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International Accounting Standards Board

INFORMATION FOR OBSERVERS

Board Meeting: **14 March 2008, London**

Project: **Extractive Activities research project**

Subject: **Reserves and resources assets – applying the asset definition and recognition criteria (Agenda Paper 10D)**

PART A : INTRODUCTION

Purpose

1. This paper considers when the following items should be initially recognised as assets on the balance sheet:

   (a) minerals or oil & gas reserves and resources (refer Part B of this paper); and

   (b) exploration properties (refer Part C of this paper).

Context

2. Minerals and oil & gas are generally described using the terms reserves and resources. Industry definitions further subdivide these into proved reserves, probable reserves, possible reserves, inferred resources, contingent resources etc. The different classifications do not represent different assets – they represent the volumes associated with different degrees of certainty about the size and economic producibility of quantities of in-place minerals or oil & gas.

3. This paper refers to mineral and oil & gas reserves and resources in a general sense as representing the item that is the in-place[1] minerals or oil & gas located on a property that results from exploration, evaluation and development activities and that has, as a minimum, reasonable prospects for eventual economic extraction. The references to reserves and resources in this paper are to the definitions of:

   (a) 'mineral reserves' and 'mineral resources' in the *International Reporting Template for the public reporting of Exploration Results, Mineral Resources and Mineral Reserves* (July 2006) promulgated by the Committee for Mineral Reserves International Reporting Standards (for simplicity, this is hereafter referred to as the CRIRSCO system); and

   (b) 'reserves' and 'marginal contingent resources' in the *Petroleum Resource Management System* (March 2007) prepared by the Oil and Gas Reserves Committee of the Society of Petroleum Engineers[2] (for simplicity, this is hereafter referred to as the SPE system).

   The recent findings from the SPE/CRIRSCO convergence review (see *Comparison of Petroleum and Minerals Reserves and Resources Classification Systems*) concluded that the CRIRSCO and SPE classifications of reserves and of mineral resources / marginal contingent resources are comparable classifications. This is discussed further at paragraph 42 below.

4. This paper makes a distinction between the exploration phase, when there is significant uncertainty about whether there are minerals or oil & gas that may be capable of economic extraction, and the later stage when there is some certainty that economically extractable minerals or oil & gas exist. There is a continuum between the first stages of exploration when very little may be known about a property and the development and production phases. However, the project team believes that it is important that financial statements distinguish between these and account for and present them separately. In the exploration phase, the asset consists of exploration rights and knowledge about the

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1 In-place minerals or oil & gas refers to the minerals or oil & gas that has not yet been extracted and is still located in or near the earth's crust.

2 The Petroleum Resource Management System was approved by the Society of Petroleum Engineers Board of Directors in March 2007. The Petroleum Resource Management System is also sponsored by the World Petroleum Council, the American Association of Petroleum Geologists, and the Society of Petroleum Evaluation Engineers.

property. This is an intangible asset with high uncertainty as to its ultimate value. This is because further evaluation of the property may indicate that there is insufficient minerals or oil & gas to warrant developing the property, sufficient minerals or oil & gas to generate a modest cash flow, or it may be a major find. This type of asset is very different from what this paper calls a 'reserves and resources' asset (as outlined in paragraph 3 above). At this stage, there is a tangible asset – the in-place minerals or oil & gas – that potentially could be recognised and while the risks to successfully produce the minerals or oil & gas may still be significant, they are of a different order than during exploration.

5. This paper first addresses when a resource and reserves asset should be initially recognised on the balance sheet. It then discusses whether an exploration asset should be recognised prior to this point. The question here is whether activities before the recognition of a reserve and resource asset might result in recognition of an asset and, if so, how it should be accounted for.

Relationship with other aspects of the project

6. In determining the appropriate accounting for extractive activities the core issue is how to account for mineral and oil & gas reserves and resources. These are the most significant assets for essentially all entities engaged in upstream extractive activities. Accounting for reserves and resources includes the following aspects:

   (a) At what point during the exploration, evaluation and development process is there something that meets both the definition of a reserves and resource asset and the criteria for recognition? A related question is the accounting before a reserves and resources asset is recognised.

   (b) For recognised reserves and resources assets, what is the unit of account that should be used for accounting purposes?

   (c) How should a reserves and resources asset be measured? The determination of the measurement approach may lead to further issues regarding how to apply the measurement approach – for example:

      (i) which costs should be included if measurement is at cost; and

(ii) whether measurement should include categories of reserves and resources that do not themselves meet the recognition criteria but are associated with those that do.

(d) What disclosures should be required?

Considering initial recognition from a conceptual standpoint

7. Current practice in accounting for minerals and oil & gas reserves and resources under IFRS and other GAAPs around the world generally does not account for the reserves and resources (or, more specifically, the asset attributable to the in-place minerals or oil & gas) directly but rather accounts for the costs incurred in finding, acquiring and developing the in-place minerals or oil & gas (collectively referred to as 'pre-production costs'). Current practice is to apply a variation of one of three historical cost accounting models for these pre-production costs – being successful efforts, full cost or area of interest. These accounting models can be broadly defined as follows:

(a) successful efforts accounting – under this model, upstream costs that lead to finding, acquiring, and developing mineral and oil & gas reserves (or resources) are capitalised; costs that do not lead directly to finding, acquiring, and developing mineral reserves are charged to expense; and costs whose outcome is unknown may be capitalised or expensed;

(b) full cost accounting – under this model, all costs incurred in searching for, acquiring, and developing mineral or oil & gas reserves and resources 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 unsuccessful; and

(c) area of interest accounting – under this model, costs are accumulated for individual geological areas that have characteristics conducive to containing a mineral or oil & gas deposit toward which exploration efforts are directed. If the area of interest is found to contain reserves (or resources), the accumulated costs

are capitalised. If the area is found not to contain reserves (or resources), the accumulated costs are charged to expense.[3]

8. Directly assessing the suitability of applying full cost, successful efforts and area of interest accounting models in the extractive industries is not the main focus of our research, in part because there are many different variants of each of these models in each industry and around the world. Instead, the research approach is to separately analyse the basic underlying features of the models – being:

   (a) the basis for initial recognition of the minerals or oil & gas asset; and

   (b) the unit of account selected (and often referred to as the 'cost centre' in historical cost accounting models).

9. In the research project team's opinion, identifying the point of initial recognition of a minerals or oil & gas asset should be considered first so that the design of the preferred accounting model is consistent with the conceptual framework's asset definition and recognition criteria. The benefits of adhering to a conceptual framework when developing a new accounting standard are outlined in paragraphs IN1-IN5 of the IASB/FASB draft conceptual framework, as exposed in the Discussion Paper *Preliminary Views on an improved Conceptual Framework for Financial Reporting—The Objective of Financial Reporting and Qualitative Characteristics of Decision-useful Financial Reporting* (July 2006). Of note, paragraph IN2 states:

> …Standard-setters cannot fulfil their missions without a sound and unified conceptual underpinning that guides and provides discipline to decisions about whether one solution to a financial reporting issue is better than other potential solutions.

10. The research project team believes that unit of account selection is an important, but secondary, consideration. The unit of account determines the level of detail/aggregation at which assets are recorded and, as such, the selection of a unit of account for a particular asset or liability is often a pragmatic decision that is influenced by factors such as:

    (a) adherence to generally accepted accounting principles so that the unit of account fits in with the broader accounting system; and

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[3] The descriptions of the successful efforts, full cost and area of interest accounting models are based on descriptions in the 2000 Issues Paper, paragraph 4.16.

(b) meeting the information needs of users of financial reports, which might include the provision of information that is sufficiently granular so that assets that generate independent cash flows or are subject to particular risks can be separately identified.

11. Unit of account selection is not the focus of this meeting. The research project team intends to discuss unit of account selection at the research project's next Board meeting after it has consulted with its project advisory panel.

Identifying the extractive activity asset

12. The IASC Steering Committee on Extractive Industries' Issues Paper *Extractive Industries* of November 2000 (the 2000 Issues Paper), at paragraph 4.8, provides a non-exhaustive list of types of assets that entities in the extractive industries may have, including:

(a) rights to explore for, develop, or produce minerals and rights to receive royalties;

(b) ownership of properties containing or likely to contain mineral reserves;

(c) knowledge arising from exploration or similar activities and research and development designed to improve available technologies;

(d) individually identifiable self-constructed assets such as processing plants or wells; and

(e) assets that represent the cost of accessing known mineral reserves.

13. Current practice in presenting or describing these assets varies. This was noted in KPMG's *Global Mining Reporting Survey 2006*, which found that companies use a variety of different captions on the balance sheet or notes to describe their mining assets, including mineral assets, mineral rights, mineral licences, mining interests, mine development, mine properties, mine infrastructure, mine plant and facilities, plant and equipment, land, shafts, mobile equipment, rehabilitation assets, and smelters and refineries. In the oil & gas industry, FAS 19 *Financial Accounting and Reporting by Oil and Gas Producing Companies*, for example, refers to assets such as minerals

interests in properties; uncompleted wells and related equipment and facilities; and wells and related equipment and facilities.

14. These differences in the types of assets described are, in part, illustrative of the different views taken on unit of account selection, which as noted above is outside the scope of this agenda paper. However, also evident is that there are different philosophies as to whether the asset should be defined by the outcome of the activity (i.e. the discovered minerals or oil & gas that has been classified as reserves and resources) or by the activity itself and/or the nature of the cost incurred. The research project team prefers accounting for the discovered minerals or oil & gas as the asset, because it is the result of successful exploration and evaluation activities and it is what embodies future economic benefits.

15. Part B of this paper examines which reserves and resources meet the *Framework* criteria to be recognised as reserves and resources in financial statements. Since activities prior to this point would not be recognized as reserves and resource assets, Part C of the paper then examines whether those activities might result in the recognition of a different asset.

PART B: INITIAL RECOGNITION OF A RESERVES AND RESOURCES ASSET

16. This paper takes the view that the primary assets of a minerals or oil & gas company are its reserves and resources. Given the different categories of reserves and resources, which reflect their inherent uncertainties, a key question is the determination of which reserves and resources meet the *Framework's* definition of an asset and the criteria for recognition.

17. For the purposes of this paper, a minerals or oil & gas reserves and resources asset includes the rights to develop and produce the minerals or oil & gas and the minerals or oil & gas to be extracted. Exploration and development activities may affect the measurement of the quantity of minerals or oil & gas and their valuation for accounting purposes. (Development such as the construction of an underground ramp or drift is a betterment that increases the future net cash flow from the minerals asset and is not separable from the minerals asset. These types of development activities are not expected to create separate assets.) Similarly other property rights not associated with the minerals or oil & gas to be extracted (e.g. exploration permits in neighbouring properties) and other tangible assets associated with the minerals are not part of the reserves and resources asset for purposes of this paper. However, if a reserves and resources asset is recognised, these other assets may be included in the same unit of account.

The definition of an asset

18. The existing IASB *Framework*, at paragraph 49, defines an asset as:

> …a resource controlled by the entity as a result of past events and from which future economic benefits are expected to flow to the entity.

19. Whether a minerals or oil & gas reserve or resource meets the definition of an asset therefore depends on whether:

    (a) it is controlled by the entity as a result of past events; and

    (b) future economic benefits are expected to flow to the entity.

Control

20. 'Control' is an essential component of the asset definition. Control is usually, but not always, evidenced by the existence of legal rights. Using the example of a property asset, paragraph 57 of the existing *Framework* explains that control of the property may be evidenced by holding the right of ownership or by holding a lease over the asset. The critical factor is that the right enables the entity to control the benefits which are expected to flow from the property. A corollary of this is that, for control to exist, the entity should be able to deny or regulate the access of others to that benefit. This condition is not specifically stated in the *Framework*, but it is referred to elsewhere in IFRSs. For example, paragraph BC35 of IFRIC Interpretation 4 *Determining whether an Arrangement contains a Lease* states that:

> In its redeliberations, the IFRIC reaffirmed its view that a purchaser that is taking substantially all of the output from an asset has the ability to restrict the access of others to the output from that asset. The purchaser therefore has a right of use because it controls access to the economic benefits to be derived from the asset. The IFRIC therefore did not agree that the absence of the ability to control physically the way in which the underlying asset is used precludes the existence of a right of use (although, as noted above, such an ability may indicate that a right of use has been conveyed).

21. The existing *Framework* indicates that assets result from past transactions or other past events. Paragraph 58 of the *Framework* explains that "entities normally obtain assets by purchasing or producing them, but other transactions or events may generate assets: examples include … the discovery of mineral deposits". In the research project team's opinion, the discovery of a mineral deposit is an event that may result in a new asset – the reserves and resources. However, the discovery event does not provide the entity with control of the reserves and resources; rather it may indicate the presence of future economic benefits. For the reserves and resources to be controlled, the entity must have obtained the relevant legal rights to it.

22. Control of a minerals or oil & gas reserve or resource is expected to be evidenced by holding the relevant legal rights. These legal rights can differ in type and in scope. For instance, the legal rights may be acquired by purchasing outright ownership of the property, obtaining a minerals or oil & gas lease or concession, entering into a joint venture, entering into a production-sharing contract, or entering into a service contract (which may also be known as a service agreement or risk service contract). Furthermore, in some circumstances, the legal rights (e.g. production sharing

agreements in some countries) may cover thousands of square kilometres with many potential mineral deposits. In other circumstances, an entity may have to obtain numerous legal rights and approvals to acquire all the rights to the minerals or oil & gas in a single deposit. See, for example, Appendix A which outlines the approval processes in the Australian state of Victoria for conducting exploration and mining activities.

23. It is not always clear whether the asset should be defined by reference to the reserves and resources or the related legal rights. The nature of the legal rights is expected to influence this decision. Where the entity holds either the outright ownership of a minerals or oil & gas property, a lease or concession or an interest in a joint asset, the research project team considers that those legal rights correspond to a (full or partial) interest in the reserves and resources. In those cases, the minerals or oil & gas property containing reserves and resources can be seen as the (economic) resource from which future economic benefits are expected to flow and the legal rights establish that the entity is linked to that resource. In contrast, the legal rights arising from production-sharing contracts or risk service contracts may not provide the entity with an interest in the reserves and resources. Rather the reserves and resources may be controlled by a host government, with the legal rights arising from the contract instead designed to mimic the risks and rewards that the entity would have if it actually controlled the reserves and resources.[4] Consequently there is a question as to whether the legal rights arising from these types of contracts are the asset or whether they provide evidence that the entity is, in substance, linked to the reserves and resources. This paper does not seek to answer this question; instead, it will be addressed later in the research after the considering the appropriate accounting that should apply to accounting for reserves and resources in the 'plain vanilla' case, whereby the reserves and resources are controlled via direct ownership or lease.

Interpretations on what constitutes control

24. In the context of a minerals or oil & gas reserve or resource, the research project team has identified two possible interpretations on what may constitute control.

[4] Refer paragraphs 3.119-3.120 of the 2000 Issues Paper.

25. View A is that control is the absolute right to extract the mineral or oil & gas from the ground. This would imply that all the rights (including permits, licences and approvals) necessary for development and production would have to be in place, including governmental and environmental approvals, agreements with landowners and others with rights (such as indigenous peoples) etc. Under this view, without the absolute right to extract the mineral or oil & gas, an entity does not yet have the capacity to benefit from the reserves and resources as it does not yet have the right to produce and sell (or use) the mineral or oil & gas. Indeed if the outstanding rights are not forthcoming, the entity may never have the capacity to benefit from the reserves and resources.

26. View B places more emphasis on the unconditional ability to apply for any additional rights, denying other entities access to the future economic benefits. Under View B, control over minerals or oil & gas reserves and resources exists where the entity holds some present legal rights (e.g. the unconditional right to explore according to the terms of an exploration permit) and the right to apply for the outstanding rights that are a prerequisite to having the absolute right to extract the mineral or oil & gas (e.g. the conditional rights to develop and produce the minerals or oil & gas located on the property). By definition the entity controls the unconditional rights. Development may be conditional on several factors, including determination that there is a resource that is suitable for development (size, structure, mineralisation etc) and the obtaining of the necessary permits etc. There will often be significant uncertainties about these conditional aspects and these uncertainties may affect the recognition and measurement of the asset – but they do not affect whether there is an asset. Under View B all mineral and oil & gas reserves and resources would meet the control criteria to be classified as assets if, firstly, the entity has some current unconditional legal rights relating to the reserves and resources and, secondly, it also has the right to apply for any other rights required in order to extract the minerals or oil & gas.

27. In the research project team's opinion, View A takes a narrow view of control since, for example, it contemplates that a reserves and resources asset may not exist until immediately prior to production (i.e. if the final approval or permit cannot be received until the development project is complete and is inspected). This deferral of the identification of a reserves and resources asset is not considered to faithfully represent the underlying economic substance to the entity. View B incorporates both the entity's existing unconditional rights and also the entity's existing conditional rights which

together constitute control of an asset. As noted, any uncertainties associated with the conditional rights may affect the recognition or measurement of the asset – but in the project team's view they do not affect the existence of an asset.

28. The project team see this as consistent with the view of the entity and of users. Companies often spend substantial amounts of money on developing a property in advance of final approvals, which may only be obtainable after the money has been spent. This money is spent because the company believes it has the right to apply for the necessary approvals and gain unconditional control of the property. The following recent Australian Stock Exchange (ASX) announcements by Woodside Petroleum provide an example of the size and nature of investment decisions that may be made prior to holding all rights and approvals to extract minerals or oil & gas.

The ASX announcement, *Woodside Approves Pluto LNG Project*, of 27 July 2007, stated that:

> The Board of Woodside Petroleum Ltd. has approved development of the Pluto Liquefied Natural Gas (LNG) Project, subject to receipt of final environmental and other regulatory approvals.
>
> … To date approximately A$796 million has been spent on all phases of the Pluto field and LNG Project.[5] The Board approved additional funding of up to A$11.2 billion for project on a 100% basis. Later works, requiring additional funding approval, will include compression and the tie-in of the Xena field.
>
> … The Pluto LNG Project was sanctioned subject to environmental and other regulatory approvals being obtained with acceptable conditions. Environmental approvals from the State and Commonwealth governments are expected soon. These approvals will need to be obtained by September 2007 to enable the agreed schedule with customers to be satisfied. Heritage approvals have already been received. …

The subsequent ASX announcement, *Pluto Receives Environmental Approval*, of 12 October 2007, then stated:

> Woodside has been advised by the Commonwealth Minister for the Environment and Water Resources that environmental approval for the Pluto LNG Project has been granted.
>
> Commonwealth environmental approval is the last of the key State and Federal environmental and heritage approvals required for the project to proceed. This approval allows for construction of the Pluto LNG Project to be commenced.
>
> Other regulatory approvals continue to be received in line with expectations.

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5 The *Pluto Project Approval* presentation which accompanied the ASX announcement stated that "Expenditure from drilling Pluto-1 to the end of July 2007 is forecast to be around $800 million. This covers exploration, appraisal, studies, front-end-engineering and procurement of some long lead items" (page 4).

29. The research project team notes that under the View B interpretation of control, if the entity is not subsequently successful in obtaining all of the necessary rights and approvals in order to have the absolute right to extract the minerals or oil & gas, the asset will then be impaired (in accordance with IAS 36 *Impairment of Assets*) or derecognised.

30. Consultations with members of the research project's Advisory Panel indicated that there was general consensus that View B was the preferred interpretation of control.

Future economic benefits are expected to flow to the entity

31. The expectation of future economic benefits that will flow to the entity is the second limb to the asset definition. The term "expected" is not defined in the *Framework* or elsewhere in IFRSs. It acts as a filter in the asset definition filtering out items that have no value to the entity.[6]

32. Any resource[7] (or reserve) has some expectation of future benefits. If the entity controls the reserve or resource, then expected future benefits should flow to the entity.

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[6] This interpretation of "expected" is confirmed by the following comments in IASB Observer Note 2A.1 Appendix of 17 July 2007 http://www.iasb.org/NR/rdonlyres/9EA0D1BE-F260-4032-88F2-FE5AD99BB122/0/CF0707b02a1AppAobs.pdf (about proposed revisions to the Framework definition of an asset):

> "5. *Likelihood*— Likelihood ("expected" in the case of the IASB and "probable" in the case of the FASB) was included in the existing definitions in response to constituents' concerns on earlier proposals that the definitions would require that an item be certain in order to qualify as an asset. Since few things in life are certain, the Boards observed that few items that are commonly thought to be assets would qualify in accordance with the definition. Accordingly, the Boards included likelihood with the intent of indicating that the item in question need not be certain (that is, it could be less than certain) to meet the definition.
>
> 6. Both the IASB and FASB definitions have been misinterpreted as implying that there must be a high likelihood of future economic benefits for the definition to be met. Thus, some think that when there is a low likelihood of future economic benefits, the asset definition is not met. That is not the intent.
>
> 7. To avoid this continued misinterpretation, the working definition clarifies that it does not depend on an assessment of a degree of likelihood. The Boards think it is sufficient that an economic resource be capable of producing cash inflows or reducing cash outflows—that is, the probability of positive cash flows is greater than zero. If there is any question of likelihood to be considered, that might be a factor in assessing whether a particular asset (or asset class) qualifies for recognition or in determining its measurement, not in the definition of an asset."

[7] Oil & gas also has classifications for prospective resources, which are estimated resources that have not been discovered, and submarginal contingent resources, which are "those quantities associated with discoveries for which analysis indicates that technically feasible development projects would not be economic and/or other contingencies would not be satisfied under current or reasonably forecasted

Thus it would seem that any reserve or resource meets this part of the definition of an asset. Some classifications of resources have a high degree of uncertainty – but that affects recognition and measurement rather than whether an asset exists.

Conclusion under existing IASB Framework

33. In the research project team's opinion, there is a minerals or oil & gas reserves and resources asset when:

    (a) reserves and resources have been identified; and

    (b) legal rights are held that provide the entity with either control of the reserves and resources located on a property or privileged access to the development and production approval process for the property. Where the entity does not yet have all the necessary rights and approvals to develop and produce the minerals or oil & gas located on the property, the likelihood or otherwise of obtaining those rights and approvals is a recognition and measurement issue.

34. The research project team considers that there is an inter-relationship between reserve and resource assets and other assets that may exist prior to the initial recognition of the reserve and resource asset. An example of a related asset would be the exploration rights or other legal rights relating to the property, noting that prior to the discovery of minerals or oil & gas reserves and resources, these rights should be capable of being recognised as an intangible asset. (Accounting for these rights and for other exploration and evaluation activities that occur prior to the recognition of a reserves and resources asset is discussed in Part C of this paper.) The nature of the relationship is that if an 'exploration' asset is initially recognised and then, subsequently, a minerals or oil & gas reserve or resource meets the criteria for recognition in the financial statements, the research project team's view is that the exploration asset would be no longer be accounted for as a separate asset, but would be subsumed into the reserves and resource asset.

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improvements in commercial conditions" (refer *Petroleum Resource Management System*, page 9). These resources classifications may not have an expectation of future benefits.

35. This process can be observed in existing accounting policies. For instance, the significant accounting policies note for licence and property acquisition costs in BP plc's 2006 financial report (refer Note 1, page 102) identifies:

(a) the recognition of the legal rights as a separate intangible asset, by stating that:

> Exploration and property leasehold acquisition costs are capitalized within intangible fixed assets and amortized on a straight-line basis over the estimated period of exploration. Each property is reviewed on an annual basis to confirm that drilling activity is planned and it is not impaired. If no future activity is planned, the remaining balance of the licence and property acquisition costs is written off. …

(b) the combining of the legal rights with the recognised reserves, by then stating that:

> Upon determination of economically recoverable reserves ('proved reserves' or 'commercial reserves'), amortization ceases and the remaining costs are aggregated with exploration expenditure and held on a field-by-field basis as proved properties awaiting approval within other intangible assets. When development is approved internally, the relevant expenditure is transferred to property, plant and equipment.

Conclusion under proposed Framework revisions

36. The IASB/FASB conceptual framework project is still considering revised definition and recognition criteria for assets and liabilities. The current working draft definition of an asset is (as listed on the FASB website *Project Update for Conceptual Framework—Phase B: Elements and Recognition* of 4 February 2008):

> An *asset* of an entity is a present economic resource to which, through an enforceable right or other means, the entity has access or can limit the access of others.

The accompanying text that amplifies the asset definition is:

> *Present* means that both the economic resource and the enforceable right or other means by which the entity has access or can limit the access of others exist on the date of the financial statements.
>
> An *economic resource* is something scarce that has positive economic value. It is capable of being used to carry out economic activities, such as production and exchange. It can contribute to producing cash inflows or reducing cash outflows, directly or indirectly, alone or together with other economic resources. Economic resources include non-conditional contractual promises that others make to the entity, such as promises to pay cash, deliver goods, or render services. Rendering services includes standing ready to perform or refraining from engaging in activities that the entity could otherwise undertake.
>
> An *enforceable right* is legally enforceable or enforceable by equivalent means (such as by a professional association), and it enables the entity to use the present economic resource directly or indirectly and precludes or limits its use by others.

37. The research project team believes that applying either working draft definition of an asset to minerals or oil & gas reserves and resources should produce the same answer as outlined in paragraph 33 above.

Comparison with reserve and resource classification systems[8]

38. The emphasis on control and the expectation of future economic benefits is implicit within the classification of minerals and oil & gas reserves and resources under the CRIRSCO system and the SPE system.

Control

39. The CRIRSCO system does not require an entity to have absolute authority to mine before being able to recognise a resource or reserve. Rather the CRIRSCO definitions of mineral resources and mineral reserves are based on the expectation that the necessary rights and approvals to mine will be forthcoming. This is implied by the definition of a 'mineral resource', which requires that there must be "reasonable prospects for eventual economic extraction". The CRIRSCO system also does not explicitly indicate what legal rights must be held before a mineral reserve can be recognised, although it indicates that criteria that should be considered when reporting mineral reserves or mineral resources include "the security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area".[9] For mineral resources to convert to mineral reserves, the CRIRSCO definition of 'mineral reserves' requires an assessment of realistically assumed legal, environmental, social and governmental factors to be able to demonstrate that, at the time of reporting, extraction could reasonably be justified and, therefore, that a reserve can be recognised. Each of these factors may influence whether an entity can control the reserves.

40. The intent behind allowing an entity that reasonably expects to receive any outstanding approvals to recognise a mineral reserve is understood to relate to expectations that ancillary rights and approvals will be obtained in the ordinary course of business. The

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8 In this paper, unless specifically mentioned otherwise, all views expressed in relation to the CRIRSCO and SPE systems are those of the research project team.

9 CRIRSCO International Reporting Template, page 23

CRIRSCO guidelines allow the Competent Person[10] making the estimate to use their judgment in considering the materiality of any unresolved matter that is dependent on a third party on which extraction is contingent. The CRIRSCO guidelines go on to list criteria that should be considered in making reserves estimates, which includes "the status of title and approvals critical to the viability of the project, such as mining leases, discharge permits, government and statutory approvals".[11]

41. In the case of oil & gas reserves and resources, the SPE system states that reserves assessments are directed at the unit of account being the intersection of the reservoir (i.e. the in-place volumes of oil & gas), the project (i.e. the project to recover a portion of the in-place volumes and deliver an estimated quantity of marketable product) and the lease (i.e. the ownership and fiscal terms associated with the lease or property containing the reservoir). Similar to the approach adopted in the CRIRSCO system, the SPE system does not require an entity to have absolute authority to extract the oil & gas before being able to recognise a resource or reserve. The guidelines that accompany the definition of 'reserves' explain that for a project to be included in the reserves classification, "there must be a reasonable expectation that all required internal and external approvals will be forthcoming".[12] Further commentary explains that criteria to be used to determine commerciality includes "evidence that legal, contractual, environmental and other social and economic concerns will allow for the actual implementation of the recovery project being evaluated".[13]

Future economic benefits

42. The expectation of future economic benefits is evident in the definitions of 'mineral resources' and 'marginal contingent resources', which are precursors to the definitions of reserves in the CRIRSCO and SPE systems:

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10 "Competent Person' is defined in CRIRSCO (paragraph 10) as "A 'Competent Person' is a person who is a Member or Fellow of a recognised professional body relevant to the activity being undertaken, and who is subject to enforceable Rules of Conduct. A Competent Person must have a minimum of five years experience relevant to the style of mineralisation and type of deposit under consideration and to the activity which that person is undertaking."

11 CRIRSCO International Reporting Template, page 27

12 PRMS, page 24

13 PRMS, page 6

(a) In the CRIRSCO system, the definition of 'mineral resources' requires that there must be "reasonable prospects for eventual economic extraction";[14] and

(b) In the SPE system, 'marginal contingent resources' are defined as "those quantities associated with technically feasible projects that are either currently economic or projected to be economic under reasonably forecasted improvements in commercial conditions but are not committed for development because of one or more contingencies".[15]

Conclusion under CRIRSCO and SPE classification systems

43. This discussion illustrates that both the CRIRSCO and SPE systems adopt similar views on the meaning of control and the expectation of future economic benefits for minerals and oil & gas deposits to that of the *Framework's* definition of an asset, although the ways in which this is described are different. It is also worth noting the recent findings from the SPE/CRIRSCO convergence review (see *Comparison of Petroleum and Minerals Reserves and Resources Classification Systems* – refer agenda paper 10C), which concluded that:

(a) there are not significant differences in the high level definitions of mineral and petroleum reserves;[16] and

(b) mineral resources are equivalent to petroleum marginal contingent resources.[17]

The recognition of an asset

44. This section considers when a reserves and resources asset would meet the existing *Framework's* criteria to be recognised in the balance sheet. Paragraph 89 of the existing *Framework* sets the threshold for recognising assets on the balance sheet as being when:

(a) it is probable that the future economic benefits will flow to the entity; and

(b) the asset has a cost or value that can be measured reliably.

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14 CRIRSCO International Reporting Template, paragraph 19

15 PRMS, section 2.1.3.3, page 9

16 SPE/CRIRSCO, *Comparison of Petroleum and Minerals Reserves and Resources Classification Systems*, page 21

17 SPE/CRIRSCO, *Comparison of Petroleum and Minerals Reserves and Resources Classification Systems*, page 33

45. The IASB/FASB conceptual framework project has not yet considered asset recognition issues, but discussions are scheduled to commence in the coming months. At this stage, it is unclear whether revisions to the *Framework* will materially affect the project team's conclusions on initial recognition of a reserve and resource asset, as a prerequisite for recognition of these assets is the existence of a reserve or resource. Revisions to the asset recognition criteria in the *Framework* are more likely to affect the recognition of exploration assets. This is discussed further in Part C of this paper.

Probable future economic benefits

46. The first criterion is that it is probable that the future economic benefits will flow to the entity. Under IFRS, 'probable' is defined as "more likely than not" (refer IFRS 5 *Non-current Assets Held for Sale and Discontinued Operations*, paragraph BC81). Accordingly, it would seem that reserves and resources (that meet the definition of an asset) should only be recognised if it is more likely than not that future economic benefits from the reserves and resources will flow to the entity. A discussion of possible approaches to apply the probable threshold to minerals and oil & gas properties containing reserves and resources begins at paragraph 51 below.

Reliable measurement

47. The second criterion for recognition is that the asset has a cost or value that can be measured reliably. Whether it is the cost or the value that must be able to be measured reliably will depend on the methodology to be used to measure the asset for purposes of recording it in the financial statements. There are three measurement methodologies being considered for measuring reserves and resources assets, being a historical cost basis, fair value basis or current value basis.

48. This paper is not considering asset measurement issues, which will be the subject of further research. Earlier research noted that a fair value or current value measurement of reserves and resources is an estimate that would be based on unobservable inputs and therefore can be heavily influenced by the preparer's judgement. Some users, preparers, and auditors have expressed concern regarding whether reserves and resources can be measured reliably at fair value or current value. In June 2007, the Board indicated that it will consider the measurement of reserves and resources further after considering the

questions of initial recognition of a reserves and resources asset and the unit of account that should be applied to reserves and resources.

49. If the Board determines that fair value or current value should be used to measure reserves and resources, it means that the Board will have concluded that this measurement basis provides a faithful representation of reserves and resources and, therefore, that the reliable measurement component of the existing *Framework's* asset recognition criteria can be satisfied. It could also be that the Board decides that only some reserve, or reserve and resource, categories can be reliably measured at fair value or current value. Such a decision would directly influence the scope of the measurement basis (e.g. the current valuation could be restricted to proved and probable reserves), but it would only directly affect when the asset satisfies the recognition criteria if the probable future economic benefits threshold is satisfied prior to the scope of the measurement basis being adjudged to be reliable. This would only occur if probable future economic benefits could be identified when a mineral or oil & gas resource is recognised but the reliable measurement basis for the asset is limited to the measurement of, say, proved and probable reserves.

50. However, if it is determined that reserve and resource assets should be measured at historical cost, the view of the project team is that historical cost can be reliably measured, as evidenced by existing practices and by feedback previously received from members of the Advisory Panel. All Advisory Panel members that responded to the question of "can the cost of reserves/resources always be reliably measured" were of the view historical costs should be capable of being reliably measured. Some members noted that historical cost measurements may be subject to some uncertainties and include subjective judgements – for instance, allocating costs that span more than one field (e.g. where a significant lease bonus was paid for a lease that is found to contain more than one field). However, it was noted that these difficulties should normally not preclude the ability to obtain a reliable measurement of the historical cost. Consequently, for the purposes of this paper, the conclusion is that reserves and resources assets are capable of meeting the reliable measurement criterion.

Options for identifying the point of initial recognition of a reserves and resources asset

51. This section considers when, after the discovery of minerals or oil & gas and after that discovery has been classified as a reserve or resource, a reserves and resources asset should be recognised.

52. For reserve and resource assets that are acquired, either through a business combination or asset acquisition,[18] a positive purchase price to acquire the business or the asset should (usually) provide sufficient (objective) evidence that future economic benefits are probable. This is consistent with existing IFRSs, specifically IFRS 3 *Business Combinations* and, for asset acquisitions, either IAS 16 *Property, Plant and Equipment* or IAS 38 *Intangible Assets*.[19] A consequence of applying this recognition principle is that an acquired reserve and resource asset may be recognised prior to when the asset would be recognised if the minerals or oil & gas were instead internally discovered and evaluated. However, whether any upwards re-measurement of the asset is permitted subsequent to the business combination or asset acquisition (i.e. to capitalise subsequent costs incurred) will depend on whether the asset satisfies the recognition criteria set out below for internally discovered reserve and resource assets.[20]

53. For internally discovered reserve and resource assets, the following three approaches for applying the *Framework's* asset recognition threshold – being when "it is probable that the future economic benefits will flow to the entity" – to minerals or oil & gas assets are considered:

    (a) Approach 1 – let the principle of probable future economic benefits take precedence;

    (b) Approach 2 – use the minerals and oil & gas reserve and resource classification systems to implement the principle of probable future economic benefits; or

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18 As mentioned previously, a subsequent working paper will be addressing issues associated with arrangements such as farm-in arrangements.

19 IAS 38, at paragraphs 25 and 33, notes that the probable future economic benefits recognition criterion is always considered to be satisfied for separately acquired intangible assets and for intangible assets acquired in a business combination.

20 This approach is consistent with IAS 38, paragraph 42, which indicates that subsequent expenditure on an in-process research or development project acquired separately or in a business combination is only capitalised if the recognition criteria for internally generated intangible assets is satisfied.

(c) Approach 3 – refer to specific activities or costs to implement the principle of probable future economic benefits.

54. The research project team acknowledges that applying some of these asset recognition approaches (in accordance with the existing *Framework* recognition criteria) may result in differential treatment of acquired versus internally generated assets. This is not ideal from a conceptual perspective, but may be justified from a practical perspective given the difficulties in objectively (and consistently) determining when it is probable that the future economic benefits will flow to the entity. Similar issues exist in other topics, such as accounting for intangible assets.

Approach 1 – let the principle take precedence in determining the point of initial recognition

55. Relying only on the *Framework's* recognition principle in determining the point of initial recognition is an approach adopted in several other IFRSs. For instance, the following standards provide limited amplifying guidance on applying the meaning of probable to specific types of assets:

(a) IAS 16 *Property, Plant and Equipment*, which states that "An entity evaluates under this recognition principle all its property, plant and equipment costs at the time they are incurred" (refer paragraph 10);

(b) IAS 38 *Intangible Assets*, which states that, for intangible assets other than internally generated intangibles and research and development,[21] "An entity shall assess the probability of expected future economic benefits using reasonable and supportable assumptions that represent management's best estimate of the set of economic conditions that will exist over the useful life of the asset" (refer paragraph 22);

(c) IAS 40 *Investment Property*, which states that "An entity evaluates under this recognition principle all its investment property costs at the time they are incurred" (refer paragraph 17); and

[21] The research project team considers the specific requirements in IAS 38, paragraph 57 for accounting for the development phase of internally generated intangible assets are broadly analogous to the conditions that support the reserves classification under the SPE and CRIRSCO systems. In that sense, the

(d) IAS 41 *Agriculture*, which states that "The future benefits are normally assessed by measuring the significant physical attributes" (refer paragraph 11).

56. In each of these cases, it is left to professional judgement (and industry practice) to consider questions such as:

(a) when is it probable that economic benefits will flow to the entity?

(b) what criteria must be met?

(c) what degree of confidence (or certainty) is required and what knowledge does the entity need to possess to provide this degree of confidence?

57. These same questions would need to be considered in determining when a reserves and resources asset is initially recognised. The PricewaterhouseCoopers publication, *Financial reporting in the mining industry** (June 2007) discusses the application of the *Framework's* recognition principle to exploration expenditure and evaluation expenditure.

For exploration expenditure, the publication states:

> Exploration expenditure is often made in the hope (rather than the expectation) that there will be future economic benefits. Success rates tend to be low. It is difficult for an entity to demonstrate that the recovery of exploration expenditure is probable. As a result, exploration expenditure has to be expensed if the IASB Framework is applied. However, this does not mean that all exploration expenditure is written off under the IASB Framework. For example, it may be appropriate to recognise an asset in respect of exploration activities:
>
> - around an existing mine, where the entity has substantial knowledge about the mineral deposit and has constructed the infrastructure and/or processing facilities needed to exploit the additional resources that it expects to find; or
> - in an area with a proven history of return on the amounts spent.[22]

For evaluation expenditure, the publication states:

> Evaluation activities are further advanced than exploration and are therefore more likely to meet the criteria for recognising an asset. However, each project needs to be considered on its merits. The amount of evaluation work required before the entity can conclude that a viable mine exists, and hence a future economic benefit is probable, can vary according to the particular circumstances of each area of interest. Factors to be considered include:

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development phase requirements are akin to Approach 2's approach for identifying the point of initial recognition of a minerals or oil & gas asset.

22 PwC, *Financial reporting in the mining industry** (June 2007), page 12

- the entity's existing level of knowledge about the area of interest and the extent to which the infrastructure assets and processing facilities needed to exploit the mineral deposit already exist. This will depend on whether the evaluation activity relates to:
  - a greenfield site (one where the entity does not have any mineral deposits that are already being mined or developed); or
  - a brownfield site (one adjacent to a mineral deposit that is already being mined or developed); or
  - extension drilling for a mineral deposit that is already being mined or developed;
- the scale of the project's estimated net present value and the sensitivity of the net present value to changes in the key assumptions. This will depend on the nature and quality of the mineral deposit, and also the extent of the up-front capital costs needed to develop the mine;
- the availability of the funding needed to undertake the project. This can be a major issue for smaller mining entities;
- the level of risk associated with the project, including political risk and operational risk;
- the existence of any barriers that might prevent the project from proceeding (such as securing water supplies, obtaining environmental approvals or developing the required technology); and
- management's experience and track record.[23]

58. An advantage of leaving the application of the probable recognition threshold to the judgement of the preparers and auditors of financial reports is that the recognition of these assets would be treated consistently with the recognition of many other non-financial assets under IFRSs, such as property, plant and equipment, biological assets etc. On the other hand, there is a corresponding risk that different interpretations of 'probable future economic benefits' may emerge between companies, commodities or jurisdictions, which would not encourage comparability. This risk is likely to be more pronounced in the case of reserves and resources assets because they are subject to greater levels of uncertainty than for assets such as property, plant and equipment and biological assets. Unlike many other assets, minerals and oil & gas assets are subject to volumetric uncertainty and the judgements made on (technically) recoverable volumes of minerals or oil & gas together with other uncertain assumptions, including economic assumptions, will determine whether the minerals or oil & gas is economically recoverable and, therefore, whether the asset has probable future economic benefits.

[23] PwC, *Financial reporting in the mining industry** (June 2007), pages 12-13

Diverse interpretations

59. Without accompanying guidance or requirements, the range of interpretations regarding when the probable future economic benefits threshold would be satisfied in relation to minerals or oil & gas assets could become unacceptably diverse. For instance, some may interpret that the probable future economic benefits threshold can only be satisfied when a project to develop and produce the minerals or oil & gas deposit has been approved, the project is expected to generate a positive net present value based on an estimate of minerals or oil & gas for which there is reasonable certainty that they can be recovered, and that production will commence in the foreseeable future and thereby mitigating some of the uncertainty associated with future commodity prices, and development and operating costs, and fiscal terms.

60. However, others may interpret probable future economic benefits more broadly to suggest that, if management would expect to be able to sell their legal rights to a property for an amount in excess of the value of the unexpired duration of the legal rights, then that provides support for the existence of probable future economic benefits. For instance, where there has been a discovery on a property, but it is too early to determine whether extraction of the minerals or oil & gas is economically recoverable, it could be argued that the property has "real option" value. Conceivably, real option value could exist at, or soon after, discovery and could be realised either through the entity proceeding to evaluate, develop and produce the deposit or through the sale of the property rights. Under this view, the real option value might only decrease to zero once further assessments confirm that it is not expected to be economically viable for the entity or any other market participant to develop and produce the minerals or oil & gas deposit. Consequently, until that time or until the deposit is considered to be economically viable,[24] it might therefore be possible to sustain an argument that exploration drilling activity that results in discovery of minerals or oil & gas could be more likely than not to benefit future periods.

61. A consequence of an interpretation of probable future economic benefits on the basis of real option value is that an impairment assessment may be required each reporting period until the economic performance of the asset is reasonably assured. Determining

the recoverable amount for the minerals or oil & gas asset each reporting period (which would be expected to be based on fair value less costs to sell) effectively introduces a de-facto fair value measurement of minerals or oil & gas assets, albeit one-sided in that it would generally only write-down the value of the asset; there would be no upwards revaluation unless the value of the asset subsequently increases and the impairment is reversed. This interpretation therefore brings with it some of the problems previously identified with fair value measurement, including the time and effort required to prepare the fair value estimate within the time constraints of financial reporting timetable.

Approach 2 – use the reserve and resource classification systems

62. This approach attempts to "operationalise" the probable future economic benefits recognition principle by setting the recognition threshold for minerals and oil & gas property assets to a comparable reserve and resource classifications under the CRIRSCO and SPE definitions. The classifications that could potentially set the threshold for the initial recognition of a reserves and resources asset are:

    (a) Approach 2A – the mineral reserve or oil & gas reserves classification; or

    (b) Approach 2B – the mineral resources or oil & gas marginal contingent resources classification.

63. Perhaps the most persuasive reason for not relying only on the *Framework's* recognition principle for reserves and resources assets (as per Approach 1) is that, unlike the many and varied assets within the scope of the standards mentioned above, the CRIRSCO and SPE reserve and resource definitions provide a comprehensive classification system for minerals and oil & gas deposits. Many of the questions outlined in paragraph 56 above for determining whether probable future economic benefits exist are addressed within the reserve and resource classification system. For instance, to make a judgement about the existence of probable future economic benefits for a minerals or oil & gas property, the preparer or auditor would require knowledge of the geological aspects of the reserve and resource as well as economic and other considerations that would influence whether the property will be developed and that a net economic benefit will be realised by the

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[24] When a project to develop and produce a minerals or oil & gas deposit is economically viable, the research project team expects that the general view would be that it is probable that the asset will generate future economic benefits.

entity. These are the same factors that are used in the CRIRSCO and SPE definition systems to determine the classification of minerals and oil & gas reserves and resources.

Approach 2A – initial recognition is linked to the reserves classification

64. The research project team believes that the probable future economic benefits recognition threshold would be satisfied when the definition of a mineral reserve or oil & gas reserve is satisfied. When an entity declares a reserve, it has effectively communicated its intention to develop and produce minerals or oil & gas from the property. Also implicit with the decision is that the project will generate an economic return (otherwise a rational entity would not invest in the project). For example, CRIRSCO requires that a mineral reserve be "economically mineable" – implying that extraction of the reserve has been demonstrated to be viable under reasonable financial assumptions. This is normally determined by a series of increasingly detailed technical and economic studies including pre-feasibility and feasibility studies that will have determined a mine plan that is technically achievable and economically viable.

A 'pre-feasibility study', as defined by CRIRSCO,[25] is:

> …a comprehensive study of the viability of a mineral project that has advanced to a stage where the mining method, in the case of underground mining, or the pit configuration, in the case of an open pit, has been established, where an effective method of mineral processing has been determined, and includes a financial analysis based on reasonable assumptions of technical, engineering, legal, operating and economic factors and evaluation of other relevant factors which are sufficient for a Competent Person, acting reasonable, to determine if all or part of the Mineral resource may be classified as a Mineral Reserve.

A 'feasibility study', also defined by CRIRSCO,[26] is:

> …a comprehensive study of a mineral deposit in which all geological, engineering, legal, operating, economic, social, environmental and other relevant factors are considered in sufficient detail that it could reasonably serve as the basis for a final decision by a financial institution to finance the development of the deposit for mineral production.

65. The difference between a pre-feasibility study and a feasibility study is explained in the SPE/CRIRSCO comparison document,[27] which states that:

> The end point of a Pre-Feasibility study will normally provide sufficient confidence to indicate that a project is most likely viable, based on a quantity of Proved and/or Probable Reserves, while the Feasibility study will demonstrate this to a level of accuracy required to make the investment

[25] CRIRSCO, Appendix 1 General terms and equivalents, page 31
[26] CRIRSCO, Appendix 1 General terms and equivalents, page 31
[27] SPE/CRIRSCO comparison, page 18

> commitment. Approval to proceed with construction generally occurs following a Feasibility study.

66. Similarly, the SPE definitions require that an oil & gas reserve be "commercially recoverable" – implying that the degree of commitment is such that the accumulation is expected to be developed and placed in production within a reasonable time frame. The SPE system[28] also contemplates an assessment similar to a feasibility study, stating:

> Discovered recoverable volumes (Contingent Resources) may be considered commercially producible, and thus Reserves, if the entity claiming commerciality has demonstrated firm intention to proceed with development and such intention is based upon all of the following criteria:
>
> • Evidence to support a reasonable timetable for development.
>
> • A reasonable assessment of the future economics of such development projects meeting defined investment and operating criteria.
>
> • A reasonable expectation that there will be a market for all or at least the expected sales quantities of production required to justify development.
>
> • Evidence that the necessary production and transportation facilities are available or can be made available:
>
> • Evidence that legal, contractual, environmental and other social and economic concerns will allow for the actual implementation of the recovery project being evaluated.

67. Consequently, the research project team believes that the reserves classification in the CRIRSCO and SPE systems provides a clear indication that it is (at least) probable that future economic benefits should flow to the entity in exploiting the minerals or oil & gas deposit, either through production or through sale of the property. The following observations made by PricewaterhouseCoopers, in *Financial reporting in the mining industry**, seem to provide some support for this view:

> A final feasibility study is often needed before the entity can demonstrate that future economic benefits are probable. …Some mining entities have adopted a policy under which all expenditure on individual exploration and evaluation projects is expensed until a final feasibility study has been completed – presumably to introduce a degree of objectivity into the treatment of such costs.
>
> There are also many situations where a final feasibility study is not required to demonstrate economic feasibility; …This view is supported by the fact that many of the codes in use around the world to estimate a mining entity's reserves and resources do not require the preparation of final feasibility study before resources can be designated as proved and probable reserves.

68. [Paragraph omitted from Observer Note]

69. Significantly, the research project team is proposing under Approach 2A that the threshold for initial recognition is linked to the recognition of a reserve generally and

not to specific categories of reserves that are classified according to the level of confidence in recovery (e.g. a proved reserve or a probable reserve). The categories of reserves are considered to be relevant to the measurement of the asset (either in terms of impairment in a historical cost measurement model or in terms of the valuation of the asset if a fair value / current value is applied), but not for identifying the point of initial recognition.

Approach 2B– initial recognition may occur in the resources classification

70. The resources classifications (specifically, minerals resources and marginal contingent resources) assume that there are reasonable prospects for the eventual economic extraction of the mineral or oil & gas. Reasons why a minerals or oil & gas deposit is classified as a resource include:

    (a) studies of the modifying factors / contingencies have not been undertaken or completed; [29]

    (b) economic conditions have to change (but there is a reasonable expectation that these conditions will eventually be met); [30]

    (c) project is not committed for development due to one or more contingencies (but there is a reasonable expectation that these conditions will eventually be met); or

    (d) there is not the requisite level of geological confidence (this applies to inferred mineral resources).[31]

71. In the research project team's opinion, this indicates that, overall, the 'reasonable prospects of eventual economic extraction' is a lower threshold than 'probable future economic benefits'. However, in some circumstances, mineral resources and marginal contingent resources classifications might satisfy the probable future economic benefits threshold, and thereby a minerals or oil & gas asset could be capable of being recognised as an asset on the balance sheet. One example quoted by an industry participant related to some gold mines developed in Nevada, USA where the mineral

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28 PRMS, page 6

29 CRIRSCO/SPE comparison, Appendix A: SPE_CRIRSCO Classification and Guidelines Mapping, comments on Contingent Resources, page 3

30 CRIRSCO/SPE comparison, Appendix A: SPE_CRIRSCO Classification and Guidelines Mapping, comments on Contingent Resources, page 3

deposits found were so rich that the probable future economic benefits threshold would be expected to be satisfied even after only a preliminary assessment by an experienced evaluator. In addition, even though assessments of technical feasibility and external economic factors relating to a minerals or oil & gas deposit may be favourable, the timeframe to development can influence whether a deposit is classified as a reserve or a mineral resource / marginal contingent resource. For instance:

(a) the SPE system[32] comments that:

> A reasonable time frame for the initiation of development depends on the specific circumstances and varies according to the scope of the project. While 5 years is recommended as a benchmark, a longer time frame could be applied where, for example, development of economic projects are deferred at the option of the producer for, among other things, market-related reasons, or to meet contractual or strategic objectives. In all cases, the justification for classification as Reserves should be clearly documented.

(b) under the CRIRSCO system, the SPE/CRIRSCO comparison document[33] explains that:

> Although the completion of feasibility studies does not require a decision to mine, in practice any feasibility study that has not been implemented within five years would require a restudy and quantities would either be retained as Mineral Reserves; 'refreshed' on an annual basis, or downgraded to Mineral resources pending that restudy.

In an accounting context, a decision to defer development and production may directly influence the measurement of the minerals or oil & gas asset (either on a fair value / current value basis or a historical cost less impairments basis), however it will not directly affect asset recognition unless the decision to defer means that it is no longer probable that the asset will generate future economic benefits. As there does not appear to be a clearly defined cut-off within the mineral resource and marginal contingent resource categories that equates to probable future economic benefits and that is common between the CRIRSCO and SPE systems, determining how much of a mineral resource or marginal contingent resource that is capable of being recognised as an asset would be left to the judgement of management.

72. Approach 2B represents a compromise solution between Approach 1 and Approach 2A. Like Approach 2A, it provides a clearly identifiable and common basis for setting the initial recognition of a minerals or oil & gas asset, being when a reserve is classified.

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31 CRIRSCO/SPE comparison, pages 10-11

32 PRMS, section 2.1.2, page 6

33 CRIRSCO/SPE comparison, page 23

But, similar to Approach 1, it also provides some flexibility for the asset to be recognised earlier if the facts and circumstances suggest that probable future economic benefits are present. The key difference with Approach 1 is that Approach 2B requires, at a minimum, that a mineral resource / marginal contingent resource must have been classified before an asset can be recognised. In other words, Approach 2B sets, as a default position, that a minerals or oil & gas asset is to be recognised when there is a reserve, but management may be able to exercise its judgement to instead recognise the asset when there is only a resource if it can justify that the resource satisfies the probable future economic benefits threshold at that time. To justify the recognition of a minerals or oil & gas resource as an asset (without associated reserves), the research project team believes that specific disclosures should be required to identify the resources that are being used to support the asset's recognition on the balance sheet.

73. Impala Platinum Holdings Limited's accounting policy for exploration and evaluation costs, as presented in its 2007 Annual Report (prepared in accordance with IFRSs), is not dissimilar from Approach 2B in that when the probable future economic benefits threshold is taken to be satisfied depends on whether the asset corresponds to a greenfields site, a brownfields site or the extension of an existing mine. The Impala Platinum accounting policy is:

> The group expenses all exploration and evaluation expenditures until the directors conclude that a future economic benefit will more likely than not be realised, i.e. is probable. In evaluating whether expenditures meet this criterion for being capitalised, the directors use several different sources of information depending on the level of exploration. While the criteria for concluding that an expenditure should be capitalised is always probable, the information that the directors use to make that determination depends on the level of exploration.
>
> – ***Exploration and evaluation expenditure on greenfields sites***, being those where the group does not have any mineral deposits which are already being mined or developed, ***is expensed as incurred until a final feasibility study has been completed***, after which the expenditure is capitalised within development costs if the final feasibility study demonstrates that future economic benefits are probable.
>
> – ***Exploration and evaluation expenditure on brownfields sites***, being those adjacent to mineral deposits which are already being mined or developed, ***is expensed as incurred until*** the directors are able to demonstrate that future economic benefits are probable through ***the completion of a pre-feasibility study***, after which the expenditure is capitalised as a mine development cost. A prefeasibility study' consists of a comprehensive study of the viability of a mineral project that has advanced to a stage where the mining method, in the case of underground mining, or the pit configuration, in the case of an open pit, has been established, and which, if an effective method of mineral processing has been determined, includes a financial analysis based on reasonable assumptions of technical, engineering, operating economic factors and the evaluation of other relevant factors. The pre-feasibility study, when combined with existing knowledge of the mineral property that is adjacent to mineral deposits that are already being mined or developed, allows the directors to conclude that it is more likely than not that the group will obtain future economic benefit from the expenditures.

> – ***Exploration and evaluation expenditure relating to extensions of mineral deposits*** which are already being mined or developed, including expenditure on the definition of mineralisation of such mineral deposits, ***is capitalised*** as a mine development cost ***following the completion of an economic evaluation equivalent to a pre-feasibility study***. This economic evaluation is distinguished from a pre-feasibility study in that some of the information that would normally be determined in a pre-feasibility study is instead obtained from the existing mine or development. This information, when combined with existing knowledge of the mineral property already being mined or developed, allows the directors to conclude that more likely than not the group will obtain future economic benefit from the expenditures. [emphasis added]

74. The references to final feasibility studies and pre-feasibility studies suggests that the Impala Platinum accounting policy is based on the concepts underpinning the mineral reserves classification, even though that is not specified in the policy note. In contrast, the research project team is contemplating that, in accordance with Approach 2A or 2B, the accounting policy would explicitly refer to the reserve and resource classification system. This should improve a user's understanding of the financial statements, as it provides for a linkage between asset recognition and the reserve and resource volume disclosures. Examples of such disclosures are presented below.

Lonmin plc's accounting policy for exploration and evaluation costs, as presented in its 2006 Annual Report (prepared in accordance with IFRSs), states that:

> Exploration and evaluation expenditure incurred on individual projects is capitalised when the future economic benefit of the project can reasonably be regarded as assured. …
>
> Exploration costs are expensed if they relate to expenditure necessary to delineate and quantify the reserves and resources required to replace those extracted or in the case of expansion and new opportunities, ***until a probable reserve has been defined and confirmed by a Competent Person***. At that point, further costs are capitalised … [emphasis added]

Teck Cominco Limited's accounting policy for mineral properties and development costs, as presented in its 2006 Annual Report (prepared in accordance with Canadian GAAP), states that (and noting that National Instrument 43-101 is consistent with the CRIRSCO classification system):

> Acquisition, exploration and evaluation costs are charged to earnings in the year in which they are incurred, ***except where these costs relate to specific properties for which resources as defined under National Instrument 43–101 exist*** and it is expected that the expenditure can be recovered by future exploitation or sale, in which case they are deferred. [emphasis added]

Implications of adopting Approaches 2A and 2B

75. The distinction between the definitions of reserves and resources also illustrates that by linking the recognition of mineral and oil & gas assets to the CRIRSCO and SPE classification systems, there will be circumstances whereby the asset recognition is

dependent on entity-specific factors (i.e. their intention to develop the property containing the reserves and resources). This may have the undesirable consequence of accounting effects influencing management's business decision relating to when to undertake project feasibility studies. In other words, the concern does not relate to the premature recognition of the asset – the same level of analysis is required to attain the reserve or resource classification necessary to support asset recognition, but the period in which that analysis is undertaken may be brought forward. For instance, if the point of initial recognition of a minerals or oil & gas asset is a reserve, some entities might accelerate the timing of a reserve declaration to bring forward the recognition of the asset and thereby improve the appearance of their balance sheet (because the reserves and resources asset is recognised) and income statement (because the pre-development costs can be capitalised rather than expensed or, possibly, the current value / fair value of the asset is recognised as income). For this reason, Approach 2 is presented as two alternatives, with Approach 2B permitting earlier asset recognition when there is sufficient evidence to suggest that it is probable that the asset will generate future economic benefits. Regardless, the concern that accounting for minerals or oil & gas assets might drive business decisions may not be as significant a problem as it first appears. This is because it could be argued that current practice in reserve and resource disclosures already provides an incentive to bring forward business decisions to achieve the desired reserve or resource classification in an earlier period.

76. Another factor to be considered if the classifications of reserves and resources is used to identify the point of initial recognition of a minerals or oil & gas asset is how to treat the asset when the classification of reserves or mineral resources / marginal contingent resources is no longer satisfied. For instance, if a reserve is reclassified to a resource, does that event create:

    (a) a derecognition event that suggests, if there are no longer any reserves, there is no asset capable of recognition; or

    (b) an impairment event that suggests the carrying amount of the asset might be written-down rather than necessarily written-off?

77. In the research project team's opinion, the reclassification of a minerals or oil & gas deposit from reserves to resources is more likely to be an indicator that management

may not be able to continue to expect that the same quantity of future economic benefits will be realised. Therefore, the research project team considers that the reclassification event would be likely to trigger an impairment assessment under IAS 36 *Impairment of Assets* rather than a derecognition.

78. However, where the resource classification can no longer be satisfied, this may indicate that either:

    (a) the entity cannot control the future exploitation of the minerals or oil & gas deposit – in which case the asset is to be derecognised as it no longer satisfies the definition of an asset; or

    (b) there are no longer "reasonable prospects of eventual economic extraction" of minerals or oil & gas – in which case it is likely that it is no longer probable that the asset will generate future economic benefits and, thereby, the asset will be impaired in accordance with IAS 36.

Approach 3 – specific activities or costs

79. Under this approach, specific activities and/or types of costs incurred would be prescribed as either being capable of being recognised as an asset or alternatively recognised as an expense. To incorporate this approach into an IFRS, the IASB would therefore need to identify all the relevant activities and/or costs and make a determination as to whether the costs qualify for recognition as an asset or should be expensed. In other words, this approach places emphasis on accounting for the inputs or the activity (e.g. exploration, evaluation, development etc). In contrast, under Approach 2 the accounting is prescribed by reference to the reserve and resource classification system for reporting on discovered minerals or oil & gas, noting that the attainment of these classifications may be characterised as being the outcome of successful exploration and evaluation activities.

80. The main advantage of this approach is that rules can be developed to clearly link asset recognition to the completion of specific tasks or activities. Subject to the activities being clearly defined and delineated, these rules can provide a "bright line" for asset recognition, and thereby promote consistent accounting across entities because there is less latitude for diverse interpretations. However, developing these types of rules also

has disadvantages. There is a risk that the rules would be rigid and inflexible. This might encourage the development of special rules to deal with the unique features of some commodities, which might eventuate in different accounting treatments being applied to minerals and oil & gas. There is also the risk that the rules might provide for a result that is inconsistent with the *Framework's* asset recognition principle of "probable future economic benefits".

81. Another disadvantage of this approach relates to the definition and delineation of the specific tasks or activities. The 2000 Issues Paper notes that "The upstream phases in the mining industry and in the petroleum industry are quite similar even though the precise activities in a given phase vary between industries and even within the same industry".[34] This suggests that it is likely to be difficult to develop comparable (rather than simply uniform)[35] accounting requirements that are based on rules-based definitions of tasks and activities and that would be suitable and appropriate for application across the mining and oil & gas industries. The same concern does not arise under Approach 2 because it relies on the existing minerals and oil & gas reserve and resource classification systems, which were developed to apply across the minerals industry and the oil & gas industry respectively. Furthermore, as the CRIRSCO/SPE convergence review has highlighted the similarities and differences between the classification systems, the reserve and resource classifications may be able to be used to assist in the development comparable accounting requirements across the minerals and oil & gas industries.

82. It is possible that extractive activities or phases could be defined in a principles-based manner. An example of this is the implied definition of development expenditures in IFRS 6 *Exploration for and Evaluation of Mineral Resources*, which is defined as "expenditures incurred… after the technical feasibility and commercial viability of

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34 2000 Issues Paper, paragraph 2.1

35 The IASB/FASB Conceptual Framework project's Discussion Paper on qualitative characteristics of decision-useful information explains, at paragraph Q37, that:

> "*Comparability has sometimes been confused with uniformity. For information to be comparable, like things must look alike and different things must look different. An overemphasis on uniformity, for example, requiring all entities to use the same assumptions on economic factors such as the expected future dividend rate on their shares as inputs to a valuation model, may reduce comparability by making unlike things look alike. Comparability of financial reporting information is not enhanced by making unlike things look alike any more than it is by making like things look different.*"

extracting a mineral resource are demonstrable".[36] The implication of this definition is that the development phase commences when a mineral or oil & gas reserve is declared, as technical feasibility and commercial viability are central components of the reserves definition. However, the research project team considers that where the definition of an extractive activity phase used to identify the point of initial recognition of a minerals or oil & gas asset is based on a reserve or resource classification (even if it is not explicitly acknowledged), the asset recognition approach has more in common with Approach 2 than Approach 3. Consequently, as mentioned earlier in the discussion of Approach 2, the research project team prefers an explicit linkage between asset recognition and the minerals and oil & gas reserve and resource classification systems.

83. Another alternative to identifying activities that might be used to determine the initial recognition of a minerals or oil & gas reserve and resource asset is to refer to the project status classifications of the SPE system (i.e. Petroleum Resource Management System) and the United Nations Framework Classification for Fossil Energy and Mineral Resources (the UNFC – as discussed in agenda paper 10A). This alternative was suggested by an industry participant. The project status classifications describe the maturity of a project to extract oil & gas, noting that the more mature a project is, the greater probability that oil & gas will be produced and cash flows generated. The project status classifications are:

Project Status	**Description**[37]
On Production	The development project is currently extracting and selling product to market.
Approved for Development	All necessary approvals have been obtained, capital funds have been committed, and implementation of the development project is under way.
Justified for Development	Implementation of the development project is justified on the basis of reasonable forecast commercial conditions at the time of reporting, and there are reasonable expectations that all necessary approvals/contracts will be obtained.
Development Pending	A discovered accumulation/deposit where project activities are ongoing to justify commercial development in the foreseeable future.
Development Unclarified or On Hold	A discovered accumulation/deposit where project activities are on hold and/or where justification as a

[36] IFRS 6, paragraph 5(b)

[37] The description of these project status classifications is as per the PRMS definitions, but with minor word changes to render them generic for illustration purposes.

	commercial development may be subject to significant delay.
Development Not Viable	A discovered accumulation/deposit for which there are no current plans to develop or to acquire additional data at the time due to limited production potential.

84. The project status classifications are integral to the design of the UNFC and are a feature of the SPE system. However the research project team understands that the use of these project status classifications is not widespread in the oil & gas industry internationally and project status is not an explicit feature of the CRIRSCO system. From a conceptual perspective, a criticism of utilising a project status approach to identify the point of initial recognition of a minerals or oil & gas asset is that it would link asset recognition to management intent. For instance, under the project status classification, asset recognition may be dependent on the existence of a management decision to initiate development rather than on an assessment as to whether the minerals or oil & gas property is suitable and available to develop. The research project team notes, however, that management intent is a feature of some existing accounting models and, as paragraph 74 above indicates, it is also a feature of Approach 2A.

Case study: Accounting for oil & gas assets under FAS 19

85. The accounting prescribed for oil & gas assets by FAS 19 *Financial Accounting and Reporting by Oil and Gas Producing Companies* is the 'successful efforts' method, which the research project team considers has features of both Approach 2 and Approach 3. FAS 19 defines success, and therefore asset recognition (being the 'wells, equipment and facilities' asset), in terms of whether proved oil & gas reserves[38] have been found. Like Approach 2, the proved reserves hurdle provides the basis for FAS 69 requiring the:

    (a) expensing of costs such as geological and geophysical (G&G) costs, which include the costs of topographical, geological, and geophysical studies, rights of access to properties to conduct those studies, and salaries and other expenses of geologists, geophysical crews, and others conducting those studies;[39]

[38] As defined by the US Securities and Exchange Commission. The SEC's definition of proved reserves is not the same as the SPE definition of proved reserves.

[39] FAS 19, paragraph 17a

(b) expensing (or writing off) unsuccessful exploration well costs;[40] and

(c) capitalising development costs, which are identified as costs incurred to obtain access to proved reserves and to provide facilities for extracting, treating, gathering, and storing the oil and gas.[41]

86. The parallels between FAS 19 and Approach 3 arise in relation to the treatment of the cost of drilling exploratory wells. Paragraph 19 of FAS 19 states that the costs of drilling exploratory wells are to be capitalised pending determination of whether the well has found proved reserves. If proved reserves are found, the capitalised drilling costs become part of the entity's wells, equipment, and facilities. However, if proved reserves are not found, the capitalised costs of drilling the well are expensed, net of any salvage value. The research project team considers that by capitalising all exploratory drilling costs pending the existence of proved reserves, FAS 19 is assuming the existence of an "asset" comprising the deferred costs, upon which its basis for recognition is the undertaking of an activity (i.e. drilling exploration wells) rather than the outcome of that activity (i.e. the identification of proved reserves). The circumstances in which FAS 19 (as issued in December 1977) contemplated the recognition of the deferred cost asset is summarised below:

> In certain circumstances, an exploratory well finds reserves but those reserves cannot be classified as proved when drilling is completed. To meet the classification of proved reserves, the geological and engineering data must support with reasonable certainty that the quantities of reserves are recoverable under existing economic and operating conditions (typically, prices and costs at the date that the estimate is made). For example, after reserves are found, an enterprise may be required to obtain additional geological information, government approvals, sales contracts, and project financing before the enterprise can classify the reserves as proved.
>
> Paragraphs 31–34 of Statement 19 provide guidance on whether exploratory well costs can continue to be capitalized when the well finds reserves but those reserves cannot be classified as proved when drilling is completed. If reserves cannot be classified as proved in an area requiring a major capital expenditure, paragraphs 31(a) and 34 of Statement 19 require that the cost be carried as an asset provided that (a) there have been sufficient reserves found to justify completion as a producing well if the required capital expenditure is made, and (b) drilling of the additional exploratory wells is under way or firmly planned for the near future. If either of those two criteria is not met, the enterprise must expense the exploratory well costs.
>
> For all other exploratory wells not addressed in paragraphs 31(a) and 34, paragraph 31(b) requires the capitalized costs to be expensed if the reserves cannot be classified as proved after one year following the completion of drilling.[42]

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40 FAS 19, paragraph 19

41 FAS 19, paragraph 21

42 Refer FASB Staff Position FAS 19-1 *Accounting for Suspended Well Costs* of 4 April 2005, paragraphs 4-6

87. The FASB used pragmatic rather than conceptual justification in allowing the costs of drilling exploratory wells to be capitalised pending determination of success or failure (which is determined on the basis of whether proved reserves are found). The rationale for the FASB's decision was as follows (refer paragraphs 198-199 of FAS 19):

> The best accounting, in the Board's judgment, is to capitalize as "construction-in-progress" the costs of drilling all exploratory wells pending determination of success or failure, that is, pending determination of whether proved reserves are found. The length of time it takes to drill an exploratory well is relatively short—generally a matter of weeks or months, although a few occasionally take a year or longer—so the period during which costs of undetermined future benefit are capitalized usually is relatively brief, and this Statement requires that the costs be charged to expense as soon as a determination is made that proved reserves have not been found. In the Board's judgment, it is appropriate that the costs of drilling exploratory wells be treated differently from G&G and similar exploration costs because, first, determination of success or failure is much more clear-cut for exploratory drilling than it is for G&G and similar exploration costs, and, second, because successful exploratory wells result directly in the discovery of proved reserves whereas G&G does not.
>
> The quantity of oil and gas reserves found by an exploratory well is normally estimated on or shortly after completion of drilling; occasionally that assessment takes a matter of weeks or months, rarely longer. If, however, a major capital expenditure is required before production could begin—such as for construction of a trunk pipeline—the reserves found may not be classifiable as proved unless sufficient quantities of additional reserves are found as a result of additional exploratory drilling. The additional exploratory drilling might take several years to complete. Paragraph 31 of this Statement [*since amended by FASB Staff Position FAS 19-1 Accounting for Suspended Well Costs*] therefore divides exploratory wells that find oil and gas reserves into two types: Those that are not drilled in an area requiring a major capital expenditure such as a trunk pipeline before production could begin and those that are drilled in such an area. For the former type, when classification of the reserves that are found cannot be made at the time drilling is completed, a one-year capitalization period is provided if that is necessary to allow a reasonable period of time for determining whether to classify those reserves as proved. Recognizing, however, that the decision to make a major capital expenditure, such as for a trunk pipeline, must sometimes await the results of additional exploratory wells, the Board concluded not to impose the one-year presumption of impairment on exploratory wells drilled in areas requiring a major capital expenditure before production could begin. Instead, paragraph 31(a) establishes two conditions for continued capitalization that take into account the realities and economics of exploratory drilling in remote areas and, at the same time, prohibit the indefinite deferral of the costs of exploratory wells merely on the hope that the selling prices of oil and gas will increase or on the possibility that unplanned exploratory drilling activity in the indefinite future might find additional quantities of reserves.

88. Recent revisions to FAS 19 made by FASB Staff Position FAS 19-1 have extended the duration for which the exploration drilling costs are recognised as an asset comprising those deferred costs. These revisions have removed the arbitrary one–year capitalisation period in favour of a more principle-based solution of permitting the ongoing deferral of those costs "if the well has found a sufficient quantity of reserves to justify its completion as a producing well and the enterprise is making sufficient progress assessing the reserves and the economic and operating viability of the project" (refer revised paragraph 31 of FAS 19, as inserted by FSP FAS 19-1). The reasons provided for this change underscore the problems that can arise with setting arbitrary

rules based on inputs rather than outcomes.[43] Paragraph 7 of FSP FAS 19-1 explains that:

> Application of paragraphs 31 and 34 of Statement 19 to the facts and circumstances commonly faced by oil- and gas-producing companies in the current exploration and development environment has become a concern. For example, exploration activities are frequently performed in more remote areas, to greater depths, and in more complex geological formations than the exploration activities that occurred when the FASB issued Statement 19 in 1977. These changes in exploration activities have resulted in an increased frequency of exploratory wells that successfully find reserves that cannot be recognized as proved when drilling is completed and a lengthened evaluation period for determining whether the reserves qualify as proved. There are diverse views on how an enterprise should evaluate the criteria in paragraphs 31 and 34 in this changed environment—specifically, the one-year capitalization period.

Preliminary views

89. The research project team prefers Approach 2 in identifying the point of initial recognition of minerals or oil & gas assets, because using the reserve and resource classification system provides a comparable basis for initial recognition of these assets. Furthermore, disclosures accompanying the financial statements would include reserve and resource disclosures that provide volumetric information consistent with the basis used to support the recognition of the minerals or oil & gas asset. As one advisory panel member commented:

> I am strongly of the view that preparers, users and auditors would benefit from as clear a linkage as possible between the reserves and resources definitions employed in the sector and the accounting requirements

90. The research project team does not yet have a strong view as to whether Approach 2A or 2B is preferred. Similarly, the views expressed by members of the research project's advisory panel were also mixed.

91. The attraction with identifying the point of initial recognition by reference to the reserves classification (i.e. Approach 2A) is that it provides a clearly defined threshold for the initial recognition of mineral or oil & gas assets (other than those acquired by purchase) that is consistent with the definition of an asset and is also consistent with the industry classifications commonly used for communicating reserve and resource volumes to investors and other third parties. All minerals or oil & gas deposits that meet

[43] Although this problem can be attributed to the development of arbitrary rules, the research project team notes that the need for revision can also be attributed to changes in the industry that have emerged since FAS 19 was issued 30 years ago (in December 1977). The FSP that made the revisions was only issued in April 2005.

92. The attraction with Approach 2B is that it can accommodate asset recognition in instances when the probable future economic benefits threshold would be satisfied prior to the declaration of a reserve. Therefore, this Approach may be more appropriate on the basis that it may better align with the principle of 'probable future economic benefits'. The disadvantage with this Approach is that the point at which probable future economic benefits are expected may not clearly correspond to a specific resources classification. In other words, if not all mineral resources or marginal contingent oil & gas resources would satisfy the probable future economic benefits threshold – which is likely to be the case – then the point of initial recognition may not be as clear or as readily observable as compared to Approach 2A.

93. If Approach 2B were to apply, the research project team believes that it would be useful to separately disclose those resources that were used to support the asset recognition. This is because the research project team considers that it would be unusual for resources to satisfy the probable future economic benefits recognition hurdle. This disclosure could help users to track whether those resources that are recognised as assets do convert to reserves in future periods, thereby increasing the user's confidence that the future economic benefits embodied in the asset will be realised. Additionally, disclosure of the entity's justification for recognising these resources as assets would be expected to provide decision-useful information.

Views on Approach 1

94. Approach 1 is not supported because the research project team considers that there is too much potential latitude for divergent interpretations regarding when the probable future economic benefits threshold would be satisfied in relation to reserve and resource assets.

95. Approach 1 did not receive much support, with many concerned about the extent of diversity in practice that might arise. As one advisory panel member commented:

> In practice it might even lead geologists to interpret accounting standards or conversely require accountants to evaluate mineral reserves and resources.

Views on Approach 3

96. The treatment of exploratory drilling costs under FAS 19 is an example of Approach 3's rules-based solution for identifying the point of initial recognition of minerals or oil & gas assets. The research project team considers that Approach 3's emphasis on accounting for activities or costs has the potential to place more emphasis on the matching concept than on the *Framework's* asset definition and recognition criteria. As the FAS 19 case study illustrates, the matching concept permits the deferral of certain costs even though they may not otherwise qualify for asset recognition under the *Framework*. Due to the potential that Approach 3 might also lead to similar accounting, the research project team does not support Approach 3.

97. Most advisory panel also did not register support for this approach. The major concern was that a rule-based approach may be difficult to introduce across the extractive industries and it may not keep pace with industry developments. As one advisory panel member said:

> This approach would inevitably be very rules based and could become obsolete quite quickly in the face of technological development. Furthermore, I think it is difficult to come up with one unified approach for reserves that are very different in nature (e.g. oil vs. minerals, different types of mineralisation, on-shore vs. off-shore development, etc.). Essentially the IASB would need to task itself with developing very very specific Application Guidance…

98. With respect to the project status classification alternative, the research project team believes that the suitability of using this alternative to support asset recognition may be constrained by the fact that the use of this classification is not widespread in either the oil & gas or minerals industry. As noted above, the research project team considers that linking the assets recognised on the balance sheet to the reserve and resource information disclosure would provide useful information. Given that users want information on an entity's minerals and oil & gas deposits reported using the reserve (and resource) classifications, the research project team thinks that an asset recognition model that is related to the reserve and resource classifications is preferable. However, the research project team acknowledges that, for instance, it might be possible for Approach 2B to apply in conjunction with the project status classification. Because it is not expected that all mineral resources / marginal contingent resources would satisfy the recognition criteria, other classifications – such as the project status classification – may be able to assist in isolating which components of that classification might satisfy the requirements for asset recognition.

PART C: INITIAL RECOGNITION OF EXPLORATION PROPERTY ASSETS

99. Part B of this paper discussed when a reserves and resources asset meets the *Framework* criteria for recognition in the financial statements. There will often be significant expenditures incurred before this recognition point. These expenditures might, for example, include the acquisition of exploration rights from a government or a private party, the purchase of a property on which some exploration has been carried out, or seismic surveying and drilling on an exploration property.

100. Unless an asset is recognised these costs are expensed. This section of the paper addresses whether there is an asset prior to the recognition of a reserve and resource asset and, if so, how it should be accounted for. The term 'exploration asset' is used to refer to such an asset.

Is there an asset?

101. Under the existing *Framework* an asset is a resource:

    (a) controlled by the entity as a result of past events; and

    (b) the future economic benefits are expected to flow to the entity.

102. The discussion on the definition of an asset in Part B of this paper concluded that criterion (a) is met as control over minerals or oil & gas reserves and resources exists where the entity holds some present legal rights (e.g. the unconditional right to explore according to the terms of an exploration permit) and the right to apply for the outstanding rights that are a prerequisite to having the absolute right to extract the mineral or oil & gas (e.g. the conditional rights to develop and produce the minerals or oil & gas located on the property). This would normally be true during the exploration phase, although some activities can occur before the entity has any legal rights to the property. As also noted in Part B, criterion (b) would also be met.

103. The Conceptual Framework project has a draft of a new definition of an asset – a present economic resource to which the entity has a present right or other privileged access. An *economic resource* is something that is scarce and capable of producing cash inflows or reducing cash outflows, directly or indirectly, alone or together with other economic resources.

104. This raises the question of whether an exploration property is capable of producing cash inflows. By definition there are not sufficient reserves or resources identified to support development to produce oil & gas or minerals, so the exploration property is not capable of producing cash inflows from the production and sale of oil & gas or minerals. However, in many cases it would be possible to sell the property (although this may not be the intent). The sale of exploration properties, including farm-out arrangements, is common in both the oil & gas and mining industries.

105. Industry members of the Advisory Panel commented that exploration properties have 'option value' – i.e. they have a value in the marketplace because of the potential for future cash flows from the property, while recognising the inherent uncertainty.

106. The project team believes that the fact that exploration properties are commonly bought and sold in the marketplace means that they can be assets. (Not all exploration properties will be assets, as evidenced by the fact that entities abandon properties, or may be required to return them to the government or other mineral rights holder if they do not proceed with development within a certain period.)

107. If an asset exists, what is the asset? It might be argued that it is a reserve and resource asset and certainly it is related to reserves and resources. However, since by definition it does not meet the recognition criteria for a reserves and resources asset, this view is not helpful.

108. Another view is that the asset is the legal right to explore a property and subsequently apply for development rights, and also includes any information as a result of exploration activities carried out. Rights and knowledge are intangible assets.

Should an asset be recognised?

109. While the Conceptual Framework project has addressed the definition of an asset, it has not yet addressed recognition of an asset. In other projects the Board has indicated that uncertainty should be considered part of measurement and that, consequently, the current probability criteria for recognition should not remain. If an asset exists it should be recognised (provided it can be measured reliably). A low probability of future cash flows from the asset would result in a low value which would affect fair value, if that is the measurement attribute, or cap historical cost through the impairment test.

110. Following this approach would result in recognising an asset for most exploration activities. (This might result in capitalizing expenditures that are expensed under successful efforts accounting, such as unsuccessful drilling and seismic work. However, this is a measurement issue and outside the scope of this paper.) An asset would not be recognised where lack of exploration success made it unlikely that the property could be sold, and possibly not for exploration on land where the entity does not hold exploration rights.

111. To meet the current recognition requirements, the asset must have a cost or value that can be measured reliably. For practical reasons this seems likely to remain as a requirement (although the term "reliable" may change). For an exploration asset it should be possible to reliably measure the cost.

112. Determining the value of an exploration property will often be very difficult and subjective. These issues have been discussed with the Board in previous meetings. The scope of this paper does not include measurement. However, even if an exploration asset is measured at historical cost, its value will be required for impairment testing. An exploration decision is made on a go-forward basis and sunk costs are not relevant to this decision. It is possible for rational decisions to be made which result in the total amount spent exploring and developing a property exceeding its recoverable value. However, if the normal impairment model is to be used for exploration assets then even under a historical cost model the value (fair value and/or value in use) of an exploration property may be required. Current impairment standards generally require the use of indicators to identify when an exploration asset should be tested for impairment. These indicators generally relate to physical impairment rather than economic impairment. For example IFRS 6 includes the following indicators:

    (a) expiry of exploration rights;

    (b) no further work budgeted or planned; and

    (c) discontinuance of exploration on the property.

    IFRS 6 also requires a test for impairment when sufficient data exists to indicate the carrying amount is unlikely to be recovered from development or sale.

113. The project team believes that the impairment issue is the most critical issue in determining whether to recognise an exploration asset.

114. A further issue is that recognising exploration assets may not be consistent with the accounting required in IFRSs for other intangible assets, such as technology and pharmaceutical research projects which are accounted for under IAS 38 *Intangible Assets*. Unless a logical distinction can be made between exploration assets and other intangible assets, then a decision to recognise exploration assets may have implications for the accounting for other intangible assets. The only distinction the project team can identify is that it is relatively common for exploration assets to be bought and sold compared with many other intangible assets.

IAS 38 analysis

115. The following paragraphs analyse the accounting for exploration assets under IAS 38. IAS 38 addresses the recognition of intangible assets, discussing those acquired by separate acquisition, as part of a business combination, by exchange of assets or as an internally generated asset. (It also identifies acquisition by way of a government grant but this does not seem relevant to extractive industries.) In terms of recognition, the primary distinction is between intangible assets acquired from a third party and those generated internally.

Intangible assets acquired from a third party

116. Paragraph 25 of IAS 38 states:

> "Normally, the price an entity pays to acquire separately an intangible asset reflects expectations about the probability that the expected future economic benefits embodied in the asset will flow to the entity. In other words, the effect of probability is reflected in the cost of the asset. Therefore, the probability recognition criterion in paragraph 21(a) is always considered to be satisfied for separately acquired intangible assets."

Paragraph 26 notes that "the cost of a separately acquired intangible asset can usually be measured reliably".

117. The conclusion is that an intangible asset acquired from a third party meets the criteria for recognition. For an extractive entity this would include the acquisition of exploration rights from a government and the acquisition (as a single asset, as part of a business combination or through an exchange of assets) of exploration properties (i.e.

Internally generated intangible assets.

118. This would include exploration carried out directly by the entity or by others on its behalf (such as a contractor or the operator in a joint venture). It includes exploration carried out after the acquisition of exploration rights or of an exploration property, consistent with paragraph 42 of IAS 38.

119. IAS 38 requires an entity to classify the generation of an intangible asset into a research phase and a development phase. Expenditures during the research phase are expensed as incurred. Paragraph 57 discusses the development phase and states:

> An intangible asset arising from development (or from the development phase of an internal project) shall be recognised if, and only if, an entity can demonstrate all of the following:
>
> (a) the technical feasibility of completing the intangible asset so that it will be available for use or sale.
>
> (b) its intention to complete the intangible asset and use or sell it.
>
> (c) its ability to use or sell the intangible asset.
>
> (d) how the intangible asset will generate probable future economic benefits. Among other things, the entity can demonstrate the existence of a market for the output of the intangible asset or the intangible asset itself or, if it is to be used internally, the usefulness of the intangible asset.
>
> (e) the availability of adequate technical, financial and other resources to complete the development and to use or sell the intangible asset.
>
> (f) its ability to measure reliably the expenditure attributable to the intangible asset during its development.

120. These criteria use the phrase ‘use or sell’. Considering ‘use’ first, properties that do not meet the criteria to be recognised as a reserve or resource asset would not meet criterion (b) since the intention to develop the property has not been demonstrated. There will also often be questions about the technical feasibility and the capacity of the entity (in terms of the entity’s access to adequate technical, financial and other resources) in order to be able to realise the benefits.

121. However, there is an active market place for resource properties in general. Many resource properties at all stages of exploration are bought and sold, sometimes for

significant amounts. Considering the criteria in IAS 38 paragraph 57 in the context of 'sell' it can be argued that the criteria are met, as follows:

(a) the property can be sold 'as is' so technical feasibility of completing the asset is not relevant;

(b) while the entity may not have the current intention of selling the property, attempting to do so is always a possibility and if exploration results are not sufficiently encouraging this will likely be done;

(c) the entity will generally have the legal right to sell the property and the existence of an active market would facilitate this;

(d) a market for exploration properties does exist;

(e) the technical, financial and other resources necessary to sell a property are not of a size to impede or prevent a sale; and

(f) exploration and development costs are measured as part of the normal accounting process.

Certainly there are some properties that have sufficiently unfavourable exploration results that they could not be sold, and there may be some where the legal right to sell the property does not exist – but in general entities are able to sell resource properties.

122. The analysis under IAS 38 is similar to that using the proposed definition of an asset in the Conceptual Framework project. Recognition of an exploration asset would be based on the ability of the entity to sell that asset, whether or not it had such an intention. The issues raised in paragraphs 111-113 are also relevant under IAS 38 – the ability to carry out an effective impairment test to ensure excessive amounts are not capitalised in the balance sheet, and implications for other intangible assets.

Research project team view

123. The research project team's view is that there appears to be conceptual justification for recognising exploration assets.

124. If an exploration asset is to be recognised, further research will need to be undertaken in respect of the measurement of these assets. In the current value or fair value model, the reliable measurement of exploration assets will need to be considered further. In a historical cost environment, it is expected that impairment writedowns (or possibly de-recognition) of these assets will be a frequent occurrence given the high levels of risk and uncertainty associated with exploration and evaluation activities. Further consideration will need to be given to the calculation of recoverable amount of these assets.

125. The research project team's view on the treatment of exploration assets is based on a conceptual analysis. The consequential effects of this view include that it would create an inconsistency within IFRS with the treatment of other intangible assets. Secondly, it would represent a change in practice for, at least, most large mining companies that currently expense most of their exploration and evaluation costs. The implications of this will require further research.

APPENDIX A

The regulatory approval process for mining projects in the Australian state of Victoria

The following is a very simple explanation of project approval processes in Victoria. Other Australian States use different terms and slightly varying procedures but are essentially similar.

TO DRILL ON AN EXPLORATION LICENCE

1. Apply for an Exploration Licence (EL)
2. ELA advertised in local and general newspaper
3. Objections (if any) assessed by Department
4. If EL covers Crown land then a Right To Negotiate (RTN) agreement or Indigenous Land Use Agreements (ILUA) is required with native title claimants (if any)
5. Minister for Resources grants EL
6. Licensee can commence low impact exploration (no drilling)
7. Work Plan (including location of drill sites) submitted to Department
8. If EL covers Restricted Crown land then consent of the Minister for Environment required
9. Rehabilitation Bond lodged
10. Compensation agreements with land holders registered
11. Work plan approved
12. The hole is drilled

TO DIG ON A MINING LICENCE

1. Apply for a mining licence (MIN Application)
2. MIN Application is advertised in local and general newspaper
3. Objections (if any) are considered by Department
4. If MIN Application covers Crown land then a RTN agreement or ILUA is required with native title claimants (if any)
5. Minister for Resources grants MIN
6. Mark-out the licence boundaries
7. If on agricultural land then prepare a statement of economic significance
8. Draft work plan in consultation with Department of Sustainability and the Environment (DSE), Department of Primary Industries (DPI) and Council officers
9. Work plan endorsed by DPI
10. Rehabilitation bond assessed by DPI
11. Apply for planning approval, either:
    - apply for a planning permit from local municipal council; or
    - submit an Environment Effects Statement (EES) to the Minister for Planning
12. Planning approval granted
13. Work plan approved
14. If MIN covers Restricted Crown land then consent of the Minister for Environment required
15. Rehabilitation bond lodged
16. Compensation agreements with land holders registered
17. Work Authority granted and registered
18. The hole is dug

Source: the Minerals Council of Australia's Submission: Taskforce on Reducing the Regulatory Burden on Business, December 2005 (see Attachment A: The Victorian Regulatory System, page 40)
http://www.minerals.org.au/__data/assets/pdf_file/0005/11003/MCA_Regulation_Sub.pdf