

The contribution of George P. Mitchell

Having your (greener) energy cake and eating it too

By Pierre Desrochers and Hiroko Shimizu
For The Drill



TORONTO — More than eight decades ago, the economist Erich Zimmermann observed that before the emergence of humans, “the earth was replete with fertile soil, with trees and edible fruits, with rivers and waterfalls, with coal beds, oil pools and mineral deposits; the forces of gravitation, of electro-magnetism, of radioactivity were there; (and) the sun set forth his life-bringing rays, gathered the clouds (and) raised the winds.” Despite all this, he added, “there were no resources.”

“Resources are not, they become,” Zimmermann famously observed, pointing out that they are not fixed and permanent things waiting to be picked, but rather that they “expand and contract in response to human wants and human actions.”

What ultimately creates resources, many energy analysts have long observed, is the capacity of the human brain to develop new technologies by combining previously unrelated components in new ways.

While our innate need to identify some heroic figures sometimes results in conferring cult figure status to gifted technologists and marketers such as Thomas Edison and Steve Jobs, in truth most of humanity’s benefactors are now forgotten individuals — especially if they worked in the private sector — who contributed small steps to humanity’s long march towards higher standards of living.

If one nonetheless wishes to identify the individual who pushed the envelope more than any other in order to create America’s current “fracking” energy boom, then the person most worthy of this title is Texas hydrocarbon pioneer and real estate developer George P. Mitchell, who died last year. Although somewhat familiar to residents of southeastern Texas, and in some energy and scientific academic circles, his

pioneering efforts are — in our experience — insufficiently appreciated.

Born in 1919 to poor Greek immigrant parents — his father changed his name from Paraskevopoulos to Mitchell — George P. Mitchell was, in many ways, the embodiment of the American dream. Although drawn to astronomy at an early age, he eventually graduated first from his class in petroleum engineering and geology at Texas A&M University on the (obviously correct) assumption that his passion would probably never result in meaningful employment. He then served in the U.S. Army Corps of Engineers during World War II and, in time, became one of Texas’ most successful wildcaters, energy service providers and urban developers.

To oversimplify, some of the main fracking innovations to which Mitchell and his collaborators at Mitchell Energy & Development can lay claim to are significant reduction in the average time and cost of drilling (by respectively approximately 50 and 15 percent), and improving drilling efficiency through the develop-

ment of better drilling fluids (or superior alternatives to older ways of doing things), lost circulation control and down-hole drilling motors.

Like all innovators, Mitchell and his staff only saw and accomplished as much they did because they stood on the shoulders of other individuals.

Among other things, they already knew about the existence of large hydrocarbon reserves in shale rock formations and could build upon many extractive technologies and drilling components developed by others. They also benefited from some significant advances among their service providers. In time too, the success of modern fracking required further innovations by other creative individuals who built upon Mitchell Energy’s breakthroughs, such as the commercially successful addition of horizontal drilling to fracturing operations and the extension of fracking to the oil industry.

In the end though, what made Mitchell stand apart from his contemporaries was how long — in spite of negative financial returns and feedback

(most of which came from his own employees) — he persevered in his effort to make fracking for natural gas a commercial success.

Indeed, while he and his associates first began to poke holes around Fort Worth, Texas, in 1981, it was only in 1997 that they achieved a measure of success. By demonstrating beyond any doubt that unconventional natural gas could be profitably extracted from the Barnett play, Mitchell and his associates jump-started the shale gas, and later shale oil, boom in Texas and other parts of the U.S.

The technologies pioneered by Mitchell and others have, as readers of this publication are undoubtedly aware, been a game changer in the energy sector. Suffice it to say that, according to the US Energy Information Administration, surging domestic oil production has cut down U.S. petroleum imports from about 60 percent in 2005 to about 40 percent in 2012, while the country has now become a net exporter of petroleum products.

In 2012, tight oil and shale

gas resources provided 29 percent of total US crude oil production, and 40 percent of total U.S. natural gas production while supporting 2.1 million jobs and boosting the gross domestic product by approximately \$284 billion.

Even more remarkable, in 2013, America became the world’s top producer of petroleum and natural gas hydrocarbons, surpassing Russia and Saudi Arabia. Energy analysts are now so optimistic that the BP Energy Outlook estimates that the U.S. will produce 101 percent of its energy needs by 2035. Of course, what was good for the U.S. will also prove beneficial for the rest of the world when U.S. innovation and expertise is adopted and adapted the world over.

Even more remarkable in the case of fracking is that it delivered both significant econom-

ic — through a more abundant and affordable energy supply — and environmental benefits, by significantly reducing overall greenhouse gas emissions for those who believe in the negative impact of such things.

While George P. Mitchell might not be a household name, the energy sector was good to him as his net worth reached, at one point, nearly \$2 billion.

Like many successful Americans before him, however, he gave much of his wealth back (at least \$400 million) through his Cynthia and George Mitchell Foundation in causes as diverse as urban redevelopment in his native city of Galveston, Texas, higher education — he was the most generous donor to his alma mater Texas A&M — and astronomy. Even if he had not done so, however, his personal fortune would, in the end, have been nothing compared to the greater good he delivered to mankind.

In a time when many people have adopted a gloomy outlook on their future, the life and time of George P. Mitchell reminds us that American dream is the end the product of letting visionary individuals dare to challenge the conventional wisdom of their days.

In some cases, they will even deliver the otherwise unimaginable feat and letting you eat your cake and have it too!

Disclaimer: Pierre Desrochers met George P and Cynthia Mitchell in 1997 and 1998 when he was the recipient of a George and Cynthia Mitchell Young Scholars award. Although Mrs. Mitchell liked him enough to suggest he be introduced to one of her granddaughters, he somehow ended up marrying a Tokyo girl instead.

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