation has commenced. Project mechanical completion is on track for September 2002 with full production expected to be achieved by April 2003.

Escondida Norte, Chile

(BHP Billiton 57.5% interest)

External auditing of a new resource model has been successfully completed, with the new model currently being used for the pre-feasibility study mine plan scheduling. Pre-feasibility conceptual engineering and design has been completed. A study to optimise the integration of the Escondida Norte Project with the Escondida Phase IV expansion and Sulphide Leach Project is ongoing and will be completed in July 2001. The pre-feasibility study is scheduled for completion in August 2001.

Escondida Sulphide Leach, Chile

(BHP Billiton 57.5% interest)

Project pre-feasibility study work is advancing with completion targeted in the second quarter of

FY 2002. Pilot Heap (300,000 tonnes) tests commenced in May with initial results in line with expectations. Pre-feasibility engineering contracts were awarded to Fluor Engineering (leach/SX/EW) and Bechtel Engineering (water supply) with work progressing on basic facilities design, locations and costs.

Tintaya Oxide Project, Peru

(BHP Billiton 100% interest)

Construction of the Tintaya Oxide project continued during the quarter. Bulk earthworks are

50 per cent complete and major concrete works are in progress. The Oxide project will increase the Tintaya production by 38 per cent with a cathode capacity of 34,000 tonnes per annum. The development has an estimated capital cost of US\$138 million. First cathode production is expected in early 2002 with full production to be achieved by mid 2002.

Spence Copper Project, Peru

(BHP Billiton 100% interest)

Pre-feasibility study work on the Spence copper project in Chile has been completed, and a full feasibility study is now in progress.

#### Carbon Steel Materials

Mining Area C, Iron Ore, Western Australia

(BHP Billiton 85% interest)

Negotiations with all registered groups under the Native Title Act Section 29 notice were finalised during the quarter and agreements were reached with all Native Title groups. Pre-feasibility study work was completed on a 15 million tonne per annum mine development and was approved to proceed to a full feasibility study. Completion of the feasibility study is expected in February 2002. Development of a bulk sample pit to provide production scale representative samples to customers is proceeding with site works to commence in August 2001.

Yandi Lump, Iron Ore, Western Australia

(BHP Billiton 85% interest)

BHP Billiton is carrying out a feasibility study on the production of an iron ore lump product from the Yandi operations in Western Australia and currently has a one million tonne trial underway with Japanese Steel mills. BHP Billiton is the first to produce a lump product from the Yandi-type deposits. During the quarter work continued on the feasibility study. Engineering service contracts have been let and major equipment orders placed as part of project fast tracking. Completion of the feasibility studies is expected in September 2001.

Blackwater Integration Project, Queensland

(BHP Billiton 50% interest)

The Blackwater Integration Project was approved in February 2001 and is the combination of the QCT Resources South Blackwater Mine and the existing Blackwater Mine. The brownfields project will expand production to 13.5mtpa of product coal sales per year by the end of FY2002. Total capital expenditure is A\$130 million over a period of 12 months.

Orders have been placed for a fleet of 300 metric tonne rear dump trucks, site works have commenced and, detailed design is underway for new industrial facility. Planning is also underway for relocation of a dragline from the South Blackwater mine to the Blackwater mining area in August 2001.

Commissioning is on schedule for October 2001.

Dendrobium, Illawarra Coal

(BHP Billiton 100%)

Feasibility studies are largely complete. The project's Environmental Impact Statement and Species Impact Statement have been submitted to NSW Department of Urban Affairs and Planning with the public exhibition period being completed last month. Work to date is on schedule and within budget allocations.

#### Stainless Steel Materials

Gag Island Nickel, Indonesia

(BHP Billiton 75% interest)

Discussions continue with the Indonesian Government, PT Aneka Tambang and Falconbridge to resolve the forestry issues for the Gag Island joint venture.

Ravensthorpe Nickel Project, Western Australia

(BHP Billiton 100% interest)

BHP Billiton, has reached agreement with Comet Resources Limited to purchase Comet's remaining

50 per cent interest in the Ravensthorpe Nickel Project in Western Australia at a cost of A\$28 million, plus the cancellation of its 19.9 per cent interest in Comet. Following completion, BHP Billiton will own 100 per cent of the project. Work on the feasibility studies for the development of a laterite mine and acid-leach plant at Ravensthorpe is now at an advanced stage.

Yabulu Expansion, Queensland

(BHP Billiton 100% interest)

Feasibility Studies are in progress to expand the Yabulu nickel refinery to treat intermediate product from the Ravensthorpe Project.

#### Thermal Coal

San Juan Underground, New Mexico, USA (

BHP Billiton 100% interest)

In October 2000, Board approval was granted for the San Juan underground mine development project which will replace production from two of BHP Billiton's three existing surface mines (San Juan and La Plata) and will be the sole coal source for the adjacent San Juan Generating Station. Development mining continued and all major equipment has been received or ordered. During the quarter the surface facilities contractor completed the earthworks at the main portal, coal load out and ventilation shaft areas, began pouring conveyor foundations and continued highwall stabilisation activities. The service boreholes work was also completed. The ventilation shaft sinking commenced. The project will be developed at a cost of US\$148 million and full production is expected by late 2002. Annual production will be 6.5 million short tons (5.9 million metric tonnes).

Mount Arthur North, New South Wales

(BHP Billiton 100% interest)

BHP Billiton announced approval for the commencement of construction of the Mount Arthur North open cut thermal coal mine in the Upper Hunter Valley, New South Wales on 5 July 2001. The estimated capital cost of the Mount Arthur North development is US\$411 million. The mine will be capable of producing up to 15 million tonnes of raw coal per annum.

Production of 6.3 million tonnes of saleable coal, from the Bayswater/Mt Arthur North complex, is expected to be achieved in FY2003. Full production from Mount Arthur North of 12.1 million tonnes per annum of saleable coal is expected by 2006. Full capacity of the combined operations is expected to be up to 14.5 million tonnes of saleable coal per annum.

## Carbones del Cerrejon Expansion, Colombia

(BHP Billiton 33% interest)

In September 2000, BHP Billiton acquired a one-third interest in Carbones del Cerrejon S.A. (CDC), leaving its ownership shared equally between BHP Billiton, Anglo American plc and Glencore International AG. CDC owns and operates the Cerrejon Central mine, which has a capacity of around three million tpa of high quality export steaming coal. A feasibility study is currently underway to evaluate a significant capacity increase.

Other Minerals

## Ekati™ Diamonds, Canada

(BHP Billiton 51% interest)

A shallow delineation core drilling program was completed at the Lynx pipe early in the quarter. A new resource model was completed based on the 2001 drilling intercepts and previous grade results. A total of 1.4 million tonnes of measured and indicated resources were classified according to JORC. Total sample tonnage for the 2001 bulk sample was estimated at 173.3 tonnes based upon volumetrical, lithological and density data. Sample processing will be carried out on site in summer 2001. The Lynx pipe is located in the Buffer Zone approximately three km south west of the Misery pit.

Sample processing of the Fox pipe (Core Zone) bulk sample drill holes will be carried out on site in summer 2001. Total sample tonnage for the 2001 bulk sample was estimated at 172.6 dry tonnes, based upon volumetrical, lithological and density data.

Two additional kimberlite pipes were discovered during the spring core drilling programs bringing the total number of known kimberlites to 138. One of the pipes (Impala) returned significant quantities of microdiamonds as shown in the table below:

Pipe	D r i l l Hole(s)	Dip	Interval	Sample (kg)	Stones (<0.5mm)	S t o n e s (>0.5mm)	Total carats
Impala	01-05	-50°	35.7 - 103.1 m	72.8	31	20	0.128
Impala	01-05	-50°	1 0 3 . 1 - 170.9 m	92.7	34	27	0.059
Impala	01-05	-50°	1 7 0 . 9 - 240.0 m	112.4	46	25	0.195

The Impala pipe was targeted on the basis of the FALCON™ gravity survey, which was flown over the Ekati claims in late summer 2000. The pipe is approximately two to three hectares in surface plan and is situated within the Buffer Zone.

Petroleum

Echo Yodel, Australia (BHP Billiton 16.7% interest, non operated)

The Echo Yodel development concept consists of a subsea production facility located in 140 metres of water at Echo Yodel, 23 km from the Goodwyn A platform on the North West Shelf. The development includes two production wells producing into a single multiphase flowline tied back to Goodwyn A. Since initial sanctioning in September 2000, project progress remains on schedule.

Estimated final cost is within budget and first production is targeted for late December 2001. Initial production rates of 5,000 bpd (BHP Billiton share) of condensate and gas production of 50 mmscfd (BHP Billiton share) are expected. The first well, Yodel 3 was spudded in early June using the 'Ocean General'. The completion string is currently being installed with earliest finish planned for late July. Yodel 4 will be drilled following completion of Yodel 3. All contracts have been awarded. The project achieved a major milestone following fabrication completion of linepipe and coating in mid July. Modifications to the Goodwyn A platform are being progressed.

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

On 15 May 2001 approval was announced for a production enhancement project on the Laminaria offshore oil field in the Timor Sea, (North Western Australia) in production licence AC/L5. The project will accelerate production from the existing reserves base and access additional undeveloped oil reserves, resulting in an additional 21 million barrels of production over the first two years after start up. The development comprises the drilling, completion and hook up of two new subsea horizontal wells into the 'Northern Endeavour' floating production system. The increased production is scheduled to commence in mid 2002 with an initial rate of approximately 65,000 barrels a day. The current gross production level from the Laminaria/Corallina fields is 130,000 barrels per day (BHP Billiton share 37,000 barrels per day). The capital cost of the project is approximately A\$130 million (BHP Billiton share A\$44 million).

Liverpool Bay - Hamilton East Field, UK (BHP Billiton 46.1%, operated)

The Hamilton East gas well was successfully drilled, reaching Total Depth on 6 July 2001 and was tested on 23 July 2001. The laying of the 6.5 km subsea pipeline to tie the well back to the Hamilton North platform was due to commence during the third quarter, with first gas targeted for October 2001.

NWS expansion, Australia (BHP Billiton 16.67%, non operated)

During the quarter approval was announced for a fourth train expansion of the liquefied natural gas (LNG) processing facilities at the North West Shelf Project in Western Australia. The approval covers a liquefaction processing train (4.2 million tonnes per annum capacity) and a 42-inch gas trunkline to be installed over a distance of 135 kilometres from the existing production platforms to the Burrup Peninsula. The gross investment is A\$2.4 billion with a BHP Billiton share of approximately A\$400 million. The pipeline is subject to a later final endorsement by all the joint venture participants, expected in December this year. An additional LNG ship with a capacity of approximately 135,000 cubic metres has also been ordered from the Daewoo Shipbuilding and Marine Engineering Co. BHP Billiton and the other NWS joint venture participants have sales arrangements in place with Tokyo Gas Co Ltd, Osaka Gas Co Ltd, Toho Gas Co Ltd, Tohoku Electric Power Company Ltd and Kyushu Electric Power Co, of Japan, for the supply of gas for periods up to 30 years and totalling 2.9 mtpa. Discussions are at an advanced stage with other customers to bring the total sales to around 4 mtpa. Site preparation commenced in the first quarter 2001 and all major long lead equipment has been ordered. The civil contract has been awarded with mechanical construction planned to commence in the first quarter of 2002. First production is expected in mid 2004.

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

At the end of June the program to acquire 3-D seismic data was completed. A contract for the provision of two rigs to commence drilling the 32 new vertical and horizontal wells has been awarded to Compagnie des Operations Pétrolier Schlumberger. The first rig commenced operations in June and the second is expected to commence operations in

August 2001.

The engineering, procurement and construction contractor ABB/PIL is progressing in line with the construction schedule. All major long lead equipment has been purchased. Clearance of the main production site is almost complete and the main civil works subcontractor has started work on the foundations. First production is scheduled for third quarter 2003 and peak liquids production is expected to be around 58,000 barrels per day gross. The statutory approval of the 15 per cent working interest farm-in by Woodside Energy is in progress.

ROD Integrated Oil Field Development, Algeria (BHP Billiton 17.3%, joint operating entity comprising SONATRACH/BHP Billiton)

The drilling rig contract was put out to tender in February 2001 and awarded in March and the contracts for casings and tubulars have been awarded. Further drilling contract tenders (services/supply) are being progressed. Discussions continue with the Ministry of Energy and Mines regarding the inclusion of the RAR discovery as part of the ROD Integrated Development. Approval has been received from SONATRACH, based on Ministry authorisation, for work to be undertaken and expenditure incurred on the project prior to formal governmental gazettal. First production from the ROD Integrated Development is scheduled for first quarter 2003.

Typhoon, Gulf of Mexico, USA (BHP Billiton 50% interest, non-operated)

The Typhoon development, consisting of the subsea completion and tieback of the four existing appraisal wells to a Tension Leg Platform (TLP), is being developed jointly by Chevron (50 per cent, Operator) and BHP Billiton (50 per cent). Peak production of 40,000 bopd and 60 mmscfd (gross) is expected, with first production scheduled for third quarter 2001. The third (237-2) and fourth (237-1) wells were completed in April and May 2001, respectively. Construction of the TLP hull and topsides was completed at McDermott's yard in Morgan City, Louisiana, and both were installed offshore in June. Installation of flowlines and umbilicals began in June. The oil and gas pipelines have been installed, commissioned, and made ready for production.

Zamzama Extended Well Test, Pakistan

**(BHP Billiton 37.5% EWT phase equity, operated)**

Production from the Zamzama EWT is reported in the BHP Billiton Production Report.

## MINERALS EXPLORATION

BHP Billiton's Minerals Exploration Group continued to carry out worldwide grass-roots exploration, and is responsible for exploration and development work related to existing mines. Apart from the ongoing exploration, activities were focussed on the merger of the BHP and Billiton exploration portfolios.

The Junior Alliance Program (third party alliances and joint ventures) has been greatly enhanced with the merger. This program emphasises equity investment alliances to gain the widest possible exposure to the results of third party funded exploration.

The two FALCON™ systems are continuing to fly extensive campaigns in Africa and South America.

A highlight for the quarter was the discovery of the Impala pipe (mentioned earlier) at Ekati, which has shown encouraging microdiamond results. This target was based on follow-up drilling of a FALCON™ target.

Expenditure

Information related to Minerals exploration expenditure will be included in the BHP Billiton FY2001 Profit Report, to be released 20 August 2001.

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PETROLEUM EXPLORATION

Wells drilled during the quarter or in the process of drilling as at June 30 2001.

<u>WELL</u>	<u>LOCATION</u>	<u>BHP Billiton EQUITY</u>	<u>STATUS</u>
Atlantis-3	Green Canyon Block 743, Gulf of Mexico	44% BHP Billiton Operator	Drilling ahead.
Eva Eva South-1	Secure Block, Bolivia	41.18%, BHP Billiton - Repsol (Operator)	Plugged and abandoned.
OHE-1	Boukhechba permit, Algeria	100%, BHP Billiton Operator*  (*50% Farmout to Woodside not effective until Algerian Government approval)	Well at TD 29 June.
Planaire-1	WA-28-P, North West Shelf, Australia	16.67%, BHP Billiton -Woodside (Operator)	Plugged and abandoned.
Spitfire-1	Block 2 (ab) Trinidad	50%, BHP Billiton Operator.	Plugged and abandoned.

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.

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The information is based on and accurately reflects information compiled by the person named under each relevant section of the report

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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;



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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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