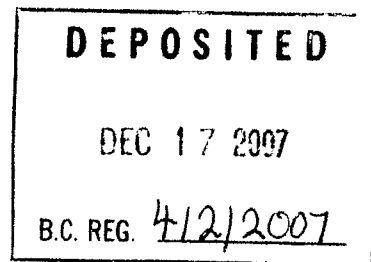



**PROVINCE OF BRITISH COLUMBIA**  
**RULE OF THE BRITISH COLUMBIA SECURITIES COMMISSION**

The British Columbia Securities Commission orders that, effective December 28, 2007, National Instrument 51-101 *Standards of Disclosure for Oil and Gas Activities*, B.C. Reg. 342/2003, is amended

- (a) as set out in the attached Appendix A,
- (b) by repealing Form 51-101F1 *Statement of Reserves Data and Other Oil and Gas Information* and substituting the attached Appendix B,
- (c) by repealing Form 51-101F2 *Report on Reserves Data by Independent Qualified Reserves Evaluator or Auditor* and substituting the attached Appendix C, and
- (d) by repealing Form 51-101F3 *Report of Management and Directors on Oil and Gas Disclosure* and substituting the attached Appendix D.



December 14, 2007  
Date

  
British Columbia Securities Commission

*(This part is for administrative purposes only and is not part of the Order.)*

**Authority under which Order is made:**

Act and section: Securities Act, R.S.B.C. 1996, c. 418, s. 184

Other (specify): \_\_\_\_\_

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

**1** *National Instrument 51-101 Standards of Disclosure for Oil and Gas Activities, B.C. Reg. 342/2003, is amended by this Instrument.*

**2** *Part 1 is amended*

*(a) in paragraph 1.1 (a) by striking out “National Instrument 51-102 Continuous Disclosure Obligations” and substituting “NI 51-102”,*

*(b) by adding the following paragraphs:*

(a.1) **“analogous information”** means information about an area outside the area in which the reporting issuer has an interest or intends to acquire an interest, which is referenced by the reporting issuer for the purpose of drawing a comparison or conclusion to an area in which the reporting issuer has an interest or intends to acquire an interest, which comparison or conclusion is reasonable, and includes:

- (i) historical information concerning reserves;
- (ii) estimates of the volume or value of reserves;
- (iii) historical information concerning resources;
- (iv) estimates of the volume or value of resources;
- (v) historical production amounts;
- (vi) production estimates; or
- (vii) information concerning a field, well, basin or reservoir;

(a.2) **“anticipated results”** means information that may, in the opinion of a reasonable person, indicate the potential value or quantities of resources in respect of the reporting issuer’s resources or a portion of its resources and includes:

- (i) estimates of volume;
- (ii) estimates of value;
- (iii) areal extent;
- (iv) pay thickness;
- (v) flow rates; or
- (vi) hydrocarbon content; ,

*(c) by repealing paragraph 1.1 (d) and substituting the following:*

(d) **“CICA Accounting Guideline 16”** means Accounting Guideline AcG-16 “Oil and gas accounting - full cost” included in the CICA Handbook, as amended from time to time; ,

*(d) by repealing paragraph 1.1 (g),*

(e) *in paragraph 1.1 (o) by striking out* “qualified reserves evaluator or auditor, has the meaning set out in the COGE Handbook” *and substituting* “person or company, means a relationship between the reporting issuer and that person or company in which there is no circumstance that could, in the opinion of a reasonable person aware of all relevant facts, interfere with that person’s or company’s exercise of judgment regarding the preparation of information which is used by the reporting issuer”,

(f) *by adding the following paragraph:*

(r.1) “NI 51-102” means National Instrument 51-102 *Continuous Disclosure Obligations*;;

(g) *in subparagraph 1.1 (v) (ii)*

(i) *by striking out* “or” *at the end of clause (C)*,

(ii) *by striking out the period at the end of clause (D) and substituting a semi-colon, and*

(iii) *by adding the following:*

(E) shale oil; or

(F) shale gas; ,

(h) *in subparagraph 1.1 (x) (i) by adding* “, resources” *after* “reserves data”, *wherever it appears;*

(i) *in subparagraph 1.1 (y) (i) by adding* “, resources” *after* “reserves data”, *wherever it appears;*

(j) *after paragraph 1.1 (z) by adding the following:*

(z.1) “reserves” means proved, probable or possible reserves; ,

(k) *by repealing paragraph 1.1 (aa) and substituting the following:*

(aa) “reserves data” means an estimate of proved reserves and probable reserves and related future net revenue, estimated using forecast prices and costs; and , *and*

(l) *in subsection 1.2 (2) by striking out* “shall apply” *and substituting* “applies”.

### **3 Part 4 is amended**

(a) *in paragraph 4.1 (a) by striking out* “5” *and substituting* “16”,

(b) *by repealing section 4.2 and substituting the following:*

**4.2 Consistency in Dates** – 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 must 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.

### **4 Part 5 is amended**

*(a) by repealing section 5.2 and substituting the following:*

**5.2 Disclosure of Reserves and Other Information** – If a reporting issuer makes disclosure of reserves or other information of a type that is specified in Form 51-101F1, the reporting issuer must ensure that the disclosure satisfies the following requirements:

- (a) estimates of reserves or future net revenue must
  - (i) disclose the effective date of the estimate;
  - (ii) have been prepared or audited by a qualified reserves evaluator or auditor;
  - (iii) have been prepared or audited in accordance with the COGE Handbook;
  - (iv) have been made 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; and
  - (v) in the case of estimates of possible reserves or related future net revenue disclosed in writing, also include a cautionary statement that is proximate to the estimate to the following effect:

“Possible reserves are those additional reserves that are less certain to be recovered than probable reserves. There is a 10% probability that the quantities actually recovered will equal or exceed the sum of proved plus probable plus possible reserves.”;

- (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 must have been taken into account;
- (c) in disclosing aggregate future net revenue the disclosure must comply with the requirements for the determination of future net revenue specified in Form 51-101F1; and
- (d) the disclosure must be 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 the statement has been supplemented or superseded by a report of a material change filed by the reporting issuer with the securities regulatory authority. ,

*(b) in section 5.3 by striking out “be consistent with” and substituting “apply” and by adding “and must relate to the most specific category of reserves or resources in which the reserves or resources can be classified” after “set out in the COGE Handbook”;*

*(c) in section 5.4 by adding “the quantities and” after “marketable quantities, reflecting”;*

*(d) in section 5.6 by adding “Market” after “Not Fair”;*

*(e) by repealing section 5.9 and substituting the following:*

### **5.9 Disclosure of Resources**

- (1) If a reporting issuer discloses anticipated results from resources which are not currently classified as reserves, the reporting issuer must also disclose in writing, in the same document or in a supporting filing:
  - (a) the reporting issuer's interest in the resources;
  - (b) the location of the resources;
  - (c) the product types reasonably expected;
  - (d) risks and the level of uncertainty associated with recovery of the resources; and
  - (e) in the case of unproved property, if its value is disclosed,
    - (i) the basis of the calculation of its value; and
    - (ii) whether the value was prepared by an independent party.
- (2) If disclosure referred to in subsection (1) includes an estimate of a quantity of resources in which the reporting issuer has an interest or intends to acquire an interest, or an estimated value attributable to an estimated quantity, the estimate must
  - (a) have been prepared or audited by a qualified reserves evaluator or auditor;
  - (b) relate to the most specific category of resources in which the resources can be classified, as set out in the COGE Handbook, and must identify what portion of the estimate is attributable to each category; and
  - (c) be accompanied by the following information:
    - (i) a definition of the resources category used for the estimate;
    - (ii) the effective date of the estimate;
    - (iii) the significant positive and negative factors relevant to the estimate;
    - (iv) in respect of contingent resources, the specific contingencies which prevent the classification of the resources as reserves; and
    - (v) a cautionary statement that is proximate to the estimate to the effect that:
      - (A) in the case of discovered resources or a subcategory of discovered resources other than reserves:

“There is no certainty that it will be commercially viable to produce any portion of the resources.”; or
      - (B) in the case of undiscovered resources or a subcategory of undiscovered resources:

“There is no certainty that any portion of the resources will be discovered. If discovered, there is no certainty that it will be commercially viable to produce any portion of the resources.”
- (3) Paragraphs 5.9 (1) (d) and (e) and subparagraphs 5.9 (2) (c) (iii) and (iv) do not apply if:

- (a) the reporting issuer includes in the written disclosure a reference to the title and date of a previously filed document that complies with those requirements; and
- (b) the resources in the written disclosure, taking into account the specific properties and interests reflected in the resources estimate or other anticipated result, are materially the same resources addressed in the previously filed document. ,

*(f) by repealing section 5.10 and substituting the following:*

#### **5.10 Analogous Information**

- (1) Sections 5.2, 5.3 and 5.9 do not apply to the disclosure of analogous information provided that the reporting issuer discloses the following:
  - (a) the source and date of the analogous information;
  - (b) whether the source of the analogous information was independent;
  - (c) if the reporting issuer is unable to confirm that the analogous information was prepared by a qualified reserves evaluator or auditor or in accordance with the COGE Handbook, a cautionary statement to that effect proximate to the disclosure of the analogous information; and
  - (d) the relevance of the analogous information to the reporting issuer's oil and gas activities.
- (2) For greater certainty, if a reporting issuer discloses information that is an anticipated result, an estimate of a quantity of reserves or resources, or an estimate of value attributable to an estimated quantity of reserves or resources for an area in which it has an interest or intends to acquire an interest, that is based on an extrapolation from analogous information, sections 5.2, 5.3 and 5.9 apply to the disclosure of the information. , *and*

*(g) in section 5.13 by repealing paragraph (a).*

**5** *Subsection 6.1 (2) is repealed and the following substituted:*

- (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) must discuss the reporting issuer's reasonable expectation of how the material change has affected its reserves data or other information.

**6** *Part 8 is amended by adding the following after section 8.1:*

#### **8.2 Exemption for Certain Exchangeable Security Issuers**

- (1) An exchangeable security issuer, as defined in subsection 13.3 (1) of NI 51-102, is exempt from this Instrument if all of the requirements of subsection 13.3 (2) of NI 51-102 are satisfied;
- (2) For the purposes of subsection (1), the reference to "continuous disclosure documents" in clause 13.3 (2) (d) (ii) (A) of NI 51-102 includes documents filed in accordance with this Instrument.

- 7 ***With the exception of subsection 1.2 (2), all provisions containing the word “shall” are amended by striking out “shall” and substituting “must”.***
- 8 This Instrument comes into force December 28, 2007.

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### 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.*
- (2) *Unless otherwise specified in this Form 51-101F1, information under item 1 of section 2.1 of NI 51-101 must 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.*

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### 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 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.*

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### PART 2 DISCLOSURE OF RESERVES DATA

#### Item 2.1 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. Also disclose the same information on a unit value basis (e.g., \$/Mcf or \$/bbl using *net reserves*) using a discount rate of 10 percent and calculated before deducting *future income tax expenses*. This unit value disclosure requirement may be satisfied by including the unit value disclosure for each category of *proved reserves* and for *probable reserves* in the disclosure referred to in paragraph 3(c) of Item 2.1.
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)*.

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- (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* and on a unit value basis for each *production group* (e.g., \$/Mcf or \$/bbl using *net reserves*), 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 2.2 Supplemental Disclosure of Reserves Data (Constant Prices and Costs)**

The *reporting issuer* may supplement its disclosure of *reserves data* under Item 2.1 by also disclosing the components of Item 2.1 in respect of its *proved reserves* or its *proved and probable reserves*, using *constant prices and costs* as at the last day of the *reporting issuer's* most recent financial year.

### **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;

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- (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) *Constant prices and costs are prices and costs used in an estimate that are:*
  - (a) *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;*
  - (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.*

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*those prices or costs rather than the prices and costs referred to in paragraph (a).*

*For the purpose of paragraph (a), the **reporting issuer's** prices will be the posted price for oil and the spot price for gas, after historical adjustments for transportation, gravity and other factors.*

### **PART 3 PRICING ASSUMPTIONS**

#### **Item 3.1 Constant Prices Used in Supplemental Estimates**

If supplemental disclosure under Item 2.2 is made, then disclose, for each *product type*, 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 2.2.

#### **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 2.1:
    - (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.
2. The disclosure in response to section 1 must include the benchmark reference pricing schedules for the countries or regions in which the *reporting issuer* operates, and inflation and other forecast factors used.
3. If the pricing assumptions specified in response to section 1 were provided by a *qualified reserves evaluator or auditor* 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 term "**constant prices and costs**" and the defined term "**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*

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*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 RECONCILIATION OF CHANGES IN RESERVES**

#### **Item 4.1 Reserves Reconciliation**

1. Provide the information specified in section 2 of this Item in respect of the following reserves categories:
  - (a) *gross proved reserves* (in total);
  - (b) *gross probable reserves* (in total); and
  - (c) *gross proved plus probable reserves* (in total).
2. 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);
    - (iv) *synthetic oil*;
    - (v) *bitumen*;
    - (vi) *coal bed methane*;
    - (vii) *hydrates*;
    - (viii) *shale oil*; and
    - (ix) *shale gas*;
  - (c) separately identifying and explaining:

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- (i) extensions and improved recovery;
- (ii) technical revisions;
- (iii) discoveries;
- (iv) acquisitions;
- (v) dispositions;
- (vi) economic factors; and
- (vii) *production*.

### INSTRUCTIONS

- (1) *The reconciliation required under this Item 4.1 must be provided in respect of reserves estimated using 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.*
- (4) *Reporting issuers must not include infill drilling reserves in the category of technical revisions specified in clause 2(c)(ii). Reserves additions from infill drilling must be included in the category of extensions and improved recovery in clause 2(c)(i) (or, alternatively, in an additional separate category under paragraph 2(c) labelled “infill drilling”).*

## 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 three financial years and, in the aggregate, before that time; and
  - (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.



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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 three financial years and, in the aggregate, before that time; and
  - (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 *forecast prices and costs*; and
  - (ii) *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
  - (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

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- (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.

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### 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 3861 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. 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*

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*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 *gross proved reserves* and *gross probable reserves* disclosed under Item 2.1.

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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. Resulting netbacks may be disclosed on the basis of units of equivalency between oil and gas (e.g. BOE) but if so that must be made clear and disclosure must comply with section 5.14 of NI 51-101.*

## APPENDIX C

### 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.
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*, must 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 are estimates of proved reserves and probable reserves and related future net revenue as at [last day of the reporting issuer's most recently completed financial year], estimated using forecast prices and costs.
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]:

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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>\$xxx<sup>1</sup></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. However, any variations should be consistent with the fact that reserves are categorized according to the probability of their recovery.

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]

<sup>1</sup> 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 2.1 of Form 51-101F1).

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### 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.
2. The report referred to in item 3 of section 2.1 of *NI 51-101* must 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 are estimates of proved reserves and probable reserves and related future net revenue as at [last day of the reporting issuer's most recently completed financial year], estimated using forecast prices and costs.

[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, in the event of a 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



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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 Form 51-101F1 containing reserves data and other oil and gas information;
- (b) the filing of Form 51-101F2 which is the report of the independent [qualified reserves evaluator[s] or qualified reserves auditor[s]] on the reserves data; and
- (c) the content and filing of this report.

Because the reserves data are based on judgements regarding future events, actual results will vary and the variations may be material. However, any variations should be consistent with the fact that reserves are categorized according to the probability of their recovery.

\_\_\_\_\_  
[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]