

## Purpose

This staff notice provides guidance on the application of National Instrument 43-101 *Standards of Disclosure for Mineral Projects (NI 43-101)* in Ontario to issuers with mineral brine projects such as lithium. It has been prepared by staff of the Corporate Finance Branch of the Ontario Securities Commission (**OSC**) and the views it expresses do not necessarily reflect the views of the OSC, other jurisdictions, or the Canadian Securities Administrators.

Recent industry developments have led to an expansion in the exploration for lithium. Currently, this exploration appears to be focused on projects where the lithium is hosted in liquid brine rather than in hard rock sources. Since the summer of 2009, staff of the OSC have seen an increase in reporting issuers working on such mineral brine projects.

## Summary

We are providing guidance in three areas:

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| <b>1. Application of NI 43-101</b>            | Do mineral brine projects fall within the definition of “mineral project” in section 1.1 of NI 43-101 and are they, as a result, subject to the requirements of NI 43-101 in Ontario?  |
| <b>2. CIM definitions</b>                     | Given that NI 43-101 relies on the Canadian Institute of Mining Metallurgy and Petroleum ( <b>CIM</b> ) definitions of “mineral resource” and “mineral reserve” and CIM has not provided an official interpretation of whether a resource or reserve on a mineral brine project falls within these definitions, what is the impact on an issuer’s disclosure of resources or reserves? |
| <b>3. Scientific and technical disclosure</b> | What issues should be considered when preparing disclosure of scientific or technical information, including a technical report?   |

## Guidance

### **1. Application of NI 43-101**

In our view mineral brine projects are mineral projects as defined in NI 43-101. Under section 1.1 of NI 43-101, “mineral project” means any exploration, development or production activity ... in respect of ... natural solid

inorganic material .. including industrial minerals. The mining activity in a mineral brine project is in respect of lithium salts and other salts that are natural solid inorganic material.

We also think that it is in the public interest for mineral brine projects to be subject to the requirements of NI 43-101. NI 43-101 provides a proper and rigorous disclosure framework for mineral projects hosted in a brine.

General Guidance (1) of Companion Policy 43-101CP *To National Instrument 43-101 Standards of Disclosure for Mineral Projects* provides guidance that NI 43-101 does not apply to disclosure concerning “groundwater”. We do not think that this guidance regarding groundwater applies to natural solid inorganic materials dissolved in a liquid host medium. Rather, we think that this guidance refers either to: (i) groundwater as a waste product in the process of petroleum extraction, or (ii) potable water. We note that the other materials explicitly named in that section of the Companion Policy are materials generally associated with the oil and gas industry, which are generally subject to the requirements of National Instrument 51-101 *Standards of Disclosure for Oil and Gas Activities*.

## **2. CIM definitions**

Sections 1.2 and 1.3 of NI 43-101 provide that the terms “mineral resource” and “mineral reserve” have the meanings ascribed to those terms by CIM. We think that a mineral brine project is a “mineral project” under NI 43-101 regardless of whether a resource or reserve on the project falls within the CIM definitions of “mineral resources” or “mineral reserves”. However, in the absence of an official interpretation from CIM, whether a resource or reserve on a mineral brine project falls within these CIM definitions may be unclear.

Regardless of whether an issuer or a qualified person takes the view that a resource or reserve on a mineral brine project falls within or outside these CIM definitions, any scientific or technical information on the mineral project should disclose the issuer’s or the qualified person’s view on this issue. In addition, if an issuer or a qualified person takes the view that a resource or reserve on a mineral brine project falls outside the CIM definitions, the issuer should also disclose how it intends to comply with any requirements of NI 43-101 that rely on these CIM definitions. For example, the issuer should disclose how it will comply with the technical report triggers in section 4.2 of NI 43-101 given its view that a resource or reserve on a mineral brine project falls outside the CIM definitions.

## **3. Scientific or technical disclosure**

Scientific and technical information about a mineral brine project must satisfy the requirements of NI 43-101. A technical report supporting scientific or technical information about a mineral brine project must satisfy the requirements of Form 43-101F1 *Technical Report (Form 43-101F1)* and provide a summary of scientific and technical information concerning mineral exploration, development and production activities on a mineral project that is material to the issuer.

A technical report prepared in respect of a mineral brine project should reflect some issues that are specific to brine-hosted deposits. The following table identifies some considerations for mineral brine projects. This list is not exhaustive, and the qualified person would be expected to take the particular circumstances into account when preparing this disclosure.

| Issue                      | Form 43-101F1 Item   | Considerations for Mineral Brine Projects   |
|----------------------------|--|---|
| Mineral Rights             | Item 4: Property Description and Location  | Nature of the mineral tenure and any potential risks and uncertainties regarding “ownership” of the brine.  |
| Climate                    | Item 5: Accessibility, Climate, Local Resources, Infrastructure and Physiography | Relevant meteorological data such as solar radiation, precipitation, wind, etc.   |
| Geology and Mineralization | Item 7: Geological Setting and Mineralization                                    | Hydrological aspects of the property such as surface and groundwater, water balance, and geology of the aquifer; characteristics of the brine body such as its geometry, chemical composition, variability, grade, etc. |
| Deposit Types              | Item 8: Deposit Types  | Characteristics of the host salar (salt flat), associated hydrogeology, aquifer boundaries, physical properties, etc.   |
| Sampling                   | Item 11: Sample Preparation, Analyses and Security                               | Controls and protocols for brine sampling and preservation and determination of key variables such as porosity, specific yield, permeability, etc.  |
| Mineral Resource Estimates | Item 14: Mineral Resource Estimates  | Key variables such as brine volume and grade, aquifer geometry, effective porosity, specific yield, flow rate, recoverability, etc. in order to meet the definition of reasonable prospects of economic extraction.     |
| Mineral Reserve Estimates  | Item 15: Mineral Reserve Estimates   | Key variables such as hydraulic conductivity, recovery, brine behaviour and grade variation over time, etc. and fluid flow simulation models in order to demonstrate that economic extraction can be justified.         |
| Mining Method              | Item 16: Mining Methods  | Relevant information related to the design of the well field, infrastructure, pumping rate, brine body response to extraction, etc.   |

Sections 3.3 and 3.4 of NI 43-101 set out requirements for written disclosure about mineral projects, and are intended to ensure that disclosure of exploration information and mineral resource and reserve estimates are presented in context. Because a mineral brine project is a "mineral project" within the meaning of NI 43-101, disclosure about mineral brine projects must meet the requirements of Part 3.

Issuers and qualified persons should interpret the requirements of Part 3 as mandating disclosure of background information that is relevant to the exploration results or resource or reserve estimates being disclosed, even though the information may be specifically relevant only in the case of a mineral brine project.

We also think that issuers should include cautionary language with any scientific or technical information regarding a mineral brine project to emphasize the differences between such projects and traditional hard rock projects.

## Questions

Questions may be referred to:

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