



# Ownership & control of world's copper mining

by Magnus Ericsson and Andreas Tegen

The tables on the following pages are excerpts from *Raw Materials Data*, the database on the international mining industry. *Raw Materials Data*, which is developed and updated by the Raw Materials Group, is now available in a Windows version including several new features such as maps, geological information and greatly enhanced sorting, search and printing facilities.

The world copper industry has undergone substantial structural changes since last covered in *Raw Materials Report* in 1992.<sup>1</sup> Corporate concentration is increasing in the Western world. In 1992 the 20 largest Western world companies controlled 79 per cent of Western world production. In 1997 the figure has increased to 85 per cent. However it is becoming more and more meaningless to speak of the Western world and in Table 1 we give the figures in relation to total world production. Total production from the former East (including China) is 19 per cent of total world production, up slightly from 18 per cent in 1992.

The twenty largest companies, from both the Western world and the former East, together controls 77 per cent of total world production. The companies in the former Soviet Union, Poland and China are on average smaller in size than their Western competitors hence bringing the total down a bit. But there is still an increase compared to 1992 due to the increased concentration among the Western world companies.

Among the most noticeable changes are:

- BHP almost trebling its share from around 4 per cent to around 11 per cent of Western world production in 1997. This has been achieved through some spectacular acquisi-

tions such as the take over of Magma and getting full control over Ok Tedi. Production at Escondida has increased through continuous investments.

- The other companies among the top five have kept their production shares almost constant or decreased somewhat.
- Freeport has increased production at the Grasberg/Ertsberg operations by roughly 100 per cent. Grasberg is poised to become the single largest copper mine in the world.
- The Polish KGHM company has entered the Top 20 in 8th position. Russian Norilsk Nickel in 11th. We have grouped all Chinese producers under one controlling entity while awaiting the outcome of the recent Chinese restructuring.

## The concepts of ownership and control

In Table 1, two concepts are of basic importance: ownership and control. Ownership refers to holding of shares in a company and is easy to define and to measure. In principle the ownership figures are to be found in the share register of a public company. The concept of control is more difficult to define and even more



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difficult to measure accurately. We use the following definition:

"To be in control is to have a possibility to act decisively on strategically important issues rather than to have day-to-day influence over a company. Such issues include the broad policies of the company, decisions on large investments, buying or selling of subsidiaries and authority to appoint or dismiss top management."<sup>2</sup>

There are different ways to exercise control but ownership is of absolutely crucial importance. We have hence used ownership and management as the two criteria. Empirical data has been retrieved mainly from corporate sources.

The ownership patterns, forming hierarchies from producers to controlling companies, have been set up. On the basis of a computerised model, developed by the Raw Materials Group, all producers have been classified as independent or controlled by one or more parent companies. If a producer is considered to be fully controlled, all of its production is attributed to the controlling company. If a producer is partially controlled, only a part of its production is attributed to the controlling company. Most often, the controlled part is equal to the equity share of capital. But the controlled share is in some cases considered to be larger than the ownership share, as production

theoretically controlled by very small shareholders is always distributed to the large owners. Thus, all production of a specific producer is allocated to the controlling companies at the top of the ownership hierarchies.

#### Notes

1. Raw Materials Report, Volume 9, number 3, pp. 15-19 1993.

2. Raw Materials Group, *Who owns who in mining 1998*, pp. 529-531. ■

**Table 1. Corporate control in copper mining in 1997.**

Controlling company/state	Country of	Producer's	Controlled	Share of total
Per cent	incorp. or	total prod.	share	world prod
Controlled producers	control	production	kt	per cent
		kt		
<b>1. Corp Nacional del Cobre de Chile</b>	<b>Chile</b>	–	<b>1326.6e</b>	<b>11.7</b>
100 % Chuquicamata Copper Mine	Chile	485.0e	485.0e	4.3
100 % El Teniente Copper Mine	Chile	335.0	335.0	3.0
100 % Chuquicamata Copper (SX-EW) M	Chile	165.0e	165.0e	1.5
100 % Andina Copper Mine	Chile	145.5	145.5	1.3
49 % El Abra Copper (SX-EW) Mine	Chile	196.0	96.0	0.8
100 % Salvador Copper Mine	Chile	75.0e	75.0e	0.7
100 % Salvador Copper (SX-EW) Mine	Chile	13.0e	13.0e	0.1
100 % El Teniente Copper (SX-EW) Mi	Chile	8.0e	8.0e	0.1
100 % Radomiro Tomic Copper (SX-EW)	Chile	4.1	4.1	0.0
<b>2. Broken Hill Pty Co Ltd</b>	<b>Australia</b>	–	<b>985.5e</b>	<b>8.7</b>
59 % Escondida Copper Mine	Chile	863.8	509.4	4.5
100 % Ok Tedi Copper/Gold Mine	PNG	111.5	111.5	1.0
100 % San Manuel Copper Mine	USA	85.0e	85.0e	0.8
100 % Pinto Valley Copper Mine	USA	70.0e	70.0e	0.6
100 % Tintaya Copper Mine	Peru	66.8	66.8	0.6
100 % Robinson Copper/Gold Mine	USA	65.0e	65.0e	0.6
59 % Escondida (SX-EW) Copper Mine	Chile	64.1	37.8	0.3
100 % Pinto Valley Copper (SX-EW) M	USA	20.0e	20.0e	0.2
100 % San Manuel (SX-EW) Mine	USA	20.0e	20.0e	0.2

*continued...*

**Table 1. Corporate control in copper mining in 1997.**

Controlling company/state		Country of incorp. or control	Producer's total prod. production	Controlled share kt	Share of total world prod per cent
Per cent	Controlled producers				
<i>...continued</i>					
<b>3. Phelps Dodge Corp</b>		<b>USA</b>	<b>–</b>	<b>843.3</b>	<b>7.4</b>
100 %	Morenci Copper (SX-EW) Mine	USA	247.0	247.0	2.2
100 %	Morenci Copper Mine	USA	244.8	244.8	2.2
100 %	La Candelaria Copper/Gold Min	Chile	155.8	155.8	1.4
100 %	Tyrone Copper (SX-EW) Mine	USA	69.5	69.5	0.6
67 %	Chino Copper Mine	USA	90.6	60.4	0.5
67 %	Chino Copper (SX-EW) Mine	USA	62.7	41.8	0.4
100 %	Ojos de Salado Copper Mine	Chile	19.1	19.1	0.2
45 %	Aggeneys Base Metal Mine	South Africa	5.7	2.5	0.0
100 %	Tyrone Copper Mine	USA	2.4	2.4	0.0
<b>4. Rio Tinto plc</b>		<b>UK</b>	<b>–</b>	<b>733.7</b>	<b>6.5</b>
100 %	Bingham Canyon Copper Mine	USA	305.1	305.1	2.7
31 %	Escondida Copper Mine	Chile	863.8	265.8	2.3
58 %	Palabora OP Copper Mine	South Africa	133.7	77.1	0.7
49 %	Neves Corvo Copper Mine	Portugal	106.4	52.1	0.5
31 %	Escondida (SX-EW) Copper Mine	Chile	64.1	19.7	0.2
100 %	Flambeau Copper Mine	USA	11.5	11.5	0.1
100 %	Peak Gold Mine	Australia	2.4	2.4	0.0
<b>5. Asarco Inc</b>		<b>USA</b>	<b>–</b>	<b>676.5e</b>	<b>6.0</b>
100 %	Cuajone (SPCC) Copper Mine	Peru	154.5	154.5	1.4
100 %	Mission Complex (4 mines)	USA	114.4	114.4	1.0
100 %	Toquepala (SPCC) Copper Mine	Peru	111.9	111.9	1.0
100 %	Ray Copper Mine	USA	104.6	104.6	0.9
100 %	Toquepala (SPCC) SX-EW	Peru	42.2	42.2	0.4
22 %	La Caridad Copper Mine	Mexico	175.0	38.3	0.3
100 %	Ray Copper (SX-EW) Mine	USA	33.3	33.3	0.3
22 %	Cananea Copper Mine	Mexico	120.0	26.2	0.2
50 %	Continental Copper Mine	USA	41.5	20.7	0.2
100 %	Silver Bell Copper (SX-EW) Mi	USA	8.8	8.8	0.1
22 %	Cananea Copper (SX-EW) Mine	Mexico	28.0e	6.1e	0.1
22 %	La Caridad Copper (SX-EW) Min	Mexico	20.0e	4.4e	0.0
22 %	San Martin Polymetallic Mine	Mexico	18.6	4.1	0.0
100 %	Cuajone (SPCC) Copper (SX-EW)	Peru	2.4	2.4	0.0
22 %	Charcas Polymetallic Mine	Mexico	8.5	1.9	0.0
22 %	Santa Barbara Polymetallic Mi	Mexico	6.3	1.4	0.0
41 %	Quirovilca Mine	Peru	2.0	0.8	0.0
50 %	Coeur Silver Mine	USA	0.7	0.4	0.0
50 %	Galena Silver Mine	USA	0.5	0.2	0.0

*continued...*

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Controlling company/state Per cent	Controlled producers	Country of incorp. or control	Producer's total prod. production kt	Controlled share kt	Share of total world prod per cent
<i>...continued</i>					
<b>6. Freeport McMoran Copper &amp; Gold Inc</b>		<b>USA</b>	–	<b>548.3</b>	<b>4.8</b>
100 %	Grasberg/Ertsberg Copper/Gold Indonesia	USA	548.3	4.8	
<b>7. Cyprus Amax Minerals Co</b>		<b>USA</b>	–	<b>474.2</b>	<b>4.2</b>
100 %	Bagdad Copper Mine	USA	100.0	100.0	0.9
51 %	El Abra Copper (SX-EW) Mine	Chile	196.0	100.0	0.9
100 %	Sierrita Copper Mine	USA	94.0	94.0	0.8
100 %	Miami Copper (SX-EW) Mine	USA	71.0	71.0	0.6
100 %	Cerro Verde Copper (SX-EW) Mi	Peru	55.2	55.2	0.5
100 %	Sierrita Copper (SX-EW) Mine	USA	18.0	18.0	0.2
100 %	Tohono (Casa Grande) Copper (	USA	12.0	12.0	0.1
100 %	Bagdad Copper (SX-EW) Mine	USA	12.0	12.0	0.1
11 %	Louvicourt Base Metal Mine	Canada	56.2	6.1	0.1
25 %	Andacollo Copper (SX-EW) Mine	Chile	19.7	5.0	0.0
100 %	Mineral Park Copper Mine	USA	1.0	1.0	0.0
<b>8. KGHM Polska Miedz SA</b>		<b>Poland</b>	–	<b>425.8</b>	<b>3.8</b>
100 %	Rudna Copper Mine	Poland	210.0	210.0	1.9
100 %	Polkow Copper Mine	Poland	134.2	134.2	1.2
100 %	Lubin Copper Mine	Poland	81.6	81.6	0.7
<b>9. State of China</b>		<b>China</b>	–	<b>419.0e</b>	<b>3.7</b>
86 %	Dexing Copper Mine	China	96.0e	82.5e	0.7
100 %	Zhongtiaoshan Copper Mines	China	29.1	29.1	0.3
100 %	Tongling Copper Mine	China	25.6e	25.6e	0.2
100 %	Dongchuan Copper Mine	China	18.0e	18.0e	0.2
100 %	Jinchuan Nickel Mine	China	18.0e	18.0e	0.2
100 %	Yimen Copper Mines	China	17.0e	17.0e	0.2
86 %	Yongping Copper Mine	China	15.1	13.0	0.1
100 %	Shilu Copper Company	China	9.9e	9.9e	0.1
100 %	Hongtushan Copper Mine	China	8.0e	8.0e	0.1
100 %	Shuikoushan Lead/Zinc Mines	China	2.0e	2.0e	0.0
100 %	Shouwangfen Copper Mine	China	1.5e	1.5e	0.0
100 %	Dongxiang Copper Mines and other	China	1.0e	1.0e	0.0
<b>10. Anglo American Corp of SA</b>		<b>South Africa</b>	–	<b>363.0e</b>	<b>3.2</b>
31 %	Zambia Consolidated Copper Mi	Zambia	331.0	103.1	0.9
100 %	Mantoverde Copper (SX-EW) Min	Chile	96.0	96.0	0.8

*continued...*

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Per cent	incorp. or	total prod.	share	world prod	
Controlled producers	control	production	kt	per cent	
<i>...continued</i>					
42 %	Palabora OP Copper Mine	South Africa	133.7	56.6	0.5
100 %	Hudson Bay Mining & Smelting	Canada	44.6	44.6	0.4
100 %	Mantos Blancos Copper Mine	Chile	41.0	41.0	0.4
45 %	BCL Ltd (Bamangwato)	Botswana	18.0e	8.2e	0.1
100 %	Rustenburg Platinum Mines Ltd	South Africa	7.0e	7.0e	0.1
100 %	Potgietersrust (Platreef) PGM	South Africa	3.5e	3.5e	0.0
43 %	Tati Nickel Mining Co	Botswana	2.5	1.1	0.0
100 %	Lebowa Platinum Mines	South Africa	0.7e	0.7e	0.0
71 %	Trojan Nickel Mine	Zimbabwe	0.7e	0.5e	0.0
71 %	Shangani Nickel Mine	Zimbabwe	0.5e	0.4e	0.0
71 %	Madziwa Nickel Mine	Zimbabwe	0.3e	0.2e	0.0
71 %	Epoch Nickel Mine	Zimbabwe	0.2e	0.1e	0.0
<b>11. Grupo Industrial Minera Mexico</b>		<b>Mexico</b>	<b>–</b>	<b>294.1e</b>	<b>2.6</b>
78 %	La Caridad Copper Mine	Mexico	175.0	136.7	1.2
78 %	Cananea Copper Mine	Mexico	120.0	93.8	0.8
78 %	Cananea Copper (SX-EW) Mine	Mexico	28.0e	21.9e	0.2
78 %	La Caridad Copper (SX-EW) Min	Mexico	20.0e	15.6e	0.1
78 %	San Martin Polymetallic Mine	Mexico	18.6	14.5	0.1
78 %	Charcas Polymetallic Mine	Mexico	8.5	6.6	0.1
78 %	Santa Barbara Polymetallic Mi	Mexico	6.3	4.9	0.0
<b>12. Norilsk Nickel RAO</b>		<b>Russia</b>	<b>–</b>	<b>293.3</b>	<b>2.5</b>
100 %	Norilsk Nickel Mines	Russia	276.8	276.8	2.4
100 %	Pechenganickel Mining and Met	Russia	16.5	16.5	0.1
<b>13. State of Zambia (Zimco)</b>		<b>Zambia</b>	<b>–</b>	<b>227.9</b>	<b>2.0</b>
69 %	Zambia Consolidated Copper Mi	Zambia	331.0	227.9	2.0
<b>14. Exxon Corp</b>		<b>USA</b>	<b>–</b>	<b>207.0e</b>	<b>1.8</b>
100 %	Los Bronces Copper Mine	Chile	140.0	140.0	1.2
100 %	El Soldado Copper Mine	Chile	62.0	62.0	0.5
100 %	El Soldado Copper (SX-EW) Min	Chile	5.0e	5.0e	0.0
<b>15. Dzhezkazgantsvetmet Association</b>		<b>Kazakhstan</b>	<b>195.1</b>	<b>195.1</b>	<b>1.7</b>
<b>16. Noranda Inc</b>		<b>Canada</b>	<b>–</b>	<b>180.6e</b>	<b>1.6</b>
100 %	Kidd Creek Zinc/Copper Comple	Canada	75.8	75.8	0.7
100 %	Falconbridge Sudbury Ni/Cu Mi	Canada	45.6	45.6	0.4

*continued...*

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Per cent	Controlled producers				
<i>...continued</i>					
45 %	Louvicourt Base Metal Mine	Canada	56.2	25.3	0.2
100 %	Gaspé Copper/Silver Mines	Canada	24.0e	24.0e	0.2
100 %	Bathurst Lead/Zinc Mine	Canada	6.0e	6.0e	0.1
100 %	Heath Steele Mines Ltd	Canada	4.0e	4.0e	0.0
<b>17. MIM Holdings Ltd</b>		<b>Australia</b>	<b>–</b>	<b>162.0e</b>	<b>1.4</b>
100 %	Mount Isa Copper Mine	Australia	135.0	135.0	1.2
50 %	Bajo de Alumbroero Gold/Copper	Argentina	30.2	15.1	0.1
51 %	Ernest Henry Copper-Gold Mine	Australia	19.4	9.9	0.1
100 %	Mount Isa Copper (SX-EW) Mine	Australia	2.0e	2.0e	0.0
<b>18. Cominco Ltd</b>		<b>Canada</b>	<b>–</b>	<b>125.0</b>	<b>1.1</b>
50 %	Highland Valley Copper Mine	Canada	162.4	81.2	0.7
47 %	Quebrada Blanca Copper (SX-EW)	Chile	66.8	31.6	0.3
12 %	Louvicourt Base Metal Mine	Canada	56.2	6.7	0.1
28 %	Andacollo Copper (SX-EW) Mine	Chile	19.7	5.5	0.0
<b>19. Rio Algom Ltd</b>		<b>Canada</b>	<b>–</b>	<b>122.4</b>	<b>1.1</b>
100 %	Cerro Colorado (SX-EW) Copper	Chile	60.3	60.3	0.5
34 %	Highland Valley Copper Mine	Canada	162.4	54.6	0.5
25 %	Bajo de Alumbroero Gold/Copper	Argentina	30.2	7.6	0.1
<b>20. Inco Ltd</b>		<b>Canada</b>	<b>–</b>	<b>120.0e</b>	<b>1.1</b>
100 %	Inco Sudbury and Thompson Min	Canada	120.0e	120.0e	1.1
<b>Total, 20 largest</b>			<b>8 723.3</b>		<b>76.9</b>
<b>Total, Western world</b>			<b>9 182.1</b>		<b>81.0</b>
<b>Total, World</b>			<b>11 330.0</b>		<b>100.0</b>

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