



## ARE YOU PAYING MORE & GETTING LESS AT THE PUMP?

As if the high price of gasoline hasn't been irritating enough, it's all the more galling when you don't receive what you thought you paid for. It happens when careless—or worse, unscrupulous—service station operators sell gasoline that isn't up to snuff or fail to fix their fuel pumps.

In May, New Jersey Weights and Measures inspectors descended on more than 1,000 stations in the state and issued 350 violations. Many were technical violations: missing paperwork or stickers and signs that weren't posted or didn't meet state requirements. But others were for violations that cheated motorists.

The meters on gasoline pumps are often the culprits when consumers are swindled. The New Jersey sweep resulted in more violations for out-of-tolerance meters than for any other type of infraction—meaning that the pumps were not pumping the amount of gasoline that their meters indicated.

Meters and pumps are relatively complex pieces of equipment that wear out over time. A tired meter might, for instance, indulge in "meter jump" (jumping ahead with a dollar amount before any gasoline actually reaches the car) or "meter creep" (the pump keeps adding money after the nozzle clicks off and no gasoline is flowing).

In other instances, the problems may have been more of a human error, rather than mechanical. For example, the New Jersey inspectors found that some station operators failed to post per-gallon prices on their pumps, or stranger still, posted different prices on each side of a pump.

But then there were violations involving the gasoline itself—specifically, inaccurate octane ratings. The state's inspectors issued 26 violations for gasoline that tested as having a different octane reading from the one posted on the pump. And that can have serious consequences on the mechanical performance of your car.

The octane rating refers to how quickly gasoline burns inside an engine's combustion chambers. The higher the octane, the slower the burn. If the octane level is too low for your engine, the gasoline/air mixture may prematurely ignite, causing the engine to "knock" or "ping." If it knocks too hard or too often, the engine may damage itself—by blowing a hole through a piston, for instance.

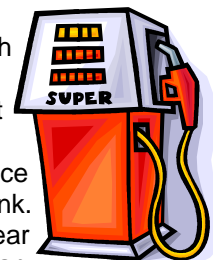
Even if it doesn't cause engine damage, receiving a lower-grade gasoline than you thought you were buying is a waste of money. AAA calculates that the current average price spread between self-service regular and self-service premium is about 40 cents a gallon nationwide—or \$6 extra on a 15-gallon fill-up.

Most states regularly monitor both the pumping and metering of gasoline, as well as the quality of the gasoline sold at service stations. But Pennsylvania is one of three states in the nation (Alaska & Nebraska are the others) in which state inspectors do NOT verify posted octane ratings or check gasoline for such contaminants as water and sediment, which can also damage engines. Under current PA law, state officials are required only to inspect gasoline pumps for proper operation.

Perhaps partly as a result of rigorous state testing, your chances of encountering a misbehaving pump or buying bum gasoline are, in fact, not terribly high. Maryland's comptroller annually samples about two billion gallons of that state's gasoline and other fuels and finds that only about one percent is substandard. Nevertheless, there are precautions you can take from being shortchanged at the pump.

- ◆ Compare the price on the pump with the road sign price.
- ◆ Make sure the pump meter is reset to zeros before filling.
- ◆ Check that the per gallon price remains the same while filling the tank. Price changes or numbers that appear to skip or black out could be an indication of a pump malfunction or deliberate fraud.
- ◆ Make sure the meter stops when the pump nozzle clicks off.
- ◆ Note the number of gallons pumped, and ensure that the amount is not more gasoline than your car's tank can hold. (Check owner's manual for tank capacity)
- ◆ Make a quick mental calculation. Stop pumping at precisely 1 or 10 gallons and compare the price advertised to the price on the pump.

Written by Peter Bohr—AAA World—Nov/Dec 2008 issue



## LAST ISSUE OF THE LEAF

**Reminder:** If you haven't made your request to continue to receive the LEAF: Lebanon's Environmental Awareness Flyer, please do so. This December issue of the newsletter is the final issue to be mailed via IU#13. In an effort to reduce waste and mainstream our newsletter, we will be offering the LEAF electronically. You can either view the LEAF on our website at [www.lccd.org](http://www.lccd.org) or request to receive it via email or a hard copy sent via the US postal service. To continue receiving this newsletter, please contact Leigh Beamesderfer at 272-3908 x112 or at [leigh.beamesderfer@pa.nacdnet.net](mailto:leigh.beamesderfer@pa.nacdnet.net).

## INTEREST IN NATURAL GAS INCREASES IN PA

There has been much talk about natural gas resources in Pennsylvania and the possible benefits to the state and to the landowners sitting on the gas reserves. So what exactly is the Marcellus Shale and where is it located? The Marcellus Shale, also referred to as the Marcellus Formation, is a Middle Devonian-age black, low density, carbonaceous (organic rich) shale that occurs in the subsurface beneath much of Ohio, West Virginia, Pennsylvania and New York. Small areas of Maryland, Kentucky, Tennessee, and Virginia are also underlain by the Marcellus Shale.

Throughout most of its extent, the Marcellus is nearly a mile or more below the surface. These great depths make the Marcellus Formation a very expensive target. Successful wells must yield large volumes of gas to pay for the drilling costs that can easily exceed a million dollars for a traditional vertical well and much more for a horizontal well with hydraulic fracturing.

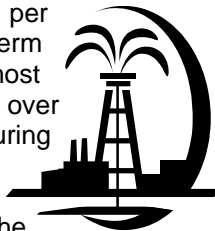
Before 2000, many successful natural gas wells had been completed in the Marcellus. The yields of these wells were often unimpressive upon completion. However, many of these older wells in the Marcellus have a sustained production that decreases slowly over time. Many of them continued to produce gas for decades. A patient investor might make a profit from these low yield wells with slowly declining production rates.

For new wells drilled with the new horizontal drilling and hydraulic fracturing technologies, the initial production can be much higher than what was seen in the old wells. Early production rates from some of the new wells has been over one million cubic feet of natural gas per day. The technology is so new that long term production data is not available. As with most gas wells, production rates will decline over time; however, a second hydraulic fracturing treatment could re-stimulate production.

The presence of an enormous volume of potentially recoverable gas in the eastern United States has a great economic significance. This will be some of the closest natural gas to the high population areas of New Jersey, New York and New England. This transportation advantage will give Marcellus gas a distinct advantage in the marketplace.

Gas produced from the shallower, western portion of the Marcellus extent might be transported to cities in the central part of the United States. It should have a positive impact on the stability of natural gas supply of the surrounding region for at least several years if the resource estimate quoted proves accurate.

In early November, drilling companies and Penn State geologist Terry Engelder reported that the potential yield of natural gas from the Marcellus Shale could be seven times greater, or more, than the estimates that set off the gas gold rush in January, 2008. Then, Engelder estimated that companies would be able to recover about 50 trillion cubic feet of gas based on known estimates. Now, after nearly a year of intensive exploration by a host of companies, he estimates that the recoverable amount likely is in the neighborhood of 392 trillion cubic feet — about 13 times the



annual natural gas production in the entire United States.

These projections are uncertain because the distribution of gas across the 31 million-acre field is uneven. One drilling company estimated the yield at 30 billion to 150 billion cubic feet of gas per square mile, which by its calculations would play out to 1,407 trillion cubic feet. Another variable is the recoverable amount, an average of 30 percent that could increase as technology advances.

In any case, there is a lot of gas out there, and Pennsylvania's government still has not come to grips with the implications. First, it continues to play catch-up with serious environmental issues relative to water use. And, remarkably given that the state faces a budget deficit that could range as high as \$3 billion by the end of the current fiscal year next June, it remains the only gas-producing state without an extraction-related tax on gas production.

Early in the next legislative session, the Legislature should pass such a tax, and dedicate a portion of the proceeds to funding environmental monitoring of the gas field watersheds and the rest to general state revenue.

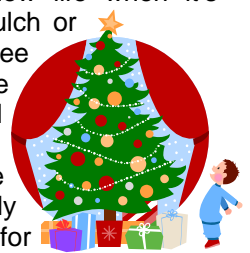
Several companies are actively drilling or leasing Marcellus Shale properties. Range Resources, North Coast Energy, Chesapeake Energy, Chief Oil & Gas, East Resources, Fortuna Energy, Equitable Production Company, Cabot Oil & Gas Corporation, Southwestern Energy Production Company, and Atlas Energy Resources are some of the companies involved.

## RECYCLE THOSE CHRISTMAS TREES

The end of Thanksgiving often marks the beginning of the Christmas season for many. And to kick off the season and get "in the Christmas Spirit", the decorations come out; the wreaths and trees go up; our favorite Christmas carols are programmed into our ipods, mp3 players, and CD players; and the shopping and gift wrapping begins. But what about AFTER the holidays? What do you do with all the "stuff" you accumulated? Try recycling much of it—it's an environmentally friendly alternative to throwing it in the landfill.

Your tree can take on a whole new life when it's chipped and shredded as landscape mulch or compost for the garden; or the entire tree can be submerged in a pond to provide aquatic habitat; or place it outdoors and decorate it with pinecones filled with peanut butter and birdseed, orange wedges, and/or suet. Birds will not only use it for feed, but they will also use it for shelter from the cold winter winds.

Or . . . You can take it to the landfill. Yes—the landfill! The Greater Lebanon Refuse Authority is offering FREE tree recycling from December 27th through February 14th, Monday through Friday, 7:00AM to 4:00PM, and Saturdays, 8:00AM to Noon. They'll be sure your tree is recycled and put to good use!



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