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Canadian National Instrument 43-101 Standards of Disclosure for Mineral Projects

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The Canadian capital markets, the Toronto Stock Exchange ("TSX") and the TSX Venture Exchange ("TSXV") (and its predecessors) have a long and storied history in the mining industry. Spurred on by major mineral finds over the past 150 years, such as the Cobalt (Ontario) silver boom at the turn of the twentieth century, and spectacular early discoveries of gold, nickel and a host of other metals (and more recently, diamonds) from Ontario and Quebec to British Columbia and the far northern regions of the Territories, the Canadian mining industry rose to prominence and the TSX and TSXV became global leaders among stock exchanges in the mining sector. This pre-eminent position could have been permanently ended in the wake of the infamous Bre-X scandal in 1997. However, the Canadian securities regulators, stock exchanges and mining industry participants worked together to develop a regime that would restore investor confidence. The result was National Instrument 43-101 – Standards of Disclosure for Mineral Projects ("NI 43-101"), with new rules for mining disclosure, prohibiting disclosure in respect of material not within standardized categories of resources and reserves, and requiring comprehensive technical reports and certification of by qualified technical persons. Coupled with other continuing refinements in Canadian securities laws, and together with mining-specific listing requirement regimes of the TSX and the TSXV, these changes set the stage for the recent resurgence in the mining sector. Over the past few years the Canadian capital markets, the TSX and TSXV have been vibrant and lead all global mining equity finance, being the destination of choice for the majority of the public companies in the international mining sector.

NI 43-101 applies to all disclosure, written and oral, made in Canada by every issuer (all private and public companies) with respect to a "mineral project" on each property "material" to such issuer. A "**mineral project**" means "any exploration, development or production activity, including a royalty interest or similar interest in these activities, in respect of diamonds, natural solid inorganic material, or natural solid fossilized organic material including base and precious metals, coal and industrial minerals."¹

The disclosure regime under NI 43-101 is founded upon three fundamental pillars: (1) Disclosure Standards - rules prohibiting certain mineral disclosure and prescribing mineral disclosure standards; (2) Qualified Persons - rules requiring that a "qualified person" (who, in many circumstances, must be "independent", but for established producing issuers need not be independent) prepare or supervise all of an issuer's disclosure of scientific and technical information relating to each mineral project on a property material to the issuer - in most instances, the qualified

¹ NI 43-101, s.1.1.

person must certify the disclosure and will be liable for any misrepresentations; and, of critical significance in the context of a listing or financing transaction; and (3) Technical Reports - the requirement that all scientific and technical information relating to a mineral project on each property material to the issuer contained in a prospectus (or another type of disclosure document set out in NI 43-101) be based upon and supported by a technical report in prescribed form (“Technical Report”) authored and certified by a qualified person (who again for established producing issuers need not be independent). In the uncommon circumstance where an issuer is applying for a listing on the TSX and the TSXV (and its predecessors) and is not required (under NI 43-101) to prepare and file a Technical Report in support of a public disclosure document, the preparation of a Technical Report will in any event be required in order to support a listing application.

Disclosure Standards

Under NI 43-101, the general principle is that an issuer may only make disclosure of a quantity and grade of mineralized material if such disclosure describes the material within certain categories of either “mineral reserves” or “mineral resources”. Mineral resources are defined within categories based upon the level of confidence and certainty as to the quantity and grade of the material being described, where “inferred resources” are the least certain, “indicated resources” reflect greater confidence based upon more extensive exploration results, and “measured resources” are most certain, based upon even more comprehensive results and data. Mineral reserves are mineral resources to which feasibility-level economic analysis has been applied, such that on the basis of at least a “preliminary feasibility study” the mineral resources have been shown to have economic feasibility. Mineral reserves are defined in two categories, “probable reserves” and “proven reserves”, again relating to the level of certainty of the material being described. These definitions are set out at the end of this chapter.

The introduction of these categories resulted in a level of standardization in mineral disclosure from one company to the next. On the other hand, it is important to recognize that all such categorizations are nonetheless the result of determinations made by the qualified persons generating the disclosure, having regard to all relevant factors in light of the given facts, including geology, metallurgy and a host of other considerations. As a result, while there may be some level of comparability (for example, comparing indicated resources of silver at one deposit compared to indicated resources of silver at another), a variety of factors may also make any such comparison one of apples to oranges, rather than apples to apples.

In general, disclosure of quantities and grades can only be made if stated with attribution to any of the five categories of reserves and resources. However, there are certain exemptions, one of which is for “exploration targets”. This exemption is very narrow and must follow the strict guidelines set out in NI 43-101. An issuer may make disclosure of a potential quantity and grade of a mineral deposit that is to be the target of further exploration if (a) the issuer expresses the estimate of the quantity and grade in terms of ranges for both quantity and grade, (b) if the issuer explains how the estimate was made, and (c) if the disclosure includes a statement to the effect that “the potential quantity and grade is conceptual in nature, there has been insufficient exploration to define a mineral resource and it is uncertain if further exploration will result in the exploration target being delineated as a mineral resource.”²

Another exemption is that issuers may make disclosure of mineral reserves and mineral resources in accordance with certain sets of disclosure standards accepted in other countries:

² NI 43-101 s. 2.3(2).

SEC Industry Guide 7,³ the JORC Code,⁴ the IMMM Reporting Code,⁵ or the SAMREC Code⁶, if a reconciliation to the categories acceptable under NI 43-101 is included.⁷ While certain international codes, such as the JORC Code, are very similar to NI 43-101 and typically require little to no reconciliation, other codes are less similar and reconciliation with NI 43-101 is more complicated.

Qualified Persons

NI 43-101 introduced the requirement that all disclosure of a scientific or technical nature (including resources and/or reserves) disclosed by an issuer in respect of a mineral project on any of its material properties be based on information either prepared by, or the preparation of which has been supervised by, a qualified person. Under NI 43-101, a “**qualified person**” means an individual who (a) is an engineer or geoscientist with at least five years of experience in mineral exploration, mine development or operation or mineral project assessment, (b) has experience relevant to the subject matter of the mineral project and the Technical Report in respect thereof, and (c) is in good standing with a self-regulatory professional organization acceptable under NI 43-101.⁸ If the disclosure described above is written disclosure, the qualified person must be identified and must disclose how the he or she verified the data.

Technical Reports are required to be prepared by or under the supervision of one or more qualified persons, and such qualified persons are required to sign and file with the securities regulatory authorities a certification and consent. In addition, in connection with the preparation of a Technical Report, at least one qualified person responsible for preparing or supervising the preparation of such Technical Report must complete a current personal inspection of the property that is the subject of the Technical Report.

Qualified persons must complete certifications and consents (addressed to the applicable securities regulatory authorities) to each Technical Report before it is filed on SEDAR. When filing a Technical Report, if the information in the Technical Report is also included in a disclosure document, the qualified person must also complete and file a consent confirming that the qualified person has read the disclosure and that it fairly and accurately represents the information in the Technical Report.

Qualified Persons, Producing Issuers and Financings

As stated above, while the default rule in NI 43-101 is that qualified persons are required to be “independent” of an issuer, a non-independent QP is entitled to act for a “Producing Issuer”. A Producing Issuer is an issuer that has had gross revenues derived from mining of at least C\$30.0 million in its most recently completed financial year and at least C\$90.0 million aggregate in the three most recently completed financial years. In the context of financings, if a Producing Issuer were to proceed by way of a “short form prospectus” (which other than in the context of an IPO would usually be the case), a non-independent QP can author the technical reports for the issuer’s material properties. In Canada, a short form prospectus is a prospectus document that incorporates by reference the issuer’s historical disclosure record and the review process of the securities regulators is expedited. “Bought Deal” financings as well as overnight marketed financings are completed under a short form prospectus.

3 SEC Industry Guide 7 – “Description of Property by Issuers Engaged or to be Engaged in Significant Mining Operations”, contained in the Securities Act Industry Guides published by the United States Securities and Exchange Commission, as amended.

4 The Australasian Code for Reporting Resources and Ore Reserves prepared by the Joint Ore Reserves Committee of the Australasian Institute of Mining and Metallurgy, Australian Institute of Geoscientists and Mineral Council of Australia, as amended.

5 The “IMMM Reporting Code” means the classification system and definitions of mineral reserves and mineral resources approved by The Institution of Materials, Minerals and Mining in the United Kingdom, as amended.

6 The South African Code for Reporting of Mineral Resources and Mineral Reserves prepared by the South African Mineral Committee (SAMREC) under the auspices of the South African Institute of Mining and Metallurgy (SAIMM), as amended.

7 NI 43-101, Part 7 – Use of Foreign Code.

8 NI 43-101, s.1.1.

Technical Reports

Technical Reports are of fundamental importance in Canada, as the information they contain will form the basis of all of the issuer's disclosure about its material mineral projects. Subject to certain narrow exemptions, Technical Reports are required to be prepared by qualified persons who are independent of the issuer (and accordingly, the preparation of Technical Reports can have a significant impact on the timeline of any listing or financing transaction). Note however, that one exemption allows non-independent qualified persons for "producing issuers" (C\$30.0 million of gross revenue from mining in the previous year and C\$90.0 million of gross revenue from mining in past three years) to author a technical report in the context of short form prospectus financings. For the purposes of NI 43-101, a qualified person is "**independent**" of the issuer "if there is no circumstance that could, in the opinion of a reasonable person aware of all relevant facts, interfere with the qualified person's judgment regarding the preparation of the Technical Report."⁹

An issuer is required to prepare and file a Technical Report in the circumstances set out in Part 4 of NI 43-101. In general terms, NI 43-101 requires an issuer to file a Technical Report to support disclosure of scientific or technical information in any of a number of public disclosure documents – notably a prospectus, an annual information form, a management information circular in which such information is presented and describing a transaction in which securities are to be issued, and a take-over bid circular in which a first time disclosure is made of a preliminary assessment, mineral reserves or mineral resources in respect of a property material to the offeror and in which the offeror is offering its securities as consideration in the bid. Usually, and subject to certain exemptions in Part 4, the Technical Report must be filed not later than the time the disclosure document containing the information it supports is filed or made available to the public.

An issuer is also required to prepare and file a Technical Report to support disclosure in a press release where such disclosure is either (a) first time disclosure of a preliminary assessment, mineral reserves or mineral resources on a property material to the issuer and where such disclosure constitutes a material change in respect of the affairs of the issuer or (b) a change in a preliminary assessment, mineral reserves or mineral resources on a property material to the issuer and where such disclosure constitutes a material change in respect of the affairs of the issuer. However, an important distinction to be made in respect of press releases is that the Technical Report is to be filed within 45 days of the issuance of the press release.

The form and content of Technical Reports are prescribed in Form 43-101F1. Technical Reports are all required to follow the form requirements (headings, contents) exactly. Although required for each mineral project on each property "material to an issuer", there is no specific requirement in NI 43-101, Companion Policy 43-101CP ("Companion Policy") or Form 43-101F1 that a separate report be prepared for every such mineral project. In some instances, for example, where the location, geology and mineralogy of mineral projects are similar, it may be appropriate to address more than one mineral project in a single Technical Report.

A key issue in respect of the Technical Report requirement is the meaning of the phrase "material to an issuer". This is not addressed within NI 43-101, but is discussed in section 2.4 of the Companion Policy. Essentially, the determination of what is "material" to an issuer is a determination to be made by management of the issuer, and not by a securities regulator. It is a determination to be made "...in the context of the issuer's overall business and financial condition, taking into account qualitative and quantitative factors, assessed in respect of the issuer as a whole." An earlier version of the Companion Policy included a guideline indicating that a property the value of which was equal to at least 10% of the

⁹ NI 43-101, s.1.4.

book value of the issuer's assets would be considered material, but the regulators were concerned that this guideline was being used by issuers as a bright-line test which could be passed if a property was literally anything under the 10% threshold, and it is therefore no longer included in the Companion Policy. It may nonetheless be one indicative threshold for issuers to consider. In addition, the Companion Policy observes that if a development at a property of an issuer could reasonably be expected to have a significant effect on the issuer's market price, this would be indicative that such property would be material to the issuer. Materiality in the context of Technical Reports will clearly be specific to a given issuer and its own circumstances – what would be material to one issuer may not be material to another.

In the context of public offering transactions by way of prospectus, the securities regulatory authority or regulator (each, a "Securities Commission") in the relevant Canadian jurisdictions and the TSX or TSXV will review and may comment upon the preliminary prospectus. The contents of Technical Reports will also be subject to detailed review and comment by the Securities Commissions and the applicable stock exchange. Geological and mining engineers with significant expertise and experience in mineral disclosure matters on staff with the stock exchanges and certain Securities Commissions in particular will examine, in detail, an issuer's Technical Reports and mineral disclosure. An issuer will be required to file an amended and restated Technical Report to address all comments, and, given that the issuer's prospectus disclosure will be based upon the Technical Report, significant amendments and restatements can result from a review. Typically, NI 43-101-experienced legal counsel will be engaged directly with the qualified person(s) and the issuer in the preparation of the Technical Report(s) well in advance of filing it/them with the Securities Commissions and applicable stock exchange, in order to minimize regulatory comments and issues, deficiencies and time delays.

Corresponding with the high current level of activity by exploration and mining issuers in the Canadian capital markets, the Securities Commissions and stock exchanges have also increased their own levels of activity. As mineral disclosure reviews and comments are occurring at an unprecedented level of frequency and detail, it is important that issuers focus on NI 43-101 and the quality of their mineral disclosure from the outset in connection with all of their continuous disclosure filings, and when preparing for any Canadian capital markets or public company transaction. ■

Mineral Reserve and Mineral Resource Definitions

NI 43-101 uses the mineral reserve and mineral resource definitions established by the Canadian Institute of Mining, Metallurgy and Petroleum ("CIM") known as the CIM Definition Standards on Mineral Resources and Mineral Reserves adopted by CIM Council (the "CIM Definition Standards"). These definitions are periodically reviewed and may be updated to maintain consistency with NI 43-101 and any other regulations. The CIM Definition Standards may be viewed on www.cim.org and the following are the December 11, 2005 version, including the definitions of mineral reserves, mineral resources, and certain ancillary definitions referred to therein. The CIM definitions of "Qualified Person" (not reproduced here) and "Preliminary Feasibility Study" are consistent with the definitions of such terms contained in NI 43-101. The CIM Definition Standards include related guidance and relevant CIM guidance is included in italics below each definition.

Throughout the CIM Definition Standards and guidance, where appropriate, 'quality' may be substituted for 'grade' and 'volume' may be substituted for 'tonnage'.

"Mineral Resource" means a concentration or occurrence of diamonds, natural solid inorganic material, or natural solid fossilized organic material including base and precious metals, coal, and

industrial minerals in or on the Earth's crust in such form and quantity and of such a grade or quality that it has reasonable prospects for economic extraction. The location, quantity, grade, geological characteristics and continuity of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge.

The term Mineral Resource covers mineralization and natural material of intrinsic economic interest which has been identified and estimated through exploration and sampling and within which Mineral Reserves may subsequently be defined by the consideration and application of technical, economic, legal, environmental, socio-economic and governmental factors. The phrase 'reasonable prospects for economic extraction' implies a judgement by the Qualified Person in respect of the technical and economic factors likely to influence the prospect of economic extraction. A Mineral Resource is an inventory of mineralization that under realistically assumed and justifiable technical and economic conditions might become economically extractable. These assumptions must be presented explicitly in both public and Technical Reports.

"Inferred Mineral Resource" means that part of a Mineral Resource for which quantity and grade or quality can be estimated on the basis of geological evidence and limited sampling and reasonably assumed, but not verified, geological and grade continuity. The estimate is based on limited information and sampling gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes.

Due to the uncertainty that may be attached to Inferred Mineral Resources, it cannot be assumed that all or any part of an Inferred Mineral Resource will be upgraded to an Indicated or Measured Mineral Resource as a result of continued exploration. Confidence in the estimate is insufficient to allow the meaningful application of technical and economic parameters or to enable an evaluation of economic viability worthy of public disclosure. Inferred Mineral Resources must be excluded from estimates forming the basis of feasibility or other economic studies.

"Indicated Mineral Resource" means that part of a Mineral Resource for which quantity, grade or quality, densities, shape and physical characteristics, can be estimated with a level of confidence sufficient to allow the appropriate application of technical and economic parameters, to support mine planning and evaluation of the economic viability of the deposit. The estimate is based on detailed and reliable exploration and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes that are spaced closely enough for geological and grade continuity to be reasonably assumed.

Mineralization may be classified as an Indicated Mineral Resource by the Qualified Person when the nature, quality, quantity and distribution of data are such as to allow confident interpretation of the geological framework and to reasonably assume the continuity of mineralization. The Qualified Person must recognize the importance of the Indicated Mineral Resource category to the advancement of the feasibility of the project. An Indicated Mineral Resource estimate is of sufficient quality to support a Preliminary Feasibility Study which can serve as the basis for major development decisions.

"Measured Mineral Resource" means that part of a Mineral Resource for which quantity, grade or quality, densities, shape, and physical characteristics are so well established that they can be estimated with confidence sufficient to allow the appropriate application of technical and economic parameters, to support production planning and evaluation of the economic viability of the deposit. The estimate is based on detailed and reliable exploration, sampling and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes that are spaced closely enough to confirm both geological and grade continuity.

Mineralization or other natural material of economic interest may be classified as a Measured Mineral Resource by the Qualified Person when the nature, quality, quantity and distribution of data are such that the tonnage and grade of the mineralization can be estimated to within close limits and that variation from the estimate would not significantly affect potential economic viability. This category requires a high level of confidence in, and understanding of, the geology and controls of the mineral deposit.

“Mineral Reserve” means the economically mineable part of a Measured or Indicated Mineral Resource demonstrated by at least a Preliminary Feasibility Study [see definition below]. This Study must include adequate information on mining, processing, metallurgical, economic and other relevant factors that demonstrate, at the time of reporting, that economic extraction can be justified. A Mineral Reserve includes diluting materials and allowances for losses that may occur when the material is mined.

The CIM Definition Standards require the completion of a Preliminary Feasibility Study as the minimum prerequisite for the conversion of Mineral Resources to Mineral Reserves.

Mineral Reserves are those parts of Mineral Resources which, after the application of all mining factors, result in an estimated tonnage and grade which, in the opinion of the Qualified Person(s) making the estimates, is the basis of an economically viable project after taking account of all relevant processing, metallurgical, economic, marketing, legal, environment, socio-economic and government factors. Mineral Reserves are inclusive of diluting material that will be mined in conjunction with the Mineral Reserves and delivered to the treatment plant or equivalent facility. The term ‘Mineral Reserve’ need not necessarily signify that extraction facilities are in place or operative or that all governmental approvals have been received. It does signify that there are reasonable expectations of such approvals.

“Probable Mineral Reserve” means the economically mineable part of an Indicated and, in some circumstances, a Measured Mineral Resource demonstrated by at least a Preliminary Feasibility Study. This Study must include adequate information on mining, processing, metallurgical, economic, and other relevant factors that demonstrate, at the time of reporting, that economic extraction can be justified.

“Proven Mineral Reserve” means the economically mineable part of a Measured Mineral Resource demonstrated by at least a Preliminary Feasibility Study. This Study must include adequate information on mining, processing, metallurgical, economic, and other relevant factors that demonstrate, at the time of reporting, that economic extraction is justified.

Application of the Proven Mineral Reserve category implies that the Qualified Person has the highest degree of confidence in the estimate with the consequent expectation in the minds of the readers of the report. The term should be restricted to that part of the deposit where production planning is taking place and for which any variation in the estimate would not significantly affect potential economic viability.

“Preliminary Feasibility Study” - means a comprehensive study of the viability of a mineral project that has advanced to a stage where the mining method, in the case of underground mining, or the pit configuration, in the case of an open pit, has been established and an effective method of mineral processing has been determined, and includes a financial analysis based on reasonable assumptions of technical, engineering, legal, operating, economic, social, and environmental factors and the evaluation of 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.