

Appendix C

Company Abbreviations

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DIR = Direct investment by the company metal-country (sector)
 metal Al=aluminum; Cu=copper; Pb=Lead; Zn=zinc
 sector m=mine; s=smelter; r=refinery (in the case of zinc, r=smelter/refinery)
 PAR = Parents of the company and their shares of its ownership
 SUB = Subsidiaries or joint ventures of the company and its shares of their ownership
 Ownership shares for parents, subsidiaries, and joint ventures are rounded to whole percentage points. Absence of a percentage figure indicates full ownership.

Abbreviation Headquarters Location	Full Name Direct Investments and Affiliates (as of early 1990)
Aberfoyle AUSTRALIA	Aberfoyle Ltd DIR: Pb-Australia (m) Zn-Australia (m) PAR: Cominco 46%
Acec-Union Miniere BELGIUM	Acec-Union Miniere SA PAR: Societe Generale de Belgique (Belgium) owned by Cie Financiere de Suez (France) SUB: Union Mines 93%, MHO 71%, Vieille-Montagne 96%, Asturienne 55%
Afton JV CANADA	Afton Mine Joint Venture DIR: Cu-Canada (m) PAR: Teck 73%, Metall Mining 27%
Akita Zinc JAPAN	Akita Zinc Co Ltd DIR: Zn-Japan (r) PAR: Dowa 52%, Nippon Mining 14%, Sumitomo 14%, Mitsui 10%, Mitsubishi 5%, Toho Zinc 5%
Alamsa VENEZUELA	Alamsa DIR: Al-Venezuela (s) pending PAR: Austria Metall 40%, CVG 30%, Pechiney 30%
Alba BAHRAIN	Aluminum Bahrain DIR: Al-Bahrain (s) PAR: Kaiser 17%, Balco 73%
Albecour CANADA	Albecour PAR: Quebec Government SUB: Alouette 7%, Becancour 25%
Albras BRAZIL	Aluminio Brasileiro SA DIR: Al-Brazil (s) PAR: CVRD 51%, NAAC 49%
Alcan CANADA	Alcan Aluminum Ltd DIR: Al-Canada (rs), USA (s) SUB: Alcan Aluminio, British Alcan, Halco 27%, Indalco 40%, Jamaican 93%, MRN 24%, Queensland Alumina 21%, Endasa 24%, Alcan Australia 70%, Aughtish 65%, Johore Mining 70%, Nippon Light Metal 50%, Alunorte 9%
Alcan Aluminio BRAZIL	Alcan Aluminio do Brazil SA DIR: Al-Brazil (mrs) PAR: Alcan
Alcan Australia AUSTRALIA	Alcan Australia DIR: Al-Australia (s) PAR: Alcan 70%
Alcasa VENEZUELA	Aluminio del Caroni SA DIR: Al-Venezuela (s) PAR: CVG 72%, Reynolds 28%

Alcoa USA	Aluminum Co of America DIR: Al-USA (rs) SUB: Alcoa of Australia 51%, Alcoa Aluminio 61%, Clarendon Almina JV 50%, Halco 27%, Mosal 50%, Suralco, Alusur 40%, Alumsa 44%
Alcoa Aluminio BRAZIL	Alcoa Aluminio do Brazil SA DIR: Al-Brazil (mrs) PAR: Alcoa 61% SUB: Alumar refinery 60% & smelter 72%
Alcoa of Australia AUSTRALIA	Alcoa of Australia Ltd DIR: Al-Australia (mrs) PAR: Alcoa 51%, Western Mining 44% SUB: Portland Smelter JV 45%
Alianza PERU	Cia Minera Alianza SA DIR: Pb-Peru (m) Zn-Peru (m)
Alisa VENEZUELA	Alisa DIR: Al-Venezuela (s) pending PAR: CVG 20%
Almagrera SPAIN	Minas de Almagrera DIR: Pb-Spain (m) Zn-Spain (m)
Alouette CANADA	Alouette DIR: Al-Canada (s) pending PAR: VAW ?%, Austria Metall ?%, Albecour ?%, Kobe Steel ?%, Hoogovens ?%, Marubeni ?%
Alpart JAMAICA	Almina Partners of Jamaica DIR: Al-Jamaica (mr) PAR: Kaiser 65%, Hydro Aluminum 35%
Alta Bay USA	Alta Bay Venture PAR: Alta Gold 60%, Echo Bay 40% SUB: Sunnyside JV 65%
Alta Gold USA	Alta Gold DIR: Zn-USA (m) PAR: Silver King 50%, Pacific Silver 50% SUB: Alta Bay 60%
Aluguay VENEZUELA	Aluguay DIR: Al-Venezuela (s) pending
Alumar BRAZIL	Aluminio do flaranhao SA DIR: Al-Brazil (rs) PAR: refinery - Alcoa Aluminio 60%, Billiton 40%; smelter - Alcoa Aluminio 72%, Billiton 28%
Alumax USA	Alumax Inc PAR: Amax SUB: Intalco 75%, Eastalco 75%, Mt Holly JV 73%, Becancour 25%
Alumina SpA ITALY	Alumina Italia SpA DIR: Al-Italy (s) PAR: Almix (EFIM-Ente Partecipazioni e Finanziamento Industria Manifatturiera) SUB: Halco 6%, Sava
Aluminio Espanol SPAIN	Aluminio Espanol SA DIR: Al-Spain (rs) PAR: Endasa 75%, Government (Instituto Nacional de Industria-INI) 19%
Aluminios Argentines ARGENTINA	Aluminios Argentines SAIC DIR: Al-Argentina (s) PAR: Government 52%

Al umi ni um de Grece GREECE	Al umi ni um de Grece SA DIR: Al -Greece (mrs) PAR: Pechi ney 60%
Al umi ni um Oxi de Stade FR GERMANY	Al umi ni um Oxi de Stade Gmbh DIR: Al -FR Germany (r) PAR: VAW 50%, Reynol ds 50%
Al umsa MEXI CO	Grupo Al umi ni o SA de CV DIR: Al -Mexi co (s) PAR: Al coa 44%
Al unorte BRAZIL	Al umi na do Norte do Brazi l SA DIR: Al -Brazi l (r) pendi ng PAR: CVRD 49%, MRN 26%, Al can 9%, CBA 9%, NAAC 7%
Al usaf SOUTH AFRI CA	Al usaf Pty Ltd DIR: Al -South Africa (s)
Al usui sse SWI TZERLAND	Swi ss Al umi num Ltd DIR: Al -Swi tzerland (s), FR Germany (rs) SUB: Gove Project 70%, Nabal co 50%, Salzburger, SI EROMCO, Soral 50%, Bauxi ven 4%. I nteral umi na 2%, Fri al co 11%
Al usur VENEZUELA	Al usur DIR: Al -Venezuel a (s) pendi ng PAR: CVG 40%, Al coa 40%, Sural 20%
Al uyana VENEZUELA	Al uyana DIR: Al -Venezuel a (s) pendi ng PAR: CVG ?%, I tal impi anti ?%
Amax USA	Amax Inc PAR: Chevron IB% SUB: Al umax, Dani el 's Harbor JV 37%, Fresni llo 40%
Amoco USA	Amoco Mi neral s Co PAR: Amoco Corp. SUB: Ok Tedi 30%
AMP AUSTRALI A	Austral ian Mutual Provident Society SUB: Gove 30%. Comal co 12%
Anaconda E-R USA	Anaconda Envi ron-Refi ni ng DIR: CU-USA (r)
Aneka Tambang I NOONESI A	PT Aneka Tambang DIR: Al -I ndonesi a (m) PAR: Government
Angl esey Al umi num UK	Angl esey Al umi ni um Ltd DIR: Al -UK (s) PAR: RTZ 51%, Kaiser 49%
Anglo Ameri can Gold SOUTH AFRI CA	Anglo Ameri can Gold Investment Co Ltd PAR: Anglo Ameri can S Africa 49% SUB: GFSA 11%
Anglo Ameri can S Africa SOUTH AFRI CA	Anglo Ameri can Corp of South Africa Ltd PAR: De Beers 38% SUB: Oe Beers 34%, Minorco 40%, Hantos Blancos 79%, GFSA 9%, Anglo Ameri can Gold 49%, Palabora ?%
Angostura VENEZUELA	Angostura DIR: Al -Venezuel a (s) pendi ng
Asarco USA	Asarco Inc DIR: CU-USA (msr) Pb-USA (msr) Zn-USA (m) PAR: MIM 25% SUB: SPCC 52%, M1fI 19%, Medi msa 34%, Leadvi l l e JV 50%, Butte JV 50%, Nor Peru 80%

Asturiana de Zinc SPAIN	Asturiana de Zinc SA DIR: Pb-Spain (m) Zn-Spain (mr) SUB: Exminesa 30%
Asturienne BELGIUM	CieRoyale Asturienne des Mines SA PAR: Acec-Union Miniere 55% SUB: Touissit 50%, Pancontinental 10%, Djebel Aouam 67%
Atacocha PERU	Cia Mi nera Atacocha SA DIR: Pb-Peru (m) Zn-Peru (m) SUB: Huaron 5%
Atlas PHILIPPINES	Atlas DIR: Cu-Philippines (m) SUB: PASAR 7%
Aughinish IRELAND	Aughinish Alumi na Ltd DIR: Al-Ireland (r) PAR: Alcan 65%, Billiton 35%
Austria Metall AUSTRIA	Austria Metall AG DIR: Al-Austria (s) PAR: Government SUB: Alouette 7%, Alamsa 40%
Balco BAHRAIN	Bahrain Saudi Aluminum Marketing Co PAR: Bahrain Government 74%, Saudi Basic Industries Corp (SABIC) 26% SUB: Alba 73%
Bauxiven VENEZUELA	Bauxita de Venezolana CA DIR: Al-Venezuela (m) PAR: CVG 96%, Aluisse 4%
Becancour CANADA	Aluminum Becancour Inc DIR: Al-Canada (s) PAR: Pechiney 25%, Reynolds 25%, Almax 25%, Albecour 25%
Benguet PHILIPPINES	Benguet DIR: Cu-Philippines (m)
Berzelius FR GERMANY	Berzelius Metallhütten GmbH DIR: Pb-FR Germany (msr) Zn-FR Germany (mr) PAR: MG
Bharat INDIA	Bharat Alumi ni um Co Ltd DIR: Al-India (mrs) PAR: Government
BHP AUSTRALIA	Broken Hill Proprietary Co Ltd SUB: BHP-Utah. Ok Tedi 30%, Cadjebut JV 58%, Escondida 58%
BHP-Utah USA	BHP-Utah International Inc DIR: Cu-Canada (m) PAR: BHP
BICC UK	B. I.C.C. Metals Ltd DIR: CU-UK (m)
Big River USA	Big River Minerals Co DIR: Zn-USA (r)
Billiton NETHERLANDS	Billiton International Metals DIR: Pb-South Africa (m) Zn-South Africa (m) PAR: Shell SUB: Halco 6%, MRN 10%, Valesul 45%, Worsley 38%, Cadjebut JV 42%, Budelco 50%, Aughinish 35%, Cuajone JV 9%, Alumar ref 40% & smelt 28% , Suralco-Billiton JV mine 76% & ref 45%

Black Mountain SOUTH AFRICA	Black Mountain Mineral Development Co Pty Ltd DIR: Pb-South Africa (m) Zn-South Africa (m) PAR: GfSA 55%, Phelps Dodge 45%
Boliden SWEDEN	Boliden AB DIR: Cu-Sweden (msr) Pb-Sweden (msr), Spain (m) Zn-Sweden (m), Spain (m), Denmark (m) PAR: Trelleborg 68% SUB: Norzink 50%, Faro Mine JV 8%
Bougainvillea PAPUA NEW GUINEA	Bougainvillea Copper Ltd DIR: CU-PNG (m) PAR: CRA 54%, Government 20%
Boyne AUSTRALIA	Boyne Smelters Ltd DIR: Al-Australia (s) PAR: Comalco 30%, Kaiser 20%, Japanese Consortium 50%
BP UK	BP Minerals International Ltd PAR: British Petroleum Co Plc SUB: Olympic Dam JV 49%
Brascade Resources CANADA	Brascade Resources PAR: Brascan <i>JO%</i> SUB: Noranda 46%, Westmin 62%
Brascan CANADA	Brascan Ltd SUB: Brascade Resources 70%
Brittania UK	Britannia Refined Metals Ltd DIR: Pb-UK (r) PAR: MIM
British Alcan UK	British Alcan Aluminum Ltd DIR: Al-UK (<i>rs</i>) PAR: Alcan SUB: Frialco 11% , Ghana Bauxite 45%
BRPM MOROCCO	Bureau de Recherches et de Participations Minières PAR: Government SUB: Djebel Aouam 33%
Brunswick CANADA	Brunswick Mining and Smelting Corp Ltd DIR: Pb-Canada (m) Zn-Canada (m) PAR: Noranda 64%
Budelco NETHERLANDS	Budelco BV DIR: Zn-Netherlands (r) PAR: Billiton 50%, Pasmenco 50%
Buenaventura PERU	Cia de Minas Buenaventura SA OIR: Pb-Peru (m) Zn-Peru (m) PAR: Cerro Copper 34% , World Bank 5%, Centromin 18%
Bunker Hill Mining CANADA	Bunker Hill Mining DIR: Pb-USA (m) Zn-USA (m)
Butte JV USA	Butte Mine Joint Venture DIR: CU-USA (m) PAR: Montana Resources 50%, Asarco 50%
C. Itoh JAPAN	C. Itoh & Co Ltd SUB: Kobe Alumina ?% , PASAR 6%
Cadjetbut JV AUSTRALIA	Cadjetbut Mine Joint Venture DIR: Pb-Australia (m) Zn-Australia (m) PAR: 13HP 58%, Billiton 42%

Cananea MEXICO	Cia Minera de Cananea SA DIR: Cu-Mexico (ins) PAR: Government 90% SUB: Cobre de Mexico ?%
CAP JAMAICA	Clarendon Alumina Production Ltd PAR: Jamaica Bauxite Mining SUB: Clarendon Alumina JV 50%
Carai ba Metais BRAZIL	Carai ba Metais SA - Ind e Com DIR: Cu-Brazil (sr) PAR: Government 98%
CBA BRAZIL	Cia Brasileira de Aluminio DIR: Al-Brazil (mrs) PAR: Votorantim 80%, Government 20% SUB: MRN 10%, Alunorte 9%
CBG GUINEA	Compagnie des Bauxites de Guinea DIR: Al-Guinea (m) PAR: Halco 51%, Government 49%
Centromin PERU	Empresa tinera del Centro del Peru SA DIR: Cu-Peru (msr) Pb-Peru (msr) Zn-Peru (mr) PAR: Government SUB: Buenaventura 18%
Cerro Copper USA	Cerro Copper Products Co PAR: Marmon SUB: SPCC 21%, Buenaventura 34%
Chevron USA	Chevron Corp SUB: Amax 18%
Chino JV USA	Chino Joint Venture DIR: CU-USA (msr) PAR: Phelps Dodge 67%, Mitsubishi 33%
Clarendon Alumina JV JAMAICA	Clarendon Alumina Joint Venture DIR: Al-Jamaica (mr) PAR: Alcoa 50%. CAP 50%
Clarendon Ltd SWITZERLAND	Clarendon Ltd DIR: Al-USA (r), tolling contracts with Drmet and Northwest Aluminum PAR: t4arc Rich and Co (Switzerland) SUB: Mt Holly JV 27%
CM BRAZIL	Cia Hineira de Metais DIR: Zn-Brazil (mr) PAR: Votarantim
Cobre de Mexico MEXICO	Cobre de Mexico DIR: Cu-Mexico (r) PAR: Government (Nacional Financier) ?%, Cananea ?%, various copper fabricators ?%
Codelco CHILE	Corpacion Nacional del Cobre de Chile DIR: Cu-Chile (msr) PAR: Government
Columbia Aluminum USA	Columbia Aluminum Corp DIR: Al-USA (s) PAR: employees 30%
Columbia Falls USA	Columbia Falls Aluminum Co DIR: Al-USA (s) PAR: Montana Aluminum Investors

Comalco AUSTRALIA	(Inmalco) Ltd DIR: Al-Australia (ins) PAR: CRA 67%, AMP 12% SUB: Boyne 30%, Halco 8%, Queensland Alumina 30%, New Zealand Al Smelters 79%
Cominco CANADA	Cominco Ltd DIR: Pb-Canada (msr) Zn-Canada (mr) PAR: Nunachiaq 40%, Mitsui 3% SUB: Aberfoyle 46%, Exminesa 48%, Mitsubishi-Cominco 45%, Highland Valley 50%, Magmont JV 50%, Red Dog JV (development and operations), Pine Point 51%, Polaris JV 55%
Consolidated UK	Consolidated Gold Fields plc PAR: Hanson PLC SUB: Newmont 49%, Renison Goldfields 46%
Copper Range USA	Copper Range Co DIR: CU-USA (msr) PAR: Metall Mining
Cox Creek USA	Cox Creek Refining DIR: CU-USA (r) PAR: Mitsubishi 20%, Southwire 20%, Halstead Industries 20%
CRA AUSTRALIA	CRA Ltd PAR: RTZ 49% SUB: Comalco 67%, Bougainvillea 54%, Pasmenco 40%
CSR AUSTRALIA	CSR Ltd SUB: Gove 70%
Cuajone JV PERU	Cuajone Mine Joint Venture DIR: Cu-Peru (m) PAR: SPCC 91%, Billiton 9%
Curragh CANADA	Curragh Resources Corp PAR: Frame Mining Corp (Clifford Frame) 98% SUB: Faro Mine JV 92%
CVG VENEZUELA	Corp Venezolana de Guayana PAR: Government SUB: Alcasa 72%, Interalumina 98%, Venalum 80%, Bauxiven 96%, Alamsa 30%, Alisa 20%, Alusur 40%, Aluyana ?%
CVRD BRAZIL	Cia Vale do Rio Doce DIR: Cu-Brazil (m) pending PAR: Government 56% SUB: Albras 51%, Alunorte 49%, PIRN 46%, Valesul 55%
Cyprus USA	Cyprus Minerals Co DIR: CU-USA (msr) Zn-USA (m)
Daniel's Harbor JV CANADA	Daniel's Harbor Mine Joint Venture DIR: Zn-Canada (m) PAR: Teck 63%, Amax 37%
De Beers SOUTH AFRICA	De Beers Consolidated Mines PAR: Anglo American S Africa 34% SUB: Anglo American S Africa 38%, Plinorco 21%, Palabora ?%
Degussa FR GERMANY	Degussa AG SUB: Norddeutsche Affinerie 30%, Ok Tedi 9%
Disputada CHILE	Cia Minera Disputada de las Condes SA DIR: Cu-Chile (ins) PAR: Exxon Coal and Minerals
Djebel Auam MOROCCO	Ste Miniere du Djebel Auam DIR: Pb-Horocco (m) PAR: BRPM 33%, Asturienne 67%

Doe Run USA	Doe Run Co DIR: CU-USA (m) Pb-USA (msr) Zn-USA (m) PAR: Fluor
Dowa JAPAN	Dowa Mining Co Ltd DIR: Cu-Japan (msr) Pb-Japan (msr) Zn-Japan (m) SUB: Aki ta Zinc 52%, Hachi nohe 20%, Onahama 30%
Dubai Al umi num UNI TED ARAB EMI RATES	Dubai Al umi num Co Ltd DIR: A1-UAE (S) PAR: Government 80%, Southwi re 8%, Ni ssho Iwai 8%
Eastal co USA	Eastal co Al umi num Co DIR: Al -USA (S) PAR: Al umax 75%, Mi tsui 11%, Toyo Sash 7%, Yoshi da Kogya KK 7%
Echo Bay USA	Echo Bay SUB: Al ta Bay 40%
Egyptal EGYPT	Al umi num Co of Egypt DIR: Al -Egypt (S) PAR: Government
EI Mochi to HONDURAS	EI Mochi to mine DIR: Pb-Honduras (m) Zn-Honduras (m) PAR: Metal Mining
E 1 baumi n GREECE	EI eusi s Bauxi te Mines Mining Industrial & Shipping Inc DIR: Al -Greece (m) PAR: Government
E 1 kern NORWAY	EI kem AIS Norway PAR: Kvaerner Industries A/S SUB: Mosal 50%
ENAH I CHILE	Empresa Nacional de Minería DIR: Cu-Chile (sr) PAR: Government
Endasa SPAIN	Emprese a Naci onal del Al umi ni o SA DIR: Al -Spain (s) PAR: Government (Instituto Nacional de Industria-INI) 73%, Al can 24% SUB: Al umi ni o Espanol 75%
Energoi nvest YUGOSLAVIA	Energoi nvest DIR: Al -Yugoslavia (mrs) PAR: Government
ER&S AUSTRALIA	Electrolytic Refining & Smelting Co of Australia Ltd DIR: Cu-Austral ia (sr) PAR: Pasmenco 60%, Japanese consortium (led by Furukawa) 40%
Escondi da CHILE	Mi nera Escondi da Ltd DIR: Cu-Chile (m) pending PAR: BHP 58%, RTZ 30%, Japan Escondi da 10%, World Bank 3%
Espanol a del Zinc SPAIN	Espanol a del Zinc SA DIR: Pb-Spain (sr) Zn-Spain (r) PAR: hletal Quimica del Nervion 31%
Eti bank TURKEY	Etibank DIR: Al-Turkey (s) PAR: Government
Exalas Resources USA	Exalas Resources PAR: t4itsubishi SUB: Greens Creek JV 13%

Exminesa SPAIN	Exploration Minera Internacional Espana SA DIR: Pb-Spain (m) Zn-Spain (m) PAR: Cominco 48%, Asturiana de Zinc 30%
Exxon Coal and Minerals USA	Exxon Coal and Minerals Co PAR: Exxon Corp SUB: Disputada
Falconbridge CANADA	Falconbridge Ltd DIR: Cu-Canada (msr) Zn-Canada (mr) PAR: Noranda 50%, Trelleborg 50%
Faro Mine JV CANADA	Faro Mine Joint Venture DIR: Pb-Canada (m) Zn-Canada (m) PAR: Curragh 92%, Boliden 8%
Fluor USA	Fluor Corp SUB: Doe Run
Folldal NORWAY	Folldal Verk A/S DIR: Zn-Norway (m)
Freeport Indonesia USA	Freeport Indonesia Inc DIR: Cu-Indonesia (m) PAR: Freeport-McMoRan 85%, Government 9%, Norddeutsche Affinerie 4%
Freeport McMoRan USA	Freeport-McMoRan Inc SUB: Freeport Indonesia 85%
Fresnillo MEXICO	Cia Fresnillo SA de CV DIR: Pb-Mexico (m) Zn-Mexico (m) PAR: Penoles 60%, Max 40%
Frialco CAYMAN ISLANDS	Frialco SA PAR: Noranda 38%, Pechiney 36%, Alusuisse 11%, British Alcan 11%, VAW 5% SUB: Friguia 51%
Friguia GUINEA	Societe d'Economie Mixte Friguia DIR: Al-Guinea (mr) PAR: Frialco 51%, Government 49%
Frisco MEXICO	Empresas Frisco SA de CV DIR: Cu-Mexico (m) Pb-Mexico (m) Zn-Mexico (m) SUB: Real des Angeles 33%
Fundeconsa PERU	Fundicion de Concentrados SA DIR: Pb-Peru (s)
Furukawa JAPAN	Furukawa Co Ltd SUB: Hibi Kyodo 16%, Onahama 8%, ER&S 7%
Gecamines ZAIRE	La Generale des Carrieres et des Mines du Zaire DIR: Cu-Zaire (msr) Zn-Zaire (mr) PAR: Government
GFSA SOUTH AFRICA	Gold Fields of South Africa Ltd PAR: Anglo American Gold 11%, Anglo American S Africa 9% SUB: O'okiep 81%, Black Mountain 55%, Zinc South Africa 65%, Tsumeb 76%
Ghana Bauxite GHANA	Ghana Bauxite Co Ltd DIR: Al-Ghana (m) PAR: Government 55%, British Alcan 45%
Gove AUSTRALIA	Gove Aluminium Ltd PAR: CSR 70%, AMP 30% SUB: Gove Project 30%, Nabalco 50%, Tomago 35%
Gove Project AUSTRALIA	Gove Project DIR: Al-Australia (mr) PAR: Alusuisse 70%, Gove 30%, managed by Nabalco

Granges Al umi num SWEDEN	Granges Al umi num DIR: Al -Sweden (s) PAR: Granges AB
Greek Hel i kon GREECE	Greek Hel i kon Bauxi tes GL Barl os SA DIR: Al -Greece (m)
Greens Creek JV USA	Greens Creek Mi ne Joi nt Venture DIR: Pb-USA (m) Zn-USA (m) PAR: RTZ 53%, Hecl a 28%, Exal as Resources 13%, CSX Oi l & Gas 6%
Guymi ne GUYANA	Guyana Mining Enterprise Ltd DIR: Al-Guyana (m) PAR: Government (Bauxite Industry Development Co-Bidco)
Hachi nohe JAPAN	Hachi nohe Smel ting Co Ltd DIR: Pb-Japan (sr) Zn-Japan (r) PAR: Mi tsui 50%, Dowa 20%, Ni ppon Mi ni ng 10%, Mi tsubi shi 10%, Toho Zi nc 5%, Ni sso Smel ting 5%
Hal co USA	Hal co (Mi ni ng) Inc PAR: Al can 27%, Al coa 27%, Pechi ney 10%, VAU 10%, Comal co 8%, Al umi ni a SpA 6%, Reynol ds 6%, Bi lli ton 6% SUB: CBG 51%
Hamburg Al umi num FR GERMANY	Hamburger Al umi ni umwerke GmbH DIR: A1-FR Germany (s) PAR: Reynol ds 33%, VAW 33%, Ci ty of Hamburg 33%
Hecl a USA	Hecl a Mi ni ng Co DIR: Pb-USA (m) Zn-USA (m) SUB: Greens Creek JV 28%
He?l eni c Al umi na GREECE	Hel I eni c Al umi na (ELVA) DIR: Al -Greece (r) pending
Hi bi Kyodo JAPAN	Hi bi Kyodo Smel ting Co Ltd DIR: Cu-Japan (sr) PAR: Mi tsui 64%, Ni ttetsu 20%, Furukawa 16%
Hi ghland Val ley CANADA	Highland Valley Copper DIR: Cu-Canada (m) PAR: Comi nco 50%, Rio Algom 34%, Teck 14%, Highmont 3%
Hi ghmont CANADA	Hi ghmont Mi ni ng Co SUB: Hi ghland Val ley 3%
Hi ndal co INDIA	Hi ndustan Al umi ni um Corp DIR: Al -I ndi a (mrs)
Hoogovens NETHERLANDS	Koni nkl ijke Nederl andsche Hoogovens en Staal fabri eken NV DIR: A1-FR Germany (s), Netherl ands (s) SUB: Al ouette ?%
Horsehead USA	Horsehead Industries SUB: ZCA
Huaron PERU	Ci a Minera Huaron SA DIR: Pb-Peru (m) Zn-Peru (m) PAR: Metaleurop 17%, Atacocha 5%
Hudson Bay CANADA	Hudson Bay Mi ni ng and Smel ting Co Ltd DIR: Cu-Canada (s) Zn-Canada (mr) PAR: Inspi rati on Resources
Hydro Al umi num NORWAY	Hydro Al umi ni um A/S DIR: Al -Norway (s) PAR: Norsk Hydro SUB: Al part 35%

Imetal FRANCE	Imetal SA SUB: Metaleurop 15%
IMI Refiners UK	IMI Refiners Ltd DIR: CU-UK (r)
IMM MEXICO	Grupo Industrial Minera Mexico SA de CV SUB: Medimsa 66%
Inalum INDONESIA	PT Indonesia Ashahan Aluminium DIR: Al-Indonesia (s) PAR: Nippon Asahan Aluminium Co Ltd (Japanese Consortium) 59%, Government 41%
Inco CANADA	Inco Ltd DIR: Cu-Canada (msr)
Indalco INDIA	Indian Aluminium Co Ltd DIR: Al-India (mrs) PAR: Alcan 40%
Inspiration Resources USA	Inspiration Resources Corp PAR: Minorco 57% equity & 43% voting SUB: Hudson Bay
Intalco USA	Intalco Aluminium Co DIR: Al-USA (s) PAR: Almax 75%, Mitsui 11%, Toyo Sash 7%, Yoshida Kogyo KK 7%
Interalumina VENEZUELA	Interamericana de Alumina DIR: Al-Venezuela (r) PAR: CVG 98%, Alusuisse 2%
Jamaica Bauxite Mining JAMAICA	Jamaica Bauxite Mining Ltd PAR: Government SUB: CAP, Kaiser Jamaica 51%, Jamaican 7%
Jamaican JAMAICA	Alcan Jamaica Co DIR: Al-Jamaica (mr) PAR: Alcan 93%, Jamaica Bauxite Mining 7%
Japan Escondida CHILE	Japan Escondida Corp PAR: Mitsubishi 60%, Nippon Mining 20% SUB: Escondida 10%
Jersey Miniere USA	Jersey Miniere Zinc Co DIR: Zn-USA (mr) PAR: Union Zinc
Johore Mining MALAYSIA	Johore Mining and Stevedoring Co Sdn Bhd DIR: Al-Malaysia (m) PAR: Alcan 70%
Kaiser USA	Kaiser Aluminium & Chemical Corp DIR: Al-USA (rs) PAR: Maxxam SUB: Alpart 65%, Anglesey Aluminium 49%, Boyne 20%, Kaiser Jamaica 49%, Queensland Alumina 28%, Alba 17%, Valco 90%
Kaiser Jamaica JAMAICA	Kaiser Jamaica Bauxite Co DIR: Al-Jamaica (m) PAR: Jamaica Bauxite Mining 51%, Kaiser 49%
Kennecott USA	Kennecott Corp DIR: CU-USA (msr) PAR: RTZ
Kobe Alumina AUSTRALIA	Kobe Alumina Associates (Australia) Pty Ltd PAR: C. Itoh 7%, Nissho Iwai 35% SUB: Worsley 10%

Kobe Steel JAPAN	Kobe Steel Ltd SUB: Alouette ?%
Korea Mining & Smelting REP KOREA	Korea Mining & Smelting Co Ltd DIR: Cu-Rep. Korea (sr) Pb-Rep Korea (sr)
Korea Zinc REP KOREA	Korea Zinc Co DIR: Zn-Rep Korea (r)
Lady Loretta AUSTRALIA	Lady Loretta Co Pty Ltd DIR: Pb-Australia (m) Zn-Australia (m) PAR: Pancontinental 51%, Outokumpu 49%
Leadville JV USA	Leadville Mine Joint Venture (Black Cloud) DIR: Pb-USA (m) Zn-USA (m) PAR: Asarco 50%, Newnont 50%
Lepanto PHILIPPINES	Lepanto Consolidated Mining Co DIR: Cu-Philippines (m)
Magma USA	Magma Copper Co DIR: CU-USA (msr)
Magmont JV USA	Magmont Uine Joint Venture DIR: Pb-USA (m) Zn-USA (m) PAR: Cominco (Cominco American) 50%, Oresser Industries 50%
Malco India	Madras Aluminum Co Ltd DIR: Al-India (rs)
Mantes Blancos CHILE	Empresa Minera de Mantos Blancos SA DIR: Cu-Chile (msr) PAR: Anglo American S Africa 79%
Harcopper PHILIPPINES	Marcopper Mining Corp DIR: Cu-Philippines (m) PAR: Placer Dome 40%
Maricalum PHILIPPINES	Maricalum Mining Corp DIR: Cu-Philippines (m)
Marmon USA	The Marmon Group, Inc SUB: Cerro Copper, Raura 60%
Martin Marietta USA	Martin Marietta Corp SUB: Leasing The Dalles, OR aluminum smelter to Northwest Aluminum
Marubeni JAPAN	Marubeni Corp SUB: Alouette ?%, PASAR 16%
Maxxam USA	Maxxam Group Inc SUB: Kaiser
Medimsa MEXICO	Mexico Desarrollo Industrial Minero DIR: Cu-Mexico (ins) Pb-Mexico (msr) Zn-Mexico (mr) PAR: It4M 66%, Asarco 34% SUB: Mexicana de Cobre 91%
Metaleurop FRANCE	Metaleurop DIR: Pb-France (msr), FR Germany (sr), Spain (sr) Zn-France (mr), FR Germany (r) PAR: Preussag 51%, Imetal 15% SUB: Huaron 17%, Pertusola 51%
Metall Mining CANADA	Metall Mining Corp. PAR: PIG 63% SUB: Copper Range, Nunachiaq 25%, Teck 10%, Ok Tedi 9%, Afton JV 27%, MIH 4%, El Mochi to
Metallgesellschaft	see IIG

Mexicana de Cobre MEXICO	Mexicana de Cobre SA DIR: Cu-Mexico (ins) PAR: Medimsa 91%, National Mine and Metallurgical Workers Union 9%
MG FR GERMANY	Metallgesellschaft AG PAR: Allgemeine Verwaltungsges fur Industriebeteiligungen GmbH 25%, Kuwait Government 10%, Kuwait Petroleum Co 10%, MIM 3% SUB: Metall Mining 63%, Norddeutsche Affinerie 35%, Ruhr Zinc 50%, Berzelius
MHO BELGIUM	Metallurg.ie Hoboken-Overpelt DIR: Cu-Belgium (sr) Pb-Belgium (sr) Zn-Belgium (r) PAR: Acec-Union Miniere 71%, Pancontinental 4% SUB: Union Mines 6X
Milpo PERU	Cia Minera Milpo SA DIR: Pb-Peru (m) Zn-Peru (m)
HIM AUSTRALIA	HIM Holdings Ltd OIR: Cu-Australia (msr) Pb-Australia (ins) Zn-Australia (m) PAR: Asarco 19%, Preussag 4%, Metall Mining 4% SUB: Asarco 25%, Nunachiaq 25%, Norddeutsche Affinerie 35%, Ruhr Zinc 50%, Teck 5%, MG 3%, Britannia
Minero Peru PERU	Empresa Minera del Peru SA DIR: Cu-Peru (mr) Zn-Peru (r) PAR: Government
Minorco LUXEMBOURG	Minerals and Resources Corp Ltd PAR: Anglo American S Africa 40%, De Beers 21% SUB: Inspiration Resources 57% equity & 43% voting
Mitsubishi JAPAN	Mitsubishi Metal Corp OIR: Cu-Japan (sr) Pb-Japan (msr) Zn-Japan (mr) SUB: Chino JV 33%, Mitsubishi-Cominco 55%, Akita Zinc 5%, Onahama 49%, Hachinohe 10%, Exalas Resources, Texas City 51%, Cox Creek 20%, Japan Escondida 80%
Mitsubishi -Cominco JAPAN	Mitsubishi Cominco Smelting OIR: Pb-Japan (sr) PAR: Mitsubishi 55%, Cominco 45%
t4itsui JAPAN	Mitsui Mining and Smelting Co Ltd OIR: Cu-Japan (r) Pb-Japan (msr), Peru (m) Zn-Japan (mr), Peru (m) SUB: Cominco 3%, Akita Zinc 10%, Hachinohe 50%, Hibi Kyodo 64%, Intalco 11%, Eastalco 11%
Montana Resources USA	Montana Resources Inc SUB: Butte JV 50%
Montana Tunnels USA	Montana Tunnels OIR: Pb-USA (m) Zn-USA (m) PAR: Pegasus Gold
Morenci JV USA	Morenci Mine Joint Venture DIR: CU-USA (m) PAR: Phelps Oodge 85%, Sumitomo 15%
Mosal NORWAY	Mosal Alumirtium SA DIR: Al-Norway (s) PAR: Elkem 50%, Alcoa 50%
MRN BRAZIL	Mineracao Rio do Norte SA OIR: Al-Brazil (m) PAR: CVRO 46%, Alcan 24%, CBA 10%, Billiton 10%, Reynolds 5%, Norsk Hydro 5% SUB: Alunorte 26X

84 . Nonferrous Metals: Industry Structure

Mt Holly JV USA	Mt Holly Smelter Joint Venture DIR: Al -USA (S) PAR: Almax 73%, Clarendon Ltd 27%
NAAC BRAZIL	Nippon Amazon Aluminum Co Ltd PAR: Japanese Consortium SUB: Albras 49%, Alunorte 7%
Nabalco AUSTRALIA	Nabalco Pty Ltd PAR: Alusuisse 50%, Gove 50% SUB: manages the Gove Project
Nalco INDIA	National Aluminum Co Ltd DIR: Al -India (mrs) PAR: Government
NANA USA	NANA Development Corp (an Alaskan Native corp) SUB: Red Dog JV (owns mineral rights)
Nanisivik CANADA	Nanisivik Mines Ltd DIR: Pb-Canada (m) Zn-Canada (m) PAR: Mineral Resources International Ltd 82%
NBHH AUSTRALIA	North Broken Hill Holdings Ltd SUB: Pasminco 40%
New Butte Mining USA	New Butte Mining DIR: Pb-USA (m) Zn-USA (m)
New Zealand Al Smelters NEW ZEALAND	New Zealand Aluminum Smelters Ltd DIR: Al -New Zealand (s) PAR: thnalco 79%
Newmont USA	Newmont Mining Corp PAR: Cons Gold Fields 49% SUB: SPCC 11%, Leadville JV 50%
Nicron AUSTRALIA	Nicron Resources Ltd SUB: Woodcutters JV 77%
Nippon Light Metal JAPAN	Nippon Light Metal Co Ltd DIR: Al -Japan (rs) PAR: Alcan 50%
Nippon Mining JAPAN	Nippon Mining Dir: Cu-Japan (sr) Pb-Japan (msr) Zn-Japan (mr) SUB: Akita Zinc 14%, Hachinohe 10%, Japan Escondida 20%
Nippon Steel JAPAN	Nippon Steel SUB: Nittetsu 28%
Nissho Iwai JAPAN	Nissho Iwai Corp SUB: Kobe Alumina 35%, Dubai Aluminum 8%
Nittetsu JAPAN	Nittetsu Mining Co Ltd PAR: Nippon Steel 28% SUB: Hibi Kyodo 20%
Nor Peru PERU	Corp Minera Nor Peru DIR: Cu-Peru (m) Pb-Peru (m) Zn-Peru (m) PAR: Asarco 80%
Noranda CANADA	Noranda Inc DIR: Al -USA (S) Cu-Canada (msr) Pb-Canada (sr) Zn-Canada (mr) PAR: Brascade Resources 46% SUB: Falconbridge 50%, Brunswick 64%, Frialco 38%
Norddeutsche Affinerie FR GERMANY	Norddeutsche Affinerie AG DIR: CU-FR Germany (sr) Pb-FR Germany (sr) PAR: MG 35%, MIM 35%, Degussa 30% SUB: Freeport Indonesia 4%

Norsk Hydro NORWAY	Norsk Hydro PAR: Government 51% SUB: Hydro Alumin, MRN 5%, Soral 50%
North Davao PHILIPPINES	North Davao Mining Corp DIR: Cu-Philippines (m)
Northwest Aluminum USA	Northwest Aluminum Corp DIR: Al-USA (S) PAR: Leasing The Dalles, OR aluminum smelter from Martin Marietta
Norzink NORWAY	Norzink AS DIR: Zn-Norway (r) PAR: Boliden 50%, RTZ 50%
Nunachiaq CANADA	Nunachiaq Inc PAR: Teck 50%, Metall Mining 25%, MIM 25% SUB: Cominco 40%
Nuova Samim ITALY	Stazioni Minerale Metallurgica SPA DIR: Pb-Italy (msr) Zn-Italy (mr) PAR: Government (Ente Nazionali Idrocarburi-ENI) 51%, Snare 49%
O'okiep SOUTH AFRICA	O'okiep Copper Co Ltd DIR: Cu-South Africa (ins) PAR: GFS 81%
OBK GUI NEA	Offices de Bauxites de Kindia DIR: Al-Guinea (m) PAR: Government
Ojos del Salado CHILE	Compania Minera Ojos del Salado SA DIR: Cu-Chile (m) PAR: Phelps Dodge
Ok Tedi PAPUA NEW GUI NEA	Ok Tedi Mining Ltd DIR: CU-PNG (m) PAR: BHP 30%, Amoco 30%, Government 15%, and through Star Mountains Holdings (Metall Mining 9%, Degussa 9%, Deutsche Ges fur Wirtschaftliche Zusammenarbeit 8%)
Olympic Dam JV AUSTRALIA	Olympic Dam Mine Joint Venture DIR: Cu-Australia (msr) PAR: Western Mining 51%, BP 49%
Onahama JAPAN	Onahama Smelting & Refining Co Ltd DIR: Cu-Japan (sr) PAR: Mitsubishi 49%, Oowa 30%, Furukawa 8%
Ormet USA	Ormet Corp DIR: Al-USA (rs) PAR: Ohio River Associates Inc
Outokumpu FINLAND	Outokumpu Oy DIR: Cu-Finland (msr) Pb-Finland (m) Zn-Finland (mr) PAR: Government (direct) 61%, Government (Kansanelakelaitos pension plan) 14% SUB: Tara Mines 75%, Lady Loretta 49%
Padaeng THAILAND	Padaeng Industry Co Ltd DIR: Zn-Thailand (r)
Palabora SOUTH AFRICA	Palabora Mining Co Ltd DIR: Cu-South Africa (msr) PAR: RTZ 39%, Anglo American S Africa %, Oe Beers %
Pancontinental AUSTRALIA	Pancontinental Mining Ltd PAR: Asturienne 10%, MHO 4% SUB: Lady Loretta 51%

Paraibuna BRAZIL	Cia Paraibuna de Metais DIR: Zn-Brazil (r) PAR: Financiamentos e Participacoes (FIBASE) 2%
Parnasse GREECE	Bauxites Parnasse Mining Co DIR: Al-Greece (m) PAR: Eliopoulos-Kyriacopoulos Group
PASAR PHILIPPINES	Philippine Associated Smelting and Refining Corp DIR: Cu-Philippines (sr) PAR: Government (National Development Corp) 40%, Marubeni 16%, Sumitomo 10%, C. Itoh 6%, Philippine copper producers (led by Atlas) 23%, World Bank 5%
Pasminco AUSTRALIA	Pasminco Ltd DIR: Pb-Australia (msr), UK (s) Zn-Australia (mr), UK (r) PAR: CRA 40%, NBHH 40% SUB: Budelco 50%, ER&S 60%
Pechiney FRANCE	Pechiney DIR: Al-France (mrs), Netherlands (s) SUB: Aluminium Greece 60%, Becancour 25%, Halco 10%, Queensland Alumina 20%, Tomago 35%, Alamsa 30%, Frialco 36%
Pegasus Gold USA	Pegasus Gold Inc SUB: Montana Tunnel s
Penarroya FRANCE	Ste Miniere et Metallurgique de Penarroya SA SUB: merged with the lead and zinc assets of Preussag and renamed Metaleurop in 1988
Penoles MEXICO	Industrial Penoles SA de CV DIR: Pb-Mexico (msr) Zn-Mexico (mr) SUB: Fresnillo 60%
Pertusola ITALY	Pertusola Sud SA DIR: Zn-Italy (r) PAR: Metaleurop 51%
Phelps Dodge USA	Phelps Dodge Corp DIR: CU-USA (msr) SUB: Morenci JV 85%, Chino JV 67%, SPCC 16%, Black Mountain 45%, Ojos del Salado
Pine Point CANADA	Pine Point Mines PAR: Cominco 51% SUB: Polaris JV 45%
Placer Dome CANADA	Placer Dome Inc SUB: Marcopper 40%, Real de Angeles 33%
Polaris JV CANADA	Polaris Mine JV DIR: Pb-Canada (m) Zn-Canada (m) PAR: Cominco 55%, Pine Point 45%
Portland Smelter JV AUSTRALIA	Portland Smelter Joint Venture DIR: Al-Australia (s) PAR: Alcoa of Australia 45%, State of Victoria Government 35%, First National Resource Trust 10%, China International Trust & Investment 10%
Preussag FR GERMANY	Preussag AG SUB: Metaleurop 51%, MIM 4%
Queensland Alumina AUSTRALIA	Queensland Alumina Ltd DIR: Al-Australia (r) PAR: Comalco 30%, Kaiser 28%, Alcan 21%, Pechiney 20%
Raura PERU	Cia Minera Raura SA DIR: Pb-Peru (m) Zn-Peru (m) PAR: Marmon 60%

RavensWood USA	Ravenswood Aluminum Corp DIR: Al-USA (s) PAR: Stanwich Partners
Real des Angeles MEXICO	Minera Real des Angeles DIR: Pb-Hexico (m) Zn+hexico (m) PAR: Friisco 33%, Placer Dome 33%, Government (Comision de Fomento Hinero) 33%
Red Dog JV USA	Red Oog Mine Joint Venture OIR: Pb-USA (m) pending Zn-USA (m) pending PAR: Cominco (Cominco Alaska) (development and operations). NANA (owns mineral rights)
Renison Goldfields AUSTRALIA	Renison Goldfields Consolidated Ltd DIR: Cu-Australia (m) PAR: Cons Gold Fields 46%
Reynolds USA	Reynolds Metals Co DIR: Al-USA (rs), Canada (s) SUB: Alcasa 28%, Aluminum Oxide Stade 50%, Becancour 25%, Halco 6%, MRN 5%, Valesul 1%, Worsley 50%, Valco 10%, Hamburg Aluminum 33%
Rio Algom CANAOA	Rio Algom Ltd PAR: RTZ 53% SUE: Highland Valley 34%
Rio Tinto Minera SPAIN	Rio Tinto Minera SA OIR: Cu-Spain (sr) PAR: RTZ 49%, Union Explosives 49%, Inversions Mobiliarias SA 2%
RMHK Trepca YUGOSLAVIA	RMHK Trepca DIR: Pb-Yugoslavia (msr) Zn-Yugoslavia (mr) PAR: 6okernment
RTB Bor YUGOSLAVIA	Rudarsko-TopiOnicarski -8asen Bor OIR: Cu-Yugoslavia (msr) PAR: Government
RTZ UK	RTZ Corp Plc SUB: Kennecott, Anglesey Alumina 51%, CRA 49%, Escondida 30%, Palabora 39%, Rio Algom 53%, Rio Tinto Hinera 49%, Norzink 50%, Somincor 49%, Greens Creek JV 53%, Tsumeb 14%
Ruhr Zink FR GERHANY	Ruhr Zink GmbH DIR: Zn-FR Germany (r) PAR: MG 50%, HIM 50%
Salzburger AUSTRIA	Salzburger Aluminum GmbH OIR: Al-Austria (s) PAR: Alusuisse
San Ignacio Morococha PERU	Cia Minera San Ignacio de Morococha SA DIR: Zn-Peru (m)
Santander PERU	Cia Minerales Santander Inc OIR: Zn-Peru (m) PAR: OocarbSA
Santo Toribio PERU	Cia Hinera Santo Toribio SA OIR: Pb-Peru (III) Zn-Peru (m)
shell NETHERLANDS	Royal Outch/Shell Group SUB: 8illiton
ShouaAluminum JAPAN	Shoua Aluminum Industries KK OIR: Al-Japan (r) PAR: ShowaOenkaKK

SIEROMCO SIERRA LEONE	Sierra Leone Ore & Metals Co DIR: Al-Sierra Leone (m) PAR: Alusuisse
Seminor PORTUGAL	Sociedade Mineira de Neves Corvo SARL OIR: Cu-Portugal (m) PAR: RTZ 49%
Soral NORWAY	SorNorge Aluminium A/S OIR: Al-Norway (s) PAR: Norsk Hydro 50%, Alusuisse 50%
Southwire USA	Southwire Co OIR: Al-USA (s) CU-USA (r) SUB: Oubai Aluminium 8%, Cox Creek 20%
SPCC USA	Southern Peru Copper Corp OIR: Cu-Peru (ins) PAR: Asarco 52%, Cerro Copper 21%, Phelps Oodge 16%, Newmont 11% SUB: Cuajone JV 91%
Star-Phoenix Mining USA	Star-Phoenix Mining DIR: Pb-USA (m) Zn-USA (m)
Sumitomo JAPAN	Sumitomo Metal Mining Co Ltd OIR: Cu-Japan (sr) Pb-Japan (sr) Zn-Japan (r) SUB: Morenci JV 15%, PASAR 10%, Akita Zinc 14%
Sumitomo Aluminum JAPAN	Sumitomo Aluminium Smelting Co Ltd OIR: Al-Japan (r)
Sunnyside JV USA	Sunnyside Mine Joint Venture OIR: Pb-USA (m) Zn-USA (m) PAR: Alta Bay 65%, Washington Mining 35%
Sural VENEZUELA	Suramericana de Alacances Laminados SUB: Alusur 20%
Suralco SURINAME	Suriname Aluminium Co OIR: Al-Suriname (ins) PAR: Alcoa SUB: Suralco-Billiton JV mine 24% & refinery 55%
Suralco-Billiton JV SURI NAME	Suralco-Billiton Joint Venture DIR: Al-Suriname (mr) PAR: Onverdacht mine - Billiton 76%, Suralco 24%; Paranam refinery - Billiton 45%, Suralco 55%
Tara Hines IRELANO	Tara Mines Ltd OIR: Pb-Ireland (m) Zn-Ireland (m) PAR: Outokumpu 75%, Government 25%
Teck CANAOA	Teck Corp PAR: Metall Mining 10%, MIM 5% SUB: Nunachiaq 50%, Highland Valley 14%, Afton JV 73%. Daniel's Harbor JV 63%
Texas City USA	Texas City Copper OIR: CU-USA (s) pending PAR: Mitsubishi 51%, 4 other Japanese companies
Toho Zinc JAPAN	Toho Zinc Co Ltd OIR: Pb-Japan (sr) Zn-Japan (r) SUB: Akita Zinc 5%, Hachinohe 5%
Tomago AUSTRALIA	Tomago Aluminium Co Pty Ltd OIR: A1-Australia (s) PAR: Gove 35%, Pechiney 35%, VAW 12% “

Touissit MOROCCO	Cie Miniere de Touissit DIR: Pb-Morocco (m) PAR: Asturienne 50%, Government 20%, Matran 15% SUB: Zelli dja ?%
Trelleborg SWEDEN	Trelleborg AB PAR: Edward & Peter Bronfman (Canada) SUB: Boliden 68%, Falconbridge 50%
Tsumeb NAMIBIA	Tsumeb Corp Ltd DIR: Pb-Namibia (msr) Zn-Namibia (mr) PAR: GFSA 76%, RTZ 14%
Union Explosives SPAIN	Union Explosives Rio Tinto SA SUB: Rio Tinto Minera 49%
Union Mines USA	Union Mines Inc. PAR: Acec-Union Miniere 93%, MHO 6% SUB: Union Zinc
Union Zinc USA	Union Zinc Inc. DIR: Zn-USA (m) PAR: Union Mines SUB: Jersey Miniere
Valco GHANA	Volta Aluminium Co Ltd DIR: Al-Ghana (s) PAR: Kaiser 90%, Reynolds 10%
Vallesul BRAZIL	Vallesul Aluminio SA DIR: Al-Brazil (s) PAR: CVRD 55%, Billiton 45%, Reynolds 1%
Vana1co USA	Vanalco Inc DIR: Al-USA (S) PAR: Bay Resources Corp
VAW FR GERMANY	Vereingte Aluminium-Werke AG DIR: Al-FR Germany (rs) PAR: VIAG Aktiengesellschaft Bonn-Berlin (Government-Kreditanstalt fur Wiederaufbau) 60% SUB: Alumin Oxide Stade 50%, Halco 10%, Tomago 12%, Alouette ?%, Frialco 5%, Hamburg Aluminium 33%
Venalurn VENEZUELA	Industria Venezolana de Aluminio DIR: Al-Venezuela (s) PAR: CVG 80%, Japanese Consortium 20%
Vexxal VENEZUELA	Vexxal DIR: Al-Venezuela (s) pending
Vieille-Montagne BELGIUM	Ste des Mines et Fonderies de Zinc de la Vieille-Montagne SA DIR: Pb-Sweden (m) Zn-Belgium (r), Sweden (m), France (r) PAR: Acec-Union Miniere 96%
Volcan PERU	Volcan Compania Minera SA DIR: Pb-Peru (m) Zn-Peru (m)
Votarantim BRAZIL	SA Industrial Votarantim SUB: CMM, CBA 80%
Washington Mining USA	Washington Mining SUB: Sunnyside JV 35%
Western Mining AUSTRALIA	Western Mining Corp Holdings Ltd SUB: Alcoa of Australia 44%, Olympic Dam JV 51%
Westmin CANADA	Westmin Resources Ltd DIR: Pb-Canada (m) Zn-Canada (m) PAR: Brascade Resources 62%

Woodcutters JV Australia	Woodcutters Mine Joint Venture DIR: Pb-Australia (m) Zn-Australia (m) PAR: Nicron 77%, Lachlan Resources NL 13%, Petrocarb Exploration NL 11%
World Bank USA	International Finance Corp SUB: Buenaventura 5%, Escondida 3%, PASAR 5%
Worsley AUSTRALIA	Worsley Alumina Pty Ltd DIR: Al-Australia (mr) PAR: Reynolds 50%, Billiton 38%, Kobe Alumina 10%
Young Poong REP KOREA	Young Poong Mining Co Ltd DIR: Pb-Rep Korea (m) Zn -Rep Korea (mr)
ZCA USA	Zinc Corp of America DIR: Zn-USA (mr) PAR: Horsehead
ZCCM ZAMBIA	Zambia Consolidated Copper Mines Ltd DIR: Cu-Zambia (msr) PAR: Government
Zellidja MOROCCO	Societe des Mines de Zellidja DIR: Pb-Morocco (sr) PAR: Touissit 7%
Zinc South Africa SOUTH AFRICA	Zinc Corp of South Africa DIR: Zn-South Africa (r) PAR: GFSA 65%

SOURCE: Office of Technology Assessment, 1990