

Oil and Gas Review

**2012/2013
Report**

Alberta
Securities
Commission

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1. Introduction

1.1 General

The Alberta Securities Commission (ASC) is pleased to provide market participants with its ninth annual oil and gas review report containing staff's observations on public disclosures under National Instrument 51-101 *Standards of Disclosure for Oil and Gas Activities* (NI 51-101) by reporting issuers (RIs) with oil and gas activities. This report is primarily based on disclosure filed by RIs during Reporting Cycle 9¹; however, the narrative of this report incorporates staff's observations on disclosure filed by RIs after Reporting Cycle 9. Our goal in sharing this information is to provide feedback to RIs for use in preparing their future disclosure of oil and gas information.

Securities regulation requires issuers to provide balanced, authentic, relevant and reliable disclosure to assist investors in making informed investment decisions. Within this framework, NI 51-101 sets out specific disclosure requirements applicable to RIs with oil and gas activities, and, in particular, requires annual disclosure under:

- Form 51-101F1 *Statement of Reserves Data and Other Oil and Gas Information*;
- Form 51-101F2 *Report on Reserves Data by Independent Qualified Reserves Evaluator or Auditor*;
- Form 51-101F3 *Report of Management and Directors on Oil and Gas Disclosure*; and
- Form 51-101F4 *Notice of Filing of 51-101F1 Information*.²

RIs with oil and gas activities represent a significant component of the Canadian capital markets. At December 31, 2012, there were approximately 550 RIs in Canada engaged in oil and gas activities under NI 51-101. RIs with oil and gas activities represent approximately 11.5 per cent of the total number of issuers listed on the Toronto Stock Exchange (TSX) and TSX Venture Exchange (TSXV) and approximately 18 per cent of the aggregate market capitalization of those listed issuers.

RIs with oil and gas activities play an even more significant role in the Alberta capital market. The ASC is the principal regulator for approximately 339 RIs with oil and gas activities. Further, issuers with oil and gas activities based in Alberta represent approximately 43 per cent of the total number and 60 per cent of the aggregate market capitalization of Alberta-based RIs listed on the TSX and TSXV.³

Given the importance of oil and gas issuers to the capital markets, the ASC maintains a team of specialized oil and gas professional staff to review RIs' disclosure of oil and gas activities. The reviews include the annual forms required under NI 51-101, referred to above, as well as reserves and resource reports, news releases and corporate presentations. The ASC holds annual information sessions and webcasts related to NI 51-101 and continues to seek other opportunities to communicate with RIs.

¹ Years ending between December 31, 2011 and November 30, 2012

² Form 51-101F4 is only applicable to RIs who publish their annual NI 51-101 information inside their annual information form

³ The Alberta Capital Market: A Comparative Overview – 2013 Report – Alberta Securities Commission May 2013

1.2 10 Years of NI 51-101

NI 51-101 was implemented on September 30, 2003. Over the past 10 years, the ASC with its Canadian Securities Administrators (CSA) colleagues have had many opportunities to respond to industry changes in order to protect investors and foster efficiency in the capital markets. A discussion of some of these opportunities is set out chronologically below.

2005 Bitumen Pricing

In 2004 the world oil price was significantly higher than in 2003, especially for the fourth quarter. This was due to supply uncertainties in Middle Eastern countries such as Iraq and Saudi Arabia; North African countries including Nigeria; and the Gulf of Mexico which was impacted by hurricanes. OPEC increased the production of heavy oil substantially due to higher prices and in order to stabilize supplies. This had the effect of widening the differentials between West Texas Intermediate (WTI) and the heavy blends in the U.S. Gulf Coast and Western Canada.

At the end of 2004, RIs were required by NI 51-101 to provide annual disclosure of proved reserves estimated using constant prices, which was a cause of concern for bitumen producers owing to the absence of a published price for bitumen.

CSA Staff Notice 51-315 *Guidance Regarding the Determination of Constant Prices for Bitumen Reserves under National Instrument 51-101 Standards of Disclosure for Oil and Gas Activities*, issued on January 20, 2005, provided guidance on determining the constant price for bitumen. This avoided an unnecessary write down of bitumen reserves.

2007 Amendments to NI 51-101

On December 28, 2007, amendments to NI 51-101 were implemented that introduced substantive changes to NI 51-101. Among these additions to NI 51-101 were requirements to:

- disclose cautionary language when possible reserves are publicly disclosed;
- calculate net present value (NPV) on a unit value basis;
- provide a reserves reconciliation using gross reserves;
- classify reserves and resources in the most specific category; and
- provide additional information about disclosed resources that cannot be currently classified as reserves.

Among the requirements eliminated from NI 51-101, were the requirements to:

- provide reserves data estimated using constant prices and costs; and
- provide a future net revenue reconciliation.

2009 Securities Exchange Commission of the United States of America (SEC) Modernisation of Oil and Gas Disclosure Rules

The SEC oil and gas disclosure rules in use during 2007 were established from 1978 through 1982. During subsequent years the technology employed by the oil and gas industry changed and improved substantially; the pricing of the commodities was more market oriented including spot

sales and production of non-conventional resources including bitumen, which was not classified as oil and gas activity by the SEC. In December 2007, the SEC issued a "Concept Release" that asked for public comments on if and what specific changes should be made to oil and gas disclosure rules. After reviewing all comments, the SEC released final rules on December 31, 2008, which were effective for all disclosure on or after January 1, 2010.

The new rules incorporated reserves definitions based on the Society of Petroleum Engineer's Petroleum Resources Management System along with the following additional changes:

- allowed for the optional disclosure of probable and possible reserves;
- provided a definition of "resources" despite these being prohibited from disclosure in filings with the SEC;
- required the use of annual average prices based on the unweighted arithmetic average of first day of every month prices in the filer's fiscal year, rather than single day year-end prices. The SEC also allowed companies to run pricing sensitivities;
- required the use of reliable technology for booking proved reserves, including proved reserves further afield than one spacing unit;
- permitted the inclusion of non-conventional resources such as bitumen from oil sands and synthetic oil from oil shales and coal, as oil and gas resources;
- provided a definition of reasonable certainty as "much more likely than not to be achieved" for proved reserves; and
- required "reasonable certainty" of economic production criterion for proved undeveloped reserves instead of "certainty" as in previous rules.

The 2009 changes brought the SEC's oil and gas disclosure regime closer to NI 51-101.

2009 CSA Notice 51-327

CSA Staff Notice 51-327 *Oil and Gas Disclosure: Resources Other Than Reserves Data* (CSA Notice 51-327) was first introduced in February 27, 2009 (First Notice) in response to the significant increase in the disclosure of possible reserves and other resource classes, especially for non-conventional resources. The First Notice supplemented the Canadian Oil and Gas Evaluation Handbook (COGEH) and provided guidance on recurring issues that CSA Staff found in its review of RIs' disclosure of resources other than reserves data. The First Notice provided guidance in respect of:

- disclosure of stand-alone possible reserves;
- disclosure of high and low case category estimates;
- adding together resources of different classes;
- partially risked prospective resources;
- use of the term 'best estimate';
- technology under development for contingent resources;
- classification to the most specific class and category of resource; and
- criteria for classification of non-conventional hydrocarbons as discovered petroleum-initially-in-place.

2010 Amendments to NI 51-101 and CSA Notice 51-327

On December 30, 2010, amendments were implemented that introduced substantive changes to NI 51-101. Among these changes to NI 51-101 were:

- a requirement to describe the significant factors and uncertainties related to development from properties with no attributed reserves;
- an amended definition of 'oil and gas activities' to allow for the broadest possible application;
- a prohibition against addition across resource categories;
- required disclosure of the low and best estimate when the high estimate of reserves or resources was disclosed;
- the removal of accounting references such as CICA, FAS 19 and other related items; and
- the replacement of the news release requirement with a notice requirement if the annual oil and gas filing was included in the RI's AIF.

On December 30, 2010, CSA Staff Notice 51-327 was also revised (the Second Notice) as a result of the 2010 Amendments to NI 51-101. The Second Notice reflected the incorporation into NI 51-101 of a prohibition against adding different resource classes and requirements relating to the disclosure of high estimates.

2011 Revision to CSA Notice 51-327

On December 29, 2011, CSA Notice 51-327 (the Third Notice) was further revised to discuss observations by CSA Staff after reviewing disclosure in light of recent amendments to NI 51-101 and to re-emphasize or expand guidance on some issues discussed in previous versions of CSA Notice 51-327. In addition, new guidance was offered for various other disclosure topics. The Third Notice provided guidance in respect of:

- the general responsibilities of oil and gas RIs and the experts on whom they rely in formulating disclosure of oil and gas information;
- disclosure of after-tax NPVs of future net revenue, use of boes, and disclosure of well-flow test results;
- evaluation, classification and disclosure of non-conventional hydrocarbons, including revised guidance on disclosure of contingent resources;
- classification to the most specific class and category of resource; and
- items carried forward from the original version of this Notice with little or no change, such as stand-alone possible reserves, aggregation of resource estimates for several properties, use of the term "best estimate", and guidance on prospective resources.

2013 ASC Staff Notice 51-702

On May 29, 2013, the ASC issued ASC Staff Notice 51-702 *Establishing Reserves Estimates in Oil and Gas Accumulations* (ASC Notice 51-702). In ASC Notice 51-702, the ASC expressed its view that COGEH only permits the assignment of reserves where there is both established technology and demonstrated commercial viability. The ASC also expressed its view that optimising a recovery process and characterising a reservoir using an experimental scheme does not meet the requirement for established technology.

1.3 Executive Summary of Observations and Findings

In most cases, the disclosure of oil and gas activities has been compliant. However, there continue to be areas for improvement. This year the ASC noted recurring deficiencies in the following areas:

- **Contingent and prospective resources** - We continue to have concerns about the way a number of RIs disclose contingent and prospective resources. The number of companies that disclose resources other than reserves has grown significantly over the past 10 years. We expect to continue to focus on disclosure of resources that cannot yet be classified as reserves.
- **Undeveloped reserves** - We have observed ongoing confusion over what constitutes "first attributed" and boilerplate disclosure of development plans.
- **Disclosure of non-mandatory metrics** - We have observed the ongoing use of measures of volume, performance and equivalency that, without further explanation or additional context have the potential to be misleading and, even with explanation, tend to give a false sense of comparability.
- **Unit values** - We have observed the ongoing omission of disclosure and confusion over the preparation of unit values.
- **Reserves reconciliation** - We have observed recurring errors including the disclosure of negative volumes in categories that can only be positive.
- **Consistency of data** - We have observed the ongoing disclosure of values and volumes that should be comparable but are not comparable.
- **Inappropriate disclosure of significant factors and uncertainties** - We have observed boilerplate disclosure of the specific factors and uncertainties for the successful development of properties with and without attributed reserves.

2. Deficiencies in Disclosure and Other Observations

2.1 General

We continue to see increased disclosure of non-conventional resources and resources other than reserves. For the purpose of our discussion, we have grouped the disclosure we have reviewed into the following reporting cycles:

Reporting Cycle	Year Ends Starting	Year Ends Ending
1	December 31, 2003	November 30, 2004
2	December 31, 2004	November 30, 2005
3	December 31, 2005	November 30, 2006
4	December 31, 2006	November 30, 2007
5	December 31, 2007	November 30, 2008
6	December 31, 2008	November 30, 2009
7	December 31, 2009	November 30, 2010
8	December 31, 2010	November 30, 2011
9	December 31, 2011	November 30, 2012

Observations on disclosure with year ends after November 30, 2012 are also included in the narrative of this report. In Reporting Cycle 1, conventional oil and gas activities as referenced in paragraph 1.1(v) of NI 51-101 made up 73.7 per cent of the proved plus probable (2P) reserves of RIs reviewed by the ASC. In Reporting Cycle 9, conventional oil and gas activities made up 38.9 per cent of the proved plus probable reserves of RIs reviewed by the ASC.

Figure 1 Reporting Cycle 1 Gross 2P Reserves at BOE 6:1

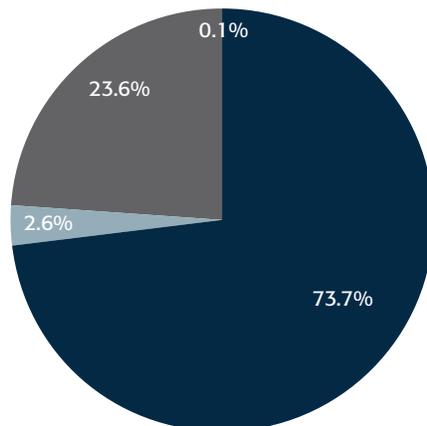
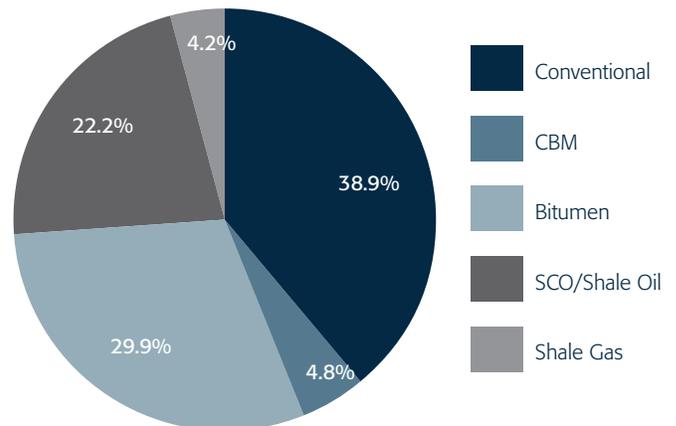


Figure 2 Reporting Cycle 9 Gross 2P Reserves at BOE 6:1



Detailed technical guidance on the evaluation and classification of resources other than reserves, including non-conventional resources, is being developed by the Calgary Chapter of the Society of Petroleum Evaluation Engineers (SPEE Calgary), the authors of COGEH. In the interim, we refer RIs to CSA Staff Notice 51-327 *Guidance on Oil and Gas Disclosure* for guidance related to the classification of resources other than reserves. We also remind issuers of the broader securities law requirement prohibiting misleading information, which includes a failure to state a fact that is required to be stated or that is necessary to make the statement not misleading.

Over the last two years, we have actively implemented a program that allows for the monitoring of deficiencies in the annual oil and gas disclosure prepared by RIs. Among other benefits, we have been able to better identify recurring issues that generally arise in respect of this disclosure. For example, we have seen a recurrent failure to provide compliant disclosure of significant factors and uncertainties related to properties to which reserves have not yet been attributed in the annual disclosure prepared in accordance with Form 51-101F1.

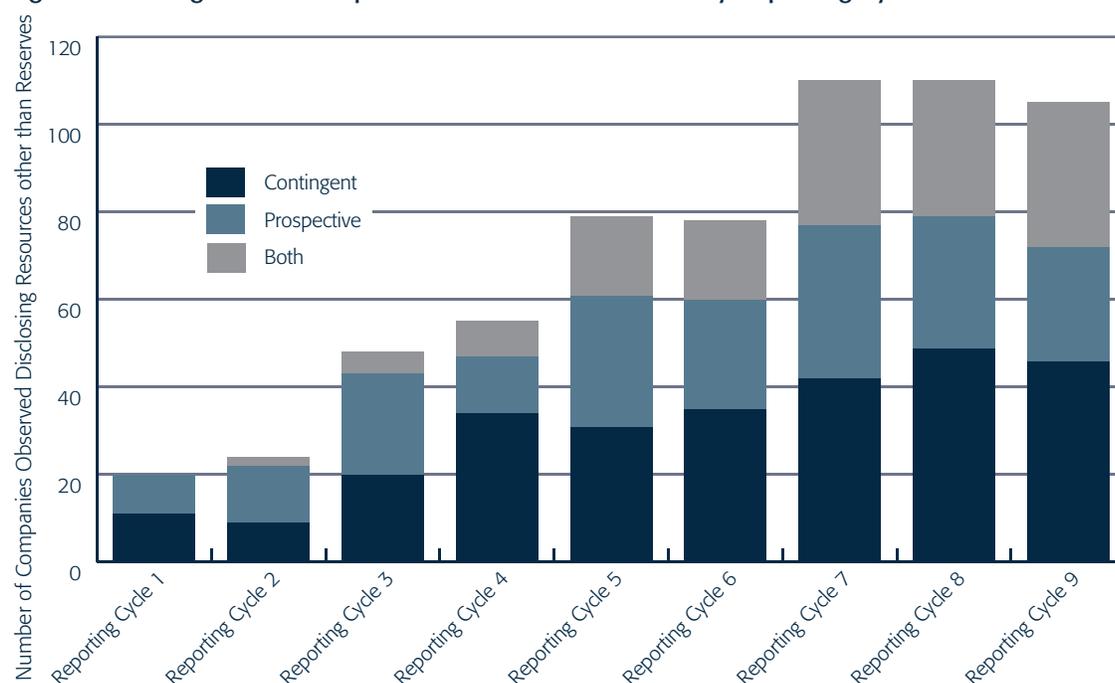
We have observed deficiencies ranging from errors that appear to be clerical to omissions or deficiencies that may have resulted in misleading disclosure. These are discussed below. RIs who are uncertain whether they have compliant NI 51-101 filings are encouraged to seek appropriate professional advice in the preparation of the annual NI 51-101 forms. The comments regarding deficiencies made in our 2011 Oil and Gas Review Report continue to be applicable and we refer readers to them.

2.2 Contingent and Prospective Resources

Disclosure of contingent or prospective resources is not mandatory, but it has become increasingly common. If such disclosure is made, it must comply with NI 51-101.

In 2003, the first year disclosure of oil and gas information under NI 51-101 was required, approximately six per cent of RIs made some disclosure of contingent or prospective resources. In Reporting Cycle 9, that number has grown to approximately 26 per cent of RIs. There has also been a growth in the geographical diversity of these projects having gone from being largely located in Canada to more than 40 countries. Along with the geographic expansion, there has been a greater diversity in the types of accumulations, extraction technologies and resources being proposed to be exploited.

Figure 3 Contingent and Prospective Resources Disclosure by Reporting Cycle



As a result, this is an area of focus for ASC staff. Our most recent review indicates that not all disclosure being made by RIs is compliant with section 5.9 of NI 51-101. Some of the deficiencies include:

- It is not always clear whether RIs disclosing their interest in a resource are disclosing lease gross, gross, company interest or net volumes and whether they are risked or un-risked. This information must be disclosed for disclosure to not be misleading.
- In some cases, the required discussion of significant positive and negative factors affecting an estimate of quantity of resources is missing or insufficiently disclosed.
- Some RIs have disclosed non-standard product types such as "oil sands", "condensates" or "gas". The product types currently prescribed in section 1.1 (v) of NI 51-101 should be used for these disclosures.
- It is not always clear what project is being evaluated or how it is intended to progress.
- In some cases, the discussion of risks and uncertainties is missing or inadequate. For example, the discussion contains boilerplate language rather than being tailored to the RI's circumstances.
- Contingencies and the steps required to remove them are often poorly described.

We also noted that some RIs disclosed contingent or prospective resources one year but not the next, without explanation. If there is a material change, the RI should consider the impact on the previously disclosed resource estimate and its material change disclosure obligations.⁴ The ASC requires disclosure to be fair, complete and balanced, including both positive and negative information.

⁴ See, for example, Part 7 of NI 51-102 and Part 6 of NI 51-101

2.3 Contingent Resources – Disclosure of Contingencies

Subparagraph 5.9(2)(d)(iv) of NI 51-101 requires RIs to disclose the “specific” contingencies that prevent the classification of the resource as reserves when publicly disclosing contingent resources. Contingencies are those factors that preclude the known accumulation of oil and/or natural gas to be categorized as reserves using established technology. COGEH Volume 1 section 5.2, indicates that contingencies “may include factors such as economic, legal, environmental, political, regulatory matters, or a lack of market.”

The ASC has reviewed public disclosures of contingent resources where the contingencies were general, vague and boilerplate. Despite the general nature of the types of contingencies set out in COGEH, the disclosure requirement is for RIs to disclose the “specific contingencies”.

Drilling and well testing are prerequisites to classification as a discovered resource. However, a specific contingency in this scenario could be the obligation to conduct further delineation drilling for the purpose of obtaining the regulatory approval required for a reserves assignment. The best practice for disclosure is for RIs to provide full, accurate and specific contingencies that directly relate to the particular set of circumstances of the property or project being discussed. These specific contingencies could, for example, include the following:

- need for further facility design;
- preparation of firm development plans;
- timing of regulatory applications and approvals;
- corporate approval for the authorization for expenditure;
- pipeline construction and/or expansion; and
- submission of environmental impact assessment reports.

Disclosure of some specific contingencies is illustrated in the following example of a fictional company.⁵

The contingencies that currently prevent the classification of the contingent resources as reserves are: the current recovery technology is technology under development; there has not been a final investment decision by COMPANY; and pre-development studies are ongoing.

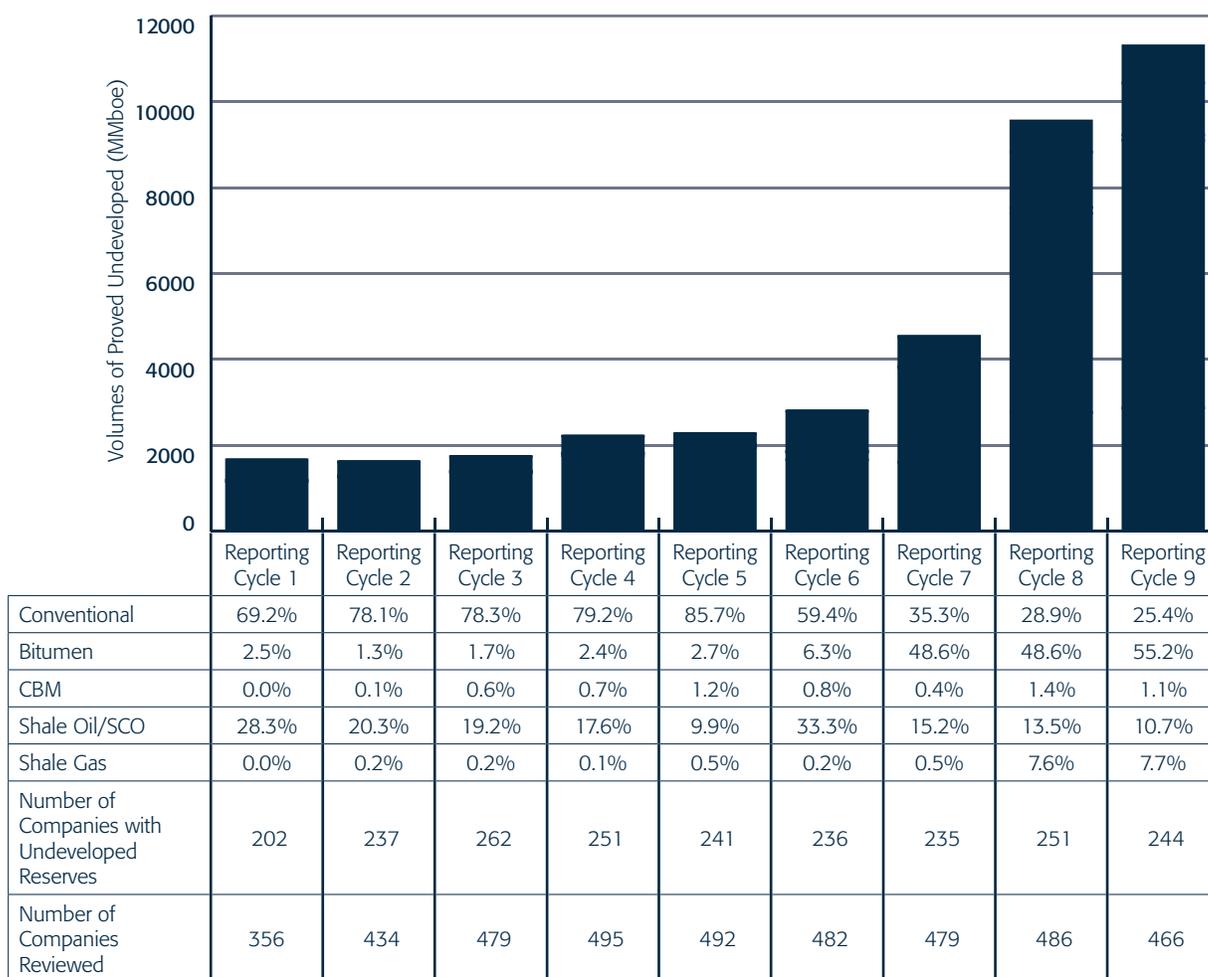
CSA Staff Notice 51-327, dated December 29, 2011, contains additional information on the disclosure of contingent resources and is available on the ASC website.

2.4 Undeveloped Reserves

Reported proved undeveloped volumes have increased significantly over the past few years. Figure 4 on the next page provides a volume and percentage distribution per reporting cycle for conventional oil and gas activities and non-conventional oil and gas activities as referenced in paragraph 1.1(v) of NI 51-101. Bitumen has shown the most growth. From Reporting Cycle 6 to Reporting Cycle 7, reported bitumen proved undeveloped reserves increased significantly in part due to previously-exempt RIs reporting under NI 51-101, as well as two major initial public offerings that occurred during that time period.

⁵ This example is provided for sample purposes only and is not intended to be used as a template for disclosure.

Figure 4 Proved Undeveloped Reserves



Item 5.1 of Form 51-101F1 requires RIs to disclose, for each of the three most recent financial years, proved and probable undeveloped reserves when they are first attributed. We frequently receive questions as to the meaning of “first attributed”. First attributed refers to the initial booking of an undeveloped volume of oil or gas, whatever the source (acquisitions, extensions, etc.).

We continue to see varying methods of identifying first attributed volumes. As was discussed in the 2011 report, first attributed refers to the initial booking of an undeveloped volume of oil or gas, whatever the source (acquisitions, extensions, etc.). First attributed volumes are not a reconciliation of movements into, or out of, the undeveloped reserves category, nor are they the difference between the current year’s booked volume and the previous year’s booked volume. They would in most cases not be equal to the booked volume.

The first attributed volume for the current year should be incorporated, but not separately identified, within proved and proved plus probable booked volumes. For the purpose of disclosure made pursuant to item 5.1 of Form 51-101F1, first attributed volumes are static; they do not change over time.

RIs are reminded that the purpose of this disclosure is to allow an investor to assess the efforts made by the RI to convert undeveloped reserves to developed reserves. A discussion of plans to develop

undeveloped reserves or an explanation as to why they are not being developed is also required. RIs should avoid the use of boilerplate language in this discussion.

2.5 Disclosure of Non-Mandatory Metrics

The ASC has observed the ongoing use of measures of volume, performance and equivalency that without further explanation or additional context have the potential to be misleading and, even with explanation, tend to give a false sense of comparability. These measures include exit rates, reserves life indexes, production replacement, reserves replacement ratios, barrel of oil equivalency and finding and development costs. Despite the current requirements in Part 5 of NI 51-101 relating to specific metrics, such as finding and development costs, there continues to be a lack of comparability and clear understanding of the metric.

The ASC reminds RIs of the general obligation under securities law to not disclose misleading information, which would include a metric that has not been adequately described. If an RI discloses such a measure, an RI should disclose the meaning of the metric and the method of calculating the metric.

2.6 Unit Values

Despite the disclosure requirements of items 2.1.2 and 2.1.3(c) of Form 51-101F1, a recurring deficiency is for RIs to omit the disclosure of unit values of reserves category or production groups from their annual oil and gas filings. We have seen RIs use gross reserves volumes, instead of net reserves volumes, in the calculation of unit values. The majority of RIs uses net reserves for unit value disclosure. For comparability purposes, RIs should use net reserves volumes for this calculation.

2.7 Reserves Reconciliation – General

A key disclosure in an RI's annual oil and gas disclosure is the reserves reconciliation required by item 4 of Form 51-101F1. Some of our observations are as follows:

2.7.1 Reserves Reconciliation - Opening Balance

Deficiencies include the opening balance of the reserves reconciliation not corresponding with the previous year's closing balance or the closing balance of the reserves reconciliation not corresponding with the current booked volumes. Where a reporting issuer is in the first year of oil and gas activities, the opening balance would be zero.

Item 4 requires the disclosure of gross volumes of reserves. RIs with significant royalty interests, in order to provide adequate disclosure, may in addition to the gross reserves reconciliation also disclose a reconciliation on a net reserves basis (see subsection 2.7(6) of Companion Policy 51-101CP).

2.7.2 Extensions and Improved Recovery – Negative Volumes

We continue to see RIs reconciling within certain categories in the reserve reconciliation table that results in negative volumes for categories that should be positive. For example, in the extensions and improved recovery category, once a volume has been assigned in the prior year, any changes to that volume should be identified as either a technical revision or an economic factor. Figure 5 illustrates whether particular reserves change categories can be positive, negative or both.

2.8 Consistency of Data

The information disclosed in the annual oil and gas filings should be consistent. For example, the before tax NPV of proved plus probable reserves discounted at 10 per cent disclosed in the Form 51-101F2 must agree with the corresponding value disclosed pursuant to item 2.1.2 of Form 51-101F1. Production history should align with the volumes identified in the reserve reconciliation.

2.9 Commonly Omitted Information

2.9.1 Weighted Average Historical Prices

RIs often omit the disclosure of the weighted average historical prices required under item 3.2 of Form 51-101F1. There are two areas of historical reference to prices received for products produced. Under item 3.2 of Form 51-101F1, the RI is required to disclose the price deck used by the independent qualified reserve evaluator (or auditor), as well as the weighted average historical prices for products produced and sold.

2.9.2 Significant Factors and Uncertainties (properties with no attributed reserves)

The requirement to discuss significant factors and uncertainties related to properties with no attributed reserves was introduced in the amendments to NI 51-101 effective December 30, 2010. Item 6.2.1 of Form 51-101F1 relates to properties with no attributed reserves and requires a discussion of, for example, unusually high or unexpected development costs or operating costs, or the need to build a major pipeline or other facility before production can begin. The discussion of these risks should be specific to the RI and proportionate to their significance. Disclosure of significant factors and uncertainties is illustrated in the following example in respect of properties with no attributed reserves.⁶

-
1. **Current recovery technology is only experimental technology and is at a pilot test stage.**
 2. **The pilot is being used to define the final recovery technology and is uneconomic to operate.**
 3. **The final investment decision has not been made.**
-

2.9.3 Net Wells to Abandon

Item 6.4(b) of Form 51-101F1 requires the disclosure of the number of net wells to be abandoned for which an RI anticipates having abandonment and reclamation costs. The net wells to be abandoned includes all wells, including those identified pursuant to item 6.1.2 of Form 51-101F1 as current producers or non-producers.

⁶ This example is provided for sample purposes only and is not intended to be used as a template for disclosure

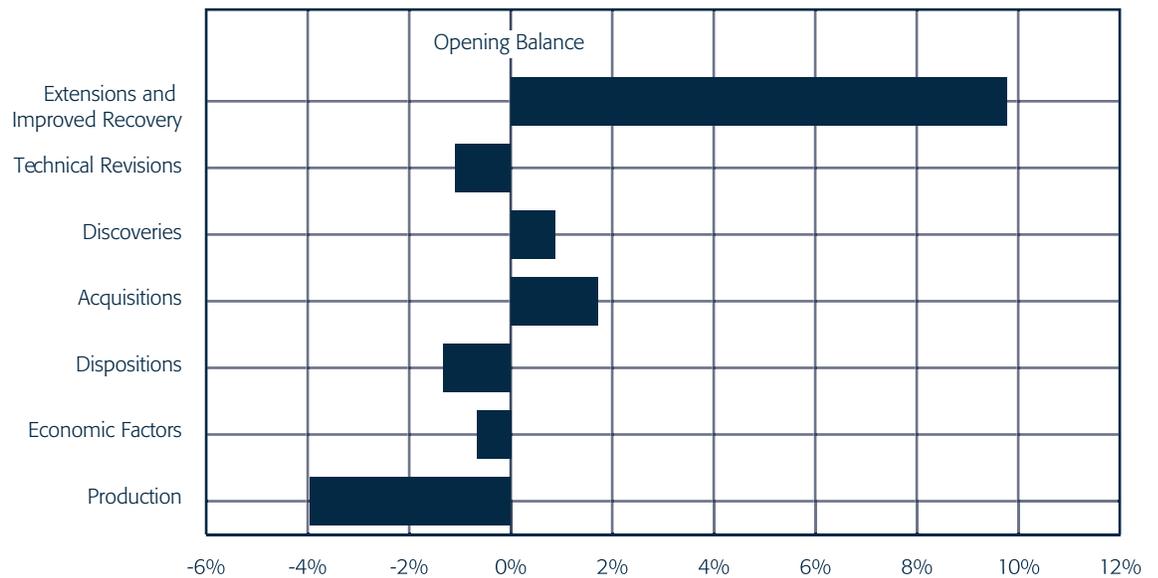
3. Reserves Reconciliation Analyses

3.1 Average Reserves Reconciliation Changes of Alberta-based RIs

As is discussed in item 2.7 of this report, the reserves reconciliation is one of the key features of an RI's annual disclosure of its oil and gas activities and is required by item 4 of the Form 51-101F1. The reserves reconciliation provides information to investors on the reasons for increases and decreases in the RI's reserves data from one year to the next.

The ASC has a database of the information included in reserves reconciliations by RIs. On average, Alberta-based RIs have reported a 6.4 per cent increase in proved plus probable reserves from their opening reserves reconciliation balance to their closing reserves reconciliation balance. The primary category contributing to the increase in reserves is extensions and improved recovery. Figure 6 represents the average percentage change from opening balance in each of the reserves change categories.

Figure 6 Average Per Cent Change from Opening Balance of Alberta-based RIs



3.2 Results of Analysis

The updated results of the analysis of proved and of proved plus probable reserves for light and medium crude oil, heavy oil and natural gas are shown in Table 1 below and shown graphically in Figures 7 and 8. This table and the figures show total technical revisions as a percentage of the total reserves for the number of RIs indicated.

Table 1 and Figures 7 and 8 represent data for all of the RIs in the ASC database.

Table 1 Technical Revisions by Product Type 2003 – 2012

2003-2012		Light & Medium Oil	Heavy Oil	Natural Gas
No. of Companies	Reporting Cycle 1	166	51	206
	Reporting Cycle 2	203	65	232
	Reporting Cycle 3	232	79	251
	Reporting Cycle 4	241	78	275
	Reporting Cycle 5	237	71	285
	Reporting Cycle 6	210	68	261
	Reporting Cycle 7	228	74	239
	Reporting Cycle 8	208	88	215
	Reporting Cycle 9	225	97	236
Proved %	Reporting Cycle 1	1.3	(19.8)	(3.6)
	Reporting Cycle 2	(3.2)	4.8	5.4
	Reporting Cycle 3	1.5	1.0	2.1
	Reporting Cycle 4	(3.2)	7.0	(2.7)
	Reporting Cycle 5	9.0	5.7	2.9
	Reporting Cycle 6	1.1	13.0	(0.4)
	Reporting Cycle 7	4.3	6.7	(0.9)
	Reporting Cycle 8	7.3	3.9	2.8
	Reporting Cycle 9	3.4	11.5	0.9
Proved + Probable %	Reporting Cycle 1	2.2	(17.9)	(2.7)
	Reporting Cycle 2	(3.7)	(0.2)	3.6
	Reporting Cycle 3	0.7	(2.4)	0.6
	Reporting Cycle 4	(3.1)	4.3	(3.8)
	Reporting Cycle 5	(1.7)	5.3	(4.6)
	Reporting Cycle 6	(1.8)	(3.2)	(4.6)
	Reporting Cycle 7	4.0	3.4	(1.4)
	Reporting Cycle 8	4.5	(4.6)	(0.1)
	Reporting Cycle 9	(0.9)	4.5	(4.5)

Figure 7 Proved Reserves Technical Revisions 2003 – 2012

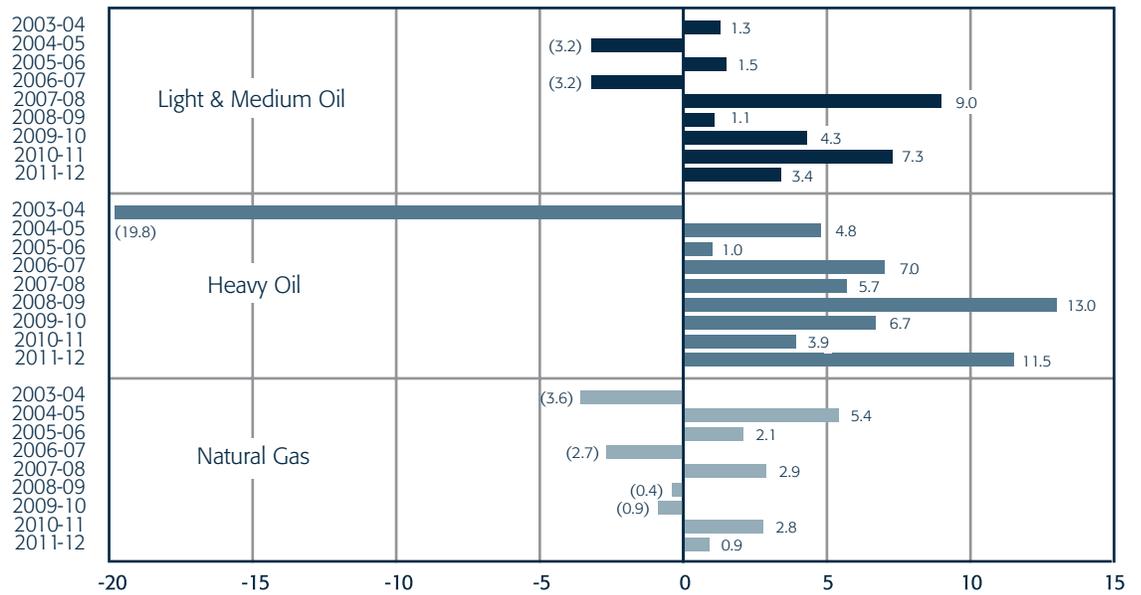
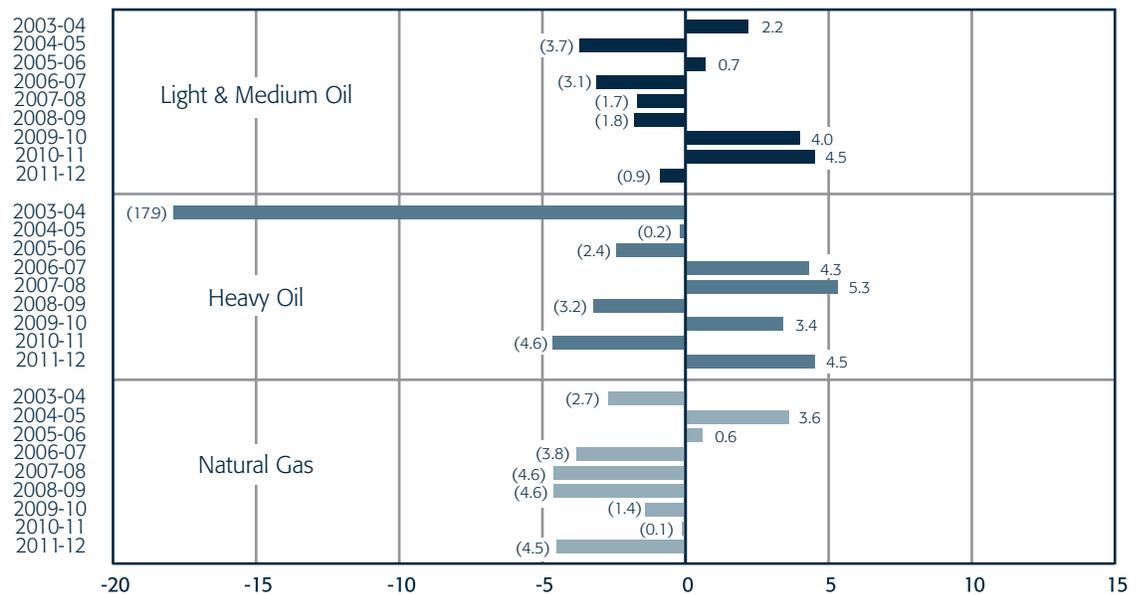


Figure 8 Proved Plus Probable Reserves Technical Revisions 2003 – 2012



3.3 Conclusions on Quality of Reserves Estimates

The addition of another year of data in respect of technical revisions supports the preliminary conclusions we had previously drawn. The variance for light and medium crude oil is within expected certainty levels. It is likely that the variance for heavy oil and natural gas reflects the fact that RIs may have included price fluctuations in technical revisions.

This analysis indicates that conventional reserves estimates are generally of a high quality and provide an investor with a reasonable assessment of oil and gas assets for the industry. However, this conclusion does not necessarily apply to individual RIs that have a variance greater than usual expectations.

At this time, we do not have enough data to carry out a similar analysis for other product types, in particular, non-conventional reserves.

4. Disclosure Guidance and Potential Amendments

4.1 Potential Amendments to NI 51-101

The CSA is contemplating proposed amendments to NI 51-101 (Proposed Amendments). The Proposed Amendments constitute an important evolutionary shift in NI 51-101. The Proposed Amendments will promote better disclosure of resources other than reserves and associated metrics, while at the same time providing increased flexibility for oil and gas RIs that report in a variety of different locations worldwide, recover different oil and gas product types and operate under different regulatory regimes.

Further details on the Proposed Amendments can be found on the ASC website.

5. Technical Guidance and International Policy Developments

5.1 Technical Guidance

NI 51-101 refers to COGEH as the technical standard to be followed when preparing information for disclosure. COGEH has been used for this purpose since NI 51-101 was implemented in 2003. Although some updates and additions have been made, given the significant changes in the industry, there may be need for further changes.

COGEH is maintained by the SPEE Calgary Chapter. Current activity on COGEH includes:

- guidelines on the evaluation of bitumen resources are in the final stages of preparation for publication and distribution; and
- the COGEH Resources Guidance Sub-Committee of SPEE has recently drafted the COGEH Guidelines for the Estimation and Classification of Resources other than Reserves (the Resource Guidelines). The Resources Guidelines are expected to be published in 2014.

The SPEE Reserves Definition Committee Chair presented a recommendation regarding the proposed Petroleum Resources Management System (PRMS) and COGEH merger project to the Society of Petroleum Engineers (SPE) Oil and Gas Reserves Committee (OGRC) at the SPE Annual Technical Conference and Exhibition on October 9, 2012. The full merger study document and a recommendation to incorporate the merger in a plan for the next PRMS update were delivered. The OGRC has developed terms of reference for a PRMS update project.

5.2 IFRS 11

On January 1, 2013, IFRS 11 *Joint Arrangements* came into effect. The introduction of IFRS 11 has the potential to impact the presentation of reserves in the statement of reserves data prepared in accordance with Form 51-101F1. Items 2.3 and 2.4 of Form 51-101F1 require that the reserves attributable to a subsidiary of the RI be presented in accordance with the accounting treatment applicable to that entity. For example, if an entity is a consolidated subsidiary, 100 per cent of the reserves would be disclosed within the RI's reserves disclosure. However, if an entity was accounted for by the equity method of accounting, the proportionate percentage of reserves held by that entity would have to be disclosed separately from the RI's reserves.

Certain RIs, including those who operate pursuant to a production sharing agreement held in a subsidiary entity, may under IFRS 11 be required to classify the arrangement as an equity interest, which could require a separate presentation of the subsidiary entity's reserves in the statement of reserves data.

5.3 Foreign Jurisdictions

United Nations Framework Classification (UNFC)

The United Nations has developed a framework for classification of solid fuels and mineral resources, including coal, petroleum and uranium. An Expert Group on Resource Classification (EGRC) Specifications Task Force sub-committee was set up to examine the requirements for fundamental specifications that are needed at the level of the UNFC, such as an effective evaluation date or identifying a product custody transfer or sales point. The EGRC and its sub-committees provide a

useful forum for discussion with a wide variety of users on fundamental concepts of classification of oil and gas resources and help promote an international level of consistency for oil and gas evaluation and classification.

The fourth session of the EGRC was held in Geneva, 23-26 April 2013. At this session the specifications for application of UNFC-2009 were endorsed by the EGRC, which is an important milestone for the EGRC and the development of the UNFC. The specifications will now be submitted to the Committee on Sustainable Energy (the EGRC's parent body) and the UNECE Executive Committee for approval.

However, we do not anticipate that we will be able to directly rely on the EGRC recommendations as a basis for securities regulation.

South African Oil and Gas Committee

In March 2013, ASC staff met with the representatives of the South African Oil and Gas Committee (SAMOG) to discuss the possible implementation of a disclosure regime based on NI 51-101. Communication between the ASC and SAMOG on this issue is expected to continue over the next year.

ASC as securities regulation advisor to Israel

The discovery of Israel's largest deepwater natural gas field in 10 years has sparked a new relationship between the ASC and the Israel Securities Authority (ISA). The discovery sent representatives of the ISA to the ASC with the objective of gaining insight for developing and standardizing their disclosure regime.

ASC hosts Chinese delegation

In May 2013, the ASC hosted a delegation of nine visitors from the China Securities Regulatory Commission (CSRC) and the Shanghai Futures Exchange. The visit was an important opportunity to showcase Alberta and Canadian securities law and regulation. ASC presented and highlighted the regulation of futures markets in Alberta and across the country as well as Canada's national coordination of derivatives regulation. China is expected to launch crude futures contract trading on the Shanghai Futures Exchange by the end of 2013.

6. Petroleum Advisory Committee

One of the ways that the ASC maintains contact with and solicits feedback from market participants is through the ASC's Petroleum Advisory Committee (PAC). The members are drawn from industry and the mandate of the PAC is to:

- review and provide advice and opinions on issues, trends and current developments relating to oil and gas reserves and resource evaluations;
- provide comment on current and proposed Alberta securities laws and regulatory policies in this area; and
- provide advice to ASC staff on an informal basis.

Members of PAC serve a three-year term and meet formally four times a year. Issues discussed in 2012 include:

- the disclosure of first attributed proved and probable undeveloped reserves;
- reserves reconciliations;
- review and comment on proposed amendments to NI 51-101;
- SPEE (Calgary chapter) Evaluation Guidance on Resources and Bitumen;
- the proposed merger of PRMS/COGEH;
- the Maple Group acquisition of the TMX;
- the disclosure of a large number of drilling locations without discussing the anticipated or actual impact of the drilled locations;
- abandonment and reclamation costs for major properties;
- the effect of major product price changes; and
- the assignment of reserves to pilot projects.

The PAC is a valuable source of advice on oil and gas issues and members will continue to meet on a regular basis. We thank the PAC members for their time and contribution. We also thank former PAC members, who retired in early 2012 following completion of their three year terms, for their contributions.

7. Contact Information

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