

# Oil and Natural Gas Production Profit

**Essential Question:** How do oil and natural gas producers determine if wells are feasible to drill?

## Vocabulary

**Barrel**—Measurement of oil equaling 42 U.S. gallons

**Gross Daily Production**—Amount of oil and/or natural gas a well produces in a day

**Gross Production Tax**—Tax levied on the sale of oil and natural gas

**MCF**—Measurement of natural gas equaling One Thousand Cubic Feet

**Operating Costs**—Expenses associated with operating an oil and natural gas well

**Profit**—Difference of revenue and cost

**Revenue**—Total income

**Royalty**—Percentage of a profit paid to an individual or company that is not required to pay expenses for drilling and operating the well

Production of oil is measured in barrels which are 42 U.S. gallons each. Natural gas is measured in MCF which is one thousand cubic feet. The cost of drilling a well includes the operating costs, royalties, and taxes.

Suppose the initial cost to drill a well is \$210,000. The daily rate to operate the well is \$500. The current selling price is \$65.00 per barrel of oil, and the well is expected to produce 115 barrels per day.

A) What would be the revenue for one day?

B) In function notation, write an equation for the operating cost of this well for  $x$  number of days.

C) In function notation, write an equation for the revenue of this well for  $x$  number of days.

D) How many days will it take to have the cost equal to the revenue? This is called the break-even point.

E) In function notation, write an equation for the profit from this well for  $x$  number of days.

F) What would be the profit from this well on the 100th day of operation?