Long-Term Assets Exercises III

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Problem 1

Shaw Corporation recently requested a contractor to prepare a proposal to refurbish the exterior of its office building. Shaw wanted to give its building a "face lift." The contractor provided the following bid document:

Add extension to front porch approac	$70,000
Install shrubs and trees	8,750
Replace rotting exterior siding material	26,250
Replace burned out exterior light bulbs	1,750

Assume that Shaw Corporation agreed to the bid, and authorized the work. What journal entry would be appropriate for each of the above expenditures?

Worksheet

GENERAL JOURNAL			
Date	**Accounts**	**Debit**	**Credit**
	To record addition to existing building		
	To record addition of landscaping		
	To record replacement of siding material		
	To record replacement of light bulbs		

Solution

GENERAL JOURNAL			
Date	**Accounts**	**Debit**	**Credit**
	Building	70,000	
	Cash		70,000
	To record addition to existing building		
	Land Improvements	8,750	
	Cash		8,750
	To record addition of landscaping		
	Accumulated Depreciation	26,250	
	Cash		26,250
	To record replacement of siding material		
	Repair Expense	1,750	
	Cash		1,750
	To record replacement of light bulbs		

Problem 2

Motorway Construction Company owns a tractor that originally cost $350,000, with a 20-year life, and no anticipated salvage value. Motorway uses the straight-line depreciation method. Review the following three independent cases, and prepare the journal entry to reflect the disposition of the tractor in each case.

Case 1 After 6 years of ownership, the tractor was destroyed by a flood.

Case 2 After 10 years of ownership, the tractor was sold for $245,000.

Case 3 After 17 years of ownership, the tractor was sold for $44,000.

Worksheet

GENERAL JOURNAL			
Date	**Accounts**	**Debit**	**Credit**
Case 1			
Case 2			
Case 3			

Solution

GENERAL JOURNAL			
Date	**Accounts**	**Debit**	**Credit**
Case 1	Accumulated Depreciation	103,500	
	Loss	241,500	
	Tractor		345,000
	To record loss of tractor *(6 years X $17,250 = $103,500)*		
Case 2	Accumulated Depreciation	172,500	
	Cash	245,000	
	Gain		72,500
	Tractor		345,000
	To record sale of tractor *(10 years X $17,250 = $172,500)*		
Case 3	Accumulated Depreciation	293,250	
	Cash	44,000	
	Loss	7,750	
	Tractor		345,000
	To record sale of tractor *(17 years X $17,250 = $293,250)*		

Problem 3

Deep Water Sport Fishing Corporation owns many sport fishing boats. The company has usually contracted with a trucking company to haul the boats to the boat dealership for repairs. With the aging of the boats, the company is incurring substantial hauling costs because of the increasing frequency of repairs. The company is considering trading a boat for a trailer, thereby enabling it to haul boats without having to hire a trucking company. This exchange transaction would significantly improve the company's cash flow and does have "commercial substance.

The trailer that will be acquired in the exchange has a fair value of $15,000. Deep Water owns two boats that are currently valued at $85,000. One of these two boats will be exchanged (and no boot will be involved). Art Fish, the owner of the Deep Water, is trying to decide which boat to give up, and is interested in learning about the financial statement impact of the exchange. Prepare alternative journal entries, assuming an exchange of Boat A versus Boat B. Facts about each boat follow:

Boat A Cost, $105,000; accumulated depreciation $75,000

Boat B Cost, $60,000; accumulated depreciation $35,000

Worksheet

GENERAL JOURNAL			
Date	**Accounts**	**Debit**	**Credit**
Boat A			
Boat B			

Solution

GENERAL JOURNAL			
Date	**Accounts**	**Debit**	**Credit**
Boat A	Accumulated Depreciation	75,000	
	Trailer	15,000	
	Gain		15,000
	Boat		105,000
	To record gain on exchange (net book value given $20,000 ($105,000 – $75,000) versus fair value, $15,000)		
Boat B	Accumulated Depreciation	35,000	
	Trailer	15,000	
	Loss	10,000	
	Boat		60,000
	To record loss on exchange (net book value given $50,000 ($75,000 – $25,000) versus fair value, $35,000)		

Problem 4

Liquid Gold Oil acquired an existing oil well and all related equipment used in the production of oil. Liquid Gold paid $5,000,000, of which 30% was attributable to pumps, pipelines, and tanks. The oil well is expected to produce oil as follows:

Year 1	200 barrels per day
Year 2	160 barrels per day
Year 3	120 barrels per day
Year 4	100 barrels per day
Year 5	50 barrels per day

At the end of the 5th year, Liquid Gold anticipates selling the oil well and equipment for $2,000,000. Of this amount, $500,000 is expected to be attributable to the equipment.

Assuming the above estimates serve as the basis for depletion, calculate depletion cost for the 3rd year. Prepare an approriate journal entry for depletion. In preparing the entry, assume that all oil is sold at the time of its production (i.e., none of the oil remains in inventory).

Worksheet

GENERAL JOURNAL			
Date	**Accounts**	**Debit**	**Credit**
Year 3			
	To record depletion of oil well		

Solution

The production rate during the 3rd year is 20% of the expected total production (based on a run rate of "120/(200 + 160 + 120 + 100 + 20)"). Therefore, depletion would be 20% of the depletable base. The depletion is calculated as follows:

Total cost	$	5,000,000
Portion represented by natural resource	X	70%
Total natural resource cost	$	3,500,000
Less: Residual value ($2,000,000 – $500,000)		1,500,000
Depletable base	$	2,000,000
Portion attributable to Year 3	X	20%
Year 3 depletion	$	400,000

Note that the equipment cost would be depreciated separately.

GENERAL JOURNAL			
Date	**Accounts**	**Debit**	**Credit**
Year 3	Depletion Expense (or COGS)	400,000	
	Oil Well		400,000
	To record depletion of oil well		

Problem 5

The general journal of Pierce Hall Industries included the following entries relating to various expenditures during 20X8. Review this information and prepare corresponding entries to record any necessary straight-line amortization or other impairment for the year ending December 31.

GENERAL JOURNAL			
Date	**Accounts**	**Debit**	**Credit**
01-Feb	Patent	100,000	
	Cash		100,000
	Acquired a patent from an inventor. The patent has a 15-year remaining legal life, but it is expected that Pierce will utilize the patent for only 10 years.		
15-Apr	Research Expense	24,000	
	Cash		24,000
	Incurred costs in research and development activity. It is possible these costs will result in new product with a 36-month life.		
01-Jun	Inventory	50,000	
	Building	150,000	
	Goodwill	75,000	
	Cash		275,000
	To record purchase of business, expected to be operated successfully for an indefinite number of future years.		
15-Dec	Copyright	15,000	
	Cash		15,000
	Purchased copyright to a video production, but concluded that it was worthless by year's end.		

Worksheet

GENERAL JOURNAL			
Date	**Accounts**	**Debit**	**Credit**

Solution

Research and development costs are expensed as incurred, and no further amortization is necessary. The goodwill is not amortized.

GENERAL JOURNAL			
Date	**Accounts**	**Debit**	**Credit**
31-Dec	Amortization Expense	10,000	
	Patent		10,000
	To record amortization of patent cost over 10-year life ($100,000/10)		
31-Dec	Loss on Impairment	15,000	
	Copyright		15,000
	To record copyright becoming worthless		

Problem 6

Johansen Corporation's accounting staff was unsure of how to account for certain expenditures relating to its property, plant, and equipment. As a result, the company has delayed recording entries related to the following transactions. In addition, until these items are resolved, the determination of depreciation expense for the year has been delayed.

Item A The company's delivery truck, originally costing $65,000 and having a 5-year life with no salvage value, was substantially overhauled at a cost of $15,000. This expenditure occurred at the beginning of the year, when the truck was three years old. This action restored the truck to "like-new" condition, and extended the useful life by an additional three years.

Item B At mid-year, the company added a new $80,000 dust handling unit to the heating and ventilation system in its inventory warehouse. This new feature is supposed to reduce dust from the air and provide for a cleaner environment in which to store inventory. The new dust unit has a 15-year physical life, but it is anticipated that it will be scraped 9 and one-half years after its installation, when the primary heating system is replaced. As of the beginning of the year, the heating and ventilation system had a cost of $350,000 and accumulated depreciation of $150,000.

Item C The company entered into a 5-year contract with Master Maintenance Services Company. The agreement provides for Johansen to make monthly payments of $2,500 for all routine cleaning and maintenance activities on shop equipment. Two months of services had been provided and paid as of the end of the year. As of the beginning of the year, shop equipment had a remaining net book value of $200,000, and a remaining life of four years.

Item D Johansen entered into a joint agreement with several other companies to mutually acquire an easement on an adjoining tract of land. The easement was needed to provide right-of-way for a future rail transport line extension that will benefit all of the participating companies. Johansen paid $30,000 for its share of the access easement. The easement is perpetual in nature.

Prepare journal entries for each of the four described expenditures. Then, calculate depreciation, as appropriate, for the expenditure and/or related assets. Assume straight-line depreciation in each case.

Worksheet

GENERAL JOURNAL			
Date	**Accounts**	**Debit**	**Credit**

Item A

Item B

Item C

Item D

Solution

GENERAL JOURNAL			
Date	**Accounts**	**Debit**	**Credit**
1-Jan	Accumulated Depreciation	15,000	
	Cash		15,000
	To record significant overhaul of existing truck		
1-Jul	Ventilation Equipment	80,000	
	Cash		80,000
	To record addition of dust handling unit		
Nov/Dec	Maintenance Expense	2,500	
	Cash		2,500
	To record routine maintenance costs		
20XX	Land Easement	30,000	
	Cash		30,000
	To record acquisition of land easement		

Item A

Original cost (annual depreciation @ $13,000 per year)	$	65,000
Accumulated depreciation at beginning of year (2 years)		(26,000)
Beginning net book value	$	39,000
Expenditure to reduce accumulated depreciation		15,000
Revised net book value	$	54,000
Revised remaining life (5 years – 3 years + 3 years)		÷ 5 years
Depreciation expense	$	10,800

Item B

Original cost	$	350,000
Accumulated depreciation at beginning of year		(150,000)
Beginning of year net book value	$	200,000
Remaining life (9.5 years + first half of year)		÷ 10 years
Depreciation expense on original heating system	$	20,000
Cost of dust handler	$	95,000
Life (6.5 years)		÷ 9.5 years
Annual depreciation expense on dust handler	$	10,000
Portion of year in use		x 1/2 year
Depreciation expense on dust handler	$	5,000
Total depreciation expense on heating/dust handler ($20,000 + $5,000)	$	25,000

Item C

Beginning net book value	$	200,000
Remaining life (3 years)		÷ 4 years
Depreciation expense	$	50,000

The maintenance expense does not impact the book value or depreciation.

Item D

The land easement cost is not depreciated, given its perpetual existence.

Problem 7

Brosnan Corporation recently hired a new manager for its struggling construction division. The manager was given responsibility for streamlining operations and restoring profitability. Selling selected assets is one option under consideration.

Begin by reviewing the following asset listing, and prepare hypothetical entries "as if" each asset were sold for cash at its estimated fair value. Then, determine which asset should be sold if the objective becomes to (a) have the largest immediate accounting gain, (b) have the largest immediate accounting loss, (c) result in the highest avoidance of future depreciation expense in periods subsequent to the period of asset sale, (d) produce the most immediate cash inflow, (e) have the largest total asset position, or (f) have no change in total assets.

	Cost	Accumulated Depreciation	Fair Value
Asset C	$ 20,700,000	$ 2,250,000	$ 18,000,000
Asset A	11,250,000	4,500,000	13,500,000
Asset D	14,625,000	5,625,000	5,625,000
Asset B	3,600,000	450,000	3,150,000

Worksheet

GENERAL JOURNAL			
Date	**Accounts**	**Debit**	**Credit**
	To record sale of Asset A		
	To record sale of Asset B		
	To record sale of Asset C		
	To record sale of Asset D		

a) Largest gain
b) Largest loss
c) Highest depreciation to avoid
d) Largest immediate cash flow
e) Largest addition to total assets
f) No change in assets

Solution

GENERAL JOURNAL			
Date	**Accounts**	**Debit**	**Credit**
	Cash	18,000,000	
	Accumulated Depreciation	2,250,000	
	Loss on Sale	450,000	
	Asset A		20,700,000
	To record sale of Asset A		
	Cash	13,500,000	
	Accumulated Depreciation	4,500,000	
	Gain on Sale		6,750,000
	Asset B		11,250,000
	To record sale of Asset B		
	Cash	5,625,000	
	Accumulated Depreciation	5,625,000	
	Loss on Sale	3,375,000	
	Asset C		14,625,000
	To record sale of Asset C		
	Cash	3,150,000	
	Accumulated Depreciation	450,000	
	Asset D		3,600,000
	To record sale of Asset D		

a) Largest gain ($6,750,000) Asset B
b) Largest loss ($3,375,000) Asset C
c) Highest depreciation to avoid ($18,450,000) Asset A
d) Largest immediate cash flow ($18,000,000) Asset A
e) Largest addition to total assets ($6,750,000) Asset B
f) No change in assets Asset D

Problem 8

Bad Brad's Bar-B-Q Restaurant recently remodeled its store. The remodel included obtaining all new kitchen equipment. Much of the older equipment was traded-in as partial consideration toward the purchase of the newer items. Examine each of the following exchanges, and prepare appropriate entries to reflect the trade. Each exchange was deemed to have commercial substance, except for the trade relating to the smoker oven.

	Cost	Accumulated Depreciation	Cash Given or (Received)	Fair Value of New Item
Sink	$ 17,000	$ 11,050	$ -	$ 8,500
Cutting table	34,000	13,600	–	17,000
Refrigerator	20,400	17,000	25,500	34,000
Freezer	30,600	6,800	18,700	28,900
Computer	12,750	10,200	(1,700)	8,500
Fire suppressor	15,300	3,400	(3,400)	5,100
Smoker oven	21,250	4,250	–	22,100

Worksheet

GENERAL JOURNAL			
Date	**Accounts**	**Debit**	**Credit**

GENERAL JOURNAL			
Date	**Accounts**	**Debit**	**Credit**

Solution

GENERAL JOURNAL			
Date	**Accounts**	**Debit**	**Credit**
	Equipment (*new*)	8,500	
	Accumulated Depreciation	11,050	
	Gain		2,550
	Equipment (*old*)		17,000
	To record exchange of sink		
	Equipment (*new*)	17,000	
	Accumulated Depreciation	13,600	
	Loss	3,400	
	Equipment (*old*)		34,000
	To record exchange of table		
	Equipment (*new*)	34,000	
	Accumulated Depreciation	17,000	
	Gain		5,100
	Cash		25,500
	Equipment (*old*)		20,400
	To record exchange of refrigerator		
	Equipment (*new*)	28,900	
	Accumulated Depreciation	6,800	
	Loss	13,600	
	Cash		18,700
	Equipment (*old*)		30,600
	To record exchange of freezer		

GENERAL JOURNAL			
Date	**Accounts**	**Debit**	**Credit**
	Equipment (*new*)	8,500	
	Accumulated Depreciation	10,200	
	Cash	1,700	
	Gain		7,650
	Equipment (*old*)		12,750
	To record exchange of computer		
	Equipment (*new*)	5,100	
	Accumulated Depreciation	3,400	
	Cash	3,400	
	Loss	3,400	
	Equipment (*old*)		15,300
	To record exchange of fire system		
	Equipment (*new*)	17,000	
	Accumulated Depreciation	4,250	
	Equipment (*old*)		21,250
	To record exchange of oven		