



VLT® drives optimise oil production in Texas

At an oilwell in Texas VLT® drives maintain an optimum pressure balance between oil wells and surrounding reservoirs. More oil flows into the wells, thereby raising overall production.

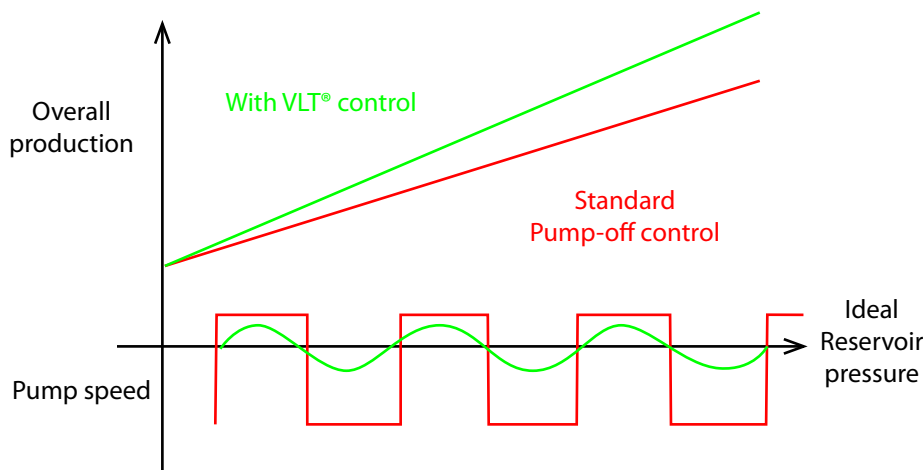
In 1962, Jed Clampett used a mere bullet to accidentally pierce the thin veneer of soil holding back a massive amount of oil on his land. The scenario played on a bit of Texan mythology—that oil bubbles under constant pressure just below ground were waiting to surface and that one well-placed piercing would release all the “black gold”.

The idea was promoted by the lore of places like Elektra, Texas, where a rancher named W.T. Waggoner frequently com-

plained that he kept striking oil while drilling water wells for his cattle.

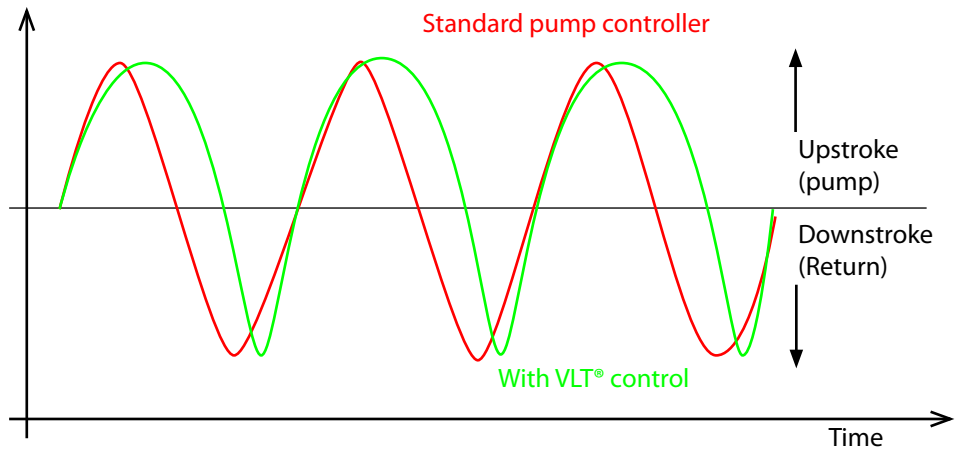
Today, Elektra literally has more oil pumps than it has residents (5000 pumps within a 10 mile radius, compared to a population of 3500). In fact, many areas of the southwestern United States are covered with the machines often referred to as “nodding donkeys” or “thirsty birds.”

This part of the pump — the equipment most people picture when they think of oil pumps — is actually called a walking



A standard pump-off controller simply shuts the pump off when oil production drops below a certain level. This is done to protect the pump equipment and to give the well time to “recover.” However, slowing the pump down with a VLT® 5000 Series drive maintains a better pressure balance between the well and the surrounding reservoir. More oil flows into the well, thereby raising overall production.

As the pump jack moves up and down, it creates stress on the rod and the other equipment connected to it. At certain points in its travel, this stress is greater than at other points. Using a VLT® drive to vary the speed of certain parts of the stroke can minimize this stress, making the components last longer. This can be accomplished while still maintaining the same number of strokes per minute, which keeps production up.



beam pump or pump jack. Pump jacks convert the rotary motion of a motor into a vertical motion that is used to extract oil from a well. But they're only part of the picture.

After a well is drilled, a pump jack is installed at the site. Attached to the pump jack is a long rod that goes all the way down into the well, deep underground. At the end of the rod is the pump head, which pulls oil up to the surface. As oil is removed from the well, more oil flows into it from the surrounding earth, which is called the reservoir. But there is a delicate balance that is unique to each well. Pump too much, and you'll dry out the pump and risk damaging it; pump too little, and you'll lose production and won't

make as much money. So pump jacks typically use a device that detects when the level of oil in the well is getting low. The device then shuts the pump off, allowing the well to "recover."

While this method works, it's not terribly energy efficient, and it can be hard on the equipment. Instead, some pumps use VLT® 5000 Series drives, which allow them to maximize the amount of oil extracted from the well by slowing down to match the recovery rate of the well rather than just shutting off completely. SyncPos cards also allow the drives to precisely control the speed of the motor during both the upstroke and downstroke of the pump to minimize stress on the well rod.

