

**Statement of**

**Dr. William Whitsitt**  
**President**  
**Domestic Petroleum Council**

**on behalf of**

**American Petroleum Institute**  
**Domestic Petroleum Council**  
**Independent Petroleum Association of America**  
**International Association of Drilling Contractors**  
**National Ocean Industries Association**  
**Natural Gas Supply Association**  
**U.S. Oil and Gas Association**

**at the hearing on**

**Advances in Technology: Innovations in the Domestic Energy  
and Mineral Sector**

**before the**

**Subcommittee on Energy and Mineral Resources**  
**Committee on Resources**  
**U.S. House of Representatives**

**July 15, 2004**

***"From coast to coast, innovative E&P approaches are making a difference to the environment. With advanced technologies, the oil and gas industry can pinpoint resources more accurately, extract them more efficiently and with less surface disturbance, minimize associated wastes, and, ultimately, restore sites to original or better condition."***

*- U.S. Department of Energy\**

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Good afternoon Chairman Cubin and members of the Subcommittee.

I am William Whitsitt, President of the Domestic Petroleum Council that represents the largest U.S. independent natural gas and oil exploration and production companies.

The Department of Energy statement at the top of my prepared testimony captures the essence of what I would like to discuss with you.

I am very proud to represent the DPC members today. But I am also proud and pleased to represent the smallest to the largest exploration and production and drilling contractor members of the other associations you see in my statement: the American Petroleum Institute, the Independent Petroleum Association of America, the International Association of Drilling Contractors, the National Ocean Industries Association, the Natural Gas Supply Association and the U.S. Oil and Gas Association.

Together we are putting many exciting technology concepts, inventions and innovations to the task of supplying the energy needed to run our air conditioners, get us to our jobs and to fuel our economy – technologies that also have exciting benefits in reducing the temporary surface disturbance of our activities and that help us continually improve our operations in terms of environmental compatibility and efficiency.

We in the exploration and production sector today are, above all, application innovators and integrators of technology.

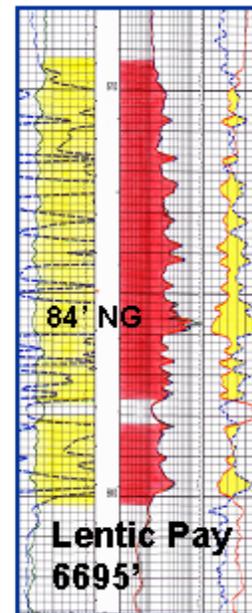
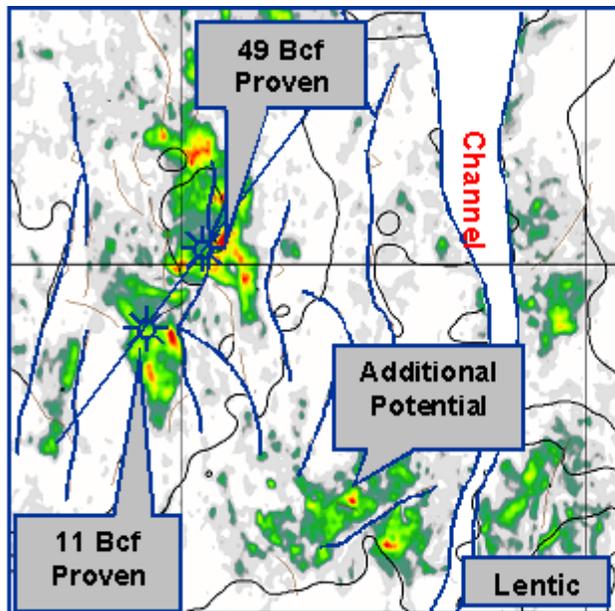
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\* DOE: *Environmental Benefits of Advanced Oil and Gas Exploration and Production Technology, 1999.* ([http://www.fe.doe.gov/oil\\_gas/envIRON\\_rpt/index.html](http://www.fe.doe.gov/oil_gas/envIRON_rpt/index.html))

Our geologists, geophysicists, computer scientists and others work together to figure out what resources may be miles below the ground, often also beneath thousands of feet of water offshore. (In large measure at this stage they are developing and testing theories and ideas generated by very creative scientists and other experts with the aid of supercomputers, sophisticated work stations – lots of knowledge and experience.)



With petroleum engineers, energy companies then attempt to determine how best to reach what they believe may be there with a drill bit. If successful in doing that, they must make decisions about the quality and quantity of discovered resources, and whether the geology and geography will permit economic extraction. Then they must plan and design a program – with technology a key element – to develop and produce those resources.



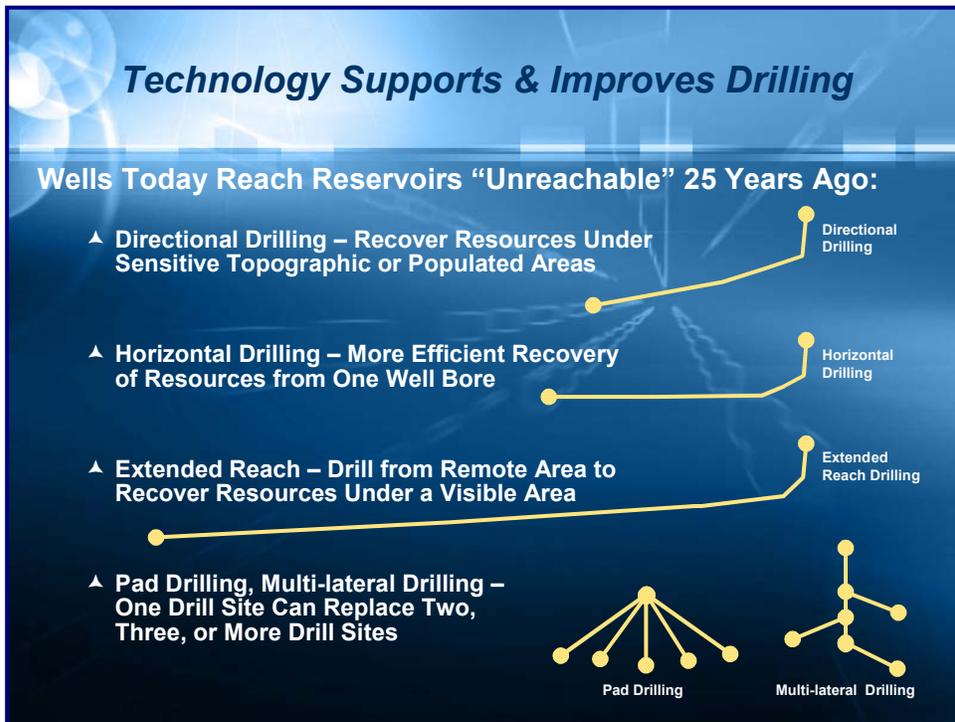
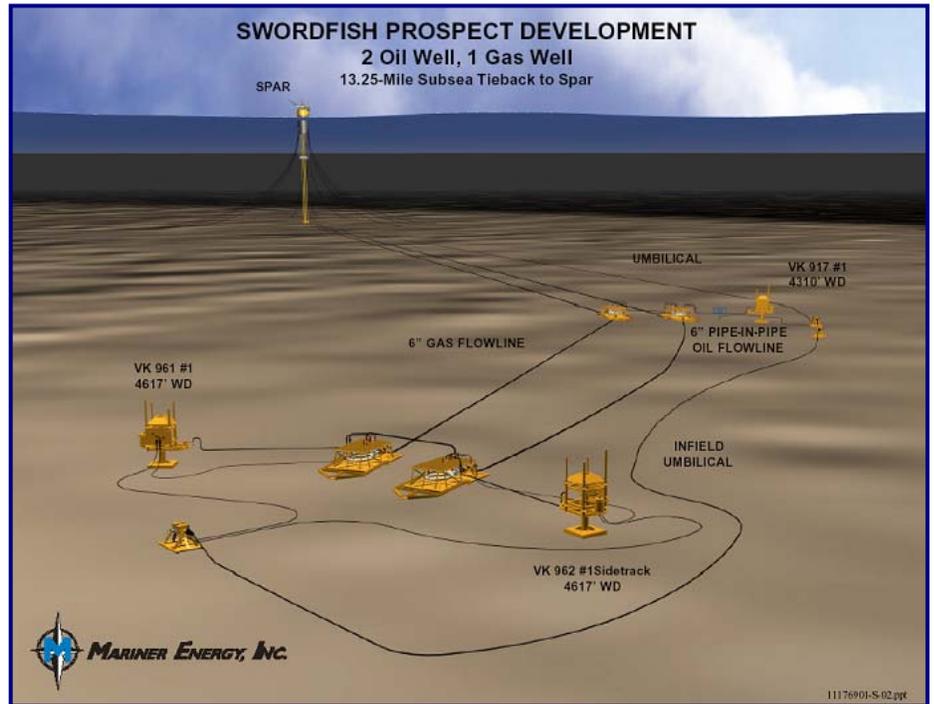
As the DOE correctly pointed out in its study that I've cited (and a copy of which I am providing with my printed testimony for your hearing record), the latest "seismic" software and hardware technology provide the ability to better "see" subsurface geologic formations by analyzing acoustic waves, and even MRI and radar images, of

potential gas bearing reservoir rocks and coal formations deep below the surface of the earth, both onshore and under the sea.

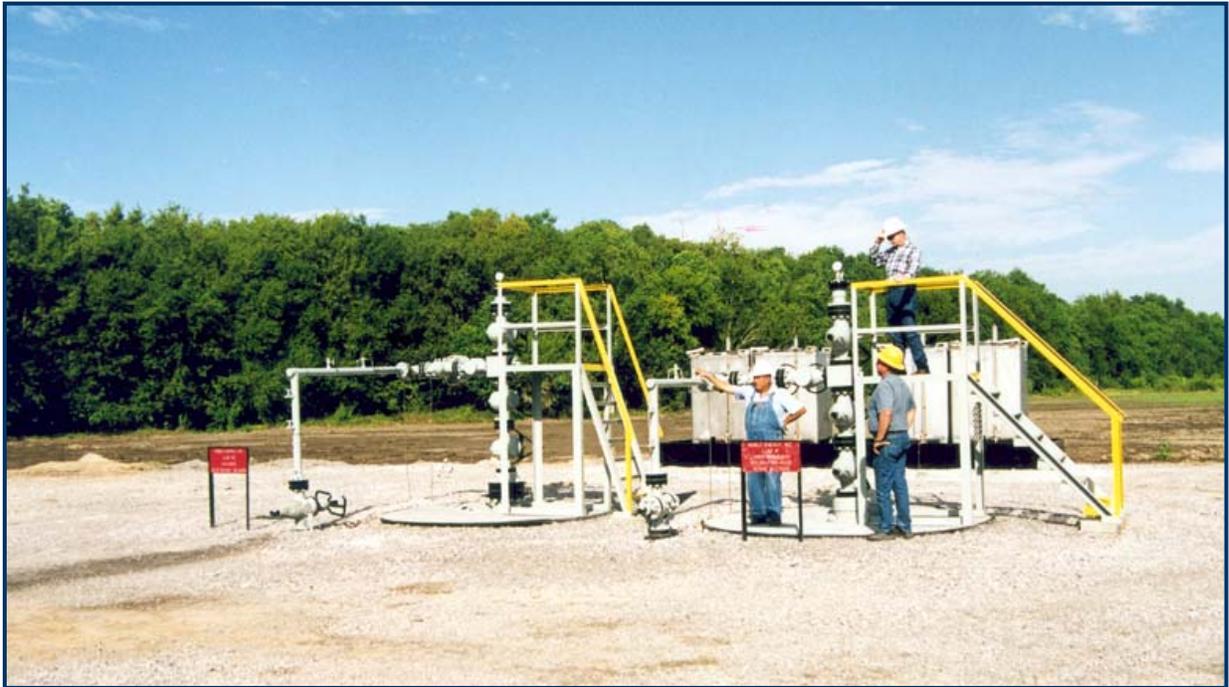
These technologies increase the likelihood that natural gas will be found and more quickly made available to consumers. They not only improve the chance of drilling success – leading to fewer unsuccessful wells, or “dry holes” – but they also better enable us to pinpoint the best locations for development wells to efficiently produce the natural gas or oil.

These result in fewer wells and less surface disturbance onshore and fewer, more strategically placed facilities offshore.

An offshore note: Even fewer facilities are required by use of subsea completion technology that may allow many wells to produce to a single facility over distances further than from Baltimore to here.



Highly sophisticated directional drilling systems are able to probe below the surface – even horizontally and for extended distances – to reach prospective oil and gas reservoirs in less time and with more reliability.

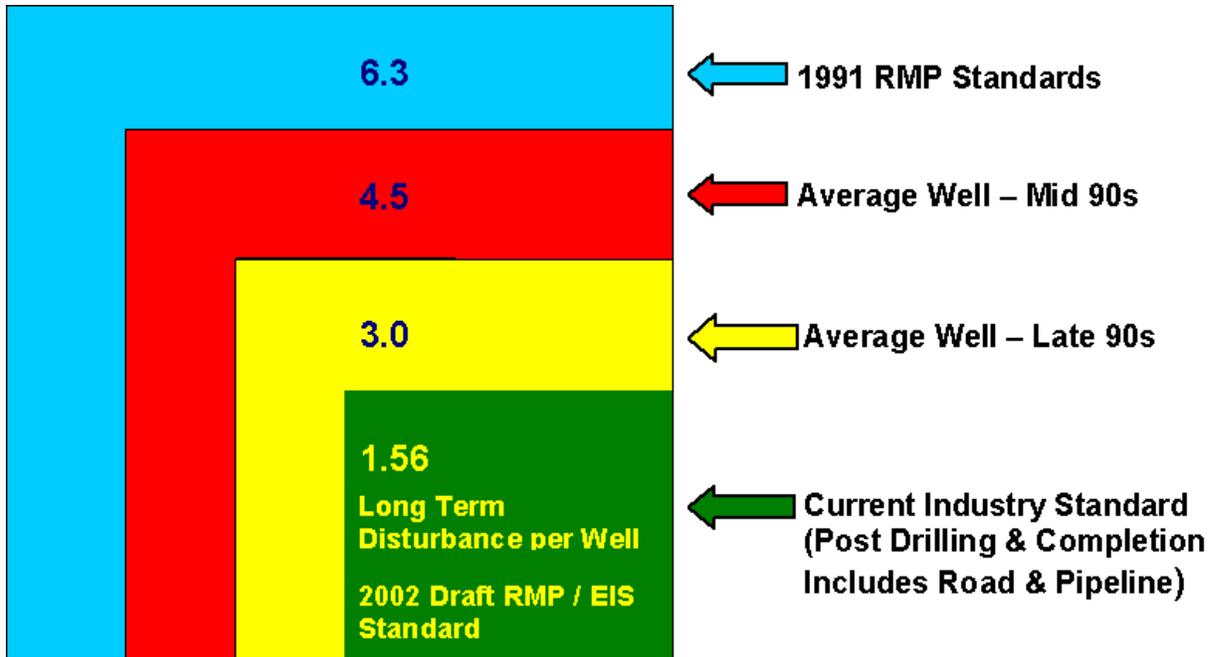


In many cases today we are able to drill multiple wells from a single location, or access several reservoirs with multiple “completions” from a single well.



Because of more compact drilling equipment, including use of coiled tubing instead of drill pipe in some situations, we can reduce the temporary disturbance of the “pads” or areas we need to drill wells. More compact surface equipment is leading to smaller and smaller production facilities.

The combined benefits of such new technologies can be truly dramatic.



In the San Juan Basin of New Mexico – perhaps the most prolific natural gas production area in the country – average well pad size has dropped from over six acres to just over an acre-and-a-half.

Not only is the surface disturbance smaller, but the time needed to develop our resources can be drastically reduced. Today's drilling and completion technology brings wells on line in a fraction of the time needed just 20 years ago. A 10 – thousand foot deep gas well in Wyoming may take less than 2 weeks to drill and less than 2 weeks to complete today. The same well could have taken up to 6 months to drill and complete in the 1980's.



In Alaska, improved technology, closer well spacing and directional drilling have enabled 40-thousand-acre fields like Alpine on Alaska's North Slope, to be developed with less than 100 acres of surface disturbance.

In addition, the effects of seismic work in the arctic have been reduced by use of specialized tracks on the vehicles that exert less pressure on the tundra.



All the technology areas that I've just touched upon, and many more, are fully described in the DOE study that I urge Subcommittee members to at least scan.

Although not every technology is suitable for every geologic, geographic or other situation, we are constantly seeking and trying better ways of doing things.

That means helping to develop new technology with our service sector partners who lead the way

in this area. But, as important, we are constantly seeking and trying new ways of applying technology to new and different situations for benefits we have discussed.

Finally, we are also committed to reclamation and restoration after we have drilled a well or produced a field.

As an example, here you see an area in New Mexico that the Forest Service not long ago suggested might not be appropriate for natural gas activity because of its "undisturbed" environment.

Imagine the surprise when one of the exploration and production companies working in the area pointed out – and



– and verified by aerial photography – that this is actually a road that had been reclaimed following earlier gas exploration and production work.

Thank you for the opportunity to be with you today.

I would be glad to answer questions.