VIEWPOINTS:
Applying IFRS® Standards in the Mining Industry

UNDERGROUND DEVELOPMENT COSTS

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Mining Industry Task Force on IFRS® Standards

International Financial Reporting Standards (IFRS®) create unique challenges for mineral resource companies. Financial reporting in the sector is atypical due to significant differences in characteristics between mineral resource companies and other types of companies. The Chartered Professional Accountants of Canada (CPA Canada) and the Prospectors & Developers Association of Canada (PDAC) created the Mining Industry Task Force on IFRS Standards (Task Force) to share views on IFRS application issues of relevance to mineral resource companies. The views of the Task Force are provided in a series of papers entitled *Viewpoints* available through free download. These *Viewpoints* are of particular interest to chief financial officers, controllers and auditors.

Background

This *Viewpoints* focuses on treatment of underground development costs for mining projects that have transitioned out of the exploration and evaluation (E&E) phase.

Underground development activities (e.g., drilling, blasting, mucking, and supporting activities) can result in the production of inventory, the development of the underground mine, or a mix of both. In most cases a mining entity is confronted with activities where costs supporting production of inventory are intermingled with those supporting mine development. Developing an allocation method to be applied in segregating these costs requires judgment. As such, the identification and segregation of costs attributable to these activities are important for determining the accounting treatment of such costs.

- Where costs result in the production of inventory, they form part of the inventory cost and are expensed to cost of goods sold once the inventory is sold.
- Where costs can be attributed to the development of the underground mine, and it is probable that future economic benefit will flow over more than one period, they are capitalized.

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Underground development costs qualifying for capitalization as property, plant and equipment are typically described on the balance sheet as mine development costs, deferred development, mineral properties, or mine assets. IFRIC 20[1] addresses the capitalization of costs associated with stripping a surface mine, but no similar guidance exists for underground mining activities. Due to the lack of direct guidance, mining entities need to develop suitable accounting policies and draw on other IFRS standards by analogy, where appropriate, when assessing whether underground mining costs should be capitalized.

In developing accounting policies for underground development activities, mining entities should consider:

- whether it is probable that the future economic benefit (improved access to the ore body) associated with the development activity will flow to the entity over more than one period[2]
- whether the entity can identify the component of the ore body to which access has been improved
- whether the costs relating to the activity associated with that component can be measured reliably

When mine development costs are capitalized, mining entities amortize mine development costs on a systematic basis over their expected useful lives. As different development activities may benefit the mining entities over different future periods, judgment is required to identify the components to which development activities relate, and the useful life over which they should be amortized.

Issue

Challenges faced when accounting for underground development costs include:

- determining which types of cost qualify for capitalization as mine development costs within property, plant and equipment
- determining an appropriate allocation method in circumstances where development costs are intermingled with costs of normal operating activities (e.g., production inventory)
- depreciating components of the capitalized development activities in a manner consistent with their respective useful lives

1 IFRIC 20 *Stripping Costs in the Production Phase of a Surface Mine*

2 Per paragraph 68 of IAS 1 *Presentation of Financial Statements*: When an entity's normal period is not clearly identifiable, it is assumed to be 12 months.

Viewpoints

Determining Which Types of Cost Qualify for Capitalization as Mine Development Costs

The types of mining activities incurred depend on the type of underground mining (e.g., stope mining, block-caving, etc.). The table below outlines some common categories of activities and the common judgments that should be considered to determine whether these activities qualify for capitalization as mine development costs or should be accounted for as production costs.

Based on the requirements of IAS 16 *Property, Plant and Equipment* and IAS 38 *Intangible Assets*, the judgments listed below contemplate whether probable that future economic benefits associated with the activity will flow to the entity beyond more than one period. The evaluation of each activity requires careful consideration of entity-specific facts and circumstances.

Activity	Explanation of common judgments
1. Tunnels and ramps that improve access to ore (i.e., adits, drifts, crosscuts, passes, winzes, and other access corridors), including associated hauling and tramming activities	The ore made accessible by a primary ramp may differ greatly from that accessed by a specific drift or crosscut. Mining entities should consider whether the ore accessed by this activity is expected to benefit the mining entity over a period longer than one period from the date the costs are incurred. In such cases, the costs associated with these activities might be eligible for capitalization as a mine development cost asset.
2. Blasting and mucking of stopes containing ore	The cost of extracting ore from a stope generally represents production costs.
3. Block caving, undercutting, and construction of draw points	Block caving and associated activities are generally undertaken to produce inventory (i.e., the material blasted and extracted is often ore). However, these activities may also contribute to improved access to other ore. Mining entities should evaluate whether the improved access provides benefits to the mining entity over a period longer than one period from the date the costs are incurred. In such cases, the costs associated with these activities might be eligible for capitalization as a mine development cost asset.

Activity	Explanation of common judgments
4. Backfilling of stopes	Backfilling of stopes may be undertaken with or without the benefit of access to additional ore. For example, backfilling may represent mine infrastructure facilitating extended access, or conversely may be conducted in connection with reclamation and closure activities. Backfilling activity might be undertaken to facilitate access to additional ore anticipated to benefit the mining entity for greater than one period from the date the costs are incurred. In such cases, the costs may generally be eligible for capitalization as a mine development cost asset.
5. Mine infrastructure (e.g., shafts, raises), mine services (e.g., heating, ventilation, electrical, etc.), and support facilities (e.g., underground areas excavated to provide working areas for equipment expected to be used throughout the life of the mine)	Mining entities should consider whether the infrastructure and facilities contribute to the ability to access ore anticipated to benefit the mining entity for greater than one period from the date the costs are incurred. In such cases, the costs associated with these activities might be eligible for capitalization as a mine development cost asset.
6. Reserve and resource development activities (e.g., infill drilling to enhance geological model, wide hole spacing to enhance resource model, bulk sampling activities, and grade control drilling)	Reserve and resource development activities related to drilling occur throughout the mine's life cycle and could contribute to mine development and/or current-period production. Mining entities will need to evaluate the purpose of these activities and, consequently, whether these costs would qualify for capitalization.
7. Depreciation on mine equipment used in development activities	If equipment is being used for activities constituting development of another asset, then depreciation on this equipment might qualify for capitalization as a mine development cost asset.

The above activities may involve consumption of supplies, utilization of mine personnel, or other costs which support both the production of inventory and mine development. The following section describes how mining entities allocate such costs between these categories.

Determining an Appropriate Allocation Method in Circumstances Where Development Costs Are Intermingled With Normal Operating Activities

When costs incurred can be explicitly identified as mine development, production or exploration costs, an entity should capitalize or expense accordingly. However, personnel, supplies and equipment engaged in mining activities may be used to conduct mine development, production, and exploration activities in the same period, and cost centres may not be sufficiently defined to permit direct segregation of the costs associated with these activities. This is particularly the case with drilling, blasting and hauling cost centres (in terms of direct and indirect labour, and supplies consumption), technical services (including engineering and geology) and depreciation of certain mine equipment.

Mining entities typically establish a method to allocate shared costs among the activities. Common policies include, but are not limited to, allocation based on metres advanced (e.g., total metres compared to development metres) and allocation based on tonnes extracted, moved, or hauled (e.g., ore tonnes to be processed compared to total tonnes including waste tonnes). In establishing a method, an entity should consider:

- whether they can maintain consistency in measurement methods across mine projects (e.g., metres advanced, tonnes extracted, person hours)
- how precise measurement tools used are (e.g., survey tools, weigh scales)
- how development and production zones have been defined, and will be maintained and updated, within the block model

These considerations can have a material impact on the amounts capitalized. Given that the potential policies are diverse, that defining zones of activity involves judgment, and that non-financial operational data is being leveraged, it is important for mining entities to develop and implement policies, systems and processes, and controls to gather the information needed to account for and allocate mine development and production costs. Overall, one must use judgment in applying the requirements of the standards.

Amortization of Components of the Capitalized Development Activities in a Manner Consistent With Their Respective Useful Lives

Capitalized mine development costs should be carried at cost or at their revalued amount, less depreciation or amortization and less any impairment losses. The asset should be amortized on a systematic basis (e.g., over the expected useful life of the identified component of the ore body that becomes more accessible as a result of the activity). For more, refer to the CPA Canada publication **Viewpoints: Applying IFRSs in the Mining Industry Depletion of a Mine in the Production Phase: Useful Life of a Mine**. As such, an entity might need to:

- Separately identify activities that benefit a specific component of the ore body as opposed to the mine itself (and related life-of-mine assets).
- Determine the expected useful life of the identified components (which may differ from the expected useful life used to depreciate or amortize the mine itself and related life-of-mine assets).
- If units-of-production depreciation is used, determine production quantities from that distinct component for this purpose. For example, a haul shaft may be benefited over all the production that haul shaft is expected to extract, whereas an isolated stope might be benefited over only the production within that stope.

Consultation

Accounting for underground development costs can be complex and can require significant judgment. Mining entities should consider consulting their professional accounting advisors and/or their auditors.

Comments

If you have comments on this *Viewpoints* or suggestions for future *Viewpoints*, please send them to: ifrsviewpoints@cpacanada.ca.

For more information on IFRS, visit: www.cpacanada.ca/viewpointsoilgas.

The Mining Industry Task Force on IFRS Standards

Members

Julie Robertson, CPA, CA
Centerra Gold
Toronto, Ontario

Bob Bosshard, CPA, CA
Prospectors & Developers Association of Canada
Toronto, Ontario

Pierre Cusson, CPA, CA
Raymond Chabot Grant Thornton LLP
Montreal, Quebec

Jeff Davidson, CPA, CA
Barrick Gold Corporation
Toronto, Ontario

Murtaza Dean, CPA, CA, CPA (CO)
MNP LLP
Toronto, Ontario

Anne-Marie Henson, CPA, CA
BDO Canada LLP
Montreal, Quebec

Thomas Karanikolas, CPA, CA
Hudbay Minerals
Toronto, Ontario

Blake Langill, CPA, CA
Ernst & Young LLP
Toronto, Ontario

Eric Leopold, CPA, CA
Deloitte LLP
Toronto, Ontario

Sunny Lowe, CPA, CA
INV Metals
Toronto, Ontario

James Lusby, CPA, CA
PricewaterhouseCoopers LLP
Toronto, Ontario

Ken McKay, CPA, CA
KPMG LLP
Toronto, Ontario

Maarten Theunissen, CA (South Africa)
TMAC Resources Inc.
Toronto, Ontario

Blair Zaritsky, CPA, CA
Osisko Mining Inc.
Toronto, Ontario

Staff

Michael Massoud, CPA, CA CPA (IL)
CPA Canada
Toronto, Ontario