

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

TERMINOLOGY AND STANDARDS

Many of the terms used in National Instrument 51-101 *Standards of Disclosure for Oil and Gas Activities* ("NI 51-101") are defined in section 1.3 of NI 51-101 as having the meanings ascribed to them in the *SPEE Handbook* or in the *FASB Standard*. Other terms used in NI 51-101 are defined in National Instrument 14-101 *Definitions* ("NI 14-101").

This Appendix consolidates many of the terms used in NI 51-101 and sets out, or explains the substance of, their meanings, as at the effective date of NI 51-101.

This Appendix is provided as a convenience to users of NI 51-101, to assist them in better understanding its purpose and application. This Appendix is not definitive, and it will not reflect changes from time to time made to the source documents. In applying NI 51-101, those source documents should be consulted.

Organization of the Appendix

Part 1 of this Appendix sets out, in alphabetical order, certain terms used in NI 51-101 and their meanings. Source documents, where not apparent from the meaning given, are identified in square brackets within each definition.

Part 2 explains certain of the terminology relating to *reserves* and categories of *reserves*.

This Appendix refers to a number of other source documents, certain of which are reproduced in the Schedules to this Appendix or can be obtained as follows:

- *CICA Accounting Guideline 5* is included in the Handbook of the *CICA*.
- The *FASB Standard*, as at [October 15, 2001], is set out in Schedule 1 to this Appendix. The texts of the compilation from which the FASB Standard is extracted, and the statements from which that compilation is derived, can be obtained from the *FASB*.
- Schedule 2 to this Appendix, *Tar Sands Mining Disclosure*, sets out certain standards for disclosure concerning tar sands (oil sands) mining, derived from *SEC Industry Guide 7 "Description of Property by Issuers Engaged or to be Engaged in Significant Mining Operations"*, as at [October 15, 2001].
- The *SPEE Handbook* can be obtained from the *SPEE*.

- *NI 14-101* can be viewed on the websites of a number of securities regulatory authorities.

PART 1. DEFINITIONS

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

Defined Term	Meaning
<i>Annual information form</i>	<p>Any of the following:</p> <ul style="list-style-type: none"> · a "current AIF", as defined in <i>NI 44-101</i> · in the case of a <i>reporting issuer</i> that is eligible to file, for the purposes of Part 3 of <i>NI 44-101</i>, a current annual report on Form 10-K or Form 20-F under the United States Securities and Exchange Act of 1934, such a current annual report so filed · a document prepared in the form of Form 44-101F1 <i>AIF</i> and filed with the <i>securities regulatory authority</i> in the <i>jurisdiction</i> in accordance with <i>securities legislation</i> of the <i>jurisdiction</i> other than <i>NI 44-101</i>. <p>[<i>NI 51-101</i>]</p>
<i>Audit</i>	<p>In relation to <i>reserves data</i>, the process whereby an <i>independent qualified evaluator</i> carries out procedures designed to allow the <i>independent qualified evaluator</i> to provide reasonable assurance, in the form of an opinion, that the <i>reporting issuer's reserves data</i> (or specific parts thereof) have, in all material respects, been determined and presented in accordance with <i>SPEE standards</i> and are, therefore, free of material misstatement.</p> <p>Because of</p> <ul style="list-style-type: none"> (i) the nature of the subject matter (estimates of future results with many uncertainties); (ii) the fact that the <i>independent qualified evaluator</i> assesses the qualifications and experience of the <i>reporting issuer's</i> staff, assesses the <i>reporting issuer's</i> systems, procedures and controls and relies on the competence of the <i>reporting issuer's</i> staff and the appropriateness of the <i>reporting issuer's</i> systems, procedures and controls; and

- (iii) the fact that tests and samples (involving examination of underlying documentation supporting the determination of the *reserves* and *future net revenue*) as opposed to complete *evaluations*, are involved;

the level of assurance is designed to be high, though not absolute.

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

[The *SPEE Handbook*]

<i>Bitumen</i>	<i>Oil</i> with a density of less than 10 degrees API (as that term is defined by the American Petroleum Institute).
<i>BOEs</i>	Barrels of <i>oil</i> equivalent. [NI 51-101 and the <i>SPEE Handbook</i>]
<i>Canadian GAAP</i>	Generally accepted accounting principles determined with reference to the Handbook of the <i>CICA</i> . [NI 14-101]
<i>Constant prices and costs</i>	The prices and costs referred to in the definition of "proved oil and gas reserves" in the Glossary in the <i>FASB Standard</i> (currently in subparagraph .405a.).
<i>CICA</i>	The Canadian Institute of Chartered Accountants. [NI 51-101]
<i>CICA Accounting Guideline 5</i>	Accounting Guideline AcG-5 "Full cost accounting in the oil and gas industry" included in the Handbook of the <i>CICA</i> , as from time to time amended. [NI 51-101]
<i>Crude oil</i>	A mixture that consists mainly of pentanes and heavier hydrocarbons, that may contain sulphur compounds and that is recoverable at a well from an underground <i>reservoir</i> and that is liquid at the conditions under which its volume is measured or estimated, and includes all other liquid hydrocarbons so recoverable except natural gas liquids. [The <i>SPEE Handbook</i>]
<i>Developed reserves</i>	See Part 2 of this Appendix. [The <i>SPEE Handbook</i>]

<i>Developed non-producing reserves</i>	See Part 2 of this Appendix. [The <i>SPEE Handbook</i>]
<i>Developed producing reserves</i>	See Part 2 of this Appendix. [The <i>SPEE Handbook</i>]
<i>Development costs</i>	The "development costs" referred to in the <i>FASB Standard</i> (currently in paragraph .112).
<i>Development well</i>	"Development well" as defined in the Glossary in the <i>FASB Standard</i> (currently in paragraph .401).
<i>Effective date</i>	In respect of information, the date as at which, or for the period ending on which, the information is prepared or provided.
<i>Exploration costs</i>	The "exploration costs" referred to in the <i>FASB Standard</i> (currently in paragraphs .107 and .108).
<i>Exploratory well</i>	"Exploratory well" as defined the Glossary in the <i>FASB Standard</i> (currently in paragraph .402).
<i>Evaluation</i>	In relation to <i>reserves data</i> or related information, the process whereby an economic analysis is made of a <i>property</i> to arrive at an estimate of a value based on the estimated <i>future net revenue</i> resulting from the production of the <i>reserves</i> associated with the <i>property</i> . [The <i>SPEE Handbook</i>]
<i>Evaluator</i>	In relation to <i>reserves data</i> or related information, the individual who performs an <i>evaluation, audit or review</i> . [The <i>SPEE Handbook</i>]
<i>FAS 19</i>	<i>FASB</i> Statement of Financial Accounting Standards No. 19 "Financial Accounting and Reporting by Oil and Gas Producing Companies", as amended from time to time. [<i>NI 51-101</i>]
<i>FAS 69</i>	<i>FASB</i> Statement of Financial Accounting Standards No. 69 "Disclosures about Oil and Gas Producing Activities -- an amendment of <i>FASB</i> Statements 19, 25, 33, and 39", as amended from time to time. [<i>NI 51-101</i>] <i>FAS 69</i> is reflected in the <i>FASB Standard</i> .

<i>FASB</i>	The United States Financial Accounting Standards Board. [<i>NI 51-101</i>]
<i>FASB Standard</i>	Certain <i>FASB</i> standards and terminology relevant to disclosure concerning <i>oil and gas producing activities</i> . The standards and terminology are set out in paragraphs .103, .106, .107, .108, .112, .160 through .167, .174 through .184 and .401 through .408 of the "Financial Accounting Standards Board Current Text Section OI5, Oil and Gas Producing Activities", as from time to time amended by the <i>FASB</i> . [<i>NI 51-101</i>] The <i>FASB Standard</i> , as at [October 15, 2001], is reproduced in Schedule 1 to this Appendix.
<i>Field</i>	"Field" as defined in the Glossary in the <i>FASB Standard</i> (currently in paragraph .403).
<i>Forecast prices and costs</i>	Future prices and costs that are: <ul style="list-style-type: none"> (i) generally accepted as being reasonable, or (ii) if, and only to the extent that, there are fixed or presently determinable future prices or costs to which the <i>reporting issuer</i> is legally bound by contract or otherwise, including those for an extension period of a contract that is likely to be extended, those prices or costs rather than the prices and costs referred to in clause (i). <p>[The <i>SPEE Handbook</i>]</p>
<i>Form 51-101F1</i>	Form 51-101F1 <i>Statement of Reserves Data and Other Oil and Gas Information</i> .
<i>Form 51-101F2</i>	Form 51-101F2 <i>Report on Reserves Data by Independent Qualified Evaluator</i> .
<i>Form 51-101F3</i>	Form 51-101F3 <i>Report of Management on Oil and Gas Disclosure</i> .
<i>Future income tax expenses</i>	"Future income tax expenses" computed in accordance with clause c. of paragraph .180 of the <i>FASB Standard</i> on a year-by-year basis. [The <i>SPEE Handbook</i> and the <i>FASB Standard</i>]
<i>Future net revenue</i>	The estimated net amount to be received with respect to the

development and production of *reserves* and estimated quantities of *synthetic oil* using forecast prices and costs.

This net amount is computed by deducting, from estimated future revenues, estimated amounts of future royalties, costs related to the development and production of *reserves*, abandonment and reclamation costs and *future income tax expenses*. Corporate general and administrative expenses and financing costs are not deducted.

This definition of *future net revenue* differs from "Future Net Revenue" as defined in *CICA Accounting Guideline 5*, which is based on *proved reserves* estimated using *constant prices and costs*, deducting general and administrative expenses and financing costs and applying no discount.

[The *SPEE Handbook*]

Gas (or *natural gas*) The lighter hydrocarbons and associated non-hydrocarbon substances occurring naturally in an underground *reservoir*, which under atmospheric conditions are essentially gases but which may contain liquids. [The *SPEE Handbook*]

Gross (a) In relation to a *reporting issuer's* interest in production or *reserves*, the *reporting issuer's* interest before deduction of royalties.

(b) In relation to a *reporting issuer's* interest in a well or a *property*, the *reporting issuer's* interest before deduction of interests of others.

[The *SPEE Handbook*]

Heavy oil *Oil* with a density of 10 to 20 degrees API (as that term is defined by the American Petroleum Institute). [The *SPEE Handbook*]

Independent In respect of the relationship between a *qualified evaluator* and a *reporting issuer*, "independent" in accordance with *SPEE standards*. [NI 51-101 and the *SPEE Handbook*]

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

Jurisdiction For the purposes of NI 51-101, a province or territory of Canada. [NI 14-101]

Lease An agreement granting to the lessee rights to explore, develop and exploit a *property*. [The *SPEE Handbook*]

Marketable oil or gas	The volume of <i>oil</i> or <i>gas</i> measured at the point of sale to a third party, or transfer to another division of the <i>reporting issuer</i> for treatment prior to sale to a third party. For <i>gas</i> , this may occur either before or after removal of <i>natural gas</i> liquids. For <i>heavy oil</i> or <i>bitumen</i> , this is before the addition of diluent. [The <i>SPEE Handbook</i>]
Material	For the purposes of <i>NI 51-101</i> , information is <i>material</i> , in respect of a <i>reporting issuer</i> , if it would be likely to influence a decision by a reasonable investor to buy, hold or sell a security of the <i>reporting issuer</i> . This meaning differs from the definitions of "material change" and "material fact" in securities legislation, but is consistent with the meaning of the term as used, for accounting purposes, in the Handbook of the <i>CICA</i> . [<i>NI 51-101</i>]
Mcf	Thousand cubic feet of gas equivalent. [<i>NI 51-101</i> and the <i>SPEE Handbook</i>]
Natural gas	<i>Gas</i> . [The <i>SPEE Handbook</i>]
Net	(a) In relation to a <i>reporting issuer's</i> interest in production or reserves, the <i>reporting issuer's</i> interest after deduction of royalties. (b) In relation to a <i>reporting issuer's</i> interest in a well or a <i>property</i> , the <i>reporting issuer's</i> interest after deduction of interests of others. [The <i>SPEE Handbook</i>]
NI 14-101	National Instrument 14-101 <i>Definitions</i> .
NI 44-101	National Instrument 44-101 <i>Short Form Prospectus Distributions</i> .
NI 51-101 (or <i>Instrument</i>)	National Instrument 51-101 <i>Standards of Disclosure for Oil and Gas Activities</i> .
Oil	<i>Crude oil</i> or <i>synthetic oil</i> . [The <i>SPEE Handbook</i>]
Oil and gas activities	"Oil and gas producing activities" as defined in the Glossary in the <i>FASB Standard</i> (currently in paragraph .403C).

<i>Possible reserves</i>	See Part 2 of this Appendix.
<i>Preparation date</i>	In respect of written disclosure, the most recent date of information considered in the preparation of the disclosure.
<i>Probable reserves</i>	See Part 2 of this Appendix.
<i>Product type</i>	<p>One of four types of hydrocarbon product:</p> <ul style="list-style-type: none"> · light and medium <i>crude oil</i> including <i>natural gas</i> liquids (combined); · <i>heavy oil</i>; · <i>synthetic oil</i>; or · <i>natural gas</i>. <p>[<i>NI 51-101</i> and the <i>SPEE Handbook</i>]</p>
<i>Property</i>	The "mineral interests in properties" or "properties" referred to in the <i>FASB Standard</i> (currently in paragraph .103).
<i>Prospect</i>	A geographic or stratigraphic area in which the <i>reporting issuer</i> owns or intends to own one or more <i>oil</i> and <i>gas</i> interests, which is geographically defined on the basis of geological data and which is reasonably anticipated to contain at least one <i>reservoir</i> or part of a <i>reservoir</i> of <i>oil</i> and <i>gas</i> . [The <i>SPEE Handbook</i>]
<i>Proved oil and gas reserve quantities</i>	The "proved oil and gas reserve quantities", "proved oil and gas reserves" and "proved reserves" referred to in the <i>FASB Standard</i> (currently in paragraphs .180 and .405). [<i>NI 51-101</i>]
<i>Proved reserves</i>	See Part 2 of this Appendix.
<i>Qualified evaluator</i>	<p>An individual <i>evaluator</i> who:</p> <ol style="list-style-type: none"> (a) in respect of estimates of particular <i>reserves data</i> or related information, possesses professional qualifications and experience appropriate for the estimation, <i>evaluation</i>, <i>review</i> or <i>audit</i> of the <i>reserves data</i> and related information, and (b) is a member in good standing of a self-regulatory organization of engineers, geologists, other geoscientists or other professionals whose profession is relevant for the applicable purpose under clause (a) that:

- (i) admits members primarily on the basis of their educational qualifications;
- (ii) obliges its members to comply with standards of competence and ethics established by the organization;
- (iii) has disciplinary powers, including the power to suspend or expel a member; and
- (iv) is either:
 - (A) given authority or recognition by statute in a Canadian jurisdiction; or
 - (B) accepted for this purpose by the *securities regulatory authority* or the *regulator*.

[NI 51-101]

<i>Regulator</i>	As defined in NI 14-101, which identifies the <i>securities regulatory authority</i> or a person who holds a specified position with the <i>securities regulatory authority</i> (in several instances, its Executive Director or Director) in each <i>jurisdiction</i> .
<i>Reporting issuer</i>	<ul style="list-style-type: none"> (a) A "reporting issuer" as defined in <i>securities legislation</i>; or (b) In a <i>jurisdiction</i> in which the term is not defined in <i>securities legislation</i>, an issuer of securities that is required to file financial statements with the <i>securities regulatory authority</i>.
<i>Reservation</i>	In relation to a report on <i>reserves data</i> , a modification of the <i>independent qualified evaluator's</i> standard report on <i>reserves data</i> set out in Form 41-501F2, caused by a departure from <i>SPEE standards</i> or by a limitation in the scope of work that the <i>independent qualified evaluator</i> considers necessary. A modification may take the form of a qualified or adverse opinion or a denial of opinion. [The <i>SPEE Handbook</i>]
<i>Reserves</i>	See section 2.1 of this Appendix.
<i>Reserves data</i>	<i>Reserves data</i> have four components, each of which is a total estimate for the <i>reporting issuer</i> (by country and for all countries):

- (i) *proved reserves* and *probable reserves*, each of which is a quantity estimated as at the last day of the *reporting issuer's* most recent financial year, using *forecast prices and costs*;
- (ii) *proved oil and gas reserve quantities*, estimated as at the last day of the *reporting issuer's* most recent financial year, using *constant prices and costs* as at the last day of that financial year;
- (iii) *future net revenue* attributable to *proved reserves* and *probable reserves*, estimated as at the last day of the *reporting issuer's* most recent financial year, using *forecast prices and costs*; and
- (iv) the *standardized measure*, estimated as at the last day of the *reporting issuer's* most recent financial year, using *constant prices and costs* as at the last day of that financial year.
[NI 51-101]

<i>Reservoir</i>	"Reservoir" as defined in the <i>FASB Standard</i> (currently in paragraph .406).
<i>Resources</i>	Those quantities of <i>oil</i> and <i>gas</i> which are estimated, on a given date, to be potentially recoverable from known accumulations and undiscovered accumulations and which are not <i>reserves</i> . [The <i>SPEE Handbook</i>]
<i>Review</i>	In relation to the role of an <i>independent qualified evaluator</i> in respect of <i>reserves data</i> , steps carried out by the <i>independent qualified evaluator</i> , consisting primarily of enquiry, analytical procedures and discussion related to a <i>reporting issuer's reserves data</i> , with the limited objective of assessing whether the <i>reserves data</i> are "plausible" in the sense of appearing to be worthy of belief based on the information obtained by the <i>independent qualified evaluator</i> as a result of carrying out such steps. Examination of documentation is not required unless the information does not appear to be plausible. [The <i>SPEE Handbook</i>]
<i>SEC</i>	The Securities and Exchange Commission of the United States of America. [The <i>SPEE Handbook</i>]
<i>Securities legislation</i>	The statute (in most cases entitled the <i>Securities Act</i>) and subordinate legislation (in most cases including regulations or rules) specified, for each <i>jurisdiction</i> , in NI 14-101.

References in *NI 51-101* to *securities legislation* are to be read as references to *securities legislation* in the particular *jurisdiction*.

<i>Securities regulatory authority</i>	The securities commission or comparable body specified, for each <i>jurisdiction</i> , in <i>NI 14-101</i> .
	References in <i>NI 51-101</i> to the <i>securities regulatory authority</i> are to be read as references to the <i>securities regulatory authority</i> in the particular <i>jurisdiction</i> .
<i>SEDAR</i>	The System for Electronic Document Analysis and Retrieval referred to in National Instrument 13-101 <i>SEDAR</i> .
<i>Service well</i>	"Service well" as defined in paragraph .407 of the Glossary in the <i>FASB Standard</i> .
<i>SPEE</i>	The Canadian committee of The Society of Petroleum Evaluation Engineers, responsible for developing the <i>SPEE Handbook</i> . [<i>NI 51-101</i>]
<i>SPEE Handbook</i>	The "Canadian Oil and Gas Evaluator's Handbook" issued by the <i>SPEE</i> , as at [-----, 2002]. [<i>NI 51-101</i>]
<i>SPEE standards</i>	The standards, procedures and terminology specified in the <i>SPEE Handbook</i> , to be followed by <i>oil</i> and <i>gas reserves evaluators</i> and others in estimating, <i>auditing</i> , <i>reviewing</i> and reporting on estimates of <i>oil</i> and <i>gas reserves</i> , <i>future net revenue</i> and the <i>standardized measure</i> . [<i>NI 51-101</i>]
<i>Standardized measure</i>	The "standardized measure of discounted future net cash flows relating to proved oil and gas reserve quantities" referred to in paragraph .180 of the <i>FASB Standard</i> . [<i>NI 51-101</i>]
<i>Supporting filing</i>	A document that has been filed by the <i>reporting issuer</i> with the <i>securities regulatory authority</i> , provided that events subsequent to its filing have not rendered the information contained in the document inaccurate or misleading. [<i>NI 51-101</i>]
<i>Synthetic oil</i>	<i>Bitumen</i> and <i>oil</i> extracted from shale, tar sands (oil sands) or coal, and then upgraded. [The <i>SPEE Handbook</i>]
<i>Undeveloped</i>	See Part 2 of this Appendix. [The <i>SPEE Handbook</i>]

*reserves***PART 2. RESERVES TERMINOLOGY AND CLASSIFICATIONS**

This Part is derived from the *SPEE Handbook*.

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

- (a) analysis of drilling, geological, geophysical and engineering data;
- (b) the use of known technology; and
- (c) specified economic conditions, being:
 - (i) *constant prices and costs*, as at the last day of a *reporting issuer's* financial year, used to estimate *proved oil and gas reserve quantities*; and
 - (ii) *forecast prices and costs*, used to estimate *reserves* other than *proved oil and gas reserve quantities*.

2.2 Primary Classifications of Reserves -

- (1) *Proved reserves* are reserves that can be estimated with a high degree of certainty to be recoverable. It is likely that the actual volume recovered will exceed the *proved reserves* estimate.
- (2) *Probable reserves* are reserves additional to *proved reserves* that are less certain to be recovered than *proved reserves*. It is equally likely that the actual volume recovered will be greater or less than the sum of the *proved plus probable reserves* estimate.
- (3) *Possible reserves* are reserves additional to *proved plus probable reserves* that are less certain to be recovered than *probable reserves*. It is unlikely that the actual volume recovered will exceed the *proved plus probable plus possible reserves* estimate.

2.3 Development and Production Status - Each of the primary *reserves* classifications, *proved*, *probable* and *possible*, may be divided into *developed* and *undeveloped* categories:

- (a) *Developed reserves* are those *reserves* that are expected to be recovered from existing wells and installed facilities or, if facilities have not been installed that would involve a low expenditure (when compared to the cost of drilling a well) to

put the *reserves* on production.

The *developed reserves* category may be subdivided into producing and non-producing:

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

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

2.4 Levels of Certainty - Reported total *reserves* estimated by deterministic or probabilistic methods, whether comprised of a single reserves entity or an aggregate estimate for multiple entities, should target the following levels of certainty under a specific set of economic conditions:

- (a) There is a 90% probability that at least the estimated *proved reserves* will be recovered.
- (b) There is a 50% probability that at least the sum of the estimated *proved reserves* plus *probable reserves* will be recovered.
- (c) There is a 10% probability that at least the sum of the estimated *proved reserves* plus *probable reserves* plus *possible reserves* will be recovered.

A quantitative measure of the probability associated with a *reserves* estimate is generated only when a probabilistic estimate is conducted. The majority of *reserves* estimates will be performed using deterministic methods that do not provide a quantitative measure of

probability. Whether deterministic or probabilistic methods are used, *evaluators* are expressing their professional judgement as to what are reasonable estimates.

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

FASB Standard

Paragraphs .103, .106, .107, .108, .112, .160 through .167, .174 through .184 and .401 through .408 of the "Financial Accounting Standards Board Current Text Section Oi5, Oil and Gas Producing Activities", as at [October 15, 2001], are set out below, with the permission of the United States Financial Accounting Foundation. These paragraphs comprise the "*FASB Standard*".

Footnotes and references in square brackets are from the original document, except that the footnotes have been renumbered in this Schedule to follow consecutively from "1". References in square brackets are to *FASB* statements from which the *FASB Standard* is derived.

Certain of the paragraphs below contain references to other paragraphs that are not reproduced here. Those other paragraphs, not reproduced here, are derived from *FAS 19* and deal with accounting matters rather than disclosure standards.

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Scope

- .103 An enterprise's oil and gas producing activities involve certain special types of assets. Costs of those assets shall be capitalized when incurred. Those types of assets broadly defined are:
- a. *Mineral interests in properties* (hereinafter referred to as properties), that include fee ownership or a lease, concession, or other interest representing the right to extract oil or gas subject to such terms as may be imposed by the conveyance of that interest. Properties also include royalty interests, production payments payable in oil or gas, and other nonoperating interests in properties operated by others. Properties include those agreements with foreign governments or authorities under which an enterprise participates in the operation of the related properties or otherwise serves as producer of the underlying reserves (refer to paragraph .163); but properties do not include other supply agreements or contracts that represent the right to purchase (as opposed to extract) oil and gas. Properties shall be classified as proved or unproved as follows:
 - (1) Unproved properties—properties with no **proved reserves**.
 - (2) Proved properties—properties with proved reserves.
 - b. Wells and related equipment and facilities,¹ the costs of which include those incurred to:
 - (1) Drill and equip those **exploratory wells** and **exploratory-type stratigraphic test wells** that have found proved reserves.
 - (2) Obtain access to proved reserves and provide facilities for extracting, treating, gathering, and storing the oil and gas, including the drilling and equipping of **development wells** and **development-type stratigraphic test wells** (whether those wells are successful or unsuccessful) and **service wells**.
 - c. Support equipment and facilities used in oil and gas producing activities (such as seismic equipment, drilling equipment, construction and grading equipment, vehicles, repair shops, warehouses, supply points, camps, and division, district, or field offices).
 - d. Uncompleted wells, equipment, and facilities, the costs of which include those incurred to:
 - (1) Drill and equip wells that are not yet completed.

¹ Often referred to in the oil and gas industry as *lease and well equipment* even though, technically, the property may have been acquired other than by a lease. [FAS19, ¶11, fn1]

- (2) Acquire or construct equipment and facilities that are not yet completed and installed.

[FAS19, ¶11]

Accounting at the Time Costs Are Incurred

Acquisition of Properties

- .106 Costs incurred to purchase, lease, or otherwise acquire a property (whether unproved or proved) shall be capitalized when incurred. They include the costs of lease bonuses and options to purchase or lease properties, the portion of costs applicable to minerals when land including mineral rights is purchased in fee, brokers' fees, recording fees, legal costs, and other costs incurred in acquiring properties. [FAS19, ¶15]

Exploration

- .107 Exploration involves (a) identifying areas that may warrant examination and (b) examining specific areas that are considered to have prospects of containing oil and gas reserves, including drilling exploratory wells and exploratory-type stratigraphic test wells. Exploration costs may be incurred both before acquiring the related property (sometimes referred to in part as prospecting costs) and after acquiring the property. [FAS19, ¶16]
- .108 Principal types of exploration costs, which include depreciation and applicable operating costs of support equipment and facilities (refer to paragraph .117) and other costs of exploration activities, are:
- a. Costs of topographical, geological, and geophysical studies, rights of access to properties to conduct those studies, and salaries and other expenses of geologists, geophysical crews, and others conducting those studies. Collectively, those are sometimes referred to as geological and geophysical, or *G&G*, costs.
 - b. Costs of carrying and retaining undeveloped properties, such as delay rentals, *ad valorem* taxes on the properties, legal costs for title defense, and the maintenance of land and lease records.
 - c. Dry hole contributions and bottom hole contributions.
 - d. Costs of drilling and equipping exploratory wells.
 - e. Costs of drilling exploratory-type stratigraphic test wells.²

[FAS19, ¶17]

² [Although] the costs of drilling stratigraphic test wells are sometimes considered to be geological and geophysical costs, they are accounted for separately in this section. [FAS19, ¶17, fn2]

Development

- .112 Development costs are incurred to obtain access to proved reserves and to provide facilities for extracting, treating, gathering, and storing the oil and gas. More specifically, development costs, including depreciation and applicable operating costs of support equipment and facilities and other costs of development activities, are costs incurred to:
- a. Gain access to and prepare well locations for drilling, including surveying well locations for the purpose of determining specific development drilling sites, clearing ground, draining, road building, and relocating public roads, gas lines, and power lines, to the extent necessary in developing the proved reserves.
 - b. Drill and equip development wells, development-type stratigraphic test wells, and service wells, including the costs of platforms and of well equipment such as casing, tubing, pumping equipment, and the wellhead assembly.
 - c. Acquire, construct, and install production facilities such as lease flow lines, separators, treaters, heaters, manifolds, measuring devices, and production storage tanks, natural gas cycling and processing plants, and utility and waste disposal systems.
 - d. Provide improved recovery systems.

[FAS19, ¶21]

Disclosure of Proved Oil and Gas Reserve Quantities

- .160 Net quantities of an enterprise's interests in proved reserves and proved developed reserves of (a) crude oil (including condensate and natural gas liquids)³ and (b) natural gas shall be disclosed as of the beginning and the end of the year. "Net" quantities of reserves include those relating to the enterprise's operating and nonoperating interests in properties as defined in paragraph .103(a). Quantities of reserves relating to royalty interests owned shall be included in "net" quantities if the necessary information is available to the enterprise; if reserves relating to royalty interests owned are not included because the information is unavailable, that fact and the enterprise's share of oil and gas produced for those royalty interests shall be disclosed for the year. "Net" quantities shall not include reserves relating to interests of others in properties owned by the enterprise. [FAS69, ¶10]
- .161 Changes in the net quantities of an enterprise's proved reserves of oil and of gas during the year shall be disclosed. Changes resulting from each of the following shall be shown

³ If significant, the reserve quantity information shall be disclosed separately for natural gas liquids. [FAS69, ¶10, fn5]

separately with appropriate explanation of significant changes:

- a. Revisions of previous estimates. Revisions represent changes in previous estimates of proved reserves, either upward or downward, resulting from new information (except for an increase in proved acreage) normally obtained from development drilling and production history or resulting from a change in economic factors.
- b. *Improved recovery.* Changes in reserve estimates resulting from application of improved recovery techniques shall be shown separately, if significant. If not significant, such changes shall be included in revisions of previous estimates.
- c. *Purchases of minerals in place.*
- d. Extensions and discoveries. Additions to proved reserves that result from (1) extension of the proved acreage of previously discovered (old) reservoirs through additional drilling in periods subsequent to discovery and (2) discovery of new fields with proved reserves or of new reservoirs of proved reserves in old fields.
- e. *Production.*
- f. *Sales of minerals in place.*

[FAS69, ¶11]

.162 If an enterprise's proved reserves of oil and of gas are located entirely within its home country, that fact shall be disclosed. If some or all of its reserves are located in foreign countries, the disclosures of net quantities of reserves of oil and of gas and changes in them required by paragraphs .160 and .161 shall be separately disclosed for (a) the enterprise's home country (if significant reserves are located there) and (b) each **foreign geographic area** in which significant reserves are located. Foreign geographic areas are individual countries or groups of countries as appropriate for meaningful disclosure in the circumstances.
[FAS69, ¶12]

.163 Net quantities disclosed in conformity with paragraphs .160 through .162 shall not include oil or gas subject to purchase under long-term supply, purchase, or similar agreements and contracts, including such agreements with governments or authorities. However, quantities of oil or gas subject to such agreements with governments or authorities as of the end of the year, and the net quantity of oil or gas received under the agreements during the year, shall be separately disclosed if the enterprise participates in the operation of the properties in which the oil or gas is located or otherwise serves as the "producer" of those reserves, as opposed, for example, to being an independent purchaser, broker, dealer, or importer.
[FAS69, ¶13]

.164 In determining the reserve quantities to be disclosed in conformity with paragraphs .160 through .163:

- a. If the enterprise issues consolidated financial statements, 100 percent of the net reserve quantities attributable to the parent company and 100 percent of the net reserve quantities attributable to its consolidated subsidiaries (whether or not wholly owned) shall be included. If a significant portion of those reserve quantities at the end of the year is attributable to a consolidated subsidiary(ies) in which there is a significant minority interest, that fact and the approximate portion shall be disclosed.
- b. If the enterprise's financial statements include investments that are proportionately consolidated, the enterprise's reserve quantities shall include its proportionate share of the investees' net oil and gas reserves.
- c. If the enterprise's financial statements include investments that are accounted for by the equity method, the investees' net oil and gas reserve quantities shall *not* be included in the disclosures of the enterprise's reserve quantities. However, the enterprise's (investor's) share of the investees' net oil and gas reserve quantities shall be separately disclosed as of the end of the year.

[FAS69, ¶14]

.165 In reporting reserve quantities and changes in them, oil reserves and natural gas liquids reserves shall be stated in barrels, and gas reserves in cubic feet. [FAS69, ¶15]

.166 If important economic factors or significant uncertainties affect particular components of an enterprise's proved reserves, explanation shall be provided. Examples include unusually high expected development or lifting costs, the necessity to build a major pipeline or other major facilities before production of the reserves can begin, and contractual obligations to produce and sell a significant portion of reserves at prices that are substantially below those at which the oil or gas could otherwise be sold in the absence of the contractual obligation.

[FAS69, ¶16]

.167 If a government restricts the disclosure of estimated reserves for properties under its authority, or of amounts under long-term supply, purchase, or similar agreements or contracts, or if the government requires the disclosure of reserves other than proved, the enterprise shall indicate that the disclosed reserve estimates or amounts do not include figures for the named country or that reserve estimates include reserves other than proved.

[FAS69, ¶17]

Disclosure of the Results of Operations for Oil and Gas Producing Activities

.174 The results of operations for oil and gas producing activities shall be disclosed for the year. That information shall be disclosed in the aggregate and for each geographic area for which reserve quantities are disclosed (refer to paragraph .162). The following information relating to those activities shall be presented:⁴

⁴ If oil and gas producing activities represent substantially all of the business activities of the reporting

- a. Revenues
- b. Production (lifting) costs
- c. Exploration expenses⁵
- d. Depreciation, depletion, and amortization, and valuation provisions
- e. Income tax expenses
- f. Results of operations for oil and gas producing activities (excluding corporate overhead and interest costs)

[FAS69, ¶24]

- .175 Revenues shall include sales to unaffiliated enterprises and sales or transfers to the enterprise's other operations (for example, refineries or chemical plants). Sales to unaffiliated enterprises and sales or transfers to the enterprise's other operations shall be disclosed separately. Revenues shall include sales to unaffiliated enterprises attributable to net working interests, royalty interests, oil payment interests, and net profits interests of the reporting enterprise. Sales or transfers to the enterprise's other operations shall be based on market prices determined at the point of delivery from the producing unit. Those market prices shall represent prices equivalent to those that could be obtained in an arm's-length transaction. Production or severance taxes shall not be deducted in determining gross revenues, but rather shall be included as part of production costs. Royalty payments and net profits disbursements shall be excluded from gross revenues. [FAS69, ¶25]
- .176 Income taxes shall be computed using the statutory tax rate for the period, applied to revenues less production (lifting) costs, exploration expenses, depreciation, depletion, and amortization, and valuation provisions. Calculation of income tax expenses shall reflect [FAS69, ¶26] tax deductions, [FAS109, ¶288(u)] tax credits and allowances relating to the oil and gas producing activities that are reflected in the enterprise's consolidated income tax expense for the period. [FAS69, ¶26]
- .177 Results of operations for oil and gas producing activities are defined as revenues less

enterprise and those oil and gas activities are located substantially in a single geographic area, the information required by paragraphs .174 through .179 need not be disclosed if that information is provided elsewhere in the financial statements [FAS69, ¶24, fn7] If oil- and gas-producing activities constitute an operating segment, as discussed in paragraphs .109 through .123 of Section S30, "Segment Disclosures and Related Information," information about the results of operations required by paragraphs .174 through .179 of this section may be included with segment information disclosed elsewhere in the financial report. [FAS131, ¶133(c)]

⁵ Generally, only enterprises utilizing the successful efforts accounting method will have exploration expenses to disclose, since enterprises utilizing the full cost accounting method generally capitalize all exploration costs when incurred and subsequently reflect those costs in the determination of earnings through depreciation, depletion, and amortization, and valuation provisions. [FAS69, ¶24, fn8]

production (lifting) costs, exploration expenses, depreciation, depletion, and amortization, valuation provisions, and income tax expenses. General corporate overhead and interest costs⁶ shall not be deducted in computing the results of operations for an enterprise's oil and gas producing activities. However, some expenses incurred at an enterprise's central administrative office may not be general corporate expenses, but rather may be operating expenses of oil and gas producing activities, and therefore should be reported as such. The nature of an expense rather than the location of its incurrence shall determine whether it is an operating expense. Only those expenses identified by their nature as operating expenses shall be allocated as operating expenses in computing the results of operations for oil and gas producing activities. [FAS69, ¶27]

.178 The amounts disclosed in conformity with paragraphs .174 through .177 shall include an enterprise's interests in proved oil and gas reserves (refer to paragraph .160) and in oil and gas subject to purchase under long-term supply, purchase, or similar agreements and contracts in which the enterprise participates in the operation of the properties on which the oil or gas is located or otherwise serves as the producer of those reserves (refer to paragraph .163).
[FAS69, ¶28]

.179 If the enterprise's financial statements include investments that are accounted for by the equity method, the investees' results of operations for oil and gas producing activities shall not be included in the enterprise's results of operations for oil and gas producing activities. However, the enterprise's share of the investees' results of operations for oil and gas producing activities shall be separately disclosed for the year, in the aggregate and by each geographic area for which reserve quantities are disclosed (refer to paragraph .162). [FAS69, ¶29]

Disclosure of a Standardized Measure of Discounted Future Net Cash Flows Relating to Proved Oil and Gas Reserve Quantities

.180 A standardized measure of discounted future net cash flows relating to an enterprise's interests in (a) proved oil and gas reserves (refer to paragraph .160) and (b) oil and gas subject to purchase under long-term supply, purchase, or similar agreements and contracts in which the enterprise participates in the operation of the properties on which the oil or gas is located or otherwise serves as the producer of those reserves (refer to paragraph .163) shall be disclosed as of the end of the year. The standardized measure of discounted future net cash flows relating to those two types of interests in reserves may be combined for reporting purposes. The following information shall be disclosed in the aggregate and for each geographic area for which reserve quantities are disclosed in accordance with paragraph .162:

a. *Future cash inflows.* These shall be computed by applying year-end prices of oil and gas relating to the enterprise's proved reserves to the year-end quantities of those

⁶ The disposition of interest costs that have been capitalized as part of the cost of acquiring qualifying assets used in oil and gas producing activities shall be the same as that of other components of those assets' costs. [FAS69, ¶27, fn9]

reserves. Future price changes shall be considered only to the extent provided by contractual arrangements in existence at year-end.

- b. Future development and production costs. These costs shall be computed by estimating the expenditures to be incurred in developing and producing the proved oil and gas reserves at the end of the year, based on year-end costs and assuming continuation of existing economic conditions. If estimated development expenditures are significant, they shall be presented separately from estimated production costs.
- c. *Future income tax expenses.* These expenses shall be computed by applying the appropriate year-end statutory tax rates, with consideration of future tax rates already legislated, to the future pretax net cash flows relating to the enterprise's proved oil and gas reserves, less the tax basis of the properties involved. The future income tax expenses shall give effect to [FAS69, ¶30] tax deductions, [FAS109, ¶288(u)] tax credits and allowances relating to the enterprise's proved oil and gas reserves.
- d. Future net cash flows. These amounts are the result of subtracting future development and production costs and future income tax expenses from future cash inflows.
- e. Discount. This amount shall be derived from using a discount rate of 10 percent a year to reflect the timing of the future net cash flows relating to proved oil and gas reserves.
- f. Standardized measure of discounted future net cash flows. This amount is the future net cash flows less the computed discount.

[FAS69, ¶30]

.181 If a significant portion of the economic interest in the consolidated standardized measure of discounted future net cash flows reported is attributable to a consolidated subsidiary(ies) in which there is a significant minority interest, that fact and the approximate portion shall be disclosed. [FAS69, ¶31]

.182 If the financial statements include investments that are accounted for by the equity method, the investees' standardized measure of discounted future net cash flows relating to proved oil and gas reserves shall not be included in the disclosure of the enterprise's standardized measure. However, the enterprise's share of the investees' standardized measure of discounted future net cash flows shall be separately disclosed for the year, in the aggregate and by each geographic area for which quantities are disclosed (refer to paragraph .162).

[FAS69, ¶32]

.183 The aggregate change in the standardized measure of discounted future net cash flows shall be disclosed for the year. If individually significant, the following sources of change shall be presented separately:

- a. Net change in sales and transfer prices and in production (lifting) costs related to future production
- b. Changes in estimated future development costs
- c. Sales and transfers of oil and gas produced during the period
- d. Net change due to extensions, discoveries, and improved recovery
- e. Net change due to purchases and sales of minerals in place
- f. Net change due to revisions in quantity estimates
- g. Previously estimated development costs incurred during the period
- h. Accretion of discount
- i. Other — unspecified
- j. Net change in income taxes

In computing the amounts under each of the above categories, the effects of changes in prices and costs shall be computed before the effects of changes in quantities. As a result, changes in quantities shall be stated at year-end prices and costs. The change in computed income taxes shall reflect the effect of income taxes incurred during the period as well as the change in future income tax expenses. Therefore, all changes except income taxes shall be reported pretax. [FAS69, ¶33]

- .184 Additional information necessary to prevent the disclosure of the standardized measure of discounted future net cash flows and changes therein from being misleading also shall be provided. [FAS69, ¶34]

GLOSSARY

- .401 **Development well.** A well drilled within the **proved area** of an oil or gas reservoir to the depth of a stratigraphic horizon known to be productive. [FAS19, ¶274]
- .402 **Exploratory well.** A well that is not a development well, a service well, or a stratigraphic test well, as those terms are defined in this section. [FAS19, ¶274]
- .403 **Field.** An area consisting of a single reservoir or multiple reservoirs all grouped on or related to the same individual geological structural feature or stratigraphic condition, or both. There may be two or more reservoirs in a field which are separated vertically by intervening impervious strata, or laterally by local geologic barriers, or by both. Reservoirs that are associated by being in overlapping or adjacent fields may be treated as a single or common operational field. The geological terms *structural feature* and *stratigraphic condition* are intended to identify localized geological features as opposed to the broader terms of *basins*, *trends*, *provinces*, *plays*, *areas of interest*, etc. [FAS19, ¶272]
- .403A **Foreign geographic area.** Individual countries or groups of countries as appropriate for meaningful disclosure in the circumstances. [FAS69, ¶12]
- .403B **Industry segment.** A component of an enterprise engaged in providing a product or service or a group of related products or services primarily to external customers (that is, customers outside the enterprise) for a profit. [FAS131, ¶133(a)]
- .403C **Oil and gas producing activities.** Those activities [that] involve the acquisition of mineral interests in properties, exploration (including prospecting), development, and production of crude oil, including condensate and natural gas liquids, and natural gas. [FAS19, ¶1]
- .404 **Proved area.** The part of a property to which proved reserves have been specifically attributed. [FAS19, ¶275]
- .405 **Proved reserves:**⁷
- a. *Proved oil and gas reserves.* The estimated quantities of crude oil, natural gas, and natural gas liquids which geological and engineering data demonstrate with reasonable certainty to be recoverable in future years from known reservoirs under

⁷ The following definitions of proved reserves are those developed by the Department of Energy for its Financial Reporting System and adopted by the SEC on December 19, 1978 in Accounting Series Release 257. Reference should be made to the SEC's reporting requirements for revisions that may have been made since the issuance of ASR 257. [FAS25, ¶34]

existing economic and operating conditions, that is, prices and costs as of the date the estimate is made. Prices include consideration of changes in existing prices provided only by contractual arrangements but not on escalations based upon future conditions.

- (1) Reservoirs are considered proved if economic producibility is supported by either actual production or conclusive formation test. The area of a reservoir considered proved includes (a) that portion delineated by drilling and defined by gas-oil or oil-water contacts, if any, or both, and (b) the immediately adjoining portions not yet drilled, but which can be reasonably judged as economically productive on the basis of available geological and engineering data. In the absence of information on fluid contacts, the lowest known structural occurrence of hydrocarbons controls the lower proved limit of the reservoir.
 - (2) Reserves that can be produced economically through application of improved recovery techniques (such as fluid injection) are included in the *proved* classification if successful testing by a pilot project, or the operation of an installed program in the reservoir, provides support for the engineering analysis on which the project or program was based.
 - (3) Estimates of proved reserves do not include the following: (a) oil that may become available from known reservoirs but is classified separately as *indicated additional reserves*; (b) crude oil, natural gas, and natural gas liquids, the recovery of which is subject to reasonable doubt because of uncertainty as to geology, reservoir characteristics, or economic factors; (c) crude oil, natural gas, and natural gas liquids that may occur in undrilled prospects; and (d) crude oil, natural gas, and natural gas liquids that may be recovered from oil shales, coal, gilsonite, and other such sources.
- b. *Proved developed oil and gas reserves.* Proved developed oil and gas reserves are reserves that can be expected to be recovered through existing wells with existing equipment and operating methods. Additional oil and gas expected to be obtained through the application of fluid injection or other improved recovery techniques for supplementing the natural forces and mechanisms of primary recovery should be included as *proved developed reserves* only after testing by a pilot project or after the operation of an installed program has confirmed through production response that increased recovery will be achieved.
- c. *Proved undeveloped reserves.* Proved undeveloped oil and gas reserves are reserves that are expected to be recovered from new wells on undrilled acreage, or from existing wells for which a relatively major expenditure is required for recompletion. Reserves on undrilled acreage should be limited to those drilling units offsetting productive units that are reasonably certain of production when drilled. Proved reserves for other undrilled units can be claimed only if it can be demonstrated with certainty that there is continuity of production from the existing productive

formation. Under no circumstances should estimates for proved undeveloped reserves be attributable to any acreage for which an application of fluid injection or other improved recovery technique is contemplated, unless such techniques have been proved effective by actual tests in the area and in the same reservoir. [FAS25, ¶34]

- .405A **Publicly traded enterprise.** A business enterprise (a) whose securities are traded in a public market on a domestic stock exchange or in the domestic over-the-counter market (including securities quoted only locally or regionally) or (b) whose financial statements are filed with a regulatory agency in preparation for the sale of any class of securities in a domestic market. [FAS69, ¶1, fn2]
- .406 **Reservoir.** A porous and permeable underground formation containing a natural accumulation of producible oil or gas that is confined by impermeable rock or water barriers and is individual and separate from other reservoirs. [FAS19, ¶273]
- .407 **Service well.** A service well is a well drilled or completed for the purpose of supporting production in an existing field. Wells in this class are drilled for the following specific purposes: gas injection (natural gas, propane, butane, or flue gas), water injection, steam injection, air injection, salt-water disposal, water supply for injection, observation, or injection for combustion. [FAS19, ¶274]
- .408 **Stratigraphic test well.** A stratigraphic test is a drilling effort, geologically directed, to obtain information pertaining to a specific geologic condition. Such wells customarily are drilled without the intention of being completed for hydrocarbon production. This classification also includes tests identified as core tests and all types of expendable holes related to hydrocarbon exploration. For purposes of this section, stratigraphic test wells (sometimes called expendable wells) are classified as follows:
- a. *Exploratory-type stratigraphic test well.* A stratigraphic test well not drilled in a proved area.
 - b. *Development-type stratigraphic test well.* A stratigraphic test well drilled in a proved area

[FAS19, ¶274]

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

Tar Sands Mining Disclosure

(Derived from *SEC* Industry Guide 7 "Description of Property by Issuers Engaged or to be Engaged in Significant Mining Operations", as at [October 15, 2001]. Differences between this document and *SEC* Industry Guide 7 are not substantive; they consist largely of renumbering, limited changes of terminology to conform to CSA usage, the deletion of certain instructions, and modified requirements for the furnishing of supporting documents.)

1. **Definitions.** The following definitions apply to reporting issuers engaged or to be engaged in significant tar sands (oil sands) mining operations:
 - (a) **Reserve.** That part of a mineral deposit which could be economically and legally extracted or produced at the time of the reserve determination. Note: reserves are customarily stated in terms of "ore" when dealing with metalliferous minerals; when other materials such as coal, oil, shale, tar sands or limestone are involved, an appropriate term such as "recoverable coal" may be substituted.
 - (b) **Proven Reserves.** Reserves for which (i) quantity is computed from dimensions revealed in outcrops, trenches, workings or drill holes; grade and/or quality are computed from the results of detailed sampling and (ii) the sites for inspection, sampling and measurement are spaced so closely and the geologic character is so well defined that size, shape, depth and mineral content of reserves are well-established.
 - (c) **Probable Reserves.** Reserves for which quantity and grade and/or quality are computed from information similar to that used for proven reserves, but the sites for inspection, sampling, and measurement are farther apart or are otherwise less adequately spaced. The degree of assurance, although lower than that for proven reserves, is high enough to assume continuity between points of observation.
 - (d)
 - (i) **Exploration Stage** - includes all reporting issuers engaged in the search for mineral deposits (reserves) which are not in either the development or production stage.
 - (ii) **Development Stage** - includes all reporting issuers engaged in the preparation

of an established commercially mineable deposit (reserves) for its extraction which are not in the production stage.

- (iii) **Production Stage** - includes all reporting issuers engaged in the exploitation of a mineral deposit (reserve).

2. Mining Operations Disclosure. Furnish the following information as to each of the mines, plants and other significant properties owned or operated, or presently intended to be owned or operated, by the reporting issuer:

- (a) The location and means of access to the property;
- (b) A brief description of the title, claim, lease or option under which the reporting issuer and its subsidiaries have or will have the right to hold or operate the property, indicating any conditions which the reporting issuer must meet in order to obtain or retain the property. If held by leases or options, the expiration dates of such leases or options should be stated. Appropriate maps may be used to portray the locations of significant properties;
- (c) A brief history of previous operations, including the names of previous operators, insofar as known;
- (d)
 - (i) A brief description of the present condition of the property, the work completed by the reporting issuer on the property, the reporting issuer's proposed program of exploration and development, and the current state of exploration and/or development of the property. Mines should be identified as either open-pit or underground. If the property is without known reserves and the proposed program is exploratory in nature, a statement to that effect shall be made;
 - (ii) The age, details as to modernization and physical condition of the plant and equipment, including subsurface improvements and equipment. Further, the total cost for each property and its associated plant and equipment should be stated. The source of power utilized with respect to each property should also be disclosed.
- (e) A brief description of the rock formations and mineralization of existing or potential economical significance on the property, including the identity of the principal metallic or other constituents insofar as known. If proven or probable reserves have been established, state (1) the estimated tonnages (barrels) and grades (or quality, where appropriate) of such classes of reserves, and (2) the name of the person making the estimates and the nature of his or her relationship to the reporting issuer.

INSTRUCTIONS to paragraph 2(e):

- (1) *It should be stated whether the reserve estimate is of in-place material or of recoverable material. Any in-place estimate should be qualified to show the anticipated losses resulting from mining methods and beneficiation or preparation.*
 - (2) *The summation of proven and probable reserves is acceptable if the difference in degree of assurance between the two classes of reserves cannot be readily defined.*
 - (3) *Estimates other than proven or probable reserves, and any estimated values of such reserves shall not be disclosed unless such information is required to be disclosed by foreign or state law; provided, however, that where such estimates previously have been provided to a person (or any of its affiliates) that is offering to acquire, merge or consolidate with, the reporting issuer or otherwise to acquire the reporting issuer's securities, such estimates may be included.*
- (f) If technical terms relating to geology, mining or related matters whose definition cannot readily be found in conventional dictionaries (as opposed to technical dictionaries or glossaries) are used, an appropriate glossary should be included in this report.
- (g) Detailed geographic maps and reports, feasibility studies and other highly technical data should not be included in the report but should be to the degree appropriate and necessary for the regulator's understanding of the reporting issuer's presentation of business and property matters, furnished as supplemental information.

3. Supplemental Information.

- (a) If an estimate of proven or probable reserves is set forth in the report, furnish:
- (i) maps drawn to scale showing any mine workings and the outlines of the reserve blocks involved together with the pertinent sample-assay thereon.
 - (ii) all pertinent drill data and related maps.
 - (iii) the calculations whereby the basic sample-assay or drill data were translated into the estimates made of the grade and tonnage of reserves in each block

and in the complete reserve estimate.

INSTRUCTIONS to paragraph 3(a):

Maps and drawings submitted to the regulator should include:

- (a) A legend or explanation showing, by means of pattern or symbol, every pattern or symbol used on the map or drawing;*
 - (b) A graphical bar scale should be included, additional representations of scale such as "one inch equals one mile" may be utilized, provided the original scale of the map has not been altered;*
 - (c) A north arrow on the maps;*
 - (d) An index map showing where the property is situated in relationship to the state or province, etc., in which it was located;*
 - (e) A title of the map or drawing and the date on which it was drawn;*
 - (f) In the event interpretive data is submitted in conjunction with any map, the identity of the geologist or engineer that prepared such data; and*
 - (g) Any drawing should be simple enough or of sufficiently large scale to clearly show all features on the drawing.*
-
- (b) On the request of the regulator, furnish a complete copy of every material engineering, geological or metallurgical report concerning the reporting issuer's property, including governmental reports, which are known and available to the reporting issuer. Every such report should include the name of its author and the date of its preparation, if known to the reporting issuer.
 - (c) Furnish copies of all documents, such as title documents, operating permits and easements needed to support representations made in the report, requested by the regulator.