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**DIFFERENT** Think outside the bucket

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A utility locating contract drives the need for air excavation, which opens the door for a whole new business.

By Ken Wysocky

### ON THE COVER:

Underground Solutions Inc. technician Octavio Gomez (left) and team leader Travis Leigh work on potholing in a field on a job site near Escondido, California, with one of the company's eight VACMASTERS 4000 units. The company, owned by Mike Arme and based in Escondido, performs jobs throughout central and southern California for more than 550 clients. (Photography by Lowell Tindell)

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### A Creative Way to Advertise

### LOOK BEYOND RADIO, TV AND BILLBOARDS TO HIGHLIGHT WHAT YOUR BUSINESS CAN DO FOR CUSTOMERS

### BY CORY DELLENBACH, EDITOR

ye-catching, spectacular and attractive. Imagine if that is how people described your equipment as it sat at job sites.

Making your work vehicles grab attention can be tricky. It's easy enough to put decals on pickup trucks and trailers, but directional drills and vacuum excavators are a different matter.

Mike Arme, owner of Underground Solutions Inc., featured this month, knows the value of wraps. All eight of his company's air-excavation units are vinyl wrapped. The image is a crosscut showing the levels of the ground with different soils. The company's email address and phone number appear prominently.

Arme says the impressive wraps are a big reason his company has grown over the last decade: people notice them and have followed his crews to hire them for jobs.

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- Word-of-mouth We all know the best way to market your business is to make a great impression on customers who then spread it around. A wrap gives you the same quality referral, but your customers don't have to say anything. If you're providing a service, your vehicles are parked there on site, showing that a customer trusts you to do work for them.
- Brand enhancement The more times someone sees your wrap, the more often they'll be exposed to your brand. They'll remember you and feel more comfortable trusting you.

If you're concerned that you can't afford wraps, this month's Money Manager column will give you ideas on how to cut costs in other ways and what to look at when advertising. For example, asking your customers where they heard about you can help identify the most productive advertising channels.

### A FOCUS ON VACUUM EXCAVATION

When paging through this issue, you'll notice a heavy emphasis on air excavation and hydroexcavation.

The second profile is on Schlomka Vac Services, which performs hydroexcavation work throughout Minnesota. Then in our Tech Perspective column, contractors talk about the vacuum excavation methods they use, and the pros and cons of both.

Finally, if you're looking for new vacuum excavation equipment, check out Product Focus.

### **TOUGH JOBS OUT THERE?**

I'd like to hear from vacuum excavation contractors: Have you handled jobs that were difficult or unique? You can share those stories in *Dig Different*. Email me at editor@digdifferent.com or call 800/257-7222.

Enjoy this issue! **•** 





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# CATERING TO THE CUSTOMER

VACUUM TRUCK CONTRACTOR ANTICIPATES CLIENTS' NEEDS AND ADDS SERVICES TO MEET DEMAND

STORY: KEN WYSOCKY PHOTOS: BRAD STAUFFER

Some oil industry contractors strive to build a diverse customer base to mitigate the risk of over-reliance on one particular client. At Schlomka's Vac Truck Service Inc. in Hastings, Minnesota, co-owners Donny and Susan Schlomka take a different tack on diversity: The company offers a small core group of clients — two oil refineries and two pipeline companies — a wide array of different services.

As such, Schlomka's does work ranging from hazardous and nonhazardous waste hauling, industrial vacuuming and hydroexcavating, to pressure washing, drainline cleaning and stormwater pumping. In short, the Schlomkas do pretty much everything but turn out the lights and lock the doors for the long-standing customers but if asked, they'd probably agree to do that, too.

"I really care what people think about me and our company," says Donny Schlomka. "I want to give them the best service possible."

Schlomka has good reason to be unusually passionate in his commitment to customer service: He and his family have been serving the refinery and pipeline companies for more than 40 years. Schlomka worked for his recently retired father, Hank, who ran a septic tank pumping and industrial vacuuming firm and started doing business with the refinery and pipeline operators in the late 1960s and early '70s. Schlomka worked for his father for years, and he and Susan bought the industrial cleaning arm of the company from him in 2000.



Driver/operators Jeff Brown (left) and Collin Gustafson operate a 2011 Guzzler-built HXX hydroexcavator locating underground fiber optics and cleaning up afterward.

"I REALLY CARE WHAT PEOPLE THINK ABOUT ME AND OUR COMPANY. I WANT TO GIVE THEM THE BEST SERVICE POSSIBLE." Donny Schlomka

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"I worked for my mom and dad ever since I was 14 years old," Schlomka says, explaining his decision to buy the outfit from his father. "It's what I know. I figured I better jump in with both feet and do it."

The business remains every bit a family affair, too. The Schlomkas' oldest son, Justin, is a mechanic at the company; another son, Danny, runs a portable restroom business that spun off the septic pumping division; daughter Amber is the office manager; and her husband, Randy, works as a vacuum truck operator.

### Schlomka's Vac Truck Service Inc., Hastings, Minnesota

519

HLOMKA'S

OWNERS: Donny and Susan Schlomka FOUNDED: 2000 EMPLOYEES: 25 SPECIALTIES: Industrial cleaning services for refineries and pipeline companies SERVICE AREA: 25-mile radius around Hastings WEBSITE: www.svtsinc.com The refineries generate about 75 percent of the company's business. The work includes cleaning tanks and vessels and above-ground piping and sewer lines, as well as hydroexcavating to locate underground piping or fiber optics. Providing vacuum truck support services for the pipeline operations accounts for the remaining 25 percent of the company's revenue.

Schlomka concedes that having all his proverbial eggs in one business basket carries a certain degree of risk. "I've been concerned about trying to diversify, but every time I try to branch out, there's a chance my work at the refineries suffers. It's always in the back of your mind. ... What if the refineries don't like me anymore?

"On the other hand, every time I think I can't do anything more, they throw more work at me. ... They like me and my equipment," he adds. "They appreciate my knowledge — I've been working at one of the refineries since 1969 — and my experience."

### LARGE EQUIPMENT FLEET

So far, the reverse-diversification strategy is working. Schlomka estimates his revenue has at least quadrupled since he bought the company in 2000. The company fleet has grown too, with around \$5 million worth of equipment, including six hydroexcavating trucks: three from Guzzler Manufacturing and two HXX units, all made by Vactor Manufacturing Inc., and one King Vac model made by Keith Huber Corp.

Schlomka Vac Truck Service Inc. owner Donny Schlomka (center) with his team of operators, from left, Collin Gustafson, Nick Kehren, Randy Worthington and Jeff Brown.

### "I SAW THERE'D BE A NEED. I KNOW THE REFINERY AND HOW IT WORKS. ... IT WAS A GAMBLE ON MY PART, BUT I KNEW WHAT THEY WERE GOING TO NEED BEFORE THEY KNEW WHAT THEY WERE GOING TO NEED."

Donny Schlomka

The company also relies on 21 wet-vacuum trucks made by Keith Huber, Presvac Systems Ltd. and IBEX Inc. Tank sizes range from 2,000 to 3,000 gallons and the trucks use pumps made by Demag Wittig (Gardner Denver), Pearson Industries (now LMT Inc.) and National Vacuum Equipment Inc.

"We buy at least one new vacuum truck every year," Schlomka says. "This year we hired six new guys, so we had to buy six trucks. We've been buying used trucks because we can't afford to wait nine months for new trucks. "We also pay cash for just about

everything," he adds. "I don't like to stick my neck out on anything, so I don't buy something until I know I can afford it. The only time I ever borrowed money was for the last vacuum truck purchases. Our accountant said the company needed to establish some credit, so we paid cash for half of the six trucks and took a loan out for the other three. But I plan to pay them off quickly."

In addition, the company owns: 16 portable diesel pumps made by Godwin Pumps, a Xylem brand; three truck-mounted water jetters (60 gpm at 2,000 psi); a Hitachi mini-excavator; a Case IH tracked skid-steer; a Chevrolet dump truck with a 12-cubic-yard dump body; a 60-foot boom crane made by National Crane, mounted on a Ford truck; a Chevrolet flatbed truck; and four tanker trailers from IBEX and Polar Corp, ranging in size from 5,500 to 8,000 gallons. Two of the trailers feature stainless steel tanks and are used as temporary holding tanks; one hauls water for the company's hydroexcavators and one is used to transfer acids, Schlomka says.

# Staying active keeps family patriarch young

A wise man once noted that people don't quit playing because they get old; they grow old because they quit playing. That bodes well for Hank Schlomka, who finds plenty of time for hobbies as the retired 74-year-old patriarch of a family of septic pumping, portable restroom and industrial cleaning businesses he helped establish decades ago in Hastings, Minnesota.

Schlomka still occasionally works with "the boys," as he calls his son, Donny, who runs Schlomka's Vac Truck Service Inc.; nephew, Larry, who operates Schlomka Services LLC; and grandson, Danny, who owns Schlomka's Portable Restrooms & Mobile Pressure Washing LLC. But he's even busier restoring the more than 100 vintage cars, trucks and tractors he owns, as well as fashioning wooden bowls that he often hands out randomly "to whoever looks like they need one" at the annual Water & Wastewater Equipment, Treatment & Transport Show.

"I still do a little advising here and there, but I'm not in the trucks anymore," he says of his involvement in the family businesses. "Been there, done that."

Instead, the good-humored and energetic Schlomka — a selfdescribed jack-of-all-trades and master of some – says he's always busy with something, especially with the wooden bowls and vehicles. "My dad and mom were the same way — always go, go, go," Schlomka says, explaining the source of his boundless energy.

Schlomka started turning bowls on a lathe in 1990, when he made about 25 for Christmas presents. To date, he's made more than 3,000, using everything from aromatic cedar to oak, maple and birch. Hank Schlomka, the father of Donny, stands with his collection of classic cars. Hank established the foundation of the company decades ago.



"Everyone liked them so much that I just kept on making them," he says. "Last year I made more than 300, now that I have more time. If I spend more than two hours making one, that's a long time. It usually takes longer to stain and varnish them than it does to actually make them."

Schlomka is just as passionate about his vehicles, stored in several buildings. One of his favorites is the 1931 Ford he bought when he and his wife, Carol, got married in 1957. "I still have the same car and the same wife, and they both still run," he quips.

Most of the cars and trucks are still drivable. Schlomka says he's traveled as far as North Dakota, Missouri and Georgia to buy the vehicles, which he finds through tips from friends and family. "Once you go take a look at one, you end up with it," he notes.

Schlomka says it's hard to pick a favorite, but he really enjoys driving his 1957 Chevrolet 210 hardtop. He also just bought two rarities: a 1929 Whippet and a 1925 Star.

"I spend a lot of time restoring vehicles in winter," he says. "I try to restore one car a year, but I did three last winter."

So when does Schlomka plan to stop? Not any time soon, by the sound of it. "I got more projects going than I got years left," he says. "I hate to even buy green bananas at my age. But I plan to keep going and give 'er hell every day."

### FOCUSED ON CUSTOMER NEEDS

At times, Schlomka will buy or build equipment dedicated specifically to fulfilling a customer demand, like the vacuum truck he had his father build just for carbon injection in a bio-basin in one of the refineries. In the basin, microorganisms "eat" oil in dirty water discharged from refinery processes. The unit features a 3,000-gallon stainless steel tank made by IBEX and a Hibon (Ingersoll Rand) 1,400 cfm blower.

"That truck works four hours a day at this refinery, seven days a week," Schlomka notes.

"I LIKE TO SEE WHAT THE INDUSTRY HAS TO OFFER ... WHO CAN BUILD AND CUSTOMIZE TRUCKS TO THE SPECS WE NEED. IT'S IMPORTANT TO INVEST IN NEW **TECHNOLOGY** BECAUSE A GOOD SAFETY RECORD EQUALS GETTING MORE WORK."

Donny Schlomka

Schlomka also tries to anticipate customer needs, like the time he bought a vacuum truck with a stainless steel tank in 2005 after he heard that one of the refineries was closing down an acid plant across the street. "I figured they'd bring (the acid plant) into the refinery. At that time, no one out here had stainless steel trucks that could carry acid," he recalls. "I saw there'd be a need. I know the refinery and how it works. ... It was a gamble on my part, but I knew what they were going to need before they knew what they were going to need.

"It's critical that we have the right equipment to do the job," Schlomka adds. "We do a lot of scheduled maintenance work during facility shutdowns, so we need equipment that's reliable and will work when you need it. We work 24 hours a day, 365 days a year. I can't remember a day when we haven't been out there working."

Rapid growth created demand for more than just a lot of equipment. The

company recently built a new 12,500-square-foot shop that features two offices, a break room, a locker room, a shower room, two 10,000-pound hoists, a pit for changing oil and under-truck service, four drive-in maintenance bays, a fabrication bay, a wash bay and two drive-through maintenance bays for semi-tankers.

"We employ two full-time mechanics," Schlomka points out. "Something breaks down every day, and it's more costeffective and efficient for us to do the work ourselves."

### **TRACKING NEW TECHNOLOGY**

Refineries and pipelines are high-risk work areas, so Schlomka says he's always scrutinizing new technology that keeps his employees safer and increases







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©2016 Vactor Manufacturing. Performance data is based upon published data from a variety of manufactures of competitive products between 1/2016 - 8/2016 efficiency for customers. As such, he attends the Water & Wastewater Equipment, Treatment & Transport Show annually to check out the latest advancements.

"I like to see what the industry has to offer ... who can build and customize trucks to the specs we need," he says. "It's important to invest in new technology because a good safety record equals getting more work."

A good example is the King Vac hydroexcavator Schlomka bought from Keith Huber in 2003. Instead of a vane pump, it utilizes water-ring technology, which creates vacuum power by swirling water at high speed. Schlomka says it's similar to swirling cream into a cup of coffee with a spoon.

"We bought the unit to clean contaminated soil, which gives off flammable vapors," he explains. "We couldn't dig the soil with a regular hydroexcavator because a vane pump might create a spark. That was my first big purchase. It cost \$265,000 and that was a lot of money then for a greenhorn like me."

### **FINDING A HAPPY MEDIUM**

Like many contractors, Schlomka struggles with the issue of how big is too big for his company. When he started out with six vacuum trucks and four employees, he never imagined the company would grow so large — and so quickly. Hiring more employees equates to more pressure to sustain enough work to keep them employed.

"I don't always like having so many people relying on me. If I do something wrong, it affects everyone's livelihoods," Schlomka says. "But I've learned not to think about it too much. We've gotten to the point where we have a lot of good employees, which helps a lot."

On the other hand, Schlomka is always reluctant to turn down work. "Out here if you don't get bigger, you step aside because they'll find someone else

to do the work. One thing I've learned over the years is that you never say no. Why give that work and profit to somebody else? I always say, 'Yes,' then figure out how we'll do it later."  $\checkmark$ 



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# Call for Reinforcement

### A CONTRACTOR SUCCESSFULLY REHABILITATES A CULVERT WITHOUT CONTAMINATING SULFUR CREEK USING VACUUM TRUCK AND UV-CURED LINING SYSTEM

protect the hose from scraping against the concrete as he cleans the barrels with a C-Ray sewer

nozzle from NozzTeq.

### **BY SCOTTIE DAYTON**

or years, infiltration washed substrate into a double-barrel 48-inch reinforced concrete culvert under Duval Road in Starke, Florida, causing sinkholes. The road feeds the main training areas of the Camp Blanding Joint Training Center.

The Florida Army National Guard feared damage to heavy military equipment and trailers transporting it when the wheels dropped into the sinkholes. After every heavy rain, forestry workers filled them in and resurfaced the road. Finally admitting defeat, the guard called Engineered Lining Systems, a Jacksonville-based company with a specialty in cured-in-place pipe and structure restoration.

"When we investigated, every joint in the 125-foot-long pipes was gone," says project manager Danny Knight. "As a sinkhole formed, it caused the section of pipe under it to fall a little and offset further. Even small rains flushed sand and debris into the barrels until they were half full."

Because Sulfur Creek trickled through the culvert, Knight chose the SAER-TEX fiberglass-reinforced plastic lining system with two layers of foil sealing the epoxies inside the tube and protecting the environment. The liners also provided 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.

The creek became a raging river when Tropical Storm Debbie dropped 27 inches of rain in three days, then it rained every afternoon. "The most challenging aspects were dealing with the water in the creek and material in the barrels," says Knight. "There was so much of both, more than we ever anticipated."

### **GETTING THERE**

The culvert lay 25 feet below the road at the bottom of a steep wooded hill. The center's forestry division cleared

trees and built roads to both sides of the culvert, but ELS crews cut more trees to enlarge the upstream work area. Using a Caterpillar 225 trackhoe and Bobcat skid-steer from Sunbelt Rentals, they dug upstream and downstream detention pits 20 feet in diameter and 15 feet deep in the middle of the creek. They used the spoil to fill in the creek to the culvert.

A Quiet Flow 6-inch diesel pump from Sunbelt Rentals dewatered the upstream pit. Workers ran the discharge hose through the inactive barrel to the downstream pit beyond the work zone. "Water running down a little ditch beside the upstream headwall wanted to enter the culvert, so we channeled it into a corrugated pipe discharging to the upstream pit," says Knight.

Before the crew left in the evening, they shut off the pump and allowed water to flow through both barrels, then pumped it down the next morning. Dewatering also lowered the groundwater level, stopping infiltration that was substantial enough to fill the barrels halfway.



PHOTOS COURTESY OF ENGINEERED LINING SYSTEMS

	PROJECT:	Rehabilitate culvert to protect heavy military equipment and transport vehicles from damage
	CUSTOMER:	Camp Blanding Joint Training Center, Starke, Florida
	CONTRACTOR:	Engineered Lining Systems, Jacksonville, Florida
5	EQUIPMENT:	Lining system from SAERTEX, vacuum truck from GapVax
V N	RESULT:	Culvert rehabilitated, potholes eliminated, road restored
2		





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Sand and debris clog half the capacity of a double-barrel 48-inch reinforced concrete culvert at Camp Blanding Joint Training Center.



Workers formed a nose on the SAERTEX fiberglass-reinforced plastic liner and added a pulling collar.



ELS workers insert the Double Core UV light train into a SAERTEX fiberglass-reinforced plastic liner.



From left, technician Mikal Biegner, project manager Danny Knight and technician Jody Wright insert the steel packer at the head of the liner.

### "THE GAPS BETWEEN JOINTS WERE SO BAD THAT EVERY TIME JODY RAN THE JETTER THROUGH A PIPE, IT PULLED IN MORE SAND THAN HE REMOVED. WE HAD TO GO LOW AND SLOW, CLEANING WITH 65 GPM/1,500 PSI."

Danny Knight

### TRICKY AND DELICATE

Standing on the downstream headwall, jetter/inspection technician Jody Wright used a tiger tail to protect the jet hose from scraping against the concrete as he cleaned the barrels with a C-Ray sewer nozzle from NozzTeq. Technician Josh Knowles operated the GapVax MC1510 combination vacuum truck parked on Duval Road. Because Knowles was so far from the culvert, Wright signaled when to pull back on the hose or send it down the pipe. Technician Mikal Biegner assisted Wright when he couldn't see what was happening.

"The gaps between joints were so bad that every time Jody ran the jetter through a pipe, it pulled in more sand than he removed," says Knight. "We had to go low and slow, cleaning with 65 gpm/1,500 psi."

As the jetter dislodged material, the trackhoe operator scooped it out of the pipe and stockpiled it for the skid-steer operator, who transported it up the hill and packed it in washed-out areas alongside the road.

Knight rejected the idea of pulling a pig through the barrels. "The joints were out of alignment in all four directions," he says. "If the pig caught on the 10 to

15 percent offsets, it would cause more damage." The team removed 30 cubic yards of sand and debris in three days.

Throughout the operation, two workers monitored the pump and dewatering operation. "Everything was muddy because of the rain," says Knight. "My truck became stuck repeatedly as I brought fuel for the pump, and the excavator had to pull me out."

### LINING PROCEDURE

Overnight, infiltration washed a quarter of a cubic yard of sand into the barrels, which workers removed in the morning. Then the vacuum truck sucked up the puddles. "Water is a bad thing because we're using electricity and lights," says Knight.

The 12.5-mil liners, weighing 85 pounds per foot, arrived from the factory wetted out, slipped inside UVprotective gray foil sleeves, folded into light-proof crates, and shipped with a spool of 2 mm-thick gliding foil. The

> trackhoe operator set the crates on concrete slabs left over from construction of the headwalls.

While some workers pulled the gliding foil into the pipe, others positioned the leading edges of the liner inward, inserted a pulling collar, and secured everything with a ratchet strap. They tied a 1.25-inch doublebraid polyester/nylon rope to the collar, enabling the trackhoe operator and foreman Joey Vance to pull in the liner from across the road.

At this point, Knight erected a tent over the light-sensitive liner. "Sunlight hitting them will begin the curing process in seconds," he says. Workers cut the liner to length, inserted steel packers (cans) on either end, secured them with ratchet straps to seal the liner, then inflated it enough to insert the Double Core 10-footlong UV light train.

### **CURING POWER**

"The light train has eight 1,000watt UV bulbs, four forward and four aft between the two sets of legs," says Knight. "It also has temperature sensors and a fixed camera on one end."

Another camera attaches to the inside of the downstream packer.

Once workers pulled the train to the head of the liner, they replaced the can and inflated the liner. A computer controlled the speed of the train based on the liner's diameter and thickness. Curing took nine hours moving at less than 6 inches per minute.

Although the liners indented somewhat at the joints, the smooth interiors dramatically increased flows. Before leaving, the ELS crew filled in the detention pits, restored the creek, and graded areas roughed up by the equipment. **•** 

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# OUT OF THINAGE

### A UTILITY LOCATING CONTRACT DRIVES THE NEED FOR AIR EXCAVATION, WHICH OPENS THE DOOR FOR A WHOLE NEW BUSINESS

STORY: KEN WYSOCKY PHOTOS: LOWELL TINDELL

While working for another company, Mike Arme saw a need for a safer and more efficient way of locating utilities, and wanted to be the leader in bringing that technology to central and southern California.

That technology Arme was looking for, air excavation, proved to be a smart decision. After being founded more than a decade ago, Underground Solutions Inc. (USI) quickly established itself as a player in the industry.

"We were one of the first — if not the first — full-service potholing companies in our area," says Mike Arme, owner of the Escondido-based company. "We were also the first potholing company to use the VACMASTERS 4000 vacuum excavators in our area. This technology, along with our out-of-the-box approach to solving customers' problems, allowed us to become the leader in our area for air-vacuum potholing and excavating.

"Our business model is simple," he adds. "We aren't looking to be the biggest, just the best."

So far, so good. When Arme established the company in 2003, he had two field employees and one VACMASTERS 4000 truck. Today, the company owns eight VACMASTERS units, employs 27 people and offers additional services, such as ground-penetrating radar scanning and electromagnetic locating. Furthermore, USI's client base has grown from six in 2003 to more than 550.

As it turned out, selling customers on airexcavation technology, which was relatively new in the early 2000s, was not difficult because it

"OUR BUSINESS MODEL IS SIMPLE. WE AREN'T LOOKING TO BE THE BIGGEST, JUST THE BEST." Mike Arme

Underground Solutions Inc. technicians Tyler Munson (left) and Samuel Iokia work together to pothole for utilities in Escondido, California, using one of the company's air excavation units. Underground Solutions Inc., Escondido, California

OWNER: Mike Arme FOUNDED: 2003 EMPLOYEES: 27 SPECIALTIES: Utility locating, vacuum excavation SERVICE AREA: Central and southern California WEBSITE: www.usipothole.com and www.usilocate.com

### Project reports give customers valuable location data

As Underground Solutions Inc. won more and more contracts to locate underground utility lines for everyone from engineering contractors to designengineering firms to municipalities, it became apparent early on to owner Mike Arme that customers required more from the company than just exposed utilities. They also needed utility location data in an easy-to-understand format that would make planning future infrastructure projects easier and more cost-effective.

So Arme hired a company to develop datacollection software that could generate detailed reports showing the location of every pothole excavated during a project. "There was a lot of mapping technology out there at the time, but there was nothing on the market for data collection," he recalls. "So we had to create our own software."

The reports provide customers with a wealth of data, including a photo of each pothole showing the utility line that was exposed, the kind of utility line (gas, sewer, water and so forth), the depth of the line from the ground surface to the top and to the bottom of each line, the diameter of the line, the distance from the curb to the line, and the direction the line runs. "After we dig the hole and photograph the pothole so you can see the line that was exposed, we put a survey nail at the center of the line's location for future locating," Arme explains. "Every pothole we dig has its own photos and measurements, and the report is organized chronologically by pothole. The photos basically verify all the data we've gathered."

The reports are especially valuable because they're generated daily as USI does potholing ahead of utility line installation crews. "Doing that kind of due diligence ahead of time reduces the need for change orders tremendously," he points out. "It limits the kinds of surprises that installation crews might otherwise encounter during the normal construction process."

Arme says USI is currently designing a fourth generation of the software, which keeps evolving based on customer input, among other things. "Software development is not cheap," Arme says, noting that USI charges customers extra for the reports. "Every time we revise the software, it costs us \$30,000 to \$40,000. But the more we can give customers user-friendly information that's really easy to understand, the better off we are."

### "WE'RE ALWAYS EVOLVING. RIGHT NOW WE HAVE MOST OF OUR EGGS IN THE UTILITY LOCATING BASKET. BUT THERE ARE SO MANY OTHER THINGS

AIR EXCAVATION CAN DO OUTSIDE OF UTILITY LOCATING." Mike Arme

The office staff of Underground Solutions includes, from left, project manager Vince Dominguez, office manager Adma Perez-Culpeper, owner Michael Arme, vice president of operations T.C. Mueller, field foreman Chris Mueller, and field superintendent Jack Dominguez.





Samuel lokia (left) and Tyler Munson use a VACMASTERS 4000 unit to pothole along a road near Escondido, California. Underground Solutions has eight VACMASTERS and wraps them all with an eye-catching vinyl.

offers compelling advantages compared to other excavation methods such as hydroexcavation.

For starters, air excavators don't use water. This not only conserves a valuable resource, it also eliminates the expense of securing work sites to prevent water runoff into storm drains. Moreover, air excavation eliminates the costs associated with disposing of hydroexcavated mud/sludge and trucking in fresh backfill material. The overall result: A competitive edge in bidding on projects, Arme says.

In addition, air excavation is considered safer than using highly pressurized water. "High-pressure air will flow around an inanimate object, not through it," Arme says. "It may give you a bruise, but it will not sever a limb. So it's safer all around for the utilities, the environment and our employees."

USI's success underscores the importance of keeping up with technological advancements. Arme says he's always on the lookout for the next big thing in technology that can take his company to the next level and stay ahead of its competitors. "If you don't do that, you run the risk of getting passed by," he points out. "If you aren't open to different ideas, you start fading back."

### **OPPORTUNITY KNOCKS**

Arme founded USI after his previous employer — a company that specialized in trenchless technology and utility line installations — won a contract to install new water and sewer lines in San Diego. At the time, Arme was a vice president in the company.

The city required the company to locate utility lines 500 feet ahead of the new line installations to ensure that the proposed pipeline routes on the construction drawings were viable. To do this, the company used backhoes to expose and locate other utility lines. But for every 10 lines crews located, the backhoe broke about two. "We were responsible for making the repairs," Arme recalls. "I figured there had to be a better way."

After some extensive research, Arme found that better way: vacuum excavation. "So I started USI as a separate company to facilitate the potholing," he explains. "My business associates didn't want to get into air excavation, so they were OK with me branching off into this new market."



Samuel lokia uses a compact tool to press the backfill into place after performing a potholing job on the site. The tool can connect and run off the VACMASTERS 4000 units.

Arme bought a VACMASTERS 4000 and then invested in two more units within eight months. "People saw the truck and it soon became its own animal," Arme says. "It morphed into its own business — people were clamoring to use it. Somehow I knew that requiring potholing to locate utility lines in advance of new line installations wasn't something that was going to go away."

USI's first large project came up in a roundabout way. As employees were driving one of the VACMASTERS units home from a construction show where it was on display, they noticed a man driving alongside them, writing down the USI phone number shown on the side of the unit.

Owner Mike Arme founded Underground Solutions Inc., servicing central and southern California with utility locating and vacuum excavation capabilities.

### **MORE WORK, MORE EQUIPMENT**

As the company grew, so did its fleet of equipment. The workhorses are the eight VACMASTERS 4000s, built on either Ford or International chassis. Each one features an 800-gallon debris tank, an 85-gallon water tank (there are times when hydroexcavating is required), a Sullair compressor (300 cfm at 220 psi), a John Deere 155 hp engine that powers the vacuum system, and a water pump that generates pressure of 3,000 psi and flow up to 3 gpm.

The company also relies on three RIDGID SeeSnake pipeline inspection camera systems; four LMX100 ground-penetrating radar machines, made by Sensors & Software Inc; electromagnetic locators made by RIDGID, Pipehorn Utility Tool and Vivax-Metrotech; two Caterpillar skid-steers; compacting machines made by American Pneumatic Tools; and almost two dozen jack-

hammers made by American Pneumatic Tools.

Air excavation isn't always the best method of excavating. Hydroexcavating is better for, say, digging a 3-foot-wide trench that's 8 feet deep and 200 feet long. "But for potholing, vacuum excavation is more efficient," Arme notes. "We can average one 8-foot-deep pothole an hour, including excavating, backfilling, compacting and patching/repaving."

The company also relies on a less visible but equally important tool: proprietary software developed to produce detailed utility location reports for customers. The reports provide a compelling selling point and differentiate USI from its competitors, Arme says.

The company's approach to projects also sets it apart. Arme says that because of his background, which includes more than 30 years as a pipeline contractor, USI views projects from a contractor's perspective instead of an engineer's vantage point. What's the difference? An engineering approach is often more black and white, and doesn't always jibe with the reality of on-site conditions. "On paper, they believe a pipeline will fit the way they design it," he explains. "But when you actually start digging, it's often a different story.



"WE BASICALLY **FIGURE OUT A WAY TO DO WHATEVER THE CUSTOMER NEEDS.** WE HAVE A CAN-DO ATTITUDE THAT STEMS FROM NOT ONLY OUR KNOWLEDGE OF THE INDUSTRY, BUT OUR EMPLOYEES' SKILLS AND ABILITIES." Mike Arme

"They thought they'd hit a rock and broke someone's window," Arme recalls. "But it was a guy from a large engineering firm who'd been looking for a company with air-excavation technology. That chance encounter turned into more than \$1 million worth of work during the next 1 1/2 years. This occurred early on and it put us on the map. Our trucks were getting seen everywhere."

That exposure led to even larger jobs, like the construction of a 10-milelong pipeline that connects a desalinization plant in Carlsbad (about 35 miles north of San Diego) to existing water distribution systems in neighboring municipalities. "In 2013, we were asked to do potholing in one of the sections," Arme says. "After we finished, they were so enthralled with our work and our custom utility location reports that they asked us to do everything. It went from 150 to more than 1,400 potholes in four cities, all within a six-month window.

"It took three to four dedicated crews a day, which made it very challenging to keep all of our other customers going," he continues. "But we were able to do it." The fact that utility line strikes drastically diminished after USI started performing the potholing only further burnished the company's reputation, he notes. "That's why we named the company Underground Solutions," he adds. "We're going to use all of our knowledge and all the tools in our toolbox to find out-of-the-box solutions."

### **KEYS TO SUCCESS**

Arme says that aside from embracing new technology, several other factors have contributed to USI's success. He sums up the most important one in three words: Never say no. "We never turn work down," he says. "We basically figure out a way to do whatever the customer needs. We have a can-do attitude that stems from not only our knowledge of the industry, but our employees' skills and abilities. We're very service-oriented and take a lot of pride in what we do."

Then there's the company's unique marketing tool — vinyl wraps on the eight VACMASTERS 4000s. While vinyl wraps in and of themselves aren't that unusual in the industry, the graphics on the USI wraps definitely provide another point of differentiation for USI. Arme calls it a storyboard wrap: It shows a cross section of layers of dirt and a vacuum hose, along with the words,





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"We can dig a six-foot pothole in a matter of minutes using nothing but air; and we can do it all day long." The wrap also prominently displays the company's website and phone number.

"My team and I spent countless hours in designing the graphics to ensure that the trucks were not only eye-catching, but also explained the function of the units," he says. Why? Arme felt that aside from industry insiders, it's difficult for people to figure out what an air-excavation truck is when they see one driving down the road. As he puts it, "If you don't know what they are, you don't know what they are."

Although the wraps are expensive, Arme says they're well worth the investment. He came up with the idea shortly after USI won its first big contract. Octavio Gomez (left) helps Travis Leigh remove debris from the back of one of the company's air-excavation units to backfill holes.

"It's the best form of advertising out there," he says. "After we wrapped the trucks, we started getting calls left and right. We went from working mostly in San Diego to working all over Orange County. Those wraps are one of the main reasons we grew so fast."

### **MEASURED GROWTH AHEAD**

Looking ahead, Arme expects the company to keep growing, but in a strategic, structured manner. In short, he's not interested in exponential growth that could jeopardize quality and customer service. "I won't sacrifice what we've built just to get higher (revenue) numbers," he says.



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Arme anticipates a strong market for potholing/utility location services during the next three to five years as federal funds are released to pay for upgrading Southern California's aging water and sewer infrastructure. In addition, he expects to find more markets for air excavation than just utility line locating.

"We're always evolving," he says. "Right now we have most of our eggs in the utility locating basket. But there are so many other things air excavation can do outside of utility locating. We just have to keep thinking outside the box."

# Get the Most From Your Equipment

### THE PRINCIPLES OF ASSET LIFECYCLE MANAGEMENT CAN REDUCE EQUIPMENT COSTS AND IMPROVE YOUR BOTTOM LINE

### **BY PETER KENTER**

n order to remain competitive, contractors typically operate and maintain a wide array of equipment that is subjected to daily use and wear. With busy contract schedules, maintenance of machinery only becomes a priority when operators see obvious signs that equipment is malfunctioning or broken. Replacement is often simply a function of whether equipment repair bills exceed the cost of buying new equipment.

By applying the principles of asset lifecycle management (ALM) to your inventory, you can improve safety, reduce downtime, predict breakdowns, minimize the cost of maintenance, and lower overall equipment costs.

Shannon Klabnik is the regional director for MIPRO, a consultancy specializing in the implementation of Oracle's PeopleSoft software applications, including products that assist clients in tracking and maintaining equipment assets.

"Contractors rely on complex, specially designed machinery that operates in rugged environments across a broad range of climatic conditions," she says. "Working in an industry that relies on the newest technology in a business environment that offers tighter and tighter profit margins, contractors are increasingly dependent on the reliability and functionality of their physical assets."

Klabnik recommends contractors apply the principles of ALM, also known as enterprise asset management, to their businesses. Using ALM, operators always maintain a complete inventory and overview of their equipment, its condition, maintenance schedules and logs, and whether it meets all applicable regulations.

### "JUST BECAUSE THE COMPANY TELLS WORKERS THEY NEED TO DO SOME-THING NEW, IT DOESN'T MAKE THAT TASK VALUABLE TO THEM. YOU NEED TO GET THEM TO BUY INTO IT BY **SHOWING THEM IT CAN MAKE THEIR LIVES SAFER AND HELP TO MAKE THEIR JOBS MORE SECURE."** Shannon Klabnik

"Next-generation ALM requires the use of a software system to deal with the complexities of these challenges," Klabnik says. "The best ALM system employs sophisticated software that enables powerful tracking and controls and an automated maintenance management process. This capability elevates the contractor from someone who simply reacts after equipment breaks down to someone in a proactive position. That increases efficiency, maximizes operational uptime, and improves the bottom line."

Klabnik has worked with a wide range of businesses in applying Oracle software solutions to equipment assets, but notes that the principles of ALM apply to any business, regardless of the software they choose.

She notes, however, that companies who simply declare they are adopting an ALM software package won't necessarily reap maximum benefits.

"Probably the biggest oversight made by companies when they undertake such a project is to take all of the information from their old system and import it into the new system without starting at square one," Klabnik says. "They look at it as just an information technology project in which existing data is moved around. The old saying, 'garbage in, garbage out,' applies here. If you go about adopting ALM without changing the way you manage your operational assets, you will not likely improve the way you do business."

Given the importance of correctly planning and integrating ALM up front, contractors need to be aware of the best practices associated with implementation and overall asset lifecycle management.

### PLAN AHEAD

Before implementing any new maintenance management system, operational priorities need to be clearly established. Once a company identifies its goals and outlines its priorities and expecta-

tions, it can move forward with the process of implementing a new software system to support its equipment-related business processes.

"Professional consultants can be an important resource at this stage of the process, where they can assist by refining the details of the maintenance program and strategy," says Klabnik. "There's no sense in enabling sophisticated controls that don't apply to your business."

### **DETAILS MATTER**

It may not be easy to identify specific maintenance standards and metrics for all equipment, but it needs to be done right the

first time. An ALM system is only as powerful as the information it possesses.

"Even the most sophisticated tracking and coordinating software will fall short of expectations if it isn't given the right data to track," Klabnik says. "It takes some up-front effort to incorporate every regulation and

required inspection date into the software, but once it's done, life becomes much easier."

At this stage, it's also important to anticipate, evaluate and mitigate any implementation and post-implementation problems that may crop up.

"For example, consolidating replacement parts in one central location may seem like the best idea when you look at the big picture, but it might also be incompatible with your operation or existing supplier agreements, and may even create new inventory challenges," she says. "Iron out these details before they become a problem."

### TAKING INVENTORY

ALM also requires a thorough inventory of equipment assets, from vehicles to jetters, trenchers, pipe lining equipment, CCTV units and easement machines. A company needs to maximize the

efficiency of the system by deciding on the value of assets that are listed in

order to prioritize and classify a maintenance approach and spare parts management.

"That may not always be based on the asset's dollar value alone," Klabnik says. "The tools associated with a jetter would certainly be on that list, but something as simple as a fire extinguisher in the right location needs to be in that database as well."

Information should include standard maintenance procedures and schedules, approved replacement parts, costs and other critical information associated with each asset.

"If you're discovering that a particular type of jetter continues to break down over and over, you can begin to apply a root cause analysis to it to build a problem/cause/resolution repository inside your ALM system," says Klabnik. "With enough information, you can move from a corrective to a predictive mode. Does the equipment typically break down in winter months, or only after you've logged a certain number of hours? Your asset management

only after you've logged a certain number of hours? A system can tell you what sort of work and operating conditions result in that breakdown. This sort of thinking can be applied to all equipment."

Maximizing the life span and uptime of highly specialized and expensive equipment also requires immediate access to critical information, including manufacturer support hotlines and the source of replacement parts. By including replacement part information and approved suppliers in the ALM software database, the most heavily used replacement parts can be identified and even stocked.

Automatic meters and self-generated equipment reports can also be tailored to provide information that is automatically fed into the ALM system.

"If you program operational parameters for any equipment capable of remote communication — a diesel engine for example — into the system, it can be alerted to kick out a work order every time that equipment is operating outside of predefined parameters," Klabnik says.

### **EDUCATION AND TRAINING**

The grunt work of ALM — inputting new data — still requires human cooperation. Only through sustained training of all personnel can the data be captured in a consistent and meaningful way.

Educating and training the individuals who will be overseeing the new system is important, says Klabnik. However, it's more critical that all employees who will use the system understand both how to make it work, and how to make it work for them. While powerful ALM systems can potentially deliver gamechanging efficiencies, those efficiencies will only be unlocked if system users reach a level of technical and operational fluency.

### **MOTIVATING WORKERS**

"Human nature does not tolerate additional responsibilities well," Klabnik says. "Just because the company tells workers

they need to do something new, it doesn't make that task valuable to them. You need to get them to buy into it by showing them it can make their lives safer and help to make their jobs more secure."

Systems that can only be accessed through a desktop keyboard may also not encourage workers to use them as often as dynamic systems that allow input using smartphones or tablets, she notes.



While the initial design and implementation of maintenancerelated business processes and a supporting ALM system require a significant investment of time and energy, realizing its full benefits requires long-term oversight. Regular follow-ups and periodic assessments and evaluation ensure that the system is functioning properly, delivering meaningful reports to personnel and delivering anticipated results.

"A coordinated approach to asset management enables a company to realize its maximum return on assets," Klabnik says. "That value is increased with enhanced compliance capabilities and an approach that minimizes downtime, waste and avoidable expenses while providing a safe working environment. In a competitive industry, that edge may be enough to push a company operating on tight margins into the black."  $\checkmark$ 



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# Monitoring Job Safety

### EVEN IF YOUR COMPANY HAS NO DEDICATED SAFETY COORDINATOR. IT SHOULD STILL BE A FOCUS OF THE EMPLOYEES

### **BY JESSICA WHITMORE**

hen the business cycle is slow, Dan Lin, safety coordinator/operator of Supreme Vac in Edmonton, Alberta, jumps into a truck and works in the field. It is this versatility that has allowed this small business to maintain a designated safety person on staff.

The company itself provides vacuum truck, hydrovac and steam services with a large emphasis on safety. All employees are required to have current certifications and safety training, but the company takes it even further by having a specific safety person on staff. This wasn't an overnight position, but one that evolved overtime.

"As a business's customer portfolio and client requirements grows, it is important to enhance and comply with a safety program," says Braydon Jeske, foreman/operator at Supreme Vac.

### **A DEDICATION TO SAFETY**

In 2011 and 2012, the company first had an employee designated to manage the paperwork and administration necessary for safety. That evolved to Lin taking his current position in late 2014. What makes him unique in this position is that he also has the required licensure to operate the trucks.

This has given Lin the versatility to spend approximately 50 percent of his time in a safety administrative role and 50 percent of his time directly in the

### "AS A BUSINESS'S CUSTOMER PORTFOLIO AND CLIENT **REQUIREMENTS GROWS, IT IS IMPORTANT TO ENHANCE** AND COMPLY WITH A SAFETY PROGRAM."

Bravdon Jeske

field, operating equipment. He works to make sure Supreme Vac is in compliance with its own safety requirements as well as government regulations and client compliance requirements. He knows what to do, the challenges within the field and how to monitor as well as document safety plans, procedures and requirements. It is this combined knowledge that helps him provide safety features for Supreme Vac.

Most small companies, however, are not able to always have a designated safety person on staff because of the funds available. Instead, the owners handle the safety person role themselves, or the employees are expected to simply comply after training has been presented.

The need for a designated person becomes more important for that small company to compete with the larger ones when bidding on jobs that have a safety coordinator as a requirement.

### **ADDING A DEDICATED SAFETY PERSON**

Lin suggests looking at the type of work a company is currently doing and expects into the future. This insight is valuable when choosing the route of adding a staff member focused specifically on safety.

Bryce Jeske, foreman/operator at Supreme Vac, also recommends focusing on a safety employee who is diversified in skill sets. Lin is that guy for Supreme Vac. While he oversees safety at the company, he can also run equipment in the field during those slow cycles that each business in the industry faces. This means he isn't just sitting in an office.

The safety culture, however, isn't fully dependent on the safety person. The focus on safety becomes everyone's responsibility, says Braydon Jeske. He also recommends any person put in the safety roll needs to be confident, knowledgeable of policy and procedures, and able to enforce the safety processes and procedures.

### **STAY FOCUSED ON SAFETY**

Even if a full-time safety coordinator is not within reach for a company, it doesn't mean it should skimp on safety. There are simple things the company can do to keep its employees safe. For example, Supreme Vac, always sends two operators on a job. This way someone is there to handle any potential issues and to assist in potentially dangerous situations such as spotting and congestion with traffic.

Regardless of whether a designated safety person is on staff, communication is another key to safety. Supreme Vac focuses this communication not only internally with its employees but also with its clients. The company will request feedback from clients. These conversations can include processes used as well as equipment and specific concerns.

> These upper management conversations are important because a client may be reluctant to talk directly with the equipment operators. Instead, talking with



the designated safety person or someone in higher management is a way to keep those communication lines open.

### **IS A SAFETY PERSON NEEDED?**

"The bigger the company gets, the more the safety needs to expand," says Braydon Jeske, foreman/operator at Supreme Vac.

Companies can also review the need for a designated safety person by looking at current and expected contracts, regular processes, dangerous work environments, equipment used and customer lists.

After that review, consider how management prepares and communicates with employees to safely complete all aspects of the jobs. Companies might just start with basic safety processes and procedures and then grow from there.

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# Air vs. Hydro

### IN THE END, IT'S A MATTER OF PERSONAL PREFERENCE; EACH METHOD HAS ITS PLACE AT CERTAIN JOB SITES

### **BY GILES LAMBERTSON**

he rivalry of air and water goes waaaay back. Classic Greek thinkers were fascinated by the impact of these two elements on a third element of nature, earth. Today, excavation companies are still fascinated, and increasingly leverage air and/or water in their earthdigging operations.

So, air or water — which is the better option than a hydraulic excavator? The classic response is, that depends.

"Air has a place," says Mike Morehouse, CEO of Davids Hydro Vac in White Bear Lake, Minnesota. "Hydro does, too. Each also has its limitations." Morehouse uses both, though the preponderance of his excavation work is with water. "The key is to use what will work best. We leave it up to the operators. They are the ones who have to get the job done."

Morehouse and his operators use the air-vac system just 5 percent of the time. "Hydroexcavation is faster. There's no doubt about it," he says, and alludes to his own learning experience with the two systems. "I didn't know what I was doing at first, but I eventually figured out that if I used air and water, I was moving more material."

Of course, it all depends.

### **A COMPARISON**

The two systems employ forceful injections of air or water to cut into the earth, and it's not uncommon for both systems to be mounted on a truck for switching from one to the other during an excavation. An air system is

pressurized by a compressor unit that can generate kinetic force through highpressure hose at a rate of 350 cubic feet per minute at 250 pounds per square inch. Water is injected through other hoses at a rate of 5-15 gpm at 3,000-4,000 psi, though lower pressure is generally used.

Both systems employ vacuum pumps that suck up the dry or wet excavated material at a rate of 1,000 cfm or more. The material is deposited in tanks that can hold the equivalent of 300-1,000 gallons of dirt or slurry. Each tank features a wide-opening end door for dumping the accumulation.

Which system completes an excavation faster and most cost-effectively can depend on how far away a hydrovac truck must travel to dump a full tank, and how much time and expense is involved in trucking in replacement soil.

"The main thing is an air-vac system doesn't have to get rid of spoil and doesn't have to import any soil," says John West, vice president of Ultra Engineering of Winchester, California. "We can do an entire hole in half an hour from opening to backfill. If you are using water, you won't get it done that quick. And at the end of the day, we don't have any spoil to dispose of, which saves time and money."

Says West: "Water has its place, but out here in California, air is taking over."



ABOVE: A crew from Ultra Engineering in California uses an air-excavation system to pothole for utilities. The big benefit to air excavation is that spoils can be used to backfill since no water is added. BELOW: Davids Hydro Vac in White Bear Lake, Minnesota, disposes of slurry after hydroexcavating at a job site near the company's yard. Davids Hydro Vac prefers to use hydroexcavation because of the cold ground conditions crews face in the winter.



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### **COLD, HARD GROUND**

Ken Baker has a different view. His viewpoint is the Mountain West -Wyoming, Colorado and Utah — where clay soils are common, and cold along with record snows this year made the ground even harder to penetrate. "Out of the whole year, we can have four, five, six months of frozen ground where we have to use a boiler to heat up the water. Air has limited impact in those conditions."

FOREMOST

VAC TRUCKS

Baker, who is president of Baker Hydro-Excavating of Mountain View, Wyoming, says he, like the ancient Greeks, keeps going back to the elements.

ing is common, too. "At Disneyland, we do a tremendous lot of trenching," West says. "They don't want anything to happen to the roots of the trees in the park."

Air or hydroexcavation projects vary widely. Baker once excavated a trench 10 feet deep and only 1 foot wide. He also had five trucks simultaneously dig a large pit 25 feet deep. Other typical applications include digging of elevator shafts, cleaning and vacuuming of fracking tanks, clearing out debris from beneath cattle guards, and tunneling underneath utility lines.

And West reports that, with rain finally returning to California, "a lot of

### "WE NEVER ABSOLUTELY HAVE TO USE WATER, BUT SOMETIMES WE USE IT TO SOFTEN UP THE DIRT A LITTLE. WE NEVER DIG AN ENTIRE HOLE WITH WATER, BUT WE SOMETIMES DO DIG A PILOT HOLE." John West

"You consider air versus water in nature. Which erodes earth faster? Water." So Baker's 400 hp Kenworth trucks exclusively carry hydroexcavation systems.

Does he sometimes wish he had an air-vac unit on board? "No. The only thing I would say is that if we ended up going back for more excavation at a site, I could use air in that situation because the ground already would be broken up. That would be a little bit faster and wouldn't cause the mess created with water. Not having to dump is one advantage air-vacs have."

West is more flexible. He believes water is a good option to have on hand for his Ultra Engineering air-vac projects. "We never absolutely have to use water, but sometimes we use it to soften up the dirt a little. We never dig an entire hole with water, but we sometimes do dig a pilot hole."

### NUMEROUS APPLICATIONS

Across the country, potholing accounts for most air-vac and hydrovac work, 75 percent in the case of Ultra Engineering. At a local airport, his crew once potholed down 35 feet to confirm the presence of a gas line. But trench-

All in all, Morehouse calls air-vac and hydro-vac excavation "a great, flourishing industry." He personally is working to help it expand further: visiting trade shows and manufacturers, networking, and exploring how other industries might enhance the air-hydroexcavation business. "I'm finding stuff."



hydro system."

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when a contractor is ready to pour

and rain falls overnight, and the next

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# 9 Ways to Cut Costs and Raise Your Bottom Line

### ASK YOUR TEAM OF FINANCIAL EXPERTS FOR MONEY-SAVING ADVICE AND REVIEW YOUR EXPENSES AND TECHNOLOGY PRACTICES TO BUILD THE BUSINESS

### **BY ERIK GUNN**

he best get-rich-quick schemes drop the last of those three words. If you want to add to your bottom line, don't go for windfalls — see where you can nip and tuck your budget here and there.

It's not too late to wipe the slate and figure out how you can trim overhead costs that eat away at your monthly profits. So as a present to yourself and your bank account, we offer a list of nine ways you can save money without hurting your core business.

**1. Talk to your accountant.** If that person doesn't know where you're leaking money, get a new accountant. (And if you don't

have an accountant at all — or at the very least, a tax preparer — get one. You're the owner and the manager, not the accountant. The peace of mind that comes with knowing the books are straight and you're right with the IRS is worth the expense.)

2. Review your insurance policies. Especially if you haven't looked at them in a while. If your agent is independent, not tied to a particular insurance company, that person could be a great source for ideas about trimming your premium costs. One caution: Be very candid and clear about your real needs. There's no point in crippling your business if disaster strikes just because you thought you could live with that extrahigh deductible — and it turns out you really can't.

3. Call your lawyer. We think of attorneys as inev-

itably high-priced, but they don't have to be. Discuss

alternative fee arrangements. What can she or he do to help you economize reasonably without giving you cut-rate service? More than you might think. You could even consider bartering — your attorney gets the home septic tank pumped and you get X hours of legal consultation. (Keep good records, though.)

4. Shop around, shop around. This tip is two for the price of one.

- For your business line of credit or equipment loans. A new bank might give you a break for your line of business. But look carefully at the terms you're offered, and talk to other business owners already banking there about the level of service they're getting. Incidentally, if you don't bank at a credit union, see if there's one in your area. The terms and the service are often better at these locally owned, cooperatively run businesses.
- *For your credit cards.* The advice here differs depending on whether you carry a balance or pay in full every month, but either way a little comparison can go a long way. Do you pay in full every month? Focus on the annual fee and choose a card where it's low or nonexistent. Or do you tend to carry over a balance on your card from one month to the next? Then watch the interest rates and hunt for the lowest you can find.



And as for rewards programs — make sure they're rewards you'll actually use: Always read the fine print.

**5. Time your banking.** This can work in two directions, depending on your specific action.

You want your deposits to go in as early in the day as possible: If your account pays interest you'll get just a little bit more. More banks now enable you to make deposits by smartphone through a special app. Just take a picture of the check with your phone and in a few keystrokes the deposit is credited to you. From the envelope to your account in minutes. How convenient is that?

> On the other hand, if you've got a bank loan on your office property or a piece of equipment, time the payment toward the end of the billing cycle. That's because, unlike credit cards, bank loan interest doesn't accrue day by day during the month. So you can have longer use of the funds or can even earn a little interest on them. Be sure to pay on time, though — late fees or penalties would wipe out any savings.

> 6. Quit the paper chase. Paper — filling it out, filing it, storing it — might not be the biggest part of your business, but can you make it an even smaller amount? Digital storage on hard drives gets cheaper all the time. The same goes for SSD, solid-state drives, which are smaller and less prone to failure. And online storage, should you decide to go that route, is easier and cheaper all the time. There's Google Drive, Dropbox, and services from Amazon, Microsoft and others with free or low-cost

storage in the cloud — on an internet server — rather than taking up space in your office. But be sure you are confident that the option you choose is as secure as possible.

Consider equipping your service drivers with iPads or other tablets. Those can do what paper does (fill out a work order, say) — but faster. And they can create invoices instantly. (If you take credit cards, you can then get paid almost instantly.)

**7. Pay attention to your advertising.** Always try to evaluate effectiveness against cost when it comes to paying for publicity.

Take a look at the work you've handled over the last three months — where did it come from? A lot of small service businesses ask how customers learned about them. You could even put a question like that on the invoice.

While you're at it, which social media do you use, and how well do they deliver customers to your door or website? Scope out your competitors, too — where are they advertising? Can you determine whether it's helping them or not? Can you use a similar strategy if it is? Some publicity is always necessary, but the best way to seek it is always changing. Keep studying your preferred strategy to make sure it's still working.



**8. Hold the phone.** Whether landline or mobile, telephone service is another potential source for savings. If you're paying your employees' cellphone bills because they're using them for work in the field, see if you can get a group discount for using the same provider. The effectiveness of this tactic depends on what coverage is like in your particular area, but it's always worth checking.

### CONSIDER EQUIPPING YOUR SERVICE DRIVERS WITH IPADS OR OTHER TABLETS. THOSE CAN DO WHAT PAPER DOES (FILL OUT A WORK ORDER, SAY) — BUT FASTER. AND THEY CAN CREATE INVOICES INSTANTLY.

**9.** Join the clubs. Whether it's through a national, regional or local trade association, you may qualify for discounts on a wide range of necessary costs — cellphone service, insurance or other employee benefit programs.

Your local chamber of commerce can similarly benefit you with discount deals on services of all kinds. They also offer opportunities for cross-promotion. Yes, any of these groups has an annual fee, so you'll need to take that into consideration. It still could cost you less to join than the value you get in discounts — or the goodwill and referrals that might come your way.

### **GET TO WORK**

So that's just one list of nine ways to save. Some might not work for you, but others probably will — and bit by bit, those small savings can add up to real money.

### ABOUT THE AUTHOR

*Erik Gunn is a business writer in Racine, Wisconsin. Direct inquiries to him at editor@pumper.com.* **v** 



### **THE LATEST:** Products





2





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### 2. HammerHead Roughneck R200 air hammer

The Roughneck R200 from HammerHead Trenchless Equipment is a 2-inch rock hammer engineered specifically for horizontal drilling applications. It is designed to expand the capabilities of small utility drills allowing 7,000- to 10,000-ton-class directional drills to drill through solid rock as well as other difficult soil conditions. The R200 drills a 3.125-inch pilot hole and has electronically controlled airflow that can be adjusted on the fly. 800/331-6653; www.hammerheadtrenchless.com

### 3. McLaughlin Steerable Rock System

McLaughlin's Steerable Rock System for auger boring navigates solid rock and difficult fractured rock conditions. Engineered to operate in rock up to 25,000 psi, it has an open-faced design that allows fractured rock to be pulled into the cutting head where it is crushed or swallowed, creating a consistent path. The system of both disc cutters and rock picks work to navigate varying rock conditions. The SRS utilizes a fully rotational turntable, eliminating the need for a single main bearing that can seize up and freeze the head. 800/435-9340; www.mclaughlinunderground.com

### 4. Muncie Power Products rear-mount PTO

The RS6S-P89M Series rear-mount power takeoff from Muncie Power Products features an integral hydraulic mount for structural support of hydraulic pumps up to 60 pounds without additional transmission support. It has a bending moment limit of 29.5 ft-lbs maximum and is a solenoid-activated, mechanical-shift PTO. It is available with direct mount or companion flange output options. 800/367-7867; www.munciepower.com

### Ditch Witch MT16 microtrencher

The MT16 microtrencher from Ditch Witch is designed to cut narrow trenches 1/2 to 2 inches wide and up to 16 inches deep. An integrated hydraulic accumulator maintains constant pressure on the saw frame for sharperedged cuts and improved spoils removal. An infinitely variable hydraulic plunge feature eliminates manual adjustment of the trencher by providing variable depth control from 0 to 16 inches. The unit's frame swings up to 6 degrees in each direction, enabling operators to cut on a street corner or around a cul-de-sac. 800/654-6481;

www.ditchwitch.com

### This Issue's Feature:

X-8 from Hi-Vac

### Hi-Vac system is a weight-conscious package

### **BY JARED RANEY**

More power usually equals more weight in the hydroexcavation business, but with Hi-Vac's X-8 and X-13 hydrovac trucks, as Hi-Vac president Dan Coley says, "You can have your cake and eat it too - and not get an overweight ticket!"

The powerful systems provide 4,000 cfm and 27 inches Hg, while maintaining a 24,000-pound payload capacity.

"There is a balance between power, performance and scalability in a tight, neatly configured package," Coley says. "Instead of the push to make it bigger than ever, or to compromise performance to meet weight load restrictions, the X-8 and X-13 provide both power and performance.

"We have been hearing from customers who cannot abide by the fines and overweight tickets that their current equipment was getting them into. They also could not live with the light-duty, weak-performing units available that were others' answer to overweight tickets."

The X-8 carries 600 gallons of freshwater with an 8-cubic-yard debris capacity, and the X-13 carries 1,200 gallons of freshwater with a 13-cubic-yard debris capacity.



"The X-8 was designed to provide the industry with a powerful vacuum system in a weight-conscious package. It was designed to be able to work in any weather condition, cold or hot, with the lowest possible noise levels," Coley says. "It is intended to provide the operator and the owner with the ability to know the unit weight at any time, thus avoiding ticket fines."

Both units come with 360-degree boom rotation; an insulated, noise-deadening, heat-retaining enclosure for the vacuum and water system; and simple, rugged powertrain and transfer case.

"The X-8 and the X-13 are the perfect units for anyone and everyone who is working on the road and/or needs to transport payload," Coley says.

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		Foremost FVS 2000	Chassis	13	48" x 58" 8" and 6" heated decant valves		1,600	
GEIDVERX See ad page 59	<b>GapVax Inc.</b> 575 Central Ave. Johnstown, PA 15902 tf: 888-442-7829 p: 814-535-6766 f: 814-539-3617	HV33 HydroVax	Chassis	6	Fully Opening	90 degree	600	
	www.gapvax.com kdoyka@gapvax.com	HV55 HydroVax	Chassis	12.5	Fully Opening	90 degree	400-1,400	
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4.2 gpm, 3,000 psi	500 cfm	washable polyester	14 feet	270	full open rear door and tank lift	curbside	Y		
5.1 gpm, 3,000 psi	1,027 cfm	washable polyester	14 feet	270	full open rear door and tank lift	curbside	Y		
5.5 gpm, 3,000 psi	1,215 cfm	washable polyester	14 feet	270	full open rear door and tank lift	curbside	Ŷ		
4.0 gpm, 3,000 psi	543 cfm	washable polyester	N/A		full open rear door and tank lift	curbside	N		
4.2 gpm, 3,000 psi	500 cfm	washable polyester	14 feet	270	full open rear door and tank lift	curbside	Y		
5.1 gpm, 3,000 psi	1,020 cfm	washable polyester	14 feet	270	full open rear door and tank lift	curbside	Y		
5.6 gpm, 3,000 psi	1,215 cfm	washable polyester	14 feet	270	full open rear door and tank lift	curbside	Y		
Variable flow 3,000 psi	28″ hg 6,600 cfm	80 dry and 8 wet bags	15+ ft.	330	gravity with optional auger	in cab and outside enclosure and 40 ft. pendant	Ŷ	winterization lighting tool boxes racks cabinets	
25 gpm 3,000 psi	28" hg @3800 cfm 28" hg @6400 cfm	Cyclone and Cartridge	8" x 26 ft.	340	Sloped debris floor and Centrifugal pump tank flush	Passenger side	Ŷ	tool boxes racks cabinets	
25 gpm 3,000 psi	28" hg @3800 cfm 28" hg @6400 cfm	Cyclone and Cartridge	8" x 26 ft.	340	Sloped debris floor and Centrifugal pump tank flush	Passenger side	Ŷ	tool boxes racks cabinets	
25 gpm 3,000 psi	28" hg @3800 cfm 28" hg @6400 cfm	Cyclone and Cartridge	8″ x 26 ft.	340	Sloped debris floor and Centrifugal pump tank flush	Passenger side	Y	tool boxes racks cabinets	
12 gpm 3,000 psi	27″ hg 4,000 cfm	wet/dry single mode	14-18 ft. reach 18 ft. 10″ up 4 ft. 6″ down	270	Decant and fully opening tailgate Auger and sludge pump options available	curb side	Ŷ	winterization lighting tool boxes racks cabinets	On-board scales with digital readout stops loading when set target is reached (optional), 26 Filter bags, inverted tailgate to reduce length, 200 cfm air pump, 4,500 cfm, 18" hg blower
5-40 gpm 2,000-5,800 psi	28″ hg 5,250 cfm	wet/dry single mode	17-25 ft. reach from center of truck	270	Decant and fully opening tailgate Auger and sludge pump options available	driver's side curbside controls vary depending on options	Y	winterization lighting tool boxes racks cabinets	34 Filter bags, 5 cyclones for superior filtration, safe work- ing area on top of truck, various options available
5-40 gpm 2,000-5,800 psi	28″ hg 5,250 cfm	wet/dry single mode	17-25 ft. reach from center of truck	270	Decant and fully opening tailgate Auger and sludge pump options available	driver's side curbside controls vary depending on options	Ŷ	winterization lighting tool boxes racks cabinets	200 cfm air pump, 6,600 cfm, 28″ blower optional

(continued)

Hydropyg	-100	7						
MANUF	ACTURERS DIRECTORY	MODEL NAME	Style	Debris Body Capacity (cu. yards)	Debris Door (dimensions)	Debris Door (dump angle)	Water Tank Capacity (gallons)	
CORPORATION See ad page 7	Hi-Vac Corporation 117 Industry Rd. Marietta, OH 45750 tf: 800-752-2400 p: 740-374-2306	X-6	Chassis	6	67″	90 degree	500	
	f: 740-374-5447 www.x-vac.com sales@hi-vac.com	X-12	Chassis	12	67″	90 degree	1,140	
		X-15	Chassis	15	67″	90 degree	1,425	
KAISER PREMIER See ad page 37	Kaiser Premier 2550 East Bijou Ave. Fort Morgan, CO 80701 p: 970-542-1975 http://www.kaiserpremier.com sales@kaiserpremier.com	CV Series	Chassis	13	36″ x 48″	25 degree floor	1,600 - 2,400	
		Urban X	Chassis	6	24" x 27"	47 degree floor	600	
	LMT Inc. 1105 SE 2nd St. Galva, IL 61434 p: 309-932-3311 www.lmtmfg.com info@lmtmfg.com	Smart-Dig HX-2100	Trailer	3	Door dump	90 degree	300	
	Presvac Systems           4131 Morris Drive           Burlington, ON L7L 5L5           Canada           tf: 800-387-7763           p: 905-637-2353           f: 905-681-0411           www.presvac.com           sales@presvac.com	Presvac HydroExcavator	Chassis	15	78″ full opening	35 degree	1,000	
B RIVAL HYDROVAC See ad page 39	<b>Rival Hydrovac Inc.</b> Box 5 Major, SK SOL 2H0 Canada 403-550-7997 www.rivalhydrovac.com tdell@rivalhydrovac.com	Rival T7	Chassis	7	54"	70 degree	700	
Mud Dog	Super Products LLC 17000 W. Cleveland Ave. New Berlin, WI 53151	Mud Dog 1600	Chassis	16	full diameter full opening		2,000	
	p: 262-784-7100 www.superproductsllc.com info@superproductsllc.com	Mud Dog 1200	Chassis	12	full diameter full opening		1,500	

Standard Water Pump (gpm & psi)	Standard Blower (hg & cfm)	Filtration Type	Boom Size	Degree of Rotation	Offloading Type	Controls Location	Wireless Y/N	Accessories Available	Other
12 gpm 3,000 psi	16″ hg 2,100 cfm	cyclone and inlet filter	6 ft.	270	45 degree dump	right side	Ŷ	winterization lighting tool boxes racks cabinets	
18 gpm 3,000 psi	27″ hg 5,250 cfm	dual cyclones and inlet filter	8 ft.	270	45 degree dump	right side	Ŷ	winterization lighting tool boxes racks cabinets	
18 gpm 3,000 psi	27″ hg 5,250 cfm	dual cyclones and inlet filter	8 ft.	270	45 degree dump	right side	Ŷ	winterization lighting tool boxes racks cabinets	
20 gpm 3,000 psi	28″ hg 6,200 cfm	3 stage	8″	340	fixed, end dump, mechanical assist	rear, curb side	Ŷ	winterization lighting tool boxes cabinets	Extreme weather packages, 700k BTU boiler, trash pump, towing packages, steam pack- ages, dual digging packages, rear steps, custom dump door porting, extended van bodies
10 gpm 3,000 psi	28″ hg 2,400 cfm	4 stage	5″ or 6″	270	fixed, end dump, vibrator assist	mid rear, curb side	Ŷ	winterization lighting tool boxes cabinets	Sullair air compressor dual setting 200 cfm 120/200 psi, 500w inverter, 380k BTU boiler, all hydraulic drive, simultaneous oper- ation of all systems, legal when loaded, optional active scale sys- tems available, short wheel base
7 gpm 3,000 psi	12″ hg 1,000 cfm	2 x PTFE coated filters full flow at 2,200cfm	4" hose with optional full hydraulics	270	full open door with hydraulic lift	full function	Ŷ	winterization lighting tool boxes racks cabinets	
18 gpm 3,500 psi Adjustable Flow and Pressure	28″ hg 5,300 cfm	Two large Cyclones	8″ x 25 ft.	270	Gravity and optional pressure off-load	curbside passenger	Ŷ	winterization lighting tool boxes racks cabinets	Code and non-code versions available
14 gpm 2,750 psi	27″ hg 2,650 cfm	cyclone and cartride	6″ x 20 ft.	340	Hoist or Pressure	rear passenger	Ŷ	winterization lighting tool boxes racks cabinets	
18 gpm 3,000 psi	28″ hg 5,760 cfm	Single Final Filter	8" x 27 ft.	335	Ejector and Dump	passenger side	Y	winterization lighting tool boxes	
18 gpm 3,000 psi	28″ hg 5,760 cfm	Single Final Filter	8" x 27 ft.	335	Ejector and Dump	passenger side	Y	winterization lighting tool boxes	

(continued)

Hydroeyd	nvation <u>001</u>	7						
		MODEL NAME	Style	Debris Body Capacity (cu. yards)	Debris Door (dimensions)	Debris Door (dump angle)	Water Tank Capacity (gallons)	
TORNADO GLOBAL HYDROVACS	Tornado Global Hydrovacs Ltd. 7015 Macleod Trail South, Ste. 510 Calgary, AB T2H 2K6 Canada tf: 877-340-8141	Tornado F3ECO	Chassis	12	48″ x 52″	22 degree	1,700	
See ad page 3	p: 403-204-6333 www.tghl.ca sales@tghl.ca	Tornado F3Revolution	Chassis	12	48″ x 52″	22 degree	1,000	
		Tornado F2ECO	Chassis	8.5	48″ x 52″	22 degree	1,000	
SYSTEMS INC. Custom Built_Driven by You See ad page 5	<b>Transway Systems Inc.</b> 314 Lake Ave. N. Hamilton, ON L8E 3A2 Canada tf: 800-263-4508 p: 905-578-1000 f: 905-561-9176 www.transwaysystems.com sales@transwaysystems.com	Transway Terra- Vex HV38	Chassis	12	Half Door	45 degree	700	
VAC-CON See ad page 11	Vac-Con Inc. Contact: Stephanie Lee 969 Hall Park Rd. Green Cove Springs, FL 32043 p: 904-284-4200 www.vac-con.com vns@vac-con.com	X-Cavator	Chassis	3, 5, 9, 11, 12, 14, 16	optional hi-dump		1,300	
VACTOR See ad page 17	Vactor Manufacturing Contact: Ben Schmitt 1621 S. Illinois St. Streator, IL 61364 p: 815-672-3171 tf: 800-627-3171 f: 815-672-2779	Vactor HXX Paradigm	Chassis	3.342		50 Degree	300 Air only = 100 gallons	
	www.vactor.com sales@vactor.com	Vactor HXX Prodigy	Chassis	9		50 degree	600	
		Vactor HXX Hydro Excavator	Chassis	12		50 degree	1,200	
		Vactor HXX Mid-Size	Chassis	12		50 degree	1,200	

Standard Water Pump (gpm & psi)	Standard Blower (hg & cfm)	Filtration Type	Boom Size	Degree of Rotation	Offloading Type	Controls Location	Wireless Y/N	Accessories Available	Other
20 gpm 4,000 psi	28″ hg 3,800 cfm	Three Stage	26 ft.	342	Sloped Curved Floor	passenger side rear	Ŷ	winterization lighting tool boxes racks cabinets	
20 gpm 4,000 psi	28″ hg 3,800 cfm	Three Stage	26 ft.	342	Sloped Curved Floor	passenger side rear	Y	winterization lighting tool boxes racks cabinets	
20 gpm 4,000 psi	28″ hg 2,600 cfm	Three Stage	23 ft.	342	Sloped Curved Floor	passenger side rear	Y	winterization lighting tool boxes racks cabinets	
10 gpm 3,600 psi	27″ hg 3,800 cfm	Two stage with cyclone and washable polyester final filter	8″ x 26 ft.	320	Interior stainless liner	curb side	Y	winterization lighting tool boxes racks cabinets	Full enclosure for blower and water system
10 gpm @ 4,000 psi optional 20 gpm @ 4,000 psi	3 stage fan or PD blower	hurricane separator	6 or 10 ft. front or rear mount telescopic boom w/optional Power Flex	270	hydraulic opening rear door with 60 degree dump angle	curb side operator's station	Ŷ	winterization lighting tool boxes racks cabinets	
8 gpm 2,500 psi Air only = 4 gpm @ 2500 psi	15″ 2,200 cfm	Dual Cyclone and 5 micron polyester final filter	6" diameter 5 ft. extension	225	dumping, tilting debris body	right side	Ŷ	winterization lighting tool boxes racks cabinets	Back fill debris body, hitch, upgraded air compressor, air only, hydroexcavation only, and combination hydroexcavation and air
10 gpm 2,500 psi	16″ hg 3,200 cfm	Cyclone and polyester final filter	6" diameter	320	dumping, tilting debris body	right side	Ŷ	winterization lighting tool boxes racks cabinets	Air excavation available, 6 yd. debris body
10 gpm 3,000 psi	28″ hg 5,250 cfm or 6176 cfm	Dual Cyclone and polyester final filter	8″ Diameter 7 ft. extension	320	dumping, tilting debris body	right side	Y	winterization lighting tool boxes racks cabinets	Fan in lieu of positive displace- ment, telescopic boom, upgraded water pump, 15 yd. debris body
10 gpm 3,000 psi	PD=18" hg 4,970 cfm	PD=Cyclone and final filter/ fan=cyclone	8" Diameter 7 ft. extension	320	dumping, tilting debris body	right side	Y	winterization lighting tool boxes racks cabinets	Telescopic boom, 15 yd. debris body, upgraded water pump

(continued)

Hydroova	avation 001 <sup>-</sup>	7							
MANUF	ACTURERS DIRECTORY	MODEL NAME	Style	Debris Body Capacity (cu. yards)	Debris Door (dimensions)	Debris Door (dump angle)	Water Tank Capacity (gallons)		
VACTRON EQUIPMENT See ad page 51	<b>Vac-Tron Equipment LLC</b> 27137 South Hwy 33 Okahumpka, FL 34762 p: 352-728-2222 tf: 1-888-VAC-TRON	HTV PTO 573	Chassis	2.5	48″	60 degree	300 / 400		
	www.vactron.com cori@vactron.com	HTV PTO 873	Chassis	4	48″	60 degree	300 / 400		
		LP 573 / 873 SGT	Trailer	2.5 / 4	48″	60 degree	200 / 300		
		LP 573 / 873 XDT	Trailer	2.5 / 4	48″	60 degree	200 / 300		
		LP 573 / 873 SDT	Trailer	2.5 / 4	48″	60 degree	200 / 300		
		AIR 573 / 873 SDT	Trailer	2.5 / 4	48″	60 degree	200 / 300		
VECTOR See ad page 37	Vector Technologies Ltd 8301 W Parkland Ct. Milwaukee, WI 53223 tf: 800-832-4010 p: 414-247-7100 f: 414-354-4314 www.vector-vacuums.com inquiry@vector-vacuums.com	Mudslinger MS800	Trailer	4	Full Opening Hydraulic Door	55 degree Hydraulic Dump	325		

# Air Excavation

Air Evcav		17								
	ACTURERS DIRECTORY	MODEL NAME	Style	Debris Body Capacity (cu. yards)	Debris Door (dimensions)	Debris Door (dump angle)	Water Tank Capacity (gallons)	Standard Water Pump (gpm & psi)		
<b>Ditch</b> Witch	<b>Ditch Witch</b> 1959 W. Fir Ave. Perry, OK 73077	FXT30 Air	Chassis	2.5 or 4	45 degrees		200 or 400	4.2 gpm, 3,000 psi		
See ad page 60	f: 580-336-3458 www.ditchwitch.com info@ditchwitch.com	FXT50 Air	Chassis	2.5 or 4	45 degrees		200 or 400	4.2 gpm, 3,000 psi		
		FXT65 Air	Chassis	2.5 or 4	45 degrees		200 or 400	4.2 gpm, 3,000 psi		
EXCAVAC	EXCAVAC Corporation Box 135 Trafford, PA 15085 p: 412-373-4680 www.excavac.com info@excavac.com	EXCAVAC HT-180 Mk III	Chassis	1	Full end opening	75	80, optional	3 gpm, 2,500 psi, Optional		

Standard Water Pump (gpm & psi)	Standard Blower (hg & cfm)	Filtration Type	Boom Size	Degree of Rotation	Offloading Type	Controls Location	Wireless Y/N	Accessories Available	Other
4 gpm 4,000 psi	16 hg 1,000 cfm vacuum pump	pleated poly fabric washable & reusable	optional 6 way hydraulic boom	270	reverse pressure to offload	end cap	Y	winterization lighting tool boxes racks cabinets	
4 gpm 4,000 psi	16 hg 1,000 cfm	pleated poly fabric washable & reusable	optional 6 way hydraulic boom	270	reverse pressure to offload	end cap	Y	winterization lighting tool boxes racks cabinets	
4 gpm 4,000 psi	15 hg 1,000 cfm	pleated poly fabric washable & reusable	optional 6 way hydraulic boom	270	reverse pressure to offload	curbside	Ŷ	winterization lighting	
4 gpm 3,500 psi	15 hg 580 cfm	pleated poly fabric washable & reusable			reverse pressure to offload	curbside	Ŷ	winterization lighting	
4 gpm 4,000 psi	15 hg 1,000 cfm	pleated poly fabric washable & reusable	optional 6 way hydraulic boom	270	reverse pressure to offload	curbside	Ŷ	winterization lighting	
4 gpm 4,000 psi	15 hg 1,000 cfm	pleated poly fabric washable & reusable	optional 6 way hydraulic boom	270	reverse pressure to offload	curbside	Ŷ	winterization lighting	
4 gpm 4,000 psi	16 hg 1,200 cfm	Dry Filter Package	9 ft. with 24″ of hydraulic Extension to 11 ft.	270	water and air tight quick dump	passenger side fender	N	winterization lighting tool boxes racks	

Standard Blower (hg & cfm)	Filtration Type	Boom Size (ft.)	Degree of Rotation	Offloading Type	Controls Location	Wireless Y/N	Vacuum (cfm/psi)	Power Source	Compressed Air Flow	Compressed Air Pressure	Accessories Available	Other
500 cfm	Washable polyester	14 feet	270	Full open rear door and tank lift	Curbside	Yes			300 cfm or 200 cfm	250 psi/100 psi or 200 psi/ 100 psi		
1,020 cfm	Washable polyester	14 feet	270	Full open rear door and tank lift	Curbside	Yes			301 cfm or 200 cfm	251 psi/100 psi or 200 psi/ 100 psi		
1,215 cfm	Washable polyester	14 feet	270	Full open rear door and tank lift	Curbside	Yes			302 cfm or 200 cfm	252 psi/100 psi or 200 psi/ 100 psi		
15″ hg 1,200 cfm	Baghouse or Optional Cartridge			Dump Tank	Right Rear or Wireless Remote	Yes					lighting tool boxes cabinets	

(continued)
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Air Evcav	ation OO	17										
			Style	Debris Body Capacity (cu. vards)	Debris Door (dimensions)	Debris Door (dump angle)	Water Tank Capacity (aallons)	Standard Water Pump (apm & psi)				
See ad page 29	Gear Equipment Inc. 2214 Line 9 Bradford, ON L3Z 3T1 Canada p: 416-644-3076 f: 416-679-8752 www.gearequip.com tbottrell@gearequip.com	RSP ESE32	Chassis	8 m3	42 degree Side Dump							
VACMASTERS	VACMASTERS 5879 W 58th Ave. Arvada, CO 80002 tf: 800-466-7825 p: 303-467-3801	System 4000 Air-Vacuum Excavation System	Chassis	4.5	19" Posi- Seal Manway	50 degrees	85					
VACMASTERS See ad page 23	f: 303-420-3971 www.vacmasters.com tconnolly@vacmasters.com	System 5000 Air-Vacuum Excavation System	Chassis	3.5	50" Full Opening Rear Door	45 degrees	85					
		System 6000 Air-Vacuum Excavation System	Chassis	5	60" Full Opening Rear Door	30 degrees	85					
VANAIR, MOBILE POWER SOLUTIONS. See ad page 31	Vanair Manufacturing 10896 West 300 North Michigan City, IN 46360 tf: 800-526-8817 p: 219-262-4799 f: 219-879-5800 www.vanair.com marketing@vanair.com											

### Hydroexcavation DEALERS/DISTRIBUTORS DIRECTORY

**DEALER / DISTRIBUTOR** 

### Vacuum Sales Inc.

Contact: James Redstreake 51 Stone Road, Lindenwold, NJ 08021 p: 856-627-7790 tf: 800-547-7790 f: 856-627-3044 www.vacuumsalesinc.com sales@vacuumsalesinc.com HYDROEXCAVATION LINES

VACALL, Presvac

"There are different ways to excavate soil. Most people think you're just spraying water

on the ground, but it's a science — there's a right way to do it. We're here to stay.

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Mike Morehouse, Owner Davids Hydro Vac, White Bear Lake, Minn.

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Standard Blower	Filtration	Room	Degree of	Offloading	Controls	Wireless	Vacuum	Power	Compressed	Compressed	Accessories	
(hg & cfm)	Туре	Size (ft.)	Rotation	Туре	Location	Y/N	(cfm/psi)	Source	Air Flow	Air Pressure	Available	Other
Fan @ 26,000 cfm	Air Filter	6 m	180	Side Dump	Wireless Remote	Y					winterization lighting tool boxes racks cabinets	Hybrid trucks available. Consist of 1,000 gallon water tank. Allows oper- ator to dig with air or water as soil conditions change in density.
15″ hg 1,000 cfm	Self purging Gortex© filtration	Optional rear- mounted	180		curb side fully lit operators panel	Ŷ			300 cfm air compressor	220 psi	winterization lighting tool boxes racks cabinets	
15″ hg 1,500 cfm	Self purging Gortex© filtration	Optional rear- mounted	180		curb side fully lit control panel	Y			300 cfm air compressor	220 psi	winterization lighting tool boxes racks cabinets	
15″ hg 1,866 cfm	Self purging Gortex© filtration	12-22 ft.	270		curb side fully lit operators panel	Ŷ			350 cfm air compressor	250 psi	winterization lighting tool boxes racks cabinets	
							up to 1,500 cfm and up to 350 psi	4-40kW AC generators				150-300 amp welders, auxiliary hydraulics systems and battery boosting/charging systems available

### 

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# Air Excavation Ditch Witch Air Saber

Rated for operation at 250 psi, the Ditch Witch Air Saber empowers operators to dig faster and more efficiently on a variety of utility installation projects. Its design increases airflow for users while maintaining safe operation. A spring-lock, quick-connection system prevents the air hose from inadvertent separation, supporting overall project safety, while the body is constructed



from nonconductive material, also improving operator safety. Its ergonomic, full-hand squeeze trigger is in a natural position, which advances comfort and ease of use. It is compatible with the FXT Air Series along with other air-excavator models on the market. **800/654-6481; www.ditchwitch.com** 

### VACMASTERS SYSTEM 5000

The SYSTEM 5000 from VACMASTERS has the ability to trench and pothole. All the components, including the 300 cfm, 220 psi compressor; the 1,400 cfm positive displacement blower; and the high-pressure water system; are powered by a single,



enclosed John Deere 173 hp turbo diesel engine for quiet, dependable operation. It has a self-purging filtration system, selectable air or water digging, remote operation up to 200 feet away, fast-acting interceptor canister, fully supervised control panel, full-opening rear door, enclosed power-head and low-maintenance design. Its ability to use air rather than water when trenching and potholing means the job gets done in just four to five minutes in most soils, more efficiently (spoils stay dry for backfilling), more economically (mud hauling and disposal costs are eliminated) and more safely (air won't damage utilities and is nonconductive). Air-vacuum excavation is DOT friendly and won't damage the road base.

303/467-3801; www.vacmasters.com

### **Vanair Manufacturing Viper Series**

Viper Series gas and diesel rotary screw air compressors from Vanair Manufacturing have been engineered and field-tested to be dependable and versatile. With up to 80 cfm of air capability output and up to 100 psi, they are powerful enough to operate a 3.5-inch piercing tool, a 90-pound jackhammer or blow-out irrigation systems. Powerful and compact enough



to fit into even the smallest pickup truck bed, the units can be mounted permanently on a truck, or are available with running gear for the flexibility to take on or off the vehicle to meet specific needs. **800/526-8817; www.vanair.com** 

### Blowers

### National Vacuum Equipment Challenger 43 Series

The Challenger 43 Series hybrid blower from National Vacuum Equipment is available in the 4307, which moves 560 cfm, and the powerful 4310, which

moves 940 cfm. The sound enclosure allows this package to be very compact, taking up only 36 inches of frame space, and makes it extremely quiet to allow for pumping at night in residential areas. The blower doesn't require oil, and will work at high vacuum levels continuously. It is designed to be easily frameor top-mounted to accommodate most trucks,



and is completely serviceable from within the enclosure. Packages are offered in hydraulic, gearbox or belt drive to work with a variety of transmissions, both manual and automatic.

800/253-5500; www.natvac.com

### Hose

### Kuriyama of America Tigerflex Amphibian Solarguard AMPH-SLR Series

Tigerflex Amphibian Solarguard AMPH-SLR Series hose

from Kuriyama of America is made with a specially formulated material to resist the cracking that can result from exposure to damaging UV light. Tests show the Solarguard material retained 97 percent of its original tensile strength after prolonged



UV exposure. The safety-yellow color provides high visibility on job sites. This heavy-duty polyurethane-lined hose will handle wet or dry material handling applications. A static wire is available in the 6- and 8-inch I.D. sizes. **847/755-0360; www.kuriyama.com** 

### Hydroexcavation Equipment

### Dynablast CAB420FLS-12V

The Dynablast CAB420FLS-12V hydrovac water heater produces 420,000 Btu with an output temperature of 175 degrees F at 5 gpm, making it ideal for colder climates and improved digging in clay-filled areas. It is designed to fit most municipal size hydrovac trucks with its 24-by-24-inch footprint. It is ETL certified, meaning it can be used in the build and heat transfer between Schedule 80 pipe and water. All models are factory tested for a plug-and-play install. It comes with two service access panels and two momentary override controls, which increase



the serviceability resulting in less downtime. The cabinet is designed with a reversible door for a variety of truck configurations, and is built out of 14-gauge steel with polyester UV-protected powder-coated paint with an aluminum discharge cap and stainless steel hardware.

905/867-4642; www.dynablast.ca

### Easy Kleen Pressure Systems oil-fired hot-water/steam heater

High-pressure oil-fired hot-water/steam heaters and hydraulic pump systems for vacuum trucks and hydroexcavators from Easy Kleen Pressure Systems are available in a full range of heater options, such as dry steam; redundancy packages; Schedule 40, 80 and 160 stainless steel or A53 boiler pipe; fine-tuned temperature; and flow-control systems. They can be designed to be mounted in a cabinet or supplied as a completed ready-to-install cabinet unit. High-pressure hydraulic-driven pump systems have a variety of pump options to choose from.



800/315-5533; www.easykleen.com

### **Foremost RAPTORLOCK**

The RAPTORLOCK system from Foremost makes the operation of a vacuum truck safer and more efficient. It allows easier operation of the hydrovac and provides a safer

and faster method of emptying the debris tank. The system consists of three key components — a debris tank certified to be pressured to 10 psi, hydraulic components that allow the tank to be pressured up and the rear door to be



locked remotely, and a failsafe hydraulically actuated lock arrangement to secure the rear door. This technology is available to hydrovac owners and operators incorporating Rival Hydrovacs in their fleets, and will soon be available for other Foremost vacuum trucks.

403/295-5800; www.foremost.ca

### **Soil Surgeon**

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



949/363-1401; www.soilsurgeoninc.com

### Hydroexcavation Trucks and Trailers

### GapVax HV-55

The HV-55 hydroexcavator from GapVax has a 12 1/2-cubic-yard debris body and water tanks from 400 to 1,400 gallons. It comes with a PD blower rated at 5,250 cfm and 28 inches Hg. Its filtration design includes five cyclones that prolong the life of the



filter bags and eliminate the threat of material entering the vacuum pump. The tailgate is fully opening, field-adjustable and has four fail-safe, individually adjustable locks that ensure a complete seal. Options include interior polymer coating, a cold weather package, sludge pump, wireless remotes, washdown system and a stainless steel body.

### 888/442-7829; www.gapvax.com

### LMT SMART-DIG HX-2100

The SMART-DIG HX-2100 hydroexcavator from LMT is powered by a 59 hp Kubota VT2403 diesel engine that drives a 1,300 cfm Tuthill blower and 2,200 psi Udor water blaster. The compact design includes a 700-gallon debris



tank and 300 gallons of freshwater. The trailer has a fully automatic rear-open door with wireless remote control for ease of use. Filtration is provided by the SMART-DIG dropbox and washable PTFE filters. An antifreeze winterization system is standard, and for colder climates and improved digging performance an optional diesel-powered water heater is available. **309/932-3311; www.voxteel.com** 

### \_\_\_\_\_

### Presvac Hydrovac

The Presvac Hydrovac is a versatile hydroexcavator designed for cold weather operation with optional full compliance with DOT specifications for

collection or transportation of hazardous materials. The highvacuum blower allows extraction of all types of soils, gravel, rock, clay, water and silt material, with knockout features in the debris tank minimizing carryover. Mod-



ular filtration configured to blower size provides blower protection and minimal maintenance. It comes with a heavy-duty 8-inch boom that extends up to 25 feet, with six-way hydraulic power and wireless controls for all boom functions, soft-start water pump, vacuum breaker and truck engine speed. **800/387-7763; www.presvac.com** 

### Ramvac by Sewer Equipment HX-3

The HX-3 truck-mounted hydroexcavator from Ramvac by Sewer Equipment is the smallest model in the Ramvac truck family, but it comes equipped with large productivity features. This



unit offers a 3-cubic-yard debris body, a 0 to 10 gpm at 2,500 psi water system all in a temperature-controlled enclosure, a compact footprint, NEMA-rated electrical system, debris blow-off system, and a fully hydraulic powertrain for durability. For customers looking to dig with air, an optional 185 cfm at 150 psi air compressor is available.

888/477-7638; www.ram-vac.com

### **Rival Hydrovac T7**

The T7 from Rival Hydrovac was engineered to offer a nimble unit, which can haul a full load of most debris types down a road within the constraints of the law. It answers growing concerns regarding weight compliance, specifically in urban cen-



ters. The 30-foot 11-inch unit is equipped with an Allison automatic transmission. Its 7-yard debris capacity is spread evenly throughout the wheelbase of the unit, allowing for optimal weight distribution. It comes with poly saddlestyle freshwater tanks, equalized both front-to-back and side-to-side; a Robuschi RBDV105 blower package, fully enclosed in a soundproof structure; a Pratossoli pressure pump; Dynablast diesel-fired, CSA-approved boiler; and a 20-foot top-mount boom with full rotation and a 6-foot hose. The boom is equipped with a full-port stainless actuated ball valve to allow for tank isolation when pressuring loads off or working remotely off the back-tank valves. **844/467-4825; www.rivalhydrovac.com** 

### Super Products Mud Dog 1200

The Mud Dog 1200 12-yard-debriscapacity hydroexcavator from Super Products has a rear-mounted boom that is capable of a 19- to 27-foot reach, 335-degree rotation, 45-degree upward and 25-degree downward pivot. This range of boom motion allows crews to



achieve greater work area access and deeper digging without the need to halt production to reposition the trunk. For fast, thorough and safe debris removal, it uses easy-to-use ejector plate unloading technology. The unit's tilt-unloading feature ensures liquids in the debris tank are cleared quickly and efficiently even when unloading in an up-slope/nose-down position. Options include the Acculevel load sensor system for precise debris tank level measurement.

800/837-9711; www.superproductsllc.com



### Tornado Global Hydrovacs F3 ECO

The F3 ECO from Tornado Global Hydrovacs holds 12 cubic yards of mud and more than 1,700 gallons of freshwater. This unit is over 2,000 pounds lighter



than the company's older models, meaning the operator can carry up to 10,000 pounds more payload in the debris tank, and creating a savings in fuel consumption. The boom has a 342-degree rotation and a 26-foot reach. All critical components are housed in an insulated and heated aluminum van body. Because of its curved, sloped floor, operators do not need to hoist the tank to empty it. **877/340-8141; www.tghl.cg** 

### Transway Systems Terra-Vex

The Terra-Vex all-season hydroexcavator from Transway Systems has a Robuschi RB-DV145 6,400 cfm blower with OMSI transfer case and insulated acoustical enclosure with walk-in storage. Water pressure is achieved with a hydraulically driven Pratissoli KT20 water pump, delivering 10 gpm at 6,000 psi. The 3,000-gallon

debris tank has a hydraulically operated hoist, and door locks with fullopen door. The 1,200-gallon HDPE water tank supplies a 420,000 Btu diesel-fired



burner, permitting operation in subzero temperatures. The water pump and water tank compartments are heated by a diesel-fired heater and 12-volt engine coolant heater. The 26-foot hydraulically

operated 8-inch suction boom is equipped with joystick control and wireless remote control. All parts are painted/powder-coated off the unit, and it includes marine-grade plywood floor enclosure, three-camera back-up system and digital water level display.

800/263-4508; www.transwaysystems.com

### Vac-Con X-Cavator

The X-Cavator from Vac-Con is powerful, durable and easy to operate. It comes fully loaded and features a hydrostatic drive that uses the chassis engine for the vacuum, creating a more efficient system that eliminates the need for PTO, clutch and gearbox oper-



ation. It is available with water systems up to 4,000 psi, and a mobile wireless remote control system that enables the operator to work the chassis engine rpm, boom, automatic vacuum breaker, dump controls and hydraulic door locks from remote areas up to a 1/2 mile. The boom rotates up to 270 degrees. **904/284-4200; www.vac-con.com** 

### Vacall AllExcavate

Vacall AllExcavate hydroexcavators include AllSmartFlow smart controls that help to conserve water during high-performance jet/vac digging around utilities and waterlines or cleaning frac tanks and vessels. Single-engine efficiency helps conserve fuel and reduce emissions. It has a high-pressure water system with rheostat control to vary water volume and capacity output. A heated compartment enclos-



ing the water system protects components against freezing. Its water tanks are

made of high-quality aluminum for extra strength. Large, galvanized steel debris tanks are also available. A single control is used to open, close and lock the tailgate. It has double-cyclone filtration with a simplified design to reduce maintenance, extend performance and increase working life. Its rear-mounted boom front-loads debris. It is available with a cold weather package. **800/382-8302: www.vgcgll.com** 

### Vactor Manufacturing HXX ParaDIGm

The HXX ParaDIGm vacuum excavator from Vactor Manufacturing is designed for utility, municipal and contractor customers involved in the installation, maintenance and repair of underground water, sewer, gas, electric and telecommunications lines. This compact, multiuse truck can dig holes



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

800/627-3171; www.vactor.com

### Westech Vac Systems Wolf

The Wolf noncode certified hydrovac truck from Westech Vac Systems is ideal for oil and gas customers working in extreme conditions. The debris body is positioned on the optimal spot of the chassis to ensure the payload is proportionately distributed across all axles simultaneously, maximizing legal payload



for customers and improving operational efficiency. The side-mounted water tanks reduce the weight by more than 40 percent, lowering the overall cost of the truck. The 1,500-gallon capacity ensures ample water storage capacity for large or remote jobs. A top-mounted no-touch water fill system is easily accessible from the passenger side of the vehicle. The debris body is lifted using a telescoping, dual-acting hydraulic cylinder capable of 36,000 pounds of force. When fully extended, the debris body exceeds a 45-degree dump angle for fast and efficient off-loading. To help the off-loading process, a heavy-duty, hydraulically powered tank vibrator is mounted to the belly of the debris body. **780/955-3030; www.westechvac.com** 

### X-Vac, A Product of Hi-Vac Corporation, X-6 Hydro Excavator

The truck-mounted X-6 Hydro Excavator from X-Vac, A Product of Hi-Vac Corporation, has a 6-cubic-yard debris tank and can store 570 gallons of freshwater with an option for a capacity of 1,000 gallons. The adjustable triplex water pump exerts up to 3,000 psi and is set independently of the blower speed. Vacuum systems range in size from 2,600 cfm at 27 inches Hg vacuum to 3,400 cfm at 16 inches Hg vacuum.



Its 6-inch vacuum hose exposes any type or size of underground utility, especially in residential areas where space is tight and crews want to avoid blocking residential streets.

740/374-2306; www.x-vac.com

### Nozzles

### General Pipe Cleaners high-performance nozzles

High-performance nozzles from General Pipe Cleaners incorporate fluid mechanics to significantly increase thrust, pulling power and cleaning power without needing to increase water flow or pressure.



They are custom machined to redirect the water through highly efficient inner surface channels directed toward each orifice. They have replaceable threaded inserts at each orifice, so when the nozzle wears, you only have to replace the inserts, not the whole nozzle. The penetrating Chisel Point nozzle has four forward jets and six back jets to break up debris and hard grease deposits, and melt ice clogs. The Traction nozzle pulverizes sand and mud blockages with one forward jet and six back jets. The Cleaning nozzle has the thrust to pull the hose long distances with all eight jets to the rear.

800/245-6200; www.drainbrain.com

### Hydra-Flex Ripsaw

The Ripsaw rotating turbo nozzle from Hydra-Flex has a cone-shaped flow pattern ideal for potholing applications. It blasts a 0-degree water stream at up to 3,200 psi while rotating at a high speed to provide an 18-degree cone of coverage. These heavy-duty, high-impact nozzles are constructed with a stainless steel housing and tungsten carbide wear surfaces to withstand harsh environments and provide long life. Repair kits are available for extended life and lower operating costs. The nonconductive urethane coating on the nozzle body protects the operator and sensitive underground utili-



ties. It offers greater impingement, allowing the technician to use a smaller nozzle size while getting the same impact as nozzles with higher flow rates. **952/808-3640; www.hydraflexinc.com** 

### NozzTeq MONRO-JET

The MONRO-JET hydroexcavation nozzle from NozzTeq combines the power of a solidstream pencil jet with the large coverage of a fan jet. Its circular water jet motion generates tremendous power at modest gpm rates, allowing the operator to move faster whether hydroexcavating, surface cleaning or cleaning sewer lines. It can be used for other types of surface cleaning such as concrete, steel, castings and large surface areas including line removal from runways. It can be modified for internal pipe cleaning of sewers and pipes of all types. An orbital design increases performance at a lower gpm rate and pressures as high as 36,250 psi. **866/620-5915; www.nozzteq.com** 

### StoneAge HXR-300 Rotary Hydro-X

The HXR-300 Rotary Hydro-X nozzle from StoneAge uses an angled rotating jet pattern designed to decrease jet dwell time and

reduce undercutting for effective work around utilities. It is fully rebuildable, allowing the operator to reduce cost of ownership by extending the life of the tool with minimal, low-cost maintenance. There are three jetting options available for a variety of applications: higher flow for harder surfaces, intermediate flow for general use, and lower flow for water savings. It handles pressures up to 5,000 psi, and flow rates between 3.5 to 10 gpm.

866/795-1586; www.stoneagetools.com

### Sludge Pumps

### Myers Seth Pump DD-6

The DD-6 6-inch high-volume double diaphragm dewatering pump from Myers Seth Pump has a HATZ 1D81Z 10 hp air-cooled diesel engine enabling 80 to 90 max cfm, along with high head pressure and 3/8inch steel construction to make it reliable and durable. It can pump 600 gpm,



deliver 28 feet of vertical lift, and move 4 1/4-inch solids. It can also run 24 hours on 6 to 7 gallons of diesel fuel, and with its 71-gallon tank it can run continuously for up to 12 days, and can even run dry indefinitely. Its custom-designed Enduro diaphragm helps improve durability, efficiency and production. It combines the capabilities of a 4-inch double-diaphragm pump, a 6-inch piston pump, a 6-inch auto prime centrifugal pump and an 8-inch rotary lobe pump into one machine.

904/389-6114; www.myerssethpumps.com

### Water Pumps Cat Pumps Model 3570

The Model 3570 from Cat Pumps is the ideal combination of high-flow and high-pressure, rated to 30 gpm and 3,000 psi. Higher flow rates are desirable to get more work done in less time. Chrome-plated brass manifolds i



done in less time. Chrome-plated brass manifolds provide added strength and corrosion resistance. Concentric, high-density polished solid plungers provide a true wear surface that results in long seal life. The drive-end uses matched connecting rods and oversized bearings to provide many hours of trouble-free service. **763/780-5440; www.catpumps.com** ▼

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### THE LATEST: News

### Alton announced as president of CEP Division for Manitou

Manitou Group announced the appointment of Richard Alton II as president of the Compact Equipment Product Division. Alton has experience in managing all facets of international markets which included sales, after-sales support, global product launches and overseeing strategic partnerships. He was most recently with Contech Engineered Solutions.

### Fox-Marrs named president of JCB North America

JCB announced the appointment of Richard Fox-Marrs as president and CEO of JCB. He will be responsible for JCB operations in North America,



Richard Fox-Marrs

including sales and support for the construction, agricultural, rental, government and defense industries. Additionally, he will oversee production at JCB North America's Savannah, Georgia, headquarters.

### Mattracks featured in Fast and the Furious movie

Mattracks is featured in the eighth installment of the *Fast and the Furious* franchise, *The Fate of the Furious*. A Dodge Ram with the company's 150M1A2-SA tracks is driven by Dwayne "The Rock" Johnson as Luke Hobbs.

### Felling Trailers earns ISO 9001 in Minnesota locations

Felling Trailers recently received ISO 9001:2015 certification for its

quality management system at its Sauk Centre, Minnesota, and Litchfield, Minnesota, operations. The certification process was carried out in partnership with Transpacific Certifications Ltd. and included a detailed assessment of the company's facilities.

### Hansen named general manager at Intertractor America

Timothy Hansen joined Intertractor America as its general manager. Prior to joining the company, Hansen was director of aftermarket sales for



market sales for Timothy undercarriage man- Honsen

ufacturer Berco of Amercia. He has also had leadership roles in account development and sales management for the heavy equipment industry.

### Talbert Manufacturing appoints sales manager

Talbert Manufacturing has named Bob Luttfring as its southeast regional sales manager. He will provide sales, marketing and trailer customiza-



trailer customization support to Talbert dealers in the region.

# Ditch Witch dealerships recognized for service and support

Ditch Witch recognized the top 10 dealerships that excelled in providing superior customer service and ongoing support for customers worldwide in 2016. Honored as the No. 1 dealership for service and support was



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Ditch Witch of South Louisiana. The other top dealerships, in no particular order, were: Ditch Witch Sales of Michigan; Ditch Witch Northeast; Ditch Witch of Oklahoma and Arkansas; Ditch Witch of Virginia; Ditch Witch of UnderCon; Ditch Witch of North Carolina; Ditch Witch of Minnesota and Iowa; Ditch Witch Mid-States; and Ditch Witch of North Dakota.

### Komatsu acquires Joy Global to expand mining business

Komatsu America has completed its acquisition of Joy Global. Retaining its headquarters in Milwaukee, Wisconsin, Joy Global will be renamed Komatsu Mining Corp. and operate as a subsidiary of Komatsu. The transaction adds more than 10,000 people to the team, bringing the company's global total to more than 57,000 employees.

### Hunting Trenchless names international sales manager

Hunting Trenchless has named

Jimmy Foshee as international sales manager. He comes to Hunting with 25 years' experience in HDD equipment manufacturing and parts and service development.



<sup>ce</sup> Jimmy Foshee

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Happenings

### CALENDAR

### August 14 - 16

**10th Annual Breakthroughs in Tunneling Short Course,** Embassy Suites, Chicago. Visit tunnelingshortcourse.com

### Sept. 30 - Oct. 4

90th Water Environment Federation's Technical Exhibition and Conference (WEFTEC), McCormick Place North and South, Chicago. Visit www.weftec.org

### Oct. 3 - 5

International Construction & Utility Equipment Exposition (ICUEE), Kentucky Exposition Center, Louisville, Kentucky. Visit www.icuee.com

### Oct. 25 - 27

**WJTA-IMCA Conference & Expo**, Ernest N. Morial Convention Center, New Orleans. Visit www.wjta.org

### Oct. 28 - 29

Utility Contractors' Association of New England 63rd Annual Banquet; Boston Marriot Newton Hotel, Boston, www.ucane.com

### Nov. 28 - 29

**Risk Management in Underground Construction Conference,** Residence Inn Arlington Capital View, Washington, D.C. Visit undergroundriskmanagement.com

### Jan. 21 - 26

Underground Contractors Association of Illinois Annual Convention, Mauna Lani Bay Hotel & Bungalows, Kohala Coast of Hawaii. Visit www.uca.org

### Jan. 30 - Feb. 1

Underground Construction Technology (UCT) International Conference & Exhibition, Ernest N. Morial Convention Center, New Orleans. Visit www.uctonling.com

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GapVax HV55-0663, 2010 Volvo coldweather hydroexcavator: 1,200-gallon water tank, 12.5 cubic-yard debris. 4,000psi water system, heated box and burner, glycol & recirc. 888-442-7829 (D07)

2007 Sterling Vactor 2100PD tandem-axle combination cleaning truck. Ex-city owned, well maintained, and equipped with California Carb Compliant DPF System. See details of this unit and other cleaning and CCTV inspection units at www.empireequip.com. Contact Craig at 714-639-8352. (CBM)

2010 Vacall AJV0812: 450hp, 824 Roots blower 18", 80gpm @ 2,000psi General water pump. 1,200 gallons water, 8 yards debris, 1,000' 1" hose. Municipalowned, 48,000 miles, 7,353 chassis hours, 2,300 cleaner hours. Great truck ready to go to work. \$135,000. Call Brian 303-898-9475 (C07)

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