

REGULATION 51-101
STANDARDS OF DISCLOSURE
FOR OIL AND GAS ACTIVITIES

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REGULATION 51-101
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PART 1 APPLICATION AND TERMINOLOGY¹

1.1 Definitions² - In this *Regulation*:

- (a) *annual information form* means:
 - (i) a "current AIF", as defined in *NI 44-101*;
 - (ii) in the case of a *reporting issuer* that is eligible to file, for the purposes of Part 3 of *NI 44-101*, a current annual report on Form 10-K or Form 20-F under the *1934 Act*, such a current annual report so filed; or
 - (iii) a document prepared in Form 44-101F1 *AIF* and filed with the *securities regulatory authority* in the *jurisdiction* in accordance with *securities legislation* of that *jurisdiction* other than *NI 44-101*;
- (b) "*BOEs*" means barrels of *oil* equivalent;
- (c) "*CICA*" means The Canadian Institute of Chartered Accountants;
- (d) "*CICA Accounting Guideline 5*" means Accounting Guideline AcG-5 "Full cost accounting in the oil and gas industry" included in the *CICA Handbook*, as amended from time to time;
- (e) "*CICA Handbook*" means the Handbook of the *CICA*, as amended from time to time;
- (f) "*COGE Handbook*" means the "Canadian Oil and Gas Evaluation Handbook" prepared jointly by The Society of Petroleum Evaluation Engineers (Calgary Chapter) and the Canadian Institute of Mining, Metallurgy & Petroleum (Petroleum Society), as amended from time to time;

¹ For the convenience of readers, Appendix 1 to Policy Statement 51-101CP sets out the meanings of terms, including those defined in this Part, that are printed in italics in this *Regulation*, *Form 51-101F1*, *Form 51-101F2*, *Form 51-101F3* or the Policy Statement.

² A national definition instrument has been adopted as *NI 14-101*. It contains definitions of certain terms used in more than one national instrument. *NI 14-101* provides that a term used in a national instrument and defined in the statute relating to securities of the applicable *jurisdiction*, the definition of which is not restricted to a specific portion of the statute, will have the meaning given to it in that statute unless the context otherwise requires. *NI 14-101* also provides that a provision or a reference within a provision of a national instrument that specifically refers by name to a *jurisdiction*, other than the local *jurisdiction* shall not have any effect in the local *jurisdiction*, unless otherwise stated in that national instrument.

- (g) "*constant prices and costs*" means the prices and costs used in an estimate that are:
 - (i) the *reporting issuer's* prices and costs as at the *effective date* of the estimation, held constant throughout the estimated lives of the *properties* to which the estimate applies;
 - (ii) if, and only to the extent that, there are fixed or presently determinable future prices or costs to which the *reporting issuer* is legally bound by contract or otherwise, including those for an extension period of a contract that is likely to be extended, those prices or costs rather than the prices and costs referred to in paragraph (i);
- (h) "*effective date*", in respect of information, means the date as at which, or for the period ended on which, the information is provided;
- (i) "*FAS 19*" means United States Financial Accounting Standards Board Statement of Financial Accounting Standards No. 19 "Financial Accounting and Reporting by Oil and Gas Producing Companies", as amended from time to time;
- (j) "*forecast prices and costs*" means future prices and costs that are:
 - (i) generally accepted as being a reasonable outlook of the future;
 - (ii) if, and only to the extent that, there are fixed or presently determinable future prices or costs to which the *reporting issuer* is legally bound by contract or otherwise, including those for an extension period of a contract that is likely to be extended, those prices or costs rather than the prices and costs referred to in paragraph (i).
- (k) "*foreign geographic area*" means a geographic area outside North America within one country or including all or portions of a number of countries;
- (l) "*Form 51-101F1*" means Form 51-101F1 *Statement of Reserves Data and Other Oil and Gas Information*;
- (m) "*Form 51-101F2*" means Form 51-101F2 *Report on Reserves Data by Independent Qualified Reserves Evaluator or Auditor*;
- (n) "*Form 51-101F3*" means Form 51-101F3 *Report of Management and Directors on Oil and Gas Disclosure*;
- (o) "*independent*", in respect of the relationship between a *reporting issuer* and a *qualified reserves evaluator or auditor*, has the meaning set out in the *COGE Handbook*;
- (p) "*McfGEs*" means thousand cubic feet of *gas* equivalent;
- (q) "*NI 14-101*" means National Instrument 14-101 *Definitions*;

- (r) "*NI 44-101*" means National Instrument 44-101 *Short Form Prospectus Distributions*;
- (s) "*oil and gas activities*"
 - (i) include:
 - (A) the search for *crude oil* or *natural gas* in their natural states and original locations;
 - (B) the acquisition of property rights or *properties* for the purpose of further exploring for or removing *oil* or *gas* from *reservoirs* on those *properties*;
 - (C) the construction, drilling and *production* activities necessary to retrieve *oil* and *gas* from their natural *reservoirs*, and the acquisition, construction, installation and maintenance of *field* gathering and storage systems including lifting the *oil* and *gas* to the surface and gathering, treating, *field* processing and *field* storage; and
 - (D) the extraction of hydrocarbons from oil sands, shale, coal or other non-conventional sources and activities similar to those referred to in clauses (A), (B) and (C) undertaken with a view to such extraction; but
 - (ii) do not include:
 - (A) transporting, refining or marketing *oil* or *gas*;
 - (B) activities relating to the production of natural resources other than *oil* and *gas* and their by-products; or
 - (C) the production of geothermal steam or the extraction of hydrocarbons as a by-product of the extraction of geothermal steam or associated geothermal resources;
- (t) "*preparation date*", in respect of written disclosure, means the most recent date on which information relating to the period ending on the *effective date* was considered in the preparation of the disclosure;
- (u) "*product type*" means one of the following:
 - (i) in respect of conventional *oil and gas activities*:
 - (A) light and medium *crude oil* (combined);
 - (B) *heavy oil*;
 - (C) *natural gas*;

- (D) natural gas liquids; or
- (E) sulphur and other non-hydrocarbon by-products; and
- (ii) in respect of non-conventional *oil and gas activities*:
 - (A) *synthetic oil*;
 - (B) *bitumen*;
 - (C) coal bed methane; or
 - (D) hydrates.
- (v) "*professional organization*" means a self-regulatory organization of engineers, geologists, other geoscientists or other professionals whose professional practice includes *reserves evaluations* or *reserves audits*, that:
 - (i) admits members primarily on the basis of their educational qualifications;
 - (ii) requires its members to comply with the professional standards of competence and ethics prescribed by the organization that are relevant to the estimation, *evaluation*, *review* or *audit* of *reserves data*;
 - (iii) has disciplinary powers, including the power to suspend or expel a member; and
 - (iv) is either:
 - (A) given authority or recognition by statute in a Canadian jurisdiction; or
 - (B) accepted for this purpose by the *securities regulatory authority* or the *regulator*;
- (w) "*qualified reserves auditor*" means an individual who:
 - (i) in respect of particular *reserves data* or related information, possesses professional qualifications and experience appropriate for the estimation, *evaluation*, *review* and *audit* of the *reserves data* and related information; and
 - (ii) is a member in good standing of a *professional organization*;
- (x) "*qualified reserves evaluator*" means an individual who:
 - (i) in respect of particular *reserves data* or related information, possesses professional qualifications and experience appropriate for the estimation, *evaluation* and *review* of the *reserves data* and related information; and
 - (ii) is a member in good standing of a *professional organization*;

- (y) "*qualified reserves evaluator or auditor*" means a *qualified reserves auditor* or a *qualified reserves evaluator*;
- (z) "*reserves data*" means the following estimates, as at the last day of the *reporting issuer's* most recent financial year:
 - (i) *proved reserves* and related *future net revenue* estimated:
 - (A) using *constant prices and costs* as at the last day of that financial year; and
 - (B) using *forecast prices and costs*; and
 - (ii) *probable reserves* and related *future net revenue* estimated using *forecast prices and costs*; and
- (aa) "*supporting filing*" means a document filed by a *reporting issuer* with a *securities regulatory authority*.

1.2 COGE Handbook Definitions

- (1) Terms used but not defined in this *Instrument, NI 14-101* or the securities statute in the *jurisdiction*, and defined or interpreted in the *COGE Handbook*, have the meaning or interpretation ascribed to those terms in the *COGE Handbook*.
- (2) In the event of a conflict or inconsistency between the definition of a term in this *Regulation, NI 14-101* or the securities statute in the *jurisdiction* and the meaning ascribed to the term in the *COGE Handbook*, the definition in this *Regulation, NI 14-101* or the securities statute in the *jurisdiction*, as the case may be, shall apply.

1.3 Applies to Reporting Issuers Only - This *Regulation* applies only to *reporting issuers* engaged, directly or indirectly, in *oil and gas activities*.

1.4 Materiality Standard

- (1) This *Regulation* applies only in respect of information that is *material* in respect of a *reporting issuer*.
- (2) For the purpose of subsection (1), information is *material* in respect of a *reporting issuer* if it would be likely to influence a decision by a reasonable investor to buy, hold or sell a security of the *reporting issuer*.

PART 2 ANNUAL FILING REQUIREMENTS

2.1 Reserves Data and Other Oil and Gas Information - A reporting issuer shall, not later than the date on which it is required by securities legislation to file audited financial statements for its most recent financial year, file with the securities regulatory authority the following:

1. **Statement of Reserves Data and Other Information** - a statement of the reserves data and other information specified in Form 51-101F1, as at the last day of the reporting issuer's most recent financial year and for the financial year then ended;
2. **Report of Independent Qualified Reserves Evaluator or Auditor** - a report in accordance with Form 51-101F2 that is:
 - (a) included in, or filed concurrently with, the document filed under item 1; and
 - (b) executed by one or more qualified reserves evaluators or auditors each of whom is independent of the reporting issuer, who shall in the aggregate have:
 - (i) evaluated or audited at least 75 percent of the future net revenue (calculated using a discount rate of 10 percent) attributable to proved plus probable reserves, as reported in the statement filed or to be filed under item 1; and
 - (ii) reviewed the balance of such future net revenue; and
3. **Report of Management and Directors** - a report in accordance with Form 51-101F3 that
 - (a) refers to the information filed or to be filed under items 1 and 2;
 - (b) confirms the responsibility of management of the reporting issuer for the content and filing of the statement referred to in item 1 and for the filing of the report referred to in item 2;
 - (c) confirms the role of the board of directors in connection with the information referred to in paragraph (b);
 - (d) is contained in, or filed concurrently with, the document filed under item 1; and
 - (e) is executed by two senior officers and two directors of the reporting issuer.

2.2 News Release to Announce Filing - A reporting issuer shall, concurrently with filing a statement and reports under section 2.1, disseminate a news release announcing that filing

and indicating where a copy of the filed information can be found for viewing by electronic means.

2.3 Inclusion in Annual Information Form - The requirements of section 2.1 may be satisfied by including the information specified in section 2.1 in an *annual information form* filed within the time specified in section 2.1.

2.4 Reservation in Report of Independent Qualified Reserves Evaluator or Auditor

- (1) If a *qualified reserves evaluator or auditor* cannot report on *reserves data* without *reservation*, the report of the *qualified reserves evaluator or auditor* prepared for the purpose of item 2 of section 2.1 shall set out the cause of the *reservation* and the effect, if known to the *qualified reserves evaluator or auditor*, on the *reserves data*.
- (2) A report containing a *reservation*, the cause of which can be removed by the *reporting issuer*, does not satisfy the requirements of item 2 of section 2.1.

PART 3 RESPONSIBILITIES OF REPORTING ISSUERS AND DIRECTORS

3.1 Interpretation - A reference to a board of directors in this Part means, for a *reporting issuer* that does not have a board of directors, those individuals whose authority and duties in respect of that *reporting issuer* are similar to those of a board of directors.

3.2 Reporting Issuer to Appoint Independent Qualified Reserves Evaluator or Auditor - A *reporting issuer* shall appoint one or more *qualified reserves evaluators or auditors*, each of whom is *independent* of the *reporting issuer*, to report to the board of directors of the *reporting issuer* on its *reserves data*.

3.3 Reporting Issuer to Make Information Available to Qualified Reserves Evaluator or Auditor - A *reporting issuer* shall make available to the *qualified reserves evaluators or auditors* that it appoints under section 3.2 all information reasonably necessary to enable the *qualified reserves evaluators or auditors* to provide a report that will, when approved under section 3.4(e) and filed with the *securities regulatory authority*, satisfy the applicable requirements of this Regulation.

3.4 Certain Responsibilities of Board of Directors - The board of directors of a *reporting issuer* shall

- (a) review, with reasonable frequency, the *reporting issuer's* procedures relating to the disclosure of information with respect to *oil and gas activities*, including its procedures for complying with the disclosure requirements and restrictions of this *Regulation*;
- (b) review each appointment under section 3.2 and, in the case of any proposed change in such appointment, determine the reasons for the proposal and whether there have been disputes between the appointed *qualified reserves evaluator or auditor* and management of the *reporting issuer*;

- (c) review, with reasonable frequency, the *reporting issuer's* procedures for providing information to the *qualified reserves evaluators or auditors* who report on *reserves data* for the purposes of this *Regulation*;
- (d) before approving the filing of *reserves data* and the report of the *qualified reserves evaluators or auditors* thereon referred to in section 2.1, meet with management and each *qualified reserves evaluator or auditor* appointed under section 3.2, to
 - (i) determine whether any restrictions affect the ability of the *qualified reserves evaluator or auditor* to report on *reserves data* without *reservation*; and
 - (ii) review the *reserves data* and the report of the *qualified reserves evaluator or auditor* thereon; and
- (e) review and approve
 - (i) the content and filing, under section 2.1, of the statement referred to in item 1 of section 2.1;
 - (ii) the filing, under section 2.1, of the report referred to in item 2 of section 2.1; and
 - (iii) the content and filing, under section 2.1, of the report referred to in item 3 of section 2.1.

3.5 Reserves Committee

- (1) The board of directors of a *reporting issuer* may, subject to subsection (2), delegate the responsibilities set out in section 3.4 to a committee of the board of directors, provided that a majority of the members of the committee
 - (a) are individuals who are not and have not been, during the preceding 12 months:
 - (i) an officer or employee of the *reporting issuer* or of an affiliate of the *reporting issuer*;
 - (ii) a person who beneficially owns 10 percent or more of the outstanding voting securities of the *reporting issuer*; or
 - (iii) a relative of a person referred to in clause (a)(i) or (ii), residing in the same home as that person; and
 - (b) are free from any business or other relationship which could reasonably be seen to interfere with the exercise of their independent judgement.
- (2) Despite subsection (1), a board of directors of a *reporting issuer* shall not delegate its responsibility under paragraph 3.4(e) to approve the content or the filing of information.

- (3) A board of directors that has delegated responsibility to a committee pursuant to subsection (1) shall solicit the recommendation of that committee as to whether to approve the content and filing of information for the purposes of paragraph 3.4(e).

PART 4 MEASUREMENT

4.1 Accounting Methods - A *reporting issuer* engaged in *oil and gas activities* that discloses financial statements prepared in accordance with *Canadian GAAP* shall use

- (a) the full cost method of accounting, applying *CICA Accounting Guideline 5*; or
- (b) the successful efforts method of accounting, applying *FAS 19*.

4.2 Requirements for Disclosed Reserves Data

- (1) Estimates of *reserves* or *future net revenue* contained in a document filed with the *securities regulatory authority* under this *Regulation* shall be
 - (a) prepared or *audited* by a *qualified reserves evaluator or auditor*;
 - (b) prepared or *audited* in accordance with the *COGE Handbook*;
 - (c) estimated assuming that development of each *property* in respect of which the estimate is made will occur, without regard to the likely availability to the *reporting issuer* of funding required for that development;
 - (d) estimated deducting reasonably estimated future abandonment and reclamation costs related to a particular undrilled *property*, for the purpose of determining whether *reserves* should be attributed to that *property* in the first year in which *reserves* are considered for attribution to the *property*; and
 - (e) estimated deducting reasonably estimated aggregate future abandonment and reclamation costs in estimating aggregate *future net revenue*.
- (2) The date or period with respect to which the effects of an event or transaction are recorded in a *reporting issuer's* annual financial statements shall be the same as the date or period with respect to which they are first reflected in the *reporting issuer's* annual *reserves data* disclosure under Part 2.

PART 5 REQUIREMENTS APPLICABLE TO ALL DISCLOSURE

5.1 Application of Part 5 - This Part applies to disclosure made by or on behalf of a *reporting issuer*

- (a) to the public;
- (b) in any document filed with a *securities regulatory authority*; or

- (c) in other circumstances in which, at the time of making the disclosure, the *reporting issuer* knows, or ought reasonably to know, that the disclosure is or will become available to the public.

5.2 Consistency with Reserves Data and Other Information - If a *reporting issuer* makes disclosure of information of a type that is required to be included in a statement filed with a *securities regulatory authority* under item 1 of section 2.1, the information shall be

- (a) prepared in accordance with Part 4; and
- (b) consistent with the corresponding information, if any, contained in the statement most recently filed by the *reporting issuer* with the *securities regulatory authority* under item 1 of section 2.1, except to the extent that such statement has been supplemented or superseded by a report of a material change³ filed by the *reporting issuer* with the *securities regulatory authority*.

5.3 Reserves and Resources Classification - Disclosure of *reserves* or *resources* shall be consistent with the *reserves* and *resources* terminology and classifications or categories set out in the *COGE Handbook*.

5.4 Oil and Gas Reserves and Sales - Disclosure of *reserves* or of sales of *oil*, *gas* or associated by-products shall be made only in respect of *marketable* quantities, reflecting prices for the product in the condition (upgraded or not upgraded, processed or unprocessed) in which it is to be, or was, sold.

5.5 Natural Gas By-Products - Disclosure concerning natural gas by-products (including natural gas liquids and sulphur) shall be made in respect only of volumes that have been or are to be recovered prior to the point at which *marketable gas* is measured.

5.6 Future Net Revenue Not Fair Value - Disclosure of an estimate of *future net revenue*, whether calculated without discount or using a discount rate, shall include a statement to the effect that the estimated values disclosed do not represent fair market value.

5.7 Consent of Qualified Reserves Evaluator or Auditor

- (1) A *reporting issuer* shall not disclose a report referred to in item 2 of section 2.1 that has been delivered to the board of directors of the *reporting issuer* by a *qualified reserves evaluator or auditor* pursuant to an appointment under section 3.2, or disclose the identity of the *qualified reserves evaluator or auditor*, without the written consent of that *qualified reserves evaluator or auditor*.
- (2) Subsection (1) does not apply to
 - (a) the filing of that report by a *reporting issuer* under section 2.1;
 - (b) the use of or reference to that report in another document filed by the *reporting issuer* under section 2.1; or

³ "Material change" has the meaning ascribed to the term under *securities legislation* of the applicable *jurisdiction*.

- (c) the identification of the report or of the *qualified reserves evaluator or auditor* in a news release referred to in section 2.2.

5.8 Disclosure of Less Than All Reserves - If a *reporting issuer* that has more than one *property* makes written disclosure of any *reserves* attributable to a particular *property*

- (a) the disclosure shall include a cautionary statement to the effect that

"The estimates of reserves and future net revenue for individual properties may not reflect the same confidence level as estimates of reserves and future net revenue for all properties"; and
- (b) the document containing the disclosure of any *reserves* attributable to one *property* shall also disclose total *reserves* of the same classification for all *properties* of the *reporting issuer* in the same country (or, if appropriate and not misleading, in the same *foreign geographic area*).

5.9 Disclosure Concerning Prospects - If a *reporting issuer* discloses anticipated results from a *prospect*, the *reporting issuer* shall also disclose in writing, in the same document or in a *supporting filing*, in respect of the *prospect*

- (a) the location and basin name;
- (b) the *reporting issuer's gross and net* interest in the *property*, expressed in units of area (acres or hectares);
- (c) in the case of undeveloped *property* in which the *reporting issuer* holds a leasehold interest, the expiry date of that interest;
- (d) the name, geologic age and lithology of the target zone;
- (e) the distance to the nearest analogous commercial production;
- (f) the *product types* reasonably expected;
- (g) the range of pool or *field* sizes;
- (h) the depth of the target zone;
- (i) the estimated cost to drill and test a well to the target depth;
- (j) reasonably expected drilling commencement and completion dates;
- (k) the anticipated prices to be received for each *product type* reasonably expected;
- (l) reasonably expected marketing and transportation arrangements;
- (m) the identity and relevant experience of the operator;
- (n) risks and the probability of success; and

- (o) the applicable information specified in section 5.10.

5.10 Estimates of Fair Value of an *Unproved Property, a Prospect or Resources*

- (1) If a *reporting issuer* discloses in writing an estimate of the fair value of an *unproved property*, of a *prospect* or *resources*, or discloses expected results from a *prospect*, the disclosure shall include all positive and negative factors relevant to the estimate or expectation.
- (2) If a *reporting issuer* discloses in writing an estimate of the fair value of an *unproved property, a prospect or resources*
 - (a) in the case of an estimate of the fair value of an *unproved property*, except as provided in paragraph (b), the estimate shall be based on the first applicable item listed below, and that item shall be described as the basis of the estimate in the document containing the disclosure or in a *supporting filing*:
 1. the acquisition cost to the *reporting issuer*, provided that there have been no material changes in the *unproved property*, the surrounding *properties*, or the general *oil* and *gas* economic climate since acquisition;
 2. recent sales by others of interests in the same *unproved property*;
 3. terms and conditions, expressed in monetary terms, of recent farm-in agreements related to the *unproved property*;
 4. terms and conditions, expressed in monetary terms, of recent work commitments related to the *unproved property*;
 5. recent sales of similar *properties* in the same general area;
 - (b) in the case of an estimate of fair value to which none of the items listed in paragraph (a) applies
 - (i) the estimate shall be prepared or accepted by a professional valuator (who is not a "related party" of the *reporting issuer* within the meaning of the term as used in the *CICA Handbook*) applying valuation standards established by the professional body of which the valuator is a member and from which the valuator derives professional standing;
 - (ii) the estimate shall consist of at least three values that reflect a range of reasonable likelihoods (the low value being conservative, the middle value being the median and the high value being optimistic) reflecting courses of action expected to be followed by the *reporting issuer*;

- (iii) the estimate, and the identities of the professional valuator and of the professional body referred to in subparagraph (i), shall be set out in the document containing the disclosure or in a *supporting filing*; and
- (iv) the *reporting issuer* shall obtain from the professional valuator referred to in subparagraph (i)
 - (A) a report on the estimate that does not contain
 - (I) a disclaimer that materially detracts from the usefulness of the estimate; or
 - (II) a statement that the report may not be relied on; and
 - (B) the professional valuator's written consent to the disclosure of the report by the *reporting issuer* to the public.

5.11 Net Asset Value and Net Asset Value per Share - Written disclosure of net asset value or net asset value per share shall include a description of the methods used to value assets and liabilities and the number of shares used in the calculation.

5.12 Reserve Replacement - Written disclosure concerning *reserve* replacement shall include an explanation of the method of calculation applied.

5.13 Netbacks - Written disclosure of a netback

- (a) shall include separate netbacks for each *product type* by country (or, if appropriate and not misleading, by *foreign geographic area*);
- (b) shall reflect netbacks calculated by subtracting royalties and *operating costs* from revenues; and
- (c) shall state the method of calculation.

5.14 BOEs and McfGEs - If written disclosure includes information expressed in *BOEs*, *McfGEs* or other units of equivalency between *product types* that are ordinarily measured in different units of volume

- (a) the information shall be presented
 - (i) in the case of *BOEs*, using *BOEs* derived by converting *gas* to *oil* in the ratio of six thousand cubic feet of *gas* to one barrel of *oil* (6 *Mcf*:1 *bbl*);
 - (ii) in the case of *McfGEs*, using *McfGEs* derived by converting *oil* to *gas* in the ratio of one barrel of *oil* to six thousand cubic feet of *gas* (1 *bbl*:6 *Mcf*); and
 - (iii) with the conversion ratio stated;

- (b) if the information is also presented using *BOEs* or *McfGEs* derived using a conversion ratio other than a ratio specified in paragraph (a), the disclosure shall state that other conversion ratio and explain why it has been chosen;
- (c) if the information is presented using a unit of equivalency other than *BOEs* or *McfGEs*, the disclosure shall identify the unit, state the conversion ratio used and explain why it has been chosen; and
- (d) the disclosure shall include a cautionary statement to the effect that:

"BOEs [or 'McfGEs' or other applicable units of equivalency] may be misleading, particularly if used in isolation. A BOE conversion ratio of 6 Mcf: 1 bbl [or 'An McfGE conversion ratio of 1 bbl: 6 Mcf'] is based on an energy equivalency conversion method primarily applicable at the burner tip and does not represent a value equivalency at the wellhead".

5.15 Finding and Development Costs - If written disclosure is made of finding and development costs

- (a) those costs shall be calculated using the following two methods, in each case after eliminating the effects of acquisitions and dispositions:

Method 1:
$$\frac{a+b+c}{x}$$

Method 2:
$$\frac{a+b+d}{y}$$

where

- a = *exploration costs* incurred in the most recent financial year
- b = *development costs* incurred in the most recent financial year
- c = the change during the most recent financial year in estimated future *development costs* relating to *proved reserves*
- d = the change during the most recent financial year in estimated future *development costs* relating to *proved reserves* and *probable reserves*
- x = additions to *proved reserves* during the most recent financial year, expressed in *BOEs* or other unit of equivalency
- y = additions to *proved reserves* and *probable reserves* during the most recent financial year, expressed in *BOEs* or other unit of equivalency

- (b) the disclosure shall include
 - (i) the results of both methods of calculation under paragraph (a) and a description of those methods;
 - (ii) if the disclosure also includes a result derived using any other method of calculation, a description of that method and the reason for its use;

- (iii) for each result, comparative information for the most recent financial year, the second most recent financial year and the averages for the three most recent financial years;
- (iv) a cautionary statement to the effect that:

"The aggregate of the exploration and development costs incurred in the most recent financial year and the change during that year in estimated future development costs generally will not reflect total finding and development costs related to reserves additions"; and
- (v) the cautionary statement required under paragraph 5.14(d).

PART 6 MATERIAL CHANGE DISCLOSURE

6.1 Material Change⁴ from Information Filed under Part 2

- (1) This Part applies in respect of a material change that, had it occurred on or before the *effective date* of information included in the statement most recently filed by a *reporting issuer* under item 1 of section 2.1, would have resulted in a significant change in the information contained in the statement.
- (2) In addition to any other requirement of *securities legislation* governing disclosure of a material change, disclosure of a material change referred to in subsection (1) shall
 - (a) identify the statement filed under Part 2 that contains the original information referred to in subsection (1); and
 - (b) discuss the *reporting issuer's* reasonable expectation of how the material change, had it occurred on or before the *effective date* referred to in subsection (1), would have affected the *reserves data* or other information contained in the document identified under paragraph (a).

PART 7 OTHER INFORMATION

- ### **7.1 Information to be Furnished on Request** - A *reporting issuer* shall, on the request of the *regulator*, deliver additional information with respect to the content of a document filed under this *Regulation*.

⁴ In this Part, "material change" has the meaning ascribed to the term under *securities legislation* of the applicable *jurisdiction*.

PART 8 EXEMPTIONS

8.1 Authority to Grant Exemption

- (1) The *regulator* or the *securities regulatory authority* may grant an exemption from this *Regulation*, in whole or in part, subject to such conditions or restrictions as may be imposed in the exemption.
- (2) Despite subsection (1), in Ontario only the *regulator* may grant an exemption.

PART 9 REGULATION IN FORCE

9.1 Coming Into Force - This *Regulation* comes into force on •, 2003.

9.2 Transition - Despite section 9.1, this *Regulation* does not apply to a *reporting issuer* until the earlier of:

- (a) the date by which the *reporting issuer* is required under *securities legislation* to file audited annual financial statements for its financial year that includes or ends on December 31, 2003; and
- (b) the first date on which the *reporting issuer* files with the *securities regulatory authority* the statement referred to in item 1 of section 2.1.

FORM 51-101F1
STATEMENT OF RESERVES DATA
AND OTHER OIL AND GAS INFORMATION

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FORM 51-101F1
STATEMENT OF RESERVES DATA
AND OTHER OIL AND GAS INFORMATION

This is the form referred to in item 1 of section 2.1 of Regulation 51-101 *Standards of Disclosure for Oil and Gas Activities* ("Regulation 51-101").

GENERAL INSTRUCTIONS

- (1) *Terms for which a meaning is given in **Regulation 51-101** have the same meaning in this **Form 51-101F1**¹.*
- (2) *Unless otherwise specified in this **Form 51-101F1**, information under item 1 of section 2.1 of **Regulation 51-101** shall be provided as at the last day of the **reporting issuer's** most recent financial year or for its financial year then ended.*
- (3) *It is not necessary to include the headings or numbering, or to follow the ordering of Items, in this **Form 51-101F1**. Information may be provided in tables.*
- (4) *To the extent that any Item or any component of an Item specified in this **Form 51-101F1** does not apply to a **reporting issuer** and its activities and operations, or is not **material**, no reference need be made to that Item or component. It is not necessary to state that such an Item or component is "not applicable" or "not material". Materiality is discussed in **Regulation 51-101** and Policy Statement 51-101.*
- (5) *This **Form 51-101F1** sets out minimum requirements. A **reporting issuer** may provide additional information not required in this **Form 51-101F1** provided that it is not misleading and not inconsistent with the requirements of **Regulation 51-101**, and provided that material information required to be disclosed is not omitted.*
- (6) *A **reporting issuer** may satisfy the requirement of this Form 51-101F1 for disclosure of information "by country" by instead providing information by **foreign geographic area** in respect of countries outside North America as may be appropriate for meaningful disclosure in the circumstances.*

¹ For the convenience of readers, Appendix 1 to Policy Statement 51-101 sets out the meanings of terms that are printed in italics (or, in the Instructions, in bold type) in this *Form 51-101F1* or in *Regulation 51-101*, *Form 51-101F2*, *Form 51-101F3* or the Policy Statement.

PART 1 DATE OF STATEMENT

Item 1.1 Relevant Dates

1. Date the statement.
2. Disclose the *effective date* of the information being provided.
3. Disclose the *preparation date* of the information being provided.

INSTRUCTIONS

- (1) *For the purpose of Part 2 of **Regulation 51-101**, and consistent with the definition of **reserves data** and General Instruction 2 of this **Form 51-101F1**, the **effective date** to be disclosed under section 2 of Item 1.1 is the last day of the **reporting issuer's** most recent financial year. It is the date of the balance sheet for the **reporting issuer's** most recent financial year (for example, "as at December 31, 20xx") and the ending date of the **reporting issuer's** most recent annual statement of income (for example, "for the year ended December 31, 20xx").*
- (2) *The same **effective date** applies to **reserves** of each category reported and to related **future net revenue**. References to a change in an item of information, such as changes in **production** or a change in **reserves**, mean changes in respect of that item during the year ended on the **effective date**, or such earlier period as may be specified.*
- (3) *The **preparation date**, in respect of written disclosure, means the most recent date on which information relating to the period ending on the **effective date** was considered in the preparation of the disclosure. The **preparation date** is a date subsequent to the **effective date** because it takes time after the end of the financial year to assemble the information for that completed year that is needed to prepare the required disclosure as at the end of the financial year.*
- (4) *Because of the interrelationship between certain of the **reporting issuer's reserves data** and other information referred to in this **Form 51-101F1** and certain of the information included in its financial statements, the **reporting issuer** should ensure that its financial auditor and its **qualified reserves evaluators or auditors** are kept apprised of relevant events and transactions, and should facilitate communication between them.*
- (5) *If the **reporting issuer** provides information as at a date more recent than the **effective date**, in addition to the information required as at the **effective date**, also disclose the date as at which that additional information is provided. The provision of such additional information does not relieve the **reporting issuer** of the obligation to provide information as at the **effective date**.*

PART 2 DISCLOSURE OF RESERVES DATA

Item 2.1 *Reserves Data (Constant Prices and Costs)*

1. Breakdown of Proved Reserves (Constant Case) – Disclose *reserves, gross and net*, estimated using *constant prices and costs*, by country and in the aggregate, for each *product type*, in the following classifications:
 - (a) *proved developed producing reserves*;
 - (b) *proved developed non-producing reserves*;
 - (c) *proved undeveloped reserves*; and
 - (d) *proved reserves (in total)*.

2. Net Present Value of Future Net Revenue (Constant Case) – Disclose the net present value of *future net revenue* attributable to the categories of *reserves* referred to in section 1 of this Item, estimated using *constant prices and costs*, before and after income taxes, calculated without discount and using a discount rate of 10 percent.

3. Breakdown of Future Net Revenue (Constant Case)
 - (a) Disclose, by year for at least ten years and grouped thereafter, by country and in the aggregate, estimated using *constant prices and costs* and calculated without discount, the following information in respect of *future net revenue* attributable to *proved reserves (in total)*:
 - (i) estimated future revenue;
 - (ii) royalties;
 - (iii) *operating costs*;
 - (iv) *development costs*;
 - (v) abandonment and reclamation costs;
 - (vi) *future net revenue* before income taxes;
 - (vii) *future income tax expenses*; and
 - (viii) *future net revenue* after income taxes.

 - (b) In respect of *future net revenue* attributable to *proved reserves (in total)*, disclose, by country, the net present value of the aggregate of each of the following, estimated using *constant prices and costs* and calculated using a discount rate of 10 percent:

- (i) *development costs*;
- (ii) *abandonment and reclamation costs*;
- (iii) *future net revenue* before income taxes; and
- (iv) *future net revenue* after income taxes.

Item 2.2 *Reserves Data (Forecast Prices and Costs)*

1. Breakdown of Reserves (Forecast Case) – Disclose *reserves, gross and net*, estimated using *forecast prices and costs*, by country and in the aggregate, for each *product type*, in the following classifications:
 - (a) *proved developed producing reserves*;
 - (b) *proved developed non-producing reserves*;
 - (c) *proved undeveloped reserves*;
 - (d) *proved reserves* (in total);
 - (e) *probable reserves* (in total);
 - (f) *proved plus probable reserves* (in total); and
 - (g) if the *reporting issuer* discloses an estimate of *possible reserves* in the statement:
 - (i) *possible reserves* (in total); and
 - (ii) *proved plus probable plus possible reserves* (in total).
2. Net Present Value of Future Net Revenue (Forecast Case) – Disclose the net present value of *future net revenue* attributable to the categories of *reserves* referred to in section 1 of this Item, estimated using *forecast prices and costs*, before and after income taxes, calculated without discount and using discount rates of 5 percent, 10 percent, 15 percent and 20 percent.
3. Breakdown of Future Net Revenue (Forecast Case)
 - (a) This section 3 applies to *future net revenue* attributable to each of the following classifications of *reserves* estimated using *forecast prices and costs*:
 - (i) *proved reserves* (in total);
 - (ii) *proved plus probable reserves* (in total); and
 - (iii) if paragraph 1(g) of this Item applies, *proved plus probable plus possible reserves* (in total).

- (b) Disclose by year for at least ten years and grouped thereafter, by country and in the aggregate, estimated using *forecast prices and costs*, calculated without discount, the following information:
 - (i) estimated future revenue;
 - (ii) royalties;
 - (iii) *operating costs*;
 - (iv) *development costs*;
 - (v) abandonment and reclamation costs;
 - (vi) *future net revenue* before income taxes;
 - (vii) *future income tax expenses*; and
 - (viii) *future net revenue* after income taxes.
- (c) Disclose, by country, the net present value of the aggregate of each of the following, estimated using *forecast prices and costs*, calculated without discount and using discount rates of 5 percent, 10 percent, 15 percent and 20 percent:
 - (i) *development costs*;
 - (ii) abandonment and reclamation costs;
 - (iii) *future net revenue* before income taxes; and
 - (iv) *future net revenue* after income taxes.

Item 2.3 Reserves Determination Varies with Accounting

In determining *reserves* to be disclosed:

- (a) Consolidated Financial Disclosure – if the *reporting issuer* files consolidated financial statements:
 - (i) include 100 percent of *reserves* attributable to the parent company and 100 percent of the *reserves* attributable to its consolidated subsidiaries (whether or not wholly-owned); and
 - (ii) if a significant portion of *reserves* referred to in clause (i) is attributable to a consolidated subsidiary in which there is a significant minority interest, disclose that fact and the approximate portion of such *reserves* attributable to the minority interest;

- (b) Proportionate Consolidation – if the *reporting issuer* files financial statements in which investments are proportionately consolidated, the *reporting issuer's* disclosed *reserves* must include the *reporting issuer's* proportionate share of the investees' *oil* and *gas reserves*; and
- (c) Equity Accounting – if the *reporting issuer* files financial statements in which investments are accounted for by the equity method, do not include investees' *oil* and *gas reserves* in disclosed *reserves* of the *reporting issuer*, but disclose the *reporting issuer's* share of the investees' *oil* and *gas reserves* separately.

Item 2.4 Future Net Revenue Disclosure Varies with Accounting

- 1. Consolidated Financial Disclosure – If the *reporting issuer* files consolidated financial statements, and if a significant portion of the *reporting issuer's* economic interest in *future net revenue* is attributable to a consolidated subsidiary in which there is a significant minority interest, disclose that fact and the approximate portion of the economic interest in *future net revenue* attributable to the minority interest.
- 2. Equity Accounting – If the *reporting issuer* files financial statements in which investments are accounted for by the equity method, do not include investees' *future net revenue* in disclosed *future net revenue* of the *reporting issuer*, but disclose the *reporting issuer's* share of such *future net revenue* of investees separately, by country and in the aggregate.

INSTRUCTIONS

- (1) Do not include, in **reserves, oil or gas** that is subject to purchase under a long-term supply, purchase or similar agreement. However, if the **reporting issuer** is a party to such an agreement with a government or governmental authority, and participates in the operation of the **properties** in which the **oil or gas** is situated or otherwise serves as "producer" of the **reserves** (in contrast to being an independent purchaser, broker, dealer or importer), disclose separately the **reporting issuer's** interest in the **reserves** that are subject to such agreements at the **effective date** and the **net quantity of oil or gas** received by the **reporting issuer** under the agreement during the year ended on the **effective date**.
- (2) **Future net revenue** includes the portion attributable to the **reporting issuer's** interest under an agreement referred to in Instruction (1).

PART 3 PRICING ASSUMPTIONS

Item 3.1 Constant Prices Used in Estimates

For each *product type*, disclose the benchmark reference prices for the countries or regions in which the *reporting issuer* operates, as at the last day of the *reporting issuer's* most recent financial year, reflected in the *reserves data* disclosed in response to Item 2.1.

Item 3.2 Forecast Prices Used in Estimates

1. For each *product type*, disclose:
 - (a) the pricing assumptions used in estimating *reserves data* disclosed in response to Item 2.2:
 - (i) for each of at least the following ten financial years; and
 - (ii) generally, for subsequent periods; and
 - (b) the *reporting issuer's* weighted average historical prices for the most recent financial year.
2. The disclosure in response to section 1 shall include the benchmark reference pricing schedules for the countries or regions in which the *reporting issuer* operates, and inflation and other forecast factors used.
3. If the pricing assumptions specified in response to section 1 were provided by a *qualified reserves evaluator or auditor independent* of the *reporting issuer*, disclose that fact and identify the *qualified reserves evaluator or auditor*.

INSTRUCTIONS

- (1) *Benchmark reference prices may be obtained from sources such as public product trading exchanges or prices posted by purchasers.*
- (2) *The defined terms "**constant prices and costs**" and "**forecast prices and costs**" include any fixed or presently determinable future prices or costs to which the **reporting issuer** is legally bound by contract, including those for an extension period of a contract that is likely to be extended. In effect, such contractually committed prices override benchmark reference prices for the purpose of estimating **reserves data**. To ensure that disclosure under this Part is not misleading, the disclosure should reflect such contractually committed prices.*
- (3) *Under subsection 5.7(1) of **Regulation 51-101**, the **reporting issuer** must obtain the written consent of the **qualified reserves evaluator or auditor** to disclose his or her identity in response to section 3 of this Item.*

PART 4 RECONCILIATIONS OF CHANGES IN RESERVES AND FUTURE NET REVENUE

Item 4.1 Reserves Reconciliation

1. Provide the information specified in section 2 of this Item in respect of the following classifications of *reserves*:

- (a) *net proved reserves* (in total);
 - (b) *net probable reserves* (in total); and
 - (c) *net proved plus probable reserves* (in total).
2. Disclose changes between the *reserves* estimates referred to in section 1 made as at the *effective date* and the corresponding estimates ("prior-year estimates") made as at the last day of the preceding financial year of the *reporting issuer*:
- (a) by country and in the aggregate;
 - (b) for each of the following *product types*:
 - (i) light and medium *crude oil* (combined);
 - (ii) *heavy oil*;
 - (iii) *natural gas*; and
 - (iv) *synthetic oil* and other products from non-conventional *oil and gas activities*;
 - (c) separately identifying and explaining:
 - (i) economic factors (revisions of the prior-year estimates resulting from changes in previously estimated prices and costs);
 - (ii) technical revisions (revisions of the prior-year estimates resulting from information, other than estimated prices and costs, that was not available when the prior-year estimates were made);
 - (iii) acquisitions of *reserves*;
 - (iv) dispositions of *reserves*;
 - (v) extensions and improved recovery;
 - (vi) discoveries; and
 - (vii) *production*.

INSTRUCTION

*The reconciliation required under this Item 4.1 may be provided in respect of reserves estimated using either **constant prices and costs** or **forecast prices and costs**, with the price and cost case indicated in the disclosure.*

Item 4.2 Future Net Revenue Reconciliation

1. Provide the information specified in section 2 of this Item in respect of estimates of *future net revenue* (estimated using *constant prices and costs* and calculated using a discount rate of 10 percent) attributable to *net proved reserves* (in total).
2. Disclose changes between the *future net revenue* estimates referred to in section 1 made as at the *effective date* and the corresponding estimates ("prior-year estimates") made as at the last day of the preceding financial year of the *reporting issuer*:
 - (a) by country and in the aggregate;
 - (b) separately identifying and explaining:
 - (i) sales and transfers of *oil, gas* or other *product types* produced during the period net of *production costs* and royalties;
 - (ii) net change in sales and transfer prices and in *production costs* and royalties related to future *production*;
 - (iii) changes in previously estimated *development costs* incurred during the period;
 - (iv) changes in estimated future *development costs*;
 - (v) net change resulting from extensions and improved recovery;
 - (vi) net change resulting from discoveries;
 - (vii) changes resulting from acquisitions of *reserves*;
 - (viii) changes resulting from dispositions of *reserves*;
 - (ix) net change resulting from revisions in quantity estimates;
 - (x) accretion of discount (10 percent of discounted *future net revenue* at the beginning of the financial year);
 - (xi) net change in income taxes; and
 - (xii) any other significant factors.

INSTRUCTIONS

- (1) *Compute the effects of changes in prices and costs before the effects of changes in volumes, so that, in respect of **constant prices and costs**, volumes are reflected at prices as at the **effective date**.*
- (2) *In providing information for each **product type** under this Part, it is not necessary to allocate among multiple **product types** attributable to a single well, **reservoir** or other **reserves** entity. It is sufficient to provide the information in respect of the principal **product type** attributable to the well, **reservoir** or other **reserves** entity.*
- (3) *Except in respect of clause 2(b)(xi) of Item 4.2, the information to be provided under this Part is pre-tax information.*
- (4) *For the purposes of clause 2(b)(xi) of Item 4.2, a "net change in income taxes" includes both income taxes incurred during the period and changes in estimated **future income tax expenses**.*

PART 5 ADDITIONAL INFORMATION RELATING TO RESERVES DATA

Item 5.1 *Undeveloped Reserves*

1. For *proved undeveloped reserves*:
 - (a) disclose for each *product type* the volumes of *proved undeveloped reserves* that were first attributed in each of the most recent five financial years and, in the aggregate, before that time; or
 - (b) discuss generally the basis on which the *reporting issuer* attributes *proved undeveloped reserves*, its plans (including timing) for developing the *proved undeveloped reserves* and, if applicable, its reasons for not planning to develop particular *proved undeveloped reserves* during the following two years.
2. For *probable undeveloped reserves*:
 - (a) disclose for each *product type* the volumes of *probable undeveloped reserves* that were first attributed in each of the most recent five financial years and, in the aggregate, before that time; or
 - (b) discuss generally the basis on which the *reporting issuer* attributes *probable undeveloped reserves*, its plans (including timing) for developing the *probable undeveloped reserves* and, if applicable, its reasons for not planning to develop particular *probable undeveloped reserves* during the following two years.

Item 5.2 Significant Factors or Uncertainties

1. Identify and discuss important economic factors or significant uncertainties that affect particular components of the *reserves data*.
2. Section 1 does not apply if the information is disclosed in the *reporting issuer's* financial statements for the financial year ended on the *effective date*.

INSTRUCTION

*Examples of information that could warrant disclosure under this Item 5.2 include unusually high expected **development costs** or **operating costs**, the need to build a major pipeline or other major facility before **production of reserves** can begin, or contractual obligations to **produce** and sell a significant portion of **production** at prices substantially below those which could be realized but for those contractual obligations.*

Item 5.3 Future Development Costs

1. Discuss the *reporting issuer's* expectations as to:
 - (a) the sources (including internally-generated cash flow, debt or equity financing, farm-outs or similar arrangements) and costs of funding for estimated future *development costs*; and
 - (b) the effect of those costs of funding on disclosed *reserves* or *future net revenue*.
2. If the *reporting issuer* expects that the funding costs referred to in section 1 could make development of a *property* uneconomic for that *reporting issuer*, disclose that expectation and its plans for the *property*.

PART 6 OTHER OIL AND GAS INFORMATION

Item 6.1 Oil and Gas Properties and Wells

1. Identify and describe generally the *reporting issuer's* important *properties*, plants, facilities and installations:
 - (a) identifying their location (province, territory or state if in Canada or the United States, and country otherwise);
 - (b) indicating whether they are located onshore or offshore;
 - (c) in respect of *properties* to which *reserves* have been attributed and which are capable of *producing* but which are not *producing*, disclosing how long they have been in that condition and discussing the general proximity of pipelines or other means of transportation; and
 - (d) describing any statutory or other mandatory relinquishments, surrenders, back-ins or changes in ownership.

2. State, separately for *oil* wells and *gas* wells, the number of the *reporting issuer's* producing wells and non-producing wells, expressed in terms of both *gross* wells and *net* wells, by location (province, territory or state if in Canada or the United States, and country otherwise).

Item 6.2 ***Properties with No Attributed Reserves***

1. For *properties* to which no *reserves* are attributed, disclose:
 - (a) the *gross* area (acres or hectares) in which the *reporting issuer* has an interest;
 - (b) the interest of the *reporting issuer* therein expressed in terms of net area (acres or hectares);
 - (c) the location, by country; and
 - (d) the existence, nature (including any bonding requirements), timing and cost (specified or estimated) of any work commitments.
2. Disclose, by country, the *net* area (acres or hectares) of *property* to which no *reserves* are attributed and for which the *reporting issuer* expects its rights to explore, develop and exploit to expire within one year.

Item 6.3 **Forward Contracts**

1. If the *reporting issuer* is bound by an agreement (including a transportation agreement), directly or through an aggregator, under which it may be precluded from fully realizing, or may be protected from the full effect of, future market prices for *oil* or *gas*, describe the agreement, providing dates, time periods and summaries or ranges of volumes and contracted or reasonably estimated values.
2. Section 1 does not apply to agreements disclosed by the *reporting issuer*
 - (a) as financial instruments, in accordance with Section 3860 of the *CICA Handbook*; or
 - (b) as contractual obligations or commitments, in accordance with Section 3280 of the *CICA Handbook*.
3. If the *reporting issuer's* transportation obligations or commitments for future physical deliveries of *oil* or *gas* exceed the *reporting issuer's* expected related future *production* from its *proved reserves*, estimated using *forecast prices and costs* and disclosed under Part 2, disclose the amount of such excess, providing dates, time periods, volumes and reasonably estimated value.

Item 6.4 Additional Information Concerning Abandonment and Reclamation Costs

In respect of abandonment and reclamation costs for surface *leases*, wells, facilities and pipelines, disclose:

- (a) how the *reporting issuer* estimates such costs;
- (b) the number of *net* wells for which the *reporting issuer* expects to incur such costs;
- (c) the total amount of such costs, net of estimated salvage value, expected to be incurred, calculated without discount and using a discount rate of 10 percent;
- (d) the portion, if any, of the amounts disclosed under paragraph (c) of this Item 6.4 that was not deducted in estimating the *reserves data* disclosed under Part 2; and
- (e) the portion, if any, of the amounts disclosed under paragraph (c) of this Item 6.4 that the *reporting issuer* expects to pay in the next three financial years, in total.

INSTRUCTION

*Item 6.4 supplements the information disclosed in response to clauses 3(e) of Item 2.1 and (3)(b)(v) of Item 2.2. The response to paragraph (d) of Item 6.4 should enable a reader of this statement and of the **reporting issuer's** financial statements for the financial year ending on the **effective date** to understand both the **reporting issuer's** estimated total abandonment and reclamation costs, and what portions of that total are, and are not, reflected in the disclosed **reserves data**.*

Item 6.5 Tax Horizon

If the *reporting issuer* is not required to pay income taxes for its most recently completed financial year, discuss its estimate of when income taxes may become payable.

Item 6.6 Costs

1. Disclose each of the following by country for the most recent financial year (irrespective of whether such costs were capitalized or charged to expense when incurred):
 - (a) *property acquisition costs*, separately for *proved properties* and *unproved properties*;
 - (b) *exploration costs*; and
 - (c) *development costs*.
2. If the *reporting issuer* files financial statements in which investments are accounted for by the equity method, disclose separately, for the purpose of this Item 6.6, the *reporting issuer's* share of the investees' *property acquisition costs*, *exploration costs* and *development costs* incurred in the most recent financial year, in the aggregate by country.

Item 6.7 Exploration and Development Activities

1. Disclose, by country and separately for *exploratory wells* and *development wells*:
 - (a) the number of *gross* wells and *net* wells completed in the *reporting issuer's* most recent financial year; and
 - (b) for each category of wells for which information is disclosed under paragraph (a), the number completed as *oil* wells, *gas* wells and *service wells* and the number that were dry holes.
2. Describe generally the *reporting issuer's* most important current and likely exploration and development activities, by country.

Item 6.8 Production Estimates

1. Disclose, by country, for each *product type*, the volume of *production* estimated for the first year reflected in the estimates of *future net revenue* disclosed under Items 2.1 and 2.2.
2. If one *field* accounts for 20 percent or more of the estimated *production* disclosed under section 1, identify that *field* and disclose the volume of *production* estimated for the *field* for that year.

Item 6.9 Production History

1. To the extent not previously disclosed in financial statements filed by the *reporting issuer*, disclose, for each quarter of its most recent financial year, by country for each *product type*:
 - (a) the *reporting issuer's* share of average daily *production* volume, before deduction of royalties; and
 - (b) as an average per unit of volume (for example, \$/bbl or \$/Mcf):
 - (i) the prices received;
 - (ii) royalties paid;
 - (iii) *production costs*; and
 - (iv) the resulting netback.
2. For each important *field*, and in total, disclose the *reporting issuer's* *production* volumes for the most recent financial year, for each *product type*.

INSTRUCTION

*In providing information for each **product type** for the purpose of Item 6.9, it is not necessary to allocate among multiple **product types** attributable to a single well, **reservoir** or other **reserves** entity. It is sufficient to provide the information in respect of the principal **product type** attributable to the well, **reservoir** or other **reserves** entity.*

FORM 51-101F2
REPORT ON RESERVES DATA
BY
INDEPENDENT QUALIFIED RESERVES
EVALUATOR OR AUDITOR

This is the form referred to in item 2 of section 2.1 of Regulation 51-101 Standards of Disclosure for Oil and Gas Activities ("Regulation 51-101").

1. Terms to which a meaning is ascribed in *Regulation 51-101* have the same meaning in this form.¹
2. The report on *reserves data* referred to in item 2 of section 2.1 of *Regulation 51-101*, to be executed by one or more *qualified reserves evaluators or auditors independent of the reporting issuer*, shall in all material respects be as follows:

Report on Reserves Data

To the board of directors of [name of reporting issuer] (the "Company"):

1. We have [audited] [evaluated] [and reviewed] the Company's reserves data as at [last day of the reporting issuer's most recently completed financial year]. The reserves data consist of the following:
 - (a)
 - (i) proved and proved plus probable oil and gas reserves estimated as at [last day of the reporting issuer's most recently completed financial year] using forecast prices and costs; and
 - (ii) the related estimated future net revenue; and
 - (b)
 - (i) proved oil and gas reserves estimated as at [last day of the reporting issuer's most recently completed financial year] using constant prices and costs; and
 - (ii) the related estimated future net revenue.
2. The reserves data are the responsibility of the Company's management. Our responsibility is to express an opinion on the reserves data based on our [audit] [evaluation] [and review].

We carried out our [audit] [evaluation] [and review] in accordance with standards set out in the Canadian Oil and Gas Evaluation Handbook (the "COGE Handbook") prepared

¹ For the convenience of readers, Appendix 1 to Policy Statement 51-101 sets out the meanings of terms that are printed in italics in sections 1 and 2 of this Form or in *Regulation 51-101*, *Form 51-101F1*, *Form 51-101F3* or the Policy Statement.

jointly by the Society of Petroleum Evaluation Engineers (Calgary Chapter) and the Canadian Institute of Mining, Metallurgy & Petroleum (Petroleum Society).

3. Those standards require that we plan and perform an [audit] [evaluation] [and review] to obtain reasonable assurance as to whether the reserves data are free of material misstatement. An [audit] [evaluation] [and review] also includes assessing whether the reserves data are in accordance with principles and definitions presented in the COGE Handbook.
4. The following table sets forth the estimated future net revenue attributed to proved plus probable reserves, estimated using forecast prices and costs and calculated using a discount rate of 10 percent, included in the reserves data of the Company [audited] [evaluated] [and reviewed] by us for the year ended xxx xx, 20xx, and identifies the respective portions thereof that we have [audited] [evaluated] [and reviewed] and reported on to the Company's [management/board of directors]:

Independent Qualified Reserves Evaluator or Auditor	Description and Preparation Date of [Audit/ Evaluation/ Review] Report	Location of Reserves (Country or Foreign Geographic Area)	Net Present Value of Future Net Revenue (10% discount rate)			
			Audited	Evaluated	Reviewed	Total
Evaluator A	xxx xx, 20xx	xxxx	\$xxx	\$xxx	\$xxx	\$xxx
Evaluator B	xxx xx, 20xx	xxxx	xxx	xxx	xxx	xxx
Totals			\$xxx	\$xxx	\$xxx	\$xxx ²

5. In our opinion, the reserves data respectively [audited] [evaluated] by us have, in all material respects, been determined and are in accordance with the COGE Handbook. We express no opinion on the reserves data that we reviewed but did not audit or evaluate.
6. We have no responsibility to update our respective reports referred to in paragraph 4 for events and circumstances occurring after its preparation date.
7. Because the reserves data are based on judgements regarding future events, actual results will vary and the variations may be material.

² This amount should be the amount disclosed by the reporting issuer in the reserves data included in its statement filed under item 1 of section 2.1 of Regulation 51-101, as its total future net revenue attributable to proved plus probable reserves, estimated using forecast prices and costs and calculated using a discount rate of 10 percent.

Executed as to our report referred to above:

Evaluator A, City, Province or State / Country, Execution Date

[signed]

Evaluator B, City, Province or State / Country, Execution Date

[signed]

FORM 51-101F3
REPORT OF
MANAGEMENT AND DIRECTORS
ON OIL AND GAS DISCLOSURE

This is the form referred to in item 3 of section 2.1 of Regulation 51-101 *Standards of Disclosure for Oil and Gas Activities* ("Regulation 51-101").

1. Terms to which a meaning is ascribed in *Regulation 51-101* have the same meaning in this form.¹
2. The report referred to in item 3 of section 2.1 of *Regulation 51-101* shall in all material respects be as follows:

**Report of Management and Directors
on Reserves Data and Other Information**

Management of [name of reporting issuer] (the "Company") are responsible for the preparation and disclosure of information with respect to the Company's oil and gas activities in accordance with securities regulatory requirements. This information includes reserves data, which consist of the following:

- (a)
 - (i) proved and proved plus probable oil and gas reserves estimated as at [last day of the reporting issuer's most recently completed financial year] using forecast prices and costs; and
 - (ii) the related estimated future net revenue; and
- (b)
 - (i) proved oil and gas reserves estimated as at [last day of the reporting issuer's most recently completed financial year] using constant prices and costs; and
 - (ii) the related estimated future net revenue.

[An] independent [qualified reserves evaluator[s] or qualified reserves auditor[s]] [has / have] [audited] [evaluated] [and reviewed] the Company's reserves data. The report of the independent [qualified reserves evaluator[s] or qualified reserves auditor[s]] [is presented below / will be filed with securities regulatory authorities concurrently with this report].

The [Reserves Committee of the] board of directors of the Company has

¹ For the convenience of readers, Appendix 1 to Policy Statement 51-101 sets out the meanings of terms that are printed in italics in sections 1 and 2 of this Form or in *Regulation 51-101*, *Form 51-101F1*, *Form 51-101F2* or the Policy Statement.

- (a) reviewed the Company's procedures for providing information to the independent [qualified reserves evaluator[s] or qualified reserves auditor[s]];
- (b) met with the independent qualified reserves evaluator[s] or qualified reserves auditor[s]] to determine whether any restrictions affected the ability of the independent [qualified reserves evaluator[s] or qualified reserves auditor[s]] to report without reservation [and, because of the proposal to change the independent [qualified reserves evaluator[s] or qualified reserves auditor[s]], to inquire whether there had been disputes between the previous independent [qualified reserves evaluator[s] or qualified reserves auditor[s] and management]; and
- (c) reviewed the reserves data with management and the independent [qualified reserves evaluator[s] or qualified reserves auditor[s]].

The [Reserves Committee of the] board of directors has reviewed the Company's procedures for assembling and reporting other information associated with oil and gas activities and has reviewed that information with management. The board of directors has [, on the recommendation of the Reserves Committee,] approved

- (a) the content and filing with securities regulatory authorities of the reserves data and other oil and gas information;
- (b) the filing of the report of the independent [qualified reserves evaluator[s] or qualified reserves auditor[s]] on the reserves data; and
- (c) the content and filing of this report.

Because the reserves data are based on judgements regarding future events, actual results will vary and the variations may be material.

[signature, name and title of chief executive officer]

[signature, name and title of a senior officer other than the chief executive officer]

[signature, name and title of a director]

[signature, name and title of a director]

[Date]