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and evaluation activities regardless of the outcome. The full-cost approach adopts the other extreme and calls for capitalization of virtually all expenditures leading up to the discovery and development of petroleum reserves. The successful efforts approach is somewhere between these two extremes by expensing exploration costs where the uncertainty is the greatest while capitalizing expenditures that are associated with the discovery of identifiable resources and reserves. Full cost and successful efforts are the most commonly used although many variants of the two methods exist in practice.

United States GAAP recognizes the acceptability of both full cost and successful efforts. The SEC rules to be followed by companies using the full-cost method appear in *Reg. S-X Rule 4-10(c*). SEC *Reg. S-X Rule 4-10(b)* applies successful efforts by reference to *ASC Topic 932*, "Extractive Activities–Oil and Gas." Various versions of successful efforts and full cost rules are in use internationally; however, upstream accounting practices worldwide are heavily influenced by U.S. GAAP. All SEC registrants must include the supplemental disclosures, including reserve disclosures, as provided in *ASC 932-235.* These disclosures are discussed in detail in chapter 14.

At this time the IASB has not yet issued a comprehensive standard for upstream oil and gas producing activities, instead choosing to rely on existing IFRS and the IASB Framework. *IFRS 6*, "Exploration for and Evaluation of Mineral Resources," focuses on costs incurred during exploration and evaluation activities. *IFRS 6* is not a comprehensive standard for accounting for extractive activities. Instead, *IFRS 6* permits companies using IFRS to account for oil and gas exploration and evaluation activities using policies they were previously using under their national GAAP or to adopt new accounting policies that are aligned with the IASB Conceptual Framework. *IAS 8*, "Accounting Policies, Changes in Accounting Estimates and Errors," indicates that, in the absence of an IFRS that applies to specific transactions, events or conditions, management may develop and apply accounting policies so long as they are relevant and reliable and do not conflict with the IASB Conceptual Framework. According to *IAS 8*, in making such judgements, management is permitted to consider the most recent pronouncements of other standard-setting bodies with a similar conceptual framework, other accounting literature, and accepted industry practice (*IAS 8* par. 10-12). For companies following successful efforts, the most prevalent industry practices are consistent with those found in *ASC Topic 932*. Therefore, in accounting for exploration and evaluation activities, it is common for companies using IFRS to adopt policies similar to the successful efforts guidance found in *ASC Topic 932.*

IFRS 6 par. 9 provides examples of exploration and evaluation activities that may be considered for capitalization. This list includes:

- Acquisition of rights to explore
- Topographical, geological, geochemical and geophysical studies
- Exploratory drilling
- Trenching

- Sampling
- Activities in relation to evaluating the technical feasibility and commercial viability of extracting a mineral resource

Exploration and evaluation activities that occur prior to acquisition of mineral rights (i.e., a mineral license) must be charged to exploration expense.

Once companies move from exploration and evaluation and into the development phase of a project, their accounting policies must conform with the applicable IFRS standard, such as *IAS 16*, "Property, Plant and Equipment," *IAS 38*, "Intangible Assets," and *IAS 36*, "Impairment of Assets" and must be in conformity with the IASB Framework. According to *IAS 8*, the guidance found in *ASC Topic 932* may provide a template for management policy decisions so long as it conforms with the IASB Framework and specific IFRS standards.

The "exemption" provided by *IFRS 6* applies to the fairly narrow window of time after a mineral license has been obtained and while a company is involved in exploration and evaluation activities. Specifically, *IFRS 6* requires that companies using IFRS adhere to the IASB Framework and standards for activities occurring:

a) before the exploration for and evaluation of mineral resources, such as expenditures incurred before the entity has obtained the legal rights to explore a specific area.

b) after the technical feasibility and commercial viability of extracting a mineral resource are demonstrable. (*IFRS 6* par. 5)

Figure 4-1 utilizes a conceptual timeline of upstream oil and gas activities to illustrate the time frame during which *IFRS 6* exploration and evaluation activities occur.

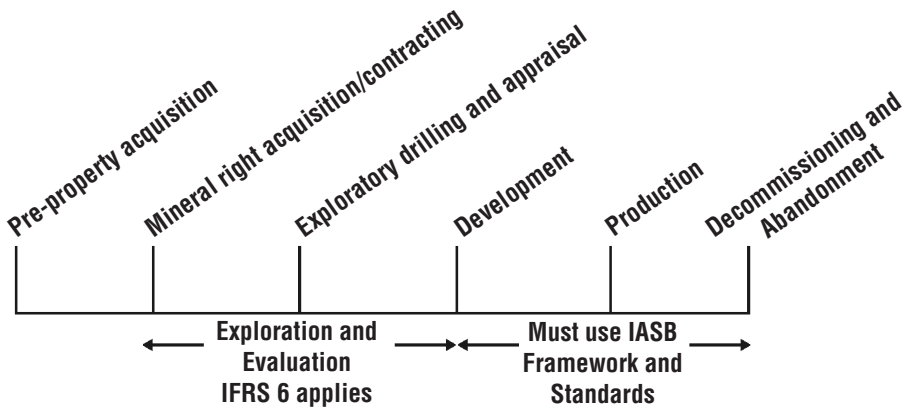

Fig. 4-1. Conceptual timeline of upstream oil and gas activities - *IFRS 6*

Companies that use the full cost method under national GAAP and continue to capitalize costs related to unsuccessful exploration projects (as permitted under

the full cost method) must comply with the componentization requirements found in *IAS 16* and the impairment provisions of *IAS 36*, once their projects advance beyond the exploration and evaluation phase. Since there is some question as to whether the full cost method conforms to the IASB Conceptual Framework, many companies that previously used the full cost method have transitioned to accounting policies more aligned with the successful efforts method.

Since alternatives within the successful efforts method differ from the U.S. GAAP requirements for certain exploration and evaluation costs, both U.S. GAAP and certain national GAAP treatments are included in this chapter. The full cost method is discussed in detail in chapter 8. Examples in this chapter illustrate successful efforts method treatment of various costs under both U.S. GAAP and alternative national GAAP treatments. For clarity the latter treatments are referred to as being an "*IFRS 6* Alternative."

Pre-License Acquisition Exploration

As discussed in Chapter 1, pre-license acquisition exploration is performed in the very preliminary stage of evaluation when trying to identify areas that may potentially contain petroleum resources. Pre-license acquisition exploration frequently involves the geological and geophysical evaluation of relatively large areas and is significant in accounting since it occurs before a mineral interest in the property being explored has been acquired. The capitalization versus expense decisions required for financial accounting purposes present a particular challenge since the costs (1) are apt to be sizeable, (2) could eventually lead to the discovery of substantial quantities of new oil and gas reserves and resources, and (3) the costs are incurred at a time when the level of uncertainty is especially high. This type of exploration, often referred to as prospecting, is unlikely to involve drilling.

Various geological and geophysical (G&G) exploration techniques may be undertaken in order to locate areas that potentially contain undiscovered oil and gas reserves and resources. This may involve both surface and subsurface G&G techniques. Surface techniques search the earth's surface for evidence of underground formations with characteristics favorable to the accumulation of oil or gas. Subsurface G&G exploration are used to identify these formations by using techniques that are based on the fact that different types of rocks respond differently to stimuli such as sound or magnetic waves.

A **reconnaissance survey** is a G&G study over a large surface or subsurface area. The purpose of such a survey is to identify any potential individual areas of interest. Reconnaissance surveys may be undertaken in the pre-property acquisition time frame or later after a petroleum contract has been signed. Reconnaissance surveys could include satellite imagery, aerial photographs, gravity-meter tests, magnetic measurements, and various other testing and analysis aimed at identifying areas that have geological features indicative of petroleum in place. Certain

non-drilling exploration can be undertaken without having physical access to the terrain; however, in most jurisdictions, permission from the appropriate governmental authorities is necessary before commencing any G&G operations. In some instances, especially when a prospect appears to be promising, the local government may require companies to purchase certain G&G information directly from them as a prerequisite to being allowed to conduct reconnaissance surveys.

If the results of a reconnaissance survey are promising, a more **detailed study** may be performed. This might involve utilizing G&G techniques to evaluate smaller, more localized areas of interest using more detailed testing procedures, such as seismic testing. Typically, such detailed studies require permission of the government or mineral rights owner since such activities require physical access to the area being investigated. While reconnaissance surveys may be performed either before or after a mineral contract has been signed, detailed surveys are typically not performed until after an agreement has been executed.

Accounting for Non-drilling Exploration

According to the U.S. GAAP successful efforts method, all G&G exploration costs must be charged to expense as incurred regardless of whether the work takes place before or after a mineral contract is executed (*ASC 932-720-05*). The following example illustrates the entries required to write non-drilling exploration costs to G&G Expense.

EXAMPLE
Non-drilling Exploration G&G—U.S. GAAP

Prior to signing a concession agreement, Huge Oil Company incurred G&G costs related to 50,000 square kilometers, paying $5.00 per square kilometer.

Entry

G&G expense (50,000 x $5)	250,000	
Cash		250,000
(to record payment for G&G services)		

In the next year after signing a concession agreement, Huge Oil Company hired GeoMetriks Inc. to conduct G&G work on the area, paying the company $500,000.

Entry

G&G expense	500,000	
Cash		500,000
(to record payment for G&G services)		

Although not required by U.S. GAAP successful efforts, both broad and detailed G&G survey costs may be allocated to various contract areas acquired. However, even if allocated to individual areas, non-drilling exploration costs must still be expensed under U.S. successful efforts.

Successful Efforts—*IFRS 6* Alternative

Under *IFRS 6,* after acquiring a mineral license, there is a choice of not capitalizing exploration and evaluation expenditures, capitalizing all exploration and evaluation expenditures, or capitalizing some exploration and evaluation expenditures and expensing others. According to *IFRS 6*, the entity should develop policies for accounting for costs incurred in carrying out exploration and evaluation activities; however, in establishing its policies the entity should consider the likelihood that the activity will eventually lead to finding reserves and resources.

EXAMPLE
G&G Costs—*IFRS 6* Alternative

Prior to license acquisition, Huge Oil Company incurred G&G costs related to 50,000 square kilometers, paying $5.00 per square kilometer.

Entry

Intangible assets—exploration expenditure (50,000 x $5).....	250,000	
Cash.....		250,000
(to record payment for a G&G survey)		

At year-end, the G&G study could not be related to a specific geological structure.

Entry

G&G expense.....	250,000	
Intangible assets—exploration expenditure.....		250,000
(to write off G&G survey costs to expense)		

During the following year, after acquiring a license area in Surasia, Huge Oil Company hired a company to conduct G&G work in the area and paid the company $400,000.

Entry

Intangible assets—exploration expenditure.....	400,000	
Cash.....		400,000
(to record payment for a G&G survey)		

At year-end, the G&G study could be related to a specific geological structure and so the costs would remain capitalized.
No entry required.

General exploration cost centers are to be set up for the purpose of capitalizing pre-license prospecting costs and exploration costs. These cost centers are temporary cost centers that relate to broad geographical areas and are intended to be used to accumulate costs prior to the costs either being written off or re-assigned after discovery of commercial reserves. If non-drilling exploration and evaluation costs relate to the assessment of a particular structure, the costs are to remain capitalized in the general exploration cost center pending determination of the likelihood of the presence of commercial reserves. If the results of drilling determine that commercial reserves are present, the costs are moved to a field-level cost center where all capitalized costs related to further exploration, appraisal, and development are accumulated. This treatment is illustrated in the following example. If commercial reserves are not indicated, the costs must be written off to expense.

EXAMPLE
Capitalized G&G Cost—*IFRS 6* Alternative

In the previous example, $400,000 of G&G costs were related to a specific geological structure and thus remained capitalized. Assume that proved reserves are subsequently discovered in the geological structure. The G&G costs that were related to that specific geological structure would be moved to a field-level cost center.

Entry

Wells and Equipment—Field A*	400,000	
Intangible assets—exploration expenditure		400,000

(to reclassify exploration expenditure from an intangible asset account to tangible asset account)

*Note that in the above entry an intangible account is reclassified into a tangible account because these costs are now part of the cost of a proved field which is a tangible asset with future economic benefits.

Intangible Exploration and Evaluation Assets-IFRS

According to *IFRS 6* par. 15, entities are to develop a policy for consistently classifying capitalized exploration and evaluation assets as either intangible or tangible assets. The classification is of importance if the revaluation model is used for subsequent measurement, which is fairly uncommon. Some companies

initially capitalize exploration and evaluation assets as intangible, and, if the property moves into development, the costs are reclassified within the property, plant and equipment classification. A more common practice is to capitalize exploration costs as tangible assets within the drilling-in-progress or construction-in-progress accounts from the start of the exploration and evaluation period. Another alternative is to capitalize exploration and evaluation expenditures within a category of intangible assets that are amortized over the exploration period established in the underlying contract. Regardless of the specific method chosen, disclosure of the policy adopted by the entity is required.

Overhead Associated with G&G Activities

A variety of overhead-related costs may be incurred in relation to G&G activities. General administrative overhead, unrelated to G&G activities, is typically charged to general and administrative expense as incurred. Under U.S. successful efforts, since G&G costs are charged to expense as incurred, the typical treatment is to simply charge all G&G-related overhead incurred during exploration operations to expense as overhead costs. However, an alternative would be to charge the portion of the overhead related to G&G operations to expense as G&G costs versus general administrative overhead expense. The decision to separate the overhead costs between G&G expense versus general administrative overhead expense is a matter of company policy.

IFRS 6 does not indicate whether administrative or other overhead can be capitalized as a part of exploration and evaluation assets. Since certain national GAAP permit capitalization of G&G related to evaluation of specific geological structures, companies may opt to allocate a portion of their overhead costs to specific G&G activities. Doing so results in the capitalization of a portion of their overhead (thereby keeping the costs off of the income statement), and some might argue it results in a more appropriately measured asset. Corporate-level general overhead is typically not allocated to the field level. In any event, if a company elects to allocate a portion of its overhead to specific exploration and evaluation projects, they must adopt an acceptable allocation method that can be consistently applied. Any benefits that would be derived from such an allocation might be outweighed by the cost of doing so.

Support Equipment and Facilities

Support equipment and facilities include items such as seismic equipment, drilling equipment, warehouses, field offices, repair shops, and vehicles. Some support equipment is used exclusively in a single oil and gas producing activity, i.e., exploration, development, or production. More commonly, equipment and facilities are used in multiple activities. Under either U.S. GAAP or IFRS (specifically *IAS 16*), the cost of acquiring support equipment and facilities should be

capitalized as property, plant and equipment. Any depreciation or operating costs related to support equipment and facilities becomes an exploration, development, or production cost to the extent the equipment or facility is used for that activity. If support equipment and facilities are used in multiple activities, the operating and depreciation costs should be allocated to the specific activities on some appropriate basis, such as hours utilized, miles driven, etc. in each activity.

Under U.S. successful efforts, operating costs and depreciation of support equipment and facilities used in prospecting and non-drilling exploration activities should be treated as any other prospecting and non-drilling exploratory activity and expensed as incurred.

EXAMPLE

Support Equipment and Facilities—U.S. GAAP

During 2025, Huge Oil Company used company-owned seismic equipment in Surasia. Depreciation of the equipment was $150,000 and operating costs were $240,000.

Entry

G&G expense	150,000	
Accumulated depreciation		150,000

(to record depreciation of seismic equipment)

Entry

G&G expense	150,000	
Cash		150,000

(to record operating costs related to seismic equipment)

Under successful efforts as prescribed by some national standards operating costs and depreciation of support equipment and facilities related to non-drilling exploration activities should be initially capitalized. If the non-drilling exploration operation is related to a specific geological feature, the costs remain capitalized pending determination of the presence of commercial reserves. Otherwise, the costs are charged to expense at the end of the year incurred.

EXAMPLE

Support Equipment and Facilities—*IFRS 6* Alternative

During 2025, Huge Oil Company used seismic equipment in Surasia. Depreciation of the equipment was $15,000 and operating costs were $40,000. Assume that the G&G project in Surasia could be related to a specific geological structure:

Entry

Intangible assets—exploration expenditure	15,000	
Accumulated depreciation		15,000

(to record depreciation on seismic equipment)

Entry

Intangible assets—exploration expenditure	40,000	
Cash		40,000

(to record operating costs related to seismic equipment)

No entries would be made at year-end relating to these costs.

Assume instead that the G&G project in Surasia could not be related to a specific geological structure as of the end of the year. The initial entries to record these costs would be the same as above. The entries at the end of the year would be as follows:

Entry

G&G expense	150,000	
Intangible assets—exploration expenditure		150,000

(to reclassify depreciation related to seismic equipment to expense)

Entry

G&G expense	40,000	
Intangible assets—exploration expenditure		40,000

(to reclassify seismic operating costs to expense)

Reprocessed Seismic Information

On occasion the opportunity may arise whereby previously evaluated seismic data may become relevant. For example, a company evaluates a prospect and gathers substantial amounts of seismic information. At the time of the initial evaluation, the decision is made not to pursue the prospect. Perhaps the economics are not favorable or perhaps the company loses in a bidding round. In any event, the cost of the seismic study would have been written off to expense. For whatever reason, at a later date the company elects to re-evaluate or reprocess the seismic data. Perhaps the information is potentially helpful in determining whether to pursue a new interest in the area. The questions that sometimes arise in regard to this issue are:

1. How to account for the cost of the re-evaluation or reprocessing of the data
2. Whether to make any adjustments related to the original cost of the seismic studies

How to account for the reprocessing costs depends on the reason that the data reprocessing was undertaken. If the reprocessing relates to the search for oil and gas, then it should be accounted for according to the U.S. rules or certain national GAAP successful efforts provisions regarding non-drilling exploration costs incurred in exploration and evaluation activities (as described above). If the purpose of the reprocessing is to determine how best to develop reserves and resources actually discovered on the property, then the reprocessing costs should be recognized as a development cost and capitalized. Regardless of the purpose and intent of the reprocessing, it would not be appropriate, under any circumstances, to reinstate the cost of the original seismic work previously charged to expense.

Exploration and Evaluation Costs and Contract Accounting

Whether the company is using U.S. GAAP, national GAAP, or IFRS for financial accounting purposes, it is important to determine whether the applicable petroleum contract contains language pertaining to the recoverability of exploration and evaluation costs. If the operation is conducted under a lease or concession agreement, it is unlikely that the contract would contain provisions that would pertain to cost recovery. On the other hand, if the operation is conducted under a PSC or risk-service agreement, the contractor performing exploration and evaluation operations may well be permitted to recover G&G related expenditures. If this is the case, it is important that the company develop a procedure whereby recoverable G&G costs can be tracked.

It should be noted that recoverability for contract accounting purposes does not affect the financial accounting treatment of the costs. In other words, G&G costs would be accounted for by applying company policy (i.e., U.S. GAAP, national GAAP, or IFRS) for financial accounting purposes. The recoverability of the G&G costs would not result in the recognition of a receivable or other asset. Whether or not costs are recoverable is reflected in the company's contract accounting records but does not influence the company's financial accounting treatment of the cost.

Accounting for Mineral Property (License) Acquisition Costs

As discussed previously, the right to explore, develop, and produce oil and gas is typically acquired by contracting with the owner of the mineral rights. In the U.S., mineral rights are most often owned by individuals or the government. In countries outside the U.S., the mineral rights owner is typically the government. The cost of acquiring operating mineral rights involves the cost of negotiating with the mineral rights owner and meeting the owner's demands and expectations.