The PERC Mineral Project Evaluation Report Template

An Introduction and Overview

21 May 2024

Release Version 2.1
2023 PERC AGM in April 2023: ACTION: 2023-11

Set up a working group to prepare a PERC Standard Technical Report format linked to the PERC Table 1

Transformation of PERC Reporting Standard through Table 1 into a compiled Technical Evaluation Report

PERC Code minimum required standards and additional recommendations and guidelines (PERC 2.1)

PERC Table 1 List of criteria that must be considered when preparing Public Reports (PERC 1.8)

Technical Report MPER
The PERC Mineral Project Evaluation Report Template is
a framework for the compilation of data, information, interpretations, assessments and conclusions relevant to...

...Exploration Results & Exploration Targets, Mineral Resources, and Mineral Reserves throughout a Mineral Project life-cycle...

...that serves as the foundation document from which extracts can be collated into derivative documents for the purposes of public and non-public reporting...

...that conforms with the requirements and recommendations outlined in the Pan European Standard for the Public Reporting of Exploration Results, Mineral Resources and Mineral Reserves (PERC Reporting Standard (2021), as amended from time to time).

The Pan-European Reserves and Resources Reporting Committee (PERC) is the European National Reporting Organisation for CRIRSCO, which includes the countries of the European Union (EU), the European Free Trade Association (EFTA), and the United Kingdom (UK) and is responsible for the region-specific Mineral Reporting Standard compatible with the International Reporting Template.
The PERC Mineral Project Evaluation Report Template is used

1. Where **Consistency** in information is required for
   • internal business planning;
   • external regulatory submissions;
   • external non-public reporting;
   • as a foundation document for Competent Persons Report in Summary or Detailed form where required;

2. Where **Continuity** is required for
   • the compilation of a Competent Persons Report for public reporting where required;
   • public reporting of all summary or extracted public reports for ongoing / continuous public reporting;
The Mineral Project Evaluation Template is the foundation document from which different reports types can be compiled:

- **Competent Person Reports** (CPR) for Company listing requirements on the Securities Exchanges;
- **Company Public Reports** that require Competent Person sign-off of released material;
- **Company Non-Public strategic reports** on Mineral Asset development and management, such as target generation and exploration programmes, and short-term or long-term mine planning;
- **Mineral Asset Reporting** in case of acquisition, purchase or selling of Mineral Assets;
- **Mineral Asset Reporting** requirements for regulatory authorities, typically for permit applications, such as a mining works programme;
- **Mineral Inventory** reporting to national geological surveys;
- **Mineral Classification purposes** to promote Strategic Projects, as defined by the European Unions (EU’s) Critical Raw Materials Act (CRMA), using the United Nations Framework Classification (UNFC) System;
PERC Mineral Project Evaluation Report

Repository for all Mineral Reporting and Classification Assessments and associated supporting information signed off by a Competent Person

PERC Reporting Standard
Public Reporting of Exploration Results, Mineral Resources and Mineral Reserves

Competent Persons Report (CPR)
Listing Documents
Company Updates

Stock Exchange Notices

Regulatory Permitting Authorities

National Geological Surveys

Strategic Projects

Mineral Classification

Company Mineral Inventory Management

Content: relevant Extracts from the PERC Report Template

Study – Legal Framework for mineral extraction and permitting procedures for exploration and exploitation in the EU

PERC Mineral Project Evaluation Report Template

Foundation Document
The Template is divided into 7 Parts, 24 Sections, 119 Headings:

Part I. MINERAL PROJECT COMPETENT PERSON
Part II. MINERAL PROJECT INTRODUCTION
Part III. MINERAL PROJECT EXPLORATION INFORMATION
Part IV. MINERAL PROJECT EVALUATION
Part V. MINERAL ESTIMATE REPORTING
Part VI. RISK REVIEW & FINDINGS
Part VII. ADDENDA

All Parts are applicable to all Mineral Projects
Part I. Competent Person

Competent Person’s Consent Statement
Statement of Competence

- Report identity and date of mineralisation estimates
- delegation and assumption of responsibility
- identification of contributors
- individual sign-off

Sign-Off is essential because it:
- provides assurance on the veracity of the Report contents especially any estimates of mineralised material;
- provides continuity of business assurance and preserves content integrity that evolves with time or where more than one CP is involved;
- supports summary Public Reporting for ongoing or continuous reporting where a CPR is NOT required in the public domain;
- facilitates and validates the compilation and submission of a CPR that is required in the public domain.
Part II. Introduction
1. Introduction
2. Project Outline
3. Permitting
4. Legal
5. Geography
6. Mineral Project History

*project context and business proposition*

*permitting, legal*

*location, access, existing environment*

*history of exploration / development*
Part III. Exploration Information

7. Geological Setting, Mineralisation and Mineral Deposit Types
8. Exploration Information
10. Sample Preparation, Analyses and Security
11. Data Validation & Management
12. Geological Model & Interpretation

geological setting - mineral deposit model
exploration methods (geology, geochemistry, geophysics)
sampling – soil, rock chip, drilling
data management – chain of custody
geological model

certain commodities (construction materials & industrial minerals) often require sample products for testing for product specifications and/or product value at a much earlier stage than for metallic minerals
Part IV. Evaluation

13. Modifying Factors
14. Economic Assessment
15. Other Relevant Data & Information

*technical study level* *(Geological / Scoping / PFS / FS)*
*RPEEE*\(^1\) and *EERJ*\(^2\)

*mine planning model*
Modifying Factors *(technical – ESG)*

*economic assessment & viability*

*financial model*
other relevant data pertinent to estimates

\(^1\) *reasonable prospects for eventual economic extraction (resources)*

\(^2\) *economic extraction is reasonably justified (reserves)*
Part V. Estimate Reporting

16. Exploration Results (including Exploration Targets)
17. Mineral Resource Estimates
18. Mineral Reserve Estimates
19. United Nations Framework Classification (UNFC) Conversion

conceptual target, exploration target, exploration results
mineral resource statement, classification, reconciliation, audit
mineral reserve statement, classification, reconciliation, audit
UNFC classification

Reporting of Estimates
Parts I-IV to be considered before reporting estimates
Part VI. Risk Review & Findings

20. Identification of Risks & Uncertainties
21. Conclusions
22. Recommendations for Further Work

Identification of risks & uncertainties
Conclusions of Competent Person regarding current & future status
Recommendations to improve understanding / reduce risk (and how)

Competent Person’s professional opinion

Risk & Uncertainty
Risk & Uncertainty addressed throughout previous Parts I-V
Compilation of identified material risks / uncertainties and
determination of most important to mitigate
Part VII. Addenda

23. References
24. Appendices

References – repository of project information

Appendices
- including additional details of Competent Person
- mapping between Template and PERC Reporting Standard
- additional relevant addenda as necessary
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.

The Template comprises 7 Parts, 24 Sections and 119 Headings that contain self-explanatory Guidance on the recommended or suggested content to be provided, together with a cross-reference to PERC Table 1 (2021), relevant Paragraphs of the PERC Reporting Standard, and the PERC Appendices, as given, or as updated or amended to comply with business best practice (hereafter referred to as PERC Table 1*)

Grey Guidance boxes can be retained / deleted at the discretion of the Competent Person.
The Guidance advocates a three-step process for completion:

1. If there are no data relevant to the assessment criteria, then provide a confirmatory statement to this effect and explain why, to comply with “if-not-why-not” principle;

2. Otherwise, list all the relevant documentation that can be used as reference material for this assessment criteria;

3. Then ALSO provide a summary of the data, information and conclusions cognizant of the requirements or recommendations given in PERC Table 1* as given;
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;

For Mineral Resources:
If no specific Modifying Factors have been considered, provide a statement to confirm this, and if appropriate, explain why none have 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.

The Guidance may include additional advisory or warning:
To clarify principles in the application of the assessment criteria;
When certain conditions must be met to comply with PERC Reporting Standard;
(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 **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;

**Commodity Specific Guidance**

**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 or reserve information in the public domain and others available.

**Commodity Specific Guidance**

**Additional Guidance may be commodity-specific:**
When the PERC Reporting Standard Appendices contain commodity-specific guidelines that may differ from those typically in Table1*.
Ownership

Identity
encourages individual and corporate entities to customise and
take ownership on the basis of the recommended template

II. MINERAL PROJECT INTRODUCTION SECTION

1. INTRODUCTION

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

Confidentiality Notice
Contents are private, owned by commissioning individual or
corporate entity, who control dissemination in whole or in part

The Template is a living document, and foundation framework for preparing
derivative documents for both non-public and public reporting
Sign-Off and Consent is provided on a tiered system in which Lead Competent Person accepts overall responsibility but multiple and different Competent Persons may sign off on specific estimates whilst individual contributors remain responsible for specific contributions.

A Competent Person is a Minerals industry professional and member of a Recognised Professional Organisation (RPO) in the list of Professional Organisations accredited by PERC, and has the ability to perform the activity for which they are responsible.
Nested Sign-Off

Successive Competent Persons verify and take responsibility for the contents of any and all previous MPER Reports, as well as any and all updates, revisions and additions included in the current MPER Report.

- Facilitates limited appointment periods or new or different successive Competent Persons;
- Maintains the chain of competency and Report integrity with project development;
- Use Section 1.3 (Sources of Information) to provide details and reference appropriately;

**1.3 Sources of Information**

- 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);

“Update” includes deprecation of earlier work deemed unsatisfactory.
Lead Competent Person

Section 1: Lead Competent Person’s Consent Statement

1. I have read and understood all the relevant sections of the PERC Reporting Standard, Pan-European Reporting 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 licenced with the required status of (please specify) ... having 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 power to suspend or expel a member.

3. I am a Competent Person as defined by the PERC Reporting Standard and having at least five years of relevant experience in relation to the type of Mineral Deposit under consideration.

4. I give my consent for the Public Report to be prepared and released in the format and context in which it is being disseminated, including any additions, modifications or amendments of the content provided during the preparation of the Public Report.

5. I am a Competent Person as defined by the PERC Reporting Standard and having at least five years of relevant experience in relation to the type of Mineral Deposit under consideration.

Consent mandatory prior to Public Reporting

Recommended Wording for Lead CP Sign-Off and Consent is provided

PERC 1.7. Appendix 11 provides a prototype certificate for a Competent Person to declare compliance with all requirements of the PERC Reporting Standard.

PERC 3.7. The issuing of a Public Report requires the written consent of the named Competent Person(s), before the release of the Public Report, to agree to the form and context in which the information presented in the Public Report appears.

Wording of Consent Statement is important to comply with principles and recommendations given in PERC Reporting Standard.
PERC 3.15. If a team prepares a Public Report ... that team must be led by an experienced Competent Person (Lead Competent Person).

PERC 3.16. Members of a team preparing a Public Report ... may be specialists in technical or professional fields for which the Competent Person Definition in Clause 3.2 is not applicable. In such cases, the Lead Competent Person must be satisfied with and be accountable for each of those specialists' qualifications and relevant experience.

Wording of Statement of Competence is important to comply with principles and recommendations given in PERC Reporting Standard.
All Competent Persons

PERC 2.9. Competence requires that a Public Report is based on work that is the responsibility of a suitably qualified and experienced person (referred to herein as the Competent Person).

PERC 2.10. Accountability requires ... The Competent Person(s) must be entitled to act in the capacity stated in the Public Report.

PERC 3.1. A Public Report ... is the responsibility of the company or reporting entity, acting through its Board of Directors.

Appendix 1
CP Appointment Letter & Abridged Résumé
1. to demonstrate delegation of authority to prepare estimates and good corporate governance, and
2. to facilitate self-certification

Recommended additional documentation for CP Appointment and Self-Certification
PERC Mineral Project Evaluation Report Template

Compliance Mapping (Part I)

Appendices 2a & 2b
providing cross-mapping between Table 1* and Template to assure compliance with PERC Reporting Standard requirements and recommendations

2a: Mapping Table 1* to Template

2b: Mapping Template to Table 1*

Tabulated cross referencing between Table 1* and Template
Introduction (Part II)

Mineral Project Introduction

- Introduction
- Project Outline
- Permitting
- Legal
- Geography
- Project History


- Outline business statement
- Legal right to the mineral property
- Tenure application – expiration – renewal
- Contracts, partnerships, liabilities
- Location, access, environment, infrastructure, community (ESG)
- Previous work

Adjacent properties (business impact, not data)

Introduction remains valid throughout Project life-cycle with only minor updates
Exploration Information defines the Geological Model upon which all subsequent work is dependent.

traditional geophysical techniques distinguished from remote sensing (satellite) studies in response to increasing ability to generate Exploration Targets without permitting.
Modifying Factors, Economic Assessment, Risk & Uncertainty must be considered for:

- Exploration Results & Exploration Targets (*initial understanding*)
- Mineral Resources (*to demonstrate reasonable prospects*)
- Mineral Reserves (*to demonstrate economic extraction*)

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1 reasonable prospects for eventual economic extraction
2 economic extraction is reasonably justified
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.

PERC 5.11. Preliminary Modifying Factors, including material ESG threats and opportunities, should be taken into consideration at this early stage.

Evaluation - Modifying Factors must be considered to demonstrate prospects for future economic extraction (PFEE)
13.2 Consideration of Modifying Factors

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.

PERC 6.4. The term ‘reasonable prospects for eventual economic extraction’ implies a judgement (albeit preliminary) by the Competent Person(s) regarding all Modifying Factors.

6.4 Guidance The Mineral Resource is an estimate of mineralisation, which, under assumed and justifiable technical, economic and ESG conditions, may, in whole or in part, become economically extractable.
13.2 Consideration of Modifying Factors

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 7.2. Mineral Reserves are those portions of Indicated Mineral Resources and Measured Mineral Resources which, after the application of all relevant Modifying Factors, result in an estimated tonnage and grade or quality which, in the opinion of the Competent Person(s) making the estimates, can be the basis of a viable project or operation.

PERC 7.5. In reporting Mineral Reserves, information on all Modifying Factors must be included in Public Reports.

Evaluation - Modifying Factors must be considered to demonstrate economic extraction is reasonably justified (EERJ)
Economic Assessment predicts financial viability, and is NOT a valuation
Caveat on forward-looking statements
## Exploration Results

**Exploration Targets**

- Tabulation by permit area, individual operation, mining method, ore body, ore type, product type...

**Estimates**

- Restrictions on use of estimates, or assurance of conversion, or viability of extraction;

**Caveat**

- Comparison of changes and reason from previous estimates;

**Reconciliation**

- Material differences (>10%) both quantity and quality;

**Material Changes**

- Independent assurance on data processing, estimation process, and estimates of quantity and quality

## Mineral Resources

### Estimates

- Total Reserve: 112.794 million, 6.5%
- Inferred in LOM Plan: 24.538 million, 6.5%
- Reconciliation in LOM Plan: 7.530 million, 6.5%

### Caveat

- Tabulation by permit area, individual operation, mining method, ore body, ore type, product type...

### Reconciliation

- Total Resources In Mine: 161.289 million, 2.7%
- Measured: 56.550 million, 2.7%

### Material Changes

- Total Additional Resources: 413.176 million, 2.7%
- Measured: 56.000 million, 4.0%

### Audit / Review

- Reconnaissance: 84.068 million, 2.7%

## Mineral Reserves

### Estimates

- Proven: 5.071 million, 7.3%
- Probable: 22.156 million, 12.1%

### Caveat

- Tabulation by permit area, individual operation, mining method, ore body, ore type, product type...

### Reconciliation

- Total Scheduled: 10.132 million, 7.6%

### Material Changes

- Total Additional Resources: 413.176 million, 2.7%
- Measured: 56.000 million, 4.0%

### Audit / Review

- Reconnaissance: 84.068 million, 2.7%
Complexity of reporting estimates is determined by reality, not expediency;

Critical output must be presented in a manner that reflects the actual mineralised material;

Oversimplification can misrepresent by omission;

Estimates of Mineralised Material
compilation must be representative of actual practical mineralisation
(misrepresentation by omission)
UNFC Classification (Part V (b))

 exploration results
 exploration targets

 mineral resources

 mineral reserves

 CRIRSCO-UNFC Bridging Document*
 bridging document conversion

 UNFC Classification stand-alone extract

 The Competent Person should undertake the UNFC Classification at the time of mineral estimation to preserve the chain of competence

 UNFC: United Nations Framework Classification Conversion
 Exploration Targets, and/or Mineral Resources, and/or Mineral Reserves

*Bridging Document between the Committee for Mineral Reserves International Reporting Standards (CRIRSCO) Template and the United Nations Framework Classification for Resources (UNFC) April 2024
Material Risks & Uncertainties must be assessed for all aspects of the Mineral Project so that the Competent Person’s Conclusions and Recommendations for Further Work provide the context for mineral resource management as well as both strategic business planning and investment decisions.
**Is the PERC Mineral Project Evaluation Template a CPR Template?**

*in the sense that*

| NO | only the Competent Person can decide the contents of a CPR, and every project will require an individual assessment at the time of CPR compilation; |
|    | information may be included in the PERC Evaluation Template that could be considered either (a) incompatible with Public Reporting and hence excluded from a CPR by definition; (b) proprietary information that the company would normally exclude from a CPR; |
|    | other CRIRSCO-aligned Reporting Codes and Standards have mandated formats that are consistent with, but not identical to the PERC Evaluation Template, and can be more abbreviated for initial listings; |

| YES | the PERC Template includes all assessment criteria listed in PERC Table 1 that are considered to be a requirement for "consideration for inclusion" in a CPR; |
|     | a PERC Mineral Project Evaluation Report provides the written consent required by all extracted or summary Public Reports (annual reports, websites, presentations, social media...); |
|     | as a Detailed CPR for initial listing / ongoing / continuous reporting for a Listed Mineral Company; |

No consensus on a specific definition and the defined contents of a “**Competent Persons Report**”
Is the PERC Mineral Project Evaluation Template a CPR Template?

The PERC Mineral Project Evaluation Template is the framework required to compile a CPR.

A Competent Persons Report (CPR) (whether in Summary or Detailed Form) is a subset of the Public Reporting requirements of the PERC Mineral Project Evaluation Template.

The PERC Mineral Project Evaluation Template also provides the structural elements for Sign-off and Consent.
The PERC Mineral Project Evaluation Report Template can be downloaded at:

Adobe Acrobat® file
QR Code is hyperlinked

MSWord © file:
Text above is hyperlinked

Feedback on the PERC Mineral Project Evaluation Report Template can be provided online at:
link to feedback form on PERC website

The MPER Template will be updated as necessary to take account of user feedback and revisions to the PERC Reporting Standard.
Check https://percstandard.org/perc-standard/ for more information and the latest updates.