Casing Magnetization Service

Pre-magnetization of casing is a cost-effective method for increasing the detectable range of the casing when using passive magnetic ranging (PMR) techniques. This should be used whether your wells need well-avoidance measures due to dense fields, go through salt formations, require shallow relief well intersect or are less suitable for active magnetic ranging (AMR) in other ways. add energy’s Casing Magnetization Service is offered worldwide in cooperation with our partner Vector Magnetics LLC.

After magnetizing the casing the detection range will typically increase from less than 10 m to 20 m + when ranging for a casing shoe, and further when ranging to the middle of the casing. The improvement in ranging distance as a result of pre-magnetization can potentially amount to a significant reduction in drilling time and rig days. Pre-magnetization of casing will give you increased safety at low cost and with no risk to your wellbore. Field testing of magnetized casing joints at surface has demonstrated that the effect is long lasting.

Without intentionally magnetizing the casing before using PMR, one is relying on the random and unpredictable magnetization of casing when it was manufactured. While it is possible to use PMR to range to drill pipe or casing without pre-magnetizing, there is no guarantee that the steel will be detectable using PMR at an acceptable distance. add energy’s CMS provides documentation of magnetic field strength of each joint before and after magnetization, and each joint is properly marked. The final report explains in detail the order in which the joints should be installed in the hole.

The potential benefits of Casing Magnetization are:

- Significant reduction in drilling time and rig days
- Increased safety at low cost with no risk

Magnetization to saturation is achieved by exposing casing to a very strong magnetic field created by an electrified coil. The operation usually takes place at the pipe yard or company workshop. Power is required for the coil and for a laptop. The work area should therefore be protected from the elements for safe operation of electrical equipment.
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