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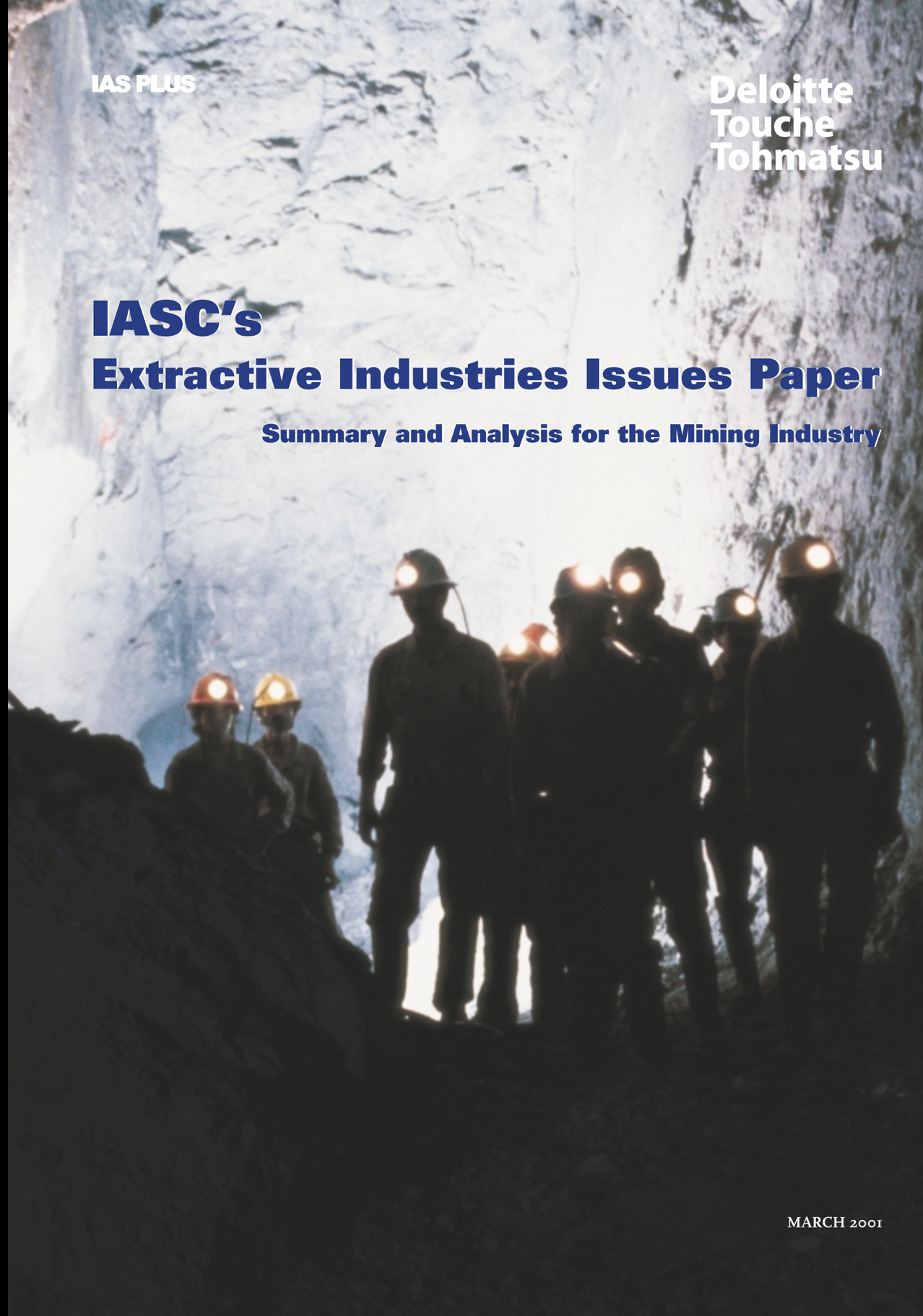
Deloitte Touche Tohmatsu

IASC's Extractive Industries Issues Paper

Summary and Analysis for the Mining Industry



MARCH 2001

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More than 92,000 people in over 130 countries serve nearly one-fifth of the world's largest companies as well as large national enterprises, public institutions, and successful fast-growing companies. Our internationally experienced professionals strive to deliver seamless, consistent services wherever our clients operate. Our mission is to help our clients and our people excel.

This guide is one of a series of publications intended to assist users in understanding International Accounting Standards. These include:

International Accounting Standards: A Guide to Preparing Accounts	Second Edition, by Georgette T. Bailey and Ken Wild, Deloitte & Touche, London Published by ABG Professional Information: www.abgweb.com
International Accounting Standards - A Practical Guide to Financial Reporting	Model financial statements and presentation and disclosure checklists prepared under IAS. Published by Deloitte Touche Tohmatsu.
An International Accounting Comparison - Focus on Asia Pacific	A comprehensive comparison of the provisions of International Accounting Standards with generally accepted accounting practices in 18 financial reporting regimes, focused on the Asia Pacific Region. Published by Deloitte Touche Tohmatsu.
IAS Plus	A quarterly newsletter on developments in International Accounting Standards and accounting updates for individual countries.
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Foreword

To date no standard setter has developed comprehensive guidance on accounting issues unique to the extractive industries. Pronouncements covering certain aspects of accounting in the oil and gas industry have been issued, mainly in the United States, but virtually no guidance exists for the mining industry. The resultant diversity of accounting practices has provided the ingredients for a number of surveys of accounting practices adopted by mining companies.

It is therefore commendable that the International Accounting Standards Committee (IASC) has started to tackle this subject. The result of the first stage of this project is a 400 page "Issues Paper" that addresses a large number of issues. IASC requests comments by 30 June 2001. Deloitte Touche Tohmatsu has prepared this booklet to help mining clients and other interested parties more easily identify the issues that could have the greatest impact on their financial statements in years to come. The principal author of this booklet is Paul Pacter, a director in our Hong Kong office. Paul served as the IASC's Extractive Industries project manager up to the time of completion of the Issues Paper.

Deloitte Touche Tohmatsu strongly supports an International Accounting Standard on financial reporting in the extractive industries. We encourage companies to provide comments on the Issues Paper to the IASC. A wide cross-section of comment is vital for the next stage of the project. We are currently developing our own position in relation to the many issues raised.

Deloitte Touche Tohmatsu has a worldwide network of practitioners specialising in the mining industry and would be pleased to help you consider the issues on which the IASC seeks comment. If you would like to talk to us, please contact a member of the DTT Mining Industry Leadership Team listed inside the back cover.

Robin Fryer
Global Leader - Mining Industry Group

March 2001

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IASC's Extractive Industries Issues Paper Summary and Analysis for the Mining Industry

The International Accounting Standards Committee's new 412-page Issues Paper, Extractive Industries, analyses the major issues in financial reporting for the upstream activities (exploration and production) of mining and petroleum companies. As part of that analysis, the issues paper sets out the alternatives for resolving the issues and the arguments for and against each alternative. IASC has invited written comments on how the issues should be resolved.

IASC has published a separate booklet summarising the issues. Both the full Issues Paper and the Summary of Issues may be downloaded without charge at: http://www.iasc.org.uk. These documents represent the first step in IASC's project to develop accounting standards for the extractive industries.

Purpose of this Publication

Deloitte Touche Tohmatsu has prepared this publication to summarise and comment on the issues and alternatives in the IASC paper in the context of the mining industry. The objective is to help our clients, our staff, and others understand the issues and develop their views.

MINING involves finding and removing minerals (wasting natural resources) located in or near the earth's crust. Some types of minerals are located right at the earth's surface, such as sand, gravel, and stone (their extraction is sometimes called quarrying). Others are located underground, such as coal, sulphur, metal ores (for instance, copper, gold, iron, nickel, lead, zinc, silver, tin, and platinum), and gemstones.

Global Importance of Mining

The mining industry is of huge global economic importance. Yet, surprisingly, there are few national accounting standards that address the critical financial reporting issues facing companies engaged in mining. The U.S. National Mining Association estimates that there are over one million coal and hard rock mining operations in existence around the world, and the mining industry employs over 50 million workers. Based on the number of different minerals produced, the United States might be viewed as the biggest mining country (see Figure 1). But, as Figure 2 shows, well over 90 percent of global spending on exploration is outside of the United States. Interestingly, in mining, more than half of the worldwide exploration dollars are spent in the search for gold (Figure 3).

Figure 1
Top Ten Mining Countries in the World
Based on Number of Major Commodities Produced

United States - produces 78 major commodities including aluminum, antimony, beryllium, borax, boron, clays, coal, copper, diamonds, diatomite, feldspar, fluorspar, gold, gypsum, iron ore, lead, limestone, manganese, molybdenum, perlite, phosphate, phosphate rock, platinum-group metals, pumice, pumicite, rare-earth metals, salt, sand and gravel (construction), silver, sodium sulfate, steel, stone (crushed and broken, trona, uranium and vanadium.

Brazil - produces 48 major commodities including aluminum, asbestos, clays, chromium, feldspar, fluorspar, gemstones, gypsum, iron ore, magnesite, manganese, nickel, potash, potassium, sodium compounds, stone (crushed and broken), sulphur, talc and pyrophyllite and zinc.

Canada - produces 46 major commodities including aluminum, coal, copper, diamonds (industrial), gold, lead, molybdenum, nickel, platinum-group metals, salt, sand and gravel, silver, titanium, uranium and zinc.

Russia - produces 46 major commodities including aluminum, chromium, coal, copper, diamonds (synthetic) gold, iron ore, lead, magnesium, nickel, platinum-group metals, salt, sand and gravel, silver stone and zinc.

South Africa - produces 44 major commodities including aluminum, clays, copper, diamonds, fluorspar, gemstones, gold, iron ore, nickel, platinum-group metals, silver, uranium, zinc and zirconium.

China - produces 41 major commodities including aluminum, coal, copper, gemstones, gold, iron ore, lead, molybdenum, nickel, rare-earth metals, salt, tin and zinc.

Australia - produces 41 major commodities including aluminum, coal, copper, gemstones, gold, iron ore, lead, nickel, platinum-group metals, silver, stone (crushed), talc, titanium concentrates, uranium and zinc.

Mexico - produces 39 major commodities including aluminum, clays, copper, gold, gypsum, lead, lime, molybdenum, quartz, silver, talc and zinc.

France - produces 38 major commodities including barite, clays, copper, feldspar, gold, iron ore, lead, magnesium metal, sand and gravel, silver, talc, wollastonite and zinc.

India - produces 26 major commodities including barite, chromium, clays, copper, gypsum, iron ore, phosphate rock, sodium carbonate, and talc.

Figure 2
Worldwide Non-petroleum Mineral Exploration by Mineral (1998)

Worldwide Exploration Budgets	*$ (Million U.S.)*	*Percent of World*
Latin America	$ 814.0	28.8
Australia	495.0	17.5
Africa	494.0	17.4
Canada	308.0	10.9
Pacific	266.0	9.4
United States	243.0	8.6
Asia, Europe, Russia	210.0	7.4
Total	**$2,830.0**	**100.0**

Source: National Mining Association, Summary of Selected U.S. and World Mining Statistics, based on a survey of 182 companies with reported exploration budgets of US$ 2.8 billion, www.nma.org/smb%20intlsummary.pdf

Figure 3
Worldwide Non-petroleum Mineral Exploration by Mineral (1998)

Leading World Exploration Activities	*Percent of Worldwide Exploration Budget*
Gold	55.1
Copper	19.5
Diamond	9.4
Lead/Zinc	6.8
Nickel	6.7
Other	2.5
Total	**100.0**

Source: National Mining Association, Summary of Selected U.S. and World Mining Statistics, www.nma.org/smb%20intlsummary.pdf

Critical Financial Reporting Issues

Among the most critical accounting and reporting issues faced by mining companies are the following:

- Should historical costs or reserve values be the fundamental basis of accounting for mining operations? Today, of course, nearly all mining companies report on an historical cost basis.
- Assuming a cost basis, to what extent should the costs of finding, acquiring, and developing mineral reserves be capitalised?
- How should the costs of construction, facilities, and service assets be accounted for?
- How should capitalised costs be depreciated (amortised)?
- Even if cost is the basis of accounting, to what degree should quantities and values of mineral reserves, rather than costs, affect recognition, measurement, and disclosure?
- How should mineral reserves be defined and measured for accounting purposes?

Many other issues are of only slightly less magnitude than the above critical issues. These include:

- removal and restoration;
- impairment;
- revenue recognition and measurement;
- inventory recognition and measurement;
- risk and cost sharing arrangements; and
- acquisition and disposal of mineral properties.

International Accounting Standards

Since cost capitalisation and amortisation are the most critical issues for mining companies, the two International Accounting Standards (IAS) that would seem to be most relevant to the industry are IAS 16, Property, Plant and Equipment, and IAS 38, Intangible Assets. However, the scopes of both Standards exclude mineral rights and expenditure on the exploration for, and development and extraction of, minerals, oil, natural gas and similar non-regenerative resources. Mining companies reporting under IAS generally do look to IAS 16 with respect to some or all construction costs. Two other Standards that are also highly relevant and are applicable to mining companies: IAS 36, Impairment of Assets, and IAS 37, Provisions, Contingent Liabilities and Contingent Assets. Overall, however, IASC has not sought to address the extractive industries comprehensively - until now, that is.

National Accounting Standards

Only a few countries have addressed mining operations in their accounting standards. We set out an overview of the relevant requirements below:

Figure 4
National Accounting Standards for Mining Operations

Australia	• Area of interest approach • Defer pre-acquisition exploration and evaluation costs pending determination of economically recoverable resources, provided that active and significant operations are continuing • Capitalise development costs • Impairment test • Amortise generally on a unit of production basis
Canada	• Capitalise all exploration, evaluation, and development costs
Indonesia	• Area of interest approach • Cost capitalisation and amortisation essentially the same as Australia
South Africa	• Two methods of accounting permitted: appropriation method and amortisation method, though the appropriation method is now used infrequently • Under appropriation method, exploration and development costs are capitalised but not amortised, so that share capital and reserves represent total investment in the mine (similar to cash flow accounting) • Under the amortisation method, all exploration, evaluation, and development costs are capitalised and amortised
United States	• No FASB standard on accounting recognition and measurement • SEC has taken the position that they will generally challenge capitalization of exploration costs by mining companies • FASB standard requires disclosure of estimates of significant quantities of proved or proved plus probable mineral reserves (whichever is used for amortisation)

The IASC Issues Paper

Content. The content of the IASC Issues Paper is outlined in Figure 5.

156 issues. The paper contains 156 specific issues set out in question form with the likely alternative solutions identified. Of those, 120 are called Basic Issues and another 36 are called Sub-issues.

Figure 5
Content of the Issues Paper

Preface	
Invitation to Comment	
Chapter 1	Scope
Chapter 2	Description of Upstream Activities
Chapter 3	Reserve Estimation and Valuation
Chapter 4	Historical Cost Concepts of Accounting for Preproduction Activities
Chapter 5	Value-Based Concepts of Accounting for Preproduction Activities and Reserves
Chapter 6	Historical Cost Accounting for Preproduction Costs
Chapter 7	Depreciation of Capitalised Costs
Chapter 8	Removal and Restoration
Chapter 9	Impairment of Capitalised Costs Related to Minerals: Implementation of IAS 36
Chapter 10	Accounting for Revenues
Chapter 11	Recognising and Measuring Inventories
Chapter 12	The Formation of Arrangements to Share Risks and Costs
Chapter 13	Purchases, Sales, and Retirements of Mineral Properties
Chapter 14	Financial Statement Disclosures Unique to the Extractive Industries: Reserve Quantities and Values
Chapter 15	Financial Statement Disclosures Unique to the Extractive Industries: Other Disclosures
Chapter 16	Research on Recognition and Disclosure of Reserves
Glossary of Terms	
Appendix A	Summary of National Accounting Standards for the Extractive Industries
Appendix B	Definitions of Reserves in the Petroleum and Mining Industries
Appendix C	Bibliography and List of Abbreviations

Steering Committee Tentative Views

To provide a focus for commentators, the issues paper sets out the tentative views of the IASC steering committee on the significant issues. Here are the most fundamental conclusions:

- The primary financial statements of an extractive industries enterprise should be based on historical costs, not on estimated reserve values.

- The Steering Committee favours adoption of a cost-based method more consistent with the traditional successful efforts concept than with other concepts such as full costing. The following table (Figure 6) sets out the Steering Committee's proposals on costs incurred in various phases of upstream activities:

Figure 6
Steering Committee Proposals on Cost Capitalisation Versus Expense

Pre-acquisition prospecting, appraisal, and exploration costs	Charge to expense when incurred
Direct and incidental property acquisition costs	Recognise as an asset
Post-acquisition exploration and appraisal costs	Initially recognise as an asset pending the determination of whether commercially recoverable reserves have been found. Some "ceiling" should be imposed.
Development costs	Recognise as an asset
Construction costs that relate to a single mineral cost centre	Capitalise as part of the costs of that cost centre
Construction costs that relate to more than one mineral cost centre	Account for them in the same way as other property, plant, and equipment under IAS 16
Post-production exploration and development costs	Treat the same as any other exploration or development costs

The Steering Committee's tentative views on all of the principal issues are summarised in Figure 7. Please bear in mind that these are not necessarily the Board's views. In fact, the Board has not yet gone through its normal educational process for a major project; nor has it begun to discuss the issues. Rather, these are the views of the IASC task force of industry accounting experts. Including them in the Issues Paper is a way of providing a focus for those who want to comment.

For each of the 156 issues in the Issues Paper, the likely alternative responses are set out. The Steering Committee, in developing the Issues Paper, concluded that setting out the possible responses to each issue and sub-issue generally helps to clarify a respondent's view. The Issues Paper encourages respondents not just to say that they support or oppose choice "a" or "b" but also to explain their reasoning.

Figure 7
Principal Steering Committee Tentative Views

1. An International Accounting Standard on financial reporting in the extractive industries is needed.
2. IASC should develop a single International Accounting Standard with common standards for both the mining and petroleum industries but with separate requirements or guidance for mining or petroleum as necessary to address industry-specific issues.
3. The Standard should be restricted to upstream activities (exploration for, and development and production of, minerals).
4. Information about reserve quantities and values, and changes in them, is a key indicator of the performance of an extractive industries enterprise.

Figure 7 (continued)
Principal Steering Committee Tentative Views

5. The primary financial statements of an extractive industries enterprise should be based on historical costs, not on estimated reserve values.
6. Information about reserve quantities and values, and changes in them, should be disclosed as supplemental information.
7. The Steering Committee favours adoption of a method more consistent with the successful efforts concept than with other concepts.
8. All preacquisition prospecting and exploration costs should be charged to expense when incurred.
9. All direct and incidental property acquisition costs should be initially recognised as an asset.
10. All post-acquisition exploration and appraisal costs should be initially recognised as an asset pending the determination of whether commercially recoverable reserves have been found.
11. Some limit should be imposed if post-acquisition exploration and appraisal costs are deferred pending determination of whether commercially recoverable reserves have been found.
12. All development costs should be recognised as an asset.
13. Construction costs that relate to a single mineral cost centre should be capitalised as part of the capitalised costs of that cost centre (normally depreciated on a unit-of-production basis if the life of the assets is coincident with the life of the mineral reserves, or on a straight-line basis if the economic life is less than the life of the reserves). Construction costs that relate to more than one mineral cost centre should be accounted for in the same way as other property, plant, and equipment are treated under IAS 16, Property, Plant and Equipment (normally depreciated on a time basis).
14. Post-production exploration and development costs should be treated in the same way as any other exploration or development costs.
15. Both the benchmark and allowed alternative treatments of borrowing costs contained in IAS 23, Borrowing Costs, should be permitted.
16. Overhead cost should be attributed to the relevant phase of operations (prospecting, acquisition, exploration, evaluation, development, and construction) and further identified with a specific prospect, property, or area of interest. The overhead cost should be capitalised if, and only if, the direct costs of that phase of operations are capitalised for that specific prospect, property, or area of interest.
17. The Steering Committee does not favour cost reinstatement (reversing a prior period expense recognition in a subsequent period in which information becomes available that commercially recoverable reserves have been discovered).
18. Costs should be accumulated by area of interest or geological units smaller than an area of interest (for example, the field or the mine).
19. Use unit-of-production depreciation for all capitalised preproduction costs with two exceptions:(a) use straight-line depreciation for capitalised construction costs that serve a single mineral cost centre if the economic life of the asset is less than the life of the reserves and (b) follow IAS 16 for capitalised construction costs that serve two or more cost centres (sometimes called service assets).

Figure 7 (continued)
Principal Steering Committee Tentative Views

20. Changes in reserve estimates should be reflected prospectively, that is, included in the determination of net profit or loss in the period of the change and future periods, consistent with the requirements of IAS 8, Net Profit or Loss for the Period, Fundamental Errors and Changes in Accounting Policies.

21. IAS 37, Provisions, Contingent Liabilities and Contingent Assets, should be applied without modification to the recognition of removal and restoration costs and obligations in the extractive industries.

22. If the amount of a provision is part of the cost of acquiring the asset, it is recognised as such and is included in the depreciable amount of the asset.

23. The cost relating to a provision necessitated by production activities after an asset is installed should be capitalised as an additional cost of acquiring the asset, if the cost provides incremental future economic benefits.

24. If the cost associated with a provision was initially capitalised, changes in the estimated amount of the provision should be recognised in subsequent periods as an adjustment to the carrying amount of the asset.

25. IAS 36, Impairment of Assets, should be applied without modification to account for impairments of assets in the extractive industries.

26. Impairment of capitalised preproduction costs should be assessed based on proved and probable reserves.

27. An impairment test cannot be applied to deferred preproduction costs whose outcome is unknown. The Steering Committee favours some type of limit if preproduction costs are deferred pending determination of whether commercially recoverable reserves are found.

28. The general provisions of IAS 18, Revenue, should apply to enterprises in the extractive industries, and IAS 18 should be amended to eliminate the scope exclusion.

29. Revenue received prior to the production phase should be recognised as revenue or other income, not as a reduction of capitalisable costs.

30. Royalties paid in cash, royalties paid in kind, and severance taxes should all be included in the producer's gross revenue and deducted as an expense.

31. Inventories of minerals should be measured at historical cost, even if those minerals have quoted market prices in active markets with a short time between production and sale and insignificant costs to be incurred beyond the point of production, and the enterprise intends to sell those minerals in that market.

32. All members of the Steering Committee favour disclosure of reserve quantities. The Steering Committee is divided regarding disclosure of reserve values.

33. Disclose proved and probable reserves separately, and within proved disclose proved developed and proved undeveloped reserves separately.

Issues Relating to Scope and Industry Description

Scope. Probably the most important scope issue is that the project is restricted to upstream activities - exploration for and development of mineral reserves up to the point that the reserves are first capable of being sold or used, even if the enterprise intends to process them further. The further processing (called refining in the oil industry), as well as marketing and distribution, are downstream activities outside the scope of the project. In mining, the demarcation between upstream and downstream is often not clear-cut. Often, at a mine, there are facilities that separate the mineral(s) from the ore to make the mineral(s) ready for sale. In some cases, the ore must be transported to such a facility. In those cases, both the transportation and the separation would be upstream, rather than downstream, activities.

Also excluded from the scope of the IASC's project is the extraction of minerals from seawater or from the air.

Description of upstream activities. Chapters 2 and 3 of the Issues Paper provide descriptive information about the extractive industries but do not get into accounting issues. Chapter 2 describes the typical phases of upstream activity of mining and petroleum companies. These are summarised in Figure 8. The first four phases are relatively more significant for petroleum companies than for mining companies, while generally this reverses for the last four phases.

Steering Committee Tentative Views

An International Accounting Standard on financial reporting in the extractive industries is needed.

IASC should develop a single International Accounting Standard with common standards for both the mining and petroleum industries but with separate requirements or guidance for mining or petroleum as necessary to address industry-specific issues.

The Standard should be restricted to upstream activities (exploration for, and development and production of, minerals).

Basic Issue 1.1 - Scope
Are there any industries besides mining and petroleum that should be included in the scope of this project?

Basic Issue 1.2 - Definition of upstream activities
The IASC Board has defined the scope of this project to include the upstream activities of enterprises in the extractive industries, but not the downstream activities. Other International Accounting Standards would apply to downstream activities. Is the definition of upstream activities in paragraphs 1.16-1.19 appropriate and, if not, how would you change it?

Basic Issue 1.3 - A single standard for both mining and petroleum
Should a single standard be developed for all extractive industries (that is, applicable to both mining and petroleum enterprises), or should separate standards be developed?

Basic Issue 2.1 - Phases of upstream activities
Are the operating phases in the upstream sector of the extractive industries appropriately described in Chapter 2?

Figure 8
Phases of Mining Activity

Preproduction phases:

1. **Prospecting:** searching for an area of interest (geologic structure) that may warrant detailed exploration.
2. **Acquisition of mineral rights:** legal rights to explore for, develop, and produce wasting resources on a mineral property. Among the ways legal rights may be acquired are outright ownership, a lease or concession, a production sharing contract, a joint venture, or a service contract.
3. **Exploration:** detailed examination of an area of interest that has shown sufficient mineral-producing potential to merit further exploration.
4. **Appraisal or evaluation:** determining the technical feasibility and commercial viability of mineral deposits that have been found through exploration. In mining, evaluation includes:
   (a) determining the volume and grade of deposits through drilling of additional wells, trenching, and sampling activities in an area known to contain mineral resources;
   (b) examining and testing extraction methods and metallurgical or treatment processes;
   (c) surveying transportation and infrastructure requirements;
   (d) conducting market and finance studies; and
   (e) making detailed economic evaluations to determine whether development of the reserves is commercially justified.
5. **Development:** building access to the mineral reserve and other preparations for commercial production. In the mining industry, development may include:
   (a) sinking shafts and underground drifts (often called "mine development");
   (b) making permanent excavations;
   (c) developing passageways and rooms or galleries;
   (d) building roads and tunnels; and
   (e) advance removal of overburden and waste rock.
6. **Construction:** installing facilities, such as buildings, machinery, and equipment, to extract, treat, and transport minerals, as well as installation of infrastructure such as roads, utilities, and housing.

Production and post-production phases:

7. **Production:** extraction of the natural resources from the earth and the related processing necessary to make the produced resource marketable or transportable. Depending on the materials removed from the earth and its mineral content, many different processes may be used to convert the ore, rock, or other raw product removed from the earth into a marketable product. Crushing and grinding, flotation, leaching, heap leach, milling, settling, and electrowinning are a few. These processes are necessary to make the products of the mine marketable and are normally considered to be a part of the production phase. The production phase generally ends at the first point of saleability of the mined mineral.
8. **Closure:** ceasing production, removing equipment and facilities, restoring the production site to appropriate conditions after operations have ceased, and abandoning the site. A mine's operational life ends when the commercially recoverable minerals have been removed and it becomes uneconomical to operate the mine. It is generally necessary to remove the equipment, restore the mining site, and rehabilitate the area to meet environmental specifications (called "removal and restoration"). Some closure activities take place during the production process, for example, reclamation of a portion of a strip mine or open pit mine once resources have been removed that area.

Issues Relating to Reserve Definitions

Reserves. In Chapter 3, the Issues Paper discusses how reserve categories are defined and how reserve data are used for financial reporting purposes. There is extensive discussion of the definitions promulgated by the Joint Ore Reserves Committee (JORC), an Australasian Group whose work is widely accepted by mining organisations in Australia, Canada, New Zealand, South Africa, the United Kingdom, and the United States, as well as by the United Nations. The IASC Steering Committee concludes that the JORC definitions are suitable for financial reporting by mining companies, though in the long run they would prefer a common set of definitions for both mining and petroleum companies. (There are several important differences in the economic assumptions and required degrees of certainty underlying the JORC definitions of proved and probable reserves as compared to the accepted oil and gas reserve definitions.)

Steering Committee Tentative Views

A common set of definitions is desirable but, for pragmatic reasons, the Standard should initially use the existing JORC definitions for mining enterprises and the existing WPC-SPE definitions for petroleum enterprises. However, a common set of definitions should be developed for the longer term.

A joint industry group should develop a common set of reserve definitions for mining and petroleum enterprises.

Basic Issue 3.1 - A common set of reserve definitions for financial reporting by mining and petroleum enterprises
Should an International Accounting Standard on the extractive industries contain a common set of reserve definitions to be used by both mining and petroleum enterprises?

Sub-issue 3.1.1 - Developing the common definitions
If a common set of definitions is to be developed, either for the initial IASC Standard on the extractive industries or for the longer term, who should develop those definitions?

Sub-issue 3.1.2 - Probabilistic vs. deterministic approach to reserve definitions
The current petroleum industry reserve definitions allow an enterprise to choose whether to use a deterministic or a probabilistic approach to measuring reserve quantities. The JORC mining definitions are deterministic. Should an International Accounting Standard require either the deterministic or the probabilistic approach for both petroleum and mining enterprises?

Sub-issue 3.1.3 - Feasibility of probabilistic definitions for mining reserves
Is it feasible to develop probabilistic definitions for mining reserves?

Sub-issue 3.1.4 - Quantification of statistical probabilities
The petroleum industry reserve definitions rely on a 90 per cent statistical probability for proved reserves, a 50-90 per cent or greater statistical probability for probable reserves, and a 10-50 per cent probability for possible reserves. If a probabilistic approach were either a requirement or an option for mining companies, are these quantifications of probability appropriate for financial reporting?

Basic Issue 3.2 - Operating conditions and environment
In making estimates of reserve quantities, what assumptions about operating conditions, such as expected technological developments, legal and regulatory environment, operating equipment, etc., should be made?

Basic Issue 3.3 - Levels of prices and costs
In general, which price level would you use for measuring reserve quantities - assume that a consistent cost level will be used as well?

Basic Issue 3.4 - Income taxes
If discounting of cash flows is necessary for purposes of estimating reserve quantities, should income taxes be considered as a cash outflow?

Basic Issue 3.5 - Discount rate

If discounting of cash flows is necessary for purposes of estimating reserve values, which discount rate would you use?

Figure 9
Some Definitions Relating to Reserves (from the Issues Paper)

reserves	those quantities of petroleum or minerals that are anticipated to be commercially recoverable from known accumulations from a given date forward (usually referred to as ore reserves in the mining industry and as oil and gas reserves in the petroleum industry)
ore reserve	in the mining industry, the economically mineable part of a mineral resource (see reserves)
mineral resource	in the mining industry, a concentration or occurrence of material of intrinsic economic interest in or on the Earth's crust in such form and quantity that there are reasonable prospects for eventual economic extraction. Also called minerals in place. In the petroleum industry, called oil and gas in place. Note: "economic extraction" means commercial recoverability.
measured mineral resources (also measured mineral reserves)	in the mining industry, that part of a mineral resource for which tonnage, densities, shape, physical characteristics, grade, and mineral content can be estimated with a high level of confidence. It is based on detailed and reliable exploration, sampling and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings, and drill holes. The locations are spaced closely enough to confirm geological and/or grade continuity.
proved reserves	quantities of commercially recoverable mineral reserves that, on the basis of geological, geophysical, and engineering data, can be demonstrated with reasonable certainty to be recoverable in the future from known reservoirs and mineral deposits under existing economic and operating conditions. Generally divided between proved developed reserves and proved undeveloped reserves
proved developed reserves	proved reserves that can be expected to be recovered through existing equipment and operating methods and not requiring significant additional development costs.
proved undeveloped reserves	proved reserves that are expected to be recovered from new wells or mines in areas containing required for completion
probable (mineral) **reserves**	reserves that cannot be demonstrated with reasonable certainty to be recoverable (and, therefore, not proved or proven) but nevertheless, based on geological, geophysical, and engineering data, are more likely to be recovered than not to be recovered
possible (mineral) **reserves**	reserves whose recovery is reasonably possible but which are more likely not to be recovered than to be recovered
proven reserves	a term sometimes used to describe proved reserves measured using a probabilistic approach
probabilistic approach (to defining reserves)	defining reserve categories in terms of a quantified measure of probability
deterministic approach (to defining reserves)	defining reserve categories in qualitative terms like "with reasonable certainty" rather than a quantified measure of probability
mineral rights or mineral interests	the right to extract and retain at least a portion of the benefits from mineral reserves

Issues Relating to Primary Financial Statements Based on Historical Costs

Key Points. Chapters 4 and 5 of the Issues Paper raise "big picture" accounting issues. They set out the underlying concepts of cost-based and value-based accounting models for mining and petroleum companies. While Chapter 4 includes broad descriptions of, and arguments for and against, the four cost-based accounting models used by mining companies today - area of interest, successful efforts, full cost, and the appropriation method - detailed examination of capitalisation vs. expensing of various specific kinds of costs incurred in the various phases of activity is left until Chapter 6. Moreover, after describing the appropriation method in Chapter 4, the Issues Paper does not pursue it as a viable alternative because the IASC Steering Committee concluded that it is inconsistent with the IASC Framework, with historical cost accounting, with the going concern concept, and with practice in most countries. In the one country (South Africa) where it had gained a following, it is increasingly being abandoned. Broad descriptions of the three main cost-based methods are as follows:

Successful efforts method: Costs that lead to finding, acquiring, and developing mineral reserves are capitalised. Costs that do not lead directly to finding, acquiring, and developing mineral reserves are charged to expense. Costs whose outcome is unknown may be capitalised or expensed, resulting in a wide range of methods all falling under the successful efforts umbrella.

Area-of-interest method: Costs are accumulated for individual geological areas toward which exploration efforts are directed, on grounds that such areas have characteristics that suggest they might contain a mineral deposit (resource). If the area of interest is subsequently found to contain commercially recoverable reserves, the accumulated costs are capitalised and amortised as reserves are produced. If the area is found not to contain commercial reserves, the accumulated costs are charged to expense. The area-of-interest method differs from the successful efforts method in that it does not require a linkage between the particular costs capitalised and specific reserves discovered. Some mining companies use a hybrid method between area-of-interest accounting and successful efforts accounting, charging all prospecting and exploration costs to expense up to the point that commercial reserves are found in an area of interest and capitalising all such costs after that point.

Full cost method: Under the full cost accounting concept, all costs incurred in searching for, acquiring, and developing mineral reserves in a large cost centre such as a country or group of countries are capitalised, even though a specific cost in a cost centre may have resulted from an effort that was clearly a failure; and outcome is unknown may be capitalised or expensed.

While mining companies tend to follow area-of-interest accounting, there are some that use successful efforts and others that use full cost accounting. However, it is important to bear in mind that the major distinctions between these methods lie in accounting for exploration costs - particularly costs incurred before acquisition of mineral rights as well as post-acquisition exploration costs whose outcome is unknown. Exploration activities and related risks and rewards are of far greater significance in the petroleum industry than in mining, perhaps with a few exceptions such as gold. In mining, the efforts, risks, and rewards depend on the ability to produce and market known reserves on a commercial basis rather than on finding the reserves in the first place. So while the debate among successful efforts, area-of-interest, and full cost accounting does have some relevance to mining, it is comparatively more significant in the oil and gas industry.

Steering Committee Tentative Views

The Steering Committee favours adoption of a method more consistent with the successful efforts concept than with other concepts.

Basic Issue 4.2 - Historical cost concepts for mining enterprises

For mining enterprises, if one of the historical cost concepts were required for the primary financial statements, which of the following concepts, broadly defined, should be adopted?

A method more consistent with the successful efforts concept than with the other concepts.

A method more consistent with the area-of-interest concept than with the other concepts.

A method more consistent with the full cost concept than with the other concepts.

A method more consistent with the appropriation concept than with the other concepts.

Sub-issue 4.2.1 - Allow more than one concept for mining enterprises

For mining enterprises, should an accounting standard allow an enterprise to choose among more than one historical cost concept in the primary financial statements and, if so, which concepts should be permitted?

(Basic Issue 4.1 and Sub-issue 4.1.1 asked the same questions with respect to petroleum enterprises.)

Issues Relating to Primary Financial Statements Based on Fair Values

Key Points. Because the most important economic asset of many mining companies is the mineral reserves that it owns, leases, or otherwise controls, there is a legitimate school of thought that argues that none of the cost-based methods described in Chapter 4 can adequately inform investors and creditors about the financial strength of a mining company, or help them forecast cash flows, earnings, and share price, or provide feedback about the success or failure of its exploration efforts (a going concern must replace the minerals it produces). Chapter 5 considers a fair value model as a possible alternative to cost-based accounting.

Clearly, the measurement reliability issues are huge with respect to estimating the fair values of mineral reserves. A further complicating factor is IASC's indecision - at least to date - as to whether recognised changes in fair values of assets and liabilities should be reported in income or in equity. And if they are reported in income, are they presented in a "second performance statement" apart from the traditional income statement, or do they enter into determining net income? The new IASB would avoid those issues if they adopt the Steering Committee's recommendation that the primary financial statements of an extractive industries enterprise should be based on historical costs, not on estimated reserve values, though it is not likely that they will be able to continue to finesse the matter much longer.

Steering Committee Tentative Views

The primary financial statements of an extractive industries enterprise should be based on historical costs, not on estimated reserve values.

Information about reserve quantities and values, and changes in them, is a key indicator of the performance of an extractive industries enterprise.

Information about reserve quantities and values, and changes in them, should be disclosed as supplemental information.

Basic Issue 5.2 - Basis of primary financial statements: mining enterprises

For mining enterprises, should the primary financial statements be based on a historical cost concept or a value-based concept of accounting for preproduction activities and reserves?

(Basic Issue 5.1 asked the same questions with respect to petroleum enterprises.)

Basic Issue 5.3 - Which value based concept

If a value-based concept of accounting for preproduction activities and reserves is required for the primary financial statements, which concept, broadly defined, should be adopted - discovery value or current value?

Basic Issue 5.4 - Which reserves

If either discovery value accounting or current value accounting is used in the primary financial statements, for which reserves should value be computed?

Basic Issue 5.5 - Which concept of value

If the primary financial statements were based on the values of reserves, on what concept of value should the values of mineral reserves be based?

Basic Issue 5.6 - Presenting discovery values

If discovery value accounting is used in the primary statements, how should the initial discovery values be presented (in net income, in equity with recycling, or in equity with no recycling)?

Basic Issue 5.7 - Presenting current values

If current value accounting is used in the primary statements, how should value changes (including both new discoveries and changes in values of past discoveries) be presented in the financial statements?

Issues Relating to Accounting for Preproduction Costs

Key Points. Critical capitalisation vs. expense questions include:

- Which costs meet the tests of the IASC Framework for recognition as an asset?
- Do costs of an activity whose outcome is not yet known qualify for recognition as an asset pending determination of success or failure? Is expense with subsequent reinstatement appropriate? If defer pending determination is followed, what kind of capitalisation limit or impairment test might be imposed?
- What is the appropriate cost centre - the geological, political, legal, or operating unit chosen to accumulate costs, with the principal purpose of matching them with revenues derived from the production and sale of related mineral reserves?

Chapter 6 includes the following table to depict the most common effects of the successful efforts, area-of-interest and full cost concepts. The term capitalise is used to include both recognition as assets and deferral of costs whose outcome is not yet known.

Figure 10
Cost Capitalisation under the Three Major Accounting Concepts

Type of cost (Phase of Activity)	Successful Efforts	Area-of-Interest	Full Cost
Preacquisition prospecting and exploration	Generally expense	Capitalise or expense	Capitalise
Property acquisition	Capitalise	Capitalise	Capitalise
Post-acquisition exploration	Capitalise or expense	Capitalise or expense	Capitalise
Evaluation or appraisal	Capitalise or expense	Capitalise or expense	Capitalise
Development	Capitalise	Capitalise	Capitalise
Construction	Capitalise	Capitalise	Capitalise

Steering Committee Tentative Views

All preacquisition prospecting and exploration costs should be charged to expense when incurred (with no subsequent reinstatement).

All direct and incidental property acquisition costs should be initially recognised as an asset.

All post-acquisition exploration and appraisal costs should be initially recognised as an asset pending the determination of whether commercially recoverable reserves have been found. This would include all post-acquisition G&G, drilling, trenching, and sampling exploration cost as well as all post-acquisition evaluation or appraisal costs. Some limit should be imposed if post-acquisition exploration and appraisal costs are deferred pending determination of whether commercially recoverable reserves have been found.

All development costs should be recognised as an asset.

Construction costs that relate to a single mineral cost centre should be capitalised as part of the capitalised costs of that cost centre (normally depreciated on a unit-of-production basis if the life of the assets is coincident with the life of the mineral reserves, or on a straight-line basis if the economic life is less than the life of the reserves). Construction

Steering Committee Tentative Views (continued)

costs that relate to more than one mineral cost centre should be accounted for in the same way as other property, plant, and equipment are treated under IAS 16, Property, Plant and Equipment (normally depreciated on a time basis).

Post-production exploration and development costs should be treated in the same way as any other exploration or development costs.
Both the benchmark and allowed alternative treatments of borrowing costs contained in IAS 23, Borrowing Costs, should be permitted.

Overhead cost should be attributed to the relevant phase of operations (prospecting, acquisition, exploration, evaluation, development, and construction) and further identified with a specific prospect, property, or area of interest. The overhead cost should be capitalised if, and only if, the direct costs of that phase of operations are capitalised for that specific prospect, property, or area of interest.

The Steering Committee does not favour cost reinstatement (reversing a prior period expense recognition in a subsequent period in which information becomes available that commercially recoverable reserves have been discovered).

Costs should be accumulated by area of interest or geological units smaller than an area of interest (for example, the field or the mine).

Basic Issue 6.1 - Preacquisition prospecting and exploration costs
How should preacquisition prospecting and exploration costs be accounted for?

Sub-issue 6.1.1 - Nature of the asset
If any preacquisition prospecting and exploration costs are capitalised or deferred as an asset, please describe your view as to the nature of the asset?

Basic Issue 6.2 - Mineral property direct acquisition costs
How should mineral property direct acquisition costs (the direct costs of acquiring legal rights to undeveloped mineral properties) be accounted for?

Sub-issue 6.2.1 - Nature of the asset
If any mineral property direct acquisition costs are capitalised or deferred as an asset, please describe your view as to the nature of the asset?

Basic Issue 6.3 - Incidental property acquisition costs
How should the incidental costs of acquiring undeveloped mineral properties (both payments to outsiders and internal costs attributable to acquiring the properties) be accounted for when incurred?

Basic Issue 6.4 - Post-acquisition G&G exploration costs
How should post-acquisition G&G exploration costs be accounted for?

Sub-issue 6.4.1 - Nature of the asset
If any post-acquisition G&G exploration costs are capitalised or deferred as an asset, please describe your view as to the nature of the asset?

Basic Issue 6.5 - Post-acquisition drilling, trenching, and sampling exploration costs
How should post-acquisition drilling, trenching, and sampling exploration costs be accounted for?

Sub-issue 6.5.1 - Nature of the asset
If any post-acquisition drilling, trenching, and sampling exploration costs are capitalised or deferred as an asset, please describe your view as to the nature of the asset?

Basic Issue 6.6 - Post-acquisition evaluation or appraisal costs
How should post-acquisition evaluation or appraisal costs be accounted for? These are costs incurred to determine whether reserves are commercially recoverable.

Sub-issue 6.6.1 - Nature of the asset
If any post-acquisition evaluation or appraisal costs are capitalised or deferred as an asset, please describe your view as to the nature of the asset?

Basic Issue 6.7 - Time limit on deferrals
If certain preproduction costs are deferred pending determination of whether commercially recoverable reserves were found, do you favour a time limit for any of these deferred cost categories, and if so what would that limit be? If your answer would be different for different categories of costs, please explain.

Basic Issue 6.8 - Development costs
How should development costs be accounted for?

Sub-issue 6.8.1 - Nature of the asset
If any development costs are capitalised or deferred as an asset, please describe your view as to the nature of the asset?

Basic Issue 6.9 - Construction costs
How should construction costs be accounted for?

Sub-issue 6.9.1 - Nature of the asset
If any construction costs are capitalised or deferred as an asset, please describe your view as to the nature of the asset?

Basic Issue 6.10 - Exploration and development costs after production
Sometimes, exploration and development costs are incurred after production has begun. If that is the case, how would you treat the cost?

Basic Issue 6.11 - Capitalisation of borrowing costs
Regardless of your view on capitalising costs of carrying undeveloped properties (Basic Issue 6.1), in general how should borrowing costs for expenditures in upstream activities be accounted for?

Sub-issue 6.11.1 - Start of capitalisation
If borrowing costs relating to the capitalised costs of acquisition, exploration, and development of mineral properties are capitalised, when should capitalisation begin?

Basic Issue 6.12 - Overhead costs
Can overhead attributable to activities whose costs are capitalised also be capitalised?

Basic Issue 6.13 - Carrying costs of undeveloped properties
How should the costs of carrying undeveloped mineral properties (other than financing costs and legal fees) be accounted for when incurred?

Basic Issue 6.14 - Choice of cost centre
If the successful efforts or area of interest concept were adopted, for what cost centre would you accumulate costs?

Issues Relating to Depreciation

Key Points. A critical issue is how capitalised exploration, acquisition, development, and construction costs should be allocated through periodic depreciation as minerals are produced. As noted earlier, IAS 16 does not apply to the costs of mineral rights or capitalised exploration, development, and production costs. However, there does not seem to be any particular reason why the depreciation provisions of IAS 16 are inappropriate for these costs: allocate the cost over the useful life on a systematic basis that reflects the pattern in which the asset's economic benefits are consumed. Among the mining-related depreciation issues raised in Chapter 7 are these:

- Which method - unit-of-production, a time-based method, or other?
- If unit-of-production, which categories of ore reserves (proved developed only, or all proved, or proved plus probable, or proved, probable, plus inferred)? And which assumptions in estimating reserves (current or future prices, costs, and technologies)? And should physical units of production be used, or a gross revenue approach, or a net revenue approach (revenues minus current and estimated future cash production expenses)?
- Assets that do (or could) serve more than one cost centre.
- Assets whose life is longer than that of the reserves.
- Joint products and by-products.
- Changes in reserve estimates.
- Major inspection and overhaul costs.

Steering Committee Tentative Views

Use unit-of-production depreciation for all capitalised preproduction costs with two exceptions:(a) use straight-line depreciation for capitalised construction costs that serve a single mineral cost centre if the economic life of the asset is less than the life of the reserves and (b) follow IAS 16 for capitalised construction costs that serve two or more cost centres (sometimes called service assets).

Changes in reserve estimates should be reflected prospectively, that is, included in the determination of net profit or loss in the period of the change and future periods, consistent with the requirements of IAS 8, Net Profit or Loss for the Period, Fundamental Errors and Changes in Accounting Policies.

Basic Issue 7.1 - Method of calculating depreciation

Which method is appropriate for calculating depreciation of various categories of capitalised costs included in a producing cost centre? If your answer would be different for the mining industry and for the petroleum industry, please explain how and why it would be different.

> Sub-issue 7.1.1 - Use of different methods
>
> If, in answering Basic Issue 7.1, you concluded it is appropriate to use straight-line depreciation on some assets in the minerals cost centre and unit-of-production depreciation on other assets in the cost centre, please explain why.
>
> Sub-issue 7.1.2 - Assets that serve, or are capable of serving, two or more cost centres
>
> What method of depreciation should be used for assets that serve, or are capable of serving, two or more cost centres?

Basic Issue 7.2 - Base for computing unit-of-production depreciation

How should unit-of-production depreciation be computed?

Basic Issue 7.3 - Base depreciation on quantity of ore or mineral content
Is it permissible to compute depreciation based on the physical quantity of ore produced, or should depreciation be based on the physical quantities of the mineral content?

Basic Issue 7.4 - Category of reserves for unit-of-production depreciation
Assuming that the unit-of-production method is deemed appropriate for depreciation of capitalised preproduction costs once production has begun, on which category of reserves would you base depreciation of costs capitalised for each phase of activity?

Sub-issue 7.4.1 - Consideration of proved undeveloped reserves in computing depreciation
If only proved developed reserves are used in computing depreciation in a cost centre, what consideration, if any, should be given to proved undeveloped reserves, including costs already incurred on such reserves and future costs to develop the reserves?

Sub-issue 7.4.2 - Depreciation and future preproduction costs
If only proved (but not probable or possible) reserves are to be included in the reserve base for calculating unit-of-production depreciation, what consideration, if any, should be given to future costs to complete the development of proved undeveloped reserves (estimated future exploration, appraisal, development, and construction costs)?

Sub-issue 7.4.3 - Depreciation and future preproduction costs
If all proved and probable (but not possible) reserves are to be included in the reserve base for calculating unit-of-production depreciation, what consideration, if any, should be given to future costs to complete the development of undeveloped reserves (estimated future exploration, appraisal, development, and construction costs)?

Sub-issue 7.4.4 - Depreciation and future preproduction costs
If all proved and probable and possible reserves are to be included in the reserve base for calculating unit-of-production depreciation, what consideration, if any, should be given to future costs to complete the development of undeveloped reserves (estimated future exploration, appraisal, development, and construction costs)?

Basic Issue 7.5 - Depreciation if joint products are produced: quantities or revenues
When joint products are produced, should depreciation be based on the production quantity or revenue?

Basic Issue 7.6 - Change in reserve estimates
Should the general requirement in IAS 8 that changes in estimates affecting depreciation should be reflected prospectively (affecting the current and future periods) and not retrospectively (affecting past periods as well as the current and future periods) apply to a change in reserve estimates?

Issues Relating to Removal and Restoration

Key Points. IAS 37, Provisions, Contingent Liabilities and Contingent Assets, applies to mining companies. It requires that an enterprise recognise a provision (liability of uncertain timing or amount) when, and only when, three conditions are met:

1. the enterprise has a present obligation (legal or constructive) as a result of a past event;

2. it is probable that an outflow of resources will be required to settle the obligation; and

3. a reliable estimate can be made of the amount of the obligation.

However, IAS 37 expressly states that it does not address what to do with the debit when a provision is made. If the provision arises on the acquisition of an asset, is the debit part of the cost of the acquired asset? This is not uncommon in the extractive industries, where the law requires site cleanup and restoration for mines, oil drilling platforms, and the like. However, despite the disclaimer in the body of IAS 37, there is an example in Appendix C of the Standard that concludes that (a) a provision must be recognised for seabed restoration when an oil rig is installed and (b) the costs are included as part of the cost of the oil rig. Chapter 8 discusses a related issue of considerable importance to mining companies - should a provision be recognised for removal and restoration costs resulting from production (rather than asset acquisition), and is the debit an asset or expense.

Steering Committee Tentative Views

IAS 37, Provisions, Contingent Liabilities and Contingent Assets, should be applied without modification to the recognition of removal and restoration costs and obligations in the extractive industries.

If the amount of a provision is part of the cost of acquiring the asset, it is recognised as such and is included in the depreciable amount of the asset.

The cost relating to a provision necessitated by production activities after an asset is installed should be capitalised as an additional cost of acquiring the asset, if the cost provides incremental future economic benefits.

The current market assessment of the discount rate should be used at each balance sheet date in estimating an enterprise's liability for removal and restoration cost.

If the cost associated with a provision was initially capitalised, changes in the estimated amount of the provision should be recognised in subsequent periods as an adjustment to the carrying amount of the asset.

Basic Issue 8.1 - Applicability of IAS 37
Should the general requirements of IAS 37 be applied in recognising and measuring future removal and restoration provisions by enterprises in the extractive industries?

Basic Issue 8.2 - Provision arising when an asset is installed
Should an enterprise capitalise as part of the cost of the related asset the amount of a provision established for subsequent removal and restoration where the liability for performing such work is caused by the installation of the facility?

Basic Issue 8.3 - Removal and restoration arising as a result of production
How should an enterprise recognise a provision for removal and restoration that results from production activities subsequent to the installation?

Basic Issue 8.4 - Discount rate
Should the discount rate used in measuring a provision be the same as the rate used in assessing impairment?

Basic Issue 8.5 - Changes in provisions other than for changes in the discount rate
Should changes in the estimated amount of a provision for removal and restoration after it is initially recorded (other than those resulting from changes in the discount rate - see next issue) be recognised in subsequent periods?

Basic Issue 8.6 - Changes in the discount rate
Should changes in the discount rate(s) in periods after a provision for removal and restoration is initially recorded be considered in calculating the provision needed in subsequent periods?

Basic Issue 8.7 - Treatment of the effect of a change in a provision
If a change is recognised in the amount of a provision after the provision is initially recognised, does the amount of the change adjust the carrying amount of any asset arising from the original recognition of the provision, or is it reported in net profit or loss for the period?

Basic Issue 8.8 - Deposits to fund dismantlement, removal and abandonment
If an enterprise is required to contribute to a statutory fund for dismantlement, removal and abandonment, should the deposits contributed to the fund be recognised as an asset?

Issues Relating to Impairment

Key Points. How should IAS 36, Impairment of Assets, apply in an extractive industries context. IAS 36 requires that an impairment loss be recognised whenever the carrying amount of an asset is below its recoverable amount. Recoverable amount is the greater of net selling price and value in use (the latter being the present value of net future cash inflowing from using the asset and disposing of it at the end of its useful life). Under IAS 36, an impairment calculation must be made only when there are indicators of possible impairment. Among the issues addressed are:

- What are the indicators of impairment of costs related to mineral reserves?
- Reserve categories to be used to measure recoverable amount.
- Estimating value in use of mineral assets.
- Impairment of individual assets versus impairment of cash-generating units.
- Accounting for preproduction costs whose outcomes have not been determined - is any sort of recoverable amount calculation possible?
- Mineral properties that have not yet been determined to contain or not contain commercial reserves - is net selling price determinable?

Steering Committee Tentative Views

IAS 36, Impairment of Assets, should be applied without modification to account for impairments of assets in the extractive industries.

Impairment of capitalised preproduction costs should be assessed based on proved and probable reserves.

An impairment test cannot be applied to deferred preproduction costs whose outcome is unknown. The Steering Committee favours some type of limit if preproduction costs are deferred pending determination of whether commercially recoverable reserves are found.

The general guidance in IAS 36 for reversal of provisions is appropriate for assets in the extractive industries.

Basic Issue 9.1 -Reserve category for impairment
Your response to the issues in Chapter 6 indicated which costs you would capitalise as relating to reserves, including whether you would capitalise costs whose outcome is not yet known. Consistent with that response, which category of reserve quantities would you use for assessing impairment of those capitalised costs to which reserves have been attributed? If your answer would be different depending on whether successful efforts, area-of-interest, or full cost is applied, please explain.

Basic Issue 9.2 - Cash generating unit
IAS 36 provides that in estimating value in use, cash flows should be identified with individual assets, if possible. If this is not possible, cash flows should be determined for the smallest cash-generating unit (CGU) possible. In general, how should the CGU be identified for assessing impairment of preproduction costs?

Basic Issue 9.3 - Discount rate
IAS 36 provides guidance for determining the discount rate to be used in measuring impairment of mineral assets, including a provision that a pre-tax rate should be used. Is industry-specific guidance needed in an accounting standard for the extractive industries?

Basic Issue 9.4 - Reversal of impairment provisions
IAS 36 calls for the reversal of impairment provisions if there is a recovery in the value of an asset or cash-generating unit on which impairment has been recorded. Are there special considerations involving reversals of impairment of mineral assets that should be included in a Standard issued on accounting for the extractive industries?

Basic Issue 9.5 - Impairment of deferred preproduction costs that are not attributed to a cash generating unit
If any preproduction costs are deferred until success or failure is known, how should impairment be assessed?

Revenue Recognition Issues

Key Points. IAS 18, Revenue, does not apply to "the extraction of mineral ores", although it is hard to think of a good reason why it shouldn't. One possible reason is that recognition of revenue at production contradicts the general revenue recognition principles in IAS 18. Some mining companies do that when the minerals have quoted market prices in active markets with only insignificant costs to be incurred beyond the point of production and with the production intended to be sold quickly. However, revenue recognition in those circumstances is allowed by IAS 2, Inventories.

Other issues in this chapter include take or pay contracts, preproduction revenue, royalties, product exchanges, overlifts and underlifts, and the inclusion of severance and production taxes in revenue.

Steering Committee Tentative Views

The general provisions of IAS 18, Revenue, should apply to enterprises in the extractive industries, and IAS 18 should be amended to eliminate the scope exclusion. The extractive industries standard should address unique revenue recognition industries, perhaps including guidance on applying IAS 18 to extractive industries enterprises.

The general criteria for revenue recognition from the sale of goods in IAS 18 should be followed. That is, special provisions should not be established for minerals that have quoted market prices in active markets with a short time between production and sale and insignificant costs to be incurred beyond the point of production, and the enterprise intends to sell those minerals in that market.

Revenue received prior to the production phase should be recognised as revenue or other income, not as a reduction of capitalisable costs.

Royalties paid in cash, royalties paid in kind, and severance taxes should all be included in the producer's gross revenue and deducted as an expense.

Severance taxes paid in cash should be included in the producer's revenue and expenses.

Basic Issue 10.1 - Include extractive industries under IAS 18?
IAS 18, Revenue, does not apply to revenue arising from "the extraction of mineral ores". If revenue issues unique to upstream activities in the extractive industries are addressed in an extractive industries Standard, should IAS 18 be amended to eliminate the scope exclusion?

Basic Issue 10.2 - Recognition of revenue from minerals that can be sold in ready markets
If minerals produced by an extractive industries enterprise have quoted market prices in active markets with a short time between production and sale and insignificant costs to be incurred beyond the point of production, and the minerals are intended to be sold in that market, when should revenue be recognised?

> Sub-issue 10.2.1 - Recognition of revenue from minerals that can be sold in ready markets but that will be used internally
> If minerals described in Basic Issue 10.2 (quoted market prices, active markets, insignificant after-production costs) are intended to be further processed by the enterprise - that is, to be transferred within the enterprise for use in downstream activities - when should revenue be recognised?

Basic Issue 10.3 - Revenue received prior to the production phase
If some minerals are produced and sold prior to the beginning of the production phase - for example, during testing in the development phase - how should the proceeds be accounted for?

Basic Issue 10.4 - Revenue from an undertake, with a makeup period
If minerals are produced and sold at a fixed or determinable price under a sale contract that requires delivery of a minimum quantity and sometimes a maximum quantity (such as a take-or-pay contract), and the minimum quantity is not taken, but the contract does allow a fixed amount of time for the buyer to make up any minimum quantity not taken, when should revenue from the undertake be recognised?

Basic Issue 10.5 - Overlifts and underlifts
If, in a given period, a participant in a joint venture takes and sells more than its share of production (overlift) or less than its share of production (underlift), how should the imbalance be accounted for?

Sub-issue 10.5.1 - Sales method: adjustment of production costs?
If the sales method is used to account for an overlift (underlift) imbalance, should the owner in an overlift situation record a liability and an increase to operating expenses (or, in an underlift situation, a prepaid expense and a reduction of operating expenses) for the share of expenses related to the imbalance paid (owed) by the owner?

Sub-issue 10.5.2 - How to price overlifts and underlifts
If the joint operating agreement (contract) provides for makeups (overlifts and underlifts) in quantities without specifying a particular price, what price should be used to price overlifts and underlifts for accounting purposes?

Basic Issue 10.6 - Royalties paid in cash
How should the producer account for cash royalties owed to the royalty owner? [Note: It is generally recognised that measurement of the producer's reserve quantities should be consistent with the inclusion or exclusion of royalty amounts in the producer's gross revenue.]

Sub-issue 10.6.1 - Royalties taken in kind
If the royalty owner takes production in kind, rather than a cash payment, how should the producer account for the royalty quantity of production?

Basic Issue 10.7 - Severance taxes
Should severance taxes paid in cash (rather than in kind) be included in the producer's revenue and expenses?

Issues Relating to Inventories

Key Points. Among the inventory issues for mining companies:

- Many mining companies do not recognise work in process inventories at all.
- Some recognise finished goods at fair value.
- There are differences in the cost components included in inventory.

Steering Committee Tentative Views

Inventories of minerals should be measured at historical cost, even if those minerals have quoted market prices in active markets with a short time between production and sale and insignificant costs to be incurred beyond the point of production, and the enterprise intends to sell those minerals in that market.

Inventory cost should include overhead related directly to the production cost and should not include general overhead costs allocated from higher levels in the organisation.

Basic Issue 11.1 - Recognition of work-in-process inventories
At what point in the production process should an extractive industries enterprise recognise work-in-process inventories?

Basic Issue 11.2 - Recognition of finished goods inventories
At what point in the production process should an extractive industries enterprise recognise finished goods?

Basic Issue 11.3 - Cost or fair value basis for measuring inventories
If minerals produced by a extractive industries enterprise have quoted market prices in active markets with a short time between production and sale and insignificant costs to be incurred beyond the point of production, and the minerals are intended to be sold in that market, should those inventories be measured on the basis of historical costs or on the basis of fair value (net realisable value)?

Basic Issue 11.4 - Items included in inventory cost
If the historical cost approach to measuring inventories is used as described in IAS 2, which of the following items should be included in costs for this purpose (you can choose more than one)?

Basic Issue 11.5 - Joint products
How should production costs be allocated between the joint products?

Issues Relating to Risk and Cost Sharing Arrangements

Key Points. A sampling of the mind-boggling array of arrangements includes poolings of capital, conveyances, farm-outs, joint operating agreements, carried interests, production sharing contracts, and unitisations, not to mention various forms of the garden-variety joint venture. In some of these arrangements, the investor controls all or a portion of the reserves and is entitled to the benefits from them. In other cases, the investor simply shares in the output but has no control. Therefore, a related issue is the extent to which the investor's share of reserves attributable to these arrangements should be included in the investor's reserve quantities and values for purposes of disclosure, depreciation, impairment testing, and so on.

The Steering Committee did not develop tentative views on issues relating to risk and cost sharing arrangements.

Basic Issue 12.1 - Recognition or nonrecognition of a gain and loss on inception of an agreement
Should an International Accounting Standard establish general rules for recognition or nonrecognition of a gain or loss at the inception of a cost sharing arrangement, that is, when the parties have fulfilled their obligations under the agreement? Alternatively, instead of establishing general rules, should an International Accounting Standard establish specific rules for recognition or nonrecognition of a gain or loss for specific types of risk and cost sharing arrangements (for instance, farm outs, unitisations, and carried interests) from which principles for other types of arrangements can be analogised?

Basic Issue 12.2 - Transferor accounting for a farm-out and similar arrangements
Should any profit or loss be recognised by the transferor on the transfer of a share of the mineral interest in a property in exchange for exploration and development of that property by the transferee?

Sub-issue 12.2.1 - Transferor accounting for costs of interest given up
If the transferor recognises no profit or loss on the transaction, how should the costs related to the interest in the property given up be accounted for by the transferor?

Sub-issue 12.2.2 - Measurement of profit or loss by transferor
If the transferor does recognise a profit or loss on the transaction, how should the profit or loss be measured?

Basic Issue 12.3 - Transferee accounting for farm-outs and similar conveyances
If an enterprise (transferee) receives a mineral interest in a property in return for exploring and developing that property, should the transferee recognise a profit or loss from carrying out the exploration and development?

Sub-issue 12.3.1 - Transferee accounting for costs incurred
If the transferee recognises no profit or loss on the transaction, how should the costs incurred in the exploration and development be accounted for by the transferee?

Sub-issue 12.3.2 - Measurement of profit or loss by transferee
If the transferee does recognise a profit or loss on the transaction, how should the profit or loss be measured?

Basic Issue 12.4 - Accounting for carried interests
Would you propose any different accounting for a carried interest, by either the transferor (the carried party) or the transferee (the carrying party), than you recommend for farm-outs in your responses to Basic Issues 12.1, 12.2, and 12.3 and related Sub-issues?

Basic Issue 12.5 - Accounting for unitisations, no cash payment
If a unitisation does not involve a cash equalisation payment by one party to the other party(ies), would you propose any different accounting for a unitisation than you recommend for farm-outs in your responses to Basic Issues 12.1, 12.2, and 12.3 and related Sub-issues?

Basic Issue 12.6 - Accounting for unitisations with a cash payment for equalisation: recipient
If a unitisation involves a cash equalisation payment by one party to the other party(ies), how should the recipient account for the payment?

Basic Issue 12.7 - Accounting for unitisations with a cash payment for equalisation: payer
If a unitisation involves a cash equalisation payment by one party to the other party(ies), how should the payer account for the payment?

Basic Issue 12.8 - Joint ventures
Should joint ventures created and operated under joint operating agreements in the extractive industries be accounted for as provided in IAS 31, or should special provision be made for joint ventures in the extractive industries?

Basic Issue 12.9 - Cash consideration in a unitisation
How should cash consideration paid and received in a unitisation or similar arrangement be accounted for?

Basic Issue 12.10 - Nonrecoverable costs incurred by contractor in a production sharing contract (PSC)
How should the contractor in a PSC account for exploration and development costs that are not recoverable from production?

Basic Issue 12.11 - Recoverable costs incurred by contractor in a production sharing contract
How should the contractor in a PSC account for exploration and development costs that are recoverable from production?

Basic Issue 12.12 - Infrastructure costs required to be installed by contractor
How should the contractor in a PSC account for infrastructure costs that are required by the government to be installed?

Basic Issue 12.13 - Cost recovery oil or minerals
How should the contractor in a PSC account for proceeds of sale, or value of oil or minerals taken, relating to cost recovery oil or minerals?

Basic Issue 12.14 - Depreciation of capitalised costs
How should the contractor in a PSC depreciate capitalised costs?

Basic Issue 12.15 - Assets to which title has passed to government
How should the contractor in a PSC account for the cost of assets to be used in production when title to the assets has passed to the host government?

(Basic issue 12.16 omitted because it is petroleum-industry specific.)

Basic Issue 12.17 - Contractor's expected reserves if title is not held to reserves
Should the contractor include in reserve disclosures expected reserves if title to the reserves is not held by the contractor but is held by the government?

(Basic issue 12.18 omitted because it is petroleum-industry specific.)

Issues Relating to Purchases and Sales of Mineral Properties

Keypoints. Among many issues are:

- purchase of property that comes with the seller's knowledge from its prospecting and exploration activities, where prospecting and exploration costs would otherwise be charged to expense if the enterprise incurred those costs itself;
- recognition of goodwill when an enterprise purchases (a) a single developed mineral property, (b) a portfolio that includes developed properties, or (c) an enterprise engaged solely in upstream activities;
- gain recognition if partial interests in properties are sold (and does it make a difference if the property is developed or not); and
- property retirements and abandonments.

The Steering Committee did not develop tentative views on issues relating to purchases and sales of mineral properties.

Basic Issue 13.1 - Purchased exploration
If an enterprise acquires an undeveloped mineral property that has been partly explored, should the cost of the property include the portion of the purchase price deemed to apply to the seller's exploration costs or other costs that the acquirer would charge to expense if it had incurred those costs directly?

Basic Issue 13.2 - Purchase of mineral property - allocation of purchase price
If an enterprise acquires a mineral property that has been partially or fully developed, how should the acquisition cost be allocated between (a) the mineral property, (b) tangible equipment and other tangible assets, and (c) intangible development costs?

Basic Issue 13.3 - Allocation of cost of a portfolio of mineral properties
If an enterprise acquires a portfolio of mineral properties, how should the acquisition cost be allocated to individual properties?

Basic Issue 13.4 - Purchase of an enterprise - allocation of purchase price
If an enterprise purchases another enterprise that has been engaged in exploration and production activity, should any portion of the purchase price be allocated to goodwill?

Basic Issue 13.5 - Sale of a noncommercial property that is part of a group (portfolio)
If one noncommercial mineral property is sold for an amount different from the carrying amount of that individual property, and that property is part of a group of properties that is being accounted for as a portfolio, should a gain or loss be recognised on the sale?

Basic Issue 13.6 - Gain or loss recognition on sale of partial interests
If an enterprise sells a part of its interest in a noncommercial mineral property that is not being accounted for as part of a group [see Basic Issue 13.4], while retaining the remaining interest, should a gain or loss be recognised? Please explain your reasoning.

Basic Issue 13.7 - Sale of partial interest in a property with commercially recoverable reserves
If an enterprise sells a part of its interest in a commercial mineral property for an amount different from the carrying amount of the interest sold, and that property is an individual cost centre, should a gain or loss be recognised on the sale? Please explain your reasoning.

Sub-issue 13.7.1 - Allocation of carrying amount
If an enterprise sells a divided interest in a commercial mineral property, and gain or loss is to be recognised, how should the carrying amount of the property be allocated between the interest sold and the interest retained?

Basic Issue 13.8 - Sale of a property with commercially recoverable reserves that is part of a depreciable cost centre
If one commercial mineral property is sold and that property is part of a larger depreciable cost centre, should a gain or loss be recognised on the sale?

Basic Issue 13.9 - Retirement or abandonment of an asset that is part of a group
Should a gain or loss be recognised on the retirement or abandonment of an individual asset that is part of a group of assets on which depreciation is being computed (for example, all of the assets in a mine)?

Disclosure Issues: Reserve Quantities and Values

Key Points. The issues include the obvious one: should disclosure of reserve quantities or values or both be required, assuming the primary financial statements are on a cost basis. If quantity disclosures are required, for which categories of reserves, and should reserves attributable to minority holdings be disclosed. If value disclosures are required, how to measure value, including which reserves and which costs, prices, discount rate, and other assumptions. For both quantity and value, various other issues are raised, including segment reserve disclosures and reconciliations of changes in quantities and values. For mining companies, the Issues Paper also asks about disclosure of resources and ore grades.

Steering Committee Tentative Views

Information about reserve quantities and values, and changes in them, is a key indicator of the performance of an extractive industries enterprise.

All members of the Steering Committee favour disclosure of reserve quantities. The Steering Committee is divided regarding disclosure of reserve values.

Disclose proved and probable reserves separately, and within proved disclose proved developed and proved undeveloped reserves separately.

The Steering Committee did not develop views on other aspects of reserve disclosures.

Basic Issue 14.1 - Supplemental reserve disclosures (quantity or value)
If a historical cost based method is used for the primary financial statements, do you favour supplemental disclosures based on quantities or values of reserves?

Basic Issue 14.2 - Disclosure of reserve quantities by geographical area
If reserve quantities are disclosed, should the disclosure be on an enterprise-wide basis or subdivided geographically or geologically?

Basic Issue 14.3 - Categories of reserves for quantity disclosures
If reserve quantities are to be disclosed, which separate categories of reserves would you use for disclosure of reserve quantities?

Sub-issue 14.3.1 - Proved developed and undeveloped combined or separately
If total proved reserve quantities are to be disclosed, should separate disclosure be required of proved developed and proved undeveloped reserve quantities?

Sub-issue 14.3.2 - Proved and probable combined or separately
If proved and probable reserve quantities are to be disclosed, should separate disclosure be required of proved and probable reserve quantities?

Sub-issue 14.3.3 - Proved, probable, and possible combined or separately
If proved, probable, and possible reserve quantities are to be disclosed, should separate disclosure be required of proved, probable, and possible reserve quantities?

Basic Issue 14.4 - Disclosure of mineral resources
Should quantities of estimated mineral "resources" be disclosed, and if so what categories of resources should be disclosed?

Basic Issue 14.5 - Disclosure of grade factors for minerals
If mineral reserve quantities are disclosed by mining enterprises, should grade factors and content or mix of minerals be disclosed?

Basic Issue 14.6 - Number of periods for reserve quantity disclosures
If reserve quantities are to be disclosed, for how many financial periods should they be disclosed?

Basic Issue 14.7 - Reconciliation of proved reserve quantities
If a schedule reconciling beginning and ending proved reserves is presented, are the following line items appropriate?

- Revisions of previous estimates.
- Production.
- Discoveries and extensions.
- Additions as the result of installing improved recovery methods.
- Purchases of commercial reserves in place (that is, purchases of mineral properties).
- Sales of commercial reserves in place (that is, sales of mineral properties).
- Other changes.

Basic Issue 14.8 - Reconciliation of probable reserves
If a schedule reconciling beginning and ending probable reserves is presented, are the line items identified in Basic Issue 14.7 appropriate, except that "transfers to proved reserves" would replace "production"?

Basic Issue 14.9 - Disclosure of an equity method associate's reserves
How, if at all, should an investor report its share of reserves controlled by an associate accounted for under the equity method?

Basic Issue 14.10 - Minority interest in reserves of a subsidiary
If an enterprise's reserves include reserves of a subsidiary with a significant minority interest, how should the minority interest in the reserves be presented?

Basic Issue 14.11 - Valuation method for the purpose of supplemental disclosure
If the values of reserves are to be disclosed, which valuation method should be used?

Basic Issue 14.12 - Which categories of reserves for value disclosures
If reserve values are to be disclosed in the notes, on which categories of reserves should the note disclosures be based?

Basic Issue 14.13 - Assumptions about prices and costs in making reserve value estimates
What assumptions should be made about price and cost factors in making reserve value estimates for disclosure purposes?

Basic Issue 14.14 - Discount rate for estimating reserve values for disclosure purposes
What discount rate should be used in making reserve value estimates for disclosure purposes?

> Sub-issue 14.14.1 - Pre-tax or after-tax discount rate
> Should the discount rate used in estimating reserve values for disclosure purposes be a pre-income-tax rate or an after-income-tax rate?

Basic Issue 14.15 - Standardised measure of future cash flows: requirement
Should a "standardised measure of future net cash flows" be required either in the notes to the financial statements or as a separate schedule?

> Sub-issue 14.15.1 - Standardised measure of future cash flows: measurement
> If a "standardised measure of future net cash flows" were to be required, which of the following requirements should be imposed? If you disagree with any of the possible requirements, please explain why.

Basic Issue 14.16 - Analysis of changes in estimated reserve values
If disclosures of the values of reserves are required, should an analysis of changes in estimated reserve values between the beginning and the end of the year be presented?

> Sub-issue 14.16.1 - Items included in analysis of changes in estimated reserve values
> If an analysis of changes in estimated reserve values is presented, are the following line items appropriate?
>
> 1. Revisions of quantity estimates made in the prior year.
> 2. Discoveries, extensions, and improved recovery of commercial reserves during the year.
> 3. Purchases of reserves in place.
> 4. Sales of reserves in place
> 5. Changes in price assumptions from beginning of year to end of year.
> 6. Changes in estimated future production and development costs.
> 7. Sales and intra-enterprise transfers of production during the year.
> 8. Accretion of the discount.
> 9. Change in discount rate used.
> 10. Development costs incurred during the period.
> 11. Net changes in income taxes (if after-tax value is computed).
> 12. Other changes (please describe).

Basic Issue 14.17 - Disclosure of reserve values by geographical area
If an enterprise is required to disclose estimated reserve values or a standardised measure of net cash flows, should the disclosure be on an enterprise-wide basis or subdivided geographically or geologically?

Basic Issue 14.18 - Disclosure of information useful in computing reserve values
If reserve values themselves are not disclosed, should the financial statements include information useful in computing reserve values and, if so, what information?

Basic Issue 14.19 - Disclosure of assumptions
If an enterprise is required to disclose estimated reserve values or a standardised measure of net cash flows, should disclosure of the principal underlying assumptions be required (particularly assumed prices, costs, discount rate, timing of production, and technological factors)?

Disclosure Issues: Other Disclosures

Other disclosures. This chapter considers a wide array of other disclosures including performance indicators, financial data, nonfinancial data, environmental disclosures, and balance sheet classification of assets.

The Steering Committee did not develop tentative views on these other disclosure issues.

Basic Issue 15.1 - Disclosure of costs incurred and costs capitalised
Which of the following should be disclosed (please indicate all that you think should be required)?

Basic Issue 15.2 - Value of properties held for exploration
Should the value of mineral properties held for exploration be disclosed?

Basic Issue 15.3 - Performance indicators
Which, if any, of the following should be disclosed (please indicate all that you think should be required)?

a. Finding cost per unit of reserves discovered.

b. Total production costs per unit.

c. Cash production cossts per unit.

d. Cash royalty payments.

e. Cash lifting costs.

f. Cash transportation costs.

g. Other performance indicators (please describe).

h. Disclosure of performance indicators should not be required.

Basic Issue 15.4 - Financial disclosures
Which of the following financial disclosures should be required (please indicate all that you think should be required)?

a. Segregate sales revenue and tariff income.

b. Average selling price realised per unit for each mineral in each area.

c. Estimated selling prices per unit for each mineral in each area at the end of financial reporting period.

d. Information about the sensitivity of reserve quantities, reserve values, and earnings to price changes.

e. Treatment of overhead costs (explanation of capitalisation policy and amounts capitalised).

f. Capital spending plans, including disclosure of expected development costs in one or more future periods.

g Profits on disposal of properties.

h. Details of hedging exposures.

i. Operating costs by category, showing separately such items as:

   (i) raw materials and consumables;

   (ii) depreciation and amortisation;

   (iii) employment costs;

   (iv) royalties and other mining taxes;

   (v) decrease/increase in inventories;

   (vi) other external costs;

(vii) provisions;

(viii) exploration and evaluation;

(ix) research and development; and

(x) net foreign exchange gains/losses on monetary items.

j. Analysis of change in earnings from one period to the next, showing separately the change in earnings caused by (i) changes in prices of minerals, (ii) changes in exchange rates, (iii) changes in volume of minerals sales, and (iv) cash cost savings.

k. Other (please describe).

Basic Issue 15.5 - Nonfinancial disclosures

Which of the following nonfinancial disclosures should be required (please indicate all that you think should be required)?

a. Production quantities of each mineral in each area, such as rock mined, ore milled, and metals per tonne of ore.

b. Sales quantities of each mineral in each area.

c. Contracts for sales of minerals yet to be produced.

d. Reserve replacement ratio.

e. Reserve-to-production ratio.

f. Extent of management discretion about the timing of exploration activity (if exploration costs are charged to expense).

g. Other (please describe).

Basic Issue 15.6 - Special disclosures for individual mines: mining enterprises

Which of the following should be disclosed by mining enterprises with respect to each significant individual mine (please indicate all that you think should be required)?

a. The enterprise's interest.

b. Type of reserve: underground, open-cut stockpile, residues.

c. Average grade of ore mined during the period.

d. Amount of overburden and waste removed during the period.

e. Quantities of resources (as distinct from reserves).

f. Other (please describe).

(Basic issue 15.7 omitted because it is petroleum-industry specific.)

Basic Issue 15.8 - Balance sheet cost classification - capitalised preproduction costs

How should capitalised preproduction costs that meet the definition and recognition criteria for assets be classified in the balance sheet?

Basic Issue 15.9 - Balance sheet cost classification - deferred costs

If preproduction costs are deferred as assets pending determination of whether commercially recoverable reserves have been found, how should they be classified in the balance sheet?

Basic Issue 15.10 - Environmental disclosures

Which environmental and social disclosures should be required (please indicate all that you think should be required)? Note that these might be required by an International Accounting Standard if not disclosed elsewhere in the financial report (see IAS 1.102).

a. Compliance with environmental and social legislation.

b. Levels of pollutant emissions.

c. Qualitative social indicators (please provide examples).

d. Quantitative ecoefficiency metrics such as energy consumption, waste reduction, recycling, marketing of by-products, and materials use.

e. Strategies for conservation. for development of environmentally superior products, and for meeting future global energy needs.

f. Investment in zero-emissions fuels and renewable forms of energy.

g. Quantitative data about employee health.

h. Environmental protection policies.

i. Employment policies.

j. Social policies.

k. Other (please describe).

Basic Issue 15.11 - Segment information for upstream activities

Should an integrated enterprise in the extractive industries be required to report segment information for its upstream activities separately from downstream activities?

Sub-issue 15.11.1 - Pricing of downstream transfers by integrated enterprises

IAS 14, Segment Reporting, requires that intersegment transfers be priced at market price. Some petroleum and mining companies conduct both upstream and downstream activities. For them, some segment revenue arises from intersegment transactions. In those cases, how should the value of the intersegment transfer be measured?

Research Implications

Chapter 16 of the Issues Paper reviews the findings of 48 research studies that examine empirically the relevance and reliability of reporting information about reserves. In general, the studies found that:

- Recognition versus disclosure of reserve value information has a significant effect on share prices.
- Reserve quantity disclosures enhance the ability to forecast earnings and share prices.
- Reserve value disclosures - whether in the form of the SEC's former "reserve recognition accounting" system or the current FASB standardised measure of discounted cash flows from proved reserves - are relevant.

Unfortunately, all but one of the 48 studies examined only the oil and gas industry. It is unclear whether the findings apply to mining as well.

IASC's Project: The Next Steps

IASC's goal is to develop one or more industry-specific standards for mining and petroleum exploration and production companies. Most likely, there will be one IAS with principles common to all extractive industries, but with separate requirements or guidance for mining or petroleum as necessary to address industry-specific issues. Because of the diversity of mining, IASC may even see a need for special requirements for some segments of the mining industry.

Critical date. IASC has asked for responses to the Issues Paper by 30 June 2001.

Subsequent dates. The overall timing of IASC's project is affected by the recent changes to IASC's structure. Earlier this year, IASC's former large part-time board was replaced by a smaller and essentially full-time one with a staff complement triple that of the old board. That might suggest fairly rapid progress on extractive industries. On the other hand, the new International Accounting Standards Board (the new name for the body of 14 individuals who vote on exposure drafts and final standards) has yet to set its initial agenda and priorities. The outgoing board, in a transition statement, recommended that its successor retain extractive industries as a high priority project.

Subsequent steps. Nor are the next steps exactly clear. Historically, IASC's next step after an initial discussion document (such as an Issues Paper) has been a Draft Statement of Principles (DSOP). This has been a steering committee, rather than board, proposal for the underlying accounting principles that could form the basis for preparing an Exposure Draft. Following comments on the DSOP, the IASC Board would issue an Exposure Draft and then, after a comment period, a final Standard. IASC's revised constitution says that the new IASB will "normally publish a Draft Statement of Principles or other discussion document for public comment on major projects." Whether the Extractive Industries Issues Paper is a sufficient discussion document to allow IASC to move directly to an Exposure Draft as its next step remains to be decided.

Status of Steering Committee tentative views. Like several other recent IASC discussion documents, the Extractive Industries Issues Paper sets out the tentative views that the IASC steering committee developed on the significant issues. This helps provide a focus for respondents. Whether the new IASB, after reviewing the comments on the Issues Paper, will be of similar thinking also remains to be seen.

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