Figure 1. BHP Billiton Iron Ore Tenement holding showing locations of Jinayri and Marillana
Figure 2. Jinayri map showing deposit outlines, drill hole locations and areas of interpolation versus extrapolation.

Figure 3. Marillana map showing deposit outline and drill hole locations.
Resources are divided into joint ventures and material types that reflect the various products produced. The bedded ore types are classified as per the host Archaean or Proterozoic banded iron formations. These are BK – Brockman, MM – Marra Mamba and NIM – Nimbinra. The CID – Channel Iron Deposits are Cenozoic fluvial sediments. ROM – Run-of-mine for Samarako, comprising tabular and friable hematite ones.

The resource grades listed, Fe – iron, P – phosphorous, SiO2 – silica, Al2O3 – alumina refer to in situ mass percentage on a dry weight basis. LOI – loss on ignition, refers to loss of mass during dry ashing. Tonnages are based on wet tonnes for Western Australian Iron Ore (WAO) deposits using the following moisture contents: BK – 3%, MM – 4%, CID – 8%, NIM – 3.5%. %PC – phosphorous in concentrate.

Competent Persons – Mt Newman JV: M Wozga (MAusIMM), M Smith (MAusIMM), C Williams (MAIG). Jimblebar: M Smith (MAusIMM), H Arvidson (MAusIMM), M Wozga (MAusIMM), Mt Goldsworthy JV Northern: S Harrison (MAusIMM), M Wozga (MAusIMM), Mt Goldsworthy JV Area C: D Reid (MAusIMM), C Williams (MAIG). Yandi JV: S Harrison (MAIG), H Arvidson (MAusIMM). BHP Coal: H Arvidson (MAusIMM), M Smith (MAusIMM), Samarako JV: J Bonfioli (MAusIMM), employed by Samarco Mineração SA.

Some cut-off grades have been adjusted to align with revised product strategy. Cut-off grades used to estimate resources: Mt Newman JV 50%Fe for Whaleback deposit (which supplies beneficiation feed), 54%Fe for other BK and MM deposits; Jimblebar 54%Fe for BK and MM, Mt Newman JV 55–58.5%Fe for NIM (except Cattle Gorge, Cundaline, Nimingarra A and B deposits). 54%Fe for BK and MM, Yandi JV 52%Fe for CID, 54%Fe for BK; BHP Coal 54%Fe for BK; 50–54%Fe for MM; BHP Minerals 54%Fe for BK.

The Mineral Resources are reported after depletion, which occurs when the material is mined. For WAO the adjustments are based on aerial surveys as of the end of March 2008 plus production forecasts for the period April-June 2008. For Samarako, depletion is based on actual production from July 2007 to April 2008 with production forecast for May and June 2008.

The level of detail available from drilling, outcrop and geophysical data, and combined with existing geological mapping and/or operational information was sufficient to support appropriate resource modelling. The resource estimation process followed by BHP Group is well established and is consistent with standard industry practice. The classification of the resources is based on both qualitative and quantitative approaches, by applying data density, data quality, geological confidence criteria, estimation performance and reconciliation information.

Changes for Mt Newman Jv are due to additional resource definition drilling, new geological interpretation and resource models for Jinayri, Whaleback, OB24, OB25 Pit 4 and OB30, and change to cut-off grade for OB29 and OB30 from 58%Fe to 54%Fe. Jinayri (BK) is an Inferred Resource of 1.4 billion wet metric tonnes being derived for the first time. Inferred Resource for Jinayri has been estimated using interpolation and extrapolation. For Jinayri, interpolated material has a maximum drill spacing of 300m between section lines and 100m between drill holes on the same section. Extrapolated material is based on positional projection of 30m (strike) and 50m (section) beyond the drill holes. The proportion of the Inferred Resource that is based on extrapolated data is 15%.

Changes to Jimblebar are due to additional resource definition drilling, new geological interpretation and resource modelling for Jimblebar W1/2. The Mineral Resource at Wheelarra Hill 1 and 2 deposits has increased by 266 million wet metric tonnes, with 150 million wet metric tonnes upgraded from Inferred Resource to Indicated Resource.

The Jimblebar Resources listed include the Wheelarra Hill 3, 4, 5, 6 and Hasimoto 1 and 2 deposits at Jimblebar in which the Wheelarra Joint Venture participants (BHP Iron Ore (Jimblebar) Pty Ltd (51%), ITDCHU Minerals and Energy of Australia Pty Ltd (48%), Mitsui Iron Ore Corporation Pty Ltd (4%)) have a legal interest. At the commencement of the Wheelarra Joint Venture on 1 October 2005, the Wheelarra Joint Venture participants had a legal interest in 175 million dry metric tonnes of Jimblebar Reserves (Wheelarra Joint Venture tonnes). The effect of the sales contracts entered into between the Wheelarra Joint Venture participants and the Mt Newman Joint Venture participants and other associated agreements is that BHP Billiton (as a Mt Newman Joint Venture participant) has an entitlement to 85% of these Wheelarra Joint Venture tonnes. This disclosure and the financial statements are prepared on this basis.

Changes to Mt Goldsworthy JV Northern are due to a change in cut-off grade from 58%Fe to 54%Fe for Cattle Gorge, Cundaline, Nimingarra A and B deposits. A new resource model for Cundaline has been completed based on new resource definition drill holes and geological interpretation.

The Yandi Resources listed include the Western 4 deposit in which the JFE Western 4 Joint Venture (JW4 JV) participants (BHP Billiton Minerals Pty Ltd (68%), ITOCHU Minerals and Energy of Australia Pty Ltd (8%), Mitsui Iron Ore Corporation Pty Ltd (7%) and a subsidiary of POSCO (a Korean steelmaker) (20%)) have a legal interest. The effect of the sales contracts entered into between the JW4 JV participants and the Yandi Joint Venture participants and other associated agreements is that BHP Billiton (as a Mt Newman Joint Venture participant) has an entitlement to 85% of these Wheelarra Joint Venture tonnes. This disclosure and the financial statements are prepared on this basis.

Changes to Samarco's Mineral Resources are due to additional drilling, changes in resource classification criteria, new geological models and extrapolation. For Jinayri, interpolated material has a maximum drill spacing of 300m between section lines and 100m between drill holes on aerial surveys as of the end of March 2008 plus production forecasts for the period April–June 2008. For Samarco, depletion is based on actual statements are prepared on this basis.

Changes to Yandi JV are due to a change in cut-off grade from 56.5%Fe to 54%Fe and Packsaddle 1 and 3. The total Mineral Resource at A Deposit has increased by approximately 160 million wet metric tonnes. The total Mineral Resource at Packsaddle 1 and 3 deposits has increased by 103 million wet metric tonnes and 111 million wet metric tonnes respectively. Packsaddle 1 deposit, 56 million wet metric tonnes was converted to Measured Resource and 196 million wet metric tonnes to Indicated Resource from Inferred Resource compared to 2007 reported Mineral Resource. Packsaddle 3 deposit, 46 million wet metric tonnes was upgraded to Measured Resource and 136 million wet metric tonnes to Indicated Resource from Inferred Resource.

The Area C Resources listed include C Deposit within Area C in which the POSMAC Joint Venture participants (BHP Billiton Minerals Pty Ltd (65%), ITDCHU Minerals and Energy of Australia Pty Ltd (8%), Mitsui Iron Ore Corporation Pty Ltd (7%) and a subsidiary of POSCO (a Korean steelmaker) (20%)) have a legal interest. The effect of the sales contracts entered into between the POSMAC Joint Venture participants and the Mt Newman Joint Venture participants and the Mt Goldsworthy Joint Venture participants and other associated agreements is that BHP Billiton (as a Mt Newman Joint Venture participant) has an entitlement to 85% of the resources in C Deposit. This disclosure and the financial statements are prepared on this basis.

Changes to Yandi JV are due to a change in CID cut-off grade from 56%Fe to 52%Fe. Other changes are due to additional resource definition drilling, new geological interpretation and resource models for A and B Deposits, and Packsaddle 1 and 3. The total Mineral Resource at A Deposit has increased by approximately 160 million wet metric tonnes. The total Mineral Resource at Packsaddle 1 and 3 deposits has increased by 103 million wet metric tonnes and 111 million wet metric tonnes respectively. Packsaddle 1 deposit, 56 million wet metric tonnes was converted to Measured Resource and 196 million wet metric tonnes to Indicated Resource from Inferred Resource compared to 2007 reported Mineral Resource. Packsaddle 3 deposit, 46 million wet metric tonnes was upgraded to Measured Resource and 136 million wet metric tonnes to Indicated Resource from Inferred Resource.
### Ore Reserves

The table below details the total Ore Reserves for the Iron Ore Customer Sector Group estimated as at 30 June 2008 in 100 per cent terms (unless otherwise stated).

<table>
<thead>
<tr>
<th>Commodity Deposit</th>
<th>Ore Type</th>
<th>Proved Ore Reserve</th>
<th>Probable Ore Reserve</th>
<th>Total Ore Reserve</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Millions of wet metric tonnes</td>
<td>%Fe</td>
<td>%P</td>
</tr>
<tr>
<td>Iron Ore</td>
<td>Mt Newman JV (1)</td>
<td>BKM</td>
<td>342</td>
<td>63.2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>MM</td>
<td>23</td>
<td>61.6</td>
</tr>
<tr>
<td></td>
<td>Jimblebar (5)(10)</td>
<td>BKM</td>
<td>99</td>
<td>63.2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>MM</td>
<td>80</td>
<td>62.4</td>
</tr>
<tr>
<td></td>
<td>Mt Goldsworthy JV Northern (12)</td>
<td>NIM</td>
<td>8.9</td>
<td>59.5</td>
</tr>
<tr>
<td></td>
<td>Mt Goldsworthy JV Area C (13)(14)</td>
<td>BKM</td>
<td>53</td>
<td>62.6</td>
</tr>
<tr>
<td></td>
<td></td>
<td>MM</td>
<td>180</td>
<td>62.4</td>
</tr>
<tr>
<td></td>
<td>Yandi JV (15)(16)</td>
<td>CID</td>
<td>791</td>
<td>57.4</td>
</tr>
<tr>
<td>Samanco JV (17)</td>
<td>ROM</td>
<td>451</td>
<td>44.9</td>
<td>0.05</td>
</tr>
</tbody>
</table>

### Note

(1) The reserves are divided into joint ventures and material types that reflect the various products produced. The Western Australian ore types are classified as per the host Archaean or Proterozoic banded iron formations. Ore types are BKM – Brockman, MM – Marra Mamba, NIM – Niminagara, CID – Channel Iron Deposit. ROM – Run of Mine for Samanco, comprising stiabrites and friable hematite ores.

(2) The reserve grades listed: Fe – iron, P – phosphorous, SiO₂ – silica, Al₂O₃ – alumina, LOI – loss an ignition, refer to in situ mass percentage on a dry weight basis. For Mt Newman, Jimblebar, Mt Goldsworthy and Yandi joint ventures tonnages represent wet tonnes based on the following moisture contents: BKM – 3%, MM – 4%, CID – 8%, NIM – 3.5%. Iron ore is marketed as Lump (direct blast furnace feed) and Fines (sinter plant feed). For Samanco: %Pc – phosphorous in concentrate. Samanco is marketed predominantly as direct reduction and blast furnace pellets.

(3) Metallurgical recovery is 100%, except for Mt Newman JV – Whaletack BKM where recovery is 94%. For Samanco, metallurgical recovery is 83.8%.

(4) Approximate drill hole spacings used to classify the reserves are:

*Mt Newman JV: AL North: 200m x 200m x 16m, AL South: 400m x 400m x 16m.*

*Jimblebar: AL North: 200m x 200m x 16m, AL Centre: 400m x 400m x 16m, AL South: 200m x 200m x 16m.*

*Mt Goldsworthy JV Northern: A Deposit: 50m x 50m, Packsaddle 1 and 3: 50m x 50m x 6m, Packsaddle 2: 25m x 25m x 16m.*

*Mt Goldsworthy JV Area C: A Deposit: 50m x 50m, Packsaddle 1 and 3: 50m x 50m x 6m.*

*Yandi JV: A Deposit: 200m x 200m x 16m, BKM: 150m x 150m.*

*Samanco JV: ROM: 200m x 200m x 16m, OB24, OB25 Pit 4 and OB30, 150m x 150m.*

(5) Competent Persons – Mt Newman JV, Jimblebar, Mt Goldsworthy JV Northern and Area C, Yandi JV: R Paydar (MAusIMM), J Kirk (MAusIMM). Mt Newman JV: J D da Silva (MAusIMM), L Rezende (MAusIMM), both employed by Samanco Mineracao SA.

(6) Some cut-off grades have been adjusted to align with revised product strategy. Cut-off grades used to estimate reserves: Mt Newman 50–62%Fe for BKM, 59%Fe for MM; Jimblebar 59%Fe for BKM; Mt Goldsworthy 50%Fe for NIM, 57%Fe for MM, 59.5% for BKM; Yandi 55–55.5% Fe for Cattle Gorge.

(7) Our Western Australian iron ore reserves are all located on State Agreement mining leases that guarantee the right to mine, except the Cattle Gorge mine (part of Mt Goldsworthy JV Northern), which is an operating mine on a standard Western Australian mining lease. We are required to obtain certain State Government approvals (including environmental and heritage clearances) before we commence mining operations on a particular area. We have included in our reserves areas where one or more approvals remain outstanding but where, based on the technical investigations we carry out as part of our mine planning process and our knowledge and experience of the approvals process, we expect that such approvals will be obtained as part of the normal course of business and within the timeframe required by the current life-of-mine schedule.

(8) Mine life (years) is calculated as Total Reserve divided by current approved nominal production rate.

(9) Changes to Mt Newman JV are due to additional resource definition drilling, new geological interpretation and resource models for Whaleback, OB24, OB25 Pit 4 and OB30, and changed MM and BKM (except Whaletack) cut-off grade from 60%Fe to 59%Fe.

(10) Changes to Jimblebar are due to additional resource definition drilling, new geological interpretation, new resource modelling and new pit designs for Jimblebar W1/L, and a change in cut-off grade from 60%Fe to 59%Fe.

(11) The Jimblebar Reserves listed include the Wheelarra Hill 3, 4 and Hamishmotu 1 and 2 deposits at Jimblebar in which the Wheelarra Joint Venture participants (BHP Iron Ore (Jimblebar) Pty Ltd (51%), ITOCHU Minerals and Energy of Australia Pty Ltd (4%), Mitsui Iron Ore Corporation Pty Ltd (4.2%) and subsidiaries of Chinese steelmakers Magang, Shagang, Tangang and Wugang (10% each)) have a legal interest. At the 29 September 2005, the Wheelarra Joint Venture participants had an entitlement to 175 million dry metric tonnes of Jimblebar Iron Ore (Wheelarra) Joint Venture. The effect of the sales contracts entered into between the Wheelarra Joint Venture participants and the Mt Newman Joint Venture participants and other associated agreements is that BHP Billiton (as a Mt Newman Joint Venture participant) has an entitlement to 85% of these Wheelarra Joint Venture tonnes. This disclosure and the financial statements are prepared on this basis.

(12) Changes to Mt Goldsworthy JV Northern are due to the inclusion of Cundaline, Niminagara A and B deposits, and a change in cut-off from 58%Fe to 50%Fe for Cattle Gorge.

(13) Changes to Mt Goldsworthy JV Area C are due to additional resource definition drilling, new geological interpretation and resource models for A Deposit, Packsdale 1 and 3. New Reserve for Packsdale 1 and 3 (BKM).

(14) The Area C Reserves listed include C Deposit within Area C in which the POSMAC Joint Venture participants (BHP Billiton Minerals Pty Ltd (68%), ITOCHU Minerals and Energy of Australia Pty Ltd (6.4%), Mitsui Iron Ore Corporation Pty Ltd (5.6%) and a subsidiary of POSCO (a Korean steelmaker) (20%)) have a legal interest. The effect of the sales contracts entered into between the JW4 JV participants and the Mt Newman Joint Venture participants and other associated agreements is that BHP Billiton (as a Mt Newman Joint Venture participant) has an entitlement to 85% of these Wheelarra Joint Venture tonnes. This disclosure and the financial statements are prepared on this basis.

(15) Changes to Yandi JV are due to a change in cut-off grade from 56%Fe to 55%Fe and 55.5%Fe, additional resource definition drilling, new geological interpretation and resource modelling for Yandi W1 and E4, and new pit designs.

(16) The Yandi Reserves listed include the Western 4 deposit in which the JFE Western 4 Joint Venture (JW4 JV) participants (BHP Billiton Minerals Pty Ltd (68%), ITOCHU Minerals and Energy of Australia Pty Ltd (6.4%), Mitsui Iron Ore Corporation Pty Ltd (5.6%) and a subsidiary of JFE Steel Corporation (a Japanese steelmaker) (20%)) have a legal interest. The effect of the sales contracts entered into between the JW4 JV participants and the Yandi Joint Venture participants and other associated agreements is that BHP Billiton (as a Yandi Joint Venture participant) has an entitlement to 85% of the Reserves in the Western 4 deposit. This disclosure and the financial statements are prepared on this basis.

(17) During the feasibility studies for the Third Pelletizing Plant Project, further drilling and changes to the resource classification has confirmed a reserve for more than 20 years of mine life. The reported reserve is inside the 2017 pit designed for the Third Pelletizing Plant Project.

(18) Mine life in parentheses indicates the time horizon of the ore reserve estimate. The reserve estimates within the parenthesis are subject to the same uncertainty factors as the reserves outside the parenthesis.
# Table 3. Manganese Mineral Resource Statement

## Manganese Customer Sector Group

### Mineral Resources

The tables below detail the total Manganese Mineral Resources for the Manganese Customer Sector Group estimated as at 30 June 2008 in 100 percent terms (unless otherwise stated).

<table>
<thead>
<tr>
<th>Commodity Deposits</th>
<th>Ore Type</th>
<th>Measured Resource</th>
<th>Indicated Resource</th>
<th>Inferred Resource</th>
<th>Total Resource</th>
<th>Total Resource</th>
<th>BHP Billion Interest %</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Millions of dry metric tonnes</td>
<td>Grade</td>
<td>Millions of dry metric tonnes</td>
<td>Grade</td>
<td>Millions of dry metric tonnes</td>
<td>Grade</td>
</tr>
<tr>
<td></td>
<td></td>
<td>%Mn</td>
<td>%Yield</td>
<td>%Mn</td>
<td>%Yield</td>
<td>%Mn</td>
<td>%Yield</td>
</tr>
<tr>
<td><strong>Manganese</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>GEMCO</strong></td>
<td>ROM</td>
<td>78</td>
<td>46.4</td>
<td>44</td>
<td>49</td>
<td>46.0</td>
<td>44</td>
</tr>
<tr>
<td><strong>Wassels</strong></td>
<td>Lower Body Upper Body</td>
<td>11</td>
<td>46.7</td>
<td>–</td>
<td>111</td>
<td>46.1</td>
<td>–</td>
</tr>
<tr>
<td><strong>Manambar</strong></td>
<td>M, C and N Zones X Zone Top Cut (Balanced)</td>
<td>172</td>
<td>37.6</td>
<td>2.5</td>
<td>185</td>
<td>36.8</td>
<td>2.3</td>
</tr>
</tbody>
</table>

---

1. *Competent Persons – Resources*
   - GEMCO: E P W Swanbol (SACNASP)
   - Wassels: E P Ferreira (SACNASP)
   - Manambar: G van Antwerpen (SACNASP)

2. The Mineral Resources are reported after adjustment for depletion due to mining (actual production from 1 July 2007 to 30 April 2008 and forecast production for May and June 2008).

3. GEMCO – ROM – Run-of-mine product. Manganese grades (%Mn) are given as per washed ore samples and should be read together with their respective yields. Culturally significant areas have been excluded from the resource (to quarry rainforest) adjacent to the local community. This action equates to 3.2Mt of ROM.

4. An agreement has been signed between Sandfire Manganese and empowerment company Ntshimbiki Mining pty ltd. The Ntshimbiki agreement has been signed by both parties but remains subject to government approval which is believed to be administratively in due course. This transaction allows the inclusion of part of the Prospecting Rights held by Ntshimbiki into the Wassels and Manambar Mining Areas in exchange for 9% equity in Hilitel Mines, thereby allowing the resources within the Ntshimbiki Prospecting Right to be included in the Wassels and Manambar Mining Rights. The BHP Billion share of Wassels and Manambar mines (known manganese mines) therefore drops from 50% to 46.6%. The Mn cut-off grade at Wassels has been lowered from 45% to 37.5% due to the following: Wassels Mine has historically been a high grade mine – mean Manganese (%Mn) content for WtUpp being 48%. As a result only this high grade portion was previously declared while a low grade portion. WtUpp at a mean grade of 8 at 85%Wt. was not declared. Selling of this low grade product is dependent on marketing requirements. Positive changes in market conditions now allow for the inclusion of all grades above a cut-off of 37.5% Mn.

5. The traditional WtUpp at a mean grade of 48% was also adjusted to 47% Mn.

6. The addition of the Upper Body to the Wassels Mine Mineral Resource arises from a process of extensive evaluation during FY2008, including the development of an ore body model largely based upon an extensive drilling database accumulated over the history of the mine.

7. At Manambar, the X Zone and Top Cut (Balanced) have not previously been declared as Mineral Resource in the Annual Report. As a matter of course, this material has to be mined in the process of accessing the economic X, M, C and N zones, and due to positive market conditions, this material now has potential economic value.