

NATIONAL INSTRUMENT 43-101

STANDARDS OF DISCLOSURE FOR MINERAL PROJECTS

PART 1 APPLICATION, DEFINITIONS AND INTERPRETATION

1.1 Application - This Instrument applies to all oral statements and written disclosure of scientific or technical information, including disclosure of a mineral resource or mineral reserve, made by or on behalf of an issuer in respect of a mineral project of the issuer.

1.2 Definitions - In this Instrument

"adjacent property" means a property

(a) in which the issuer does not have an interest;

(b) that has a boundary reasonably proximate to the closest boundary of the property being reported on; and

(c) that has geological characteristics similar to those of the property being reported on;

"data verification" means the process of confirming that data has been generated with proper procedures, has been accurately transcribed from the original source and is suitable to be used;

"development property" means a property that is being prepared for mineral production and for which economic viability has been demonstrated by a feasibility study;

"disclosure" means any oral statement or written disclosure made by or on behalf of an issuer and intended to be, or reasonably likely to be, made available to the public in a Canadian jurisdiction, whether or not filed under securities legislation, but does not include written disclosure that is made available to the public only by reason of having been filed with a government or agency of government pursuant to a requirement of law other than securities legislation;

"disclosure document" means an annual information form, prospectus, material change report or annual financial statement filed with a regulator pursuant to a requirement of securities legislation;

"exploration information" means geological, geophysical, geochemical, sampling, drilling, analytical testing, assaying, mineralogical, metallurgical and other similar information concerning a particular property that is derived from activities undertaken to locate, investigate, define or delineate a mineral prospect or mineral deposit;

"feasibility study" means a comprehensive study of a deposit in which all geological, engineering, operating, economic and other relevant factors are considered in sufficient

detail that it could reasonably serve as the basis for a final decision by a financial institution to finance the development of the deposit for mineral production;

"IMM system" means the classification system and definitions for mineral resources and mineral reserves approved from time to time by The Institution of Mining and Metallurgy in the United Kingdom;

"JORC Code" means the Australasian Code for Reporting of Mineral 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 or supplemented;

"mineral project" means any exploration, development or production activity in respect of natural, solid, inorganic or fossilized organic, material including base and precious metals, coal and industrial minerals;

"preliminary assessment" means a preliminary assessment permitted to be disclosed pursuant to subsection 2.3(3);

"preliminary feasibility study" and "pre-feasibility study" each mean 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 which, if an effective method of mineral processing has been determined, includes a financial analysis based on reasonable assumptions of technical, engineering, operating, economic 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;

"producing issuer" means an issuer the annual audited financial statements of which disclose

(a) gross revenues, derived from mining operations, of at least \$30 million for the issuer's most recently completed financial year; and

(b) gross revenues, derived from mining operations, of at least \$90 million in the aggregate for the issuer's three most recently completed financial years;

"professional association" means a self-regulatory organization of engineers, geoscientists or both engineers and geoscientists that

(a) has been given authority or recognition by statute;

(b) admits members primarily on the basis of their academic qualifications and experience;

(c) requires compliance with the professional standards of competence and ethics established by the organization; and

(d) has disciplinary powers, including the power to suspend or expel a member;

and until February 1, 2002 includes an association of geoscientists in Ontario and until February 1, 2003 includes an association of geoscientists in a Canadian jurisdiction other than Ontario that does not have a statutorily recognized self-regulatory association;

"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, or any combination of these;

(b) has experience relevant to the subject matter of the mineral project and the technical report; and

(c) is a member in good standing of a professional association;

"quantity" means either tonnage or volume, depending on which term is the standard in the mining industry for the type of mineral;

"technical report" means a report prepared, filed and certified in accordance with this Instrument and Form 43-101F1 Technical Report;

"USGS Circular 831" means the circular published by the United States Bureau of Mines/United States Geological Survey entitled "Principles of a Resource/Reserve Classification for Minerals", as amended or supplemented; and

"written disclosure" includes any writing, picture, map or other printed representation whether produced, stored or disseminated on paper or electronically.

1.3 Mineral Resource - In this Instrument, the terms "mineral resource", "inferred mineral resource", "indicated mineral resource" and "measured mineral resource" have the meanings ascribed to those terms by the Canadian Institute of Mining, Metallurgy and Petroleum, as the CIM Standards on Mineral Resources and Reserves Definitions and Guidelines adopted by CIM Council on August 20, 2000, as those definitions may be amended from time to time by the Canadian Institute of Mining, Metallurgy and Petroleum.

1.4 Mineral Reserve - In this Instrument, the terms "mineral reserve", "probable mineral reserve" and "proven mineral reserve" have the meanings ascribed to those terms by the Canadian Institute of Mining, Metallurgy and Petroleum, as the CIM Standards on Mineral Resources and Reserves Definitions and Guidelines adopted by CIM Council on August 20, 2000, as those definitions may be amended from time to time by the Canadian Institute of Mining, Metallurgy and Petroleum.

1.5 Interpretation

(1) In this Instrument, a person or company is considered to be an affiliated entity of another person or company if

(a) one is a subsidiary of the other,

(b) both are subsidiaries of the same person or company, or

(c) each is controlled by the same person or company.

(2) In this Instrument, a person or company is considered to be controlled by a second person or company if

(a) in the case of a company,

(i) voting securities of the company carrying 50 percent or more of the votes for the election of directors are held, otherwise than by way of security only, by or for the benefit of the second person or company; and

(ii) the votes carried by such securities entitle the second person or company to elect a majority of the directors of the company;

(b) in the case of a partnership, other than a limited partnership, the second person or company holds an interest of 50 percent or more in the partnership; or

(c) in the case of a limited partnership, the general partner is the second person or company.

(3) In this Instrument, a person or company is considered to be a subsidiary entity of a second person or company, if

(a) the person or company is controlled by

(i) the second person or company, or

(ii) the second person or company and one or more other persons or companies, each of which is controlled by the second person or company, or

(iii) one or more other persons or companies, each of which is controlled by the second person or company; or

(b) the person or company is a subsidiary entity of a person or company that is itself a subsidiary entity of the second person or company.

(4) In this Instrument, a qualified person involved in the preparation of a technical report is not considered to be independent of the issuer in respect of the technical report, if

(a) the qualified person, or any affiliated entity of the qualified person, is, or by reason of an agreement, arrangement or understanding expects to become, an insider, associate, affiliated entity or employee of

(i) the issuer,

(ii) an insider of the issuer, or

(iii) an affiliated entity of the issuer;

(b) the qualified person, or any affiliated entity of the qualified person, is, or by reason of an agreement, arrangement or understanding expects to become, a partner of any person or company referred to in paragraph (a);

(c) the qualified person, or any affiliated entity of the qualified person, owns, or by reason of an agreement, arrangement or understanding expects to receive, any securities of the issuer or of an affiliated entity of the issuer or an ownership or royalty interest in the property that is the subject of the technical report;

(d) the qualified person, or any affiliated entity of the qualified person, has received the majority of his or her income in the three years preceding the date of the technical report from one or more of the issuer and insiders and affiliated entities of the issuer; or

(e) the qualified person, or any affiliated entity of the qualified person,

(i) is, or by reason of an agreement, arrangement or understanding expects to become, an insider, affiliate or partner of the person or company which has an ownership or royalty interest in a property which has a boundary within two kilometres of the closest boundary of the property being reported on; or

(ii) has, or by reason of an agreement, arrangement or understanding expects to obtain, an ownership or royalty interest in a property which has a boundary within two kilometres of the closest boundary of the property being reported on.

PART 2 REQUIREMENTS APPLICABLE TO ALL DISCLOSURE

2.1 Requirements Applicable to All Disclosure - An issuer shall ensure that all disclosure of a scientific or technical nature, including disclosure of a mineral resource or mineral reserve, concerning mineral projects on a property material to the issuer is based upon a technical report or other information prepared by or under the supervision of a qualified person.

2.2 All Disclosure of Mineral Resources or Mineral Reserves - An issuer shall ensure that any disclosure of a mineral resource or mineral reserve, including disclosure in a technical report filed by an issuer

(a) utilizes only the applicable mineral resource and mineral reserve categories set out in sections 1.3 and 1.4;

(b) reports each category of mineral resources and mineral reserves separately, and if both mineral resources and mineral reserves are disclosed, states the extent, if any, to which mineral reserves are included in total mineral resources; and

(c) does not add inferred mineral resources to the other categories of mineral resources.

2.3 Prohibited Disclosure

(1) An issuer shall not make any disclosure of

(a) quantity or grade of a deposit which has not been categorized as an inferred mineral resource, an indicated mineral resource, a measured mineral resource, a probable mineral reserve or a proven mineral reserve, or

(b) results of an economic evaluation which uses inferred mineral resources.

(2) Despite paragraph (1)(a), an issuer may disclose in writing the potential quantity and grade, expressed as ranges, of a possible mineral deposit that is to be the target of further exploration, provided that the disclosure includes

(a) a proximate statement that the potential quantity and grade is conceptual in nature, that there has been insufficient exploration to define a mineral resource on the property

and that it is uncertain if further exploration will result in discovery of a mineral resource on the property, and

(b) the basis on which the disclosed potential quantity and grade has been determined.

(3) Despite paragraph (1)(b), an issuer may disclose a preliminary assessment that includes an economic evaluation which uses inferred mineral resources, provided

(a) the preliminary assessment is a material change in the affairs of the issuer or a material fact;

(b) the disclosure includes

(i) a proximate statement that the preliminary assessment is preliminary in nature, that it includes inferred mineral resources that are considered too speculative geologically to have the economic considerations applied to them that would enable them to be categorized as mineral reserves, and there is no certainty that the preliminary assessment will be realized, and

(ii) the basis for the preliminary assessment and any qualifications and assumptions made by the qualified person; and

(c) in Ontario, if the issuer is a reporting issuer in Ontario, the issuer shall deliver to the regulator in Ontario the disclosure it proposes to make together with the preliminary assessment and the technical report required pursuant to section 4.2 at least five business days prior to making the disclosure and the regulator in Ontario shall not have advised the issuer that it objects to the disclosure.

(4) An issuer shall not use the terms preliminary feasibility study, pre-feasibility study or feasibility study when referring to a study unless the study satisfies the criteria set out in the definitions of the applicable terms in section 1.2.

2.4 Disclosure of Historical Estimates - Despite section 2.2 an issuer may disclose an estimate of mineral resources or mineral reserves made before this Instrument came into force if

(a) the estimate is an estimate of mineral resources or mineral reserves prepared by or on behalf of a person or company other than the issuer, or

(b) the estimate accompanies disclosure of an estimate of mineral resources and mineral reserves made in accordance with section 2.2

and provided that the disclosure:

(i) identifies the source of the historical estimate;

(ii) confirms that the historical estimate is relevant;

(iii) comments on the reliability of the historical estimate;

(iv) states whether the historical estimate uses categories other than the ones stipulated in sections 1.3 and 1.4 and, if so, includes an explanation of the differences; and

(v) includes any more recent estimates or data available to the issuer.

PART 3 ADDITIONAL REQUIREMENTS FOR WRITTEN DISCLOSURE

3.1 Written Disclosure to Include Name of Qualified Person - An issuer shall ensure that all written disclosure of a scientific or technical nature, other than a news release, concerning a mineral project on a property material to the issuer identifies and discloses the relationship to the issuer of the qualified person who prepared or supervised the preparation of the technical report or other information that forms the basis for the written disclosure.

3.2 Written Disclosure to Include Data Verification - An issuer shall ensure that all written disclosure of a scientific or technical nature concerning mineral projects on a property material to the issuer:

(a) states whether a qualified person has verified the data disclosed, including sampling, analytical and test data underlying the information or opinions contained in the written disclosure;

(b) describes the nature of, and any limitations on, the verification of data disclosed; and

(c) explains any failure to verify the data disclosed.

3.3 Requirements Applicable to Written Disclosure of Exploration Information

(1) An issuer shall ensure that all written disclosure containing scientific or technical exploration information concerning a property material to the issuer includes:

(a) to the extent not previously disclosed in writing and filed by the issuer, the results, or a summary of the material results, of surveys and investigations regarding the property;

(b) a summary of the interpretation of the exploration information to the extent that such interpretation has not been previously disclosed in writing and filed by the issuer; and

(c) a description of the quality assurance program and quality control measures applied during the execution of the work being reported on.

(2) An issuer shall ensure that all written disclosure containing sample or analytical or testing results on a property material to the issuer includes

(a) to the extent not previously disclosed in writing and filed by the issuer, a summary description of the geology, mineral occurrences and nature of mineralization found;

(b) to the extent not previously disclosed in writing and filed by the issuer, a summary description of rock types, geological controls and widths of mineralized zones, and the identification of any significantly higher grade intervals within a lower grade intersection;

(c) the location, number, type, nature and spacing or density of the samples collected and the location and dimensions of the area sampled;

(d) identification of any drilling, sampling, recovery or other factors that could materially affect the accuracy or reliability of the data referred to in this subsection;

(e) a summary description of the type of analytical or testing procedures utilized, sample size, the name and location of each analytical or testing laboratory used, the certification of each laboratory, if known to the issuer, and any relationship of the laboratory to the issuer; and

(f) a listing of the lengths of individual samples or sample composites with analytical values, widths and, to the extent known to the issuer, the true widths of the mineralized zone.

3.4 Requirements Applicable to Written Disclosure of Mineral Resources and Mineral Reserves - An issuer shall ensure that all written disclosure of mineral resources or mineral reserves on a property material to the issuer includes:

(a) the effective date of each estimate of mineral resources and mineral reserves;

(b) details of quantity and grade or quality of each category of mineral resources and mineral reserves;

(c) details of the key assumptions, parameters and methods used to estimate the mineral resources and mineral reserves;

(d) a general discussion of the extent to which the estimate of mineral resources and mineral reserves may be materially affected by any known environmental, permitting, legal, title, taxation, socio-political, marketing, or other relevant issues; and

(e) a statement that mineral resources which are not mineral reserves do not have demonstrated economic viability.

3.5 Exception for Written Disclosure Already Filed - The requirements of sections 3.3 and 3.4 are satisfied by reference, in written disclosure, to a previously filed disclosure document that complies with those requirements.

PART 4 OBLIGATION TO FILE A TECHNICAL REPORT

4.1 Obligation to File a Technical Report Upon Becoming a Reporting Issuer

(1) Upon first becoming a reporting issuer in a Canadian jurisdiction an issuer shall file with the regulator in that Canadian jurisdiction a current technical report for each property material to the issuer.

(2) An issuer may satisfy the requirement of subsection (1) by filing a technical report or a report prepared and filed in accordance with National Policy Statement No. 2-A before February 1, 2001 that it has previously filed in another Canadian jurisdiction in which it is a reporting issuer, amended or supplemented, if necessary, to reflect material changes in the information contained in the technical report since the date of filing in the other Canadian jurisdiction.

4.2 Obligation to File a Technical Report in Connection with Certain Written Disclosure Concerning Mineral Projects on Material Properties

(1) An issuer shall file a current technical report to support information in the following documents filed or made available to the public in a Canadian jurisdiction describing mineral projects on a property material to the issuer:

1. A preliminary prospectus, other than a preliminary short form prospectus filed in accordance with National Instrument 44-101.
2. A preliminary short form prospectus filed in accordance with National Instrument 44-101 that includes material information concerning mining projects on material properties not contained in
 - (a) a disclosure document filed before February 1, 2001;
 - (b) a previously filed technical report; or
 - (c) a report prepared in accordance with National Policy Statement No. 2-A and filed with a regulator before February 1, 2001.
3. An information or proxy circular concerning a direct or indirect acquisition of a mineral property, including an acquisition of control of a person or company with an interest in the property, that upon completion of the acquisition would be material to the issuer if the consideration includes securities of the issuer or the person or company which continues to hold an interest in the property upon completion of the acquisition.
4. An offering memorandum.
5. A rights offering circular.
6. An annual information form or annual report that includes material information concerning mining projects on material properties not contained in
 - (a) a disclosure document filed before February 1, 2001;
 - (b) a previously filed technical report; or
 - (c) a report prepared in accordance with National Policy Statement No. 2-A and filed with a regulator before February 1, 2001.
7. A valuation required to be prepared and filed under securities legislation.
8. A directors' circular that discloses for the first time a preliminary assessment or mineral resources or mineral reserves on a property material to the issuer that constitutes a material change in respect of the affairs of the issuer, or discloses any change in a preliminary assessment or in mineral resources or mineral reserves, from the most recently filed technical report of the issuer, that constitutes a material change in respect of the affairs of the issuer.
9. A take-over bid circular that discloses a preliminary assessment or mineral resources or mineral reserves on a property material to the offeror if securities of the offeror are being offered in exchange on the take-over bid.
10. Any written disclosure, made other than in a document referred to in paragraphs 1 to 9 above, which is either

(i) first time disclosure of a preliminary assessment or mineral resources or mineral reserves on a property material to the issuer that constitutes a material change in respect of the affairs of the issuer; or

(ii) disclosure of any change in a preliminary assessment or in mineral resources and mineral reserves from the most recently filed technical report, that constitutes a material change in respect of the affairs of the issuer.

(2) If there has been a material change to the information in the technical report filed under paragraph 1 or 2 of subsection (1) before the filing of the final version of a prospectus or short form prospectus, the issuer shall file an updated technical report or an addendum to the technical report with the final version of the prospectus or short form prospectus.

(3) Subject to subsections (4), (5), and (6), the technical report required to be filed under subsection (1) shall be filed not later than the time of the filing of the document listed in subsection (1) that it supports.

(4) Despite subsection (3), a technical report concerning mineral reserves and mineral resources that supports disclosure described in paragraph 10 of subsection (1) shall

(a) be filed not later than 30 days after the disclosure; and

(b) if filed subsequent to the disclosure, be accompanied by a contemporaneous disclosure that reconciles any material differences between the technical report filed and the previous disclosure in connection with which the technical report was prepared.

(5) Despite subsection (3), if a property referred to in a document described in paragraph 6 of subsection (1) first becomes material to the issuer less than 30 days before the filing deadline for the document, the issuer shall file the technical report required by subsection (1) within 30 days of the date that the property first became material to the issuer.

(6) Despite subsection (3), a technical report that supports a directors' circular shall be filed not less than 3 business days prior to the expiry of the take-over bid.

4.3 Required Form of Technical Report - A technical report that is required to be filed under this Part shall be in accordance with Form 43-101F1.

PART 5 AUTHOR OF TECHNICAL REPORT

5.1 Prepared by a Qualified Person - A technical report shall be prepared by or under the supervision of one or more qualified persons.

5.2 Execution of Technical Report - A technical report shall be dated, signed and, if the qualified person has a seal, sealed, by the qualified person who prepared it or supervised its preparation, or if such an individual is an employee, officer, director or associate of a person or company the principal business of which is the provision of engineering or geoscientific services, by that person or company.

5.3 Independent Technical Report

(1) Subject to subsection (2), a technical report required under any of the following provisions of this Instrument shall be prepared by a qualified person that is, at the date of the technical report, independent of the issuer:

1. First-time Reporting Issuer - Subsection 4.1(1)
2. Long Form Prospectus and Valuation - Paragraphs 4.2(1)I and 7
3. Other - Paragraphs 4.2(1)2, 3, 4, 5, 6, 8, 9 and 10 if the document discloses a preliminary assessment, or mineral resources or mineral reserves on a property material to the issuer for the first time, or discloses a 100 percent or greater change, from the most recently filed technical report prepared by a qualified person who is independent of the issuer, in mineral resources or mineral reserves on a property material to the issuer
4. Reporting Issuer in an Additional Canadian Jurisdiction - Subsection 4.1(2)

(2) A technical report required to be filed by a producing issuer under paragraphs 3 and 4 of subsection (1) is not required to be prepared by an independent qualified person.

(3) A technical report required to be filed by an issuer that is or has contracted to become a joint venture participant, concerning a property which is or will be the subject of the joint venture's activities, is not required to be prepared by an independent qualified person if the qualified person preparing the report is an employee of, or retained by, another participant in the joint venture that is a producing issuer.

PART 6 PREPARATION OF TECHNICAL REPORT

6.1 Nature of the Technical Report - A technical report shall be prepared on the basis of all available factual data that is relevant to the disclosure which it supports.

6.2 Personal Inspection - At least one qualified person preparing or supervising the preparation of the technical report shall inspect the property that is the subject of the technical report.

6.3 Maintenance of Records - The issuer shall keep copies of assay and other analytical certificates, drill logs and other information referenced in the technical report or used as a basis for the technical report for 7 years.

PART 7 USE OF FOREIGN CODE

7.1 Use of Foreign Code

(1) An issuer that is incorporated or organized in a foreign jurisdiction may make disclosure and file a technical report that utilizes the mineral resource and mineral reserve categories of the JORC Code, USGS Circular 831 or the IMM system provided that a reconciliation to the mineral resource and mineral reserve categories set out in sections 1.3 and 1.4 is filed with the technical report and certified by a qualified person. The reconciliation shall address the confidence levels required for the categorization of mineral resources and mineral reserves.

(2) An issuer that is incorporated or organized under the laws of Canada or a province or territory of Canada may make disclosure and file a technical report that utilizes the mineral resource and mineral reserve categories of the JORC Code, USGS Circular 831 or

the IMM system for properties located in a foreign jurisdiction, provided that a reconciliation to the mineral resource and mineral reserve categories set out in sections 1.3 and 1.4, which reconciliation addresses the confidence levels required for the categorization of mineral resources and mineral reserves, is certified by a qualified person and is filed with the technical report.

PART 8 CERTIFICATES AND CONSENTS OF QUALIFIED PERSONS FOR TECHNICAL REPORTS

8.1 Certificates of Qualified Persons

(1) An issuer shall, when filing a technical report, also file a certificate of each of the individuals who are qualified persons and who have been primarily responsible for the technical report, or a portion of the technical report, dated, signed and, if the signatory has a seal, sealed, by the signatory.

(2) The certificate of each qualified person shall state

(a) the name, address and occupation of the qualified person;

(b) the qualified person's qualifications, including relevant experience, the name of all professional associations to which the qualified person belongs, and that the qualified person is a "qualified person" for purposes of this Instrument;

(c) the date and duration of the qualified person's most recent visits to each applicable site;

(d) the section or sections of the technical report for which the qualified person is responsible;

(e) that the qualified person is not aware of any material fact or material change with respect to the subject matter of the technical report which is not reflected in the technical report, the omission to disclose which makes the technical report misleading;

(f) if the qualified person is independent of the issuer applying the tests set out in section 1.5;

(g) what prior involvement, if any, the qualified person has had with the property that is the subject of the technical report; and

(h) that the qualified person has read this Instrument and Form 43-101F1, and the technical report has been prepared in compliance with this Instrument and Form 43-101F1.

8.2 Addressed to Issuer - All technical reports shall be addressed to the issuer.

8.3 Consents of Qualified Persons - All technical reports and addenda to technical reports that are required by this Instrument to be filed shall

(a) be accompanied by the written consent of the qualified person, addressed to the securities regulatory authorities, consenting to the filing of the technical report and to the

written disclosure of the technical report and of extracts from or a summary of the technical report in the written disclosure being filed; and

(b) be accompanied by a certificate confirming that the qualified person has read the written disclosure being filed and does not have any reason to believe that there are any misrepresentations in the information derived from the technical report or that the written disclosure contains any misrepresentation of the information contained in the technical report.

PART 9 EXEMPTION

9.1 Exemption

(1) The regulator or the securities regulatory authority may, on application, grant an exemption from this Instrument, in whole or in part, subject to such conditions or restrictions as may be imposed in the exemption in response to an application.

(2) Despite subsection (1), in Ontario, only the regulator may grant such an exemption.

(3) Despite subsection (1), in Alberta, only the regulator may grant such an exemption.

PART 10 EFFECTIVE DATE

10.1 Effective Date - This Instrument shall come into force on February 1, 2001.