BHP BILLITON LTD
Form 6-K
December 14, 2010

SECURITIES AND EXCHANGE COMMISSION

Washington, DC 20549

FORM 6-K

REPORT OF FOREIGN PRIVATE ISSUER

Pursuant to Rule 13a-16 or 15d-16 of

the Securities Exchange Act of 1934

December 13, 2010

Commission File Number	Translation of registrant's name into English; Address of principal executive offices
	BHP Billiton Limited (ABN 49 004 028 077) 180 LONSDALE STREET, MELBOURNE, VICTORIA 3000 AUSTRALIA
-	BHP Billiton Plc (REG. NO. 3196209) NEATHOUSE PLACE, VICTORIA, LONDON, UNITED KINGDOM

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 **X** Form 40-F ___

Indicate by check mark if the registrant is submitting the Form 6-K in paper as permitted by Regulation S-T Rule 101(b)(1): ___

Indicate by check mark if the registrant is submitting the Form 6-K in paper as permitted by Regulation S-T Rule 101(b)(7): ___

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 __ No **X**

If "Yes" is marked, indicate below the file number assigned to the

registrant in connection with Rule 12g3-2(b): 82-.

Company Secretariat

10 December 2010

To:
Australian Securities Exchange
London Stock Exchange

cc:
New York Stock Exchange
JSE Limited

BHP BILLITON PLC – TRANSACTION IN SHARES

Name of entities
BHP Billiton Limited ABN 49 004 028 077
BHP Billiton Plc REG NO 3196209

BHP Billiton Limited announces that today it purchased 34,852 Ordinary shares of BHP Billiton Plc at an average price of 2,447.78 pence per Ordinary share. The highest price paid was 2,450.00 pence per Ordinary share and the lowest price paid was 2,441.50 pence per Ordinary share.

Following purchase, BHP Billiton Limited transferred its interest in the shares to BHP Billiton Plc for nil consideration and cancellation by BHP Billiton Plc.

Following the cancellation, the total number of BHP Billiton Plc Ordinary shares in issue (excluding shares held as treasury shares) will be 2,200,997,971.

Further information on BHP Billiton can be found on our Internet site: www.bhpbilliton.com

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BHP Billiton Limited ABN 49 004 028 077
Registered in Australia
Registered Office: 180 Lonsdale Street
Melbourne Victoria 3000 Australia
Tel +61 1300 55 4757 Fax +61 3 9609 3015

BHP Billiton Plc Registration number 3196209
Registered in England and Wales
Registered Office: Neathouse Place
London SW1V 1BH United Kingdom
Tel +44 20 7802 4000 Fax +44 20 7802 4111

Members of the BHP Billiton group which 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.

Date : December 13, 2010

BHP Billiton Limited (ABN 49 004 028 077)
By: /s/ Jane McAloon
Name: Jane McAloon
Title: Group Company Secretary