

BHP LTD  
Form 6-K  
May 04, 2001

Release Time IMMEDIATE

Date 30 April 2001

Number 39/01

**BHP LIMITED**

**QUARTERLY REPORT ON EXPLORATION AND DEVELOPMENT**

January 2001 - March 2001

This report covers exploration and development activities for the quarter ended 31 March, 2001.

Unless otherwise stated, BHP's interest in the projects referred to in this report is 100%.

**MINERALS**

**Copper Projects**

Escondida Phase IV Expansion, Chile (BHP 57.5% interest)

BHP 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 year) over the first five years of production. The development has an estimated capital cost of US\$1,045 million (BHP share US\$600 million). All major equipment purchases and contracting activities have been committed and project manning has reached almost 3,000 persons. Major bulk earthworks are well advanced and the first major concrete pours have taken place. Project mechanical completion is on track for September 2002 with full production to be achieved by April 2003.

Escondida Norte, Chile

(BHP 57.5% interest)

The pre-feasibility study is scheduled for completion in the second quarter of CY 2001. External auditing of a new resource model has been successfully completed, with this new resource model currently being used for the Pre-Feasibility Study mine plan scheduling. Selection of areas suitable for project infrastructure has progressed with the review of recent condemnation drilling results. Project options for integration with the Escondida Phase IV expansion continue to be evaluated and incorporated into the conceptual engineering evaluation. Following the completion of the environmental impact study and its presentation to regional authorities, a first addendum has been submitted addressing questions that arose during the study.

Tintaya Oxide Project, Peru

(BHP 99.5% interest)

The BHP Board approved construction of the Tintaya Oxide project during the quarter. The Oxide project represents a significant brownfield expansion and supports the Company's strategy to add material and high value growth to its Minerals business. The Oxide project will increase 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\$138.2 million. Contractor mobilisation to site commenced in February and bulk earthworks activities are ongoing. First cathode production is expected in early 2002 with full production achieved by mid 2002.

Tintaya Antapaccay Project, Peru

(BHP 99.5% interest)

Geologic interpretation, block models and mine schedules based on the current information have been completed. The findings indicate that geologic controls on mineralization (>1.0% T Cu) have significantly limited the boundaries when compared to previous models. Surface land consolidation continued during the quarter. Future work programs are being evaluated.

Agua Rica, Argentina

(BHP 70% interest)

The joint venture is continuing to evaluate development options for the project that may reduce capital and operating costs. Activity at the field site was limited to environmental monitoring and tenement management.

### **Iron Ore Projects**

Mining Area C, Western Australia (BHP 85% interest)

Negotiations with registered groups under the Native Title Act Section 29 notice proceeded during the quarter and agreement has been reached with one group in relation to an infrastructure title and with one group in relation to the mining lease.

Pre-feasibility Study work is now moving to the final stages. The Eastern Rail Alignment has been accepted as the preferred route.

Iron Ore Products and Capacity Expansion

To meet the demands of the new developments and growth in existing tonnages, the rail and port facilities will require expansion. The project is now under study and will be progressed in parallel with the Mining Area C work. The implementation will be staged to meet the progressive tonnage increases.

Yandi Lump, Western Australia

(BHP 85% interest)

BHP is examining the possibility of producing an iron ore lump product from the BHP Yandi operations in Western Australia and currently has a one million tonne trial underway with the Japanese Steel Mills. BHP is the first to produce a lump product from the Yandi type deposits. During the quarter the project was reviewed at the Pre-Feasibility phase and approved to proceed to the Feasibility phase based on a four million tonne per annum development. Completion of Feasibility Studies will take six to eight months.

### Coal Projects

San Juan Underground, New Mexico, USA (

BHP 100% interest)

At the end of March, the San Juan underground project achieved approximately 100,000 injury-free man-hours. Development mining commenced during mid-February and by the end of the quarter, mining development had advanced 1,610 meters.

Thirty-nine permanent underground employees were hired during the quarter, bringing the manning total to 73 out of a planned underground work force of 200. The surface facilities contractor completed the mine wastewater and sewage lagoons, the Shumway low water crossing and began earthworks at the main portal and ventilation shaft areas.

The changehouse construction was completed and the underground miners moved into this new facility at the end of March. The shaft pressure grouting was also completed and the service boreholes and the highwall stabilization contracts were awarded and work commenced. The ventilation shaft contract was awarded and mobilization commenced. The major order for the longwall equipment was placed during early March for delivery by the end of December.

Goonyella Mine, Queensland

(BHP 52.1% interest)

Additional large diameter drilling, pilot plant washing and coke oven testing was conducted. Documenting the exploration mining phase is continuing as part of the Feasibility Study with a view to completing these aspects of the Study by September.

Dendrobium, Illawarra Coal (BHP 100%)

During the quarter, Feasibility Scope of Work continued. This included additional exploration, finalising technical studies in mine design covering strata control, ventilation, gas drainage and hydrology. Feasibility Engineering Studies are largely complete, covering underground equipment, stockpile, rail transport, processing and surface infrastructure aspects.

Tender responses for the major Scopes of Work have been received by suppliers and are currently being evaluated. These efforts are being conducted in parallel with widespread stakeholder and community consultation. The Environmental Impact Statement and Development Application were submitted to the NSW Department of Urban Affairs and Planning on 20 March. Work to date is on schedule and within budget allocations.

### Base Metal Projects

Gag Island Nickel, Indonesia

(BHP 75% interest)

Discussions continue with both PT Aneka Tambang and Falconbridge to resolve the various issues relating to Falconbridge joining the Gag Island joint venture. Progress on these issues includes:

- Agreement has been reached with Falconbridge on the Scope of Work for the Pre-Feasibility Study

- BHP has proposed clarifications to several commercial issues and PT Aneka Tambang is studying the proposal
- BHP continues to have numerous meetings with the Indonesian Department of Forestry seeking recognition of PT Gag Nikel's prior right to use surface mining techniques in a later decreed protected forest

On the island, preparation is underway for a resumption of drilling pending resolution of the above issues. In Newcastle NSW, BHP's upgraded pilot facilities are operational after being relocated from Reno, Nevada.

### Diamonds and Industrial Minerals Projects

Ekati Diamonds, Canada

(BHP 51% interest)

Bulk sampling of the Lynx pipe was completed during the quarter. Seven reverse circulation drill holes (35cm diameter) were completed for a total sampled kimberlite interval of 887.5 meters. Drill hole depths ranged from 130 meters to 222 meters. Sample tonnages will be estimated early in the next quarter based upon volumetrical, lithological and density data. Sample processing will be carried out on site in summer 2001. A shallow delineation core drilling program is in progress. The Lynx pipe is located in the Buffer Zone approximately three kilometres southwest of the Misery pit.

Bulk sampling of the Fox pipe (Core Zone) was also completed during the quarter. The objective of the program was to obtain additional diamond grade data. Five reverse circulation drill holes (35cm diameter) were completed for a total sampled kimberlite interval of 867meters. Drill hole depths ranged from 215.5metres to 234metres. Sample tonnages will be estimated early in the next quarter based upon volumetrical, lithological and density data. Sample processing will be carried out on site in summer 2001.

The drill hole sample weight reported last quarter for the Kodiak pipe (Core Zone) was not inclusive of the entire interval and is corrected in the table below.

Pipe	Drill Hole	Dip	Length	Interval	Sample Wt. (kg)	Stones (<0.5mm)	Stones (>0.5mm)	Total carats
Kodiak	00-17	-53°	205.1 m	23.3 - 203.6 m	300.9	74	17	0.087

A spring core drilling program is underway to test additional kimberlite targets in both the Core Zone and Buffer Zone properties.

### PETROLEUM

Echo Yodel, Australia (BHP 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, some 23 km from the Goodwyn Alpha (GWA) platform. The development includes two production wells producing into a single multiphase flowline tied back to GWA. The project is currently in its execution phase. First production is expected to commence in the first quarter of CY2002. Initial production rates of 5,000 barrels per day of condensate and gas production of 50 million standard cubic feet per day [mmscfd] (net) are expected.

Griffin, Australia (BHP 45% interest, operated)

Work continues on interpreting the reprocessed 3-D seismic data-set and construction of reservoir models to determine potential further development opportunities in the broader Griffin field, including a potential Griffin-9 and Chinook-North infill wells.

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

An environmental statement for the proposed single well subsea development of the Hamilton East gas field was issued for public consultation in January, with formal approval expected in the third quarter of 2001.

Drilling remains on schedule for the third quarter of this year, with first gas targeted for October. The subsea development will be tied back 6.5 km to the existing Hamilton North platform. During the quarter, contracts for the design, manufacture and installation of the flowline and umbilical pipelines were awarded to Coflexip Stena Offshore, Stolt Offshore and DUCO Limited.

Ohanet Development, Algeria (BHP 45% interest. Joint operating entity comprising SONATRACH/BHP)

At the end of March the program to acquire about 1,000 sq km of 3-D seismic data was almost 50 per cent complete. A contract for the provision of two rigs to commence drilling the 30 new vertical and horizontal wells has been awarded to SDS (Schlumberger), with the first rig due to commence operations in June and the second in August 2001.

The Engineering, Procurement and Construction contractor ABB/PIL is progressing on all fronts in line with the scheduled production start date. All major long lead equipment has been purchased. Clearance of the main production site is more than 50 per cent complete and the main civil works contractor has started work on the pipe rack foundations. Work is progressing well on the construction camp with first occupancy due next quarter.

First production is scheduled for October 2003 and peak liquids production will be around 58,000 barrels per day gross. BHP's revenue is taken from its share of condensate and LPG.

ROD Integrated Oil Field Development, Algeria (BHP 17.3% interest. Joint operating entity comprising SONATRACH/BHP)

At the end of the quarter the Front End Engineering Design work was nearing completion. The main drilling contracts were put out to tender in February 2001 and were awarded in March. The contracts for casings and tubulars have been awarded to Vallorec and Mannesmann (V&M) and Dalmine. Further drilling contracts (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 integrated ROD development.

During the quarter, approval was received from SONATRACH, based on Ministry authorisation, for work to be undertaken and expenditure incurred on the project prior to formal gazettal.

First production from ROD is scheduled for first quarter 2003.

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

The Typhoon development, consisting of the subsea completion and tieback of the four existing appraisal wells to a mini tension leg platform (TLP), is being developed jointly by Chevron (50%, operator) and BHP (50%). Peak production of 40,000 barrels of oil per day and 60 mmscfd (gross) is expected, with first production scheduled for third quarter 2001.

The third well (237-2) should be completed by the end of April 2001 to be followed by the fourth and final well (237-1) in May. Construction of the TLP hull and topsides at McDermott's yard in Morgan City, Louisiana, is continuing with installation planned for the end of May extending into early June 2001. Installation of flowlines and umbilicals is planned for June, with commissioning and start-up in mid to late July.

Zamzama Extended Well Test, Pakistan

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

During the quarter, production began from the Zamzama Extended Well Test. The twin-well project came on stream on 8 March 2001, less than one year after gaining government approval and three years after BHP completed its first exploration well on the field. BHP and its partners will supply around 70 mmscfd of gas to the Sui Southern Gas Company for an initial contract period of 21 months.

Discussions between the Dadu Joint Venture, the Government of Pakistan and the gas companies concerning longer-term commercial arrangements and full-field development options are already well advanced.

**EXPLORATION**

**Minerals**

The Discovery Group of BHP Minerals continued to carry out worldwide grass-roots exploration for all BHP's minerals businesses, and is responsible for exploration and development work related to existing mines.

**Petroleum**

Wells drilled during the quarter or in the process of drilling as at 31 March 2001.

<u>WELL</u>	<u>LOCATION</u>	<u>BHP EQUITY</u>	<u>STATUS</u>
Bass Lite-1	Atwater Foldbelt, AT 426-1, Gulf of Mexico	37.5%, BHP Operator	Temporarily abandoned gas discovery. (Currently assessed as non-commercial, but possible development opportunities are being assessed.)
Eva Eva South	Secure Block, Bolivia	41.18% Operator - Repsol	Running TD logging program. Future plans under evaluation.
OIR-1	Boukhechba permit, Algeria	100%, BHP Operator*  (*Farmout to Woodside not effective until Algerian Government gazettal)	Well completed

Xanthe-1	WA-290-P,  Northern Carnarvon Basin, Australia	40%, BHP  Operator	Plugged and abandoned.
----------	---	--------------------------	------------------------

#### EXPENDITURE

Information related to exploration expenditure will be included in the third quarter BHP FY2001 Profit Report, to be released on 3 May 2001.

#### 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 and is a full-time employee of a member company of the BHP 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.

For information contact:

#### **Media Relations:**

Mandy Frostick - Manager  
Media Relations  
Ph: (61 3) 9609 4157  
Mobile: (61) 0419 546 245  
E-mail:  
frostick.mandy.mj@bhp.com

#### **Investor Relations:**

Dr Robert Porter - Vice President Investor Relations  
Ph: (61 3) 9609 3540  
Mobile: (61) 0419 587 456  
E-mail: porter.robert.r@bhp.com

Francis McAllister - Vice President Investor Relations (North America) Phone: (1 713)  
961 8625 E-mail: mcallister.francis.fr@bhp.com