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**NATIONAL INSTRUMENT 51-101
STANDARDS OF DISCLOSURE
FOR OIL AND GAS ACTIVITIES**

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**NATIONAL INSTRUMENT 51-101
STANDARDS OF DISCLOSURE
FOR OIL AND GAS ACTIVITIES**

PART 1 APPLICATION AND TERMINOLOGY¹

1.1 Definitions² - In this *Instrument*:

- (a) "*annual information form*" has the same meaning as "AIF" in National Instrument 51-102 *Continuous Disclosure Obligations*;
- (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;
- (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 a contractual or other obligation to supply a physical product, 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 subparagraph (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 a contractual or other obligation to supply a physical product, 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 subparagraph (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*;

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

² A national definition instrument has been adopted as *NI 14-101*. It contains definitions of certain terms used in more than one national or multilateral instrument. *NI 14-101* provides that a term used in a national or multilateral 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 or multilateral 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 or multilateral instrument.

- (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) **[Repealed]**
- (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 extraction of natural resources other than *oil* and *gas* and their by-products; or
 - (C) the extraction of geothermal steam or 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 to which information relating to the period ending on the *effective date* was considered in the preparation of the disclosure;
- (u) "*production group*" means one of the following together, in each case, with associated by-products:
 - (i) light and medium *crude oil* (combined);
 - (ii) *heavy oil*;
 - (iii) *associated gas* and *non-associated gas* (combined); and
 - (iv) *bitumen*, *synthetic oil* or other products from non-conventional *oil and gas activities*.
- (v) "*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* excluding *natural gas liquids*; or

- (D) *natural gas liquids*; and
- (ii) in respect of non-conventional *oil and gas activities*:
 - (A) *synthetic oil*;
 - (B) *bitumen*;
 - (C) coal bed methane; or
 - (D) hydrates.
- (w) "*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*;
- (x) "*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*;
- (y) "*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*;
- (z) "*qualified reserves evaluator or auditor*" means a *qualified reserves auditor* or a *qualified reserves evaluator*;
- (aa) "*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
- (bb) "*supporting filing*" means a document filed by a *reporting issuer* with a *securities regulatory authority*.

1.2 COGE Handbook Definitions

- (1) Terms used in this *Instrument* 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 *Instrument, 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 *Instrument, 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 *Instrument* applies only to *reporting issuers* engaged, directly or indirectly, in *oil and gas activities*.

1.4 Materiality Standard

- (1) This *Instrument* 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 statement 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 Qualified Reserves Evaluator or Auditor

- (1) If a *qualified reserves evaluator or auditor* cannot report on *reserves data* without *reservation*, the *reporting issuer* shall ensure that the report of the *qualified reserves evaluator or auditor* prepared for the purpose of item 2 of section 2.1 sets 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 satisfy the applicable requirements of this Instrument.

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 *Instrument*;
- (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 *Instrument*;
- (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 subparagraph (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 purpose of paragraph 3.4(e).

3.6 [Repealed]

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) A *reporting issuer* shall ensure that estimates of *reserves* or *future net revenue* contained in a document filed with the *securities regulatory authority* under this *Instrument* satisfy the following requirements:
 - (a) the estimates shall be
 - (i) prepared or audited by a *qualified reserves evaluator or auditor*;
 - (ii) prepared or *audited* in accordance with the *COGE Handbook*; and
 - (iii) 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;
 - (b) for the purpose of determining whether *reserves* should be attributed to a particular undrilled *property*, reasonably estimated future abandonment and reclamation costs related to the *property* shall be taken into account; and
 - (c) aggregate *future net revenue* shall be estimated deducting
 - (i) reasonably estimated future *well abandonment costs*; and

- (ii) *future income tax expenses* (unless otherwise specified in this *Instrument, Form 51-101F1* or *Form 51-101F2*).
- (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 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 information derived from the report or 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
 - (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*

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

- (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, due to the effects of aggregation"; 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, Prospect or Resource

- (1) If a *reporting issuer* discloses in writing an estimate of the fair value of an *unproved property, prospect* or *resource*, 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, prospect* or *resource*
 - (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 *oil* and *gas*
- (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 *bb*l);
- (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 *bb*l: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 for that year"; 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 *Instrument*.

PART 8 EXEMPTIONS

8.1 Authority to Grant Exemption

- (1) The *regulator* or the *securities regulatory authority* may grant an exemption from this *Instrument*, 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 INSTRUMENT IN FORCE

- 9.1 **Coming Into Force** - This *Instrument* comes into force on September 30, 2003.

- 9.2 **Transition** - Despite section 9.1, this *Instrument* 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.

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

**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 National Instrument 51-101 *Standards of Disclosure for Oil and Gas Activities* ("NI 51-101").

GENERAL INSTRUCTIONS

- (1) Terms for which a meaning is given in **NI 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 **NI 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 **NI 51-101** and Companion Policy 51-101CP.
- (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 **NI 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.

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 **NI 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**.
- (3) The **preparation date**, in respect of written disclosure, means the most recent date to 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

¹ For the convenience of readers, Appendix 1 to Companion Policy 51-101CP 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 *NI 51-101*, *Form 51-101F2*, *Form 51-101F3* or the Companion Policy.

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, by country and in the aggregate, reserves, gross and net, estimated using *constant prices and costs*, for each *product type*, in the following categories:
 - (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, by country and in the aggregate, the net present value of *future net revenue* attributable to the reserves categories referred to in section 1 of this Item, estimated using *constant prices and costs*, before and after deducting *future income tax expenses*, calculated without discount and using a discount rate of 10 percent.
3. Additional Information Concerning Future Net Revenue (Constant Case)
 - (a) This section 3 applies to *future net revenue* attributable to *proved reserves (in total)* estimated using *constant prices and costs*.
 - (b) Disclose, by country and in the aggregate, the following elements of *future net revenue* estimated using *constant prices and costs* and calculated without discount:
 - (i) revenue;
 - (ii) royalties;
 - (iii) *operating costs*;
 - (iv) *development costs*;
 - (v) abandonment and reclamation costs;
 - (vi) *future net revenue* before deducting *future income tax expenses*;
 - (vii) *future income tax expenses*; and
 - (viii) *future net revenue* after deducting *future income tax expenses*.
 - (c) Disclose, by *production group*, the net present value of *future net revenue* (before deducting *future income tax expenses*) estimated using *constant prices and costs* and calculated using a discount rate of 10 percent.

Item 2.2 Reserves Data (Forecast Prices and Costs)

1. Breakdown of Reserves (Forecast Case) – Disclose, by country and in the aggregate, reserves, gross and net, estimated using *forecast prices and costs*, for each *product type*, in the following categories:
 - (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, by country and in the aggregate, the net present value of *future net revenue* attributable to the *reserves* categories referred to in section 1 of this Item, estimated using *forecast prices and costs*, before and after deducting *future income tax expenses*, calculated without discount and using discount rates of 5 percent, 10 percent, 15 percent and 20 percent.
3. Additional Information Concerning Future Net Revenue (Forecast Case)
- (a) This section 3 applies to *future net revenue* attributable to each of the following *reserves* categories 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 country and in the aggregate, the following elements of *future net revenue* estimated using *forecast prices and costs* and calculated without discount:
 - (i) revenue;
 - (ii) royalties;
 - (iii) *operating costs*;
 - (iv) *development costs*;
 - (v) abandonment and reclamation costs;
 - (vi) *future net revenue* before deducting *future income tax expenses*;
 - (vii) *future income tax expenses*; and
 - (viii) *future net revenue* after deducting *future income tax expenses*.
 - (c) Disclose, by *production group*, the net present value of *future net revenue* (before deducting *future income tax expenses*) estimated using *forecast prices and costs* and calculated using a discount rate of 10 percent.

Item 2.3 Reserves Disclosure 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 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 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 investees' *future net revenue* 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).
- (3) In the disclosure of "abandonment and reclamation costs" referred to in clause 3(b)(v) of Item 2.1 and in clause 3(b)(v) of Item 2.2 include, at minimum, **well abandonment costs**. The response to Item 6.4 will disclose total abandonment and reclamation costs and (in response to paragraph (d) of Item 6.4) the portion of total abandonment and reclamation costs, if any, not disclosed under clause 3(b)(v) of Item 2.1 and clause 3(b)(v) of Item 2.2.

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 five financial years; and
 - (ii) generally, for subsequent periods; and
 - (b) the *reporting issuer's* weighted average historical prices for the most recent financial year.
- 1. 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.
- 2. If the pricing assumptions specified in response to section 1 were provided by a *qualified reserves evaluator or auditor* who is *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 a contractual or other obligation to supply a physical product, 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 **NI 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 reserves categories:
 - (a) *net proved reserves (in total);*
 - (b) *net probable reserves (in total); and*
 - (c) *net proved plus probable reserves (in total).*
3. Disclose changes between the reserves estimates 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;
 - (b) for each of the following:
 - (i) *light and medium crude oil (combined);*
 - (ii) *heavy oil;*
 - (iii) *associated gas and non-associated gas (combined); and*
 - (iv) *synthetic oil and other products from non-conventional oil and gas activities;*
 - (c) separately identifying and explaining:
 - (i) extensions;
 - (ii) improved recovery;
 - (iii) technical revisions;
 - (iv) discoveries;
 - (v) acquisitions;
 - (vi) dispositions;

- (vii) economic factors; and
- (viii) *production*.

INSTRUCTIONS

- (1) *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.*
- (2) *For the purpose of this Item 4.1, it is sufficient to provide the information in respect of the products specified in paragraph 2(b), excluding **solution gas, natural gas liquids** and other associated by-products.*
- (3) *The **COGE Handbook** provides guidance on the preparation of the reconciliation required under this Item 4.1.*

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;
 - (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) *For the purpose of this Part 4, 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) *Except in respect of clause 2(b)(xi) of Item 4.2, the information to be provided under this Part is pre-tax information.*

- (3) For the purpose 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.
 - (a) Provide the information specified in paragraph 1(b) in respect of *development costs* deducted in the estimation of *future net revenue* attributable to each of the following *reserves* categories:
 - (i) *proved reserves* (in total) estimated using *constant prices and costs*;
 - (ii) *proved reserves* (in total) estimated using *forecast prices and costs*; and
 - (iii) *proved plus probable reserves* (in total) estimated using *forecast prices and costs*.
 - (b) Disclose, by country, the amount of *development costs* estimated:
 - (i) in total, calculated using no discount and using a discount rate of 10 percent; and
 - (ii) by year for each of the first five years estimated.
2. 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*.

3. If the *reporting issuer* expects that the costs of funding referred to in section 2, 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 *unproved properties* 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 *unproved property* 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 generally the agreement, discussing dates or 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, discuss such excess, giving information about the amount of the excess, dates or 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 as abandonment and reclamation costs in estimating the *future net revenue* 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 clause 3(b)(v) of Item 2.1 and clause 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 Incurred

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. For the purpose of this Item 6.6, if the *reporting issuer* files financial statements in which investments are accounted for by the equity method, disclose by country the *reporting issuer's* share of investees' (i) *property acquisition costs*, (ii) *exploration costs* and (iii) *development costs* incurred in the most recent financial year.

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 National Instrument 51-101 *Standards of Disclosure for Oil and Gas Activities* ("NI 51-101").

1. Terms to which a meaning is ascribed in *NI 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 *NI 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 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 (before deduction of income taxes) 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]:

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

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 (before income taxes, 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			<u>\$xxx</u>	<u>\$xxx</u>	<u>\$xxx</u>	<u>\$xxx²</u>

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 reports referred to in paragraph 4 for events and circumstances occurring after their respective preparation dates.
7. Because the reserves data are based on judgements regarding future events, actual results will vary and the variations may be material.

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]

² This amount should be the amount disclosed by the reporting issuer in its statement of reserves data filed under item 1 of section 2.1 of NI 51-101, as its future net revenue (before deducting future income tax expenses) attributable to proved plus probable reserves, estimated using forecast prices and costs and calculated using a discount rate of 10 percent (required by section 2 of Item 2.2 of Form 51-101F1).

**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 National Instrument 51-101 *Standards of Disclosure for Oil and Gas Activities* ("NI 51-101").

1. Terms to which a meaning is ascribed in *NI 51-101* have the same meaning in this form.¹
2. The report referred to in item 3 of section 2.1 of *NI 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

- (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.

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

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 of a director]

[signature, name of a director]

[Date]

This document is an unofficial consolidation of all amendments to Companion Policy 51-101CP current to January 27, 2006. This document is for reference purposes only and is not an official statement of the law.

**COMPANION POLICY 51-101CP
STANDARDS OF DISCLOSURE
FOR OIL AND GAS ACTIVITIES**

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**COMPANION POLICY 51-101CP
STANDARDS OF DISCLOSURE
FOR OIL AND GAS ACTIVITIES**

This Companion Policy sets out the views of the Canadian Securities Administrators (the "CSA") as to the interpretation and application of National Instrument 51-101 *Standards of Disclosure for Oil and Gas Activities* ("NI 51-101") and related forms, and how the *securities regulatory authorities* or *regulators* may exercise their discretion in respect of certain applications for exemption from provisions of NI 51-101¹.

PART 1 APPLICATION AND TERMINOLOGY

1.1 Supplements Other Requirements - NI 51-101 supplements other continuous disclosure requirements of *securities legislation* that apply to *reporting issuers* in all business sectors.

1.2 Materiality Standard - Section 1.4 of NI 51-101 states that NI 51-101 applies only in respect of information that is *material*.

NI 51-101 does not require any disclosure or filing of information that is not *material*. If information is not required to be disclosed because it is not *material*, it is unnecessary to disclose that fact.

Materiality for the purposes of NI 51-101 is a matter of judgement to be made in light of the circumstances, taking into account both qualitative and quantitative factors, assessed in respect of the *reporting issuer* as a whole.

The reference in subsection 1.4(2) of NI 51-101 to a "reasonable investor" denotes an objective test: would a notional investor, broadly representative of investors generally and guided by reason, be likely to be influenced, in making an investment decision to buy, sell or hold a security of a *reporting issuer*, by an item of information or an aggregate of items of information? If so, then that item of information, or aggregate of items, is "*material*" in respect of that *reporting issuer*.

This concept of *materiality* is consistent with the concept of *materiality* applied in connection with financial reporting pursuant to the *CICA Handbook*.

1.3 When Does NI 51-101 First Apply to a Reporting Issuer? - Part 9 of NI 51-101 specifies both the date on which NI 51-101 comes into force (section 9.1) and the timing of its first application to a *reporting issuer* (section 9.2). The two dates differ.

NI 51-101 comes into force on September 30, 2003. That does not, however, itself trigger any immediate filing or other requirements for *reporting issuers*.

Section 9.2 of NI 51-101 in effect establishes a transition period after NI 51-101 comes into force, during which *reporting issuers* are expected to prepare for compliance with NI 51-101. The date on which they first become subject to the requirements of NI 51-101 will vary depending on their financial year-ends and, in some cases, on whether or not they choose to enter the NI 51-101 disclosure system earlier than required. *Reporting issuers* may voluntarily comply with NI 51-101 before they are required to do so.

The first mandatory annual filings under Part 2 of NI 51-101 will be due at the same time as a *reporting issuer* is required to file its audited annual financial statements for its financial year that includes, or ends on, December 31, 2003. Those first annual *oil* and *gas* filings will include *reserves data* and other information that must be prepared as at the last day of that financial year and for that financial year. Some of this information will date back to the beginning of that financial year.

Because prospectus disclosure requirements include information relating to *oil and gas activities*, and because a prospectus filed between 90 and 140 days after the end of a *reporting issuer's* financial year can trigger an accelerated filing of annual financial statements before the usual deadline, the filing of a prospectus during that interval in 2004 could also accelerate the *reporting issuer's* first filing obligations under NI 51-101.

The other provisions of NI 51-101, including requirements relating to public disclosure generally and to material change² disclosure in particular, will apply to a *reporting issuer* only after it has filed its first annual *oil* and *gas* disclosure under Part 2, or the deadline for that filing, whichever is earlier.

¹ For the convenience of readers, the Appendix to Companion Policy 51-101CP sets out the meanings of terms that are printed in italics in NI 51-101, Form 51-101F1, Form 51-101F2 or Form 51-101F3, or in this Companion Policy (other than terms italicized in titles of documents, or in the texts of reports set out in Part 8, that are printed entirely in italics).

² "Material change" has the meaning ascribed to the term under *securities legislation* in the *jurisdiction*.

A *reporting issuer* may voluntarily make its first annual filing under Part 2 of *NI 51-101* earlier than the deadlines noted below, and may do so in respect of a financial year earlier than noted below. The other provisions of *NI 51-101* would begin to apply to the *reporting issuer* at the time of that voluntary early filing.

The following examples, summarized in the table below, illustrate the effect of Part 9 (assuming a 140-day annual financial statement filing deadline, and no earlier voluntary or prospectus-triggered transition to *NI 51-101*):

- A *reporting issuer* with a financial year that coincides with the calendar year, and with an annual financial statement filing period of 140 days after year-end, will be required to make its first annual *oil* and *gas* disclosure filing under Part 2 in the first 140 days of 2004, by May 19, 2004. The *reserves data* and other information included in that filing must be prepared as at December 31, 2003 and for the year ended on that date.

The other provisions of *NI 51-101* will begin to apply to the *reporting issuer* as soon as it makes its first filing under Part 2, or on May 19, 2004, whichever occurs first.

- A *reporting issuer* with a financial year that ends on June 30 will be required to make its first annual *oil* and *gas* disclosure filing under Part 2 within 140 days after June 30, 2004, by November 17, 2004. The *reserves data* and other information included in that filing must be prepared as at June 30, 2004 and for the financial year ended on that date.

The other provisions of *NI 51-101* will begin to apply to the *reporting issuer* as soon as it makes its first filing under Part 2, or on November 17, 2004, whichever occurs first.

<u>Financial Year-End</u>	<u>First Annual Filing Deadline</u>
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December 31	May 19, 2004 (data for the year ended <u>December 31, 2003</u>)
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June 30	November 17, 2004 (data for the year ended <u>June 30, 2004</u>)
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- * Note that any change from the 140-day annual financial statement filing deadline would also change the filing deadline under Part 2 of *NI 51-101*.

Because the first annual filing must include certain information from the beginning of the financial year for which disclosure is required, as well as certain information for prior periods, *reporting issuers* should familiarize themselves with *NI 51-101* and begin gathering information well before *NI 51-101* applies to them.

1.4 **COGE Handbook**

Pursuant to section 1.2 of *NI 51-101*, definitions and interpretations in the *COGE Handbook* apply for the purposes of *NI 51-101* if they are not defined in *NI 51-101*, *NI 14-101* or the securities statute in the *jurisdiction* (except to the extent of any conflict or inconsistency with *NI 51-101*, *NI 14-101* or the securities statute).

Section 1.1 of *NI 51-101* and the Glossary in Appendix 1 to this Companion Policy set out definitions and interpretations, many of which are derived from the *COGE Handbook*. *Reserves* definitions and categories developed by the Petroleum Society of the Canadian Institute of Mining, Metallurgy & Petroleum (CIM), are incorporated in the *COGE Handbook* and set out, in part, in Part 2 of Appendix 1 to this Companion Policy.

Subparagraph 4.2(1)(a)(ii) of *NI 51-101* requires that all filed estimates of *reserves* or *future net revenue* have been prepared or *audited* in accordance with the *COGE Handbook*. Under sections 5.2 and 5.3 of *NI 51-101*, all types of public *oil* and *gas* disclosure, including disclosure of reserves and resources must be consistent with the *COGE Handbook*.

1.5 **Qualified Reserves Evaluator or Auditor**

The definitions of *qualified reserves evaluator* and *qualified reserves auditor* are set out in subsections 1.1(y) and 1.1(x) of *NI 51-101*, respectively, and again in the Glossary in Appendix 1 to this Companion Policy.

The defined terms "*qualified reserves evaluator*" and "*qualified reserves auditor*" have a number of elements. A *qualified reserves evaluator* or *qualified reserves auditor* must

- possess professional qualifications and experience appropriate for the tasks contemplated in the *Instrument*, and
- be a member in good standing of a *professional organization*.

Reporting issuers should satisfy themselves that any person they appoint to perform the tasks of a *qualified reserves evaluator* or *auditor* for the purpose of the *Instrument* satisfies each of the elements of the appropriate definition.

(a) **Relevant Professional Qualifications and Experience**

In addition to having the relevant professional qualifications, a *qualified reserves evaluator* or *auditor* must also have sufficient practical experience relevant to the *reserves data* to be reported on. In assessing the adequacy of practical experience, reference should be made to section 3 of the *COGE Handbook* - "Qualifications of Evaluators and Auditors, Enforcement and Discipline".

(b) **Professional Organization**

For the purposes of the *Instrument*, a *qualified reserves evaluator* or *auditor* must also be a member in good standing with a self-regulatory *professional organization* of engineers, geologists, geoscientists or other professionals.

The definition of "*professional organization*" (in subsection 1.1(w) of *NI 51-101* and in the Glossary in Appendix 1 to this Companion Policy) has four elements, three of which deal with the basis on which the organization accepts members and its powers and requirements for continuing membership. The fourth element requires either authority or recognition given to the organization by a statute in Canada, or acceptance of the organization by the *securities regulatory authority* or *regulator*.

Each of the following organizations in Canada is a *professional organization* as at the date *NI 51-101* comes into force:

- Association of Professional Engineers, Geologists and Geophysicists of Alberta (APEGGA)
- Association of Professional Engineers and Geoscientists of the Province of British Columbia (APEGBC)
- Association of Professional Engineers and Geoscientists of Saskatchewan (APEGS)
- Association of Professional Engineers and Geoscientists of Manitoba (APEGM)
- Association of Professional Geoscientists of Ontario (APGO)
- Professional Engineers of Ontario (PEO)
- Ordre des ingénieurs du Québec (OIQ)
- Ordre des Géologues du Québec (OGQ)
- Association of Professional Engineers of Prince Edward Island (APEPEI)
- Association of Professional Engineers and Geoscientists of New Brunswick (APEGNB)
- Association of Professional Engineers of Nova Scotia (APENS)
- Association of Professional Engineers and Geoscientists of Newfoundland (APEGN)
- Association of Professional Engineers of Yukon (APEY)
- Association of Professional Engineers, Geologists & Geophysicists of the Northwest Territories (NAPEGG) (representing the Northwest Territories and Nunavut Territory)

(i) **Other Professional Organizations?**

The CSA are willing to consider whether particular foreign professional bodies should be accepted as "professional organizations" for the purposes of NI 51-101. A reporting issuer, foreign professional body or other interested person can apply to have a self-regulatory organization that satisfies the first three elements of the definition of "professional organization" accepted for the purposes of NI 51-101.

In considering any such application for acceptance, the securities regulatory authority or regulator is likely to take into account the degree to which a foreign professional body's authority or recognition, admission criteria, standards and disciplinary powers and practices are similar to, or differ from, those of organizations listed above.

The CSA may from time to time determine that it is appropriate to expand or revise the list of professional organizations and publish notice of such changes.

(ii) **No Professional Organization?**

A reporting issuer or other person may apply for an exemption under Part 8 of NI 51-101 to enable a reporting issuer to appoint, in satisfaction of its obligation under section 3.2 of NI 51-101, an individual who is not a member of a professional organization, but who has other satisfactory qualifications and experience. Such an application might refer to a particular individual or generally to members and employees of a particular foreign reserves evaluation firm. In considering any such application, the securities regulatory authority or regulator is likely to take into account the individual's professional education and experience or, in the case of an application relating to a firm, to the education and experience of the firm's members and employees, evidence concerning the opinion of a qualified reserves evaluator or auditor as to the quality of past work of the individual or firm, and any prior relief granted or denied in respect of the same individual or firm.

(iii) **Renewal Applications Unnecessary**

A successful applicant would likely have to make an application contemplated in this section 1.5 only once, and not renew it annually.

1.6 Oil Sands and Other Non-Conventional Activities - NI 51-101 applies not only to conventional oil and gas activities, but also to non-conventional activities such as the extraction of bitumen from oil sands with a view to the production of synthetic oil, the in situ production of bitumen and the extraction of methane from coal beds.

Although NI 51-101 and Form 51-101F1 make few specific references to non-conventional oil and gas activities, the CSA are of the view that the requirements of NI 51-101 for the preparation and disclosure of reserves data apply to oil and gas reserves relating to oil sands, shale, coal or other non-conventional sources of hydrocarbons. The CSA encourage reporting issuers that are engaged in non-conventional oil and gas activities to supplement the disclosure prescribed in NI 51-101 and Form 51-101F1 with information specific to those activities that can assist investors and others in understanding the business and results of the reporting issuer. In particular, the CSA encourage reporting issuers engaged in oil and gas activities that involve mining to consider the following when making disclosure about those activities:

- in respect of financial disclosure, CICA Handbook guidance for mining activities; and
- in respect of technical aspects of mine development and operations, National Instrument 43-101 Standards of Disclosure for Mineral Projects and Form 43-101F1 Technical Report.

1.7 Use of Information - The requirements under NI 51-101 for the filing with securities regulatory authorities of information relating to oil and gas activities are designed in part to assist the public and analysts in making investment decisions and recommendations.

The CSA encourage registrants³ and other persons and companies that wish to make use of information concerning oil and gas activities of a reporting issuer, including reserves data, to review the information filed on SEDAR under NI 51-101 by the reporting issuer and, if they are summarizing or referring to this information, to use the applicable terminology consistent with NI 51-101 and the COGE Handbook.

³ "Registrant" has the meaning ascribed to the term under securities legislation in the jurisdiction.

PART 2 ANNUAL FILING REQUIREMENTS

2.1 Annual Filings on SEDAR - The information required under section 2.1 of *NI 51-101* must be filed electronically on *SEDAR*. Consult National Instrument 13-101 *System for Electronic Document Analysis and Retrieval (SEDAR)* and the current CSA "SEDAR Filer Manual" for information about filing documents electronically.

2.2 Inapplicable or Immaterial Information - Section 2.1 of *NI 51-101* does not require the filing of any information, even if specified in *NI 51-101* or in a form referred to in *NI 51-101*, if that information is inapplicable or not *material* in respect of the *reporting issuer*. See section 1.2 of this Companion Policy for a discussion of *materiality*.

If an item of prescribed information is not disclosed because it is inapplicable or immaterial, it is unnecessary to state that fact or to make reference to the disclosure requirement.

2.3 Use of Forms - Section 2.1 of *NI 51-101* requires the annual filing of information set out in *Form 51-101F1* and reports in accordance with *Form 51-101F2* and *Form 51-101F3*.

NI 51-101 and the instructions in *Form 51-101F1*, give the *reporting issuer* considerable flexibility in presenting this information, provided that all required information is filed. It is not necessary to identify any of the information by form name, number or title, to include the headings or numbering used in a form, or to follow the ordering of items used in the forms. (Appendix 2 to this Companion Policy provides an example of how certain of the *reserves data* might be presented.)

The information specified in all three forms, or any two of the forms, can be combined in a single document. A *reporting issuer* may wish to include statements indicating the relationship between documents or parts of one document. For example, the *reporting issuer* may wish to accompany the report of the *independent qualified reserves evaluator or auditor (Form 51-101F2)* with a reference to the *reporting issuer's* disclosure of the *reserves data (Form 51-101F1)*, and vice versa.

The report of management and directors in *Form 51-101F3* may be combined with management's report on financial statements, if any, in respect of the same financial year.

2.4 Annual Information Form - Section 2.3 of *NI 51-101* permits *reporting issuers* to satisfy the requirements of section 2.1 of *NI 51-101* by presenting the information required under section 2.1 in an *annual information form*.

(a) Meaning of "Annual Information Form"

Annual information form has the same meaning as "AIF" in National Instrument 51-102 *Continuous Disclosure Obligations*. Therefore, as set out in that definition, an *annual information form* can be a completed *Form 51-102F2 Annual Information Form* or, in the case of an SEC issuer (as defined in *NI 51-102*), a completed *Form 51-102F2* or an annual report or transition report under the 1934 Act on *Form 10-K*, *Form 10-KSB* or *Form 20-F*.

(b) Option to Set Out Information in Annual Information Form

Form 51-102F2 Annual Information Form requires the information required by section 2.1 of *NI 51-101* to be included in the *annual information form*. That information may be included either by setting out the text of the information in the *annual information form* or by incorporating it by reference from separately filed documents. The option offered by section 2.3 of *NI 51-101* enables a *reporting issuer* to satisfy its obligations under section 2.1 of *NI 51-101*, as well as its obligations in respect of *annual information form* disclosure, by setting out the information required under section 2.1 only once, in the *annual information form*. If the *annual information form* is on *Form 10-K*, this can be accomplished by including the information in a supplement (often referred to as a "wrapper") to the *Form 10-K*.

A *reporting issuer* that elects to set out in full in its *annual information form* the information required by section 2.1 of *NI 51-101* need not also file that information again for the purpose of section 2.1 in one or more separate documents. A reporting issuer that elects to follow this approach should file its *annual information form* in accordance with usual requirements of *securities legislation*, and at the same time file on *SEDAR*, in the category for *NI 51-101 oil and gas* disclosure, a notification that the information required under section 2.1 of *NI 51-101* is included in the *reporting issuer's* filed *annual information form*. This notification (which could be a copy of the news release mandated by section 2.2 of *NI 51-101*) will assist other *SEDAR* users in finding that information. It is not necessary to make a duplicate filing of the *annual information form* itself under the *SEDAR NI 51-101 oil and gas* disclosure category.

2.5 Reservations in Report of Independent Qualified Reserves Evaluator or Auditor - A report of an *independent qualified reserves evaluator or auditor* on *reserves data* will not satisfy the requirements of item 2 of section 2.1 of *NI 51-101* if the report contains a *reservation*, the cause of which can be removed by the *reporting issuer* (subsection 2.4(2) of *NI 51-101*).

The CSA do not generally consider time and cost considerations to be causes of a *reservation* that cannot be removed by the *reporting issuer*.

A report containing a *reservation* may be acceptable if the *reservation* is caused by a limitation in the scope of the *evaluation* or *audit* resulting from an event that clearly limits the availability of necessary records and which is beyond the control of the *reporting issuer*. This could be the case if, for example, necessary records have been inadvertently destroyed and cannot be recreated or if necessary records are in a country at war and access is not practicable.

One potential source of *reservations*, which the CSA consider can and should be addressed in a different way, could be reliance by a *qualified reserves evaluator or auditor* on information derived or obtained from a *reporting issuer's* independent financial auditors or reflecting their report. As discussed in section 4.4 of this Companion Policy, the CSA recommend that *qualified reserves evaluators or auditors* follow the procedures and guidance set out in both sections 4.5 and 12.6 of the *COGE Handbook* in respect of dealings with independent financial auditors. In so doing, the CSA expect that the quality of *reserves data* can be enhanced and a potential source of *reservations* can be eliminated.

- 2.6 Negative Assurance by Qualified Reserves Evaluator or Auditor** - A *qualified reserves evaluator or auditor* conducting a *review* may wish to express only negative assurance -- for example, in a statement such as "Nothing has come to my attention which would indicate that the reserves data have not been prepared in accordance with principles and definitions presented in the Canadian Oil and Gas Evaluation Handbook". This can be contrasted with a positive statement such as an opinion that "The reserves data have, in all material respects, been determined and presented in accordance with the Canadian Oil and Gas Evaluation Handbook and are, therefore, free of material misstatement".

The CSA are of the view that statements of negative assurance can be misinterpreted as providing a higher degree of assurance than is intended or warranted.

The CSA believe that a statement of negative assurance would constitute so material a departure from the report prescribed in *Form 51-101F2* as to fail to satisfy the requirements of item 2 of section 2.1 of *NI 51-101*.

The *COGE Handbook* may address the issue of negative assurance in connection with evolving standards for *reviews* of *reserves data*. The CSA will consider any such developments and may, in consequence, reassess the views expressed above.

- 2.7 Royalty Interest in Reserves** - *Net reserves* (or "company *net reserves*") of a *reporting issuer* include its royalty interest in *reserves*.

If a *reporting issuer* cannot obtain the information it requires to enable it to include a royalty interest in *reserves* in its disclosure of *net reserves*, it should, proximate to its disclosure of *net reserves*, disclose that fact and its corresponding royalty interest share of *oil* and *gas production* for the year ended on the *effective date*.

- 2.8 Government Restriction on Disclosure** - If, because of a restriction imposed by a government or governmental authority having jurisdiction over a *property*, a *reporting issuer* excludes *reserves* information from its *reserves data* disclosed under *NI 51-101*, the disclosure should include a statement that identifies the *property* or country for which the information is excluded and explains the exclusion.

- 2.9 Additional Information** - As discussed in section 2.3 above and in the instructions to *Form 51-101F1*, *NI 51-101* offers considerable flexibility in the use of the prescribed forms and the presentation of required information.

The disclosure specified in *Form 51-101F1* is the minimum disclosure required, subject to the *materiality* standard. *Reporting issuers* are free to provide additional disclosure that is not inconsistent with *NI 51-101*.

To the extent that additional, or more detailed, disclosure can be expected to assist readers in understanding and assessing the mandatory disclosure, it is encouraged. Indeed, to the extent that additional disclosure of material facts is necessary in order to make mandated disclosure not misleading, a failure to provide that additional disclosure would amount to a misrepresentation.

- 2.10 Sample Reserves Data Disclosure** - Appendix 2 to this Companion Policy sets out an example of how certain of the *reserves data* might be presented in a manner which the CSA consider to be consistent with *NI 51-101* and *Form 51-101F1*.

The sample presentation in Appendix 2 also illustrates how certain additional information not mandated under *Form 51-101F1* might be incorporated in an annual filing.

The sample presentation in Appendix 2 is provided by way of illustration only, and is not mandatory. However, the CSA urge *reporting issuers* to review Appendix 2 and consider whether a similar presentation might be helpful for their investors.

PART 3 RESPONSIBILITIES OF REPORTING ISSUERS AND DIRECTORS

- 3.1 Reserves Committee** - Section 3.4 of *NI 51-101* enumerates certain responsibilities of the board of directors of a *reporting issuer* in connection with the preparation of *oil* and *gas* disclosure.

The CSA believe that certain of these responsibilities can in many cases more appropriately be fulfilled by a smaller group of directors who bring particular experience or abilities and an independent perspective to the task.

Subsection 3.5(1) of *NI 51-101* permits a board of directors to delegate responsibilities (other than the responsibility to approve the content or filing of certain documents) to a committee of directors, a majority of whose members are independent of management. Although subsection 3.5(1) is not mandatory, the CSA encourage *reporting issuers* and their directors to adopt this approach.

- 3.2 Responsibility for Disclosure** - *NI 51-101* requires the involvement of an *independent qualified reserves evaluator or auditor* in preparing or reporting on certain *oil* and *gas* information disclosed by a *reporting issuer*, and in section 3.2 mandates the appointment of an *independent qualified reserves evaluator or auditor* to report on *reserves data*.

The CSA do not intend or believe that the involvement of an *independent qualified reserves evaluator or auditor* relieves the *reporting issuer* of responsibility for information disclosed by it for the purposes of *NI 51-101*.

PART 4 MEASUREMENT

- 4.1 Forecast Prices and Costs** - *Forecast prices and costs* are discussed in the *COGE Handbook*. Except to the extent that the *reporting issuer* is legally bound by fixed or presently determinable future prices or costs, *forecast prices and costs* are future prices and costs "generally recognized as being a reasonable outlook on the future".

The CSA do not consider that future prices or costs would satisfy this requirement if they fall outside the range of forecasts of comparable prices or costs used, as at the same date, for the same future period, by major *independent qualified reserves evaluators or auditors*.

- 4.2 Constant Prices and Costs** - *Constant prices and costs* are based on the *reporting issuer's* prices and costs as of the *effective date* of the estimate being made (generally, for the purpose of the estimates to be filed under section 2.1 of *NI 51-101*, as at the *reporting issuer's* financial year-end). In general, these prices and costs are assumed not to change, but rather to remain constant, throughout the life of a *property*, except to the extent of certain fixed or presently determinable future prices or costs to which the *reporting issuer* is legally bound by a contractual or other obligation to supply a physical product (including those for an extension period of a contract that is likely to be extended); see also section 4.3 of this Companion Policy.

- 4.3 Financial Instruments** - The definitions of "*constant prices and costs*" and "*forecast prices and costs*" in subsections 1.1(g) and (j) of *NI 51-101* and in the Glossary in Appendix 1 to this Companion Policy refer to fixed or presently determinable future prices to which a *reporting issuer* is legally bound by a contractual or other obligation to supply a physical product. The phrase "contractual or other obligation to supply a physical product" excludes arrangements under which the *reporting issuer* can satisfy its obligations in cash and would therefore exclude an arrangement that would be a "financial instrument" as defined in Section 3860 of the *CICA Handbook*. The *CICA Handbook* discusses when a *reporting issuer's* obligation would be considered a financial instrument and sets out the requirements for presentation and disclosure of these financial instruments (including so-called financial hedges) in the *reporting issuer's* financial statements.

- 4.4 Reserves Estimation Methods** - The *COGE Handbook* sets out target levels of certainty for estimates of primary categories of total reserves for the reporting issuer as a whole. For example, there is to be at least a 90 percent probability that the total remaining quantities of oil and gas to be recovered will equal or exceed the estimated total proved reserves. (See Part 2 of Appendix 1.)

Section 5.4.3 of the *COGE Handbook* states "In principle, there should be no difference between estimates prepared using probabilistic or deterministic methods".

When deterministic methods are used, because of the absence of a "mathematically derived quantitative measure of probability", the classification of reserves is based on professional judgement as to the quantitative measure of certainty attained.

- 4.5 Consistency of Timing** - Subsection 4.2(2) of *NI 51-101* requires consistency in the timing of recording the effects of events or transactions for the purposes of both annual financial statements and annual reserves data disclosure.

To ensure that the effects of events or transactions are recorded, disclosed or otherwise reflected consistently (in respect of timing) in all public disclosure, a reporting issuer will wish to ensure that both its financial auditors and its qualified reserves evaluators or auditors, as well as its directors, are kept apprised of relevant events and transactions, and to facilitate communication between its financial auditors and its qualified reserves evaluators or auditors.

Sections 4.5 and 12.6 of the *COGE Handbook* set out procedures and guidance for the conduct of reserves evaluations and reserves audits, respectively. Section 12.6 deals with the relationship between a reserves auditor and the client's financial auditor. Section 4.5, in connection with reserves evaluations, deals somewhat differently with the relationship between the qualified reserves evaluator or auditor and the client's financial auditor. The CSA recommend that qualified reserves evaluators or auditors carry out the procedures discussed in both sections 4.5 and 12.6 of the *COGE Handbook*, whether conducting a reserves evaluation or a reserves audit.

PART 5 REQUIREMENTS APPLICABLE TO ALL DISCLOSURE

- 5.1 Scope of Part 5 of NI 51-101** - Part 5 of *NI 51-101* imposes requirements and restrictions that apply to all "disclosure" (or, in some cases, all written disclosure) of a type described in section 5.1 of *NI 51-101*. Section 5.1 refers to disclosure that is either:

- filed by a reporting issuer with the securities regulatory authority; or
- if not filed, otherwise made to the public or made in circumstances in which, at the time of making the disclosure, the reporting issuer expects, or ought reasonably to expect, the disclosure to become available to the public.

As such, Part 5 applies to a broad range of disclosure including:

- the annual filings required under Part 2 of *NI 51-101*;
- other continuous disclosure filings, including material change reports (which themselves may also be subject to Part 6 of *NI 51-101*);
- public disclosure documents, whether or not filed, including news releases;
- public disclosure made in connection with a distribution of securities, including a prospectus; and
- except in respect of provisions of Part 5 that apply only to written disclosure, public speeches and presentations made by representatives of the reporting issuer on behalf of the reporting issuer.

For these purposes, the CSA consider written disclosure to include any writing, map, plot or other printed representation whether produced, stored or disseminated on paper or electronically.

To ensure compliance with the requirements of Part 5, the CSA encourage reporting issuers to involve a qualified reserves evaluator or auditor, or other person who is familiar with *NI 51-101* and the *COGE Handbook*, in the preparation, review or approval of all such oil and gas disclosure.

- 5.2 Written Consents** - Section 5.7 of *NI 51-101* restricts a reporting issuer's use of a report of a qualified reserves evaluator or auditor without written consent. The consent requirement does not apply to the direct use of the report for the purposes of *NI 51-101* (filing the report under item 2 of section 2.1; making direct or indirect reference to the conclusions of that report in the statement filed under item 1 of section 2.1 and in the report of management and directors filed under item 3 of section 2.1; and identifying the report in the mandatory news release under section 2.2).

The *qualified reserves evaluator or auditor* retained to report to a *reporting issuer* for the purposes of *NI 51-101* is expected to anticipate these uses of the report. However, further use of the report (for example, in a securities offering document or in other news releases) would require written consent.

5.3 Estimates of Fair Value - Section 5.10 of *NI 51-101* sets out requirements applicable to disclosure of certain estimates of fair value -- for example, an estimate of fair value of an *oil and gas prospect*.

Such an estimate must, unless paragraph 5.10(2)(a) applies, satisfy the requirements of paragraph 5.10(2)(b), which among other things requires that the estimate be prepared or accepted by a professional valuator. The CSA do not consider that such an estimate would be an appropriate basis for disclosure if it is prepared or accepted as at a date more than six months before the date of the disclosure.

Under subparagraph 5.10(2)(b)(ii), the estimate must consist of at least three values that reflect a range of reasonable likelihoods (the low value reflecting a conservative estimate, the middle value being the median estimate, and the high value being an optimistic estimate) such values being estimated by a professional valuator in accordance with applicable professional standards based on the course of action that the valuator reasonably expects the *reporting issuer* to follow.

In circumstances in which paragraph 5.10(2)(b) applies, in order to ensure that the *reporting issuer* is not making public disclosure of misleading information, the CSA expect the *reporting issuer* to provide all relevant information to the valuator to enable the valuator to prepare the estimate and provide the report referred to in that paragraph.

5.4 Negative Assurance - As discussed in section 2.6 of this Companion Policy, the CSA are of the view that a report of a *qualified reserves evaluator or auditor* that is based on or conveys only negative assurance can be misinterpreted as providing a higher degree of assurance than is intended or warranted.

The CSA believe that *reporting issuers* should avoid making any public disclosure of, or based on, a report that conveys only negative assurance.

In the rare case, if any, in which there are compelling reasons for making such disclosure, the CSA believe that, to avoid providing information that could be misleading, the *reporting issuer* should include in such disclosure useful explanatory and cautionary statements. Such statements should explain the limited nature of the work undertaken by the *qualified reserves evaluator or auditor* and the limited scope of the assurance expressed, noting that it does not amount to a positive opinion.

The *COGE Handbook* may address the issue of negative assurance in connection with evolving standards for *reviews of reserves data*. The CSA will consider any such developments and may, in consequence, give public notice of a change in the views expressed above.

5.5 Supporting Filings - Part 5 of *NI 51-101* requires that certain information, if disclosed publicly, be supported by consistent information in a *supporting filing*.

The definition of "*supporting filing*" in section 1.1 of *NI 51-101* does not specify any particular type of document, nor a maximum age or an expiry date for any such document. If the information in a filed document has not been rendered inaccurate or misleading by events subsequent to its filing, the document can continue to serve as a *supporting filing*.

Part 6 of *NI 51-101* requires that reports of material changes include, in certain circumstances, information concerning the effect that the material change would, but for the timing of its occurrence, have had on information in an annual filing under Part 2.

The CSA do not consider that a document filed under Part 2 of *NI 51-101* would cease to qualify as a *supporting document* merely by reason of the occurrence of a material change referred to in Part 6 of *NI 51-101*, provided that the material change disclosure satisfies applicable requirements of Part 6.

5.6 Consistent Use of Units of Measurement - *Reporting issuers* should be consistent in their use of units of measurement within and between disclosure documents, to facilitate understanding and comparison of the disclosure. For example, *reporting issuers* should not, without compelling reason, switch between imperial units of measure (such as barrels) and Système International (SI) units of measurement (such as tonnes) within or between disclosure documents.

In all cases, in accordance with subparagraph 4.2(1)(a)(ii), subsection 5.2(a) and section 5.3 of *NI 51-101*, reporting issuers should apply the relevant nomenclature and unit prefixes set out in the *COGE Handbook*.

5.7 BOEs and McfGEs - Section 5.14 of *NI 51-101* sets out requirements that apply if a reporting issuer chooses to make disclosure using units of equivalency such as *BOEs* or *McfGEs*. The requirements include prescribed methods of calculation and cautionary disclosure as to the possible limitations of those calculations. Section 13 of the *COGE Handbook*, under the heading "Barrels of Oil Equivalent", provides additional guidance.

5.8 Finding and Development Costs - Section 5.15 of *NI 51-101* sets out requirements that apply if a reporting issuer chooses to make disclosure of finding and development costs.

Because the prescribed methods of calculation under section 5.15 involve the use of *BOEs*, section 5.14 of *NI 51-101* necessarily applies to disclosure of finding and development costs under section 5.15. As such, the finding and development cost calculations must apply a conversion ratio as specified in section 5.14 and the cautionary disclosure prescribed in section 5.14 will also be required.

BOEs are based on imperial units of measurement. If the reporting issuer uses other units of measurements (such as SI or "metric" measures), any corresponding departure from the requirements of section 5.15 should reflect the use of units other than *BOEs*.

PART 6 MATERIAL CHANGE DISCLOSURE

6.1 Changes from Filed Information - Part 6 of *NI 51-101* requires the inclusion of specified information in disclosure of certain material changes.

The information to be filed each year under Part 2 of *NI 51-101* is prepared as at, or for a period ended on, the reporting issuer's most recent financial year-end. That date is the *effective date* referred to in subsection 6.1(1) of *NI 51-101*. When a material change occurs after that date, the filed information may no longer, as a result of the material change, convey meaningful information, or the original information may have become misleading in the absence of updated information.

Part 6 of *NI 51-101* requires that the disclosure of the material change include a discussion of the reporting issuer's reasonable expectation of how information that had been filed under Part 2 would differ, had the material change occurred before rather than after the *effective date* of that original information.

This material change disclosure can reduce the likelihood of investors being misled, and maintain the usefulness of the original filed *oil* and *gas* information when the two are read together.

6.2 Constant Case Estimates - To the extent that a material change referred to in section 6.1 involves a change in future prices and costs, the CSA do not consider that Part 6 of *NI 51-101* would require further discussion of *reserves data* estimated using *constant prices and costs* as at the *effective date*.

PART 7 INDEPENDENCE OF PROFESSIONALS

7.1 Independence of Qualified Reserves Evaluator or Auditor - "*Independence*", in respect of the relationship between a reporting issuer and a *qualified reserves evaluator or auditor* engaged to *evaluate, audit, or review reserves data*, is to be determined in accordance with the *COGE Handbook*. The following guidance should be read in light of the *COGE Handbook*.

Under the *COGE Handbook*, a *qualified reserves evaluator or auditor* would not generally be considered to be *independent* of a client reporting issuer if the *qualified reserves evaluator or auditor* has or expects to receive a direct or indirect interest in either a *property* to be *evaluated* or reported on, or in securities of the client or of an affiliate of the client.

Independence would not ordinarily be considered to be lost only by reason of the fact that the *qualified reserves evaluator or auditor*, or a *reserves evaluation firm* of which he or she is a partner, shareholder or employee, also provides to the client reporting issuer, or provides to another client in respect of a *property* to be *evaluated* or reported on, other services (including *evaluations, audits or reviews*) of a type normally rendered by the petroleum engineering profession.

7.2 Unacceptable Qualified Reserves Evaluator or Auditor or Valuator - Sections 2.1 and 3.2 of *NI 51-101* require the involvement, in connection with annual *reserves data* disclosure, of a *qualified reserves evaluator or auditor* who is *independent* (in accordance with the *COGE Handbook*) of the reporting issuer. Similarly, section 5.10 of *NI 51-101* requires the involvement, in connection with certain disclosure of estimates of fair value, of a professional valuator who is not a "related party" (within the meaning of the term in the *CICA Handbook*) of the reporting issuer.

Notwithstanding that a *qualified reserves evaluator or auditor* or a valuator may technically satisfy these requirements concerning his or her relationship with the *reporting issuer*, circumstances may, or may reasonably be seen to, deprive that individual of the freedom to exercise the independent judgement that the CSA consider essential for the purposes of *NI 51-101*. In such circumstances, the *securities regulatory authority or regulator* may request the *reporting issuer* to engage another *qualified reserves evaluator or auditor* or another valuator. If a prospectus filing is involved, the *securities regulatory authority or regulator* may consider that a failure to comply with such a request materially impairs the quality of disclosure to an extent that could lead to a refusal to issue a prospectus receipt.

PART 8 EXEMPTIONS

8.1 Scope of Possible Exemptions - This Part discusses certain exemptive relief that the *securities regulatory authority or regulator* may be willing to grant in appropriate circumstances, on application by a *reporting issuer* under Part 8 of *NI 51-101*. The relief discussed in this Part is limited to relief from the requirements of *NI 51-101*, and would not affect other requirements of *securities legislation*.

(See also section 1.5 of this Companion Policy for a discussion of certain applications relating to professional qualifications.)

8.2 Exemption from Requirement for *Independent Qualified Reserves Evaluator or Auditor*

The CSA consider that the involvement of a *qualified reserves evaluator or auditor* who is *independent* of a *reporting issuer* will in most cases serve as an important measure of quality control for *reserves data* disclosure, which should in turn help foster and maintain confidence in *oil* and *gas* disclosure, to the benefit of all participants in Canadian capital markets.

The CSA recognize, however, that there may be limited circumstances in which the desired quality and reliability of *reserves data* disclosure may be achieved even without *independent* professional involvement.

(a) Discretionary Exemption for *Senior Producing Issuer*

Securities regulatory authorities or regulators would, in certain circumstances, likely be prepared, on application by a *senior producing issuer*, to grant an exemption from the requirements of *NI 51-101* for involvement of a *qualified reserves evaluator or auditor* who is *independent* of the *reporting issuer*. Such an exemption would likely be subject to conditions.

For these purposes, "*senior producing issuer*" means a *reporting issuer* that

- (i) demonstrates capability to estimate its *reserves* and *future net revenue* in accordance with the *COGE Handbook* (other than with respect to *independence*); and
- (ii) produced an average of more than 100,000 *BOEs* of *oil* and *gas* (converted in the ratio 6 *Mcf* :1 *bbbl*) per day throughout its most recent financial year.

Such an exemption from the requirement for *independence* of a *qualified reserves evaluator or auditor* would likely apply in respect of requirements arising directly under *NI 51-101* (notably paragraph (b) of item 2 of section 2.1 and section 3.2) or indirectly under other *securities legislation* (such as prospectus disclosure requirements) that applies requirements of *NI 51-101*.

Such an exemption would not vary the requirements of *NI 51-101* in respect of the involvement of a *qualified reserves evaluator*, only his or her *independence*. Given the nature of the *reserves audit* function, it is unlikely that a non-independent professional could act as a *qualified reserves auditor* or usefully perform a *review*. Accordingly, for the purpose of section 2.1 of *NI 51-101*, the use of an *audit* as an alternative to an *evaluation*, and the use of a *review* of information not *evaluated* or *audited*, would not likely be alternatives available to a *reporting issuer* relying on such an exemption. In other words, reliance on such an exemption would likely require *evaluation* of all *reserves data* by an "in-house" *qualified reserves evaluator*.

Relief would likely cease to be available to a *reporting issuer* if it ceased to be a *senior producing issuer* or in the event of a failure to adhere to any undertaking provided as a condition of the exemption.

No such exemption would likely be provided in connection with an initial public offering of securities or a reverse take-over or similar transaction.

(b) Application

An application for an exemption referred to above should demonstrate that the applicant is a *senior producing issuer*. In considering that aspect of an application, factors taken into account by *securities regulatory authorities* or *regulators* would likely include the background and experience of the *reporting issuer's* non-independent *qualified reserves evaluators*, the quality of its past *oil* and *gas* disclosure, and its internal disclosure, compliance, quality control and approval procedures. Demonstrated adherence to "best practice" standards of the *COGE Handbook* and of the relevant professional body would be expected.

An independent review of internally-generated *reserves data*, with satisfactory results, could be required before an exemption is granted.

An exemption, if granted, might not specify an expiry date, meaning that a successful applicant need not renew the application annually.

(c) Likely Conditions to Discretionary Exemption

A discretionary exemption described in this section 8.2 would likely be conditional on the *reporting issuer* furnishing and complying with the following undertakings:

- (i) **Internal procedures** - an undertaking by the *reporting issuer* to implement internal procedures that will permit preparation of the modified reports described below;
- (ii) **Explanatory and cautionary disclosure** - an undertaking by the *reporting issuer* to disclose:
 - (A) at least annually (for example, in an *annual information form*), its reasons for considering the reliability of internally-generated *reserves data* to be not materially less than would be afforded by strict adherence to the requirements of *NI 51-101*, including a discussion of
 - (I) factors supporting the involvement of *independent qualified evaluators* or *auditors* and why such factors are not considered compelling in the case of that *reporting issuer*; and
 - (II) the manner in which the *reporting issuer's* internally-generated *reserves data* is determined, reviewed and approved, its relevant disclosure control procedures and the related role, responsibilities and composition of responsible management, the board of directors and (if applicable) the reserves committee of the board of directors; and
 - (B) in each document that discloses any information derived from internally-generated *reserves data* and reasonably proximate to that disclosure, the fact that no *independent qualified reserves evaluator* or *auditor* was involved in the preparation of the *reserves data*; and
- (iii) **Disclosure of conflicting independent reports** - an undertaking by the *reporting issuer* to the effect that, if despite the exemption it obtains a report on *reserves data* from an *independent qualified reserves evaluator* or *auditor* that contains information that differs materially from corresponding information filed by the *reporting issuer* in reliance on the exemption or that otherwise suggests that the *reporting issuer's* public disclosure record in respect of *reserves data* may be misleading, it will promptly file a correction of its public disclosure.

(d) Modified Reports

A discretionary exemption discussed in this section 8.2 would have the effect of varying the application of section 2.1 of *NI 51-101* as though the words "each of whom is *independent* of the *reporting issuer*" were omitted from paragraph (b) of item 2.

Such an exemption would also likely contemplate modifications to the texts of the reports required under items 2 and 3 of section 2.1 of *NI 51-101*.

- (i) **Modified Form 51-101F2** - The report of the *independent qualified reserves evaluator* or *auditor* in *Form 51-101F2*, required by item 2 of section 2.1 of *NI 51-101*, would likely be modified under the terms of a discretionary exemption to reflect the substance of the exemption, substituting a report consistent in all *material* respects with the following:

“Report on Reserves Data

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

1. Our staff and I have evaluated 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 evaluation.
3. We carried out our evaluation in accordance with standards set out in the Canadian Oil and Gas Evaluation Handbook (the “COGE Handbook”). We are not, however, independent of the Company, within the meaning of the term "independent" under those standards.
4. Those standards require that we plan and perform an evaluation to obtain reasonable assurance as to whether the reserves data are free of material misstatement. An evaluation also includes assessing whether the reserves data are in accordance with principles and definitions presented in the COGE Handbook.
5. The following sets forth the estimated future net revenue (before deducting income taxes) 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 evaluated for the year ended xxx xx, 20xx:

Location of Reserves (country or foreign geographic area)	Future Net Revenue (before income taxes, 10% discount rate)
xxx	\$ xxx
xxx	xxx
xxx	xxx
	\$ xxx

6. In our opinion, the reserves data evaluated by us have, in all material respects, been determined in accordance with the COGE Handbook.
7. We have no responsibility to update our evaluation for events and circumstances occurring after the date of this report.
8. Because the reserves data are based on judgements regarding future events, actual results will vary and the variations may be material.

[Internal Qualified Reserves Evaluator’s Name, Position, Province, Date]

[signed]"

- (ii) **Modified Form 51-101F3** - The report of the reporting issuer’s management and directors in Form 51-101F3, required by item 3 of section 2.1 of NI 51-101, would likely be modified under the terms of a discretionary exemption to reflect the substance of the exemption, substituting a report consistent in all material respects with the following:

"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.

Our [title of internal qualified reserves evaluator[s]], who [is an / are] employee[s] of the Company, [has / have] evaluated the Company's reserves data. The report of the [internal qualified reserves evaluator[s]] [is presented below / will be filed with securities regulatory authorities concurrently with this report].

The [Reserves Committee of the] Board of Directors has:

- (a) reviewed the Company's procedures for providing information to the [internal qualified reserves evaluator];
- (b) met with the [internal qualified reserves evaluator] to determine whether any restrictions placed by management affect the ability of the [internal qualified reserves evaluator] to report without reservation; and
- (c) reviewed the reserves data with management and the [internal qualified reserves evaluator].

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 the content and filing of the reserves data and other oil and gas information, the filing of the report of the [internal qualified reserves evaluator] on the reserves data and the content and filing of this report.

In our view, the reliability of the internally generated reserves data is not materially less than would be afforded by our involving independent qualified reserves evaluators or independent qualified reserves auditors to evaluate or audit and review the reserves data. The Company is therefore relying on an exemption, which it sought and was granted by securities regulatory authorities, from the requirement under securities legislation to involve independent qualified reserves evaluators or independent qualified reserves auditors.

The primary factors supporting the involvement of independent qualified reserves evaluators or independent qualified reserves auditors apply when (i) their knowledge of, and experience with, a reporting issuer's reserves data are superior to that of the internal evaluators and (ii) the work of the independent qualified reserves evaluators or independent qualified reserves auditors is significantly less likely to be adversely influenced by self-interest or management of the reporting issuer than the work of internal reserves evaluation staff. In our view, neither of these factors applies in our circumstances.

Our view is based in large part on the following. Our reserves data were developed in accordance with standards set out in the Canadian Oil and Gas Evaluation Handbook. Our internal reserves evaluation staff includes [number] of persons with an average of [X] years of relevant experience in evaluating reserves, of whom [number of persons] are qualified reserves evaluators for purposes of securities regulatory requirements. Our internal reserves evaluation management personnel includes [number] of persons with an average of [Y] years of relevant experience in evaluating and managing the evaluation of reserves. Our procedures, records and controls relating to the accumulation of source data and preparation of reserves data by our internal reserves evaluation staff have been established, refined, documented, and subjected to review for [Z] years by our internal financial auditors who have reported directly to the [Reserves Committee of the] Board of Directors.

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 senior officer other than the chief executive officer]

[signature, name and title of director]

[signature, name and title of director]

[Date]"

8.3 Exemption Permitting Substitution of FASB Standards

(a) Comparable FASB Standards

The *reserves data* to be disclosed under *NI 51-101* include *proved reserves* and related *future net revenue* estimated using *constant prices and costs*. The *SEC* requires disclosure of comparable estimates (referred to respectively as "proved oil and gas reserve quantities" and the "standardized measure of discounted future net cash flows relating to proved oil and gas reserve quantities" or, in this Companion Policy, the "standardized measure") determined in accordance with standards established by *FASB*. The applicable *FASB* terminology and disclosure standards are currently set out in the following documents (referred to in this Companion Policy as the "*FASB Standard*"):

- (i) *FASB* Statement of Financial Accounting Standards No. 69 "Disclosures about Oil and Gas Producing Activities -- an amendment of *FASB* Statements 19, 25, 33, and 39", as amended from time to time (referred to in this Companion Policy as "*FAS 69*"); and
- (ii) paragraphs .103, .106, .107, .108, .112, .160 through .167, .174 through .184, and .401 through .408 of *FASB* Current Text Section OI5, "Oil and Gas Producing Activities", which also reflect *FAS 69*.

(b) Discretionary Exemption to Permit Substitution of FASB Standard

A key objective of the *CSA* in developing *NI 51-101* was to enhance the comparability of *oil* and *gas* disclosure provided by *reporting issuers*. The *CSA* recognize that, in the case of some *reporting issuers* that are active in United States capital markets, comparability of *oil* and *gas* disclosure with that provided by US issuers, as well as with that provided by other Canadian *reporting issuers*, may be important for investors.

In the absence of an exemption from Part 2 of *NI 51-101*, a *reporting issuer* that is subject both to the disclosure requirements of the *SEC* and to *NI 51-101* would be required to prepare and present two sets of estimates -- *proved reserves* and the related *future net revenue*, as well as proved oil and gas reserve quantities and the related standardized measure -- that relate to very similar concepts. In many cases, the *CSA* believe that the results of the two sets of estimates would not differ substantially. The *CSA* recognize that the requirement to prepare and disclose two similar sets of estimates could impose a burden on *reporting issuers*, and be confusing to investors.

In light of these considerations, *securities regulatory authorities* or *regulators* would likely be prepared, on application by a *reporting issuer* that has securities registered in the US under the *1934 Act*, to grant a limited exemption from certain requirements of Part 2 (and the forms referred to in that Part) and section 5.3 of *NI 51-101*.

Such a discretionary exemption could permit a *reporting issuer* to substitute disclosure of "proved oil and gas reserve quantities" and the "standardized measure" for disclosure of *proved reserves* and related *future net revenue* estimated using *constant prices and costs*. The exemption could also permit the applicant to apply the *FASB Standard* (despite any indication to the contrary in the *FASB Standard*) to disclosure relating to non-conventional *oil and gas activities* (the extraction of hydrocarbons from oil sands, shale, coal or other non-conventional sources).

In the absence of a further exemption, this discretionary exemption would not otherwise affect the *reporting issuer's* disclosure and other obligations under *NI 51-101*. For example, requirements for the reporting of other elements of *reserves data*, notably *proved reserves* and *proved plus probable reserves* together with the related estimates of *future net revenue* estimated using *forecast prices and costs*, would be unchanged.

With this exemption, a *reporting issuer* that discloses *reserves* estimates and related information in both Canada and the US would be able to file, in both countries, the information required by the *SEC* (proved oil and gas reserve quantities and the standardized measure) in the same manner as US peer issuers, facilitating comparison with those peers. At the same time the *reporting issuer* would present other disclosure not required by the *SEC* (including estimates of *proved* and *probable reserves* and related *future net revenue* estimated using *forecast prices and costs*) in accordance with *NI 51-101*, facilitating comparison with Canadian peer issuers.

Such an exemption might not specify an expiry date so that renewal applications would not be required.

It is unlikely that any such exemption would alter the requirements of Parts 3, 4, 5 or 6 of *NI 51-101* in respect of the role and responsibilities of directors, measurement and estimation standards, requirements relating to certain voluntary disclosure, or material change reporting. Thus, for example, in the absence of applicable *SEC* requirements, relevant provisions of Part 5 of *NI 51-101* relating to the use of *BOEs*, or to disclosure of an estimate of fair value of a *prospect*, would still apply.

(c) Likely Conditions to Discretionary Exemption

A discretionary exemption described in this section 8.3 would likely be conditional on the *reporting issuer* furnishing and complying with an undertaking to include in all its written disclosure of proved oil and gas reserve quantities and the standardized measure (which the *reporting issuer* has substituted for otherwise mandatory disclosure of *proved reserves* and related *future net revenue* estimated using *constant prices and costs*) a statement, reasonably proximate to that disclosure

- (i) of the *reporting issuer's* reliance on the exemption;
- (ii) that explains generally the nature of the estimates being disclosed and the source of the underlying standards (the *FASB Standards*); and
- (iii) to the effect that the disclosed estimates may differ from corresponding estimates of *proved reserves* and related *future net revenue* estimated using *constant prices and costs* prepared in accordance with *NI 51-101*.

8.4 Exemption Permitting US-Style Disclosure

As noted in section 8.3, the *CSA* recognize that for some *reporting issuers* that are active in US capital markets, comparability of their *oil* and *gas* disclosure with that provided by US issuers may be important for investors. In some cases, a Canadian *reporting issuer* may consider that comparability of disclosure to US peer issuers is of primary relevance to its investors.

The *CSA* acknowledge that there may be circumstances in which such an assessment is valid. At the same time, the *CSA* consider that the public interest requires, at minimum, clarity as to what standards are being applied in public disclosure and consistency of annual disclosure.

The *CSA* believe that these considerations can be addressed in appropriate cases by a discretionary exemption that builds on the exemption discussed in section 8.3. The discretionary exemption discussed in this section 8.4 could enable a *reporting issuer* to substitute, for much of the disclosure ordinarily required by *NI 51-101*, disclosure that is consistent with the *FASB Standards* and other relevant requirements of the *SEC*, provided that the *reporting issuer* makes clear in its disclosure that it is departing from *NI 51-101* requirements and makes clear which standards are being applied.

(a) Scope of Possible Exemption

On application by a *reporting issuer* that has securities registered in the US under the *1934 Act*, *securities regulatory authorities* or *regulators* may be prepared to grant a limited exemption from certain requirements of *NI 51-101* to permit

- (i) the substitution, as discussed in section 8.3, of disclosure of estimates of proved oil and gas reserve quantities and the related standardized measure, for the disclosure of *proved reserves* and related *future net revenue* estimated using *constant prices and costs* otherwise required by *NI 51-101*; and
- (ii) relief from requirements of *NI 51-101* for disclosure of other elements of *reserves data*, or other information concerning *oil and gas activities* contemplated in *Form 51-101F1*, to the extent that these elements or information exceed or differ from *SEC* requirements;

provided that the *reporting issuer* files, within the time prescribed in section 2.1 of *NI 51-101*, the information relating to its *oil and gas activities* contemplated by, and consistent with, the *FASB Standard* and relevant requirements of the *SEC*.

Such an exemption might not specify an expiry date so that renewal applications would not be required.

As discussed in section 8.3, the exemption could also likely permit the applicant to apply the *FASB Standard* (despite any indication to the contrary in the *FASB Standard*) to disclosure relating to non-conventional *oil and gas activities*.

No such exemption would likely affect the principle that all disclosed *reserves* and related estimates must be prepared by a *qualified reserves evaluator or auditor*. A *reporting issuer* that wishes to substitute other *evaluation or audit* standards would likely have to demonstrate that such other standards are clearly identifiable and not less comprehensive than those set out in the *COGE Handbook*.

It is also unlikely that any such exemption would alter the requirements of Parts 3, 5 or 6 of *NI 51-101* in respect of the role and responsibilities of directors, requirements relating to certain voluntary disclosure, or material change reporting. For example, in the absence of applicable *SEC* requirements, relevant provisions of Part 5 of *NI 51-101* relating to the use of *BOEs* or to disclosure of an estimate of fair value of a prospect would still apply to the extra disclosure.

Such a discretionary exemption would likely contemplate modifications of the reports of the *qualified reserves evaluator or auditor* and of management and directors, prescribed respectively by items 2 and 3 of section 2.1 of *NI 51-101*, to the extent necessary to reflect the substance of the exemption. It is unlikely that such an exemption would waive the requirement to file these reports.

No such exemption would likely be provided in connection with an initial public offering of securities or a reverse take-over or similar transaction.

(b) Likely Conditions to Discretionary Exemption

An exemption contemplated in this section 8.4 would likely be conditional on the *reporting issuer* furnishing and adhering to undertakings substantially as follows:

- (i) **Disclosure of exemption and effect** - an undertaking to include, reasonably proximate to all written disclosure that the *reporting issuer* makes in reliance on the exemption, a statement
 - (A) of the *reporting issuer's* reliance on the exemption;
 - (B) that explains generally the nature of the information being disclosed and identifies the standards and the source of the standards being applied (if it is not otherwise readily apparent); and
 - (C) to the effect that the information disclosed may differ from corresponding information prepared in accordance with *NI 51-101* standards (if that is the case), and explains the difference (if any);
- (ii) **Specified disclosure standards to be applied** - an undertaking to disclose, for the purpose of item 1 of section 2.1 of *NI 51-101*:
 - (A) the information required by the *FASB Standard*;
 - (B) the information required by *SEC* Industry Guide 2 "Disclosure of Oil and Gas Operations", as amended from time to time;
 - (C) any other information concerning matters addressed in *Form 51-101F1* that is required by *FASB* or by the *SEC*; and
 - (D) if the *reporting issuer* is engaged in extracting, by mining, *bitumen* or *oil* from oil sands, shale or coal, the information required by *SEC* Industry Guide 7 "Description of Property by Issuers Engaged or to be Engaged in Significant Mining Operations", as amended from time to time;
- (iii) **Voluntary extra disclosure not required by *SEC* or *FASB*** - an undertaking that, if the *reporting issuer* (despite its exemption) makes public disclosure of a type contemplated in *NI 51-101* or *Form 51-101F1* but not required by the *SEC*:

- (A) if the disclosure is of a nature and subject matter referred to in Part 5 of *NI 51-101*, and if there are no applicable *SEC* requirements or restrictions specific to that type of disclosure, the disclosure will be made in compliance with Part 5; and
- (B) if the disclosure includes estimates of *reserves* or related *future net revenue* in categories not required by the *SEC*:
- (I) the disclosure will
- a. apply the *reserves* categories set out in the *COGE Handbook*; or
- b. set out the *reserves* categories being used in enough detail to make them understandable to a reader, identify the source of those *reserves* categories, state that those *reserves* categories differ from the *reserves* categories set out in the *COGE Handbook* (if that is the case) and explain the differences (if any);
- (II) if the disclosure includes an estimate of *future net revenue*, it will also include the corresponding estimate of *reserves* (although disclosure of an estimate of *reserves* might not have to be accompanied by an estimate of the related *future net revenue*).
- (III) if the disclosure includes an estimate of *reserves* for a category other than *proved reserves* or proved oil and gas reserve quantities, it will also include an estimate of *proved reserves* (or proved oil and gas reserve quantities) based on the same price and cost assumptions, with the price assumptions disclosed;
- (IV) unless the extra disclosure is made involuntarily, the *reporting issuer* will include disclosure of the same type in its subsequent annual filings under Part 2 of *NI 51-101* for as long as the information is material; and
- (V) for the purpose of clause (IV) above, if the triggering disclosure was an estimate for a particular *property*, unless that *property* is highly material for the *reporting issuer* its subsequent annual disclosure of that type of estimate will also include aggregate estimates for the *reporting issuer* and by country (or, if appropriate and not misleading, by *foreign geographic area*), not only estimates for that *property*.

Although the exemption might not require that an estimate of *reserves* be accompanied by an estimate of related *future net revenue*, the *CSA* would generally expect disclosure of *reserves* alone to be supplemented by information such as the development and *production* status of the *reserves* and the *reporting issuer's* plans for the development of the *reserves*, so that disclosure of *reserves* volume alone is not misleading.

For the purpose of this undertaking, disclosure would be considered to be made involuntarily if, for example:

- it was made not by or at the instigation of the *reporting issuer* but instead by the operator of a joint venture of which the *reporting issuer* is a member but not the operator, for and on behalf of all the joint venturers; or
- it was made by the *reporting issuer* solely in compliance with its material change disclosure obligations under *securities legislation*.

Although the exemption might permit a *reporting issuer* to apply definitions and standards other than those presented in the *COGE Handbook*, the *CSA* would expect consistency in a *reporting issuer's* use and disclosure of other standards within and between reporting periods.

The conditions set out above are designed to ensure that the extra disclosure applies clearly identified standards and definitions and that, if the information is *material* to the *reporting issuer*, similar information is provided in the subsequent annual filings, to enable investors to assess and compare that information from year to year.

Consequence of Voluntary Extra Disclosure: Examples

Following are examples of key consequences that would likely follow, under such undertakings, for a *reporting issuer* that voluntarily makes extra disclosure.

- If the *reporting issuer* discloses *probable reserves* (without related *future net revenue*) estimated using *constant prices and costs*, its subsequent annual filings would have to include estimates of *probable reserves* estimated using *constant prices and costs* in addition to *SEC*-mandated disclosure of proved oil and gas reserve quantities and the standardized measure.

- If the *reporting issuer* discloses *probable reserves* and related *future net revenue* estimated using *constant prices and costs*, its subsequent annual filings would have to include estimates of *probable reserves* and related *future net revenue* using *constant prices and costs* in addition to the SEC-mandated disclosure.
- If the *reporting issuer* discloses *probable reserves* (with or without related *future net revenue*) estimated using *forecast prices and costs*, its subsequent annual filings would have to include such estimates as well as estimates of *proved reserves* and related *future net revenue*, estimated using *forecast prices and cost*, in addition to the SEC-mandated disclosure.

8.5 Stacking of Exemptions - The possible discretionary exemptions discussed in this Part are not necessarily mutually exclusive.

In appropriate circumstances, *securities regulatory authorities* or *regulators* would likely be prepared to consider granting, on application by *reporting issuers* that fall within the classes contemplated in both sections 8.2 and 8.3 or in both sections 8.2 and 8.4, exemptions that combine the elements contemplated in those respective sections.

8.6 Exemption not Conferring Immunity - A discretionary exemption from any part of *NI 51-101* would not imply a lesser scope or degree of regulatory review of the *reporting issuer's* disclosure. The *reporting issuer* would still be subject to regulatory review of its filings and other disclosure, and enforcement of its disclosure obligations, whether the obligations are as set out in *securities legislation* or modified by the terms of an exemption.

**APPENDIX 1
TO
COMPANION POLICY 51-101CP
STANDARDS OF DISCLOSURE
FOR OIL AND GAS ACTIVITIES**

GLOSSARY

Section 1.1 of National Instrument 51-101 *Standards of Disclosure for Oil and Gas Activities* ("NI 51-101") defines a number of terms used in NI 51-101, Form 51-101F1, Form 51-101F2, Form 51-101F3 and this Companion Policy. Section 1.2 of NI 51-101 provides that terms used in the *Instrument* but not defined in the *Instrument*, NI 14-101 or the securities statute in the *jurisdiction* have the meaning or interpretation, if any, set out in the *COGE Handbook*.

This Appendix explains much of the terminology used in NI 51-101 and its accompanying documents. It is provided only as a convenience to users of NI 51-101, to assist them in better understanding the purpose and application of NI 51-101.

Part 1 of this Appendix sets out, in alphabetical order, certain terms and their meanings. Part 2 sets out certain *reserves* definitions derived from the *COGE Handbook*.

The explanations in this Appendix are derived from a number of sources, including section 1.1 of NI 51-101, NI 14-101 and the *COGE Handbook*. If the explanation is derived from another source, the source document is indicated in square brackets after the explanation (even if the explanation is not verbatim to the source document).

Background or further guidance may be found in the source documents:

- CICA Accounting Guideline 5 is included in the *CICA Handbook*, which can be obtained from the CICA.
- The *COGE Handbook* can be obtained from the Petroleum Society of the Canadian Institute of Mining, Metallurgy & Petroleum (Telephone (403) 237-5112; email info@petsoc.org; or www.petsoc.org).
- FAS 19, FAS 69 and the *FASB Standard* can be obtained from FASB, the United States Financial Accounting Standards Board.
- SEC Industry Guide 7 "Description of Property by Issuers Engaged or to be Engaged in Significant Mining Operations" can be obtained from the SEC.
- NI 14-101 can be viewed on the websites of a number of *securities regulatory authorities*.

PART 1 DEFINITIONS

The terms (and plural, singular or other grammatical variants thereof) set out in the left column below have the meanings respectively set out in the right column.

Defined Term	Meaning
1934 Act	The Securities Exchange Act of 1934 of the United States of America, as amended from time to time. [NI 14-101]
Annual information form	A completed Form 51-102F2 <i>Annual Information Form</i> , or in the case of an SEC issuer (as defined in National Instrument 51-102 <i>Continuous Disclosure Obligations</i>) a completed Form 51-102F2 or an annual report or transition report under the 1934 Act on Form 10-K, Form 10-KSB or Form 20-F. [NI 51-102]
Associated gas	The gas cap overlying a <i>crude oil</i> accumulation in a <i>reservoir</i> . See <i>gas</i> .
Audit	In relation to <i>reserves data</i> , the process whereby an <i>independent qualified reserves auditor</i> carries out procedures designed to allow the <i>independent qualified reserves auditor</i> to provide reasonable assurance, in the form of an opinion that the <i>reporting issuer's reserves data</i> (or specific parts thereof) have, in all material respects, been determined and presented in accordance with the <i>COGE Handbook</i> and are, therefore, free of material misstatement.
	Because of
	(a) the nature of the subject matter (estimates of future results with many uncertainties);

- (b) the fact that the *independent qualified reserves auditor* assesses the qualifications and experience of the *reporting issuer's* staff, assesses the *reporting issuer's* systems, procedures and controls and relies on the competence of the *reporting issuer's* staff and the appropriateness of the *reporting issuer's* systems, procedures and controls; and
- (c) the fact that tests and samples (involving examination of underlying documentation supporting the determination of the *reserves* and *future net revenue*) as opposed to complete *evaluations*, are involved;
- (d) the level of assurance is designed to be high, though not absolute.

The level of assurance cannot be described with numeric precision. It will usually be less than, but reasonably close to, that of an *independent evaluation* and considerably higher than that of a *review*.

[COGE Handbook]

Bbl	Barrel.
Bitumen	A highly viscous <i>oil</i> which is too thick to flow in its native state, and which cannot be produced without altering its viscosity. The density of <i>bitumen</i> is generally less than 10 degrees API (as that term is defined by the American Petroleum Institute).
BOEs	Barrels of <i>oil</i> equivalent. [NI 51-101 and COGE Handbook]
Canadian GAAP	Generally accepted accounting principles determined with reference to the <i>CICA Handbook</i> . [NI 14-101]
CICA	The Canadian Institute of Chartered Accountants. [NI 51-101]
CICA Accounting Guideline 5	Accounting Guideline AcG-5 "Full cost accounting in the oil and gas industry" included in the <i>CICA Handbook</i> , as amended from time to time. [NI 51-101]
CICA Handbook	The Handbook of the <i>CICA</i> , as amended from time to time.
COGE Handbook	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).
Constant prices and costs	Prices and costs used in an estimate that are: <ul style="list-style-type: none">(a) the <i>reporting issuer's</i> prices and costs as at the <i>effective date</i> of the estimation, held constant throughout the estimated lives of the <i>properties</i> to which the estimate applies;(b) if, and only to the extent that, there are fixed or presently determinable future prices or costs to which the <i>reporting issuer</i> is legally bound by a contractual or other obligation to supply a physical product, 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 (a). For the purpose of paragraph (a), the <i>reporting issuer's</i> prices will be the posted price for <i>oil</i> and the spot price for <i>gas</i> , after historical adjustments for transportation, gravity and other factors.
	[COGE Handbook]
Crude oil	A mixture that consists mainly of pentanes and heavier hydrocarbons, which may contain sulphur and other non-hydrocarbon compounds, that is recoverable at a well from an underground <i>reservoir</i> and that is liquid at the conditions under which its volume is measured or estimated. It does not include <i>solution gas</i> or <i>natural gas liquids</i> .

[COGE Handbook]

CSA	The Canadian Securities Administrators, an association consisting of the thirteen securities regulatory authorities in Canada.
Developed non-producing reserves	See Part 2 of this Appendix. [COGE Handbook]
Developed producing reserves	See Part 2 of this Appendix. [COGE Handbook]
Developed reserves	See Part 2 of this Appendix. [COGE Handbook]
Development costs	<p>Costs incurred to obtain access to <i>reserves</i> and to provide facilities for extracting, treating, gathering and storing the <i>oil</i> and <i>gas</i> from the <i>reserves</i>.</p> <p>More specifically, <i>development costs</i>, including applicable <i>operating costs of support equipment and facilities</i> and other costs of development activities, are costs incurred to:</p> <ul style="list-style-type: none"> (a) gain access to and prepare well locations for drilling, including surveying well locations for the purpose of determining specific development drilling sites, clearing ground, draining, road building, and relocating public roads, <i>gas</i> lines and power lines, to the extent necessary in developing the <i>reserves</i>; (b) drill and equip <i>development wells</i>, development type <i>stratigraphic test wells</i> and <i>service wells</i>, including the costs of platforms and of well equipment such as casing, tubing, pumping equipment and the wellhead assembly; (c) acquire, construct and install <i>production</i> facilities such as flow lines, separators, treaters, heaters, manifolds, measuring devices and production storage tanks, <i>natural gas</i> cycling and processing plants, and central utility and waste disposal systems; and (d) provide improved recovery systems. [CICA Accounting Guideline 5]
Development well	A well drilled inside the established limits of an <i>oil</i> or <i>gas reservoir</i> , or in close proximity to the edge of the <i>reservoir</i> , to the depth of a stratigraphic horizon known to be productive. [CICA Accounting Guideline 5]
Effective date	In respect of information, the date as at which, or for the period ended on which, the information is provided.
Evaluation	In relation to <i>reserves data</i> , the process whereby an economic analysis is made of a <i>property</i> to arrive at an estimate of a range of net present values of the estimated <i>future net revenue</i> resulting from the production of the <i>reserves</i> associated with the <i>property</i> . [COGE Handbook]
Exploration costs	<p>Costs incurred in identifying areas that may warrant examination and in examining specific areas that are considered to have <i>prospects</i> that may contain <i>oil</i> and <i>gas reserves</i>, including costs of drilling <i>exploratory wells</i> and exploratory type <i>stratigraphic test wells</i>.</p> <p><i>Exploration costs</i> may be incurred both before acquiring the related <i>property</i> (sometimes referred to in part as "prospecting costs") and after acquiring the <i>property</i>. <i>Exploration costs</i>, which include applicable <i>operating costs of support equipment and facilities</i> and other costs of exploration activities, are:</p> <ul style="list-style-type: none"> (a) costs of topographical, geochemical, geological and geophysical studies, rights of access to <i>properties</i> to conduct those studies, and salaries and other expenses of geologists, geophysical crews and others conducting those studies (collectively sometimes referred to as "geological and geophysical costs"); (b) costs of carrying and retaining <i>unproved properties</i>, such as delay rentals, taxes (other than income and capital taxes) on <i>properties</i>, legal costs for title defence, and the maintenance of land and lease records; (c) dry hole contributions and bottom hole contributions;

- (d) costs of drilling and equipping *exploratory wells*; and
- (e) costs of drilling exploratory type *stratigraphic test wells*.

[CICA Accounting Guideline 5]

Exploratory well A well that is not a *development well*, a *service well* or a *stratigraphic test well*. [CICA Accounting Guideline 5]

FAS 19 FASB Statement of Financial Accounting Standards No. 19 "Financial Accounting and Reporting by Oil and Gas Producing Companies", as amended from time to time. [NI 51-101]

FAS 69 FASB Statement of Financial Accounting Standards No. 69 "Disclosure about Oil and Gas Producing Activities - an amendment of FASB Statements 19, 25, 33 and 39", as amended from time to time.

FASB United States Financial Accounting Standards Board.

FASB Standard The following:

- (a) FAS 69; and
- (b) paragraphs .103, .106, .107, .108, .112, .160 through .167, .174 through .184, and .401 through .408 of FASB Current Text Section OI5, "Oil and Gas Producing Activities", which also reflects FAS 69.

Field An area consisting of a single *reservoir* or multiple *reservoirs* all grouped on or related to the same individual geological structural feature and/or stratigraphic condition.

There may be two or more *reservoirs* in a *field* that are separated vertically by intervening impervious strata or laterally by local geologic barriers, or both. *Reservoirs* that are associated by being in overlapping or adjacent *fields* may be treated as a single or common operational *field*. The geological terms "structural feature" and "stratigraphic condition" are intended to denote localized geological features, in contrast to broader terms such as "basin", "trend", "province", "play" or "area of interest".

[FASB Standard paragraph .403]

Forecast prices and costs Future prices and costs that are:

- (a) generally accepted as being a reasonable outlook of the future;
- (b) 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 a contractual or other obligation to supply a physical product, 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 (a).

Foreign geographic area A geographic area outside North America within one country or including all or portions of a number of countries.

Form 51-101F1 Form 51-101F1 *Statement of Reserves Data and Other Oil and Gas Information*.

Form 51-101F2 Form 51-101F2 *Report on Reserves Data by Independent Qualified Reserves Evaluator or Auditor*.

Form 51-101F3 Form 51-101F3 *Report of Management and Directors on Oil and Gas Disclosure*.

Future income tax expenses *Future income tax expenses* estimated (generally, year-by-year):

- (a) making appropriate allocations of estimated unclaimed costs and losses carried forward for tax purposes, between *oil and gas activities* and other business activities;

- (b) without deducting estimated future costs (for example, Crown royalties) that are not deductible in computing taxable income;
- (c) taking into account estimated tax credits and allowances (for example, royalty tax credits); and
- (d) applying to the future pre-tax net cash flows relating to the *reporting issuer's oil and gas activities* the appropriate year-end statutory tax rates, taking into account future tax rates already legislated.

Future net revenue

The estimated net amount to be received with respect to the development and *production of reserves* (including *synthetic oil*, coal bed methane and other non-conventional *reserves*) estimated using:

- (a) *constant prices and costs*; or
- (b) *forecast prices and costs*.

This net amount is computed by deducting, from estimated future revenues:

- estimated amounts of future royalty obligations;
- costs related to the development and *production of reserves*;
- *well abandonment costs*; and
- *future income tax expenses*, unless otherwise specified in *NI 51-101, Form 51-101F1* or *Form 51-101F2*.

Corporate general and administrative expenses and financing costs are not deducted. Net present values of *future net revenue* may be calculated using a discount rate or without discount.

Gas (or *natural gas*)

The lighter hydrocarbons and associated non-hydrocarbon substances occurring naturally in an underground *reservoir*, which under atmospheric conditions are essentially gases but which may contain *natural gas liquids*.

Gas can exist in a *reservoir* either

- (a) dissolved in *crude oil (solution gas)*; or
- (b) in a gaseous phase (*associated gas* or *non-associated gas*).

Non-hydrocarbon substances may include hydrogen sulphide, carbon dioxide and nitrogen.

[*COGE Handbook*]

Gross

- (a) In relation to a *reporting issuer's* interest in *production* or *reserves*, its "company gross reserves", which are the *reporting issuer's* working interest (operating or non-operating) share before deduction of royalties and without including any royalty interests of the *reporting issuer*.

[*COGE Handbook*]

- (b) In relation to wells, the total number of wells in which a *reporting issuer* has an interest.
- (c) In relation to *properties*, the total area of properties in which a *reporting issuer* has an interest.

Heavy oil

In respect of *reserves* or *production*:

- (a) in a *jurisdiction* that has a royalty regime specific to *heavy oil*, "*heavy oil*" is *oil* that qualifies for royalties specific to *heavy oil*; or

	(b) in a <i>jurisdiction</i> that has no royalty regime specific to <i>heavy oil</i> , " <i>heavy oil</i> " is <i>oil</i> with a density between 10 to 22.3 degrees API (as that term is defined by the American Petroleum Institute). [COGE Handbook]
Independent	In respect of the relationship between a <i>reporting issuer</i> and a <i>qualified reserves evaluator</i> or <i>auditor</i> , the term has the meaning set out in the <i>COGE Handbook</i> .
Instrument (or NI 51-101)	NI 51-101 <i>Standards of Disclosure for Oil and Gas Activities</i> .
Jurisdiction	For the purposes of <i>NI 51-101</i> , a province or territory of Canada. [NI 14-101]
Lease	An agreement granting to the lessee rights to explore, develop and exploit a <i>property</i> .
Marketable	In respect of <i>reserves</i> or sales of <i>oil</i> , <i>gas</i> or associated by-products, the volume of <i>oil</i> , <i>gas</i> or associated by-products measured at the point of sale to a third party, or of transfer to another division of the issuer for treatment prior to sale to a third party. For <i>gas</i> , this may occur either before or after removal of <i>natural gas liquids</i> . For <i>heavy oil</i> or <i>bitumen</i> , this is before the addition of diluent.
Material (or materiality)	<p>For the purposes of <i>NI 51-101</i>, information is <i>material</i>, in respect of a <i>reporting issuer</i>, if it would be likely to influence a decision by a reasonable investor to buy, hold or sell a security of the <i>reporting issuer</i>.</p> <p>This meaning differs from the definitions of "material change" and "material fact" in securities legislation, but is consistent with the meaning of the term as used, for accounting purposes, in the <i>CICA Handbook</i>.</p> <p>[NI 51-101]</p>
Mcf	Thousand cubic feet.
McfGE	Thousand cubic feet of gas equivalent. [NI 51-101 and COGE Handbook]
Natural gas Natural gas liquids	<p>Gas. [COGE Handbook]</p> <p>Those hydrocarbon components that can be recovered from <i>natural gas</i> as liquids including, but not limited to, ethane, propane, butanes, pentanes plus, condensate and small quantities of non-hydrocarbons.</p> <p>[COGE Handbook]</p>
Net	<p>(a) In relation to a <i>reporting issuer's</i> interest in <i>production</i> or <i>reserves</i>, the <i>reporting issuer's</i> working interest (operating or non-operating) share after deduction of royalty obligations, plus the <i>reporting issuer's</i> royalty interests in <i>production</i> or <i>reserves</i>. [COGE Handbook]</p> <p>(b) In relation to a <i>reporting issuer's</i> interest in wells, the number of wells obtained by aggregating the <i>reporting issuer's</i> working interest in each of its <i>gross wells</i>.</p> <p>(c) In relation to a <i>reporting issuer's</i> interest in a <i>property</i>, the total area in which the <i>reporting issuer</i> has an interest multiplied by the working interest owned by the <i>reporting issuer</i>.</p>
NI 14-101	National Instrument 14-101 <i>Definitions</i> .
NI 51-101 or the Instrument	National Instrument 51-101 <i>Standards of Disclosure for Oil and Gas Activities</i> .
Non-associated gas	An accumulation of <i>natural gas</i> in a <i>reservoir</i> where there is no <i>crude oil</i> . See <i>gas</i> .
Oil	<i>Crude oil</i> or <i>synthetic oil</i> . [COGE Handbook]
Oil and gas activities	" <i>Oil and gas activities</i> ":

- (a) include:
 - (i) the search for *crude oil* or *natural gas* in their natural states and original locations;
 - (ii) the acquisition of property rights or *properties* for the purpose of further exploring for or removing *oil* or *gas* from *reservoirs* on those *properties*;
 - (iii) the construction, drilling and *production* activities necessary to recover *oil* and *gas* from *reservoirs*, and the acquisition, construction, installation and maintenance of *field* gathering and storage systems, including lifting *oil* and *gas* to the surface and gathering, treating, *field* processing and *field* storage; and
 - (iv) the extraction of hydrocarbons from oil sands, shale, coal or other non-conventional sources and activities similar to those referred to in clauses (i), (ii) and (iii) undertaken with a view to such extraction; but
- (b) do not include:
 - (i) transporting, refining or marketing oil or gas;
 - (ii) activities relating to the extraction of natural resources other than *oil* and *gas* and their by-products; or
 - (iii) the extraction of geothermal steam or of hydrocarbons as a by-product of the extraction of geothermal steam or associated geothermal resources.

[NI 51-101]

Operating costs	<i>Production costs.</i>
Possible reserves	See Part 2 of this Appendix. [COGE Handbook]
Preparation date	In respect of written disclosure, the most recent date to which information relating to the period ending on the <i>effective date</i> was considered in the preparation of the disclosure.
Probable reserves	See Part 2 of this Appendix. [COGE Handbook]
Production	<p>Recovering, gathering, treating, <i>field</i> or plant processing (for example, processing <i>gas</i> to extract <i>natural gas liquids</i>) and <i>field</i> storage of <i>oil</i> and <i>gas</i>.</p> <p>The <i>oil production</i> function is usually regarded as terminating at the outlet valve on the lease or <i>field production</i> storage tank. The <i>gas production</i> function is usually regarded as terminating at the plant gate. In some circumstances, it may be more appropriate to regard the <i>production</i> function as terminating at the first point at which <i>oil</i>, <i>gas</i> or their by-products are delivered to a main pipeline, a common carrier, a refinery or a marine terminal.</p>
Production costs (or Operating costs)	<p>Costs incurred to operate and maintain wells and related equipment and facilities, including applicable <i>operating costs</i> of <i>support equipment and facilities</i> and other costs of operating and maintaining those wells and related equipment and facilities.</p> <p>Lifting costs become part of the cost of <i>oil</i> and <i>gas</i> produced.</p> <p>Examples of <i>production costs</i> are:</p> <ul style="list-style-type: none"> (a) costs of labour to operate the wells and related equipment and facilities; (b) costs of repairs and maintenance; (c) costs of materials, supplies and fuel consumed, and supplies utilized, in operating the wells and related equipment and facilities; (d) costs of workovers;

- (e) property taxes and insurance costs applicable to *properties* and wells and related equipment and facilities; and
- (f) taxes, other than income and capital taxes.

Production group

One of the following together, in each case, with associated by-products:

- (a) light and medium *crude oil* (combined);
- (b) *heavy oil*;
- (c) *associated gas* and *non-associated gas* (combined); and
- (d) *bitumen*, *synthetic oil* or other products from non-conventional *oil and gas activities*.

Product type

One of the following:

- (a) in respect of conventional *oil and gas activities*:
 - (i) light and medium *crude oil* (combined);
 - (ii) *heavy oil*;
 - (iii) *natural gas* excluding *natural gas liquids*; or
 - (iv) *natural gas liquids*; and
- (b) in respect of non-conventional *oil and gas activities*:
 - (i) *synthetic oil*;
 - (ii) *bitumen*;
 - (iii) coal bed methane; or
 - (iv) hydrates.

[NI 51-101]

Professional organization

A self-regulatory organization of engineers, geologists, other geoscientists or other professionals whose professional practice includes *reserves evaluations* or *reserves audits*, that:

- (a) admits members primarily on the basis of their educational qualifications;
- (b) 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*;
- (c) has disciplinary powers, including the power to suspend or expel a member; and
- (d) is either:
 - (i) given authority or recognition by statute in a Canadian jurisdiction; or
 - (ii) accepted for this purpose by the *securities regulatory authority* or the *regulator*.

[NI 51-101]

Property

A *property* includes:

- (a) fee ownership or a lease, concession, agreement, permit, licence or other interest representing the right to extract *oil* or *gas* subject to such terms as may be imposed by the conveyance of that interest;

- (b) royalty interests, *production* payments payable in *oil* or *gas*, and other non-operating interests in *properties* operated by others; and
- (c) an agreement with a foreign government or authority under which a *reporting issuer* participates in the operation of *properties* or otherwise serves as "producer" of the underlying *reserves* (in contrast to being an independent purchaser, broker, dealer or importer).

A *property* does not include supply agreements, or contracts that represent a right to purchase, rather than extract, *oil* or *gas*.

[CICA Accounting Guideline 5]

Property acquisition costs Costs incurred to acquire a *property* (directly by purchase or lease, or indirectly by acquiring another corporate entity with an interest in the *property*), including:

- (a) costs of lease bonuses and options to purchase or lease a *property*;
- (b) the portion of the costs applicable to hydrocarbons when land including rights to hydrocarbons is purchased in fee;
- (c) brokers' fees, recording and registration fees, legal costs and other costs incurred in acquiring *properties*.

[CICA Accounting Guideline 5]

Prospect A geographic or stratigraphic area, in which the *reporting issuer* owns or intends to own one or more *oil* and *gas* interests, which is geographically defined on the basis of geological data and which is reasonably anticipated to contain at least one *reservoir* or part of a *reservoir* of *oil* and *gas*.

Proved property A *property* or part of a *property* to which *reserves* have been specifically attributed.

Proved reserves See Part 2 of this Appendix. [COGE Handbook]

Qualified reserves auditor An individual who:

- (a) 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
- (b) is a member in good standing of a *professional organization*.

[NI 51-101]

Qualified reserves evaluator An individual who:

- (a) 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
- (b) is a member in good standing of a *professional organization*.

[NI 51-101]

Qualified reserves evaluator or auditor A *qualified reserves auditor* or a *qualified reserves evaluator*.

[NI 51-101]

Regulator The *securities regulatory authority* or a person who holds a specified position with the *securities regulatory authority* (in several instances, its Executive Director or Director) in each *jurisdiction*.

[NI 14-101]

Reporting issuer	(a) A "reporting issuer" as defined in <i>securities legislation</i> ; or (b) in a <i>jurisdiction</i> in which the term is not defined in <i>securities legislation</i> , an issuer of securities that is required to file financial statements with the <i>securities regulatory authority</i> .
Reservation	In relation to a report on <i>reserves data</i> , a modification of the standard report of an <i>independent qualified reserves evaluator or auditor</i> on <i>reserves data</i> set out in <i>Form 51-101F2</i> , caused by a departure from the <i>COGE Handbook</i> or by a limitation in the scope of work that the <i>independent qualified reserves evaluator or auditor</i> considers necessary. A modification may take the form of a qualified or adverse opinion or a denial of opinion.
Reserves	See Part 2 of this Appendix. [<i>COGE Handbook</i>]
Reserves data	The following estimates, as at the last day of the <i>reporting issuer's</i> most recent financial year: (a) <i>proved reserves</i> and related <i>future net revenue</i> estimated: (i) using <i>constant prices and costs</i> as at the last day of that financial year; and (ii) using <i>forecast prices and costs</i> ; and (b) <i>probable reserves</i> and related <i>future net revenue</i> estimated using <i>forecast prices and costs</i> . [<i>NI 51-101</i>]
Reservoir	A porous and permeable underground formation containing a natural accumulation of producible <i>oil</i> or <i>gas</i> that is confined by impermeable rock or water barriers and is individual and separate from other <i>reservoirs</i> . [<i>CICA Accounting Guideline 5</i>]
Resources	Those quantities of <i>oil</i> and <i>gas</i> estimated to exist originally in naturally occurring accumulations. <i>Resources</i> are, therefore, those quantities estimated on a particular date to be remaining in known accumulations plus those quantities already produced from known accumulations plus those quantities in accumulations yet to be discovered. <i>Resources</i> are divided into: (a) discovered <i>resources</i> , which are limited to known accumulations; and (b) undiscovered <i>resources</i> . [<i>COGE Handbook</i>]
Review	In relation to the role of a <i>qualified reserves evaluator or auditor</i> in respect of <i>reserves data</i> , steps carried out by the <i>qualified reserves evaluator or auditor</i> , consisting primarily of enquiry, analytical procedures, analysis, review of historical reserves performance and discussion with <i>reserves</i> management staff related to a <i>reporting issuer's reserves data</i> , with the limited objective of assessing whether the <i>reserves data</i> is "plausible" in the sense of appearing to be worthy of belief based on the information obtained by the <i>qualified reserves evaluator or auditor</i> as a result of carrying out such steps. Examination of documentation is not required unless the information does not appear to be plausible. A <i>reserves review</i> , due to the limited nature of the investigation involved, does not provide the level of assurance provided by a <i>reserves audit</i> . Although <i>reserves reviews</i> can be done for specific applications, they are not a substitute for an <i>audit</i> . [<i>COGE Handbook</i>]
SEC	The Securities and Exchange Commission of the United States of America. [<i>NI 14-101</i>]

Securities legislation	<p>The statute (in most cases entitled the "Securities Act") and subordinate legislation (in most cases including regulations or rules) specified, for each <i>jurisdiction</i>, in NI 14-101.</p> <p>References in NI 51-101 to <i>securities legislation</i> are to be read as references to <i>securities legislation</i> in the particular <i>jurisdiction</i>.</p>
Securities regulatory authority	<p>The securities commission or comparable body specified, for each <i>jurisdiction</i>, in NI 14-101.</p> <p>References in NI 51-101 to the <i>securities regulatory authority</i> are to be read as references to the <i>securities regulatory authority</i> in the particular <i>jurisdiction</i>.</p>
SEDAR	<p>The System for Electronic Document Analysis and Retrieval referred to in National Instrument 13-101 <i>System for Electronic Document Analysis and Retrieval</i> (SEDAR).</p>
Senior producing issuer	<p>A reporting issuer that:</p> <ul style="list-style-type: none">(a) demonstrates capability to estimate its <i>reserves</i> and <i>future net revenue</i> in accordance with the <i>COGE Handbook</i> (other than with respect to <i>independence</i>); and(b) produced an average of more than 100,000 <i>BOEs</i> of <i>oil</i> and <i>gas</i> (converted in the ratio 6 <i>Mcf</i> : 1 <i>bb</i>) per day throughout its most recent financial year.
Service well	<p>A well drilled or completed for the purpose of supporting <i>production</i> in an existing <i>field</i>. Wells in this class are drilled for the following specific purposes: <i>gas</i> injection (<i>natural gas</i>, propane, butane or flue gas), water injection, steam injection, air injection, salt-water disposal, water supply for injection, observation, or injection for combustion.</p> <p>[CICA Accounting Guideline 5]</p>
Solution gas	<p>Gas dissolved in <i>crude oil</i>. See <i>gas</i>.</p>
Stratigraphic test well	<p>A drilling effort, geologically directed, to obtain information pertaining to a specific geologic condition. Ordinarily, such wells are drilled without the intention of being completed for hydrocarbon <i>production</i>. They include wells for the purpose of core tests and all types of expendable holes related to hydrocarbon exploration.</p> <p><i>Stratigraphic test wells</i> are classified as</p> <ul style="list-style-type: none">(a) "exploratory type" if not drilled into a <i>proved property</i>; or(b) "development type", if drilled into a <i>proved property</i>. Development type stratigraphic wells are also referred to as "evaluation wells". [CICA Accounting Guideline 5]
Support equipment and facilities	<p>Equipment and facilities used in <i>oil and gas activities</i>, including seismic equipment, drilling equipment, construction and grading equipment, vehicles, repair shops, warehouses, supply points, camps, and division, district or field offices.</p>
Supporting filing	<p>A document that has been filed by the <i>reporting issuer</i> with a <i>securities regulatory authority</i>. [NI 51-101]</p>
Synthetic oil	<p>A mixture of hydrocarbons derived by upgrading crude <i>bitumen</i> from oil sands or kerogen from oil shales or other substances such as coal.</p> <p>[COGE Handbook]</p>
Undeveloped reserves	<p>See Part 2 of this Appendix. [COGE Handbook]</p>
Unproved property	<p>A <i>property</i> or part of a <i>property</i> to which no <i>reserves</i> have been specifically attributed.</p>
Well abandonment costs	<p>Costs of abandoning a well (net of salvage value) and of disconnecting the well from the surface gathering system. They do not include costs of abandoning the gathering system or reclaiming the wellsite.</p>

PART 2 DEFINITIONS OF RESERVES

This Part is derived from Section 5.4 of Volume 1 of the *COGE Handbook* (First Edition, June 30, 2002). Consult the *COGE Handbook* for additional explanation and guidance.

The following definitions and guidelines have been prepared by the Standing Committee on Reserves Definitions of the CIM (Petroleum Society) after many years of consultations and deliberations. These definitions and guidelines must be used by qualified evaluators when evaluating and reporting oil and gas reserves and related substances.

The definitions and guidelines are designed to assist:

- evaluators in making reserves estimates on a reasonably consistent basis;
- users of evaluation reports in understanding what such reports contain and, if necessary, in judging whether evaluators have followed generally accepted standards.

The guidelines outline

- general criteria for classifying *reserves*,
- procedures and methods for estimating *reserves*,
- confidence levels of individual entity and aggregate *reserves* estimates,
- verification and testing of *reserves* estimates.

The determination of *oil* and *gas reserves* involves the preparation of estimates that have an inherent degree of associated uncertainty. Categories of *proved*, *probable*, and *possible reserves* have been established to reflect the level of these uncertainties and to provide an indication of the probability of recovery.

The estimation and classification of *reserves* requires the application of professional judgement combined with geological and engineering knowledge to assess whether or not specific *reserves* classification criteria have been satisfied. Knowledge of concepts including uncertainty and risk, probability and statistics, and deterministic and probabilistic estimation methods is required to properly use and apply *reserves* definitions. These concepts are presented and discussed in greater detail within the guidelines in Section 5.5 [of the *COGE Handbook*].

The following definitions apply to both estimates of individual *reserves* entities and the aggregate of *reserves* for multiple entities.

Reserves Categories

Reserves are estimated remaining quantities of *oil* and *natural gas* and related substances anticipated to be recoverable from known accumulations, from a given date forward, based on

- analysis of drilling, geological, geophysical and engineering data;
- the use of established technology; and
- specified economic conditions¹, which are generally accepted as being reasonable, and shall be disclosed.

Reserves are classified according to the degree of certainty associated with the estimates

- (a) **Proved reserves** are those *reserves* that can be estimated with a high degree of certainty to be recoverable. It is likely that the actual remaining quantities recovered will exceed the estimated *proved reserves*.
- (b) **Probable reserves** are those additional *reserves* that are less certain to be recovered than *proved reserves*. It is equally likely that the actual remaining quantities recovered will be greater or less than the sum of the estimated *proved* plus *probable reserves*.

¹ For the purposes of NI 51-101, the key economic assumptions will be the prices and costs used in the estimate, namely:

- (a) **constant prices and costs** as at the last day of a reporting issuer's financial year; or
- (b) **forecast prices and costs**.

- (c) **Possible reserves** are those additional *reserves* that are less certain to be recovered than *probable reserves*. It is unlikely that the actual remaining quantities recovered will exceed the sum of the estimated *proved plus probable plus possible reserves*.

Other criteria that must also be met for the categorization of *reserves* are provided in [Section 5.5 of the *COGE Handbook*].

Development and *Production Status*

Each of the *reserves* categories (*proved, probable and possible*) may be divided into *developed* and *undeveloped* categories:

- (a) **Developed reserves** are those *reserves* that are expected to be recovered from existing wells and installed facilities or, if facilities have not been installed, that would involve a low expenditure (for example, when compared to the cost of drilling a well) to put the *reserves* on production. The *developed* category may be subdivided into producing and non-producing.
- (i) **Developed producing reserves** are those *reserves* that are expected to be recovered from completion intervals open at the time of the estimate. These *reserves* may be currently producing or, if shut-in, they must have previously been on *production*, and the date of resumption of *production* must be known with reasonable certainty.
- (ii) **Developed non-producing reserves** are those *reserves* that either have not been on *production*, or have previously been on *production*, but are shut-in, and the date of resumption of *production* is unknown.
- (b) **Undeveloped reserves** are those *reserves* expected to be recovered from known accumulations where a significant expenditure (for example, when compared to the cost of drilling a well) is required to render them capable of *production*. They must fully meet the requirements of the *reserves* classification (*proved, probable, possible*) to which they are assigned.

In multi-well pools it may be appropriate to allocate total pool *reserves* between the *developed* and *undeveloped* categories or to subdivide the *developed reserves* for the pool between *developed producing* and *developed non-producing*. This allocation should be based on the estimator's assessment as to the *reserves* that will be recovered from specific wells, facilities and completion intervals in the pool and their respective development and *production* status.

Levels of Certainty for Reported *Reserves*

The qualitative certainty levels referred to in the definitions above are applicable to individual reserves entities (which refers to the lowest level at which *reserves* calculations are performed) and to reported *reserves* (which refers to the highest-level sum of individual entity estimates for which *reserves* estimates are presented). Reported *reserves* should target the following levels of certainty under a specific set of economic conditions:

- at least a 90 percent probability that the quantities actually recovered will equal or exceed the estimated *proved reserves*;
- at least a 50 percent probability that the quantities actually recovered will equal or exceed the sum of the estimated *proved plus probable reserves*; and
- at least a 10 percent probability that the quantities actually recovered will equal or exceed the sum of the estimated *proved plus probable plus possible reserves*.

A quantitative measure of the certainty levels pertaining to estimates prepared for the various *reserves* categories is desirable to provide a clearer understanding of the associated risks and uncertainties. However, the majority of *reserves* estimates will be prepared using deterministic methods that do not provide a mathematically derived quantitative measure of probability. In principle, there should be no difference between estimates prepared using probabilistic or deterministic methods.

Additional clarification of certainty levels associated with *reserves* estimates and the effect of aggregation is provided in Section 5.5.3 [of the *COGE Handbook*].

**APPENDIX 2
TO
COMPANION POLICY 51-101CP
STANDARDS OF DISCLOSURE
FOR OIL AND GAS ACTIVITIES**

SAMPLE RESERVES DATA DISCLOSURE

Format of Disclosure

NI 51-101 and *Form 51-101F1* offer *reporting issuers* considerable flexibility in the format of their disclosure of *reserves data* and related information. Whatever format and level of detail a *reporting issuer* chooses to use in satisfying the requirements of *NI 51-101*, the objective should be to enable reasonable investors to understand and assess the information, and compare it to corresponding information presented by the *reporting issuer* for other reporting periods or to similar information presented by other *reporting issuers*, in order to be in a position to make informed investment decisions concerning securities of the *reporting issuer*.

A logical and legible layout of information, use of descriptive headings, and consistency in terminology and presentation from document to document and from period to period, are all likely to further that objective.

Reporting issuers and their advisers are reminded of the materiality standard under section 1.4 of *NI 51-101*, and of the instructions in *Form 51-101F1*. See also sections 1.2, 2.2, 2.3 and 2.9 of Companion Policy 51-101CP.

Sample Tables

The following sample tables provide an example of how certain of the *reserves data* might be presented in a manner consistent with *NI 51-101*. Other manners of presentation may also satisfy the requirements of *NI 51-101*.


These sample tables do not reflect all of the information required by *Form 51-101F1*, and they have been simplified to reflect *reserves* in one country only. For the purpose of illustration, the sample tables also incorporate information not mandated by *NI 51-101* but which *reporting issuers* might wish to include in their disclosure; shading indicates this non-mandatory information.

**SUMMARY OF OIL AND GAS RESERVES
AND NET PRESENT VALUES OF FUTURE NET REVENUE
as of December 31, 2003
CONSTANT PRICES AND COSTS**

RESERVES CATEGORY	RESERVES							
	LIGHT AND MEDIUM OIL		HEAVY OIL		NATURAL GAS ⁽¹⁾		NATURAL GAS LIQUIDS	
	Gross (Mbbbl)	Net (Mbbbl)	Gross (Mbbbl)	Net (Mbbbl)	Gross (MMcf)	Net (MMcf)	Gross (Mbbbl)	Net (Mbbbl)
PROVED								
Developed Producing	xx	xx	xx	xx	xx	xx	xx	xx
Developed Non-Producing	xx	xx	xx	xx	xx	xx	xx	xx
Undeveloped	xx	xx	xx	xx	xx	xx	xx	xx
TOTAL PROVED	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
PROBABLE	xx	xx	xx	xx	xx	xx	xx	xx
TOTAL PROVED PLUS PROBABLE	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx

(1) Estimates of reserves of natural gas may be reported separately for (i) associated and non-associated gas (combined) and (ii) solution gas.

RESERVES CATEGORY	NET PRESENT VALUES OF FUTURE NET REVENUE									
	BEFORE INCOME TAXES DISCOUNTED AT (%/year)					AFTER INCOME TAXES DISCOUNTED AT (%/year)				
	0 (MM\$)	5 (MM\$)	10 (MM\$)	15 (MM\$)	20 (MM\$)	0 (MM\$)	5 (MM\$)	10 (MM\$)	15 (MM\$)	20 (MM\$)
PROVED										
Developed Producing	xx	xx	xx	xx	xx	xx	xx	xx	xx	xx
Developed Non-Producing	xx	xx	xx	xx	xx	xx	xx	xx	xx	xx
Undeveloped	xx	xx	xx	xx	xx	xx	xx	xx	xx	xx
TOTAL PROVED	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
PROBABLE	xx	xx	xx	xx	xx	xx	xx	xx	xx	xx
TOTAL PROVED PLUS PROBABLE	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx

 OPTIONAL

Reference: Item 2.1(1) and (2) of Form 51-101F1

**TOTAL FUTURE NET REVENUE
(UNDISCOUNTED)
as of December 31, 2003
CONSTANT PRICES AND COSTS**

RESERVES CATEGORY	REVENUE (M\$)	ROYALTIES (M\$)	OPERATING COSTS (M\$)	DEVELOPMENT COSTS (M\$)	WELL ABANDONMENT COSTS (M\$)	FUTURE NET REVENUE BEFORE INCOME TAXES (M\$)	INCOME TAXES (M\$)	FUTURE NET REVENUE AFTER INCOME TAXES (M\$)
Proved Reserves	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
Proved Plus Probable Reserves	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx

OPTIONAL

Reference: Item 2.1(3)(b) of Form 51-101F1

**FUTURE NET REVENUE
BY PRODUCTION GROUP
as of December 31, 2003
CONSTANT PRICES AND COSTS**

RESERVES CATEGORY	PRODUCTION GROUP	FUTURE NET REVENUE BEFORE INCOME TAXES (discounted at 10%/year) (M\$)
Proved Reserves	Light and Medium Crude Oil (including solution gas and other by-products)	xxx
	Heavy Oil (including solution gas and other by-products)	xxx
	Natural Gas (including by-products but excluding solution gas from oil wells)	xxx
Proved Plus Probable Reserves	Light and Medium Crude Oil (including solution gas and other by-products)	xxx
	Heavy Oil (including solution gas and other by-products)	xxx
	Natural Gas (including by-products but excluding solution gas from oil wells)	xxx

OPTIONAL

Reference: Item 2.1(3)(c) of Form 51-101F1

**SUMMARY OF OIL AND GAS RESERVES
AND NET PRESENT VALUES OF FUTURE NET REVENUE
as of December 31, 2003
FORECAST PRICES AND COSTS**

RESERVES CATEGORY	RESERVES							
	LIGHT AND MEDIUM OIL		HEAVY OIL		NATURAL GAS ⁽¹⁾		NATURAL GAS LIQUIDS	
	Gross (Mbbbl)	Net (Mbbbl)	Gross (Mbbbl)	Net (Mbbbl)	Gross (MMcf)	Net (MMcf)	Gross (Mbbbl)	Net (Mbbbl)
PROVED								
Developed Producing	xx	xx	xx	xx	xx	xx	xx	xx
Developed Non-Producing	xx	xx	xx	xx	xx	xx	xx	xx
Undeveloped	<u>xx</u>	<u>xx</u>	<u>xx</u>	<u>xx</u>	<u>xx</u>	<u>xx</u>	<u>xx</u>	<u>xx</u>
TOTAL PROVED	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
PROBABLE	xx	xx	xx	xx	xx	xx	xx	xx
TOTAL PROVED PLUS PROBABLE	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx

(1) Estimates of reserves of natural gas may be reported separately for (i) associated and non-associated gas (combined) and (ii) solution gas.

RESERVES CATEGORY	NET PRESENT VALUES OF FUTURE NET REVENUE									
	BEFORE INCOME TAXES DISCOUNTED AT (%/year)					AFTER INCOME TAXES DISCOUNTED AT (%/year)				
	0 (MM\$)	5 (MM\$)	10 (MM\$)	15 (MM\$)	20 (MM\$)	0 (MM\$)	5 (MM\$)	10 (MM\$)	15 (MM\$)	20 (MM\$)
PROVED										
Developed Producing	xx	xx	xx	xx	xx	xx	xx	xx	xx	xx
Developed Non-Producing	xx	xx	xx	xx	xx	xx	xx	xx	xx	xx
Undeveloped	<u>xx</u>	<u>xx</u>	<u>xx</u>	<u>xx</u>	<u>xx</u>	<u>xx</u>	<u>xx</u>	<u>xx</u>	<u>xx</u>	<u>xx</u>
TOTAL PROVED	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
PROBABLE	xx	xx	xx	xx	xx	xx	xx	xx	xx	xx
TOTAL PROVED PLUS PROBABLE	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx

Reference: Item 2.2(1) and (2) of Form 51-101F1

**TOTAL FUTURE NET REVENUE
(UNDISCOUNTED)
as of December 31, 2003
FORECAST PRICES AND COSTS**

RESERVES CATEGORY	REVENUE (M\$)	ROYALTIES (M\$)	OPERATING COSTS (M\$)	DEVELOPMENT COSTS (M\$)	WELL ABANDONMENT COSTS (M\$)	FUTURE NET REVENUE BEFORE INCOME TAXES (M\$)	INCOME TAXES (M\$)	FUTURE NET REVENUE AFTER INCOME TAXES (M\$)
Proved Reserves	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
Proved Plus Probable Reserves	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx

Reference: Item 2.2(3)(b) of Form 51-101F1

**FUTURE NET REVENUE
BY PRODUCTION GROUP
as of December 31, 2003
FORECAST PRICES AND COSTS**

RESERVES CATEGORY	PRODUCTION GROUP	FUTURE NET REVENUE BEFORE INCOME TAXES (discounted at 10%/year) (M\$)
Proved Reserves	Light and Medium Crude Oil (including solution gas and other by-products)	xxx
	Heavy Oil (including solution gas and other by-products)	xxx
	Natural Gas (including by-products but excluding solution gas and by-products from oil wells)	xxx
Proved Plus Probable Reserves	Light and Medium Crude Oil (including solution gas and other by-products)	xxx
	Heavy Oil (including solution gas and other by-products)	xxx
	Natural Gas (including by-products but excluding solution gas from oil wells)	xxx

Reference: Item 2.2(3)(c) of Form 51-101F1

**SUMMARY OF PRICING ASSUMPTIONS
as of December 31, 2003**

CONSTANT PRICES AND COSTS

Year	OIL ⁽¹⁾				NATURAL GAS ⁽¹⁾ AECO Gas Price (\$Cdn/MMBtu)	NATURAL GAS LIQUIDS FOB Field Gate (\$Cdn/bbl)	EXCHANGE RATE ⁽²⁾ (\$US/\$Cdn)
	WTI Cushing Oklahoma (\$US/bbl)	Edmonton Par Price 40 ⁰ API (\$Cdn/bbl)	Hardisty Heavy 12 ⁰ API (\$Cdn/bbl)	Cromer Medium 29.3 ⁰ API (\$Cdn/bbl)			
Historical (Year End)							
2000	xx	xx	xx	xx	xx	xx	xx
2001	xx	xx	xx	xx	xx	xx	xx
2002	xx	xx	xx	xx	xx	xx	xx
2003 (Year End)	xx	xx	xx	xx	xx	xx	xx

 OPTIONAL

- (1) This summary table identifies benchmark reference pricing schedules that might apply to a *reporting issuer*.
- (2) The exchange rate used to generate the benchmark reference prices in this table.

Reference: Item 3.1 of *Form 51-101 F1*

**SUMMARY OF PRICING AND INFLATION RATE ASSUMPTIONS
as of December 31, 2003
FORECAST PRICES AND COSTS**

Year	OIL ⁽¹⁾				NATURAL GAS ⁽¹⁾ AECO Gas Price (\$Cdn/MMBtu)	NATURAL GAS LIQUIDS FOB Field Gate (\$Cdn/bbl)	INFLATION RATES ⁽²⁾ %/Year	EXCHANGE RATE ⁽³⁾ \$US/\$Cdn
	WTI Cushing Oklahoma \$US/bbl	Edmonton Par Price 40 ⁰ API \$Cdn/bbl	Hardisty Heavy 12 ⁰ API \$Cdn/bbl	Cromer Medium 29.3 ⁰ API \$Cdn/bbl				
Historical ⁽⁴⁾								
2000	xx	xx	xx	xx	xx	xx	xx	xx
2001	xx	xx	xx	xx	xx	xx	xx	xx
2002	xx	xx	xx	xx	xx	xx	xx	xx
2003	xx	xx	xx	xx	xx	xx	xx	xx
Forecast								
2004	xx	xx	xx	xx	xx	xx	xx	xx
2005	xx	xx	xx	xx	xx	xx	xx	xx
2006	xx	xx	xx	xx	xx	xx	xx	xx
2007	xx	xx	xx	xx	xx	xx	xx	xx
2008	xx	xx	xx	xx	xx	xx	xx	xx
Thereafter	xx	xx	xx	xx	xx	xx	xx	xx



OPTIONAL

- (1) This summary table identifies benchmark reference pricing schedules that might apply to a *reporting issuer*.
- (2) Inflation rates for forecasting prices and costs.
- (3) Exchange rates used to generate the benchmark reference prices in this table
- (4) Item 3.2 (1)(b) of *Form 51-101F1* also requires disclosure of the *reporting issuer's* weighted average historical prices for the most recent financial year (2003, in this example).

Reference: Item 3.2 of *Form 51-101 F1*

**RECONCILIATION OF
COMPANY NET RESERVES
BY PRINCIPAL PRODUCT TYPE**

[FORECAST/CONSTANT] PRICES AND COSTS ⁽¹⁾

FACTORS	LIGHT AND MEDIUM OIL			HEAVY OIL			ASSOCIATED AND NON-ASSOCIATED GAS		
	Net Proved (Mbbbl)	Net Probable (Mbbbl)	Net Proved Plus Probable (Mbbbl)	Net Proved (Mbbbl)	Net Probable (Mbbbl)	Net Proved Plus Probable (Mbbbl)	Net Proved (MMcf)	Net Probable (MMcf)	Net Proved Plus Probable (MMcf)
December 31, 2002	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
Extensions	xx	xx	xx	xx	xx	xx	xx	xx	xx
Improved Recovery	xx	xx	xx	xx	xx	xx	xx	xx	xx
Technical Revisions	xx	xx	xx	xx	xx	xx	xx	xx	xx
Discoveries	xx	xx	xx	xx	xx	xx	xx	xx	xx
Acquisitions	xx	xx	xx	xx	xx	xx	xx	xx	xx
Dispositions	xx	xx	xx	xx	xx	xx	xx	xx	xx
Economic Factors	xx	xx	xx	xx	xx	xx	xx	xx	xx
Production	xx	xx	xx	xx	xx	xx	xx	xx	xx
December 31, 2003	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx

(1) A reconciliation of reserves estimates may be presented using either *constant prices and costs* or *forecast prices and costs* provided that the price and cost case is indicated in the disclosure of the reserves reconciliation.

Reference: Item 4.1 of Form 51-101F1

**RECONCILIATION OF CHANGES IN
NET PRESENT VALUES OF FUTURE NET REVENUE
DISCOUNTED AT 10% PER YEAR**

PROVED RESERVES

CONSTANT PRICES AND COSTS

PERIOD AND FACTOR	2003 (M\$)	2002 (M\$)
Estimated Future Net Revenue at Beginning of Year	xxx	xxx
Sales and Transfers of Oil and Gas Produced, Net of Production Costs and Royalties	xx	xx
Net Change in Prices, Production Costs and Royalties Related to Future Production	xx	xx
Changes in Previously Estimated Development Costs Incurred During the Period	xx	xx
Changes in Estimated Future Development Costs	xx	xx
Extensions and Improved Recovery	xx	xx
Discoveries	xx	xx
Acquisitions of Reserves	xx	xx
Dispositions of Reserves	xx	xx
Net Change Resulting from Revisions in Quantity Estimates	xx	xx
Accretion of Discount	xx	xx
Net Change in Income Taxes	xx	xx
Estimated Future Net Revenue at End of Year	xxx	xxx

OPTIONAL

Reference: Item 4.2 of Form 51-101F1

NOTES TO SAMPLE TABLES

1. These sample tables do not reflect all of the information required by *Form 51-101F1*, and they have been simplified to reflect *reserves* in one country only, with no non-conventional *oil and gas activities*.
2. For the purpose of illustration, the sample tables also incorporate information not mandated by *NI 51-101* but which *reporting issuers* might wish to include in their disclosure; shading indicates that this information is optional.
3. "M\$" means thousands of dollars.
4. The estimates of *future net revenue* presented in the sample tables do not represent fair market value. (Reference: Section 5.6 of *NI 51-101*).