

**Market Report
on
Bauxite Mining
in
Australia**



Introduction

With a trillion dollar economy, Australia punches well above its weight (population < 25 million) in the world economic ring. It has also managed to avoid the worst of the global financial crisis, without ever descending into an economic recession. Australia's close business ties with Asian economies like China, Japan, South Korea, and India have provided the economic cushion that Australia needed to avoid a recession.

With a modern democratic system of governance, and sound legal and regulatory systems, Australia is a country where Indian businesses should feel comfortable in operating. However, even as Indians now form the second largest migrating community in Australia after the British, and several Indian companies – Adani, GVK, Aditya Birla, Sterlite, Infosys, TCS, to name just a few – have considerable business interests in various sectors in Australia, the full potential of India-Australia business ties has not yet been achieved.

The Australian economy offers a range of opportunities in the services and resources sectors. The market intelligence reports prepared by the High Commission and Consulates in Australia highlight the opportunities in the identified sectors of promise for Indian companies to look at the possibilities for joint ventures, acquisitions, or import-export relationships with the Australian market.

Overview of Bauxite Mining Industry in Australia:

Key Statistics Snapshot: Bauxite Mining in 2010

Revenue:

\$1.6bn

Profit:

\$482.2m

Exports:

\$171.9m

Businesses:

7

Annual Growth 2011-2016:

6.1%

Annual Growth 2006-2011:

-1.3%

Australia is the largest producer of bauxite worldwide, accounting for about one-third of global output. Its bauxite production is expected to be about 68 million tonnes in 2010-11, compared with 60.9 million tonnes in 2005-06. Most bauxite mined in Australia is processed into alumina locally, but 7.5 million tonnes, valued at about \$171.9 million, is expected to be exported in 2010-11. Imports of bauxite are negligible.

The Bauxite Mining industry is expected to generate revenue of about \$1.56 billion in 2010-11, compared with \$1.66 billion in 2005-06. The size of the domestic market in 2010-11 is expected to be about \$1.38 billion. Industry revenue is expected to remain flat in 2010-11, due as gains from slightly higher output are offset by lower prices. The industry's profit is expected to be about \$625.6 million and it is expected to generate about 0.1% of Australia's GDP. The industry is expected to employ about 1,619 people in

2010-11, paying wages amounting to about \$161.0 million. There are about seven establishments and three enterprises involved in the industry.

Industry performance is expected to make substantial gains during the next five years, as production increases in response to recovering global growth and rising aluminium output. Industry revenue is expected to expand at an average annual rate of about 6.1% over the five years ending in 2015-16.

The demand for bauxite depends upon levels of aluminium demand and output, which in turn are dependent upon demand for a diverse range of products, ranging from aircraft to packaging materials.

Australia's bauxite output is expected to be about 68 million tonnes in 2010-11 up from 60.9 million tonnes in 2005-06. The growth in output reflects increased alumina production capacity (and hence an increased requirement for bauxite). Improving global economic conditions and the low-cost status of Australian alumina and bauxite producers were responsible for the increases in output over this period.

There is no internationally traded price for bauxite. Within Australia, bauxite is most often refined by the same enterprise that mines it, and there is no arms-length price. Where bauxite is sold under contract, the terms, including the price, are confidential. However, shifts in aluminium and alumina prices provide a guide to trends in bauxite prices.

Key buying industries from the bauxite industry

- Alumina Production in Australia: The bauxite mining industry's only major domestic customer is alumina production.

Key selling industries to the bauxite industry

- Mining Services in Australia: The Bauxite Mining industry uses this industry for contract mining
- Electricity Generation in Australia: Electricity is an important fuel for bauxite mining.
- Petroleum Wholesaling in Australia: Petroleum products are used to fuel machines and transporting vehicles used by the industry.

The Bauxite Mining industry produces only bauxite, the great bulk of which is processed into alumina by local manufacturers. The bauxite resources at Weipa (QLD) and Gove (NT) contain nearly 50% available alumina and are amongst the world's highest grade deposits. In Western Australia, deposits in the Darling Range and the undeveloped Mitchell Plateau are relatively low-grade with about 30% available alumina. The share of high-grade ore mined has increased slightly over the five years ending in 2010-11, due to expansions at Weipa.

The demand for bauxite depends entirely upon the demand for the aluminium it contains. In general, the demand for aluminium is closely linked with overall economic growth. However, because of the substitutes available for aluminium, demand is also quite price sensitive.

World-wide, aluminium is the second most consumed metal after iron. It has a large number of uses and there are a large number of substitutes or potential substitutes for it. Major users of the metal are the construction, packaging, automobile and aerospace industries. The most important substitutes include other metals, such as steel or magnesium, as well as glass, plastic and timber.

In Australia, all the major producers of bauxite also manufacture alumina. Some also operate or have ownership interests in aluminium smelters.

Production and Exports of Bauxite

Australia is the world's largest producer of bauxite, accounting for about one-third of global output. Most (about 89%) of the bauxite mined in Australia is processed into alumina locally. Generally, the firms involved in mining the bauxite are also alumina producers. Until 2007-08, exports of bauxite typically amounted to 5-6 million tonnes per year, but increases in bauxite production ahead of expansions in alumina output capacity saw exports rise to 7.9 million tonnes that year. Exports edged back to about 7.5 million tonnes in 2008-09 as the global economic crisis curtailed demand, and have remained at about that level as mine output has increased.

The value of bauxite exports in 2010-11 is expected to be about \$171.9 million, or about 11.1% of industry revenue. By comparison, bauxite imports are negligible, at about \$8.0 million in 2010-11 (less than 1.0% of domestic demand). The main markets being China accounting for 52%, followed by Italy at 21%, Japan accounting for 9%, Ukraine 6% and Slovenia accounting for 5%.

Geographical Spread of Bauxite Mining in Australia

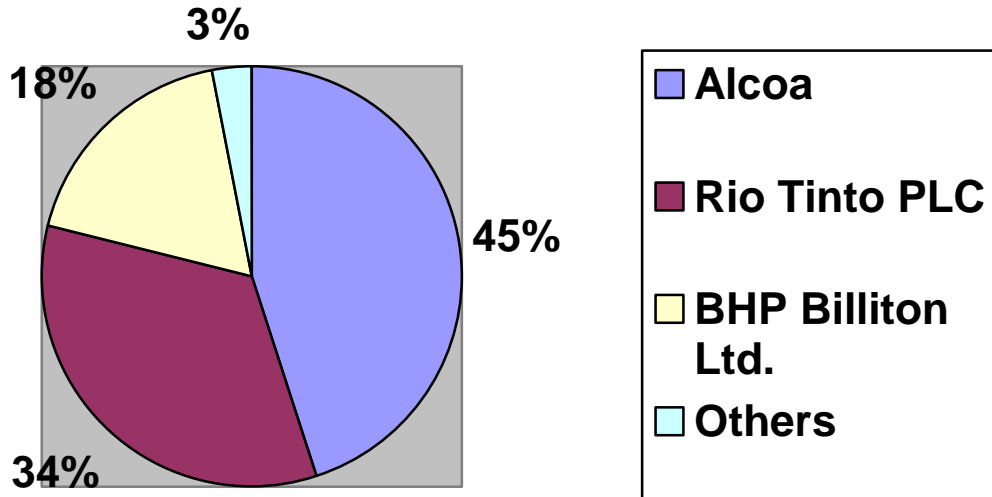
The geographic spread of the Bauxite Mining industry essentially reflects the location of readily exploitable bauxite resources, as well as the cost and logistics associated with establishing and operating alumina refining operations.

Most of Australia's bauxite production originates in Western Australia, although both Queensland and the Northern Territory are also substantial producers. State shares of output have quite remained stable over many years, reflecting the importance of the underlying resource base in determining the location of production.

Major Companies:

ALCOA of AUSTRALIA LIMITED: 45%
RIO TINTO PLC: 34%
BHP BILLITON LTD.: 18%
OTHERS: 3%

MARKET SHARE



About ALCOA:

Alcoa of Australia is an unlisted public company, owned 60% by Alcoa Australian Holdings (itself fully owned by Alcoa Incorporated of the US), and 40% by Alumina Limited. Since 1995, Alcoa's bauxite, alumina and aluminium operations in Australia have been part of the Alcoa World Alumina and Chemicals group (AWAC).

AWAC operates two mines (Huntly and Willowdale) in the Darling Ranges area of Western Australia. Combined capacity of the mines is about 35 million tonnes of bauxite per annum. Huntly is the world's largest bauxite mine, supplying bauxite ore to Alcoa's Pinjarra and Kwinana Refineries. Bauxite output at Huntly has doubled since 1990, with output amounting to about 23 million tonnes per year. The Willowdale mine was established in 1984 to supply bauxite to the Wagerup Refinery. Its output is about nine million tonnes per year, enabling the production of about 2.6 million tonnes of alumina. The ore from Huntly and Willowdale is refined to produce about 10 million tonnes of alumina per year.

In late-2008, Alcoa shelved plans to expand its Wagerup alumina refinery by 2.1 million tonnes per year to 4.7 million tonnes, citing market softness resulting from the global financial crisis. Environmental approvals for the project, which were difficult to obtain, will lapse if significant construction is not commenced by September 2011. The expansion, if it ultimately proceeds, will require mining an additional seven million tonnes per year of bauxite. The cost of the project is estimated at \$4.8 billion.

Alcoa of Australia's revenue and profit slumped in 2009 in response to much lower prices arising from the global financial crisis. Revenue rose in 2008 as aluminium prices soared in the first half of the year, although higher costs eroded profit. Revenue and profit fell in 2007, due mainly to the adverse effect of the stronger Australian dollar. Aluminium prices are quoted in US dollars and firmer Australian dollar reduces revenue in local prices. Revenue expanded strongly over 2005 and 2006, reflecting higher prices for aluminium and alumina. Particularly substantial gains were made in 2006, in response to rising aluminium prices, as well as somewhat higher levels of output.

About RIO TINTO

Rio Tinto is one of the world's leading mining and exploration companies. Its major products include iron ore, aluminium, copper, diamonds, energy products, gold and industrial minerals (borates, titanium dioxide, salt and talc).

Rio Tinto owns and operates the Weipa and Andoom mines on the Cape York Peninsula, QLD, and the Gove mine on the Gove Peninsula, NT. The Gove mine was formerly owned by Alcan Inc, which was acquired by Rio Tinto in a US\$38 billion takeover in October 2007. The takeover made Rio Tinto the world's largest producer of aluminium and bauxite, but also burdened it with a substantial amount of debt. Rio Tinto's aluminium business, including its bauxite operations, is run from Brisbane.

Production from the mines at Weipa was lifted progressively from about 11.9 million tonnes in 2003 to 20 million tonnes in 2008. However, production cuts sparked by the global financial crisis saw output scaled back to 16.2 million tonnes in 2009. Rio Tinto's decision to construct the Yarwun Alumina Refinery (which commenced operations in Gladstone in the last quarter of 2004) was accompanied by a decision to expand the operation at Weipa to provide the necessary bauxite input. Rio Tinto approved an expansion at the Yarwun refinery in mid-2007 that will lift its capacity from 1.4 million tonnes of alumina per year to about 3.4 million tonnes. The US\$1.8 billion expansion is expected to come on stream by 2011. In mid-2008, the company approved a feasibility study into the development of a new bauxite operation south of the existing Weipa

bauxite mine and port. If approved, the new operation would lift Weipa's total bauxite production to 35 million tonnes.

Until the completion of the Yarwun Alumina Refinery in 2004, most of the bauxite produced at Weipa was refined domestically at Queensland Alumina Ltd's refinery in Gladstone. Queensland Alumina Ltd is owned by Rio Tinto (80%) and the Russian-based firm Rusal (20%). Rio Tinto's holding increased from 38.6% in late-2007 when it acquired Alcan and its 41.4% holding in the refinery. Rio Tinto sells bauxite mined at Weipa to the other participant in the smelter and any additional output is exported.

Gove has bauxite reserves of about 190 million tonnes and produced about 7.2 million tonnes of bauxite in 2009, up from 6.2 million tonnes in 2008 and 4.4 million tonnes in 2006-07. The increase in output was due to mine expansion. About 5.4 million tonnes of bauxite was mined in 2005-06 and 5.8 million tonnes in 2004-05. In addition to the bauxite mine, the complex also includes an alumina refinery. Output capacity at the plant has been expanded and production is being ramped up from two million tonnes per year to three million tons per year. Bauxite not refined on-site is exported.

The performance of Rio Tinto's aluminium, alumina and bauxite businesses reflect the interaction of production volumes and prices. Revenue slumped in 2009 due to lower output, reduced prices and a stronger Australian dollar. The business moved into a loss-making position. The large increase in revenue in 2008 and to a lesser extent, 2007, reflects both higher prices and the acquisition of Alcan in late 2007. The large jump in revenue in 2008 also led to a substantial increase in earnings before interest and tax (EBIT), but in the previous year EBIT fell, due mainly to cost pressures and much higher depreciation charges. Revenue and profit rose strongly over 2005 and 2006 on the back of stronger US dollar aluminium prices (although the benefit of the higher price was partly offset by a firmer Australian dollar) and higher output.

In November 2007, BHP Billiton made merger overtures to Rio Tinto Ltd, offering three of its own shares for each Rio Tinto share. Rio Tinto rejected the proposed offer and subsequent higher offers, stating that they undervalued the company. The Chinese Government-owned firm, Chinalco, which has substantial operations in the aluminium sector, purchased a 9.0% stake in Rio Tinto in February 2008. Chinese buyers of iron ore and, to a lesser extent, coal, expressed their concern over the increase in concentration represented by a possible merger between BHP Billiton and Rio Tinto. The global financial crisis, together with concern over Rio Tinto's debt levels, saw BHP Billiton withdraw its merger bid in December 2008.

In February 2009, Rio Tinto and Chinalco unveiled plans for Chinalco to increase its holding in Rio Tinto 18% and to take direct ownership positions of 15% to 50% Rio Tinto's iron ore, bauxite, alumina and aluminium projects. The plan also involved Chinalco entering into a strategic alliance with Rio Tinto in its iron ore, copper and aluminium businesses and becoming an equal partner in an iron ore marketing company that was to sell 30% of the output from the Hamersley iron ore operations.

Rio Tinto's interest in the deal stemmed largely from the capital injection it represented, given the substantial debt it carried due to its earlier acquisition of Alcan Inc (in late-2007). However, other shareholders were not enamoured of the deal with Chinalco and it was unclear whether it would gain approval from the Foreign Investment Review Board (FIRB). Ultimately, Rio Tinto withdrew from the deal in June 2009.

About BHP BILLITON

BHP Billiton Limited was formed in June 2001 when the Australian mining company BHP Ltd and the London-based mining company Billiton plc merged. Although Billiton was listed in the United Kingdom, most of its operations were based in South Africa. BHP

Billiton is listed on the Australian, London and Johannesburg stock exchanges. The company is a major global mining house.

BHP Billiton is the major participant (86%) in the Worsley joint venture, which mines bauxite and produces alumina. Worsley Alumina Pty Ltd manages the Worsley mine and alumina refinery at Mount Saddleback, WA. The other participants in the project are Japan Alumina Associates (Australia) Pty Ltd (10%) and Sojitz Alumina Pty Ltd (4.0%).

All bauxite produced at the Worsley mine is refined at the associated alumina refinery. Capacity at the refinery has been increased in stages to 3.5 million tonnes by mid-2006 (from 3.1 million tonnes in 2000-01 and an initial level of 1.3 million tonnes). The bauxite ore mined at Worsley is relatively low grade and it takes almost four tonnes of bauxite to produce one tonne of alumina, but the project is reputed to have very low operating costs. Alumina output at Worsley amounted to 3.55 million tonnes in 2009-10, suggesting that about 14 million tonnes of bauxite was mined.

Plans by the joint venturers to expand capacity at Worsley to about 4.4 million tonnes per year of alumina (requiring over 17.5 million tonnes per year of bauxite) were postponed in mid-2006 due to cost overruns. Higher labour and material prices had lifted the estimated cost of the expansion from US\$800 million to about US\$1.1 billion. However, in mid-2008 the joint venturers approved plans to expand output by 1.1 million tonnes per year at a cost of about US\$2.3 billion. First output from the expansion is due to become available in 2011.

An indication of the overall performance of the Worsley joint venture can be gained from BHP Billiton's alumina business. BHP Billiton reported that its alumina business generated sales revenue of US\$1.1 billion in 2009-10 and earnings before interest and tax of \$13 million. The operation at Worsley accounted for nearly 80% of the company's alumina output during the year. Using this figure as a guide and applying the average \$US/\$A exchange rate for 2009-10, BHP Billiton's sales revenue from Worsley is estimated to have been about \$1.0 billion and its earnings before interest and tax (EBIT) about \$10 million. Total project revenue is estimated at about \$1.17 billion in 2009-10. Surging alumina prices and higher production after mid-2006 boosted Worsley's performance in 2005-06 and 2006-07. However, a much stronger exchange rate in 2007-08 reduced revenue and EBIT in that year. Performance continued to deteriorate due to lower prices (2008-09) and a stronger Australian dollar (2009-10).

Regulations & Policy

The Bauxite Mining industry is highly regulated, with state governments in particular overseeing virtually all aspects of operation. State governments determine which land is open to exploration and mining, issue exploration and mining leases and collect royalties (see the section of this report headed Taxation) from producers.

The industry is also open to native title claims under the Native Title Act 1993, commonly known as the Mabo legislation. In mid-1993, a Mabo-style claim was made by the Wik people over 35,000 square kilometres on the west of Cape York Peninsula, including Weipa bauxite leases held by Comalco. The claim threw Comalco's \$1.7 billion investment plan for its aluminium operations into doubt and led Comalco to call for the Federal Government to indemnify lenders and investors against losses arising from Aboriginal land claims. The Federal Government validated Rio Tinto's Weipa mining leases (then held by its subsidiary, Comalco) in order to protect the status of the company's planned investment in the area.

In April 2004, the Queensland State Government voted to revoke a lease held by the Canadian firm Alcan Inc over the bauxite deposits at Aurukun on the Cape York Peninsula. The vote came soon after Alcan acquired the French aluminium group

Pechiney, which was the last remaining member of a consortium that had obtained the lease in 1975 with a commitment to build a refinery by 1988. The Queensland State Government invited a number of mining companies to bid for the lease, which carries with it an obligation to construct an alumina refinery in Queensland.

In March 2006, the Queensland State Government and the Aluminium Corporation of China Limited (Chalco) signed a Memorandum of Understanding governing the award of bauxite rights in the Aurukun deposit, making Chalco the state's preferred tenderer for the bauxite deposit. Chalco is the operating arm of the Chinese Government owned Aluminium Corporation of China (Chinalco). Chalco lodged its final bid for development rights over the Aurukun deposit at the end of June 2006 and in early 2007, the Queensland State Government and Chalco signed an agreement allowing for the development of a \$3.0 billion mine and alumina refinery. In May 2007 an Indigenous Land Use Agreement for the Aurukun bauxite project was reached between the Wik and Wik Way people, Chalco and the Aurukun Shire Council. In August 2007, the project was granted significant project status by the Queensland State Government and in September 2007, Chalco was granted a mineral development licence allowing a two-year, \$40 million feasibility study of the project to proceed. In June 2008 Chalco signed an agreement with the Queensland Government investigate construction of a \$2.0 billion alumina refinery at Abbott Point, near Bowen in the state's north. In mid-2009, Chalco stated that it remained on track to complete a feasibility study of the Aurukun Bauxite Project.

Despite substantial expenditure on the project (estimated at about \$100 million), in mid-2010, Chalco and the Queensland State Government announced that they would let the agreement covering the mine and refinery lapse. Chalco cited weak demand and falling alumina and aluminium prices during the global economic crisis as the main factors behind its decision. Discussions between the State Government and Chalco on a possible new project commitment are continuing, but are unlikely to include the construction of a new alumina refinery.

Taxation Issues

Bauxite producers are required to pay royalties based on the volume and value of mine production to the relevant state government.

In Western Australia, royalties on bauxite production are payable at the rate of 7.5% on realised value (defined as either the free on board export value, or in the case of domestic sales, the sale value less any transport costs incurred). In Queensland, the royalty rate payable on bauxite exports is higher than 10% of the free on board sales value or \$1.0 per tonne. The rate on domestic sales is set at half this level. In the Northern Territory, royalties are payable on the value of sales less allowable operating costs and eligible exploration expenditure. The royalty rate is set at 18%.

Three important draft rulings relating to transfer pricing brought down by the Australian Tax Office in September 1995 have a bearing on the Bauxite Mining industry. The aim of the rulings is to prevent profit otherwise taxable in Australia being shifted offshore as a result of prices that are below arms' length levels. In the past, some overseas players in Australia's Bauxite Mining industry have engaged in transfer pricing. The new rulings provide for tax penalties of up to 50% on transfer pricing breaches, and can be applied retrospectively for five years. In addition, any penalty tax paid will be denied franking credits.

For the most part, bauxite producers are required to levy GST and remit it to the Federal Government. Most bauxite producers retain ownership of their bauxite even if it is processed into alumina locally. A sale typically does not occur until the alumina (or the aluminium made from it) is sold. Generally, even these sales will not attract the GST,

since the bulk of output is exported (GST is not levied on exports). Domestic sales attract GST. All producers are able to claim input tax credits for GST purposes.

HOW TO DO BUSINESS IN AUSTRALIA?

Australia is an open economy with a liberal foreign investment outlook. The country has many international companies holding assets in the country and operating without much of a hindrance from the government. The regulatory body overseeing foreign investments in Australia is the Foreign Investment Review Board (FIRB). The monetary thresholds set out by the FIRB are as outlined below:

Non-US investors (as at 1 January 2011)	
\$5 million	developed non-residential commercial real estate, where the property is subject to heritage listing
\$50 million	developed non-residential commercial real estate, where the property is not subject to heritage listing
\$231 million*	an interest in an Australian business; or an interest in an offshore company that holds Australian assets or conducts a business in Australia, and the Australian assets or businesses of the target company are valued above the threshold

* The threshold is indexed annually on 1 January.

The following acquisitions must be notified, irrespective of the value or the nationality of the investor:

- all vacant non-residential land;
- all residential real estate (some exemptions apply);
- all shares or units in Australian urban land corporations or trust estates; and
- all direct investments by foreign governments and their related entities, and proposals by them to establish new businesses in Australia or acquire interests in Australian urban land.

All other acquisitions (including shares or assets of an Australian business) should be notified if the target is valued at or above the applicable monetary threshold set by the Australia's Foreign Investment Policy or the *Foreign Acquisitions and Takeovers Act 1975*.

More detailed information on foreign investments can be accessed at FIRB:
www.firb.gov.au

Company Registration:

A company can apply with the Australian Business Registrar to obtain the Australian Business Number (ABN) and all companies which are to be registered with ASIC (Australian Securities and Investment Commission) would get a Australian Company Number (ACN).

Further information about ABN can be obtained from: <https://abr.gov.au/>

Further information about ACN can be obtained from:

<http://www.asic.gov.au/asic/asic.nsf/byheadline/Australian+Company+Numbers?opendocument>

Further information on doing business in Australia is available at:

Claton Utz - http://www.claytonutz.com/docs/DBIA_English.pdf

Grant Thornton -

http://www.grantthornton.com.au/files/doing_business_in_australia.pdf

Government of Australia – www.business.gov.au

SCOPE FOR INDIAN COMPANIES

Australia is the largest producer of bauxite in the world. In 2010-11 the production is expected to be 68 million tonnes. India has the 5th largest resources in the world of bauxite. Australia being open to foreign investment allows opportunities for Indian companies to look at acquisition of bauxite mines in Australia. The increasing acquisition of resources by Chinese, Japanese and Korean companies in Australia bears testimony to the increasing trend world over to secure resources in view of the long term development goals.

India growing at the rate of 8 to 9% and expected to register double digit growth figures would require to secure its resources overseas if it has to be able to sustain the growth. There is scope for transfer of technology to India at the mines from Australian companies. There is increasing interest between both the countries to engage with one another more aggressively. Indian companies have been active in coal sector with few acquisitions over the last year. This report acts as a catalyst for Indian companies who want to take their business global to look at Australia for its rich resources and favourable investment climate.

TARGET AUDIENCE:

Vedanta Resources – www.vedantaresources.com

Ministry of Mines – www.mines.nic.in

Hindalco Industries Ltd. – www.hindalco.com

Jindal Aluminium Ltd. – www.jindalaluminium.com

National Aluminium Company Ltd. – www.nalcoindia.com

Some Useful Links:

Minerals Council of Australia

www.minerals.org.au

Department of State Development, Western Australia

www.dsd.wa.gov.au

Contact Person: Mr. John Shute

John.SHUTE@dsd.wa.gov.au

ALCOA Australia

www.alcoa.com/australia

Rio Tinto PLC

http://www.riotinto.com/index_ourproducts.asp

BHP Billiton Ltd.

<http://www.bhpbilliton.com/>

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