



“Well Rehabilitation Options”

Well problems are frustrating and leave you with a feeling of hopelessness. As if that were not enough, well problems are often confused with pump problems. Though these two problems are easily differentiated, companies that do not have the proper diagnostic tools often take an educated guess as to which the culprit is...at your expense of course. This process should always start with a full battery of diagnostic pump tests before a pump is ever pulled. The information gathered will not only be used to resolve the immediate issue, it will be a useful yardstick for the life of the well and pump. A good test should reveal total capacity of water flowing into the well, static and pumping levels to determine how the water table is reacting, a step test to evaluate performance of the pump at different pressures, and finally, an efficiency test which measures energy being consumed to calculate the cost effectiveness of your pumping unit. Once the pump is confirmed to be working properly, the same data gathered is then used to assess the well problem and its potential for rehabilitation. Below are a few of the more common rehabilitation options available to you:



Video- Once a pump is pulled, a video camera can be lowered down the well and a movie of the entire well from top to bottom is produced. This is a slow moving 360-degree video that accurately records footages and is used to inspect the casing for holes that may allow gravel to flow into the well and pump. It is also an essential tool to determine if the well perforations are plugged, what they are plugged with and what will be the best method to resolve these problems.



Scrubbing- Scrubbing is a weighted bristle-brush used to clean scale build up from the perforations. This tool is lowered down the hole and worked vigorously up and down creating a wire brushing effect. When coupled with a video and other rehabilitation methods, scrubbing can become a precise and an effective means to increase flow.

Bailing- For various reasons, debris can flow into the well and settle to the bottom. This ultimately fills in around the pump and starts to choke it off. Bailing is the use of a specialized “bucket” to retrieve the debris from the bottom of a well- basically digging the well back to its original depth. Bailing should always be used after scrubbing.

Surging- Surging uses a disc that serves as a plunger to force water back and forth through the perforations to help free up scale. Surging is usually used in conjunction with a chemical that will enhance production of the well.

Acidizing- The use of various acids, in conjunction with surging and scrubbing, can reduce scale build up and penetrate the gravel layer outside the casing to help increase flow. A chemical specific formula is used to determine the correct amount to place in the well to get the proper dilution. This will allow for maximum effect of the chemical.

Sonar Jet- Sonar Jetting is the act of igniting detonation cord at specific depths to “blast” the perforations. With this device we could easily blow all the water out of the well, but by matching the strength of the blast to the weight of the water we can force the blast concussion to pass through the perforations into the gravel pack and water carrying zones. Coupled with acidizing and surging, this can be highly effective.

Liners- All casing will eventually rust through and often allow harmful rocks to fall into the well. This can cause severe damage to the brass impellers of a pump. Steel casing of the next smaller size than the existing casing is placed inside the well. The casing must be of sufficient size to accommodate the selected pump. Johnson Screen is placed at the bottom to allow adequate water flow. This liner is lowered and welded inside the original casing for the entire depth of the well thereby sealing off the rotted spots of the old casing and protecting the pump.

Of course, wells can go bad (and that truly is bad luck), but more times than not they are repairable with the proper diagnosis and rehabilitation treatments. If your well is no longer living up to your expectations perhaps it's time to gather data and assess the situation. Better water may not be as far out of reach as you think.

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