

**SANGRA MOLLER LLP***Barristers & Solicitors***LEGAL CURRENCY***A Client Communication****Canadian Securities Administrators Publish Review of Mineral Resource Estimates in NI 43-101 Technical Reports***

On June 4, 2020, the Canadian Securities Administrators (the "CSA") published the results of their review of mineral resource estimates and technical reports in CSA Staff Notice 43-311 *Review of Mineral Resource Estimates in Technical Reports* (the "Staff Notice"). The CSA reviewed 86 technical reports supporting mineral resource estimates ("MRE") to assess the quality and clarity of the disclosure as well as compliance with the requirements of National Instrument 43-101 *Standards of Disclosure for Mineral Projects* ("NI 43-101"). The review and Staff Notice provide useful commentary and insight for mining issuers for their disclosure purposes. Some of the areas highlighted by the CSA in the Staff Notice are described below.

**I. Key Areas of Deficiency**

Areas of inadequate disclosure identified by the CSA in its review include the following, and are discussed in further detail below:

- Reasonable Prospects for Eventual Extraction ("**Reasonable Prospects**");
- Data Verification;
- Risk Factors; and
- Sensitivity to Cut-Off Grade.

**Reasonable Prospects for Eventual Extraction**

Disclosure for an MRE in a technical report includes the description of the technical and economic assumptions used to determine that the estimated mineralized material has Reasonable Prospects. A mineral deposit is not a mineral resource unless it has demonstrated Reasonable Prospects.

The CSA found that more than 20% of the technical reports reviewed provided incomplete disclosure of metallurgical recovery, cost assumptions or other factors that might limit the economics of the resource. In particular, many technical reports lacked specific information about constraining surfaces applied to demonstrate that the mineralized material had Reasonable Prospects (i.e. the potential to be

mined and processed economically), for example, pit shells for open pit deposits, mineable shapes for underground, and surface limitations that might constrain the potential mining method.

The CSA commented that disclosure in this area needs to clearly show how the cut-off grade was derived from the selected assumptions and parameters. The CSA stated that a reasonably informed reader needs complete disclosure of the assumptions applied to the project in order to understand how the deposit is a mineral resource with demonstrated Reasonable Prospects.

The CSA further provided that, for early stage projects, qualified persons ("QPs") may demonstrate Reasonable Prospects by comparing the subject deposit to analogous mine operations. When using analogies, QPs should:

- (i) state specific analogues showing why they apply to the subject property;
- (ii) compare the key attributes of the subject deposit with those of the analogues; and
- (iii) adjust the cut-off grade of the MRE to reflect the differences between the project and its analogues.

**Data Verification**

Although the CSA found that disclosure of sample preparation, security and analytical procedures were of generally good quality, disclosure about data verification procedures and results was one of the weakest areas in the MRE review.

Data used to support an MRE needs to be adequately verified and determined suitable by QPs for use in the MRE. The CSA understands that it is common for mineral projects to pass through the hands of several property holders, each generating exploration and drilling data. However, while the use of legacy data from former operators is legitimate,

the CSA stated that this data needs careful verification, and should be documented in the technical report.

In providing data verification disclosure, QPs should keep in mind the distinction between the project operator's quality assurance/quality control ("QA/QC") protocols and results, and their own independent data verification. The CSA stated that it is critical that the QP verify the integrity of any legacy data collected before the activities of the current operator, especially if the sampling, analytical and QA/QC information is no longer available to the current operator.

It is the CSA's view that the personal inspection is an indispensable component of the data verification process, and that the QP responsible for the MRE should perform a site visit.

#### Risk Factors

Each mineral project has its own set of risks, any of which could affect the MRE.

Upon review, the CSA found that 40% of the technical reports had incomplete disclosure on factors specific to the project that could materially affect the MRE, with some reporting only boilerplate disclosure of risks or uncertainties that are general to the mining industry. The omission of meaningful and specific risks of the MRE could make disclosure potentially misleading.

#### Sensitivity to Cut-Off Grade

Disclosure on variations to the cut-off grade to indicate the relative robustness of the estimate can be useful information in a technical report.

The CSA's review found that more than 35% of the reviewed technical reports did not disclose sensitivities to cut-off grade well, and in some technical reports, sensitivity cases that did not demonstrate Reasonable Prospects.

To show the relative robustness of cut-off grade scenarios clearly, and to meet definition standards, the CSA stated that all estimates resulting from each of the cut-off grade scenarios must meet the test of Reasonable Prospects and the base case or preferred scenario must be highlighted. Specifically, disclosure should: (i) show the MRE at the base cut-off grade prominently (there can only be one current MRE for the mineral project at a point in time); (ii) report only the alternative cut-off grade scenarios that meet the test of Reasonable Prospects; and (iii) not include an estimate

with a zero cut-off grade as it represents a mineral inventory with no demonstrated Reasonable Prospects.

## **II. Other Areas of Review**

In addition to the areas of weakness discussed above, the CSA's review also identified other areas of disclosure and provided additional guidance and commentary on how to improve disclosure in such areas.

#### QP's Experience and Purpose of Technical Report

The CSA found that in 15% of the reviewed technical reports, QPs provided incomplete disclosure of their relevant experience. As guidance, the CSA stated that the QP certificate should clearly demonstrate relevant experience in comparable mineral deposit types by including examples of the MRE's they have prepared.

Generally, disclosure of the terms of reference and purpose of the technical report was done well.

#### Mineralization Controls and Geological Model and Mineral Resource and Estimate Data Analysis

Disclosure on mineralization controls and geological model includes descriptions of the data sets used in the MRE and the criteria and methodology used to develop the mineral resource model, while disclosure on mineral resource estimate data analysis includes descriptions of analyses that quantify the statistical and spatial relationships of the variables (grades, dimensions, densities, etc.) used in the estimation process.

The CSA noted excellent disclosure in both of these areas. As additional commentary, the CSA stated that any problems encountered in the collection of data, or with the sufficiency of data, must be clearly disclosed, particularly when they directly affect the reliability or confidence in the MRE.

#### Mineral Resource Estimation and Classification

Generally, the CSA found adequate disclosure of all elements in this area in more than 80% of the technical reports. However, between 15-20% of reviewed reports had incomplete disclosure about block model validation and classification methodology. Disclosure of block model validation methods and results are important as they allow a reasonably informed reader to gauge how robust the results of the MRE are. The criteria used for classification of the

MRE should be described in enough detail for a reasonably informed reader to understand them.

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