

1973

**Accounting and reporting practices in the oil and gas industry,
prepared by the Accounting Principles Board Committee on
Extractive Industries**

American Institute of Certified Public Accountants. Committee on Extractive Industries

Follow this and additional works at: https://egrove.olemiss.edu/aicpa_guides



Part of the Accounting Commons

JUL 28 1977

Accounting and Reporting Practices in the Oil and Gas Industry

Prepared by the Accounting Principles Board Committee on Extractive Industries

**Members of the Committee on Extractive Industries
as of May 31, 1973.**

Joseph P. Cummings — Chairman
Peat, Marwick, Mitchell & Co.

Albert J. Bows
Arthur Andersen & Co.

John E. Cooper
Coastal States Gas Producing Company

Newman T. Halvorson
Ernst & Ernst

Louis M. Kessler
Alexander Grant & Company

Oral L. Luper
Exxon Company, U.S.A.

Eugene J. Minahan
Atlantic Richfield Co.

David Norr
First Manhattan Co.

TABLE OF CONTENTS

HISTORY OF APB ACTIVITIES

Introduction	3
Purpose of This Document	3
APB Involvement	3
The Committee's Approach and Deliberations ..	3
Basic Concepts	4
The Cost Center Question	4
Nature of Prediscovery Costs	4
The Committee's Concept of the Cost Center ..	5
Proposed APB Opinion	5
Actions of Federal Power Commission	5
Development of Tentative Conclusions	6
Public Hearing	7
Subsequent Deliberations of APB and Committee	7
Summary	9

ALTERNATIVE CONCEPTS – FULL COST AND SUCCESSFUL EFFORTS

Full Cost Method	10
Successful Efforts Method	12

COMPARISON OF THE FULL COST AND SUCCESSFUL EFFORTS METHODS

The Cost Center	13
Preacquisition Costs	14
Prediscovery Costs	15
Post-Discovery Costs	17
Disposition of Capitalized Costs	17
Income Tax Allocation	20

ADDITIONAL PROBLEMS

Development Stage Companies	24
Consolidated Statements	24
Purchased Oil and Gas Reserves	25
Leases Purchased for Resale	25

DISCLOSURE OF OIL AND GAS RESERVES AND OPERATING ACTIVITIES

26

History of APB Activities

INTRODUCTION

In March 1972 the American Institute of Certified Public Accountants published a study titled *Establishing Financial Accounting Standards* (Wheat Committee Report). The recommendations contained in the Wheat Committee Report, among other matters, provided for the creation of a Financial Accounting Standards Board (FASB) to replace the Accounting Principles Board (APB). In anticipation of AICPA Council approval of these recommendations the Planning Committee of the APB in April 1972 reviewed the topics on their agenda and concluded that major long-term projects, such as accounting for marketable securities, accounting for extractive industries, and capitalization of leases, would not be pronounced on by the APB.

PURPOSE OF THIS DOCUMENT

The APB Committee on Extractive Industries, as presently structured, has had numerous meetings, met with industry groups, and held a public hearing. The purpose of this document is to provide the FASB with a summary of the Committee's research in accounting for the oil and gas industry. In addition, this document contains a summary of the two prevalent accounting methods in the oil and gas industry and the various alternative practices within each method.

APB INVOLVEMENT

The APB became involved in the study of accounting practices in the extractive industries with the formation of the Committee on Extractive Industries in 1968. It should be noted, however, that prior to the issuance of Accounting Research Study No. 11, the Committee was for the most part inactive. The current efforts of the Committee began in late 1970. The APB's charge to the Committee at that time was to determine the appropriate accounting practices with the intent of narrowing the different accounting practices in the extractive industries. In addition to internal meetings, the activities of the Committee included trips to oil fields, meetings with industry groups, and presentations by persons considered expert in various aspects of the oil and gas industry.

THE COMMITTEE'S APPROACH AND DELIBERATIONS

The Committee's approach was to divide the total study of accounting in the extractive industries into four phases. Phase I (oil and gas industry) involved the determination of the cost center, accounting for prediscovery costs, accounting for post-discovery costs, disposition of capitalized costs, and the disclosure of supplementary information in financial statements; Phase II (oil and gas industry) involved accounting

for differences between taxable income and pre-tax accounting income arising from intangible development costs and other differences created by Phase I; Phase III (oil and gas industry) involved treatment of carved-out production payments, treatment of properties acquired subject to production payments, and various specialized situations (amounts subject to refund, sales of fractional interests, etc.); and Phase IV involved extractive industries other than oil and gas. Until the time the Wheat Committee Report was published, the Committee had discussed Phases I and II.

BASIC CONCEPTS

Throughout the Committee's deliberations it became increasingly clear that there exists in practice two basic concepts or philosophies regarding accounting in the oil and gas industry; namely, full-cost accounting and successful efforts accounting. The basic concept of the full-cost method is that all costs, productive and non-productive, incurred in the search for oil and gas reserves should be capitalized and amortized to income as the total oil and gas reserves are produced and sold. The basic concept of the successful efforts method is that all costs which of themselves do not result directly in the discovery of oil and gas reserves have no future benefit in terms of future revenues and should be expensed as incurred. It was equally clear that the application of the two concepts in practice varies to such an extent that there are in fact numerous different methods of accounting. The various alternatives available under each method and a detailed discussion of full-cost accounting and successful efforts accounting are presented beginning on page 10.

The two basic issues which represent the major differences between the two methods are concerned with the cost center and the treatment of certain costs which are unique to the oil and gas industry, such as geological and geophysical costs, property acquisition costs, carrying costs, and unsuccessful exploratory drilling costs (referred to as prediscovey costs). Disagreement about the cost center is primarily with regard to size, whereas disagreement with regard to prediscovey costs is concerned with whether or not all or any portion of such costs should be capitalized.

THE COST CENTER QUESTION

Accumulation or grouping of costs into cost centers is essential in the oil and gas industry in order to obtain a consistent and logical matching of revenues and costs. The importance of the cost center, however, is to a large degree dependent upon how one views the relationship of the cost center to the capital/expense decision as it relates to prediscovey costs. For instance, those who advocate the successful efforts method hold the view that, except for property acquisition costs, prediscovey costs do not result directly in future revenues and therefore should be expensed as incurred. Those who hold this view believe that the capital/ex-

pense decision should be based on the nature of the cost rather than its association or nonassociation with a cost center. Those who advocate full-cost accounting, however, would argue that future revenues are not possible without first having to incur such costs and, because such costs are incurred in anticipation of discovering oil and gas reserves and they are essential to the ultimate discovery of oil and gas reserves, they should be capitalized in their entirety.

The size of the cost center is also important since it affects the matching process in two ways: one, in the amount of costs which are associated with the cost center, and two, in the amount of periodic amortization computed on capitalized costs. If it can be assumed that only those costs which can be related to the cost center should be deferred and amortized, it is clear that as the size of the cost center increases, more and more costs can be related to the cost center and should be deferred. As to amortization, assuming that unit-of-production is the appropriate method, the larger the cost center the more oil and gas reserves that will be includable in the base for purposes of computing periodic amortization.

The Committee considered cost centers on the basis of geographic regions, political units (i.e., counties, states, and countries); legal or property acquisition units (i.e., leases and concessions); organization units (i.e., operating or administrative units within a company); and geological areas. The Committee concluded that the appropriate cost center was one which could be defined geologically. It was felt that a geologically defined cost center has the natural subsurface characteristics related to the occurrence of oil and gas reserves and would produce the best matching of costs and revenues. The conclusion of the Committee was that the field¹, because of the size and reasonably exact boundaries, represented the most appropriate cost center of the geologically defined alternatives.

NATURE OF PREDISCOVERY COSTS

After numerous discussions regarding prediscovey costs, the Committee concluded that prediscovey costs are capital in nature and, to provide a proper matching, prediscovey costs which could be directly associated with oil and gas reserves should be capitalized and amortized to income as the related oil and gas reserves

¹The Committee defined the field as "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."

were produced and sold.

The Committee's conclusion as to the field effectively banned the full-cost method of accounting. Although cost centers used by full-cost companies vary considerably, they are all very broad and considerably larger in area than a field. The Committee's conclusion regarding the nature of prediscovery costs was not a great deal different from the views of those who support full-cost accounting. Advocates of both full-cost accounting and successful efforts accounting believe, as did the Committee, that geological and geophysical costs, property acquisition and carrying costs, and exploratory dry holes are a necessary part of exploratory activities, and because of the high risks inherent to the industry, it is inevitable that a portion (probably a large portion) of these costs never result directly in the discovery of oil and gas reserves. Whereas full-cost advocates would argue that all exploratory costs are part of the cost of the total reserves found, the Committee could not accept the notion that totally unproductive costs in a particular geographical area were related to reserves discovered in another possibly distant geographical area. Hence, the Committee chose the field as the cost center because of their belief that the field had reasonably exact boundaries and the characteristics of size necessary for a meaningful matching of costs and revenue. In addition, the Committee felt that the field would produce consistent and objective results and would express the causal relationship between exploratory effort and reserves discovered better than the other alternatives available.

THE COMMITTEE'S CONCEPT OF THE COST CENTER

Although the Committee supported the field as the most appropriate cost center for cost accumulation and amortization purposes, this did not represent an endorsement of the successful efforts method or the conclusions reached by Robert E. Field in Accounting Research Study No. 11.

The Committee considered the cost center to be a vehicle by which costs resulting in the discovery of oil and gas reserves would be accumulated and would provide a basis for the logical and orderly amortization of costs which were associated with the cost center. Although those who advocate the successful efforts method would, for the sake of achieving greater uniformity, be willing to recognize the field as the cost center, they do have a different attitude toward the purpose of the cost center. It is their belief that the cost center should be for the purpose of grouping costs for amortization purposes and that the cost center should in no way influence the capital/expense decision. They feel that the cost center should be small and most would agree that the field is the largest acceptable cost center. Their belief is that each cost should be separately evaluated, not in terms of associating them with a particular cost center, but in terms of

their direct contribution to providing future revenues. Thus, they look to the nature of the expenditure to determine if it is successful or unsuccessful. In their view, the decision to capitalize or expense costs does not depend on their association with a cost center per se; it is based on whether or not the costs contribute to future revenues.

PROPOSED APB OPINION

The initial attempt to define the cost center was in August 1971 when the Committee drafted a proposed APB Opinion dealing only with the cost center. The proposed opinion recommended the field as the cost center and effectively banned the full-cost method of accounting. This proposed opinion met with substantial opposition from certain companies in the industry. The accounting staff of the Securities and Exchange Commission, although taking no exception to the Opinion, expressed some reservations about the timing of the proposal. In arriving at its conclusion, the Committee was primarily influenced by the size of the cost center chosen by those who used the full-cost method. The Committee felt that large cost centers would tend to obscure the relative success of different companies in finding oil and gas reserves and would result in a broad averaging which, in the view of the Committee, was incongruous to the matching process. This draft opinion was discussed at the September 1971 APB meeting at which time the Board concluded that it was not appropriate to issue an opinion limited to the cost center. The Board then directed the Committee to prepare a paper for interested persons setting forth tentative conclusions on Phase I. This paper was intended to stimulate active participation at the public hearing which was scheduled for November 1971.

ACTIONS OF FEDERAL POWER COMMISSION

The attempt to issue an opinion limited to the cost center was heavily influenced by certain accounting changes which were proposed by the Federal Power Commission. The FPC on October 5, 1970 issued a notice of proposed rulemaking proposing to adopt full-cost accounting for Classes A, B, C and D Natural Gas Companies. The AICPA and the APB urged the Commission to delay action until the Board had completed its recommendation regarding full-cost accounting and the cost center. The AICPA and the APB pointed out the controversial nature of the subject and the possibility that the Board could come to a conclusion contrary to that of the Commission. The Board informed the Commission that Opinions of the APB are binding upon the accounting profession and that departures therefrom require certifying accountants to either qualify their opinion or make certain other disclosures. The Board believed that it was in the best interest of the investing public to have accounting principles of the profession and regulating commissions coincide as much as possible, especially where rate-making was

not involved. The Commission, however, on November 5, 1971, issued Order No. 440 which adopted full-cost accounting on a nationwide basis in the Uniform System of Accounts for Class A, B, C and D Natural Gas Companies. The major provisions of the Order provided for: adopting full-cost accounting retroactive to October 6, 1969; applying the full-cost method to leases acquired subsequent to October 6, 1969 while retaining the old accounting for leases acquired prior to that date; adopting the country (including Alaska) as the cost center; and amortizing write-downs necessitated by the fair value limitation over five years.

DEVELOPMENT OF TENTATIVE CONCLUSIONS

Responding to the APB's instructions to develop tentative conclusions for the public hearing, the Committee again considered the questions of the cost center and the capital/expense decision as it related to prediscovey costs. After deliberations, the Committee reaffirmed its conclusion that the field was the most appropriate cost center and that prediscovey costs which could be directly associated with oil and gas reserves should be capitalized and amortized to income as the related oil and gas reserves were produced and sold. The capital/expense decision would, therefore, be a determination of whether or not prediscovey costs were associated with the cost center.

Having again concluded that the field was the most appropriate cost center, the Committee then considered the problem of how prediscovey costs should be associated with the cost center. The objective was to define a method of association which would be both logical and consistent and provide a proper matching of costs and revenues. Determination of revenues in the oil and gas industry for the most part present no unusual problems. Sales of carved-out production payments, properties subject to take-or-pay contracts, etc., give rise to revenue recognition problems; however, these are not normal to the usual situation of recording revenue when the oil and gas are produced and sold. Also, most post-discovery costs can be readily identified with a specific field. However, the nature of prediscovey costs is such that, as a general rule, direct identification with specific oil and gas reserves is not readily ascertainable. The problem, therefore, is one of determining which prediscovey costs should be deferred and matched with future revenue.

In determining a method of associating prediscovey costs with the field, the Committee of necessity had to be somewhat arbitrary. The Committee decided that preacquisition geological and geophysical costs should initially be deferred and then allocated to "areas-of-interest."² That portion allocated to areas of non-interest would be written off to income as that determination was made. The costs allocated to the areas-of-interest would then be associated with any

field discovered in the area-of-interest with no intermediate association with property rights and with no portions allocated to the nonproductive areas. There are numerous alternative methods of allocating preacquisition geological and geophysical costs to a field. For example, allocate costs to areas-of-interest and then to property rights acquired with either (1) no allocation to the area where property rights were not acquired or (2) allocation to property rights and the remainder of the area-of-interest on some basis. The choice of the Committee for associating acquisition costs with a field was also from among many alternatives.

It should be noted that the problem of allocation resulted from the Committee's choice of the field as the most appropriate cost center and its view as to the nature of prediscovey costs. For instance, if a larger cost center had been chosen, more prediscovey costs could be directly associated with oil and gas reserves in the cost center. In general, as cost centers get larger, the problem of allocation gets smaller. For example, if the world were chosen as the cost center, all prediscovey costs would be related to the total oil and gas reserves discovered. By contrast, if the individual well were chosen as the cost center, allocation of geological and geophysical costs (both preacquisition and post-acquisition), acquisition costs, etc., would be very difficult and, of necessity, somewhat arbitrary. After deciding on the field, had the Committee taken the view of many that prediscovey costs (except for acquisition costs) should be expensed as incurred, the cost center would then become primarily a cost accumulation center for amortization purposes and use of the field in lieu of the lease would probably have little effect on profit and loss. The Committee, however, chose to view prediscovey costs as capital in nature and viewed the cost center as having influence over the capital/expense decision and by so doing created the problem of allocation.

In addition to allocation problems, the Committee also faced a problem of valuation. The Committee concluded that geological and geophysical costs, property acquisition costs, and carrying costs should be capitalized in the balance sheet pending the determination of whether or not they could be associated with a field. Because of the time lag between incurrence of prediscovey costs and identification of oil and gas reserves, significant amounts of such costs could build up in the balance sheet. The Committee foresaw this possibility and provided for a periodic evaluation of such costs on a property by property basis. Recognizing the difficulty involved where there are numerous individual properties, the Committee provided for overall evaluations where individual evaluations were not possible.

² This is a term of art in the industry for which a precise definition is not available. *Accounting Problems in the Oil and Gas Industry* by W. B. Coutts, F.C.A., concludes that the "area-of-interest" is the most appropriate cost center.

Here again, the problem of valuation was magnified as a result of the Committee's choice of cost center and views as to predisclosure costs.

PUBLIC HEARING

The tentative conclusions of the Committee regarding the cost center and pre-discovery costs were incorporated in a document "Accounting and Reporting Practices in the Petroleum Industry" along with tentative conclusions on post-discovery costs, disposition of capitalized costs, and disclosure of supplementary data.³ The document was distributed to interested persons in October 1971 and served as the discussion paper for the public hearing held in November 1971.

The public hearing on Phase I of the APB's study of extractive industries was held on November 22 and 23, 1971 in New York. A total of eighty-nine position papers and letters of comment were received and thirty-four oral presentations were heard. Practically everyone submitting papers or oral presentations objected to the approach taken by the Committee. The majority of those who appeared or presented position papers supported the full-cost method of accounting and suggested to the Committee and the APB that full-cost accounting be either adopted as the only method of accounting in the oil and gas industry or be allowed as an equally acceptable alternative. Although those advocating full-cost accounting outnumbered those advocating successful efforts, it should be noted that the so-called major companies, with one exception, advocated successful efforts accounting. At the public hearing those who advocated or supported full-cost accounting objected to the limitation in the size of the cost center which, for all practical purposes, banned the full-cost method as presently practiced. Those who advocated the successful efforts method also took exception to the tentative conclusions of the Committee regarding the influence of the cost center on the capital/expense decision and to the capitalization of costs which, in their view, were associated with an unsuccessful effort. There were other objections; however, the above objections represented the major issues which were before the Committee.⁴

SUBSEQUENT DELIBERATIONS OF APB AND COMMITTEE

At the December 1971 meeting the APB recognized the need for further study of the two basic concepts.

³In summary, the other conclusions were: exploratory dry holes should be expensed as incurred and reinstated if it was subsequently determined to be in a field; intangible development costs on successful wells should be capitalized; unsuccessful development wells should be capitalized; capitalized costs should be amortized on an individual field basis using the unit-of-production method; there should be some limitation placed on capitalized costs (no specific recommendation); and the guides for disclosure set forth in ARS No. 11 recommendations 16-19 should be followed.

Also, at that meeting some sentiment was expressed by certain members of the APB for approving alternative definitions of the cost center. Extractive industries were briefly discussed at the January 1972 meeting, at which time the Board instructed the Committee to submit new proposals at the March 1972 APB meeting.

The Committee met in February and March to reconsider its tentative conclusions and address the major issues which were raised at the public hearing. At those meetings it was concluded that the APB could not at that time ban the full-cost method; therefore, the Committee, with a view toward compromise to both the full-cost advocates and successful efforts advocates, began to discuss various alternatives. The Committee did not want to recommend two methods of accounting; therefore, after exploring several proposals, the Committee proposed one method of accounting and two alternative cost centers — the field and the country. The Committee also discussed Phase II of the original plan of action and developed some tentative conclusions regarding income tax allocation.⁵

The Committee discussed again the nature of predisclosure costs and decided to retain the basic approach to predisclosure costs that was taken prior to the public hearing with the exception of exploratory dry holes which, for those using the field, would be expensed with no reinstatement. The alternative cost center, the country, was intended to accommodate those who supported the full-cost method.

The Committee felt that the country would limit the grouping of costs and revenues of totally dissimilar oil and gas reserves and, at the same time, recognize the full-cost concept. It was recognized that a certain amount of change would be necessary for those using the full-cost method; however, they felt that the new approach would generally be acceptable to those in the industry who advocated full-cost accounting.

The objections raised by advocates of the successful efforts method were sustained only to the extent of exploratory dry holes. Again, with a view toward compromise, the Committee decided that, although there was only one method of accounting, the cost centers were sufficiently different that certain differences regarding predisclosure costs could be tolerated without condoning alternative methods of accounting.

⁴Objections other than those for full-cost or successful efforts as to principle are summarized as follows: no one advocated the reinstatement of exploratory dry holes; it was felt that valuation of individual nonproducing leases would be very subjective and result in income management; and unsuccessful development wells should be expensed rather than capitalized.

⁵The Committee concluded that (1) percentage depletion in excess of cost depletion is a permanent difference requiring no tax allocation; (2) intangible development costs on successful wells are permanent differences, and (3) other differences are timing and require income tax allocation. The APB in an informal vote agreed with conclusions (1) and (3) and were split as to conclusion (2).

The major areas of difference between the advocates of the successful efforts method and the revised Committee conclusions (other than the cost center) were geological and geophysical costs, property acquisition costs, and carrying costs. The Committee had previously decided that geological and geophysical costs should be capitalized only if they were associated with a cost center; however, the Committee was also aware that companies using the field would ultimately expense a large portion of geological and geophysical costs because they would not be associated with a field. The conclusion was then reached that geological and geophysical costs should be written off as incurred based on individual company experience of the portion which ultimately would not be associated with a field. Geological and geophysical costs not written off would be deferred and those which were expected to lead to the acquisition of property rights, again based on individual company experience, would be accounted for as property acquisition costs. For those using the field, this conclusion was inconsistent with the initial conclusion to associate geological and geophysical costs with the cost center with no intermediate association to properties acquired. The Committee had made a concession to those using the field which departed from the basic conclusion that prediscovery costs are capital by nature.

As to property acquisition costs, the Committee concluded that they should be included in the cost center at such time that it could be determined they were associated with the cost center. For those using the country, this presented little problem; acquisition costs would be associated with the country and would be subject to immediate amortization along with other costs associated with the country. Because of the time lag between incurrence of acquisition costs and identification of a field, those using the field could not immediately identify the allocable portion of acquisition costs which should be associated with the cost centers. Those who supported the successful efforts method at the public hearing had advocated amortization of property acquisition costs. The Committee's initial reaction to this proposal was that it was inconsistent with their views on geological and geophysical costs and could result in leveling of income. Under the new approach, however, the Committee decided that such amortization was not inconsistent since full-cost companies were subjecting acquisition costs to immediate amortization. The Committee's conclusion was that those using the field as the cost center should amortize property acquisition costs to income on some logical and systematic method. At the time a field was discovered, the total gross acquisition costs directly related to that field should be capitalized as part of the cost center. The Committee concluded that carrying costs should be treated the same as the property acquisition costs to which they related. This conclusion, except for amortization on the same basis as property acquisition costs,

was the same as the initial conclusion before the public hearing and did not conform to the views of those who supported successful efforts.

The Committee prepared a questionnaire setting forth the new approach of one method of accounting with two alternative cost centers and presented it to the APB at the March 1972 meeting. The informal vote of the APB was for purposes of guiding the further efforts of the Committee and the result indicated that the majority, in general, agreed with the new approach of one method of accounting with two alternative cost centers. The new thinking of the APB was reported in the March 14, 1972 Accounting Research Association Newsletter along with the new charge to the Committee to prepare a draft APB Opinion for consideration at a future APB meeting. As might be expected, those who supported the successful efforts method strongly opposed the new tentative conclusions. In summary, their position was that the APB had, in effect, approved two methods of accounting; they did not particularly object to two methods so long as one method was the successful efforts method as practiced in the industry. They pointed out that use of the country in lieu of the field as an alternative cost center would produce such divergent results that there would be no comparison among companies using the different cost centers. They also stated that if the APB were not to achieve industry-wide consistency, they saw little reason to force arbitrary consistency on all companies with respect to the capital/expense decision. Companies using the successful efforts method apparently felt that they were asked to substantially change their method of accounting to a method that was not known to be used by any company in the industry, whereas, in their view, the full-cost companies were not asked to make such drastic changes.

The Committee met again on April 11, 1972 to prepare a plan to comply with the APB's charge to draft an opinion. At this meeting the Committee considered the views expressed in the letters received in response to the ARA Newsletter and, in addition, discussed several other problems associated with implementing the new conclusions. Most important, the Committee assessed the question of whether or not they were, in effect, proposing two methods of accounting. The consensus of the Committee at that meeting seemed to be that the field and country would produce such different results that the proposal of one method and two cost centers was actually two methods. It was during this meeting that the major proposals of the Wheat Committee were released. Although the proposals were, at that time, very tentative, the Committee decided that they should receive approval from the full Board before proceeding with drafting an opinion. As previously stated, the Wheat Committee Report was ultimately adopted and the subject of extractive industry dropped from the APB agenda.

SUMMARY

The Committee's research, although not completed to the point of final conclusion, does serve as a link between the recommendations in Accounting Research Study No. 11 and present practice in the industry. All attempts by the Committee to find the one theoretically best method of accounting in the oil and gas industry met with vehement resistance from either one or both of the factions supporting the alternative methods of

accounting. The results of the aborted attempts to find one method of accounting also make it clear that the major issue is whether or not the two basic methods of accounting for the oil and gas industry should be allowed as equally acceptable alternatives. A thorough understanding of each method is essential to an appreciation of the complex problem facing anyone attempting to narrow differences to the point where there is only one method of accounting.

Alternative Concepts - Full-Cost and Successful Efforts

In the previous section of this document a brief summary of the full-cost and successful efforts methods of accounting was presented. This section contains a complete discussion of the two methods and the next section explains some of the major alternative applications which exist in theory and in practice. The two concepts are defined in detail and are followed in the next section by a discussion of the application of the two concepts to the selection of a cost center, accounting for preacquisition costs, accounting for prediscovery costs, accounting for post-discovery costs, disposition of capitalized costs and income tax allocation.

FULL-COST METHOD

Full-cost accounting provides for capitalizing all costs incurred in obtaining an asset and for amortizing those costs over the useful life of the asset. This method of accounting involves capitalizing all productive and non-productive costs incurred in finding oil and gas reserves. The amounts capitalized under this concept include all leasing, acquisition, carrying, geological, geophysical, exploration, development and other such costs, together with that portion of general and administrative expenses which can be directly related to exploration and development activities (such as the expenses of the land and exploration departments). Under this con-

cept all of these costs are considered to be necessary and unavoidable in the process of finding oil and gas reserves.

Costs capitalized under the full-cost method are amortized to income on an overall unit-of-production basis. Operating costs, general and administrative expenses applicable to current production and general corporate matters and other costs related to current production are charged to expense as incurred.

Those who advocate the full-cost method support their position as follows:

- Full-cost accounting accords with the economic facts of the oil and gas industry. The success of a company engaged in exploration for and production of oil and gas is measured primarily by its ability to discover oil and gas reserves. In the search for oil and gas reserves, a company typically makes investments in many different ventures in widespread areas. These investments are made with the full expectation and knowledge that many of the individual ventures will be fruitless and will eventually be abandoned. The expectation, however, is that success in certain ventures will recoup all expenditures and, in addition, provide an eventual profit. The costs incurred in all ventures, both successful and unsuccessful, are as necessary to the discovery of oil and gas reserves as direct costs are to the manufacture of a product. To separate explora-

tion and development costs into categories by type of expenditure and then expense certain categories would result in a misrepresentation of the economic facts of the industry.

Management knows that the costs of unsuccessful ventures must be recovered from the income of successful ventures; therefore, in evaluating the results of exploratory effort, management does not relate mineral reserves found only to costs of productive ventures. In deciding which areas to explore for oil and gas and in determining amounts to invest in the search, management is constantly studying, according to areas-of-interest and on a company-wide basis, the results of its exploration efforts by relating the oil and gas reserves found to the total costs of finding them. In other words, management views the costs of oil and gas reserves discovered in terms of the overall exploratory effort and total costs incurred.

Although there is no direct relationship between exploration costs incurred and the oil and gas reserves discovered, there is a logical relationship in that oil and gas reserves cannot be found without first incurring such costs. The proponents of the full-cost method do not contend that unsuccessful costs add value to the oil and gas reserves. Rather, they contend that without incurrence of these costs, the values that are already there could not be obtained. The question is not whether these expenditures result in added value of the oil and gas reserves, but whether they should be considered as part of the cost of finding the reserves that do have value.

- Full-cost accounting provides more meaningful financial statements. The primary assets of an oil and gas company are the underground oil and gas reserves — not the individual wells drilled to producing horizons. Since there is no known way to avoid unsuccessful costs in the exploratory effort, the cost of drilling dry holes and the cost of other nonproductive exploration activities is a necessary part of the cost of discovering and developing the oil and gas reserves. These costs should be capitalized since they are just as much a part of the cost of the oil and gas reserves found as is the tangible equipment on the producing wells.

Amortization of the total costs on a pro rata basis as the oil and gas reserves are produced results in a more meaningful income statement by improved matching of costs with the related revenues. Full-cost accounting avoids the results sometimes encountered under successful efforts accounting whereby a successful company with an active exploration program may report losses by charging a significant portion of its exploration costs to current operations, while an unsuccessful company may show profits because it is depleting its mineral reserves without an exploration program to replace them. This, of course, presupposes that success is measured by the level of oil and gas reserve discoveries.

- Full-cost accounting permits better comparison among companies in the industry. Financial statements prepared on the basis of full-cost accounting show the appropriate cost of oil and gas properties and reflect income based on a proper matching of those costs with related revenues. Such financial statements, when presented along with information regarding changes in the recoverable oil and gas reserves, permit ready comparison of the cumulative and current results of the exploration programs and the costs of discovering and developing oil and gas reserves.

The views of those who oppose full-cost accounting are summarized as follows:

- Those who oppose full-cost accounting do not share the belief that management views exploration costs and oil and gas reserves discovered on a company-wide basis. It is their view that management is "project" oriented when considering the overall exploratory activities of a company. Further, they believe that the discovery of oil and gas reserves is only one of the measures of success or failure of a company. Thus, they do not believe that the full-cost method of accounting portrays the economic realities of the oil and gas industry.
- They point out that full-cost accounting departs from the traditional concepts of historical cost and moves toward a value system. The move is only in the direction of a value system and, therefore, the reader of financial statements prepared by the full-cost method is not only denied the benefits of a true value system, but, at the same time, is denied the benefit of a system based on historical cost. This is especially true for those companies using the full-cost method that do not furnish a value reference point since the reader cannot tell how near or how far the accumulation of costs is from the maximum ceiling on such costs. This partial value system is not comparable to any other costing method in the oil and gas industry or, for that matter, in any other industry.
- It is a basic belief of those who oppose full-cost accounting that losses should be reported on a timely basis. Thus, they view those costs which in and of themselves do not result directly in future revenue to be expense items which are properly charged off as incurred. To capitalize unsuccessful costs results in the postponement of reporting the effects of losses. Not only is the current income affected, but also the dissipation of stockholders' equity as a result of unsuccessful exploration efforts spread out over a long period of time. By capitalizing unsuccessful exploratory costs and amortizing them over future periods, one cannot tell the extent to which profits from prior discoveries are used to offset current unsuccessful ventures.
- By obscuring the current exploratory losses through capitalization, the full-cost method inappropriately inflates current income and the resultant income cannot be compared to that of the majority of listed companies in the industry. In addition, the variation in practice of

application of the full-cost concept makes comparison of financial statements of companies using full-cost accounting difficult if not impossible.

SUCCESSFUL EFFORTS METHOD

The successful efforts method of accounting provides for capitalizing only those costs which result directly in the discovery of oil and gas reserves. Those costs that do not result directly in discovering or obtaining oil and gas reserves are charged to expense as incurred. Thus, any cost that is unsuccessful or non-productive and does not result in future revenue is charged to expense. Those costs which are considered nonproductive include geological and geophysical costs, carrying costs of nonproducing property and all dry hole costs. Nonproductive costs under the successful efforts method may be incurred either in the preacquisition or post-acquisition stage of exploration and development.

Property acquisition costs are excluded from these costs and are considered separately. In summary, the

nature of the cost determines whether or not it will be capitalized or expensed; those which result directly in future revenue are capitalized and those which do not result directly in future revenue are expensed.

The basic arguments for the successful efforts method is its relationship to conventional accounting. By capitalizing only those exploration and development costs which result in an asset, the traditional concept of an asset is upheld, i.e., an asset is an economic resource which will contribute to future earnings. A loss is recognized as soon as the related effort is proved unsuccessful. It, therefore, adheres to the standards of realism, clarity, and promptness that are necessary for the meaningful reporting of financial information.

All suggestions for substantial deviation from the successful efforts method have been toward some application of the full-cost concept. The arguments against full-cost accounting present very good arguments for the successful efforts method. The arguments for full-cost accounting are presented under the heading "Full-Cost" in addition to the arguments of those who oppose the full-cost method.

Comparison of the Full-Cost and Successful Efforts Methods

THE COST CENTER

The significance of the cost center to the oil and gas industry and the efforts of the Committee to select a cost center were discussed in the first section of this document. To review, basically cost centers are necessary in the oil and gas industry to associate discovery and development costs with the revenues realized from the sale of oil and gas. Ideally the center selected should be one that results in the most meaningful matching of the costs of the effort to find and develop oil and gas reserves with the resulting revenues realized from the production and sale of such reserves. Cost centers should be selected so as to provide consistent, objective and logical results.

Successful Efforts Method

The only significance of the cost center under the successful efforts method of accounting is in connection with the computation of amortization of capitalized costs. Under this method the cost center is used only as an accumulation center for the subsequent amortization of those costs that have been capitalized. This follows because the nature of the costs (i.e., whether it represents a successful effort or an unsuccessful effort), rather than association with a cost center, determines whether a cost is capital or expense. The lease is the cost center most commonly used by those who utilize

the successful efforts method. Other cost centers frequently used include the field, concession, block, district, and operating region.

The lease represents the legal acquisition unit by which mineral rights are acquired. The legal description of a particular lease defines its boundaries; therefore, if it is a producing lease, it may consist of a portion of a reservoir or one or more reservoirs.

The total amount of capitalized costs will be the same regardless of the cost center used; therefore, the annual or cumulative amortization of capitalized costs should not vary significantly when computed by reference to the lease, the field, or a small organizational unit as the cost center.

An alternative cost center, which it is felt would be agreeable to most advocates of successful efforts accounting, is the field. The field is susceptible to reasonably precise definition which could be interpreted with reasonable consistency by different companies. Most advocates of successful efforts accounting would agree that the field is the largest acceptable cost center. Cost centers based on operating regions (which vary from company to company) have an averaging effect on periodic amortization which is inconsistent with the successful efforts concept. The lease represents legal arrangements and is not related to the natural occurrence of oil and gas reserves. The field cost center over-

comes these deficiencies and provides a basis for orderly amortization of costs which properly reflects the cause-and-effect relationship of effort and result.

It should be noted that the selection of the field as the cost center in lieu of the lease has no effect on the capital/expense decision and, therefore, capitalized costs would be the same regardless of the cost center. In addition, use of the field would not, for the most part, be expected to significantly affect the amount of periodic amortization of capitalized costs.

The Full-Cost Method

For those who advocate the full-cost method, selection of the cost center is a very important determination. Under the full-cost method all costs incurred relate to the total oil and gas reserves discovered without limitation as to lease, field, or geological boundaries. Advocates of full-cost accounting, therefore, believe that the aggregation of all of a company's oil and gas exploration and production operations will produce more meaningful financial statements. However, because of differences in politico-economic climates and property rights, many of the advocates of full-cost accounting believe that it is more appropriate to account for these operations on a country-by-country basis or by combining only those countries where similarity of politico-economic factors and operating conditions exist, such as in the United States and Canada.

Under the full-cost method of accounting, all costs within a cost center are amortized on the unit-of-production method over the aggregate reserves within that cost center. The net unamortized cost within a cost center cannot exceed the fair market value of the oil and gas reserves within that cost center. Therefore, the selection of the cost center under the full-cost method of accounting is extremely important because of its effect on amortization of capitalized costs and the computation of the ceiling on capitalized costs. The total amortization expense and the limitation on capitalized costs within a cost center can be quite different depending upon the size of the cost center. For example, if the entire world is selected as the cost center, no write-downs because of ceiling limitations would be made until the fair market value of all of the company's oil and gas properties is less than the aggregate unamortized cost of such properties. On the other hand, it is quite conceivable where each country is selected as the cost center, that a write-down could occur in one country because of the ceiling limitation and at the same time another country might have a significant excess of fair market value over unamortized cost.

The principal alternative cost centers that might be selected by companies utilizing the full-cost method are: the world (very few full-cost companies use the entire world as the cost center); hemisphere, continent, geological province or area (no companies are known at the present time to be using either the geological

province or a geological area as a cost center); country; United States and Canada; and United States and Canada except Alaska.

As previously stated, most advocates of the full-cost method believe that the cost center should be selected on a basis that results in similar politico-economic climates and property rights. It would seem appropriate, therefore, that the cost center should be on a country-by-country basis except in areas of the world where similar politico-economic conditions do exist, such as the United States and Canada or the Netherlands and U.K. North Sea.

One of the primary considerations in selecting the cost center is the areas of activity, both present and planned, of the company. If the company plans to limit its activities to the continental United States, then for all practical purposes there is only one cost center. On the other hand, if the company plans to explore for oil and gas all over the world, the selection of the cost center can be very important, particularly when a company goes into a completely new area for the first time. For example, if a company has selected the North American continent as a cost center and then goes into Canada for the first time with a long-range exploration program where substantial amounts of money will be spent before any production is expected, then all of these costs will be subjected to immediate amortization over the production in the United States. Had the company been on a country-by-country cost center, current practice would permit no amortization of the costs in Canada until such time as production takes place.

When a company enters a new cost center for the first time, it is quite likely that it will be several years before oil and gas reserves and production are established. During this time current practice permits nonamortization of the costs incurred. In many instances, since oil and gas reserves have not been established, recoverability of the costs cannot be determined. Obviously, once it is established that the fair market value of the oil and gas reserves is less than the costs incurred, the difference must be charged off immediately; however, it is not uncommon for this determination to take several years. Because of this, many advocates of the full-cost method believe that all costs incurred should be subjected to immediate amortization even though they may be in a new cost center. Although this view is somewhat inconsistent with the full cost concept, no way of amortizing these costs has been suggested other than by the selection of some arbitrary rate or by arbitrarily amortizing them on a unit-of-production basis determined by the producing cost centers.

PREACQUISITION COSTS

Preacquisition costs are defined for purposes of the following discussion as costs incurred in the search for oil and gas reserves prior to the acquisition of a specific property interest. Preacquisition costs consist

mainly of geological and geophysical costs. (These costs might also be incurred after the acquisition of a specific property interest.) Geological and geophysical costs are an integral part of the effort to discover oil and gas reserves; however, because of their nature, their worth to future periods frequently cannot be evaluated without the passage of considerable time.

Geological and geophysical work involves the examination of surface features and subsurface structures and conditions to obtain indications as to the existence of oil and gas deposits. Such work may range from surveillance and evaluation of industry activity in broad areas to extensive detailed tests in particular areas. Geological and geophysical activities vary from company to company and area to area, but to some degree they are continuing activities essential to any company engaged in the exploration for and development of oil and gas reserves.

Accounting for Preacquisition Costs Under the Full-Cost Method

Under the full-cost method, all preacquisition costs are ultimately capitalized as part of the cost center to which they relate. Some companies follow the policy of allocating preacquisition costs to specific property rights acquired. (The accounting for property rights is discussed under the section "Prediscovery Costs.") The timing of the preacquisition costs entering into the cost center would then follow the practice established for acquisition costs. Other companies make no attempt to allocate preacquisition costs. They are associated with the applicable cost center and, assuming there is production in the cost center, amortization begins immediately.

Accounting for Preacquisition Costs Under the Successful Efforts Method

As previously stated, geological and geophysical costs account for the greatest percentage of preacquisition costs. Some portion of geological and geophysical costs can be traced to the acquisition or retention of properties; however, the major portion cannot be directly identified with specific property rights or specific oil and gas reserves. If they can be so identified, it is usually at a significantly later date than the time at which the costs are incurred. Because of the inability to make direct identification to property rights or oil and gas reserves, and because of the continuing nature of geological and geophysical efforts which make them similar to an overhead item, and because of the time lag between the incurrence of costs and the identification of oil and gas reserves, several methods of accounting for geological and geophysical costs have evolved. Generally, companies using the successful efforts method follow one of the two following practices: expense all geological and geophysical costs as incurred or expense all geological and geophysical costs except for amounts

estimated by experience or by hindsight analysis which relate to property rights acquired or retained as a result of such costs.

The predominate practice among companies using successful efforts accounting is to expense all, or a major portion of all, geological and geophysical costs as incurred. These companies believe that the ongoing nature of such costs make them similar to overhead items which should be expensed currently. Further, the amounts that ultimately can be directly related to the acquisition or retention of property rights are relatively immaterial and, even if a portion of geological and geophysical costs can be directly associated with property rights, only a portion of the property rights acquired — perhaps as little as five percent — ultimately prove to be economically productive. The time lag between the incurrence of such costs and the ultimate identification with oil and gas reserves would result in an accumulation of deferred charges, the value of which to future periods is highly questionable. Considering the high-risk nature of the industry and the questionable assets created by deferral, it is considered prudent to write off all geological and geophysical costs as incurred.

Those who capitalize a portion of geological and geophysical costs which can be directly associated with property rights acquired or retained believe that if reserves are ultimately found, the resultant matching of costs and revenues will be more realistic. Those who hold this view believe that the costs are necessary to evaluate potential producing properties and that future revenues should be charged with an allocable portion that can be directly related to property rights acquired or retained which ultimately became productive as a result of such costs.

PREDISCOVERY COSTS

Prediscovery costs are defined (for purposes of this document) as costs incurred in the search for oil and gas reserves prior to either the discovery of commercial oil and gas reserves as a result of such efforts or the termination or discontinuance of such efforts. These costs are distinguished from preacquisition costs in that they are incurred after the acquisition of property rights. Prediscovery costs include geological and geophysical costs incurred after the acquisition of property rights, property acquisition costs, carrying costs, and the cost of exploratory drilling. These costs are an integral part of the effort to discover oil and gas reserves but, as with preacquisition costs, they frequently cannot be evaluated without the passage of considerable time. A brief description of the nature of prediscovery costs follows.

Property acquisition costs are incurred with the acquisition of nonproducing property rights, either by lease or purchase in fee. Such property rights entitle the owner to explore a prospect and to recover any oil and gas discovered. Acquisition costs include lease

bonus and lease extension costs, the purchase price of properties acquired in fee, lease brokers' commissions, abstract and recording fees, filing and patenting fees, title searches and other legal expenses.

Carrying costs include delay rentals, shut-in royalties, minimum or advance royalties and ad valorem taxes. They are incurred to retain property rights after acquisition but before production.

Exploratory dry holes are wells drilled in the search for oil and gas in commercial quantities which prove to be unsuccessful. Normally, exploratory dry hole costs are incurred after geological and geophysical costs and property acquisition costs have been incurred.

Accounting for Prediscovery Costs Under the Successful Efforts Method

Under the successful efforts method the cost of acquiring property rights is capitalized. There exists in practice two basic alternative methods of accounting for the disposition of acquisition costs which have been capitalized. The first involves capitalization of all acquisition costs pending evaluation. When the property rights are determined to be worthless or are abandoned, the cost is charged to expense. Those that result in the discovery of oil and gas reserves are associated with the cost center and amortized on a unit-of-production basis. The second method provides for capitalized acquisition costs to be amortized to income on some systematic basis over the periods during which the property rights are held for exploration. Advocates of amortization of acquisition costs contend that the high incidence of nonassociation of acquisition costs with oil and gas reserves necessitates the recognition of lost value during the holding period. Experience indicates that a high percentage of property rights are ultimately determined to be worthless and are, therefore, surrendered or allowed to expire. They contend that it is not necessary for an asset to be proven worthless before providing for decline in value when experience proves that some loss will occur.

Opponents of the practice of amortization of property acquisition costs argue that the passage of time alone does not reduce the value of the property rights. They contend that the only justification for amortization based on the passage of time is the equalization of charges against income, which, they observe, is not an acceptable accounting principle. In their view, evidence of the decline in value of specific properties should be obtained from other sources, such as the drilling of dry holes on the subject or adjacent properties, an unfavorable evaluation of geological and geophysical information, limitations in exploration budgets, increased political or economic risks in the case of foreign properties, etc.

There are some who find an inconsistency in the treatment of property acquisition costs and geologi-

cal and geophysical costs under the successful efforts method. The same arguments for immediate expensing of geological and geophysical costs can be applied to property acquisition costs. Advocates of successful efforts accounting, however, point out that property rights have a resale value which is, in general, not true of geological and geophysical costs. They point out that acquisition costs result in obtaining property rights which are resalable and are, thus, distinguishable from the preacquisition and other prediscovery costs which represent expenditures for on going effort.

Post acquisition geological and geophysical work is undertaken to obtain additional information about geological features and structures on or underlying a property right. Most companies using the successful efforts method make no distinction between preacquisition and post acquisition geological and geophysical costs, i.e., some expense all such costs as incurred whereas others expense all but that portion of the costs directly applicable to individual property rights retained. In the latter case, the amounts of geological and geophysical costs capitalized are usually accounted for in the same manner as the related acquisition costs.

The basis for expensing such costs is that although such additional information may indicate that a property right has structures similar to others on which oil and gas reserves have been discovered, it does not indicate the presence of oil and gas reserves, and thus does not directly result in future revenue. In addition, most post acquisition geological and geophysical costs are incurred on property rights that will ultimately be determined to be nonproductive.

A property right normally includes an obligation to commence drilling within a specified period of time or to pay delay rentals to postpone drilling to a later date. Those who support successful efforts accounting view delay rentals as penalties for postponement of drilling that adds no value to the property rights. It is believed that most companies using the successful efforts method charge delay rentals and other carrying costs to expense as incurred.

An alternative to expensing all carrying costs as incurred is to capitalize carrying costs as a part of acquisition costs. This view is supported if delay rentals are viewed as payments necessary to retain and secure property rights, and as such should be capitalized along with other acquisition costs. This method is not known to be used by any companies utilizing successful efforts accounting. Further, it is believed that companies following the successful efforts method would not be agreeable to capitalization of any carrying costs since they are, in their view, nonproductive by nature. They point out that rentals and ad valorem taxes are period costs in other industries and no substantive reasons have been given that would require different accounting in the oil and gas industry.

Companies following the successful efforts method

charge to expense as incurred the cost of exploratory dry holes because such costs by definition are unsuccessful and do not in any way result directly in future revenue.

Accounting for Prediscovery Costs

Under the Full-Cost Method

Under the full-cost method of accounting, all prediscovery costs are capitalized as part of the cost center to which they relate. With the exception of acquisition costs, generally all of these costs are subject to immediate amortization assuming that they are incurred in a cost center where production is already existent. Some companies do not include acquisition costs in the aggregate costs for the purpose of computing amortization until such time as the related property rights are proven to be either productive or worthless. Other companies include all acquisition costs in the aggregate costs for amortization purposes. This accounting is further discussed under the section, "Disposition of Capitalized Costs."

POST-DISCOVERY COSTS

Post-discovery costs (as used herein) are defined as costs incurred in connection with the development of oil and gas reserves subsequent to the discovery of commercial oil and gas reserves. The great majority of post discovery costs is composed of intangible drilling and development costs on productive wells and the cost of unsuccessful development wells. Post-discovery costs also include many other elements of capital costs necessary to produce the oil and gas reserves once they are discovered, such as cost of building roads, lease and well equipment, tank batteries, etc. The acquisition of additional leases within the perimeters of the proven reserves may also be included in post-discovery costs.

Intangible drilling and development costs consist of expenses in preparing well locations, drilling and deepening wells, and preparing wells for initial production, none of which has a salvage value.

Unsuccessful development wells are wells drilled subsequent to the discovery of oil and gas for purposes of facilitating production from the deposit or to delineate the perimeters of a deposit which are unsuccessful either because they were drilled to a point outside of the boundaries of the deposit or were not capable of completion because of technical difficulties.

Accounting for Post-Discovery Costs

Under the Full-Cost Method

Under the full-cost method, all post-discovery costs are capitalized as part of the cost center to which they relate and no distinction is made between costs which result directly in the discovery of oil and gas reserves and those which of themselves do not result directly in the discovery of oil and gas reserves. Under the full-cost method, post-discovery costs are subjected to immedi-

ate amortization on the same basis as other costs in the applicable cost center.

Accounting for Post-Discovery Costs

Under the Successful Efforts Method

The predominant industry practice by companies using the successful efforts method is to capitalize intangible development costs on successful wells. The nature of the costs, although intangible, is productive and, therefore, such costs are related directly to future production and revenue. Companies capitalizing intangible development costs on successful wells feel that the tangible or intangible nature of the expenditure should not affect the capital/expense decision for financial accounting purposes.

A few companies following the successful efforts method expense intangible development costs because, in their view, such expenditures have no salvage value and, therefore, do not add to the value of the well. More significant to these companies is that the expensing of intangible development costs conforms financial and tax accounting.

Under the successful efforts method of accounting, development dry holes represent unsuccessful effort. These expenditures do not result in obtaining future revenues. All dry holes, both exploratory and development, therefore, are expensed as incurred under the successful efforts method.

An alternative would be to capitalize development dry holes that are drilled within the boundaries of the cost center. Supporting this alternative is the argument that development drilling is necessary to define the extent of a reservoir; therefore, such costs can be directly related to the oil and gas reserves in the same geological structure and should be capitalized. This method may have merit under a method of accounting in which the cost center has an influence upon the capital/expense decision; however, it is not an application of the successful efforts method as practiced by the majority of companies in the industry.

DISPOSITION OF CAPITALIZED COSTS

Capitalized costs (for purposes of this section) are considered to be all costs which are associated with the cost center. Capitalized costs include that portion of pre-acquisition and prediscovery costs which have been associated with the cost center, those specific post-discovery costs related to the cost center, and the cost of tangible property which can be directly associated with the cost center. If oil and gas reserves are obtained by means other than development, the cost of acquiring such reserves would also be included in the cost center.

Disposition of Capitalized Costs

Under the Full-Cost Method

Substantially all companies following the full-cost method amortize all costs in a particular cost center on

the unit-of-production method over the aggregate oil and gas reserves produced in that particular cost center. Some companies depreciate certain tangible assets on a life basis where those assets are considered to have a life shorter than the overall reserves in the cost center.

Costs subject to amortization within the cost center vary considerably in practice. As evidenced from the public hearing, the timing of inclusion of certain costs in the cost center for purposes of amortization varies from company to company and, as a result, there are many different practices currently in existence.

The major alternatives concerning acquisition costs related to nonproducing property rights are as follows:

- Exclude the cost of nonproducing property rights from the cost center for amortization purposes until the property rights become producing or the property rights are abandoned.
- Amortize the cost of nonproducing property rights to the cost center over some period of time usually related to the average holding period of nonproducing leases.
- Include all costs of nonproducing property rights in the cost center immediately for amortization purposes.

The principal arguments for and against immediate inclusion of acquisition costs related to nonproducing property rights and other preacquisition and prediscovery costs related to such rights in the cost center for amortization purposes are set forth in the following paragraphs.

Those who advocate immediate inclusion of all costs within a cost center for amortization purposes do so primarily on the basis that all the costs are related to the known reserves within the cost center. Consequently, the costs should be amortized over the production of those reserves based on the facts known at any given time. They do not believe that there is any justification for omitting any costs from amortization since there is no assurance that any additional reserves will be discovered. They argue that when and if additional reserves are discovered, they will be taken into consideration at that time.

Those who advocate exclusion of nonproducing leases and related costs from the cost center for amortization purposes until such time as the leases are proved to be productive or nonproductive argue that immediate inclusion can be supported only on the basis of conservatism and has no merit in accounting theory. They believe the costs related to untested and undrilled properties are similar in nature to work in process and should not be subjected to amortization until the project has been completed one way or the other; to immediately include these costs in the cost center for amortization purposes violates the principle of matching expenses with related revenues. They argue that these costs should be amortized only after the oil and gas reserves related to these costs are known.

For purposes of computing the unit-of-production amortization rate under the full-cost method, it is necessary in substantially all instances to equate oil reserves and gas reserves in terms of a common denominator. Although many methods have been advanced for accomplishing this, all of them fall into two broad methods that are based on the relative sales price of the two products or some physical characteristic common to the two products, such as weight, volume, energy content (BTU), etc. From the standpoint of strict cost allocation, arguments exist to support each of these methods; however, the ultimate profitability depends on total revenues received from the combined products. Therefore, many advocates of the full-cost method believe all oil and gas reserves should preferably be converted to a common denominator based on relative values of the individual products. Contrary to this, is the belief that the BTU method is the more proper basis for conversion – that in a completely free economy the prices of the various products will tend to equate on their relative energy content (BTUs). This method can present problems since the price of natural gas has for many years been considerably below its relative value on a BTU basis as compared with oil. Therefore, it is quite possible that where a company uses the BTU method of converting to a common denominator the amortization expense can vary significantly as compared to converting on relative sales values. This is particularly true where a company has a significant amount of shut-in gas reserves or where its gas reserves are being produced over a much longer average life than its oil reserves. Obviously, if all products were being produced at the same rate, it would make no difference what conversion method was used; the amount of amortization expense for any period would be the same under either method. Generally, this is not the case and significant differences can and do arise between the two methods.

Under the full-cost method, the total unamortized property costs applicable to each cost center should not exceed the current fair market value of the total remaining recoverable oil and gas reserves for each cost center. Amounts in excess of such fair market value should be charged to expense currently. Generally, fair market value has been defined as what a willing purchaser would pay a willing seller.

The amount a willing purchaser would pay and the amount a willing seller would accept for underground oil and gas reserves is, in many instances, not readily determinable. Consequently, fair market value is determined by various other methods, such as: future net revenue (the estimated net cash flow to be received from production of recoverable reserves), and present value of future net revenue (future net revenue discounted at an appropriate rate to reflect the time value

of money). The closest approximation to fair market value is probably obtained by applying a risk factor discount to the present value of future net revenue as would be expected of any prudent prospective purchaser. The determination of future net revenue should take into consideration all estimated future development costs necessary to produce the estimated reserves as well as all estimated future operating costs. The interest factor used in the present-value determination should closely approximate long-term interest rates. The risk factor discount is more difficult to determine but should take into consideration the following: quantity and quality of the reserves, recovery period, location in relation to market and possible future changes in estimated selling prices and lifting costs.

In recent months there have been many documented cases where underground oil and gas reserves have sold with substantially no risk factor discount being applied. Expectations that there will be significant increases in oil and gas prices in the near future may have caused this. Considering the extreme shortage of both oil and gas, such a position does have merit.

Determination of the fair market value ceiling on capitalized costs is very difficult and practice indicates a variety of methods are currently being used. For instance, some argue that no write-off (except for normal amortization) should be made unless the unamortized property costs exceed the future net revenue to be derived from the remaining recoverable oil and gas reserves. This position is generally taken by the Canadian industry but is not widely supported by advocates of the full-cost method in the United States.

In determining the fair market value of the oil and gas properties within a cost center, in addition to the fair market value of oil and gas reserves, consideration must also be given to the value of nonproducing properties. Some advocates of the full-cost method argue that no value should be placed on nonproducing properties for purposes of determining the capitalization ceiling. They support this attitude on the basis that the values of nonproducing properties are subject to a great deal of individual opinion and are not easily determined. Those who advocate this position are in the minority. Most companies that follow the full-cost method do assign values to nonproducing properties in determining the capitalization ceiling. As a general rule, the values assigned are based on the cost of nonproducing properties except in extreme instances where questions exist as to whether cost might be significantly in excess of a true fair market value. In these cases studies can be obtained from independent parties to determine the approximate fair market values of the nonproducing properties. Generally, the advocates of this position do not believe that values in excess of cost should be assigned to nonproducing properties in determining the overall value of a company's total oil and gas properties within a cost center.

Disposition of Capitalized Costs

Under the Successful Efforts Method

Within certain limitations the choice of the cost center will not have a significant effect on the computation of depletion under the successful efforts method. As previously pointed out, those who advocate successful efforts accounting generally agree that the field is the largest acceptable cost center. Under the successful efforts method the cost center has no influence on the capital/expense decision; therefore, the amount of costs capitalized is the same regardless of the cost center utilized. It is generally believed that the amount of computed amortization would not vary significantly if the field were used in lieu of the lease, or vice versa. Bearing in mind that the costs to be capitalized remain constant, if the cost center is increased in size larger than the field, it is probable that the averaging effect resulting from the comingling of low cost, long-term reserves with higher cost, short-term reserves will decrease amortization in earlier years and increase amortization in later years. Regardless of the effect on amortization, those who advocate successful efforts accounting believe that the averaging effect resulting from large cost centers does not provide the best matching of revenue and expenses.

Under the successful efforts method, the aggregate amount of capitalized costs should not exceed the aggregate fair market value of the applicable oil and gas reserves. Most who advocate successful efforts accounting believe that the total amount of costs capitalized should be limited to the fair market value of the applicable oil and gas reserves on a country-by-country basis. As a practical matter, under the successful efforts method, the probability of capitalized costs approaching the fair market value of oil and gas reserves on a country-by-country basis is remote.

This is consistent with the views of those who advocate full-cost accounting; however, the application differs in that under full-cost the value is computed on a cost center by cost center basis, whereas under successful efforts the value is computed by aggregating all cost centers within a country. There are some who suggest that the fair market value ceiling be computed on a cost center basis, thus not allowing for the offsetting of excess cost of one cost center against excess value of another cost center.

Oil and Gas Reserve Estimation

Inherent in the estimation of fair market values are problems of forecasting the rate of future production, the value of future production, and the amount of future capital expenditures and operating costs. These forecasts may be influenced by estimates of future world supply and demand for energy, reservoir behavior, governmental regulations and other social, political and ecological considerations, all of which require considerable human judgment which might vary from

company to company. All evaluation and estimates of fair market value are based on estimates of underground oil and gas reserves. In a presentation to the APB regarding estimation of in-place oil and gas reserves, Mr. L. D. Woody, Jr. concluded that defining oil and gas reserves is a complex and highly interpretive science which is subject to continuous reevaluation throughout the producing life of an oil and gas reservoir; accurate determination of in-place reserves requires several years because of the time needed to complete drilling, testing and interpretive studies of the reservoir, including study of additional recovery prospects. The problem associated with reserve estimation should be considered when evaluating estimates of fair market value.

INCOME TAX ALLOCATION

In December 1967, the Accounting Principles Board issued APB Opinion No. 11, "Accounting for Income Taxes." An opinion on accounting for income taxes for intangible development costs in the oil and gas industry was deferred pending the issuance of an opinion on extractive industries.

In addition to intangible development costs there are other costs peculiar to the oil and gas industry which have an interaction with percentage depletion for income tax purposes and which give rise to differences between pretax accounting income and taxable income. These include the following: prediscovery costs, such as geological and geophysical costs, property acquisition costs, property carrying costs, and exploratory dry holes and post-discovery costs such as depreciation of lease and well equipment and development dry holes.

The differences created by these costs are discussed in the following paragraphs as they apply to the successful efforts method and the full-cost method.

Income Tax Allocation Under the Successful Efforts Method

In paragraph 33 of APB Opinion No. 11 the Board concluded that the excess of statutory depletion over cost depletion is a permanent difference for which no tax allocation is required. For purposes of this document, the term "statutory depletion" has been replaced by "percentage depletion."

Allowable depletion for income tax purposes is the higher of either percentage depletion or cost depletion. Percentage depletion is computed only for income tax purposes and represents a percentage of gross income (currently 22%) derived from the sale of oil and gas; however, the amount thus computed is limited to 50% of the net taxable income from the tax property unit without regard to the depletion charge. For income tax purposes, cost depletion provides a deduction based upon the cost basis in the property unit and is related

to the production and sale of oil and gas from the property unit.

The computation of allowable depletion must be made for each separate tax property or tax property unit. In making this computation the term "property" or "property unit" means each separate interest in each mineral deposit in each separate tract or parcel of land.

Intangible drilling and development costs may be defined for tax purposes as any cost incurred which in itself has no salvage value and which is incident to and necessary for the drilling and preparation of wells for the production of oil and gas.

For income tax purposes, taxpayers who incur intangible drilling and development costs on successful wells may elect to deduct such costs for tax purposes as they are incurred. This election is made in the year in which such costs are first incurred and is binding for all future tax years. If this election is not made, all intangible drilling and development costs incurred thereafter must be added to the tax depletable base of the individual property units and as such subsequently enter into the calculation of the tax cost depletion element of allowable depletion. Thus, if a taxpayer elects to capitalize intangible drilling and development costs, the ordinary deduction is not available in the year the cost is incurred and the cost can be recovered in future years only if tax cost depletion is in excess of percentage depletion. Accordingly, if percentage depletion in subsequent years exceed tax cost depletion, the tax benefit of intangible drilling and development costs which were not deducted currently is effectively lost.

It can be demonstrated that while the election to capitalize or expense intangible drilling and development costs exists under the income tax laws, the election is a mere technicality. Research indicates that virtually without exception taxpayers elect to expense intangible drilling and development costs currently because of the economic advantages that derive from a current tax deduction and because of the potential loss of a future deduction for such costs. For these reasons the so-called election can virtually be regarded as academic.

It should be noted that if the election is made to deduct intangible drilling and development costs as incurred, such deduction enters into the determination of net taxable income for purposes of computing the 50% limitation on percentage depletion in the year such intangible drilling and development costs are incurred. It is possible, therefore, that the immediate deduction of intangible drilling and development costs can reduce percentage depletion in the year of incurrence; however, this would normally occur only during the period when the property is initially being developed.

The interaction between intangible drilling and development costs and allowable depletion can be illustrated by the following example:

	A	B
Cost of Property	\$ 150,000	\$ 150,000
Depletion Rate	<u>5%</u>	<u>5%</u>
Gross Income	\$ 100,000	\$ 100,000
Operating-Expenses	50,000	80,000
Net Income	<u>\$ 50,000</u>	<u>\$ 20,000</u>
22% of Gross Income	\$ 22,000	\$ 22,000
50% of Net Income	25,000	10,000
Cost Depletion	7,500	7,500
Allowable Depletion	<u>\$ 22,000</u>	<u>\$ 10,000</u>

In situation A, allowable depletion is \$22,000. In situation B, additional IDC of \$30,000 increased the operating expenses to a point which triggered the 50% of net taxable income limitation. Thus, taxable income is reduced by \$18,000 (\$30,000 ordinary deduction for IDC less \$12,000 decrease in allowable depletion) rather than the full amount of the additional deduction for IDC.

Studies have demonstrated that on an overall basis percentage depletion would be in excess of cost depletion even if intangible drilling and development costs were included in the depletable base for cost depletion purposes. In practice, cost depletion exclusive of intangible drilling and development costs rarely exceeds percentage depletion except in the early development stages and in connection with marginal properties.

Whereas a current tax deduction which is capitalized and amortized for financial statement purposes is normally defined as a timing difference pursuant to the provisions of APB Opinion No. 11, the interaction with allowable depletion causes many to question whether tax allocation is appropriate for companies which deduct intangible drilling and development costs currently for tax purposes. Those who feel that intangible drilling and development costs are permanent differences point out that because percentage depletion rather than cost depletion generally determines the depletion allowance for tax purposes, there is no offsetting increase in future taxable income as a result of deducting intangible drilling and development costs currently; in effect, the reversal necessary for a timing difference is absent. They also argue that since the immediate deduction of intangible drilling and development costs does not increase future tax liabilities, the tax effect of the deduction would not have existed had it not been made currently.

Those who oppose this view believe that differences created by currently deducting intangible drilling and development costs for tax purposes fits the definition of a timing difference for which the tax effect should be deferred. They point out that the current tax deduction is fully matched by later amortization against pretax accounting income and that the basic principle under-

lying tax allocation is that income tax expense for a period should be based on transactions included in the determination of pretax accounting income. The issue is not whether the tax effect can be identified with future periods, but whether the costs giving rise to the tax effect can be identified with future periods. It is also argued that to consider the tax effect created by the current deduction of intangible drilling and development costs as permanent differences because of the absence of a reversal of the tax effect is an application of the liability concept of tax allocation (which they note is not a generally accepted method of accounting).

The predominant practice among those who utilize the successful efforts method is to consider the difference between pretax accounting income and taxable income resulting from the current deduction of intangible drilling and development costs for income tax purposes as a permanent difference not subject to tax allocation.

Geological and geophysical costs are those costs incurred in the examination of surface features and subsurface structures and conditions to obtain indications as to the existence of oil and gas deposits. The rules of the Revenue Service require that geological and geophysical costs be added to the cost of property acquired or retained on the basis of data obtained from the project. Tax accounting for geological and geophysical costs naturally involves an allocation process of costs to properties. The Revenue Service has not established specific rules for allocation of geological and geophysical costs; however, accumulation of costs based on "project area" and later allocation to "area-of-interest" is common. That portion of geological and geophysical costs which does not lead to the acquisition or retention of property is deductible when the determination is made not to acquire or retain properties based on the results of the exploration project.

That portion of geological and geophysical costs which ultimately proves to be associated with a producing property becomes a part of the income tax depletable base and subsequently enters into the computation of tax cost depletion. As previously discussed, tax cost depletion rarely exceeds percentage depletion; therefore, to the extent that future percentage depletion exceeds tax cost depletion, there is no tax benefit derived from the depletion of geological and geophysical costs.

Property acquisition costs are costs incurred in connection with the acquisition of a property unit (as previously defined in this section). Property acquisition costs are deductible for income tax purposes when the property unit with which the costs are associated is abandoned. Property acquisition costs associated with property units on which oil and gas are discovered in commercial quantities become a part of the income tax depletable base and subsequently enter into the com-

putation of tax cost depletion. The relationship of these costs to percentage depletion is the same as geological and geophysical costs, i.e., to the extent that future percentage depletion exceeds tax cost depletion, there is no tax benefit from the depletion of property acquisition costs.

Carrying costs include delay rentals, shut-in royalties and minimum or advance royalties and ad valorem taxes. With respect to certain carrying costs, such as delay rentals, the Revenue Service provides for annual elections. Delay rentals may, at the election of the taxpayer, be either expensed currently or capitalized. A new election to capitalize may be made each year with respect to nonproductive properties and a different election may be made with respect to each individual nonproductive property unit. If the property unit becomes productive, the capitalized delay rentals form a part of the tax depletable base and subsequently enter into the computation of tax cost depletion. If the property does not become productive, capitalized delay rentals are deductible for income tax purposes when the related property unit is abandoned.

Exploratory dry holes are wells drilled in the search for oil and gas in commercial quantities, which prove to be unsuccessful. A taxpayer who has elected to capitalize intangible drilling and development costs is then granted a second election to capitalize or charge to expense intangible drilling and development costs on nonproductive wells. As with the election on intangible drilling and development costs, the election once made, is binding for subsequent years. In practice it is extremely rare that the election is made to capitalize intangible drilling and development costs on nonproductive wells. The usual situation is that all costs of nonproductive wells are deducted as incurred for income tax purposes and generally do not enter into the computation of net income when computing percentage depletion.

Differences in the timing of deductions for prediscovey costs entering into pretax accounting income and taxable income exist as a result of the application of the successful efforts method of accounting to such costs. Such differences may be as a result of amortization of prediscovey costs or they may also arise after prediscovey costs have been associated with a productive effort. These differences arise as a result of certain prediscovey costs being capitalized for financial purposes and deducted for income tax purposes or differences may arise as a result of differences in the depletion rate for financial purposes and income tax purposes. As previously discussed, prediscovey costs which for tax purposes are associated with a productive effort will result in a tax benefit only if tax cost depletion is in excess of percentage depletion. Since, in the usual case, percentage depletion is in excess of tax cost depletion and there is no tax benefit resulting from prediscovey costs capitalized for tax purposes, many believe that

tax allocation with respect to difference in pretax accounting income and taxable income is not necessary for that portion of prediscovey costs capitalized for income tax purposes. Tax allocation, however, would be appropriate with respect to differences resulting from that portion of prediscovey costs which are not ultimately associated with a productive effort. Others argue that tax allocation is appropriate for the entire amount of any differences.

Income Tax Allocation Under the Full-Cost Method

For income tax purposes, productive intangible development costs generally are deductible as incurred. Consequently, under the successful efforts method there typically are wide variations between the amount of net income reported by most oil and gas companies in their financial statements and that reported for tax purposes. Under full-cost accounting, these differences between book and tax income will be greater, particularly in the instance of rapidly growing companies. Some of the more staunch supporters of the full-cost method argue very strongly that to obtain a fair matching of tax benefits with the related costs in the accounts under full-cost accounting, the current tax reductions arising from the deduction for income tax purposes of all costs that are capitalized in the accounts should be deferred. However, only a few companies now recognize and account for the income tax credits (i.e., the tax reductions) that result from deducting currently, for tax purposes, the productive intangible development costs and any exploration costs that are capitalized in the accounts.

Under full-cost accounting, the amounts of tax credits involved would normally be much more significant than under the successful efforts method. The advocates of complete tax allocation accounting believe that serious distortions in financial reporting could result in many instances unless such income tax reductions are applied to the proper periods. In their view, the net charge to income in any year for income tax reductions should be computed by applying the current income tax rate to the differences between capitalized book costs currently charged off for income tax purposes and the regular amortization of these capital costs recorded in the accounts. When the amortization of such costs recorded in the accounts exceeds the corresponding amount currently deducted for tax purposes, a credit to income will result.

Because of the interplay with statutory depletion, it cannot be argued that the current deduction of intangible development costs creates a future tax liability that otherwise would not have existed had the election been made to capitalize intangible development costs for tax purposes. However, the supporters of complete tax allocation argue strongly that if tax benefits and the related costs are to be properly matched, fair accounting dictates that income tax credits arising from

the current deduction of intangible development costs be matched with the amortization of such costs for accounting purposes and offset against the future revenues to be generated as a result of the incurrence of these costs.

Most companies following the full-cost method do not support the above theory of complete tax allocation and, as a consequence, very few companies follow tax allocation accounting for exploration and development costs capitalized for book purposes which are expensed for tax purposes. A great majority of the full-cost companies argue that no tax allocation is necessary so long as future tax deductions applicable to present oil and gas properties (including future statutory depletion) is in excess of the unamortized cost of the oil and gas properties. They argue that one cannot separate productive costs from nonproductive costs, that all of these costs are applicable to the oil and gas reserves found and, therefore, because of the interplay with statutory depletion all of these deductions for tax purposes are permanent differences so long as estimated future statutory depletion is in excess of the amounts written off for tax purposes.

This position that no tax allocation accounting is necessary which is taken by the majority of the companies following the full-cost method, is difficult to support under APB Opinion No. 11. It would seem clear that dry hole costs and other nonproductive costs not directly related to a producing lease are clearly timing differences under Opinion No. 11 and tax allocation accounting should be followed for those differences. Since for tax purposes statutory depletion is calculated on a lease-by-lease basis, it would not seem appropriate to aggregate all costs incurred by a company and state that they cannot be separated as between productive and nonproductive for purposes of tax allocation accounting. The argument that tax allocation is not neces-

sary for nonproductive costs, because of the interplay of statutory depletion, appears to be weak if not completely without merit.

Some of the supporters of the full-cost method argue that tax allocation should be followed for the nonproductive costs but tax allocation on productive intangible development costs is not necessary because of the interplay of statutory depletion. From the standpoint of accounting theory, this position would seem to have a great deal of logic and is supportable under APB Opinion No. 11. A strong case can be made that productive intangible development costs is a permanent difference so long as statutory depletion remains a part of our tax laws. A few companies following the full-cost method do tax allocate on nonproductive costs only. However, as previously stated, the great majority of these companies do not tax allocate either the productive or the nonproductive costs until such time as the future tax deductions, including statutory depletion, are less than the book carrying cost of the properties.

For those companies following tax allocation accounting for nonproductive costs only, the question arises as to how to apply write-downs resulting from the fair market value ceiling. Some would argue that this write-down was caused entirely by unsuccessful drilling or other nonproductive costs and, therefore, should all be related to the nonproductive costs and completely tax effected. Others would argue that the write-down should be applied pro rata to productive and nonproductive costs and in this instance only the write-off applicable to nonproductive costs would be tax effected. Because so few companies follow this method of tax allocation, there is no known situation where this problem has arisen in actual practice. The first position appears to be more supportable from a theoretical standpoint, indicating that the entire write-off should be tax effected.

Additional Problems

DEVELOPMENT STAGE COMPANIES

New companies still in the exploratory and development stage in the oil and gas industry are no different than companies in a similar stage in other industries and probably should not be afforded any special treatment. These companies are a special problem regardless of whether or not they follow the full-cost method or the successful efforts method of accounting for exploration and development costs. A determination of the point in time at which a company becomes an operating entity and commences profit and loss accounting should be based on an evaluation of the facts in each case. Precise rules cannot be established for this determination. In some cases this will occur during the first year of a company's existence and in others it may not occur for several years. Each case will require careful study of a company's history together with management's exploration and development plans for the future. It is quite likely that whatever decisions are made for development stage companies in general will also apply to development stage companies in the oil and gas industry and that they will not have to be dealt with separately.

When a company that is an operating company enters new areas where it is in effect in a development stage as far as that area is concerned, a special problem is encountered. The basic problem is concerned with

the build-up of exploratory and development costs when there are no associated oil and gas reserves. Questions are raised regarding the timing of amortization of costs incurred in a new exploration area and, where no oil and gas reserves have been found, how long such costs can continue to be deferred. Some believe that exploratory and development costs in new areas should be subjected to immediate amortization. Others believe that amortization prior to discovery of reserves or abandonment of the area is not appropriate.

CONSOLIDATED STATEMENTS

Most advocates of the full-cost method believe that amortization and fair market value ceiling computations made on a separate company basis for parent and subsidiary separate statements should be adjusted in consolidation to recognize consolidated cost centers. This is to say that the consolidated statements should reflect the results that would have been achieved had all of the oil and gas properties and activities been conducted by only one company. Some companies follow the practice of adjusting the individual statements of the separate companies to the consolidated amortization rate, although this is not considered essential. Others follow the practice of not adjusting the individual statements of the separate companies and merely making the adjustments in consolidation. Most com-

panies do not believe that write-downs on an individual company basis are necessary if in the aggregate the fair market values of the properties of the consolidated group exceed the consolidated carrying costs of the related oil and gas properties.

Companies carried on the equity method pose a different problem. Theoretically, these companies should be accounted for in the same manner as consolidated subsidiaries. However, the information necessary to compute an overall consolidated amortization rate or fair market value ceiling will in many instances not be available to the company and might be extremely difficult to obtain.

Practice under the successful efforts method has been to consolidate the individual amount of amortization. To recompute amortization for those cost centers, if any, (whether leases or fields) to recognize the consolidated investment and reserves, would be a time consuming, detailed task and it is believed that the effect would not be significant. Those who practice successful efforts, for the most part, dismiss this procedure as not being practical. Limitations of capitalized costs, if computed on a country-by-country basis, could result in consolidation problems similar to those under the full-cost method.

PURCHASED OIL AND GAS RESERVES

The advocates of the full-cost method generally believe that the cost of purchased oil and gas reserves should be added to the existing property accounts and oil and gas reserves to determine a new combined full-cost amortization rate, and should not be treated separately. However, this is an area for potential abuse and consideration should be given to accounting for purchased reserves separately, where not to do so would seriously

distort the facts. For example, a very short-lived production payment, if included in the overall accounts could very seriously distort the amortization rate. For this reason, purchases of short-lived production payments should not be treated as property costs under full-cost accounting but should be accounted for as separate assets and amortized accordingly.

Under the successful efforts method, purchases of oil and gas reserves have no effect on the amortization of costs associated with other oil and gas reserves. The amortization of the cost of purchased oil and gas reserves relates entirely to the oil and gas reserves acquired and the amount depends on the cost and estimated quantity purchased and the production rate. Under the successful efforts method, therefore, there would be no change in amortization applicable to the properties previously held as a result of the acquisition.

LEASES PURCHASED FOR RESALE

Many companies take the position that they are in two businesses — the business of exploring for oil and gas and the business of buying and selling leases. These companies contend that leases held for resale should not be included in the property accounts for purposes of amortization and valuation but should be treated as any other inventory of assets held for resale. The position taken by these companies in many cases would appear to have substantial merit; however, it does pose significant problems in determining which leases are in fact held for exploration and development purposes. While this is not believed to be a significant problem industry-wide, it does present an area for potential deviation from individual companies' established procedures in accounting for acquisition costs.

Disclosure of Oil and Gas Reserves and Operating Activities

Chapter 8 of Accounting Research Study No. 11 (Presentation of Financial Statements and Disclosure of Supplementary Information in Financial Reports) contains the following four recommendations:

- (No. 16) A description of major accounting policies and practices should be included in notes to financial statements.
- (No. 17) Mineral reserves and operating activities should be sufficiently disclosed to facilitate evaluation of effort and result.
- (No. 18) Financial data should be classified by function to facilitate correlation with mineral reserve and operating statistics.
- (No. 19) A tabulation of exploration, acquisition, and development program expenditures combining both capital and expense items should be presented.

The tentative conclusions reached by the Committee prior to the public hearing were in support of the Research Study's recommendations.

The APB Committee felt that in view of the complex nature and the inherent uncertainties in oil and gas operations which present many difficult problems in reporting to users of financial statements, the usefulness of financial statements would be enhanced if they were presented in a manner designed to disclose essential information and were supplemented by information relating to accounting practices, mineral reserves, and

operating activities.

The Committee was cognizant of the fact that the usefulness of information regarding oil and gas reserves may be limited by the uncertainties inherent in measurement techniques and the apparent inability to express reserves in terms that reflect relevant economic factors over long periods of exploration. Nevertheless, the Committee felt that the need for some form of disclosure was sufficiently persuasive to warrant presentation of such information as could reasonably be developed.

Accounting Principles Board Opinion No. 22, Disclosure of Accounting Policies, precludes the need for recommendation No. 16. While Opinion No. 22 applies to all financial statements which purport to fairly present financial position, changes in financial position and results of operations in accordance with generally accepted accounting principles, it also requires disclosure "of principles and methods peculiar to the industry in which the reporting entity operates" (paragraph 12c). Therefore, the general disclosures set forth in recommendation 16 are required by APB Opinion No. 22.

Recommendations 17, 18 and 19 have met with substantial resistance from all factions in the oil and gas industry. Opposition has been directed primarily at disclosure of reserve data and operating activities in

the manner suggested. Opponents question whether the evaluation of effort and result would in fact be facilitated by the disclosure of reserve data because of: (a) the limitations inherent in reserve estimates particularly when attempting to estimate reserves discovered in a single year; (b) the differing values of reserves which are influenced by their physical characteristics and quality, lifting and transportation costs, supply and distribution patterns and other factors; and (c) the difficulty, because of timing and other identification problems, of relating financial results with reserves and operating activities. They feel that any attempt to correlate such information might be more misleading than informative. Opponents also feel that the degree of detailed disclosures suggested could be detrimental to the company from a competitive viewpoint.

With regard to the classification of financial accounts in the manner recommended, those opposed contend that any attempt to correlate expenditures by classification with mineral reserves found and developed would be so impractical as to be misleading (if it is at all possible to implement). They point out that because of the time lag, which may be significant in terms of years, there is little or no relationship between exploratory funds spent and reserves discovered in any one year. Correlation is also distorted, in their view, because even after discovery reserve estimates are frequently revised materially as additional reservoir performance is evaluated and recovery technology improved.

Although the suggested disclosure has been opposed,

none of those taking exception have offered suitable alternatives. All recognized the need for disclosures regarding the "off balance sheet" assets of oil and gas companies; however, they have only indicated their preference for broad, general rules which would leave to management's judgement and discretion the extent of disclosures which would be meaningful and understandable to readers of financial statements and at the same time would not be harmful to the competitive position of the company.

While there are many difficulties and complications involved in disclosing oil and gas reserves and drawing useful information from a correlation of those reserves with operating results, the views of the Committee were very appropriately stated in ARS No. 11, page 139, which states that, "Silence does not seem to be the answer." Neither Mr. Field nor the Committee had in mind that the recommended disclosures would result in complete precision but that, if used as a guide, the recommended disclosures would provide general indicators to a reader of financial statements regarding the direction of a company's exploration, development and production activities.

The Committee does not mean to imply that the quantity and quality of disclosure in financial statements has remained static since the issuance of Accounting Research Study No. 11; many companies have indeed increased informative disclosure of the type contemplated by ARS No. 11.