ECRR®

COLOMBIA
VERSION 2025

COLOMBIAN STANDARD FOR THE PUBLIC REPORTING OF EXPLORATION RESULTS, MINERAL RESOURCES AND RESERVES

- ECRR® -

CCRR®

Colombian Commission of Mineral Resources and Reserves

crirsco

COMMITTEE FOR MINERAL RESERVES INTERNATIONAL REPORTING STANDARDS

CONTENTS

GLOSSARY

Throughout the Colombian Standard for the Public Reporting of Exploration Results, Mineral Resources and Reserves - ECRR® -, certain words are used in a general sense when a more specific meaning might be attached to them by particular commodity groups within the industry. In order to avoid unnecessary duplication, a non-exclusive list of generic terms is tabulated below together with other terms that may be regarded as synonymous for the purposes of this document.

GENERIC TERM	SYNONYMS AND SIMILAR TERMS	INTENDED GENERALIZED MEANING
Assumptions	Value judgments	Value judgments that the Competent Person and/or the professional who endorses the documents and studies, makes based on their criteria, expertise, and relevance, when making assumptions related to information that is not fully supported by specific evidence or data.
Cut-off grade	Product specifications	The lowest grade, or quality, or concentration of mineralized material that has been estimated or assumed as economically mineable and available in a given deposit. May be defined on the basis of economic evaluation, or on physical or chemical attributes that define an acceptable product.
Date of inspection or visit to the mining project		It is the date of the most recent personal inspection or visit to the mining project, it is disclosed in the certificate of the Competent Person, where it is also revealed if the person visited the site or no.
Dilution		Low or zero grade material that is extracted during the course of mining operations and thereby forms part of the Mineral Reserves, reducing the content of the extracted mineral.
Dump	Waste deposit	Deposit where sterile materials or unusable waste from mining extraction are arranged in an orderly manner. Selected place to deposit the vegetal layer and other solid waste from the processing plant.
Effective Date of the Public Report		It corresponds to the cut-off date of the information included in the Public Report. This Effective Date must be close to the date of signing the Report. The Effective Date of the Public Report is disclosed on the cover of the report and on the signature page.
Effective Date of the Estimation of Mineral Resources and Reserves		It is the date on which the estimates are current. This is usually the cut-off date when the data is included in the estimate. It may predate the Effective Date of the Public Report by a considerable amount of time, due to the

GENERIC TERM	SYNONYMS AND SIMILAR TERMS	INTENDED GENERALIZED MEANING
		amount of work required to complete a Mineral Resource or Mineral Reserve estimates.
Exploration Target		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.
Grade	Quality, Concentration Assay, Analysis (Value)	Any physical or chemical measurement of the characteristics of the material of interest in samples or product. Note that the term quality has special meaning for emeralds and other gemstones, in addition to certain industrial rocks and minerals.
Mineable	Exploitable	Economic or sub-economic mineral or material from the deposit that is susceptible to being extracted during the normal operation of the mine.
Mineral	Mineralisation	Crystalline substance, generally inorganic, with its own physical and chemical characteristics due to a specific atomic grouping (Article 10 of Law 685 of 2001). Material of economic interest, when used in the context of Mineral Resource and Reserve determination, includes mineralisation, including dumps and tailings, mineral brines, and other resources extracted on or within the earth's crust. It does not include oil and gas resources resulting from oil and gas producing activities, gases (e.g., helium and carbon dioxide), geothermal fields, or water.
Mineral Deposit		Natural concentration of useful mineral substances that can be extracted with economic benefit.
Morralla	Beryl	Low quality emerald crystals; usually contain impurities, inclusions and fissures that made them inadequate for cutting.
Ore		Base mineral from which it is possible to extract another mineral of greater purity and economic importance. Minerals that have economic interest in a deposit.
Parcel	Set	Set of precious or semi-precious stones with similar physical and chemical characteristics for commercialization.
Public Report signing date		Date on which the Public Report is signed.
Reconciliation		Update of Mineral Resources and/or Reserves based on the balance made between the previously estimated or planned value and the current results.

GENERIC TERM	SYNONYMS AND SIMILAR TERMS	INTENDED GENERALIZED MEANING
Residue		Material that remains as mineral residue once all the metal has been leached, which is discarded in waste dumps. It corresponds to the tail of the leaching process.
Significant Project		An exploration or mineral development project that has or could have a significant influence on the decision making of the company itself. Due to the amount of its geoscientific knowledge, it stands out compared to other projects.
Specifications		It is a common term used for deposits of industrial rocks and minerals and refers to an established range for quality, whether in physical, chemical and/or performance measurements.
Stakeholders	Groups of interest	Entities, individuals, or groups of people, public, private or society organizations, government authorities, investors or potential investors and their advisors, who are impacted by the execution of the mining project.
Stockpile		Temporary mineral or waste storage space.
Tailings		It corresponds to the residue, a mixture of ground mineral with water and other compounds, which remains as a result of having extracted the sulfide minerals in the flotation process. Material resulting from mineral leaching and concentration processes that contains very little valuable metal. They can be re-treated or discarded. This waste is transported through gutters or pipes to specially designated places, where the water is recovered or evaporated to finally be disposed of as a stratified deposit of fine materials (sand and silt).
Tailings dams		Infrastructures built to store tailings and aqueous waste products from mining operations. Generally, when mining, the soil is removed, and this causes water to flow through various parts. Therefore, it is necessary to build dams to store this water or reduce its speed.
Tonnage	Quantity, Volume	An expression of the amount of material of interest irrespective of the units of measurement, which should be stated when figures are reported.

GENERIC TERM	SYNONYMS AND SIMILAR TERMS	INTENDED GENERALIZED MEANING
Unconventional minerals		They refer to minerals that are uncommon to be mined or extracted compared to traditional or more widely known minerals such as coal, industrial minerals, metals, and others. These minerals must have unique properties or applications that give economic value and importance in the industry. Examples of unconventional minerals are brines, tar sands or rare earth minerals.
Waste	Residue	Material fraction of the mineral deposit which has no or very low concentration, grade or quality. This material is not sent to the beneficiation or transformation process and must be disposed in the dump.

In case of additional terms, refer to the *Glosario Técnico Minero* (Article 68 of Law 685 of 2001).

FOREWORD

In 2015, the National Mining Agency (ANM) created a work team dedicated exclusively to guide and support the creation of the Colombian Commission of Mineral Resources and Reserves (CCRR®) and to structuring the first version of the "Colombian Standard for the Public Reporting of Exploration Results, Mineral Resources and Reserves (ECRR®)".

After more than three years of work between the ANM, the mining associations and the professional associations of geology and mining engineering, and the support of the Ministry of Mines and Energy, the Colombian Geological Service (SGC), the Mining and Energy Planning Unit (UPME) and the Inter-American Development Bank (IDB), on February 6th of 2018, the CCRR® was created as a private non-profit entity, registered with the Bogotá Chamber of Commerce.

Subsequently, on May 24th of 2018, the CCRR® was officially accepted as member No. 12 of CRIRSCO (Committee for Mineral Reserves International Reporting Standards), henceforth acting as the Colombian National Reporting Organization (NRO) before said international entity.

These five years of existence of the CCRR® and the ECRR® have allowed professionals in the Colombian mining sector to prepare Public Reports that are aligned with international standards and with the current regulations for the presentation of technical documents in Colombia before the ANM and the Antioquia Government Secretariat of Mines. This has allowed the CCRR® to identify the need to update the ECRR® considering the particularities of the Colombian mining sector, the new global trends around mining processes and the changes made by CRIRSCO presented in the Template published in June 2024.

For this second version of the ECRR®, the CCRR® took into account the comments made by the different actors who have used the ECRR® in its first version (2018), such as Associate Members, Competent Persons, officials of the mining authority and in general, professionals in the Colombian mining sector.

The new version is more aligned with Template 2024, which mainly include the updating of some definitions and the addition of three aspects that have been increasing their relevance in the development of mining projects: mineral price and its corresponding market, permits and legal requirements, and sustainability considerations.

The most visible change in this second version is that it considers the possibility that certain types of Reports, such as technical documents presented to the Colombian mining authority, can be endorsed by professionals who are not registered as Competent Persons, thus aligning the ECRR® with Colombian regulations.

Finally, we want to reiterate that applying the ECRR® is an example of best practices and the principles of Transparency, Materiality, Competence, and Impartiality are essential to guarantee confidence and certainty on investors, government entities, the community and in general, on all groups of interest; thus, delivering viability and feasibility to a mining project.

1. INTRODUCTION

Format

Code

1.1. In this edition of the ECRR®, important terms and definitions are provided in **bold** text inside highlight blue boxes.

1.2. The definitions are a core element of the CRIRSCO Template and common to all national or regional codes and standards based on the Template.

1.3. Defined terms where referred to in other definitions are underlined.

1.4. Other mandatory elements of the ECRR® ("Code"), in normal typeface and as numbered clauses, are similarly identified.

1.5. The guidelines ("Guidance") and further interpretation of the definitions and mandatory clauses are placed after the respective items in *italic* typeface and are clearly identified. They provide assistance and guidance to readers for interpreting the application of the definitions and clauses in the ECRR®.

1.6. Throughout the ECRR®, certain words are used in a general sense when a more specific meaning might be attached to them by particular commodity groups within the industry. To avoid unnecessary duplication, the generic terms are listed in the Glossary together with other terms that may be regarded as synonymous for the purposes of this document.

Guidance

The use of a particular term in the ECRR® does not imply that it is preferred or necessarily the ideal term in all circumstances. Competent Persons and/or professionals who endorse the documents and studies, are expected to select and use the most appropriate terminology for each mineral or activity reported. For example, «quality» can be replaced by «grade», and «volume» can be replaced by «tonnage».

Code

1.7. Chapters 14 to 18 provide further guidance on the ECRR® application to the reporting of specific commodities or situations.

1.8. Table 1 provides a checklist or reference of criteria to be considered when preparing reports on Exploration Targets, Exploration Results, Mineral

Resources and Mineral Reserves. The ECRR® recommends that comment is given to all sections of Table 1 on an "if not, why not" basis.

Guidance

«If not, why not» means that each item listed in the relevant section of Table 1 must be discussed or the Competent Person and/or the professional who endorses the documents and studies must explain why it has been omitted.

Code

1.9. Table 1 is included in the ECRR® as an example of best practice, and as always Transparency, Materiality, Competence and Impartiality are overriding principles that determine what information should be reported. The Competent Person and/or the professional who endorses the documents and studies, must provide sufficient comment on all matters that may affect a reader's understanding or interpretation of the results or estimates being reported.

1.10. Table 2 and the Glossary include additional guidance.

1.11. The Colombian Commission of Mineral Resources and Reserves -CCRR®, is the entity in charge of maintaining and updating the ECRR®, for which it will carry out reviews when required, always complying with the CRIRSCO Template.

2. SCOPE

Application

Code

2.1. The ECRR® applies to all mineral raw materials for which public reporting of Exploration Targets, Exploration Results, Mineral Resources and Mineral Reserves is required by any relevant regulatory authority.

2.2. The ECRR® is applicable to a diverse range of commodities, including but not limited to:

- Metalliferous minerals;
- Coal;
- Emeralds and other gemstones;
- Industrial Rocks and Minerals;
- Cement feed materials and construction raw materials;
- Dimension Stone, Ornamental and Decorative Stone
- Other mineral raw materials; and
- Mineralised fill, remnants, pillars, low grade mineralisation, stockpiles, dumps and tailings (remnant materials).

2.3. In addition, the principles of the ECRR® are applicable to:

- Oil shales, oil sands and other energy minerals extracted by mining;
- Metallic or non-metallic minerals extracted by solution mining methods; and
- Minerals extracted from liquid brines.

Principles

Code

2.4. The principles governing the operation and application of the ECRR® are Transparency, Materiality, Competence, and Impartiality.

2.5. **Transparency** requires that the reader of a Public Report is provided with true and sufficient information, the presentation of which is clear and unambiguous, so as to understand the report and not be misled.

2.6. **Materiality** requires that a Public Report contain all the relevant information which Stakeholders, such as regulatory authorities, investors

and their professional advisers, among others, would reasonably require and reasonably expect to find in a Public Report, for the purpose of making a reasoned and balanced judgement regarding the Exploration Targets, Exploration Results, Mineral Resources and/or Mineral Reserves being reported. Where relevant information is not supplied, an explanation must be provided to justify its exclusion.

2.7. **Competence** requires that the Public Report be based on work that is the responsibility of suitably qualified and experienced persons, who are subject to an enforceable professional code of ethics and rules of conduct.

2.8. **Impartiality** requires that the author of the Public Report is satisfied and able to state that his/her work has not been unduly influenced by the organization, company or person commissioning the Public Report or a report that may become a Public Report. Furthermore, that all documented assumptions are supported, and that adequate disclosure is made of all material aspects, including any relevant direct or indirect relationship between the Competent Person and/or the professional who endorses the documents and studies, and the owners of the project on which he or she is reporting.

2.9. Transparency and Materiality are guiding principles of the ECRR®, and the Competent Person and/or the professional who endorses the documents and studies, must provide explanatory commentary on the material assumptions underlying the declaration of Exploration Results, Mineral Resources or Mineral Reserves.

2.10. The Competent Person and/or the professional who endorses the documents and studies must not remain silent on any material aspect for which the presence or absence of comment could affect the public perception or value of the mineral occurrence.

Public Reports

Definition

2.11.

Public Reports are reports prepared to inform the Stakeholders, such as government authorities, investors or potential investors and their professional advisers, on Exploration Targets, Exploration Results, Mineral Resources and/or Mineral Reserves.

They include but are not limited to company reports, media releases, information memoranda, technical papers, social media announcements, website postings and public presentations.

Code

2.12. Public Reports include but are not limited to company annual reports, quarterly reports, modeling reports, estimation and reconciliation of Mineral Resources and Mineral Reserves, technical documents intended for regulatory authorities and institutions, or as required by Colombian law.

2.13. The reporting and disclosure requirements addressed in the ECRR® apply equally to all publicly released company information in the form of postings on company web sites, social media, press releases and briefings for shareholders, stockbrokers and investment analysts.

2.14. The ECRR® also applies to any reporting of Exploration Targets, Exploration Results and/or Mineral Resources and Mineral Reserves and made publicly available for other purposes, such as those contained in:

- Environmental statements;
- Information memoranda,
- Expert Reports; and,
- Technical papers.

Guidance

Of particular concern should be postings made using social media where it may be inferred that the information being released comprises a Public Report.

Note that any or all such Public Reports may also be for the purpose of satisfying regulatory requirements.

Code

2.15. For companies issuing annual reports, or other periodic summary reports, all material information relating to Exploration Targets, Exploration Results, Mineral Resources and Mineral Reserves should be included.

2.16. In cases where summary information is presented, the Public Report must clearly state that the information is a summary, and a reference must be provided giving the source and location of the compliant Public Reports or public reporting on which the summary is based.

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

Guidance

It is recognised that companies can be required to issue Public Reports into more than one regulatory jurisdiction, with compliance standards that may differ from the ECRR®. It is recommended that such reports include a statement alerting the reader to this situation.

Reference in the ECRR® to «documentation» is to internal company documents prepared as a basis for, or to support, a Public Report.

It is recognised that situations may arise where documentation prepared by a Competent Person and/or the professional who endorses the documents and studies, for internal company or similar non-public purposes does not comply with the ECRR®. In such situations, it is recommended that the documentation includes a prominent statement to this effect. This will make it less likely that non-complying documentation will be used to compile Public Reports.

While every effort has been made within the ECRR® 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 ECRR® should be guided by its intent, complying with the principles that govern it.

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 and reflected in the appropriate choice of Mineral Resources and Mineral Reserves categories.

A Public Report should be adequately supported by legible text, figures, tables, sections, and maps to demonstrate competence by conveying material information in a transparent manner. Figures of any type should contain appropriate explanatory information in the form of titles and/or captions, and legends; and complying with Colombian regulations in force at the time of the Public Report signing date.

Code

2.18. For ECRR® purposes and in compliance with Colombian regulations, reports can be public, private or reserved.

Guidance

The technical documents intended for the Colombian mining authority are private reports prepared and presented under the responsibility of the mining title owner(s) and are reserved between he/she/them and the Colombian mining authority.

The technical documents intended for the Colombian mining authority correspond to: Programa de Trabajos y Obras-PTO, Programa de Trabajos e Inversiones-PTI, Informe Anual de Labores Mineras Realizadas y Programa de Labores Mineras a Ejecutar-ILME, Programas de Trabajos y Obras Complementarios-PTOC; in addition to all the updates and/or modifications documents and any other type of technical document that the authority considers and requires.

Code

2.19. The ECRR® is a standard or guide that provides a list of the basic activities to be carried out in a Public Report. The ECRR® does not regulates the manner in which a Competent Person and/or a professional who endorses the documents and studies, estimates Mineral Resources or Mineral Reserves. The ECRR® does not cover valuation or appraisal from a business perspective. It provides for the description of Exploration Targets, Exploration Results, and estimates of Mineral Resources and Mineral Reserves that may be used by others to prepare subsequent valuations or appraisals.

Reporting General

Code

2.20. Public Reports concerning Exploration Targets, Exploration Results, Mineral Resources and/or Mineral Reserves must include a description of the style and nature of mineralisation.

2.21. Any relevant information concerning a mineral deposit including material changes to the Mineral Resources or Mineral Reserves that could materially influence the economic value of the deposit must be disclosed.

2.22. Table 1 must be considered persuasive in determining and documenting relevant information that is material.

2.23. The Effective Date of the Estimation of Mineral Resources and Mineral Reserves must be shown.

2.24. A company's economic interest in a project must be declared.

2.25. Where Mineral Resources and Mineral Reserves are estimated for multiple properties, they may be aggregated for reporting purposes, particularly if the properties are located in close proximity or their products are sent to common treatment plants or markets. The principles of Transparency and Materiality govern aggregation for reporting purposes.

2.26. Where multiple ownership is involved, it must be made clear what proportion of the reported Mineral Resources and Reserves in which the company has an interest.

3. COMPETENCE AND RESPONSIBILITY

Code

3.1. A Public Report concerning Exploration Targets, Exploration Results, Mineral Resources and/or Mineral Reserves is the responsibility of a person or the company owner of the mining title. The Public Report must be based on, and clearly reflect, the information and supporting documentation that has been prepared by one or more Competent Persons and/or professionals who endorse the documents and studies.

3.2. Documentation detailing Exploration Targets, Exploration Results, Mineral Resource and Mineral Reserve estimates, on which a Public Report is based, must be prepared by, or under the direction of, and signed by, one or more Competent Persons and/or professionals who endorse the documents and studies. The documentation must provide a fair representation of the Exploration Targets, Exploration Results, Mineral Resources or Mineral Reserves being reported.

Guidance

For the specific case of technical documents prepared for the Colombian mining authority, Colombian regulations do not require that they be prepared by, or under the direction of, and signed by, one or more Competent Persons.

The Colombian mining authority does require that said technical documents be endorsed by one or more registered geological professionals, mining engineers or geological engineers, as the case may be, in accordance with the provisions that regulate these professions; complying with the provisions of Article 270 of the Mining Code (Law 685 of 2001), complemented by Article 1 of Law 926 of 2004.

Code

3.3. A person or company issuing a Public Report shall reveal the name(s) of the Competent Person(s) and/or the professional(s) who endorse the documents and studies, their qualifications, professional and corporate affiliations, and relevant experience. This information must include whether the Competent Person and/or the professional who endorse the documents and studies, is a full-time employee of the company, and, if not, name the employer, and the relationship with the company.

3.4. Any potential for a conflict of interest between the Competent Person and/or the professional who endorse the documents and studies or a related party, must be disclosed in accordance with the principles of Transparency and Impartiality. Any other relationship between the

Competent Person and/or the professional who endorse the documents and studies, and the company must be disclosed in the Public Report.

3.5. The issue of a Public Report requires the written consent of the Competent Person and/or the professional who endorses the documents and studies, prior to release of the report, as to the form and context in which it appears.

3.6. The person or company must provide to the Competent Person and/or the professional who endorses the documents and studies, the company's public disclosure of information prepared by the Competent Person and seek approval for its context and the use of the Competent Person's name in connection with that disclosure. Reasonable time must be allowed for the Competent Person to review the public disclosure prior to making their decision.

3.7. Examples of appropriate forms of compliance statements are provided in Appendix 1.

Guidance

In order to assist Competent Persons, the professionals who endorse the documents and studies, and companies to comply with these requirements, a Consent Form has been devised that incorporates the requirements of the ECRR®.

The completion of a Consent Form, whether in the format provided or in an equivalent form, is recommended as good practice and provides readily available evidence that the required prior consent has been obtained.

The Consent Form(s), or other evidence of the Competent Person's and/or the professional who endorses the documents and studies´ written consent, should be retained by both parties to ensure that the written consent can be promptly provided if required.

Definition

3.8.

A Competent Person is a geoscience professional who has dedicated him/herself to developing his/her professional career in functions related to the prospecting, exploration, exploitation, and beneficiation of minerals (geologists, geological engineers, geoscientists, mining engineers, mining and metallurgy engineers or metallurgical engineers), who is registered in the Colombian Commission of Mineral Resources and Reserves -CCRR®, subject to

its code of ethics.

A Competent Person must demonstrate a minimum of ten (10) years of general professional experience in the mining industry, and a minimum of five (5) years of relevant experience in the mineral(s), style of mineralisation or type of deposit under consideration and in the activity which that person is undertaking.

Guidance

The definition and registration of a «Competent Person» is subject to any additional restrictions or conditions that may be required by the CCRR®.

Competent Person´s Experience

Code

3.9. If the Competent Person is preparing a Public Report on Exploration Results, the relevant experience must be in exploration. 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. In the same way, if the Competent Person is estimating, or supervising the estimation of Mineral Reserves, the relevant experience must be in the estimation, assessment, evaluation, and economic extraction of Mineral Reserves.

Guidance

The key qualifier in the definition of a Competent Person is the word «relevant». Determination of what constitutes relevant experience can be a difficult area, and common sense has to be exercised. For example, in estimating Mineral Resources for vein gold mineralisation, experience in a polymetallic veins with nugget effect will probably be relevant, whereas experience in massive base metal deposits may not be.

As a second example, to qualify as a Competent Person in the estimation of Mineral Reserves for alluvial gold deposits, considerable experience in the evaluation and economic extraction of this type of mineralisation would be needed. This is due to the characteristics of gold in alluvial systems, the particle sizing of the host sediment, and the low grades involved. Experience with placer deposits containing minerals other than gold may not necessarily provide appropriate relevant experience.

The key word «relevant» also means 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 (say) 20 years' experience in estimating Mineral Resources for a variety of metalliferous hard-rock deposit types may not require five years specific experience in (say) porphyry copper deposits to act as a Competent Person. Relevant experience in the other deposit types could count towards the required experience in relation to porphyry copper deposits.

In addition to experience in the style of mineralisation, a Competent Person taking responsibility for the compilation of Exploration Results or Mineral Resource estimates should have sufficient experience in the sampling and analytical techniques relevant to the deposit under consideration to be aware of problems, which could affect the reliability of data. Some appreciation of processing and beneficiation applicable to that deposit type is also important.

If the Competent Person is relying on a report, opinion, or statement of another expert who is not a Competent Person, then a disclosure of the date, title, and author of the report, opinion, or statement, the qualifications of the other expert, the reason for the Competent Person to rely on the other expert, any significant risks and any steps the Competent Person took to verify the information provided.

Competent Person´s and/or professional who endorses the documents and studies´ Responsibilities

Code

3.10. The Competent Person and/or the professional who endorses the documents and studies, must provide explanatory comment on the material assumptions underlying the declaration of Exploration Targets, Exploration Results, Mineral Resources or Mineral Reserves.

3.11. In particular, the Competent Person and/or the professional who endorses the documents and studies, when considering Materiality as defined in Clause 2.6, must include explicit comment on all aspects that an investor or advisor would reasonably expect to be provided. This would include but not be limited to any aspect that would influence the public perception or value of the subject matter.

3.12. The Competent Person and/or the professional who endorses the documents and studies, must be satisfied that:

- Their work has not been unduly influenced by the organization, company or person commissioning the Public Report;
- All assumptions are documented; and
- Adequate disclosure is made of all material aspects that an informed reader may require to make a reasonable and balanced judgement thereof.

Guidance

As a general guide, persons being called upon to act as Competent Persons should be clearly satisfied in their own minds that they could face their peers and demonstrate competence in the commodity, type of deposit and situation under consideration. If doubt exists, the person either should seek opinions from appropriately experienced colleagues or should decline to act as a Competent Person.

Estimation of Mineral Resources may be a team effort (for example, involving one person or team collecting the data and another person or team preparing the estimate). Estimation of Mineral Reserves is very commonly a team effort involving several technical disciplines. Where there is a clear division of responsibility within a team, each Competent Person and/or professional who endorses the documents and studies and their contribution should be identified, and responsibility accepted for that contribution.

If only one Competent Person and/or professional signs the Mineral Resource or Mineral Reserve documentation, that person is responsible and accountable for the whole of the documentation under the ECRR®. In this situation the Competent Person and/or the professional who endorses the documents and studies accepting overall responsibility for a Mineral Resource or Mineral Reserve estimate and supporting documentation prepared in whole or in part by others, should be satisfied that the work of the other contributors is acceptable.

Complaints made with respect to the ethics, or professional work of a Competent Person registered in the CCRR®, will be dealt under the Code of Ethics and the disciplinary procedures of the CCRR®, not meaning that the responsibilities may or may not be investigated and/or sanctioned by other authorities and entities, including professional councils in charge of overseeing the exercise of the respective profession and the professional

associations in which the professional is associated and that are part of the CCRR®.

Mutual recognition agreements between National Reporting Organizations (NRO) are encouraged. Agreements between Professional Organizations (PO) and the relevant bodies (NROs, Securities Exchanges and/or regulatory authorities) may allow the Competent Person to submit a Public Report to a specific stock exchange using the applicable code or standard, providing that the Competent Person meets the requirements of such NRO or as specified by any relevant regulatory authority.

4. REPORTING TERMINOLOGY

Defined terms

Code

4.1. The CRIRSCO Standard Definitions for the defined terms should be considered in conjunction with Figure 1.

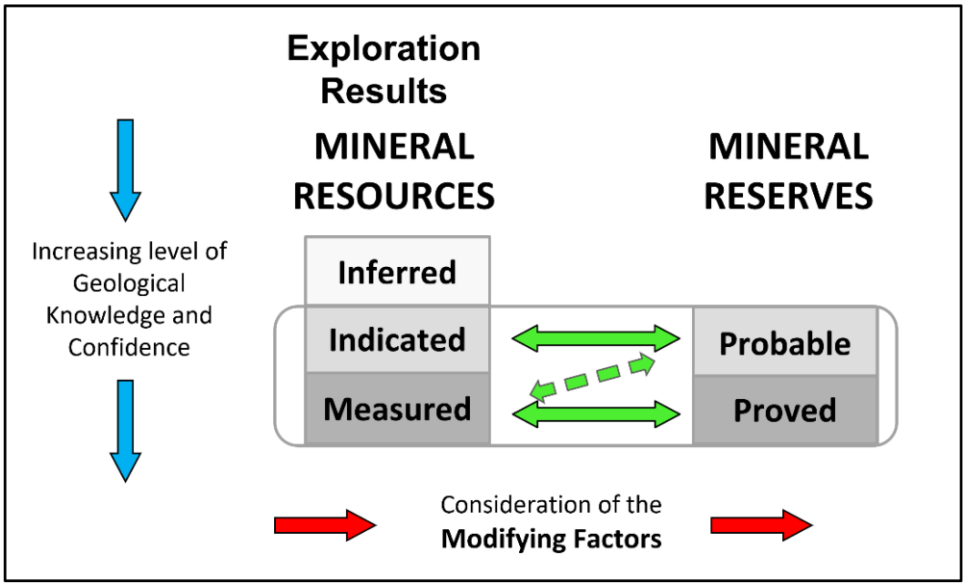

Figure 1. General relationship between Exploration Results, Mineral Resources and Mineral Reserves.

4.2. In this Figure 1, the defined terms are:

- Modifying Factors
- Exploration Results
- Mineral Resources
- Inferred Mineral Resources
- Indicated Mineral Resources
- Measured Mineral Resources
- Mineral Reserves
- Probable Mineral Reserves
- Proved Mineral Reserves

4.3. The categories shown in Figure 1 must be used to report Exploration Results, Mineral Resources and Mineral Reserves.

4.4. The relationships between some of the defined terms are considered in the guidance below. The defined terms are described further in this and subsequent sections.

4.5. Mineral Resource estimates must have reasonable prospects for economic extraction.

4.6. Mineral Reserve estimates must be supported by studies at a Pre-Feasibility or Feasibility level that show their technical and economic viability.

Guidance

Measured Mineral Resources may convert to either Proved Mineral Reserves or Probable Mineral Reserves. The Competent Person and/or the professional who endorses the documents and studies, may convert Measured Mineral Resources to Probable Mineral Reserves because of uncertainties associated with some or all of the Modifying Factors, which are taken into account in the conversion from Mineral Resources to Mineral Reserves. This relationship is shown by the broken arrow in Figure 1.

Modifying Factors

Definition

4.7.

Modifying Factors are considerations used to assess and estimate Exploration Targets, Mineral Resources and/or Mineral Reserves. These include, but are not limited to, mining, processing, metallurgical, infrastructure, economic, marketing, legal, environmental, social and governance (ESG), and regulatory factors.

Code

4.8. The effect of any of a Modifying Factors on the likely viability of a project and/or on the estimation and classification of the Mineral Reserves must be fully explained.

Guidance

Refer also to the requirements for reporting Mineral Reserves contained in Clauses 8.1 to 8.23.

Figure 1 sets out the framework for classifying tonnage and grade estimates to reflect different levels of geological confidence and different degrees of technical and economic evaluation.

Mineral Resources can be estimated mainly based on geological information with some input from other disciplines.

Mineral Reserves, which are a modified sub-set of the Indicated and Measured Mineral Resources (shown within the dotted outline in Figure 1), require consideration of the Modifying Factors affecting extraction, and should in most instances be estimated with input from a range of disciplines.

Although the trend of the broken arrow includes a vertical component, it does not, in this instance, imply a reduction in the level of geological knowledge or confidence. A Measured Mineral Resource may convert to a Probable Mineral Reserve when the confidence in any of the Modifying Factors is less than the level of geological knowledge or confidence. In such a situation these Modifying Factors should be fully explained.

5. REPORTING OF EXPLORATION TARGETS

Definition

5.1.

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.

Guidance

Descriptions of Exploration Targets or exploration potential in Public Reports should be expressed so as not to misrepresent them as an estimate of Mineral Resources or Mineral Reserves.

Code

5.2. It is recognized that it is common practice for an entity to comment on and discuss its exploration strategy in terms of target size and type. Any such information relating to Exploration Target size must not be expressed in a way that could be confused as an estimate of Mineral Resources or Mineral Reserves.

5.3. Any statement referring to potential quantity and grade of the target must be expressed as a range and must include a detailed explanation of the basis for the assumptions made and procedures used to estimate the range of tonnage and grade or quality, and extent.

5.4. There must also be a proximate statement that the potential quantity and grade is 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.

5.5. The detailed explanation of the basis for the statement of an Exploration Target must specifically discuss the geological setting and exploration strategy, exploration activity already completed and the presence of or lack of the following attributes:

- Mineralised outcrops and assays;
- Surface geochemical and physical sampling results;
- Surface and subsurface geophysical survey results; and
- Drill holes, test pits, and underground workings.

5.6. Proposed exploration activities designed to test the validity of an Exploration Target should be detailed and include the timeframe within which they are expected to be completed.

6. REPORTING OF EXPLORATION RESULTS

Definition

6.1.

Exploration Results include data and information generated by mineral exploration programmes that might be of use to individuals or Stakeholders, but which do not form part of a declaration of Mineral Resources or Mineral Reserves.

Code

6.2. Reporting of Exploration Results is common in the early stages of exploration when the quantity of data available is generally not sufficient to allow any reasonable estimates of Mineral Resources to be made, likewise, when Public Reports that support analysis and evaluations by regulatory authorities in the early stages of exploration must be made. Examples include discovery outcrops, single drill hole intercepts or the result or geophysical surveys and results of metallurgical testwork.

6.3. 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.

Guidance

It should be made clear in Public Reports that contain Exploration Results that it is inappropriate to use such information to derive estimates of tonnage and grade or quality (because if there were sufficient information to do so, the resulting estimates would have been quoted).

It is recommended that such reports carry a continuing statement along the following lines:

«The information provided in this report/statement/release constitutes Exploration Results as defined in Clause 6.1 of the ECRR®. It is inappropriate to use the information presented for deriving estimates of tonnage and grade or quality».

Code

6.4. Public Reports of Exploration Results must contain sufficient information to allow a considered and balanced judgement of their significance.

6.5. Reports must include relevant information such as exploration context, type and method of sampling, relevant sample intervals and locations, distribution, dimensions and relative location of all relevant assay data, methods of analysis, data aggregation methods, land tenure status plus

information on any of the other criteria listed in Table 1 that are material to an assessment.

6.6. Public Reports of Exploration Results must not be presented so as to unreasonably imply that potentially economic mineralisation has been discovered. If true widths of mineralisation are not reported, an appropriate qualification must be included in the Public Report.

6.7. Public Reports of Exploration Results must include, at least, the listed information on Table 1.

6.8. Where assay and analytical results are reported, they must be reported using one of the following methods, selected as the most appropriate by the Competent Person and/or the professional who endorses the documents and studies, either:

- 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.

6.9. Clear diagrams and maps designed to represent the geological context must be included in the report. These must include, but not be limited to a plan view of all sample locations and any other and appropriate sectional views. It is unacceptable to present Public Reports where information is without georeferencing.

6.10. 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.

Guidance

While it is not necessary to report all assays or drill holes, it is a requirement that sufficient information about the omitted data is provided so that a considered and balanced judgement can be made by the reader of the report. Where Public Reports of Exploration Results do not include all drill holes or all intersections of drill holes, the Competent Person and/or the professional who endorses the documents and studies, must provide an explanation of why this information is not considered relevant or why it has not been provided.

As required under Clauses 3.10 and 3.11 the Competent Person and/or the professional who endorses the documents and studies, must not «remain silent» on any issue for which the presence or absence of comment could impact the public perception or value of the mineral occurrence. For Significant Projects the reporting of all criteria in Sections 1 and 2 of Table 1 on an «if not, why not» basis is required, preferably as an Appendix to the Public Report.

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.

7. REPORTING OF MINERAL RESOURCES

Definition

7.1.

A Mineral Resource is a concentration or occurrence of material of economic interest in or on the Earth's crust in such form, grade or quality and quantity that there are reasonable prospects for economic extraction.

The location, quantity, grade or quality, continuity and other geological characteristics of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge, including sampling.

Mineral Resources are subdivided, in order of increasing geological confidence into Inferred, Indicated and Measured categories.

Code

7.2. All reports of Mineral Resources must satisfy the requirement that there are reasonable prospects for economic extraction (i.e., more likely than not), regardless of the classification of the Mineral Resource.

7.3. Estimates of non-economic mineralisation (where there are no reasonable prospects for economic extraction) do not qualify as Mineral Resources (or Mineral Reserves) under the definitions of the ECRR®.

Guidance

The term «reasonable prospects for economic extraction» implies a judgement (albeit preliminary) by the Competent Person and/or the professional who endorses the documents and studies, in respect of all Modifying Factors. In other words, a Mineral Resource is not an inventory of all mineralisation drilled or sampled, regardless of cut-off grade, likely mining dimensions, location, or continuity. It is a realistic inventory of mineralisation, which, under assumed and justifiable technical and economic conditions, may, in whole or in part, become economically extractable.

Any material assumptions made in determining the «reasonable prospects for economic extraction» should be clearly stated, discussed and justified in the in the Public Report.

Interpretation of «reasonable prospects» in this context may vary depending on the commodity or mineral involved.

Any adjustment made to the data for the purpose of making the Mineral Resource estimate, (e.g. cutting or factoring grades), should be clearly stated and described in the Public Report.

The term «Mineral Resource» covers mineralisation, including dumps and tailings, which has been identified and estimated through exploration and sampling and within which Mineral Reserves may be defined by the consideration and application of Modifying Factors.

Inventory Reports or Exploration Reports to government and other similar reports may require full disclosure of all mineralisation, including some material that does not have reasonable prospects for economic extraction. Such mineralisation would not qualify as Mineral Resources or Mineral Reserves under the definitions included in the ECRR®.

Inferred Mineral Resources

Definition

7.4.

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 infer but not demonstrate geological and grade or quality continuity.

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. It is reasonably expected that the majority of Inferred Mineral Resources could be upgraded to Indicated Mineral Resources with continued exploration.

Code

7.5. 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.

7.6. In circumstances where the estimation of the Inferred Mineral Resource is presented on the basis of extrapolation beyond the nominal sampling spacing and taking into account the style of mineralisation, the report must contain sufficient information to inform the reader of:

- The maximum distance that the resource is extrapolated beyond the sample points;
- The proportion of the resource that is based on extrapolated data;
- The basis on which the resource is extrapolated to these limits; and
- A diagrammatic representation of the Inferred Mineral Resource showing clearly the extrapolated part of the estimated resource.

Guidance

The Inferred category is intended to cover situations where a mineral concentration or occurrence has been identified, and limited measurements and sampling have been completed, but where the data are insufficient to allow the geological and/or grade continuity to be interpreted with confidence.

Commonly, it would be reasonable to expect that the majority of Inferred Mineral Resources would upgrade to Indicated Mineral Resources with continued exploration. However, due to the uncertainty of Inferred Mineral Resources, it should not be assumed that such upgrading would always occur.

Code

7.7. Inferred Mineral Resources must not be converted to Mineral Reserves and must not be stated as part of the Mineral Reserve.

Guidance

Confidence in the estimate is usually not sufficient to allow the results of the application of technical and economic parameters to be used for detailed planning in Pre-Feasibility or Feasibility Studies. For this reason, there is no direct link from an Inferred Mineral Resource to any category of Mineral Reserves (see Figure 1).

Caution should be exercised if the Inferred Mineral Resources category is considered in technical and economic studies, such as Scoping Studies.

Indicated Mineral Resources

Definition

7.8.

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 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 demonstrate geological and grade or quality continuity between points of observation.

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.

Code

7.9. An Indicated Mineral Resource has a higher level of confidence than that applying to an Inferred Mineral Resource.

Guidance

Mineralisation may be classified as an Indicated Mineral Resource when the nature, quality, amount and distribution of data are such as to allow confident interpretation of the geological framework and to assume continuity of mineralisation.

Confidence in the estimate is sufficient to allow the application of technical and economic parameters, and to enable an evaluation of economic viability.

Measured Mineral Resources

Definition

7.10.

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.

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.

Code

7.11. A Measured Mineral Resource requires an understanding of, the geology, mineralogy, mineability and amenability to processing of the mineral deposit.

Guidance

Mineralisation may be classified as a Measured Mineral Resource when the nature, quality, amount and distribution of data are such as to leave no reasonable doubt, in the opinion of the Competent Person and/or the professional determining the Mineral Resource, that the tonnage and grade of the mineralisation can be estimated to within close limits, and that any variation from the estimate would be unlikely to significantly affect potential economic viability.

This category requires a high level of confidence in, and understanding of, the geology and the controls of the mineral deposit.

Confidence in the estimate is sufficient to allow the application of the Modifying Factors within a technical and economic study as defined in Clauses 9.7 and 9.8.

Depending upon the level of confidence in the various Modifying Factors, a Measured Mineral Resource 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).

Selection of Mineral Resource reporting category

Code

7.12. The choice of the appropriate category of Mineral Resource depends upon the quantity, distribution and quality of data available and the level of confidence that attaches to those data.

7.13. The ECRR® recommends that the classification of Mineral Resource be determined by a Competent Person.

Guidance

Mineral Resource classification is a matter for skilled judgement, and Competent Persons and/or professionals who endorse the documents and studies, should take into account those items in Table 1, which relate to confidence in Mineral Resource estimation.

In deciding between Measured Mineral Resources and Indicated Mineral Resources, Competent Persons and/or professionals who endorse the documents and studies, may find it useful to consider, in addition to the phrases in the two definitions relating to geological and grade continuity in Clauses 7.8 and 7.10 the phrase in the guideline to the definition for Measured Mineral Resources:

«…any variation from the estimate would be unlikely to significantly affect potential economic viability».

In deciding between Indicated Mineral Resources and Inferred Mineral Resources, Competent Persons and/or professionals who endorse the documents and studies, may wish to take into account, in addition to the phrases in the two definitions in Clauses 7.4 and 7.8 relating to geological and grade continuity, the guideline to the definition for Indicated Mineral Resources:

«Confidence in the estimate is sufficient to allow the application of the Modifying Factors and to enable a mine plan and an evaluation of economic viability of the deposit»

which contrasts with the guideline to the definition for Inferred Mineral Resources:

«Confidence in the estimate of Inferred Mineral Resources is usually not sufficient to allow the results of the application of technical and economic parameters to be used for detailed planning in Pre-Feasibility or Feasibility Studies.»

And

«Caution should be exercised if this category is considered in technical and economic studies».

The Competent Person and/or professional who endorse the documents and studies, should take into consideration issues of the style of mineralisation, scale and cut-off grade when assessing geological and grade continuity. Cut-off grades chosen for the estimation should be realistic in relation to the style of mineralisation and the anticipated mining and processing development options.

Code

7.14. Public Reports of Mineral Resources must specify one or more of the categories of "Inferred", "Indicated" and "Measured".

7.15. Mineral Resource categories must not be reported in a combined form unless details for the individual categories are also provided.

7.16. Mineral Resources must not be reported in terms of contained metal or mineral content unless corresponding tonnages and grades are also presented.

7.17. Mineral Resources must not be aggregated with Mineral Reserves.

7.18. Public Reporting of tonnage and grade outside the categories covered by the ECRR® is not permitted.

Guidance

Estimates of tonnage and grade outside of the categories covered by the ECRR® may be useful for a company in its internal calculations and evaluation processes, but their inclusion in Public Reports is not permitted.

Code

7.19. The words "ore" and "Reserves" must not be used in stating Mineral Resource estimates (except in the context of common usage such as "iron ore", etc.) as the terms imply technical feasibility and economic, social, environmental viability and are only appropriate when all relevant Modifying Factors have been considered.

7.20. 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.

7.21. In a Public Report of a Mineral Resource for a Significant Project, when reporting for the first time, or when those estimates have materially changed from when they were last reported, a brief summary of the information in relevant sections of Table 1 must be provided. Alternatively, if a particular criterion is not relevant or material, a disclosure that it is not relevant or material and a brief explanation of why this is the case must be provided.

Guidance

A material change could be a change in the estimated tonnage or grade or in the classification of the Mineral Resources or Mineral Reserves. Whether there has been a material change in relation to a Significant Project must be considered by taking into account all of the relevant

circumstances, including the style of mineralisation. This includes considering whether the change in estimates is likely to have a material effect on the price or value of the company's securities.

It is essential to discuss any matters which might materially affect the 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 and/or Mineral Reserves. For example: Poor sample recovery, poor repeatability of assay or laboratory results, limited information on bulk densities, uncertainty in the Modifying Factors, etc.

If there is doubt about what should be reported, it is better to err on the side of providing too much information rather than too little.

Uncertainties in any of the criteria listed in Table 1 that could lead to under- or overstatement of Mineral Resources and Reserves, should be disclosed.

Accuracy of Mineral Resources estimates

Code

7.22. Mineral Resource estimates are not precise calculations, being dependent on the interpretation of limited information on the location, shape and continuity of the occurrence and on the available sampling results.

7.23. Reporting of tonnage and grade figures should reflect the relative uncertainty of the estimate by rounding off to appropriately significant figures and, in the case of Inferred Mineral Resources, by qualification with terms such as "approximately".

Guidance

In most situations, rounding to the second significant figure should be sufficient. For example, 10.863.000 tonnes at 8,23 per cent should be stated as 11 million tonnes at 8,2 per cent.

There will be occasions, however, where rounding to the first significant figure may be necessary in order to convey properly the uncertainties in estimation.

This would usually be the case with Inferred Mineral Resources.

To emphasize the imprecise nature of a Mineral Resource estimate, the result should always be referred to as an estimate not a calculation.

Competent Persons and/or professionals who endorse the documents and studies are encouraged, where appropriate, to discuss the relative accuracy and confidence of the Mineral Resource estimates with consideration of at least sampling, analytical and estimation errors.

The statement should specify whether it relates to global (whole of Resource) or local estimates (a subset of the Resource for which the accuracy and/or confidence might differ from the whole of the Resource), and, if local, state the relevant tonnage or volume.

Where a statement of the relative accuracy and/or confidence is not possible, a qualitative discussion of the uncertainties should be provided (refer to Table 1).

8. REPORTING OF MINERAL RESERVES

Definition

8.1.

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 Mineral 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 can be sub-divided, in order of increasing levels of confidence, into Probable and Proved Categories.

Code

8.2. Mineral Reserves are those portions of Indicated and Measured Mineral Resources which, after the application of all relevant Modifying Factors, result in an estimated tonnage and grade which, in the opinion of the Competent Person and/or the professional who is making the estimates, can be the basis of a viable project. Estimating a Mineral Reserve without a mine design or mine plan through a process of applying Modifying Factors to the Mineral Resource, is unacceptable.

8.3. Studies to Pre-Feasibility or Feasibility level, as appropriate, will have been carried out prior to determination of the Mineral Reserves.

8.4. The study will have determined a mine plan that is technically achievable and economically viable and from which the Mineral Reserves can be derived.

Guidance

If there are doubts about what should be reported, refer to Table 1, complying with the minimum required by the ECRR®.

Any adjustment made to the data for the purpose of making the Mineral Reserve estimate should be clearly stated and described in the Public Report.

It should be noted that the application of the ECRR® does not imply that an economically viable project should have Proved Mineral Reserves. Situations may arise where Probable Mineral Reserves alone may be sufficient to justify extraction. This is a matter for judgement by the Competent Person and/or the professional who endorses the documents and studies.

Definition

8.5. **A Life of Mine Plan (LoMP) is a design and financial/economic study of an existing operation in which appropriate assessments have been made of all Modifying Factors, which are considered in sufficient detail (to a minimum of Pre-Feasibility level) to demonstrate that continued extraction is reasonably justified.**

Guidance

Guidance on the requirements for the different types of Technical Study is provided in Table 2.

Code

8.6. A Life of Mine Plan (LoMP) of at least Pre-Feasibility level can be used in an operating mine where there is no significant capital expenditure required.

8.7. In reporting Mineral Reserves, information on all Modifying Factors must be included in Public Reports.

Guidance

The term «economically mineable» implies that extraction of the Mineral Reserve has been demonstrated to be viable under reasonable financial assumptions. What constitutes «reasonable financial assumptions» will vary with the type of deposit, the level of study that has been carried out and the financial criteria of the individual company.

For this reason, there can be no fixed definition for the term «economically mineable». However, it is expected that companies will attempt to achieve an acceptable return on capital invested, and that returns to investors in the project will be competitive with alternative investments of comparable risk.

The term «Mineral Reserves» need not necessarily signify that extraction facilities are in place or operative or that all necessary approvals or sales contracts have been received. It does signify that there are reasonable expectations of such approvals or contracts. The Competent Person and/or the professional who endorses the documents and studies, should report any material or unresolved matter that is dependent on a third party on which extraction is contingent.

Code

8.8. It is accepted that mine design and planning in a LoMP may include a proportion of Inferred Mineral Resources. If this category is considered in mine design, mine 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.

Modifying Factors and assumptions applied to the Inferred Mineral Resources must reflect a risk analysis taking into account their lower geological knowledge and confidence.

A LoMP must be economically viable without Inferred Mineral Resources to support the declaration of Mineral Reserves.

Where a material amount of mining in the LoMP includes Inferred Mineral Resources, a comparison of the results with and without these Inferred Mineral Resources must be shown, and the rationale (including a risk assessment) behind their inclusion must be explained and the proportion of Inferred Resources included in the LoMP reported.

Guidance

Inferred Mineral Resources may be included in mine design, mine planning and economic studies only if a LoMP and a statement of Mineral Reserves that declares that Inferred Mineral Resources have been included exists, but a proximate statement should be provided:

«Only Probable and Proved Mineral Reserves have been used to establish the economic viability of the mine design in economic studies».

If there is doubt about what should be reported, it is better to err on the side of providing too much information than too little.

Any adjustment made to the data for the purpose of making the Mineral Reserve estimate, for example by cutting or factoring grades, should be clearly stated and described in the Public Report.

It should be noted that the ECRR® does not imply that an economically viable project should have Proved Mineral Reserves. Situations may arise where 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 and/or the professional who endorses the documents and studies.

Probable Mineral Reserves

Definition

8.9.

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.

Code

8.10. A Probable Mineral Reserve has a lower level of confidence than a Proved Mineral Reserve but is of sufficient quality to serve as the basis for a decision on the development of the project.

Proved Mineral Reserves

Definition

8.11.

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.

Code

8.12. A Proved Mineral Reserve represents the highest confidence category of Reserve estimate and implies a high degree of confidence in geological and grade continuity, and the consideration of the Modifying Factors.

Guidance

The style of mineralisation or other factors could mean that Proved Mineral Reserves are not achievable in some deposits.

Competent Persons and/or professionals who endorse the documents and studies, should be aware of the consequences of declaring Mineral Reserves of the highest confidence category before satisfying themselves that all of the relevant resource parameters and Modifying Factors have been established at a similarly high level of confidence.

Selection of Mineral Reserve reporting category

Code

8.13. The choice of the appropriate category of Mineral Reserve is determined primarily by the relevant level of confidence in the Mineral Resource and after considering any uncertainties in the Modifying Factors.

8.14. The ECRR® recommends that the classification of Mineral Reserve be determined by a Competent Person.

Guidance

The ECRR® provides for a direct two-way relationship between Indicated Mineral Resources and Probable Mineral Reserves and between Measured Mineral Resources and Proved Mineral Reserves. In other words, the level of geological confidence for Probable Mineral Reserves is similar to that required for the determination of Indicated Mineral Resources. The level of geological confidence for Proved Mineral Reserves is similar to that required for the determination of Measured Mineral Resources. Inferred Mineral Resources cannot be converted to Mineral Reserves.

The ECRR® also provides for a two-way relationship between Measured Mineral Resources and Probable Mineral Reserves. This is to cover a situation where uncertainties associated with any of the Modifying Factors considered when converting Mineral Resources to Mineral Reserves may result in there being a lower degree of confidence in the Mineral Reserves than in the corresponding Mineral Resources. Such a conversion would not imply a reduction in the level of geological knowledge or confidence.

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 removed. No amount of confidence in the Modifying Factors for conversion of a Mineral Resource to 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 directly to a Proved Mineral Reserve (see Figure 1).

Application of the category of Proved Mineral Reserves implies the highest degree of confidence in the estimate and the highest degree of detail in the feasibility studies that define the viability of the project.

Refer also to the guidelines at Clauses 7.12 and 7.13 regarding classification of Mineral Resources.

Code

8.15. Public Reports of Mineral Reserves must specify one or both of the categories of Proved Mineral Reserves and Probable Mineral Reserves.

8.16. Categories must not be reported in a combined Proved and Probable Mineral Reserve unless the relevant figures for each of the categories are also provided.

8.17. Reports must not present metal or mineral content figures unless corresponding tonnage and grade figures are also given.

8.18. Mineral Reserves must not be aggregated with Mineral Resources.

8.19. Public Reporting of tonnage and grade outside the categories covered by the ECRR® is not permitted.

Guidance

Mineral Reserves may incorporate material (dilution) which is not part of the original Mineral Resource. It is essential that this fundamental difference between Mineral Resources and Mineral Reserves is borne in mind and caution exercised if attempting to draw conclusions from a comparison of the two.

When revised Mineral Reserve and Mineral Resource statements are publicly reported they should be accompanied by reconciliation with previous statements. A detailed account of differences between the figures is not essential, but sufficient comment should be made to enable significant changes to be understood by the reader.

Code

8.20. In situations where figures for both Mineral Resources and Mineral Reserves are reported, a statement must be included in the Public Report which clearly indicates whether the Mineral Resources are inclusive of, or additional to the Mineral Reserves.

Guidance

In some situations, there are reasons for reporting Mineral Resources inclusive of Mineral Reserves, and in other situations for reporting Mineral Resources exclusive of Mineral Reserves. It must be made clear which form

of reporting has been adopted. Appropriate forms of clarifying statements may be:

«The Measured and Indicated Mineral Resources are inclusive of those Mineral Resources»

or

«The Measured and Indicated Mineral Resources are additional to the Mineral Reserves».

In the former case, if any Measured and Indicated 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 report. This is to assist the reader of the report in making a judgment of the likelihood of the unmodified Measured and Indicated Mineral Resources eventually being converted to Mineral Reserves.

Inferred Mineral Resources are by definition always additional to Mineral Reserves.

For reasons stated in the guidelines to Clauses 8.10 and 8.11, and in this guidance, the reported Mineral Reserve figures must not be added to the reported Mineral Resource figures. The resulting total is misleading and is capable of being misunderstood or of being misused to give a false impression of a company's prospects.

Code

8.21. If re-evaluation indicates that any part of the Mineral Reserves is no longer viable, such Mineral Reserves must be re-classified as Mineral Resources and be removed from the Mineral Reserve statements.

Guidance

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, or where company management has made a deliberate decision to operate on a non-economic basis. 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.

Code

8.22. In a Public Report of a Mineral Reserve, when reporting for the first time, or when the estimates have materially changed from when they were last

reported, a brief summary of the information in relevant sections of Table 1 must be provided. Alternatively, if a particular criterion is not relevant or material, a disclosure that it is not relevant or material and a brief explanation of why this is the case must be provided.

Accuracy of Mineral Reserves estimates

Code

8.23. Mineral Reserve estimates are not precise calculations. Reporting of tonnage and grade figures should reflect the relative uncertainty of the estimate by rounding off to appropriately significant figures.

Guidance

For more information, refer to the guidelines at Clause 7.23.

To emphasize the imprecise nature of a Mineral Reserve, the result should always be referred to as an estimate not a calculation.

Competent Persons and/or professionals who endorse the documents and studies should, where appropriate, discuss the relative accuracy and/or confidence of the Mineral Reserve estimates, considering the uncertainties, both in the estimate and in the Modifying Factors.

The statement should specify whether it relates to global (whole of Reserve) or local estimates (a subset of the Reserve for which the accuracy and/or confidence might differ from the whole of the Reserve), and, if local, state the relevant tonnage or volume.

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, Table 2 and to the guidelines at Clauses 7.9 and 7.11).

9. TECHNICAL STUDIES

Code

9.1. Public Reports may include, but not be limited to, information included in or supported by:

- Scoping studies
- Pre-Feasibility studies
- Feasibility studies
- Technical documents required by the Colombian mining authority (for example, Programa de Trabajos y Obras -PTO).

9.2. Guidelines on the requirements for a Scoping, Pre-Feasibility and a Feasibility Study are included in Table 2.

Scoping Study

Definition

9.3.

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 at the time of reporting to demonstrate and provide justification for further investigation and technical work, and more comprehensive technical studies.

A Scoping Study is at a lower confidence level than a Pre-Feasibility Study.

Code

9.4. A Scoping Study must not be used as the basis for estimation of Mineral Reserves.

9.5. If the outcome of a Scoping Study is partially supported by Inferred Mineral Resources, the Public Report must state the proportion and relative sequencing of the Inferred Mineral Resources within the Scoping Study.

9.6. For all Scoping Studies, the company must include a cautionary statement in the same paragraph as or immediately following the disclosure of the Scoping Study.

Guidance

To develop Scoping Studies, it is necessary to visit the area of interest, all available information is used, historical, geographical, geodesic, satellite, social, environmental, economic, etc. There are Modifying Factors such as social and environmental that are recommended to be incorporated into this initial phase of the project.

An example cautionary statement follows:

«The Scoping Study referred to in this report is based on low-level technical and economic assessments and is insufficient to support estimation of Mineral Reserves or to provide assurance of an economic development case at this stage, or to provide certainty that the conclusions of the Scoping Study will be realised».

In discussing «reasonable prospects for economic extraction» at Clause 7.1, an assessment (albeit preliminary) is required of all matters likely to influence the prospect of economic extraction including the approximate Modifying Factors by the Competent Person and/or the professional who endorses the documents and studies.

While a Scoping Study may provide the basis for that assessment, the ECRR® does not require a Scoping Study to have been completed to report a Mineral Resource. These studies are commonly the first economic evaluation of a project undertaken and may be based on a combination of directly gathered project data together with assumptions borrowed from similar deposits or operations to the case envisaged.

Scoping Studies are also commonly used by companies for comparative and planning purposes. Reporting the general results of a Scoping Study should be undertaken with care to ensure there is no implication that Mineral Reserves have been established or that economic development is assured.

In this regard it is appropriate to indicate the Mineral Resource inputs to the Scoping Study and the processes applied, but it is not appropriate to report the diluted tonnes and grade as if they were Mineral Reserves.

While initial mining and processing cases may have been developed during a Scoping Study, they must not be used to allow a Mineral Reserve to be declared.

Pre-Feasibility Study

Definition

9.7.

A Pre-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 the preferred methods of extraction and beneficiation have been determined.

It includes a financial analysis based on reasonable and demonstrated assumptions of Modifying Factors and the evaluation of any other relevant factors which are sufficient for a Competent Person, 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.

Guidance

As required in Clause 8.1, formal assessment of all Modifying Factors is required in order to determine how much available Measured and Indicated Mineral Resources can be converted to Mineral Reserves.

A Pre-Feasibility Study will consider the application and description of all Modifying Factors to demonstrate economic viability and to support a Mineral Reserve in a Public Report.

The Pre-Feasibility Study will identify the preferred mining, processing, and infrastructure requirements and capacities, but will not yet have finalized these matters. Detailed assessments of environmental and socio-economic impacts and requirements will also be well advanced.

The Pre-Feasibility Study will highlight areas that require further refinement within the final study stage.

Feasibility Study

Definition

9.8.

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 economic extraction is reasonably justified.

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.

Code

9.9. It is not required by the ECRR® that a full Feasibility Study has been undertaken to convert Mineral Resources to Mineral Reserves. It is however, necessary that at least a Pre-Feasibility Study has been carried out that will have determined a mine plan that is technically achievable and economically viable, and that material Modifying Factors have been considered.

Guidance

Terms such as «Bankable Feasibility Study» and «Definitive Feasibility Study» are noted as being equivalent to a Feasibility Study as defined in this Clause.

A Feasibility Study is of a higher level of confidence than a Pre-Feasibility Study and would normally contain mining, infrastructure and process designs completed with sufficient rigor to serve as the basis for an investment decision or to support project financing. Social, environmental and governmental approvals, permits, and agreements will be in place or will be approaching finalisation within the expected development timeframe.

The Feasibility Study will contain the application and description of all Modifying Factors (as outlined in Table 1, section 5) in a more detailed form than in the Pre-Feasibility Study and may address implementation issues such as detailed mining schedules, construction ramp up, and project execution plans.

10. REPORTING OF METAL EQUIVALENTS

Code

10.1. The Public Reporting of Exploration Results, Mineral Resources and/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.

10.2. 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, Competence and Impartiality, as set out in Clauses 2.5 to 2.8:

- Individual grades for all metals included in the metal equivalent calculation;
- Assumed commodity prices for all metals. The actual assumed prices and the exchange rate should be disclosed. 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, sufficient information must be disclosed, perhaps in narrative rather than numerical form, for Stakeholders to understand the methodology used to determine these prices;
- Assumed beneficiation 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 company'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.

10.3. 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.

10.4. Estimates of beneficiation recoveries for each metal must be used to calculate meaningful metal equivalents.

10.5. Reporting on the basis of metal equivalents is not appropriate if metallurgical recovery information is not available or not able to be estimated with reasonable confidence.

Guidance

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.

11. COMMODITY PRICING AND MARKETING

Code

11.1. Commodity prices and sales volume expectations used for the determination of Mineral Resources and Mineral Reserves must be based on forward-looking estimates reflecting the company's reasonable and supportable short- and long- term expectations as supported by available evidence, which may include consensus forecasts, three-year trailing averages, sales contracts, or other price analyses (see Clauses 11.4 and 11.5 below for cases where public disclosure is not appropriate).

Guidance

The basis for the selected prices and sales volumes should be supported by appropriate documentation.

The Competent Person and/or the professional who endorses the documents and studies, should ascertain that these prices and volumes are consistent with sales agreements and marketing determinations or forecasts.

Under certain circumstances, it may be appropriate to use different prices for estimating Mineral Resources and Mineral Reserves. In such cases, this must be explained in the Public Report or with an annex.

For current mining operations, the price and volume profile used for Mineral Resources and Mineral Reserves estimation may reflect current market conditions for short-term forecasts, while trending with time upward or downward toward the long-term price and volume estimates based on the company's expectations.

For Mineral Reserves that are expected to be produced beyond the validity of short-term forecasts, the company should use long-term price and volume expectations.

For commodities sold under existing contracts, Mineral Reserves should be determined based on contract terms.

For Mineral Reserves for which production would extend beyond the quantities specified in existing contracts, reasonable and supportable assumptions should be made to determine the likelihood of contract renewal and prices applicable for the estimation and reporting of these Mineral Resources and Mineral Reserves.

Code

11.2. To demonstrate the economic feasibility of a Mineral Reserve, the estimated prices, combined with Modifying Factors, must be applied to only Measured and Indicated Mineral Resources.

Guidance

Mineral Reserves are the economically mineable part of a Measured or Indicated Mineral Resource; hence, appropriate assessments should demonstrate at the time of reporting that extraction is reasonably justified. This requires that assumptions are made concerning the price of the commodity or product that will be sold when the mine is in production.

Mineral Reserves are estimated and published to supply information concerning the value of the deposit and the risk which may be associated with its development.

Mineral Reserves are used by a company, in conjunction with Mineral Resources, for short-term, long-term, and strategic planning. They play a critical role in accounting, including impairment testing, fair value accounting, calculation of depreciation, depletion, and accumulated retirement obligation provision rates as well as the closure of the mine.

To supply information consistent with the company's plans and financial reporting, commodity prices used for the determination of Mineral Reserves should be based on forward-looking estimates reflecting the company's reasonable expectations as supported by all available evidence.

Most commodities, whether sold using publicly quoted prices (e.g. base metals and precious metals) or under long term contract (e.g., coal or rocks and industrial minerals), experience long-term price cycles. Price expectations should reflect current prices as well as long-term trends. Overly optimistic or pessimistic price and volumes expectations could result in significant over or underestimation of Mineral Reserves. It is the responsibility of the company and the Competent Person and/or the professional who endorses the documents and studies, to determine whether the prices used for Mineral Reserve estimation are reasonable and supportable, given all available information.

During periods of low prices, a mining company may choose to temporarily curtail operations and conserve the mineral asset until prices recover. When such actions are taken, Public Reports should be updated to reflect the new information. In such circumstances, previously

published Mineral Reserves may not have to be reclassified, provided that, in the opinion of company and the Competent Person and/or the professional who endorses the documents and studies, higher future prices can be reasonably and supportably assumed, and it can reasonably be expected that operations will resume.

The documentation supporting the company's expectations should include: comparison of prices with historical and current prices and forward curves, contracts and market considerations, currency exchange rates where applicable, third party sources, and supplemental information.

Code

11.3. Disclosure in Public Reports of the commodity prices and sometimes also the costs (including other Modifying Factors) used for Mineral Reserve estimation is generally required.

11.4. In the absence of applicable securities or other laws to disclose prices, there may be cases, such as when a product is sold under long-term contract, the terms of which are confidential, where there are valid commercial reasons for non-disclosure of prices.

11.5. Similarly, where disclosure of the long-term price and/or cost assumptions used in the estimation would be detrimental to the company's business, such as when bidding for sales contracts or property acquisitions or negotiating agreements with third parties, non-disclosure may be justifiable.

Guidance

Whenever prices and/or costs are not disclosed, the reasons should be documented, and the commodity price and/or cost information should nevertheless be available for review by auditors or regulators if required.

Even when commodity prices and/or costs are excluded from a Public Report, a description of the methodology used to determine the prices and/or costs should be disclosed. Such disclosure should be in a form which helps the audience of the Public Report to form an opinion that prices and/or costs used represent reasonable views of future prices and/or costs.

The exceptions to disclosure of commodity prices and/or costs are subject to, and overruled by, any obligations imposed by applicable securities or other laws.

12. PERMITTING AND LEGAL REQUIREMENTS

Code

12.1. For the declaration of Mineral Reserves, there must be no known material obstacles to mining, arising from the failure to obtain relevant permits, to carry out mining exploitation.

12.2. At the time of the Mineral Reserves reporting, there must be a reasonable expectation by the Competent Person and/or the professional who endorses the documents and studies, often through reliance on legal and permitting experts, that all permits, ancillary rights (including, among others, environmental licenses, property rights, permits and authorisations that allow mining activities) and to the extent applicable, processing and marketing, can be obtained in a timely fashion, and maintained for ongoing operations.

12.3. The person or company must complete a review of all legal and permitting requirements and document the findings. National, regional, and local environmental laws and processes must be taken into account.

12.4. To demonstrate reasonable expectation that all permits, ancillary rights and authorizations can be obtained, the person or company must show understanding of the procedures to be followed to obtain such permits, ancillary rights and authorizations. Demonstrating earlier success in obtaining the necessary permits can be used to document the likelihood of future success.

12.5. If permits are required, but there is no defined procedure to obtain such permits, reasonable expectation of success may be difficult to support. Information that materially increases or decreases the risk that the necessary legal rights or permits will be obtained must be disclosed.

12.6. It is recognised that the legal and permitting environment may change over time and that such changes could have an impact on Mineral Reserve estimation. If it is determined that obstacles arise or are eliminated, the Mineral Reserve estimates must be adjusted accordingly.

Guidance

It is recognised that some permits cannot be obtained until after a Mineral Reserve has been declared. There might be sound business reasons why obtaining some permits should be postponed.

It is also recognised that waiting for all permits to be on hand could result in critical information not being released to the investors in a timely fashion, and therefore it is recommended that disclosure of material information occur prior to obtaining permits as appropriate.

Documentation should include a brief description of the title, claim, lease or option under which the company has the right to hold or operate the property, indicating any conditions that the company must meet to obtain or retain the property.

If held by leases or options, the expiry dates of such leases or options should be stated. If extension of leases or options will be needed to mine the Mineral Reserves, there should be reasonable expectation that such extension will be granted.

Code

12.7. Royalty terms and clawback rights of former claim/land holders and third parties, even previous owners, must be disclosed.

12.8. Information relating to the review of legal and permitting issues must be documented either in full or by reference. The information may remain confidential to the company. However, when required, it may be released to regulators or auditors on a confidential basis.

13. SUSTAINABILITY CONSIDERATIONS

Code

13.1. Public Reports should discuss environmental, social, and health and safety impacts that are expected during development, operation and after closure. These impacts will affect Stakeholders, especially employees, contractors, neighboring communities, and customers.

Guidance

Historical performance by the company should be used to engage all Stakeholders and to plan for continued benefits for all parties concerned.

In the minerals industry, health and safety has traditionally received the most attention, with accident statistics reflecting these improvements.

The United Nations defines Sustainability as «Meeting the needs of the present without compromising the ability of future generations to meet their own needs».

Sustainability can refer to three principal themes: the ability of the environment to maintain itself with minimal impacts to the local flora and fauna; the ability of the surrounding community to continue its traditional economic and cultural activities; and the ability of newly created economic inputs to continue beyond the mine life.

Social issues agreed upon with surrounding communities are a measure of the communication, transparency, and level of trust generated between Stakeholders. Programs to create positive impacts in environmental, safety, and sustainability all contribute to winning the trust needed.

The Competent Person and/or the professional who endorses the documents and studies, should ensure the Public Report discusses reasonably available information on environmental, permitting, and social or community factors related to the project.

The discussions should include, where relevant:

- *A summary of the results of any environmental studies and a discussion of any known environmental issues that could materially impact the issuer's ability to extract the Mineral Resources or Mineral Reserves;*
- *Requirements and plans for waste and tailings disposal, site monitoring, and water management both during operations and post mine closure;*

- *Project permitting requirements, the status of any permit applications, and any known requirements to post performance or reclamation bonds;*
- *A discussion of any potential social or community related requirements and plans for the project and the status of any negotiations or agreements with local communities;*
- *A discussion of mine closure (remediation and reclamation) requirements and costs;*
- *Special capital or operating requirements for handling hazardous minerals or reagents, as well as other health and industrial hygiene risks;*
- *Any savings in energy usage or other reduction of consumption reflecting directly in the economic outcome of the project; and*
- *Mineral Reserve estimates should acknowledge the likely environmental and social impact of development and ensure that appropriate allowances are made for mitigation and remediation.*

14. REPORTING OF MINERALISED FILL, PILLARS, LOW GRADE MINERALISATION, STOCKPILES, DUMPS AND TAILINGS

Code

14.1. The ECRR® applies to the reporting of all potentially economic mineralised material. This can include mineralised fill, remnants, pillars, low grade mineralisation, stockpiles, dumps and tailings (remnant materials), where there are reasonable prospects for economic extraction in the case of Mineral Resources, and where extraction is reasonably justifiable in the case of Mineral Reserves.

14.2. Unless otherwise stated, all other Clauses of the ECRR® (including Figure 1) apply.

14.3. Table 1, as part of the ECRR®, should be considered persuasive when reporting on mineralized fill, remnants, pillars, low grade mineralisation, stockpiles, dumps and tailings.

14.4. Any mineralized material as described in this Chapter can be considered to be similar to in situ mineralisation for the purposes of reporting Mineral Resources and Mineral Reserves. Judgements about the mineability of such mineralised material should be made by professionals with relevant experience.

14.5. If there are no reasonable prospects for the economic extraction of all or part of the mineralised material as described in this Chapter, then this material cannot be classified as either Mineral Resources or Mineral Reserves.

14.6. If some portion of the mineralised material 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.

14.7. If technical and economic studies have demonstrated that economic extraction could reasonably be justified under realistically assumed conditions, then the material may be classified as a Mineral Reserve.

Guidance

The above Clauses apply equally to low grade in situ mineralisation, sometimes referred to as «mineralised waste» or «marginal grade

material», and often intended for stockpiling and treatment towards the end of mine life.

For clarity of understanding, it is recommended that tonnage and grade estimates of such material be itemized separately in Public Reports, although they may also be aggregated with total Mineral Resource and Mineral Reserve figures.

Information on artificial deposits (e.g., stockpiles, dumps, tailings, and others) must include, at least, information on grades, metallurgical recoveries, granulometric, chemical and mineralogical variability of the piled material, moisture contents, densities, permeability indicators and other data that are fundamental for the eventual processing of these materials, the design of the corresponding facilities and the volume and quality of the marketable product obtained.

Given that the results of the treatment of previously extracted material (mineralised fill, stockpiles, tailings, dumps) are usually different from those expected from non-mined in situ material, the Competent Person and/or the professional who endorses the documents and studies, must make a judgment on the necessary direct sampling and testing required to support process recoveries for these types of materials.

It is recommended that estimates of the volume and grade of such materials be detailed separately in Public Reports, if they are of a quantity that is material.

Stockpiles are defined to include both surface and underground stockpiles, including broken ore in stopes, and can include ore currently in the ore storage system.

Mineralised material in the course of being processed (including leaching), if reported, should be reported separately.

15. REPORTING OF COAL EXPLORATION RESULTS, RESOURCES AND RESERVES

Code

15.1. The Clauses 15.1 to 15.7 of the ECRR® address matters that relate specifically to the public reporting of Coal Exploration Results, Coal Resources and Coal Reserves.

15.2. Unless otherwise stated, Clauses 1.1 to 13.1 of the ECRR® apply (including Figure 1).

15.3. Table 1, as part of the ECRR®, should be considered persuasive when reporting on Coal Exploration Results, Resources and Reserves.

Guidance

For purposes of Public Reporting, the requirements for coal are generally similar to those for other commodities with the replacement of terms such as «mineral» by «coal» and «grade» by «quality or type».

Code

15.4. The terms "Mineral Resource(s)" and "Mineral Reserve(s)", and the subdivisions of these as defined above, apply also to coal reporting, but if preferred by the reporting company, the terms "Coal Resource(s)" and "Coal Reserve(s)" and the appropriate subdivisions may be substituted, i.e: Inferred, Indicated or Measured Coal Resources, and likewise for Probable and Proved Coal Reserves.

15.5. "Marketable Coal Reserves", representing beneficiated or otherwise enhanced coal product where Modifying Factors have been considered due to processing, in addition to mining factors such as dilution, may be publicly reported in conjunction with, but not instead of, reports of Coal Reserves.

15.6. The basis of the predicted yield to achieve Marketable Coal Reserves should be stated.

15.7. Reference to all coal products such as "coking coal" or "metallurgical coal", or any reference to coal properties, must not be made until specific properties are demonstrated by analytical results for samples from the deposit.

16. REPORTING OF EMERALDS AND OTHER GEMSTONES EXPLORATION RESULTS, MINERAL RESOURCES AND MINERAL RESERVES

Code

16.1. Clauses 16.1 to 16.9 of the ECRR® address matters that relate specifically to the public reporting of Exploration Results, Mineral Resources and Mineral Reserves for emeralds and other gemstones.

16.2. Unless otherwise stated, Clauses 1.1 to 13.1 of the ECRR® apply (including Figure 1).

16.3. Table 1, as part of the ECRR®, should be considered persuasive when reporting Exploration Results, Mineral Resources and Mineral Reserves for emeralds and other gemstones.

Guidance

For the purposes of Public Reporting, the requirements for emeralds and other gemstones are generally similar to those for other commodities with the replacement of terms such as «mineral» by «emerald» and «grade» by «carats and average emerald value». The term «quality» should not be substituted for «grade», since in emerald deposits these have distinctly separate meanings.

A number of characteristics of emerald deposits and other gemstones are different from those of, for example, typical metalliferous and coal deposits and require special consideration. These include the generally low mineral content and variability of primary and placer deposits, the particulate nature of emeralds and other gemstones, the specialized requirement for emerald valuation and the inherent difficulties and uncertainties in the estimation of emeralds and other gemstones Resources and Reserves.

Code

16.4. Reports of emerald and other gemstones recovered from sampling programs must provide material information relating to the basis on which the sample is taken, the method of recovery and the recovery of the emerald.

16.5. The weight of emerald recovered may only be omitted from the report when the emeralds are considered to be too small to be of commercial significance. This lower cut-off size should be stated.

Guidance

The stone size distribution and price of emeralds and other gemstones are critical components of the Resource and Reserve estimates. At an early exploration stage, sampling and delineation drilling will not usually provide this information, which relies on large diameter drilling and, in particular, bulk sampling.

In order to demonstrate that a resource has reasonable prospects for economic extraction, some appreciation of the likely stone size distribution and price is necessary, however preliminary. To determine an Inferred Resource in simple, single-facies or single-phase deposits, such information may be obtainable by representative large-diameter drilling, however for emeralds, drilling may help establish their presence or not. More often, some form of bulk sampling, such as pitting and trenching, would be employed to provide larger sample parcels.

In order to progress to an Indicated Resource, and from there to a Probable Reserve, it is likely that much more extensive bulk sampling would be needed to fully determine the stone size distribution and value. Commonly such bulk samples would be obtained by underground development designed to obtain sufficient emeralds to enable a confident estimate of price.

In complex deposits, it may be very difficult to ensure that the bulk samples taken are truly representative of the whole deposit. The lack of direct bulk sampling, and the uncertainty in demonstrating spatial continuity of size and price relationships should be persuasive in determining the appropriate resource category.

Code

16.6. Where emerald and other gemstones Resource or emerald and other gemstones Reserve grades (carats per tonne) are based on correlations between the frequency of occurrence of micro-emeralds and of commercial size stones, this must be stated, the reliability of the procedure must be explained and the cut-off size sieve for micro-emeralds reported.

16.7. Where sample results (size-frequency distributions for types of stones) have been adjusted or prices adjusted to produce a "model" different from the actual distribution and value of a bulk sample, a comparison must be made of the actual and model size-frequency distributions and prices.

16.8. For Public Reports dealing with emeralds or other gemstone mineralisation, it is a requirement that any reported valuation of a parcel of emeralds or gemstones be accompanied by a statement verifying the independence of the valuation. The valuation must be based on a report from a demonstrably reputable and qualified expert.

16.9. If a valuation of a parcel of emeralds or other gemstones is reported, the weight in carats and the lower cut-off size of the contained emeralds must be stated and the value of the emeralds must be given in US dollars per carat.

16.10. Where the valuation is used in the estimation of emeralds or other gemstones Resources or emeralds or other gemstones Reserves, the valuation must be based on a parcel representative of the size, shape and colour distributions of the emerald population in the deposit.

16.11. Emerald valuations should not be reported for samples of emeralds processed using total liberation methods.

17. REPORTING OF EXPLORATION RESULTS, MINERAL RESOURCES AND MINERAL RESERVES FOR INDUSTRIAL ROCKS AND MINERALS, CEMENT FEED MATERIALS AND CONSTRUCTION RAW MATERIALS

Code

17.1. The following Clauses address matters that relate to the Public Reporting of Exploration Results, Mineral Resources and Mineral Reserves of industrial rocks and minerals, cement feed materials and construction raw materials of all forms that are generally sold on the basis of their product specifications and market acceptance.

17.2. Unless otherwise stated, Clauses 1.1 to 13.1 of the ECRR® apply (including Figure 1).

17.3. Table 1, as part of the ECRR®, should be considered persuasive when reporting Exploration Results, Mineral Resources and Mineral Reserves for industrial rocks and minerals, cement feed materials and construction raw materials.

17.4. When reporting information and estimates for industrial rocks and minerals, cement feed materials and construction raw materials, all of the key principles and purpose of the ECRR® apply. Chemical analyses may not always be relevant, and other quality and performance characteristics may be more applicable and acceptable as the basis of the reporting.

17.5. Some industrial rocks and minerals, cement feed materials and construction raw material deposits may be capable of yielding products suitable for more than one application and/or specification. If considered material by the Competent Person and/or the professional who endorses the documents and studies, such multiple products should be quantified either separately or as a percentage of the bulk of the deposit.

17.6. Unless it is a specific aspect of their instructions to reflect the range of product mixes and target markets for the deposit, the Competent Person and/or the professional who endorses the documents and studies, should normally report the Mineral Resources and Reserves within the framework of an existing mining plan or established set of product and market assumptions and objectives.

17.7. If there is potential for ancillary products (by-products), or mining or process waste, to be sold off-site for subsidiary uses in addition to the planned sales of primary products (i.e., other uses for non-saleable quarry production, such as secondary aggregate or engineering or other fill), the Competent Person and/or the professional who endorses the documents and studies, should reflect this in their report and comment on any significant implications (e.g., reductions in the amount of non-saleable material that could otherwise be used as a restoration material).

17.8. The factors underpinning the estimation of Mineral Resources and Mineral Reserves for industrial rocks and minerals, cement feed materials and construction raw materials are the same as those for other deposit types covered by the ECRR®. 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.

17.9. For industrial rocks and minerals, cement feed materials and construction raw materials, it is common practice to report the saleable (or useable) product rather than the "as mined" product as it is recognised that commercial sensitivities may not permit the publication of Mineral Resources and Reserves. However, the ECRR® recommends that, if marketable material is reported, it should be done together with the Mineral Reserve and not instead of it.

17.10. It is important that, in all situations where the saleable or usable product is reported, a clarifying statement is included to ensure that the reader is fully informed as to what is being reported.

17.11. Reports should make clear the "permitted" or "non-permitted" status of the Resources and Reserves, and, in addition, Reserves particularly should only be quoted where the operator has legal control.

Guidance

It should be noted that many of the Modifying Factors are more relevant to industrial rocks and minerals, cement feed materials and construction raw materials than to metalliferous minerals. Specifically, the legal control may be more important, as well as the permitting status, due to the local nature of the planning process for non-strategic minerals.

Code

17.12. Mineral Resources and Mineral Reserves of industrial rocks and minerals, cement feed materials and construction raw materials serving localised or regional markets may be reported on an aggregated basis on an

appropriately defined geographical basis (that is, several nearby deposits can be reported) to reflect the particular economic constraints of the deposits being reported without divulging commercially sensitive information.

17.13. In certain cases, commercial sensitivity may prevent the publication of detailed information and data associated with Mineral Resources and Mineral Reserves, and in such cases, this should be clearly justified in the report (either prepared for an individual site or on an aggregated basis).

18. REPORTING OF EXPLORATION RESULTS, MINERAL RESOURCES AND MINERAL RESERVES FOR DIMENSION STONE, ORNAMENTAL AND DECORATIVE STONE

Code

18.1. The following Clauses address matters that relate to the Public Reporting of Exploration Results, Mineral Resources and Mineral Reserves of dimension stone, ornamental and decorative stone of all forms that are generally sold on the basis of their technical (geological/mining) product specifications, quality and market acceptance.

18.2. Unless otherwise stated, Clauses 1.1 to 13.1 of the ECRR® apply (including Figure 1).

18.3. Table 1, as part of the ECRR®, should be considered persuasive when reporting Exploration Results, Mineral Resources and Mineral Reserves for dimension stone, ornamental and decorative stone.

Guidance

«Dimension stone» is a technical/commercial term that includes all natural stones that can be quarried in blocks of different dimensions and processed by cutting or splitting, and that possess the technical and aesthetic properties required for their use in the building and construction industries.

In both mining methods and fields of application, dimension stone is distinct from any other material derived from natural rocks (such as: aggregates, cement materials, crushed stone, etc.) Whilst other materials are almost exclusively used for load bearing and filling functions and are largely utilized in public works, dimension stone materials offer special qualitative features which mean they can be used for different purposes and they can perform both structural and decorative architectural functions.

In general, dimension stones can be quarried in regular and/or unshaped blocks by using different mining methods (drilling & splitting, diamond wire and diamond chain-saw cutting) and processed (cut, polished, and subjected to other surface treatments) to produce semi-finished products (slabs) and finished products (tiles and cut-to-size products).

Code

18.4. Chemical analyses may not always be relevant for material evaluation, at least during the exploration-evaluation phases. Where necessary, chemical analysis is used to verify the presence of possible minerals and related alteration that could produce important quality defects on finished products.

18.5. Chemical/compositional analysis may also identify mineral components and/or assemblages and is used to predict the future technical requirements of the quarrying-processing equipment and related tools.

18.6. Qualitative and aesthetic qualities (colour, grain, texture and their regularity in distribution) and/or their structural performance characteristics (compression and flexural strength, abrasion resistance, porosity, ability to be polished, radioactivity content, etc.) may be more important for the market and applicable and acceptable as the basis of the reporting.

18.7. Many dimension stone deposits may be capable of yielding different products (different materials and/or different market grades within the same material), suitable for the production of more than one finished or semi-finished product, and for more than one final application and/or specification. They often are sold in the market with different prices.

18.8. If considered material by the Competent Person and/or the professional who endorses the documents and studies, estimates for such multiple products should be included either separately or as percentages of the bulk of the deposit.

18.9. Unless it is a specific aspect of their instructions to reflect the range of products mixes and target markets for the deposit, the Competent Person and/or the professional who endorses the documents and studies, should normally report the Mineral Resources and Mineral Reserves within the framework of an existing mining plan and/or feasibility study or established set of products and market assumptions and objectives.

18.10. If there is potential for ancillary products or by-products, or for quarrying or processing waste to be re-utilized or to be sold off-site for subsidiary uses, in addition to the planned sales of the primary products as described above (e.g., aggregate, sand and powder as industrial mineral, building and paving stone, etc.), the Competent Person and/or the professional who endorses the documents and studies, should reflect this in the report and comment on any significant implications (e.g., reduction

in the amount of non-saleable material, minimization of waste and related lower waste management costs and environmental impact).

Guidance

The factors underpinning the estimation of Mineral Resources and Mineral Reserves for dimension stones are often not the same as those for other deposit types covered by the ECRR®.

It may be necessary, prior to the reporting of Mineral Resources and Mineral Reserves, to take account of certain particular key characteristics/features of the target material specific to dimension stone.

These may include final product specifications, proximity to markets, type, structure and demand of the market (very different area by area and, excluding some very well-established materials), possible changes in market requirements, and general product marketability.

These may also depend mainly on the market quality of the target material (colour, grain, texture and their regularity in distribution). A correct professional evaluation of the Market Quality, made by the Competent Person and/or the professional who endorses the documents and studies, in different ways, is the key to evaluating the final product marketability and is a key Modifying Factor in definition of Mineral Reserves for dimension stone.

The Competent Person and/or the professional who endorses the documents and studies, should explain in detail in the report, the method utilized for the Market Quality evaluation of the target dimension stones, and in case of the market the references cited, together with documents referenced or used.

Sometimes, otherwise non-saleable materials are sent off-site as mining waste or as other materials of potential economic value.

Care should be taken to ensure that such materials are not «double-counted» by being included as Mineral Resources and Mineral Reserves at both the site of production and at the site of reception where they are considered as useable products (with or without further processing to make them marketable).

Code

18.11. In contrast with industrial rocks and minerals, cement feed materials and construction raw materials (Chapter 17), for which it is common practice to report the saleable (or useable) product rather than the "as mined" product, for dimension stones production the raw block or "as mined" product is usually reported in all its forms, shapes and dimensions. These are also factors that drive the market and the success of a dimension stone project.

18.12. The Public Report may contain either the geological or commercial names of target dimension stones. In any case an explanation of these terms should be included in the report.

18.13. Other industry guidelines on the estimation and reporting of dimension stones may be useful but will under no circumstances override the provisions and intention of the ECRR® for Public Reporting.

18.14. Many of the Modifying Factors are more relevant and specific to dimension stones than to metalliferous minerals. In particular, the legal control of Mineral Resources and Mineral Reserves may be very important, as well the permitting or consenting status, due to the local nature and often simple structure of the planning process for non-strategic minerals.

Guidance

Reports should make clear the «permitted» or «non-permitted» status of the Mineral Resources and Mineral Reserves, and in addition Mineral Reserves particularly should only be quoted where the operator has legal control.

Code

18.15. Mineral Reserves and Mineral Resources of dimension stone deposits with the same material and owned by the same company, potentially serving localized/domestic or regional markets, may be reported on an aggregated basis on an appropriately defined geographical basis to reflect the particular economic constraints of the deposits being reported without divulging commercially sensitive information.

18.16. In certain cases, commercial sensitivity may prevent the publication of detailed information and data associated with Mineral Resources and Mineral Reserves of dimension stone deposits, and in such cases this should be clearly justified in the report (either prepared for an individual site or on an aggregated basis).

TABLE 1 - CHECK LIST OF ASSESSMENT AND REPORTING CRITERIA

Table 1 is a check list of assessment criteria and guidelines which should be used as a reference by the Competent Persons and/or the professionals who endorse the documents and studies, preparing Public Reports on Exploration Targets, Exploration Results, Mineral Resources and Mineral Reserves. The Table 1 is included in the ECRR® as an example of best practices and as always Transparency, Materiality, Competence, and Impartiality overriding principles that determine what information should be publicly reported. The Competent Person and/or the professional who endorses the documents and studies, must provide sufficient comment on all matters that may affect a reader's understanding or interpretation of the results or estimates being reported.

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.

For ECRR® purposes, each item that appears in Table 1 must be discussed, and if it is not discussed, the Competent Person and/or the professional who endorses the documents and studies, must explain why it has been omitted from the documentation.

It is the responsibility of the Competent Person and/or the professional who endorses the documents and studies, to consider and discuss all the criteria listed in Table 1 and which additional criteria should apply to the study of a particular project or operation. The relative importance of the criteria will vary with the project and the legal and economic conditions pertaining at the time of determination.

The order and grouping of criteria in Table 1 reflect the normal systematic approach to exploration and estimation of Mineral Resources and Reserves. The Table 1 should be approached from left to right. The criteria in the first column, Exploration Results, should be considered to apply also when reporting Mineral Resources and Mineral Reserves. Similarly, additional criteria in the Mineral Resources column apply also to Mineral Reserves reporting.

When compiling a Public Report dealing with coal, emeralds and other gemstones, industrial and construction rocks and minerals, and dimension stone, there are specific matters that must be considered. Chapters 15 to 18 of the ECRR® address these specific commodities.

The evaluation and reporting of mineral projects and forward looking mine plans or statements from ongoing operations are expressions of judgment predicated on knowledge and experience of the Competent Person and/or the professional who endorses the

documents and studies. 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, use accepted scientific definitions of terms and procedures and best suited to the making of reliable estimates for the project in question.

TABLE 1 – CHECK LIST OF ASSESSMENT AND REPORTING CRITERIA					
ASSESSMENT CRITERIA			**EXPLORATION RESULTS**	**MINERAL RESOURCES**	**MINERAL RESERVES**
Introduction					
Introduction	**General**	(i)	The terms of reference or scope of work.		
		(ii)	The Competent Person's and/or the professional who endorses the documents and studies´ relationship to the issuer of the report, if any.		
		(iii)	A statement for whom the report was prepared; whether it was intended as a full or partial evaluation or other purpose, work conducted, Effective Date of Report, and remaining work.		
		(iv)	Sources of information and data contained in the report or used in its preparation, with citations if applicable, and a list of references.		
		(v)	A title page and a table of contents that includes figures and tables.		
		(vi)	An Executive Summary, which briefly summarizes 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 Competent Person's and/or the professional who endorses the documents and studies´ conclusions and recommendations. The Executive Summary should have sufficient detail to allow the reader to understand the essentials of the Project. If Inferred Mineral Resources are used in the mining planning, a summary valuation with and if practical without inclusion of such Inferred Mineral Resources.		
		(vii)	A declaration from the Competent Person and/or the professional who endorses the documents and studies, stating whether "the declaration has been made in terms of the guidelines of the ECRR® (CCRR®)" or if a different CRIRSCO code has been used.		
		(viii)	Diagrams, maps, plans, sections and illustrations, which are dated, legible and prepared at an appropriate scale to distinguish important features. Maps including a legend, author or information source, coordinate system and datum, a scale in bar or grid form, and an arrow indicating north; complying with current Colombian regulations. All figures and maps must be cited and referenced in the text.		
		(ix)	The units of measure, currency and relevant exchange rates.		
		(x)	The details of the personal inspection on the property by each Competent Person and/or professional who endorses the documents and studies, or, if applicable, the reason why a personal inspection has not been completed.		
		(xi)	If the Competent Person is relying on a report, opinion, or statement of another expert who is not a Competent Person, then a disclosure of the date, title, and author of the report, opinion, or statement, the qualifications of the other expert, the reason for the Competent Person to rely on the other expert, any significant risks and any steps the Competent Person took to verify the information provided.		

TABLE 1 – CHECK LIST OF ASSESSMENT AND REPORTING CRITERIA					
ASSESSMENT CRITERIA			**EXPLORATION RESULTS**	**MINERAL RESOURCES**	**MINERAL RESERVES**
Section 1: Project Outline					
1.1	**Location**	(i)	Description of location and map (country, province, and closest town/city, coordinate systems and ranges, etc.)		
		(ii)	A general topographic map.	Detailed topographic map. The detailed surveying method must be described, containing all the information described in Table 1, Part 1: Introduction, General (iv).	
1.2	**Property Description**	(i)	Describe the legal, mining-environmental, social, economic, political, climatic context and other key aspects and risks in force in Colombia.		
		(ii)	Brief description of the scope of project (i.e., whether in preliminary sampling, advanced exploration, Scoping, Pre-Feasibility, or Feasibility Study, Life of Mine plan for an ongoing mining operation or closure).		
		(iii)	Description of topography, elevation, drainage and vegetation, the means and ease of access to the property, the proximity of the property to a population center, and roads, the climate, known associated climatic and seismic risks and the length of the operating season and to the extent relevant to the mineral project; the sufficiency of surface rights for mining operations including the availability and sources of power, water, mining personnel, potential tailings storage areas, potential waste disposal areas, heap leach pad areas, and potential processing plant sites (noting any conditions that may affect possible prospecting/mining activities).		
1.3	**Adjacent properties**	(i)	Details of relevant adjacent properties. The inclusion on the maps of the location and common mineralized structures in adjacent or nearby properties having an important bearing on the report. Reference to all information used from other sources.		
1.4	**History**	(i)	Historical background to the project and adjacent areas concerned, including legal mining and environmental history, known results of previous exploration and mining activities (type, amount, quantity and development work), previous ownership and changes thereto.		
		(ii)		Previous successes or failures referred to transparently with reasons why the project should now be considered potentially economic.	
		(iii)		Known or existing historical Mineral Resource estimates. In case the mine is or was operating, include performance statistics from actual production for past and current operations.	
		(iv)			Known or existing historical Mineral Reserve estimates and performance statistics to actual production for past and current operations.
1.5	**Legal Aspects and Permitting**	A statement from the Competent Person and/or the professional who endorses the documents and studies, on the confirmation of the legal tenure, including a description of:			
		(i)	The nature of the issuer's rights (contractual stage of the mining title, technical document approved by the mining authority, etc). The date of expiry and other relevant details.		
		(ii)	The principal terms and conditions of all existing agreements, and details of those still to be obtained, (such as, but not limited to, concessions, partnerships, joint ventures, access rights, leases, surface property rights, mining easements, historical and cultural sites, mining restriction and exclusion zones, royalties, consents, permission, permits or authorizations).		
		(iii)	Previous agreements or concepts that exist at the time of reporting or that is reasonably expected to be granted in the future along with any known impediments to obtaining the right to operate in the area. Details of applications that have been made.		

TABLE 1 – CHECK LIST OF ASSESSMENT AND REPORTING CRITERIA					
ASSESSMENT CRITERIA			**EXPLORATION RESULTS**	**MINERAL RESOURCES**	**MINERAL RESERVES**
Section 1: Project Outline					
		(iv)	A statement of any legal proceedings, for example: land claims that may have an influence on the rights to prospect or mine for minerals, or an appropriate negative statement.		
		(v)	A statement relating to governmental/statutory requirements and permits as may be required, have been applied for, approved or can be reasonably be expected to be obtained. A review of risks that permits will not be received as expected and impact of delays to the project		
1.6	**Royalties**	(i)	The taxes, royalties or streaming agreements that are payable in respect of each mining title.		
1.7	**Liabilities**	(i)	Any liabilities, including rehabilitation guarantees that are pertinent to the project. A description of the rehabilitation liability, including, but not limited to, legislative requirements, assumptions and limitations.		

TABLE 1 – CHECK LIST OF ASSESSMENT AND REPORTING CRITERIA					
ASSESSMENT CRITERIA			**EXPLORATION RESULTS**	**MINERAL RESOURCES**	**MINERAL RESERVES**
Section 2: Geological Setting, Mineral Deposit and Mineralisation					
2.1	**Geological Setting, Mineral Deposit and Mineralisation**	(i)	The regional geology.		
		(ii)	The project geology (local geology), including deposit type, geological setting and style of mineralisation.		
		(iii)	The geological model or concepts being applied in the investigation and on the basis of which the exploration program is planned, along with a description of the inferences and assumptions made from this model.		
		(iv)	Data density, distribution and reliability and whether the quality and quantity of information are sufficient to support statements, made or inferred, concerning the deposit.		
		(v)	Significant mineralized zones encountered on the property, including a summary of the surrounding rock types, relevant geological controls, and the length, width, depth, and continuity of the mineralisation, together with a description of the type, character, and distribution of the mineralisation.		
		(vi)	Significant minerals present in the deposit, their frequency, size and other characteristics, including a discussion of minor and gangue minerals where these will have an effect on the processing steps and the variability of each important mineral within the deposit.		
		(vii)	The existence of reliable geological models and/or maps and cross sections that support interpretations.		

TABLE 1 – CHECK LIST OF ASSESSMENT AND REPORTING CRITERIA					
ASSESSMENT CRITERIA			**EXPLORATION RESULTS**	**MINERAL RESOURCES**	**MINERAL RESERVES**
Section 3: Exploration and Drilling, Sampling Techniques and Data					
3.1	**Exploration**	(i)	Data acquisition or exploration techniques and the nature, level of detail, and confidence in the geological data used (i.e., geological observations, remote sensing results, stratigraphy, lithology, structure, alteration, mineralisation, hydrology, geophysical, geochemical, petrography, mineralogy, geochronology, bulk density, potential deleterious or contaminating substances, geotechnical and rock characteristics, moisture content, bulk samples etc.).		

TABLE 1 – CHECK LIST OF ASSESSMENT AND REPORTING CRITERIA					
ASSESSMENT CRITERIA			**EXPLORATION RESULTS**	**MINERAL RESOURCES**	**MINERAL RESERVES**
Section 3: Exploration and Drilling, Sampling Techniques and Data					
			Data sets with all relevant metadata, such as unique sample number, sample mass, collection date, spatial location etc.		
		(ii)	The primary data elements (observation and measurements) used for the project and a description of the management and verification of these data or the database. Description of the following relevant processes: acquisition (capture or transfer), validation, integration, control, storage, retrieval and backup processes.		
		(iii)	Acknowledgement and appraisal of data from other parties, and reference to all data and information used from other sources.		
		(iv)	Distinction between data/information from the mining title, mining title applications and that derived from surrounding mining titles.		
		(v)	The methods for collar and down-hole survey, techniques and expected accuracies of data as well as the grid system used.		
		(vi)	Discussion on the sufficiency of the data spacing and distribution to establish the degree of geological and grade continuity appropriate for the estimation procedure(s) and classifications applied.		
		(vii)	Presentation of representative models and/or maps and cross sections or other two or three-dimensional illustrations of results showing location of samples, accurate drill hole collar positions, down-hole surveys, exploration pits, underground workings, relevant geological data, etc.		
		(viii)	The geometry of the mineralisation with respect to the drill hole angle because of the importance of the relationships between mineralisation widths and intercept lengths. Justification if only down-hole lengths are reported.		
3.2	**Drilling Techniques**	(i)	Type of drilling undertaken (e.g., core, reverse circulation, open-hole hammer, rotary air blast, auger, Banka, sonic, etc.) and details (e.g., core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc.).		
		(ii)	The geological and geotechnical logging of core and chip samples relative to the level of detail required to support appropriate Mineral Resource estimation, mining studies and metallurgical studies		
		(iii)	The nature of logging (qualitative or quantitative) and the use of core photography.		
		(iv)	The total length and percentage of the relevant intersections logged.		
		(v)	Results of any downhole surveys of the drill hole.		
3.3	**Sample method, collection, capture and storage**	(i)	A description of the nature and quality of sampling (e.g., cut channels, random chips, or specific specialized industry standard measurement tools appropriate to the minerals under investigation, such as down-hole gamma sondes, or handheld or fixed-position XRF instruments, etc.), without these examples limiting the broad meaning of sampling.		
		(ii)	A description of the sampling processes, including sub-sampling stages to maximize representivity of samples, whether sample sizes are appropriate to the grain size of the material being sampled and any sample compositing.		
		(iii)	A description of each data set (e.g., spatial location, geology, grade, density, quality, geo-metallurgical characteristics etc.), sample type, sample-size selection and collection methods.		
		(iv)	The nature of the geometry of the mineralisation with respect to the drill hole angle (if known). The orientation of sampling to achieve unbiased sampling of possible structures, considering the deposit type.		

TABLE 1 – CHECK LIST OF ASSESSMENT AND REPORTING CRITERIA					
ASSESSMENT CRITERIA			**EXPLORATION RESULTS**	**MINERAL RESOURCES**	**MINERAL RESERVES**
Section 3: Exploration and Drilling, Sampling Techniques and Data					
			The intersection angle. The down-hole lengths if the intersection angle is not known.		
		(v)	A description of retention policy and storage of physical samples (e.g., core, sample reject, etc.).		
		(vi)	A description of the method of recording and assessing core and chip sample recoveries and the results assessed, measures taken to maximize sample recovery and ensure representative nature of the samples, whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.		
		(vii)	The cutting of a drill-core sample, e.g., whether it was split or sawn and whether quarter, half or full core was submitted for analysis. Non-core sampling, e.g., whether the sample was riffled, tube sampled, rotary split etc.; whether it was sampled wet or dry; the impact of water table or flow rates on recovery and introduction of sampling biases or contamination from above. The impact of variable hole diameters, e.g., by the use of a calliper tool.		
3.4	**Sample Preparation and Analysis**	(i)	The identity of the laboratory(s) and its accreditation status and Registration Number. If it does not have accreditation, the procedures or quality management system implemented in the laboratory should be discussed. The steps taken by the Competent Person and/or professional who endorses the documents and studies, to ensure the results from a non-accredited laboratory are of an acceptable quality.		
		(ii)	The analytical method, its nature, the quality and appropriateness of the assaying and laboratory processes and procedures used and whether the technique is considered partial or total.		
		(iii)	A description of the process and method used for sample preparation, sub-sampling and size reduction, and the likelihood of inadequate or non-representative samples (i.e., improper size reduction, contamination, screen sizes, granulometry, mass balance, etc.).		
3.5	**Sampling Governance**	(i)	The governance of the sampling campaign and process, to ensure quality and representivity of samples and data, such as sample recovery, high grading, selective losses or contamination, core/hole diameter, internal and external QA/QC, and any other factors that may have resulted in or identified sample bias.		
		(ii)	The measures taken to ensure sample security and the Chain of Custody.		
		(iii)	The validation procedures used to ensure the integrity of the data, e.g., transcription, input or other errors, between its initial collection and its future use for modelling (e.g., geology, grade, density, etc.).		
		(iv)	The audit process and frequency (including dates of these audits) and disclose any material risks identified.		
3.6	**Quality Control/ Quality Assurance (QA/QC)**	(i)	The verification techniques (QA/QC) for field sampling process, e.g., the level of duplicates, blanks, reference material standards, process audits, analysis, etc. Indirect methods of measurement (e.g., geophysical methods), with attention given to the confidence of interpretation. Reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used. QA/QC procedures used to check databases augmented with 'new' data have not disturbed previous versions containing 'old' data.		
3.7	**Bulk Density**	(i)	The method of bulk density determination with reference to the frequency of measurements, the size, nature and representativeness of the samples.		

TABLE 1 – CHECK LIST OF ASSESSMENT AND REPORTING CRITERIA					
ASSESSMENT CRITERIA			**EXPLORATION RESULTS**	**MINERAL RESOURCES**	**MINERAL RESERVES**
Section 3: Exploration and Drilling, Sampling Techniques and Data					
		(ii)	Preliminary estimates or basis of assumptions made for bulk density.		
		(iii)	The representivity of bulk density samples.		
		(iv)	The measurement of bulk density for bulk material using methods that adequately account for void spaces (vugs, porosity etc.), moisture and differences between rock and alteration zones within the deposit.		
3.8	**Bulk Sampling and/or trial-mining**	(i)	The location of individual samples (including map).		
		(ii)	The size of samples, spacing/density of samples recovered and whether sample sizes and distribution are appropriate to the grain size of the material being sampled.		
		(iii)	The method of mining and treatment.		
		(iv)	The degree to which the samples are representative of the various types and styles of mineralisation and the mineral deposit as a whole.		

TABLE 1 – CHECK LIST OF ASSESSMENT AND REPORTING CRITERIA					
ASSESSMENT CRITERIA			**EXPLORATION RESULTS**	**MINERAL RESOURCES**	**MINERAL RESERVES**
Section 4: Estimation and Reporting of Exploration Results and Mineral Resources and Mineral Reserves					
4.1	**Geological model and interpretation**	(i)	The nature, detail and reliability of geological information with which lithological, structural, mineralogical, alteration or other geological, geotechnical and geo-metallurgical characteristics were recorded.		
		(ii)	The geological model, construction technique and assumptions that forms the basis for the Exploration Results or Mineral Resource estimate. The sufficiency of data density to assure continuity of mineralisation and geology and provision of an adequate basis for the estimation and classification procedures applied.		
		(iii)	Any obvious geological, mining, metallurgical, processing, environmental, social, infrastructural, legal and economic factors that could have a significant effect on the prospects of any possible Exploration Target or deposit.		
		(iv)		Geological data that could materially influence the estimated quantity and quality of the Mineral Resource.	
		(v)		Consideration given to alternative interpretations or models and their possible effect (or potential risk) if any, on the Mineral Resource estimate.	
		(vi)		Geological discounts (e.g., magnitude, per reef, domain, etc.), applied in the model, whether applied to mineralized and/or un-mineralized material (e.g., potholes, faults, dykes, etc.).	

TABLE 1 – CHECK LIST OF ASSESSMENT AND REPORTING CRITERIA					
ASSESSMENT CRITERIA			**EXPLORATION RESULTS**	**MINERAL RESOURCES**	**MINERAL RESERVES**
Section 4: Estimation and Reporting of Exploration Results and Mineral Resources and Mineral Reserves					
4.2	**Estimation and modelling techniques**	(i)	A detailed description of the estimation techniques and assumptions used to determine the grade and tonnage ranges for Exploration Targets.		
		(ii)		The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values (cutting or capping), compositing (including by length and/or density), domaining, sample spacing, estimation unit size (block size), selective mining units, interpolation parameters and maximum distance of extrapolation from data points.	
		(iii)		Assumptions and justification of correlations made between variables.	
		(iv)		Any relevant specialized computer program (software) used (with the version number) together with the parameters used.	
		(v)		The processes of checking and validation, the comparison of model information to sample data and use of reconciliation data, and whether the Mineral Resource estimate takes account of such information.	
		(vi)		The assumptions made regarding the estimation of any co-products, by-products or deleterious elements	
4.3	**Reasonable prospects for economic extraction**	(i)		The geological parameters, including (but not be limited to) volume/tonnage, grade and value/quality estimates, cut-off grades, strip ratios, upper- and lower- screen sizes.	
		(ii)		The engineering parameters, including mining method, processing, geotechnical, hydrogeological and metallurgical parameters, including assumptions made to mitigate the effect of deleterious elements. Dilution and mining recovery factors that might be applicable to convert in-situ Mineral Resources to Mineral Reserves.	
		(iii)		The infrastructure including, but not limited to, power, water, site-access.	
		(iv)		The legal, governmental, permitting, statutory parameters.	
		(v)		The environmental and social (or community) parameters.	
		(vi)		The marketing parameters.	
		(vii)		The economic assumptions and parameters, including, but not limited to, commodity prices, sales volumes and potential capital and operating costs.	
		(viii)		Material risks.	
		(ix)		The parameters used to support the concept of “reasonable prospects” in the case of Mineral Resources.	

TABLE 1 – CHECK LIST OF ASSESSMENT AND REPORTING CRITERIA					
ASSESSMENT CRITERIA			**EXPLORATION RESULTS**	**MINERAL RESOURCES**	**MINERAL RESERVES**
Section 4: Estimation and Reporting of Exploration Results and Mineral Resources and Mineral Reserves					
4.4	**Classification Criteria**	(i)		The criteria and methods used as the basis for the classification of the Mineral Resources into varying confidence categories.	
4.5	**Reporting**	(i)	Specific grades/qualities and widths.		
		(ii)	The reporting of low and high-grades and widths, together with their spatial location to avoid misleading reporting of Exploration Results.		
		(iii)	A statement on whether grades are regional averages or if they are selected individual samples taken from the property under discussion.		
		(iv)		The detail of open pit, underground, residue stockpile, remnants, tailings, and existing pillars or other sources in a Mineral Resource statement	
		(v)		A comparison with the previous Mineral Resource estimates, with an explanation of the reason for material changes. A comment on any historic trends (e.g., global bias).	
		(vi)		The basis for the estimate and if not 100%, the attributable percentage relevant to the entity commissioning the report.	
		(vii)	The basis of equivalent metal formulae.		

TABLE 1 – CHECK LIST OF ASSESSMENT AND REPORTING CRITERIA					
ASSESSMENT CRITERIA			**EXPLORATION RESULTS**	**MINERAL RESOURCES**	**MINERAL RESERVES**
Section 5: Technical Studies on Modifying Factors					
5.1.	**Introduction**	(i)	Not applicable to Exploration Results or Exploration Targets.	The level of study: Scoping, Pre-Feasibility, Feasibility or ongoing Life of Mine.	The level of study: Pre-Feasibility, Feasibility or ongoing Life of Mine.
		(ii)			A summary table of the Modifying Factors used to convert the Mineral Resource to Mineral Reserve.
5.2	**Mining Design**	(i)	Not applicable to Exploration Results or Exploration Targets.	Assumptions regarding mining methods and parameters when estimating Mineral Resources.	
		(ii)			All Modifying Factors and assumptions made regarding mining methods, minimum mining dimensions (or pit shell) and internal and, if applicable, external planned and unplanned mining dilution and

TABLE 1 – CHECK LIST OF ASSESSMENT AND REPORTING CRITERIA					
ASSESSMENT CRITERIA			**EXPLORATION RESULTS**	**MINERAL RESOURCES**	**MINERAL RESERVES**
Section 5: Technical Studies on Modifying Factors					
					mining losses used for the techno-economic study and signed-off, such as mining method, mine design criteria, infrastructure, capacities, production schedule, mining efficiencies, grade control, geotechnical and hydrological considerations, closure plans, and personnel requirements.
		(iii)		Mineral Resource models used in the study.	
		(iv)		The basis of the cut-off grade(s).	The basis of (the adopted) cut-off grade(s) or quality parameters applied, including metal equivalents if relevant.
		(v)			The mining method(s) to be used.
		(vi)			For open cut mines, a discussion of pit slopes, slope stability, and strip ratio.
		(vii)			For underground mines, a discussion of mining method, geotechnical considerations, mine design characteristics, and ventilation/cooling requirements.
		(viii)			Discussion of mining rate, equipment selected, grade control methods, geotechnical and hydrogeological considerations, health and safety of the workforce, staffing requirements, dilution, and recovery.
		(ix)			Optimization methods and software used in planning, including a discussion of the constraints.
5.3	**Metallurgical and Testwork**	(i)	Not applicable to Exploration Results or Exploration Targets.		The source of the samples, the representivity of the potential feed and the techniques used to obtain the samples, laboratory and metallurgical testing techniques.
		(ii)			The basis for assumptions or predictions regarding metallurgical amenability and any preliminary mineralogical test work should already be carried out.

TABLE 1 – CHECK LIST OF ASSESSMENT AND REPORTING CRITERIA					
ASSESSMENT CRITERIA			**EXPLORATION RESULTS**	**MINERAL RESOURCES**	**MINERAL RESERVES**
Section 5: Technical Studies on Modifying Factors					
		(iii)		The possible processing methods and any processing factors that could have a material effect on the likelihood of economic extraction. The appropriateness of the processing methods to the style of mineralisation.	The processing method(s), equipment, plant capacity, efficiencies, and personnel requirements.
		(iv)			The nature, amount and representativeness of metallurgical test work undertaken and the recovery factors used. A detailed flow sheet/diagram and a mass balance, especially for multi-product operations from which the saleable materials are priced for different chemical and physical characteristics.
		(v)			Assumptions or allowances made for deleterious elements and the existence of any bulk-sample or pilot-scale test work and the degree to which such samples are representative of the ore body as a whole.
		(vi)			Disclosure of whether metallurgical process is well-tested technology or novel in nature and if novel, justification of its use in Mineral Reserve estimation.
5.4	**Infrastructure**	(i)	Not applicable to Exploration Results or Exploration Targets.	Comment regarding the current state of infrastructure or the ease with which the infrastructure can be provided or accessed and its effect on reasonable prospects for economic extraction.	
		(ii)			Demonstration that the necessary facilities have been allowed for (which may include, but not be limited to, processing plant, tailings dam, leaching facilities, waste dumps, road, pipeline, rail or port facilities, water and power supply, offices, housing, security, resource sterilization testing etc.).

TABLE 1 – CHECK LIST OF ASSESSMENT AND REPORTING CRITERIA					
ASSESSMENT CRITERIA			**EXPLORATION RESULTS**	**MINERAL RESOURCES**	**MINERAL RESERVES**
Section 5: Technical Studies on Modifying Factors					
					Provision of detailed maps showing locations of facilities.
		(iii)			Statement showing that all necessary logistics have been considered.
5.5	**Environmental and social**	(i)	Not applicable to Exploration Results or Exploration Targets.	Confirmation that the person or company holding the tenement has addressed the host country environmental legal compliance requirements and any mandatory and/or voluntary standards or guidelines to which the person or company subscribes.	
		(ii)		Identification of the necessary permits that will be required and their status, and where not yet obtained, and confirmation that there is a reasonable basis to believe that all permits required for the project will be obtained in a timely manner.	
		(iii)		Any sensitive areas that may affect the project as well as any other environmental factors including Interested and Affected Party (I&AP) and/or studies that could have a material effect on the likelihood of economic extraction. Possible means of mitigation.	
		(iv)		Legislated social management programmes that may be required and content and status of these.	
		(v)		Material socio-economic and cultural impacts that need to be managed, and where appropriate the associated costs.	
5.6	**Market Studies and Economic criteria**	(i)			Valuable and potentially valuable product(s) including suitability of products, co-products and by products to market.
		(ii)			Product to be sold, customer specifications, testing, and acceptance requirements. Existence of a ready market for the product and whether contracts for the sale of the product are in place or expected to be readily obtained. Price and volume forecasts and the basis for the forecast.
		(iii)			Economic criteria used for the study, such as capital and operating costs, exchange rates, revenue/price curves, royalties, and streaming agreements, cut-off grades, reserve pay limits.

TABLE 1 – CHECK LIST OF ASSESSMENT AND REPORTING CRITERIA					
ASSESSMENT CRITERIA			**EXPLORATION RESULTS**	**MINERAL RESOURCES**	**MINERAL RESERVES**
Section 5: Technical Studies on Modifying Factors					
		(iv)	Not applicable to Exploration Results or Exploration Targets.	Technical and economic factors likely to influence the prospect of economic extraction. Refer to Clauses 7.1 to 7.23.	Summary description, source and confidence of method used to estimate the commodity price/value profiles used for cut-off grade calculation, economic analysis and project valuation, including applicable taxes, inflation indices, discount rate and exchange rates.
		(v)			Assumptions made concerning production cost including transportation, treatment, penalties, exchange rates, marketing and other costs. Allowances should be made for the content of deleterious elements and the cost of penalties.
		(vi)			Allowances made for royalties and streaming agreements payable, both to Government and private entities.
		(vii)			Ownership, type, extent and condition of plant and equipment that is significant to the existing operation(s).
		(viii)			Costos ambientales, sociales y de mano de obra. Environmental, social and labour costs.
5.7	**Risk Analysis**	(i)	Not applicable to Exploration Results or Exploration Targets.	An assessment of technical, environmental, social, economic, political and other key risks to the project. Actions that will be taken to mitigate and/or manage the identified risks	
5.8	**Economic Analysis**	(i)	Not applicable to Exploration Results or Exploration Targets.	The basis on which reasonable prospects for economic extraction has been determined. Any material assumptions made in determining the "reasonable prospects for economic extraction".	The inclusion of any Inferred Resources in the Pre-Feasibility and Feasibility Studies economic analysis. The sensitivity to the inclusion of any Inferred Resources.
		(ii)			An economic analysis for the project that includes after tax Cash Flow forecast on an annual basis using Mineral Reserves or Mineral Resources or an annual production schedule for the life of the project, which has been used at the relevant level Pre-Feasibility or Feasibility Study.

TABLE 1 – CHECK LIST OF ASSESSMENT AND REPORTING CRITERIA					
ASSESSMENT CRITERIA			**EXPLORATION RESULTS**	**MINERAL RESOURCES**	**MINERAL RESERVES**
Section 5: Technical Studies on Modifying Factors					
					Accounting for royalties and streaming agreements.
		(iii)			A discussion of net present value (NPV), internal rate of return (IRR) and payback period of capital.
		(iv)			Sensitivity or other analysis using variants in commodity price, grade, capital and operating costs, or other significant parameters, as appropriate and discuss the impact of the results.

TABLE 1 – CHECK LIST OF ASSESSMENT AND REPORTING CRITERIA					
ASSESSMENT CRITERIA			**EXPLORATION RESULTS**	**MINERAL RESOURCES**	**MINERAL RESERVES**
Section 6: Estimation and Reporting of Mineral Reserves					
6.1	**Estimation and modelling techniques**	(i)		A description of the Mineral Resource estimate used as a basis for the conversion to a Mineral Reserve.	
		(ii)			A comparison between the two possibilities, the one with inclusion of Inferred Mineral Resources and the one without inclusion, in such a way so as not to mislead the Stakeholders. The quantum of the Inferred Mineral Resources included and the sensitivity of the inclusion to the study.
		(iii)			A Mineral Reserve Statement in sufficient detail indicating if the mining is open pit or underground plus the source and type of mineralisation, domain or ore body, surface dumps, stockpiles and all other sources.
		(iv)			Reconciliation of historic reliability and reconciliation of the performance parameters, assumptions and Modifying Factors. A comparison with the previous Reserve quantity and qualities, if available. Where appropriate, any historic trends (e.g., global bias).

TABLE 1 – CHECK LIST OF ASSESSMENT AND REPORTING CRITERIA					
ASSESSMENT CRITERIA			**EXPLORATION RESULTS**	**MINERAL RESOURCES**	**MINERAL RESERVES**
Section 6: Estimation and Reporting of Mineral Reserves					
6.2	**Classification Criteria**	(i)			Criteria and methods used as the basis for the classification of the Mineral Reserves into varying confidence categories, which should be based on the Mineral Resource category, and include consideration of the confidence in all the Modifying Factors.
6.3	**Reporting**	(i)			The proportion of Probable Mineral Reserves, which have been derived from Measured Mineral Resources (if any), including the reason(s) therefore.
		(ii)			The inclusion in a Mineral Reserve statement of the detail of open pit, underground, residue stockpile, remnants, tailings, and existing pillars or other sources.
		(iii)			A comparison with the previous Mineral Reserve estimates. Any historic trends (e.g., global bias).
		(iv)		The inclusion or exclusion of Mineral Resources in Mineral Reserves.	

TABLE 1 – CHECK LIST OF ASSESSMENT AND REPORTING CRITERIA					
ASSESSMENT CRITERIA			**EXPLORATION RESULTS**	**MINERAL RESOURCES**	**MINERAL RESERVES**
Section 7: Audits and Reviews					
7.1	**Audits and Reviews**	(i)	Type of review/audit (e.g., independent, external), area (e.g., laboratory, drilling, data, environmental compliance etc.), date and name of the reviewer(s) together with their recognized professional qualifications. The level of review/audit (desk-top, on-site comparison with standard procedures, or endorsement where auditor/reviewer has checked the work to the extent they stand behind it as if it were their own work).		
		(ii)	The level and conclusions of relevant audits or reviews. Significant deficiencies and remedial actions required.		

TABLE 1 – CHECK LIST OF ASSESSMENT AND REPORTING CRITERIA					
ASSESSMENT CRITERIA			**EXPLORATION RESULTS**	**MINERAL RESOURCES**	**MINERAL RESERVES**
Section 8: Other Relevant information					
8.1	**Other relevant information**	(i)	Other relevant and material information not discussed elsewhere.		

TABLE 1 – CHECK LIST OF ASSESSMENT AND REPORTING CRITERIA					
ASSESSMENT CRITERIA			**EXPLORATION RESULTS**	**MINERAL RESOURCES**	**MINERAL RESERVES**
Section 9: Competent Person and/or professional who endorses the documents and studies					
9.1	**Qualification of Competent Person(s) and/or professional(s) who endorse the documents and studies, and key technical staff**	(i)	The full name of the Competent Person and/or the professional who endorses the documents and studies, registration number and professional license. If he/she is a Competent Person, must inform NRO where he/she is registered and the registration number. The relevant experience of the Competent Person(s) and/or professional(s) who endorse the documents and studies, and other key technical staff who prepared and are responsible for the Public Report.		
	Relationship to the person or company owning the mining title	(ii)	The Competent Person's and/or the professional who endorses the documents and studies´ relationship to the issuer of the report (person or company), if any.		
	Certificate of the Competent Person	(iii)	The inclusion of the Certificate of the Competent Person. In the case of Competent Person(s) registered with the CCRR®, said certificate must include the registration date and expiration date.		

TABLE 2 – GUIDELINE FOR TECHNICAL STUDIES

Table 2 is guideline to Technical Studies provided as a guide to the compilation of the various studies relating to Mineral Resources and Mineral Reserves. It is designed to be read in conjunction with Table 1.

Scoping Studies, Pre-Feasibility Studies, Feasibility Studies (and on-going life-of-mine studies) analyze and assess the same geological, engineering, and economic factors with increasing detail and precision. Therefore, the same criteria may be used as a framework for reporting the results of all three studies.

If considered appropriate, the Competent Person and/or the professional who endorses the documents and studies, may use the Association for the Advancement of Cost Engineers (AACE) International Guide 47R-11 for the Mining and Mineral Processing Industries (as amended) or other internationally recognized and accepted guidelines.

TABLE 2 - GUIDELINE FOR TECHNICAL STUDIES			
ITEM	**SCOPING STUDY**	**PRE-FEASIBILITY STUDY**	**FEASIBILITY STUDY**
Resource categories	Mostly Inferred	Mostly Indicated	Measured and Indicated
Reserve categories	None	Mostly Probable	Proved and Probable
Mining method and geotechnical constraints	Conceptual	Preliminary Options	Detailed and Optimized
Mine design	None or high-level conceptual	Preliminary mine plan and schedule	Detailed mine plan and schedule
Scheduling	Annual approximation	3-monthly to annual	Monthly for much of payback period
Mineral Processing	Metallurgical test work	Preliminary Options	Detailed and Optimized
Permitting - (water, power, mining, prospecting & environmental)	Required permitting listed	Preliminary applications submitted	Authorities engaged, and applicationssubmitted
Social license to operate	Initial contact with local communities	Formal communication structures andengagement models in place	Contracts/agreements in place with localcommunities and municipalities (local government)
Risk tolerance	High	Medium	Low

ITEM	SCOPING STUDY	PRE-FEASIBILITY STUDY	FEASIBILITY STUDY
Basis of Capital Estimate			
Civil/structural, architectural, piping/HVAC, electrical, instrumentation,construction labor, construction laborproductivity, material volumes/amounts,material/equipment, pricing, infrastructure	Order-of-magnitude based on historic dataor factoring. Engineering < 5% complete.	Estimated from historic factors or percentages and vendor quotes based on material volumes. Engineering at 5-25% complete.	Detailed from engineering at 20% to 50%complete, estimated material take-off quantities, and multiple vendor quotations
Contractors	Included in unit cost or as a percentage oftotal cost	Percentage of direct cost by area for contractors; historic for subcontractors	Written quotes from contractor and subcontractors
Engineering, procurement, and construction management (EPCM)	Percentage of estimated construction cost	Key parameters, Percentage of detailedconstruction cost	Detailed estimate
Owner's costs	Factored, benchmark, database or historicestimate	Budgeted quotes on key parameters andestimates from experience, factored fromsimilar project	Detailed estimate
Environmental compliance / ClosureCost	Factored from historic estimate	Estimate from experience, factored fromsimilar project	Estimate prepared from detailed zero- based budget for design engineering andspecific permit requirements
Escalation	Not considered	Based on entity's current budget percentage	Based on cost area with risk
Accuracy Range (Order of magnitude)	± 25-50%	± 15-25%	± 10-15%
Contingency Range (Allowance for items not specified in scope that will be needed)	± 30%	15-30%	10% - 15% (actual to be determined basedon risk analysis)

ITEM	SCOPING STUDY	PRE-FEASIBILITY STUDY	FEASIBILITY STUDY
Basis of Operating Costs			
Operating Costs	Order-of-magnitude based on historic dataor factoring	Estimated from historic factors or percentages and vendor quotes based onmaterial volumes	Detailed estimate
Operating quantities	General	Specific estimates with some factoring	Detailed estimates
Unit costs	Based on historic data for factoring	Estimates for labor, power, and consumables, some factoring	Letter quotes from vendors; minimal factoring
Accuracy Range	± 25-50%	15% - 25%	10% - 15%
Contingency Range (Allowance for items not specified in scope that will be needed)	+ 25%	+ 15%	+ 10% (actual to be determined based on risk analysis)

APPENDIX 1

COMPETENT PERSON'S AND/OR PROFESSIONAL WHO ENDORSES THE DOCUMENTS AND STUDIES´ CONSENT FORM

Companies reporting Exploration Targets, Exploration Results, Mineral Resources and/or Mineral Reserves are reminded that while a Public Report is the responsibility of the company acting through its Board of Directors, Clause 3.1 requires that any such report "must be based on, and fairly reflect the information and supporting documentation prepared by Competent Person(s) and/or professional(s) who endorse the documents and studies".

In order to assist Competent Persons, professionals who endorse the documents and studies and companies to comply with these requirements, and to emphasize the need for companies to obtain the prior written consent of each Competent Person and/or professional who endorses the documents and studies, for their material to be included in the form and context in which it appears in the Public Report, the Colombian Commission of Mineral Resources and Reserves -CCRR® has developed a Consent Form that incorporates the requirements of the ECRR®.

The completion of a Consent Form, whether in the format provided or in an equivalent form, is recommended as good practice and provides readily available evidence that the required prior written consent has been obtained.

Having the Consent Form witnessed by a peer CCRR® registered professional is considered leading practice and is strongly encouraged.

The Consent Form, or other evidence of the Competent Person's and/or the professional who endorses the documents and studies´ written consent, should be retained by both parties to ensure that the written consent can be promptly provided if required.

[Letterhead of Competent Person or Competent Person's employer]

Competent Person's and/or professional who endorses the documents and studies´ Consent Form

Pursuant to the requirements of the Clause 3.1 of the Colombian Standard for the Public Reporting of Exploration Results, Mineral Resources and Reserves -ECRR®

Report name

((Insert name or heading of Report to be publicly released)

(Insert name of the company releasing the Public Report)

Insert name of the deposit to which the Public Report refers)

If there is insufficient space, complete the following sheet and sign it in the same manner as this original sheet.

(Signing date of the Public Report)

Competent Person Statement

I/We,

_____

(Insert full name)

Confirm that I/We am/are the Competent Person(s) for the Public Report and:

- I have read and understood the requirements of the ECRR®.
- I am a Competent Person as defined by ECRR®, having at least ten (10) years of professional experience in the mining industry and a minimum of five (5) years of professional experience that is relevant to the style of mineralisation and type of deposit described in the Report, and to the activity for which I am accepting responsibility.
- I am an active member of the Colombian Commission of Mineral Resources and Reserves - CCRR®.
- I have reviewed the Report to which this Consent Statement applies.

I/We am a full time employee of

_____

(Insert company name)

Or, I am a consultant working for

_____

(Insert company name)

And have been engaged by

_____

(Insert company name)

To prepare the documentation for

_____

(Insert deposit name)

On which the Report is based, for the period ended

_____

(Insert Effective Date of the Estimation of Mineral Resources and Reserves)

I have disclosed to the reporting company the full nature of the relationship between myself and the company, including any issue that could be perceived by investors as a conflict of interest. I verify that the Report is based on and fairly and accurately reflects in the form and context in which it appears, the information in my supporting documentation relating to Exploration Targets, Exploration Results, Mineral Resources and/or Mineral Reserves.

Competent Person Consent

I consent to the release of the Report and this Consent Statement by the directors of:

(Insert company name)

Signature of Competent Person | Date

Membership number of the CCRR® or in another NRO-RPO recognized by CRIRSCO.

Signature of witness | Witness name and residence

Additional deposits covered by the Report for which the Competent Person signing this form is accepting responsibility:

Additional Reports related to the deposit for which the Competent Person signing this form is accepting responsibility:

APPENDIX 2

COMPLIANCE STATEMENTS

Appropriate forms of compliance statements should be as follows (delete bullet points which do not apply).

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

- If the required information is in the report:

  «The information in this report that relates to Exploration Targets, Exploration Results, Mineral Resources or Mineral Reserves, is based on information compiled by (insert name of the Competent Person), a Competent Person who is a member of the (insert name of the NRO-RPO recognized by CRIRSCO)».

- If the required information is included in an attached statement:

  «The information in the report to which this statement is attached that relates to Exploration Targets, Exploration Results, Mineral Resources or Mineral Reserves is based on information compiled by (insert name of Competent Person), a Competent Person who is a member of the (insert name of the NRO-RPO recognized by CRIRSCO)».

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

  « (Insert name of Competent Person) is a full time employee of the Company».

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

  «(Insert name of Competent Person) is employed by (insert name of Competent Person's employer)».

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

- For all reports:

«(Insert 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 (insert name of the NRO-RPO recognized by CRIRSCO). (Insert 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 must, 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 (name report) created on (Signing date of the Public Report) 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».

Companies should be aware this exemption does not apply to subsequent reporting of information in the company annual report.