

**PERC MINERAL PROJECT EVALUATION REPORT
FOR EXPLORATION RESULTS,
MINERAL RESOURCES AND MINERAL RESERVES**

for the

PROJECT NAME & LOCATION

Compiled by

Author(s) (Affiliation)

Effective Date: *Insert Effective Date of Report*

Report Date: *Insert Published Date of Report*

Section 1: Project Outline (Introduction - General) 1.0 (v) [All estimates]

Title page must include the Project Name and Location, the Name and Affiliation of the Competent Person(s) compiling the Report, and the Effective Date of the Report;

This page is included for PERC Version Control Purposes only.

PERC Mineral Project Evaluation Report Template
Version: Release 2.1
Issued: May 2024

This document is provided as a guidance document aimed at users of the PERC Reporting Standard but may be of interest to users of other CRIRSCO Template aligned Reporting Codes and Standards.

Citation: PERC (2024) PERC Mineral Project Evaluation Report Template, Release 2.1, May 2024

(Please check the PERC website, www.percstandard.org for information on any changes or newer releases to this document.)

Release 2.1 - May 2024

Guidance Note on the Purpose of the PERC Mineral Project Evaluation Report

The purpose of this Mineral Project Evaluation Report is to provide a framework for the compilation of data, information, interpretations, assessments and conclusions relevant to Exploration Results, Mineral Resources and Mineral Reserves throughout a Mineral Project life-cycle from early exploration through advanced mineral development to extraction operation, that conforms with the requirements and recommendations outlined in the Pan European Reserves and Resources Reporting Committee (PERC) Standard for Reporting of Exploration Results, Mineral Resources and Mineral Reserves (further referred to as the 'PERC Reporting Standard') (2021, as amended from time to time).

This Template generates a PERC Mineral Project Evaluation Report that is the foundation document from which appropriate extracts form the basis for the types of reports listed below and indicated schematically in Figure 1:

1. **Competent Person Reports (CPR)** for Company listing requirements on the Securities Exchanges;
2. **Company Public Reports** that require Competent Person sign-off of released material;
3. **Company Non-Public strategic reports on Mineral Asset development and management**, such as exploration and target generation, and short-term or long-term mine planning;
4. Mineral Reporting in case of **acquisition, purchase or selling of Mineral Assets**;
5. Mineral reporting requirements for **regulatory authorities**, typically for permit applications, such as a mining works programme;
6. Mineral Inventory reporting to **national geological surveys**;
7. Mineral classification purposes for submissions on **Strategic Critical Raw Material (CRM) Projects** for the European Union (EU) using the United Nations Framework Classification (UNFC) System;

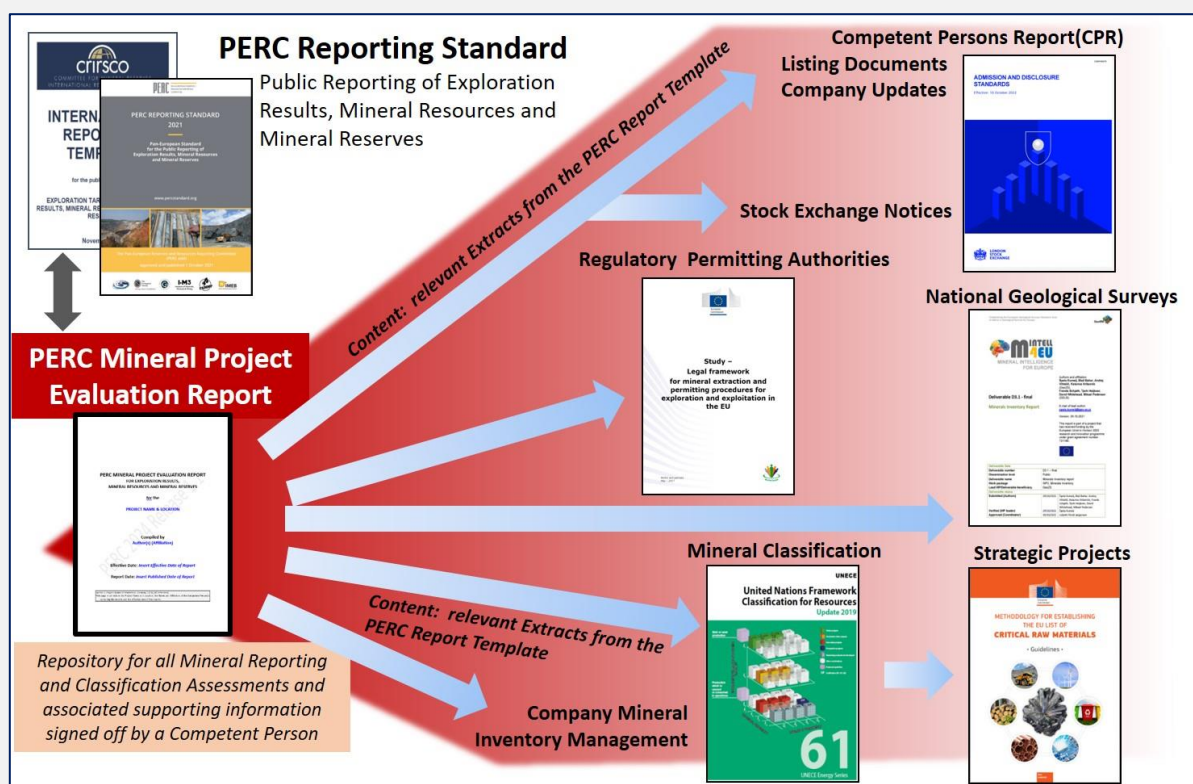


Figure ONE: Schematic Diagram showing the relationship of the PERC Mineral Project Evaluation Report with the types of output, including Public Reporting and Non-Public Reporting aspects.

The PERC Mineral Project Evaluation Report would always be signed off by the designated Competent Person and all Technical Specialists, for each of the key sections in terms of Exploration Results (including Exploration

Targets), Mineral Resources and Mineral Reserves (if appropriate). Any Public Report extracts that require a Competent Person to sign-off the released material for Public Mineral Reporting, would then be signed-off by the currently appointed Lead Competent Person only.

In order to provide consistent Mineral Reporting, as well as a reasoned and balanced judgement regarding the Exploration Results, Mineral Resources and/or Mineral Reserves being reported, this foundation document must comply with the PERC Reporting Standard in terms of both transparency (paragraph 2.7) and materiality (paragraph 2.8). Information is considered material when its omission and/or misstatement could influence the economic decisions of investors or potential investors and their professional advisers, and includes a change in, or a constituent of, a particular factor that may be regarded in the circumstances as being material. In addition, paragraph 2.17 requires that the Public Report must include sufficient context and cautionary language to allow investors or potential investors and their professional advisers to understand the nature, importance, and limitations of the data, interpretations, and conclusions summarised in the Public Report, and paragraph 2.23 provides that PERC Table 1 of the PERC Reporting Standard determines and documents the minimum requirements for material information.

Throughout this Mineral Project Evaluation Report, the Competent Person should endeavour, where possible, to make reference to existing documentation that fully describes data acquisition, data processing, and interpretations or conclusions of that data. Existing documentation includes (but is not limited to) peer-reviewed publications, public documentation, company standards or standard operating procedures, and other technical or specialist reports, reviews and articles. Where such existing documentation is referenced, the Competent Person should summarise only sufficient relevant aspects from that documentation to comply with the PERC Reporting Standard and should avoid transcribing large sections of existing documentation (such documentation should be referenced at the end of the Report).

The scope of the Mineral Project Evaluation Report is extensive, including the various Public Reporting requirements for disclosure of estimates of Exploration Targets, Mineral Resources and Mineral Reserves, with the requirement to provide input for only those aspects of the Mineral Project Evaluation Report that are relevant to the specific Mineral Project being evaluated.

All sections of the Mineral Project Evaluation Report should be completed, or an explanation presented for any omission (i.e. compile on an "if-not, why-not?" basis). Furthermore, identifying risks and uncertainties in each Sub-section should be considered strongly persuasive to facilitate the summary of material risks and uncertainties given in Section 18 (Identification of Material Uncertainties and Risks).

If compiled correctly, the Mineral Project Evaluation Report becomes the focal archive document which also ties all the Public Reports and non-public reports together and, in time, forms the core source material of many of those non-public documents, such as the 5-Year/Life of Mine Plan, Environmental Reports, the Exploration Report, etc. The Mineral Project Evaluation Report has the added bonus that it ensures that all the descriptions of, and information about, work on the Mineral Project is consistent between the different internal source documents within the Mineral Company. The report completion process requires significant input in the first one or two years when compiling the initial Mineral Project Evaluation Report, but then only specific aspects of the Mineral Project Evaluation Report need to be updated/edited on an annual basis, based on the updated Mineral Project information and work programmes.

The Mineral Project Evaluation Report is advocating best practice, with the objective of obtaining a balance between complying with the minimum requirements of the checklists of assessment and reporting criteria given in Table 1 of the PERC Reporting Standard and similar checklists in other CRIRSCO Reporting Codes and Standards, and the desire to exceed that minimum requirement, and raise the level of international business best practice. The Mineral Project Evaluation Report is an additional document based on PERC Table 1, but it is not restricted to it.

USE OF TABLES, FIGURES, IMAGES:

The use of tables, figures (including maps and other diagrams), and images is encouraged throughout this document to summarise data and information where practical and to provide clarity to the written text.

CROSS-REFERENCING:

The Mineral Project Evaluation Report is ordered in a logical sequence such that the Exploration Section may contain information that is significant to the subsequent Mineral Resources and/or the Mineral Reserve sections. Certain data or information may be required, therefore, in more than one section of this Mineral Project Evaluation Report to facilitate the compilation, and cross-referencing between such sections is encouraged to reduce unnecessary repetition. The flexibility remains within each duplicated section to emphasise or expand on different aspects of the same data or information.

RISK & UNCERTAINTY:

Risk and uncertainty are addressed in Section 20 of this Mineral Project Evaluation Report, which is intended to provide a summary and collate material issues that arise from all other sections. It is incumbent and should be considered persuasive on the compiler, to assess or analyse, and discuss those risks and uncertainties throughout the preceding sections where appropriate.

CAVEAT:

References in the Mineral Project Evaluation Report are mainly to the relevant sections of Table 1 of the PERC Reporting Standard but also include references to appropriate sections of the Main Clauses and Guidance from the PERC Reporting Standard for aspects not adequately or comprehensively covered in Table 1. In addition, the requirements in the current edition of the PERC Reporting Standard may have, where appropriate, been modified in the light of best practice and practicality.

BUSINESS ASSURANCE – CORPORATE GOVERNANCE

This Mineral Project Evaluation Report includes two attributes as part of business assurance and corporate governance:

1. **Confidentiality notice:** included as part of the Page Footer to reflect the degree of confidentiality as determined by the individual or corporate entity compiling the Mineral Project Evaluation Report. The default notice of “Confidential and Restricted” should be amended where this is not considered applicable, or where other confidentiality notices are consistent with the individual company business principles and best practice.
2. **Competent Person Sign-Off and Consent:** sign-off and consent by a Competent Person is considered essential:
 - to provide assurance to the commissioning individual and/or corporate entity on the credibility and veracity of the contents of the Mineral Project Evaluation Report, including and especially any estimates of Exploration Targets, Mineral Resources and Mineral Reserves;
 - to provide continuity of business assurance and preserve the integrity of the contents of the Mineral Project Evaluation Report that evolves over a period of time, and where more than one Competent Person is involved in compiling or updating the contents;
 - to support summary Public Reporting of Exploration Results, and/or Mineral Resources and/or Mineral Reserves for the purposes of ongoing or continuous reporting where a Competent Person’s Report is not required to be lodged in the public domain, and
 - to facilitate and validate Public Reporting of Exploration Results, and/or Mineral Resources and/or Mineral Reserves when the compilation and submission of a Competent Person’s Report is required to be lodged in the public domain.

VERSION CONTROL:

This version of the PERC Mineral Project Evaluation Report is based on the 2021 version of the PERC Reporting Standard. The user of the Mineral Project Evaluation Report should check the latest version of the PERC Reporting Standard on the PERC website, as well as the latest version of the PERC Mineral Project Evaluation Report.

TYPES OF REPORT:

Public Report: these are reports prepared for the purpose of informing investors or potential investors and their professional advisers on Exploration Results (including Exploration Targets), Mineral Resources or Mineral Reserves.

Non-Public Report: these are reports which contain information on estimates of mineral deposits which may not be reported publicly using the PERC Reporting Standard.

A PERC Mineral Project Evaluation Report can be used as the foundation document from which appropriate extracts may be used to generate the following types of report:

1. **Competent Person Report (CPR)** Is a report prepared by a Competent Person, which contains details of the technical and economic aspects of a project or operation, and may contain Exploration Results (including estimates of Exploration Targets), or estimates of Mineral Resources and Mineral Reserves. The contents are determined by the nature/status of the Mineral Project or operation being reported and may include a techno-economic model as appropriate for the level of study. A Competent Person's Report can be a Public Report, particularly if prepared for inclusion in a Company Prospectus prepared to meet the listing requirements of a Mineral Company. In some situations, the rules and regulations on certain stock exchanges may include specific instructions about the required content for a CPR.
2. Other **Company Public Reports** that require Competent Person sign-off of released material on Public Mineral Reporting, such as summary Mineral data published, including but not limited to annual and quarterly company reports, media releases, information memoranda, technical papers, website postings and public presentations, as well as the internet, company web-site(s), through radio, television and press releases, as well as other electronic media briefings;
3. **Company Non-Public strategic reports on Mineral Asset development and management**, such as exploration and target generation, and short-term or long-term mine planning;
4. **Mineral Acquisition and Due Diligence Reports:** these may be prepared in the context of the acquisition, purchase or selling of Mineral Assets and will include sections of the Mineral Project Evaluation Report that can provide the required material input into Company merger and acquisition activities and associated due diligence work. For clarity, the PERC Mineral Project Evaluation Report is not a Valuation Report in terms of the various international codes and standards on Mineral Valuation (such as VALMIN, SAMVAL, CIMVAL, etc.);
5. Mineral reporting requirements for **regulatory authorities**, typically for permit applications, such as a mining works programme;
6. Mineral Inventory reporting to **national geological surveys**;
7. Mineral classification purposes for submissions on **Strategic Critical Raw Material (CRM) Projects** for the European Union (EU) using the United Nations Framework Classification (UNFC) System;

Economic Assessments: are numerical outputs based on the assessment of the Modifying Factors and associated costs provided in the Mineral Project Evaluation Report on a specific Mineral Development Project or Extraction Operation. All economic assessments must have some reference to forward-looking statements, etc., so as to avoid use as a valuation report.

Delete this Note before publication

Text in ITALICS refers to a specific reference from Table 1 of the PERC Reporting Standard, or paragraph reference from the PERC Reporting Standard, or a specific Appendix in the PERC Reporting Standard.

- Indented Shaded Text in BLACK are instructions or guidance quoted from the PERC Reporting Standard and should be deleted after the insertion of appropriate text and before final publication;

Text in BLUE is a placeholder within the Template.

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- Complete list of Figures.

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- The Competent Person must ensure that all Diagrams, Maps, Plans, Sections and Illustrations are dated, legible and prepared at an appropriate scale to distinguish important features;
- Maps must include a legend, author or information source, coordinate system and datum, a scale in bar or grid form, and an arrow indicating north (if a local grid is used, then the conversion to a global projection and datum must be included);
- Reference to a location (country or region) or index map and more detailed maps must show all important features described in the text, including all relevant cadastral and other infrastructure features.

EXECUTIVE SUMMARY

Provide an Executive Summary, which briefly and clearly summarises essential information, including the purpose of the report, property location, description and ownership, Mineral Deposit type geology and mineralisation, exploration results (sampling/drilling and sample analysis), the status of exploration, development and operations, Modifying Factor assumptions (including at least mining, mineral processing, metallurgy, product type, ESG, market and commodity price assumptions), the status of any Technical Studies, Exploration Target or Mineral Resource and Mineral Reserve estimates, including an explanation of 'reasonable expectations of eventual extraction' or that 'extraction is reasonably justified', the future work programme, and the Competent Person's conclusions and recommendations;

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- The Executive Summary should have sufficient detail to allow the reader to understand the essentials of the project;
- Make sure the wording and numbers in the Summary accurately reflect the wording and numbers in the body of the report;

I. MINERAL PROJECT COMPETENT PERSON SECTION

LEAD COMPETENT PERSON’S CONSENT STATEMENT

Section 1: Project Outline (Introduction - General) 1.0 (ii) [All estimates]

- State the Competent Person’s relationship to the issuer of the Report, if any;

Section 9: Date and Signature Page (Competent Person Details) 9.1 (i) [All estimates]

- State the full name, registration number and name of the professional body for all Competent Person(s);

Section 9: Qualification of Competent Person(s) and other key technical staff. Date and Signature Page (Competent Person Details) 9.1 (ii) [All estimates]

- State the relevant experience of each Competent Person(s) and other key technical staff who prepared and are responsible for the Report;

Section 9: Date and Signature Page (Competent Person Details) 9.1 (iii) [All estimates]

- Complete the Competent Person’s Consent Statement as given below by editing the text in blue, including the date of sign-off and the effective date, in the Report;

CONSENT STATEMENT

Pursuant to the requirements of paragraphs 3.2 and 3.7 of the PERC Reporting Standard, and in regard to:

Report Name:	<i>[insert Name or Title of Report to be publicly released]</i> (hereafter referred to as the “Report”) compiled for and on behalf of
Issuing Company:	<i>[insert Name of Company issuing the Report]</i> and in respect of
Mineral Deposit:	<i>[insert Name of the Mineral Deposit to which the Report refers]</i> and for the period ended:
Effective Date:	<i>[insert Effective Date of Report]</i>

I, *[insert Full Name of Competent Person]*, hereby confirm that:

1	I have read and understood all the relevant sections of the PERC Reporting Standard, Pan-European Standard for the Public Reporting of Exploration Results, Mineral Resources and Mineral Reserves (“PERC Reporting Standard”) as modified from time to time, and that this Public Report has been prepared under the requirements of the PERC Reporting Standard.
2	I am a professional member, or otherwise registered professional or licensee, with the required status of <i>(give status)</i> being an institution which is included in the current list of recognised professional organisations (RPO) or a member institution of the European Federation of Geologists, or an organisation included in the RPO list as given in the PERC Reporting Standard Recognised Professional Organisations (RPOs, updated October 2021 or as subsequently updated) accredited by PERC, with enforceable disciplinary processes, including the powers to suspend or expel a member; <i>A Competent Person is a Minerals industry professional, defined as a professional member, registrant or licensee of a Recognised Professional Organisation (RPO) in the list of professional organisations accredited by PERC, with enforceable disciplinary processes, including the powers to suspend or expel a member.</i>
3	I am a Competent Person as defined by the PERC Reporting Standard, having at least five years of relevant experience in relation to the style of mineralisation and type of Mineral Deposit under

	consideration as described in the Report and in the activity for which I am accepting responsibility; <i>A Competent Person must have a minimum of five years of relevant experience in the style of mineralisation or type of Mineral Deposit under consideration and in the activity that person is undertaking.</i>
4	I have reviewed the Report to which this Consent Statement applies, and I am not aware of any material fact or material change concerning the subject matter of this Public Report that is not reflected in the Public Report, the omission of which would make the Public Report misleading;
5	At the effective date of the Public Report, to the best of my knowledge, information and belief, the Public Report contains all scientific and technical information required to be disclosed in order to make the Public Report not misleading;
6	I declare that this Public Report appropriately reflects the Competent Person's view;
7	<p>I am a full-time employee of <i>[insert Company Name]</i> <i>(delete as appropriate)</i></p> <p>or</p> <p>I am a consultant working for <i>[insert Company Name]</i> <i>(delete as appropriate)</i></p> <p>and have been engaged by <i>[insert company name]</i> to prepare the Report for <i>[insert Project Name]</i> for the period ended <i>[insert Effective Date]</i>.</p>
8	<p>There is no other direct or indirect financial relationship between myself and the Company <i>(delete as appropriate)</i></p> <p>or</p> <p>There is a direct or indirect financial relationship between myself and the Company in that <i>[insert of financial relationship]</i></p>
9	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 supporting documentation relating to Exploration Targets, Mineral Resources and/or Mineral Reserves <i>(delete as appropriate)</i> .
10	<p>I consent to the release of this Report as identified above in this Consent Statement by the directors of <i>(name of Reporting Company)</i>.</p> <p>This consent applies only to the contents of this Report in the form and context in which they are provided, and any extracts, editing, manipulation, alteration or abbreviation of the contents so provided and intended for Public Reporting requires additional signed consent by the Competent Person.</p>
	<p>-----</p> <p><i>(Signature of Competent Person)</i></p> <p><i>(insert name Professional Organisation & Status / Membership Number)</i></p>
	<p>-----</p> <p><i>(insert date)</i></p>

STATEMENT OF COMPETENCE

Section 9: Date and Signature Page (Competent Person Details) 9.1 (i) [All estimates]

- State the full name, registration number and name of the professional body for all the Competent Person(s);
- State the relevant experience of the Competent Person(s) and other key technical staff who prepared and are responsible for the Public Report;
- Complete the Statement of Competence as given below by editing the text in blue and refer to Appendix 1.

STATEMENT OF COMPETENCE

The information in this Report that relates to Exploration Targets, and/or Exploration Results, and/or Mineral Resources and/or Mineral Reserves is based on information compiled by *(insert name of Competent Person)*, a Competent Person who is a professional Member or otherwise registered professional, with the required status of *(insert the name of the professional organisation and grade of membership)*, and is considered to be a true reflection of the *Exploration Target / Exploration Results / Mineral Resources / and/or Mineral Reserves (delete as appropriate)* as at *(insert date)* for *(insert Project Name & Location)* and have been carried out in accordance with the principles and guidelines of the Pan-European Standard for the Reporting of Exploration Results, Mineral Resources and Mineral Reserves (The PERC Reporting Standard, 2021).

COMPETENT PERSON(S) (see Appendix 1 for full details)

The Competent Persons listed below were responsible for the preparation of the estimates of Exploration Targets, and/or Exploration Results, and/or Mineral Resources and/or Mineral Reserves, contained in this PERC Mineral Project Evaluation Report. The Lead Competent Person is satisfied that the work carried out by these Competent Persons is acceptable and has been appropriately signed off by each contributor. The Lead Competent Persons accepts full and overall responsibility for the contents of this Report.

The following Competent Persons consent to the inclusion of the relevant technical information in this Report in the form and context in which it was provided to the Lead Competent Person.

Exploration Results (including Exploration Targets) Competent Person Sign-off

(Insert Competent Person Name) has sufficient experience relevant to the style of mineralisation and type of Mineral Deposit under consideration and to the activity which is being undertaken to qualify as a Competent Person as defined in the PERC Reporting Standard. *(Insert Competent Person Name)* confirms that no undue influence has been brought to bear during the compilation of these estimates, and consents to the inclusion in the Report of the matters based on the information in the form and context in which it appears.

Name	RPO	Registration	Signature
<i>Competent Person Name</i>	<i>organisation name</i>	<i>membership #</i>	<i>signature</i>

Mineral Resources Competent Person Sign-off

(Insert Competent Person Name) has sufficient experience relevant to the style of mineralisation and type of Mineral Deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the PERC Reporting Standard. *(Insert Competent Person Name)* confirms that no undue influence has been brought to bear during the compilation of these estimates, and consents to the inclusion in the Report of the matters based on the information in the form and context in which it appears.

Name	RPO	Registration	Signature
<i>Competent Person Name</i>	<i>organisation name</i>	<i>membership #</i>	<i>signature</i>

Mineral Reserves Competent Person Sign-off

(Insert Competent Person Name) has sufficient experience relevant to the style of mineralisation and type of Mineral Deposit under consideration and to the activity being undertaken to qualify as a Competent Person as

defined in the PERC Reporting Standard. *(Insert Competent Person Name)* confirms that no undue influence has been brought to bear during the compilation of these estimates, and consents to the inclusion in the Report of the matters based on the information in the form and context in which it appears.

Name	RPO	Registration	Signature
<i>Competent Person Name</i>	<i>organisation name</i>	<i>membership #</i>	<i>signature</i>

Technical Specialist(s)

The Technical Specialists listed below were involved in the preparation of this Mineral Project Evaluation Report and have appropriate experience in their field of expertise regarding the activity they are undertaking. The Lead Competent Person is satisfied that the work carried out by the Technical Specialists is acceptable and has been signed off by each contributor(s). The Lead Competent Person accepts full and overall responsibility for the contents of this Mineral Project Evaluation Report as provided by the Technical Specialists.

The following Technical Specialists consent to the inclusion of the relevant technical information in this Mineral Project Evaluation Report in the form and context in which it was provided to the Section specific Competent Person.

Name	Qualification	Report Contribution(s)	Signature
<i>Technical Specialist 1</i>	<i>Job description</i>	<i>Report Section(s) XX</i>	<i>signature</i>
<i>Technical Specialist 2</i>	<i>Job description</i>	<i>Report Section(s) XX</i>	<i>signature</i>
<i>Technical Specialist 3</i>	<i>Job description</i>	<i>Report Section(s) XX</i>	<i>signature</i>
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II. MINERAL PROJECT INTRODUCTION SECTION

1. INTRODUCTION

1.1 Purpose of Report

Section 1: Project Outline (Introduction - General) 1.0 (iii) [All estimates]

- Provide a statement of (1) the person or company for whom the PERC Mineral Project Evaluation Report was prepared, (2) whether it was intended as a full or partial evaluation, (3) what work was conducted, and (4) what work remains to be done.

1.2 Terms of Reference & Scope of Work

Section 1: Project Outline (Introduction - General) 1.0 (i) [All estimates]

- State the Terms of Reference and the Scope of the PERC Mineral Project Evaluation Report;

Section 1: Project Outline (Introduction - General) 1.0 (vii) [All estimates]

- Include a declaration from the Competent Person stating whether “the declaration has been made in terms of the guidelines of the PERC Reporting Standard”.

1.3 Sources of Information

Section 1: Project Outline (Introduction - General) 1.0 (iv) [All estimates]

- Provide a comprehensive listing of the types of sources of information and data contained in the PERC Mineral Project Evaluation Report or used in its preparation, with citations, if applicable, and a list of references.
- Provide a prominent and clear reference to all previous PERC Mineral Project Evaluation Report(s) relevant to the Mineral Project, including the effective date(s);
- Provide a comprehensive list of the relevant formal references in Section 23 (References) at the end of the Evaluation Report;
- Provide some context of this summary requirement, possibly adding in just a summary table.

1.4 Units of Measurement & Currency

Section 1: Project Outline (Introduction - General) 1.0 (ix) [All estimates]

- State the Units of Measure, Currency, and relevant Exchange Rates used throughout the PERC Mineral Project Evaluation Report.

1.5 Site Inspection & Field Involvement of Competent Person

Section 1: Project Outline (Introduction - General) 1.0 (x) [All estimates]

Section 1: Project Outline (Property Description) 1.1 (iii) [All estimates]

- Specify the details of the personal inspection on the property by each Competent Person(s), or any of the Technical Specialists cited in the Statement of Competence, or, if applicable, the reason why a personal inspection has not been completed;
- Include the date of visit(s); meetings with key persons responsible for the project which is being reported (defining their responsible fields and experience relevant to the project); visit(s) to project area resulting in a report itemising significant observations; what parts of the project were available for personal verification.

1.6 Reliance on Other Experts

Section 1: Project Outline (Introduction - General) 1.0 (xi) [All estimates]

- If the Competent Person is relying on a report, opinion, or statement of any other expert and/or

contributor who is not a Competent Person (as defined in PERC) and who is not listed in the Statement of Competence above, then a disclosure must be made 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(s) took to verify the information provided.

- Also, include the extent of the reliance and the sections of the Report that apply.

1.7 Other Disclaimers

If there are no other disclaimers in respect of any information or data contained in this Mineral Project Evaluation Report, and which is not provided elsewhere in this document, provide a statement to confirm this.

Otherwise, provide the disclaimer(s) with full reference to the information or data to which the disclaimer refers.

1.8 Assessment of Materiality, Risk & Good Governance

The Competent Person should confirm that the assessment of materiality, risk and identification of Modifying Factors has been applied specifically in accordance with the principles of project governance.

Section 5: Technical Studies 5.5 (xiii) Environmental, Social Performance, and Governance [All Estimates]

- Integrated Risk Management: Description of identified potential Modifying Factors and management actions taken to manage them where appropriate.

1.9 PERC Compliance Mapping

Include confirmation that:

*In accordance with the regulatory requirements outlined in the standard, definitions and guidelines of the PERC Reporting Standard, the contents of this Mineral Project Evaluation Report have been compiled using Table 1 of the PERC Reporting Standard, and mapped between documents as given in the accompanying **Appendix 2a** (PERC Table 1 mapped to PERC Mineral Project Evaluation Report contents) and **Appendix 2b** (PERC Mineral Project Evaluation Report contents mapped to PERC Table 1) based on Table 1 as published on the PERC website and as modified from time to time.*

1.10 Terms & Definitions

Include a comprehensive list or tabulation with explanations of all terms, acronyms and definitions NOT included in the CRIRSCO standard definitions contained in the PERC Reporting Standard.

2. PROJECT OUTLINE

2.1 Project Description

Section 1: Project Outline (Property Description) 1.1 (i) [All estimates]

- Provide a brief description of the scope of the project (i.e. whether in conceptual, preliminary sampling, advanced exploration, Scoping Study, Pre-Feasibility Study, Feasibility Study phase, or Life of Mine Plan for an ongoing extraction operation, or mine closure), including a description of the geological setting, Mineral Deposit type, commodity, project area, background, and business arrangement.

2.2 Property Location

Section 1: Project Outline (Location) 1.2 (i) [All estimates]

- Provide a description of the location and a map that includes country, province, and closest town/city, and coordinate systems and ranges, etc., reported by using a geographical and grid location system, as referenced in section 3.3 (Coordinate Reference System) of this PERC Mineral Project Evaluation Report;

Section 1: Project Outline (Location) 1.2 (iii) [Exploration Results only]

- Provide a general topocadastral map;

Section 1: Project Outline (Location) 1.2 (iii) [Mineral Resources only]

- Provide a topo-cadastral map in sufficient detail to support the assessment of eventual economics. State the known associated climatic risks;

Section 1: Project Outline (Location) 1.2 (iii) [Mineral Reserves only]

- Provide a detailed topo-cadastral map. Confirm that applicable aerial surveys have been checked with ground controls and surveys, particularly in areas of rugged terrain, dense vegetation or high altitude.

2.3 Country Profile

Section 1: Project Outline (Location) 1.2 (ii) [All estimates]

- Provide a brief country profile, including information pertaining to the project host country that is pertinent to the project, including relevant applicable legislation, environmental and social context, etc.
- Assess the country risks, at a high level, of the relevant infrastructure, economic, political factors and environmental, social and governance.

2.4 Adjacent Properties

If no adjacent properties have a bearing on the project that is the subject of this PERC Mineral Project Evaluation Report, provide a statement to confirm this, and if appropriate, explain why;

Otherwise, provide a summary statement of adjacent properties, cognizant of the following:

Section 1: Project Outline (Adjacent Properties) 1.3 (i) [All estimates]

- Provide details of relevant adjacent or nearby properties that have a bearing on the project that is the subject of this PERC Mineral Project Evaluation Report;
- Such details may be included ONLY when this PERC Mineral Project Evaluation Report:
 - (a) contains a complete reference to all information used from other sources;
 - (b) the location of the adjacent properties discussed and common mineralised structures (if any) are included on relevant maps;
 - (c) such information was publicly disclosed on all other relevant information of the adjacent property; i.e. other critical information about adjacent properties that is readily available from public scans of satellite images, e.g. land use or from public websites, e.g. protected areas. These should be disclosed, if not here, then above under property location
 - (d) such information on any mineralisation that was publicly disclosed by the owner or operator of the adjacent property;

- (e) the PERC Mineral Project Evaluation Report includes a statement to the effect that the Competent Person has not been able to verify all the information relating to the mineralisation on the adjacent properties, and that the information is not necessarily indicative of the mineralisation on the property that is the subject of this PERC Mineral Project Evaluation Report;
- (f) the PERC Mineral Project Evaluation Report clearly distinguishes between mineralisation on the adjacent property and mineralisation on the property being reported on;
- (g) all historical estimates of Mineral Resources or Mineral Reserves from adjacent properties included in this PERC Mineral Project Evaluation Report must be disclosed in accordance with the PERC Reporting Standard, or otherwise excluded.

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3. PERMITTING

3.1 Mineral Rights

Provide a brief outline of the Regulatory Act(s), regulations and other legal instruments governing the issue, renewal and maintenance of Mineral Rights relevant to the project;

3.2 Project Mineral Title

Section 1: Project Outline (Legal Aspects and Permitting) 1.5 (i) [All estimates]

- The Competent Person(s) must provide a statement confirming legal tenure to the project area;

Section 1: Project Outline (Legal Aspects and Permitting) 1.5 (ii) [All estimates]

- Discuss the nature of the issuer's rights to minerals (e.g. prospecting, exploration and/or mining) and the right to use the surface of the properties to which these mineral rights relate;
- Tabulate the rights held by the type of mineral tenure, with the identifying reference name or number of each, the area of the property in hectares (or other appropriate units), date granted, duration and date of renewal (where relevant);
- Discuss the associated obligations, including any ongoing monitoring, auditing and other reporting obligations that must be met to retain the property;
- Identify which permits must be acquired to conduct the work proposed for the property, and whether the permits have been obtained or are in the process of being obtained, and the current status and the expected timing of the granting of such permits or permissions;
- Disclose the date of expiry and other relevant renewal details;
- Clarify the provisions under which renewals are granted (if any);
- State the period of renewal (years) and application/granting (dates), expiry dates;
- Provide the status of any pending applications;

For **Dimension Stone, Ornamental and Decorative Stone**, in particular, the legal control of Dimension Stone, Ornamental and Decorative Stone Mineral Resources and Dimension Stone, Ornamental and Decorative Stone Mineral Reserves may be significant, as well as the permitting or consenting status, due to the local nature and often simple structure of the planning process for non-strategic and non-government owned Minerals.

3.3 Coordinate Reference System

- Identify the coordinate reference system (CRS) used to define the Mineral Property as given in the ratified Mineral Title document(s);
- Provide details of how the Mineral Property boundaries were located, including identifying all triangulation stations (triangulation pillar, trigonometrical station, or trig beacon);
- Where a local ordinate (LO) system or latitude-longitude has been used, conversion factors must be given for either British or Irish National Grid for data related to the UK and Northern Ireland, the ETRS89 (EPSG:4258) for data related to Europe, or the World Geodetic System 1984 (WGS 84) for worldwide geographic location points;

3.4 Surface & Other Rights

Section 1: Project Outline (Legal Aspects and Permitting) 1.5 (ii) [All estimates]

- Provide a description of the Surface Title (freehold, leasehold, administration areas, etc.), date of expiry and any other renewal details;
- Discuss the environmental, social and water right obligations needed to use the surface of the properties to which the Mineral Rights relate;
- Discuss the right to use the surface of the properties to which these rights relate and how these were obtained (in particular if through agreed negotiation or expropriation);
- Disclose the date of expiry and other relevant renewal details, including surface rights and environmental permits;
- State the period of renewal (years) and application/granting (dates), expiry dates;

- Clarify the provisions under which renewals are granted (if any);
- Provide the status of any pending applications;
- Provide a brief description of the current Land Use, land use zoning and any planning permissions that may be required;
- Indicate if any traditional or other legal land rights exist over the property (e.g. related to indigenous people) and how these are being addressed;
- Provide cadastral reference(s) (if applicable) to surface owners, farm names, etc.;
- State the regulatory body administering surface rights and land planning;
- State the key terms and conditions (if any) of surface rights purchased/negotiated by the company.

3.5 Environmental & Social Permissions

For all projects and existing and planned future operations, provide a summary statement of the ESG legal and permitting status and requirements cognizant of the following:

Section 5: Technical Studies (Environmental, Social Performance, and Governance) 5.5 (iv) [All estimates]

- Identify the necessary permits and permissions required, and their status, and where not yet obtained, provide confirmation that there is a reasonable basis to believe that all permits required for the project can be obtained in a timely manner, and the anticipated timeframes;

Section 5: Technical Studies (Environmental, Social Performance, and Governance) 5.5 (ix) [Exploration Results only]

Section 5: Technical Studies (Environmental, Social Performance, and Governance) 5.5 (ix) [Mineral Resources & Mineral Reserves]

- Identify the legislated social management programmes (including labour agreements) that may be required, along with the key obligations arising from these, and the status of any applications, along with when approvals expected (noting this covers both legislated and voluntary requirements)
- State the regulatory body administering the environment, water and social;
- Provide the Mineral Rights or Surface Rights that relate to such permissions;
- Disclose the date of expiry and other relevant renewal details of any existing permit(s) and provide the status of any pending applications);
- State the period of renewal (years) and application/granting (dates); expiry dates, and state the provisions under which renewals are granted (if any);
- Report any records of penalties/fines or revoked permits complete with rationale.
- Provide a review of the risk(s) that these permits may be denied and assess the impact of delays to the project.

3.6 Impediments to Tenure Security

Section 1: Project Outline (Legal Aspects and Permitting) 1.5 (iv) [All estimates]

- Provide an assessment of the security of the tenure held 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;
- Include references and dates to any published sources used in this assessment.

4. LEGAL

4.1 Legal Proceedings

If there are no legal proceedings relevant to the project area, provide a statement to confirm this; Otherwise, provide a summary of material and pertinent legal proceedings, cognizant of the following:

Section 1: Project Outline (Legal Aspects and Permitting) 1.5 (v) [All estimates]

- Provide a statement of any legal proceedings, including a description of the regulatory Act(s) in force, for example, land claims or legal proceedings that may have an influence on the rights to prospect or mine for minerals.

4.2 Other Relevant Legislation

Section 1: Project Outline (Legal Aspects and Permitting) 1.5 (vi) [All estimates]

- Provide a statement relating to governmental and/or other statutory requirements and permits as may be required, have been applied for, have been approved, or can be reasonably be expected to be obtained, including the provisions under which such permits/licences are granted (if any), and including the period of renewal (years), relevant application/granting (dates); expiry dates, and the status of any applications;
- Provide a review of the risk(s) that these permits may be denied or granted with restrictions not anticipated, and assess the impact of delays to the project;
- Provide a statement on any relevant and pertinent legislated social management programme(s) (including labour agreements) that may be mandated, along with the key obligations arising from these and the status of any applications (together with an indication of when outstanding approvals may expected).

4.3 Royalties

If there are no royalty payments pertinent to the project area currently or in the foreseeable future, provide a statement to confirm this;

Otherwise, provide a summary of all royalties payable, cognizant of the following:

Section 1: Project Outline (Royalties) 1.6 (i) [All estimates]

- Describe the current and impending royalties that are payable, or are expected to be payable, in respect of the project to the government and private individuals;

Section 5: Technical Studies 5.6 (vii) [All Estimates]

- Provide details of allowances made for royalties payable, both to the Government and private parties.

4.4 Project Liabilities

If there are no liabilities pertinent to the project area currently or in the foreseeable future, provide a statement to confirm this;

Otherwise, provide a summary of all liabilities, cognizant of the following:

Section 1: Project Outline (Liabilities) 1.7 (i) [All estimates]

- Describe any liabilities, including rehabilitation guarantees that are pertinent to the project;
- Provide a description of the future financial rehabilitation liability, including, but not limited to, legislative requirements, assumptions and limitations;
- Provide details of any legal documents exempting the current owner/occupiers from historical/pre-existing liabilities.

4.5 Taxation System

Provide an overview of regional and country taxation systems and tax relief considerations that would affect the extraction operation.

4.6 Third-Party Interests

If there are no third-party interests pertinent to the project area currently or in the foreseeable future, provide a statement to confirm this;

Otherwise, provide a summary of all third-party interests, cognizant of the following:

Section 1: Project Outline (Legal Aspects and Permitting) 1.5 (iii) [All estimates]

- Present 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, historical and cultural sites, wilderness or national park and environmental settings, royalties, consents, permission, permits or authorisations.

5. GEOGRAPHY

5.1 Access & Proximity to Population Centres

Provide a summary of access to the project area, cognizant of the following:

Section 1: Project Outline (Property Description) 1.1 (ii) [All estimates]

- Provide a description of access to the project area and the nature of transportation, including (where relevant) road, rail and air links;
- Provide a Map;
- Describe the proximity of the project area to population centres, towns and villages and remote residential dwellings, cognizant of the following:
- Summarise the proximity of the project area to the nearest population centre(s), including approximate distance and travel times, and accommodation for mine personnel;

Provide a context for the Project, cognizant of the following:

Section 5: Technical Studies 5.5 (ii) [All estimates]

The project context is determined and described, including the following aspects:

- The locality's physical geography, centres of population, economic and cultural characteristics;
- Existing land and natural resource use for economic, cultural, recreational and conservation purposes (inclusive of environmental and cultural sites of interest);
- Existing or historical industrial development and associated infrastructure, including mining and quarrying in the region;
- Local governance structures and administrative bodies, their roles and responsibilities in relation to permitting and regulations;
- Site access routes and any potential impact on the environment or local communities;
- Provision of energy for activities (e.g. off-grid renewable energy, or sourced directly from local non-renewable power grid).

5.2 Utilities & Infrastructure

Describe the general infrastructure of the project area, cognizant of the following:

Section 1: Project Outline (Property Description) 1.1 (ii) [All estimates]

- Provide a description of the availability and sources of power, water, mining personnel, and transport hubs to the extent relevant to the project;
- Provide a description of the availability of surface rights for supporting infrastructure, including but not limited to potential tailings storage areas, potential waste disposal areas, heap leach pad areas, processing plant sites, metallurgical plant infrastructure sites, service connections and transport hubs to the extent relevant to the project;
- Provide a map.

5.3 Climate

Outline the climate of the project area cognizant of the following:

Section 1: Project Outline (Property Description) 1.1 (ii) [All estimates]

- Describe (noting any conditions that may affect possible prospecting/mining activities) the climate, known associated climatic risks and the length of the operating season and to the extent relevant to the mineral project;

Section 5: Technical Studies (ESG) 5.5 (iii) [Exploration Results only]

Section 5: Technical Studies (ESG) 5.5 (iii) [Mineral Resources & Mineral Reserves]

- Provide a summary of the climate of the project area and how this is predicted to change;
- State the known climatic risks or any conditions that may affect possible mining activities, and the length of the operating season to the extent relevant to the mineral project, including risks due to possible future climate change(s);
- Provide rainfall and temperature graphs.

5.4 Topography, Elevation & Drainage

Provide a summary of the topography, elevation and drainage of the project area, cognizant of the following:

Section 1: Project Outline (Property Description) 1.1 (ii) [All estimates]

- Describe (noting any conditions that may affect possible prospecting/mining activities) topography, elevation, and drainage;

Section 1: Project Outline (Property Description) 1.2 (iii) [All estimates]

Section 1: Project Outline (Property Description) 1.2 (iii) [Mineral Resources only]

Section 1: Project Outline (Property Description) 1.2 (iii) [Mineral Reserves only]

- Provide a description of the topography, elevation and drainage of the project area, noting any conditions that may affect possible prospecting/mining activities;
- Describe any geomorphological features that may pose a risk to the project, such as steep slopes, seismic activity, vulnerability to flooding, etc.;
- Ideally, a map showing the surface catchments should be provided or included in the general topocadastral map referred to below for all types of estimates;
- For Exploration Results, provide a general topographical map;
- For Mineral Resources provide a topocadastral map in sufficient detail to support the assessment of eventual economics;
- For Mineral Reserves, provide a detailed topocadastral map, particularly in areas of rugged terrain, dense vegetation or high altitude, together with a map showing key context information such as catchments, protected areas, residential dwellings/population centres, roads, power lines, etc.
- Distinguish clearly between surface and groundwater catchments, including the nature of other users who may be using water in these catchments.

5.5 Biodiversity

Outline the fauna and flora of the project area cognizant of the following:

Section 1: Project Outline (Property Description) 1.1 (ii) [All estimates]

- Provide a summary of the biodiversity present in and surrounding fauna and flora of the project area, including all endangered or protected species and the habitats and their vulnerability to change;
- Provide a summary of known ecosystem system services provided by the habitats present or potentially impacted by the project;
- State the known risks or any conditions that may affect possible mining activities;

Section 5: Technical Studies 5.5 (i) (ESG) [Mineral Resources & Mineral Reserves]

- Identify and discuss any sensitive areas that may affect the project as well as any other environmental factors, including Interested and Affected Parties (I&AP) and/or studies that could have a material effect on the likelihood of eventual economic extraction. Discuss possible means of mitigation.

Section 5: Technical Studies 5.5 (ii) (ESG) [All Estimates]

- Identify any Protected areas (whether for cultural or conservation purposes) and any restrictions this may pose to the project;
- Identify the presence or proximity of indigenous people;
- Describe land use(s) present within the project area and its surroundings, such as agriculture, recreation, industry, urban, commercial, etc.

6. MINERAL PROJECT HISTORY

6.1 Previous Ownership

If there has been no previous ownership of the project area, provide a statement to confirm this and, if applicable, explain the reason for this;

Otherwise, provide a summary of all periods of previous ownership, cognizant of the following:

Section 1: Project Outline (History) 1.4 (i) [All estimates]

- State the prior ownership and land use of the project area and ownership changes; where relevant, include diagrams to illustrate the spatial relationships; also include any reasons for the change in ownership.

6.2 Previous Exploration

If no previous exploration has been completed, provide a statement to confirm this, and if appropriate, explain why none has been completed;

Otherwise, provide a summary of all previous exploration, cognizant of the following:

Section 1: Project Outline (History) 1.4 (i) [All estimates]

- Provide an acknowledgement and appraisal of exploration by other parties;
- Summarise any previous and current mining activities (including mergers, joint ventures, closures, etc.) within the project area in chronological order;
- If relevant, provide details of mining activities adjacent to the lease area. The past history of the operations should be described as a background to the current operation;

Section 1: Project Outline (History) 1.4 (ii) [All estimates]

- Provide details of previous successes or failures with reasons why the project may now be considered potentially economic if Mineral Resources with/without Mineral Reserves were previously reported.

6.3 Previous Mineral Resource Estimates

If no Mineral Resource estimates have been reported previously, provide a statement to confirm this, and if appropriate, explain why none have been reported;

Otherwise, provide a summary of all Mineral Resource estimates reported previously, cognizant of the following:

Section 1: Project Outline (History) 1.4 (iii) [Mineral Resources only]

- The Competent Person may include known or existing historical Mineral Resource estimates in this PERC Mineral Project Evaluation Report ONLY when:
 - (a) this PERC Mineral Project Evaluation Report includes reference to the source and date of the historical estimate(s), including (and especially) any previous Technical Report or Competent Person's Report;
 - (b) this PERC Mineral Project Evaluation Report includes the key assumptions, parameters, and methods used to prepare the historical estimate(s) to the extent known;
 - (c) this PERC Mineral Project Evaluation Report includes any more recent estimate(s) or data available to the issuer;
 - (d) the Competent Person provides a suitable comment on the relevance and reliability of the historical estimate(s);
 - (e) the Competent Person states whether the historical estimate(s) uses categories other than those set out in the PERC Reporting Standard and, if so, includes an explanation of the differences;
 - (f) the Competent Person identifies what work needs to be done to upgrade or verify the historical estimate(s) of the Mineral Resources;
 - (g) the Competent Person states with equal prominence that
 - (i) the Competent Person has not done sufficient work to confirm that the historical estimate(s) are compliant with the PERC Reporting Standard, and
 - (ii) the issuer is not treating the historical estimate(s) as current Mineral Resources.

6.4 Previous Mineral Reserve Estimates

If no Mineral Reserve estimates have been reported previously, provide a statement to confirm this, and if appropriate, explain why none have been reported;

Otherwise, provide a summary of all Mineral Reserve estimates reported previously, cognizant of the following:

Section 1: Project Outline (History) 1.4 (iv) [Mineral Reserves only]

- The Competent Person may include known or existing historical Mineral Reserve estimates in this PERC Mineral Project Evaluation Report ONLY when:
 - (a) this PERC Mineral Project Evaluation Report includes reference to the source and date of the historical estimate(s), including (and especially) any previous Technical Report or Competent Person's Report;
 - (b) this PERC Mineral Project Evaluation Report includes the key assumptions, parameters, and methods used to prepare the historical estimate(s) to the extent known;
 - (c) this PERC Mineral Project Evaluation Report includes any more recent estimate(s) or data available to the issuer;
 - (d) the Competent Person provides a suitable comment on the relevance and reliability of the historical estimate(s);
 - (e) the Competent Person states whether the historical estimate(s) uses categories other than those set out in the PERC Reporting Standard and, if so, includes an explanation of the differences;
 - (f) the Competent Person identifies what work needs to be done to upgrade or verify the historical estimate(s) of the Mineral Reserves;
 - (g) the Competent Person states with equal prominence that:
 - (i) the Competent Person has not done sufficient work to confirm that the historical estimate(s) are compliant with the PERC Reporting Standard, and
 - (ii) the issuer is not treating the historical estimate(s) as current Mineral Reserves.

6.5 Previous Production

If no production (either actual or estimated) has been reported previously, provide a statement to confirm this, and if appropriate, explain why none has been reported;

Otherwise, provide a summary of production (either actual or estimated) reported previously, cognizant of the following:

- Provide an explanation why production from any operations in the project area was reduced, suspended, ceased, or the operation became unprofitable;

Section 1: Project Outline (History) 1.4 (iv) [Mineral Reserves only]

- The Competent Person may include performance statistics on actual production for past and current operations in this PERC Mineral Project Evaluation Report ONLY when:
 - (a) this PERC Mineral Project Evaluation Report includes reference to the source and date of the performance statistics, including (and especially) any previous Company Report, Technical Report or Competent Person's Report;
 - (b) this PERC Mineral Project Evaluation Report includes the key assumptions, parameters, and methods used to estimate the performance statistics to the extent known;
 - (c) the Competent Person provides a suitable comment on the relevance and reliability of the performance statistics;
 - (d) the Competent Person states with equal prominence that:
 - (i) the Competent Person has not done sufficient work to verify the performance statistics and
 - (ii) the issuer is not treating the historical performance statistics as either current or potential future performance statistics.

III. MINERAL PROJECT EXPLORATION INFORMATION SECTION

7. GEOLOGICAL SETTING, MINERALISATION AND MINERAL DEPOSIT TYPES

7.1 Geological Setting

7.1.1 Regional Geology

List the available relevant technical reports, published refereed or other academic papers, information in the public domain, and other available sources relevant to the regional geology, and to which the reader can be referred;

Provide a summary of material and pertinent data, information and conclusions derived from these sources, or for data collected that has not been reported previously, provide a discussion cognizant of the following:

Section 2: Geological Setting, Deposit, Mineralisation (Geological Setting, Deposit Type and Mineralisation Style) 2.1 (i) [All estimates]

- Describe the regional geology of the project area;
- Reference must be made to reliable geological maps that exist to support the interpretation(s).
- Key geological domains must be shown on the regional geology map.

7.1.2 Local Geology

List the available relevant technical reports, published refereed or other academic papers, information in the public domain, and other available sources relevant to the local geology, and to which the reader can be referred;

Provide a summary of material and pertinent data, information and conclusions derived from these sources, or for data collected that has not been reported previously, provide a discussion cognizant of the following:

Section 2: Geological Setting, Deposit, Mineralisation (Geological Setting, Deposit Type and Mineralisation Style) 2.1 (ii) [All estimates]

- Describe the local geology of the project area, including (but not limited to) the Mineral Deposit type, local stratigraphy, mineralisation, geological history, geochronology, key geological horizons or markers, superficial or surficial deposits where relevant, depth and type of soils, depth of weathering, and regional trends, where these are likely to impact on the future mining / extraction operation or products;
- Prepare a representative stratigraphical column and plans to support the above descriptions;
- Provide a geological plan of the project area, including where relevant other mining / extraction operations producing from the same stratigraphical sequence or structural setting, in a similar geological environment, and/or in the local area.

7.1.3 Geological Domains

If no geological domains have been defined within the mapped geology of the project area (excluding geological modelling domains identified and reported in Section 13 (Geological Model and Interpretation)), provide a statement to confirm this and, if appropriate, explain why none have been defined;

Otherwise, provide a summary description of the key geological domains recognised within the project area, including:

- (a) the criteria that define the geological domains;
- (b) the key characteristics of each geological domain;
- (c) the geographical and geological distribution of geological domains;
- Provide a geological domain plan showing key geological domains.

7.2 Nature of, & Controls on Mineralisation

7.2.1 Mineralisation Overview

List the available relevant technical reports, published refereed or other academic papers, information in the public domain, and other available sources relevant to the nature of, and controls on mineralisation, and to

which the reader can be referred;

Provide a summary of material and pertinent data, information and conclusions derived from these sources, or for data collected that has not been reported previously, provide a discussion cognizant of the following:

Section 2: Geological Setting, Deposit, Mineralisation (Geological Setting, Deposit Type and Mineralisation Style) 2.1 (ii) [All estimates]

- Describe the mineralised zones encountered on the property, the surrounding rock types and relevant geological controls, detailing length, width, depth and continuity, together with a description of the type, character and distribution of the mineralisation;

Section 2: Geological Setting, Deposit, Mineralisation (Geological Setting, Deposit Type and Mineralisation Style) 2.1 (vii) [All estimates]

- Provide reliable geological models and/or maps and cross-sections that support the interpretation presented.

7.2.2 Mineral Deposit Model

If no Mineral Deposit Model(s) has been defined, provide a statement to confirm this, and if appropriate, explain why none has been defined;

Otherwise, identify the Mineral Deposit model(s) considered pertinent to the project area, and list available relevant technical reports, published refereed or other academic papers, information in the public domain, and other available sources relevant to the Mineral Deposit model(s), and to which the reader can be referred;

Provide a summary of material and pertinent data, information and conclusions derived from these Mineral Deposit model(s) cognizant of the following:

Section 2: Geological Setting, Deposit, Mineralisation (Geological Setting, Deposit Type and Mineralisation Style) 2.1 (iii) [All estimates]

- Discuss the Mineral Deposit Model or mineralising concepts being applied in the investigation, and the basis on which the exploration program is/was planned;
- Describe any inferences or predictions made from this model;
- Discuss the basis on which the exploration program is/was planned using this Mineral Deposit Model.

7.3 Nature of Mineral Deposits on the Property

If no Mineral Deposits have been identified on the property, provide a statement to confirm this, and if appropriate, explain why none has been defined;

Otherwise, list the available relevant technical reports, published refereed or other academic papers, information in the public domain, and other available sources relevant to interpretations and conclusions on the nature of Mineral Deposits on the property, and to which the reader can be referred;

Provide a summary of material and pertinent data, information and conclusions on the nature of Mineral Deposits on the property, or for new data collected that has not been reported previously, provide a discussion cognizant of the following:

Section 2: Geological Setting, Deposit, Mineralisation (Geological Setting, Deposit Type and Mineralisation Style) 2.1 (vi) [All estimates]

- Describe the significant mineralised 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;

Section 2: Geological Setting, Deposit, Mineralisation (Geological Setting, Deposit Type and Mineralisation Style) 2.1 (iv) [All estimates]

- Discuss data density, distribution and reliability and whether the quality and quantity of information are sufficient to support statements, made or inferred, concerning the project;

Section 2: Geological Setting, Deposit, Mineralisation (Geological Setting, Deposit Type and Mineralisation Style) 2.1 (v) [All estimates]

- Discuss the significant minerals present in the Mineral Deposit, their frequency, size and other characteristics, including minor and gangue minerals, where these have an effect on any processing steps;

7.4 Conceptual Geological Model

If no Conceptual Geological Model has been constructed on the property, provide a statement to confirm this, and if appropriate, explain why none has been outlined;

Otherwise, list the available relevant technical reports, published refereed or other academic papers, information in the public domain, and other available sources relevant to interpretations and conclusions on the Conceptual Geological Model and to which the reader can be referred;

Provide a summary of material and pertinent data, information and conclusions on the Conceptual Geological Model or for new data collected that has not been reported previously, cognizant of the following:

Section 4: Estimation and Reporting of Exploration Results, Mineral Resources and Mineral Reserves (Geological model and interpretation) 4.1 (i) [All estimates]

- Describe the conceptual geological model, construction technique and assumptions that are to be used to form the basis of the range estimates for the Conceptual Target, Exploration Target, and Mineral Inventory;

Section 4: Estimation and Reporting of Exploration Results, Mineral Resources and Mineral Reserves (Geological model and interpretation) 4.1 (ii) [All estimates]

- Describe the nature, detail and reliability of geological information with which the conceptual geological model was constructed, highlighting what assumptions have been made;
- Provide an assessment of the reliability of the conceptual geological model in terms of defining Conceptual Target, Exploration Target, or Mineral Inventory, if at all.

Section 4: Estimation and Reporting of Exploration Results, Mineral Resources and Mineral Reserves (Estimation and modelling techniques) 4.2 (iv) [Mineral Resources & Mineral Reserves]

- Outline the computer systems used and the overall geological modelling process and flow for the conceptual geological model;

Section 3: Exploration and Drilling, Sampling Techniques and Data (Exploration) 3.1 (vii) [All estimates]

- Present representative models and/or maps and cross-sections or other two or three-dimensional illustrations of results, showing the location of samples, accurate drillhole collar positions, down-hole surveys, exploration pits, underground workings, relevant geological data, etc.;
- Explain the appropriateness of the data density to assure interpretations of continuity, ore body structure and grade or quality distribution, and to support the estimation of the ranges for the Conceptual Target and Exploration Target;
- Explain the data density of Exploration Results, and whether the data density and distribution support the interpretations and / or conclusions reached.

8. EXPLORATION INFORMATION

8.1 Exploration Strategy

Describe the strategy for obtaining exploration data or information relevant to specific Modifying Factors such as the proposed extraction method, mineral processing method, environmental and social-governance aspects.

8.2 Land Survey & Topographical Data

8.2.1 Land Survey

If no land surveying or aerial mapping has been undertaken, provide a statement to confirm this, and if appropriate, explain why none has been done;
 Otherwise, list the available relevant standards, protocols, standard operating procedures (SOP), technical reports, published refereed or other academic papers, information in the public domain, and other available sources relevant to data acquisition and processing, interpretations and conclusions derived from the topographical mapping data, and to which the reader can be referred;
 Provide a summary of material and pertinent data, information and conclusions derived from these sources, or for topological mapping data collected that has not been reported previously, provide a discussion cognizant of the following:

Section 1: Project Outline (Location) 1.2 (iii) [Exploration Results only]

- Present representative maps and outputs of the topological mapping results;

Section 1: Project Outline (Location) 1.2 (iii) [Mineral Resources only]

- Provide a Topo-cadastral map in sufficient detail to support the assessment of eventual economics;

Section 1: Project Outline (Location) 1.2 (iii) [Mineral Reserves only]

- Provide a detailed topo-cadastral map. Confirm that applicable aerial surveys have been checked with ground controls and surveys, particularly in areas of rugged terrain, dense vegetation or high altitude.

8.2.2 Topographical Data

- Detail the methodology used for acquiring the topographical surface (pre-mining and post-mining if applicable), coverage and resolution across the project area, data acquisition date, accuracy for elevation and methods used to validate data;
- Describe modifications to original topography (mining, dumps, dams, etc.) and impact on drillhole positioning;

Section 1: Project Outline (Location) 1.2 (iii) [Exploration Results only]

- Present representative maps and outputs of the topological mapping results;

Section 1: Project Outline (Location) 1.2 (iii) [Mineral Resources only]

- Provide a Topo-cadastral map in sufficient detail to support the assessment of eventual economics;

Section 1: Project Outline (Location) 1.2 (iii) [Mineral Reserves only]

- Provide a detailed topo-cadastral map. Confirm that applicable aerial surveys have been checked with ground controls and surveys, particularly in areas of rugged terrain, dense vegetation or high altitude.

8.3 Geological Mapping

If no geological mapping has been undertaken, provide a statement to confirm this, and if appropriate, explain why none has been done;
 Otherwise, list the available relevant standards, protocols, standard operating procedures (SOP), technical reports, published refereed or other academic papers, information in the public domain, and other available sources relevant to data acquisition and processing, interpretations and conclusions derived from the geological mapping data, and to which the reader can be referred;
 Provide a summary of material and pertinent data, information and conclusions derived from these sources, or

for geological mapping data collected that has not been reported previously, provide a discussion cognizant of the following:

- Present representative maps and cross-sections or other two or three-dimensional illustrations of the geological mapping results;

Section 3: Exploration and Drilling, Sampling Techniques and Data (Exploration) 3.1 (i) [All estimates]

- Describe the data acquisition or exploration techniques and the nature, level of detail, and confidence in the geological mapping data, the interpretation of the exploration information, and the nature and scale of planned further work;
- Confirm that data sets include all relevant metadata, such as unique sample number, sample mass, collection date, spatial location, etc.;

Section 3: Exploration and Drilling, Sampling Techniques and Data (Exploration) 3.1 (iii) [All estimates]

- If geological mapping data from previous operators are included, the Report must clearly identify the work conducted by, or on behalf of, the issuer, together with reference to all geological data and information used from other sources;

Section 3: Exploration and Drilling, Sampling Techniques and Data (Exploration) 3.1 (iv) [All estimates]

- Clearly distinguish between geological mapping data/information from the property under discussion and that derived from surrounding properties;

Section 3: Exploration and Drilling, Sampling Techniques and Data (Exploration) 3.1 (v) [All estimates]

- Describe the survey methods, techniques and expected accuracies of the geological mapping data, including the methods for downhole surveying of historical drillholes, and specify the grid system(s) used;

Section 3: Exploration and Drilling, Sampling Techniques and Data (Exploration) 3.1 (vi) [All estimates]

- Discuss whether the geological mapping data spacing and distribution are sufficient to establish the degree of continuity appropriate for any estimation procedure(s) and classifications applied;

Section 3: Exploration and Drilling, Sampling Techniques and Data (Exploration) 3.1 (vii) [All estimates]

- Present representative models and/or maps and cross sections or other two or three-dimensional illustrations of results, showing the location of samples, accurate drillhole collar positions, down-hole surveys, exploration pits, underground workings, relevant geological data, etc.

8.4 Geochemical Sampling

If no geochemical sampling has been undertaken (including stream sediment sampling, soil sampling (regional and detailed), rock chip sampling, mineral concentrate collection, trench sampling and channel sampling, etc.), provide a statement to confirm this and, if appropriate, explain why none has been done;

Otherwise, list the available relevant standards, protocols, standard operating procedures (SOP), technical reports, published refereed or other academic papers, information in the public domain, and other available sources relevant to data acquisition and processing, interpretations and conclusions derived from the geochemical sampling data and to which the reader can be referred;

Provide a summary of material and pertinent data, information and conclusions derived from these sources, or for geochemical sampling data collected that has not been reported previously, provide a discussion cognizant of the following:

Section 3: Exploration and Drilling, Sampling Techniques and Data (Exploration) 3.1 (i) [All estimates]

- Describe the data acquisition or exploration techniques and the nature, level of detail, and confidence in the geochemical data, the interpretation of the exploration information, and the nature and scale of planned further work;
- Confirm that data sets include all relevant metadata, such as unique sample number, sample mass, collection date, spatial location, etc.;

Section 3: Exploration and Drilling, Sampling Techniques and Data (Exploration) 3.1 (iii) [All estimates]

- If geochemical data from previous operators are included, the Report must clearly identify the work conducted by, or on behalf of, the issuer, together with a reference to all geochemical data and information used from other sources;

Section 3: Exploration and Drilling, Sampling Techniques and Data (Exploration) 3.1 (iv) [All estimates]

- Clearly distinguish between geochemical data/information from the property under discussion and that derived from surrounding properties;

Section 3: Exploration and Drilling, Sampling Techniques and Data (Exploration) 3.1 (v) [All estimates]

- Describe the survey methods, techniques and expected accuracies of the geochemical data, including

<p>the grid system(s) used;</p> <p><i>Section 3: Exploration and Drilling, Sampling Techniques and Data (Exploration) 3.1 (vi) [All estimates]</i></p> <ul style="list-style-type: none"> Discuss whether the data spacing and distribution are sufficient to establish the degree of geochemical continuity; <p><i>Section 3: Exploration and Drilling, Sampling Techniques and Data (Exploration) 3.1 (vii) [All estimates]</i></p> <ul style="list-style-type: none"> State the type of sampling and the location of the results being reported. Types of sampling include, but are not limited to, stream sediment, soil and heavy mineral concentrate samples, trenching and pitting, rock chip and channel sampling, drilling (open-hole or core), auger, etc. Examples of locations include old workings, mine dumps, etc. Wherever possible, the spacing of such samples should be stated, and locations shown on coordinated maps, plans and sections at suitable scales; <p><i>Section 3: Exploration and Drilling, Sampling Techniques and Data (Sampling Governance) 3.5 (i) [All estimates]</i></p> <ul style="list-style-type: none"> Discuss the governance of the sampling campaign and process to ensure the quality and representativity of samples and data, such as sample recovery, high grading, selective losses or contamination, internal and external QA/QC, and any other factors that may have resulted in or identified sample bias;
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8.5 Geophysical Surveys

<p>If no geophysical surveys (including satellite, airborne, ground, or drillhole based methods) have been completed, provide a statement to confirm this and, if appropriate, explain why none have been carried out;</p> <p>Otherwise, for each of the geophysical techniques identified in sections 7.3.1 to 7.3.5 (inclusive), list the available relevant standards, protocols, standard operating procedures (SOP), technical reports, published refereed or other academic papers, information in the public domain, and other available sources relevant to data acquisition and processing, interpretations and conclusions derived from the geophysical survey data, and to which the reader can be referred;</p> <p>Provide a summary of material and pertinent data, information and conclusions derived from these sources, or for geophysical survey data collected that has not been reported previously, provide a discussion cognizant of the following:</p> <p><i>Section 3: Exploration and Drilling, Sampling Techniques and Data (Exploration) 3.1 (i) [All estimates]</i></p> <ul style="list-style-type: none"> Describe the data acquisition or exploration techniques and the nature, level of detail, and confidence in the geophysical data, the interpretation of the exploration information, and the nature and scale of planned further work; Confirm that data sets include all relevant metadata, such as unique sample number, sample mass, collection date, spatial location, etc.; <p><i>Section 3: Exploration and Drilling, Sampling Techniques and Data (Exploration) 3.1 (iii) [All estimates]</i></p> <ul style="list-style-type: none"> If geophysical data from previous operators are included, the Report must clearly identify the work conducted by, or on behalf of, the issuer, together with a reference to all magnetic data and information used from other sources; <p><i>Section 3: Exploration and Drilling, Sampling Techniques and Data (Exploration) 3.1 (iv) [All estimates]</i></p> <ul style="list-style-type: none"> Clearly distinguish between geophysical data/information from the property under discussion and that derived from surrounding properties; <p><i>Section 3: Exploration and Drilling, Sampling Techniques and Data (Exploration) 3.1 (v) [All estimates]</i></p> <ul style="list-style-type: none"> Describe the geophysical survey methods, techniques and expected accuracies of data and specify the grid system(s) used; <p><i>Section 3: Exploration and Drilling, Sampling Techniques and Data (Exploration) 3.1 (vi) [All estimates]</i></p> <ul style="list-style-type: none"> Discuss whether the data spacing and distribution are sufficient to establish the degree of continuity appropriate for any estimation procedure(s) and classifications applied; <p><i>Section 3: Exploration and Drilling, Sampling Techniques and Data (Exploration) 3.1 (vii) [All estimates]</i></p> <ul style="list-style-type: none"> Present representative models and/or maps and cross sections or other two or three-dimensional illustrations of results, showing the location of samples, accurate drillhole collar positions, down-hole surveys, exploration pits, underground workings, relevant geological data, etc.

8.5.1 Magnetic Techniques

Provide a discussion as given in section 8.5 above for aeromagnetic surveys and ground magnetometer surveys, if applicable.

8.5.2 Electromagnetic Techniques

Provide a discussion as given in section 8.5 above for magnetotelluric data, ground penetrating radar (GPR), transient/time-domain electromagnetics and surface nuclear magnetic resonance data (also known as magnetic resonance sounding), if applicable.

8.5.3 Gravity Techniques

Provide a discussion as given in section 8.5 above for gravimetry and gravity gradiometry data, if applicable.

8.5.4 Electrical Techniques

Provide a discussion as given in section 8.5 above for electrical resistivity tomography, induced polarization, spontaneous potential and marine control source electromagnetic (mCSEM) or EM seabed logging data, if applicable.

8.5.5 Seismic Techniques

Provide a discussion as given in section 8.5 above for reflection seismology, seismic refraction, and seismic tomography data, if applicable.

8.6 Remote Sensing & Hyperspectral Imaging Surveys

If no remote sensing and hyperspectral studies have been undertaken, provide a statement to confirm this and, if appropriate, explain why none has been carried out;

Otherwise, list the available relevant standards, protocols, standard operating procedures (SOP), technical reports, published refereed or other academic papers, information in the public domain, and other available sources relevant to data acquisition and processing, interpretations and conclusions derived from the remote sensing and hyperspectral data, and to which the reader can be referred;

Provide a summary of material and pertinent data, information and conclusions derived from these sources, or for remote sensing and hyperspectral data collected that has not been reported previously, provide a discussion cognizant of the following:

Section 3: Exploration and Drilling, Sampling Techniques and Data (Exploration) 3.1 (i) [All estimates]

- Describe the data acquisition or exploration techniques and the nature, level of detail, and confidence in the remote sensing and hyperspectral data, the interpretation of the exploration information, and the nature and scale of planned further work;
- Confirm that data sets include all relevant metadata, such as unique sample number, sample mass, collection date, spatial location, etc.;

Section 3: Exploration and Drilling, Sampling Techniques and Data (Exploration) 3.1 (iii) [All estimates]

- If remote sensing and hyperspectral data from previous operators are included, the Report must clearly identify the work conducted by, or on behalf of, the issuer, together with a reference to all data and information used from other sources;

Section 3: Exploration and Drilling, Sampling Techniques and Data (Exploration) 3.1 (iv) [All estimates]

- Clearly distinguish between data/information from the property under discussion and that derived from surrounding properties;

Section 3: Exploration and Drilling, Sampling Techniques and Data (Exploration) 3.1 (v) [All estimates]

- Describe the survey methods, techniques and expected accuracies of data, and specify the grid system(s) used;

Section 3: Exploration and Drilling, Sampling Techniques and Data (Exploration) 3.1 (vii) [All estimates]

- Present representative models and/or maps and cross sections or other two or three-dimensional illustrations of results, showing the location of samples, accurate drillhole collar positions, down-

hole surveys, exploration pits, underground workings, relevant geological data, etc.

8.7 Structural Studies

If no structural studies have been undertaken, provide a statement to confirm this and if appropriate, explain why none has been completed;

Otherwise, list the available relevant standards, protocols, standard operating procedures (SOP), technical reports, published refereed or other academic papers, information in the public domain, and other available sources relevant to data acquisition and processing, interpretations and conclusions derived from the structural data, and to which the reader can be referred;

Provide a summary of material and pertinent data, information and conclusions derived from these sources, or for structural data collected that has not been reported previously, provide a discussion cognizant of the following:

Section 3: Exploration and Drilling, Sampling Techniques and Data (Exploration) 3.1 (i) [All estimates]

- Describe the data acquisition or exploration techniques and the nature, level of detail, and confidence in the structural data, the interpretation of the exploration information, and the nature and scale of planned further work;
- Confirm that data sets include all relevant metadata, such as unique sample number, sample mass, collection date, spatial location, etc.;

Section 3: Exploration and Drilling, Sampling Techniques and Data (Exploration) 3.1 (iii) [All estimates]

- If structural data from previous operators are included, the Report must clearly identify the work conducted by, or on behalf of, the issuer, together with a reference to all data and information used from other sources;

Section 3: Exploration and Drilling, Sampling Techniques and Data (Exploration) 3.1 (iv) [All estimates]

- Clearly distinguish between data/information from the property under discussion and that derived from surrounding properties;

Section 3: Exploration and Drilling, Sampling Techniques and Data (Exploration) 3.1 (v) [All estimates]

- Describe the survey methods, techniques and expected accuracies of data, and specify the grid system(s) used;

Section 3: Exploration and Drilling, Sampling Techniques and Data (Exploration) 3.1 (vi) [All estimates]

- Discuss whether the data spacing and distribution are sufficient to establish the degree of continuity appropriate for the estimation procedure(s) and classifications applied;

Section 3: Exploration and Drilling, Sampling Techniques and Data (Exploration) 3.1 (vii) [All estimates]

- Present representative models and/or maps and cross sections or other two or three-dimensional illustrations of results, showing the location of samples, accurate drillhole collar positions, down-hole surveys, exploration pits, underground workings, relevant geological data, etc.

8.8 Mineralogy & Petrology

If no mineralogical studies have been undertaken, provide a statement to confirm this and if appropriate, explain why none has been completed;

Otherwise, list the available relevant standards, protocols, standard operating procedures (SOP), technical reports, published refereed or other academic papers, information in the public domain, and other available sources relevant to data acquisition and processing, interpretations and conclusions derived from the mineralogical data, and to which the reader can be referred;

Provide a summary of material and pertinent data, information and conclusions derived from these sources, or for mineralogical data collected that has not been reported previously, provide a discussion cognizant of the following:

Section 3: Exploration and Drilling, Sampling Techniques and Data (Exploration) 3.1 (i) [All estimates]

- Describe the data acquisition or exploration techniques and the nature, level of detail, and confidence in the mineralogical data, the interpretation of the exploration information, and the nature and scale of planned further work;
- Confirm that data sets include all relevant metadata, such as unique sample number, sample mass, collection date, spatial location, etc.;

Section 3: Exploration and Drilling, Sampling Techniques and Data (Exploration) 3.1 (iii) [All estimates]

- If mineralogical data from previous operators are included, the Report must clearly identify the work

conducted by, or on behalf of, the issuer, together with a reference to all geological data and information used from other sources;

Section 3: Exploration and Drilling, Sampling Techniques and Data (Exploration) 3.1 (iv) [All estimates]

- Clearly distinguish between data/information from the property under discussion and that derived from surrounding properties;

Section 3: Exploration and Drilling, Sampling Techniques and Data (Exploration) 3.1 (v) [All estimates]

- Describe the survey methods, techniques and expected accuracies of sample data;

Section 3: Exploration and Drilling, Sampling Techniques and Data (Exploration) 3.1 (vi) [All estimates]

- Discuss whether the sample spacing and distribution are sufficient to establish the degree of continuity appropriate for the estimation procedure(s) and classifications applied;

Section 3: Exploration and Drilling, Sampling Techniques and Data (Exploration) 3.1 (vii) [All estimates]

- Present representative models and/or maps and cross sections or other two or three-dimensional illustrations of results, showing the location of samples, accurate drillhole collar positions, down-hole surveys, exploration pits, underground workings, relevant geological data, etc.

8.9 Geotechnical & Rock Mass Characteristics

If no geotechnical and rock characteristics studies (including but not limited to sampling testing for rock mass characterisation (e.g. UCS), product characterisation (Los Angeles Abrasion test), mineralogical characterisation (QEM scan, petrology, etc.)) have been undertaken, provide a statement to confirm this and if appropriate, explain why none has been completed;

Otherwise, list the available relevant standards, protocols, standard operating procedures (SOP), technical reports, published refereed or other academic papers, information in the public domain, and other available sources relevant to data acquisition and processing, interpretations and conclusions derived from the geotechnical and rock characteristics data, and to which the reader can be referred;

Provide a summary of material and pertinent data, information and conclusions derived from these sources, or for geotechnical and rock characteristics data collected that has not been reported previously, provide a discussion cognizant of the following:

Section 3: Exploration and Drilling, Sampling Techniques and Data (Exploration) 3.1 (i) [All estimates]

- Describe the data acquisition or exploration techniques and the nature, level of detail, and confidence in the geotechnical and rock characteristic data, the interpretation of the exploration information, and the nature and scale of planned further work;
- Confirm that data sets include all relevant metadata, such as unique sample number, sample mass, collection date, spatial location, etc.;

Section 3: Exploration and Drilling, Sampling Techniques and Data (Exploration) 3.1 (iii) [All estimates]

- If geotechnical and rock characteristic data from previous operators are included, the Report must clearly identify the work conducted by, or on behalf of, the issuer, together with reference to all data and information used from other sources;

Section 3: Exploration and Drilling, Sampling Techniques and Data (Exploration) 3.1 (iv) [All estimates]

- Clearly distinguish between data/information from the property under discussion and that derived from surrounding properties;

Section 3: Exploration and Drilling, Sampling Techniques and Data (Exploration) 3.1 (v) [All estimates]

- Describe the survey methods, techniques and expected accuracies of data;

Section 3: Exploration and Drilling, Sampling Techniques and Data (Exploration) 3.1 (vi) [All estimates]

- Discuss whether the data spacing and distribution are sufficient to establish the degree of continuity appropriate for the estimation procedure(s) and classifications applied;

Section 3: Exploration and Drilling, Sampling Techniques and Data (Exploration) 3.1 (vii) [All estimates]

- Present representative models and/or maps and cross sections or other two or three-dimensional illustrations of results, showing the location of samples, accurate drillhole collar positions, down-hole surveys, exploration pits, underground workings, relevant geological data, etc.

9. SAMPLING TO SUPPORT MINERAL RESOURCE ESTIMATION

9.1 Sampling Campaigns

If no sampling campaigns have been completed, provide a statement to confirm this and if appropriate, explain why none has been completed;

Otherwise, list the available relevant standards, protocols, standard operating procedures (SOP), technical reports, published refereed or other academic papers, information in the public domain, and other available sources relevant to data acquisition and processing, interpretations and conclusions derived from the sampling campaign data, and to which the reader can be referred;

Provide a summary of the different types of sampling undertaken on the property, including but not limited to, vertical and inclined percussion drilling and core drilling, specialised geotechnical drilling, piezometer holes, underground exploration drilling, channel samples, directional long hole drilling from surface or underground, and channel sampling, trenching, rock chip sampling (in trenches or underground channel sampling);

Provide a summary of material and pertinent data, information and conclusions derived from these sources, or for sampling campaign data collected that has not been reported previously, provide a discussion cognizant of the following:

Section 3: Exploration and Drilling, Sampling Techniques and Data (Drilling Techniques) 3.2 (i) [All estimates]

- Provide a summary of all sampling campaigns, including the type of drilling undertaken (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, 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.);

Section 3: Exploration and Drilling, Sampling Techniques and Data (Exploration) 3.1 (iii) [All estimates]

- If sampling results from previous contractors are included, the Report must clearly identify the work conducted by, or on behalf of, the issuer, together with a reference to all data and information used from other sources.

In addition:

In the case of some commodities, it may be important to obtain sample mineral products at an early stage to assess their value (**Diamonds and other Gemstones, Dimension Stone, Ornamental and Decorative Stone**) or suitability for particular end uses (**Industrial Minerals, Cement Feed Materials and Construction Raw Materials**, etc.)

9.2 Sampling Location & Density

9.2.1 Sample Location & Sample Density

Section 3: Exploration and Drilling, Sampling Techniques and Data (Exploration) 3.1 (i) [All estimates]

- Confirm that data sets include all relevant metadata, such as unique sample number, sample mass, collection date, spatial location, etc.;
- Provide a summary of all information material to the understanding of the sampling results, including a tabulation of the following information for all material drillholes - easting and northing of the drillhole collar; elevation or reduced level (RL) of the drillhole collar; dip and azimuth of the hole; down hole length and interception depth; hole length;

Section 3: Exploration and Drilling, Sampling Techniques and Data (Exploration) 3.1 (v) [All estimates]

- Describe the collar survey methods, techniques and expected accuracies of data, and specify the grid system used;
- Describe local datum and permanent beacons used for survey control;
- Describe the height and coordinate systems used (by date/number of holes, if the system has changed over time), methods used to position and survey the location of the samples, the accuracy of the survey, methods used to validate survey data;
- If sampling campaign data has been obtained over a period of time in which coordinate systems have changed, then include a table showing relative shifts (x, y, z) between the respective systems, and comment on impacts and mitigation measures if data includes mixed coordinate systems;
- Describe modifications to original topography (mining, dumps, dams, etc.) and impact on drillhole positioning;

Section 3: Exploration and Drilling, Sampling Techniques and Data (Exploration) 3.1 (vii) [All estimates]

- Present representative models and/or maps and cross sections or other two or three-dimensional illustrations of results, showing the location of samples, accurate drillhole collar positions, down-hole surveys, exploration pits, underground workings, relevant geological data, etc.

9.2.2 Orientation to Mineralisation Geometry**Section 3: Exploration and Drilling, Sampling Techniques and Data (Exploration) 3.1 (viii) [All estimates]**

- Report the relationships between mineralisation widths and intercept lengths and the geometry of the mineralisation with respect to the drillhole angle. If it is not known and only the down-hole lengths are reported, confirm with a clear statement to this effect (e.g. 'down-hole length, true width not known');
- State if the relationship between the sampling or drillhole orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, and explain how this should be assessed and reported if material;

Section 3: Exploration and Drilling, Sampling Techniques and Data (Sample method, collection, capture and storage) 3.3 (iv) [All estimates]

- Where possible, maps, plans, sections (with scales), and tabulations of intercepts should be included for any material discovery being reported in order to increase the clarity of the Report.

9.3 Sample Recovery

If no sample recovery protocols have been implemented, or are not applicable, provide a statement to confirm this, and if appropriate, explain why;

Otherwise, list the available relevant standards, protocols, standard operating procedures (SOP), technical reports, published refereed or other academic papers, information in the public domain, and other available sources relevant to data acquisition and processing, interpretations and conclusions derived from the sample recovery data, and to which the reader can be referred;

Provide a summary of material and pertinent data, information and conclusions derived from these sources, or for sample recovery data collected that has not been reported previously, provide a discussion cognizant of the following:

Section 3: Exploration and Drilling, Sampling Techniques and Data (Sample method, collection, capture and storage) 3.3 (vii) [All estimates]

- If a drill-core sample was taken, state whether it was split or sawn and whether quarter, half or entire core was submitted for analysis;
- If a non-core sample was taken, state whether the sample was riffled, tube sampled, rotary split, etc. and whether it was sampled wet or dry, the impact of the water table or flow rates on recovery and introduction of sampling biases or contamination from above;
- Describe the impact of variable hole diameters, e.g., by the use of a calliper tool;

Section 3: Exploration and Drilling, Sampling Techniques and Data (Sample method, collection, capture and storage) 3.3 (viii) [All estimates]

- Describe whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss or gain of fine or coarse material;
- State the method used to determine the core recovery, whether Total Core Recovery (TCR), Solid Core Recovery (SCR) or Rock Quality Designation (RQD);
- Describe the method of recording and assessing core and chip sample recoveries and how the results were assessed, together with the measures taken to maximise sample recovery and ensure the representative nature of the samples.

9.4 Geological & Geophysical Logging

If no geological logging and/or geophysical logging has been completed, provide a statement to confirm this and if appropriate, explain why none has been undertaken;

Otherwise, list the available relevant standards, protocols, standard operating procedures (SOP), technical reports, published refereed or other academic papers, information in the public domain, and other available

sources relevant to data acquisition and processing, interpretations and conclusions derived from the geological logging and/or geophysical logging data, and to which the reader can be referred;

Provide a summary of material and pertinent data, information and conclusions derived from these sources, or for geological logging and/or geophysical logging data collected that has not been reported previously, provide a discussion cognizant of the following:

Section 3: Exploration and Drilling, Sampling Techniques and Data (Exploration) 3.1 (v) [All estimates]

- Describe the various downhole geological and geophysical logging strategies employed;
- Summarise the down-hole geophysical logging data incorporated into the database and geological model for the project by date, contractor and tool employed;
- Prepare a plan showing drillholes with/without down-hole geophysics;

Section 3: Exploration and Drilling, Sampling Techniques and Data (Drilling Techniques) 3.2 (ii) [All estimates]

- Describe whether core and chip samples have been logged geologically and geotechnically to a level of detail sufficient to support Mineral Resource estimation;

Section 3: Exploration and Drilling, Sampling Techniques and Data (Drilling Techniques) 3.2 (iii) [All estimates]

- Describe whether logging is qualitative or quantitative in nature; indicate if core photography was undertaken;
- Summarise qualitative uses made of down-hole geophysics (e.g. seam correlations, identification of specific lithologies, fault detection, etc.);
- Summarise quantitative uses made of down-hole geophysics (e.g. depth correction, drillhole survey, sonic derived UCS, LogTrans interpretations, dip-meter, joint/bedding/defect analysis from SAS, grade or quality estimates derived from e-logs);

Section 3: Exploration and Drilling, Sampling Techniques and Data (Drilling Techniques) 3.2 (iv) [All estimates]

- Present the total length and percentage of the relevant intersections logged;

Section 3: Exploration and Drilling, Sampling Techniques and Data (Drilling Techniques) 3.2 (v) [All estimates]

- Discuss the results of any downhole surveys of the drillholes;
- Discuss drillhole deviation where applicable, and provide details of deviation measurement(s).

For **Construction Raw Materials, Aggregates and Dimension Stone, Ornamental and Decorative Stone**, sampling and logging must be addressed to identify and localise the quality characteristics of the target materials in terms of:

- Colour, texture, grain, presence of defects and their distribution (for Dimension Stone)
- Grade of alteration and fracturing (in large sample or small test block) (for Dimension Stone)
- Physico-mechanical and morphological characteristics (mainly for Aggregates and less for Dimension Stone) and fracturing state (joint and weathering/alteration analysis).

10. SAMPLE PREPARATION, ANALYSES AND SECURITY

10.1 Sampling Strategy

10.1.1 General

If no sampling strategy has been defined, provide a statement to confirm this, and if appropriate, explain why none has been outlined;

Otherwise, list the available relevant standards, protocols, standard operating procedures (SOP), technical reports, published refereed or other academic papers, information in the public domain, and other available sources relevant to data acquisition and processing, interpretations and conclusions derived from the sampling strategy, and to which the reader can be referred;

Provide a summary of material and pertinent data, information and conclusions derived from these sources, or for a sampling strategy employed that has not been reported previously, provide a discussion cognizant of the following:

Section 3: Exploration and Drilling, Sampling Techniques and Data (Sample method, collection, capture and storage) 3.3 (i) [All estimates]

- Describe the nature and quality of sampling (e.g. drillhole samples, trenching, auger, cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down-hole gamma sondes, or handheld XRF instruments, etc.). These examples should not be taken as limiting the broad meaning of sampling;
- Describe minimum and maximum sample thickness rules, including geological controls, a description of rock types, widths of mineralised zones and other parameters used to establish the sampling interval and identification of any significantly higher grade intervals within a lower grade intersection;

Section 3: Exploration and Drilling, Sampling Techniques and Data (Sample method, collection, capture and storage) 3.3 (ii) [All estimates]

- Describe the sampling processes, including sub-sampling stages, to maximize the representativeness of samples. This description should include whether sample sizes are appropriate to the grain size of the material being sampled. Indicate whether sample compositing has been applied;
- Include a discussion of the sample quality, reference to measures taken to ensure sample representativeness and the appropriate calibration of any measurement tools or systems used, and any factors that may have resulted in sample biases;

Section 3: Exploration and Drilling, Sampling Techniques and Data (Sample method, collection, capture and storage) 3.3 (iii) [All estimates]

- Appropriately describe each data set (e.g. geology, grade, relative density, quality, diamond breakage, geo-metallurgical characteristics, etc.), sample type, sample-size selection and collection methods;
- Describe the sampling protocol to identify and sample material for relative density determination and whether the strategy is based on the whole sample or on selected subsamples;
- Describe the requirements for collecting samples for the testing for rock mass characterisation (e.g. UCS), product characterisation (Los Angeles Abrasion test), and mineralogical characterisation (QEM scan, petrology, etc.) where the results are used to obtain input criteria for Mineral Resource and Mineral Reserve estimation, and the timing of the sampling campaigns.

For Coal:

PERC Appendix 2: Reporting of Coal Exploration Results, Coal resources and Coal Reserves: A2-7:

- Reference to specific Coal products and properties must not be made until analytical results have demonstrated the specific properties for samples from the Coal deposit.

For Dimension Stone, Ornamental and Decorative Stone:

- Describe large surface sampling of fresh rock under the weathering band and whether small trenching/facing/pit tests to collect small test blocks (generally carried out by jackhammer and compressor) have been utilised in exploration or evaluation projects;
- State whether part of the sampling has been through test block collection by opening small fronts (2m x 2m x 4m and more) with jackhammers and compressors. Indicate whether test blocks were utilised to check the actual situation of the rock mass on a much larger volume than the small

hand specimens and if the test blocks were used in a preliminary market test to verify the actual market potential of the target material;

- Confirm that samples were representative of a certain volume/area of the rock mass and of minimum volume to allow the preparation of sample tiles of at least 20x20x2cm for further polishing and market tests.

For **Oil Shales, and Other Energy Minerals extracted by Mining Methods**, where the hydrocarbons are extracted by the processing of mined rock, the following must be considered:

Appendix 6: Reporting of Exploration Results, Mineral Resources and Mineral Reserves for Oil Shales, and Other Energy Minerals extracted by Mining Methods: A6-5 [All estimates]:

- Chemical analyses may not always be relevant, and other quality and performance characteristics may be more applicable and acceptable. Some deposits of such Minerals may be capable of yielding products suitable for more than one application and/or specification. Such multiple products should be quantified either separately or as a percentage of the bulk Mineral deposit.

10.1.2 Data Location & Spacing

Section 3: Exploration and Drilling, Sampling Techniques and Data (Exploration) 3.1 (vii) [All estimates]

- Present representative models and/or maps and cross sections or other two or three-dimensional illustrations of results, showing the location of samples, accurate drillhole collar positions, down-hole surveys, exploration pits, underground workings, relevant geological data, etc.;
- State the type of sampling and the location of the results being reported. Types of sampling include, but are not limited to, stream sediment, soil and heavy mineral concentrate samples, trenching and pitting, rock chip and channel sampling, drilling (open-hole or core), auger, etc. Examples of locations include old workings, mine dumps, etc. Wherever possible, the spacing of such samples should be stated, and locations shown on coordinated maps, plans and sections at suitable scales;
- State whether sample compositing has been applied.

10.1.3 Sampling Quality Control & Quality Assurance

If no sampling quality control and/or quality assurance has been completed, provide a statement to confirm this and if appropriate, explain why none has been undertaken;

Otherwise, list the available relevant standards, protocols, standard operating procedures (SOP), technical reports, published refereed or other academic papers, information in the public domain, and other available sources relevant to data acquisition and processing, interpretations and conclusions derived from the sampling quality control and/or quality assurance data, and to which the reader can be referred;

Provide a summary of material and pertinent data, information and conclusions derived from these sources, or for sampling quality control and/or quality assurance data collected that has not been reported previously, provide a discussion cognizant of the following:

Section 3: Exploration and Drilling, Sampling Techniques and Data (Quality Control/Quality Assurance) 3.6 (i) [All estimates]

- The Competent Person must demonstrate that adequate field sampling process verification techniques (QA/QC) have been applied, e.g. the level of duplicates, blanks, reference material standards, process audits, analysis, etc.;
- If indirect methods of measurement were used (e.g. geophysical methods), these should be described, with attention given to the confidence of the interpretation, and correlation with analytical samples;
- Refer to measures taken to ensure sample representativity and the appropriate calibration of any measurement tools or systems used;
- State whether QA/QC procedures used to check databases augmented with 'new' data have resulted in corruption of previous versions containing stored 'old' data, and how this was fixed or data discarded.

10.2 Sampling Governance

Sampling Governance is the process or procedure used to ensure that the original integrity of samples is maintained throughout a defined chain of custody, and are not compromised in any manner or form whatsoever during collection, sub-sampling, temporary storage, permanent archiving, preparation and packing, and transportation between localities or forwarding to analytical facilities.

If no sampling governance has been defined, provide a statement to confirm this, and if appropriate, explain why none has been outlined;

Otherwise, list the available relevant standards, protocols, standard operating procedures (SOP), technical reports, published refereed or other academic papers, information in the public domain, and other available sources relevant to data acquisition and processing, interpretations and conclusions derived from the sampling governance data, and to which the reader can be referred;

Provide a summary of material and pertinent data, information and conclusions derived from these sources, or for sampling governance data collected that has not been reported previously, provide a discussion cognizant of the following:

Section 3: Exploration and Drilling, Sampling Techniques and Data (Sample method, collection, capture and storage) 3.3 (v) [All estimates]

- Describe the retention policy and storage of physical samples (e.g. core, sample reject, etc.);

Section 3: Exploration and Drilling, Sampling Techniques and Data (Sample method, collection, capture and storage) 3.3 (vi) [All estimates]

- Describe the method of recording and assessing core and chip sample recoveries and results assessed, measures taken to maximise sample recovery and ensure the 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;

Section 3: Exploration and Drilling, Sampling Techniques and Data (Sampling Governance) 3.5 (i) [All estimates]

- Discuss the governance of the sampling campaign and process to ensure the quality and representativeness of samples and data, such as sample recovery, high grading, selective losses or contamination / dilution, core/hole diameter, internal and external QA/QC, and any other factors that may have resulted in or identified sample bias;

Section 3: Exploration and Drilling, Sampling Techniques and Data (Sampling Governance) 3.5 (ii) [All estimates]

- Describe the measures taken to ensure sample security and the Chain of Custody;
- Provide a summary of the nature and extent of all quality control measures employed and check assay and other check analytical and testing procedures utilized, including the results and corrective actions taken;
- Describe the sampling governance audit process and frequency (including dates of these audits and the name of the auditor) and disclose any material risks identified.

10.3 Laboratory Credentials & Controls

Section 3: Exploration and Drilling, Sampling Techniques and Data (Sample Preparation and Analysis) 3.4 (i) [All estimates]

- Identify the laboratory(s) and state the accreditation status and Registration Number of the laboratory(s) or provide a statement that the laboratories are not accredited;
- Record the steps taken by the Competent Person(s) to ensure the results from a non-accredited laboratory are of an acceptable quality;

Section 3: Exploration and Drilling, Sampling Techniques and Data (Sampling Governance) 3.5 (iv) [All estimates]

- Describe the laboratory audit process and frequency (including dates of these audits and name of auditor) and disclose any material risks identified;

Section 3: Exploration and Drilling, Sampling Techniques and Data (Quality Control/Quality Assurance) 3.6 (ii) [All estimates]

- Document the use of any independent check laboratory (umpire check samples). Identify the independent laboratory and provide details of its accreditation;
- Describe the relationship, if any, between the laboratory(s) and the issuer of the Mineral Project Evaluation Report.

10.4 Analytical Strategy

If no analytical strategy has been defined, provide a statement to confirm this, and if appropriate, explain why none has been outlined;

Otherwise, list the available relevant standards, protocols, standard operating procedures (SOP), technical reports, published refereed or other academic papers, information in the public domain, and other available sources relevant to data acquisition and processing, interpretations and conclusions derived from the analytical strategy, and to which the reader can be referred;

Provide a summary of material and pertinent data, information and conclusions derived from these sources, or for an analytical strategy employed that has not been reported previously, provide a discussion cognizant of the following:

Section 3: Exploration and Drilling, Sampling Techniques and Data (Sample Preparation and Analysis) 3.4 (ii) [All estimates]

- Identify the analytical method or methods used for each element determined;
- Discuss the nature, quality and appropriateness of the assaying and laboratory processes and procedures used and whether the technique is considered partial or total for each element determined;
- Summarise analytical strategies, particularly if they have changed over time, covering both sample pre-treatment and analyses schedules;
- State whether analyses of samples within the dataset used to support any Mineral Resource estimate have been replicated independently in other laboratories.

10.5 Analytical Standards

- For geochemical analyses, state the nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established;
- For geophysical tools, spectrometers, handheld XRF instruments, etc., state the parameters used in determining the analysis, including instrument make and model, reading times, calibrations factors applied and their derivation, etc.;
- Describe the analytical procedures to determine the relative density.

10.6 Sample Preparation

If no sample preparation techniques have been undertaken, provide a statement to confirm this and if appropriate, explain why none has been completed;

Otherwise, list the available relevant standards, protocols, standard operating procedures (SOP), technical reports, published refereed or other academic papers, information in the public domain, and other available sources relevant to data acquisition and processing, interpretations and conclusions derived from the sample preparation techniques, and to which the reader can be referred;

Provide a summary of material and pertinent data, information and conclusions derived from these sources, or for sample preparation techniques not reported previously, provide a discussion cognizant of the following:

Section 3: Exploration and Drilling, Sampling Techniques and Data (Sample Preparation and Analysis) 3.4 (iii) [All estimates]

- Describe the process and method used for sample preparation, sub-sampling and size reduction, and the likelihood of inadequate or non-representative samples (i.e. loss of moisture in core samples, improper size reduction, contamination, screen sizes, granulometry, mass balance, etc.);
- Describe sample preparation methods and quality control measures employed before dispatch of samples to an analytical or testing laboratory, the method or process of sample splitting and reduction, and the security measures taken to ensure the validity and integrity of samples taken, including:
 - (a) a statement whether any aspect of the sample preparation was conducted by an employee, officer, director or associate of the issuer;
 - (b) details regarding sample preparation, assaying and analytical procedures used; the name and

location of the analytical or testing laboratories and whether the laboratories are certified by any standards association and the particulars of any certification;

(c) a statement of the Competent Person(s) opinion on the adequacy of sample preparation, security and analytical procedures;

- If core sample, state whether split or sawn and whether quarter, half or all core taken;
- If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry;

For **Construction Raw Materials** and **Dimension Stone, Ornamental and Decorative Stone**, description(s) of the sample preparation must include the preparation of test sample tiles for different laboratory and processing tests such as gloss test, polishing attitude, etc.).

10.7 Size Analysis

If no size analysis has been undertaken, provide a statement to confirm this, and if appropriate, explain why none has been completed;

Otherwise, list the available relevant standards, protocols, standard operating procedures (SOP), technical reports, published refereed or other academic papers, information in the public domain, and other available sources relevant to data acquisition and processing, interpretations and conclusions derived from the size analysis, and to which the reader can be referred;

Provide a summary of material and pertinent data, information and conclusions derived from these sources, or for size analysis that has not been reported previously, provide a discussion cognizant of the following:

Section 3: Exploration and Drilling, Sampling Techniques and Data (Sample method, collection, capture and storage) 3.3 (ii) [All estimates]

- Describe the sampling processes, including sub-sampling stages, to maximize the representativeness of samples. This description should include whether sample sizes are appropriate to the grain size of the material being sampled. Indicate whether sample compositing has been applied;

Section 3: Exploration and Drilling, Sampling Techniques and Data (Sample Preparation & Analysis) 3.4 (iii) [All Estimates]

- Describe how sizing data were obtained and used;
- Outline any size adjustments (i.e. additional crushing or screening) on the sample undertaken (historical and current) and the reasons;
- If size analysis has changed over time or varies between sample types (e.g., slim core vs. large diameter core), summarise the differences, potential biases, and the reasons.

10.8 Relative Density

If no relative density analysis has been undertaken, provide a statement to confirm this and if appropriate, explain why none has been completed;

Otherwise, list the available relevant standards, protocols, standard operating procedures (SOP), technical reports, published refereed or other academic papers, information in the public domain, and other available sources relevant to data acquisition and processing, interpretations and conclusions derived from the relative density data, and to which the reader can be referred;

Provide a summary of material and pertinent data, information and conclusions derived from these sources, or for relative density data collected that has not been reported previously, provide a discussion cognizant of the following:

Section 3: Exploration and Drilling, Sampling Techniques and Data (Bulk Density) 3.7 (i) [All estimates]

- Provide a clear statement describing whether the relative density has been assumed or if it has been determined;
- If the relative density has been assumed, state the basis for the assumptions;
- If the relative density has been determined, describe the methodology used, whether wet or dry, the frequency of the measurements, and the nature, size and representativeness of the sample types and individual samples;

Section 3: Exploration and Drilling, Sampling Techniques and Data (Bulk Density) 3.7 (iii) [All estimates]

- Discuss the representativity of relative density samples of the mineralised material for which a grade range is reported;

Section 3: Exploration and Drilling, Sampling Techniques and Data (Bulk Density) 3.7 (iv) [All estimates]

- Discuss the adequacy of the methods of relative density determination for bulk material with particular reference to accounting and weighting for void spaces (vugs, porosity, etc.), moisture, and differences between rock and alteration zones within the Mineral Deposit.

10.9 Bulk Density

If no bulk density analysis has been undertaken, provide a statement to confirm this and if appropriate, explain why none has been completed;

Otherwise, list the available relevant standards, protocols, standard operating procedures (SOP), technical reports, published refereed or other academic papers, information in the public domain, and other available sources relevant to data acquisition and processing, interpretations and conclusions derived from the bulk density data, and to which the reader can be referred;

Provide a summary of material and pertinent data, information and conclusions derived from these sources, or for bulk density data collected that has not been reported previously, provide a discussion cognizant of the following:

Section 3: Exploration and Drilling, Sampling Techniques and Data (Bulk Density) 3.7 (i) [All estimates]

- Provide a clear statement describing whether the bulk density has been assumed or if it has been determined;
- If the bulk density has been assumed, state the basis for the assumptions;
- If the bulk density has been determined, describe the methodology used, whether wet or dry, the frequency of the measurements, and the nature, size and representativeness of the samples;

Section 3: Exploration and Drilling, Sampling Techniques and Data (Bulk Density) 3.7 (iii) [All estimates]

- Discuss the representativity of bulk density samples of the mineralised material for which a grade range is reported;

Section 3: Exploration and Drilling, Sampling Techniques and Data (Bulk Density) 3.7 (iv) [All estimates]

- Discuss the adequacy of the methods of bulk density determination for bulk material with special reference to accounting and weighting for void spaces (vugs, porosity, etc.), moisture, and differences between rock and alteration zones within the Mineral Deposit.

10.10 Sampling & Valuation for Diamonds and Other Gemstones

For reporting for **Diamonds and Other Gemstones**, if no sampling for mineralogical characterisation and product valuation has been carried out, provide a statement to confirm this and, if applicable, explain why no test work has been carried out;

Otherwise, list the available relevant standards, protocols, standard operating procedures (SOP), technical reports, published refereed or other academic papers, information in the public domain, and other available sources relevant to data acquisition and processing, interpretations and conclusions derived from the sampling for mineralogical characterisation and product valuation data, and to which the reader can be referred;

Provide a summary of material and pertinent data, information and conclusions derived from these sources, or for sampling for mineralogical characterisation and product valuation data collected that has not been reported previously, provide a discussion cognizant of the following:

- Sampling and Valuation for Diamonds and Other Gemstones should be discussed in terms of the assessment criteria given in Sections 10.1 to 10.9 above where appropriate, that is, including but not limited to Sampling Strategy, Sampling Governance, Laboratory Credentials and Controls, Analytical Strategy, Analytical Standards, Sample Preparation, Size Analysis, Relative Density, and Bulk Density;

PERC Appendix 3: Reporting of Diamonds and Other Gemstones: A3-4 [All estimates]

- Public Reports of Diamonds or Other Gemstones recovered from sampling programmes must provide material information relating to the basis on which the sample is taken, the recovery method, and the recovery percentage of the Diamonds or Other Gemstones;

PERC Appendix 3: Reporting of Diamonds and Other Gemstones: A3-5 [All estimates]

- The weight of Diamonds or Other Gemstones recovered may only be omitted from the Public Report when the Diamonds or Other Gemstones are considered too small to be of commercial significance. If the weight is omitted, this lower cut-off size must be stated.

PERC Appendix 3: Reporting of Diamonds and Other Gemstones: A3-6 [Mineral Resources & Mineral Reserves]

- Where Diamond Resource or Diamond Reserve grades (in carats per tonne) are based on correlations between the frequency of occurrence of micro-Diamonds 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-Diamonds reported.

PERC Appendix 3: Reporting of Diamonds and Other Gemstones: A3-7 [All estimates]

- 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.

PERC Appendix 3: Reporting of Diamonds and Other Gemstones: A3-8 [All estimates]

- For Public Reports dealing with Diamond or other Gemstone mineralisation, any reported valuation of a parcel of Diamonds or other Gemstones must be accompanied by a statement verifying the independence of the valuation.

PERC Appendix 3: Reporting of Diamonds and Other Gemstones: A3-9 [All estimates]

- The Diamond or other Gemstone valuation must be based on documentation from a demonstrably reputable and qualified expert.

PERC Appendix 3: Reporting of Diamonds and Other Gemstones: A3-10 [All estimates]

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

PERC Appendix 3: Reporting of Diamonds and Other Gemstones: A3-11 [Mineral Resources & Mineral Reserves]

- Where the valuation is used in the estimation of Diamond Resources or Diamond Reserves, the valuation must be based on a parcel representative of the size, shape, and colour distributions of the Diamond population in the deposit.

PERC Appendix 3: Reporting of Diamonds and Other Gemstones: A3-12 [All estimates]

- Diamond valuations must not be reported for samples of Diamonds processed using total liberation methods.

10.11 Sampling for Industrial Minerals, Cement Feed Materials and Construction Raw Materials of all forms

For reporting **Industrial Minerals, Cement Feed Materials and Construction Raw Materials** of all forms, if no product specifications and market acceptance studies have been carried out, provide a statement to confirm this and, if applicable, explain why no test work has been carried out;

Otherwise, list the available relevant standards, protocols, standard operating procedures (SOP), technical reports, published refereed or other academic papers, information in the public domain, and other available sources relevant to data acquisition and processing, interpretations and conclusions derived from the product specifications and market acceptance data, and to which the reader can be referred;

Provide a summary of material and pertinent data, information and conclusions derived from these sources, or for product specifications and market acceptance data that has not been reported previously, provide a discussion cognizant of the following:

- Application testing and / or final product testing for Industrial Minerals, Cement Feed Materials and Construction Raw Materials should be discussed in terms of the assessment criteria given in Sections 10.1 to 10.9 above where appropriate, that is, including but not limited to Sampling Strategy, Sampling Governance, Laboratory Credentials and Controls, Analytical Strategy, Analytical Standards, Sample Preparation, Size Analysis, Relative Density, and Bulk Density;

PERC Appendix 4: Reporting of Industrial Minerals, Cement Feed Materials and Construction Raw Materials of all forms: A4-4 [All estimates]

- Chemical analyses may not always be relevant, and other quality and materials' performance characteristics may be more applicable and acceptable as the basis of the Public Reporting;

For **Industrial Minerals**, describe any chemical laboratory tests that facilitate the production of commodities such as kaolin, bentonite or feldspar that permit production with minimal testing of chemical and physical characteristics to be economically sold in the target markets.

For **Construction Raw Materials**, confirm if a portion of a secondary hard rock clastic deposit has been sampled that facilitated the production of crushed aggregate with minimal good physio-mechanical and

shape characteristics to be economically sold in the target market, indicate what evaluation tests (physio-mechanical laboratory and in-situ testing) were carried out;

For **Construction Raw Materials** and **Dimension Stone, Ornamental and Decorative Stone**, sample preparation also needs to include the preparation of test sample tiles for different laboratory and processing tests (gloss test, polishing attitude, etc.).

10.12 Sampling for Dimension Stone, Ornamental and Decorative Stone

For reporting **Dimension Stone, Ornamental and Decorative Stone**, if no technical (geological/mining) product specifications, quality, and market acceptance studies have been carried out, provide a statement to confirm this and, if applicable, explain why no test work has been carried out;

Otherwise, list the available relevant standards, protocols, standard operating procedures (SOP), technical reports, published refereed or other academic papers, information in the public domain, and other available sources relevant to data acquisition and processing, interpretations, and conclusions derived from the technical (geological/mining) product specifications, quality and market acceptance studies data, and to which the reader can be referred;

Provide a summary of material and pertinent data, information, and conclusions derived from these sources, or for technical (geological/mining) product specifications, quality, and market acceptance studies, data collected that have not been reported previously provide a discussion cognizant of the following:

- Application testing and / or final product testing for Dimension Stone, Ornamental Stone and Decorative Stone should be discussed in terms of the assessment criteria given in Sections 10.1 to 10.9 above where appropriate, that is, including but not limited to Sampling Strategy, Sampling Governance, Laboratory Credentials and Controls, Analytical Strategy, Analytical Standards, Sample Preparation, Size Analysis, Relative Density, and Bulk Density;

PERC Appendix 5: Reporting of Dimension Stone, Ornamental and Decorative Stone of all forms: A5-4 [All estimates]

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

PERC Appendix 5: Reporting of Dimension Stone, Ornamental and Decorative Stone of all forms: A5-5 [All estimates]

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

PERC Appendix 5: Reporting of Dimension Stone, Ornamental and Decorative Stone of all forms: A5-6 [All estimates]

- Qualitative and aesthetic qualities (colour, grain, texture), 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 Public Reporting;

In addition, describe the evaluation of quality and block dimension (joint analysis) with respect to the economic production of saleable blocks of different dimensions;

- Describe the surface sampling of fresh rock (by medium-large size hammer and chisel and/or by jackhammer) to facilitate preliminary surface rock quality maps used to define the initial potential of the project and to identify areas to commence drilling and future mining (where applicable);
- Describe any sample preparation that includes the preparation of test sample tiles for different laboratory and processing tests (gloss test, polishing attitude, etc.);
- Quality evaluation and estimation could be made by comparison with similar products/materials in the Market, always in coordination with the producer/quarry owner's market strategy.

11. DATA VALIDATION & MANAGEMENT

11.1 Validation

If no data validation and data management measures have been implemented, provide a statement to confirm this and, if appropriate, explain why none has been employed;

Otherwise, list the available relevant standards, protocols, standard operating procedures (SOP), technical reports, published refereed or other academic papers, information in the public domain, and other available sources relevant to data acquisition and processing, interpretations and conclusions derived from the data validation and data management measures, and to which the reader can be referred;

Provide a summary of material and pertinent data, information and conclusions derived from these sources, or for data validation and data management measures that have not been reported previously, provide a discussion cognizant of the following:

Section 3: Exploration and Drilling, Sampling Techniques and Data (Exploration) 3.1 (ii) [All estimates]

- Identify and comment on the primary data elements (observation and measurements) used for the project and describe the management and validation of these data or the database;
- Describe methods used for the validation of data;
- Describe methods used to validate/calibrate down-hole geophysical data;
- Describe the processes used to validate grade or quality data, both new and historical, including but not limited to:
 - (a) basic approach to checking analytical data on receipt from the laboratory;
 - (b) use of twinned holes to confirm historical data;
 - (c) strip/channel samples close to existing drillholes;
 - (d) use of check analyses/round-robin testing;
 - (e) cross plot;
- Describe the process and checks taken to validate the stratigraphical drillhole data prior to modelling, including but not limited to:
 - (a) depth checking, seam picks and sample depths against each other and against the geophysical e-logs;
 - (b) checking collars against topography;
 - (c) a summary of key statistics;
 - (d) checking of drillhole position;
- Describe the verification of selected intersections by either independent or alternative personnel.

11.2 Data Aggregation Methods

If no data aggregation methods have been implemented, provide a statement to confirm this and if appropriate, explain why none has been employed;

Otherwise, list the available relevant standards, protocols, standard operating procedures (SOP), technical reports, published refereed or other academic papers, information in the public domain, and other available sources relevant to data acquisition and processing, interpretations and conclusions derived from the data aggregation methods, and to which the reader can be referred;

Provide a summary of material and pertinent data, information and conclusions derived from these sources, or for data aggregation methods that have not been reported previously, provide a discussion cognizant of the following:

Section 3: Exploration and Drilling, Sampling Techniques and Data (Exploration) 3.1 (ii) [All estimates]

- Identify and comment on the primary data elements (observation and measurements) used for the project and describe the management and integration, aggregation, or compositing of these data or the database where relevant;
- State any weighting factors and methodologies used in compositing and how they have been applied;
- Describe the approach taken to the inclusion of partings and intervals without analytical data into any composites;
- Where composite intercepts incorporate short lengths of high-grade results and longer lengths of low-grade results, the procedure used for such compositing must be stated and illustrated in detail with typical examples of such composites.

11.3 Balanced Reporting

Section 3: Exploration and Drilling, Sampling Techniques and Data (Sample Preparation & Analysis) 3.4 (iii) [All Estimates]

- The Competent Person(s) must provide a clear statement of equal prominence confirming whether low and high-quality parameters have been truncated or excluded and, if so, the methodology applied to ensure unbiased reporting;
- Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low (including minimum) and high (including maximum) grades and/or widths must be included to avoid misleading reporting, together with a summary statement of which data have not been included, and the reasons why.

11.4 Data Archives & Database Protocols

If no data archive and/or database protocols have been implemented, provide a statement to confirm this and if appropriate, explain why none has been employed;

Otherwise, list the available relevant standards, protocols, standard operating procedures (SOP), technical reports, and other available sources relevant to the data archive and/or database protocols, and to which the reader can be referred;

Provide a summary of material and pertinent data, information and conclusions derived from these sources, or for data archive and/or database protocols that have not been reported previously, provide a discussion cognizant of the following:

Section 3: Exploration and Drilling, Sampling Techniques and Data (Exploration) 3.1 (ii) [All estimates]

- Describe the management and verification of the database, including but not limited to data acquisition (capture or transfer), validation, integration, control, storage, retrieval and backup processes;
- State whether the data are stored digitally, or hardcopy (such as hand-printed tables with well-organized data and information that may also constitute a database);

Section 3: Exploration and Drilling, Sampling Techniques and Data (Sampling Governance) 3.5 (iii) [All estimates]

- Describe the method(s) and validation procedures employed to ensure database integrity, transferring of exploration data into the database, transferring of the data to a modelling program, and data validation methods;
- Describe where and how the database is stored and archived, including details of (but not limited to) the software used, file types, location, service provider, frequency and date of last backup.

12. GEOLOGICAL MODEL & INTERPRETATION

12.1 Geological Model

If no geological model has been constructed, provide a statement to confirm this, and if appropriate, explain why none has been completed;

Otherwise, list the available relevant standards, protocols, standard operating procedures (SOP), and other available sources relevant to data acquisition and processing, interpretations and conclusions derived from the geological model data, and to which the reader can be referred;

Provide a summary of material and pertinent data, information and conclusions derived from these sources, or for a new geological model that has not been reported previously, provide a discussion cognizant of the following:

Section 3: Exploration and Drilling, Sampling Techniques and Data (Exploration) 3.1 (vii) [All estimates]

- Present representative models and/or maps and cross sections or other two or three-dimensional illustrations of results, showing the location of samples, accurate drillhole collar positions, down-hole surveys, exploration pits, underground workings, relevant geological data, etc.;
- Explain the appropriateness of the data density to assure interpretations of seam continuity, ore body structure and grade or quality distribution, and to support the Mineral Resource estimation procedure used;
- Describe the data density for reporting Exploration Results, and whether the data spacing and distribution are sufficient to establish the degree of geological and grade continuity appropriate for any Mineral Resource estimation procedure(s) and classifications applied;

Section 4: Estimation and Reporting of Exploration Results, Mineral Resources and Mineral Reserves (Geological model and interpretation) 4.1 (i) [All estimates]

- Describe the geological model, construction technique and assumptions that form the basis for the Mineral Resource estimate, including a statement of the physical extent of the model and, where relevant, the source of the topographical model (or digital terrain model, DTM);
- Discuss the sufficiency of data density to assure continuity of mineralisation and geology, and to provide an adequate basis for the estimation and classification procedures applied;

Section 4: Estimation and Reporting of Exploration Results, Mineral Resources and Mineral Reserves (Geological model and interpretation) 4.1 (ii) [All estimates]

- Provide an assessment of the reliability and veracity of the geological model in terms of defining Mineral Inventory and/or Mineral Resources;

Section 4: Estimation and Reporting of Exploration Results, Mineral Resources and Mineral Reserves (Geological model and interpretation) 4.1 (iv) [Mineral Resources & Mineral Reserves]

- Discuss all known geological data that could materially influence the estimated quantity and quality of the Mineral Resource;
- For Mineral Resources, describe the nature, detail and reliability of geological information with which lithological, structural, mineralogical, alteration or other geological, geotechnical and geo-metallurgical characteristics were recorded.

For **Industrial Minerals, Cement Feed Materials and Construction Raw Materials**, and **Dimension Stone, Ornamental and Decorative Stone**, different modelling techniques may be employed to construct a geological model for the estimation of Mineral Resources. The Competent Person should provide appropriate details where different to the requirements listed above.

12.2 Estimation and Modelling Techniques

List the available relevant standards, protocols, standard operating procedures (SOP), and other available sources relevant to the estimation and modelling techniques and/or geological model software, and to which the reader can be referred;

Provide a summary of material and pertinent data, information and conclusions arising from estimation and modelling techniques and/or geological model software, or for a new geological model that has not been reported previously, provide a discussion cognizant of the following:

Section 4: Estimation and Reporting of Exploration Results, Mineral Resources and Mineral Reserves (Estimation and modelling techniques) 4.2 (ii) [Mineral Resources & Mineral Reserves]

- Outline the computer systems used and the overall geological modelling process and flow. Support the description with a process flow chart if necessary;
- Discuss 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 relative density), domaining, sample spacing, estimation unit size (block size), selective mining units, interpolation parameters and maximum distance of extrapolation from data points;
- Describe the process of validation, the checking process used, the comparison of model data to drillhole data, and the use of reconciliation data, if available;
- Provide a discussion of the basis for using or not using grade cutting or capping;
- Describe geostatistical methods in detail. The method chosen should be justified, and the geostatistical parameters, including the variogram, and their compatibility with the geological interpretation should be discussed. State if experience gained in applying geostatistics to similar Mineral Deposits has been taken into account;
- State any assumptions behind the modelling of selective mining units (e.g. non-linear kriging);

Section 4: Estimation and Reporting of Exploration Results, Mineral Resources and Mineral Reserves (Estimation and modelling techniques) 4.2 (iii) [Mineral Resources & Mineral Reserves]

- Describe the assumptions and justification of correlations made between variables;
- Provide a detailed description of the method used and the assumptions made to estimate tonnages and grades (section, polygon, inverse distance, geostatistical, or other method);
- Discuss the availability of check estimates, previous estimates and/or mine production records and how the Mineral Resource estimate takes appropriate account of data such as mined-out areas;
- In the case of block model interpolation, state the block size in relation to the average sample spacing and the search employed;

Section 4: Estimation and Reporting of Exploration Results, Mineral Resources and Mineral Reserves (Estimation and modelling techniques) 4.2 (iv) [Mineral Resources & Mineral Reserves]

- Provide details of any relevant specialized computer program (software) used, with the version number, together with the estimation parameters used;
- Describe the key modelling parameters used, including:
 - (a) topographic surfaces used (original topography, as mined, etc.);
 - (b) key conformable surfaces used (stratigraphical surfaces, key lithological units);
 - (c) key unconformable surfaces modelled (soil, base of weathering, water table);
 - (d) control surfaces and control data used
 - (e) list of veins, seams/sub-seams modelled, and veins/seams excluded;
 - (f) parent/daughter (father/son) relationships used;
 - (g) rules for the use of missing mineralisation interpolators;
 - (h) fault data included;
 - (i) treatment of missing or repeated or structurally thickened veins or seams;
 - (j) interpolators used (including type, extrapolation distance, search angle, weighting factors, etc.);
 - (k) use of features to control interpolation (trend lines, dummy data points, etc.) and reason for use;
 - (l) methods used to model areas where the mineralisation is absent;
 - (m) model limits (data, lease boundaries, depth cut-offs, etc.);

Section 4: Estimation and Reporting of Exploration Results, Mineral Resources and Mineral Reserves (Estimation and modelling techniques) 4.2 (vi) [Mineral Resources & Mineral Reserves]

- Describe the assumptions made regarding the estimation of any co-products, by-products or deleterious elements;

For Industrial Minerals, Cement Feed Materials and Construction Raw Materials, and Dimension Stone, Ornamental and Decorative Stone, different modelling techniques may be employed to construct a geological model for the estimation of Mineral Resources. The Competent Person should provide appropriate details where different to the requirements listed above.

12.3 Geological Database Integrity & Data Protocols

If no geological database integrity and data exclusion protocols have been applied, provide a statement to confirm this and if appropriate, explain why none have been implemented;

Otherwise, list the available relevant standards, protocols, standard operating procedures (SOP), and other available sources relevant to data acquisition and processing, interpretations and conclusions derived from the geological database integrity and data exclusion protocols, and to which the reader can be referred;

Provide a summary of material and pertinent data, information and conclusions derived from these sources, or for geological database integrity and data exclusion protocols that have not been reported previously, provide a discussion cognizant of the following:

- Describe the process of validation, the checking process used, the comparison of model data to drillhole data, and the use of reconciliation data if available;
- Describe the measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors between its initial collection and use for Mineral Resource estimation purposes. Describe the data validation procedures used.

12.4 Geological Interpretation

List the available relevant technical reports, published refereed or other academic papers, information in the public domain, and other available sources relevant to the geological interpretation, and to which the reader can be referred;

Provide a summary of material and pertinent data, information and conclusions derived from these sources, or for a new interpretation that has not been reported previously, provide a discussion cognizant of the following:

Section 4: Estimation and Reporting of Exploration Results, Mineral Resources and Mineral Reserves (Geological model and interpretation) 4.1 (v) [Mineral Resources & Mineral Reserves]

- Describe how the geological interpretation was used to control the Mineral Resource estimate;
- State the confidence in (or conversely, the uncertainty of) the geological interpretation of the Mineral Deposit;
- Discuss whether consideration was given to alternative interpretations or models and their possible effect (or potential risk), if any, on the Mineral Resource estimate.

12.5 Geological Model Domains

If no geological model domains have been identified, provide a statement to confirm this, and if appropriate, explain why none have been defined;

Otherwise, list the available relevant standards, protocols, standard operating procedures (SOP), and other available sources relevant to data acquisition and processing, interpretations and conclusions derived from the geological model domains, and to which the reader can be referred;

Provide a summary of material and pertinent data, information and conclusions derived from these sources, or for geological model domains that have not been reported previously, provide a discussion cognizant of the following:

- Clearly distinguish between domains associated with regional and/or local geology from domain(s) associated with the geological modelling and which may have a material impact on Mineral Resource estimation;

Section 4: Estimation and Reporting of Exploration Results, Mineral Resources and Mineral Reserves (Geological model and interpretation) 4.1 (iv) [Mineral Resources & Mineral Reserves]

- Any domaining discovered during modelling, such as weathering, high/low grade, etc., should be discussed;
- Describe how the domain(s) are used in geological model building and in Mineral Resource estimation;
- Describe the critical aspects of variability within geological model domains;
- Provide a summary (if applicable) of any statistical/geostatistical methods used to distinguish geological model domains;
- Provide a geological domain plan showing key geological domains used in the geological model.

12.6 Dimensions

State the extent and variability of the geological model expressed as length (along strike or otherwise), plan width, and depth below the surface to the upper and lower limits of the mineralisation. Refer to a map.

12.7 Geological Loss

Geological Loss is a discount factor applied to the in situ tonnage or volume to account for observed and as yet unobserved geological features that can occur between points of observation. Geological loss factors should account for features that would include localised thinning of the mineralised zone, weathering, faulting, dyke and sill intrusions, amongst others.

If no geological loss has been applied, provide a statement to confirm this, and if appropriate, explain why none has been considered;

Otherwise, list the available relevant technical reports, published refereed or other academic papers, information in the public domain, and other available sources pertinent to estimating the geological loss, and to which the reader can be referred;

Provide a summary of material and pertinent data, information and conclusions derived from these sources, or for an estimate of geological losses that have not been reported previously, provide a discussion cognizant of the following:

Section 4: Estimation and Reporting of Exploration Results, Mineral Resources and Mineral Reserves (Geological model and interpretation) 4.1 (vi) [Mineral Resources & Mineral Reserves]

- Discuss any geological discounts (e.g. magnitude, per reef, geological model domain, etc.) applied in the geological model, and whether they were applied to mineralised and/or un-mineralised material (e.g. potholes, faults, dykes, etc.);
- State the rationale and methodology for the derivation of geological loss factors;
- Provide reasons if no geological loss has been discounted;
- Define all geological loss parameters;
- State if discounting for model estimation errors has been included. If so, define model estimation errors and the rationale and methodology of derivation.

12.8 Mining Horizon Selection

In certain Mineral Deposit types, it may be necessary to combine defined geological units into a composite mining horizon within the geological model for input into the later mine scheduling modelling software. If no composite mining horizon has been selected, provide a statement to confirm this, and, if appropriate, explain why none has been defined;

Otherwise, list the available relevant standards, protocols, standard operating procedures (SOP), technical reports, and other available sources relevant to mining horizon selection, and to which the reader can be referred;

Provide a summary of material and pertinent data, information and conclusions derived from these sources, or for a mining horizon selection that has not been reported previously, provide a discussion cognizant of the following:

- Provide an explanation of the rationale used to combine the sub-units into the composite mining horizon and also the methodology used to aggregate relative density and associated grades/qualities;
- Indicate whether intervening waste partings/horizons (internal dilution¹) have been added into the mining horizons and whether external waste (or contamination²) has been added into the defined mining horizon;
- Describe any optimisation techniques that have been applied to determine the limits and composition of the selective mining horizon;
- The Competent Person should provide confirmation that the reported Mineral Resource estimate(s) excludes any dilution and contamination added into the selected mining horizon model used for mine planning, or whether this material is added later in the calculations of volume or tonnage and grade/quality.

¹Dilution material is a mass of non-mineralised or poorly-mineralised material (below grade cut-off) that is intentionally included with the defined zones of mineralised material as part of the planned mining section

to obtain a practical mining height, based on geological, geotechnical and mining engineering assessments, in order to maximise the recovery of the mineralised material, or for specific geotechnical or mining safety reasons.

²Contamination material is a mass of extraneous waste material unintentionally added to the practical mining horizon as a result of mining operations, and thereby forms part of the Mineral Reserve.

12.9 Geological Model Validation & Archive

12.9.1 Geological Model Validation

If no geological model validation has been undertaken, provide a statement to confirm this and if appropriate, explain why none has been implemented;

Otherwise, list the available relevant standards, protocols, standard operating procedures (SOP), technical reports, and other available sources relevant to the validation of the geological model, and to which the reader can be referred;

Provide a summary of material and pertinent data, information and conclusions derived from these sources, or for a new validation technique that has not been reported previously, provide a discussion cognizant of the following:

Section 4: Estimation and Reporting of Exploration Results, Mineral Resources and Mineral Reserves (Estimation and modelling techniques) 4.2 (v) [Mineral Resources & Mineral Reserves]

- State 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, including but not limited to:
 - (a) validation of intersections, behaviour and correlations;
 - (b) verification of structure and floor contours and checking “bull’s-eyes”;
 - (c) cross sections through the model;
 - (d) verification of key thicknesses and surfaces to check for anomalies (bull’s eyes);
 - (e) comparison of sections and surfaces with other data sources (seismic sections, seam picks from previous mining, underground mapping, etc.);
 - (f) checking volumetrics and tonnages, as well as model vs manual calculation for selected drillholes.

12.9.2 Geological Model Archive

If no geological model archive protocol has been undertaken, provide a statement to confirm this and if appropriate, explain why none has been implemented;

Otherwise, list the available relevant standards, protocols, standard operating procedures (SOP), technical reports, and other available sources relevant to the validation of the geological model archiving, and to which the reader can be referred;

Provide a summary of material and pertinent data, information and conclusions derived from these sources, or for geological model archive protocols that have not been reported previously, provide a discussion cognizant of the following:

Section 3: Exploration and Drilling, Sampling Techniques and Data (Exploration) 3.1 (ii) [All estimates]

- Describe the management and verification of the geological model, including but not limited to data acquisition (capture or transfer), validation, integration, control, storage, retrieval and backup processes;
- State whether the geological model is stored digitally, or in hardcopy (such as representative cross sections with well-organized data and information that may also constitute a geological model);

Section 3: Exploration and Drilling, Sampling Techniques and Data (Sampling Governance) 3.5 (iii) [All estimates]

- Describe the method(s) and validation procedures employed to ensure integrity when updating exploration data into the geological model, extraction of data from the model, and data validation methods;
- Describe where and how the geological model is stored and archived, including details of (but not limited to) the software used, file types, location, service provider, frequency and date of last backup.

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IV. MINERAL PROJECT EVALUATION SECTION

13. MODIFYING FACTORS

13.1 Technical Study Level

For Exploration Results (including Exploration Targets):

The reporting of Exploration Results, including Exploration Targets, does NOT require a minimum technical study level to have been completed. However, it is common practice that some technical studies, such as a Target Generation Report, Geological Report, or a Scoping Study, have been completed, and the Competent Person should make reference to these studies, however preliminary in nature.

For Mineral Resources:

The estimation of Mineral Resources requires a minimum technical study level of a Geological Report or a Scoping Study.

Section 5: Technical Studies (Introduction) 5.1 (i) [Mineral Resources only]

- For Mineral Resource estimates, state the level of Technical Study – whether a Geological Report, Scoping Study, Pre-Feasibility Study, Feasibility Study or ongoing Life of Mine;

Table 2 of the PERC Reporting Standard (Guidelines for Technical Studies)

The Competent Person(s) should take cognisance of the guidelines and recommendations of the ‘Guidelines to Technical Studies’ given in Table 2 of the PERC Reporting Standard, which is designed to be read in conjunction with Table 1. Table 2 is provided as a guide to the compilation of the various studies relating to Mineral Resources, namely Scoping Studies, Pre-Feasibility Studies, Feasibility Studies and on-going Life-of-Mine Studies) that analyse 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 the various studies.

For Mineral Reserves:*Section 5: Technical Studies (Introduction) 5.1 (i) [Mineral Reserves only]*

- For Mineral Reserve estimates, state the level of Technical Study – whether Pre-feasibility Study, Feasibility Study or ongoing Life of Mine. The PERC Reporting Standard requires that a study to at least a Pre-Feasibility Study level has been undertaken to convert Mineral Resources to Mineral Reserves. Such Technical Studies must have been completed and include a mine plan or production schedule that is technically achievable and economically viable, and that all Modifying Factors have been considered to the appropriate level of detail.

Table 2 of the PERC Reporting Standard (Guidelines for Technical Studies)

The Competent Person(s) should take cognisance of the guidelines and recommendations of the ‘Guidelines to Technical Studies’ given in Table 2 of the PERC Reporting Standard, which is designed to be read in conjunction with Table 1. Table 2 is provided as a guide to the compilation of the various studies relating to Mineral Reserves, namely Pre-feasibility Studies, Feasibility Studies and on-going Life-of-Mine Studies) that analyse 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 the various studies.

13.2 Consideration of Modifying Factors

For Exploration Results (including Exploration Targets):

When reporting Exploration Results and Exploration Targets, some initial consideration must be given to the prospects for future economic extraction. Modifying Factors, including material ESG threats and opportunities, should be taken into consideration at this early stage. If there are known issues related to the Modifying Factors that could represent significant threats or opportunities with respect to the prospects for future economic extraction, these issues may be material information and should be discussed;

If no Modifying Factors have been considered for Exploration Results and Exploration Targets, provide a statement to confirm this and, if appropriate, explain the reasons for this omission;

Otherwise, list the available relevant standards, protocols, standard operating procedures (SOP), technical

reports, published refereed or other academic papers, information in the public domain, and other available sources relevant to data acquisition and processing, interpretations and conclusions derived from the consideration of Modifying Factors, and to which the reader can be referred;

Provide a summary of material and pertinent data, information and conclusions derived from these sources, or for Exploration Results (including Exploration Targets) that have not been reported previously, provide a discussion through consideration of all the Modifying Factors given in this Section 13 of the Mineral Project Evaluation Report.

For Mineral Resources:

If no specific Modifying Factors have been considered, provide a statement to confirm this, and if appropriate, explain why none has been considered;

Where no Modifying Factors have been considered, it is inappropriate to declare Mineral Resources, else Mineral Resource Modifying Factors must be reported through consideration of all the Modifying Factors given in Section 13 of the Mineral Project Evaluation Report, including and especially Section 13.4 Reasonable Prospects for Eventual Economic Extraction.

For Mineral Reserves:

When reporting Mineral Reserve estimates, list the available relevant standards, protocols, standard operating procedures (SOP), technical reports, and other available sources relevant to the Run-of-Mine (ROM) Discount Factors that relate to the individual Modifying Factors, and to which the reader can be referred;

Provide a summary of material and pertinent data, information and conclusions derived from these sources, or provide a discussion of the Run-of-Mine (ROM) Discount Factors, cognizant that the Modifying Factors must be reported through consideration of all parts of this Section 13 of the Mineral Project Evaluation Report.

PERC Standard Paragraph 7.1:

- The reference point must be stated at which the potential Mineral Products or Mineral Raw Materials associated with Mineral Resources are defined, often the point where the Mineral Product is delivered for sale, transfer or use. It is important that, in all situations where the reference point is different to the *in-situ* point of estimation, a clarifying statement is included to ensure that the reader is fully informed as to what is being reported;

For **Coal**, the following must be considered:

PERC Appendix 2: Reporting of Coal Exploration Results, Coal Resources, and Coal Reserves: A2-6 [Mineral Reserves only]:

- The basis of the predicted yield to achieve Marketable Coal Reserves must be stated.

For **Coal**, and **Industrial Minerals, Cement Feed Materials and Construction Raw Materials**, and **Dimension Stone, Ornamental and Decorative Stone**, the following must be considered:

PERC Appendix 4: Reporting of Industrial Minerals, Cement Feed Materials and Construction Raw Materials of all forms: A4-1 [All Estimates]:

PERC Appendix 5: Reporting of Dimension Stone, Ornamental and Decorative Stone of all forms: A5-1 [All Estimates]:

- These commodities are generally sold on the basis of their product specifications, quality and market acceptance.

PERC Appendix 5: Reporting of Dimension Stone, Ornamental and Decorative Stone of all forms: A5-10 [All Estimates]:

- If there is potential for ancillary products or by-products, or for quarrying or processing waste to be re-utilised or to be sold off-site for subsidiary uses, in addition to the planned sales of the primary products this must be reflected and comment on any significant implications;

For **Industrial Minerals, Cement Feed Materials and Construction Raw Materials**, and **Dimension Stone, Ornamental and Decorative Stone**, additional Modifying Factors may be applicable, especially with respect to assessing commodity quality and joint factors:

- The Competent Person should consider and include a discussion of (where appropriate) Modifying Factors including (but not limited to) weathering, karstic characteristics, joint opening and joint distribution, aesthetic quality, other market Factors (such as localisation and logistic and access), transportation, mineralogy, physio-mechanical, mining shape, mining / extraction method and

skills, hydrology and hydrogeological factors.

For **Dimension Stone, Ornamental and Decorative Stone of all forms**, the following must be considered:

PERC Appendix 5: Reporting of Dimension Stone, Ornamental and Decorative Stone of all forms: A5-14 [Mineral Resources only]

- The Discount Factors listed above may be different, or have different significance to commodities such as Dimension Stone, Ornamental and Decorative Stone than to metalliferous Minerals. The Competent Person should consider, and include a discussion (where appropriate) of such Discount Factors, and how they have been applied when reporting Mineral Reserve estimates for these commodities.

For **Oil Shales, and Other Energy Minerals extracted by Mining Methods**, where the hydrocarbons are extracted by the processing of mined rock, the following must be considered:

PERC Appendix 6: Reporting of Exploration Results, Mineral Resources and Mineral Reserves for Oil Shales, and Other Energy Minerals extracted by Mining Methods: A6-5 [All estimates]:

- Chemical analyses may not always be relevant, and other quality and performance characteristics may be more applicable and acceptable. Some deposits of such Minerals may be capable of yielding products suitable for more than one application and/or specification. Such multiple products should be quantified either separately or as a percentage of the bulk Mineral deposit.

For **Metallic or Non-Metallic Minerals extracted by Solution Mining Methods** (in-situ dissolution and transfer to the surface in solution, water, steam or other solvent), the following must be considered:

- The product for Minerals extracted by solution mining should generally be the solid material remaining after crystallisation, and removing or recycling the solvent;

PERC Appendix 7: Reporting of Exploration Results, Mineral Resources and Mineral Reserves for Metallic or Non-Metallic Minerals extracted by Solution Mining Methods A7-6 [Mineral Resources & Mineral Reserves] & Guidance:

- If Mineral Resources and Mineral Reserves for Minerals extracted by solution mining are estimated at a stage after production has already started, then the methods and assumptions of such estimation must be stated;
- A clarifying statement should be included to ensure that the reader is fully informed about what is being reported and what processing steps have been required to obtain the saleable product.

For **Mining Waste and Other Waste Materials of Potential Economic Value ('Waste Materials')**, the following must be considered:

PERC Appendix 8: Disclosure of Estimates of Mining Waste and Other Waste Materials of Potential Economic Value: A8-2 [All estimates]:

- Waste Materials are Mineral materials that were not considered to have any saleable or otherwise useable value at the time of extraction.

13.3 Reasonable Prospects of Eventual Economic Extraction (RPEEE)

13.3.1 Underlying Principles

The reporting of Mineral Resources requires confirmation that there are Reasonable Prospects for Eventual Economic Extraction (RPEEE) through consideration of Modifying Factors. List the available relevant standards, protocols, standard operating procedures (SOP), technical reports, and other available sources relevant to the establishment of RPEEE, and to which the reader can be referred;

Provide a summary of material and pertinent data, information and conclusions derived from these sources, or for established RPEEE that have not been reported previously, provide a discussion of the underlying principles for confirming Reasonable Prospects for Eventual Economic Extraction (RPEEE) cognizant of the following:

Section 5: Technical Studies (Economic Analysis) 5.8 (i) [Mineral Resources only]

- Describe the basis on which 'reasonable prospects for eventual economic extraction' have been determined, including any material assumptions made in determining the 'reasonable prospects for eventual economic extraction';

- Include details of tests applied to determine reasonable prospects for eventual economic extraction. Clearly identify any adjustments made to the geological and technical parameters discussed in Modifying Factors to ensure that the mineralised material in the geological model allocated to Mineral Resources meets all the criteria for 'reasonable prospects for eventual economic extraction'.

Section 4: Estimation and Reporting of Exploration Results, Mineral Resources and Mineral Reserves (Reasonable prospects for eventual economic extraction) 4.3 (ix) [Mineral Resources & Mineral Reserves]

- Discuss the parameters used to support the concept of "eventual" and other underlying principles.

13.3.2 RPEEE Test

The reporting of Mineral Resources requires confirmation that there are Reasonable Prospects for Eventual Economic Extraction (RPEEE) through consideration of Modifying Factors. List the available relevant standards, protocols, standard operating procedures (SOP), technical reports, and other available sources relevant to the demonstration that RPEEE exists, and to which the reader can be referred;

Provide a summary of material and pertinent data, information and conclusions derived from these sources, or for established RPEEE that have not been reported previously, provide a discussion of the underlying principles for demonstrating Reasonable Prospects for Eventual Economic Extraction (RPEEE) cognizant of the following:

Section 5: Technical Studies (Market Studies and Economic Criteria) 5.6 (i) [Mineral Resources only]

- Discuss any technical and economic factors likely to influence the reasonable prospects of eventual economic extraction.
- When a Scoping Study has been undertaken to define RPEEE, a specific statement must be made to that effect, providing the date and scope of the Scoping Study.

Section 4: Estimation and Reporting of Exploration Results, Mineral Resources and Mineral Reserves (Reasonable prospects for eventual economic extraction) 4.3 (i) [Mineral Resources & Mineral Reserves]

- Disclose and discuss the geological parameters. These would include (but not be limited to) volume / tonnage, grade and value / quality estimates, cut-off grades, strip ratios, upper- and lower-screen sizes.

Section 4: Estimation and Reporting of Exploration Results, Mineral Resources and Mineral Reserves (Reasonable prospects for eventual economic extraction) 4.3 (ii) [Mineral Resources & Mineral Reserves]

- Disclose and discuss the engineering parameters. These would include mining method, dilution, processing, geotechnical, geohydraulic and metallurgical) parameters;

Section 4: Estimation and Reporting of Exploration Results, Mineral Resources and Mineral Reserves (Reasonable prospects for eventual economic extraction) 4.3 (iii) [Mineral Resources & Mineral Reserves]

- Disclose and discuss the infrastructural including, but not limited to, power, water, site-access;

Section 4: Estimation and Reporting of Exploration Results, Mineral Resources and Mineral Reserves (Reasonable prospects for eventual economic extraction) 4.3 (iv) [Mineral Resources & Mineral Reserves]

- Disclose and discuss the legal, governmental, permitting, and statutory parameters;

Section 4: Estimation and Reporting of Exploration Results, Mineral Resources and Mineral Reserves (Reasonable prospects for eventual economic extraction) 4.3 (v) [Mineral Resources & Mineral Reserves]

- Disclose and discuss the environmental and social (or community) parameters;

Section 4: Estimation and Reporting of Exploration Results, Mineral Resources and Mineral Reserves (Reasonable prospects for eventual economic extraction) 4.3 (vi) [Mineral Resources & Mineral Reserves]

- Disclose and discuss the marketing parameters;

Section 4: Estimation and Reporting of Exploration Results, Mineral Resources and Mineral Reserves (Reasonable prospects for eventual economic extraction) 4.3 (vii) [All Estimates]

- Disclose and discuss the economic assumptions and parameters. These factors will include, but not limited to, commodity prices and potential capital and operating costs;

Section 4: Estimation and Reporting of Exploration Results, Mineral Resources and Mineral Reserves (Reasonable prospects for eventual economic extraction) 4.3 (viii) [Mineral Resources & Mineral Reserves]

- Discuss any material risks to the Mineral Resource estimation. Examples as to what would be considered to be a "material risk" could include:
 - (a) The relative density determination and how the relative density was derived for the mineralised zones/seams and adjacent waste, dilution and contamination;
 - (b) Geotechnical stability of the surrounding/overlying rock formations;

- (c) Interpretation of a complex deposit;
- (d) Spatial distribution of “points of observation”;
- (e) “Nugget” effect in certain types of mineral deposit;
- (f) Geo-metallurgical recoveries;
- (g) Permitting;

Section 5: Technical Studies (Mining Design) 5.2 (i) [Mineral Resources only]

- State assumptions regarding mining methods and parameters when estimating Mineral Resources or explain where no mining assumptions have been made;

Section 5: Technical Studies (Mining Design) 5.2 (ii) [Mineral Resources only]

- Discuss Modifying Factors taken into account in the estimation of Mineral Resources.

13.4 Mineral Reserve Modelling Techniques

The reporting of Mineral Reserves requires the demonstration that economic extraction is justified at the time of reporting, through consideration of Modifying Factors that includes a viable Mine Plan and extraction schedule. List the available relevant standards, protocols, standard operating procedures (SOP), technical reports, and other available sources relevant to the mine planning modelling, and to which the reader can be referred;

Provide a summary of material and pertinent data, information and conclusions derived from these sources, or for mine planning model and extraction schedule that have not been reported previously, provide a discussion of the underlying principles for confirming Reasonable Prospects for Eventual Economic Extraction (RPEEE) cognizant of the following:

Section 6: Estimation and Reporting of Mineral Reserves (Estimation and Modelling Techniques) 6.1 (i) [Mineral Resources & Mineral Reserves]

- Identify the Mineral Resource estimate used as the basis for the conversion to a Mineral Reserve;
- Describe the estimation process used to convert the Mineral Resource into a Mineral Reserve, including details of computer techniques;

13.5 Bulk Sampling, Trial Mining, & Pilot Processing Studies

13.5.1 Bulk Sampling & Trial Mining

This Section is intended to cover sampling and test work aimed at informing engineering design and Mineral Reserve estimation, rather than being used primarily for Mineral Resource estimation.

If no bulk sampling, trial mining, and pilot plant mineral processing studies have been completed, provide a statement to confirm this and, if applicable, explain why none has been undertaken;

Otherwise, list the available relevant standards, protocols, standard operating procedures (SOP), technical reports, published refereed or other academic papers, information in the public domain, and other available sources relevant to data acquisition and processing, interpretations and conclusions derived from the bulk sampling, trial mining, and pilot plant mineral processing studies, and to which the reader can be referred;

Provide a summary of material and pertinent data, information and conclusions derived from these sources, or for bulk sampling, trial mining, and pilot plant mineral processing data collected that has not been reported previously, provide a discussion cognizant of the following:

Section 3: Exploration and Drilling, Sampling Techniques and Data (Bulk-Sampling and/or Trial-mining) 3.8 (i) [All estimates]

- Indicate the location of individual samples (including map);

Section 3: Exploration and Drilling, Sampling Techniques and Data (Bulk-Sampling and/or Trial-mining) 3.8 (ii) [All estimates]

- Describe 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;

Section 3: Exploration and Drilling, Sampling Techniques and Data (Bulk-Sampling and/or Trial-mining) 3.8 (iii) [All estimates]

- Describe the method of mining and mineral processing/treatment;

Section 3: Exploration and Drilling, Sampling Techniques and Data (Bulk-Sampling and/or Trial-mining) 3.8 (iv) [All estimates]

- Indicate the degree to which the samples are representative of the various types and styles of

mineralisation and the Mineral Deposit as a whole;

- List any bulk density tests undertaken to derive the difference between in-situ tonnage and as-mined bulked (ROM) tonnage;
- Describe how the bulk sampling was used to estimate the respective bulking factors, including samples of the expected ROM material as well as any soft, loose or processed material moved as part of the extraction cycle, including the impact on voids and added surface moisture.

13.5.2 Mineral Processing & Testing

If no mineral processing and testing studies have been undertaken, provide a statement to confirm this and if applicable, explain why none has been completed;

Otherwise, list the available relevant standards, protocols, standard operating procedures (SOP), technical reports, published refereed or other academic papers, information in the public domain, and other available sources relevant to data acquisition and processing, interpretations and conclusions derived from the mineral processing and testing data, and to which the reader can be referred;

Provide a summary of material and pertinent data, information and conclusions derived from these sources, or for mineral processing and testing data that has not been reported previously, provide a discussion cognizant of the following:

Section 5: Technical Studies (Metallurgical and Test work) 5.3 (i) [Mineral Resources & Mineral Reserves]

- Discuss the source of the sample, the representativeness of the potential feed and the techniques used to obtain the samples, laboratory and metallurgical testing techniques;

Section 5: Technical Studies (Metallurgical and Test work) 5.3 (ii) [Mineral Resources & Mineral Reserves]

- Explain the basis for assumptions or predictions regarding mineral processing and metallurgical amenability and any preliminary mineralogical test work already carried out;
- State the nature of any mineral processing and metallurgical domaining applied and the corresponding mineral processing and metallurgical recovery factors applied;

Section 5: Technical Studies (Metallurgical and Test work) 5.3 (iii) [Mineral Resources only]

- Discuss the possible mineral processing methods and any mineral processing factors that could have a material effect on the reasonable expectations of eventual economic extraction. Discuss the appropriateness of the mineral processing methods to the style of mineralisation;

Section 5: Technical Studies (Metallurgical and Test work) 5.3 (iii) [Mineral Reserves only]

- Describe and justify the mineral processing method(s) to be used, equipment, plant capacity, efficiencies, and personnel requirements;

Section 5: Technical Studies (Metallurgical and Test work) 5.3 (iv) [Mineral Reserves only]

- Discuss the nature, amount and representativeness of metallurgical test work undertaken and the recovery factors used.
- Provide 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;

Section 5: Technical Studies (Metallurgical and Test work) 5.3 (vi) [Mineral Reserves only]

- State whether the mineral processing and metallurgical process is well-tested technology or novel in nature. If novel, justify its use in estimating the Mineral Reserve(s).

13.5.3 Deleterious Elements

Section 5: Technical Studies (Metallurgical and Test work) 5.3 (v) [Mineral Reserves only]

- State what assumptions or allowances have been made for deleterious elements and the existence of any bulk-sample or pilot-scale mineral processing and metallurgical test work and the degree to which such samples are representative of the Mineral Deposit as a whole;
- Indicate where these deleterious elements would report (with the product or with the waste materials) and what the relative impacts would be in terms of value reduction or potential long-term pollution issues;
- Include any additional elements that have been identified as having potential value, such as Critical Raw Materials, and thus could provide a potential source for added value;
- State whether the deleterious elements would have any commercial value if extracted as part of the mineral processing or metallurgical extraction process flow.

13.5.4 Mineral Processing & Metallurgical Modelling

If no mineral processing and metallurgical modelling studies have been undertaken, provide a statement to confirm this and, if applicable, explain why none has been completed;

Otherwise, list the available relevant standards, protocols, standard operating procedures (SOP), technical reports, published refereed or other academic papers, information in the public domain, and other available sources relevant to data acquisition and processing, interpretations and conclusions derived from the mineral processing and metallurgical modelling data, and to which the reader can be referred;

Provide a summary of material and pertinent data, information and conclusions derived from these sources, or for mineral processing and metallurgical modelling data that has not been reported previously, provide a discussion cognizant of the following:

Section 4: Estimation and Reporting of Exploration Results, Mineral Resources and Mineral Reserves (Reasonable prospects for eventual economic extraction) 4.3 (i) [Mineral Resources & Mineral Reserves]

- Disclose and discuss the upper- and lower screen sizes;
- Describe and explain how the laboratory results have been adjusted for commercial and/or realistic efficiencies and extraction ratios;
- Describe if an appropriate model of the mineral processing and metallurgical recovery design pathways has been constructed, showing the individual material pathways and the relevant equipment types used to separate or concentrate the mineral(s) to the final product(s), and how the results of the bench scale, pilot plant results have been taken into consideration;
- The target mineral product or commodity produced from the extraction from the Mineral Deposit should be indicated, and the expected grade/quality and type, metal, concentrate, finished raw material product, etc., must be indicated.

13.6 Geotechnical

13.6.1 Geotechnical General

If no geotechnical studies have been undertaken, provide a statement to confirm this and, if applicable, explain why none have been undertaken;

Otherwise, list the available relevant standards, protocols, standard operating procedures (SOP), technical reports, published refereed or other academic papers, information in the public domain, and other available sources relevant to data acquisition and processing, interpretations and conclusions derived from the geotechnical data, and to which the reader can be referred;

Provide a summary of material and pertinent data, information and conclusions derived from these sources, or for geotechnical data that has not been reported previously, provide a discussion cognizant of the following:

- Describe the data acquisition technical, geotechnical data, modelling and associated design criteria for surface mining and underground mining separately;

Section 3: Exploration and Drilling, Sampling Techniques and Data (Exploration) 3.1 (i) [All estimates]

- Describe the data acquisition or exploration techniques and the nature, level of detail, and confidence in the geotechnical data;
- Confirm that data sets include all relevant metadata, such as unique sample number, sample mass, collection date, spatial location, etc.;
- Describe geotechnical history and sources of data, including but not limited to:
 - (a) summary of past mining history/experience in the area;
 - (b) type of geotechnical data collected during core logging (RQD, fracture frequency, {subjective} rock strength, weathering and alteration);
 - (c) number, frequency and distribution of dedicated geotechnical drillholes;
 - (d) types and quantities of geotechnical analyses available;
- Cross-reference any specialist geotechnical report(s);
- Provide plans showing the distribution of geotechnical sample sites.

For reporting on **Industrial Minerals, Cement Feed Materials and Construction Raw Materials**, and **Dimension Stone, Ornamental and Decorative Stone**, additional geotechnical Modifying Factors may be applicable, especially with respect to assessing commodity quality and joint factors. The Competent Person should consider, and include a discussion (where appropriate) of such Modifying Factors when reporting Mineral Reserve estimates for these commodities.

13.6.2 Geotechnical Design & Modelling

In both underground and surface mining / extraction operations, the geotechnical issues and tectonic environments play a critical part in the mine design. An appropriate geotechnical model should be created to design the geotechnical aspect of the Mineral Deposit and evaluate the requirement for safe extraction of the Mineral Deposit.

If no geotechnical design and geotechnical modelling studies have been undertaken, provide a statement to confirm this and, if applicable, explain why none have been undertaken;

Otherwise, list the available relevant standards, protocols, standard operating procedures (SOP), technical reports, published refereed or other academic papers, information in the public domain, and other available sources relevant to data acquisition and processing, interpretations and conclusions derived from the geotechnical design and geotechnical modelling data, and to which the reader can be referred;

Provide a summary of material and pertinent data, information and conclusions derived from these sources, or for geotechnical design and geotechnical modelling data that has not been reported previously, provide a discussion cognizant of the following:

- Describe the geotechnical design aspects derived from the geotechnical modelling and design work, and how the geotechnical data collected in the project area has been used in such geotechnical modelling;
- Describe, where appropriate, a rock burst management plan that assesses the geotechnical and tectonic constraints (earthquake modelling) of the areas within the mine plan that includes details of the equipment, mining, development, monitoring, risk management, production, etc., for each operation at the mine, as well as details of the emergency procedures for a range of scenarios.

13.7 Hydrogeology

13.7.1 Hydrogeology General

If no hydrogeological studies have been undertaken, provide a statement to confirm this and, if appropriate, explain why none have been completed;

Otherwise, list the available relevant standards, protocols, standard operating procedures (SOP), technical reports, published refereed or other academic papers, information in the public domain, and other available sources relevant to data acquisition and processing, interpretations and conclusions derived from the hydrogeological data, and to which the reader can be referred;

Provide a summary of material and pertinent data, information and conclusions derived from these sources, or for hydrogeological data collected that has not been reported previously, provide a discussion cognizant of the following:

Section 3: Exploration and Drilling, Sampling Techniques and Data (Exploration) 3.1 (i) [All estimates]

- Describe the data acquisition or exploration techniques and the nature, level of detail, and confidence in the hydrogeological data;
- Confirm that data sets include all relevant metadata, such as unique sample number, sample mass, collection date, spatial location, etc.;
- Describe the history and sources of hydrogeological data, including but not limited to:
 - (a) summary of past history/experience in the area;
 - (b) type of standard hydrogeological data collected during drilling operations (standing water levels, significant flows {with measurement method}, groundwater analyses);
 - (c) number, frequency and distribution of piezometers, etc.;
 - (d) the impact of hydrogeology on rock engineering (including monitoring and ongoing measuring strategies);
- Cross-reference any specialist hydrogeological report(s);
- Provide plans showing the distribution of hydrogeological sample sites.

13.7.2 Hydrogeological Design & Modelling

In both underground and surface mining / extraction operations, the hydrogeological design and modelling

issues play a critical part in the mine design. An appropriate hydrogeological model should be created to design the hydrogeological aspect of the Mineral Deposit and evaluate the requirement for safe extraction of the Mineral Deposit.

If no hydrogeological design studies have been undertaken, provide a statement to confirm this and, if applicable, explain why none have been undertaken;

Otherwise, list the available relevant standards, protocols, standard operating procedures (SOP), technical reports, published refereed or other academic papers, information in the public domain, and other available sources relevant to data acquisition and processing, interpretations and conclusions derived from the hydrogeological design data, and to which the reader can be referred;

Provide a summary of material and pertinent data, information and conclusions derived from these sources, or for hydrogeological design and hydrogeological modelling data that has not been reported previously, provide a discussion cognizant of the following:

- Describe the geotechnical design aspects derived from the hydrogeological design and hydrogeological modelling work;
- Describe where appropriate hydrogeological aspects of mine waste disposal or storage sites;
- Outline the treatment of the mine water and possible discharge into the adjacent water courses, for each operation at the mine, as well as details of the emergency procedures for a range of scenarios.

13.8 Mine Design (including Mining Methods & Mineral Processing)

If no mine design planning has been undertaken, provide a statement to confirm this and, if applicable, explain why none has been completed;

Otherwise, list the available relevant standards, protocols, standard operating procedures (SOP), technical reports, and other available sources relevant to data acquisition and processing, interpretations and conclusions derived from the mine design planning data, and to which the reader can be referred;

Provide a summary of material and pertinent data, information and conclusions derived from these sources, or for mine design data that has not been reported previously, provide a discussion cognizant of the following:

Section 5: Technical Studies (Mining Design) 5.2 (ix) [Mineral Reserves only]

- State the optimisation methods and any software used in mine planning, list of constraints (practicality, plant, access, exposed Mineral Reserves, stripped Mineral Reserves, bottlenecks, draw control);
- Describe the current and/or proposed mining / extraction operation, mineral processing and metallurgical process, and transport chain to the point of sale so that the reader is able to assess the appropriateness of the assumptions and factors used in the conversion of the Mineral Resource to Mineral Reserve;
- If an expansion on a current operation is being evaluated, current and future facilities and revised material flow rates must be clearly stated. This description is only an overview – a detailed description of the operation is allowed for in subsequent sections;
- Make reference to categories of Mineral Resources included in the Mineral Reserves estimate. If inferred Mineral Resources are included, this must be clearly stated and reasons provided as to why they are included, together with an acknowledgement that the impact of the inclusion of Inferred Mineral Resource(s) has been taken into consideration in the financial assessment of the mine viability;
- The overview should include a discussion of:
 - (a) the Mining operation (mining / extraction method and equipment used, including grade or quality control interventions, geotechnical issues and management, environmental issues and management, and any other significant issues);
 - (b) the Mineral Processing and Metallurgical processes (beneficiation process), including plant feed, product and discard stream balances, sampling and quality control, blending and stockpiling, discard dump management, and product load-out facilities;
 - (c) the Transport chain (transport chain process from plant load-out to the point of sale), including water addition (e.g. dust control), sampling and quality control, stockpiling logistics, and risks to the transport chain.
 - (d) the waste characterisation (geotechnical and geochemical) design criteria, design and operation (and governance) of waste;

- Outline any legal, surface or ESG-related constraints that may influence the mine design.

13.8.1 Mining Method

For both existing and planned future operations, the mining / extraction method must be stated cognizant of the following:

Section 5: Technical Studies (Mining Design) 5.2 (v) [Mineral Reserves only]

- Provide a description and justification of the mining / extraction method(s) to be used. This description should outline the various options considered, e.g. bord and pillar vs longwall, long hole caving vs vertical crater retreat, dragline vs truck and shovel, rigid truck vs ADT, etc.), and include reasons for the final choice;

Section 5: Technical Studies (Mining Design) 5.2 (vi) [Mineral Reserves only]

- For open-pit mines, include a discussion of depth limits, pit slopes, slope stability, and strip ratio;

Section 5: Technical Studies (Mining Design) 5.2 (vii) [Mineral Reserves only]

- For underground mines, discuss the mining / extraction method, geotechnical considerations, depth limits, mine design characteristics, and ventilation/cooling requirements.
- Describe key parameters determining the mining / extraction method, including the incorporation of waste in the mine design and the impact of the waste on grade/quality and cut-off;
- Describe computer programs and processes used in the mine design;
- Describe the methodology followed, and the parameters utilised for optimising the mine position and layout within the Mineral Resource block;
- Describe the mining strategy with respect to product types, integration into existing operations, sustainability, future expansion/extension and flexibility, utilisation of existing infrastructure, etc.;
- Provide a plan showing the main aspects of the mine design. This plan would typically include access shafts or ramps, cut layout or bord and pillar panels, boundary pillars, etc.;
- Describe practical mining horizons with reference to roof and floor conditions, mining height, dilution and contamination, extraction technique and geotechnical factors and safety considerations. State potential risks to achieving the designed mining horizon;
- Describe the rationale for the selection of mining equipment in terms of the mine design.

13.8.2 Mineral Processing & Metallurgy

For both existing and planned future operations, the mineral processing and metallurgical methods must be stated cognizant of the following:

Section 5: Technical Studies (Mining Design) 5.2 (v) [Mineral Reserves only]

- Provide a description and justification of the mineral processing and metallurgical method(s) to be used;

Section 5: Technical Studies (Mining Design) 5.2 (vii) [Mineral Reserves only]

- Discuss the mineral processing and metallurgical, geotechnical considerations, depth limits, mineral processing and metallurgical design characteristics, and waste disposal requirements.
- Describe key parameters determining the mineral processing and metallurgical method, including the effect of the incorporation of waste in the mine design and the impact of the waste on grade/quality and associated cut-off;
- Describe computer programs and processes used in the mineral processing and metallurgical method design;
- Describe the methodology followed, and the parameters utilised for optimising the mineral processing and metallurgical methods;
- Describe the mineral processing and metallurgical method strategy with respect to product types, integration into existing operations, sustainability, future expansion/extension and flexibility, utilisation of existing infrastructure, etc.;
- Provide a plan showing the main aspects of the mineral processing and metallurgical design;
- Describe practical mining horizons with reference to roof and floor conditions, mining height, dilution and contamination, extraction technique and geotechnical factors and safety considerations. State potential risks to achieving the designed mining horizon;
- Describe the rationale for the selection of equipment in terms of the mineral processing and

metallurgical design;

- Describe the waste characterisation (geotechnical and geochemical), design criteria, design and operation and governance.

13.8.3 Key Design Parameters

For both existing and planned future operations, the key design parameters must be stated cognizant of the following:

Section 5: Technical Studies (Mining Design) 5.2 (iii) [Mineral Resources & Mineral Reserves]

- State what Mineral Resource geological model(s) have been used in the Technical Study;
- State what Mineral Reserve mining model(s) have been used in the Technical Study;
- State the key mine design parameters (rationale, derivation and methodology), including consideration of geological and geotechnical factors, and any other factors influencing mining horizon accessibility and mineability;
- In the case of a Scoping Study or Pre-Feasibility Study, list and summarise the Scoping Study / Prefeasibility Study options evaluated, and provide reasons why each of the options was considered and discarded. Provide more details on the preferred development option to take forward to the Feasibility Study;
- Where appropriate, and depending on the level of technical study, include a discussion of the following:
 - (a) Bulking factors and variability;
 - (b) Expected availabilities (appropriate thought and engineering);
 - (c) Stockpiling/surge capacities;
 - (d) Risk assessments of the key design parameters;
 - (e) Flooding (surface/underground);
 - (f) Geotechnical;
 - (g) Natural hazards (gas, rock burst, water, dust, seismic events, etc.);
 - (h) Development rates (realistic);
 - (i) Production rates (realistic);
 - (j) Introduction of “new” technology;
 - (k) Assessment of variability, “Monte Carlo” type simulations to illustrate the robustness of the technical economic model, and hence the Mineral Development Project, a range of variations on key inputs (e.g. price, production rate, Capex, Operating costs, grade, efficiency, exchange rates, etc.).

13.8.4 Mass Balance

Provide overview flow diagrams outlining the operation that clearly show the ROM and plant feed tonnage rates, mineral processing and metallurgical processes, and the product and discard streams, cognizant of the following;

Section 3: Exploration and Drilling, Sampling Techniques and Data (Sample Preparation and Analysis) 3.4 (iii) [All estimates]

- Describe 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 / dilution, screen sizes, granulometry, mass balance, etc.);
- Provide a mass balance and associated flow diagram for the Mining or Extraction Operation;
- Provide a mass balance and associated flow diagram for the Mineral Processing;
- Provide a mass balance and associated flow diagram for the Metallurgical Recovery Process (including refining if undertaken on-site);
- Where applicable, show how the geo-metallurgy analytical results, trail mining, bulk sampling and Pilot plant test work have been incorporated into the design of the envisaged extraction and processing operation.

13.9 Mining / Extraction

For both existing and planned future operations, all Modifying Factors must be stated cognizant of the

following:

- Provide a summary table which indicates the different ore types, the expected average and range of grades/quality, grade cut-offs, contamination/dilution, water content, the bulking factor and any other factors required as input from the Mineral Resource estimate to the mining section, including any assumptions relevant to the design;

Section 5: Technical Studies (Introduction) 5.1 (ii) [Mineral Reserves only]

- Provide a summary table of the Modifying Factors used to convert the Mineral Resource to Mineral Reserve for Pre-feasibility, Feasibility or ongoing Life-of-Mine studies;

Section 5: Technical Studies (Mining Design) 5.2 (ii) [Mineral Reserves only]

- State and justify all Modifying Factors and other assumptions made regarding mining / extraction methods, minimum mining dimensions (or pit shell) and internal and, if applicable, external) mining dilution/contamination and mining losses used for the techno-economic study and signed-off, such as mining / extraction method, mine design criteria, infrastructure, throughput capacities, production schedule, mining efficiencies, grade control, geotechnical and hydrological considerations, closure plans, and personnel requirements;

Section 5: Technical Studies (Mining Design) 5.2 (ix) [Mineral Reserves only]

- State the optimisation methods and any software used in planning, list of constraints (practicality, plant, access, exposed Mineral Reserves, stripped Mineral Reserves, bottlenecks, draw control, etc.);
- Describe the effect, if any, of natural risk, infrastructure, environmental, legal, marketing, social or governmental factors on the likely viability of a project and/or on the estimation and classification of the Mineral Reserves;
- The manner in which Inferred Mineral Resources are utilised in the mining studies (if at all) and the sensitivity of the outcome to their inclusion;

Section 6: Estimation and Reporting of Mineral Reserves (Reporting) 6.3 (ii) [Mineral Reserves only]

- Report the Mineral Reserves in sufficient detail indicating if the mining is an open-pit or underground, plus the source and type of mineralisation, including differentiation by domain or ore body, surface dumps, stockpiles and any other sources.

13.9.1 Mine Scheduling

For both existing and planned future operations, the mine scheduling must be stated cognizant of the following:

Section 5: Technical Studies (Mining Design) 5.2 (ii) [Mineral Reserves only]

- State and justify all Modifying Factors and assumptions made regarding the production schedule;
- Describe the rationale and methodology employed in scheduling the mining / extraction operation;
- Provide a high-level overview of macro-sequencing if multiple pits/shafts/sections are envisaged;
- Reference should be made to downstream product tonnage/volume and quality requirements, beneficiation plant design and constraints, ROM and processing plant blending, equipment selection and matching, mining / extraction method and geotechnical factors;
- Specific reference to any identified or potential scheduling constraints to achieving the planned production rates and/or mine design must be clearly stated.

13.9.2 Plant & Equipment

For both existing and planned future operations, the actual and/or anticipated plant and equipment required for extraction must be stated cognizant of the following:

Section 5: Technical Studies (Mining Design) 5.2 (viii) [Mineral Reserves only]

- Discuss mining rate, equipment selected, grade control methods, geotechnical and hydrogeological considerations, health and safety of the workforce, staffing requirements, contamination / dilution, and recovery;

Section 5: Technical Studies (Mining Design) 5.6 (viii) [Mineral Reserves only]

- Provide a schedule of current major plant and equipment (type, ownership, value and condition) for the existing (where applicable) or proposed operation, and of additional major plant and equipment which are necessary to achieve the planned rates of production (new or expansion);
- If part or all of the planned operation is to be subcontracted, the relevant plant and equipment

provided by the contractor should be clearly reflected as such;

- Assessment of value, ownership, type, extent and condition of plant and equipment that are significant to the existing operations. Information on and value of significant additional plant and equipment which are required to achieve the forecast production rates;
- Indicate the replacement and salvage value of all equipment;
- Include the source of the data used for the development of the plant and equipment requirement (such as quotes, previous studies, budget prices, etc.).

13.9.3 Planned Production

For both existing and planned future operations, the planned production must be stated cognizant of the following:

Section 5: Technical Studies (Mining Design) 5.2 (viii) [Mineral Reserves only]

- Discuss the forecast production rates and grade or qualities for the life of mine plan in both schedule and graphical format (per mining area);
- Planned production should be presented at intervals that provide sufficient detail to illustrate the life cycle of the operation (for example, 5-year, annual, quarterly, and monthly). An appropriate interval depends on the level or type of Technical Study, but should be at least annually for a Pre-Feasibility Study, and at least five years on a monthly basis for a Feasibility Study;
- Reconcile the planned life of mine production schedule against the reported Mineral Reserves in order to demonstrate the correct application of the mine plan to the Mineral Reserve mine design shell;
- The production tonnages/volumes and capacities should be clearly indicated in diagrammatic and table form;
- Where production is sourced from multiple sections, sufficient detail should be provided to indicate the effects of the different mining parameters on grades/qualities and costs;
- Where waste mining and other contamination / dilution issues are relevant, these should also be presented for each of the different source areas.

13.9.4 Unforeseen Geological Losses

For both existing and planned future operations, the actual and/or anticipated unforeseen geological losses must be stated cognizant of the following:

Section 5: Technical Studies (Mining Design) 5.2 (viii) [Mineral Reserves only]

- Summarise the process for assigning unforeseen geological losses to *in-situ* Mineral Resources, including allowances for model estimation error and unforeseen geology, geological disturbances or other geological/geotechnical factors;
- State the rationale for the losses assumed, together with examples to support these assumptions if available;
- Allowances for unforeseen losses resulting from geological domains, model confidence and Mineral Resource classification should reflect the confidence in the estimation of tonnages and quality in a given block.

13.9.5 Dilution & Contamination

For both existing and planned future operations, the actual and/or anticipated dilution and contamination must be stated cognizant of the following:

Section 5: Technical Studies (Mining Design) 5.2 (viii) [Mineral Reserves only]

- For projects with existing production data, summarise the historical reconciliation data on dilution/contamination;
- For new product areas, explain the rationale for the estimate of dilution/contamination with precedents from mines operating in similar situations, where available;
- Provide an explanation of the impact of dilution/contamination on the cut-offs, mining, mineral processing and metallurgical methodology, and the effect of the variation in the levels of dilution/contamination, particularly high levels on plant throughput.
- Provide a ration explanation to the estimation of the expected dilution and contamination level within

the extracted mineralised material, taking cognisance of the geometry and relative density of the different types of material and the scale of the mining equipment used to extract the Mineral Deposit;

- Provide details, appropriate to the Technical Study level, of mining waste during development or as a result of access to mineralised areas, depending on the level of study.

13.9.6 Mining Recovery

For both existing and planned future operations, the actual and/or anticipated mining recovery must be stated cognizant of the following:

Section 5: Technical Studies (Mining Design) 5.2 (viii) [Mineral Reserves only]

- For projects with existing production data, summarise historical reconciliation data on mining recoveries;
- For new product areas, explain the rationale for the estimate of mining recoveries with precedents from mines operating in similar Mineral Deposit types, where available.
- Indicate the extent to which mining recovery is affected by contamination and how this impacts the metallurgical process.

13.9.7 Previously Mined Areas

If previously mined areas have not been accounted for (derated), provide a statement to confirm this and if appropriate, explain why none has been applied;

Otherwise, provide a summary of material and pertinent data, information and conclusions relevant to previously mined areas cognizant of the following:

- Outline the process for dealing with previously mined areas (derating) within the geological or mining model to ensure that previously mined material has been recognised but not been included in the Mineral Resource estimation:
- For existing surface mining areas, including open-pits, open-cast mining areas or quarries, discuss the existing mining voids and dumps to ensure that mineralisation is not modelled in mined voids and that the impact of dumps on the mining geometry is fully accounted for;
- For existing underground mining areas, explain if pillars are included or excluded in the Mineral Resource estimates. Explain how the grade or quality model is adjusted to take account of selected mining;
- Discuss the potential impacts on future mining arising from previously mined areas;
- If necessary, prepare a plan showing the distribution of the previously mined workings.

13.9.8 ROM Moisture

For both existing and planned future operations of a commodity or commodities where moisture is a material contributor to ROM tonnage and/or quality estimates, the actual and/or anticipated impact of changes in moisture content must be stated cognizant of the following:

- Blanket or default assumptions are inappropriate, and details should be provided where known of variations arising from factors such as rainfall and groundwater ingress;
- Discuss the conversion factors from the In-Situ moisture of the Mineral Resource(s) to the ROM moisture for the Mineral Reserves (FTP/ROM);
- For projects with existing production data, summarise historical trends and tabulate data for ROM moisture to support ROM moisture assumptions. This summary may require presentation from different areas or historical data;

13.9.9 Management of Waste Rock

For all projects and existing and planned future operations, provide a summary statement of waste rock under mining.

Section 5: Technical Studies (Infrastructure) 5.4 (ii) [Mineral Reserves only]

- Report in sufficient detail to demonstrate 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, rail or port facilities, water and power supply, offices, housing, security, Mineral Resource sterilisation testing etc.);

- Provide detailed maps showing the locations of such facilities;
- Provide the waste characterisation (geotechnical and geochemical), design criteria, design and operational requirements (and governance).

13.9.10 Historical Verification of Mining - Extraction Performance Parameters

If applicable, the past mining / extraction production history of the operation under consideration should be provided as a background to the planned project. Historical performance statistics (parameter selection at the discretion of the Competent Person) should be presented to illustrate historical trends;

- Tabulate both budgeted/planned and actual production achieved, including mined and process feed tonnages and associated qualities;
- Comment on the ability of the planned operation to achieve the annual budgeted production levels, including mined and process feed tonnages and associated qualities.

13.10 Cut-Off Parameters

13.10.1 Mineral Resource Cut-off Parameters

If no Mineral Resource cut-off limits have been made, provide a statement to confirm this, and explain why none have been made.

Note: if no cut-off parameters are applied, then the estimates can be classified as Mineral Inventory ONLY (no exceptions), and thus no Mineral Resource can be declared.

Otherwise, provide a summary of material and pertinent data, information and conclusions relevant to Mineral Resource cut-off parameters cognizant of the following:

Section 5: Technical Studies (Mining Design) 5.2 (iv) [Mineral Resources & Mineral Reserves]

- Explain the basis of (the adopted) cut-off grade(s) or quality parameters applied, including metal equivalents, if relevant.
-

For reporting of **Industrial Minerals, Cement Feed Materials and Construction Raw Materials and Dimension Stone, Ornamental and Decorative Stone**, cut-off parameters may be different from those for other minerals. The Competent Person should consider, and include a discussion of (where appropriate) such cut-off parameters and how they have been applied when reporting Mineral Reserve estimates for these commodities.

13.10.2 Mineral Reserve Cut-Off Parameters

If no Mineral Reserve cut-off limits have been made, provide a statement to confirm this, and provide an explanation as to why not.

Otherwise, for both existing and planned future operations, the actual and/or anticipated cut-off parameters must be stated cognizant of the following:

Section 5: Technical Studies (Mining Design) 5.2 (iv) [Mineral Resources & Mineral Reserves]

- Explain the basis of (the adopted) cut-off grade(s) or quality parameters applied, including metal equivalents, if relevant.

For reporting of **Industrial Minerals, Cement Feed Materials and Construction Raw Materials and Dimension Stone, Ornamental and Decorative Stone**, cut-off parameters may be different from those for other minerals. The Competent Person should consider, and include a discussion of (where appropriate) such cut-off parameters and how they have been applied when reporting Mineral Reserve estimates for these commodities.

13.10.3 Mineral Resource Grade / Quality Assumptions

If no Mineral Resource grade and/or quality assumptions have been made, provide a statement to confirm this and if appropriate, explain why none have been made;

Otherwise, provide a summary of material and pertinent data, information and conclusions relevant to Mineral Resource grade and/or quality assumptions cognizant of the following:

Section 4: Estimation and Reporting of Exploration Results, Mineral Resources and Mineral Reserves (Reasonable prospects for eventual economic extraction) 4.3 (i) [Mineral Resources & Mineral Reserves]

- Disclose and discuss the grade/quality and value estimates, and cut-off grades;
- Disclose the forecast commodity price used in any estimation of the cut-off grade(s) and cross-reference with Section 14.4 (Commodity Price Forecast);

Section 4: Estimation and Reporting of Exploration Results, Mineral Resources and Mineral Reserves (Reporting) 4.5 (i) [All estimates]

- Discuss the reported low (or minimum) and high-(or maximum) grades with their spatial location to avoid misleading the reporting of Exploration Results, Mineral Resources or Mineral Reserves.

13.10.4 Mineral Resource Tonnage / Volume Assumptions

If no Mineral Resource tonnage and/or volume assumptions have been made, provide a statement to confirm this and, if appropriate, explain why none have been made;

Otherwise, provide a summary of material and pertinent data, information and conclusions relevant to Mineral Resource tonnage and/or volume assumptions cognizant of the following:

- Provide an explanation on how the relative density measurements were made, how this information was used to estimate the relative density of the Mineral Resource, and whether this was converted to an in-situ tonnage by the application of moisture or bulking factors;
- Discuss any potential bias in the sampling, analytical and estimation phases and indicate how this might impact the in-situ tonnage estimates, and indicate if any geological loss factors have been included to account for this;

Section 4: Estimation and Reporting of Exploration Results, Mineral Resources and Mineral Reserves (Reasonable prospects for eventual economic extraction) 4.3 (i) [Mineral Resources & Mineral Reserves]

- Disclose and discuss the depth limits, strip ratio cut-offs and average strip ratios;
- Explain how the relative density/bulked density analytical results have been incorporated into the geological model. If the estimated tonnages are based on a single averaged Relative Density estimate, explain why this was done, how it affects the confidence in the tonnage estimates and whether the Mineral Resource classification should be downgraded. Explain how this methodology might be representative of the entire Mineral Deposit.
- Refer back to the relative density and bulk density sections, how density was determined and its reliability, and thus impact on the reliability of the Mineral Resource tonnage estimate.

13.11 Mineral Processing

13.11.1 Methodology

Where no Mineral processing or materials handling is required or anticipated, the Competent Person should provide a positive statement indicating that the Marketable (Saleable) Mineral Reserve is equal to the Run-of-Mine (ROM) Mineral Reserve, and confirm that the Run-of-Mine (ROM) Mineral Reserves as raw material conforms to any and all marketing restrictions (such as composition limits, the content of deleterious elements, moisture content, etc.)

If no mineral processing studies have been undertaken, provide a statement to confirm this and, if applicable, explain why none has been completed;

Otherwise, list the available relevant standards, protocols, standard operating procedures (SOP), technical reports, and other available sources relevant to data acquisition and processing, interpretations and conclusions derived from the mineral processing studies, and to which the reader can be referred;

Provide a summary of material and pertinent data, information and conclusions derived from these sources, or for mineral processing data that has not been reported previously, provide a discussion cognizant of the following:

- Provide a table which indicates the ore produced, the contamination/dilution, water content, the bulking factor and any other factors required as input from the mining section to the mineral processing section, including any assumptions relevant to the design;

Section 5: Technical Studies (Metallurgical and Test work) 5.3 (iii) [Mineral Reserves only]

- Describe and justify the mineral processing method(s) to be used, equipment, plant capacity, efficiencies, and personnel requirements;

Section 5: Technical Studies (Metallurgical and Test work) 5.3 (iv) [Mineral Reserves only]

- Discuss the nature, amount and representativeness of metallurgical test work undertaken and the recovery factors used;
- Provide 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;

Section 5: Technical Studies (Metallurgical and Test work) 5.3 (vi) [Mineral Reserves only]

- State whether the metallurgical process is well-tested technology or novel in nature. If novel, justify its use in Mineral Reserve estimation;

Section 6: Estimation and Reporting of Mineral Reserves (Reporting) 6.3 (ii) [Mineral Reserves only]

- Report the Marketable or Saleable Mineral Reserves in sufficient detail indicating whether they were sourced from open-pit or underground, plus the source and type of mineralisation, including domain or ore body, surface dumps, stockpiles and any other sources.

13.11.2 Grade or Quality Factors

If no processing grade or quality factors have been made, provide a statement to confirm this and if applicable, explain why none have been made;

Otherwise, state any processing grade or quality factors where relevant.

13.11.3 Product Qualities

If no product quality factors have been made, provide a statement to confirm this and, if applicable, explain why none have been made;

Otherwise, state any product quality factors where relevant;

Discuss any deleterious elements and impact on product characteristics, marketability and/or price.

13.11.4 Practical Yield

For projects with existing production data, summarise the historical reconciliation data on practical yields against predicted practical yields. Note that only yields on an equivalent (in-out) basis should be compared; Where new products are anticipated, explain the rationale for the estimate of practical yields with precedents from mines operating in similar situations or Mineral Deposits, where available.

If the Competent Person provides a statement of the theoretical yield instead of the practical yield, this must be accompanied by an unequivocal statement of equal prominence and position clearly identifying that this estimate is theoretical, the basis on which this has been estimated, and a caveat that the theoretical yield may not be achieved in practice;

13.11.5 Product Moisture and Marketable (Saleable) Mineral Reserve Moisture

For both existing and planned future operations of a commodity or commodities where moisture is a material contributor to Marketable (Saleable) product tonnage and/or product quality estimates, the actual and/or anticipated moisture content must be stated cognizant of the following:

- Blanket or default assumptions are inappropriate, and details should be provided where known of variations arising from factors such as rainfall and groundwater ingress;
- Discuss the moisture conversion factors from the ROM Mineral Reserves to the Marketable (Saleable) Mineral Reserves (if relevant);
- For projects with existing production data, summarise historical trends and tabulate data for saleable moisture to support Marketable (Saleable) Mineral Reserve moisture assumptions. This summary

may require presentation from different areas or historical data.

13.11.6 Historical Verification of Mineral Processing Performance Parameters

If applicable, the past mineral processing history of the operation under consideration should be provided as a background to the planned project. Historical performance statistics (parameter selection at the discretion of the Competent Person) should be presented to illustrate historical trends;

- Tabulate both budgeted/planned and actual production achieved, including process feed and product tonnages and associated qualities;
- Comment on the ability of the planned operation to achieve the annual budgeted production levels, including process feed and product tonnages and associated qualities.

13.11.7 Management of Process Residues (including Tailings)

For all projects and existing and planned future operations, provide a summary statement of process residues including but not limited to tailings.

Section 5: Technical Studies (Infrastructure) 5.4 (ii) [Mineral Reserves only]

- Report in sufficient detail to demonstrate 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, rail or port facilities, water and power supply, offices, housing, security, Mineral Resource sterilisation testing etc.);
- Provide detailed maps showing the locations of such facilities;
- Provide the waste characterisation (geotechnical and geochemical), design criteria, design and operational requirements (and governance).

13.12 Metal Equivalents & Combined Grades

If the reported Mineral Reserve estimate does not contain any metal equivalents or combined grades, provide a statement to confirm this and, if appropriate, explain why none have been made.

Otherwise, provide a summary of material and pertinent data, information and conclusions relevant to metal equivalents or combined grades, cognizant of the following:

Section 6: Specific for Metal Equivalents or Combined Grades Reporting 6.4 (i) [All Estimates]

- Provide a statement confirming that this Mineral Project Evaluation Report complies with section 9 (paragraphs 9.1 to 9.5) of the PERC Reporting Standard;

PERC 9.1:

- 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 principal metal) or combined grade values must show details of all material factors contributing to the net value derived from each constituent;

PERC 9.2 & Section 6: Specific for Metal Equivalents or Combined Grades Reporting 6.4 (ii) [Mineral Resources & Mineral Reserves]

- Individual grades for all metals included in the metal equivalents calculation;
- Discuss and describe the basis for the grade estimation for each metal relating to the metal equivalence or combined grade;

PERC 9.2 & Section 6: Specific for Metal Equivalents or Combined Grades Reporting 6.4 (iii) [Mineral Resources & Mineral Reserves]

- Assumed commodity prices for all metals (cross-reference Section 14.4 (Commodity Price Forecast)). 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 investors or potential investors and their professional advisers to understand the methodology used to determine these prices;
- Disclose all economic criteria that have been used for the calculation, such as exchange rates, revenue/price curves, royalties, cut-off grades, and pay limits;

PERC 9.2 & Section 6: Specific for Metal Equivalents or Combined Grades Reporting 6.4 (iv) [Mineral Resources & Mineral Reserves]

- Assumed beneficiation recoveries for all metals and a discussion of the basis on which the assumed recoveries are derived (metallurgical test work, detailed mineralogy, similar deposits, etc.);
- Discuss the basis for assumptions or predictions regarding metallurgical factors such as recovery used in the metal equivalents or combined grades calculation;

PERC 9.2:

- A clear statement that it is the company's or reporting entity's opinion that all the elements included in the metal equivalents calculation have a reasonable potential to be recovered and sold;

PERC 9.2 & Section 6: Specific for Metal Equivalents or Combined Grades Reporting 6.4 (v) [Mineral Resources & Mineral Reserves]

- The calculation formula used;
- Show the calculation formula used.

PERC 9.3:

- 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 Public Report.

PERC 9.4:

- Estimates of beneficiation recoveries for each metal used to calculate meaningful metal equivalents must be reported;

PERC 9.5:

- Public Reporting based on metal equivalents must not be done if metallurgical recovery test information is unavailable or cannot be estimated with reasonable confidence.

13.13 Infrastructure

For both existing and planned future operations, the actual and/or anticipated infrastructure must be stated cognizant of the following:

- Indicate whether the extraction operation is an extension of an existing facility, the mineral development project is close to existing relevant infrastructure, or whether the mineral development project is on a remote site;

Section 5: Technical Studies (Infrastructure) 5.4 (i) [Mineral Resources & Mineral Reserves]

- Comment regarding the current state of infrastructure or the ease with which the infrastructure can be provided or accessed;
- Where the site is remote, provide additional details, including but not limited to, access to the site (such as drive-in or fly-in), the level of accommodation to be provided (such as single basis or full town amenities), and considerations given to roads, rail, power, water, sewage, etc.;
- Provide an adequately detailed explanation and cost schedule of all anticipated capital expenditure and operating costs;

Section 5: Technical Studies (Infrastructure) 5.4 (ii) [Mineral Reserves only]

- Report in sufficient detail to demonstrate 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, rail or port facilities, water and power supply, offices, housing, security, Mineral Resource sterilisation testing etc.). Provide detailed maps showing the locations of such facilities;
- Include consideration given to firefighting and emergency issues (underground fire, power cut to ventilation fans, helicopter pad, or otherwise for emergency evacuation, security);

Section 5: Technical Studies (Infrastructure) 5.4 (iii) [Mineral Reserves only]

- Provide a statement confirming that all necessary logistics have been considered: conveyor, rail, road, barge;

Section 5: Technical Studies (Environmental, Social Performance, and Governance) 5.5 (ii) [All estimates]

- Summarise site access routes and any potential impact on the environment or local communities;
- Summarise the provision of energy for activities (e.g. off-grid renewable energy or sourced directly from the non-renewable power grid, with any plans for decarbonisation for future projects, if possible);
- Comment regarding the current state of infrastructure or the ease with which the infrastructure can be provided or accessed. The existence of appropriate infrastructure: availability of land for plant

- development, power, water, transportation (particularly for bulk commodities), labour, accommodation; or the ease with which the infrastructure can be provided or accessed;
- Statement showing that all necessary logistics have been considered.

13.14 Environmental, Social Performance & Governance

13.14.1 General

If no Environmental-Social-Governance (ESG) has been carried out, provide a statement to confirm this, and give an explanation of the reasons for the omission;

Otherwise, list the available protocols, standard operating procedures (SOP), technical reports, information in the public domain, and other available sources relevant to ESG, and to which the reader can be referred;

Provide a summary of material and pertinent data, information and conclusions derived from these sources, or for ESG that has not been reported previously, provide a discussion that clearly differentiates Modifying Factors that could prevent any further exploration (including stakeholder objection, flooding, etc.) and those that could influence future development of the project, cognizant of the following:

PERC Standard Paragraph 2.31 [All estimates]

- All Public Reports of Exploration Results, Mineral Resources and Mineral Reserves must include the consideration and reporting of the environmental, social performance (including health and safety) and governance (ESG) context and factors that could have a material effect on the outcome of the project or operation. Consideration of the environmental, social performance (including health and safety), and governance (ESG) context and factors should include consideration of established global principles, standards and guidelines;

PERC Standard Paragraph 5.11 [Exploration Results only]

- When reporting on Exploration Results for a Project, some initial consideration must be given to the prospects for future economic extraction.
- Preliminary Modifying Factors, including material ESG threats and opportunities, should be taken into consideration at this early stage. If there are known issues related to the preliminary Modifying Factors, particularly ESG aspects that could represent significant threats or opportunities with respect to the prospects for future economic extraction, these issues may be material information and should be discussed in the Public Report;

PERC Standard Paragraph 5.19 [Exploration Results only]

- An Exploration Target may only be quoted if the associated Exploration Results show some prospects for future economic extraction. Therefore, preliminary Modifying Factors, including material ESG threats and opportunities, must be considered at this early stage;

PERC Standard Paragraph 6.4 [Mineral Resources only]

- All Public Reports of Mineral Resources must include consideration and reporting of ESG context and factors that could influence reasonable prospects for eventual economic extraction;

PERC Standard Paragraph 7.6 [Mineral Reserves only]

- All Public Reports of Mineral Reserves must include the consideration and reporting of ESG context and factors that could influence the conclusion that extraction could reasonably be justified at the time of reporting.

PERC Standard Paragraph 12.1 [All estimates]

- Public Reports must discuss the environmental, social (including health and safety), and governance aspects (ESG) of the project or operation that could materially affect the project during development, operations and after closure;

Section 5: Technical Studies (Environmental, Social Performance, and Governance) 5.5 (i) [Mineral Resources & Mineral Reserves]

- Confirm that the company or reporting entity (or both) has addressed the host country's environmental legal compliance requirements and any mandatory and/or voluntary standards or guidelines to which the company or reporting entity (or both) subscribes;
- Identify the necessary permits required and their status and where not yet obtained; confirm that there is a reasonable basis to believe that all permits required for the project can be obtained and the anticipated timeframe;
- Identify and discuss any sensitive areas that may affect the project as well as any other environmental factors, including Interested and Affected Parties (I&AP) and/or studies that could have a

material effect on the likelihood of eventual economic extraction. Discuss possible means of mitigation;

- Identify any legislated social management programmes that may be required and discuss the content and status of these;
- Outline and quantify the material socio-economic and cultural impacts that need to be mitigated, their mitigation measures and, where appropriate, the associated costs.

13.14.2 Context

For all projects and existing and planned future operations, provide a summary statement of the ESG context cognizant of the following:

Section 5: Technical Studies (Environmental, Social Performance, and Governance) 5.5 (ii) [All estimates]

- Summarise the locality's physical geography, centres of population, economic and cultural characteristics;
- Summarise existing land and natural resource use for economic, cultural, recreational and conservation purposes (inclusive of environmental and cultural sites of interest);
- Summarise existing or historical industrial development and associated infrastructure, including mining and quarrying in the region;
- Summarise local governance structures and administrative bodies, their roles and responsibilities in relation to permitting and regulations;
- Summarise site access routes and any potential impact on the environment or local communities;
- Summarise the provision of energy for activities (e.g. off-grid renewable energy, or sourced directly from non-renewable power grid with plans for decarbonisation for future projects if possible);

Section 5: Technical Studies (Environmental, Social Performance, and Governance) 5.5 (iii) [Mineral Resources & Mineral Reserves]

- For Mineral Resources and Mineral Reserves, identify and describe:
 - (a) potential climate-associated risks and impacts;
 - (b) social economic and cultural constraint / control / consent measures / Modifying Factors;
 - (c) any sensitive areas that may affect the project, as well as any other environmental factors, including I&AP and/or studies that could have a material effect on the likelihood of eventual economic extraction;
 - (d) the management of project waste and anticipated requirements for large-scale infrastructure for mine waste for the future, including but not limited to waste dumps and tailings dams.

13.14.3 Environmental

For all projects and existing and planned future operations, provide a summary statement of the ESG environmental status and requirements cognizant of the following:

Section 5: Technical Studies (Environmental, Social Performance, and Governance) 5.5 (i) [Mineral Resources & Mineral Reserves]

- Confirm the level of environmental studies (such as Scoping, Impact Assessment, Management Plan) and status (whether in preparation, completed, submitted, or approved);
- Confirm that the company or reporting entity has addressed the host country's environmental legal compliance requirements and any mandatory and/or voluntary standards or guidelines to which it subscribes;
- Identify and discuss any sensitive areas that may affect the project as well as any other environmental factors, including Interested and Affected Parties (I&AP) and/or studies that could have a material effect on the likelihood of eventual economic extraction. Discuss possible means of mitigation;
- Stakeholder identification and analysis with respect to the biodiversity present in and surrounding the project area, including all endangered or protected species and the associated habitats;
- Provide an assessment of the likely impact of any environmentally related issues on project value and company reputation, including a discussion of impacts during the life of the operation and post-closure;
- Describe the proposed strategy to manage the identified impacts;
- Report the status of environmental or rehabilitation matters which may impact on a valuation;

- Identify environmental restoration liabilities and their financial impact;
- Cross-reference to any specialised reports.

Section 5: Technical Studies (ESG) 5.5 (iii) [Exploration Results only]

Section 5: Technical Studies (ESG) 5.5 (iii) [Mineral Resources & Mineral Reserves]

- Provide a high-level assessment of the level of water stress (e.g. potential for drought, flood and impact on water quality), and a high-level assessment of biodiversity (e.g. endangered species known in the area);

Section 5: Technical Studies (ESG) 5.5 (iv) Permits and permission [All estimates]

- Identify the necessary permits 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 may be obtained in a timely manner. Also, include any records of penalties/fines or revoked permits complete with rationale.

13.14.4 Social & Community

For all projects and existing and planned future operations, provide a summary statement of the ESG social and community status and requirements cognizant of the following:

Section 5: Technical Studies (Environmental, Social Performance, and Governance) 5.5 (vi) [All estimates]

- Confirm the level of social and community studies and status (whether in preparation, completed, submitted, or approved);
- The Competent Person must include:
 - (a) a description of stakeholder group characteristics;
 - (b) records of Community and Stakeholder relationships;
 - (c) records kept of all engagements with all stakeholders from the outset of the project;
 - (d) a grievance and/or complaints procedure established, stakeholders' issues, concerns recorded and tracked until resolved";
 - (e) identify and discuss any sensitive areas that may affect the project as well as any other Interested and Affected Parties (IAP) and/or community-social studies that could have a material effect on the likelihood of eventual economic extraction;
 - (f) outline and quantify the material socio-economic and cultural impacts that need to be mitigated, and their mitigation measures and, where appropriate, the associated costs;
 - (g) identify any legislated social management programmes that may be required and discuss the content and status of these;
 - (h) the status of agreements with key stakeholders and matters leading to social licence to operate;

Section 5: Technical Studies (Environmental, Social Performance, and Governance) 5.5 (vii) [Mineral Resources & Mineral Reserves]

- Describe the data management system implemented to record and track engagements;
- Describe provisions made for vulnerable and/or under-represented stakeholder groups;
- Identify the presence or not of Indigenous People and how Free, Prior and Informed Consent (FPIC) is managed;

Section 5: Technical Studies (Environmental, Social Performance, and Governance) 5.5 (viii) [Exploration Results only]

- Describe the Health and safety protocols and procedures required for Exploration Target definition inclusive of evidence of adherence to them and ongoing health and safety record;

Section 5: Technical Studies (Environmental, Social Performance, and Governance) 5.5 (viii) [Mineral Resources & Mineral Reserves]

- Describe health and safety procedures and protocols, including community safety and security, across the exploration and exploitation programme, inclusive of evidence of adherence to them and ongoing health and safety record;

Section 5: Technical Studies (Environmental, Social Performance, and Governance) 5.5 (ix) [Exploration Results only]

- Identify opportunities for contributing to the local economy, where appropriate;

Section 5: Technical Studies (Environmental, Social Performance, and Governance) 5.5 (ix) [Mineral Resources & Mineral Reserves]

- Describe legislated and or voluntary social development programmes that may be required and the

<p>content and status of these and, where appropriate, the associated costs;</p> <p><i>Section 5: Technical Studies (Environmental, Social Performance, and Governance) 5.5 (x) [Mineral Resources & Mineral Reserves]</i></p> <ul style="list-style-type: none"> Identify material socio-economic and cultural impacts that need to be managed and, where appropriate, the associated costs; <p><i>Section 5: Technical Studies (Environmental, Social Performance, and Governance) 5.5 (xi) [All estimates]</i></p> <ul style="list-style-type: none"> Describe the corporate governance board structure: gender, nationality, tenure, roles, responsibilities and process for selection of Board members, and Board remuneration processes and procedures; <p><i>Section 5: Technical Studies (Environmental, Social Performance, and Governance) 5.5 (xii) [Exploration Results only]</i></p> <ul style="list-style-type: none"> Describe the commitment to GIIP: transparency, diversity, and commitment to ESG, including: <ul style="list-style-type: none"> (a) Corporate commitment to social performance; (b) Corporate commitment to environmental stewardship; <p><i>Section 5: Technical Studies (Environmental, Social Performance, and Governance) 5.5 (xii) [Mineral Resources & Mineral Reserves]</i></p> <ul style="list-style-type: none"> Describe how corporate compliance is assured and verified; Describe the commitment to GIIP: transparency, diversity, commitment to ESG; Describe the commitment to social performance; Describe the commitment to environmental stewardship; Provide an assessment of the likely impact of any socially related issues on project value and company reputation; <p><i>Section 5: Technical Studies (Environmental, Social Performance, and Governance) 5.5 (xiii) [Exploration Results only]</i></p> <ul style="list-style-type: none"> Provide a description of identified potential Modifying Factors and management actions taken to manage them where appropriate.
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13.14.5 Governance

PERC Standard Paragraph 12.1

- Briefly describe the main aspects of **external governance**, including both external governance exercised by governmental or regulatory authorities, including regional and national authorities and regulatory bodies that administer permits and regulatory requirements.
- Briefly describe the main aspects of **internal corporate governance** at a corporate level, including tax transparency, board diversity, shareholder rights and the relationship with regulatory bodies; and the governance structures to facilitate effective health and safety performance. Refer to the Company report(s) on corporate governance.
- Briefly describe the following:
 - (a) the corporate commitment to Good International Industry Practice (GIIP) (or business best practice) in respect of transparency, diversity, and commitment to ESG;
 - (b) the corporate commitment to **social performance** described/provided;
 - (c) the corporate commitment to **environmental stewardship** described/provided.

13.15 Mine Closure

If no mine closure studies have been undertaken, provide a statement to confirm this and, if applicable, explain why none have been implemented;

Otherwise, list the available relevant standards, protocols, standard operating procedures (SOP), technical reports, and other available sources relevant to mine closure and to which the reader can be referred;

Provide a summary of material and pertinent data, information and conclusions derived from these sources, or for mine closure data that has not been reported previously, provide a discussion cognizant of the following:

Section 5: Technical Studies (Environmental, Social Performance, and Governance) 5.5 (v) [Mineral Resources & Mineral Reserves]

- Describe the process for determining the mine closure process, and the status (not started, in

process, completed);

- Describe the best cost estimate for closure inclusive of environmental and social-community liabilities remaining and compliance costs;
- Provide a description of mechanisms in place to address unplanned closure;
- If appropriate, describe bonding obligations in place to ensure that these liabilities can be funded on a qualitative and quantitative basis;
- All ESG costs/issues for closure should be tabulated and referenced in the developed Technical Economic Model (if appropriate) if developed for a mining project.

Section 1: Project Outline (Liabilities) 1.7 (i) [All estimates]

- Provide a description of the future financial rehabilitation liability, including, but not limited to, legislative requirements, assumptions and limitations.

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14. ECONOMIC ASSESSMENT

14.1 General

For all projects and existing and planned future operations, provide a summary assessment of prevailing and/or anticipated future economic factors, cognizant of the following:

Section 5: Technical Studies (Market Studies and Economic Criteria) 5.6 (i) [Mineral Resources only]

- Discuss any technical and economic factors likely to influence the reasonable prospects of eventual economic extraction;

Section 5: Technical Studies (Market Studies and Economic Criteria) 5.6 (i) [Mineral Reserves only]

- Describe the valuable and potentially valuable product(s), including the suitability of products, co-products and by-products to market;

Section 5: Technical Studies (Market Studies and Economic Criteria) 5.6 (ii) [Mineral Reserves only]

- Describe the product to be sold, deleterious elements, customer specifications, testing, and acceptance requirements;
- Discuss whether there exists a ready market for the product and whether contracts for the sale of the product are in place or expected to be readily obtained.
- Provide price and tonnage/volume forecasts and the basis for the forecast;

Section 5: Technical Studies (Market Studies and Economic Criteria) 5.6 (v) [Mineral Reserves only]

- Present the details of the reference point for the tonnages and grades reported as Mineral Reserves (e.g. material delivered to the mineral processing facility or saleable product(s)). It is important that, in any situation where the reference point is different, a clarifying statement is included to ensure that the reader is fully informed as to what is being reported;
- Convert the Mineral Reserve reference point to the Point of Sale and identify and discuss the Discount Factors required to convert the Mineral Reserves to the Mineral Product(s) as sold at the Point of Sale. Provide a life of mine schedule of the Mineral Product sold and reconcile the total with the declared Mineral Reserves.

14.2 Market & Contracts

For all projects and existing and planned future operations, provide a summary assessment of prevailing and/or anticipated market and contract factors, cognizant of the following:

Section 4: Estimation and Reporting of Exploration Results, Mineral Resources and Mineral Reserves (Reasonable prospects for eventual economic extraction) 4.3 (vi) [Mineral Resources & Mineral Reserves]

- Disclose and discuss the marketing parameters;
- Provide a discussion of the markets for the issuer's production and the nature and material terms of any agency relationships;
- Provide a discussion of whether the terms of mining, mineral processing, concentrating, smelting, refining, transportation, handling, sales and hedging and forward sales contracts or arrangements, rates or charges are within industry norms;
- If a market assessment specific to the project under consideration has been undertaken, summarise the findings and provide a cross-reference to the report. The assessment should include a review of:
 - (a) how the current project fits into the overall marketing strategy;
 - (b) the current and forecast demand, supply and stock of the product;
 - (c) the consumption trends and competitive factors likely to affect the supply and demand over the life of the project;
 - (d) a customer and competitor analysis;
 - (e) a price and demand forecast (ability of the market to absorb additional product tonnage);
 - (f) the assumptions made with respect to price and demand forecasts;
 - (g) the selling and technical marketing strategy (including contractual/spot sales);
 - (h) domestic/export infrastructure (conveyor, rail, road and port), including an assessment of infrastructure capacity to handle the additional production;
 - (i) the impact of deleterious elements on the product quality and impact on marketability and penalty payment;
- Cross-reference any specialist reports.

14.3 Cost Analysis

14.3.1 Capital Expenditure

For all projects and existing and planned future operations, provide a summary of anticipated and/or actual capital expenditure utilised for economic analysis, cognizant of the following:

Section 5: Technical Studies (Market Studies and Economic Criteria) 5.6 (iii) [Mineral Reserves only]

State the derivation of, or assumptions made, regarding projected capital expenditure in the study based on the assessment of the infrastructure requirements.

14.3.2 General Operating Costs

For all projects (where relevant) and existing and planned future operations, provide a summary of anticipated and/or actual operating costs utilised for economic analysis, cognizant of the following:

Section 5: Technical Studies (Market Studies and Economic Criteria) 5.6 (iii) [Mineral Reserves only]

- State the derivation of, or assumptions made, regarding projected operating costs in the study, split into mining, mineral processing, metallurgical, marketing, and other costs;

Section 5: Technical Studies (Market Studies and Economic Criteria) 5.6 (ix) [Mineral Reserves only]

- Provide details of all environmental, social and labour costs considered.

14.3.3 Mining Costs

For all projects (where relevant) and existing and planned future operations, provide a summary of anticipated and/or actual mining or extraction costs utilised for economic analysis, cognizant of the following:

Section 5: Technical Studies (Market Studies and Economic Criteria) 5.6 (iii) [Mineral Reserves only]

- State the derivation of, or assumptions made, regarding projected operating costs in the study, split into mining, mineral processing, metallurgical, marketing, and other costs;
- State and justify assumptions made concerning mining or extraction costs, differentiating start-up cost from SIB stay-in-business capital cost;
- Tabulate mine capital expenditure over the life of mine plan, expansion capital and replacement capital;
- Ensure that costs are estimated from first principles and zero-based costing with quotes on items where required;
- Ensure that cost estimates are captured per activity, and/or discipline, and/or function;
- Ensure that costs are determined to the required level of accuracy for the level of Technical Study;
- Provide industry benchmarks of mining cost estimates where available;

14.3.4 Mineral Processing and Metallurgical Costs

For all projects (where relevant) and existing and planned future operations, provide a summary of anticipated and/or actual mineral processing and metallurgical costs utilised for economic analysis, cognizant of the following:

Section 5: Technical Studies (Market Studies and Economic Criteria) 5.6 (iii) [Mineral Reserves only]

- State and justify the derivation of, or assumptions made, regarding projected processing costs in the study;

Section 5: Technical Studies (Market Studies and Economic Criteria) 5.6 (vi) [Mineral Reserves only]

- Provide details of allowances that are made for the content of deleterious elements and the cost of penalties.
- State type, extent and condition of plant and equipment that is significant to the existing operation(s);
- Provide the basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, and metallurgical discounts on price for delivering a concentrate to a refinery;

14.3.5 Marketing Costs

For all projects (where relevant) and existing and planned future operations, provide a summary of anticipated and/or actual marketing costs utilised for economic analysis, cognizant of the following:

Section 5: Technical Studies (Market Studies and Economic Criteria) 5.6 (vi) [Mineral Reserves only]

- State and justify assumptions made concerning marketing costs.

14.3.6 Transportation Costs

For all projects (where relevant) and existing and planned future operations, provide a summary of anticipated and/or actual transportation costs utilised for economic analysis, cognizant of the following:

Section 5: Technical Studies (Market Studies and Economic Criteria) 5.6 (vi) [Mineral Reserves only]

- State the derivation of, or assumptions made, regarding projected transportation costs in the study;

14.3.7 Environmental & Social-Community Costs

For all projects (where relevant) and existing and planned future operations, provide a summary of anticipated and/or actual environmental and social-community costs utilised for economic analysis, cognizant of the following:

Section 5: Technical Studies (Environmental, Social Performance, and Governance) 5.5 (v) [Exploration Results only]

- Describe any known rehabilitation activities, liability and/or compliance costs;

Section 5: Technical Studies (Environmental, Social Performance, and Governance) 5.5 (i) [Mineral Resources & Mineral Reserves]

- Confirm the environmental/rehabilitation and social/community costs and provide details of the mechanism and costs of financial assurance required for environmental or rehabilitation costs;
- Detail how ESG-related costs are reflected in the financial model.

14.3.8 Closure Costs

For all projects (where relevant) and existing and planned future operations, provide a summary of anticipated and/or actual closure costs utilised for economic analysis, cognizant of the following:

Section 5: Technical Studies (Environmental, Social Performance, and Governance) 5.5 (i) [Mineral Resources & Mineral Reserves]

- All ESG costs/issues for closure should be tabulated and referenced in the developed Technical Economic Model (if appropriate) if developed for a mining project;
- Detail how closure costs are related to costs reflected in the financial model;
- Indicate if separate financial provisions are required for long-term environmental liabilities and/or closure and, if so, how this is being managed.

14.3.9 Other Costs

State and justify assumptions made concerning any other costs not listed above.

14.4 Commodity Price Forecast

14.4.1 Exploration Results and Exploration Target Commodity Price Forecast

For all projects and existing and planned future operations, provide a summary of the commodity price forecast utilised to demonstrate the potential of the Exploration Results and/or Exploration Targets, cognizant of the following:

Section 4: Estimation and Reporting of Exploration Results, Mineral Resources and Mineral Reserves (Reasonable prospects for eventual economic extraction) 4.3 (vii) [All Estimates]

- Disclose the methodology and discuss the commodity price forecast used to provide relevance to the

grades/quality discussed in Exploration Results and Exploration Targets.

14.4.2 Mineral Resource Commodity Price Forecast

For all projects and existing and planned future operations, provide a summary of the Mineral Resource commodity price forecast utilised to demonstrate Reasonable Prospects for Eventual Economic Analysis (RPEEE) and economic analysis, cognizant of the following:

Section 4: Estimation and Reporting of Exploration Results, Mineral Resources and Mineral Reserves (Reasonable prospects for eventual economic extraction) 4.3 (vii) [All Estimates]

- Disclose the methodology and discuss the commodity price forecast used to estimate Mineral Resources, and state if it is different to the methodology used to predict the forecast Mineral Reserve commodity price.

14.4.3 Mineral Reserve Commodity Price Forecast

For all projects and existing and planned future operations, provide a summary of the Mineral Reserve commodity price forecast utilised for economic analysis, cognizant of the following:

Section 5: Technical Studies (Market Studies and Economic Criteria) 5.6 (iv) [Mineral Reserves only]

- For Mineral Reserves, provide a summary description, source and confidence of the 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;
- Provide a summary description, the source, and confidence of the method used to estimate the metal or commodity price(s) for all the principal metals, minerals and co-products;
- Include a statement outlining the circumstances under which it is considered that the mining project would not be viable, together with an appraisal of their likelihood.

14.5 Exchange Rates

For all projects and existing and planned future operations, provide a summary of anticipated and/or actual exchange rates used for economic analysis, cognizant of the following:

Section 5: Technical Studies (Market Studies and Economic Criteria) 5.6 (iii) [Mineral Reserves only]

Section 5: Technical Studies (Market Studies and Economic Criteria) 5.6 (vi) [Mineral Reserves only]

- State and justify the source of the exchange rates used in the study.

14.6 Taxation & Royalties & Specialist Issues

For all projects and existing and planned future operations, provide a summary of the anticipated and/or actual taxation and royalties used for economic analysis, cognizant of the following:

Section 5: Technical Studies (Market Studies and Economic Criteria) 5.6 (iii) [Mineral Reserves only]

Section 5: Technical Studies (Market Studies and Economic Criteria) 5.6 (vii) [Mineral Reserves only]

- Provide details of all taxation, including but not limited to corporation tax, current and deferred taxation, and secondary taxation on corporations, where applicable;
- Provide details of allowances made for royalties with reference to Section 3, payable both to the Government and private parties;

In addition

- Consideration should be given to specialist issues such as insurance, shareholder pay-outs, interest on profit, interest on borrowing, etc.

14.7 Economic Analysis

For all projects and existing and planned future operations, provide a summary economic analysis, suitable to demonstrate the robustness of the techno-economic model, cognizant of the following:

Section 5: Technical Studies (Economic Analysis) 5.8 (ii) [Mineral Resources & Mineral Reserves]

- Provide a financial model for the project at the relevant level (Scoping Study, Pre-feasibility, Feasibility or on-going Life-of Mine) and a statement confirming whether deterministic or probabilistic methods have been used;
- State the version/date of the software/programme used to produce the financial model, the process for controlling access and modification of the model, the date of the current model, and date and frequency of revision(s);
- State the level of uncertainty for all input and output parameters in the economic model, and state how they pertain to the level of Technical Study that informs the economic model;
- State how the model was, or is scheduled to be audited/reviewed, and when it was last audited/reviewed and by whom, the recommendations and conclusions of the audit/review, and what subsequent actions were taken in respect of the audit/review;
- State the approval and sign-off process for the economic model;
- Describe the mechanism for archiving, back-up and retrieval of current and previous economic models;

Section 5: Technical Studies (Economic Analysis) 5.8 (iii) [Mineral Resources & Mineral Reserves]

- Provide a summary of the Cash Flow forecast on an annual basis using an annual production schedule for the life of the project;

Section 5: Technical Studies (Economic Analysis) 5.8 (iv) [Mineral Resources & Mineral Reserves]

- Present a discussion of net present value (NPV), internal rate of return (IRR) and payback period of capital investment;

Section 5: Technical Studies (Economic Analysis) 5.8 (v) [Mineral Resources & Mineral Reserves]

- Discuss sensitivity or other analysis using variants in commodity price, grade, capital expenditure and operating costs, or other significant parameters, and discuss the impact of the results;

Section 6: Estimation and Reporting of Mineral Reserves (Estimation and Modelling Techniques) 6.1 (iii) [Mineral Reserves only]

- If Inferred Mineral Resources are used in assessing Mineral Reserves, the Competent Person(s) must report and discuss a comparison between the results of economic analysis, both including and excluding the Inferred Mineral Resources, in such a way so as not to mislead the investors.

In addition, when discussing the **net present value (NPV)**, **internal rate of return (IRR)** and **payback period of capital investment** or other financial parameters that imply economic value presented in this Mineral Project Evaluation Report:

- Any economic valuation given in this economic analysis must NOT be presented in a way that unreasonably implies that this Mineral Project Evaluation Report conforms with, represents, or in any other way could be implied to represent or conform with, a Mineral Asset Valuation Report compiled in accordance with the regulations and recommendations of the International Mineral Property Valuations Standards, compiled by the International Mineral Valuation Committee (IMVAL), and including but not limited to valuation codes such as SAMVAL, CIMVAL, VALMIN, USMinVAL or POLVAL;
- The Competent Person(s) must provide a clear statement of equal prominence confirming that the economic value(s) presented in this Mineral Project Evaluation Report does NOT represent a mineral asset valuation as defined by IMVAL and associated international valuation codes;

Furthermore, for **forward-looking financial statements**, **director's forecasts**, or **other economic predictions** based on the results of an economic analysis presented in this Mineral Project Evaluation Report:

- A caveat must be included if a forward-looking financial statement, future economic prediction, director's forecast, or other speculative economic assessment is made in respect of the project or part of the project, and when such statement(s) is included in this Mineral Project Evaluation Report;
- A forward-looking economic statement must NOT be presented in a way that unreasonably implies that it is other than speculative in nature, and the Competent Person(s) must provide a clear statement of equal prominence confirming that no assurance can be given that any part, or all of the forward-looking economic statement(s) presented may eventually be realised.

14.8 Economic Extraction is Reasonably Justified (EERJ)

For all projects and existing and planned future operations, provide a statement confirming that economic extraction is reasonably justified (EERJ), cognizant of the following:

'Economic extraction is reasonably justified (EERJ)' requires a detailed assessment of all issues, including the assessment of the detailed Modifying Factors, likely to influence the Technical, ESG and Economic conditions for economic extraction and that demonstrate the Mineral Project's or Operation's Technical, ESG and Economic viability, supported by a Pre-Feasibility Study (Preliminary Feasibility Study) or Feasibility Study (Bankable or Final Feasibility Study), through the detailed assessment of the Modifying Factors.

The detailed assessment must under reasonably justifiable Technical (including mining and mineral processing parameters), ESG and Economic conditions and, based on 'reasonable financial assumptions', demonstrate that the Mineral Resources included in the Life of Mine Plan are economically extractable and warrant conversion to Mineral Reserves.

Public Reporting must include an assessment that 'economic extraction is reasonably justified' to substantiate the conversion of the Mineral Resources to Mineral Reserves.

The term "economically viable" implies that extraction of the Mineral Reserve has been established or analytically demonstrated (e.g., such as by a cash flow) to be viable and justifiable under reasonable investment and market assumptions.

15. OTHER RELEVANT DATA AND INFORMATION

Section 8: Other Relevant Information (Other Relevant Information) 8.1 (i) [All estimates]

- Discuss all other relevant and material information not discussed elsewhere. Include any additional information or explanation necessary to make the technical report understandable and not misleading.

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V. MINERAL ESTIMATE REPORTING SECTION

16. EXPLORATION RESULTS (INCLUDING EXPLORATION TARGETS)

16.1 Conceptual Target (Non-Public Reporting)

A Conceptual Target is a statement or estimate of the hypothetical exploration potential of a Mineral deposit to which the exploration company aspires, in a defined geological setting where the statement or estimate, quoted as a range of tonnes and a range of grade or quality is based on known mineralisation associated with a specific Mineral Deposit Model, and relates to mineralisation for which there has been no exploration. A Conceptual Target differs from an Exploration Target in that a Conceptual Target is entirely speculative and hypothetical in nature, with no supporting Exploration Results and is based entirely on comparison to known mineralisation associated with a specific Mineral Deposit Model.

If no Conceptual Target has been proposed on the property, provide a statement to confirm this;

Otherwise, list the available relevant technical reports, published refereed or other academic papers, information in the public domain, and other available sources relevant to interpretations and conclusions on the Conceptual Target, and to which the reader can be referred;

Provide a summary of material and pertinent data, information and conclusions on the Conceptual Target, or for new data collected that has not been reported previously, provide a discussion cognizant of the following:

PERC Standard Paragraphs 5.13 – 5.19

A Conceptual Target that forms the basis of an exploration strategy can be disclosed ONLY under the following conditions:

- (a) the Competent Person(s) must not disclose a Conceptual Target that has little or no basis in fact, and that is only used for speculative and potentially misleading reporting purposes;
- (b) there must be a proximate statement of equal emphasis clearly stating that the potential tonnage/quantity and grade/quality of the Conceptual Target is hypothetical, and 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;
- (c) any information relating to a Conceptual Target must not be expressed in any manner that could be interpreted as an estimate of Mineral Resources or Mineral Reserves;
- (d) the Conceptual Target must be quoted ONLY as a range of tonnes/quantity and grade/quality, and that contained metal (or equivalent) derived from these ranges must NOT be included in the disclosure;
- (e) there is a proximate and prominent statement that there is no guarantee that such a Mineral Deposit exists on the property in question and that further exploration will not necessarily lead to reportable Exploration Results or an Exploration Target or Mineral Resource;
- (f) reference must be made to the Mineral Deposit Model or style of mineralisation upon which these estimated ranges are based, the procedures used to estimate the range of tonnage/quantity and grade/quality, and the anticipated physical extent of the Conceptual Target;
- (g) the disclosure must include any obvious geological, mining, metallurgical, environmental, social, infrastructural, legal and economic factors that could have a significant effect on the prospects of any possible Conceptual Target or Mineral Deposit;

Section 4: Estimation and Reporting of Exploration Results, Mineral Resources and Mineral Reserves (Geological model and interpretation) 4.1 (iii) [Exploration Results only]

- Describe any obvious geological, mining, metallurgical, environmental, social, infrastructural, legal and economic factors that could have a significant effect on the prospects of any possible Exploration Target or Mineral Deposit;

Section 4: Estimation and Reporting of Exploration Results, Mineral Resources and Mineral Reserves (Estimation and modelling techniques) 4.2 (i) [Exploration Results only]

- Describe in detail the estimation techniques and assumptions used to determine the grade and tonnage ranges for any Exploration Targets, if reported in a Public Report.

16.2 Exploration Results (Public Reporting)

Reporting of Exploration Results is NOT a requirement if this PERC Mineral Project Evaluation Report contains further estimates of either Mineral Resources and/or Mineral Reserves, but if no Exploration Results are reported, provide a statement to confirm this, and if applicable, give a brief explanation of the reasons for the omission;

Otherwise, list the available relevant standards, protocols, standard operating procedures (SOP), technical reports, published refereed or other academic papers, information in the public domain, and other available sources relevant to data acquisition and processing, interpretations and conclusions derived from reporting of Exploration Results, and to which the reader can be referred;

Provide a summary of material and pertinent data, information and conclusions derived from these sources, or for Exploration Results that have not been reported previously, provide a discussion cognizant of the following:

PERC Standard Paragraph 5.2 [Exploration Results only]

- Reporting of Exploration Results is common in the early stages of exploration when the quantity of data available is not sufficient to allow any reasonable estimates of tonnage and grade or quality to be made. Examples include discovery outcrops, single drillhole intercepts, geophysical surveys and the results of metallurgical test work;

PERC Standard Paragraph.9 [Exploration Results only]

- Reporting of selected information such as isolated assays, isolated drillholes, assays of panned concentrates or supergene enriched soils or surface samples, without placing them in perspective is unacceptable;

Section 3: Exploration and Drilling, Sampling Techniques and Data (Exploration) 3.1 (vii) [All estimates]

- Present representative models and/or maps and cross sections or other two or three-dimensional illustrations of results, showing the location of samples, accurate drillhole collar positions, down-hole surveys, exploration pits, underground workings, relevant geological data, etc.;
- Explain the appropriateness of the data density to assure interpretations of seam continuity, ore body structure and grade or quality distribution, and to support the Evaluation Exploration Targets estimation procedure used;
- Explain the data density of Exploration Results, and whether the data density and distribution are sufficient to establish continuity of geological structure and/or quality or grade;

Section 4: Estimation and Reporting of Exploration Results, Mineral Resources and Mineral Reserves (Reporting) 4.5 (iii) [Exploration Results only]

- State assumptions regarding mining methods, infrastructure, metallurgy, environmental and social parameters. State and discuss where no mining related assumptions have been made;

Section 4: Estimation and Reporting of Exploration Results, Mineral Resources and Mineral Reserves (Reporting) 4.5 (iv) [Exploration Results only]

- State the specific grades or qualities which are being reported in ranges and/or widths, and explain the basis of the reporting;
- Where no assumptions have been made, this should be stated;

Section 4: Estimation and Reporting of Exploration Results, Mineral Resources and Mineral Reserves (Geological model and interpretation) 4.1 (i) [All Estimates]

- Describe the geological model, construction technique and assumptions that form the basis for the Exploration Results or Mineral Resource estimate. Discuss the sufficiency of data density to assure continuity of mineralisation and geology and provide an adequate basis for the estimation and classification procedures applied.

Section 4: Estimation and Reporting of Exploration Results, Mineral Resources and Mineral Reserves (Geological model and interpretation) 4.1 (ii) [All Estimates]

- Describe the nature, detail and reliability of geological information with which lithological, structural, mineralogical, alteration or other geological, geotechnical and geo-metallurgical characteristics were recorded;

Section 4: Estimation and Reporting of Exploration Results, Mineral Resources and Mineral Reserves (Estimation and modelling techniques) 4.2 (i) [Exploration Results only]

- Any statement of Exploration Results must clearly distinguish between primary data (that is, exploration data and other results specifically collected during exploration activities) and derivative or secondary data (that is, information generated or gathered from the interpretation of the primary data);

PERC Standard Paragraph 5.7 [Exploration Results only]

- Where assay and analytical results are reported, they must be reported using one of the following methods, selected as the most appropriate by the relevant Competent Person(s):
 - (a) by listing all results, along with sample intervals (or size, in the case of bulk samples), or
 - (b) by reporting weighted average grades or quality of mineralised zones, indicating clearly how the average grades or quality were calculated.

PERC Standard Paragraph 5.8 [Exploration Results only]

- Clear diagrams and maps designed to represent the geological context must be provided in the Report and must include but not be limited to a plan view of drillhole collar locations and appropriate sectional views;

PERC Standard Paragraph 5.6 [Exploration Results only]

- The Competent Person(s) must provide a clear statement of equal prominence stating whether true widths of mineralisation are reported or not;

PERC Standard Paragraph 5.10 [Exploration Results only]

- While it is not necessary to report all assays or drillholes, it is a requirement that sufficient information about the omitted data is provided so that the reader can make a considered and balanced judgement of the Public Report. Where reporting of Exploration Results does not include all drillholes or all intersections of drillholes, the Competent Person(s) must explain why this information is not considered relevant or why it has not been provided;
- The Competent Person(s) 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 Deposit. Additional disclosure is essential 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.).

Section 4: Estimation and Reporting of Exploration Results, Mineral Resources and Mineral Reserves (Reporting) 4.5 (ii) [Exploration Results only]

- Reporting of selected information without placing them in perspective is NOT acceptable, such as isolated assays, isolated drillholes, assays of panned concentrates or supergene-enriched soils or surface samples;

PERC Standard Paragraph 5.3 [Exploration Results only]

- Exploration Results must not be part of a formal declaration of Mineral Resources or Mineral Reserves;
- Exploration Results must NOT be presented in a way that unreasonably implies the discovery of potential economic mineralisation, and Public Reports of Exploration Results must NOT be presented to imply unreasonably that potential economic mineralisation has been discovered;

PERC Standard Paragraph 5.5 [Exploration Results only]

- The Competent Person(s) should provide a clear and unambiguous statement that it is inappropriate to use Exploration Results to derive estimates of tonnage/quantity and/or grade/quality. The Report must have a proximate statement of equal emphasis to the effect that "The information provided in this report/statement/release constitutes Exploration Results. It is inappropriate for the reader to use the information presented for deriving estimates of tonnage/quantity and grade/quality";

PERC Standard Paragraph 5.4 [Exploration Results only]

- The Competent Person must ensure that Public Reports of Exploration Results contain sufficient information to allow a considered and balanced judgement of their significance;
- The Competent Person(s) must ensure that Public Reports and associated documentation include relevant information such as exploration context, type and method of sampling, appropriate 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 other criteria that are material to the assessment.

16.3 Exploration Target (Public Reporting)

PERC Reporting Standard 5.12 defines an Exploration Target as "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.”

The PERC Reporting Standard 2021 views Exploration Targets as falling within the general definition of Exploration Results, and requires that when reporting Exploration Targets, they should be linked to the associated Exploration Results.

If no Exploration Target is reported, provide a statement to confirm this, and if applicable, give a brief explanation of the reasons for the omission;

Otherwise, list the available relevant standards, protocols, standard operating procedures (SOP), technical reports, published refereed or other academic papers, information in the public domain, and other available sources relevant to data acquisition and processing, interpretations and conclusions derived from the Exploration Target, and to which the reader can be referred;

Provide a summary of material and pertinent data, information and conclusions derived from these sources, or for Exploration Target(s) that have not been reported previously, provide a discussion cognizant of the following:

PERC 5.1 (Guidance) [All estimates]

- The PERC Reporting Standard 2021 views Exploration Targets as falling within the general definition of Exploration Results, and requires that when reporting Exploration Targets, they should be linked to the associated Exploration Results.

Section 3: Exploration and Drilling, Sampling Techniques and Data (Bulk Density) 3.7 (ii) [All estimates]

- If Exploration Target tonnage ranges are reported, the Competent Person(s) must state the preliminary estimates or basis of assumptions made for the relative density used in those tonnage range calculations;

Section 4: Estimation and Reporting of Exploration Results, Mineral Resources and Mineral Reserves (Estimation and modelling techniques) 4.2 (i) [Exploration Results only]

- Describe the conceptual geological model, construction technique and assumptions that form the basis for the Exploration Results;
- Discuss the sufficiency of data density to ensure continuity of mineralisation and geology;
- Describe in detail the estimation techniques and assumptions used to determine the grade and tonnage ranges for any Exploration Targets;

PERC Standard Paragraph 5.17:

- The Competent Person(s) must provide a detailed explanation of the basis for the statement of an Exploration Target that specifically discusses the geological setting and exploration strategy, any exploration activity already completed and the presence or lack of the following attributes:
 - (a) mineralised outcrops and assays;
 - (b) surface geochemical and physical sampling results;
 - (c) surface and subsurface geophysical survey results;
 - (d) drillholes, test pits, and underground workings;

PERC Standard Paragraph 5.12:

- The Competent Person(s) must NOT disclose an Exploration Target that has little or no basis in fact, and that is only used for speculative and potentially misleading reporting purposes;
- Reference must be made to the Mineral Deposit Model or style of mineralisation upon which these estimated ranges are based, the procedures used to estimate the range of tonnage/quantity and grade/quality, and the anticipated physical extent of the Exploration Target;
- The Competent Person(s) must disclose the prior indication of the area's prospectivity (e.g. some positive soil samples, anomalous rock samples, geophysical anomalies or historical drillholes drilled with indications of mineralisation or alteration) before an Exploration Target is Publicly Reported;

PERC Standard Paragraph 5.13:

- Any information relating to an Exploration Target must NOT be expressed in any manner that could be interpreted as an estimate of Mineral Resources or Mineral Reserves;

PERC Standard Paragraph 5.14:

- The Competent Person(s) must state the level of prior exploration work (by the company or reporting entity or by others) that has been undertaken prior to the Public Reporting of an Exploration Target and must state the associated Exploration Results that relate to the Publicly Reported Exploration Target;

PERC Standard Paragraph 5.15:

- The Exploration Target must be quoted ONLY as a range of tonnes/quantity and grade/quality, and that contained metal (or equivalent) derived from these ranges must NOT be included in the

disclosure;

PERC Standard Paragraph 5.16:

- There must be a proximate statement of equal emphasis clearly stating that the potential tonnage/quantity and grade/quality of the Exploration Target is conceptual, that there has been insufficient exploration to define a Mineral Resource, and that it is uncertain if further exploration may result in the determination of a Mineral Resource;

PERC Standard Paragraph 5.18:

- The Competent Person(s) must detail the proposed exploration activities designed to test the validity of an Exploration Target, and must include a budget and timeframe within which the exploration activities are expected to be completed;

PERC Standard Paragraph 5.19:

- An Exploration Target may only be quoted if the associated Exploration Results show some prospects for future economic extraction. Therefore, Modifying Factors, including material threats and opportunities, must be reported, together with any known Modifying Factors that might constitute fatal flaws in developing a future project or operation (e.g. located in a UNESCO World Heritage Site, National Park (in some jurisdictions), or under a major city);

Section 4: Estimation and Reporting of Exploration Results, Mineral Resources and Mineral Reserves (Geological model and interpretation) 4.1 (iii) [Exploration Results only]

- Describe any obvious geological, mining, mineral processing, metallurgical, environmental, social, infrastructural, legal and economic factors that could have a significant effect on the prospects of any possible Exploration Target or Mineral Deposit.

16.4 Caveat on Exploration Results and Exploration Target Range Estimates

The Competent Person must include the following statement in the Report, and in a proximal position to any location where the summary table of Exploration Results and/or Exploration Targets are presented:

PERC Standard Paragraph 5.5 [Exploration Results only]

"The information provided in this report/statement/release constitutes Exploration Results. It is inappropriate for the reader to use the information presented for deriving estimates of tonnage and grade or quality. While the range of estimates for the Exploration Target is based on the Competent Person's judgment, based on the assumptions presented in this PERC Project Evaluation Report, no assurance can be given that any or all of the Exploration Results or of the Exploration Targets discussed in this Report may eventually convert to Mineral Resources".

16.5 Material Changes to Exploration Results or Exploration Targets

Tabulate and discuss Material Changes to the Exploration Results or to the range estimates of the Exploration Targets, where a "material change" is defined as $\pm 10\%$.

16.6 Exploration Results and Exploration Targets Audit or Review

If no audit and/or review of the current Exploration Results, including Exploration Target range estimates, has been made, provide a statement to confirm this and, if appropriate, explain why none has been undertaken; Otherwise, list the available relevant standards, protocols, standard operating procedures (SOP), technical reports, and other available sources relevant to an audit and/or review of the current Mineral Resource estimate, and to which the reader can be referred;

Provide a summary of material and pertinent data, information and conclusions derived from these sources, or for Exploration Results, including Exploration Target range estimates audit and/or review that has not been reported previously, provide a discussion cognizant of the following:

Section 7: Audits and Reviews (Audits and Reviews) 7.1 (i) [All estimates]

- State the type of review or audit (e.g. independent, external), the subject (e.g. laboratory, drilling, data, geological model, environmental compliance, etc.), the date and name of the reviewer(s) together with their recognized professional qualifications;
- State the class (e.g. Internal, External, Independent) and category (Appraisal, Due Diligence,

Endorsement) of the review or audit;

Section 7: Audits and Reviews (Audits and Reviews) 7.1 (ii) [All estimates]

- Disclose the conclusions of relevant audits or reviews. Note where significant deficiencies and remedial actions are required and, if relevant, whether these identified issues have been dealt with, or else the expected timeframe to completion. State whether these issues have been included in the updated geological model or whether they remain to be incorporated in the future update. In the latter case, state the potential impact on the estimates.

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17. MINERAL RESOURCE ESTIMATES

17.1 Mineral Resource Classification

Mineral Resource classification must be reported cognizant of the following:

Section 4: Estimation and Reporting of Exploration Results, Mineral Resources and Mineral Reserves (Classification Criteria) 4.4 (i) [Mineral Resources & Mineral Reserves]

- Describe the criteria and methods used as the basis for the classification of the Mineral Resources into varying confidence categories, using only the applicable Mineral Resource categories set out in the PERC Reporting Standard;
- State whether appropriate account has been taken of all relevant factors (i.e. relative confidence in tonnage/grade estimations, reliability of input data, confidence in the continuity of the geology and grade/quality values, quality, quantity and distribution of the data);
- Describe the data density, and whether the data spacing and distribution are sufficient to establish the degree of geological and grade continuity appropriate for any Mineral Resource estimation procedure(s) and classifications applied;
- Whether the classification appropriately reflects the Competent Person's view of the Mineral Deposit;
- Provide a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the Mineral Resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the Modifying Factors that could affect the relative accuracy and confidence of the estimate.

17.2 Mineral Resource Statement (Public Reporting)

The Mineral Resource statement must be reported cognizant of the following:

Section 4: Estimation and Reporting of Exploration Results, Mineral Resources and Mineral Reserves (Reporting) 4.5 (v) [Mineral Resources & Mineral Reserves]

- Distinguish the Mineral Resource estimates by appropriate source, for example, from different geographical or mining lease areas, by different mining / extraction methods, discrete pit or mine, from different seams, different product(s), and by residue stockpile, remnants, tailings, and existing pillars or other sources;
- Mineral Resources included in a Mine Plan must include estimates of any limiting or boundary pillars sterilised for future mining, based on the expected mining / extraction methods and mining limits;
- Report each category of Mineral Resource separately, and if both Mineral Resources and Mineral Reserves are disclosed, a statement must be included which clearly indicates whether the Measured Mineral Resources and Indicated Mineral Resources are inclusive of, or additional to, the Mineral Reserves. The Competent Person(s) must make clear which form of reporting has been adopted by including a prominent statement that "*The Measured Mineral Resources and Indicated Mineral Resources are inclusive of those Mineral Resources modified to produce the Mineral Reserves.*", or "*The Measured Mineral Resources and Indicated Mineral Resources are additional to or exclusive of the Mineral Reserves.*"
- When reporting on an Inclusive basis, the relevant details of the unmodified Mineral Resource(s) should be included in the Report for any Measured Mineral Resources and Indicated Mineral Resources that have not been modified to produce Mineral Reserves for economic or other reasons, in order to facilitate judging the likelihood of the unmodified Measured Mineral Resources and Indicated Mineral Resources being eventually converted to Mineral Reserves;
- Do NOT add Inferred Mineral Resources to the other categories of Mineral Resources;
- Do NOT combine estimates from different Mineral Deposit types;
- Do NOT combine Mineral Resource estimates from different extraction or mining / extraction methods ((e.g. open-pit and underground may have different cut-off criteria);
- Do NOT combine Mineral Resource estimates that require different mineral processing streams and/or that produce different Mineral Products;
- Estimates must include an appropriate tonnage/quantity and grade/quality parameter for each

category of Mineral Resources;

- Present the Mineral Resource estimate in tabular form, clearly distinguishing between different Mineral Resource sources. For example, estimates should be differentiated by mining rights, mineralisation horizon(s), extraction methodology, or product type. Combined estimates must NOT be presented without the supporting elements to that total. Such tabulations must be concise yet indicate the appropriate tonnage and associated grade/quality per Classification Category for each Mineral Deposit type for the relevant mineral(s)/raw material(s) of economic interest. All columns and line elements must be appropriately labelled, and any definitive notes must be included as footnotes below. A summary table with all relevant information must be prepared for direct insertion in the Executive Summary.

Section 4: Estimation and Reporting of Exploration Results, Mineral Resources and Mineral Reserves (Reporting) 4.5 (vii) [Mineral Resources & Mineral Reserves]

- Identify the defined reference point for the tonnage/quantity and grade/quality reported as Mineral Resources as either Gross-In-Situ (with no associated discount factors or adjustments) or In-Situ (where appropriate geological factors and adjustments have been made);
- Where Mineral Reserves are also reported, an estimate of the Adjustment or Discount Factor to convert from In Situ Mineral Resource to Point-of-Sale Marketable (Saleable) Mineral Reserve must be included;

Section 4: Estimation and Reporting of Exploration Results, Mineral Resources and Mineral Reserves (Reporting) 4.5 (viii) [All estimates]

- If the Competent Person(s) is relying on a report, opinion, or statement of another Technical Specialist or other expert(s) who is not a Competent Person(s), disclose the date, title, and author of the report, opinion, or statement, the qualifications of the other expert and why it is reasonable for the Competent Person to rely on the other expert, any significant risks, and any steps the Competent Person(s) took to verify the information provided.
- Disclose the name, qualifications and relationship, if any, to the issuer of the Competent Person who estimated Mineral Resources;

Section 4: Estimation and Reporting of Exploration Results, Mineral Resources and Mineral Reserves (Reporting) 4.5 (ix) [All estimates]

- For the reporting of Mineral Resources and Mineral Reserves, state the basis of equivalent metal formulae, if applied;

For reporting of **Mineralised Fill, Pillars, Low-grade Mineralisation, Leach Pads, Stockpiles, Dumps and Tailings**, the following must be considered:

PERC Appendix 1: Reporting of Mineralised Fill, Pillars, Low-grade Mineralisation, Leach Pads, Stockpiles, Dumps and Tailings: Appendix 1: A1-5 [All estimates]:

- If some portion of the mineralised material is currently sub-economic, but there is a reasonable expectation that the mineralised material may become economic, this material may be classified as a Mineral Resource;

PERC Appendix 1: Reporting of Mineralised Fill, Pillars, Low-grade Mineralisation, Leach Pads, Stockpiles, Dumps and Tailings: Appendix 1: A1-6 [All estimates]:

- Tonnage and grade or quality estimates of Mineral Resources of mineralised fill, remnants, pillars, low-grade mineralisation, leach pads, stockpiles, dumps and tailings must be itemised separately in Public Reports.

For reporting of **Coal**, a Coal Resource statement must be reported cognizant of the following:

PERC Appendix 2: Reporting of Coal Exploration Results, Coal Resources and Coal Reserves: A2-5 [Coal Resources]:

- 'Saleable Mineral Resources', representing beneficiated or otherwise enhanced mineral products where modifications due to mineral processing have been considered in addition to mining factors such as recovery and dilution, may be Publicly Reported in conjunction with, but not instead of, 'In situ Mineral Resources'.

For reporting of **Industrial Minerals, Cement Feed Materials and Construction Raw Materials** of all forms, a Mineral Resource statement must be reported cognizant of the following:

PERC Appendix 4: Reporting of Industrial Minerals, Cement Feed Materials and Construction Raw Materials of all forms: A4-5 [Mineral Resources & Mineral Reserves]

- Some Industrial Minerals, Cement Feed Materials and Construction Raw Materials deposits may be capable of yielding products suitable for more than one application and/or specification. If considered material by the Competent Person, such multiple products must be quantified either separately or as a percentage of the bulk of the Mineral Deposit;

PERC Appendix 4: Reporting of Industrial Minerals, Cement Feed Materials and Construction Raw Materials of all forms: A4-10 [Mineral Resources & Mineral Reserves]

- Public Reports must make clear the 'permitted' or 'non-permitted' status of the Industrial Mineral Resources and Industrial Mineral Reserves, and, in addition, Industrial Mineral Reserves must only be quoted where the operator has legal control;

PERC Appendix 4: Reporting of Industrial Minerals, Cement Feed Materials and Construction Raw Materials of all forms: A4-11 [Mineral Resources & Mineral Reserves]

- Mineral Reserves and Mineral Resources of Industrial 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 to reflect the particular economic constraints of the Mineral Deposits being Publicly Reported, without divulging commercially sensitive information;

PERC Appendix 4: Reporting of Industrial Minerals, Cement Feed Materials and Construction Raw Materials of all forms: A4-12 [Mineral Resources & Mineral Reserves]

- In some instances, commercial sensitivity may prevent the publication of detailed information and data associated with Mineral Resources and Mineral Reserves of Industrial Minerals, Cement Feed Materials and Construction Raw Materials, and in such cases, this must be justified in the Public Report (either prepared for an individual site or on an aggregated basis);

For reporting of **Dimension Stone, Ornamental and Decorative Stone** of all forms, a Mineral Resource statement must be reported cognizant of the following:

PERC Appendix 5: Reporting of Dimension Stone, Ornamental and Decorative Stone of all forms: A5-7 [Mineral Resources & Mineral Reserves]

- Many Dimension Stone, Ornamental and Decorative Stone deposits can yield 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 at different prices;

PERC Appendix 5: Reporting of Dimension Stone, Ornamental and Decorative Stone of all forms: A5-8 [Mineral Resources & Mineral Reserves]

- If considered material by the Competent Person, estimates for such multiple products must be included either separately or as percentages of the bulk of the Mineral Deposit.

For reporting of **Oil Shales, and Other Energy Minerals extracted by Mining Methods** where the hydrocarbons are extracted by the processing of mined rock:

PERC Appendix 6: Reporting of Exploration Results, Mineral Resources and Mineral Reserves for Oil Shales, and Other Energy Minerals extracted by Mining Methods: A6-5 [All estimates]:

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

For **Metallic or Non-Metallic Minerals extracted by Solution Mining Methods** (in-situ dissolution and transfer to the surface in solution, water, steam or other solvent), the following must be considered:

PERC Appendix 7: Reporting of Exploration Results, Mineral Resources and Mineral Reserves for Metallic or Non-Metallic Minerals extracted by Solution Mining Methods A7-5 [Mineral Resources & Mineral Reserves]:

- Mineral Resources for Minerals extracted by solution mining are expressed in terms of the in-situ rock quantities and the quality parameters representing the proportion and quality of the economic Mineral product.

17.3 Caveat on Mineral Resource Estimates

The Competent Person must include the following statement in the Report, and in a proximal position to any location where the summary table of Mineral Resources is presented:

"While the estimate of Mineral Resources is based on the Competent Person's judgment that there are

‘reasonable prospects for eventual economic extraction’, based on the RPEEE assumptions presented in the PERC Project Evaluation Report, no assurance can be given that any or all of the Mineral Resources discussed in this Report may eventually convert to Mineral Reserves”.

17.4 Mineral Resource Reconciliation

17.4.1 Mineral Resource Estimate Reconciliation

If no reconciliation of the current Mineral Resource estimate with previously reported estimates has been made, provide a statement to confirm this and, if appropriate, explain why none has been undertaken; Otherwise, list the available relevant standards, protocols, standard operating procedures (SOP), technical reports, and other available sources relevant to the reconciliation of the current Mineral Resource estimate with previous estimates, and to which the reader can be referred;

Provide a summary of material and pertinent data, information and conclusions derived from these sources, or for a new reconciliation that has not been reported previously, provide a discussion cognizant of the following:

Section 4: Estimation and Reporting of Exploration Results, Mineral Resources and Mineral Reserves (Reporting) 4.5 (vi) [Mineral Resources & Mineral Reserves]

- Present a reconciliation with any previous Mineral Resource estimates tabulated by the classification category used in the Mineral Resource Statement;
- The reconciliation should be sufficiently detailed to distinguish the source of the changes to the Mineral Resource, such as through new information, methodology, Geological Model refinement, conversion/reclassification, economic assumptions, new or improved technology, transfer, Acquisition, disposal, production, depletion, and stockpiles;
- Where appropriate, report and comment on any historical trends (e.g. resulting from exploration strategy).

17.4.2 Material Changes to Mineral Resource Estimates

Tabulate and discuss Material Changes to the Mineral Resource estimate, where a “material change” is defined as $\pm 10\%$.

17.5 Mineral Resource Estimate Audit or Review

If no audit and/or review of the current Mineral Resource estimate has been made, provide a statement to confirm this and, if appropriate, explain why none has been undertaken; Otherwise, list the available relevant standards, protocols, standard operating procedures (SOP), technical reports, and other available sources relevant to an audit and/or review of the current Mineral Resource estimate, and to which the reader can be referred;

Provide a summary of material and pertinent data, information and conclusions derived from these sources, or for a Mineral Resource audit and/or review that has not been reported previously, provide a discussion cognizant of the following:

Section 7: Audits and Reviews (Audits and Reviews) 7.1 (i) [All estimates]

- State the type of review or audit (e.g. independent, external), the subject (e.g. laboratory, drilling, data, geological model, environmental compliance, etc.), the date and name of the reviewer(s) together with their recognized professional qualifications;
- State the class (e.g. Internal, External, Independent) and category (Appraisal, Due Diligence, Endorsement) of the review or audit;

Section 7: Audits and Reviews (Audits and Reviews) 7.1 (ii) [All estimates]

- Disclose the conclusions of relevant audits or reviews. Note where significant deficiencies and remedial actions are required and, if relevant, whether these identified issues have been dealt with, or else the expected timeframe to completion. State whether these issues have been included in the updated geological model or whether they remain to be incorporated in the future update. In the latter case, state the potential impact on the estimates.

18. MINERAL RESERVE ESTIMATES

18.1 Mineral Reserve Classification

18.1.1 Classification Principles

When reporting Mineral Reserve estimates, list the available relevant standards, protocols, standard operating procedures (SOP), technical reports, and other available sources relevant to the Mineral Reserve classification principles, and to which the reader can be referred;

Provide a summary of material and pertinent data, information and conclusions derived from these sources, or provide a discussion of the Mineral Reserve classification principles cognizant of the following:

Section 6: Estimation and Reporting of Mineral Reserves (Classification Criteria) 6.2 (i) [Mineral Reserves only]

- Describe and justify the criteria and methods used as the basis for the classification of the Mineral Reserves into varying confidence categories, based on the Mineral Resource category, including consideration of the confidence in all the Modifying Factors and associated Discount Factors;
- Use only Indicated Mineral Resources, Measured Mineral Resources, Probable Mineral Reserves and Proven Mineral Reserves;
- Indicate whether the classification of the Proven and Probable Mineral Reserves fairly reflects the Competent Person's view of the Mineral Deposit;
- Provide assurance that the Mineral Reserve base is adequate to support the life of mine plan and schedule.

18.1.2 Proportion of Measured Resources in Probable Reserves

State the proportion of Measured Mineral Resources converted to Probable Mineral Reserves, cognizant of the following:

Section 6: Estimation and Reporting of Mineral Reserves (Reporting) 6.3 (i) [Mineral Reserves only]

- Discuss the proportion of Probable Mineral Reserves, which have been derived from Measured Mineral Resources (if any), including reason(s).

18.1.3 Proportion of Inferred Resources in Mine Plan

State the proportion of Inferred Mineral Resources included in the Mine Plan, cognizant of the following:

Section 5: Technical Studies (Economic Analysis) 5.8 (i) [Mineral Reserves only]

- State and justify the inclusion of any Inferred Mineral Resources in the Pre-feasibility Study and Feasibility Study economic analysis. Report the sensitivity to the inclusion of any Inferred Resources;

Section 6: Estimation and Reporting of Mineral Reserves (Reporting) 6.3 (v) [Mineral Reserves only]

- Confirm that only Measured and Indicated Mineral Resources have been considered for inclusion in the Mineral Reserve.

18.2 Mineral Reserve Statement (Public Reporting)

Provide a Mineral Reserve statement, cognizant of the following:

Section 6: Estimation and Reporting of Mineral Reserves (Estimation and Modelling Techniques) 6.1 (ii) [Mineral Resources & Mineral Reserves]

- Report the Mineral Reserve Statement with sufficient detail indicating if the mining is by open pit or underground plus the source and type of mineralisation, domain or ore body, surface dumps, stockpiles and all other sources;

Section 6: Estimation and Reporting of Mineral Reserves (Estimation and Modelling Techniques) 6.1 (iv) [Mineral Reserves only]

- 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;

Section 6: Estimation and Reporting of Mineral Reserves (Reporting) 6.3 (ii) [Mineral Reserves only]

- Report the Mineral Reserve statement with sufficient detail, distinguishing between surface mining /

extraction operations and underground operations, and detailing, where relevant, Mineral reserves derived from different mineralisation types, from different geographical or mining right areas, from different geological domains or ore bodies, and whether from surface dumps, stockpiles and/or all other sources;

- The Mineral Reserve Statement should be in a format which is easily reconcilable to the Mineral Resource Statement in section, in terms of headings and sources of mineralised material;
- The Mineral Resources in the Mine Plan should allow a direct correlation of the relevant discount factors with the declared Mineral Reserves;
- Disclose the name, qualifications and relationship, if any, to the issuer of the Competent Person who estimated Mineral Reserves;
- If the Competent Person is relying on a report, opinion, or statement of another expert who is not a Competent Person, disclose the date, title, and author of the report, opinion, or statement, the qualifications of the other expert and why it is reasonable 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;
- Present the Mineral Reserve estimate in tabular form, clearly distinguishing between different Mineral Reserve sources (subdivisions) such as different veins, mining areas, mining / extraction methods (UG, OC), residue stockpile, remnants, tailings, and existing pillars or other sources in the Mineral Resource statement;

Section 6: Estimation and Reporting of Mineral Reserves (Reporting) 6.3 (iii) [Mineral Reserves only]

- Present the details of the defined reference point for the Mineral Reserves;
- State where the reference point is the point where the run of mine material is delivered to the mineral processing plant. It is a requirement 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;
- State clearly whether the tonnages and grades reported for Mineral Reserves are in respect of material delivered to the plant (ROM) or after recovery Marketable (Saleable);
- The Competent Person must clearly distinguish between Run-of-Mine (ROM) Mineral Reserve and Marketable (Saleable) Mineral Reserve, and include the practical yield and moisture basis for both categories in the tabulation;

Section 6: Estimation and Reporting of Mineral Reserves (Reporting) 6.3 (v) [Mineral Reserves only]

- Confirm that only Measured and Indicated Mineral Resources can be considered for inclusion in the Mineral Reserve;

Section 6: Estimation and Reporting of Mineral Reserves (Reporting) 6.3 (vi) [Mineral Resources & Mineral Reserves]

- State whether the Measured Mineral Resources and Indicated Mineral Resources are inclusive of or additional (exclusive) to the Mineral Reserves;

Section 6: Estimation and Reporting of Mineral Reserves (Specific for Metal Equivalent or Combined Grades Reporting) 6.4 (i) [All estimates]

- Confirm that Public Reporting of metal equivalent or combined grades complies with section 9 (paragraphs 9.1 to 9.5) of the PERC Reporting Standard;

For reporting of **Mineralised Fill, Pillars, Low-grade Mineralisation, Leach Pads, Stockpiles, Dumps and Tailings**, the following must be considered:

PERC Appendix 1: Reporting of Mineralised Fill, Pillars, Low-grade Mineralisation, Leach Pads, Stockpiles, Dumps and Tailings: Appendix 1: A1-7 [All estimates]:

- Tonnage and grade or quality estimates of Mineral Reserves of mineralised fill, remnants, pillars, low-grade mineralisation, leach pads, stockpiles, dumps and tailings must be itemised separately in Public Reports.

For reporting of **Coal Exploration Results, Coal Resources and Coal Reserves**, the following must be considered:

PERC Appendix 2: Reporting of Coal Exploration Results, Coal Resources, and Coal Reserves: A2-5 [Mineral Resources & Mineral Reserves]:

- 'Marketable Coal Reserves', representing beneficiated or otherwise enhanced coal product where modifications due to processing have been considered in addition to mining factors such as dilution, may be Publicly Reported in conjunction with, but not instead of, Coal Reserves.

For reporting of **Industrial Minerals, Cement Feed Materials and Construction Raw Materials** of all forms, a Mineral Resource statement must be reported cognizant of the following:

PERC Appendix 4: Reporting of Industrial Minerals, Cement Feed Materials and Construction Raw Materials of all forms: A4-5 [Mineral Resources & Mineral Reserves]

- Some Industrial Minerals, Cement Feed Materials and Construction Raw Materials deposits may be capable of yielding products suitable for more than one application and/or specification. If considered material by the Competent Person, such multiple products must be quantified either separately or as a percentage of the bulk of the Mineral Deposit;

PERC Appendix 4: Reporting of Industrial Minerals, Cement Feed Materials and Construction Raw Materials of all forms: A4-6 [Mineral Reserves only]

- If the range of product mixes and target markets for the mineral products to be produced, from a particular Mineral Deposit, are considered material by the company or reporting entity preparing the Public Report, the Competent Person(s) must report the Industrial Mineral Reserves within the framework of an existing LoMP or Feasibility Study specifically for those product mixes and target markets;

PERC Appendix 4: Reporting of Industrial Minerals, Cement Feed Materials and Construction Raw Materials of all forms: A4-7 [Mineral Reserves only]

- If there is potential for co-products, by-products, mining waste or process waste, to be sold off-site for subsidiary uses (i.e., other uses for non-saleable quarry production, such as secondary aggregate, engineering or other fill), the Competent Person(s) must discuss this in the Public Report and comment on any significant implications;

PERC Appendix 4: Reporting of Industrial Minerals, Cement Feed Materials and Construction Raw Materials of all forms: A4-8 [Mineral Reserves only]

- For Industrial 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. Commercial sensitivities may not permit the publication of Industrial Mineral Resources and Industrial Mineral Reserves in the latter format;

PERC Appendix 4: Reporting of Industrial Minerals, Cement Feed Materials and Construction Raw Materials of all forms: A4-9 [Mineral Reserves only]

- In all situations where the saleable or usable product is reported, a clarifying statement must be included to ensure that the reader is fully informed;

PERC Appendix 4: Reporting of Industrial Minerals, Cement Feed Materials and Construction Raw Materials of all forms: A4-10 [Mineral Resources & Mineral Reserves]

- Public Reports must make clear the 'permitted' or 'non-permitted' status of the Industrial Mineral Resources and Industrial Mineral Reserves, and, in addition, Industrial Mineral Reserves must only be quoted where the operator has legal control;

PERC Appendix 4: Reporting of Industrial Minerals, Cement Feed Materials and Construction Raw Materials of all forms: A4-11 [Mineral Resources & Mineral Reserves]

- Mineral Reserves and Mineral Resources of Industrial 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 to reflect the particular economic constraints of the Mineral Deposits being Publicly Reported, without divulging commercially sensitive information;

PERC Appendix 4: Reporting of Industrial Minerals, Cement Feed Materials and Construction Raw Materials of all forms: A4-12 [Mineral Resources & Mineral Reserves]

- In some instances, commercial sensitivity may prevent the publication of detailed information and data associated with Mineral Resources and Mineral Reserves of Industrial Minerals, Cement Feed Materials and Construction Raw Materials, and in such cases, this must be justified in the Public Report (either prepared for an individual site or on an aggregated basis);

For reporting of **Dimension Stone, Ornamental and Decorative Stone** of all forms, a Mineral Resource statement must be reported cognizant of the following:

PERC Appendix 5: Reporting of Dimension Stone, Ornamental and Decorative Stone of all forms: A5-9 [Mineral Reserves only]

- If the range of product mixes and target markets for the mineral products to be produced, from a particular Mineral Deposit, are considered material by the company or reporting entity preparing

the Public Report, the Competent Person(s) must report the Dimension Stone Resources and Dimension Stone Reserves within the framework of an existing LoMP or Feasibility Study specifically for those product mixes and target markets;

PERC Appendix 5: Reporting of Dimension Stone, Ornamental and Decorative Stone of all forms: A5-10 [Mineral Reserves only]

- If there is potential for co-products, by-products, or for quarrying or processing waste to be re-utilised 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, building and paving stone, etc.), the Competent Person(s) must reflect this in the Public Report and comment on any significant implications (e.g. reduction in the amount of non-saleable material, minimisation of waste and related lower waste management costs and environmental impact);

PERC Appendix 5: Reporting of Dimension Stone, Ornamental and Decorative Stone of all forms: A5-11 [Mineral Reserves only]

- In contrast with Industrial Minerals, Cement Feed Materials and Construction Raw Materials (Appendix 4), where it is common practice to report the saleable (or useable) product rather than the 'as mined' product, for Dimension Stone production, the raw block or 'as mined' saleable product is usually reported in all its forms (grain, colour, texture, homogeneity, distribution), shapes quality and block dimensions;

PERC Appendix 5: Reporting of Dimension Stone, Ornamental and Decorative Stone of all forms: A5-12 [Mineral Reserves only]

- The Public Report may contain either the geological or commercial names of the target Dimension Stone. In any case, an explanation of these terms must be included in the Public Report;

PERC Appendix 5: Reporting of Dimension Stone, Ornamental and Decorative Stone of all forms: A5-14 [Mineral Resources only]

- Many of the Modifying Factors are more relevant and specific to Dimension Stone than to metalliferous Minerals;

PERC Appendix 5: Reporting of Dimension Stone, Ornamental and Decorative Stone of all forms: A5-15 [Mineral Reserves only]

- Public Reports must make clear the 'permitted' or 'non-permitted' status of the Mineral Resources and Mineral Reserves for Dimension Stone, and, in addition, Mineral Reserves for Dimension Stone must only be quoted where the operator has legal control;

PERC Appendix 5: Reporting of Dimension Stone, Ornamental and Decorative Stone of all forms: A5-16 [Mineral Reserves only]

- Mineral Reserves and Mineral Resources of Dimension Stone mines or quarries with the same material and owned by the same company, potentially serving local or regional markets, may be reported on an aggregated basis on an appropriately defined geographical basis to reflect the particular economic constraints of the Mineral Deposits being reported without divulging commercially sensitive information;
- In some instances, 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 must be justified in the Public Report (either prepared for an individual site or on an aggregated basis);

For reporting **Industrial Minerals, Cement Feed Materials and Construction Raw Materials, and Dimension Stone, Ornamental and Decorative Stone,**

- The Mineral Reserve definition should be made in full coordination with the quarry producer and/or owner, based on his market-sale strategy;
- The assumptions considered for the Mineral Reserve definition shall be clearly stated in the Report.
- If there is potential for co-products, by-products, or for quarrying or processing waste to be re-utilised or to be sold off-site for subsidiary uses, in addition to the planned sales of the primary products, the Competent Person(s) must reflect this in the Public Report and comment on any significant implications;

For reporting of **Oil Shales, and Other Energy Minerals extracted by Mining Methods** where the hydrocarbons are extracted by the processing of mined rock:

PERC Appendix 6: Reporting of Exploration Results, Mineral Resources and Mineral Reserves for Oil Shales, and Other Energy Minerals extracted by Mining Methods: A6-5 [All estimates]:

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

For **Metallic or Non-Metallic Minerals extracted by Solution Mining Methods** (in-situ dissolution and transfer to the surface in solution, water, steam or other solvent), the following must be considered:

PERC Appendix 7: Reporting of Exploration Results, Mineral Resources and Mineral Reserves for Metallic or Non-Metallic Minerals extracted by Solution Mining Methods A7-5 [Mineral Resources & Mineral Reserves]:

- Mineral Reserves for Minerals extracted by solution mining, as for all other Minerals, are expressed in terms of the in-situ rock quantities and the quality parameters representing the proportion and quality of the economic Mineral product;

For **Mining Waste and Other Waste Materials of Potential Economic Value ('Waste Materials')**, the following must be considered:

PERC Appendix 8: Disclosure of Estimates of Mining Waste and Other Waste Materials of Potential Economic Value: A8-5 [All estimates]:

- Three categories of Waste Materials are considered within the scope of the PERC Reporting Standard:
 - (a) Waste Materials supplied on an 'ad-hoc' basis from another site under third party control;
 - (b) Waste Materials supplied under the terms of a defined supply agreement from another site under third party control; and
 - (c) Waste Materials supplied from another operating site in the company's or reporting entity's control.

PERC Appendix 8: Disclosure of Estimates of Mining Waste and Other Waste Materials of Potential Economic Value: A8-7 [Mineral Resources & Mineral Reserves]:

- For the purposes of Public Reporting, any importation of such materials is, therefore, a waste management activity, and the materials do not comprise Mineral Reserves and Mineral Resources of Waste Materials, even though their eventual processing and sale may be complementary to, and an integral part of the operation, mine or quarry operation;

PERC Appendix 8: Disclosure of Estimates of Mining Waste and Other Waste Materials of Potential Economic Value: A8-8 [Mineral Resources & Mineral Reserves]:

- Waste Materials extracted from another operation, mine or quarry site under third party control and supplied to the company's or reporting entity's site on an 'ad hoc' basis should not be reported as Mineral Reserves and Mineral Resources of Waste Materials at the receiving site. Since their supply is variable and not guaranteed, there is no 'reasonable expectation' of eventual sale for Public Reporting purposes;

PERC Appendix 8: Disclosure of Estimates of Mining Waste and Other Waste Materials of Potential Economic Value: A8-9 [Mineral Resources & Mineral Reserves]:

- For Waste Materials, which are supplied under the terms of a defined supply agreement from another site under third party control, similar conditions apply to the supply of Waste Materials on an 'ad hoc' basis. However, one notable difference is the element of 'certainty' provided through the supply agreement. There is a case for the purchase of such Waste Materials through the supply agreement to be treated as inventory and therefore not reportable as Mineral Reserves and Mineral Resources of Waste Materials. However, where Waste Materials are supplied 'free of charge', the situation could be viewed differently;

PERC Appendix 8: Disclosure of Estimates of Mining Waste and Other Waste Materials of Potential Economic Value: A8-10 [Mineral Resources & Mineral Reserves]:

- The guaranteed supply of Waste Materials under the terms of a defined supply agreement comprises a 'reasonable expectation' for the tonnage which is the subject of the agreement and could therefore be considered as Mineral Reserves and Mineral Resources of Waste Materials for the receiving company. At the time of reporting, the total Mineral Reserves and Mineral Resources would represent the future guaranteed tonnage deliverable under the agreement.

PERC Appendix 8: Disclosure of Estimates of Mining Waste and Other Waste Materials of Potential Economic Value: A8-11 [Mineral Resources & Mineral Reserves]:

- The supply of Waste Materials from one site to another under the company's or reporting entity's control is effectively the supply of raw feed, and the relevant tonnage would be reportable as Mineral Resources and Mineral Reserves of Waste Materials at the production site and not at the receiving site.

18.3 Caveat on Mineral Reserve Estimates

The Competent Person must include the following statement in the Report, and in a proximal position to any location where the summary table of Mineral Reserves is presented, for a Mineral Development Project where funding to proceed has not been obtained, and/or where the required Environmental and Social permits or permissions to proceed have not been obtained:

“While the estimate of Mineral Reserves is based on the Competent Person’s judgment that the completed Technical studies demonstrate that, at the time of reporting, ‘extraction could reasonably be justified’, based on the Economic assumptions presented in the PERC Project Evaluation Report, no assurance can be given that any or all of the Mineral Reserves discussed in this Report may eventually convert to a viable Extraction Operation until the required project development funding and any permitting requirements have been confirmed”.

18.4 Mineral Reserve Estimate Reconciliation

18.4.1 Mineral Reserve Estimate Reconciliation

If no Mineral Reserve reconciliation has been undertaken, provide a statement to confirm this and, if applicable, explain why none has been completed;

Otherwise, list the available relevant standards, protocols, standard operating procedures (SOP), technical reports, and other available sources relevant to Mineral Reserve reconciliation, and to which the reader can be referred;

Provide a summary of material and pertinent data, information and conclusions derived from these sources, or for Mineral Reserve reconciliation that has not been reported previously, provide a discussion cognizant of the following:

Section 5: Technical Studies (Introduction) 5.1 (ii) [Mineral Reserves only]

- Provide a summary comparative table of the Modifying Factors used to convert the Mineral Resource to Mineral Reserve in the previous estimates of Mineral Reserves versus the current estimates. Discuss any material changes.

Section 6: Estimation and Reporting of Mineral Reserves (Reporting) 6.3 (iv) [Mineral Reserves only]

- Present a reconciliation with the previous Mineral Reserve estimates. Where appropriate, report and comment on any historic trends (e.g. global bias);

Section 6: Estimation and Reporting of Mineral Reserves (Estimation and Modelling Techniques) 6.1 (v) [Mineral Reserves only]

- Provide a reconciliation reporting historical reliability of the performance parameters, assumptions and Modifying Factors, including comparison with the previous Mineral Reserve quantity and qualities, if available. Where appropriate, report and comment on any historical trends (e.g. global bias);

The reconciliation should be sufficiently detailed to distinguish the source of the changes to the Mineral Reserve, such as through new information, methodology, geological model refinement, conversion/reclassification, economic assumptions, new or improved technology, transfer, acquisition, disposal, production, depletion, and stockpiles.

18.4.2 Material Changes to Mineral Reserve Estimates

If there are no material changes between the current and previous Mineral Reserve estimates last reported, provide a statement to confirm this;

Otherwise, provide a summary of the material changes, cognizant of the following:

- Tabulate and discuss material changes to the Mineral Reserve estimate, where a “material change” is defined as $\pm 10\%$.

18.5 Mineral Reserve Estimate Audit or Review

If no Mineral Reserve audit or review has been carried out, provide a statement to confirm this and, if applicable, explain why none has been undertaken;

Otherwise, list the available relevant standards, protocols, standard operating procedures (SOP), technical

reports, and other available sources relevant to a Mineral Reserve audit or review and to which the reader can be referred;

Provide a summary of material and pertinent data, information and conclusions derived from these sources, or for a Mineral Reserve audit or review that has not been reported previously, provide a discussion cognizant of the following:

Section 7: Audits and Reviews (Audits and Reviews) 7.1 (i) [All estimates]

- State the type of review or audit (e.g. independent, external), the date and name of the reviewer(s) together with their recognized professional qualifications;
- State the class (e.g. Internal, External, Independent) and category (Appraisal, Due Diligence, Endorsement) of the review or audit;

Section 7: Audits and Reviews (Audits and Reviews) 7.1 (ii) [All estimates]

- Disclose the conclusions of relevant audits or reviews. Note where significant deficiencies and remedial actions are required, and indicate if they have been addressed or, alternatively, the timeframe for them to be addressed.

19. UNITED NATIONS FRAMEWORK CLASSIFICATION (UNFC) CONVERSION

To report on the procedures used to map a PERC estimate to UNFC, based on the estimates presented in this Mineral Project Evaluation Report, a separate detailed report is generally not required provided the same Competent Person has prepared, or directed the preparation of, the mapping of the PERC estimates to UNFC, and is prepared to take responsibility for this. The procedure used, and the results of, the PERC to UNFC mapping should be presented in sufficient detail so that this subsection can be extracted as a stand-alone report on the mapping from the PERC estimates and the UNFC Classification System.

Given that the Modifying Factors include both technological and socio-economic elements, when mapping PERC estimates to UNFC, it will normally be assumed (based on the Bridging Document) that the numeric values assigned to the E and F codes will be identical. This is a material and often simplistic assumption and in many cases is not valid, and the Competent Person should evaluate the individual Modifying Factors to be able to declare that such an assumption is indeed valid. If not, the Competent Person should adjust the numerical values of the E and F codes.

Both UNFC and the PERC Reporting Standard require the Effective Date to be stated when any estimate of quantities is published. When applying the Bridging Document, it would normally be expected that the Effective Date of both estimates would be the same. Should this not be the case, then an assessment would need to be carried out to determine whether any new information (e.g. changes in costs and prices, changes in permitting status) has become available after the original Effective Date which could have significantly changed the estimate as at the Effective Date. Should this have occurred then the likely effect that such new information would have on the previously reported estimate must be included in the report.

The Reference Point at which the Exploration Results, Mineral Resources and Mineral Reserves estimates are made shall be disclosed in conjunction with the UNFC classification. The Reference Point is a defined location within a mineral development project or operation at which the reported estimate or measurement is made. The Reference Point may be the sales, transfer or use point from the project, or it may be an intermediate stage, in which case the reported quantities account for losses prior to, but not subsequent to the estimation delivery point. Where the Reference Point is not the point of sale to third parties (or where custody is transferred to the entity's other operations), the information necessary to derive the estimated sales must also be provided. The reference point at the point of sale is equivalent to reference points for the marketable (saleable) quantity and quality estimates.

It is also competent to provide the estimated Mineral Product quantities at the point of sale, transfer or use, together with the ancillary elements required for the UNFC-defined product quantity, namely the name of the product, the reference point, quantity (tonnage/volume), quality (grade/quality), and commodity price elements.

If no conversion of estimates of Exploration Targets, Mineral Resources, or Mineral Reserves to the United Nations Framework Classification has been carried out, provide a statement to confirm this;

Otherwise, list the available relevant Bridging Document, standards, protocols, standard operating procedures (SOP), and other available sources relevant to such conversion, and to which the reader can be referred;

Prior to completing the conversion, the Competent Person must confirm that they meet any of the qualification requirements specified by the UNECE, as will be indicated in the Bridging Document that is used.

Provide a summary of material and pertinent data, information and conclusions derived from these sources, or for a conversion of Exploration Target, Mineral Resource, or Mineral Reserve estimates to the United Nations Framework Classification that has not been reported previously, provide a discussion cognizant of the following:

- The Competent Person must provide a summary table of all estimates of mineralisation contained in this Report, classified appropriately according to the clauses and guidelines of the PERC Reporting Standard, based on the recommended classification and categories as given in Section 12 for Exploration Target, Section 14 for Mineral Resources, and Section 17 for Mineral Reserves, together with a corresponding classification as outlined in United Nations Framework Classification for Resources (UNFC (2019) as updated from time to time);

- The Competent Person must provide a clear statement of the methodology and process for conversion from PERC to UNFC classifications, including (but not limited to) reference to, and date of, the Bridging Document used;
- The conversion is limited to UNFC categories recognised in the appropriate Bridging Document, and new or unused UNFC categories are not permitted;
- UNFC categories cannot be combined or otherwise manipulated into categories not already given in the PERC classification(s) given in this Report;
- Where there is doubt concerning conversion to a single UNFC classification code, the Competent Person may include more than one UNFC code provided there is a proximal, clear and prominent statement giving reasons for the uncertainty;
- The allocation of the UNFC E and F categories will be dependent on the project status. Hence, whenever a report containing UNFC classifications is to be issued, the existing UNFC categories should be first reviewed, and updated where necessary, to reflect any changes in the Project status.

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VI. RISK REVIEW & FINDINGS

20. IDENTIFICATION OF MATERIAL UNCERTAINTIES AND RISKS

If no material uncertainty and risk review have been undertaken, provide a statement to confirm this and, if applicable, explain why none has been completed;

Otherwise, list the available relevant standards, protocols, standard operating procedures (SOP), technical reports, and other available sources relevant to material uncertainty and risk review and assessment, and to which the reader can be referred;

Provide a summary of material and pertinent data, information and conclusions derived from these sources, or for a material uncertainty and risk review and assessment that has not been reported previously, provide a discussion commensurate with the level of understanding of the Modifying Factors and cognizant of the following:

Section 1 (Introduction – General) 1.0 (xi) [All estimates]

- 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;

Section 4 (Estimation and Reporting of Exploration Results, Mineral Resources and Mineral Reserves) 4.5 (xiii) [All estimates]

- If the CP is relying on a report, opinion, or statement of another expert who is not a CP, disclose the date, title, and author of the report, opinion, or statement, the qualifications of the other expert and why it is reasonable for the CP to rely on the other expert, any significant risks and any steps the CP took to verify the information provided;

Section 4: Estimation and Reporting of Exploration Results, Mineral Resources and Mineral Reserves (Reasonable prospects for eventual economic extraction) 4.3 (viii) [Mineral Resources & Mineral Reserves]

- Discuss any material risks to the Mineral Resource estimation;
- Section 5: Technical Studies (Risk Analysis) 5.7 (i) [Mineral Resources & Mineral Reserves]
- Report an assessment of technical, environmental, social, economic, political and other key risks to the estimation of the Mineral Resource(s). Describe actions to mitigate and/or manage the identified risks;

Section 5 (Technical Studies - Environmental, Social Performance, and Governance) 5.5(xiii) [Exploration Results only]

- Integrated Risk Management: provide a description of identified potential Modifying Factors and actions taken to manage them where appropriate;

Section 5 (Technical Studies - Environmental, Social Performance, and Governance) 5.5(xiii) [Mineral Resources & Mineral Reserves]

- Describe proposed mitigation plans for identified Modifying Factors and management actions taken to manage them where appropriate;
- Describe any additional risks that may impact the long-term future of the project, even if not deemed to be material at the current time;
- Describe how the risk assessment process outlined here is integrated with the overall risk management framework for the company as a whole;

Section 5: Technical Studies (Risk Analysis) 5.7 (i) [Exploration Results only]

- For Exploration Results and Evaluation Exploration Targets, provide a high-level assessment of key areas of uncertainty that may affect exploration outcomes. An assessment should be provided on the chances of exploration success, together with consideration of any potential threats which could hinder the eventual development of a mining or extraction project in the exploration area;

Section 5 (Risk Analysis) 5.7 (i) [Mineral Resources & Mineral Reserves]

- Report an assessment of technical, environmental, social, economic, political and other key risks to the project. Describe the actions to be taken to mitigate and/or manage the identified risks.

PERC Standard Paragraph 2.32 and accompanying Guidance [All estimates]

- Public Reports concerning a company's or reporting entity's Exploration Results, Exploration Targets, Mineral Resources and Mineral Reserves must make readers aware of any risks and uncertainties that may impact the reliability of the data, interpretations, and estimates presented;

- It is the responsibility of the Competent Person(s) to identify and assess risk and uncertainty factors related to the matters being presented, particularly any which may have a material effect on estimates or predicted outcomes (e.g. development timelines).
- Risks disclosed involve those pertinent to all relevant aspects of an asset or business that can be estimated within reasonable bounds;
- Uncertainties associated with all Modifying Factors should be considered when reporting Exploration Results, Exploration Targets, Mineral Resources and Mineral Reserves;

PERC Standard Paragraph 2.33 [All estimates]

- Consideration of risks and uncertainties must include identifying events or situations that may have a negative effect (threat) or positive effect (opportunity) on anticipated outcomes;

PERC Standard Paragraph 2.34 and accompanying Guidance [Mineral Resources & Mineral Reserves]

- The Competent Person(s) must assess the relative importance of the risks and highlight any such risks that may have a material effect on the published estimates of Mineral Resources and Mineral Reserves, or the anticipated project or operation outcomes;
- Uncertainties associated with all Modifying Factors should be considered when reporting Mineral Resources and Mineral Reserves;
- To ensure that the risks and uncertainties associated with the estimation of Mineral Resources and Mineral Reserves, and the prediction of financial outcomes for mining development projects or extraction operations, are not overlooked, such aspects should be presented clearly and transparently in Public Reports;

PERC Standard Paragraph 2.35 [Mineral Resources & Mineral Reserves]

- Public Reports that present the results of Geological Studies and Technical Studies must include details of any risk assessments carried out, including planned risk management actions;

PERC Standard Paragraph 2.36 [All estimates]

- Where a Public Report is being issued to support a request for funding for further exploration or development work, the Public Report must make it apparent what effect, if any, the proposed work programme would have in mitigating the effects of the identified threats and realising the benefits of the identified opportunities;
- It is the responsibility of the Competent Person(s) to identify and assess risk and uncertainty factors related to the matters being presented in any Public Report, particularly any which may have a material effect on estimates or predicted outcomes (e.g. development timelines);

PERC Standard Paragraph 6.6 [Mineral Resources]

- 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;

PERC Standard Paragraph 7.24 [Mineral Resources & Mineral Reserves]

- Modifying Factors and assumptions applied to the Inferred Mineral Resources must reflect a risk analysis considering their lower geological knowledge and confidence;

PERC Standard Paragraph 7.26 [Mineral Reserves]

- A LoMP must be economically viable without any Inferred Mineral Resources included in the mine plan to support the declaration of Mineral Reserves. Where a material amount of production in the LoMP is based on 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. The proportion of Inferred Resources included in the LoMP must be reported, and a proximate statement that "Only Probable Mineral Reserves and Proved Mineral Reserves have been used to establish the economic viability of the mine design in Technical Studies" must be included.

21. CONCLUSIONS

If no Conclusions are presented, provide a statement to confirm this, and an explanation as to why not; Otherwise, provide a summary of material and pertinent Conclusions cognizant of the following:

Section 1: Project Outline (Introduction - General) 1.0 (vi) [All estimates]

- An Executive Summary, which briefly summarises 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 conclusions and recommendations;
- The Conclusions should state and discuss whether the Competent Person is of the opinion that the project has met its original objectives, and identify what objectives remain to be resolved;
- The discussion should provide sufficient clarity so that the reader can distinguish between the personal opinion of the Competent Person, from conclusions derived from data, information and summaries provided in the Mineral Project Evaluation Report;
- These conclusions should be summarised in the Executive Summary.

22. RECOMMENDATIONS FOR FURTHER WORK

If no recommendations for further work are given, provide a statement to confirm this and, if applicable, explain why none were considered appropriate;

Otherwise, provide a summary list and the underlying reasons for recommending further work of a specific nature (e.g. infill sampling and/or drilling, further sample test work, community engagement studies, etc.), cognizant of the following:

PERC Standard Paragraph 5.18 [Exploration Results only]

- The proposed exploration activities designed to test the validity of an Exploration Target must be detailed and must include the budget and timeframe within which the exploration activities are expected to be completed;

Section 1: Project Outline (Introduction - General) 1.0 (vi) [All estimates]

- Provide a Summary, which briefly summarises the Competent Person's conclusions and recommendations;
- The recommendations should not apply to more than two phases of work;
- Provide particulars of the recommended work programs and a breakdown of costs for each phase. If successive phases of work are recommended, each phase must culminate in a decision point. Each phase must include a description of the scope of work, the estimated funding for each phase and the budgeting arrangements for that funding, together with a proposed schedule for completion of the work (including the timeframe to production if relevant);
- Describe how the recommended further work will reduce, eliminate, or the degree of anticipated mitigation, of the risks and uncertainties outlined in the preceding Section 20 of this Report;
- The recommendations must state whether advancing to a subsequent phase is contingent on positive results in the previous phase;
- In some specific cases, the Competent Person may not be in a position to make meaningful recommendations for further work. Generally, these situations are limited to mineral properties under development or in production where material exploration activities and engineering studies have largely concluded. In such cases, the Competent Person should explain why they are not making further recommendations.

VII. ADDENDA

23. REFERENCES

Section 1: 1.0 (iv) [All estimates]

- Include a detailed list of all references cited in the Report.

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24. APPENDICES

1	Competent Person(s) Appointment Letter Pro-Forma & Abridged Résumé
2	...
...	...
...	...

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Appendix 1

Competent Person(s) Appointment Letter & Abridged Résumé

Appointment Letter(s) and Abridged Résumé(s) of the Lead Competent Person and/or

Competent Person(s) responsible for the Reporting of (as appropriate):

Exploration Results (including Exploration Target(s), and/or

Mineral Resources, and/or

Mineral Reserves.

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COMPETENT PERSON APPOINTMENT LETTER

Provide a scanned copy of the Competent Person's Appointment Letter that includes the date and signature of a recognised representative of the Reporting Company, organisation, or individual, with a letterhead or logo where appropriate;
Original Letter of Appointment to be archived.

Company Logo	Company Letterhead Name of Reporting Company Name of Appointing Person Company Position Contact Details (1) contact number Contact Details (2) contact number e-mail: email contact
	(Date)
Appointment as Competent Person for (Year)	
Prospect / Project / Operation: (Prospect / Project / Operation Name)	
<p>In accordance with the Public Reporting of Exploration Results, Mineral Resources and Mineral Reserves and in compliance with the Pan-European Standard for the Reporting of Exploration Results, Mineral Resources and Mineral Reserves (The PERC Reporting Standard, 202X) (Reporting Company Name) nominates (Name of Competent Person and Job Title) to prepare reports and sign off as a Competent Person.</p> <p>(Name of Competent Person) has been informed of the role and responsibilities of a Competent Person and declares by signature to this letter that they are clearly satisfied in his own mind that he/she can face his/her peers and demonstrate competence in the commodity, type of Mineral Deposit and situation under consideration. The CV of (Name of Competent Person), presenting qualifications, experience and professional body of affiliation, is attached to support this appointment.</p> <p>This appointment commences on the date of signature of this letter as given below and remains in effect unless advised otherwise by (Reporting Company Name). The Company must provide the Competent Person with an opportunity to review and comment on any subject matter related to the release of additional Public Reports on the Exploration Results, Mineral Resources and Mineral Reserves associated with the (Prospect/Project/Operation Name) in a timeous manner.</p> <p>The original of this signed letter has been archived for record purposes in relation to this Report.</p>	
Signed: (Signature of Appointing Person)	Signed in Acceptance: (Signature of Competent Person)
(Name of Appointing Person) (Company Name / Division Name)	(Name of Competent Person)
(Job Title)	Registering Body : (Name of Professional Organisation) Number : (membership grade and number) Date : (date)

COMPETENT PERSON ABRIDGED RÉSUMÉ

Section 9: Qualification of Competent Person(s) and other key technical staff. Date and Signature Page (Competent Person Details) 9.1 (i) [All estimates]

- State the relevant experience of the Competent Person(s) and other key technical staff who prepared and are responsible for the Public Report;
- Include a copy of an abridged résumé of the Competent Person named in the Appointment Letter that includes a summary of all experience relevant to verifying competency. Suggested format below may be used by [editing the text in blue](#);
- An unexpurgated résumé must be archived for record purposes;

Abridged Résumé Name of Competent Person Job Title / Company Position Name of Employer (where relevant)	
Contact Details (1) contact number Contact Details (2) contact number e-mail: email contact	
(Date)	
Relevant Experience (including but not limited to)	
<ul style="list-style-type: none"> • Education: date(s), institute name, name of course, grades and qualifications obtained; • Employment: dates(s), company name, job position, abbreviated job description/duties; • Work Experience: date(s), style of mineralisation, country/location, purpose of work, work outcome; • Training: date(s), training course name, course description, grade/qualifications obtained; • Publication(s): date, reference • Organisations: membership, affiliation • Other relevant information 	
A copy of the unexpurgated version of this résumé has been archived for record purposes in relation to this Report.	

Appendix 2a

Compliance Mapping to PERC Reporting Standard

Mapping PERC Reporting Standard to PERC Mineral Project Evaluation Report

Release 2.1 - May 2024

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Mapping PERC Mineral Project Evaluation Report to PERC Reporting Standard

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13.8.4 Mass Balance	Section 3: 3.4 (iii) [All estimates]
13.9 Mining / Extraction	Section 5: 5.1 (ii) [Mineral Reserves only] Section 5: 5.2 (ii) [Mineral Reserves only] Section 5: 5.2 (ix) [Mineral Reserves only] Section 6: 6.3 (ii) [Mineral Reserves only]
13.9.1 Mine Scheduling	Section 5: 5.2 (ii) [Mineral Reserves only]
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13.9.3 Planned Production	Section 5: 5.2 (viii) [Mineral Reserves only]
13.9.4 Unforeseen Geological Losses	Section 5: 5.2 (viii) [Mineral Reserves only]
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13.9.6 Mining Recovery	Section 5: 5.2 (viii) [Mineral Reserves only]
13.9.7 Previously Mined Areas	
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13.10 Cut-Off Parameters	
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13.11.2 Grade or Quality Factors	
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13.11.7 Management of Process Residues (including Tailings)	Section 5: 5.4 (ii) [Mineral Reserves only]
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13.14 Environmental, Social Performance & Governance	Section 5: 5.5 (ii) [All Estimates]
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13.14.2 Context	Section 5: 5.5 (ii) [All Estimates] Section 5: 5.5 (iii) [Mineral Resources & Mineral Reserves]
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13.15 Mine Closure	Section 1: 1.7 (i) [All Estimates] Section 5: 5.5 (v) [Mineral Resources & Mineral Reserves]
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14.2 Market and Contracts	Section 4: 4.3 (vi) [Mineral Resources & Mineral Reserves]
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14.3.9 Other Costs	
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14.4.1 Exploration Results and Exploration Target Commodity Price Forecast	Section 4: 4.3 (vii) [All Estimates]
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14.7 Economic Analysis	Section 5: 5.8 (ii) [Mineral Resources & Mineral Reserves]

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16.4 Caveat on Exploration Results and Exploration Target Range Estimates	PERC Paragraph 5.5 [Exploration Results only]

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16.5 Material Changes to Exploration Results or Exploration Targets	
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17.1 Mineral Resource Classification	Section 4: 4.4 (i) [Mineral Resources & Mineral Reserves]
17.2 Mineral Resource Statement (Public Reporting)	Section 4: 4.5 (v) [Mineral Resources & Mineral Reserves] Section 4: 4.5 (vii) [Mineral Resources & Mineral Reserves] Section 4: 4.5 (viii) [All Estimates] Section 4: 4.5 (ix) [All Estimates] Appendix 1: A1-5 [All estimates] Appendix 1: A1-6 [Mineral Resources only] Appendix 2: A2-5 [Mineral Resources & Mineral Reserves] Appendix 4: A4-5 [Mineral Resources & Mineral Reserves] Appendix 4: A4-10 [Mineral Resources & Mineral Reserves] Appendix 4: A4-11 [Mineral Resources & Mineral Reserves] Appendix 4: A4-12 [Mineral Resources & Mineral Reserves] Appendix 5: A5-7 [Mineral Resources & Mineral Reserves] Appendix 5: A5-8 [Mineral Resources & Mineral Reserves] Appendix 6: A6-5 [All estimates] Guidance Appendix 7: A7-5 [Mineral Resources & Mineral Reserves]
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17.5 Mineral Resource Estimate Audit or Review	Section 7: 7.1 (i) [All Estimates] Section 7: 7.1 (ii) [All Estimates]
18 MINERAL RESERVE ESTIMATES	
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18.2 Mineral Reserve Statement (Public Reporting)	Section 6: 6.1 (ii) [Mineral Resources & Mineral Reserves] Section 6: 6.1 (iv) [Mineral Reserves only] Section 6: 6.3 (ii) [Mineral Reserves only] Section 6: 6.3 (iii) [Mineral Reserves only] Section 6: 6.3 (v) [Mineral Reserves only] Section 6: 6.3 (vi) [Mineral Resources & Mineral Reserves] Section 6: 6.4 (i) [All Estimates] Appendix 1: A1-7 [Mineral Reserves only] Appendix 2: A2-5 [Mineral Resources & Mineral Reserves] Appendix 4: A4-5 [Mineral Resources & Mineral Reserves] Appendix 4: A4-6 [Mineral Reserves only] Appendix 4: A4-7 [Mineral Reserves only] Appendix 4: A4-8 [Mineral Reserves only]

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18.4 Mineral Reserve Estimate Reconciliation	Section 5: 5.1 (ii) [Mineral Reserves only] Section 6: 6.1 (v) [Mineral Reserves only] Section 6: 6.3 (iv) [Mineral Reserves only]
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18.4.2 Material Changes to Mineral Reserve Estimates	
18.5 Mineral Reserve Estimate Audit or Review	Section 7: 7.1 (i) [All Estimates] Section 7: 7.1 (ii) [All Estimates]
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21 CONCLUSIONS	Section 1: 1.0 (vi) [All estimates]
22 RECOMMENDATIONS FOR FURTHER WORK	Section 1: 1.0 (vi) [All Estimates]
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