

Global Mining Data Base

Bamburra and Raw Materials Group – RMG
formalized a strategic alliance.

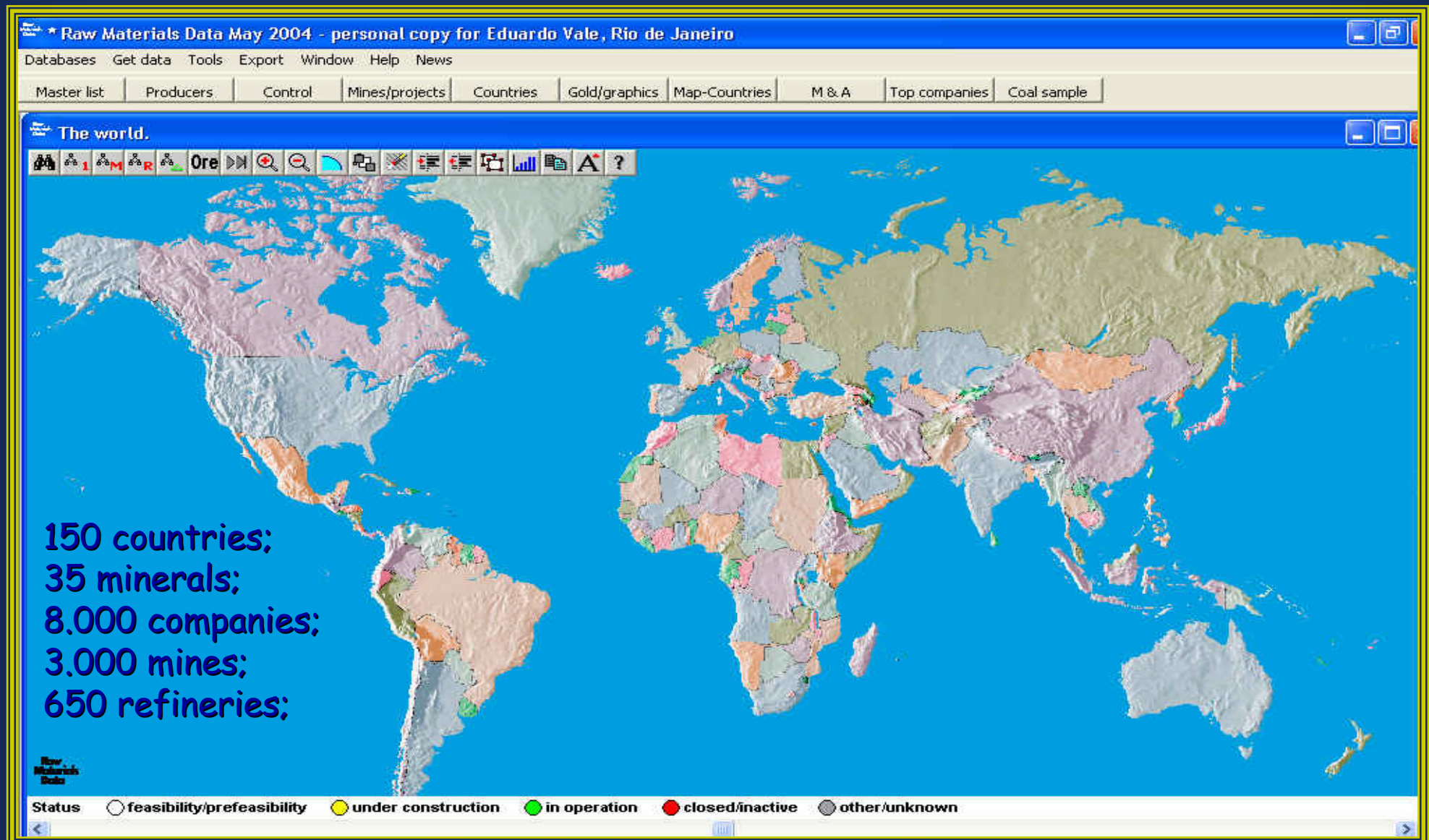
As part of this alliance, Bamburra is promoting
the international acclaimed

RMG's Global DataBase on Minerals & Metals.

The DataBase comprises:

-  35 minerals;
-  150 countries;
-  8,000 companies;
-  3,000 mines & 650 refineries.

Check up selected screens.



The screenshot displays the RMG DataBase software interface. The main window, titled '* Raw Materials Data May 2004 - personal copy for Eduardo Vale, Rio de Janeiro', features a menu bar (Databases, Get data, Tools, Export, Window, Help, News) and a toolbar with various icons. Below the toolbar is a world map. A secondary window, titled '* Raw Materials Data May 2004 - personal copy for Eduardo Vale, Rio de Janeiro - [Raw Materials Mines and Projects.]', is open over the map. This window has its own menu bar (Databases, News, Window, Help) and a toolbar. It contains two main options: 'Mine/project list with basic options' (Choose basic parameters of table from a dialog box) and 'Fully manual setup of list' (Choose columns manually (the "old" way into Mines/projects)). A checkbox at the bottom allows the user to 'Do not show this window automatically again, always go to Fully manual setup'. At the bottom of the main window, a status bar shows a legend for project status: feasibility/prefeasibility (white circle), under construction (yellow circle), in operation (green circle), closed/inactive (red circle), and other/unknown (grey circle).

150 countries;
35 minerals;
8.000 companies;
3.000 mines;
650 refineries;

Status ○ feasibility/prefeasibility ● under construction ● in operation ● closed/inactive ● other/unknown

*** Raw Materials Data May 2004 - personal copy for Eduardo Vale, Rio de Janeiro**

Databases Get data Tools Export Window Help News

Master list Producers Control Mines/projects Countries Gold/graphics Map-Countries M & A Top companies Coal sample

The world.

150 countries;
35 minerals;
8.000 companies;
3.000 mines;
650 refineries;

Select the columns to include in the table

Basic columns	Extended columns	Ore and metal grade columns
# (record number)	Copper prod 2002 (metal content)	Ore resources (Mt)
Mine name (short)	Copper prod 2003 (metal content)	- resource: g/t Au
Mine name (full)	Gold prod 2002 (metal content)	- resource: g/t Ag
Country	Gold prod 2003 (metal content)	- resource: % Cu
State/province	Nickel prod 2002 (metal content)	- resource: % Mo
State/province (abbr.)	Nickel prod 2003 (metal content)	- resource: % Zn
World region	Lead prod 2002 (metal content)	- resource: % Pb
World region (abbr.)	Lead prod 2003 (metal content)	- resource: % Ni
Information year	Zinc prod 2002 (metal content)	- resource: % Co
Mine status	Zinc prod 2003 (metal content)	- resource: g/t PGM
Mine status (code)	Project cost (M USD)	- resource: % Fe
Mine type	Project completed	- resource: % Mn
Main metal	Project on hold	- resource: % Cr
Metal 2	Cut-off %	- resource: % U3O8
Metal 3	Cut-off metal	- resource: ct/t diamond
Metal 4	Strip ratio	Contained Au in resources (tonnes)
Metal 5	Mill capacity	Ore reserves (Mt)
Mine opening year	Recovery method	- reserves: g/t Au
Mine closure year	Expected annual ore prod (Mt)	- reserves: g/t Ag
Mine life	Expected annual metal capacity	- reserves: % Cu
Mine/project controlled by	Geological age	- reserves: % Mo
Notes	Geological setting	- reserves: % Zn
	Geological environment	- reserves: % Pb
	Geological model	- reserves: % Ni

Clear selection Select all Basic selection ? OK

Status ☐ feasibility/prefeasibility ☐ under construction ☐ in operation ☐ closed/inactive ☐ other/unknown

*** Raw Materials Data May 2004 - personal copy for Eduardo Vale, Rio de Janeiro**

Databases Get data Tools Export Window Help News

Master list Producers Control Mines/projects Countries Gold/graphics Map-Countries M & A Top companies Coal sample

The world.

Regardless can later be

☐ Do not

Select the columns to include in the table

Basic columns

- # (record number)
- Mine name (short)
- Mine name (full)
- Country
- State/province
- State/province (abbr.)
- World region
- World region (abbr.)
- Information year
- Mine status
- Mine status (code)
- Mine type
- Main metal
- Metal 2
- Metal 3
- Metal 4
- Metal 5
- Mine opening year
- Mine closure year
- Mine life
- Mine/project controlled by
- Notes

Extended columns

- Copper
- Copper
- Gold p
- Gold p
- Nickel
- Nickel
- Lead p
- Lead p
- Zinc p
- Zinc p
- Project
- Project
- Project
- Project
- Cut-off
- Cut-off
- Strip r
- Mill cap
- Recov
- Expect
- Expect
- Geolog
- Geolog
- Geolog
- Geolog

Select fields to include

Prod cost/oz 2004 Q1

Cash cost/oz 2003 full year

Prod cost/oz 2003 full year

Production of gold 2003 Q4

Cash cost/oz 2003 Q4

Prod cost/oz 2003 Q4

Production of gold 2003 Q3

Cash cost/oz 2003 Q3

Prod cost/oz 2003 Q3

Production of gold 2003 Q2

Cash cost/oz 2003 Q2

Prod cost/oz 2003 Q2

Production of gold 2003 Q1

Cash cost/oz 2003 Q1

Prod cost/oz 2003 Q1

Cash cost/oz 2002 full year

Prod cost/oz 2002 full year

Production of gold 2002 Q4

Cash cost/oz 2002 Q4

Prod cost/oz 2002 Q4

Production of gold 2002 Q3

Cash cost/oz 2002 Q3

Prod cost/oz 2002 Q3

Production of gold 2002 Q2

Cash cost/oz 2002 Q2

Prod cost/oz 2002 Q2

Production of gold 2002 Q1

Cash cost/oz 2002 Q1

Prod cost/oz 2002 Q1

Cash cost/oz 2001 full year

Clear selection

Select all

OK

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Platinum Mining by Country

RMG DataBase

*** Raw Materials Data May 2004 - personal copy for Eduardo Vale, Rio de Janeiro - [Platinum mine producers. Sorted by country + producer name**

Databases Find Get data Tools Print-export Window Help

Master list Producers Control Mines/projects Countries Gold/graphics Map-Countries M & A Top companies Coal sample

Country	Full name	Status	Type	Prod 2001 (t)	Prod 2002 (t)	Prod 2003 (t)	Controlled by (end-2003)	Main metal
Australia	= total national production			0,17	0,18	0,18		
Botswana	Phoenix Nickel Mine	Operating, exp.	OP	-	-	0,17	Lionore	Ni
Botswana	Tati Nickel Mining Co	Active	OP,UG	0,04	0,09	-	Lionore	
Botswana	= total, identified by producer in country			0,04	0,09	0,17		
Canada	Falconbridge Sudbury Nickel/Copper Mines	Operating	UG	1,20e	1,50e	1,20e	Noranda	Ni
Canada	Inco Sudbury and Thompson Nickel/Copper	Operating, exp.	UG	5,50	5,90	2,60	Inco	Ni
Canada	Lac des Iles PGM Mine	Operating	OP	0,33	0,60	0,74	N Am Palladium	Pd
Canada	= total, identified by producer in country			7,03	8,00	4,54		
Canada	= total national production			7,00	7,60	4,50e		
Russia	Komsomolsk Nickel/Copper Mine	Operating	UG	..	4,00e	3,50e	Norilsk Nickel	Ni
Russia	Medvezhy Rucheu Nickel Mines	Operating	OP	..	1,00e	1,00e	Norilsk Nickel	Ni
Russia	Norilsk Nickel Mines	Operating	UG	20,00e	-	-	Norilsk Nickel	Ni
Russia	Oktyabrsky Nickel/Copper Mine	Operating	UG	..	10,00e	9,00e	Norilsk Nickel	Ni
Russia	Taimyrsky Nickel/Copper Mine	Operating	UG	..	3,00e	3,00e	Norilsk Nickel	Ni
Russia	Zapolyarny (Norilsk) Nickel Mine	Operating	UG	..	1,50e	1,50e	Norilsk Nickel	Ni
Russia	= total, identified by producer in country			20,00	19,50	18,00		
Russia	= total national production			20,00	20,00	18,00e		
South Africa	Amandelbult Section PGM Mine	Operating	UG	21,13	22,11	19,74	Anglo American	Pt
South Africa	Bafokeng-Rasimone PGM Mine	Operating, exp.	OP,UG	4,05	5,04	5,52	Anglo American, Royal Bafokeng	Pt
South Africa	Crocodile River PGM Mine	Suspended	OP,UG	0,50e	1,10e	0,50e	Implats	Pt
South Africa	Impala Platinum Mines	Operating	UG	30,90	27,70	32,30	Implats	Pt
South Africa	Kroondal Platinum Mine	Operating, exp.	OP,UG	3,52	4,16	4,13	Aquarius, Implats	Pt
South Africa	Lebowa (Atok) PGM Mine	Operating, exp.	UG	2,77	3,17	3,27	Anglo American	Pt
South Africa	Lonmin Platinum Division Mines	Operating		22,29	23,56	29,02	Lonmin, Implats	Pt
South Africa	Marikana Platinum Mine	Operating	OP,UG	-	-	1,57	Aquarius, Implats	Pt
South Africa	Modikwa PGM Mine	Operating	UG	-	0,78	2,68	Anglo American	Pt
South Africa	Nkomati Polymetallic Mine	Operating, exp.	UG	0,30e	0,30e	0,40e	Harmony, Anglo American	Ni
South Africa	Northam (Zondereinde) PGM Mine	Operating	UG	5,30e	6,00e	6,60e	Anglo American, Sexwale	Pt

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Pt – Controlling Companies

RMG DataBase

★ Raw Materials Data May 2004 - personal copy for Eduardo Vale, Rio de Janeiro - [Platinum mining 2002. Controlling companies. Normal method. ...

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Master list Producers Control Mines/projects Countries Gold/graphics Map-Countries M & A Top companies Coal sample

Rank world 2002 Company name Address Web site Curr ency Revenue 2002 Assets 2002 Net profit 2002

1	Anglo American plc	20 Carlton House Terrace, London SW1Y 4PU	www.angloamerican.co.uk	M USD	20 497.000	33 581.000	1 759.000
2	Impala Platinum Holdings Ltd	PO Box 61386, Marshalltown 2107	www.implats.co.za	M ZAR	11 900.000	14 772.000	4 580.000
3	Norilsk Nickel (MMC) JSC	22 Voznesensky Pereulok, 103009 Moscow	www.nornik.ru	M RUB	98 318.000	309 629.000	18 567.000
4	Lonmin plc	4 Grosvenor Place, London SW1X 7DL	www.lonmin.com	M USD	697.000	1 363.000	184.000
5	Inco Ltd	145 King Street W #1500, Toronto ON M5X 1C5	www.inco.com	M USD	2 201.000	8 577.000	-1 482.000
6	Stillwater Mining Co	536 E. Pike Avenue, Columbus MT 59001	www.stillwatermining.com	M USD	275.600	914.214	31.700
7	Aquarius Platinum Ltd	Lvl 4, Suite 5, South Shore Centre, 85 West Street, Cape Town 8001	www.aquariusplatinum.co.za	M USD	94.922	266.070	21.770
8	Sexwale family						
9	Royal Bafokeng Nation	PO Box 1, 0335 Phokeng					
10	Noranda Inc	181 Bay St #200, BCE Place, Toronto ON M5H 2Y4	www.noranda.com	M USD	3 873.000	7 102.000	-447.000
11	North American Palladium Ltd	130 Adelaide St West #2116, Toronto ON M5H 3B8	www.napalladium.com	M CAD	176.773	410.833	15.135
12	African Rainbow Minerals Gold Ltd	PO Box 786136, Sandton, Gauteng 2146	www.armgold.com				
13	Anglovaal Mining Ltd	PO Box 62379, Marshalltown 2107	www.avmin.co.za	M ZAR	4 047.000	8 786.000	-866.000
14	Lionore Mining International Ltd	20 Toronto Street, Toronto ON M5C 2E1	www.lionore.com	M USD	62.838	342.292	2.675
15	Rio Tinto plc	6 St James's Square, London SW1Y 4LR	www.riotinto.com	M USD	10 828.000	20 204.000	651.000

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Mines & Projects

RMG DataBase

* Raw Materials Data May 2004 - personal copy for Eduardo Vale, Rio de Janeiro - [Mines/projects. Filter: operating feasibility con

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Master list Producers Control Mines/projects Countries Gold/graphics Map-Countries M & A Top companies Coal sample

#	Name (short)	Country	Info year	Status	Type	Main metal	Metal 2	Controlled by
364	Vueltas del Rio	Honduras	2003	Operating	OP	Au		Defiance
365	Recsk	Hungary	2000	Suspended	UG	Au		State of Hungary
366	Hutti Gold	India	2003	Operating	UG	Au		State of India
367	Awak Mas	Indonesia	1999	Feasibility	OP	Au		JCI, JCI
368	Batu Hijau	Indonesia	2003	Operating	OP	Au	Cu	Newmont Mining, Sumitomo Corp, F
369	Cibaliung	Indonesia	2003	Feasibility		Au		HMH, Antam
370	Cikidang	Indonesia	2002	Operating	UG	Au		Antam
371	Grasberg	Indonesia	2003	Operating, exp/plan	OP,UG	Cu	Au	FCX
372	Kelian Gold	Indonesia	2003	Operating, exp/plan	OP	Au		Rio Tinto plc
373	Minahasa	Indonesia	2003	Operating	OP	Au		Newmont Mining
374	Mirah	Indonesia	2000	Construction	OP	Au	Ag	Eddabridge, Idaman Kasongan, PT
375	Pongkor	Indonesia	2003	Operating	UG	Au	Ag	Antam
376	Toka Tindung	Indonesia	2003	Feasibility	OP	Au	Ag	Archipelago
377	Way Linggo	Indonesia	1999	Feasibility	UG	Au	Ag	Icon Enterprises
378	Agh Darreh	Iran	2001	Feasibility	OP	Au		Zarcán
379	Mouteh	Iran	2002	Operating	OP	Au		Iran Gold Co
380	Furtei	Italy	2002	Operating	OP	Au		GM of Sardinia, Sargold
381	Hishikari	Japan	2003	Operating	UG	Au		SMM
382	Toyoha Mine	Japan	2003	Operating	UG	Zn	Ag	Nippon Mg Hold
383	Bakyrchik Mine	Kazakhstan	2002	Operating	OP	Au		Ivanhoe, State of Kazakhstan
384	Bolshevik	Kazakhstan	2003	Feasibility	OP	Au		Altyn Aimak
385	Central Mukur	Kazakhstan	2002	Operating	OP	Au		Thistle Mining
386	Kazakhaltyn	Kazakhstan	1999	Operating		Au		Askam
387	Leninogorsk	Kazakhstan	2001	Operating		Au		Glencore, State of Kazakhstan
388	Maleyevsky	Kazakhstan	2000	Operating, exp/plan	UG	Zn	Ag	Glencore, State of Kazakhstan

Mines & Projects

RMG DataBase

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Mines/projects. Filter: conceptual prefeasibility feasibility construction. Sorted by country + name. Coloured by status.

Icons: [Icons] Demo

#	Name (short)	Country	Info year	Status	Type	Controlled by	Main metal	Metal 2
1	Haijak	Afghanistan	2003	Feasibility			Fe	
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16	Camafuca	Angola	2004	Feasibility	Placer	State of Angola, Welox, SouthernEra	Di	
17	Luana	Angola	2006	Conceptual	Placer		Di	
18	Agua Rica	Argentina	2006	Feasibility	OP	Northern Orion	Cu	Au
19	Calcatreu	Argentina	2007	Feasibility	OP	Aquiline	Au	Ag
20	Casposo	Argentina	2007	Feasibility	OP	Intrepid Mines	Au	Ag
21	Cerro Negro	Argentina	2005	Conceptual		Xstrata	Au	
22	Diablillos	Argentina	2006	Prefeasibility	OP	Silver Standard	Ag	Au
23	Don Sixtio	Argentina	2007	Conceptual	OP,UG	Exeter Resource	Au	
24	East Santa Cruz	Argentina	2006	Conceptual		Hidefield	Au	
25	El Cobre	Argentina	2007	Conceptual		Alexander Mining	Cu	Ag
26	El Pachon	Argentina	2007	Feasibility	OP	Xstrata	Cu	Mo
27	El Plomo	Argentina	2007	Conceptual		Alexander Mining	Cu	Ag

No records selected

Figures in grey are estimates

Coal: mines & projects

RMG DataBase

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Master list Producers Control Mines/projects Coal specs Countries M & A Gold/graphics Map Top companies

Mines/projects. Sorted by short name. Coloured by status.

#	Name (short)	Country	Info year	Status	Type	Controlled by	Coalfield	Coal rank	Coal type	Use
1	May	Ukraine	2006	Operating	UG	State of Ukraine		Bituminous		Thermal
2	17 Partsjezd	Ukraine	2006	Operating	UG	State of Ukraine		Bituminous		Thermal
3	19 Partsjezd	Ukraine	2006	Operating	UG	State of Ukraine		Bituminous		Thermal
4	50 let Oktober	Russia	2006	Operating	UG	RussianCoal	Gukovo-Zverevskoy	Anthracite		Thermal
5	50 let SovetsUkr	Ukraine	2006	Operating	UG	State of Ukraine		Anthracite		Thermal
6	50 let SSSR	Ukraine	2006	Operating	UG	System Capital M		Bituminous		Metallurgical
7	60 let SovetsUkr	Ukraine	2006	Operating	UG	State of Ukraine		Bituminous		Thermal
8	60 let VOSR	Ukraine	2006	Operating	UG	State of Ukraine		Bituminous		Thermal
9	7 November	Russia	2005	Operating	UG	SUEK		Bituminous		Thermal
10	A & G 11 Strip	USA	2004	Operating	UG	A & G Coal	Central Appalachia	Bituminous	Medium Vol	Thermal
11	A & G 12 Strip	USA	2004	Operating	OP	A & G Coal	Central Appalachia	Bituminous		
12	A & G 13 Strip	USA	2004	Operating	UG	A & G Coal	Central Appalachia	Bituminous	Medium Vol	Thermal
13	A & G 8 Strip	USA	2004	Operating	OP	A & G Coal	Central Appalachia	Bituminous		
14	Abakansky	Russia	2004	Operating	OP	SUEK		Bituminous		
15	Abakumov	Ukraine	2006	Operating	UG	State of Ukraine		Bituminous		Metallurgical
16	Abansky	Russia	2006	Operating	OP	Krayugol	Abanskoye	Lignite		Thermal
17	Abashevskaya	Russia	2005	Operating	UG	Evraz Group		Bituminous		
18	Abel	Australia	2005	Conceptual	UG	Ellenby Res	Newcastle			Thermal, Metall
19	Aberdeen	USA	2004	Operating	UG	Murray Energy	Book Cliffs	Bituminous		
20	Absaloka	USA	2006	Operating	OP	Westmoreland C	Powder River	Sub-Bituminous	High Vol	Thermal
21	Abshir	Kyrgyzstan	1997	Operating	OP	Kyzyl-Kiyakomur				Thermal
22	Adamow	Poland	2005	Operating	OP	State of Poland		Lignite		
23	Afsin	Turkey	2004	Operating	OP	State of Turkey	Elbistan	Lignite		Thermal
24	Agropromservis	Ukraine	2006	Operating	UG	AgropromservisPE				
25	Ahuigou	China	2005	Operating	UG	ShenhuaGroupCorp	Shenfu Dongsheng		High Vol	
26	Air Lava	Indonesia	2007	Operating		State of Indonesia				

No records selected

Figures in grey are estimates

Coal: mines & projects

RMG DataBase

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Master list Producers Control Mines/projects Coal specs Countries M & A Gold/graphics Map Top companies														
Mines/projects. Sorted by short name. Coloured by status.														
#	Name (short)	Mining method	Treatment	Dispatch	Port	Reserves (Mt)	Cap Mt/yr	xporter	Calorific value (MJ/kg)	Vois (%)	Ash content (%)	Moisture (%)	Sulphur (%)	
1	May	Longwall							34.33	6.7	26.2	4.6	1.20	
2	17 Partsjezd	Longwall							34.50	5.8	23.5	4.9	0.60	
3	19 Partsjezd								31.48		36.5	6.3	2.60	
4	50 let Oktober		washing			2.2	2.3		20-34	3.5	20	6.0	1.30	
5	50 let SovetsUkr								32.60		34.0	6.0	3.10	
6	50 let SSSR	al Hydraulic							35.17	33.0	26.0	6.0	3.60	
7	60 let SovetsUkr								29.81	41.0	35.0	8.9	1.90	
8	60 let VOSR	Longwall							35.83	11.6	15.4	4.9	2.20	
9	7 November					30.2	3.1		23.84	43.5	18.5	8.2	0.30	
10	A & G 11 Strip	Truck		Road			0.8							
11	A & G 12 Strip	Truck												
12	A & G 13 Strip	Truck		Road			1.2							
13	A & G 8 Strip	Truck												
14	Abakansky					37.7					17.8			
15	Abakumov	al Longwall				84.1			32.94	37.8	25.6	8.2	2.00	
16	Abansky					35.2		Domest	14.70	47.2	9.9	36.8	0.48	
17	Abashevskaya					307.3	2.3				27.3			
18	Abel	etallu Bord & pillar	washing	Rail			4.5							
19	Aberdeen	Longwall												
20	Absaloka	Dragline	Crushing	Rail		535.0	5.9		20.3	30.2	9.1	24.5	0.65	
21	Abshir					1.5			15.95-23.8		24.1	25.6		
22	Adamow		Screen, Sorting	Conveyor, Roac		57.4		Domest	1.7		17.0	50.5	0.36	
23	Afsin	Bucketwheel	Crushing	Conveyor, Roac			10.0		4.4	17.4	17	55.0	1.60	
24	Agropromservis													
25	Ahuigou		None	Road					25.54 ar		7		0.30	
26	Air Lava	Bucketwheel		Rail		225.6								

No records selected

Figures in grey are estimates

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Coal: mines & projects

RMG DataBase

* Raw Materials Data May 2004 - personal copy for Eduardo Vale, Rio de Janeiro - [Mines/projects. Sorted by short name. Coloured by status.]													
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Master list Producers Control Mines/projects Countries Gold/graphics Map-Countries M & A Top companies Coal sample													
#	Name (short)	Country	Info year	Status	Type	Controlled by	Coalfield	Coal class	Coal type	Reserves (Mt)	Vols (%)	Cap t/hr	Cap Mt/yr
1	Adaro Coal Mine	Indonesia	2003	Operating	OP	New Hope Corp, Asmin	Selatin & Timur	Sub-Bitumino	High Vol.	600.0	42		22.0
2	Alliance Coal	Australia	2003	Operating	OP	AMCI, Leighton Hold	Bowen Basin	Bituminous	Med. Vol.		28-30		
3	Antelope Coal	USA	2003	Operating	OP	Rio Tinto plc	Powder River Ba	Sub-Bitumino					
4	Bengalla Coal	Australia	2003	Operating	OP	Rio Tinto plc	Hunter						
5	Bentala Coal	Indonesia	2003	Operating	OP	Bentala	Selatin & Timur	Sub-Bitumino	High Vol.	100.0			
6	Blackwater metal	Australia	2003	Operating	OP	BHP Billiton Gr, Mitsubi	Bowen Basin	Bituminous	Med. Vol.	100.0	26.5		7.0
7	Blackwater therm	Australia	2003	Operating	OP	BHP Billiton Gr, Mitsubi	Bowen Basin	Bituminous	Med. Vol.	100.0	26.5		7.0
8	Blair Athol	Australia	2003	Operating	OP	Rio Tinto plc, Unisuper,	Bowen Basin	Bituminous	Med Vol.	78.0	27.2		
9	Bontang	Indonesia	2003	Operating	OP	Banpu	Selatin & Timur			50.0			3.5
10	Boundary Hill	Australia	2003	Operating	OP	Anglo American	Callide Basin	Sub-Bitumino	Sub-Bit. C	41.0	25.3		
11	Bukit Baiduri	Indonesia	2003	Operating	OP	Nursalim fam	Selatin & Timur	Sub-Bitumino	High Vol.				3.0
12	Burton metallurg	Australia	2003	Operating	OP	E.On, VEW	Bowen Basin			54.0			2.0
13	Burton thermal	Australia	2003	Operating	OP	E.On, VEW	Bowen Basin			84.0			3.0
14	Busang	Indonesia	2003	Operating	OP	Napan, New Hope Corp,	Selatin & Timur	Sub-Bitumino	High Vol.	120.0	40		3.0
15	Callide	Australia	2003	Operating	OP	Anglo American	Callide Basin	Sub-Bitumino	Sub-Bit. C	147.0	23.7		
16	Collinsville Met	Australia	2003	Operating	OP	Xstrata, Itochu, Sumit	Bowen Basin	Bituminous	Med. Vol.	15.0	26		
17	Collinsville The	Australia	2003	Operating	OP	Xstrata, Itochu, Sumit	Bowen Basin	Bituminous	Med. Vol.	26.0	23		
18	Colowyo	USA	2003	Operating	OP	Rio Tinto plc		Sub-Bitumino					6.0
19	Commodore Coal	Australia	2003	Operating	OP	Intergen, Marubeni	Moreton Basin						3.6
20	Cook Coal Mine	Australia	2003	Operating	UG	Xstrata, Centennial Co	Bowen Basin				24.5		1.0
21	Coppabella metal	Australia	2003	Operating	OP	MacArthur Coal, AMCI,	Bowen Basin	Bituminous	Low Vol.	41.0	12		2.0
22	Coppabella therm	Australia	2003	Operating	OP	MacArthur Coal, AMCI,	Bowen Basin	Bituminous	Low Vol.	41.0	12		2.0
23	Cordero Rojo	USA	2003	Operating	OP	Rio Tinto plc	Powder River Ba	Sub-Bitumino					30.0
24	Crinum	Australia	2003	Operating	UG	BHP Billiton Gr, Mitsubi	Bowen Basin	Bituminous	High Vol.	54.0	33.5		3.5
25	Curragh metallur	Australia	2003	Operating	OP	Wesfarmers	Bowen Basin	Bituminous	Med. Vol.	40.0	21.5		2.5
26	Curragh thermal	Australia	2003	Operating	OP	Wesfarmers	Bowen Basin	Bituminous	Med. Vol.	60.0	19		3.5
27	Decker	USA	2003	Operating	OP	Kiewit, Rio Tinto plc		Sub-Bitumino					10.5
28	Douglas OP	South Africa	2003	Operating	OP	BHP Billiton Gr	Witbank	Bituminous	Med.Vol.	92.0	24.3		4.1
29	Douglas UG	South Africa	2003	Operating	UG	BHP Billiton Gr	Witbank	Bituminous	Med.Vol.	92.0	24.3		4.0
30	Ebenezer	Australia	2003	Suspended	OP	Idemitsu	Moreton Basin	Bituminous	High Vol.		9-45.7		
31	Embalut OP therm	Indonesia	2003	Operating	OP	Banpu	Selatin & Timur	Sub-Bitumino	High Vol.	20.0	39.5		
32	Embalut UG therm	Indonesia	2003	Operating	UG	Banpu	Selatin & Timur	Sub-Bitumino	High Vol.	10.0	39.5		

Country Profiles

RMG DataBase

* Raw Materials Data May 2004 - personal copy for Eduardo Vale, Rio de Janeiro - [Country data (for 2001). Sorted by country.]

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Master list Producers Control Mines/projects Countries Gold/graphics Map-Countries M & A Top companies Coal sample

#	Country	World region	Area k km2	GNI G USD	GDP G USD	GDP/capita k USD	GDP growth %	Inflation %	Population 2001 Million	Population 2003 Million	Population growth %	% of world Au mine prod	% of world Ag mine prod	% of world Bauxite prod	% of world Cr mine prod	% of world Cu mine prod	% of world Ni mine prod
1	Afghanistan	Asia	647,500	-	-	-	-	-	27,248	28,717	2,59	-	-	-	-	-	-
2	Albania	Europe	28,750	13,3	4,1	1,2	6,48	2,80	3,441	3,582	0,87	-	-	-	0,81	-	-
3	Algeria	Africa	2381,740	159,1	53,0	1,7	1,90	0,12	30,894	32,819	1,61	0,01	0,01	-	-	-	,17
4	Angola	Africa	1246,700	20,9	9,5	0,7	3,17	127,68	13,512	10,767	2,84	-	-	-	-	-	-
5	Argentina	Latin America	2766,890	438,0	268,8	7,2	-3,70	-1,85	37,478	38,741	1,20	1,16	0,42	-	-	1,40	-
6	Armenia	Europe	29,800	11,0	2,0	0,5	9,60	-1,22	3,809	3,326	0,16	0,07	-	-	-	0,12	-
7	Australia	Oceania	7686,850	499,9	368,6	19,0	2,39	3,43	19,387	19,732	1,06	10,80	11,14	38,99	-	6,55	,27
8	Austria	Europe	83,850	220,0	188,7	23,2	1,05	1,74	8,124	8,188	0,17	-	-	-	-	-	,20
9	Azerbaijan	Europe	86,600	24,5	5,7	0,7	9,03	3,12	8,114	7,831	0,81	-	-	-	-	-	-
10	Bahrain	Asia	0,620	-	-	-	-	-	0,714	0,667	3,32	-	-	-	-	-	-
11	Bangladesh	Asia	144,000	223,9	46,7	0,4	5,16	1,58	133,405	138,448	1,78	-	-	-	-	-	-
12	Barbados	North America	0,430	-	-	-	-	-	0,268	0,277	0,44	-	-	-	-	-	-
13	Belgium	Europe	30,510	289,8	227,6	22,2	0,97	2,40	10,273	10,289	0,21	-	-	-	-	-	-
14	Belize	Latin America	22,960	1,3	0,8	3,2	3,20	0,09	0,247	0,266	2,92	-	-	-	-	-	-
15	Belarus	Europe	207,600	80,1	12,1	1,2	4,10	78,03	9,971	10,322	-0,34	-	-	-	-	-	-
16	Benin	Africa	112,620	6,6	2,3	0,4	5,80	1,84	6,437	7,042	2,59	-	-	-	-	-	-
17	Bermuda	North America	0,050	-	-	-	-	-	-	0,065	-	-	-	-	-	-	-
18	Bolivia	Latin America	1098,580	20,2	8,0	0,9	1,03	1,55	8,516	8,586	2,22	0,47	2,35	-	-	-	-
19	Bosnia-Herce	Europe	51,233	-	4,8	1,2	6,00	3,96	4,060	3,989	2,07	-	-	0,02	-	-	-
20	Botswana	Africa	600,370	14,2	5,1	3,2	5,70	5,39	1,615	1,573	0,82	-	-	-	-	0,14	-
21	Brazil	Latin America	8511,965	1286,3	502,5	2,9	1,51	7,40	172,564	182,033	1,26	2,02	0,05	10,42	3,92	0,25	,34
22	Brunei	Asia	5,770	-	-	-	-	-	0,345	0,358	2,15	-	-	-	-	-	-
23	Bulgaria	Europe	110,910	48,3	12,7	1,6	4,50	7,00	8,124	7,538	-0,53	0,06	0,11	-	-	0,59	,05
24	Burkina Faso	Africa	274,200	11,8	2,3	0,2	5,71	3,44	11,553	13,229	2,44	0,08	-	-	-	-	-
25	Burundi	Africa	27,830	4,1	0,7	0,1	3,20	13,41	6,938	6,096	1,91	0,02	-	-	-	-	-
26	Central Africa	Africa	622,980	4,5	1,0	0,3	1,50	3,02	3,771	3,684	1,44	-	-	-	-	-	-
27	Cambodia	Asia	181,040	18,6	3,4	0,3	5,30	3,00	12,266	13,125	2,02	-	-	-	-	-	-
28	Cameroon	Africa	475,440	25,4	8,6	0,6	5,30	3,00	15,198	15,746	2,14	-	-	-	-	-	-
29	Canada	North America	9976,140	864,2	677,2	21,8	1,49	1,16	31,015	32,207	0,86	6,02	6,55	-	-	4,63	,10
30	Cap Verde	Africa	4,030	2,2	0,6	1,3	3,30	4,02	0,454	-	2,88	-	-	-	-	-	-
31	Cayman Islan	Latin America	0,260	-	-	-	-	-	-	0,042	-	-	-	-	-	-	-
32	Chad	Africa	1284,000	7,4	1,6	0,2	8,87	7,71	7,917	9,254	2,85	-	-	-	-	-	-

Top Companies

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* Raw Materials Data May 2004 - personal copy for Eduardo Vale, Rio de Janeiro - ["Top companies 2002". Mineral controlling companies. Normal ...									
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Master list Producers Control Mines/projects Countries Gold/graphics Map-Countries M & A Top companies Coal sample									
Rank world 2002	Company name	Country	Share of world %	Address	Web site	Curr ency	Revenue 2002	Assets 2002	Net profit 2002
1	Anglo American plc	UK	4,247	20 Carlton House Terrac	www.angloamerican	M USD	20 497.000	33 581.000	1 759.000
2	Rio Tinto plc	UK	3,926	6 St James's Square, Lo	www.riotinto.com	M USD	10 828.000	20 204.000	651.000
3	BHP Billiton Group	Australia	3,520	600 Bourke Street, Mell	www.bhpbilliton.com	M USD	15 906.000	29 552.000	1 737.000
4	Cia Vale do Rio Doce	Brazil	2,812	Avenida Graca Aranha 2	www.cvrld.com.br	M BRR	15 267.000	33 466.000	2 043.000
5	Newmont Mining Corp	USA	2,103	1700 Lincoln St, Denver	www.newmont.com	M USD	2 745.000	10 154.000	158.000
6	Norilsk Nickel (MMC) JSC	Russia	2,084	22 Voznesensky Pereulc	www.nornik.ru	M RUB	98 318.000	309 629.000	18 567.000
7	Corporacion Nacional del Cobre de	Chile	1,755	Huerfanos 1270, 11th Fl	www.codelco.com	M USD	3 489.000	6 732.000	48.000
8	Anglogold Ltd	South Africa	1,536	PO Box 62117, 2101 Ma	www.anglogold.com	M ZAR	19 267.000	33 998.000	3 444.000
9	Barrick Gold Corp	Canada	1,495	BCE Place, Canada Trust	www.barrick.com	M USD	1 967.000	5 261.000	193.000
10	Freeport McMoran Copper & Gold I	USA	1,292	P O Box 51777, New Ork	www.fcx.com	M USD	1 910.462	4 192.193	164.654
11	Almazy Rossii Sakha	Russia	1,166	1st Kazachiy Pereulok 1	www.alrosa.ru	M RUB	59 119.000	126 611.000	2 491.000
12	Gold Fields Ltd	South Africa	1,148	Private Bag x30500, Ho	www.goldfields.co.za	M ZAR	12 528.000	20 371.000	3 196.000
13	Phelps Dodge Corp	USA	1,094	One North Central Ave,	www.phelpsdodge.co	M USD	3 722.000	7 039.000	-341.000
14	Noranda Inc	Canada	1,077	181 Bay St #200, BCE Pl	www.noranda.com	M USD	3 873.000	7 102.000	-447.000
15	Grupo Mexico SA de CV	Mexico	1,040	Baja California 200, Me	www.gmexico.com	M USD	2 492.000	6 661.000	123.000
16	Placer Dome Inc	Canada	0,963	1600 - 1055 Dunsmuir S	www.placerdome.co	M USD	1 209.000	3 985.000	116.000
17	Inco Ltd	Canada	0,957	145 King Street W #150	www.inco.com	M USD	2 201.000	8 577.000	-1 482.000
18	State of Botswana	Botswana	0,897		www.gov.bw/home.l				
19	State of Ukraine	Ukraine	0,886		www.kmu.gov.ua				
20	Harmony Gold Mining Co Ltd	South Africa	0,807	1st Floor, 4 The High Str	www.harmony.co.za	M ZAR	7 806.000	14 076.000	1 680.000
21	MIM Holdings Ltd	Australia	0,768	MIM Plaza, 410 Ann Str	www.xstrata.com	M AUD	4 043.000	6 317.000	88.000
22	Impala Platinum Holdings Ltd	South Africa	0,758	PO Box 61386, Marshall	www.implats.co.za	M ZAR	11 900.000	14 772.000	4 580.000
23	State of Russia	Russia	0,664		www.gov.ru/main/p				
24	WMC Resources Ltd	Australia	0,654	IBM Center Level 16, 60	www.wmc.com.au	M AUD	2 116.900	7 348.100	-43.700
25	Kumba Resources Ltd	South Africa	0,653	PO Box 9229, Pretoria 0	www.kumbaresourc	M ZAR	7 182.000	10 208.000	984.000
26	State of Morocco	Morocco	0,649		www.mincom.gov.m				
27	KGHM Polska Miedz SA	Poland	0,631	ul. Marii Sklodowskiej-	www.kghm.pl	M PLN	4 463.000	8 155.072	249.000
28	Teck Cominco Ltd	Canada	0,631	#600 - 200 Burrard St, '	www.teckcominco.co	M CAD	2 187.000	4 958.000	30.000
29	Steel Authority of India Ltd	India	0,628	Scope Minar, Laxmi Nag	www.sail.co.in				
30	Mitsui & Co Ltd	Japan	0,619	2-1 Otemachi 1-chome,	www.mitsui.co.jp	M JPY	12 654 472.000	6 668 366.000	55 371.000
31	Potash Corp of Saskatchewan Inc	Canada	0,615	500-122 1st Avenue S, '	www.potashcorp.co	M USD	1 913.800	4 685.600	53.600
32	Navoi Mining & Metallurgical Comb	Uzbekistan	0,498	27 Navoi St., Navoi 706E	www.ngmk.uz				
33	Antofagasta plc	UK	0,472	Park House, 16 Finsbur	www.antofagasta.co	M USD	863.100	2 458.300	96.800

Mergers & Acquisitions

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* Raw Materials Data May 2004 - personal copy for Eduardo Vale, Rio de Janeiro - [M & A. Sorted by year + object1 (target1).]

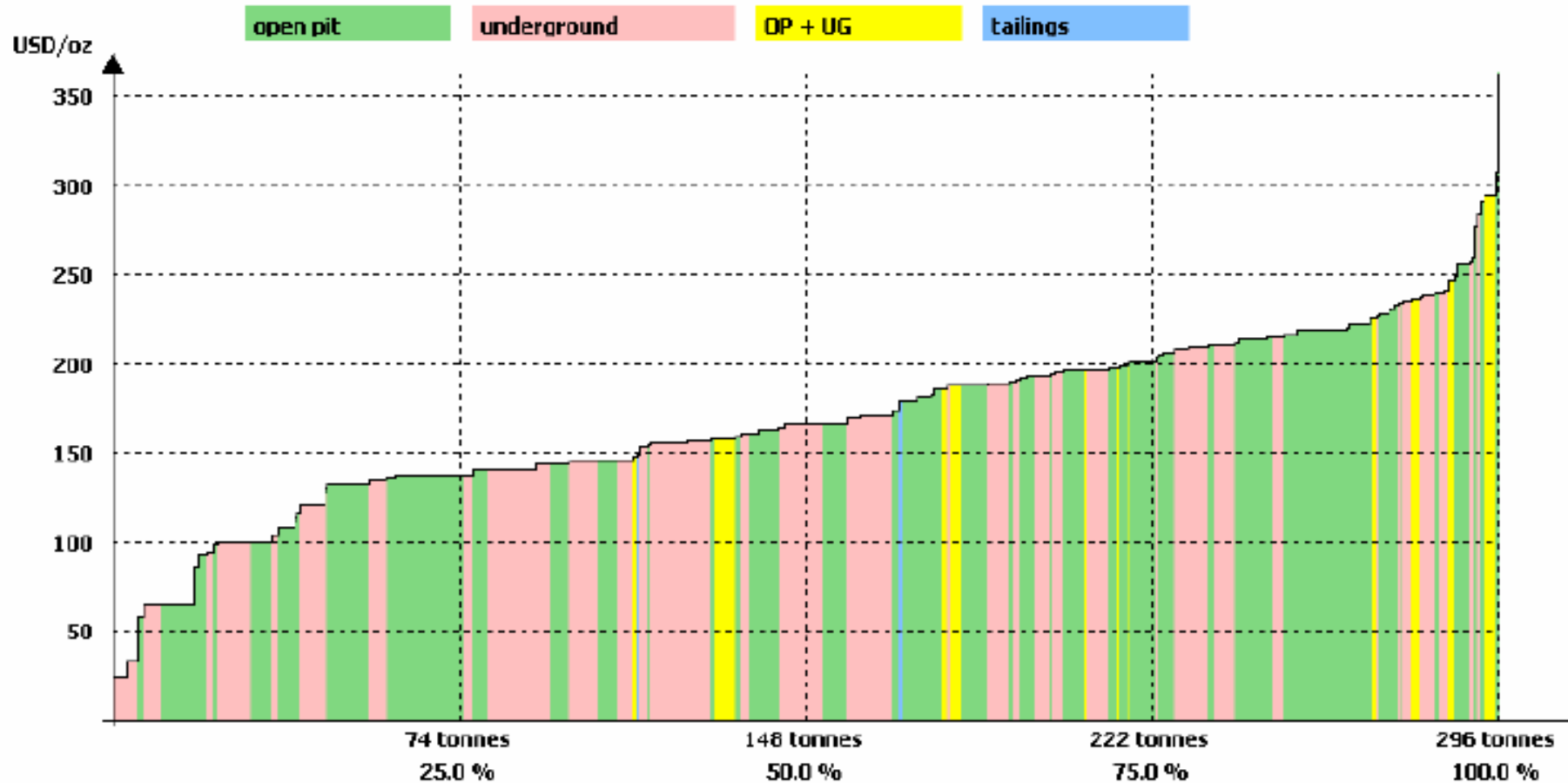
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Master list Producers Control Mines/projects Countries Gold/graphics Map-Countries M & A Top companies Coal sample

#	Year	Annou nced month	Comp leted month	Buyer 1	Buyer 1 country	Seller 1	Seller 1 country	Share (%)	Object 1 (target1)	Object 1 country	Main metal	Value (local) M	Curr ency	Esti nate	Value (USD) M	Deal failed
33	2004	04	05	LNM Group	UK	Zenica Steel RM	Bosnia-Hercego	51,0	Ljubija Iron Ore	Bosnia-Herce	Fe			e		
34	2004	01		Nevada Pacific	Canada	Queenstake Res	Canada	100,0	Magistral Gold M	Mexico	Au	7,0	USD		7,0	
35	2004	03		n/a		MatlinPatterson	USA	35,0	Minara Resource	Australia		480,0	AUD		367,2	
36	2004	02		Southern Africa	UK	n/a		52,0	Molopo Farms Pl	Botswana	PGM	2,0	GBP		3,7	
37	2004	02		Breakwater Re	Canada	Boliden AB	Sweden	100,0	Myra Falls Polyn	Canada	Base	67,0	SEK	e	9,1	
38	2004	05		Jubilee Platinu	UK	n/a		51,0	New Platinum Co	South Africa	PGM	2,6	GBP		4,7	
39	2004	04		Cambior Inc	Canada	Sequoia Mineral	Canada	50,0	Niobec Inc	Canada	Niob	19,0	CAD		14,4	
40	2004	01		Minara Resource	Australia	Western Metals	Australia	62,0	NiWest Ltd	Australia	Ni	2,7	AUD		2,1	
41	2004	02		Anglovaal Minir	South Africa	Anglo American	UK	25,0	Nkomati Polyme	South Africa	Ni	37,0	USD		37,0	
42	2004	02	02	Anglovaal Minir	South Africa	Anglo American	UK	25,0	Nkomati Polyme	South Africa	Ni	37,0	USD		37,0	
43	2004	03	04	Century Alumin	USA	Columbia Ventu	USA	100,0	Nordural (Grund	Iceland	Al	175,0	USD		175,0	
44	2004	04		Tiberon Minera	Canada	Hanoi General Ir	Vietnam	7,5	Nui Phao Tungst	Vietnam	W	3,1	USD		3,1	
45	2004	01	01	Mineral Resour	Papua New Guir	Durban Roodepo	South Africa	5,0	Porgera Gold Mli	Papua New G	Au	22,5	USD		22,5	
46	2004	03		Alcan Inc	Canada	n/a		50,0	Qing Tongxia Al	China	Al	150,0	USD		150,0	
47	2004	01	03	Resolute Minin	Australia	Xstrata plc	Switzerland	100,0	Ravenswood Gol	Australia	Au	45,0	USD		45,0	
48	2004	05		Mvelaphanda H	South Africa	n/a		55,0	Rebserve Holdin	South Africa	Vario	2300,0	ZAR		339,8	
49	2004	04		Agnico Eagle Mi	Canada	n/a		13,1	Riddarhyttan Re	Sweden	Au	83,8	SEK	e	11,4	
50	2004	01		J & W Holding #	Switzerland	n/a		85,0	Roan Antelope M	Zambia	Cu	7,5	USD		7,5	
51	2004	03		Rio Narcea Golc	Canada	n/a			Salade Gold Dep	Spain	Au		CAD	e		
52	2004	01		Eurozinc Mining	Canada	Empresa de Des	Portugal	100,0	Sdade Mineira d	Portugal	Cu	115,0	EUR	e	143,7	
53	2004	03		Kazzink	Kazakhstan	ZincOx Resource	UK	95,0	Shaimerden Zinc	Kazakhstan	Zn	7,5	USD		7,5	
54	2004	05	05	Century Mining	Canada	McWatters Minii	Canada	100,0	Sigma Gold Mine	Canada	Au	25,9	CAD		19,6	
55	2004	01	01	Vedanta Resou	UK	n/a		5,0	Sterlite Industri	India	Diver	57,0	USD		57,0	
56	2004	04		Vedanta Resou	UK	n/a		2,4	Sterlite Industri	India	Div	21,4	USD		21,4	
57	2004	04		Resolute Minin	Australia	Randgold Resou	South Africa	80,0	Syama Gold Min	Mali	Au	13,0	USD		13,0	
58	2004	04		Wolfden Resou	Canada	Kinross Gold Cor	Canada	100,0	Ulu Gold Deposit	Canada	Au					
59	2004	02		n/a		State of Kazakh	Kazakhstan	10,0	Ust-Kamenogor	Kazakhstan		5,0	USD	e	5,0	

Au – Cash Cost Curve for Gold Mines

Cash cost curve for gold mines in 2002 Q1 (USD/oz). Zoom x: 100% y: 100%

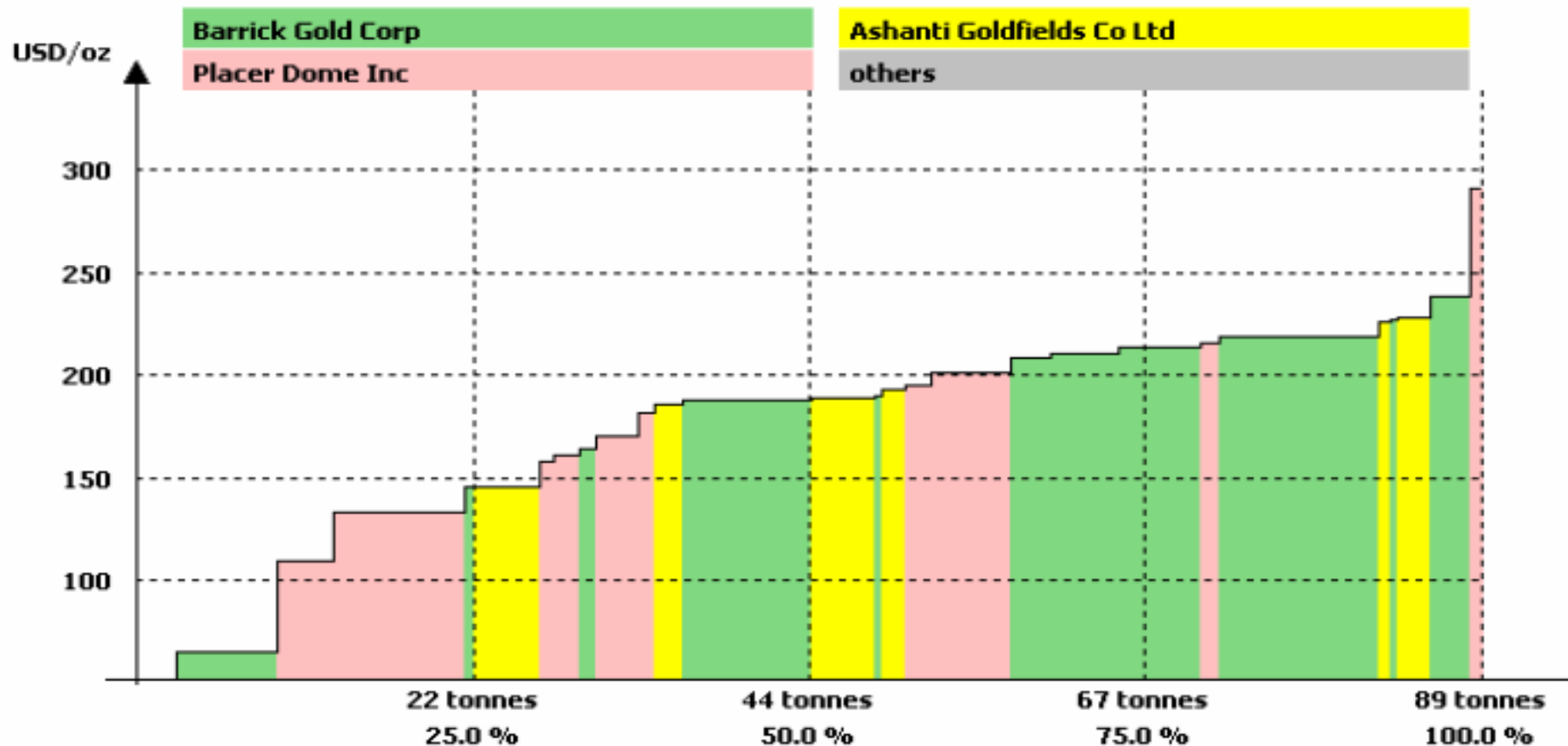


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Au – Cash Cost Curve for Gold Mines

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Cash cost curve for gold mines in 2002 Q1 (USD/oz). Zoom x: 100% y: 100%



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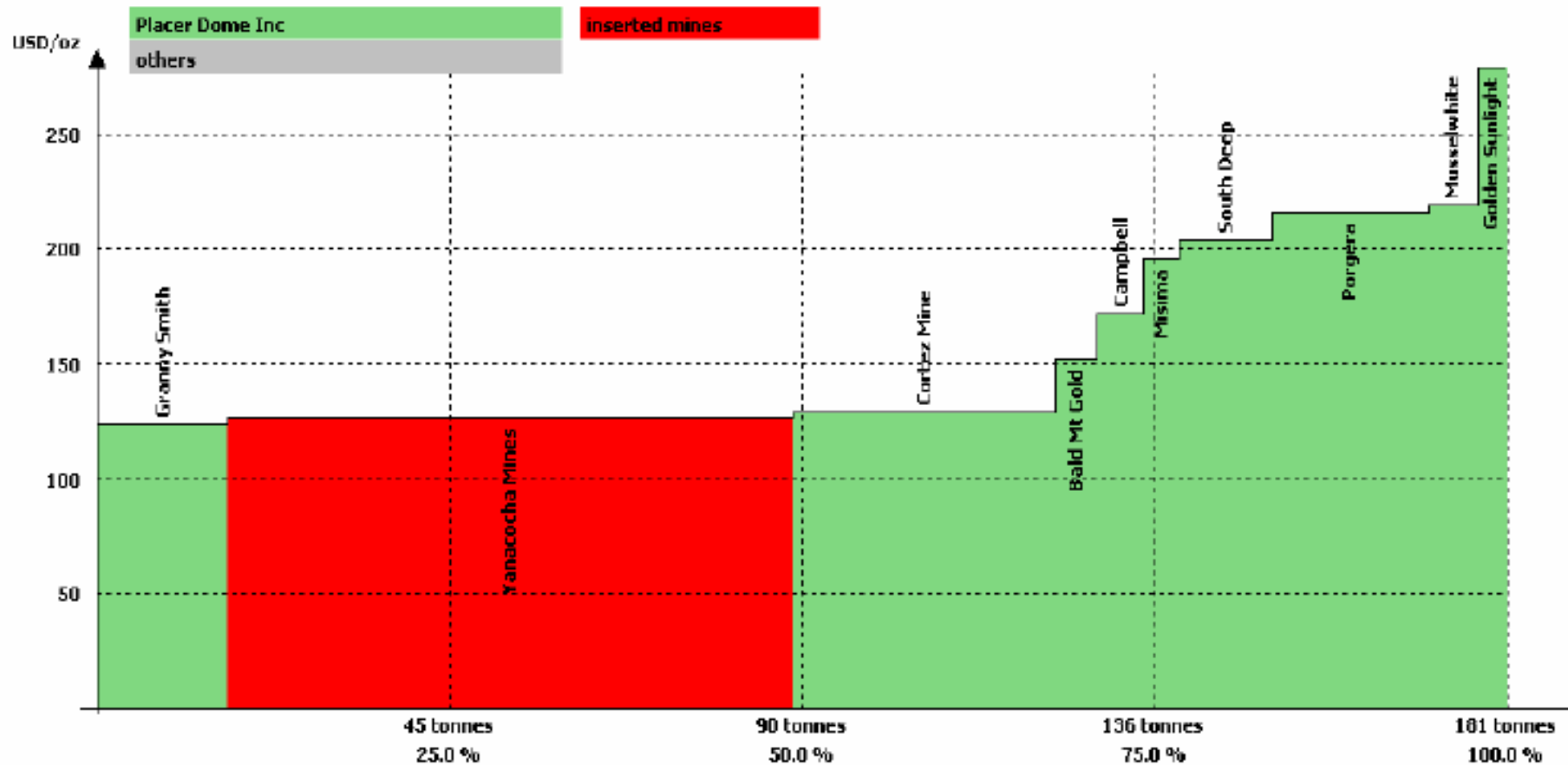
Production 2002Q1

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Au – Cash Cost Curve for Gold Mines

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Cash cost curve for gold mines in 2002 (USD/oz). Zoom x: 100% y: 100%



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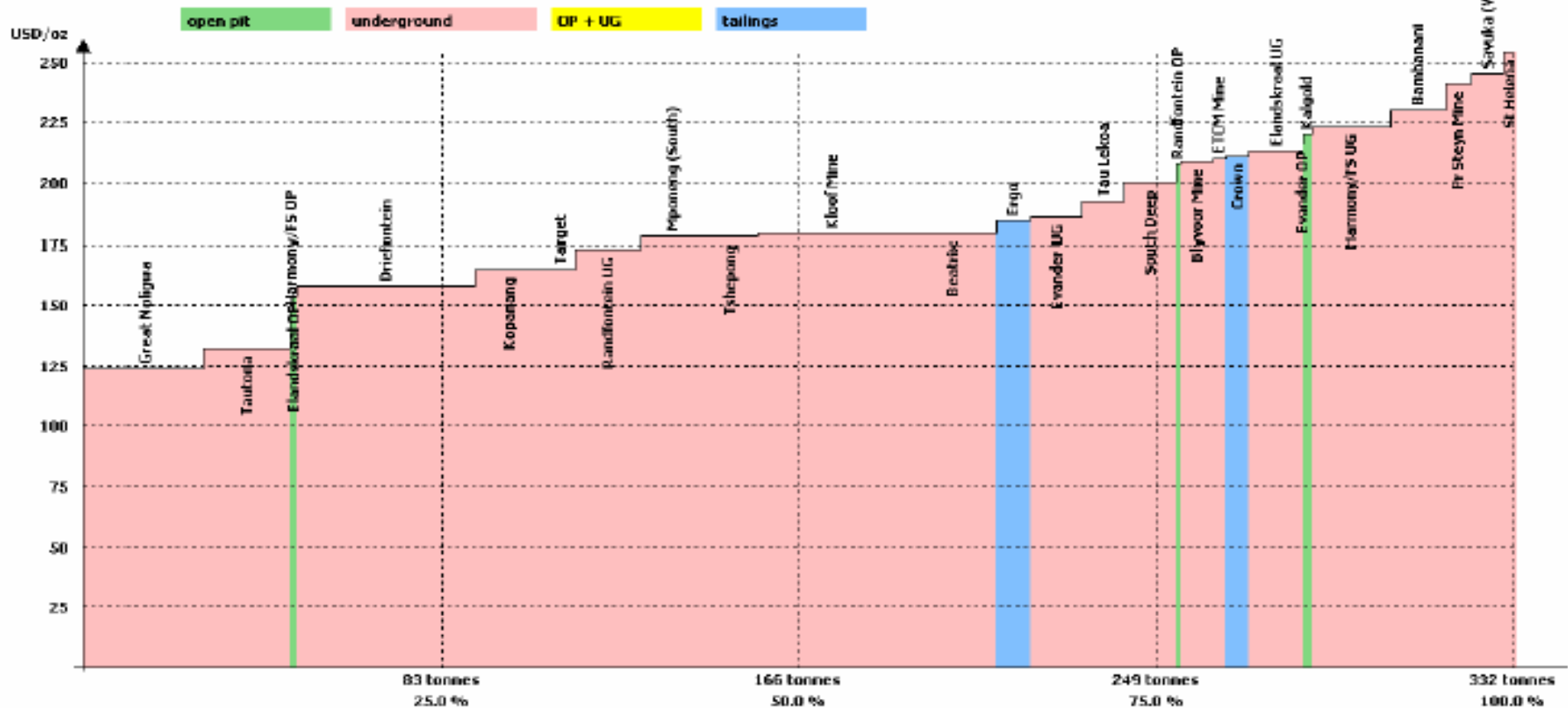
Production 2002

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Au – Cash Cost Curve for AS Gold Mines

Cash cost curve for South African mines in 2002

Cash cost curve for gold mines in 2002 full year (USD/oz). Filter: Country: South Africa.

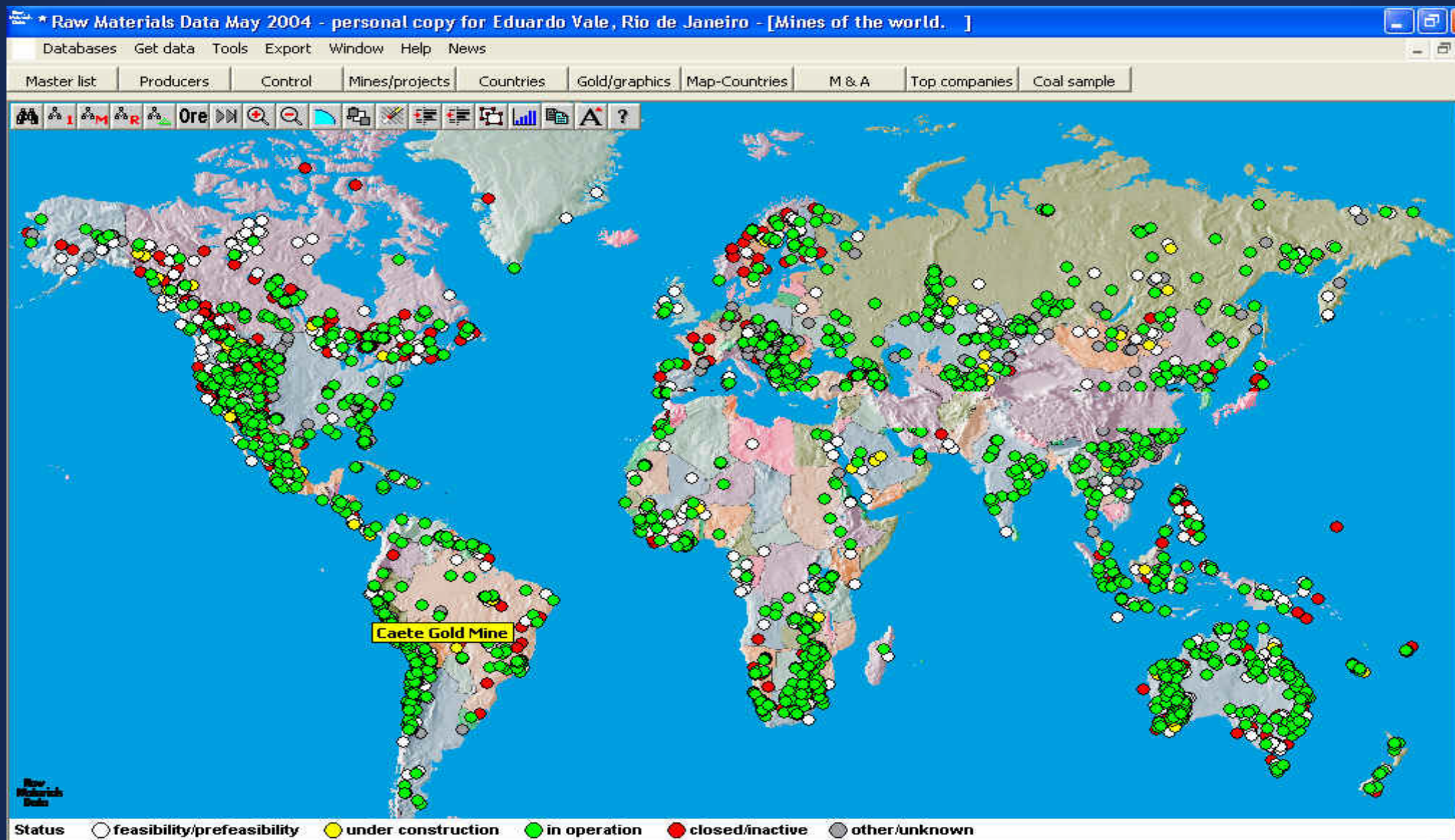


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Production 2002

Mines of the World

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Master list Producers Control Mines/projects Coal specs Countries M & A Gold/graphics Map Top companies

Gold mine producers. Sorted by country + producer name

#	Country	Full name	Status	Type	Prod 2006 (t)	Controlled by (end-2006)	Main metal	Metal 2
74	Brazil	Sao Francisco Gold Mine	Operating	OP	2,492	Yamana	Au	
75	Brazil	Sertao Gold Mine	Suspended	OP	0,917	Troy Resources	Au	
76	Brazil	Sossego Copper Mine	Operating, exp/pl	OP	2,000	CVRD	Cu	Au

Sossego Copper Mine, Brazil

Status: ☐ feasibility/prefeasibility ☐ under construction ☒ in operation ☐ closed/inactive ☐ other/unknown

Selection: 1 rec: Sossego

Figures in grey are estimates

List of Companies, Mines, Refineries

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Master list Producers Control Mines/projects Coal specs Countries M & A Gold/graphics Map Top companies

List of companies/mines/refineries etc. Sorted by full name of company/mine/refinery

Full name Country Controlled by Type Status Web site

1	10 let Nezavisimosti Kazakhstana Chrome Mine	Kazakhstan	Kazchrome	Mine/project	Operating, exp/plar	
2	118 Copp				Construction	
3	132N Nic				Suspended	
4	17 Partsj				Operating	
5	19 Partsj				Operating	
6	1st of M				Operating	
7	1st of M				Active	
8	2-y Sove				Operating	
9	217 Gold				Feasibility	
10	25 let Oktober Iron Ore Mine	Russia	Severstal	Mine/project	Operating	
11	2T-Invest Ltd	Russia		Non-mining company	Active	
12	3R Holdings Ltd	Canada		Holding company	Active	
13	50 let Oktober Coal Mine	Russia	RussianCoal	Mine/project	Operating	
14	50 let Sovetskoy Ukrainy Coal Mine	Ukraine	State of Ukraine	Mine/project	Operating	
15	50 let SSSR Coal Mine	Ukraine	System Capital M	Mine/project	Operating	
16	5034 Pipe Diamond Deposit	Canada	Anglo American, Mountain Prov, Campho	Mine/project	Conceptual	
17	543-S Copper Mine	USA		Mine/project	Project, no spec	
18	5M Inc	USA		Company	Active	
19	60 let Sovetskoy Ukrainy Coal Mine State OJSC	Ukraine	State of Ukraine	Company	Active	
20	60 let Sovetskoy Ukrainy Coal Mine	Ukraine	State of Ukraine	Mine/project	Operating	
21	60 let VOSR Coal Mine	Ukraine	State of Ukraine	Mine/project	Operating	
22	712 Uranium Mine	China	State of China	Mine/project	Operating	
23	7th of November Coal Mine	Russia	SUEK	Mine/project	Operating	
24	7th of November mine OJSC	Russia	SUEK	Company	Active	
25	88 Strip Coal Mine	USA	Alpha Res	Mine/project	Operating	
26	A & G Coal Corp	USA		Energy company	Active	
27	A & G No 11 Strip Coal Mine	USA	A & G Coal	Mine/project	Operating	
28	A & G No 12 Strip Coal Mine	USA	A & G Coal	Mine/project	Operating	

No records selected

10 let Nezavisimosti Kazakhstana Chrome Mine, Kazakhstan. mid-2007, parents ...

- 100,0 % Donskoy Chrome Mining Complex, Kazakhstan
 - 100,0 % Kazchrome Multinational Company, Kazakhstan
 - 100,0 % Eurasian Natural Resources Corp, Kazakhstan
 - 100,0 % Mashkevich Aleksandr, family, Russia

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