UNCTAD Expert Meeting on

FDI IN NATURAL RESOURCES

20-22 November 2006

Trends and Players in the Mining Industry

by

Mr. Damian Brett
Mineral Economist

The views expressed are those of the author and do not necessarily reflect the views of the United Nations
TRENDS & PLAYERS IN THE MINING INDUSTRY

Damian Brett
Magnus Ericsson

Stockholm, Sweden
OUTLINE

• WORLD MINING BASIC FACTS
• CONCENTRATION
• MERGERS & ACQUISITIONS
• NEW ENTRANTS

WORLD MINERAL INDUSTRY

Molybdenum drawing: Kaianders Sempler.
VALUE OF WORLD MINING

YEAR 2005 TOTAL ~ 800 billion USD


METALS VALUE AT MINE

YEAR 2005 TOTAL ~ 215 billion USD (up from 165 bUSD in 2004)

GLOBAL MINING - HISTORY

% of global mining

Sources: Raw Materials Data, Stockholm 2004 and Sames.

GLOBAL MINING - GEOGRAPHY
MINERAL COMPANIES

Total 4,100 companies

- 3,067 Majors
- 957 Medium & small
- 149 Juniors


BASIC FACTS

- Value of mineral production > 800 billion USD.
- Value shooting up dramatically.
- Geographically well distributed over the world.
- Moves south of the equator.
- 150 companies dominate.
STRUCTURE

Drawing: Kaianders Sempler.

CONCENTRATION
BY METAL

% of total world 2005

GOLD INDUSTRY
CONCENTRATION 1975-2005

% Western world production


2005 RMG TOP 10

<table>
<thead>
<tr>
<th>Controlling company</th>
<th>Country</th>
<th>Share of value of mine production (%)</th>
<th>Cumulative value (%)</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 BHP Billiton</td>
<td>Austr.</td>
<td>4.8</td>
<td>4.8</td>
<td>3</td>
</tr>
<tr>
<td>2 Rio Tinto</td>
<td>UK</td>
<td>4.6</td>
<td>9.4</td>
<td>4</td>
</tr>
<tr>
<td>3 CVRD</td>
<td>Brazil</td>
<td>4.4</td>
<td>13.8</td>
<td>2</td>
</tr>
<tr>
<td>4 Anglo American</td>
<td>UK</td>
<td>4.3</td>
<td>18.1</td>
<td>1</td>
</tr>
<tr>
<td>5 Codelco</td>
<td>Chile</td>
<td>3.2</td>
<td>21.3</td>
<td>6</td>
</tr>
<tr>
<td>6 Norilsk Nickel</td>
<td>Russia</td>
<td>2.3</td>
<td>23.6</td>
<td>5</td>
</tr>
<tr>
<td>7 Phelps Dodge</td>
<td>USA</td>
<td>2.0</td>
<td>25.6</td>
<td>8</td>
</tr>
<tr>
<td>8 Grupo Mexico</td>
<td>Mexico</td>
<td>1.6</td>
<td>27.2</td>
<td>11</td>
</tr>
<tr>
<td>9 Newmont</td>
<td>USA</td>
<td>1.3</td>
<td>28.5</td>
<td>9</td>
</tr>
<tr>
<td>10 Freeport McMoran</td>
<td>USA</td>
<td>1.3</td>
<td>29.8</td>
<td>20</td>
</tr>
</tbody>
</table>

GLOBAL MINING - COMPANIES


CONCENTRATION

• Fragmented industry.
• Global corporate concentration decreasing.
• Concentration by metal increasing slowly.
MERGERS & ACQUISITIONS

Nickel drawing: Kaianders Sempler.

MERGERS & ACQUISITIONS

Sources: Raw Materials Data Metals M&A Register, Stockholm 2006.
### MAJOR M&A SINCE 2000

<table>
<thead>
<tr>
<th>Buyer</th>
<th>Target</th>
<th>Sector</th>
<th>Year</th>
<th>Amount (MUSD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 CVRD</td>
<td>Inco</td>
<td>Nickel/div</td>
<td>2006</td>
<td>17 900</td>
</tr>
<tr>
<td>2 Xstrata</td>
<td>Falconbridge</td>
<td>Diversified</td>
<td>2006</td>
<td>14 500</td>
</tr>
<tr>
<td>3 BHP</td>
<td>Billiton</td>
<td>Diversified</td>
<td>2001</td>
<td>14 000</td>
</tr>
<tr>
<td>4 Anglo</td>
<td>De Beers</td>
<td>Diamonds</td>
<td>2001</td>
<td>11 400</td>
</tr>
<tr>
<td>5 Barrick</td>
<td>Placer Dome</td>
<td>Gold</td>
<td>2006</td>
<td>10 400</td>
</tr>
<tr>
<td>6 BHP Billiton</td>
<td>WMC</td>
<td>Diversified</td>
<td>2005</td>
<td>7 300</td>
</tr>
<tr>
<td>7 Alcan</td>
<td>Alusuisse</td>
<td>Aluminium</td>
<td>2000</td>
<td>4 400</td>
</tr>
<tr>
<td>8 Alcan</td>
<td>Pechiney</td>
<td>Aluminium</td>
<td>2003</td>
<td>3 800</td>
</tr>
<tr>
<td>9 Texas Pacific Aleris</td>
<td>Aluminium</td>
<td>2006</td>
<td>3 300</td>
<td></td>
</tr>
<tr>
<td>10 Norsk Hydro VAW</td>
<td>Aluminium</td>
<td>2002</td>
<td>2 900</td>
<td></td>
</tr>
</tbody>
</table>

Sources: Raw Materials Data Metals M&A Register, Stockholm 2006.

### M&A vs EXPLORATION

Sources: Raw Materials Data Metals M&A Register (M&A) and MEG (exploration) 2006.
MERGERS & ACQUISITIONS

- Mergers reaching record levels.
- More to come.
- Exploration lagging.
- China, India and juniors.

STATE COMPANIES

Tungsten drawing: Kalanders Sempler.
STATE CONTROL - Mining 1975 - 2005

% of total world mine production

Bauxite  Gold  Iron ore  Tin


STATE COMPANIES

- Control sinking since mid 1980s.
- State control stable level.
- No further decline.
- China most important country.
- Chinese CPE has potential to expand ownership internationally.
## NEW ENTRANTS

**REM drawing: Kaianders Sempler.**

### CHINA

<table>
<thead>
<tr>
<th>Date</th>
<th>Buyer</th>
<th>Acquisition / Partner</th>
<th>Project</th>
<th>Country</th>
<th>Metal</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>Jinchuan</td>
<td>Tiomin Resources Inc</td>
<td>Extension Hill Iron Ore Deposit</td>
<td>Canada</td>
<td>Ti</td>
</tr>
<tr>
<td>2006</td>
<td>Sinom Investment</td>
<td></td>
<td>Aurukun bauxite project</td>
<td>Australia</td>
<td>Fe</td>
</tr>
<tr>
<td>2006</td>
<td>Chinalco</td>
<td></td>
<td>Dak Nong</td>
<td>Australia</td>
<td>bauxite</td>
</tr>
<tr>
<td>2006</td>
<td>SinoSteel</td>
<td>PepiniNini Minerals</td>
<td>Cocker Well and Mt Victoria</td>
<td>Vietnam</td>
<td>U</td>
</tr>
<tr>
<td>2006</td>
<td>Sinopac</td>
<td></td>
<td>Kyzyl-Tashtyg</td>
<td>Russia</td>
<td>Polymet</td>
</tr>
<tr>
<td>2006</td>
<td>Chuanwei Steel</td>
<td>Krakatau Steel Group</td>
<td>Quy Xa</td>
<td>Indonesia</td>
<td>Fe</td>
</tr>
<tr>
<td>2006</td>
<td>Kunming Steel</td>
<td></td>
<td>Belinga</td>
<td>Vietnam</td>
<td>Fe</td>
</tr>
<tr>
<td>2006</td>
<td>CHIEC</td>
<td></td>
<td>Antam Tbk</td>
<td>Gabon</td>
<td>Fe</td>
</tr>
<tr>
<td>2005</td>
<td>Chinalco</td>
<td>CVRD</td>
<td></td>
<td>Indonesia</td>
<td>Al</td>
</tr>
<tr>
<td>2005</td>
<td>CITIC</td>
<td>SALCO</td>
<td></td>
<td>Brazil</td>
<td>Al</td>
</tr>
<tr>
<td>2005</td>
<td>Nanjing Iron &amp; Ste-Mt Gibson</td>
<td>Koolanooka, Wolla wolla</td>
<td></td>
<td>Iran</td>
<td>Al</td>
</tr>
</tbody>
</table>

Sources: Raw Materials Data Metals M&A Register, Stockholm 2006.
SUMMARY

- Mining industry fragmented.
- Concentration process accelerates.
- More M&A to be expected.
- New companies from emerging markets.
- Stronger companies necessary to meet societal demands.
THANK YOU!

Tungsten drawing: Kalanders Sempler.

CONTACT

Damian Brett / Magnus Ericsson
Tel: +46-8-744 00 65
Fax:+46-8-744 00 66

damian.brett@rmg.se
www.rmg.se