

Cut Your Losses: A Practical Approach to Managing Lost Circulation

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Challenging wells? Cut your losses

Lost circulation remains one of the leading contributors to non-productive time (NPT) related to drilling fluid performance across the oil and gas industry. While the fluids sector offers a wide range of lost circulation materials (LCM), whole-fluid losses to downhole formations continue to disrupt drilling schedules, increase fluid costs, and place pressure on operating budgets. As drilling windows narrow in mature fields, depleted reservoirs, and deepwater environments, the risk of inducing losses by exceeding the fracture gradient becomes even more critical to manage.



At Newpark, our approach is built around
**disciplined planning, engineered prevention, and
rapid response:**



1. **Engage early** to understand, characterize, and quantify downhole loss mechanisms.
2. **Engineer a proactive mitigation plan** aligned to the drilling margin, fluid system, and formation risk profile.
3. **Define clear contingency actions** to address unavoidable losses quickly, consistently, and effectively.
4. **Apply continuous improvement** to capture successful practices, understand failure modes, and refine future well plans.



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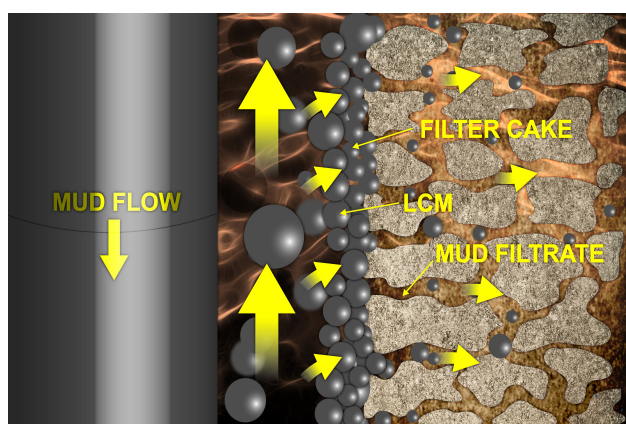
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Prevention is better than cure

In depleted formations and narrow-margin drilling intervals, losses can be initiated when wellbore pressure exceeds the local fracture gradient. Wellbore strengthening techniques—including fracture closure stress, fracture propagation resistance, and enhancement of hoop stress—use engineered particle packages to increase the effective fracture resistance of the near-wellbore region. The result is a larger operating window and improved ability to maintain drilling performance without exceeding formation limits.

In high-permeability and unconsolidated sand formations, low-level seepage losses are common. Although hourly losses may appear manageable, loss rates often increase as additional permeable formation is exposed. **This can lead to significant cumulative drilling fluid losses before the section reaches total depth** and is isolated with casing, while also increasing the likelihood of drilling issues such as wellbore instability, differential sticking, and elevated torque and drag.



NanoFIX™ is a liquid additive containing nano-scale particles **engineered to plug microfractures and enhance deposited filter cake quality**. By reducing seepage losses and limiting pressure transmission into the formation, NanoFIX helps support wellbore stability and drilling efficiency while reducing the risk of differential sticking and excessive torque and drag.

PreFIX™ is a blend of resilient cellulosic and elastomeric materials designed for addition to the active fluid system as part—or all—of a dynamic wellbore strengthening package. **PreFIX™ is engineered to bridge small to medium fractures while improving filter cake quality**. In circulating systems, it is designed to maintain particle-size distribution through resistance to attrition and reduced scalping of larger particles at the shakers when API 30 mesh screens or coarser are used.



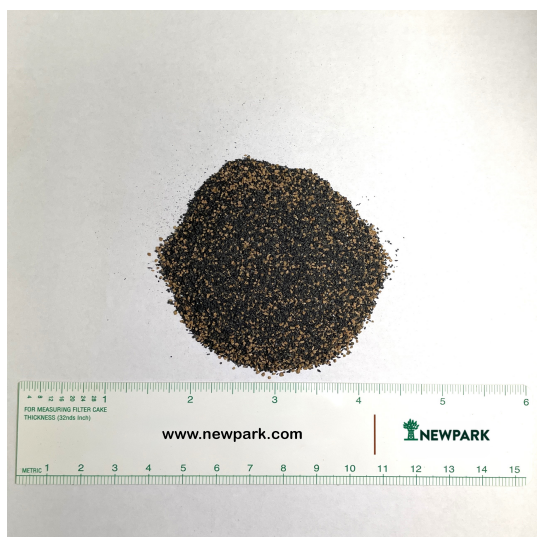
PreFIX seepage control blend



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ProppFIX bridging blend

For more demanding wellbore strengthening applications where larger particles are required, **ProppFIX™** provides a blend of similar resilient granular additives with a larger particle-size distribution capable of bridging openings up to 1,000 microns. ProppFIX can be used as a whole-mud treatment, with routine maintenance additions to sustain the engineered particle distribution over the interval.



FracFIX one-sack lost circulation remedial blend

FracFIX™ coarse-grade material provides bridging capability up to 2,000 microns for challenging loss events in naturally fractured and select vugular formations. Used with PreFIX and ProppFIX to deliver a broad-spectrum particle distribution, FracFIX helps build a low-permeability seal across the fracture and reduce pressure transmission to the fracture tip. Its resilient structure makes it suitable for wellbore strengthening applications where the selected mechanism requires the fracture to remain open and supported. FracFIX is best suited to static hoop-stress applications rather than dynamic circulating environments.

Note: All FIX additives are compatible with a wide range of drilling fluid systems and are suitable for temperatures up to 350°F/177°C.

When losses are inevitable

Even when well designed wellbore strengthening is deployed as part of an ECD management strategy, naturally occurring features such as fractures, conductive faults, weak bedding planes, and vugular formations can still create a risk of downhole losses. Minimizing the impact of these events requires a clear understanding of downhole risks and a predefined treatment strategy. **Effective lost circulation planning is a collaborative effort, integrating input from drilling, subsurface, directional drilling/MWD, cementing, and fluids specialists to support a Lost Circulation Decision strategy.**



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Lost circulation pills are most effective when formulated as engineered blends with a broad range of particle sizes, enabling rapid formation of a low-permeability bridge across the loss zone. Newpark's FIX product line provides complementary materials that can be combined to address lost circulation events across a wide range of natural fracture widths and formation conditions. For severe loss zones such as large fractures, faults, and vugs, a different loss management technique is required.

X-Prima™ is applied as a dispersed slurry of granular and fibrous materials that rapidly defluidizes as it packs into the loss zone, building a solid foundation on which the drilling fluid can establish a new filter cake and restore wellbore integrity. **Successful application depends on skilled placement, deliberate execution, and incremental squeezes that build plug strength over time.** Newpark Fluids engineers are trained in both the technical application of X-Prima and the operational practices that support successful field execution.

To learn more about Newpark's FIX product suite and X-Prima lost-circulation solutions, visit Newpark's website or [contact your local Newpark technical representative.](#)

Stay one step ahead of lost circulation.

Learn more about Newpark's FIX product suite and X-Prima lost circulation solutions.

Go to newpark.com/total-fluids-solutions/fluids-systems-additives/lost-circulation-solutions/



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