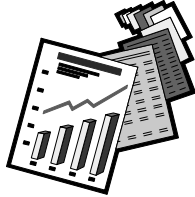


Depreciation and Depletion

Chapter 11



Slide 11-1

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Depreciation, summary



Why?

Matching!

How much?

Cost of asset less estimated salvage value.

How?

Methodology which most closely approximates use of the asset.

•**Straight line:** most common. Depreciation is the same every period. Assumes ratable asset benefit/ use.

•**Activity based:** when asset is consumed at a rate approximating the units it produces. Therefore depreciation expense may vary from period to period depending on units produced.

•**Sum of the years digits:** Accelerates depreciation, thus indicating that the asset is more productive in its' earlier years.

•**Declining balance:** Also accelerates depreciation. Does NOT include salvage value. When asset gets depreciated to salvage value, you stop.

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Calculating Depreciation

Facts to be known:

1. Historical cost
2. Salvage value

One and two above are collectively known as the

Depreciable Base

3. Estimated service life

Number of years that the assets is capable of economically providing the service it was purchased to perform.

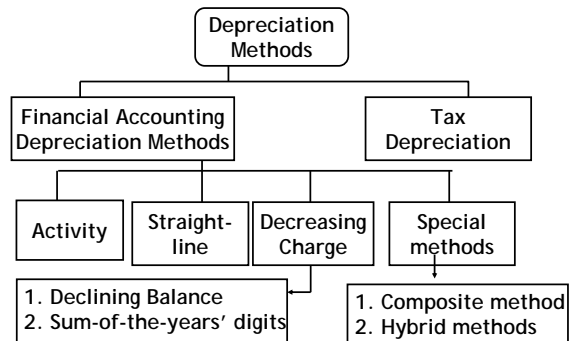
Not to be confused with the physical life.

Is dependent on "Economic and Physical" factors.

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Methods of Depreciation



Slide 11-4

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Depreciation Example

Facts:

Cost of machine	\$260,000
Estimated useful life	10 years
Estimated salvage value	\$20,000
Productive life in hours	60,000 hours
Hours machine used 1 st year	6,000 hours
Hours machine used 2 nd year	12,000 hours
Hours machine used 3 rd year	3,000 hours

Compute depreciation in years 1, 2 & 3 Using: Straight line, sum of the years digits, and activity based depreciations.

Slide
11-5

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Solution to depreciation example

FACTS FROM PROBLEM

Cost	260,000
Life	10
Est Salvage value	20,000
Productive life hours	60,000
Yr 1 hours	6,000
Yr 2 hours	12,000
Yr 3 hours	3,000

Depreciable base	240,000
Life	10
Annual depreciation	24,000

Depreciation is the same in Yr 1, 2 & 3 at:

Yr. 1	Yr. 2	Yr. 3
240,000	240,000	240,000
10%	20%	3%
24,000	48,000	12,000

SUM OF THE YEARS DIGITS

Depreciable base	240,000	240,000	240,000	
Years remaining	10/55	9/55	8/55	
Year	Years total expressed as a decimal	0.1818	0.1636	0.1455
Depreciation expense	43,636	39,273	34,909	

DOUBLE-DECLINING BALANCE

Not covered in this example, see powerpoint presentation and text illustration 11-7

COMPUTATIONS: DEPRECIABLE BASE

Cost	260,000
Less: estimated salv.	(20,000)
Deprec. base	240,000

* Careful, we don't use %s for declining balance methods

Denominator for sum of the years digits, based on 10 year life:
10 years = 1+2+3+4+5+6+7+8+9+10 = 55

Yr. 1	Yr. 2	Yr. 3
240,000	240,000	240,000
10%	20%	3%
24,000	48,000	12,000

Units this year
Total units

6,000	12,000	3,000
60,000	60,000	60,000

Percentage consumed

10%	20%	5%
-----	-----	----

Slide
11-7

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Double-Declining Balance

- Page 525 of text it is described and there is also a VERY good illustration 11-7. STUDY IT! Here is the bottom line:
- First compute the straight line as a percentage, okay so lets say it is a 10 year life, then that would be 10% per year right? If it was a 3 year life (like a computer), then that would be 33.3% right?
- Okay, like the description says- double it- that means 20% for a 10 year asset or 66.7% for a 3 year asset.
- Alright now all you do is apply that percentage to each beginning net balance- voila! Remember, it is the only method which requires that you know the beginning NBV (that means AFTER accumulated depreciation). Example on next slide.

Slide
11-7

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Double Declining Balance

FACTS FROM PROBLEM TEXT ILLUSTRATION 11-7

Cost	500,000
Life	5
Est Salvage value	50,000
Productive life hours	60,000
Yr 1 hours	6,000
Yr 2 hours	12,000
Yr 3 hours	3,000

Depreciable base does NOT factor salvage value to DDB 500,000

Double declining balance factor 0.40 (1/5 years*2)

Year	DDB factor	Depreciation	Deprec. Basis
Opening			500,000
1	0.40	200,000	300,000
2	0.40	120,000	180,000
3	0.40	72,000	108,000
4	0.40	43,200	64,800
5	0.40	14,800 *	50,000

* Note that in final yr. We only record as much depreciation expense as necessary to reduce to estimated salvage value.

Slide
11-8

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Depletion

Used to account for natural resources which are physical consumed over the period of use, such as petroleum, minerals and timber.

Depletion Base =

- Acquisition cost of property
- Exploration costs
- Development costs
- Restoration costs

TYPICALLY CHARGED TO COST OF SALES

Slide
11-9

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Depletion

Used to account for natural resources which are physical consumed over the period of use, such as petroleum, minerals and timber.

Depletion Base =

- Acquisition cost of property
- Exploration costs
 - successful efforts or full-cost
- Development costs
 - intangible costs such as drilling, tunnels, shafts, and wells
- Restoration costs

TYPICAL DEPLETION IS ACTIVITY-BASED

GENERALLY CHARGED TO COS EQUIVARIANT NOT A DEPRECIATION EXPENSE

Slide
11-10

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DEPLETION EXAMPLE

Purchase mineral rights	\$ 500,000
Purchase equipment	250,000
Drilling costs	50,000
Costs incurred "up-front"	\$ 800,000
Estimated Restoration	\$ 200,000
TOTAL DEPLETION BASE	\$ 1,000,000
Estimated total barrel of oil	5,000,000
Estimated cost/ barrel	\$ 0.20

What is the basis when placed in operation?

\$800,000

What is the basis when all 5,000,000 barrels pumped out?

(\$200,000)

What do you call a credit balance?

LIABILITY!!

Slide
11-11

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Impairments

An impairment of a depreciable asset occurs when:

- the carrying amount of the asset is not recoverable, and therefore a write-off is needed.

The recoverability test determines if an impairment has occurred.

- Recoverability test only required under FAS 144 when an "event or change in circumstances" indicates that an impairment might have occurred.

RECENT UPDATE!!!

Does our current economic environment impact prevalence of impairments?

Slide
11-12

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Impairments

Impairment occurs when --

- expected future **UNDISCOUNTED** net cash flows is less than,
- the asset's carrying value

Events that might lead to an impairment

- **Discontinued development**
- **Discontinued product development**
- **Economic/Environmental**
- **Anything that makes you think Hmmm, I wonder if the asset really has a future value to the Company?**

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Impairments

Recoverability Test --

- If there is an event or change in circumstance which cause some doubt over the future value of the asset, then do the test:
- If expected future net cash flows (undiscounted) is less than the carrying amount of the asset -- then asset has been impaired.

Measuring Impairments --

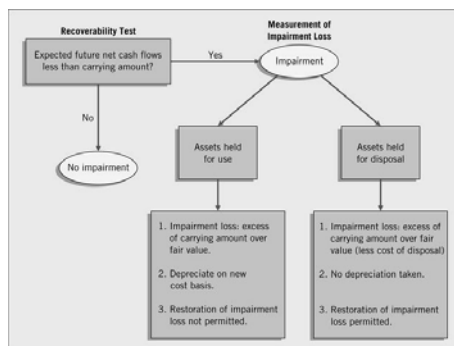
- Loss is amount by which the carrying amount of asset exceeds its fair value
 - Fair value = Market value
 - If no active market value, then $FV = PV$ of expected future net cash flows
 - The charge is recorded as a current expense (due to a change in estimate) and goes towards additional accumulated depreciation (it is like catching up on depreciation):

Impairment expense XXX
 Accumulated depreciation XXX

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Impairments- assuming you have reason to test.



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Impairments

LETS DO AN EXAMPLE

Slide 11-16

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