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> **TECH PERSPECTIVE** A step-by-step guide to vacuum tank inspection

DECEMBER 2017

Brad Dutruch, Compliance EnviroSystems president

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Compliance EnviroSystems President Brad Dutruch is an industry veteran of 25 years who served a term as president of the National Association of Sewer Service Companies and is a certified trainer for pipeline assessment. The Louisiana-based company specializes in storm drain and sanitary sewer evaluation and cleaning. (Photography by Meggan Haller/Keyhole Photo)

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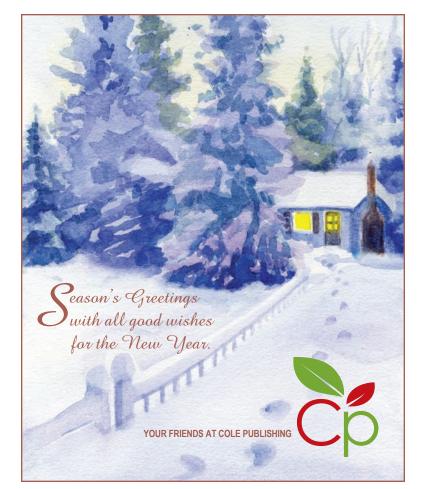
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A Working Resolution

Luke Laggis editor@cleaner.com

Every day presents opportunity for positive change and business improvement

By Luke Laggis

ell, 2017 is almost in the books — another year down, and another one ahead.

When I was a kid, Christmas and New Year's both seemed like such a big deal. I remember going to my grandma's every Christmas Eve. Opening presents at home the next day. On New Year's Eve, I'd play hockey with my buddies on the old outdoor rink. We had a key to the warming house and the lights, and it felt like we were celebrating in the greatest way possible, at least for 12-year-olds.

It doesn't mean so much now because I don't see any one day as more important than another. They're all important. We get 365 of them every year, and the really important thing is what we do with the total of that time.



I think resolutions are garbage. If I feel it's important to make a change in my life, I'm sure as hell not waiting until January rolls around. That's a waste of every day that comes before it, a waste of time that could be spent improving whatever it is that needs improving.

It's the same in your business. It's great to take stock of your successes and failures over the past year and think about how you're going to make the next year better. It's even better to act on things now. Resolutions are idealistic. Taking steps to improve your business is pragmatic.

I'm probably not saying anything you haven't thought before, but sometimes it's good to hear it from someone else. You're probably not going to die tomorrow, but you could, so why put anything off? Planning leads to plans. Action leads to improvement.

So what do you need to do to make your business better? What changes can you make to put your goals within reach? More importantly, what can you start doing today to make that happen?

I just returned from WEFTEC, the Water Environment Federation's Technical Exposition and Conference. It's always good to catch up with others in the industry and find out what's going on outside my own little bubble. I came away with some new perspectives and ideas for 2018, but I'm not waiting for December to fall off the calendar before I start working on them.

One of the nice things about being in the publishing world is I'm constantly presented with opportunities to improve on what I've just done. Once a month, the slate is wiped clean. Every print cycle sort of begins my own little New Year.

You essentially have the same opportunity on a daily basis. Every job is an opportunity to improve on your work and better serve your customers. If you're serious about improving your business, you need to take that mentality to every job because each one presents opportunity beyond a simple drain cleaning or inspection. If you run into difficulties or make a mistake relining a lateral, you can't wait until next year to make it right for the customer. Likewise, you shouldn't wait for next year to make things right for your business.

Every day presents opportunity for improvement. Don't waste it. Enjoy this month's issue. $\ensuremath{\mathbf{c}}$



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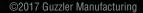
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COVER STORY

CLEAN AND EVALUATE

EXPERIENCED LEADERSHIP AND SPECIALIZED EQUIPMENT CREATE A SHARP FOCUS AND HELP COMPLIANCE ENVIROSYSTEMS RISE ABOVE ITS COMPETITION

BY GILES LAMBERTSON PHOTOGRAPHY BY MEGGAN HALLER/KEYHOLE PHOTO





ABOVE Donald Browder (left) and Dalrone Kinchin of Compliance EnviroSystems use an easement machine running off a Vac-Con combination truck to jet a sewer line in Baton Rouge, Louisiana.

 $<\!\!<$ Water flows back into a manhole while Chris Hooker (out of frame) jets a sewer line.



as CES – is a Louisiana storm drain and sanitary sewer evaluation and cleaning company, yet it has more projects outside the state than inside. It calls itself a comprehensive company, but it isn't interested in expanding beyond its core mission. These contradictory identities are resolved in one word: data.

"We are one of the few companies I know of that stay in our lane," says David Guillory, CES vice president of business development. "We are strictly an evaluation and data company. We might look like a construction company, with excavators on pontoons, but we're not a construction or engineering firm. We don't make repairs. All we are doing is evaluating and providing data."

This focus on providing comprehensive feedback to clients is accomplished by fielding technicians for such diverse tasks as high-pressure cleaning of lines; CCTV inspection; sonar, dye, and smoke testing; and locating cross bores, just to name a few services. The results of these field operations are recorded,





LILE BLACK





tabulated in the CES data management center as needed, and otherwise jelled into useful information for clients.

"Specialization" is another term that helps define CES. Numerous cleanand-evaluate companies operate in areas where CES is active, but few are as well-equipped. "I would like to say there is competition in certain areas but not many others can take on the kinds of jobs we take on," Guillory says. "We are very specialized."

An example is an unusual pipe cleaning job in New Orleans. The pipe runs through a levee and is accessed from beneath a bridge. To reach it, equipment has to be floated. This is no problem because CES has a cleaning rig mounted on a pontoon boat as well as a tracked cleaning rig that can both float and crawl. Both pieces of equipment were custom fabricated. The company also uses two Marsh Master amphibious vehicles and three larger soft-track vehicles to reach places inaccessible to jet/vac trucks.

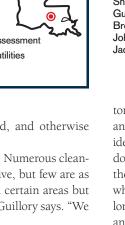
Its more conventional rolling stock includes 23 trucks — representing a mix of manufacturers — dedicated to cleaning operations and CCTV inspections. It even has an airborne fleet, sort of — three drones, the first one purchased in 2015. "A lot of the drone footage is for internal use, for helping us plan a job," Guillory says. "In places that are hard to reach, we can send a drone over it and come back to the office and determine from its footage what pieces of equipment will be needed on a project." The Compliance EnviroSystems team includes (front, from left) Clayton Sharp, Weston Rachal, Stephen Lacombe, Lloyd Bumgarden, David Guillory, Brad Dutruch, Chris Hooker, Kevin Quatrevingt, Donald Browder and Kellie Latchie; Back: Justin Ayers, Dalrone Kinchen, Johnathin Achord, Victor Hall Jr., Marc Fogos, Lionell Sellers Jr., Steven Jackson, Quincy Gallien, Brandon Lee and Kieran Bridges.

Specialized equipment separates CES from most competitors. The rest of the company's edge comes from its expertise and, well, its steely resolve. "When municipalities are looking for ideas on how to evaluate a system, they come to us and ask, 'How do we do this job?' Even more important, once we get out into the field, we can run into so many kinds of problems, and that's where we really separate ourselves from the competition," Guillory says. "We never leave a job. Even if it turns out to be harder and more expensive than we planned, we never leave a job. Our reputation is on the line."

EFFECTIVE LEADERSHIP

The company's impressive reputation is mirrored in the brass at the top. Company President Brad Dutruch is an industry veteran of 25 years — since his high school days. "Brad sort of handpicked a team from across the country, people with a lot of experience, and oversaw the collection of equipment we need to do this kind of work," Guillory says.

Along the way, Dutruch served a term as president of the National Association of Sewer Service Companies and is a certified trainer for pipeline assessment. One number summarizes his experience: 40 million. That's how many linear feet of sanitary sewer pipe he's helped evaluate. Over all, the company estimates it has cleaned 70 million feet of pipe since its incorporation in 1995.







The firm's vice president, Joshua Hardy, has pretty impressive numbers as well. During his 20 years at the company, Hardy has managed sewer evaluations totaling 10 million linear feet, overseen 100 flow studies, and recommended rehab procedures for 2 million linear feet of pipe. He also is a professional engineer, as is Guillory, whose expertise is management. Guillory is a former director of the Department of Public Works for the city of Baton Rouge, where he managed 800 employees and negotiated and oversaw a \$1.4 billion consent decree project to rehabilitate and enlarge the city's system.

"I WOULD LIKE TO SAY THERE IS COMPETITION IN CERTAIN AREAS BUT NOT MANY OTHERS CAN TAKE ON THE KINDS OF JOBS WE TAKE ON. WE ARE VERY SPECIALIZED." David Guillory

Lionell Sellers Jr. lowers a RapidView CCTV camera into the line at the start of a sewer inspection.

BELOW Victor Hall Jr. moves an easement machine into position near an off-road manhole to clean a segment of sewer line.





Not all CES expertise is at the top. The company's 100 employees include veterans of the industry like project manager Tim Jacobs. After 32 years in the industry, Jacobs has supervised diving jobs and river basin cleaning projects, handled floating rigs and countless other pieces of equipment, and managed numerous routine cleaning

"WE NEVER LEAVE A JOB. EVEN IF IT TURNS OUT TO **BE HARDER AND MORE EXPENSIVE THAN** WE PLANNED, WE NEVER LEAVE A JOB. **OUR REPUTATION** IS ON THE LINE." David Guillory

projects. Jacobs has just about done it all, according to Guillory.

Jacobs is currently responsible for a sewer assessment and rehabilitation program in Memphis, Tennessee. CES technicians there are in the fifth year of an 8- to 10-year project, partnering with the city and with the global engineering firm Black & Veatch. More than 1 million feet have been evaluated, but there is plenty of work remaining. The system contains almost 3 million feet of pipe that's 18 inches in diameter or smaller and another 385,000 feet of interceptor pipe ranging from 2 to 8 feet in diameter.

BUILDING PARTNERSHIPS

In its work with cities, Compliance EnviroSystems often works directly for an engineering firm that has contracted with the city, which is the case in Memphis. Whereas in one of the company's landmark jobs - a 10-year project in Atlanta created by a consent decree — the company worked more or less directly with city officials.

A third partnership model is evident in DeKalb County, Georgia, where CES interacts about equally with public officials and the consulting engineering company overseeing the project. "I think it depends on the resources a city has," Guillory says. "Small cities a lot of times will lean on engineering firms to help them navigate the paperwork of a project."

ABOVE Justin Ayers performs a CCTV inspection of a sewer line in Baton Rouge. BELOW GIS coordinator Tyler Robinson works on mapping.



Guillory says it's difficult to quantify how much each line of service contributes to the overall bottom line. He notes that evaluation and cleaning projects are often paired, with one preceding the other, though not always. The company's ability to scour large-diameter pipes brings many cleaning-only jobs. In terms of evaluation services, standard CCTV inspections are most often requested, but CES technicians are also kept busy with high-definition TV examinations, dyeing of lateral joints, and cheap and quick smoke testing.

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Lionell Sellers Jr. prepares to lower a CCTV camera into a sewer line in Baton Rouge. Compliance EnviroSystems is a full-service professional sanitary sewer and storm drain evaluation provider.

Cross-bore inspections make up another growing sector of work for the company. The cross bores typically result from a natural gas company boring a path for a new gas line and completing the project without realizing that the head of its boring unit passed through a drainline or sanitary sewer line. Laterally launched gas pipes follow the bore hole through the drainpipes.

"That creates a dangerous situation," Guillory says. "If there is gas leakage, it can migrate into a sewer line and eventually from there into homes. The potential for an explosion is real, and that's when the gas company becomes liable."

This scenario has brought CES a different client base — private utility companies that own and manage the underground assets and are looking for these legacy cross-bore problems. CES already is working with utility clients in Texas, Mississippi and Georgia. "Companies are saying, let's find and fix these cross bores and not put people at risk."



PUSHING BOUNDARIES

In 2005, hurricane recovery was the focus of the company's work. Louisiana was struck by two major storms that year — Katrina in August and Rita a month later. Consequently, for the remainder of that year and some time thereafter, the company found all the work it could handle at its doorstep. Its crews helped with cleanup operations in numerous coastal locations as well as inland where communities struggled to restore their systems.

In addition, CES was contracted to manage restorative efforts in New Orleans. It oversaw a 100-truck, high-pressure fleet representing several contractors that cleaned, vacuumed, inspected and evaluated battered storm drains and sanitary sewer systems.

Yet in 2017, the company is not as Louisiana-centric as it was a dozen years ago. There are as many projects under way in Alabama and southeastern

states as there are in Louisiana, not to mention three projects in Puerto Rico and a cleaning and evaluation job in the Pacific Ocean in Hawaii. CES looks more like a regional company now, with fingers reaching way offshore.

Guillory says circumstance, not a planned expansion, has the company working far from home.

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"We go where the work is. We were created and are based in Baton Rouge, and over the years, we've mostly been in Louisiana. At the moment, it just happens that more than half of our projects are out-of-state, but that could change in the next 12 months." \bf{c}

CLEANING UP AFTER HURRICANE KATRINA

When Hurricane Katrina struck New Orleans and areas north of the city in August 2005, it wreaked havoc on the infrastructure of the populated areas ... and spawned opportunity for companies like Compliance EnviroSystems. The reality was that a 10-year-old sewer and drain cleaning company that was still establishing itself in the industry suddenly had a mess outside its door that begged to be cleaned up.

"Yes, I would say the Katrina effect was a turning point in our company history," says David Guillory, CES vice president. The company subsequently was tapped to oversee some major cleanup in New Orleans and surrounding areas. It quickly geared up to supervise that work – as well as perform individual contracts – and never looked back.

The company cleaned 58,000 catch basins in New Orleans and 3 1/2 million linear feet of storm drainpipe. When Hurricane Rita made landfall the next month, CES technicians cleaned storm drains in adjacent St. Bernard and Jefferson parishes.

Guillory says heavily flooded areas in New Orleans produced a tragic windfall of clogged storm drains. The streets themselves were clogged as well, with cars tumbled over by wind and water and trailers that floated into lanes of traffic. "Getting to a storm drain access point was half the battle. It was just a workout. Our job started before we ever got to the inlets."

At least a thousand people died during Katrina, according to federal officials. "But thankfully, we didn't find any bodies during our work," Guillory says. "We came in after the floodwaters had receded, though they were still doing search and recovery in the areas where we were working. Our crews did see search personnel recovering people and animals from nearby houses, but thankfully, we weren't in the houses."



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Erik Gunn is a magazine writer and editor in Racine, Wisconsin. Direct Money Manager inquiries to editor@cleaner.com.

Consider long-term care insurance as a protection against the costs of care when you get older

By Erik Gunn

ost of us think about a long period of retirement in good health. But, we know that all the kale in the world doesn't guarantee good health forever. Someday it will be harder to do the ordinary things and we won't feel so great; someday our spouse might need help. How do we pay for help, nursing care or physical therapy?

Enter long-term care insurance, or LTCI, a policy that will pay for all kinds of care over the long haul, whether you're in your own home, an assisted living facility or a nursing home.

"But wait!" you're thinking. "Doesn't Medicare pay my medical bills after I'm 65?"

Medicare does pay for hospital and nursing home stays (Part A); doctor visits, lab tests, medical equipment and such (Part B); and at least some medications (Part D).

Medicare will also pay for rehabilitation in a rehab facility or nursing home but only after a hospital admission and only for 90 days. It may cover some physical or occupational therapy at home, but those circumstances are limited.

DO YOU HAVE HELP?

Most importantly, Medicare doesn't cover assistance with activities of daily living: dressing, bathing, toileting, walking, continence and eating.

You might think, "Well, we'll live at home, and we can help each other. Someone can come in a couple of days a week." That might work if your kids live nearby, or you live in a very connected community and know your neighbors (and your neighbors' kids!) well, or if you wind up in a big-city apartment building with friends a couple doors away.

But kids move away for jobs. Neighbors change. Or maybe you don't really want your friends to know you quite that well.

LTCI can pay for a home health aide to come in every day. If one of you gets a neurological disease like Alzheimer's or Parkinson's, LTCI can take a lot of the sting out of the bills at a continuing care facility, where the sicker spouse can have nursing care when needed, help with medications, and therapy, while the other spouse won't have to be a constant caregiver.

CHOOSING A PLAN

So how do you go about buying a LTCI policy?

As with any insurance, the further you are away from needing the payout, the lower the premiums. Buying LTCI when you're young and healthy is cheaper. Insurance companies can't raise premiums for life events (like a diagnosis of early-onset Alzheimer's), but the premiums will certainly go up a little bit every year, and you can expect a bigger bump at certain age bands, much like life insurance policies.

The policy should spell out the premiums over time. You can also purchase guaranteed level-premium insurance: the initial cost will be higher, but the premium will remain the same for a given period (again, the younger you are, the lower the premiums and the longer they stay low).

About half the states in the U.S. have standards for premium setting; make sure you understand what your state mandates, if anything.

There are varying limits of coverage for varying premiums — more of a payout, higher premiums. All policies will have some kind of waiting period (known as the elimination period) before coverage is available, and the longer the waiting period, the lower the cost. (Think 30 days, 45 days, 90 days. Although, of course, this varies.)

MORE OPTIONS

Some companies will offer options to purchase more coverage over time — you might start out with minimal coverage for a low premium and gradually increase both your premium and your coverage. Ask what the purchase options are: Sometimes if you turn down the option a couple of times, that option is foreclosed.

You may want to consider a combination of life insurance and LTCI, especially if you are young and healthy. Pay a given premium for, say, 30 years, and at a particular age, the benefit amount becomes payable for long-term care instead of death.

Most companies offer inflation protection — a 2 to 3 percent annual boost in the payout. "Simple" protection means that the boost is based on the original amount available. Especially if you're older, you probably want "compound" protection — meaning that the increase is applied to the currently available payout.

Talk through any exclusions with the agent offering the policy. Be sure common problems like heart disease and diabetes aren't excluded, and by all means, get coverage for illnesses that usually mean a long period of gradual deterioration, like ALS or Alzheimer's.

Watch out for definitions that are too rigid: Dementia care should be covered regardless of the cause, which often can't be diagnosed until after death.

CHECK THE STANDARDS

Ask how payment works if one of you needs some care, gets better and then needs care again — do you have to satisfy the elimination period again? (The answer should be "no." Look for "elimination period: once per lifetime" in the policy.)

Typically, companies will offer a discount to couples buying policies to cover both spouses. Ask if you're buying one policy that covers two people or



two policies, one for each of you. Ask what happens to the benefits when one spouse dies — can the other spouse pick up the coverage?

The insurance commissioner in your state will have minimum standards for LTCI offered in your state; the policy should say upfront that it complies with those standards, but remember, those are minimums.

Shop around! If your spouse is employed outside your business, they may have access to a policy through their job or a professional association.

EXPERIENCE MATTERS

The longer a company has been writing LTCI, the more likely it is that they have better actuarial models and offer realistic premiums in light of payouts they have had to make. Check the company's website for its history. And check with your state's insurance commissioner to see who is licensed in your state and look for complaints; check with the rating companies (Moody's, Standard & Poor's, and A.M. Best) for the company's rating.

Above all, take your time to understand this topic. AARP is a great source of information (www.aarp.org) and so is your state's insurance commissioner.

A certified financial planner (a fee-based, not commission-based, planner) can also help, particularly in understanding the relationship among Social Security, Medicare, any investments you have, and insurance. The National Association of Professional Financial Advisors (www.napfa.org) has a state-based directory.

LTCI is like all insurance: You hope you'll never need it, but if you do, you're best off if you get it long before that time comes.

If you're approaching retirement now and haven't looked into it, don't waste time. And if retirement is the furthest thing from your mind, it's never too soon to at least investigate your options.

If nothing else, think of it as one more guarantee for a little peace of mind in your later years. $\ensuremath{\mathbf{c}}$



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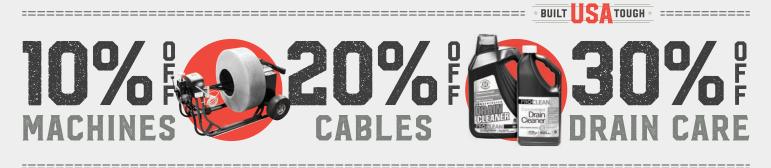
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BULDING ON EXPERIENCE

NEVADA CONTRACTOR APPLIES THE LESSONS LEARNED FROM ONE SUCCESSFUL BUSINESS IN MODELING HIS OWN SUCCESS

> **BY MARIAN BOND** PHOTOGRAPHY BY TOM R. SMEDES

he real estate market in the Reno, Nevada, area has been growing, and with it, the demand for presale plumbing and sewer inspections. Absolute Drain Service has tapped into that demand, and it's been good for business.

Mickey Castonguay, owner of Absolute Drain Service, had nine years' experience as a technician with Affordable Drain Service in San Diego when he moved to Reno in 2004. He initially worked with a rela-

tive in general construction, but he was eager to put his experience and training with Affordable Drain Service to work.

He opened his company in 2006, offering cleaning and inspection services to local plumbers who didn't offer those services themselves.

BUILDING A BASE

Armed with cameras and a new US Jetting 4018 trailer jetter, he made a list of every plumber in the area and sent out a fax promoting his drain cleaning and inspection. He followed up with a phone call, emphasizing that he would not be in competition for plumbing and repair work; he just wanted to clean and inspect drains.

Through these efforts he was able to connect with a prominent local firm, Precision Plumbing & Heating. The company's owner was soon recommending Absolute Drain Service to others in the area.

He was already off to a good start when another lucrative plum dropped into his lap. A local real estate agent heard about the company and inquired about presale sewer inspections, which were becoming an increasingly important element of real estate transactions. With the Reno-Sparks area in a growth phase, the real estate market provided a valuable opportunity.

The company now does about 15 to 20 percent of its business with real estate agents. Plumbing companies make up the largest portion of the business base at about 60 percent, with the rest coming from the commercial and municipal sector along with some direct residential service.

"WHEN I STARTED THIS COMPANY, I FOLLOWED THE SAME BUSINESS MODEL I HAD SEEN SUCCEED WITH AFFORDABLE DRAIN SERVICE. NO REPAIRS. WORK FOR PLUMBERS. RELY ON WORD-OF-MOUTH. NO ADVERTISING. OFFER SET PRICING." Mickey Castonguay

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ABOVE & >> Absolute Drain owner Mickey Castonguay uses a RIDGID NaviTrack locator to trace the path of a sewer lateral outside a customer's home.







"When I started this company, I followed the same business model I had seen succeed with Affordable Drain Service," Castonguay says. "No repairs. Work for plumbers. Rely on word-ofmouth. No advertising. Offer set pricing."

For the Reno-Sparks area, which is about a 10-mile radius, the rates start at \$69 for a simple drain issue, \$89 for the next step up, and then \$125 if they need to go in through the roof. A camera inspection ranges from \$175 to \$200. Jetting is \$300 to \$350. There is an added fee for traveling outside the immediate area.

Billing practices with the plumbing companies can go both ways: sometimes Absolute Drain Service will bill the plumber, other times the customer. But regardless, the rate remains stable. When the client is a real estate agent, the bill will go to the homebuyer or seller, depending on the situation. Once again, he sticks with the standard prices as long as they are within the local market.

When there is something in the system that requires repair, Castonguay has several firms he can recommend to come in and do the work. This includes relining and pipe bursting, along with excavation if required. Typically, he will suggest three firms to select from.

>> Mickey Castonguay and his son Mickey II set up for a lateral inspection at a house in Sparks, Nevada.





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BUILDING A STABLE BUSINESS

Absolute Drain Service has seen impressive growth in a short period of time – going from a one-man operation in 2006, through the financial crisis, to the current status with four technicians on the road.

"Our biggest challenge in the beginning was the lack of money," says owner Mickey Castonguay. "What I did have was the equipment — cameras and a jetter and locator, plus the training and the determination to make this a viable company for myself and my family."

During that initial struggle while he made payments on equipment, his wife, Laura, held outside employment to pay the bills, but with the stability they now enjoy, she works in the office along with her sister-in-law Tawny Kline. The women split responsibilities on a part-time basis.

Castonguay is currently in the process of putting up a 2,500-square-foot steel building with two bay doors and a shop on his acre-plus property.

As for expanding the business, he believes there is opportunity in northern Nevada, but he wants to maintain the family atmosphere.

"Whatever we do, I want people who share the same dedication and mindset that I have," he says. "We want to treat people fairly – to stand behind our work and have no hidden fees. No surprises for the customer when we are done."

HOUSING BONUS

Working within the real estate community has become a pleasant and rewarding part of the business for Castonguay.

"I really had not thought about finding business within the real estate community," he says. "But I really like being a part of it. I particularly find the agents to be extremely organized and knowledgeable, and they want to take care of their clients. Currently, I have about 150 customers in that category."

After the initial business came his way, he began promoting his services by stopping at real estate offices and putting his red business cards in the real estate agents' mail slots.

"I did that for a lot of years, and the agents would refer me to others in the business," he says. "This has become a regular inspection for these transactions. People have to be aware of the liability if there are problems. I actually do a lot of the real estate inspections myself because I like doing that.

"This business may pick up because of the renewed interest in Reno and the various business entities moving here and drawing national attention. We need to accommodate the real estate market. The agents want to make their clients happy. We do whatever it takes."

Through the real estate connection, another avenue for growth developed with cleaning and jetting septic system leachfields. There are several regions with septic systems within the two cities and broader area they serve.



"I REALLY HAD NOT THOUGHT ABOUT FINDING BUSINESS WITHIN THE REAL ESTATE COMMUNITY. BUT I REALLY LIKE BEING A PART OF IT.

I PARTICULARLY FIND THE AGENTS TO BE EXTREMELY ORGANIZED AND KNOWLEDGEABLE, AND THEY WANT TO TAKE CARE OF THEIR CLIENTS." Mickey Castonguay

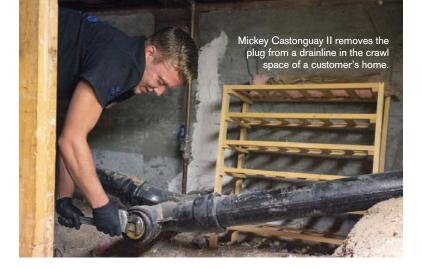
READY TO HELP

Castonguay has also built a good reputation with the local supply houses,

and they will frequently refer plumbers to Absolute Drain Service. The owner of the largest warehouse in town even has Absolute Drain Service take care of his own personal property.

While the company primarily does residential service, it also has small commercial clients and has done municipal work within northern Nevada. For example, the company was called out to restore operation of the sewer system in the city of Gerlach





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Mickey Castonguay looks for defects in a customer's drainline.

"THAT IS WHAT I LOVE ABOUT THIS -WHEN I FIX SOMETHING FOR MY CLIENTS, THEY ARE SO GRATEFUL."

Mickey Castonguay

during an ice storm, and at Lovelock Correctional Center in Lovelock, Nevada, the company repaired service when the water system failed. They have also done work in adjoining Douglas County and South Lake Tahoe.

Castonguay also makes himself and his team available to other plumbing companies on difficult jobs, even during off-hours.

"I've had phone calls from plumbers on night calls, asking for my advice on difficult problems, and we will even go out to help for a major concern," he says. "We do try to offer 24/7 service, with the exception of Sunday. We take Sun-

day off. Quality time with the family is important."

Absolute Drain Service has informal preventive maintenance agreements with many clients for whom technicians return on a regular basis to inspect lines and remove roots to avoid stoppages.

Castonguay notes that since Reno is an older city, he still sees a lot of the Orangeburg pipe that was used up until around 1970. It often needs to be replaced.

"We also see clay pipe, asbestos cement and concrete, all with joints and lots of roots. These we jet out and then use RootX, which works very well.

"Inside the house, you find cast iron and some plastic. When handling the older pipes, you have to use kid gloves."

Castonguay's crew uses a RIDGID self-leveling microDrain camera with a CS10 monitor, and two Insight Vision Cameras self-leveling mini cameras. They also use a RIDGID locator and Spartan Tool drain equipment.

GOOD PEOPLE

The right equipment is only part of the battle. Hiring the right people is even more important. Absolute Drain Service started as a one-man operation, but Castonguay now has six employees. His two young sons and one of his nephews — Mickey, Ian and nephew Bobby Reedholm — entered the business on a part-time basis and are now full-time employees doing drain cleaning and inspection work.

"Every plumber I know is trying to hire someone," he says. "I keep suggesting that they go to the high schools and talk to the kids who are in sports. Talk to the wrestling coach where he has students training through intense programs. Talk to the boys in the other sports. These are potential employees if they have a chance to learn about the industry.

"It takes a lot of money to train someone, but if you take care of employees, treat them fairly and pay fairly, they will do well. This is important for the industry."

Castonguay says the hands-on training and experience he received at Affordable Drain Service back in San Diego has benefitted his own company. "It gave me the confidence to know what I could do for myself."

He says that the thing he most enjoys about his job and running his own company is that people are so happy when he shows up to handle a problem.

"That is what I love about this when I fix something for my clients, they are so grateful.

"I have to say this is the only job I've ever had where every day people

say thank you and are happy to see me. They are happy when the toilet will flush properly, or the shower will drain, or when they don't have to spend a fortune to fix something we have helped to maintain. Those are the times when people want to say, 'Thank you for being there. Thank you for taking care of my problem."



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MONEY MACHINES



Adding Value, Not Upselling

Smaller, less-expensive inspection cameras reduce equipment costs and lead to pipeline repair projects

By Ken Wysocky

n old adage says that, generally speaking, you get what you pay for. But as Ron Smiley discovered, it's also possible to flip that saying on its ear — get good value and improve customer service — by paying less, not more.

As evidence, Smiley — the owner of Allied Plumbing and Pumps, based in Wenatchee, Washington — points to Viztrac pipeline inspection camera systems made by Amazing Machinery. The company owns several of the cameras, which come in three good-better-best models called the Basic, Pro and Max. Standard features on each model include a 3/8-inch-diameter push cable, a color LED monitor, a cable reel and stand, a stainless steel camera body with a sapphire lens, a 1 3/8-inch-diameter waterproof camera head, six LED lights with a dimmer, and a vision angle of 60 degrees.

What really appealed to Smiley, however, was the cameras' price points, which start at \$1,495 for the Basic and range up to \$2,395 for the Max. It's not that Smiley doesn't invest in expensive equipment; the company owns a wide array of more expensive cameras made by Spartan Tool, Envirosight, RIDGID and Aries Industries that are used in conjunction with various services the company provides, such as cleaning municipal sewer lines, pipe bursting and CIPP lining.

But for simpler applications, like inspections of clogged residential lateral lines, the Viztracs offer a great blend of performance and customer service. Moreover, because they're so relatively inexpensive, Smiley says he doesn't need to charge residential customers extra for inspections related to clogs, which helps him be more competitive pricewise. (He still charges for things such as looking at laterals for home presale inspections.)



"The main benefit is that we can cost-effectively put one of these cameras in our trucks and get an immediate return (on investment) from them," explains Smiley, a fourth-generation plumber. "Because they're relatively inexpensive cameras, we don't need to charge more to cover that investment. It's a lot harder to do that on a piece of equipment that costs \$10,000.

"They basically changed our business model in the sense that before, we looked at inspections as an opportunity to upsell services. Now, we're able to look at them more as adding value. And I see a higher return on the addedvalue business model compared to the upsell business model."

How does that work? In a nutshell, inspections often reveal problems — cracked and structurally compromised pipelines for example — that result in $$\tt CONTINUED\!>\!\!>$

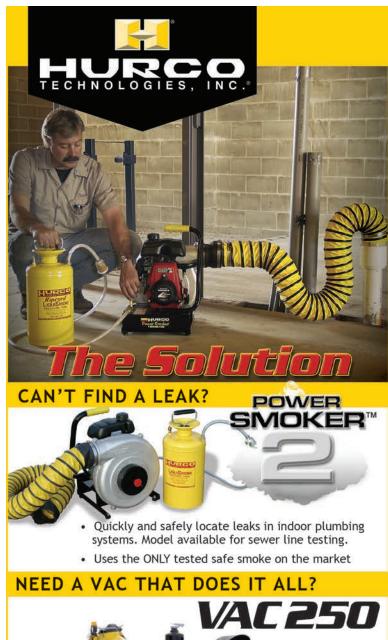
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bigger and more profitable jobs, such as pipe relining or pipe bursting. "The costs of jobs like those can range from \$1,000 for a point repair to \$20,000 for a pipe replacement (lining)," he says.

The cameras bring another benefit to the table: They protect the company from service callbacks. Essentially, if a camera inspection reveals a problem such as roots penetrating cracks in a pipe and the customer only wants to pay for unclogging the drain instead of opting for a long-term solution to the problem, Smiley won't warranty his work. As such, customers who decline to fix the problem have to pay for service callbacks.

"They basically changed our business model in the sense that before, we looked at inspections as an opportunity to upsell services. Now, we're able to look at them more as adding value. And I see a higher return on the added-value business model compared to the upsell business model." Ron Smiley

"It puts the liability on the customer because they choose the level of service they want," he notes. "If they want to do just a simple in and out, we tell them 'You're the customer — you're the boss.' They take the risk."

Furthermore, the cost of the Viztracs is often less than a repair for one of Smiley's more expensive cameras. If a Viztrac breaks down, which is bound to happen sooner or later because technicians are hard on equipment and the cameras are subject to harsh working conditions, it's not as big a setback as when a much pricier camera breaks down, he says. In addition, the camera systems are easy to transport; the weight ranges from about 48 pounds for the Basic model up to approximately 65 pounds for the Max.

Smiley got a good look at a Viztrac camera at the Water & Wastewater Equipment, Treatment & Transport (WWETT) Show two years ago. "We had been bouncing around between various manufacturers, trying to find the right combination of customer service and durability — and the right price point," he explains. "We tried the Viztracs out at the WWETT Show and bought two units. We had great success and started ordering more of them. We can buy four of them for the price we were paying for other cameras."

Of course, more expensive cameras offer higher-level bells and whistles, such as better high-definition monitors and self-leveling cameras. But, Smiley says the Viztracs are more than adequate in the area that counts most: showing customers what's going on with their pipelines. "A picture is worth a thousand words," he says, noting how actually seeing a problem helps customers feel comfortable with a diagnosis as opposed to feeling suspicious they're being scammed for a very expensive and possibly unnecessary repair.

"They're a great selling tool for us," adds Smiley, who runs eight service vehicles and serves the north-central region of Washington. He also relies on Spartan Tool cart-mounted jetters, a Spartan Tool Warrior trailer jetter, a hot-water jetter built by Jetters Northwest, pipe bursting systems made by Hammerhead Trenchless and RODDIE, and horizontal directional drilling machines made by RODDIE.

"We have nicer cameras with more features that do a wider range of inspections," he concludes. "But for the average residential lateral line, the Viztracs are great. We get a lot more for less." c



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7 Great Reasons to Hire a Veteran

Former military personnel bring skills and experience that can help build your business

By Dana Manciagli

nemployment continues to plague many veterans once they leave the military. Despite their years of dedicated service and a wide variety of work and life skills, veterans are struggling to secure fulltime jobs to support themselves and their families. According to Joseph Kernan, chairman of NS2 Serves and retired vice admiral LLS. Navy, "Hiring a veteran not only provides your company with

admiral, U.S. Navy, "Hiring a veteran not only provides your company with a devoted employee who has the potential to become a highly productive member of the team, but you're also giving a deserving veteran a fresh start in post-military life and a chance at a fulfilling career."

WHY NOT WASTEWATER?

Veterans can thrive in a wide variety of work settings, including the wastewater industry, where many of the skills they've learned over the years may translate well to a service business. They may know how to operate large trucks or equipment, communicate well with technicians and your customers, and are often trained in technology areas that could bring added value to your operation.

"This is why SAP National Security Services established the nonprofit NS2 Serves: to train and employ veterans in high-tech careers," Kernan says. "Through this program for predominantly enlisted men and women, we prepare graduates with the skills that hiring managers and organizations look for in a highly qualified, technically trained and dedicated employee."

Asked why employers should hire a veteran, he suggests seven compelling qualities that demonstrate why a veteran should be your next pick.

"Hiring a veteran not only provides your company with a devoted employee who has the potential to become a highly productive member of the team, but you're also giving a deserving veteran a fresh start in post-military life and a chance at a fulfilling career." Joseph Kernan

1. Veterans strive to be leaders

In the military, leadership is continually fostered until it becomes an ingrained attribute. Veterans respect and understand the roles of leaders and willingly accept and seek leadership opportunities. Most importantly, there is a clear understanding of a preeminent responsibility to those entrusted with leadership roles — lead by example and in a way that they would like to be led.



2. Veterans know how to work as a team

Working successfully in a team is considered an essential skill in most workplaces; it's also the foundation on which safe and successful military operations are conducted. Veterans have developed an uncompromising responsibility to their peers, subordinates and superiors alike. They understand that there is "no I in team" and that success is invariably related to the depth of teamwork.

3. Veterans are trained to quickly learn new skills and concepts

While in the service, members of the military are continually trained in a multitude of cross-functional skills. The demand for both administrative and occupational skills is high, and the ability to adapt to technological enhancements is essential. No matter what their job assignment, veterans must master the operations and react quickly to flaws and failures.

4. Veterans are mission/goal oriented

In the military, the mission is paramount. Veterans have been trained to adapt to complex tasks that are inherent in office and field settings. Their sense of duty, responsibility and accountability for job performance and mission success is an enduring priority. The culture and training in our military continues to breed success and respect around the world.

5. Veterans have the ability to perform in high-stress situations

In today's fast-paced work environment, having the ability to persevere under difficult or stressful circumstances is crucial. Veterans are trained and expected to perform under stress and still accomplish tasks in a timely and effective manner. They must do so with the resources at hand.



6. Veterans are able to adapt accordingly

While in the military, veterans undergo rigorous training programs to become experts in a wide range of skills and concepts that are applicable in a civilian work environment. Being able to adapt to changing situations is imperative to mission success and, when transferred to the workplace, it ensures a highly successful employee. While military duties stress teamwork and group productivity, they also build individuals who are able to perform independently when the situation demands it.

7. Veterans have strong communication skills

Veterans have learned to work effectively side by side with individuals regardless of race, gender, religion, economic status, geographic origins, and ethnic and cultural backgrounds. Regardless of varying intellectual and physical abilities, each individual is respected for his or her critical role in the organization. Military personnel are taught to have a questioning and thoughtful mentality, and they are not afraid to offer perspectives and recommendations to supervisors in a respectful manner.

GREAT WORK ETHIC

Kernan asserts, "From the day they begin their training, military personnel are instilled with a strong sense of character and work ethic. They are able to fill leadership voids or follow direction until the goal has been achieved."

He believes every company should look to veterans when the time comes to grow or fill vacated positions, and he calls on business owners to help support those who preserve our values and security. For more information on getting involved with NS2 Serves, go to www.ns2serves.org. **C**

ABOUT THE AUTHOR

Dana Manciagli is a career expert, Fortune 500 sales and marketing executive, member of the board of Junior Achievement, and author of Cut the Crap, Get a Job! Contact her at www.danamanciagli.com.



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A Step-by-Step Guide to Vacuum Tank Inspection

Take the necessary steps to ensure your vacuum system is functioning properly and won't fail you on the job site

By Ronnie Tamez

acuum tanks are subject to significant stress as you load and unload wastewater and debris. Failing to properly maintain them can lead to serious problems.

Constant changes in pressure and vacuum, combined with the sludges, grit and other foreign objects passing through the valves, can weaken many points in the tank. So, it's important to clean out the tank regularly and go beyond your quick daily visual inspection.

To get started, check vacuum gauges to verify all the stored energy has been released. This means there is no pressure or vacuum stored in the tank. Be sure to put the pump into neutral to dump vacuum or pressure. You can also open the load valve to equalize the pressure and release stored energy.

Vacuum and pressure gauges: Not much goes wrong with these. Clean the glass and make sure gauges haven't been damaged by low-hanging branches as you negotiate driveways.

Manways: Before opening the manways, check tank gauges to be sure the tank is not under pressure or vacuum. Serious injury or death can result if this precaution is not taken. While most manways are operated manually, there are a few different options including pneumatically operated units. When opening the manway, check the gasket for wear. Look for chunks that are missing or dried out as well as brittle O-rings. Replace the gasket and O-rings as needed. For a steel tank manway, use a wire brush to clean debris away from the sealing edge to create a more airtight seal. Leave manways open throughout the inspection.

Primary and secondary valves: While the pump is pulling vacuum, sewage must never enter the pump. If by some off chance the primary and secondary valves fail and sewage is allowed to enter the pump, the safety coupler is designed to break and save the pump. That's if you're lucky. Unlucky would be vanes breaking in the pump or the pump "grenading." Grenading is where the vanes not only break, but they also explode out of the pump casing and send parts flying everywhere. This is a violent and dangerous explosion. Never remove or bypass these safety components that protect your pump.

Typically, five wing nuts hold down the primary valve, which is usually located along the top of the tank near the front. You'll open these like you would the manways and clean and inspect the gasket, replacing as needed. A cage holds a steel or plastic ball. This ball is designed to stop vacuum to the pump in case the tank is too full and to prevent sewage from entering the pump and causing expensive damage. Be sure the ball is not dented and the cage is clean. Cleaning wipes can lodge in this area and cause problems.

The secondary valve is connected to the primary through vacuum pipes and plumbing, typically with three wing nuts holding the cap on. Remove the cap and take care of the gaskets and sealing surfaces. Check the steel or plastic ball, and replace as needed. **Prefilter:** Some people choose not to use a prefilter on their pumps. Most have the traditional setup utilizing the primary shut-off valve, secondary shut-off valve, and then the pump. From time to time, a piece of gravel or rust will come through the safety valve and the debris will go through the pump. A prefilter offers added protection to keep debris out of the pump. If you have a prefilter, remove the screen, hose it off, and replace it as part of your maintenance protocol.

Check baffles and welds: Here's where confined-space safety precautions come into play. Follow the appropriate procedures, and if you're not clear about them, stop the inspection now and get familiar before proceeding. Enter the tank to inspect the integrity of baffles and welds. Make sure they are not separating. A dropped baffle can make it very difficult to off-load and can be very messy. And baffles add crucial structural strength to your tank when it is under vacuum.

Oil-catch muffler: This muffler catches exhaust from the pump and collects the oil used by the pump. Drain this daily to avoid leaving oil spots on driveways or an oil blast mark.

WRAPPING UP

After the tank inspection, close manways and valves. Turn the pump on, and pressurize the tank. Check for leaks and tighten seals as needed. Check pressure and vacuum relief valves to make sure they are opening at the pump/ tank manufacturer's recommended settings.

Run the pump to check that the oilers are functioning properly. Look for about a drop a second at operating speeds. I highly suggest getting automatic oilers. My first vacuum truck had manual oilers. I would set my oil speed at a drop per second, but after 30 minutes of pumping, it would be running too fast. Automatic oilers maintain the preset speed the entire job.

Shut the pump down and put the three-way valve into neutral. Verify with the gauges that there is no stored pressure or vacuum. Check to be sure the valve operates without binding and excessive force needed to operate. Also, make sure there are no leaks; tighten as needed. Tanks in colder climates often have heated valves, which are warmed by the engine coolant. Be sure to inspect these hoses.

Inspect steps and handholds to make sure welded points are not starting to crack. Also check that antislip surfaces are gripping. Look for signs of cracking and leakage around plumbing joints from the tank to the pump, all the way through the three-way valve to the exhaust. Address any problems you find. **c**

ABOUT THE AUTHOR Ronnie and Jennifer Tamez are owners of First Call Septic Services in Battle Ground, Washington.

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By Craig Mandli

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standard, and 3/4 and 1 hp motors are also available. A custom-designed gearbox ensures parts availability and higher quality with lower cost. The heavy-duty, fully adjustable safety clutch keeps cable and tool breakage to a minimum and provides overload protection. Separate fold-down and carry handles allow for easy transportation as well as better balance, storage and use in crawl spaces. **800/833-1212; www.electriceel.com**.

GORLITZ SEWER & DRAIN GO 62A

The GO 62A from Gorlitz Sewer & Drain is ideal for cleaning basement drains, and it is able to get into tight spaces or through narrow doorways. With a quick turn of an Allen wrench, the machine can be broken down into separate frame and drum components for easy transportation, or to add an additional cable and



drum for extended reach. It is a mirror image of the larger Model GO 68. The ball-bearing, 1/4 hp, reversible, steel-geared motor develops approximately 100 pounds of torque and cleans sewer and drainlines 3 to 4 inches in diameter and up to 200 feet long. **562/944-3060; www.gorlitz.com**.



PIPE LINING SUPPLY ULTRA HIGH SPEED

The **Ultra High Speed** drain cleaning machine from **Pipe Lining Supply** has a cable that is enclosed, turns at a high speed, and can carry a camera strapped to it to pinpoint the locations

of the pipe that needs cleaning. It allows users to clean many drains per day to a level of clean that they can see while performing the work. The units are made in 1/4-, 5/16-, 3/8- and 1/2-inch sizes. The cable is reversible, providing the ability to use another approach angle to clean roots and debris. **888/354-6464**; www.pipeliningsupply.com.

FRANCHISE SYSTEM

ROOTER-MAN FRANCHISE SYSTEM

The **Rooter-Man Franchise System** offers a low-cost solution to franchise ownership, with a flat-rate pricing system (no To The Rescue

royalty on percentage of sales). Franchisees are granted an exclusive franchise license for their chosen territories, and they become part of a team of independent dealers working together under a nationally branded website and recognized trademark with proven systems for success. Franchisees receive equity in the national brand by receiving exclusive use of the Rooter-Man trademark in their territory, an appreciating investment that can later be sold or expanded. **800/700-8062; www.rooterman.com.**

PLUMBING PRODUCTS

ENZ USA CUTTING BALL NOZZLE

The water-driven cutting ball nozzle from **Enz USA** moves easily around curves in 4- to 6-inch polyethylene, steel or concrete pipes. It can safely remove roots and mineral deposits without damaging the pipe. It works without impact but has the ability to switch to a vibrating nozzle. It is equipped with a hard metal



front blade for pipes that are more than 50 percent clogged. The side blades

are self-sharpening and maintain their sharpness over their entire service life. The cutting ball operates with controlled rotation speed and is capable of running on recycled water. It is leakage-free. **877/369-8721; www.enzusainc.com**.

NOZZTEQ MULTI-GLOBAL SERIES

Multi-Global Series sewer nozzles from **NozzTeq** have replaceable orifices, similar to the Ice Bear nozzle design. They have a crisscrossing front jet pattern for clearing grease, debris and ice blockages. They can be configured with up to four different front jets for general sewer cleaning or particular types of sewer obstructions. They have been used for



hydroexcavation as the rear orifices can be blocked, leaving only penetrating orifices in the front. By replacing orifices as needed, overall nozzle life can be extended. Laminar flow is preserved from the truck to the nozzle end for more powerful jet streams produced at lower pressure, extending the life of the jetting equipment. **866/620-5915; www.nozzteq.com**.



NU FLOW TECHNOLOGIES VERTICAL AND HORIZONTAL CIPP CONNECTION LINER

The Vertical and Horizontal CIPP Connection Liner (V & HCL) from Nu Flow Technologies is designed for vertical and horizontal small-diameter T and Y connection(s) for the most common

sizes in the system. It can be easily installed from upstream or downstream access with a two-man crew, allowing them to rehabilitate the entire fitting structurally with no worries of reinstating or coating failure. It has a reusable silicone bladder for multiple installations. Installation times are between 1 to 1 1/2 hours per connection, allowing technical to install six per day. **800/834-9597; www.nuflowtechnologies.com**.

PORTABLE JETTER



RIDGID KJ-1350 WATER JETTER

The **RIDGID KJ-1350** water jetter propels a highly flexible hose through 1 1/4- to 4-inch lines, blasting through sludge, soap and grease blockages. As users pull the hose back, it power scrubs the line, flushing debris away and restoring drainlines to their free-flowing capacity. A working pressure of 1,350 psi and flow of 1.4 gpm provides fast, effective cleaning of lines. It

comes with a 1.5 hp motor that draws a maximum of 14 amps, can run on most standard 115-volt circuits, and is CSA and UL standards approved. Users guide the hose into the drain while the thrust propels the hose down the line. Pulse action is designed to easily navigate difficult bends and traps. The pressure control valve allows for quick and easy pressure adjustment. The optional H-10 cart makes for easier transport. **800/769-7743; www.ridgid.com**.

PRESSURE WASHER AND SPRAYER

WATER CANNON INC. -MWBE POLY DRIVE

The **Poly Drive** twin-cylinder pressure washer from **Water Cannon Inc. - MWBE** has a Honda GX690 engine and industrial-duty General



Pump TSP Series pump, producing 6,000 psi of power for commercial and industrial cleaning applications. The units are also equipped with a Gates Poly Drive long-life belt system that is laser aligned. Standard accessories include a 50-foot pressure washer hose with quick couplers for continuous washing, four quick-connect spray tips, aluminum frame, safety belt guard, and a highrated trigger gun and wand. **800/333-9274; www.watercannon.com**.

PUSH TV CAMERA SYSTEMS

ARIES INDUSTRIES SEEKER

The **Seeker** video inspection system from **Aries Industries** is a compact, portable unit for drainline inspection. The easy-to-use, contractor-grade system works in 3-inch-diameter or larger pipe. Weighing only 40 pounds, the unit is self-contained with no external wiring. It can be used in conjunction with a CCTV truck. It comes with a built-in 512 Hz transmitting beacon and a bright 6.4-inch LCD screen. Users select from either a self-leveling mini-camera or a pan-andtilt camera with a self-cleaning wiper blade. Built-in AV



outputs enable inspection data to be recorded onto an SD card, DVR or a laptop using any software. Wireless controls, video transmission up to 300 feet and line tracing are available. **800/234-7205; www.ariesindustries.com**.

CUES MPLUS+ XL

The CUES MPlus+ XL push system enables easy operation with its all-in-one setup and flexibility by quick removal of the control unit to be used separately. It includes a coiler configuration and panand-tilt camera designed for mainline and larger pipeline applications up to 500 feet. It integrates video observation coding, observation coding interface and digital recording into an easy-to-use package. This lightweight system includes large and durable wheels for portability and a balanced footprint for stability. It is manufactured to handle rigorous field use. 800/327-7791; www.cuesinc.com.



ENVIROSIGHT VERISIGHT PRO

The **VeriSight Pro** from **Envirosight** has a stainless self-leveling camera with shadowless, variable LED illumination that captures crisp video footage regardless of pipe material. With supplied centering devices, it inspects lines 2 to 9 inches and snakes through multiple bends for maximum range. An integral tri-band sonde (33 kHz, 512 Hz, 640 Hz) works with almost any locator. Its welded steel coiler comes with 130, 200 or 330 feet of pushrod. The entire



system runs continuously for six hours off internal rechargeable lithium-ion batteries or off main or vehicle power. Its multilanguage controller displays footage on an 8-inch TFT LCD and captures up to 90 hours of MPEG 4 video on an SD/SDHC card or USB stick. It lets the user zoom 3X, captures images in JPEG format from both live and recorded video, and offers a 16-page text writer with full QWERTY keyboard. **866/936-8476**; www.envirosight.com.

FORBEST PRODUCTS CO. FB-PIC3688M

The **FB-PIC3688M** long-range pipe inspection camera from **Forbest Products Co**. has a dock for a digital monitor and optional 360-/180-degree camera. It comes with 400 feet of 9-mm fiberglass cable on a reel with a meter counter. The stainless steel frame carries a dock for placing the 10-inch LCD monitor for convenient operation and transportation. Camera head options include a 1 1/2-inch, self-leveling color camera head or 2 1/4-inch, waterproof, 360-/180-degree pan-and-tilt, high-resolution color

camera head with zoom for panoramic pictures. The heavy-duty multifunction waterproof control box includes a 10-inch LCD color screen with USB and built-in SD card to record photos and videos. Users can type and edit on the screen with the installed keyboard. Control buttons on the front panel are designed for remote camera head rotation for over 20,000 hours continuously. **877/369-1199; www.forbestusa.net.**

HATHORN CORPORATION MAGNUM M7

The **Magnum M7** from **Hathorn Corporation** is packed with multiple features and is extremely lightweight at only 29 pounds. The unit can easily be carried down a flight of stairs or rolled on its 6-inch wheels. The 7.4-inch monitor delivers a clear, bright picture and is covered by an acrylic shield for durability. It offers USB recording, 2-hour lithium battery, on-screen footage counter, 512 Hz sonde transmitter, adjustable lighting and text writer. A Wi-Fi transmitter can be added for recording to a mobile device.

It comes with a variety of pushrod lengths and camera sizes to fit every job type. **905/604-7040**; **www.hathorncorp.com**.

ion A built-in microphone and speaker allows the technician to record voiceover videos and then play the video back on the 10.4-inch LCD monitor. The system includes a 1.3-inch modular, self-leveling camera head that is geared to inspect sewer pipes from 3 to 12 inches in diameter. A built-in sonde broadcasts a 512 Hz frequency that is locatable with a 512 Hz locator.

INSIGHT VISION CAMERAS

The Opticam 2017 camera system

from Insight Vision Cameras has a user-

friendly keypad that's been redesigned

with an easy on-demand recording

and snapshot button to help speed up inspection time. Technicians can easily

record vital inspection data and client

OPTICAM 2017

The system comes with a free downloadable Insight Vision app for iOS and Android mobile devices that allows users to view, record, snapshot and share sewer inspection videos. **800/488-8177; www.insightvisioncameras.com**.

information using the available on-screen text writer and footage counter.

MEDIT MINIFLEX

The **MiniFlex** plumbing camera from **MEDIT** is designed for small-diameter pipe inspections by plumbers, pool and spa professionals, and pipe fitters. The 0.76-inch-diameter camera will make straight runs in pipes 0.8 inch and larger while the flexible neck allows the unit to



navigate bends and traps in pipes 1.25 inches in diameter or larger. It is a selfcontained set with a cassette tape design that houses the push cable on the reel around the outside, a 5.6-inch color LCD screen in the middle to view live inspections, a memory card to capture image and video, text generation, video output, an on-screen foot counter, a built in 512 Hz sonde to locate the camera head underground or behind walls, LED lights, a rechargeable battery, and lengths from 49 to 98 feet. **800/239-9934**; www.fiberscope.net.



MYTANA MANUFACTURING MS11-NG2

The **MS11-NG2** midsize inspection system from **MyTana Manufacturing** has USB for recording and storage. The system is suitable for inspecting 3- to 6-inch lines with the choice of 150 or 200 feet of pushrod. The unit has a 64 GB internal drive as well as two onboard USB ports and a 32 GB removable USB drive. The one-piece design is lightweight with a carrying handle. The color camera head is self-leveling with a built-

in 512 Hz transmitter for locating trouble spots, even in cast iron pipes. 800/328-8170; www.mytana.com.



R.S. TECHNICAL SERVICES INC. (RST) QUICK PEEK

The **Quick Peek** all-in-one, fully portable video inspection system from **RST** is a compact, lightweight solution for drainline condition assessment in lines 2 to 10 inches in diameter up to 300 feet in length. The unit includes a 7-inch, bright, LCD, handle-mounted monitor equipped with a sun shield/screen protector that can be positioned for a comfortable viewing angle. Easily accessible monitor controls include power mode; aspect ratio (screen size); menu; and set buttons for color, brightness, contrast, tint and volume. The side-mounted AC/DC power source houses controls

for all camera functions and provides a camera test terminal, AC/DC input, video/audio output, keyboard input and a condenser microphone with an on/off switch. It has a high-resolution, low-lux color camera; AC/DC input; keyboard for annotation; video/audio output; microphone; and is fully locat-able with 512 Hz in-line transmitter. **800/767-1974; www.rstechserv.com**.

RAPIDVIEW IBAK NORTH AMERICA MINILITE PUSHROD SYSTEM

The MiniLite Pushrod System from Rapid-View IBAK North America is a compact and versatile platform for inspection of small-diameter pipelines. The system works with HYDRUS, JUNO, NANO, NANO-L, ORION Zoom, ORION-L and POLARIS cameras. It has a bright, 10-inch touch screen and a built-in Windows PC with power supplied by an 18-volt rechargeable battery. The multifunction joystick allows precise control of the pan-and-tilt camera. 800/656-4225; www.rapidview.com.



RAUSCHUSA MINCAM360

The 2-inch, **minCam360**, remotecontrolled, pan-and-tilt push camera from **RauschUSA** has digital zoom and a tri-band sonde with selectable frequencies. The Bluetooth remote includes a joystick for camera control. The cable reel



is equipped with 200 feet of cable (with up to 300 feet available), and the removable batteries run for four hours. Its RID steering skid enables it to push into 45-degree Y and 90-degree T branches in the pipe. The 8.4-inch, sun-light-readable monitor enables recording video, voice and photo directly to an SD card. This system is designed as a capable stand-alone inspection system, including a text generator for detailed reporting capabilities and an on-screen distance counter. Applications range from 3- to 20-inch pipe diameters with all centering accessories. **717/709-1005; www.rauschusa.com**.



SPARTAN TOOL EXPLORER

The **Explorer** modular camera system from **Spartan Tool** has a control box that is compatible with five different pushrods 5 to 14 mm in diameter and 130 to 400 feet in length. Up to nine hours of battery life lets the user complete multiple jobs without recharging. The open-reel design allows for easy cleaning, and the stainless steel camera heads provide for extra durability. USB, SD and cloud storage is available. It comes with WinCan software pre-installed, allowing the user to map en-

tire plumbing systems. The screen allows the user to see it clearly, even in direct sunlight. **800/435-3866; www.spartantool.com**.



VIVAX-METROTECH CORP. VCAMMX

The vCamMX from Vivax-Metrotech Corp. is a portable, all-in-one camera to inspect pipes between 1 and 4 inches. The control module's 8-inch daylight-viewable LCD screen shows the distance of pushrod deployed as well as the current time and date. Recordings are made in AVI video and photos are made in JPG

format directly to a USB flash drive and then instantly backed up to an SD card. An internal microphone allows audio commentary over recorded video. The pushrod is traceable with the use of an external locator transmitter and is available in 100 or 150 feet. The dual-frequency 512 Hz/33 kHz sonde is standard equipment. Two interchangeable camera heads can be switched out by the user in the field. The smaller D18-MX camera is fixed-position and 0.7 inch in diameter, and the D26-MX is self-leveling and 1 inch in diameter. **800/446-3392; www.vivax-metrotech.com**.



RATECH ELECTRONICS ELITE USB WITH WI-FI

The **Elite USB** with Wi-Fi from **Ratech Electron**ics lets users record pipe inspections directly to a USB flash drive and wirelessly via an app to an iOS or Android device while taking live video and digital still photos, which can be immediately uploaded to YouTube. The Wi-Fi interface is available on any current or existing Ratech Electronics systems in the field. It's available with a sun-readable, 10-inch LCD monitor and a self-leveling camera, ultramicro camera or pan-and-tilt push cam-

era. Systems come in cable lengths from 100 to 400 feet. 800/461-9200; www.ratech-electronics.com.

WOHLER USA VIS 350 PLUS WITH LOCATOR

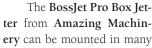
The VIS 350 Plus visual inspection system from Wohler USA allows users to precisely locate pipe damage and document the results of the inspection. Its 1.5-inch camera head can pan 360 degrees and tilt 180 degrees. Users can inspect waterlines 2 inches and larger with the



pan-and-tilt feature to ensure no damage is overlooked. The camera head has an integrated transmitter that facilitates location detection with a Wohler L 200 locator, which has an easy-to-read color display. Users can record video footage and store photos on a 4 GB SD card for documentation and archiving purposes. 978/750-9876; www.wohlerusa.com.

TRUCK/TRAILER JETTERS

AMAZING MACHINERY BOSSJET PRO BOX JETTER





ter from Amazing Machin-

configurations. It comes with a Honda or Kohler engine, a triplex plunger pump and a Hannay Reels electric hose reel. All units are encased in a highdensity aluminum box frame with an access panel on the side for exhaust release and ease of service. It comes with 200 feet of 1/4-inch I.D. jetter hose and laser and spin jet nozzles. It is designed to clean and clear 2- to 6-inch pipes. Options include a foot pedal, a trap kit, a remote reel and porta-potty head attachment for the smaller lines. All units include a washdown gun and wand, four pressure washer tips, and a chemical injector for easy cleanup. 800/504-7435; www.amazingmachinery.com.



AMERICAN JETTER 51T SERIES HOT JETTER

The 51T Series Hot Jetter from American Jetter offers up to 74 hp of hot-water cleaning power and flows from 8 to 24 gpm up to 4,000 psi. Dual or triple diesel burners offer maximum water heating capability.

Consistent power is provided by a 37 hp Kohler gas engine. A dual-engine option provides 74 hp. Low-water shut-off prevents pump damage if the 330-gallon tank runs low. Standard hose reel-speed control allows for precise cleaning in both directions. The wireless remote option allows for water on/off, engine shutdown and hose reel control. The heavy-duty square tubing trailer offers standard electric brakes on both axles. 866/944-3569; www.americanjetter.com.



CAM SPRAY TT4025HZ-350

The model TT4025HZ-350 trailer jetter from Cam Spray produces 25 gpm at 4,000 psi using a U.S. EPA Tier 4 final Hatz Diesel 74 hp turbo intercooled, liquid-cooled

engine. It comes with an over-center clutch, control panel with hour meter, low-fuel gauge, low-fuel shutdown, over-pressure shutdown and digital pressure readout. The reel is hydraulic powered with variable speed and comes mounted on a slide-out with angle adjustment fitted with 500 feet of 5/8-inch hose, manual shut-off valve and analog pressure gauge. RCM wireless remote control modes include valve open, valve close, engine idle down with a 15-second time delay shutdown, emergency shut-off, twospeed engine rpm control and auxiliary 10-amp circuit with on/off control. 800/648-5011; www.camspray.com.

MONGOOSE JETTERS BY **SEWER EQUIPMENT MODEL 184**

The Model 184 jetter from Mongoose Jetters by Sewer Equipment has a tubular steel frame, corrosion-resistant prepainted subassemblies, state-of-theart controls, a strong hose reel, high-



quality diesel engine and the Mongoose Run Dry Pump. 877/735-4640; www.mongoosejetters.com.

PIPEHUNTER 45418

The PipeHunter 45418 trailer jet has a 400-gallon poly tank and heavy-duty, urethane-coated frame. The 4,000 psi at 18 gpm water system can be upgraded to 25 gpm if needed. The 50 hp Cat diesel engine is powerful enough to drive the



Giant water pump. Its hydraulic, articulating reel and base lets operators set up however they need to for the job. The reel also has a capacity up to 800 feet of 1/2-inch hose. 800/373-1318; www.pipehunter.com.

SUPER PRODUCTS SUPERJET

The SuperJet truck-mounted jetter from Super Products has a doublesingle-piston, hydraulically acting, powered water pump that offers a 1-1 oilto-water ratio and rated design capacity of 100 gpm and 3,000 psi continuous



duty. Its modular water tank setup easily accommodates capacities from 1,000 to 3,200 gallons. It has a single-engine design that emits lower sound levels, reducing fuel use by 40 percent compared to dual-engine units. Its rear compartment is heated with an 80,000 Btu/h heater that enables year-round operation in freezing environments. An easy-to-use control panel performs a number of functions including adjustable engine throttle with water pressure speed dial, on/off water pump PTO, water pressure and gallons per minute, and hose reel joystick as well as pay-in/pay-out with speed control. 262/796-5939; www.superproductsllc.com.

VACTOR MANUFACTURING RAMJET 850 SERIES

The Vactor Manufacturing Ram-Jet 850 Series truck jetter has a choice of front or rear hose reel locations and productivity-enhancing options such as an aluminum rear shroud and optional JetRodder water pump-heated



cabinet. An integral aluminum rear shroud with heavy-duty, see-through Lexan windows is available. Large service access doors on both sides of the shroud enable easy greasing, maintenance and service. The rear shroud keeps the hose and components warm and protected in cold conditions. It comes with a certified flow of 0 to 80 gpm at a variable pressure up to 2,500 psi. Park-N-Clean technology allows the operator to park near the manhole and, with minimal setup time, start cleaning. **800/627-3171; www.vactor.com**.

VACUUM TRUCK/PUMP/ACCESSORY



WESTMOOR LTD. CONDE HD

Conde HD vacuum/pressure pumps from **Westmoor Ltd**. are built in a variety of sizes from 35 to 230 cfm. They incorporate the Conde Slide Valve, or changeover valve, which is compact, low-profile and works easily. Automatic oilers never need adjustment.

The pumps can be driven by a variety of power sources, including a gas or diesel engine package, PTO, right-angle drive or hydraulic pump. They are double shafted and can easily be set up for either clockwise or counterclockwise rotation. Accessories and protection packages are available to help protect the pump/vacuum system. **800/367-0972; www.westmoorltd.com. c**

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Business Diversification – Septic Pumping, Plumbing

By Craig Mandli

CONTRACTOR USES CUTTING TOOL TO CLEAN CONSTRUCTION DEBRIS

PROBLEM

Sylvan Tieger offers a full range of plumbing and drain cleaning services to commercial, residential and institutional customers in the New York City area. Much of that is new construction. Tieger noticed that construction debris — like plaster and cement powder — often deposited in drainlines. He needed a way to easily clear those drainlines.

SOLUTION

Tieger tried the **ClogChopper** cutting tool from **General Pipe Cleaners.** With six self-sharpening blades, the ClogChopper digs into encrusted debris and root masses, easily grinding up stoppages, scale and crystallized urine without risking pipe damage. It works in both directions — all in one operation.

The spherical design maneuvers around tight bends and traps, thoroughly and safely cleaning metal, plastic and clay pipes. Available in 1-, 1 1/2-, 2-, 2 1/2-, 3- and 4-inch sizes, it can be used to clear stacks, downspouts and mains — as well as for pipe lining jobs.

RESULT

"You quickly get a buildup of hardened material inside pipe walls," says Tieger. "ClogChopper makes short work of those problems." **800/245-6200; www.drainbrain.com**.



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PRODUCT NEWS

PRODUCT SPOTLIGHT

Water recycling keeps sewer cleaners on the job

By Craig Mandli

In sewer cleaning, time is money. Companies using traditional combination sewer cleaners typically have to stop cleaning several times a day to fill up the freshwater reservoir to continue jetting. That not only interrupts the job, it means added fuel costs in addition to the cost of the water.

There is another option, though. The Triton combination sewer cleaner from Supervac has a water recycling system that employs a Juggler filter system to allow continuous work without downtime for water filling. It filters water collected in the debris tank and transfers it to a water reservoir used by the Pratissoli water pump. According to Steeve Sheehy, Supervac's national sales manager, units in the field are already providing dividends for users.

"We have a unit right now in the field that is being used all week with the same water," he says. "There's no downtime because there's no need to refill it with freshwater."

The filtration system separates the liquid from the solids. The solids are returned to the reservoir, and water is fed into the water tank and can be reused to supply the pressure pump of the scrubber. The self-cleaning filtration system removes up to 80 percent of the liquid from the debris, providing additional savings in dumping costs.



"When you dump the debris, it is actually debris, not water," Sheehy says. "With dumping costs at an all-time high in North America, that can lead to a huge savings as well."

The unit comes with a 2,500-gallon debris tank with stainless steel liner and vibrator, 1,500-gallon water tank, hydraulic boom and dump, and a full-opening rear door. Vacuum is provided by a 3,800 cfm at 27 inches Hg Robuschi USA blower, while jetting power is provided by an 80 gpm/2,500 psi Pratissoli water pump specifically designed for recycled water. The rear- or front-mounted hydraulic hose reel holds 600 feet of 1-inch hose.

"Grease isn't going to bog down this machine because it is selfcleaning," Sheehy says. "We designed it so that it can be used to clean grease traps. We only suggest that you give the filter a rinse once a week."

When the savings in water, fuel and work time are combined, Sheehy believes the system can pay for itself in short order.

"We calculate that using a Triton system in a municipal environment will save upward of \$100,000 per year," he says. "When you work for a city and are trying to save every tax dollar you can, that's huge." **866/839-5702; www.supervac2000.com**.



WATER CANNON INC. - MWBE NONMARKING PRESSURE WASHER HOSE

The durable double-wire stainless-steel-wrapped nonmarking pressure washer hose from Water Cannon Inc. - MWBE has a 4-1 safety factor and has a working pressure of 8,000 psi with burst strength of 32,000 psi. The gray polyurethane cover does not leave marks on the surface. **800/333-9274;** www.watercannon.com.

STONEAGE PRODRAIN PRO-700 DRAIN CLEANER

The ProDrain PRO-700 accessory from StoneAge for the AutoBox ABX-PRO tackles drain cleaning jobs. It does not require tethering. If a system becomes unsteady, an integrated circuit dumps the water to ensure operator safety. The protective splash plate is weighted for stability, and a hose guide tube directs the tool to ensure precise jetting. **866/795-1586**; www.stoneagetools.com.



CAT PUMPS PLUNGER PUMP MODEL 67070

• The Model 67070 high-pressure plunger pump from Cat Pumps is ideal for sewer jetting and hydroexcavating market applications requiring high-flow performance at higher pressures and intermittent duty operation. It is rated at 50 gpm at 2,000 psi. The drive-end of the pump is built from the 60-frame mechanical drive, and oversized, premium crankshaft bearings offer high loading capacity that prolongs bearing life. The crankcase crosshead area is concentric with a 360-degree plunger rod support, featuring a drilled-through oil port to lubricate the front side of the crosshead area. **763/780-5440;** www.catpumps.com.

RIDGID CABLE CUTTERS

H RIDGID's new line of lightweight, ergonomically designed cable cutters includes three ratcheting and two manual cutters for copper and aluminum cutting needs. Ratcheting cutters range in weight from 1.5 to 6.4 pounds, have maximum copper capacity ranging from 600 to 1,000 mcm, and maximum aluminum capacity ranging from 750 to 1,000 mcm. An enclosed spring is protected from debris and loss during use. Manual cutters range in weight from 1.5 to 3.3 pounds and have maximum capacity for both aluminum and copper ranging from 500 to 1,000 mcm. Each features a sickle-shaped, rounded blade for precise cutting. **800/769-7743; www.ridgid.com. c**



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INDUSTRY NEWS

Kyle Warren joins Sprayroq

Sprayroq announced the addition of Kyle Warren to its corporate team as operations assistant. He will be responsible for the technical and customer service side of the operations team. Warren has his master's and bachelor's degrees from the University of Alabama, and he is in the process of completing his welding certification.



Kyle Warren

Envirosight releases new poster for sewer workers

A new, free poster from Envirosight illustrates how sewer workers can protect themselves from workplace biohazards using personal protective equipment, developing proper hygiene habits and cleanup practices, and obtaining recommended vaccinations. Working in and around sewage increases the risk of disease and infection, so workers must take extra precautions to protect themselves and their families.

JWC Environmental receives Water Environment Federation Innovative Technology Award

JWC Environmental was awarded the Innovative Technology Award by WEF for its Wipes Ready technologies. The grinder technology, available exclusively on the company's Muffin Monster and Channel Monster products, helps combat the problems caused by disposable wipes.

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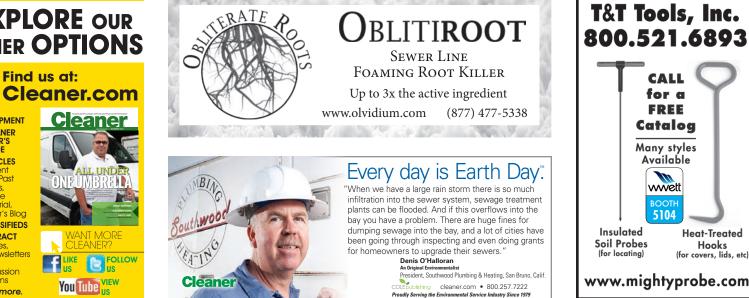
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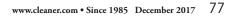
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1999 SRECO Flexible Hy-Velocity trailer jet machine. 2,000psi, 40gpm, Model L0614SC. 750-gallon water tank, 500 ft. capability, new 3/4" hose. Machine runs great. Motivated seller. \$7,000

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HYDROEXCAVATING EOUIPMENT



2013 Kenworth T800 Vactor hydroexcavator for sale. 20gpm, 27" blower, 12-yd. debris tank, 79,000 miles, 6,900 hrs., 2,800 blower hours. \$285,000 Dave 916-442-5400, CA C01



excavator. 8' x 8" telescoping boom, 20apm/4.000psi Hvdrox system. BTE diesel-fired boiler, LED lighting package, high-pressure 72" Hydro X Lance, additional tool boxes, chassis warranty. Chassis engine hrs.: 630; Chassis mileage: 1,617. Call Richard Davey for pricing or if you have any questions. C12

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JET VACS



2004 Sterling LT7500 Safe Jet Vac 1015: 3126 CAT engine, Allison auto. transmission. Safe Jet serial # T1259Y 154010TCJ03. New Meyers DP80-20 water pump hydraulic-driven, washdown gun & reel 50' x 1/2" Karcher 5,000psi @ 5qpm gas Honda-powered for hydro-excavating. 15" Hibon blower, wireless pendant, newer paint & newer tires. 236k miles, 15,850 engine hours.

> Contact Kris 253-856-2572 kris@pcsjac.com C12



2015 Vac-Con 4212LHAEG-1300 Freightliner 114SD chassis 12-yard, dual engine, Ford gas V10 sewer combination truck. 80gpm @ 3,000psi, 10' telescoping boom. Roots 827PD blower. Giant water pump. Hydroexcavation package, debri body flush out, industrial hydraulic rear door, LED lighting package. Aux. engine hours: 1126.30. Chassis mileage 11,020. Call Richard Davey for pricing or if you have any questions.

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2010 Vac-Con model V311LHRA/1300 combination machine. 60gpm/3,000psi water pump, JD 125 hp. aux. engine (973 hours), 11-yard, 10' telescopic boom. 2010 IH 7500 6x4, 350hp, Allison 3000RDS auto, transmission, 20.143 miles, 2.544 hours. Ex-city unit, great condition. Please call for pricing 800-294-0149 or visit www.williamseqpt.com. (C12)

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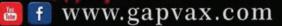
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