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AUGUST 2022

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Strong knowledge base, dedicated ownership help keep young directional drilling company on the right path.

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ON THE COVER: Brit Chevrier, owner of Subterra Horizontal Directional Drilling Ltd., and her husband Zach stand outside one of their trucks at their shop in Bethune, Saskatchewan. Brit founded the company in 2017 and it now has one additional employee beyond Brit and Zach. The company provides western Canada with oil, gas, water and sewer infrastructure work, as well as many other services. (Photography by Tara Langlois)

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Think outside the bucket

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Pieces of the Puzzle

DEDICATED EMPLOYEES AND A FIRM FOLLOWING OF FUNDAMENTALS ARE TWO OF THE BIGGEST ITEMS WHEN IT COMES TO BUILDING COMPANIES

BY CORY DELLENBACH, EDITOR

You don't need to be a huge company with hundreds of employees to be a successful one in this industry. We've profiled many mom-and-pop companies in *Dig Different* with two, three or four employees at the most.

Just like Saskatchewan's Subterra Horizontal Directional Drilling, profiled in this issue, those small companies have two items in common that make them successful — dedicated employees and a commitment to the fundamentals.

Without those two pieces of the puzzle, a company will have trouble growing and being successful. Subterra owner Brit Chevrier knows this, which is why she's take a slow approach to growth in order to make sure it is done correctly.

How do these two items help a company though? Let's take a quick look.

A DEDICATED TEAM

It's easy to be dedicated to a company when it's just a small operation. The employees truly feel like they are part of a team and what they do matters. Employees who are dedicated tend to enjoy their work and feel committed to what they do.

Those employees who are dedicated will usually show motivation too, like the willingness to set goals for themselves and the company they work for. This dedication and motivation should start at the very top level with the owners of the company.

It's easier for smaller companies to have dedicated employees because most of the time at this mom-and-pop business, the employees are likely other family members or friends of the owners that have known each other for years. They want to do good because it's helping their family or friends be successful.

For any company — especially smaller ones — it's important for the owners or management team to be dedicated and committed to the company. That, in turn, shows that you are also committed to your team working for you — or alongside you.

Employees that are dedicated to the company show that when they meet with customers and the general public, and it shines a favorable light on your company that potentially could draw in more business.

STICKING TO FUNDAMENTALS

What does this mean exactly? Well, it's the basics to put it another way. It's not always the most exciting thing to do or learn, but they are usually the most important.

Any successful job starts with the basics. Making sure the job is done correctly from the first step all the way to the last — ensuring the equipment and crews are where they are supposed to be and doing what needs to be done.

If those first steps aren't completed correctly, it could spell disaster for the rest of the job the company is on and you run the risk of losing a customer.

You and your employees should start with what they know, and then build upon that. As you build upon the fundamentals, it is bound to get tougher. If you start running into hiccups, you can always go back to the fundamentals and figure out what went wrong along the way.

WHAT'S HELPED YOU?

What has helped your little company be successful? Email me at editor@digdifferent.com and let me know. I'd love to hear from you.

Enjoy this issue! ▼

EMPLOYEES THAT ARE DEDICATED TO THE COMPANY SHOW THAT WHEN THEY MEET WITH CUSTOMERS AND THE GENERAL PUBLIC, AND IT SHINES A FAVORABLE LIGHT ON YOUR COMPANY THAT POTENTIALLY COULD DRAW IN MORE BUSINESS.



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Choosing the Right Equipment Lubricant

A key component of reliable machine function is the various lubricants involved, from engine oil to hydraulic fluids. This online exclusive provides some advice on establishing the right lubrication program.

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Free Online Tool Finds Infrastructure Projects

Interested in winning government contract work from the Bipartisan Infrastructure Law but have no idea where to start? Global management consulting firm McKinsey & Company has released a free online tool to help people explore programs and dollars included in the Bipartisan Infrastructure Law.

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FROM SCRATCH. WE'VE
CONTINUED TO **SHAPE
OUR SAFETY CULTURE
INTO ONE THAT SPEAKS
BOTH TO US AND TO
OUR CLIENTS.**"

Brit Chevrier

**Subterra Horizontal
Directional Drilling Ltd.**
Bethune, Saskatchewan, Canada

OWNER: Brit Chevrier

EMPLOYEES: 3

SERVICES: Horizontal directional drilling up to 32 inches in diameter for oil and gas infrastructure, water and sewer lines, as well as power, telecommunications and wind/solar transmission cables

SERVICE AREA: Western Canada

WEBSITE: www.subterrahdd.ca

The weather can't stop Subterra Horizontal Directional Drilling from doing its job. Drill operator Jim Winthrop uses the company's Ditch Witch JT4020 Mach 1 on a drill site in Saskatchewan with two John Deere excavators nearby to dig the entry and exit pits for the drill work.

STICKING TO FUNDAMENTALS

STRONG KNOWLEDGE BASE, DEDICATED OWNERSHIP HELP KEEP YOUNG DIRECTIONAL DRILLING COMPANY ON THE RIGHT PATH

STORY: GILES LAMBERTSON PHOTOS: TARA LANGLOIS

Young owners and a young company. Yet Subterra Horizontal Directional Drilling Ltd. is experiencing the kinds of success older hands might envy. How? Subterra owner Brit Chevrier attributes it to fundamentals that sound like they come from a small-business manual.

"We have low overhead and are highly efficient," says Brit Chevrier. "And we know what we're doing. Our knowledge base is strong." Consequently, the small Canadian company is efficiently and confidently operating across the entire western tier of provinces — Manitoba, Saskatchewan, Alberta and British Columbia.

Brit Chevrier and her husband Zach are Saskatchewan natives. Brit met her future husband when she was 12 years old and accompanied her family from southern Saskatchewan to a lake resort in the northern part of the province. There she met a boy her age, Zach, whose parents operated the resort.

Just over 20 years later, the Chevriers are partners in marriage and in business. The entrepreneurial values to which Zach Chevrier was exposed as a youth he evidently instilled in his wife. "Zach and I always talked about one day owning our own business," Brit says. "We always had ideas about what we would try out."

Today, the fledgling company is well beyond a try-out stage. Five years after Subterra HDD was launched, the Bethune, Saskatchewan, firm is busy servicing a wide and diverse range of industrial clients — oil and gas, water and sewer, wind and solar and electric — as well as institutional and municipal accounts. In the last year, the company has seen a surge in telecommunications jobs.

And reviews of the work are good! "We've received nothing but positive feedback," says Zach. "I think

word-of-mouth recommendations have helped get our name out there and we're starting to get repeat clients." This is called momentum.

SLOW AND STEADY GROWTH

When Zach was a teenager, he, his father, and his brother operated a small sand and gravel business and Zach discovered he really liked the work. He subsequently labored on oil rigs — learning about downhole drilling — and then worked for a builder that had begun dabbling in horizontal directional drilling. From that introduction, Zach moved on to another company where he superintended drilling crews operating HDD equipment rated up to 100,000 pounds.

Unfortunately, his career trajectory was interrupted at that point. The construction company abruptly shut down its directional drilling unit, leaving Zach without a job. He searched out other construction work. "Zach has always had an incredible work ethic," says his wife — but satisfaction eluded him.

Then fate intervened when he and his father saw a sale ad for a used HDD machine. They began to speculate.

"I bet that drill will go pretty cheap," Brit recalls Zach saying in the ensuing discussion. "Things started from there." Eventually, the machine purchase was made and Subterra HDD was built around it.

The drill is a 2009 rubber-tracked Ditch Witch JT4020 Mach 1. The 190 hp machine is a midsize piece of drilling equipment, a capacity that has turned out to be a good fit for the company, according to Brit. "Because of its size, we can squeeze into some congested job sites, and it gives us the ability to work for a multitude of industries. Its size has been more of an advantage than a disadvantage."



Jim Winthrop operates the company's Ditch Witch on a job site in Saskatchewan. Sitting up the hill is the company's liquid vac truck.

Zach Chevrier uses a McElroy pipe fusion machine to piece together pipe portions on a job site in western Canada.



"WE'RE ALWAYS UP FOR A CHALLENGE AND TACKLE A LOT OF PROJECTS THAT OTHER OUTFITS MIGHT SHY AWAY FROM. THAT SETS US APART FROM OUR COMPETITION AND WE VALUE THAT AS A COMPANY."

Zach Chevrier

The 4020 is capable of drilling anywhere from 160 feet to 1,600 feet and pulling back 40,000 pounds of reamer or pipe string. The unit can drill shorter distances, of course, and Subterra projects longer than that are undertaken in increments.

Subterra uses TriHawk bits and dirt bit adaptors to worm through a variety of soils to targeted exit points. Given the four-province spread of their service area, they have encountered about every type of ground conditions. "We've worked in rocky areas and areas with a lot of silty sand and places with gumbo clay," Zach says. "And the conditions will change within very close distances."

To keep an eye on the progress of the drill head, the company unpacks its DigiTrak F5 receiver unit. It boasts five frequencies and can find a drill head up to 80 feet underground, sparking transmission of data that keeps the HDD operator on track.

"We have used other locating systems and they all seem great in their own way, but the DigiTrak is very user-friendly," says Brit. "Zach has trained me on it, and I found it pretty easy to use. The signal strength is amazing. We've just no reason to switch to another brand."

Zach fabricated an 1,800-gallon mud tank for the 350-gpm pump that delivers all-important mud for cooling and lubricating the head and removing cuttings. A more winterized unit for winter work — this is Canada, after all — will be acquired at some point but, for now, "it works great," says the company owner.

Moving heavy auxiliary pieces of equipment on Subterra drill job sites was a matter of subcontracting for someone to deliver and offload the equipment. No longer. The company recently invested in a 2009 Peterbilt boom truck. "It

simplified our lives a bit. Obviously, it was something we were really lacking. It eliminates our downtime waiting for someone to do a box change," says Brit.

The company machinery is hitting on all cylinders and, for now, the Chevriers are satisfied with what's in their equipment yard. "We looked at a brand-new machine a little while ago and were not taken aback by the newest technology," says the owner. "They have upgraded a few things and have way better sight lines." But they resisted the temptation to buy.

ALL ABOUT SAFETY

"Zero Incidents Require 100% Commitment." The website declaration is not pure marketing. Subterra HDD backs up its slogan with real-time decision-making to have a safe working environment. Part of the emphasis stems from Brit's background as a certified occupational health and safety practitioner. "That schooling gave me a leg up on that side of the business. I've developed a passion for all things safety related."

Proof of the company's effort is that, in its first year of operation, Subterra was accorded a Certificate of Recognition, or COR, from the Saskatchewan Construction Safety Association. The COR program is a Canadian effort to set standards and certify that companies are working to prevent and mitigate accidents and injuries. Training of company employees is involved in the program along with periodic inspections.

"We had to develop our safety program from scratch," says Brit. "We've continued to shape our safety culture into one that speaks both to us and to our clients. It's grown organically from there."

How does it work exactly? "We find that accidents occur most often when people are rushing, so we always try to mitigate that by being as organized as possible," she says. Another example: One reason the company limits itself to 1,600-foot maximum drills is the safety factor. "To go longer than that puts a great deal of pressure on our equipment, so on the safety side of things, it is not an advantage to drill farther."

The bottom line is that Subterra Horizontal Directional Drilling has been injury- and accident-free during its first five years of existence. Perhaps the closest the business came to an accident was when Zach was driving back from a job and the driver's-side front tire blew apart while the truck traveled at highway speed.

"It was an act-of-God kind of thing, that is, there was no root cause. It turned out OK, but we're always on alert for such things," the owner says. Adds her husband: "Pre-trip inspections are wildly important."

Educating employees about safety is easy since company personnel number precisely three. Besides the owner and her husband, the only other employee is Jim Winthrop. He and Zach worked together at the company that shut down its HDD division. When Subterra was being formed, Winthrop became part of the company story.

"We are very lucky to have him," says the owner. "He is so knowledgeable and level-headed. This work can be high-stress and Jim takes things as they come."

A WINNING FORMULA

The small Subterra team is functioning at a high level. Brit has drawn upon her previous business administration experience to establish an office where the back end of things is efficiently handled. Because she has artistic talent — including in photography — she has developed expertise in marketing design and social media advertising.



Zach and Brit Chevrier, founders of Subterra Horizontal Directional Drilling, stand in front of their Ditch Witch directional drill along with their daughter Veda, 7, and son Axel, 5.

Building the Company

When is a good time to start a company?

How about when one of two entrepreneurs — both of whom are in their 20s — is a stay-at-home mom and the other is working odd jobs? No? How about waiting until a second child is on the way and then investing in an expensive piece of heavy machinery in the hope of getting enough work to pay for it? Uh...maybe not.

Yet Brit and Zach Chevrier came out of the above dicey scenario, launched Subterra Horizontal Directional Drilling Ltd. in 2016, and today are on the verge of expanding their business. It is a case of dreams being integrated into the nitty-gritty of reality and producing a success story.

"Zach is the risk-taker. I am more risk-averse," says Brit Chevrier, the company owner who rides herd on the enterprise from the company office. "He is more optimistic, and I am more careful in my decisions. The combination has worked out well."

The Bethune, Canada, company has grown into a respected HDD firm serving a variety of industries across western Canada. It still is small — with only three employees including the husband-and-wife founders — but buying a second HDD drill is seriously being considered as well as hiring the employees to support it.

So, what advice does the young couple have for other prospective business-starters?

"Do your research. Don't take shortcuts. Keep your mind on today and not so much on tomorrow. Focus on what's within your control," says Brit Chevrier. "And never stop learning. There is so much to learn. I put as much time into the learning process as I can."

Finally, be willing to take the plunge. After all, she says, "no one is ever 100% prepared to start a business. You have to throw yourself in and hope for the best. I think it was beneficial in the long run that we started the business when we did. Naivete and optimism are a bit more prevalent when you are in your 20s."

The rest of the story is that the Chevrier children — 7-year-old Veda and her 5-year-old brother Axel — are doing fine, and so is the business.

Meanwhile, her husband and Winthrop are just as efficient and effective in the field. "Zach puts a lot of work and thinking into pre-planning and site visits. He sees that we always work within our capabilities so we can best meet our clients' needs."

This caution doesn't mean they aren't willing to push the envelope in bidding jobs. In November 2020, the company contracted to drill and insert a new culvert near a deteriorating one that was contributing to roadway washouts. The two-person crew drilled a 260-foot-long, 32-inch tunnel beneath the road and supplied, fused and pulled in a 30-inch high-density polyethylene pipe.

"That was kind of neat," Brit says. "It was pretty big pipe for our drill. People in the industry have asked Zach, 'How did you manage that with a 40,000-pound drill?'"

A willingness to undertake difficult tasks is part of the company's DNA. "We're always up for a challenge and tackle a lot of projects that other outfits might shy away from," Zach says. "That sets us apart from our competition and we value that as a company."

Positive comments are the rule after projects with most of the feedback being that they are very efficient and very organized. "We try to keep our prices competitive — without undercutting prices in the industry that reflect the value of the specialized service we're offering — and we can do that because of our low overhead," Brit says.

It all sounds like a winning formula and the owner and her husband-partner are hoping it leads to company growth. The immediate goal is to stay focused and eventually pick up a second HDD unit so the company can serve multiple clients at the same time.

"I don't see us expanding into the rest of Canada, but crazier things have happened," Brit says. "We would love the opportunity to take on more work, employ more people, and make a name for ourselves. Growth is a gradual process, and we respect that process. We feel confident that the future will remain bright for Subterra." ▼



Subterra equipment sits on a job site near Bethune, Saskatchewan. The company offers services for oil and gas infrastructure as well as water and sewer lines, along with power, telecommunications and wind and solar transmission cables.

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Putting the Drilling Fluid to Work

KNOWING WHAT A FLUID CLEANING SYSTEM CAN DO AND HOW IT CAN IMPROVE YOUR JOB SITE WILL LEAD TO GREATER SUCCESS IN WORK

BY RICHARD LEVINGS AND BEN CLARK

Horizontal directional drill operators know that having the right equipment is a key element to job site success. One integral piece of equipment that can help streamline operations and boost HDD uptime is fluid cleaning systems. Fluid cleaning systems are designed to assist HDD crews with their drilling fluid by removing solids from the drilling fluid as quickly and efficiently as possible. This can help reduce wear and tear on tools, pumps and other components, resulting in a cleaner, safer and more efficient operation.

From minimizing inadvertent return to helping contractors reduce environmental impacts and minimize haul-off costs, fluid cleaning systems are a fundamental piece of equipment in any drilling operation. Here are three ways a fluid cleaning system can boost HDD uptime and maximize downhole production.

MINIMIZE INADVERTENT RETURNS

Maintaining good fluid properties is proven to help facilitate a more efficient and cost-effective drilling program for the operator. One universal fact of drilling is that drilling fluid will always follow the path of least resistance. When drilling goes according to plan, the bore hole created by the operator will always be that path of least resistance. However, if there is a different path of least resistance, then inadvertent returns can happen. In other words, when an inadvertent return happens, drilling fluid surfaces through a path that HDD contractors did not intentionally create. This can happen in a variety of different ways. From solids settling in a bore hole to natural intrusions such as ground conditions, tree roots and pre-cut trenches, any encroachment to the bore path could increase the risk of an inadvertent return.

THE COSTS ASSOCIATED WITH CONTAINING AND DISPOSING OF USED DRILLING FLUID CAN BE SIGNIFICANT. THESE COSTS INCLUDE THE NEED TO BUY OR RENT CONTAINMENT EQUIPMENT, TRANSPORTATION AND DISPOSAL FEES AND THE COST OF FUEL.

To reduce this risk, HDD operators leverage fluid cleaning systems. These systems help manage the fluid flow and ensure solids are brought out of the hole efficiently. This is done by slowing down the drilling speed and increasing fluid velocity so solids can stay suspended in fluid and not risk falling or settling in the hole.

With the help of a fluid cleaning system, operators can monitor if solids begin to move too slow, which can cause solids to fall and create a dam. If buildup in the hole occurs, the fluid will find another path to the surface and



An American Augers M300DH drilling fluid cleaning system sits on a job site. Using a drilling fluid cleaning system allows the crews to reuse the drilling fluid and dry the soil, reducing the need to haul it away.

cause an inadvertent return. Ensuring operators have a fluid cleaning system will help maximize downhole production and improve job site productivity.

PROMOTE CLEAN DRILLING

As environmental, social and governance regulations grow, and the industry looks to the future, environmentally friendly drilling practices are on the rise. The modern driller needs to understand how to minimize environmental risks while protecting and improving the bottom line. HDD contractors know that some underground construction projects require thousands of gallons of drilling fluid to complete a bore successfully. Without a fluid cleaning system, contractors are constantly spending time and money disposing of used



Soil that had just gone through a fluid cleaning system is removed from the system.



A shaker screen is one of the most important pieces to the drilling fluid cleaning system in HDD operations. They remove solids on the first cut and can dispose of them before going into the fluid cleaning system.

containment equipment, transportation and disposal fees and the cost of fuel. And the hassle does not end with disposal costs. Since used drilling fluid is being removed from the job site, HDD contractors must prepare more with additional water and additives, resulting in further expenses and downtime.

However, many of these costs can be reduced by incorporating a fluid cleaning system. A fluid cleaning system helps operators remove solids out of the drilling fluid, cleaning the water and allowing it to be reused. As a result, HDD contractors can cut disposal costs and reduce the environmental impact because less waste is created. In addition, by reusing the fluid instead of disposing of it, contractors can spend less time preparing a new drilling fluid for a cleaner, more cost-effective operation.

INCREASE HDD UPTIME

There are a few key aspects of the fluid cleaning system that determine a machine's dependability. One of the most integral aspects, however, are the shaker screens. Shaker screens are the first line of defense. They remove solids on the first cut and can dispose of them before going into the fluid cleaning system. When working together, shaker screens and fluid cleaning systems can promote HDD uptime and boost job site efficiency.

In one example, an Oklahoma contractor was experiencing high sand content in their HDD operation. In fact, the contractor saw 11% of sand content in their unprocessed slurry, which could be determinantal to their equipment and 1,340-foot bore project. As a good rule of thumb, sand content should remain under 1% to ensure it can be efficiently pumped back downhole or further processed through a centrifuge.

To help achieve their goal of 1% sand content during the entire pull, the contractor implemented a fluid cleaning system with a high-performance shaker and innovative screen technology. The drilling fluid was pumped from the pit to the shaker, and the first screen panel provided the primary separa-

mud and mixing new clean drilling fluid. Some areas have tightened restrictions on dumping mud at the job site, which means contractors are required to contain and dispose of the used drilling fluids at approved waste facilities. As a result, contractors are spending more time disposing of fluids and less time where it really matters — on the job site.

The costs associated with containing and disposing of used drilling fluid can be significant. These costs include the need to buy or rent



Drilling fluid systems can come in many different size like this smaller M-300D system from American Augers, connected to a directional drill.

tion. The fluid and undersized solids flowed through the screen to the first tank below the shaker. From this tank, the fluid was pumped over the second screen panel and finer screens were run on the second and third screen panels to dewater the underflow, essentially acting as a mud cleaner. The cleaned fluid then flowed into the second tank, which was pumped back downhole.

While back reaming from a 12-inch to an 18-inch hole, 213 tons of solids were produced. By utilizing a fluid cleaning system with a three-shaker screen panel, the contractor was able to process 100% of the fluid from the hole, in a span of two days. As a result, the contractor was able to reduce haul-off costs due to drier discard piles and minimize the quantity of abrasive sand-size particles, helping reduce equipment downtime and ensure an efficient operation.

The evaluation proved the ability of a compact, single-deck mud recycling system with a high-performance shaker and innovative screen technology to provide value-added savings by way of reducing the dilution needed and the quantity of abrasive sand-size particles

A WINNING TEAM

Fluid cleaning systems are the flux capacitor to the HDD job site. However, implementing a fluid cleaning system with a shaker screen can help contractors do more with less. This is especially important as environmental regulations continue to increase. With this winning combination, HDD contractors can reduce costs associated with haul-offs, minimize downtime caused by inadvertent returns and ensure a clean, efficient and safe job site.

ABOUT THE AUTHORS

Richard Levings is the product manager at American Augers and Ben Clark is the global manager for the civil division at Derrick Corp. ▼

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A crew from The Trenchless Co., based in Northern California uses McElroy pipe fusion equipment on a pipe bursting job. It is important for crews to understand how each piece of equipment works when on the job.

Tips for a Safe Pipe Bursting Job

DON'T EXPOSE YOUR TEAM TO THE PRESSURES OF PIPE BURSTING WITHOUT THOROUGH PREPARATION

BY TIM DOBBINS

Proper training and thorough examination of the job site are the keys to a safe pipeline rehabilitation job. Successful pipe bursting has been around for a while, and it's safe to say Darrin Baker knows a thing or two about the subject. He has been in the trenchless industry for roughly 17 years and is currently the general manager for The Trenchless Co., which has been serving the greater Northern California area for 22 years.

Pipe bursting involves excavating a minimum of two pits to access each end of the pipe to be replaced. Once exposed, hydraulic equipment pulls a large bursting head through the existing pipe using a high-strength cable, breaking it apart from the inside while concurrently installing a new pipe behind the bursting head. The force it takes to pull the head and new pipe creates the biggest safety concerns for workers.

According to Baker, tackling a bursting job safely doesn't have to be a com-

plicated undertaking; it just takes planning, knowledge and respect for the equipment, and understanding what you're getting into.

PLAN AHEAD

"An inspection camera is the first tool to be used," Baker says. "What we are looking for is differentiation in pipe materials, bends or anything that might change resistance, so we know what we're getting into."

If there are severe bends or too many elbows, more entry holes will be needed where bends are located to make sure the equipment can be used safely. The cable is then pulled through the opens pits or equipment is set up in each one for a multiple phase job.

After an internal pipe inspection, The Trenchless Co. calls in an Underground Service Alert marking. In a commercial setting and in some residen-



Routine inspections on equipment should occur to ensure the equipment and tools being used are safe for the crews.



Prior to starting the pipe bursting, the crew should review the job site and make sure every knows where they should be and what they are doing.

"YOU CAN'T INSPECT YOUR EQUIPMENT ENOUGH. PART OF OUR ANNUAL BUDGET IS BUYING NEW CABLES."

Darrin Baker

tial cases, they may also do a private utility locate using their own sensors to locate potential conflicting underground utilities.

"After the locations of the utilities are marked, if needed, we expose them using hydrovac excavation," Baker says. "Once exposed, we make sure they are far enough away from the burst. If they end up being less than 1 foot away from the burst, we will keep the utility exposed until the pipe is cleared so we can watch and ensure no damage is done."

UNDERSTAND EQUIPMENT

Once the equipment is in the pit and it's time to pull the cable, Baker says the biggest concern is overworking the tensile strength of the cable. "It can break, and if that happens the bursting equipment or broken cable can actually fly back in the hole," he says. "It is under a lot of pressure. We burst with equipment up to 40 tons of pressure, but there's equipment out there that can pull up to 200 tons."

To avoid cable breakage, know the tensile strength of your cables and pay close attention to the psi gauges on equipment pulling the cable. "We simply don't allow the machine to go past those strength ratings," Baker says.

Routine inspections are also mandatory practice for Baker and The Trenchless Co. team. Cables are examined frequently and if there are any signs of fraying or damage they are taken out of use. "You can't inspect your equipment enough," Baker says. "Part of our annual budget is buying new cables. We anticipate replacing cables at least once a year or every other year depending on use."

TAKE NO CHANCES

A surefire way to avoid a worker being struck by blowback equipment is removing them from the pit completely. Once the equipment is in place and set up, it's protocol for Baker and his team to get out of that bursting hole. This wasn't always possible, but technological advancements over time have allowed the transition.

"There have been subtle tweaks in the technology over time and many have been safety related," Baker says. "There has been a lot put into place within our company and industrywide to really concentrate on staying away from the equipment when it's operational. We use bands and locking teeth that go together to create the tension, so guys aren't required to be in the hole."

The cable is moved when the top teeth grip the cable on the upstroke and the bottom teeth engage and lock in on the cable on the downstroke of the hydraulic arm. The bands help to situate the teeth in the correct position. "Without the bands on the original bursting equipment, someone would have to physically push down the teeth to engage them during operation," Baker says. "The bands take the human element out of it, so once the equipment is set up, the equipment does the work."

In every construction situation, regardless of the circumstances, a smart move is ensuring every employee is prepared to avoid accidents and ready to react to them. "Our guys are all confined-space certified, CPR certified and trained in trench safety," he says. "You never know who is going to be on site, so if you enable all your people to respond appropriately, you know whatever person is nearby an accident will be able to provide the right support." ▼



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Bettering Your Brand

JOB SEEKERS HAVE A LOT OF OPTIONS THESE DAYS. ENCOURAGE YOUR CREW TO SHARE THEIR WORKPLACE EXPERIENCES — BOTH GOOD AND BAD — TO GIVE AN AUTHENTIC PICTURE OF YOUR COMPANY.

BY JEREMY ESKENAZI

Employer branding is the external perception of what it's like to work at your company. It has always existed in some form, but recently, it has become a lot more important. Employees always have choice, let's remember that first. It means that if the experience of working at your company is not good, they have as much ability to leave as you do to end their employment.

In the current business climate, it will likely be a lot easier for employees to find a new role than it will be for you to replace them, and their experience does not end when they leave. Employees are your most important source of distinguishing your employer brand — both positively and negatively.

A manufactured employer brand is very easy to spot — it's high polish, very diverse and has a lot of smiling people. This may be false representation, but where a lot of creative agencies have made their money. Fast forward now to Employer Branding 2.0. Nobody is buying the lie! Employer Branding 2.0 starts with authenticity and transparency of what it's really like to work at your company.

To help avoid costly recruiting cycles or a lackluster pipeline of interested candidates because people are reading or hearing that working for your company is terrible, remember that employer branding has a very long reach. Here are the six top ways to get real with your employer branding (if you care about things like retaining your top people and attracting more who can knock it out of the park!):

Let your employees do the talking — even if it's not always positive. The voice of your actual employees is important. Seriously consider how you can encourage people to speak up positively — and authentically. This will help you, and your potential candidates understand what the real day-to-day is like and the highlights and lowlights of their role. This means real voice and real employees.

STAY AWAY FROM SLICK AND SALESY GLOSSY ADS THAT DON'T REPRESENT THE PEOPLE WHO WORK AT YOUR COMPANY. YOU DON'T NEED IT TO BE PERFECT, YOU NEED TO BE REAL.

Tell the story of why someone should not work at your company. It's OK, and even highly respected to be honest about who fits into your culture as well as who may not. This will help you get the right talent and save both sides a lot of time in the interviewing process. If you work at an incredibly fast pace and can break and re-build process as you go, you may not be the right place for someone who need structure and repetition to thrive at work. It's OK to admit that some people will likely not be successful at your organization — and it's something a lot of companies don't say. This story is as powerful as who you do want to invite to work at your organization.

Don't try to make it picture perfect. Lose the taglines and images of happy diverse people, and silly hashtags. You've probably cringed a few times at those and if you have negative employee reviews that can easily be found online, this type of campaign can backfire in a big way. You do not want to become a meme! Stay away from slick and salesy glossy ads that don't represent the people who

work at your company. You don't need it to be perfect, you need to be real.

Don't waste your time on sanitized social media. Throwing money on the problem can't fix a bad employer brand. If you have treated employees badly, you have a toxic culture, or you reward bad behavior constantly, no amount of money or campaigning will hide that. With the number of public and anonymous places for employees to post their experience, ask about salaries and offers, exchange horror stories and dispel myths you try to put out, this fluff is often an immediate flush of funds to nowhere. In not making it picture perfect, you may need time to make changes to improve the experience, and then perception of your company. Candidates are far more willing to explore a role at a place where owners admit they have work to do, and point to improvements.

Don't hide your failures. There is good and bad in this world — and we can learn a lot from the bad. It's important not to hide, or pretend you've never had an issue. (Especially if it's very obvious that you have!) It's OK to have some messages that are negative — your report card may not be perfect and that's fine. If you have a theme of things you are not doing well from current or former employees, but sure you're clear on the path to improvement and help your team talk about what you are addressing and what you learned from different experiences. Remember, we're all a work in progress.

Encourage and trust your employees. The list started with giving employees a voice. We'll end with giving them the space and trust to share that voice. Showing them you have confidence in how they show up for the company will produce the most authentic content. This means no retaliation for someone sharing an experience that was not ideal or revealing that the company has opportunities in certain areas. They may even say they've considered

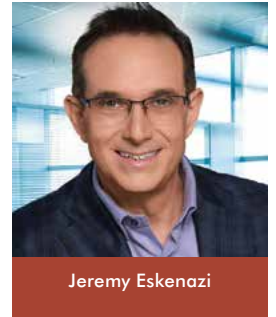
leaving. That's not the point. The point is that you support authentic expression and you're ready to do the work to address their feedback where you can.

KEEP IT REAL

If you haven't already, stop posting your sugar-coated posts gushing about how your employees love working at your company. Take a step back and read the environment — we're in a digital age where people can and do speak freely and want to know what they might be in for at work before they sign your offer. Any sniff of a toxic workplace, a lack of support or that the experience is the opposite of what you've been promising can mean disaster for your talent attraction and retention efforts. Don't create a poster for what your brand can be — allow your employees to be the billboard of what you actually are!

ABOUT THE AUTHOR

Jeremy Eskenazi is a human resources trainer and founder of the consulting firm Riviera Advisors. Contact him at www.rivieraadvisors.com. ▼



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See ad on page 44	CrewPlex 205 Technology Pkwy., Auburn, AL 36804 334-321-1400 sales@crewplex.com www.crewplex.com							
	Ditch Witch 1959 W Fir St., Perry, OK 73077 580-336-4402 www.ditchwitch.com	✓	✓	✓	✓	✓	✓	
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	HDD Software/ Guidance	Locators	Mud Recyclers	Piercing Tools	Pipe Bursters	Reamers	Rock Drills/ Saws/ Cutters	Rod Pushers	Shoring / Safety Equipment	Vacuum Excavators	Other
			✓								
									✓		Wireless Headsets
	✓	✓	✓	✓	✓	✓	✓			✓	
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	✓	✓		✓	✓	✓		✓			
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Horizontal Directional Drilling & Boring DIRECTORY

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										✓	
		✓			✓	✓		✓			
									✓		Wireless Headsets
										✓	
	✓	✓									
										✓	
	✓	✓		✓			✓			✓	

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1. Coxreels V-100 Series vacuum series reel

Coxreels V-100 Series product line has been expanded with the new 1 1/4-inch vacuum hose reel V-112-735 without hose and the V-112H-735 with hose. The new model is a smaller frame size featuring 12-inch diameter discs instead of the original 17-inch diameter discs and is designed for use with 35 feet of 1 1/4-inch vacuum hose. The outlet connecting to the hose remains 1 1/2-inches and our 1 1/4-inch hose comes equipped with 1 1/2-inch slip cuffs on both ends for maximum flow. In addition to the new models, the swivel has been improved on the entire product line. The new swivel design still allows for the connection of multiple hose sizes by using the inside and the outside of the housing, but a greater gradual taper has increased the amount of compatible inlet hose cuffs. 800-269-7335; www.coxreels.com

2. Hitachi ZX210LC-6 HP excavator

Hitachi Construction Machinery Americas introduces its line of Hitachi-built excavators to the Americas with the ZX210LC-6 HP excavator. A high-power HP Mode increases engine speed and hydraulic-pump output torque when extra speed and/or heavy-duty work is required. The front attachment moves faster because each actuator has its own pump. The oil flows separately to the bucket, arm and boom cylinders. To help drive performance, the ZX210LC-6 HP also includes an arm recirculation cancellation system for increased speed when rolling the arm in. A hydraulic boost system increases arm speed. During arm roll-in and boom-raising opera-

tions, excessive pressurized oil in the boom rod flows to the arm cylinder bottom side to achieve speedy arm operation by increased flow. The TRIAS II hydraulic system uses three pumps to supply an optimal amount of pressurized oil to each actuator. 866-973-0394; www.hitachiconstruction.com

3. WtW Hose Tool hose assembly tool

The Hose Tool from WtW provides operators a safer, quicker and more efficient way to assemble hoses without pneumatic assistance. Operators have the leverage to safely and expertly repair or replace damaged collars on site. Serrated teeth provide extra grip, and it has fold-up arms for easy storage. Angled arms give better leverage, and it is compatible with most industrial hoses, including 3- and 4-inch hoses. 833-989-8665; www.hosetoolusa.com

4. Cat Pumps hydroexcavating pumps

Over 50 years of high-pressure pump manufacturing experience has earned Cat Pumps a reputation of producing the highest quality, longest lasting pumps for every market it serves. With its dedication to zero-defect manufacturing, ease of service and availability from stock, Cat Pumps designs and builds high-pressure pumps and systems to suit the demanding environments of the hydroexcavation industry. Popular models include Model 56 with 5.5 gpm at 3,500 psi; Model 56HS with 8.0 gpm at 3,000 psi; Model 660 with 10.0 gpm at 3,000 psi; and Model 3560 with 20.0 gpm at 4,000 psi, or 25.0 gpm at 3,000 psi. 763-780-5440; www.catpumps.com ▼

This Issue's Feature: Two-way radio system offers crews continuous communication BY CRAIG MANDLI

When you're on the job site, poor audio can often lead to mistakes and create safety hazards. That's why it's important to be able to communicate continuously in environments where noise, distance and complex tasks can affect safety and productivity.

With the **CrewPlex DR10**, team members can talk and hear each other in real-time without delay and without voice triggering or pushing a button — just full-time talk/listen like a conference call. Available connectivity to two-way radio systems keeps workgroups in touch with a supervisor and extends the communication reach of an entire work team.

"Fundamentally, our technology sets us apart in how we deal with noise in loud environments, the frequencies that we operate in, and the variety of options we make available to the user," says Debbie Hamby, vice president of marketing for CrewPlex. "We don't operate in Wi-Fi or Bluetooth frequencies, or require system base stations, and we can work completely hands-free."

Rugged and durable, the CrewPlex DR10

provides full-duplex, hands-free communication to crews and teams for critical workplace communication. In addition to 10 full-duplex users and two separate talk channels, the DR10 provides unlimited listeners and unlimited shared talk users, all without the need for a base station. High-quality audio, a long range and ease of use make it an ideal solution for crews to stay connected, be productive and focus on job safety, according to Hamby.

"From a research standpoint, we did our homework by spending time with boring contractors, directional drillers, milling/paving contractors, crane operators, hydroexcavators and users in other industries," she says. "During our discovery phase of our product research, we discovered they all had issues with communications and were looking for solutions to improve productivity and safety."

In addition to the company's sports and professional intercom markets, they realized there were applications in industrial and construction environments that had similar communication challenges. Drilling and boring crews are espe-



DR10 from CrewPlex

cially challenged due to the nature of the work and high noise levels.

"When crew members can get clear, real-time instruction while working, it decreases the need to start and stop the job while also reducing expensive job errors," says Hamby. "Constant communication enables workers to be more engaged and focused on the critical tasks at hand, which in turn, increases safety for the entire crew."

833-321-2739; www.crewplex.com



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Truvac Delivers All-New TRXX Trailer-Mounted Vacuum Excavator

TRUVAC recently introduced the new TRXX trailer vac unit that is easy to learn, easy to operate, and easy to maintain. The brand is dedicated to advancing safe digging technology, productivity and versatility across a wide range of field applications.

In constricted drilling locations, where employing a full-size or compact hydroexcavator is not practical, the TRXX trailer vac unit is the newest option. The TRUVAC TRXX trailer-mounted vacuum excavator provides the versatility and agility to work in a limited space or sensitive environment to deliver safe digging to a new range of applications. This minimally invasive method of vacuum excavation performs a wide range of tasks in municipal, commercial and residential applications. It exposes underground utilities in bore-hole and trenching applications used for underground pipe installation and repair, and minimally disrupts plant and tree roots in sensitive job locations.



VACUUM EXCAVATION EFFICIENCIES

Vacuum excavation provides a more precise, less destructive and safer method for daylighting. Daylighting is the term to describe digging to expose and visually confirm the location of underground utilities. Vacuum excavation can be performed with either pressurized air or water in conjunction with an industrial strength vacuum to simultaneously excavate and evacuate the soil spoils back into the debris body of the vacuum excavator. This minimally invasive method of excavation exposes the underground utilities with speed and minimizes damages.

SHARED GOALS FOR FUTURE INNOVATION

Vacuum excavation continues to be known as “safe digging” because it allows various contractors to proceed using air and/or water to excavate in the ground in marked locations until the facilities are visually identified.

TRUVAC brand vacuum excavators are dedicated to supporting these safe practices and reducing the risks inherent in underground utility location at construction and rehabilitation job sites.

Ongoing job site feedback and contractor demos continue to guide and prioritize the quality innovation of TRUVAC equipment to satisfy the safe digging requirements of businesses and organizations that locate and verify underground utility lines and pipes.

The TRUVAC brand has a lineage of engineering excellence and innovation. Introduced to the market in 2019 as the dedicated brand name of premium vacuum excavator trucks that were originally marketed over 20 years ago by parent company Vactor, TRUVAC equipment is designed specifically to support safe digging in today’s growing trenchless industry and to provide a safer alternative to using mechanical excavators in traditional open-trench excavations. Building on this engineering trajectory, the TRUVAC brand continues as an innovator in harnessing more precise, less destructive and safer methods of trenchless construction through the evolution of customer-driven research and development.



TRUVAC is a premium brand of vacuum excavator trucks and trailers designed specifically to satisfy safe digging requirements at a variety of job sites, while performing a wide range of tasks. The company’s customers range from utility contractors who locate and verify underground utility lines and pipes, to independent operators, to municipal, landscaping and plumbing contractors.

800-627-3171 | sales@truvac.com | www.truvac.com

Extensive Product Line Allows Cat Pumps to Meet Exacting Requirements

The high-pressure water pump is critical to hydroexcavation, jetting and hydro blast equipment, with the need to perform in a wide range of environments. That's why operators working in the sweltering heat of Texas or the icy cold of Alberta rely on Cat Pumps to provide some of the longest lasting, most reliable products available.

Equipment builders and system users stake their reputation on system performance — this is one reason why Cat Pumps is a leading pump and custom system provider. Manufacturers trust Cat Pumps to engineer, assemble and test their custom-built power units and subassemblies, saving them valuable time and resources.

THE CAT PUMPS ADVANTAGE

Having built a prominent reputation over the past 50 years producing high quality, long-lasting pumps, Cat Pumps delivers significant benefits, including high productivity with limited downtime; fewer repairs and reduced maintenance costs; and greater confidence in equipment performance.

Cat Pumps offers an extensive product line to match exacting system requirements and diverse, demanding applications. Mobile solutions range from small portable electric jetters to large truck-mounted mobile units with flows up to 65 gpm and pressures up to 10,000 psi.

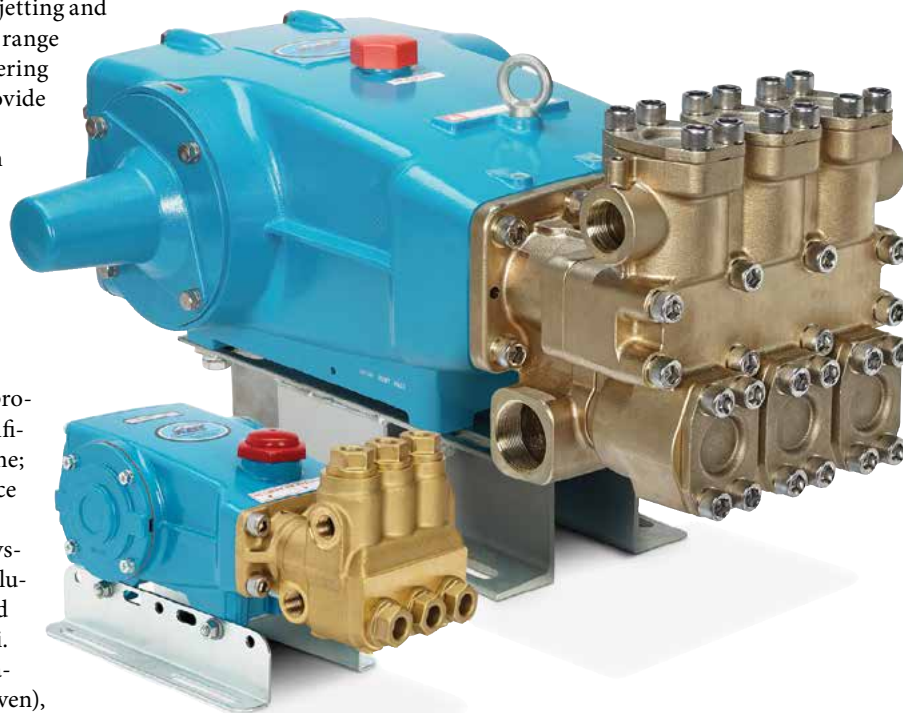
The company offers drive options to fit almost any configuration, including direct drive solid shaft pumps (hydraulic motor driven), hollow shaft pumps (motor or engine driven) and gearbox (engine driven); solid shaft pumps (PTO/engine driven); belt drive; and clutch drive.

NEW PRODUCTS

Cat Pumps' model 67070 has new specifications for intermittent mobile applications: 50 gpm at 3,000 psi or 65 gpm at 2,000 psi. The 2560 or 2560BH for hydraulic bell housing drive is 16 gpm at 3,000 psi. The 2565 or 2565BH for hydraulic bell housing drive is 20 gpm at 2,500 psi. The 56HS for hydraulic or gas engine gearbox drive is 8 gpm at 3,000 psi.

DEDICATED QUALITY AND SERVICE

From initial design to materials and manufacturing, dedication to quality and service has been the foundation of the Cat Pumps philosophy since its founding over half a century ago. "The company was started out of necessity



to develop a new pump design that was far more dependable, efficient and longer-lasting than any available high-pressure pump," says Scott Bruggeman, vice president of sales and marketing, "We've adhered to those ideals, and today Cat Pumps products are in use in thousands of applications around the globe."

The company offers pumps capable of flows up to 240 gpm and pressure up to 10,000 psi, and its product line offers over 1,000 pump models. Cat Pumps has built a worldwide distribution network for pumps, parts and accessories when servicing is required.

Industry-leading staff is available to assist with inquiries, from troubleshooting to custom system design.



Cat Pumps embraces a zero-defect manufacturing philosophy with its products produced in ISO 9001 registered facilities. Sales and support operations in the United States, United Kingdom, Belgium and Germany, and a distribution channel that covers the globe, ensure Cat Pumps products and representatives are available everywhere high-pressure water and other fluids are at work
763-780-5440 | info@catpumps.com | www.catpumps.com

Take Advantage of Air Excavation Benefits With GapVax

Air excavation is gaining popularity with industrial vacuum equipment customers, and GapVax has seen an increase in the air compressor option being added to its custom-built trucks. The benefits of digging with air are many, and include the nondestructive aspect; safe excavation around buried utilities; elimination of slurry and mess; elimination of the need for drying beds for slurry; and allowing operators to dump dry debris on site, which is used as backfill after excavation. An operator can fill up to 15 cubic yards of dry material, and contaminated or potentially contaminated soils can be kept on site.

GapVax HV Series units are fully dry rated, and are able to vacuum dry dirt and other materials without stopping. GapVax is built to last and offers superior filtration with ultra-efficient cyclones and long-lasting filter bags. GapVax is designed for true wet or dry filtration, ease of use and simple maintenance.

A popular package for the GapVax HV55 hydrovac includes 1,200 gallons of water, 15 cubic yards of debris, 19 gpm at 3,000 psi, 5,300 cfm at 28 inches Hg, 200 cfm at 200 psi rotary screw compressor, and an Air Spade air lance.



GapVax's story began when Gary A. Poborsky created GAP Pollution & Environmental Control Inc. after the Johnstown Flood of 1977 in Pennsylvania. Poborsky set out to help with flood cleanup around the city, which eventually led to more and more work, allowing him to grow his business. From this, Poborsky began trying all of the equipment available on the market. When his company's suggestions for improvements were ignored by manufacturers, Poborsky ended up manufacturing his own trucks and equipment for his service company. Various customers began wanting to buy Poborsky's equipment, and essentially, GapVax Inc. was born in 1989. The goal of GapVax Inc. was to provide the best possible equipment inspired by the operator, for the operator, using the best quality components and keeping the design easy to operate and maintain. That still holds true today, over 30 years later.

888-442-7829 | inquiry@gapvax.com | www.gapvax.com

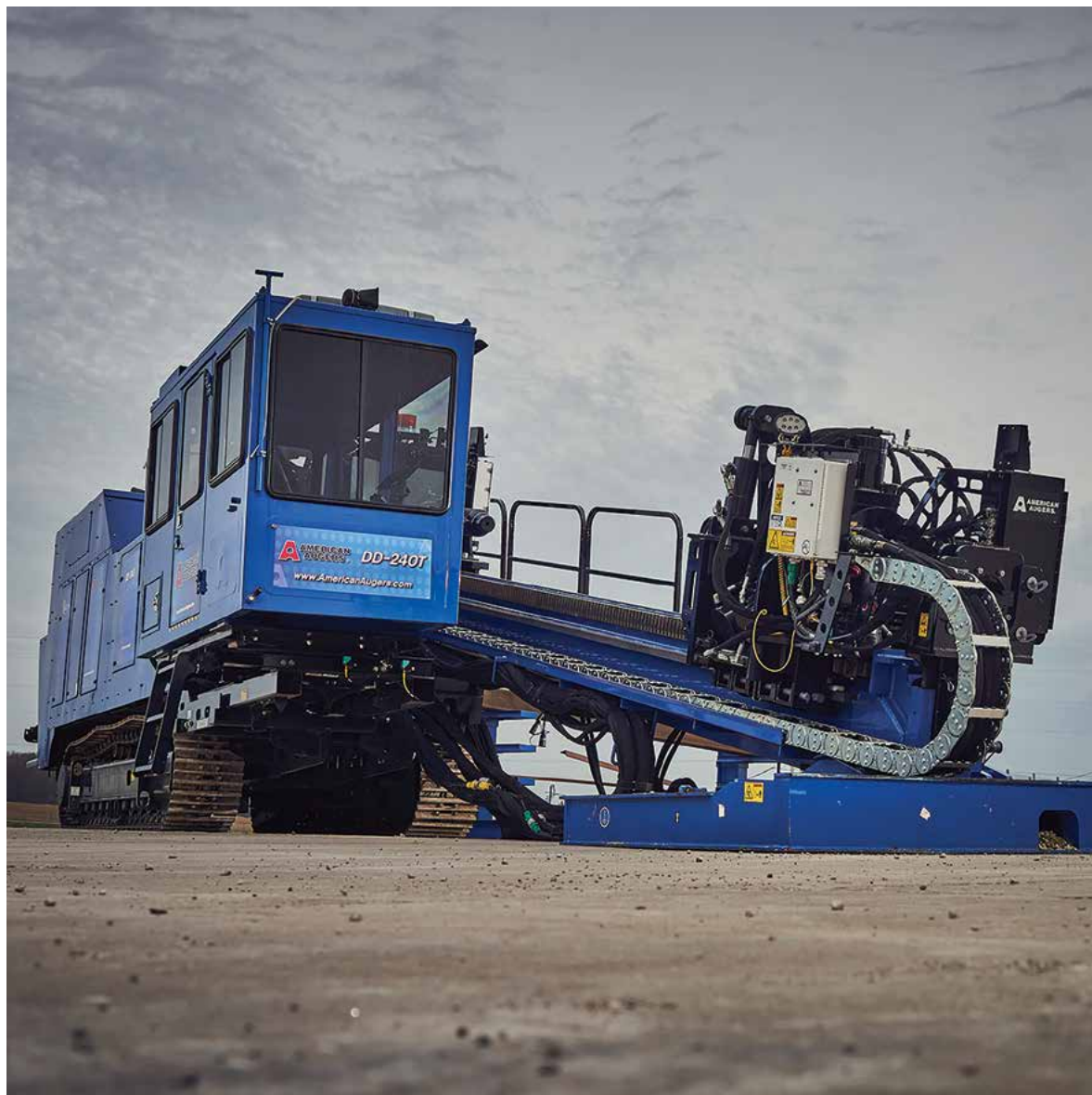
American Augers Tackles Ambitious Infrastructure Projects

Driven by the mission of bringing handcrafted auger boring machines and horizontal directional drills to a larger-than-life class, American Augers is responsible for some of the world's most ambitious infrastructure projects.

Since 1970, American Augers has exemplified the national manufacturing standard, with work completed in-house to rigorous quality testing. Almost every piece of every machine can be traced from the final product back to the steel mill it originated from. And every piece is handmade from drawings by experienced fabricators and welders to create a completely configurable rig for the customer.

HEAVY-DUTY MACHINERY

All this translates into a quality difference that's proven by American Augers rigs logging thousands of hours in the field. Because when you're working with 16-inch-thick steel, you know the rig is bound to be one heavy metal, earth-moving machine.



American Augers builds horizontal directional drills and a full range of auger boring machines. Developed and handcrafted in the U.S. with the rugged user in mind, American Auger's rigs are built to last and backed with 24-hour worldwide support.
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DON'T GO IT ALONE.



Rival Hydrovacs Designed With Weight Limits in Mind

Rival Hydrovac — a Canada-based supplier of cost-effective, efficient and lightweight hydrovac vehicles — has grown quickly since 2016. A major factor in the rapid growth of Rival is increased awareness and enforcement of the loaded weights of some hydrovac units.

Rival is mindful of keeping the truck as easy to operate as possible. The company's tandem T7 trucks are just over 30 feet in total length. Both models come with Allison Automatic Transmissions. Rival utilizes high performance components in an effort to provide a competitively performing unit with a smaller footprint and lighter weight.

DESIGNED TO COMPLY

The Rival T7 tandem was designed primarily to be a unit that could be loaded with debris and driven within legislated road limits with most types of debris on board. Additionally, the unit comes standard with a scale that reads real-time weights both in the cab and on the wireless remote to confirm weights prior to travel.

Rival Hydrovac recently added an optional air compressor to the T7. These air units also have the hydro features that any other Rival truck would include. The compressor is a dual-pressure Vanair unit, allowing for a setting for tooling and another for air excavation.

ABOUT THE T10

The Rival T10 unit is the larger brother of the T7 unit. The T10 comes on three different chassis configurations, depending on the jurisdiction it will operate within. Rival is also offering the air package on this size unit. The T10 offers additional debris and water capacities, and it has a larger boom and more blower.

Rival strives to continually add features to address customer needs as it learns of challenges faced in the field, according to a company spokesperson. Auxiliary hydraulic outlets are available that will allow for the operation of hydraulic tools, utilizing the system already on the truck. The real-time truck weights are displayed both in the cab of the truck and on the remote. The boom has a shutoff valve and the blower can be run in pressure or vacuum modes to allow for pressure offloading into another truck or tank. All Rival trucks are fully equipped to work in the winter, featuring cabinet heaters, heated valves and a purge/glycol system for the water pump and boiler.

Rival also has several important safety features, including a retractable railing atop the unit, D-ring tie-off locations, a grounding rod, traffic cones and an emergency shutdown system.

Other accessories include a poly dig tube with neoprene end, multiple dig tube extensions, all necessary clamps, two wash wands with nozzles, dig wand extensions, a spare handheld remote and a wand for washing the vehicle and washing out the tank.



Rival Hydrovac units are distributed by Transwest Trucks in the United States and a Transwest sister company, Summit Truck Equipment in Canada. Transwest and Summit offer parts, service and training as required. Rentals and in house financing are also available.

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Drones Do the Dangerous Work

Our professional workers in the trades continue to step up to the enormous challenge of maintaining our national infrastructure. All sorts of available tools and equipment have evolved over the years to assist these crews in public works, construction and utilities. And now there are drones.

Don't expect drones to replace skilled jobs in these sectors. But like any tool of the trade, drones offer benefits that make their use attractive, especially as technology improves. The following are a few benefits.

SAFER WORK

There's an inherent risk when working in rugged areas, near energized equipment or while hanging from poles, towers and buckets. As drones have entered the scene, crews are now able to get needed views while remaining on the ground. Whether it's mapping the miles of sewer and power lines or assisting with recovery efforts after a natural disaster, these whirring aerial devices can take the lead on visual inspections.

MORE EFFICIENT WITH DRONES

Drone crews report spending much less time on site than a conventional response team would. Setup is much simpler and can be as easy as a flight operations crew arriving in one vehicle. And the work can often be done without having to control or close a traffic lane or intersection. Coordinating fewer field assets frees up those resources for other projects.

More usable information is a notable outcome of drone work. Consider the value of being able to click on an image and get a bird's-eye view of a job site, with the ability to zoom in and locate a single power pole or exposed pipe in more detail. High-resolution pictures and videos can be GPS-tagged on a digital map and accessed via a web browser from multiple devices. It sure beats a spreadsheet in a file cabinet.

A broader, aerial view can help you with construction project status, checking work progress on a weekly basis to share with stakeholders; tracking safety concerns and known site hazards for documentation and insurance coverage; and real-time traffic monitoring during an evacuation before a storm.

DRONES ARE COST EFFECTIVE

Drones provide an energy-efficient alternative on projects that have traditionally employed specialized vehicles like helicopters, cranes and bucket trucks. Having the ability to access hard-to-reach locations is a plus. Being able to do it with fewer people and less equipment is even better.



Notable drone features being employed:

- Unmanned aerial vehicles are pilotless drones being used in land surveying and site inspections, with laser 3D imaging options available.
- Structural inspections on buildings and power generating dams use thermal sensors to monitor cracks, leaks and unusual temperatures.
- Helpful flight controls, like Return to Home, an automated feature directing the drone to safely land if connection is lost.

COMMUNICATION IS KEY

Maintaining a verbal connection among your drone crew keeps the mission on track. Real-time communication allows spotters to provide needed information for the pilot.

Some features that are standard for a flight crew include a portable system that's contained in a hard-sided case, charged up and ready to go; listen-through feature built in that enables situational awareness when working in busy or dangerous settings; and radio integration to keep you connected with other crews you're working with on their radio network.

To learn more, check out how Sonetics wireless team communication can help your crew be more efficient.

Sonetics

Sonetics creates wireless communication solutions that enable natural conversation in challenging environments. Building on a platform of collaboration and rugged performance, the company's team communication systems deliver a productive, safe and enjoyable work experience. With more

than three decades of experience, Sonetics Corp. and its Sonetics, Flightcom and Firecom product brands deliver innovative solutions to customers, transforming the way they work.

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Enhance Your Underground Awareness With Subsite Products



If you're in the business of moving dirt, you know how important it is to be sure of what's under it. Utility lines, water systems, natural gas lines and more are all buried underground and out of sight. But in 1988, Subsite developed reliable ground penetrating radar and electronic locator beacons to support Ditch Witch drills.

FULFILLING CUSTOMER NEEDS

Over the years, the brand quickly grew to include more products and solutions for HDD operators and utility contractors across the industry. To fulfill the growing needs of customers, Subsite reached into new streams of technology and now offers utility inspection systems for pipeline and waterline jobs, completing its rugged line of Underground Awareness products.

Ultimately, Subsite continuously pushes the innovative edge on equipment that not only helps all of us work smarter, but that keeps job sites and communities around the globe safer.



Subsite Electronics develops guidance equipment, utility locators, utility inspection systems and equipment machine controls to help keep underground construction professionals safe and efficient. By utilizing innovative technologies, extensive market feedback and outstanding customer support, Subsite Electronics has established itself as a premier source of electronic technology to support the installation, maintenance and rehabilitation of underground pipe and cable.
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The UtiliGuard® 2 Locating System:

MORE 2 LOVE.

The Subsite® UtiliGuard 2 adds integrated data capture, GPS positioning and a more intuitive user interface to the original UtiliGuard's impressive list of features. Get information you can use to prove or track performance, compare with benchmarks and provide actionable outcomes to help increase quality, reduce cable strikes and increase productivity across multiple crews.

Learn more at subsite.com.



Vac-Con's X-Cavator CXT Is Ready to Meet the Demands of Any Application

The legacy Vac-Con vacuum excavator — the X-Cavator CXT — is a simple, user- and maintenance-friendly unit ideal for contractor and municipal operations.

The overall design of the CXT is based on the hydrostatic drive system, allowing for the elimination of blower idle time. Unlike direct-drive traditional units, the CXT blower does not start turning until the water or vacuum systems are engaged. This decreases the amount of heat being generated from an idling blower and extends the life of the component.

Independent control of the water system is hydrostatically driven from the front PTO and rated for 20 gpm at 4,000 psi.

The CXT is available with either a positive displacement blower or three-stage centrifugal compressor fan to power the vacuum system. Dual cyclonic separators and a removable cartridge and final filter housing comprise the filtration system.

A simplified passenger-side-mounted control panel features throttle switch operations for all unit systems. The CXT is also available with a wireless remote that controls all system functions. This device features integrated batteries inside of the remote control, which are charged magnetically on the cab dashboard. These are considered permanent batteries that don't need replacing and are safe from environmental corrosion and dirt. In addition, the elimination of a battery compartment reduces entry points for water, which can quickly decommission a remote control.

EASY MAINTENANCE

Components on the CXT are easily accessible and centrally located, ideal for maintenance needs. Water pump components are available behind a removable panel located just below the mainframe. The blower is located at midbody with an eye-level fluid indicator, eliminating the need for operators to go under the truck to verify levels.

An optional catwalk component is available to be mounted onto the side of the debris tank. This feature is ideal for simplified hydraulic and boom maintenance access.

The CXT is available with up to 1,300 gallons of water capacity in cross-linked polyethylene water tanks that carry a standard 10-year warranty.

POWERFLEX BOOM OPTION

Upgrade the CXT with the telescoping PowerFlex boom option, designed to give the operator a greater range of motion and control. The PowerFlex boom is an innovative component that boasts a total reach of 28 feet in length,



34 feet of upward lift, 110 degrees of articulation and 315 degrees of rotation. Top-mounted on the debris tank, PowerFlex can be operated at the front, sides and back of the machine. PowerFlex allows the operator to work difficult angles and covers more ground than a traditional boom. The ability to sweep and rake with the boom is great for long trenching. In addition, PowerFlex is easier to operate than boom hoses made of flexible material, which require a lot of manual handling and management.

The capabilities and power of the X-Cavator CXT are designed to make the operator's job easier, while bringing the best in power and performance to the job. The CXT is available in a range of configurations and options ready to meet the demands of any operator, any application and any job site, according to Vac-Con.



Vac-Con Inc. has since 1986 manufactured more than 9,000 custom-built, truck-mounted machines to serve public and private environmental markets globally. Located in Green Cove Springs, Florida, the company is one of the largest producers of sewer cleaning equipment in North America.

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X-Cavator CXT
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Stop Fighting With Your Tow-Behind Air Compressor: Dig Easy With UNDERHOOD150

Let's be honest. Tow-behind air compressors are a hassle. They're a pain to move around, restrict your ability to tow other equipment and require additional safety and maintenance considerations.

If you're still using a tow-behind air compressor for light to medium air excavation work, it's time to look at an innovative alternative. The UNDERHOOD150 air compressor, engineered by VMAC, is a mobile compressed air solution for digging in soil that contains greenery or utilities.

UNDERHOOD150 air compressors are mounted within the engine compartment of your vehicle and provide 90 to 140 cfm of compressed air, depending on your vehicle's make and model. It is ideal for powering large-size air tools, including air knives and spades, or blowing compressed air through an air hose.

MAKING THE SWITCH

Jim Kirby, fleet supervisor for the city of Livonia (Michigan) Department of Public Works, switched from tow-behinds to UNDERHOOD air compressors and never looked back.

"We had two very old trailer-mounted air compressors that needed to be replaced and were shared between departments, and they always needed some type of repair when they needed to be used. This wasn't convenient when an unanticipated need for compressed air on a job site came up," says Kirby.

Kirby has since installed 14 UNDERHOOD air compressors on his vehicles, including Ford F-250 trucks and Ford Transit vans. In addition to the UNDERHOOD150, Kirby's fleet also uses UNDERHOOD40 and UNDERHOOD70 models.

"I would highly recommend VMAC compressors to anyone with a need for portable compressed air on demand, and who would appreciate the convenience and ease of use to operate the compressor," says Kirby.

Because UNDERHOOD150 systems utilize the vehicle's existing engine, they eliminate the engine maintenance required with tow-behind air compressors. The minimal maintenance that is needed is quick and easy to perform. As a result, less time and money are spent on maintenance, freeing up resources for other tasks.

"It's very easy to replace filters at the recommended service intervals. We have already had a couple air compressors come in for their service intervals, and we haven't had any performance issues," says Kirby.

IN-HOUSE MANUFACTURING

UNDERHOOD150 air compressors are a great mobile air choice during today's supply chain constraints, where many engine-driven products are back ordered. UNDERHOOD systems are made entirely in-house at VMAC's North American headquarters and ship within 10 business days.

"The UNDERHOOD product line only relies on the hardworking teams and machinery at VMAC, which is why we are able to ship UNDERHOOD air compressors in 10 working days. These short lead times are significant for anyone who needs a compact yet powerful air compressor soon," says Stuart Coker, director of operations at VMAC.



Every UNDERHOOD system is meticulously engineered with the cooperation of leading vehicle manufacturers, ensuring each system fits perfectly, works optimally and maintains vehicle manufacturer warranties, according to Coker.

"I was impressed with not only the performance of the compressor, but also how things were engineered to fit properly in the engine compartment, as if it was built from the factory," says Kirby.

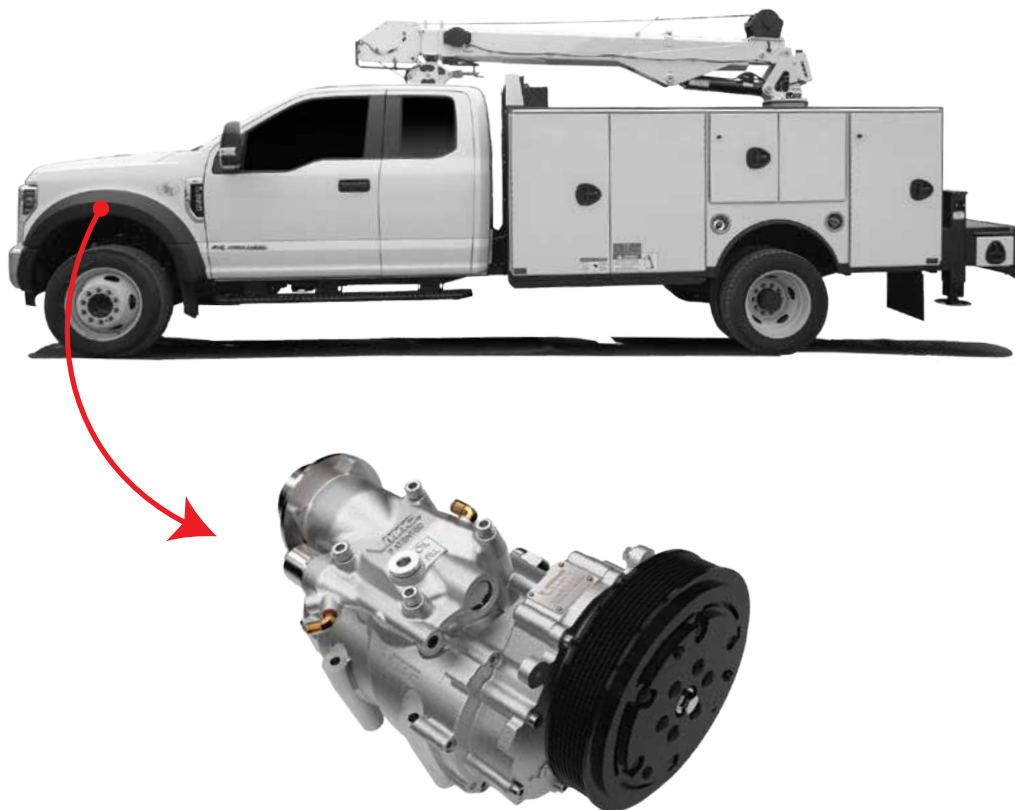
UNDERHOOD150 applications are currently available for Ford Super Duty and RAM chassis cab work trucks. To learn more or find out if the UNDERHOOD150 is available for your truck, visit www.vmacair.com/underhood150.



VMAC designs and manufactures innovative mobile air compressors and multipower systems. The company does this with hardworking, dedicated people who devote their working lives to improving the mobile air industry. The company builds every VMAC system in-house with the promise that it will work as hard as you do, and it backs this promise with a VMAC lifetime warranty.

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The UNDERHOOD™ 150 is available for Ford and RAM and produces 90 to 140 CFM, depending on the truck application.

Learn more at VMACAIR.com/underhood150



Get Continuous Hands-Free Crew Communication With CrewPlex

CrewPlex is a hands-free, full-duplex wireless communication solution to help crews overcome the challenges of communicating continuously in environments where noise, distance and task complexity can affect safety and productivity.

CrewPlex enables you to connect your entire hydroexcavation, HDD, boring and support personnel team with one system. Users can talk and hear each other in real-time without delay and without voice triggering or pushing a button. High quality audio provides better communication in all environments, especially in operations where noise levels can exceed 100 dB, according to the manufacturer.

Available connectivity to two-way radio systems keeps workgroups in touch with a supervisor and extends the communication reach of an entire work team. A full range of headset options is available to fit a variety of job and application needs.

TEAM COMMUNICATIONS

As the leading provider of communication systems for FBS/FCS football teams, CrewPlex knows how to deliver team communications that work in tough, challenging game-day environments. The company took that know-how and put it to work for crews. When the job is on the line and the safety of the crew is critical, CrewPlex provides clear, dependable communication to

everyone to ensure high levels of safety, productivity and job satisfaction. “Stop undercommunicating by empowering your crew with hands-free audio technology,” says a CrewPlex spokesperson. “After all, the goal is to work better and safer as a team than when they work apart.”



CrewPlex is a leading supplier of crew and team communication technologies that are dependable, durable and easy-to-use. CrewPlex’s parent company, CoachComm is the leading provider of coaching communication solutions to athletic programs, but also provides solutions to broadcasters, theaters, houses of worship and live production events worldwide. CoachComm has earned and secured its position as a leader and innovator by developing leading-edge communication solutions for customers that demand the ultimate competitive edge.

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Zip Tube Designed With Durability in Mind

Milwaukee Rubber Products Inc. has announced it is now distributing the Zip Tube — a new hydroexcavation suction/water erosion nozzle engineered with a rugged build to withstand harsh environments.

The Zip Tube is built with a 0.100-inch wall, 6- or 8-inch Tuff Tube, and is equipped with an external stainless steel water ring containing 10 (6-inch) or 12 (8-inch) stainless steel replaceable jets that pulverize soil with water pressure. Soil is then removed by vacuum suction through the tube.

It's available with a Vactor style 6- or 8-inch flange, and Super Products Bandlock or Aquatech connection options.

ENGINEERED FOR SAFETY

Features of the Zip Tube include an adjustable handle with a rubber bump stop inside the water ring. The bump stop protrudes forward to help safeguard the water ring jets against abrasion from rocks, debris and underground services.

There's also a rubber safety tube attached to the exterior of the water ring that helps control the spray of water and eroded material that can splatter during the hydroexcavation process.



Milwaukee Rubber Products Inc. has been in business more than 65 years and is based out of Menomonee Falls, Wisconsin. The company stocks and distributes hoses, couplings, valves, pumps, vacuum accessories and safety equipment. It also custom builds rubber parts to exact specification for its clients.

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CALENDAR

Sept. 2-8

World Tunnel Congress 2022, Bella Center, Copenhagen, Denmark. Visit wtc2022.dk.

Sept. 12-14

Breakthroughs in Tunneling Short Course, University of Denver – Joy Burns Center, Denver. Visit tunnelingshortcourse.com.

Oct. 6

Underground Contractors Association of Illinois Annual Business Meeting & Showcase, Venuti's Italian Restaurant & Banquet Hall, Addison, Illinois. Visit www.uca.org.

Oct. 8-12

95th Annual Technical Exhibition and Conference (WEFTEC), New Orleans Morial Convention Center, New Orleans. Visit www.weftec.org.

Nov. 2-4

Tunneling Association of Canada (TAC) 2022 Conference, Fairmont Hotel Vancouver, Vancouver, British Columbia. Visit www.tunnelcanada.ca.

Nov. 15-16

Pipeline Leadership Conference, The Embassy Suites The Woodlands/Hughes Landing, Houston. Visit www.plconference.com.

Nov. 17-18

National Utility Contractors Association (NUCA) Safety Directors Forum, The Westin Downtown, Denver. Visit www.nuca.com/sdf.

Feb. 7-9

Underground Construction Technology (UCT) International Conference & Exhibition, Orange County Convention Center, Orlando, Florida. Visit www.uctonline.com.

Feb. 14-16, 2023

Global Excavation Safety Conference, The Tampa Convention Center, Tampa, Florida. Visit globalexceptionsafetyconference.com.

Feb. 20-23

Water & Wastewater Equipment, Treatment & Transport (WWETT) Show, Indiana Convention Center, Indianapolis. Visit www.wwettshow.com.

Dig Different welcomes your contributions to our Happenings column. To recognize members of your team, please send notices of new hires, promotions, service milestones, certifications or achievements. We also invite your national, state or local associations and organizations to post notices, news items and learning opportunities. Send contributions to editor@digdifferent.com. ▼

GOT A STORY THAT'S DOWN AND DIRTY?

Dig Different welcomes news about your tough excavation, pipe bursting, trenching, boring or tunneling job for the Down & Dirty column.

Send your story to editor@digdifferent.com or call 715-350-8436.

CONTRACTOR CAPABILITIES

Kondex Offers Long-Lasting Drill Defender Cobble Bits



Users looking for longer-lasting HDD bits may be wasting their efforts

with hard facing that doesn't last. Kondex Drill Defender cobble bits feature an exclusive laser cladding wear protection that outlasts hard face welding and enhances the performance of the bit, according to the manufacturer. By improving steering and retaining the cutting edge and bit shape, you gain up to 10 times more footage per bit over alternatives. Kondex says its cobble bits are affordably priced and available in 4- and 5-inch bore diameters for midsize HDD rigs.

KONDEX

Kondex manufactures and engineers cutting and wear-resistant components for the agriculture, biofuels, construction, forestry, off-road, utility and commercial turf care industries. While based in Wisconsin, Kondex supplies its products to original equipment manufacturers and end users on a global scale.

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MORE FEET, BETTER STEERING

"The Kondex bit outperformed the competition. From clay to solid rock, we've noticed longer life, better steering, and all-around better performance."

TEN TIMES MORE FOOTAGE PER BIT"

Jake R., Wisconsin driller



patent pending design

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Easy Setup Makes RODDIE's R-8 Pipe Bursting Machine a Fast, Profitable Choice

John Gribble, one of the owners of Pronto Plumbing and Drain, recently offered some high praise for the RODDIE Underground R-8 pipe bursting machine. The company currently owns four of the machines and has the capabilities to replace water and sewer from 1-inch to 8-inch pipe.

"The R-8 has allowed us to scale our company to the next level," Gribble says. "The lightweight machine makes it easy to set up inside our customer's home, allowing for the best pull. There is no more setting the machine into a deep hole with an excavator, making the R-8 the fastest pipe bursting machine we have ever used."

Pronto Plumbing and Drain has performed pulls up to 600 feet in length and up to 8 inches in diameter. The company keeps the R-8 units in the lead installers' service vans so it's always ready when an emergency happens.

"When it comes to production, RODDIE Underground leads the way in trenchless technology," Gribble says. "We took on a 240,000 under-slab job in a retirement home last month that we finished in a little over a week by using multiple R-8 pipe bursting machines to help us minimize the amount of concrete needed to be removed. That made the job very profitable and productive. We intend on having six of them by the end of the year. When it comes to running a business, I would choose the 30-ton RODDIE Underground R-8 pipe bursting machine. Your employees will love you."

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DD-1 Pit Launch Directional Drill Bore Glide

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Ride in comfort on this all new pit launch HDD Drill. This new design is much more user friendly for the operator and the excavation foot print is considerably smaller. The DD-1 can also be used in our stackable shoring boxes when you need to go deep.

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Columbia Falls, Montana

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Komatsu's corporate campus receives top awards

Komatsu was recently honored with awards recognizing the company's newly completed office building project in Milwaukee. *The Daily Reporter*, a construction industry publication, honored Komatsu's South Harbor office building and parking structure with both a 2021 Top Projects award and the Best in Show award, an accolade bestowed on the top project among all the 2021 award winners. The *Milwaukee Business Journal* recognized the Komatsu project with its 2022 Best New Development Office award.



Keffer named VP of sales and marketing for STIHL

Chris Keffer has been named vice president sales and marketing of STIHL. Keffer will be responsible for sales for the domestic and export markets, sales planning, e-commerce, new product development, all marketing programs and branch operations throughout the U.S. He joins STIHL after a successful career with Stanley Black & Decker where he served in a variety of sales and marketing leadership roles, most recently as the president, product management for the Power Tools Group.



Chris Keffer

Werk-Brau celebrates 75 years

Werk-Brau Co. is celebrating its 75th anniversary with activities and events throughout the year for customers, dealers and employees. Family owned and operated since its inception, the company has grown from a single blacksmith shop to numerous North American locations with 500,000 square feet of manufacturing space and over 500 employees. Werk-Brau maintains dealer direct partnerships with over 1,000 heavy equipment dealers from its Findlay, Ohio headquarters. ▼

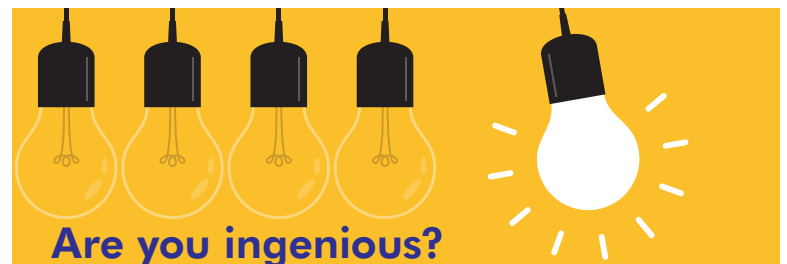
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Got a RIG that you really DIG?

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Do you have a really cool-looking rig, directional drill, excavator or work truck with all the bells and whistles? We'd like to feature it!

Your **Dig My Rig** submission must include a photo of your rig lettered with your company name, along with your name, company name, mailing address and phone number. Include information such as the manufacturer of your rig, cab/chassis and pump/blower; tank capacity; and water pump mfr./gpm/psi; and any other details you consider important. In particular, tell us what features of the truck help make your work life more efficient and more profitable.

Email your materials to editor@digdifferent.com

PLEASE LIMIT YOUR SUBMISSION TO ONE RIG ONLY

We look forward to hearing from you!

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What is your company's primary service?

☐ Excavation/Grading ☐ Utility Contracting ☐ Government/Municipal ☐ Vacuum Excavation

☐ Industrial/Commercial/Municipal Services ☐ Dealer/Distributor/Manufacturer

☐ Other

Do you pass *Dig Different* magazine along to others to read?

☐ Yes ☐ No

When it comes to equipment and other purchasing decisions, what is your role?

☐ Not at all involved ☐ Somewhat involved ☐ Heavily involved ☐ Final decision maker

How many pieces of excavation equipment do you have in service?

☐ 1-3 ☐ 4-5 ☐ 6-7 ☐ 8-9 ☐ 10+

What is your annual equipment budget?

☐ \$1-50K ☐ \$51K-75K ☐ \$76K-150K ☐ \$151K-250K ☐ \$251K-350K ☐ \$350K+

What services do you perform on a regular basis?

☐ Excavating ☐ Vacuum Excavating ☐ Trenching ☐ Horizontal Directional Drilling

☐ Boring ☐ Pipe Bursting ☐ Utility Location/Leak Detection

☐ Other

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