

NCS OILFIELD SERVICES CANADA INC.

The dawning of the oil and gas industry's New Age is reshaping the future of the world's energy supply

As operators wrestle with greatly expanded capital requirements and operational challenges, while facing the concerns of stakeholder groups, public opinion, and political wrangling at almost every level of government, it can be difficult for the industry to stay focused on what matters most: the safe, effective, and efficient recovery of energy resources. It is to this mission that NCS Oilfield Services has dedicated itself, and it is making a difference by offering the oil and gas industry unique and reliable tools to allow optimal resource exploitation, rather than a one-method-fits-all approach. NCS offers a choice of completion tools and techniques, borne from a concern for what is most appropriate for the reservoir, the wellbore, and the environment.

Since its inception, NCS has performed thousands of frac treatments in wells that incorporated a cemented casing string. That style of completion offers producers wellbore integrity assurance, and facilitates the pinpoint placement of hydraulic fractures to optimize reserves recovery. But all formations are not the same. In formations where an open-hole completion is most appropriate, NCS now combines its Multistage Unlimited™ Frac Sleeves with open-hole packers. While offering similar speed and efficiencies as ball drop systems, the use of a CTU-deployed BHA provides definitive information regarding the effectiveness of the open-hole packers in containing each individual wellbore interval. This information can be invaluable in benchmarking well performance, and in understanding what portions of the reservoir might not be adequately stimulated. Priceless information, without any additional costs—all collected during normal wellsite operations, with no extra equipment, and no wasted time. And—as with all NCS systems to date—the wellbore is left full drift, with no balls, plugs or seats to drill up or to restrict production.

NCS continues to develop and market new technologies that bring its customers added value. The NCS Airlock™ system, which facilitates the running of long horizontal completions, is a great example of how increased reliability can be used to reduce

both risk and total well costs. Similarly, as a refinement of the NCS Multistage Unlimited system, the NCS Half-Straddle method provides operators with significant time and fluid savings. The company will also unveil a new line of frac sleeves in 2013 with enhanced features, increased pressure and torque ratings, and a closable port option to provide long-term production assurance. Additional BHA refinements will soon be introduced to further reduce completion costs, while maintaining the reliability and performance the Mongoose™ BHA has come to be known for.

"It's a unique way of doing multistage fracs that nobody else has matched for speed or reliability," says NCS Marketing Services Manager Don Francis.

NCS completions technology combines the advantages of coiled tubing and proprietary tool designs to provide greater access to the pay zone, at lower costs than any other multistage completion method. This gives customers a powerful set of advantages not available with any other system, including the ability to monitor real-time pressure at the frac zone, better fluid management, quick recovery from screen outs, and no drill out required.

NCS technical staff provide expert support to customers, who can design completions that suit the reservoir, and not the limitations of the completion assembly.

"It's really the technical leadership in multistage fracturing, which compares very favourably with other alternative methods," Francis says.

Beaumont—a private E&P company developing assets in southwest Saskatchewan, using horizontal well and multistage completion technology—deployed NCS's Frac Sleeve and Multistage Frac Isolation equipment in its Q1-2013 Drilling/Completion program, "with overwhelming operational success. The evolution of NCS's multistage tool technology and the specific improvements made to its bottom hole assembly have made NCS a leading service provider in this space," says Beaumont Manager, Drilling & Completions, Justin Crawford. "The system provides industry with a simple and mechanically sound frac

delivery tool, with minimal operational risk." NCS has proven to be a progressive company that continues to evolve its multistage completion technology to satisfy industry's ongoing quest for improved rate of return, through the capital-efficient development of its assets, Crawford says.

Curtis Swain is a Completions Superintendent at a Calgary-based oil and gas producer that has been using NCS's Multistage Unlimited™ technology for the past two years.

"The main benefit we have seen from using NCS is that our completion times have decreased by close to 40 per cent, resulting in less fresh water being used and reduced completion costs," Swain says. "We used to pump 900 m³ of fresh water, and now we are down to pumping around 400 m³, which is great for trying to reduce our environmental footprint. In addition, NCS has been able to meet all of our needs by adding new technology on a regular basis. I love sitting down with these guys and discussing new strategies for completions or refracs.... They never seem to stay happy with the latest technique because they lead the market." ■

FAST FACTS

NCS OILFIELD SERVICES CANADA INC.

19,909	sleeves installed
2,952	wells completed
44,804	frac stages placed
50	stages completed in a single trip
1,503	sandouts circulated out without tripping
18,250	ft. (5,563m) longest TMD treated

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Fracacceleration!

Resettable frac isolation on coiled tubing + Grip/Shift™ sleeves



The unique resettable frac plug grips and shifts the sliding sleeve and isolates the frac zone.

Frac ports

Plug-and-perf and ball-actuated sleeves are brute force frac methods that bullhead fluids and sand down the casing with no feedback about formation response, no recourse in the event of a screen-out, and no way to manage water and chemicals usage. Both methods limit the number of stages and usually require post-completion drill-out of composite plugs or ball seats.

The Multistage Unlimited system overcomes those limitations and drawbacks using coiled tubing as a work string and circulation path to the frac zone.

Fast frac isolation, mechanical sleeve shift

The work string operates the Multistage Unlimited resettable frac plug, a dual-function tool that 1) isolates frac zones and 2) grips and shifts the sleeves. With no pump-down plugs and sleeve-shifting balls, time between fracs is only about 5 minutes. Large-volume, high-rate fracs are pumped down

the coiled tubing/casing annulus; smaller, low-rate fracs can be pumped through the coiled tubing.

Circulation path adds capabilities

The circulation capability allows operators to:

- monitor actual frac-zone pressure for better control of sand placement
- reduce water and chemicals requirements up to 50%
- recover quickly from screenouts by circulating excess sand out of the well
- use sand-jet perforating to add stages in blank casing, without tripping out of the hole

It all adds up to unlimited stages and spacing, streamlined frac operations, better frac control, lower-cost completions, less environmental impact, and no drillouts. Call, email, or visit our website for more information.



Leave nothing behind.

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