



COST CLASSIFICATION IN OIL AND GAS INDUSTRY

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**Course : Oil and Gas
Accounting**

Course Code: ACC 404



Learning Objective

In this section, students are expected to learn the following:

1. Royalty Cost, Drilling Cost, Acquisition Costs
2. Development Cost
3. Exploration and Appraisal Costs
4. Production Costs
5. Supporting Facilities and Equipment Costs
6. Tangible and Intangible Costs

Cost Classification in Oil and Gas Sector



Acquisition Costs:

These are incurred to purchase, lease or otherwise acquire a property (whether proved or unproved). Example includes the cost of signature or lease bonuses, options to purchase or lease properties, brokerage, legal fees.

Exploration and Appraisal Costs: These are cost associated with geological, geophysical and other pre-drilling costs, remuneration. It also include costs of drilling. They also include depreciation, amortization and allocated operating costs of support equipment facilities.



Example 1- Acquisition Cost

Ali Yaqouq and Halez Ltd acquired a 620 acre unproved property. The company paid a lease bonus of \$ 200/acre and recording fees of \$ 1,000. The company also incurred legal fee amounting to \$3000 and a signature bonus of 30% of total cost before signature bonus.

Required : Calculate the total acquisition cost and state the journal entry.



Example 2- Acquisition Cost

Maryam and Isra Oil Company purchased land in fee for \$950,000. A qualified appraiser made the following estimate of the fair market values of the surface and mineral rights:

| | |
|----------------|-------------|
| Surface rights | \$600,000 |
| Mineral rights | \$400,000 |
| | \$1,000,000 |

Required : Calculate the total acquisition cost and state the journal entry.



Classification Con't

Development Costs: These are costs incurred to gain access to proved reserves and provide facilities for drilling, lifting, treating, gathering and storing oil and gas. They include depreciation and allocated operating costs of support equipment facilities

Example- Development Cost

Roshna and Shawbo Company drilled several successful exploratory wells on Lease A. As a result, Lease A was classified as a proved property, and the proved area was identified. The Company decided in 2018 to drill an additional well within the proved area.

Roshna and Barx Oil Company began installing flow lines. The flow lines cost \$300,000, and installation charges were \$25,000. They also paid \$240,000 for leasing the area, \$20,000 as legal fees during the acquisition of the mineral right. The company equally pays the contractor \$800,000, including IDC of \$750,000 and equipment costs totaling \$50,000. The well was plugged and abandoned for an additional \$20,000. Assume instead that the well was successful and that additional IDC of \$75,000 and equipment costs of \$200,000 were incurred to complete the well.

Required: Calculate the accurate development cost and make the appropriate journal entries in the book of Roshna and Barz for the relevant year.



Tangible Drilling Expenses:

- Casing (production and surface)
- Tubing
- Well head and subsurface
- Pumping units
- Tanks
- Separators
- Heater-treaters
- Engines and automotives
- Flow line
- Installation costs of equipment
- Sundry equipment

Intangible Drilling Expenses: Intangible Cost: This is cost that result in assets that have no physical properties, or assets that have physical properties but that cannot be salvaged at the end of an operation.

- Drilling contractors' charges
- Site preparation, roads, pits
- Bits, reamers, tools
- Labour
- Fuel, power and water
- Drill stem tests
- Coring analysis
- Geological and engineering
- Cementation
- Completion, fracturing, acidizing, perforating
- Rig transportation, erection and removal
- Overhead
- Other services



Calculation of Tangible and Intangible Cost

Oil Company, a joint venture operator, incurred the following costs in drilling an oil well. You are required to classify them into tangible and intangible drilling costs.

| | \$ |
|---|---------|
| i. Drilling (on footage basis) | 675,256 |
| ii. Cost of clearing and grading unpaved roadways to the drill site | 23,560 |
| iii. Construction of overflow mud pits | 56,700 |
| iv. Surface casing used in the well | 675,908 |
| v. Services such as acidizing and testing | 246,200 |
| vi. Cementing services for casing | 17,890 |
| vii. Tubing and control valves | 57,500 |
| viii. Flow lines, tanks and treaters | 116,700 |
| ix. Labour to install lines and tanks | 26,500 |



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|---|-----------|----------|
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| | 1,001,716 | 675,908 |



Classification Con't

- **Production Costs:** These are costs incurred in lifting, treating, gathering and storing oil and gas in the reservoir. They include costs of personnel engaged in operation of wells and related equipment facilities, repair and maintenance of production facilities, materials, supplies, insurance, services and fuel consumed in successful operations. They also include allocated operating costs of support equipment facilities, but do not include DD&A of license acquisition, exploration and development costs and cost of decommissioning.



Classification Con't

Supporting Facilities and Equipment Costs: These are cost relating to trucks, drilling equipment, workshops, warehouses, camps division and field offices. Usually, these facilities and equipment serve one or more activity relation to acquisition, exploration, development and production. These costs are therefore capitalized and apportioned to the different activities

Method of Accounting in the Oil and Gas Industry

SEM is the method: This is the method where all exploration costs (namely acreage cost, costs of geological and geophysical surveys, cost of dry holes etc) are charged to expenses, while those that lead to discovery of reserves are capitalized.

Full cost method: FCM is a method in which all acquisition, exploration and development costs are capitalized whether they lead to the discovery of oil reserves or not. Proponents of FCM are of the view that finding commercially producible hydrocarbons is an overall objective that should not be evaluated on well-by-well basis, as such all costs incurred are part of the cost of whatever reserves are found, because the good must support the bad.

FULL COST VS SUCCESSFUL COST METHOD

| Item | Successful Effort | Full Cost Method |
|-------------------------------------|-------------------------------|-------------------------|
| Acquisition costs | Capital | Capital |
| G&G costs | Expense | Capital |
| Exploratory dry hole | Expense | Capital |
| Exploratory well, successful | Capital | Capital |
| Development dry hole | Capital | Capital |
| Development well, successful | Capital | Capital |
| Production costs | Expense | Expense |
| Amortization cost center | Property, field, or reservoir | Country |

Example 1

Disina Oil Company began operations with the acquisition of a lease in Erbil forest, during the first year, the following costs and revenue were incurred

| | |
|---|-------------------------|
| G&G costs | \$ 60,000 |
| Acquisition costs | 100,000 |
| Exploratory dry holes | 1,400,000 |
| Exploratory wells, successful | 800,000 |
| Development costs | 500,000 |
| Production costs | 50,000 |
| DD&A expense | 40,000 (SE) 90,000 (FC) |
| Revenue | 250,000 |

Use the above information to prepare the financial statements of Disina Oil Company using full cost (FC) and successful efforts (SE) accounting methods .

Solution 1

- **Income Statements**

| | | Successful Efforts | Full Cost |
|-------------------------------|-----------|---------------------------|------------------|
| • Revenue | | \$ 250,000 | \$ 250,000 |
| • Expenses: | | | |
| • G&G | \$ 60,000 | \$ 0 | |
| • Exploratory dry holes | 1,400,000 | 0 | |
| • Production costs | 50,000 | | 50,000 |
| • DD&A | 40,000 | | 90,000 |
| • Total expenses | | 1,550,000 | 140,000 |
| • Net income | | \$(1,300,000) | \$ 110,000 |

Partial Balance sheet

- **Partial Balance Sheets**

| | Successful Efforts | Full Cost |
|---|---------------------------|------------------|
| • G&G costs | | \$ 60,000 |
| • Acquisition costs | \$ 100,000 | 100,000 |
| • Exploratory dry holes | | 1,400,000 |
| • Exploratory wells, successful | 800,000 | 800,000 |
| • Development costs | 500,000 | 500,000 |
| • Total assets | 1,400,000 | 2,860,000 |
| • Less: Accumulated DD&A | (40,000) | (90,000) |
| • Net assets | \$ 1,360,000 | \$2,770,000 |

Oil and Gas Income Statement –Full Cost Method

| | | \$0 | | \$0 |
|--|-----|--------------------------------|--|-----|
| Opening Stock | xx | | | |
| Production cost | XX | Export Sales | | xx |
| Transportation Cost | XX | Local Sales | | xx |
| Royalties | XX | | | |
| COAS | XX | | | |
| Closing Stock | xx | | | |
| COS | XX | | | |
| Gross Income from Operations | XX | | | |
| | XXX | | | XXX |
| salaries and Wage | XX | Gross Income from Opration b/d | | XX |
| Loan interest | XX | | | |
| Bank interest | XX | | | |
| DD& A | XX | | | |
| Loss on exchange | XX | | | |
| Expenditure for purchase of Seismic data | XX | | | |
| Amortisation | XX | | | |
| Capitalized Expense Charged | XX | | | |
| Net Income from Operations | XX | | | |
| | XXX | | | XXX |

The following information relates to Erbil Oil and Gas Nigeria PLC for the year ended 31 December 2022. Its Trial Balance as of 31st December, 2022 is presented below

| | \$000 | \$000 |
|--|-------------|-------------|
| Crude oil Inventory at 1/1/2009 | 6700000 | |
| Export Sales | | 50,000,000 |
| local sales | | 10,000,000 |
| Production cost | 9,000,000 | |
| Transportation Cost | 1,500,000 | |
| Intangible oil and Gas Assets | 117,000,000 | |
| salaries and Wage | 300,000 | |
| Prove oil and gas properties | 13,500,000 | |
| Unproved oil and gas reserve | 8,300,000 | |
| Accumulative DD&A | | 5,200,500 |
| Loan interest | 3,500,000 | |
| Bank interest | 1,700,000 | |
| Geological and Geophysical | 800,000 | |
| Exploratory Well: Successful | 15,672,000 | |
| Unscuessful | 2,250,000 | |
| Development Well | 20,567,000 | |
| Well in Progress | 11,570,000 | |
| Expenditure for purchase of Seismic data | 683,650 | |
| Royalties | 1,500,000 | |
| Derivatives financial instrument | | 500,800 |
| Loss on exchange | 1,450,000 | |
| Trade and other receivables | 3,500,000 | |
| Derivatives financial instrument | 2,503,200 | |
| Cash and Cash Equivelent | 500,000 | |
| Trade and other payables | | 7,500,000 |
| Investment in Subsidiaries | 14,500,000 | |
| Other current Assets | 50,250,100 | |
| Share Capital | | 203,634,650 |
| Share Premium | | 9,850,000 |
| Other Reserves | | 560,000 |
| | 287,245,950 | 287,245,950 |

- The following Additional Information are also available (All the naira Figure
 - (i) Closing stock of oil and gas as of 31st December 2009 \$1,200,000
 - ii) Accrued expenses as of 31st December 2009 amounted to \$3,500,700
 - (iii) The Director's proposed a dividend of \$2, 000,000 on shares and Petroleum Profit Tax is to be calculated at the rate of 70%.
 - (v) All capitalized costs and intangible oil and gas assets are to be amortized at the rate of 10% per annum