

Definitions and glossary of technical terms



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Part X Definitions and glossary of technical terms

Definitions

The following definitions apply throughout this document unless the context requires otherwise:

"Acquisitions"	the acquisition of the Coal Assets pursuant to the Acquisition Agreement
"Acquisition Agreement"	the sale and purchase agreement dated 21 February 2002, as amended by the amending agreement dated 20 March 2002, setting out the terms of the Acquisitions, as further described in "Information on the Group - The acquisition of the Coal Assets and the Merger - The acquisition of the Coal Assets" in Part I and "Additional information - Agreements relating to the Acquisitions and the Merger - The Acquisition Agreement" in Part VIII
"Admission"	the admission of the Ordinary Shares to be issued in connection with the Acquisitions, the Merger and the Global Offer to the Official List and to trading on the London Stock Exchange's market for listed securities in accordance with paragraph 7.1 of the Listing Rules and paragraph 2.1 of the Admission and Disclosure Standards of the London Stock Exchange
"AME"	AME Mineral Economics
"Articles"	the articles of association of the Company which have been adopted conditional upon Admission
"associated undertaking"	has the meaning ascribed to it in paragraph 20(1) of Schedule 4A to the Companies Act
"Asturiana"	Asturiana de Zinc, S.A., a company incorporated in Spain with limited liability or, where the context requires, Asturiana de Zinc, S.L., a company incorporated in Spain with limited liability (as constituted by the merger of Asturiana de Zinc, S.A. and Xstrata Spain, S.L.)
"Australia"	the Commonwealth of Australia
"Board"	the board of directors of the Company
"Brook Hunt"	Brook Hunt Mining & Metal Industry Consultants
"Chapter 19"	Chapter 19 of the Listing Rules
"Chromecorp"	the business previously carried on by Chromecorp Holdings Limited, a company incorporated in South Africa with limited liability which is now part of Xstrata South Africa
"CMI"	the business previously carried on by Consolidated Metallurgical Industries Limited, a company incorporated in South Africa with limited liability which is now part of Xstrata South Africa
"Coal Assets"	the entire issued share capital of each of Glencore Overseas AG (of which Enex is a wholly-owned subsidiary), Duiker Marketing AG and Duiker
"Coal Business"	the business of the Group comprising the coal operations in Australia and South Africa as further described in "Information on the Group - Coal Business" in Part I
"Combined Code"	the principles of good governance and code of best practice appended to the Listing Rules
"Companies Act"	the United Kingdom Companies Act 1985, as amended
"Company"	Xstrata plc, a public company incorporated in England and Wales with limited liability
"Completion"	the completion of the sale and purchase of the Coal Assets under the terms of the Acquisition Agreement
"CPR"	Competent Person's Report
"CREST"	the system for the paperless settlement of trades in listed securities, of which CRESTCo Limited is the operator
"CREST Regulations"	The Uncertificated Securities Regulations 2001
"CRU"	CRU International
"Directors"	the Executive Directors and the Non-executive Directors
"Duiker"	Duiker Mining (Proprietary) Limited, a company incorporated in South Africa with limited liability
"Duiker Group"	Duiker and Duiker Marketing AG and their subsidiaries and subsidiary undertakings and, where the context requires, their associated undertakings

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“Duiker Mining Shareholders”	Duiker Coal Investments Limited, Duffield Trading Limited, Glencore Finance (Bermuda) Limited and Stychus Invest AG
“Enex”	Enex Resources Limited, a company incorporated in Australia with limited liability and a member of the Enex Group
“Enex Group”	Glencore Overseas AG and its subsidiaries and subsidiary undertakings and, where the context requires, its associated undertakings
“EU”	European Union as established by the Treaty on European Union
“Exchange Ratio”	the ratio of Ordinary Share(s) to Xstrata AG Share(s) which shareholders of Xstrata AG will be entitled to receive pursuant to the Merger
“Executive Directors”	the executive directors of the Company
“FDS”	Forestal del Sur Ltda
“Ferroalloys Business”	the business of the Group comprising the chrome and vanadium operations as further described in “Information on the Group - Ferroalloys Business” in Part I
“FLL”	Forestal Los Lagos S.A., a company incorporated in Chile
“FSMA”	the United Kingdom Financial Services and Markets Act 2000
“Glencore”	Glencore International and its subsidiaries and affiliates or, as the context requires, any subsidiary or affiliate thereof
“Glencore International”	Glencore International AG, a company incorporated in Switzerland with limited liability
“Global Co-ordinator”	J.P. Morgan Securities Ltd.
“Global Offer”	the opportunity to acquire Ordinary Shares being made available to institutional and certain other investors described in “The Global Offer and related matters” in Part III
“Group”	Xstrata and its subsidiaries and subsidiary undertakings and, where the context requires, its associated undertakings, as constituted immediately following completion of the Acquisitions and the Merger
“IAS”	International Accounting Standards
“Independent Director”	for the purposes of the Relationship Agreement, a Director who is not a director, officer or employee of Glencore and is free from any business or other relationship with Glencore, which could materially interfere with the exercise of his independent judgement in matters concerning Glencore
“Ingwe”	Ingwe Coal Corporation, a subsidiary of BHP Billiton
“Joint Bookrunners”	J.P. Morgan Securities Ltd., Cazenove & Co. Ltd and Deutsche Bank AG London
“JPMorgan”	J.P. Morgan plc or, where the context requires, J.P. Morgan Securities Ltd.
“LIBOR”	London inter bank offered rate
“Listing Particulars”	these listing particulars relating to the Company and the Ordinary Shares prepared in accordance with the Listing Rules
“Listing Rules”	the listing rules of the UK Listing Authority, made under Section 74 of the FSMA
“London Stock Exchange”	London Stock Exchange plc
“Manager’s Option”	the option granted to J.P. Morgan Securities Ltd., on behalf of the Underwriters, to require the Company to issue additional new Ordinary Shares at the Offer Price, inter alia, to cover over-allotments or further allotments, if any, in connection with the Global Offer and to cover short positions resulting from stabilisation transactions, as contained in the Underwriting Agreement
“Manager’s Option Shares”	15,000,000 new Ordinary Shares
“Merger”	the merger of Xstrata AG and the Company pursuant to which the Company will become the ultimate holding company of the Group, as further described in “Information on the Group - The acquisition of the Coal Assets and the Merger - The Merger” in Part I
“Merger Agreement”	the agreement dated as of 20 February 2002 entered into between the Company and Xstrata AG setting out the terms of the Merger, as further described in “Information on the Group - The acquisition of the Coal Assets and the Merger - The Merger” in Part I and “Additional

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	information - Agreements relating to the Acquisitions and the Merger - The Merger Agreement" in Part VIII
"Non-executive Directors"	the non-executive directors of the Company including, where the context requires, David Rough, who has agreed to become a non-executive director and Deputy Chairman of the Company with effect from 1 April 2002
"Oakbridge"	Oakbridge Pty Limited, a company incorporated in Australia with limited liability, which is 66.53% owned by the Enex Group
"Offer Price"	870 pence per Ordinary Share
"Official List"	the official list maintained by the UK Listing Authority for the purposes of Part VI of the FSMA
"Ordinary Shares"	Ordinary Shares of US\$0.50 each in the Company
"Port Waratah Coal Terminal"	comprises two coal terminals, Carrington and Kooragang, at the port of Newcastle in New South Wales, Australia
"Purchasers"	the Company, Xstrata (Schweiz) AG and Xstrata South Africa
"Ravensworth Agreement"	the agreement dated 19 December 2001 between CNA Resources Limited, Enex Ravensworth Pty Limited and Glencore International for the sale and purchase of the Ravensworth coal supply business in Australia
"RBCT"	Richards Bay Coal Terminal
"Regulation S"	Regulation S under the Securities Act
"Relationship Agreement"	the agreement dated 20 March 2002 between the Company and Glencore International as further described in "Relationship with Glencore – Relationship with controlling shareholder" in Part II
"Rhovan"	Rhombus Vanadium (Pty) Limited, a company incorporated in South Africa with limited liability
"RTGS"	Real Time Gross Settlement
"Rule 144A"	Rule 144A under the Securities Act
"SECOM"	trading system operated by SWX
"Securities Act"	the US Securities Act of 1933
"Shareholders"	the holders of Ordinary Shares of the Company
"SIS"	SIS Segaintersettle AG
"South Africa"	the Republic of South Africa
"Sponsor"	J.P. Morgan plc
"Swiss Admission"	the admission of the Ordinary Shares to listing on SWX
"SWX"	SWX Swiss Exchange
"Syndicated Loan Facility"	the syndicated loan facility arranged by Barclays Capital (the investment banking division of Barclays Bank PLC), Dresdner Kleinwort Wasserstein acting through Dresdner Bank Luxembourg S.A. and J.P. Morgan plc on the terms set out in the Syndicated Loan Facility Agreement
"Syndicated Loan Facility Agreement"	the syndicated loan facility agreement between the Company, Xstrata (Schweiz) AG, Asturiana, Xstrata South Africa, Xstrata Vanadium Holdings Pty Limited, Xstrata Capital Corporation A.V.V., Xstrata Zinc B.V., AZSA Holdings Pty Limited, Xstrata Marketing Corporation A.V.V. and Barclays Capital (the investment banking division of Barclays Bank PLC), Dresdner Kleinwort Wasserstein acting through Dresdner Bank Luxembourg S.A. and J.P. Morgan plc, as mandated lead arrangers, and the banks named therein, as lenders, dated on or about 20 March 2002 (but in any event prior to Admission) setting out the terms of the Syndicated Loan Facility, as further described in "Additional information - Agreements relating to the Acquisitions and the Merger - Syndicated Loan Facility Agreement" in Part VIII
"Tax Covenant"	the covenant relating to tax set out in a Schedule to the Acquisition Agreement
"UK GAAP"	generally accepted accounting principles as used in the UK

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“UK Listing Authority” or “UKLA”	the Financial Services Authority acting in its capacity as the competent authority for the purposes of Part VI of the FSMA and in the exercise of its functions in respect of the admission to the Official List otherwise than in accordance with Part VI of the FSMA
“Underwriters”	J.P. Morgan Securities Ltd., Cazenove & Co. Ltd, Deutsche Bank AG London, BNP PARIBAS, HSBC Investment Bank plc and NZB Neue Zürcher Bank
“Underwriting Agreement”	the underwriting agreement between the Company, Xstrata AG, the Underwriters and the Sponsor dated 20 March 2002
“United Kingdom” or “UK”	the United Kingdom of Great Britain and Northern Ireland
“United States” or “US”	the United States of America, its territories and possessions, any state of the United States of America and the District of Columbia
“US GAAP”	generally accepted accounting principles as used in the US
“Vantech”	Vanadium Technology (Pty) Limited, a company incorporated in South Africa with limited liability which is now part of Xstrata South Africa and which was de-registered on 27 June 2001
“Vendors”	Glencore International, Duiker Coal Investments Limited, Duffield Trading Limited, Glencore Finance (Bermuda) Limited and Stychus Invest AG
“Xstrata”	Xstrata plc, a company incorporated in England and Wales with limited liability
“Xstrata AG”	Xstrata AG, a company incorporated in Switzerland with limited liability
“Xstrata AG Group”	Xstrata AG and its subsidiaries and subsidiary undertakings and, where the context requires, its associated undertakings, as constituted immediately prior to the Merger and the Acquisitions
“Xstrata AG Shares”	ordinary bearer shares in the capital of Xstrata AG with a nominal value of 10 Swiss Francs
“Xstrata AG Share Schemes”	the Xstrata AG Group Management and Employee Share Incentive Scheme, the Xstrata AG Directors’ Option Scheme and the Xstrata AG Directors’ Incentive Scheme
“Xstrata Employee and Directors Share Ownership Trust”	The Xstrata Employee and Directors Share Ownership Trust to be established by a trust deed between the Company and Orbis Trustees Guernsey Limited on the date the Merger becomes effective
“Xstrata Employee Share Ownership Trust”	the Xstrata Employee Share Ownership Trust to be established by a trust deed between the Company and Orbis Trustees Guernsey Limited on the date the Merger becomes effective
“Xstrata LTIP”	the Xstrata Long Term Incentive Plan to be established on the date the Merger becomes effective
“Xstrata (Schweiz) AG”	Xstrata (Schweiz) AG, a company incorporated in Switzerland with limited liability
“Xstrata South Africa”	Xstrata South Africa (Proprietary) Limited, a company incorporated in South Africa with limited liability
“Zinc Business”	the Group’s zinc business as further described in “Information on the Group - Zinc Business” in Part I

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Glossary of technical terms

The following definitions shall apply to the technical terms used herein:

"adit"	a horizontal or nearly horizontal entrance/access to an underground mine from surface. Often starting from the side of a hill
"agglomeration"	binding fine particles together to create coarse particles as part of a mineral processing activity
"air dried (ad)" or "gross air dried (gad)"	the analysis of a sample that has been partially dried to approximate inherent or bed moisture
"ammonium metavanadate" or "ammonium polyvanadate"	an intermediate vanadium chemical in the recovery process
"anorthite"	a plagioclase feldspathic mineral
"anorthosite"	an intrusive igneous rock
"anthracite"	a hard coal containing a high percentage of fixed carbon and a low percentage of volatile material
"assay"	the percentage of a particular element or compound in a given sample
"attributable production"	that part of mine or operation production in which the Group has an economic interest. It therefore excludes production attributable to minority interests in controlled subsidiaries and the interests of joint venture partners
"attributable reserves"	that part of reserves from a mine in which the Group has an economic interest. It therefore excludes reserves attributable to minority interests in controlled subsidiaries and the interests of joint venture partners
"attributable resources"	that part of resources from a mine in which the Group has an economic interest. It therefore excludes reserves attributable to minority interests in the controlled subsidiaries and the interests of joint venture partners
"attributable sales"	that part of sales from a mine or operation in which the Group has an economic interest. It therefore excludes sales attributable to minority interests in controlled subsidiaries and the interests of joint venture partners
"auger mining"	inexpensive method of mining by boring horizontally into a coal seam at the base of strata exposed for excavation
"autogenous"	as applied to grinding, using the larger ore particles to grind the finer ones
"bag house" or "baghouse"	a facility containing air filters to remove dust from gases
"balling"	the formation of balls in a pelletising process
"bank cubic metres"	the volume (in cubic metres) of an excavation measured in place before being disturbed
"basic pegmatoids"	a felsic segregation associated with dolerite
"beneficiation"	treatment of raw material by drying, flotation, gravity or magnetic separation
"bituminous"	a measure of coal rank. It is a measure of the degree of metamorphosis or change from the original plant or vegetative state
"blast"	an explosion or violent detonation caused by the discharge of dynamite or other explosive material. Primarily used to refer to the loosening of coal overburden
"borehole"	a hole made with a drill, auger or other tool for exploring strata in search of minerals
"bord and pillar"	a mining method in which supporting pillars are formed as development proceeds, and which may subsequently be mined
"calcine"	zinc oxide produced from the roasting of zinc concentrates
"calorific value"	the heat of combustion of a unit quantity of coal. It is expressed in British Thermal Units per pound (Btu/lb), kilocalories per kilogramme (kcal/kg) or mega joules per kilogramme (MJ/kg). The gross calorific value includes all heat of vapourisation of water. Net calorific value assumes that all water is in the vapour phase
"cash costs"	the operating costs of the business that include mining, processing, distribution and overheads, but exclude depreciation, amortisation, tax and interest

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“caustic soda”	sodium hydroxide (NaOH)
“char”	the solid residue produced by the heating of coal in anaerobic conditions. Coke is a form of char used in the steel industry
“chip channel”	a narrow, continuous cut taken across a coal seam or ore body to obtain a representative sample of material at their location
“CHPP”	coal handling preparation plant
“chrome spinel”	also known as Picotite. A spinel containing chromite.
“chromite”	FeCr_2O_4 , the principal chromium ore
“CIF”	cost, insurance and freight
“cleats”	system of joints, cleavage planes or planes of weakness found in coal seams
“coal mine”	an operating mine producing coal
“coal preparation”	collectively, physical and mechanical processes applied to make a product suitable for a particular use
“coke”	bituminous coal from which the volatile components have been removed
“coking coal”	coal used to create coke – which is consumed in the steel reduction process
“concentrate”	material that has been processed to increase the content of contained material or mineral relative to the contained waste
“continuous miner”	mining machine designed to remove coal from the face with the use of cutting machines and to load that coal into shuttle cars or onto conveyors
“contractor”	an independent operator who mines another party’s coal or ore for that party, usually at a predetermined price
“conveyor haulage”	a mechanical system that conveys coal or ore from a receiving point, such as a continuous miner, to a discharge point
“core”	a cylindrical sample of rock obtained during core drilling
“ Cr_2O_3 ”	chrome oxide
“crush, crushing, crushed”	a mechanical method of reducing the size of rock
“crusher”	a machine for crushing rock or other materials
“cyclone”	a classifying (or concentrating) separator into which pulp is fed, so as to take a circular path. Coarser and heavier fractions of solids report at the apex of long cone while finer particles overflow from a central vortex. Also called hydrocyclone
“de-ammoniator”	an electrically heated furnace to drive off ammonia
“dense medium” or “dense medium separation” or “DMS”	a fluid formed by the suspension in water of heavy particles e.g. magnetite. This fluid is used industrially to separate by gravity ROM coal into fractions of different product gravities
“diabase”	a dark intrusive igneous rock
“DIFR”	disabling injury frequency rate. The number of disabling injuries per 200,000 manhours worked
“dilution”	the contamination of ore with barren wall rock. The assay of the ore after mining is frequently lower than when sampled in place
“dip”	the angle of inclination downward that a coal bed makes with a horizontal plane
“discard/dirt/stone”	the material extracted from the ROM coal and finally discarded either prior to or after coal cleaning
“dolerite”	a grey intrusive rock whose main components are labradorite and pyroxene
“down-dip”	parallel to or in the general direction of the dip of the reef, stratum, vein seam or bed
“drillhole”	a circular hole made in rock, often in conjunction with a core barrel in order to obtain a core sample

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"dyke"	an igneous intrusion cutting across the coal seam, usually in a vertical or near vertical plane, generally of dolerite composition in South African coal fields
"electric furnace"	an electrically heated furnace (often for melting)
"entry/bord"	a term commonly used in coal mining for a horizontal, or nearly so, development opening
"ESKOM"	electricity supply commission
"evaporator"	a mechanical compression device to evaporate water from salt solutions
"exploration"	the work involved in the intentional searching for a mineral, prospect or deposit
"face (coalface)"	the working area or end of a development heading or entry
"fault"	a fracture in the earth, one side of which is displaced with respect to the other in any direction
"FeCr"	ferrochrome, an alloy of iron and chromium
"ferrogabbro"	an iron rich gabbro
"ferrovanadium"	an alloy of iron and vanadium
"FeV"	ferrovanadium
"flaking wheel"	a water cooled rotating wheel to convert molten vanadium pentoxide powder to flakes
"floor"	the bottom or lowermost part of an underground working
"flux"	a substance that absorbs the mineral impurities, or promotes the fusing of minerals or metals, or prevents the forming of oxides.
"FOB"	free on board
"FOR"	free on rail
"fractured"	breaks in rock formations due to intense faulting or folding
"froth flotation"	a coal cleaning process applied to the beneficiation of fine particles typically 0.5 millimetres in diameter. Hydrophobic coal particles attach themselves to air bubbles in a water medium and rise to the surface to form a froth
"gabbro"	a dark coloured, basic intrusive igneous rock composed primarily of plagioclase and clinopyroxene
"geology"	the science dealing with the formation of the earth and mineral deposits
"geotechnical conditions"	the engineering behaviour of rocks as a result of an excavation
"graben"	a fault bounded, down-throw block. The bounding faults are vertical to near vertical and parallel to each other over several kilometres
"grade"	the quality of an ore, alloy or metal, usually expressed as a percentage of the primary element
"grinding"	size reduction of crushed rock into relatively fine particles
"hangingwall"	the wall or rock on the upper side of the inclined orebody (the roof)
"hexavalent chromium"	a form of chromium which is water soluble and carcinogenic
"highwall"	the face of exposed overburden and coal in an opencast mine
"igneous"	originating from a molten state
"Indicated Resources"	the resources for which tonnage, densities, shape, physical characteristics, grade and mineral content can be estimated with a reasonable level of confidence
"induration"	a process whereby pellets are hardened.
"Inferred Resources"	a mineral resource inferred from geoscientific evidence, drill holes, underground openings or other sampling procedures where the lack of data is such that continuity cannot be predicted with confidence and where geoscientific data may not be known with a reasonable level of reliability
"in-situ reserves"	the tonnages of in-situ coal contained within seams or sections of seams in the ground for which sufficient information is available to enable detailed or conceptual mine planning and for which such planning has been undertaken
"jigs"	mineral separators, relying on specific gravity differences to separate minerals

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“joints”	a fracture or parting that cuts through and abruptly interrupts the physical continuity of a rock mass
“JORC Code”	Report of the Joint Ore Reserves Committee of the Australian Institute of Mining and Metallurgy, Australian Institute of Geoscientists and Minerals Council of Australia, dated September 1999
“kiln”	a large furnace used for baking, drying, or burning firebrick or refractories, or for calcining ores or other substances
“kriging”	in the estimation of ore reserves by geostatistical methods, the use of a weighted, moving-average approach both to account for the estimated values of spatially distributed variables, and also to assess the probable error associated with the estimates
“L”	miscellaneous licence
“lb”	English pound equivalent to 0.4536 kilogrammes
“leaching” or “leach process”	extracting a soluble metallic compound from an ore by selectively dissolving it in a suitable solvent
“lead concentrate”	product of the flotation process typically ranging in lead content between 50% and 70%
“lease”	contract between two parties enabling one to search for and/or produce minerals from the other’s property
“LHD”	load haul dump vehicle
“LME”	London Metal Exchange
“LOM”	the remaining life of the mine until the reserves are depleted
“longwall mining”	mining method in which a coal face is mined using a shearer mounted on an armoured chain conveyor that runs along the full length of the coal face. Hydraulic jacks support the roof over the worked-out area. As the longwall face advances, the roof behind the jacks is allowed to cave
“losses - geological”	ore lost due to unpredictable geological phenomena
“losses - mining”	ore lost due to mining operations
“M” or “mining licence”	permission to mine minerals from a mineral rights area
“magnetite”	a magnetic mineral (Fe ₃ O ₄)
“magnetitite”	rock where the magnetite content is in excess of 90%
“magnetic separation”	the separation of magnetic materials from non-magnetic materials using magnetic forces
“Marketable Reserves”	where relating to coal, the tonnage that will be available for sale after beneficiation, if any, from ROM production
“Measured Resources”	the resources for which tonnage, densities, shape, physical characteristics, grade and mineral content can be estimated with a high level of confidence
“metallurgical coal”	coking coal and pulverised coal
“middlings”	a product of coal preparation that, by reason of its ash content, is intermediate between coal and discard
“mined-out”	an area where all economic material has been extracted
“mineral rights”	the ownership of the minerals on or under a given surface with the right to remove the said minerals
“mineralisation”	material containing the target mineral
“mining permit”	permission to mine minerals from a Mineral Rights area
“MLA”	Mining Licence Application
“mlb”	million lb
“monomineralic”	essentially consisting of one mineral
“Mt”	million tonnes
“Mtpa”	million tonnes per annum

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"NO _x "	gases which are oxides of nitrogen.
"NPV"	net present value
"opencast" or "open pit mine"	mine where overlying strata overburden is removed, coal is extracted and the overburden is replaced
"ore"	a mineral or mineral aggregate containing precious or useful minerals in such quantities, grade and chemical combination to make extraction commercially profitable
"outcrop"	the edge or surface of a mineral deposit or sedimentary bed, which appears upon the surface
"overburden"	the alluvium, soil and rock that must be removed in order to expose an ore deposit
"oxalate"	sodium oxalate
"paleo"	ancient, reference to past geological times
"pegmatoid intrusion(s)"	a very coarse grained pegmatic facies of igneous rock
"pelletising"	a process of turning powder material into regular shaped larger sized lumps either by compression or agglomeration
"pillar"	a portion of a metal or coal deposit left in place in an underground mine to provide support for the roof
"pit (mining)"	abbreviation of open pit mine
"plant"	fixed or moveable equipment required in the process of winning or processing the ore
"plies"	successive thin layers of coal or rock
"poikilitic"	igneous rock texture in which small crystals of one mineral are scattered irregularly
"pre-feasibility planning study"	a study with an overall accuracy of +/- 25%
"pregnant solution"	solution containing wanted soluble chemical
"preparation plant yield"	ratio of cleaned coal to run of mine coal, expressed as a percentage
"pre-reduction"	a process whereby furnace feed material is partially reduced, typically in a rotary kiln, reducing the amount of reduction required in the furnace and thereby increasing its effective throughput
"Probable Reserves"	measured and/or indicated resources which are not yet proven but of which detailed technical and economic studies have demonstrated that extraction can be justified at the time of determination and under specific economic conditions
"project"	a coal deposit which is in the pre-operating phase of development and, subject to capital investment, feasibility investigations, statutory and management approvals and business considerations, may be commissioned as a coal mine
"prospecting permit"	permission to prospect for minerals from a mineral rights area
"Proved Reserves"	measured mineral resources of which detailed technical and economic studies have demonstrated that extraction can be justified at the time of determination and under specific economic conditions
"proximate"	a laboratory determination of moisture, volatile matter, ash and fixed carbon
"Pulverised Coal Injection"	the process of blowing finely ground coal into a blast furnace using compressed air
"punch mine"	a small mine in which underground workings are accessible from a coal exposure at an outcrop or from the highwall of a surface mine
"pyroxene"	a mineral group. $ABSi_2O_6$ where A is chiefly Mg/Fe, Ca or Na and B is MgFe or Al
"pyroxenite"	a coarse grained, hollocrystalline igneous rock comprises chiefly of pyroxenes
"quarry"	an open pit mine
"Recoverable Reserves" or "recovery"	where relating to coal, the tonnages of in-situ reserves that are expected to be recovered; i.e. that portion of the seam which will be extracted
"reductant"	an additive used specifically to drive off oxygen in a metallurgical conversion process
"reef(s)"	a layer, vein or lode containing economic mineralisation

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“refining”	the final stage of metal production in which final impurities are removed from the molten metal by introducing air and fluxes. The impurities are removed as gases or slag
“refuse”	waste material in raw coal which the cleaning process removed
“reject”	the material extracted from the ROM coal feed during cleaning, for re-treatment or discard
“reserves”	those parts of mineral resources for which sufficient information is available to enable detailed or conceptual mine planning and for which such planning has been undertaken. Reserves are classified as either proved or probable
“resources”	all of the potential minerals in a defined area based on points of observation and extrapolations from those points. Potential minerals are defined as minerals which have been or could be beneficiated to give a quality acceptable for commercial usage in the foreseeable future and excludes minor mineral occurrences
“rights” or “surface rights”	the ownership of the surface land under which minerals occur
“roaster”	a furnace which, by applying super-heated air to an ore or concentrate, causes oxidation to take place, allowing the ore or concentrate to be successfully treated
“ROM coal feed”	ROM coal supplied to a plant or machine, in which it undergoes some form of preparation
“ROM” or “run-of-mine”	a mineral in its raw, untreated state subsequent to extraction and prior to sizing and other beneficiation
“roof”	the overhead part of an underground mine working
“room”	the excavated tunnel between the pillars in the underground mine workings
“rotary Kiln”	a kiln in the form of a long cylinder, usually inclined and slowly rotated
“royalty”	a share of the product or profit reserved by the owner for permitting another to exploit the property
“saleable production”	the quantity of ore or metal which can be available for sale after considering mining recovery and preparation plant yield
“scrubber”	a general term applied to equipment designed to capture and remove solid or vapour phase impurities from gases prior to their discharge into the atmosphere
“seam”	a mineralised regular vein producing or affording any kind of metallic ores or coal
“SHG” or “special high grade”	zinc ingot of 99% purity
“shaft”	a vertical or inclined excavation, commonly from the surface, of limited cross-sectional area compared to its depth. It is used for mining, draining water, ventilation, lowering and hoisting men, product and waste and lowering materials
“shuttle car”	a trackless vehicle used specifically for being loaded with ROM coal by a continuous miner and shuttling back and forth to a conveyor where the coal is dumped
“silica”	a mineral used as a flux (SiO ₂)
“sill”	a tabular igneous intrusion that parallels the bedding of the surrounding rocks and coal seams, generally of dolerite composition in the South African coal fields
“skrot”	contaminated metal removed from saleable metal
“slag”	formed in smelting through combination of a flux with the waste proportion of the ore
“slurry”	a fluid comprising fine solids suspended in a solution
“smelting”	thermal processing whereby molten metal is liberated from beneficiated ore or concentrate with impurities separated as lighter slag
“SO ₂ ”	sulphur dioxide
“specific gravity” or “SG”	the ratio of the weight of any substance to an equal volume of water
“spirals”	mineral separators, having a spiral flow pattern and relying on specific gravity differences to separate minerals
“spot price”	the current price of a metal for immediate delivery
“stockpile”	an accumulation of ore or mineral

Part X Definitions and glossary of technical terms

“stooping (pillaring)”	the practice of recovering coal left in the support pillars
“stopping”	the act of excavating ore, either above or below a set level, in a series of steps in an underground mine
“stripping”	removing the overburden material from a coal or mineral deposit
“stripping ratio”	the ratio of tonnes of waste mined to tonnes of ore mined in an opencast mining operation
“subcrop”	just below surface
“subsidence”	the sinking or settling of material, especially over an underground mining operation
“tailings”	finely ground rock from which valuable minerals have been extracted by milling
“tailings dam”	one to which the slurry is transported, the solids settling while the liquid may be withdrawn
“talus”	surficial magnetite rocks formed by weathering
“thermal coal”	coal used in generating steam for electricity production
“titaniferous”	titanium bearing
“titanomagnetite”	titanium bearing magnetite
“t” or “tonne”	metric tonne equivalent to 2,204.62 pounds
“tonnage”	the number of tons
“topographical”	the physical features of a district or region delineated on a map
“total sales”	the total sales from a particular mine or operation for the whole year regardless of ownership
“tpa”	tonnes per annum
“ultrabasics rocks”	igneous rocks containing less than 45% silica
“ultramafic igneous complex”	a complex containing less than 45% SiO ₂
“vanadiferous”	vanadium bearing
“vibrating screen - double deck”	a cloth, wire or bar-deck screen vibrated in order to sort material by size. Double deck indicates one screen mounted below the first
“V ₂ O ₅ ”	vanadium pentoxide
“washing plant”	a plant designed to size and clean material to produce predetermined sizes of product
“waste”	rock lacking sufficient grade and/or other characteristics or ore to be economic
“waste parting”	rock or material of no commercial value residing within the ore horizon/reef
“wayleave”	established rights affecting land to which the owner does not hold title
“working face”	part of the mine where ore extraction work is underway, usually where coal is being cut and produced
“zinc concentrate”	product of flotation process typically ranging in zinc content between 45 and 60%

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