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National Instrument 43-101: What Issuers Need to Know About Technical Terminology

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February 27, 2024

A primary objective of National Instrument 43-101 – *Standards of Disclosure for Mineral Projects* (NI 43-101) is to enhance the accuracy and integrity of mining disclosure. To this end, NI 43-101 requires that public disclosure of scientific and technical information be (a) understandable to the public, (b) consistent in the presentation and use of standardized terms and definitions and (c) produced or vetted by qualified industry experts. Although terms and phrases used in mining disclosure are highly technical, and industry jargon can be used inconsistently, when used correctly, specialized and standardized terms can encapsulate the complexity and specificity of technical and geological concepts. However, careless or thoughtless use of that language can obscure meaning and be potentially misleading, which may result in undesirable scrutiny from regulators.

It is important for mining issuers to appreciate that NI 43-101 both mandates the use of certain terms and restricts the use of other terms. Additionally, the Canadian Institute of Mining, Metallurgy and Petroleum (CIM) Definition Standards on Mineral Resources and Reserves (the CIM Definition Standards) establish definitions and guidance on the definitions for mineral resource and mineral reserve categories and for certain types of mining studies. The defined terms in the CIM Definition Standards are those used in NI 43-101.

MINERAL RESERVE AND MINERAL RESOURCE CATEGORIES

Under NI 43-101, disclosure of mineral resource and mineral reserve estimates may only be made if the estimates use the categories in the CIM Definition Standards, being:

Mineral Resources	**Mineral Reserves**
Inferred Mineral Resources	Probable Mineral Reserves
Indicated Mineral Resources	Proven Mineral Reserves
Measured Mineral Resources	

The categorization of an estimate depends on (a) the level of confidence in the geological information available on the mineral deposit, (b) the quality and quantity of data available on the deposit, (c) the level of detail of the technical and economic information which has been generated about the deposit and (d) the interpretation of the data and information.

The current version of the CIM Definition Standards was adopted in May 2014, the full text of which is available here. Please refer to these standards for the full definitions of the various categories of mineral resources and mineral reserves.

ECONOMIC STUDIES

NI 43-101 and CIM specifically define the various types of economic studies that can be prepared for a mining project as a “feasibility study,” a “pre-feasibility study” (also called a “preliminary feasibility study”), which are defined in the CIM Definition Standards, or a “preliminary economic assessment," which is defined in NI 43-101.

Feasibility Study

A feasibility study is a comprehensive technical and economic study of the selected development option for a mineral project that includes appropriately detailed assessments of 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 (i.e. economically mineable). The results of the study may reasonably serve as the basis for a final decision by the issuer and/or financial institution to proceed with, or finance, the development of the mineral project. The confidence level of the study will be higher than that of a pre-feasibility study.

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.

A feasibility study may not contain results of an economic analysis that includes, or is based upon, inferred mineral resources.

Conceptually, a feasibility study is “what it will be.”

Preliminary Feasibility Study

A preliminary feasibility study or pre-feasibility study is a comprehensive study of a range of options for the technical and economic viability of a mineral project that has advanced to a stage where a preferred mining method is established, and an effective method of mineral processing is determined. It includes a financial analysis based on reasonable assumptions on the modifying factors and the evaluation of any other relevant factors which are sufficient for a qualified person, acting reasonably, to determine if all or part of the mineral resource may be classified as a mineral reserve. The confidence level of a pre-feasibility study is at a lower confidence level than a feasibility study.

The CIM Definition Standards require the completion of a pre-feasibility study as the minimum prerequisite for the conversion of mineral resources to mineral reserves, and as such, feasibility and pre-feasibility studies should delineate a mineral reserve if the mineral project is not being abandoned. The work that is done should be sufficient to permit the qualified person to make such estimates. If the mineral project is still being progressed and the technical report fails to disclose mineral reserves, regulators are concerned that the technical report may be treating mineral resources as mineral reserves or that the technical report may in fact be a PEA (as defined and described below) in disguise.

There are certain situations where a feasibility and/or pre-feasibility study might not be able to result in the designation of mineral reserves. If no mineral reserves are delineated, the technical report should set out the reasons that a mineral reserve could not be estimated. Valid reasons for not delineating a mineral reserve include, but are not limited to, unresolved permitting or tenure issues, negative economics or issues with the geologic modelling. The need for further exploration is not a valid reason for not delineating a mineral reserve in a feasibility or pre-feasibility study.

A preliminary feasibility study may not contain results of an economic analysis that includes, or is based upon, inferred mineral resources.

Conceptually, a preliminary feasibility study is “what it should be.”

Preliminary Economic Assessment

A preliminary economic assessment (PEA) means a study, other than a pre-feasibility study or a feasibility study, that includes an economic analysis of the potential viability of mineral resources. The confidence level of a PEA is low, below that of either a feasibility or preliminary feasibility study. Unlike the other two types of study, a PEA may contain results of an economic analysis that includes, or is based upon, inferred mineral resources. However, where that occurs, the technical report must contain cautionary language prescribed by NI 43-101.

In addition, it is important to note that a PEA should not act as a proxy for a pre-feasibility study or a feasibility study. A PEA cannot demonstrate economic or technical viability and is not meant to be a way to include an inferred mineral resource in a pre-feasibility study or a feasibility study or to alter such studies to include more positive assumptions. Just because a technical report is labeled as a PEA, does not mean that regulators will accept it as such if the technical report is completed to the levels of a pre-feasibility study or a feasibility study.

When done correctly, PEAs provide issuers with a road map for planning and strategic decision-making and assist issuers with assessing project risks and opportunities, providing public disclosure to raise capital for advanced studies and preparing for a pre-feasibility study.

Conceptually, a PEA is “what it could be.”

PROPERTY TERMS

NI 43-101 defines two different types of properties:

Early Stage Exploration Property

An “early stage exploration property” means a property for which the technical report being filed has (a) no current mineral resources or mineral reserves defined and (b) no drilling or trenching proposed. In certain circumstances, a site visit is not required for a technical report for an early stage exploration property.

Advanced Property

An “advanced property” means a property that has (a) mineral reserves or (b) mineral resources the potential economic viability of which is supported by a PEA, a pre-feasibility study or a feasibility study. Advanced properties have additional technical report form items to address that other properties do not, including additional illustrations. Advanced properties are permitted to disclose less detail regarding drilling in their technical reports.

PRODUCING ISSUER

Under NI 43-101, producing issuers have reduced disclosure obligations. A “producing issuer” means an issuer with annual audited financial statements that disclose (a) gross revenue, derived from mining operations, of at least $30 million Canadian for the issuer’s most recently completed financial year and (b) gross revenue, derived from mining operations, of at least $90 million Canadian in the aggregate for the issuer’s three most recently completed financial years. These issuers are exempt from including economic analysis in technical reports on properties currently in production, unless the technical report includes information on a material expansion of current production. This provides relief to producing issuers from disclosing potentially sensitive information in publicly available technical reports. In addition, producing issuers are generally exempt from the requirement that their technical reports be produced by an independent qualified person.

QUALIFIED PERSON

Qualified persons play a gatekeeping role for the public, as they are charged with ensuring that technical and scientific disclosure is based on reliable information, reflects sound professional opinions and is

formulated having applied industry best practices and using consistent terms.

Given the importance of the role of qualified persons, we will be publishing a standalone article relating specifically to this topic – stay tuned for more details.

INACCURATE USES OF TERMS AND DEFINITIONS

Regulators have also focused on specific terms that are not explicitly dealt with in NI 43-101, but that, in their view, are being used incorrectly or inappropriately. Further, there are some terms used in NI 43-101 that can be the source of confusion and such terms should be used with caution. Additionally, issuers continue to use categories that are not set out in the CIM Definition Standards. Certain of these terms and categorizations are described below.

Ore

Regulators consider the use of the word “ore” to be potentially misleading because it implies technical feasibility and economic viability. In this view, the implied feasibility and viability of ore is that of mineral reserves and, thus, the term (and related usages, such as “ore body”) should only be used in respect of mineral reserves. Therefore, an issuer should only refer to having or processing ore if they have completed a feasibility or pre-feasibility study.

Mineral Resource and Mineral Reserve Categories

The use of certain variations on the mineral resource and mineral reserve categories, even if used widely for the mineral in question, are not acceptable. Examples include disclosing an estimate that uses a category such as “recoverable reserves,” “potential reserves,” “potential resources,” “mineable reserves,” “mineable resources,” “geological resources,” “diluted resources,” “mineral inventory,” “ore reserves” and “economically mineable resources.” Regulators have also indicated that modifiers such as “mineable,” “geologic,” “drill indicated” and “possible” should also be avoided in the context of the discussion of mineral resources and mineral reserves.

Issuers must also remember that each category of mineral resource and mineral reserve estimate must be reported separately and the category for each estimate must specifically be referenced. For example, in written disclosures, if you combine proven and probable mineral reserves in a headline or summary figure, you will need to set out the categories separately, often accomplished by way of a table in the document or a schedule or appendix to the document. In addition, while probable and proven mineral reserves and indicated and measured mineral resources may be added together, inferred mineral resources may not be added to other categories. It is important to remember this when preparing charts or graphs as it is easy to inadvertently add an inferred mineral resource to the other categories (e.g. by stacking categories in a bar

chart).

Scientific and Technical Information

“Scientific or technical information” is interpreted broadly by regulators. It includes, but is not limited to, project economics and financial valuations and models. Regulators have indicated that they find issuers and qualified persons will sometimes take the view that this information is not scientific or technical, which, in the eyes of the regulators, is not correct.

Material

Many of the requirements of NI 43-101 apply to mineral projects on properties that are “material.” These include the requirement for review of disclosure by a qualified person, disclosure of parameters and assumptions for estimates, disclosure of data verification procedures, disclosure of QA/QC procedures for exploration information and triggers for technical reports. Additionally, a technical report must include all “material” scientific and technical information in respect of the subject property as of the effective date of the technical report. “Material” is not defined in NI 43-101. Issuers will need to assess materiality in the same way they assess materiality in their public disclosure generally.

Compliant

Regulators have advised against the use of the term “compliant” when an issuer is referring to its technical report, as they consider the use of the word “compliant” to be potentially misleading given that the regulators have not reviewed the report and deemed it to be compliant under NI 43-101. Regulators will not review reports and provide issuers with this determination. Regulators do not feel that an issuer is in a position to determine that a technical report is NI 43-101 compliant and, as such, the use of this term should be avoided. Issuers should instead characterize their report as being “prepared in accordance with NI 43-101.”

Further, issuers should not refer to their mineral resource or mineral reserve estimates or other required disclosures as “NI 43-101 compliant.” These statements may be misleading as NI 43-101 establishes rules on how issuers disclose mineral resources and mineral reserves and other such technical information, but it does not directly provide the rules for the collection and use of exploration information or the estimation of mineral resources or mineral reserves, which are instead established by industry organizations such as CIM. Issuers should instead characterize their mineral resource or mineral reserve estimates or other required disclosures as being “reported in accordance with NI 43-101.”

For more on NI 43-101, read our previous article in this series, "National Instrument 43-101: What Issuers Need to Know About the Application of NI 43-101."

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