

September 11, 2022

Dear CSA Administrators, including British Columbia Securities Commission, Alberta Securities Commission Financial and Consumer Affairs Authority of Saskatchewan, Manitoba Securities Commission, Ontario Securities Commission, Autorité des marchés financiers, Financial and Consumer Services Commission, New Brunswick Superintendent of Securities, Department of Justice and Public Safety, Prince Edward Island Nova Scotia Securities Commission, Office of the Superintendent of Securities, Service NL Northwest Territories Office of the Superintendent of Securities Office of the Yukon Superintendent of Securities Nunavut Securities Office,

This letter is meant to provide feedback considering ways to update and enhance the current mineral disclosure requirements, to provide investors with more relevant and improved disclosure, and to continue to foster fair and efficient capital markets for mining issuers. I present here my personal opinions on the various subjects, and I hope that you find this feedback constructive and useful.

1. Do the disclosure requirements in the Form for a pre-mineral resource stage project provide information or context necessary to protect investors and fully inform investment decisions? Please explain.

Yes they do, no additional changes are required.

2. a) Is there an alternate way to present relevant technical information that would be easier, clearer, and more accessible for investors to use than the Form? For example, would it be better to provide the necessary information in a condensed format in other continuous disclosure documents, such as a news release, annual information form or annual management's discussion and analysis, or, when required, in a prospectus? b) If so, for which stages of mineral projects could this alternative be appropriate, and why?

The wording here suggests that the CSA appears to be considering doing away with the technical report altogether, questioning whether they are useful for investors. I consider that the NI 43-101 technical report in its current form is a critical tool for project evaluation for investors. The form should instead be adapted to better address certain shortcomings. JORC-style disclosures are more often filled with boilerplate and meaningless reporting that do not prompt the issuer to provide sufficient detail to enable a potential investor to effectively assess the risks inherent in mineral projects.

3. a) Should we consider greater alignment of NI 43-101 disclosure requirements with the disclosure requirements in other influential mining jurisdictions? b) If so, which jurisdictions and which aspects of the disclosure requirements in those jurisdictions should be aligned, and why?

No additional changes are required to align with other jurisdictions.

4. Paragraph 4.2(5)(a) of NI 43-101 permits an issuer to delay up to 45 days the filing of a technical report to support the disclosure in circumstances outlined in paragraph 4.2(1)(j) of NI 43-101. Please explain whether this length of time is still necessary, or if we should consider reducing the 45-day period.

45 days is reasonable and necessary. The information from a NI 43-101 is often from multiple consulting QPs that are managing multiple clients and this time is required to get the report done after the initial news release.

In recent years, CSA staff have observed mining issuers making use of new technologies to conduct exploration on their properties, including the use of drones.

5. a) Can the investor protection function of the current personal inspection requirement still be achieved through the application of innovative technologies without requiring the qualified person to conduct a physical visit to the project? b) If remote technologies are acceptable, what parameters need to be in place in order to maintain the integrity of the current personal inspection requirement? During the COVID-19 pandemic, we received inquiries from qualified persons about the possible use of remote technologies to conduct the current personal inspection.

No change is required, if you cannot access the property for a visit, it speaks to the current conditions (political, safety, issuer's capabilities or lack of planning). A drone cannot replace a physical site visit as the QP would have to collect the check samples themselves, conduct physical inspection of the laboratory and other core logging, sampling and storage facilities.

6. Is the current definition of data verification adequate, and are the disclosure requirements in section 3.2 of NI 43-101 sufficiently clear?

Only minor change suggested: "is not limited to the drill hole database and must be completed for all data in a technical report." No need to be prescriptive, and the level of detail should be left to the purview of the QP's professional opinion.

7. How can we improve the disclosure of data verification procedures in Item 12 of the Form to allow the investing public to better understand how the qualified person ascertained that the data was suitable for use in the technical report?

Clarify in the F1 that commentary is required for each generation of data, if the data is to be used in the MRE, it should require commentary of new vs old (assays, surveys, metallurgical tests...) and specific supporting evidence to argue for accepting imperfect data. Reference to previous documents for more in depth review is acceptable if they have been reviewed by the current QP and are filed on SEDAR.

8. Given that the current personal inspection is integral to the data verification, should we consider integrating disclosure about the current personal inspection into Item 12 of the Form rather than Item 2(d) of the Form?

No change is required.

In spite of extensive guidance in the Companion Policy, CSA staff see significant non-compliant disclosure of historical estimates. We remind issuers that non-compliance with section 2.4 of NI 43-101 can trigger the requirement to file a technical report under subsection 4.2(2) of NI 43-101. Examples of non-compliance include: • failure to review and refer to the original source of the historical estimate, Notices April 14, 2022 (2022), 45 OSCB 3912 • failure to include the cautionary statements required by paragraph 2.4(g) of NI 43-101, or inappropriate modification of such statements, • failure to include required disclosure of key assumptions, parameters and methods used to prepare the historical estimate, and • inappropriate disclosure by an issuer of a previous estimate.

9. Is the current definition of historical estimate sufficiently clear? If not, how could we modify the definition?

The form is clear, policing poor disclosure is the problem.

10. Do the disclosure requirements in section 2.4 of NI 43-101 sufficiently protect investors from misrepresentation of historical estimates? Please explain.

The form is clear, policing poor disclosure is the problem.

Mining Reviews continue to show that preliminary economic assessment disclosure remains problematic for issuer compliance and, more importantly, is potentially harmful to investors. While the inclusion of inferred mineral resources is a recognized risk to the realization of the preliminary economic assessment, CSA staff's view is that the broad, undefined range of precision of a preliminary economic assessment also contributes to that risk. This range of precision is incongruent with one of the core principles of NI 43-101, which is that investors should be able to confidently compare the disclosure between different projects by the same or different issuers. In addition, CSA staff see evidence of modifications to cautionary language required by subsection 2.3(3) of NI 43-101 that render this provision less effective.

11. Should we consider modifying the definition of preliminary economic assessment to enhance the study's precision? If so, how? For example, should we introduce disclosure requirements related to cost estimation parameters or the amount of engineering completed?

The definition is clear, the problems are with the underlying assumptions (resource errors, aggressive classification, unrealistic economic costing). None of these issues are limited to the PEA and are equally prevalent in the PFS and FS stages (many recent examples are available). Your observations are biased by the higher number of PEAs and the type of issuers that are likely to publish a PEA but cannot advance to PFS or FS due to the quality of the project of issuer.

12. Does the current cautionary statement disclosure required by subsection 2.3(3) of NI 43-101 adequately inform investors of the full extent of the risks associated with the disclosure of a preliminary economic assessment? Why or why not?

The current disclosure requirement is sufficient. It is within the purview of the QP to describe appropriately.

13. Subparagraph 5.3(1)(c)(ii) of NI 43-101 triggers an independence requirement that may not apply to significant changes to preliminary economic assessments. Should we introduce a specific independence requirement for significant changes to preliminary economic assessments that is unrelated to changes to the mineral resource estimate? If so, what would be a suitable significance threshold?

The current disclosure requirement is sufficient.

CSA staff continue to see considerable evidence of preliminary economic assessment disclosure, subsequent to the disclosure of mineral reserves, which is potentially misleading and harmful to investors. In many cases, issuers continue to disclose an economic and technically viable mineral reserve case, while at the same time disclosing a conceptual alternative preliminary economic assessment with more optimistic assumptions and parameters. In many cases, the two are mutually exclusive options.

14. Should we preclude the disclosure of preliminary economic assessments on a mineral project if current mineral reserves have been established?

I consider that there should be the option to describe alternative scenarios that do not meet the rigour of PFS or FS. Investors SHOULD be made aware of scenarios that management is considering that is materially different than what has PFS or FS level study. The PEA scenario is worthy of disclosure because the issuer will most likely take actions to pursue this option; at least unless further studies prove it is inferior. Publishing a dual scenario study with reserves and a cashflow model and a separate study that explores a separate scenario with its separate mineral inventory and cashflow model seems appropriate. It may need additional language to ensure the investor is made aware and understands the different risk levels.

15. Should NI 43-101 prohibit including by-products in cash flow models used for the economic analysis component of a preliminary economic assessment that have not been categorized as measured, indicated, or inferred mineral resources? Please explain.

Yes, these may be material to the outcome yet have an outsized technical risk.

16. Is there anything missing or unclear in the current qualified person definition? If so, please explain what changes could be made to enhance the definition.

No change is required.

17. Should paragraph (a) of the qualified person definition be broadened beyond engineers and geoscientists to include other professional disciplines? If so, what disciplines should be included and why?

No, I think these two designations provide sufficient access for technical experts to qualify themselves. It is already difficult to ensure that approved professional associations are sufficiently robust to disqualify problematic members; those that qualify biologists or chemists may not have sufficient resources or motivation to provide the necessary oversight and rigour required by the mining industry.

18. Should the test for independence in section 1.5 of NI 43-101 be clarified? If so, what clarification would be helpful?

No, it is a judgement call among many others and there will always be remnant grey areas.

19. Should directors and officers be disqualified from authoring any technical reports, even in circumstances where independence is not required?

No, they should be allowed to as QP in those cases. They must abide by their professional ethics requirements set forth by the regulatory body for which they are a member.

20. Should we consider adopting a definition for a “current personal inspection”? If so, what elements are necessary or important to incorporate?

No change is required.

21. Should the qualified person accepting responsibility for the mineral resource estimate in a technical report be required to conduct a current personal inspection, regardless of whether another report author conducts a personal inspection? Why or why not?

Yes they should. Understanding continuity in mineralization (or lack thereof) is critical to mineral resource estimation and classification. Looking at the rocks and discussing with geologists familiar with the mineralization provides important information and knowledge to refine estimation parameters and qualify the risk to the estimations.

22. In a technical report for an advanced property, should each qualified person accepting responsibility for Items 15-18 (inclusive) (Reserves, Mining Methods, Recovery Methods, Project Infrastructure) of the Form be required to conduct a current personal inspection? Why or why not?

This should be left to QP judgement. A clarifying statement could be added such as “personal inspections are required for qualified persons responsible for the mineral resource estimation and is recommended for any qualified person whose responsibility sphere would benefit from reviewing site specific attributes such as the state of infrastructure (general, mining and processing), mining conditions, ease of access, topography and potential earthworks challenges”.

CSA staff continue to see significant non-compliant disclosure of exploration information, including inadequate disclosure of: • the QA/QC measures applied during the execution of the work being reported on in the technical report, • the summary description of the type of analytical or testing procedures utilized, and • the relevant analytical values, widths and true widths of the mineralized zone.

24. Are the current requirements in section 3.3 of NI 43-101 sufficiently clear (Reliance on other Experts)? If not, how could we improve them?

The form is clear, policing poor disclosure is the problem.

25. Should Item 14: Mineral Resource Estimates of the Form require specific disclosure of reasonable prospects for eventual economic extraction? Why or why not? If so, please explain the critical elements that are necessary to be disclosed.

- **The F1 form should specifically require a description of the mineralization continuity including long sections from the most important mineralized zones illustrating distribution of drill hole intersections indicating the true thickness and grade values.**
- **The F1 form should specifically require histograms for the distribution of block distances from nearest drill holes for Inferred, Indicated and Measured resources. This is the most reliable indication of typical and extreme drill spacing requirements and extrapolations. There is often a divergence between what is “prescribed” and what is applied in reality. At the very least it will cause the QP to question their selection of criteria.**
- **The F1 form should specifically require that the tonnage of material that is below the cut-off grade within a pit shell that defines “reasonable prospect of eventual**

extraction". This rock tonnage is readily available to the QP and is material to the evaluation of economic viability for the mineral deposit.

Disclosure of a mineral resource estimate is a significant milestone for an issuer. CSA Staff Notice 43-311 noted that disclosure of data verification procedures and results was one of the weakest areas in the mineral resource estimate review, stating that in technical reports reviewed by CSA staff, more than 20% had incomplete disclosure concerning the qualified person's data verification procedures and results.

26. a) Should the qualified person responsible for the mineral resource estimate be required to conduct data verification and accept responsibility for the information used to support the mineral resource estimate? Why or why not?

Yes, because they need to affirm that it is reasonable to use in the estimation. The resource QP needs to apply the classification which relies on the quantity and quality of underlying data.

b) Should the qualified person responsible for the mineral resource estimate be required to conduct data verification and accept responsibility for legacy data used to support the mineral resource estimate? Specifically, should this be required if the sampling, analytical, and QA/QC information is no longer available to the current operator. Why or why not?

Yes, the QP should affirm how the legacy data is being used and how the risks are mitigated given the level of classification. It is a judgement call given the many circumstances around how the data was collected and validated in the first place.

Many technical reports only provided boilerplate disclosure about potential risks and uncertainties that are general to the mining industry. Failure to set out meaningful known risks specific to the mineral project make mineral resource and mineral reserve disclosure potentially misleading.

27. How can we enhance project specific risk disclosure for mining projects and estimation of mineral resources and mineral reserves?

As a general statement, most of the risks that are unrelated to resources, reserves and economic outcomes are difficult if not impossible for QPs to evaluate and report on reliably (environment, social, governance). This is because professional geologists and engineers are not generally trained or qualified to evaluate these factors. Additionally, quantifiable data is not made available for them to report on. I consider that ESG factors should be the responsibility of, and reported by, the Issuer.

Potentially, the issuer provides a statement within the NI 43-101 that would be relied upon using existing mechanisms, or the statements contained in other public filings could be sufficient.

28. Do you think the current environmental disclosure requirements under Items 4 and 20 of the Form are adequate to allow investors to make informed investment decisions? Why or why not?

It is not clear that the NI 43-101 report prepared by mining professionals can be effective tools to disclose these risks. The risks associated with environmental and construction permit acquisition are extremely difficult to ascertain and quantify as their timing and decisions are often affected by short term political considerations (variable and unquantifiable).

Potentially, the issuer provides a statement within the NI 43-101 that would be relied upon using existing mechanisms, or the statements contained in other public filings could be sufficient.

29. Do you think the current social disclosure requirements under Items 4 and 20 of the Form are adequate to allow investors to make informed investment decisions? Why or why not?

Risks associated with governance in any jurisdiction is extremely difficult to ascertain and quantify due to short term political considerations at multiple levels of government. See Point 27 above. Reliance on other experts may need to be updated to include a section provided by the issuer upon which the QP is not responsible.

It is not clear that the NI 43-101 report prepared by mining professionals can be effective tools to disclose these risks. The risks associated with environmental and construction permit acquisition are extremely difficult to ascertain and quantify as their timing and decisions are often affected by short term political considerations (variable and unquantifiable).

Potentially, the issuer provides a statement within the NI 43-101 that would be relied upon using existing mechanisms, or the statements contained in other public filings could be sufficient.

30. Should disclosure of community consultations be required in all stages of technical reports, including reports for early stage exploration properties?

The following sections could be provided by the issuer and be classified as “reliance on other experts”. There is no reasonable method for the QP to verify the accuracy and reliability of data provided.

- The F1 Form should specifically require a description of the size, demographics and level of industrialization of the various communities that could be affected by an eventual mineral project. Very broad descriptions of any agreements that are in place with the communities should be included (detailed descriptions should not be required as these are typically very confidential in nature).
- The F1 Form should specifically require the report to describe the activities taken by the issuer to communicate and engage with the local community. This could include a table summarizing the general types and number of occurrences of the various activities undertaken by the issuer reported on an annual basis. Again, detailed descriptions should not be required as some aspects of engagement can be very confidential in nature.

The very fact that these activities will be required for the Technical Report at any stage of advancement would be a strong motivation for issuers to initiate outreach and establish trust.

31. What specific disclosures should be mandatory in a technical report in order for investors to fully understand and appreciate the risks and uncertainties that arise as a result of the rights of Indigenous Peoples with respect to a mineral project?

Listing the Indigenous Nations that have title on the mineral project location, listing whether there are any formal agreements signed and what those agreements are, and if there is any active engagement. No details of these confidential agreements should be disclosed in a NI 43-101.

32. What specific disclosures should be mandatory in a technical report in order for investors to fully understand and appreciate all significant risks and uncertainties related to the relationship of the issuer with any Indigenous Peoples on whose traditional territory the mineral project lies?

See comment from 27 and 30 above.

33. Should we require the qualified person or other expert to validate the issuer's disclosure of significant risks and uncertainties related to its existing relationship with Indigenous Peoples with respect to a project? If so, how can a qualified person or other expert independently verify this information? Please explain.

No, the QP should not be required to validate the issuers disclosure of the relationship with the Indigenous Nations as the QP is signing off on the geological and engineering aspects of the project and may not have sufficient understanding of the complexities of the agreements and relationships within any jurisdiction. The validation of such relationships would also likely involve a meeting with the local indigenous communities which is not appropriate for a technical report. The relationship with Indigenous peoples, if disclosed, should be the issuer's responsibility.

34. Are the current disclosure requirements for capital and operating costs estimates in Item 21 of the Form adequate? Why or why not?

- **The NI 43-101 F1 form should require disclosure of the estimated total cost per lateral meter of underground mining development (including services and ground support). This is a major cost component of all underground mining projects and is rarely provided explicitly.**
- **The NI 43-101 F1 form should be more explicit on the requirements of detail to be included in the cashflow model: for example: Capital expenditures by major categories, tonnage and grade to the mill, metallurgical recovery of each element of interest, operating cost of mining, processing, G&A, smelter or refining costs, penalties and payability factors, sustaining capital split by mining, processing and other capital projects. The provided table should be sufficiently detailed to allow an investor to reconstruct the financial model and obtain the same economic results.**

35. Should the Form be more prescriptive with respect to the disclosure of the cost estimates, for example to require disclosure of the cost estimate classification system used, such as the classification system of the Association for the Advancement of Cost Engineering (AACE International)? Why or why not?

The classification of costs estimates less relevant than the bias towards optimistic cost estimates. See point 36 Below.

36. Is the disclosure requirement for risks specific to the capital and operating cost assumptions adequate? If not, how could it be improved?

Economic studies for development projects generally have lower estimated operating costs than analogous operating mines. The aggregation of optimistic operating costs often results in unrealistic economic results in economics studies. Benchmarking of mining, processing and G&A costs are rarely done in Economic Studies. Inciting qualified persons to compare their estimates with real world estimates will help the Qualified Persons consider more carefully their selection of assumptions. It also provides a supporting structure for QPs to defend against issuers that puts undue pressure to use overly optimistic costs. The dearth of publicly available operating cost estimates from producing issuers means that useful benchmarking sources are less common than they should be.

- The exceptions set out in section 4.2 and 4.2 (10) of the Companion Policy could be revised to provide additional benchmarking opportunities from Producing Issuers for economics studies.
- The NI 43-101 F1 should require comparison of costs for multiple similar projects; as well as a discussion explaining differences in the mining, processing and G&A costs compared to the analogous operating mines.

37. Are there better ways for Item 22 of the Form to require presentation of an economic analysis to facilitate this key requirement for the investing public? For example, should the Form require the disclosure of a range of standardized discount rates?

No change is required. Most investors can run the models at their preferred discount rates easily. Especially if the recommendations in Point 34 are implemented.

38. Are there other disclosure requirements in NI 43-101 or the Form that we should consider removing or modifying because they do not assist investors in making decisions or serve to protect the integrity of the mining capital markets in Canada?

No other changes required.

Signed,

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Guy Desharnais P.Geo Ph.D.,