

Relief Well Directional Planning

Over 40 years of ranging technology has made it possible for relief wells to align precisely with, and perform direct interceptions of, blowout wellbores. This direct wellbore access enables dynamic kill of a blowout well, but is a process that requires engineering expertise to execute.

Boots & Coots engineers utilize Landmark's COMPASS™ software to design the directional component of a relief well; our engineers employ the latest and most up-to-date software versions and releases. Collaborative well design is made effortless as information is shared efficiently and rapidly by the import/export options available.

Our engineers optimize each relief well directional plan and can determine the necessity of and specific point at which a cross-by will be most useful. Well uncertainty data is examined in order to determine the most effectual initial ranging depth. Our engineers work with ranging experts to determine the optimal angle of approach for magnetic ranging.

The directional planning of a relief well requires experience, knowledge, and technical expertise. Effective relief well directional planning takes in to account additional aspects not encountered in normal well planning circumstances, incorporating the following components:

- Surface location selection – bathymetric, Metocean, sub-surface considerations, exclusion distance
- Magnetic ranging strategy – cross-by necessity and depth, initial ranging point, optimum angle of approach, active vs. passive ranging
- Interception point selection – incident angle, deepest presence of ferrous material
- Survey management – accuracy of offset well information.

During relief well drilling operations, Boots & Coots engineers work closely with the ranging team to interpret magnetic ranging data and adjust the relief well directional plan accordingly.

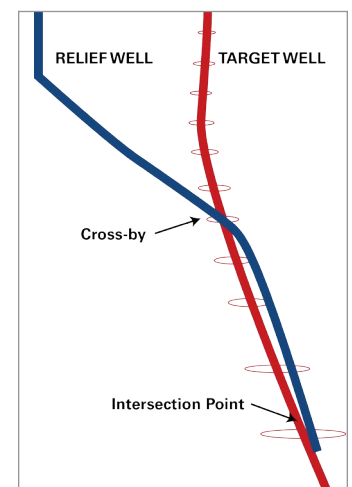


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Relief well planning is an interactive process where adjustments in other components of the relief well may trigger changes in the relief well directional plan. Boots & Coots engineers have the necessary skills to evaluate those external elements.

Crucial elements in the overall relief well plan, in addition to the directional component, include:

- Dynamic kill analysis
- Casing and tubular design and analysis
- Advanced milling techniques
- Interception plan and technology



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**For more information, contact your Boots & Coots representative
or email us at boots-coots@halliburton.com.**

