

Annex B

This Annex shows, by way of blackline, changes to Companion Policy 51-101CP To National Instrument 51-101 *Standards of Disclosure for Oil and Gas Activities* that are being published for comment. It is proposed that the changes become effective to coincide with the implementation of the amended and restated National Instrument 51-101 *Standards of Disclosure for Oil and Gas Activities*.

Companion Policy 51-101CP *Standards of Disclosure for Oil and Gas Activities*

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APPENDIX 1 – SAMPLE *RESERVES DATA* DISCLOSURE

Companion Policy 51-101CP
Standards of Disclosure
for Oil and Gas Activities

This Companion Policy sets out the views of the Canadian Securities Administrators (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.

NI 51-101¹ supplements other continuous disclosure requirements of *securities legislation* that apply to *reporting issuers* in all business sectors.

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 registrants² 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*.

PART 1 APPLICATION AND TERMINOLOGY

1.1 Definitions

- (1) **General** - Several terms relating to *oil and gas activities* are defined in section 1.1 of NI 51-101. If a term is not defined in NI 51-101, NI 14-101 or the securities statute in the *jurisdiction*, it will have the meaning or interpretation given to it in the *COGE Handbook* if it is defined or interpreted there, pursuant to section 1.2 of NI 51-101.

For the convenience of readers, CSA Staff Notice 51-324 *Glossary to NI 51-101 Standards of Disclosure for Oil and Gas Activities* (the NI 51-101 Glossary) sets out the meaning of terms, including those defined in NI 51-101 and several terms which are derived from the *COGE Handbook*.

The terms set out in the NI 51-101 Glossary are printed in italics in NI 51-101, Form 51-101F1, Form 51-101F2, Form 51-101F3, Form 51-101F4, Form 51-101F5 or in this Companion Policy for the convenience of readers.

¹ For the convenience of readers, CSA Staff Notice 51-324 *Glossary to NI 51-101 Standards of Disclosure for Oil and Gas Activities* 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 that are printed entirely in italics).

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

- (2) **Forecast Prices and Costs** - The term *forecast prices and costs* is defined in ~~paragraph~~section 1.1(~~+~~) of *NI 51-101* and discussed in the *COGE Handbook*. Except to the extent that the *reporting issuer* is legally bound by fixed or presently determinable future prices or costs³, *forecast prices and costs* are future prices and costs "generally accepted as being a reasonable outlook of 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* or by other reputable sources appropriate to the evaluation.

- (3) **Independent** - The term *independent* is defined in ~~paragraph~~section 1.1(~~+~~) of *NI 51-101*. Applying this definition, the following are examples of circumstances in which the CSA would consider that a *qualified reserves evaluator or auditor* (or other expert) is not *independent*. We consider a *qualified reserves evaluator or auditor* is not *independent* when the *qualified reserves evaluator or auditor*:
- (a) is an employee, insider, or director of the *reporting issuer*;
 - (b) is an employee, insider, or director of a related party of the *reporting issuer*;
 - (c) is a partner of any person or company in paragraph (a) or (b);
 - (d) holds or expects to hold securities, either directly or indirectly, of the *reporting issuer* or a related party of the *reporting issuer*;
 - (e) holds or expects to hold securities, either directly or indirectly, in another *reporting issuer* that has a direct or indirect interest in the property that is the subject of the technical report or an adjacent property;
 - (f) has or expects to have, directly or indirectly, an ownership, royalty, or other interest in the property that is the subject of the technical report or an adjacent property; or
 - (g) has received the majority of their income, either directly or indirectly, in the three years preceding the date of the technical report from the *reporting issuer* or a related party of the *reporting issuer*.

For the purpose of paragraph (d) above, "related party of the *reporting issuer*" means an affiliate, associate, subsidiary, or control person of the *reporting issuer* as those terms are defined under *securities legislation*.

There may be instances in which it would be reasonable to consider that the independence of a *qualified reserves evaluator or auditor* would not be

³ ~~Refer to the discussion of financial instruments in subsection 2.7(5) below.~~

compromised even though the *qualified reserves evaluator or auditor* holds an interest in the *reporting issuer's* securities. The *reporting issuer* needs to determine whether a reasonable person would consider that such interest would interfere with the *qualified reserves evaluator's or auditor's* judgement regarding the preparation of the technical report.

There may be circumstances in which the *securities regulatory authorities* question the objectivity of the *qualified reserves evaluator or auditor*. In order to ensure the requirement for independence of the *qualified reserves evaluator or auditor* has been preserved, the *reporting issuer* may be asked to provide further information, additional disclosure or the opinion of another *qualified reserves evaluator or auditor* to address concerns about possible bias or partiality on the part of the *qualified reserves evaluator or auditor*.

- (4) ***Product Types Arising From Oil Sands and Other Non-Conventional Activities***—The definition of *product type* in paragraph 1.1(v) includes products arising from non-conventional *oil and gas activities*. *NI 51-101* therefore 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*, the extraction of methane from coal beds and the extraction of shale gas, shale oil and hydrates. Although *NI 51-101* and *Form 51-101F1* make few specific references to non-conventional *oil and gas activities*, the requirements of *NI 51-101* for the preparation and disclosure of *reserves data* and for the disclosure of *resources* other than *reserves* apply to *oil and gas reserves* and *resources* other than *reserves* relating to *oil sands*, shale, coal or other non-conventional sources of hydrocarbons. ***Additional Disclosure***—The *CSA* encourage *reporting issuers* that are engaged in non-conventional *oil and gas activities* ***that may require additional explanation*** 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*.

For example, shale gas projects and plays may not strictly adhere to the formal lithological-based definition of “shale”. The produced gas can come from intervals that contain clay, carbonates, siltstone and minor amounts of very fine grained sandstone laminations. Despite coming from intervals that may not meet the technical definition of “shale”, gas to which fracturing techniques have been applied when intermingled with gas that comes from “shale” may be reported as being shale gas. In this scenario, a reporting issuer must ensure that its disclosure is not misleading and will have to consider whether additional explanation is required to provide the necessary context.

(5) ***Professional Organization***

(a) ***Recognized Professional Organizations***

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 ~~paragraph~~**section** 1.1(w) of *NI 51-101* and in the *NI 51-101 Glossary*) 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*.

(a.1) Canadian Professional Organizations

As at October 12, ~~2010~~**2011**, each of the following organizations in Canada is a *professional organization*:

- Association of Professional Engineers, ~~Geologists and Geophysicists~~**Geoscientists** of Alberta (~~APEGGA~~**APEGA**)
- 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)

(b) **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 list of foreign *professional organizations* is updated periodically in CSA Staff Notice 51-309 *Acceptance of Certain Foreign Professional Boards as a "Professional Organization"*. As at October 12, ~~2010~~, 2011, each of the following foreign organizations has been recognized as a *professional organization* for the purposes of NI 51-101:

- California Board for Professional Engineers and Land Surveyors,
- State of Colorado Board of Registration for Professional Engineers and Professional Land Surveyors
- Louisiana State Board of Registration for Professional Engineers and Land Surveyors,
- Oklahoma State Board of Registration for Professional Engineers and Land Surveyors
- Texas Board of Professional Engineers
- American Association of Petroleum Geologists (AAPG) but only in respect of Certified Petroleum Geologists who are members of the AAPG's Division of Professional Affairs
- American Institute of Professional Geologists (AIPG), in respect of the AIPG's Certified Professional Geologists
- Energy Institute but only for those members of the Energy Institute who are Members and Fellows
- **Society of Petroleum Evaluation Engineers (SPEE), but only in respect of Members, Honorary Life Members and Life Members**

(c) **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.

(d) **Renewal Applications Unnecessary**

A successful applicant would likely have to make an application contemplated in this subsection 1.1(5) only once, and not renew it annually.

- (6) **Qualified Reserves Evaluator or Auditor** - The definitions of *qualified reserves evaluator* and *qualified reserves auditor* are set out in ~~paragraphs~~section 1.1(y) and 1.1(x) of *NI 51-101*, respectively,101 and again in the NI 51-101 Glossary.

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.

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 volume 1 of the *COGE Handbook* - "Qualifications of Evaluators and Auditors, Enforcement and Discipline".

1.2 **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 NI 51-101 Glossary set out definitions and interpretations, many of which are derived from the *COGE Handbook*. *Reserves* and *resources* definitions and categories are incorporated in the *COGE Handbook* and are also set out, in part, in the NI 51-101 Glossary.

Subparagraph 5.2(1)(a)(iii) of *NI 51-101* requires that all estimates of *reserves* or *future net revenue* have been prepared or audited in accordance with the *COGE Handbook*. Under sections 5.2, 5.3 and 5.9 of *NI 51-101*, all types of public *oil* and *gas* disclosure, including disclosure of *reserves* and of *resources* other than *reserves* must be prepared in accordance with the *COGE Handbook*.

1.3 Applies to Reporting Issuers Only

NI 51-101 applies to *reporting issuers* engaged in *oil and gas activities*. The definition of *oil and gas activities* is broad. For example, a *reporting issuer* with no *reserves*, but a few *prospects*, unproved *properties* or *resources*, could still be engaged in *oil and gas activities* because such activities include exploration and development of unproved *properties*.

NI 51-101 will also apply to an issuer that is not yet a *reporting issuer* if it files a prospectus or other disclosure document that incorporates prospectus requirements. Pursuant to the long-form prospectus requirements, the issuer must disclose the information contained in *Form 51-101F1*, as well as the reports set out in *Form 51-101F2* and *Form 51-101F3*.

1.4 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 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*. An item that is immaterial alone may be material in the context of other information, or may be necessary to give context to other information. For example, a large number of small interests in *oil* and *gas properties* may be material in aggregate to a *reporting issuer*. Alternatively, a small interest in an *oil* and *gas property* may be material to a *reporting issuer*, depending on the size of the *reporting issuer* and its particular circumstances.

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. The information required to be filed under item 1 of section 2.1 of *NI 51-101* is usually derived from a much longer and more detailed *oil* and *gas* report prepared by a *qualified reserves evaluator*. These long and detailed reports cannot be filed electronically on *SEDAR*. The filing of an *oil* and *gas* report, or a summary of an *oil* and *gas* report, does not satisfy the requirements of the annual filing under *NI 51-101*.

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 1.4 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*. Appendix 1 to this Companion Policy provides an example of how certain of the *reserves data* might be presented. While the format presented in Appendix 1 in respect of *reserves data* is not mandatory, we encourage issuers to use this format.

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.

A *reporting issuer* may supplement the annual disclosure required under *NI 51-101* with additional information corresponding to that prescribed in *Form 51-101F1*, *Form 51-101F2* and *Form 51-101F3*, but as at dates, or for periods, subsequent to those for which annual disclosure is required. However, to avoid confusion, such supplementary disclosure should be clearly identified as being interim disclosure and distinguished from the annual disclosure (for example, if appropriate, by reference to a particular interim

period). Supplementary interim disclosure does not satisfy the annual disclosure requirements of section 2.1 of *NI 51-101*.

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*.

- (1) **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.
- (2) **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. However, a *reporting issuer* that elects to follow this approach must file, at the same time and on *SEDAR*, in the appropriate *SEDAR* category, a notice in accordance with *Form 51-101F4* (see subsection 2.3(2) of *NI 51-101*). This notification 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 ***Reporting Issuer With No Reserves and Ceasing to Engage in Oil and Gas Activities***

The requirement to make annual *NI 51-101* filings is not limited to only those issuers that have *reserves* and related *future net revenue*. A *reporting issuer* with no *reserves* but with *prospects*, unproved *properties* or *resources* may be engaged in *oil and gas activities* (see section 1.3 above) and therefore subject to *NI 51-101*. That means the issuer must still make annual *NI 51-101* filings and ensure that it complies with other *NI 51-101* requirements. The following is guidance on the preparation of *Form 51-101F1*, *Form*

51-101F2, Form 51-101F3 and other oil and gas disclosure if the reporting issuer has no reserves.

- (1) **Form 51-101F1** - Section 1.4 of NI 51-101 states that the *Instrument* applies only in respect of information that is material in respect of a *reporting issuer*. If indeed the *reporting issuer* has no *reserves*, we would consider that fact alone material. The *reporting issuer's* disclosure, under Part 2 of *Form 51-101F1*, should make clear that it has no *reserves* and hence ~~is not reporting~~ related *future net revenue*.

Supporting information regarding *reserves data* required under Part 2 (e.g., price estimates) that are not material to the issuer may be omitted. However, if the issuer had disclosed *reserves* and related *future net revenue* in the previous year, and has no *reserves* as at the end of its current financial year, the *reporting issuer* is still required to present a reconciliation to the prior-year's estimates of *reserves*, as required by Part 4 of *Form 51-101F1*.

The *reporting issuer* is also required to disclose information required under Part 6 of *Form 51-101F1*. Those requirements apply irrespective of the quantum of *reserves*, if any. This would include information about *properties* (items 6.1 and 6.2), costs (item 6.6), and exploration and development activities (item 6.7). The disclosure should make clear that the issuer had no *production*, as that fact would be material.

- (2) **Form 51-101F2** - NI 51-101 requires *reporting issuers* to retain an *independent qualified reserves evaluator or auditor* to evaluate or audit the company's *reserves data*, **contingent resources data or prospective resources data, if included in the statement required under item 1 of section 2.1 of NI 51-101,** and report to the board of directors. If the *reporting issuer* had no *reserves* during the year and hence did not **disclose resources other than reserves in the statement required under item 1 of section 2.1 of NI 51-101, it would not need to** retain an evaluator or auditor, ~~then it would not need to retain one~~ just to file a (nil) report of the *independent evaluators* on the *reserves data* in the form of *Form 51-101F2* and the *reporting issuer* would therefore not be required to file a *Form 51-101F2*. If, however, the issuer did retain an evaluator or auditor to evaluate *reserves*, and the evaluator or auditor concluded that they could not be so categorized, or reclassified those *reserves* to *resources*, the issuer would have to file a report of the *qualified reserves evaluator* because the evaluator has, in fact, evaluated the *reserves* and expressed an opinion.
- (3) **Form 51-101F3** - Irrespective of whether the *reporting issuer* has *reserves* **to report**, the requirement to file a report of management and directors in the form of *Form 51-101F3* applies.
- (4) **Form 51-101F5 - Section 6.2 of NI 51-101 requires reporting issuers that cease to be engaged in oil and gas activities to file a notice in the form of Form 51-101F5.**

(5) Other NI 51-101 Requirements - *NI 51-101* does not require *reporting issuers* to disclose *anticipated results from their, or estimates of a quantity or an estimated value attributable to an estimated quantity of, their contingent resources or prospective resources*. However, if a *reporting issuer* chooses to disclose that type of information, sections ~~5.9 of NI 51-101~~ **5.9, 5.16 and 5.17 of NI 51-101 apply to that disclosure. If disclosed in the statement required under item 1 of section 2.1 of NI 51-101, item 2.1.4 of Form 51-101F1 also applies to that disclosure.**

2.6 Reservation 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. The *CSA* recommend that *qualified reserves evaluators or auditors* follow the procedures and guidance set out in both sections 4 and 12 of volume 1 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.

2.7 Disclosure in Form 51-101F1

(1) **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*.

Form 51-101F1 requires that certain *reserves data* be provided on both a "gross" and "net" basis, the latter being adjusted for both royalty entitlements and royalty obligations. However, if a royalty is granted by a trust's subsidiary to the trust, this would not affect the computation of "*net reserves*". The typical *oil and gas* income trust structure involves the grant of a royalty by an operating subsidiary of the trust to the trust itself, the royalty being the source of the distributions to trust investors. In this case, the royalty is wholly within the combined or consolidated trust entity (the trust and its operating subsidiary). This is not the type of external entitlement or obligation for which adjustment is made in determining, for example, "*net reserves*". Viewing the trust and its consolidated entities together, the relevant *reserves* and other *oil and gas* information is that of the operating subsidiary without deduction of the internal royalty to the trust.

- (2) **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.
- (3) **Computation of *Future Net Revenue***
 - (a) **Tax**

Reporting issuers are required to disclose estimates of after-tax net present value of proved and probable reserves in the statement prepared in accordance with Form 51-101F1. Reporting issuers may, but are not required to, disclose volumes and estimates of after-tax net present value of other resources in the statement prepared in accordance with Form 51-101F1. In a separate disclosure document, a reporting issuer may also disclose its reserves or other information of a type that is specified in the Form 51-101F1 in the aggregate or for a portion of its activities subject to the requirements of subparagraph 5.2(a)(iii) and paragraph 5.2(c) of NI 51-101.

Estimates of after-tax net present value are dependant on a number of factors including, but not limited to, one or more of the following:

- **forecast future capital expenditure required to achieve forecast production;**
- **interaction with, or deductibility of, government royalties or other proportionate sharing rights;**

Form 51-101F1 requires *future net revenue* to be estimated and disclosed both before and after deduction of income taxes. However, a *reporting issuer* may not be subject to income taxes because of its royalty or income trust structure. In this instance, the issuer should use the tax rate that most appropriately reflects the income tax it reasonably expects to pay on the

future net revenue. If the issuer is not subject to income tax because of its royalty trust structure, then the most appropriate income tax rate would be zero. In this case, the issuer could present the estimates of *future net revenue* in only one column and explain, in a note to the table, why the estimates of before-tax and after-tax *future net revenue* are the same. **inclusion of existing tax pool balances of the reporting issuer (inclusion is prescribed for reporting issuer-aggregate estimates according to section 7 Volume 1 of COGE Handbook);**

- **tax pool write-off rates;**
- **sequence in which tax pools are utilized;**
- **applicability of special tax incentives; and**
- **forecast production revenue and expenses.**

Each of these can have a significant impact on the outcome, which could mislead investors if not considered in the evaluation or if the reporting issuer's disclosure does not provide sufficient accompanying information to enable a reader to make an informed decision.

If a reporting issuer discloses after-tax net present value, it should generally include, as appropriate, one or more of the following:

- **a general explanation of the method and assumptions used in the reporting issuer's calculation, worded to reflect its specific circumstance and the approach taken. This need not be detailed, but major aspects should be addressed, such as whether tax pools have been included in the evaluation;**
- **an explanatory statement to the following effect:**

The after-tax net present value of [the business entity]'s oil and gas properties here reflects the tax burden on the properties on a stand-alone basis. It does not consider the business-entity-level tax situation, or tax planning. It does not provide an estimate of the value at the business entity, which may be significantly different. The financial statements and the management's discussion & analysis (MD&A) of the [business entity] should be consulted for information at the level of the business entity.

Also, ~~tax~~Tax pools should be taken into account when computing *future net revenue* after income taxes. The definition of "future income tax expense" is set out in the NI 51-101 Glossary. Essentially, *future income tax expenses* represent estimated cash income taxes payable on the *reporting issuer's* future pre-tax cash flows. These cash income taxes payable should be computed by applying the appropriate year-end statutory tax rates, taking into account future tax rates

already legislated, to future pre-tax *net* cash flows reduced by appropriate deductions of estimated unclaimed costs and losses carried forward for tax purposes and relating to *oil and gas activities* (i.e., tax pools). Such tax pools may include Canadian *oil and gas property* expense (COGPE), Canadian development expense (CDE), Canadian exploration expense (CEE), undepreciated capital cost (UCC) and unused prior year's tax losses. (Issuers should be aware of limitations on the use of certain tax pools resulting from acquisitions of *properties* in situations where provisions of the Income Tax Act concerning successor corporations apply.)

(b) Other Fiscal Regimes

Other fiscal regimes, such as those involving *production* sharing contracts, should be adequately explained with appropriate allocations made to various classes of proved *reserves* and to *probable reserves*.

(4) **Supplementary Disclosure of Future Net Revenue Using Constant Prices and Costs** – *Form 51-101F1* gives *reporting issuers* the option of disclosing *future net revenue*, together with associated estimates of *reserves* or *resources* other than *reserves*, determined using constant prices and costs. Constant prices and costs are assumed not to change 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).

(5) **repealed.**

(6) **Reserves Reconciliation**

- (a) If the *reporting issuer* reports *reserves*, but had no *reserves* **to report** at the start of the reconciliation period, a reconciliation of *reserves* must be carried out if any *reserves* added during the previous year are material. Such a reconciliation will have an opening balance of zero.
- (b) The reserves reconciliation is prepared on a *gross reserves*, not *net reserves*, basis. For some *reporting issuers* with significant royalty interests, such as royalty trusts, the *net reserves* may exceed the *gross reserves*. In order to provide adequate disclosure given the distinctive nature of its business, the *reporting issuer* may also disclose its *reserves* reconciliation on a *net reserves* basis. The issuer is not precluded from providing this additional information with its disclosure prescribed in *Form 51-101F1* provided that the *net reserves* basis for the reconciliation is clearly identified in the additional disclosure to avoid confusion.

(c) Clause 2(c)(ii) of item 4.1 of *Form 51-101F1* requires reconciliations of *reserves* to separately identify and explain technical revisions. Technical revisions show changes in existing *reserves* estimates, in respect of carried-forward *properties*, over the period of the reconciliation (i.e., between estimates as at the *effective date* and the prior year's estimate) and are the result of new technical information, not the result of capital expenditure. With respect to making technical revisions, the following should be noted:

- Infill Drilling: It would not be acceptable to include infill drilling results as a technical revision. *Reserves* additions derived from infill drilling during the year are not attributable to revisions to the previous year's *reserves* estimates. Infill drilling *reserves* must either be included in the "extensions and improved recovery" category or in an additional stand-alone category in the reserves reconciliation ~~labelled~~labelled "infill drilling".
- Acquisitions: If an acquisition is made during the year, (i.e., in the period between the *effective date* and the prior year's estimate), the *reserves* estimate to be used in the reconciliation is the estimate of *reserves* at the *effective date*, not at the acquisition date, plus any *production* since the acquisition date. This *production* must be included as *production* in the reconciliation. If there has been a change in the *reserves* estimate between the acquisition date and the *effective date* other than that due to *production*, the issuer may wish to explain this as part of the reconciliation in a footnote to the reconciliation table.

(7) **Significant Factors or Uncertainties** - Item 5.2 of *Form 51-101F1* requires an issuer to identify and discuss important economic factors or significant uncertainties that affect particular components of the *reserves data*.

Important economic factors or significant uncertainties may include abandonment costs and reclamation costs, unusually high expected development costs or operating costs, 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.

For example, if events subsequent to the *effective date* have resulted in significant changes in expected future prices, such that the forecast prices reflected in the *reserves data* differ materially from those that would be considered to be a reasonable outlook on the future around the date of the company's "statement of *reserves data* and other information", then the issuer's statement might include, pursuant to item 5.2, a discussion of that change and its effect on the disclosed *future net revenue* estimates. It may be misleading to omit this information.

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

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

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.

- (9) **Sample Reserves Data Disclosure** - Appendix 1 to this Companion Policy sets out an example of how certain of the *reserves data*, *contingent resources data* and *prospective resources data* might be presented in a manner which the CSA consider to be consistent with *NI 51-101* and *Form 51-101F1*. The CSA encourages *reporting issuers* to use the format presented in Appendix 1.

The sample presentation in Appendix 1 also illustrates how certain additional information not mandated under *Form 51-101F1* might be incorporated in an annual filing.

2.8 *Form 51-101F2*

- (1) **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*.

In the rare case, if any, in which there are compelling reasons for making such disclosure (e.g., a prohibition on disclosure to external parties), 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.

- (2) **Variations in Estimates** – The report prescribed by *Form 51-101F2* contains statements to the effect that variations between *reserves data* and actual results may be material but *reserves* have been determined in accordance with the *COGE Handbook*, consistently applied.

Reserves estimates are made at a point in time, being the *effective date*. A reconciliation of a *reserves* estimate to actual results is likely to show variations and the variations may be material. This variation may arise from factors such as exploration discoveries, acquisitions, divestments and economic factors that were not considered in the initial *reserves* estimate. Variations that occur with respect to *properties* that were included in both the *reserves* estimate and the actual results may be due to technical or economic factors. Any variations arising due to technical factors must be consistent with the fact that *reserves* are categorized according to the probability of their recovery. For example, the requirement that reported *proved reserves* “must have at least a 90 percent probability that the quantities actually recovered will equal or exceed the estimated *proved reserves*” (section 5 of volume 1 of the *COGE Handbook*) implies that as more technical data becomes available, a positive, or upward, revision is significantly more likely than a negative, or downward, revision. Similarly, it should be equally likely that revisions to an estimate of *proved plus probable reserves* will be positive or negative.

Reporting issuers must assess the magnitude of such variation according to their own circumstances. A *reporting issuer* with a limited number of *properties* is more likely to be affected by a change in one of these *properties* than a *reporting issuer* with a greater number of *properties*. Consequently, *reporting issuers* with few *properties* are more likely to show larger variations, both positive and negative, than those with many *properties*.

Variations may result from factors that cannot be reasonably anticipated, such as the fall in the price of *bitumen* at the end of 2004 that resulted in significant negative revisions in *proved reserves*, or the unanticipated activities of a foreign government. If such variations occur, the reasons will usually be obvious. However, the assignment of a *proved reserve*, for instance, should reflect a degree of confidence in all of the relevant factors, at the *effective date*, such that the likelihood of a negative revision is low, especially for a *reporting issuer* with many *properties*. Examples of some of the factors that could have been reasonably anticipated, that have led to negative revisions of *proved* or of *proved plus probable reserves* are:

- Over-optimistic activity plans, for instance, booking reserves for *proved* or *probable undeveloped reserves* that have no reasonable likelihood of being drilled.

- *Reserves* estimates that are based on a forecast of *production* that is inconsistent with historic performance, without solid technical justification.
 - Assignment of drainage areas that are larger than can be reasonably expected.
 - The use of inappropriate analogs.
- (3) ***Effective date of Evaluation*** - A *qualified reserves evaluator or auditor* cannot prepare an *evaluation* using information that relates to events that occurred after the *effective date*, being the financial year-end. Information that relates to events that occurred after the year-end should not be incorporated into the forecasts. For example, information about drilling results from wells drilled in January or February, or changes in *production* that occurred after year-end date of December 31, should not be used. Even though this more recent information is available, the evaluator or auditor should not go back and change the forecast information. The forecast is to be based on the evaluator's or auditor's perception of the future as of December 31, the *effective date* of the report.

Similarly, the evaluator or auditor should not use price forecasts for a date subsequent to the year-end date of, in this example, December 31. The evaluator or auditor should use the prices that he or she forecasted on or around December 31. The evaluator or auditor should also use the December forecasts for exchange rates and inflation. Revisions to price, exchange rate or inflation rate forecasts after December 31 would have resulted from events that occurred after December 31.

2.9 Chief Executive Officer

Paragraph 2.1(3)(e) of *NI 51-101* requires a *reporting issuer* to file a report in accordance with *Form 51-101F3* that is executed by the chief executive officer. The term "chief executive officer" should be read to include the individual who has the responsibilities normally associated with this position or the person who acts in a similar capacity. This determination should be made irrespective of an individual's corporate title and whether that individual is employed directly or acts pursuant to an agreement or understanding.

2.10 Reporting Issuer Not a Corporation

If a *reporting issuer* is not a corporation, a report in accordance with *Form 51-101F3* would be executed by the persons who, in relation to the *reporting issuer*, are in a similar position or perform similar functions to the persons required to execute under paragraph 2.1(3)(e) of *NI 51-101*.

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 Consistency in Dates

Section 4.2 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 and 12 of volume 1 of the *COGE Handbook* set out procedures and guidance for the conduct of *reserves evaluations* and *reserves audits*, respectively. Section 12 deals with the relationship between a *reserves auditor* and the client's financial auditor. Section 4, 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 and 12 of volume 1 of the *COGE Handbook*, whether conducting a *reserves evaluation* or a *reserves audit*.

PART 5 REQUIREMENTS APPLICABLE TO ALL DISCLOSURE

5.1 Application of Part 5

(1) General - 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. For example, if material distributed at a company presentation refers to *BOEs*, the material should include, near the reference to *BOEs*, the cautionary statement required by paragraph 5.14(d) **be prepared in accordance with section 5.14** of *NI 51-101*.

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.

- (2) Supplementary Resources Disclosure – All public disclosure of *reserves* or *resources* other than *reserves* made by a *reporting issuer* must be made in accordance with Part 5 of *NI 51-101*. This means that *reserves* and *resources* other than *reserves* disclosed publicly by a *reporting issuer* must be evaluated in accordance with the *COGE Handbook*. However, supplementary to this disclosure, a *reporting issuer* may provide disclosure of *reserves* or *resources* other than *reserves* in accordance with an alternative *resources* evaluation standard under section 5.18 of *NI 51-101*. Alternative resource evaluation standards that the CSA considers acceptable include the SEC’s oil and gas disclosure framework and the Petroleum Resource Management System prepared by the Society of Petroleum Engineers.

The CSA believes that a *qualified reserves evaluator* preparing an estimate under an alternative *resources* evaluation standard and the *COGE Handbook* should be experienced in the evaluation practices of both evaluation standards. A *qualified reserves evaluator* should be aware that when an estimate is prepared using an alternative *resources* evaluation standard, the *qualified reserves evaluator* is taking on a professional responsibility that reflects on their individual professionalism and the integrity of their profession.

5.2 Disclosure of *Reserves* and Other Information

- (1) **General** - A *reporting issuer* must comply with the requirements of section 5.2 in its disclosure, to the public, of *reserves* estimates and other information of a type specified in *Form 51-101F1*. This would include, for example, disclosure of such information in a news release.
- (2) **Reserves** - *NI 51-101* does not prescribe any particular methods of estimation but it does require that a *reserve* estimate be prepared in accordance with the *COGE Handbook*. For example, section 5 of volume 1 of the *COGE Handbook* specifies that, in respect of an issuer’s reported proved *reserves*, 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*.

Additional guidance on particular topics is provided below.

- (3) **Possible Reserves** - A *possible reserves* estimate - either alone or as part of a sum - is often a relatively large number that, by definition, has a low probability of actually being produced. For this reason, the cautionary language prescribed in subparagraph 5.2(1)(a)(v) of *NI 51-101* must accompany the written disclosure of a *possible reserves* estimate.
- (4) **Probabilistic and Deterministic Evaluation Methods** - Section 5 of volume 1 of the *COGE Handbook* states that "In principle, there should be no difference between estimates prepared using probabilistic or deterministic methods".

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

When probabilistic methods are used in conjunction with good engineering and geological practice, they will provide more statistical information than the conventional deterministic method. The following are a few critical criteria that an evaluator must satisfy when applying probabilistic methods:

- The evaluator must still estimate the *reserves* applying the definitions and using the guidelines set out in the *COGE Handbook*.
- Entity level probabilistic *reserves* estimates should be aggregated arithmetically to provide reported level *reserves*.
- If the evaluator also prepares aggregate *reserves* estimates using probabilistic methods, the evaluator should explain in the *evaluation* report the method used. In particular, the evaluator should specify what confidence levels were used at the entity, *property*, and reported (i.e., total) levels for each of *proved*, *proved + probable* and *proved + probable + possible* (if reported) *reserves*.
- If the *reporting issuer* discloses the aggregate *reserves* that the evaluator prepared using probabilistic methods, the issuer should provide a brief explanation, near its disclosure, about the *reserves* definitions used for estimating the *reserves*, about the method that the evaluator used, and the underlying confidence levels that the evaluator applied.

- (5) **Availability of Funding** - In assigning *reserves* to an undeveloped *property*, the *reporting issuer* is not required to have the funding available to develop the *reserves*, since they may be developed by means other than the expenditure of the *reporting issuer's* funds (for example by a farm-out or sale). *Reserves* must be estimated assuming that development of the *properties* will occur without regard to the likely availability of funding required for that *property*. The *reporting issuer's* evaluator is not required to consider whether the *reporting issuer* will have the capital necessary to develop the *reserves*. (See section 7 of *COGE Handbook* and subparagraph 5.2(1)(a)(iv) of *NI 51-101*.)

However, item 5.3 of *Form 51-101F1* requires a *reporting issuer* to discuss its expectations as to the sources and costs of funding for estimated future *development costs*. If the issuer expects that the costs of funding would make development of a *property* unlikely, then even if *reserves* were assigned, it must also discuss that expectation and its plans for the *property*.

Disclosure of an estimate of *reserves*, *contingent resources* or *prospective resources* in respect of which timely availability of funding for development is not assured may be misleading if that disclosure is not accompanied, proximate to

it, by a discussion (or a cross-reference to such a discussion in other disclosure filed by the *reporting issuer* on *SEDAR*) of funding uncertainties and their anticipated effect on the timing or completion of such development (or on any particular stage of multi-stage development such as often observed in oilsands developments).

- (6) ***Proved or Probable Undeveloped Reserves*** - *Proved or probable undeveloped reserves* must be reported in the year in which they are recognized. If the *reporting issuer* does not disclose the *proved or probable undeveloped reserves* just because it has not yet spent the capital to develop these *reserves*, it may be omitting *material* information, thereby causing the *reserves* disclosure to be misleading. If the *proved or probable undeveloped reserves* are not disclosed to the public, then those who have a special relationship with the issuer and know about the existence of these *reserves* would not be permitted to purchase or sell the securities of the issuer until that information has been disclosed. If the issuer has a prospectus, the prospectus might not contain full, true and plain disclosure of all *material* facts if it does not contain information about these *proved or probable undeveloped reserves*.
- (7) **Mechanical Updates** - So-called “mechanical updates” of *reserves* reports are sometimes created, often by rerunning previous *evaluations* with a new price deck. This is problematic since there may have been material changes other than price that may lead to the report being misleading. If a *reporting issuer* discloses the results of the mechanical update it should ensure that all relevant material changes are also disclosed to ensure that the information is not misleading.

5.3 Classification of *Reserves* and of *Resources* Other than *Reserves*

Section 5.3 of *NI 51-101* requires that any disclosure of *reserves* or of *resources* other than *reserves* must apply the applicable categories and terminology set out in the *COGE Handbook*. The definitions of various *resource* categories, derived from the *COGE Handbook*, are provided in the *NI 51-101 Glossary*. In addition, section 5.3 of *NI 51-101* requires that disclosure of *reserves* or of *resources* other than *reserves* must relate to the most specific category of *reserves* or of *resources* other than *reserves* in which the *reserves* or *resources* other than *reserves* can be classified. For instance, there are several subcategories of *discovered resources* including *reserves*, *contingent resources* and *discovered unrecoverable resources*.

Reserves can be characterized as *proved*, *probable* or *possible reserves*, according to the probability that such quantities will actually be produced. As described in the *COGE Handbook*, *proved*, *probable* and *possible reserves* represent conservative, realistic and optimistic estimates of *reserves*, respectively. Therefore, any disclosure of *reserves* must indicate whether they are *proved*, *probable* or *possible reserves*.

Reporting issuers that disclose *resources* other than *reserves* must identify those *resources* as *discovered* or *undiscovered resources* except in exceptional circumstances where the most specific category is *total petroleum initially-in-place, discovered*

petroleum initially-in-place or *undiscovered petroleum initially-in-place*, in which case the reporting issuer must comply with subsection 5.16(3) of *NI 51-101*.

~~For further guidance on disclosure of *reserves* and of *resources* other than *reserves*, see sections 5.2 and 5.5 of this Companion Policy.~~

5.4 ~~Written Consents~~Consent

Section 4.4 of Volume 1 of the *COGE Handbook* recommends the preparation of an engagement letter that specifies a “project description confirming the scope and objective of the [evaluation] project”. An evaluation report is typically prepared for a particular purpose. CSA staff recommend that reporting issuers seek the consent of the evaluator prior to disclosing information from a report for a purpose other than which the report was prepared, or for selective disclosure from any report. A requirement for the evaluator’s consent to disclose part or all of an evaluation is often part of this engagement letter.

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 *Form 51-101F1*, or making direct or indirect reference to the conclusions of that report in the filed *Form 51-101F1* and *Form 51-101F3*). 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.

An evaluator who consents to disclosure of information from a report should be aware of the potential for civil liability and should be aware of the purpose for which the report will be used.

5.5 Disclosure of *Resources* Other than *Reserves*

- (1) **Disclosure of *Resources* Generally** - The disclosure of *resources*, excluding *proved* and *probable reserves*, is not mandatory under *NI 51-101*, except that a *reporting issuer* must make disclosure concerning its unproved *properties* and *resource* activities in its annual filings as described in Part 6 of *Form 51-101F1*. Additional disclosure beyond this is voluntary and must comply with section 5.9 of *NI 51-101* if *anticipated results* from the *resources* other than *reserves* are voluntarily disclosed.

For prospectuses, the general securities disclosure obligation of “full, true and plain” disclosure of all *material* facts would require the disclosure of *reserves* or of *resources* other than *reserves* that are *material* to the issuer, even if the disclosure is not mandated by *NI 51-101*. Any such disclosure should be based on supportable analysis.

Disclosure of *resources* other than *reserves* may involve the use of statistical measures that may be unfamiliar to a user. It is the responsibility of the evaluator

and the *reporting issuer* to be familiar with these measures and for the *reporting issuer* to be able to explain them to investors. Information on statistical measures may be found in the *COGE Handbook* (section 9 of volume 1 and section 4 of volume 2) and in the extensive technical literature⁴¹ on the subject.

- (2) **Disclosure of *Anticipated Results* under Subsection 5.9(1) of NI 51-101** - If a *reporting issuer* voluntarily discloses *anticipated results* from *resources* that are not classified as *reserves*, it must disclose certain basic information concerning the *resources*, which is set out in subsection 5.9(1) of NI 51-101. Additional disclosure requirements arise if the *anticipated results* disclosed by the issuer include an estimate of a *resource* quantity or associated value, as set out below in subsection 5.5(3).

If a *reporting issuer* discloses *anticipated results* relating to numerous aggregated *properties*, *prospects* or *resources*, the issuer may, depending on the circumstances, satisfy the requirements of subsection 5.9(1) by providing summarized information in respect of each prescribed requirement. The *reporting issuer* must ensure that its disclosure is reasonable, meaningful and at a level appropriate to its size. For a *reporting issuer* with only few *properties*, it may be appropriate to make the disclosure for each *property*. Such disclosure may be unreasonably onerous for a *reporting issuer* with many *properties*, and it may be more appropriate to summarize the information by major areas or for major projects. However, the convenience of aggregating *properties* will not justify disclosure of *resources* in a category or subcategory less specific than would otherwise be possible, and required to be disclosed by subsection 5.3(1) of NI 51-101.

In respect of the requirement to disclose the risk and level of uncertainty associated with the *anticipated result* under paragraph 5.9(1)(d) of NI 51-101, risk and uncertainty are related concepts. Section 9 of volume 1 of the *COGE Handbook* provides the following definition of risk:

“Risk refers to a likelihood of loss and ... It is less appropriate to *reserves* evaluation because economic viability is a prerequisite for defining *reserves*.”

The concept of risk may have some limited relevance in disclosure related to *reserves*, for instance, for incremental *reserves* that depend on the installation of a compressor, the likelihood that the compressor will be installed. Risk is often relevant to the disclosure of *resource* categories other than *reserves*, in particular the likelihood that an exploration well will, or will not, be successful.

⁴¹

For example, Determination of Oil and Gas Reserves, Monograph No. 1, Chapter 22, Petroleum Society of CIM, Second Edition 2004. (ISBN 0-9697990-2-0)) Newendorp, P., & Schuyler, J., 2000, Decision Analysis for Petroleum Exploration, Planning Press, Aurora, Colorado (ISBN 0-9664401-1-0). Rose, P. R., Risk Analysis and Management of Petroleum Exploration Ventures, AAPG Methods in Exploration Series No. 12, AAPG (ISBN 0-89181-062-1)

Section 9 of volume 1 of the *COGE Handbook* provides the following definition of uncertainty:

“Uncertainty is used to describe the range of possible outcomes of a *reserves* estimate.”

However, the concept of uncertainty is generally applicable to any estimate, including not only *reserves*, but also to all other categories of *resource*.

In satisfying the requirement of paragraph 5.9(1)(d) of *NI 51-101*, a *reporting issuer* should ensure that their disclosure includes the risks and uncertainties that are appropriate and meaningful for their activities. This may be expressed quantitatively as probabilities or qualitatively by appropriate description. If the *reporting issuer* chooses to express the risks and level of uncertainty qualitatively, the disclosure must be meaningful and not in the nature of a general disclaimer.

If the *reporting issuer* discloses the estimated value of an *unproved property* other than a value attributable to an estimated *resource* quantity, then the issuer must disclose the basis of the calculation of the value, in accordance with paragraph 5.9(1)(e) ~~of *NI 51-101*~~. This type of value is typically based on petroleum land management practices that consider activities and land prices in nearby areas. If done *independently*, it would be done by a valuator with petroleum land management expertise who would generally be a member of a *professional organization* such as the Canadian Association of Petroleum Landmen. This is distinguishable from the determination of a value attributable to an estimated *resource* quantity, as contemplated in subsection 5.9(2) ~~of *NI 51-101*~~. This latter type of value estimate must be prepared by a *qualified reserves evaluator or auditor*.

The calculation of an estimated value described in paragraph 5.9(1)(e) ~~of *NI 51-101*~~ may be based on one or more of the following factors:

- the acquisition cost of the *unproved property* to the *reporting issuer*, provided there have been no material changes in the *unproved property*, the surrounding *properties*, or the general *oil* and *gas* economic climate since acquisition;
- recent sales by others of interests in the same *unproved property*;
- terms and conditions, expressed in monetary terms, of recent farm-in agreements related to the *unproved property*;
- terms and conditions, expressed in monetary terms, of recent work commitments related to the *unproved property*;
- recent sales of similar *properties* in the same general area;

- recent exploration and discovery activity in the general area;
- the remaining term of the *unproved property*; or
- burdens (such as overriding royalties) that impact on the value of the *property*.

The *reporting issuer* must disclose the basis of the calculation of the value of the *unproved property*, which may include one or more of the above-noted factors. The *reporting issuer* must also disclose whether the value was prepared by an *independent party*. In circumstances in which paragraph 5.9(1)(e) of NI 51-101 applies and where the value is prepared by an *independent party*, 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.

(3) **Disclosure of an Estimate of Quantity or Associated Value of a Resource under Subsection 5.9(2) of NI 51-101**

(a) **Overview of Subsection 5.9(2) of NI 51-101**

Pursuant to subsection 5.9(2) of NI 51-101, if a *reporting issuer* discloses an estimate of a *resource* quantity or an associated value, the estimate must have been prepared by a *qualified reserves evaluator or auditor*. **Contingent resources data and prospective resources data disclosed within the statement required under item 1 of section 2.1 of NI 51-101 must have been prepared by an independent qualified reserves evaluator or auditor.**

If a *reporting issuer* ~~obtains or carries out an evaluation of resources~~ provides disclosure of contingent resources data or prospective resources data outside of its annual required filings under section 2.1 of NI 51-101 and wishes to file or disseminate a report in a format comparable to that prescribed in *Form 51-101F2*, it may do so. However, the title of such a form ~~must~~ should not contain the term “*Form 51-101 F2*” as this form is specific to the ~~evaluation of reserves data~~. ~~Reporting issuers must modify the report on resources to reflect that reserves data is not being reported.~~ report required by item 2 of section 2.1 of NI 51-101. A heading such as “Report on Resource Estimate by Independent Qualified Reserves Evaluator or Auditor” may be appropriate. ~~Although such an evaluation is required to be carried out by a qualified reserves evaluator or auditor, there is no requirement that it be independent.~~ If an *independent party* does not prepare the report, *reporting issuers* should consider amending the title or content of the report to make it clear that the report has not been prepared by an *independent party* and the *resource* estimate is not an independent *resource* estimate.

The *COGE Handbook* recommends the use of probabilistic *evaluation* methods for making *resource* estimates, and although it does not provide detailed guidance there is a considerable amount of technical literature on the subject.

Pursuant to section 5.3 of *NI 51-101*, the *reporting issuer* must ensure that the estimated *resource* relates to the most specific category of *resources* in which the *resource* can be classified. As discussed above in subsection 5.5(2) of this Companion Policy, if a *reporting issuer* wishes to disclose an aggregate *resource* estimate which involves the aggregation of numerous *properties*, *prospects* or *resources*, it must ensure that the disclosure does not result in a contravention of the requirement in subsection 5.3(1) of *NI 51-101*.

Subsection 5.9(2) of *NI 51-101* requires the *reporting issuer* to disclose certain information in addition to that prescribed in subsection 5.9(1) of *NI 51-101* to assist recipients of the disclosure in understanding the nature of risks associated with the estimate. This information includes a definition of the *resource* category used for the estimate, disclosure of factors relevant to the estimate and cautionary language.

(b) Definitions of Resource Categories

For the purpose of complying with the requirement of defining the *resource* category, the *reporting issuer* must ensure that disclosure of the definition is consistent with the *resource* categories and terminology set out in the *COGE Handbook*, pursuant to section 5.3 of *NI 51-101*. Section 5 of volume 1 and section 2 of volume 2 of the *COGE Handbook* and the *NI 51-101 Glossary* identify and define the various *resource* categories.

~~A reporting issuer may wish to report reserves or resources other than reserves as “in-place volumes”. By definition, reserves of any type, contingent resources and prospective resources are estimates of volumes that are recoverable or potentially recoverable and, as such, cannot be described as being “in-place”. Terms such as “potential reserves”, “undiscovered reserves”, “reserves in place”, “in-place reserves” or similar terms must not be used because they are incorrect and misleading. The disclosure of reserves or of resources other than reserves must be consistent with the terminology and categories set out in the COGE Handbook, pursuant to section 5.3 of NI 51-101.~~

In addition to disclosing the most specific category of *resource*, the *reporting issuer* may disclose *total petroleum initially-in-place*, *discovered petroleum initially-in-place* or *undiscovered petroleum initially-in-place* estimates provided that the additional disclosure required by subsection 5.16(3) of *NI 51-101* is included.

(c) Application of Subsection 5.9(2) of NI 51-101

~~If the reporting issuer discloses an estimate of a resource quantity or associated value, the reporting issuer must additionally disclose the following:~~

- ~~(i) a definition of the resource category used for the estimate;~~

- (ii) — ~~the *effective date* of the estimate;~~
- (iii) — ~~significant positive and negative factors relevant to the estimate;~~
- (iv) — ~~the contingencies which prevent the classification of a contingent *resource* as a *reserve*; and~~
- (v) — ~~cautionary language as prescribed by subparagraph 5.9(2)(d)(v) of *NI 51-101*.~~

~~The *resource* estimate may be disclosed as a single quantity such as a median or mean, representing the best estimate. Frequently, however, the estimate consists of three values that reflect a range of reasonable likelihoods (the low value reflecting a conservative estimate, the middle value being the best estimate, and the high value being an optimistic estimate).~~

~~Guidance concerning defining the *resource* category is provided above in section 5.3 and paragraph 5.5(3)(b) of this Companion Policy.~~

Reporting issuers are required to disclose significant positive and negative factors relevant to the estimate pursuant to subparagraph 5.9(2)(d)(iii) ~~of *NI 51-101*~~. For example, if there is no infrastructure in the region to transport the resource, this may constitute a significant negative factor relevant to the estimate. Other examples would include *abandonment costs, reclamation costs*, a significant lease expiry or any legal, capital, political, technological, business or other factor that is highly relevant to the estimate. To the extent that the *reporting issuer* discloses an estimate for numerous properties that are aggregated, it may disclose significant positive and negative factors relevant to the aggregate estimate, unless discussion of a particular material *resource* or *property* is warranted in order to provide adequate disclosure to investors.

The cautionary language in subparagraph 5.9(2)(d)(v) ~~of *NI 51-101*~~ includes a prescribed disclosure that there is no certainty that it will be commercially viable to produce any portion of the resources. The concept of commercial viability would incorporate the meaning of the word “commercial” provided in the *NI 51-101* Glossary **criteria for determining commerciality provided in section 5.3 of volume 1 of the *COGE Handbook***.

~~The general disclosure requirements of paragraph 5.9(2)(d) of *NI 51-101* may be illustrated by an example. If a *reporting issuer* discloses, for example, an estimate of a volume of its *bitumen* which is a *contingent resource* to the issuer, the disclosure would include information of the following nature:~~

~~The *reporting issuer* holds a [●] interest in [provide description and location of interest]. As of [●] date, it estimates that, in respect of this interest, it has [●] bbls of *bitumen*, which would be classified as a *contingent resource*. A *contingent resource* is defined as [cite current~~

~~definition in the *COGE Handbook*]. There is no certainty that it will be commercially viable to produce any portion of the *resource*. The contingencies which currently prevent the classification of the *resource* as a *reserve* are [state specific capital costs required to render *production* economic, applicable regulatory considerations, pricing, specific supply costs, technological considerations, and/or other relevant factors]. A significant factor relevant to the estimate is [e.g.] an existing legal dispute concerning title to the interest.~~

~~To the extent that this information is provided in a previously filed document, and it relates to the same interest in *resources*, the issuer can omit disclosure of significant positive and negative factors relevant to the estimate and the contingencies which prevent the classification of the *resource* as a *reserve*. However, the issuer must make reference in the current disclosure to the title and date of the previously filed document.~~

5.6 Analogous Information

A reporting issuer may wish to base an estimate on, or include comparative *analogous information* for their area of interest, such as *reserves*, *resources*, and *production*, from *fields* or wells, in nearby or geologically similar areas. Particular care must be taken in using and presenting this type of information. Using only the best wells or *fields* in an area, or ignoring dry holes, for instance, may be particularly misleading. It is important to present a factual and balanced view of the information being provided.

The reporting issuer must comply with the disclosure requirements of section 5.10 of *NI 51-101*, when it discloses *analogous information*, as that term is broadly defined in *NI 51-101*, for an area which includes an area of the reporting issuer's area of interest. Pursuant to subsection 5.10(2) of *NI 51-101*, if the issuer discloses an estimate of its own *reserves* or *resources* based on an extrapolation from the *analogous information*, or if the *analogous information* itself is an estimate of its own *reserves* or *resources*, the issuer must ensure the estimate is prepared in accordance with the *COGE Handbook* and disclosed in accordance with *NI 51-101* generally. For example, in respect of a *reserves* estimate, the estimate must be classified and prepared in accordance with the *COGE Handbook* by a *qualified reserves evaluator or auditor* and must otherwise comply with the requirements of section 5.2 of *NI 51-101*.

5.7 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. Issuers should refer to Appendices B and C of volume 1 of the *COGE Handbook* for the proper reporting of units of measurement.

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

5.8 *BOEs and McfGEs*

Section 5.14 of *NI 51-101* sets out requirements that apply if a reporting issuer chooses to make disclosure **discloses** 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 **Industry practice is to use a conversion ratio of 6 Mcf of gas to 1 Bbl of oil. If an issuer uses a 6 Mcf to 1Bbl ratio, in order to satisfy paragraph 5.14(1)(d) of NI 51-101, the reporting issuer could provide a cautionary statement to the following effect:**

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 wellhead.

When the value ratio is significantly different from the energy equivalency of 6:1; the disclosure may be misleading without additional information. For example, an actual value ratio of 20:1 at the time the disclosure is made may require a statement to the effect that a conversion using a 6:1 ratio would be misleading as an indication of value.

Results using conversion ratios other than 6:1 may be disclosed, provided an explanation is given. Section 13 of volume 1 of the *COGE Handbook*, under the heading "Barrels of Oil Equivalent", provides additional guidance.

5.8.1 Net Asset Value, Reserve Replacement and Netbacks

Section 5.14 of NI 51-101 is a set of principle-based requirements for the disclosure of oil and gas metrics, which replaces the rule-based disclosure requirements for net asset value, reserves replacements and netbacks. If a reporting issuer discloses net asset value, reserves replacement or netbacks, additional disclosure will be required by paragraphs 5.14(1)(b) and 5.14(2)(a) of NI 51-101. For example, if a reporting issuer discloses

- (a) net asset value or net asset value per share, it would be required to include a description of the methods used to value assets and liabilities and the number of shares used in the calculation,**
- (b) reserves replacement, it would be required to include an explanation of the method of calculation applied, or**

(c) a netback, it would be required to reflect netbacks calculated by subtracting royalties and operating costs from revenues and state the method of calculation.

5.9 Finding and Development costs

Section ~~5.15~~**5.14** of *NI 51-101* sets out requirements that **would** apply if a *reporting issuer* chooses to make disclosure of **discloses** 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. **If a reporting issuer discloses finding and development costs, it must, pursuant to paragraphs 5.14(1)(b) and 5.14(2)(a) of NI 51-101 include the method of calculation, the results of the calculation and 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.**~~

5.9.1 Summation of Resource Categories

An estimate of quantity or an estimate of value constitutes a summation, disclosure of which is prohibited by subsection 5.16(1) of *NI 51-101*, if that estimate reflects a combination of estimates, known or available to the *reporting issuer*, for two or more of the subcategories enumerated in that provision. There may be circumstances in which a disclosed estimate was arrived at in accordance with the *COGE Handbook* without combining, and without the *reporting issuer* knowing or having access to, estimates in two or more of those enumerated categories. Disclosure of such an estimate would not generally be considered to constitute a summation for purposes of that provision.

5.10 Prospectus Disclosure

In addition to the general disclosure requirements in *NI 51-101* which apply to prospectuses, the following commentary provides additional guidance on topics of frequent enquiry.

- (1) **Significant Acquisitions** - To the extent that an issuer engaged in *oil and gas activities* discloses a significant acquisition in its prospectus, it must disclose sufficient information for a reader to determine how the acquisition affected the *reserves data* and other information previously disclosed in the issuer's *Form 51-101F1*. This requirement stems from Part 6 of *NI 51-101* with respect to

material changes. This is in addition to specific prospectus requirements for financial information satisfying significant acquisitions.

- (2) **Disclosure of Resources** - The disclosure of *resources*, excluding *proved* and *probable reserves*, is generally not mandatory under *NI 51-101*, except for certain disclosure concerning the issuer's unproved *properties* and *resource* activities as described in Part 6 of *Form 51-101F1*, which information would be incorporated into the prospectus. Additional disclosure beyond this is voluntary and must comply with ~~sections 5.9, 5.10 and 5.16~~ **Part 5** of *NI 51-101*, as applicable. However, the general securities disclosure obligation of "full, true and plain" disclosure of all *material* facts in a prospectus would require the disclosure of *resources* that are *material* to the issuer, even if the disclosure is not mandated by *NI 51-101*. ~~Any such disclosure should be based on supportable analysis.~~
- (3) **Proved or Probable Undeveloped reserves** - Further to the guidance provided in subsection 5.2(4) of this Companion Policy, *proved* or *probable undeveloped reserves* must be reported in the year in which they are recognized. If the *reporting issuer* does not disclose the *proved* or *probable undeveloped reserves* just because it has not yet spent the capital to develop these *reserves*, it may be omitting *material* information, thereby causing the *reserves* disclosure to be misleading. If the issuer has a prospectus, the prospectus might not contain full, true and plain disclosure of all *material* facts if it does not contain information about these *proved undeveloped reserves*.
- (4) **Reserves Reconciliation in an Initial Public Offering** - In an initial public offering, if the issuer does not have a *reserves* report as at its prior year-end, or if this report does not provide the information required to carry out a *reserves* reconciliation pursuant to item 4.1 of *Form 51-101F1*, the *CSA* may consider granting relief from the requirement to provide the *reserves* reconciliation. A condition of the relief may include a description in the prospectus of relevant changes in any of the categories of the *reserves* reconciliation.
- (5) **Relief to Provide More Recent Form 51-101F1 Information in a Prospectus** - If an issuer is filing a preliminary prospectus and wishes to disclose *reserves data* and other *oil* and *gas* information as at a more recent date than its applicable year-end date, the *CSA* may consider relieving the issuer of the requirement to disclose the *reserves data* and other information as at year-end.

An issuer may determine that its obligation to provide full, true and plain disclosure obliges it to include in its prospectus *reserves data* and other *oil* and *gas* information as at a date more recent than specified in the prospectus requirements. The prospectus requirements state that the information must be as at the issuer's most recent financial year-end in respect of which the prospectus includes financial statements. The prospectus requirements, while certainly not presenting an obstacle to such more current disclosure, would nonetheless require that the corresponding information also be provided as at that financial year-end.

We would consider granting relief on a case-by-case basis to permit an issuer in these circumstances to include in its prospectus the *oil* and *gas* information prepared with an *effective date* more recent than the financial year-end date, without also including the corresponding information effective as at the year-end date. A consideration for granting this relief may include disclosure of *Form 51-101F1* information with an *effective date* that coincides with the date of interim financial statements. The issuer should request such relief in the covering letter accompanying its preliminary prospectus. The grant of the relief would be evidenced by the prospectus receipt.

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 the material change has affected the issuer's *reserves data* and other information contained in its filed disclosure. This would not necessarily require that an *evaluation* be carried out. However, the *reporting issuer* should ensure it complies with the general disclosure requirements set out in Part 5, as applicable. For example, if the material change report discloses an updated *reserves* estimate, this should be prepared in accordance with the *COGE Handbook* and by a *qualified reserves evaluator or auditor*.

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.

Appendix 1
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* do not mandate the format of the disclosure of *reserves data* and related information by *reporting issuers*. However, the CSA encourages *reporting issuers* to use the format presented in this Appendix.

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 1.4, 2.2 and 2.3 and subsections 2.7(8) and 2.7(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*.

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
as of December 31, ~~2006~~2014
~~CONSTANT FORECAST PRICES AND COSTS [OPTIONAL SUPPLEMENTARY DISCLOSURE]~~

RESERVES CATEGORY	RESERVES ⁽¹⁾							
	<u>LIGHT CRUDE OIL AND MEDIUM CRUDE OIL</u>		<u>HEAVY CRUDE OIL</u>		<u>CONVENTIONAL NATURAL GAS⁽²⁾</u>		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) Other product types must be added if material.

(2) ~~Estimates of reserves of natural gas may be reported separately for (i) associated and non-associated gas (combined), (ii) solution gas and (iii) coal bed methane.~~

~~OPTIONAL SUPPLEMENTARY~~

SUMMARY OF NET PRESENT VALUES OF FUTURE NET REVENUE
as of December 31, ~~2006~~2014
~~CONSTANT PRICES AND COSTS [OPTIONAL SUPPLEMENTARY DISCLOSURE]~~
FORECAST PRICES AND COSTS

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

~~OPTIONAL
SUPPLEMENTARY~~

Reference: Item 2.2 of Form 51-101F1

**TOTAL FUTURE NET REVENUE
(UNDISCOUNTED)
as of December 31, 2006
~~CONSTANT PRICES AND COSTS [OPTIONAL SUPPLEMENTARY DISCLOSURE]~~**

RESERVES CATEGORY	REVENUE (M\$)	ROYALTIES (M\$)	OPERATING COSTS (M\$)	DEVELOP MENT COSTS (M\$)	ABANDONM ENT AND RECLAMATI ON 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
SUPPLEMENTARY

Reference: ~~Item 2.2 of Form 51-101F1~~

**FUTURE NET REVENUE
BY PRODUCTION GROUP
as of December 31, 2006
~~CONSTANT PRICES AND COSTS [OPTIONAL SUPPLEMENTARY DISCLOSURE]~~**

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
	Non-Conventional Oil and Gas Activities	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
	Non-Conventional Oil and Gas Activities	xxx

OPTIONAL SUPPLEMENTARY

Reference: Item 2.2 of Form 51-101 F1

SUMMARY OF OIL AND GAS RESERVES
as of December 31, 2006
FORECAST PRICES AND COSTS

RESERVES CATEGORY	RESERVES ⁽¹⁾							
	LIGHT AND MEDIUM OIL		HEAVY OIL		NATURAL GAS ⁽²⁾		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) Other product types must be added if material.

(2) Estimates of reserves of natural gas may be reported separately for (i) associated and non-associated gas (combined), (ii) solution gas and (iii) coal bed methane.

SUMMARY OF NET PRESENT VALUES OF FUTURE NET REVENUE
as of December 31, 2006
FORECAST PRICES AND COSTS

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

- (1) A reporting issuer may wish to satisfy its requirement to disclose these unit values by inserting this disclosure for each category of proved reserves and for probable reserves, by ~~production group~~ product type, in the chart for item 2.1(3)(c) of *Form 51-101F1* (see sample chart below entitled Future Net Revenue by ~~Production Group~~ Product Type).
- (2) The unit values are based on net reserve volumes.

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

**TOTAL FUTURE NET REVENUE
(UNDISCOUNTED)
as of December 31, ~~2006~~2014
FORECAST PRICES AND COSTS**

RESERVES CATEGORY	REVENUE (M\$)	ROYALTIES (M\$)	OPERATING COSTS (M\$)	DEVELOPMENT COSTS (M\$)	ABANDONMENT AND RECLAMATION COSTS (M\$)	<u>RECLAMATION</u> <u>COSTS</u> (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	<u>xxx</u>	xxx	xxx	xxx
Proved Plus Probable Reserves	xxx	xxx	xxx	xxx	xxx	<u>xxx</u>	xxx	xxx	xxx

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

**FUTURE NET REVENUE
BY PRODUCTION GROUP PRODUCT TYPE
as of December 31, ~~2006~~2014
FORECAST PRICES AND COSTS**

RESERVES CATEGORY	PRODUCTION GROUP <u>PRODUCT TYPE</u>	FUTURE NET REVENUE BEFORE INCOME TAXES (discounted at 10%/year) (M\$)	UNIT VALUE (\$/Mcf) (\$/bbl)
Proved Reserves	Light <u>Crude Oil</u> and Medium Crude Oil (including solution gas and other by-products)	xxx	xxx
	Heavy <u>Crude</u> Oil (including solution gas and other by-products)	xxx	xxx
	<u>Bitumen</u>	<u>xxx</u>	
	<u>Natural Gas Liquids</u>	<u>xxx</u>	
	<u>Synthetic Crude Oil</u>	<u>xxx</u>	
	<u>Conventional</u> Natural Gas (including by-products but excluding solution gas and by-products from oil wells)	xxx	xxx
	Non-Conventional Oil and <u>Coal Bed Methane</u>	<u>xxx</u>	
	Gas Activities Hydrates	<u>xxx</u>	
	<u>Shale Gas</u>	<u>xxx</u>	
<u>Synthetic Gas</u>	xxx	xxx	
Total	xxx		
Proved Plus Probable Reserves	Light <u>Crude Oil</u> and Medium Crude Oil (including solution gas and other by-products)	xxx	xxx
	Heavy <u>Crude</u> Oil (including solution gas and other by-products)	xxx	xxx
	<u>Bitumen</u>	xxx	xxx
	<u>Natural Gas Liquids</u>		
	<u>Synthetic Crude Oil</u>		
	<u>Conventional</u> Natural Gas (including by-products but excluding solution gas from oil wells)		

Non-Conventional Oil and Gas Activities <u>Coal Bed Methane</u>	xxx	
Hydrates		
<u>Shale Gas</u>		xxx
<u>Synthetic Gas</u>		
Total	xxx	

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

SUMMARY OF OIL AND GAS CONTINGENT AND PROSPECTIVE RESOURCES⁽¹⁾
as of December 31, 2014
FORECAST PRICES AND COSTS

<u>RESOURCES CATEGORY</u>	<u>CONTINGENT AND PROSPECTIVE RESOURCES⁽²⁾</u>							
	<u>LIGHT CRUDE OIL AND MEDIUM CRUDE OIL</u>		<u>HEAVY CRUDE OIL</u>		<u>CONVENTIONAL NATURAL GAS</u>		<u>NATURAL GAS LIQUIDS</u>	
	<u>Gross (Mbbbl)</u>	<u>Net (Mbbbl)</u>	<u>Gross (Mbbbl)</u>	<u>Net (Mbbbl)</u>	<u>Gross (MMcf)</u>	<u>Net (MMcf)</u>	<u>Gross (Mbbbl)</u>	<u>Net (Mbbbl)</u>
<u>CONTINGENT</u>								
<u>1C</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>2C</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>3C</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>PROSPECTIVE</u>								
<u>Low estimate</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>Best estimate</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>High estimate</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>

(1) This disclosure is triggered by optional disclosure of contingent or prospective resources in the statement prepared in accordance with item 1 of section 2.1 of NI 51-101

(2) Other product types must be added if material.

(3) The disclosure in this table must comply with section 5.9 of NI 51-101

Reference: Item 2.1(4)(a) of Form 51-101F1

SUMMARY OF NET PRESENT VALUES OF FUTURE NET REVENUE⁽¹⁾
(CONTINGENT AND PROSPECTIVE RESOURCES)
as of December 31, 2014
FORECAST PRICES AND COSTS

<u>RESOURCES CATEGORY</u>	<u>NET PRESENT VALUES OF FUTURE NET REVENUE</u>									
	<u>BEFORE INCOME TAXES DISCOUNTED AT (%/year)</u>					<u>AFTER INCOME TAXES DISCOUNTED AT (%/year)</u>				
	<u>0 (MM\$)</u>	<u>5 (MM\$)</u>	<u>10 (MM\$)</u>	<u>15 (MM\$)</u>	<u>20 (MM\$)</u>	<u>0 (MM\$)</u>	<u>5 (MM\$)</u>	<u>10 (MM\$)</u>	<u>15 (MM\$)</u>	<u>20 (MM\$)</u>
<u>CONTINGENT</u>										
<u>1C</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>	<u>XX</u>
<u>2C</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>	<u>XX</u>
<u>3C</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>	<u>XX</u>
<u>PROSPECTIVE</u>										
<u>Low Estimate</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>	<u>XX</u>
<u>Best Estimate</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>	<u>XX</u>
<u>High Estimate</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>	<u>XX</u>

**OPTIONAL
SUPPLEMENTARY**

(1) This disclosure is triggered by optional disclosure of contingent or prospective resources in the statement prepared in accordance with item 1 of section 2.1 of NI 51-101

(2) The disclosure in this table must comply with section 5.9 of NI 51-101

Reference: Item 2.1(4)(b) of Form 51-101F1

SUMMARY OF PRICING ASSUMPTIONS
as of December 31, ~~2006~~2014

CONSTANT PRICES AND COSTS⁽¹⁾

Year	OIL ⁽²⁾				NATURAL GAS ⁽²⁾	NATURAL GAS LIQUIDS	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)	AECO Gas Price (\$Cdn/MMBtu)	FOB Field Gate (\$Cdn/bbl)	
Historical (Year End)							
2003 11	xx	xx	xx	xx	xx	xx	xx
2004 12	xx	xx	xx	xx	xx	xx	xx
2005 13	xx	xx	xx	xx	xx	xx	xx
2006 14 (Year End)	xx	xx	xx	xx	xx	xx	xx

 OPTIONAL SUPPLEMENTARY

- (1) This disclosure is triggered by optional supplementary disclosure of item 2.2 of *Form 51-101F1*.
- (2) This summary table identifies benchmark reference pricing schedules that might apply to a reporting issuer.
- (3) The exchange rate used to generate the benchmark reference prices in this table.

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

SUMMARY OF PRICING AND INFLATION RATE ASSUMPTIONS
as of December 31, ~~2006~~2014
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⁾								
2003 <u>11</u>	xx	xx	xx	xx	xx	xx	xx	xx
2004 <u>12</u>	xx	xx	xx	xx	xx	xx	xx	xx
2005 <u>13</u>	xx	xx	xx	xx	xx	xx	xx	xx
2006 <u>14</u>	xx	xx	xx	xx	xx	xx	xx	xx
Forecast								
2007 <u>15</u>	xx	xx	xx	xx	xx	xx	xx	xx
2008 <u>16</u>	xx	xx	xx	xx	xx	xx	xx	xx
2009 <u>17</u>	xx	xx	xx	xx	xx	xx	xx	xx
2010 <u>18</u>	xx	xx	xx	xx	xx	xx	xx	xx
2011 <u>19</u>	xx	xx	xx	xx	xx	xx	xx	xx
Thereafter	xx	xx	xx	xx	xx	xx	xx	xx

(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 (~~2006~~14, in this example).

 OPTIONAL SUPPLEMENTARY

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

**RECONCILIATION OF
COMPANY GROSS RESERVES
BY PRODUCT TYPE⁽¹⁾**

FORECAST PRICES AND COSTS

FACTORS	LIGHT <u>CRUDE OIL</u> AND MEDIUM <u>CRUDE OIL</u>			HEAVY <u>CRUDE OIL</u>			ASSOCIATED AND NON- ASSOCIATED <u>CONVENTIONAL</u> <u>NATURAL GAS</u>		
	Gross Proved (Mbbl)	Gross Probable (Mbbl)	Gross Proved Plus Probable (Mbbl)	Gross Proved (Mbbl)	Gross Probable (Mbbl)	Gross Proved Plus Probable (Mbbl)	Gross Proved (MMcf)	Gross Probable (MMcf)	Gross Proved Plus Probable (MMcf)
December 31, 2005 ¹³	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
Extensions & Improved Recovery 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, 2006 ¹⁴	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx

(1) The reserves reconciliation must include other product types, including bitumen, natural gas liquids, synthetic crude oil, ~~bitumen~~, coal bed methane, gas hydrates, shale oil gas and shale synthetic gas, if material for the reporting issuer.

Reference: Item 4.1 of *Form 51-101F1*

