CN - No. 2023-0057

MEMORANDUM

THE PHILIPPINE STOCK EXCHANGE, INC.

- ☐ Trading
- ☐ Disclosure
- ☐ Listing
- ☐ Public Advisory
- ☐ Administrative/Technology Matters
- ☑ Others: **Draft 2020 PMRC IRR**

TO : **ALL CONCERNED STAKEHOLDERS**

SUBJECT : **DRAFT IMPLEMENTING RULES AND REGULATIONS OF THE 2020 PHILIPPINE MINERAL REPORTING CODE**

DATE : **October 20, 2023**

Please be informed that the Philippine Mineral Reporting Code Committee ("PMRCC") has requested the Exchange to publish the initial draft of the Implementing Rules and Regulations of the Philippine Mineral Reporting Code 2020 Edition ("2020 PMRC IRR") for industry exposure and public comments.

The PMRCC is inviting all concerned parties to submit their comments on the draft 2020 PMRC IRR to **contact@pmrcc.org.ph** until **November 17, 2023**. The Exchange will likewise participate in the consultation process as may be necessary.

The first draft of the 2020 PMRC IRR, together with the proposed revised draft TR-Forms 1, 2 and 3, are attached.

Furthermore, a public hearing on the draft 2020 PMRC IRR will also be conducted virtually by the PMRCC at **1:00 p.m.** on **October 27, 2023**. Interested participants may register using the URL below:

https://xperto-ph.zoom.us/webinar/register/WN_wcup-Qk8RB-VbwpshMSu9A#/registration

For your information and guidance.

(original signed)
Ramon S. Monzon
President and CEO

CMDD	FD	IRD	MOD	TD	HRD / RISK / SU	CCD / FMD / AD	OGC	COO

Tel. No.: (632) 8876-4888 E-mail Address: investing@pse.com.ph

TEXT COLOR LEGEND OF THIS DRAFT:

Black – Original IRR of PMRC 2007

Red – Changes by PMRCC

THE PHILIPPINE STOCK EXCHANGE, INC.

IMPLEMENTING RULES AND REGULATIONS FOR THE PHILIPPINE MINERAL REPORTING CODE 2020 Edition

1.0 FOREWORD

The Philippine Mineral Reporting Code 2020 Edition ("PMRC 2020" or the "Code") (ANNEX I), sets out minimum standards, recommendations, and guidelines for Public Reporting of Exploration Results, Exploration Targets, Mineral Resources, Mineral Reserves, and metallurgical assessments and design related to mining in the Philippines. The Code is an upgrade of the PMRC 2007 Edition and modeled substantially after the International Reporting Template (2019) of the Committee for Mineral Reserves International Reporting Standards (CRIRSCO) and the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code) 2012 of the Australasian Joint Ore Reserves Committee (JORC). In adopting the CRIRSCO Template 2019's sixteen (16) Standard Definitions, the PMRC 2020 is compatible with the international reporting codes of the CRIRSCO's members which are National Reporting Organizations (NROs) such as the Joint Ore Reserve Committee (JORC) in Australasia, the Canada Institute of Mining, Metallurgy, and Petroleum (CIM) in Canada, and the Pan-European Reserves and Resources Reporting Committee (PERC) in Europe.

The Implementing Rules and Regulations ("IRR") of The Philippine Stock Exchange, Inc. ("PSE" or the "Exchange") is based on the Code. If the Code should be amended in the future, the PSE will update the IRR correspondingly.

The IRR provides listed mining and exploration companies and those applying to list in the Exchange with guidelines in complying with the reporting standards provided in the Code. The IRR aims to protect investors by ensuring full disclosure of reliable information material to the Disclosure, invalidating misleading information, and preventing fraudulent practices. The IRR adopts the PMRC's Governing Principles of Materiality, Transparency, and Competence.

2.0 APPLICABILITY

The PMRC 2020 and its IRR shall apply to the following listed companies and those applying for listing in the PSE:

a. Companies whose primary purpose is to engage in mining or exploration activities

b. Companies classified under the mining sector

c. Companies who regularly engage in mining or exploration activities

d. Companies with an equity or participating interest in companies or partnerships regularly engaged in mining or exploration activities, the value of which is at least ten percent (10%) of the book value of the listed company

e. Such other companies as may be determined by the Exchange to ensure full, fair, and accurate Disclosures of material information

3.0 GLOSSARY OF TERMS AND ACRONYMS

3.1 **Accredited Competent Person (ACP)** is a minerals industry professional who is a Member or Fellow of the Philippine Society of Mining Engineers (PSEM), the Geological Society of the Philippines (GSP) or the Society of Metallurgical Engineers of the Philippines (SMEP), duly accredited as an ACP by the professional organization to which he/she belongs, or of a Recognized Professional Organization (RPO) included in a list promulgated by PSEM, GSP, and SMEP through the Philippine Mineral Reporting Code Committee (PMRCC) as the need arises, subject to the applicable laws and regulations. These professional organizations have enforceable disciplinary processes including the powers to suspend or expel a member. An ACP must have a minimum of five (5) years relevant experience in the style of mineralization or type of Mineral Deposit under consideration and to the activity which that person is undertaking. If the ACP is preparing a report on Exploration Results and/or Exploration Targets, the relevant experience must be in exploration. If the ACP is estimating, or supervising the estimation of Mineral Resources, the relevant experience must be in the estimation, assessment, and evaluation of Mineral Resources. If the ACP is estimating, or supervising the estimation of Mineral Reserves, the relevant experience must be in the estimation, assessment, evaluation, and economic extraction of Mineral Reserves (Clause 12, PMRC 2020).

3.1.1 **ACP-Geologist** is an Accredited Competent Person-Geologist.

3.1.2 **ACP-Metallurgical Engineer** is an Accredited Competent Person-Metallurgical Engineer.

3.1.3 **ACP-Mining Engineer** is an Accredited Competent Person-Mining Engineer.

3.2 **Beneficial Ownership of Securities** means any person who, directly or indirectly, through any contract, arrangement, understanding, relationship or otherwise, has or shares voting power, which includes the power to vote, or to direct the voting of such security; provided however, that the person shall be deemed to have an indirect beneficial ownership interest in any security. [1]

3.3 **BOI** is the acronym for Board of Investments of the Department of Trade and Industry.

3.4 **CADT** is the acronym for Certificate of Ancestral Domain Title as defined in the Indigenous Peoples' Rights Act of 1997 (Republic Act No. 8371).

[1] Amended Implementing Rules and Regulations of the Securities Regulation Code, SRC Rule 3 – Definition of Terms Used in the Rules and Regulations

3.5 **CAPEX** is the acronym for Capital Expenditures.

3.6 **CDP** is the acronym for Community Development Program as defined by Section 136-A of the Department of Environment and Natural Resources (DENR) Department Administrative Order (DAO) No. 2010-13.

3.7 **COC** is the acronym for Coal Operating Contract in the Department of Energy (DOE) which refers to a specific agreement between the Philippine government and a contractor for the exploration, development, utilization, and extraction of coal resources within a specific contract area as defined under Section 9 of Presidential Decree No. 972 of 1976.

3.8 **Cut-off Grade** is the lowest grade, or quality, of mineralized material that qualifies as economically mineable and available in a given Mineral Deposit. May be defined on the basis of economic evaluation, or on physical or chemical attributes that define an acceptable product *(Appendix 1, PMRC 2020).* It may also refer to the lower limit of grade values that delineate the mineralization or Mineral Resource.

3.9 **Data Validation** is a process of establishing the integrity of verified data for use in the assessment. It is essential that previous data intended to be used in the Mineral Resources and/or Mineral Reserves estimation are validated through a field check sampling program of a scale that would demonstrate that the data could be reliably used.

3.10 **Data Verification** is a process of confirming that the data used were generated with "best practice procedures", accurately transcribed from the reference, and are suitable for use. It is essential that original data are checked and that their integrity and credibility are demonstrated.

3.11 **DENR** is the acronym for Department of Environment and Natural Resources.

3.12 **Disclosure** is any structured or unstructured report submitted to the Exchange in accordance with the Revised Disclosure Rules. Disclosures include, but are not limited to, reports, announcements, notices, letters, media releases, information memoranda, website postings, public presentations, and such other documents containing material information.

3.13 **DOE** is the acronym for Department of Energy.

3.14 **ECC** is the acronym for Environmental Compliance Certificate.

3.15 **Effective Date** refers to the cut-off date of the Issuer's technical data included in Disclosures such as Technical Reports.

3.16 **EMS** is the acronym for Environmental Management System.

3.17 **EP** is the acronym for Exploration Permit as defined by the Philippine Mining Act of 1995 (Republic Act No. 7942).

3.18 **EPC** is the acronym for Engineering, Procurement, Construction.

3.19 **EPCM** is the acronym for Engineering, Procurement, Construction Management.

3.20 **EPEP** is the acronym for Environmental Protection and Enhancement Program.

3.21 **ESG** is the acronym referring to Environmental, Social, and Governance. Each of these areas are unique disciplines, however there are many aspects that overlap, and it is often these inter-relationships that drive risk (threats and opportunities). ESG includes all aspects of sustainability.

3.22 **Exploration Results** include data and information generated by mineral exploration programs that may be of use to investors, but which do not form part of a declaration of Mineral Resources or Mineral Reserves *(Clause 21, PMRC 2020).*

3.23 **Exploration Target** is a statement or estimate of the exploration potential of a Mineral Deposit in a defined geological setting where the statement or estimate, quoted as a range of tonnage (or volume) and a range of grade (or quality) relates to mineralization for which there has been insufficient exploration to estimate a Mineral Resource *(Clause 20, PMRC 2020).*

3.24 **FMRDP** is the acronym for Final Mine Rehabilitation and Decommissioning Plan as defined by DENR DAO No. 96-40.

3.25 **FTAA** is the acronym for Financial or Technical Assistance Agreement as defined by the Philippine Mining Act of 1995 (Republic Act No. 7942).

3.26 **Historical Data** refers to any set of Exploration Results, Mineral Resources, Mineral Reserves and/or any technical data generated on the Mineral Property prior to acquisition by the Issuer, which is part of the subject covered by the current Technical Report.

3.27 **Historical Estimate** refers to an estimate of Mineral Resources and/or Mineral Reserves declared or reported prior to the acquisition of the mining rights of the Mineral Property by the Issuer.

3.28 **'If not, why not'** means that each heading and sub-heading listed in TR-FORMs 1, 2, and 3 (ANNEX II of this IRR) and each item in the relevant section of Table 1 of the PMRC 2020 must be discussed and if it is not discussed, then the ACP must explain why it has been omitted from the documentation *(modified from Clause 7, PMRC 2020).*

3.29 **I&AP** is the acronym for Interested and Affected Party.

3.30 **Indigenous People** (or Indigenous Cultural Community) as defined by the Indigenous Peoples' Rights Act of 1997 (Republic Act No. 8371).

3.31 **IRR** is the acronym for Implementing Rules and Regulations of PSE for the PMRC 2020.

3.32 **ISO** is the acronym for International Organization for Standardization.

3.33 **Issuer** is a company listed in the Philippine Stock Exchange (PSE). Also applicable for companies applying for listing in the PSE.

3.34 **LoMP** is the acronym for Life-of-Mine Plan which refers to a mine design with corresponding financial/economic study of an existing operation in which appropriate assessments have been made of existing geological, mining, metallurgical, economic, marketing, legal, environmental, social, governmental, engineering, operational, and all other Modifying Factors, which are considered in sufficient detail (to Pre-Feasibility level) to demonstrate that continued extraction is reasonably justified. Refer to Table 2 of PMRC 2020 for guidance *(Appendix 1, PMRC 2020).*

3.35 **Metal Equivalents** are sometimes used by companies to report polymetallic contents of Mineral Deposits and converted in terms of a single equivalent grade of a major metal in the Mineral Deposit showing details of all material factors contributing to the net value derived from each constituent metal *(modified from Clause 46, PMRC 2020).*

3.36 **MGB** is the acronym for Mines and Geosciences Bureau of the DENR.

3.37 **Mineral** is any substance, extracted for value, occurring naturally in or on the Earth, in or under water or in tailings, residues or stockpiles, having been formed by or subjected to a geological process but excludes water, oil, and gas *(Clause 4, PMRC 2020).*

3.38 **Mineral Deposit** is a distinct place in the Earth's crust where geological processes have concentrated one or more Minerals at greater abundance than in the average crust.

3.39 **Mineral Exploration** means searching or prospecting for Mineral Resources by geological, geochemical and/or geophysical surveys, remote sensing, test pitting, trenching, drilling, and other related means to determine their existence, quantity and quality, and the feasibility of mining them. The usual stages of Mineral Exploration are:

3.39.1 **Phase I. Prospecting and Preliminary Exploration** is an initial exploration activity in a Mineral Property. The main activities consist of rapid reconnaissance geological mapping and widely-spaced geochemical sampling of stream sediments, soils, and rocks, and remote sensing, at times. The objective is to locate surface and near-surface indications of mineralization and to obtain initial data on the general geology of the exploration area, characteristics of the minerals of interest and range of concentration of the contained elements. The desired target or outcome of this activity is **Exploration Results**.

3.39.2 **Phase II. Exploration** is a follow-up work done after Prospecting and Preliminary Exploration (Phase I) in a Mineral Property. The main activities consist of semi-detailed geological mapping and geochemical sampling at widely-spaced observation and sampling points, including geophysical survey(s) in selected places, as well as limited trenching/pitting and/or random scout to widely-spaced drilling. The objective is to verify the existence of significant

mineralization. The desired target or outcome of this activity is still included under **Exploration Results** and possibly **Exploration Targets**.

3.39.3 **Phase III. Semi-detailed Exploration** is conducted to delineate the length, width, depth, and shape of the mineralization in a delineated Mineral Deposit(s) within a Mineral Property. The main activities consist of semi-detailed to detailed geological mapping and geochemical sampling at closely-spaced observation and sampling points, soil grid sampling, and closely-spaced drilling in the delineated mineralized areas. Other specialized exploration techniques are also applied such as geophysics. The objective is to be able to estimate the tonnage (or quantity) and grade (or quality) with a level of geological confidence lower than Indicated Mineral Resource. The desired target is **Inferred Mineral Resource**.

3.39.4 **Phase IV. Detailed Exploration** is conducted to delineate the tonnage (or quantity) and grade (or quality) of the Mineral Deposit(s) with a level of geological confidence higher than Inferred Mineral Resource. The main activities consist of detailed geological mapping and geochemical sampling at closer-spaced observation points, mainly by drilling, adequate to establish moderate to high confidence level of geological and grade (or quality) continuity. The desired target is **Indicated to Measured Mineral Resource**.

3.40 **Mineral Property** is a piece of land owned by the state duly recognized in the MGB of the DENR or the Energy Resources Development Bureau of the DOE with distinct location, area, and technical description.

3.41 **Mineral Reserve** is the economically mineable part of a Measured and/or Indicated Mineral Resource. It includes diluting materials and allowances for losses, which may occur when the material is mined or extracted and is defined by studies at Pre-Feasibility or Feasibility level as appropriate that include application of Modifying Factors. Such studies demonstrate that, at the time of reporting, extraction could reasonably be justified. The reference point at which Mineral Reserves are defined, usually the point where the ore is delivered to the processing plant, must be stated. It is important that, in all situations where the reference point is different, such as a saleable product, a clarifying statement is included to ensure that the reader is fully informed as to what is being reported *(Clause 32, PMRC 2020).*

3.41.1 **Probable Mineral Reserve** is the economically mineable part of an Indicated, and in some circumstances, a Measured Mineral Resource. The confidence in the Modifying Factors applying to a Probable Mineral Reserve is lower than that applying to a Proved Mineral Reserve *(Clause 33, PMRC 2020).*

3.41.2 **Proved Mineral Reserve** is the economically mineable part of a Measured Mineral Resource. A Proved Mineral Reserve implies a high degree of confidence in the Modifying Factors *(Clause 34, PMRC 2020).*

3.42 **Mineral Resource** is a concentration or occurrence of solid material of economic interest in or on the Earth's crust in such form, grade (or quality), and quantity that there are

reasonable prospects for eventual economic extraction. The location, quantity, grade (or quality), continuity, and other geological characteristics of a Mineral Resource are known, estimated or interpreted from specific geological evidence, including sampling. Mineral Resources are subdivided, in order of increasing geological confidence, into Inferred, Indicated, and Measured categories *(Clause 23, PMRC 2020).*

3.42.1 **Inferred Mineral Resource** is that part of a Mineral Resource for which quantity and grade (or quality) are estimated in a Mineral Deposit on the basis of limited geological evidence and sampling. Geological evidence is sufficient to imply but not verify geological and grade (or quality) continuity. It is based on exploration, sampling, and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings, and drill holes. An Inferred Mineral Resource has a lower level of confidence than that applying to an Indicated Mineral Resource and must not be converted to a Mineral Reserve. It is reasonably expected that the majority of Inferred Mineral Resources could be upgraded to Indicated Mineral Resources with continued exploration *(Clause 24, PMRC 2020 Edition).*

3.42.2 **Indicated Mineral Resource** is that part of a Mineral Resource for which quantity, grade (or quality), densities, shape, and physical characteristics are estimated with sufficient confidence to allow the application of Modifying Factors in sufficient detail to support mine planning and evaluation of the economic viability of the Mineral Deposit. Geological evidence is derived from adequately detailed and reliable exploration, sampling and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings, and drill holes, and is sufficient to assume geological and grade (or quality) continuity between points of observation. An Indicated Mineral Resource has a lower level of confidence than that applying to a Measured Mineral Resource and may only be converted to a Probable Mineral Reserve *(Clause 25, PMRC 2020).*

3.42.3 **Measured Mineral Resource** is that part of a Mineral Resource for which quantity, grade (or quality), densities, shape, and physical characteristics are estimated with confidence sufficient to allow the application of Modifying Factors to support detailed mine planning and evaluation of the economic viability of the Mineral Deposit. Geological evidence is derived from detailed and reliable exploration, sampling and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes and is sufficient to confirm geological and grade or (quality) continuity between points of observation. A Measured Mineral Resource has a higher level of confidence than that applying to an Indicated Mineral Resource. It may be converted to a Proved Mineral Reserve or under certain circumstances to a Probable Mineral Reserve *(Clause 26, PMRC 2020).*

3.43 **Mining Project** is the whole Mineral Property or portion(s) of it where Mineral Reserves exist or are being assessed.

3.44 **Modifying Factors** are considerations used to convert Mineral Resources to Mineral Reserves. These include, but are not restricted to, mining, processing, metallurgical, infrastructure, economic, marketing, legal, environmental, social, and governmental factors *(Clause 15, PMRC 2020).*

3.45 **MPSA** is the acronym for Mineral Production Sharing Agreement as defined by the Philippine Mining Act of 1995 (Republic Act No. 7942).

3.46 **NPV** is the acronym for Net Present Value which is a financial metric.

3.47 **OPEX** is the acronym for Operating Expenses.

3.48 **Payback Period** is the financial metric that shows the duration between the date of the initial investment (i.e., project cost) and the date when this investment has been recovered by cash inflows from the operations of the Mining Project.

3.49 **PERT CPM** is the acronym for Project Evaluation and Review Technique and Critical Path Method.

3.50 **PEZA** is the acronym for Philippine Economic Zone Authority, a government agency attached to the Department of Trade and Industry to help promote investments in the export-oriented manufacturing industry in the country by assisting investors in registering and facilitating their business operations and providing tax incentives.

3.51 **Philippine Mineral Reporting Code Committee (PMRCC)** is a committee that initiated and crafted the PMRC 2020 Edition. It was established on November 22, 2018 by the professional representative organizations of the minerals industry which are the PSEM, the GSP, and the SMEP together with minerals industry-related organizations and bodies such as the PSE, Chamber of Mines of the Philippines (COMP), Philippine Mining and Exploration Association (PMEA), the Philippines-Australia Business Council (PABC), and the Philippine Chamber of Coal Mines (PHILCOAL) *(Clause 1, PMRC 2020).*

3.52 **PIC** is the acronym for Professional Identification Card issued by the Professional Regulation Commission (PRC).

3.53 **PMRC's Governing Principles** are the three (3) principles governing the operation and application of the Philippine Mineral Reporting Code (PMRC)**.** They are as follows -

3.53.1 **Transparency** requires that the reader of a Public Report is provided with sufficient information, the presentation of which is clear and unambiguous, so as to understand the report and not to be misled by this information or by omission of material information that is known to the Accredited Competent Person (ACP).

3.53.2 **Materiality** requires that a Public Report contains all the relevant information which investors and their professional advisers would reasonably require, and reasonably expect to find in the report, for the purpose of making a reasoned and balanced judgment regarding the Exploration Results, Mineral Resources

or Mineral Reserves being reported. Where relevant information is not supplied, an explanation must be provided to justify its exclusion.

3.53.3 **Competence** requires that the Public Report be based on work that is the responsibility of suitably qualified and experienced persons who are subject to an enforceable professional code of ethics (the ACP)

3.54 **Professional Regulation Commission (PRC)** is the commission attached to the Philippine Department of Labor and Employment (DOLE) which regulates and supervises the practice of all professionals except lawyers.

3.55 **Professional Representative Organizations** refer to national professional organizations in the mining, geosciences, and metallurgical fields, consisting of the Philippine Society of Mining Engineers (PSEM), the Geological Society of the Philippines (GSP), and the Society of Metallurgical Engineers of the Philippines (SMEP).

3.56 **PTR** is the acronym for Professional Tax Receipt which is the proof of payment of the professional tax by professionals to practice their profession. The PTR is issued where the professional's residence or place of work is located**.**

3.57 **Public Reports** are reports prepared for the purpose of informing investors or potential investors and their advisers, on Exploration Results, Exploration Targets, Mineral Resources, Mineral Reserves or metallurgical assessments and design. These include but are not limited to annual and quarterly company reports, media releases, information memoranda, technical papers, website postings, public presentations, and corporate disclosures required to be submitted to both the SEC and PSE, including disclosures of any material fact or event that occurs which would reasonably be expected to affect investors' or potential investors' decision in relation to the company's securities *(Clause 6, PMRC 2020).*

3.58 **QA/QC** is the acronym for Quality Assurance/Quality Control.

3.59 **Report Date** refers to the date when the ACP(s) signs off Disclosures such as Technical Reports

3.60 **RC** is the acronym for Reverse Circulation type of drilling.

3.61 **ROI** is the acronym for Return on Investment which is a financial metric.

3.62 **RPEEE** is the acronym for Reasonable Prospects for Eventual Economic Extraction which is a major criterion for Mineral Resources (Clause 23, PMRC 2020).

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3.63 **SDMP** is the acronym for Social Development Management Program as defined by Section 136-A of the DENR DAO No. 2010-13.

3.64 **Technical Report** is a comprehensive Public Report following the report outlines TR-FORMs 1, 2, and 3 (ANNEX II) prepared to inform investors or potential investors and their advisers on Exploration Results, Exploration Targets, Mineral Resources, Mineral

Reserves, and/or metallurgical assessments and design prepared by ACP(s) and compliant with the PMRC 2020 on an 'if not, why not' basis.

3.65 **Technical Studies** are technical and economic studies of the viability of Mineral Resources and/or Mineral Reserves. In order of increasing levels of confidence and comprehensiveness, they are Scoping Study, Pre-Feasibility Study, and Feasibility Study.

3.65.1 **Scoping Study** is an order-of-magnitude technical and economic study of the potential viability of the Mineral Resources in a Mineral Deposit that includes appropriate assessments of realistically assumed Modifying Factors together with any other relevant operational factors that are necessary to demonstrate at the time of reporting that progress to a Pre-Feasibility Study can be reasonably justified *(Clause 43, PMRC 2020).*

3.65.2 **Pre-Feasibility Study** is a comprehensive study of a range of options for the technical and economic viability of a Mining Project that has advanced to a stage where a preferred mining method, underground or surface, has been established and an effective method of mineral processing has been determined. It includes a financial analysis based on reasonable assumptions on the Modifying Factors and the evaluation of any other relevant factors which are sufficient for an ACP, acting reasonably, to determine if all or part of the Mineral Resource may be converted to a Mineral Reserve at the time of reporting. A Pre-Feasibility Study has a lower confidence level than a Feasibility Study *(Clause 44, PMRC 2020).*

3.65.3 **Feasibility Study** is a comprehensive technical and economic study of the selected development option for a Mining Project that includes appropriately detailed assessment of applicable Modifying Factors together with any other relevant operational factors and detailed financial analysis that are necessary to demonstrate at the time of reporting that extraction is reasonably justified (economically mineable). The results of the study may reasonably serve as the basis for a final decision by a proponent or financial institution to proceed with, or finance, the development of the Mining Project. The confidence level of the study will be higher than that of a Pre-Feasibility Study *(Clause 45, PMRC 2020).*

3.64 **TSF** is the acronym for Tailings Storage Facility

4.0 DISCLOSURES

4.1 All Public Reports, including Technical Reports, are the responsibility of the Issuer acting through its Board of Directors. All disclosures of Exploration Results, Exploration Targets, Mineral Resources, Mineral Reserves and/or metallurgical assessments and design in Public Reports made by the Issuer on the Mineral Property and material to the Issuer must be based upon the information prepared by or under the supervision of ACP(s) on an 'if not, why not' basis. The following information must be submitted to the Exchange whenever a Disclosure is made:.

4.1.1 The name, address, and occupation/profession of the ACP(s)

4.1.2 Validity of the PRC License of the ACP(s) – scanned copy of the PRC Professional Identification Card (PIC) showing the PRC Registration No. and expiry date

4.1.3 Validity of the ACP(s)' accreditation – ACP Identification Card or accreditation certificate issued by the relevant professional representative organization showing the expiry date

4.1.4 The relationship of the ACP(s) to the Issuer (e.g., consultant, whether independent or not independent, employee or holder of a corporate position, holder of shares, options and/or warrants) that the ACP(s) beneficially own, if any, in the Issuer's shares certified by the Issuer's Corporate Secretary

4.1.5 The ACP must also disclose other relationships, such as but not limited to:

a. being a holder of tenement rights which is the subject of the Disclosure

b. landlord-lessee relationship of land and/or infrastructure which has bearing on the Disclosure

c. any other employment-related relationship which may have a bearing to the integrity of the Disclosure

4.1.6 When applicable, the title and date of the Technical Report on which the Disclosure is based

4.1.9 Prior Written Consent of the ACP(s)

a. The ACP(s) must provide their prior written consent to the public filing of the Disclosure including Technical Report (Appendix 3 of the PMRC 2020).

b. When an Issuer plans to issue any material information on a Mineral Property referencing a Technical Report which the Issuer had earlier commissioned, the information of which is a deviation and/or in contradiction to the original Technical Report, then the Issuer is required to obtain prior written consent from the ACP(s).

c. If there is more than one (1) ACP involved in a Disclosure, the ACPs must state which part of the report was prepared or supervised by them.

d. The ACP(s) should state that they have carefully verified the Disclosure being filed, press releases and including management analysis; that they fairly and accurately reflect in the form and context in which it appears, the information embodied in the Disclosure; and that at the time of the Disclosure, to the best of the ACP(s)' knowledge, all technical information that is required to make the Disclosure not misleading, has been included.

e. When filing a Disclosure with the Exchange, the Issuer must file the Consent Statement (Appendix 4, PMRC 2020) made by each of the ACPs responsible for preparing or supervising the preparation of each portion of the Disclosure, dated and signed by the ACP(s).

4.2 Disclosure should include Data Verification and Data Validation. The following information must be included:

4.2.1 A statement whether a CP has verified and validated the data disclosed which includes any, but not limited to, the following:

a. sampling data

b. analytical data

c. quality assurance and quality control data

d. opinions supporting the technical information in the disclosure

4.2.2 Description of how the data was verified and any limitations on the verification process.

4.2.3 Explanation of any failure to verify the data.

4.3 Disclosures of Exploration Results and Exploration Targets

4.3.1 Disclosures of Exploration Results and Exploration Targets should be reported by an ACP-Geologist.

4.3.2 Disclosures of Exploration Results and Exploration Targets must be in accordance with Clauses 20 to 22 of the PMRC 2020 and consider the list of the criteria in Table 1 of the PMRC 20209.

4.4 Disclosures of Mineral Resources and Mineral Reserves

4.4.1 Disclosures of Mineral Resources should be reported on by an ACP-Geologist.

4.4.2 Disclosures of Mineral Reserves should be reported on by an ACP-Mining Engineer.

4.4.3 Disclosures on metallurgical assessments and design should be reported on by an ACP-Metallurgical Engineer.

4.4.4 The ACP(s) should report Mineral Resources and Mineral Reserves separately.

4.4.5 The ACP-Geologist(s) must not include Inferred Mineral Resources in the other categories of Mineral Resources in disclosing total Mineral Resource since cannot be converted to Mineral Reserves by the ACP-Mining Engineer(s).

Inferred Mineral Resources may be included in the list of Mineral Resources but should be labeled as such.

4.4.6 Each category of the Mineral Resources and Mineral Reserves disclosed must be reported with the corresponding tonnage (or volume) and grade (or quality).

4.4.7 The Cut-off Grades (or Qualities) used for estimating Mineral Resources and Mineral Reserves and their bases must be disclosed.

4.4.8 A PFS or FS or LoMP is required in declaring Mineral Reserves.

4.4.9 Disclosures of Mineral Resources and/or Mineral Reserves must be in accordance to Clauses 23 to 41 of the PMRC 2020 and consider the list of criteria in Table 1 of the PMRC 2020.

4.4.10 If a Mineral Property have Mineral Reserves and/or Mineral Resources, the Issuer must include a Mineral Resources and/or Mineral Reserves statement in its annual report which includes all of the following information (Clause 18, PMRC 2020).

4.4.10.1 A summary of the results of the Issuer's annual review of its Mineral Resources and Mineral Reserves. An annual review is a comprehensive review undertaken by ACPs of an Issuer's declared Mineral Resources and Mineral Reserves estimates for the purpose of identifying any changes related to those estimates during the previous twelve (12) months and an assessing whether these changes have a material effect on the declared Mineral Resources and Mineral Reserves.

4.4.10.2 As of the Issuer's end of financial year balance date, the Issuer's Mineral Resources and Mineral Reserves in tabular form reported on the following basis:

a. By commodity type, including the tonnage (quantity) and grade (quality)

b. By Mineral Resource category and Mineral Reserve category, and

c. By geographical area based on the materiality of the Mineral Resources and Mineral Reserves to the Issuer

4.4.10.3 A comparison of the Issuer's Mineral Resources and Mineral Reserves against that from the previous year on the following basis:

4.4.10.3.1 By commodity type, including the tonnage (quantity) and grade (quality)

4.4.10.3.2 By geographical area based on the materiality of the Mineral Resource and Ore Reserves to the Issuer

4.4.10.4 A summary of the governance arrangement and internal controls that the Issuer has put in place in respect to its estimates of Mineral Resources and Mineral Reserves and the estimation process

4.5 Disclosures of Environmental, Social, and Governance

The Environmental, Social, and Governance (ESG) section outlined in TR-FORM 1 and 2 (ANNEX II of this IRR) is optional. However, discussion is encouraged since ESG is considered part of best corporate practice as espoused by PSE.

4.6 Prohibited Disclosures

4.6.1 Tonnage (or quantity), and grade (or quality) of a mineral or contained metal of a Mineral Deposit not classified according to the Mineral Resource and Mineral Reserve categories stipulated by the PMRC 2020

4.6.2 Historical Estimate(s) incorporated in current Mineral Resources or Mineral Reserves estimates unless the following criteria are met:

a. The source documents, i.e., technical report(s), of the Historical Estimate are available and the following are known - author(s), title, and date of the said reports; and the Issuer/company who commissioned the said report(s), and

b. Complete database is available for adequate Data Verification and Data Validation, including additional exploration/development works such as drilling if considered necessary, in order for the ACP(s) to consider that the Historical Estimate(s) used in the current Mineral Resources and/or Mineral Reserves estimates comply with the PMRC 2020.

c. Failing to pass the above criteria (a) and (b), the Historical Estimate(s) may be used only as a reference and not part of the current Mineral Resources and/or Mineral Reserves.

4.5.3 Disclosures of Exploration Target(s) not in accordance with Clause 20 of the PMRC 2020

4.5.4 Disclosures of in situ or in ground valuation, i.e., economic value of Mineral Resources and/or Mineral Reserves, without a Pre-Feasibility or Feasibility Study (Clause 47 of the PMRC 2020)

4.5.5 Disclosures of Mineral Resources and Mineral Reserves, and economic value at a Cut-off Grade of zero

4.5.6 Inferred Mineral Resources should not be considered in the assessment of economic viability, rendering its presence inside the mine design and the Life-of-Mine Plan (LoMP) as purely incidental and without influence on the declaration of Mineral Reserves (Clause 40, PMRC 2020). A mine design and a LoMP must be economically viable without inclusion of Inferred Mineral Resources in the estimation of Mineral Reserves.

4.5.7 Disclosures of Metal Equivalents not in accordance to Clause 46 of the PMRC 2020.

4.7 Disclosures Through Media Release, Information Memorandum, Website Posting, and Public Presentation

Disclosures through media release, information memorandum, website posting, public presentation and similar types of Disclosures should be submitted for approval of the PSE at least two (2) calendar weeks prior to release to the public. If no rejection or revision is required by PSE within one (1) week upon application, the Disclosure is deemed approved.

5.0 TECHNICAL REPORT

5.1 Events requiring a Technical Report:

a. Application for initial listing in the Exchange with Effective Date of the Technical Report not more that eighteen (18) months at time of listing application

b. Any capital-raising activity conducted in the Exchange, such as Initial Public Offering, Follow-on Offering, and Stock Rights Offering with Effective Date of the Technical Report not more that eighteen (18) months at time of listing application

c. When reporting Mineral Resources and/or Mineral Reserves for the first time

d. When there are events and factors that are materially significant, such as capital impairment or force majeure that seriously affect the Issuer's ability to pursue its corporate business goals in the medium to long-term or there is a material increase or decrease in the Mineral Resources (Indicated and/or Measured) and/or Mineral Reserves of the Mineral Property

5.2 General Requirements for the Technical Report

5.2.1 The Technical Report should follow the report outline format as detailed in TR-FORMs 1, 2 or 3 (ANNEX II of this IRR) and consider the list of criteria in Table 1 of the PMRC 2020 (ANNEXes I and III of this IRR).

5.2.2 The Technical Report must be prepared in accordance with the PMRC 2020 and this IRR.

5.2.3 The Technical Report must be prepared or supervised by ACP(s).

5.2.4 The ACP(s) shall assume full responsibility for the Technical Report they have prepared or prepared under their supervision.

5.3 Author of the Technical Report

5.3.1 The Technical Report must be prepared by or be under the supervision of one or more ACPs.

5.3.2 Basic qualifications of the ACP(s)

a. Possess a valid PRC PIC as registered professional geologist, and/or mining engineer, and/or metallurgical engineer

b. Member of good standing of their respective professional representative organization (GSP, PSEM or SMEP)

c. Has minimum of five (5) years relevant experience in the style of mineralization or type of Mineral Deposit under consideration and to the activity which that person Is undertaking (Clause 12, PMRC 2020)

d. Duly accredited ACP by the proper professional representative organization (GSP, PSEM or SMEP)

e. Possess a valid Professional Tax Receipt (PTR)

5.3.3 If a specialist professional who is not an ACP is engaged to cover certain facets of the preparation of the Technical Report, the supervising ACP should take responsibility for the work of the said professional.

5.3.4 The Technical Report must be signed by the respective ACP(s). The Effective Date and Report Date of the Technical Report must be stated.

5.3.5 The Technical Report must be prepared by the ACP(s) or under their direct supervision.

a. Report on Exploration Results. Exploration Targets and/or Mineral Resources should be prepared by an ACP-Geologist

b. Report on the economic assessment and Mineral Reserves should be prepared by an ACP-Mining Engineer

c. Report on metallurgical assessments and design must be prepared by an ACP-Metallurgical Engineer

5.4 Preparation of a Technical Report

5.4.1 A Technical Report must be prepared on the basis of all available technical data as of the Effective Date relevant and material to the Disclosure that it supports.

5.4.2 A Technical Report should include Data Verification and Data Validation (Section 4.2 of this IRR).

5.4.3 The ACP(s), as author(s) of the Technical Report, must complete an on-site inspection of the Mineral Property that is the subject of the Technical Report prior to the Issuer filing the Technical Report.

5.4.4 The Issuer must diligently keep records of verifiable data such as assay and other analytical certificates, drill core splits, sample rejects, drill core logs and other information referenced in the Technical Report or used as a basis for the Technical Report.

5.5 Technical Report Format

5.5.1 The Technical Report's format is dependent on the purpose. It can include the Exploration Results, Exploration Targets, Mineral Resources, Mineral Reserves, and/or metallurgical assessments and design on a Mineral Property. TR–FORM 1, 2, and 3 (ANNEX II of this IRR) set out specific report outlines and guidelines for the preparation and contents of the Technical Reports.

5.5.2 The ACP(s) preparing the Technical Report should follow the numbered headings and sub-headings indicated in **bold** typeface listed in TR–FORM 1, 2, and 3 (ANNEX II of this IRR). Guidance notes indicated in *italic* typeface and numbered in roman numerals in lower case ('Romanette') are placed below each heading and subheadings. Additional sub-headings may be created, if deemed necessary. If unique or infrequently used technical terms are required, clear and concise explanations must be included. Headings and subheadings that are not applicable cannot be omitted (Section 5.5.4 of this IRR).

5.5.3 Section 5 (Environmental, Social, and Governance) in TR-FORM 1 and 2 in ANNEX II; and Section 9 (Declaration of Exploration Target(s)) are optional sections. If the ACP(s) are reporting Exploration Results only without Mineral Resources as outlined in TR-FORM 1, then "Not Applicable" can be indicated in Section 10 (Estimation of Mineral Resources) of the TR-FORM 1. If Mineral Resources and/or Exploration Target(s) are reported, then the ACP(s) must report Exploration Results outlined in Section 8 of TR-Form 1.

5.5.4 Based on the 'if not, why not' requirement, all headings and subheadings listed in TR-FORMs 1, 2 and 3 (ANNEX II of this IRR) and in the relevant sections of Table 1 of the Code must be discussed. If any of the headings and subheadings are not discussed, the ACP(s) must explain why they have not been discussed.

5.5.6 Appendices for the Technical Reports shall be as follows –

5.5..6.1 Appendix 1 (Comments on PMRC 2020 Table 1 Assessment and Reporting Criteria) shown in Annex III is mandatory for all Technical Reports based on TR-FORMs 1, 2, and 3 (ANNEX II of this IRR) in compliance of the 'if not, why not' basis of reporting. All criteria in Table 1 of the PMRC 2020 relevant to the pertinent TR-FORM are listed in the middle column under "PMRC 2020 Reporting Criterion" and the location of the discussion covering the criteria in the Technical Report are listed in the adjacent column under "Commentary" either as section headings/subheadings or page number or both. The four (4) leftmost columns indicate which criteria are to be listed in the Appendix 1 of the Technical Report relevant to TR-FORMs 1, 2 or 3, and should not be replicated in the actual Appendix 1 of the Technical Report. With respect to the criteria listed in Section 10 of Appendix 1, they are mandatory only for a coal Mineral Property. Therefore, they are not to be listed for non-coal Mineral Properties.

5.5.6.2 Appendix 2 (List of Acronyms) is mandatory for all Technical Reports following the TR-FORMs 1, 2, and 3 outlines for clarity and easy reference of all acronyms used in the Reports.

5.5.6.3 Other appendices besides Appendices 1 and 2 can be appended to the Technical Reports at the discretion of the ACP(s).

6.0 PENALTIES

6.1 The penalties on Issuers under the Revised Disclosure Rules shall apply to violations of the PMRC 2020 and this IRR.

6.2 Any alleged violations with respect to the professional code of ethics by ACP(s) shall be investigated and, if warranted, penalized by the respective professional representative organization (GSP, PSEM or SMEP).

7.0 TRANSITORY PROVISION

Upon the approval of this IRR unless already submitted prior to the approval, all Issuers are mandated to provide PMRC 2020-compliant Technical Reports on Exploration Results, Exploration Targets, Mineral Resources, and Mineral Reserves relevant to their Mineral Properties within two (2) years from the date of the approval of this IRR.

ANNEX I

PHILIPPINE MINERAL REPORTING CODE
Edition 2020

ANNEX II

GUIDELINES IN THE PREPARATION OF TECHNICAL REPORTS

These guidelines are intended to provide the form and content of the technical report required by PSE to comply with the PMRC 2020 Edition including Table 1. The headings (X.) and sub-headings (X.X, X.X.X, X.X.X.X, X.X.X.X.X) are mandatory sections and sub-sections in the Technical Report, respectively; while the guidance notes indicated in *italic* typeface and numbered in roman numerals in lower case ('Romanette') are placed below each heading and subheadings. *Some topics may not be relevant to the type of Mineral Deposit being considered. Likewise, there may also be topics or features of the project that may be relevant and should be included and which are not listed here. It is the responsibility of the ACP or ACPs to decide on the relevant topics to be included. The aim is to provide a concise and accurate account of the project on an 'if not, why not' basis. TR-FORM 1 provides the format for reports on Exploration Results, Exploration Targets and/or Mineral Resources estimation, TR-FORM 2, for economic assessment and Mineral Reserve estimation, and TR-FORM 3, for metallurgical engineering study and assessment on a Mineral Deposit.*

TR-FORM 1	**OUTLINE OF TECHNICAL REPORT FOR EXPLORATION RESULTS, EXPLORATION TARGETS AND/OR MINERAL RESOURCE ESTIMATION**
TR-FORM 2	**OUTLINE OF TECHNICAL REPORT FOR ECONOMIC ASSESSMENT AND MINERAL RESERVE ESTIMATION**
TR-FORM 3	**OUTLINE OF TECHNICAL REPORT FOR A METALLURGICAL ENGINEERING STUDY AND ASSESSMENT ON A MINERAL DEPOSIT**

ANNEX III

APPENDIX 1 OUTLINE OF COMMENTS ON PMRC 2020 TABLE 1 ASSESSMENT AND REPORTING CRITERIA

TR-FORM 1				
OUTLINE OF TECHNICAL REPORT FOR EXPLORATION RESULTS, EXPLORATION TARGETS AND/OR MINERAL RESOURCES ESTIMATION				
				Reference to Table 1 (PMRC 2020)
	TITLE PAGE			*(v)*
		i.	*State the title of the Technical Report and include the location of the Mineral Property, mining rights coverage, name and professional designation of Accredited Competent Person(s) (ACP(s)), effectivity date of the Technical Report, and name of Issuer*	
	ACCREDITED COMPETENT PERSON'S CONSENT FORM AND CONSENT STATEMENT, AND CERTIFICATES			*(ii), 9, PMRC 2020 Appendices 3 & 4*
		i.	*Attach ACP's Consent Form and Consent Statement(s) as prescribed by Appendix 4 of the PMRC 2020*	
		ii.	*Attach scanned copy of valid ACP Identification Card or Certificate of Accreditation of ACP(s)*	
		iii.	*Attach scanned copy of valid PRC Professional Identification Card (PIC) of ACP(s)*	
		iv.	*Attach scanned copy of valid Professional Tax Receipt*	
		v.	*Have this above document notarized including Acknowledgment showing Signature of ACP(s) and date of signing*	
	EXECUTIVE SUMMARY			*(vi)*
		i.	*Briefly summarize important information in the Technical Report, including purpose and scope of work, Mineral Property description and ownership, geology and mineralization, the status of exploration, Mineral Resources estimates, if any, and the ACP-Geologist(s)' conclusions and recommendations. The Executive Summary should have sufficient detail to allow the reader to understand the essentials of the Technical Report.*	
		ii.	*Must state if the Technical Report is PMRC 2020-compliant and if the objectives of the Report have been met*	
	TABLE OF CONTENTS			*(v), (viii)*
		i.	*List the contents of the Technical Report including figures, tables, photographs, and appendices referred in the Report. All figures/tables/photographs/appendices must be cited in the narrative.*	
1.	**INTRODUCTION**			*(i), (iii), (x), (xi), 1.1.1, 1.1.2, 1.1.3, 1.2.1, 1.2.2, 1.3.1, 1.4, 9.1.1*
	1.1	**Purpose and Scope of Work**		*(i), 1.2.1*
		i.	*State who commissioned the Technical Report and for whom it was prepared, whether it was intended as a complete or partial*	*(iii)*

			evaluation or for other purposes, work conducted, and effectivity date of the Report	
		ii.	*Briefly describe the purpose and scope of work (i.e., whether in preliminary sampling, advanced exploration, Scoping, Pre-Feasibility, or Feasibility Study, Life-of-Mine plan for an ongoing mining operation or decommissioning)*	*(i), 1.2.1*
		iii.	*Provide details of the personal inspection on the mineral property by each ACP or the reason why a personal inspection was not completed*	*(x)*
		iv.	*Must state if the Technical Report is PMRC 2020-compliant and if the objectives of the Report have been met*	
	1.2	**Country Profile** (Optional for Mineral Property in the Philippines)		*1.1.2*
		i.	*Provide brief information relating to the project host country pertinent to the Mineral Property, including relevant applicable legislation, environmental and social context, etc. This is a high-level assessment of relevant technical, environmental, social, economic, political, and other key risks.*	
	1.3	**Location of the Mineral Property and Accessibility**		*1.1.1, 1.1.3, 1.2.2*
		i.	*Describe location and accessibility of the Mineral Property (country, province(s), municipality(ies), and closest town/city, coordinate systems, mountain ranges, etc.)*	*1.1.1*
		ii.	*Discuss the modes and ease of access to the Mineral Property, the proximity to population center(s) and from the country capital*	*1.2.2*
		iii.	*Attach relevant location map*	*1.1.3*
	1.4	**Property Description and Adjacent Properties**		*1.2.2, 1.3.1*
		i.	*Provide general description of the Mineral Property*	*1.2.2*
		ii.	*Provide details of relevant adjacent third-party mineral tenements, especially those having an important bearing on the Technical Report*	*1.3.1*
	1.5	**Qualifications of Accredited Competent Person(s), Key Technical Staff, and Other Experts**		*9.1.1*
		i.	*Describe briefly the competence and scope of work of each ACP(s), key technical staff, and experts in relation to the Technical Report*	
	1.6	**Disclaimer**		*(xi)*
		i.	*If ACP(s) relied on the report, opinion, statement of a legal, environmental, social, governance expert, etc., who is not a co-author of this Technical Report, the ACP(s) may include a disclaimer of responsibility on such information in the Technical Report*	
	1.7	**Units of Measure, Currency, and Foreign Exchange Rates**		*(ix)*
	1.8	**Previous Works**		*1.4*
		i.	*Arrange chronologically significant previous works*	
		ii.	*Briefly describe essential work done by previous entities including Historical Data and Historical Estimates, if available*	
		iii.	*Indicate sources of information (references) by citing published/unpublished report(s) or personal communication*	
	1.9	**Previous Mineral Resources Estimates (if any)**		
		i.	*Provide previous PMRC-compliant Mineral Resources estimates, if any. Historical Estimates, if any, are discussed in Sec. 1.8*	
2.	**TENEMENT AND MINERAL RIGHTS**			*1.1.1, 1.5, 1.6, 1.7*

	2.1	**Description of Mineral Rights**		*1.5.1*
		i.	*Provide location of the Mineral Property - barangay, municipality, province, and region*	*1.1.1*
		ii.	*Include tenement map with technical descriptions of the boundaries as per coordinate system used by the relevant regulatory agency plus a topographic map of the tenement if necessary*	*1.1.3*
		iii.	*State the type of mineral agreement, e.g., Exploration Permit (EP), Mineral Production Sharing Agreement (MPSA), Financial or Technical Assistance Agreement (FTAA), Coal Operating Contract (COC), Mine Operating Agreement, etc., number of tenement(s), tenement number(s), and area coverage in hectares*	*1.5.1*
	2.2	**History and Current Status of Mineral Rights**		*1.5.1, 1.5.2, 1.5.3, 1.5.5*
		i.	*State in chronological order the history of the mineral rights, changes in official designations, agreements, companies involved, significant legal and technical events with dates*	
		ii.	*State current holders of mineral rights specifying the % ownership / economic interest in the Mineral Property*	
		iii.	*State validity period of current mineral rights*	
		iv.	*Discuss agreements with respect to mineral rights including deed(s) of assignment, if any*	
	2.3	**Royalties, Receivables, and Liabilities**		*1.5.4, 1.6,1.7*
		i.	*Discuss royalties, taxes or streaming agreements, advances, and similar payments paid or to be paid by the Issuer to the mineral rights holder, joint venture partner(s), government, Indigenous People, local government, and others*	*1.6.1*
		ii.	*Discuss receivables and payable sums to the Issuer and mineral rights holder which may include excise taxes*	
		iii.	*Discuss any liabilities, including rehabilitation guarantees that are pertinent to the project*	*1.7.1*
		iv.	*Describe the rehabilitation liability, including, but not limited to, legislative requirements, assumptions, and limitations*	*1.7.1*
3.	**GEOGRAPHICAL AND ENVIRONMENTAL FEATURES**			*1.2.2*
	3.1	**Physiography, Climate, and Vegetation**		
		i.	*Describe the topography, physiography, drainage and vegetation, the climate, known associated climatic and seismic risks and the length of the operating period and to the extent relevant to the Mineral Property*	*1.2.2*
		ii.	*Attach relevant map(s) if appropriate*	
	3.2	**Land Use and Infrastructures**		
		i.	*Describe current land use*	
		ii.	*Discuss the sufficiency of surface rights and access for exploration/mining operations, including the availability and sources of power, water, and potential mining infrastructure such as tailings storage areas, waste disposal areas, heap leach pad areas, processing plant sites, etc. (noting any conditions that may adversely affect possible exploration/mining activities)*	*1.2.2*
	3.3	**Socio-Economic Environment**		

		i.	*Discuss demography within and outside the Mineral Property - composition of the host and neighboring communities, presence of Certificate(s) of Ancestral Domain Title (CADT(s)), if any, as well as exploration/mining workforce with respect to but not limited to ethnicity and culture*	
		ii.	*Sources of income/livelihood of population, presence of Indigenous People, municipal class(es) to provide an appreciation of the existing socio-economic environment*	
	3.4	**Environmental Features**		
		i.	*Describe the environmental features within and adjoining the Mineral Property including those that may have an adverse impact to exploration and future mining operations*	
4.	**HISTORY OF PRODUCTION**			
	4.1	**Production History of District and Mineral Property**		
		i.	*State the area(s) previously mined and currently being mined within the Mineral Property*	
	4.2	**Production Statistics**		
		i.	*Provide tonnage/quantity and grade/quality mined and sold since start of production or for the last several years*	
5.	**ENVIRONMENTAL, SOCIAL, AND GOVERNANCE (Optional)**			*5.7*
		i.	*ESG is the acronym referring to Environmental, Social, and Governance. Each of these areas are unique disciplines, however there are many aspects that overlap, and it is often these inter-relationships that create risk events (threats and opportunities). ESG includes all aspects of sustainability.*	*Modified from CRIRSCO ESG Committee*
		ii.	*ESG factors can affect stakeholders, investor and corporate assessments and decision-making, employees, and contractors, obtaining and maintaining regulatory permits, human rights, the receiving environment, global impacts (such as climate change) and a social license to operate from host communities including land users/owners.*	*Modified from CRIRSCO ESG Committee*
	5.1	**Environmental Aspects**		
		i.	*State or describe the corporate environmental policy, International Organization for Standardization (ISO)/Environmental Management System (EMS) certifications, compliance, environmental manual, land and biodiversity protection, energy consumption and management, water use and discharge, air protection, waste management, mineral waste management, climate-related risk and opportunities, etc.*	
	5.2	**Social Aspects**		
		i.	*State or describe the community programs such as educational support, entrepreneurship, and health and wellness, promoting development for indigenous people, employee welfare such as diversity training and benefits, freedom of association and collective bargaining, and workplace health and safety policies, programs, performance assessment, etc.*	
	5.3	**Governance Aspects**		
		i.	*State or describe the corporate governance statement, vision, mission, and core values, governance structure, governance reports, governance policies, anti-graft and corruption policies, etc.*	

6.	**GEOLOGICAL SETTING**			*2.1*
	6.1	**Regional Geology**		*2.1.1*
		6.1.1	**Tectonic Setting**	
		i.	*Discuss the regional tectonic setting (both geological and structural) where the Mineral Property is located*	
		ii.	*Attach tectonic map*	
		6.1.2	**Regional Structures**	
		i.	*Discuss the geological structures on a regional and district-wide scale*	
		ii.	*Attach relevant structural map*	
		6.1.3	**Regional Stratigraphy**	
		i.	*Characterize the rock formations and lithological distribution*	
		ii.	*Attach relevant geological map*	
		iii.	*Attach relevant geological section(s), if any*	
		iv.	*Describe the geological relationships among rock formations*	
		6.1.4	**Prospects and/or Deposits in the Region**	
		i.	*Briefly discuss the mineralization location(s) and general description*	
	6.2	**Mineral Property Geology**		*2.1.2*
		6.2.1	**Local Rock Units**	
		i.	*Describe the Rock Units, their composition, and their geological relationships*	
		ii.	*Discuss geological evolution / cross-cutting relationships as to provenance, depositional, deformation, extrusive and/or intrusive events*	
		iii.	*Discuss local stratigraphy - lithological definition, extent and correlation with regional rock formations, stratigraphic column*	
		iv.	*Briefly discuss petrological studies, if any*	
		v.	*Show photos of representative rock types in outcrop scale and/or rock slabs/specimens to show or emphasize lithological texture (e.g., brecciation, fracturing, volcanic, intrusive, sedimentary and/or metamorphic features)*	
		vi.	*Discuss age dating, if any*	
		6.2.2	**Local Structures**	
		i.	*Describe the various geological structures and their trends, e.g., lineaments, faults, fracture pattern, bedding, folds, unconformities, etc.*	
		ii.	*Show any geophysical / remote sensing interpretative map that relates to mapped and interpreted field structures and mineralization patterns in the mineral property and/or mineral deposit*	
		iii.	*Discuss supportive structural study(ies) such as stereonets, rose diagram, oriented drill core data, etc., if any*	
7.	**MINERALIZATION IN THE MINERAL PROPERTY**			*2.1*
	7.1	**Mineral Deposit Type**		*2.12, 2.1.3*
		i.	*State the Mineral Deposit type(s) exhibited in the Mineral Property such as podiform chromite, porphyry copper, skarn, epithermal*	

			gold-silver, Carlin-type gold, volcanogenic massive sulfide, orogenic gold, nickel laterite, placer gold, magnetite sands, coal, industrial minerals, cement feed materials, construction raw materials, dimension stone, ornamental and decorative stone, etc.	
		ii.	Provide an overview of the Mineral Deposit type(s) in the Mineral Property	
	7.2	Style of Mineralization		2.1.2, 2.1.5, 2.1.6
		i.	Describe in detail the mineralization exhibited by the Mineral Deposit(s) and prospects in the Mineral Property, showing mineralization patterns, both laterally and vertically, and illustrated in surface map, sections and/or level plans	
		ii.	Discuss the ore/gangue mineralogy, ore textures	
		iii.	Briefly discuss petrological and mineralogical studies such as petrographic study, mineragraphic study, scanning electron microscope (SEM) imaging/microprobe analysis, fluid inclusion, isotopic studies, etc., if any	
	7.3	Wall Rock Alteration, Zoning, and Paragenesis		2.1.5
		i.	Discuss wall rock alteration types and mineralogy	
		ii.	Discuss briefly wall rock alteration studies done - petrography, X-ray diffraction (XRD), spectral mapping/measurements, magnetic susceptibility measurements, etc.	
		iii.	Discuss spatial, temporal, and genetic association of wall rock alteration with mineralization (e.g., pre-, syn-, late- and/or post-mineralization), element grade levels and patterns	
	7.4	Localization of the Deposit and Continuity of Mineralization		2.1.6
		i.	Discuss mineralization controls - e.g., structural, lithological, supergene oxidation / enrichment, development of "ore shoots", etc.	
		ii.	Discuss geometry of the Mineral Deposit(s) - Length, width, depth, and shape of mineralization	
	7.5	Supergene Effects		
		i.	Describe the supergene effect that results to oxide, transitional, and sulfide zones in the Mineral Deposit(s), if any	
8.	EXPLORATION RESULTS			3.1, 3.2, 3.3., 3.4, 3.5, 3.6, 3.7
	8.1	Geological Work		
		i.	Briefly discuss geological data generated from mapping and surface/sub-surface sampling	
		ii.	Provide geological map, sections, and level plans	
		iii.	Provide sample location map, sections, and level plans	
	8.2	Field Sampling Results		3.3.1
		i.	Summarize float rock sampling results	
		ii.	Summarize outcrop sampling results	
		iii.	Summarize grab and rock chip sampling results	
		iv.	Summarize channel sampling results	
		v.	Summarize trench sampling results	
		vi.	Summarize test pit sampling results	
		vii.	Summarize underground sampling results	

		viii.	Summarize petrological, mineralogical, paleontological, and other rock/mineral-related studies	
		ix.	Provide sample location map(s)	
	8.3	**Geochemical Survey**		3.3.1
		i.	Describe geochemical survey type - drainage, soil, rock, etc.	
		ii.	Describe sampling and analytical methods employed	
		iii.	State laboratory(ies) utilized	
		iv.	State the Quality Assurance/Quality Control measures employed	
		v.	State detection limits of analytical method(s)	
		vi.	Define background, threshold, and anomaly levels for the elements determined	
		vii.	Describe synthesis and interpretative techniques (for single and multi-element) to bring out significant geochemical features related to mineralization	
		viii.	Describe geochemical anomalies detected with use of maps	
		ix.	Relate geochemical findings to geology and mineralization	
	8.4	**Geophysical Survey**		3.3.1
		i.	Describe geophysical method(s) used and objective of the survey(s)	
		ii.	Describe whether a geophysical contractor, independent consultant or in-house staff was involved in the conduct of the geophysical survey	
		iii.	Describe equipment used, its limitations, and the survey parameters adopted	
		iv.	Describe how it was carried out (design of stations with respect to mineralization trend)	
		v.	Describe location method(s) of survey grid or tracks	
		vi.	Describe the data processing and interpretative tools used	
		vii.	Describe geophysical anomalies detected with use of maps, sections, and level plans	
		viii.	Relate geophysical findings to geology and mineralization	
	8.5	**Remote Sensing Results**		3.3.1
		i.	Describe remote sensing method(s) used and objective of the survey(s)	
		ii.	Describe whether a remote sensing contractor, independent consultant or an in-house staff was engaged in the conduct of the remote sensing survey(s)	
		iii.	Describe equipment used, its limitations and the survey parameters adopted	
		iv.	Describe how it was carried out (design of stations with respect to mineralization trend)	
		v.	Describe the data processing and interpretative tools used	
		vi.	Describe remote sensing features with use of maps	
		vii.	Relate remote sensing findings to geology and mineralization	
	8.6	**Drilling and Sampling**		3.2
		8.6.1	**Type of Drilling Program**	3.2.1, 3.2.4, 3.2.5

		i.	*Describe the type of drilling undertaken – (e.g., core, RC, open-hole hammer, rotary air blast, auger, etc.) and details (e.g., drilling contractor(s), drilling equipment, drill diameter size(s), triple or standard tube, whether core is oriented and if so, by what method, etc.)*	
		ii.	*Discuss methodology and equipment used in the drill collar location, drill orientation, and downhole surveys and their accuracies*	*3.2.5*
		iii.	*Discuss drill site spacing, depth of drilling, number of drillholes, the total length and percentage of the relevant intersections logged*	*3.2.4*
		iv.	*Provide drill hole location map*	
		8.6.2	**Drill Logging Method**	*3.2.2. 3.2.3*
		i.	*Describe geological logging (lithological, weathering, structure, wall rock alteration, mineralization, etc.), drill diameter size, drill diameter size, core recovery, and geotechnical logging for rock mass characterization relative to the level of detail required to support appropriate Mineral Resources estimation, mining studies, and metallurgical studies*	*3.2.2*
		ii.	*State the nature of logging (qualitative or quantitative) and the use of drill core photography (or trench, channel, etc.)*	*3.2.3*
		8.6.3	**Drill Sampling Method, Collection, Capture, and Storage**	*3.2.1*
		i.	*Describe the nature and quality of sampling, and sampling processes, including sub-sampling stages to maximize representativeness of samples, whether sample sizes are appropriate to the grain size of the mineralization/material being sampled, and if any composite sampling was undeertaken*	*3.3.1, 3.3.2*
		ii.	*Describe each data set (e.g., geology, grade, bulk density, quality, geo-metallurgical characteristics, etc.), sample type, sample-size selection, and collection methods*	*3.3.3*
		iii.	*State the nature of the geometry of the mineralization with respect to the drill hole angle (if known), the orientation of sampling to achieve unbiased sampling of possible structures, considering the Mineral Deposit type, the intersection angle, and the downhole lengths if the intersection angle is not known*	*3.3.4*
		iv.	*Describe the Issuer's retention policy and storage of physical samples (e.g., core, sample reject, etc.)*	*3.3.5*
		v.	*Describe the method of recording and assessing sample recoveries and the results; measures taken to maximize sample recovery and ensure representative nature of the samples; whether a relationship exists between recovery and grade; and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.*	*3.3.6*
		vi.	*Describe the cutting of drill core samples, e.g., whether split or sawn and whether quarter, half or full core was submitted for analysis. For non-core sampling, state, e.g., whether the sample was riffled, tube sampled, rotary split, etc.; whether it was sampled wet or dry; the impact of water table or flow rates on recovery and introduction of sampling biases or contamination arising from, but not limited, to the aforementioned factors.*	*3.3.7*
	8.7	**Sample Preparation, Analysis, and Security**		*3.4, 3.5, 3.6*
		8.7.1	**Sample Preparation and Analysis**	*3.4*

		i.	*State the identity of the sample preparation and analytical laboratories and their accreditation status (in-house, contracted or commercial). If from a non-accredited laboratory, discuss steps taken by the Issuer to ensure the results are of an acceptable quality.*	*3.4.1*
		ii.	*Describe the process and method used for sample preparation, sub-sampling and size reduction (sample preparation flow sheet), and the likelihood of inadequate or non-representative samples (i.e., improper size reduction, contamination, screen sizes, granulometry, mass balance, etc.)*	*3.4.3*
		iii.	*Describe the analytical methods used, their nature including effective grade range, the quality and appropriateness of the assaying and laboratory processes and procedures used, and whether the extraction techniques /are partial or total.*	*3.4.2*
		8.7.2	**Sample Governance**	*3.5*
		i.	*Discuss the governance of the sampling campaign and process to ensure quality and representativeness of samples and data, such as sample recovery, high grading, selective losses or contamination, core/hole diameter, internal and external QA/QC, and any other factors that may have resulted in or identified sample bias*	*3.5.1*
		ii.	*Discuss the measures taken to ensure sample security and the Chain of Custody*	*3.5.2*
		iii.	*Discuss the validation procedures used to ensure the integrity of the data, e.g., transportation, input or other errors, between its initial collection and its future use for modeling (e.g., geology, grade, bulk density, etc.)*	*3.5.3*
		iv.	*Discuss the audit process and frequency (including dates of these audits) and disclose any material risks identified*	*3.5.4*
		8.7.3	**Quality Assurance/Quality Control (QA/QC)**	*3.6*
		i.	*Discuss measures taken to ensure sample representativeness and the appropriate calibration of any measurement tools or systems*	
		ii.	*Discuss the verification techniques (QA/QC) to ascertain precision and accuracy and lack of contamination of sample preparation and analysis using duplicates (field sampling and sub-sampling levels), certified reference material (CRM) and/or standards, blanks, check assaying, inter-laboratory audits, etc.*	
		iii.	*Cite QA/QC procedures used to check if databases augmented with 'new' data are comparable to previous versions containing 'old' data*	
		8.7.4	**Statement of the ACP-Geologist(s) on the Quality of Sample Security, Preparation, Analysis, and Data Validation**	*3.4, 3.5, 3.6*
	8.8	**Bulk Density Measurements**		*3.7*
		i.	*Discuss the method of bulk density determination with reference to the frequency of measurements, the size, nature, and representativeness of the samples (e.g., water displacement, caliper method, sand cone method, test pitting, etc.)*	*3.7.1*
		ii.	*Provide preliminary estimates or basis of assumptions made for bulk density*	*3.7.2*
		iii.	*Describe measurement of bulk density for bulk material using methods that adequately account for void spaces (vugs, porosity,*	*3.7.4*

			etc.), moisture, and differences between rock and alteration zones within the Mineral Deposit(s)	
		iv.	*Discuss the representativeness of bulk density figure(s) used in the Mineral Resources estimate, preferably with statistical basis*	*3.7.3*
	8.9	**Bulk Sampling and/or Trial Mining**		*3.8*
		i.	*Describe the location of the individual samples (including map)*	*3.8.1*
		ii.	*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*	*3.8.2*
		iii.	*Discuss the method of mining and treatment*	*3.8.3*
		iv.	*Discuss the degree to which the samples are representative of the various types and styles of mineralization and the Mineral Deposit as a whole*	*3.8.4*
	8.10	**Geodetic and Topographical Survey**		
		i.	*Discuss the scope and methodology, survey scale and accuracy, and surveying equipment (brand and model) used*	
		ii.	*Discuss the limitations, if any*	
9.	**DECLARATION OF EXPLORATION TARGET(S) (Optional)**			
	i.	*Provide a statement or estimate of the Exploration Target(s) in a defined geological setting where the statement or estimate, quoted as a range of tonnage (or quantity) and a range of grade (or quality) relates to mineralization for which there has been insufficient exploration to estimate a Mineral Resource*		
	ii.	*Provide a detailed explanation of the basis for the statement of Exploration Target(s), must specifically discuss the geological setting, the exploration strategy, and exploration activity already completed and the presence of or lack of the following attributes: mineralized outcrops and assays, surface geochemical sampling results, surface and subsurface geophysical survey results, and drill holes, test pits, and underground workings*		
	iii	*Provide the proposed exploration activities designed to test the validity of the Exploration Target(s) which must be detailed and the timeframe within which those activities are expected to be completed must be specified.*		
	iv.	*All disclosures of the Exploration Target(s) must clarify whether the Exploration Target(s) is based on actual Exploration Results or on proposed exploration programs. Where the statement of Exploration Target(s) includes information relating to ranges of tonnage (or quantity) and grade (or quality), these must be represented as approximations. The explanatory text must include a description of the process used to determine the grade and tonnage ranges to describe the Exploration Target.*		
10.	**ESTIMATION OF MINERAL RESOURCES**			*4*
	10.1	**Mineral Deposit Model and Interpretation**		*4.1*
		i.	*Discuss the nature, detail, and reliability of geological information with which lithological, structural, mineralogical, alteration or other geological, geotechnical, and geo-metallurgical characteristics were recorded*	*4.1.1*

		ii.	*Describe and provide an illustration of the Mineral Deposit model, and state the assumptions that form the basis for the Mineral Resources estimate. There should be sufficient data density to assure continuity of mineralization and geology, and provision of an adequate basis for the estimation and classification procedures.*	*4.1.2*
		iii.	*Include a discussion on geological discounts (e.g., magnitude, per reef, domain, etc.) applied in the model, whether applied to mineralized and/or unmineralized material (e.g., faults, dikes, etc.)*	*4.1.6*
		iv.	*State any obvious geological, mining, metallurgical, processing, environmental, social, infrastructural, legal, and economic factors that could have a significant effect on the prospects of any possible Exploration Target or Mineral Deposit*	*4.1.3*
		v.	*Include geological data that have material influence on the estimated quantity and quality of the Mineral Resources*	*4.1.4*
		vi.	*Consider alternative interpretations or models, if any, and their possible effect (or potential risk) if any, on the Mineral Resources estimate*	*4.1.5*
	10.2	**Database and Software Used in the Estimation of Mineral Resources**		
		i.	*Describe current database, including validated Historical Estimates, if any, with stated cut-off date*	
		ii.	*State type of sample database - core, RC, and/or trench samples*	
		iii.	*Discuss survey data of samples including accuracy of drill collar location, drill orientation, and downhole surveys*	
		iv.	*Discuss assay data*	
		v.	*Discuss bulk density data*	
		vi.	*Describe any relevant specialized computer program (software) used (with the version number) together with the parameters used*	*4.2.4*
	10.3	**Database Integrity, Verification, and Validation**		*4.2.5*
		i.	*Discuss the processes of checking and validation used to ensure the integrity of all data used in the Mineral Resources estimate, the comparison of model information to sample data and use of reconciliation data, and whether the Mineral Resources estimate takes into account such information*	*4.2.5*
		ii.	*State limitations, if any*	
	10.4	**Basic Statistical Parameters**		*4.2.1*
		i.	*Provide basic statistical parameters of the raw data - mean, median, minimum, maximum, standard deviation, coefficient of variation, histograms, normal or lognormal population(s), etc.*	
	10.5	**Mineral Resource Estimation and Modeling Methodology**		*4.2*
		i.	*Describe in detail the Mineral Resources Estimation and Modeling methodology and assumptions used - (a) conventional methods, e.g., triangulation, polygonal, cross-sectional, estimation by panels (blocking), inverse distance weighting, nearest neighbor method, etc. or (b) geostatistical methods, e.g., kriging*	*4.2.1*
		ii.	*If geostatistics is used, must show variogram(s) and parameters (e.g., sill, range, nugget effect) depending on variogram type, sizes of estimation panels or blocks, assumed or known selective mining units.*	*4.2.1*

		iii.	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 density), domaining, sample spacing, estimation unit size (block size), selective mining units, interpolation parameters, and maximum distance of extrapolation from data points.	4.2.2
		iv.	Provide the assumptions and justification of correlations made between variables	4.2.3
		v.	Describe any relevant specialized computer program (software) used (with the version number) together with the parameters used.	4.2.4
		vi.	Discuss the processes of checking and validation, the comparison of model information to sample data, and use of reconciliation data, and whether the Mineral Resources estimate takes account of such information.	4.2.5
		vii.	State the assumptions made regarding the estimation of any co-products, by-products or deleterious elements.	4.2.6
		viii.	State Cut-off Grade(s) used in the Mineral Resources estimation	4.2.2
	10.6	**Reasonable Prospects for Eventual Economic Extraction (RPEEE)**		4.3
		10.6.1	**Geological Parameters**	4.3.1
		i.	Discuss the geological parameters including, but not limited to, volume/tonnage, grade/quality estimates, Cut-off Grade(s), strip ratios, upper- and lower- screen sizes	
		10.6.2	**Engineering Parameters**	4.3.2
		i.	Discuss the engineering parameters, including mining method, processing, geotechnical, hydrogeological, and metallurgical parameters, including assumptions made to mitigate the effects of deleterious elements	
		10.6.3	**Dilution and Mining Recovery**	4.3.2
		i.	Discuss dilution and mining recovery factors that might be applicable to convert Mineral Resources to Mineral Reserves	
		10.6.4	**Infrastructures**	4.3.3, 1.2.2
		i.	Discuss the infrastructures including, but not limited, to power, water, and site access	4.3.3
		10.6.5	**Legal, Government, Permitting and Licensing, and Statutory Parameters**	4.3.4
		i.	Discuss the legal, government, permitting and licensing, and statutory status of the Mineral Property and material issues that need to be addressed, if any	
		10.6.6	**Environmental and Social Parameters**	4.3.5
		i.	Discuss the sufficiency of surface rights for exploration/mining operations including the availability and sources of exploration/mining personnel	1.2.2
		10.6.7	**Marketing Parameters**	4.3.6
		i.	Discuss the marketing issues such as commodity prices or customer's specifications, and sales volume expectations used for the determination of Mineral Resources based on reasonable forward-looking estimates reflecting the company's short- and long-term expectations as supported by available evidence, which may include consensus forecasts, three-year trailing averages, sales contracts, or other price analyses	Clause 48 of PMRC 2020

		10.6.8	**Economic Assumptions and Parameters**	*4.3.7*
		i.	*Discuss the economic assumptions and parameters Including, but not limited to commodity prices, sales volume, and potential capital and operating costs*	
		10.6.9	**Material Risks**	*4.3.8*
		i.	*Discuss risks of material significance, e.g., sovereign, legal, environmental, social license to operate, climatic, seismic, technological, etc.*	
	10.7	**Mineral Resource Categories**		*4.4, 4.5*
		i.	*Discuss the criteria and methods used as the basis for the classification of the Mineral Resources into varying confidence categories*	*4.4*
		ii.	*When appropriate, state the relative accuracy and confidence level in the Mineral Resources estimate using an approach or procedure deemed appropriate by the ACP-Geologist(s). 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 factors that could affect the relative accuracy and confidence of the estimate. It should specify whether it relates to global or local estimates, and, if local, state the relative tonnages, which should be relevant to technical and economic evaluation. Documentation shall include assumptions made and the procedures used. These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.*	*4.5*
	10.8	**Mineral Resources Estimates**		*4.6.4, 4.6.5, 4.6.6, 4.2.5*
		i.	*Tabulate the Indicated and Measured Mineral Resources separately from the Inferred Mineral Resources of the primary product and by-product(s) (if any) per source, i.e., surface or underground mine, residue stockpile, remnants, dumps, tailings, pillars, or other sources. The Cut-off Grades/quality(ies) for estimating Mineral Resources of any category must be stated.*	*4.6.4*
		ii.	*If there is a previous Mineral Resources estimate, provide a comparison with the current Mineral Resources estimate, with an explanation of the reason(s) for material changes. Provide a comment on any historical trends, e.g., global bias.*	*4.6.5*
		iii.	*Discuss the processes of checking and validation, the comparison of model information with sample data and use of reconciliation data, and whether the Mineral Resources estimate is consistent with the information, e.g., manual inspection of block model grades compared to actual or composite grades of drill holes and/or underground workings plotted in sections and/or level plans*	*4.2.5*
		iv.	*Discuss the basis for the Mineral Resources estimate and if not 100% owned by the Issuer, the attributable percentage relevant to the Issuer of the Technical Report*	*4.6.6*
11.	**DISCUSSION AND CONCLUSIONS**			
		i.	*Provide a synthesis of all the data and information*	

		ii.	*Discuss the adequacy of data, overall data integrity, and areas of uncertainty*	
		iii.	*State the overall conclusions by the ACP-Geologist(s) as guided by the purpose and scope of work of this Technical Report*	
		iv.	*The ACP-Geologist(s) must discuss whether the Technical Report met the purpose and scope of work set forth and whether it is PMRC 2020 compliant.*	
12.	**RECOMMENDATIONS**			
		i.	*Based on the above discussion and conclusions (under Sec. 11), a list of recommendations is made to guide the Issuer on the course of action to take. Be it positive or negative, the ACP-Geologist(s) should ascertain that there is/are adequate basis/bases for such recommendations.*	
13.	**REFERENCES**			*(iv)*
		i.	*List of references cited in the narrative, whether published or unpublished*	
		ii.	*In the absence of a preferred format for citing references, one may use the American Psychological Association (APA) format.*	
	APPENDICES			
	1	**Comments on PMRC 2020 Table 1 Assessment and Reporting Criteria**		
		i.	*Mandatory comprehensive listing of PMRC 2020 Table 1 Check List of Assessment and Reporting Criteria with corresponding ACP's Comment*	
	2	**List of Acronyms**		
		i.	*Mandatory comprehensive listing of all acronyms used in the Technical Report*	
	3. Etc.	***Other Appendices, if needed***		
		i.	*Map(s) or plates (larger than A4 sized format)*	
		ii.	*Sections and level plans (larger than A4 sized format)*	
		iii.	*Other relevant data*	

LEGEND:

Typeface Type	
Bold Typeface	Section and subsection headings in the Table of Contents & Main Text
Normal Typeface in Italics	*Guidance notes*
Text Color	
Black Font	based on TR-FORM 1 of the PMRC 2007/ IRR 2010
Red Font	Taken from Table 1 of the PMRC 2020 & occasionally from main PMRC 2020
Green Font	Introduced by PMRCC

TR-FORM 2					
OUTLINE OF TECHNICAL REPORT FOR ECONOMIC ASSESSMENT AND MINERAL RESERVES ESTIMATION					
					Reference to Table 1 (PMRC 2020)
	TITLE PAGE				*(v)*
		i.	*State the title of the Technical Report and include the location of the Mineral Property, mining rights coverage, name and professional designation of the Accredited Competent Person(s) (ACP(s)), effectivity date of the Technical Report, and name of the Issuer*		
	ACCREDITED COMPETENT PERSON'S CONSENT FORM AND CONSENT STATEMENT, AND CERTIFICATES				*(ii), 9, PMRC 2020 Appendices 3 & 4*
		i.	*ACP's Consent Form and Consent Statement(s) as prescribed by Appendix 4 of the PMRC 2020*		
		ii.	*Attach scanned copy of valid ACP Identification Card or Certificate of Accreditation of ACP(s)*		
		iii.	*Attach scanned copy of valid PRC Professional Identification Card (PIC) of ACP(s)*		
		iv.	*Attach scanned copy of valid Professional Tax Receipt*		
		v.	*Have this above document notarized including Acknowledgment showing Signature of ACP(s) and date of signing*		
	EXECUTIVE SUMMARY				*(vi)*
		i.	*Briefly summarize important information in the Technical Report, including purpose and scope of work, Mineral Property description and ownership, geology and mineralization, the status of exploration, development, and operations, Mineral Resources and Mineral Reserves estimates, development schedule(s), capital expenditure, direct operating costs, and the ACP-Mining Engineer(s)' conclusions and recommendations. The Executive Summary should have sufficient detail to allow the reader to understand the essentials of the Technical Report.*		
		ii.	*Must state if the Technical Report is PMRC 2020-compliant and if the objectives of the Report have been met*		
	TABLE OF CONTENTS				*(v), (viii)*
		i.	*List the contents of the Technical Report including figures, tables, photographs, and appendices referred in the Report. All figures/tables/photographs/appendices must be cited in the narrative.*		
1.	**INTRODUCTION**				*(i), (iii), (x), (xi), 1.1.1, 1.1.2, 1.1.3, 1.2.1, 1.2.2,*

				1.3.1, 1.4, 9.1.1
	1.1	**Purpose and Scope of Work**		*(i), 1.2.1*
		i.	*State who commissioned the Technical Report and for whom it was prepared, whether it was intended as a complete or partial evaluation or for other purposes, work conducted, and effectivity date of the Report*	*(iii)*
		ii.	*Briefly describe the purpose and scope of work (i.e., whether in preliminary sampling, advanced exploration, Scoping Study, Pre-Feasibility Study (PFS), or Feasibility Study (FS), Life-of-Mine Plan (LoMP) for an ongoing mining operation or decommissioning)*	*(i), 1.2.1*
		iii.	*Provide the details of the personal inspection on the mineral property by each ACP or, the reason why a personal inspection was not completed*	*(x)*
		iv.	*Must state if the report is PMRC 2020-compliant and if the objectives of the report have been met*	
	1.2	**Country Profile** (Optional for Mineral Property in the Philippines)		*1.1.2*
		i.	*Provide brief information relating to the project host country that is pertinent to the Mineral Property, including relevant applicable legislation, environmental, and social context, etc. This is a high-level assessment of relevant technical, environmental, social, economic, political, and other key risks.*	
	1.3	**Location of the Mineral Property and Accessibility**		*1.1.1, 1.1.3, 1,2,2*
		i.	*Describe location and accessibility of the Mineral Property (country, province(s), municipality(ies), and closest town/city, coordinate systems, mountain ranges, etc.)*	*1.1.1*
		ii.	*Discuss the modes and ease of access to the Mineral Property, the proximity to population center(s) and from the country capital*	*1.2.2*
		iii.	*Attach relevant location map*	*1.1.3*
	1.4	**Property Description and Adjacent Properties**		*1.2.2, 1.3.1*
		i.	*Provide general description of the Mineral Property*	*1.2.2*
		ii.	*Provide details of relevant adjacent third-party mineral tenements, especially those having an important bearing on the Technical Report*	*1.3.1*
	1.5	**Qualifications of Accredited Competent Person(s), Key Technical Staff, and Other Experts**		*9.1.1*
		i.	*Describe briefly the competence and scope of work of each ACP(s), key technical staff, and experts in relation to the Technical Report*	
	1.6	**Disclaimer**		*(xi)*
		i.	*If ACP(s) relied on the report, opinion, statement of a legal, environmental, social, governance expert, etc., who is not a co-author of this Technical Report, the ACP(s) may include a disclaimer of responsibility on such information in the Technical Report.*	
	1.7	**Units of Measure, Currency, and Foreign Exchange Rates**		*(ix)*
	1.8	**Previous Works**		*1.4*
		i.	*Arrange chronologically significant previous works*	
		ii.	*Briefly describe essential work done by previous entities including Historical Data and Historical Estimates, if available*	
		iii.	*Indicate sources of information (references) by citing published/unpublished report(s) or (personal communication*	

	1.9	**Previous Mineral Resources Estimates (if any)**		
		i.	*Provide previous PMRC-compliant Mineral Resources estimates, if any. Historical Estimates, if any, are discussed in Sec. 1.8*	
2.	**TENEMENT AND MINERAL RIGHTS**			*1.1.1, 1.5, 1.6, 1.7*
	i.	*Subsections and corresponding guidance notes are exactly the same as in Section 2 of the TR-FORM 1.*		
3.	**GEOGRAPHICAL AND ENVIRONMENTAL FEATURES**			*1.2.2*
	i.	*This section and corresponding guidance notes are exactly the same as in Section 3 of TR-FORM 1.*		
	ii.	*Whenever necessary, the ACP-Mining Engineer should place brief comments of significance in the relevant subsection(s) from the mining point of view.*		
4.	**HISTORY OF PRODUCTION**			
	i.	*This section and corresponding guidance notes are exactly the same as in Section 4 of TR-FORM 1.*		
	ii.	*Whenever necessary, the ACP-Mining Engineer should place brief comments of significance in the relevant subsection(s) from the mining point of view.*		
5.	**ENVIRONMENTAL, SOCIAL, AND GOVERNANCE (Optional)**			*5.7*
	i.	*This section and corresponding guidance notes are exactly the same as in Section 5 of TR-FORM 1.*		
	ii.	*Whenever necessary, the ACP-Mining Engineer should place brief comments of significance in the relevant subsection(s) from the mining point of view.*		
6.	**GEOLOGICAL SETTING**			*2.1*
	i.	*This section and corresponding guidance notes are exactly the same as in Section 6 of TR-FORM 01.*		
	ii.	*Whenever necessary, the ACP-Mining Engineer should place brief comments of significance in the relevant subsection(s) from the mining point of view.*		
7.	**MINERALIZATION IN THE MINERAL PROPERTY**			*2.1*
	i.	*This section and corresponding guidance notes are exactly the same as in Section 7 of TR-FORM 1.*		
	ii.	*Whenever necessary, the ACP-Mining Engineer should place brief comments of significance in the relevant subsection(s) from the mining point of view.*		
8.	**EXPLORATION RESULTS**			*3.1, 3.2, 3.3., 3.4, 3.5, 3.6, 3.7*
	i.	*Repeat or summarize only the subsections of Section 8 of TR-FORM 1 that are relevant to the Mineral Reserves estimation of the Mineral Property especially Subsections 8.6, 8.7, 8.8, 8.9, and 8.10*		
	ii.	*Whenever necessary, the ACP-Mining Engineer should place brief comments of significance in the relevant subsection(s) from the mining point of view.*		

9.	**ESTIMATION OF MINERAL RESOURCES**			*4*
	i.	*This section and corresponding guidance notes are exactly the same as in Section 10 of TR-FORM 1. Section 10.6 on Reasonable Prospects for Eventual Economic Extraction (RPEEE) in TR-FORM 1 is not to be repeated here since the Modifying Factors are more detailed in Section 10 (Economic Assessment of the Mining Project) of TR-FORM 2.*		
	ii.	*Whenever necessary, the ACP-Mining Engineer should place brief comments of significance in the relevant subsection(s) from the mining point of view.*		
	9.1	**Mineral Deposit Model and Interpretation**		
	i.	*This subsection and corresponding guidance notes are exactly the same as in Section 10.1 of TR-FORM 1.*		
	ii.	*Whenever necessary, the ACP-Mining Engineer should place brief comments of significance in the relevant subsection(s) from the mining point of view.*		
	9.2	**Database & Software Used in the Estimation of Mineral Resources**		
	i.	*This subsection and corresponding guidance notes are exactly the same as in Section 10.2 of TR-FORM 1.*		
	9.3	**Database Integrity, Verification, and Validation**		
	i.	*This subsection and corresponding guidance notes are exactly the same as in Section 10.3 of TR-FORM 1.*		
	9.4	**Basic Statistical Parameters**		
	i.	*This subsection and corresponding guidance notes are exactly the same as in Section 10.4 of TR-FORM 1.*		
	9.5	**Mineral Resources Estimation and Modeling Techniques**		
	i.	*This subsection and corresponding guidance notes are exactly the same as in Section 10.5 of TR-FORM 1.*		
	ii.	*Whenever necessary, the ACP-Mining Engineer should place brief comments of significance in the relevant subsection(s) from the mining point of view.*		
	9.6	**Mineral Resource Categories**		*4.4, 4.5*
	i.	*This subsection and corresponding guidance notes are exactly the same as in Section 10.7 of TR-FORM 1. The ACP-Mining Engineer may place comments of significance in the relevant subsection(s).*		
	ii.	*Whenever necessary, the ACP-Mining Engineer should place brief comments of significance in the relevant subsection(s) from the mining point of view.*		
	9.7	**Mineral Resources Estimates**		*4.6.4, 4.6.5, 4.6.6, 4.2.5*
	i.	*This subsection and corresponding guidance notes are exactly the same as in Section 10.8 of TR-FORM 1. The ACP-Mining Engineer may place comments of significance in the relevant subsection(s).*		
	ii.	*Whenever necessary, the ACP-Mining Engineer should place brief comments of significance in the relevant subsection(s) from the mining point of view.*		
10.	**ECONOMIC ASSESSMENT OF THE MINING PROJECT**			
	10.1	**Brief Description of the Mining Project**		
		i.	*Provide an overview of the Mining Project including (a) planned mining and processing operations, (b) estimated life of mine, (c) ore to be mined/product(s) to be produced*	*5.2.2, 5.2.5, 5.2.8, 5.3.3, 5.6.1, 5.6.3*

	10.2	**Description of Mineral Resources Estimates used as Basis for Conversion to Mineral Reserves**			*6.1.1*
		i.	*Emphasize the aspects of the definition of Mineral Reserves i.e., it is the economically mineable part of Measured and/or Indicated Mineral Resources by applying the Modifying Factors as discussed in detail in Subsections 10.4 to 10.10 inclusive*		*PMRC 2020 Clauses 32-34*
		ii.	*Whenever necessary, the ACP-Mining Engineer should comment or discuss important related issues about this section from the mining point of view.*		
	10.3	**Level of Economic Assessment**			*5.1.1*
		i.	*If the Project is not yet a mine, the Technical Report is at the level of a project feasibility at least at the PFS level. If the Project is already an on-going mine, the economic assessment is categorized as an ongoing LoMP study.*		
		ii.	*This Technical Report converts the estimated Mineral Resource (categorized with tonnage/volume and grade/quality) to an estimated Mineral Reserves through a feasibility or LoMP process, involving field and laboratory works, estimates and costings, directions to take from several options, technology and financial analyses and screened through the Modifying Factors*		
	10.4	**Technical Aspects**			
		10.4.1	**Mining Plans**		
			10.4.1.1	**Mining Method(s)**	*5.2.2*
			i.	*Describe the mining method(s) to be used*	*5.2.8*
			10.4.1.2	**Mine Design/Mining Parameters/Geotechnical Parameters**	*5.2.2*
			i.	*Discuss and highlight the essential elements such as equipment selected, grade control methods, geotechnical and hydrological considerations, mine design characteristics, and ventilation/cooling requirements*	*5.2.8*
			ii.	*For open cut mines, include a discussion of pit slopes, slope stability, and strip ratio*	*5.2.6*
			iii.	*For underground mines, include a discussion of mining method, geotechnical considerations, mine design characteristics, and ventilation/cooling requirements*	*5.2.7*
			10.4.1.3	**Mining Recovery, Dilution, and Losses**	*5.2.8*
			i.	*Explain how the mining recovery, dilution, and losses were estimated*	
			10.4.1.4	**Planned Production Rate/Production Schedule/Estimated Life of Mine**	*5.2.2, 5.2.8*
			10.4.1.5	**Work Schedules at the Mining Project**	*5.2.2, 5.2.8*
			10.4.1.6	**List of Mining Equipment and Auxiliary Machinery**	*5.2.8*
			i.	*Cite the specifications as to size and capacities*	
			10.4.1.7	**Mine Infrastructure**	*5.2.2, 5.4.2, 5.4.3,*
				List down all major infrastructures related to production, environmental protection, and mine support. List down too	

			i.	*those not related to production but of significant costs and land area requirements within and outside of the Mineral Property*	
			10.4.1.8	**Mine Development Plans and Schedule**	*5.2.2, 5.2.8*
			i.	*Discuss the engineering, planning, estimating, scheduling, and construction requirements of the whole mine and mill industrial complex including support structures and services.*	
			ii.	*Prepare and explain the master development plan which should cover activities and commitments up to the completion of the final Mine Rehabilitation and Decommissioning Plan (FMRDP). Prepare a general arrangement map showing the infrastructure in the industrial complex, those for production, mine support, environmental, amenities, etc.*	
			iii.	*Prepare a bar chart of activities showing the start and completion of all major infrastructures in its proper sequence. (A bar chart may do instead of a Project Evaluation and Review Technique and Critical Path Method (PERT CPM) type but there should be a mention of activities in the "critical path" and activities which may be built simultaneously and also those which have plenty of slack time for completion.)*	
		10.4.2	**Processing Plans**		
			i.	*This section is all about the Technical Report for a Metallurgical Engineering Study (as outlined in TR-FORM 3) prepared by the ACP-Metallurgical Engineer. Anything related to the processing plans required by TR-FORM 2 may be lifted from the said Technical Report.*	
			ii.	*The ACP-Mining Engineer should comment, discuss, and highlight important topics and issues taken up in this section, i.e., list of milling equipment, recovery, industrial water supply, structures and design particularly of a Tailings Storage Facility (TSF) if one is needed, etc.*	
			10.4.2.1	**Metallurgical Test Works Results**	
			i.	*Discuss the source of the samples, the representativeness of the potential feed,and the techniques used to obtain the samples, laboratory, and metallurgical testing techniques*	*5.3.1*
			ii.	*Discuss the basis for assumptions or predictions regarding metallurgical amenability and any preliminary mineralogical test work carried out*	*5.3.2*
			10.4.2.2	**Metallurgical Process Flowsheet/Process Plant Design/Material Balance**	
			i.	*Discuss the processing method(s) and associated equipment*	*5.3.3*
				Show a detailed flow sheet/diagram and a material balance, especially for multi-product operations from	*5.3.4*

			ii.	*which the saleable materials are priced for different chemical and physical characteristics.*	
			iii.	*Briefly discuss the assumptions or allowances made for deleterious elements and the existence of any bulk-sample or pilot-scale test work and the degree to which such samples are representative of the ore body as a whole.*	*5.3.5*
			iv.	*Disclose whether metallurgical process is well-tested technology or novel in nature and if novel, justification for its use in Mineral Reserve estimation*	*5.3.6*
			10.4.2.3	**Plant Capacity/Production Schedule/Plant Working Schedule**	*5.3.3*
			10.4.2.4	**Tailings Specification**	
			10.4.2.5	**Tailings Storage Facility**	*5.4.2*
			10.4.2.6	**List of Mill Machineries and Auxiliary Equipment**	*5.6.7*
			i.	*Cite the specifications as to size and capacities*	
			10.4.2.7	**Mill Plant Layout**	*5.4.2*
			i.	*Provide some sections and elevations*	
		10.4.3	**Mine Support Services**		
			10.4.3.1	**Power Source/Power Plant**	*5.4.2*
			i.	*Show if mine power is taken from one or many sources; availability of emergency power, and sharing of project power with the adjacent communities and other users*	
			10.4.3.2	**Mechanical and Electrical Shop**	*5.4.2*
			i.	*Mention availability of mechanical and electrical shops and other special fabrication facilities and shops for maintenance and repairs. Special shops' capabilities may be mentioned.*	
			10.4.3.3	**Assay Laboratory**	*5.4.2*
			i.	*Describe the assay laboratory and if there are other laboratories, such as metallurgical laboratory.*	
			10.4.3.4	**Domestic Water Supply**	*5.4.2*
			i.	*Discuss in relation to the water needs of the adjacent communities and if water treatment facility will be put up and if the mine will procure bottled mineral water*	
			10.4.3.5	**Industrial Water Supply**	*5.4.2*
			i.	*Describe the industrial water supply and if it will be treated*	
			ii.	*Discuss the industrial water supply in relation to the needs of other industries, i.e., irrigation, power, flood control, etc.*	
			10.4.3.6	**Availability of Alternative Sources of Mine Support Services**	*5.4.2*
			i.	*State use of special contracted services; outsourced services; packaged products*	
			10.4.3.7	**Logistics**	*5.4.3*
			i.	*Discuss the project's inventory control, procurement, physical warehousing, and the role of new technology and the internet may have*	
	10.5	**Legal, Government, Permitting and Licensing, and Statutory Aspects**			*1.5*

		i.	*Discuss and confirm that all legal, government, permitting and licensing, and statutory requirements of the Mineral Property are in place and that all issues of material significance had been addressed. If there are still some minor deficiencies, state them and how they will be addressed*		
	10.6	**Environmental and Social Aspects**			*5.5*
		10.6.1	**Environmental Protection and Management Plan**		
			i.	*Discuss the environmental protection and management plan for the Mining Project, listing the environmental aspects, impacts, and mitigating measures. If an operating mine, discuss the Issuer's Environmental Protection and Enhancement Program (EPEP) and FMRDP.*	*5.5.1, 5.5.4*
			ii.	*The ACP-Mining Engineer shall discuss the role, function, and costs of the major environmental structures such as TSF, drainage, etc.*	
			Iii.	*Confirm that the company holding the Mineral Property has addressed the host country's environmental and legal requirements and any mandatory and/or voluntary standards or guidelines to which the Issuer subscribes. This will include identification of the necessary permits that will be required and their status such as Environmental Compliance Certificate (ECC), EPEP, FMRDP, tree cutting permits, National Water Resources Board Water Permits, foreshore lease agreements, special forest land use agreements, special land use permits, etc., and where not yet obtained, and confirmation that there is a reasonable basis to believe that all permits required for the Mining Project will be obtained in a timely manner.*	*5.5.1, 5.5.2*
			iv.	*Identify any sensitive area that may affect the Mining 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 as well as the possible means of mitigation.*	*5.5.3*
			v.	*Identify any liabilities, including rehabilitation guarantees that are required of the project. Describe the rehabilitation liability, including, but not limited to, legislative requirements, assumptions and limitations.*	*1.7.1*
		10.6.2	**Mine Safety and Health Plan**		*5.2.8*
		i.	*Discuss the key elements and associated programs and budget*		
		10.6.3	**Employment/Management**		
			10.6.3.1	**Number, Nationalities (Locals and Expatriates), Key Personnel and Annual Budgeted Payroll**	*5.2.2, 5.2.8, 5.3.3*
			i.	*Prepare a simple description of the organization enumerating only the key mine site positions*	
			10.6.3.2	**Human Resources Policies**	*5.2.8, 5.3.3*
			i.	*Describe how the pay scale will be structured i.e., based on rank and skills*	

			ii.	*Emphasize the preferential employment hiring given the locals from the neighboring barangays, municipalities and provinces. Competence and availability are the primary criteria for hiring especially for key personnel and staff with special skills.*	
			10.6.3.3	**Table of Organization**	*5.2.8, 5.3.3*
			i.	*Show simplified organizational structure only*	
			10.6.3.4	**Availability of Technical and Skilled Labor**	*5.2.8, 5.3.3*
			i.	*Discuss if there is adequate pool of technical and skilled labor in the host and neighboring communities with the right skills and provide solutions if there is not enough*	
			ii.	*Discuss the Issuer's training strategy to strengthen the pool of possible local hires*	
			10.6.3.5	**Township/Housing**	*5.5.4*
			i.	*State and discuss the Issuer's plan in providing housing facilities and/or fly in-fly out program for some or all of the workforce*	
			ii.	*Discuss the Issuer's transportation plan for the local employees and contractors to and from the Mining Project*	
		10.6.4	**Community Development Plan**		*5.5.4*
		i.	*Discuss the legislated social management programs including content and status, and state their socio-economic contributions on the host and neighboring communities including Indigenous Peoples, if any. For a non-operating mine, discuss the Community Development Plan (CDP). If an operating mine, discuss the Social Management Development Program (SDMP).*		
		ii.	*The ACP-Mining Engineer, with the help of community development company expert(s), should identify the programs, budget, and implementation schedules with the participation of the community*		
	10.7	**Marketing Aspects**			*5.6*
		10.7.1	**World Supply and Demand Situation**		
		10.7.2	**Prospective Markets and/or Buyers**		
		i.	*Discuss (1) if a ready market exists for the product(s) and whether contracts for the sale of the product are in place or expected to be readily obtained, and (2) price and volume forecasts and the basis for the forecast*		*5.6.2*
		10.7.3	**Product(s) to be Produced and Specifications**		
		i.	*Describe the product(s) to be sold, customer specifications, testing, and acceptance requirements*		*5.6.2*
		10.7.4	**Commodity Price and Volume Forecasts**		
		i.	*Provide summary description, source, and confidence of method used to estimate the commodity price/value profiles used for Cut-off Grade calculation, and economic analysis, including applicable taxes, inflation indices, discount rate, and exchange rates for special products*		*5.6.4*
		10.7.5	**Sales Contract/Off-take Agreement/Smelter Contract**		
			Discuss the assumptions made concerning production cost including transportation, treatment, penalties, exchange rates, marketing, and		*5.6.5*

		i.	*other costs. Allowances should be made to include the penalty for the presence of deleterious elements*		
		ii.	*Discuss royalties and streaming agreements payable both to Government and private entities, if any. Streaming agreements can show the strength of confidence from the market and the long-term viability of the Mining Project.*		*5.6.6*
		iii.	*Discuss hedging agreements, if any.*		
	10.8	**Material Risks**			
		i.	*Discuss the risks of material significance, e.g., sovereign, legal, environmental, social license to operate, climatic, seismic, technological, etc.*		*4.38*
	10.9	**Financial Aspects**			
		i.	*This aspect requires very close coordination with the Issuer's finance team. One member of the team of the ACP-Mining Engineer must be a finance person familiar with project finance and development.*		
		ii.	*The Issuer may have the financial model tailored to what it wants highlighted or as required by the Issuer's finance/accounting structure.*		
		10.9.1	**Total Project Cost Estimates and Assumptions**		
			10.9.1.1	**Engineering Study Cost**	*5.6.5*
			i.	*State the engineering study costs. This includes all engineering studies, Pre-Feasibility Study (PFS), Feasibility Study (FS) or Life-of-Mine Plan (LoMP), reports, special studies, lab works, scientific papers, field tests, and performance of special equipment commissioned by the Issuer.*	
			10.9.1.2	**Exploration Cost**	*5.6.5*
			i.	*State the exploration costs. This covers the cost of the exploration activities relevant to the investment analysis.*	
			ii.	*This may include planned exploration budget during the development and production years of the mine not captured in the actual exploration cost.*	
			10.9.1.3	**Development Cost**	*5.6.5*
			i.	*State the project development costs*	
			10.9.1.4	**Pre-Operating Overhead Cost**	*5.6.5*
			i.	*State and describe pre-operating overhead costs*	
			10.9.1.5	**Cost of Capital Equipment and Machinery**	*5.6.5*
			i.	*State the cost of capital equipment and machinery. List with individual costs for major equipment. Minor units may be lumped together but identified properly*	
			10.9.1.6	**Cost of Allied Mine Facilities and Infrastructures**	*5.6.5*
			i.	*Show a list of individual costs for major infrastructures*	
			10.9.1.7	**Cost of the Environmental Structures, Facilities, and Equipment**	*5.6.5*
			i.	*List with individual costs for major equipment. Include complementary or auxiliary facilities.*	
			10.9.1.8	**Interest Cost during Construction**	*5.6.5*
			10.9.1.9	**Working Capital**	*5.6.5*

			10.9.1.10	**Contingencies**	*5.6.5*
		10.9.2	**List of Capital Equipment and Infrastructure**		*5.2.8, 5.3.3, 5.6.7, 5.4.2*
		i.	*Reference is made to previous sections on mining and milling equipment list; include other items outside of the mining and milling operations which are to be capitalized*		
		ii.	*Review the whole development cost for items to be capitalized*		
		10.9.3	**Financial Plans/Sources of Funds**		*-*
		10.9.4	**Production Cost Estimates and Assumptions**		
			10.9.4.1	**Mining Cost**	*5.6.3, 5.6.5*
			i.	*State the direct production costs of all the units of operation within the mining activity*	
			10.9.4.2	**Milling Cost**	*5.6.5*
			i.	*State the direct production costs of all the units of operation within the milling and processing activity*	
			10.9.4.3	**Marketing Cost**	*5.6.5*
			i.	*State the costs of all the units of operation in the marketing activity including transportation costs from an assumed starting point*	
			10.9.4.4	**Mine Overhead Cost**	
			i.	*State the mine-site overhead costs. These are generally non-production and/or indirect production costs. Mining Projects with joint venture partners and/or Issuer with several operating mines must determine this cost properly. This must be defined accurately in relation to Sec. 10.9.4.10 (Head Office Overhead Costs). Government is particularly interested with this cost item. Note that different Issuers/mining companies have different cost structure.*	
			10.9.4.5	**Environmental Cost**	*5.6.8*
			i.	*State the environmental costs, i.e., EPEP plus other costs outside of the EPEP*	
			10.9.4.6	**Community Development Cost**	*5.6.8*
			i..	*State the community development costs as provided in either CDP or SDMP including royalty payment to Indigenous Peoples, if any*	
			10.9.4.7	**Excise Tax**	*5.6.4*
			i.	*State the current applicable rates*	
			10.9.4.8	**Business Tax**	*5.6.4*
			i.	*State the current applicable rate(s); must check rates with the project's local government(s).*	
			10.9.4.9	**Mineral Reservation Tax**	*5.6.6*
			i.	*Use current applicable rate if Mining Project is inside a Mineral Reservation*	
			10.9.4.10	**Head Office Overhead Cost**	*5.6.8*
				State the head office overhead costs. This must be defined accurately in relation to Sec. 10.9.4.4 (Mine Overhead	

			i.	*Cost). Note that different Issuers/mining companies have different cost structure.*	
			10.9.4.11	**Royalties and Streaming Agreements**	*5.6.6*
			i.	*State expenses incurred due to royalty and streaming agreements, if any. Normally levied as a percentage of the gross revenue or may take a different form or formula to compute.*	
			10.9.4.12	**Income Tax**	*5.6.4*
			i.	*State the current applicable rates*	
		10.9.5	**Government Financial Incentives**		
			10.9.5.1	**Board of Investments**	
			i.	*Specify the Board of Investments (BOI) incentives and impact on the Mining Project*	
			10.9.5.2	**Philippine Economic Zone Authority**	
			i.	*Specify the Philippine Economic Zone Authority (PEZA) incentives and impact on the Mining Project*	
		10.9.6	**Basis of Revenue Calculation**		
			10.9.6.1	**Main Valuable Product(s) and By-Product(s) with their Specifications**	*5.6.1, 5.6.2*
			i.	*Provide the customer specifications of the product(s) and by-product(s) to be sold*	*5.6.2*
			ii.	*Describe fully the prices especially when there are several by-products; some may be derived from the plant and some may be credits from the smelters*	
			10.9.6.2	**Metallurgical Recovery**	*5.3.3*
			10.9.6.3	**Selling Price**	*5.6.2, 5.6.4*
			i.	*State the estimated selling price of the product(s) and by-product(s).*	
			ii.	*A Mining Project may have two corporate entities involved, one selling ore(s) to the other which owns the mill / processing plant. Care should be given how to treat these revenues, costs and taxes involved.*	
			10.9.6.4	**Foreign Exchange Rate**	*ix, 5.6.3*
			i.	*The applicable currency and exchange rate. Refer to Section 1.7.*	
			10.9.6.5	**Smelter/Freight/Treatment Charges**	*5.6.5*
			ii.	*The ACP-Metallurgical Engineer should be consulted on this matter.*	
			10.9.6.6	**Bonuses and Penalties**	*5.6.5*
			i.	*The ACP-Metallurgical Engineer should be consulted on this matter.*	
			10.9.6.7	**Other Receivables and Payables**	*1.5.1, 1.5.2, 5.1.1, 5.1.2*
			i.	*Include from whom or what entity*	
		10.9.7	**Pro-forma Financial Statements**		
				This must be prepared by the ACP-Mining Engineer in coordination with the company's finance department using	

			i.	*figures derived from the PFS, FS or LoMP. These financial statements are of the Issuer which holds the mining rights of the Mineral Property and who shall benefit from the Mining Project and be responsible for the costs and promises to the different shareholders and/or investors*	
			10.9.7.1	**Pro-forma Balance Sheet**	*5.8.2*
			10.9.7.2	**Pro-forma Profit and Loss**	*5.8.2*
			10.9.7.3	**Pro-forma Cash Flow**	*5.8.2*
		10.9.8	**Profitability Analyses**		
			10.9.8.1	**Break-even Analyses**	*5.8.4*
			i.	*A break-even state may be reached based on elements like grade, recovery and Mineral Reserves, production costs, production level, Capital Expenditures (CAPEX), etc. Discuss only what is most relevant and meaningful to the Mining Project.*	
			10.9.8.2	**Sensitivity Analyses**	*5.8.4*
			i.	*This measures how big the project returns change when there are changes in elements like commodity/metal prices, metallurgical recovery, Mineral Reserves, production rate, project cost (CAPEX), Operating Expenses (OPEX), etc.*	
			10.9.8.3	**Investment Analysis**	*5.8.2, 5.8.3*
			i.	*Discuss the profitability of the Mineral Project using investment analysis metrics such as (1) Return on Investment (ROI), (2) Net Present Value (NPV), (3) Internal Rate of Return (IRR), (4) Payback Period, etc.*	
	10.10	**Project Schedule and Implementation**			*5.2.2*
		i.	*Discuss how the project development program will be implemented, the total project cost, fund release dates, and whether an EPCM or an EPC contract will be availed of*		
		ii.	*State (1) if the Issuer will undertake all or some of the design and construction activities, (2) if local and/or foreign contractors will be utilized, and (3) whether the Issuer will participate in the procurement process*		
		iii.	*Provide the construction schedule, e.g., Gantt chart*		
11.	**ESTIMATION OF MINERAL RESERVES**				
	i.	*Provide an overview of the estimation of Mineral Reserves*			
	11.1	**Data Verification and Validation**			*6.1.1*
	i.	*The ACP-Mining Engineer shall do a due diligence on the Mineral Resources estimation report, particularly on the survey of the drill holes, the block model and the cut-off grade used as well as the Issuer's project information, i.e., costs and estimates, schedule, assumptions, handling and depository of data*			
	11.2	**Mineral Reserves Estimation Methodology**			*6.1.2, 6.1.3*
		i.	*Provide an overview on the Mineral Reserves estimation methodology. If estimation is computer-assisted, list the major software and software versions used such as SURPAC, VULCAN, DATAMINE, and Whittle.*		

		ii.	*Describe fully what were the assumptions and parameters used, e.g., mining and waste costs, processing cost*	
	11.3	**Mineral Reserves Categories**		
		i.	*State the criteria and methods used as the basis for the classification of the Mineral Reserves into varying confidence categories, which should be based on the Mineral Resource categories, and include consideration of the confidence in all the Modifying Factors.*	*6.2.1*
		ii.	*When appropriate, state the relative accuracy and confidence level in the Mineral Reserves estimate using an approach or procedure deemed appropriate by the ACP-Mining Engineer. 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 factors that could affect the relative accuracy and confidence of the estimate. The statement should specify whether it relates to global or local estimates, and, if local, state the relative tonnages, which should be relevant to technical and economic evaluation. Documentation shall include assumptions made and the procedures used. These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.*	*4.5*
	11.4	**Mineral Reserves Estimates**		
		i.	*Tabulate the Proved and Probable Mineral Reserves stating the Cut-off Grade(s)/quality(ies) of the primary product and by-product(s) (if any) per source, i.e., surface and/or underground mine, residue stockpile, remnants, dumps, tailings, pillars or other sources*	*6.3.2*
		ii.	*State and explain the basis of the Cut-off Grade(s) or quality parameters applied, including Metal Equivalents, if relevant*	*5.2.4*
		iii.	*Indicate the proportion of Probable Mineral Reserves, which have been derived from Measured Mineral Resources (if any), including the reason(s) thereof*	*6.3.1*
		iv.	*State clearly the inclusion or exclusion of Mineral Resources in the estimation for the Mineral Reserves*	*6.3.4*
		v.	*If there is a previous Mineral Reserves estimate, provide a comparison with the current Mineral Reserves estimates, with an explanation of the reason(s) for differences that have material significance. Provide a comment on any historical trends, e.g., global bias*	*6.3.3*
		vi.	*Discuss the basis for the Mineral Reserves estimate owned by the Issuer. If not 100%, indicate the attributable percentage relevant to the Issuer of the Technical Report*	*4.6.6*
12.	**DISCUSSION AND CONCLUSIONS**			
	i.	*Provide a synthesis of all the data and information*		
	ii.	*Discuss the adequacy of data, overall data integrity, and areas of uncertainty*		
	iii.	*State the overall conclusions by the ACP-Mining Engineer(s) as guided by the purpose and scope of work of this Technical Report*		

	iv.	*The ACP-Mining Engineer(s) must discuss whether the Technical Report met the purpose and scope of work set forth and whether it is PMRC 2020 compliant, including a categorical statement that the Mining Project is economically viable. If it is not economically viable, state the reason why. Refer to the Modifying Factor(s) which played critically or substantially to the decision to pursue or not-to-pursue the Mining Project.*		
13.	**RECOMMENDATIONS**			
	i.	*Based on the above discussion and conclusions (under Sec 12), present a list of recommendations is made to guide the Issuer on the course of action to improve profitability, i.e., measures resulting to savings and better efficiency.*		
	ii.	*If the Mining Project failed to hurdle the viability criteria or is marginal, provide recommendation(s) to the Issuer to move the Mining Project to economic viability.*		
14.	**REFERENCES**			*(iv)*
	i.	*List of references cited in the narrative, whether published or unpublished*		
	ii.	*In the absence of a preferred format for citing references, one may use the American Psychological Association (APA) format.*		
	APPENDICES			
	1	**Comments on PMRC 2020 Table 1 Assessment and Reporting Criteria**		
		i.	*Mandatory comprehensive listing of PMRC 2020 Table 1 Check List of Assessment and Reporting Criteria with corresponding ACP's Comment*	
	2.	**List of Acronyms**		
		i.	*Mandatory comprehensive listing of all acronyms used in the Technical Report*	
	3 Etc.	**Other Appendices if needed**		
		i.	*Map(s) or plates (larger than A4 sized format)*	
		ii.	*Sections and level plans (larger than A4 sized format)*	
		iii.	*Other relevant data*	

LEGEND:

Typeface Type	
Bold Typeface	Section and subsection headings in the Table of Contents & Main Text
Normal Typeface in Italics	*Guidance notes*
Text Color	
Black Font	based on TR-FORM 2 of the PMRC 1007/ IRR 2010
Red Font	Taken from Table 1 of the PMRC 2020 & occasionally from main PMRC 2020
Green Font	Introduced by PMRCC

			TR-FORM 3	
			OUTLINE OF TECHNICAL REPORT FOR A METALLURGICAL ENGINEERING STUDY AND ASSESSMENT ON A MINERAL DEPOSIT	
				Reference to Table 1 (PMRC 2020)
	TITLE PAGE			*(v)*
		i.	*State the title of the Technical Report and include the location of the Mineral Property, mining rights coverage, name and professional designation of Accredited Competent Person(s) (ACP(s)), effectivity date of the Technical Report, and name of Issuer*	
	ACCREDITED COMPETENT PERSON'S CONSENT FORM AND CONSENT STATEMENT, AND CERTIFICATES			*(ii), 9, PMRC 2020 Appendices 3 & 4*
		i.	*Attach ACP's Consent Form and Consent Statement(s) as prescribed by Appendix 4 of the PMRC 2020*	
		ii.	*Attach scanned copy of valid ACP Identification Card or Certificate of Accreditation of ACP(s)*	
		iii.	*Attach scanned copy of valid PRC Professional Identification Card (PIC) of ACP(s)*	
		iv.	*Attach scanned copy of valid Professional Tax Receipt*	
		v.	*Have this above document notarized including Acknowledgment showing Signature of ACP(s) and date of signing*	
	EXECUTIVE SUMMARY			*(vi)*
		i.	*Briefly summarize important information in the Technical Report, purpose and scope of work, including Mineral Property description and ownership, geology and mineralization related to the metallurgical engineering study and assessment, and the ACP-Metallurgical Engineer(s)' conclusions and recommendations. The Executive Summary should have sufficient detail to allow the reader to understand the essentials of the Technical Report.*	
		iii.	*Must state if the Technical Report is PMRC 2020-compliant and if the objectives of the Report have been met*	
	TABLE OF CONTENTS			*(v), (viii)*
		i.	*List the contents of the Technical Report including figures, tables, photographs, and appendices referred in the Report. All figures/tables/photographs/appendices must be cited in the narrative.*	
1.	**INTRODUCTION**			*(i), (iii), (x), (xi), 1.1.1, 1.1.2, 1.1.3, 1.2.1,*

				1.2.2, 1.3.1, 1.4, 9.1.1
	1.1	**Purpose and Scope of Work**		*(i), 1.2.1*
		i.	*State who commissioned the Technical Report and for whom it was prepared, whether it was intended as a complete or partial evaluation or for other purposes, work conducted, and effectivity date of the Report*	*(iii)*
		ii.	*Briefly describe the purpose and scope of work (i.e., whether Scoping, Pre-Feasibility, or Feasibility Study, Life-of-Mine plan for an ongoing mining operation or decommissioning)*	*(i), 1.2.1*
		iii.	*Provide the details of the personal inspection on the mineral property by each ACP or the reason why a personal inspection was not completed*	*(x)*
		iv.	*Must state if the Technical Report is PMRC 2020-compliant and if the objectives of the Report have been met*	
	1.2	**Country Profile** (Optional for Mineral Property in the Philippines)		*1.1.2*
		i.	*Provide brief information relating to the project host country pertinent to the Mineral Property, including relevant applicable legislation, environmental and social context, etc. This is a high-level assessment of relevant technical, environmental, social, economic, political, and other key risks.*	
	1.3	**Location of the Mineral Property and Accessibility**		*1.1.1, 1.1.3, 1.2.2*
		i.	*Describe location and accessibility of the Mineral Property (country, province(s), municipality(ies), and closest town/city, coordinate systems, mountain ranges, etc.)*	*1.1.1*
		ii.	*Discuss the modes and ease of access to the Mineral Property, the proximity to population center(s) and from the country capital*	*1.2.2*
		iii.	*Attach relevant location map*	*1.1.3*
	1.4	**Property Description**		*1.2.2, 1.3.1*
		i.	*Provide general description of the Mineral Property*	*1.2.2*
	1.5	**Qualifications of Accredited Competent Person(s), Key Technical Staff, and Other Experts**		*9.1.1*
		i.	*Describe briefly the competence and scope of work of each ACP(s), key technical staff, and experts in relation to the Technical Report*	
	1.6	**Disclaimer**		*(xi)*
		i.	*If ACP(s) relied on the report, opinion, statement of a legal, environmental, social, governance expert, etc., who is not a co-author of this Technical Report, the ACP(s) may include a disclaimer of responsibility on such information in the Technical Report*	
	1.7	**Units of Measure, Currency, and Foreign Exchange Rates**		*(ix)*
	1.8	**Previous Works**		*1.4*
		i.	*Arrange chronologically and briefly describe -significant previous works* on the metallurgical study and assessment of the Mineral Project	
		ii.	*Indicate sources of information (references) by citing published/unpublished report(s) or personal communication*	

2.	**GEOGRAPHICAL AND ENVIRONMENTAL FEATURES**			*1.2.2*
	2.1	**Physiography, Climate, and Vegetation**		
		i.	*Describe the topography, physiography, drainage and vegetation, the climate, known associated climatic and seismic risks and the length of the operating period and to the extent relevant to the Mineral Property*	*1.2.2*
		ii.	*Attach relevant map(s) if appropriate*	
	2.2	**Land Use and Infrastructure**		
		i.	*Describe current land use*	
		ii.	*Discuss the sufficiency of surface rights and access for mineral processing operations, including the availability and sources of power, water, and potential mining infrastructure such as tailings storage areas, waste disposal areas, heap leach pad areas, processing plant sites, etc. (noting any conditions that may adversely affect possible exploration/mining activities)*	*1.2.2*
	2.3	**Environmental Features**		
		i.	*Describe the environmental features within and adjoining the Mineral Property including those that may have an adverse impact to mineral processing operations*	
3.	**METALLURGY**			
	3.1	**Introduction**		
		i.	*State in brief terms the overall philosophy of the mineral processing and metallurgical test works*	*5.3.2, 5.3.3,*
		ii.	*State the status or progress of the mineral processing and metallurgical test works.*	*5.3.3*
		iii.	*State whether the process is a commonly used technology, a novel process, i.e., pioneering but not yet tested in a commercial scale, or combinations thereof, etc.*	*5.3.6*
		iv.	*For an existing operating plant, describe briefly the mineral processing plant, the general processes involved, rated plant capacity, operating history and improvements undertaken*	*5.3.3, 5.4.2*
	3.2	**Sampling and Sample Collection Program**		
		i.	*To the extent known, state the degree to which the test samples are representative of the various types and styles of mineralization and the mineral deposit as a whole.*	*5.3.1*
		ii.	*State sample description, source of the samples, nature, and amount, and the representativity of the potential feed and the techniques used to obtain the samples*	*5.3.1*
		iii	*Not applicable for an existing operating plant.*	
	3.3	**Mineralogical Characterization Studies**		
		i.	*Provide mineralogical and mineragraphic analysis*	*2.1.5,5.3.2*
		ii.	*Discuss mineral liberation analysis*	*2.1.5*
		iii.	*For an existing operating plant, provide describe briefly the mineralogy of the ore, i.e., main valuable and gangue minerals, including deleterious elements. Attach relevant geological section(s), if any*	*2.1.5, 2.1.6, 5.3.5*
	3.4	**Mineral and Metallurgical Test Programs and Procedures**		
		i.	*Discuss the appropriateness of tests to mineralization type.*	*5.3.2, 5.3.3, 5.3.4*
		ii.	*Discuss programs and procedures for comminution and grindability tests.*	*5.3.2, 5.3.3, 5.3.4*

		iii.	*Discuss programs and procedures for gravity, leaching, flotation, settling tests, etc.*	*5.3.3, 5.3.4*
		iv.	*Discuss variability tests*	*5.3.3, 5.3.4*
		v.	*For existing operating plants, describe the regular metallurgical research and development programs conducted on a regular basis.*	*5.3.3, 5.3.4, 5.3.5*
	3.5	**Metallurgical Test Results and Determination of Capacities, Recoveries, Product Specification and Process Flow**		
		i.	*Discuss the calculation and estimation of plant capacity.*	
		ii.	*Discuss recovery projection and basis for assumptions*	
		iii.	*State the basis for assumptions or predictions regarding metallurgical amenability and any preliminary mineralogical test work should already be conducted*	*5.3.2*
		iv.	*Describe the product quality and deleterious elements and assumptions or allowances made for deleterious elements.*	*5.3.5*
		v.	*Discuss the bulk-sample or pilot-scale test work*	*5.3.1, 5.3.4*
		vi.	*Disclose whether metallurgical process is well-tested technology or novel in nature, i.e., pioneering but not yet tested on a commercial scale, and if novel, justification of its use in Mineral Reserve estimation.*	*5.3.6*
	3.6	**Development of Process Response Models**		
			Discuss how the recovery model was derived.	*5.3.1, 5.3.2, 5.3.3, 5.3.4, 5.3.5,5.3.6*
	3.7	**Recommended Future Test Work**		
			Discuss recommended future test work, if any.	*5.3.4, 5.3.6*
4.	**MINERAL PROCESSING**			
	i.	*Discuss reasonably available information test or operating results relating to the recoverability of the valuable component or commodity and amenability of the mineralization to the proposed processing method.*		
	4.1	**Process Design Criteria**		
		i.	*Design basis including a detailed flow sheet and a mass balance, especially for multi-product operations from which the saleable materials are priced for different chemical and physical characteristics*	*5.3.3, 5.3.4*
		ii.	*This section is not applicable to existing operating plants.*	
	4.2	**Proposed Flowsheets and Process Routes**		
		i.	*Provide a description or flowsheet of any current or proposed process plant. For existing operating plants, identify who did the process flow design, description of the process from run-of-mine ore to shipment of final product, tailings storage facility and waste-water discharge treatment plant, if any. Provide an overall flowsheet of the process.*	*5.3.3, 5.3.4, 5.3.6*

		iv.	*Discuss processing method(s), equipment, plant capacity, efficiencies, and personnel requirements.* • *Comminution* • *Gravity/Leaching/Flotation/Refinery etc.* • *Tails Handling* • *Reagents* • *Water* • *Air and other utilities* • *Others (control system, metallurgical accounting)*	*5.3.3, 5.3.4, 5.3.6, 5.4.2*
		iii.	*Illustrate the process plant general arrangement.*	
	4.3	**Material and Energy balance**		
		i	*Estimate requirements for energy, water, and process materials.*	*5.3.3*
5.	**PROCESS PLANT DESIGN, COST ESTIMATES AND IMPLEMENTATION SCHEDULE**			
	5.1	**Key Design Parameters**		
		i	Discuss key design parameters such as throughput, head grade, recovery	
	5.2	**Plant Capacity and Production Schedule**		*5.3.3, 5.4.2*
		i	*Provide a Life-of-Mine Plan (LoMP) including:* • *Throughput* • *Feed grade* • *Final product quantity and quality* • *Recovery* • *Mill availability and utilization*	
		ii	*This section also applies to existing operating plants.*	
	5.3	**Plant Layout and Operations Description**		
		i	*Describe the various sections of the processing plant if applicable:* • *primary/secondary/tertiary crushing,* • *stockpiles and storage bins* • *screening plant* • *conveying systems* • *washing plant* • *grinding circuit and classification* • *gravity circuit* • *conditioning* • *flotation* • *magnetic separation* • *leaching* • *roasting* • *calcining* • *elution and electrowinning* • *carbon regeneration* • *gold room* • *filtration* • *concentrate and tailings thickener.* • *detoxification* • *pumping systems* • *waste-water treatment plant.* • *reagent mixing and handling, lime slaking.*	*5.3.3, 5.4.2*

			• *metallurgical and assay laboratory* • *and other sections pertinent to the process.*	
		ii	*This section also applies to existing operating plants.*	
	5.4	**Product and By-product Specifications**		
		i.	*Discuss product and by-product specifications that may impact marketability*	*5.6.1, 5.6.2*
		ii.	*For existing plants, provide annual quantity and grade of products shipped or sold.*	
	5.5	**List of Capital Equipment and Works.**		
		i	*Provide a list of equipment, sizes and motor installed*	*5.3.3*
		ii.	*This section also applies to existing operating plants.*	
	5.6	**Project Infrastructures Layout**		
		i.	*Provide a summary of infrastructure and logistics requirements for the project, which could include roads, rails, port facilities, dams, dumps, stockpiles, leach pads, tailing storage facilities, power, and pipelines as applicable.*	*5.4.2*
		ii.	*This section also applies to existing operating plants.*	
		5.6.1	**Processing Plant**	
		i.	*Provide maps showing locations of mineral processing facilities including:* • *Site layout* • *Stockpiles and storage bins* • *Water supply system* • *Air supply* • *Power and electrical* • *Communication* • *Fuel storage* • *Shops, offices, warehouses, security* • *Roads*	*5.4.*
		5.6.3	**Tailings Storage Facility**	*5.4.2*
		5.6.4	**Port Facility**	*5.4.2*
		5.6.5	**Power Source(s)**	*5.4.2*
		5.6.6	**Water Source(s)**	*5.4.2*
		5.6.7	**Road/Rail Facility**	*5.4.2*
	5.7	**Capital Cost Estimates**		
		i	*Estimate the capital cost for the processing plant*	*5.3.3, 5.4.2*
		ii	*List the capital expenditures for existing operating plants.*	
	5.8	**Sustaining Capital Cost Estimates**		
		i	*List all sustaining capital cost estimates in the span of the life of mine*	*5.3.3, 5.4.2*
		ii	*This section also applies to existing operating plants.*	
	5.9	**Operating Cost Estimate**		
		i	*Provide estimates of operating cost in currency figures and currency per tonne of ore milled, including power, reagents*	*5.3.3, 5.4.3, 5.6.3*

			and consumables, and labor	
		ii	*State assumptions made concerning production cost including transportation, treatment, penalties, exchange rates, marketing, and other costs.* • *Allowances should be made for the content of deleterious elements and the cost of penalties.* • *Allowances made for royalties and streaming agreements payable, both to Government and private entities.* • *Ownership, type, extent and condition of plant and equipment that is significant to the existing operation(s).* • *Environmental, social, and labor costs.*	*5.3.3, 5.4.3, 5.6.1, 5.6.2, 5.6.3, 5.6.4, 5.6.5, 5.6.6, 5.6.7, 5.6.8,*
		iii	*For existing operating plants, provide detailed historical breakdown of all costs to produce the final product per major section of the plant. Provide power consumption in kWh/t milled per section.*	*5.3.3, 5.4.3, 5.6.3*
	5.10	**Specifications, Standards and Codes**		
		i	*State civil, mechanical, electrical, and structural codes used in the design*	*5.3.3, 5.4.2*
		ii	*Not necessary for existing plants*	
6.	**MARKET STUDY AND CONTRACTS**			
	6.1	**Marketing Study**		
		i.	*Provide a summary of reasonable available information concerning the markets for the issuer's production, including the nature and material terms of any agency relationships. Discuss the nature of any studies or analyses completed by the issuer including any relevant market studies, commodity price projections, product valuations, market entry strategies or product specifications requirement.*	*5.6.1, 5.6.2, 5.6.4*
		ii.	*Relate these studies and the results to the assumptions of the technical report.*	
		iii.	*Identify any contract material to the issuer, including mining, concentrating, smelting, refining, transportation, handling, sales and hedging, and forward sales contracts or arrangements. State which contracts are in place, discuss whether the terms, rates or charges are within industry norms*	*5.6.3, 5.6.4*
		iv.	*State products to be sold, customer specifications, testing, and acceptance requirements*	*5.6.2*
		v.	*This applies also to existing operating plants.*	
	6.2	**Commodity Prices**		
		i.	*State price and volume forecasts and the bases for the forecast.*	*5.6.2*
		ii.	*Provide the summary description, source and confidence of method used to estimate the commodity price.*	*5.6.4*
		iii.	*Discuss the existence of a ready market for the product and whether contracts for the sale of the product are in place or expected to be readily obtained.*	*5.6.2*
		iv.	*This applies also to existing operating plants.*	

	6.3	**Sales Contracts**		
		i.	*State whether the Issuer has signed any sales contracts with product buyer(s).*	*5.6.2*
		ii.	*For existing plants, provide a list of buyers/off-takers.*	
7.	**RISK ANALYSIS**			
	i.	*Assess available information on environmental, permitting, and social or community factors and other risks to the processing plant, as well as actions that will be taken to mitigate and/or manage the identified risks.*		
	7.1	**Environmental Studies**		
		i.	*Write a summary of the results of any environmental studies and a discussion of any known environmental issues that could materially impact the issuer's ability to operate the processing plant.*	*4.3.8*
	7.2	**Tailings Storage Facility(ies)**		
		i.	*Discuss Tailings Storage Facility(ies) (TSF)'s requirements and plans for waste and tailings disposal, site monitoring and water management both during operations and plant decommissioning.*	*4.3.2, 4.3.3*
	7.3	**Water Management**		
		i.	*Discuss source of process and potable water; treatment of water discharge; recycling of process water.*	*4.3.2, 4.3.3*
	7.4	**Permits**		
		i.	*Discuss permitting requirements of the processing plant, the status of any permit applications and any known requirements for processing.*	*4.3.4*
	7.5	**Social and Community**		
		i.	*Discuss any potential social or community related requirements and plans for the processing plant and the status of any negotiations or agreements with local communities; and a discussion of plant decommissioning requirements and costs.*	*4.3.5*
8.	**DISCUSSION AND CONCLUSIONS**			
	i.	*Provide a synthesis of all the data and information. Summarize the relevant results and interpretations of the information and analysis being reported on. Discuss any significant risks and uncertainties that could be expected to affect the reliability or confidence in the metallurgical inputs provided for the reserve estimation. Discuss any reasonably foreseeable impacts of these risks and uncertainties on the project's potential economic viability or continued viability.*		
	ii.	*Discuss the adequacy of data, overall data integrity, and areas of uncertainty*		
	iii.	*State the overall conclusions by the ACP-Metallurgical Engineer(s) as guided by the purpose and scope of work of this Technical Report*		
	iv.	*The ACP-Metallurgical Engineer(s) must discuss whether the Technical Report met the objectives set forth and whether it is PMRC 2020 compliant*		
9.	**RECOMMENDATIONS**			
	i.	*Based on the above discussion and conclusions (under Sec. 8), a list of recommendations is made to guide the Issuer on the course of action to take.*		
	ii.	*Provide particulars of 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. The recommendations must not apply to more than two phases of work. The recommendations must state whether advancing to a subsequent phase is contingent on positive results in the previous phase		
10.	**REFERENCES**			*(iv)*
		i.	*List of references cited in the narrative, whether published or unpublished*	
		ii.	*In the absence of a preferred format for citing references, one may use the American Psychological Association (APA) format.*	
	APPENDICES			
	1	**Comments on PMRC 2020 Table 1 Assessment and Reporting Criteria**		
		i.	*Mandatory comprehensive listing of PMRC 2020 Table 1 Check List of Assessment and Reporting Criteria with corresponding ACP's Comment*	
	2	**List of Acronyms**		
		i.	*Mandatory comprehensive listing of all acronyms used in the Technical Report*	
	3. Etc.	***Other Appendices***		
		i.	*Process Design Criteria worksheet*	
		ii.	*Process Flow Diagram*	
		iii.	*Piping and Instrumentation Diagram*	
		iv	*Mass and/or Energy Balance*	
		v	*Major Equipment List*	
		vi	*Capital and Sustaining Capital Estimate worksheet*	
		vii	*Operating Cost Estimate worksheet*	

LEGEND:

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ANNEX III

APPENDIX 1 OUTLINE OF COMMENTS ON PMRC 2020 TABLE 1 ASSESSMENT AND REPORTING CRITERIA

					TR-FORM 01	TR-FORM 01	TR-F0RM 02	TR-FORM 03
					Exploration Results	Mineral Resources	Mineral Reserves	
Introduction					Yes[1]	Yes	Yes	Yes
			PMRC 2020 Reporting Criterion	**Commentary**	Yes	Yes	Yes	Yes
	General	(i)	The scope of work or terms of reference		Yes	Yes	Yes	Yes
		(ii)	The Accredited Competent Person's relationship to the issuer of the Public Report, if any		Yes	Yes	Yes	Yes
		(iii)	A statement for whom the Public Report was prepared; whether it was intended as a full or partial evaluation or other purpose, work conducted, effective date of Public Report, and remaining work		Yes	Yes	Yes	Yes
		(iv)	Sources of information and data contained in the Public Report or used in its preparation, with citations if applicable, and a list of references		Yes	Yes	Yes	Yes
		(v)	A title page and a table of contents that includes figures and tables		Yes	Yes	Yes	Yes

[1] *Yes – Include in Appendix 1 of the Technical Report / NA – Not Applicable /Do not include in Appendix 1 of the Technical Report*

		(vi)	*An Executive Summary, which briefly summarizes important information in the Public Report, including mineral property description and ownership, geology and mineralization, the status of exploration, development and operations, Mineral Resource and/or Mineral Reserve estimates, and the Accredited Competent Person's conclusions and recommendations. If Inferred Mineral Resources are used, a summary valuation with and if practical without inclusion of such Inferred Mineral Resources. The Executive Summary should have sufficient detail to allow the reader to understand the essentials of the project*		*Yes*	*Yes*	*Yes*	*Yes*
		(vii)	*A declaration from the Accredited Competent Person, stating whether 'the declaration has been made in terms of the guidelines of the PMRC 2020 Edition. If a reporting code other than the PMRC having jurisdiction has been used, an explanation of the differences*		*Yes*	*Yes*	*Yes*	*Yes*
		(viii)	*Diagrams, maps, plans, sections, and illustrations, which are dated, legible, and prepared at an appropriate scale to distinguish important features. Maps including a legend, author or information source, coordinate system and datum, a scale in bar or grid form, and an arrow indicating north. Reference to a location or index map and more detailed maps showing all important features described in the text, including all relevant cadastral and other infrastructure features*		*Yes*	*Yes*	*Yes*	*Yes*
		(ix)	*The units of measure, currency and relevant exchange rates*		*Yes*	*Yes*	*Yes*	*Yes*
		(x)	*The details of the personal inspection on the mineral property by each Accredited Competent Person or, if applicable, the reason why a personal inspection has not been completed*		*Yes*	*Yes*	*Yes*	*Yes*

		(xi)	*If the Accredited Competent Person is relying on a report, opinion or statement of another expert who is not an Accredited 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 Accredited Competent Person to rely on the other expert, any significant risks, and any steps the Accredited Competent Person took to verify the information provided*		*Yes*	*Yes*	*Yes*	*Yes*
Section 1: Project Outline					*Yes*	*Yes*	*Yes*	*Yes*
1.1	***Location***	*1.1.1*	*Description of location and map (country, province, and closest town/city, coordinate systems and ranges, etc.)*		*Yes*	*Yes*	*Yes*	*Yes*
		1.1.2	*Country Profile if Mineral Property is outside the Philippines, with a description of information relating to the project host country that is pertinent to the project, including relevant applicable legislation, environmental and social context etc. An assessment, at a high level, of relevant technical, environmental, social, economic, political, and other key risks*		*Yes*	*Yes*	*Yes*	*Yes*
		1.1.3	***For Exploration Results:*** *A general topo-cadastral map /* ***For Mineral Resources:*** *Topo-cadastral map in sufficient* ***For Mineral Reserves****: Detail to support the assessment of eventual economics / Detailed topo-cadastral map, with applicable aerial surveys checked with ground controls and surveys, particularly in areas of rugged terrain, dense vegetation*		*Yes*	*Yes*	*Yes*	*Yes*
1.2	***Mineral Property Description***	*1.2.1*	*Brief description of the scope of project (i.e., whether in preliminary sampling, advanced exploration, Scoping, Pre-Feasibility, or Feasibility Study, Life-of-Mine plan for an ongoing mining operation or closure)*		*Yes*	*Yes*	*Yes*	*Yes*

		1.2.2	*Description of topography, elevation, drainage and vegetation, the means and ease of access to the mineral property, the proximity of the mineral property to a population center, and the nature of transport, the climate, known associated climatic and seismic risks and the length of the operating season and to the extent relevant to the mineral project, the sufficiency of surface rights for mining operations including the availability and sources of power, water, mining personnel, potential tailings storage areas, potential waste disposal areas, heap leach pad areas, and potential processing plant sites (noting any conditions that may affect possible exploration/mining activities)*		*Yes*	*Yes*	*Yes*	*NA*
1.3	***Adjacent properties***	*1.3.1*	*Details of relevant adjacent properties. The inclusion on the maps of the location of common structures, whether related to mineralization or not, in adjacent or nearby properties having an important bearing on the Public Report. Reference to all information used from other sources.*		*Yes*	*Yes*	*Yes*	*NA*
1.4	***History***	*1.4.1*	*Historical background to the project and adjacent areas concerned, including known results of previous exploration and mining activities (type, amount, quantity, and development work), previous ownership and changes thereto*		*Yes*	*Yes*	*Yes*	*NA*
		1.4.2	*Previous successes or failures referred to transparently with reasons why the project should now be considered potentially economic*		*Yes*	*Yes*	*Yes*	*NA*
		1.4.3	*Known or existing historical Mineral Resource estimates and performance statistics from actual production in the past and in current operations*		*NA*	*Yes*	*Yes*	*NA*
		1.4.4	*Known or existing historical Mineral Reserve estimates and performance statistics from actual production in the past and in current operations*		*NA*	*NA*	*Yes*	*NA*

1.5	***Legal Aspects and Permitting***	*1.5.1*	*The nature of the issuer's rights (e.g., exploration and/or mining) and the right to use the surface of the properties to which these rights relate. The date of expiry and other relevant details*		*Yes*	*Yes*	*Yes*	*NA*
		1.5.2	*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 authorizations)*		*Yes*	*Yes*	*Yes*	*NA*
		1.5.3	*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. Details of applications that have been made. See Clause 32 for declaration of a Mineral Reserve*		*Yes*	*Yes*	*Yes*	*NA*
		1.5.4	*A statement of any legal proceedings, for example: adverse/competing claims, or land claims that may have an influence on the rights to prospect or mine for minerals, or claims that the tenurial instrument is defective, or an appropriate negative statement*		*Yes*	*Yes*	*Yes*	*NA*
		1.5.5	*A statement relating to governmental/statutory requirements permits, and consents as may be required, have been applied for, approved or can be reasonably be expected to be obtained. A review of risks that permits will not be received as expected and impact of delays to the project*		*Yes*	*Yes*	*Yes*	*NA*
1.6	***Royalties***	*1.6.1*	*The royalties or streaming agreements that are payable in respect of each mineral property*		*Yes*	*Yes*	*Yes*	*NA*

	Liabilities	*1.7.1*	*Any liabilities, including rehabilitation guarantees and decommissioning obligations that are pertinent to the project. A description of the rehabilitation liability and decommissioning obligation, including, but not limited to, legislative/administrative requirements, assumptions, and limitations*		*Yes*	*Yes*	*Yes*	*NA*
Section 2: Geological Setting, Mineral Deposit, Mineralization					*Yes*	*Yes*	*Yes*	*NA*
2.1	***Geological Setting, Mineral Deposit, Mineralization***	*2.1.1*	*The regional geology*		*Yes*	*Yes*	*Yes*	*NA*
		2.1.2	*The project geology including mineral deposit type, geological setting, and style of mineralization*		*Yes*	*Yes*	*Yes*	*Yes*
		2.1.3	*The geological model or concepts being applied in the investigation and on the basis of which the exploration program is planned, along with a description of the inferences and assumptions made from this model*		*Yes*	*Yes*	*Yes*	*Yes*
		2.1.4	*Data density, distribution, and reliability and whether the quality and quantity of information are sufficient to support statements, made or inferred, concerning the mineral deposit*		*Yes*	*Yes*	*Yes*	*Yes*
		2.1.5	*Significant minerals present in the mineral deposit, their frequency, size and other characteristics, including a discussion of minor and gangue minerals where these will have an effect on the processing steps and the variability of each important mineral within the mineral deposit*		*Yes*	*Yes*	*Yes*	*Yes*

		2.1.6	*Significant mineralized zones encountered on the mineral property, including a summary of the surrounding rock types, relevant geological controls, and the length, width, depth, and continuity of the mineralization, together with a description of the type, character, and distribution of the mineralization*		*Yes*	*Yes*	*Yes*	*Yes*
		2.1.7	*The existence of reliable geological models and/or maps and cross sections that support interpretations*		*Yes*	*Yes*	*Yes*	*Yes-*
Section 3: Exploration and Drilling, Sampling Techniques, and Data					*Yes*	*Yes*	*Yes*	*NA*
3.1	***Exploration***	*3.1.1*	*Data acquisition or exploration techniques and the nature, level of detail, and confidence in the geological data used (i.e., geological observations, remote sensing results, stratigraphy, lithology, structure, alteration, mineralization, hydrology, geophysical, geochemical, petrography, mineralogy, geochronology, bulk density, potential deleterious or contaminating substances, geotechnical and rock characteristics, moisture content, bulk samples, etc.). Data sets with all relevant metadata, such as unique sample number, sample mass, collection date, spatial location, etc.*		*Yes*	*Yes*	*Yes*	*NA*
		3.1.2	*The primary data elements (observations and measurements) used for the project and a description of the management and verification of these data or the database. Description of the following relevant processes: acquisition (capture or transfer), validation, integration, control, storage, retrieval, and backup processes. If data are not stored digitally, presentation of hand-printed tables with well-organized data and information*		*Yes*	*Yes*	*Yes*	*NA*

		3.1.3	*Acknowledgment and appraisal of data from other parties, and reference to all data and information used from other sources*		*Yes*	*Yes*	*Yes*	*NA*
		3.1.4	*Distinction between data / information from the mineral property under discussion and that derived from surrounding properties*		*Yes*	*Yes*	*Yes*	*NA*
		3.1.5	*The methods for collar and down-hole survey, techniques, and expected accuracies of data as well as the grid system used*		*Yes*	*Yes*	*Yes*	*NA*
		3.1.6	*Discussion on the sufficiency of the data spacing and distribution to establish the degree of geological and grade continuity appropriate for the estimation procedure(s) and classifications applied*		*Yes*	*Yes*	*Yes*	*NA*
		3.1.7	*Presentation of representative models and/or maps and cross sections or other two or three-dimensional illustrations of results showing location of samples, accurate drill hole collar positions, down-hole surveys, exploration pits, underground workings, relevant geological data, etc.*		*Yes*	*Yes*	*Yes*	*NA*
		3.1.8	*The geometry of the mineralization with respect to the drill hole angle because of the importance of the relationships between mineralization widths and intercept lengths. Justification if only down-hole lengths are reported*		*Yes*	*Yes*	*Yes*	*NA*
3.2	***Drilling Techniques***	*3.2.1*	*Type of drilling undertaken (e.g., core, reverse circulation, open-hole hammer, rotary air blast, auger, Banka, sonic, etc.) and details (e.g., core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc.)*		*Yes*	*Yes*	*Yes*	*NA*

		3.2.2	*The geological and geotechnical logging of core and chip samples relative to the level of detail required to support appropriate Mineral Resource estimation, mining studies, and metallurgical studies*		*Yes*	*Yes*	*Yes*	*NA*
		3.2.3	*The nature of logging (qualitative or quantitative) and the use of core photography (or costean, channel, etc.)*		*Yes*	*Yes*	*Yes*	*NA*
		3.2.4	*The total length and percentage of the relevant intersections logged*		*Yes*	*Yes*	*Yes*	*NA*
		3.2.5	*Results of any down-hole surveys of the drill hole*		*Yes*	*Yes*	*Yes*	*NA*
3.3	***Sample Method, Collection, Capture, and Storage***	*3.3.1*	*A description of the nature and quality of sampling (e.g., cut channels, random chips, or specific specialized industry standard measurement tools appropriate to the minerals under investigation, such as down- hole gamma sondes, or handheld or fixed-position XRF instruments, etc.), without these examples limiting the broad meaning of sampling*		*Yes*	*Yes*	*Yes*	*NA*
		3.3.2	*A description of the sampling processes, including sub-sampling stages to maximize representativeness of samples, whether sample sizes are appropriate to the grain size of the material being sampled and any sample compositing*		*Yes*	*Yes*	*Yes*	*NA*
		3.3.3	*A description of each data set (e.g., geology, grade, density, quality, geo-metallurgical characteristics, etc.), sample type, sample-size selection, and collection methods*		*Yes*	*Yes*	*Yes*	*NA*
		3.3.4	*The nature of the geometry of the mineralization with respect to the drill hole angle (if known). The orientation of sampling to achieve unbiased sampling of possible structures, considering the mineral deposit type. The intersection angle. The down-hole lengths if the intersection angle is not known*		*Yes*	*Yes*	*Yes*	*NA*

		3.3.5	*A description of retention policy and storage of physical samples (e.g., core, sample reject, etc.)*		*Yes*	*Yes*	*Yes*	*NA*
		3.3.6	*A description of the method of recording and assessing core and chip sample recoveries and the results assessed, measures taken to maximize sample recovery and ensure representative nature of the samples, whether a relationship exists between sample recovery and grade, and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material*		*Yes*	*Yes*	*Yes*	*NA*
		3.3.7	*The cutting of a drill core sample, e.g., whether it was split or sawn and whether quarter, half or full core was submitted for analysis. Non-core sampling, e.g., whether the sample was riffled, tube sampled, rotary split, etc.; whether it was sampled wet or dry; the impact of water table or flow rates on recovery and introduction of sampling biases or contamination from above. The impact of variable hole diameters, e.g., by the use of a caliper tool*		*Yes*	*Yes*	*Yes*	*NA*
3.4	***Sample Preparation and Analysis***	*3.4.1*	*The identity of the laboratory(s) and its accreditation status. The steps taken by the Accredited Competent Person to ensure the results from a non-accredited laboratory are of an acceptable quality*		*Yes*	*Yes*	*Yes*	*NA*
		3.4.2	*The analytical method, its nature, the quality and appropriateness of the assaying and laboratory processes and procedures used, and whether the technique is considered partial or total*		*Yes*	*Yes*	*Yes*	*NA*
		3.4.3	*A description of the process and method used for sample preparation, sub-sampling and size reduction, and the likelihood of inadequate or non-representative samples (i.e., improper size reduction, contamination, screen sizes, granulometry, mass balance, etc.)*		*Yes*	*Yes*	*Yes*	*NA*

	Sampling Governance	*3.5.1*	*The governance of the sampling campaign and process, to ensure quality and representativeness of samples and data, such as sample recovery, high grading, selective losses or contamination, core/hole diameter, internal and external QA/QC, and any other factors that may have resulted in or identified sample bias*		*Yes*	*Yes*	*Yes*	*NA*
		3.5.2	*The measures taken to ensure sample security and the Chain of Custody*		*Yes*	*Yes*	*Yes*	*NA*
		3.5.3	*The validation procedures used to ensure the integrity of the data, e.g., transcription, input or other errors, between its initial collection and its future use for modeling (e.g., geology, grade, bulk density, etc.)*		*Yes*	*Yes*	*Yes*	*NA*
		3.5.4	*The audit process and frequency (including dates of these audits) and disclose any material risks identified*		*Yes*	*Yes*	*Yes*	*NA*
3.6	***Quality Control/ Quality Assurance***	*3.6.1*	*The verification techniques (QA/QC) for field sampling process, e.g., the level of duplicates, blanks, reference material standards, process audits, analysis, etc. Indirect methods of measurement (e.g., geophysical methods), with attention given to the confidence of interpretation. Reference to measures taken to ensure sample representativeness and the appropriate calibration of any measurement tools or systems used. QA/QC procedures used to check databases augmented with 'new' data have not disturbed previous versions containing 'old' data*		*Yes*	*Yes*	*Yes*	*Yes*
3.7	***Bulk Density***	*3.7.1*	*The method of bulk density determination with reference to the frequency of measurements, the size, nature, and representativeness of the samples*		*Yes*	*Yes*	*Yes*	*Yes*
		3.7.2	*Preliminary estimates or basis of assumptions made for bulk density*		*Yes*	*Yes*	*Yes*	*Yes*
		3.7.3	*The representativeness of bulk density samples*		*Yes*	*Yes*	*Yes*	*Yes*

		3.7.4	*The measurement of bulk density for bulk material using methods that adequately account for void spaces (vugs, porosity etc.), moisture, and differences between rock and alteration zones within the mineral deposit*		*Yes*	*Yes*	*Yes*	*Yes*
3.8	***Bulk Sampling and/or Trial-mining***	*3.8.1*	*The location of individual samples (including map)*		*Yes*	*Yes*	*Yes*	*Yes*
		3.8.2	*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*		*Yes*	*Yes*	*Yes*	*Yes*
		3.8.3	*The method of mining and treatment*		*Yes*	*Yes*	*Yes*	*Yes*
		3.8.4	*The degree to which the samples are representative of the various types and styles of mineralization and the mineral deposit as a whole*		*Yes*	*Yes*	*Yes*	*Yes*
Section 4: Estimation and Reporting of Exploration Results and Mineral Resources					*Yes*	*Yes*	*Yes*	*Yes*
4.1	***Geological Model and Interpretation***	*4.1.1*	*The nature, detail, and reliability of geological information with which lithological, structural, mineralogical, alteration or other geological, geotechnical, and geo-metallurgical characteristics were recorded*		*Yes*	*Yes*	*Yes*	*Yes*
		4.1.2	*The geological model, construction technique, and assumptions that form the basis for the Exploration Results or Mineral Resource estimate. The sufficiency of data density to assure continuity of mineralization and geology, and provision of an adequate basis for the estimation and classification procedures applied*		*Yes*	*Yes*	*Yes*	*Yes*

		4.1.3	*Any obvious geological, mining, metallurgical, processing, environmental, social, infrastructural, legal, and economic factors that could have a significant effect on the prospects of any possible Exploration Target or mineral deposit*		*Yes*	*NA*	*NA*	*NA*
		4.1.4	*Geological data that could materially influence the estimated quantity and quality of the Mineral Resource or Mineral Reserve*		*NA*	*Yes*	*Yes*	*NA*
		4.1.5	*Consideration given to alternative interpretations or models and their possible effect (or potential risk), if any, on the Mineral Resource estimate*		*NA*	*Yes*	*Yes*	*NA*
		4.1.6	*Geological discounts (e.g., magnitude, per reef, domain, etc.), applied in the model, whether applied to mineralized and/or unmineralized material (e.g., potholes, faults, dikes, etc.)*		*NA*	*Yes*	*Yes*	*NA*
4.2	***Estimation and Modeling Techniques***	*4.2.1*	***For Exploration Targets:*** *A detailed description of the estimation techniques and assumptions used to determine the grade and tonnage ranges /* ***For Mineral Resources & Mineral Reserves:*** *Histograms, statistical parameters, probability distributions of samples, and of block estimates. If geostatistics is done, must show variogram(s) and parameters (e.g., sill, range, nugget effect) depending on variogram type, sizes of estimation panels or blocks, assumed or known selective mining unit*		*Yes*	*Yes*	*Yes*	*NA*

		4.2.2	*The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values (cutting or capping), compositing (including by length and/or density), domaining, sample spacing, estimation unit size (block size), selective mining units, interpolation parameters, and maximum distance of extrapolation from data points*		*NA*	*Yes*	*Yes*	*-*
		4.2.3	*Assumptions and justification of correlations made between variables*		*NA*	*Yes*	*Yes*	*NA*
		4.2.4	*Any relevant specialized computer program (software) used (with the version number) together with the parameters used*		*NA*	*Yes*	*Yes*	*NA*
		4.2.5	*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*		*NA*	*Yes*	*Yes*	*NA*
		4.2.6	*The assumptions made regarding the estimation of any co-products, by-products or deleterious elements*		*NA*	*Yes*	*Yes*	*NA*
4.3	***Reasonable Prospects for Eventual Economic Extraction (RPEEE)***	*4.3.1*	*The geological parameters, including (but not be limited to) volume / tonnage, grade and value / quality estimates, cut-off grades, strip ratios, upper- and lower-screen sizes*		*NA*	*Yes*	*Yes*	*NA*
		4.3.2	*The engineering parameters, including mining method, processing, geotechnical, hydrogeological, and metallurgical parameters, including assumptions made to mitigate the effect of deleterious elements. Dilution and mining recovery factors that might be applicable to convert in-situ Mineral Resources to Mineral Reserves*		*NA*	*Yes*	*Yes*	*NA*

		4.3.3	*The infrastructure including, but not limited to, power, water, and site access*		*NA*	*Yes*	*Yes*	*NA*
		4.3.4	*The legal, governmental, permitting, and statutory parameters*		*NA*	*Yes*	*Yes*	*NA*
		4.3.5	*The environmental and social (or community) parameters*		*NA*	*Yes*	*Yes*	*NA*
		4.3.6	*The marketing parameters*		*NA*	*Yes*	*Yes*	*NA*
		4.3.7	*The economic assumptions and parameters, including, but not limited to, commodity prices, sales volumes, and potential capital and operating costs*		*NA*	*Yes*	*Yes*	*NA*
		4.3.8	*Material risks, e.g., legal, environmental, climatic, etc.*		*NA*	*Yes*	*Yes*	*NA*
		4.3.9	*The parameters used to support the concept of 'eventual' in the case of Mineral Resources*		*NA*	*Yes*	*Yes*	*NA*
4.4	***Classification Criteria***	*4.4.1*	*The criteria and methods used as the basis for the classification of the Mineral Resources into varying confidence categories*		*NA*	*Yes*	*Yes*	*NA*
4.5	***Discussion of Relative Accuracy/ Confidence***	*4.5.1*	*Where appropriate, a statement of the relative accuracy and confidence level in the Mineral Resource or Mineral Reserve estimate using an approach or procedure deemed appropriate by the Accredited Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the Mineral Resource or Mineral Reserve within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate. The statement should specify whether it relates to global or local estimates, and, if local, state the relative tonnages, which should be relevant to technical and economic evaluation. Documentation shall include assumptions made and the procedures used. These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.*		*NA*	*Yes*	*Yes*	*NA*

4.6	***Reporting***	*4.6.1*	*Specific grades / qualities and widths.*		*Yes*	*-*	*-*	*NA*
		4.6.2	*The reporting of low- and high-grade intersections and corresponding widths, together with their spatial location to avoid misleading reporting of Exploration Results*					*NA*
		4.6.3	*A statement on whether grades are regional averages or if these are selected individual samples taken from the mineral property under discussion*		*Yes*	*NA*	*NA*	*NA*
		4.6.4	*The detail of the surface or underground mine, residue stockpile, remnants, tailings, and existing pillars or other sources in a Mineral Resource statement*		*Yes*	*NA*	*NA*	*NA*
		4.6.5	*A comparison with the previous Mineral Resource estimates, with an explanation of the reason for material changes. A comment on any historical trends (e.g., global bias)*		*NA*	*Yes*	*Yes*	*NA*
		4.6.6	*The basis for the estimate and if not 100%, the attributable percentage relevant to the entity commissioning the Public Report*		*Yes*	*Yes*	*Yes*	*NA*
		4.6.7	*The basis of the Metal Equivalent formulae, if relevant*		*NA*	*Yes*	*Yes*	*Yes*
Section 5: Technical Studies					*Yes*	*Yes*	*Yes*	*Yes*
5.1	***Introduction***	*5.1.1*	*The level of study – Scoping, Pre-Feasibility, Feasibility or ongoing Life-of-Mine Plan*		*NA*	*Yes*	*Yes*	*Yes*
		5.1.2	*A summary table of the Modifying Factors used to convert the Mineral Resource to Mineral Reserve*		*NA*	*NA*	*Yes*	*Yes*
5.2	***Mining Design***	*5.2.1*	*Assumptions regarding mining methods and parameters when estimating Mineral Resources*		*NA*	*Yes*	*NA*	*Yes*

		5.2.2	*All Modifying Factors and assumptions made regarding mining methods, minimum mining dimensions (or pit shell) and internal and, if applicable, external planned and unplanned mining dilution and mining losses used for the techno-economic study and signed- off, such as mining method, mine design criteria, infrastructure, capacities, production schedule, mining efficiencies, grade control, geotechnical and hydrological considerations, closure plans, and personnel requirements*		*NA*	*NA*	*NA*	*Yes*
		5.2.3	*Mineral Resource models used in the study*		*NA*	*Yes*	*Yes*	*Yes*
		5.2.4	***For Mineral Resources:*** *The basis of the cut-off grade(s) /* ***For Mineral Reserves:*** *The basis of (the adopted) cut-off grade(s) or quality parameters applied, including metal equivalents if relevant*		*NA*	*Yes*	*Yes*	*Yes*
		5.2.5	*The mining method(s) to be used*		*NA*	*NA*	*Yes*	*Yes*
		5.2.6	*For open cut mines, a discussion of pit slopes, slope stability, and strip ratio*		*NA*	*NA*	*Yes*	*Yes*
		5.2.7	*For underground mines, a discussion of mining method, geotechnical considerations, mine design characteristics, and ventilation/cooling requirements*		*NA*	*NA*	*Yes*	*Yes*
		5.2.8	*Discussion of mining rate, equipment selected, grade control methods, geotechnical and hydrogeological considerations, health and safety of the workforce, staffing requirements, dilution, and recovery*		*NA*	*NA*	*Yes*	*Yes*
		5.2.9	*Optimization methods and software used in planning, including a discussion of the constraints*		*NA*	*NA*	*Yes*	*Yes*
5.3	***Metallurgical Testworks***	5.3.1	*The source of the samples, the representativeness of the potential feed and the techniques used to obtain the samples, laboratory and metallurgical testing techniques*		*NA*	*NA*	*Yes*	*Yes*

		5.3.2	*The basis for assumptions or predictions regarding metallurgical amenability and any preliminary mineralogical test work should already be carried out*		*NA*	*NA*	*Yes*	*Yes*
		5.3.3	***For Mineral Resources:*** *The possible processing methods and any processing factors that could have a material effect on the likelihood of eventual economic extraction. The appropriateness of the processing methods to the style of mineralization /* ***For Mineral Reserves:*** *The processing method(s), equipment, plant capacity, efficiencies, and personnel requirements*		*NA*	*Yes*	*Yes*	*Yes*
		5.3.4	*The nature, amount, and representativeness of metallurgical test works undertaken and the recovery factors used. A detailed flow sheet / diagram and a mass balance, especially for multi-product operations from which the saleable materials are priced for different chemical and physical characteristics*		*NA*	*NA*	*Yes*	*Yes*
		5.3.5	*Assumptions or allowances made for deleterious elements and the existence of any bulk-sample or pilot-scale test work and the degree to which such samples are representative of the ore body as a whole*		*NA*	*NA*	*Yes*	*Yes*
		5.3.6	*Disclosure of whether metallurgical process is well-tested technology or novel in nature and if novel, justification of its use in Mineral Reserve estimation*		*NA*	*NA*	*Yes*	*Yes*
5.4	***Infrastructure***	*5.4.1*	***For Mineral Resources:*** *Comment regarding the current state of infrastructure or the ease with which the infrastructure can be provided or accessed and its effect on RPEEE*		*NA*	*Yes*	*NA*	*Yes*

		5.4.2	*Demonstration that the necessary facilities have been allowed for (which may include, but not be limited to, processing plant, tailings dam, leaching facilities, waste dumps, road, pipeline, rail or port facilities, water and power supply, offices, housing, security, resource sterilization testing, etc.). Provision of detailed maps showing locations of facilities*		*NA*	*NA*	*Yes*	*Yes*
		5.4.3	*Statement showing that all necessary logistics have been considered*		*NA*	*NA*	*Yes*	*Yes*
5.5	***Environmental & Social***	*5.5.1*	*Confirmation that the company holding the tenement has addressed the host country's environmental legal compliance requirements and any mandatory and/or voluntary standards or guidelines to which the company subscribes*		*Yes*	*Yes*	*Yes*	*NA*
		5.5.2	*Identification of the necessary permits that will be required and their status, and where not yet obtained, and confirmation that there is a reasonable basis to believe that all permits required for the project will be obtained in a timely manner*		*Yes*	*Yes*	*Yes*	*NA*
		5.5.3	*Any sensitive areas that may affect the project as well as any other environmental factors including Interested and Affected Party (I&AP) and/or studies that could have a material effect on the likelihood of eventual economic extraction. Possible means of mitigation*		*Yes*	*Yes*	*Yes*	*NA*
		5.5.4	*Legislated social management programs that may be required and content and status of these*		*Yes*	*Yes*	*Yes*	*NA*
		5.5.5	*Material socio-economic and cultural impacts that need to be managed, and where appropriate the associated costs*		*Yes*	*Yes*	*Yes*	*NA*

5.6	***Market Studies & Economic Criteria***	*5.6.1*	***For Mineral Resources:*** *Technical and economic factors likely to influence the RPEEE /* ***For Mineral Reserves:*** *Valuable and potentially valuable product(s) including suitability of products, co-products and by-products to market*		*NA*	*Yes*	*Yes*	*Yes*
		5.6.2	*Product to be sold, customer specifications, testing, and acceptance requirements. Existence of a ready market for the product and whether contracts for the sale of the product are in place or expected to be readily obtained. Price and volume forecasts and the basis for the forecast.*		*NA*	*NA*	*Yes*	*Yes*
		5.6.3	*Economic criteria used for the study, such as capital and operating costs, exchange rates, revenue / price curves, royalties, and streaming agreements, cut-off grades, reserve pay limits*		*NA*	*NA*	*Yes*	*Yes*
		5.6.4	*Summary description, source, and confidence of method used to estimate the commodity price/value profiles used for cut-off grade calculation, economic analysis and project valuation, including applicable taxes, inflation indices, discount rate, and exchange rates*		*NA*	*NA*	*Yes*	*Yes*
		5.6.5	*Assumptions made concerning production cost including transportation, treatment, penalties, exchange rates, marketing, and other costs. Allowances should be made for the content of deleterious elements and the cost of penalties*		*NA*	*NA*	*Yes*	*Yes*
		5.6.6	*Allowances made for royalties and streaming agreements payable, both to Government and private entities*		*NA*	*NA*	*Yes*	*Yes*
		5.6.7	*Ownership, type, extent, and condition of plant and equipment that is significant to the existing operation(s)*		*NA*	*NA*	*Yes*	*Yes*
		5.6.8	*Environmental, social, and labor costs*		*NA*	*NA*	*Yes*	*Yes*

5.7	***Risk Analysis***	*5.7.1*	*An assessment of technical, environmental, social, economic, political, and other key risks to the project. Actions that will be taken to mitigate and/or manage the identified risks*		*Yes*	*Yes*	*Yes*	*Yes*
5.8	***Economic Analysis***	*5.8.1*	***For Mineral Resources:*** *The basis on which RPEEE has been determined. Any material assumptions made in determining the 'RPEEE' /* ***For Mineral Reserves:*** *The inclusion of any Inferred Mineral Resources is not allowed in the Pre-Feasibility and Feasibility Studies economic analysis*		*NA*	*Yes*	*Yes*	*Yes*
		5.8.2	*An economic analysis for the project that includes after tax Cash Flow forecast on an annual basis using Mineral Reserves or Mineral Resources or an annual production schedule for the life of the project, which has been used at the relevant level Pre-Feasibility or Feasibility Study*		*NA*	*NA*	*Yes*	*Yes*
		5.8.3	*Accounting for royalties and streaming agreements. A discussion of net present value (NPV), internal rate of return (IRR) and payback period of capital*		*NA*	*NA*	*Yes*	*Yes*
		5.8.4	*Sensitivity or other analysis using variants in commodity price, grade, capital and operating costs, or other significant parameters, as appropriate and discuss the impact of the results*		*NA*	*NA*	*Yes*	*Yes*
Section 6: Estimation and Reporting of Mineral Reserves					*NA*	*NA*	*Yes*	*NA*
6.1	***Estimation and Modeling Techniques***	*6.1.1*	*A description of the Mineral Resource estimate used as a basis for the conversion to a Mineral Reserve*		*NA*	*NA*	*Yes*	*NA*
		6.1.2	*A Mineral Reserve Statement in sufficient detail indicating if the mining is by surface or underground method plus the source and type of mineralization, domain or orebody, surface dumps, stockpiles, and all other sources*		*NA*	*NA*	*Yes*	*NA*

		6.1.3	*Reconciliation of historical reliability and reconciliation of the performance parameters, assumptions and modifying factors. A comparison with the previous Reserve quantity and qualities, if available. Where appropriate, any historical trends (e.g., global bias).*		*NA*	*NA*	*Yes*	*NA*
		6.1.4	*Criteria and methods used as the basis for the classification of the Mineral Reserves into varying confidence categories, which should be based on the Mineral Resource category, and include consideration of the confidence in all the Modifying Factors*		*NA*	*NA*	*Yes*	*NA*
6.2	***Classification Criteria***	*6.2.1*	*Criteria and methods used as the basis for the classification of the Mineral Reserves into varying confidence categories, which should be based on the Mineral Resource category, and include consideration of the confidence in all the Modifying Factors*		*NA*	*NA*	*Yes*	*NA*
6.3	***Reporting***	*6.3.1*	*The proportion of Probable Mineral Reserves, which have been derived from Measured Mineral Resources (if any), including the reason(s) thereof*		*NA*	*NA*	*Yes*	*NA*
		6.3.2	*The inclusion in a Mineral Reserve statement of the detail of the surface or underground mine, residue stockpile, remnants, tailings, and existing pillars or other sources*		*NA*	*NA*	*Yes*	*NA*
		6.3.3	*A comparison with the previous Mineral Reserve estimates. Any historical trends (e.g., global bias)*		*NA*	*NA*	*Yes*	*NA*
		6.3.4	*The inclusion or exclusion of Mineral Resources in Mineral Reserves*		*NA*	*NA*	*Yes*	*NA*
Section 8. Other Relevant Information					*Yes*	*Yes*	*Yes*	*Yes*
8.1	***Other Relevant Information***	*8.1.1*	*Other relevant and material information not discussed elsewhere*		*Yes*	*Yes*	*Yes*	*Yes*
Section 9: Accredited Competent Person					*Yes*	*Yes*	*Yes*	*Yes*

9.1	***Qualification of Accredited Competent Person(s) and Key Technical Staff***	*9.1.1*	*The full name of the Accredited Competent Person, profession, address, their PRC and Accredited Competent Person registration numbers and the name of the professional representative organization (or RPO), of which the Accredited Competent Person(s) is member. The relevant experience of the Accredited Competent Person(s) and other key technical staff who prepared and who are responsible for the Public Report*		*Yes*	*Yes*	*Yes*	*Yes*
	Relationship to the issuer	*9.1.2*	*The Accredited Competent Person's relationship to the issuer of the Public Report, if any*		*Yes*	*Yes*	*Yes*	*Yes*
		9.1.3	*The inclusion of the Accredited Competent Person's Consent Form (see Appendices 3 & 4). Such Consent Form should include the date of sign-off and the effective date of the Public Report.*		*Yes*	*Yes*	*Yes*	*Yes*
Section 10: Reporting for Coal Resources and Coal Reserves (Note: Applicable to Coal Reports Only)								
10.1	***Specific Reporting for Coal***	*10.1.1*	*Appendix 6 of the Code provides additional criteria for reporting on coal deposits*		*Yes*	*Yes*	*Yes*	*NA*
		10.1.2	*Guidance is available in relevant national standards for Coal Exploration Results, Coal Resources, and Coal Reserves reporting.*		*Yes*	*Yes*	*Yes*	*NA*
10.2	***Geological Setting, Coal Deposit, Mineralization***	10.2.1	*The project geology including coal deposit type, geological setting, and coal seams / zones present*		*Yes*	*Yes*	*Yes*	*NA*
		10.2.2	*The structural complexity, physical continuity, coal rank, qualitative and quantitative properties of the significant coal seams or zones on the coal property*		*Yes*	*Yes*	*Yes*	*NA*
10.3	***Drilling Techniques***	10.3.1	*Core recoveries and method of calculation. Core recoveries in cored boreholes should be in excess of 95% by length within the coal seam intersection*		*Yes*	*Yes*	*Yes*	*NA*

10.4	***Relative Density to replace Bulk Density***	10.4.1	*The apparent relative density or true relative density of the coal seam(s) determined on coal samples from borehole cores using recognized standard laboratory methods or commonly used procedures. The moisture basis on which the relative density determination is based and the moisture basis on which the final density value is reported (in situ or air-dried basis), should be stated*		*Yes*	*Yes*	*Yes*	*NA*
10.5	***Bulk- Sampling and/or trial-mining***	10.5.1	*The purpose or aim of the bulk sampling program, the size of samples, spacing/density of samples recovered. The applicability of bulk sampling or large diameter core samples to provide representative samples for tests. Comparison of results obtained from bulk sampling versus exploration sampling*		*Yes*	*Yes*	*Yes*	*NA*
10.6	***Reasonable Prospects for Eventual Economic Extraction***	10.6.1	*The basis on which reasonable prospects for eventual economic extraction has been determined. Any material assumptions made in determining the 'RPEEE'*		*Yes*	*Yes*	*Yes*	*NA*
10.7	***Coal Resource and Coal Reserve Reporting***	10.7.1	*The appropriate coal quality for all Coal Resource and Coal Reserve categories. The type of analysis (e.g., raw coal, washed coal at a specific cut-point density) and the basis of reporting of the coal quality parameters (e.g., air-dried basis, dry basis, etc.).*		*NA*	*Yes*	*Yes*	*NA*
		10.7.2	***For Mineral Resources:*** *A Coal Resource only includes the coal seam(s) above the minimum thickness cut-off and the coal quality cut-off(s) /* ***For Mineral Reserves:*** *The Reserves may be reported as Run-of-Mine (ROM) tonnages and coal quality, and also as Saleable product/s tonnages and coal quality*		*NA*	*Yes*	*Yes*	*NA*
		10.7.3	*The reporting basis with particular reference to moisture and relative density.*		*NA*	*Yes*	*Yes*	*NA*

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