

SAMREC 2009		SAMREC 2016	
GLOSSARY OF TERMS			
			<p>Audit</p> <p>A systematic and detailed examination of the Mineral Resource and Mineral Reserve, processes of estimation (including geological, geotechnical and other models), assumptions and conclusions undertaken in order to validate the appropriateness of the various components which contribute to the estimates of the Mineral Resource and Mineral Reserve. An Audit includes a detailed examination of the base data and validation of the Mineral Resources and Reserves estimates. When compliance to the SAMREC Code is declared and signed off, the audit must have been conducted by a Competent Person.</p>
The Companies Act	The Companies Act No 61 of the Republic of South Africa of 1973, as amended or any law that may wholly or in part replace it from time to time.	The Companies Act	The Companies Act No. 71 of the Republic of South Africa of 2008, as amended, or any law that may wholly or in part replace it from time to time.
		Competent Person's Report (CPR)	A CPR is a report on the technical aspects of a project or mine prepared by a Competent Person (CP). The contents are determined by the nature/status of the project/mine being reported and may include a techno-financial model.
Dilution /Contamination	Waste material that is mined during the course of mining operations and thereby forms part of the Reserve	Dilution /Contamination	Waste material that is mined during the course of mining operations and thereby forms part of the Mineral Reserve
Discard and Reject Coal	Discard and Reject Coal are coal or carbonaceous material resulting from mining or coal processing operations with quality parameters that place it outside the current range of saleable coals.		
		Effective date	the date of the most recent scientific or technical information included in the technical report
		Historical Estimate	an estimate of the quantity, grade, or metal or mineral content of a deposit that an issuer has not verified as a current Mineral Resource or Mineral Reserve. The estimate predates the issuing of the Code and/or was prepared before the issuer acquiring, or entering into an agreement to acquire, an interest in the property that contains the deposit.
		Kimberlite Indicator Minerals ("KIM's"), Diamond Indicator Minerals ("DIM's")	Garnet, chrome spinel, ilmenite and chrome diopside having the requisite chemical and physical properties that distinguish them from otherwise similar minerals found in non-diamond associated rock types.
Feasibility Study	A comprehensive design and costing study of the selected option for the development of a mineral project in which appropriate assessments have been made of realistically assumed geological, mining, metallurgical, economic, marketing, legal, environmental, social, governmental, engineering, operational and all other modifying factors, which are considered in sufficient detail to demonstrate at the time of reporting that extraction is reasonably justified (economically mineable) and the factors reasonably serve as the basis for a final decision by a proponent or financial institution to proceed with, or finance, the development of the project. The overall confidence of the study should be stated.		
Life of Mine Plan	A design and costing study of an existing	Life of Mine Plan	A design and costing study of an

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		operation in which appropriate assessments have been made of realistically assumed geological, mining, metallurgical, economic, marketing, legal, environmental, social, governmental, engineering, operational and all other modifying factors, which are considered in sufficient detail to demonstrate at the time of reporting that extraction is reasonably justified.		existing operation in which appropriate assessments have been made of realistically assumed geological, mining, metallurgical, economic, marketing, legal, environmental, social, governmental, engineering, operational and all other Modifying Factors, which are considered in sufficient detail to demonstrate at the time of reporting that extraction is reasonably justified. The level of study should at least be equivalent to a Pre-Feasibility Study.
Licence, Permit, Lease or similar entitlement	Any form of licence, permit or lease, including new- or old order rights or other entitlement granted by the relevant Government in accordance with its mining legislation that confers on the holder certain rights to explore for or extract minerals (or both) that might be contained in the designated area. Alternatively, any form of title that may prove ownership of the minerals.	Licence, Permit, Right, Lease or similar entitlement		Any form of licence, permit, right or lease, or other entitlement granted by the relevant Government in accordance with its mining legislation that confers on the holder certain rights to explore for or extract minerals (or both) that might be contained in the designated area. Alternatively, any form of title that may prove ownership/tenure of the minerals.
			Material	Circumstances are considered material if the associated factor, constituent or information were omitted or misstated, could influence the economic decisions of users. As a rule of thumb, this would normally be equal to or exceed 10%.
			Material Information	Material information is any information relating to the business and affairs of a company that results in or would reasonably be expected to result in a significant change in the market price or value of any of the company's assets. Material information consists of both material facts and material changes related to the business and affairs of a listed company.
			Microdiamonds	Diamonds typically less than 0.5mm that are recovered from samples by total liberation. Microdiamonds are used to understand and predict the diamond size distribution in primary diamond deposits.
Mineable	Those parts of the ore body, both economic and uneconomic, that can be extracted during the normal course of mining.	Mineable		Those parts of the ore body, both economic and uneconomic, that can be extracted during the normal course of mining.
Mine Design	A framework of mining components and processes taking into account such aspects as mining methods used, access to the ore body, personnel and material handling, ventilation, water, power, and other technical requirements, such that mine planning can be undertaken.	Mine Design		A framework of mining components and processes taking into account such aspects as mining methods used, access to the ore body, personnel and material handling, ventilation, water, power, and other technical requirements, such that mine planning can be undertaken.
Mine Planning	Production planning and scheduling, within the Mine Design, taking into account such aspects as geological structures and mineralization and associated infrastructure and constraints.	Mine Planning		Production planning and scheduling, within the Mine Design, taking into account such aspects as geological structures and Mineralisation and associated infrastructure and other constraints.
Modifying Factors	"Modifying Factors" include mining, metallurgical, economic, marketing, legal, environmental, social and governmental considerations.			
			mineral deposit (or deposit)	A mass of naturally occurring mineral material, usually of economic interest, without regard to mode of origin. No commercial value is implied.

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			mineral occurrence	Any mineral of economic interest in any concentration found in bedrock or as float; especially a valuable (or potentially valuable) mineral in sufficient concentration to suggest further exploration.
			mineralisation	The process or processes by which a mineral or minerals are introduced into a rock, resulting in a potentially valuable deposit. It is a general term, incorporating various types, e.g. fissure filling, impregnation, replacement, etc.
Ore Reserves	Although the term Mineral Reserve is used throughout this Code, it is recognized that the term Ore Reserve is still in general use. For the purposes of reporting under the SAMREC Code, these terms are considered to be synonymous.	Ore Reserve	Although the term Mineral Reserve is used throughout this Code, it is recognised that the term Ore Reserve is still in general use. For the purposes of reporting under the SAMREC Code, these terms are considered to be synonymous.	
Pre-feasibility Study	A comprehensive study of the viability of a range of options for a mineral project that has advanced to a stage at which the preferred mining method in the case of underground mining or the pit configuration in the case of an open pit has been established and an effective method of mineral processing has been determined. It includes a financial analysis based on realistic assumptions of technical, engineering, operating, economic factors and the evaluation of other relevant factors that are sufficient for a Competent Person, acting reasonably, to determine if all or part of the Mineral Resource may be classified as a Mineral Reserve. The overall confidence of the study should be stated. A Pre-feasibility Study is at a lower confidence level than a Feasibility Study.			
		Residue / low grade stockpile / tailings	material resulting from mining or processing operations.	
		Review	A systematic and detailed inspection or examination of any element of the Mineral Resource and/or Mineral Reserve estimation process undertaken in order to validate adherence to standards and procedures, identify material errors and/or omissions or improvements, A review might include a detailed examination of the base data. When compliance to the SAMREC Code is declared, the review must have been conducted by a Competent Person.	
ROPO	A Recognized Overseas Professional Organization. A ROPO must: <ol style="list-style-type: none"> 1. Be a self-regulatory organization covering professionals in mining or exploration or both; 2. Admit members primarily on the basis of their academic qualifications and experience; 3. Require compliance with the professional standards of competence and ethics established by the organization; 4. Have disciplinary powers, including the power to suspend or expel a member; and 5. Have been accepted by SSC Committee as a ROPO on behalf of the JSE Limited 	RPO	A Recognised Professional Organisation. A RPO must: <ol style="list-style-type: none"> 1. Be a self-regulatory organisation covering professionals in mining or exploration or both; 2. Admit members primarily on the basis of their academic qualifications and experience; 3. Require compliance with the professional standards of competence and ethics established by the organisation; 4. Have disciplinary powers, including the power to suspend or expel a member; and 5. Have been accepted by SSC Committee as a RPO on behalf of the JSE Limited 	
SAMREC	The South African Mineral Resource Committee	SAMREC	The South African Mineral Resource Committee	

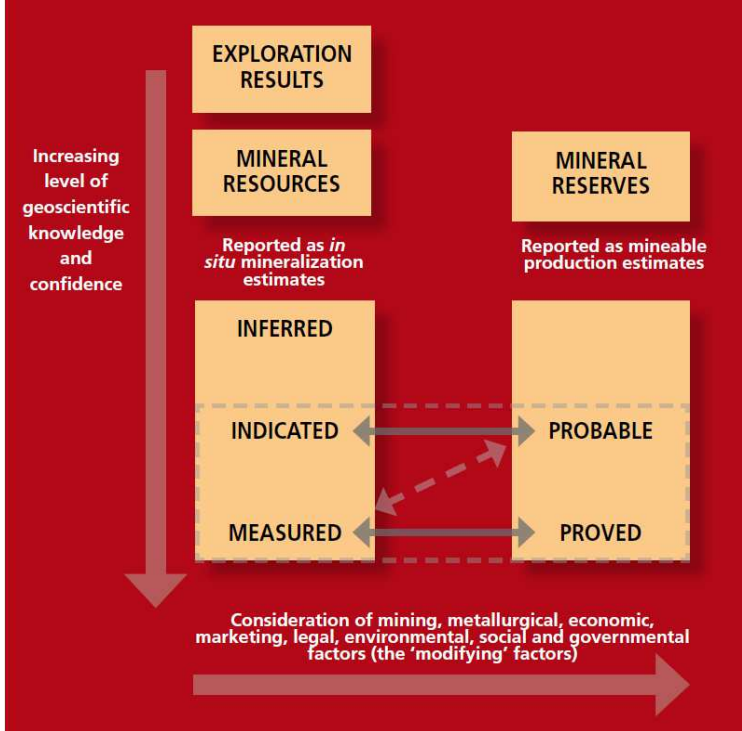
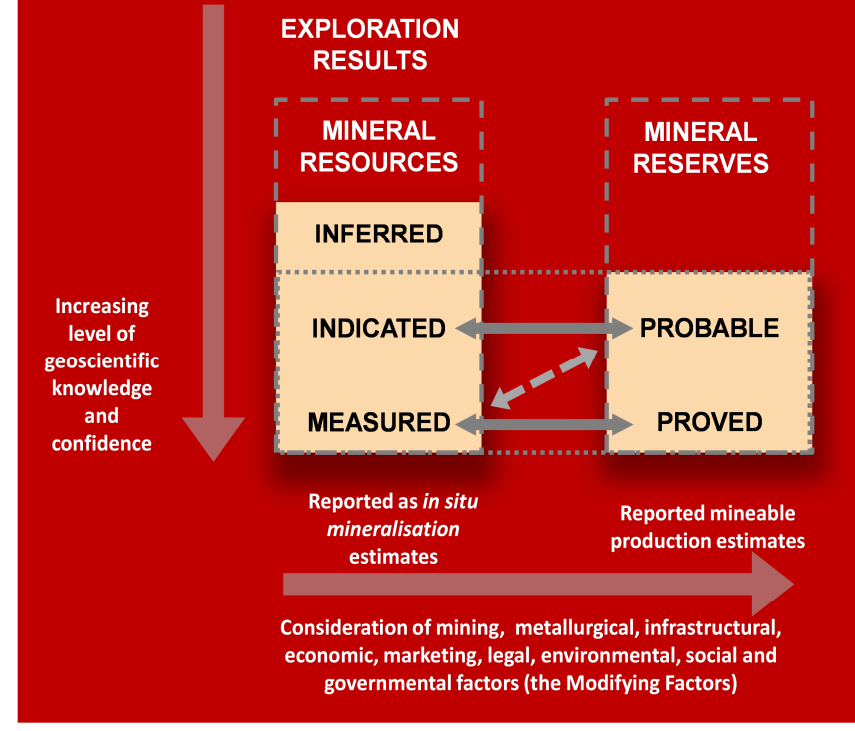
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	SAMVAL Committee	South African Mineral Asset Valuation Committee	SAMVAL Committee	South African Mineral Asset Valuation Committee
			significant project	An exploration or mineral development project that has or could have a significant influence on the market value or operations of the listed company, and/or has specific prominence in Public Reports and announcements.
	SSC Committee	The SAMREC/SAMVAL Committee	SSC Committee	The SAMREC/SAMVAL Committee

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	FOREWORD	
1	<p>The SOUTH AFRICAN CODE FOR THE REPORTING OF EXPLORATION RESULTS, MINERAL RESOURCES AND MINERAL RESERVES (the SAMREC Code, or the Code) sets out minimum standards, recommendations and guidelines for Public Reporting of Exploration Results, Mineral Resources and Mineral Reserves in South Africa. It has been drawn up by the Working Group of the SSC Committee under the joint auspices of the Southern African Institute of Mining and Metallurgy (SAIMM) and the Geological Society of South Africa (GSSA). The SSC consists of representatives of the SAIMM, the GSSA, the South African Council for Natural Scientific Professions (SACNASP), the Geostatistical Association of South Africa (GASA), the South African Council for Professional Land Surveyors and Technical Surveyors (PLATO), the Association of Law Societies of South Africa, the General Council of the Bar of South Africa, the Department of Minerals and Energy (DME), the JSE Limited (JSE), the Council for Geoscience, the Banking Association of South Africa, the Minerals Bureau, the Chamber of Mines of South Africa (CoM), and the University of the Witwatersrand.</p> <p>The first version of the SAMREC Code was issued in March 2000 and adopted by the JSE in their Listings Requirements later that same year. The Code has been adopted by the SAIMM, GSSA, SACNASP, ECSA and PLATO, and it is binding on members of these organizations. For background information and the history of the development of the Code, please refer to the SAMREC Code, March 2000. This 2007 edition supersedes the first edition.</p> <p>Concurrently with the evolution of the SAMREC Code, the Committee for Mineral Reserves International Reporting Standards (CRIRSCO), initially a committee of the Council of Mining and Metallurgical Institutions (CMMI), has, since 1994, been working to create a set of standard international definitions for the reporting of Mineral Resources and Mineral Reserves.</p> <p>As a result of the CRIRSCO/CMMI initiative, considerable progress has been made towards widespread adoption of globally consistent reporting standards. These are embodied in similar Codes, guidelines and standards published and adopted by the relevant professional bodies around the world.</p> <p>The definitions in this edition of the SAMREC Code are either identical to, or not materially different from, those existing international definitions.</p>	<p>The SOUTH AFRICAN CODE FOR THE REPORTING OF EXPLORATION RESULTS, MINERAL RESOURCES AND MINERAL RESERVES (the SAMREC Code, or the Code) sets out minimum standards, recommendations and guidelines for Public Reporting of Exploration Results, Mineral Resources and Mineral Reserves in South Africa. It has been drawn up by the Working Group of the SSC Committee under the joint auspices of the Southern African Institute of Mining and Metallurgy (SAIMM) and the Geological Society of South Africa (GSSA). The SSC consists of representatives of the SAIMM, the GSSA, the South African Council for Natural Scientific Professions (SACNASP), the Geostatistical Association of South Africa (GASA), the South African Geomatics Council (SAGC), the Institute of Mine Surveyors of Southern Africa (IMSSA), the Association of Law Societies of South Africa, the General Council of the Bar of South Africa, the Department of Mineral Resources (DMR), the JSE Limited (JSE), the Council for Geoscience, the Banking Association of South Africa, Directorate of Mineral Economics/Minerals Bureau, the Chamber of Mines of South Africa (CoM) South African Institute of Chartered Accountants (SAICA) and Investment Analysts Society .</p> <p>The first version of the SAMREC Code was issued in March 2000 and adopted by the JSE in their Listings Requirements later that same year. The Code has been adopted by the SAIMM, GSSA, SACNASP, ECSA, IMSSA and SAGC, and it is binding on members of these organisations. For background information and the history of the development of the Code, please refer to the SAMREC Code, March 2000. A second edition of the SAMREC code was issued in 2007 with an amendment being issued in 2009. This 2016 edition supercedes the previous editions of the code.</p> <p>Concurrently with the evolution of the SAMREC Code, the Committee for Mineral Reserves International Reporting Standards (CRIRSCO), initially a committee of the Council of Mining and Metallurgical Institutions (CMMI), has, since 1994, been working to create a set of standard international definitions for the reporting of Mineral Resources and Mineral Reserves.</p> <p>As a result of the CRIRSCO/ICMM initiative, considerable progress has been made towards widespread adoption of globally consistent reporting standards. These are embodied in similar Codes, guidelines and standards published and adopted by the relevant professional bodies around the world.</p> <p>The definitions in this edition of the SAMREC Code are either identical to, or not materially different from, those existing standard definitions published in the CRIRSCO Reporting Template 2013.</p>
	INTRODUCTION	
2	<p>The Code is applicable to the reporting of all styles of solid mineralization or economic deposit. Certain commodities, namely coal and diamonds, have specific additional reporting requirements and these are dealt with from Clause 41 onwards. The Code does not apply to oil, gas or water.</p> <p>In this second edition of the SAMREC Code, the Code is presented predominantly in normal typeface. Definitions are highlighted in bold text and form part of the Code. <i>Guidelines are in italics and are placed after the respective Code clauses to provide assistance and guidance to readers when interpreting the Code.</i></p> <p>The SSC recognizes that further reviews and revisions of the Code may be required. Additional information, rules, lists and best-practice guidelines will be published on the SSC website from time to time, after due process has been followed. (www.samcode.co.za)</p>	<p>The Code is applicable to the reporting of all styles of solid mineralisation or economic deposit. Certain commodities, namely coal, diamonds/gemstones and industrial minerals, have specific additional reporting requirements and these are dealt with from Clause 47 onwards. The Code does not apply to oil, gas or water. The South Africa Oil and Gas Code (SAMOG) is applicable for oil and gas.</p> <p>In this third edition of the SAMREC Code, which supercedes all previous editions, the Code is presented predominantly in normal typeface. Definitions are highlighted in bold text and form part of the Code. <i>Guidelines are in italics and are placed after the respective Code clauses to provide assistance and guidance to readers when interpreting the Code.</i></p> <p>The SSC recognises that further reviews and revisions of the Code may be required. Additional information, rules, lists and best-practice guidelines will be published on the SSC website from time to time, after due process has been followed. (www.samcode.co.za)</p>

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	SCOPE	
3	<p>The Code sets out a required minimum standard for the Public Reporting of Exploration Results, Mineral Resources and Mineral Reserves. References in the Code to Public Report or Public Reporting pertain to those reports detailing Exploration Results, Mineral Resources and Mineral Reserves and prepared as information for investors or potential investors and their advisers.</p> <p>Although the Code is a required minimum standard for Public Reporting, the SSC committee recommends its adoption as a minimum standard for other reporting.</p> <p>Public Reports are all those reports prepared for the purpose of informing investors or potential investors and their advisers and include but are not limited to companies' annual reports, quarterly reports and other reports included in JSE circulars, or as required by the Companies Act. The Code also applies to the following reports if they have been prepared for the purposes described in Clause 3: environmental statements; information memoranda; expert reports; technical papers; website postings; and public presentations.</p> <p><i>For companies issuing annual reports or other summary reports, the inclusion of all material information relating to Exploration Results, Mineral Resources and Mineral Reserves is recommended. Where a summary is presented, it should be clearly stated that it is a summary, with a reference attached giving the location of the Code-compliant Public Reports or Public Reporting on which the summary is based. Companies and other entities are encouraged to provide information that is as comprehensive as possible in their Public Reports.</i></p> <p><i>It is recognized that companies may be required to issue reports for more than one regulatory jurisdiction, with compliance standards other than those contained in the Code. It is recommended that such reports should include a statement alerting the reader to this.</i></p> <p><i>Reference in the Code to 'documentation' pertains to internal company documents prepared as a basis for, or in support of, a Public Report. It is recognized that situations may arise in which such supporting documentation, prepared by Competent Persons for internal company or other private use, may not specifically be compliant with the Code. In such situations, it is recommended that the documentation should include a prominent statement to this effect.</i></p> <p><i>Users of the Code, and those compiling reports that comply with the Code, should be guided by its intent, which is to provide a minimum standard for Public Reporting that investors and their professional advisers would expect to find in the report and for the purpose of making a reasoned and balanced judgement regarding Exploration Results, Mineral Resources or Mineral Reserves.</i></p>	<p>The Code sets out a required minimum standard for the Public Reporting of Exploration Results, Mineral Resources and Mineral Reserves. References in the Code to Public Report or Public Reporting pertain to those reports detailing Exploration Results, Mineral Resources and Mineral Reserves and which are prepared as information for investors or potential investors and their advisers.</p> <p>Although the Code is a required minimum standard for Public Reporting, the SSC committee recommends its adoption as a minimum standard for other reporting.</p> <p>Public Reports are all those reports prepared for the purpose of informing investors or potential investors and their advisers on Exploration Results, Mineral Resources or Mineral Reserves. They include but are not limited to companies' annual and quarterly company reports, press releases, information memoranda, technical papers, website postings and public presentations.</p> <p>These Public Reports may be in printed or electronic media (including social media) and will include JSE circulars, reports as required by the Companies Act, reports for other regulatory authorities or as required by law.</p> <p><i>For companies issuing annual reports or other summary reports, the inclusion of all material information relating to Exploration Results, Mineral Resources and Mineral Reserves shall be included. Where a summary is presented, it should be clearly stated that it is a summary, with a reference attached giving the location of the Public Reports or Public Reporting as reported under the Code on which the summary is based. Companies and other entities are encouraged to provide information that is as comprehensive as possible in their Public Reports.</i></p> <p><i>A company's direct economic interest in the operation / project must be declared and the basis for the determination must be disclosed.</i></p> <p><i>It is recognised that companies may be required to issue reports for more than one regulatory jurisdiction, with compliance standards other than those contained in the Code. It is recommended that such reports should include a statement alerting the reader to this.</i></p> <p><i>Reference in the Code to 'documentation' pertains to company documents or Competent Persons' Reports prepared as a basis for, or in support of, a Public Report. It is recognised that situations may arise in which such supporting documentation, prepared by Competent Persons for company or other private use, may not specifically be prepared in terms of the guidelines of the Code. In such situations, it is recommended that the documentation should include a prominent statement to this effect.</i></p> <p><i>Public reporting refers to any documentation which may find its way into the public domain. It refers not only to reporting or documentation by companies listed on a Securities Exchange, but also includes documents compiled by/for private companies or individuals. While every effort has been made within the Code to cover most situations likely to be encountered in Public Reporting, there may be occasions when doubt exists as to the appropriate form of disclosure. On such occasions, users of the Code and those compiling reports to comply with the Code should be guided by its intent, which is to provide a minimum standard for Public Reporting and the guidelines of materiality, transparency and competence, and to ensure that such reporting contains all information which stakeholders, interested parties, investors and their professional advisers would reasonably require, and reasonably expect to find in the report, for the purpose of making of a reasoned and balanced judgment regarding the Exploration Results, Mineral Resources or Mineral Reserves being reported.</i></p> <p><i>Estimation of Mineral Resources and Mineral Reserves is inherently subject to some level of uncertainty and inaccuracy. Considerable skill and experience may be needed to interpret pieces of information, such as geological maps and analytical results based on samples that commonly only represent a small part of a mineral deposit. The uncertainty in the estimates should be discussed in documentation or Competent Persons' Reports and, where material, in Public Reports, and reflected in the appropriate choice of Mineral Reserve and Mineral Resource categories.</i></p>
4	<p>The Code takes into account issues of a global nature while addressing certain circumstances unique to South Africa. The following principles should be considered in the application of the Code:</p> <p>Materiality: A Public Report contains all the relevant information that investors and their professional advisers would reasonably require, and expect to find, for the purpose of making a reasoned and balanced judgement regarding the Exploration Results, Mineral Resources and Mineral Reserves being reported on.</p> <p>Transparency: The reader of a Public Report must be provided with sufficient information, the presentation of which is clear and unambiguous, to understand the report and not be misled.</p> <p>Competency: The Public Report is based on work that is the responsibility of</p>	<p>The Code takes into account issues of a global nature while addressing certain circumstances unique to South Africa. The following principles should be considered in the application of the Code:</p> <p>Materiality: A Public Report contains all the relevant information that investors and their professional advisers would reasonably require, and expect to find, for the purpose of making a reasoned and balanced judgement regarding the Exploration Results, Mineral Resources and Mineral Reserves being reported.</p> <p>Transparency: The reader of a Public Report must be provided with sufficient information, the presentation of which is clear and unambiguous, to understand the report and not be misled.</p> <p><i>The Competent Person must not remain silent on any issue for which</i></p>

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	<p>suitably qualified and experienced persons who are subject to an enforceable Professional Code of Ethics.</p> <p><i>The author of the Public Report should be satisfied that: his work has not been unduly influenced by the organization, company or person commissioning a report, or any report that may be deemed a Public Report; all assumptions are documented; and adequate disclosure is made of all material aspects that the informed reader may require in order to make a reasonable and balanced judgement thereof.</i></p>	<p><i>the presence or absence of comment could impact the public perception or value of the deposit.</i></p> <p>Competency: The Public Report is based on work that is the responsibility of suitably qualified and experienced persons who are subject to an enforceable Professional Code of Ethics.</p> <p><i>The author of the Public Report should be satisfied that: his/her work has not been unduly influenced by the organisation, company or person commissioning a report or any report that may be deemed a Public Report; all assumptions are documented; and adequate disclosure is made of all material aspects that the informed reader may require in order to make a reasonable and balanced judgement thereof.</i></p>
5	<p>The Code is applicable to all solid minerals for which Public Reporting of Exploration Results, Mineral Resources and Mineral Reserves is required. Minerals are defined as any substance occurring naturally in or on the earth, in or under water or in tailings or dumps, and having been formed by or subjected to a geological process and includes sand, stone, rock, gravel, clay, soil and any mineral occurring in stockpiles or in residue deposits but excludes water, oil and gas.</p>	<p>The Code is applicable to all solid minerals for which Public Reporting of Exploration Results, Mineral Resources and Mineral Reserves is required. Minerals are defined as any substance occurring naturally in or on the earth, in or under water or in tailings, residue or low grade stockpiles, and having been formed by or subjected to a geological process and includes sand, stone, rock, gravel, clay, soil and any mineral occurring in stockpiles or in residue deposits but excludes water, oil and gas.</p>
6	<p>Table 1 provides a list of the main criteria that should be considered and reported upon, if relevant, when reporting on Exploration results, Mineral Resources and Mineral Reserves.</p>	<p>Table 1 provides a list of the main criteria that should be considered and reported upon when reporting on Exploration Results, Mineral Resources and Mineral Reserves</p> <p>In the context of complying with the principles of the Code, comments relating to the items in the relevant sections of Table 1 shall be provided on an 'if not, why not' basis within the Competent Person's Report. The compilation of Table 1 must be undertaken for (i) the first time declaration of Exploration Results, a Mineral Resource or a Mineral Reserve, and (ii) in instances where these items have materially changed from when they were last Publicly Reported for significant projects. Reporting on an 'if not, why not' basis is to ensure that it is clear to an investor or other stakeholders whether items have been considered and deemed of low consequence or are not yet addressed or resolved.</p> <p><i>For the purposes of the Code the phrase 'if not, why not' means that each item listed in the relevant section of Table 1 must be discussed and if it is not discussed then the Competent Person must explain why it has been omitted from the documentation.</i></p> <p><i>A material change could be a change in the estimated tonnage or grade or in the classification of the Mineral Resource or Mineral Reserve. A material change in relation to a significant project must be considered by taking into account all of the relevant circumstances, including the understanding of the deposit and the style of mineralisation, economic assumptions etc. This includes considering whether the change in estimates is likely to have a material effect on the price or value of the mineral asset or of the company.</i></p> <p><i>Additional disclosure is particularly important where inadequate or uncertain data affect the reliability of, or confidence in, a statement of Exploration Results; for example, poor sample recovery, poor repeatability of assay or laboratory results, etc.</i></p> <p><i>By reporting that Exploration Results, Mineral Resources and/or Mineral Reserves in terms of the guidelines of the Code or where reference is made to the Code, whether reported publically or not, the Competent Person takes full responsibility for the declaration. In these instances, a report detailing all aspects of the work shall be prepared that must be available, if requested. The report cannot be reasonably withheld and must be available within a timeframe relevant to the immediate situation.</i></p>

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	COMPETENCE AND RESPONSIBILITY	
7	Documentation detailing Exploration Results, Mineral Resources and Mineral Reserves from which a Public Report is prepared must be prepared by, or under the direction of, and signed by a Competent Person.	Documentation detailing Exploration Results, Mineral Resources and Mineral Reserves from which a Public Report is prepared must be prepared by, or under the direction of, and signed by a Competent Person.
8	<p>A Public Report concerning a company's Exploration Results, Mineral Resources and Mineral Reserves is the responsibility of the company acting through its Board of Directors. Any such report must be based on, and fairly reflect, the Exploration Results, Mineral Resources and Mineral Reserves report(s) and supporting documentation prepared by a Competent Person. A Public Report shall disclose the Competent Person's name, qualifications, professional affiliations and relevant experience. The Competent Person's written approval is required for his or her contribution to the report.</p> <p>Where any specific documentation is referred to in a Public Report, the written approval of the author must be obtained as to the form, content and context in which that documentation is to be included in the Public Report.</p>	<p>A Public Report concerning a company's Exploration Results, Mineral Resources and Mineral Reserves is the responsibility of the company acting through its Board of Directors. Any such report must be based on, and fairly reflect, the Exploration Results, Mineral Resources and Mineral Reserves report(s) and supporting documentation prepared by a Competent Person. A Public Report shall disclose the Competent Person's name, qualifications, professional affiliations and relevant experience. The Competent Person's written approval is required for his or her contribution to the report.</p> <p>Where any specific documentation is referred to in a Public Report, the written approval of the author must be obtained as to the form, content and context in which that documentation is to be included in the Public Report.</p> <p>Where announcements by companies reference the SAMREC Code, the announcement should be approved in writing in advance of publication by the relevant Competent Person.</p>
9	A 'Competent Person' is a person who is registered with SACNASP, ECSA or PLATO, or is a Member or Fellow of the SAIMM, the GSSA or a Recognized Overseas Professional Organisation (ROPO). A complete list of recognized organizations will be promulgated by the SSC from time to time. The Competent Person must comply with the provisions of the relevant promulgated Acts.	A 'Competent Person' is a person who is registered with SACNASP, ECSA or SAGC, or is a Member or Fellow of the SAIMM, the GSSA, IMSSA or a Recognised Professional Organisation (RPO). These organisations have enforceable disciplinary processes including the powers to suspend or expel a member. A complete list of recognised organisations will be promulgated by the SSC from time to time. The Competent Person must comply with the provisions of the relevant promulgated Acts.
10	<p>A Competent Person must have a minimum of five years experience relevant to the style of mineralization and type of deposit or class of deposit under consideration and to the activity he or she is undertaking. If the Competent Person is estimating or supervising the estimation of Mineral Resources, the relevant experience must be in the estimation, assessment and evaluation of Mineral Resources. If the Competent Person is estimating, or supervising the estimation of Mineral Reserves, the relevant experience must be in the estimation, assessment, evaluation and assessment of the economic extraction of Mineral Reserves. Persons being called upon to sign as a Competent Person must be clearly satisfied in their own minds that they are able to face their peers and demonstrate competence in the commodity, type of deposit and situation under consideration.</p> <p><i>The key qualifier in the definition of a Competent Person is the word 'relevant'. Determination of what constitutes relevant experience can be difficult, and common sense should be exercised. For example, in estimating vein gold mineralization, experience in a high-nugget, vein-type mineralization such as tin, uranium etc. will probably be relevant, whereas experience in massive type deposits may not be. Furthermore, a person considered competent in evaluating and reporting on alluvial gold deposits should have considerable experience in this type of mineralization, because of the characteristics of gold in alluvial systems, the particle sizing of the host sediment, and the low grades being quantified. Experience with placer deposits containing minerals other than gold may not necessarily provide relevant experience.</i></p> <p><i>The key word 'relevant' could also mean that it is not always necessary for a person to have five years' experience in each and every type of deposit in order to act as a Competent Person if that person has relevant experience in other deposit types. For example, a person with twenty years' experience in Mineral Resource evaluation in a variety of metalliferous hard-rock deposit types may not require five years' specific experience in porphyry copper deposits in order to act as a Competent Person. Relevant experience in the other deposit types would count towards the required experience in relation to porphyry copper deposits.</i></p> <p><i>In addition to experience in the style of mineralization, a Competent Person reporting Mineral Resources should have sufficient knowledge of sampling and assaying techniques relevant to the deposit under consideration and be aware of problems that could affect the reliability of the data. Some appreciation of extraction and processing techniques applicable to that deposit type would also be important.</i></p> <p><i>It is important that the lead Competent Person accepting overall responsibility for a Mineral Resource or Mineral Reserve report that has been prepared in whole or in part by others is satisfied that the work of the other contributors is acceptable and the constituent parts of the report have been signed off by such contributors.</i></p> <p><i>The lead Competent Person undertaking Mineral Resource or Mineral Reserve reporting should accept full responsibility for the report and should not treat the procedure merely as a 'rubber-stamping' exercise.</i></p> <p><i>Estimation of Mineral Resources may be a team effort (i.e. involving one person or a team collecting the data and another person or team</i></p>	<p>A Competent Person must have a minimum of five years relevant experience to the style of mineralisation or type of deposit under consideration and in the activity which that person is undertaking.</p> <p>If the Competent Person is estimating or supervising the estimation of Mineral Resources, the relevant experience must be in the estimation, assessment and evaluation of Mineral Resources. If the Competent Person is estimating, or supervising the estimation of Mineral Reserves, the relevant experience must be in the estimation, assessment, evaluation and assessment of the economic extraction of Mineral Reserves.</p> <p>Persons being called upon to sign as a Competent Person must be clearly satisfied in their own minds that they are able to face their peers and demonstrate competence in the commodity, type of deposit and situation under consideration.</p> <p><i>The key qualifier in the definition of a Competent Person is the word 'relevant'. Determination of what constitutes relevant experience can be difficult, and common sense should be exercised. For example, in estimating vein gold mineralisation, experience in a high-nugget, vein-type mineralisation such as tin, uranium etc. will probably be relevant, whereas experience in massive type deposits may not be. Furthermore, a person considered competent in evaluating and reporting on alluvial gold deposits should have considerable experience in this type of mineralisation, because of the characteristics of gold in alluvial systems, the particle sizing of the host sediment, and the low grades being quantified. Experience with placer deposits containing minerals other than gold may not necessarily provide relevant experience.</i></p> <p><i>The key word 'relevant' could also mean that it is not always necessary for a person to have five years' experience in each and every type of deposit in order to act as a Competent Person if that person has relevant experience in other deposit types. For example, a person with twenty years' experience in Mineral Resource evaluation in a variety of metalliferous hard-rock deposit types may not require five years' specific experience in porphyry copper deposits in order to act as a Competent Person. Relevant experience in the other deposit types would count towards the required experience in relation to porphyry copper deposits.</i></p> <p><i>In addition to experience in the style of mineralisation, a Competent Person reporting Mineral Resources should have sufficient knowledge of sampling and assaying techniques relevant to the deposit under consideration and be aware of problems that could affect the reliability of the data. Some appreciation of extraction and processing techniques applicable to that deposit type would also be important.</i></p> <p><i>If a lead Competent Person is appointed, it is important that the lead Competent Person accepting overall responsibility for a Mineral Resource or Mineral Reserve report that has been prepared in whole or in part by others is satisfied that the work of the other contributors, who may be Competent Persons in their own right, is acceptable and the constituent parts of the report have been signed off by such contributors.</i></p> <p><i>The lead Competent Person reporting on Exploration Results or undertaking Mineral Resource or Mineral Reserve reporting should accept full responsibility for the report and should not treat the</i></p>

	SAMREC 2009	SAMREC 2016
	<p>preparing the Mineral Resource estimate). Estimation of Mineral Reserves is commonly a team effort involving a number of technical disciplines. It is recommended that, where there is a clear division of responsibilities within a team, each person should accept responsibility for his or her particular contribution. For example, one person could accept responsibility for the collection of Resource data, another for the Resource estimation process, another for the mining study and the lead Competent Person acting as project leader should accept overall responsibility for the report.</p>	<p>procedure merely as a 'rubber-stamping' exercise.</p> <p>Estimation of Mineral Resources may be a team effort (i.e. involving one person or a team collecting the data and another person or team preparing the Mineral Resource estimate). Estimation of Mineral Reserves is commonly a team effort involving a number of technical disciplines. It is recommended that, where there is a clear division of responsibilities within a team, each person should accept responsibility for his or her particular contribution. For example, one person could accept responsibility for the collection of Mineral Resource data, another for the Mineral Resource estimation process, another for the mining study and the lead Competent Person acting as project leader should accept overall responsibility for the report.</p> <p>A site visit or inspection to the mineral property being evaluated must be undertaken by the Competent Person(s) and appropriate member(s) of the team. If a site visit is not undertaken, the reasons should be given, which may include non-materiality. Where work was undertaken prior to the inspection, a declaration by the Competent Person that the work has been validated and the information can be relied on, must be made.</p>
11	Complaints made in respect of the Public Report of a Competent Person will be subject to the disciplinary procedures of the SSC.	Complaints made in respect of the Public Report of a Competent Person will be subject to the disciplinary procedures of the SSC.
REPORTING TERMINOLOGY		
12	<p>Public Reports dealing with Exploration Results, Mineral Resources and Mineral Reserves must use only the terms Proved or Probable Mineral Reserves, Measured, Indicated and Inferred Mineral Resources and Exploration Results as set out in Figure 1.</p> <p>Figure 1 sets out the framework for classifying tonnage and grade estimates so as to reflect different levels of geoscientific confidence and different degrees of technical and economic evaluation. Mineral Resources can be estimated on the basis of geoscientific information with some input from other relevant disciplines. Mineral Reserves, which are modified Indicated and Measured Mineral Resources (shown within the dashed outline in Figure 1), require consideration of the Modifying Factors affecting extraction.</p> <p>Measured Mineral Resources may convert to either Proved Mineral Reserves or Probable Mineral Reserves if there are uncertainties associated with modifying factors that are taken into account in the conversion from Mineral Resources to Mineral Reserves. The broken arrow in Figure 1 demonstrates this relationship. Although the trend of the broken arrow includes a vertical component, it does not, in this instance, imply a reduction in the level of geoscientific knowledge or confidence. In such a situation these modifying factors should be fully explained.</p> <p>The term 'Modifying Factors' is defined to include mining, metallurgical, economic, marketing, legal, environmental, social and governmental considerations.</p>	<p>Public Reports dealing with Exploration Results, Mineral Resources and Mineral Reserves shall-use only the terms Proved or Probable Mineral Reserves, Measured, Indicated and Inferred Mineral Resources and Exploration Results as set out in Figure 1.</p> <p>Figure 1 sets out the framework for classifying tonnage and grade estimates so as to reflect different levels of geoscientific confidence and different degrees of technical and economic evaluation. Mineral Resources can be estimated on the basis of geoscientific information with some input from other relevant disciplines. Mineral Reserves, which are modified Indicated and Measured Mineral Resources (shown within the dashed outline in Figure 1), require consideration of the Modifying Factors affecting extraction.</p> <p>Modifying Factors are considerations used to convert Mineral Resources to Mineral Reserves. These include, but are not restricted to, mining, metallurgical, infrastructure, economic, marketing, legal, environmental, social and governmental factors.</p> <p>Measured Mineral Resources may convert to either Proved Mineral Reserves or Probable Mineral Reserves if there are uncertainties associated with Modifying Factors that are taken into account in the conversion from Mineral Resources to Mineral Reserves. The broken arrow in Figure 1 demonstrates this relationship. Although the trend of the broken arrow includes a vertical component, it does not, in this instance, imply a reduction in the level of geoscientific knowledge or confidence. In such a situation these Modifying Factors should be fully explained.</p>
		
Figure 1: Relationship between Exploration Results, Mineral Resources and Mineral Reserves		

	SAMREC 2009	SAMREC 2016
	REPORTING GENERAL	
13	Public Reporting concerning a company's Exploration Results, Mineral Resources and Mineral Reserves must include a description of the style and nature of mineralization.	Public Reporting concerning a company's Exploration Results, Mineral Resources and Mineral Reserves must include a description of the style and nature of mineralisation.
14	A company must disclose relevant information concerning the status and characteristics of a mineral deposit that could materially influence the economic value of the deposit and promptly report any material changes in its Exploration Results, Mineral Resources and Mineral Reserves.	A company must disclose relevant information concerning the status and characteristics of a mineral deposit that could materially influence the economic value of the deposit and promptly report any material changes in its Exploration Results, Mineral Resources and Mineral Reserves.
15	When reporting on commodity-specific requirements for Coal Resources and Coal Reserves, use must be made of Clauses 41 to 53, which contain amendments and additions, and such will take precedence over all common clauses.	When reporting on commodity-specific requirements for Coal Resources and Coal Reserves, use must be made of Clauses 47 to 58, which contain amendments and additions, which take precedence over all common clauses.
16	When reporting on commodity-specific requirements for Diamond Resources and Diamond Reserves, use must be made Clauses 54 to 62, which contain amendments and additions, and such will take precedence over all common clauses.	When reporting on commodity-specific requirements for Diamond Resources and Diamond Reserves (or Gemstone Resources and Gemstone Reserves), use must be made Clauses 59 to 71, which contain amendments and additions, which take precedence over all common clauses.
17		When reporting on commodity-specific requirements for Industrial Minerals, use must be made Clause 72, which contains amendments and additions, which take precedence over all common clauses.
18		When reporting of Exploration Results, Mineral Resources or Mineral Reserves for polymetallic deposits in terms of metal equivalents use must be made Clause 73, which contains amendments and additions, which take precedence over all common clauses.
19	Throughout the Code, where appropriate, 'quality' may be substituted for 'grade' and 'volume' may be substituted for 'tonnage.' In the Code, any reference to the singular shall include a reference to the plural, where appropriate.	Throughout the Code, where appropriate, 'quality' may be substituted for 'grade' while 'volume' may be substituted for 'tonnage.' In the Code, any reference to the singular shall include a reference to the plural, where appropriate.
	REPORTING OF EXPLORATION RESULTS	
20	Exploration Results include data and information generated by exploration programmes that may be of use to investors. The Exploration Results may or may not be part of a formal declaration of Mineral Resources or Mineral Reserves.	<p>Exploration Results include data and information generated by exploration programmes that may be of use to investors but which do not form part of a declaration of Mineral Resources or Mineral Reserves.</p> <p>Exploration Results may not be part of a formal declaration of Mineral Resources or Mineral Reserves, and must not be presented in a way that unreasonably implies the discovery of potentially economic mineralisation.</p> <p>Exploration Results must include relevant data and information relating to the mineral property - both positive and negative.</p> <p>Exploration data and information may include survey, geological, geophysical, geochemical, sampling, drilling, trenching, analytical testing, assaying, mineralogical, metallurgical and other information, where available. At least some physical evidence of assumed continuity of the Mineralisation on the property of interest must be presented by the Competent Person.</p> <p>Historical data and information may also be included if, in the considered opinion of the Competent Person, such is relevant and reliable, giving reasons for such conclusions.</p> <p>The data and information may be derived from adjacent or nearby properties if the Competent Person can provide justification of continuity for such an association. The actual data and/or information must be appropriately described and presented where not already in the public domain.</p> <p><i>Balanced reporting is required. Reporting of selected results / data / information such as isolated assays, isolated drill holes, assays of panned concentrates or supergene-enriched soils or surface samples, without placing them into perspective, is therefore unacceptable. When assay and analytical results are reported, one of the following methods, selected as the most appropriate by the Competent Person, must be used: by listing all results along with sample intervals (or size, in the case of bulk samples), or by reporting weighted average grades of mineralised zones, indicating clearly how the grades were estimated.</i></p> <p><i>If true widths of Mineralisation are not reported, an appropriate qualifying statement must be included in the Public Reports.</i></p>
21	<p>In Public Reports, under 'Exploration Results,' mineralization not classified as a Mineral Resource or Mineral Reserve must be described as a deposit, and the data and information relating to it must be enough to allow a considered and balanced judgement of their significance. Exploration Results must include all relevant exploration information, part of which is the location of the deposit. Such reporting must not be presented in a way that unreasonably implies the discovery of potentially economic mineralization.</p> <p>Reporting of selected information such as isolated assays, isolated drill holes, assays of panned concentrates or supergene-enriched soils or surface samples, without placing them in perspective, is unacceptable.</p> <p><i>When assay and analytical results are reported, one of the following methods, selected as the most appropriate by the Competent Person,</i></p>	<p>An Exploration Target is a statement or estimate of the exploration potential of a mineral deposit in a defined geological setting where the statement or estimate, quoted as a range of tonnes and a range of grade or quality, relates to mineralisation for which there has been insufficient exploration to estimate Mineral Resources.</p> <p>It is common practice for a company to comment on and discuss its exploration in terms of size and type. However, any such comment in a Public Report must comply with the following requirements.</p> <p>An 'Exploration Target' is a concept of mineralisation with respect to type, quantity and quality, which would be of interest to an exploration or mining company. There must be a likelihood that this exploration target occurs in an area of geological prospectivity for that commodity and mineralisation type.</p>

	SAMREC 2009	SAMREC 2016
	<p><i>must be used: by listing all results, along with sample intervals (or size, in the case of bulk samples), or by reporting weighted average grades of mineralized zones, indicating clearly how the grades were calculated. Exploration information should include the interpretation of geological continuity, sampling results, locations etc. Table 1, at the end of this Code, is a checklist for all who prepare reports on Exploration Results, Mineral Resources and Mineral Reserves. It should be used as a guide. The checklist is not prescriptive and, as always, relevance and materiality are overriding principles that determine what information should be publicly reported.</i></p>	<p>An Exploration Target need not represent any discovered Mineralisation, nor does it imply reasonable and realistic prospects for possible economic extraction.</p> <p>Any such information relating to an Exploration Target must, however, be expressed so that it cannot be misrepresented or misconstrued as an estimate of a Mineral Resource or Mineral Reserve. The terms Resource or Reserve must not be used in this context. Details of the Exploration Target may not appear in any tabulation of Mineral Resources or be included in a Scoping Study, Pre-Feasibility or Feasibility study.</p> <p><i>When discussing Exploration Targets, the Competent Person should clearly describe the rationale for such selection, including the geological model on which it is based, as well as justification for any statements of conceptual quantity and quality. In addition the intended exploration work programme to explore for the target must be included, detailing the extent of the proposed exploration activities, the planned timeframe and the anticipated costs. Public Reporting of an Exploration Target shall not be done unless supported by exploration. Without an explicit exploration work programme on a specific mineral property held by the Company, public reporting of an Exploration Target must be regarded as being solely speculative.</i></p> <p>'Mineralisation' as used in the Code, is defined as a concentration (or occurrence) of material of possible economic interest, in or on the earth's crust, for which quantity and quality cannot be estimated with sufficient confidence to be defined as a Mineral Resource.</p> <p>Mineralisation not classified as a Mineral Resource or Mineral Reserve can only be reported under Exploration Results. The data and information relating to it must be sufficient to allow a considered and balanced judgement of its significance.</p>
22	<p>It is common practice for a company to comment on and discuss its Exploration Results in terms of size and type. Any such information relating to exploration targets must not be expressed or misrepresented as an estimate of Mineral Resources or Mineral Reserves. The term Resource(s) or Reserves(s) must not be used in this context. Any statement referring to potential quantity, quality and content, as appropriate, of the target must be expressed as ranges and include a detailed explanation of the basis for the statement and a proximate statement that the potential quantity, quality and content, as appropriate, are conceptual in nature, that there has been insufficient exploration to define a Mineral Resource and that it is uncertain if further exploration will result in the determination of a Mineral Resource.</p>	<p>Any information relating to Exploration Results, Exploration Targets or Mineralisation must not be expressed or misrepresented as an estimate of Mineral Resource or Mineral Reserve. The term Mineral Resource(s) or Mineral Reserves(s) must not be used in this context. Any statement referring to potential quantity, quality and content, as appropriate, must be substantiated and include a detailed explanation of the basis for the statement and a proximate statement, with the same prominence, that the potential quantity, quality and content, as appropriate, are conceptual in nature, that there has been insufficient exploration to define a Mineral Resource and that it is uncertain if further exploration could result in the determination of a Mineral Resource.</p> <p>A cautionary statement may be by way of a footnote while a general disclaimer elsewhere in the disclosure document will not satisfy this requirement.</p> <p><i>'Same prominence' is defined as the same font type and size and 'proximate location' is defined as the cautionary statement being included in the same paragraph as or immediately following the reported Exploration Results.</i></p> <p>Where the statement includes information relating to ranges of tonnages and grades these must be represented as approximations. The explanatory text must include a description of the process used to determine the grade and tonnage ranges used to describe the Exploration Target or Mineralisation.</p> <p><i>Any statement referring to quantity and quality must reflect the lack of reliable data. The conceptual nature of the statements must be expressed either through the use of "order of magnitude", including appropriate descriptive terms (such as approximately, in the order of, etc.) or as "ranges", which is defined as the variation between the lowest and highest relevant Exploration Results – the use of ranges in this context has no statistical relevance.</i></p> <p><i>Appropriate rounding should be used to express the level of uncertainty of the estimates. By way of example, "approximately one to two million tonnes at a grade of more than 3-5% Cu" or "an Exploration Target of more than 100 million tonnes of coal in excess of 16 MJ/kg for power generation markets" would be acceptable, but not "2±0.2 million tonnes". When estimates are quoted, statements of both quantity and quality must be provided. It is not permissible to quote one without the other.</i></p> <p><i>Estimates of potential quantity and quality should, preferably, be made in terms of volume (or area) and not tonnage. If, however, target tonnages are reported then the preliminary estimates, or basis of assumptions, made for bulk density must be stated.</i></p> <p>Given the level of uncertainty surrounding the supporting data, the tonnage or grade of Mineralisation or an Exploration Target must not be reported as a 'headline statement' in a Public Report.</p> <p>If Mineralisation or an Exploration Target is shown pictorially (for instance as cross sections or maps) or with a graph, it must be accompanied by text that meets the requirements above (Clauses 21 and 22).</p> <p>A Public Report that includes Mineralisation or an Exploration Target must be accompanied by a Competent Person statement taking responsibility for the form and context in which the Mineralisation or Exploration Target appears in</p>

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		the Report.
REPORTING OF MINERAL RESOURCES		
23	<p>A ‘Mineral Resource’ is a concentration or occurrence of material of economic interest in or on the earth’s crust in such form, quality and quantity that there are reasonable and realistic prospects for eventual economic extraction. The location, quantity, grade, continuity and other geological characteristics of a Mineral Resource are known, or estimated from specific geological evidence, sampling and knowledge interpreted from an appropriately constrained and portrayed geological model. Mineral Resources are subdivided, and must be so reported, in order of increasing confidence in respect of geoscientific evidence, into Inferred, Indicated or Measured categories.</p> <p>A deposit is a concentration (or occurrence) of material of possible economic interest, in or on the earth’s crust, that may include mineralized material that cannot be estimated with sufficient confidence to be classified in the Inferred category. Portions of a deposit that do not have reasonable and realistic prospects for eventual economic extraction are not included in a Mineral Resource.</p> <p>For each category of Mineral Resource the basis of classification must be disclosed (refer to Table 1).</p> <p><i>The term Mineral Resource covers in-situ mineralization as well as dumps or tailings that have been identified and estimated through exploration or assessment and sampling from which Mineral Reserves may be derived by the application of modifying factors.</i></p> <p><i>Any material assumptions made in determining the ‘reasonable and realistic prospects for eventual economic extraction’ should be clearly stated in the Public Report.</i></p> <p><i>The term ‘reasonable and realistic prospects for eventual economic extraction’ implies a judgement (albeit preliminary) by the Competent Person in respect of technical and economic factors likely to influence the prospect of economic extraction, including the approximate mining parameters. In other words, a Mineral Resource is not an inventory of all mineralization drilled or sampled, regardless of cut-off grades, likely mining dimensions, location or continuity. It is a realistic inventory of mineralization that, at the time of reporting and under assumed and justifiable technical and economic conditions, might become economically extractable.</i></p> <p><i>Portions of a mineral deposit that do not have reasonable and realistic prospects for eventual economic extraction must not be included in a Mineral Resource.</i></p> <p><i>Interpretation of the word ‘eventual’ in this context may vary depending on the commodity, mineral involved or legal tenure. For example, for many occurrences of coal, iron ore, bauxite and other bulk minerals or commodities, it may be reasonable to envisage ‘eventual economic extraction’ as covering periods of 50 years or more. However for other deposits, application of the concept would normally be restricted to perhaps 20 to 30 years and frequently much shorter periods.</i></p> <p><i>Certain reports (e.g. exploration reports to Government and other similar reports not intended primarily for providing information for investment purposes) may require full disclosure of all mineralization including some material that does not have reasonable and realistic prospects for eventual economic extraction. Portions of the mineral deposit that do not qualify as Mineral Resources must not be described as such.</i></p> <p><i>Any adjustment made to the data for the purpose of making the Mineral Resource estimate, for example by cutting or factoring grades, or any other relevant assumptions, should be clearly described in the Public Report.</i></p> <p><i>Where considered appropriate by the Competent Person, Mineral Resources may include mineralization below the selected cut-off grade to ensure that the Mineral Resource consists of bodies of mineralization of adequate size and continuity to properly consider the most appropriate approach to mining, including any dilution or contamination resulting from the requirements of any minimum mining width. Documentation of Mineral Resource estimates should clearly define any such inclusions, and Public Reports should include commentary on the matter if considered material.</i></p>	<p>A ‘Mineral Resource’ is a concentration or occurrence of material of economic interest in or on the earth’s crust in such form, quality and quantity that there are reasonable and realistic prospects for eventual economic extraction. The location, quantity, grade, continuity and other geological characteristics of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge, including sampling.</p> <p>Mineral Resources are subdivided, and must be so reported, in order of increasing confidence in respect of geoscientific evidence, into Inferred, Indicated or Measured categories.</p> <p>Any Mineralisation that does not have demonstrated reasonable and realistic prospects for eventual economic extraction may not be included in a Mineral Resource.</p> <p>Geological evidence and knowledge required for the estimation of Mineral Resources must include sampling data of a type, and at spacings, appropriate to the geological, chemical, physical, and mineralogical complexity of the mineral occurrence, for all classifications of Inferred, Indicated and Measured Mineral Resources.</p> <p>A Mineral Resource cannot be estimated in the absence of sampling information.</p> <p>For each category of Mineral Resource the basis of classification must be disclosed (Table 1).</p> <p><i>The term Mineral Resource covers in-situ Mineralisation as well as residue, low grade stockpiles or tailings that have been identified and estimated through exploration or assessment and sampling from which Mineral Reserves may be derived by the application of Modifying Factors.</i></p> <p><i>A Mineral Resource is not an inventory of all Mineralisation drilled or sampled, regardless of cut-off grades, likely mining dimensions, location or continuity. It is a realistic record of Mineralisation that, at the time of reporting and under assumed and justifiable technical and economic conditions, might become economically extractable. Any Mineralisation that does not qualify as a Mineral Resource must not be described as such. Certain reports (e.g. exploration / prospecting reports to Government and other similar reports not intended primarily for providing information for investment purposes) may require full disclosure of all Mineralisation including some material that does not have reasonable and realistic prospects for eventual economic extraction. Such estimates of Mineralisation would not qualify as Mineral Resources or Mineral Reserves in terms of the SAMREC Code.</i></p> <p><i>Reasonable and realistic prospects for eventual economic extraction must be demonstrated through the application of an appropriate level of consideration of the potential viability of Mineral Resources. Such a consideration must include a reasoned assessment of the geological, engineering (including mining and processing parameters), metallurgical, legal, infrastructural, environmental, marketing, socio-political and economic assumptions which, in the opinion of the Competent Person, are likely to influence the prospect of economic extraction. All of the issues listed in Table 1, under “Reasonable and Realistic prospects for eventual economic extraction” must be discussed to the level appropriate for the specific investigation.</i></p> <p><i>If criteria such as deleterious minerals or physical properties are of more relevance than the composition of the bulk mineral itself, then they should be reported accordingly.</i></p> <p><i>The determination of reasonable and realistic prospects for eventual economic extraction should be based on the principle of reasonableness, and should be justifiable and defensible. The assumptions used to test for reasonable and realistic prospects should be reasonable and within known/assumed tolerances or have examples of precedence. These assumptions should be applied at an appropriate and reasonable scale, and may differ from those used for conversion of Mineral Resources to Mineral Reserves and should be appropriate to the definition of Mineral Resources in terms of precision, accuracy, degree of confidence and variability.</i></p> <p><i>Where untested practices are applied in the determination of reasonable prospects, the use of the proposed practices for reporting of the Mineral Resource must be justified by the Competent Person in the Public Report.</i></p> <p><i>Interpretation of the word ‘eventual’ in this context may vary depending on the commodity, mineral involved or legal tenure. For example, for many occurrences of coal, iron ore, bauxite and other bulk minerals or commodities, it may be reasonable to envisage ‘eventual economic extraction’ as covering periods of 50 years or more. However for other deposits, application of the concept would normally be restricted to</i></p>

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		<p><i>perhaps 20 to 30 years and frequently much shorter periods. The Competent Person must discuss the parameters used to support the concept of 'eventual'.</i></p> <p><i>Any adjustment made to the data for the purpose of making the Mineral Resource estimate, for example by cutting or factoring grades, or any other relevant assumptions, should be clearly described in the Public Report. Should part or all of the anticipated mining take place after the tenement has expired, it should be stated in the Public Report.</i></p> <p><i>Where considered appropriate by the Competent Person, Mineral Resources estimates may include Mineralisation below the selected cut-off grade to ensure that the Mineral Resource consists of bodies of Mineralisation of adequate size and continuity to properly consider the most appropriate approach to mining, including any dilution or contamination resulting from the requirements of any minimum mining width (in addition to cut-off grades, Mineral Resources can also be defined by geological constraints, which may include, but are not limited to, structure, stratigraphic boundaries, or geometallurgical/mineralogical constraints). Documentation of Mineral Resource estimates should clearly define any such inclusions, and Public Reports should include commentary on the matter, if considered material.</i></p>
24	<p>An 'Inferred Mineral Resource' is that part of a Mineral Resource for which volume or tonnage, grade and mineral content can be estimated with only a low level of confidence. It is inferred from geological evidence and sampling and assumed but not verified geologically or through analysis of grade continuity. It is based on information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes that may be limited in scope or of uncertain quality and reliability.</p> <p>An Inferred Mineral Resource has a lower level of confidence than that applying to an Indicated Mineral Resource.</p> <p><i>Where Inferred Mineral Resources are extrapolated beyond data points, the proportion extrapolated must be described and disclosed.</i></p> <p><i>This category is intended to cover situations in which a mineral concentration or occurrence has been identified and limited measurements and sampling have been completed, but in which the data are insufficient to allow the geological or grade continuity to be interpreted with confidence. Due to the uncertainty that may be attached to some Inferred Mineral Resources, it cannot be assumed that all or part of an Inferred Mineral Resource will necessarily be upgraded to an Indicated or Measured Mineral Resource after continued exploration.</i></p>	<p>An Inferred Mineral Resource is that part of a Mineral Resource for which quantity and grade or quality are estimated on the basis of limited geological evidence and sampling. Geological evidence is sufficient to imply but not verify geological and grade or quality continuity.</p> <p>An Inferred Resource has a lower level of confidence than that applying to an Indicated Mineral Resource and must not be converted to a Mineral Reserve.</p> <p>It is reasonably expected that the majority of Inferred Mineral Resources could be upgraded to Indicated Mineral Resources with continued exploration.</p> <p>Where the Mineral Resource being reported is predominantly an Inferred Mineral Resource, sufficient supporting information must be provided to enable the reader to evaluate and assess the risk associated with the reported Mineral Resource.</p> <p>An Inferred Mineral Resource can be based on interpolation between widely spaced data where there is reason to expect geological continuity of Mineralisation. The extent of extrapolation outside of the nominal drill grid spacing should be justified. The report must contain sufficient information to inform the reader of:</p> <ul style="list-style-type: none"> • the maximum distance that the Mineral Resource is extrapolated beyond the sample points. • the proportion of the Mineral Resource that is based on extrapolated data. • the basis on which the Mineral Resource is extrapolated to these limits. • a diagrammatic representation of the Inferred Mineral Resource showing clearly the extrapolated part of the estimated resource. <p><i>This category is intended to cover situations in which a mineral concentration or occurrence has been identified and limited measurements and sampling have been completed, but in which the data are insufficient to allow the geological or grade continuity to be interpreted with confidence.</i></p> <p>While it would be reasonable to expect that the majority of Inferred Mineral Resources would upgrade to Indicated Mineral Resources with continued exploration, due to the uncertainty of Inferred Mineral Resources, it should not be assumed that such upgrading will always occur.</p>
25	<p>It is accepted that mine design and planning may include a proportion of Inferred Mineral Resources. If this category is considered in mine design, planning or economic studies, the results of which are publicly reported, full disclosure must be made and the effect on the results of the studies must be stated. Inferred Mineral Resources may be included in mine design, mine planning and economic studies only if there exists a mine plan and a statement of Mineral Reserves that admits that Inferred Mineral Resources have been used. Where a material amount of mining in the mine plan includes Inferred Mineral Resources, a comparison of the results with and without these Inferred Mineral Resources must be shown, and the rationale behind their inclusion must be explained.</p> <p>Modifying factors and assumptions that were applied to the Indicated and Measured Mineral Resources to determine the Mineral Reserves must be equally applied to the Inferred Mineral Resources.</p> <p>Inferred Mineral Resources cannot be converted to Mineral Reserves and must not be stated as part of the Mineral Reserve.</p>	<p>It is accepted that mine design and planning may include a proportion of Inferred Mineral Resources. If this category is considered in mine design, planning or economic studies, the results of which are publicly reported, full disclosure must be made and the effect on the results of the studies must be stated. Inferred Mineral Resources may be included in mine design, mine planning and economic studies only if a mine plan exists and a statement of Mineral Reserves that states that Inferred Mineral Resources have been used. Where a material amount of mining in the mine plan includes Inferred Mineral Resources, a comparison of the results with and without these Inferred Mineral Resources must be shown, and the rationale behind their inclusion must be explained.</p> <p>Modifying Factors and assumptions that were applied to the Indicated and Measured Mineral Resources to determine the Mineral Reserves must be equally applied to the Inferred Mineral Resources.</p> <p>Inferred Mineral Resources cannot be converted to Mineral Reserves and must not be stated as part of the Mineral Reserve.</p>
26	<p>An 'Indicated Mineral Resource' is that part of a Mineral Resource for which tonnage, densities, shape, physical characteristics, grade and mineral content can be estimated with a reasonable level of confidence.</p>	<p>An Indicated Mineral Resource is that part of a Mineral Resource for which quantity, grade or quality, densities, shape and physical characteristics are estimated with sufficient confidence to allow the</p>

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	<p>It is based on information from exploration, sampling and testing of material gathered from locations such as outcrops, trenches, pits, workings and drillholes. The locations are too widely or inappropriately spaced to confirm geological or grade continuity but are spaced closely enough for continuity to be assumed.</p> <p>The Indicated Mineral Resource has sufficient confidence for mine design, mine planning or economic studies.</p> <p><i>An Indicated Mineral Resource has a lower level of confidence than that applying to a Measured Mineral Resource but has a higher level of confidence than that applying to an Inferred Mineral Resource.</i></p> <p>Confidence in the estimate is sufficient to allow the appropriate application of technical and economic parameters and enable an evaluation of economic viability.</p>	<p>application of Modifying Factors in sufficient detail to support mine planning and evaluation of the economic viability of the deposit. Geological evidence is derived from adequately detailed and reliable exploration, sampling and testing and is sufficient to assume geological and grade or quality continuity between points of observation.</p> <p>An Indicated Mineral Resource has a lower level of confidence than that applying to a Measured Mineral Resource and may only be converted to a Probable Mineral Reserve. An Indicated Mineral Resource has a higher level of confidence than that applying to an Inferred Mineral Resource.</p> <p><i>A deposit or part of a deposit may be classified as an Indicated Mineral Resource when the nature, quality, amount and distribution of data are such as to allow the Competent Person determining the Mineral Resource to confidently interpret the geological framework and to assume physical or grade continuity of Mineralisation. Confidence in the estimate is sufficient to allow the appropriate application of technical and economic parameters to prepare incremental mine plans and production schedules and to enable an evaluation of economic viability. Overall confidence in the estimates is high, while local confidence is reasonable. The Competent Person must recognise the importance of the Indicated Mineral Resource category in the advancement of the feasibility of the project.</i></p> <p><i>An Indicated Mineral Resource estimate must be of sufficient quality to support detailed technical and economic studies leading to Probable Mineral Reserves which can serve as the basis for development decisions. It is imperative that data exists in the area of the Indicated Mineral Resource.</i></p>
27	<p>A 'Measured Mineral Resource' is that part of a Mineral Resource for which tonnage, densities, shape, physical characteristics, grade and mineral content can be estimated with a high level of confidence. It is based on detailed and reliable information from exploration, sampling and testing of material from locations such as outcrops, trenches, pits, workings and drill holes. The locations are spaced closely enough to confirm geological and grade continuity.</p> <p>A Measured Mineral Resource provides sufficient confidence for mine design, mine planning, production planning and detailed economic studies to be undertaken.</p> <p><i>A Measured Mineral Resource requires that the nature, quality, amount and distribution of data are such as to leave the Competent Person with no reasonable doubt that the tonnage and grade of the mineralization can be estimated to within close limits and any variation within these limits would not materially affect the economics of extraction.</i></p> <p><i>This category requires a high level of confidence in, and understanding of, the geology and the controls on mineralization.</i></p>	<p>A Measured Mineral Resource is that part of a Mineral Resource for which quantity, grade or quality, densities, shape, and physical characteristics are estimated with confidence sufficient to allow the application of Modifying Factors to support detailed mine planning and final evaluation of the economic viability of the deposit. Geological evidence is derived from detailed and reliable exploration, sampling and testing and is sufficient to confirm geological and grade or quality continuity between points of observation.</p> <p>A Measured Mineral Resource has a higher level of confidence than that applying to either an Indicated Mineral Resource or an Inferred Mineral Resource. It may be converted to a Proved Mineral Reserve or to a Probable Mineral Reserve. Depending upon the level of confidence in the various Modifying Factors it may be converted to a Proved Mineral Reserve (high confidence in Modifying Factors), Probable Mineral Reserve (some uncertainty in Modifying Factors) or may not be converted at all (low or no confidence in some of the Modifying Factors; or no plan to mine, e.g. pillars in an underground mine or outside economic pit limits).</p> <p><i>A Measured Mineral Resource requires that the nature, quality, amount and distribution of data are such as to leave the Competent Person with no reasonable doubt that the tonnage and grade of the Mineralisation can be estimated to within close limits and any variation within these limits would not materially affect the economics of extraction. This category requires a high level of confidence in, and understanding of, the geology and the controls on mineralisation.</i></p> <p><i>A Measured Mineral Resource estimate must be of sufficient quality to support detailed technical and economic studies leading to Mineral Reserves which can serve as the basis for major development decisions.</i></p>
28	<p>The Competent Person responsible for the Resource estimate must determine the appropriate Mineral Resource category based upon the quantity, distribution and quality of data available and the level of confidence attached to the data with reference to Table 1. The method of determining these confidence levels must be disclosed. Resource classification guidelines are included in Table 1.</p>	<p>The Competent Person responsible for the Resource estimate must determine the appropriate Mineral Resource category based upon the quantity, distribution and quality of data available and the level of confidence attached to the data with reference to Table 1. The method of determining these confidence levels must be disclosed.</p> <p><i>Mineral Resource classification is a matter for skilled judgement and a Competent Person should take into account those items in Table 1 that relate to confidence in Mineral Resource estimation.</i></p> <p><i>In many cases it will be understood that overall tonnages, densities, shapes, physical characteristics, grades or qualities and mineral contents can be estimated with higher levels of confidence, and local tonnages, densities, shapes, physical characteristics, grades or qualities and mineral contents can be estimated only with lower levels of confidence, insufficient for detailed mine planning.</i></p> <p><i>The Competent Person should take into consideration issues of the style of mineralisation and cut-off grade when assessing geological and grade continuity for the purposes of classifying the resource.</i></p> <p><i>Cut-off grades chosen for the estimation should be realistic in relation to the style of mineralisation and the anticipated mining and metallurgical development options.</i></p>
29	<p>The Mineral Resource statement is a summary report of the Resource estimates, with key assumptions used in their derivation as per the guidelines in Table 1.</p>	<p>The Mineral Resource statement is a summary report of the Mineral Resource estimates, with key assumptions used in their derivation as per the guidelines in Table 1. Details regarding Exploration Targets, Exploration</p>

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		Results or Mineralisation may not be included in Mineral Resource statements.
30	Public Reports of Mineral Resources must specify one or more of the categories of 'Inferred', 'Indicated' or 'Measured'. Reports must not contain Mineral Resource figures combining two or more of the categories unless figures for the individual categories are also provided.	Public Reports of Mineral Resources must specify one or more of the categories of 'Inferred', 'Indicated' or 'Measured'. Reports must not contain Mineral Resource information combining two or more of the categories unless information for the individual categories are also provided. Mineral Resources must not be aggregated with Mineral Reserves. <i>Estimates of tonnage and grade outside of the categories covered by the Code may be useful for a company in its internal calculations and evaluation processes, but their inclusion in Public Reports is not permitted.</i> <i>Mineral Resource estimates are sometimes reported after adjustment from reconciliation with production data. Such adjustments should be clearly stated in a Public Report of Mineral Resources and the nature of the adjustment or modification described.</i>
31	A Mineral Resource must not be reported in terms of contained mineral content unless corresponding tonnages and grades are also reported.	A Mineral Resource must not be reported in terms of contained mineral content or metal equivalents unless corresponding tonnages and grades are also reported.
32	The words 'Ore' and 'Reserves' must not be used in stating Mineral Resources. These terms imply a level of technical feasibility and economic viability and are appropriate only when all relevant modifying factors have been applied.	The words 'Ore' and 'Reserves' must not be used in stating Mineral Resources. These terms imply a level of technical feasibility and economic viability and are appropriate only when all relevant Modifying Factors have been applied. Reports and statements should continue to refer to the appropriate category or categories of Mineral Resources until technical feasibility and economic viability have been established. If re-evaluation indicates that the Mineral Reserve is are no longer viable, the Mineral Reserves must be reclassified as Mineral Resources or removed from Mineral Resource/Reserve statements. <i>It is not intended that re-classification from Mineral Reserves to Mineral Resources or vice versa should be applied as a result of changes expected to be of a short term or temporary nature. Examples of such situations might be commodity price fluctuations expected to be of short duration, mine emergency of a non-permanent nature, transport strike, etc.</i>
33	Mineral Resource estimates are not precise calculations, being dependent on the interpretation of limited information about the location, shape and continuity of the occurrence and on the available sampling results. <i>Rounding off must convey the uncertainties in estimation.</i> <i>In order to emphasize the imprecise nature of a Mineral Resource estimate, the final results should always be referred to as an estimate not a calculation, and Inferred Mineral Resources should be qualified with terms such as 'approximately'.</i>	Mineral Resource estimates are not precise calculations, being dependent on the interpretation of limited information about the location, shape and continuity of the occurrence and on the available sampling results. <i>Rounding off must convey the uncertainties in estimation.</i> <i>In order to emphasise the imprecise nature of a Mineral Resource estimate, the final results should always be referred to as an estimate not a calculation, and Inferred Mineral Resources should be qualified with terms such as 'approximately'.</i> <i>Competent Persons are encouraged, where appropriate, to discuss the relative accuracy and confidence level of the Mineral Resource estimates with consideration of at least sampling, analytical and estimation errors. The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnage. Where a statement of the relative accuracy and confidence level is not possible, a qualitative discussion of the uncertainties should be provided in its place (refer to Table 1).</i>
REPORTING OF MINERAL RESERVES		
34	A 'Mineral Reserve' is the economically mineable material derived from a Measured or Indicated Mineral Resource or both. It includes diluting and contaminating materials and allows for losses that are expected to occur when the material is mined. Appropriate assessments to a minimum of a Pre-Feasibility Study for a project and a Life of Mine Plan for an operation must have been completed, including consideration of, and modification by, realistically assumed mining, metallurgical, economic, marketing, legal, environmental, social and governmental factors (the modifying factors). Such modifying factors must be disclosed. Mineral Reserves are reported as inclusive of diluting and contaminating uneconomic and waste material delivered for treatment or dispatched from the mine without treatment. To avoid confusion in reporting Mineral Reserves, the definition of treatment is taken to include any beneficiation of the raw product that might take place before or during the metallurgical process. For clarity, tonnages and grades of saleable product may be reported for certain commodities, with clear descriptions indicating such. <i>Commodity prices and exchange rates used for Mineral Reserve estimation should be disclosed.</i> <i>For commodities traded on metal exchanges, reasonable forward-looking prices should be used. Such prices should be based on historic full-cycle price averages and should be disclosed. However, for commodities not traded on metal exchanges, it is recognized that disclosure of a specific price may put a company at a competitive</i>	A Mineral Reserve is the economically mineable part of a Measured and/or Indicated Mineral Resource. It includes diluting materials and allowances for losses, which may occur when the material is mined or extracted and is defined by studies at Pre-Feasibility or Feasibility level as appropriate that include application of Modifying Factors. Such studies demonstrate that, at the time of reporting, extraction could reasonably be justified. The reference point at which Reserves are defined, usually the point where the ore is delivered to the processing plant, must be stated. It is important that, in all situations where the reference point is different, such as for a saleable product, a clarifying statement is included to ensure that the reader is fully informed as to what is being reported. Mineral Reserves are reported as inclusive of diluting and contaminating uneconomic and waste material delivered for treatment or dispatched from the mine without treatment. To avoid confusion in reporting Mineral Reserves, the definition of treatment is taken to include any beneficiation of the raw product that might take place before or during the metallurgical process. For clarity, tonnages and grades of saleable product may be reported for certain commodities, with clear descriptions indicating such. <i>Commodity prices and exchange rates used for Mineral Reserve estimation should be disclosed.</i> <i>For commodities traded on metal exchanges, reasonable forward-looking prices should be used. Such prices should be based on historic full-cycle price averages and should be disclosed. However, for</i>

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	<p><i>disadvantage, and this must be stated.</i></p> <p><i>When commodity prices are disclosed, disclosure can be as a single price estimate equal to that used for reserve determination, or as a range of prices within which no material change in reserves would occur. Whether or not the commodity prices used to estimate reserves are published, the method used to determine those prices should be disclosed. Such disclosure should be in a manner that helps investors determine whether, in their own opinion, the stated prices represent reasonable views of the future.</i></p> <p><i>Mineral Reserves are sub-divided in order of increasing confidence into Probable and Proved Mineral Reserves. For each category of Mineral Reserve, the confidence levels in the modifying factors should be disclosed.</i></p> <p><i>The term 'economically mineable' implies that extraction of the Mineral Reserve has been demonstrated as viable and justifiable under a defined set of realistically assumed modifying factors. What constitutes the term 'realistically assumed' will vary with the type of deposit, level of study that has been carried out, and financial criteria of the reporting entity. Deriving a Mineral Reserve without a mine design or mine plan through a process of factoring of the Mineral Resource is unacceptable.</i></p> <p><i>If there is doubt about what should be reported, it is better to provide too much information rather than too little. Any adjustment to the data for the purpose of making the Mineral Reserve estimate, for example by cutting or factoring grades or any other modifying factor, should be clearly described in the Public Report.</i></p> <p><i>The Code does not imply that an economic operation must have Proved Mineral Reserves. Situations may arise in which Probable Mineral Reserves alone may be sufficient to justify extraction, as for example with some alluvial tin, diamond or gold deposits. This is a matter for judgement by the Competent Person.</i></p>	<p><i>commodities not traded on metal exchanges, it is recognised that disclosure of a specific price may put a company at a competitive disadvantage, and this must be stated.</i></p> <p><i>When commodity prices are disclosed, disclosure can be as a single price estimate equal to that used for Mineral Reserve determination, or as a range of prices within which no material change in Mineral Reserves would occur. Whether or not the commodity prices used to estimate Mineral Reserves are published, the method used to determine those prices should be disclosed. Such disclosure should be in a manner that helps investors determine whether, in their own opinion, the stated prices represent reasonable views of the future.</i></p> <p><i>Mineral Reserves are sub-divided in order of increasing confidence into Probable and Proved Mineral Reserves. For each category of Mineral Reserve, the confidence levels in the Modifying Factors should be disclosed.</i></p> <p><i>The term 'economically mineable' implies that extraction of the Mineral Reserve has been demonstrated as viable and justifiable under a defined set of realistically assumed Modifying Factors and application of the requirements of a Pre-feasibility or Feasibility Study. What constitutes the term 'realistically assumed' will vary with the type of deposit, level of study that has been carried out, and financial criteria of the reporting entity. Deriving a Mineral Reserve without a mine design or mine plan through a process of factoring of the Mineral Resource is unacceptable.</i></p> <p><i>If there is doubt about what should be reported, it is better to provide too much information rather than too little. Any adjustment to the data for the purpose of making the Mineral Reserve estimate, for example by cutting or factoring grades or any other modifying factor, should be clearly described in the Public Report.</i></p> <p><i>When reporting Mineral Reserves, a sensitivity analysis should be conducted. The disclosure of commodity price and other financial assumptions used for this analysis is recommended</i></p> <p><i>The Code does not imply that an economic operation must have Proved Mineral Reserves. Situations may arise in which Probable Mineral Reserves alone may be sufficient to justify extraction, as for example with some alluvial tin, diamond or gold deposits. This is a matter for judgement by the Competent Person.</i></p>
35	<p>A 'Probable Mineral Reserve' is the economically mineable material derived from a Measured or Indicated Mineral Resource or both. It is estimated with a lower level of confidence than a Proved Mineral Reserve. It includes diluting and contaminating materials and allows for losses that are expected to occur when the material is mined. Appropriate assessments to a minimum of a Pre-Feasibility Study for a project or a Life of Mine Plan for an operation must have been carried out, including consideration of, and modification by, realistically assumed mining, metallurgical, economic, marketing, legal, environmental, social and governmental factors. Such modifying factors must be disclosed.</p>	<p>A Probable Mineral Reserve is the economically mineable part of an Indicated, and in some circumstances, a Measured Mineral Resource. The confidence in the Modifying Factors applying to a Probable Mineral Reserve is lower than that applying to a Proved Mineral Reserve.</p>
36	<p>A 'Proved Mineral Reserve' is the economically mineable material derived from a Measured Mineral Resource. It is estimated with a high level of confidence. It includes diluting and contaminating materials and allows for losses that are expected to occur when the material is mined. Appropriate assessments to a minimum of a Pre-Feasibility Study for a project or a Life of Mine Plan for an operation must have been carried out, including consideration of, and modification by, realistically assumed mining, metallurgical, economic, marketing, legal, environmental, social and governmental factors. Such modifying factors must be disclosed.</p>	<p>A Proved Mineral Reserve is the economically mineable part of a Measured Mineral Resource. A Proved Mineral Reserve implies a high degree of confidence in the Modifying Factors.</p>
37	<p>The categorization of a Mineral Reserve is governed by the relevant level of confidence of the Mineral Resource and the modifying factors and must be made by the Competent Person.</p> <p><i>The Code provides for a direct relationship between the criteria applied to Indicated Mineral Resources and Probable Mineral Reserves and between the criteria applied to Measured Mineral Resources and Proved Mineral Reserves. In other words, the level of geoscientific confidence for Probable Mineral Reserves is similar to that required for the determination of Indicated Mineral Resources. The level of geoscientific confidence for Proved Mineral Reserves is similar to that required for the determination of Measured Mineral Resources. Inferred Mineral Resources are always additional to Mineral Reserves and should be quoted as such.</i></p> <p><i>The Code also provides for a relationship between Measured Mineral Resources and Probable Mineral Reserves. This is to cover the situation in which uncertainties associated with any of the modifying factors considered when converting Mineral Resources to Mineral Reserves result in a lower degree of confidence in the Mineral Reserves than in the corresponding Mineral Resources. Such a conversion would not</i></p>	<p>The categorisation of a Mineral Reserve is governed by the relevant level of confidence of the Mineral Resource and the Modifying Factors and must be made by the Competent Person.</p> <p><i>The Code provides for a direct relationship between the criteria applied to Indicated Mineral Resources and Probable Mineral Reserves and between the criteria applied to Measured Mineral Resources and Proved Mineral Reserves. In other words, the level of geoscientific confidence for Probable Mineral Reserves is similar to that required for the determination of Indicated Mineral Resources. The level of geoscientific confidence for Proved Mineral Reserves is similar to that required for the determination of Measured Mineral Resources. Inferred Mineral Resource is are always additional to Mineral Reserves and should be quoted as such.</i></p> <p><i>The Code also provides for a relationship between Measured Mineral Resources and Probable Mineral Reserves. This is to cover the situation in which uncertainties associated with any of the Modifying Factors considered when converting Mineral Resource to Mineral Reserve result in a lower degree of confidence in the Mineral Reserve than in the corresponding Mineral Resource. Such a conversion would not imply a</i></p>

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	<p><i>imply a reduction in the level of geoscientific knowledge or confidence.</i></p> <p><i>A Probable Mineral Reserve derived from a Measured Mineral Resource may be converted to a Proved Mineral Reserve if the uncertainties in the modifying factors are reduced. No amount of confidence in the modifying factors for conversion of a Mineral Resource into a Mineral Reserve can override the upper level of confidence that exists in the Mineral Resource. Under no circumstances can an Indicated Mineral Resource be converted direct to a Proved Mineral Reserve (see Figure 1).</i></p> <p><i>Application of the category of Proved Mineral Reserves implies the highest degree of confidence in the estimate, with consequent expectations in the minds of the readers of the report. These expectations must be borne in mind when categorising a Mineral Resource as measured.</i></p>	<p><i>reduction in the level of geoscientific knowledge or confidence.</i></p> <p><i>A Probable Mineral Reserve derived from a Measured Mineral Resource may be converted to a Proved Mineral Reserve if the uncertainties in the Modifying Factors are reduced. No amount of confidence in the Modifying Factors for conversion of a Mineral Resource into a Mineral Reserve can override the upper level of confidence that exists in the Mineral Resource. Under no circumstances can an Indicated Mineral Resource be converted direct to a Proved Mineral Reserve (Figure 1).</i></p> <p><i>Application of the category of Proved Mineral Reserves implies the highest degree of confidence in the estimate, with consequent expectations in the minds of the readers of the report. These expectations must be borne in mind when categorising a Mineral Resource as measured.</i></p>
38	<p>Mineral Reserve estimates are not precise calculations, and tonnages and grades must be expressed so as to convey the order of accuracy of the estimates by rounding off to appropriately significant figures.</p> <p><i>Rounding off must convey the uncertainties in estimation.</i></p> <p><i>In order to emphasize the imprecise nature of a Mineral Reserve estimate, the final results should always be referred to as an estimate, not a calculation.</i></p>	<p>Mineral Reserve estimates are not precise calculations, and tonnages and grades must be expressed so as to convey the order of accuracy of the estimates by rounding off to appropriately significant figures.</p> <p><i>Rounding off must convey the uncertainties in estimation.</i></p> <p><i>In order to emphasise the imprecise nature of a Mineral Reserve estimate, the final results should always be referred to as an estimate, not a calculation.</i></p>
39	<p>Public Reports of Mineral Reserves must not contain combined Proved and Probable Mineral Reserves unless the relevant figures for each of the categories are also provided. Reports must not present mineral contents unless corresponding tonnages and grades are given.</p> <p><i>Mineral Reserves may incorporate diluting and contaminating uneconomic and waste material that is not part of the original Mineral Resource. It is essential to bear in mind this fundamental difference between Mineral Resources and Mineral Reserves. Caution must be exercised if attempting to draw conclusions from a comparison of the two.</i></p> <p><i>Public Reporting of tonnages and grades outside the categories covered by the Code is not permitted, although the figures may be useful to a company in its internal calculations and evaluations.</i></p>	<p>Public Reports of Mineral Reserves must not contain combined Proved and Probable Mineral Reserves unless the relevant information for each of the categories are also provided. Reports must not present mineral contents unless corresponding tonnages and grades are given.</p> <p><i>Mineral Reserves may incorporate diluting and contaminating uneconomic and waste material that is not part of the original Mineral Resource. It is essential to bear in mind this fundamental difference between Mineral Resources and Mineral Reserves. Caution must be exercised if attempting to draw conclusions from a comparison of the two.</i></p> <p><i>Public Reporting of tonnages and grades outside the categories covered by the Code is not permitted, although the figures may be useful to a company in its internal calculations and evaluations.</i></p>
40	<p>When revised Mineral Resource and Mineral Reserve statements are publicly reported, they must be reconciled with previous statements. A detailed account of differences between the figures is not essential, but sufficient comment should be made to enable significant variances to be understood by the reader.</p>	<p>When revised Mineral Resource and Mineral Reserve statements are publicly reported, they must be reconciled with previous statements. A detailed account of differences between the figures is not essential, but sufficient comment should be made to enable material variances to be understood by the reader.</p>
41	<p>In situations in which figures for both Mineral Resources and Mineral Reserves are reported, the Public Report must include a statement that clearly indicates whether the Mineral Resources are inclusive of, or additional to those Mineral Resources that have been modified to produce Mineral Reserves. <i>In some situations, there are reasons for reporting Mineral Resources inclusive of Mineral Reserves.</i></p> <p><i>In other situations, there are reasons for reporting Mineral Resources additional to Mineral Reserves. It must be made clear which form of reporting has been adopted. Appropriate forms of clarifying statements may be:</i></p> <p><i>'The Measured and Indicated Mineral Resources are inclusive of those modified to produce Mineral Reserves' or 'The Measured and Indicated Mineral Resources are additional to Mineral Reserves.'</i></p> <p><i>In the first example, if any Mineral Resources have not been modified to produce Mineral Reserves for economic or other reasons, the relevant details of these unmodified Mineral Resources should be included in the Public Report. This is to help the reader judge the likelihood of the unmodified Measured and Indicated Mineral Resources eventually being converted to Mineral Reserves.</i></p> <p><i>For reasons stated in the first guideline of Clause 37 and in this paragraph, the reported Mineral Reserve figures cannot be added to the reported Mineral Resource figures. The resulting total is misleading and is capable of being misunderstood or, more seriously, misused to give a false impression of a company's prospects.</i></p> <p><i>When reporting Mineral Reserves, a sensitivity analysis should be conducted. The disclosure of commodity price and other financial assumptions used for this analysis is recommended.</i></p>	<p>In situations in which both Mineral Resources and Mineral Reserves are reported, the Public Report must include a statement that clearly indicates whether the Mineral Resources are inclusive of, or additional to those Mineral Resources that have been modified to produce Mineral Reserves.</p> <p><i>In some situations, there are reasons for reporting Mineral Resources inclusive of Mineral Reserves. In other situations, there are reasons for reporting Mineral Resources additional to Mineral Reserves. It must be made clear which form of reporting has been adopted. Appropriate forms of clarifying statements may be:</i></p> <p><i>'The Measured and Indicated Mineral Resources are inclusive of those modified to produce Mineral Reserves' or 'The Measured and Indicated Mineral Resources are additional to Mineral Reserves.'</i></p> <p><i>In the first example, if any Mineral Resources have not been modified to produce Mineral Reserves for economic or other reasons, the relevant details of these unmodified Mineral Resources should be included in the Public Report. This is to help the reader judge the likelihood of the unmodified Measured and Indicated Mineral Resources eventually being converted to Mineral Reserves.</i></p> <p><i>For reasons stated in the first guideline of Clause 39 and in this paragraph, the reported Mineral Reserve cannot be added to the reported Mineral Resource . The resulting total is misleading and is capable of being misunderstood or, more seriously, misused to give a false impression of a company's prospects.</i></p>
42	<p>The above clauses apply equally to low-grade mineralization, often intended for stockpiling and treatment towards the end of the life of the mine.</p> <p>If some portion of stope-fill or stockpile, dumps, remnants, pillars and tailings is currently sub-economic, but there is a reasonable expectation that it will become economic, then this material may be classified as a Mineral Resource. If technical and economic studies have demonstrated that economic extraction could be reasonably justified under realistically assumed</p>	<p>The above clauses apply equally to low-grade Mineralisation, often intended for stockpiling and treatment towards the end of the life of the mine.</p> <p>If some portion of stope-fill or stockpile, residue or low grade stockpiles, remnants, pillars and tailings is currently sub-economic, but there is a reasonable expectation that it will become economic, then this material may be classified as a Mineral Resource. If technical and economic studies have demonstrated that economic extraction could be reasonably justified under realistically assumed conditions, then the material may be classified as a</p>

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	<p>conditions, then the material may be classified as a Mineral Reserve.</p> <p>If there are no reasonable prospects for the economic extraction of a particular portion of the above-mentioned material, then this material cannot be classified as either Mineral Resources or Mineral Reserves. Mineralized remnants, shaft pillars and mining pillars that are not potentially mineable must not be included in Mineral Resource and Mineral Reserve statements.</p> <p>For clarity of understanding, the tonnage and grade estimates of such material must be itemized separately as Mineral Resources or Mineral Reserves in Public Reports, although they may be aggregated in total Mineral Resource and Mineral Reserve figures.</p>	<p>Mineral Reserve.</p> <p>If there are no reasonable prospects for the economic extraction of a particular portion of the above-mentioned material, then this material cannot be classified as either Mineral Resources or Mineral Reserves. Mineralised remnants, shaft pillars and mining pillars that are not potentially mineable must not be included in Mineral Resource and Mineral Reserve statements.</p> <p>For clarity of understanding, the tonnage and grade estimates of such material must be itemised separately as Mineral Resources or Mineral Reserves in Public Reports, although they may be aggregated in total Mineral Resources and total Mineral Reserves.</p>
	TECHNICAL STUDIES	
43		<p>A mining project typically passes through exploration, resource definition and design phases; each of which involves rapidly escalating levels of investment. Each phase requires an increasing level of economic and technical assessment with increasing levels of confidence for the project design, scheduling, costs and risks; to justify progression of the project to the next investment level.</p> <p><i>Table 2 provide guidance in terms of the level of Technical Studies.</i></p> <p><i>The Code does not require that a full Feasibility Study has to be undertaken to convert Mineral Resources to Mineral Reserves, but it does require that at least a Pre-Feasibility Study or Life of Mine Plan will have been carried out to determine that the mine plan/production profile is technically achievable and economically viable, and that material Modifying Factors have been considered to an appropriate level of confidence.</i></p> <p><i>During early exploration, some level of financial analysis may be carried out by a company on exploration data which might not include Mineral Resource estimates to assess the potential for the project to proceed to the next phase of exploration. These analyses are considered to be a part of the exploration program planning and are solely for internal company decision making purposes. They are not for public disclosure.</i></p>
44		<p>A Scoping Study is an order of magnitude technical and economic study of the potential viability of Mineral Resources that includes appropriate assessments of realistically assumed Modifying Factors together with any other relevant operational factors that are necessary to demonstrate at the time of reporting that progress to a Pre-Feasibility Study can be reasonably justified.</p> <p><i>The accuracy of a Scoping Study should be informed by Table 2 and high level assumptions based on industry benchmarks, vendor productivity information and the experience of the CP.</i></p> <p><i>If Inferred Mineral Resources are used the required disclosure as set out in Clause 25 of the Code must be applied and the entity must include a proximate cautionary statement with the same prominence such as:</i></p> <p><i>'The Scoping Study referred to in this report is based on low-level technical and economic assessments. It is preliminary in nature, and includes Inferred Mineral Resources which are insufficient to provide certainty that the conclusions of the Scoping Study will be realised.'</i></p> <p><i>A Scoping Study may not include Historical estimates, Exploration Results, Exploration Targets or Mineralisation.</i></p> <p><i>A Scoping Study must include appropriate assessments of realistically assumed Modifying Factors together with any other relevant operational factors that are necessary for the Competent Person to demonstrate at the time of reporting, whether or not the project is potentially viable and if it can be reasonably justified to recommend proceeding to a Pre-Feasibility Study.</i></p> <p><i>While initial mining and metallurgical plans may have been developed during a Scoping Study, a the Scoping Study may not be used as the basis for the estimation of Mineral Reserves.</i></p>
45		<p>A Preliminary-Feasibility Study is a comprehensive study of a range of options for the technical and economic viability of a mineral project that has advanced to a stage where a preferred mining method, in the case of underground mining, or the pit configuration, in the case of an open pit, is established and an effective method of mineral processing is determined. It includes a financial analysis based on reasonable assumptions on the Modifying Factors and the evaluation of any other relevant factors which are sufficient for a Competent Person , acting reasonably, to determine if all or part of the Mineral Resource may be converted to a Mineral Reserve at the time of reporting. A Pre-Feasibility Study is at a lower confidence level than a Feasibility Study</p> <p><i>The purpose of the PFS is to provide information to justify the decision to proceed to a Feasibility Study, to continue data collection and assessments, or to abandon the project. It is the lowest acceptable level of study for the</i></p>

	SAMREC 2009	SAMREC 2016
		<p><i>conversion of Mineral Resources to Mineral Reserves.</i></p> <p><i>The accuracy of the inputs to a PFS should be informed by Table 2 and derived from vendor budget quotes for major items combined with current cost database, benchmarking against similar projects with current or similar site labour costs, scale of operations and productivities etc.</i></p> <p><i>A PFS may include Measured and Indicated Mineral Resources, or a combination of these. If Inferred Mineral Resources are used the required disclosure as set out in Clauses 25 of the Code must be applied. No part of an Inferred Mineral Resource may contribute to a Mineral Reserve.</i></p> <p><i>Historical estimates, Exploration Results, Exploration Targets and Mineralisation may not be included in a PFS.</i></p>
46		<p>A Feasibility Study is a comprehensive technical and economic study of the selected development option for a mineral project that includes appropriately detailed assessments of applicable Modifying Factors together with any other relevant operational factors and detailed financial analysis that are necessary to demonstrate at the time of reporting that extraction is reasonably justified (economically mineable). The results of the study may reasonably serve as the basis for a final decision by a proponent or financial institution to proceed with, or finance, the development of the project. The confidence level of the study will be higher than that of a Pre-Feasibility Study</p> <p><i>The accuracy of the inputs for a FS should be informed by Table 2 and must be derived from multiple vendor quotes for major items combined with a current cost database, current site labour costs, site specific productivities, detailed materials cost to site, etc.</i></p>
REPORTING OF COAL EXPLORATION RESULTS , COAL RESOURCES AND COAL RESERVES		
47	<p>This part of the Code addresses matters specific to the Public Reporting of Coal Resources and Coal Reserves. Clauses 1 to 40 of this Code also apply to the Public Reporting of Coal Resources and Coal Reserves, unless otherwise stated in this part of the Code. However, the term 'Coal' should replace the terms 'Mineral' and 'Ore'; 'coal deposit' should replace 'mineralization'; and 'coal quality' should replace 'grade and mineral content' throughout both Code and guidelines. For Coal Reserves, all references to 'metallurgical' modifying factors should be replaced by 'coal processing' modifying factors.</p>	<p>This part of the Code addresses matters specific to the Public Reporting of Coal Resources and Coal Reserves. Clauses 1 to 46 of this Code also apply to the Public Reporting of Coal Resources and Coal Reserves, unless otherwise stated in this part of the Code. However, the term 'Coal' should replace the terms 'Mineral' and 'Ore'; 'coal deposit' should replace 'mineralisation'; and 'coal quality' should replace 'grade' and 'yield' should replace 'mineral content' throughout both the Code and the guidelines. For Coal Reserves, all references to 'metallurgical' Modifying Factors should be replaced by 'coal processing' Modifying Factors.</p>
48	<p>Amendment to Clause 6.</p> <p>The South African Guide to the Systematic Evaluation of Coal Resources and Coal Reserves (SANS 10320:2004) provides the main criteria that should be considered when preparing reports on Coal Resources and Coal Reserves. The reader is referred to the South African Guide to the Systematic Evaluation of Coal Resources and Coal Reserves for the definition of the relevant terms and for the methods used in the evaluation of coal deposits. Any reference to Table 1 in the Code should be substituted by a reference to the Guide mentioned above. The evaluation criteria need not be discussed in a Public Report unless they materially affect estimation or classification of the Coal Resources and Coal Reserves. However, changes in economic or political factors alone may be the basis for significant changes in Coal Reserves and should be reported accordingly.</p>	<p>Addition to Clause 6.</p> <p>The Systematic Evaluation of Coal Deposits, Coal Exploration Results, Inventory Coal, Coal Resources and Coal,Reserves (SANS 10320) provides the methodologies and definitions of the relevant terms that should be considered when preparing reports on Coal Resources and Coal Reserves.</p>
49	<p>Replacement of Figure 1</p> <p>Public Reports on Coal Resources and Coal Reserves must use only the terms set out in Figure 2. Any reference to 'Figure 1' in the Code must be substituted by a reference to 'Figure 2'.</p>	<p>Replacement of Figure 1 with Figure 2 which is Coal specific</p> <p>Public Reports of Coal Exploration Results, Coal Resources and Coal Reserves must use only the terms set out in Figure 2. Any reference to 'Figure 1' in the Code must be substituted by a reference to 'Figure 2'.</p>
50	<p>Amendment to Clause 22</p> <p>An 'Inferred Coal Resource' is that part of a Coal Resource for which volume or tonnage and coal quality can be estimated only with a low level of confidence. It is inferred from geological evidence and sampling and assumed physical continuity with or without coal quality continuity. It is based on information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill-holes, information that is limited or of uncertain quality and reliability.</p> <p>The level of confidence is usually insufficient to justify a Pre-feasibility Stud</p>	<p>Amendment to Clause 24</p> <p>An 'Inferred Coal Resource' is that part of a Coal Resource for which quantity and coal quality are estimated on the basis of limited geological evidence and sampling. Geological evidence is sufficient to imply but not verify geological and grade or quality continuity An Inferred Coal Resource has a lower level of confidence than that applying to an Indicated Coal Resource and must not be converted to a Coal Reserve. It is reasonably expected that the majority of Inferred Coal Resources could be upgraded to Indicated Coal Resources with continued exploration</p> <p>While it would be reasonable to expect that the majority of Inferred Coal Resources would upgrade to Indicated Coal Resources with continued exploration, due to the uncertainty of Inferred Coal Resources, it should not be assumed that such upgrading will always occur.</p>
51	<p>Amendment to Clause 24</p> <p>An 'Indicated Coal Resource' is that part of a Coal Resource for which tonnage, densities, shape, physical characteristics and coal quality can be estimated with a moderate level of confidence. It is based on information from exploration, sampling and testing of material gathered from locations such as outcrops, trenches, pits, workings and drill</p>	<p>Amendment to Clause 25</p> <p>An 'Indicated Coal Resource' is that part of a Coal Resource for which quantity, grade or quality, densities, shape and physical characteristics are estimated with sufficient confidence to allow the application of Modifying Factors in sufficient detail to support mine planning and evaluation of the economic viability of the deposit. Geological evidence is derived from adequately detailed and reliable</p>

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<p>holes. The locations are appropriate to confirm physical continuity, while the locations are too widely or inappropriately spaced to confirm the continuity of the coal quality. However, such locations are spaced closely enough for such continuity to be assumed.</p> <p>The level of confidence should be sufficient to support a decision on whether a Pre-feasibility Study or Feasibility Study is warranted</p>	<p>exploration, sampling and testing and is sufficient to assume geological and grade or quality continuity between points of observation.</p> <p>An Indicated Coal Resource has a lower level of confidence than that applying to a Measured Coal Resource and may only be converted to a Probable Coal Reserve.</p>

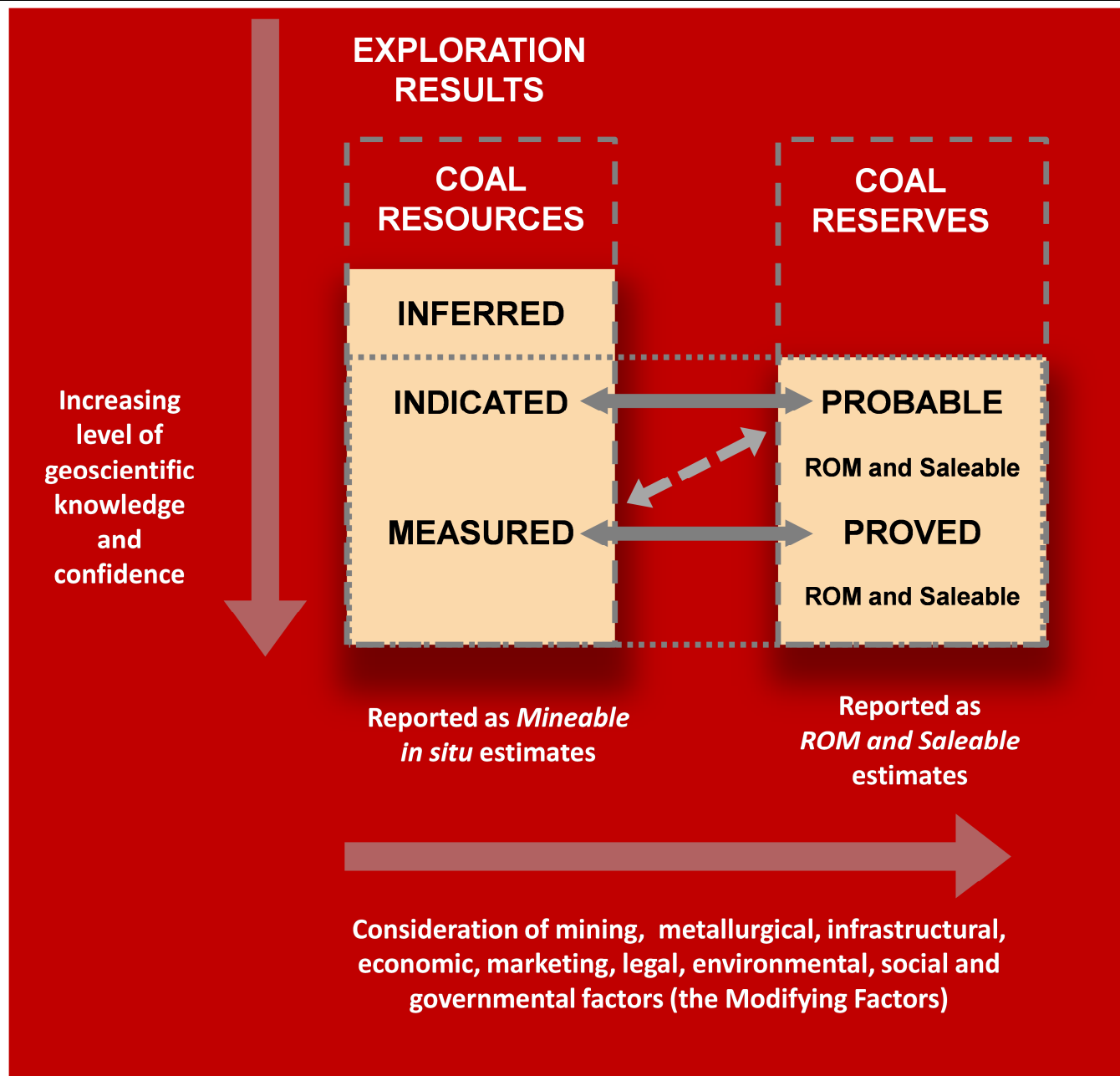


Figure 2: Relationship between Coal Resources and Coal Reserves

52	<p>Amendment to Clause 25</p> <p>A 'Measured Coal Resource' is that part of a Coal Resource for which tonnage, densities, shape, physical characteristics and coal quality can be estimated with a high level of confidence. It is based on detailed and reliable information from exploration, sampling and testing of material gathered from locations such as outcrops, trenches, pits, workings and drill holes. The locations are spaced closely enough to confirm physical and coal quality continuity.</p>	<p>Amendment to Clause 26</p> <p>A 'Measured Coal Resource' is that part of a Coal Resource for which quantity, grade or quality, densities, shape, and physical characteristics are estimated with confidence sufficient to allow the application of Modifying Factors to support detailed mine planning and final evaluation of the economic viability of the deposit. Geological evidence is derived from detailed and reliable exploration, sampling and testing and is sufficient to confirm geological and grade or quality continuity between points of observation.</p> <p>A Measured Coal Resource has a higher level of confidence than that applying to either an Indicated Coal Resource or an Inferred Coal Resource. It may be converted to a Proved Coal Reserve or to a Probable Mineral Reserve.</p>
53		<p>Addition to Clause 23</p> <p>A 'Mineable Tonnes In Situ Coal Resource' is the tonnage and coal quality, at a specified moisture content, contained in the coal seam or section of the seams, which are proposed to be mined at the theoretical mining height, adjusted by the geological loss factors and de-rating for previous mining activities, with respect to a specific mining method and after the relevant minimum and maximum mineable thickness cut-offs and relevant coal quality cut-off parameters have been applied.</p> <p>Mineable Tonnes In Situ (MTIS) Coal Resources are subdivided in order of increasing geoscientific knowledge and confidence into Inferred, Indicated or Measured categories.</p> <p>The MTIS Coal Resource must be reported.</p>
	<p>Addition to Clause 33.</p> <p>A Probable Coal Reserve may be demonstrated to be economically mineable by a Pre-Feasibility Study.</p>	
	<p>Addition to Clause 34</p> <p>A Proved Coal Reserve may be demonstrated to be economically mineable</p>	

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	by a Feasibility Study or actual mining activity.	
54	<p>A 'Mineable In Situ Coal Reserve' is the tonnage and coal quality, at specified moisture content, contained in coal seams, or sections of seams, that are proposed for mining, adjusted by the application of the geological loss factors. Sufficient information must be available to enable conceptual or detailed mine planning, and such mine planning must have been undertaken.</p> <p>The assessments must demonstrate that at the time of reporting, extraction is reasonably justified. Mineable In Situ Coal Reserve estimates must be quoted separately for surface and underground extraction, and an outline of the proposed mining method must be provided. Mineable In Situ Coal Reserves are subdivided in order of increasing confidence into Probable Mineable In Situ Coal Reserve and Proved Mineable In Situ Coal Reserve categories.</p>	
55	<p>A 'Run of Mine' (ROM) Coal Reserve is the tonnage and coal quality of Mineable In Situ Coal Reserves that are expected after all geological losses, mining losses, mining dilution, contamination and moisture-content factors have been applied.</p> <p>The assessments must demonstrate that at the time of reporting extraction is reasonably justified. ROM Coal Reserves are subdivided in order of increasing confidence into Probable ROM Coal Reserves and Proved ROM Coal Reserves. The ROM Coal Reserves must be reported.</p>	<p>A 'Run of Mine' (ROM) Coal Reserve is the tonnage and coal quality, at a specified moisture content, contained in the coal seam or section of the coal seam, at the practical mining height, which is expected to be recovered after all geological losses, mining losses, dilution, contamination and moisture correction factors have been applied.</p> <p>ROM Coal Reserves is defined by studies at Pre-Feasibility or Feasibility level as appropriate that include application of Modifying Factors and such studies and assessments must demonstrate that at the time of reporting extraction and marketing of the saleable products derived from the ROM Coal Reserves could reasonably be justified.</p> <p>The ROM Coal Reserve must be reported separately for surface mining operations and for underground mining operations. The ROM Coal Reserve is subdivided in order of increasing confidence into Probable ROM Coal Reserve and Proved ROM Coal Reserve categories.</p> <p>For each category of ROM Coal Reserve, the confidence levels in the Modifying Factors must be disclosed.</p> <p>The ROM Coal Reserve must be reported.</p>
56	<p>A 'Saleable Coal Reserve' is the tonnage and coal quality that will be available for sale, either in the raw ROM state at a specified moisture content or after beneficiation of the ROM Coal Reserves has produced materials at specified qualities, moisture contents and size ranges.</p> <p>The assessment must demonstrate that at the time of reporting, the marketing of products is reasonably justified. The basis of the predicted yield to achieve the Saleable Coal Reserve must be stated. For raw ROM products, the practical product yield is typically 100%. Saleable Reserves are subdivided in order of increasing confidence into Probable Saleable Coal Reserve and Proved Saleable Coal Reserve categories. The Saleable Coal Reserves must be reported.</p>	<p>A 'Saleable Coal Reserve' is the tonnage and coal quality derived from the ROM Coal Reserve that will be available for sale, either as a raw ROM coal product at a specified moisture content or after beneficiation of the ROM Coal Reserve by coal processing operations has produced coal products at specified qualities, size ranges and moisture contents.</p> <p>Saleable Coal Reserves are defined by studies at Pre-Feasibility or Feasibility level as appropriate that include application of Modifying Factors and such studies and assessment must demonstrate that at the time of reporting, the extraction and marketing of the Saleable products is commercially justified. The predicted practical yield and basis of the predicted yield to achieve the Saleable Coal Reserve must be stated.</p> <p>The Saleable Coal Reserve must be subdivided into the relevant coal product types. The Saleable Reserve is subdivided in order of increasing confidence into Probable Saleable Coal Reserve and Proved Saleable Coal Reserve categories.</p> <p>For each category of Saleable Coal Reserve, the confidence levels in the Modifying Factors must be disclosed.</p> <p>The Saleable Coal Reserve must be reported.</p>
57	<p>The appropriate coal quality must be reported for all Coal Resource and Coal Reserve categories. The basis of reporting of the coal quality parameters must be reported, as for example on an air-dry basis, dry basis, etc. Where applicable Saleable Coal Reserves should be subdivided into the relevant coal product types.</p> <p>The quality of the coal should be expressed according to parameters relevant to specific applications e.g. steam coal, types of metallurgical coal, etc. The selection of parameters is the responsibility of the Competent Person and would include quality parameters such as ash, volatile matter, sulphur, coking properties, calorific value, etc.</p> <p>Refer to the South African Guide to the Systematic Evaluation of Coal Resources and Coal Reserves for additional guidelines.</p>	<p>The coal quality must be reported for all Coal Resource and Coal Reserve categories.</p> <p>The basis of reporting of the coal quality parameters must be reported.</p> <p>The quality of the coal should be expressed according to parameters relevant to specific applications of coal products e.g. steam coal, types of metallurgical coal, etc.</p>
58	<p>Amendment to Clause 40:</p> <p>The Code applies to the reporting of all potentially economic coal deposits including coal in pillars and remnants discard and reject coal in stockpiles, dumps and tailings for which there are reasonable and realistic prospects for eventual economic extraction of Coal Resources and for justifiable economic extraction of Coal Reserves. Unless otherwise specified, Clauses 1 to 40 of the Code (including Figure 2 and SANS 10320:2004 guideline) apply.</p> <p>Discard and Reject Coal from a future coal processing plant or mining operations may be reported as an additional product in the Saleable Coal Reserve category only if economic extraction is justified.</p>	<p>Addition to Clause 42:</p> <p>Low-grade coal stockpiles anticipated from a future mining and coal processing operation in a defined life of mine plan may be reported as a Coal Resource if there are reasonable and realistic prospects of eventual economic extraction.</p>

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	REPORTING OF DIAMOND EXPLORATION RESULTS , DIAMOND RESOURCES AND DIAMOND RESERVES (applies to other GEMSTONES)	
59	<p>This part of the Code addresses matters specific to the Public Reporting of Diamond Exploration Results, Diamond Resources and Diamond Reserves. Clauses 1 to 40 of this Code also apply to the Public Reporting of Diamond Exploration Results, Diamond Resources and Diamond Reserves, unless otherwise stated in this part of the Code. The term 'Diamond' should replace the term 'Mineral' and 'grade val and average diamond value' should replace 'grade and mineral content' wherever applicable.</p>	<p>This part of the Code addresses matters specific to the Public Reporting of Diamond Exploration Results, Diamond Resources and Diamond Reserves. Clauses 1 to 46 of this Code also apply to the Public Reporting of Diamond Exploration Results, Diamond Resources and Diamond Reserves, unless otherwise stated in this part of the Code. The term 'Diamond' should replace the term 'Mineral' and 'grade and average diamond value' should replace 'grade and mineral content' wherever applicable. In this part of the Code. References to diamonds can equally be applied to other gemstones, unless otherwise stated.</p> <p>The following (Clauses 59 - 71) are amendments to the Code to be applied in the case of diamond (and other gemstone) projects. Where Clauses 1 to 46 have not been specifically amended, the original Clauses are still applicable, simply substituting "Diamond" (or other gemstone) for "Mineral" where appropriate.</p> <p>Replacement of Figure 1 with Figure 3 which diamond specific</p> <p>Public Reports of Diamond Resources and Diamond Reserves must use only the terms set out in Figure 3. Any reference to 'Figure 1' in the Code must be substituted by a reference to 'Figure 3'.</p> <p>The Guidelines to the public reporting of Exploration Results, Resources and Reserves of diamonds (and other Precious Stones), as presented in the SAMCODE Companion Volume and as updated from time to time, provides the methodologies and definitions of the relevant terms that shall/must be considered when preparing reports on Diamond Resources and Diamond Reserves.</p> <p>Supplementary guidelines are available in the 'Guidelines for the Reporting of Diamond Exploration Results' issued by the Diamond Exploration Best Practices Committee established by the Canadian Institute of Mining, Metallurgy and Petroleum. This, and other industry guidelines on the estimation and reporting of Diamond Resources and Reserves, may be useful but will not, under any circumstances, override the provisions and intentions of the SAMREC Code and the Companion Volume Guidelines..</p>
60	<p>The following characteristics of diamond deposits are different from those of typical metalliferous and coal deposits, and they emphasize the need for a Diamond specific Code.</p> <ul style="list-style-type: none"> • The low diamond content of primary and placer diamond deposits and their variability • The particulate nature of diamonds • The specialized field of diamond valuation • The relationship between average diamond value and the underlying diamond size distribution • The widely differing nature of diamondiferous deposits and their associated forms of mineralization and the estimation relevant to these. 	<p>A Diamond Resource estimate shall identify separate geological domains where applicable. For each geological domain, a size frequency, grade and diamond value estimate should be established, and a bottom size cut-off shall be stated. Reports of diamonds recovered from sampling programs must describe the nature of the sample, how the sample was taken and the method used to recover diamonds from the sample. The mass of diamonds recovered may only be omitted from the report when the diamonds are considered to be too small to be of commercial significance.</p> <p>A Diamond Resource or Diamond Reserve shall not be stated without an estimate of the average diamond value/revenue, which shall be based on a complete run-of-mine, or representative bulk-sample, parcel of diamonds which has been recovered from the project property.</p> <p>The average diamond grade and value shall not be reported without specifying the anticipated Bottom Cut-off Screen Size.</p> <p>Mineral chemistry does not provide direct grade or diamond value information, and shall not be used to infer these parameters for Diamond Resource estimation purposes.</p>
61		<p>Any valuation of a parcel of diamonds shall be based on a sales document or a report from a demonstrably reputable and qualified expert whose qualifications, credentials, affiliations and independence/non-independence must be presented.</p>
62		<p>Where the valuation is used in the estimation of Diamond Resources or Mineral Reserves, the valuation shall be based on a parcel representative of the size and assortment of the diamond populations in the deposit. The CP shall explain the rationale behind the parcel size that has been used in the estimation of value for the Diamond Resource or Diamond Reserve and the level of confidence in the estimate.</p>
63		<p>The minimum representative size of the valuation parcel depends on the characteristic stone distribution and quality of stones in the deposit. For all valuations (irrespective of Diamond Resource classification), associated diamond size frequency distributions shall be provided, along with a discussion of the relevant applicable parcel size.</p>
	<p>Amendment to Clause 6</p> <p>Table 1 provides a list of the main criteria that should be considered and reported, if relevant, when reporting Diamond Exploration Results, Diamond Resources and Diamond Reserves. Table 1 contains a set of definitions and guidelines to be used in Public Reports on Diamond Resources and Diamond Reserves; it represents a general guide for the evaluation of diamondiferous deposits.</p>	

	SAMREC 2009	SAMREC 2016
64	<p>Amendment to Clause 17</p> <p>For diamond deposits and resources, the term 'quality' must not be used as a substitute for 'grade.' The use of 'grade' helps avoid confusion with diamond quality.</p>	<p>Amendment to Clause 20 - 22</p> <p>For diamond exploration programmes, Exploration Targets, Mineralisation, Diamond Resources and Reserves, the term 'quality' must not be used as a substitute for 'grade.' The use of 'grade' and 'value' helps avoid confusion with diamond quality, which is one aspect of the diamond assortment.</p>
65		<p>Amendment to Clause 21</p> <p>A Diamond Exploration Target is a statement, or estimate, of the exploration potential of a diamond deposit in a defined geological setting.</p> <p><i>For example this may refer to a kimberlite target, a particular river or stretch of river, a stratigraphically defined sedimentary unit or sequence, or an area of marine deposits, which is considered to have diamond potential.</i></p> <p>Diamond 'Mineralisation' as used in the Code, is defined as a concentration (or occurrence) of diamonds of possible economic interest, in or on the earth's crust, for which quantity and quality cannot be estimated with sufficient confidence to be defined as a Diamond Resource.</p> <p>Portions of a Diamond Exploration Target or Diamond Mineralisation that do not have demonstrated reasonable and realistic prospects for eventual economic extraction must not be included in a Diamond Resource.</p>
66	<p>Amendment to Clause 21</p> <p>A diamond exploration target is a concentration (or occurrence) of diamond mineralization of possible economic interest, in or on the Earth's crust.</p> <p>Portions of a diamond exploration target that do not have reasonable and realistic prospects for eventual economic extraction must not be included in a Diamond Resource.</p> <p>Estimates of quantity based on limited information and analogies with known deposits of similar geological character may be possible but are inadequate for classification as Inferred Mineral Resources.</p>	<p>Amendments to Clause 23</p> <p>A 'Diamond Resource' is a concentration or occurrence of diamonds of economic interest in or on the earth's crust in such form, quantity (volume/tonnage), grade and value that there are reasonable and realistic prospects for eventual economic extraction. The location, quantity, grade, value, continuity and other geological characteristics of a Diamond Resource are known, or estimated from specific geological evidence, sampling and knowledge interpreted from an appropriately constrained and portrayed geological model. Diamond Resources are subdivided, and must be so reported, in order of increasing confidence in respect of geoscientific evidence, into Inferred, Indicated or Measured categories.</p> <p>Any Diamond Mineralisation that does not have demonstrated reasonable and realistic prospects for eventual economic extraction may not be included in a Diamond Resource.</p>
67	<p>Amendment to Clause 22</p> <p>An 'Inferred Diamond Resource' is that part of a Diamond Resource for which tonnage or volume, grade and average diamond value can be estimated only with a low level of confidence. It is inferred from geological evidence and assumed geological and grade continuity and when the diamond parcel is too small to be a reasonable representation of the diamond assortment. It is based on information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes, information that may be limited or of uncertain quality and reliability.</p>	<p>Amendment to Clause 24</p> <p>An 'Inferred Diamond Resource' is that part of a Diamond Resource for which quantity, grade and average diamond value are estimated on the basis of limited geological evidence and sampling. Geological evidence is sufficient to imply but not verify geological and grade or quality continuity.</p> <p>An Inferred Diamond Resource has a lower level of confidence than that applying to an Indicated Diamond Resource and must not be converted to a Diamond Reserve. It is reasonably expected that the majority of Inferred Diamond Resources could be upgraded to Indicated Diamond Resources with continued exploration.</p> <p>The diamond parcel may be too small to be a reasonable representation of the diamond assortment.</p>
68	<p>Amendment to Clause 24</p> <p>An 'Indicated Diamond Resource' is that part of a Diamond Resource for which tonnage and volume, densities, shape, physical characteristics, grade and average diamond value can be estimated with a reasonable level of confidence. It is based on information from exploration, sampling and testing of material gathered from locations such as outcrops, trenches, pits, workings and drill holes. The locations are too widely or inappropriately spaced to confirm geological and grade continuity but are spaced closely enough for continuity to be assumed, and sufficient diamonds have been recovered to allow a reasonable estimate of average diamond value.</p>	<p>Amendment to Clause 25</p> <p>An 'Indicated Diamond Resource' is that part of a Diamond Resource for which quantity, grade, or value or quality, densities, shape and physical characteristics of the deposit are estimated with sufficient confidence to allow the application of Modifying Factors in sufficient detail to support mine planning and evaluation of the economic viability of the deposit.</p> <p>Geological evidence is derived from adequately detailed and reliable exploration, sampling and testing and is sufficient to assume geological and grade or quality continuity between points of observation.</p> <p>An Indicated Mineral Resource has a lower level of confidence than that applying to a Measured Mineral Resource and may only be converted to a Probable Mineral Reserve.</p> <p>The sampling and/or testing locations are may be too widely or inappropriately spaced to confirm geological and grade continuity but are spaced closely enough for continuity to be assumed, and sufficient diamonds should have been recovered to allow a reasonable estimate of average diamond value (cf Clause 65).</p>
69	<p>Amendment to Clause 25</p> <p>A 'Measured Diamond Resource' is that part of a Diamond Resource for which tonnage and volume, densities, shape, physical characteristics, grade and average diamond value can be estimated with a high level of confidence. It is based on detailed and reliable information from exploration, sampling and testing of material gathered from locations such as outcrops, trenches, pits, workings and drill holes. The locations are spaced closely enough to confirm geological and grade continuity and sufficient diamonds have been recovered to allow a confident</p>	<p>Amendment to Clause 26</p> <p>A 'Measured Diamond Resource' is that part of a Diamond Resource for which quantity, grade or value quality, densities, shape, and physical characteristics of the deposit are estimated with confidence sufficient to allow the application of Modifying Factors to support detailed mine planning and final evaluation of the economic viability of the deposit. Geological evidence is derived from detailed and reliable exploration, sampling and testing and is sufficient to confirm geological and grade or quality continuity between points of observation.</p>

	SAMREC 2009	SAMREC 2016
	estimate of average diamond value.	<p>A Measured Diamond Resource has a higher level of confidence than that applying to either an Indicated Diamond Resource or an Inferred Diamond Resource. It may be converted to a Proved Diamond Reserve or to a Probable Diamond Reserve..</p> <p>The sampling and/or testing locations are spaced closely enough to confirm geological and grade continuity and sufficient diamonds have been recovered to allow a confident estimate of average diamond value.</p>
70		<p>Amendment to Clause 35</p> <p>A Probable Diamond Reserve is the economically mineable part of an Indicated, and in some circumstances, a Measured Diamond Resource.</p> <p>The confidence in the Modifying Factors applying to a Probable Diamond Reserve is lower than that applying to a Proved Diamond Reserve</p> <p>There should be a high degree of confidence in the diamond revenue model if a Probable Diamond Reserve is declared.</p>
71		<p>Amendment to Clause 36</p> <p>A Proved Diamond Reserve is the economically mineable part of a Measured Diamond Resource. A Proved Diamond Reserve implies a high degree of confidence in the Modifying Factors</p> <p>There should be high degree of confidence in the diamond revenue model if a Measured Diamond Reserve is declared.</p>
	<p>Amendment to Clause 28</p> <p>The average diamond grade and value must not be reported without specifying the anticipated Bottom Cut-off Screen Size.</p>	

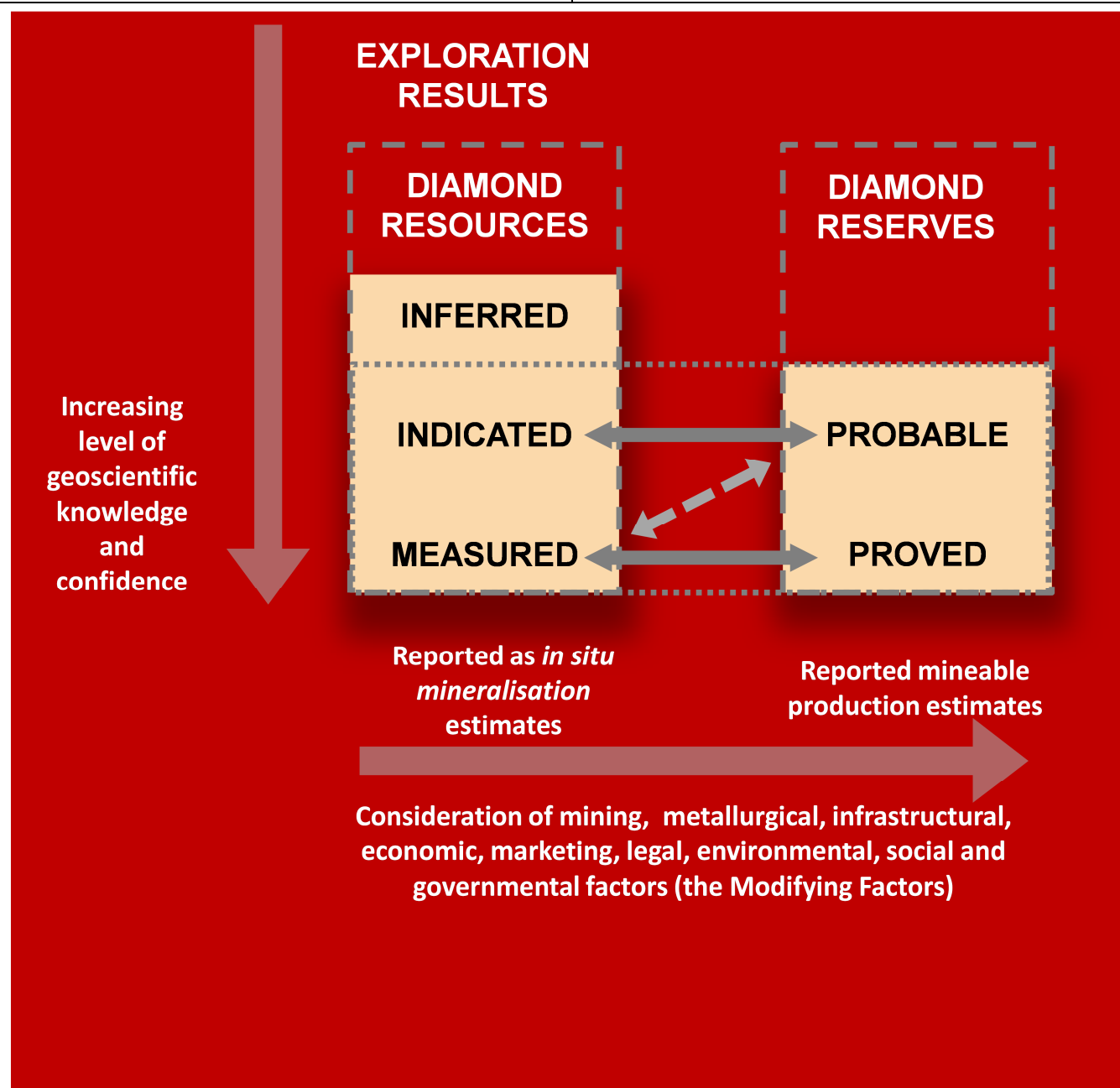


Figure 3: Relationship between Diamond Resources and Diamond Reserves

REPORTING OF EXPLORATION RESULTS , MINERAL RESOURCES AND MINERAL RESERVES FOR INDUSTRIAL MINERALS		
72		<p>Industrial minerals are covered by the SAMREC Code if they meet the criteria set out in Clauses 5 and 6 of the Code. For the purpose of the SAMREC Code, industrial minerals can be considered to cover commodities such as kaolin, phosphate, limestone, talc, etc.</p> <p>For minerals that are defined by a specification, the Mineral Resource or Mineral Reserve estimation must be reported in terms of the mineral or minerals on which the project is to be based and must include the specification of those minerals.</p> <p><i>When reporting information and estimates for industrial minerals, the</i></p>

	SAMREC 2009	SAMREC 2016
		<p><i>key principles and purpose of the SAMREC Code apply and should be borne in mind. Assays may not always be relevant, and other quality criteria may be more applicable. If criteria such as deleterious minerals or physical properties are of more relevance than the composition of the bulk mineral itself, then they should be reported accordingly.</i></p> <p><i>The factors underpinning the estimation of Mineral Resources and Mineral Reserves for industrial minerals are the same as those for other commodities/deposit types covered by the SAMREC Code. It may be necessary, prior to the reporting of a Mineral Resource or Mineral Reserve, to take particular account of certain key characteristics or qualities such as likely product specifications, proximity to markets and general product marketability. For some industrial minerals, it is common practice to report the saleable product rather than the 'as-mined' product, which is traditionally regarded as the Mineral Reserve. If the saleable product is reported, it should be in conjunction with, not instead of, reporting of the Mineral Reserve. However, it is recognised that commercial sensitivities may not always permit this style of reporting. It is important that, in all situations where the saleable product is reported, a clarifying statement is included to ensure that the reader is fully informed as to what is being reported.</i></p> <p><i>Some industrial mineral deposits may be capable of yielding products suitable for more than one application and/or specification. If considered material by the Competent Person, such multiple products should be quantified either separately or as a percentage of the-deposit.</i></p>
	REPORTING OF METAL EQUIVALENTS	
73		<p>The reporting of Exploration Results, Mineral Resources or Mineral Reserves for polymetallic deposits in terms of metal equivalents (a single equivalent grade of one major metal) must show details of all material factors contributing to the net value derived from each constituent.</p> <p>The following minimum information must accompany any Public Report that includes reference to metal equivalents, in order to conform to the principles of Transparency, Materiality and Competence, as set out in Clause 4:</p> <ul style="list-style-type: none"> individual grades for all metals included in the metal equivalent calculation, assumed commodity prices for all metals (Reports should include the actual assumed prices. It is not sufficient to refer to a spot price without disclosing the price used in calculating the metal equivalent. However where the actual prices used are commercially sensitive, the Competent Person must disclose sufficient information, perhaps in narrative rather than numerical form, for investors to understand the methodology it has used to determine these prices), assumed metallurgical recoveries for all metals and discussion of the basis on which the assumed recoveries are derived (metallurgical test work, detailed mineralogy, similar deposits, etc.), a clear statement that it is the Competent Person's opinion that all the elements included in the metal equivalents calculation have a reasonable potential to be recovered and sold, and the calculation formula used. <p>In most circumstances, the metal chosen for reporting on an equivalent basis should be the one that contributes most to the metal equivalent calculation. If this is not the case, a clear explanation of the logic of choosing another metal must be included in the report.</p> <p>Estimates of metallurgical recoveries for each metal must be used to calculate meaningful metal equivalents.</p> <p>Reporting on the basis of metal equivalents is not appropriate if metallurgical recovery information is not available or able to be estimated with reasonable confidence.</p> <p><i>For many projects at the Exploration Results stage, metallurgical recovery information may not be available or able to be estimated with reasonable confidence. In such cases reporting of metal equivalents may be misleading and shall not be reported.</i></p>

APPENDIX 1

RECOMMENDED TABLE OF CONTENTS FOR COMPETENT PERSONS REPORT (“CPR”)

This table of contents is given only as a guide to the compilation of CPR's. It is designed to incorporate all of the requirements of Table 1. It must be read in conjunction with Table 1 and the Code.

General

The Terms of reference or scope of work should be presented.

State for whom the report was prepared, whether it was intended as a full or partial evaluation or other purpose, what work was conducted, effective date of report, and what work remains to be done.

List the sources of information and data contained in the report or used in its preparation, with citations if applicable.

Transparency, competency and materiality are overriding principles that determine what information should be publicly reported. The Competent Person must provide sufficient comment on all matters that might materially affect a reader's understanding or interpretation of the results or estimates being reported.

Publicly reported information should be sufficient to enable an informed reader to make a reasonable and balanced assessment of the significance of this information. It is, however, important to report any matters that might materially affect a reader's understanding or interpretation of the results or estimates being reported. This is particularly important where inadequate or uncertain data affect the reliability of, or confidence in, a statement of Exploration Results or an estimate of Mineral Resources or Mineral Reserves.

In some cases it will be appropriate for a public report to exclude some commercially sensitive information. A decision to exclude commercially sensitive information would be a decision for the entity issuing the public report, and such a decision should be made in accordance with any relevant corporation's regulations in that jurisdiction. In these cases, the report should provide summary information (for example the methodology used to determine economic assumptions where the numerical value of those assumptions are commercially sensitive) and context for the purpose of informing investors or potential investors and their advisors.

The Public Report should include sufficient context and cautionary language to allow a reasonable investor to understand the nature, importance, and limitations of the data, interpretations, and conclusions summarized in the technical report.

The evaluation and reporting of mineral projects and forward looking mine plans or statements from on-going operations are expressions of judgment predicated on knowledge and experience. Such evaluations and reports are more than arbitrary determinations; they seek to facilitate valuations as a consequence of method. The methods employed should be scientifically valid, tested, using accepted scientific definitions of terms and procedures, and best suited to the making of reliable estimates for the project in question.

The Competent Person must state that "the declaration has been made in terms of the guidelines of the SAMREC Code". If a reporting code other than SAMREC has been used, the Competent Person should include an explanation of the differences.

Diagrams, maps, plans, sections and illustrations in public reports should be legible and prepared at an appropriate scale to distinguish important features. Maps should be dated and include a legend, author or information source, coordinate system and datum, a scale in bar or grid form, and an arrow indicating north. Include and reference a location or index map and more detailed maps showing all important features described in the text, including all relevant cadastral and other infrastructure features.

Title Page

Include a title page setting out the title of the CPR, the general location of the mineral project, the name and professional designation of each CP, the effective date of the CPR and the date of signature.

Executive Summary

Briefly summarise important information in the public report, including property description and ownership, geology and mineralisation, the status of exploration, development and operations, Mineral Resource and Mineral Reserve estimates, and the CP's conclusions and recommendations. If Inferred Mineral Resources are used, show the summary valuation with and without inclusion of such Inferred Mineral Resources. The Executive Summary should be sufficiently detailed so as to allow the reader to understand the essentials of the project.

Table of Contents

Provide a table of contents listing the contents of the CPR, including figures and tables.

1 Introduction

- Terms of reference and scope of work
- Sources of information
- Units and currency
- Site inspection or Field involvement of CP
- Disclaimers and reliance on other experts or third party information

2 Project Outline

- Property description
- Property location
- Country profile
- Legal aspects and permitting
- Royalties and liabilities

3 Accessibility, Physiography, Climate, Local Resources and Infrastructure

- Topography, elevation and vegetation
- Climate and weather
- Access
- Proximity to population centres and nature of transport
- General infrastructure

4 Project History

- Previous ownership
- Previous exploration and/or development (Compliance or non-compliance with the SAMREC Code or other international reporting code should be presented)
- Previous Mineral Resource Estimates (Compliance or non-compliance with the SAMREC Code or other international reporting code should be presented)
-
- Previous Mineral Reserve Estimates (Compliance or non-compliance with the SAMREC Code or other international reporting code should be presented)
-
- Previous Production

5 Geological Setting, Mineralisation and Deposit Types

- Geological setting
- Nature of, and controls on, mineralisation
- Geological models
- Nature of deposits on the property

6 Exploration Data/Information

- Satellite/aerial photo interpretation

- Geophysics
- Mapping
- Structural studies
- Drilling
- Sampling
- Database management
- QA/QC analysis
- Spatial data
- Data verification, audits and reviews

7 Mineral Resource Estimates

- Estimation and modelling techniques
- Mineral Resource classification criteria
- Reasonable and realistic prospects for eventual economic extraction
- Mineral Resource statement
- Mineral Resource reconciliation

8 Technical Studies

- *Scoping Studies, Pre-Feasibility Studies, Feasibility Studies (and on-going life-of-mine studies) analyse and assess the same geological, engineering, and economic factors with increasing detail and confidence. Therefore, the same criteria may be used as a framework for reporting the results of all three studies.*
- *Technical Studies cannot convert Inferred Mineral Resources to Mineral Reserves*
- *Technical studies may not include Exploration Targets or Mineralisation*
- Geotechnical and geohydrology
- Mine design and Schedule
- Metallurgical (Processing/Recovery)
- Project Infrastructure
- Market Studies and Contracts
- Environmental Studies
- Legal and permitting
- Taxation
- Social or Community Impact
- Mine closure
- Risk assessment
- Capital and Operating Costs
- Economic Criteria
- Financial analysis

9 Mineral Reserve Estimates

- Estimation and modelling techniques
- Mineral Reserve classification criteria
- Mineral Reserve statement
- Mineral Reserve reconciliation

10 Other Relevant Data and Information

- Adjacent properties
- Risk Assessments

11 Interpretation and Conclusions

Summarise the relevant results and interpretations of the information and analysis being reported on. Discuss any significant risks and uncertainties that could reasonably be expected to affect the reliability or confidence in the Exploration Results, Mineral Resource or Mineral Reserve estimates, or projected economic outcomes. Discuss any reasonably foreseeable impacts of these risks and uncertainties to the project's potential economic viability or continued viability. A CPR concerning exploration information should include the conclusions of the CP.

12 Recommendations

Provide particulars of recommended work programs and a breakdown of costs for each phase. If successive phases of work are recommended, each phase should culminate in a decision point. The recommendations should not apply to more than two phases of work. The recommendations should state whether advancing to a subsequent phase is contingent on positive results in the previous phase. In some specific cases, the CP may not be in a position to make meaningful recommendations for further work. Generally, these situations will be limited to properties under development or in production where material exploration activities and engineering studies have largely concluded. In such cases, the CP should explain why they are not making further recommendations.

13 References

Include a detailed list of all references cited in the CPR.

14 Appendices

- Supporting information for the Technical Report
- Glossary of Terms
- Abbreviations
- Compliance statement and certificate of competence
- Consent form (if relevant)

Date and Signature Page

The CPR should have a signature page (at either the beginning or end of the CPR). The effective date of the CPR and date of signing should be on the signature page.

APPENDIX 2
CERTIFICATE OF COMPETENT PERSON

This Certificate of Competent Person is given only as a guide to the CP. It is designed to incorporate all of the requirements of the Code.

Certificate of Competent Person

As the author of the report entitled [report title], I hereby state:-

1. My name is [Competent Person's name] and [details – position in company, company name, address].
2. [profession and details of registration body].
3. [qualifications]
4. [relevant experience].
5. I am a "Competent Person" as defined in the SAMREC Code.
6. [Work undertaken or services rendered].
7. [Site inspection details]
8. [details of aspects of this report for which the CP is responsible].
9. I am not aware of any material fact or material change with respect to the subject matter of the Report, which is not reflected in the Report, the omission of which would make the Report misleading.
10. I declare that this report appropriately reflects the Competent Person's/author view
11. I am independent/not independent of [name of issuer].
12. I have read the SAMREC Code (2016) and the Report has been prepared in accordance with the guidelines of the SAMREC Code.
13. I do not have nor do I expect to receive a direct or indirect interest in the [project/mine details] or [name of issuer] **OR** I am an employee/shareholder/director or other interested party in respect of the issuer [name of issuer] or the mineral asset.
14. At the effective date of the Report, to the best of my knowledge, information and belief, the report contains all scientific and technical information that is required to be disclosed to make the report not misleading.

Dated at [place] and [date]

[Signed] _____
[name of CP]

APPENDIX 3

COMPLIANCE STATEMENTS

These compliance statements are given only as a guide to the CP (delete bullet points which do not apply). They are designed to incorporate all of the requirements of the Code.

- For Public Reports of Exploration Targets, initial or materially changed reports of Exploration Results, Mineral Resources or Mineral Reserves:

The information in this report that relates to Exploration Targets, Exploration Results, Mineral Resources is based on information compiled by [insert name of Competent Person]), a Competent Person who is registered with SACNASP, ECSA or SAGC, or is a Member or Fellow of the SAIMM, the GSSA, IMSSA or a 'Recognised Professional Organisation' (RPO) included in a list of recognised organisations promulgated by the SSC from time to time (select as appropriate and insert the name of the professional organisation of which the Competent Person is a member and the Competent Person's grade of membership).

- *If the Competent Person is a full-time employee of the company:*

[name of Competent Person] is a full-time employee of the [name of company].'

- *If the Competent Person is not a full-time employee of the company:*

[name of Competent Person] is employed by [name of Competent Person's employer].'

- *The full nature of the relationship between the Competent Person and the reporting Company should be declared together with the Competent Person's details. This declaration should outline and clarify any issue that could be perceived by investors as a conflict of interest.*

- For all reports:

[name of Competent Person] has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2016 Edition of the 'The South African Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. [name of Competent Person] consents to the inclusion in the report of the matters based on his (or her) information in the form and context in which it appears.'

For any subsequent Public Report based on a previously issued Public Report that refers to those Exploration Results or estimates of Mineral Resources or Mineral Reserves:

Where a Competent Person has previously issued the written consent to the inclusion of their findings in a report, a company re-issuing that information to the Public whether in the form of a presentation or a subsequent announcement shall, state the report name, date and reference the location of the original source Public Report for public access.

- *'The information is extracted from the report entitled [report title] created on [date] and is available to view on [website name]. The company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcement and, in the case of estimates of Mineral Resources or Mineral Reserves, that all material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed. The company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcement.'*