Oil and Gas Accounting

the oil and gas industry is uniquely

in prospecting, characterized by high degree of

Acquiring, exploring, and devloping mineral

reserves

All G&G studies, even those use the best techniques cannot guarantee that oil and gas exist in commercial quantities to be produced economically .

In the case of th devlopment wells 22% of the devlopment wells drilled in th united ststes in 1975 did not result in commercial production .

The oil and gas industry needs big investments

Acquisition of property :

Acquisition means the procurement of the legal right to explore for and produce discovered minerals within a specific area

Oil and Gas Leases :

A petroleum company cannot conduct any activity before obtaining the rights to drill and produce oil and gas . These rights are usually acquired an oil and gas lease agreements .

All G & G studies, even those use the best techniques cannot guarantee that oil and gas exist in commercial quantities to be produced economically. The only way to determine whether a commercially productive oil reserve exist is to drill a well into the formation.

These characteristics include the following:

- High risk
- High cost of investment
- Lack of correlation between the size of expenditure and the value of any resulting reserves
- Long time span from when costs are first incurred until benefits are received

Oil and gas producing activities.

(i) Such activities include:

(A) The search for crude oil, including condensate and natural gas liquids, or natural gas ("oil and gas") in their natural states and original locations.

(B) The acquisition of property rights or properties for the purpose of further exploration and/or for the purpose of removing the oil or gas from existing reservoirs on those properties.

(C) The construction, drilling and production activities necessary to retrieve oil and gas from its natural reservoirs, and the acquisition, construction,

The agreement determines the way to distribute the production of oil and gas between the company and the government as follows:

1. The foreign company pays an agreement bonus.
2. The foreign company pays all the costs and expenses incurred for exploring, developing, and producing activities.

3. A specific amount of the oil and gas produced is assigned to recover the cost and expenses paid by the company.
4. The remaining production is divided between the foreign company and the government based on the treaty terms.

1. Acquisition costs :

These costs are incurred by companies to acquire rights to explore drill and produce undiscovered natural resource such as oil and gas, or an already discovered resource. Usually, property is leased and special royalty payments paid to the owner.

2. Exploration costs :

As soon as the company has the right to use the property, exploration costs areas needed to find oil and gas. Exploration involves identifying areas that might warrant examination, and examining areas that may contain oil and gas reserves.

The principal types of exploration costs are : Costs of geological and geophysical studies and costs of drilling and equipping exploratory wells.

3. Development costs :

These costs are incurred in preparing proved reserves for production. Development involves drilling and equipping development wells and service wells. Also, the cost of acquiring, constructing and installing production facilities for extracting, treating, gathering, and storing oil and gas.

4. Production costs :

These costs are incurred to operate and maintain wells and related equipment and facilities. Production costs include depreciation of equipment and operating costs of support equipment and facilities and other costs of operating and maintaining wells and related equipment and facilities.

There are two generally accepted cost methods used to account for these costs : successful – efforts (SE) and full – cost accounting (FC). The fundamental accounting issue is whether to capitalize or expense each of the four basic types of costs discussed above.

	Cost item	Treatment under successful efforts (SE)	Treatment under full costing (FC)
1	Geological and Geophysical costs (G&G).	Expense (E)	Capitalize (C)
2	Acquisition costs	C	C
3	Exploratory dry hole	E	C
4	Exploratory well, successful	C	C
5	Development dry hole	C	C
6	Development well, successful	C	C
7	Production costs	E	E
	Amortization cost center	Property, field or reservoir	Country or continent

The following example illustrates the impact of FC and SE accounting methods on the income statement and balance sheet of Misr Petroleum Company.

Misr Petroleum Co. acquired a lease in the Western Desert in February 2004. The Company incurred the following costs during 2004.

Depreciation, depletion, and amortization DD & A was calculated.

G and G costs	L.E	70,000
Acquisition costs		125,000
Exploratory dry holes		3,000,000
Exploratory wells, successful		1,300,000

Development wells, successful		600,000
Production costs		60,000
DD & A expense	under SE	100,000
DD & A expense	under FC	220,000
Sales revenue		400,000

Required : Prepare the income statement for the year ended Dec. 31, 2004 and a partial balance sheet at the end of 2004 for Misr petroleum Co. using the FC and SE methods.

Solution

Misr Petroleum Company

Income Statement (SE)

For the year ended Dec. 31, 2004

Sales revenue		L.E 400,000
Deduct expenses :		
G & G	70,000	
Exploratory dry holes	3,000,000	
Production costs	60,000	
DD & A expense	100,000	
Total expenses		3,230,000
Net income (loss)		(2,830,000)

Income Statement (FC)

Sales revenue		L.E 400,000
Deduct expenses :		
Production costs	60,000	
DD & A expense	220,000	
Total expenses		280,000
Net income (loss)		120,000

Partial Balance Sheet

	Under SE	Under FC
Assets		
G & G costs		70,000
Acquisition costs	125,000	125,000
Exploratory dry holes		3,000,000
Exploratory wells, successful	1,300,000	1,300,000
Development dry holes	200,000	200,000
Development wells, successful	600,000	600,000
Total assets	2,225,000	5,295,000
Less : Accumulated DD & A	100,000	220,000
Net assets	2,125,000	5,075,000

If we compare the net income resulted using the two methods, we find that :

1. Successful efforts shows a loss of L.E. 2,830,000, while full costing shows a profit of L.E. 120,000
2. Most of the loss is caused by the different treatment of G & G costs and dry hole costs. Under the SE, these costs are expensed, while under the FC method, the costs are capitalized.
3. The amount of DD & A expense under the FC method is more than under SE because more costs are capitalized which results in a greater DD & A expense.

Proved reserves : Are those quantities of cruide oil, natural gas, and natural gas liquids which upon analysis of geologic and engineering data, appear with reasonable certainty to be recoverable in the future from known oil and gas reservoirs under existing economic and operating conditions.

Unproved reserves : All reserves not satisfying the conditions of proved reserves are classified as unproved reserves.

Exploratory Well :

A well that is not a development well, a service well, or a stratigraphic test well. It is a well drilled outside a proved area, or within a proved area but to a previously untested horizon, so that its purpose is to determine whether oil or gas reserves exist rather than to develop proved oil or gas reserves discovered by previous drilling.

Development well :

A well drilled within the proved area of an oil or gas reservoir to the depth of a stratigraphic horizon known to be productive for the purpose of extracting proved oil or gas reserves.

Service well :

A well drilled for the purpose of supporting production, for example, a gas injection well or a water injection well.

Successful efforts Accounting (SE)

we discussed now the four basic type of costs they are : acquisition costs , exploration costs , development costs , and production costs .

The acquisition costs

Acquisition costs incurred are capitalized as unproved property.

If proved reserves are found these costs are added to the

" amortization base " the costs center is a reservoir , a field ,

Or a lease . the costs accumulated in the amortization base

Are amortized on the basis of production .

If proved reserves are not found , the property is impaired

Or abandoned , and the costs are charged to the income statement

The exploration costs

The costs include two categories :

A) predrilling exploration costs are to be charged to expense

B) costs of drilling exploratory wells treatment as follow :

_ If the well has found proved reserves become capitalized expense.

_ If the well has not found proved reserves become expense .

the devolpment costs :

The costs of drilling a devolpment well is capitalized regardless Of the outcome of the well .

these costs are added to theAmortization base to be amortized with other capitalized Costs on the basis of production .

the production costs

Production costs are those costs incurred to operate and Maintains an enterprise's wells and related equipment and Facilities, including depreciation of support equipment and Facilities and other costs directly identifiable with the Operation and maintains of those wells and related equipment And facilities.

They become part of the costs of oil and gas produced .

Depreciation, depletion , and amortization of capitalized

Acquisition, exploration , and development costs also become Part of the costs of oli and gas produced along with Production (lifting) costs .

All production costs are expensed , i.e. its charged To the income statement for the period .

Example 2 - 1 :

The Red Sea Petroleum Co. Signed an agreement with the Egyptian government in July 2004. The Co. obtained 500 Sq. Km. In the western Desert. The agreement was a production sharing contract. By the agreement, the co. has the right to explore for petroleum in the geographic area granted to it. The Co. has the right to develop, produce and market any oil discovered.

1. On Nov , 2004 the Red Sea Co. spends L.E. 300,000 on G & G activities to locate and explore an Oil prospect.
2. On Feb. 1, 2005, the Red Sea Co. acquires a 300 Sq. Km. lease paying a L.E. 200 per Sq. Km bonus.
3. On March 3, the Red Sea Co. drills a dry exploratory well at a cost of L.E. 400,000.
4. On April 25, the Red Sea Co. drills a successful well at a cost of L.E. 500,000.
5. During May, the Red Sea Co. spends L.E. 250,000 on production facilities such as flow lines.
6. During June, the Red Sea Co. incurs L.E. 120,000 in production costs.

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6. During June, the Red Sea Co. incurs L.E. 120,000 in production costs.

Required :

Prepare the journal entries for the above transactions.

Solution

Nov. 1, 2004 :

The G & G activities are exploration costs. These activities cannot directly find oil or gas and so cannot be termed as successful efforts. Only by drilling a well can oil or gas actually be found. So these costs are expensed as incurred and the journal entry would be :

G & G expense	300,000	
Cash (or accounts payable)		300,000

2. The acquisition costs are capitalized when incurred. They are capitalized under the name of "unproved property" and the journal entry will be as follows :

Unproved property	60,000	
Cash		60,000
300 Sq. Km x L.E 200 = L.E.		60,000

3. The costs of unsuccessful or nonproductive exploratory drilled wells are charged to expense. The cost of drilling dry exploratory wells is recorded under the name " dry – hole expense" and the journal entry will be as follows :

Dry – hole expense 400,000

Cash (or accounts payable) 400,000

4. The costs of drilling successful exploratory wells are capitalized temporarily under the name of " wells in progress ", i.e. uncompleted wells. If the well proved to be successful, i.e. the company found proved reserves, the capitalized cost shall become a part of the company's wells and related equipment.

   In our example the well is successful, so we record the costs directly under the name of " wells and related equipment and facilities (E & F) " and the journal entry will be :

   Wells and related equipment and facilities 500,000

   Cash (or accounts payable) 500,000

   If the well has been a successful development well or a dry development well, the entry would have been the same.

5. This costs is a development cost. The company incurred the cost to acquire production facilities such as flow lines, and hence the cost is incurred in preparing proved reserves for production and so is a development cost. The cost is capitalized under the name of wells and related equipment and facilities as follows.

Wells and related E & F	250,000	
Cash (or accounts payable)		250,000

6. These costs are incurred for production activities. Production costs are expensed in the period incurred and the journal entry will be as follows :

Production expense	120,000	
Cash		120,000

Example 2-2 :

1. The Red Sea Petroleum Co. obtained shooting rights (access rights to property so G & G studies – may be conducted to 300 Sq. km paying L.E. 200 per Sq km.
2. The Co. signed an agreement with the Petroleum Research Lab Co. to conduct the G & G studies and paid L.E. 85,000, the cost of the study.

Journal entries :

1. G & G expense	60,000	
Cash		60,000
(300 x L.E. 200 = 60,000)		
2. G & G expense	85,000	
Cash		85,000

Example 2 - 3 :

1. The Red Sea Co. acquired 400 Sq. Km lease in the Western Desert of Egypt. During the first year, the company did not start drilling activities. To retain the lease, the Co. paid L.E. 30,000 as delay rental payment.
2. Because the Co. did not develop the lease, it has to pay L.E. 7,000 in ad valorem taxes (property taxes assessed on the mineral interest in an undeveloped lease).
3. The Co. paid L.E. 300 to the land department for maintaining land and lease records on undeveloped property.

Cost of Carrying and Retaining Leases :

The petroleum company must pay cost to maintain its property right in addition to the cost paid to acquire the right. These payments are in essence penalties for delaying drilling and producing activities. Since these costs do not increase potential amount of oil or gas and do not increase the future benefits derived from leased properties, they are expensed incurred.

Test Well Contribution :

A petroleum Company may need G & G information obtained by another company when drilling a well on a nearby property. The company needs the G & G information must pay the price of the information. This price is called "test well contribution ". The price is essentially G & G costs that are expensed as incurred.

There are two types of test well contribution :

1. Dry – hole contribution : in this case, the payment is made only if the well is dry or not commercially producible.

2. Bottom - hole contribution : in this case, payment is made when an agreed – upon depth is reached, regardless of the outcome of the well.

Example 2 - 4 :

The Gulf Co. drilled several wells on leases nearby an undeveloped lease owned by the Red Sea Co. In order to obtain G & G information from the wells drilled by the Gulf Co., the Red Sea Co. made the following agreements:

1. Well 1, dry hole contribution of L.E. 20,000
2. Well 2, dry hole contribution of L.E. 30,000
3. Well 3, bottom hole contribution of L.E. 15,000
4. Well 4, bottom hole contribution of L.E. 28,000

and the following results were obtained :

Well 1. dry.

Well 2. completed as a producer.

Well 3. drilled to agreed depth and determined to be dry.

Well 4. abandoned before reaching agreed depth.

Required :

Record general journal entries for the above transactions.

Solution

1. Test well contribution expense 20,000

   Cash 20,000

2. No entry because no payment was made. The well is completed as a producer, and payment is made only if the well is dry.

3. Test well contribution expense 15,000

   Cash 15,000

4. No entry because no payment was made. The well was not drilled to the agreed upon depth. Well abandoned before reaching agreed depth.

Example 2 - 5 :

1. The Red Sea Company obtained shooting rights to 400 Sq. Km. In Sinai for L.E. 300 per Sq. Km,. in February 2004.
2. The company paid a geological research laboratory L.E. 45,000 to conduct a reconnaissance survey on the area.
3. Based on the results of research made, the Red Sea Co. acquired a 200 Sq. Km lease and signed a contract with

the same laboratory to conduct detailed G & G studies on the lease at a cost of L.E. 18,000.

4. During 2004, the Red Sea Co. Paid ad valorem taxes for the amount of L.E. 3000, and L.E. 8,000 for title defense in connection with the property (legal expense).
5. By the end of 2004, the Red Sea Co. had not yet begun any drilling efforts, so the Co. paid the first delay rental of L.E. 2,500 to retain the lease.
6. In March 2005, Mobil Company began drilling on a nearby property. The Red Sea Co. entered into a bottom - hole contribution agreement to obtain the G & G information from the well. The depth specified in the agreement was reached in June 2005. The Red sea Co. paid L.E. 25,000 to Mobil Company as per agreement.

Required :

Prepare the general journal entries for the above transactions.

Solution

1	G & G expense Cash (400 Sq. Km x L.E. 300)	120,000	 120,000
2	G & G expense Cash	45,000	 45,000
3	G & G expense Cash	18,000	 18,000
4	Ad volorem tax expense Cash Legal expense Cash	3,000 8,000	 3,000 8,000
5	Delay rental expense Cash	2,500	 2,500
6	Test well contribution expense Cash	25,000	 25,000

Example 2 - 6 :

Depreciation of the seismic equipment used by the Red Sea Co. in the Western Desert was L.E. 28,000 for 2005. Operating costs were L.E. 35,000.

Journal entries are as follows :

G & G expense - depreciation	28,000	
Accumulated depreciation		28,000
G & G expense - operating costs	35,000	
Cash		35,000

Problem 2-1 :

The Red Sea Co. incurred the following costs during the fiscal year ending Dec. 31, 2004 :

January 10 : Paid L.E. 150,000 cost of G & G activities to locate an oil prospect.

Feb. 15 : Paid acquisition costs for a 100 Sq. km. Lease : lease bonus, L.E. 400 per Sq. km., and paid L.E. 1,600 other costs.

March 20 : Drilled a dry exploratory well at a cost of L.E. 225,000.

May 25 : Drilled a successful exploratory well at a cost of L.E. 380,000.

June 15: Drilled a successful development well at a cost of L.E. 185,000.

July 20 : Spent L.E. 300,000 on production facilities such as flow lines and separators.

September 19 : The Red Sea Co. incurred L.E. 60, 000 in production costs.

Required :

Prepare journal entries for the above transactions using the successful efforts method of accounting.

Problem 2-2 :

Indicate whether the following costs should be expensed or capitalized depending upon whether the company uses successful - efforts or the full - cost method of accounting.

1. Acquisition cost.
2. G & G cost.
3. Exploratory dry holes.
4. Successful exploratory wells.
5. Development wells, dry.
6. Development wells, successful.
7. Production facilities cost.
8. Production costs.

Problem 2–3 :

The following are selected data taken from the books of the Red Sea Co. for the year 2005.

Revenue	L.E.	900,000
G & G costs		700,000
Acquisition costs		850,000
Costs of exploratory dry holes		5,000,000
Costs of successful exploratory wells		4,000,000

Costs of development wells, dry		1,200,000
Costs of development wells, successful		1,100,000
Cost of production facilities.		780,000
Production costs		130,000
	SE	FC
Amortization for 2005	220,000	380,000
Accumulated DD & A	480,000	670,000

Required :

1. Prepare income statements for a SE Company and a FC Company.
2. Prepare partial balance sheets for a SE Company and a FC Company.
3. Explain the difference in net income.

Acquisition costs include:

"Costs incurred to purchase, lease, or otherwise acquire a property (whether unproved or proved) shall be capitalized when incurred. They include the costs of lease bonuses and options to purchase or lease properties, the portion of costs applicable to minerals when land including mineral rights is purchased in fee, brokers' fees, recording fees, legal fees, and other direct costs incurred in acquiring properties.

Example 3 - 1 :

The Red Sea Co. made the following transactions during 2004 :

1. Acquired a 200 Sq. km. Unproved lease (property). Acquisition costs include a lease bonus of L.E. 300 per Sq. km. and recording fees of L.E. 2000.
2. Acquired a 100 Sq. Km proved property from Mobil Oil Co. for L.E. 1,850,000.
3. Purchased land in fee for L.E. 600,000. The fair market values of the mineral and surface rights were estimated as follows:

Mineral rights	L.E.	300,000
Surface rights		500,000
		800,000

4. Purchased land in fee for L.E. 500,000. The fair market of the surface rights was estimated to be L.E. 320,000, while a reasonable estimate of the fair market value of the mineral rights was not possible.

Following are the journal entries for the above transactions :

Options to Lease :

The oil company might prefer to conduct G & G studies before leasing a property. In this case the company obtains shooting rights coupled with an option to lease. The option protects the company (the lessee) by keeping the right to lease the property open for a period of time and gives the company the right to lease the property at specified price for the specified time period .

The Cost of an option to lease is an acquisition cost and should be capitalized temporarily in a suspense account under the name of "property purchase suspense" until a decision is made about whether to lease the property.

If the company decided to lease the property, the cost of an option to lease should be capitalized as part of unproved property. If the company decided not to lease the property, the option cost should be expensed.

On the other hand shooting rights are G & G exploration cost and should be expensed as mentioned before.

Example 3 – 2 :

The Red Sea Oil Co. obtained the following rights :

1. Area A, shooting rights only for L.E. 100,000 on 500 Sq. Km.
2. Area B, shooting rights coupled with option to lease for L.E. 300,000 on 800 Sq. Km. This area is very close to area A.
3. Area C, shooting rights coupled with option to lease for L.E. 180,000 on 600 Sq. Km. As a result of the G & G studies, the Red Sea Oil Co. made the following decisions.
4. Not to lease any of area A.
5. To lease only ¼ of area B, and paid a L.E. 150,000 bonus.
6. To lease only ½ of area C, and paid a L.E. 120,000 bonus.

Required :

Prepare the journal entries for the above transactions.

Example 3 - 3 :

1. In February 2004, the Red Sea Oil Co. acquired an undeveloped lease paying acquisition cost of L.E. 300,000. During 2004, the Red Sea Co. drilled three dry holes on the property. As a result of drilling the dry holes, the company decided on December 31, 2004 that the lease was 40% impaired. The cost of this lease is relatively significant.
2. On December 31, 2004, the Red Sea Co. has L.E. 400,000 balance in the unproved property account containing leases that are not individually significant. The allowance for impairment account has a L.E. 100,000 balance.

The experience of the company indicates that 60% of all insignificant unproved properties are eventually abandoned. Therefore, the policy of the company is to

provide at year end an allowance of 60% of the total amount of unproved properties.

Required :

Prepare the journal entries for the above transactions and events and show how the unproved property appears on the balance sheet at the end of 2004.

Example 3 - 4 :

1. The Red Sea Co. decided to abandon the following unproved properties. All are significant leases and assessed individually.

Lease	Acquisition cost	Impairment Allowance
A	L.E. 100,000	L.E. 100,000
B	130,000	60,000
C	150,000	0

2. The Red Sea Co. decided to abandon the following leases. These leases are not individually significant and are assessed on a group basis.

Lease	Acquisition Cost
D	L.E. 20,000
E	30,000

Impairment allowance for individually insignificant properties has a balance of L.E. 40,000.

Required :

Provide the journal entries for the above events.

To summarize, the cost of drilling an exploratory well is expensed if the well is dry and capitalized if the well is successful, while the cost of drilling a development well is capitalized regardless of the outcome of the well.

Drilling and development costs are classified as:

- Intangible drilling and development cost (IDC) or
- Equipment costs (lease and well equipment).

Example 4-2 :

The Red Sea Petroleum Company had the following transactio... during 2004:

1- Acquired an unproved lease in the Eastern Desert of Egypt on 300 Sq. Km. for L.E. 160,000

2- The Co. incurred G & G costs of L.E. 10,000 to select a specific drill site.

3- The Co. paid L.E. 35,000 cost of clearing and leveling the site and in building an access road to the well.

4- The Co. paid L.E.9,000 cost of digging a mud pit and installing a water line. The cost of the pipes for the water line was L.E.6,000

5- The Co. paid L.E. 12,000 cost of pipe and casing for the well.

6- The Co. paid L.E. 180,000 to a contractor to drill the well to a specified depth.

7- A well log was run and a drillstem was made to evaluate the well at a cost of L.E. 13,000

8- Based on the evaluation results, the Co. decided to complete. Casing was set at a cost of L.E. 50,000 for casing and L.E. 9,000 for cement.

9- The Red Sea Co. paid L.E. 6,000 for a Christmas tree and installation costs of L.E. 4,000.

Solution

1	Unproved property Cash	160,000	160,000
2	This G&G work is considered part of the cost of drilling the well and should be capitalized temporarily as uncompleted wells (well in progress- IDC) as follows: Wells in progress (W / P)- IDC Cash	10,000	10,000
3	W / P - IDC Cash	35,000	35,000
4	W/P - IDC W/P - lease and well equipment (L & WE) Cash	9,000 6,000	15,000
5	W/P - L & WE Cash	12,000	12,000
6	W/P - IDC Cash	180,000	180,000
7	W/P - IDC Cash	13,000	13,000
8	W/P - IDC W/P - L & WE Cash	9,000 50,000	59,000
9	W/P - IDC W/P - L & WE Cash	4,000 6,000	10,000

In the practice they use the term DD & A as an abbreviation for:

- Depreciation for tangible assets (other than natural resources)
- Depletion for natural resources
- Amortization for intangible assets

DD & A rate is calculated as follows:

For acquisition costs (leasehold):

$$\text{DD \& A rate} = \frac{\text{Production for the year}}{\text{Estimated proved reserves, beg. of year}}$$

For wells and related E & F (IDC + L & WE):

$$\text{DD \& A rate} = \frac{\text{Production for the year}}{\text{Estimated } \textit{proved developed} \text{ reserves, beg. of year}}$$

Example 5-1 :

The Red Sea Co. drilled the first successful well on lease A during May 2004. Data for the lease as of December 31, 2004 is as follows:

Acquisition costs	L.E.	120,000	
Wells and related E & F- IDC		250,000	
Wells and related E & F- L & WE		150,000	
Production during the year		10,000	bbl
Estimated proved reserves as of Dec.31, 2004		590,000	bbl
Estimated proved developed reserves, Dec. 31, 2004		140,000	bbl

Calculate DD & A for 2004

Solution

1- Determine the amount of reserves at the beginning of the year

a) Estimated proved reserves at the beginning of the year =

Estimated proved reserves, end of year + production for the year

= 590,000 + 10,000 = 600,000 bbl

b) Estimated proved developed reserves at the beg. of the year

= Estimated proved developed reserves, end of year + production for year

= 140,000 + 10,000 = 150,000 bbl

2- Calculate DD & A rate:

a) for acquisition costs =

$$\frac{\text{Production for the year}}{\text{Estimated proved reserves, beg. of year}}$$

$$= \frac{10,000}{600,000} = 0.01666$$

b) for wells and related E & F- (IDC+L & WE) =

$$\frac{\text{Production for the year}}{\text{Estimated proved developed reserves, beg. of year}}$$

$$= \frac{10,000}{150,000} = 0.06666 \text{ or } 6.67\ \%$$

3- Calculate DD & A Expense:

a) DD & A expense for acquisition costs =

120,000 x .01666 = L.E. 2,000

b) DD & A expense for wells and related E & F:

(250,000 + 150,000) x .06666 = L.E.26,666

Total DD & A expense = 2,000 + 26,666 = L.E. 28,666

And the journal entry will be as follows:

DD & A expense	28,666	
Accumulated DD & A		28,666

Example 5-2

The Red Sea Oil Co. drilled two successful wells on a partially developed lease during 2003 and 2004. Additional data as of December 31, 2004 follows:

Acquisition costs	L.E. 355,000
Accumulated DD & A on lease cost, Jan.1, 2004	55,000
Wells and related E & F- IDC	500,000
Wells and related E&F- L & WE	230,000
Accumulated DD & A- IDC, beg. of the year	130,000
Accumulated DD & A- L & WE, beg. of the year	80,000
Estimated proved undeveloped reserves, Dec.31	1,900,000 bbl
Estimated proved developed reserves, Dec. 31	900,000 bbl
Production for the current year	200,000 bbl

Required:

Calculate DD & A expense for 2004 and record the appropriate journal entry.

Solution

1- Determine the amount of reserves as of the beginning of the year

a. Estimated proved reserves at the beginning of the year =

= 1,900,000 + 900,000 + 200,000 = 3,000,000 bbl

b. Estimated proved developed reserves at the beg. of the year =

= 900,000 + 200,000 = 1,100,000 bbl

2- Calculate DD & A rate:

a. For acquisition costs $= \frac{200,000}{3,000,000} = 0.06666$

b. For wells and related E & F $= \frac{200,000}{1,100,000} = 0.1818$

3- Calculate DD & A expense:

a. DD & A expense for leasehold costs:

Net leasehold costs= 355,000–55,000 = L.E. 300,000

300,000 x 0.0666 = L.E. 19,998

b. Net wells and related E & F (IDC + L & WE)

= (500,000 – 130,000) + (230,000 - 80,000)

= 520,000

DD & A for wells and related E & F (IDC + L & WE)

= 520,000 x 0.1818 = L.E. 94,536

Total DD & A = 19,998 + 94,536 = 114,534

Journal entry to record DD & A expense:

DD & A expense	114,534	
Accumulated DD & A		114,534