Statement of Financial Accounting Standards No. 19

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Financial Accounting and Reporting by Oil and Gas Producing Companies

December 1977

Financial Accounting Standards Board
of the Financial Accounting Foundation
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FAS 19: Financial Accounting and Reporting by Oil and Gas Producing Companies

INTRODUCTION

1. This Statement establishes standards of financial accounting and reporting for the oil and gas producing activities of a business enterprise. Those activities involve the acquisition of mineral interests in properties, exploration (including prospecting), development, and production of crude oil, including condensate and natural gas liquids, and natural gas (hereinafter collectively referred to as oil and gas producing activities).

2. Existing authoritative accounting pronouncements do not explicitly or comprehensively establish standards of financial accounting and reporting for those activities. Numerous alternative accounting practices are presently followed by oil and gas producing companies, and the nature and extent of the information they disclose in their financial statements about their oil and gas producing activities vary considerably from company to company. The Board is issuing this Statement to address the financial accounting and reporting issues that led to the alternative practices.

3. Appendix A contains background information. Appendix B sets forth the basis for the Board's conclusions, including alternatives considered and reasons for accepting some and rejecting others. Appendix C is a glossary of terms.

4. The accounting standards in this Statement adhere to the traditional historical cost basis. Although the Board considered both *discovery value* and *current value* as alternative bases of accounting for oil and gas reserves, it determined for the reasons discussed in paragraphs 133-141 that any decision on applying value accounting to oil and gas companies should await resolution of the broader issue of the general applicability of value accounting in the Board's project, "Conceptual Framework for Financial Accounting and Reporting."

5. This Statement supersedes *FASB Statement No. 9,* "Accounting for Income Taxes—Oil and Gas Producing Companies."

SCOPE

6. This Statement applies only to *oil and gas producing* activities; it does not address financial accounting and reporting issues relating to the transporting, refining, and marketing of oil and gas. Also, this Statement does not apply to activities relating to the production of other wasting (nonregenerative) natural resources; nor does it apply to the production of geothermal steam or to the extraction of hydrocarbons as a by-product of the production of geothermal steam and associated geothermal resources as defined in the *Geothermal Steam Act of 1970;* nor does it apply to the extraction of hydrocarbons from shale, tar sands, or coal.

7. Accounting for interest on funds borrowed to finance an enterprise's oil and gas producing activities is excluded from consideration in this Statement because the broader subject of accounting for interest costs in general is a project presently on the Board's technical agenda.

8. This Statement prescribes disclosures related to an enterprise's oil and gas producing activities that are considered necessary for fair presentation of the enterprise's financial position, results of operations, and changes in financial position in conformity with generally accepted accounting principles. Those disclosures are only part of the information that may be needed for investment, regulatory, or national economic planning and energy policy decisions.

9. The Addendum to *APB Opinion No. 2,* "Accounting for the 'Investment Credit'," states that "differences may arise in the application of generally accepted accounting principles as between regulated and nonregulated businesses, because of the effect in regulated businesses of the rate-making process" and discusses the application of generally accepted accounting principles to regulated industries. Accordingly, the provisions of the Addendum shall govern the application of this Statement to those oil and gas producing operations of a company that are regulated for rate-making purposes on an individual-company-cost-of-service basis.

STANDARDS OF FINANCIAL ACCOUNTING AND REPORTING

Definitions

10. The glossary in Appendix C defines the following terms as they are used in this Statement:

a. Proved reserves.
b. Proved developed reserves.
c. Proved undeveloped reserves.

d. Field.
e. Reservoir.
f. Exploratory well.
g. Development well.
h. Service well.
i. Stratigraphic test well.
   i. Exploratory-type.
   ii. Development-type.
j. Proved area.

Basic Concepts

11. An enterprise's oil and gas producing activities involve certain special types of assets. Costs of those assets shall be capitalized when incurred. Those types of assets broadly defined are:

a. *Mineral interests in properties* (hereinafter referred to as *properties*), which include fee ownership or a lease, concession, or other interest representing the right to extract oil or gas subject to such terms as may be imposed by the conveyance of that interest. Properties also include royalty interests, production payments payable in oil or gas, and other nonoperating interests in properties operated by others. Properties include those agreements with foreign governments or authorities under which an enterprise participates in the operation of the related properties or otherwise serves as "producer" of the underlying reserves (see paragraph 53); but properties do not include other supply agreements or contracts that represent the right to *purchase* (as opposed to *extract*) oil and gas. Properties shall be classified as proved or unproved as follows:
   i. *Unproved properties* - properties with no proved reserves.
   ii. *Proved properties* - properties with proved reserves.
b. *Wells and related equipment and facilities,*[1] the costs of which include those incurred to:
   i. Drill and equip those exploratory wells and exploratory-type stratigraphic test wells that have found proved reserves.
   ii Obtain access to proved reserves and provide facilities for extracting, treating, gathering, and storing the oil and gas, including the drilling and equipping of development wells and development-type stratigraphic test wells (whether those wells are successful or unsuccessful) and service wells.
c. *Support equipment and facilities used in oil and gas producing activities,* such as seismic equipment, drilling equipment, construction and grading equipment, vehicles, repair shops, warehouses, supply points, camps, and division, district, or field offices.
d. *Uncompleted wells, equipment, and facilities,* the costs of which include those incurred to:
   i. Drill and equip wells that are not yet completed.
   ii. Acquire or construct equipment and facilities that are not yet completed and installed.

12. The costs of an enterprise's wells and related equipment and facilities and the costs of the

related proved properties shall be amortized as the related oil and gas reserves are produced. That amortization plus production (lifting) costs become part of the cost of oil and gas produced. Unproved properties shall be assessed periodically, and a loss recognized if those properties are impaired.

13. Some costs incurred in an enterprise's oil and gas producing activities do not result in acquisition of an asset and, therefore, shall be charged to expense. Examples include geological and geophysical costs, the costs of carrying and retaining undeveloped properties, and the costs of drilling those exploratory wells and exploratory-type stratigraphic test wells that do not find proved reserves.

14. The basic concepts in paragraphs 11-13 are elaborated on in paragraphs 15-41.

Accounting at the Time Costs Are Incurred

Acquisition of Properties

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

Exploration

16. Exploration involves (a) identifying areas that may warrant examination and (b) examining specific areas that are considered to have prospects of containing oil and gas reserves, including drilling exploratory wells and exploratory-type stratigraphic test wells. Exploration costs may be incurred both before acquiring the related property (sometimes referred to in part as prospecting costs) and after acquiring the property.

17. Principal types of exploration costs, which include depreciation and applicable operating costs of support equipment and facilities (paragraph 26) and other costs of exploration activities, are:

a. Costs of topographical, geological, and geophysical studies, rights of access to properties to conduct those studies, and salaries and other expenses of geologists, geophysical crews, and others conducting those studies. Collectively, those are sometimes referred to as geological and geophysical or "G&G" costs.
b. Costs of carrying and retaining undeveloped properties, such as delay rentals, *ad valorem* taxes on the properties, legal costs for title defense, and the maintenance of land and lease records.
c. Dry hole contributions and bottom hole contributions.

d. Costs of drilling and equipping exploratory wells.
e. Costs of drilling exploratory-type stratigraphic test wells.[2]

18. Geological and geophysical costs, costs of carrying and retaining undeveloped properties, and dry hole and bottom hole contributions shall be charged to expense when incurred.

19. The costs of drilling exploratory wells and the costs of drilling exploratory-type stratigraphic test wells shall be capitalized as part of the enterprise's uncompleted wells, equipment, and facilities pending determination of whether the well has found proved reserves. If the well has found proved reserves (paragraphs 31-34), the capitalized costs of drilling the well shall become part of the enterprise's wells and related equipment and facilities (even though the well may not be completed as a producing well); if, however, the well has not found proved reserves, the capitalized costs of drilling the well, net of any salvage value, shall be charged to expense.

20. An enterprise sometimes conducts G&G studies and other exploration activities on a property owned by another party, in exchange for which the enterprise is contractually entitled to receive an interest in the property if proved reserves are found or to be reimbursed by the owner for the G&G and other costs incurred if proved reserves are not found. In that case, the enterprise conducting the G&G studies and other exploration activities shall account for those costs as a receivable when incurred and, if proved reserves are found, they shall become the cost of the proved property acquired.

Development

21. Development costs are incurred to obtain access to proved reserves and to provide facilities for extracting, treating, gathering, and storing the oil and gas. More specifically, development costs, including depreciation and applicable operating costs of support equipment and facilities (paragraph 26) and other costs of development activities, are costs incurred to:

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

22. Development costs shall be capitalized as part of the cost of an enterprise's wells and

related equipment and facilities. Thus, all costs incurred to drill and equip development wells, development-type stratigraphic test wells, and service wells are development costs and shall be capitalized, whether the well is successful or unsuccessful. Costs of drilling those wells and costs of constructing equipment and facilities shall be included in the enterprise's uncompleted wells, equipment, and facilities until drilling or construction is completed.

Production

23. Production involves lifting the oil and gas to the surface and gathering, treating, field processing (as in the case of processing gas to extract liquid hydrocarbons), and field storage. For purposes of this Statement, the production function shall normally be regarded as terminating at the outlet valve on the lease or field production storage tank; if unusual physical or operational circumstances exist, it may be more appropriate to regard the production function as terminating at the first point at which oil, gas, or gas liquids are delivered to a main pipeline, a common carrier, a refinery, or a marine terminal.

24. Production costs are those costs incurred to operate and maintain an enterprise's wells and related equipment and facilities, including depreciation and applicable operating costs of support equipment and facilities (paragraph 26) and other costs of operating and maintaining those wells and related equipment and facilities. They become part of the cost of oil and gas produced. Examples of production costs (sometimes called lifting costs) are:

a. Costs of labor to operate the wells and related equipment and facilities.
b. Repairs and maintenance.
c. Materials, supplies, and fuel consumed and services utilized in operating the wells and related equipment and facilities.
d. Property taxes and insurance applicable to proved properties and wells and related equipment and facilities.
e. Severance taxes.

25. Depreciation, depletion, and amortization of capitalized acquisition, exploration, and development costs also become part of the cost of oil and gas produced along with production (lifting) costs identified in paragraph 24.

Support Equipment and Facilities

26. The cost of acquiring or constructing support equipment and facilities used in oil and gas producing activities shall be capitalized. Examples of support equipment and facilities include seismic equipment, drilling equipment, construction and grading equipment, vehicles, repair shops, warehouses, supply points, camps, and division, district, or field offices. Some support equipment or facilities are acquired or constructed for use exclusively in a single activity—exploration, development, or production. Other support equipment or facilities may serve two or more of those activities and may also serve the enterprise's transportation, refining, and marketing activities. To the extent that the support equipment and facilities are used in oil

and gas producing activities, their depreciation and applicable operating costs become an exploration, development, or production cost, as appropriate.

Disposition of Capitalized Costs

27. The effect of paragraphs 15-26, which deal with accounting at the time costs are incurred, is to recognize as assets: (a) unproved properties; (b) proved properties; (c) wells and related equipment and facilities (which consist of all development costs plus the costs of drilling those exploratory wells and exploratory-type stratigraphic test wells that find proved reserves); (d) support equipment and facilities used in oil and gas producing activities; and (e) uncompleted wells, equipment, and facilities. Paragraphs 28-41 which follow deal with disposition of the costs of those assets after capitalization. Among other things, those paragraphs provide that the acquisition costs of proved properties and the costs of wells and related equipment and facilities be amortized to become part of the cost of oil and gas produced; that impairment of unproved properties be recognized; and that the costs of an exploratory well or exploratory-type stratigraphic test well be charged to expense if the well is determined not to have found proved reserves.

Assessment of Unproved Properties

28. Unproved properties shall be assessed periodically to determine whether they have been impaired. A property would likely be impaired, for example, if a dry hole has been drilled on it and the enterprise has no firm plans to continue drilling. Also, the likelihood of partial or total impairment of a property increases as the expiration of the lease term approaches if drilling activity has not commenced on the property or on nearby properties. If the results of the assessment indicate impairment, a loss shall be recognized by providing a valuation allowance. Impairment of individual unproved properties whose acquisition costs are relatively significant shall be assessed on a property-by-property basis, and an indicated loss shall be recognized by providing a valuation allowance. When an enterprise has a relatively large number of unproved properties whose acquisition costs are not individually significant, it may not be practical to assess impairment on a property-by-property basis, in which case the amount of loss to be recognized and the amount of the valuation allowance needed to provide for impairment of those properties shall be determined by amortizing those properties, either in the aggregate or by groups, on the basis of the experience of the enterprise in similar situations and other information about such factors as the primary lease terms of those properties, the average holding period of unproved properties, and the relative proportion of such properties on which proved reserves have been found in the past.

Reclassification of an Unproved Property

29. A property shall be reclassified from unproved properties to proved properties when proved reserves are discovered on or otherwise attributed to the property; occasionally, a single property, such as a foreign lease or concession covers so vast an area that only the portion of the property to which the proved reserves relate—determined on the basis of geological structural

features or stratigraphic conditions—should be reclassified from unproved to proved. For a property whose impairment has been assessed individually in accordance with paragraph 28, the net carrying amount (acquisition cost minus valuation allowance) shall be reclassified to proved properties; for properties amortized by providing a valuation allowance on a group basis, the gross acquisition cost shall be reclassified.

Amortization (Depletion) of Acquisition Costs of Proved Properties

30. Capitalized acquisition costs of proved properties shall be amortized (depleted) by the unit-of-production method so that each unit produced is assigned a pro rata portion of the unamortized acquisition costs. Under the unit-of-production method, amortization (depletion) may be computed either on a property-by-property basis or on the basis of some reasonable aggregation of properties with a common geological structural feature or stratigraphic condition, such as a reservoir or field. When an enterprise has a relatively large number of royalty interests whose acquisition costs are not individually significant, they may be aggregated, for the purpose of computing amortization, without regard to commonality of geological structural features or stratigraphic conditions; if information is not available to estimate reserve quantities applicable to royalty interests owned (paragraph 50), a method other than the unit-of-production method may be used to amortize their acquisition costs. The unit cost shall be computed on the basis of the total estimated units of proved oil and gas reserves. (Joint production of both oil and gas is discussed in paragraph 38.) Unit-of-production amortization rates shall be revised whenever there is an indication of the need for revision but at least once a year; those revisions shall be accounted for prospectively as changes in accounting estimates—see paragraphs 31-33 of *APB Opinion No. 20,* "Accounting Changes."

Accounting When Drilling of an Exploratory Well Is Completed

31. As specified in paragraph 19, the costs of drilling an exploratory well are capitalized as part of the enterprise's uncompleted wells, equipment, and facilities pending determination of whether the well has found proved reserves. That determination is usually made on or shortly after completion of drilling the well, and the capitalized costs shall either be charged to expense or be reclassified as part of the costs of the enterprise's wells and related equipment and facilities at that time. Occasionally, however, an exploratory well may be determined to have found oil and gas reserves, but classification of those reserves as proved cannot be made when drilling is completed. In those cases, one or the other of the following subparagraphs shall apply depending on whether the well is drilled in an area requiring a major capital expenditure, such as a trunk pipeline, before production from that well could begin:

a. *Exploratory wells that find oil and gas reserves in an area requiring a major capital expenditure, such as a trunk pipeline, before production could begin.* On completion of drilling, an exploratory well may be determined to have found oil and gas reserves, but classification of those reserves as proved depends on whether a major capital expenditure can be justified which, in turn, depends on whether additional exploratory wells find a sufficient quantity of additional reserves. That situation arises principally with exploratory wells drilled in a remote area for which production would require constructing a trunk pipeline. In that case, the cost of drilling the exploratory well shall continue to be carried as an asset pending determination of whether proved reserves have been found only as long as both of the following conditions are met:

i. The well has found a sufficient quantity of reserves to justify its completion as a producing well if the required capital expenditure is made.
ii. Drilling of the additional exploratory wells is under way or firmly planned for the near future.

Thus if drilling in the area is not under way or firmly planned, or if the well has not found a commercially producible quantity of reserves, the exploratory well shall be assumed to be impaired, and its costs shall be charged to expense.

b. *All other exploratory wells that find oil and gas reserves.* In the absence of a determination as to whether the reserves that have been found can be classified as proved, the costs of drilling such an exploratory well shall not be carried as an asset for more than one year following completion of drilling. If, after that year has passed, a determination that proved reserves have been found cannot be made, the well shall be assumed to be impaired, and its costs shall be charged to expense.

32. Paragraph 31 is intended to prohibit, in all cases, the deferral of the costs of exploratory wells that find some oil and gas reserves merely on the chance that some event totally beyond the control of the enterprise will occur, for example, on the chance that the selling prices of oil and gas will increase sufficiently to result in classification of reserves as proved that are not commercially recoverable at current prices.

Accounting When Drilling of an Exploratory-Type Stratigraphic Test Well Is Completed

33. As specified in paragraph 19, the costs of drilling an exploratory-type stratigraphic test well are capitalized as part of the enterprise's uncompleted wells, equipment, and facilities pending determination of whether the well has found proved reserves. When that determination is made, the capitalized costs shall be charged to expense if proved reserves are not found or shall be reclassified as part of the costs of the enterprise's wells and related equipment and facilities if proved reserves are found.

34. Exploratory-type stratigraphic test wells are normally drilled on unproved offshore properties. Frequently, on completion of drilling, such a well may be determined to have found oil and gas reserves, but classification of those reserves as proved depends on whether a major capital expenditure—usually a production platform—can be justified which, in turn, depends on whether additional exploratory-type stratigraphic test wells find a sufficient quantity of additional reserves. In that case, the cost of drilling the exploratory-type stratigraphic test well shall continue to be carried as an asset pending determination of whether proved reserves have been found only as long as both of the following conditions are met:

a. The well has found a quantity of reserves that would justify its completion for production had it not been simply a stratigraphic test well.
b. Drilling of the additional exploratory-type stratigraphic test wells is under way or firmly planned for the near future.

Thus if associated stratigraphic test drilling is not under way or firmly planned, or if the well has not found a commercially producible quantity of reserves, the exploratory-type stratigraphic test well shall be assumed to be impaired, and its costs shall be charged to expense.

Amortization and Depreciation of Capitalized Exploratory Drilling and Development Costs

35. Capitalized costs of exploratory wells and exploratory-type stratigraphic test wells that have found proved reserves and capitalized development costs shall be amortized (depreciated) by the unit-of-production method so that each unit produced is assigned a pro rata portion of the unamortized costs. It may be more appropriate, in some cases, to depreciate natural gas cycling and processing plants by a method other than the unit-of-production method. Under the unit-of-production method, amortization (depreciation) may be computed either on a property-by-property basis or on the basis of some reasonable aggregation of properties with a common geological structural feature or stratigraphic condition, such as a reservoir or field. The unit cost shall be computed on the basis of the total estimated units of proved *developed* reserves, rather than on the basis of all proved reserves, which is the basis for amortizing acquisition costs of proved properties. If significant development costs (such as the cost of an off-shore production platform) are incurred in connection with a planned group of development wells before all of the planned wells have been drilled, it will be necessary to exclude a portion of those development costs in determining the unit-of-production amortization rate until the additional development wells are drilled. Similarly it will be necessary to exclude, in computing the amortization rate, those proved developed reserves that will be produced only after significant additional development costs are incurred, such as for improved recovery systems. However, in no case should future development costs be anticipated in computing the amortization rate. (Joint production of both oil and gas is discussed in paragraph 38.) Unit-of-production amortization rates shall be revised whenever there is an indication of the need for revision but at least once a year; those revisions shall be accounted for prospectively as changes in accounting estimates—see paragraphs 31-33 of *APB Opinion No. 20.*

Depreciation of Support Equipment and Facilities

36. Depreciation of support equipment and facilities used in oil and gas producing activities shall be accounted for as exploration cost, development cost, or production cost, as appropriate (paragraph 26).

Dismantlement Costs and Salvage Values

37. Estimated dismantlement, restoration, and abandonment costs and estimated residual salvage values shall be taken into account in determining amortization and depreciation rates.

Amortization of Costs Relating to Oil and Gas Reserves Produced Jointly

38. The unit-of-production method of amortization requires that the total number of units of oil or gas reserves in a property or group of properties be estimated and that the number of units produced in the current period be determined. Many properties contain both oil and gas reserves. In those cases, the oil and gas reserves and the oil and gas produced shall be converted to a common unit of measure on the basis of their approximate relative energy content (without considering their relative sales values). However, if the relative proportion of gas and oil extracted in the current period is expected to continue throughout the remaining productive life of the property, unit-of-production amortization may be computed on the basis of one of the two minerals only; similarly, if either oil or gas clearly dominates both the reserves and the current production (with dominance determined on the basis of relative energy content), unit-of-production amortization may be computed on the basis of the dominant mineral only.

Information Available after the Balance Sheet Date

39. Information that becomes available after the end of the period covered by the financial statements but before those financial statements are issued shall be taken into account in evaluating conditions that existed at the balance sheet date, for example, in assessing unproved properties (paragraph 28) and in determining whether an exploratory well or exploratory-type stratigraphic test well had found proved reserves (paragraphs 31-34).

Surrender or Abandonment of Properties

40. When an unproved property is surrendered, abandoned, or otherwise deemed worthless, capitalized acquisition costs relating thereto shall be charged against the related allowance for impairment to the extent an allowance has been provided; if the allowance previously provided is inadequate, a loss shall be recognized.

41. Normally, no gain or loss shall be recognized if only an individual well or individual item of equipment is abandoned or retired or if only a single lease or other part of a group of proved properties constituting the amortization base is abandoned or retired as long as the remainder of the property or group of properties continues to produce oil or gas. Instead, the asset being abandoned or retired shall be deemed to be fully amortized, and its cost shall be charged to accumulated depreciation, depletion, or amortization. When the *last* well on an individual property (if that is the amortization base) or group of properties (if amortization is determined on the basis of an aggregation of properties with a common geological structure) ceases to produce and the entire property or property group is abandoned, gain or loss shall be recognized. Occasionally, the partial abandonment or retirement of a proved property or group of proved properties or the abandonment or retirement of wells or related equipment or facilities may result from a catastrophic event or other major abnormality. In those cases, a loss shall be recognized at the time of abandonment or retirement.

Mineral Property Conveyances and Related Transactions

42. Mineral interests in properties are frequently conveyed to others for a variety of reasons, including the desire to spread risks, to obtain financing, to improve operating efficiency, and to achieve tax benefits. Conveyances of those interests may involve the transfer of all or a part of the rights and responsibilities of operating a property (operating interest). The transferor may or may not retain an interest in the oil and gas produced that is free of the responsibilities and costs of operating the property (a nonoperating interest). A transaction may, on the other hand, involve the transfer of a nonoperating interest to another party and retention of the operating interest.

43. Certain transactions, sometimes referred to as conveyances, are in substance borrowings repayable in cash or its equivalent and shall be accounted for as borrowings. The following are examples of such transactions:

a. Enterprises seeking supplies of oil or gas sometimes make cash advances to operators to finance exploration in return for the right to purchase oil or gas discovered. Funds advanced for exploration that are repayable by offset against purchases of oil or gas discovered, or in cash if insufficient oil or gas is produced by a specified date, shall be accounted for as a receivable by the lender and as a payable by the operator.
b. Funds advanced to an operator that are repayable in cash out of the proceeds from a specified share of future production of a producing property, until the amount advanced plus interest at a specified or determinable rate is paid in full, shall be accounted for as a borrowing. The advance is a payable for the recipient of the cash and a receivable for the party making the advance. Such transactions, as well as those described in paragraph 47(a) below, are commonly referred to as production payments. The two types differ in substance, however, as explained in paragraph 47(a).

44. In the following types of conveyances, gain or loss shall not be recognized at the time of the conveyance:

a. A transfer of assets used in oil and gas producing activities (including both proved and unproved properties) in exchange for other assets also used in oil and gas producing activities.
b. A pooling of assets in a joint undertaking intended to find, develop, or produce oil or gas from a particular property or group of properties.

45. In the following types of conveyances, gain shall not be recognized at the time of the conveyance:

a. A part of an interest owned is sold and substantial uncertainty exists about recovery of the costs applicable to the retained interest.

b. A part of an interest owned is sold and the seller has a substantial obligation for future performance, such as an obligation to drill a well or to operate the property without proportional reimbursement for that portion of the drilling or operating costs applicable to the interest sold.

46. If a conveyance is not one of the types described in paragraphs 44 and 45, gain or loss shall be recognized unless there are other aspects of the transaction that would prohibit such recognition under accounting principles applicable to enterprises in general.

47. In accordance with paragraphs 44-46, the following types of transactions shall be accounted for as indicated in each example.[3] No attempt has been made to include the many variations of those arrangements that occur, but paragraphs 44-46 shall, where applicable, determine the accounting for those other arrangements as well.

a. Some production payments differ from those described in paragraph 43(b) in that the seller's obligation is not expressed in monetary terms but as an obligation to deliver, free and clear of all expenses associated with operation of the property, a specified quantity of oil or gas to the purchaser out of a specified share of future production. Such a transaction is a sale of a mineral interest for which gain shall not be recognized because the seller has a substantial obligation for future performance. The seller shall account for the funds received as unearned revenue to be recognized as the oil or gas is delivered. The purchaser of such a production payment has acquired an interest in a mineral property that shall be recorded at cost and amortized by the unit-of-production method as delivery takes place. The related reserve estimates and production data shall be reported as those of the purchaser of the production payment and not of the seller (paragraphs 50-56).
b. An assignment of the operating interest in an unproved property with retention of a nonoperating interest in return for drilling, development, and operation by the assignee is a pooling of assets in a joint undertaking for which the assignor shall not recognize gain or loss. The assignor's cost of the original interest shall become the cost of the interest retained. The assignee shall account for all costs incurred as specified by paragraphs 15-41 and shall allocate none of those costs to the mineral interest acquired. If oil or gas is discovered, each party shall report its share of reserves and production (paragraphs 50-56).
c. An assignment of a part of an operating interest in an unproved property in exchange for a "free well" with provision for joint ownership and operation is a pooling of assets in a joint undertaking by the parties. The assignor shall record no cost for the obligatory well; the assignee shall record no cost for the mineral interest acquired. All drilling, development, and operating costs incurred by either party shall be accounted for as provided in paragraphs 15-41 of this Statement. If the conveyance agreement requires the assignee to incur geological or geophysical expenditures instead of, or in addition to, a drilling obligation, those costs shall likewise be accounted for by the assignee as provided in paragraphs 15-41 of this Statement. If reserves are discovered, each party shall report its share of reserves and production (paragraphs 50-56).
d. A part of an operating interest in an unproved property may be assigned to effect an

arrangement called a "carried interest" whereby the assignee (the carrying party) agrees to defray all costs of drilling, developing, and operating the property and is entitled to all of the revenue from production from the property, excluding any third party interest, until all of the assignee's costs have been recovered, after which the assignor will share in both costs and production. Such an arrangement represents a pooling of assets in a joint undertaking by the assignor and assignee. The carried party shall make no accounting for any costs and revenue until after recoupment (payout) of the carried costs by the carrying party. Subsequent to payout the carried party shall account for its share of revenue, operating expenses, and (if the agreement provides for subsequent sharing of costs rather than a carried interest) subsequent development costs. During the payout period the carrying party shall record all costs, including those carried, as provided in paragraphs 15-41 and shall record all revenue from the property including that applicable to the recovery of costs carried. The carried party shall report as oil or gas reserves only its share of proved reserves estimated to remain after payout, and unit-of-production amortization of the carried party's property cost shall not commence prior to payout. Prior to payout the carrying party's reserve estimates and production data shall include the quantities applicable to recoupment of the carried costs (paragraphs 50-56).

e. A part of an operating interest owned may be exchanged for a part of an operating interest owned by another party. The purpose of such an arrangement, commonly called a joint venture in the oil and gas industry, often is to avoid duplication of facilities, diversify risks, and achieve operating efficiencies. Such reciprocal conveyances represent exchanges of similar productive assets, and no gain or loss shall be recognized by either party at the time of the transaction. In some joint ventures which may or may not involve an exchange of interests, the parties may share different elements of costs in different proportions. In such an arrangement a party may acquire an interest in a property or in wells and related equipment that is disproportionate to the share of costs borne by it. As in the case of a carried interest or a free well, each party shall account for its own cost under the provisions of this Statement. No gain shall be recognized for the acquisition of an interest in joint assets, the cost of which may have been paid in whole or in part by another party.

f. In a unitization all the operating and nonoperating participants pool their assets in a producing area (normally a field) to form a single unit and in return receive an undivided interest (of the same type as previously held) in that unit. Unitizations generally are undertaken to obtain operating efficiencies and to enhance recovery of reserves, often through improved recovery operations. Participation in the unit is generally proportionate to the oil and gas reserves contributed by each. Because the properties may be in different stages of development at the time of unitization, some participants may pay cash and others may receive cash to equalize contributions of wells and related equipment and facilities with the ownership interests in reserves. In those circumstances, cash paid by a participant shall be recorded as an additional investment in wells and related equipment and facilities, and cash received by a participant shall be recorded as a recovery of cost. The cost of the assets contributed plus or minus cash paid or received is the cost of the participant's undivided interest in the assets of the unit. Each participant shall include its interest in reporting reserve estimates and production data (paragraphs 50-56).

g. If the entire interest in an unproved property is sold for cash or cash equivalent, recognition of gain or loss depends on whether, in applying paragraph 28 of this Statement, impairment had been assessed for that property individually or by amortizing that property as part of a group. If impairment was assessed individually, gain or loss shall be recognized. For a property amortized by providing a valuation allowance on a group basis, neither gain nor loss shall be recognized when an unproved property is sold unless the sales price exceeds the original cost of the property, in which case gain shall be recognized in the amount of such excess.
h. If a part of the interest in an unproved property is sold, even though for cash or cash equivalent, substantial uncertainty usually exists as to recovery of the cost applicable to the interest retained. Consequently, the amount received shall be treated as a recovery of cost.[4] However, if the sales price exceeds the carrying amount of a property whose impairment has been assessed individually in accordance with paragraph 28 of this Statement, or exceeds the original cost of a property amortized by providing a valuation allowance on a group basis, gain shall be recognized in the amount of such excess.
i. The sale of an entire interest in a proved property that constitutes a separate amortization base is not one of the types of conveyances described in paragraph 44 or 45. The difference between the amount of sales proceeds and the unamortized cost shall be recognized as a gain or loss.
j. The sale of a part of a proved property, or of an entire proved property constituting a part of an amortization base, shall be accounted for as the sale of an asset, and a gain or loss shall be recognized, since it is not one of the conveyances described in paragraph 44 or 45. The unamortized cost of the property or group of properties a part of which was sold shall be apportioned to the interest sold and the interest retained on the basis of the fair values of those interests. However, the sale may be accounted for as a normal retirement under the provisions of paragraph 41 with no gain or loss recognized if doing so does not significantly affect the unit-of-production amortization rate.
k. The sale of the operating interest in a proved property for cash with retention of a nonoperating interest is not one of the types of conveyances described in paragraph 44 or 45. Accordingly, it shall be accounted for as the sale of an asset, and any gain or loss shall be recognized. The seller shall allocate the cost of the proved property to the operating interest sold and the nonoperating interest retained on the basis of the fair values of those interests.[5]
l. The sale of a proved property subject to a retained production payment that is expressed as a fixed sum of money payable only from a specified share of production from that property, with the purchaser of the property obligated to incur the future costs of operating the property, shall be accounted for as follows:
    i. *If satisfaction of the retained production payment is reasonably assured.* The seller of the property, who retained the production payment, shall record the transaction as a sale, with recognition of any resulting gain or loss. The retained production payment shall be recorded as a receivable, with interest accounted for in accordance with the provisions of *APB Opinion No. 21,* "Interest on Receivables and Payables." The purchaser shall record as the cost of the assets acquired the cash consideration paid plus

the present value (determined in accordance with *APB Opinion No. 21*) of the retained production payment, which shall be recorded as a payable. The oil and gas reserve estimates and production data, including those applicable to liquidation of the retained production payment, shall be reported by the purchaser of the property (paragraphs 50-56).

ii. *If satisfaction of the retained production payment is not reasonably assured.* The transaction is in substance a sale with retention of an overriding royalty that shall be accounted for in accordance with paragraph 47(k).

m. The sale of a proved property subject to a retained production payment that is expressed as a right to a specified quantity of oil or gas out of a specified share of future production shall be accounted for in accordance with paragraph 47(k).

Disclosure

48. An enterprise engaged in oil and gas producing activities shall include in a complete set of annual financial statements the disclosures specified in paragraphs 50-59. Those disclosures may be made within the body of the financial statements, in the notes thereto, or in a separate schedule that is an integral part of the financial statements.

49. Disclosure of capitalized costs (paragraph 57) shall also be included in a complete set of interim financial statements that present financial position, results of operations, and changes in financial position in conformity with generally accepted accounting principles. Disclosures of reserve quantities and of costs incurred as set forth in paragraphs 50-56 and 58 and 59 are not required in such interim financial statements, though the Board encourages disclosure in those financial statements of information about a major discovery or other favorable or adverse event that causes a significant change from the reserve data reported in the most recent annual financial statements.

Disclosure of Reserve Quantities

50. Net quantities of an enterprise's interests in proved reserves and proved developed reserves of (a) crude oil (including condensate and natural gas liquids) and (b) natural gas shall be reported as of the beginning and the end of each year for which a complete set of financial statements is presented. "Net" quantities of reserves include those relating to the enterprise's operating and nonoperating interests in properties as defined in paragraph 11(a). Quantities of reserves relating to royalty interests owned shall be included in "net" quantities if the necessary information is available to the enterprise; if reserves relating to royalty interests owned are not included because the information is unavailable, that fact and the enterprise's share of oil and gas produced for those royalty interests shall be reported for each year for which a complete set of financial statements is presented. "Net" quantities shall not include reserves relating to interests of others in properties owned by the enterprise.

51. Changes in the net quantities of an enterprise's proved reserves of oil and of gas during each

year for which a complete set of financial statements is presented shall be reported. Changes resulting from each of the following shall be separately shown with appropriate explanation of significant changes:

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

52. If an enterprise's proved reserves of oil and gas are located entirely within its home country, that fact shall be disclosed. If some or all of its reserves are located in foreign countries, the disclosures of net quantities of reserves of oil and of gas and changes in them required by paragraphs 50 and 51 shall be separately reported for (a) the enterprise's home country (if significant reserves are located there) and (b) each foreign geographic area in which significant reserves are located. Foreign geographic areas are individual countries or groups of countries as appropriate for meaningful disclosure in the circumstances.

53. Net quantities disclosed in conformity with paragraphs 50-52 shall not include oil or gas subject to purchase under long-term supply, purchase, or similar agreements and contracts, including such agreements with foreign governments or authorities. However, quantities of oil or gas subject to such agreements with foreign governments or authorities as of the end of each year for which a complete set of financial statements is presented, and the net quantity of oil or gas received under the agreements during each such year, shall be separately disclosed if the enterprise participates in the operation of the properties in which the oil or gas is located or otherwise serves as the "producer" of those reserves, as opposed, for example, to being an independent purchaser, broker, dealer, or importer.

54. In determining the reserve quantities to be reported in conformity with paragraphs 50-53:

a. If the enterprise issues consolidated financial statements, 100 percent of the *net* reserve quantities attributable to the parent company and 100 percent of the *net* reserve quantities attributable to its consolidated subsidiaries (whether or not wholly owned) shall be included.
b. If the enterprise's financial statements include investments that are proportionately

consolidated, the enterprise's reserve quantities shall include its proportionate share of the investee's net oil and gas reserves.

c. If the enterprise's financial statements include investments that are accounted for by the equity method, the investee's net oil and gas reserves shall *not* be included in the disclosures of the enterprise's reserves. However, the enterprise's (investor's) share of the investee's net oil and gas reserves shall be separately reported as of the end of each year for which a complete set of financial statements is presented.

55. In reporting reserve quantities and changes in them, oil reserves (which include condensate and natural gas liquids) shall be stated in barrels, and gas reserves in cubic feet. Disclosures of the type called for by paragraphs 50-54 are described in the following table.

	Total Worldwide		***United States***		***Foreign Geographic Area A***		***Foreign Geographic Area B***		***Other Foreign Geographic Areas***	
	Oil	***Gas***	***Oil***	***Gas***	***Oil***	***Gas***	***Oil***	***Gas***	***Oil***	***Gas***
Proved developed and undeveloped reserves:										
Beginning of year	X	X	X	X	X	X	X	X	X	X
Revisions of previous estimates	X	X	X	X	X	X	X	X	X	X
Improved recovery	X	X	X	X	X	X	X	X	X	X
Purchases of minerals-in-place	X	X	X	X	X	X	X	X	X	X
Extensions, discoveries, and other additions	X	X	X	X	X	X	X	X	X	X
Production	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)
Sales of minerals-in-place	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)
End of year	X	X	X	X	X	X	X	X	X	X
Proved developed reserves:										
Beginning of year	X	X	X	X	X	X	X	X	X	X
End of year	X	X	X	X	X	X	X	X	X	X
Oil and gas applicable to long-term supply agreements with foreign governments or authorities in which the company acts as producer:										
Proved reserves at end of year	X	X			X	X	X	X	X	X
Received during the year	X	X			X	X	X	X	X	X

Company's proportional interest in reserves of investees accounted for by the equity method, end of year	X	X	X	X	X	X	X	X	X	X

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

Disclosure of Capitalized Costs

57. The aggregate amount of capitalized costs relating to an enterprise's oil and gas producing activities (paragraph 11) and the aggregate amount of the related accumulated depreciation, depletion, amortization, and valuation allowances shall be reported as of the end of each period for which financial statements are presented. Paragraph 5 of *APB Opinion No. 12,* "Omnibus Opinion—1967," requires disclosure of "balances of major classes of depreciable assets, by nature or function." Thus, separate disclosure of the amount of capitalized costs for one or more of asset categories (a) to (d) in paragraph 11 or for a combination of two or more of those categories often may be appropriate.

Disclosure of Costs Incurred in Oil and Gas Producing Activities

58. The financial statements of an oil and gas producing company shall disclose the amounts of each of the following types of costs for each year for which a complete set of financial statements is presented (whether those costs are capitalized or charged to expense at the time they are incurred under the provisions of paragraphs 15-26). As defined in the paragraphs cited, exploration, development, and production costs *include* depreciation of support equipment and facilities used in those activities and *do not include* the expenditures to acquire support equipment and facilities. Also, as stated in paragraph 25, production (lifting) costs do not include depreciation, depletion, and amortization of capitalized acquisition, exploration, and development costs.

a. Property acquisition costs (paragraph 15).
b. Exploration costs (paragraph 17).
c. Development costs (paragraph 21).
d. Production (lifting) costs (paragraph 24).

59. If some or all of those costs are incurred in foreign countries, the amounts shall be disclosed separately for each of the geographic areas for which reserve quantities are disclosed (paragraph 52).

Accounting for Income Taxes

60. Some costs incurred in an enterprise's oil and gas producing activities enter into the determination of taxable income and pretax accounting income in different periods. A principal example is intangible drilling and development costs, which are deductible in determining taxable income when incurred but which, for successful exploratory wells and for all development wells, are capitalized and amortized for financial accounting purposes under the provisions of this Statement. As another example, some geological and geophysical costs, which are charged to expense when incurred under the provisions of this Statement, are deferred and deducted in subsequent periods for income tax purposes.

61. Comprehensive interperiod income tax allocation by the deferred method, as described in *APB Opinion No. 11*, "Accounting for Income Taxes," shall be followed by oil and gas producing companies for intangible drilling and development costs and other costs incurred that enter into the determination of taxable income and pretax accounting income in different periods.

62. In applying the comprehensive interperiod income tax allocation provision of the preceding paragraph, the possibility that statutory depletion in future periods will reduce or eliminate the amount of income taxes otherwise payable shall not be taken into account. That is, the so-called *interaction* of book/tax timing differences with any anticipated future excess of statutory depletion allowed as a tax deduction over the amount of cost depletion otherwise allowable as a tax deduction shall not be recognized in determining the appropriate periodic provision for income taxes. Accordingly, the excess of statutory depletion over cost depletion for tax purposes shall be accounted for as a permanent difference in the period in which the excess is deducted for income tax purposes; it shall not be anticipated by recognizing interaction.

Effective Date and Transition

63. This Statement shall be effective for financial statements for fiscal years beginning after December 15, 1978 and for interim periods within those fiscal years. Accounting changes adopted to conform to the provisions of this Statement, including changes to apply comprehensive interperiod income tax allocation (paragraph 61) and to eliminate the recognition of the interaction of book/tax timing differences with the excess of statutory depletion over cost depletion for tax purposes (paragraph 62), shall be made retroactively by restating the financial statements of prior periods. Financial statements for the fiscal year in which this Statement is first applied, and for interim periods of that year, shall disclose the nature of those accounting changes and their effect on income before extraordinary items, net income, and related per share amounts for each period restated. The disclosures specified by paragraphs 50-59 shall be included in complete sets of financial statements that have been restated pursuant to the provisions of this paragraph.

64. Retroactive application of the provisions of this Statement requires the use of estimates and approximations; a provision that would not have a significant effect on prior years' financial statements need not be retroactively applied. Further, retroactive application of some provisions of this Statement may require the use of estimates of a type that the enterprise had not previously made; information that may have become available some time after the year being restated may be taken into account in making those estimates, except that estimates of quantities of oil and gas reserves that had been made in prior years shall not currently be revised in retrospect.

The provisions of this Statement need not be applied to immaterial items.

This Statement was adopted by the affirmative votes of four members of the Financial Accounting Standards Board. Messrs. Litke, Mays, and Walters dissented.

Messrs. Litke and Walters dissent because this Statement endorses accounting measurements that in their opinion do not portray the unique economic characteristics of oil and gas exploration and discovery. As a result, it does not measure up to the fundamental objective of financial statements, as enunciated by the Trueblood Committee, that they be "useful for making economic decisions."

Conceptually, they believe it is necessary to account for mineral reserves at fair value for the financial statements to appropriately emphasize certain economic characteristics of the industry, which include:

1. The principal assets are the mineral reserves.
2. The most significant economic event is discovery of reserves.
3. There is no necessary correlation between finding costs and values of reserves found.

No historical cost method adequately emphasizes these facts; both full cost and successful efforts accounting in their traditional forms have significant defects.

In their view, the conceptual case for accounting for mineral reserves at fair value is so strong that it should be rejected only if it is infeasible to derive amounts meeting an acceptable standard of reliability. They are not satisfied that it is infeasible. The public record on this project indicates that many creditors and investors find value information relevant and useful and either obtain it from the enterprise or approximate it themselves. Nonetheless, the record further indicates most respondents may not be ready to accept the perceived sacrifice in reliability necessary to achieve relevance.

Under any approach that is not based on fair value accounting, Messrs. Litke and Walters believe that the estimated quantities and values of the mineral reserves should be disclosed as supplemental information. While recognizing that the Board has taken a positive step in requiring disclosure of the quantities of, and changes in, mineral reserves, they believe the Board failed to go far enough. Research included in the public record indicates that investment and lending decisions in the oil and gas industry are heavily dependent on information about the quantity and value of mineral reserves, as well as about expected cash flows. For reserve information to be useful to investors and creditors, they must assign values to the quantities of estimated reserves. The values of reserves can vary greatly, even within the same overall market price structure, because of differences in quality and in costs of developing, lifting, and transporting to market.

Messrs. Litke and Walters believe that the enterprise is in a better position to evaluate its own reserves than the users of its financial statements. Accordingly, they believe the company should disclose a measure of fair value attributable to its proven mineral reserves, together with the methods and principal assumptions used to develop that information. They believe that discounted cash flow procedures can be developed based on methodologies that are already widely used and understood. Though this information may not be perceived by some as reliable enough to be used as the basis for accounting for mineral reserves in the balance sheet or for recognizing income, they believe a lesser degree of reliability can be accepted for informative supplemental disclosures which have such a high degree of relevance.

If the Board will not adopt the conceptually superior value approach at this time, whether because that approach may be impracticable or ahead of its time, Messrs. Litke and Walters would have accepted an area-of-interest approach, supplemented by disclosure of mineral reserve values. The approach acceptable to them would be a modified full cost approach in which costs of prospecting, acquisition, exploration, and development in an area-of-interest where proven reserves are discovered would be capitalized as the cost of discovering and developing the reserves found in that area-of-interest, subject to a discounted cash flow ceiling. Similar costs in an area-of-interest where no reserves were found would be written off. This method:

1. Measures the costs incurred in each area-of-interest, and reflects "success or failure" with a decision model that would most commonly be used by management.
2. Avoids the worst fault of "pure" full costing—that of charging reserves with costs which are unrelated either temporally or geographically.
3. Avoids the worst faults of "pure" successful efforts accounting—the failures to recognize the principal asset and to capitalize costs that are logically and integrally related to the discovery and development of that asset.

Some say that it is not possible to define an area-of-interest with enough precision that it would be interpreted the same in each case by every company. While Messrs. Litke and Walters believe this concern is overstated, it has some validity if uniformity is the primary objective. While they agree that uniformity is an appropriate consideration and that "free choice" accounting alternatives should be narrowed or eliminated, Messrs. Litke and Walters believe some room for judgment, guided by relevant criteria, is both appropriate and necessary. They do not believe that uniformity for its own sake can be used to justify accounting standards. They observe that unless the uniform accounting and reporting provides *more meaningful economic* information to users of financial statements, the fact that the financial accounting and reporting is on a uniform basis is largely irrelevant.

Mr. Litke further dissents because he believes the Board should not impose successful efforts accounting upon the industry without having provided conceptual support for the superiority of that method in the Basis for Conclusions. Based on the public record (including FASB research) which strongly indicates that *neither* successful efforts *nor* full costing is sufficient to portray the economic substance of an enterprise's financial position or results of operations, he believes merely summarizing the faults of *either* method is not a sufficient basis for imposing the other method. He observes that because neither traditional method of accounting communicates the necessary and relevant investment and return-on-investment information to investors, creditors, regulators or other users of financial statements, an accounting method that adopts the strengths and minimizes the weaknesses of each method must be considered. He believes an area-of-interest method, with certain supplemental disclosures, would satisfy these criteria.

In addition to being unconvincing, Mr. Litke believes the arguments that are presented in the Basis for Conclusions are internally inconsistent. They represent, in his view, a series of inconsistent and unsupported assertions. Mr. Litke believes the need for such inconsistencies has not been supported. Some of those inconsistencies are discussed in the following paragraphs.

- The Statement emphasizes that full cost accounting obscures failures and risks in the search for oil and gas reserves and that successful efforts accounting highlights such failures and risks. This assertion evades the real issues. Mr. Litke observes that neither success nor failure, however defined, is satisfactorily measured based solely on the costs incurred. Success is most appropriately measured by the discovery and development of mineral reserves in sufficient quantity and of sufficient value to result in a return of the amounts invested, as well as a return on the amounts invested. Failure is a result of not discovering and developing sufficient reserves. Further, in Mr. Litke's view the purpose of accounting is neither to obscure nor to highlight "risks" or "failures" or "success." The purpose is to reflect the facts in the most meaningful and useful manner. Under the historical cost basis of accounting, the most meaningful and useful manner would be based on an area-of-interest approach, with certain supplemental disclosures.

- Mr. Litke finds substantial evidence in the accounting literature that an enterprise's assets include its natural resource deposits, including oil and gas reserves. The Statement does not define "assets" in a manner fully consistent with the accounting literature. Nor does the Statement choose to account for or determine the cost of all the enterprise's assets. By identifying only the individual properties, wells, equipment, and facilities as assets to be accounted for, it excludes oil and gas reserves-in-place from the assets to be accounted for and for which costs must be determined. Mr. Litke believes such an exclusion results in an inappropriate and unnecessary distinction between the economic substance of the enterprise's oil and gas operations and the method of accounting for them. Furthermore, some costs that meet the Statement's capitalization criteria are expensed because the criteria are not uniformly applied to all exploration and development costs, including G&G costs. Because of this inconsistent application of criteria, the Statement fails to recognize the benefits derived from the costs of geological and geophysical testing performed on the enterprise's own properties but requires capitalization of such costs, when contractually reimbursable, on G&G testing performed on property owned by another party. G&G costs are often a meaningful element of cost in the acquisition and development of productive properties. They are an integral part of the costs of acquiring and developing an oil and gas property. It is therefore theoretically correct and both practicable and appropriate to capitalize G&G costs applicable to oil and gas properties, especially to the extent that expenditures are specifically identifiable with retained acreage in specific areas-of-interest. Such costs should be capitalized and amortized in the same manner as other acquisition, drilling, and development costs.
- The Statement requires that the costs of exploratory dry holes be expensed as incurred while the costs of development dry holes be capitalized and amortized. In other words, the accounting for these exploratory and development costs in an area may be different even though the costs of drilling the exploratory dry holes in the area are just as much a part of the costs invested as are the costs of drilling the development dry holes in that area. Further, the fact that a well may be classified as a development well, based on the definitions provided in this Statement, may depend on whether it is the first well drilled or whether it is drilled after a successful well. Mr. Litke observes that the cost of drilling both exploratory and development wells is an integral part of the cost of exploring and developing oil and gas properties. Mr. Litke believes such conflicting accounting requirements are not conceptually sound and will not necessarily result in uniform accounting and reporting. Such requirements will, however, result in such illogical results as having the amounts capitalized depend on the sequence in which the wells were drilled.
- Mr. Litke believes the costs of drilling exploration and development dry holes are integrally related to the other reasonable and necessary costs that are incurred in discovering and developing mineral reserves. He believes therefore that all such reasonable and necessary costs incurred in or related to the acquisition or enhancement of an asset in an area-of-interest in which commercially recoverable reserves are discovered and developed, or that result in increased discernible future benefits, should be deferred (temporarily capitalized) pending evaluation of the results of the exploration and development activities in that area-of-interest.

This Statement, however, prescribes that the costs of exploratory dry holes and certain stratigraphic wells be expensed as incurred. It also requires that the costs of development dry holes and certain other stratigraphic wells be capitalized. Mr. Litke observes that each of those types of wells has the same expected future benefits, but they are accounted for differently. The Statement also permits deferral of the costs of drilling in progress even though those wells on which those costs were incurred may prove to provide no discernible future benefits either. While Mr. Litke agrees that those costs should be capitalized, he believes the logical conceptual basis under which such costs should be capitalized also results in the capitalization of other costs under an area-of-interest approach—an approach which he believes is appropriate but which the Statement specifically rejects. He further observes that the reasons supporting these capitalization policies are inconsistent with the reasoning behind *FASB Statement No. 2,* "Accounting for Research and Development Costs."

Mr. Mays dissents because he considers some of the conclusions reached conceptually inconsistent with others. Mr. Mays believes that in adopting successful efforts accounting a choice must be made between two basic and distinct concepts. In the first concept, each well drilled is an individual "effort," the success or failure of which determines the capital/expense treatment. Thus, a well that is not capable of commercial production, whether it be exploratory, development, or stratigraphic, is expensed. In the second concept, a group of wells with a common geological objective is a collective "effort," and the capital/expense decision is based on the success or failure of the group as a whole. Although he prefers the first, Mr. Mays would accept either of these concepts but not a mixing of the two. In his view, the Statement contains elements of both concepts resulting in inconsistencies such as the following:

While affirming that the nature of a cost rather than a cost center should govern the capital/expense decision, the Statement uses the producing system as a collective asset, in effect a cost center, to justify the capitalization of development dry holes and certain nonproducible stratigraphic test wells. At the same time, the Statement excludes an exploratory dry hole having the same geological objective from capitalization even though that well also was intended to form part of the producing system and represents just as much a part of its cost as the development dry hole. The fact that the development location was not drilled first in the drilling program, and would thus have been an exploratory dry hole, may well be pure chance; in Mr. Mays's view, capital/expense decisions should not depend on sequential happenstance. Similar inconsistencies result from the distinction for capital/expense purposes that the Statement draws with respect to "successful" and "unsuccessful" stratigraphic wells, and the further distinction drawn between "unsuccessful development type" and "unsuccessful exploratory type" stratigraphic wells. Mr. Mays believes that, since none of such wells are to be produced, they should either all be expensed under the first concept or all be capitalized, assuming collective success, under the second concept.

Mr. Mays also dissents with respect to the changes in accounting for income taxes promulgated by this Statement. The changes, which he views as major, represent a reversal of the Board's position taken only two years ago with the issuance of *FASB Statement No. 9,* and he points to the fact that nothing has happened in the interim to justify such a reversal. Mr. Mays considers these changes especially untimely in view of the Board's current consideration of the definition of the elements of financial statements, including the definition of a liability, in the conceptual framework project.

Members of the Financial Accounting Standards Board:

Marshall S. Armstrong, *Chairman*

Oscar S. Gellein
Donald J. Kirk
Arthur L. Litke
Robert E. Mays
Robert T. Sprouse
Ralph E. Walters

Appendix A: BACKGROUND INFORMATION

65. Financial accounting and reporting for oil and gas producing companies has been debated for many years in the United States by the accounting profession, regulatory agencies, industry groups, and the companies themselves. The principal focus in recent years has been on the two widely different methods of accounting followed by those companies—the full cost method and the successful efforts method.

66. In 1964, the American Institute of Certified Public Accountants commissioned Robert E. Field, a partner of Price Waterhouse & Co., to study the various accounting methods used by companies in the extractive industries and to make recommendations for consideration by the AICPA Accounting Principles Board in formulating a pronouncement. The study was published by the AICPA in 1969 as *Accounting Research Study No. 11*, "Financial Reporting in the Extractive Industries." The recommendations in *ARS No. 11* essentially supported the successful efforts method of accounting.

67. In 1970, the APB asked its Committee on Extractive Industries to (a) study the recommendations in *ARS No. 11* and (b) "determine the appropriate accounting practices with the intent of narrowing the different accounting practices in the extractive industries." In mid-1971, the Committee drafted a proposed APB Opinion dealing only with determination of the appropriate *cost center*, on the belief that issues associated with the cost center question were at the heart of the full cost/successful efforts controversy. The full APB decided, however, that limiting an Opinion to the cost center question was inappropriate. The APB directed its Committee to prepare a paper containing recommendations on (a) determination of the cost center, (b) accounting for prediscovery and postdiscovery costs, (c) disposition of capitalized costs, and (d) disclosure of supplementary information in financial reports.

68. The APB Committee paper was published in the fall of 1971 under the title "Accounting and Reporting Practices in the Petroleum Industry." The paper recommended using the *field* as the cost center and capitalizing all prediscovery and postdiscovery costs that could be directly associated with oil and gas reserves, including reinstatement of the costs of exploratory dry holes initially written off but later determined to be in a field. The APB scheduled a public hearing for November 1971, with the Committee paper to serve as the basis for the hearing.

69. While the APB Committee was deliberating and preparing its paper, the Federal Power Commission was studying the accounting practices of natural gas producing companies subject to its jurisdiction. In October 1970, the FPC issued a proposal to require application of the full cost concept in FPC filings by natural gas

companies. During the following thirteen months, the FPC weighed arguments for and against its proposal, including a request from the APB that the FPC delay final action until an APB Opinion could be issued. On November 5, 1971, the FPC issued Order No. 440 adopting the full cost method for mineral leases acquired after October 6, 1969 with each country as a cost center. Petitions for rehearing, which were filed on December 5, 1971, were denied by the FPC in Order No. 440-A issued January 5, 1972.

70. The APB's public hearing was held on November 22 and 23, 1971. At the hearing, the recommendations in the APB Committee paper were opposed not only by advocates of the full cost method, who viewed the proposal to use the field as the cost center as effectively banning the full cost concept, but also by many advocates of successful efforts accounting, who disagreed with various aspects of the recommendations including, among other things, the capitalization of the costs of development dry holes and those exploratory dry holes determined to be in a field. After the hearing, the APB Committee on Extractive Industries continued to work on a proposed Opinion. The testimony given at that public hearing and the written submissions to the APB have been studied by the FASB.

71. On July 1, 1973, the FASB succeeded the APB as the private sector accounting standards-setting body. The APB Committee prepared for the FASB a detailed report on its activities entitled "Accounting and Reporting Practices in the Oil and Gas Industry." That report is reprinted as an appendix to the FASB Discussion Memorandum on the project.

72. In January 1973, a group of oil and gas producing companies that use the full cost method formed the Ad Hoc Committee (Petroleum Companies) on Full Cost Accounting. That Committee commissioned a research study by John H. Myers, Professor of Accounting at Indiana University. The study, entitled *Full Cost vs. Successful Efforts in Petroleum Accounting: An Empirical Approach,* was published in 1974. Dr. Myers simulated the results of accounting for various types of transactions under each of the two methods and concluded that full cost accounting together with disclosure of data on oil and gas reserves better serves the needs of users of financial statements.

73. In 1975, Congress substantially reduced or eliminated the percentage depletion deduction for many oil and gas producing companies, which led to the issuance in October 1975 of *FASB Statement No. 9.*

74. The FASB did not place accounting and reporting in the extractive industries on its initial technical agenda in 1973, but the foreign oil embargo of that year and the resulting substantial increases in world oil prices aroused great interest in the oil and gas industry on the part of both the American public and the federal government. With other energy legislation enacted or under active consideration by Congress, the FASB decided that accounting by oil and gas producing companies should receive high priority. In October 1975, it added to its technical agenda a project entitled "Financial Accounting and Reporting in the Extractive Industries."

75. In December 1975, President Gerald R. Ford signed Public Law 94-163, the *Energy Policy and Conservation Act* [42 U.S. Code, Sec. 6383]. Title V, Section 503 of the Act empowers the Securities and Exchange Commission either:

to prescribe rules applicable to persons engaged in the production of crude oil or natural gas, or make effective by recognition, or by other appropriate means indicating a determination to rely on, accounting practices developed by the Financial Accounting Standards Board, if the Securities and Exchange Commission is assured that such practice will be observed by persons engaged in the production of crude oil or natural gas to the same extent as would result if the Securities and Exchange Commission had prescribed such practices by rule.

76. The effect of Section 503 is to require that the contemplated accounting practices be developed by December 22, 1977 (24 months after the Act was signed into law) for all persons engaged either exclusively or partially in the production of crude oil or natural gas in the United States. The Act requires the SEC to provide an opportunity for interested persons to submit written comments on whether the Commission should recognize or otherwise rely on the standards developed by the FASB. That comment period can be after December 22, 1977.

77. The Act further provides that the SEC shall assure that the accounting practices developed pursuant to Section 503 will, to the greatest extent practicable, permit the compilation of a national energy data base consisting of the following data with domestic and foreign operations treated separately:

(1) The separate calculation of capital, revenue, and operating cost information pertaining to—
(A) prospecting,
(B) acquisition,
(C) exploration,
(D) development, and
(E) production,

including geological and geophysical costs, carrying costs, unsuccessful exploratory drilling costs, intangible drilling and development costs on productive wells, the cost of unsuccessful development wells, and the cost of acquiring oil and gas reserves by means other than development. Any such calculation shall take into account disposition of capitalized costs, contractual arrangements involving special conveyance of rights and joint operations, differences between book and tax income, and prices used in the transfer of products or other assets from one person to any other person, including a person controlled by, controlling, or under common control with such person.

(2) The full presentation of the financial information of persons engaged in the production of crude oil or natural gas, including—
(A) disclosure of reserves and operating activities, both domestic and foreign, to facilitate evaluation of financial effort and result; and
(B) classification of financial information by function to facilitate correlation with reserve and operating statistics, both domestic and foreign.

(3) Such other information, projections, and relationships of collected data as shall be necessary to facilitate the compilation of such data base.

78. The Board is issuing this Statement under its authority, which exists entirely apart from the Act, and also to assist the SEC in carrying out its obligations as contemplated by Congress under the Act as well as under the federal securities laws.

79. The FASB appointed a task force of 18 persons in December 1975 to counsel the Board in preparing a Discussion Memorandum analyzing issues related to the project. Members of the task force came from the oil and gas industry, petroleum geology and engineering, other extractive industries, public accounting, banking, securities underwriting, and academe. Professor Horace R. Brock of North Texas State University was engaged by the Board to serve as chairman of the task force and consultant to the Board during the preparation of the Discussion Memorandum. Meetings of the task force were attended by observers from the following federal agencies and Congressional committee:

a. Cost Accounting Standards Board.
b. Federal Energy Administration.
c. Federal Power Commission.
d. Securities and Exchange Commission.
e. Oversight and Investigations Subcommittee of the Committee on Interstate and Foreign Commerce, United States House of Representatives.
f. United States General Accounting Office.

80. The task force held its initial meeting in January 1976. Three additional meetings were held during that year. Much of the work of the task force was accomplished by correspondence, with task force members providing the Board with a significant amount of input concerning the accounting and reporting issues that they believed should be addressed in this project. Drafts of all sections of the Discussion Memorandum were sent to task force members and observers for written comment. Although the chairman of the task force and members of the staff of the FASB assumed primary responsibility for drafting the Discussion Memorandum, some sections were initially drafted by task force members expert on the particular matter being discussed.

81. In February 1976, the FASB concluded, on the basis of a task force recommendation, that the Discussion Memorandum should not be restricted to only the oil and gas industry, but should cover accounting and reporting issues relevant to companies engaged in the search for and production of all wasting (nonregenerative) natural resources. That recommendation was not unanimously supported by the task force. Some members believed that it would be preferable to focus initially on the oil and gas industry, as the APB Committee on Extractive Industries had done. Those members were also concerned that broadening the study could blur important distinctions between oil and gas companies and other extractive industries. The FASB, in accepting the recommendation of a majority of the task force members, concluded that apparent similarities of operations among extractive industries warranted the inclusion of all such industries in the scope of the Discussion Memorandum. The Board noted in the Discussion Memorandum, however, that inclusion of all extractive industries within the scope of the project at that stage did not mean that the Board intended to issue a single Statement covering all of those industries.

82. On March 23, 1976, the SEC issued *Accounting Series Release No. 190* amending Regulation S-X to require companies that meet specified size tests to disclose certain replacement cost data relating to "inventories" and "productive capacity" in financial statements filed with the Commission for fiscal years ending on or after December 25, 1976. In that Release, the SEC delayed for one year the effective date of the required replacement cost disclosures for "mineral resource assets." *SEC Staff Accounting Bulletin No. 10* defines mineral resource assets as "those costs shown on the balance sheet representing assets which are directly associated with and which derive value from mineral reserves." In June 1977, the American Petroleum Institute published and submitted to the SEC a study by Professors Glenn A. Welsch and Edward B. Deakin, of the University of Texas at Austin, entitled *Measuring and Reporting the "Replacement" Cost of Oil and Gas Reserves.* In transmitting the study to the SEC, the API stated its view that "the concept of replacement cost as envisioned in ASR 190 is not applicable to oil and gas reserves" and urged the SEC to "permanently exempt oil and gas reserves from replacement cost disclosure."

83. On May 12, 1976, the SEC issued *Securities Act Release No. 5706*, which requires that information relating to oil and gas properties, reserves, and production be disclosed in registration statements, proxy statements, and reports filed with the Commission.

84. In preparing the Discussion Memorandum, the task force and the Board considered many research studies and other publications in addition to *ARS No. 11* and the study by Dr. Myers, including the proceedings of the APB's public hearing and studies of accounting and reporting practices in the extractive industries by public accounting firms and industry associations. Approximately 100 recent (generally post-1968) publications on accounting and reporting in the extractive industries were reviewed by the FASB staff; a bibliography is included as an appendix to the Discussion Memorandum. Copies of those publications are in the FASB library.

85. The Board issued the Discussion Memorandum on December 23, 1976 with written comments due by March 7, 1977. In response to the Discussion Memorandum, the Board received 140 position papers, letters of comment, and outlines (totalling approximately 2,600 pages), copies of which have been available for inspection at the Board's offices since March 14, 1977 and are available for purchase. Copies were made available to each of the observer groups identified in paragraph 79.

86. On January 31, 1977, in *Securities Act Release No. 5801*, the SEC called attention to publication of the FASB Discussion Memorandum and encouraged interested parties to obtain and comment on the Memorandum and to participate in the FASB public hearing. The Release states that "the Commission, consistent with its policy most recently expressed in Accounting Series Release No. 150, contemplates that the Financial Accounting Standards Board (FASB) will be providing the leadership in establishing financial accounting principles and standards for producers of oil and gas." A part of one of the chapters in the Discussion Memorandum was prepared by the staff of the SEC. It considers matters relating to the SEC's responsibilities regarding the national energy data base.

87. The Board held a public hearing on the subject on March 30 and 31 and April 1 and 4, 1977. Thirty-nine presentations were made at the hearing. A transcript of the hearing (nearly 1,000 pages in length) is available for inspection or purchase. Copies were made available to each of the observer groups identified in paragraph

88. Seven days of concentrated preparatory sessions were held by the Board prior to deliberations on the issues. Those sessions were devoted to detailed examination of (a) the nature of acquisition, exploration, development, and production activities in the oil and gas industry; (b) the features and variations of the full cost method, the successful efforts method, discovery value accounting, and current value accounting; (c) reserve definitions and measurement; (d) reserve valuation; and (e) mineral property conveyances and contracts. Outside experts were invited to make presentations or otherwise assist the Board's staff in conducting the sessions. Those experts, eight of whom were task force members, included petroleum engineers and geologists, public accountants, corporate executives from the oil and gas industry, and academicians.

89. Subsequent to issuance of the Discussion Memorandum, the Board and its staff have maintained close contact with representatives of the SEC who, in turn, have been in contact with the other government agencies concerned with implementing the *Energy Policy and Conservation Act* and other federal energy legislation, with the mutual objective of keeping all parties informed of the others' activities regarding accounting and reporting by oil and gas producing companies. That close contact has continued after issuance of the FASB's Exposure Draft.

90. In addition to the Discussion Memorandum and the research studies and other publications mentioned earlier in paragraph 84, two other research efforts were undertaken at the Board's request during its deliberations on the Exposure Draft:

a. Academic consultants conducted interviews to ascertain how investment and credit decisions regarding oil and gas producing companies are reached. The 24 interviewees included loan officers of large and small banks that make loans to large and small oil and gas companies, bank trust department officers, institutional securities underwriters for both large and small companies, securities analysts, and an officer of a bond rating agency. The selection of interviewees from both the Northeast and the Southwest was designed to include organizations that invest or recommend investments in small as well as large companies. While the limited number of interviews did not provide conclusive evidence, the majority of interviewees indicated that the method of accounting would not affect their investment and credit decisions regarding oil and gas producing companies. The key factor in the decisions of a number of interviewees was their own valuations of oil and gas reserves and other assets; others relied heavily on cash flow data rather than earnings; still others took into consideration the method of accounting when evaluating earnings. Several interviewees believed that reduced earnings from accounting changes probably affected some investors and thus could adversely affect some stock prices.
b. A study was made of how *FASB Statement No. 9* was applied in practice. The study found no relationship between the way that Statement was applied and the method of accounting employed or company size.

91. On June 20, 1977, the SEC issued Securities Act Release No. 5837 soliciting comments in connection with the Commission's responsibilities under the *Energy Policy and Conservation Act* to assure the development and observance of accounting practices to be followed by U.S. producers of crude oil and natural gas. That Release not only raised questions relating to the reporting of financial and operating data to the Federal Energy

Administrator but also solicited comments about the extent to which that data should be "included in filings with the Commission in a manner which would require independent public accountants reporting on registrants' financial statements to be associated with the data." The Release indicated that "the Commission recognizes that the FASB is considering for inclusion in its proposed standard the disclosure of functional financial data and information on oil and gas reserves. The Commission will be cognizant of the FASB's conclusions in this area and will attempt to coordinate the reporting requirements pursuant to the Act and any revisions proposed to the disclosure requirements under the Securities Acts with the disclosures required in financial statements by the FASB. Reporting pursuant to the Act and any changes to the Commission's disclosure rules may encompass matters...in addition to or in greater detail than those required by the FASB."

92. The Board issued an Exposure Draft of a proposed Statement on "Financial Accounting and Reporting by Oil and Gas Producing Companies" on July 15, 1977. It received letters of comment on the Exposure Draft from 195 respondents (totalling approximately 1,300 pages). Copies of the letters were made available to each of the observer groups identified in paragraph 79.

93. After the Exposure Draft was issued, two additional research studies were conducted at the Board's request:

a. A research consultant, with assistance from the FASB staff, studied the effect of the Exposure Draft on the market prices of common stock issued by both full cost and successful efforts oil and gas producing companies. The research was conducted by Professor Thomas R. Dyckman of Cornell University, using data part of which was supplied by the FASB staff. Two research methodologies were employed. The first required two samples of equal size and was applied to companies that derive more than 50 percent of their revenue from exploration and production activities. The market prices of common shares issued by 22 full cost companies and 22 successful efforts companies were studied for the 11 weeks before and the 11 weeks after the Exposure Draft was issued. The study did not find statistically significant evidence that issuance of the Exposure Draft affected the market prices of securities issued by the full cost companies as compared to those of the successful efforts companies—except for some possible effect on the full cost companies during the week preceding and the week of issuance of the Exposure Draft, but the market soon adjusted, and evidence of a permanent or lingering effect was not found. The second methodology employed different underlying statistical procedures and was applied to broader samples. Those samples were not limited to companies engaged primarily in exploration and production but were limited to oil and gas companies with annual revenues less than $1 billion each. The samples included 65 full cost companies and 40 successful efforts companies. Again, the evidence did not support the hypothesis that the prices of shares issued by full cost companies were adversely affected, other than for a very brief period, by issuance of the Exposure Draft. Both Professor Dyckman and the Board recognize that statistical testing may not necessarily be conclusive. Following issuance of this Statement, the Board will undertake a similar study with respect to whether this Statement adversely affects the market prices of securities of oil and gas producing companies that heretofore had been using the full cost method as compared to those that had been using the successful efforts method.
b. The Board commissioned a telephone interview survey of senior executive officers of 27 relatively small and medium sized, publicly traded, successful efforts oil and gas producing companies (with annual

revenues ranging from $1 million to $441 million, average $68 million). No large integrated oil and gas companies were included. The study was conducted under the direction of Professor Horace R. Brock of North Texas State University. The purpose of the survey was to ascertain whether, in the judgment of those corporate officers, the use of the successful efforts method of accounting has had any negative effect on the ability of their companies to raise the capital necessary to finance their exploration and production activities. Most of the surveyed companies have raised capital externally during the past 10 years from one or more of the following sources: public issue of debt securities, public issue of equity securities, private placement of securities, special conveyances, borrowing from a local bank, international bank, or insurance company, and sale of participations in individual projects. None of the executive officers surveyed indicated that the company's use of successful efforts accounting had hindered its ability to raise capital. Four of the officers did indicate an uncertainty as to whether their continued use of the successful efforts method would affect their ability to raise capital in the future.

94. On August 31, 1977, the SEC issued *Securities Act Release No. 5861* proposing to amend the Commission's regulations to incorporate therein the accounting standards set forth in the FASB Exposure Draft. The Commission stated that the reason for the proposal is to place the Commission in a position to adopt by December 22, 1977 financial accounting and reporting standards for oil and gas producing activities in the unlikely event that the FASB has not adopted final standards by that date. The Release states that the proposed standards would be applicable to both (1) persons filing reports with the Department of Energy and (2) filings with the Commission under federal securities laws. The Commission stated that it proposed the rules pursuant to its authority under the *Energy Policy and Conservation Act* and the federal securities laws. The Release deals only with accounting standards and does not address disclosure matters.

95. On October 26, 1977, the SEC issued two Releases dealing with disclosures by oil and gas producing companies. The first Release, *Securities Act Release No. 5877,* proposes to amend the Commission's regulations to provide for disclosure in financial statements of certain operating and financial data relating to oil and gas producing activities. Like the proposal mentioned in the preceding paragraph, the disclosure standards proposed in this Release would apply both to (1) filings with the Commission pursuant to federal securities laws and (2) reports filed with the Department of Energy pursuant to the *Energy Policy and Conservation Act.* The SEC's proposed disclosures are generally the same as those proposed in the FASB Exposure Draft.

96. The second SEC Release of October 26, 1977, *Securities Act Release No. 5878,* deals with replacement cost disclosures for mineral resource assets. The Release proposes (1) to rescind the requirement adopted in ASR No. 190 for certain registrants to disclose replacement cost information about their mineral resource assets employed in oil and gas producing activities (see paragraph 82 of this Statement) and (2) to require, instead, that registrants with mineral resource assets employed in oil and gas producing activities disclose information based on the present value of future net revenues from estimated production of proved oil and gas reserves. The Release points out that "the proposed disclosures cannot be described as replacement cost information; however, they would provide information on the differences between the historical costs associated with proved oil and gas reserves shown in the financial statements and the future net revenues to be derived from these reserves." That proposal would be effective in filings covering fiscal years ending on or after December 25, 1978. Comments on the proposal are to be submitted to the Commission by March 31, 1978.

Appendix B

BASIS FOR CONCLUSIONS

CONTENTS

Appendix B: BASIS FOR CONCLUSIONS

97. This Appendix discusses factors deemed significant by members of the Board in reaching the conclusions in this Statement, including alternatives considered and reasons for accepting some and rejecting others.

Scope

98. Although the Discussion Memorandum for this project analyzed issues and solicited comments on accounting and reporting by companies in all extractive industries, this Statement applies only to the oil and gas producing industry as had been proposed in the Exposure Draft. Some respondents to the Discussion Memorandum and the Exposure Draft said that the mining industries are sufficiently different from the oil and gas industry to warrant separate pronouncements. For instance, some said that in the mining industries the principal emphasis is on the development and operation of existing mines and known deposits whereas in the oil and gas industry the principal emphasis is on the search for new mineral deposits. Also, some respondents said that mining operations involve substantially lower exploration and acquisition costs and substantially higher development and production costs relative to the oil and gas industry, which, they claimed, is characterized by high finding costs and a high proportion of unsuccessful search activities. In the view of those respondents, *discovery* is the critical event leading to the production of oil and gas whereas *development* and *extraction* are the critical events for most other minerals. Many who favored separating the oil and gas industry from other extractive industries pointed out also that the full cost versus successful efforts controversy has little significance in the mining industry while it is the primary issue for the oil and gas industry. Still others noted that there is greater uniformity in current accounting practices within the mining industries than within the oil and gas industry. Thus, they took the position that current generally accepted accounting principles are adequate for the mining industries and do not require the attention of the FASB at this time. The Board has not yet examined in depth those and other claimed dissimilarities between the oil and gas industry and other extractive industries; nor has it decided whether there is a need to address the other extractive industries in a separate pronouncement.

99. In response to questions raised in letters of comment on the Exposure Draft, paragraph 7 indicates that this Statement does not deal with accounting for interest costs because that matter is being addressed in another Board agenda project.

The Four Basic Accounting Alternatives

100. Four basic methods of accounting for a company's oil and gas producing activities were considered by the Board:

a. Full costing.
b. Successful efforts costing.
c. Discovery value accounting.

d. Current value accounting.

The principal features of each of those four methods, and variations within each method, are described in paragraphs 104-127.

101. Both full costing and successful efforts costing have been considered as conforming to generally accepted accounting principles, and both, in various forms, are widely used today. Discovery value accounting and current value accounting are both proposals that are not presently followed by oil and gas producing companies or by other companies (except in a few specialized industries and then only for certain assets with readily determinable market prices) in preparing their financial statements. The full costing method came into use around 1960 and only since the late 1960s has become widely used. A 1973 survey of nearly 300 oil and gas companies found that roughly half used full cost accounting and half used successful efforts costing.[6] A 1972 survey showed that companies employing the successful efforts method account for approximately 87 percent of U.S. oil and gas production, indicating that full costing has been adopted by relatively more small and medium sized companies than large companies.[7] Testimony given at the Board's public hearing by a spokesperson for an association of independent petroleum producers indicated that many independent oil and gas companies follow federal income tax accounting practices in preparing their financial statements; income tax accounting is a variation of successful efforts accounting.

Basic Differences between Full Costing and Successful Efforts Costing

102. The principal difference between full costing and successful efforts costing concerns costs that cannot be directly related to the discovery of specific oil and gas reserves. Under full costing those costs are carried forward to future periods as costs of oil and gas reserves generally; under successful efforts costing those costs are charged to expense. Full costing regards the costs of unsuccessful acquisition and exploration activities as necessary for the discovery of reserves. All of those costs are incurred with the knowledge that many of a company's prospects will not result directly in the discovery of reserves. However, the company expects that the benefits obtained from those prospects that do prove successful together with the benefits from past discoveries will be adequate to recover the costs of all activities, both successful and unsuccessful, and will result in an ultimate profit. Thus, all costs incurred in oil and gas producing activities are regarded as integral to the acquisition, discovery, and development of whatever reserves ultimately result from the efforts as a whole, and are thus associated with the company's reserves. Establishing a direct cause-and-effect relationship between costs incurred and specific reserves discovered is not relevant to full costing. Under successful efforts costing, however, except for acquisition costs of properties, a direct relationship between costs incurred and specific reserves discovered is required before costs are identified with assets; costs of acquisition and exploration activities that are known not to have resulted in the discovery of reserves are charged to expense.

103. Although many variations exist within the successful efforts method, two principal approaches can be identified. One approach relies on an "area-of-interest" (or "project" or "prospect") as a cost center because the oil and gas reserves in that area-of-interest are deemed to represent the asset for which cost is determined. Under that approach, all costs incurred within that cost center are capitalized; if the area-of-interest is abandoned, the costs are charged to expense; if the area-of-interest proves successful, the capitalized costs are amortized as the reserves are produced. The second approach does not rely on a cost center for capitalization

purposes; the accounting treatment is determined by the nature of the costs at the time they are incurred. This approach does not assign costs to oil and gas reserves until they are extracted; prior to then, this approach regards properties, wells, equipment, and facilities as the assets to which costs relate. Under one variation of this approach, all exploratory costs are charged to expense when incurred, but the cost of an exploratory well is later capitalized by reinstatement if the well is successful. Under the other variation, all exploration costs except the costs of exploratory wells are charged to expense when incurred; the costs of exploratory wells are capitalized as "construction-in-progress" when incurred, to be expensed later if the well is determined to be unsuccessful.

Principal Features of Full Costing

104. Under the full cost concept, all costs incurred in acquiring, exploring, and developing properties within a relatively large geopolitical (as opposed to geological) cost center (such as a country) are capitalized when incurred and are amortized as mineral reserves in the cost center are produced, subject to a limitation that the capitalized costs not exceed the value of those reserves.

105. Many variations of the full cost method exist, one of which is in the selection of the cost center. Under the broadest concept of full costing, all acquisition, exploration, and development costs wherever and whenever incurred are capitalized and amortized on a pro rata basis over the production of all of the company's oil and gas reserves wherever and whenever discovered, subject to the aforementioned limitation. This approach is referred to as using a company-wide cost center. Most companies that use full costing, however, adopt a country or a continent as the cost center.

106. If full costing is applied on a less-than-company-wide basis, the limitation (sometimes called a ceiling) on capitalized costs generally is applied separately to each cost center, though sometimes the comparison of unamortized capitalized costs and reserve values is made on the basis of groups of cost centers or on a company-wide basis. Variations also exist in the categories of reserves used in computing the limitation and in the methods of valuing those reserves.

107. Under the full cost concept, acquisition, exploration, and development costs are sometimes included in the pool of capitalized costs associated with a cost center when incurred, so that if the cost center is producing, those costs are subject to amortization at once. In some cases, however, certain significant costs, such as those associated with offshore U.S. operations, are deferred separately without amortization until the specific property to which they relate is found to be either productive or nonproductive, at which time those deferred costs and any reserves attributable to the property are included in the computation of amortization in the cost center.

108. Although most proponents of full costing indicate that the reserve value limitation is an essential condition for use of that method, preproduction costs incurred in a nonproducing cost center (for example, a country or continent in which the company has only recently begun its first exploration activity) are sometimes capitalized without regard to a limitation or ceiling test, based on the expectation that reserves will be discovered in the future sufficient to assure recovery of the capitalized costs.

109. Under full costing and in many cases under successful efforts costing (if the amortization base comprises

a number of properties), the unamortized costs relating to a property that is surrendered, abandoned, or otherwise disposed of are accounted for as an adjustment of accumulated amortization, rather than as a gain or loss that enters into the determination of net income, until *all* of the properties constituting the amortization base are disposed of, at which point gain or loss is recognized. Under full costing, the amortization base is normally a very large cost center—country or continent—whereas under successful efforts costing it is usually either individual properties or groups of properties with a common geological structural feature or stratigraphic condition. Therefore, recognition of gain or loss on abandonment of properties is more likely to be delayed under full costing than under successful efforts costing, although some proponents of full costing would recognize certain unusual or significant losses even before activities in an entire country or continent are discontinued.

110. Variations within both the full cost method and the successful efforts method exist in (a) the categories of reserves used in computing amortization, (b) whether future development costs are anticipated if capitalized acquisition, exploration, or development costs are amortized on the basis of all proved reserves, (c) the extent to which properties are aggregated for amortization purposes, (d) the bases for determining amortization rates if oil and gas are jointly produced, (e) the categories of reserves and methods of valuation used in computing a limitation on capitalized costs, and (f) allocation of overhead.

Principal Features of Successful Efforts Costing

111. Under successful efforts costing, except for acquisition costs of properties, a direct relationship between costs incurred and specific reserves discovered is required before costs are identified with assets. An acquired property is regarded as an asset until either a determination is made that it does not contain oil and gas reserves or the property is surrendered. Capitalized costs relating to producing properties are amortized as the reserves underlying those properties are produced.

112. Many variations of successful efforts accounting exist. As noted in paragraph 103, a conceptual difference centers around the role of the cost center—whether a cost center is needed for cost capitalization purposes or only to compute amortization. For example, some proponents of successful efforts accounting would capitalize all geological and geophysical costs and, possibly, all carrying costs relating to a cost center, such as an area-of-interest, on grounds that any mineral reserves in the cost center represent the asset with which the costs are associated. If mineral reserves are found in that area-of-interest, those capitalized costs are carried forward as the costs of those reserves; otherwise, they are charged to expense. Those proponents of successful efforts thus rely in part on the concept of a cost center for the capitalize/expense decision. Others who favor successful efforts accounting would use a cost center, such as a field or a lease, only for purposes of amortizing costs. They would let the nature of the cost govern the capitalize/expense decision. For example, they might charge all G&G costs and all carrying costs to expense, based on the belief that such costs result in no identifiable future benefits, but they would capitalize all lease bonus expenditures on the basis that an asset (the right to explore for and extract oil and gas) has been acquired.

113. With respect to property acquisition costs, relatively minor variations exist within the successful efforts method concerning the extent to which such items as brokers' fees, recording fees, legal costs, other direct costs, and allocations of indirect costs are considered acquisition costs. Those minor variations aside, virtually all

advocates of successful efforts accounting capitalize all property acquisition costs when incurred, though different accounting methods are used to dispose of those costs subsequent to capitalization.

114. Under successful efforts accounting, different methods are sometimes used to account for *pre*acquisition and *post*acquisition geological and geophysical costs. With respect to preacquisition G&G, some expense all such costs when incurred; others capitalize preacquisition G&G to the extent that those costs can be related to acquired properties and expense all other such costs. Some follow a practice of reinstating costs charged to expense in a prior period based on events and experience in subsequent periods. Others do not. With respect to postacquisition G&G, alternatives include (a) capitalize all postacquisition G&G as part of the cost of the acquired properties to which the G&G costs relate; (b) charge it all to expense when incurred; and (c) charge it all to expense when incurred but reinstate those costs that relate to reserves that are found. Some persons would capitalize only post*discovery* G&G while expensing when incurred all other postacquisition G&G as well as the preacquisition G&G.

115. At least two variations can be identified in accounting for the costs of carrying undeveloped properties (delay rentals, *ad valorem* taxes, etc.) under successful efforts accounting: (a) charge all to expense as incurred and (b) charge to expense as incurred but reinstate if subsequently associable with an area-of-interest in which reserves are found.

116. Some proponents of the successful efforts method defer all exploratory drilling costs as "construction-in-progress" for a period of time until a determination has been made whether reserves have been found, at which time the costs of dry holes are charged to expense. Others expense all exploratory drilling costs as incurred but reinstate costs relating to any reserves that are discovered. The costs of drilling a stratigraphic test well, which is drilled solely to obtain geological information and is not customarily intended to be completed as a producing well, are sometimes charged to expense when incurred; alternatively, those costs are sometimes capitalized to the extent that reserves are found (even though the well is not intended to be used to produce those reserves), with the costs of such wells that did not find reserves charged to expense when that determination is made.

117. The principal alternative with respect to accounting for development costs within a successful efforts framework concerns the treatment of development dry holes. Some proponents of successful efforts accounting capitalize the costs of drilling unsuccessful development wells on grounds that those costs were incurred as part of the capital investment required to extract reserves that were previously discovered. On the other hand, many successful efforts proponents take the position that those costs should be charged to expense on the basis that any dry hole, whether exploratory or development, has no future benefit. With respect to other development costs, some companies capitalize all while other companies—principally the smaller and closely held companies—follow the income tax accounting treatment under which intangible development costs are charged to expense as incurred.

118. Whether capitalized preproduction costs are amortized or otherwise written off before production begins is another area of difference within the successful efforts method. Some companies do not amortize any capitalized costs until production of the related reserves begins. If reserves are not found, the entire cost is

written off when the property is surrendered. A variety of methods is used by those companies that do amortize costs before production begins. A distinction normally is made between (a) acquisition costs of unproved properties and (b) preproduction costs relating to properties that become proved. Some companies amortize the acquisition costs of unproved properties or provide an allowance for impairment; other companies carry unproved properties at their cost without regard to diminution of value until either reserves are found or the property is surrendered. With respect to the capitalized preproduction costs relating to proved properties, amortization generally does not begin until production commences. Reinstatement of costs is another accounting alternative, and whether to establish a limitation on capitalized costs of proved properties is yet another area of difference.

119. A number of other variations within the successful efforts method (which are also variations within full costing) were noted in paragraph 110.

Principal Features of Discovery Value Accounting

120. Under discovery value accounting as it has generally been proposed, mineral reserves would be recorded at their estimated *value* when the reserves are discovered or, alternatively, when the reserves are developed. Property acquisition costs and other prediscovery costs generally would be deferred and written off when the areas to which the costs apply have been explored and the underlying reserves, if any, evaluated. Subsequent to discovery, the carrying amount of the reserves would not be adjusted for changes in prices; however, the carrying amount would be adjusted for revisions of estimated reserve quantities. The discovery value would be treated as revenue from the oil and gas exploration activities of the enterprise and would become the recorded value ("cost") of reserves for future accounting purposes. Those discovery value amounts would then be amortized against the revenues resulting from the production and sale of the minerals.

121. Several variations of discovery value accounting have been proposed. If only proved developed reserves are included in the value computation, generally all development costs associated with the reserves will have been incurred; if additional development costs are incurred, the value of any incremental quantity of reserves discovered is recorded and, simultaneously, the related costs are written off. If undeveloped reserves are included in the value computation, an adjustment must be made for the expected future development costs (generally by reducing the value otherwise attributable to the reserves in the ground). When the development costs are eventually incurred, it is generally proposed that they be added to the carrying value of the reserves.

122. Determination of the value of oil and gas reserves is critical to both discovery value accounting and current value accounting. Four principal valuation methods that might be used to measure the value of reserves (and other assets) were discussed at length in paragraphs 436-466 of the Discussion Memorandum. Briefly summarized, they are:

a. *Current cost.* Current cost is the amount of cash or its equivalent that would have to be paid if the same asset were acquired currently. The "same asset" may be an identical asset (current reproduction cost or current cost of replacement in kind) or an asset with equivalent productive capacity (current replacement cost).
b. *Current exit value in orderly liquidation.* Current exit value in orderly liquidation is the net amount of cash

that could be obtained currently by selling the asset in orderly liquidation (current market value, if a market exists). The value of mineral reserves on a current exit value basis would equal the price at which the reserves could be sold in place by a willing seller to a willing buyer, neither being under any compulsion to sell or buy, both being competent and having reasonable knowledge of the facts.

c. *Expected exit value in due course of business.* Expected exit value in due course of business is the nondiscounted amount of cash or its equivalent into which an asset is expected to be converted in the due course of business less the direct costs necessary to make that conversion (sometimes referred to as net realizable value). The value of mineral reserves on this basis would be an amount equal to the estimated net cash flows attributable to the reserves.

d. *Present value of expected cash flows.* The present value of expected cash flows is the present value of future cash inflows into which an asset is expected to be converted in the due course of business, less the present value of cash outflows necessary to obtain those inflows. Present value measurements require information about estimated amounts of future cash inflows and outflows, the timing of those expected cash flows, and the appropriate discount rate. Various discount rates that have been proposed include the (i) rate applicable to long-term government bonds issued by the government of the country in which the reserves are located, (ii) prime rate, (iii) company's weighted average or incremental long-term borrowing rate, (iv) company's weighted average cost of capital, and (v) discount rate used by company management internally to make individual investment decisions.

123. Considerable disagreement exists as to which of those methods, if any, are suitable for valuation of oil and gas reserves, either at the time of discovery or subsequently. Also, under discovery value accounting, a decision must be made as to which categories of reserves enter into the value computation.

124. Some discovery value accounting proponents would report the value of periodic discoveries of reserves as operating income. Others would segregate the discovery value from realized revenues and gains reported in the income statement. Still others would report the discovery values in a special unrealized income section of stockholders' equity in the balance sheet until realized through the actual production and sale of oil and gas.

Principal Features of Current Value Accounting

125. Current value accounting involves the continuous use in the financial statements of one of the four methods of valuation identified in paragraph 122, or some other method. (Current value accounting could, of course, be applied to all of an enterprise's assets and liabilities, not just oil and gas reserves, but applying current value accounting beyond oil and gas reserves was not included in the scope of this project. Alternative methods of measurement are to be considered in the Board's project to develop a conceptual framework for financial accounting and reporting.)

126. Most proponents of current value accounting for oil and gas reserves believe that the reserves should be valued at each financial statement date using the most current information available. Some proponents suggest that periodic changes in reserve values should be reflected directly in the income statement; others would report value changes directly in the stockholders' equity section of the balance sheet, perhaps by segregating or otherwise separately identifying the realized and unrealized amounts. Under current value accounting, separate data might be presented for (a) value increases resulting from new discoveries, (b) value changes resulting from

adjustment of reserve quantities, and (c) holding gains and losses resulting from revaluing end-of-period reserve quantities to reflect the change in unit value during the period.

127. As with discovery value accounting, decisions must be made as to which method of valuation should be used and which reserve categories should be included in the current value computations.

A Single Accounting Method

128. The proposal that the two presently accepted accounting methods, full costing and successful efforts costing, be allowed to continue as optional alternatives received little support in the letters of comment submitted to the Board in response to the Discussion Memorandum or in the oral presentations made at the public hearing conducted by the Board before the Exposure Draft was issued. It was principally after the Exposure Draft was issued proposing to proscribe the full costing method that support for retaining both methods was expressed to the Board.

129. The Board has considered the question of accounting alternatives at length, not only in connection with its oil and gas project but also for other projects on its agenda, and has concluded that differences in accounting may be appropriate when significant differences in facts and circumstances exist, but different accounting among companies for the same types of facts and circumstances impedes comparability of financial statements and significantly detracts from their usefulness to financial statement users.

130. In the Board's judgment, the facts and circumstances surrounding the search for and development and production of oil and gas do not differ because of the size of the company or whether its securities are publicly traded. Similar types of risks of failure and potential rewards of success prevail among all companies engaged in oil and gas producing activities; only the magnitude and number of projects vary. Although the scale or location of operations may differ among companies, that should not affect the principles underlying recognition of assets, measurement of the cost of those assets, and measurement of earnings. The costs of exploratory dry holes or abandoned properties, for example, should not be included in the costs of assets for some companies and reported as losses by other companies. Yet if full costing and successful efforts costing were both retained as optional accounting alternatives, different principles of asset recognition and measurement and earnings measurement would be regarded as appropriate for companies whose circumstances are substantially similar.

131. Some respondents to the Exposure Draft cited the existence of other accounting alternatives—for instance, the use of both the last-in, first-out and the first-in, first-out methods in accounting for inventories—as justification for retaining full costing and successful efforts costing as optional alternatives. The Board does not believe that the availability of alternatives in unrelated areas of accounting should bear on a decision that the Board must make for a project on its agenda. In the Board's judgment, accounting for similar circumstances similarly and for different circumstances differently is a desirable objective in establishing standards of financial accounting and reporting. For that reason, the Board rejected the proposal, made by some respondents to the Exposure Draft, that intercompany comparability be achieved by footnote disclosure with retention of both full costing and successful efforts costing. Also, for that reason, the Board rejected the proposal that it simply "clean up" the many variations in full costing and the many variations in successful efforts costing presently

used in practice by mandating only one acceptable approach to full costing and one acceptable approach to successful efforts costing and allowing companies to choose one of those two approaches.

132. One of the principal criticisms of the work of the FASB's predecessors that led to creation of the FASB was that they did not sufficiently narrow or eliminate free choice accounting alternatives. A report entitled *Federal Regulation and Regulatory Reform* (the "Moss Report") issued in 1976 by the Subcommittee on Oversight and Investigations of the U.S. House of Representatives and a report entitled *The Accounting Establishment* (the "Metcalf Report") prepared in 1976 by the staff of the Subcommittee on Reports, Accounting and Management of the U.S. Senate were both strongly critical of the availability of alternative accounting principles. In its November 1977 report, "Improving the Accountability of Publicly Owned Corporations and Their Auditors," Senator Metcalf's Subcommittee concluded that "uniformity in the development and application of accounting standards must be a major goal of the standard-setting system." Moreover, two major financial statement user groups—the Financial Accounting Policy Committee of the Financial Analysts Federation (the national professional association of security analysts) and the Robert Morris Associates (the national professional association of bank lending officers)—have endorsed elimination of optional accounting alternatives not only for oil and gas producing companies but for other industries as well. The Securities and Exchange Commission, in *Securities Act Release No. 5877* (October 26, 1977), took a similar position, stating that the Board's oil and gas project "is expected to result in significant improvement in financial reporting through the establishment of uniform accounting standards so that investors are provided with a valid basis for comparing the financial statements of different companies." In the Board's judgment, when the same or similar facts and circumstances exist, as they do in the search for and development of oil and gas reserves, intercompany comparability requires a single method of accounting. Comparable reporting by companies competing for capital is, in the Board's judgment, in the public interest (see paragraphs 157-174).

Reasons for Rejecting Discovery Value Accounting

133. The Board concluded that financial statements of an oil and gas producing company should not be prepared on a discovery value basis for a number of reasons. One group of reasons relates to problems in measuring the value of reserves with reasonable accuracy at the point of discovery. Measurements of discovery value require estimates of (a) the quantity of reserves, (b) the amount and timing of costs to develop the reserves, (c) the timing of production of the reserves, (d) the production costs and income taxes, (e) selling prices, and (f) (for some valuation methods) appropriate discount rates that reflect both an interest element and a risk factor. Those estimates, in turn, might be based on predictions of changes in government regulations and restrictions (both domestic and foreign), technological changes (including not only the technology involved in oil and gas producing activities but also the technology of transportation, refining, and marketing of oil and gas products), and domestic and international economic conditions; or current regulations, technology, and conditions might be assumed to continue indefinitely. The uncertainties inherent in those estimates and predictions tend to make estimates of reserve values highly subjective and relatively unreliable for the purpose of providing the basis on which to prepare financial statements of an oil and gas producing company.

134. Under generally accepted accounting principles followed by companies in nearly all industries, revenue is normally recognized only when the earning process is complete or virtually complete and, then, only after an

exchange transaction has taken place. The earning process is the continuum of profit-directed activities by which revenue is earned—purchasing, manufacturing, selling a product or rendering a service, delivery, cash collection, etc. The exchange transaction is the specific point at which the earning process is normally regarded as sufficiently complete to justify accounting recognition of revenue.

135. Discovery value accounting recognizes revenue from exploration activities at the point of discovery even though it may be many years until the property is developed and the oil and gas are produced and sold. That is, the earning process is far from complete, at least as completion of that process is generally determined for other industries. Discovery is certainly a critical event in the search for and extraction of oil and gas, but there are many uncertainties standing between discovery of reserves and the ultimate realization of related revenues. Often many years pass, very substantial amounts of money are spent, and significant revisions are made to estimated quantities of reserves discovered.

136. Exceptions to the general rule for revenue recognition are found in practice today. *APB Statement No. 4*, "Basic Concepts and Accounting Principles Underlying Financial Statements of Business Enterprises," paragraph 152, states:

> Sometimes revenue is recognized at the completion of production and before a sale is made. Examples include certain precious metals and farm products with assured sales prices. The assured price, the difficulty in some situations of determining costs of products on hand, and the characteristic of unit interchangeability are reasons given to support this exception.

137. As noted earlier, reserves often are discovered many years before they are produced, and many dollars often are spent for development and production costs before the oil and gas reserves are extracted. Moreover, while oil and gas may to some extent be regarded as fungible, sales prices, particularly in the present domestic and international economic and regulatory environments, are anything but assured. Thus, the reasons given in support of the special revenue recognition principles for precious metals and farm products that have been produced and have assured sales prices do not apply to oil and gas producing activities.

138. Proponents of discovery value accounting argue that it provides better information about the success or failure of exploration activities, which activities are the most important ones in oil and gas production. However, discovery value accounting represents a fundamental change from the traditional, historical cost basis of preparing financial statements. Various alternatives to the historical cost measurement basis are under examination as part of the Board's conceptual framework project. Although covered in the Discussion Memorandum for the extractive industries project, valuation methods were addressed by relatively few respondents, and discovery value accounting received only very limited support among respondents. On balance, the Board concluded that estimated discovery values do not provide a satisfactory basis of accounting for oil and gas producing activities for the reasons that (a) values that were current when initially recorded quickly become out-of-date and (b) the mixture of values of minerals measured at different dates of discovery lacks both the verifiability of historical costs and the relevance of current values. The Board believes that issues relating to the accounting measurement basis should await resolution in the conceptual framework project.

Reasons for Rejecting Current Value Accounting

139. Like discovery value accounting, current value accounting for oil and gas reserves requires estimation of reserve values. The uncertainties inherent in those estimates (discussed in paragraph 133) tend to make them subjective and relatively unreliable for the purpose of providing the underlying basis on which the financial statements of an oil and gas producing company are prepared.

140. As noted in paragraph 138, the historical cost basis of accounting and certain alternative measurement bases are currently under examination as part of the Board's project on a conceptual framework for financial accounting and reporting. The Board has concluded that it should not attempt to resolve those issues in the narrow context of the extractive industries project.

141. Moreover, as with discovery value accounting, adoption of current value accounting for oil and gas reserves would require reconsideration of the accounting concept of earnings (discussed in paragraphs 134-137). Decisions would have to be made as to whether the periodic value changes should be reflected in determining earnings or only in the stockholders' equity section of the balance sheet, and whether realized value changes should be treated differently from unrealized. Those issues, too, are part of the Board's conceptual framework project.

Reasons for Accepting Successful Efforts Accounting and for Rejecting Full Costing

142. None of the assenting or dissenting members of the Board consider it appropriate to capitalize costs of exploration efforts in a geological area in which no reserves are found simply because the company previously discovered valuable reserves in an unrelated geological area.

Successful Efforts Accounting Is Consistent with the Present Accounting Framework

143. In the presently accepted financial accounting framework, an asset is an economic resource that is expected to provide future benefits, and nonmonetary assets generally are accounted for at the cost to acquire or construct them. Costs that do not relate directly to specific assets having identifiable future benefits normally are not capitalized—no matter how vital those costs may be to the ongoing operations of the enterprise. If costs do not give rise to an asset with identifiable future benefits, they are charged to expense or recognized as a loss.

144. In the Board's judgment, successful efforts costing is consistent with that accounting framework, and full costing is not. Under full costing, even costs that are known *not* to have resulted in identifiable future benefits are nonetheless capitalized as part of the cost of assets to which they have no direct relationship.

145. In the oil and gas industry, ultimately the expected future benefits that an enterprise is attempting to obtain through its acquisition, exploration, and development activities are represented by oil and gas reserves. But, other than by purchasing minerals-in-place, an enterprise does not acquire reserves directly. Rather, it acquires properties (rights to extract any reserves that may be discovered in the future) and it acquires (develops) systems capable of producing the oil and gas reserves that are discovered. Costs that are known *not*

to relate directly to the discovery of oil and gas reserves or in the development of a system for the extraction of previously discovered reserves should not be capitalized. To capitalize them is inconsistent with the presently accepted accounting framework based on measuring the historical cost of an asset.

146. Present accounting concepts place boundaries on the assets to be accounted for - boundaries determined by the transaction in which the asset was acquired, by physical attributes of the asset, by legal attributes of the asset, or by the way in which the asset is used. Full costing aggregates all oil and gas reserves within very broad cost centers (countries or continents), wherever those reserves may be located in the cost center and whenever discovered, and accounts for that aggregation as a single asset. All acquisition, exploration, and development costs incurred in that cost center are deemed to be the cost of the aggregate asset, even if those costs relate to activities that are known *not* to have been successful in acquiring, discovering, or developing reserves.

147. The successful efforts method, on the other hand, circumscribes the boundaries of, and accounts separately for, individual assets. Under the "area-of-interest" approach to successful efforts costing, oil and gas reserves located in an individual area-of-interest are the assets accounted for. Under the approach to successful efforts in which no cost center is used for the capitalize/expense decision, individual properties or groups of geologically related properties and wells, equipment, and facilities are the assets accounted for. Either way, boundaries are placed on the assets being accounted for. Only those exploration and development costs that relate directly to specific oil and gas reserves are capitalized; costs that do not relate directly to specific reserves are charged to expense. The successful efforts method of accounting conforms to the traditional concept of the historical cost of an asset.

148. Under the successful efforts method, certain types of costs may be capitalized as "construction-in-progress" pending further information about the existence of future benefits, but as soon as the additional information becomes available, and it is known whether future benefits exist, those costs are either reclassified as an amortizable asset or charged to expense.

Financial Statements Should Reflect Risk and Unsuccessful Results

149. The function of the nation's capital markets is to direct capital to companies and institutions through decisions to invest and lend. Financial accounting and reporting provides one important source of information on which investment, lending, and related decisions are made.

150. Enterprises seeking capital operate in varying circumstances of possible success or failure. That is, they offer varying degrees of risk and opportunity to those supplying capital. Although investors and lenders differ among themselves with regard to the risks they are willing to accept, they have one thing in common: They seek a higher expected return for accepting higher risk. Business enterprises seeking capital offer different risks. Capital is equitably allocated if the prices paid are commensurate with the risk.

151. In the production of oil and gas, significant risks and returns arise in the search for reserves. In other words, discovery of oil and gas reserves is a critical event in determining failure or success, for assessing risks and returns. Because it capitalizes the costs of unsuccessful property acquisitions and unsuccessful exploratory activities as part of the costs of successful acquisitions and activities, full costing tends to obscure failure and

risk. Successful efforts accounting, on the other hand, highlights failures and the risks involved in the search for oil and gas reserves by charging to expense costs that are known not to have resulted in identifiable future benefits.

152. Neither full costing nor successful efforts costing reflects success at the time of discovery. Under both methods, success is reported at the time of sale. It might be said, therefore, that both methods tend to obscure, or at least delay, the reporting of success, but that is the consequence of the historical cost basis of accounting, and its adherence to the realization concept. The obscuring of failure, however, results only from the full cost method. Under successful efforts accounting, unsuccessful costs are charged to expense and not carried forward as assets. In the Board's judgment, financial statements prepared on the successful efforts basis, including disclosures (as required by this Statement) of capitalized costs and costs incurred in oil and gas producing activities (to provide an indication of effort) and of reserve quantities and changes therein (to provide an indication of accomplishment) will provide investors with important information about success as well as failure.

153. Investors and creditors look to financial statements as an important source of information about companies' risks and returns. Investors and creditors focus on earnings—and in particular on earnings variability—as an indicator of risks and returns. As the Board noted in summarizing its *Tentative Conclusions on Objectives of Financial Statements of Business Enterprises:* [8]

> Earnings (or profits or net income) of a business enterprise are the focal point of the information communicated in financial statements. Earnings are a major motivating force in the economic activities of business enterprises and a major motivating force in the economic activities of those who lend to business enterprises, those who invest in them, and those who manage them. In general, earnings reduce the risk of those who lend funds to an enterprise or acquire its debt securities.
>
> Earnings also enable an enterprise to pay cash dividends to those who invest in its equity securities and enhance the prospects for increases in the market price of its stock. Thus, investors and creditors are generally more willing to commit funds to profitable enterprises than to unprofitable ones. Expectations of earnings, often based on a history of earnings, enable an enterprise to obtain both equity and debt financing.

154. Some persons criticize successful efforts accounting on grounds that a company's earnings tend to fluctuate more under that method than under full cost accounting, depending on the level and degree of success or failure of the company's acquisition and exploration activities in a given accounting period. While fluctuating earnings may, indeed, be a *characteristic* of successful efforts accounting, it is not a *fault.* The successful efforts method enables investors and lenders to observe the impact of the risks inherent in oil and gas producing activities on a company's results of operations from period to period.

155. A similar issue arose in connection with the Board's project on accounting by enterprises in the development stage. The Board concluded in *FASB Statement No. 7,* "Accounting and Reporting by Development Stage Enterprises," that a development stage enterprise should not be permitted to capitalize costs

that would be charged to expense when incurred by an established operating enterprise because to do so would tend to obscure, in financial statements, the impact of risks inherent in starting up a new company.

156. The same issue has arisen in a number of other Board projects, for example, the projects on self-insurance, catastrophe losses, expropriations, and other contingencies and on foreign currency translation. A basic issue in each of those projects, as it is in the oil and gas project, was whether financial accounting standards should be adopted to normalize or average the effects of events that are inevitable over extended periods but occur at infrequent and relatively unpredictable intervals. Consistent with its conclusion in this Statement, the Board concluded in those projects that financial statements should report the effects of risk and not attempt to normalize them.

Ability to Raise Capital

157. Many proponents of full costing have said, in written submissions in response to the Discussion Memorandum, at the public hearing, and in comment letters on the Exposure Draft, that adoption of the successful efforts method of accounting will inhibit the ability of oil and gas producing companies to raise capital to finance their exploration activities. In particular, they contend, small exploration companies will have special difficulties in obtaining capital because, under a successful efforts approach, their income statements will be more likely to report earnings fluctuations and in some cases net losses, and their balance sheets could even show cumulative deficits. Potential suppliers of capital will not understand those fluctuations, losses, and deficits, it is argued, and sources of capital will diminish or be more costly. Those results, they say, are at variance with national economic goals. A particular national economic goal they cite is to encourage additional oil and gas exploration.

158. In the Board's judgment, the arguments put forth by those who say that adoption of successful efforts accounting and proscription of full costing will prevent them from raising the capital needed to finance their exploration and production activities are not persuasive. In a free enterprise economy in which capital is allocated among enterprises largely on the basis of individual investors' decisions, if a company is an economically successful enterprise, it will continue to attract capital. Its financial statements should provide those who supply capital with information that assists them in determining whether the expected returns on that capital are commensurate with the risks involved. In the Board's judgment, financial statements that are prepared in conformity with the provisions of this Statement will provide investors and creditors with that type of information. Many small oil and gas producing companies use the successful efforts method, not full costing; have done so for many years; and have generally been able to obtain capital to finance their exploration activities. Indeed, full costing is a relatively recent development in accounting for oil and gas producing activities. The 1973 survey (cited in paragraph 101 of this Statement), which was sponsored by a group of full costing petroleum companies, identified only *one* instance of its use prior to 1960, and it was not until the late 1960s that the use of full costing became relatively widespread.

159. In examining the ability-to-raise-capital issue, the Board focused in particular on three distinct types of small exploration companies:

a. Privately owned exploration companies. (A representative of the Independent Petroleum Association of

America at the Board's public hearing estimated that there are 10,000 such companies in the United States.)

b. Publicly owned exploration companies. (A 1977 list of companies whose securities are registered with the SEC identifies 214 companies in the "petroleum and natural gas extraction" Standard Industrial Classification.)

c. Oil and gas exploration subsidiaries and divisions of companies that are mainly in other lines of business.

160. As noted in paragraphs 101 and 117, a great many *privately* owned exploration companies follow federal income tax accounting practices in preparing their financial statements. Income tax accounting is a variation of successful efforts accounting. Those companies have for many years been able to obtain capital from external sources, including loans from local and international banks and insurance companies, from knowledgeable individual investors, and from private placements of securities.

161. Many publicly owned oil and gas exploration companies follow the successful efforts method. In connection with the research study described in paragraph 93(a) of this Statement, the staff of the FASB identified 79 oil and gas companies that (a) have securities currently traded on a securities exchange or in the over-the-counter market and (b) derive more than 50 percent of their revenue from exploration and production. (The latter criterion eliminates virtually all of the major integrated companies from the group.) Of the publicly owned companies so identified, 41 percent use successful efforts accounting.

162. Some responses to the Exposure Draft were from companies that are mainly in lines of business other than oil and gas but that have oil and gas exploration subsidiaries and divisions that use the full cost method. A number of the responses came from electric and gas public utility companies with oil and gas exploration subsidiaries recently formed or under active consideration. Those respondents urged retention of full costing for their subsidiaries and divisions on grounds that investors and lenders who supply capital to the enterprise do not regard the enterprise as an oil and gas producing company and thus would not understand the fluctuations of reported earnings or losses that, in their view, would more likely result from using successful efforts accounting, especially by a newly formed exploration subsidiary. In the Board's judgment, however, that is not an appropriate reason for allowing those subsidiaries and divisions to adopt or continue to use full costing. By choosing to seek the rewards of engaging in oil and gas exploration activities, those enterprises have assumed the risks associated with the search for oil and gas reserves, and their financial statements should provide information about those risks and not obscure them. Investors and creditors seek a return on their capital commensurate with the risks involved, and financial statements should assist them in assessing those risks. One would expect that those who supply capital for a high-risk activity such as oil and gas exploration would demand a higher return than for capital invested in less risky activity.

163. The telephone interview survey described in paragraph 93(b) provides additional evidence about the ability of small, publicly owned, successful efforts companies to raise capital. Professor Horace R. Brock of North Texas State University, or a person working under his direction, asked a senior executive officer of each of 27 small, publicly owned, successful efforts companies whether, in the officer's opinion, use of the successful efforts method has affected the company's ability to obtain the capital necessary to finance its exploration and production activities. None of the executive officers surveyed felt that the company's use of successful efforts accounting had hindered its ability to raise capital. Most of the surveyed companies raised capital externally

during the past 10 years from public sales of equity and debt securities, loans from banks and insurance companies, private placements, investments by individual investors, or other outside sources. Those corporate officers were also asked whether they felt that their companies were denied access to any particular source of capital and, if so, whether the company's accounting method was a significant factor in any such situation. Again, they said that successful efforts accounting did not adversely affect their companies' ability to obtain capital from a desired source.

164. Interviews with suppliers of capital to oil and gas producing companies resulted in a similar finding. As described in paragraph 90(a), 24 bank loan officers, bank trust department officers, and securities underwriters, all of whom work directly with oil and gas companies, were interviewed to ascertain how investment and credit decisions regarding such companies are reached. The majority of interviewees indicated that the method of accounting would not affect their investment and credit decisions regarding oil and gas producing companies.

165. Some who favor retention of full costing argue that use of that method by newly formed exploration companies is essential to their viability, because investors will be disinclined to provide capital to those companies if their financial statements report net losses from operations and cumulative deficits. The Board found, however, in the course of its deliberations on *FASB Statement No. 7*, that those who supply capital to companies in the development stage understand the special circumstances of those companies and the possibility that their financial statements will report losses and deficits. In connection with that project, the Board surveyed officers of 15 venture capital companies that provide capital to development stage enterprises (though not necessarily to oil and gas ventures). Those officers said that whether a development stage enterprise defers preoperating costs or charges them to expense has little effect on (a) the amount of venture capital to be provided to that enterprise and (b) the terms under which any venture capital is provided. That survey and related economic impact considerations were supported by a study conducted by the U.S. Department of Commerce, which is described in paragraph 50 of Statement No. 7.

166. Most proponents of full costing indicate that the reserve value ceiling on capitalized costs is an essential condition for use of that method. Except for those new companies that find relatively large quantities of proved reserves in their initial exploration efforts or that purchase interests in proved properties, it seems likely that many new exploration companies would be reporting operating losses and cumulative deficits under full costing as well as under successful efforts costing.

167. A few respondents to the Exposure Draft have said that their own companies' property acquisition and exploratory drilling programs would be sharply curtailed if they were forced to change from the full cost method of accounting to the successful efforts method. However, since the prospects of finding commercially recoverable reserves, the prices at which those reserves would be sold, the costs that would be incurred, and the income taxes that would be paid are totally unaffected by the method of accounting for the costs incurred, a decision not to go ahead with an otherwise commercially attractive project simply because successful efforts reporting is required would seem to be unlikely for the vast majority of companies. Conversely, a venture that is not otherwise commercially attractive does not become so simply because a particular method will be used to account for that venture in the company's financial statements. While a few respondents representing full cost companies did say that their companies would expect to reduce their exploration efforts because successful

efforts accounting would reduce reported earnings, other companies that use full costing have said that an FASB Statement mandating successful efforts accounting will not affect their exploration plans. For example, one such company has publicly stated that while a mandated change to successful efforts accounting would have a substantial effect on previously reported earnings, it would not change the value of the company's assets, its reserves, or its cash flow, and that the company had decided not to change its exploration program if successful efforts accounting is required.

168. In support of their claim that adopting the successful efforts method will impair their companies' ability to raise capital and thereby reduce exploration activity, some persons have said that in November 1971 the Federal Power Commission adopted its Order No. 440 (which supports the full cost concept) to stimulate the search for and development of new natural gas supplies. (Order No. 440 is described in paragraph 69 of this Statement.) The petitions for rehearing of that Order that were filed with the FPC in December 1971 alleged, among other things, that the Commission had failed to reach any conclusion on what was stated to be the primary factor resulting in issuance of Order No. 440—namely, how full cost accounting would provide a stimulus for companies under the FPC's jurisdiction to conduct a search for and develop new gas supplies. In its Order No. 440-A denying the request for rehearing, the FPC stated: "Since we concluded that full-cost accounting on its merits should be adopted, it is not necessary for us to proceed further and reach a finding as to whether the accounting, as such, would provide a stimulus to discover and develop new gas supplies." (The Federal Power Commission is now the Federal Energy Regulatory Commission, a part of the Department of Energy.)

169. Some advocates of full costing apparently feel that the securities markets, which bring together those who provide capital and those who seek it, will not understand financial results reported by the successful efforts method. They imply that investors' willingness to provide capital to a given company or industry is affected by that company's or industry's use of a particular method of accounting. However, a number of research studies indicate that the securities markets generally recognize and compensate for intercompany differences in accounting practices for the same or similar events and transactions. In a 1973 summary of the findings of the then-extant research, Stanford University Professor William H. Beaver noted: [9]

> The prevailing opinion in the accounting profession is that the market reacts naively to financial statement information. This view is reinforced by the anecdotal data of the sort described earlier, and by the obvious fact that the market is populated with several million uninformed, naive investors, whose knowledge or concern for the subtleties of accounting matters is nil. However, in spite of this obvious fact, the formal research in this area is remarkably consistent in finding that the market, at least as manifested in the way in which security prices react, is quite sophisticated in dealing with financial statement data.

170. The research undertaken at the Board's request to examine the effect of the oil and gas Exposure Draft on the market prices of common stock issued by both full cost and successful efforts companies (described in paragraph 93(a) of this Statement) corroborates that the securities markets are generally able to assimilate financial information and to understand the underlying economics of the oil and gas exploration and production industry. That study did not find statistically significant evidence that issuance of the Exposure Draft affected the market prices of common shares issued by full cost companies as compared to successful efforts

companies—except for some possible effect on the full cost companies during the week preceding and the week of issuance of the Exposure Draft, but the market soon adjusted, and evidence of a permanent or lingering effect was not found. (As noted in paragraph 93(a), the Board will undertake a similar study of the impact of this Statement following its issuance.)

171. The Board acknowledges that not all empirical evidence supports the view that the securities markets are entirely able to take into account the differences in accounting methods used by different companies. The studies referred to in paragraph 169 provide evidence only with respect to the securities markets as a whole; those researchers readily admit (and other research substantiates) the likelihood that decisions of individual investors in individual securities can be affected by accounting differences. As noted in paragraph 170, a Board-sponsored study found that the oil and gas Exposure Draft may have affected the prices of full cost companies' securities during the two weeks surrounding its issuance, though the effect was of brief duration. That finding supports the conclusions of other researchers that investors are sometimes unable to properly evaluate the impact of alternative accounting methods. Further, in situations in which accounting changes may have had a long-term effect on securities prices (as opposed to a temporary disruption), that result might well be viewed as an equitable adjustment of the cost of capital.[10]

172. Some respondents to the Exposure Draft said that adopting the successful efforts method and proscribing the full costing method would likely have anticompetitive effects and would be contrary to national economic or policy goals. Any national economic or policy goal that involves the use of data reported in or derived from financial statements can, in the Board's judgment, be best pursued if the relevant financial statements are prepared on a common basis, so that lenders, investors, government regulators, and others involved directly or indirectly in allocating capital can analyze and reach informed decisions on the basis of consistent and comparable financial data. To the extent that furtherance of competition in oil and gas exploration and production and the availability of increased capital resources to finance those efforts are perceived as national economic or policy goals and in the interest of the general public, those goals can best be fostered—and the likelihood of their attainment substantially increased—if all competitors disclose financial data in a marketplace free from the burdens of inconsistency, noncomparability, and misunderstanding, a marketplace in which risks and rewards are reported as objectively and as evenhandedly as possible.

173. Financial accounting should attempt to report the results of business decisions as nearly as those results can be determined in accordance with the accepted framework of accounting for all enterprises. If an enterprise's operations are subject to economic influences that are manifested in fluctuating earnings, financial statements should report those fluctuations and not obscure them. If the economic influences that affect an enterprise's operations are manifested in only minor fluctuations, that too should be portrayed. Otherwise, accounting is not evenhanded, for it fails to distinguish different characteristics of enterprises that investors may perceive as involving different risks. That evenhandedness becomes especially important for equitable allocation of capital. If financial reporting obscures differences that may be perceived as representing differences in risk or creates differences where none exist, it may contribute to channeling some capital into enterprises with expected returns and risks that are disparate—in effect, subsidizing the cost of capital to some companies at the expense of other companies.

174. As explained in paragraphs 157-173, the Board has not been presented with or able to obtain persuasive information indicating that adoption of successful efforts accounting and proscription of full costing will inhibit competition in exploration for and production of oil and gas reserves or in financing those activities. Indeed, the Board is of the view that, far from inhibiting competition, the removal of one or two significantly different optional alternative methods of accounting in similar situations will facilitate competition. The weight of the evidence before the Board is that independent oil and gas producing companies using successful efforts accounting do compete successfully and conduct effective exploration and production programs that they are able to finance through a variety of capital sources.

The "Cover" Concept Is Inconsistent with the Present Accounting Framework

175. Under the full cost method, all costs incurred in acquiring, exploring, and developing properties within a relatively large geopolitical cost center (usually a country or a continent) are capitalized when incurred as costs of obtaining whatever reserves have been found in that cost center as long as the aggregate capitalized costs do not exceed the aggregate value of those reserves. If the value of previously discovered reserves exceeds the aggregate unamortized capitalized costs, unsuccessful acquisition and exploration costs are said to be adequately "covered" by the value of the previously discovered reserves, and a loss need not be recognized. In other words, current failures are "covered" and are not reported to the extent of past successes. Further, an increase in the market prices of previously discovered reserves in a cost center can enhance the amount of "cover" and further delay recognition of failures (losses) in that cost center.

176. In the Board's judgment, the "cover" concept is inconsistent with the present accounting framework, and it also obscures risk (see paragraphs 149-156). Reserves that may have been discovered ten, twenty, thirty, forty, or more years ago by a company under completely different management, with very different technology, and in very different domestic and international economic and political circumstances, should not be used, as they are under the full cost method, to justify nonrecognition of current failures. Similarly, reserves located in, say, West Texas should not be used to "cover" unsuccessful acquisition and exploration efforts in Louisiana, Alaska, or Canada, or in the offshore U.S. waters.

Successful Efforts Is Comparable to Accounting in Other Extractive Industries

177. Although not usually labeled as such, successful efforts accounting generally is followed in extractive industries other than the oil and gas industry. Because of its wide acceptance in those industries, requiring it for all oil and gas producing companies is likely to bring about greater comparability of financial statements among companies in the various extractive industries.

The Matching Concept Does Not Justify Full Costing

178. Some persons contend that full costing is justified because a "better matching" of revenues and expenses is achieved if all costs incurred in acquisition, exploration, and development activities are amortized on a pro rata basis as total reserves are produced. Proponents of full costing argue that it is impossible to discover oil and gas reserves without incurring the costs of some unsuccessful acquisition, exploration, and development activities, and they sometimes compare those activities with manufacturing operations in which spoilage or breakage is unavoidable. They argue that "proper matching" requires that the costs incurred in unavoidable

unsuccessful efforts be accounted for as reasonable and necessary costs of successful efforts in the same way that the costs of unavoidable spoilage or breakage are accounted for as costs of good products.

179. Three pervasive principles by which revenues and expenses are matched are described in paragraphs 156-160 of *APB Statement No. 4,* as follows:

> *Associating Cause and Effect.* Some costs are recognized as expenses on the basis of a presumed direct association with specific revenue. . . recognizing them as expenses accompanies recognition of the revenue.
>
> *Systematic and Rational Allocation.* . . . If an asset provides benefits for several periods its cost is allocated to the periods in a systematic and rational manner in the absence of a more direct basis for associating cause and effect.
>
> *Immediate Recognition.* Some costs are associated with the current accounting period as expenses because (1) costs incurred during the period provide no discernible future benefits, (2) costs recorded as assets in prior periods no longer provide discernible benefits, or (3) allocating costs either on the basis of association with revenue or among several accounting periods is considered to serve no useful purpose.

180. A direct cause and effect justification for associating unsuccessful acquisition and exploration costs with revenues derived from successful activities has not been demonstrated. A direct cause and effect association can be said to exist between the costs of nonproductive fields and the revenues from reserves in productive fields, or between costs applicable to unsuccessful ventures and costs applicable to successful ventures, if there is a *reliable* association between total costs and reserves discovered as a direct result of incurring those costs. Only then could it be said that a cost gives rise to revenues, that is, causes revenues. Although some persons claim that *industry-wide* statistics indicate a general predictable relationship between total number of wells or total footage drilled and total reserves added, those relationships have not been constant, particularly over a relatively short period of time such as a year, and there can be no assurance that they will apply to the future. More importantly, to the best of the Board's knowledge no such relationship has been demonstrated to be predictable for an *individual company*. Accounting is done for individual companies, not for an industry as a whole, and for companies a direct association between finding costs and mineral reserves emerges only at the level of an individual property unit or within a given field or other localized geological structure. Even that association often is not evident at the time the costs are incurred, and that is when accounting decisions must be made.

181. Systematic and rational allocation likewise does not justify attributing unsuccessful acquisition and exploration costs to the results of successful activities. As *APB Statement No. 4* states, allocation of an asset's cost is justified "if an asset provides benefits for several periods." In the full costing versus successful efforts costing controversy, the question is not whether or how to allocate capitalized costs but which costs to capitalize.

182. The "immediate recognition" principle referred to in *APB Statement No. 4* is appropriate for unsuccessful acquisition and exploration costs. According to that principle, costs are associated with the current period as

expenses if they provide no discernible future benefits (for example, geological and geophysical costs) or, if previously capitalized, they no longer provide discernible benefits (for example, acquisition costs of abandoned properties). The application of the immediate recognition principle in this Statement is consistent with its application by the Board in other pronouncements. In paragraph 49 of *FASB Statement No. 2,* "Accounting for Research and Development Costs," for example, the Board stated that "the general lack of discernible future benefits at the time the costs are incurred indicates that the 'immediate recognition' principle of expense recognition should apply."

183. In *FASB Statement No. 2,* moreover, the Board considered and rejected the argument that research and development costs be capitalized when incurred and amortized on a company-wide basis. Paragraphs 51 and 52 state:

> 51. Enterprises undertake research and development activities with the hope of future benefits. If there were no such hope, the activities would not be conducted. Some persons take the position that the accounting treatment for research and development costs should be determined by considering in the aggregate all of the research and development activities of an enterprise. In their view, if there is a high probability of future benefits from an enterprise's total research and development program, the entire cost of those activities should be capitalized without regard to the certainty of future benefits from individual projects.
>
> 52. The Board believes, however, that it is not appropriate to consider accounting for research and development activities on an aggregate or total-enterprise basis for several reasons. For accounting purposes the expectation of future benefits generally is not evaluated in relation to broad categories of expenditures or an enterprise-wide basis but rather in relation to individual or related transactions or projects. . . .

Value Ceiling Is Subjective

184. Limiting capitalized costs to the estimated value of reserves, which is an integral part of the full cost method of accounting, requires estimation of reserve quantities, development costs, production costs, the timing of development and production, selling prices, and appropriate discount rates. The uncertainties inherent in those estimates and projections tend to make estimates of reserve values highly subjective, and estimates of value made by trained experts can differ markedly. Under the successful efforts method, the need to limit capitalized costs is much less crucial because the costs of unsuccessful efforts, which may represent a large part of the total capitalized costs under the full cost method, will have been charged to expense as incurred or recognized as a loss when the effort was determined to be unsuccessful.

Full Costing Does Not Represent Current Value on the Balance Sheet

185. Some persons contend that by using full costing, asset carrying amounts reported in the balance sheet will be closer to the current values of most companies' oil and gas reserves than they would under successful efforts costing. In the Board's judgment, however, under neither method do the costs to acquire, explore, and develop mineral properties indicate the *values* of reserves discovered. Those values change continually, depending on revisions of estimates of reserve quantities, development costs, production costs, income taxes, the timing of future development and production, selling prices, and appropriate discount rates. The capitalized costs,

however, do not change. Neither full costing nor successful efforts costing is intended to portray current values; both of those methods are based on historical costs.

The Ability to Manage Earnings Is Not Unique to Successful Efforts Accounting

186. Some proponents of full costing contend that the ability of management to subjectively influence reported earnings is reduced under full costing. In their view, under successful efforts accounting, management may be inclined to smooth or average periodic reported earnings by (a) deciding to delay final determination of the outcome of a project or to delay the write-off of an unsuccessful venture, thus postponing loss recognition, (b) incurring larger or smaller amounts of costs that are charged to expense as incurred, such as in exploration, and (c) postponing or moving forward the times at which such costs are to be incurred.

187. While a transaction-oriented accounting framework—which is the presently accepted framework—allows opportunities to postpone or accelerate earnings effects, those opportunities are not unique to the oil and gas industry. Nor are they unique to successful efforts accounting since full costing itself may be viewed as a method for averaging reported earnings over long periods of time. Most importantly, the Board does not believe that the potential actions described in the preceding paragraph should bear importantly on the accounting decisions confronting the Board in this project. Even if accounting results were to influence some managers' decisions, it does not follow that accounting standards should be designed to accomplish or prevent an action by management. That type of accounting standard would require a judgment by the Board as to which potential actions are desirable and which are undesirable. Accounting should evenhandedly report economic actions taken, regardless of motivation. Accounting should not obscure the effect of actions and events in order to prevent what some believe to be "uneconomic" actions.

Simplicity Is Not the Overriding Criterion for Selection of Accounting Method

188. Some persons advocate full costing on grounds that it reduces the amount of procedural and mechanical accounting work, thus saving time, effort, and cost in maintaining accounting records. They claim that since all costs incurred in acquisition, exploration, and development are capitalized, there is less need to make arbitrary cost allocations or to prepare separate computations of amortization on individual properties. The Board disagrees. Firstly, individual property records must be maintained for purposes of determining royalties, computing taxable income, and making management decisions to commit funds, abandon properties, and so forth, so the amount of additional effort that may be required under successful efforts accounting is not expected to be burdensome. More importantly, in the Board's judgment, accounting simplicity should not justify nonrecognition of losses at the time they are incurred.

Reasons for Specific Conclusions within the Successful Efforts Method

189. Paragraphs 142-188 set forth the Board's reasons for rejecting full cost accounting and accepting successful efforts accounting. As explained in paragraphs 111-119, however, there are many variations within the successful efforts method. Paragraphs 190-214 which follow explain the Board's conclusions regarding the principal variations considered.

Rejection of Area-of-Interest Approach

190. Some proponents of successful efforts accounting believe that a cost center (such as an area-of-interest) has a central role in accumulating certain types of prediscovery costs prior to the time that a reasonable determination can be made as to whether future benefits will result from having incurred those costs. They would capitalize some or all prediscovery costs relating to an area-of-interest until it is determined whether that area contains proved reserves. If it is determined that the area-of-interest does not contain reserves, the costs are written off and a loss is recognized. Even among proponents of the area-of-interest approach there are differences as to which prediscovery costs relating to an area-of-interest should be capitalized. Some proponents would capitalize prediscovery drilling costs but not G&G; others would capitalize the G&G as well. Other successful efforts proponents use a cost center only for computing amortization rates. They believe that the nature of a cost, and not the nature of a cost center, should be the primary consideration in the capitalize/expense decision (discussed further in paragraph 103).

191. The Board has adopted the latter view. Until discovery, delineation of the boundaries of a cost center such as an area-of-interest is arbitrary, and intercompany differences in defining cost centers are likely to be significant and unavoidable. Many years often elapse before reserves are discovered in an area-of-interest, if they are discovered at all. Thus, depending on the extent to which an area-of-interest proponent would capitalize prediscovery costs, exploration costs that have no identifiable future benefits may be carried forward as assets potentially for many years. The Board concluded that exploration expenditures that do not directly result in the acquisition of an asset having identifiable future benefits should not be capitalized simply because they fall within lines drawn on a map by individual companies, that is, lines drawn to circumscribe an area-of-interest or, as some would say, a project.

192. Some persons who advocate capitalization of all costs associated with an area-of-interest say that doing so is essential for financial statements to reflect the total "historical cost" of a project that ultimately proves successful. Many projects, however, do not ultimately prove successful, and determination of success or failure of an area-of-interest often takes a number of years. In the Board's judgment, periodic reporting of financial position and results of operations to investors and creditors is an overriding consideration that precludes the indefinite accumulation of costs of unknown future benefit. The Board reached a similar conclusion in *FASB Statement No. 2,* "Accounting for Research and Development Costs," in which the Board rejected the indefinite deferral of R&D costs on a project basis pending determination of success or failure of the project.

Charging G&G to Expense

193. This Statement requires that geological and geophysical costs, whether incurred before or after acquisition of the related property, be charged to expense when incurred. Those costs are information costs very much like research costs. To a considerable extent, G&G costs are incurred before any properties are acquired, and in the majority of cases the acreage surveyed is either never acquired or, if acquired, is ultimately abandoned or surrendered. It is difficult, and in many cases impossible, to correlate geological and geophysical expenditures with a specific discovery made many months or years later, even with the benefit of hindsight; such correlation clearly cannot be done at the time the G&G expenditures are incurred, which is when accounting decisions are made. For those reasons, the Board has concluded that G&G costs shall be charged to expense when incurred. While the costs of drilling stratigraphic test wells are sometimes considered to be

geological and geophysical costs, they are accounted for separately under this Statement for reasons explained in paragraphs 200-202.

194. In response to recommendations made by commentators on the Exposure Draft, this Statement makes clear that dry hole contributions and bottom hole contributions are included in exploration costs (paragraph 17(c)). Also, in response to comments on the Exposure Draft, paragraph 20 has been added to provide for capitalization of contractually reimbursable G&G and other exploration costs.

Charging Carrying Costs to Expense

195. Costs of carrying and retaining undeveloped properties do not increase the potential of those properties to contain oil and gas reserves. Carrying costs are incurred to *maintain* an enterprise's rights, not to *acquire* those rights. In a sense, they are penalties for having delayed drilling and development activities and, thereby, having delayed potential production of oil and gas. Because carrying costs do not enhance the future benefits from the enterprise's properties and other assets, they are charged to expense when incurred under the provisions of this Statement.

Charging the Costs of Drilling Unsuccessful Exploratory Wells to Expense

196. Charging the costs of drilling unsuccessful exploratory wells to expense is generally regarded as an inherent part of the successful efforts method of accounting. Not all successful efforts proponents agree, however, on what constitutes unsuccessful exploratory wells, and there is also disagreement over the timing of expense recognition. Under this Statement, success is defined in terms of whether proved oil and gas reserves have been found. As to timing, under this Statement the costs of drilling exploratory wells are initially capitalized when incurred and are subsequently either charged to expense or reclassified as part of the enterprise's wells and related equipment and facilities when the determination is made as to whether proved reserves have been found. Further, this Statement establishes guidelines for determining whether the costs of drilling exploratory wells may continue to be carried as an asset pending determination of whether proved reserves have been found.

197. Several alternatives regarding the timing of expense recognition are proposed by successful efforts advocates. Some persons, on grounds that the majority of all exploratory wells (73 percent for the U.S. as a whole in 1976) are unsuccessful, would charge all costs of drilling exploratory wells to expense when incurred, rather than regard them as "construction-in-progress" pending determination of success or failure. Some would subsequently "reinstate" the costs of drilling an exploratory well that is determined to have been successful. In the Board's judgment, however, reinstatement of costs previously charged to expense is inconsistent with generally accepted accounting principles for other industries. For example, the Board has previously rejected the notion of cost reinstatement with respect to research and development costs (paragraph 57 of *FASB Statement No. 2*). Consequently, the Board concluded that a method of accounting for oil and gas producing activities based on cost reinstatement is inappropriate.

198. 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.

199. 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 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.

Stratigraphic Test Wells Treated Similarly to Exploratory Wells and Development Wells

200. Stratigraphic test wells are drilled to obtain information. They are not normally intended to be completed for hydrocarbon production and are customarily abandoned after drilling is completed and the information is obtained. Normally, stratigraphic test wells are drilled offshore to determine whether an offshore property contains sufficient reserves to justify the cost of constructing and installing a production platform and to determine where to locate such a platform.

201. Under this Statement, stratigraphic test wells are divided into two types—exploratory-type and development-type—and the standards of accounting for the two types parallel the accounting for exploratory wells and development wells, respectively. Thus, an exploratory-type stratigraphic test well is accounted for in a manner similar to an exploratory well drilled in an area requiring a major capital expenditure before production could begin: The costs of drilling the exploratory-type stratigraphic test well are capitalized pending determination of whether proved reserves are found, subject to the condition that those costs not continue to be carried as assets indefinitely if stratigraphic test drilling activity in the area has ceased or if the quantity of reserves found would not justify completion of the well for production had it not been simply a stratigraphic test

well. The capitalized costs either are reclassified as part of the cost of the enterprise's wells and related equipment and facilities if proved reserves are found or are charged to expense if proved reserves are not found. Thus if an exploratory-type stratigraphic test well discovers reserves that are classified as proved and facilities are to be installed to produce those reserves, the cost of the exploratory-type stratigraphic test well is accounted for as part of the cost of the facilities even though the particular well itself may be abandoned. Accounting for the other type of stratigraphic test well—development-type—is identical to accounting for development wells and other development costs generally: capitalize as part of the cost of an enterprise's wells and related equipment and facilities (reasons therefore discussed in paragraph 207).

202. The method of accounting for exploratory-type stratigraphic test wells described in the preceding paragraph represents a change from the Exposure Draft, which had proposed that the costs of all stratigraphic test wells be charged to expense when incurred on grounds that they are similar to G&G costs. A number of respondents to the Exposure Draft pointed out that an important difference exists between the costs of stratigraphic test wells and G&G costs: G&G information, no matter how persuasive, does not provide sufficient evidence to classify reserves as proved; reserves are classified as proved only after an exploratory well or a stratigraphic test well has been drilled. Thus a stratigraphic test well can result directly in the discovery of proved reserves whereas information obtained from geological and geophysical studies cannot. Discovery of proved reserves establishes the existence of future benefits and justifies the continued capitalization of the costs of those stratigraphic test wells that find proved reserves. Because of the foregoing differences, the costs of exploratory-type stratigraphic test wells are more like the costs of drilling exploratory wells than they are like G&G costs. The Board agrees with that view, and this Statement reflects the appropriate modification from the Exposure Draft. Further, paragraph 34 provides for deferral of the costs of exploratory-type stratigraphic test wells that find commercially producible quantities of reserves, even though those wells cannot be used to produce the reserves. That provision reflects the realities and economics of offshore drilling. Producible exploratory wells often are prohibitively expensive in offshore waters, and offshore exploratory drilling generally involves nonproducible, expendable wells.

All Development Costs Capitalized

203. Under this Statement, discovery of oil and gas reserves is viewed as the single most critical event in the search for and extraction of oil and gas. Discovery of proved reserves establishes the existence of future benefits and justifies the capitalization of the costs of successful exploratory wells and exploratory-type stratigraphic test wells as amortizable assets. After discovery, development costs are incurred to obtain additional access to those proved reserves and to provide facilities for extracting, treating, gathering, and storing the oil and gas. Those development costs result in the creation of a producing system of wells and related equipment and facilities—a system much like the production system of a manufacturing company.

204. After discovery, all costs incurred to build that producing system, including the costs of drilling unsuccessful development wells and development-type stratigraphic test wells, are capitalized as part of the cost of that system under the provisions of this Statement. With respect to development dry holes, some persons take the position that no costs incurred in drilling a dry hole—exploratory or development—can provide future benefits, and therefore the costs of all dry holes, including development dry holes, should be charged to expense.

205. In the Board's judgment, however, there is an important difference between exploratory dry holes and development dry holes. The purpose of an exploratory well is to search for oil and gas. The existence of future benefits is not known until the well is drilled. Future benefits depend on whether reserves are found. A development well, on the other hand, is drilled as part of the effort to build a producing system of wells and related equipment and facilities. Its purpose is to extract previously discovered proved oil and gas reserves. By definition (Appendix C, paragraph 274), a development well is a well drilled *within the proved area* of a reservoir to a *depth known to be productive.* The existence of future benefits is discernible from reserves already proved at the time the well is drilled. An exploratory well, because it is drilled outside a proved area, or within a proved area but to a previously untested horizon, is not directly associable with specific proved reserves until completion of drilling. An exploratory well must be assessed on its own, and the direct discovery of oil and gas reserves can be the sole determinant of whether future benefits exist and, therefore, whether an asset should be recognized. Unlike an exploratory well, a development well by definition is associable with known future benefits before drilling begins. The cost of a development well is a part of the cost of a bigger asset—a producing system of wells and related equipment and facilities intended to extract, treat, gather, and store known reserves.

206. Moreover, because they are drilled only in proved areas to proved depths, the great majority of development wells are successful; a much smaller percentage (22 percent in the United States in 1976), as compared to exploratory wells (73 percent in the United States in 1976) are dry holes. Development dry holes occur principally because of a structural fault or other unexpected stratigraphic condition or because of a problem that arose during drilling, such as tools or equipment accidentally dropped down the hole, or simply the inability to know precisely the limits and nature of a proven reservoir. Development dry holes are similar to normal, relatively minor "spoilage" or "waste" in manufacturing or construction. The Board believes that there is a significant difference between the *exploration for* and the *development of* proved reserves. Therefore, in the Board's judgment, it is appropriate to account for the costs of development dry holes different from exploratory dry holes.

207. For similar reasons, the Board believes that the costs of development-type stratigraphic test wells should be accounted for as other development costs. Development-type stratigraphic test wells are drilled *after* proved reserves have been discovered, and they are drilled *within* the proved area, generally either to assess more accurately the quantity of reserves that has been found or to provide information as to where best to locate the production platform. The existence of future benefits is discernible from reserves already proved at the time the development-type stratigraphic test well is drilled. The costs of drilling the well are part of the costs of developing a system that will produce those reserves. In the Board's judgment, it is inappropriate to account for the costs of development-type stratigraphic test wells different from other development costs. As explained in paragraph 202, the method of accounting for stratigraphic test wells in this Statement represents a change from the proposal in the Exposure Draft as a result of comments made by respondents to the Exposure Draft.

Impairment Test for Unproved Properties

208. When unproved properties are acquired, their acquisition costs are capitalized when incurred. Whether the unproved property will ultimately provide future benefits—that is, whether it contains proved oil and gas reserves—is unknown at the time of acquisition. However, a *property right* is acquired. That property right,

and the underlying *right to search for and extract oil* and gas reserves, in themselves are in the Board's judgment a sufficient future benefit to justify capitalizing the acquisition cost of an unproved property at the time it is incurred. Because a purchase price has been paid, there is a presumption that the property right has an independent market value at the time equivalent to the purchase price. Thereafter, either as a result of unsuccessful exploration activities including those of other parties on nearby or adjacent properties or as the expiration of the property right approaches, the future benefits inherent in the right to search for and extract oil and gas in an unproved property may diminish or disappear entirely, with no offsetting benefits in terms of oil and gas discovered. Consequently, this Statement requires that unproved properties be assessed periodically and a loss recognized if those properties have been impaired. Many respondents to the Exposure Draft recommended that for practical reasons the Board should permit recognition of impairment of individually insignificant properties by amortizing their costs, either in the aggregate or by groups, on the basis of the experience of the enterprise and other information. This Statement reflects the appropriate modification of the Exposure Draft to permit amortization of individually insignificant properties.

Question of a Limitation Test for Proved Properties and Capitalized Exploration and Development Costs

209. As explained in paragraphs 190 and 191, a cost center is not the primary consideration in the capitalize/expense decision under the approach to successful efforts accounting adopted by the Board in this Statement. Under that approach, the assets to which the capitalized acquisition, exploratory drilling, and development costs relate are *properties, wells, equipment, and facilities.* The question of whether to write down the carrying amount of productive assets to an amount expected to be recoverable through future use of those assets is unsettled under present generally accepted accounting principles. This is a pervasive issue that the Board has not addressed. Consequently, this Statement is not intended to change practice by either requiring or prohibiting an impairment test for proved properties or for wells, equipment, and facilities that constitute part of an enterprise's oil and gas producing systems.

Unit-of-Production Amortization

210. Nearly all respondents to the Discussion Memorandum and the Exposure Draft favored unit-of-production amortization for capitalized acquisition, exploratory drilling, and development costs. There was some disagreement, however, as to the appropriate reserve categories on which to base amortization. Some persons favor using the same reserve categories for all amortizations. Within that group, some would use only *proved developed* reserves while others would use *all proved* reserves. Some who would use all proved reserves would include estimated future development costs in the amortization computation; others would use only actual costs incurred. Some persons would use different reserve categories for different types of capitalized costs.

211. The Board believes that using estimated future development costs to compute amortization rates introduces an unnecessary and subjective element into the financial accounting and reporting process. Only development costs incurred to date should be amortized. Further, in the Board's judgment, costs should be amortized on the basis of estimates of quantities of proved reserves to which those costs relate. Proved developed reserves, by definition, relate to the costs of wells and related equipment and facilities. Acquisition costs relating to proved properties, on the other hand, were incurred to obtain not only the proved reserves that are already developed but also those proved reserves remaining to be developed. Accordingly, this Statement

requires that acquisition costs of proved properties be amortized on the basis of all proved reserves, developed and undeveloped, and that capitalized exploratory drilling and development costs (wells and related equipment and facilities) be amortized on the basis of proved developed reserves.

212. Respondents to the Exposure Draft cited three important aspects of its provisions regarding unit-of-production amortization that, in their view, required clarification or modification. The Board agrees that clarification or modification is needed for each of those matters, and the following changes have been made in this Statement:

a. Paragraph 29 has been modified to permit reclassification from unproved to proved of only a portion of an unusually large property to which proved reserves have been attributed. The acquisition cost of the portion remaining as unproved will therefore not be subject to unit-of-production amortization, though it will continue to be subject to assessment for impairment.
b. Paragraph 35 has been modified to permit amortization of natural gas cycling and processing plants by other than the unit-of-production method if another method is deemed more appropriate in the circumstances.
c. Paragraph 35 has been modified to provide for exclusion of certain large front-end development costs that relate to an entire planned group of wells as a whole from immediate early amortization pending completion of drilling the additional wells; similarly, that paragraph now provides for exclusion from the amortization rate determination those proved developed reserves that will be produced only after significant expenditures are made.

213. Two principal approaches were considered by the Board for equating, in computing amortization rates, oil and gas that are jointly produced from a property or group of properties. One is to equate the oil and gas on the basis of their relative energy content—their heat content based on the British Thermal Unit (BTU). The other approach is to equate oil and gas on the basis of their relative sales values.

214. The relative energy content approach stresses the physical relationship of oil and gas. The relative sales value method is intended to emphasize their economic relationship. The Board rejected the relative sales value method principally because of problems in determining and using relative sales values. For example, because market prices of much of the oil and gas sold are regulated, sometimes with widely disparate prices prevailing for the same commodity and with relatively significant year-to-year fluctuations, the economic relationship as of a given date could be quite artificial and quite different from a similar determination made for the same reserves as of some prior or future date. Consequently, the Board rejected the relative sales value method.

Importance of the Definition of Proved Reserves

215. Under the provisions of this Statement, capitalization and asset classification decisions hinge on whether *proved* reserves have been found. For that reason, the definition of proved reserves in Appendix C of this Statement assumes great importance. That definition is the one set forth in the rules and regulations of the Securities and Exchange Commission. The Board chose that definition, rather than definitions proposed by others and rather than creating a definition of its own, because the SEC definition is already required to be used

in practice by oil and gas producing companies whose securities are publicly traded. The Board believes that conformity of the reserve definitions used in filings with the SEC, in information reported to the Department of Energy for the national energy data base, and in financial statements prepared in conformity with generally accepted accounting principles is desirable.

216. Under paragraph 11 of this Statement, properties are classified as either unproved or proved depending on whether those properties have proved reserves. Although some oil and gas producing companies currently make a developed/undeveloped or producing/nonproducing distinction among properties, in the Board's judgment *discovery,* rather than development or production, is the single most critical event in an enterprise's oil and gas producing activities. The Board recognizes that some companies presently refer to properties with no proved reserves as *undeveloped* or *nonproducing,* for disclosure purposes; conversely, some companies heretofore have referred to properties with proved reserves as *developed* or *producing* properties even though some or all of a property's proved reserves may not be developed or producing.

Information Available after the Balance Sheet Date

217. In response to questions raised in letters of comment on the Exposure Draft, paragraph 39 has been added to this Statement to clarify that information that becomes available after the balance sheet date but before the financial statements are issued shall be taken into account in evaluating conditions that existed at the balance sheet date, for example, in assessing unproved properties and in determining whether a well has found proved reserves. The Board believes that this position is consistent with the concepts in *FASB Statement No. 5,* "Accounting for Contingencies.

Mineral Property Conveyances and Related Transactions

218. Mineral property conveyances and related transactions may be classified according to their nature as a sale, a borrowing, an exchange of nonmonetary assets, a pooling of assets in a joint undertaking, or some combination thereof. In the Board's judgment, the accounting principles set forth in the authoritative accounting literature and otherwise generally accepted in current practice for similar transactions in other industries should apply to the oil and gas industry. Paragraphs 43 and 47 apply accepted accounting practices to some of the more common types of conveyances.

219. The transactions described in paragraph 43(a) are classified as borrowings because the funds advanced are repayable in cash or its equivalent. Although the purpose of advancing funds for exploration is to obtain future supplies, successful exploration is not assured, and to the extent production is inadequate to satisfy the obligation, the balance is payable in cash. Accordingly, the transaction is in substance a borrowing.

220. A production payment repayable in cash out of the proceeds from a specified share of production until the amount advanced has been recovered with interest (paragraph 43(b)), is in substance a borrowing. Some hold the view that the recipient of the advance has no liability except to the extent that oil or gas is produced and that, accordingly, the recipient should account for the advance as deferred revenue. The Board did not find that reasoning persuasive. Normally, the advances are made by banks (often through an intermediary) or by other

lenders under conditions that leave little doubt that the proved reserves are more than adequate to recover the funds advanced plus interest. The intent of the transaction is to obtain funds and not to sell oil or gas for future delivery. The recipient of the advance is at risk for any change in the price of oil or gas and for the cost of operating the property. The transaction is in substance a loan secured by reserves and is without recourse to other assets of the party receiving the advance. The reserves and production involved are reported by the recipient, not by the lender.

221. The Exposure Draft had proposed that neither gain nor loss be recognized at the time of conveyance if a part of an interest owned is sold and either (a) substantial uncertainty exists about recovery of the costs applicable to the retained interest or (b) the seller has a substantial obligation for future performance. While agreeing that because of those uncertainties recognition of a *gain* is not appropriate in those situations, some respondents to the Exposure Draft said that recognition of a *loss* should not be prohibited. The Board agrees, and paragraph 45 of this Statement prohibits only the recognition of a gain in those situations. In addition, the phrase "substantial obligation for future performance" in paragraph 45(b) has been expanded to include examples, as suggested by some respondents to the Exposure Draft.

222. A production payment to be satisfied by delivery of a specified quantity of oil or gas out of a specified share of production (paragraph 47(a)) is a sale for which income is not recognized because the earning process is not complete. The seller still has to perform the production and delivery function. Unlike the production payment payable in cash, the amount payable is not fixed, there is no specified or determinable rate of interest, and the risks of price changes rest with the purchaser rather than the seller. The purchaser, not the seller, reports the reserves and production because the substance of the transaction is the purchase of a mineral interest rather than the lending of cash.

223. In some transactions, the owner of an operating interest in an unproved property arranges for another party to assume some or all of the exploration, drilling, development, and operating obligations in return for a share of the rewards if those efforts are successful. This Statement addresses three types of such arrangements: (a) assignment of the operating interest with retention of a nonoperating interest in return for which the assignee assumes the drilling, development, and operating obligations (paragraph 47(b)); (b) assignment of a part of an operating interest in return for assumption by the assignee of the obligation to drill one or more exploratory wells at assignee's cost, after which the property is to be jointly owned and operated if the drilling is successful (paragraph 47(c)); and (c) a carried interest arrangement by which the assignee assumes all the exploration drilling and development risk in return for a fractional operating interest but recovers the cost incurred, if the venture is successful, before the assignor shares in the production from the property (paragraph 47(d)).

224. While the three types of conveyances described in the preceding paragraph have different features, in each instance one party has provided the property and the other party has agreed to incur certain high risk costs, and the benefits, if any, are to be shared in agreed proportions. The Board concluded that all those transactions represent a pooling of assets in a joint undertaking. The investment of each party in the joint operations consists of the carrying amount of the assets contributed by it. Each party will share in the resulting benefits, if any, according to the terms of the agreement. The cost of those benefits to the recipient is the amount of its investment. At the time of the transaction the earning process is incomplete and no gain or loss has been

realized by either party. Each party records only its own costs and revenues and does not make a reassignment of costs to reflect the interest that it obtains, or may obtain, in assets contributed by the other party. Each party looks upon its earning assets as those contributed by it.

225. Some support the view that when part of an interest in an unproved property is relinquished to obtain another type of interest in the same property or an interest in wells and equipment, both parties to the transaction should reassign the cost each has incurred so that their accounts will reflect some cost for each type of asset. The Board rejected that view because there is no true exchange of assets in this type of transaction. As stated above each party's earning assets are those contributed by it, and the carrying amounts of those assets should be retained at their historical cost.

226. In applying the above conclusions to carried interests, the Board recognizes that before payout a carried party will reflect no income and that at payout the carried party will own an interest in wells and related equipment and facilities, but its accounts will reflect only the original investment in the property. The Board believes, however, that the pooling concept best reflects the substance of the agreement between the parties. At the time expenditures are made it is not known whether payout will occur, and many carried interests, even in properties where production is obtained, do not pay out. The Board's conclusions in respect to accounting for this type of transaction are that a carried party has no revenue until payout and no cost of assets beyond the original leasehold cost; a carrying party's accounts reflect the investment, operating costs, and revenue that are at its risk or for its benefit; and the disclosures of reserves and production should be consonant with that basis of accounting.

227. Because an exchange of fractional operating interests in undeveloped mineral properties upon formation of a joint venture (paragraph 47(e)) is a nonmonetary exchange of similar productive assets, accounting as prescribed in *APB Opinion No. 29,* "Accounting for Nonmonetary Transactions," paragraph 21(b) is appropriate. In response to requests for clarification of gain or loss recognition in disproportional cost sharing arrangements paragraph 47(e) was expanded to provide that each party to a joint venture shall record its cost and that gain shall not be recognized if an interest in a property or other assets is acquired without cost or at a cost disproportionate to the interest acquired. This accounting is compatible with that prescribed for a free well or a carried interest.

228. The Board considered the transactions carried out to effect the unitization of oil and gas properties (paragraph 47(f)) to be a pooling of assets for which the earning process is incomplete. Unitizations result in a group of separate properties being combined and operated as a single property. Each participant normally has essentially the same quantity of oil and gas reserves immediately following the unitization as before. A payment of money to equalize the contributions of wells, equipment, and facilities does not in the Board's judgment change the substance of the transaction.

229. Paragraph 47(g) has been added to this Statement to clarify the appropriate accounting for the sale of an entire interest in an unproved property. Recognition of gain or loss on the sale of a property whose impairment has been assessed individually is consistent with accounting for the sales of assets generally. Nonrecognition of gain or loss on the sale of a property whose impairment has been assessed by amortizing its cost as part of a

group is compatible with the normal accounting for a partial retirement of assets subject to group depreciation; paragraph 47(g) also provides for recognizing gain when the sales price exceeds the original cost of the property sold, a circumstance that does not normally arise in the usual group depreciation situation for other types of assets.

230. The sale of a part of an interest in an unproved property for cash (paragraph 47(h)) is viewed by some as the sale of an asset that results in a gain or loss. The Board does not agree with that view. The objective of the parties in this type of transaction is generally to diversify risks and jointly participate in any future costs and benefits. Since this Statement requires continuing evaluation of unproved properties for impairment, no loss need be recognized as stemming directly from the sale of a fractional interest. The Board concluded that because of the uncertainty of the recovery of costs applicable to the interest retained in an unproved property, the transaction should be accounted for as a recovery of cost and that a gain should be recognized only to the extent that proceeds from the fractional interest sold exceed the carrying amount of the property. The proposal in the Exposure Draft has been revised to clarify the question of gain recognition if the unproved property in which part or all of an interest is sold is part of a group for which an impairment allowance is provided in the aggregate.

231. The risk of nonrecovery of the remaining cost is usually not significant if proved properties or parts of interests in proved properties are sold (paragraph 47(i)-(m)). Accordingly, the Board concluded that gain or loss should normally be recognized in those transactions consistent with other sales of capital assets.

232. Paragraphs 47(l) and 47(m) have been added to clarify that accounting for the sale of a property with retention of a production payment shall be compatible with the accounting for the sale of production payments with retention of the operating interest. A retained production payment expressed in money may sometimes be so large that it is highly improbable that the production payment will be satisfied before the reserves are fully depleted. In those situations, therefore, paragraph 47(l) provides that the retained production payment shall be treated as an overriding royalty interest rather than as a receivable or payable.

Disclosure

233. In establishing the disclosure standards in paragraphs 48-59 of this Statement, the Board relied on the following general guidelines:

a. The disclosures in financial statements do not and cannot include all information that may be needed for investment, credit, regulatory, or national economic planning and energy policy decisions, although the accounting standards established by this Statement should contribute importantly to the reliability and uniformity of financial data used in those types of decisions. Financial statements are intended to present fairly an enterprise's financial position, results of operations, and changes in financial position in conformity with generally accepted accounting principles. Thus, financial statement disclosures are those disclosures that are considered necessary for such a fair presentation. Criteria such as relevance, reliability, verifiability, freedom from bias, and comparability provide guidance in considering which disclosures are necessary for fair financial statement presentation.

b. Oil and gas producing companies currently disclose a considerable amount of information about their oil and gas producing activities in annual reports to shareholders, in published statistical summaries, in filings with the SEC, Department of Energy, and other regulatory agencies, and in other publicly available documents. Most of that information is currently presented outside the scope of the companies' financial statements. This Statement will result in some of that information being included in financial statements and, for many companies, will result in changes in the bases of preparing the information.
c. The disclosures required by this Statement relate only to those activities (acquisition, exploration, development, and production) for which this Statement establishes accounting standards; therefore, this Statement does not prescribe disclosures related to transporting, refining, and marketing of oil and gas or other activities of an oil and gas producing company.
d. As a general proposition, disclosures required for companies engaged in oil and gas producing activities should be similar to those required for companies in other industries.
e. As elaborated on in paragraphs 149-152, financial statements by themselves do not adequately portray the success of a company in finding and developing oil and gas reserves under either of the two historical cost methods of accounting for oil and gas producing activities—full costing or successful efforts costing. Under both methods, earnings are recognized at the time of sale, not at the time of discovery or production. Therefore, an important objective of the disclosures included in financial statements prepared by either of those historical cost methods should be to help the user of those statements relate a company's *efforts* (in terms of costs incurred in searching for and developing oil and gas reserves) and *accomplishments* (in terms of reserves discovered and developed).
f. The disclosure requirements must be consistent with and derived from the accounting standards established by this Statement. That is, a principal purpose of the disclosures should be to aid in understanding of the information *shown* in the financial statements of an oil and gas producing company. The disclosures should not be designed to present information that *might have been shown* in the financial statements had different accounting standards been established by this Statement.

Disclosures in Interim Financial Statements

234. This Statement does not require that the disclosures of reserve quantities and of acquisition, exploration, development, and production costs be included in interim financial statements, though they are required in annual financial statements. The Board reached that conclusion principally because problems in gathering data of that type on a timely basis become especially acute at interim reporting dates and, for some companies, the costs of that effort may be unduly burdensome. The Board presently has on its agenda a project on interim financial reporting in which the nature and extent of disclosures in interim financial statements are issues.

Disclosure of Information about Reserves

235. Most of the respondents to the Discussion Memorandum and most of the interviewees in the research effort described in paragraph 90(a) of Appendix A said that information about quantities of oil and gas reserves is essential to understand and interpret the financial statements of an oil and gas producing company. Many felt that reserve information is the single most important type of disclosure that could be required of an oil and gas producing company. They said that discovery of reserves is the critical event in the oil and gas production cycle and that reserves and changes in reserves are key indicators of the success of a company. In general, the Board agrees with those views. None of the methods of accounting considered by the Board in this project, not even

discovery value or current value accounting, would, in the Board's judgment, result in financial statements that would not need to be accompanied by disclosures of reserves and reserve changes. This Statement requires disclosure of information with respect to a company's oil and gas reserves.

236. The Board does not agree with the view, expressed by some, that mineral reserve information is not accounting information and, if disclosed at all, should not be included in financial statements. Those who take that position argue that while reserve information may indeed be important, it is too subjective, too frequently revised, too unreliable, too "soft" to be reported in financial statements. In the Board's judgment, however, certain reserve information has the qualities of verifiability, reliability, freedom from bias, comparability, and the like to a sufficiently reasonable degree to warrant its inclusion in financial statements. Accordingly, the Board concluded that reserve information is so helpful and essential to an understanding of the financial position, results of operations, and changes in financial position of an oil and gas producing company that the added relevance of the financial statements from including the information more than compensates for the lack of precision of estimates of reserves.

237. The Board considered the following broad areas of disclosure of information regarding oil and gas reserves:

a. Disclosure of reserve quantities:
    i. Estimated reserve quantities, by categories and types of reserves.
    ii. Changes in estimated reserve quantities, by categories and types of reserves.
    iii. Other disclosures relating to estimated reserve quantities, such as geographic locations, ownership characteristics, quality of reserves, and unusual risks and uncertainties.
b. Disclosure of reserve values:
    i. Estimated value of reserves.
    ii. Changes in estimated reserve values.
c. Description of assumptions and difficulties in estimating quantities or values of oil and gas reserves.

Disclosure of Reserve Quantities

238. This Statement relies on estimates of proved reserves and proved developed reserves for a number of capitalization and amortization determinations, and for the reasons discussed in paragraphs 235 and 236 disclosure of quantities of those categories of reserves, and of changes in those quantities, is required. In the Board's judgment, the constraints imposed on the estimator by the definitions of proved reserves and proved developed reserves in paragraph 271 of Appendix C will keep the subjectivity of the estimates to an acceptably low level for financial reporting purposes.

239. Reserve increases that result from successful exploration and development efforts and from purchases of minerals-in-place, net of decreases from production and sales of minerals-in-place, represent the *physical* expansion or contraction of the quantity of the company's reserves from the beginning to the end of the period. Revisions of previous estimates, on the other hand, represent a change to the quantity that was *perceived* to have existed at the beginning of the period. The categories of changes in reserve quantities required to be separately reported by paragraph 51 are intended to reflect those differences. Some respondents to the Exposure Draft

disagreed with the inclusion of changes in reserves resulting from application of improved recovery techniques among other additions; they pointed out that such changes are normally classified by industry practice as revisions of previous estimates. This Statement reflects a change from the Exposure Draft in response to the foregoing concerns. Paragraph 51 provides for separate disclosure of changes resulting from improved recovery techniques if significant and for inclusion of those changes as revisions of previous estimates if not significant. Also, in response to comments on the Exposure Draft, paragraph 50 provides for exclusion of reserves relating to royalty interests owned if the reserve information is not available to the royalty owner. Also, paragraph 54(c) reflects a modification of the Exposure Draft to provide for separate disclosure of the investor's share of oil and gas reserves owned by an investee accounted for by the equity method.

240. Because enterprises' interests in foreign oil and gas reserves are affected by political, economic, and environmental risks and considerations that are often significantly different from the risks associated with domestic reserves, this Statement requires that reserve quantities and changes in them be reported separately for each geographic area in which significant reserves are located. That requirement comports with the conclusions of the Board in *FASB Statement No. 14*, "Financial Reporting for Segments of a Business Enterprise," which requires that the financial statements of a company that operates in different geographic areas report certain key information by geographic area.

241. Some persons propose that disclosure be required of estimated future development costs relating to proved undeveloped reserves. In the Board's view, disclosure of cost projections of that nature and tentativeness should not be required in financial statements of oil and gas producing companies. The question is not unique to the oil and gas industry—indeed, the whole area of disclosure of forecasts is unsettled. To provide some indication of the extent to which development of proved reserves has been accomplished, paragraph 50 requires the separate reporting of year-end quantities of proved developed reserves. Further, the Board believes that estimates of reserves that are not classified as proved but that are regarded as probable reserves or possible reserves are too subjective to be required for inclusion in financial statements. Some persons have suggested that disclosure of those quantities be required.

242. Some foreign governments have nationalized or otherwise taken over, in whole or in part, certain properties in which oil and gas producing companies previously had mineral interests. Some of those interests have been converted into long-term supply, purchase, or similar agreements with the foreign government or a government authority. In some countries, oil and gas producing companies can obtain access to oil and gas reserves only through such agreements, and not through direct acquisition of a traditional type of mineral interest in a property. If an oil and gas producing company participates in the operation of a property subject to such an agreement or otherwise serves as "producer" of the reserves from the property, it is the Board's judgment that the reserve quantities identified with, and quantities of oil or gas received under, agreements with foreign governments or authorities should be disclosed in the company's financial statements. In view of the different nature of those agreements, however, paragraph 53 requires that those reserve quantities be separately reported from the company's regular proved reserves. The fact that the reserves are available to the company under agreements that differ from domestic agreements does not justify excluding those reserves from the accounting and disclosure provisions of this Statement as long as the foreign agreements, in substance, represent the right to *extract* oil and gas.

243. Although the Exposure Draft had proposed to include in an investor's reserve quantities, for purposes of the disclosures required by paragraphs 50-56 of this Statement, the investor's share of reserves owned by an investee accounted for by the equity method, some respondents to the Exposure Draft pointed out that the investor's financial statements do not include the investee's individual assets, liabilities, revenues, or expenses. They questioned therefore the propriety of including the investee's reserves in the investor's. The Board is persuaded that the better approach is not to commingle the investee's and investor's reserves in the investor's disclosures but, rather, to require separate disclosure of the investee's reserves at year-end. Paragraph 54(c) reflects the revised requirement.

244. Some persons believe that information about ownership characteristics (for example, whether reserves are owned in fee, by domestic lease agreement, or by concession from a foreign government) and about quality of reserves (for example, sulphur or paraffin content or specific gravity) should accompany disclosure of reserve quantities. Because of differences from property to property in those types of characteristics, for many companies the disclosures either would be so broad and general that they would be of little or no value to financial statement users or they would be so detailed and voluminous that they could overwhelm or confuse financial statement users rather than inform them. Consequently, the Board believes that explanations of that type should not be required in general purpose financial statements. For similar reasons, this Statement does not require a description of the assumptions used and difficulties involved in estimating quantities of oil and gas reserves.

Disclosure of Reserve Values

245. The fact that the Board rejected both discovery value and current value as bases of accounting for oil and gas reserves did not, of itself, mean that the Board automatically had rejected estimated reserve values as additional financial statement disclosures. The Board viewed the use of estimated reserve values as the basis of accounting for oil and gas producing companies and the disclosure of estimated reserve values as part of the financial statements of those companies as separable decisions, although, of course, many common considerations are involved.

246. The measurement problems discussed in paragraph 133 were important reasons for not requiring disclosure of estimated reserve values, as they were for not accepting discovery value or current value accounting. They were not, however, the only reasons.

247. As noted in paragraphs 138 and 140, various bases of accounting measurement, including both historical cost and current value measurements, are under consideration as part of the Board's conceptual framework project. The Discussion Memorandum on "Financial Accounting and Reporting in the Extractive Industries" did raise issues relating to methods of valuing mineral reserves. Relatively few respondents supported the use of discovery value or current value accounting or the disclosure of estimated reserve values, and the Board received only limited response to the valuation issues. The Board has decided not to resolve those issues for the limited purpose of this Statement.

248. The SEC's consideration of whether replacement cost disclosures or other reserve value disclosures can

be applied to mineral resource assets (discussed in paragraphs 82 and 96 of Appendix A to this Statement) is another reason that led the Board to reject disclosure of estimated reserve values at this time. The Welsch and Deakin study (paragraph 82) has two fundamental conclusions: that the replacement cost concept of SEC *Accounting Series Release No. 190* is not relevant to oil and gas reserves and that the preferred surrogate for replacement cost is a present value method that the study calls "Equivalent Purchase Cost." In its June 15, 1977 letter transmitting that study to the SEC, though, the American Petroleum Institute, sponsor of the study, stated:

> We see in the Equivalent Purchase Cost method many of the deficiencies which caused the research team to conclude that replacement cost is not relevant with respect to oil and gas reserves. The theoretical cost of a stream of future income fails to recognize that revenue sources cannot be replaced in kind and that they will originate in different environments with characteristics substantially different from the current revenue stream.
>
> The large majority of our Accounting Committee members cannot support this method on the grounds that the data provided would make little, if any, contribution to an investor's understanding of the economics of the business and, indeed, could be misleading.

249. In *Securities Act Release No. 5837,* dated June 20, 1977, the Commission stated:

> The Commission's staff has recently received, and is currently reviewing, the results of the research study together with recommendations of the American Petroleum Institute. No comments are being solicited on the disclosure of current value and current cost data until the evaluation of the American Petroleum Institute project is completed.

250. On October 26, 1977, in *Securities Act Release No. 5878,* the Commission proposed to rescind the requirement in ASR No. 190 that certain registrants disclose replacement cost information about their mineral resource assets employed in oil and gas producing activities and, instead, to require registrants with mineral resource assets employed in oil and gas producing activities to disclose, in filings covering fiscal years ending on or after December 25, 1978, information based on the present value of future net revenues from estimated production of proved oil and gas reserves. The Commission has asked that comments on the proposal be submitted by March 31, 1978.

251. The FASB will be holding a public hearing beginning January 16, 1978 on the broad subject of accounting measurement, including the question of whether one or more of the various types of "current value" measurements should be reported in financial statements of companies generally.

252. The Board believes, therefore, that a decision as to whether reserve value information should be required to be included in financial statements should await consideration of the comments on the SEC proposal referred to in paragraph 250 and the written submissions and oral presentations in connection with the public hearing referred to in paragraph 251.

Disclosure of Capitalized Costs and of Costs Incurred

253. The disclosures of capitalized costs (paragraph 57) and of costs incurred (paragraphs 58 and 59) are

intended to complement the disclosures of reserve quantities and changes therein. The reserve quantity disclosures are an indicator of *accomplishment.* Capitalized costs and costs incurred provide an indication of *effort.*

254. Reserves are considered the focal point for assessing *accomplishment* because of the importance of discovery as the most critical event in the oil and gas production cycle and of development as the next most important event. Similarly, *effort* is much more a function of incurring costs than it is a function of disbursing cash. As a consequence, the disclosures required by paragraphs 58 and 59 include not only expenditures for acquisition, exploration, development, and production but also the *depreciation* of support equipment and facilities that are *used* in those activities. It is not the *purchase* of seismic equipment or a drilling rig, for example, but rather the *use* of that seismic equipment and the drilling rig in exploration and development activities that is an indication of effort. Thus, as paragraph 58 points out, exploration, development, and production costs include the *depreciation* of the seismic equipment and drilling rig but exclude the *expenditures* to acquire that equipment. Likewise, it is the incurrence of acquisition, exploration, and development costs that best indicates effort in terms of *finding and developing reserves.*

255. The Exposure Draft had proposed to require certain special disclosures for a rate-regulated company that, under the Addendum to *APB Opinion No. 2,* follows an accounting policy that involves capitalizing or amortizing costs on a basis different from that otherwise required by this FASB Statement. Since the Exposure Draft, the Board has begun work on a project that involves reconsideration of the Addendum to *APB Opinion No. 2.* Because the question of special disclosures such as those proposed in the Exposure Draft will be considered as part of that project, the Board has determined not to require the special disclosures that had been proposed.

Disclosure of Other Functional and Operating Data

256. Some persons propose that aggregate revenues and expenses for oil and gas producing activities be disclosed in financial statements. In the Board's view, a serious doubt exists as to whether those aggregate revenue and expense disclosures will contribute to an understanding of an enterprise's profitability as reflected in its financial statements. Many oil and gas producing companies do not derive revenue from oil and gas producing activities but rather from the sale of refined oil and gas products. For those companies, even if practicable, information about the results of operations of oil and gas producing activities standing alone, without similar information for the company's transportation, refining, and marketing activities and for its other operations, would represent only a fragment of the overall picture of the company.

257. Moreover, under the provisions of *FASB Statement No. 14,* the combined activities of acquisition, exploration, development, and production are not considered to be an industry segment of an integrated oil and gas company. Paragraph 10(a) of that Statement defines an industry segment as a "component of an enterprise engaged in providing a product or service or a group of related products and services *primarily to unaffiliated customers* (i.e., customers outside the enterprise) for a profit." (Emphasis added.) That paragraph goes on to say that "by defining an industry segment in terms of products and services that are sold primarily to unaffiliated customers, this Statement does not require the disaggregation of the vertically integrated operations of an enterprise." The Board reconsidered that decision as part of its project on the extractive industries and concluded

that *FASB Statement No. 14* should not be amended to apply to oil and gas producing companies a disclosure requirement not required of companies in other industries.

258. For the reasons in paragraphs 256 and 257 this Statement does not require disclosure of functional data for oil and gas producing activities beyond the disclosures of capitalized costs and of costs incurred.

259. The Board considered various types of operating data as possible financial statement disclosures, in addition to the required disclosures relating to reserve quantities, including gross and net undeveloped acreage, gross and net productive acreage, and gross and net producing wells and well completions, and has concluded that those disclosures need not be included for a fair presentation of financial position, results of operations, and changes in financial position in conformity with generally accepted accounting principles.

Accounting for Income Taxes

260. This Statement reaffirms the conclusion of *FASB Statement No. 9* that oil and gas producing companies should apply interperiod income tax allocation, as described in *APB Opinion No. 11*, for all timing differences, including those relating to intangible drilling and development costs. *FASB Statement No. 9*, which this Statement supersedes, had permitted companies to recognize the interaction of book/tax timing differences with an anticipated future excess of statutory depletion over cost depletion in applying interperiod income tax allocation. As indicated in paragraph 16 of *FASB Statement No. 9*, the question of whether interaction should be recognized was left unresolved by the Accounting Principles Board in *APB Opinion No. 11* and was not addressed by the Financial Accounting Standards Board in *FASB Statement No. 9*. Although recognition of interaction was permitted by *FASB Statement No. 9*, it was not required. This Statement prohibits the recognition of interaction.

261. The Board has rejected the concept of interaction for several reasons. First, an excess of statutory depletion over the amount of cost depletion otherwise allowable as a tax deduction becomes a benefit only when it is actually realized via income tax deduction. The interaction concept anticipates the possible future benefit by recognizing it as a reduction of book income tax expense in advance of realization. In the Board's judgment, the uncertainties described in the next paragraph make it inappropriate to anticipate the possible future tax benefit in advance of realization.

262. Statutory depletion was eliminated or virtually eliminated for many companies by the *Tax Reduction Act of 1975* and was substantially reduced for many other companies by that Act. Further reductions are scheduled under that Act and subsequent legislation. Also, the law imposes certain limitations to statutory depletion that depend on future production, future sales prices, and future costs, all of which are difficult to estimate but which must be estimated if interaction is to be recognized. The uncertainties identified in this paragraph cause serious concern about anticipating tax benefits from future statutory depletion.

263. Moreover, the interaction concept is inconsistent with the deferred method of income tax allocation described in paragraphs 19 and 34-37 of *APB Opinion No. 11*. Although the recognition of interaction is consistent, in some respects, to the "partial allocation" theory discussed in paragraphs 26-28 of that Opinion, the

APB rejected the partial allocation theory in favor of comprehensive income tax allocation by the deferred method (paragraphs 29-32 of that Opinion).

264. The concept of interaction is, essentially, a "cover" concept: Deferred income taxes that otherwise relate to *current* period pretax accounting income need not be recognized to the extent of offsetting possible *future* income tax benefits from excess statutory depletion. The Board has expressly rejected the "cover" concept in reaching certain decisions in this Statement (see paragraphs 175 and 176) and in *FASB Statement No. 8*, "Accounting for the Translation of Foreign Currency Transactions and Foreign Currency Financial Statements" (see paragraphs 174-180 of that Statement).

Effective Date and Transition

265. This Statement was made effective for fiscal years beginning after December 15, 1978 to allow an oil and gas producing company sufficient time to gather the necessary data, modify its accounting systems, and otherwise prepare for transition to the accounting standards established by this Statement. The Exposure Draft had proposed a June 15, 1978 effective date; the change to December 15, 1978 is intended to give all companies at least one year to prepare for the change and to explain any impact it may have to investors and creditors. Voluntary adoption of the provisions of this Statement prior to its effective date is not prohibited by this Statement.

266. For several reasons, the Board has concluded that the provisions of this Statement should be applied retroactively by restating the financial statements of prior periods. First, unlike FASB pronouncements that deal with a comparatively narrow accounting question, the standards established by this Statement prescribe the fundamental basis by which the financial statements of an oil and gas producing company shall be prepared. Moreover, because many variations of successful efforts accounting have heretofore been applied in practice, this Statement is likely to have an impact on the financial statements of a great many oil and gas producing companies, not just those companies presently using the full cost method. In the Board's judgment, because of the magnitude and pervasiveness of the impact of this Statement, restatement will result in the most meaningful and comparable financial statements of all oil and gas producing companies.

267. Further, in paragraph 27 of *APB Opinion No. 20,* the Accounting Principles Board cited a change to or from the full cost method of accounting in the extractive industries as one of three special types of changes in accounting principle that should be reported by applying retroactively the new method in restatements of prior periods.

268. The Board recognizes that some companies may encounter some difficulties in accumulating the necessary data or in making after-the-fact estimates or judgments to apply the provisions of this Statement retroactively. The Board believes, however, that the added interperiod and intercompany comparability thus obtained outweighs any cost-saving advantages of prospective application or the cumulative effect method. Further, because of (a) the diversity of cost capitalization and amortization practices heretofore followed by both full cost and successful efforts companies and (b) the fact that amortization of some previously capitalized costs could continue for ten, twenty, thirty, forty, or more years, the Board concluded that prospective application of

the standards established by this Statement is inappropriate.

269. With regard to some of the restatement problems cited by some respondents to the Exposure Draft, paragraph 64 points out that a provision of this Statement that would not have a significant effect on prior years' financial statements need not be retroactively applied. Also, in response to questions raised in letters of comment on the Exposure Draft, paragraph 64 allows the use of "hindsight" information in making the retroactive restatements except that reserve estimates should not now be revised in retrospect.

Appendix C: GLOSSARY

270. This glossary defines certain terms as they are used in this Statement.

271. The definitions of categories of reserves used in this Statement are those set forth in the regulations of the Securities and Exchange Commission: [11]

> *Proved reserves.* Those quantities of crude oil, natural gas, and natural gas liquids which, upon analysis of geologic and engineering data, appear with reasonable certainty to be recoverable in the future from known oil and gas reservoirs under existing economic and operating conditions. Proved reserves are limited to those quantities of oil and gas which can be expected, with little doubt, to be recoverable commercially at current prices [12] and costs, under existing regulatory practices and with existing conventional equipment and operating methods. Depending upon their status of development, such proved reserves are subdivided into "proved developed reserves" and "proved undeveloped reserves."
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> *Proved developed reserves.* Reserves which can be expected to be recovered through existing wells with existing equipment and operating methods. Proved developed reserves include both (a) proved developed *producing* reserves (those that are expected to be produced from existing completion intervals now open for production in existing wells) and (b) proved developed *nonproducing* reserves (those that exist behind the casing of existing wells, or at minor depths below the present bottom of such wells, which are expected to be produced through these wells in the predictable future, where the cost of making such oil and gas available for production should be relatively small compared to the cost of a new well). Additional oil and gas expected to be obtained through the application of fluid injection or other improved recovery techniques for supplementing the natural forces and mechanisms of primary recovery should be included as "proved developed reserves" only after testing by a pilot project or after the operation of an installed program has confirmed through production response that increased recovery will be achieved.
>
> *Proved undeveloped reserves.* Reserves which are expected to be recovered from new wells on undrilled acreage, or from existing wells where a relatively major expenditure is required for recompletion. Reserves on undrilled acreage shall be limited to those drilling units offsetting productive units, which are reasonably certain of production when drilled. Proved reserves for

other undrilled units can be claimed only where it can be demonstrated with certainty that there is continuity of production from the existing productive formation. Under no circumstances should estimates for proved undeveloped reserves be attributable to any acreage for which an application of fluid injection or other improved recovery technique is contemplated, unless such techniques have been proved effective by actual tests in the area and in the same reservoir.

272. The following is the definition of a *field* used in this Statement:

Field. An area consisting of a single reservoir or multiple reservoirs all grouped on or related to the same individual geological structural feature and/or stratigraphic condition. There may be two or more reservoirs in a field which are separated vertically by intervening impervious strata, or laterally by local geologic barriers, or by both. Reservoirs that are associated by being in overlapping or adjacent fields may be treated as a single or common operational field. The geological terms "structural feature" and "stratigraphic condition" are intended to identify localized geological features as opposed to the broader terms of basins, trends, provinces, plays, areas-of-interest, etc.

273. The foregoing definition of a field relies, in turn, on the definition of a reservoir. The following definition shall be used for purposes of this Statement:

Reservoir. A porous and permeable underground formation containing a natural accumulation of producible oil or gas that is confined by impermeable rock or water barriers and is individual and separate from other reservoirs.

274. For purposes of this Statement, the following definitions of wells shall be used:

Exploratory well. An exploratory well is a well that is not a development well, a service well, or a stratigraphic test well as those terms are defined below.

Development well. A development well is a well drilled within the proved area of an oil or gas reservoir to the depth of a stratigraphic horizon known to be productive.

Service well. A service well is a well drilled or completed for the purpose of supporting production in an existing field. Wells in this class are drilled for the following specific purposes: gas injection (natural gas, propane, butane, or flue gas), water injection, steam injection, air injection, salt-water disposal, water supply for injection, observation, or injection for in-situ combustion.

Stratigraphic test well. A stratigraphic test is a drilling effort, geologically directed, to obtain information pertaining to a specific geologic condition. Such wells customarily are drilled without the intention of being completed for hydrocarbon production. This classification also includes tests identified as core tests and all types of expendable holes related to hydrocarbon exploration. For purposes of this Statement, stratigraphic test wells (sometimes called "expendable wells") are classified as follows:

1. *Exploratory-type stratigraphic test well.* A stratigraphic test well not drilled in a proved area.
2. *Development-type stratigraphic test well.* A stratigraphic test well drilled in a proved area.

275. The term *proved area* is used in the foregoing definitions of development well, exploratory-type stratigraphic test well and development-type stratigraphic test well. As used therein, a *proved area* is the part of a property to which proved reserves have been specifically attributed.

Footnotes

FAS19, Footnote 1--Often referred to in the oil and gas industry as "lease and well equipment" even though, technically, the property may have been acquired other than by a lease.

FAS19, Footnote 2--While the costs of drilling stratigraphic test wells are sometimes considered to be geological and geophysical costs, they are accounted for separately under this Statement for reasons explained in paragraphs 200-202.

FAS19, Footnote 3--Costs of unproved properties are always subject to an assessment for impairment as required by paragraph 28.

FAS19, Footnote 4--The carrying amount of the interest retained shall continue to be subject to the assessment for impairment as required by paragraph 28.

FAS19, Footnote 5--A retained production payment denominated in money is not a mineral interest (see paragraphs 11(a) and 43).

FAS19, Appendix B, Footnote 6--Ginsburg, Feldman and Bress, Attorneys for Ad Hoc Committee (Petroleum Companies), *Comments of the Ad Hoc Committee (Petroleum Companies) on Full Cost Accounting,* File No. S7-464, presented to the Securities and Exchange Commission, 14 March 1973, p. 31.

FAS19, Appendix B, Footnote 7--Porter, Stanley P., *"Full Cost" Accounting: The Problem It Poses for the Extractive Industries* (New York: Arthur Young & Company, 1972), p. 6.

FAS19, Appendix B, Footnote 8--FASB Discussion Memorandum, "Conceptual Framework for Financial Accounting and Reporting: Elements of Financial Statements and Their Measurement," December 2, 1976, paragraph 4.

FAS19, Appendix B, Footnote 9--Beaver, William H., "What Should Be the FASB's Objectives?", *The Journal of Accountancy,* August 1973, pp. 49-56.

FAS19, Appendix B, Footnote 10--The contradictory conclusions of the various studies on accounting and securities prices and the implications of those conclusions are discussed in considerable depth in *Tentative Conclusions on Objectives of Financial Statements of Business Enterprises*, which was issued by the Board in December 1976. A number of specific studies are cited in Chapter 2, "Investors and Creditors," of *Tentative Conclusions;* additional studies are identified in the bibliography of the extractive industries Discussion Memorandum. Chapter 2 of *Tentative Conclusions* discusses both the traditional view of investors' and creditors' information needs (which concentrates on analysis of individual securities and enterprises that issue them) and the more recent capital market theory (which concentrates on portfolios and the extent to which individual securities increase or decrease the level of risk of a portfolio). An appendix to *Tentative Conclusions* provides an even more technical discussion of recent capital market theory.

FAS19, Appendix C, Footnote 11--Adopted May 12, 1976, in Securities Act Release No. 5706, which deals with disclosure of estimates of oil and gas reserves in registration statements, proxy statements, and reports filed with the Commission.

FAS19, Appendix C, Footnote 12--The term *current prices* is elaborated on by the SEC in *Securities Act Release No. 5837* as follows: "Current prices include consideration of changes in existing prices provided by contractual arrangements, by law, or by regulatory agencies, where applicable; and for changes in prices for gas to be produced subsequent to termination or expiration of existing contracts, which latter prices should be based on current prices plus escalation for similar production subject to the entity's or other entities' recent contracts." The term "escalation" is further elaborated on in *SEC Release No. 5877* as follows: "The 'escalation' referred to in these releases is limited to specific escalation provisions in recent contracts. Escalations to reflect future price expectations are not permitted."