Accounting For Operational Assets: From Acquisition Through Disposal

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ABSTRACT

For many firms long-term operational assets are the largest category of asset on their balance sheet. Accounting students need to understand how these assets are accounted for throughout the lives of the assets to understand the effects they have on a firm's balance sheet and income statement. This case includes all of the normal issues involving operational assets and walks the student through the entire life-cycle of one asset owned by Big Muscle Corporation. The case requires students to identify which costs are capitalized into long-term assets, calculate capitalized interest on a self-constructed asset, depreciate an asset, change depreciation methods, perform an impairment test, and, finally, dispose of an asset. When a student has successfully completed the case, they will have a good "big picture" view of how operational assets are accounted for in the United States and the various issues associated with the accounting for these important assets.

Keywords: Operational Assets; Long-term Assets; Capitalized Interest; Depreciation; Asset Impairment; Disposition

CASE- BIG MUSCLE CORPORATION

Big Muscle Corporation (BM) manufactures and sells nutritional supplements to athletes. Because of a steady growth in popularity, their current manufacturing plant cannot keep up with demand. At the beginning of 2012, BM Corp. decides to build a new, larger plant to increase their manufacturing capacity. This case will follow this asset from its creation through its eventual disposal. The construction of the building begins February 1, 2012. BM Corp's fiscal year end is December 31st. BM Corp. incurs the following costs:

February 1, 2012	Purchases Land	$3,000,000
	Real Estate Fees for Purchase of Land	140,000
	Razes Structure to Prepare Land	120,000
	Architect Building Planning Fee	220,000
	Purchases Building Materials	1,484,000
March 1, 2012	Pays Building Construction Workers	660,000
May 1, 2012	Pays Building Construction Workers	660,000
	Purchases Building Materials	770,000
September 1, 2012	Pays Building Construction Workers	660,000
	Purchases Building Materials	440,000
December 31, 2012	Pays Building Construction Workers	500,000
	Pays for first year of landscaping maintenance	20,000

The new manufacturing plant was completed December 31, 2012.

BM Corp. receives a construction loan of $1,000,000 at 6.0% which is outstanding throughout the whole construction period. BM Corp. has two other loans, both of which are outstanding throughout all of 2012- one for $10,000,000 at 8.0% and one for $4,000,000 at 5.2%.

1. What is the amount capitalized into the **land** asset?

2. What is the amount of **interest** capitalized into the **building** asset using the specific interest method of interest capitalization?

3. What is the total amount capitalized into the **building** asset?

   BM Corp. chooses to depreciate the building using the double declining balance method. The building has a useful life of 15 years and $1,000,000 salvage value.

4. What is the amount of depreciation during the years 2013 and 2016?

   At the beginning of 2017, BM Corp. decides that straight-line depreciation would be more appropriate. At the same time, they also change the estimate of the useful life and salvage value. They estimate the remaining useful life to be 16 years (20 years total) and a salvage value of $1,250,000.

5. What is the amount of depreciation during 2017?

   On December 31, 2019 (**after depreciation for 2019 is recorded**), BM Corp. does an impairment test on the building. According to an appraisal, the current market value of the building is $2,500,000. The undiscounted cash flows produced by the building are estimated to be $2,800,000.

6. Is the building impaired? Show the impairment test. If it is impaired, show the journal entry to record the impairment.

   On January 2, 2020, BM Corp. decides that their larger manufacturing plant is no longer needed. BM Corp. sells the building **and land** for $8,000,000 in cash.

7. Record the journal entry for the sale of the building and land on January 2, 2020.

8. Complete the following table.

	Value of Land on Balance Sheet as of 12/31	**Net Book Value of Building on Balance Sheet as of 12/31**	**Effect on Net Income from these Assets (Depreciation and Loss- Ignore Taxes)**
2012			
2013			
2014			
2015			
2016			
2017			
2018			
2019			

Intended Audience and Instructor Notes

This case has been designed for undergraduate students in the first half of a two-class series of intermediate financial accounting. It can be used in a variety of ways.

The case is most commonly used as an open-book in-class assignment in which groups of three students complete the case during the class period. It should be completed during a class period soon after lecturing on the various long-term asset topics included in the case. It typically takes groups of students between 60 and 90 minutes

to complete the case. Since the case is so linear (i.e., you can't go to the next section until you complete the previous one correctly), students are encouraged to check their answers with the instructor prior to moving to the next section. This allows the instructor to see what progress students are making and to encourage or give guidance to the groups that appear to be stuck on a particular section.

To motivate students, one instructor gives "extra points" on the next exam to the groups that complete it correctly the fastest. He found that giving 3 points to the first team, 2 points to the second and third teams, and 1 point to the fourth and fifth teams provide sufficient motivation for students to work very hard to complete the assignment quickly. Depending on the size of the class, you will want to adjust the reward as appropriate. After most of the groups have completed the case, the instructor should walk through it carefully together with the class. This provides great opportunities to discuss the implications of the accounting treatment on the asset in the case and talk about other possible scenarios.

This case has also been used as an individual at-home assignment. When the case is assigned in this way, the instructor needs to provide many check figures for students to make sure they are doing it correctly along the way. This method of using the case is useful for the students, but does not include many of the benefits of doing it in class, such as providing opportunities for students to teach each other and opportunities for the instructor to help students individually as they find themselves stuck on a particular section.

The authors have received significant (though anecdotal) feedback from students that this case is very helpful in helping them to see the "big picture" view of operational assets and that it was great practice of the skills they learned in this portion of the class.

Solution

1.

3,000,000 + 140,000 + 120,000 = $3,260,000	Capitalized into Land Asset

2.

10,000,000 * 8.0% =	800,000	
4,000,000 * 5.2% =	208,000	
14,000,000	1,008,000	
1,008,000/14,000,000 = 7.2%		Weighted average interest rate excluding the construction loan

2/1/12	1,704,000 * 11/11 = 1,704,000	
3/1/12	660,000 * 10/11 = 600,000	
5/1/12	1,430,000 * 8/11 = 1,040,000	
9/1/12	1,100,000 * 4/11 = 400,000	
12/31/12	500,000 * 0/11 = 0	
	5,394,000 $3,744,00	Average Accumulated Expenditures

1,000,000 * 6.0% * 11/12 = 55,000	
2,744,000 * 7.2% * 11/12 = 181,104	
$236,104	Interest Capitalized

3.

5,394,000 + 236,104 = $5,630,104	Capitalized into Building Asset

4.

2013	5,630,104 * 2/15 = 750,681	
2014	4,879,423 * 2/15 = 650,590	
2015	4,228,833 * 2/15 = 563,844	
2016	3,664,989 * 2/15 = 488,665	2016 Depreciation Expense

5.
3,176,324 – 1,250,000 = 1,926,324
1,926,324/ 16 = 120,395 2017 Depreciation Expense

6.
120,395 * 3 = 361,185 2017 through 2019 Depreciation Expense
3,176,324 – 361,185 = 2,815,139 Book value (12/31/2019)

Book Value 2,815,049 > Undiscounted Cash Flows 2,800,000; therefore, there is an impairment.
Impairment amount: 2,815,139 – 2,500,000 = 315,139

There are two ways of recording this impairment and the subsequent disposal journal entry. See Option 1 and Option 2 below.

Option 1:

Loss on Impairment	315,139	
Accumulated Depreciation		315,139

Option 2:

Building (New Value)	2,500,000	
Loss on Impairment	315,139	
Accumulated Depreciation	2,814,965	
Building		5,630,104

7.
Option 1:

Cash	8,000,000	
Accumulated Depreciation	3,130,104	
Land		3,260,000
Building		5,630,104
Gain on Sale		2,240,000

Option 2:

Cash	8,000,000	
Land		3,260,000
Building		2,500,000
Gain on Sale		2,240,000

8.

	Value of Land on Balance Sheet as of 12/31	**Net Book Value of Building on Balance Sheet as of 12/31**	**Effect on Net Income from these Assets (Depreciation and Loss- Ignore Taxes)**
2012	3,260,000	5,630,104	0
2013	3,260,000	4,879,423	750,681
2014	3,260,000	4,228,833	650,590
2015	3,260,000	3,664,989	563,844
2016	3,260,000	3,176,324	488,665
2017	3,260,000	3,055,929	120,395
2018	3,260,000	2,935,534	120,395
2019	3,260,000	2,500,000	435,534

AUTHOR INFORMATION

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