

# NewsBlast

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May 2004

## Jetting Vitrified Clay Pipe Without Damage

Demand for better containment of wastewater and integrity of drains has created the need for better technology, and repair of systems that have been in service for many decades. Drains can be broken by shifting earth, heavy vehicle traffic, and construction mishaps. Whether the sewer is made of plastic, cast iron, steel, lead, concrete, brick masonry, or vitrified clay; thorough cleaning is the first step in rehabilitation. Of these, the most frequent concerns we hear are about vitrified clay. That's not because it's a bad material, but because it's properties are good enough to have promoted its wide use over many years. It's tough, strong, and resistant to most chemicals, but it's brittle.

Some communities avoid waterjetting of clay sewers, making it even more difficult to maintain free-flowing drains. So we conducted tests to determine how clay sewers might be jetted with confidence that no damage will result from the jetting operations. A **Warthog WH-3/4** test nozzle with two jets at three different angles was used to see what pressure was required to damage the pipe. The **Warthog** was run 10 seconds at each jet angle, laying on the clay pipe surface.

The photos tell the whole story. At normal sewer jetting pressures of 2,000 to 4,000 psi, and hose pressure drop of 300 to 900 psi; angled waterjets will not damage vitrified clay pipe.

Finally, to simulate the most severe conditions, we ran 90° jets for two minutes, at various pressures. The conclusion is that pressures up to 2500 psi are safe up to one minute, higher pressures up to 20 seconds. See the results on the next page. Note that pressures presented here are at the jets, and that 300 to 900 psi is lost in the hose to a typical jetting nozzle.

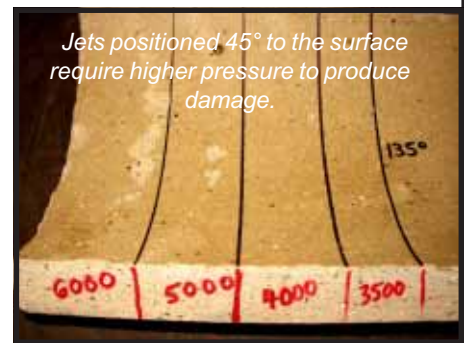
Our tests were run with new pipe that conformed with today's quality standards. The first standards for vitrified clay pipe were adopted by the ASTM in 1915. Local factories were scattered around the country to provide pipe for growing communities. It's tough to say when or how effectively the codes were enforced. So it's not unusual to hear stories about badly deteriorated clay pipe. Much of the old, inferior quality drain pipe has



Warthog WH-3/4 used for testing



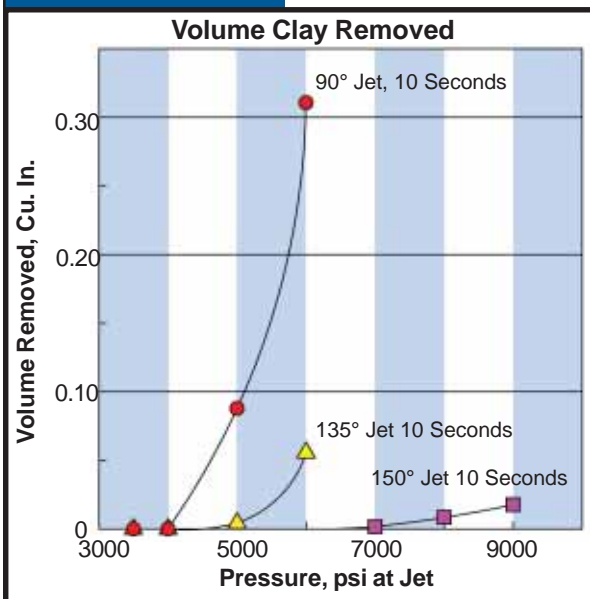
Jets positioned normal to the surface produce damage at the lowest pressure.



Jets positioned 45° to the surface require higher pressure to produce damage.



Jets at more angle means even higher pressure to produce damage.

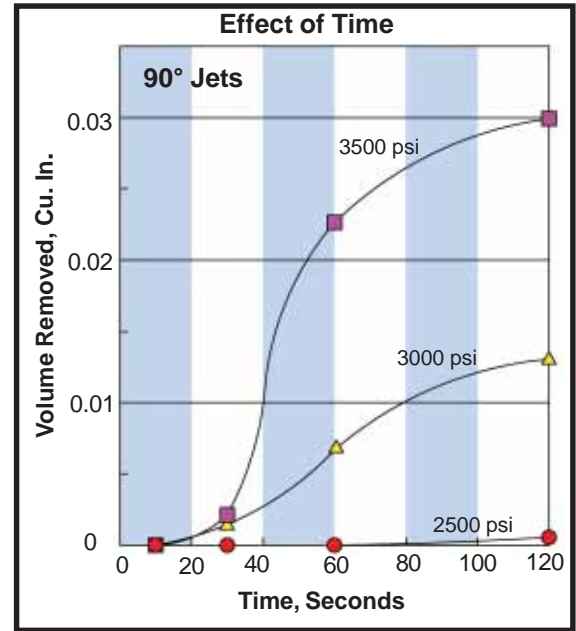


## Jetting Vitrified Clay Pipe Continued

already failed structurally, so that badly deteriorated clay pipe isn't found very often. Jetting such lines is probably going to accelerate the need for replacement. But what is the alternative? If the line cannot survive the jetting, it's probably not sound enough for lining or repair.

Thanks to the National Institute of Clay Pipe, who provided interesting background information, and thoughtful review of this article. We'd be pleased to hear any further information that might help municipalities plan effective waterjetting maintenance of their clay drains.

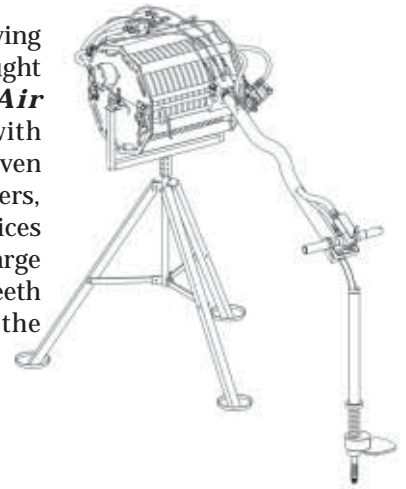
So even with the most powerful sewer jetting nozzle available - the **Warthog** - vitrified clay pipe can be jetted without damage, by keeping the nozzle moving at normal rates.



## Sabertooth New Trademark for HRS



Great results from special equipment are deserving of a special name. That's what customers thought who asked that we re-name the **HRS Air Powered Hose Reel**. The **HRS**, used with **Marten** and **Ferret Tube Nozzles** has proven very effective in certain vertical heat exchangers, and contractors want to differentiate their services by using an aggressive, powerful name. This large tiger-like animal with elongated upper canine teeth has been extinct since dinosaur days. But the **Sabertooth** lives again, thanks to the **HRS**.



## StoneAge Celebrates 25th Anniversary

Our founders, Jerry Zink and John Wolgamott got their start at the Colorado School of Mines, and were soon manufacturing waterjet-assisted drilling equipment for mines in the Western states. Excavation of several residences in the sandstone cliffs of Utah and New Mexico inspired the company name. StoneAge emerged as a leader in technology for waterblast maintenance in power plants, refineries, chemical operations, and a wide variety of factories. The company is 100% employee-owned, with an extensive product line sold on every continent. Our 32 dedicated employees take pride in the company's reputation for supplying tough, reliable equipment.

For the many hard-working industrial service contractors, municipal wastewater maintenance crews, and sewer contractors who put our tools through a daily "destruction derby" we express our sincere appreciation.



# New SM-300, 320 for Pendant Tube Cleaning

StoneAge's big capacity **SM Swivels** have proven popular for various power plant cleaning jobs, including pendant tubes in superheat sections of the boiler. The **SM-200 Pendant Tube Cleaner** has been replaced by the new **SM-300** and **320** models. Weight distribution of the new models is better balanced than before, a more durable gearbox is used, and a new 20 Kpsi model is added. Just in time for springtime turnarounds.



The stinger style rotating bar head allows use of up to 28 jets. Maximum rotation rate is 50 rpm. The 10 Kpsi model (**SM-300**) connects to a 1 inch npt hose, handling up to 300 gpm. The 20 Kpsi model (**SM-320**) connects to a 1 inch MP hose, and handles up to 110 gpm.

## Walter Axthelm Retires



Anything built by StoneAge in the last five years benefited from Walt's master's touch. His design and drafting expertise made a big contribution to quality and practicality of our tools. Here Jerry Zink and Doug Wright presented Walt an engraved plaque titled "From the Space Age to the StoneAge", because of his aerospace background. Walter logs thousands of miles each year on his bicycle, and can frequently be seen pedalling up our various mountain roads.



This sculpture found in Palisade, Colorado is presented here in the interest of furthering the cultural reputation of this publication.

## AquaPower Visits to Better Serve UK Contractors

StoneAge distributor Andrew Birt recently visited the factory for maintenance and application training. Growing demand for 40,000 psi tools, and **Warthog Sewer Nozzles** prompted his visit. Andrew and his father Bob Birt have sold StoneAge tools for a long time under their old company name Salotech UK. They are located in Worcester, Southwest of Birmingham.



## David Meets Goliath In Georgia Sewer

E-Mail received April 21, 2004 from Bill Higgins, MCI Sewer Service in Lake Park, GA. "Today I was called to video inspect 450 feet of eight inch pipe for a local city. At 215 feet there was a root mass that completely blocked the sewer line. The city brought their 65 gpm @ 2000 psi jetter to clear the line and failed after trying for 2 hours. I unhitched my camera trailer and backed my truck up to the manhole. Armed with only a 6 gpm @ 4000 psi jetter, 300 feet of 3/8" hose, 100 gallons of water, and a **Warthog WT-3/8**, I cut the roots out and finished the video inspection. You should have seen their faces! **Warthog**, don't leave home without it."



Checking the records, Bill has eight **Warthogs** - **WH-3/4**, **WS-1/2**, **WT-3/8**, and a **Hogwash**. He has been using these nozzles since 1997. It's quite a story!



# New Warthog Distributors in 2004

## A&H Equipment Co. - Bridgeville, PA

Sells Vactor, Harben, and Sreco jetters to Pennsylvania municipalities and contractors.

## Henard Utility Products - Searcy, AR

Sells jetters by Sewer Equipment of America, Camel, and a wide variety of power equipment to municipalities and contractors.

## MSC Equipment - Richmond, VA

Selling sewer maintenance equipment since 1934 in the heart of the state.

**Northern Sewer Equip. - Waterloo, WI**  
Markets sewer jetters by Sewer Equipment of America, Clean Earth Environmental, and CCTV equipment to municipalities and contractors.

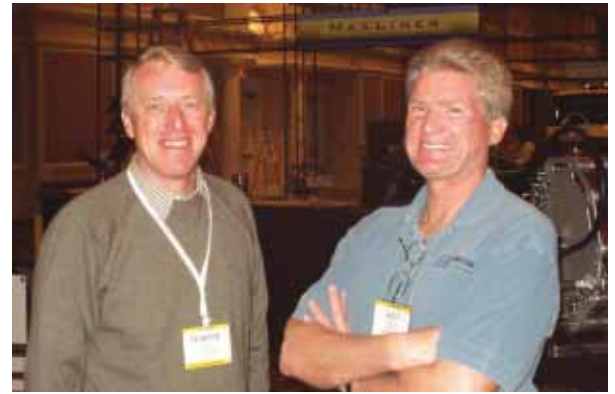
**Regent Pumps - Dingley, Victoria, Australia**  
Manufactures sewer jetting and vacuum recovery equipment, both truck and trailer mounted.

**Sewer & Water Equip. Co. - Baton Rouge, LA**  
Markets sewer jetters by O'Brien, Gap Vax, and Cues CCTV equipment to municipalities and contractors.

# Environmental Expo Nashville



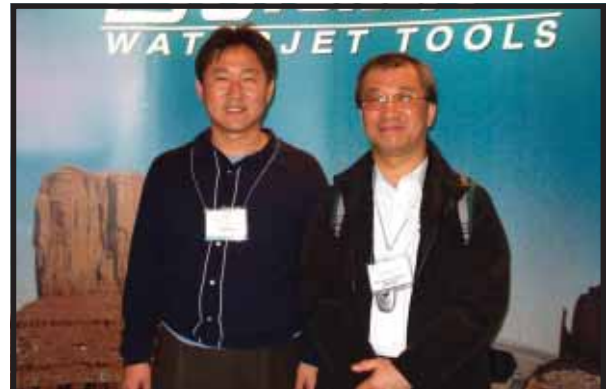
Scott Hardy, Jeff Hensley, Bill Shires, and John Wolgamott ready to greet visitors to the Pumper/Cleaner Environmental Expo in Nashville



Graeme Towns, Harben Florida and StoneAge's John Wolgamott



StoneAge's Mark House, John Pujol, Advanced Infracsturture Technologies, Southern CA, and Frankie Windham, Jet-Vac Sewer Equipment, Sumter, SC



Mr. Yeo from South Korea visits with StoneAge distributor Won Ho Kang, Kiwon Entec Co.

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