DEPLETION

Natural resources, often called wasting assets, include petroleum, minerals, and timber. They have two main features: (1) the complete removal (consumption) of the asset, and (2) replacement of the asset only by an act of nature. Unlike plant and equipment, natural resources are consumed physically over the period of use and do not maintain their physical characteristics. Still, the accounting problems associated with natural resources are similar to those encountered with fixed assets. The questions to be answered are:

1. How do companies establish the cost basis for write-off?
2. What pattern of allocation should companies employ?

Recall that the accounting profession uses the term depletion for the process of allocating the cost of natural resources.

Establishing a Depletion Base

How do we determine the depletion base for natural resources? For example, a company like ExxonMobil makes sizable expenditures to find natural resources, and for every successful discovery there are many failures. Furthermore, it encounters long delays between the time it incurs costs and the time it obtains the benefits from the extracted resources. As a result, a company in the extractive industries, like ExxonMobil, frequently adopts a conservative policy in accounting for the expenditures related to finding and extracting natural resources.

Computation of the depletion base involves four factors: (1) acquisition cost of the deposit, (2) exploration costs, (3) development costs, and (4) restoration costs.

Acquisition Costs

Acquisition cost is the price ExxonMobil pays to obtain the property right to search and find an undiscovered natural resource. It also can be the price paid for an already-discovered resource. A third type of acquisition cost can be lease payments for property containing a productive natural resource; included in these acquisition costs are royalty payments to the owner of the property.

Generally, the acquisition cost of natural resources is recorded in an account titled Un-developed Property. ExxonMobil later assigns that cost to the natural resource if exploration efforts are successful. If the efforts are unsuccessful, it writes off the acquisition cost as a loss.

Exploration Costs

As soon as a company has the right to use the property, it often incurs exploration costs needed to find the resource. When exploration costs are substantial, some companies capitalize them into the depletion base. In the oil and gas industry, where the costs of finding the resource are significant and the risks of finding the resource are very uncertain, most large companies expense these costs. Smaller oil and gas companies often capitalize these exploration costs. We examine the unique issues related to the oil and gas industry on pages 1097–1098 (see “Continuing Controversy”).
**Development Costs**

Companies divide **development costs** into two parts: (1) tangible equipment costs and (2) intangible development costs.

Tangible equipment costs include all of the transportation and other heavy equipment needed to extract the resource and get it ready for market. Because companies can move the heavy equipment from one extracting site to another, companies do not normally include **tangible equipment costs in the depletion base**. Instead, they use separate depreciation charges to allocate the costs of such equipment. However, some tangible assets (e.g., a drilling rig foundation) cannot be moved. Companies depreciate these assets over their useful life or the life of the resource, whichever is shorter.

Intangible development costs, on the other hand, are such items as drilling costs, tunnels, shafts, and wells. These costs have no tangible characteristics but are needed for the production of the natural resource. **Intangible development costs are considered part of the depletion base.**

**Restoration Costs**

Companies sometimes incur substantial costs to restore property to its natural state after extraction has occurred. These are **restoration costs**. Companies consider **restoration costs part of the depletion base**. The amount included in the depletion base is the fair value of the obligation to restore the property after extraction. A more complete discussion of the accounting for restoration costs and related liabilities (sometimes referred to as asset retirement obligations) is provided in Chapter 12. Similar to other long-lived assets, companies deduct from the depletion base any salvage value to be received on the property.

**Write-Off of Resource Cost**

Once the company establishes the depletion base, the next problem is determining how to allocate the cost of the natural resource to accounting periods.

Normally, companies compute depletion on a **units-of-production method** (an activity approach). Thus, depletion is a function of the number of units extracted during the period. In this approach, the total cost of the natural resource less salvage value is divided by the number of units estimated to be in the resource deposit, to obtain a **cost per unit of product**. To compute depletion, the company then multiplies the cost per unit by the number of units extracted.

For example, Maclede Co. acquired the right to use 1,000 acres of land in Alaska to mine for gold. The lease cost is $50,000, and the related exploration costs on the property are $100,000. Intangible development costs incurred in opening the mine are $850,000. Total costs related to the mine before the first ounce of gold is extracted are, therefore, $1,000,000. Maclede estimates that the mine will provide approximately 100,000 ounces of gold. Illustration E-1 shows computation of the depletion cost per unit (depletion rate).

![Illustration E-1](Computation of Depletion Rate)

<table>
<thead>
<tr>
<th>Total Cost – Salvage Value</th>
<th>Depletion Cost Per Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>$1,000,000</td>
<td>$10 per ounce</td>
</tr>
<tr>
<td>100,000</td>
<td></td>
</tr>
</tbody>
</table>

If Maclede extracts 25,000 ounces in the first year, then the depletion for the year is $250,000 (25,000 ounces × $10). It records the depletion as follows:

| Inventory | 250,000 |
| Accumulated Depletion | 250,000 |

Maclede debits Inventory for the total depletion for the year and credits Accumulated Depletion to reduce the carrying value of the natural resource. Maclede credits Inventory
when it sells the inventory. The amount not sold remains in inventory and is reported in the current assets section of the balance sheet.

Sometimes companies do not use an Accumulated Depletion account. In that case, the credit goes directly to the natural resources asset account.

Maclede’s balance sheet would present the cost of the natural resource and the amount of accumulated depletion entered to date as follows:

<table>
<thead>
<tr>
<th>Gold mine (at cost)</th>
<th>$1,000,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less: Accumulated depletion</td>
<td>$250,000</td>
</tr>
<tr>
<td></td>
<td>$750,000</td>
</tr>
</tbody>
</table>

In the income statement, the depletion cost is part of the cost of goods sold.

Maclede may also depreciate on a units-of-production basis the tangible equipment used in extracting the gold. This approach is appropriate if it can directly assign the estimated lives of the equipment to a given resource deposit. If Maclede uses the equipment on more than one job, other cost allocation methods such as straightline or accelerated depreciation methods would be more appropriate.

**Continuing Controversy**

A major controversy relates to the accounting for exploration costs in the oil and gas industry. Conceptually, the question is whether unsuccessful ventures are a cost of those that are successful. Those who hold the **full-cost concept** argue that the cost of drilling a dry hole is a cost needed to find the commercially profitable wells. Others believe that companies should capitalize only the costs of successful projects. This is the **successful-efforts concept**. Its proponents believe that the only relevant measure for a project is the cost directly related to that project and that companies should report any remaining costs as period charges. In addition, they argue that an unsuccessful company will end up capitalizing many costs that will make it, over a short period of time, show no less income than does one that is successful.\(^1\)

The FASB has attempted to narrow the available alternatives, but with little success. Here is a brief history of the debate.

1. **1977**: The **FASB issued Statement No. 19**, which required oil and gas companies to follow **successful efforts accounting**. Small oil and gas producers, voicing strong opposition, lobbied extensively in Congress. Governmental agencies assessed the implications of this standard from a public interest perspective and reacted contrary to the FASB’s position.\(^2\)

2. **1978**: In response to criticisms of the FASB’s actions, the **SEC reexamined the issue and found both the successful-efforts and full-cost approaches inadequate**. Neither method, said the SEC, reflects the economic substance of oil and gas exploration. As a substitute, the SEC argued in favor of a yet-to-be developed method, **reserve-recognition accounting (RRA)**, which it believed would provide more useful information. Under RRA, as soon as a company discovers oil, it reports the value of the oil on

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\(^{1}\) Large international oil companies such as ExxonMobil use the successful-efforts approach. Most of the smaller, exploration-oriented companies use the full-cost approach. The differences in net income figures under the two methods can be staggering. Analysts estimated that the difference between full-cost and successful efforts for ChevronTexaco would be $500 million over a 10-year period (income lower under successful efforts).

\(^{2}\) The Department of Energy indicated that companies using the full-cost method at that time would reduce their exploration activities because of the unfavorable earnings impact associated with successful-efforts accounting. The Justice Department asked the SEC to postpone adoption of one uniform method of accounting in the oil and gas industry until the SEC could determine whether the information reported to investors would be enhanced and competition constrained by adoption of the successful-efforts method.
the balance sheet and in the income statement. Thus, RRA is a fair-value approach, in contrast to full-costing and successful-efforts, which are historical cost approaches.3

3 1979–1981: As a result of the SEC’s actions, the FASB issued another standard that suspended the requirement that companies follow successful-efforts accounting. Therefore, full costing was again permissible. In attempting to implement RRA, however, the SEC encountered practical problems in estimating (1) the amount of the reserves, (2) the future production costs, (3) the periods of expected disposal, (4) the discount rate, and (5) the selling price. Companies needed an estimate for each of these to arrive at an accurate valuation of existing reserves. Estimating the future selling price, appropriate discount rate, and future extraction and delivery costs of reserves that are years away from realization can be a formidable task.

4 1981: The SEC abandoned RRA in the primary financial statements of oil and gas producers. The SEC decided that RRA did not possess the required degree of reliability for use as a primary method of financial reporting. However, it continued to stress the need for some form of fair-value–based disclosure for oil and gas reserves. As a result, the FASB issued Statement No. 69, “Disclosure about Oil and Gas Producing Activities,” which requires current-value disclosures.

Currently, companies can use either the full-cost approach or the successful-efforts approach. It does seem ironic that Congress directed the FASB to develop one method of accounting for the oil and gas industry, and when the FASB did so, the government chose not to accept it. Subsequently, the SEC attempted to develop a new approach, failed, and then urged the FASB to develop the disclosure requirements in this area. After all these changes, the two alternatives still exist.4

This controversy in the oil and gas industry provides a number of lessons. First, it demonstrates the strong influence that the federal government has in financial reporting matters. Second, the concern for economic consequences places pressure on the FASB to weigh the economic effects of any required standard. Third, the experience with RRA highlights the problems that accompany any proposed change from an historical-cost to a fair-value approach. Fourth, this controversy illustrates the difficulty of establishing standards when affected groups have differing viewpoints. Finally, it reinforces the need for a conceptual framework with carefully developed guidelines for recognition, measurement, and reporting, so that interested parties can more easily resolve issues of this nature in the future.

SPECIAL PROBLEMS IN DEPLETION ACCOUNTING

Accounting for natural resources has some interesting problems that are not common to most other types of assets. Four categories of depletion accounting problems exist:

1 Difficulty of estimating recoverable reserves.
2 Problems of discovery value.
3 Tax aspects of natural resources.
4 Accounting for liquidating dividends.

The use of RRA would make a substantial difference in the balance sheets and income statements of oil companies. For example, Atlantic Richfield Co., at one time reported net producing property of $2.6 billion. Under RRA, the same properties would be valued at $11.8 billion. Similarly, Standard Oil of Ohio, which reported net producing properties of $1.7 billion, would have reported approximately $10.7 billion in producing properties under RRA.

One requirement of the full-cost approach is that companies can capitalize costs only up to a ceiling, which is the present value of company reserves. Companies must expense costs above that ceiling. When the price of oil fell in the mid-1980s, so did the present value of companies’ reserves, thus forcing expensing of costs beyond the ceiling. Companies lobbied for leniency, but the SEC decided that the write-offs had to be taken. Mesa Limited Partnerships restated its $31 million profit to a $169 million loss, and Pacific Lighting restated its $44.5 million profit to a $70.5 million loss.
Estimating Recoverable Reserves

Not infrequently companies need to change the estimate of recoverable reserves. They do so either because they have new information or because more sophisticated production processes are available. Natural resources such as oil and gas deposits and some rare metals have recently provided the greatest challenges. Estimates of these reserves are in large measure merely “knowledgeable guesses.”

This problem is the same as accounting for changes in estimates for the useful lives of plant and equipment. The procedure is to revise the depletion rate on a prospective basis: A company divides the remaining cost by the new estimate of the recoverable reserves. This approach has much merit because the required estimates are so uncertain.

What do the numbers mean?

Recent cuts in the estimates of oil and natural gas reserves at Royal Dutch/Shell, El Paso Corporation, and other energy companies highlight the importance of reserve disclosures. Investors appear to believe that these disclosures provide useful information for assessing the future cash flows from a company’s oil and gas reserves. For example, when Shell’s estimates turned out to be overly optimistic (to the tune of 3.9 billion barrels or 20 percent of reserves), Shell’s stock price fell.

The experience at Shell and other companies has led the SEC to look at how companies are estimating their “proved” reserves. Proved reserves are quantities of oil and gas that can be shown “... with reasonable certainty to be recoverable in future years....” The phrase “reasonable certainty” is crucial to this guidance, but differences in interpretation of what is reasonably certain can result in a wide range of estimates.

In one case, for example, ExxonMobil’s estimate was 29 percent higher than an estimate the SEC developed. ExxonMobil was more optimistic about the effects of new technology that enables the industry to retrieve more of the oil and gas it finds. Thus, to ensure the continued usefulness of RRA disclosures, the SEC may have to work on a measurement methodology that keeps up with technology changes in the oil and gas industry.


Discovery Value

Discovery-value accounting is similar to reserve-recognition accounting. RRA specifically relates to the oil and gas industry, whereas discovery value is a broader term associated with the entire natural resources area. As indicated earlier, current standards do not allow discovery values.

However, if the accounting standard were to change to allow discovery value to be recorded, companies would debit an asset account and credit an Unrealized Appreciation account. Unrealized Appreciation is part of stockholders’ equity. The company then would transfer Unrealized Appreciation to revenue as it sells the natural resources.

A similar issue arises with resources such as growing timber, aging liquor, and maturing livestock that increase in value over time. One method is to record the increase in value as the accretion occurs: to debit the asset account and credit revenue or an unrealized revenue account. These increases can be substantial. Boise Cascade at one time valued its timber resources at $1.7 billion, while their book value was approximately $289 million. Accountants have been hesitant to record these increases because of the uncertainty regarding the final sales price and the problem of estimating the costs involved in getting the resources ready for sale.

Tax Aspects of Natural Resources

Some of the most controversial provisions of the Internal Revenue Code relate to the tax aspects of accounting for natural resources. The tax law has long provided a deduction against revenue from oil, gas, and most minerals for the greater of cost or percentage
depletion. The percentage depletion allows some companies a write-off ranging from 5 percent to 22 percent (depending on the natural resource) of gross revenue received. (Percentage depletion is sometimes called statutory depletion.) As a result of this tax benefit, the amount of depletion may exceed the cost assigned to a given natural resource. An asset’s carrying amount may be zero, but the company may take a depletion deduction if it has gross revenue.

The significance of the percentage depletion allowance is now greatly reduced, since Congress repealed it for most oil and gas companies.

**Liquidating Dividends**

A company often owns as its only major asset a property from which it intends to extract natural resources. If the company does not expect to purchase additional properties, it may gradually distribute to stockholders their capital investments by paying liquidating dividends, which are dividends greater than the amount of accumulated net income.

The major accounting problem is to distinguish between dividends that are a return of capital and those that are not. Because the dividend is a return of the investor’s original contribution, the company issuing a liquidating dividend should debit Paid-in Capital in Excess of Par for that portion related to the original investment, instead of debiting Retained Earnings.

To illustrate, at year-end, Callahan Mining had a retained earnings balance of $1,650,000, accumulated depletion on mineral properties of $2,100,000, and paid-in capital in excess of par of $5,435,493. Callahan’s board declared a dividend of $3 a share on the 1,000,000 shares outstanding. It records the $3,000,000 cash dividend as follows.

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Retained Earnings</td>
<td>1,650,000</td>
</tr>
<tr>
<td>Paid-in Capital in Excess of Par</td>
<td>1,350,000</td>
</tr>
<tr>
<td>Cash</td>
<td>3,000,000</td>
</tr>
</tbody>
</table>

Callahan must inform stockholders that the $3 dividend per share represents a $1.65 ($1,650,000 / 1,000,000 shares) per share return on investment and a $1.35 ($1,350,000 / 1,000,000 shares) per share liquidating dividend.

**PRESENTATION OF NATURAL RESOURCES**

Special disclosure requirements relate to the oil and gas industry. Companies engaged in these activities must disclose the following in their financial statements:

1. The basic method of accounting for those costs incurred in oil and gas producing activities (e.g., full cost versus successful efforts).
2. The manner of disposing of costs relating to oil and gas producing activities (e.g., expensing immediately versus depreciation and depletion). In addition to these two required disclosures, public companies must include as supplementary information numerous schedules reporting reserve quantities; capitalized costs; acquisition, exploration, and development activities; and a standardized measure of discounted future net cash flows related to proved oil and gas reserve quantities.5

5“Disclosures about Oil and Gas Producing Activities,” *Statement of Financial Accounting Standards Board No. 69* (Stamford, Conn.: FASB, 1982).

**Key Terms**

- acquisition cost, 1095
- depletion, 1095
- development costs, 1096
- discovery value, 1099
- exploration costs, 1095
- full-cost concept, 1097
- liquidating dividend, 1100
- natural resources, 1095
- percentage depletion, 1100
- reserve-recognition accounting (RRA), 1097
- restorations costs, 1096
- successful-efforts concept, 1097
Summary of Learning Objective for Appendix E

1 Explain the accounting for natural resources. The accounting procedures for depletion of natural resources are (1) establishment of depletion base, and (2) write-off of resource cost. Four factors are involved in establishing the depletion base: (a) acquisition costs, (b) exploration costs, (c) development costs, and (d) restoration costs. To write off resource cost, depletion is normally computed on the units of production method, which means that depletion is a function of the number of units withdrawn during the period. In adopting this approach, the total cost of the natural resource less salvage value is divided by the number of units estimated to be in the resource deposit, to obtain a cost per unit of product. This cost per unit is multiplied by the number of units withdrawn to compute depletion.

Exercises

EE-1 (Depletion Computations—Timber) Stanislaw Timber Company owns 9,000 acres of timberland purchased in 1995 at a cost of $1,400 per acre. At the time of purchase the land without the timber was valued at $400 per acre. In 1996, Stanislaw built fire lanes and roads, with a life of 30 years, at a cost of $84,000. Every year Stanislaw sprays to prevent disease at a cost of $3,000 per year and spends $7,000 to maintain the fire lanes and roads. During 1997, Stanislaw selectively logged and sold 700,000 board feet of timber, of the estimated 3,500,000 board feet. In 1998, Stanislaw planted new seedlings to replace the trees cut at a cost of $100,000.

Instructions
(a) Determine the depreciation expense and the cost of timber sold related to depletion for 1997.
(b) Stanislaw has not logged since 1997. If Stanislaw logged and sold 900,000 board feet of timber in 2008, when the timber cruise (appraiser) estimated 5,000,000 board feet, determine the cost of timber sold related to depletion for 2008.

EE-2 (Depletion Computations—Oil) Diderot Drilling Company has leased property on which oil has been discovered. Wells on this property produced 18,000 barrels of oil during the past year that sold at an average sales price of $15 per barrel. Total oil resources of this property are estimated to be 250,000 barrels.

The lease provided for an outright payment of $500,000 to the lessor before drilling could be commenced and an annual rental of $31,500. A premium of 5% of the sales price of every barrel of oil removed is to be paid annually to the lessor. In addition, the lessee is to clean up all the waste and debris from drilling and to bear the costs of reconditioning the land for farming when the wells are abandoned. It is estimated that the fair value of this clean-up and reconditioning is $30,000.

Instructions
From the provisions of the lease agreement, you are to compute the cost per barrel for the past year, exclusive of operating costs, to Diderot Drilling Company.

EE-3 (Depletion Computations—Timber) Forda Lumber Company owns a 7,000-acre tract of timber purchased in 2001 at a cost of $1,300 per acre. At the time of purchase the land was estimated to have a value of $300 per acre without the timber. Forda Lumber Company has not logged this tract since it was purchased. In 2008, Forda had the timber cruised. The cruise (appraiser) estimated that each acre contained 8,000 board feet of timber. In 2008, Forda built 10 miles of roads at a cost of $7,840 per mile. After the roads were completed, Forda logged and sold 3,500 trees containing 850,000 board feet.

Instructions
(a) Determine the cost of timber sold related to depletion for 2008.
(b) If Forda depreciates the logging roads on the basis of timber cut, determine the depreciation expense for 2008.
(c) If Forda plants five seedlings at a cost of $4 per seedling for each tree cut, how should Forda treat the reforestation?

EE-4 (Depletion Computations—Minerals) At the beginning of 2008, Aristotle Company acquired a mine for $970,000. Of this amount, $100,000 was ascribed to the land value and the remaining portion to the minerals in the mine. Surveys conducted by geologists have indicated that approximately 12,000,000 units of the ore...
appear to be in the mine. Aristotle incurred $170,000 of development costs associated with this mine prior to any extraction of minerals. It estimates that the fair value of expenditures to prepare the land for an alternative use when all of the mineral has been removed is $40,000. During 2008, 2,500,000 units of ore were extracted, and 2,100,000 of these units were sold.

**Instructions**
Compute (a) the total amount of depletion for 2008, and (b) the amount that is charged as an expense for 2008 for the cost of the minerals sold during 2008.

**Problems**

**PE-1 (Depletion and Depreciation—Mining)**  Richard Wright Mining Company has purchased a tract of mineral land for $600,000. It is estimated that this tract will yield 120,000 tons of ore with sufficient mineral content to make mining and processing profitable. It is further estimated that 6,000 tons of ore will be mined the first and last year, and 12,000 tons every year in between. The land will have a residual value of $30,000.

The company builds necessary structures and sheds on the site at a cost of $36,000. It is estimated that these structures can serve 15 years, but because they must be dismantled if they are to be moved, they have no scrap value. The company does not intend to use the buildings elsewhere. Mining machinery installed at the mine was purchased second-hand at a cost of $48,000. This machinery cost the former owner $100,000 and was 50% depreciated when purchased. Richard Wright Mining estimates that about half of this machinery will still be useful when the present mineral resources have been exhausted, but that dismantling and removal costs will just about offset its value at that time. The company does not intend to use the machinery elsewhere. The remaining machinery will last until about one-half the present estimated mineral ore has been removed and will then be worthless. Cost is to be allocated equally between these two classes of machinery.

**Instructions**

(a) As chief accountant for the company, you are to prepare a schedule showing estimated depletion and depreciation costs for each year of the expected life of the mine. (Assume 11 years.)

(b) Also compute the depreciation and depletion for the first year, assuming actual production of 7,000 tons. Nothing occurred during the year to cause the company engineers to change their estimates of either the mineral resources or the life of the structures and equipment.

**PE-2 (Depletion, Timber, and Extraordinary Loss)**  Ted Koppel Logging and Lumber Company owns 3,000 acres of timberland on the north side of Mount St. Helens, which was purchased in 1968 at a cost of $550 per acre. In 1980, Kopple began selectively logging this timber tract. In May 1980, Mount St. Helens erupted, burying the timberland of Koppel under a foot of ash. All of the timber on the Koppel tract was downed. In addition, the logging roads, built at a cost of $150,000, were destroyed, as well as the logging equipment with a net book value of $300,000.

At the time of the eruption, Koppel had logged 20% of the estimated 500,000 board feet of timber. Prior to the eruption, Koppel estimated the land to have a value of $200 per acre after the timber was harvested. Koppel includes the logging roads in the depletion base.

Koppel estimates it will take 3 years to salvage the downed timber at a cost of $700,000. The timber can be sold for pulp wood at an estimated price of $3 per board foot. The value of the land is unknown, but must be considered nominal due to future uncertainties.

**Instructions**

(a) Determine the depletion cost per board foot for the timber harvested prior to the eruption of Mount St. Helens.

(b) Prepare the journal entry to record the depletion prior to the eruption.

(c) If this tract represents approximately half of the timber holdings of Koppel, determine the amount of the estimated loss, and show how the losses of roads, machinery, and timber and the salvage of the timber should be reported in the financial statements of Koppel for the year ended December 31, 1980.

**PE-3 (Natural Resources—Timber)**  Western Paper Products purchased 10,000 acres of forested timberland in March 2007. The company paid $1,700 per acre for this land, which was above the $800 per acre most farmers were paying for cleared land. During April, May, June, and July 2007, Western cut enough timber to build roads using moveable equipment purchased on April 1, 2007. The cost of the roads was $195,000, and the cost of the equipment was $189,000. This equipment was expected to have a $9,000 salvage value and would be used
for the next 15 years. Western selected the straight-line method of depreciation for the moveable equipment. Western began actively harvesting timber in August, and by December had harvested and sold 472,500 board feet of timber of the estimated 6,750,000 board feet available for cutting.

In March 2008, Western planted new seedlings in the area harvested during the winter. Cost of planting these seedlings was $120,000. In addition, Western spent $8,000 in road maintenance and $6,000 for pest spraying during calendar-year 2008. The road maintenance and spraying are annual costs. During 2008 Western harvested and sold 774,000 board feet of timber of the estimated 6,450,000 board feet available for cutting.

In March 2009, Western again planted new seedlings at a cost of $150,000, and also spent $15,000 on road maintenance and pest spraying. During 2009, the company harvested and sold 650,000 board feet of timber of the estimated 6,500,000 board feet available for cutting.

**Instructions**

Compute the amount of depreciation and depletion expense for each of the 3 years. Assume that the roads are usable only for logging and therefore are included in the depletion base.