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PRE-SHOW ISSUE

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> PIPE LINING GIVES CINCINNATI SUBCONTRACTOR'S BUSINESS A BIG BOOST **PAGE 12**

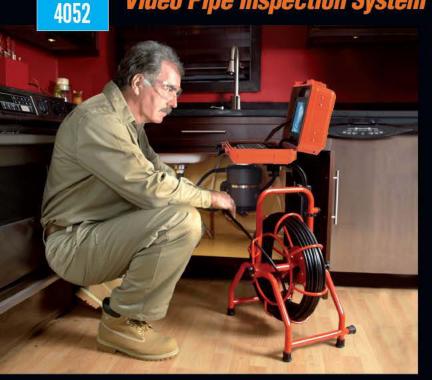
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On the cover: Charles Menkhaus, owner of C.M.E. Services in Cincinnati, Ohio, has seen his business grow since he added cured-in-place pipe lining to his menu of services. He now has two full-time crews dedicated to pipe lining. (Photography and video by Mark Lyons)

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Looking Forward to the Expo

A WORKING VACATION COULD BE JUST THE TICKET FOR YOU AND YOUR BUSINESS

BY LUKE LAGGIS

t's February. Winter has gripped the colder climates for months and spring still seems a lifetime away. It's time to take a break from the day-to-day. Take a guilt-free vacation, get away from the office, phones and trucks, and give your business prospects a boost, too.

The 2012 Pumper & Cleaner Environmental Expo kicks off Feb. 27 in Indianapolis. The four-day show provides a unique opportunity for the contractors of this industry to come together, share their experiences and learn from one another, in addition to getting a first-hand look at the latest and greatest products and technology. Of course, there's also a full slate of educational seminars presented by top industry experts, so you're sure to come away with fresh perspectives and insights that will help your business grow and prosper.

And while Indianapolis may not rank with Cabo or St. Thomas as an ideal winter getaway, it is far more inviting than those unfamiliar with the Midwestern city might assume. For starters, the Indianapolis Convention

The 2012 Expo will be exciting for me, too. It'll be my first time attending the event, and I'm looking forward to it for several reasons. First, I've had the opportunity to talk to quite a few people in the industry, but I haven't met many of you in person. The chance to meet more of the people who are pushing the industry forward is a great opportunity. Building relationships with contractors and manufacturers helps make this magazine a better resource for our readers, just as building those relationships yourselves makes your businesses better.

Second, I have read, written and edited countless stories over the past several months. I've put great effort into understanding this industry, including the equipment and processes that are a part of every cleaning industry professional's repertoire. I've watched videos online and I've watched a CIPP project in action, but the Expo will be my first opportunity to see it all up close. It's not unlike when you're looking to buy a new truck or add a new

More than 60 seminars taught by top industry experts promise a positive return on your investment and opportunities to keep improving your business well into the future.

Center is a world-class facility. Skywalks connect it to more than 4,700 hotel rooms, so even if it's cold outside, you'll be able to leave your jacket at home. In addition to hotels, skywalks connect the Convention Center to a variety of dining, shopping and entertainment options, including the four-story Circle Center Mall. In fact, downtown Indianapolis, voted the Most Walkable Downtown in America by *Sports Illustrated*, boasts over 200 restaurants and entertainment options.

The amenities and attractions make Indianapolis well worth the trip, but the real reason to make your way to the heart of Hoosier country is the Expo itself. The 2012 Expo will feature three full days of demos and new technology in addition to more than 500 exhibitors representing all aspects of the industry, but Education Day may be the most valuable aspect of the Expo. More than 60 seminars taught by top industry experts promise a positive return on your investment and opportunities to keep improving your business well into the future.

All of these aspects of the Expo provide great benefits for attendees, but what makes it the industry's most valuable learning opportunity is the attendees themselves. The opportunities to network and learn from peers are unparalleled. As people comment every year, there's no better opportunity to meet and learn from your peers than the Expo. Because these people share your vocation and your experiences, but aren't necessarily your direct competitors, the flow of perspectives and information is free and open. You can talk to people who have added services you're considering. You can pick up strategies for growth from people who have already built strong businesses. You can learn about other people's business practices – what has worked for them and what hasn't – and that can only help your business. service: You can do all the research, but until you get a chance to kick the tires on that truck or see a manufacturer's new line of nozzles, it's difficult to really get a handle on it.

The Expo will be an opportunity for me to get a better handle on the industry and the people who propel it forward. Likewise, it's an opportunity for you to meet your peers and get a handle on how to propel your business forward.

Finally, the 2012 Expo is going to be fun. While the business opportunities will be virtually unlimited, there will also be plenty of opportunities to relax and enjoy your time in Indy. In addition to easy access to a wide variety of dining and entertainment options, the Industry Appreciation Party on Tuesday, Feb. 28, promises to be a great time. Country music star Rodney Atkins, with six number one singles to his credit, headlines the evening, which is free with full admission. And don't forget the 25-cent tap beers, another of the evening's popular attractions.

There's plenty of reasons to attend the Expo, and regardless of what motivates you, it's worth the trip. I'm looking forward to four days in Indy and the opportunity to meet, talk and get to know you. Maybe we can even enjoy a couple of those 25-cent tappers together.

See you there. c

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INVERSION OF FORTUNE

CURED-IN-PLACE PIPE LINING HELPS C.M.E. SERVICES RE-ESTABLISH ITSELF AS A FAVORED SUBCONTRACTOR BY MARIAN BOND

profile

C.M.E. SERVICES, CINCINNATI, OHIO

OWNER: YEARS IN BUSINESS: SPECIALTIES: EMPLOYEES: CUSTOMERS: WEBSITE: Charles Menkhaus 15 CIPP Ilning, sewer replacement 7 Plumbing companies www.cme-services.net Charles Menkhaus was dealing with declining business when he decided to make the significant investment to get into cured-inplace pipe lining. It was a move that would pay big dividends and ultimately help his business grow once again.

As owner of C.M.E. Services in Cincinnati, Ohio, Menkhaus had spent 10 years repairing and replacing pipes for local plumbers and builders, and he knew his customers were looking for alternatives to digging and replacing pipes.

Menkhaus did some research and eventually settled on the Perma-Liner Industries lining system after visiting the company's Florida facility. Once he jumped on board, the company sent two representatives to help Menkhaus and his technicians learn the system.

"I actually paid for extra help with the training," Menkhaus says. "We spent an entire week with two days in the shop, and we completed three jobs. It was pretty brutal. I wanted to get as much done as possible to be sure everyone was properly trained and got all the hands-on experience they needed."

He and six employees went through the training process and learned how to install the liners, despite difficult weather conditions.

(continued)



"We had horrible snowstorms, but with this system, you can work in cold weather. The temperature was never above 20 degrees. We use the hot-water cure system, and the cold really didn't affect the curing time or anything else."

Within six months, Menkhaus had a crew of four dedicated strictly to pipe lining and was looking to hire at least three more technicians for a second crew. Demand quickly grew from three or four liners per week to five and six per week. Lining now makes up 80 percent of the company's sewer replacement work.

"I like the niche I am in. I don't have to go sell the job. I don't have to spend money on advertising. My customer tells me where the job is and how long the liner is, and we take it pretty much from there." **Charles Menkhaus**

ALL THE PROPER TOOLS

To support his lining services using the Perma-Liner Maverick hot-water cure system, Menkhaus includes locating, TV inspection and root removal for his customers. He chose the VuTEK GT series push camera from Insight Vision with 200 feet of cable, color self-leveling camera head, USB thumb drive recording and a 512 Hz sonde. For mainline inspections, the company can subcontract for a pan-and-tilt camera.

The locator is a Model 8872 from Rycom Instruments. Menkhaus also has a Model 1065 sewer machine and a Model 738 trailer jetter (2,500 psi/14 gpm), both from Spartan Tool.



Charles Menkhaus checks the temperature of the Perma-Liner in an ice bath where it is kept cool to prevent hardening.

The pride of the fleet is a 2011 Ford F-550 service truck dedicated to lining. C.M.E. also owns a 2001 Ford dump truck, a 2005 International 5-ton dump truck, a 2010 Takeuchi crawlerbased mini excavator, and a Caterpillar track loader.

C.M.E. Services travels in a 25-mile radius and operates out of a 4,000-square-foot facility in an industrial park in Cincinnati. The firm also does some work across the Ohio River in Kentucky.

Because C.M.E. is always a subcontractor, there is no lettering or logo on its equipment.

"I like the niche I am in," says Menkhaus. "I don't have to go sell the job. I don't have to spend money on advertising. My customer tells me where the job is and how long the liner is, and we take it pretty much from there."



Owner Charles Menkhaus, right, and sewer technician Mike Cruze feed the Vutek camera from Insight Vision down a drain.

CONDITIONS ON THE GROUND

C.M.E. deals mainly with three types of pipe – mostly vitrified clay, along with some concrete and cast iron. Pipes are often buried in 10 to 12 feet of clay soil with glaciated rock and sand that can be loose and gritty.

"The soil is considered the worst for excavation, as it is rated at a Class C," Menkhaus says. "Sometimes the pipe can be buried as deep as 15 to 20 feet, depending on the topography. That can be dangerous when replacing a line, and we have to use trench boxes and other safety measures when a hole is opened up."

Root intrusion is generally the issue in pipes installed prior to 1980. Concrete pipe, because of its weight, was installed in 3- to 5-foot sections, leaving multiple joints where maple and oak roots can work their way in.

"We also see cast-iron pipe rotting out on the bottom because of the constant flow of sewage," Menkhaus says. "You run a camera and see the grooves. Sometimes the camera gets stuck and we have to pull it out because the pipe is just rotten."

Clay pipes present two problems for C.M.E. crews. The first is root intrusion. The second is the soil in which the pipe is buried.

"When the ground dries up and shifts and then gets wet and heavy, the clay doesn't have the strength of other pipes, and it shatters, cracks, and starts to fall apart," Menkhaus says.

All these pipes are suitable for relining if they have not completely collapsed. Small sections frequently require spot repair, after which the entire pipe can be lined. Menkhaus likes the hot-water cure system because he finds it is easy to use, involves no downtime, and is compact and easily transported.



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> Charlie Underwood, Operations Manager Midwest Waterblasting, Clinton, MI







THE GAME PLAN

Jobs for C.M.E. often arise out of emergencies: A homeowner calls a plumber after discovering a toilet backed up, a tub that won't drain, or water in the basement.

"The plumbing company most often calls us if they think a liner would be a solution," Menkhaus says. "They put their camera in and determine the length of the pipe and whether it can be lined. We are on the telephone with them while they are at the site. From there, we work hand in hand."

"I am on the telephone every day with six or seven plumbers who are out selling liners, and they want an answer. Frequently we will get all the information one day and begin preparation on a job the next day." **Charles Menkhaus**

Plumbers on a potential lining site can reach Menkhaus by cell phone for help determining the viability of lining. For example, if there is an offset or a line has collapsed and a plumber wants an immediate answer, the person doing the inspection can take a photo of the inspection camera monitor screen and send it sent to Menkhaus for a verdict.

"I am on the telephone every day with six or seven plumbers who are out selling liners, and they want an answer," Menkhaus says. "Frequently we will get all the information one day and begin preparation on a job the next day."

Accurately assessing pipe size is critical. Most laterals are 4-inch or 6-inch



LEFT: Charles Menkhaus helps feed the Perma-Liner into the Perma-Verter. RIGHT: Menkhaus pulls the line from the Spartan trailer jetter to power wash the sewer line prior to lining.

WRITING ON THE WALL

The original plan for C.M.E. Services was to offer excavation to the plumbing industry. Five years after starting the business, owner Charles Menkhaus segued into sewer repair and replacement for several Cincinnati plumbing companies.

He built a reputation over the next 10 years and when those companies began talking about cured-in-place pipe lining, Menkhaus paid attention.

Getting into CIPP meant a substantial investment, and many plumbing companies preferred to subcontract the work rather than invest in the equipment and training necessary for the specialized service. Menkhaus did the research, talked to vendors, visited Perma-Liner Industries and settled on their system. The new service came at a crucial time.

"I had gone from four employees down to just myself because of the recession," Menkhaus says. "There just was not a lot of work. The liner business really picked up my business."

His biggest challenge was getting comfortable with the technology and the process while also building his team members' confidence.

"When you run into problems, you just have to work through it," he says. "Pretty much the worst thing that can happen is the liner fails because you miscalculated an offset, and you have to dig it up. Fortunately, we have not had that happen."

Menkhaus likes the lining process and believes it is the ultimate green technology, saving on fuel with less heavy equipment and preserving landscapes and mature trees.

lines, but there are some 5-inch lines. Menkhaus keeps an extensive inventory of liner sizes to meet his customers' needs.

STEP BY STEP

Crews complete jobs in a two-day process. Day one is for preparation, which can take up to four hours. The first step is at the cleanout in the basement or slab floor of the house, where workers cut out a 2- by 3-foot section of the concrete and dig down to expose the line. They remove a section of the *(continued)*





C.M.E. Services foreman Andrew Baer measures a liner prior to cutting.

pipe along with the cleanout, and use a jetter and cables to clean the line.

WATCH THEM IN ACTION To learn more about C.M.E. Services, view the video at www.cleaner.com.

They inspect the line with a push camera and take the necessary measurements,

then replace the missing section of pipe using flexible pipe connectors by Fernco. A piece of plywood is placed over the opening for safety and to allow the customer to use the facilities overnight.

Workers return the next day to do the lining. They remove the flexible connector, inspect the line again and cap the house side of the sewer. Then they



The C.M.E. team includes owner Charles Menkhaus, kneeling, foreman Andrew Baer, left, sewer technician Bobby Baer, center, sewer technician Mike Cruze, rear, and sewer technician Jason Otten, far right.



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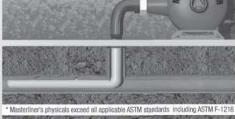
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Typically, the pipe under the house transitions from 4 to 6 inches in diameter about three to 10 feet from the house. Perma-Liner makes a transitional liner that takes care of both diameters, creating a tapered transition that leaves no sharp edges.

Menkhaus keeps liners for this purpose in inventory, but if need be, he can order the custom product from Perma-Liner and get fast turnaround. The liner must be carefully measured and cut from each end to achieve a proper fit. Before the installation, technicians use a permanent marker to record the date and the address on the liner.

Offering CIPP and related services has opened a new avenue for C.M.E. Services. Menkhaus' top priority is to respect owners' property and make sure they are happy with the final product.

"It's not how fast we do the job," he says, "but that it's done correctly."



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LOCATORS



An Old-Time Twist on Bowling

DUCKPINS, BALL & BISCUIT AND THE BLACK MARKET ALL BRING A BIT OF THE PAST TO PRESENT INDY HOT SPOTS

BY TED J. RULSEH

ountain Square Theatre, a two-minute cab ride from downtown Indianapolis at the intersection of Virginia Avenue at Shelby and Prospect streets, was the first commercial historic district in Indiana. Its buildings span more than a century from 1871 to the present.

Extensively renovated starting in 1993, the building houses entertainment and events in the Fountain Square Theatre, art galleries and studios, two restaurants, seasonal rooftop dining, a cocktail bar, and duckpin bowling in either of two vintage alleys.



Duckpin bowling was born in Baltimore in 1900 and was a favorite of Babe Ruth. It uses smaller balls and pins and has different rules. The Action Duckpin Bowl has been restored

Duckpin bowling

with authentic 1930s vintage bowling equipment and eight lanes. A café area seats up to 120 guests, and surrounding windows give a great view of downtown.

The Atomic Bowl Duckpin, in the building's basement, has seven lanes with authentic 1950s and 1960s bowling equipment, along with displays of mid-century bowling collectibles. A café seats up to 90 guests. Visit www. fountainsquareindy.com.



BAR AND LOUNGE

The ball & biscuit, two minutes from downtown at 331 Massachusetts Ave., is a bar and lounge set in the cultural corridor of the Mass Ave neighborhood. True to its eclectic surroundings, it has the laid-back atmosphere of a Prohibition-era speakeasy.

From the 150-year-old quarter-sawn wood floor, to the distressed leather chairs, the exposed brick walls and the tin ceiling, the place is a neighborhood bar at heart. The menu includes craft beers, boutique wines and unique cocktails that range from pre-Prohibition classics to modern concoctions. Unique bar foods are served in an atmosphere of background music conducive to good conversation. Visit www.ballandbiscuit.com.

CASUAL DINING

Black Market is a new gastro pub at 922 Massachusetts Ave., four minutes from the Convention Center. It serves up "comfort food" with an Indiana flavor along with local beers and wines. Foods made with old-fashioned pickling and preservation methods often appear in the restaurant's dishes. Entrees like ale steamed mussels, rainbow trout, mushroom dumplings and the Black Market burger are served in a casual atmosphere where diners in a suit or jeans are equally welcome. Entree prices range from \$12 to \$22. Visit www. blackmarketindy.net.

HISTORIC SITE

Dominating the five-block picturesque setting of War Memorial Plaza in downtown Indianapolis, the Indiana World War Memorial sits 210 feet above street level. This mausoleum-style limestone and marble memorial honors Hoosiers killed during World Wars I and II, the Korean War and the Vietnam War.

The memorial, at 431 N. Meridian St., includes multiple standing figures that symbolize courage, memory, peace, victory, liberty and patriotism. The Shrine Room, with 24 stained glass windows, provides the setting for a 17- by 30-foot American flag suspended from the ceiling. A military museum in the basement follows the history of Indiana soldiers from the Battle of Tippecanoe through the most recent conflicts. Visit www.in.gov/iwm.

SHOPPING

Midland Arts & Antiques in downtown Indy can keep you occupied for hours with four floors full of art and antiques from more than 200 dealers from around the Midwest. Located at 907 E. Michigan St., four minutes from the Convention Center, the market has been a destination for more than 15 years. Merchandise includes decorative items, works by local artists, furniture, pottery, vintage jewelry, 1950s collectibles, china and a great deal more. Visit www.midlandathome.com. c

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PROFILE

Nick Snow, of Alaska Stormwater Maintenance, monitors progress while the Vactor pump truck cleans out a sewer. (Photography by Frank Flavin).

MARATHON

A GROWING HYDROEXCAVATION COMPANY GETS THE MOST OUT OF ALASKA'S SHORT CONSTRUCTION SEASON BY MARIAN BOND

The owners of Alaska Stormwater Maintenance have three priorities: Satisfy their customers, find the right equipment, and work like crazy six months of the year.

OWFOR

On a given day, the company may be vacuuming sediment from a 55foot well for a residential customer or dredging a sewage lagoon for a city. Recent jobs included hydroexcavation for a sewer line being replaced at a fast-food restaurant in a popular mall, and using high-pressure water to prepare a bridge for resurfacing. It's a mixed bag: If there is a challenge, Alaska Stormwater Maintenance is there.

David Scheele and partner Richard Bollard opened the company in 2003, starting with a 1985 Vactor combination truck Scheele bought from the City of Anchorage at an auction. Both men were working for the city at the time, Bollard as a foreman and Scheele as a heavy-duty diesel mechanic.

Scheele wasn't sure what he would do with the truck until offers came in to put it to work. For the first two years, the partners kept their day jobs, but by the third year they were earning a suitable income, and the city saw a conflict of interest. Scheele departed and Bollard retired shortly after with 25 years of service. Their business has grown significantly since then.

(continued)



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"What we did with our company was make the technology available to those who didn't have the equipment but needed the capability." David Scheele

Scheele was captivated with hydroexcavation, and Bollard was experienced with it as well.

"What we did with our company was make the technology available to those who didn't have the equipment but needed the capability," Scheele says. "In the past, some of these contractors had to dig and take their chances. Now, we often partner with them on projects. We are available for companies and municipalities, big and small, and also for residential projects."

THE PATH TO SUCCESS

The owners have profited from the network they built while with the city, and they have continued to expand it. Those contacts help them locate the equipment they need.

"We have people we work with on projects looking for equipment from as far as Alabama, Wisconsin, Minnesota and Washington," Scheele notes.

Scheele has picked up an array of equipment at auctions throughout the U.S. He shops a wide area for used equipment because the local market isn't big enough to justify buying brand new. His experience and training have helped him grow adept at repair and rebuilding.

"We are extremely cautious about spending money, because six months out of the year, there is no income," Scheele says. "Nearly all of our equipment was purchased at auction. We buy a lot of equipment, often for a specific job. At one time recently, we had 22 pieces of equipment."

The fleet includes:

- Two 1985 Vactor 1200s on GMC Brigadier chassis with 2,000 psi/80 gpm water systems and 16-cubic-yard debris tanks
- A 1983 Vactor 1200 hydroexcavator on a Volvo chassis, with 1,500 psi/20 gpm water system and a 16-cubic-yard debris tank
- 1996 Vactor 2100 on a Ford L-8000 chassis with a 12-cubic-yard debris tank, 2,500 psi/110 gpm water system, and a positive displacement blower
- RS Technical Services camera truck with Omni EYE III zoom camera and NovaSTAR camera, both on steerable tractors

The yard is on two and a half acres, and the building is made up of eight Conex containers situated to create an enclosure on the concrete floor and then roofed over. The heated space houses the four Vactor trucks during winter.

PARTNERS IN GRIME

A recent remodeling project at the University of Alaska in Anchorage called for Alaska Stormwater Maintenance, as prime contractor, to uncover several lines buried two feet deep. The job meant hydroexcavating down seven feet to preserve electrical, communications, natural gas, steam and other lines. The *(continued)*



ABOVE: David Scheele, left, and Blake Hovey view the interior of a stormwater pipe on an RS Technical Services camera inspection system. BELOW: Kelly Wright helps measure where the jet rodder will be placed in a storm drain.



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The Alaska Stormwater Maintenance team includes, from left, Richard Bollard, Nick Snow, Blake Hovey, Kelly Wright and David Scheele.

excavation was 10 feet wide and extended for 100 feet. The crew worked in tight quarters and a large volume of material had to be removed without closing walkways in the area.

On another project at Anchorage International Airport, a crew ran a hose 168 feet from the Vactor 2100 inside a building to excavate a 6-foot-square, 7-foot-deep hole for a surge protector tank.

The Vactor 2100 came into play again for hydroexcavating a 9-foot by 7-foot area 5-feet deep inside a major department store in Anchorage to house the foundation for two elevators.

"Summer is so busy I don't have time (for repairs). If we lose a motor or transmission, we patch it up and do whatever we have to do. That's one reason we have four trucks. If one breaks down, I can get another and not lose time." **David Scheele**

TURNING THE SCREW

Scheele makes sure his equipment is well maintained so he can continue to handle these difficult jobs.

"For six months I abuse the heck out of it, and then spend the winter doing repairs," he says. "Summer is so busy I don't have time. If we lose a motor or transmission, we patch it up and do whatever we have to do. That's one reason we have four trucks. If one breaks down, I can get another and not lose time."

Scheele and Bollard have grown accustomed to difficult work, and the company is geared to go wherever there is a job.

"We will send our equipment by ferry, railroad, or any road that leads in the right direction, if the job is worth our time," Scheele says.

There are five climate zones in Alaska, from rainforest to desert. The southeast panhandle can get up to 200 inches of rain a year, versus four inches around Prudhoe Bay on Alaska's North Slope. "Soil conditions include everything from gravel and sand to shale and glaciated clay," Scheele says. "The clay is dense, and a little water turns it into soup. It is tough to pick up and tough to move."

A crew can be working in good, clean gravel and sand for a few feet and then encounter messy clay, slowing down work considerably.

"Even though Richard and I have a lot of experience with these soils, we'll think we know what we're doing, and the next thing we know we are fighting clay we did not anticipate. Trust me, we sometimes are greatly surprised by what we find."

For jobs in abrasive rock,

Scheele prefers an older Vactor 1200, just to protect the newer machine from the wear and tear.

"But it all depends on the projects," he says. "The idea is to match the equipment to the soils, keep maintenance down, and keep performance efficient."

MYSTERIOUS UNDERGROUND

Contractors frequently deal with high water tables in the Anchorage Bowl, and Alaska Stormwater Maintenance is often called in for water mitigation.

"We have plumbing contractors who call us if the drains are too big or deep for their trucks," Scheele says. "We bid side by side with our customers. If a sewer line is plugged up, we can hydroexcavate six to seven feet to get to the sewer line and allow the contractor to proceed with the repair."

DIRTY BUT ESSENTIAL

When Richard Bollard and David Scheele started Alaska Stormwater Maintenance with one combination truck, they expected to clean mostly storm drains. But soon, as the equipment's full capability became clear, and as they looked at customer needs, they added hydroexcavation to tackle more jobs in the challenging reaches of Alaska.

What has also changed during their time in business is the rising imperative to protect the Last Frontier. Many new U.S. EPA regulations must be addressed. While Bollard deals with that, manages the office and handles promotion, Scheele works in the muddy trenches.

Fortunately, Scheele doesn't mind getting himself or his equipment a little dirty. He knows he's doing a vital service, taking care of the state's underground facilities, even if others don't realize how important hydroexcavation and related services have become.

As to finding employees for this challenging work, he says, "People need a job, and they need to make money, because they have to pay the bills and provide for the family. But in this business, you need to have a love for what you are doing."

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LCRAFT



Alaska Stormwater Maintenance uses a Vactor 2100 (left) and Vactor 1200 for heavy-duty jobs.

Water and sewer lines can be 10 feet or deeper under ground, depending on the terrain. Some lines installed 25 years ago lie 25 to 27 feet deep. Every job is different, and crews have to be prepared.

"I never know what I will find when I dig, or what the contractor customer will ask me to do," Scheele says. "He has to change what he does, and then we have to change when conditions on the job change. We work closely together When I see something I'm worried about, I say so. In the interim, the contractor tells me how to proceed, or to stop until he can get more equipment."

"We want employees to be safe, we want the customer to be safe, and we want to perform to the customer's satisfaction. And I don't want any underground utilities damaged. That would cost us a lot of money." David Scheele

TEAM AND TRUCK

The laborers on the truck with Scheele are well paid for their six months of work, and they are much more than truck drivers.

"They have to know how to set up the truck and not damage it," Scheele says. "But more important is the issue of safety. The truck can come back in pieces, and I'll put it back together. They had better know the job, or be willing to listen to instructions to learn what we do and how we do it. We want employees to be safe, we want the customer to be safe, and we want to perform

to the customer's satisfaction. And I don't want any underground utilities damaged. That would cost us a lot of money."

With such extreme conditions, Scheele never quite knows what to expect when the phone rings, but he's ready for the challenge.

"We can't do everything people ask of us, but we try." c

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Tech Perspective looks at technology-related issues and provides information and advice that cleaning professionals can apply to equipment selection and to their daily work in the field. Industry members are welcome to offer ideas for this column. Please direct them to editor Luke Laggis, editor@cleaner.com.

Book 'em Online

CONTRACTORS CAN SAVE TIME AND CAPTURE MORE CLIENTS BY ALLOWING THEM TO BOOK THEIR OWN APPOINTMENTS

BY PETER KENTER

he typical contractor books flights, hotels and rental cars online, buys books online and watches movies online, but books appointments with clients exclusively over the telephone.

"Every type of consumer, whether of business services or consumer products, expects the ability to book online and for businesses to provide this type of integration," says Evan Ginsburg, CEO of San Francisco-based BookFresh LLC, a company that provides clients an online appointment system.

"BookFresh is a response to what we're seeing in the marketplace, where any object can be bought and sold online, but services offered by independent contractors are being left out. What we offer is a way for you to book initial consultation or estimating appointments with clients, whether you're in the office to take phone calls or not. The big benefit is the time savings of the business owner who isn't forced to take all the incoming calls. Every missed call is missed business and an opportunity for prospects to call someone else, so now you have the opportunity to capture 100 percent of these prospects 24 hours a day."

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Wednesd				
Thursd	ay: 9:00 am 🛊 to 6:00 pm 🛊			
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Figure 1 – The business owner can adjust the appearance of the calendar and insert the company's logo so that it appears identical to other pages on the site. They can control the colors, fonts and other visual elements so that it looks professional and tightly integrated with the company's own graphics and branding. (Graphics courtesy of BookFresh)

INTEGRATE WITH WEBSITE

BookFresh is designed to integrate seamlessly with a business's existing website and allows clients to book appointments online in real time. Businesses pay for the service with a monthly \$19.95 service fee.

The majority of BookFresh customers are smaller businesses ranging from sole proprietorships to as many as five employees. The software can also be designed around the assets of the company, such as a team assigned to a vacuum truck or a video camera inspection vehicle.

The main impediment to most businesses thinking about developing an online booking system? "They're concerned about the technical barriers to integrating the booking system with an existing website," says Ginsburg. "The beauty of the system is that it requires very little technical knowledge to get started, and you can try before you buy without commitment. All you need is a little basic knowledge of working with a Web browser."

"Today's customer thrives on this sort of instant interaction. When you provide the customer with quick feedback, it commits them to spending their money with you, instead of finding someone who happens to be answering the phone at that particular time, and that's a huge business benefit." **Evan Ginsburg**

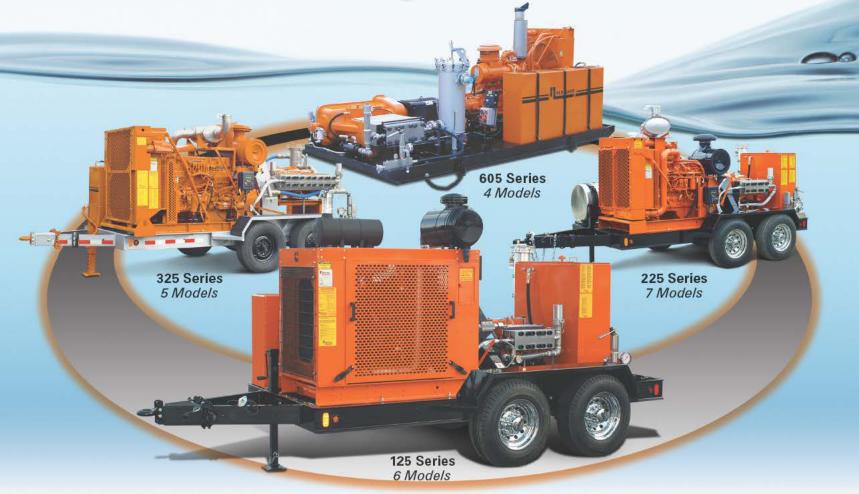
Clients without a website can build a simple site around their appointment calendar using tools provided by BookFresh in partnership with website builder Weebly.com. Clients with an existing website are given a single line of HTML or XML code that is inserted into the company website and BookFresh embeds an online appointment system seamlessly into the existing site, either through a page link or an online "widget," a graphic interface that indicates the appointment function. The actual calendar and appointment engine remains on the BookFresh server, but the client never leaves the business website while booking.

"The business owner can adjust the appearance of the calendar and insert the company's logo so that it appears identical to other pages on the site," says Ginsburg. "You can control the colors, fonts and other visual elements so that it looks professional and tightly integrated with the company's own graphics and branding." (Figure 1)

CUSTOMIZE CALENDAR CAREFULLY

Customizing the calendar requires the contractor to give the setup some thought. (continued)

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Figure 2 – Users begin by limiting the appointment times to normal business hours – say 8 a.m. to 5 p.m.

"At this point, some BookFresh users are afraid that automating their booking system will lead to a loss of control," says Ginsburg. "That's an important concern, so we make it clear that BookFresh isn't intended to replace workflow scheduling – it's a virtual receptionist. You won't be allowing clients to schedule sewer cleaning or pipe rehabilitation or to direct your vacuum trucks. There's a fine line between booking online appointments and the tools required to control the activities of your organization."

Users begin by limiting the appointment times to normal business hours – say 8 a.m. to 5 p.m (Figure 2). If the initial contact with the customer usually involves an hour for an estimate, then appointment bookings can be set in one-hour blocks. As customers begin to book, the calendar fills in real time, displaying only the remaining appointment times (Figure 3).

"You can set an appropriate time for travel between each of the appointments, so that if the client books a one-hour estimate, it will block out a halfhour of driving time," says Ginsburg. "Or you can work the travel time into the length of the appointment. The system can be location-specific and assign travel time based on the location of the customer, according to their ZIP code."

Clients can choose how much information they wish to enter – obviously a name, telephone number and address are required. However, they can also provide email addresses and payment information through PayPal.

"That saves an enormous administration time during intake when you would normally be taking down detailed customer information," says

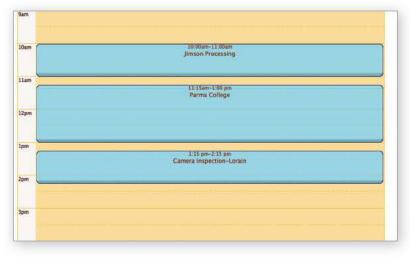


Figure 4 – The BookFresh appointment system will supply a single calendar or multiple calendars for multiple teams or employees under the same account.



Figure 3 – If the initial contact with the customer usually involves an hour for an estimate, then appointment bookings can be set in one-hour blocks. As customers begin to book, the calendar fills in real time, displaying only the remaining appointment times.

Ginsburg. "BookFresh will even supply you with map data to show the appointment location. You should be concentrating on delivering services that make money – not answering phones or performing data intake."

INDIVIDUAL APPOINTMENTS

The appointment system will supply a single calendar, or multiple calendars for multiple teams or employees under the same account (Figure 4). For example, if there's a dedicated person dealing with residential drains, then that person can be assigned a dedicated appointment calendar. Each staff member calendar can be assigned a photo and a job description.

"That's the basic installation," says Ginsburg. "But how much interaction you want with the system and how much you want it to do is up to the business owner. For example, if you use Outlook, iCal, or Google Calendar you can integrate the BookFresh calendar with them, so you only need to enter your own scheduling information once and there isn't any need to re-enter a lot of data."

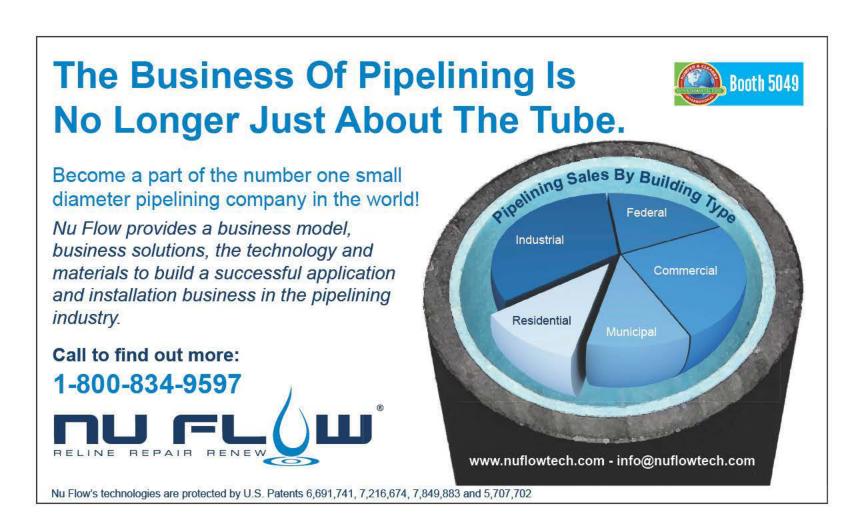
The system accepts website appointments 24 hours a day and can be configured to alert the business owner by phone, text message or email whenever a client books. The contractor will have the option of either accepting or rejecting the appointment proposal – a feature designed to prevent strangers from booking unwanted appointments. Once the appointment is accepted, the client receives instant notification.



Figure 5 – Once the appointment time approaches, BookFresh can also be instructed to send an automated reminder to the client prior to the appointment, whether by text, telephone or email. The owner can choose the timing of the message – a day before the appointment or three days, for example.

If the contractor schedules a one-hour lunch, or a day's vacation, then that *(continued)*





time will be automatically removed from the time slots available to clients. If the contractor needs to move an appointment, then the original appointment can be dragged and dropped to another time slot and an automatic message is sent to the customer, asking if the rescheduled appointment is acceptable.

"Today's customer thrives on this sort of instant interaction," says Ginsburg.

"When you provide the customer with quick feedback, it commits them to spending their money with you, instead of finding someone who happens to be answering the phone at that particular time, and that's a huge business benefit."

APPOINTMENT NOTIFIERS SENT AUTOMATICALLY

Once the appointment time approaches, BookFresh can also be instructed to send an automated reminder to the client prior to the appointment, whether by text, telephone or email. The owner can choose the timing of the message -a day before the appointment or three days, for example (Figure 5).

"Set it and forget it," says Ginsburg. "You reduce appointment no-shows and the customer feels confident that you're keeping your part of the bargain by showing up for the appointment."

Businesses offering a slate of predictable services with regular completion times and fixed unit costs may also choose to offer those services on the calendar. Examples may include flat-fee drain snaking, or septic tank pumping.

"This works well for a business that knows the service is going to take exactly an hour or 90 minutes, and knows the material costs involved," says Ginsburg. "But open-ended services, such as drain inspection, which present a considerable number of variables, wouldn't make good candidates."

If customers choose to share their PayPal account information with the contractor, then payments can be accepted automatically from the client's

PayPal account.

"The time period for bill payment can be specified on the calendar site," says Ginsburg. "All the contractor needs to do is set up a business PayPal account to link to the BookFresh calendar."

Contractors with their own Facebook page can also provide calendar access directly through that page through a "Book Now" button. That same button can be added to a Craigslist ad, or an email solicitation.

At any time, the contractor can use the BookFresh customer tracking database to create reports on client history, including when someone last booked with the business, and how often they use the business.

Once the system is set up to the contractor's satisfaction, the company's answering system message should be changed, explaining that clients have a choice of leaving a message, or booking immediately through the company's website. Existing customers should be contacted and familiarized with the benefits of the new appointment scheduling system.

"Send them an email and familiarize them with the new options they have to book with you," says Ginsburg.

Contractors can also sign up to activate automated review requests to solicit positive reviews from clients. Those same reviews can be shared with the clients' friends.

"Finally, if you haven't seen a customer in a while, you can notify your regular customers through email that you'd like to see them again – perhaps even provide them with a promotional offer or a service discount," says Ginsburg. "A six month follow-up is common."

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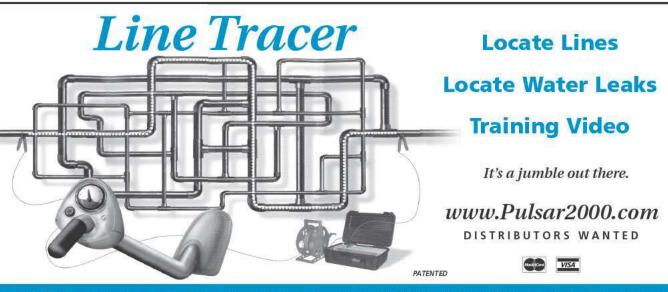
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More Than a Checklist

LEADERS ARE USED TO SETTING GOALS. ARE YOURS AS POWERFUL AS THEY COULD BE?

BY JOELLE JAY, PH.D.

oals help cut through the clutter of a crowded mind and focus thoughts on the things that matter most. You can't just set random goals the way too many people do – long lists of wishes that pop up at random and eventually fall away. You can take a smarter approach by setting SMART and WISE goals.

What is the difference? SMART thinking results in specific goals. WISE thinking gives them heart. SMART goals are:

- Specific
- Measurable
- Action-Oriented
- Realistic
- Time-Bound

WISE goals, meanwhile, are:

- Written
- Integrated
- Synergistic
- Expansive

SMART goals

SMART goals have helped many people move from vague, unattainable goals to clear, specific action. You might want to use this standard to transform your commitments into powerful goals.

Here are some examples of SMART goals that meet all of these criteria. These goals show how you might use a smart goal at work, in finding a better balance between home and work, or improving your personal life:

- Schedule (an action-oriented verb) team building and strategic planning off-site (specific activities) by end of January (a timebound date that is realistic and measurable).
- Leave work (a specific, action-oriented verb) by 6 p.m. three times a week (a time-bound commitment that is realistic and measurable).
- Go on a date with my wife (a specific, actionoriented verb) at least twice a month (a timebound commitment that is realistic and measurable).

All of those goals illustrate how the SMART

criteria get you to be very concrete about your goals, which makes them easier to attain. The problem with SMART thinking is that it has a tendency to limit instead of inspire. SMART goals can work against you if:

- You neglect to write them and keep them fresh.
- They're isolated from other important parts of your life.
- They conflict or compete.
- They lack spirit and conviction.

WISE goals

To avoid the pitfalls possible with SMART thinking, make sure your goals are also WISE. The

right under "increase profit share" you have "get more rest." They both improve your quality of life. They both contribute to your definition of success. You get to have it all. There are no rules. *You* make it up.

Synergistic goals go beyond integration by also making them work together. Synergy happens when one idea advances another. Keeping a vision of what you want in mind when you think about your goals will help create that synergy. You really lose something when you decouple your goals from your vision; they become just another prioritized list. The most powerful and peaceful way to think about your efforts is to see how they can coalesce into one complete vision for your life.

Your goals should inspire you to stay on the path to your dreams, not lock you into a pattern of ticking off bite-sized action items from here to retirement.

Goals

result will be goals that are both better and more powerful.

Writing your goals is a critical step – and one many people miss. Writing forces you to be clear in your thinking. It allows you to look at your plans with objectivity and instills commitment. Having your thoughts in a durable form allows you to revisit them again and again.

Integrating your ideas means bringing them together in the same place so you can look at them all at once. Allow your personal and professional lives to intermingle. It's OK if

46 Cleaner • February 2012



Joelle K. Jay, Ph.D. is an executive coach specializing in leadership development and the author of The Inner Edge: The 10 Practices of Personal Leadership. Her newsletter, The Inner Edge Quarterly, offers articles, exercises, tips, quotes, and success stories from real leaders to help you excel. Expansive simply means to think big.

The difference

Your goals should inspire you to stay on the path to your dreams, not lock you into a pattern of ticking off bite-sized action items from here to retirement. This may be the biggest differentiator between SMART and WISE thinking. Spending too much time and energy boxing your objectives into a hard and fast formula can squeeze the life right out of them. Some examples:

SMART goal – Schedule team building and strategic planning off-site by end of January.

WISE goal - Transform my staff into a team of inspired, empowered partners.

SMART goal – Leave work by 6 p.m. three times a week, organize my office, and work with my assistant to find a new planning system within one month from today.

WISE goal - Feel in control of my life.

SMART goal – Go on a date with my wife at least twice a month and tell her why I appreciate her at least once a day starting Aug. 3.

WISE goal - Fall in love again.

Every good leader has goals to help them stay on track to achieve their bigger vision day after day. The SMARTer they are, the more productive you'll be. However, make sure that your goals are also WISE enough to inspire you and move you in new and exciting ways. You will find you don't just meet your goals; they'll actually better you.



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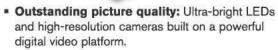
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A New Way to Trade Show

TECHNOLOGY AND SOCIAL MEDIA WILL HELP YOU MAKE THE MOST OF THE PUMPER & CLEANER ENVIRONMENTAL EXPO

BY JUDY KNEISZEL

ot long ago, all a trade show attendee needed to make the most of the event was a stack of business cards and a comfortable pair of shoes. But look around the 2012 Pumper & Cleaner Environmental Expo International and you'll see organizers, attendees and exhibitors armed with smartphones, tablets, notebook computers or laptops. They will be texting, tweeting, emailing, blogging, photographing and recording video. At the end of each day, complaints of tired, aching feet may be accompanied by complaints of tired, aching thumbs.

Like it is the other 51 weeks of the year, social media is a source of news and information during the Expo. But, during Expo week when so much is happening in one place at one time, social media can be even more crucial to your business communications. While attending the Expo you can use social media both to keep track of what is happening at the show and to share information with others at the show and back home.



SOCIAL MEDIA AT THE EXPO

If you are on Twitter, search for comments about the Expo using hashtags and also use them in your own tweets so other people interested in the show can find them. The hashtag symbol (#) used before relevant keywords in a tweet categorizes the tweet to show more easily in Twitter search. Clicking on a hashtagged word in any message shows you all other tweets in that category.

Similarly on Facebook and LinkedIn, you can announce your company's attendance at the Expo as well as any related news and events. You'll also want to keep an eye on Facebook to see what's being posted at www.facebook.com/CleanerMag and www.facebook.com/ pumpershow, and share thoughts and impressions about the show.

COLE Publishing, which creates this magazine and organizes the Expo, will have a mobile site for attendees to use at the event. The site will feature a searchable list of exhibitors and booths, a general schedule, and a more detailed educational schedule. Check out the mobile site at http://m.pumpershow.com.

Suppose you see a product you like, but need authorization to buy it. Now you don't have to wait to discuss it after you get home. Simply snap some photos and email them to the boss. If he or she doesn't understand how the item works, make a video of the sales representative demonstrating it.

One thing you don't want to do is waste time at the Expo, so make sure your team has Internet-ready smartphones or tablets set up with the right applications for social media use. Be sure to bring chargers to power up devices at night and have a large enough memory card if you are going to take a lot of pictures or video.

In general, using social media at a trade show is easiest on a mobile device. A laptop computer can be inconvenient and cumbersome to carry around on the floor, but handy when you want to download photos off your phone at the end of the day.

While at the Expo, you can send out real-time updates of what's going on all around you using Facebook or Twitter. You can also use YouTube to stream videos and Flickr to upload photos.

Another use for technology on the Expo floor could guarantee you get the

"show discount" on a purchase. Suppose you see a product you like, but need authorization to buy it. Now you don't have to wait to discuss it after you get home. Simply snap some photos and email them to the boss. If he or she doesn't understand how the item works, make a video of the sales representative demonstrating it.

I SPY ... QR CODES

While walking around the Expo, you may see QR codes on printed materials in some exhibitors' booths. QR stands for "Quick Response" and refers to those black and white squares that are really a two-dimensional barcode readable by a variety of devices including smartphones.

The amount of information that can be contained in a QR code is about 4,300 characters. That's enough for a business professional to include contact information and some personal background or product information, which is more than will fit on a standard business card.

Newer smartphones come with QR code readers installed. If your phone doesn't have one installed, try Google Goggles or on an iPhone, the App Store to download a free reader.

Once you have the QR code reader installed, simply activate the application and take a quick snapshot of the data label with your camera.

If you'd like to use a QR code on your own company materials, the technology for creating them is usually free. There are also dozens of Web services that will create them for you.

There are plenty of places a QR code can be used, especially at a trade show. Try putting a code that contains all your contact information on your business card and then attach it to your show badge so people you meet can simply scan your card. If you want to be more memorable, have the QR code put on a baseball cap and ask people to scan you!

You can also put a QR code on flyers, brochures and other print collateral. That way, people have the option of scanning or taking these items with them. Those who are more technology oriented will appreciate you lightening their load. You may find after the show you've distributed fewer business cards, but made more contacts. And having your contact information scanned to someone's phone makes it much less likely to get lost.

THE PARTY ISN'T OVER

When the show is over and you're back at the office, don't assume your Expo social media efforts are over. Follow up with the leads you generated by connecting with them on LinkedIn or sending follow-up notes via email. Upload more media and recap the event for those who couldn't make it this year. And then ... begin planning your social media strategy for next year's Expo. Did you observe other attendees using technology and social media applications in ways you hadn't thought of but would like to try? Could some of the things you tried have been done more effectively or efficiently? You've got a year to gear up for next year's Expo!

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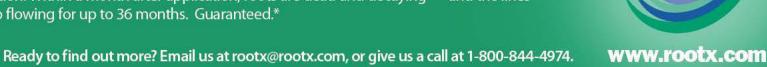
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BY LUKE LAGGIS

hallow trenches don't always command the same respect as deeper trenches, yet they account for well over half of all trench-related fatal accidents in the United States.

From 2000 to 2009, 350 workers died in trenching or excavation cave-ins in the United States – an average of 35 fatalities per year, according to figures from the National Institute for Occupational Safety and Health. Most incidents involve excavation work or "water, sewer, pipeline, and communications and power line construction," according to the NIOSH bulletin, "Pre-

venting Worker Deaths from Trench Cave-ins." An analysis of OSHA data from 1997 to 2001 showed that 64 percent of fatalities in trenches occurred at depths of less than 10 feet.

The last fact is of particular interest as it pertains to an incident last October in Somers, N.Y. According to media reports, a 29-year-old man who was part of a crew working on a local school's water system was trapped in a relatively shallow trench for about two hours after it collapsed around

him and buried him up to his neck. Different sources reported the depth of the trench at three to seven feet.

For the rescue, local firefighters and emergency responders were assisted by a Westchester County trench-collapse team, along with members of the highway department and local law enforcement. Yet with all these emergency responders flocking to the scene, the biggest help came from a local contractor.

Brian Cook of Fred A. Cook, Jr. Inc., a plumbing firm in nearby Montrose, N.Y., got a call from the local highway department superintendent, who asked if he had one of his Vactor trucks nearby. Luckily, he did, and the truck was on the scene in short order, sucking soil away from the trapped worker. Meanwhile, emergency responders placed sheets of plywood in the trench, which reportedly hadn't been previously shored, to prevent further collapse.

Emergency personnel were eventually able to remove the man from the trench and transport him to the Westchester Medical Center by helicopter.



He survived and suffered only minor injuries, but the situation easily could have ended badly. The incident underscores the critical importance of taking proper safety measures when working in trenches.

The OSHA standard for excavation and trenching describes the precautions needed. There is no reliable warning when a trench fails. The walls can collapse and trap workers in an instant. A single cubic yard of soil can weigh more than 3,000 pounds, more than enough to fatally crush or suffocate workers.

It might be easy to disregard the danger of a 4-foot-deep trench, especially for those who work on underground lines daily, but ignoring the danger is a sure way to put your employees and your business at risk.

> Lack of a protective system was the leading cause of trench-related fatalities in a review of OSHA inspections. OSHA requires that all excavations five feet or deeper use one of these protective systems:

- Sloping the ground
- Benching the ground
- Shoring the trench with supports such as planking or hydraulic jacks
- · Shielding the trench (using a trench box)

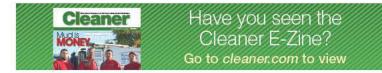
Workers should never enter any trench deeper than five feet unless it has a protective system designed and installed by a Competent Person.

The type of soil, water content of the soil, environmental conditions, proximity to previously backfilled excavations, weight of heavy equipment or tools, and vibrations from trucks and machines all can greatly affect soil stability and the hazards workers face. When the sides of trenches are shored, the type of soil and the width and depth of the trench determine how far apart the supports should be spaced.

The bottom line is that contractors need to know the dangers presented by even shallow trenches and need to be well versed in proper safety precautions. It might be easy to disregard the danger of a 4-foot-deep trench, especially for those who work on underground lines daily, but ignoring the danger is a sure way to put your employees and your business at risk.

The human and financial cost of an accident will far outweigh any time or money saved by skirting important safety measures.

OSHA's guidelines for trench safety can be found at www.osha.gov. Web-based trench safety training is available at www.cdc.gov/niosh/docs/ 2006-133D/flash/index.html. c



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Green Machines

ECO-FRIENDLY SURFACE CLEANERS HELP AN OHIO CONTRACTOR BOOST PRODUCTIVITY AND PROFITABILITY WHILE INCREASING EMPLOYEE SAFETY

BY KEN WYSOCKY

t may seem like a tall order to find a new machine that can make a company's operations "greener," reduce on-the-job man-hours, perform more effectively and improve employee safety. But Contract Sweepers & Equipment Inc. achieved all that when it invested in two Advance brand Cyclone surface cleaners from Nilfisk-Advance Inc.

The Columbus, Ohio-based company bought the Cyclones about three years ago to enhance its parking deck cleaning operations. Before, the company used either surface scrubbers or pressure washers, or a combination of both, says Gerry Kesselring, president of the company.

"Parking garages usually have rough-troweled surfaces, which make it difficult for our old scrubbers to achieve the cleanliness our customers demanded without using pressure washers, too," Kesselring says.

"I like to say that where there's mystery, there's margin. If the technology is complicated or appears new and special ... customers are willing to pay more for it."

Gerry Kesselring

"But the Cyclones give us a better result than the scrubbing and pressure washing combined," he continues. "They provide more scrubbing consistency. In one case, one of our customers thought they'd have to pay someone to restripe their parking lot. But the Cyclone did such a good job of cleaning that the parking lines were a bright yellow again."

ECO-FRIENDLY EQUIPMENT

Just as importantly, the Cyclones made Contract Sweepers more ecofriendly because they use dramatically less water than conventional surfacecleaning equipment. They also eliminate the time-consuming and sometimes expensive task of collecting dirty water before it can enter storm sewer drains, he notes.

The Cyclone, which can carry 240 gallons of water, delivers the cleaning power of 4,000 psi at a flow of 6 gpm, and can heat water to 160 degrees for tougher cleaning jobs. Moreover, the unit sucks up water and debris as its 34-inch, patented cyclonic head works, eliminating dirty-water runoff. The unit separates larger debris from the recovered water, then filters the dirty water for reuse. This allows more cleaning cycles per day because it eliminates stops for dumping water and refilling water tanks.

Contract Sweepers crews used to connect to either fire hydrants or sprinkler systems to use scrubbers and pressure washers, but the city began to restrict hydrant use to only fire fighting. The Cyclones made that a moot point.

"In about 99 percent of the cases, we now use significantly less water than before," Kesselring says. "Moreover, with scrubbers and pressure



The Advance brand Cyclone surface cleaner can carry 240 gallons of water and deliver the cleaning power of 4,000 psi at a flow of 6 gpm. The unit also sucks up water and debris, eliminating dirty water runoff.

money machines

OWNER:	Contract Sweepers & Equipment Inc., Columbus, Ohio
	Cyclone surface cleaner (an Advance brand, made by Nilfisk-Advance Inc.) 800/850-5559 www.nilfisk-advance.com
FUNCTION:	Cleans pavement while recycling dirty water
COST:	\$99,000

washers, we'd have to set up a scrubber by a (stormwater) drain to suck up the dirty water, or set up a vac hose and pump the water into a holding tank or, in some cases, a frac tank. But the Cyclones suck the water right back up and leave dry pavement behind."

In some cases, environmentally conscious customers are starting to require contractors to use water-recapture technology when bidding on job contracts.

"That's becoming more and more prevalent," he says. "The 'green' angle certainly has value."

LESS LABOR REQUIRED

Kesselring says that on average, the machines reduce project man-hours by about 30 to 40 percent because they require just one operator instead of a crew of five. This allows Contract Sweepers to more flexibly and efficiently allocate manpower and reduce the cost of labor per job.

"Plus, a lot of our parking lot jobs occur on weekends, and the Cyclones allow us to do those jobs with less overtime pay," he adds.



A member of the Contract Sweepers crew keeps a close eye on the pavement from the cab of the Cyclone surface cleaner.

In addition, using new technology allows Contract Sweepers to charge a premium for its services. At the same time, the units cost enough to provide a barrier to market entry for potential competitors.

"I like to say that where there's mystery, there's margin," Kesselring explains. "If the technology is complicated or appears new and special ... customers are willing to pay more for it."

SAFER OPERATION, BETTER MORALE

Kesselring also points out that the Cyclones improve on-the-job safety by minimizing the use of highpressure washers and reducing the potential for back strains and other injuries associated with lugging and pulling heavy hoses.

For an employee-owned company like Contract Sweepers, the Cyclones offer another less-tangible but equally important benefit: better employee morale and pride.

"Investing in newer, high-tech equipment helps us attract and retain customers," Kesselring says. "But it also tells our employees that we're not stale – that we're investing in new technology and looking for new ways to serve the marketplace. When our employees see us being innovative, they become innovative ... they look for new solutions instead of solving problems the same old way.

"Machines like these also help us attract and retain good employees," he adds. "When we invest in new equipment, they see we're investing in the organization. Every employee likes to get in a new truck or operate a new piece of equipment ... and they figure we must be OK if we're still investing in new equipment, particularly in a tough economy."

While noting it's difficult to quantify the Cyclones' financial affect on the company's bottom line, Kesselring says there's no doubt they've had a positive impact.

"We're almost at the point where they've paid for themselves," he says. "They've provided a good return on our investment." **c**

SHOW US THE MONEY (MACHINE)

Money Machines, a feature in *Cleaner*, reports on innovative work vehicles that help contractors operate more efficiently, satisfy customers and earn more profit. We'd like to know about your Money Machine — be it a service van, camera truck, jetting rig, vacuum unit or any vehicle that really helps drive your business. To nominate your vehicle for a feature in this column, send an email to **editor@cleaner.com**. Tell us briefly but specifically what features make it a great producer. And send a picture — because appearance counts. We look forward to seeing your Money Machine.



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A Full House

It's going to be wall-to-wall tools and equipment to build your business at the 2012 Pumper & Cleaner Environmental Expo

By Ed Wodalski





Jetters/Reels/Hoses

Cam Spray

The PJ3708 portable, high-flow drain jetter from Cam Spray delivers 8 gpm at 3,700 psi, while the PJ4007 delivers 7 gpm at 4,000 psi. Both feature a 27 hp electric-start Honda engine with 2:1 gearbox-drive pump. 800/648-5011; www.camspray.com; Booth 230.

Durand-Wayland Inc./John Bean Sprayers

The John Bean SJ7030D dual reel sewer jetter from Durand-Wayland Inc. features a dual hose reel, delivering 40 gpm and 18 gpm with 3/4- and 1/2-inch hoses. The reels hold 600 feet of hose (800 available). **706/407-9366;** www.durand-wayland.com; Booth 8168. Ask any regular attendee of the Pumper & Cleaner Environmental Expo International what keeps bringing them back for more. They'll tell you a main attraction is seeing all the latest products for the industry in one gigantic location.

With hundreds of vendors, and an all-new venue in downtown Indianapolis, it'll be a challenge to see it all. This year the exhibit hall will be open from 9 a.m. to 5 p.m. Tuesday and Wednesday, Feb. 28 and 29, and from 9 a.m. to 2 p.m. Thursday, March 1. To make sure you don't miss a thing at the Indiana Convention Center, there's an interactive floor plan on the Exposition website (www.pumpershow.com) to help plan your visit. Whether you're a first-time visitor or long-time guest, we're certain the 32nd annual Expo will have all you need to build efficiency and profitability for your business.

Here's a look at some of the products and services you won't want to miss.



3 Dyna-Vac Equipment

The Truck Jet 60-2000 from Dyna-Vac Equipment features weatherproof roll-up or safety-hinged doors, operator access from three sides, exterior lighting options, interior and exterior work lights and hydraulic swing-out reel. Custom colors are available. 888/298-8668; www.dynavacequipment.com; Booths 4019, 4020.

General Pipe Cleaners

The JM-3055 Jet-Set waterjet drain cleaning machine from General Pipe Cleaners is designed to clear grease, sand, ice and other stubborn stoppages. The unit has a 5.5 gpm/3,000 psi pump with removable 300-foot capacity hose reel. 800/245-6200; www.drainbrain.com/jets; Booth 4052.

5 Hannay Reels Inc.

The Direct Drive 6200 Series heavy-duty sewer cleaning hose reel from Hannay Reels Inc. can carry up to 500 feet of 1-inch I.D. hose or 900 feet of 3/4-inch hose. 877/467-3357; www.hannay.com; Booth 8077.

6 NLB Corp.

The 125 Series convertible waterjetter from NLB Corp. delivers operating pressures up to 40,000 psi (6,000, 8,000, 10,000, 15,000, 20,000, 25,000, 35,000 and 40,000). Conversions require a simple kit and can be completed in about 20 minutes. 248/624-5555; www.nlbcorp.com; Booth 2081.

Piranha Hose Products Inc.

The 1 1/2-inch, 2,500 psi sewer cleaning hose from Piranha Hose Products features a yellow, polyolefin tube, double layer of high-tensile synthetic braid reinforcement and abrasion-resistant orange cover. The hose has a temperature range of -40 to 150 degrees F. 800/250-5131; www.piranhahose.com; Booth 5017.

8 Power Line Industries

The dual-purpose drain line Hot Jet jetter from Power Line Industries features hot water to deep clean sewer lines and heavy grease buildup. The jetter also can be used as a power washer. 800/624-8186; www.hotjetusa.com; Booth 436. February 27th - March 1st, 2012 Indiana Convention Center · Indianapolis, Indiana



Reelcraft Industries Inc.

Series SD 10000 low-profile, spring retractable hose reels from Reelcraft Industries Inc. handle up to 50 feet of larger diameter 3/4- and 1-inch hose. 800/444-3134; www.reelcraft.com; Booth 3081.

10 Sewer Equipment Co. of America

Mongoose jetters from Sewer Equipment Co. of America can be mounted on trailers, trucks or in vans. All units can be upgraded to have rotating extendable reels with up to 600 feet of 1/2-inch hose. A wireless remote upgrade is available. 800/323-1604; www.sewerequipment.com; Booth 6025.

III Spartan Tool LLC

The Model 740 trailer-mounted waterjetter with propane fuel conversion kit from Spartan Tool LLC produces 12 gpm/4,000 psi and cleans pipe up to 12 inches from a 150-gallon water tank. 800/435-3866; www.spartantool.com; Booth 8062.

12 SPIR STAR

The 8/6UHP and 8/6UHP.X hoses from SPIR STAR are designed for ultra-high pressure (UHP) waterblasters. The hoses have six layers of high-tensile steel wires, offering pressures of 40,600 psi (8/6UHP) and 44,000 psi (8/6UHP-X). 800/890-7827; www.spirstar.com; Booth 205.

Cleaning Tools/Systems

13 Arthur Products Co.

The Mongo waterjetting cleaning tool from Arthur Products Co. has a flexible centering device and six individually detachable guide vanes made from high-impact polymer. The tool is made for 12- to 48-inch I.D. pipe. 800/322-0510; www.aquanoz.com; Booth 3107.

14 Chempure

Root Rat cutting nozzles from Chempure are available in 3/8-, 1/2-, 3/4- and 1-inch sizes. Cutters come with a toolbox and two interchangeable rotors: one with cables and the other with chains. 800/288-7873; www.chempure.com; Booth 5042.

15 Duracable Manufacturing Co.

The DM138 drain cleaning machine from Duracable Manufacturing Co. is made to clean lines from 1 1/4 to 3 inches in diameter. Powered by a 1/4 hp motor that operates at 230 rpm, the machine weighs 22.5 pounds with 7.75-pound 14-inch reel. 877/244-0556; www.duracable.com; Booth 10087.

16 Enz USA Inc.

The Golden Jet 10.060A/B/CTR turbine cleaning nozzle from Enz USA Inc. delivers operating flows as low as 8 gpm at 2,000 psi. Made for cleaning 2.5- through 8-inch pipes, the nozzle can remove roots, grease, solids, mineral deposits, concrete and grout. 877/369-8721; www.enzusainc.com; Booths 1085, 1093.

17 Hammelmann Corp.

The L-1800 automatic tank cleaner from Hammelmann Corp. removes deposits like hardened materials and scale from internal tank walls at pressures up to 26,000 psi. 937/859-8777; www.hammelmann.com; Booth 6007.

18 Jetstream of Houston LLP

A new handle design for waterblast control guns from Jetstream of Houston LLP features 4- to 6-pound trigger force for reduced operator fatigue and extended valve life. 800/822-8785; www.waterblast.com; Booth 8076.

19 MAX-LIFE Manufacturing Corp.

The Vac Trap debris trap from MAX-LIFE Mfg. Corp. features a 6to 24-inch throat for connection to 6- or 8-inch vacuum tubes and back stop-leg that prevents the device from becoming stuck in a pipe. 888/873-6295; www.flexmax.com; Booth 8163.

20 NozzTeq Inc.

The BL Swiper sewer, storm cleaning nozzle from NozzTeq Inc. can clean 12- to 30-inch pipes, utilizing water flow from the jets and airflow in the pipe. 866/620-5915; www.nozzteq.com; Booth 2040.

21 Petersen Products Co.

The Drain-Jet Pro drain flusher from Petersen Products Co. has NPT thread for connecting directly to the jetter hose. It is flexible for navigating bends and can be used as a pipe plug with the outlet end closed and standard threaded pipe plug. 800/926-1926; www.petersenproducts.com; Booth 212.



22 StoneAge Inc.

Warthog WU-3/8 and WU-1/2 nozzles from StoneAge Inc. operate in 3- to 6-inch inner diameter hose and are available with 3/8-inch or 1/2-inch inlet ports, either NPT or BSPP. 866/795-1586; www.stoneagetools.com; Booth 9078.

23 Under Pressure Systems Inc.

The floor cleaning machine from Under Pressure Systems Inc. has a built-in tri-mode shut-off valve that eliminates the need for an on/off box. Capable of pressures up to 60,000 psi MAWP, it can be used as a dry shut or wet dump system. 303/602-4466; www.underpressuresystems.com; Booth 2123.

24 US Jetting LLC

The 6,000 psi high-pressure jetting unit from US Jetting LLC for sewer and drain cleaning applications cuts roots and removes scale deposits and grease accumulation. The 6018 run-dry pump allows for outputs of 6,000, 5,000 or 4,000 psi at 18 gpm. 800/538-8464; www.usjetting.com; Booths 5000, 5001.

25 USB-Sewer Equipment Corp.

The Twister rotary sewer nozzle from USB-Sewer Equipment Corp. cleans sewer and stormwater pipelines from 6 to 24 inches and is equipped with an adjustable guide skid. 866/408-2814; www.usbsec.com; Booth 8091.

Sealing Systems

26 Avanti International

AV-100 chemical grout is available in either powder or liquid from Avanti International, providing long-term control of groundwater and infiltration. 281/486-5600; www.avantigrout.com; Booth 10061.

27 LMK Technologies Inc.

The Insignia sealing system from LMK Technologies Inc. includes O-rings, connection hats and end-seal sleeves for groundwater infiltration at lateral/mainline connections and manhole penetrations. 815/433-1275; www.performanceline.com; Booth 2080.

28 LANSAS Products/Vanderlans & Sons Inc.

RP rupture protected pipe plugs from LANSAS Products, manufactured by Vanderlans & Sons Inc., are designed to prevent catastrophic failures due to overinflation. Plugs can be reused. Sizes include 15 by 30 inches, 20 by 36 inches and 24 by 48 inches in front or back style. 800/452-4902; www.lansas.com; Booth 5041.

29 Logiball Inc.

Test and seal lateral packers from Logiball Inc. are available for 6- through 24-inch mainlines with 4-, 5- or 6-inch-diameter laterals. Grouting distances from the main can be completed up to 30 feet. 800/246-5988; www.logiball.com; Booth 10075.

30 Madewell Products Corp.

The PortaMortar application machine from Madewell Products Corp. mixes, pumps and sprays high-build restoration mortar and 100 percent solids epoxy coatings in difficult-to-reach areas. 800/741-8199; www.madewell.net; Booth 4109.

31 Cherne Industries Inc.

The 24- to 60-inch plug from Cherne Industries Inc. can fit through a 20-inch opening, yet seal a pipe up to 60 inches in diameter. 800/843-7584; www.cherneind.com; Booth 3099.

32 Savatech Corp.

Large multisized pillow-shape pneumatic blocking and bypass plugs from Savatech Corp. can be used in large round, oval or elliptical pipelines and seal most types of pipe (concrete, plastics, iron). 386/760-0706; www.savatech.com; Booth 2006.

33 Trelleborg Pipe Seals Milford

Inflatable pipe stoppers from Trelleborg Pipe Seals Milford are manufactured from reinforced layers of neoprene rubber. Sizes for flow stoppers and bypass plugs range from 1.5 to 96 inches. 800/626-2180; www.trelleborg.com/npc; Booth 2141.

Pipe Repair

34 Bowman Tool Co.

The Dominator 430 reinstatement cutter from Bowman Tool Co. operates in 6- to 30-inch relined pipe. A 2.5 hp geared air motor is available for 8-inch and larger pipe. 717/432-1403, www.bowmantool.com; Booth 10069.

35 Flow-Liner Systems Ltd.

The Neofit pipe lining system from Flow-Liner Systems Ltd. is designed for lead, copper, polyethylene, PVC or steel water service lines from 1/2- to 1 1/2-inch 1.D. 800/348-0020; www.flow-liner.com; Booth 10018.

36 Formadrain Inc.

The 30-day open-time resin from Formadrain Inc. eliminates liners lost because of time restraints or unforeseen difficulties. Liners can be shipped pre-wet and used for laterals, spot repairs and lateral-main-connections. Pipe diameters range from 2 to 48 inches. 888/337-6764; www.formadrain.com; Booth 3113. February 27th - March 1st, 2012 Indiana Convention Center · Indianapolis, Indiana



37 Infrastructure Repair Systems Inc.

Mainline and lateral point repair systems from Infrastructure Repair Systems Inc. are available with push or pull lateral carrier. The lateral unit can navigate 90-degree turns. The ambient-cure system can repair 4- to 36-inch-diameter pipe up to 15 feet in length. 877/327-4216; www.trsi.net; Booths 4007, 4008.

38 MaxLiner

The CLS complete lateral system from MaxLiner seals laterals at the connection interface. The system allows 90-degree bends. Laterals can be lined after the main liner has been installed. Laterals without a cleanout can be lined from the mainline. 276/656-1225; www.maxlinerusa.com; Booth 8138.

39 Nu Flow Technologies

The Nu Flex pipeline system from Nu Flow can line around multiple bends (22, 45 and 90 degrees) without wrinkling. Liners fit 1.5- to 8-inch pipe diameters with custom sizes available. 800/834-9597; www.nuflowtech.com; Booth 5049.

40 Perma-Liner Industries Inc.

Perma-Main liner from Perma-Liner Industries Inc. is a nonwoven, needle-punched stitched and tape-seamed felt available in 600-foot lengths for 6- through 24-inch-diameter pipes. Turnkey trailers for the lining system are available. **866/336-2568;** www.perma-liner.com; Booth 7025.

41 Pipeline Renewal Technologies

The MicroPro lateral cutter from Pipeline Renewal Technologies reaches 100 feet into 3- through 10-inch lines. Using remoteinflated air bladders, the cutter's arm positions itself remotely and clamps for precision cutting in vertical or horizontal orientation. 866/936-8476; www.pipelinert.com; Booth 8131.

42 Quik-Lining Systems Inc.

CIPP sewer lateral lining systems from Quik-Lining Systems Inc. enable the user to install directly from the wet-out stage into the ground without transporting, storing or loading it into the launching device. **714/296-5262; www.quiklining.com; Booth 12108.**

Bursting/Boring

43 HammerHead

Static, pneumatic and lateral pipe bursting systems from HammerHead include the Portaburst line of lateral bursting systems and the Hydroburst line of static pipe bursting systems to replace even non-fracturable lines up to 24 inches in diameter. 800/331-6653; www.hammerheadtrenchless.com; Booth 10060.

44 Pow-R Mole

The Dry Bore steerable horizontal thrust boring system from Pow-R Mole is designed for installing new pipes in soils where accuracy is critical. The system features detection technology in the head to accurately establish its location underground. 800/344-6653; www.powrmole.com; Booth 1006.

45 RODDIE Inc.

The PB-40 pipe bursting machine from RODDIE Inc. for 4- and 6inch sewer laterals includes built-in crib back that allows users to restage the ram within its own chassis to pull the head into the pit without using timbers or cage. 408/224-7777; www.roddieunderground.com; Booth 10023.

46 TRIC Tools Inc.

The V24 pipe bursting pulling unit from TRIC Tools Inc. operates directly in line with the pipe, eliminating the pulley wheel. It delivers 29 tons of pulling force at 3,000 psi and accepts cable from 3/8 to 3/4 inches. 888/883-8742; www.trictools.com; Booth 12102.

Pumps

47 A.R. North America Inc.

The RTJ70 mid-size, high-pressure, triplex, positive displacement plunger pump from A.R. North America Inc. delivers 18.5 gpm/4,000 psi. **763/398-2008; www.arnorthamerica.com;** Booth 10027.

48 Hibon Inc.

The SIAV and VTB three-lobe series of air injection blowers from Hibon Inc., a division of Ingersoll Rand, are capable of attaining 28 inches Hg vacuum at 93 percent vacuum. The blowers have an oil- and water-free design. 514/631-3501; www.hibon.com; Booth 10041.



49 Moro USA Inc.

The PM 110W water-cooled vacuum pump from Moro USA Inc. with Kevlar vanes has 29 psi positive pressure capability and a liquid cooling system with forced circulation. 800/383-6304; www.morousa.com; Booth 6020.

50 Pat's Pump & Blower

The Myers-Aplex E Series pump from Pat's Pump & Blower delivers flows up to 110 gpm with pressure ratings to 3,000 psi. It features abrasion-resistant valve assemblies and internal gear reductions of 3.95 to 1. 800/359-7867; www.patspump.com; Booth 5012.

Maintenance/ Safety Equipment

51 Bio-Clean/Statewide Supply Inc.

Septic maintenance packets from Bio-Clean/Statewide Supply Inc. feature a combination of natural bacteria and enzymes that digest organic waste. 800/553-5573; www.bio-clean.com; Booth 440.

52 Bright Dyes

FLT orange fluorescent water tracing dye products from Bright Dyes act as vivid labels for water and are easily detectable at 1 ppm. They are available in tablet, liquid, powder and wax forms and come in three fluorescent colors (yellow/green, red, orange). 800/394-0678; www.brightdyes.com; Booth 9124.

53 Jameson LLC

Duct Hunter traceable rodders from Jameson LLC enable one person to trace or map underground pipe before digging. 800/346-1956; www.jamesonllc.com; Booth 1113.

54 Milwaukee Rubber Products Inc.

The 12-inch plastic blower from Milwaukee Rubber Products Inc. delivers 1,842 cfm of free air and 1,004 cfm at a 90-degree bend or 933 cfm with two 90-degree bends. 800/325-3730; www.milwaukeerubber.com; Booth 5032.

55 Pipeline Analytics

WinCan v8 pipe inspection and asset management software from Pipeline Analytics enables a video inspection crawler equipped with laser profiling hardware to capture pipeline geometry. 877/626-8386; www.pipelineanalytics.com; Booth 8127.

56 Prototek Corp.

The TruCore Sludge Sampler by SIM/TECH FILTER from Prototek Corp. is made for core sampling wastewater and other fluids. The 8-foot tube sampler breaks down into 2-foot sections for transportation. 800/541-9123; www.prototek.net; Booth 10051.

57 RootX Inc.

The self-foaming, root-killing herbicide from RootX Inc. is made to control root growth in sewer pipelines and inhibit re-growth. The herbicide can be applied from the package or with existing sewer cleaning equipment. 800/844-4974; www.rootx.com; Booth 403.

58 PowerTrack International

The Safety Shroud from PowerTrack International is designed to protect the operator in the event of a hose or end-fitting failure by completely enclosing the hose and connection fittings. 800/365-1577; www.powertrackhose.com; Booth 1128.

59 Safety Corporation of America

The ultraSHORE trench shoring system from Safety Corporation of America, made of corrugated aluminum, features panels that can be used horizontally or vertically for bury depths to 12 feet in Class C soils. 800/746-7464; www.shoring.com; Booth 8055.

60 Southland Tool Mfg. Inc.

The Deep-Vac manhole tube holder from Southland Tool Mfg. Inc. clamps around tubes in any location and is designed for manholes from 24 to 36 inches. Extensions are available for larger openings. 714/632-8198; www.southlandtool.com; Booth 1041.

61 T&T Tools Inc.

The Mighty Probe from T&T Tools Inc. features a specially designed insulated handle. The high-strength steel shaft is available in lengths from 3 to 6 feet (1/2-foot increments). 800/521-6893; www.mightyprobe.com; Booth 402.

62 WJTA-IMCA

WJTA-IMCA offers several safety related items, including Recommended Practices for the Use of High Pressure Waterjetting Equipment. The Recommended Practices includes revised information about dealing with accidents. 314/241-1445; www.wjta.org; Booth 5062.

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Trucks/Accessories

63 Aquatech Inc./Hi-Vac Corp.

The B-10 combination jet/vac truck from Aquatech Inc., a product of Hi-Vac Corp., features single-engine drive for fuel consumption and reduced maintenance, rear-mounted hose reel, full-power, 360-degree rotating boom that extends 20 feet and air/vac system with an operating capacity of 2,700 cfm and 204-inch water column. 740/374-2306; www.aquatechinc.com; Booth 3080.

64 GapVax Inc.

The MC Advanced Series hydroexcavator from GapVax Inc. features a monitoring system that enables the operator to observe and troubleshoot from a single display (one inside and one outside the cab) as well as control hydraulics, blower and water pump operations with a complement of gauges. 814/535-6766; www.gapvax.com; Booth 8110.

65 Lodar

Radio controls by Lodar are made for hydraulic equipment, conveyors, augers, trailers, winches, cranes, hoists, pumps, engine start/stop and hose reels. Controls can operate at up to 200 feet. 877/257-1581; www.lodar.com; Booth 1175.

66 Martin Engineering Co.

The Cougar Vibration DC 3200 mobile/truck vibrator from Martin Engineering Co. helps evenly distribute material when spreading and eliminates the need for workers to climb into truck beds to perform cleanouts. 800/544-2947; www.martin-eng.com; Booth 4018.

67 Super Products LLC

The Mud Dog 1600 hydroexcavator from Super Products LLC delivers up to 18 gpm at 3,000 psi. Its 8-inch, positive displacement vacuum system provides 5,800 cfm airflow and 28 Hg of vacuum. 800/837-9711; www.muddogeasy.com; Booth 1040.

68 Supervac 2000

The SVHT-6400 hydroexcavator from Supervac 2000 includes a 3,000-gallon carbon steel debris tank, 1,200-gallon copolymer water tank and cyclone and cartridge filter. The pump provides 6,400 cfm airflow and 27 Hg of vacuum. 866/839-5702; www.supervac2000.com; Booth 8148.

69 SVE Portable Roadway Systems Inc.

The TRAKMAT ground cover mat system from SVE Portable Roadway Systems Inc. is designed for moving work vehicles across lawns, fields or sandy areas to prevent damage or keep from getting stuck. 800/762-8267; www.mudtraks.com; Booth 12144.

70 Vac-Con Inc.

The Vac-Con Inc. combination machine is available in 3.5-to 6cubic-yard capacities with hydrostatically driven two- and threestage centrifugal compressors or several optional positive displacement blowers up to 27 inches Hg. 888/491-5762; www.vac-con.com; Booth 1080.

71 Vacall

AlUetVac P Series combination sewer cleaners from Vacall use a positive displacement blower system powered by the chassis engine rather than a second engine, reducing fuel consumption, service time and harmful emissions. 800/382-8302; www.vacallindustries.com; Booth 10064.

72 Vactor Manufacturing

The Catch Basin Plus from Vactor Manufacturing has a fan and air-routing system that delivers increased vacuum pressure in the single-stage and dual-stage fan configurations. Ergonomic controls make it easy to operate and maintain. 800/627-3171; www.vactor.com; Booth 8076.

73 VT Hackney Inc.

The P/2000 aluminum service body, mounted on an Isuzu NPR diesel chassis from VT Hackney Inc., features a rear drop floor, three-step entrance, double swing-out barn-style rear doors and pull-out walk ramp. 800/763-0700; www.hackneyservice.com; Booths 11118, 12116.



Inspection Systems/Smokers

74 Aries Industries Inc.

The Pathfinder XL inspection tractor from Aries Industries Inc. features six-wheel steerable drive, enabling it to maneuver over virtually any obstruction or offset joint. Standard tires range from 3 3/8 inches for relined 8-inch pipe to optional 10-inch tires for 36-inch and larger pipe. 800/234-7205; www.ariesindustries.com; Booth 9100.

76 Cobra Technologies

The PTZ camera/crawler from Cobra Technologies is designed for lined 6-inch pipe. Used with the 6-inch Cobra 150 crawler, the 18inch-long system is capable of operating in 6- through 24-inch pipes. 800/443-3761; www.cobratec.com; Booth 6017.

76 CUES Inc.

The LAMP II, self-propelled inspection probe from CUES Inc. can perform pan-and-tilt inspections of mainline sewer pipes with simultaneous viewing of the adjacent lateral. The fiberglass push cable can inspect up to 120 feet into a lateral; the stainless steel option can inspect up to 100 feet. 800/327-7791; www.cuesinc.com; Booth 8066.

ZZ Electric Eel Mfg. Co. Inc.

The eCAM Ace and eCAM Pro pipeline inspection camera systems from Electric Eel Mfg. Co. Inc. have a stainless steel-housed 1.68inch-diameter camera and 20 LED light ring. A flexible camera spring enables the systems to navigate 3-inch P-traps. 800/833-1212; www.electriceel.com; Booth 9040.

78 Envirosight LLC

The ROVVER X crawler from Envirosight LLC offers three laser options with the WinCan-compatible touch-screen control pendant. The steerable, six-wheel pipe inspection system has a crawl range up to 1,650 feet, three-piece layout and digital recording. 866/936-8476; www.envirosight.com; Booth 8128.

79 Forbest Products Co.

The FB-PIC 4188 sewer/drain camera system from Forbest Products Co. has a 10-inch LCD color monitor with built-in DVD recorder and microphone. The 7/8-inch camera head has a builtin 512 Hz sonde transmitter for inspecting pipes from 1/2 to 12 inches in diameter. 650/757-4786; www.forbestusa.net; Booth 10143.

80 Hathorn Corp.

The Optimum HDD 12.1 video inspection system from Hathorn Corp. features a 12.1-inch monitor, adjustable lighting, 512 Hz sonde, 16 pages of text writing, 8X zoom, voice recording, spillproof keyboard, on-screen footage counter and three-hour battery pack. 905/886-2835; www.hathorncorp.com; Booth 8089.

811 Hurco Technologies Inc.

The PowerSmoker 2 leak detection system from Hurco Technologies Inc. utilizes indoor-safe and laboratory-tested LiquiSmoke to identify leaks and find sewer odors in new plumbing construction prior to inspection. 800/888-1436; www.gethurco.com; Booth 5038.

82 RapidView IBAK North America

The ORION 2.5 camera system from RapidView IBAK North America features pan, tilt and zoom functionality while maintaining a wide-angle view. It automatically rotates around pipe joints, providing a picture that is always right side up. 800/656-4225; www.rapidview.com; Booth 2065.

83 Ratech Electronics Ltd.

The Plumber's Inspector PC-Xi portable inspection system from Ratech Electronics Ltd. is made for pipes and drains as small as 2 inches in diameter. The all-in-one system incorporates all recording capabilities using your portable laptop computer. 800/461-9200; www.ratech-electronics.com; Booth 9084.

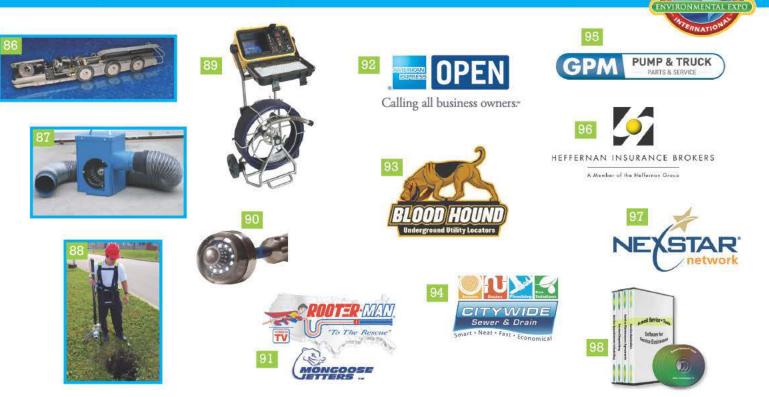
84 RIDGID

The SeeSnake nanoReel N855 industrial inspection camera system from RIDGID is made for ultra-small diameter lines, ranging from 3/4 to 2 inches. It can make tight turns and push up to 85 feet of cable to inspect boiler tubes, supply lines and sprinkler systems. 800/769-7743; www.ridgid.com; Booth 8000.

85 Rothenberger USA LLC

The Roscopet500 video camera from Rothenberger USA LLC features picture capture capability, image rotation and 48-inch, 14-mm-diameter images. It can navigate through a standard 1 1/2-inch P-trap. 800/545-7698; www.rothenberger-usa.com; Booth 3135.

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86 RS Technical Services

The GEN2 zoom mainline and lateral inspection system from RS Technical Services can perform inspections in 6-to 24-inch pipelines from a single integrated unit. A launch camera actuator allows for insertion into 90-degree laterals up to 100 feet from the mainline. 800/767-1974; www.rstechserw.com; Booth 4037.

87 Superior Signal Company LLC

The Superior 5E Electric Smoker from Superior Signal Company LLC includes heavy-duty, industrial grade flexible hose and is available in 110 VAC or 12 VDC. 800/945-8378; www.superiorsignal.com; Booth 9148.

88 UEMSI

The PoleStar pole-mounted pipeline inspection system from UEMSI allows one person to open a manhole cover, lower the unit in place, and begin recording in minutes without connections, reels or an entire truck. 800/666-0766; www.uemsi.com; Booth 8158.

89 Vivax-Metrotech Corp.

The vCam Inspection System from Vivax-Metrotech Corp. includes a modular control module with 8-inch color LCD display. A range of reels allows inspection of 3- to 12-inch pipes at distances from 60 to 400 feet. 800/446-3392; www.vivax-metrotech.com; Booth 10019.

90 Wohler USA Inc.

The VIS 340 Plus inspection camera system from Wohler USA Inc. features dual camera heads, including 1 1/2-inch, 360-degreepan and 180-degree-tilt head, and a 1-inch straight camera head. 978/750-9876; www.wohlerusa.com; Booth 4097.

Services

91 A Corp/Rooter-Man

Rooter-Man drain cleaning franchises from A Corp/Rooter-Man include exclusive use of registered trademarks, comprehensive training programs, dedicated support and discounts through national buying power. 800/700-8062; www.rootermanfranchise.com; Booths 3148, 4149.

92 American Express

The OPEN business card from American Express provides access to products, tools and services to run your business. Cardholders can manage spending online, earn rewards on business purchases and tap into resources and other information. 800/528-4800; www.americanexpress.com/open; Booth 4101.

93 Blood Hound Inc.

The subsurface utility consulting firm, Blood Hound Inc., specializes in electromagnetic locating (EM), ground penetrating radar (GPR), air and hydro vacuum excavation, GPS and utility mapping, pipe/sewer camera inspection (robotic and manual) and fault locating. 888/858-9830; www.bhug.com; Booth 531.

94 CityWide Sewer & Drain

The CityWide franchise system from CityWide Sewer & Drain offers a base of prospective, discounts on supplies and equipment and training in hiring, management and operations. 800/310-2564; www.citywideplumbers.com; Booths 3028, 3029.

95 GPM Pump & Truck Parts LLC

Pumps and parts for Class 6-8 trucks from GPM Pump & Truck Parts LLC are available for all makes and models. The company also rebuilds blowers and pumps. 630/543-7373; www.gpmpumptruckparts.com; Booths 11070, 12068.

96 Heffernan Insurance Brokers

Specializing in insurance coverage for the liquid waste industry, Heffeman Insurance Brokers is a full-service independent company. Specialties include policies that cover truck pollution and job site equipment. 800/208-6912; www.heffins.com; Booth 12080.

97 Nexstar

A business-development and best practices organization, the Nexstar Network provides business training and support. Companies are assigned a business and marketing coach who help guide, advise and mentor members. 888/240-7827; www.nexstarnetwork.com; Booth 441.

98 Ritam Technologies LP

Summit Service Tools from Ritam Technologies LP provide service reminders, service maintenance agreements, service dispatching and service appointment scheduling. Apps enable customers to request service or check for appointment times from their phones. 800/662-8471; www.ritam.com; Booth 12000.



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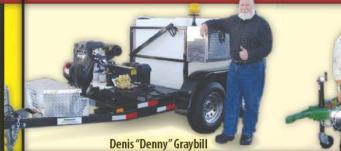
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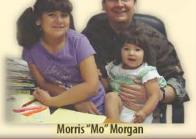
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Wave of the Future

A UV-CURED LINING SYSTEM ENABLES A FLORIDA CONTRACTOR TO REHABILITATE STORM DRAINS UNDER AN ACTIVE RUNWAY

BY SCOTTIE DAYTON

bout 85 percent of the joints were leaking in the 30-inch concrete stormwater drains under a runway at the Northeast Florida Regional Airport in St. Augustine. The three 440-foot pipes ran side by side, had joints every three feet and drained tides from the Atlantic Ocean.

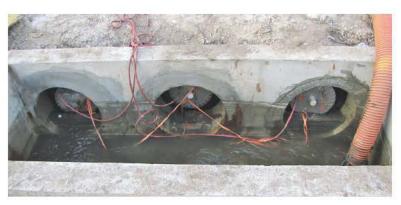
Since the runway was due for repaying, Passero Associates, an engineering firm in the city, put out a request for proposals to rehabilitate the drains. Engineered Lining Systems, a Jacksonville-based company with a specialty in cured-in-place pipe and structure restoration, won the bid.

"Passero wanted an environmentally friendly technology because we were close to the Matanzas River estuary," says production manager James Macko. "We looked for alternatives in conventional cured-in-place products and found SAERTEX-LINER from Saerbeck, Germany."

Two layers of foil contain the resin within the fiberglass-reinforced plastic liner, and ultraviolet lights cure it. The liners also provide structural support. Third-party test results showed that they have a flexural modulus of 1.7 million psi and flexural strength of 36,000 psi with less than 0.5 percent shrinkage factor.

In addition to the new lining system, the ELS team faced the challenge of working at night. They also had to contend with aircraft traffic, high tides, potential downpours, coordinating crews and other contractors, confinedspace entries and oysters.





The airport project required workers to plug the drain inlets to prevent surcharging before dewatering the pipes with a Gorman-Rupp 6-inch highflow pump. Tides ranged from 2 feet above the crown to 12 inches below the pipe. (Photos courtesy of Engineered Lining Systems, Jacksonville, Fla.)

tough job

PROJECT:	Rehabilitate storm drains under an active runway
CUSTOMER:	Northeast Florida Regional Airport in St. Augustine, Fla.
CONTRACTOR:	Engineered Lining Systems, Jacksonville, Fla.
EQUIPMENT:	Lining system from SAERTEX 866/921-5186 www.saertex.com
RESULTS:	Drains rehabilitated without interrupting flights

FIRST THINGS FIRST

Rainstorms in Florida can develop quickly, dropping 0.75 inch of rain at the airport in 30 minutes. Establishing a bypass plan was crucial and required consulting with pump experts. They calculated the massive surface area drained by the storm pipes and recommended the proper bypass pumps to place on standby.

Crews worked from 8 p.m. to 8 a.m. After 9 p.m., airport radio communication switched from the tower to an open frequency. For the workers' safety, Passero trained superintendent Matt Singletary to talk with the pilots and clear the area for landings and takeoffs. ELS superintendent Danny Knight worked closely with Singletary, holding numerous safety and production meetings before and after work began.

(continued)

Gliding foil, used to protect the liner and facilitate its passage, covers the bottom of one of three stormwater drains under the runway.



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SAERTEX technician Maik Kluppels installs a steel packer in the end of the first pipe.

The airport handled up to five flights per night, and workers were not permitted to cross the flight line. They communicated with two-way radios.

"A constant challenge was coordinating where to stage our equipment with contractors laying geotextile fabrics for another project," says Macko. "We couldn't be on site while their crews were working."

Because this was the first time ELS installed a UVcured liner and the project was one of the largest of its kind in northeast Florida, vice president Mark Hallett and lining technician Maik Kluppels from SAERTEX multiCom arrived from Huntersville, N.C., to assist.

OYSTER STEW

Oysters covered the circumference of the pipes as far as there was sunlight.

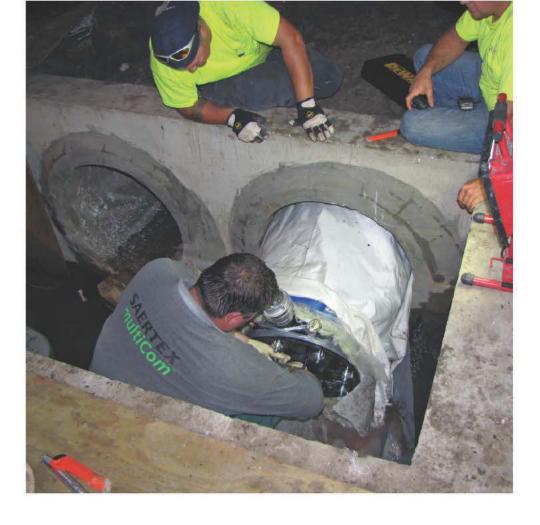
"It's a common occurrence, but this is the worst case I have ever seen," says Macko. "They reduced the diameter of the downstream pipe ends by 25 percent for 125 feet. Oysters are about four inches in diameter and extremely tough."

Workers first plugged the drain inlets and dewatered the pipes with a Gorman-Rupp 6-inch high-flow pump. Tides ranged from 2 feet above the crown to 12 inches below it. Macko constantly monitored the Weather Channel on his laptop, watching the radar for thunderstorms.

Jetter technician Steve Browns used a GapVax MC1510 combination vacuum truck and Lumberjack LJ 700C descaler from NozzTeq to remove the mollusks. Inspection technician Jody Wright followed his progress with a Pipe Ranger system from CUES.

"It's a real intense process," says Macko. "Cleaning a drain took one and a half nights because we had to constantly reset the chain flails."

Browns used short chains to cut an even path on the bottom of the drains for the tool's skid, then attached longer chains and reset the rollers so the chains hit at the proper angle to the pipe wall. As shell fragments accumulated, he switched to a cleaning head to remove the debris, then returned



to the descaler and made another pass at 80 gpm/2,000 psi. A corrugated 2-inch rubber pipe prevented the sharp fragments from cutting the jetter hose.

As a precaution, a worker with confined-space equipment entered the drains after they were mechanically cleaned to remove any remaining oysters that could potentially damage the liner.

"The UV system allowed us to install one liner per night and immediately recommission the drain line. The benefits of GRP liners are outstanding. We believe they are the next generation of trenchless technology." James Macko



PORT TO PORT

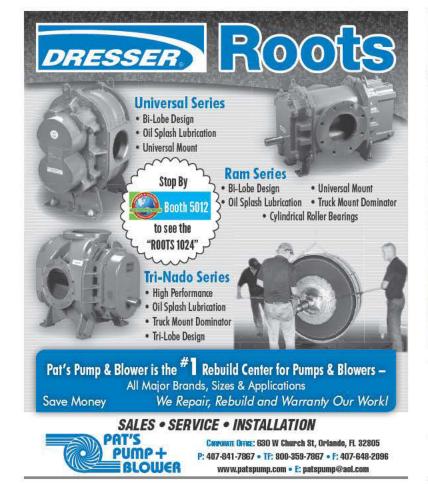
Macko and Hallett measured the pipes and sketched the runs, then sent the information to the factory in Saerbeck. The custom liners were wetted out, slipped inside UV-protective gray foil sleeves, folded into lightproof crates, and shipped in refrigerated containers to the Port of Jacksonville. Each crate also had a spool of 2-mm-thick gliding foil.

"The factory delivered the liners within five weeks," says Macko. An ELS refrigerated truck delivered the crates to the site. Nighttime temperatures were 90 degrees F or higher.

As ELS workers plugged, dewatered and jetted a pipe, Kluppels prepared the gliding foil to enter the pipe. He folded the lead edges inward and ducttaped them together to create a narrow profile, then secured a nylon strap to *(continued)*

Steve Browns feeds jetter hose out of a GapVax truck while another worker monitors the dewatering process.









An elaborate winch system involving blocks, the forklift, and an adapted bucket machine pulled the liner into the pipe.

the bundle and attached a pull-in line. He attached a second line at the back of the bundle to pull back the steel-braided winch cable.

As Knight's crew manually pulled the foil into the drain, two workers at the access pit lubricated the material with a biodegradable dishwashing liquid. The foil would protect the liner and facilitate its passage.

Meanwhile, workers positioned the leading edges of the 12,000-pound liner inward and secured them with three ratchet straps, forming a nose. An elaborate winch system involving blocks, the forklift and an adapted bucket machine pulled the liner into the pipe.

FAST AND CLEAN

"This is where things got interesting," says Macko. "The operator had to coordinate the speed of the winch with the crew unfolding and passing the liner into the pipe. We pulled 30 to 40 feet per minute, double-checking everything as the liner went in."

Once the liner was inserted, Kluppels slipped a steel packer in the rear of the liner and secured it with a ratchet strap. He installed another packer in the nose, then pressurized the liner at 6 psi to insert the UV light train with temperature sensors and a fixed camera on both ends.

A power cable attached to the light train enabled Kluppels to pull it through the liner as Knight inspected it for imperfections and fit on the CCTV monitor.

"This product has great quality control," says Macko. "The resin has a photo initiator and cures only under ultraviolet light. If anything goes wrong, we can turn off the lights, release the air pressure, adjust the liner, inflate it again, turn on the lights, and continue as if nothing had happened."

After Kluppels set certain fields in the operating program, he ignited the eight 1,000 W UV lights and the computer controlled the speed of the cable reel, which pulled the lights upstream at 1.65 feet per minute. As temperatures reached a maximum and a minimum, the computer adjusted the speed.

"It would have taken 20 to 30 hours of running big boiler trucks to heat enough water to steam cure this much liner," says Macko. "The UV system allowed us to install one liner per night and immediately recommission the drain line. The benefits of GRP liners are outstanding. We believe they are the next generation of trenchless technology."

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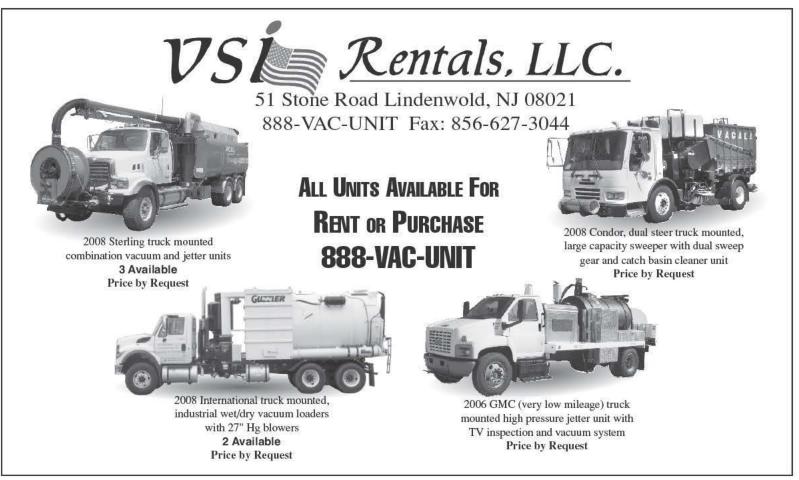


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Correcting an Error

WHEN YOUR CREDIT REPORT DINGS YOU UNFAIRLY, YOU CAN FIX IT - BUT DON'T DELAY

BY ERIK GUNN

ast month's column explained how your credit report and credit score can affect your borrowing, whether on a business or consumer loan. The bottom line to keeping both your business and personal credit strong is pretty straightforward: Don't borrow more than you can afford, and pay all your bills on time.

But what happens when your credit report has a mistake – especially one that makes you look less creditworthy than you are?

Credit report mistakes do happen, although there's some disagreement about how frequent they are. The big credit bureaus – TransUnion for consumers, Equifax and Experian for both consumers and businesses, and Dun & Bradstreet for businesses only – insist their error rate is low, with just one half of 1 percent of customers getting dinged for a higher interest rate because of an error. Yet even that small percentage could affect as many as 1 million people, as a USA Today editorial recently noted. And errors have led to thousands of lawsuits in the last five years and tens of thousands of complaints each year to the Federal Trade Commission.

GETTING THE BAD NEWS

So how do you even learn of a mistake in your report?

The obvious way is to check your report periodically – more on that in a moment. But the sad truth is, you probably won't learn of it otherwise unless and until something bad happens – you get a higher interest rate than you planned on for an equipment loan, or you get a call from your credit card company telling you they're dropping your credit limit because of an alleged delinquency.

If you experience a denial or reduction in credit in this way, it will be because of a report from one of the credit bureaus to the creditor. Ask the creditor in question which bureau supplied the damaging information. You are then entitled to a free copy of your report from that bureau.

In addition, the federal Fair Credit Reporting Act requires the credit bureaus to give you a free copy of your credit report once a year. Log on to www. annualcreditreport.com, call 877/322-8228, or download an Annual Credit Report Request Form from www.annualcreditreport.com/cra/order. Fill out the

No one wants to have to deal with the headache of a credit report black mark – especially if it's a mistake. But the reality is that they happen. SO IF YOU HAVE TO FIX IT, THE MOST IMPORTANT THING IS, DON'T DITHER.



form and mail it to: Annual Credit Report Request Service, P.O. Box 105281, Atlanta, GA 30348-5281. Business reports aren't covered by the FCRA.

MAKING THINGS RIGHT

Whether you get the report in response to a bad event, or simply from your annual request, look it over carefully. If you see an error, act right way.

One type of error results from outright identity theft – someone has opened a new account in your name and, in all likelihood, run up a mass of bills on it. Overcoming a case of identity theft requires immediate action and will probably involve filing a report with the appropriate law enforcement agency. (See the "Money Manager" column from the October 2011 issue for more information.)

The other, though, is probably from some sort of error made by one of your actual creditors -a bill mistakenly reported paid late, for example, or not paid at all, when in fact it was.

To correct it, immediately report it in writing to the credit bureau, along with copies of verifying documentation. Credit reporting companies have 30 days to investigate, and must forward data you provide to the original creditors who reported the information that led to the downgrade.

You might find that the lender who received the negative report will actually



Erik Gunn is a magazine writer and editor in Racine, Wis., where he operates Great Lakes Editorial Services, consulting for businesses, nonprofits and halvlauds. Readers may direct inquiries to him by contacting this publication at 800/2577222 or emailing editor@cleaner.com. help you through the process of getting connected to the credit bureau it came from. That's what happened to a business owner I know whose business credit card suddenly dropped his line of credit due to a negative report, even though he'd always paid that lender on time and without dispute. A customer service representative from the credit card helpfully guided him through the process of filing the dispute with the credit bureau.

But remember, the wrong information in the report originally came from a creditor, too – and you'll need to deal directly with that source, as well.

If that creditor's own records show you're clean, and that there was some mistake in their reporting to the credit bureau, get a written statement to that effect. On the other hand, if the creditor's records also are mistaken, you'll need to submit a dispute in writing.

FOLLOWING UP

Once the investigation is finished, the credit reporting company must give you the results in writing, along with a new, free copy of your report if the dispute has led to a change.

"If you ask, the credit reporting company must send notices of any corrections to anyone who received your report in the past six months," says the FTC in a helpful, step-by-step guide to fixing credit bureau errors. "You can have a corrected copy of your report sent to anyone who received a copy during the past two years for employment purposes." (You can see the rest of the FTC's advice here: www.ftc.gov/ bcp/edu/pubs/consumer/credit/cre21.shtm.)

Sometimes the investigation still won't end the dispute. In those cases, have a statement of the dispute included in your credit file and in future reports. Also, the credit bureau will send a statement to anyone whom it has sent your credit report recently – but you'll probably have to pay a fee for that.

No one wants to have to deal with the headache of a credit report black mark – especially if it's a mistake. But the reality is that they happen. So if you have to fix it, the most important thing is, don't dither.

Make the call, write the complaint, get the information to back you up, and get moving. That will be the quickest way back to a clean report that gives you all the credit you're due.

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The Right Tool for the Job

KNOWING THE DIFFERENCES BETWEEN FAN AND POSITIVE DISPLACEMENT MACHINES WILL HELP YOU MAKE THE RIGHT PURCHASE FOR YOUR BUSINESS

BY MIKE SELBY - NATIONAL SERVICE MANAGER, VAC-CON INC.

Editor's note: This article provides an overview of the attributes of both fan and positive displacement vacuum machines. It offers a manufacturer's response to a Tech Perspective that ran in the September 2011 issue of Cleaner.

ustomers in today's combination sewer cleaner market have two choices with which to generate vacuum: centrifugal fan or positive displacement blower. This column is not intended to sway, discount or condemn either method, but rather dispel the myths long associated with both vacuum methods and components. Neither fans nor PDs were originally intended for the sewer cleaner market, but both were designed to convey. To better understand how they ended up in this market you must first learn a little history.

POSITIVE DISPLACEMENT

The positive displacement machine was invented around 1860 as a "more efficient" water wheel. Made of wood, it was put into the millstream and as water flowed through it, the rotors turned and power was generated from the output shaft. Over time, wood components swelled and ruined the clearances, causing

The fan vs. positive displacement argument rivals the Ford vs. Chevy debate. Books have been written regarding the benefits of fan over PD and vice versa. The single most important thing to consider is the application for which the machine is going to be used the most.

the mill to stop. The unit would then have to be taken out of service and dried out, shrinking the components to their original dimensions. As soon as the rotors would turn, a power source was connected to the output shaft to speed up the drying process. Someone noticed that this arrangement could move a significant quantity of air, and the use as air blowers began.

Cupola blowers became the first application for this newfound technology. Each rotation of the rotors represented a specific amount of air being forced into the furnace, thus allowing the furnace master to develop the theory that the more rpm the blower turned the hotter the fire became. The positive displacement (PD) machine was originally intended for pressure applications, which led to the original nickname, "blower." Only in the last 30 years has the machine been adapted to provide negative pressure in truck-mounted vacuum applications.

The PD machine is constructed with two lobes that rotate in a cast steel housing in opposite directions of each other. The design of the PD is such that each lobe traps a specified amount of air – depending on the size of the PD – for each rotation. PD machines rely on close tolerances – as small as .009 of an inch – to trap the air. Unless the PD is designed to run fully blanked off, relief valves

are necessary to protect the unit from building too much vacuum, which creates too much heat and subsequently causes the internal components to expand and collide with each other. Generally, the input speed of a PD blower is approximately 2,200 rpm, which produces 16 to18 inches Hg while creating 2,400 to 4,200 cfm.

One common misconception of PDs is that no matter how deep, no matter how far, a PD can "pump" the water or material. This is untrue. A PD machine has a finite lifting capability; once a PD reaches its lift capacity an operator must fluidize (add air) to continue conveying material to the holding vessel. PD machines work well in liquids, sludge or thick materials and vacuuming over a long distance horizontally.

CENTRIFUGAL FAN

The centrifugal fan was designed in or around the 1960s for conveying grain. The conveyor's original design had a centrifugal fan powered by a diesel engine, piping in which the material was conveyed, a cyclone, and an airlock. The technology was aimed at offloading grain from ocean-going cargo ships more efficiently than the shovel and bucket method. This machine could vacuum material from the berths of a cargo ship and lift it into a cyclone. Grain would drop out of the cyclone via an airlock and the exhaust or pressure side of the blower would then push the material to the storage vessel on shore. The unloading process, which previously took several days, could now be completed in hours.

The centrifugal fan uses rotating "fan" blades compressing air in compound stages. This device in its most powerful configurations is capable of lifting a column of water 200 feet, the equivalent of approximately 14 inches Hg (vacuum). It is fully capable of vacuuming material under water up to its rated lift performance, either without air induction, or with air induction. The closest tolerance in a fan is roughly 1/4 of an inch. The air is drawn to the inlet of the fan blade, and as the blade spins, it moves and compresses the air.

One common misconception of the centrifugal fan is that it cannot vacuum under water. That is absolutely untrue. A fan can vacuum to its rated lifting performance whether it's under water or not. If a fan is rated at 200 inches, it can lift an 8-inch column of water to 16.67 feet. If the level of the water is less than 16.67 feet from the top of the boom, the fan can vacuum under the level of the water with no attachments. If the water level is greater than 16.67 feet, a fluidizing nozzle is used to add air into the air stream. Centrifugal fans work well in moving liquids and solids at over 100 feet vertically or horizontally.

This timeless topic has been and will continue to be the single most argued point in the combination machine industry. The fan vs. positive displacement argument rivals the Ford vs. Chevy debate. Books have been written regarding the benefits of fan over PD and vice versa. Each of these vacuum generators has applications where it outperforms the other. The single most important thing to consider is the application for which the machine is going to be used the most. If you are still unsure of which machine to purchase, be sure to contact your local sales engineer who is trained in the operation of both of these machines. **c**















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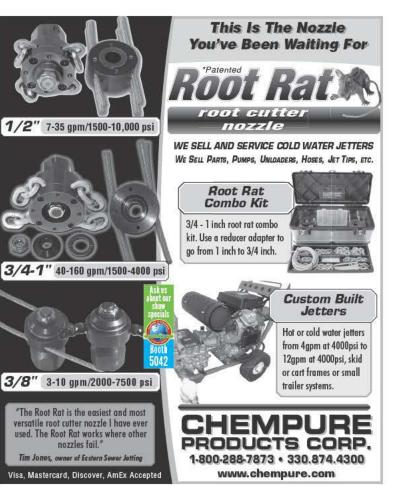
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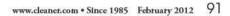
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Billy Bell Utility Supervisor II – City of Raleigh, N.C.

"I came back with some really good ideas."

The 2011 Expo was Billy Bell's first, and he attended with five colleagues. "The most impressive thing was the new technology – the cameras, sewer cleaning equipment and rehab equipment on the exhibit floor," he says. "New technology has helped us tremendously. It's amazing how far it has come from the past. The sales representatives were very helpful. Any of questions about the products, they could answer. You really have to see this for yourself."



February 27th – March 1st, 2012

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Education Day

Monday, February 27th

SSCSC	Southern Sections Collection Systems Committee	NOWRA	National Onsite Wastewater Recycling Association
8 a.m.	Rust into Gold	8 a.m.	Aerobic or Anaerobic - Which One Is Better?
9:30 a.m.	Maintaining Collection System Easements	9:30 a.m.	Mound Systems – Not Just for Wisconsin!
11 a.m.	Sanitary Sewer Overflows: What To Do When It Is Flowing Down the Street	11 a.m.	Dead Bacteria - How Overuse of Cleaners and Household Products KILL
1:30 p.m.	Finding Success and Growth in the Pipeline Cleaning Business	1:30 p.m.	Onsite Electrical
3 p.m.	Evaluating and Optimizing the Efficiency of a Combination Truck	3 p.m.	Managing Commercial Wastewater Treatments
4:30 p.m.	CCTV Inspection Essentials	4:30 p.m.	Choosing the Right Float to Control Your Pump
NAWT	National Association of Wastewater Transporters	NEHA	National Environmental Health Association
8 a.m.	What I Need to Know About Trucking Safety	8 a.m.	Promoting Competence: What's in It for Me?
9:30 a.m.	Setting the Dose, Establishing the Pump Delivery Rate & Relative Control Sensor Adjustment	9:30 a.m.	Septic Tank Science
11 a.m.	Certification and Septic System Inspections	11 a.m.	Advanced Treatment - What Does That Mean?
1:30 p.m.	Is There Value in Processing My Own Sludge?	1:30 p.m.	Successfully Dosing Pipe Networks
3 p.m.	Maintenance Frequency Standards and Requirements	3 p.m.	Pump Replacement
4:30 p.m.	Working with Small Communities: System Management	4:30 p.m.	The State of the Industry: The Forecast, The Strategy, The Tools
NASSCO	National Association of Sewer Service Companies	BUSINE	SS TRACK General Business - Scott Hunter
8 a.m.	Sewer Ops and CMOM - Leveraging the CMOM Process for Operational Benefit	8 a.m.	Keeping Employees and Customers Happy - Part 1
8 a.m. 9:30 a.m.	Sewer Ops and CMOM - Leveraging the CMOM Process for Operational Benefit Larry Keist - Developments in Water Main Linings	8 a.m. 9:30 a.m.	Keeping Employees and Customers Happy - Part 1 Keeping Employees and Customers Happy - Part 2
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9:30 a.m.	Larry Keist - Developments in Water Main Linings	9:30 a.m.	Keeping Employees and Customers Happy - Part 2
9:30 a.m. 11 a.m.	Larry Keist - Developments in Water Main Linings Culvert Rehabilitation: Have It Your Way	9:30 a.m. 11 a.m.	Keeping Employees and Customers Happy - Part 2 Keeping Employees and Customers Happy - Part 3
9:30 a.m. 11 a.m. 1:30 p.m.	Larry Keist - Developments in Water Main Linings Culvert Rehabilitation: Have It Your Way Manhole Lining: The Secret to a Successful Installation	9:30 a.m. 11 a.m. 3 p.m. 4:30 p.m.	Keeping Employees and Customers Happy - Part 2 Keeping Employees and Customers Happy - Part 3 How to be Successful and Profitable in Any Economy - Part 1 How to be Successful and Profitable in Any Economy - Part 2
9:30 a.m. 11 a.m. 1:30 p.m. 3 p.m. 4:30 p.m.	Larry Keist - Developments in Water Main Linings Culvert Rehabilitation: Have It Your Way Manhole Lining: The Secret to a Successful Installation Inspection of Pipelines Under Full Flow Conditions Sewer and Industrial Equipment Rental - What are the Options?	9:30 a.m. 11 a.m. 3 p.m. 4:30 p.m.	Keeping Employees and Customers Happy - Part 2 Keeping Employees and Customers Happy - Part 3 How to be Successful and Profitable in Any Economy - Part 1 How to be Successful and Profitable in Any Economy - Part 2 WATER EDUCATION in Association with NOWRA
9:30 a.m. 11 a.m. 1:30 p.m. 3 p.m. 4:30 p.m.	Larry Keist - Developments in Water Main Linings Culvert Rehabilitation: Have It Your Way Manhole Lining: The Secret to a Successful Installation Inspection of Pipelines Under Full Flow Conditions Sewer and Industrial Equipment Rental - What are the Options? WaterJet Technology Association	9:30 a.m. 11 a.m. 3 p.m. 4:30 p.m. WASTE 8 a.m.	Keeping Employees and Customers Happy - Part 2 Keeping Employees and Customers Happy - Part 3 How to be Successful and Profitable in Any Economy - Part 1 How to be Successful and Profitable in Any Economy - Part 2 WATER EDUCATION in Association with NOWRA Social Media: Friend or Foe?
9:30 a.m. 11 a.m. 1:30 p.m. 3 p.m. 4:30 p.m. WJTA 8 a.m.	Larry Keist - Developments in Water Main Linings Culvert Rehabilitation: Have It Your Way Manhole Lining: The Secret to a Successful Installation Inspection of Pipelines Under Full Flow Conditions Sewer and Industrial Equipment Rental - What are the Options? WaterJet Technology Association Accessorizing Your Vacuum Unit	9:30 a.m. 11 a.m. 3 p.m. 4:30 p.m.	Keeping Employees and Customers Happy - Part 2 Keeping Employees and Customers Happy - Part 3 How to be Successful and Profitable in Any Economy - Part 1 How to be Successful and Profitable in Any Economy - Part 2 WATER EDUCATION in Association with NOWRA
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DETAILED SESSION INFORMATION AVAILABLE AT: WWW.PUIMPERSHOW.COM



Indianapolis 2012

Tuesday Sessions

February 28, 2012

MUNICIPAL TRACK

8 a.m.	Inspecting and Locating Laterals Edward A. "Digger" Diggs – CUES, Inc.
9:30 a.m.	Get Quality Results From Your Inspection Management Program! Rod Thornhill, Cori Criss – Infrastructure Technologies
11 a.m.	Using Chemical Grouts to Protect Mainlines, Laterals, Manholes and Lift Stations Daniel Magill – Avanti International

SEWER AND DRAIN TRACK

8 a.m.	Contractors Need to Improve Jetting Sales Nick Woodhead, Ken Bryson – US Jetting
9:30 a.m.	Lift Station Backup Pumping Majid Tavakoli – Thompson Pump
11 a.m.	Optical Advancements Improve Range and Clarity of Pipeline Zoom Inspection

Richard Lindner - Envirosight

BUSINESS TRACK

8 a.m.	Market Like the Green Bay Packers Jerard Nighorn – Lenzyme, Inc.
9:30 a.m.	Training is the Key to Unclogging a Messy Business William Raymond – Nexstar Network
11 a.m.	How to Make Profits That Drop Straight to the Bottom Line Jenny Alday – One Biotechnology

PORTABLE RESTROOM TRACK

8 a.m.	How Your Portable Toilet Company Can Save Money By Saying "No" Joel Smith - Clear Computing
9:30 a.m.	New Emission Standards for Service Trucks John Olson – Satellite Industries
11 a.m.	New Portable Restroom Products David Roncadori – J&J Chemical Co.

LIQUID WASTE TRACK

8 a.m.	What You Should Know About ATUs and How to Evaluate and Service Them Doug Dent – Ecological Labs
9:30 a.m.	From the Kitchen to the Grease Trap to the Landfill Dennis Brunetti – FloTrend
11 a.m.	The Evolution of Effluent Filters Theo Terry – Bear Onsite

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Wednesday Sessions

February 29, 2012

PE RELI	NING TRACK			
8 α.m. Advances in Monitoring Technology Help Ensure Proper Liner Cure Jake Wells – Pipeline Renewal Technologies				
9:30 a.m.	UV Cured Fiberglass Pressure Liner Richard Montemarano – LightStream			
11 a.m.	New Braunfels Utilities Performs Manhole-to-Manhole Lining in-House Travis Bohm – Perma-Liner Industries			
NSTALLE	R TRACK			
8 a.m.	Installation and Operation of Float Switches Brett Wilfong – SJE-Rhombus			
9:30 a.m.	STEPping Up Dennis Hallahan P.E. – Infiltrator Systems			
BUSINESS	TRACK			
8 a.m.	Septic, Sewer & Portable Business Valuation Basics Jeff Bruss – COLE Publishing			
9:30 a.m.	Inexpensive Marketing, Promotion & Advertising Ideas for Septic, Sewer & Portable Companies Jeff Bruss – COLE Publishing			
11 a.m.	Making the Most of Mobile Marketing			

GAS, OIL AND MINING TRACK

- 8 a.m. Vacuum Equipment in the Marcellus Shale Region Mark Nixon - MORO USA
- 9:30 a.m. How to Vacuum More Efficiently with a Positive Displacement Blower Jeff Peterson – Hibon, Inc., a division of Ingersoll Rand
 - 11 a.m. Why Choose Hydroexcavation? Opportunities in the Oil and Gas Exploration Industry Neil McLean – Hydro Excavation Consulting Unlimited

INDUSTRY SAFETY TRACK

- 8 a.m. Cross Bores, Deadly but Preventable Your Actions Can Save Your Life Mark Bruce – Can Clay
- 9:30 a.m. Is the Air in Your Manhole or Confined Space Safe to Breathe? Ed Fitzgerald – Jack Doheny Companies
 - 11 a.m. OSHA: Introduction to Soil Analysis Gary Hooks

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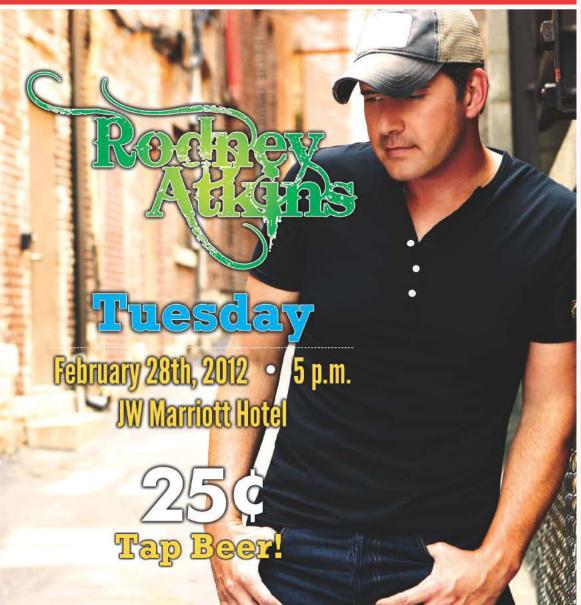
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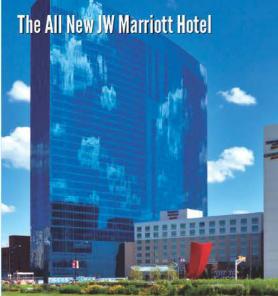
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Granite XP infrastructure inspection software from CUES Inc. is used to manage and assess the condition of any asset. The Inspection Edition captures a wide array of data and video from robotic

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SERVICE VALIDATION

PulseStar and iButton technology from EZTrakR Systems Inc. provides positive service validation, eliminating the need for service stickers. The bundled software system records services, tracks employee productivity and route service stops, provides an automated time card and updates inventory. The system also provides one-touch billing and QuickBooks integration, along with



missed service reports. The iButton records delivery, pickup or service date and time. Data is captured with each vibrated touch of the weather- and dustresistant reader, which automatically updates customer accounts with each download. 866/529-1938; www.eztrakr.com.



WIRELESS PEN SYSTEM

The wireless pen system from Famhost Apps enables drivers to fill out invoices and any other paperwork without learning new processes or doing data entry. The pen gets the paperwork digitally in real time without scanning. It eliminates employee temptation to waste time on social media, Web surfing or games.

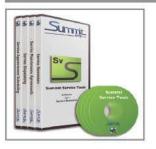
The system includes a rugged pen, modem, optional Garmin interface and airtime plan. Cost is less than a smartphone. The pen and GPS dispatching system can be stand-alone or integrated into the JaRay field service software system. All applications are cloud-based so users can log in from anywhere on any device including iPhone, iPad, Windows and Android. 800/658-1676; www.famhost.com.



FIELD SERVICE SOFTWARE

Smart Service software from My Service Depot is fully integrated with QuickBooks accounting software (2008 and newer) and designed for companies with field service employees. Program features assist with routing, scheduling, dispatching, mapping, CRM and mobile data collection. Oth-

er features include iPhone, iPad mobile solution for field employees that does not require constant Internet connection, drop-and-drag scheduling screen, Smart Find routing to ensure quick and efficient service scheduling, marketing campaigns for increased sales, estimates, customer notes and correspondence to track full account history. The program also includes a standard and custom report tool, mapping and GPS on mobile workforce screen. A mobile version for laptops is available. **888/518-0818; www.myservicedepot.com**.



COMPANY MANAGEMENT TOOLS

The Summit Service Tools from Ritam Technologies include service reminders, service maintenance agreements, service dispatching and service appointment scheduling. A mobile app can be added for customers to request service or check appointment times.

Service reminders provide postcards (or emails and text messages). Service maintenance agreements enable monthly automatic credit card processing for annual service agreements (and track which technicians are selling). Service dispatching manages high-pressure, emergency-response task assignments for your technicians (improving response times and reducing cross-town driving). Service appointment scheduling shows a matrix of technicians and equipment (and can be filtered by the skills required). 800/662-8471; www.ritam.com.

RADIODETECTION SPONSORS LOCATE RODEO

Radiodetection is a Diamond Sponsor of the 10th Annual International Locate Rodeo. The event recognizes the competitive skills of locate technicians in the United States and Canada. Each competitor must perform three locates in a division of their choice (gas, water, power, telcom). A bonus three-minute event tests the skills of competitors on a complex locate involving at least three different lines.

VACON TO DELIVER DRIVES FOR WINCHES IN NORWAY

AC drive manufacturer Vacon will deliver liquid-cooled AC drives for active heave-compensated winches onboard a Norwegian-built inspection, maintenance and repair ship. Delivery of the 17 drives is scheduled for March.

HIGH PRESSURE EQUIPMENT LAUNCHES WEBSITE

High Pressure Equipment Co., manufacturer of high-pressure valves, fittings and tubing, launched a customer-focused website, www.highpressure. com, enabling visitors to search and browse company products.

VERMEER MAKES MCLAUGHLIN INVESTMENT

Vermeer Corp., along with Jeff Wage, a veteran professional in the underground construction industry, has made a minority equity investment in the McLaughlin Group Inc. Dave Gasmovic, president of McLaughlin and primary shareholder, will continue to lead operations. Wage joins McLaughlin as vice president and an equity partner. The new ownership will not affect current branding or distribution of McLaughlin products.



TRIC TOOLS MOVES TO NEW HEADQUARTERS

TRIC Tools Inc. has moved from Alameda, Calif., to its new headquarters near the Oakland International Airport. The building enables the company to consolidate operations, including a new research and development facility.

INSITUFORM COMPLETES INTERNAL REORGANIZATION

Insituform Technologies Inc. completed an internal reorganization where Delaware parent holding company, Aegion Corp., was created to provide corporate and administrative services for its operating subsidiaries (Insituform Technologies, The Bayou Companies, Corrpro Companies, United Pipeline Systems, CRTS, Fibrwrap Construction Services and Fyfe). In the new structure, Aegion replaces Insituform as the public company. Insituform and its former direct subsidiaries are now direct subsidiaries of Aegion.

ORGANIZATION PROGRAM

The SAFE Program from VMSoft Products enables users to organize routes and service schedules, invoice customers, create work orders and contracts as well as record inspections and vehicle maintenance. The program tracks expenses, cus-

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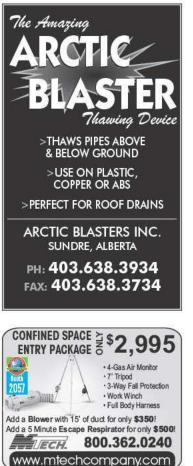


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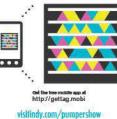
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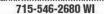


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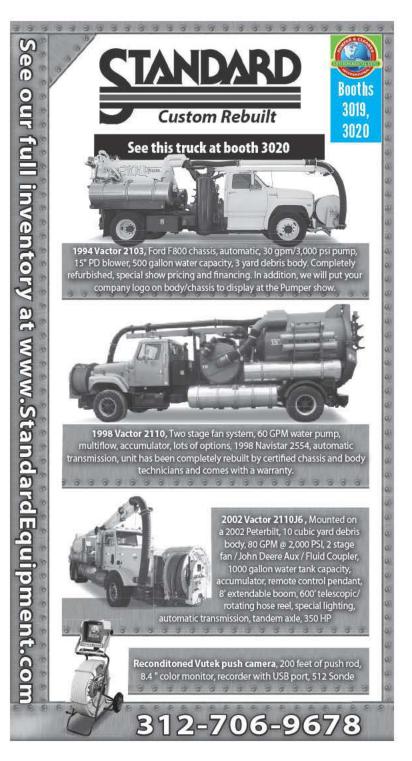
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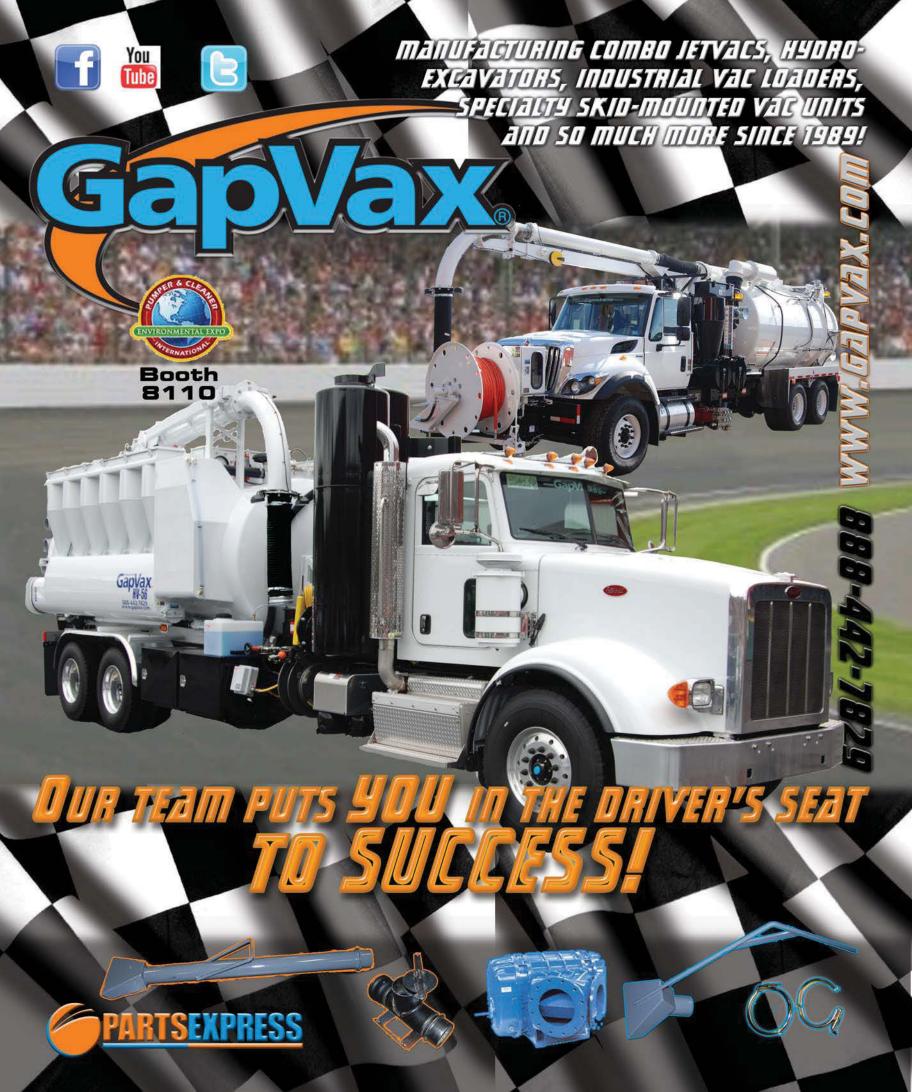


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