

**IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF TEXAS
HOUSTON DIVISION**

**CANATEX COMPLETIONS
SOLUTIONS, INC.**

Plaintiff,

V.

**WELLMATICS, LLC, GR ENERGY
SERVICES, LLC, GR ENERGY
SERVICES MANAGEMENT, LP, AND
GR ENERGY SERVICES
OPERATING GP, LLC**

Defendants.

[illegible]

CIVIL ACTION NO. 4:22-CV-3306

REDACTED

DECLARATION OF JEFFREY GOLINOWSKI

I, Jeffrey Golinowski, hereby declare as follows:

1. I have personal knowledge of the facts set forth below and, if called as a witness, could and would competently testify thereto.
2. I am Vice President of Engineering at Tier 1 Energy Solutions, Inc. ("Tier 1") and have held that title since June of 2019. I have worked at Tier 1 since 2014. Tier 1 is an affiliate of Canatex Completions Solutions, Inc.
3. I hold a Bachelor of Science Degree in Petroleum Engineering from the University of Alberta and have over 14 years of diversified experience in the oil and gas industry, including with wireline services and completions.
4. I am one of four named inventors on U.S. Patent 10,794,122 ("the '122 Patent") and lead engineer on the design and development of the Ballistic Release Tool ("BRT") at Tier 1.
5. We developed the BRT because we identified a need for a release tool that was effective and reliable in horizontal wells, as well as robust enough to withstand the harsh downhole conditions that tools endure traveling several miles through an oil and gas well.
6. There was a time before my patent that most wells were drilled primarily in the vertical direction. In those wells, a simple release mechanism known as a "weak point" was used on the connection between a wireline and tool string. That connection was known as a "rope socket" in the industry. The weak point on a rope socket had a tension or load threshold that would cause the

rope socket to separate when exceeded, allowing the tool string to be released (or separated) from the wireline.

7. Releasing a tool string is a necessity when a tool string gets stuck deep in a well, because it allows an operator to pull the wireline to the surface while leaving the tool string in the well so that additional portions of the well can continue to be worked on. If a release tool fails, an operator must insert a manual cutting device (e.g., a Kinley Cutter) into the well and attempt to cut the wireline as close to the top of the tool string as possible. Because the tool string is miles deep, it is very difficult and time consuming to manually lower a tool to the precise location above the stuck tool string where the cutting must occur.

8. In my experience, the delays associated with a failed release tool can result in operator costs of up to \$150,000 to \$500,000, depending on the complexity of the stuck tool situation at issue. A wellsite typically has several wells, all of which are being perforated and fractured simultaneously by large crews using expensive equipment. In my experience, a wellsite crew can be as large as 45-55 people. Most or all of the manpower and associated equipment is being paid for hourly, which means every minute a crew and equipment is on site is being paid for by an operator.

9. When a tool is stuck and the release tool fails, an operator typically must cease further work on all other portions of the well until the wireline can be cut. That means the crew and equipment is sitting idle, but still being paid for on an hourly basis. Additionally, there are delays in hydrocarbon production revenue for an operator associated with the lost production time, which is the period production would have occurred but for the release tool failure.

10. In the decade or so leading up to my patent, it was apparent that operators were more aggressively drilling wells in the horizontal direction to reach as many oil and gas zones as possible. For example, it was not uncommon for a well to be drilled over two miles deep and then extend two miles horizontally from the end of the vertical section. In other words, operators were pushing the limits of well production to the limits of available technology at the time, which was putting a strain on downhole tools.

11. While weak points were effective in primarily vertical wells, they were ineffective in horizontal wells for several reasons. For one, the increased tortuosity and friction made it difficult to calculate the amount of tension necessary to reliably release the tools and made it very difficult to transmit the necessary tension down the wireline to activate the weak point. Additionally, because the significant increase in the overall length of wells and the increased tortuosity, downhole tools were being exposed to much harsher conditions and were more likely to get stuck due to deformations that could occur in longer horizontal sections of the wellbore.

12. With a longer horizontal section of the wellbore, this allowed for an increase in the number of fracture stages per well and the number of frac plugs utilized. There is a greater probability of having the wireline tool string being stuck on the frac plug. This further exacerbated the need for release tools that could reliably release on demand.

13. In developing the BRT I asked myself three questions:

- (1) Are wells being drilled deeper and longer?;
- (2) Are more zones being fractured?; and
- (3) Is more fluid and sand being pumped into each well?

The answer to all three questions was yes, which is why rope sockets proved ineffective in these horizontal wells and why I felt an improved release tool was necessary.

14. While I was aware of tools available at the time that were marketed as being suitable for horizontal wells, the ones that I had tried and seen in action suffered from major drawbacks. [REDACTED]

15. [REDACTED]

16. There were other release tools [REDACTED] were also supposed to be designed for horizontal wells, but those also proved unreliable and insufficiently robust to handle the environments we were seeing at the time. That was the motivation for me and the other inventors to develop the BRT.

17. Given the shortcomings of release tools at the time, me and my inventor colleagues believed that we could create a substantially better release tool, which is why we developed the BRT and the release mechanism disclosed in my '122 Patent.

18. We first started running the BRT downhole in June 2016. For the first year we had a 100% success release rate in field deployments. For the entire period the BRT has been released, the release success rate is greater than 96.5%. I attribute this remarkable release rate to the unique lock and release mechanism we developed, which is described in my '122 Patent.

19. Major benefits of the tool are: (1) incredibly high release success rate (> 96.5%); [REDACTED]

20. Since its introduction in 2016, the BRT has received industry recognition.

21. In 2017, Tier 1 and Canatex presented the BRT at the Oilfield Technology Summit ("OTS") in Midland, Texas. The Midland-Reporter Telegram also ran an article with extensive

quotes from me relating to the BRT and the problems it solves. A true and correct copy of the article is attached to my declaration as Exhibit B.

22. In 2018, the BRT was nominated for “New Technology Development of the Year” by the The Oil & Gas Awards, whose judges described the BRT as “provid[ing] an alternate method to a conventional weak point in horizontal well bores. With wellbores getting longer and the friction forces increasing the BRT helps solve these issues” and explaining that “as a new piece of technology, the adoption is impressive, having completed 64k wellbore descents and 220 daily across North American Land is impressive.” A true and correct excerpt from a publication by The Oil and Gas Awards is attached to my declaration as Exhibit C. I have also included a true and correct photograph of me (on the right side) with my colleagues from Cantex that was taken at the award ceremony. I was very excited and honored to be recognized for the BRT, and I touted the ceremony on my LinkedIn profile at the time.¹



23. In 2018, we were also shortlisted as an award nominee at the Global Petroleum Show (“GPS”) for our BRT. A true and correct copy of the email I received informing me of the nomination is attached to my Declaration as Exhibit D. The GPS was considered the “highlight”

¹ See <https://www.linkedin.com/feed/update/urn:li:activity:6438058574886379520/>.

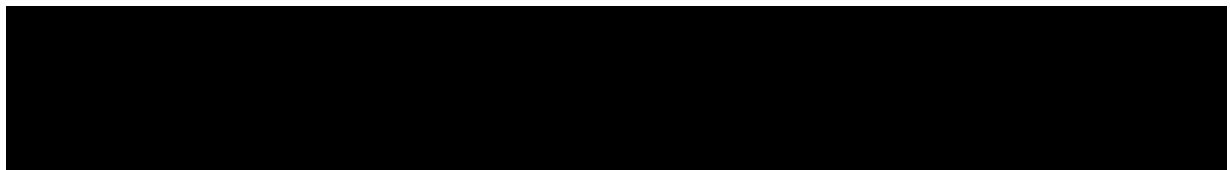
event of the year for Tier 1 at the time, and so we were very honored to have been nominated for the hard work and effort we put into designing and commercializing the BRT.²

24. In addition to these recognitions, within the first year of release the BRT had been used in more than 2,000 zone completions without issue. All releases were to that point successful. Since then, the BRT has maintained what I believe to be the industry-leading successful release rate of greater than 96.5%.

25. A true and correct engineering drawing of the BRT is attached hereto as Exhibit E.

26. To generally explain how the BRT works, I've made some slight annotations to those drawings. However, I have not altered the underlying structure of the drawings.

27. I will first briefly discuss the two largest components of the BRT. The BRT is comprised of a lower part (pink) that is securely retained by an upper part (green) when the tool is in the "locking" mode. The upper part (green) is the side of the tool that is connected to a wireline, and the lower part (pink) is the side that is connected to a perf gun string.



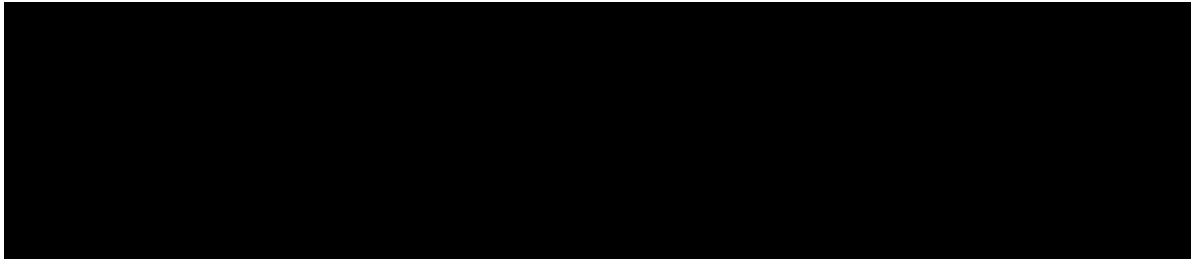
28. Electrical conductivity is provided from one end of the tool (left) to the other (right) through various wires and conductive contacts spanning from one end of the tool to the other. Specifically, a wireline would provide electricity to the contact pin (sand colored) on the left side of the upper part (green). When the wireline is coupled to the left side of the upper part (green), it compresses the pin's spring, which pushes the pin into contact with a wire (sand line) connected to the electronics/switches, as indicated by the dashed sand colored arrow. The electricity can then pass from the electronics/switch to a wire that runs around the detonator cap and propellant and to a solid conductive piece (light grey) that extends through the center of the lower piece (pink). The gun string connected to the lower part (pink) would have its own electrical contact that would contact the solid conductive piece (light grey), thereby establishing electrical communication with the gun string.

29. Turning now to the mechanical operation of the BRT, I have removed the brown lines (representing wires) so it is easier to understand the mechanical operation and zoomed in on the relevant mechanical portions.

30. In the "locking" mode (shown below), collet fingers (blue) of the upper part (green) retain or "grab" a lip (orange) around the fishneck of the lower part (pink). While the collet fingers (blue)

² The Global Petroleum Show changed their name to the Global Energy Show sometime in 2020, in advance of the 54th annual GPS show. See <https://www.newswire.ca/news-releases/global-petroleum-show-unveils-new-name-global-energy-show-to-reflect-the-evolving-energy-landscape-808234317.html>.

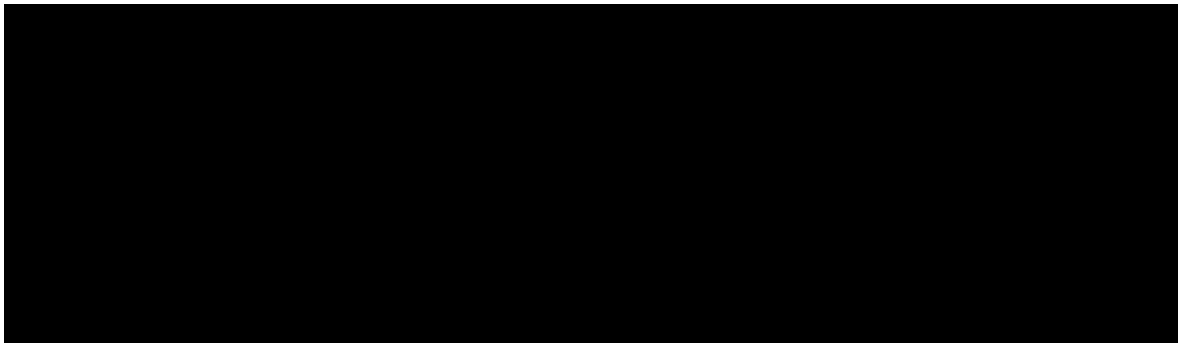
are biased radially outward, they cannot expand in the locked mode because the piston (red) directly forces or constrains the collet fingers (blue) in place.



Locking Mode

31. To activate the “release” mode, the detonator is activated from the surface by sending an electrical signal down the wireline, which causes the propellant to ignite or combust. This combustion creates fluid pressure (yellow dashed arrow) that travels down the central bore of the upper part and into ports leading to the piston (red). Because the piston (red) resides in a chamber that is larger than the piston itself, the fluid pressure causes the piston (red) to axially shift to the left (along red arrows) into that additional chamber space.

32. As shown below, once the piston (red) has fully shifted, the BRT is in the full “release” mode, where the piston (red) abuts the left wall of the chamber. Thus, the space (indicated by dashed white arrow) that the piston occupied in the “locked mode” is now empty and the collet fingers (blue) can expand into that space and release the lip (orange) of the lower part (pink) so that the upper and lower parts can separate. This separation also terminates the electrical connection provided to the lower part.



Release Mode

I declare that all statements made herein of my knowledge are true, and that all statements made on information and belief are believed to be true, and that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code. I further declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct.

Dated: September ~~27~~ 2022

By:  P.Eng

Jeffrey Golinowski, P.Eng

EXHIBIT A

Addressable Downhole Release (ADR)



Specifications

Mechanical

Field joint	1 5/8 ACME thread
Tool diameter	2 3/4 in. (69.85 mm)
Tool makeup length	27 in. (685.8 mm)
Weight	<44 lb (20 kg)
Working pressure	20,000 psi (137.9 MPa)
Shock qualification	1000 g 0.5 ms (half-sine)
Fishing head diameter	1.374 in. (34.90 mm)
Fishing load post-separation	20,000 lbf (88,964 N)
Fishing load pre-separation	10,000 lbf (44,482 N)
Time for release operation	4 minutes
Time to reconnect	4 minutes
Log out of hole after release	Yes
Ultimate torque	250 lbf-ft (340 Nm)
Bending while rigging	2,500 Nm
Operating voltage	-50 to -90V DC nominal
Materials	Corrosion resistant throughout

Electronics

Telemetry	Dedicated telemetry
Operating Temperature	-20°C to +177°C (-4° to 350°F)
Throughwire max. Voltage*	300V Continuous, 500V for 10 seconds
Throughwire max. Current*	3A
Status reporting	Continuous tool status reporting to surface module

* With voltage blocking option - built in multi-stage diode, blocking all negative voltages for use with resistorised detonators.



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EXHIBIT B

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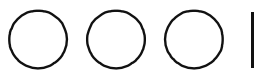
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Corporations increasingly showcase their offerings

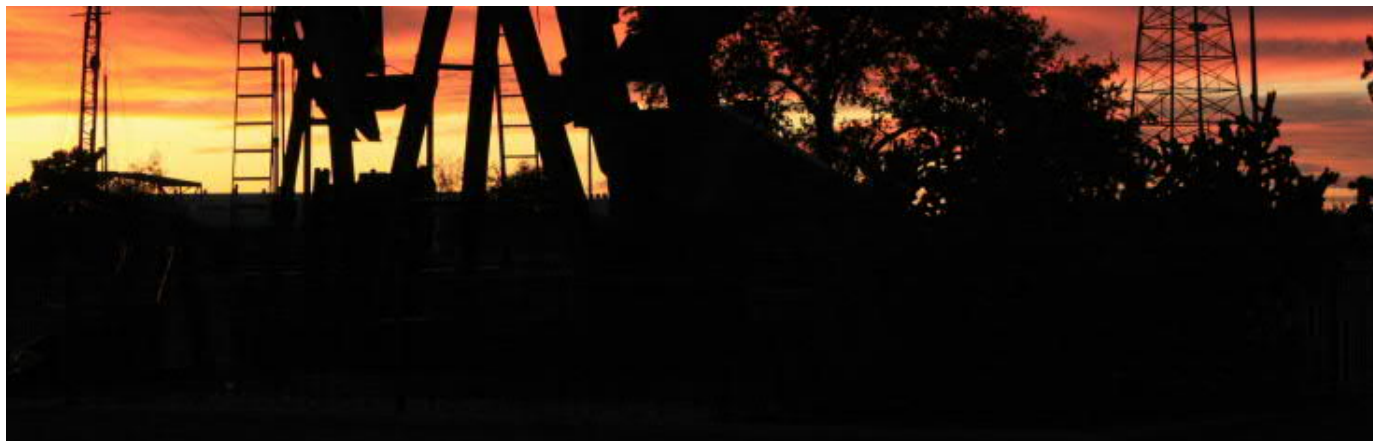
Mella McEwen, Midland Reporter-Telegram, MRT.com/Midland Reporter-Telegram

Updated: July 4, 2017 12:46 a.m.



<https://www.mrt.com/business/oil/article/Corporations-increasingly-showcase-their-offerings-11256803.php>

1/11



The sun sets behind a pumpjack at the Petroleum Museum.

Technology is a continual focus for Permian Basin oil and gas producers, whether it's through a large extravaganza such as the Permian Basin International Oil Show, classes offered by [Midland College's Petroleum Professional Development Center](#) or luncheons or seminars offered by various industry associations.

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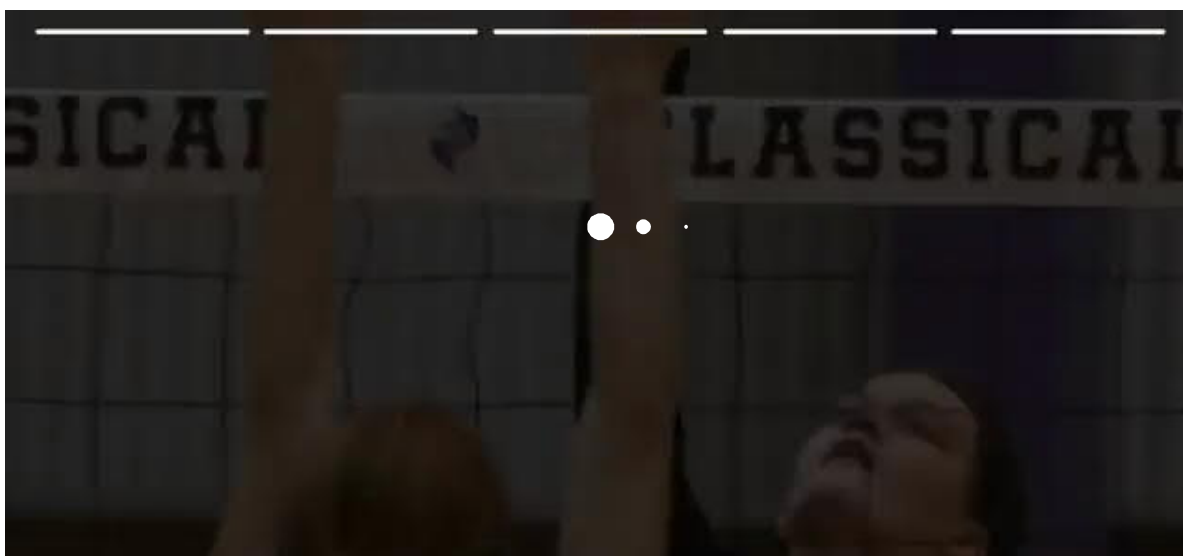
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Corporations are also joining in by hosting technical summits featuring their equipment. The most recent example is [Intervale Capital LLC](#), which hosted its

inaugural Oilfield Technology Summit earlier this month. The event showcased technologies from nine of its portfolio companies active in this area.

The purpose of the summit, according to Intervale officials, was to present technologies that can save operators significant time or money, or both, and that enhance productivity and efficiency in drilling, completion and production.

mrt★



Among the presenters was Keith Myers, sales engineer with Certus Energy Solutions. He discussed HZT workstring tubing.

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“The increasing number of extended laterals in the Permian poses both operational and economic challenges to the tubing industry,” he said in an email following his visit to Midland. “Highly deviated wellbores promote rapid tool joint upset wear, resulting in prematurely lost assets and excessive repair charges. In addition, the moderate torque ratings of industry standard workstrings —PH6/Two-Step — are not adequate to overcome the frictional forces acting on tubing in extended laterals. HZT tubing was developed to resolve both of these limitations.”

Jeff Golinowski, completions engineering manager with Tier 1 Energy Solutions, discussed ways to improve plug and perforate efficiencies in horizontal wellbores.

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“Tier 1 Energy Solutions examined today’s horizontal drilling and completion methods and designed a Release Point Tool for plug and perf operations that mitigates risk in extended lateral wells,” he said in an email following the summit. “This allows for repeatable operations to increase efficiency, work flow and reduction of field staff on location to execute the pump down. The tool’s robust design and ease of maintenance allows it to be serviced in minutes for quick turn-around to accomplish the next stage

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“We understand the importance of providing our customers a cost-effective and efficient product offering,” Golinowski, said. “Our strategy is to accommodate the longer horizontal laterals, more fracture stages, tighter cluster spacing and higher sand intensity that is required in light tight oil or shale wells.

“Innovative technology is a corner stone of Tier 1 Energy Solutions and utilizing the Release Point Tool is one application of today’s leading edge technologies, which further improves the competitive position of North American shale wells, relative to other sources of global supply,” he said.

A representative of Epic Lift Systems discussed enhancing gas lift installations using by-pass plungers.

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“Epic’s innovations have had a significant impact on the amount of liquids we are able to lift in horizontal wells,” David Nemeskal, Epic’s chief executive officer, said in an email. “Our domain expertise in gas assisted plunger lift has proven valuable to the Permian Basin operators as their wells increasingly become candidates for this lift method.”

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He explained that gas lift wells can become inefficient as the injection point gets lower in the well and the formation pressure decreases.

“At this point, you have more fluid fall back in the tubing, requiring a sealing element or interface to keep fluid moving to surface,” he said.

Nemeskal said many wells in the Permian are ideal candidates for gas assisted plunger lift. He said Epic has two distinct plunger styles that can address candidate wells long before previously thought possible, and each system is designed for the individual well, with specialty sleeves, exotic ball combinations and dart style plungers for each application.

“All this being said, it still takes well-trained and experienced field personnel and specialists with years of GAPL expertise to select the correct plunger and optimization methods to get the most out of your wells,” he said.

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Written By
Mella McEwen

Mella McEwen is the Oil Editor for the Midland Reporter-Telegram.



Written By
Midland Reporter-Telegram

Staff reporter for the Midland Reporter-Telegram

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EXHIBIT C



New Technology Development of the Year



CANATEX
COMPLETIONS SOLUTIONS

Canatex Completions Solutions is a wireline and completions company headquartered in Fort Worth, Texas, providing technology solutions to the oil and gas industry. The products and services offered are specifically selected based on differentiating qualities that can have immediate and positive return on investment when implemented. The Ballistic Release Tool, BRT, from Canatex was designed specifically for plug and perf applications and has accumulated a run history of nearly twenty thousand successful in-well

trips. Along with this extensive run history the BRT has been 100% successful in functioning where the ballistic mechanism has been intentionally activated to disengage from the bottom hole assembly, BHA. In today's diverse horizontal well designs, the wireline deployed BRT allows for stronger weak points to prevent pumping-off BHA's while maintaining an extremely reliable capability to release from the BHA should it become stuck downhole..

6th Annual Oil & Gas Awards Judge's Comments:

Canatex Ballistic Release Tool (BRT) innovation has provided an alternate method to a conventional weak point in horizontal wellbores. With wellbores getting longer and friction forces increasing the BRT helps solve these issues.

As a new piece of technology the adoption is impressive, having completed 63k wellbore descents and 220 daily across North American Land is impressive.

EXHIBIT D

From: Amanda Bazant <AmandaBazant@dmgevents.com>

Sent: Monday, April 16, 2018 11:20 AM

To: Jeff Golinowski <jgolinowski@tier1energy.ca>

Subject: GPS Awards: Shortlist Announced



CATEGORY: Innovation in Technologies: Equipment

Submission ID: ITE-0002

Good Morning Jeff,

The Judging Panel for the [Global Petroleum Show Awards](http://GlobalPetroleumShow.com/Awards) is excited to announce the shortlist of nominees for the 2018 program. Over the last month, each member of the Judging Panel diligently reviewed each submission and provided a score based on the criteria for the category. All scores were collected and sent to the Official Independent Advisor, Ernst and Young, to provide the final tally and shortlist of nominees – which represents the top scored submission in each category. The winner in each category will be announce at the GPS Awards Gala on June 12 at Hyatt Regency CalgaryStampede Park.

All shortlisted nominees are required to register at least one representative by [May 6th](#) to accept their award should they be selected to win.

There are two ticket options this year:

1. One individual pass Free (\$125 value)
2. Discount on branded table \$1000.00 (\$1500 value)

***I will provide you with a code in the next couple of days.**

You will be receiving an email from Global Petroleum Show with the other nominees.

Thank you for submitting and thank you for your support for GPS Awards!

Kind regards,

dmg::events

Amanda Bazant

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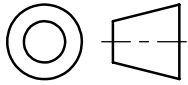
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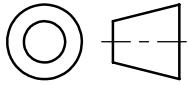
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