

Subject: : Conservation

Topic: : Shale Drilling question

Re: Shale Drilling question

Author: : pcray1231

Date: : 2013/8/8 9:53:02

URL:

Quote:

Steel has a tendency to corrode rapidly depending upon the chemistry of the rock/water in contact with it.

Yeah, and this is a 100% solvable problem with a different type of steel. We make lots of alloys that are designed for such environments, and will not corrode or crack in even the most severe environments. Of course, they are expensive. Often 10x what carbon steel costs, as they generally have very high concentrations of Ni and/or Co. Some of them don't have any Fe at all. Also, it doesn't matter how corrosion resistant the alloy is if it's dirty as heck, as dirt just pits out of it. Thus, not only do you need the more corrosion resistant alloy, you need much more advanced (and expensive) melting equipment as well.

And in theory, only needed for the outer casing, as Gudgeon says. So that's all they use them for, and it's cheaper stuff in the middle.

Of course, not all wells are made "properly". And also, not all cases of upward migration are due to failed casings. Poorly mapped legacy wells, poorly constructed water wells, etc.