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PROFILE:

**DIVERSIFICATION
KEEPS OHIO
COMPANY A
ONE-STOP SHOP
12**

TECH TALK:

**SAVING IMPORTANT
INSPECTION DATA
26**

A STRONG BACKBONE

**Moving to hydroexcavation allows
contractor to expand services
18**

PRODUCT FOCUS:



28

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Contents

MAY/JUNE 2019

Think outside the bucket

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FOCUS: Utility Locating and Surveying



COVER STORY

18 **PROFILE: HYDROEXCAVATION A Strong Backbone**

Husband-and-wife team make successful shift from infrastructure construction to specialized cleaning services.

By Marian Bond

ON THE COVER:

The crew from Crawler Pipeline Services, from left, co-owners Becky and Wayne Thompson, and technicians Trevor McGhee, Dylan Williams, and Cody Thompson. The company offers CCTV, sewer inspection, cleaning, storm drain inspection and hydroexcavation throughout their area in Raleigh, North Carolina. (Photo by Alan Cradick)

FEATURES

12 **PROFILE: HYDROEXCAVATION Taking On the Environment**

Ohio-based operation finds way to keep diversifying after years of experience in cleaning industrial facilities.

By Marian Bond

28 **PRODUCT FOCUS: Utility Locating and Surveying**

By Craig Mandli

33 **SUCCESS STORIES: Utility Locating and Surveying**

By Craig Mandli

COLUMNS

8 **BELOW THE SURFACE: Safety Must Come First**

Using the right equipment, training and double-checking job sites are ways to ensure a safer job site for your crews and the public.

By Cory Dellenbach, Editor

24 **SMART BUSINESS: Know When to Collect**

Even if you're years away from retirement, it's wise to keep tabs on your government retirement benefit and adjust plans accordingly.

By Erik Gunn

26 **TECH TALK: Save the Data**

Proper management of inspection files is important for you and your customers.

By Jim Aanderud

32 **SAFETY FIRST: Stay Connected**

New technology provides clear, dependable communication for confined-space work.

By Analisa Harangozo

IN EVERY ISSUE

10 **@digdifferent.com**

Visit daily for new and exclusive content.

34 **The Latest: News**

35 **Happenings**

36 **The Latest: Products**

This Issue's Feature: New name enters the vacuum excavation industry

By Craig Mandli

NEXT ISSUE: JULY 2019

FOCUS: Vacuum Excavation

- Profile: BTI Environmental
- Tech Perspective: Best practices for vacuum excavation
- Smart Business: Rental trucks and purchase agreements

IS YOUR COMPANY TALKING A LOT ABOUT MUD THESE DAYS? YOU SHOULD BE.

With increasing regulations targeting the disposal of horizontal directional drilling (HDD) fluids and rising disposal costs, mud is becoming a major concern for the industry. Failure to plan can lead to unexpected expenses, missed opportunities or be the reason why your company isn't awarded a particular project contract in the first place.



HOW MUCH FLUID DO YOU NEED

Your estimating process should include evaluating ground conditions at the jobsite, type of drilling additives you will need and the volume of fluid required for the project.

Ground conditions dictate the drilling additives you'll need and the amount of fluid required. Calculating the costs and the amount of additives and water you'll need ahead of time will not only help ensure you're tracking your expenses on the project, but will also help you determine what equipment you need on the job.

ADDING IN DISPOSAL COSTS

To begin, you must research all local regulations about disposing of drilling fluids. Today, many projects require HDD fluids to be disposed of at licensed facilities, and the costs associated with dumping can vary greatly. You will want to look into where these sites are located and estimate how much you'll pay to use them.

But don't forget, the disposal costs aren't your only expense. You also have to estimate the distance between the jobsite and disposal facility, as well as the fuel and labor costs involved in making the round-trip. These expenses are easy to overlook.

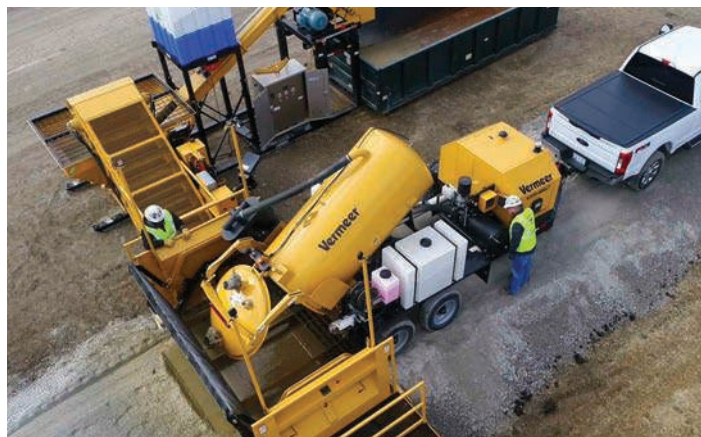
WEIGHING YOUR OPTIONS

After adding up your fluid and disposal costs, it's time to evaluate equipment options that may be able to reduce your out-of-pocket expenditures. For projects that require large volumes of fluid, bringing in a reclaimer like the Vermeer R250C can help reduce the amount of fluid and additives used by removing solids and recycling fluids.

Solidification systems like the Vermeer MUD Hub is another option to consider for projects that have high disposal fees. Solidifying used drilling fluids can give you more disposal options. Many drilling spoils will now be able to be disposed of at a regular landfill, used for ground cover or added to composting mixes. Also, since the waste is now a solid, it can be hauled in a dumpster or dump truck, which helps keep your vacs off the road and on the job.

Visit **Vermeer.com** for more information.

The MUD Hub can be operated by one person from multiple control station locations for jobsite flexibility, and feed and dosage rates are made from the STS FL-243 solidification mixer's control center. The ST2000 slat tank has a self-cleaning tank design with integrated lift points and a convenient setup design, the MUD Hub is convenient to transport with minimal preparation to begin running on a jobsite.



"At Vermeer, we are committed to producing cost-effective solutions for fluid management. In addition to the Vermeer line of reclaimers for larger-diameter pipeline work, we now have the MUD Hub for contractors doing utility work."

— Adam Bates, product manager, Vermeer Corporation

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Advertiser Index

May/June 2019



Cat Pumps 2

CONEXPO-CON/AGG 23



Ditch Witch 11

GapVax, Inc. 39

Hot Jet USA 3

ICUEE 17

Milwaukee Rubber Products, Inc. 27

Radius HDD 7



Rival Hydrovac Inc. 6

Schonstedt Instrument Company 25



UltraShore 33

Vac-Con, Inc. back cover

Vactor Manufacturing 9

Vermeer Corporation 5



Water Cannon, Inc. – MWBE 31

Marketplace 38



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Tim Krueger

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HUMMING.



IF YOU FIND THAT THE UTILITIES HAVE BEEN MARKED, IT'S STILL A GOOD IDEA TO DOUBLE-CHECK THEM WITH YOUR OWN UTILITY LOCATING EQUIPMENT. **EVEN IF YOU MARKED THEM YOURSELF, GO OVER EVERYTHING AGAIN JUST TO BE SURE.**

Safety Must Come First

USING THE RIGHT EQUIPMENT, TRAINING AND DOUBLE-CHECKING JOB SITES ARE WAYS TO ENSURE A SAFER JOB SITE FOR YOUR CREWS AND THE PUBLIC

BY CORY DELLENBACH, EDITOR

Digging safely is a priority that every company in this industry should take to heart. They should have that goal every day they are out on a job site working.

Over the past year, we've seen the news stories — downtown area in Sun Prairie, Wisconsin, had a large explosion, killing one, and another gas explosion in San Francisco. Both of these happened because either the utilities weren't marked correctly or the lines were struck with bucket-type equipment.

While there is no surefire way to prevent these accidents from ever happening, there are ways they can be reduced: using the right equipment, training and double-checking the job site.

THE RIGHT EQUIPMENT

Let's start with equipment. Digging with traditional equipment like excavators increases the chances of striking a utility — whether it be electrical or gas. The force of those buckets driving down onto conduit or pipe can do some serious damage.

Using equipment like vacuum excavators can greatly reduce the chances of hitting anything. You're using water or air to dig down rather than a giant metal bucket with teeth on it.

With directional drills, you still have the potential to hit an unmarked or poorly marked utility, but your chances diminish if you use the drills in combination with potholing.

If you're a contractor still using excavators or backhoes for all of your digging needs, consider looking into vacuum excavators. You could be saving a life with such a move and maybe even pick up more work from companies that only want digging done with those machines.

TRAINING

Ensuring your crews know what they are doing is probably the biggest thing that can cut down on accidents. You don't want to throw a new hire on an expensive directional drill or vacuum excavation truck on his or her first day.

Just think of the damage they could do if they've never operated one before. I've never operated a directional drill,

but I've tried using a training simulator and I've also operated traditional excavation equipment. Neither time went very well.

There are plenty of ways to get your crews trained. Many manufacturers have training resources for contractors. Ditch Witch and Vermeer both have directional drilling simulators. Vacuum excavation companies can send out guys to help get your crews accustomed to the equipment.

Hit up as many trade shows as you can that revolve around this industry. Those will help a lot, and many of them offer credits toward training.

Check with area technical colleges and see if they have any programs related to your company. There is a small technical college in Green Bay, Wisconsin, that now offers directional drilling as a course.

DOUBLE-CHECK

You have the right equipment. Your crews are properly trained. Now what? Double-check the work you are doing.

If you get to the job site and find that the utilities have been marked, it's still a good idea to double-check them with your own utility locating equipment. Even if you marked them yourself, go over everything again just to be sure.

Potholing is a great way to check the marks for accuracy. If you are directional drilling, make sure you have a locator out there checking regularly to ensure you are on the right path and avoiding utilities.

It never hurts to double-check your work or anyone else's work.

LET'S STAY SAFE

The busy time of the year is upon us, so let's be safe out there and cut back on accidents that could have been avoided.

Do you have your own tips on how to avoid accidents? Email me at editor@digdifferent.com or call me at 715-350-8436.

Enjoy this issue! ▼

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INTERNET MARKETING

Why a Good Business Website Is Still Vital

Online exposure for a business once only meant having a website. In today's world, it means having a social media presence and taking advantage of things like Google Ads and online reviews. Is it even necessary to maintain a strong website? This online exclusive covers a few reasons why it's still important to do so.

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GOING SMALL

More Contractors Eyeing Smaller Hydrovac Units

Instead of worrying about maneuvering large machines, some contractors are opting for smaller trailer-mounted units when first getting started in the hydroexcavation game. This online exclusive looks closer at this trend and a few of the trailer-mounted units that are available on the market.

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EMPLOYEE BUY-IN

Think Career Stage Before Age to Boost Engagement

It's commonly accepted these days that different generations of workers — whether they're millennials, baby boomers, or Gen Xers — require different approaches to keep them engaged in the workplace. While that's a factor, as this online exclusive explores, you should be putting an even heavier emphasis on the length of an employee's tenure with the company, regardless of their age.

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**"YOU COULD SAY
THAT WHAT WE
DO AT ODYSSEY
IS VACUUM
ANYTHING.**

IF IT NEEDS TO BE
REMOVED FROM
A SPACE, WE CAN
HANDLE IT."

Andrew Grueber



ODYSSEY Environmental Services employees, from left, Matthew Raub, Phil Stratus and Chad Johnston, use a GapVax HV-56 on a hydroexcavation job.

TAKING ON THE ENVIRONMENT

OHIO-BASED OPERATION FINDS WAY TO KEEP DIVERSIFYING AFTER YEARS OF EXPERIENCE IN CLEANING INDUSTRIAL FACILITIES

STORY: **MARIAN BOND** PHOTOS: **AMY E. VOIGT**

Cleaning the environment has always been a priority for Steve Grueber, ODYSSEY Environmental Services president.

When ODYSSEY first opened for business, they were serving the petroleum and chemical industries, removing dry bulk materials at steel mills, cleaning drains and oil spills around machines, and handling remediation during shut-downs. By 2008, they were serving municipal clients with hydroexcavation services, a technology Grueber had been involved with for many years.

"We started this company initially because of our belief in environmental services and also our past experience in the industry," Grueber says. "We are not trying to take over the entire environmental service business because there are so many people with knowledge about these things. It would be a shame to limit the possibilities."

Currently, about 30 percent of the company's business comes from cleaning, inspection and sewer work for munic-

ipal clients. Mill and oil refinery work accounts for 35 percent of the business, with another 20 percent in hydroexcavation and the remainder generated from oil rig cleaning.

"Many of these industrial plants we service are older facilities, but because of the natural gas boom and oil drilling, they have been working toward making environmental improvement," says Andrew Grueber, general manager. "We have been able to be with them in bringing facilities up to date so they can utilize new technology in keeping the facility clean and in production, thus generating a quality product. There is, however, some new construction in steel mills in the regions we serve.

"Cleaning projects in these facilities will include environmental cleaning such as removing dry material from the tops of cranes, walls and beams," he says. "We also clean their drains, lagoons, floors, confined-space tanks and open tanks. This basically entails whatever environmental services they



ODYSSEY Environmental Services Youngstown, Ohio

OWNER: Steve Grueber, Andrew Grueber, Larry Frangos Jr.

ESTABLISHED: 2007

CUSTOMERS: Steel mills, gas and oil refineries, municipalities

SERVICES: Hydroexcavation, drain cleaning and environmental cleanup

SERVICE AREA: Ohio, West Virginia and Pennsylvania

EMPLOYEES: 30



ODYSSEY believes in its employees and their important role in the success of the company.

requires a lot of setting up. Safety involves the crew knowing who of the men are involved on site. Our technicians have to know the proper way to safely pick things up. There is a strength factor — getting into a pipe, sending a camera down, jetting the line, operating a backhoe — getting objects out that may be causing a blockage in a pipeline. Performing many functions falls to the expertise and training of the crew.”

Because of the many challenges in these environments, safety, training and the proper equipment have been the keys to sustaining the company’s growth over the past six years.

In addition to serving the tri-state area, ODYSSEY has had jobs in Maine and Montana, as well as other Eastern states.

FROM THE TOP DOWN

The corporate structure with ODYSSEY starts with the three owners, who are all thoroughly engaged. There are four supervisors reporting to the owners, who in turn each have a foreman with two or three technicians.

Finding candidates who fit the profile required to be a good technician can be a challenge. Their hiring process can entail 15 to 30 initial interviews. Following the application and interview process, a candidate who seems qualified will have a 30-day trial period. The training starts with confined-space entry, but that’s just the beginning. OSHA courses can progress from 40 to 120 hours. Initial courses will get a trainee out on a job, but ODYSSEY wants technicians to be aware of all safety issues on any job site. Employees are certified to operate multiple



Guy Mohr works outside at the GapVax truck while others vacuum dust generated by manufacturing clay bricks at Whitacre Greer in Alliance, Ohio.

require that can be completed with the equipment we stock. You could say that what we do at ODYSSEY is vacuum anything. If it needs to be removed from a space, we can handle it. In some cases if a truck cannot be used, we will use our labor force to bucket materials from one place to another.”

Remediation, which they do in-house, may call for removing tanks or underground pipelines or rebuilding drainage basins and retaining walls utilizing their own equipment.

“On some sites, we may have to add cables or railing to make the job safer,” Grueber says. “With those type of jobs, we are sometimes up high and this

“WITH A NEWLY PROJECTED JOB, WE WANT TO LOOK BEFORE GETTING INVOLVED. WE VISIT THE SITE AND DO A ‘JOB WALK.’ MAKE SURE WE COVER EVERY ASPECT AND SOMETIMES HAVE MULTIPLE VISITS AND TALKS WITH PEOPLE.”

Andrew Grueber

types of equipment, and training includes fall protection and respiratory training, so the technician knows what mask to wear and what cartridges are needed.

OSHA courses are conducted by OSHA at ODYSSEY headquarters in Youngstown, Ohio. Their foremen take outside classes on the safe use of high-pressure water.

“We strive to hire people with high standards for safety and those who aspire to be more proficient at multiple tasks,” Grueber says. “This has been a difficult



ODYSSEY Environmental Services owners from left, Larry Frangos Jr., Steve Grueber and Andrew Grueber, at their shop in Youngstown, Ohio, with their new GapVax HV-56.

Relying on trust and knowledge

bar to get over — finding those who have the experience and the ambitions we look for. It's a substantial investment in employee training."

The company promotes from within, so there is incentive for those who wish to advance.

READY TO RAMP UP

Grueber says that with any job they tackle, whether an existing customer or a new client, they never know exactly what they'll find.

"It can end up being something we have not encountered before and can mean problem-solving we have to work through," Grueber says. "This brings in the partners and again our specialized operators and equipment, including the cameras we rent when we need that technology. This is what we enjoy — problem-solving and helping the environment."

The majority of new work coming their way involves a bidding process, and Grueber says they find that relationships develop over time and jobs become based on time and material.

Steve Grueber, managing member and president of ODYSSEY Environmental Services, says there were some important considerations in deciding whether to form the company with a partner or go it alone.

"Most important was trust and knowing that my partner would have my back — that I could count on him," Grueber says. "Larry Frangos was that man when he came on board in 2007. His background included working and coordinating with other companies. His son, Larry Frangos Jr., also joined the firm as a member of the crew at that time."

When the senior Frangos left the firm in 2009 to pursue other interests, his son filled that important role in the company.

"What you want as a co-owner is trust, as well as knowledge. These are the assets I counted on initially," Grueber says. "But there should also be complementary skills as well. My son, Andrew, brought business management and IT experience when he joined us as a co-owner in 2011. Both Andrew and Larry Jr. worked their way up starting in 2007 from laborers to become co-owners."

"I realized that a team was a valuable tool because the industry is so vast. No one person has

the exact knowledge or time to be able to deal with a multitude of projects."

He says there is still some trial and error, but they handle matters by working together. "There is nothing available you can pull off a shelf that will always work. You have to deal with issues and develop as you go. What works for one company does not always work for others."

"Another key is to have patience with all members of your crew, including your top team, as well as others within the industry."

"Communication with every individual involved is the best path," Grueber says. "You can have the best company in the world, but it is only the best because of the people you surround yourself with — your partners and the people who work for you and contribute. This also includes other family members, Aric Grueber and Anne Graff, all who have been a part of our grand experiment."

"ODYSSEY Environmental Services has pooled many years of experience serving our particular market and have steered a young company into a proven asset in dealing with large and complex facilities seeking to comply with the challenges of a changing market and the varied demands of environmental issues."



Robert Davis works to discharge water waste at Everclear of Ohio in Austintown.

“With a newly projected job, we want to look before getting involved,” he says. “We visit the site and do a ‘job walk.’ Make sure we cover every aspect and sometimes have multiple visits and talks with people. We want to know every aspect of the job.”

Grueber says they will have a pretty good benchmark as to the length of time it will take to solve a problem if they have past experience on a site, but there is no average because it is always based on the needs of the customer.

“We do a lot of project management,” Grueber says. “Sometimes we don’t even have our equipment there. We help other companies implement new machinery in older steel mills.”

Projects can be on a week-to-week basis or last three months up to a year. The company will often serve as the prime contractor, but just as often as a subcontractor.

“We are now at a size where we would rather take on the entire contract,” Grueber says. “Our project management skills have positioned us to act in that capacity, and we see things go smoother and we can get things done. Sometimes when we come on a site as a subcontractor, we find we are able to assist the prime contractor in multiple aspects of environmental protection because of the many facets we have dealt with both within our company and in previous situations or experiences.”

Some customers have preventive maintenance contracts, which is very positive for ODYSSEY, but they still get from four to 10 emergency calls a month.

“In the long run, it is more efficient for the company if they are on a preventive maintenance contract. They can provide a better quality product without having the downtime they may have if or when an emergency occurs,” Grueber says.

When it comes to disposal, ODYSSEY often works side by side with and in support of local family-owned companies for proper disposal of both hazardous and nonhazardous materials.

“We can go either way,” Grueber says. “We have the transportation trucks. With our equipment we have options to consider all possibilities for disposal. We recognize there are many small companies in our service area that are not only in business, but also want to have an impact on the cleanliness of the environment. We value these associations.”

READY TO RESPOND

ODYSSEY is prepared for emergency calls. They maintain a specialized team ready to respond on short notice, 24/7. Trucks are always fueled and properly equipped to contend with any complaint. Additional support vehi-

cles can also be readied to respond quickly, and they can be anywhere within 30 miles of their shop in an hour under most circumstances. They are also capable of responding quickly to emergencies out of their satellite office in State College, Pennsylvania.

“They tell us what the emergency is,” Grueber says. “We can go on what we have experienced before, even though each emergency may likely be unique. We can evaluate based on previous situations we have dealt with.”

ODYSSEY operates in Youngstown out of a 6-acre facility, with an 80,000-square-foot warehouse and 5,000 square feet of office space. The satellite office in State College is on a 1-acre site with a small office, which serves as a staging area for some projects.

BIG-TIME ROLLING STOCK

ODYSSEY operates with four vac trucks. Their GapVax hydroexcavation unit is built on a Volvo chassis with a 5,000 psi pressure washer pump, a 200-gallon freshwater tank and a 1-inch front reel. Jetting can vary from 3,500 psi/20 gpm to 8,000 psi/50 gpm.

Another GapVax unit on a Volvo chassis features a 5,300 cfm, 28-inch Hg vacuum pump and 17-cubic-yard debris body. Two other Volvo-based GapVax units can pull a pressure washer trailer to assist with cleaning when necessary

“WITH OUR EQUIPMENT WE HAVE OPTIONS TO CONSIDER ALL POSSIBILITIES FOR DISPOSAL. WE RECOGNIZE THERE ARE MANY SMALL COMPANIES IN OUR SERVICE AREA THAT ... WANT TO HAVE AN IMPACT ON THE CLEANLINESS OF THE ENVIRONMENT. WE VALUE THESE ASSOCIATIONS.”

Andrew Grueber

but do not have an onboard water supply. All these units have carbon-steel debris bodies.

There is also a Guzzler on a 1985 International with a 12-cubic-yard debris bed. That unit was reconditioned in 2009. Two pumper vac units with vane pumps capable of pulling liquids were recently added. One is a reconditioned 1985 Mack and the other is a 1995 Mack primarily used for hauling oil and brine water. Their third pump truck is a 2001 Volvo, also with a vane pump. Each has a carbon-steel bed capable of hauling 4,000 gallons over the road.

Other vehicles include three specialty service trucks used for hauling miscellaneous loads and transporting equipment to and from the job sites. There are three hot pressure washing trailers capable of hot and cold operation. A 1999 Ford L700 serves as a jetting truck with a 2,500-gallon tank, with capability similar to the jet truck.

THREE MAKES A TEAM

Larry Frangos Jr., a co-owner since 2009, says that the three partners are very much active in all aspects of the operation, from sales calls to getting down in the pits to work with technicians, all depending on the needs at the moment.

“Steve has been my mentor,” Frangos says. “He has taught me everything I know in this business. That is how I have gotten where I am with ODYSSEY.”

The partners meet monthly to go over customer relations and new contracts. Weekly meetings between the supervisors and foremen keep communication free and open, which is essential in such a highly demanding business.

Frangos adds that communicating with customers through follow-up calls and meetings has been a plus in building relationships.

“Whatever it takes,” he says. “We make it happen.” ▼

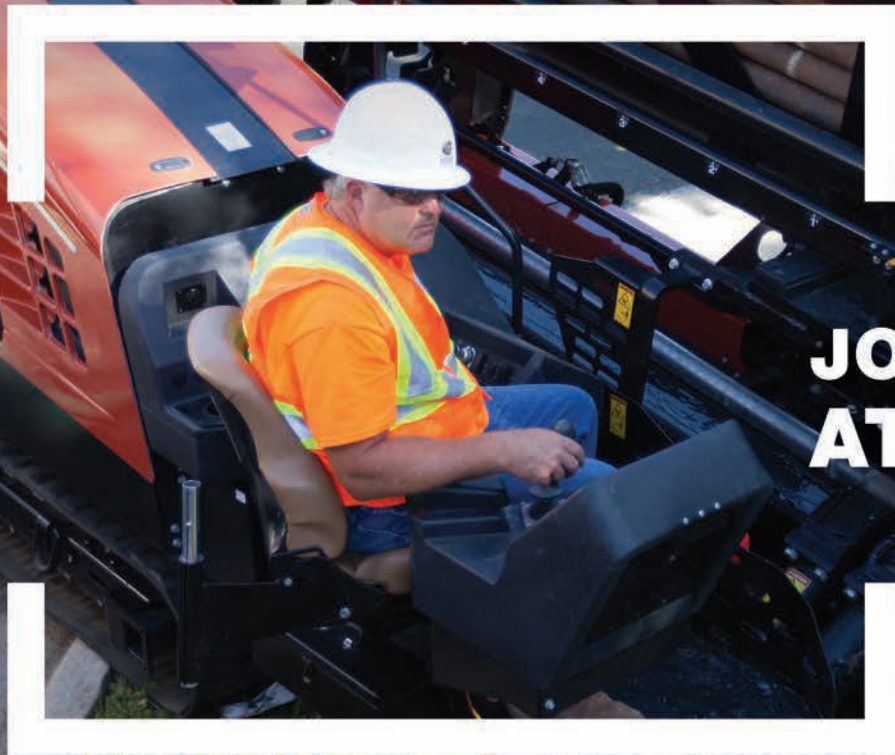
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A STRONG BACKBONE

HUSBAND-AND-WIFE TEAM MAKE SUCCESSFUL SHIFT
FROM INFRASTRUCTURE CONSTRUCTION
TO SPECIALIZED CLEANING SERVICES

STORY: MARIAN BOND PHOTOS: ALAN CRADICK

Wayne Thompson Jr. and his wife, Becky Thompson, were running an infrastructure contracting business with nine utility crews and a substantial fleet of heavy equipment when they started Crawler Pipeline Services. Their combined years of business and construction experience gave the enterprise a strong backbone.

“Our business plan initially was to concentrate on pipeline inspections, drainline inspection and cleaning,” Wayne says. “We had shut down the construction company we operated for 20 years, partially due to the economy, but also because we were looking for an opportunity to work in a section of the industry where we would not be required to have a large number of employees and would have a more manageable situation.”

Wayne grew up in construction and is licensed for highway construction in North Carolina. Becky holds a Plumber Utility license for waterlines and sewer lines and has corporate experience in human resources and as a chief financial officer. As majority owner in Crawler Pipeline Services, she is also in charge of finances and scheduling. Wayne uses his expertise to deal with equipment and on-site projects.

Their daughter, Lindsey, helped the startup family business by designing a website for the initial launch, and their son, Cody,

has worked in the field with his father learning about the technologies.

Wayne describes their game plan: "Initially for our inspection operation we acquired a used camera system from CUES that we had worked with before. Then we added another camera system from Cobra Technologies (Trio-Vision) to enhance our capabilities.

"WE FIND THAT THE MUNICIPALITIES ARE DIFFICULT TO CONVINCE THAT HYDROEXCAVATION IS SOMETHING THAT WOULD SAVE TIME, MONEY AND WOULD AVOID DAMAGE TO EXISTING LINES BURIED IN THE GROUND. THERE IS SOMETHING OF A STIGMA ABOUT THIS BEING MUDDY AND NASTY."

Wayne Thompson Jr.

"But other things kind of took over, and we decided if we were going to be a success, we would need to have a vac truck, and that would best be a combination truck because we were not sure where we would be going in the marketplace with Crawler Pipeline Services," he says. "Things have progressed for us steadily from there."

Wayne says he had his eye on hydroexcavation and saw it as a wide-open opportunity for expansion. They purchased and rehabilitated a 1998 Vac-Con and began a promotional program touting the process through their website. Targeted clients spanned a 200-mile radius covering North and South Carolina and Virginia.

"For all our drain inspection and cleaning, as well as the hydroexcavation, we were contacting the various customers we had dealt with in our previous experience," he says. "Some had made it through the financial crunch,



Crawler Pipeline Services Raleigh, North Carolina

OWNERS: Becky Thompson and
Wayne Thompson Jr.

OPENED: March 2012

SERVICES: CCTV, sewer inspection and
cleaning, storm drain inspection,
hydroexcavation

CUSTOMERS: Municipalities, petroleum
distributors, contractors

EMPLOYEES: 5, including owners

WEBSITE: www.crawlerpipeline.com

PHOTO COURTESY OF CRAWLER PIPELINE SERVICES



An operator for Crawler Pipeline Services uses the wand to a Vac-Con truck to hydroexcavate near a park in Raleigh, North Carolina.



Crawler Pipeline Services technicians retrieve the suction hose from the company's 1998 Vac-Con combination truck. From left, Cody Thompson, Trevor McGhee and Dylan Williams.

knew this was an important and good relationship to maintain. We began to pick up more municipal work in other locales and to scout out the petroleum distribution industry.”

Although the petroleum distribution industry has long been on board with hydroexcavation as a safer procedure for exposing lines and other digging operations at their facilities, the Thompsons found an entirely different scenario for the municipalities they added to their customer list.

“We find that the municipalities are difficult to convince that hydroexcavation is something that would save time, money and would avoid damage to existing lines buried in the ground,” Wayne says. “There is something of a stigma about this being muddy and nasty. They stick to the notion that it’s easier to use the backhoe and then a shovel when they get close.”

Crawler Pipeline Services countered this resistance by revamping its website to include video demonstrations of the process. Wayne says that move has helped them gain the recognition and acceptance they need to grow the business.

“We would like to see hydroexcavation grow to 75 percent of our business,” Wayne says.

“I CAN TRUTHFULLY SAY OUR VENDORS HAVE BEEN TOTAL LIFESAVERS IN PROVIDING PARTS AND SERVICE AND IN HELPING KEEP COSTS DOWN AND OUR CUSTOMERS HAPPY.”

Wayne Thompson Jr.

PIPELINE TERRITORY

In the petroleum industry, where hydroexcavation is the only way to go, Crawler Pipeline Services is carving out an important niche. Digging with heavy equipment isn’t allowed on these sites due to the prevalence

and others were still in the business but working for someone else. We did have a local competitor who had been in business for a long time, and is a good friend, so we were careful not to step on too many toes as we moved ahead. I

of fuel and gas lines, fiber optics and wastewater lines. Sometimes the client might be adding new lines below and above ground, and they need holes dug for support brackets (poles) for overhead lines. Crawler Pipeline Services also

Breaking out on the web

Soon after opening Crawler Pipeline Services with a basic website, owners Becky Thompson and Wayne Thompson Jr. realized that to promote their services in today's market, they needed a much more sophisticated product to keep the site updated and to track, integrate and use social media such as Facebook and LinkedIn.

Becky began the search for a website designer by talking with other people in the industry and seeking their experience and suggestions.

"We ended up with a package that was user-friendly and included training," she says. "I had done a lot of reviewing other websites to see what we liked and what we wanted to do."

It was important for Becky to be able to regularly make changes on the homepage and throughout the site.

"I can go in and click a button and add a word or change a picture," she says. "I spend three to six hours working on our website every week. I can make sure all our information flows. I still have help

from our designer as I learn the whole process.

"You need things on your website so that your name will come up. Keywords like 'pipeline,' 'hydroexcavation,' 'drain cleaning' — all the things people are looking for. The videos let people see your equipment in operation. In making the design, you need to attract people who are younger than 40 years old."

She says their videos are taken in the field by their own crew, always adhering to safety issues such as gloves, boots, confined-space gear and proper attire.

She discovered that the cost of hiring a professional designer can vary widely depending on various factors. Much of the cost is based on the training involved and individual needs.

"In this day and time, we think that promoting our company with our website is the best way to spend our advertising budget, and being able to spend some of my time each week to keep things current is time well-spent and of great value."



Becky Thompson,
co-owner, Crawler
Pipeline Services

locates lines so that repairs can be made, and it sometimes handles new construction and pipe repair. All of these jobs depend on hydroexcavation.

Most hydroexcavation work is planned, with emergencies, such as a broken oil or sewer line comprising a small amount of the business.

When a long-distance job opportunity comes up, whether in the pipeline industry or with a private contractor or municipality, Wayne must decide whether to visit the site before signing on or evaluate the job based solely on provided information.

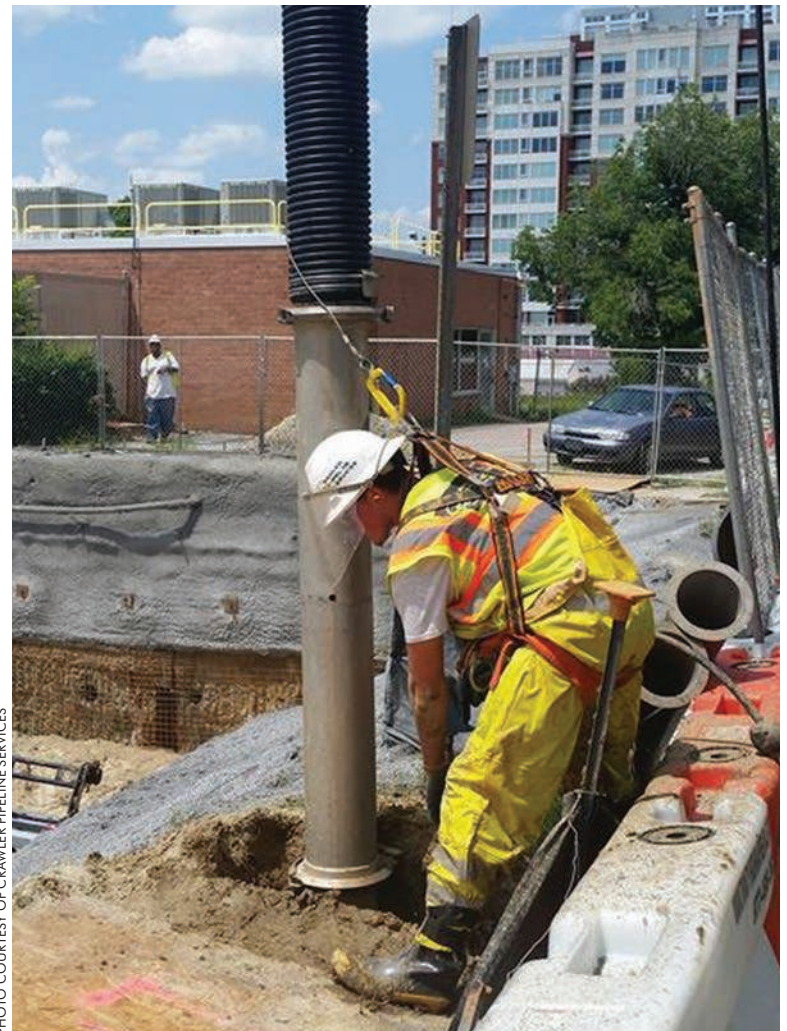
"With our background, we can make a good evaluation of the situation by getting as much information as we can and considering the client we will be working for as well," Wayne says. "If there are any questions, I will jump into a vehicle and go to inspect the job. Probably about half the time we can make a determination without a visit."

He says one of the most important issues once they take a job is to ensure they have support for the machinery with backup parts in case of a breakdown — a particular necessity for a company doing big things with a small field staff.

"We have a service truck where we carry a lot of parts. Things we think we might need. So this support is an issue," he says. "We also have outstanding reaction from our vendors. Vac-Con has been particularly helpful. I can always pick up a phone and get someone. I can always get immediate support from Cobra Technologies; they have gone above and beyond to be there for us. We have a local vendor, Jet-Vac Equipment in Sumter, South Carolina, that we can count on. I can call in the middle of the night and get someone. We can turn to Public Works Equipment and Supply with locations in North and South Carolina and Tennessee. Whether we are 50 miles from home or 200 miles from home, this is vital for us.

"I can truthfully say our vendors have been total lifesavers in providing parts and service and in helping keep costs down and our customers happy. Even with our service truck, we can never be sure to have every part available."

An operator is harnessed for his own safety while working at a high elevation on a construction job site with the company's Vac-Con hydroexcavator.



Cody Thompson, technician, readies the Cobra Technologies robotic camera (Trio-Vision) to inspect a stormwater pipe.

**“BE THERE WHEN YOU SAY
YOU WILL BE THERE, DO
QUALITY WORK AND ALWAYS
TELL THE TRUTH.”**

Wayne Thompson Jr.

When the company is on a long-term project at a distant location, heavy equipment is only left on site over a weekend if it is in a secure location. Otherwise it's taken back to the Raleigh yard.

POWER PUNCH

Crawler Pipeline Services hits the road with its 1998 Vac-Con combination truck with a 10-foot boom and hydroexcavation package and a 2009 Ford F-450 as the support vehicle.

Crawler Pipeline Services' 2007 Kubota RTV900 4x4 is equipped with a custom-made camera housing with crane. The company also has a 2012 Cobra Technologies camera system with 1,000 feet of cable, and three additional cameras and transporters for different pipe sizes. From CUES there is the Inspector General camera system with 1,000 feet of cable, plus an Ultra Shorty transporter with OZ11 camera as a backup system. The Crawler Vac is a custom-made hydraulic robot with a CCTV system for confined-space entry. Crawler Pipeline Services uses various push cameras with 1/5- to 4-inch capabilities.

Crawler Pipeline Services also has a custom-made rubber-tracked easement machine with a 700-foot hose reel and crane assembly for hard-to-reach outfall work.

ON CALL

The Thompsons run their 24/7 operation out of their home, with a nearby 1-acre lease for equipment. Wayne says his experience with equipment has been particularly helpful in the new company.

“Being on this side of the business, but with the utility background, I have been able to head off a lot of problems for other utility contractors as we interact on a job,” he says. “This has helped our contractors and co-subcontractors and also promoted our business. We can sometimes save them time and money.”

Wayne says he's pleased with the progression of the business, even though there are things he would do differently if given the chance.

“I wish we had been able to spend more money on the vac truck — bought a newer truck. I would not have had to spend so much valuable time in the shop. That was a drawback. We did have to do a lot of rebuilding to get the truck to where we wanted it. I could have been out meeting clients and introducing Crawler Pipeline Services. But fortunately things have worked out. We are very busy. Becky does a great job running the office and dealing with myriad issues.”

Wayne's last bit of advice for anyone in the industry: “Be there when you say you will be there, do quality work and always tell the truth.” ▼



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Know When to Collect

EVEN IF YOU'RE YEARS AWAY FROM RETIREMENT, IT'S WISE TO KEEP TABS ON YOUR GOVERNMENT RETIREMENT BENEFIT AND ADJUST PLANS ACCORDINGLY

BY ERIK GUNN

Whether retirement is just around the corner or decades over the horizon, it's never too soon to start planning ahead.

The choices you'll face can seem endless — everything from where you'd like to live to how you'd like to spend those years when you don't have to come to work anymore. But one decision you'll have to make could prove especially tricky: when to start collecting Social Security.

If you're tempted to skip the rest of this column because your own retirement is 20, 30 or more years in the future — hold that thought.

This decision is going to sound deceptively unremarkable, one you might be tempted to brush off as no big deal. But don't be fooled. No matter your age, that decision has important implications for you here and now. And what you do now can help you make a much better choice when those golden years arrive.

So the answer about when to start collecting Social Security benefits may seem obvious — “Well, when I retire!” Yes, for some people, that really might be the best answer. But it's important to understand all your options and what those options mean if you're in your 20s or 30s instead of your 50s or 60s.

TIMING IS KEY

The first thing you need to know is how much you will get each month from Social Security — depending on when you start taking it. We still casually refer to 65 as retirement age. But for Social Security, that hasn't been true for a while. For people born between 1943 and 1954, the federal government's so-called Social Security full retirement age — the age at which people qualify for their full Social Security monthly payment — is 66 years old.

If you were born between 1955 and 1959, your Social Security full retirement age creeps up year by year in two-month increments: 66 and 2 months if born in 1955, 66 and 4 months if born in 1956, and so on. And if you were born in 1960 or afterward, the Social Security full retirement age is 67.

You can start taking Social Security sooner, starting at 62, but your monthly amount could be reduced by up to 30 percent depending on your birth year. (You can learn more here: www.ssa.gov/planners/retire/agereduction.html.)

But that's not all. If you delay taking Social Security past your “full retirement age,” you can actually get more each month. The longer you delay, up until you turn 70, the more you can get.

Suppose you were born in 1956. You'd qualify for “full retirement benefits” in 2022. But if you can delay taking Social Security until 2026, you'd get almost 30 percent more every month. (For details, look here: www.ssa.gov/planners/retire/delayret.html.)



If you took the cash at the full retirement age and simply invested it, could you actually count on a consistent 8 percent return each year? If you're lucky, maybe. By delaying, however, you're effectively adding about 8 percent every year to your monthly benefit.

“It's about as close to a guarantee as you can get,” says Kyle Tetting, director of research for Landaas & Co., a Milwaukee investment management firm.

The same advantages for delaying taking Social Security, and penalties for taking it early, affect spousal benefits, he points out.

GET GOOD ADVICE

So given a strong incentive to delay, why do some people choose not to, or even give up more by starting Social Security early?

“A lot of people are concerned they're not going to maximize what they can take out,” Tetting says. Some may fear Social Security benefits will be cut in the future. Others might worry that they won't actually live long enough to benefit from the higher payment they'd get by delaying.

But people are also living longer. As you get older, the real-dollar value of your monthly benefit will erode over time. By starting later and maximizing your monthly benefit, you can protect against that erosion.

Of course, every individual's situation is different. There may be reasons

"IF YOU CONSIDER SOCIAL SECURITY PAYMENTS TO BE PART OF YOUR RETIREMENT INCOME STRATEGY, YOU **DON'T JUST DECIDE AT 65, 'OH, I'M GOING TO CLAIM,' BECAUSE YOU'LL HAVE NO IDEA WHAT YOU'RE OWED."**

Kyle Tetting

you need to take benefits sooner. Be sure to work with a financial advisor who knows your specific circumstances and can guide you accordingly.

Another important source of information is the Social Security Administration itself. SSA employees can give you a lot of information about how much you'll get under various scenarios that you can use to help determine your best course of action.

What they won't do is advise you on the best strategy for your circumstances. "So that means you've got to talk to friends or a colleague about who they know who might be an expert in that area," Tetting says. "That's especially important for those individuals who might have more difficult situations." That may be a spouse without an employment record or perhaps a divorce in their past, which might create an opportunity to build benefits through a former spouse.

"All of those are situations that are a little bit more nuanced than just, 'Hey, you should wait until age 70 to claim.'"

START EARLY

By now you can probably see why it's important to have other resources besides Social Security when you retire. For instance, if you have a solid stash in your 401(k) or individual retirement account, you might still be able to retire at 65 or 66 while delaying taking your Social Security benefits. (Of course, it can work the other way, too. If you are retiring in the middle of a down stock market and your investments have taken a beating, you may decide to apply for Social Security sooner while your private accounts recover. Again, this is a time to seek professional advice.)

"The challenge here is that 70 percent of workers say they plan to work until 65, but the median retirement age really is about 63," Tetting says. That means that, for a couple of years, people are at risk for not having an income when they thought they would still be drawing a salary.

"You almost always have to draw down from savings that you weren't planning on drawing down from, or you're forced into this situation when you take Social Security earlier than you planned to."

And that's why it's never too soon to think about when you want to take Social Security and to plan for those situations.

"The key for younger workers is that planning for retirement is best done early," Tetting says. "And if you consider Social Security payments to be part of your retirement income strategy, you don't just decide at 65, 'Oh, I'm going to claim,' because you'll have no idea what you're owed."

Tetting routinely urges his younger clients to get in the habit of checking their work record with the SSA's website to make sure they're properly being credited for their earnings. "Ultimately their payments are going to be based on what's been reported," he says. "Mistakes are made — not all the time, but often

enough — and it's going to be more difficult to correct at age 65 than it was back at age 35 when you first noticed a mistake."

If at all possible, workers need to understand as early as possible "that Social Security is not going to be the only source of retirement income for them," he adds. "If they wait until age 55 or 60 to figure that out, it's too late to save." ▼

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Save the Data

PROPER MANAGEMENT OF INSPECTION FILES IS IMPORTANT FOR YOU AND YOUR CUSTOMERS

BY JIM AANDERUD

Data management is a major component of any inspection program. The volume of digital files generated from ongoing video pipeline inspections can be massive and if not managed properly, could result in disaster.

In 2001, viewing and storage of inspection videos changed dramatically. The transition from VHS tapes to digital recordings was a significant upgrade, which made the computer the primary storage medium.

Digital videos can be quite large in size. An average 300-foot inspection using standard equipment can range in size from 200 to 500 megabytes. That means in an average day, 5 to 10 gigabytes of recordable storage may be needed for a single inspection unit. Side-scan or fisheye camera inspections require even more space. A 300-foot run using this technology can take from 600 to 800 megabytes of memory.

Data files can add up very quickly and become unmanageable if not organized properly. For companies and agencies with multiple inspection vehicles, the volume of data can accumulate exponentially. A well-thought-out plan for storage and tracking is critical in preserving this all-important information.

As the computer's memory fills up, video files must be off-loaded in order to make room for new inspections. Allowing a hard drive to reach its full storage capacity can have dire consequences. Even getting close to maxing out the memory could result in a total system crash. If this happens, all of the video files and all of the information on that hard drive will be completely lost.

There are services that can recover data from damaged hard drives, but they can be very expensive and aren't always successful.

The best way to keep this from happening is to limit the amount of information that can be written to a hard drive. By right clicking on the appropriate drive and then accessing "properties" on your PC, a tab will appear called "quota." This tool allows you to designate a limit on incoming data. For instance, if you place that limit at 80 percent, the hard drive will not accept files beyond that point. This procedure helps remind operators to download their files long before the critical point is reached.

TRANSFERRING DATA

Most inspection software programs allow you to designate file name parameters. Fields in the header can be selected as the basis for file names. Each video

file must contain a unique pipeline identifier. Most of the time, the file name is the pipe ID itself or a combination of both the upstream and downstream manholes. Sometimes the upstream manhole number is used exclusively.

If a pipeline is inspected more than once and the same file name is used, a conflict will exist within the database. In this case, a modifier should be added to ensure multiple files of the same line segment can reside within the database. Possible solutions include incorporating the date of the inspection into the file name or using the database survey number as the modifier.

Exporting into a GIS system database may require some outside programming help. Since most of the inspection software programs are Access-based, they can easily be set up to export into any existing GIS system. The key is to ensure that all of the critical data is transferred correctly and that each field is populated appropriately.

BACKING UP PIPELINE INSPECTION FILES IS CRITICAL. THE COST OF THE HARD DRIVES AND THE TIME REQUIRED TO COPY DATA IS CHEAP INSURANCE. COMPUTERS AND HARD DRIVES CRASH, AND BACKING UP DATA IS THE BEST WAY TO PREVENT LOSS.

The process of off-loading inspection files from the main computer has been greatly simplified with the existence of external hard drives. One- and 2-terabyte hard drives have become very affordable and have proven to be an ideal medium for transferring and backing up data. In fact, a single hard drive is capable of holding a video library of an entire collections system.

The process of transferring data can still be time-consuming, but unlike DVDs, which had to be babysat, the hard drive can be left on its own to transfer data until it's complete. It can take up to 30 minutes to transfer 100 gigabytes of data, but that time can be reduced significantly by upgrading the computer hardware. A faster processor, for example, will increase speed significantly. Increasing the RAM and installing a high-quality data cord can have favorable results as well. The type of USB port being used can also affect transfer speed. FireWire or SATA connections will improve transfer speeds significantly.

BACKING UP DATA

Backing up pipeline inspection files is critical. The cost of the hard drives and the time required to copy data is cheap insurance. Computers and hard drives crash, and backing up data is the best way to prevent loss.



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The replacement cost of a hard drive can be staggering. If a 500-gigabyte hard drive crashes and no backup is available, over 2,000 video files could be lost. Reinspecting those lines could cost well into six figures.

A good practice is to require daily backup of all files. This will ensure that inspection videos are never lost or compromised.

Backing up hard drives redundantly is highly recommended for both contractors and agencies. Having duplicate copies placed in two separate locations is the best way to ensure these important files are preserved. If a fire or other disaster destroys one hard drive, a second backup will still be available.

Many agencies today post their videos to servers. This is an ideal storage medium that allows access from any computer on the network. Video files are linked to the GIS system and can be viewed from the sanitary sewer layer. By simply clicking on a manhole-to-manhole segment, the information corresponding to that particular line is displayed and the linked inspection video can be viewed.

As a contractor, I guarantee my customers that I will maintain a backup of all CCTV pipeline inspection videos for a period of five years. This is good business and assures them that there is a triple backup in case both of their systems fail. But realistically, there is no reason to ever erase them.

QUALITY CONTROL

Data management cannot be addressed without mentioning quality control. Part of the process of managing data is ensuring that it is thorough, accurate and complete. Each individual file must be reviewed to ensure that its contents are entirely correct. We must make sure that every video is of acceptable quality and each information field has been annotated accurately.

A well-developed data management program is the key to any successful CCTV pipeline inspection program. By adhering to each critical step, a program will run smoothly and effectively, ensuring that goals and objectives are met satisfactorily. ▼

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BY CRAIG MANDLI

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800-435-9340; www.mclaughlinunderground.com



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Cusco Sewer Jetter

The Sewer Jetter from Cusco can help perform major cleanups by excavating debris with a 26-foot boom reach and a 600-foot 3,000 psi jetting system. Outfitted with quality components and reverse engineered for optimal weight and payload with a superior operator control system, the unit is designed for simple regular maintenance and features durable and uncomplicated systems to reduce repairs and downtime. It can be paired with a Cusco SJX hydroexcavator to provide municipalities and contractors a powerful option for handling sewer and waterline maintenance and digging new lines with one piece of equipment. Options include various tank and chassis sizes and can be modified based on customer specifications.

800-490-3541; www.wastequip-cusco.com



Ditch Witch HX30

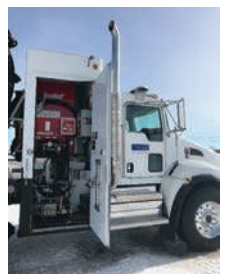
The Ditch Witch HX30 vacuum excavation trailer offers a 24.8 hp Kubota diesel engine designed for performance and productivity on midsized potholing, soft-excavation or cleanup tasks. The low-profile machine reduces unit height without compromising ground clearance. It is available with a 500- or 800-gallon debris tank and in a light or heavy version. Also available are advanced optional boom designs to improve ease of use. With advanced sound-reducing technology, it creates minimal disturbance in noise-sensitive areas. An optional reverse-flow feature allows quick and easy spoil off-loading for improved productivity.

800-654-6481; www.ditchwitch.com



Dynablast HV690F-12V

The Dynablast HV690F-12V hydrovac water heater produces 690,000 Btus with an output temperature of 190 degrees F at 9 gpm, with wet steam option, making it ideal for colder climates and improved digging in clay-filled areas. It comes with ETL certification for safety, which also includes certification on the coil for higher efficiency and heat transfer, stainless steel target plate for increased coil life, and a design with serviceability in mind with momentary override control. Its Pratis-



soli KT28ASPF water pump package offers 18.4 gpm at 2,900 psi and 1,450 rpm. It is available with a T13 female spline shaft input and SAE B 2/4 bolt flange for direct mounting the hydraulic motor, which reduces weight and creates more space on the truck.

905-867-4642; www.dynablast.ca

Easy Kleen Pressure Systems Wildcat Heaters

Wildcat Heaters high-pressure, oil-fired hot-water/steam heaters and hydraulic pump systems from Easy Kleen Pressure Systems are designed for reliability and efficiency and are install-ready for vacuum trucks and hydroexcavators, according to the maker. A full range of heater options includes dry steam, redundancy packages, Schedule 80 and 160 stainless steel or A53 boiler pipe, fine-tuned temperature and flow-control systems. All coils are manufactured in-house, with CRN boiler-approved coils now available. Heaters can be designed for mounting in a cabinet or supplied as a completed cabinet unit. They are CSA- and ETL-approved.

800-315-5533; www.easyskleen.com



Enz USA Rotodrill

The Rotodrill nozzle from Enz USA has a rotating front jet for improved cutting performance. It's effective at clearing blocked or frozen pipes and moving heavy debris. It has ideal propulsion but can also be used in hydroexcavation by plugging off the thrust jets. This versatile nozzle is available in 1/2-, 3/4- and 1-inch systems.

877-369-8721; www.enz.com/en-us/home



GapVax HV33

Designed to safely transport water and debris in urban areas, the GapVax HV33 is shorter, smaller and more compact than its predecessor. It is 30 feet long overall on a medium-duty chassis and includes a 600-gallon water tank, 6-cubic-yard debris body, 14- to 17-foot 6-inch boom in 8 or 6 inches, 4,000 cfm power and an inverted, full-opening tailgate.

888-442-7829; www.gapvax.com



Hydra-Flex Ripsaw

The Ripsaw rotating turbo nozzle from Hydra-Flex blasts a 0-degree water stream at up to 3,200 psi while rotating at a high speed to provide an 18-degree cone of coverage. Its cone-shaped flow pattern is ideal for potholing applications. The heavy-duty, high-impact nozzles are constructed with stainless steel housings and tungsten carbide wear surfaces to withstand harsh environments and provide long life. Repair kits are available for extended life and lower operating costs. Select from traditional coating (blue) or upgrade to the heavy-duty coating (green), a formulation designed for use in extreme environments. Greater impingement allows users to complete jobs faster or use a smaller nozzle size while getting the same impact as nozzles with higher flow rates.

952-808-3640; www.hydraflexinc.com



Imperial Industries Hydro 3600 Hybrid Excavator

The Hydro 3600 Hybrid Excavator from Imperial Industries offers compact power and versatility, with capabilities that include digging trenches to locating fiber optic cables and clearing debris. It provides direct applications for



septic hauling, utilities maintenance and emergency response situations. It can be operated by one person. Units are available in code and noncode.

800-558-2945; www.imperialind.com

Kaiser Premier CV Series

The CV Series hydrovac from Kaiser Premier has all critical components centralized and housed in an insulated, heated aluminum van body. The RB-DV series of rotary three-lobe positive displacement blowers can operate at high vacuum levels thanks to a device that injects atmospheric air. RB-DV series blowers can reach vacuum levels of up to 93 percent on a deadhead and 27 inches Hg without the need to inject water or use an upstream heat exchanger. Its hydraulically assisted off-load method eliminates overhead conflict concerns when off-loading by avoiding the need to raise the tank. Rather than using gravity alone, it applies its mechanical advantage to quickly off-load compacted tank debris. To release hot high-pressure water, the vehicle can be equipped with a 700,000 Btu boiler. The transfer case is specifically designed for vacuum excavation trucks requiring a highly configurable and easily serviceable gearbox.

970-542-1975; www.kaiserpremier.com



NozzTeq MONRO-JET

The MONRO-JET hydroexcavation nozzle from NozzTeq combines the power of a solid-stream pencil jet with the large coverage of a fan jet. An orbital design increases performance at a lower gallons-per-minute rate and pressures as high as 36,250 psi, allowing the operator to move faster when hydroexcavating and cleaning surfaces or sewer lines. It can be used for other types of surface cleaning such as concrete, steel, castings and large surface areas including line removal from runways. It can be modified for internal cleaning of sewers and pipes of all types.

866-620-5915; www.nozzteq.com



Presvac Systems Hydrovac

The Presvac Systems Hydrovac is designed for versatility and cold-weather operation with optional full compliance with Department of Transportation specifications for collection or transportation of hazardous materials. The high-vacuum blower allows extraction of all types of soils, gravel, rock, clay, water and silt material, with knockout features in the debris tank minimizing carryover. Modular filtration configured to blower size provides blower protection and minimal maintenance, according to the maker. It comes with a heavy-duty, 8-inch boom that extends up to 25 feet, with six-way hydraulic power and wireless controls for all boom functions, soft-start water pump, vacuum breaker and truck engine speed.

800-387-7763; www.presvac.com



Rival Hydrovac T10

The T10 from Rival Hydrovac is a larger version of the initial Rival T7 unit, which has become a suitable choice for many urban contractors who are aware of the trending weight restrictions on these types of trucks and realize the need to bring these trucks into compliance when driving on roads to disposal sites. It operates in the same manner as the T7, as it is fully hydraulic, eliminating the need for a transfer case; and aside from engaging one PTO, the entire truck is operated from the remote and rear panel. This unit features the same "pressure off" feature as the smaller units and has essentially the same controls.

403-550-7997; www.rivalhydrovac.com



(continued)

Soil Surgeon hydroexcavating tool

The Soil Surgeon hydroexcavating tool fits any sewer combination truck equipped with a telescoping 6- or 8-inch boom. The tool has a 1-inch water connection. The operator controls water pressure and power through truck controls. It has a 6-foot Tuff Tube with handles to guide the unit down for potholing or side to side for trenching. Six jets boring inward cut the soil, while six boring outward bring the tube down.

949-363-1401; www.soilsurgeoninc.com



Supervac Hercules XL

At 37 feet long, the Hercules XL from Supervac is suitable for applications where weight is not as much of a concern. It can carry 18 cubic yards of debris, and it has available a payload capacity of 25,000 pounds. The 3,600-gallon debris tank is mounted as close as possible to the truck's cab. Its 3,800 cfm, 27-inches Hg blower is more compact than its predecessors and mounted directly over the truck's second axle. In addition, more equipment, including its 30-ton hydraulic dump hoist and 400,000 Btu boiler are compactly situated near the cab to allow for more even weight distribution. The unit's 185 cfm air excavation compressor, Webasto diesel fuel heater, 3,000 psi high-pressure water pump, controls, aluminum toolboxes and six 250-gallon (1,500-gallon total capacity) plastic water tanks are evenly distributed along the sides of the unit, adding to the even weight distribution.

866-839-5702; www.supervac.co



Suttner America ST-3240 Hydro EX

The ST-3240 Hydro EX in-line spray gun from Suttner America is a straight-through 1/2-inch inlet and outlet gun with a comfortable, ergonomic handgrip design and stainless steel industrial-grade construction. It offers flow ratings up to 32 gpm and pressure ratings up to 4,000 psi.

800-831-0660; www.suttner.com



Tornado Global Hydrovacs F4 ECOLITE

The F4 ECOLITE from Tornado Global Hydrovacs has a 12-cubic-yard mud tank and holds 1,550 gallons of freshwater. The unit is more than 7,000 pounds lighter than the company's older models and offers more than double the payload. The boom has a 342-degree rotation and a 26-foot reach. The smaller F3 ECOLITE is a 10-cubic-yard, 1,250-gallon tandem-axle unit that also more than doubles older payload capacities. It features an 8-inch boom and a 3,800 cfm blower.

715-441-7157; www.tornadotrucks.com



Transway Systems Terra-Vex HV38

The Transway Systems Terra-Vex HV38 has a 12-yard debris tank with onboard scales, which allows a driver to load the tank worry-free. It includes a large debris tank for those light loads, saving time and money,



complete with a 26-foot-by-8-inch telescopic boom. It has a simple one-touch-operated hydraulic half-door with a 3,800 cfm at 27 inches Hg hydraulically driven blower. Water pressure is achieved with a hydraulically driven triplex pump, delivering 10 gpm at 3,600 psi from a 1,000-gallon HDPE baffled water tank. The water is heated with a 420,000 Btu diesel-fired burner for cold-weather operation.

800-263-4508; www.transwaysystems.com

Vac-Con X-Cavator

The X-Cavator from Vac-Con is designed to be powerful, durable and easy to operate. It features a hydrostatic drive using the chassis engine for vacuum, creating a more efficient system that eliminates the need for PTO, clutch and gearbox operation. It is available with water systems up to 4,000 psi and a mobile, wireless remote-control system controlling chassis engine revolutions per minute, boom, automatic vacuum breaker, dump controls and hydraulic door locks from up to a half-mile away. The boom rotates 270 degrees.

904-284-4200; www.vac-con.com



Vacall AllExcavate

Vacall AllExcavate hydroexcavators include AllSmartFlow smart controls that help to conserve water during high-performance jet/vac digging around utilities and waterlines or cleaning frac tanks and vessels. Single-engine efficiency helps conserve fuel and reduce emissions. It has a high-pressure water system with rheostat control to vary water volume and capacity output. A heated compartment protects the water system components against freezing. Its water tanks are made of high-quality aluminum for extra strength. Large, galvanized steel debris tanks are also available. A single control is used to open, close and lock the tailgate. It has double-cyclone filtration with a simplified design to reduce maintenance, extend performance and increase working life. Its rear-mounted boom front-loads debris. It is available with a cold-weather package.

800-382-8302; www.vacall.com



Vector Technologies Mudslinger

The Mudslinger line of compact trailer-mounted hydroexcavation vacuums from Vac-Con, in cooperation with Vector Technologies, uses a 66.8 hp Kubota diesel engine with a 1,200 cfm at 16 inches Hg positive displacement blower and comes with a 535- or 845-gallon debris tank with 55-degree hydraulic dump hoist and a hydraulic door. The water system is 4 gpm at 4,000 psi with 50 inches of 3/8-inch hose and comes with a 225- or 325-gallon HDPE water tank. A 9-foot boom with 24 inches of hydraulic extension, hydraulic up/down and 270 degrees of manual rotation is also available. It is mounted on a heavy-duty welded tube steel trailer.

800-832-4010; www.vector-vacuums.com

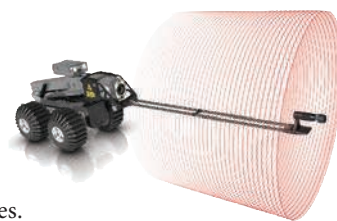


Laser Equipment

Envirosight laser profiling accessory for ROVER X

Attaching in seconds to the ROVER X inspection crawler, a laser accessory from EnviroSight can be used to geometrically profile the inside of buried pipelines.

Captured profile data is readily analyzed to verify proper pipe





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installation, plan relining projects, determine remaining pipe life, monitor erosion/corrosion, quantify defects and analyze partial collapses. The accessory attaches without tools and requires no electrical connections. A hinged mounting system makes it easy to deploy in tight spaces, and twin carbon fiber arms ensure extra rigidity. The accessory profiles lines up to 18 inches in diameter when mounted directly to the ROVVER X crawler. Larger lines are addressed by mounting the accessory to a skid that is pulled by the crawler. Profile data can be transferred seamlessly to WinCan inspection software, the laser module of which can trend diameter and deformation frame-by-frame to generate a solid model, ovality graph or color plot.

866-936-8476; www.envirosight.com

Surveying

CUES GraniteNet

GraniteNet asset-inspection and decision support software from CUES is suitable for water, wastewater, storm-water and municipal public works asset management. Whether used in the field on tablets or via a web browser to review and analyze inspections, it embraces the cloud for media storage while enabling simple, precise data collection with integrated GIS mapping and GPS. It can help contractors and municipal asset managers lower their operating costs and increase efficiency across departments.

800-327-7791; www.cuesinc.com



WinCan software

WinCan software is designed to collect detailed, standards-compliant inspection data. It identifies trends, pinpoints hot spots, prioritizes maintenance and helps forecast budgets. Its broad range of reporting and data visualization lets users drill down to the insight they need. Users can integrate with the GIS mapping system of choice or use WinCan's own mapping tools for increased capabilities. WinCan works with all brands of sewer inspection technology — including crawlers, zoom cameras and push cameras — as well as all major applications of side scanning, laser profiling, manhole scanning and other emerging technologies, and it integrates with more municipal asset management applications than any other sewer software. Its modular design helps expand capability as needs evolve. Add-on modules support emerging technologies like side scanning, laser, sonar and 3D visualization.

877-626-8386; www.wincan.com



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NEW TECHNOLOGY PROVIDES CLEAR, DEPENDABLE COMMUNICATION FOR CONFINED-SPACE WORK

BY ANALISA HARANGOZO

Tunneling has a number of unique atmospheric hazards, thanks to the lack of natural air movement and an abundance of toxic and combustible gases that could be present. In an environment with hazards like these, communication with outside staff members and emergency medical services may mean the difference between life and death.

Good communication is essential at any work site. All messages, instructions and information relayed between confined-space entrants and outside attendants need to be sent, received and understood clearly to be effective.

COMMUNICATION CHALLENGES

Confined work sites present many communication challenges. The tight spaces sometimes only allow one worker to fit, which means relying on technology to communicate with co-workers above ground. Ambient noises — such as those from the respiratory protection equipment necessary to minimize a municipal worker's exposure to toxic gases — can keep workers from recognizing alarms or other warning sounds. Municipal work sites also can interfere with electronic devices, and wet environments can be hard on a lot of communication equipment.

In an emergency, your workers may also be struggling to clearly communicate while experiencing anxiety and labored breathing. Radios are popular communication systems, but their reaches in confined spaces are limited because of electronic interference, battery strength and signal strength, as well as other issues. Cellphones face similar problems, and yelling, banging on a pipe or tugging on a rope isn't effective in general, let alone in an emergency.

CON-SPACE COMMUNICATIONS SYSTEMS

"Underground work is challenging and requires clear communication to maximize efficiency and safety," says Rick Pedley, PK Safety CEO.

Hard-line communication systems provide a clear, dependable lifeline to the surface and help ensure your confined-space entry teams get the job done and make it out safely.

The General Industry Kit from Con-Space Communications is designed to be simple, but durable, which is great for workers who will get their equip-

ment wet, dropped in mud and pulled along corners, but who still need them to work. The throat mic straps directly around the throat and takes its sound from the vibration of the speaker's vocal cords, making the speaker understandable and clear even when wearing a respirator mask. The equipment includes a headset and an alarm button for the entrant.

The CSI-1100 Mini Modular Base unit can handle two workers and run for up to 200 continuous hours on four regular AA batteries, which means no

IN AN EMERGENCY, YOUR WORKERS MAY ALSO BE STRUGGLING TO CLEARLY COMMUNICATE WHILE EXPERIENCING ANXIETY AND LABORED BREATHING.

outside power source or wires to worry about getting tangled. The system can be expanded by adding splitters that don't diminish sound quality, and the attendant's headset attaches to a mini module power supply that keeps the attendant connected when the entrant needs to relay information about a hazard or accident.

The CSI-2131 Power Talk Box offers hands-free communication for both the entrant and attendant sides of the line, which is crucial in environments where maneuvering requires the use of both hands and where a worker might need to call for help but is unable to press a button. The waterproof unit has a cable sheathed in thermal plastic cable coated to resist many oils, solvents and chemicals, and it offers a speaker harness that holds the throat mic ear speaker in place. Safety is the priority of any device taken into an enclosed space, but a comfortable fit under a hard hat or other personal protective equipment doesn't hurt, especially when it encourages your team to wear the devices properly.

Going into a permit-required confined space by yourself doesn't mean you should go alone, and the right communication equipment ensures you're always in touch with co-workers and in compliance. ▼

BY CRAIG MANDLI



Camera and sonde locator used to trace waterlines

PROBLEM

Saltillo Water in Mexico has 24-inch plastic waterlines, which were buried with no tracer wire. The utility was not able to locate any maps or records detailing where these plastic water pipes were buried. Saltillo Water did know that the majority of their lines would be buried under asphalt in the streets.

SOLUTION

The local **Vivax-Metrotech** distributor, Commercial Gepsa S.A. DE C.V., took a trip to visit the customer, bringing a **vLoc3-Cam sonde locator** and **vCamMX-2 mini inspection camera**. The customer dug 5 feet down to the buried water pipe to install a 3-inch saddle, which would allow the camera head and pushrod to enter the pressurized line without water escaping. With the camera in the plastic pipe, the 512 Hz sonde was activated and quickly picked up on the surface with the sonde locator. Working in 10-foot increments, they were able to locate the direction and depth of the buried pressurized plastic water pipe. On other locate runs, they simply pushed 50 feet of pushrod into the waterline, then connected a portable utility locator transmitter to the camera reel, allowing them to trace the entire length of pushrod underground in the pipe.

RESULT

Together with the receiver in sonde mode and the mini camera, technicians were able to pinpoint with accuracy the location and depth of cover of the buried plastic water pipe.

800-446-3392; www.vivax-metrotech.com ▼

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

☐ 0 ☐ 1-3 ☐ 4-5 ☐ 6-7 ☐ 8-9 ☐ 10+

What is your annual equipment budget?

☐ 0-50K ☐ 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 ☐ Vertical Drilling/Boring

☐ Pipe Relining/Rehabilitation ☐ Utility Location/Leak Detection

☐ Other _____

What is your company's primary service?

☐ Excavation Contracting ☐ Utility Contracting ☐ Government/Municipal

☐ Industrial/Commercial Vacuum/Cleaning Services

☐ Dealer/Distributor/Manufacturer

☐ Other _____

D0519

THE LATEST:

News

Smith named president of Subsite Electronics and HammerHead Trenchless

Charles Machine Works has named Kevin Smith president of Subsite Electronics and HammerHead Trenchless. The company also announced a joint leadership team headed by Smith.



Kevin Smith

Smith's new leadership team will include Randy Rupp, Brian Kenkel and Christi Woods.

Rupp has been named general manager of Subsite Electronics. Rupp, who has served as vice president of product strategy at Ditch Witch for the past four and a half years, has held various positions within the organization including business and global accounts manager, regional sales manager, national sales manager, product manager and director of product definition.

Kenkel has accepted the position as general manager of HammerHead Trenchless. Kenkel joined the company six years ago, most recently serving as director of repair and replacement. He has spent his career in the underground construction industry, including 10 years owning and operating a successful contracting company.

Woods is assuming an expanded role as controller of Subsite Electronics and HammerHead Trenchless. She has more than 20 years' experience working as a CPA and small-business entrepreneur.

Felling Trailers celebrates 45 years in business with anniversary colors

In 2019, Felling Trailers marks 45 years in the business of manufac-

turing trailers. To commemorate this anniversary, the company has selected three limited edition paint colors: plum crazy purple metallic, ruby red metallic and sublime green. The limited edition anniversary colors will be available for purchase to Felling Trailers customers for the extent of 2019. In addition, all trailers manufactured during 2019 will have a commemorative decal marking it as a 45th anniversary edition trailer.

Germundson's Home Furnishings to become Mattracks Innovation Center

The building in Karlstad, Minnesota, that housed furniture for about 70 years will become home to Mattracks vehicles and memorabilia. Glen Brazier, Mattracks founder and CEO, says the old furniture store is the "absolute perfect fit" for the Mattracks Innovation Center. According to Germundson's Home Furnishings, the building has been a furniture store since 1948. Mattracks, which started business in 1994, has shipped products to over 100 countries and can be found in operation on all seven continents.

Radius HDD and American Augers announce same-day delivery in Texas

Radius HDD and American Augers announced a partnership that will allow Radius HDD to warehouse American Augers' sections and cutter heads in its Weatherform, Texas, facility. The partnership will provide same-day delivery to customers in Texas. The products will also be available for customer pickup at the warehouse. Contractors will also have access to same-day repair service at Radius HDD, along with a variety of rental tooling. ▼



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Happenings

CALENDAR

May 21-23

National Utility Contractors Association (NUCA) Washington Summit, Holiday Inn Capitol, Washington, D.C.
Visit www.nuca.com/summit

June 2-5

Electric Utility Fleet Managers Conference (EUFMC), Williamsburg Lodge and Conference Center, Williamsburg, Virginia.
Visit www.eufmc.com

June 9-12

Professional Development Conference & Exposition, Ernest N. Morial Convention Center, New Orleans. Visit www.safety.assp.org

June 16-19

Rapid Excavation and Tunneling Conference (RETC), Chicago.
Visit www.retc.org

Aug. 21-22

Water Finance Conference, Washington Court Hotel, Washington, D.C. Visit www.waterfinanceconference.com

Sept. 9-11

Breakthroughs in Tunneling Short Course, Knoebel School of Hospitality Management, University of Denver, Denver. Visit www.tunnelingshortcourse.com

Sept. 21-25

92nd Annual Water Environment Federation Technical Exhibition and Conference (WEFTEC), McCormick Place, Chicago. Visit www.weftec.org

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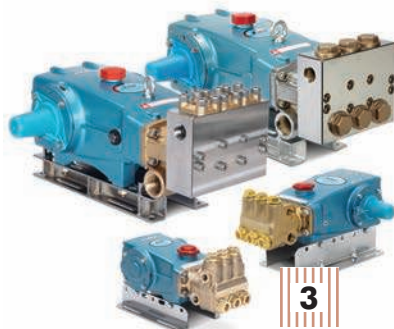
2



4



1



3



5



6

1. VMAC UNDERHOOD air compressors for trucks and vans

The UNDERHOOD air compressor from VMAC is a rotary screw air compressor that is mounted under the hood of the truck and has capabilities ranging from 40 cfm up to 140 cfm at 100 percent duty cycle. The air compressors are lightweight and space-saving while delivering powerful on-demand air in any climate. In addition to the UNDERHOOD compressors for trucks, VMAC manufactures a version specifically engineered for commercial vans. **800-738-8622; www.vmacair.com**

2. Doosan Portable Power dual-flow air compressor with 210 cfm high-pressure mode

Doosan Portable Power P250/HP210 Tier 4 Final portable air compressor delivers the pressure and flow typically supplied by two units in a single air compressor. The new model replaces the P250/HP185 and delivers 250 cfm of air at 100 psi in low-pressure mode and 210 cfm of air at 150 psi in high-pressure mode. It offers eight hours at 100 percent load on low-pressure and nine hours at 100 percent load on high-pressure mode. It has a 34.5-gallon fuel tank and cold starts in temperatures as low as 10 degrees below zero. To simplify maintenance, it has convenient curbside discharge valves and cooler clean-out ports. All filters are readily accessible and clearly marked, and diagnostic connections are easier to reach. **800-633-5206; www.doosanportablepower.com**

3. Cat Pumps hydroexcavating pump

For over 50 years, Cat Pumps has been manufacturing long-lasting and low-maintenance triplex pumps. With dedication to zero-defect manufacturing, ease of service and availability from stock, Cat Pumps designs and builds high-pressure pumps and systems to the highest quality standards for the hydroexcavation industry. Popular models include the Model 3560 with 25 gpm, 3,000 psi or 20 gpm, 4,000 psi; Model 3570 with 30 gpm, 3,000 psi; the Model 660 with 10 gpm, 3,000 psi; and the Model 56 with 5.5 gpm, 3,500 psi or 8 gpm, 2,500 psi. **763-780-5440; www.catpumps.com**

4. MB Crusher America excavator products

MB is a manufacturer of equipment, machinery and accessories for the construction, demolition and recycling industries. Applicable to any type of excavator, MB products are perfect for construction and excavation uses. They are also ideal for special applications such as quarries, mines and environmental rehabilitation, and for crushing, screening and separating inert materials directly on site to reuse them or allocate them to other uses. Crusher buckets, screening buckets, iron separators and quick couplings are all part of an expanding range of certified attachments and accessories that reduce costs, processing times and transportation of materials, and are environmentally friendly. **855-622-7874; www.mbamerica.com**

5. Fecon BHP270 power pack for larger excavator

Fecon's Tier 4 compliant BHP270 power pack is for larger excavators (over 20 tons). It is an independent power source that provides additional hydraulic horsepower to operate attachments like the Bull Hog mulching head without hydraulic flow from the host machine. The BHP270 delivers up to 109 gpm of hydraulic flow for maximum power on the job site. The Power Management microcontroller channels all power to the brush cutter so there is no power loss due to accessories. A firewall inside the engine compartment keeps airflow from the engine side separate from the hydraulic side. A Rexroth 145 cc hydraulic pump produces maximum pressure of 5,800 psi and hydraulic flow of 109 gpm. **800-528-3113; www.fecon.com**

6. Jarraff Industries LineBacker brush cutter

The LineBacker brush cutter from Jarraff Industries features a four-quad track undercarriage, which provides mobility in the most challenging terrains. In addition to the quad track configuration, it offers an innovative touch-screen control center that gives good operational input. The unit's Cummins 260 hp, 6.7-liter Tier 4 diesel engine meets Environmental Protection Agency regulations and improves overall fuel efficiency and roading speed. Effective with the quad track introduction, the Geo-Boy model will be rebranded as the LineBacker going forward. **800-767-7112; www.jarraff.com** ▼

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This Issue's Feature:

New name enters the vacuum excavation industry

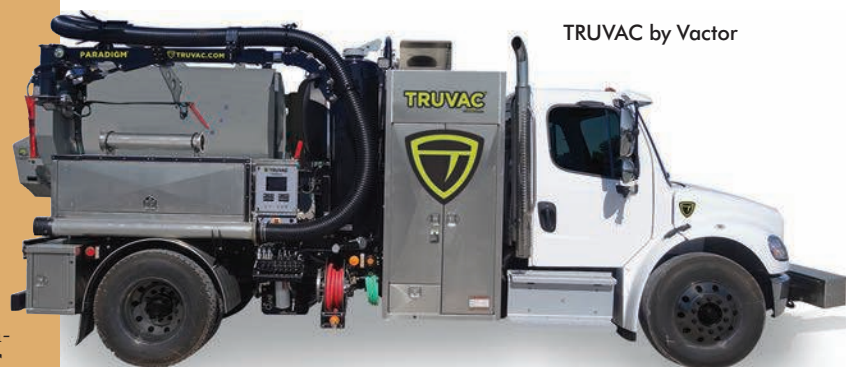
BY CRAIG MANDLI

As vacuum excavation continues to take the sewer maintenance and construction industry by storm, **Vactor** has announced the addition of **TRUVAC**, its brand of **vacuum excavator trucks** designed specifically to satisfy the safe-digging requirements of businesses or organizations that locate and verify underground utility lines and pipes. The TRUVAC line will focus on vacuum excavation, while the Vactor brand will continue to focus on equipment solutions for cleaning and maintaining sewers and catch basins.

The TRUVAC product line includes the versatile ParaDIGm subcompact vacuum excavator, the Prodigy vacuum excavator that offers power and performance in a smaller footprint and the HXX series of full-sized vacuum excavators designed to tackle large digging projects.

"The TRUVAC brand is new, but the products, technology and quality are well-established by the Vactor brand," says Sam Miceli, vice president and general manager of Vactor. "Vactor Mfg. brings to the brand more than 100 years of operator-focused innovation excellence, more than 50 years of experience building equipment that combines high-pressure water and vacuum technology and more than 20 years of experience manufacturing vacuum excavators."

The TRUVAC ParaDIGm vacuum excavator, in particular, is designed for utility, municipal and contractor customers involved in the installation, maintenance and repair of underground water, sewer, gas, electric and telecommu-



TRUVAC by Vactor

nications lines. This compact, multiuse truck can dig holes with water or air; vacuum, contain and dispose of drill mud; power pneumatic, hydraulic or electrical tools; and provide transport and storage of replacement parts, equipment and tools. The truck's Park-n-Dig design minimizes the time between arriving on the job site and excavation, including the ability to dig up to 6 feet in depth without additional pipe and hose. Its air compressor powers utility tools such as jackhammers and tampers that may be used on the job. The truck offers substantial storage space for these tools, including a long-handle toolbox. It can also tow up to 20,000 pounds.

"TRUVAC has been established to address the critical need for safe digging in the United States and Canada," says Nick Bruhn, product manager at TRUVAC. "With more than 19 million miles of buried utilities in the United States alone, the risks of utility strikes caused by poor excavator digging practices are too great to ignore, and incidents of gas line explosions, power outages and burst waterlines causing injuries, fatalities and property damage continue to occur at an alarming rate." **800-627-3171; www.truvac.com**

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


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
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